

Responses to FCC Questions

This document provides responses to the questions posed by the International Bureau concerning the application filed by O3b Limited (“O3b”) for authority to operate earth stations on maritime vessels.¹

1. O3b states that it intends to provide fiber-quality satellite broadband service to maritime passengers and crew. Please clarify whether the services O3b intends to provide include services not covered by the United States commitments under the World Trade Organization (WTO) Agreement on Basic Telecommunications Services. If O3b intends to provide non-covered services, please specify the countries in which satellite transmissions to O3b's system will originate or terminate (route markets). With respect to each route market, please indicate whether there are effective competitive opportunities for U.S.-licensed satellites to provide analogous services.

All of the services O3b intends to provide are covered by the United States commitments under the World Trade Organization (WTO) Agreement on Basic Telecommunications Services, *i.e.*, O3b does not intend to provide DTH, DBS, or DARS services. Accordingly, there are no “non-covered services” for which an effective competitive opportunities showing needs to be made.²

2. O3b seeks a waiver of Section 25.145(c) of the Commission's rules, which requires Ka-band NGSO FSS systems to be capable of: (1) serving locations as far north as 70 degrees latitude and as far south as 55 degrees latitude for at least 75 percent of every 24-hour period; and (2) providing FSS on a continuous basis throughout the 50 states, Puerto Rico and the U.S. Virgin Islands. Please indicate whether O3b intends to provide other consumer services in the United States besides the services proposed in its Blanket Application.

All of O3b’s services are based on individually negotiated arrangements O3b enters into with customers (*i.e.* services will be provided on a non-common carrier basis). Neither the maritime ESV services covered by O3b’s Blanket Application nor O3b’s other services will be direct-to-consumer services.

Maritime services. O3b will not provide maritime ESV services directly to consumers. Rather, O3b will install a limited number of ESV antennas on large individual ships. An O3b customer, such as a cruise line, may connect its passengers to O3b’s network via hard wired connections in the cabin or via WiFi networks. But O3b’s customer in such cases is the ship operator or a service provider to the ship operator, not individual consumers.

Non-maritime services. O3b does not expect to provide any of its non-maritime services directly to individual consumers. O3b anticipates that its non-maritime U.S. customers will be local carriers, ISPs and other large entities that need high-capacity backhaul in places that are unserved or underserved by terrestrial infrastructure. For each U.S. non-maritime service, O3b or its U.S. customer will submit one or more earth station applications specifying the particular locations to which O3b service will be provided, the detailed technical parameters of the operations, and the frequencies that will be used. O3b’s customers will make O3b satellite access available to multiple users on a campus-wide or similar basis.

Waiver of Section 25.145(c). As O3b explained in its application, there is good cause for a waiver of the coverage requirements of Section 25.145(c). O3b’s proposed maritime service would promote the

¹ See letter, dated September 25, 2013, from Jose Albuquerque, Chief, Satellite Division, FCC, to Joslyn Read, Vice President, Regulatory Affairs, O3b (FCC File No. SES-LIC-20130528-00455).

² See *Amendment of the Commission's Regulatory Policies to Allow Non-U.S. Licensed Space Stations to Provide Domestic and International Satellite Service in the United States*, 15 FCC Rcd 7207, ¶¶ 94-101 (1999).

underlying purpose of the rule, which is to ensure a seamless global communications network.³ O3b's satellite system, which has 10 dynamically steerable customer spot beams per satellite (each beam has a relatively narrow 700 km diameter on the Earth), is designed to focus bandwidth efficiently to areas where it is needed by the customer, rather than to cover areas already adequately served or where there is no demand (e.g., where there is no ship in the case of the ESV service proposed in this application).⁴ By concentrating on areas in which service is needed, the satellite system helps extend the seamless global communications network of very high-speed Internet connectivity to those specific areas, and by this application, to the region's maritime community.

3. Sections 25.137(c) and 25.157 of the Commission's rules require the Commission to process applications for NGSO-like systems under a "modified processing round" framework, which divides spectrum among competing applicants. O3b sought, and was granted, a waiver of these provisions in its Haleiwa, Hawaii earth station authorization. O3b incorporates this waiver showing by reference in the Blanket Application. In the Hawaii application, O3b described the technical aspects of its system that would allow for subsequent entry of additional NGSO FSS Ka-band systems. At the same time, O3b explained that, in certain limited situations, some of its interference avoidance techniques would not work. For example, O3b explained that when an earth station is operating at the highest latitudes of O3b's service area, it might be unable to switch target satellites to avoid interference and would need to rely upon other techniques to avoid interference with additional NGSO FSS Ka-band systems. Please confirm that the services O3b requests authority to provide in its Blanket Application will not preclude the operation of another NGSO FSS system operating in the same frequency bands. Please also confirm that the technical showing provided in the Haleiwa, Hawaii application to support the waiver of Sections 25.137(c) and 25.157 of the Commission's rules remains accurate, taking into consideration the new services and service areas proposed in the Blanket Application. To the extent O3b's rationale for waiver is modified or changed as a result of the new services requested in this application, O3b should provide an amended rationale, together with an associated technical showing.

O3b confirms that the services proposed under this Blanket Application will not preclude the operation of another NGSO FSS system operating in the same frequency bands. The technical showing provided in the Hawaii application⁵ remains accurate for O3b's maritime terminals that are the subject of this Blanket Application. As was explained in the O3b Hawaii Application:

Under FCC rules (§25.261), sharing between non-GSO satellite systems in the 28.6-29.1 GHz uplink and 18.8-19.3 GHz downlink bands should be achievable, using whatever means can be coordinated between the operators to avoid in-line interference events, or by resorting to band segmentation in the absence of any such coordination agreement. The O3b orbit is inherently well isolated from in-line interference events with respect to certain types of other non-GSO orbits, particularly those involving highly elliptical orbit geometries Also, O3b's ability to employ satellite diversity, particularly at low to medium latitudes ... will allow it to share with other types of non-GSO systems. At higher latitudes ... O3b is capable of implementing a band-segmentation scheme with respect to the other non-GSO system in order to be compliant with §25.261.

³ See *Rulemaking to Amend Parts 1, 2, 21, and 25 of the Commission's Rules to Redesignate the 27.5-29.5 GHz Frequency Band, to Reallocate the 29.5-30.0 GHz Frequency Band, to Establish Rules and Policies for Local Multipoint Distribution Service and for Fixed Satellite Services*, 12 FCC Rcd 22310, ¶ 34 (1997); O3b's application for a Hawaii gateway license ("O3b Hawaii Application"), FCC File No. SES-LIC-20100723-00952, narrative at 21-22.

⁴ See O3b Hawaii Application, narrative at 21-22.

⁵ See O3b Hawaii Application, narrative at Attachment A, Section A.10.2.

Therefore, O3b is confident that it can achieve the necessary coordination with other non-GSO satellite systems, as necessary.⁶

O3b's ability to share with other NGSO FSS systems will be enhanced as satellites are added to its system, which at present consists of four in-orbit satellites, with four more satellites expected to be launched in the first quarter of 2014. As the number of satellites in O3b's constellation increases, so will the minimum latitude at which only one satellite is visible for a period of time.⁷ As this minimum latitude increases, the area within the minimum latitude, which is the area in which O3b can rely on satellite diversity rather than band segmentation for sharing purposes, will expand.

For the reasons stated above, there has been no change in O3b's rationale for seeking waivers of Sections 25.137(c) and 25.157 of the rules, and the following findings the Commission made when it granted these waiver requests remain valid:

O3b Limited will employ satellite diversity at low to medium latitudes, which will enable it to share spectrum with other NGSO FSS systems. At higher latitudes, O3b Limited will employ a band segmentation approach to accommodate other systems if interference occurs.⁸

4. O3b indicates that it intends to provide fiber quality satellite broadband service to maritime passengers and crew. In the CALEA First Report and Order, the Commission concluded that the Communications Assistance for Law Enforcement Act (CALEA) applies to facilities-based broadband Internet access providers and providers of interconnected voice over Internet Protocol (VoIP) service. To the extent O3b will provide services within the scope of CALEA, O3b should explain the steps taken to ensure compliance with CALEA.

O3b may provide services that are within the scope of CALEA. Prior to initiating any service that is subject to CALEA, O3b will verify that it has CALEA-compliant network equipment and will file, pursuant to Section 1.20005 of the Commission's rules, the policies and procedures it has developed for ensuring compliance with CALEA.

5. O3b requests a waiver of the Ka-band Plan and the U.S. Table of Allocations for the purposes of providing its services aboard U.S.-registered maritime vessels. O3b also discusses operations aboard non-U.S.-registered vessels in U.S. territorial waters in its application. To the extent that O3b also intends to provide services aboard non-U.S. registered vessels, please confirm that O3b also seeks a waiver of the Ka-band Plan and U.S. Table of Allocations, as well as any other applicable operational rules, with respect to operations by non-U.S. registered vessels in waters adjacent to the U.S. coast.

O3b intends to operate ESVs in U.S. territorial waters on both US-registered vessels and non-U.S. registered vessels.⁹ The same models of ESV terminals will be installed on the US-registered vessels and the non-U.S. registered vessels, so the technical characteristics and operating parameters of the O3b ESVs on US-registered vessels (as described in the Blanket Application) will be identical to the technical

⁶ O3b Hawaii Application, narrative at Attachment A, Section A.10.2. As explained in the O3b Hawaii Application, for certain types of NGSO orbits (e.g., highly inclined elliptical – or “HEO”) there is a natural angular separation from the O3b orbit. *See id.* For the most likely type of HEO system which has its apogee in the northern hemisphere, the angular separation between the HEO and O3b orbits increases as the earth station latitude increases in the northern hemisphere.

⁷ *See also* O3b Hawaii Application, narrative at Attachment A, Section A.10.1 (“As more satellites are launched into the equatorial O3b orbit the ability to employ satellite diversity in the O3b system will improve as more alternative path O3b satellites will be visible.”).

⁸ FCC File No. SES-LIC-20100723-00952 (granted September 25, 2012), condition 90043.

⁹ *See, e.g.*, pp. 2, 6-7 of the narrative accompanying the Blanket Application.

characteristics and operating parameters of O3b ESVs on non-U.S. registered vessels. Accordingly, O3b confirms that the waivers it sought in the Blanket Application of the Commission's Ka-band Plan, the U.S. Table of Allocations, and other applicable operational rules, are requested to cover operations of both ESVs on US-registered vessels and ESVs on non-U.S. registered vessels.

6. O3b incorporates by reference the Schedule S submitted in its Hawaii application (Hawaii Schedule S). The Hawaii Schedule S contains different power flux density (pfd) limits and service areas than those proposed in O3b's Blanket Application. For example, the Hawaii Schedule S does not reflect the Vernon, Texas gateway earth station. It also does not include pfd limits for the proposed maritime services or the applicable technical parameters for all earth station antenna types with which O3b intends to operate in the United States (i.e., 7.3-meter, 2.4-meter, 2.2-meter, and 1.2-meter antennas). Please provide a new Schedule S for O3b's system that accurately represents all services O3b intends to provide in its Blanket Application.

At the outset, O3b notes that the Commission's rules do not require applicants submitting Schedule S to anticipate every gateway location or every earth station type that could be used with the satellite system. Nor are applicants or licensees required to update Schedule S each time a new earth station terminal is used with the satellite system. Under the Commission's previous rules, under the old Section 25.114(d)(4), space station applicants, and earth station applicants seeking U.S. market access for a foreign-licensed satellite system, were required to submit (at most) "typical or baseline earth station parameters". That section has now been deleted as redundant or unnecessary in favor of the technical information in the Schedule S, which only requires typical emissions and associated link budgets. Indeed, there is no facility within Schedule S to describe earth station operating parameters in detail. This is the right approach. If it were otherwise, it would unnecessarily duplicate the Commission's earth station licensing process (where detailed parameters are provided in Schedule B and assessed by the Commission) and create unnecessary barriers to innovation in satellite technology.

O3b has carefully reviewed the original Schedule S that was submitted as part of the Hawaii application, and we believe that it correctly described the O3b satellite system for that application, as well as numerically enveloping all the necessary parameters for future earth station applications. Subsequently, O3b filed additional earth station applications which included modified or new data associated with the Schedule S. That data consisted of (a) expansion of the gateway service area, (b) additional link budgets for those new earth station types, and (c) additional beam contour plots for the new earth stations. As a result, it is unclear what required information (if any) the Commission lacks that would be supplied in providing an updated Schedule S.

That being said, and in order to assist the Commission in processing this and future O3b applications, O3b is providing with this submission a modified Schedule S (as requested) for the O3b NGSO satellite system in .mdb database format that incorporates additional information submitted to the Commission since the Hawaii application was filed, as summarized below. Satellite beam information for the O3b system has been embedded into the Schedule S in the generic format suggested by the Commission in Question 11, where the gain pattern is defined by mathematical formulas.

O3b has not made any changes to the link budgets for typical emissions embedded in the Schedule S. As noted above, there is no requirement to update the typical link budgets submitted with a Schedule S, nor would it be practical or appropriate to require that this be done. Link budgets are also not required under the Commission's rules to be provided as part of earth station applications (though they are sometimes voluntarily supplied). This is because all of the information necessary for the Commission to assess the interference potential of a new earth station is included in Schedule B of the earth station license application. In order to assist the Commission in processing this and future O3b applications, however, O3b expects to continue providing link budgets with its earth station applications, as appropriate.

Each section of the modified Schedule S for the O3b satellite system is addressed below to explain our rationale for the changes (or not, as the case may be):

Applicant Information: We have updated the contact person in this section of the Schedule S, including new phone and fax numbers.

S1 – General Information: We have updated the relevant dates.

S2 – Operating Frequency Bands: No change.

S2f – Nature of Service(s): No change.

S3 – Orbital Information for Geostationary Satellites: Not applicable.

S4 - Orbital Information for Non-Geostationary Satellites Only: No change.

S5 – Initial Satellite Phase Angle: No change.

S6 – Service Area Characteristics: The service area description for the G1 service area ID, which now identifies all of the gateway earth stations that are currently expected to serve the United States (including its possessions and territories), has been changed from “Haleiwa, HI” to “Haleiwa, HI + Vernon, TX + Lima, Peru”.

S7 – Space Station Antenna Beam Characteristics: No changes are necessary to this part of the Schedule S even though the gateway service area definition was changed (in item S6 above). This is correct in that, for example, the GT1 gateway beam is a steerable beam that may be directed towards Hawaii, Texas or Peru, and the technical characteristics of this beam are the same, regardless of where the beam is pointed.

S8 – Antenna Beam Characteristics: This section of the Schedule S has been changed only in column (e), which refers to the NGSO Antenna Gain Contour Description. Previously in these cells of the table, a sample PDF file was embedded showing the gain contours towards a particular Earth location. This has been replaced by embedded files containing the formulas that generically define the O3b antenna gain versus off-axis angle mask, separately for transmit and receive beams, and which can therefore be used to determine the O3b satellite antenna gain contours for any satellite location and any earth station location. This approach of defining the satellite antenna characteristics by a mathematical formula is consistent with the FCC’s Schedule S Instructions as well as Question #11 (see below). Note the maximum PFD levels given in this section of the Schedule S have not changed.

In this question, the Commission makes several references to power flux density (“PFD”) limits. O3b hereby clarifies, in case there is any question, that the PFD limits shown in the Schedule S submitted with the Hawaii application are consistent with applicable FCC limits in § 25.208 and cover O3b’s ESV services. The “maximum PFD” levels are given in S8 of the Schedule S for each O3b satellite beam as a function of elevation angle from the Earth’s surface. These PFD levels vary from -119.19 dBW/m²/MHz at 5° elevation to -117.77 dBW/m²/MHz at 25° elevation. These levels are based on an assumed maximum satellite EIRP of 49.7 dBW (see S7, column (m) of the Schedule S), with that EIRP spread over a 40 MHz bandwidth, which corresponds to the maximum satellite EIRP density that would be used. The variation in the PFD levels in S8 for different elevation angles is because of the differing path lengths from the O3b satellite to the Earth’s surface at the various elevation angles. The PFD levels in S8 of Schedule S are consistent with Section A.5 of Attachment A to the Blanket Application, which demonstrates that the PFD levels for the downlink transmissions to O3b’s ESVs are within the FCC’s limits. That demonstration is achieved using the same assumptions for satellite EIRP density but for the shortest path length to the Earth, which is the nadir direction (*i.e.*, 90° elevation). Furthermore, all the

link budgets provided in the Blanket Application result in PFD levels that are less than the maximum levels given in the original O3b Schedule S, as they should be. An example of this would be link budget #1 where the satellite EIRP is 44.37 dBW, the bandwidth factor is 82.55 dB-Hz and the spreading loss is 149.12 dB, resulting in a PFD level of $-127.3 \text{ dBW/m}^2/\text{MHz}$, which is less than the maximum PFD levels given in S8 of the Schedule S.

In conclusion, therefore, there is no inconsistency in PFD levels between the original O3b Schedule S and the ESV application. The PFD levels in the ESV application are fully encompassed by the worst-case PFD levels submitted in O3b's Hawaii application and the Blanket Application, and all such levels are below the applicable FCC limits in § 25.208.

S9 – Space Station Channels: No change.

S10 – Space Station Transponders: No change.

S11 – Digital Modulation Parameters: No change.

S12 – Analog Modulation Parameters: Not applicable.

S13 – Typical Emissions: This section has not been changed as it relates to the initial representative link budgets embedded in the Schedule S.

S14 – TT&C Station Locations: No change.

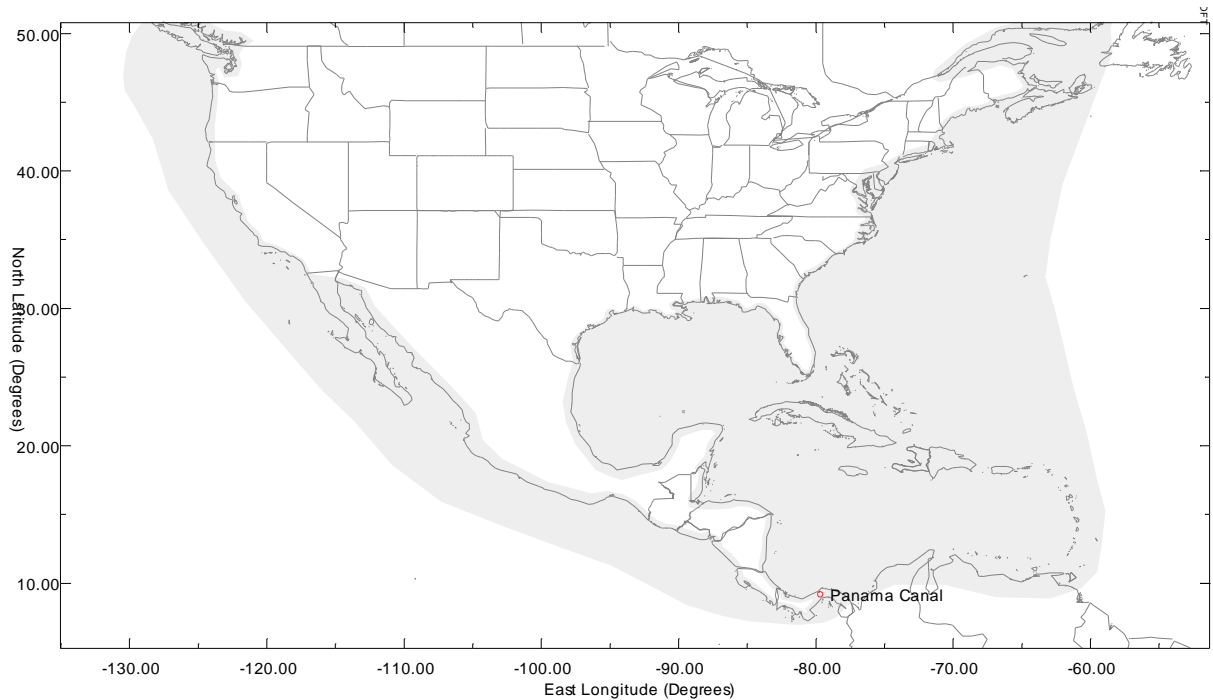
S15 – Spacecraft Physical Characteristics: No change.

S16 – Spacecraft Electrical Characteristics: No change.

S17 – Certifications: No change.

7. Please clarify the service area description and service area diagram in the Blanket Application. In the service area description, O3b specifies the service area as "the coastal regions of CONUS." The service area diagram shows the service area as encompassing the entire CONUS. Please provide an updated service area diagram that includes only those areas where the U.S.-registered maritime vessels will operate in U.S. territorial waters, international waters, and foreign waters.

An updated service area diagram, which includes only those areas where U.S.-registered maritime vessels will operate in U.S. territorial waters, international waters, and foreign waters, is shown below.



8. O3b provides link budgets for gateway service from Peru. Please clarify the basis for including this link budget. In addition, please provide link budgets for operations requested in the Blanket Application, including, if applicable, operations of any non-U.S.-registered maritime vessels in U.S. territorial waters.

O3b provided link budgets for gateway service from Peru because O3b's Peru gateway will serve as a back-up hub for its ESV services in case there is a failure at O3b's primary hub in Texas.

The link budgets already provided in the Blanket Application apply to both U.S.-registered maritime vessels in U.S. territorial waters and non-U.S. registered maritime vessels in U.S. territorial waters.¹⁰ They also apply to maritime vessels equipped with the requested O3b ESVs operating in the territorial waters of other countries, and to maritime vessels so equipped operating in international waters.

9. In Annex 5 of the Blanket Application, O3b appears to have supplied duplicative information on pages 31 and 32. Please provide the link budget for the return link that corresponds to the forward link for which the link budget is provided on page 31.

¹⁰ O3b provided 36 representative link budgets in the Blanket Application, and these are described in general on the first page of Annex 5 of that application as well as in detail on each of the pages of link budgets in Annex 5. These link budgets address a wide range of possible links. For example, ESV ship terminals are addressed over the full range of latitudes (7°N to 50°N), for both sizes of ESV terminals (1.2m and 2.2m), for various data transmission rates, for differing weather conditions, and for O3b's ESV primary and back-up gateway locations (*i.e.*, Vernon, Texas and Lima, Peru respectively).

The link budget for the return link, which should have appeared on page 32, is provided below.

O3b Network Link Analysis - Tier 2 Service For ESOMPs 7 deg lat, ocean		
Link Budget Creator - Rev 3.2.9: October 18, 2013		
Ground Parameter	Tier 2	Tier 2
	Teleport	Telco
Location	Vernon (LHCP), United States	ESOMPs 7 deg lat, ocean
Latitude (°)	34.2	7.0
Longitude (East) (°)	260.7	280.0
E/S Maximum Range to SV (km)	9874.6	9130.8
E/S Minimum Elevation to SV (°)	34.0	46.5
E/S Altitude (km)	0.3	0.0
SV Beam Identifier (#)		24
Minutes Into Pass (Sample #10) (Min)		4:21
Telco Spot Beam Off-Angle (°)		1.30
Telco Spot Beam Diameter (km)		369.80
Maximum Roundtrip Latency (msec)		126.79
Modulation Parameters	Forward	Return
Enter Receiver Type		DVB-S2
Modem Overhead (%)		3.9%
Number of Carriers per Channel (#)		18
Available Bandwidth (Hz)		216,000,000
Available Throughput (bps)		115,348,837
Channel Symbol Rate (sps)		10,000,000
Channel Modulation Type		QPSK
Channel FEC Rate		0.33
Channel Spectral Efficiency (bits/Sym)		0.67
Channel Throughput (100% / 100% of Full Rate) (bps)		6,408,268.73
Uplink	Forward	Return
E/S Tx Channels per HPA (#)		1
E/S Tx Carrier Frequency (MHz)		28,709
E/S Tx HPA Power Level (W)		40
E/S Tx OBO (dB)		-1.17
E/S Tx Post-HPA Losses (dB)		-0.69
E/S Tx Antenna Gain (7.3 m / 2.2 m) (dB)		52.54
E/S Tx EIRP Per Channel (dBW)		66.70
E/S Tx Radome & Pointing Loss (dB)		-1.00
E/S Tx RF Link Availability (%)		99.500
E/S Tx Atmospheric Losses (dB)		-21.93
E/S Tx Spreading Loss (dB)		-150.20
Satellite	Forward	Return
SV Number of Channels per HPA (#)		5
SV Rx G/T (dB/K)		0.68
SV Rx Power Per Tier (dBW)		-143.81
SV Rx Flux Density Per Tier (dBW/m ²)		-93.88
SV Tx OBO (ALC / ALC) (dB)		-15.00
SV Tx Post-TWTA Losses (dB)		-1.50
SV Tx Antenna Gain (dB)		31.77
SV Tx EIRP Per Channel/Carrier (dBW)		13.86
SV Tx Pointing Loss (dB)		0.00
Downlink	Forward	Return
E/S Rx Carrier Frequency (MHz)		18,909
E/S Rx Spreading Loss (dB)		-150.88
E/S Rx RF Link Availability (%)		75.000
E/S Rx Atmospheric Losses (dB)		-0.76
E/S Rx Pointing Loss (dB)		-0.50
E/S Rx Antenna Gain (2.2 m / 7.3 m) (dB)		62.24
E/S Rx Effective G/T (dB/K)		39.16
E/S Rx Power Per Channel (dBW)		-123.04
E/S Rx Flux Density Per Channel (dBW/m ²)		-138.29
Total Link	Forward	Return
Carrier / Noise Bandwidth (dB)		70.00
Carrier / Noise Uplink (dB)		2.24
Carrier / Noise Downlink (dB)		12.48
Carrier / Intermodulation Im (C/Im) (dB)		19.18
(C/N) - Total Actual (dB)		1.39
(C/N) - Total Required (dB)		0.30
(E _s /N ₀) - Total Actual (dB)		3.15
(E _s /N ₀) - Total Required (dB)		2.06
Excess Margin (dB)		1.09
Fade Margin (dB)		3.59

10. Please provide the measured antenna performance data for the 1.2-meter and 2.2-meter antennas. For each earth station antenna size, provide a series of radiation pattern measurements of production antennas that are performed on a calibrated antenna range. To facilitate processing, we request O3b to provide pattern measurements at the bottom, middle, and top frequencies of the 30 GHz band, as described in Section 25.138(d) of the Commission's rules applicable to GSO FSS earth stations.

Measured 30 GHz band antenna performance data for the 1.2-meter and 2.2-meter antennas is attached. For each earth station antenna size, there is a series of radiation pattern measurements of production antennas that have been performed on a calibrated antenna range. Per discussions with the Satellite Division, pattern measurements are provided for the bottom, middle, and top frequencies of O3b's overall 30 GHz band frequency range, i.e., 27.6-29.1, in accordance with the description in Section 25.138(d) of the FCC's rules that applies to GSO FSS earth stations.

11. Please provide either the space station nadir-pointing antenna pattern contour diagrams for the user and gateway antenna beams or a mathematical description of the antenna beams necessary to derive the antenna pattern contour diagram for any O3b satellite location and earth station location.

We provide below a mathematical description of the O3b satellite antenna beams which can be used for any satellite location and earth station location. This is in the form of two formulas for the transmit performance and two for the receive performance. Each of the formulas defines the antenna gain, relative to beam peak over the range of 0 dB to -20 dB, as a function of the off-axis angle from boresight. The first formula of each pair defines the fastest gain roll-off which occurs in certain directions away from the boresight and the second formula gives the slowest gain roll-off which occurs in other directions. The actual gain roll-off in any direction always lies between the curves defined by these two equations. The actual gain roll-off in any given direction varies with the pointing direction of the steerable beam.

Transmit antennas:

$$G_{rel} = -0.0924 \theta^4 + 0.5198 \theta^3 - 1.8869 \theta^2 + 0.4989 \theta - 0.0399 \dots\dots\dots(1)$$

$$G_{rel} = -0.0116 \theta^4 + 0.2728 \theta^3 - 1.8507 \theta^2 + 0.7869 \theta - 0.1055 \dots\dots\dots(2)$$

where: G_{rel} is the relative gain (in dB) and $-20 \leq G_{rel} \leq 0$
 θ is the off-axis angle (in degrees) away from boresight

Receive antennas:

$$G_{rel} = -0.0907 \theta^4 + 0.2368 \theta^3 - 1.1019 \theta^2 - 0.2702 \theta + 0.0513 \dots\dots\dots(3)$$

$$G_{rel} = 0.1839 \theta^3 - 1.7049 \theta^2 + 0.2807 \theta + 0.0561 \dots\dots\dots(4)$$

where: G_{rel} is the relative gain (in dB) and $-20 \leq G_{rel} \leq 0$
 θ is the off-axis angle (in degrees) away from boresight

These formulas, plus the description given above, have been embedded in the modified Schedule S that is being provided in response to Question 6.

12. Please provide a map showing how many space station antenna beams may operate in the United States at the same time. If there is a situation where multiple co-frequency emissions from the

same satellite will use overlapping beams, please describe the overlap in detail, including how many of these beams can overlap within the -3dB contour of each beam at the same location in the United States.

We understand that this question is aimed at understanding how many co-frequency beams from a single O3b satellite may simultaneously illuminate the same point on the Earth in the United States. To answer this we will refer to the information provided in the Hawaii application (see Section A.2 of the Technical Annex of the Hawaii application) concerning the design of the O3b satellites.

Each O3b satellite has two gateway beams and ten customer beams. The gateway beams re-use the exact same spectrum as the customer beams and are isolated from them only by spatial separation of the beams. Therefore the gateway beams cannot be pointed close to the customer beams and certainly not with their -3 dB relative gain contours overlapping. From this we conclude that there will be no aggregation of the downlink or uplink transmissions at the same point on the Earth between the gateway and customer beams of the O3b satellite.

The two gateway beams on each O3b satellite could be pointed towards the same point on the Earth and, although they operate across the same exact spectrum they use opposite polarizations. So there is no aggregation of downlink or uplink transmissions at the same point on the Earth between the two gateway beams on any O3b satellite.

The ten customer beams on each O3b satellite could in principle (although it is very unlikely) be pointed towards the same point on the Earth. Five of these customer beams each employs one fifth of the available spectrum in one polarization and the other five customer beams each employs one fifth of the same spectrum in the opposite polarization. So the situation is similar to the gateway beams in that there is no aggregation of downlink or uplink transmissions at the same point on the Earth between any of the customer beams on any O3b satellite.

In conclusion there is effectively no aggregation of the downlink or uplink transmissions from a single O3b satellite to any point on the Earth, except for the effects of both co- and cross-polar transmissions that could in principle occur at the same point on the Earth.

However, we have not provided a map that would show how many space station antenna beams may operate in the United States at the same time, as described in the first sentence of Question 12. Producing such a theoretical map is not feasible, because its content would change every time there was a change in customer demand and location. Furthermore, such a map would have no material significance given that, as shown above, there are no aggregation effects. In any event, for each new O3b U.S. customer or gateway, an earth station application will be submitted that will provide an indication that an O3b beam will be placed over U.S. territory.

13. Please describe how the 1.2-meter and 2.2-meter antennas will be installed and isolated on maritime vessels to mitigate radiation hazards to personnel in both controlled and uncontrolled environments in the near, transition, and far field regions.

O3b's 1.2-meter and 2.2-meter ESV antennas, each of which will be encased in a radome, will be positioned in the upper reaches of the maritime vessels on which they are installed. Installing ESV antennas high up is a necessity, to avoid signal blockage from ships' superstructure. The antennas always will be pointed in the direction of O3b's in-orbit satellites, away from the passengers below. The photos below show typical installation locations, in this case on one of the two Royal Caribbean cruise ships on which O3b's ESVs will first be installed.

O3b's ESV antennas will be located in restricted areas whose access is limited to the ship's crew. Crew members will be instructed that only trained technicians may access the ESV antennas. Procedures will be in place requiring that transmit power be turned off, which can be done remotely below deck, before work on any ESV antennas is performed.

The procedures described above - installing the ESVs in elevated and isolated locations, restricting access to those locations, pointing the ESVs in the direction of O3b's in-orbit satellites, and requiring that ESVs be turned off remotely before work is performed - will mitigate potential radiation hazards to personnel in controlled and uncontrolled environments.

O3b is attaching radiation hazard studies to this filing. The studies have been updated from the studies that were filed with O3b's application to take into account the antenna performance measurements conducted by the ESV manufacturer and to correct the input power for the 1.2m antenna.¹¹



STARBOARD POSITION

¹¹ The input power had been shown as 40w and has been corrected to 20w.



MID-SHIP POSITION

ATTACHMENTS:

Measured 30 GHz band antenna performance data for the 1.2-meter and 2.2-meter antennas

Schedule S in .mdb format (as separate attachment)

Revised 1.2-m radiation hazard study

Revised 2.2-m radiation hazard study

**Measured 30 GHz band antenna performance data for the
1.2-meter antennas**

Orbit Communication Systems Ltd.

AL-7103-Ka, 1.20 m Antenna, EIRPsd Data Table
Co-pol Azimuth LHCP, -180° to +180° @ 1.0° increment

27.60 GHz @ -9,52 dBW / 40 kHz in Co-pol Az LHCP

Angle	EIRPsd	Mask	Over Mask
Degrees	dBW/40kHz	dBW/40kHz	dB
-179.0	-36.6	-10.5	-26.1
-178.0	-28.7	-10.5	-18.2
-177.0	-35.2	-10.5	-24.7
-176.0	-32.4	-10.5	-21.9
-175.0	-41.4	-10.5	-30.9
-174.0	-38.3	-10.5	-27.8
-173.0	-42.1	-10.5	-31.6
-172.0	-44.0	-10.5	-33.5
-171.0	-41.6	-10.5	-31.1
-170.0	-43.4	-10.5	-32.9
-169.0	-46.8	-10.5	-36.3
-168.0	-40.6	-10.5	-30.1
-167.0	-42.9	-10.5	-32.4
-166.0	-43.8	-10.5	-33.3
-165.0	-40.6	-10.5	-30.1
-164.0	-54.5	-10.5	-44.0
-163.0	-46.1	-10.5	-35.6
-162.0	-41.4	-10.5	-30.9
-161.0	-40.1	-10.5	-29.6
-160.0	-56.3	-10.5	-45.8
-159.0	-38.4	-10.5	-27.9
-158.0	-43.7	-10.5	-33.2
-157.0	-41.6	-10.5	-31.1
-156.0	-33.7	-10.5	-23.2
-155.0	-37.8	-10.5	-27.3
-154.0	-38.4	-10.5	-27.9
-153.0	-42.3	-10.5	-31.8
-152.0	-46.8	-10.5	-36.3
-151.0	-36.2	-10.5	-25.7
-150.0	-45.7	-10.5	-35.2
-149.0	-45.8	-10.5	-35.3
-148.0	-37.7	-10.5	-27.2
-147.0	-43.5	-10.5	-33.0
-146.0	-37.1	-10.5	-26.6
-145.0	-41.0	-10.5	-30.5
-144.0	-49.5	-10.5	-39.0
-143.0	-41.1	-10.5	-30.6
-142.0	-53.1	-10.5	-42.6
-141.0	-35.2	-10.5	-24.7
-140.0	-35.8	-10.5	-25.3
-139.0	-34.8	-10.5	-24.3
-138.0	-36.8	-10.5	-26.3
-137.0	-39.3	-10.5	-28.8
-136.0	-38.1	-10.5	-27.6
-135.0	-40.4	-10.5	-29.9
-134.0	-44.0	-10.5	-33.5
-133.0	-31.7	-10.5	-21.2
-132.0	-34.6	-10.5	-24.1
-131.0	-38.5	-10.5	-28.0
-130.0	-30.2	-10.5	-19.7
-129.0	-31.0	-10.5	-20.5
-128.0	-36.7	-10.5	-26.2
-127.0	-43.6	-10.5	-33.1
-126.0	-43.6	-10.5	-33.1
-125.0	-35.5	-10.5	-25.0
-124.0	-35.0	-10.5	-24.5
-123.0	-40.9	-10.5	-30.4
-122.0	-38.4	-10.5	-27.9
-121.0	-33.6	-10.5	-23.1
-120.0	-38.0	-10.5	-27.5

27.60 GHz @ -9,52 dBW / 40 kHz in Co-pol Az LHCP

Angle	EIRPsd	Mask	Over Mask
Degrees	dBW/40kHz	dBW/40kHz	dB
0.0	37.9		
1.0	10.1		
2.0	-2.6	11.0	-13.6
3.0	1.2	6.6	-5.3
4.0	-1.2	3.4	-4.6
5.0	-8.6	1.0	-9.6
6.0	-13.7	-1.0	-12.8
7.0	-11.4	-2.6	-8.8
8.0	-10.6	-2.6	-8.0
9.0	-26.9	-2.6	-24.3
10.0	-23.2	-3.5	-19.7
11.0	-17.5	-4.5	-12.9
12.0	-19.3	-5.5	-13.9
13.0	-21.3	-6.3	-14.9
14.0	-18.6	-7.2	-11.4
15.0	-23.3	-7.9	-15.4
16.0	-28.7	-8.6	-20.1
17.0	-23.2	-9.3	-13.9
18.0	-22.4	-9.9	-12.6
19.0	-24.1	-10.5	-13.7
20.0	-25.5	-11.0	-14.4
21.0	-24.5	-11.6	-12.9
22.0	-32.6	-12.1	-20.5
23.0	-18.0	-12.5	-5.5
24.0	-22.5	-13.0	-9.5
25.0	-19.0	-13.4	-5.5
26.0	-21.9	-13.9	-8.0
27.0	-21.9	-14.3	-7.6
28.0	-20.0	-14.7	-5.3
29.0	-17.8	-15.1	-2.7
30.0	-21.0	-15.4	-5.6
31.0	-29.6	-15.8	-13.8
32.0	-25.7	-16.1	-9.6
33.0	-24.0	-16.5	-7.5
34.0	-25.1	-16.8	-8.3
35.0	-35.4	-17.1	-18.3
36.0	-32.8	-17.4	-15.4
37.0	-24.9	-17.7	-7.2
38.0	-30.9	-18.0	-12.9
39.0	-47.8	-18.3	-29.5
40.0	-33.0	-18.6	-14.4
41.0	-26.0	-18.8	-7.2
42.0	-21.3	-19.1	-2.2
43.0	-22.0	-19.3	-2.6
44.0	-25.7	-19.6	-6.1
45.0	-26.8	-19.8	-7.0
46.0	-23.1	-20.1	-3.0
47.0	-24.5	-20.3	-4.2
48.0	-23.4	-20.5	-2.8
49.0	-24.3	-10.5	-13.8
50.0	-28.4	-10.5	-17.9
51.0	-29.6	-10.5	-19.1
52.0	-34.4	-10.5	-23.9
53.0	-28.0	-10.5	-17.5
54.0	-28.5	-10.5	-18.0
55.0	-22.7	-10.5	-12.2
56.0	-25.1	-10.5	-14.6
57.0	-25.9	-10.5	-15.4
58.0	-28.5	-10.5	-18.0
59.0	-31.9	-10.5	-21.4

Orbit Communication Systems Ltd.
AL-7103-Ka, 1.20 m Antenna, EIRPsd Data Table
Co-pol Azimuth LHCP, -180° to +180° @ 1.0° increment

-119.0	-47.5	-10.5	-37.0
-118.0	-32.6	-10.5	-22.1
-117.0	-30.2	-10.5	-19.7
-116.0	-31.9	-10.5	-21.4
-115.0	-30.1	-10.5	-19.6
-114.0	-31.8	-10.5	-21.3
-113.0	-32.3	-10.5	-21.8
-112.0	-31.5	-10.5	-21.0
-111.0	-27.3	-10.5	-16.8
-110.0	-26.1	-10.5	-15.6
-109.0	-24.3	-10.5	-13.8
-108.0	-22.9	-10.5	-12.4
-107.0	-22.4	-10.5	-11.9
-106.0	-20.6	-10.5	-10.1
-105.0	-18.6	-10.5	-8.1
-104.0	-17.6	-10.5	-7.1
-103.0	-16.9	-10.5	-6.4
-102.0	-17.0	-10.5	-6.5
-101.0	-18.2	-10.5	-7.7
-100.0	-20.0	-10.5	-9.5
-99.0	-19.7	-10.5	-9.2
-98.0	-17.4	-10.5	-6.9
-97.0	-16.6	-10.5	-6.1
-96.0	-19.6	-10.5	-9.1
-95.0	-20.1	-10.5	-9.6
-94.0	-17.0	-10.5	-6.5
-93.0	-17.8	-10.5	-7.3
-92.0	-21.7	-10.5	-11.2
-91.0	-17.4	-10.5	-6.9
-90.0	-18.8	-10.5	-8.3
-89.0	-23.1	-10.5	-12.6
-88.0	-22.4	-10.5	-11.9
-87.0	-28.6	-10.5	-18.1
-86.0	-24.4	-10.5	-13.9
-85.0	-29.8	-10.5	-19.3
-84.0	-36.6	-10.5	-26.1
-83.0	-26.4	-10.5	-15.9
-82.0	-24.5	-10.5	-14.0
-81.0	-34.3	-10.5	-23.8
-80.0	-54.2	-10.5	-43.7
-79.0	-36.4	-10.5	-25.9
-78.0	-25.4	-10.5	-14.9
-77.0	-40.9	-10.5	-30.4
-76.0	-38.8	-10.5	-28.3
-75.0	-29.1	-10.5	-18.6
-74.0	-25.3	-10.5	-14.8
-73.0	-32.3	-10.5	-21.8
-72.0	-24.8	-10.5	-14.3
-71.0	-27.1	-10.5	-16.6
-70.0	-39.2	-10.5	-28.7
-69.0	-32.6	-10.5	-22.1
-68.0	-27.3	-10.5	-16.8
-67.0	-28.6	-10.5	-18.1
-66.0	-29.8	-10.5	-19.3
-65.0	-37.7	-10.5	-27.2
-64.0	-27.1	-10.5	-16.6
-63.0	-27.6	-10.5	-17.1
-62.0	-23.7	-10.5	-13.2
-61.0	-35.7	-10.5	-25.2
-60.0	-24.4	-10.5	-13.9
-59.0	-42.8	-10.5	-32.3
-58.0	-45.8	-10.5	-35.3
-57.0	-28.3	-10.5	-17.8

60.0	-26.6	-10.5	-16.1
61.0	-23.2	-10.5	-12.7
62.0	-25.0	-10.5	-14.5
63.0	-36.4	-10.5	-25.9
64.0	-41.5	-10.5	-31.0
65.0	-23.1	-10.5	-12.6
66.0	-22.8	-10.5	-12.3
67.0	-28.2	-10.5	-17.7
68.0	-37.2	-10.5	-26.7
69.0	-23.6	-10.5	-13.1
70.0	-26.6	-10.5	-16.1
71.0	-28.3	-10.5	-17.8
72.0	-28.0	-10.5	-17.5
73.0	-33.1	-10.5	-22.6
74.0	-26.5	-10.5	-16.0
75.0	-26.0	-10.5	-15.5
76.0	-28.8	-10.5	-18.3
77.0	-40.3	-10.5	-29.8
78.0	-28.2	-10.5	-17.7
79.0	-25.5	-10.5	-15.0
80.0	-32.5	-10.5	-22.0
81.0	-34.3	-10.5	-23.8
82.0	-34.2	-10.5	-23.7
83.0	-32.9	-10.5	-22.4
84.0	-32.5	-10.5	-22.0
85.0	-30.1	-10.5	-19.6
86.0	-31.3	-10.5	-20.8
87.0	-29.5	-10.5	-19.0
88.0	-34.4	-10.5	-23.9
89.0	-36.6	-10.5	-26.1
90.0	-32.4	-10.5	-21.9
91.0	-30.8	-10.5	-20.3
92.0	-35.9	-10.5	-25.4
93.0	-30.5	-10.5	-20.0
94.0	-32.9	-10.5	-22.4
95.0	-29.7	-10.5	-19.2
96.0	-34.6	-10.5	-24.1
97.0	-36.9	-10.5	-26.4
98.0	-25.5	-10.5	-15.0
99.0	-32.0	-10.5	-21.5
100.0	-30.6	-10.5	-20.1
101.0	-33.2	-10.5	-22.7
102.0	-30.4	-10.5	-19.9
103.0	-32.1	-10.5	-21.6
104.0	-32.1	-10.5	-21.6
105.0	-31.7	-10.5	-21.2
106.0	-34.0	-10.5	-23.5
107.0	-30.3	-10.5	-19.8
108.0	-41.7	-10.5	-31.2
109.0	-32.8	-10.5	-22.3
110.0	-37.6	-10.5	-27.1
111.0	-29.1	-10.5	-18.6
112.0	-32.7	-10.5	-22.2
113.0	-34.5	-10.5	-24.0
114.0	-34.4	-10.5	-23.9
115.0	-30.8	-10.5	-20.3
116.0	-32.8	-10.5	-22.3
117.0	-30.0	-10.5	-19.5
118.0	-33.9	-10.5	-23.4
119.0	-32.9	-10.5	-22.4
120.0	-29.6	-10.5	-19.1
121.0	-30.9	-10.5	-20.4
122.0	-28.1	-10.5	-17.6

Orbit Communication Systems Ltd.
AL-7103-Ka, 1.20 m Antenna, EIRPsd Data Table
Co-pol Azimuth LHCP, -180° to +180° @ 1.0° increment

-56.0	-27.1	-10.5	-16.6
-55.0	-27.2	-10.5	-16.7
-54.0	-31.7	-10.5	-21.2
-53.0	-30.1	-10.5	-19.6
-52.0	-28.4	-10.5	-17.9
-51.0	-26.9	-10.5	-16.4
-50.0	-30.7	-10.5	-20.2
-49.0	-23.0	-10.5	-12.5
-48.0	-21.6	-20.5	-1.1
-47.0	-22.8	-20.3	-2.5
-46.0	-20.9	-20.1	-0.8
-45.0	-21.5	-19.8	-1.7
-44.0	-22.2	-19.6	-2.6
-43.0	-23.1	-19.3	-3.8
-42.0	-23.0	-19.1	-3.9
-41.0	-20.5	-18.8	-1.7
-40.0	-20.3	-18.6	-1.7
-39.0	-25.5	-18.3	-7.2
-38.0	-23.8	-18.0	-5.8
-37.0	-24.6	-17.7	-6.9
-36.0	-21.3	-17.4	-3.8
-35.0	-22.1	-17.1	-5.0
-34.0	-20.6	-16.8	-3.8
-33.0	-28.9	-16.5	-12.4
-32.0	-24.0	-16.1	-7.9
-31.0	-22.3	-15.8	-6.5
-30.0	-25.5	-15.4	-10.0
-29.0	-32.8	-15.1	-17.7
-28.0	-23.2	-14.7	-8.5
-27.0	-19.2	-14.3	-4.9
-26.0	-25.5	-13.9	-11.7
-25.0	-22.3	-13.4	-8.8
-24.0	-22.3	-13.0	-9.3
-23.0	-24.4	-12.5	-11.8
-22.0	-20.7	-12.1	-8.6
-21.0	-15.6	-11.6	-4.0
-20.0	-41.7	-11.0	-30.6
-19.0	-17.0	-10.5	-6.5
-18.0	-18.6	-9.9	-8.8
-17.0	-15.7	-9.3	-6.5
-16.0	-13.0	-8.6	-4.4
-15.0	-11.8	-7.9	-3.9
-14.0	-15.6	-7.2	-8.5
-13.0	-13.3	-6.3	-7.0
-12.0	-22.0	-5.5	-16.6
-11.0	-18.9	-4.5	-14.4
-10.0	-15.6	-3.5	-12.1
-9.0	-18.1	-2.6	-15.5
-8.0	-18.7	-2.6	-16.1
-7.0	-9.1	-2.6	-6.5
-6.0	-16.8	-1.0	-15.8
-5.0	-6.2	1.0	-7.2
-4.0	-6.3	3.4	-9.7
-3.0	-2.3	6.6	-8.8
-2.0	6.9	11.0	-4.1
-1.0	8.5		
0.0	37.9		

123.0	-32.4	-10.5	-21.9
124.0	-29.6	-10.5	-19.1
125.0	-35.5	-10.5	-25.0
126.0	-43.8	-10.5	-33.3
127.0	-36.6	-10.5	-26.1
128.0	-45.1	-10.5	-34.6
129.0	-37.6	-10.5	-27.1
130.0	-32.3	-10.5	-21.8
131.0	-39.5	-10.5	-29.0
132.0	-30.8	-10.5	-20.3
133.0	-34.7	-10.5	-24.2
134.0	-34.0	-10.5	-23.5
135.0	-28.7	-10.5	-18.2
136.0	-28.9	-10.5	-18.4
137.0	-34.3	-10.5	-23.8
138.0	-32.2	-10.5	-21.7
139.0	-27.2	-10.5	-16.7
140.0	-30.9	-10.5	-20.4
141.0	-44.8	-10.5	-34.3
142.0	-37.4	-10.5	-26.9
143.0	-32.1	-10.5	-21.6
144.0	-36.8	-10.5	-26.3
145.0	-28.5	-10.5	-18.0
146.0	-31.4	-10.5	-20.9
147.0	-30.3	-10.5	-19.8
148.0	-39.7	-10.5	-29.2
149.0	-45.7	-10.5	-35.2
150.0	-36.8	-10.5	-26.3
151.0	-36.1	-10.5	-25.6
152.0	-44.0	-10.5	-33.5
153.0	-37.5	-10.5	-27.0
154.0	-37.3	-10.5	-26.8
155.0	-32.0	-10.5	-21.5
156.0	-34.0	-10.5	-23.5
157.0	-34.7	-10.5	-24.2
158.0	-42.3	-10.5	-31.8
159.0	-39.6	-10.5	-29.1
160.0	-48.0	-10.5	-37.5
161.0	-35.1	-10.5	-24.6
162.0	-49.0	-10.5	-38.5
163.0	-31.3	-10.5	-20.8
164.0	-30.7	-10.5	-20.2
165.0	-33.8	-10.5	-23.3
166.0	-31.2	-10.5	-20.7
167.0	-39.7	-10.5	-29.2
168.0	-32.4	-10.5	-21.9
169.0	-39.4	-10.5	-28.9
170.0	-49.5	-10.5	-39.0
171.0	-30.5	-10.5	-20.0
172.0	-31.2	-10.5	-20.7
173.0	-31.7	-10.5	-21.2
174.0	-31.7	-10.5	-21.2
175.0	-35.7	-10.5	-25.2
176.0	-32.9	-10.5	-22.4
177.0	-44.0	-10.5	-33.5
178.0	-34.8	-10.5	-24.3
179.0	-29.9	-10.5	-19.4

Orbit Communication Systems Ltd.

AL AL-7103-Ka, 1.20 m Antenna, EIRPsd Data Table
Co-pol Azimuth LHCP LHCP, -10° to +10° @ 0.1° increment

27.60 GHz @ -9,52 dBW / 40 kHz in Co-pol Az LHCP

Angle	EIRPsd	Mask	Over Mask
Degrees	dBW/40kHz	dBW/40kHz	dB
-10.0	-15.6	-3.5	-12.1
-9.9	-15.2	-3.4	-11.8
-9.8	-16.7	-3.3	-13.4
-9.7	-20.9	-3.2	-17.8
-9.6	-26.5	-3.1	-23.5
-9.5	-18.4	-2.9	-15.4
-9.4	-14.5	-2.8	-11.7
-9.3	-12.6	-2.7	-9.9
-9.2	-12.6	-2.6	-10.0
-9.1	-14.4	-2.6	-11.8
-9.0	-18.1	-2.6	-15.5
-8.9	-27.7	-2.6	-25.0
-8.8	-21.8	-2.6	-19.2
-8.7	-16.9	-2.6	-14.3
-8.6	-14.4	-2.6	-11.8
-8.5	-14.7	-2.6	-12.0
-8.4	-16.1	-2.6	-13.4
-8.3	-20.7	-2.6	-18.1
-8.2	-30.1	-2.6	-27.5
-8.1	-23.4	-2.6	-20.8
-8.0	-18.7	-2.6	-16.1
-7.9	-16.9	-2.6	-14.3
-7.8	-17.6	-2.6	-15.0
-7.7	-20.8	-2.6	-18.2
-7.6	-24.2	-2.6	-21.6
-7.5	-16.1	-2.6	-13.5
-7.4	-11.1	-2.6	-8.5
-7.3	-8.5	-2.6	-5.8
-7.2	-7.6	-2.6	-4.9
-7.1	-7.7	-2.6	-5.1
-7.0	-9.1	-2.6	-6.5
-6.9	-13.0	-2.5	-10.6
-6.8	-25.6	-2.3	-23.3
-6.7	-19.3	-2.2	-17.2
-6.6	-11.4	-2.0	-9.4
-6.5	-9.0	-1.8	-7.2
-6.4	-8.5	-1.7	-6.9
-6.3	-10.0	-1.5	-8.5
-6.2	-12.4	-1.3	-11.1
-6.1	-16.8	-1.1	-15.7
-6.0	-16.8	-1.0	-15.8
-5.9	-13.9	-0.8	-13.2
-5.8	-12.8	-0.6	-12.2
-5.7	-13.0	-0.4	-12.6
-5.6	-13.6	-0.2	-13.4
-5.5	-12.5	0.0	-12.4
-5.4	-10.8	0.2	-11.0
-5.3	-9.0	0.4	-9.4
-5.2	-7.6	0.6	-8.2
-5.1	-6.6	0.8	-7.4
-5.0	-6.2	1.0	-7.2
-4.9	-6.9	1.2	-8.1
-4.8	-8.9	1.5	-10.3
-4.7	-13.7	1.7	-15.4
-4.6	-21.3	1.9	-23.2
-4.5	-12.4	2.2	-14.5
-4.4	-7.9	2.4	-10.3
-4.3	-6.3	2.7	-8.9
-4.2	-6.2	2.9	-9.1
-4.1	-6.7	3.2	-9.9

27.60 GHz @ -9,52 dBW / 40 kHz in Co-pol Az LHCP

Angle	EIRPsd	Mask	Over Mask
Degrees	dBW/40kHz	dBW/40kHz	dB
0.0	37.9		
0.1	37.7		
0.2	37.0		
0.3	35.9		
0.4	34.3		
0.5	32.1		
0.6	29.4		
0.7	26.1		
0.8	22.0		
0.9	16.9		
1.0	10.1		
1.1	-0.5		
1.2	3.2		
1.3	7.8		
1.4	9.7		
1.5	10.0		
1.6	9.0		
1.7	7.0		
1.8	4.2		
1.9	0.9		
2.0	-2.6	11.0	-13.6
2.1	-5.4	10.4	-15.9
2.2	-4.8	9.9	-14.7
2.3	-1.2	9.5	-10.7
2.4	1.5	9.0	-7.5
2.5	2.4	8.6	-6.1
2.6	2.5	8.1	-5.6
2.7	1.7	7.7	-6.0
2.8	1.7	7.3	-5.6
2.9	1.3	6.9	-5.6
3.0	1.2	6.6	-5.3
3.1	1.0	6.2	-5.2
3.2	0.0	5.9	-5.9
3.3	-1.9	5.5	-7.5
3.4	-3.8	5.2	-9.0
3.5	-4.2	4.9	-9.1
3.6	-2.8	4.6	-7.4
3.7	-1.5	4.3	-5.8
3.8	-0.7	4.0	-4.7
3.9	-0.6	3.7	-4.3
4.0	-1.2	3.4	-4.6
4.1	-2.8	3.2	-6.0
4.2	-4.7	2.9	-7.6
4.3	-6.7	2.7	-9.4
4.4	-8.2	2.4	-10.6
4.5	-8.9	2.2	-11.0
4.6	-10.6	1.9	-12.5
4.7	-15.1	1.7	-16.8
4.8	-24.9	1.5	-26.4
4.9	-12.3	1.2	-13.5
5.0	-8.6	1.0	-9.6
5.1	-8.0	0.8	-8.8
5.2	-8.1	0.6	-8.7
5.3	-9.6	0.4	-10.0
5.4	-11.6	0.2	-11.8
5.5	-10.9	0.0	-10.9
5.6	-11.1	-0.2	-10.9
5.7	-12.4	-0.4	-12.0
5.8	-16.5	-0.6	-15.9
5.9	-22.9	-0.8	-22.2

Orbit Communication Systems Ltd.

AL AL-7103-Ka, 1.20 m Antenna, EIRPsd Data Table
 Co-pol Azimuth LHCP LHCP, -10° to +10° @ 0.1° increment

-4.0	-6.3	3.4	-9.7
-3.9	-4.3	3.7	-8.0
-3.8	-1.9	4.0	-6.0
-3.7	-0.1	4.3	-4.4
-3.6	1.1	4.6	-3.5
-3.5	1.9	4.9	-3.0
-3.4	2.3	5.2	-2.9
-3.3	2.1	5.5	-3.5
-3.2	1.1	5.9	-4.7
-3.1	-0.7	6.2	-6.9
-3.0	-2.3	6.6	-8.8
-2.9	-1.0	6.9	-8.0
-2.8	1.6	7.3	-5.7
-2.7	3.4	7.7	-4.3
-2.6	4.5	8.1	-3.6
-2.5	5.3	8.6	-3.2
-2.4	6.3	9.0	-2.7
-2.3	7.5	9.5	-1.9
-2.2	8.4	9.9	-1.5
-2.1	8.3	10.4	-2.1
-2.0	6.9	11.0	-4.1
-1.9	3.0		
-1.8	-4.9		
-1.7	1.3		
-1.6	6.5		
-1.5	8.3		
-1.4	8.4		
-1.3	7.4		
-1.2	6.9		
-1.1	7.7		
-1.0	8.5		
-0.9	12.1		
-0.8	18.3		
-0.7	23.7		
-0.6	28.0		
-0.5	31.3		
-0.4	33.8		
-0.3	35.6		
-0.2	36.8		
-0.1	37.6		
0.0	37.9		

6.0	-13.7	-1.0	-12.8
6.1	-9.8	-1.1	-8.7
6.2	-7.7	-1.3	-6.4
6.3	-8.0	-1.5	-6.6
6.4	-10.2	-1.7	-8.5
6.5	-14.9	-1.8	-13.1
6.6	-24.4	-2.0	-22.4
6.7	-17.8	-2.2	-15.6
6.8	-13.3	-2.3	-11.0
6.9	-11.3	-2.5	-8.9
7.0	-11.4	-2.6	-8.8
7.1	-11.8	-2.6	-9.2
7.2	-13.1	-2.6	-10.5
7.3	-15.5	-2.6	-12.8
7.4	-19.8	-2.6	-17.2
7.5	-24.0	-2.6	-21.3
7.6	-19.0	-2.6	-16.4
7.7	-14.1	-2.6	-11.4
7.8	-11.5	-2.6	-8.9
7.9	-10.7	-2.6	-8.1
8.0	-10.6	-2.6	-8.0
8.1	-12.8	-2.6	-10.2
8.2	-16.5	-2.6	-13.9
8.3	-23.7	-2.6	-21.0
8.4	-18.1	-2.6	-15.5
8.5	-12.5	-2.6	-9.9
8.6	-10.4	-2.6	-7.8
8.7	-11.1	-2.6	-8.5
8.8	-12.7	-2.6	-10.0
8.9	-17.5	-2.6	-14.9
9.0	-26.9	-2.6	-24.3
9.1	-20.3	-2.6	-17.7
9.2	-16.4	-2.6	-13.7
9.3	-14.8	-2.7	-12.1
9.4	-16.3	-2.8	-13.5
9.5	-20.8	-2.9	-17.8
9.6	-22.8	-3.1	-19.8
9.7	-17.9	-3.2	-14.7
9.8	-16.9	-3.3	-13.6
9.9	-18.1	-3.4	-14.7
10.0	-23.2	-3.5	-19.7

Orbit Communication Systems Ltd.

AL-7103-Ka, 1.20 m Antenna, EIRPsd Data Table
Co-pol Elevation LHCP, -30° to +30° @ 0.5° increment

27.60 GHz @ -9,52 dBW / 40 kHz in Co-pol EI LHCP

Angle Degrees	EIRPsd dBW/40kHz	Mask dBW/40kHz	Over Mask dB
-30.0	-23.0	-12.4	-10.6
-29.5	-23.3	-12.2	-11.1
-29.0	-19.5	-12.1	-7.4
-28.5	-21.9	-11.9	-10.0
-28.0	-26.0	-11.7	-14.3
-27.5	-23.8	-11.5	-12.4
-27.0	-25.4	-11.3	-14.1
-26.5	-23.5	-11.1	-12.4
-26.0	-20.3	-10.9	-9.4
-25.5	-18.4	-10.7	-7.7
-25.0	-18.4	-10.4	-8.0
-24.5	-20.0	-10.2	-9.7
-24.0	-18.6	-10.0	-8.6
-23.5	-22.4	-9.8	-12.7
-23.0	-19.2	-9.5	-9.7
-22.5	-17.7	-9.3	-8.4
-22.0	-21.1	-9.1	-12.0
-21.5	-21.2	-8.8	-12.4
-21.0	-18.0	-8.6	-9.4
-20.5	-18.4	-8.3	-10.1
-20.0	-20.9	-8.0	-12.9
-19.5	-21.1	-7.8	-13.4
-19.0	-21.6	-7.5	-14.1
-18.5	-17.5	-7.2	-10.4
-18.0	-16.7	-6.9	-9.8
-17.5	-18.4	-6.6	-11.8
-17.0	-23.7	-6.3	-17.4
-16.5	-32.5	-5.9	-26.6
-16.0	-22.0	-5.6	-16.4
-15.5	-20.7	-5.3	-15.4
-15.0	-23.1	-4.9	-18.2
-14.5	-21.5	-4.5	-16.9
-14.0	-16.0	-4.2	-11.9
-13.5	-16.0	-3.8	-12.2
-13.0	-20.4	-3.3	-17.1
-12.5	-32.9	-2.9	-30.0
-12.0	-22.0	-2.5	-19.5
-11.5	-38.0	-2.0	-36.0
-11.0	-15.3	-1.5	-13.8
-10.5	-16.8	-1.0	-15.8
-10.0	-20.6	-0.5	-20.1
-9.5	-19.0	0.1	-19.1
-9.0	-23.6	0.4	-24.0
-8.5	-15.3	0.4	-15.7
-8.0	-16.0	0.4	-16.3
-7.5	-17.8	0.4	-18.2
-7.0	-13.3	0.4	-13.7
-6.5	-24.4	1.2	-25.6
-6.0	-13.1	2.0	-15.1
-5.5	-17.0	3.0	-19.9
-5.0	-7.9	4.0	-11.9
-4.5	-7.5	5.2	-12.6
-4.0	-3.6	6.4	-10.0
-3.5	-10.2	7.9	-18.1
-3.0	1.4		
-2.5	2.9		
-2.0	1.2		
-1.5	11.0		
-1.0	12.2		
-0.5	31.8		
0.0	37.9		

27.60 GHz @ -9,52 dBW / 40 kHz in Co-pol EI LHCP

Angle Degrees	EIRPsd dBW/40kHz	Mask dBW/40kHz	Over Mask dB
0.0	37.9		
0.5	30.4		
1.0	10.1		
1.5	7.4		
2.0	8.2		
2.5	6.1		
3.0	-2.8		
3.5	-1.8	7.9	-9.7
4.0	-3.8	6.4	-10.3
4.5	-12.5	5.2	-17.7
5.0	-10.4	4.0	-14.4
5.5	-15.9	3.0	-18.9
6.0	-17.0	2.0	-19.0
6.5	-9.3	1.2	-10.5
7.0	-8.5	0.4	-8.9
7.5	-15.9	0.4	-16.3
8.0	-15.8	0.4	-16.2
8.5	-15.5	0.4	-15.8
9.0	-13.8	0.4	-14.1
9.5	-19.4	0.1	-19.5
10.0	-19.8	-0.5	-19.3
10.5	-11.6	-1.0	-10.6
11.0	-29.4	-1.5	-27.9
11.5	-10.6	-2.0	-8.6
12.0	-10.7	-2.5	-8.2
12.5	-16.3	-2.9	-13.3
13.0	-13.8	-3.3	-10.5
13.5	-13.3	-3.8	-9.5
14.0	-29.8	-4.2	-25.7
14.5	-13.3	-4.5	-8.7
15.0	-12.7	-4.9	-7.8
15.5	-11.8	-5.3	-6.5
16.0	-14.8	-5.6	-9.2
16.5	-9.4	-5.9	-3.5
17.0	-17.5	-6.3	-11.3
17.5	-16.7	-6.6	-10.1
18.0	-16.4	-6.9	-9.5
18.5	-16.7	-7.2	-9.6
19.0	-26.6	-7.5	-19.1
19.5	-13.8	-7.8	-6.1
20.0	-21.9	-8.0	-13.9
20.5	-15.5	-8.3	-7.2
21.0	-13.1	-8.6	-4.5
21.5	-17.5	-8.8	-8.7
22.0	-20.5	-9.1	-11.4
22.5	-12.7	-9.3	-3.4
23.0	-17.8	-9.5	-8.2
23.5	-16.7	-9.8	-6.9
24.0	-18.0	-10.0	-8.0
24.5	-16.4	-10.2	-6.2
25.0	-17.2	-10.4	-6.8
25.5	-14.1	-10.7	-3.5
26.0	-15.2	-10.9	-4.4
26.5	-16.4	-11.1	-5.3
27.0	-15.3	-11.3	-4.0
27.5	-19.3	-11.5	-7.8
28.0	-24.5	-11.7	-12.8
28.5	-18.3	-11.9	-6.4
29.0	-24.4	-12.1	-12.3
29.5	-23.9	-12.2	-11.6
30.0	-16.1	-12.4	-3.7

Orbit Communication Systems Ltd.

AL-7103-Ka, 1.20 m Antenna, EIRPsd Data Table
Co-pol Elevation LHCP, -10° to +10° @ 0.1° increment

27.60 GHz @ -9,52 dBW / 40 kHz in Co-pol EI LHCP

Angle	EIRPsd	Mask	Over Mask
Degrees	dBW/40kHz	dBW/40kHz	dB
-10.0	-20.6	-0.5	-20.1
-9.9	-18.5	-0.4	-18.2
-9.8	-19.7	-0.3	-19.4
-9.7	-23.6	-0.2	-23.4
-9.6	-26.0	-0.1	-26.0
-9.5	-19.0	0.1	-19.1
-9.4	-14.8	0.2	-15.0
-9.3	-15.0	0.3	-15.3
-9.2	-17.0	0.4	-17.4
-9.1	-21.4	0.4	-21.8
-9.0	-23.6	0.4	-24.0
-8.9	-16.8	0.4	-17.2
-8.8	-13.5	0.4	-13.9
-8.7	-12.8	0.4	-13.2
-8.6	-13.4	0.4	-13.7
-8.5	-15.3	0.4	-15.7
-8.4	-18.1	0.4	-18.5
-8.3	-27.1	0.4	-27.5
-8.2	-25.4	0.4	-25.8
-8.1	-19.4	0.4	-19.8
-8.0	-16.0	0.4	-16.3
-7.9	-14.2	0.4	-14.5
-7.8	-14.0	0.4	-14.4
-7.7	-15.6	0.4	-16.0
-7.6	-17.0	0.4	-17.4
-7.5	-17.8	0.4	-18.2
-7.4	-16.7	0.4	-17.1
-7.3	-16.3	0.4	-16.7
-7.2	-17.3	0.4	-17.6
-7.1	-16.6	0.4	-17.0
-7.0	-13.3	0.4	-13.7
-6.9	-10.6	0.5	-11.1
-6.8	-9.7	0.7	-10.4
-6.7	-10.5	0.8	-11.3
-6.6	-14.2	1.0	-15.2
-6.5	-24.4	1.2	-25.6
-6.4	-15.0	1.3	-16.3
-6.3	-10.0	1.5	-11.5
-6.2	-8.5	1.7	-10.2
-6.1	-9.1	1.9	-11.0
-6.0	-13.1	2.0	-15.1
-5.9	-26.9	2.2	-29.1
-5.8	-17.6	2.4	-20.0
-5.7	-12.5	2.6	-15.1
-5.6	-12.2	2.8	-15.0
-5.5	-17.0	3.0	-19.9
-5.4	-30.0	3.2	-33.2
-5.3	-12.8	3.4	-16.2
-5.2	-8.0	3.6	-11.6
-5.1	-6.7	3.8	-10.5
-5.0	-7.9	4.0	-11.9
-4.9	-12.8	4.2	-17.0
-4.8	-37.0	4.5	-41.5
-4.7	-13.5	4.7	-18.2
-4.6	-8.4	4.9	-13.3
-4.5	-7.5	5.2	-12.6
-4.4	-8.7	5.4	-14.1
-4.3	-9.8	5.7	-15.5
-4.2	-7.6	5.9	-13.5
-4.1	-4.9	6.2	-11.1

27.60 GHz @ -9,52 dBW / 40 kHz in Co-pol EI LHCP

Angle	EIRPsd	Mask	Over Mask
Degrees	dBW/40kHz	dBW/40kHz	dB
0.0	37.9		
0.1	37.5		
0.2	36.7		
0.3	35.3		
0.4	33.2		
0.5	30.4		
0.6	26.7		
0.7	21.7		
0.8	15.7		
0.9	10.9		
1.0	10.1		
1.1	8.9		
1.2	6.9		
1.3	6.8		
1.4	7.8		
1.5	7.4		
1.6	5.0		
1.7	1.0		
1.8	2.8		
1.9	6.5		
2.0	8.2		
2.1	8.5		
2.2	7.7		
2.3	6.7		
2.4	6.1		
2.5	6.1		
2.6	5.9		
2.7	4.8		
2.8	2.6		
2.9	-0.5		
3.0	-2.8		
3.1	-2.4		
3.2	-1.2		
3.3	-1.0		
3.4	-1.2		
3.5	-1.8	7.9	-9.7
3.6	-2.5	7.6	-10.1
3.7	-4.2	7.3	-11.5
3.8	-5.3	7.0	-12.3
3.9	-5.2	6.7	-11.9
4.0	-3.8	6.4	-10.3
4.1	-2.6	6.2	-8.7
4.2	-2.3	5.9	-8.2
4.3	-3.6	5.7	-9.3
4.4	-6.4	5.4	-11.8
4.5	-12.5	5.2	-17.7
4.6	-25.4	4.9	-30.3
4.7	-14.7	4.7	-19.4
4.8	-11.6	4.5	-16.1
4.9	-10.3	4.2	-14.6
5.0	-10.4	4.0	-14.4
5.1	-10.2	3.8	-14.0
5.2	-10.4	3.6	-14.0
5.3	-11.1	3.4	-14.5
5.4	-13.0	3.2	-16.2
5.5	-15.9	3.0	-18.9
5.6	-17.1	2.8	-19.9
5.7	-15.3	2.6	-17.9
5.8	-15.2	2.4	-17.6
5.9	-17.2	2.2	-19.4

Orbit Communication Systems Ltd.
 AL-7103-Ka, 1.20 m Antenna, EIRPsd Data Table
 Co-pol Elevation LHCP, -10° to +10° @ 0.1° increment

-4.0	-3.6	6.4	-10.0
-3.9	-3.5	6.7	-10.2
-3.8	-4.5	7.0	-11.5
-3.7	-6.2	7.3	-13.4
-3.6	-8.6	7.6	-16.2
-3.5	-10.2	7.9	-18.1
-3.4	-7.6		
-3.3	-3.6		
-3.2	-0.5		
-3.1	1.1		
-3.0	1.4		
-2.9	0.6		
-2.8	-0.8		
-2.7	-0.6		
-2.6	1.3		
-2.5	2.9		
-2.4	3.3		
-2.3	2.5		
-2.2	1.1		
-2.1	0.5		
-2.0	1.2		
-1.9	2.2		
-1.8	4.2		
-1.7	7.0		
-1.6	9.5		
-1.5	11.0		
-1.4	11.3		
-1.3	9.8		
-1.2	6.1		
-1.1	2.0		
-1.0	12.2		
-0.9	17.3		
-0.8	21.7		
-0.7	25.6		
-0.6	29.0		
-0.5	31.8		
-0.4	34.1		
-0.3	35.8		
-0.2	37.0		
-0.1	37.7		
0.0	37.9		

6.0	-17.0	2.0	-19.0
6.1	-13.0	1.9	-14.8
6.2	-9.2	1.7	-10.8
6.3	-7.4	1.5	-9.0
6.4	-7.5	1.3	-8.8
6.5	-9.3	1.2	-10.5
6.6	-13.9	1.0	-14.9
6.7	-25.3	0.8	-26.2
6.8	-15.1	0.7	-15.8
6.9	-10.9	0.5	-11.5
7.0	-8.5	0.4	-8.9
7.1	-8.1	0.4	-8.4
7.2	-8.6	0.4	-9.0
7.3	-10.1	0.4	-10.5
7.4	-12.2	0.4	-12.6
7.5	-15.9	0.4	-16.3
7.6	-24.1	0.4	-24.5
7.7	-31.2	0.4	-31.5
7.8	-19.2	0.4	-19.6
7.9	-16.2	0.4	-16.5
8.0	-15.8	0.4	-16.2
8.1	-17.2	0.4	-17.5
8.2	-21.3	0.4	-21.7
8.3	-21.5	0.4	-21.9
8.4	-18.1	0.4	-18.5
8.5	-15.5	0.4	-15.8
8.6	-15.9	0.4	-16.3
8.7	-19.6	0.4	-20.0
8.8	-34.6	0.4	-35.0
8.9	-19.8	0.4	-20.2
9.0	-13.8	0.4	-14.1
9.1	-11.4	0.4	-11.8
9.2	-10.8	0.4	-11.2
9.3	-11.5	0.3	-11.8
9.4	-14.6	0.2	-14.8
9.5	-19.4	0.1	-19.5
9.6	-21.8	-0.1	-21.7
9.7	-17.5	-0.2	-17.4
9.8	-16.6	-0.3	-16.3
9.9	-17.1	-0.4	-16.7
10.0	-19.8	-0.5	-19.3

Orbit Communication Systems Ltd.
AL-7103-Ka, 1.20 m Antenna, EIRPsd Data Table
X-pol Azimuth LHCP, -10° to +10° @ 0.1° increment

27.60 GHz @ -9,52 dBW / 40 kHz in X-pol Az LHCP

Angle	EIRPsd	Mask	Over Mask
Degrees	dBW/40kHz	dBW/40kHz	dB
-10.0	-18.9	-12.6	-6.3
-9.9	-24.6	-12.6	-12.0
-9.8	-29.3	-12.6	-16.6
-9.7	-22.6	-12.6	-10.0
-9.6	-20.5	-12.6	-7.9
-9.5	-19.4	-12.6	-6.7
-9.4	-19.9	-12.6	-7.2
-9.3	-21.3	-12.6	-8.7
-9.2	-21.0	-12.6	-8.3
-9.1	-18.2	-12.6	-5.5
-9.0	-16.2	-12.6	-3.6
-8.9	-15.4	-12.6	-2.8
-8.8	-16.1	-12.6	-3.5
-8.7	-17.6	-12.6	-5.0
-8.6	-21.4	-12.6	-8.8
-8.5	-27.0	-12.6	-14.3
-8.4	-30.8	-12.6	-18.2
-8.3	-25.0	-12.6	-12.4
-8.2	-22.8	-12.6	-10.2
-8.1	-19.0	-12.6	-6.4
-8.0	-18.3	-12.6	-5.6
-7.9	-18.2	-12.6	-5.6
-7.8	-18.0	-12.6	-5.4
-7.7	-18.8	-12.6	-6.2
-7.6	-19.5	-12.6	-6.9
-7.5	-20.1	-12.6	-7.5
-7.4	-22.1	-12.6	-9.5
-7.3	-24.6	-12.6	-11.9
-7.2	-22.4	-12.6	-9.7
-7.1	-18.2	-12.6	-5.6
-7.0	-15.0	-12.6	-2.4
-6.9	-13.7	-12.5	-1.2
-6.8	-12.8	-12.3	-0.5
-6.7	-13.5	-12.2	-1.4
-6.6	-16.6	-12.0	-4.7
-6.5	-23.0	-11.8	-11.2
-6.4	-28.1	-11.7	-16.5
-6.3	-20.0	-11.5	-8.5
-6.2	-17.1	-11.3	-5.8
-6.1	-17.0	-11.1	-5.9
-6.0	-18.9	-11.0	-8.0
-5.9	-20.4	-10.8	-9.6
-5.8	-17.1	-10.6	-6.5
-5.7	-14.2	-10.4	-3.8
-5.6	-12.5	-10.2	-2.3
-5.5	-12.4	-10.0	-2.4
-5.4	-13.8	-9.8	-4.0
-5.3	-16.6	-9.6	-7.0
-5.2	-20.4	-9.4	-11.0
-5.1	-27.4	-9.2	-18.2
-5.0	-25.2	-9.0	-16.2
-4.9	-16.8	-8.8	-8.0
-4.8	-12.2	-8.5	-3.7
-4.7	-9.7	-8.3	-1.4
-4.6	-8.4	-8.1	-0.3
-4.5	-9.0	-7.8	-1.1
-4.4	-11.3	-7.6	-3.7
-4.3	-16.8	-7.3	-9.5
-4.2	-29.5	-7.1	-22.4
-4.1	-17.3	-6.8	-10.5

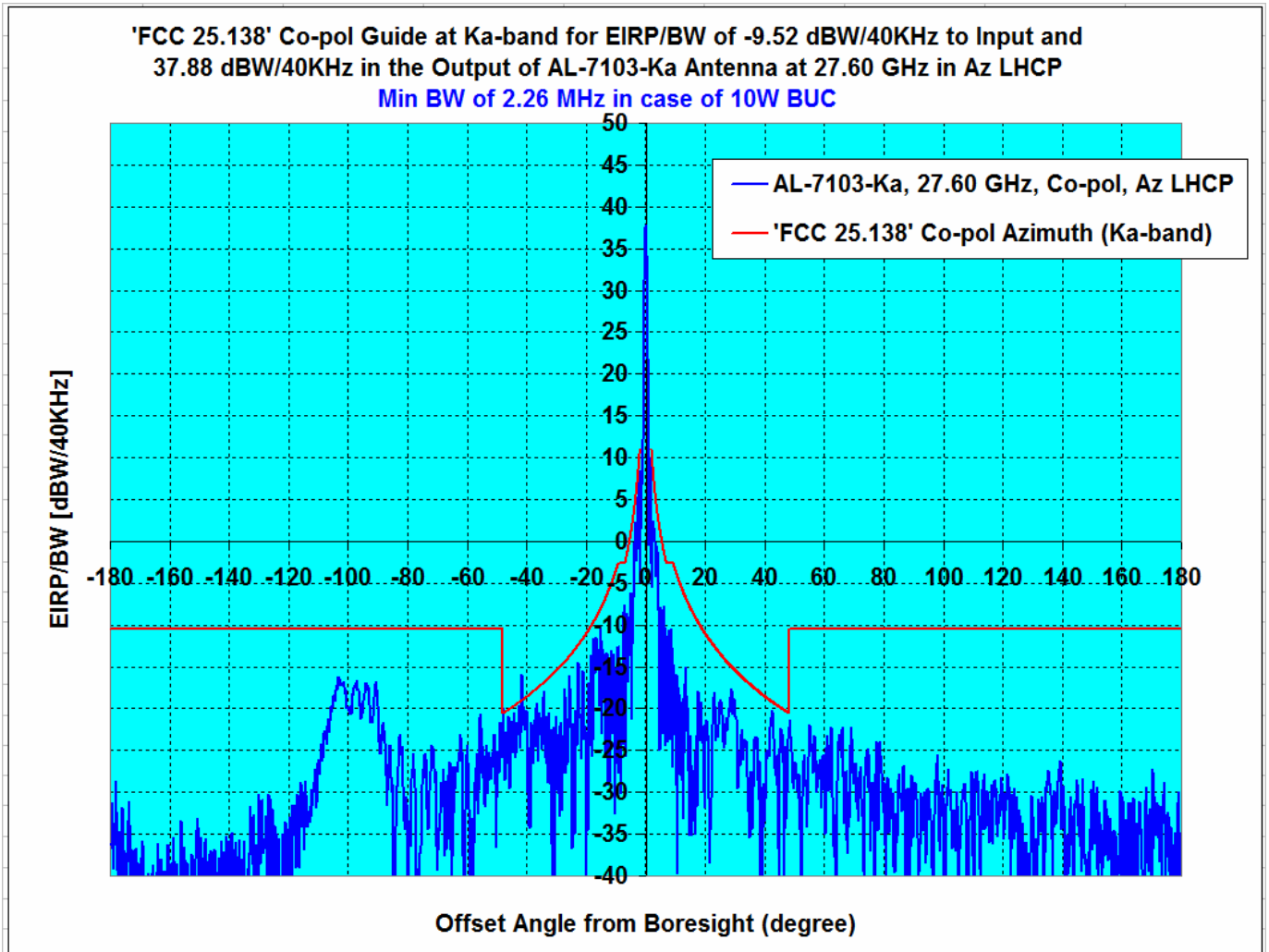
27.60 GHz @ -9,52 dBW / 40 kHz in X-pol Az LHCP

Angle	EIRPsd	Mask	Over Mask
Degrees	dBW/40kHz	dBW/40kHz	dB
0.0	4.8		
0.1	13.0		
0.2	16.7		
0.3	18.4		
0.4	18.8		
0.5	18.3		
0.6	16.8		
0.7	14.4		
0.8	11.0		
0.9	6.8		
1.0	3.6		
1.1	2.0		
1.2	-0.6		
1.3	-6.0		
1.4	-21.3		
1.5	-6.6		
1.6	-3.2		
1.7	-3.1		
1.8	-5.7		
1.9	-11.5		
2.0	-12.6	1.0	-13.6
2.1	-9.1	0.4	-9.6
2.2	-8.4	-0.1	-8.4
2.3	-12.1	-0.5	-11.5
2.4	-21.7	-1.0	-20.7
2.5	-15.7	-1.4	-14.2
2.6	-8.6	-1.9	-6.7
2.7	-6.1	-2.3	-3.8
2.8	-6.1	-2.7	-3.4
2.9	-9.0	-3.1	-5.9
3.0	-14.6	-3.4	-11.2
3.1	-24.6	-3.8	-20.8
3.2	-17.0	-4.1	-12.9
3.3	-14.5	-4.5	-10.0
3.4	-14.1	-4.8	-9.3
3.5	-14.9	-5.1	-9.8
3.6	-16.5	-5.4	-11.1
3.7	-18.4	-5.7	-12.7
3.8	-21.4	-6.0	-15.4
3.9	-52.5	-6.3	-46.2
4.0	-18.8	-6.6	-12.3
4.1	-14.7	-6.8	-7.9
4.2	-12.1	-7.1	-5.0
4.3	-12.6	-7.3	-5.3
4.4	-16.2	-7.6	-8.7
4.5	-23.2	-7.8	-15.3
4.6	-23.0	-8.1	-14.9
4.7	-16.1	-8.3	-7.8
4.8	-14.9	-8.5	-6.4
4.9	-16.4	-8.8	-7.7
5.0	-21.9	-9.0	-12.9
5.1	-19.7	-9.2	-10.5
5.2	-14.7	-9.4	-5.3
5.3	-13.0	-9.6	-3.4
5.4	-13.7	-9.8	-3.9
5.5	-16.9	-10.0	-6.9
5.6	-27.4	-10.2	-17.2
5.7	-21.4	-10.4	-11.0
5.8	-14.6	-10.6	-4.0
5.9	-12.7	-10.8	-2.0

Orbit Communication Systems Ltd.
AL-7103-Ka, 1.20 m Antenna, EIRPsd Data Table
X-pol Azimuth LHCP, -10° to +10° @ 0.1° increment

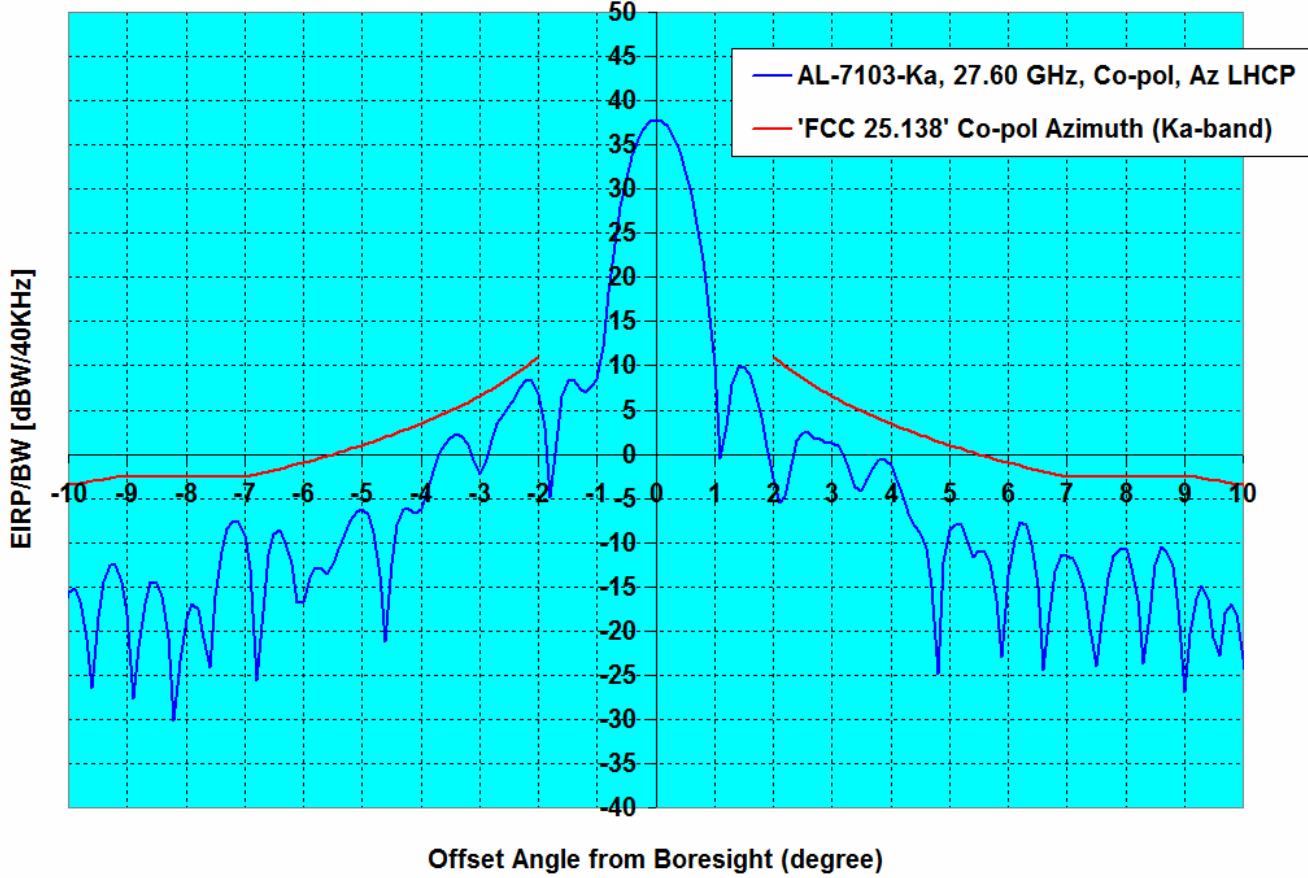
-4.0	-12.9	-6.6	-6.3
-3.9	-12.1	-6.3	-5.9
-3.8	-12.9	-6.0	-6.9
-3.7	-12.4	-5.7	-6.7
-3.6	-11.1	-5.4	-5.7
-3.5	-9.8	-5.1	-4.7
-3.4	-10.6	-4.8	-5.9
-3.3	-14.1	-4.5	-9.6
-3.2	-17.8	-4.1	-13.7
-3.1	-10.7	-3.8	-6.9
-3.0	-7.1	-3.4	-3.7
-2.9	-5.8	-3.1	-2.7
-2.8	-7.2	-2.7	-4.5
-2.7	-13.4	-2.3	-11.1
-2.6	-17.0	-1.9	-15.2
-2.5	-6.5	-1.4	-5.1
-2.4	-3.0	-1.0	-1.9
-2.3	-2.4	-0.5	-1.9
-2.2	-4.8	-0.1	-4.7
-2.1	-14.0	0.4	-14.5
-2.0	-8.1	1.0	-9.1
-1.9	-0.7		
-1.8	2.2		
-1.7	2.7		
-1.6	0.8		
-1.5	-5.9		
-1.4	-7.1		
-1.3	1.7		
-1.2	5.3		
-1.1	7.2		
-1.0	8.3		
-0.9	10.2		
-0.8	13.0		
-0.7	15.5		
-0.6	17.3		
-0.5	18.2		
-0.4	18.2		
-0.3	16.9		
-0.2	13.8		
-0.1	6.7		
0.0	4.8		

6.0	-13.3	-11.0	-2.3
6.1	-16.2	-11.1	-5.0
6.2	-21.3	-11.3	-10.0
6.3	-22.0	-11.5	-10.5
6.4	-17.5	-11.7	-5.8
6.5	-16.2	-11.8	-4.4
6.6	-16.7	-12.0	-4.7
6.7	-18.5	-12.2	-6.4
6.8	-21.8	-12.3	-9.5
6.9	-24.7	-12.5	-12.2
7.0	-29.4	-12.6	-16.8
7.1	-39.3	-12.6	-26.6
7.2	-32.6	-12.6	-20.0
7.3	-23.7	-12.6	-11.1
7.4	-20.1	-12.6	-7.4
7.5	-19.7	-12.6	-7.0
7.6	-19.3	-12.6	-6.7
7.7	-21.6	-12.6	-9.0
7.8	-25.5	-12.6	-12.9
7.9	-36.9	-12.6	-24.2
8.0	-32.1	-12.6	-19.5
8.1	-22.8	-12.6	-10.2
8.2	-20.7	-12.6	-8.0
8.3	-18.7	-12.6	-6.1
8.4	-18.5	-12.6	-5.9
8.5	-21.2	-12.6	-8.6
8.6	-24.3	-12.6	-11.6
8.7	-23.5	-12.6	-10.8
8.8	-21.2	-12.6	-8.6
8.9	-19.2	-12.6	-6.5
9.0	-18.7	-12.6	-6.0
9.1	-20.4	-12.6	-7.8
9.2	-24.2	-12.6	-11.5
9.3	-31.1	-12.6	-18.5
9.4	-26.2	-12.6	-13.6
9.5	-23.8	-12.6	-11.2
9.6	-22.4	-12.6	-9.8
9.7	-27.1	-12.6	-14.5
9.8	-34.2	-12.6	-21.6
9.9	-29.9	-12.6	-17.2
10.0	-26.3	-12.6	-13.7



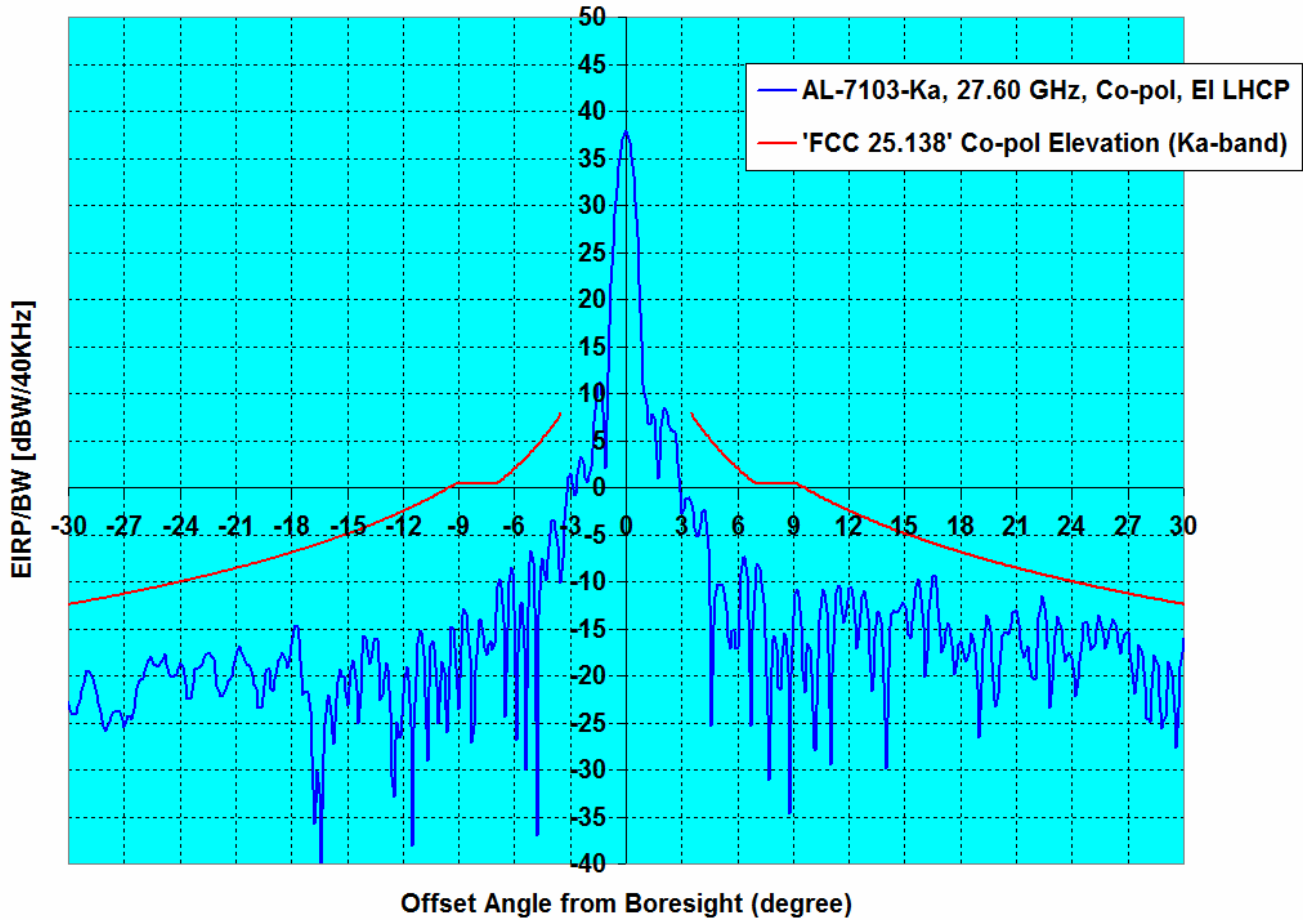
Configuration System, Freq., Polarization, Plane	Regulation EIRP/BW [dBW/40KHz]	Antenna Gain dBi	Input EIRPsd dBW/40KHz	Peak Excursions dB		Over Mask %
				± (2° to 10°)	± (10° to 180°)	
AL-7103-Ka, 27.60 GHz, Co-pol, Az LHCP	'FCC 25.138' Co-pol Azimuth (Ka-band)	47.40	-9.52	-1.55	3.00	0.20

**'FCC 25.138' Co-pol Guide at Ka-band for EIRP/BW of -9.52 dBW/40KHz to Input and
 37.88 dBW/40KHz in the Output of AL-7103-Ka Antenna at 27.60 GHz in Az LHCP
 Min BW of 2.26 MHz in case of 10W BUC**



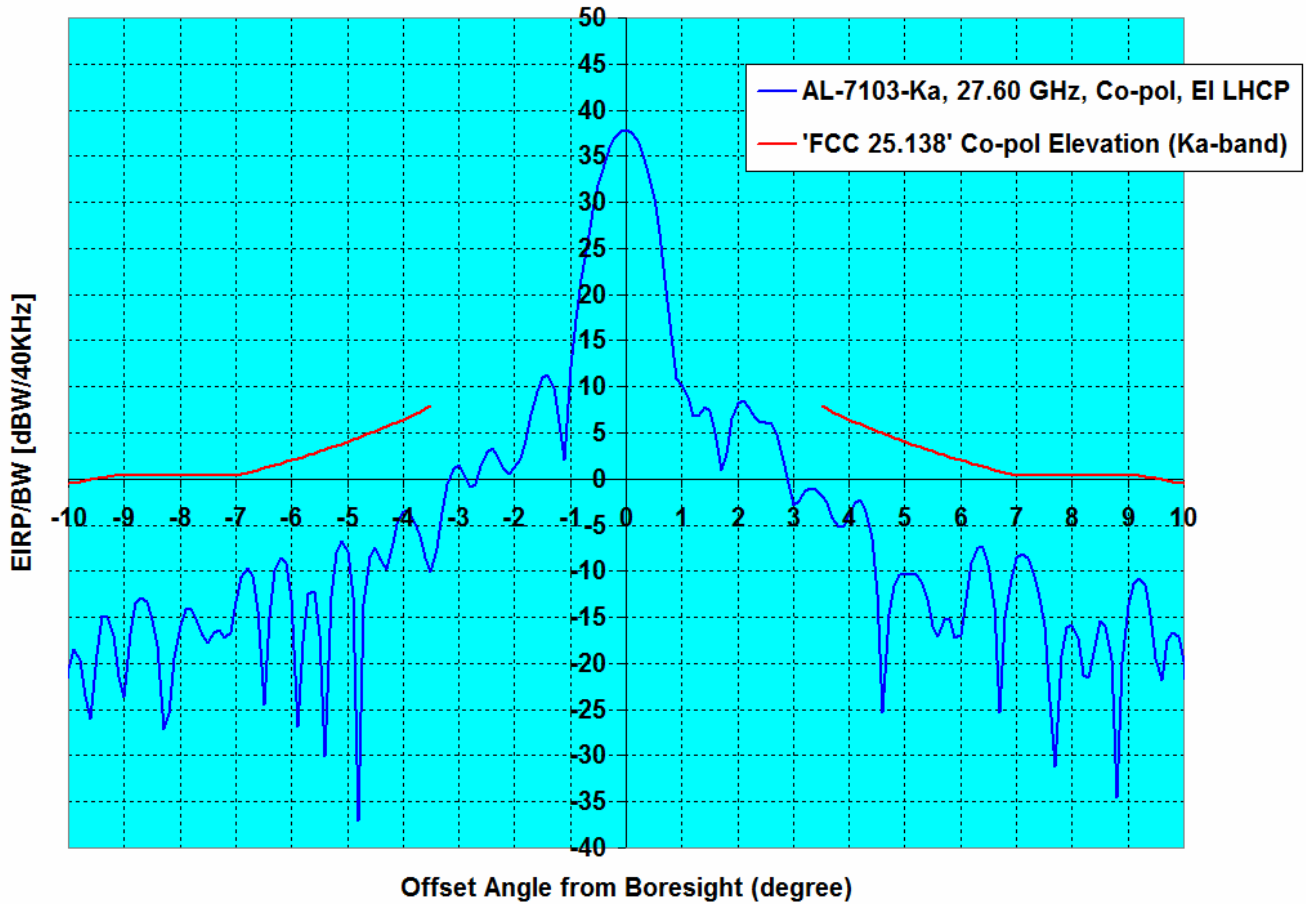
Configuration	Regulation	Antenna Gain	Input EIRPsd	Peak Excursions dB		Over Mask
System, Freq., Polarization, Plane	EIRP/BW [dBW/40KHz]	dBi	dBW/40KHz	± (2° to 10°)	± (10° to 180°)	%
AL-7103-Ka, 27.60 GHz, Co-pol, Az LHCP	'FCC 25.138' Co-pol Azimuth (Ka-band)	47.40	-9.52	-1.55	3.00	0.20

**'FCC 25.138' Co-pol Guide at Ka-band for EIRP/BW of -9.52 dBW/40KHz to Input and
 37.88 dBW/40KHz in the Output of AL-7103-Ka Antenna at 27.60 GHz in EI LHCP
 Min BW of 2.26 MHz in case of 10W BUC**



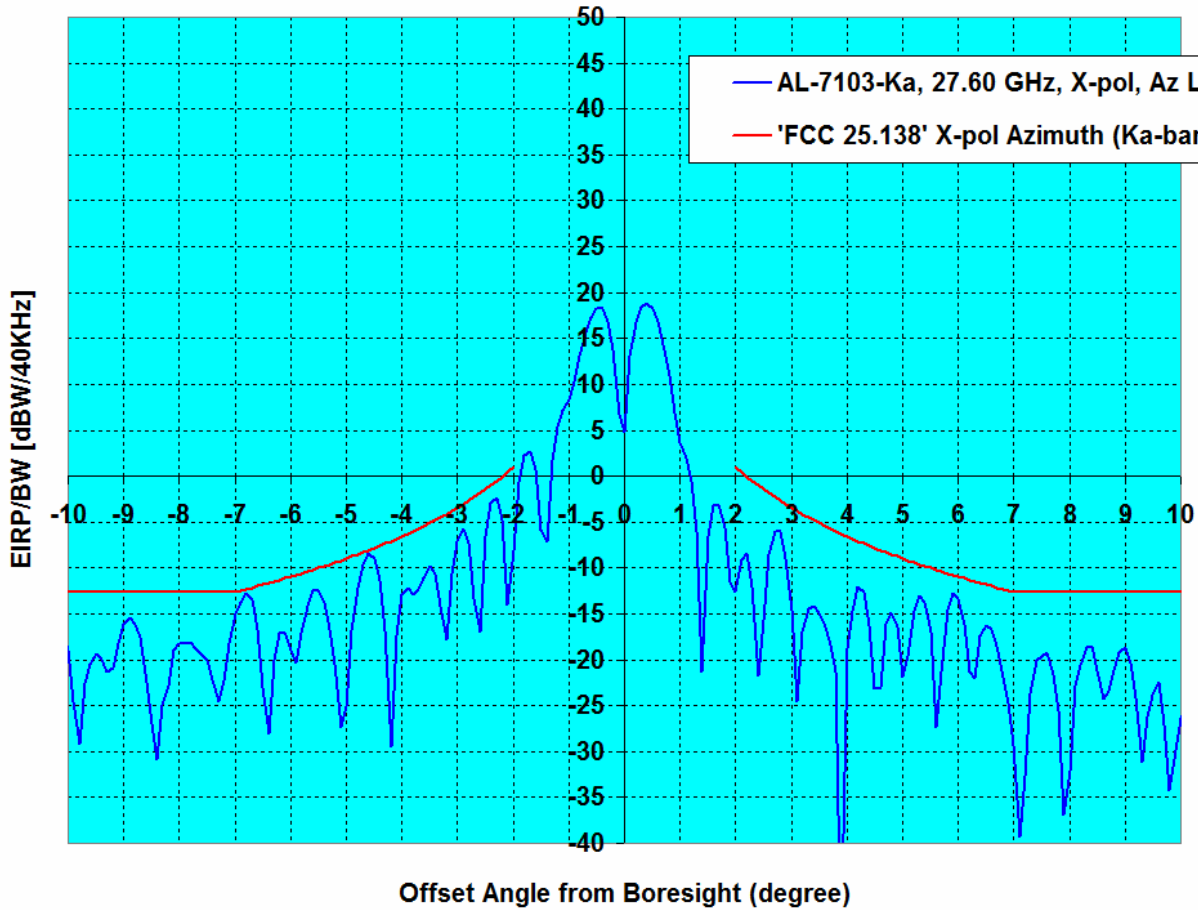
Configuration	Regulation	Antenna Gain	Input EIRPsd	Peak Excursions dB		Over Mask
System, Frequency, Polarization, Plane	EIRP/BW [dBW/40KHz]	dBi	dBW/40KHz	± (3.5° to 10°)	± (10° to 30°)	%
AL-7103-Ka, 27.60 GHz, Co-pol, EI LHCP	'FCC 25.138' Co-pol Elevation (Ka-band)	47.40	-9.52	-8.18	-2.21	0.00

**'FCC 25.138' Co-pol Guide at Ka-band for EIRP/BW of -9.52 dBW/40KHz to Input and
 37.88 dBW/40KHz in the Output of AL-7103-Ka Antenna at 27.60 GHz in EI LHCP
 Min BW of 2.26 MHz in case of 10W BUC**



Configuration	Regulation	Antenna Gain	Input EIRPsd	Peak Excursions dB		Over Mask
System, Frequency, Polarization, Plane	EIRP/BW [dBW/40KHz]	dBi	dBW/40KHz	± (3.5° to 10°)	± (10° to 30°)	%
AL-7103-Ka, 27.60 GHz, Co-pol, EI LHCP	'FCC 25.138' Co-pol Elevation (Ka-band)	47.40	-9.52	-8.18	-2.21	0.00

**'FCC 25.138' X-pol Guide at Ka-band for EIRP/BW of -9.52 dBW/40KHz to Input and
 37.88 dBW/40KHz in the Output of AL-7103-Ka Antenna at 27.60 GHz in Az LHCP
 Min BW of 2.26 MHz in case of 10W BUC**



Configuration System, Frequency, Polarization, Plane	Regulation		Antenna Gain dBi	Input EIRPsd dBW/40KHz	Peak Excursions dB		Over Mask %
	EIRP/BW [dBW/40KHz]				± (2° to 7°)	± (2° to 9.2°)	
AL-7103-Ka, 27.60 GHz, X-pol, Az LHCP	'FCC 25.138' X-pol Azimuth (Ka-band)		47.40	-9.52	-0.30	-0.30	0.00

Orbit Communication Systems Ltd.

AL-7103-Ka, 1.20 m Antenna, EIRPsd Data Table
Co-pol Azimuth RHCP, -180° to +180° @ 1.0° increment

27.60 GHz @ -10.94 dBW / 40 kHz in Co-pol Az RHCP

Angle	EIRPsd	Mask	Over Mask
Degrees	dBW/40kHz	dBW/40kHz	dB
-179.0	-40.0	-10.5	-29.5
-178.0	-40.3	-10.5	-29.8
-177.0	-34.9	-10.5	-24.4
-176.0	-42.4	-10.5	-31.9
-175.0	-41.9	-10.5	-31.4
-174.0	-38.9	-10.5	-28.4
-173.0	-46.7	-10.5	-36.2
-172.0	-38.7	-10.5	-28.2
-171.0	-48.8	-10.5	-38.3
-170.0	-40.6	-10.5	-30.1
-169.0	-38.2	-10.5	-27.7
-168.0	-42.6	-10.5	-32.1
-167.0	-53.8	-10.5	-43.3
-166.0	-43.3	-10.5	-32.8
-165.0	-36.9	-10.5	-26.4
-164.0	-50.5	-10.5	-40.0
-163.0	-49.0	-10.5	-38.5
-162.0	-42.0	-10.5	-31.5
-161.0	-42.4	-10.5	-31.9
-160.0	-38.9	-10.5	-28.4
-159.0	-44.1	-10.5	-33.6
-158.0	-43.3	-10.5	-32.8
-157.0	-35.9	-10.5	-25.4
-156.0	-42.3	-10.5	-31.8
-155.0	-50.0	-10.5	-39.5
-154.0	-34.2	-10.5	-23.7
-153.0	-45.2	-10.5	-34.7
-152.0	-43.8	-10.5	-33.3
-151.0	-46.2	-10.5	-35.7
-150.0	-39.8	-10.5	-29.3
-149.0	-44.7	-10.5	-34.2
-148.0	-49.8	-10.5	-39.3
-147.0	-39.4	-10.5	-28.9
-146.0	-44.3	-10.5	-33.8
-145.0	-41.3	-10.5	-30.8
-144.0	-38.5	-10.5	-28.0
-143.0	-39.8	-10.5	-29.3
-142.0	-44.6	-10.5	-34.1
-141.0	-40.4	-10.5	-29.9
-140.0	-45.1	-10.5	-34.6
-139.0	-45.9	-10.5	-35.4
-138.0	-45.1	-10.5	-34.6
-137.0	-39.7	-10.5	-29.2
-136.0	-41.2	-10.5	-30.7
-135.0	-46.4	-10.5	-35.9
-134.0	-48.6	-10.5	-38.1
-133.0	-40.6	-10.5	-30.1
-132.0	-39.1	-10.5	-28.6
-131.0	-50.4	-10.5	-39.9
-130.0	-38.3	-10.5	-27.8
-129.0	-44.1	-10.5	-33.6
-128.0	-38.7	-10.5	-28.2
-127.0	-39.0	-10.5	-28.5
-126.0	-48.7	-10.5	-38.2
-125.0	-41.0	-10.5	-30.5
-124.0	-49.9	-10.5	-39.4
-123.0	-48.9	-10.5	-38.4
-122.0	-42.7	-10.5	-32.2
-121.0	-40.6	-10.5	-30.1
-120.0	-58.8	-10.5	-48.3

27.60 GHz @ -10.94 dBW / 40 kHz in Co-pol Az RHCP

Angle	EIRPsd	Mask	Over Mask
Degrees	dBW/40kHz	dBW/40kHz	dB
0.0	36.3		
1.0	11.3		
2.0	-1.6	11.0	-12.5
3.0	-0.3	6.6	-6.9
4.0	-2.5	3.4	-5.9
5.0	-9.5	1.0	-10.5
6.0	-15.5	-1.0	-14.6
7.0	-17.5	-2.6	-14.9
8.0	-15.6	-2.6	-12.9
9.0	-18.6	-2.6	-15.9
10.0	-21.1	-3.5	-17.6
11.0	-18.8	-4.5	-14.2
12.0	-19.5	-5.5	-14.0
13.0	-18.9	-6.3	-12.5
14.0	-17.7	-7.2	-10.6
15.0	-51.3	-7.9	-43.4
16.0	-28.6	-8.6	-20.0
17.0	-21.3	-9.3	-12.0
18.0	-20.4	-9.9	-10.5
19.0	-21.4	-10.5	-10.9
20.0	-22.1	-11.0	-11.0
21.0	-18.7	-11.6	-7.2
22.0	-23.0	-12.1	-11.0
23.0	-20.7	-12.5	-8.2
24.0	-18.7	-13.0	-5.7
25.0	-19.1	-13.4	-5.6
26.0	-20.5	-13.9	-6.6
27.0	-19.3	-14.3	-5.0
28.0	-23.1	-14.7	-8.4
29.0	-20.9	-15.1	-5.8
30.0	-20.6	-15.4	-5.2
31.0	-29.2	-15.8	-13.4
32.0	-29.9	-16.1	-13.7
33.0	-31.0	-16.5	-14.6
34.0	-28.5	-16.8	-11.7
35.0	-25.8	-17.1	-8.7
36.0	-28.8	-17.4	-11.4
37.0	-33.4	-17.7	-15.7
38.0	-42.9	-18.0	-24.9
39.0	-34.5	-18.3	-16.2
40.0	-28.9	-18.6	-10.4
41.0	-27.4	-18.8	-8.6
42.0	-26.0	-19.1	-6.9
43.0	-34.4	-19.3	-15.1
44.0	-31.6	-19.6	-12.1
45.0	-30.6	-19.8	-10.8
46.0	-32.8	-20.1	-12.7
47.0	-24.5	-20.3	-4.2
48.0	-26.9	-20.5	-6.4
49.0	-46.8	-10.5	-36.3
50.0	-33.1	-10.5	-22.6
51.0	-40.3	-10.5	-29.8
52.0	-41.0	-10.5	-30.5
53.0	-30.6	-10.5	-20.1
54.0	-32.2	-10.5	-21.7
55.0	-36.1	-10.5	-25.6
56.0	-30.1	-10.5	-19.6
57.0	-36.0	-10.5	-25.5
58.0	-53.0	-10.5	-42.5
59.0	-37.0	-10.5	-26.5

Orbit Communication Systems Ltd.
AL-7103-Ka, 1.20 m Antenna, EIRPsd Data Table
Co-pol Azimuth RHCP, -180° to +180° @ 1.0° increment

-119.0	-41.1	-10.5	-30.6
-118.0	-33.3	-10.5	-22.8
-117.0	-40.3	-10.5	-29.8
-116.0	-39.4	-10.5	-28.9
-115.0	-42.9	-10.5	-32.4
-114.0	-43.5	-10.5	-33.0
-113.0	-42.1	-10.5	-31.6
-112.0	-45.5	-10.5	-35.0
-111.0	-38.9	-10.5	-28.4
-110.0	-45.2	-10.5	-34.7
-109.0	-40.4	-10.5	-29.9
-108.0	-34.9	-10.5	-24.4
-107.0	-33.7	-10.5	-23.2
-106.0	-30.5	-10.5	-20.0
-105.0	-27.5	-10.5	-17.0
-104.0	-27.1	-10.5	-16.6
-103.0	-25.7	-10.5	-15.2
-102.0	-25.6	-10.5	-15.1
-101.0	-26.3	-10.5	-15.8
-100.0	-28.0	-10.5	-17.5
-99.0	-25.3	-10.5	-14.8
-98.0	-24.9	-10.5	-14.4
-97.0	-26.3	-10.5	-15.8
-96.0	-28.1	-10.5	-17.6
-95.0	-30.9	-10.5	-20.4
-94.0	-37.9	-10.5	-27.4
-93.0	-29.7	-10.5	-19.2
-92.0	-34.2	-10.5	-23.7
-91.0	-31.3	-10.5	-20.8
-90.0	-29.2	-10.5	-18.7
-89.0	-32.7	-10.5	-22.2
-88.0	-32.9	-10.5	-22.4
-87.0	-35.4	-10.5	-24.9
-86.0	-32.9	-10.5	-22.4
-85.0	-29.8	-10.5	-19.3
-84.0	-30.1	-10.5	-19.6
-83.0	-33.5	-10.5	-23.0
-82.0	-31.9	-10.5	-21.4
-81.0	-27.2	-10.5	-16.7
-80.0	-27.6	-10.5	-17.1
-79.0	-28.0	-10.5	-17.5
-78.0	-26.0	-10.5	-15.5
-77.0	-28.8	-10.5	-18.3
-76.0	-34.5	-10.5	-24.0
-75.0	-31.9	-10.5	-21.4
-74.0	-25.0	-10.5	-14.5
-73.0	-38.9	-10.5	-28.4
-72.0	-27.9	-10.5	-17.4
-71.0	-45.7	-10.5	-35.2
-70.0	-37.1	-10.5	-26.6
-69.0	-31.7	-10.5	-21.2
-68.0	-27.8	-10.5	-17.3
-67.0	-29.4	-10.5	-18.9
-66.0	-31.2	-10.5	-20.7
-65.0	-42.2	-10.5	-31.7
-64.0	-34.1	-10.5	-23.6
-63.0	-26.7	-10.5	-16.2
-62.0	-24.6	-10.5	-14.1
-61.0	-28.7	-10.5	-18.2
-60.0	-31.6	-10.5	-21.1
-59.0	-37.7	-10.5	-27.2
-58.0	-29.7	-10.5	-19.2
-57.0	-29.2	-10.5	-18.7

60.0	-26.8	-10.5	-16.3
61.0	-29.1	-10.5	-18.6
62.0	-40.2	-10.5	-29.7
63.0	-37.1	-10.5	-26.6
64.0	-44.7	-10.5	-34.2
65.0	-26.5	-10.5	-16.0
66.0	-33.5	-10.5	-23.0
67.0	-30.9	-10.5	-20.4
68.0	-31.1	-10.5	-20.6
69.0	-34.8	-10.5	-24.3
70.0	-34.7	-10.5	-24.2
71.0	-31.4	-10.5	-20.9
72.0	-43.1	-10.5	-32.6
73.0	-29.2	-10.5	-18.7
74.0	-29.3	-10.5	-18.8
75.0	-29.0	-10.5	-18.5
76.0	-33.1	-10.5	-22.6
77.0	-26.9	-10.5	-16.4
78.0	-26.3	-10.5	-15.8
79.0	-33.9	-10.5	-23.4
80.0	-35.0	-10.5	-24.5
81.0	-39.8	-10.5	-29.3
82.0	-31.1	-10.5	-20.6
83.0	-34.2	-10.5	-23.7
84.0	-42.8	-10.5	-32.3
85.0	-41.9	-10.5	-31.4
86.0	-37.7	-10.5	-27.2
87.0	-29.9	-10.5	-19.4
88.0	-32.1	-10.5	-21.6
89.0	-38.0	-10.5	-27.5
90.0	-39.1	-10.5	-28.6
91.0	-31.6	-10.5	-21.1
92.0	-34.7	-10.5	-24.2
93.0	-37.5	-10.5	-27.0
94.0	-35.4	-10.5	-24.9
95.0	-41.7	-10.5	-31.2
96.0	-39.4	-10.5	-28.9
97.0	-36.6	-10.5	-26.1
98.0	-36.8	-10.5	-26.3
99.0	-33.8	-10.5	-23.3
100.0	-46.0	-10.5	-35.5
101.0	-33.9	-10.5	-23.4
102.0	-43.5	-10.5	-33.0
103.0	-35.4	-10.5	-24.9
104.0	-39.6	-10.5	-29.1
105.0	-45.4	-10.5	-34.9
106.0	-33.0	-10.5	-22.5
107.0	-42.8	-10.5	-32.3
108.0	-36.9	-10.5	-26.4
109.0	-36.1	-10.5	-25.6
110.0	-46.4	-10.5	-35.9
111.0	-37.1	-10.5	-26.6
112.0	-37.4	-10.5	-26.9
113.0	-37.0	-10.5	-26.5
114.0	-39.3	-10.5	-28.8
115.0	-35.4	-10.5	-24.9
116.0	-37.2	-10.5	-26.7
117.0	-41.7	-10.5	-31.2
118.0	-35.6	-10.5	-25.1
119.0	-32.3	-10.5	-21.8
120.0	-35.7	-10.5	-25.2
121.0	-31.7	-10.5	-21.2
122.0	-43.7	-10.5	-33.2

Orbit Communication Systems Ltd.
AL-7103-Ka, 1.20 m Antenna, EIRPsd Data Table
Co-pol Azimuth RHCP, -180° to +180° @ 1.0° increment

-56.0	-28.5	-10.5	-18.0
-55.0	-26.2	-10.5	-15.7
-54.0	-28.1	-10.5	-17.6
-53.0	-28.0	-10.5	-17.5
-52.0	-25.3	-10.5	-14.8
-51.0	-29.8	-10.5	-19.3
-50.0	-34.5	-10.5	-24.0
-49.0	-31.6	-10.5	-21.1
-48.0	-26.4	-20.5	-5.9
-47.0	-31.5	-20.3	-11.2
-46.0	-24.1	-20.1	-4.0
-45.0	-28.5	-19.8	-8.7
-44.0	-25.1	-19.6	-5.5
-43.0	-22.4	-19.3	-3.1
-42.0	-23.0	-19.1	-3.9
-41.0	-23.1	-18.8	-4.3
-40.0	-24.7	-18.6	-6.1
-39.0	-20.0	-18.3	-1.7
-38.0	-17.5	-18.0	0.5
-37.0	-23.4	-17.7	-5.7
-36.0	-25.3	-17.4	-7.9
-35.0	-24.0	-17.1	-6.9
-34.0	-17.4	-16.8	-0.6
-33.0	-24.4	-16.5	-7.9
-32.0	-21.3	-16.1	-5.2
-31.0	-19.3	-15.8	-3.5
-30.0	-25.0	-15.4	-9.5
-29.0	-28.5	-15.1	-13.4
-28.0	-19.3	-14.7	-4.6
-27.0	-18.6	-14.3	-4.3
-26.0	-20.5	-13.9	-6.7
-25.0	-19.9	-13.4	-6.4
-24.0	-24.2	-13.0	-11.2
-23.0	-24.0	-12.5	-11.4
-22.0	-18.1	-12.1	-6.0
-21.0	-15.9	-11.6	-4.4
-20.0	-37.5	-11.0	-26.5
-19.0	-17.5	-10.5	-7.0
-18.0	-22.2	-9.9	-12.3
-17.0	-19.2	-9.3	-10.0
-16.0	-13.3	-8.6	-4.7
-15.0	-16.4	-7.9	-8.5
-14.0	-31.4	-7.2	-24.3
-13.0	-13.2	-6.3	-6.9
-12.0	-17.4	-5.5	-11.9
-11.0	-30.1	-4.5	-25.5
-10.0	-15.3	-3.5	-11.8
-9.0	-19.2	-2.6	-16.6
-8.0	-18.2	-2.6	-15.5
-7.0	-11.3	-2.6	-8.7
-6.0	-23.0	-1.0	-22.0
-5.0	-7.5	1.0	-8.5
-4.0	-8.5	3.4	-12.0
-3.0	-2.7	6.6	-9.2
-2.0	6.2	11.0	-4.8
-1.0	7.2		
0.0	36.3		

123.0	-34.2	-10.5	-23.7
124.0	-48.6	-10.5	-38.1
125.0	-33.9	-10.5	-23.4
126.0	-33.7	-10.5	-23.2
127.0	-47.4	-10.5	-36.9
128.0	-35.6	-10.5	-25.1
129.0	-42.0	-10.5	-31.5
130.0	-36.8	-10.5	-26.3
131.0	-41.4	-10.5	-30.9
132.0	-36.5	-10.5	-26.0
133.0	-34.7	-10.5	-24.2
134.0	-33.9	-10.5	-23.4
135.0	-31.7	-10.5	-21.2
136.0	-49.6	-10.5	-39.1
137.0	-33.8	-10.5	-23.3
138.0	-32.0	-10.5	-21.5
139.0	-37.3	-10.5	-26.8
140.0	-34.9	-10.5	-24.4
141.0	-33.0	-10.5	-22.5
142.0	-37.3	-10.5	-26.8
143.0	-36.5	-10.5	-26.0
144.0	-42.7	-10.5	-32.2
145.0	-37.3	-10.5	-26.8
146.0	-32.1	-10.5	-21.6
147.0	-34.3	-10.5	-23.8
148.0	-47.1	-10.5	-36.6
149.0	-44.2	-10.5	-33.7
150.0	-41.6	-10.5	-31.1
151.0	-40.0	-10.5	-29.5
152.0	-35.3	-10.5	-24.8
153.0	-35.0	-10.5	-24.5
154.0	-38.6	-10.5	-28.1
155.0	-33.0	-10.5	-22.5
156.0	-39.1	-10.5	-28.6
157.0	-35.4	-10.5	-24.9
158.0	-32.8	-10.5	-22.3
159.0	-34.3	-10.5	-23.8
160.0	-36.6	-10.5	-26.1
161.0	-48.5	-10.5	-38.0
162.0	-34.3	-10.5	-23.8
163.0	-33.9	-10.5	-23.4
164.0	-36.4	-10.5	-25.9
165.0	-37.1	-10.5	-26.6
166.0	-34.0	-10.5	-23.5
167.0	-35.0	-10.5	-24.5
168.0	-32.5	-10.5	-22.0
169.0	-39.4	-10.5	-28.9
170.0	-45.8	-10.5	-35.3
171.0	-30.1	-10.5	-19.6
172.0	-34.3	-10.5	-23.8
173.0	-37.9	-10.5	-27.4
174.0	-31.8	-10.5	-21.3
175.0	-50.0	-10.5	-39.5
176.0	-38.0	-10.5	-27.5
177.0	-45.0	-10.5	-34.5
178.0	-37.9	-10.5	-27.4
179.0	-38.0	-10.5	-27.5

Orbit Communication Systems Ltd.

AL AL-7103-Ka, 1.20 m Antenna, EIRPsd Data Table
Co-pol Azimuth RHCP, -10° to +10° @ 0.1° increment

27.60 GHz @ -10.94 dBW / 40 kHz in Co-pol Az RHCP

Angle	EIRPsd	Mask	Over Mask
Degrees	dBW/40kHz	dBW/40kHz	dB
-10.0	-15.3	-3.5	-11.8
-9.9	-15.3	-3.4	-11.9
-9.8	-16.7	-3.3	-13.5
-9.7	-20.8	-3.2	-17.7
-9.6	-21.8	-3.1	-18.8
-9.5	-17.4	-2.9	-14.5
-9.4	-13.7	-2.8	-10.8
-9.3	-12.2	-2.7	-9.5
-9.2	-12.8	-2.6	-10.2
-9.1	-14.1	-2.6	-11.4
-9.0	-19.2	-2.6	-16.6
-8.9	-46.6	-2.6	-43.9
-8.8	-20.5	-2.6	-17.9
-8.7	-15.0	-2.6	-12.4
-8.6	-13.5	-2.6	-10.9
-8.5	-13.8	-2.6	-11.1
-8.4	-16.0	-2.6	-13.4
-8.3	-21.1	-2.6	-18.5
-8.2	-38.6	-2.6	-35.9
-8.1	-24.1	-2.6	-21.5
-8.0	-18.2	-2.6	-15.5
-7.9	-16.1	-2.6	-13.5
-7.8	-15.1	-2.6	-12.5
-7.7	-16.0	-2.6	-13.3
-7.6	-18.0	-2.6	-15.3
-7.5	-19.5	-2.6	-16.8
-7.4	-16.6	-2.6	-13.9
-7.3	-13.4	-2.6	-10.7
-7.2	-10.9	-2.6	-8.3
-7.1	-10.5	-2.6	-7.9
-7.0	-11.3	-2.6	-8.7
-6.9	-14.4	-2.5	-11.9
-6.8	-23.7	-2.3	-21.4
-6.7	-20.6	-2.2	-18.5
-6.6	-12.7	-2.0	-10.7
-6.5	-9.5	-1.8	-7.7
-6.4	-8.6	-1.7	-6.9
-6.3	-9.1	-1.5	-7.6
-6.2	-11.3	-1.3	-10.0
-6.1	-15.5	-1.1	-14.4
-6.0	-23.0	-1.0	-22.0
-5.9	-30.8	-0.8	-30.0
-5.8	-33.9	-0.6	-33.3
-5.7	-28.2	-0.4	-27.8
-5.6	-17.0	-0.2	-16.8
-5.5	-11.4	0.0	-11.4
-5.4	-9.2	0.2	-9.3
-5.3	-7.8	0.4	-8.2
-5.2	-7.4	0.6	-8.0
-5.1	-7.4	0.8	-8.2
-5.0	-7.5	1.0	-8.5
-4.9	-7.5	1.2	-8.7
-4.8	-8.2	1.5	-9.7
-4.7	-10.5	1.7	-12.2
-4.6	-15.6	1.9	-17.5
-4.5	-15.5	2.2	-17.6
-4.4	-10.2	2.4	-12.6
-4.3	-7.7	2.7	-10.3
-4.2	-6.9	2.9	-9.9
-4.1	-7.7	3.2	-10.9

27.60 GHz @ -10.94 dBW / 40 kHz in Co-pol Az RHCP

Angle	EIRPsd	Mask	Over Mask
Degrees	dBW/40kHz	dBW/40kHz	dB
0.0	36.3		
0.1	36.1		
0.2	35.4		
0.3	34.3		
0.4	32.6		
0.5	30.4		
0.6	27.6		
0.7	24.3		
0.8	20.5		
0.9	16.3		
1.0	11.3		
1.1	4.2		
1.2	-1.6		
1.3	5.1		
1.4	7.8		
1.5	8.3		
1.6	7.2		
1.7	5.0		
1.8	2.1		
1.9	0.0		
2.0	-1.6	11.0	-12.5
2.1	-2.4	10.4	-12.9
2.2	-1.9	9.9	-11.9
2.3	0.4	9.5	-9.1
2.4	2.1	9.0	-6.9
2.5	2.8	8.6	-5.7
2.6	2.2	8.1	-5.9
2.7	0.7	7.7	-7.0
2.8	-0.8	7.3	-8.1
2.9	-1.1	6.9	-8.0
3.0	-0.3	6.6	-6.9
3.1	-0.5	6.2	-6.7
3.2	-1.9	5.9	-7.8
3.3	-4.3	5.5	-9.9
3.4	-6.8	5.2	-12.1
3.5	-7.9	4.9	-12.8
3.6	-6.4	4.6	-11.0
3.7	-4.7	4.3	-9.0
3.8	-3.1	4.0	-7.1
3.9	-2.4	3.7	-6.1
4.0	-2.5	3.4	-5.9
4.1	-3.8	3.2	-7.0
4.2	-6.1	2.9	-9.0
4.3	-9.1	2.7	-11.8
4.4	-10.1	2.4	-12.5
4.5	-9.6	2.2	-11.7
4.6	-9.9	1.9	-11.8
4.7	-13.0	1.7	-14.7
4.8	-22.0	1.5	-23.5
4.9	-14.8	1.2	-16.0
5.0	-9.5	1.0	-10.5
5.1	-8.3	0.8	-9.1
5.2	-8.9	0.6	-9.5
5.3	-11.8	0.4	-12.2
5.4	-16.6	0.2	-16.8
5.5	-16.2	0.0	-16.2
5.6	-12.6	-0.2	-12.4
5.7	-12.7	-0.4	-12.3
5.8	-16.0	-0.6	-15.4
5.9	-29.5	-0.8	-28.7

Orbit Communication Systems Ltd.

AL AL-7103-Ka, 1.20 m Antenna, EIRPsd Data Table
 Co-pol Azimuth RHCP, -10° to +10° @ 0.1° increment

-4.0	-8.5	3.4	-12.0
-3.9	-7.0	3.7	-10.7
-3.8	-4.3	4.0	-8.4
-3.7	-2.3	4.3	-6.6
-3.6	-1.2	4.6	-5.8
-3.5	-0.6	4.9	-5.5
-3.4	-0.2	5.2	-5.5
-3.3	-0.1	5.5	-5.7
-3.2	-0.3	5.9	-6.1
-3.1	-1.4	6.2	-7.6
-3.0	-2.7	6.6	-9.2
-2.9	-2.3	6.9	-9.2
-2.8	0.3	7.3	-7.0
-2.7	2.4	7.7	-5.4
-2.6	3.4	8.1	-4.8
-2.5	3.7	8.6	-4.8
-2.4	4.0	9.0	-5.0
-2.3	4.8	9.5	-4.6
-2.2	6.1	9.9	-3.9
-2.1	6.8	10.4	-3.7
-2.0	6.2	11.0	-4.8
-1.9	3.8		
-1.8	-1.7		
-1.7	-1.0		
-1.6	4.4		
-1.5	6.8		
-1.4	6.9		
-1.3	5.3		
-1.2	4.0		
-1.1	5.6		
-1.0	7.2		
-0.9	8.8		
-0.8	14.4		
-0.7	20.5		
-0.6	25.3		
-0.5	28.9		
-0.4	31.7		
-0.3	33.7		
-0.2	35.1		
-0.1	35.9		
0.0	36.3		

6.0	-15.5	-1.0	-14.6
6.1	-10.8	-1.1	-9.7
6.2	-9.0	-1.3	-7.7
6.3	-9.4	-1.5	-7.9
6.4	-12.1	-1.7	-10.4
6.5	-18.0	-1.8	-16.2
6.6	-32.3	-2.0	-30.3
6.7	-20.9	-2.2	-18.8
6.8	-19.1	-2.3	-16.8
6.9	-18.4	-2.5	-15.9
7.0	-17.5	-2.6	-14.9
7.1	-15.3	-2.6	-12.7
7.2	-14.6	-2.6	-12.0
7.3	-16.3	-2.6	-13.6
7.4	-22.6	-2.6	-20.0
7.5	-24.8	-2.6	-22.2
7.6	-17.9	-2.6	-15.3
7.7	-14.6	-2.6	-12.0
7.8	-13.8	-2.6	-11.1
7.9	-13.9	-2.6	-11.3
8.0	-15.6	-2.6	-12.9
8.1	-17.3	-2.6	-14.6
8.2	-19.9	-2.6	-17.2
8.3	-22.4	-2.6	-19.8
8.4	-36.5	-2.6	-33.9
8.5	-22.8	-2.6	-20.1
8.6	-16.1	-2.6	-13.5
8.7	-13.7	-2.6	-11.0
8.8	-12.8	-2.6	-10.2
8.9	-14.4	-2.6	-11.8
9.0	-18.6	-2.6	-15.9
9.1	-26.7	-2.6	-24.0
9.2	-21.4	-2.6	-18.8
9.3	-16.9	-2.7	-14.2
9.4	-16.4	-2.8	-13.6
9.5	-18.3	-2.9	-15.3
9.6	-24.1	-3.1	-21.0
9.7	-24.8	-3.2	-21.6
9.8	-19.9	-3.3	-16.6
9.9	-18.7	-3.4	-15.4
10.0	-21.1	-3.5	-17.6

Orbit Communication Systems Ltd.

AL-7103-Ka, 1.20 m Antenna, EIRPsd Data Table
Co-pol Elevation RHCP, -30° to +30° @ 0.5° increment

27.60 GHz @ -10.94 dBW / 40 kHz in Co-pol EI RHCP

Angle	EIRPsd	Mask	Over Mask
Degrees	dBW/40kHz	dBW/40kHz	dB
-30.0	-23.6	-12.4	-11.2
-29.5	-21.9	-12.2	-9.7
-29.0	-21.4	-12.1	-9.3
-28.5	-20.9	-11.9	-9.0
-28.0	-21.8	-11.7	-10.1
-27.5	-23.9	-11.5	-12.4
-27.0	-25.3	-11.3	-14.0
-26.5	-24.2	-11.1	-13.1
-26.0	-22.3	-10.9	-11.4
-25.5	-21.2	-10.7	-10.5
-25.0	-21.0	-10.4	-10.6
-24.5	-24.6	-10.2	-14.3
-24.0	-23.9	-10.0	-13.9
-23.5	-23.7	-9.8	-13.9
-23.0	-23.5	-9.5	-13.9
-22.5	-27.7	-9.3	-18.4
-22.0	-38.5	-9.1	-29.4
-21.5	-28.5	-8.8	-19.7
-21.0	-23.4	-8.6	-14.8
-20.5	-23.7	-8.3	-15.4
-20.0	-28.3	-8.0	-20.3
-19.5	-25.3	-7.8	-17.5
-19.0	-24.2	-7.5	-16.8
-18.5	-19.3	-7.2	-12.1
-18.0	-21.4	-6.9	-14.5
-17.5	-22.7	-6.6	-16.1
-17.0	-25.4	-6.3	-19.1
-16.5	-30.8	-5.9	-24.8
-16.0	-34.1	-5.6	-28.5
-15.5	-26.0	-5.3	-20.7
-15.0	-27.1	-4.9	-22.2
-14.5	-28.3	-4.5	-23.7
-14.0	-21.0	-4.2	-16.8
-13.5	-18.3	-3.8	-14.5
-13.0	-21.7	-3.3	-18.4
-12.5	-34.4	-2.9	-31.5
-12.0	-21.6	-2.5	-19.1
-11.5	-28.4	-2.0	-26.4
-11.0	-18.9	-1.5	-17.4
-10.5	-19.5	-1.0	-18.5
-10.0	-22.2	-0.5	-21.7
-9.5	-20.4	0.1	-20.4
-9.0	-27.3	0.4	-27.7
-8.5	-13.7	0.4	-14.0
-8.0	-14.2	0.4	-14.6
-7.5	-21.4	0.4	-21.8
-7.0	-13.7	0.4	-14.0
-6.5	-18.7	1.2	-19.9
-6.0	-15.4	2.0	-17.4
-5.5	-15.8	3.0	-18.8
-5.0	-12.4	4.0	-16.4
-4.5	-10.1	5.2	-15.3
-4.0	-6.0	6.4	-12.5
-3.5	-8.5	7.9	-16.4
-3.0	-0.4		
-2.5	-0.1		
-2.0	-1.0		
-1.5	9.3		
-1.0	8.5		
-0.5	30.4		
0.0	36.3		

27.60 GHz @ -10.94 dBW / 40 kHz in Co-pol EI RHCP

Angle	EIRPsd	Mask	Over Mask
Degrees	dBW/40kHz	dBW/40kHz	dB
0.0	36.3		
0.5	29.4		
1.0	7.1		
1.5	5.4		
2.0	6.1		
2.5	4.5		
3.0	-5.0		
3.5	-2.6	7.9	-10.5
4.0	-4.8	6.4	-11.2
4.5	-12.3	5.2	-17.5
5.0	-12.6	4.0	-16.6
5.5	-10.4	3.0	-13.4
6.0	-17.2	2.0	-19.2
6.5	-11.5	1.2	-12.7
7.0	-9.8	0.4	-10.2
7.5	-17.9	0.4	-18.3
8.0	-27.0	0.4	-27.4
8.5	-13.8	0.4	-14.2
9.0	-17.7	0.4	-18.1
9.5	-28.0	0.1	-28.1
10.0	-14.2	-0.5	-13.7
10.5	-15.2	-1.0	-14.1
11.0	-25.9	-1.5	-24.4
11.5	-14.2	-2.0	-12.1
12.0	-16.6	-2.5	-14.1
12.5	-20.4	-2.9	-17.5
13.0	-14.5	-3.3	-11.1
13.5	-18.8	-3.8	-15.0
14.0	-15.9	-4.2	-11.7
14.5	-22.2	-4.5	-17.7
15.0	-11.4	-4.9	-6.5
15.5	-17.0	-5.3	-11.8
16.0	-18.0	-5.6	-12.4
16.5	-14.3	-5.9	-8.4
17.0	-13.5	-6.3	-7.2
17.5	-15.4	-6.6	-8.9
18.0	-14.7	-6.9	-7.8
18.5	-27.0	-7.2	-19.9
19.0	-21.0	-7.5	-13.6
19.5	-22.8	-7.8	-15.0
20.0	-23.7	-8.0	-15.7
20.5	-29.1	-8.3	-20.8
21.0	-19.9	-8.6	-11.4
21.5	-24.8	-8.8	-16.0
22.0	-24.5	-9.1	-15.5
22.5	-18.0	-9.3	-8.7
23.0	-20.4	-9.5	-10.9
23.5	-22.7	-9.8	-12.9
24.0	-21.2	-10.0	-11.2
24.5	-23.5	-10.2	-13.3
25.0	-24.5	-10.4	-14.1
25.5	-21.9	-10.7	-11.2
26.0	-19.9	-10.9	-9.0
26.5	-23.7	-11.1	-12.7
27.0	-19.7	-11.3	-8.4
27.5	-21.0	-11.5	-9.5
28.0	-30.4	-11.7	-18.7
28.5	-21.8	-11.9	-9.9
29.0	-27.4	-12.1	-15.4
29.5	-33.6	-12.2	-21.4
30.0	-21.6	-12.4	-9.2

Orbit Communication Systems Ltd.

AL-7103-Ka, 1.20 m Antenna, EIRPsd Data Table
Co-pol Elevation RHCP, -10° to +10° @ 0.1° increment

27.60 GHz @ -10.94 dBW / 40 kHz in Co-pol EI RHCP

Angle Degrees	EIRPsd dBW/40kHz	Mask dBW/40kHz	Over Mask dB
-10.0	-22.2	-0.5	-21.7
-9.9	-20.6	-0.4	-20.2
-9.8	-21.9	-0.3	-21.6
-9.7	-25.0	-0.2	-24.9
-9.6	-27.4	-0.1	-27.4
-9.5	-20.4	0.1	-20.4
-9.4	-17.9	0.2	-18.0
-9.3	-16.9	0.3	-17.2
-9.2	-18.4	0.4	-18.7
-9.1	-23.5	0.4	-23.9
-9.0	-27.3	0.4	-27.7
-8.9	-18.8	0.4	-19.2
-8.8	-14.3	0.4	-14.7
-8.7	-12.5	0.4	-12.9
-8.6	-12.4	0.4	-12.7
-8.5	-13.7	0.4	-14.0
-8.4	-17.3	0.4	-17.7
-8.3	-25.9	0.4	-26.3
-8.2	-24.0	0.4	-24.3
-8.1	-17.0	0.4	-17.4
-8.0	-14.2	0.4	-14.6
-7.9	-13.6	0.4	-14.0
-7.8	-14.7	0.4	-15.1
-7.7	-18.6	0.4	-18.9
-7.6	-23.6	0.4	-23.9
-7.5	-21.4	0.4	-21.8
-7.4	-16.9	0.4	-17.3
-7.3	-15.2	0.4	-15.6
-7.2	-14.1	0.4	-14.5
-7.1	-14.2	0.4	-14.6
-7.0	-13.7	0.4	-14.0
-6.9	-13.5	0.5	-14.0
-6.8	-14.5	0.7	-15.2
-6.7	-18.3	0.8	-19.2
-6.6	-32.0	1.0	-33.1
-6.5	-18.7	1.2	-19.9
-6.4	-12.7	1.3	-14.0
-6.3	-10.4	1.5	-11.9
-6.2	-10.2	1.7	-11.9
-6.1	-11.7	1.9	-13.6
-6.0	-15.4	2.0	-17.4
-5.9	-19.5	2.2	-21.7
-5.8	-17.0	2.4	-19.4
-5.7	-14.4	2.6	-17.0
-5.6	-14.3	2.8	-17.1
-5.5	-15.8	3.0	-18.8
-5.4	-15.2	3.2	-18.4
-5.3	-13.0	3.4	-16.4
-5.2	-11.0	3.6	-14.6
-5.1	-10.9	3.8	-14.7
-5.0	-12.4	4.0	-16.4
-4.9	-18.3	4.2	-22.5
-4.8	-23.1	4.5	-27.5
-4.7	-14.8	4.7	-19.5
-4.6	-11.2	4.9	-16.1
-4.5	-10.1	5.2	-15.3
-4.4	-9.9	5.4	-15.3
-4.3	-9.7	5.7	-15.4
-4.2	-8.6	5.9	-14.5
-4.1	-7.1	6.2	-13.3

27.60 GHz @ -10.94 dBW / 40 kHz in Co-pol EI RHCP

Angle Degrees	EIRPsd dBW/40kHz	Mask dBW/40kHz	Over Mask dB
0.0	36.3		
0.1	35.9		
0.2	35.2		
0.3	33.8		
0.4	31.9		
0.5	29.4		
0.6	26.1		
0.7	21.8		
0.8	16.2		
0.9	10.2		
1.0	7.1		
1.1	6.6		
1.2	5.8		
1.3	5.6		
1.4	5.9		
1.5	5.4		
1.6	2.9		
1.7	-2.3		
1.8	-2.0		
1.9	3.3		
2.0	6.1		
2.1	7.0		
2.2	6.8		
2.3	5.9		
2.4	5.1		
2.5	4.5		
2.6	4.0		
2.7	2.8		
2.8	0.8		
2.9	-2.2		
3.0	-5.0		
3.1	-4.3		
3.2	-2.4		
3.3	-1.6		
3.4	-1.8		
3.5	-2.6	7.9	-10.5
3.6	-3.7	7.6	-11.3
3.7	-5.0	7.3	-12.3
3.8	-5.8	7.0	-12.8
3.9	-5.6	6.7	-12.3
4.0	-4.8	6.4	-11.2
4.1	-4.1	6.2	-10.3
4.2	-4.2	5.9	-10.1
4.3	-5.6	5.7	-11.2
4.4	-7.8	5.4	-13.2
4.5	-12.3	5.2	-17.5
4.6	-23.7	4.9	-28.6
4.7	-20.4	4.7	-25.1
4.8	-14.5	4.5	-18.9
4.9	-12.9	4.2	-17.1
5.0	-12.6	4.0	-16.6
5.1	-13.5	3.8	-17.3
5.2	-13.7	3.6	-17.3
5.3	-12.3	3.4	-15.7
5.4	-11.3	3.2	-14.5
5.5	-10.4	3.0	-13.4
5.6	-9.9	2.8	-12.7
5.7	-10.3	2.6	-12.9
5.8	-12.1	2.4	-14.5
5.9	-14.9	2.2	-17.1

Orbit Communication Systems Ltd.
 AL-7103-Ka, 1.20 m Antenna, EIRPsd Data Table
 Co-pol Elevation RHCP, -10° to +10° @ 0.1° increment

-4.0	-6.0	6.4	-12.5
-3.9	-5.6	6.7	-12.3
-3.8	-5.8	7.0	-12.9
-3.7	-6.7	7.3	-14.0
-3.6	-8.2	7.6	-15.8
-3.5	-8.5	7.9	-16.4
-3.4	-6.0		
-3.3	-3.3		
-3.2	-1.2		
-3.1	-0.3		
-3.0	-0.4		
-2.9	-1.0		
-2.8	-1.5		
-2.7	-1.0		
-2.6	-0.3		
-2.5	-0.1		
-2.4	-0.8		
-2.3	-2.5		
-2.2	-4.0		
-2.1	-3.4		
-2.0	-1.0		
-1.9	1.8		
-1.8	4.5		
-1.7	6.8		
-1.6	8.5		
-1.5	9.3		
-1.4	8.9		
-1.3	6.9		
-1.2	1.8		
-1.1	-3.2		
-1.0	8.5		
-0.9	15.4		
-0.8	20.3		
-0.7	24.4		
-0.6	27.7		
-0.5	30.4		
-0.4	32.6		
-0.3	34.2		
-0.2	35.4		
-0.1	36.1		
0.0	36.3		

6.0	-17.2	2.0	-19.2
6.1	-14.9	1.9	-16.7
6.2	-11.6	1.7	-13.3
6.3	-10.1	1.5	-11.6
6.4	-10.0	1.3	-11.4
6.5	-11.5	1.2	-12.7
6.6	-16.0	1.0	-17.0
6.7	-21.6	0.8	-22.4
6.8	-16.2	0.7	-16.9
6.9	-11.6	0.5	-12.1
7.0	-9.8	0.4	-10.2
7.1	-9.3	0.4	-9.6
7.2	-9.5	0.4	-9.9
7.3	-11.1	0.4	-11.5
7.4	-13.7	0.4	-14.1
7.5	-17.9	0.4	-18.3
7.6	-23.5	0.4	-23.9
7.7	-30.7	0.4	-31.1
7.8	-30.7	0.4	-31.0
7.9	-26.7	0.4	-27.0
8.0	-27.0	0.4	-27.4
8.1	-22.8	0.4	-23.2
8.2	-18.6	0.4	-19.0
8.3	-15.1	0.4	-15.5
8.4	-13.8	0.4	-14.2
8.5	-13.8	0.4	-14.2
8.6	-15.2	0.4	-15.6
8.7	-18.2	0.4	-18.6
8.8	-25.7	0.4	-26.1
8.9	-23.7	0.4	-24.0
9.0	-17.7	0.4	-18.1
9.1	-15.5	0.4	-15.8
9.2	-15.3	0.4	-15.6
9.3	-17.1	0.3	-17.4
9.4	-22.2	0.2	-22.4
9.5	-28.0	0.1	-28.1
9.6	-19.1	-0.1	-19.0
9.7	-15.1	-0.2	-14.9
9.8	-13.3	-0.3	-13.0
9.9	-13.2	-0.4	-12.8
10.0	-14.2	-0.5	-13.7

Orbit Communication Systems Ltd.
AL-7103-Ka, 1.20 m Antenna, EIRPsd Data Table
X-pol Azimuth RHCP, -10° to +10° @ 0.1° increment

27.60 GHz @ -10.94 dBW / 40 kHz in X-pol Az RHCP

Angle	EIRPsd	Mask	Over Mask
Degrees	dBW/40kHz	dBW/40kHz	dB
-10.0	-23.9	-12.6	-11.3
-9.9	-24.5	-12.6	-11.9
-9.8	-24.8	-12.6	-12.1
-9.7	-24.3	-12.6	-11.7
-9.6	-23.3	-12.6	-10.7
-9.5	-22.5	-12.6	-9.9
-9.4	-20.5	-12.6	-7.8
-9.3	-20.3	-12.6	-7.6
-9.2	-20.0	-12.6	-7.4
-9.1	-21.3	-12.6	-8.7
-9.0	-25.4	-12.6	-12.7
-8.9	-31.4	-12.6	-18.8
-8.8	-34.8	-12.6	-22.2
-8.7	-25.5	-12.6	-12.8
-8.6	-21.7	-12.6	-9.0
-8.5	-20.6	-12.6	-8.0
-8.4	-20.3	-12.6	-7.7
-8.3	-22.5	-12.6	-9.8
-8.2	-24.1	-12.6	-11.5
-8.1	-24.5	-12.6	-11.8
-8.0	-25.9	-12.6	-13.2
-7.9	-24.3	-12.6	-11.7
-7.8	-22.0	-12.6	-9.3
-7.7	-21.8	-12.6	-9.1
-7.6	-22.1	-12.6	-9.5
-7.5	-21.9	-12.6	-9.2
-7.4	-22.7	-12.6	-10.1
-7.3	-25.5	-12.6	-12.8
-7.2	-25.9	-12.6	-13.3
-7.1	-27.1	-12.6	-14.4
-7.0	-25.1	-12.6	-12.5
-6.9	-23.0	-12.5	-10.5
-6.8	-21.3	-12.3	-9.0
-6.7	-19.7	-12.2	-7.5
-6.6	-18.3	-12.0	-6.3
-6.5	-17.7	-11.8	-5.8
-6.4	-17.2	-11.7	-5.6
-6.3	-16.7	-11.5	-5.2
-6.2	-15.8	-11.3	-4.5
-6.1	-14.7	-11.1	-3.5
-6.0	-13.7	-11.0	-2.8
-5.9	-13.0	-10.8	-2.3
-5.8	-13.3	-10.6	-2.7
-5.7	-13.2	-10.4	-2.8
-5.6	-13.5	-10.2	-3.3
-5.5	-14.0	-10.0	-4.0
-5.4	-13.9	-9.8	-4.1
-5.3	-13.8	-9.6	-4.2
-5.2	-13.5	-9.4	-4.1
-5.1	-13.2	-9.2	-4.1
-5.0	-12.8	-9.0	-3.8
-4.9	-11.9	-8.8	-3.1
-4.8	-10.8	-8.5	-2.3
-4.7	-10.0	-8.3	-1.7
-4.6	-8.8	-8.1	-0.7
-4.5	-8.0	-7.8	-0.2
-4.4	-7.7	-7.6	-0.1
-4.3	-7.3	-7.3	0.0
-4.2	-7.6	-7.1	-0.6
-4.1	-8.1	-6.8	-1.3

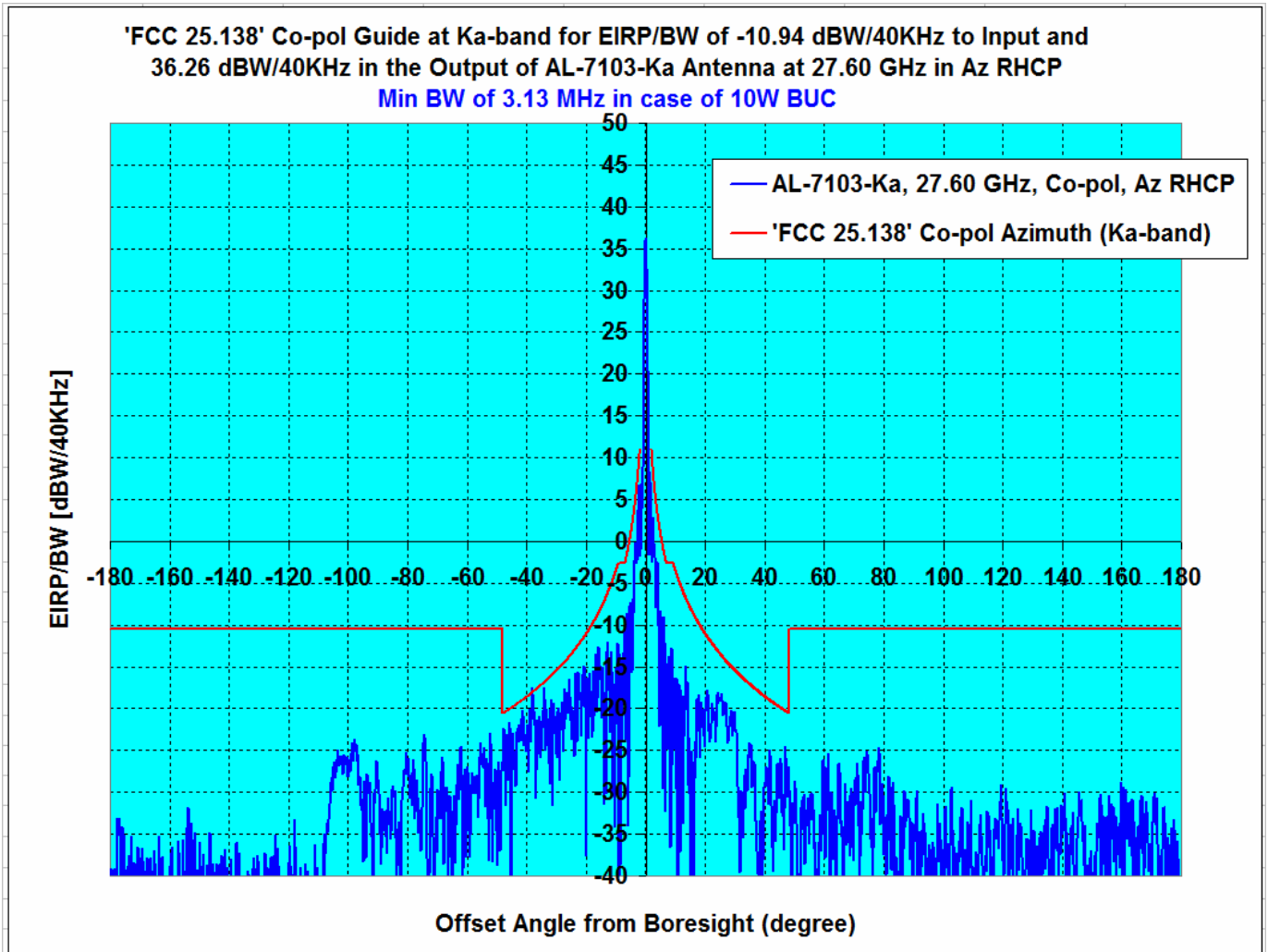
27.60 GHz @ -10.94 dBW / 40 kHz in X-pol Az RHCP

Angle	EIRPsd	Mask	Over Mask
Degrees	dBW/40kHz	dBW/40kHz	dB
0.0	3.3		
0.1	0.4		
0.2	-1.6		
0.3	-2.7		
0.4	-2.9		
0.5	-2.8		
0.6	-3.1		
0.7	-3.5		
0.8	-4.4		
0.9	-5.5		
1.0	-6.6		
1.1	-8.1		
1.2	-9.6		
1.3	-11.2		
1.4	-11.6		
1.5	-12.4		
1.6	-12.6		
1.7	-14.1		
1.8	-15.0		
1.9	-16.1		
2.0	-18.3	1.0	-19.3
2.1	-18.8	0.4	-19.2
2.2	-18.0	-0.1	-18.0
2.3	-16.2	-0.5	-15.6
2.4	-13.9	-1.0	-12.9
2.5	-14.2	-1.4	-12.7
2.6	-12.6	-1.9	-10.7
2.7	-12.5	-2.3	-10.2
2.8	-13.4	-2.7	-10.7
2.9	-13.1	-3.1	-10.0
3.0	-16.5	-3.4	-13.0
3.1	-20.8	-3.8	-17.0
3.2	-25.4	-4.1	-21.3
3.3	-23.0	-4.5	-18.5
3.4	-21.7	-4.8	-16.9
3.5	-26.2	-5.1	-21.1
3.6	-27.5	-5.4	-22.1
3.7	-23.9	-5.7	-18.2
3.8	-23.5	-6.0	-17.5
3.9	-24.7	-6.3	-18.4
4.0	-26.0	-6.6	-19.4
4.1	-37.3	-6.8	-30.5
4.2	-27.2	-7.1	-20.1
4.3	-30.3	-7.3	-23.0
4.4	-24.6	-7.6	-17.1
4.5	-27.5	-7.8	-19.7
4.6	-28.7	-8.1	-20.6
4.7	-28.4	-8.3	-20.1
4.8	-34.0	-8.5	-25.5
4.9	-26.3	-8.8	-17.5
5.0	-26.0	-9.0	-17.0
5.1	-29.3	-9.2	-20.1
5.2	-33.4	-9.4	-24.0
5.3	-33.7	-9.6	-24.1
5.4	-35.1	-9.8	-25.3
5.5	-33.1	-10.0	-23.1
5.6	-30.8	-10.2	-20.6
5.7	-35.4	-10.4	-25.0
5.8	-30.9	-10.6	-20.3
5.9	-29.6	-10.8	-18.9

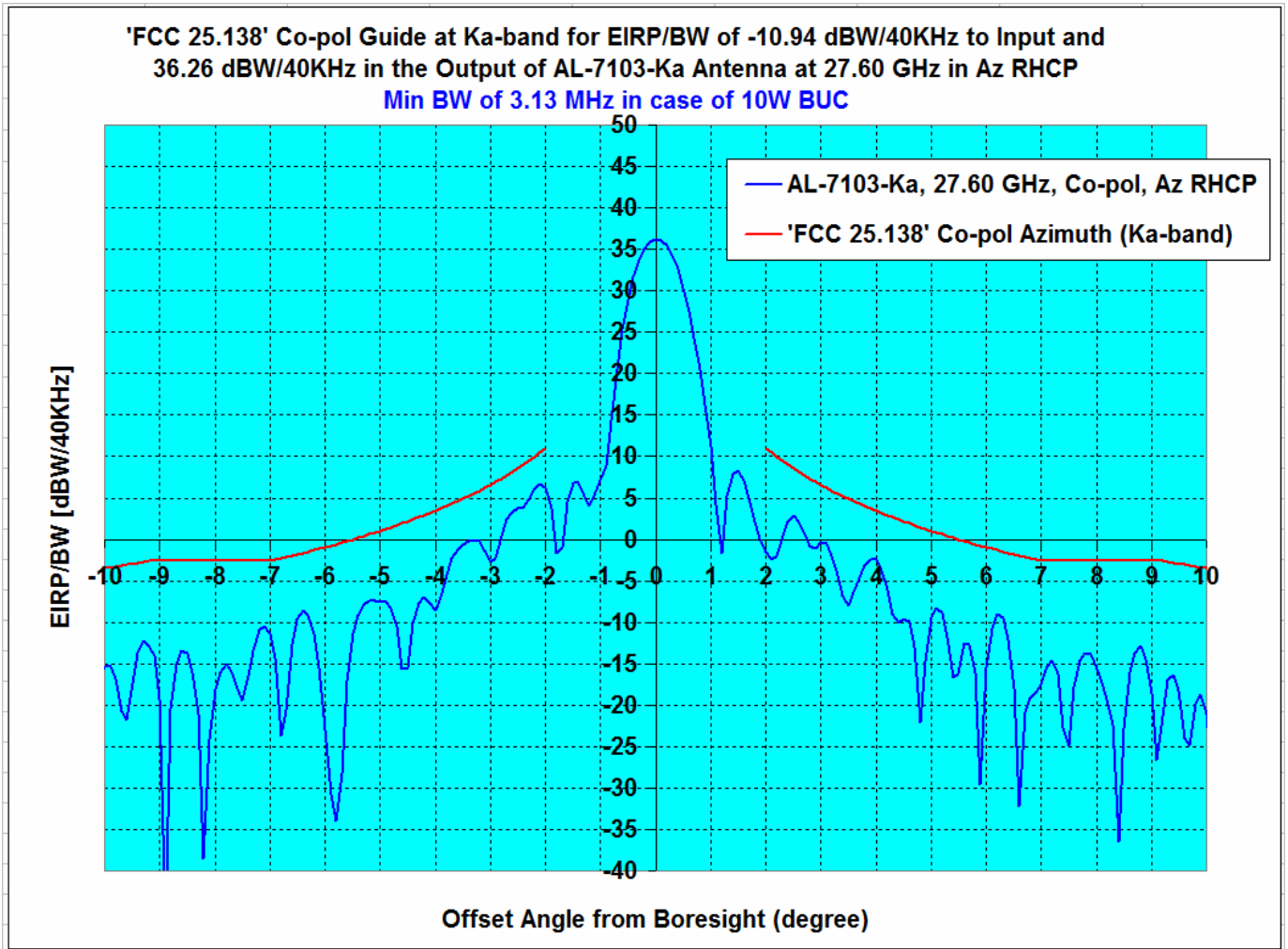
Orbit Communication Systems Ltd.
 AL-7103-Ka, 1.20 m Antenna, EIRPsd Data Table
 X-pol Azimuth RHCP, -10° to +10° @ 0.1° increment

-4.0	-8.8	-6.6	-2.2
-3.9	-9.4	-6.3	-3.2
-3.8	-9.9	-6.0	-3.9
-3.7	-10.1	-5.7	-4.4
-3.6	-10.3	-5.4	-4.9
-3.5	-10.0	-5.1	-4.9
-3.4	-9.8	-4.8	-5.0
-3.3	-9.8	-4.5	-5.4
-3.2	-10.0	-4.1	-5.9
-3.1	-11.1	-3.8	-7.3
-3.0	-12.3	-3.4	-8.9
-2.9	-12.8	-3.1	-9.8
-2.8	-12.3	-2.7	-9.6
-2.7	-10.4	-2.3	-8.2
-2.6	-9.4	-1.9	-7.6
-2.5	-9.5	-1.4	-8.1
-2.4	-10.2	-1.0	-9.2
-2.3	-12.7	-0.5	-12.2
-2.2	-15.4	-0.1	-15.3
-2.1	-15.7	0.4	-16.1
-2.0	-14.4	1.0	-15.4
-1.9	-13.9		
-1.8	-13.6		
-1.7	-10.9		
-1.6	-7.9		
-1.5	-5.7		
-1.4	-4.9		
-1.3	-5.6		
-1.2	-10.0		
-1.1	-18.2		
-1.0	-4.3		
-0.9	1.7		
-0.8	5.2		
-0.7	7.1		
-0.6	8.1		
-0.5	8.6		
-0.4	8.8		
-0.3	8.4		
-0.2	7.4		
-0.1	5.6		
0.0	3.3		

6.0	-26.1	-11.0	-15.2
6.1	-26.1	-11.1	-15.0
6.2	-24.1	-11.3	-12.8
6.3	-23.5	-11.5	-12.0
6.4	-24.1	-11.7	-12.4
6.5	-23.8	-11.8	-11.9
6.6	-24.6	-12.0	-12.6
6.7	-25.3	-12.2	-13.2
6.8	-26.3	-12.3	-14.0
6.9	-29.4	-12.5	-17.0
7.0	-33.5	-12.6	-20.8
7.1	-35.2	-12.6	-22.5
7.2	-28.0	-12.6	-15.4
7.3	-23.3	-12.6	-10.7
7.4	-20.2	-12.6	-7.6
7.5	-19.4	-12.6	-6.8
7.6	-19.0	-12.6	-6.4
7.7	-19.5	-12.6	-6.9
7.8	-20.6	-12.6	-8.0
7.9	-20.3	-12.6	-7.6
8.0	-21.1	-12.6	-8.5
8.1	-22.6	-12.6	-10.0
8.2	-22.7	-12.6	-10.1
8.3	-24.4	-12.6	-11.8
8.4	-27.1	-12.6	-14.5
8.5	-31.2	-12.6	-18.6
8.6	-35.1	-12.6	-22.5
8.7	-33.4	-12.6	-20.8
8.8	-33.2	-12.6	-20.6
8.9	-35.7	-12.6	-23.1
9.0	-34.0	-12.6	-21.3
9.1	-31.8	-12.6	-19.2
9.2	-37.5	-12.6	-24.9
9.3	-38.7	-12.6	-26.1
9.4	-43.2	-12.6	-30.5
9.5	-35.8	-12.6	-23.1
9.6	-32.6	-12.6	-20.0
9.7	-33.4	-12.6	-20.8
9.8	-38.1	-12.6	-25.5
9.9	-44.1	-12.6	-31.5
10.0	-39.6	-12.6	-27.0

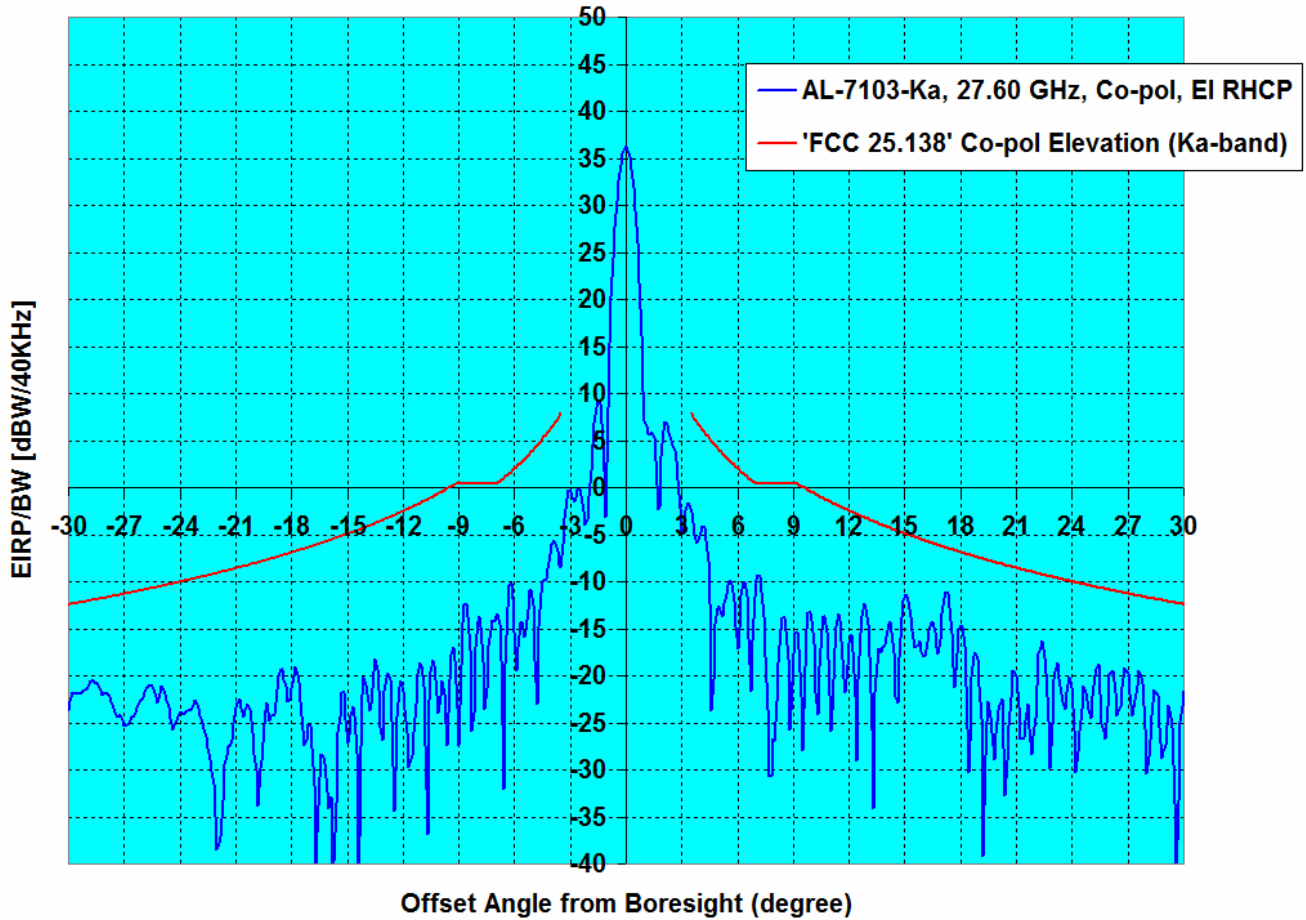


Configuration System, Freq., Polarization, Plane	Regulation EIRP/BW [dBW/40KHz]	Antenna Gain dBi	Input EIRPsd dBW/40KHz	Peak Excursions dB		Over Mask %
				± (2° to 10°)	± (10° to 180°)	
AL-7103-Ka, 27.60 GHz, Co-pol, Az RHCP	'FCC 25.138' Co-pol Azimuth (Ka-band)	47.20	-10.94	-3.69	0.46	0.03



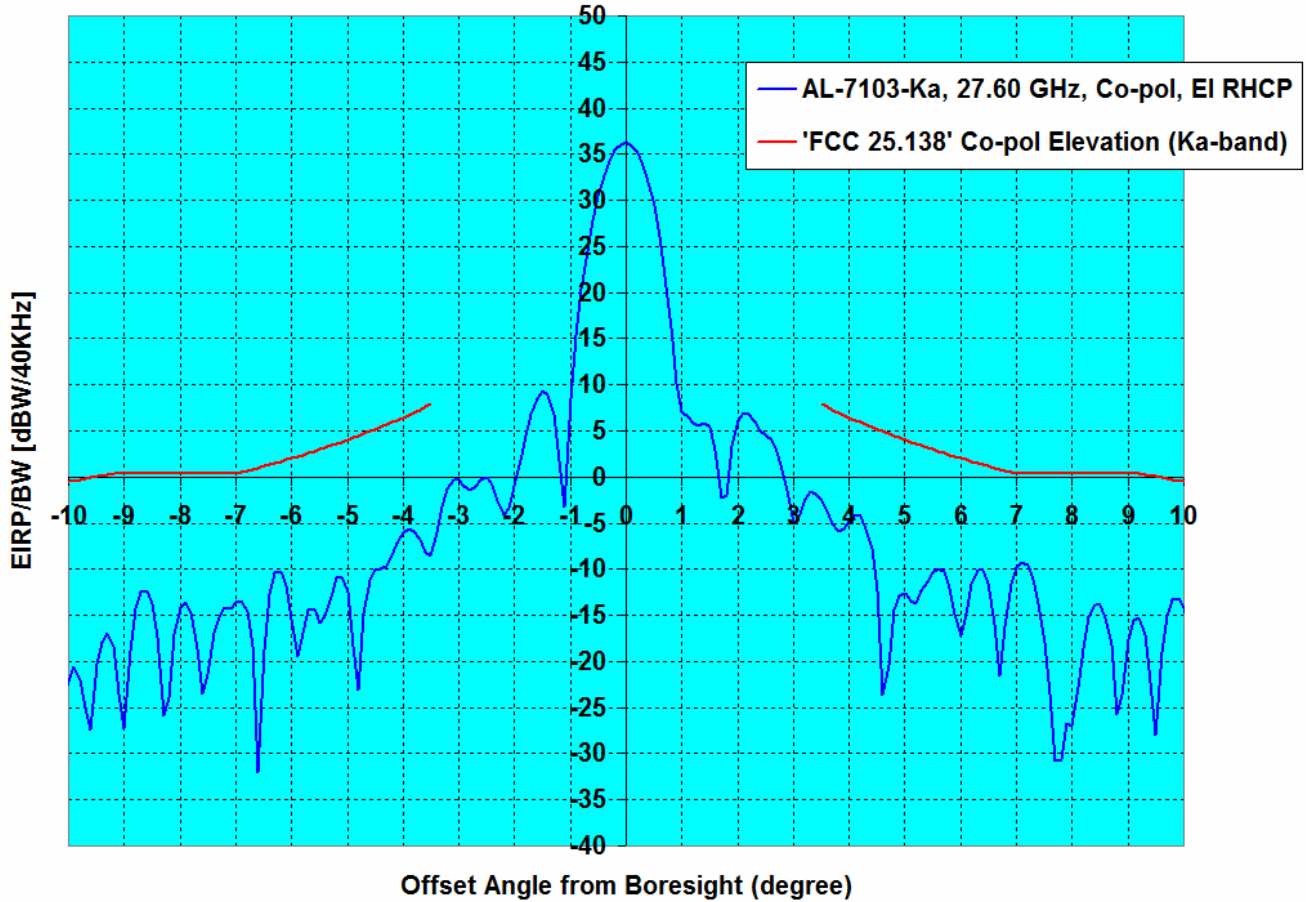
Configuration	Regulation	Antenna Gain	Input EIRPsd	Peak Excursions dB		Over Mask
System, Freq., Polarization, Plane	EIRP/BW [dBW/40KHz]	dBi	dBW/40KHz	± (2° to 10°)	± (10° to 180°)	%
AL-7103-Ka, 27.60 GHz, Co-pol, Az RHCP	'FCC 25.138' Co-pol Azimuth (Ka-band)	47.20	-10.94	-3.69	0.46	0.03

**'FCC 25.138' Co-pol Guide at Ka-band for EIRP/BW of -10.94 dBW/40KHz to Input and
 36.26 dBW/40KHz in the Output of AL-7103-Ka Antenna at 27.60 GHz in EI RHCP
 Min BW of 3.13 MHz in case of 10W BUC**



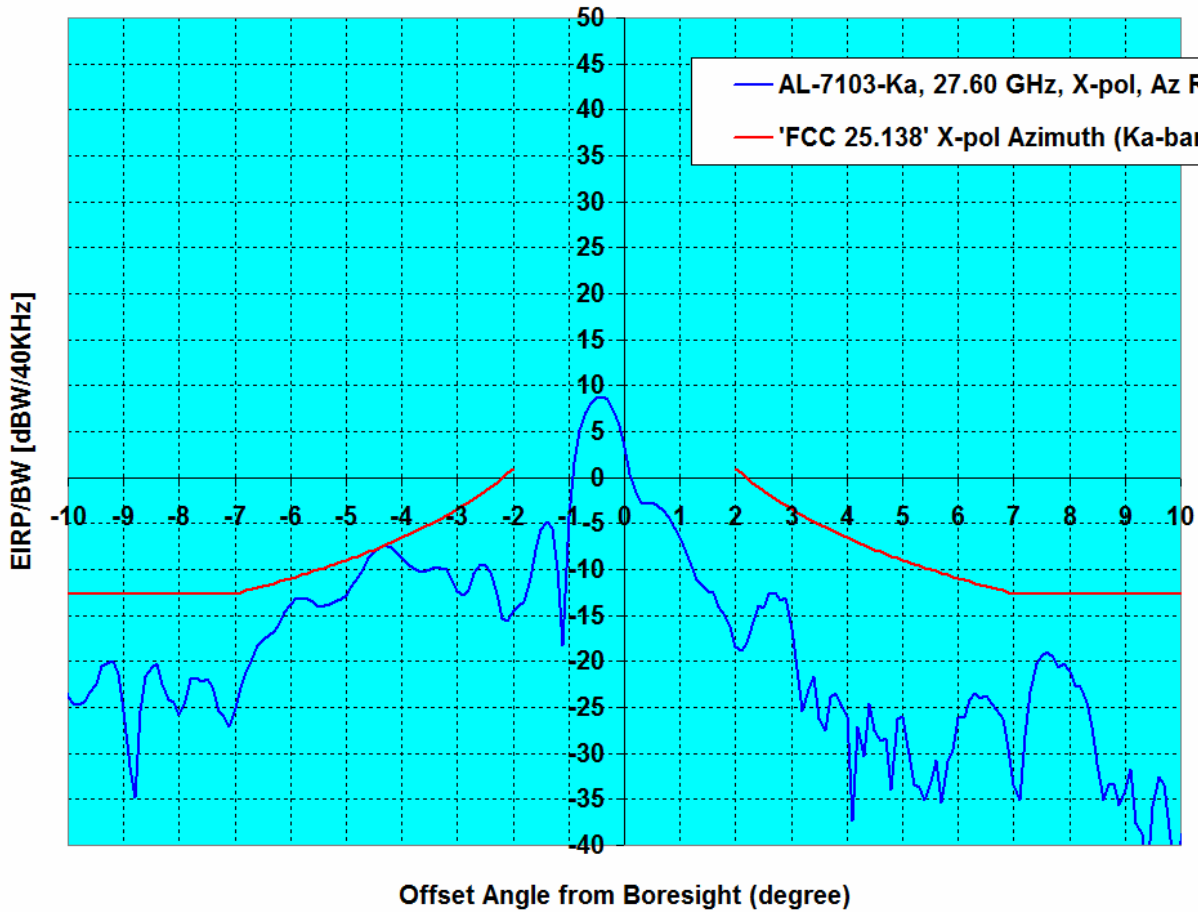
Configuration	Regulation	Antenna Gain	Input EIRPsd	Peak Excursions dB		Over Mask
System, Frequency, Polarization, Plane	EIRP/BW [dBW/40KHz]	dBi	dBW/40KHz	± (3.5° to 10°)	± (10° to 30°)	%
AL-7103-Ka, 27.60 GHz, Co-pol, EI RHCP	'FCC 25.138' Co-pol Elevation (Ka-band)	47.20	-10.94	-9.65	-4.68	0.00

**'FCC 25.138' Co-pol Guide at Ka-band for EIRP/BW of -10.94 dBW/40KHz to Input and
 36.26 dBW/40KHz in the Output of AL-7103-Ka Antenna at 27.60 GHz in EI RHCP
 Min BW of 3.13 MHz in case of 10W BUC**



Configuration	Regulation	Antenna Gain	Input EIRPsd	Peak Excursions dB		Over Mask
System, Frequency, Polarization, Plane	EIRP/BW [dBW/40KHz]	dBi	dBW/40KHz	± (3.5° to 10°)	± (10° to 30°)	%
AL-7103-Ka, 27.60 GHz, Co-pol, EI RHCP	'FCC 25.138' Co-pol Elevation (Ka-band)	47.20	-10.94	-9.65	-4.68	0.00

**'FCC 25.138' X-pol Guide at Ka-band for EIRP/BW of -10.94 dBW/40KHz to Input and
 36.26 dBW/40KHz in the Output of AL-7103-Ka Antenna at 27.60 GHz in Az RHCP
 Min BW of 3.13 MHz in case of 10W BUC**



Configuration System, Frequency, Polarization, Plane	Regulation EIRP/BW [dBW/40KHz]	Antenna Gain dBi	Input EIRPsd dBW/40KHz	Peak Excursions dB		Over Mask %
				± (2° to 7°)	± (2° to 9.2°)	
AL-7103-Ka, 27.60 GHz, X-pol, Az RHCP	'FCC 25.138' X-pol Azimuth (Ka-band)	47.20	-10.94	0.00	0.00	0.68

Orbit Communication Systems Ltd.

AL-7103-Ka, 1.20 m Antenna, EIRPsd Data Table
Co-pol Azimuth LHCP, -180° to +180° @ 1.0° increment

28.30 GHz @ -9,62 dBW / 40 kHz in Co-pol Az LHCP

Angle Degrees	EIRPsd dBW/40kHz	Mask dBW/40kHz	Over Mask dB
-179.0	-39.9	-10.5	-29.4
-178.0	-40.5	-10.5	-30.0
-177.0	-33.7	-10.5	-23.2
-176.0	-36.6	-10.5	-26.1
-175.0	-35.6	-10.5	-25.1
-174.0	-42.4	-10.5	-31.9
-173.0	-32.6	-10.5	-22.1
-172.0	-54.8	-10.5	-44.3
-171.0	-36.1	-10.5	-25.6
-170.0	-38.0	-10.5	-27.5
-169.0	-38.6	-10.5	-28.1
-168.0	-48.3	-10.5	-37.8
-167.0	-41.1	-10.5	-30.6
-166.0	-42.4	-10.5	-31.9
-165.0	-44.0	-10.5	-33.5
-164.0	-39.1	-10.5	-28.6
-163.0	-46.9	-10.5	-36.4
-162.0	-44.5	-10.5	-34.0
-161.0	-49.0	-10.5	-38.5
-160.0	-37.3	-10.5	-26.8
-159.0	-47.7	-10.5	-37.2
-158.0	-45.5	-10.5	-35.0
-157.0	-48.5	-10.5	-38.0
-156.0	-48.5	-10.5	-38.0
-155.0	-36.8	-10.5	-26.3
-154.0	-40.2	-10.5	-29.7
-153.0	-40.4	-10.5	-29.9
-152.0	-43.0	-10.5	-32.5
-151.0	-41.2	-10.5	-30.7
-150.0	-41.3	-10.5	-30.8
-149.0	-42.7	-10.5	-32.2
-148.0	-47.7	-10.5	-37.2
-147.0	-37.9	-10.5	-27.4
-146.0	-46.4	-10.5	-35.9
-145.0	-48.0	-10.5	-37.5
-144.0	-42.4	-10.5	-31.9
-143.0	-44.2	-10.5	-33.7
-142.0	-57.3	-10.5	-46.8
-141.0	-44.0	-10.5	-33.5
-140.0	-38.0	-10.5	-27.5
-139.0	-43.9	-10.5	-33.4
-138.0	-37.6	-10.5	-27.1
-137.0	-41.6	-10.5	-31.1
-136.0	-38.4	-10.5	-27.9
-135.0	-37.2	-10.5	-26.7
-134.0	-34.7	-10.5	-24.2
-133.0	-39.8	-10.5	-29.3
-132.0	-40.2	-10.5	-29.7
-131.0	-37.3	-10.5	-26.8
-130.0	-35.9	-10.5	-25.4
-129.0	-33.5	-10.5	-23.0
-128.0	-35.6	-10.5	-25.1
-127.0	-37.1	-10.5	-26.6
-126.0	-46.8	-10.5	-36.3
-125.0	-45.9	-10.5	-35.4
-124.0	-40.9	-10.5	-30.4
-123.0	-41.3	-10.5	-30.8
-122.0	-36.1	-10.5	-25.6
-121.0	-36.5	-10.5	-26.0
-120.0	-36.9	-10.5	-26.4

28.30 GHz @ -9,62 dBW / 40 kHz in Co-pol Az LHCP

Angle Degrees	EIRPsd dBW/40kHz	Mask dBW/40kHz	Over Mask dB
0.0	38.6		
1.0	10.3		
2.0	-0.2	11.0	-11.2
3.0	0.4	6.6	-6.2
4.0	-2.8	3.4	-6.3
5.0	-8.2	1.0	-9.2
6.0	-5.4	-1.0	-4.4
7.0	-7.9	-2.6	-5.3
8.0	-16.1	-2.6	-13.5
9.0	-15.6	-2.6	-13.0
10.0	-14.3	-3.5	-10.8
11.0	-20.4	-4.5	-15.9
12.0	-19.4	-5.5	-13.9
13.0	-15.6	-6.3	-9.2
14.0	-18.7	-7.2	-11.5
15.0	-18.1	-7.9	-10.2
16.0	-23.0	-8.6	-14.4
17.0	-23.6	-9.3	-14.4
18.0	-27.2	-9.9	-17.3
19.0	-31.7	-10.5	-21.3
20.0	-25.2	-11.0	-14.1
21.0	-18.2	-11.6	-6.7
22.0	-23.8	-12.1	-11.8
23.0	-24.0	-12.5	-11.4
24.0	-27.3	-13.0	-14.3
25.0	-22.8	-13.4	-9.4
26.0	-19.4	-13.9	-5.5
27.0	-23.5	-14.3	-9.2
28.0	-28.7	-14.7	-14.0
29.0	-17.3	-15.1	-2.2
30.0	-19.4	-15.4	-4.0
31.0	-20.0	-15.8	-4.2
32.0	-18.1	-16.1	-2.0
33.0	-16.5	-16.5	0.0
34.0	-18.5	-16.8	-1.7
35.0	-24.3	-17.1	-7.2
36.0	-33.2	-17.4	-15.8
37.0	-34.6	-17.7	-16.9
38.0	-29.6	-18.0	-11.7
39.0	-29.5	-18.3	-11.2
40.0	-26.7	-18.6	-8.1
41.0	-46.0	-18.8	-27.2
42.0	-32.4	-19.1	-13.3
43.0	-31.4	-19.3	-12.0
44.0	-29.9	-19.6	-10.3
45.0	-21.8	-19.8	-1.9
46.0	-21.8	-20.1	-1.7
47.0	-20.0	-20.3	0.3
48.0	-20.3	-20.5	0.2
49.0	-26.3	-10.5	-15.8
50.0	-28.5	-10.5	-18.0
51.0	-26.5	-10.5	-16.0
52.0	-24.4	-10.5	-13.9
53.0	-27.6	-10.5	-17.1
54.0	-31.6	-10.5	-21.1
55.0	-31.8	-10.5	-21.3
56.0	-28.3	-10.5	-17.8
57.0	-25.6	-10.5	-15.1
58.0	-34.3	-10.5	-23.8
59.0	-28.8	-10.5	-18.3

Orbit Communication Systems Ltd.
AL-7103-Ka, 1.20 m Antenna, EIRPsd Data Table
Co-pol Azimuth LHCP, -180° to +180° @ 1.0° increment

-119.0	-43.4	-10.5	-32.9
-118.0	-36.7	-10.5	-26.2
-117.0	-35.3	-10.5	-24.8
-116.0	-34.9	-10.5	-24.4
-115.0	-34.5	-10.5	-24.0
-114.0	-32.9	-10.5	-22.4
-113.0	-39.6	-10.5	-29.1
-112.0	-34.5	-10.5	-24.0
-111.0	-35.0	-10.5	-24.5
-110.0	-35.2	-10.5	-24.7
-109.0	-31.3	-10.5	-20.8
-108.0	-32.2	-10.5	-21.7
-107.0	-31.1	-10.5	-20.6
-106.0	-26.3	-10.5	-15.8
-105.0	-24.4	-10.5	-13.9
-104.0	-24.2	-10.5	-13.7
-103.0	-22.0	-10.5	-11.5
-102.0	-22.0	-10.5	-11.5
-101.0	-21.6	-10.5	-11.1
-100.0	-23.7	-10.5	-13.2
-99.0	-26.5	-10.5	-16.0
-98.0	-28.3	-10.5	-17.8
-97.0	-23.2	-10.5	-12.7
-96.0	-23.7	-10.5	-13.2
-95.0	-24.2	-10.5	-13.7
-94.0	-22.7	-10.5	-12.2
-93.0	-21.8	-10.5	-11.3
-92.0	-22.5	-10.5	-12.0
-91.0	-22.3	-10.5	-11.8
-90.0	-29.3	-10.5	-18.8
-89.0	-23.0	-10.5	-12.5
-88.0	-24.7	-10.5	-14.2
-87.0	-25.2	-10.5	-14.7
-86.0	-22.4	-10.5	-11.9
-85.0	-37.6	-10.5	-27.1
-84.0	-23.5	-10.5	-13.0
-83.0	-27.7	-10.5	-17.2
-82.0	-29.5	-10.5	-19.0
-81.0	-26.4	-10.5	-15.9
-80.0	-44.5	-10.5	-34.0
-79.0	-25.2	-10.5	-14.7
-78.0	-25.1	-10.5	-14.6
-77.0	-41.2	-10.5	-30.7
-76.0	-25.2	-10.5	-14.7
-75.0	-26.1	-10.5	-15.6
-74.0	-27.7	-10.5	-17.2
-73.0	-27.9	-10.5	-17.4
-72.0	-30.1	-10.5	-19.6
-71.0	-27.4	-10.5	-16.9
-70.0	-27.6	-10.5	-17.1
-69.0	-35.0	-10.5	-24.5
-68.0	-29.4	-10.5	-18.9
-67.0	-26.5	-10.5	-16.0
-66.0	-33.9	-10.5	-23.4
-65.0	-31.7	-10.5	-21.2
-64.0	-24.6	-10.5	-14.1
-63.0	-23.1	-10.5	-12.6
-62.0	-32.2	-10.5	-21.7
-61.0	-28.6	-10.5	-18.1
-60.0	-30.4	-10.5	-19.9
-59.0	-25.8	-10.5	-15.3
-58.0	-24.6	-10.5	-14.1
-57.0	-24.7	-10.5	-14.2

60.0	-37.1	-10.5	-26.6
61.0	-24.2	-10.5	-13.7
62.0	-26.2	-10.5	-15.7
63.0	-24.9	-10.5	-14.4
64.0	-29.7	-10.5	-19.2
65.0	-30.6	-10.5	-20.1
66.0	-30.3	-10.5	-19.8
67.0	-27.6	-10.5	-17.1
68.0	-28.7	-10.5	-18.2
69.0	-31.2	-10.5	-20.7
70.0	-26.9	-10.5	-16.4
71.0	-30.2	-10.5	-19.7
72.0	-29.5	-10.5	-19.0
73.0	-31.6	-10.5	-21.1
74.0	-24.0	-10.5	-13.5
75.0	-27.3	-10.5	-16.8
76.0	-24.4	-10.5	-13.9
77.0	-30.6	-10.5	-20.1
78.0	-26.9	-10.5	-16.4
79.0	-36.0	-10.5	-25.5
80.0	-36.7	-10.5	-26.2
81.0	-43.4	-10.5	-32.9
82.0	-36.6	-10.5	-26.1
83.0	-33.0	-10.5	-22.5
84.0	-37.9	-10.5	-27.4
85.0	-26.9	-10.5	-16.4
86.0	-36.4	-10.5	-25.9
87.0	-30.1	-10.5	-19.6
88.0	-39.8	-10.5	-29.3
89.0	-30.0	-10.5	-19.5
90.0	-31.0	-10.5	-20.5
91.0	-37.5	-10.5	-27.0
92.0	-40.6	-10.5	-30.1
93.0	-34.9	-10.5	-24.4
94.0	-33.0	-10.5	-22.5
95.0	-30.5	-10.5	-20.0
96.0	-38.0	-10.5	-27.5
97.0	-28.8	-10.5	-18.3
98.0	-31.9	-10.5	-21.4
99.0	-27.8	-10.5	-17.3
100.0	-31.5	-10.5	-21.0
101.0	-34.8	-10.5	-24.3
102.0	-34.3	-10.5	-23.8
103.0	-29.4	-10.5	-18.9
104.0	-30.5	-10.5	-20.0
105.0	-35.8	-10.5	-25.3
106.0	-29.7	-10.5	-19.2
107.0	-41.0	-10.5	-30.5
108.0	-32.5	-10.5	-22.0
109.0	-28.7	-10.5	-18.2
110.0	-34.6	-10.5	-24.1
111.0	-30.0	-10.5	-19.5
112.0	-36.5	-10.5	-26.0
113.0	-44.6	-10.5	-34.1
114.0	-44.8	-10.5	-34.3
115.0	-30.7	-10.5	-20.2
116.0	-33.9	-10.5	-23.4
117.0	-39.9	-10.5	-29.4
118.0	-29.0	-10.5	-18.5
119.0	-28.6	-10.5	-18.1
120.0	-55.2	-10.5	-44.7
121.0	-37.3	-10.5	-26.8
122.0	-30.4	-10.5	-19.9

Orbit Communication Systems Ltd.
AL-7103-Ka, 1.20 m Antenna, EIRPsd Data Table
Co-pol Azimuth LHCP, -180° to +180° @ 1.0° increment

-56.0	-44.1	-10.5	-33.6
-55.0	-29.4	-10.5	-18.9
-54.0	-26.7	-10.5	-16.2
-53.0	-24.9	-10.5	-14.4
-52.0	-36.1	-10.5	-25.6
-51.0	-31.5	-10.5	-21.0
-50.0	-27.8	-10.5	-17.3
-49.0	-23.2	-10.5	-12.7
-48.0	-18.7	-20.5	1.8
-47.0	-20.8	-20.3	-0.5
-46.0	-20.9	-20.1	-0.8
-45.0	-22.0	-19.8	-2.2
-44.0	-22.2	-19.6	-2.6
-43.0	-24.1	-19.3	-4.8
-42.0	-20.9	-19.1	-1.8
-41.0	-28.2	-18.8	-9.4
-40.0	-22.4	-18.6	-3.9
-39.0	-20.8	-18.3	-2.5
-38.0	-20.0	-18.0	-2.0
-37.0	-18.9	-17.7	-1.2
-36.0	-21.1	-17.4	-3.7
-35.0	-22.5	-17.1	-5.4
-34.0	-26.0	-16.8	-9.3
-33.0	-24.9	-16.5	-8.5
-32.0	-22.4	-16.1	-6.3
-31.0	-17.8	-15.8	-2.0
-30.0	-19.8	-15.4	-4.4
-29.0	-20.8	-15.1	-5.8
-28.0	-17.0	-14.7	-2.3
-27.0	-15.5	-14.3	-1.2
-26.0	-29.3	-13.9	-15.4
-25.0	-14.2	-13.4	-0.8
-24.0	-14.3	-13.0	-1.3
-23.0	-20.5	-12.5	-8.0
-22.0	-16.3	-12.1	-4.2
-21.0	-17.5	-11.6	-5.9
-20.0	-13.0	-11.0	-1.9
-19.0	-13.0	-10.5	-2.6
-18.0	-12.1	-9.9	-2.2
-17.0	-14.3	-9.3	-5.1
-16.0	-16.1	-8.6	-7.5
-15.0	-10.7	-7.9	-2.8
-14.0	-9.3	-7.2	-2.2
-13.0	-17.8	-6.3	-11.4
-12.0	-10.3	-5.5	-4.8
-11.0	-14.7	-4.5	-10.1
-10.0	-21.5	-3.5	-18.0
-9.0	-11.5	-2.6	-8.8
-8.0	-17.8	-2.6	-15.2
-7.0	-7.6	-2.6	-5.0
-6.0	-25.6	-1.0	-24.6
-5.0	-6.1	1.0	-7.2
-4.0	-4.3	3.4	-7.7
-3.0	1.6	6.6	-4.9
-2.0	8.1	11.0	-2.9
-1.0	4.4		
0.0	38.6		

123.0	-35.8	-10.5	-25.3
124.0	-39.5	-10.5	-29.0
125.0	-42.7	-10.5	-32.2
126.0	-43.0	-10.5	-32.5
127.0	-36.9	-10.5	-26.4
128.0	-36.2	-10.5	-25.7
129.0	-32.1	-10.5	-21.6
130.0	-28.7	-10.5	-18.2
131.0	-29.3	-10.5	-18.8
132.0	-38.1	-10.5	-27.6
133.0	-29.7	-10.5	-19.2
134.0	-33.5	-10.5	-23.0
135.0	-33.7	-10.5	-23.2
136.0	-35.6	-10.5	-25.1
137.0	-31.2	-10.5	-20.7
138.0	-34.8	-10.5	-24.3
139.0	-39.2	-10.5	-28.7
140.0	-36.4	-10.5	-25.9
141.0	-33.5	-10.5	-23.0
142.0	-32.3	-10.5	-21.8
143.0	-33.4	-10.5	-22.9
144.0	-39.7	-10.5	-29.2
145.0	-33.7	-10.5	-23.2
146.0	-36.5	-10.5	-26.0
147.0	-34.0	-10.5	-23.5
148.0	-35.2	-10.5	-24.7
149.0	-36.8	-10.5	-26.3
150.0	-47.0	-10.5	-36.5
151.0	-28.3	-10.5	-17.8
152.0	-30.0	-10.5	-19.5
153.0	-41.2	-10.5	-30.7
154.0	-40.4	-10.5	-29.9
155.0	-32.7	-10.5	-22.2
156.0	-39.2	-10.5	-28.7
157.0	-37.8	-10.5	-27.3
158.0	-33.1	-10.5	-22.6
159.0	-33.2	-10.5	-22.7
160.0	-33.2	-10.5	-22.7
161.0	-38.4	-10.5	-27.9
162.0	-39.8	-10.5	-29.3
163.0	-37.5	-10.5	-27.0
164.0	-46.6	-10.5	-36.1
165.0	-35.3	-10.5	-24.8
166.0	-35.8	-10.5	-25.3
167.0	-35.5	-10.5	-25.0
168.0	-36.6	-10.5	-26.1
169.0	-32.1	-10.5	-21.6
170.0	-46.9	-10.5	-36.4
171.0	-32.0	-10.5	-21.5
172.0	-35.6	-10.5	-25.1
173.0	-41.6	-10.5	-31.1
174.0	-35.4	-10.5	-24.9
175.0	-35.1	-10.5	-24.6
176.0	-40.0	-10.5	-29.5
177.0	-35.9	-10.5	-25.4
178.0	-44.4	-10.5	-33.9
179.0	-35.8	-10.5	-25.3

Orbit Communication Systems Ltd.

AL AL-7103-Ka, 1.20 m Antenna, EIRPsd Data Table
Co-pol Azimuth LHCP, -10° to +10° @ 0.1° increment

28.30 GHz @ -9,62 dBW / 40 kHz in Co-pol Az LHCP

Angle Degrees	EIRPsd dBW/40kHz	Mask dBW/40kHz	Over Mask dB
-10.0	-21.5	-3.5	-18.0
-9.9	-33.0	-3.4	-29.6
-9.8	-19.2	-3.3	-15.9
-9.7	-16.2	-3.2	-13.1
-9.6	-16.4	-3.1	-13.3
-9.5	-19.8	-2.9	-16.9
-9.4	-33.0	-2.8	-30.2
-9.3	-20.9	-2.7	-18.2
-9.2	-14.7	-2.6	-12.1
-9.1	-12.0	-2.6	-9.4
-9.0	-11.5	-2.6	-8.8
-8.9	-12.5	-2.6	-9.9
-8.8	-15.3	-2.6	-12.7
-8.7	-21.3	-2.6	-18.6
-8.6	-23.2	-2.6	-20.6
-8.5	-19.2	-2.6	-16.5
-8.4	-18.2	-2.6	-15.5
-8.3	-20.4	-2.6	-17.8
-8.2	-25.2	-2.6	-22.6
-8.1	-21.8	-2.6	-19.1
-8.0	-17.8	-2.6	-15.2
-7.9	-15.7	-2.6	-13.1
-7.8	-16.3	-2.6	-13.7
-7.7	-19.2	-2.6	-16.6
-7.6	-28.4	-2.6	-25.8
-7.5	-27.7	-2.6	-25.0
-7.4	-17.3	-2.6	-14.7
-7.3	-13.0	-2.6	-10.4
-7.2	-10.0	-2.6	-7.3
-7.1	-8.2	-2.6	-5.5
-7.0	-7.6	-2.6	-5.0
-6.9	-8.5	-2.5	-6.0
-6.8	-11.0	-2.3	-8.7
-6.7	-16.4	-2.2	-14.3
-6.6	-19.2	-2.0	-17.2
-6.5	-12.7	-1.8	-10.8
-6.4	-9.5	-1.7	-7.8
-6.3	-8.8	-1.5	-7.4
-6.2	-10.0	-1.3	-8.7
-6.1	-14.2	-1.1	-13.1
-6.0	-25.6	-1.0	-24.6
-5.9	-17.9	-0.8	-17.1
-5.8	-12.0	-0.6	-11.5
-5.7	-10.3	-0.4	-9.9
-5.6	-10.2	-0.2	-9.9
-5.5	-10.7	0.0	-10.7
-5.4	-10.7	0.2	-10.9
-5.3	-9.5	0.4	-9.9
-5.2	-8.1	0.6	-8.7
-5.1	-7.1	0.8	-7.9
-5.0	-6.1	1.0	-7.2
-4.9	-5.4	1.2	-6.7
-4.8	-5.4	1.5	-6.8
-4.7	-6.4	1.7	-8.1
-4.6	-9.2	1.9	-11.1
-4.5	-9.8	2.2	-12.0
-4.4	-6.4	2.4	-8.8
-4.3	-3.5	2.7	-6.1
-4.2	-2.2	2.9	-5.1
-4.1	-2.6	3.2	-5.8

28.30 GHz @ -9,62 dBW / 40 kHz in Co-pol Az LHCP

Angle Degrees	EIRPsd dBW/40kHz	Mask dBW/40kHz	Over Mask dB
0.0	38.6		
0.1	38.2		
0.2	37.4		
0.3	36.1		
0.4	34.3		
0.5	31.8		
0.6	28.9		
0.7	25.4		
0.8	21.2		
0.9	16.2		
1.0	10.3		
1.1	6.6		
1.2	9.2		
1.3	11.2		
1.4	11.6		
1.5	10.5		
1.6	8.4		
1.7	5.7		
1.8	3.1		
1.9	1.2		
2.0	-0.2	11.0	-11.2
2.1	0.4	10.4	-10.1
2.2	2.9	9.9	-7.1
2.3	4.7	9.5	-4.8
2.4	5.2	9.0	-3.8
2.5	4.8	8.6	-3.8
2.6	3.4	8.1	-4.8
2.7	1.0	7.7	-6.7
2.8	-0.6	7.3	-7.9
2.9	-0.3	6.9	-7.2
3.0	0.4	6.6	-6.2
3.1	0.1	6.2	-6.1
3.2	-0.9	5.9	-6.8
3.3	-1.6	5.5	-7.2
3.4	-1.5	5.2	-6.7
3.5	-0.5	4.9	-5.4
3.6	0.6	4.6	-4.0
3.7	1.1	4.3	-3.2
3.8	0.9	4.0	-3.1
3.9	-0.4	3.7	-4.1
4.0	-2.8	3.4	-6.3
4.1	-6.6	3.2	-9.7
4.2	-9.8	2.9	-12.7
4.3	-9.3	2.7	-12.0
4.4	-8.8	2.4	-11.2
4.5	-11.6	2.2	-13.7
4.6	-17.7	1.9	-19.6
4.7	-13.5	1.7	-15.2
4.8	-8.8	1.5	-10.3
4.9	-7.3	1.2	-8.6
5.0	-8.2	1.0	-9.2
5.1	-11.9	0.8	-12.7
5.2	-18.5	0.6	-19.1
5.3	-12.2	0.4	-12.5
5.4	-8.5	0.2	-8.7
5.5	-8.5	0.0	-8.5
5.6	-12.4	-0.2	-12.2
5.7	-23.2	-0.4	-22.8
5.8	-12.5	-0.6	-11.9
5.9	-7.2	-0.8	-6.4

Orbit Communication Systems Ltd.

AL AL-7103-Ka, 1.20 m Antenna, EIRPsd Data Table
 Co-pol Azimuth LHCP, -10° to +10° @ 0.1° increment

-4.0	-4.3	3.4	-7.7
-3.9	-6.4	3.7	-10.1
-3.8	-5.3	4.0	-9.3
-3.7	-2.5	4.3	-6.8
-3.6	-0.3	4.6	-4.9
-3.5	1.0	4.9	-3.9
-3.4	2.0	5.2	-3.2
-3.3	2.6	5.5	-2.9
-3.2	2.8	5.9	-3.1
-3.1	2.4	6.2	-3.8
-3.0	1.6	6.6	-4.9
-2.9	2.0	6.9	-5.0
-2.8	3.9	7.3	-3.4
-2.7	5.9	7.7	-1.8
-2.6	7.0	8.1	-1.1
-2.5	7.2	8.6	-1.3
-2.4	6.8	9.0	-2.2
-2.3	6.7	9.5	-2.7
-2.2	7.4	9.9	-2.5
-2.1	8.2	10.4	-2.2
-2.0	8.1	11.0	-2.9
-1.9	6.4		
-1.8	2.8		
-1.7	2.7		
-1.6	7.3		
-1.5	10.2		
-1.4	11.3		
-1.3	11.3		
-1.2	10.4		
-1.1	8.1		
-1.0	4.4		
-0.9	11.7		
-0.8	19.6		
-0.7	25.1		
-0.6	29.3		
-0.5	32.4		
-0.4	34.8		
-0.3	36.6		
-0.2	37.8		
-0.1	38.4		
0.0	38.6		

6.0	-5.4	-1.0	-4.4
6.1	-5.7	-1.1	-4.6
6.2	-7.7	-1.3	-6.4
6.3	-12.0	-1.5	-10.6
6.4	-21.3	-1.7	-19.6
6.5	-24.0	-1.8	-22.2
6.6	-17.6	-2.0	-15.6
6.7	-14.2	-2.2	-12.0
6.8	-10.8	-2.3	-8.5
6.9	-8.8	-2.5	-6.3
7.0	-7.9	-2.6	-5.3
7.1	-8.7	-2.6	-6.0
7.2	-11.9	-2.6	-9.3
7.3	-18.7	-2.6	-16.1
7.4	-16.5	-2.6	-13.9
7.5	-10.5	-2.6	-7.9
7.6	-8.1	-2.6	-5.5
7.7	-7.6	-2.6	-5.0
7.8	-8.7	-2.6	-6.1
7.9	-11.3	-2.6	-8.7
8.0	-16.1	-2.6	-13.5
8.1	-17.2	-2.6	-14.6
8.2	-12.8	-2.6	-10.2
8.3	-10.2	-2.6	-7.6
8.4	-9.6	-2.6	-7.0
8.5	-10.5	-2.6	-7.9
8.6	-13.6	-2.6	-11.0
8.7	-20.4	-2.6	-17.8
8.8	-25.3	-2.6	-22.6
8.9	-17.9	-2.6	-15.3
9.0	-15.6	-2.6	-13.0
9.1	-15.7	-2.6	-13.1
9.2	-18.8	-2.6	-16.2
9.3	-22.0	-2.7	-19.3
9.4	-19.3	-2.8	-16.5
9.5	-16.7	-2.9	-13.7
9.6	-17.8	-3.1	-14.7
9.7	-23.6	-3.2	-20.5
9.8	-31.5	-3.3	-28.3
9.9	-18.3	-3.4	-14.9
10.0	-14.3	-3.5	-10.8

Orbit Communication Systems Ltd.

AL-7103-Ka, 1.20 m Antenna, EIRPsd Data Table
Co-pol Elevation LHCP, -30° to +30° @ 0.5° increment

28.30 GHz @ -9,62 dBW / 40 kHz in Co-pol EI LHCP

Angle	EIRPsd	Mask	Over Mask
Degrees	dBW/40kHz	dBW/40kHz	dB
-30.0	-20.7	-12.4	-8.2
-29.5	-20.0	-12.2	-7.8
-29.0	-20.9	-12.1	-8.9
-28.5	-27.5	-11.9	-15.6
-28.0	-26.0	-11.7	-14.3
-27.5	-40.2	-11.5	-28.7
-27.0	-30.2	-11.3	-19.0
-26.5	-26.6	-11.1	-15.5
-26.0	-21.0	-10.9	-10.1
-25.5	-24.4	-10.7	-13.7
-25.0	-43.2	-10.4	-32.7
-24.5	-36.8	-10.2	-26.5
-24.0	-43.4	-10.0	-33.4
-23.5	-38.9	-9.8	-29.2
-23.0	-24.5	-9.5	-14.9
-22.5	-23.0	-9.3	-13.7
-22.0	-28.5	-9.1	-19.4
-21.5	-28.8	-8.8	-20.0
-21.0	-29.7	-8.6	-21.1
-20.5	-36.8	-8.3	-28.5
-20.0	-27.0	-8.0	-18.9
-19.5	-22.6	-7.8	-14.9
-19.0	-23.7	-7.5	-16.2
-18.5	-23.9	-7.2	-16.7
-18.0	-17.9	-6.9	-11.0
-17.5	-16.3	-6.6	-9.7
-17.0	-23.6	-6.3	-17.4
-16.5	-29.1	-5.9	-23.2
-16.0	-28.0	-5.6	-22.4
-15.5	-20.8	-5.3	-15.5
-15.0	-17.3	-4.9	-12.4
-14.5	-18.5	-4.5	-13.9
-14.0	-30.0	-4.2	-25.8
-13.5	-18.1	-3.8	-14.4
-13.0	-17.2	-3.3	-13.8
-12.5	-17.5	-2.9	-14.6
-12.0	-22.9	-2.5	-20.4
-11.5	-21.1	-2.0	-19.0
-11.0	-19.0	-1.5	-17.4
-10.5	-23.7	-1.0	-22.7
-10.0	-21.4	-0.5	-20.9
-9.5	-29.1	0.1	-29.2
-9.0	-13.6	0.4	-14.0
-8.5	-10.8	0.4	-11.1
-8.0	-20.0	0.4	-20.4
-7.5	-19.3	0.4	-19.7
-7.0	-10.7	0.4	-11.0
-6.5	-12.1	1.2	-13.3
-6.0	-8.2	2.0	-10.2
-5.5	-8.8	3.0	-11.8
-5.0	-8.8	4.0	-12.9
-4.5	-10.6	5.2	-15.8
-4.0	-4.2	6.4	-10.7
-3.5	-3.8	7.9	-11.7
-3.0	0.4		
-2.5	3.8		
-2.0	1.1		
-1.5	11.6		
-1.0	13.5		
-0.5	32.9		
0.0	38.6		

28.30 GHz @ -9,62 dBW / 40 kHz in Co-pol EI LHCP

Angle	EIRPsd	Mask	Over Mask
Degrees	dBW/40kHz	dBW/40kHz	dB
0.0	38.6		
0.5	30.4		
1.0	4.1		
1.5	8.9		
2.0	7.6		
2.5	7.8		
3.0	0.4		
3.5	-5.9	7.9	-13.8
4.0	-0.5	6.4	-6.9
4.5	-14.3	5.2	-19.5
5.0	-13.7	4.0	-17.7
5.5	-8.5	3.0	-11.5
6.0	-12.4	2.0	-14.5
6.5	-11.5	1.2	-12.7
7.0	-7.4	0.4	-7.7
7.5	-21.2	0.4	-21.6
8.0	-28.0	0.4	-28.3
8.5	-15.5	0.4	-15.8
9.0	-11.6	0.4	-12.0
9.5	-20.2	0.1	-20.3
10.0	-18.3	-0.5	-17.8
10.5	-13.4	-1.0	-12.3
11.0	-13.1	-1.5	-11.6
11.5	-8.7	-2.0	-6.7
12.0	-15.6	-2.5	-13.1
12.5	-11.0	-2.9	-8.1
13.0	-13.2	-3.3	-9.9
13.5	-14.9	-3.8	-11.2
14.0	-13.3	-4.2	-9.1
14.5	-7.8	-4.5	-3.3
15.0	-14.2	-4.9	-9.3
15.5	-11.4	-5.3	-6.2
16.0	-14.1	-5.6	-8.5
16.5	-12.4	-5.9	-6.5
17.0	-15.5	-6.3	-9.2
17.5	-11.1	-6.6	-4.5
18.0	-12.6	-6.9	-5.7
18.5	-13.1	-7.2	-5.9
19.0	-12.7	-7.5	-5.2
19.5	-14.0	-7.8	-6.3
20.0	-14.8	-8.0	-6.8
20.5	-11.8	-8.3	-3.5
21.0	-14.8	-8.6	-6.3
21.5	-20.6	-8.8	-11.8
22.0	-13.7	-9.1	-4.7
22.5	-14.8	-9.3	-5.5
23.0	-12.2	-9.5	-2.6
23.5	-17.1	-9.8	-7.3
24.0	-12.2	-10.0	-2.2
24.5	-14.6	-10.2	-4.4
25.0	-14.8	-10.4	-4.3
25.5	-13.9	-10.7	-3.2
26.0	-13.9	-10.9	-3.0
26.5	-15.6	-11.1	-4.5
27.0	-16.2	-11.3	-4.9
27.5	-15.1	-11.5	-3.6
28.0	-16.8	-11.7	-5.1
28.5	-17.8	-11.9	-5.9
29.0	-19.2	-12.1	-7.1
29.5	-19.2	-12.2	-6.9
30.0	-17.4	-12.4	-4.9

Orbit Communication Systems Ltd.

AL-7103-Ka, 1.20 m Antenna, EIRPsd Data Table
Co-pol Elevation LHCP, -10° to +10° @ 0.1° increment

28.30 GHz @ -9,62 dBW / 40 kHz in Co-pol EI LHCP

Angle	EIRPsd	Mask	Over Mask
Degrees	dBW/40kHz	dBW/40kHz	dB
-10.0	-21.4	-0.5	-20.9
-9.9	-21.7	-0.4	-21.3
-9.8	-19.4	-0.3	-19.1
-9.7	-19.6	-0.2	-19.5
-9.6	-22.4	-0.1	-22.3
-9.5	-29.1	0.1	-29.2
-9.4	-19.7	0.2	-19.9
-9.3	-14.7	0.3	-15.0
-9.2	-12.7	0.4	-13.1
-9.1	-12.5	0.4	-12.8
-9.0	-13.6	0.4	-14.0
-8.9	-15.6	0.4	-16.0
-8.8	-15.6	0.4	-16.0
-8.7	-13.0	0.4	-13.4
-8.6	-11.2	0.4	-11.6
-8.5	-10.8	0.4	-11.1
-8.4	-11.2	0.4	-11.6
-8.3	-13.1	0.4	-13.4
-8.2	-17.1	0.4	-17.5
-8.1	-21.2	0.4	-21.6
-8.0	-20.0	0.4	-20.4
-7.9	-15.1	0.4	-15.4
-7.8	-13.0	0.4	-13.4
-7.7	-12.7	0.4	-13.1
-7.6	-14.6	0.4	-14.9
-7.5	-19.3	0.4	-19.7
-7.4	-39.1	0.4	-39.5
-7.3	-18.5	0.4	-18.9
-7.2	-13.5	0.4	-13.8
-7.1	-11.6	0.4	-11.9
-7.0	-10.7	0.4	-11.0
-6.9	-9.8	0.5	-10.3
-6.8	-9.3	0.7	-10.0
-6.7	-9.3	0.8	-10.2
-6.6	-10.6	1.0	-11.6
-6.5	-12.1	1.2	-13.3
-6.4	-10.9	1.3	-12.3
-6.3	-7.9	1.5	-9.4
-6.2	-6.3	1.7	-8.0
-6.1	-6.1	1.9	-8.0
-6.0	-8.2	2.0	-10.2
-5.9	-12.7	2.2	-14.9
-5.8	-16.2	2.4	-18.6
-5.7	-11.2	2.6	-13.8
-5.6	-8.6	2.8	-11.4
-5.5	-8.8	3.0	-11.8
-5.4	-12.1	3.2	-15.3
-5.3	-24.7	3.4	-28.1
-5.2	-15.8	3.6	-19.4
-5.1	-10.4	3.8	-14.2
-5.0	-8.8	4.0	-12.9
-4.9	-10.7	4.2	-14.9
-4.8	-16.9	4.5	-21.3
-4.7	-22.0	4.7	-26.7
-4.6	-13.2	4.9	-18.1
-4.5	-10.6	5.2	-15.8
-4.4	-11.7	5.4	-17.1
-4.3	-15.0	5.7	-20.7
-4.2	-11.1	5.9	-17.0
-4.1	-6.6	6.2	-12.8

28.30 GHz @ -9,62 dBW / 40 kHz in Co-pol EI LHCP

Angle	EIRPsd	Mask	Over Mask
Degrees	dBW/40kHz	dBW/40kHz	dB
0.0	38.6		
0.1	38.1		
0.2	37.2		
0.3	35.6		
0.4	33.4		
0.5	30.4		
0.6	26.6		
0.7	21.5		
0.8	14.5		
0.9	5.3		
1.0	4.1		
1.1	7.3		
1.2	9.4		
1.3	10.5		
1.4	10.4		
1.5	8.9		
1.6	6.8		
1.7	5.8		
1.8	6.8		
1.9	7.8		
2.0	7.6		
2.1	6.3		
2.2	5.4		
2.3	6.1		
2.4	7.4		
2.5	7.8		
2.6	7.3		
2.7	6.0		
2.8	3.7		
2.9	1.5		
3.0	0.4		
3.1	0.1		
3.2	-0.8		
3.3	-2.1		
3.4	-3.9		
3.5	-5.9	7.9	-13.8
3.6	-7.1	7.6	-14.7
3.7	-6.1	7.3	-13.4
3.8	-3.5	7.0	-10.5
3.9	-1.3	6.7	-8.0
4.0	-0.5	6.4	-6.9
4.1	-0.6	6.2	-6.8
4.2	-1.9	5.9	-7.9
4.3	-4.9	5.7	-10.6
4.4	-10.0	5.4	-15.4
4.5	-14.3	5.2	-19.5
4.6	-12.9	4.9	-17.8
4.7	-11.5	4.7	-16.2
4.8	-11.7	4.5	-16.2
4.9	-13.6	4.2	-17.9
5.0	-13.7	4.0	-17.7
5.1	-13.9	3.8	-17.7
5.2	-14.4	3.6	-18.0
5.3	-13.6	3.4	-17.0
5.4	-10.1	3.2	-13.3
5.5	-8.5	3.0	-11.5
5.6	-7.6	2.8	-10.4
5.7	-9.2	2.6	-11.8
5.8	-12.5	2.4	-14.9
5.9	-15.4	2.2	-17.6

Orbit Communication Systems Ltd.
AL-7103-Ka, 1.20 m Antenna, EIRPsd Data Table
Co-pol Elevation LHCP, -10° to +10° @ 0.1° increment

-4.0	-4.2	6.4	-10.7
-3.9	-3.4	6.7	-10.1
-3.8	-3.3	7.0	-10.3
-3.7	-3.5	7.3	-10.8
-3.6	-3.8	7.6	-11.4
-3.5	-3.8	7.9	-11.7
-3.4	-3.1		
-3.3	-1.6		
-3.2	0.0		
-3.1	0.9		
-3.0	0.4		
-2.9	-1.5		
-2.8	-3.8		
-2.7	-1.4		
-2.6	1.9		
-2.5	3.8		
-2.4	4.3		
-2.3	3.8		
-2.2	2.6		
-2.1	1.6		
-2.0	1.1		
-1.9	1.8		
-1.8	4.5		
-1.7	7.8		
-1.6	10.3		
-1.5	11.6		
-1.4	11.6		
-1.3	10.4		
-1.2	8.6		
-1.1	9.4		
-1.0	13.5		
-0.9	18.1		
-0.8	22.5		
-0.7	26.5		
-0.6	30.0		
-0.5	32.9		
-0.4	35.1		
-0.3	36.8		
-0.2	37.9		
-0.1	38.5		
0.0	38.6		

6.0	-12.4	2.0	-14.5
6.1	-8.9	1.9	-10.8
6.2	-7.6	1.7	-9.3
6.3	-8.2	1.5	-9.7
6.4	-10.2	1.3	-11.5
6.5	-11.5	1.2	-12.7
6.6	-10.3	1.0	-11.3
6.7	-8.6	0.8	-9.5
6.8	-7.2	0.7	-7.9
6.9	-6.9	0.5	-7.4
7.0	-7.4	0.4	-7.7
7.1	-8.9	0.4	-9.3
7.2	-11.4	0.4	-11.7
7.3	-14.9	0.4	-15.2
7.4	-20.5	0.4	-20.9
7.5	-21.2	0.4	-21.6
7.6	-18.1	0.4	-18.5
7.7	-16.9	0.4	-17.2
7.8	-17.7	0.4	-18.0
7.9	-23.8	0.4	-24.2
8.0	-28.0	0.4	-28.3
8.1	-17.5	0.4	-17.9
8.2	-13.6	0.4	-13.9
8.3	-12.3	0.4	-12.7
8.4	-13.0	0.4	-13.4
8.5	-15.5	0.4	-15.8
8.6	-18.2	0.4	-18.5
8.7	-15.5	0.4	-15.8
8.8	-12.3	0.4	-12.7
8.9	-10.8	0.4	-11.2
9.0	-11.6	0.4	-12.0
9.1	-13.3	0.4	-13.7
9.2	-17.2	0.4	-17.6
9.3	-22.4	0.3	-22.7
9.4	-22.6	0.2	-22.7
9.5	-20.2	0.1	-20.3
9.6	-19.3	-0.1	-19.2
9.7	-21.4	-0.2	-21.3
9.8	-24.8	-0.3	-24.5
9.9	-23.0	-0.4	-22.6
10.0	-18.3	-0.5	-17.8

Orbit Communication Systems Ltd.
AL-7103-Ka, 1.20 m Antenna, EIRPsd Data Table
X-pol Azimuth LHCP, -10° to +10° @ 0.1° increment

28.30 GHz @ -9.62 dBW / 40 kHz in X-pol Az LHCP

Angle	EIRPsd	Mask	Over Mask
Degrees	dBW/40kHz	dBW/40kHz	dB
-10.0	-25.9	-12.6	-13.3
-9.9	-25.0	-12.6	-12.3
-9.8	-25.7	-12.6	-13.0
-9.7	-31.2	-12.6	-18.5
-9.6	-39.2	-12.6	-26.6
-9.5	-26.9	-12.6	-14.2
-9.4	-20.4	-12.6	-7.7
-9.3	-18.1	-12.6	-5.5
-9.2	-16.6	-12.6	-4.0
-9.1	-16.8	-12.6	-4.2
-9.0	-16.9	-12.6	-4.2
-8.9	-16.2	-12.6	-3.6
-8.8	-16.0	-12.6	-3.4
-8.7	-15.4	-12.6	-2.8
-8.6	-16.0	-12.6	-3.4
-8.5	-17.9	-12.6	-5.3
-8.4	-22.0	-12.6	-9.3
-8.3	-24.6	-12.6	-11.9
-8.2	-24.2	-12.6	-11.5
-8.1	-20.7	-12.6	-8.1
-8.0	-18.4	-12.6	-5.7
-7.9	-17.7	-12.6	-5.0
-7.8	-17.1	-12.6	-4.5
-7.7	-18.1	-12.6	-5.4
-7.6	-18.9	-12.6	-6.3
-7.5	-20.6	-12.6	-8.0
-7.4	-23.5	-12.6	-10.9
-7.3	-29.0	-12.6	-16.4
-7.2	-32.1	-12.6	-19.5
-7.1	-37.9	-12.6	-25.2
-7.0	-32.2	-12.6	-19.6
-6.9	-22.4	-12.5	-9.9
-6.8	-17.8	-12.3	-5.5
-6.7	-14.5	-12.2	-2.3
-6.6	-13.3	-12.0	-1.3
-6.5	-12.8	-11.8	-1.0
-6.4	-14.0	-11.7	-2.4
-6.3	-16.8	-11.5	-5.3
-6.2	-21.7	-11.3	-10.4
-6.1	-25.2	-11.1	-14.0
-6.0	-22.3	-11.0	-11.3
-5.9	-19.3	-10.8	-8.5
-5.8	-18.2	-10.6	-7.6
-5.7	-16.3	-10.4	-5.9
-5.6	-14.7	-10.2	-4.5
-5.5	-13.5	-10.0	-3.5
-5.4	-13.1	-9.8	-3.3
-5.3	-14.2	-9.6	-4.6
-5.2	-16.9	-9.4	-7.5
-5.1	-21.9	-9.2	-12.7
-5.0	-26.6	-9.0	-17.6
-4.9	-27.4	-8.8	-18.6
-4.8	-20.4	-8.5	-11.9
-4.7	-14.4	-8.3	-6.1
-4.6	-10.8	-8.1	-2.7
-4.5	-8.5	-7.8	-0.7
-4.4	-7.6	-7.6	0.0
-4.3	-8.0	-7.3	-0.7
-4.2	-10.3	-7.1	-3.2
-4.1	-15.3	-6.8	-8.5

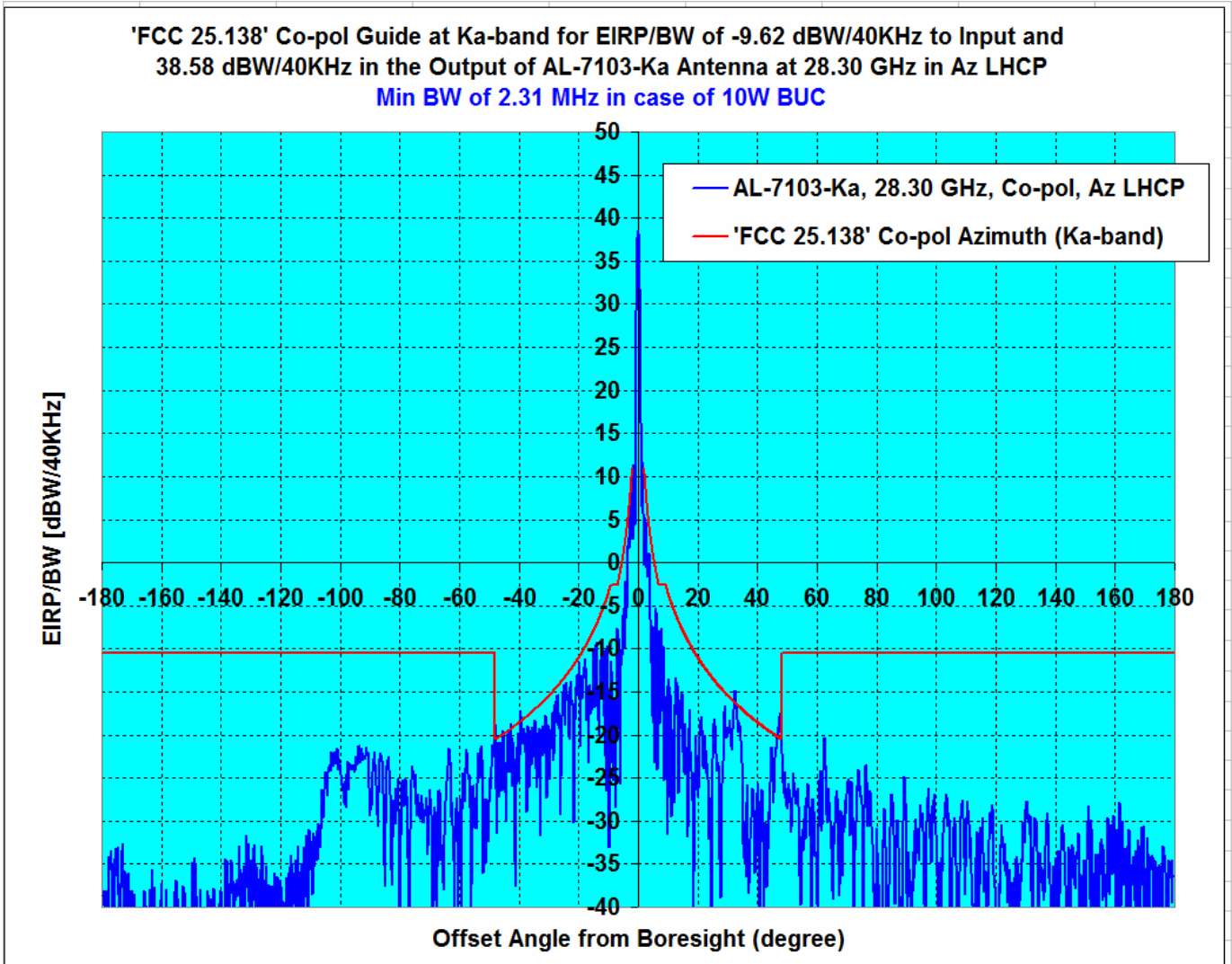
28.30 GHz @ -9.62 dBW / 40 kHz in X-pol Az LHCP

Angle	EIRPsd	Mask	Over Mask
Degrees	dBW/40kHz	dBW/40kHz	dB
0.0	9.6		
0.1	10.5		
0.2	13.5		
0.3	15.6		
0.4	16.5		
0.5	16.3		
0.6	15.2		
0.7	13.2		
0.8	10.2		
0.9	6.5		
1.0	2.8		
1.1	0.1		
1.2	-2.8		
1.3	-7.8		
1.4	-21.1		
1.5	-9.8		
1.6	-6.5		
1.7	-6.8		
1.8	-9.9		
1.9	-17.9		
2.0	-13.8	1.0	-14.7
2.1	-10.5	0.4	-10.9
2.2	-10.9	-0.1	-10.8
2.3	-17.6	-0.5	-17.0
2.4	-19.3	-1.0	-18.3
2.5	-10.1	-1.4	-8.6
2.6	-7.0	-1.9	-5.1
2.7	-5.9	-2.3	-3.6
2.8	-7.5	-2.7	-4.8
2.9	-11.1	-3.1	-8.0
3.0	-19.7	-3.4	-16.2
3.1	-16.9	-3.8	-13.1
3.2	-11.7	-4.1	-7.5
3.3	-10.6	-4.5	-6.2
3.4	-11.6	-4.8	-6.8
3.5	-13.6	-5.1	-8.5
3.6	-17.6	-5.4	-12.2
3.7	-22.8	-5.7	-17.1
3.8	-25.6	-6.0	-19.6
3.9	-19.3	-6.3	-13.0
4.0	-16.6	-6.6	-10.0
4.1	-15.4	-6.8	-8.6
4.2	-15.9	-7.1	-8.8
4.3	-19.0	-7.3	-11.6
4.4	-24.2	-7.6	-16.6
4.5	-23.2	-7.8	-15.3
4.6	-20.2	-8.1	-12.1
4.7	-21.1	-8.3	-12.8
4.8	-32.2	-8.5	-23.7
4.9	-25.6	-8.8	-16.9
5.0	-16.9	-9.0	-7.9
5.1	-14.7	-9.2	-5.5
5.2	-13.8	-9.4	-4.4
5.3	-15.5	-9.6	-5.9
5.4	-21.4	-9.8	-11.6
5.5	-24.3	-10.0	-14.3
5.6	-17.4	-10.2	-7.2
5.7	-13.5	-10.4	-3.1
5.8	-13.0	-10.6	-2.4
5.9	-14.2	-10.8	-3.4

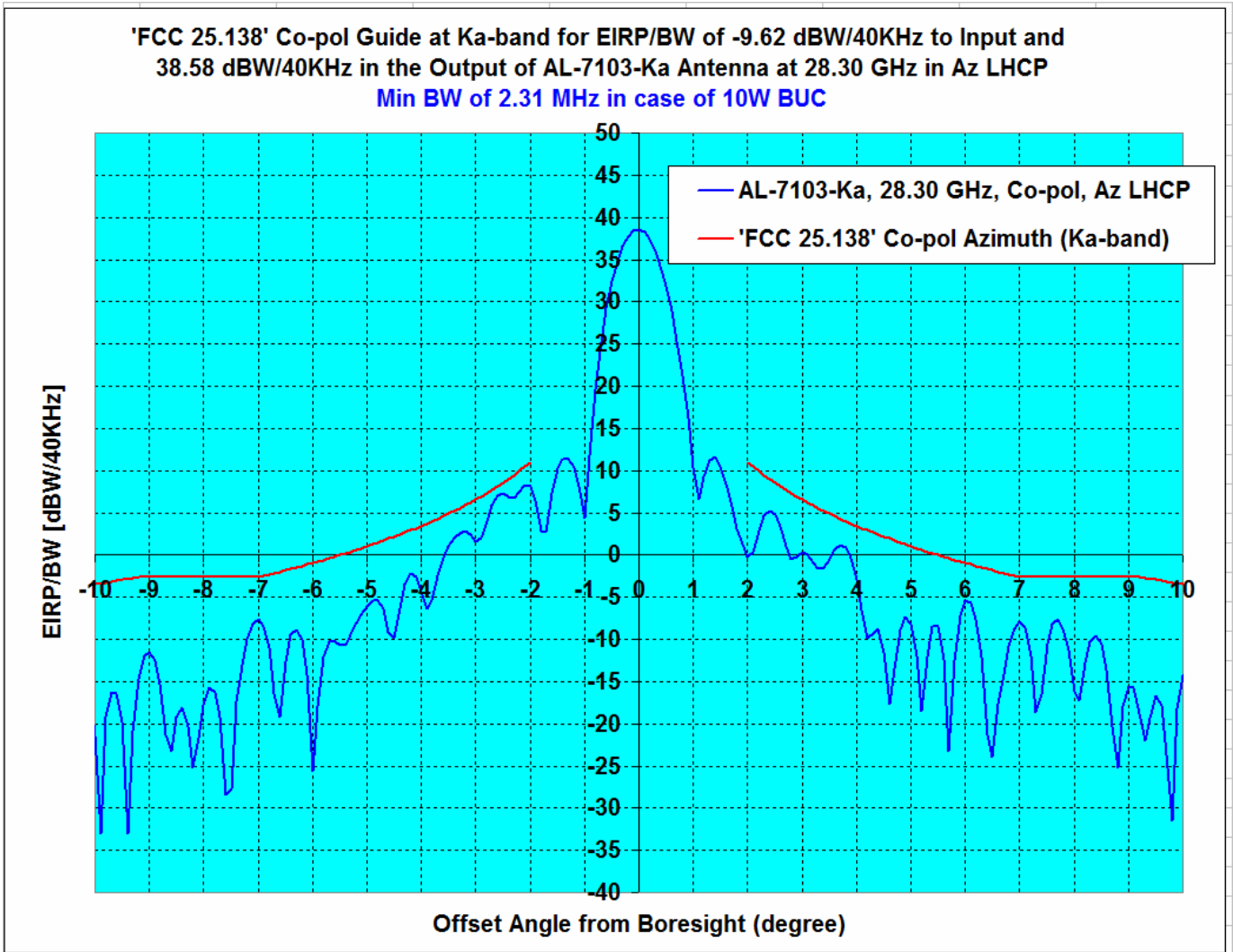
Orbit Communication Systems Ltd.
 AL-7103-Ka, 1.20 m Antenna, EIRPsd Data Table
 X-pol Azimuth LHCP, -10° to +10° @ 0.1° increment

-4.0	-23.9	-6.6	-17.3
-3.9	-17.5	-6.3	-11.2
-3.8	-13.4	-6.0	-7.4
-3.7	-12.0	-5.7	-6.3
-3.6	-11.8	-5.4	-6.4
-3.5	-11.2	-5.1	-6.1
-3.4	-10.3	-4.8	-5.5
-3.3	-10.7	-4.5	-6.2
-3.2	-14.1	-4.1	-10.0
-3.1	-32.8	-3.8	-29.0
-3.0	-15.0	-3.4	-11.6
-2.9	-8.6	-3.1	-5.6
-2.8	-6.2	-2.7	-3.5
-2.7	-6.7	-2.3	-4.4
-2.6	-10.7	-1.9	-8.9
-2.5	-32.9	-1.4	-31.4
-2.4	-9.0	-1.0	-8.0
-2.3	-4.0	-0.5	-3.5
-2.2	-2.3	-0.1	-2.2
-2.1	-3.3	0.4	-3.7
-2.0	-8.4	1.0	-9.3
-1.9	-14.0		
-1.8	-3.3		
-1.7	0.9		
-1.6	2.4		
-1.5	1.8		
-1.4	-1.6		
-1.3	-11.7		
-1.2	-4.3		
-1.1	2.7		
-1.0	6.1		
-0.9	8.5		
-0.8	10.9		
-0.7	13.3		
-0.6	15.3		
-0.5	16.6		
-0.4	17.1		
-0.3	16.6		
-0.2	15.1		
-0.1	12.4		
0.0	9.6		

6.0	-17.5	-11.0	-6.5
6.1	-22.3	-11.1	-11.1
6.2	-25.1	-11.3	-13.8
6.3	-22.4	-11.5	-10.9
6.4	-20.3	-11.7	-8.7
6.5	-18.7	-11.8	-6.9
6.6	-16.6	-12.0	-4.6
6.7	-15.2	-12.2	-3.0
6.8	-14.6	-12.3	-2.3
6.9	-16.3	-12.5	-3.8
7.0	-19.7	-12.6	-7.0
7.1	-19.9	-12.6	-7.2
7.2	-17.4	-12.6	-4.8
7.3	-15.4	-12.6	-2.7
7.4	-15.3	-12.6	-2.7
7.5	-16.2	-12.6	-3.6
7.6	-18.6	-12.6	-6.0
7.7	-20.1	-12.6	-7.4
7.8	-19.3	-12.6	-6.7
7.9	-17.5	-12.6	-4.8
8.0	-16.8	-12.6	-4.2
8.1	-17.9	-12.6	-5.3
8.2	-19.3	-12.6	-6.7
8.3	-21.0	-12.6	-8.4
8.4	-24.3	-12.6	-11.7
8.5	-26.1	-12.6	-13.5
8.6	-24.3	-12.6	-11.7
8.7	-21.3	-12.6	-8.7
8.8	-18.8	-12.6	-6.2
8.9	-18.1	-12.6	-5.5
9.0	-18.9	-12.6	-6.2
9.1	-21.7	-12.6	-9.0
9.2	-27.4	-12.6	-14.8
9.3	-28.9	-12.6	-16.2
9.4	-26.9	-12.6	-14.3
9.5	-23.9	-12.6	-11.3
9.6	-23.0	-12.6	-10.3
9.7	-23.7	-12.6	-11.0
9.8	-23.8	-12.6	-11.2
9.9	-24.4	-12.6	-11.8
10.0	-28.1	-12.6	-15.5

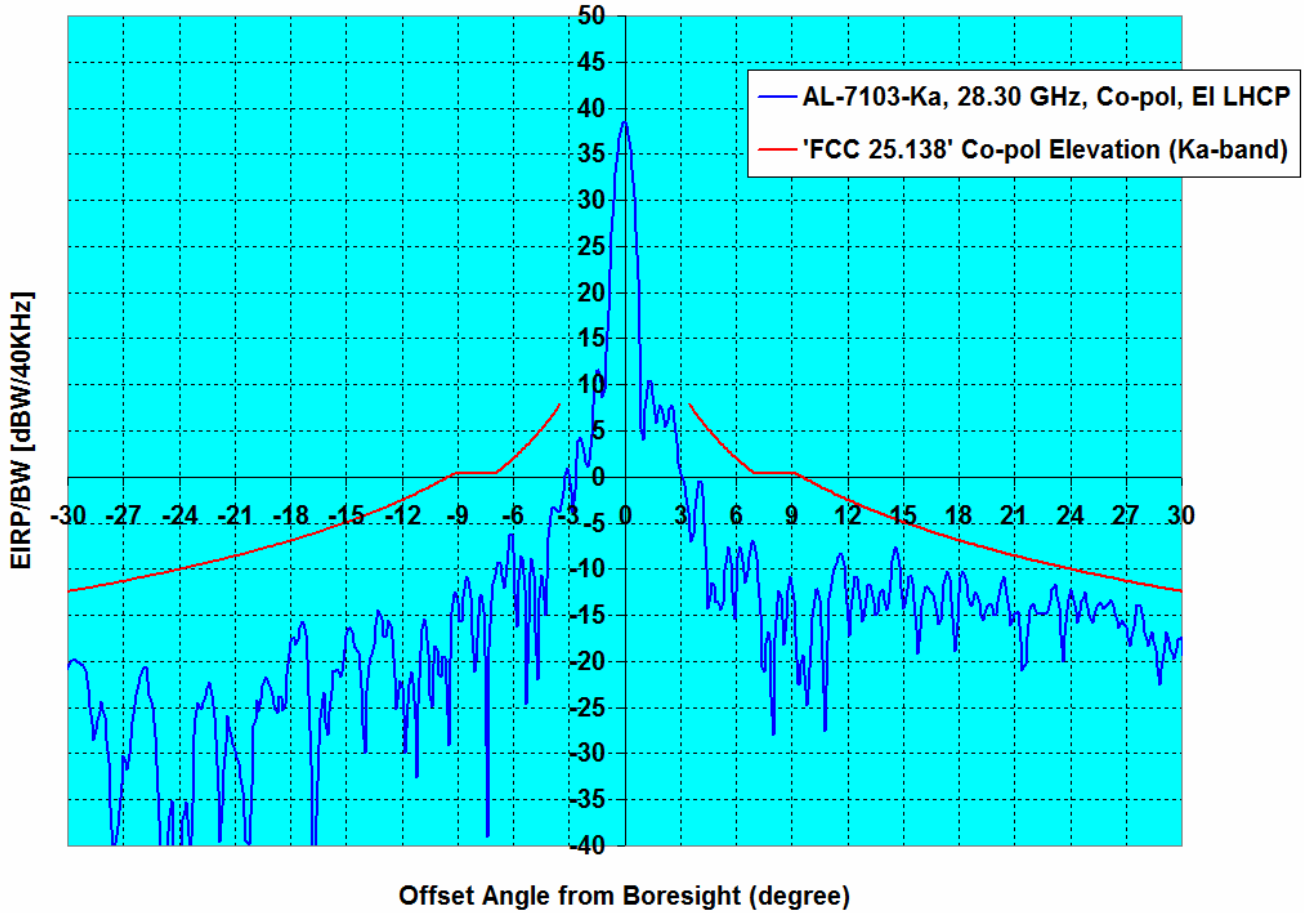


Configuration System, Freq., Polarization, Plane	Regulation EIRP/BW [dBW/40KHz]	Antenna Gain dBi	Input EIRPsd dBW/40KHz	Peak Excursions dB		Over Mask %
				± (2° to 10°)	± (10° to 180°)	
AL-7103-Ka, 28.30 GHz, Co-pol, Az LHCP	'FCC 25.138' Co-pol Azimuth (Ka-band)	48.20	-9.62	-1.09	2.99	0.87



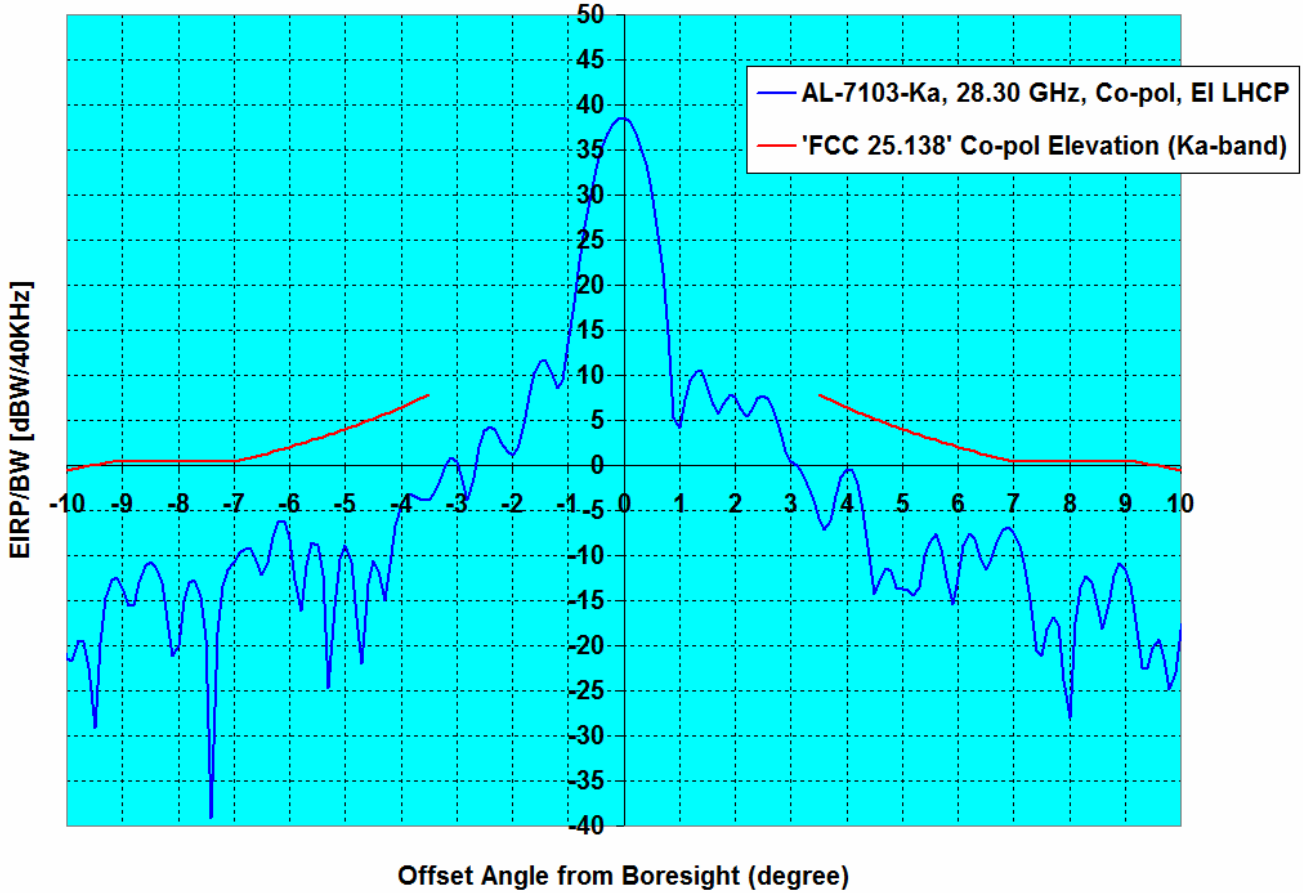
Configuration System, Freq., Polarization, Plane	Regulation EIRP/BW [dBW/40KHz]	Antenna Gain dBi	Input EIRPsd dBW/40KHz	Peak Excursions dB		Over Mask %
				± (2° to 10°)	± (10° to 180°)	
AL-7103-Ka, 28.30 GHz, Co-pol, Az LHCP	'FCC 25.138' Co-pol Azimuth (Ka-band)	48.20	-9.62	-1.09	2.99	0.87

**'FCC 25.138' Co-pol Guide at Ka-band for EIRP/BW of -9.62 dBW/40KHz to Input and
 38.58 dBW/40KHz in the Output of AL-7103-Ka Antenna at 28.30 GHz in EI LHCP
 Min BW of 2.31 MHz in case of 10W BUC**



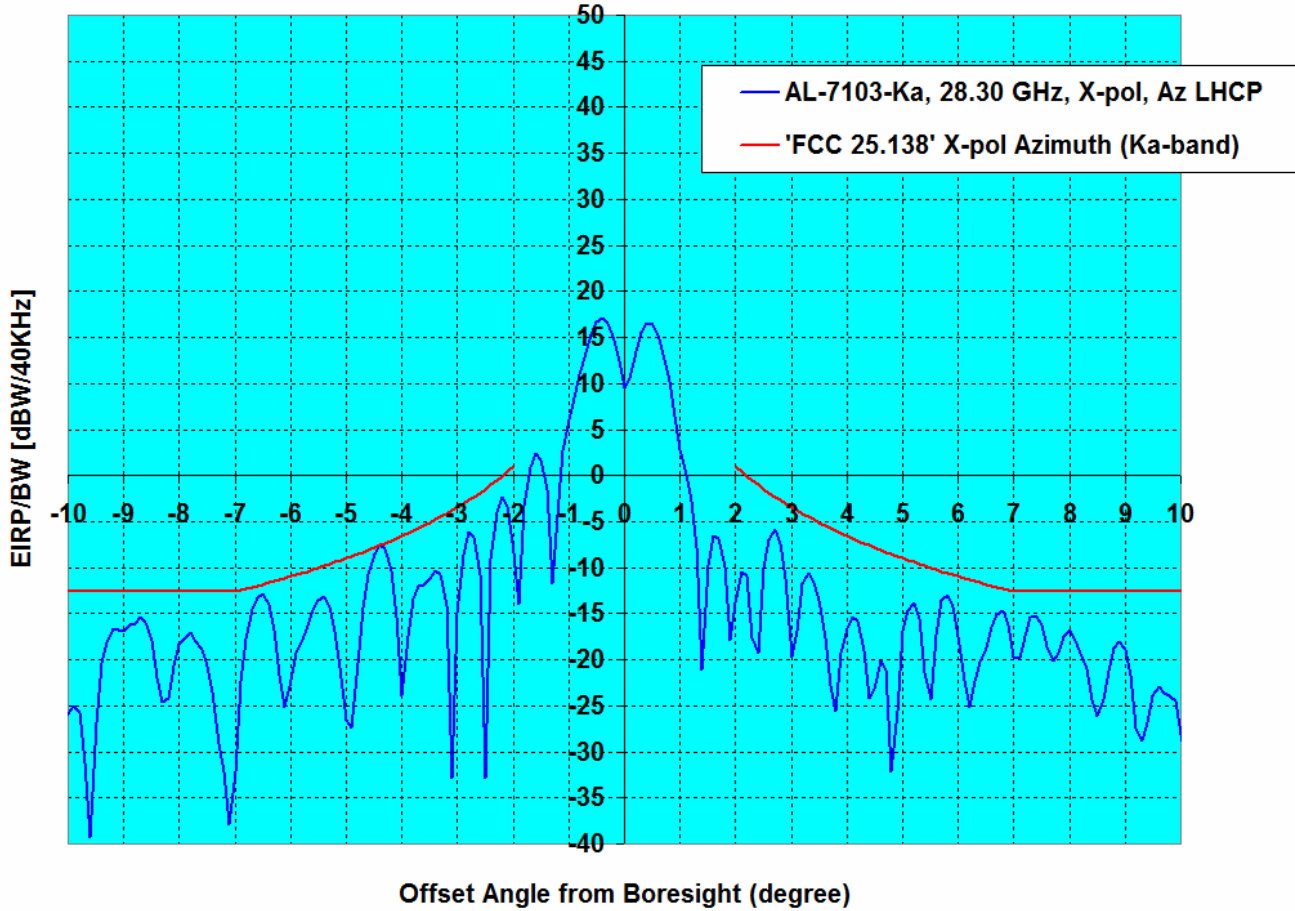
Configuration System, Frequency, Polarization, Plane	Regulation EIRP/BW [dBW/40KHz]	Antenna Gain dBi	Input EIRPsd dBW/40KHz	Peak Excursions dB		Over Mask %
				± (3.5° to 10°)	± (10° to 30°)	
AL-7103-Ka, 28.30 GHz, Co-pol, EI LHCP	'FCC 25.138' Co-pol Elevation (Ka-band)	48.20	-9.62	-6.75	-2.04	0.00

'FCC 25.138' Co-pol Guide at Ka-band for EIRP/BW of -9.62 dBW/40KHz to Input and 38.58 dBW/40KHz in the Output of AL-7103-Ka Antenna at 28.30 GHz in EI LHCP
 Min BW of 2.31 MHz in case of 10W BUC



Configuration System, Frequency, Polarization, Plane	Regulation EIRP/BW [dBW/40KHz]	Antenna Gain dBi	Input EIRPsd dBW/40KHz	Peak Excursions dB		Over Mask %
				± (3.5° to 10°)	± (10° to 30°)	
AL-7103-Ka, 28.30 GHz, Co-pol, EI LHCP	'FCC 25.138' Co-pol Elevation (Ka-band)	48.20	-9.62	-6.75	-2.04	0.00

**'FCC 25.138' X-pol Guide at Ka-band for EIRP/BW of -9.62 dBW/40KHz to Input and
 38.58 dBW/40KHz in the Output of AL-7103-Ka Antenna at 28.30 GHz in Az LHCP
 Min BW of 2.31 MHz in case of 10W BUC**



Configuration System, Frequency, Polarization, Plane	Regulation	Antenna Gain dBi	Input EIRPsd dBW/40KHz	Peak Excursions dB		Over Mask %
	EIRP/BW [dBW/40KHz]			± (2° to 7°)	± (2° to 9.2°)	
AL-7103-Ka, 28.30 GHz, X-pol, Az LHCP	'FCC 25.138' X-pol Azimuth (Ka-band)	48.20	-9.62	0.00	0.00	0.00

Orbit Communication Systems Ltd.

AL-7103-Ka, 1.20 m Antenna, EIRPs Data Table
Co-pol Azimuth RHCP, -180° to +180° @ 1.0° increment

28.30 GHz @ -11.42 dBW / 40 kHz in Co-pol Az RHCP

Angle Degrees	EIRPs dBW/40kHz	Mask dBW/40kHz	Over Mask dB
-179.0	-34.1	-10.5	-23.6
-178.0	-48.1	-10.5	-37.6
-177.0	-38.6	-10.5	-28.1
-176.0	-34.8	-10.5	-24.3
-175.0	-36.4	-10.5	-25.9
-174.0	-37.7	-10.5	-27.2
-173.0	-46.6	-10.5	-36.1
-172.0	-42.7	-10.5	-32.2
-171.0	-42.1	-10.5	-31.6
-170.0	-37.2	-10.5	-26.7
-169.0	-43.6	-10.5	-33.1
-168.0	-43.8	-10.5	-33.3
-167.0	-43.3	-10.5	-32.8
-166.0	-44.3	-10.5	-33.8
-165.0	-44.7	-10.5	-34.2
-164.0	-43.6	-10.5	-33.1
-163.0	-40.7	-10.5	-30.2
-162.0	-41.4	-10.5	-30.9
-161.0	-53.8	-10.5	-43.3
-160.0	-42.1	-10.5	-31.6
-159.0	-44.1	-10.5	-33.6
-158.0	-44.0	-10.5	-33.5
-157.0	-45.3	-10.5	-34.8
-156.0	-39.0	-10.5	-28.5
-155.0	-41.8	-10.5	-31.3
-154.0	-47.8	-10.5	-37.3
-153.0	-40.2	-10.5	-29.7
-152.0	-49.7	-10.5	-39.2
-151.0	-43.4	-10.5	-32.9
-150.0	-45.9	-10.5	-35.4
-149.0	-38.7	-10.5	-28.2
-148.0	-43.0	-10.5	-32.5
-147.0	-40.6	-10.5	-30.1
-146.0	-45.9	-10.5	-35.4
-145.0	-39.8	-10.5	-29.3
-144.0	-44.4	-10.5	-33.9
-143.0	-41.7	-10.5	-31.2
-142.0	-44.3	-10.5	-33.8
-141.0	-38.8	-10.5	-28.3
-140.0	-52.2	-10.5	-41.7
-139.0	-42.2	-10.5	-31.7
-138.0	-42.6	-10.5	-32.1
-137.0	-42.0	-10.5	-31.5
-136.0	-39.3	-10.5	-28.8
-135.0	-41.1	-10.5	-30.6
-134.0	-44.4	-10.5	-33.9
-133.0	-39.9	-10.5	-29.4
-132.0	-48.9	-10.5	-38.4
-131.0	-39.9	-10.5	-29.4
-130.0	-45.1	-10.5	-34.6
-129.0	-49.1	-10.5	-38.6
-128.0	-47.9	-10.5	-37.4
-127.0	-44.3	-10.5	-33.8
-126.0	-49.7	-10.5	-39.2
-125.0	-45.6	-10.5	-35.1
-124.0	-39.6	-10.5	-29.1
-123.0	-33.9	-10.5	-23.4
-122.0	-44.2	-10.5	-33.7
-121.0	-41.8	-10.5	-31.3
-120.0	-37.2	-10.5	-26.7

28.30 GHz @ -11.42 dBW / 40 kHz in Co-pol Az RHCP

Angle Degrees	EIRPs dBW/40kHz	Mask dBW/40kHz	Over Mask dB
0.0	36.9		
1.0	9.0		
2.0	-1.7	11.0	-12.7
3.0	-1.3	6.6	-7.8
4.0	-4.2	3.4	-7.6
5.0	-8.9	1.0	-10.0
6.0	-7.7	-1.0	-6.8
7.0	-9.5	-2.6	-6.9
8.0	-24.1	-2.6	-21.5
9.0	-16.5	-2.6	-13.9
10.0	-16.8	-3.5	-13.3
11.0	-21.0	-4.5	-16.5
12.0	-23.5	-5.5	-18.0
13.0	-18.3	-6.3	-12.0
14.0	-23.5	-7.2	-16.4
15.0	-21.8	-7.9	-13.9
16.0	-22.1	-8.6	-13.5
17.0	-23.6	-9.3	-14.4
18.0	-20.9	-9.9	-11.1
19.0	-27.7	-10.5	-17.3
20.0	-35.6	-11.0	-24.5
21.0	-20.8	-11.6	-9.3
22.0	-29.7	-12.1	-17.6
23.0	-24.9	-12.5	-12.3
24.0	-29.5	-13.0	-16.5
25.0	-37.7	-13.4	-24.2
26.0	-22.0	-13.9	-8.2
27.0	-28.0	-14.3	-13.7
28.0	-26.1	-14.7	-11.4
29.0	-18.7	-15.1	-3.7
30.0	-19.8	-15.4	-4.4
31.0	-22.4	-15.8	-6.6
32.0	-22.2	-16.1	-6.1
33.0	-19.6	-16.5	-3.2
34.0	-26.2	-16.8	-9.4
35.0	-28.5	-17.1	-11.4
36.0	-42.3	-17.4	-24.9
37.0	-25.7	-17.7	-8.0
38.0	-34.9	-18.0	-16.9
39.0	-28.1	-18.3	-9.9
40.0	-33.6	-18.6	-15.0
41.0	-35.7	-18.8	-16.9
42.0	-35.6	-19.1	-16.5
43.0	-24.4	-19.3	-5.1
44.0	-26.5	-19.6	-6.9
45.0	-26.7	-19.8	-6.9
46.0	-29.8	-20.1	-9.8
47.0	-25.8	-20.3	-5.5
48.0	-28.2	-20.5	-7.7
49.0	-32.5	-10.5	-22.0
50.0	-30.9	-10.5	-20.4
51.0	-25.2	-10.5	-14.7
52.0	-37.1	-10.5	-26.6
53.0	-41.4	-10.5	-30.9
54.0	-37.9	-10.5	-27.4
55.0	-39.5	-10.5	-29.0
56.0	-38.4	-10.5	-27.9
57.0	-38.7	-10.5	-28.2
58.0	-42.6	-10.5	-32.1
59.0	-31.1	-10.5	-20.6

Orbit Communication Systems Ltd.
AL-7103-Ka, 1.20 m Antenna, EIRPsd Data Table
Co-pol Azimuth RHCP, -180° to +180° @ 1.0° increment

-119.0	-37.9	-10.5	-27.4
-118.0	-41.1	-10.5	-30.6
-117.0	-37.8	-10.5	-27.3
-116.0	-45.1	-10.5	-34.6
-115.0	-39.6	-10.5	-29.1
-114.0	-41.6	-10.5	-31.1
-113.0	-38.4	-10.5	-27.9
-112.0	-42.7	-10.5	-32.2
-111.0	-38.1	-10.5	-27.6
-110.0	-38.2	-10.5	-27.7
-109.0	-45.8	-10.5	-35.3
-108.0	-35.5	-10.5	-25.0
-107.0	-36.8	-10.5	-26.3
-106.0	-38.0	-10.5	-27.5
-105.0	-41.3	-10.5	-30.8
-104.0	-38.2	-10.5	-27.7
-103.0	-32.4	-10.5	-21.9
-102.0	-28.5	-10.5	-18.0
-101.0	-26.7	-10.5	-16.2
-100.0	-28.3	-10.5	-17.8
-99.0	-27.2	-10.5	-16.7
-98.0	-26.6	-10.5	-16.1
-97.0	-28.3	-10.5	-17.8
-96.0	-28.2	-10.5	-17.7
-95.0	-24.6	-10.5	-14.1
-94.0	-24.1	-10.5	-13.6
-93.0	-28.0	-10.5	-17.5
-92.0	-25.9	-10.5	-15.4
-91.0	-26.6	-10.5	-16.1
-90.0	-40.2	-10.5	-29.7
-89.0	-26.4	-10.5	-15.9
-88.0	-28.9	-10.5	-18.4
-87.0	-31.1	-10.5	-20.6
-86.0	-27.5	-10.5	-17.0
-85.0	-47.8	-10.5	-37.3
-84.0	-32.4	-10.5	-21.9
-83.0	-54.6	-10.5	-44.1
-82.0	-25.5	-10.5	-15.0
-81.0	-25.8	-10.5	-15.3
-80.0	-33.8	-10.5	-23.3
-79.0	-43.7	-10.5	-33.2
-78.0	-34.9	-10.5	-24.4
-77.0	-34.1	-10.5	-23.6
-76.0	-24.5	-10.5	-14.0
-75.0	-25.7	-10.5	-15.2
-74.0	-29.8	-10.5	-19.3
-73.0	-35.6	-10.5	-25.1
-72.0	-31.4	-10.5	-20.9
-71.0	-32.9	-10.5	-22.4
-70.0	-25.6	-10.5	-15.1
-69.0	-32.5	-10.5	-22.0
-68.0	-28.0	-10.5	-17.5
-67.0	-27.1	-10.5	-16.6
-66.0	-29.6	-10.5	-19.1
-65.0	-31.0	-10.5	-20.5
-64.0	-28.1	-10.5	-17.6
-63.0	-26.3	-10.5	-15.8
-62.0	-33.3	-10.5	-22.8
-61.0	-26.6	-10.5	-16.1
-60.0	-25.7	-10.5	-15.2
-59.0	-26.9	-10.5	-16.4
-58.0	-34.0	-10.5	-23.5
-57.0	-23.7	-10.5	-13.2

60.0	-37.1	-10.5	-26.6
61.0	-28.8	-10.5	-18.3
62.0	-27.1	-10.5	-16.6
63.0	-25.1	-10.5	-14.6
64.0	-30.0	-10.5	-19.5
65.0	-32.1	-10.5	-21.6
66.0	-38.9	-10.5	-28.4
67.0	-25.5	-10.5	-15.0
68.0	-33.3	-10.5	-22.8
69.0	-33.8	-10.5	-23.3
70.0	-30.5	-10.5	-20.0
71.0	-24.5	-10.5	-14.0
72.0	-27.1	-10.5	-16.6
73.0	-29.5	-10.5	-19.0
74.0	-31.8	-10.5	-21.3
75.0	-24.9	-10.5	-14.4
76.0	-35.8	-10.5	-25.3
77.0	-33.4	-10.5	-22.9
78.0	-25.3	-10.5	-14.8
79.0	-28.3	-10.5	-17.8
80.0	-33.0	-10.5	-22.5
81.0	-34.1	-10.5	-23.6
82.0	-35.1	-10.5	-24.6
83.0	-31.5	-10.5	-21.0
84.0	-34.4	-10.5	-23.9
85.0	-37.4	-10.5	-26.9
86.0	-31.3	-10.5	-20.8
87.0	-37.0	-10.5	-26.5
88.0	-39.3	-10.5	-28.8
89.0	-34.2	-10.5	-23.7
90.0	-33.2	-10.5	-22.7
91.0	-36.5	-10.5	-26.0
92.0	-43.6	-10.5	-33.1
93.0	-47.4	-10.5	-36.9
94.0	-37.1	-10.5	-26.6
95.0	-41.7	-10.5	-31.2
96.0	-37.9	-10.5	-27.4
97.0	-33.1	-10.5	-22.6
98.0	-38.7	-10.5	-28.2
99.0	-44.4	-10.5	-33.9
100.0	-36.3	-10.5	-25.8
101.0	-43.0	-10.5	-32.5
102.0	-37.5	-10.5	-27.0
103.0	-32.9	-10.5	-22.4
104.0	-39.9	-10.5	-29.4
105.0	-37.4	-10.5	-26.9
106.0	-34.7	-10.5	-24.2
107.0	-33.6	-10.5	-23.1
108.0	-67.8	-10.5	-57.3
109.0	-35.8	-10.5	-25.3
110.0	-38.1	-10.5	-27.6
111.0	-36.5	-10.5	-26.0
112.0	-39.2	-10.5	-28.7
113.0	-54.8	-10.5	-44.3
114.0	-34.5	-10.5	-24.0
115.0	-41.7	-10.5	-31.2
116.0	-44.1	-10.5	-33.6
117.0	-43.7	-10.5	-33.2
118.0	-42.5	-10.5	-32.0
119.0	-37.1	-10.5	-26.6
120.0	-34.1	-10.5	-23.6
121.0	-38.4	-10.5	-27.9
122.0	-36.1	-10.5	-25.6

Orbit Communication Systems Ltd.
AL-7103-Ka, 1.20 m Antenna, EIRPsd Data Table
Co-pol Azimuth RHCP, -180° to +180° @ 1.0° increment

-56.0	-22.5	-10.5	-12.0
-55.0	-28.1	-10.5	-17.6
-54.0	-34.6	-10.5	-24.1
-53.0	-23.6	-10.5	-13.1
-52.0	-26.7	-10.5	-16.2
-51.0	-31.6	-10.5	-21.1
-50.0	-25.8	-10.5	-15.3
-49.0	-25.0	-10.5	-14.5
-48.0	-20.7	-20.5	-0.1
-47.0	-21.3	-20.3	-1.0
-46.0	-25.5	-20.1	-5.4
-45.0	-27.3	-19.8	-7.4
-44.0	-22.4	-19.6	-2.8
-43.0	-29.6	-19.3	-10.3
-42.0	-25.0	-19.1	-5.9
-41.0	-24.6	-18.8	-5.8
-40.0	-22.7	-18.6	-4.2
-39.0	-20.8	-18.3	-2.5
-38.0	-21.6	-18.0	-3.6
-37.0	-21.6	-17.7	-3.9
-36.0	-21.3	-17.4	-3.9
-35.0	-22.8	-17.1	-5.7
-34.0	-24.0	-16.8	-7.2
-33.0	-25.4	-16.5	-9.0
-32.0	-22.5	-16.1	-6.4
-31.0	-19.7	-15.8	-4.0
-30.0	-19.0	-15.4	-3.6
-29.0	-21.0	-15.1	-6.0
-28.0	-16.7	-14.7	-2.0
-27.0	-16.8	-14.3	-2.5
-26.0	-20.3	-13.9	-6.4
-25.0	-15.7	-13.4	-2.3
-24.0	-15.9	-13.0	-2.9
-23.0	-14.8	-12.5	-2.2
-22.0	-16.5	-12.1	-4.4
-21.0	-20.9	-11.6	-9.3
-20.0	-20.1	-11.0	-9.0
-19.0	-15.3	-10.5	-4.9
-18.0	-19.0	-9.9	-9.1
-17.0	-15.3	-9.3	-6.0
-16.0	-22.7	-8.6	-14.1
-15.0	-16.4	-7.9	-8.5
-14.0	-17.5	-7.2	-10.3
-13.0	-20.9	-6.3	-14.6
-12.0	-12.3	-5.5	-6.8
-11.0	-18.8	-4.5	-14.3
-10.0	-27.2	-3.5	-23.7
-9.0	-11.8	-2.6	-9.2
-8.0	-27.5	-2.6	-24.9
-7.0	-9.7	-2.6	-7.1
-6.0	-15.9	-1.0	-14.9
-5.0	-8.9	1.0	-9.9
-4.0	-7.8	3.4	-11.2
-3.0	0.3	6.6	-6.3
-2.0	6.3	11.0	-4.7
-1.0	1.9		
0.0	36.9		

123.0	-46.7	-10.5	-36.2
124.0	-39.7	-10.5	-29.2
125.0	-36.8	-10.5	-26.3
126.0	-37.4	-10.5	-26.9
127.0	-48.4	-10.5	-37.9
128.0	-47.3	-10.5	-36.8
129.0	-40.2	-10.5	-29.7
130.0	-51.8	-10.5	-41.3
131.0	-37.0	-10.5	-26.5
132.0	-45.0	-10.5	-34.5
133.0	-33.8	-10.5	-23.3
134.0	-30.5	-10.5	-20.0
135.0	-40.9	-10.5	-30.4
136.0	-38.7	-10.5	-28.2
137.0	-42.8	-10.5	-32.3
138.0	-37.8	-10.5	-27.3
139.0	-32.1	-10.5	-21.6
140.0	-31.9	-10.5	-21.4
141.0	-30.2	-10.5	-19.7
142.0	-39.4	-10.5	-28.9
143.0	-35.7	-10.5	-25.2
144.0	-36.7	-10.5	-26.2
145.0	-36.8	-10.5	-26.3
146.0	-29.7	-10.5	-19.2
147.0	-31.8	-10.5	-21.3
148.0	-42.9	-10.5	-32.4
149.0	-34.4	-10.5	-23.9
150.0	-40.3	-10.5	-29.8
151.0	-35.1	-10.5	-24.6
152.0	-33.9	-10.5	-23.4
153.0	-30.8	-10.5	-20.3
154.0	-33.5	-10.5	-23.0
155.0	-42.7	-10.5	-32.2
156.0	-31.0	-10.5	-20.5
157.0	-30.8	-10.5	-20.3
158.0	-43.1	-10.5	-32.6
159.0	-29.6	-10.5	-19.1
160.0	-30.3	-10.5	-19.8
161.0	-29.9	-10.5	-19.4
162.0	-34.1	-10.5	-23.6
163.0	-44.6	-10.5	-34.1
164.0	-39.7	-10.5	-29.2
165.0	-37.8	-10.5	-27.3
166.0	-31.3	-10.5	-20.8
167.0	-34.2	-10.5	-23.7
168.0	-30.2	-10.5	-19.7
169.0	-43.6	-10.5	-33.1
170.0	-28.3	-10.5	-17.8
171.0	-32.8	-10.5	-22.3
172.0	-34.0	-10.5	-23.5
173.0	-41.0	-10.5	-30.5
174.0	-34.2	-10.5	-23.7
175.0	-38.6	-10.5	-28.1
176.0	-36.1	-10.5	-25.6
177.0	-39.0	-10.5	-28.5
178.0	-36.6	-10.5	-26.1
179.0	-47.0	-10.5	-36.5

Orbit Communication Systems Ltd.

AL AL-7103-Ka, 1.20 m Antenna, EIRPsd Data Table
Co-pol Azimuth RHCP, -10° to +10° @ 0.1° increment

28.30 GHz @ -11.42 dBW / 40 kHz in Co-pol Az RHCP

Angle	EIRPsd	Mask	Over Mask
Degrees	dBW/40kHz	dBW/40kHz	dB
-10.0	-27.2	-3.5	-23.7
-9.9	-22.7	-3.4	-19.3
-9.8	-19.1	-3.3	-15.8
-9.7	-17.4	-3.2	-14.2
-9.6	-18.3	-3.1	-15.2
-9.5	-20.1	-2.9	-17.2
-9.4	-18.0	-2.8	-15.1
-9.3	-14.8	-2.7	-12.1
-9.2	-12.8	-2.6	-10.2
-9.1	-11.6	-2.6	-9.0
-9.0	-11.8	-2.6	-9.2
-8.9	-13.5	-2.6	-10.9
-8.8	-17.7	-2.6	-15.1
-8.7	-22.6	-2.6	-20.0
-8.6	-18.6	-2.6	-16.0
-8.5	-14.5	-2.6	-11.9
-8.4	-13.4	-2.6	-10.8
-8.3	-13.9	-2.6	-11.3
-8.2	-16.5	-2.6	-13.9
-8.1	-22.5	-2.6	-19.9
-8.0	-27.5	-2.6	-24.9
-7.9	-22.0	-2.6	-19.4
-7.8	-19.5	-2.6	-16.9
-7.7	-18.5	-2.6	-15.9
-7.6	-19.7	-2.6	-17.1
-7.5	-20.6	-2.6	-17.9
-7.4	-22.4	-2.6	-19.8
-7.3	-18.7	-2.6	-16.1
-7.2	-14.2	-2.6	-11.5
-7.1	-11.2	-2.6	-8.6
-7.0	-9.7	-2.6	-7.1
-6.9	-9.8	-2.5	-7.3
-6.8	-11.8	-2.3	-9.5
-6.7	-15.9	-2.2	-13.7
-6.6	-16.9	-2.0	-14.9
-6.5	-12.4	-1.8	-10.6
-6.4	-9.5	-1.7	-7.9
-6.3	-8.5	-1.5	-7.0
-6.2	-9.1	-1.3	-7.8
-6.1	-11.3	-1.1	-10.2
-6.0	-15.9	-1.0	-14.9
-5.9	-20.4	-0.8	-19.6
-5.8	-16.8	-0.6	-16.3
-5.7	-15.2	-0.4	-14.8
-5.6	-16.5	-0.2	-16.3
-5.5	-21.3	0.0	-21.3
-5.4	-18.5	0.2	-18.7
-5.3	-13.5	0.4	-13.9
-5.2	-10.9	0.6	-11.5
-5.1	-9.8	0.8	-10.6
-5.0	-8.9	1.0	-9.9
-4.9	-8.1	1.2	-9.4
-4.8	-7.6	1.5	-9.1
-4.7	-8.2	1.7	-9.9
-4.6	-10.4	1.9	-12.3
-4.5	-12.6	2.2	-14.7
-4.4	-9.5	2.4	-12.0
-4.3	-6.6	2.7	-9.2
-4.2	-5.2	2.9	-8.1
-4.1	-5.7	3.2	-8.9

28.30 GHz @ -11.42 dBW / 40 kHz in Co-pol Az RHCP

Angle	EIRPsd	Mask	Over Mask
Degrees	dBW/40kHz	dBW/40kHz	dB
0.0	36.9		
0.1	36.6		
0.2	35.7		
0.3	34.4		
0.4	32.4		
0.5	29.9		
0.6	26.7		
0.7	23.0		
0.8	18.6		
0.9	13.9		
1.0	9.0		
1.1	5.4		
1.2	6.5		
1.3	8.3		
1.4	8.7		
1.5	7.7		
1.6	5.4		
1.7	2.0		
1.8	-0.8		
1.9	-2.1		
2.0	-1.7	11.0	-12.7
2.1	-0.2	10.4	-10.7
2.2	1.6	9.9	-8.3
2.3	3.3	9.5	-6.2
2.4	3.7	9.0	-5.3
2.5	2.5	8.6	-6.0
2.6	0.4	8.1	-7.8
2.7	-2.3	7.7	-10.0
2.8	-3.0	7.3	-10.3
2.9	-1.9	6.9	-8.8
3.0	-1.3	6.6	-7.8
3.1	-1.3	6.2	-7.6
3.2	-2.4	5.9	-8.3
3.3	-3.3	5.5	-8.8
3.4	-3.4	5.2	-8.6
3.5	-2.7	4.9	-7.6
3.6	-2.0	4.6	-6.6
3.7	-1.5	4.3	-5.8
3.8	-1.6	4.0	-5.6
3.9	-2.3	3.7	-6.0
4.0	-4.2	3.4	-7.6
4.1	-7.4	3.2	-10.6
4.2	-10.9	2.9	-13.8
4.3	-12.7	2.7	-15.4
4.4	-12.4	2.4	-14.8
4.5	-14.0	2.2	-16.1
4.6	-17.5	1.9	-19.4
4.7	-14.5	1.7	-16.2
4.8	-10.2	1.5	-11.7
4.9	-8.3	1.2	-9.6
5.0	-8.9	1.0	-10.0
5.1	-12.9	0.8	-13.7
5.2	-20.1	0.6	-20.7
5.3	-14.4	0.4	-14.8
5.4	-10.6	0.2	-10.8
5.5	-9.6	0.0	-9.6
5.6	-11.5	-0.2	-11.3
5.7	-16.8	-0.4	-16.4
5.8	-15.1	-0.6	-14.5
5.9	-10.1	-0.8	-9.4

Orbit Communication Systems Ltd.

AL AL-7103-Ka, 1.20 m Antenna, EIRPsd Data Table
 Co-pol Azimuth RHCP, -10° to +10° @ 0.1° increment

-4.0	-7.8	3.4	-11.2
-3.9	-10.2	3.7	-14.0
-3.8	-7.5	4.0	-11.5
-3.7	-4.2	4.3	-8.5
-3.6	-2.0	4.6	-6.6
-3.5	-1.0	4.9	-5.9
-3.4	-0.4	5.2	-5.6
-3.3	0.0	5.5	-5.5
-3.2	0.5	5.9	-5.4
-3.1	0.5	6.2	-5.7
-3.0	0.3	6.6	-6.3
-2.9	0.7	6.9	-6.2
-2.8	2.4	7.3	-5.0
-2.7	4.0	7.7	-3.7
-2.6	5.1	8.1	-3.0
-2.5	5.1	8.6	-3.4
-2.4	4.3	9.0	-4.7
-2.3	3.8	9.5	-5.7
-2.2	4.6	9.9	-5.3
-2.1	5.9	10.4	-4.5
-2.0	6.3	11.0	-4.7
-1.9	5.1		
-1.8	2.3		
-1.7	1.6		
-1.6	5.1		
-1.5	7.6		
-1.4	8.1		
-1.3	6.8		
-1.2	4.1		
-1.1	1.5		
-1.0	1.9		
-0.9	9.4		
-0.8	17.0		
-0.7	22.6		
-0.6	27.0		
-0.5	30.4		
-0.4	32.9		
-0.3	34.7		
-0.2	36.0		
-0.1	36.7		
0.0	36.9		

6.0	-7.7	-1.0	-6.8
6.1	-7.9	-1.1	-6.8
6.2	-9.7	-1.3	-8.4
6.3	-13.1	-1.5	-11.6
6.4	-17.8	-1.7	-16.2
6.5	-18.1	-1.8	-16.3
6.6	-15.3	-2.0	-13.3
6.7	-13.1	-2.2	-11.0
6.8	-11.2	-2.3	-8.8
6.9	-9.8	-2.5	-7.4
7.0	-9.5	-2.6	-6.9
7.1	-11.3	-2.6	-8.7
7.2	-15.8	-2.6	-13.2
7.3	-21.0	-2.6	-18.4
7.4	-15.9	-2.6	-13.2
7.5	-12.3	-2.6	-9.7
7.6	-11.3	-2.6	-8.7
7.7	-11.8	-2.6	-9.2
7.8	-14.3	-2.6	-11.6
7.9	-17.9	-2.6	-15.2
8.0	-24.1	-2.6	-21.5
8.1	-27.4	-2.6	-24.8
8.2	-20.1	-2.6	-17.5
8.3	-15.8	-2.6	-13.2
8.4	-13.0	-2.6	-10.4
8.5	-12.2	-2.6	-9.5
8.6	-12.8	-2.6	-10.1
8.7	-15.6	-2.6	-12.9
8.8	-19.8	-2.6	-17.2
8.9	-20.1	-2.6	-17.5
9.0	-16.5	-2.6	-13.9
9.1	-14.8	-2.6	-12.2
9.2	-15.3	-2.6	-12.7
9.3	-18.9	-2.7	-16.2
9.4	-23.9	-2.8	-21.0
9.5	-22.5	-2.9	-19.5
9.6	-21.2	-3.1	-18.2
9.7	-24.7	-3.2	-21.5
9.8	-44.2	-3.3	-40.9
9.9	-21.5	-3.4	-18.1
10.0	-16.8	-3.5	-13.3

Orbit Communication Systems Ltd.

AL-7103-Ka, 1.20 m Antenna, EIRPsd Data Table
Co-pol Elevation RHCP, -30° to +30° @ 0.5° increment

28.30 GHz @ -11.42 dBW / 40 kHz in Co-pol EI RHCP

Angle	EIRPsd	Mask	Over Mask
Degrees	dBW/40kHz	dBW/40kHz	dB
-30.0	-27.5	-12.4	-15.0
-29.5	-22.7	-12.2	-10.5
-29.0	-26.5	-12.1	-14.5
-28.5	-24.8	-11.9	-12.9
-28.0	-20.7	-11.7	-9.0
-27.5	-27.3	-11.5	-15.8
-27.0	-29.1	-11.3	-17.9
-26.5	-25.8	-11.1	-14.7
-26.0	-23.5	-10.9	-12.6
-25.5	-26.1	-10.7	-15.5
-25.0	-32.8	-10.4	-22.4
-24.5	-29.2	-10.2	-19.0
-24.0	-33.7	-10.0	-23.7
-23.5	-33.8	-9.8	-24.0
-23.0	-25.0	-9.5	-15.4
-22.5	-25.2	-9.3	-15.9
-22.0	-31.0	-9.1	-21.9
-21.5	-22.2	-8.8	-13.4
-21.0	-22.8	-8.6	-14.2
-20.5	-27.0	-8.3	-18.7
-20.0	-23.8	-8.0	-15.7
-19.5	-24.1	-7.8	-16.4
-19.0	-29.0	-7.5	-21.5
-18.5	-33.6	-7.2	-26.5
-18.0	-30.2	-6.9	-23.3
-17.5	-23.9	-6.6	-17.3
-17.0	-20.8	-6.3	-14.6
-16.5	-26.7	-5.9	-20.8
-16.0	-30.9	-5.6	-25.3
-15.5	-23.3	-5.3	-18.1
-15.0	-19.2	-4.9	-14.3
-14.5	-18.9	-4.5	-14.4
-14.0	-22.9	-4.2	-18.8
-13.5	-24.5	-3.8	-20.8
-13.0	-19.4	-3.3	-16.1
-12.5	-16.8	-2.9	-13.9
-12.0	-19.4	-2.5	-16.9
-11.5	-28.9	-2.0	-26.9
-11.0	-26.9	-1.5	-25.4
-10.5	-20.3	-1.0	-19.3
-10.0	-18.0	-0.5	-17.5
-9.5	-23.7	0.1	-23.8
-9.0	-16.2	0.4	-16.5
-8.5	-11.5	0.4	-11.9
-8.0	-22.6	0.4	-22.9
-7.5	-15.5	0.4	-15.8
-7.0	-11.1	0.4	-11.5
-6.5	-20.0	1.2	-21.1
-6.0	-8.0	2.0	-10.1
-5.5	-11.3	3.0	-14.3
-5.0	-9.5	4.0	-13.6
-4.5	-11.2	5.2	-16.4
-4.0	-6.5	6.4	-12.9
-3.5	-5.6	7.9	-13.5
-3.0	-0.3		
-2.5	1.4		
-2.0	0.6		
-1.5	10.3		
-1.0	9.1		
-0.5	30.5		
0.0	36.9		

28.30 GHz @ -11.42 dBW / 40 kHz in Co-pol EI RHCP

Angle	EIRPsd	Mask	Over Mask
Degrees	dBW/40kHz	dBW/40kHz	dB
0.0	36.9		
0.5	30.5		
1.0	4.5		
1.5	7.6		
2.0	6.8		
2.5	6.1		
3.0	-1.4		
3.5	-4.6	7.9	-12.5
4.0	-1.7	6.4	-8.1
4.5	-14.5	5.2	-19.6
5.0	-11.9	4.0	-16.0
5.5	-8.8	3.0	-11.8
6.0	-19.9	2.0	-22.0
6.5	-14.4	1.2	-15.6
7.0	-9.2	0.4	-9.5
7.5	-24.1	0.4	-24.5
8.0	-19.9	0.4	-20.3
8.5	-19.8	0.4	-20.2
9.0	-14.3	0.4	-14.7
9.5	-15.1	0.1	-15.1
10.0	-31.1	-0.5	-30.6
10.5	-14.9	-1.0	-13.9
11.0	-13.8	-1.5	-12.2
11.5	-14.7	-2.0	-12.7
12.0	-17.9	-2.5	-15.4
12.5	-13.2	-2.9	-10.3
13.0	-23.6	-3.3	-20.2
13.5	-18.3	-3.8	-14.5
14.0	-10.6	-4.2	-6.4
14.5	-16.6	-4.5	-12.1
15.0	-16.1	-4.9	-11.2
15.5	-17.8	-5.3	-12.5
16.0	-17.1	-5.6	-11.5
16.5	-20.0	-5.9	-14.1
17.0	-15.1	-6.3	-8.8
17.5	-14.5	-6.6	-7.9
18.0	-19.7	-6.9	-12.8
18.5	-15.0	-7.2	-7.8
19.0	-13.6	-7.5	-6.1
19.5	-13.2	-7.8	-5.5
20.0	-15.4	-8.0	-7.4
20.5	-15.8	-8.3	-7.5
21.0	-16.0	-8.6	-7.5
21.5	-25.4	-8.8	-16.6
22.0	-20.3	-9.1	-11.3
22.5	-17.1	-9.3	-7.8
23.0	-19.2	-9.5	-9.7
23.5	-18.7	-9.8	-8.9
24.0	-15.2	-10.0	-5.2
24.5	-16.7	-10.2	-6.5
25.0	-18.7	-10.4	-8.3
25.5	-19.5	-10.7	-8.9
26.0	-20.0	-10.9	-9.2
26.5	-22.2	-11.1	-11.1
27.0	-18.8	-11.3	-7.5
27.5	-17.7	-11.5	-6.2
28.0	-21.3	-11.7	-9.6
28.5	-18.5	-11.9	-6.7
29.0	-18.8	-12.1	-6.8
29.5	-20.3	-12.2	-8.0
30.0	-19.7	-12.4	-7.3

Orbit Communication Systems Ltd.

AL-7103-Ka, 1.20 m Antenna, EIRPsd Data Table
Co-pol Elevation RHCP, -10° to +10° @ 0.1° increment

28.30 GHz @ -11.42 dBW / 40 kHz in Co-pol EI RHCP

Angle Degrees	EIRPsd dBW/40kHz	Mask dBW/40kHz	Over Mask dB
-10.0	-18.0	-0.5	-17.5
-9.9	-23.3	-0.4	-22.9
-9.8	-27.5	-0.3	-27.2
-9.7	-22.7	-0.2	-22.5
-9.6	-20.1	-0.1	-20.0
-9.5	-23.7	0.1	-23.8
-9.4	-30.1	0.2	-30.2
-9.3	-24.1	0.3	-24.4
-9.2	-18.0	0.4	-18.3
-9.1	-15.9	0.4	-16.3
-9.0	-16.2	0.4	-16.5
-8.9	-19.0	0.4	-19.3
-8.8	-23.1	0.4	-23.5
-8.7	-17.6	0.4	-18.0
-8.6	-13.4	0.4	-13.7
-8.5	-11.5	0.4	-11.9
-8.4	-11.1	0.4	-11.5
-8.3	-12.2	0.4	-12.6
-8.2	-15.4	0.4	-15.7
-8.1	-21.2	0.4	-21.6
-8.0	-22.6	0.4	-22.9
-7.9	-16.7	0.4	-17.0
-7.8	-13.1	0.4	-13.5
-7.7	-11.9	0.4	-12.3
-7.6	-12.8	0.4	-13.2
-7.5	-15.5	0.4	-15.8
-7.4	-23.4	0.4	-23.8
-7.3	-25.1	0.4	-25.5
-7.2	-16.2	0.4	-16.6
-7.1	-12.9	0.4	-13.2
-7.0	-11.1	0.4	-11.5
-6.9	-10.4	0.5	-10.9
-6.8	-10.7	0.7	-11.3
-6.7	-11.4	0.8	-12.2
-6.6	-14.0	1.0	-15.0
-6.5	-20.0	1.2	-21.1
-6.4	-20.6	1.3	-21.9
-6.3	-12.4	1.5	-13.9
-6.2	-8.7	1.7	-10.4
-6.1	-7.3	1.9	-9.2
-6.0	-8.0	2.0	-10.1
-5.9	-10.8	2.2	-13.1
-5.8	-19.0	2.4	-21.4
-5.7	-22.6	2.6	-25.2
-5.6	-13.2	2.8	-16.0
-5.5	-11.3	3.0	-14.3
-5.4	-13.0	3.2	-16.2
-5.3	-18.8	3.4	-22.2
-5.2	-19.8	3.6	-23.4
-5.1	-12.4	3.8	-16.2
-5.0	-9.5	4.0	-13.6
-4.9	-10.0	4.2	-14.3
-4.8	-13.5	4.5	-18.0
-4.7	-24.9	4.7	-29.6
-4.6	-16.7	4.9	-21.6
-4.5	-11.2	5.2	-16.4
-4.4	-9.6	5.4	-15.0
-4.3	-10.9	5.7	-16.5
-4.2	-12.6	5.9	-18.5
-4.1	-10.1	6.2	-16.2

28.30 GHz @ -11.42 dBW / 40 kHz in Co-pol EI RHCP

Angle Degrees	EIRPsd dBW/40kHz	Mask dBW/40kHz	Over Mask dB
0.0	36.9		
0.1	36.7		
0.2	36.0		
0.3	34.8		
0.4	33.0		
0.5	30.5		
0.6	27.3		
0.7	23.0		
0.8	17.4		
0.9	10.1		
1.0	4.5		
1.1	6.6		
1.2	8.5		
1.3	9.2		
1.4	9.0		
1.5	7.6		
1.6	4.7		
1.7	1.9		
1.8	3.5		
1.9	5.9		
2.0	6.8		
2.1	6.5		
2.2	5.6		
2.3	5.1		
2.4	5.7		
2.5	6.1		
2.6	5.9		
2.7	4.5		
2.8	2.2		
2.9	-0.3		
3.0	-1.4		
3.1	-0.9		
3.2	-0.5		
3.3	-1.1		
3.4	-2.5		
3.5	-4.6	7.9	-12.5
3.6	-6.9	7.6	-14.5
3.7	-7.4	7.3	-14.7
3.8	-5.4	7.0	-12.4
3.9	-3.1	6.7	-9.8
4.0	-1.7	6.4	-8.1
4.1	-1.4	6.2	-7.6
4.2	-2.3	5.9	-8.2
4.3	-4.6	5.7	-10.3
4.4	-8.8	5.4	-14.2
4.5	-14.5	5.2	-19.6
4.6	-13.6	4.9	-18.5
4.7	-11.2	4.7	-15.9
4.8	-10.2	4.5	-14.7
4.9	-10.9	4.2	-15.1
5.0	-11.9	4.0	-16.0
5.1	-11.5	3.8	-15.3
5.2	-10.9	3.6	-14.5
5.3	-10.3	3.4	-13.7
5.4	-9.4	3.2	-12.6
5.5	-8.8	3.0	-11.8
5.6	-8.9	2.8	-11.7
5.7	-10.2	2.6	-12.8
5.8	-13.6	2.4	-16.0
5.9	-20.6	2.2	-22.8

Orbit Communication Systems Ltd.
AL-7103-Ka, 1.20 m Antenna, EIRPsd Data Table
Co-pol Elevation RHCP, -10° to +10° @ 0.1° increment

-4.0	-6.5	6.4	-12.9
-3.9	-4.4	6.7	-11.1
-3.8	-3.6	7.0	-10.6
-3.7	-3.8	7.3	-11.1
-3.6	-4.5	7.6	-12.1
-3.5	-5.6	7.9	-13.5
-3.4	-5.7		
-3.3	-4.3		
-3.2	-2.3		
-3.1	-0.9		
-3.0	-0.3		
-2.9	-0.9		
-2.8	-2.1		
-2.7	-2.3		
-2.6	-0.4		
-2.5	1.4		
-2.4	2.2		
-2.3	1.8		
-2.2	0.6		
-2.1	0.0		
-2.0	0.6		
-1.9	2.0		
-1.8	3.8		
-1.7	6.3		
-1.6	8.7		
-1.5	10.3		
-1.4	11.1		
-1.3	10.5		
-1.2	8.3		
-1.1	5.7		
-1.0	9.1		
-0.9	15.1		
-0.8	19.9		
-0.7	24.1		
-0.6	27.6		
-0.5	30.5		
-0.4	32.7		
-0.3	34.5		
-0.2	35.8		
-0.1	36.6		
0.0	36.9		

6.0	-19.9	2.0	-22.0
6.1	-12.8	1.9	-14.7
6.2	-10.5	1.7	-12.2
6.3	-10.0	1.5	-11.6
6.4	-11.6	1.3	-13.0
6.5	-14.4	1.2	-15.6
6.6	-15.5	1.0	-16.5
6.7	-12.7	0.8	-13.6
6.8	-10.1	0.7	-10.8
6.9	-9.2	0.5	-9.7
7.0	-9.2	0.4	-9.5
7.1	-9.8	0.4	-10.2
7.2	-11.7	0.4	-12.1
7.3	-14.7	0.4	-15.0
7.4	-19.3	0.4	-19.7
7.5	-24.1	0.4	-24.5
7.6	-20.4	0.4	-20.8
7.7	-18.0	0.4	-18.4
7.8	-16.7	0.4	-17.1
7.9	-17.9	0.4	-18.3
8.0	-19.9	0.4	-20.3
8.1	-20.0	0.4	-20.3
8.2	-17.6	0.4	-18.0
8.3	-15.9	0.4	-16.3
8.4	-16.2	0.4	-16.6
8.5	-19.8	0.4	-20.2
8.6	-30.2	0.4	-30.6
8.7	-23.5	0.4	-23.8
8.8	-17.1	0.4	-17.5
8.9	-14.6	0.4	-15.0
9.0	-14.3	0.4	-14.7
9.1	-16.7	0.4	-17.1
9.2	-23.4	0.4	-23.7
9.3	-28.4	0.3	-28.7
9.4	-18.4	0.2	-18.5
9.5	-15.1	0.1	-15.1
9.6	-13.5	-0.1	-13.5
9.7	-14.3	-0.2	-14.2
9.8	-16.9	-0.3	-16.6
9.9	-22.8	-0.4	-22.4
10.0	-31.1	-0.5	-30.6

Orbit Communication Systems Ltd.
AL-7103-Ka, 1.20 m Antenna, EIRPsd Data Table
X-pol Azimuth RHCP, -10° to +10° @ 0.1° increment

28.30 GHz @ -11.42 dBW / 40 kHz in X-pol Az RHCP

Angle	EIRPsd	Mask	Over Mask
Degrees	dBW/40kHz	dBW/40kHz	dB
-10.0	-24.2	-12.6	-11.5
-9.9	-29.2	-12.6	-16.5
-9.8	-29.9	-12.6	-17.2
-9.7	-28.3	-12.6	-15.7
-9.6	-25.1	-12.6	-12.5
-9.5	-21.4	-12.6	-8.8
-9.4	-19.3	-12.6	-6.6
-9.3	-17.7	-12.6	-5.1
-9.2	-18.2	-12.6	-5.5
-9.1	-18.6	-12.6	-6.0
-9.0	-21.1	-12.6	-8.5
-8.9	-24.2	-12.6	-11.6
-8.8	-31.0	-12.6	-18.3
-8.7	-24.3	-12.6	-11.6
-8.6	-19.3	-12.6	-6.7
-8.5	-17.4	-12.6	-4.8
-8.4	-16.9	-12.6	-4.2
-8.3	-18.0	-12.6	-5.4
-8.2	-20.9	-12.6	-8.3
-8.1	-26.8	-12.6	-14.1
-8.0	-30.8	-12.6	-18.2
-7.9	-26.8	-12.6	-14.2
-7.8	-25.0	-12.6	-12.3
-7.7	-25.2	-12.6	-12.6
-7.6	-27.3	-12.6	-14.7
-7.5	-27.2	-12.6	-14.5
-7.4	-26.5	-12.6	-13.9
-7.3	-24.9	-12.6	-12.2
-7.2	-24.8	-12.6	-12.1
-7.1	-24.4	-12.6	-11.8
-7.0	-23.2	-12.6	-10.5
-6.9	-24.5	-12.5	-12.0
-6.8	-28.8	-12.3	-16.5
-6.7	-32.7	-12.2	-20.6
-6.6	-24.1	-12.0	-12.1
-6.5	-18.5	-11.8	-6.7
-6.4	-16.9	-11.7	-5.3
-6.3	-14.5	-11.5	-3.1
-6.2	-14.1	-11.3	-2.8
-6.1	-13.6	-11.1	-2.5
-6.0	-15.4	-11.0	-4.4
-5.9	-15.2	-10.8	-4.4
-5.8	-16.5	-10.6	-5.9
-5.7	-17.8	-10.4	-7.4
-5.6	-17.9	-10.2	-7.7
-5.5	-17.1	-10.0	-7.1
-5.4	-16.2	-9.8	-6.4
-5.3	-15.2	-9.6	-5.6
-5.2	-14.6	-9.4	-5.2
-5.1	-14.3	-9.2	-5.1
-5.0	-14.1	-9.0	-5.1
-4.9	-14.2	-8.8	-5.5
-4.8	-14.5	-8.5	-5.9
-4.7	-14.7	-8.3	-6.4
-4.6	-14.0	-8.1	-5.9
-4.5	-12.4	-7.8	-4.5
-4.4	-10.6	-7.6	-3.0
-4.3	-8.9	-7.3	-1.5
-4.2	-7.7	-7.1	-0.6
-4.1	-7.0	-6.8	-0.2

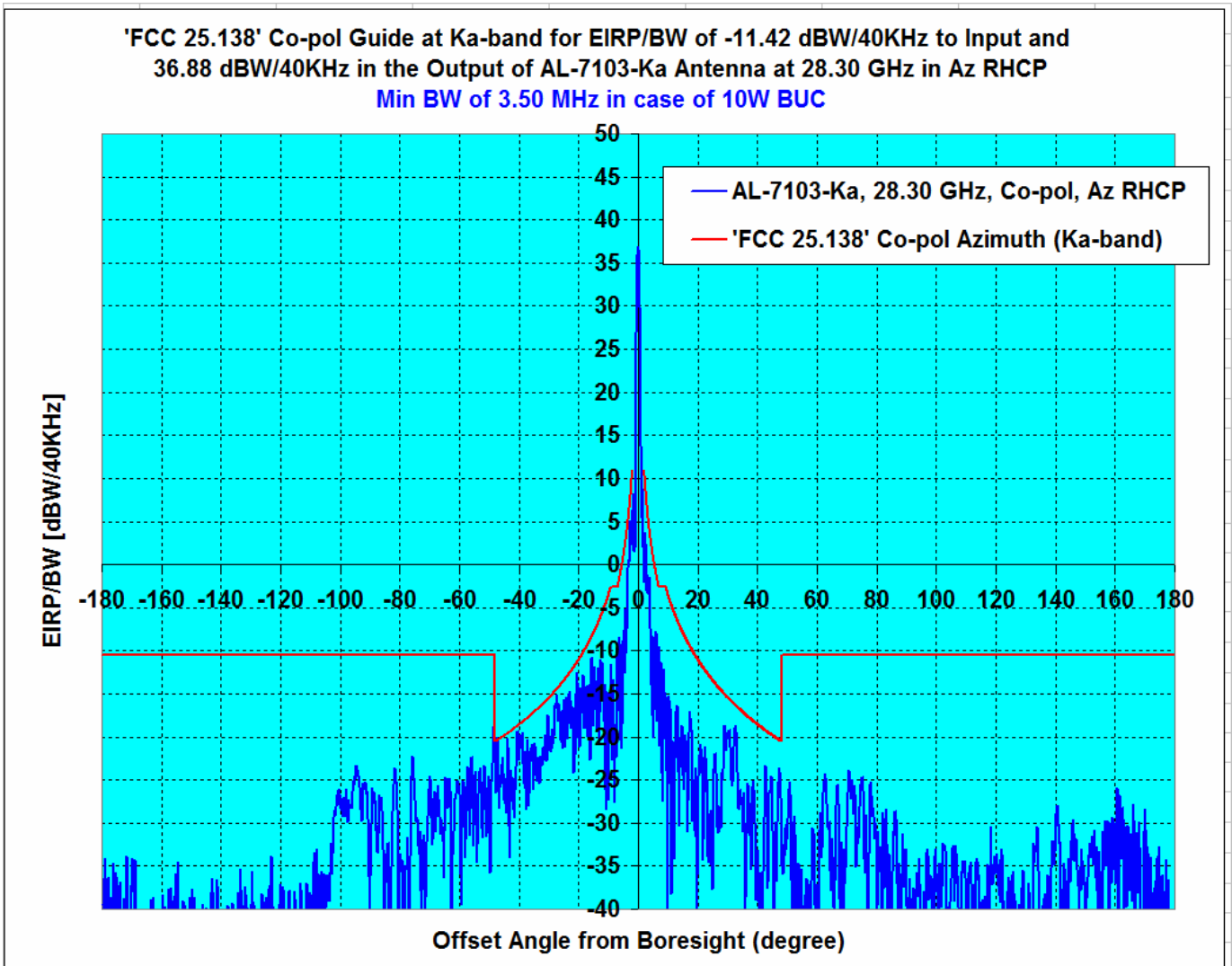
28.30 GHz @ -11.42 dBW / 40 kHz in X-pol Az RHCP

Angle	EIRPsd	Mask	Over Mask
Degrees	dBW/40kHz	dBW/40kHz	dB
0.0	1.4		
0.1	2.9		
0.2	3.6		
0.3	3.5		
0.4	2.6		
0.5	0.9		
0.6	-1.7		
0.7	-5.3		
0.8	-9.1		
0.9	-10.0		
1.0	-9.3		
1.1	-8.4		
1.2	-8.8		
1.3	-9.8		
1.4	-11.8		
1.5	-13.3		
1.6	-13.5		
1.7	-12.0		
1.8	-12.5		
1.9	-13.8		
2.0	-17.1	1.0	-18.0
2.1	-31.2	0.4	-31.6
2.2	-18.4	-0.1	-18.4
2.3	-13.1	-0.5	-12.6
2.4	-10.7	-1.0	-9.7
2.5	-9.2	-1.4	-7.7
2.6	-8.9	-1.9	-7.0
2.7	-10.2	-2.3	-7.9
2.8	-12.4	-2.7	-9.7
2.9	-15.7	-3.1	-12.6
3.0	-20.9	-3.4	-17.5
3.1	-25.1	-3.8	-21.3
3.2	-23.7	-4.1	-19.5
3.3	-24.7	-4.5	-20.3
3.4	-32.1	-4.8	-27.3
3.5	-40.9	-5.1	-35.8
3.6	-34.2	-5.4	-28.8
3.7	-53.4	-5.7	-47.7
3.8	-30.0	-6.0	-24.0
3.9	-28.7	-6.3	-22.4
4.0	-22.6	-6.6	-16.1
4.1	-23.7	-6.8	-16.9
4.2	-23.8	-7.1	-16.7
4.3	-28.0	-7.3	-20.6
4.4	-40.0	-7.6	-32.4
4.5	-35.4	-7.8	-27.5
4.6	-27.7	-8.1	-19.6
4.7	-28.2	-8.3	-19.9
4.8	-39.2	-8.5	-30.7
4.9	-33.6	-8.8	-24.9
5.0	-26.5	-9.0	-17.5
5.1	-22.2	-9.2	-13.0
5.2	-21.8	-9.4	-12.4
5.3	-21.8	-9.6	-12.2
5.4	-23.9	-9.8	-14.1
5.5	-32.8	-10.0	-22.8
5.6	-33.4	-10.2	-23.2
5.7	-23.2	-10.4	-12.8
5.8	-22.3	-10.6	-11.7
5.9	-20.9	-10.8	-10.2

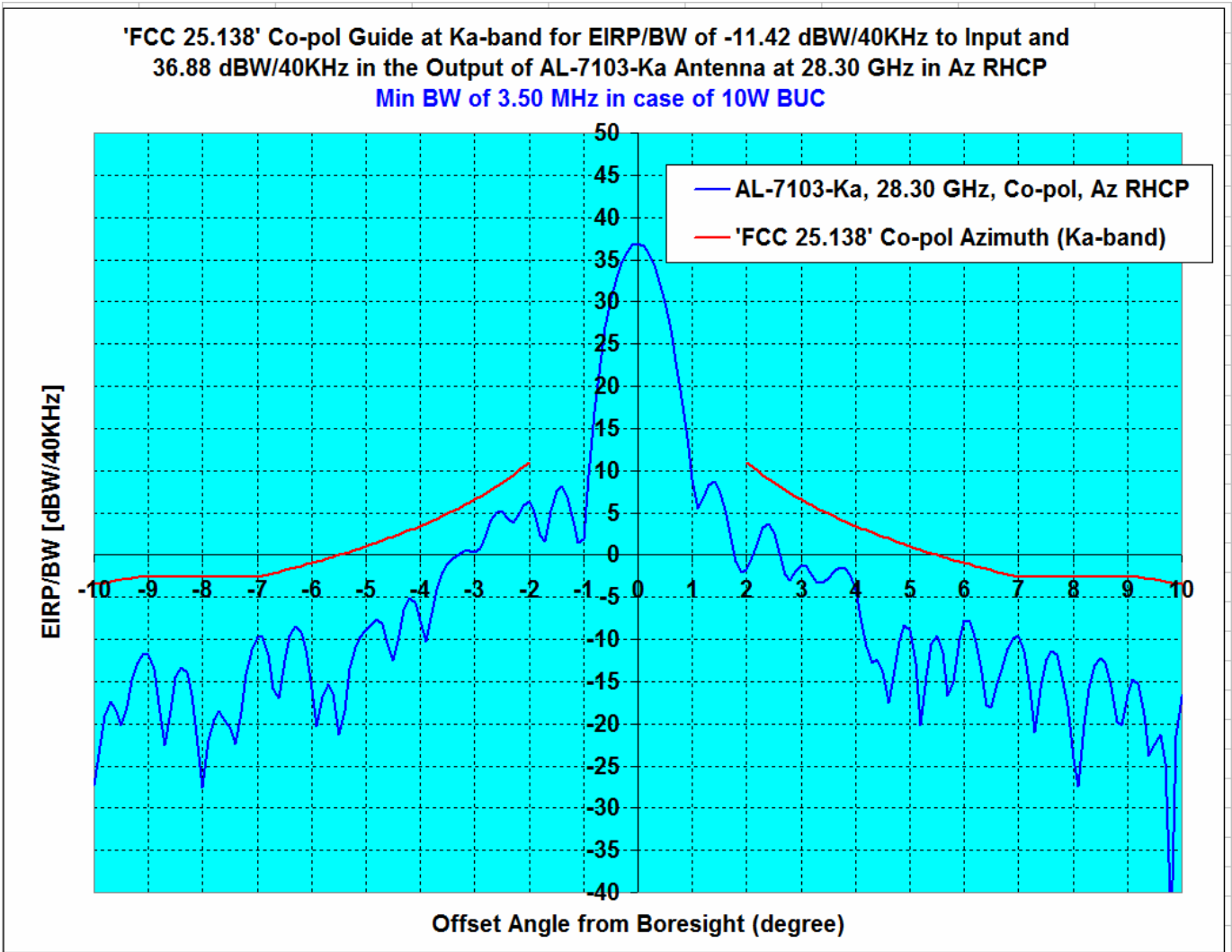
Orbit Communication Systems Ltd.
 AL-7103-Ka, 1.20 m Antenna, EIRPsd Data Table
 X-pol Azimuth RHCP, -10° to +10° @ 0.1° increment

-4.0	-6.6	-6.6	0.0
-3.9	-6.8	-6.3	-0.5
-3.8	-7.3	-6.0	-1.4
-3.7	-8.1	-5.7	-2.4
-3.6	-9.0	-5.4	-3.6
-3.5	-9.3	-5.1	-4.2
-3.4	-9.5	-4.8	-4.8
-3.3	-9.3	-4.5	-4.9
-3.2	-8.8	-4.1	-4.7
-3.1	-8.3	-3.8	-4.6
-3.0	-8.1	-3.4	-4.7
-2.9	-8.4	-3.1	-5.3
-2.8	-8.8	-2.7	-6.1
-2.7	-8.7	-2.3	-6.4
-2.6	-7.8	-1.9	-5.9
-2.5	-6.7	-1.4	-5.2
-2.4	-6.0	-1.0	-5.0
-2.3	-6.0	-0.5	-5.4
-2.2	-6.5	-0.1	-6.5
-2.1	-8.2	0.4	-8.6
-2.0	-10.5	1.0	-11.5
-1.9	-12.9		
-1.8	-13.4		
-1.7	-12.2		
-1.6	-10.1		
-1.5	-8.3		
-1.4	-6.7		
-1.3	-6.3		
-1.2	-6.4		
-1.1	-7.8		
-1.0	-11.0		
-0.9	-10.3		
-0.8	-6.2		
-0.7	-3.5		
-0.6	-1.3		
-0.5	-0.8		
-0.4	-1.8		
-0.3	-5.1		
-0.2	-5.2		
-0.1	-1.2		
0.0	1.4		

6.0	-22.1	-11.0	-11.2
6.1	-25.7	-11.1	-14.5
6.2	-29.7	-11.3	-18.4
6.3	-38.6	-11.5	-27.1
6.4	-40.3	-11.7	-28.7
6.5	-34.8	-11.8	-22.9
6.6	-27.9	-12.0	-15.9
6.7	-26.1	-12.2	-14.0
6.8	-22.4	-12.3	-10.1
6.9	-20.4	-12.5	-8.0
7.0	-18.9	-12.6	-6.3
7.1	-19.1	-12.6	-6.4
7.2	-18.4	-12.6	-5.8
7.3	-18.2	-12.6	-5.6
7.4	-18.7	-12.6	-6.1
7.5	-19.0	-12.6	-6.4
7.6	-18.8	-12.6	-6.2
7.7	-20.1	-12.6	-7.5
7.8	-20.6	-12.6	-8.0
7.9	-21.6	-12.6	-9.0
8.0	-22.6	-12.6	-10.0
8.1	-26.7	-12.6	-14.0
8.2	-30.1	-12.6	-17.5
8.3	-33.9	-12.6	-21.3
8.4	-43.7	-12.6	-31.1
8.5	-32.5	-12.6	-19.9
8.6	-32.6	-12.6	-20.0
8.7	-28.1	-12.6	-15.5
8.8	-26.8	-12.6	-14.2
8.9	-25.7	-12.6	-13.0
9.0	-25.3	-12.6	-12.7
9.1	-25.8	-12.6	-13.1
9.2	-26.6	-12.6	-14.0
9.3	-25.7	-12.6	-13.0
9.4	-25.6	-12.6	-13.0
9.5	-26.7	-12.6	-14.0
9.6	-26.3	-12.6	-13.7
9.7	-25.9	-12.6	-13.3
9.8	-27.5	-12.6	-14.9
9.9	-25.5	-12.6	-12.9
10.0	-25.6	-12.6	-13.0

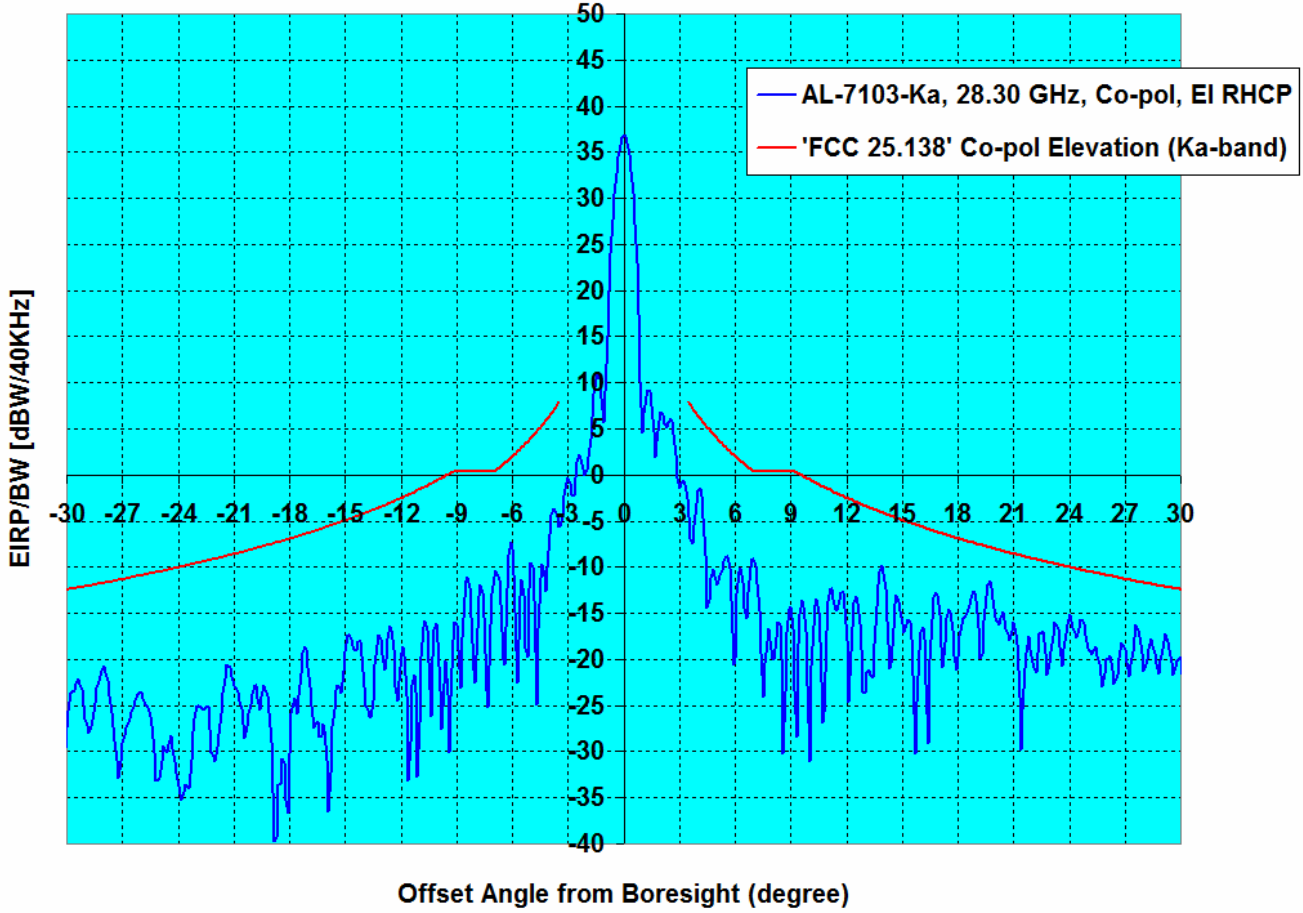


Configuration System, Freq., Polarization, Plane	Regulation EIRP/BW [dBW/40KHz]	Antenna Gain dBi	Input EIRPsd dBW/40KHz	Peak Excursions dB		Over Mask %
				± (2° to 10°)	± (10° to 180°)	
AL-7103-Ka, 28.30 GHz, Co-pol, Az RHCP	'FCC 25.138' Co-pol Azimuth (Ka-band)	48.30	-11.42	-3.01	0.25	0.03



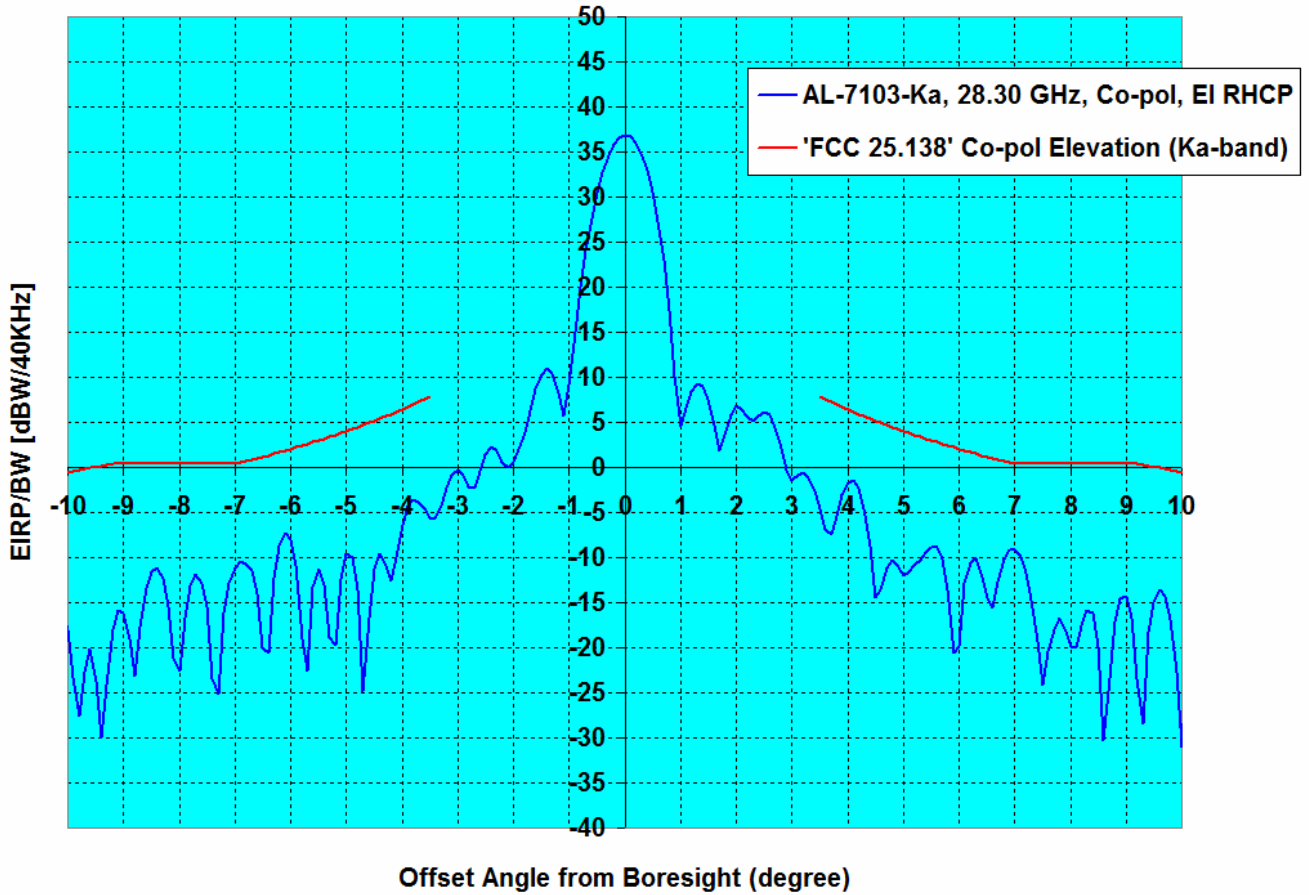
Configuration System, Freq., Polarization, Plane	Regulation EIRP/BW [dBW/40KHz]	Antenna Gain dBi	Input EIRPsd dBW/40KHz	Peak Excursions dB		Over Mask %
				± (2° to 10°)	± (10° to 180°)	
AL-7103-Ka, 28.30 GHz, Co-pol, Az RHCP	'FCC 25.138' Co-pol Azimuth (Ka-band)	48.30	-11.42	-3.01	0.25	0.03

**'FCC 25.138' Co-pol Guide at Ka-band for EIRP/BW of -11.42 dBW/40KHz to Input and
 36.88 dBW/40KHz in the Output of AL-7103-Ka Antenna at 28.30 GHz in EI RHCP
 Min BW of 3.50 MHz in case of 10W BUC**



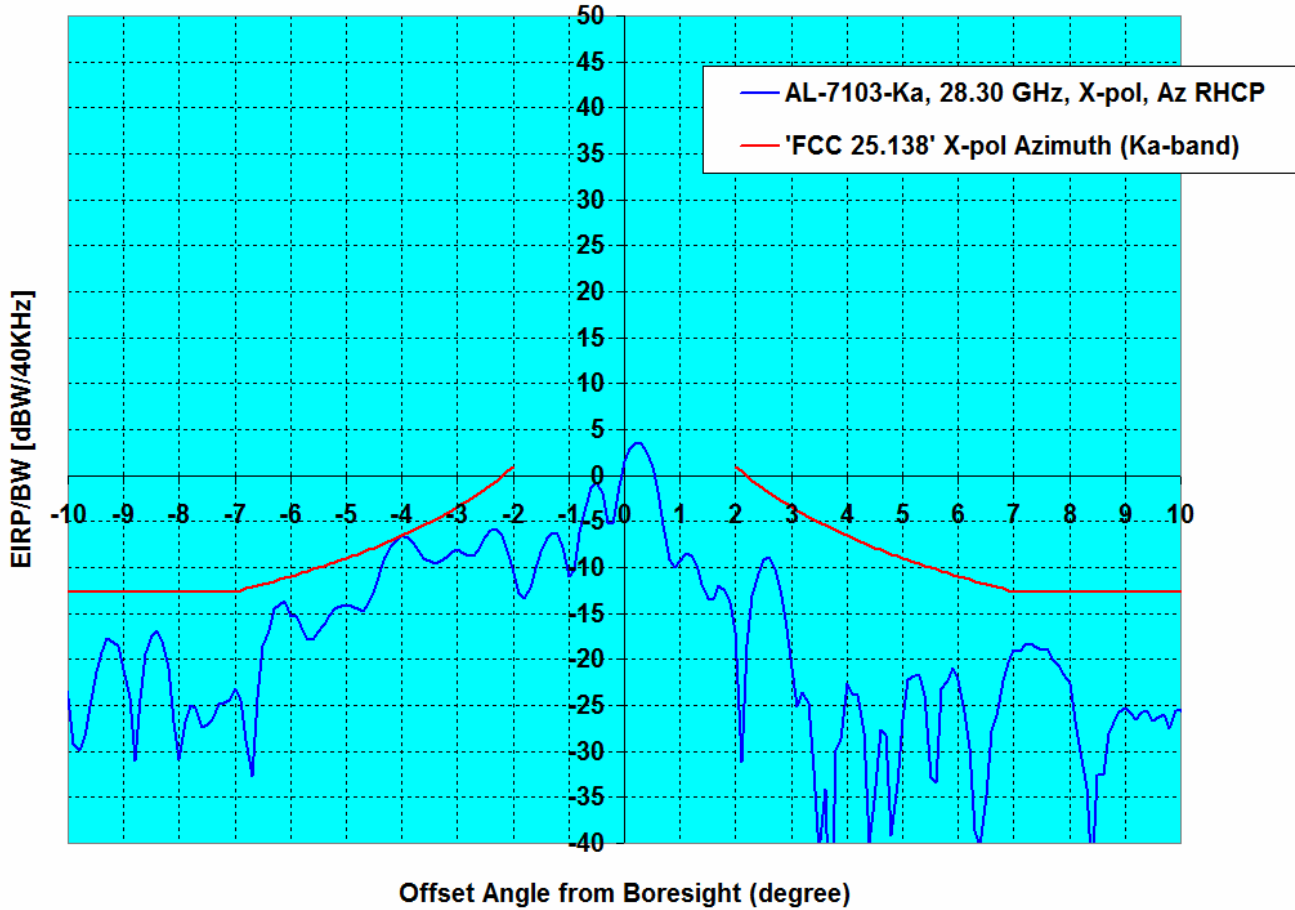
Configuration System, Frequency, Polarization, Plane	Regulation EIRP/BW [dBW/40KHz]	Antenna Gain dBi	Input EIRPsd dBW/40KHz	Peak Excursions dB		Over Mask %
				± (3.5° to 10°)	± (10° to 30°)	
AL-7103-Ka, 28.30 GHz, Co-pol, EI RHCP	'FCC 25.138' Co-pol Elevation (Ka-band)	48.30	-11.42	-7.55	-3.70	0.00

'FCC 25.138' Co-pol Guide at Ka-band for EIRP/BW of -11.42 dBW/40KHz to Input and 36.88 dBW/40KHz in the Output of AL-7103-Ka Antenna at 28.30 GHz in EI RHCP
 Min BW of 3.50 MHz in case of 10W BUC



Configuration System, Frequency, Polarization, Plane	Regulation EIRP/BW [dBW/40KHz]	Antenna Gain dBi	Input EIRPsd dBW/40KHz	Peak Excursions dB		Over Mask %
				± (3.5° to 10°)	± (10° to 30°)	
AL-7103-Ka, 28.30 GHz, Co-pol, EI RHCP	'FCC 25.138' Co-pol Elevation (Ka-band)	48.30	-11.42	-7.55	-3.70	0.00

**'FCC 25.138' X-pol Guide at Ka-band for EIRP/BW of -11.42 dBW/40KHz to Input and
 36.88 dBW/40KHz in the Output of AL-7103-Ka Antenna at 28.30 GHz in Az RHCP
 Min BW of 3.50 MHz in case of 10W BUC**



Configuration System, Frequency, Polarization, Plane	Regulation EIRP/BW [dBW/40KHz]	Antenna Gain dBi	Input EIRPsd dBW/40KHz	Peak Excursions dB		Over Mask %
				± (2° to 7°)	± (2° to 9.2°)	
AL-7103-Ka, 28.30 GHz, X-pol, Az RHCP	'FCC 25.138' X-pol Azimuth (Ka-band)	48.30	-11.42	0.00	0.00	0.00

Orbit Communication Systems Ltd.
AL-7103-Ka, 1.20 m Antenna, EIRPsd Data Table
Co-pol Azimuth LHCP, -180° to +180° @ 1.0° increment

29.10 GHz @ -11.58 dBW / 40 kHz in Co-pol Az LHCP

Angle	EIRPsd	Mask	Over Mask
Degrees	dBW/40kHz	dBW/40kHz	dB
-179.0	-38.0	-10.5	-27.5
-178.0	-46.2	-10.5	-35.7
-177.0	-44.7	-10.5	-34.2
-176.0	-51.9	-10.5	-41.4
-175.0	-47.2	-10.5	-36.7
-174.0	-48.7	-10.5	-38.2
-173.0	-47.4	-10.5	-36.9
-172.0	-58.0	-10.5	-47.5
-171.0	-39.8	-10.5	-29.3
-170.0	-46.6	-10.5	-36.1
-169.0	-39.2	-10.5	-28.7
-168.0	-51.2	-10.5	-40.7
-167.0	-42.8	-10.5	-32.3
-166.0	-44.5	-10.5	-34.0
-165.0	-46.0	-10.5	-35.5
-164.0	-44.8	-10.5	-34.3
-163.0	-40.0	-10.5	-29.5
-162.0	-39.3	-10.5	-28.8
-161.0	-62.7	-10.5	-52.2
-160.0	-42.1	-10.5	-31.6
-159.0	-37.5	-10.5	-27.0
-158.0	-44.5	-10.5	-34.0
-157.0	-46.0	-10.5	-35.5
-156.0	-40.5	-10.5	-30.0
-155.0	-56.8	-10.5	-46.3
-154.0	-47.1	-10.5	-36.6
-153.0	-48.1	-10.5	-37.6
-152.0	-47.9	-10.5	-37.4
-151.0	-42.6	-10.5	-32.1
-150.0	-47.8	-10.5	-37.3
-149.0	-40.6	-10.5	-30.1
-148.0	-58.8	-10.5	-48.3
-147.0	-47.1	-10.5	-36.6
-146.0	-46.4	-10.5	-35.9
-145.0	-45.6	-10.5	-35.1
-144.0	-45.5	-10.5	-35.0
-143.0	-42.6	-10.5	-32.1
-142.0	-45.8	-10.5	-35.3
-141.0	-44.4	-10.5	-33.9
-140.0	-39.7	-10.5	-29.2
-139.0	-37.6	-10.5	-27.1
-138.0	-42.9	-10.5	-32.4
-137.0	-39.5	-10.5	-29.0
-136.0	-39.1	-10.5	-28.6
-135.0	-45.4	-10.5	-34.9
-134.0	-43.2	-10.5	-32.7
-133.0	-43.6	-10.5	-33.1
-132.0	-38.8	-10.5	-28.3
-131.0	-41.8	-10.5	-31.3
-130.0	-40.0	-10.5	-29.5
-129.0	-40.3	-10.5	-29.8
-128.0	-40.3	-10.5	-29.8
-127.0	-38.0	-10.5	-27.5
-126.0	-44.8	-10.5	-34.3
-125.0	-43.7	-10.5	-33.2
-124.0	-47.2	-10.5	-36.7
-123.0	-37.9	-10.5	-27.4
-122.0	-35.5	-10.5	-25.0
-121.0	-49.7	-10.5	-39.2
-120.0	-41.5	-10.5	-31.0

Angle	EIRPsd	Mask	Over Mask
Degrees	dBW/40kHz	dBW/40kHz	dB
0.0	36.9		
1.0	10.5		
2.0	-1.8	11.0	-12.8
3.0	-0.2	6.6	-6.8
4.0	-8.8	3.4	-12.2
5.0	-9.2	1.0	-10.2
6.0	-12.8	-1.0	-11.8
7.0	-29.6	-2.6	-26.9
8.0	-24.2	-2.6	-21.6
9.0	-25.8	-2.6	-23.2
10.0	-19.6	-3.5	-16.1
11.0	-19.7	-4.5	-15.1
12.0	-35.4	-5.5	-29.9
13.0	-22.3	-6.3	-15.9
14.0	-21.8	-7.2	-14.7
15.0	-19.2	-7.9	-11.3
16.0	-27.3	-8.6	-18.7
17.0	-20.3	-9.3	-11.1
18.0	-40.8	-9.9	-31.0
19.0	-17.8	-10.5	-7.3
20.0	-30.5	-11.0	-19.5
21.0	-29.1	-11.6	-17.5
22.0	-21.1	-12.1	-9.1
23.0	-23.3	-12.5	-10.7
24.0	-18.8	-13.0	-5.8
25.0	-19.0	-13.4	-5.6
26.0	-18.6	-13.9	-4.8
27.0	-19.1	-14.3	-4.9
28.0	-19.8	-14.7	-5.1
29.0	-21.0	-15.1	-5.9
30.0	-22.1	-15.4	-6.7
31.0	-27.3	-15.8	-11.6
32.0	-30.1	-16.1	-14.0
33.0	-25.1	-16.5	-8.7
34.0	-25.6	-16.8	-8.8
35.0	-25.3	-17.1	-8.2
36.0	-24.8	-17.4	-7.4
37.0	-23.9	-17.7	-6.2
38.0	-20.8	-18.0	-2.8
39.0	-26.8	-18.3	-8.6
40.0	-28.5	-18.6	-9.9
41.0	-39.5	-18.8	-20.7
42.0	-29.3	-19.1	-10.2
43.0	-27.0	-19.3	-7.7
44.0	-26.0	-19.6	-6.4
45.0	-27.4	-19.8	-7.5
46.0	-27.1	-20.1	-7.1
47.0	-22.2	-20.3	-1.9
48.0	-44.7	-20.5	-24.2
49.0	-41.6	-10.5	-31.1
50.0	-29.6	-10.5	-19.1
51.0	-34.0	-10.5	-23.5
52.0	-32.4	-10.5	-21.9
53.0	-41.4	-10.5	-30.9
54.0	-26.2	-10.5	-15.7
55.0	-25.0	-10.5	-14.5
56.0	-29.4	-10.5	-18.9
57.0	-31.8	-10.5	-21.3
58.0	-29.5	-10.5	-19.0
59.0	-27.7	-10.5	-17.2

Orbit Communication Systems Ltd.
AL-7103-Ka, 1.20 m Antenna, EIRPsd Data Table
Co-pol Azimuth LHCP, -180° to +180° @ 1.0° increment

-119.0	-33.5	-10.5	-23.0
-118.0	-40.7	-10.5	-30.2
-117.0	-41.1	-10.5	-30.6
-116.0	-45.0	-10.5	-34.5
-115.0	-44.8	-10.5	-34.3
-114.0	-37.9	-10.5	-27.4
-113.0	-36.3	-10.5	-25.8
-112.0	-35.3	-10.5	-24.8
-111.0	-32.3	-10.5	-21.8
-110.0	-28.6	-10.5	-18.1
-109.0	-29.6	-10.5	-19.1
-108.0	-27.9	-10.5	-17.4
-107.0	-26.8	-10.5	-16.3
-106.0	-26.2	-10.5	-15.7
-105.0	-24.2	-10.5	-13.7
-104.0	-23.3	-10.5	-12.8
-103.0	-22.9	-10.5	-12.4
-102.0	-23.3	-10.5	-12.8
-101.0	-27.0	-10.5	-16.5
-100.0	-31.8	-10.5	-21.3
-99.0	-26.8	-10.5	-16.3
-98.0	-23.6	-10.5	-13.1
-97.0	-23.6	-10.5	-13.1
-96.0	-24.7	-10.5	-14.2
-95.0	-26.5	-10.5	-16.0
-94.0	-24.1	-10.5	-13.6
-93.0	-26.0	-10.5	-15.5
-92.0	-32.8	-10.5	-22.3
-91.0	-27.6	-10.5	-17.1
-90.0	-27.5	-10.5	-17.0
-89.0	-30.2	-10.5	-19.7
-88.0	-26.2	-10.5	-15.7
-87.0	-33.0	-10.5	-22.5
-86.0	-28.0	-10.5	-17.5
-85.0	-29.8	-10.5	-19.3
-84.0	-45.2	-10.5	-34.7
-83.0	-34.3	-10.5	-23.8
-82.0	-29.3	-10.5	-18.8
-81.0	-39.7	-10.5	-29.2
-80.0	-32.1	-10.5	-21.6
-79.0	-34.7	-10.5	-24.2
-78.0	-29.2	-10.5	-18.7
-77.0	-29.9	-10.5	-19.4
-76.0	-28.8	-10.5	-18.3
-75.0	-42.1	-10.5	-31.6
-74.0	-29.7	-10.5	-19.2
-73.0	-31.8	-10.5	-21.3
-72.0	-36.9	-10.5	-26.4
-71.0	-29.0	-10.5	-18.5
-70.0	-37.8	-10.5	-27.3
-69.0	-40.8	-10.5	-30.3
-68.0	-31.9	-10.5	-21.4
-67.0	-40.9	-10.5	-30.4
-66.0	-33.2	-10.5	-22.7
-65.0	-28.4	-10.5	-17.9
-64.0	-30.3	-10.5	-19.8
-63.0	-35.1	-10.5	-24.6
-62.0	-35.6	-10.5	-25.1
-61.0	-30.0	-10.5	-19.5
-60.0	-28.4	-10.5	-17.9
-59.0	-26.9	-10.5	-16.4
-58.0	-34.0	-10.5	-23.5
-57.0	-28.2	-10.5	-17.7

60.0	-25.6	-10.5	-15.1
61.0	-39.5	-10.5	-29.0
62.0	-34.6	-10.5	-24.1
63.0	-30.0	-10.5	-19.5
64.0	-27.0	-10.5	-16.5
65.0	-23.0	-10.5	-12.5
66.0	-33.8	-10.5	-23.3
67.0	-34.3	-10.5	-23.8
68.0	-32.8	-10.5	-22.3
69.0	-32.6	-10.5	-22.1
70.0	-24.4	-10.5	-13.9
71.0	-28.9	-10.5	-18.4
72.0	-26.0	-10.5	-15.5
73.0	-26.6	-10.5	-16.1
74.0	-24.4	-10.5	-13.9
75.0	-30.3	-10.5	-19.8
76.0	-30.9	-10.5	-20.4
77.0	-30.1	-10.5	-19.6
78.0	-26.7	-10.5	-16.2
79.0	-37.0	-10.5	-26.5
80.0	-30.1	-10.5	-19.6
81.0	-27.8	-10.5	-17.3
82.0	-34.8	-10.5	-24.3
83.0	-33.5	-10.5	-23.0
84.0	-34.4	-10.5	-23.9
85.0	-43.8	-10.5	-33.3
86.0	-29.0	-10.5	-18.5
87.0	-31.4	-10.5	-20.9
88.0	-27.6	-10.5	-17.1
89.0	-35.6	-10.5	-25.1
90.0	-33.8	-10.5	-23.3
91.0	-35.1	-10.5	-24.6
92.0	-30.6	-10.5	-20.1
93.0	-40.1	-10.5	-29.6
94.0	-32.4	-10.5	-21.9
95.0	-28.6	-10.5	-18.1
96.0	-33.0	-10.5	-22.5
97.0	-39.6	-10.5	-29.1
98.0	-45.5	-10.5	-35.0
99.0	-29.6	-10.5	-19.1
100.0	-30.5	-10.5	-20.0
101.0	-33.0	-10.5	-22.5
102.0	-36.7	-10.5	-26.2
103.0	-32.1	-10.5	-21.6
104.0	-46.3	-10.5	-35.8
105.0	-28.1	-10.5	-17.6
106.0	-33.1	-10.5	-22.6
107.0	-38.5	-10.5	-28.0
108.0	-33.4	-10.5	-22.9
109.0	-46.8	-10.5	-36.3
110.0	-33.1	-10.5	-22.6
111.0	-36.3	-10.5	-25.8
112.0	-30.4	-10.5	-19.9
113.0	-38.3	-10.5	-27.8
114.0	-35.4	-10.5	-24.9
115.0	-36.6	-10.5	-26.1
116.0	-31.9	-10.5	-21.4
117.0	-30.1	-10.5	-19.6
118.0	-39.7	-10.5	-29.2
119.0	-33.4	-10.5	-22.9
120.0	-29.2	-10.5	-18.7
121.0	-39.0	-10.5	-28.5
122.0	-33.4	-10.5	-22.9

Orbit Communication Systems Ltd.
AL-7103-Ka, 1.20 m Antenna, EIRPsd Data Table
Co-pol Azimuth LHCP, -180° to +180° @ 1.0° increment

-56.0	-30.6	-10.5	-20.1
-55.0	-25.4	-10.5	-14.9
-54.0	-27.4	-10.5	-16.9
-53.0	-29.0	-10.5	-18.5
-52.0	-28.4	-10.5	-17.9
-51.0	-23.3	-10.5	-12.8
-50.0	-28.3	-10.5	-17.8
-49.0	-26.9	-10.5	-16.4
-48.0	-26.4	-20.5	-5.9
-47.0	-26.8	-20.3	-6.5
-46.0	-24.0	-20.1	-3.9
-45.0	-24.1	-19.8	-4.2
-44.0	-25.4	-19.6	-5.8
-43.0	-25.8	-19.3	-6.4
-42.0	-20.2	-19.1	-1.1
-41.0	-22.6	-18.8	-3.8
-40.0	-23.1	-18.6	-4.5
-39.0	-19.9	-18.3	-1.7
-38.0	-21.9	-18.0	-3.9
-37.0	-20.3	-17.7	-2.5
-36.0	-24.1	-17.4	-6.7
-35.0	-23.8	-17.1	-6.7
-34.0	-22.1	-16.8	-5.3
-33.0	-32.4	-16.5	-15.9
-32.0	-21.3	-16.1	-5.1
-31.0	-24.1	-15.8	-8.3
-30.0	-30.1	-15.4	-14.7
-29.0	-22.5	-15.1	-7.4
-28.0	-24.3	-14.7	-9.6
-27.0	-31.6	-14.3	-17.3
-26.0	-25.5	-13.9	-11.7
-25.0	-22.7	-13.4	-9.2
-24.0	-26.4	-13.0	-13.4
-23.0	-17.6	-12.5	-5.0
-22.0	-39.1	-12.1	-27.0
-21.0	-15.2	-11.6	-3.6
-20.0	-22.1	-11.0	-11.1
-19.0	-18.3	-10.5	-7.8
-18.0	-15.6	-9.9	-5.7
-17.0	-21.5	-9.3	-12.2
-16.0	-11.5	-8.6	-2.9
-15.0	-17.9	-7.9	-10.0
-14.0	-21.4	-7.2	-14.3
-13.0	-16.9	-6.3	-10.6
-12.0	-21.2	-5.5	-15.8
-11.0	-19.8	-4.5	-15.3
-10.0	-11.2	-3.5	-7.7
-9.0	-16.2	-2.6	-13.5
-8.0	-21.3	-2.6	-18.6
-7.0	-9.1	-2.6	-6.5
-6.0	-23.0	-1.0	-22.0
-5.0	-7.6	1.0	-8.6
-4.0	-7.2	3.4	-10.6
-3.0	-1.8	6.6	-8.4
-2.0	7.0	11.0	-4.0
-1.0	2.9		
0.0	36.9		

123.0	-38.4	-10.5	-27.9
124.0	-34.2	-10.5	-23.7
125.0	-42.4	-10.5	-31.9
126.0	-54.3	-10.5	-43.8
127.0	-34.0	-10.5	-23.5
128.0	-40.2	-10.5	-29.7
129.0	-31.2	-10.5	-20.7
130.0	-39.0	-10.5	-28.5
131.0	-31.0	-10.5	-20.5
132.0	-30.5	-10.5	-20.0
133.0	-32.7	-10.5	-22.2
134.0	-34.7	-10.5	-24.2
135.0	-32.6	-10.5	-22.1
136.0	-34.7	-10.5	-24.2
137.0	-31.6	-10.5	-21.1
138.0	-32.4	-10.5	-21.9
139.0	-32.4	-10.5	-21.9
140.0	-29.4	-10.5	-18.9
141.0	-31.4	-10.5	-20.9
142.0	-38.5	-10.5	-28.0
143.0	-44.3	-10.5	-33.8
144.0	-40.8	-10.5	-30.3
145.0	-34.9	-10.5	-24.4
146.0	-31.5	-10.5	-21.0
147.0	-32.2	-10.5	-21.7
148.0	-46.9	-10.5	-36.4
149.0	-36.1	-10.5	-25.6
150.0	-36.1	-10.5	-25.6
151.0	-36.0	-10.5	-25.5
152.0	-41.4	-10.5	-30.9
153.0	-40.0	-10.5	-29.5
154.0	-33.3	-10.5	-22.8
155.0	-34.3	-10.5	-23.8
156.0	-36.5	-10.5	-26.0
157.0	-37.3	-10.5	-26.8
158.0	-30.8	-10.5	-20.3
159.0	-31.7	-10.5	-21.2
160.0	-31.8	-10.5	-21.3
161.0	-40.3	-10.5	-29.8
162.0	-36.7	-10.5	-26.2
163.0	-33.0	-10.5	-22.5
164.0	-29.3	-10.5	-18.8
165.0	-31.3	-10.5	-20.8
166.0	-29.4	-10.5	-18.9
167.0	-37.2	-10.5	-26.7
168.0	-41.1	-10.5	-30.6
169.0	-29.3	-10.5	-18.8
170.0	-32.5	-10.5	-22.0
171.0	-35.8	-10.5	-25.3
172.0	-33.1	-10.5	-22.6
173.0	-39.5	-10.5	-29.0
174.0	-41.1	-10.5	-30.6
175.0	-39.5	-10.5	-29.0
176.0	-45.9	-10.5	-35.4
177.0	-46.8	-10.5	-36.3
178.0	-36.2	-10.5	-25.7
179.0	-41.6	-10.5	-31.1

Orbit Communication Systems Ltd.

AL AL-7103-Ka, 1.20 m Antenna, EIRPsd Data Table
Co-pol Azimuth LHCP, -10° to +10° @ 0.1° increment

29.10 GHz @ -11.58 dBW / 40 kHz in Co-pol Az LHCP				29.10 GHz @ -11.58 dBW / 40 kHz in Co-pol Az LHCP			
Angle	EIRPsd	Mask	Over Mask	Angle	EIRPsd	Mask	Over Mask
Degrees	dBW/40kHz	dBW/40kHz	dB	Degrees	dBW/40kHz	dBW/40kHz	dB
-10.0	-11.2	-3.5	-7.7	0.0	36.9		
-9.9	-9.7	-3.4	-6.3	0.1	36.7		
-9.8	-9.2	-3.3	-5.9	0.2	36.0		
-9.7	-9.8	-3.2	-6.7	0.3	34.8		
-9.6	-11.7	-3.1	-8.6	0.4	33.1		
-9.5	-14.8	-2.9	-11.9	0.5	30.8		
-9.4	-18.5	-2.8	-15.7	0.6	28.0		
-9.3	-19.7	-2.7	-17.0	0.7	24.7		
-9.2	-17.5	-2.6	-14.8	0.8	20.6		
-9.1	-16.1	-2.6	-13.4	0.9	15.8		
-9.0	-16.2	-2.6	-13.5	1.0	10.5		
-8.9	-18.0	-2.6	-15.4	1.1	6.0		
-8.8	-21.3	-2.6	-18.7	1.2	6.6		
-8.7	-24.1	-2.6	-21.5	1.3	8.3		
-8.6	-19.7	-2.6	-17.1	1.4	8.8		
-8.5	-15.8	-2.6	-13.2	1.5	8.1		
-8.4	-13.6	-2.6	-10.9	1.6	6.3		
-8.3	-13.2	-2.6	-10.6	1.7	3.7		
-8.2	-14.1	-2.6	-11.5	1.8	0.7		
-8.1	-17.5	-2.6	-14.9	1.9	-1.2		
-8.0	-21.3	-2.6	-18.6	2.0	-1.8	11.0	-12.8
-7.9	-17.1	-2.6	-14.4	2.1	-0.5	10.4	-10.9
-7.8	-13.1	-2.6	-10.5	2.2	1.2	9.9	-8.7
-7.7	-11.4	-2.6	-8.8	2.3	2.2	9.5	-7.2
-7.6	-11.5	-2.6	-8.9	2.4	2.7	9.0	-6.3
-7.5	-13.4	-2.6	-10.8	2.5	2.4	8.6	-6.2
-7.4	-17.2	-2.6	-14.6	2.6	1.8	8.1	-6.3
-7.3	-19.2	-2.6	-16.6	2.7	1.2	7.7	-6.6
-7.2	-13.9	-2.6	-11.3	2.8	0.8	7.3	-6.6
-7.1	-10.6	-2.6	-8.0	2.9	0.6	6.9	-6.4
-7.0	-9.1	-2.6	-6.5	3.0	-0.2	6.6	-6.8
-6.9	-8.5	-2.5	-6.0	3.1	-1.4	6.2	-7.6
-6.8	-9.2	-2.3	-6.9	3.2	-2.4	5.9	-8.2
-6.7	-11.2	-2.2	-9.1	3.3	-2.8	5.5	-8.4
-6.6	-14.9	-2.0	-12.9	3.4	-2.3	5.2	-7.5
-6.5	-22.9	-1.8	-21.0	3.5	-1.9	4.9	-6.8
-6.4	-21.2	-1.7	-19.6	3.6	-1.9	4.6	-6.5
-6.3	-16.0	-1.5	-14.5	3.7	-2.6	4.3	-6.9
-6.2	-14.3	-1.3	-13.0	3.8	-4.0	4.0	-8.0
-6.1	-16.1	-1.1	-14.9	3.9	-6.6	3.7	-10.3
-6.0	-23.0	-1.0	-22.0	4.0	-8.8	3.4	-12.2
-5.9	-24.3	-0.8	-23.6	4.1	-9.0	3.2	-12.2
-5.8	-14.8	-0.6	-14.3	4.2	-8.5	2.9	-11.4
-5.7	-11.2	-0.4	-10.8	4.3	-9.0	2.7	-11.7
-5.6	-10.3	-0.2	-10.1	4.4	-11.2	2.4	-13.6
-5.5	-11.7	0.0	-11.7	4.5	-12.8	2.2	-14.9
-5.4	-15.9	0.2	-16.1	4.6	-10.3	1.9	-12.2
-5.3	-25.1	0.4	-25.5	4.7	-7.5	1.7	-9.1
-5.2	-15.0	0.6	-15.6	4.8	-6.6	1.5	-8.0
-5.1	-9.7	0.8	-10.5	4.9	-7.1	1.2	-8.3
-5.0	-7.6	1.0	-8.6	5.0	-9.2	1.0	-10.2
-4.9	-6.7	1.2	-7.9	5.1	-12.8	0.8	-13.6
-4.8	-6.7	1.5	-8.1	5.2	-17.8	0.6	-18.4
-4.7	-7.1	1.7	-8.8	5.3	-17.1	0.4	-17.5
-4.6	-8.8	1.9	-10.7	5.4	-17.0	0.2	-17.2
-4.5	-11.6	2.2	-13.8	5.5	-21.1	0.0	-21.1
-4.4	-14.7	2.4	-17.1	5.6	-19.6	-0.2	-19.4
-4.3	-12.8	2.7	-15.5	5.7	-14.8	-0.4	-14.4
-4.2	-8.9	2.9	-11.8	5.8	-12.2	-0.6	-11.6
-4.1	-7.2	3.2	-10.3	5.9	-11.7	-0.8	-10.9
-4.0	-7.2	3.4	-10.6	6.0	-12.8	-1.0	-11.8
-3.9	-8.0	3.7	-11.8	6.1	-15.7	-1.1	-14.5

Orbit Communication Systems Ltd.

AL AL-7103-Ka, 1.20 m Antenna, EIRPsd Data Table
 Co-pol Azimuth LHCP, -10° to +10° @ 0.1° increment

-3.8	-7.7	4.0	-11.7		6.2	-21.8	-1.3	-20.5
-3.7	-5.0	4.3	-9.3		6.3	-24.7	-1.5	-23.2
-3.6	-2.2	4.6	-6.8		6.4	-19.1	-1.7	-17.4
-3.5	-0.3	4.9	-5.2		6.5	-16.1	-1.8	-14.2
-3.4	0.5	5.2	-4.7		6.6	-14.8	-2.0	-12.8
-3.3	0.6	5.5	-4.9		6.7	-14.3	-2.2	-12.1
-3.2	0.2	5.9	-5.7		6.8	-15.3	-2.3	-12.9
-3.1	-0.6	6.2	-6.8		6.9	-19.2	-2.5	-16.7
-3.0	-1.8	6.6	-8.4		7.0	-29.6	-2.6	-26.9
-2.9	-2.8	6.9	-9.8		7.1	-21.5	-2.6	-18.9
-2.8	-2.2	7.3	-9.5		7.2	-16.5	-2.6	-13.8
-2.7	0.0	7.7	-7.7		7.3	-15.0	-2.6	-12.4
-2.6	2.5	8.1	-5.7		7.4	-15.8	-2.6	-13.2
-2.5	4.4	8.6	-4.2		7.5	-20.2	-2.6	-17.5
-2.4	5.7	9.0	-3.3		7.6	-33.1	-2.6	-30.5
-2.3	6.6	9.5	-2.9		7.7	-23.9	-2.6	-21.3
-2.2	7.3	9.9	-2.7		7.8	-20.1	-2.6	-17.5
-2.1	7.5	10.4	-3.0		7.9	-20.2	-2.6	-17.5
-2.0	7.0	11.0	-4.0		8.0	-24.2	-2.6	-21.6
-1.9	5.5				8.1	-28.0	-2.6	-25.3
-1.8	2.4				8.2	-22.2	-2.6	-19.6
-1.7	-1.3				8.3	-19.5	-2.6	-16.9
-1.6	0.5				8.4	-21.2	-2.6	-18.5
-1.5	3.8				8.5	-28.4	-2.6	-25.8
-1.4	5.4				8.6	-27.0	-2.6	-24.3
-1.3	5.6				8.7	-20.1	-2.6	-17.4
-1.2	5.4				8.8	-18.5	-2.6	-15.8
-1.1	4.8				8.9	-21.0	-2.6	-18.4
-1.0	2.9				9.0	-25.8	-2.6	-23.2
-0.9	7.6				9.1	-23.7	-2.6	-21.1
-0.8	16.0				9.2	-17.1	-2.6	-14.4
-0.7	22.0				9.3	-14.6	-2.7	-11.8
-0.6	26.6				9.4	-14.7	-2.8	-11.9
-0.5	30.0				9.5	-17.1	-2.9	-14.1
-0.4	32.6				9.6	-22.3	-3.1	-19.2
-0.3	34.5				9.7	-25.5	-3.2	-22.3
-0.2	35.8				9.8	-20.6	-3.3	-17.4
-0.1	36.6				9.9	-18.6	-3.4	-15.2
0.0	36.9				10.0	-19.6	-3.5	-16.1

Orbit Communication Systems Ltd.

AL-7103-Ka, 1.20 m Antenna, EIRPsd Data Table
Co-pol Elevation LHCP, -30° to +30° @ 0.5° increment

29.10 GHz @ -11.58 dBW / 40 kHz in Co-pol EI LHCP

Angle	EIRPsd	Mask	Over Mask
Degrees	dBW/40kHz	dBW/40kHz	dB
-30.0	-25.8	-12.4	-13.4
-29.5	-23.3	-12.2	-11.1
-29.0	-25.1	-12.1	-13.1
-28.5	-23.8	-11.9	-12.0
-28.0	-22.9	-11.7	-11.2
-27.5	-23.1	-11.5	-11.6
-27.0	-21.8	-11.3	-10.5
-26.5	-21.6	-11.1	-10.6
-26.0	-24.3	-10.9	-13.4
-25.5	-24.3	-10.7	-13.7
-25.0	-20.3	-10.4	-9.8
-24.5	-20.7	-10.2	-10.4
-24.0	-23.3	-10.0	-13.3
-23.5	-21.7	-9.8	-12.0
-23.0	-23.2	-9.5	-13.7
-22.5	-24.3	-9.3	-15.0
-22.0	-22.5	-9.1	-13.4
-21.5	-26.5	-8.8	-17.7
-21.0	-37.3	-8.6	-28.8
-20.5	-32.4	-8.3	-24.1
-20.0	-22.6	-8.0	-14.6
-19.5	-21.8	-7.8	-14.1
-19.0	-22.6	-7.5	-15.1
-18.5	-27.5	-7.2	-20.3
-18.0	-23.1	-6.9	-16.2
-17.5	-18.9	-6.6	-12.3
-17.0	-20.1	-6.3	-13.9
-16.5	-30.3	-5.9	-24.3
-16.0	-22.7	-5.6	-17.1
-15.5	-24.6	-5.3	-19.4
-15.0	-25.0	-4.9	-20.1
-14.5	-22.8	-4.5	-18.3
-14.0	-18.8	-4.2	-14.6
-13.5	-19.9	-3.8	-16.1
-13.0	-22.3	-3.3	-19.0
-12.5	-26.4	-2.9	-23.5
-12.0	-20.5	-2.5	-18.0
-11.5	-23.1	-2.0	-21.1
-11.0	-22.7	-1.5	-21.2
-10.5	-23.0	-1.0	-22.0
-10.0	-28.6	-0.5	-28.1
-9.5	-21.1	0.1	-21.2
-9.0	-21.7	0.4	-22.1
-8.5	-21.6	0.4	-22.0
-8.0	-33.2	0.4	-33.6
-7.5	-31.6	0.4	-31.9
-7.0	-23.8	0.4	-24.2
-6.5	-10.5	1.2	-11.7
-6.0	-11.0	2.0	-13.0
-5.5	-20.8	3.0	-23.7
-5.0	-9.1	4.0	-13.1
-4.5	-11.0	5.2	-16.1
-4.0	-11.4	6.4	-17.9
-3.5	-8.3	7.9	-16.2
-3.0	0.0		
-2.5	0.8		
-2.0	1.1		
-1.5	10.0		
-1.0	11.5		
-0.5	30.9		
0.0	36.9		

29.10 GHz @ -11.58 dBW / 40 kHz in Co-pol EI LHCP

Angle	EIRPsd	Mask	Over Mask
Degrees	dBW/40kHz	dBW/40kHz	dB
0.0	36.9		
0.5	29.4		
1.0	5.0		
1.5	3.4		
2.0	5.8		
2.5	4.6		
3.0	-5.3		
3.5	-4.5	7.9	-12.4
4.0	-4.9	6.4	-11.4
4.5	-12.0	5.2	-17.2
5.0	-9.8	4.0	-13.9
5.5	-9.0	3.0	-12.0
6.0	-26.5	2.0	-28.6
6.5	-17.3	1.2	-18.5
7.0	-9.5	0.4	-9.9
7.5	-10.9	0.4	-11.3
8.0	-14.3	0.4	-14.6
8.5	-13.4	0.4	-13.7
9.0	-24.0	0.4	-24.3
9.5	-11.0	0.1	-11.0
10.0	-10.7	-0.5	-10.2
10.5	-22.8	-1.0	-21.8
11.0	-17.7	-1.5	-16.1
11.5	-17.7	-2.0	-15.7
12.0	-24.0	-2.5	-21.6
12.5	-14.9	-2.9	-11.9
13.0	-22.9	-3.3	-19.5
13.5	-16.0	-3.8	-12.2
14.0	-13.4	-4.2	-9.3
14.5	-17.4	-4.5	-12.9
15.0	-15.2	-4.9	-10.2
15.5	-19.3	-5.3	-14.1
16.0	-19.8	-5.6	-14.2
16.5	-14.4	-5.9	-8.4
17.0	-40.0	-6.3	-33.7
17.5	-16.0	-6.6	-9.5
18.0	-18.5	-6.9	-11.6
18.5	-14.3	-7.2	-7.2
19.0	-17.6	-7.5	-10.2
19.5	-15.0	-7.8	-7.3
20.0	-18.8	-8.0	-10.8
20.5	-18.9	-8.3	-10.6
21.0	-16.5	-8.6	-8.0
21.5	-16.8	-8.8	-8.0
22.0	-18.9	-9.1	-9.8
22.5	-17.5	-9.3	-8.2
23.0	-19.7	-9.5	-10.2
23.5	-21.5	-9.8	-11.7
24.0	-24.3	-10.0	-14.3
24.5	-28.4	-10.2	-18.1
25.0	-17.1	-10.4	-6.6
25.5	-23.4	-10.7	-12.8
26.0	-26.0	-10.9	-15.1
26.5	-19.1	-11.1	-8.0
27.0	-27.1	-11.3	-15.8
27.5	-24.1	-11.5	-12.7
28.0	-24.7	-11.7	-13.1
28.5	-24.9	-11.9	-13.0
29.0	-32.6	-12.1	-20.5
29.5	-25.5	-12.2	-13.2
30.0	-24.2	-12.4	-11.8

Orbit Communication Systems Ltd.

AL-7103-Ka, 1.20 m Antenna, EIRPsd Data Table
Co-pol Elevation LHCP, -10° to +10° @ 0.1° increment

29.10 GHz @ -11.58 dBW / 40 kHz in Co-pol EI LHCP

Angle	EIRPsd	Mask	Over Mask
Degrees	dBW/40kHz	dBW/40kHz	dB
-10.0	-28.6	-0.5	-28.1
-9.9	-26.4	-0.4	-26.0
-9.8	-29.4	-0.3	-29.1
-9.7	-28.5	-0.2	-28.4
-9.6	-23.8	-0.1	-23.8
-9.5	-21.1	0.1	-21.2
-9.4	-20.9	0.2	-21.1
-9.3	-24.0	0.3	-24.3
-9.2	-32.8	0.4	-33.1
-9.1	-28.2	0.4	-28.6
-9.0	-21.7	0.4	-22.1
-8.9	-19.7	0.4	-20.1
-8.8	-21.0	0.4	-21.4
-8.7	-24.1	0.4	-24.5
-8.6	-26.5	0.4	-26.9
-8.5	-21.6	0.4	-22.0
-8.4	-18.8	0.4	-19.1
-8.3	-18.8	0.4	-19.1
-8.2	-20.7	0.4	-21.1
-8.1	-27.1	0.4	-27.5
-8.0	-33.2	0.4	-33.6
-7.9	-25.2	0.4	-25.6
-7.8	-23.8	0.4	-24.2
-7.7	-24.5	0.4	-24.9
-7.6	-27.3	0.4	-27.7
-7.5	-31.6	0.4	-31.9
-7.4	-28.1	0.4	-28.5
-7.3	-22.9	0.4	-23.3
-7.2	-20.4	0.4	-20.8
-7.1	-20.4	0.4	-20.8
-7.0	-23.8	0.4	-24.2
-6.9	-27.3	0.5	-27.9
-6.8	-18.9	0.7	-19.6
-6.7	-13.6	0.8	-14.5
-6.6	-11.1	1.0	-12.1
-6.5	-10.5	1.2	-11.7
-6.4	-11.2	1.3	-12.5
-6.3	-13.6	1.5	-15.2
-6.2	-15.0	1.7	-16.7
-6.1	-12.9	1.9	-14.8
-6.0	-11.0	2.0	-13.0
-5.9	-10.7	2.2	-12.9
-5.8	-12.6	2.4	-15.0
-5.7	-17.6	2.6	-20.2
-5.6	-26.6	2.8	-29.4
-5.5	-20.8	3.0	-23.7
-5.4	-17.2	3.2	-20.4
-5.3	-18.7	3.4	-22.1
-5.2	-18.1	3.6	-21.7
-5.1	-12.6	3.8	-16.4
-5.0	-9.1	4.0	-13.1
-4.9	-7.3	4.2	-11.6
-4.8	-7.5	4.5	-12.0
-4.7	-9.0	4.7	-13.7
-4.6	-10.7	4.9	-15.6
-4.5	-11.0	5.2	-16.1
-4.4	-9.9	5.4	-15.3
-4.3	-9.3	5.7	-15.0
-4.2	-9.6	5.9	-15.5
-4.1	-10.4	6.2	-16.6

29.10 GHz @ -11.58 dBW / 40 kHz in Co-pol EI LHCP

Angle	EIRPsd	Mask	Over Mask
Degrees	dBW/40kHz	dBW/40kHz	dB
0.0	36.9		
0.1	36.6		
0.2	35.7		
0.3	34.3		
0.4	32.2		
0.5	29.4		
0.6	25.7		
0.7	20.6		
0.8	13.4		
0.9	2.3		
1.0	5.0		
1.1	7.3		
1.2	7.1		
1.3	6.0		
1.4	4.7		
1.5	3.4		
1.6	2.0		
1.7	2.3		
1.8	3.7		
1.9	5.0		
2.0	5.8		
2.1	6.2		
2.2	6.3		
2.3	6.1		
2.4	5.6		
2.5	4.6		
2.6	3.0		
2.7	0.6		
2.8	-2.3		
2.9	-4.4		
3.0	-5.3		
3.1	-5.0		
3.2	-4.1		
3.3	-3.2		
3.4	-3.3		
3.5	-4.5	7.9	-12.4
3.6	-6.2	7.6	-13.7
3.7	-7.5	7.3	-14.8
3.8	-6.9	7.0	-13.9
3.9	-5.4	6.7	-12.1
4.0	-4.9	6.4	-11.4
4.1	-5.8	6.2	-11.9
4.2	-6.9	5.9	-12.8
4.3	-9.3	5.7	-15.0
4.4	-11.5	5.4	-16.9
4.5	-12.0	5.2	-17.2
4.6	-11.0	4.9	-15.9
4.7	-9.6	4.7	-14.3
4.8	-8.3	4.5	-12.8
4.9	-7.9	4.2	-12.1
5.0	-9.8	4.0	-13.9
5.1	-14.2	3.8	-18.0
5.2	-26.0	3.6	-29.6
5.3	-17.2	3.4	-20.6
5.4	-10.7	3.2	-13.9
5.5	-9.0	3.0	-12.0
5.6	-8.6	2.8	-11.4
5.7	-10.0	2.6	-12.6
5.8	-14.4	2.4	-16.8
5.9	-24.4	2.2	-26.7

Orbit Communication Systems Ltd.
 AL-7103-Ka, 1.20 m Antenna, EIRPsd Data Table
 Co-pol Elevation LHCP, -10° to +10° @ 0.1° increment

-4.0	-11.4	6.4	-17.9
-3.9	-11.8	6.7	-18.5
-3.8	-11.7	7.0	-18.7
-3.7	-10.7	7.3	-18.0
-3.6	-9.5	7.6	-17.1
-3.5	-8.3	7.9	-16.2
-3.4	-6.9		
-3.3	-5.0		
-3.2	-2.9		
-3.1	-1.0		
-3.0	0.0		
-2.9	0.0		
-2.8	-0.7		
-2.7	-1.3		
-2.6	-0.7		
-2.5	0.8		
-2.4	2.0		
-2.3	2.3		
-2.2	2.0		
-2.1	1.4		
-2.0	1.1		
-1.9	1.7		
-1.8	3.6		
-1.7	6.3		
-1.6	8.6		
-1.5	10.0		
-1.4	10.3		
-1.3	9.5		
-1.2	8.0		
-1.1	7.8		
-1.0	11.5		
-0.9	16.2		
-0.8	20.7		
-0.7	24.7		
-0.6	28.1		
-0.5	30.9		
-0.4	33.2		
-0.3	34.9		
-0.2	36.1		
-0.1	36.8		
0.0	36.9		

6.0	-26.5	2.0	-28.6
6.1	-18.5	1.9	-20.4
6.2	-17.1	1.7	-18.8
6.3	-17.4	1.5	-18.9
6.4	-18.2	1.3	-19.6
6.5	-17.3	1.2	-18.5
6.6	-14.4	1.0	-15.4
6.7	-11.8	0.8	-12.7
6.8	-9.8	0.7	-10.5
6.9	-9.3	0.5	-9.8
7.0	-9.5	0.4	-9.9
7.1	-10.6	0.4	-11.0
7.2	-12.3	0.4	-12.7
7.3	-12.6	0.4	-12.9
7.4	-11.6	0.4	-12.0
7.5	-10.9	0.4	-11.3
7.6	-10.6	0.4	-10.9
7.7	-11.3	0.4	-11.7
7.8	-12.9	0.4	-13.3
7.9	-14.5	0.4	-14.9
8.0	-14.3	0.4	-14.6
8.1	-12.8	0.4	-13.1
8.2	-11.7	0.4	-12.1
8.3	-11.5	0.4	-11.9
8.4	-11.6	0.4	-12.0
8.5	-13.4	0.4	-13.7
8.6	-15.5	0.4	-15.8
8.7	-19.1	0.4	-19.5
8.8	-23.0	0.4	-23.3
8.9	-24.5	0.4	-24.9
9.0	-24.0	0.4	-24.3
9.1	-24.8	0.4	-25.2
9.2	-24.6	0.4	-24.9
9.3	-18.8	0.3	-19.1
9.4	-13.8	0.2	-14.0
9.5	-11.0	0.1	-11.0
9.6	-9.1	-0.1	-9.1
9.7	-8.2	-0.2	-8.1
9.8	-8.2	-0.3	-7.9
9.9	-9.3	-0.4	-8.9
10.0	-10.7	-0.5	-10.2

Orbit Communication Systems Ltd.
AL-7103-Ka, 1.20 m Antenna, EIRPsd Data Table
X-pol Azimuth LHCP, -10° to +10° @ 0.1° increment

29.10 GHz @ -11.58 dBW / 40 kHz in X-pol Az LHCP

Angle	EIRPsd	Mask	Over Mask
Degrees	dBW/40kHz	dBW/40kHz	dB
-10.0	-15.4	-12.6	-2.7
-9.9	-15.0	-12.6	-2.3
-9.8	-14.8	-12.6	-2.2
-9.7	-15.0	-12.6	-2.4
-9.6	-16.0	-12.6	-3.4
-9.5	-17.0	-12.6	-4.4
-9.4	-18.5	-12.6	-5.8
-9.3	-20.3	-12.6	-7.7
-9.2	-22.1	-12.6	-9.5
-9.1	-23.4	-12.6	-10.8
-9.0	-25.3	-12.6	-12.7
-8.9	-24.9	-12.6	-12.3
-8.8	-26.2	-12.6	-13.6
-8.7	-29.5	-12.6	-16.9
-8.6	-37.0	-12.6	-24.4
-8.5	-29.6	-12.6	-16.9
-8.4	-24.2	-12.6	-11.6
-8.3	-22.1	-12.6	-9.5
-8.2	-20.8	-12.6	-8.1
-8.1	-22.0	-12.6	-9.4
-8.0	-24.5	-12.6	-11.8
-7.9	-25.7	-12.6	-13.1
-7.8	-25.9	-12.6	-13.2
-7.7	-22.4	-12.6	-9.8
-7.6	-22.4	-12.6	-9.8
-7.5	-23.7	-12.6	-11.1
-7.4	-28.4	-12.6	-15.8
-7.3	-32.9	-12.6	-20.3
-7.2	-23.2	-12.6	-10.6
-7.1	-19.7	-12.6	-7.1
-7.0	-18.1	-12.6	-5.4
-6.9	-17.7	-12.5	-5.3
-6.8	-18.5	-12.3	-6.2
-6.7	-21.0	-12.2	-8.9
-6.6	-20.6	-12.0	-8.6
-6.5	-18.7	-11.8	-6.8
-6.4	-15.3	-11.7	-3.6
-6.3	-12.9	-11.5	-1.4
-6.2	-11.3	-11.3	0.0
-6.1	-11.2	-11.1	-0.1
-6.0	-12.2	-11.0	-1.2
-5.9	-14.7	-10.8	-3.9
-5.8	-19.8	-10.6	-9.2
-5.7	-24.2	-10.4	-13.9
-5.6	-19.7	-10.2	-9.5
-5.5	-16.2	-10.0	-6.2
-5.4	-14.9	-9.8	-5.1
-5.3	-16.1	-9.6	-6.5
-5.2	-17.3	-9.4	-7.9
-5.1	-17.3	-9.2	-8.1
-5.0	-16.4	-9.0	-7.5
-4.9	-15.2	-8.8	-6.5
-4.8	-14.7	-8.5	-6.2
-4.7	-14.6	-8.3	-6.3
-4.6	-15.0	-8.1	-6.9
-4.5	-13.7	-7.8	-5.9
-4.4	-12.3	-7.6	-4.7
-4.3	-10.7	-7.3	-3.4
-4.2	-9.1	-7.1	-2.1
-4.1	-7.7	-6.8	-0.9

29.10 GHz @ -11.58 dBW / 40 kHz in X-pol Az LHCP

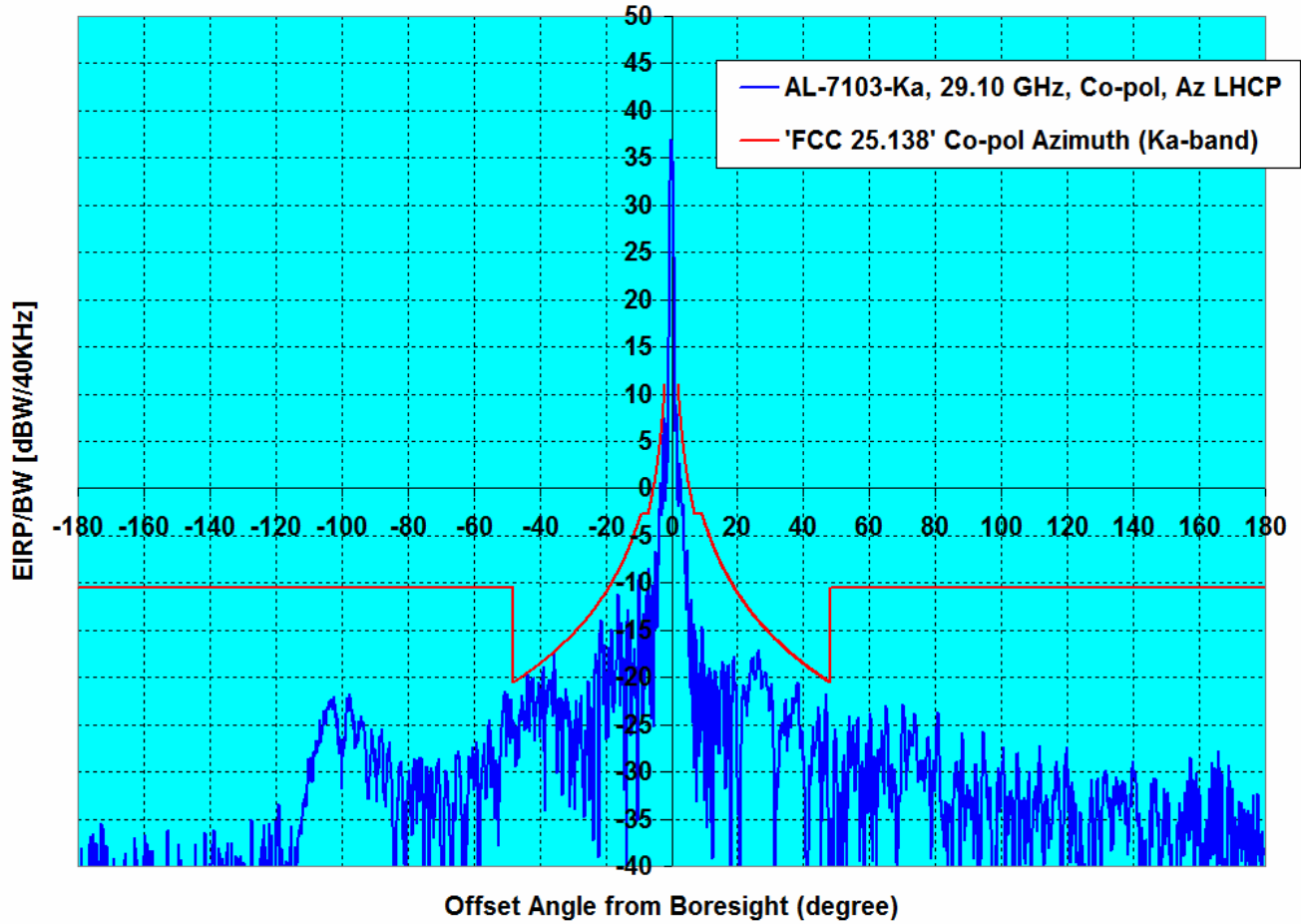
Angle	EIRPsd	Mask	Over Mask
Degrees	dBW/40kHz	dBW/40kHz	dB
0.0	6.9		
0.1	5.3		
0.2	4.9		
0.3	5.6		
0.4	6.8		
0.5	7.7		
0.6	8.1		
0.7	7.7		
0.8	6.6		
0.9	4.4		
1.0	0.7		
1.1	-5.2		
1.2	-15.4		
1.3	-13.1		
1.4	-10.9		
1.5	-12.9		
1.6	-14.4		
1.7	-12.2		
1.8	-10.2		
1.9	-10.7		
2.0	-14.5	1.0	-15.4
2.1	-23.9	0.4	-24.4
2.2	-20.7	-0.1	-20.6
2.3	-14.1	-0.5	-13.6
2.4	-13.4	-1.0	-12.4
2.5	-14.5	-1.4	-13.1
2.6	-16.3	-1.9	-14.5
2.7	-16.5	-2.3	-14.2
2.8	-14.6	-2.7	-11.9
2.9	-14.9	-3.1	-11.8
3.0	-16.9	-3.4	-13.5
3.1	-27.7	-3.8	-23.9
3.2	-26.4	-4.1	-22.2
3.3	-17.6	-4.5	-13.1
3.4	-16.4	-4.8	-11.6
3.5	-17.1	-5.1	-12.0
3.6	-18.5	-5.4	-13.1
3.7	-20.4	-5.7	-14.7
3.8	-19.5	-6.0	-13.5
3.9	-20.9	-6.3	-14.6
4.0	-24.0	-6.6	-17.4
4.1	-24.0	-6.8	-17.2
4.2	-19.8	-7.1	-12.8
4.3	-16.3	-7.3	-8.9
4.4	-15.9	-7.6	-8.3
4.5	-17.7	-7.8	-9.9
4.6	-24.4	-8.1	-16.3
4.7	-29.7	-8.3	-21.4
4.8	-21.3	-8.5	-12.7
4.9	-21.0	-8.8	-12.2
5.0	-22.2	-9.0	-13.2
5.1	-28.2	-9.2	-19.0
5.2	-32.0	-9.4	-22.6
5.3	-25.7	-9.6	-16.1
5.4	-20.8	-9.8	-10.9
5.5	-22.2	-10.0	-12.2
5.6	-28.8	-10.2	-18.6
5.7	-32.9	-10.4	-22.5
5.8	-24.4	-10.6	-13.8
5.9	-21.9	-10.8	-11.1

Orbit Communication Systems Ltd.
AL-7103-Ka, 1.20 m Antenna, EIRPsd Data Table
X-pol Azimuth LHCP, -10° to +10° @ 0.1° increment

-4.0	-7.1	-6.6	-0.5
-3.9	-6.9	-6.3	-0.7
-3.8	-7.6	-6.0	-1.6
-3.7	-9.0	-5.7	-3.3
-3.6	-10.7	-5.4	-5.3
-3.5	-12.3	-5.1	-7.2
-3.4	-12.0	-4.8	-7.2
-3.3	-10.8	-4.5	-6.3
-3.2	-9.5	-4.1	-5.3
-3.1	-8.6	-3.8	-4.8
-3.0	-8.5	-3.4	-5.0
-2.9	-9.3	-3.1	-6.3
-2.8	-11.8	-2.7	-9.1
-2.7	-16.6	-2.3	-14.3
-2.6	-22.3	-1.9	-20.4
-2.5	-16.4	-1.4	-15.0
-2.4	-13.9	-1.0	-12.9
-2.3	-13.4	-0.5	-12.9
-2.2	-11.5	-0.1	-11.5
-2.1	-8.4	0.4	-8.9
-2.0	-6.1	1.0	-7.1
-1.9	-5.6		
-1.8	-7.8		
-1.7	-11.9		
-1.6	-4.8		
-1.5	1.1		
-1.4	4.4		
-1.3	6.0		
-1.2	5.8		
-1.1	3.8		
-1.0	-1.3		
-0.9	-1.8		
-0.8	5.3		
-0.7	9.4		
-0.6	11.8		
-0.5	12.8		
-0.4	12.9		
-0.3	12.2		
-0.2	11.0		
-0.1	9.1		
0.0	6.9		

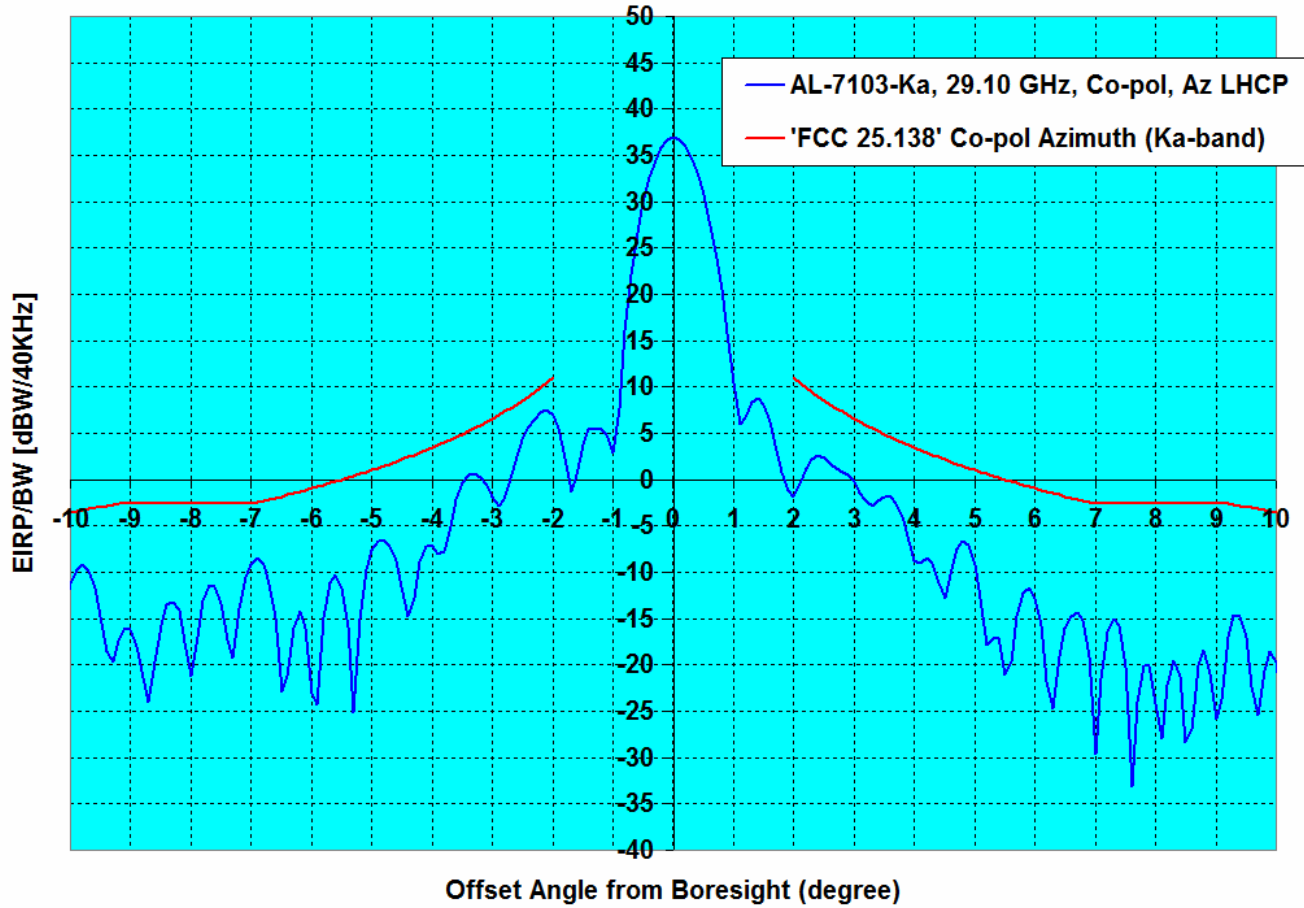
6.0	-22.6	-11.0	-11.7
6.1	-24.4	-11.1	-13.3
6.2	-28.2	-11.3	-16.9
6.3	-26.4	-11.5	-14.9
6.4	-25.3	-11.7	-13.6
6.5	-24.4	-11.8	-12.5
6.6	-28.2	-12.0	-16.2
6.7	-29.9	-12.2	-17.8
6.8	-27.0	-12.3	-14.7
6.9	-25.4	-12.5	-12.9
7.0	-27.1	-12.6	-14.5
7.1	-32.2	-12.6	-19.6
7.2	-36.3	-12.6	-23.7
7.3	-26.9	-12.6	-14.3
7.4	-24.7	-12.6	-12.1
7.5	-24.6	-12.6	-12.0
7.6	-26.9	-12.6	-14.3
7.7	-28.7	-12.6	-16.0
7.8	-26.8	-12.6	-14.1
7.9	-23.4	-12.6	-10.8
8.0	-24.5	-12.6	-11.9
8.1	-26.7	-12.6	-14.1
8.2	-36.4	-12.6	-23.8
8.3	-42.8	-12.6	-30.2
8.4	-36.0	-12.6	-23.3
8.5	-34.7	-12.6	-22.0
8.6	-40.0	-12.6	-27.4
8.7	-32.6	-12.6	-20.0
8.8	-33.4	-12.6	-20.8
8.9	-27.8	-12.6	-15.1
9.0	-29.1	-12.6	-16.4
9.1	-30.0	-12.6	-17.4
9.2	-31.7	-12.6	-19.1
9.3	-32.5	-12.6	-19.9
9.4	-30.6	-12.6	-18.0
9.5	-30.0	-12.6	-17.3
9.6	-31.4	-12.6	-18.8
9.7	-31.5	-12.6	-18.8
9.8	-38.5	-12.6	-25.8
9.9	-38.1	-12.6	-25.5
10.0	-35.4	-12.6	-22.7

**'FCC 25.138' Co-pol Guide at Ka-band for EIRP/BW of -11.58 dBW/40KHz to Input and
 36.92 dBW/40KHz in the Output of AL-7103-Ka Antenna at 29.10 GHz in Az LHCP
 Min BW of 3.63 MHz in case of 20W BUC**



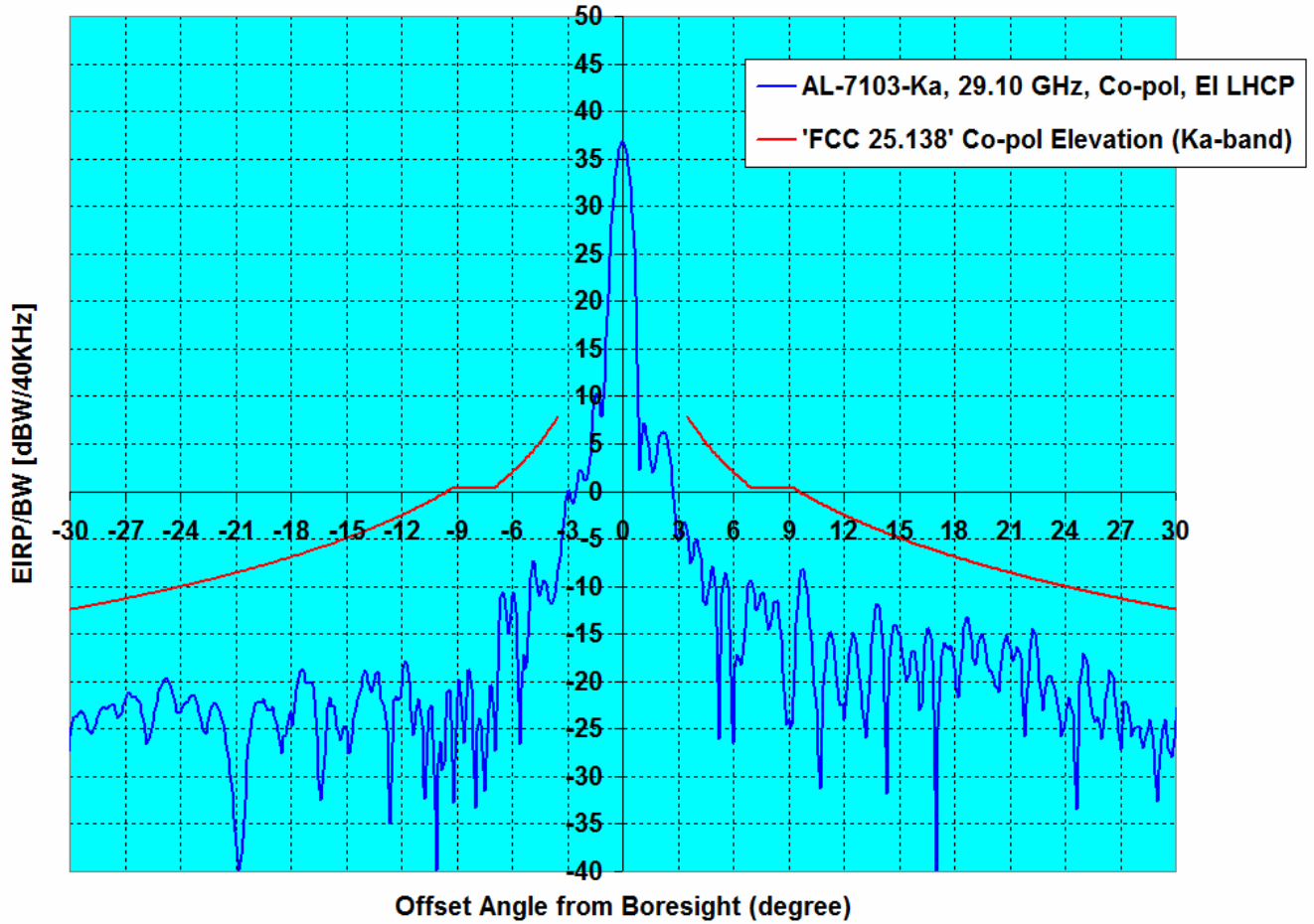
Configuration System, Freq., Polarization, Plane	Regulation EIRP/BW [dBW/40KHz]	Antenna Gain dBi	Input EIRPsd dBW/40KHz	Peak Excursions dB		Over Mask %
				± (2° to 10°)	± (10° to 180°)	
AL-7103-Ka, 29.10 GHz, Co-pol, Az LHCP	'FCC 25.138' Co-pol Azimuth (Ka-band)	48.50	-11.58	-2.68	-0.14	0.00

'FCC 25.138' Co-pol Guide at Ka-band for EIRP/BW of -11.58 dBW/40KHz to Input and 36.92 dBW/40KHz in the Output of AL-7103-Ka Antenna at 29.10 GHz in Az LHCP
 Min BW of 3.63 MHz in case of 20W BUC



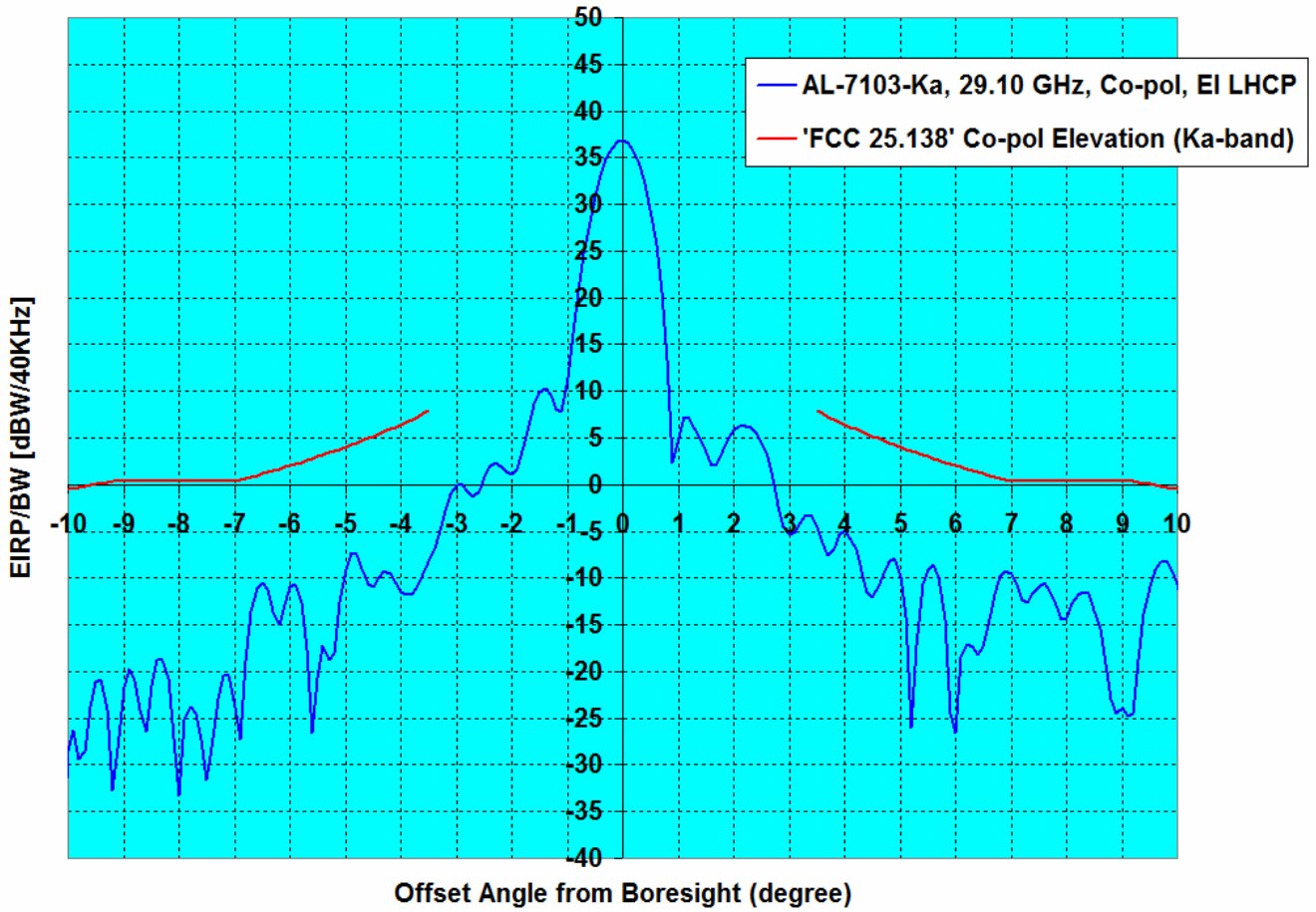
Configuration System, Freq., Polarization, Plane	Regulation EIRP/BW [dBW/40KHz]	Antenna Gain dBi	Input EIRPsd dBW/40KHz	Peak Excursions dB		Over Mask %
				± (2° to 10°)	± (10° to 180°)	
AL-7103-Ka, 29.10 GHz, Co-pol, Az LHCP	'FCC 25.138' Co-pol Azimuth (Ka-band)	48.50	-11.58	-2.68	-0.14	0.00

**'FCC 25.138' Co-pol Guide at Ka-band for EIRP/BW of -11.58 dBW/40KHz to Input and
 36.92 dBW/40KHz in the Output of AL-7103-Ka Antenna at 29.10 GHz in EI LHCP
 Min BW of 3.63 MHz in case of 20W BUC**



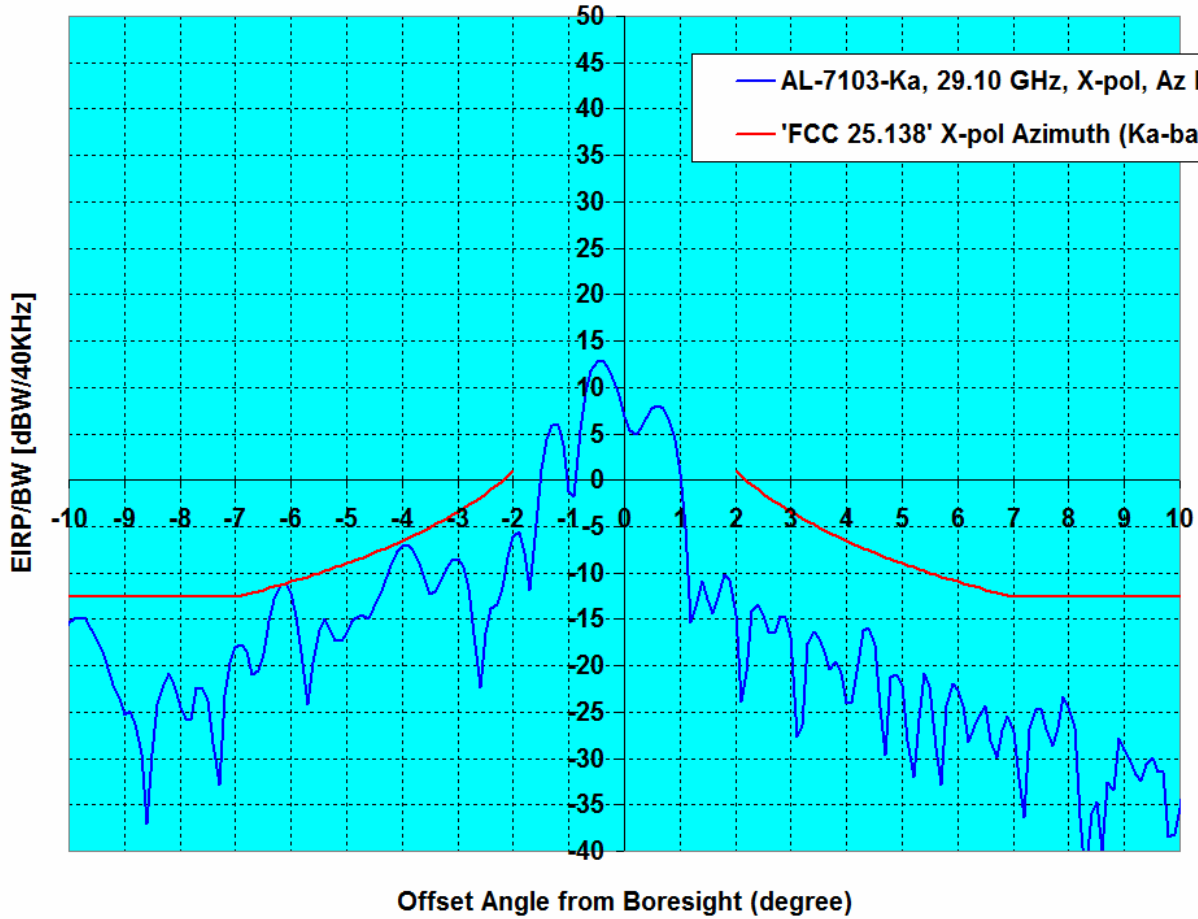
Configuration	Regulation	Antenna Gain	Input EIRPsd	Peak Excursions dB		Over Mask
System, Frequency, Polarization, Plane	EIRP/BW [dBW/40KHz]	dBi	dBW/40KHz	± (3.5° to 10°)	± (10° to 30°)	%
AL-7103-Ka, 29.10 GHz, Co-pol, EI LHCP	'FCC 25.138' Co-pol Elevation (Ka-band)	48.50	-11.58	-7.93	-5.25	0.00

'FCC 25.138' Co-pol Guide at Ka-band for EIRP/BW of -11.58 dBW/40KHz to Input and 36.92 dBW/40KHz in the Output of AL-7103-Ka Antenna at 29.10 GHz in EI LHCP
 Min BW of 3.63 MHz in case of 20W BUC



Configuration	Regulation	Antenna Gain	Input EIRPsd	Peak Excursions dB		Over Mask
System, Frequency, Polarization, Plane	EIRP/BW [dBW/40KHz]	dBi	dBW/40KHz	± (3.5° to 10°)	± (10° to 30°)	%
AL-7103-Ka, 29.10 GHz, Co-pol, EI LHCP	'FCC 25.138' Co-pol Elevation (Ka-band)	48.50	-11.58	-7.93	-5.25	0.00

**'FCC 25.138' X-pol Guide at Ka-band for EIRP/BW of -11.58 dBW/40KHz to Input and
 36.92 dBW/40KHz in the Output of AL-7103-Ka Antenna at 29.10 GHz in Az LHCP
 Min BW of 3.63 MHz in case of 20W BUC**



Configuration System, Frequency, Polarization, Plane	Regulation	Antenna Gain dBi	Input EIRPsd dBW/40KHz	Peak Excursions dB		Over Mask %
	EIRP/BW [dBW/40KHz]			± (2° to 7°)	± (2° to 9.2°)	
AL-7103-Ka, 29.10 GHz, X-pol, Az LHCP	'FCC 25.138' X-pol Azimuth (Ka-band)	48.50	-11.58	0.00	0.00	0.00

Orbit Communication Systems Ltd.

AL-7103-Ka, 1.20 m Antenna, EIRPsd Data Table
Co-pol Azimuth RHCP, -180° to +180° @ 1.0° increment

29.10 GHz @ -11.58 dBW / 40 kHz in Co-pol Az RHCP

Angle Degrees	EIRPsd dBW/40kHz	Mask dBW/40kHz	Over Mask dB
-179.0	-42.8	-10.5	-32.3
-178.0	-41.4	-10.5	-30.9
-177.0	-39.1	-10.5	-28.6
-176.0	-35.0	-10.5	-24.5
-175.0	-42.8	-10.5	-32.3
-174.0	-47.3	-10.5	-36.8
-173.0	-43.1	-10.5	-32.6
-172.0	-45.4	-10.5	-34.9
-171.0	-47.3	-10.5	-36.8
-170.0	-44.5	-10.5	-34.0
-169.0	-37.0	-10.5	-26.5
-168.0	-55.6	-10.5	-45.1
-167.0	-36.8	-10.5	-26.3
-166.0	-41.6	-10.5	-31.1
-165.0	-51.4	-10.5	-40.9
-164.0	-47.6	-10.5	-37.1
-163.0	-48.5	-10.5	-38.0
-162.0	-44.7	-10.5	-34.2
-161.0	-45.5	-10.5	-35.0
-160.0	-41.5	-10.5	-31.0
-159.0	-44.6	-10.5	-34.1
-158.0	-43.2	-10.5	-32.7
-157.0	-44.4	-10.5	-33.9
-156.0	-42.5	-10.5	-32.0
-155.0	-46.8	-10.5	-36.3
-154.0	-45.8	-10.5	-35.3
-153.0	-43.9	-10.5	-33.4
-152.0	-48.3	-10.5	-37.8
-151.0	-42.7	-10.5	-32.2
-150.0	-44.0	-10.5	-33.5
-149.0	-39.6	-10.5	-29.1
-148.0	-37.8	-10.5	-27.3
-147.0	-40.0	-10.5	-29.5
-146.0	-46.0	-10.5	-35.5
-145.0	-38.6	-10.5	-28.1
-144.0	-42.4	-10.5	-31.9
-143.0	-45.2	-10.5	-34.7
-142.0	-45.8	-10.5	-35.3
-141.0	-44.1	-10.5	-33.6
-140.0	-45.1	-10.5	-34.6
-139.0	-39.2	-10.5	-28.7
-138.0	-53.1	-10.5	-42.6
-137.0	-45.7	-10.5	-35.2
-136.0	-48.6	-10.5	-38.1
-135.0	-40.9	-10.5	-30.4
-134.0	-39.0	-10.5	-28.5
-133.0	-39.7	-10.5	-29.2
-132.0	-51.3	-10.5	-40.8
-131.0	-42.2	-10.5	-31.7
-130.0	-53.9	-10.5	-43.4
-129.0	-39.4	-10.5	-28.9
-128.0	-43.4	-10.5	-32.9
-127.0	-37.3	-10.5	-26.8
-126.0	-49.7	-10.5	-39.2
-125.0	-39.1	-10.5	-28.6
-124.0	-40.3	-10.5	-29.8
-123.0	-46.1	-10.5	-35.6
-122.0	-46.8	-10.5	-36.3
-121.0	-41.5	-10.5	-31.0
-120.0	-39.4	-10.5	-28.9

29.10 GHz @ -11.58 dBW / 40 kHz in Co-pol Az RHCP

Angle Degrees	EIRPsd dBW/40kHz	Mask dBW/40kHz	Over Mask dB
0.0	36.9		
1.0	11.1		
2.0	-0.6	11.0	-11.6
3.0	0.2	6.6	-6.4
4.0	-11.0	3.4	-14.4
5.0	-9.3	1.0	-10.3
6.0	-10.3	-1.0	-9.4
7.0	-38.5	-2.6	-35.9
8.0	-25.3	-2.6	-22.6
9.0	-27.7	-2.6	-25.1
10.0	-21.9	-3.5	-18.4
11.0	-24.6	-4.5	-20.1
12.0	-20.2	-5.5	-14.7
13.0	-18.6	-6.3	-12.3
14.0	-18.1	-7.2	-10.9
15.0	-20.9	-7.9	-13.0
16.0	-26.4	-8.6	-17.8
17.0	-17.8	-9.3	-8.6
18.0	-28.4	-9.9	-18.5
19.0	-21.6	-10.5	-11.1
20.0	-22.4	-11.0	-11.4
21.0	-32.4	-11.6	-20.9
22.0	-23.8	-12.1	-11.7
23.0	-21.6	-12.5	-9.0
24.0	-19.7	-13.0	-6.7
25.0	-20.8	-13.4	-7.4
26.0	-21.3	-13.9	-7.5
27.0	-24.7	-14.3	-10.4
28.0	-21.5	-14.7	-6.8
29.0	-26.5	-15.1	-11.5
30.0	-25.9	-15.4	-10.5
31.0	-24.8	-15.8	-9.0
32.0	-41.6	-16.1	-25.4
33.0	-28.7	-16.5	-12.3
34.0	-33.5	-16.8	-16.8
35.0	-31.6	-17.1	-14.5
36.0	-33.7	-17.4	-16.2
37.0	-26.2	-17.7	-8.5
38.0	-29.7	-18.0	-11.7
39.0	-29.1	-18.3	-10.9
40.0	-37.0	-18.6	-18.5
41.0	-30.2	-18.8	-11.4
42.0	-30.5	-19.1	-11.4
43.0	-36.4	-19.3	-17.1
44.0	-28.6	-19.6	-9.0
45.0	-47.7	-19.8	-27.8
46.0	-29.0	-20.1	-8.9
47.0	-20.1	-20.3	0.2
48.0	-31.1	-20.5	-10.6
49.0	-27.0	-10.5	-16.5
50.0	-27.3	-10.5	-16.8
51.0	-29.6	-10.5	-19.1
52.0	-32.9	-10.5	-22.4
53.0	-42.7	-10.5	-32.2
54.0	-31.5	-10.5	-21.0
55.0	-28.6	-10.5	-18.1
56.0	-25.0	-10.5	-14.5
57.0	-29.6	-10.5	-19.1
58.0	-34.7	-10.5	-24.2
59.0	-25.8	-10.5	-15.3

Orbit Communication Systems Ltd.
AL-7103-Ka, 1.20 m Antenna, EIRPsd Data Table
Co-pol Azimuth RHCP, -180° to +180° @ 1.0° increment

-119.0	-49.3	-10.5	-38.8
-118.0	-51.0	-10.5	-40.5
-117.0	-43.8	-10.5	-33.3
-116.0	-35.0	-10.5	-24.5
-115.0	-36.9	-10.5	-26.4
-114.0	-39.2	-10.5	-28.7
-113.0	-39.1	-10.5	-28.6
-112.0	-35.0	-10.5	-24.5
-111.0	-37.4	-10.5	-26.9
-110.0	-33.8	-10.5	-23.3
-109.0	-31.9	-10.5	-21.4
-108.0	-29.8	-10.5	-19.3
-107.0	-26.6	-10.5	-16.1
-106.0	-26.0	-10.5	-15.5
-105.0	-24.7	-10.5	-14.2
-104.0	-24.6	-10.5	-14.1
-103.0	-24.7	-10.5	-14.2
-102.0	-26.2	-10.5	-15.7
-101.0	-28.8	-10.5	-18.3
-100.0	-37.1	-10.5	-26.6
-99.0	-58.8	-10.5	-48.3
-98.0	-34.4	-10.5	-23.9
-97.0	-28.5	-10.5	-18.0
-96.0	-26.1	-10.5	-15.6
-95.0	-26.2	-10.5	-15.7
-94.0	-32.2	-10.5	-21.7
-93.0	-29.8	-10.5	-19.3
-92.0	-25.8	-10.5	-15.3
-91.0	-29.8	-10.5	-19.3
-90.0	-31.3	-10.5	-20.8
-89.0	-28.3	-10.5	-17.8
-88.0	-26.5	-10.5	-16.0
-87.0	-24.7	-10.5	-14.2
-86.0	-29.9	-10.5	-19.4
-85.0	-24.1	-10.5	-13.6
-84.0	-24.2	-10.5	-13.7
-83.0	-39.5	-10.5	-29.0
-82.0	-26.4	-10.5	-15.9
-81.0	-26.9	-10.5	-16.4
-80.0	-28.1	-10.5	-17.6
-79.0	-28.4	-10.5	-17.9
-78.0	-29.5	-10.5	-19.0
-77.0	-29.1	-10.5	-18.6
-76.0	-34.9	-10.5	-24.4
-75.0	-26.9	-10.5	-16.4
-74.0	-26.0	-10.5	-15.5
-73.0	-27.6	-10.5	-17.1
-72.0	-29.0	-10.5	-18.5
-71.0	-28.0	-10.5	-17.5
-70.0	-32.4	-10.5	-21.9
-69.0	-28.8	-10.5	-18.3
-68.0	-39.8	-10.5	-29.3
-67.0	-32.3	-10.5	-21.8
-66.0	-35.9	-10.5	-25.4
-65.0	-24.7	-10.5	-14.2
-64.0	-26.0	-10.5	-15.5
-63.0	-30.1	-10.5	-19.6
-62.0	-30.8	-10.5	-20.3
-61.0	-34.5	-10.5	-24.0
-60.0	-29.6	-10.5	-19.1
-59.0	-32.0	-10.5	-21.5
-58.0	-28.1	-10.5	-17.6
-57.0	-24.9	-10.5	-14.4

60.0	-27.1	-10.5	-16.6
61.0	-33.5	-10.5	-23.0
62.0	-32.7	-10.5	-22.2
63.0	-39.8	-10.5	-29.3
64.0	-30.4	-10.5	-19.9
65.0	-22.2	-10.5	-11.7
66.0	-25.9	-10.5	-15.4
67.0	-27.3	-10.5	-16.8
68.0	-24.4	-10.5	-13.9
69.0	-25.8	-10.5	-15.3
70.0	-27.0	-10.5	-16.5
71.0	-36.6	-10.5	-26.1
72.0	-26.8	-10.5	-16.3
73.0	-29.8	-10.5	-19.3
74.0	-41.7	-10.5	-31.2
75.0	-29.8	-10.5	-19.3
76.0	-39.2	-10.5	-28.7
77.0	-32.1	-10.5	-21.6
78.0	-34.9	-10.5	-24.4
79.0	-36.6	-10.5	-26.1
80.0	-40.6	-10.5	-30.1
81.0	-25.5	-10.5	-15.0
82.0	-29.2	-10.5	-18.7
83.0	-37.9	-10.5	-27.4
84.0	-36.3	-10.5	-25.8
85.0	-29.8	-10.5	-19.3
86.0	-34.8	-10.5	-24.3
87.0	-42.9	-10.5	-32.4
88.0	-34.0	-10.5	-23.5
89.0	-27.9	-10.5	-17.4
90.0	-38.8	-10.5	-28.3
91.0	-32.3	-10.5	-21.8
92.0	-37.4	-10.5	-26.9
93.0	-32.6	-10.5	-22.1
94.0	-37.1	-10.5	-26.6
95.0	-33.8	-10.5	-23.3
96.0	-34.7	-10.5	-24.2
97.0	-36.6	-10.5	-26.1
98.0	-32.1	-10.5	-21.6
99.0	-36.0	-10.5	-25.5
100.0	-42.3	-10.5	-31.8
101.0	-33.2	-10.5	-22.7
102.0	-31.7	-10.5	-21.2
103.0	-39.2	-10.5	-28.7
104.0	-36.8	-10.5	-26.3
105.0	-37.7	-10.5	-27.2
106.0	-32.2	-10.5	-21.7
107.0	-31.7	-10.5	-21.2
108.0	-35.7	-10.5	-25.2
109.0	-52.8	-10.5	-42.3
110.0	-42.6	-10.5	-32.1
111.0	-30.7	-10.5	-20.2
112.0	-38.6	-10.5	-28.1
113.0	-33.7	-10.5	-23.2
114.0	-33.9	-10.5	-23.4
115.0	-39.1	-10.5	-28.6
116.0	-33.7	-10.5	-23.2
117.0	-44.1	-10.5	-33.6
118.0	-44.4	-10.5	-33.9
119.0	-34.4	-10.5	-23.9
120.0	-38.6	-10.5	-28.1
121.0	-33.5	-10.5	-23.0
122.0	-35.9	-10.5	-25.4

Orbit Communication Systems Ltd.
AL-7103-Ka, 1.20 m Antenna, EIRPsd Data Table
Co-pol Azimuth RHCP, -180° to +180° @ 1.0° increment

-56.0	-28.2	-10.5	-17.7
-55.0	-22.5	-10.5	-12.0
-54.0	-24.4	-10.5	-13.9
-53.0	-28.4	-10.5	-17.9
-52.0	-30.4	-10.5	-19.9
-51.0	-22.1	-10.5	-11.6
-50.0	-21.9	-10.5	-11.4
-49.0	-31.1	-10.5	-20.6
-48.0	-24.0	-20.5	-3.5
-47.0	-25.3	-20.3	-5.0
-46.0	-28.1	-20.1	-8.0
-45.0	-23.3	-19.8	-3.5
-44.0	-23.9	-19.6	-4.3
-43.0	-24.0	-19.3	-4.7
-42.0	-17.2	-19.1	1.8
-41.0	-20.2	-18.8	-1.4
-40.0	-25.2	-18.6	-6.6
-39.0	-20.6	-18.3	-2.4
-38.0	-21.2	-18.0	-3.2
-37.0	-20.6	-17.7	-2.9
-36.0	-22.3	-17.4	-4.9
-35.0	-23.7	-17.1	-6.6
-34.0	-21.0	-16.8	-4.2
-33.0	-25.7	-16.5	-9.3
-32.0	-21.5	-16.1	-5.4
-31.0	-19.5	-15.8	-3.7
-30.0	-25.7	-15.4	-10.3
-29.0	-20.7	-15.1	-5.6
-28.0	-25.6	-14.7	-10.9
-27.0	-25.2	-14.3	-11.0
-26.0	-23.4	-13.9	-9.5
-25.0	-16.2	-13.4	-2.7
-24.0	-20.6	-13.0	-7.6
-23.0	-20.4	-12.5	-7.9
-22.0	-23.7	-12.1	-11.7
-21.0	-12.8	-11.6	-1.2
-20.0	-20.9	-11.0	-9.9
-19.0	-17.8	-10.5	-7.3
-18.0	-17.1	-9.9	-7.2
-17.0	-22.8	-9.3	-13.5
-16.0	-14.0	-8.6	-5.3
-15.0	-22.3	-7.9	-14.4
-14.0	-12.7	-7.2	-5.5
-13.0	-18.3	-6.3	-11.9
-12.0	-28.9	-5.5	-23.4
-11.0	-31.7	-4.5	-27.1
-10.0	-10.7	-3.5	-7.2
-9.0	-24.4	-2.6	-21.8
-8.0	-19.8	-2.6	-17.2
-7.0	-11.8	-2.6	-9.2
-6.0	-33.9	-1.0	-33.0
-5.0	-7.4	1.0	-8.5
-4.0	-10.2	3.4	-13.7
-3.0	-2.7	6.6	-9.3
-2.0	5.3	11.0	-5.7
-1.0	2.3		
0.0	36.9		

123.0	-39.2	-10.5	-28.7
124.0	-32.2	-10.5	-21.7
125.0	-45.7	-10.5	-35.2
126.0	-36.3	-10.5	-25.8
127.0	-39.1	-10.5	-28.6
128.0	-33.1	-10.5	-22.6
129.0	-39.5	-10.5	-29.0
130.0	-31.4	-10.5	-20.9
131.0	-36.8	-10.5	-26.3
132.0	-37.7	-10.5	-27.2
133.0	-35.9	-10.5	-25.4
134.0	-31.0	-10.5	-20.5
135.0	-36.5	-10.5	-26.0
136.0	-39.7	-10.5	-29.2
137.0	-37.6	-10.5	-27.1
138.0	-30.5	-10.5	-20.0
139.0	-34.1	-10.5	-23.6
140.0	-39.7	-10.5	-29.2
141.0	-34.2	-10.5	-23.7
142.0	-31.4	-10.5	-20.9
143.0	-36.4	-10.5	-25.9
144.0	-46.8	-10.5	-36.3
145.0	-37.2	-10.5	-26.7
146.0	-44.2	-10.5	-33.7
147.0	-31.8	-10.5	-21.3
148.0	-30.7	-10.5	-20.2
149.0	-36.1	-10.5	-25.6
150.0	-36.6	-10.5	-26.1
151.0	-35.9	-10.5	-25.4
152.0	-35.2	-10.5	-24.7
153.0	-44.6	-10.5	-34.1
154.0	-35.0	-10.5	-24.5
155.0	-34.7	-10.5	-24.2
156.0	-37.0	-10.5	-26.5
157.0	-31.7	-10.5	-21.2
158.0	-41.4	-10.5	-30.9
159.0	-31.1	-10.5	-20.6
160.0	-29.1	-10.5	-18.6
161.0	-30.0	-10.5	-19.5
162.0	-37.0	-10.5	-26.5
163.0	-49.4	-10.5	-38.9
164.0	-38.1	-10.5	-27.6
165.0	-41.9	-10.5	-31.4
166.0	-39.8	-10.5	-29.3
167.0	-32.5	-10.5	-22.0
168.0	-36.2	-10.5	-25.7
169.0	-37.0	-10.5	-26.5
170.0	-53.5	-10.5	-43.0
171.0	-47.3	-10.5	-36.8
172.0	-29.8	-10.5	-19.3
173.0	-37.3	-10.5	-26.8
174.0	-35.1	-10.5	-24.6
175.0	-40.5	-10.5	-30.0
176.0	-39.3	-10.5	-28.8
177.0	-48.7	-10.5	-38.2
178.0	-44.7	-10.5	-34.2
179.0	-42.6	-10.5	-32.1

Orbit Communication Systems Ltd.

AL AL-7103-Ka, 1.20 m Antenna, EIRPsd Data Table
Co-pol Azimuth RHCP, -10° to +10° @ 0.1° increment

29.10 GHz @ -11.58 dBW / 40 kHz in Co-pol Az RHCP				29.10 GHz @ -11.58 dBW / 40 kHz in Co-pol Az RHCP			
Angle	EIRPsd	Mask	Over Mask	Angle	EIRPsd	Mask	Over Mask
Degrees	dBW/40kHz	dBW/40kHz	dB	Degrees	dBW/40kHz	dBW/40kHz	dB
-10.0	-10.7	-3.5	-7.2	0.0	36.9		
-9.9	-9.2	-3.4	-5.8	0.1	36.8		
-9.8	-8.9	-3.3	-5.6	0.2	36.1		
-9.7	-9.8	-3.2	-6.6	0.3	34.9		
-9.6	-11.5	-3.1	-8.5	0.4	33.2		
-9.5	-14.3	-2.9	-11.4	0.5	30.8		
-9.4	-18.2	-2.8	-15.4	0.6	28.0		
-9.3	-21.1	-2.7	-18.4	0.7	24.5		
-9.2	-21.2	-2.6	-18.5	0.8	20.4		
-9.1	-21.9	-2.6	-19.3	0.9	15.7		
-9.0	-24.4	-2.6	-21.8	1.0	11.1		
-8.9	-31.1	-2.6	-28.5	1.1	7.0		
-8.8	-26.5	-2.6	-23.9	1.2	6.5		
-8.7	-19.9	-2.6	-17.3	1.3	7.8		
-8.6	-16.6	-2.6	-14.0	1.4	8.4		
-8.5	-14.5	-2.6	-11.9	1.5	7.8		
-8.4	-13.6	-2.6	-11.0	1.6	6.1		
-8.3	-13.7	-2.6	-11.0	1.7	3.4		
-8.2	-15.2	-2.6	-12.6	1.8	0.6		
-8.1	-18.1	-2.6	-15.5	1.9	-0.8		
-8.0	-19.8	-2.6	-17.2	2.0	-0.6	11.0	-11.6
-7.9	-17.3	-2.6	-14.7	2.1	0.7	10.4	-9.7
-7.8	-14.5	-2.6	-11.9	2.2	2.1	9.9	-7.9
-7.7	-13.6	-2.6	-11.0	2.3	2.7	9.5	-6.7
-7.6	-14.4	-2.6	-11.8	2.4	2.9	9.0	-6.1
-7.5	-17.2	-2.6	-14.6	2.5	2.3	8.6	-6.2
-7.4	-20.4	-2.6	-17.8	2.6	1.0	8.1	-7.1
-7.3	-18.5	-2.6	-15.9	2.7	0.3	7.7	-7.5
-7.2	-14.4	-2.6	-11.8	2.8	-0.1	7.3	-7.4
-7.1	-12.6	-2.6	-9.9	2.9	0.3	6.9	-6.7
-7.0	-11.8	-2.6	-9.2	3.0	0.2	6.6	-6.4
-6.9	-12.2	-2.5	-9.7	3.1	-0.2	6.2	-6.4
-6.8	-13.4	-2.3	-11.1	3.2	-1.2	5.9	-7.1
-6.7	-16.0	-2.2	-13.9	3.3	-2.0	5.5	-7.6
-6.6	-20.0	-2.0	-18.0	3.4	-2.6	5.2	-7.9
-6.5	-26.4	-1.8	-24.6	3.5	-3.3	4.9	-8.2
-6.4	-21.0	-1.7	-19.4	3.6	-3.9	4.6	-8.5
-6.3	-17.4	-1.5	-16.0	3.7	-4.7	4.3	-9.0
-6.2	-17.3	-1.3	-16.0	3.8	-6.6	4.0	-10.6
-6.1	-19.8	-1.1	-18.7	3.9	-8.8	3.7	-12.5
-6.0	-33.9	-1.0	-33.0	4.0	-11.0	3.4	-14.4
-5.9	-18.2	-0.8	-17.4	4.1	-11.0	3.2	-14.2
-5.8	-12.1	-0.6	-11.5	4.2	-9.3	2.9	-12.2
-5.7	-9.7	-0.4	-9.3	4.3	-8.9	2.7	-11.5
-5.6	-8.6	-0.2	-8.4	4.4	-8.3	2.4	-10.7
-5.5	-9.8	0.0	-9.8	4.5	-8.1	2.2	-10.2
-5.4	-13.1	0.2	-13.3	4.6	-7.5	1.9	-9.4
-5.3	-18.8	0.4	-19.2	4.7	-6.3	1.7	-8.0
-5.2	-14.4	0.6	-15.0	4.8	-6.0	1.5	-7.5
-5.1	-9.5	0.8	-10.3	4.9	-7.1	1.2	-8.3
-5.0	-7.4	1.0	-8.5	5.0	-9.3	1.0	-10.3
-4.9	-7.0	1.2	-8.2	5.1	-15.0	0.8	-15.8
-4.8	-7.6	1.5	-9.1	5.2	-34.1	0.6	-34.7
-4.7	-9.3	1.7	-11.0	5.3	-20.0	0.4	-20.4
-4.6	-11.3	1.9	-13.3	5.4	-17.5	0.2	-17.7
-4.5	-13.5	2.2	-15.7	5.5	-23.2	0.0	-23.1
-4.4	-14.5	2.4	-16.9	5.6	-22.4	-0.2	-22.2
-4.3	-13.0	2.7	-15.7	5.7	-15.0	-0.4	-14.6
-4.2	-10.9	2.9	-13.8	5.8	-11.3	-0.6	-10.8
-4.1	-9.7	3.2	-12.8	5.9	-9.9	-0.8	-9.1
-4.0	-10.2	3.4	-13.7	6.0	-10.3	-1.0	-9.4
-3.9	-10.9	3.7	-14.6	6.1	-12.3	-1.1	-11.2

Orbit Communication Systems Ltd.

AL AL-7103-Ka, 1.20 m Antenna, EIRPsd Data Table

Co-pol Azimuth RHCP, -10° to +10° @ 0.1° increment

-3.8	-8.9	4.0	-12.9		6.2	-14.2	-1.3	-12.9
-3.7	-5.2	4.3	-9.5		6.3	-14.6	-1.5	-13.1
-3.6	-2.5	4.6	-7.1		6.4	-13.3	-1.7	-11.7
-3.5	-1.0	4.9	-5.9		6.5	-13.2	-1.8	-11.4
-3.4	-0.6	5.2	-5.8		6.6	-14.0	-2.0	-12.1
-3.3	-1.0	5.5	-6.6		6.7	-16.0	-2.2	-13.8
-3.2	-1.8	5.9	-7.7		6.8	-20.7	-2.3	-18.4
-3.1	-2.5	6.2	-8.8		6.9	-27.7	-2.5	-25.2
-3.0	-2.7	6.6	-9.3		7.0	-38.5	-2.6	-35.9
-2.9	-2.2	6.9	-9.1		7.1	-23.7	-2.6	-21.1
-2.8	-0.8	7.3	-8.1		7.2	-19.1	-2.6	-16.5
-2.7	1.2	7.7	-6.5		7.3	-17.5	-2.6	-14.8
-2.6	3.0	8.1	-5.1		7.4	-18.2	-2.6	-15.5
-2.5	4.3	8.6	-4.3		7.5	-21.3	-2.6	-18.6
-2.4	5.0	9.0	-4.0		7.6	-25.5	-2.6	-22.9
-2.3	5.3	9.5	-4.2		7.7	-23.9	-2.6	-21.2
-2.2	5.4	9.9	-4.5		7.8	-21.6	-2.6	-18.9
-2.1	5.5	10.4	-5.0		7.9	-22.4	-2.6	-19.8
-2.0	5.3	11.0	-5.7		8.0	-25.3	-2.6	-22.6
-1.9	4.3				8.1	-22.5	-2.6	-19.9
-1.8	2.4				8.2	-18.1	-2.6	-15.5
-1.7	0.4				8.3	-16.3	-2.6	-13.6
-1.6	1.2				8.4	-16.0	-2.6	-13.4
-1.5	3.0				8.5	-19.0	-2.6	-16.4
-1.4	3.9				8.6	-24.5	-2.6	-21.8
-1.3	3.8				8.7	-28.3	-2.6	-25.7
-1.2	3.9				8.8	-23.7	-2.6	-21.0
-1.1	4.3				8.9	-23.2	-2.6	-20.6
-1.0	2.3				9.0	-27.7	-2.6	-25.1
-0.9	4.6				9.1	-33.6	-2.6	-31.0
-0.8	14.3				9.2	-23.8	-2.6	-21.2
-0.7	20.9				9.3	-19.7	-2.7	-16.9
-0.6	26.0				9.4	-18.3	-2.8	-15.5
-0.5	29.6				9.5	-20.1	-2.9	-17.2
-0.4	32.3				9.6	-25.5	-3.1	-22.4
-0.3	34.3				9.7	-28.3	-3.2	-25.1
-0.2	35.7				9.8	-23.0	-3.3	-19.7
-0.1	36.6				9.9	-20.4	-3.4	-17.0
0.0	36.9				10.0	-21.9	-3.5	-18.4

Orbit Communication Systems Ltd.

AL-7103-Ka, 1.20 m Antenna, EIRPsd Data Table
Co-pol Elevation RHCP, -30° to +30° @ 0.5° increment

29.10 GHz @ -11.58 dBW / 40 kHz in Co-pol EI RHCP

Angle	EIRPsd	Mask	Over Mask
Degrees	dBW/40kHz	dBW/40kHz	dB
-30.0	-20.1	-12.4	-7.7
-29.5	-18.1	-12.2	-5.8
-29.0	-20.3	-12.1	-8.3
-28.5	-19.8	-11.9	-8.0
-28.0	-18.5	-11.7	-6.9
-27.5	-20.0	-11.5	-8.5
-27.0	-20.1	-11.3	-8.8
-26.5	-19.1	-11.1	-8.0
-26.0	-20.3	-10.9	-9.4
-25.5	-18.5	-10.7	-7.8
-25.0	-16.6	-10.4	-6.1
-24.5	-18.6	-10.2	-8.4
-24.0	-24.1	-10.0	-14.1
-23.5	-23.5	-9.8	-13.7
-23.0	-19.0	-9.5	-9.4
-22.5	-20.7	-9.3	-11.4
-22.0	-25.4	-9.1	-16.4
-21.5	-26.6	-8.8	-17.8
-21.0	-28.2	-8.6	-19.7
-20.5	-31.3	-8.3	-23.0
-20.0	-28.5	-8.0	-20.5
-19.5	-26.5	-7.8	-18.8
-19.0	-20.7	-7.5	-13.3
-18.5	-25.1	-7.2	-17.9
-18.0	-48.0	-6.9	-41.1
-17.5	-26.8	-6.6	-20.2
-17.0	-22.8	-6.3	-16.5
-16.5	-23.4	-5.9	-17.4
-16.0	-29.5	-5.6	-23.9
-15.5	-21.4	-5.3	-16.2
-15.0	-23.9	-4.9	-19.0
-14.5	-21.6	-4.5	-17.1
-14.0	-18.0	-4.2	-13.8
-13.5	-22.1	-3.8	-18.4
-13.0	-23.9	-3.3	-20.5
-12.5	-32.8	-2.9	-29.9
-12.0	-32.2	-2.5	-29.7
-11.5	-21.2	-2.0	-19.2
-11.0	-20.2	-1.5	-18.6
-10.5	-19.9	-1.0	-18.8
-10.0	-22.9	-0.5	-22.4
-9.5	-22.1	0.1	-22.1
-9.0	-72.2	0.4	-72.5
-8.5	-27.0	0.4	-27.3
-8.0	-20.2	0.4	-20.6
-7.5	-24.3	0.4	-24.7
-7.0	-15.4	0.4	-15.8
-6.5	-12.6	1.2	-13.8
-6.0	-11.9	2.0	-14.0
-5.5	-21.2	3.0	-24.2
-5.0	-10.2	4.0	-14.2
-4.5	-15.1	5.2	-20.2
-4.0	-10.4	6.4	-16.9
-3.5	-5.6	7.9	-13.5
-3.0	-0.2		
-2.5	1.6		
-2.0	0.3		
-1.5	9.8		
-1.0	10.6		
-0.5	31.0		
0.0	36.9		

29.10 GHz @ -11.58 dBW / 40 kHz in Co-pol EI RHCP

Angle	EIRPsd	Mask	Over Mask
Degrees	dBW/40kHz	dBW/40kHz	dB
0.0	36.9		
0.5	29.9		
1.0	5.3		
1.5	2.5		
2.0	7.5		
2.5	5.2		
3.0	-4.5		
3.5	-2.9	7.9	-10.8
4.0	-3.5	6.4	-10.0
4.5	-18.3	5.2	-23.5
5.0	-11.0	4.0	-15.0
5.5	-8.0	3.0	-11.0
6.0	-22.9	2.0	-25.0
6.5	-19.3	1.2	-20.5
7.0	-8.3	0.4	-8.7
7.5	-9.6	0.4	-10.0
8.0	-20.9	0.4	-21.2
8.5	-16.8	0.4	-17.2
9.0	-16.0	0.4	-16.3
9.5	-13.8	0.1	-13.8
10.0	-15.2	-0.5	-14.7
10.5	-16.1	-1.0	-15.0
11.0	-16.2	-1.5	-14.6
11.5	-31.5	-2.0	-29.5
12.0	-17.4	-2.5	-15.0
12.5	-19.4	-2.9	-16.5
13.0	-14.7	-3.3	-11.4
13.5	-20.4	-3.8	-16.7
14.0	-24.4	-4.2	-20.3
14.5	-17.9	-4.5	-13.4
15.0	-16.1	-4.9	-11.2
15.5	-20.6	-5.3	-15.3
16.0	-13.0	-5.6	-7.4
16.5	-18.9	-5.9	-13.0
17.0	-19.7	-6.3	-13.5
17.5	-17.7	-6.6	-11.1
18.0	-15.2	-6.9	-8.3
18.5	-18.5	-7.2	-11.3
19.0	-16.5	-7.5	-9.0
19.5	-19.0	-7.8	-11.2
20.0	-17.6	-8.0	-9.5
20.5	-20.7	-8.3	-12.4
21.0	-18.7	-8.6	-10.2
21.5	-18.1	-8.8	-9.3
22.0	-20.0	-9.1	-10.9
22.5	-20.4	-9.3	-11.1
23.0	-17.0	-9.5	-7.5
23.5	-21.5	-9.8	-11.8
24.0	-29.4	-10.0	-19.4
24.5	-20.9	-10.2	-10.7
25.0	-23.2	-10.4	-12.7
25.5	-32.4	-10.7	-21.7
26.0	-30.1	-10.9	-19.2
26.5	-25.5	-11.1	-14.4
27.0	-29.1	-11.3	-17.8
27.5	-28.8	-11.5	-17.3
28.0	-21.3	-11.7	-9.7
28.5	-28.4	-11.9	-16.5
29.0	-27.3	-12.1	-15.2
29.5	-25.6	-12.2	-13.4
30.0	-25.8	-12.4	-13.4

Orbit Communication Systems Ltd.
AL-7103-Ka, 1.20 m Antenna, EIRPsd Data Table
Co-pol Elevation RHCP, -10° to +10° @ 0.1° increment

29.10 GHz @ -11.58 dBW / 40 kHz in Co-pol EI RHCP

Angle	EIRPsd	Mask	Over Mask
Degrees	dBW/40kHz	dBW/40kHz	dB
-10.0	-22.9	-0.5	-22.4
-9.9	-20.7	-0.4	-20.3
-9.8	-21.1	-0.3	-20.8
-9.7	-26.9	-0.2	-26.7
-9.6	-31.5	-0.1	-31.5
-9.5	-22.1	0.1	-22.1
-9.4	-18.6	0.2	-18.8
-9.3	-17.8	0.3	-18.0
-9.2	-19.6	0.4	-20.0
-9.1	-25.5	0.4	-25.8
-9.0	-72.2	0.4	-72.5
-8.9	-25.3	0.4	-25.7
-8.8	-23.1	0.4	-23.5
-8.7	-22.8	0.4	-23.2
-8.6	-24.9	0.4	-25.2
-8.5	-27.0	0.4	-27.3
-8.4	-23.0	0.4	-23.4
-8.3	-20.6	0.4	-21.0
-8.2	-19.4	0.4	-19.7
-8.1	-19.5	0.4	-19.9
-8.0	-20.2	0.4	-20.6
-7.9	-21.5	0.4	-21.9
-7.8	-22.0	0.4	-22.4
-7.7	-24.0	0.4	-24.4
-7.6	-25.2	0.4	-25.6
-7.5	-24.3	0.4	-24.7
-7.4	-21.8	0.4	-22.2
-7.3	-18.9	0.4	-19.3
-7.2	-17.2	0.4	-17.5
-7.1	-16.2	0.4	-16.5
-7.0	-15.4	0.4	-15.8
-6.9	-16.8	0.5	-17.3
-6.8	-18.5	0.7	-19.2
-6.7	-16.5	0.8	-17.3
-6.6	-13.9	1.0	-14.9
-6.5	-12.6	1.2	-13.8
-6.4	-13.5	1.3	-14.9
-6.3	-17.4	1.5	-18.9
-6.2	-21.5	1.7	-23.2
-6.1	-16.0	1.9	-17.8
-6.0	-11.9	2.0	-14.0
-5.9	-10.6	2.2	-12.9
-5.8	-11.1	2.4	-13.6
-5.7	-14.0	2.6	-16.6
-5.6	-20.1	2.8	-22.9
-5.5	-21.2	3.0	-24.2
-5.4	-18.1	3.2	-21.3
-5.3	-19.8	3.4	-23.2
-5.2	-26.0	3.6	-29.6
-5.1	-15.2	3.8	-19.0
-5.0	-10.2	4.0	-14.2
-4.9	-7.8	4.2	-12.0
-4.8	-7.8	4.5	-12.2
-4.7	-9.7	4.7	-14.4
-4.6	-14.5	4.9	-19.4
-4.5	-15.1	5.2	-20.2
-4.4	-10.4	5.4	-15.8
-4.3	-7.8	5.7	-13.5
-4.2	-7.7	5.9	-13.6
-4.1	-8.7	6.2	-14.8

29.10 GHz @ -11.58 dBW / 40 kHz in Co-pol EI RHCP

Angle	EIRPsd	Mask	Over Mask
Degrees	dBW/40kHz	dBW/40kHz	dB
0.0	36.9		
0.1	36.6		
0.2	35.8		
0.3	34.5		
0.4	32.5		
0.5	29.9		
0.6	26.4		
0.7	21.8		
0.8	15.6		
0.9	7.8		
1.0	5.3		
1.1	6.8		
1.2	6.7		
1.3	5.8		
1.4	4.6		
1.5	2.5		
1.6	-0.2		
1.7	0.1		
1.8	3.5		
1.9	6.1		
2.0	7.5		
2.1	7.9		
2.2	7.9		
2.3	7.4		
2.4	6.5		
2.5	5.2		
2.6	3.1		
2.7	0.3		
2.8	-3.1		
2.9	-5.1		
3.0	-4.5		
3.1	-3.2		
3.2	-2.2		
3.3	-1.7		
3.4	-2.0		
3.5	-2.9	7.9	-10.8
3.6	-4.3	7.6	-11.9
3.7	-5.3	7.3	-12.6
3.8	-5.0	7.0	-12.0
3.9	-4.0	6.7	-10.7
4.0	-3.5	6.4	-10.0
4.1	-4.4	6.2	-10.5
4.2	-6.6	5.9	-12.5
4.3	-10.1	5.7	-15.8
4.4	-15.7	5.4	-21.1
4.5	-18.3	5.2	-23.5
4.6	-13.8	4.9	-18.7
4.7	-10.7	4.7	-15.4
4.8	-9.2	4.5	-13.7
4.9	-9.6	4.2	-13.8
5.0	-11.0	4.0	-15.0
5.1	-14.0	3.8	-17.8
5.2	-15.8	3.6	-19.4
5.3	-12.4	3.4	-15.8
5.4	-9.3	3.2	-12.5
5.5	-8.0	3.0	-11.0
5.6	-8.2	2.8	-11.0
5.7	-10.1	2.6	-12.7
5.8	-14.5	2.4	-16.9
5.9	-25.5	2.2	-27.7

Orbit Communication Systems Ltd.
 AL-7103-Ka, 1.20 m Antenna, EIRPsd Data Table
 Co-pol Elevation RHCP, -10° to +10° @ 0.1° increment

-4.0	-10.4	6.4	-16.9
-3.9	-10.3	6.7	-17.0
-3.8	-8.1	7.0	-15.1
-3.7	-6.4	7.3	-13.7
-3.6	-5.5	7.6	-13.1
-3.5	-5.6	7.9	-13.5
-3.4	-6.1		
-3.3	-5.6		
-3.2	-3.8		
-3.1	-1.8		
-3.0	-0.2		
-2.9	0.5		
-2.8	0.7		
-2.7	0.7		
-2.6	1.1		
-2.5	1.6		
-2.4	2.1		
-2.3	2.0		
-2.2	1.2		
-2.1	0.3		
-2.0	0.3		
-1.9	1.5		
-1.8	3.7		
-1.7	6.2		
-1.6	8.4		
-1.5	9.8		
-1.4	10.3		
-1.3	9.8		
-1.2	8.0		
-1.1	6.9		
-1.0	10.6		
-0.9	16.1		
-0.8	20.9		
-0.7	24.9		
-0.6	28.2		
-0.5	31.0		
-0.4	33.1		
-0.3	34.8		
-0.2	36.1		
-0.1	36.7		
0.0	36.9		

6.0	-22.9	2.0	-25.0
6.1	-17.3	1.9	-19.2
6.2	-16.3	1.7	-18.0
6.3	-19.4	1.5	-20.9
6.4	-26.3	1.3	-27.6
6.5	-19.3	1.2	-20.5
6.6	-13.2	1.0	-14.2
6.7	-10.1	0.8	-10.9
6.8	-8.3	0.7	-9.0
6.9	-7.8	0.5	-8.4
7.0	-8.3	0.4	-8.7
7.1	-10.1	0.4	-10.4
7.2	-12.3	0.4	-12.7
7.3	-13.1	0.4	-13.5
7.4	-11.5	0.4	-11.8
7.5	-9.6	0.4	-10.0
7.6	-9.3	0.4	-9.7
7.7	-10.1	0.4	-10.4
7.8	-12.7	0.4	-13.1
7.9	-18.0	0.4	-18.4
8.0	-20.9	0.4	-21.2
8.1	-16.0	0.4	-16.4
8.2	-13.3	0.4	-13.7
8.3	-12.7	0.4	-13.1
8.4	-13.9	0.4	-14.3
8.5	-16.8	0.4	-17.2
8.6	-22.3	0.4	-22.7
8.7	-38.8	0.4	-39.2
8.8	-23.1	0.4	-23.5
8.9	-17.8	0.4	-18.2
9.0	-16.0	0.4	-16.3
9.1	-17.3	0.4	-17.7
9.2	-20.4	0.4	-20.7
9.3	-25.2	0.3	-25.5
9.4	-18.9	0.2	-19.1
9.5	-13.8	0.1	-13.8
9.6	-11.2	-0.1	-11.2
9.7	-10.1	-0.2	-9.9
9.8	-10.2	-0.3	-9.9
9.9	-11.7	-0.4	-11.3
10.0	-15.2	-0.5	-14.7

Orbit Communication Systems Ltd.
AL-7103-Ka, 1.20 m Antenna, EIRPsd Data Table
X-pol Azimuth RHCP, -10° to +10° @ 0.1° increment

29.10 GHz @ -11.58 dBW / 40 kHz in X-pol Az RHCP

Angle	EIRPsd	Mask	Over Mask
Degrees	dBW/40kHz	dBW/40kHz	dB
-10.0	-15.4	-12.6	-2.7
-9.9	-15.0	-12.6	-2.3
-9.8	-14.8	-12.6	-2.2
-9.7	-15.0	-12.6	-2.4
-9.6	-16.0	-12.6	-3.4
-9.5	-17.0	-12.6	-4.4
-9.4	-18.5	-12.6	-5.8
-9.3	-20.3	-12.6	-7.7
-9.2	-22.1	-12.6	-9.5
-9.1	-23.4	-12.6	-10.8
-9.0	-25.3	-12.6	-12.7
-8.9	-24.9	-12.6	-12.3
-8.8	-26.2	-12.6	-13.6
-8.7	-29.5	-12.6	-16.9
-8.6	-37.0	-12.6	-24.4
-8.5	-29.6	-12.6	-16.9
-8.4	-24.2	-12.6	-11.6
-8.3	-22.1	-12.6	-9.5
-8.2	-20.8	-12.6	-8.1
-8.1	-22.0	-12.6	-9.4
-8.0	-24.5	-12.6	-11.8
-7.9	-25.7	-12.6	-13.1
-7.8	-25.9	-12.6	-13.2
-7.7	-22.4	-12.6	-9.8
-7.6	-22.4	-12.6	-9.8
-7.5	-23.7	-12.6	-11.1
-7.4	-28.4	-12.6	-15.8
-7.3	-32.9	-12.6	-20.3
-7.2	-23.2	-12.6	-10.6
-7.1	-19.7	-12.6	-7.1
-7.0	-18.1	-12.6	-5.4
-6.9	-17.7	-12.5	-5.3
-6.8	-18.5	-12.3	-6.2
-6.7	-21.0	-12.2	-8.9
-6.6	-20.6	-12.0	-8.6
-6.5	-18.7	-11.8	-6.8
-6.4	-15.3	-11.7	-3.6
-6.3	-12.9	-11.5	-1.4
-6.2	-11.3	-11.3	0.0
-6.1	-11.2	-11.1	-0.1
-6.0	-12.2	-11.0	-1.2
-5.9	-14.7	-10.8	-3.9
-5.8	-19.8	-10.6	-9.2
-5.7	-24.2	-10.4	-13.9
-5.6	-19.7	-10.2	-9.5
-5.5	-16.2	-10.0	-6.2
-5.4	-14.9	-9.8	-5.1
-5.3	-16.1	-9.6	-6.5
-5.2	-17.3	-9.4	-7.9
-5.1	-17.3	-9.2	-8.1
-5.0	-16.4	-9.0	-7.5
-4.9	-15.2	-8.8	-6.5
-4.8	-14.7	-8.5	-6.2
-4.7	-14.6	-8.3	-6.3
-4.6	-15.0	-8.1	-6.9
-4.5	-13.7	-7.8	-5.9
-4.4	-12.3	-7.6	-4.7
-4.3	-10.7	-7.3	-3.4
-4.2	-9.1	-7.1	-2.1
-4.1	-7.7	-6.8	-0.9

29.10 GHz @ -11.58 dBW / 40 kHz in X-pol Az RHCP

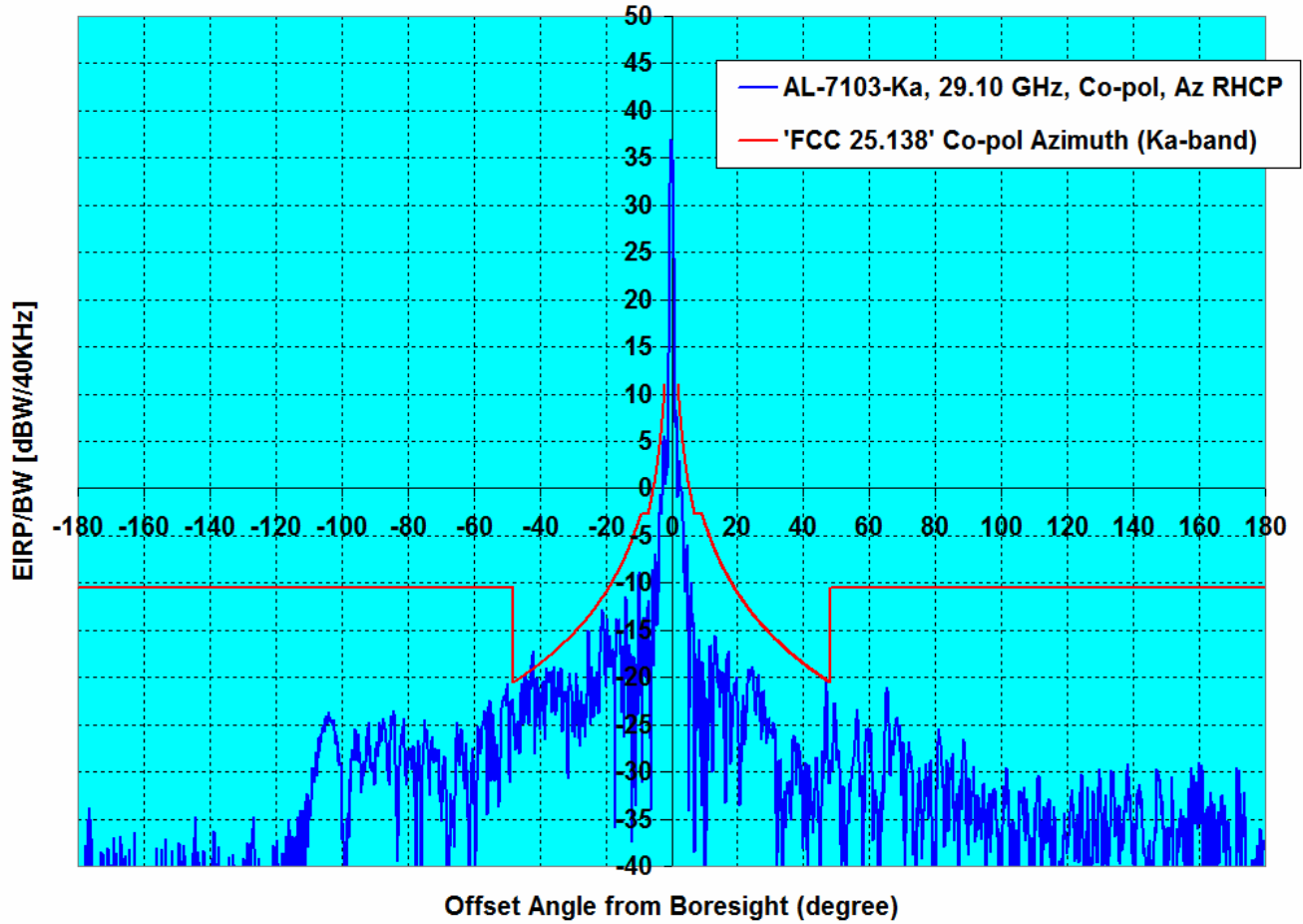
Angle	EIRPsd	Mask	Over Mask
Degrees	dBW/40kHz	dBW/40kHz	dB
0.0	6.9		
0.1	5.3		
0.2	4.9		
0.3	5.6		
0.4	6.8		
0.5	7.7		
0.6	8.1		
0.7	7.7		
0.8	6.6		
0.9	4.4		
1.0	0.7		
1.1	-5.2		
1.2	-15.4		
1.3	-13.1		
1.4	-10.9		
1.5	-12.9		
1.6	-14.4		
1.7	-12.2		
1.8	-10.2		
1.9	-10.7		
2.0	-14.5	1.0	-15.4
2.1	-23.9	0.4	-24.4
2.2	-20.7	-0.1	-20.6
2.3	-14.1	-0.5	-13.6
2.4	-13.4	-1.0	-12.4
2.5	-14.5	-1.4	-13.1
2.6	-16.3	-1.9	-14.5
2.7	-16.5	-2.3	-14.2
2.8	-14.6	-2.7	-11.9
2.9	-14.9	-3.1	-11.8
3.0	-16.9	-3.4	-13.5
3.1	-27.7	-3.8	-23.9
3.2	-26.4	-4.1	-22.2
3.3	-17.6	-4.5	-13.1
3.4	-16.4	-4.8	-11.6
3.5	-17.1	-5.1	-12.0
3.6	-18.5	-5.4	-13.1
3.7	-20.4	-5.7	-14.7
3.8	-19.5	-6.0	-13.5
3.9	-20.9	-6.3	-14.6
4.0	-24.0	-6.6	-17.4
4.1	-24.0	-6.8	-17.2
4.2	-19.8	-7.1	-12.8
4.3	-16.3	-7.3	-8.9
4.4	-15.9	-7.6	-8.3
4.5	-17.7	-7.8	-9.9
4.6	-24.4	-8.1	-16.3
4.7	-29.7	-8.3	-21.4
4.8	-21.3	-8.5	-12.7
4.9	-21.0	-8.8	-12.2
5.0	-22.2	-9.0	-13.2
5.1	-28.2	-9.2	-19.0
5.2	-32.0	-9.4	-22.6
5.3	-25.7	-9.6	-16.1
5.4	-20.8	-9.8	-10.9
5.5	-22.2	-10.0	-12.2
5.6	-28.8	-10.2	-18.6
5.7	-32.9	-10.4	-22.5
5.8	-24.4	-10.6	-13.8
5.9	-21.9	-10.8	-11.1

Orbit Communication Systems Ltd.
 AL-7103-Ka, 1.20 m Antenna, EIRPsd Data Table
 X-pol Azimuth RHCP, -10° to +10° @ 0.1° increment

-4.0	-7.1	-6.6	-0.5
-3.9	-6.9	-6.3	-0.7
-3.8	-7.6	-6.0	-1.6
-3.7	-9.0	-5.7	-3.3
-3.6	-10.7	-5.4	-5.3
-3.5	-12.3	-5.1	-7.2
-3.4	-12.0	-4.8	-7.2
-3.3	-10.8	-4.5	-6.3
-3.2	-9.5	-4.1	-5.3
-3.1	-8.6	-3.8	-4.8
-3.0	-8.5	-3.4	-5.0
-2.9	-9.3	-3.1	-6.3
-2.8	-11.8	-2.7	-9.1
-2.7	-16.6	-2.3	-14.3
-2.6	-22.3	-1.9	-20.4
-2.5	-16.4	-1.4	-15.0
-2.4	-13.9	-1.0	-12.9
-2.3	-13.4	-0.5	-12.9
-2.2	-11.5	-0.1	-11.5
-2.1	-8.4	0.4	-8.9
-2.0	-6.1	1.0	-7.1
-1.9	-5.6		
-1.8	-7.8		
-1.7	-11.9		
-1.6	-4.8		
-1.5	1.1		
-1.4	4.4		
-1.3	6.0		
-1.2	5.8		
-1.1	3.8		
-1.0	-1.3		
-0.9	-1.8		
-0.8	5.3		
-0.7	9.4		
-0.6	11.8		
-0.5	12.8		
-0.4	12.9		
-0.3	12.2		
-0.2	11.0		
-0.1	9.1		
0.0	6.9		

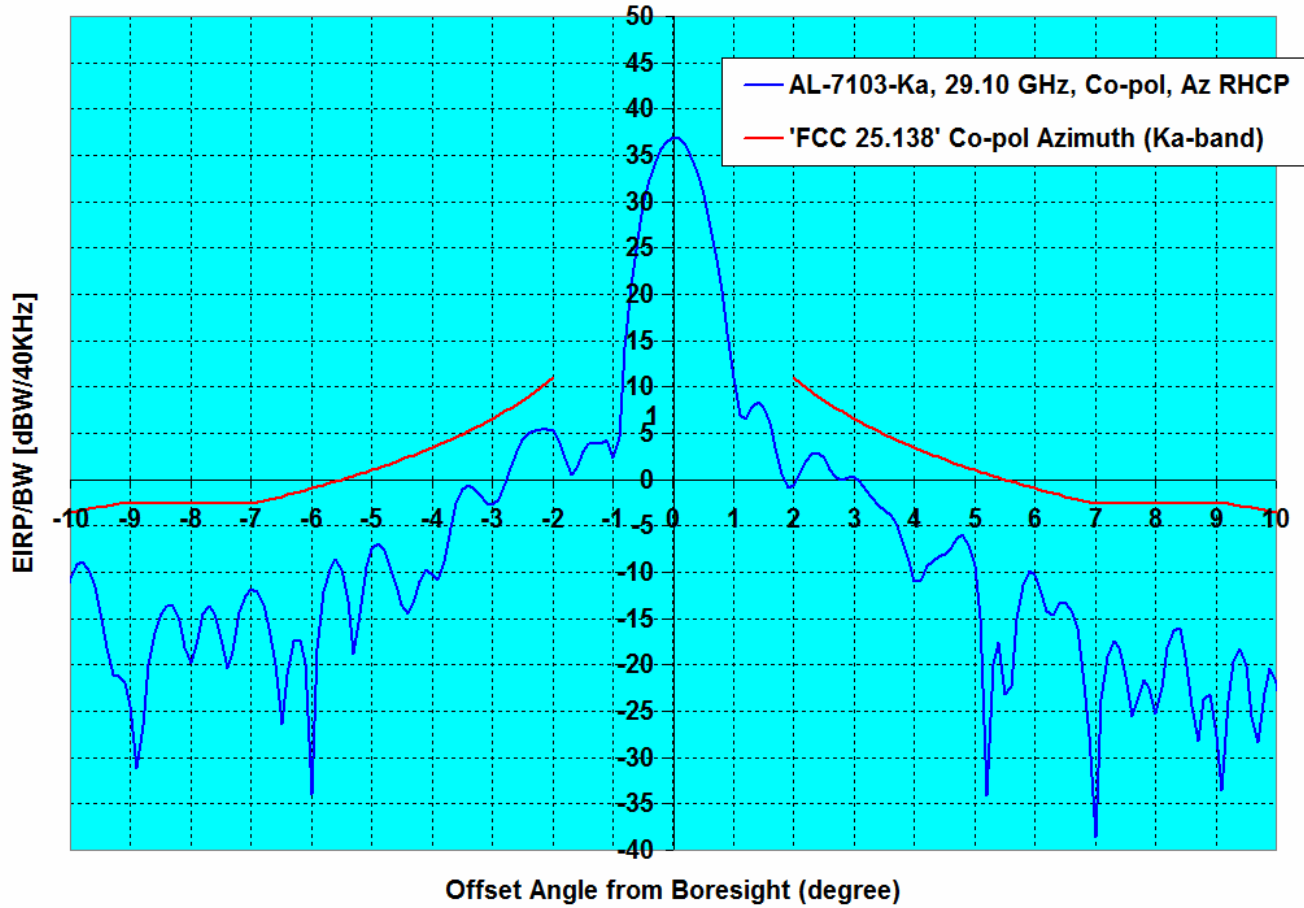
6.0	-22.6	-11.0	-11.7
6.1	-24.4	-11.1	-13.3
6.2	-28.2	-11.3	-16.9
6.3	-26.4	-11.5	-14.9
6.4	-25.3	-11.7	-13.6
6.5	-24.4	-11.8	-12.5
6.6	-28.2	-12.0	-16.2
6.7	-29.9	-12.2	-17.8
6.8	-27.0	-12.3	-14.7
6.9	-25.4	-12.5	-12.9
7.0	-27.1	-12.6	-14.5
7.1	-32.2	-12.6	-19.6
7.2	-36.3	-12.6	-23.7
7.3	-26.9	-12.6	-14.3
7.4	-24.7	-12.6	-12.1
7.5	-24.6	-12.6	-12.0
7.6	-26.9	-12.6	-14.3
7.7	-28.7	-12.6	-16.0
7.8	-26.8	-12.6	-14.1
7.9	-23.4	-12.6	-10.8
8.0	-24.5	-12.6	-11.9
8.1	-26.7	-12.6	-14.1
8.2	-36.4	-12.6	-23.8
8.3	-42.8	-12.6	-30.2
8.4	-36.0	-12.6	-23.3
8.5	-34.7	-12.6	-22.0
8.6	-40.0	-12.6	-27.4
8.7	-32.6	-12.6	-20.0
8.8	-33.4	-12.6	-20.8
8.9	-27.8	-12.6	-15.1
9.0	-29.1	-12.6	-16.4
9.1	-30.0	-12.6	-17.4
9.2	-31.7	-12.6	-19.1
9.3	-32.5	-12.6	-19.9
9.4	-30.6	-12.6	-18.0
9.5	-30.0	-12.6	-17.3
9.6	-31.4	-12.6	-18.8
9.7	-31.5	-12.6	-18.8
9.8	-38.5	-12.6	-25.8
9.9	-38.1	-12.6	-25.5
10.0	-35.4	-12.6	-22.7

**'FCC 25.138' Co-pol Guide at Ka-band for EIRP/BW of -11.58 dBW/40KHz to Input and
 36.92 dBW/40KHz in the Output of AL-7103-Ka Antenna at 29.10 GHz in Az RHCP**
 Min BW of 3.63 MHz in case of 20W BUC



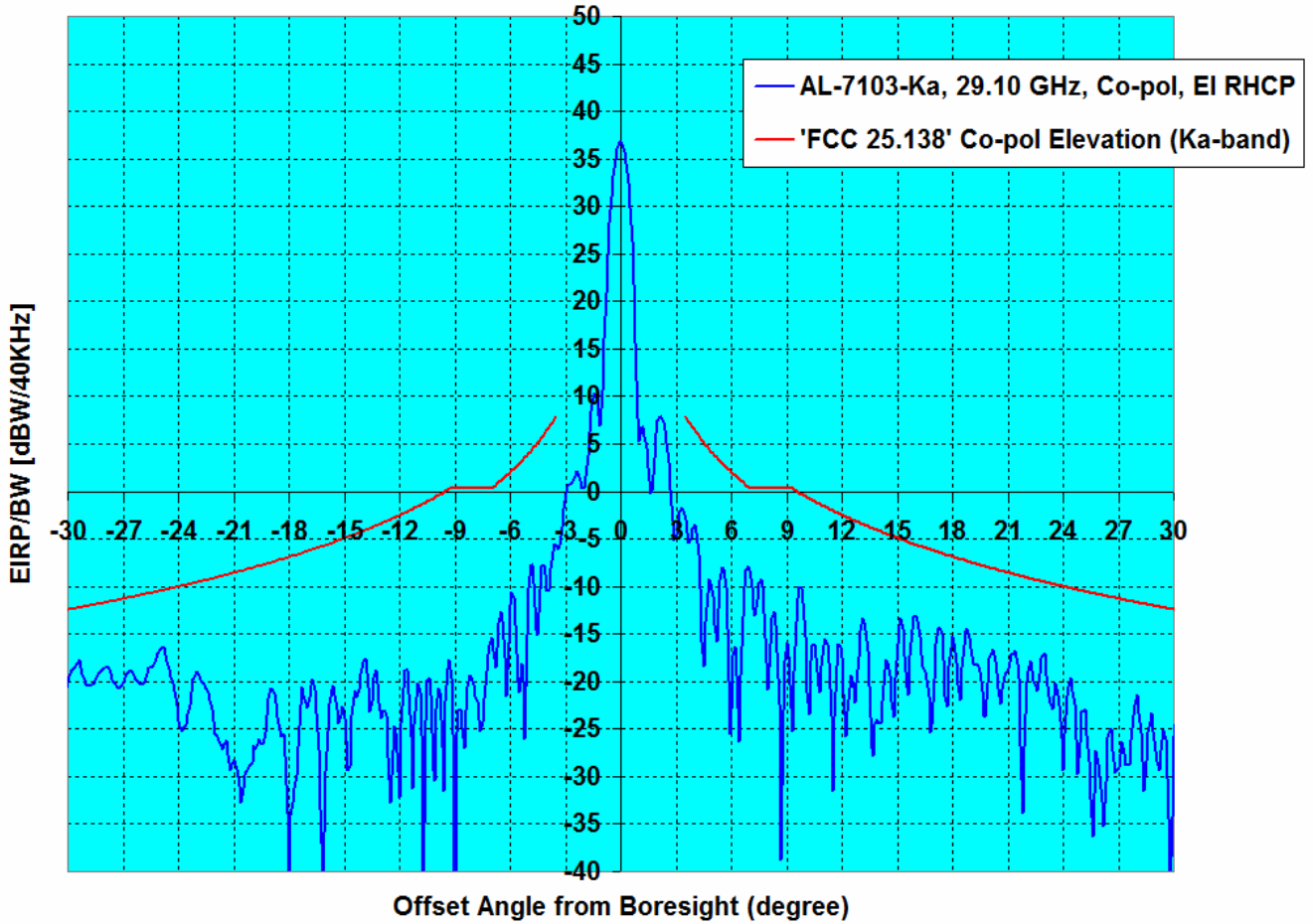
Configuration System, Freq., Polarization, Plane	Regulation EIRP/BW [dBW/40KHz]	Antenna Gain dBi	Input EIRPsd dBW/40KHz	Peak Excursions dB		Over Mask %
				± (2° to 10°)	± (10° to 180°)	
AL-7103-Ka, 29.10 GHz, Co-pol, Az RHCP	'FCC 25.138' Co-pol Azimuth (Ka-band)	48.50	-11.58	-4.03	1.84	0.23

**'FCC 25.138' Co-pol Guide at Ka-band for EIRP/BW of -11.58 dBW/40KHz to Input and
 36.92 dBW/40KHz in the Output of AL-7103-Ka Antenna at 29.10 GHz in Az RHCP
 Min BW of 3.63 MHz in case of 20W BUC**



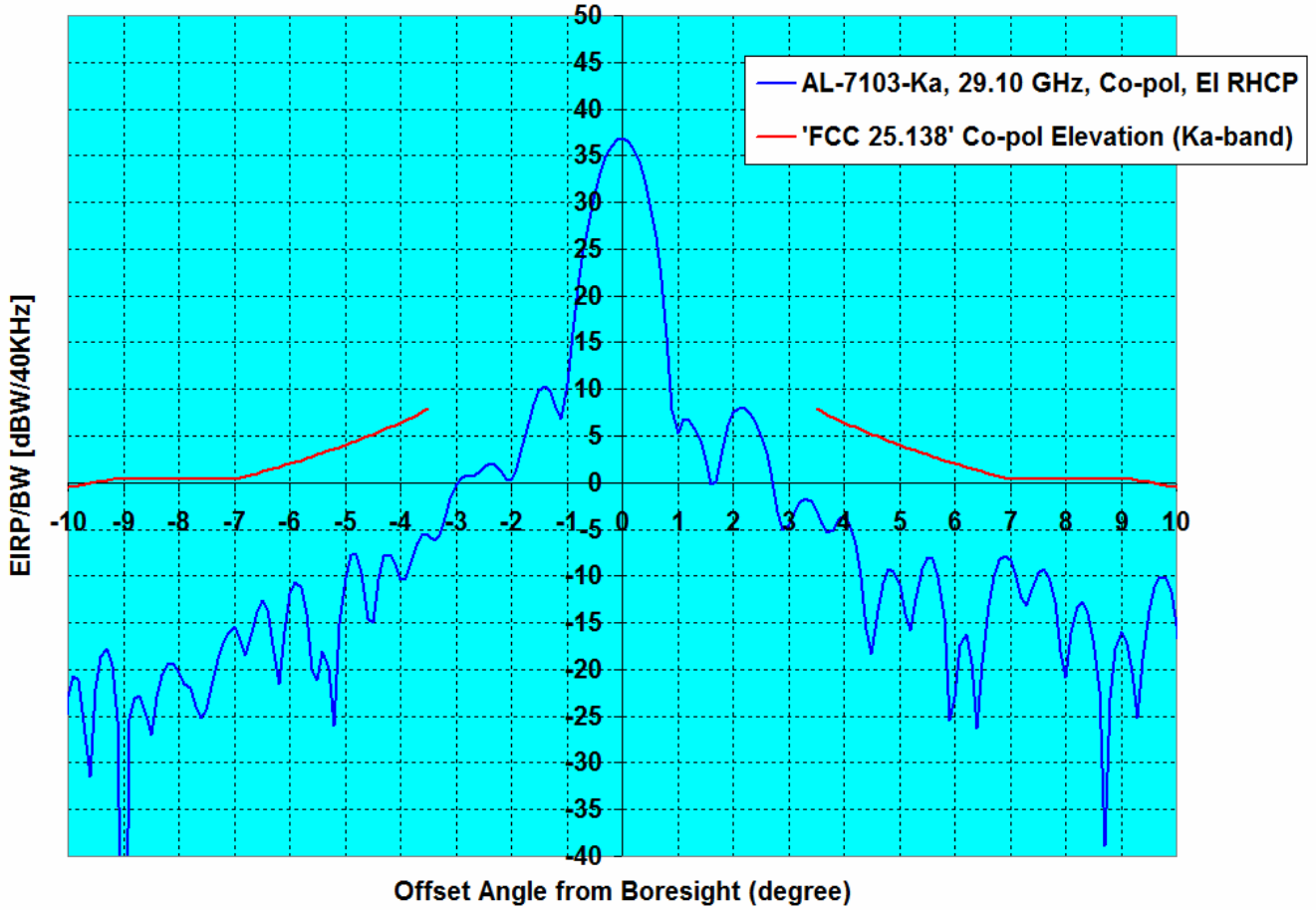
Configuration System, Freq., Polarization, Plane	Regulation EIRP/BW [dBW/40KHz]	Antenna Gain dBi	Input EIRPsd dBW/40KHz	Peak Excursions dB		Over Mask %
				± (2° to 10°)	± (10° to 180°)	
AL-7103-Ka, 29.10 GHz, Co-pol, Az RHCP	'FCC 25.138' Co-pol Azimuth (Ka-band)	48.50	-11.58	-4.03	1.84	0.23

**'FCC 25.138' Co-pol Guide at Ka-band for EIRP/BW of -11.58 dBW/40KHz to Input and
 36.92 dBW/40KHz in the Output of AL-7103-Ka Antenna at 29.10 GHz in EI RHCP
 Min BW of 3.63 MHz in case of 20W BUC**

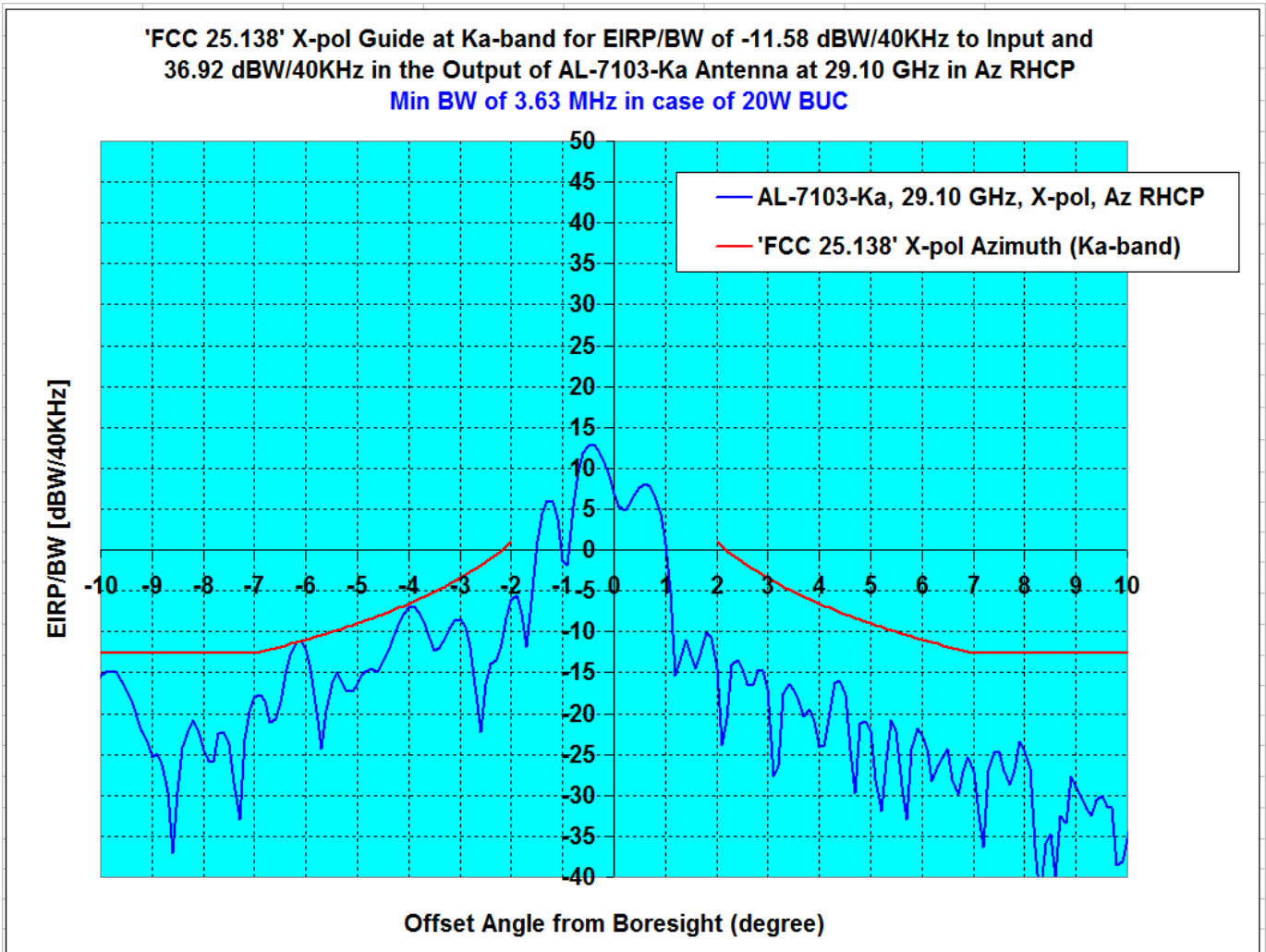


Configuration	Regulation	Antenna Gain	Input EIRPsd	Peak Excursions dB		Over Mask
System, Frequency, Polarization, Plane	EIRP/BW [dBW/40KHz]	dBi	dBW/40KHz	± (3.5° to 10°)	± (10° to 30°)	%
AL-7103-Ka, 29.10 GHz, Co-pol, EI RHCP	'FCC 25.138' Co-pol Elevation (Ka-band)	48.50	-11.58	-8.38	-5.52	0.00

**'FCC 25.138' Co-pol Guide at Ka-band for EIRP/BW of -11.58 dBW/40KHz to Input and
 36.92 dBW/40KHz in the Output of AL-7103-Ka Antenna at 29.10 GHz in EI RHCP
 Min BW of 3.63 MHz in case of 20W BUC**



Configuration	Regulation	Antenna Gain	Input EIRPsd	Peak Excursions dB		Over Mask
System, Frequency, Polarization, Plane	EIRP/BW [dBW/40KHz]	dBi	dBW/40KHz	± (3.5° to 10°)	± (10° to 30°)	%
AL-7103-Ka, 29.10 GHz, Co-pol, EI RHCP	'FCC 25.138' Co-pol Elevation (Ka-band)	48.50	-11.58	-8.38	-5.52	0.00



Configuration System, Frequency, Polarization, Plane	Regulation	Antenna Gain dBi	Input EIRPsd dBW/40KHz	Peak Excursions dB		Over Mask %
	EIRP/BW [dBW/40KHz]			± (2° to 7°)	± (2° to 9.2°)	
AL-7103-Ka, 29.10 GHz, X-pol, Az RHCP	'FCC 25.138' X-pol Azimuth (Ka-band)	48.50	-11.58	0.00	0.00	0.68

Orbit Communication Systems Ltd.
AL-7103-Ka, 1.20 m Antenna, Pattern Data Table
Co-pol Azimuth LHCP, -180° to +180° @ 1.0° increment

27.60 GHz Antenna Pattern in Co-pol Az LHCP

Angle	Gain	Mask	Over Mask
Degrees	dBi	dBi	dB
-179.0	-27.1	0.0	-27.1
-178.0	-19.2	0.0	-19.2
-177.0	-25.7	0.0	-25.7
-176.0	-22.9	0.0	-22.9
-175.0	-31.9	0.0	-31.9
-174.0	-28.8	0.0	-28.8
-173.0	-32.6	0.0	-32.6
-172.0	-34.4	0.0	-34.4
-171.0	-32.1	0.0	-32.1
-170.0	-33.9	0.0	-33.9
-169.0	-37.3	0.0	-37.3
-168.0	-31.1	0.0	-31.1
-167.0	-33.4	0.0	-33.4
-166.0	-34.3	0.0	-34.3
-165.0	-31.1	0.0	-31.1
-164.0	-45.0	0.0	-45.0
-163.0	-36.6	0.0	-36.6
-162.0	-31.9	0.0	-31.9
-161.0	-30.6	0.0	-30.6
-160.0	-46.8	0.0	-46.8
-159.0	-28.9	0.0	-28.9
-158.0	-34.1	0.0	-34.1
-157.0	-32.1	0.0	-32.1
-156.0	-24.2	0.0	-24.2
-155.0	-28.2	0.0	-28.2
-154.0	-28.8	0.0	-28.8
-153.0	-32.7	0.0	-32.7
-152.0	-37.3	0.0	-37.3
-151.0	-26.6	0.0	-26.6
-150.0	-36.2	0.0	-36.2
-149.0	-36.3	0.0	-36.3
-148.0	-28.2	0.0	-28.2
-147.0	-34.0	0.0	-34.0
-146.0	-27.5	0.0	-27.5
-145.0	-31.5	0.0	-31.5
-144.0	-40.0	0.0	-40.0
-143.0	-31.5	0.0	-31.5
-142.0	-43.5	0.0	-43.5
-141.0	-25.7	0.0	-25.7
-140.0	-26.3	0.0	-26.3
-139.0	-25.3	0.0	-25.3
-138.0	-27.3	0.0	-27.3
-137.0	-29.8	0.0	-29.8
-136.0	-28.5	0.0	-28.5
-135.0	-30.8	0.0	-30.8
-134.0	-34.5	0.0	-34.5
-133.0	-22.2	0.0	-22.2
-132.0	-25.1	0.0	-25.1
-131.0	-29.0	0.0	-29.0
-130.0	-20.7	0.0	-20.7
-129.0	-21.5	0.0	-21.5
-128.0	-27.1	0.0	-27.1
-127.0	-34.1	0.0	-34.1
-126.0	-34.1	0.0	-34.1
-125.0	-26.0	0.0	-26.0
-124.0	-25.5	0.0	-25.5
-123.0	-31.3	0.0	-31.3
-122.0	-28.8	0.0	-28.8
-121.0	-24.0	0.0	-24.0
-120.0	-28.5	0.0	-28.5

27.60 GHz Antenna Pattern in Co-pol Az LHCP

Angle	Gain	Mask	Over Mask
Degrees	dBi	dBi	dB
0.0	47.4		
1.0	19.6		
2.0	6.9	21.5	-14.6
3.0	10.8	17.1	-6.3
4.0	8.3	13.9	-5.6
5.0	0.9	11.5	-10.6
6.0	-4.2	9.5	-13.8
7.0	-1.9	7.9	-9.8
8.0	-1.1	8.0	-9.1
9.0	-17.4	8.0	-25.4
10.0	-13.6	7.0	-20.6
11.0	-8.0	6.0	-13.9
12.0	-9.8	5.0	-14.8
13.0	-11.7	4.2	-15.9
14.0	-9.0	3.3	-12.4
15.0	-13.8	2.6	-16.4
16.0	-19.1	1.9	-21.0
17.0	-13.6	1.2	-14.9
18.0	-12.9	0.6	-13.5
19.0	-14.6	0.0	-14.6
20.0	-15.9	-0.5	-15.4
21.0	-15.0	-1.1	-13.9
22.0	-23.0	-1.6	-21.5
23.0	-8.5	-2.0	-6.5
24.0	-13.0	-2.5	-10.5
25.0	-9.5	-2.9	-6.5
26.0	-12.4	-3.4	-9.0
27.0	-12.3	-3.8	-8.6
28.0	-10.4	-4.2	-6.3
29.0	-8.3	-4.6	-3.7
30.0	-11.5	-4.9	-6.5
31.0	-20.1	-5.3	-14.8
32.0	-16.2	-5.6	-10.6
33.0	-14.5	-6.0	-8.5
34.0	-15.6	-6.3	-9.3
35.0	-25.9	-6.6	-19.3
36.0	-23.3	-6.9	-16.4
37.0	-15.3	-7.2	-8.1
38.0	-21.3	-7.5	-13.8
39.0	-38.3	-7.8	-30.5
40.0	-23.5	-8.1	-15.4
41.0	-16.5	-8.3	-8.1
42.0	-11.7	-8.6	-3.2
43.0	-12.5	-8.8	-3.6
44.0	-16.2	-9.1	-7.1
45.0	-17.3	-9.3	-7.9
46.0	-13.6	-9.6	-4.0
47.0	-15.0	-9.8	-5.2
48.0	-13.8	-10.0	-3.8
49.0	-14.7	-10.0	-4.7
50.0	-18.9	-10.0	-8.9
51.0	-20.1	-10.0	-10.1
52.0	-24.9	-10.0	-14.9
53.0	-18.5	-10.0	-8.5
54.0	-19.0	-10.0	-9.0
55.0	-13.2	-10.0	-3.2
56.0	-15.6	-10.0	-5.6
57.0	-16.3	-10.0	-6.3
58.0	-19.0	-10.0	-9.0
59.0	-22.4	-10.0	-12.4

Orbit Communication Systems Ltd.
AL-7103-Ka, 1.20 m Antenna, Pattern Data Table
Co-pol Azimuth LHCP, -180° to +180° @ 1.0° increment

-119.0	-37.9	0.0	-37.9
-118.0	-23.1	0.0	-23.1
-117.0	-20.7	0.0	-20.7
-116.0	-22.4	0.0	-22.4
-115.0	-20.6	0.0	-20.6
-114.0	-22.3	0.0	-22.3
-113.0	-22.8	0.0	-22.8
-112.0	-22.0	0.0	-22.0
-111.0	-17.7	0.0	-17.7
-110.0	-16.6	0.0	-16.6
-109.0	-14.7	0.0	-14.7
-108.0	-13.3	0.0	-13.3
-107.0	-12.9	0.0	-12.9
-106.0	-11.1	0.0	-11.1
-105.0	-9.0	0.0	-9.0
-104.0	-8.1	0.0	-8.1
-103.0	-7.4	0.0	-7.4
-102.0	-7.5	0.0	-7.5
-101.0	-8.7	0.0	-8.7
-100.0	-10.5	0.0	-10.5
-99.0	-10.2	0.0	-10.2
-98.0	-7.9	0.0	-7.9
-97.0	-7.1	0.0	-7.1
-96.0	-10.1	0.0	-10.1
-95.0	-10.6	0.0	-10.6
-94.0	-7.5	0.0	-7.5
-93.0	-8.2	0.0	-8.2
-92.0	-12.2	0.0	-12.2
-91.0	-7.8	0.0	-7.8
-90.0	-9.3	0.0	-9.3
-89.0	-13.6	0.0	-13.6
-88.0	-12.8	0.0	-12.8
-87.0	-19.0	0.0	-19.0
-86.0	-14.9	0.0	-14.9
-85.0	-20.3	-10.0	-10.3
-84.0	-27.1	-10.0	-17.1
-83.0	-16.9	-10.0	-6.9
-82.0	-15.0	-10.0	-5.0
-81.0	-24.8	-10.0	-14.8
-80.0	-44.7	-10.0	-34.7
-79.0	-26.9	-10.0	-16.9
-78.0	-15.9	-10.0	-5.9
-77.0	-31.4	-10.0	-21.4
-76.0	-29.2	-10.0	-19.2
-75.0	-19.5	-10.0	-9.5
-74.0	-15.8	-10.0	-5.8
-73.0	-22.7	-10.0	-12.7
-72.0	-15.3	-10.0	-5.3
-71.0	-17.6	-10.0	-7.6
-70.0	-29.7	-10.0	-19.7
-69.0	-23.0	-10.0	-13.0
-68.0	-17.8	-10.0	-7.8
-67.0	-19.1	-10.0	-9.1
-66.0	-20.3	-10.0	-10.3
-65.0	-28.2	-10.0	-18.2
-64.0	-17.5	-10.0	-7.5
-63.0	-18.1	-10.0	-8.1
-62.0	-14.1	-10.0	-4.1
-61.0	-26.2	-10.0	-16.2
-60.0	-14.9	-10.0	-4.9
-59.0	-33.3	-10.0	-23.3
-58.0	-36.3	-10.0	-26.3
-57.0	-18.8	-10.0	-8.8

60.0	-17.1	-10.0	-7.1
61.0	-13.7	-10.0	-3.7
62.0	-15.4	-10.0	-5.4
63.0	-26.9	-10.0	-16.9
64.0	-32.0	-10.0	-22.0
65.0	-13.6	-10.0	-3.6
66.0	-13.3	-10.0	-3.3
67.0	-18.7	-10.0	-8.7
68.0	-27.7	-10.0	-17.7
69.0	-14.1	-10.0	-4.1
70.0	-17.1	-10.0	-7.1
71.0	-18.8	-10.0	-8.8
72.0	-18.4	-10.0	-8.4
73.0	-23.6	-10.0	-13.6
74.0	-17.0	-10.0	-7.0
75.0	-16.4	-10.0	-6.4
76.0	-19.3	-10.0	-9.3
77.0	-30.8	-10.0	-20.8
78.0	-18.7	-10.0	-8.7
79.0	-15.9	-10.0	-5.9
80.0	-22.9	-10.0	-12.9
81.0	-24.8	-10.0	-14.8
82.0	-24.7	-10.0	-14.7
83.0	-23.3	-10.0	-13.3
84.0	-23.0	-10.0	-13.0
85.0	-20.5	-10.0	-10.5
86.0	-21.8	0.0	-21.8
87.0	-20.0	0.0	-20.0
88.0	-24.9	0.0	-24.9
89.0	-27.0	0.0	-27.0
90.0	-22.9	0.0	-22.9
91.0	-21.2	0.0	-21.2
92.0	-26.4	0.0	-26.4
93.0	-21.0	0.0	-21.0
94.0	-23.3	0.0	-23.3
95.0	-20.2	0.0	-20.2
96.0	-25.1	0.0	-25.1
97.0	-27.4	0.0	-27.4
98.0	-16.0	0.0	-16.0
99.0	-22.5	0.0	-22.5
100.0	-21.1	0.0	-21.1
101.0	-23.7	0.0	-23.7
102.0	-20.9	0.0	-20.9
103.0	-22.6	0.0	-22.6
104.0	-22.6	0.0	-22.6
105.0	-22.1	0.0	-22.1
106.0	-24.5	0.0	-24.5
107.0	-20.8	0.0	-20.8
108.0	-32.2	0.0	-32.2
109.0	-23.3	0.0	-23.3
110.0	-28.0	0.0	-28.0
111.0	-19.5	0.0	-19.5
112.0	-23.2	0.0	-23.2
113.0	-24.9	0.0	-24.9
114.0	-24.9	0.0	-24.9
115.0	-21.2	0.0	-21.2
116.0	-23.3	0.0	-23.3
117.0	-20.5	0.0	-20.5
118.0	-24.3	0.0	-24.3
119.0	-23.4	0.0	-23.4
120.0	-20.1	0.0	-20.1
121.0	-21.4	0.0	-21.4
122.0	-18.6	0.0	-18.6

Orbit Communication Systems Ltd.
AL-7103-Ka, 1.20 m Antenna, Pattern Data Table
Co-pol Azimuth LHCP, -180° to +180° @ 1.0° increment

-56.0	-17.6	-10.0	-7.6	123.0	-22.8	0.0	-22.8
-55.0	-17.7	-10.0	-7.7	124.0	-20.1	0.0	-20.1
-54.0	-22.2	-10.0	-12.2	125.0	-26.0	0.0	-26.0
-53.0	-20.6	-10.0	-10.6	126.0	-34.3	0.0	-34.3
-52.0	-18.8	-10.0	-8.8	127.0	-27.0	0.0	-27.0
-51.0	-17.4	-10.0	-7.4	128.0	-35.6	0.0	-35.6
-50.0	-21.1	-10.0	-11.1	129.0	-28.1	0.0	-28.1
-49.0	-13.5	-10.0	-3.5	130.0	-22.7	0.0	-22.7
-48.0	-12.1	-10.0	-2.1	131.0	-30.0	0.0	-30.0
-47.0	-13.3	-9.8	-3.5	132.0	-21.3	0.0	-21.3
-46.0	-11.4	-9.6	-1.8	133.0	-25.2	0.0	-25.2
-45.0	-12.0	-9.3	-2.7	134.0	-24.5	0.0	-24.5
-44.0	-12.7	-9.1	-3.6	135.0	-19.2	0.0	-19.2
-43.0	-13.6	-8.8	-4.8	136.0	-19.4	0.0	-19.4
-42.0	-13.4	-8.6	-4.9	137.0	-24.8	0.0	-24.8
-41.0	-11.0	-8.3	-2.6	138.0	-22.7	0.0	-22.7
-40.0	-10.8	-8.1	-2.7	139.0	-17.7	0.0	-17.7
-39.0	-16.0	-7.8	-8.2	140.0	-21.4	0.0	-21.4
-38.0	-14.2	-7.5	-6.7	141.0	-35.3	0.0	-35.3
-37.0	-15.1	-7.2	-7.8	142.0	-27.9	0.0	-27.9
-36.0	-11.7	-6.9	-4.8	143.0	-22.5	0.0	-22.5
-35.0	-12.6	-6.6	-6.0	144.0	-27.3	0.0	-27.3
-34.0	-11.1	-6.3	-4.8	145.0	-19.0	0.0	-19.0
-33.0	-19.3	-6.0	-13.4	146.0	-21.9	0.0	-21.9
-32.0	-14.5	-5.6	-8.9	147.0	-20.8	0.0	-20.8
-31.0	-12.7	-5.3	-7.4	148.0	-30.2	0.0	-30.2
-30.0	-16.0	-4.9	-11.0	149.0	-36.2	0.0	-36.2
-29.0	-23.3	-4.6	-18.7	150.0	-27.3	0.0	-27.3
-28.0	-13.7	-4.2	-9.5	151.0	-26.6	0.0	-26.6
-27.0	-9.7	-3.8	-5.9	152.0	-34.5	0.0	-34.5
-26.0	-16.0	-3.4	-12.6	153.0	-28.0	0.0	-28.0
-25.0	-12.8	-2.9	-9.8	154.0	-27.8	0.0	-27.8
-24.0	-12.8	-2.5	-10.3	155.0	-22.5	0.0	-22.5
-23.0	-14.9	-2.0	-12.8	156.0	-24.5	0.0	-24.5
-22.0	-11.2	-1.6	-9.6	157.0	-25.2	0.0	-25.2
-21.0	-6.0	-1.1	-5.0	158.0	-32.8	0.0	-32.8
-20.0	-32.1	-0.5	-31.6	159.0	-30.1	0.0	-30.1
-19.0	-7.5	0.0	-7.5	160.0	-38.4	0.0	-38.4
-18.0	-9.1	0.6	-9.7	161.0	-25.6	0.0	-25.6
-17.0	-6.2	1.2	-7.5	162.0	-39.5	0.0	-39.5
-16.0	-3.4	1.9	-5.3	163.0	-21.8	0.0	-21.8
-15.0	-2.2	2.6	-4.8	164.0	-21.2	0.0	-21.2
-14.0	-6.1	3.3	-9.5	165.0	-24.2	0.0	-24.2
-13.0	-3.8	4.2	-8.0	166.0	-21.7	0.0	-21.7
-12.0	-12.5	5.0	-17.5	167.0	-30.2	0.0	-30.2
-11.0	-9.4	6.0	-15.4	168.0	-22.9	0.0	-22.9
-10.0	-6.1	7.0	-13.1	169.0	-29.9	0.0	-29.9
-9.0	-8.6	8.0	-16.6	170.0	-40.0	0.0	-40.0
-8.0	-9.2	8.0	-17.2	171.0	-21.0	0.0	-21.0
-7.0	0.4	7.9	-7.5	172.0	-21.7	0.0	-21.7
-6.0	-7.2	9.5	-16.8	173.0	-22.2	0.0	-22.2
-5.0	3.3	11.5	-8.2	174.0	-22.2	0.0	-22.2
-4.0	3.2	13.9	-10.7	175.0	-26.1	0.0	-26.1
-3.0	7.3	17.1	-9.8	176.0	-23.4	0.0	-23.4
-2.0	16.4	21.5	-5.1	177.0	-34.5	0.0	-34.5
-1.0	18.0			178.0	-25.3	0.0	-25.3
0.0	47.4			179.0	-20.4	0.0	-20.4

Orbit Communication Systems Ltd.

AL AL-7103-Ka, 1.20 m Antenna, Pattern Data Table
 Co-pol Azimuth LHCP, -10° to +10° @ 0.1° increment

27.60 GHz Antenna Pattern in Co-pol Az LHCP

Angle Degrees	Gain dBi	Mask dBi	Over Mask dB
-10.0	-6.1	7.0	-13.1
-9.9	-5.7	7.1	-12.8
-9.8	-7.2	7.2	-14.4
-9.7	-11.4	7.3	-18.7
-9.6	-17.0	7.4	-24.5
-9.5	-8.9	7.6	-16.4
-9.4	-5.0	7.7	-12.7
-9.3	-3.1	7.8	-10.9
-9.2	-3.1	8.0	-11.1
-9.1	-4.9	8.0	-12.9
-9.0	-8.6	8.0	-16.6
-8.9	-18.1	8.0	-26.1
-8.8	-12.3	8.0	-20.3
-8.7	-7.4	8.0	-15.4
-8.6	-4.9	8.0	-12.9
-8.5	-5.1	8.0	-13.1
-8.4	-6.5	8.0	-14.5
-8.3	-11.2	8.0	-19.2
-8.2	-20.6	8.0	-28.6
-8.1	-13.9	8.0	-21.9
-8.0	-9.2	8.0	-17.2
-7.9	-7.4	8.0	-15.4
-7.8	-8.1	8.0	-16.1
-7.7	-11.3	8.0	-19.3
-7.6	-14.7	8.0	-22.7
-7.5	-6.6	8.0	-14.6
-7.4	-1.6	8.0	-9.6
-7.3	1.0	8.0	-7.0
-7.2	2.0	8.0	-6.0
-7.1	1.8	8.0	-6.2
-7.0	0.4	7.9	-7.5
-6.9	-3.5	8.0	-11.5
-6.8	-16.1	8.2	-24.3
-6.7	-9.8	8.3	-18.2
-6.6	-1.9	8.5	-10.4
-6.5	0.5	8.7	-8.2
-6.4	1.0	8.8	-7.9
-6.3	-0.5	9.0	-9.5
-6.2	-2.9	9.2	-12.0
-6.1	-7.3	9.4	-16.6
-6.0	-7.2	9.5	-16.8
-5.9	-4.4	9.7	-14.2
-5.8	-3.3	9.9	-13.2
-5.7	-3.5	10.1	-13.6
-5.6	-4.1	10.3	-14.4
-5.5	-2.9	10.5	-13.4
-5.4	-1.3	10.7	-12.0
-5.3	0.5	10.9	-10.4
-5.2	1.9	11.1	-9.2
-5.1	2.9	11.3	-8.4
-5.0	3.3	11.5	-8.2
-4.9	2.6	11.7	-9.1
-4.8	0.6	12.0	-11.3
-4.7	-4.2	12.2	-16.4
-4.6	-11.7	12.4	-24.2
-4.5	-2.9	12.7	-15.5
-4.4	1.6	12.9	-11.3
-4.3	3.2	13.2	-9.9
-4.2	3.3	13.4	-10.1
-4.1	2.8	13.7	-10.8

27.60 GHz Antenna Pattern in Co-pol Az LHCP

Angle Degrees	Gain dBi	Mask dBi	Over Mask dB
0.0	47.4		
0.1	47.2		
0.2	46.6		
0.3	45.4		
0.4	43.8		
0.5	41.6		
0.6	38.9		
0.7	35.6		
0.8	31.5		
0.9	26.4		
1.0	19.6		
1.1	9.1		
1.2	12.7		
1.3	17.3		
1.4	19.2		
1.5	19.5	24.6	-5.1
1.6	18.5	23.9	-5.4
1.7	16.5	23.2	-6.7
1.8	13.7	22.6	-8.9
1.9	10.4	22.0	-11.6
2.0	6.9	21.5	-14.6
2.1	4.1	20.9	-16.9
2.2	4.8	20.4	-15.7
2.3	8.3	20.0	-11.7
2.4	11.0	19.5	-8.5
2.5	12.0	19.1	-7.1
2.6	12.0	18.6	-6.6
2.7	11.2	18.2	-7.0
2.8	11.2	17.8	-6.6
2.9	10.8	17.4	-6.6
3.0	10.8	17.1	-6.3
3.1	10.5	16.7	-6.2
3.2	9.5	16.4	-6.9
3.3	7.6	16.0	-8.5
3.4	5.8	15.7	-10.0
3.5	5.3	15.4	-10.1
3.6	6.7	15.1	-8.4
3.7	8.0	14.8	-6.8
3.8	8.8	14.5	-5.7
3.9	8.9	14.2	-5.3
4.0	8.3	13.9	-5.6
4.1	6.7	13.7	-7.0
4.2	4.8	13.4	-8.6
4.3	2.8	13.2	-10.4
4.4	1.4	12.9	-11.6
4.5	0.7	12.7	-12.0
4.6	-1.1	12.4	-13.5
4.7	-5.6	12.2	-17.8
4.8	-15.4	12.0	-27.4
4.9	-2.7	11.7	-14.5
5.0	0.9	11.5	-10.6
5.1	1.6	11.3	-9.8
5.2	1.5	11.1	-9.6
5.3	-0.1	10.9	-11.0
5.4	-2.1	10.7	-12.8
5.5	-1.4	10.5	-11.9
5.6	-1.6	10.3	-11.9
5.7	-2.8	10.1	-12.9
5.8	-7.0	9.9	-16.9
5.9	-13.4	9.7	-23.2

Orbit Communication Systems Ltd.
AL AL-7103-Ka, 1.20 m Antenna, Pattern Data Table
Co-pol Azimuth LHCP, -10° to +10° @ 0.1° increment

-4.0	3.2	13.9	-10.7
-3.9	5.2	14.2	-9.0
-3.8	7.6	14.5	-6.9
-3.7	9.4	14.8	-5.4
-3.6	10.6	15.1	-4.5
-3.5	11.4	15.4	-4.0
-3.4	11.8	15.7	-3.9
-3.3	11.6	16.0	-4.5
-3.2	10.7	16.4	-5.7
-3.1	8.8	16.7	-7.9
-3.0	7.3	17.1	-9.8
-2.9	8.5	17.4	-8.9
-2.8	11.1	17.8	-6.7
-2.7	13.0	18.2	-5.3
-2.6	14.0	18.6	-4.6
-2.5	14.8	19.1	-4.2
-2.4	15.9	19.5	-3.6
-2.3	17.0	20.0	-2.9
-2.2	17.9	20.4	-2.5
-2.1	17.9	20.9	-3.1
-2.0	16.4	21.5	-5.1
-1.9	12.6	22.0	-9.5
-1.8	4.6	22.6	-18.0
-1.7	10.9	23.2	-12.4
-1.6	16.0	23.9	-7.9
-1.5	17.9	24.6	-6.7
-1.4	17.9		
-1.3	16.9		
-1.2	16.5		
-1.1	17.2		
-1.0	18.0		
-0.9	21.7		
-0.8	27.9		
-0.7	33.2		
-0.6	37.5		
-0.5	40.8		
-0.4	43.3		
-0.3	45.1		
-0.2	46.4		
-0.1	47.1		
0.0	47.4		

6.0	-4.2	9.5	-13.8
6.1	-0.3	9.4	-9.7
6.2	1.8	9.2	-7.4
6.3	1.5	9.0	-7.5
6.4	-0.6	8.8	-9.5
6.5	-5.4	8.7	-14.1
6.6	-14.9	8.5	-23.4
6.7	-8.3	8.3	-16.6
6.8	-3.8	8.2	-11.9
6.9	-1.8	8.0	-9.9
7.0	-1.9	7.9	-9.8
7.1	-2.3	8.0	-10.3
7.2	-3.6	8.0	-11.6
7.3	-5.9	8.0	-13.9
7.4	-10.3	8.0	-18.3
7.5	-14.4	8.0	-22.4
7.6	-9.5	8.0	-17.5
7.7	-4.5	8.0	-12.5
7.8	-2.0	8.0	-10.0
7.9	-1.2	8.0	-9.2
8.0	-1.1	8.0	-9.1
8.1	-3.3	8.0	-11.3
8.2	-7.0	8.0	-15.0
8.3	-14.1	8.0	-22.1
8.4	-8.6	8.0	-16.6
8.5	-3.0	8.0	-11.0
8.6	-0.9	8.0	-8.9
8.7	-1.6	8.0	-9.6
8.8	-3.1	8.0	-11.1
8.9	-8.0	8.0	-16.0
9.0	-17.4	8.0	-25.4
9.1	-10.8	8.0	-18.8
9.2	-6.8	8.0	-14.8
9.3	-5.3	7.8	-13.1
9.4	-6.8	7.7	-14.4
9.5	-11.3	7.6	-18.8
9.6	-13.3	7.4	-20.8
9.7	-8.4	7.3	-15.7
9.8	-7.4	7.2	-14.6
9.9	-8.5	7.1	-15.7
10.0	-13.6	7.0	-20.6

Orbit Communication Systems Ltd.

AL-7103-Ka, 1.20 m Antenna, Pattern Data Table
Co-pol Elevation LHCP, -30° to +30° @ 0.5° increment

27.60 GHz Antenna Pattern in Co-pol EI LHCP

Angle Degrees	Gain dBi	Mask dBi	Over Mask dB
-30.0	-13.5	-4.9	-8.5
-29.5	-13.8	-4.7	-9.1
-29.0	-10.0	-4.6	-5.4
-28.5	-12.3	-4.4	-8.0
-28.0	-16.4	-4.2	-12.3
-27.5	-14.3	-4.0	-10.3
-27.0	-15.9	-3.8	-12.1
-26.5	-14.0	-3.6	-10.4
-26.0	-10.8	-3.4	-7.4
-25.5	-8.9	-3.2	-5.7
-25.0	-8.9	-2.9	-6.0
-24.5	-10.4	-2.7	-7.7
-24.0	-9.1	-2.5	-6.6
-23.5	-12.9	-2.3	-10.6
-23.0	-9.7	-2.0	-7.6
-22.5	-8.1	-1.8	-6.3
-22.0	-11.6	-1.6	-10.0
-21.5	-11.6	-1.3	-10.3
-21.0	-8.5	-1.1	-7.4
-20.5	-8.9	-0.8	-8.1
-20.0	-11.4	-0.5	-10.9
-19.5	-11.6	-0.3	-11.3
-19.0	-12.1	0.0	-12.1
-18.5	-8.0	0.3	-8.3
-18.0	-7.2	0.6	-7.8
-17.5	-8.9	0.9	-9.8
-17.0	-14.2	1.2	-15.4
-16.5	-23.0	1.6	-24.6
-16.0	-12.5	1.9	-14.4
-15.5	-11.1	2.2	-13.4
-15.0	-13.6	2.6	-16.2
-14.5	-12.0	3.0	-14.9
-14.0	-6.5	3.3	-9.8
-13.5	-6.4	3.7	-10.2
-13.0	-10.9	4.2	-15.1
-12.5	-23.4	4.6	-28.0
-12.0	-12.5	5.0	-17.5
-11.5	-28.5	5.5	-34.0
-11.0	-5.8	6.0	-11.8
-10.5	-7.3	6.5	-13.8
-10.0	-11.1	7.0	-18.1
-9.5	-9.5	7.6	-17.0
-9.0	-14.1	8.1	-22.2
-8.5	-5.8	8.8	-14.5
-8.0	-6.5	9.4	-15.9
-7.5	-8.3	10.1	-18.5
-7.0	-3.8	10.9	-14.6
-6.5	-14.9	11.7	-26.6
-6.0	-3.6	12.5	-16.1
-5.5	-7.4	13.5	-20.9
-5.0	1.6	14.5	-12.9
-4.5	2.1	15.7	-13.6
-4.0	5.9	16.9	-11.0
-3.5	-0.6	18.4	-19.0
-3.0	11.0	20.1	-9.1
-2.5	12.4		
-2.0	10.7		
-1.5	20.5		
-1.0	21.7		
-0.5	41.3		
0.0	47.4		

27.60 GHz Antenna Pattern in Co-pol EI LHCP

Angle Degrees	Gain dBi	Mask dBi	Over Mask dB
0.0	47.4		
0.5	39.9		
1.0	19.6		
1.5	16.9		
2.0	17.7		
2.5	15.6		
3.0	6.8	20.1	-13.3
3.5	7.7	18.4	-10.7
4.0	5.7	16.9	-11.2
4.5	-3.0	15.7	-18.6
5.0	-0.8	14.5	-15.4
5.5	-6.4	13.5	-19.9
6.0	-7.5	12.5	-20.0
6.5	0.2	11.7	-11.5
7.0	1.0	10.9	-9.8
7.5	-6.4	10.1	-16.5
8.0	-6.3	9.4	-15.7
8.5	-5.9	8.8	-14.7
9.0	-4.2	8.1	-12.4
9.5	-9.9	7.6	-17.5
10.0	-10.3	7.0	-17.3
10.5	-2.1	6.5	-8.6
11.0	-19.9	6.0	-25.8
11.5	-1.1	5.5	-6.5
12.0	-1.2	5.0	-6.2
12.5	-6.7	4.6	-11.3
13.0	-4.3	4.2	-8.5
13.5	-3.8	3.7	-7.5
14.0	-20.3	3.3	-23.7
14.5	-3.7	3.0	-6.7
15.0	-3.2	2.6	-5.7
15.5	-2.2	2.2	-4.5
16.0	-5.3	1.9	-7.2
16.5	0.1	1.6	-1.5
17.0	-8.0	1.2	-9.2
17.5	-7.2	0.9	-8.1
18.0	-6.8	0.6	-7.5
18.5	-7.2	0.3	-7.5
19.0	-17.1	0.0	-17.1
19.5	-4.3	-0.3	-4.1
20.0	-12.4	-0.5	-11.9
20.5	-5.9	-0.8	-5.2
21.0	-3.5	-1.1	-2.5
21.5	-8.0	-1.3	-6.6
22.0	-11.0	-1.6	-9.4
22.5	-3.2	-1.8	-1.4
23.0	-8.3	-2.0	-6.2
23.5	-7.2	-2.3	-4.9
24.0	-8.5	-2.5	-6.0
24.5	-6.9	-2.7	-4.1
25.0	-7.7	-2.9	-4.7
25.5	-4.6	-3.2	-1.4
26.0	-5.7	-3.4	-2.3
26.5	-6.9	-3.6	-3.3
27.0	-5.8	-3.8	-2.0
27.5	-9.8	-4.0	-5.8
28.0	-15.0	-4.2	-10.8
28.5	-8.8	-4.4	-4.4
29.0	-14.9	-4.6	-10.3
29.5	-14.4	-4.7	-9.6
30.0	-6.6	-4.9	-1.6

Orbit Communication Systems Ltd.
 AL-7103-Ka, 1.20 m Antenna, Pattern Data Table
 Co-pol Elevation LHCP, -10° to +10° @ 0.1° increment

27.60 GHz Antenna Pattern in Co-pol EI LHCP

Angle	Gain	Mask	Over Mask
Degrees	dBi	dBi	dB
-10.0	-11.1	7.0	-18.1
-9.9	-9.0	7.1	-16.1
-9.8	-10.1	7.2	-17.4
-9.7	-14.0	7.3	-21.4
-9.6	-16.5	7.4	-23.9
-9.5	-9.5	7.6	-17.0
-9.4	-5.3	7.7	-12.9
-9.3	-5.5	7.8	-13.3
-9.2	-7.5	7.9	-15.4
-9.1	-11.9	8.0	-19.9
-9.0	-14.1	8.1	-22.2
-8.9	-7.3	8.3	-15.5
-8.8	-4.0	8.4	-12.4
-8.7	-3.3	8.5	-11.8
-8.6	-3.9	8.6	-12.5
-8.5	-5.8	8.8	-14.5
-8.4	-8.6	8.9	-17.5
-8.3	-17.6	9.0	-26.6
-8.2	-15.9	9.2	-25.0
-8.1	-9.9	9.3	-19.2
-8.0	-6.5	9.4	-15.9
-7.9	-4.7	9.6	-14.2
-7.8	-4.5	9.7	-14.2
-7.7	-6.1	9.8	-15.9
-7.6	-7.5	10.0	-17.4
-7.5	-8.3	10.1	-18.5
-7.4	-7.2	10.3	-17.5
-7.3	-6.8	10.4	-17.2
-7.2	-7.7	10.6	-18.3
-7.1	-7.1	10.7	-17.8
-7.0	-3.8	10.9	-14.6
-6.9	-1.1	11.0	-12.1
-6.8	-0.1	11.2	-11.3
-6.7	-1.0	11.3	-12.3
-6.6	-4.7	11.5	-16.2
-6.5	-14.9	11.7	-26.6
-6.4	-5.5	11.8	-17.3
-6.3	-0.5	12.0	-12.5
-6.2	1.0	12.2	-11.2
-6.1	0.4	12.4	-11.9
-6.0	-3.6	12.5	-16.1
-5.9	-17.3	12.7	-30.1
-5.8	-8.1	12.9	-21.0
-5.7	-3.0	13.1	-16.1
-5.6	-2.7	13.3	-16.0
-5.5	-7.4	13.5	-20.9
-5.4	-20.5	13.7	-34.2
-5.3	-3.2	13.9	-17.1
-5.2	1.6	14.1	-12.5
-5.1	2.8	14.3	-11.5
-5.0	1.6	14.5	-12.9
-4.9	-3.2	14.7	-18.0
-4.8	-27.5	15.0	-42.5
-4.7	-4.0	15.2	-19.2
-4.6	1.2	15.4	-14.3
-4.5	2.1	15.7	-13.6
-4.4	0.8	15.9	-15.1
-4.3	-0.3	16.2	-16.5
-4.2	1.9	16.4	-14.5
-4.1	4.6	16.7	-12.1

27.60 GHz Antenna Pattern in Co-pol EI LHCP

Angle	Gain	Mask	Over Mask
Degrees	dBi	dBi	dB
0.0	47.4		
0.1	47.1		
0.2	46.2		
0.3	44.8		
0.4	42.7		
0.5	39.9		
0.6	36.2		
0.7	31.2		
0.8	25.2		
0.9	20.5		
1.0	19.6		
1.1	18.4		
1.2	16.4		
1.3	16.3		
1.4	17.3		
1.5	16.9		
1.6	14.5		
1.7	10.5		
1.8	12.3		
1.9	16.0		
2.0	17.7		
2.1	18.0		
2.2	17.3		
2.3	16.2		
2.4	15.6		
2.5	15.6		
2.6	15.5		
2.7	14.3		
2.8	12.1		
2.9	9.0		
3.0	6.8	20.1	-13.3
3.1	7.1	19.7	-12.6
3.2	8.3	19.4	-11.1
3.3	8.5	19.0	-10.6
3.4	8.4	18.7	-10.4
3.5	7.7	18.4	-10.7
3.6	7.0	18.1	-11.1
3.7	5.3	17.8	-12.5
3.8	4.3	17.5	-13.2
3.9	4.4	17.2	-12.9
4.0	5.7	16.9	-11.2
4.1	7.0	16.7	-9.7
4.2	7.3	16.4	-9.2
4.3	5.9	16.2	-10.2
4.4	3.1	15.9	-12.8
4.5	-3.0	15.7	-18.6
4.6	-15.9	15.4	-31.3
4.7	-5.2	15.2	-20.4
4.8	-2.1	15.0	-17.0
4.9	-0.8	14.7	-15.5
5.0	-0.8	14.5	-15.4
5.1	-0.7	14.3	-15.0
5.2	-0.9	14.1	-15.0
5.3	-1.6	13.9	-15.5
5.4	-3.5	13.7	-17.2
5.5	-6.4	13.5	-19.9
5.6	-7.5	13.3	-20.8
5.7	-5.7	13.1	-18.8
5.8	-5.7	12.9	-18.6
5.9	-7.7	12.7	-20.4

Orbit Communication Systems Ltd.
 AL-7103-Ka, 1.20 m Antenna, Pattern Data Table
 Co-pol Elevation LHCP, -10° to +10° @ 0.1° increment

-4.0	5.9	16.9	-11.0
-3.9	6.0	17.2	-11.2
-3.8	5.0	17.5	-12.5
-3.7	3.4	17.8	-14.4
-3.6	0.9	18.1	-17.2
-3.5	-0.6	18.4	-19.0
-3.4	2.0	18.7	-16.7
-3.3	5.9	19.0	-13.1
-3.2	9.0	19.4	-10.4
-3.1	10.6	19.7	-9.1
-3.0	11.0	20.1	-9.1
-2.9	10.1		
-2.8	8.7		
-2.7	8.9		
-2.6	10.8		
-2.5	12.4		
-2.4	12.8		
-2.3	12.1		
-2.2	10.6		
-2.1	10.0		
-2.0	10.7		
-1.9	11.7		
-1.8	13.7		
-1.7	16.5		
-1.6	19.0		
-1.5	20.5		
-1.4	20.8		
-1.3	19.4		
-1.2	15.6		
-1.1	11.6		
-1.0	21.7		
-0.9	26.8		
-0.8	31.2		
-0.7	35.1		
-0.6	38.5		
-0.5	41.3		
-0.4	43.6		
-0.3	45.4		
-0.2	46.5		
-0.1	47.2		
0.0	47.4		

6.0	-7.5	12.5	-20.0
6.1	-3.5	12.4	-15.8
6.2	0.4	12.2	-11.8
6.3	2.1	12.0	-9.9
6.4	2.1	11.8	-9.8
6.5	0.2	11.7	-11.5
6.6	-4.4	11.5	-15.9
6.7	-15.8	11.3	-27.1
6.8	-5.6	11.2	-16.8
6.9	-1.4	11.0	-12.4
7.0	1.0	10.9	-9.8
7.1	1.5	10.7	-9.3
7.2	0.9	10.6	-9.7
7.3	-0.6	10.4	-11.0
7.4	-2.7	10.3	-13.0
7.5	-6.4	10.1	-16.5
7.6	-14.6	10.0	-24.6
7.7	-21.6	9.8	-31.5
7.8	-9.7	9.7	-19.4
7.9	-6.6	9.6	-16.2
8.0	-6.3	9.4	-15.7
8.1	-7.7	9.3	-16.9
8.2	-11.8	9.2	-20.9
8.3	-12.0	9.0	-21.0
8.4	-8.6	8.9	-17.5
8.5	-5.9	8.8	-14.7
8.6	-6.4	8.6	-15.1
8.7	-10.1	8.5	-18.6
8.8	-25.1	8.4	-33.5
8.9	-10.3	8.3	-18.6
9.0	-4.2	8.1	-12.4
9.1	-1.9	8.0	-9.9
9.2	-1.3	7.9	-9.2
9.3	-2.0	7.8	-9.8
9.4	-5.1	7.7	-12.8
9.5	-9.9	7.6	-17.5
9.6	-12.3	7.4	-19.7
9.7	-8.0	7.3	-15.3
9.8	-7.1	7.2	-14.3
9.9	-7.6	7.1	-14.7
10.0	-10.3	7.0	-17.3

Orbit Communication Systems Ltd.
AL-7103-Ka, 1.20 m Antenna, Pattern Data Table
X-pol Azimuth LHCP, -10° to +10° @ 0.1° increment

27.60 GHz Antenna Pattern in X-pol Az LHCP

Angle Degrees	Gain dBi	Mask dBi	Over Mask dB
-10.0	-9.4	-2.0	-7.4
-9.9	-15.1	-2.0	-13.1
-9.8	-19.7	-2.0	-17.7
-9.7	-13.1	-2.0	-11.1
-9.6	-11.0	-2.0	-9.0
-9.5	-9.8	-2.0	-7.8
-9.4	-10.4	-2.0	-8.4
-9.3	-11.8	-2.0	-9.8
-9.2	-11.4	-2.0	-9.4
-9.1	-8.7	-2.0	-6.7
-9.0	-6.7	-2.0	-4.7
-8.9	-5.9	-2.0	-3.9
-8.8	-6.6	-2.0	-4.6
-8.7	-8.1	-2.0	-6.1
-8.6	-11.9	-2.0	-9.9
-8.5	-17.5	-2.0	-15.5
-8.4	-21.3	-2.0	-19.3
-8.3	-15.5	-2.0	-13.5
-8.2	-13.3	-2.0	-11.3
-8.1	-9.5	-2.0	-7.5
-8.0	-8.7	-2.0	-6.7
-7.9	-8.7	-2.0	-6.7
-7.8	-8.5	-2.0	-6.5
-7.7	-9.3	-2.0	-7.3
-7.6	-10.0	-2.0	-8.0
-7.5	-10.6	-2.0	-8.6
-7.4	-12.6	-2.0	-10.6
-7.3	-15.1	-2.0	-13.1
-7.2	-12.9	-2.0	-10.9
-7.1	-8.7	-2.0	-6.7
-7.0	-5.5	-2.1	-3.3
-6.9	-4.2	-2.0	-2.2
-6.8	-3.3	-1.8	-1.4
-6.7	-4.0	-1.7	-2.3
-6.6	-7.1	-1.5	-5.6
-6.5	-13.5	-1.3	-12.2
-6.4	-18.6	-1.2	-17.5
-6.3	-10.5	-1.0	-9.5
-6.2	-7.6	-0.8	-6.8
-6.1	-7.5	-0.6	-6.9
-6.0	-9.4	-0.5	-9.0
-5.9	-10.9	-0.3	-10.6
-5.8	-7.6	-0.1	-7.5
-5.7	-4.6	0.1	-4.7
-5.6	-3.0	0.3	-3.3
-5.5	-2.9	0.5	-3.4
-5.4	-4.3	0.7	-4.9
-5.3	-7.1	0.9	-8.0
-5.2	-10.9	1.1	-12.0
-5.1	-17.8	1.3	-19.2
-5.0	-15.7	1.5	-17.2
-4.9	-7.3	1.7	-9.0
-4.8	-2.7	2.0	-4.6
-4.7	-0.2	2.2	-2.3
-4.6	1.2	2.4	-1.3
-4.5	0.6	2.7	-2.1
-4.4	-1.8	2.9	-4.7
-4.3	-7.3	3.2	-10.4
-4.2	-20.0	3.4	-23.4
-4.1	-7.8	3.7	-11.5

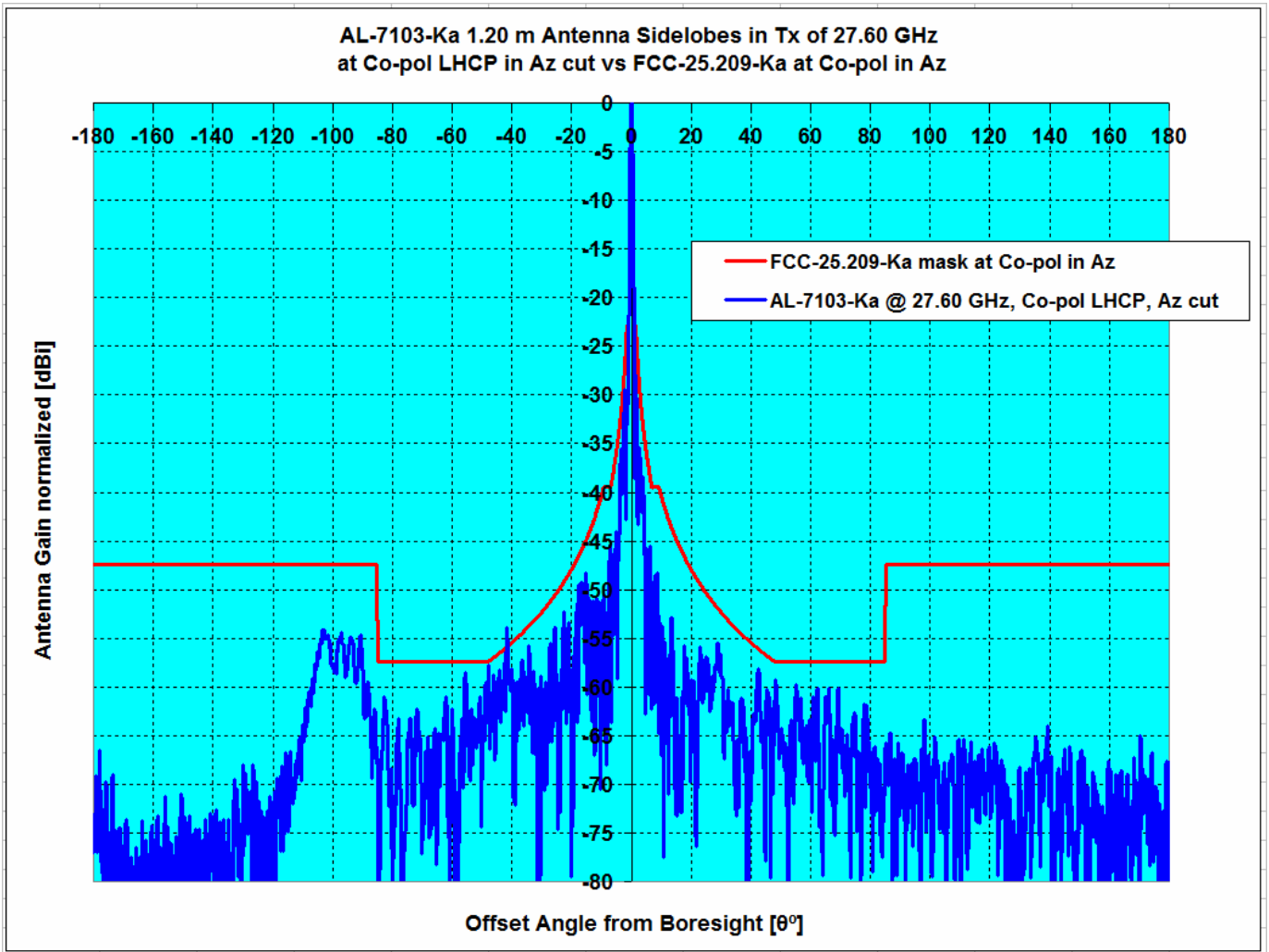
27.60 GHz Antenna Pattern in X-pol Az LHCP

Angle Degrees	Gain dBi	Mask dBi	Over Mask dB
0.0	14.4		
0.1	22.5		
0.2	26.2		
0.3	27.9		
0.4	28.3		
0.5	27.8		
0.6	26.3		
0.7	23.9		
0.8	20.5		
0.9	16.4		
1.0	13.1		
1.1	11.5		
1.2	8.9		
1.3	3.5		
1.4	-11.8		
1.5	2.9		
1.6	6.3		
1.7	6.4		
1.8	3.9	12.6	-8.7
1.9	-2.0	12.0	-14.0
2.0	-3.1	11.5	-14.5
2.1	0.4	10.9	-10.6
2.2	1.1	10.4	-9.3
2.3	-2.5	10.0	-12.5
2.4	-12.2	9.5	-21.7
2.5	-6.2	9.1	-15.2
2.6	0.9	8.6	-7.7
2.7	3.5	8.2	-4.7
2.8	3.4	7.8	-4.4
2.9	0.6	7.4	-6.9
3.0	-5.1	7.1	-12.2
3.1	-15.1	6.7	-21.8
3.2	-7.5	6.4	-13.8
3.3	-5.0	6.0	-11.0
3.4	-4.6	5.7	-10.3
3.5	-5.4	5.4	-10.8
3.6	-6.9	5.1	-12.0
3.7	-8.8	4.8	-13.6
3.8	-11.9	4.5	-16.4
3.9	-43.0	4.2	-47.2
4.0	-9.3	3.9	-13.3
4.1	-5.2	3.7	-8.9
4.2	-2.6	3.4	-6.0
4.3	-3.1	3.2	-6.2
4.4	-6.7	2.9	-9.6
4.5	-13.7	2.7	-16.3
4.6	-13.5	2.4	-15.9
4.7	-6.6	2.2	-8.8
4.8	-5.4	2.0	-7.4
4.9	-6.9	1.7	-8.7
5.0	-12.4	1.5	-13.9
5.1	-10.1	1.3	-11.5
5.2	-5.1	1.1	-6.2
5.3	-3.5	0.9	-4.4
5.4	-4.2	0.7	-4.9
5.5	-7.4	0.5	-7.9
5.6	-17.9	0.3	-18.1
5.7	-11.9	0.1	-12.0
5.8	-5.0	-0.1	-4.9
5.9	-3.2	-0.3	-2.9

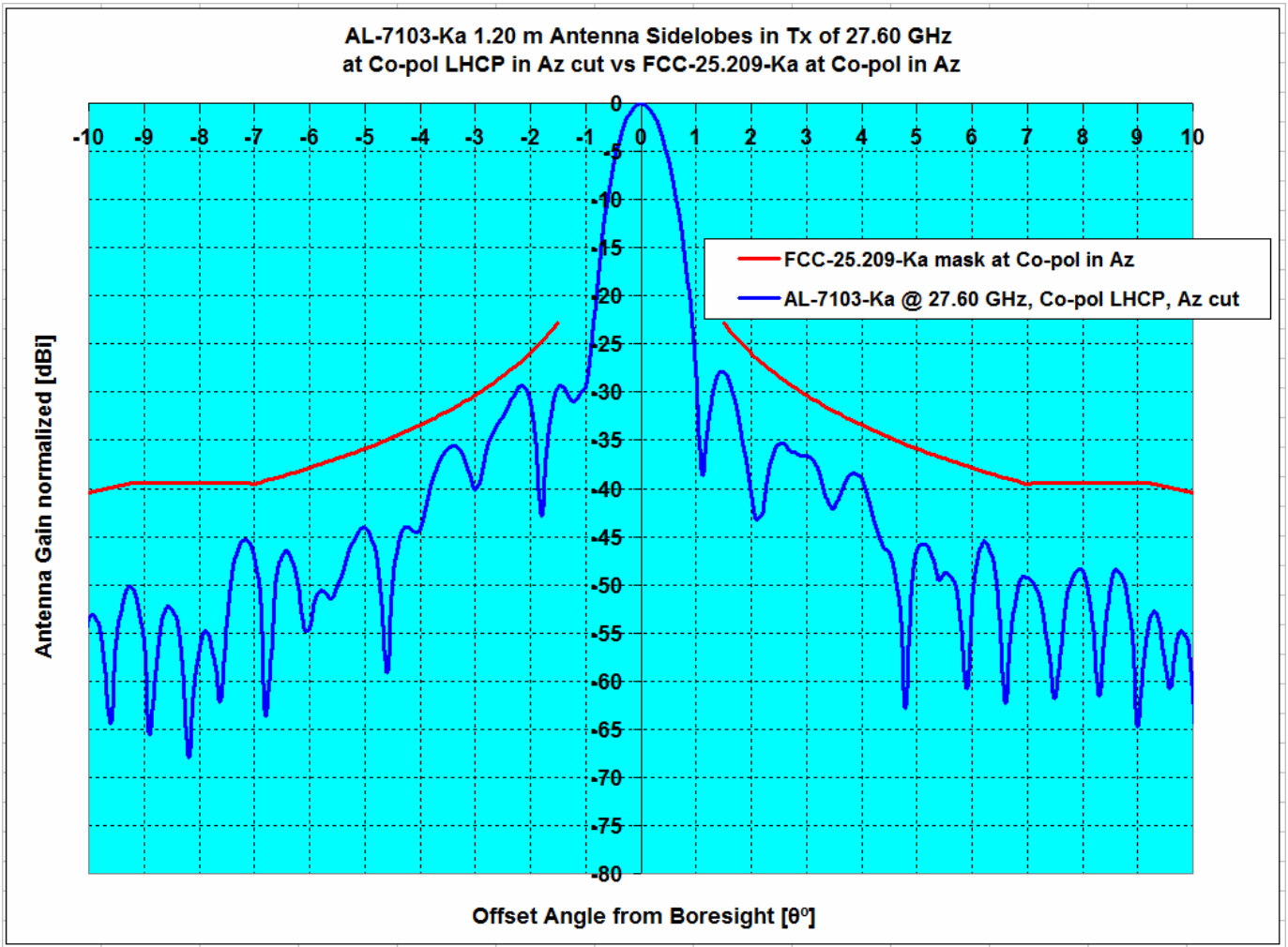
Orbit Communication Systems Ltd.
AL-7103-Ka, 1.20 m Antenna, Pattern Data Table
X-pol Azimuth LHCP, -10° to +10° @ 0.1° increment

-4.0	-3.3	3.9	-7.3
-3.9	-2.6	4.2	-6.8
-3.8	-3.4	4.5	-7.9
-3.7	-2.9	4.8	-7.7
-3.6	-1.5	5.1	-6.6
-3.5	-0.3	5.4	-5.7
-3.4	-1.1	5.7	-6.8
-3.3	-4.6	6.0	-10.6
-3.2	-8.3	6.4	-14.7
-3.1	-1.1	6.7	-7.8
-3.0	2.4	7.1	-4.6
-2.9	3.8	7.4	-3.7
-2.8	2.3	7.8	-5.5
-2.7	-3.8	8.2	-12.1
-2.6	-7.5	8.6	-16.1
-2.5	3.0	9.1	-6.1
-2.4	6.6	9.5	-2.9
-2.3	7.1	10.0	-2.8
-2.2	4.8	10.4	-5.7
-2.1	-4.5	10.9	-15.4
-2.0	1.4	11.5	-10.0
-1.9	8.8	12.0	-3.2
-1.8	11.8	12.6	-0.9
-1.7	12.2		
-1.6	10.3		
-1.5	3.6		
-1.4	2.4		
-1.3	11.3		
-1.2	14.9		
-1.1	16.7		
-1.0	17.8		
-0.9	19.8		
-0.8	22.6		
-0.7	25.1		
-0.6	26.8		
-0.5	27.7		
-0.4	27.7		
-0.3	26.4		
-0.2	23.3		
-0.1	16.2		
0.0	14.4		

6.0	-3.8	-0.5	-3.3
6.1	-6.6	-0.6	-6.0
6.2	-11.8	-0.8	-10.9
6.3	-12.4	-1.0	-11.5
6.4	-7.9	-1.2	-6.8
6.5	-6.7	-1.3	-5.4
6.6	-7.2	-1.5	-5.7
6.7	-9.0	-1.7	-7.4
6.8	-12.3	-1.8	-10.5
6.9	-15.2	-2.0	-13.2
7.0	-19.9	-2.1	-17.7
7.1	-29.7	-2.0	-27.7
7.2	-23.1	-2.0	-21.1
7.3	-14.2	-2.0	-12.2
7.4	-10.5	-2.0	-8.5
7.5	-10.1	-2.0	-8.1
7.6	-9.8	-2.0	-7.8
7.7	-12.1	-2.0	-10.1
7.8	-16.0	-2.0	-14.0
7.9	-27.4	-2.0	-25.4
8.0	-22.6	-2.0	-20.6
8.1	-13.3	-2.0	-11.3
8.2	-11.1	-2.0	-9.1
8.3	-9.2	-2.0	-7.2
8.4	-9.0	-2.0	-7.0
8.5	-11.7	-2.0	-9.7
8.6	-14.8	-2.0	-12.8
8.7	-14.0	-2.0	-12.0
8.8	-11.7	-2.0	-9.7
8.9	-9.7	-2.0	-7.7
9.0	-9.1	-2.0	-7.1
9.1	-10.9	-2.0	-8.9
9.2	-14.6	-2.0	-12.6
9.3	-21.6	-2.0	-19.6
9.4	-16.7	-2.0	-14.7
9.5	-14.3	-2.0	-12.3
9.6	-12.9	-2.0	-10.9
9.7	-17.6	-2.0	-15.6
9.8	-24.7	-2.0	-22.7
9.9	-20.4	-2.0	-18.4
10.0	-16.8	-2.0	-14.8

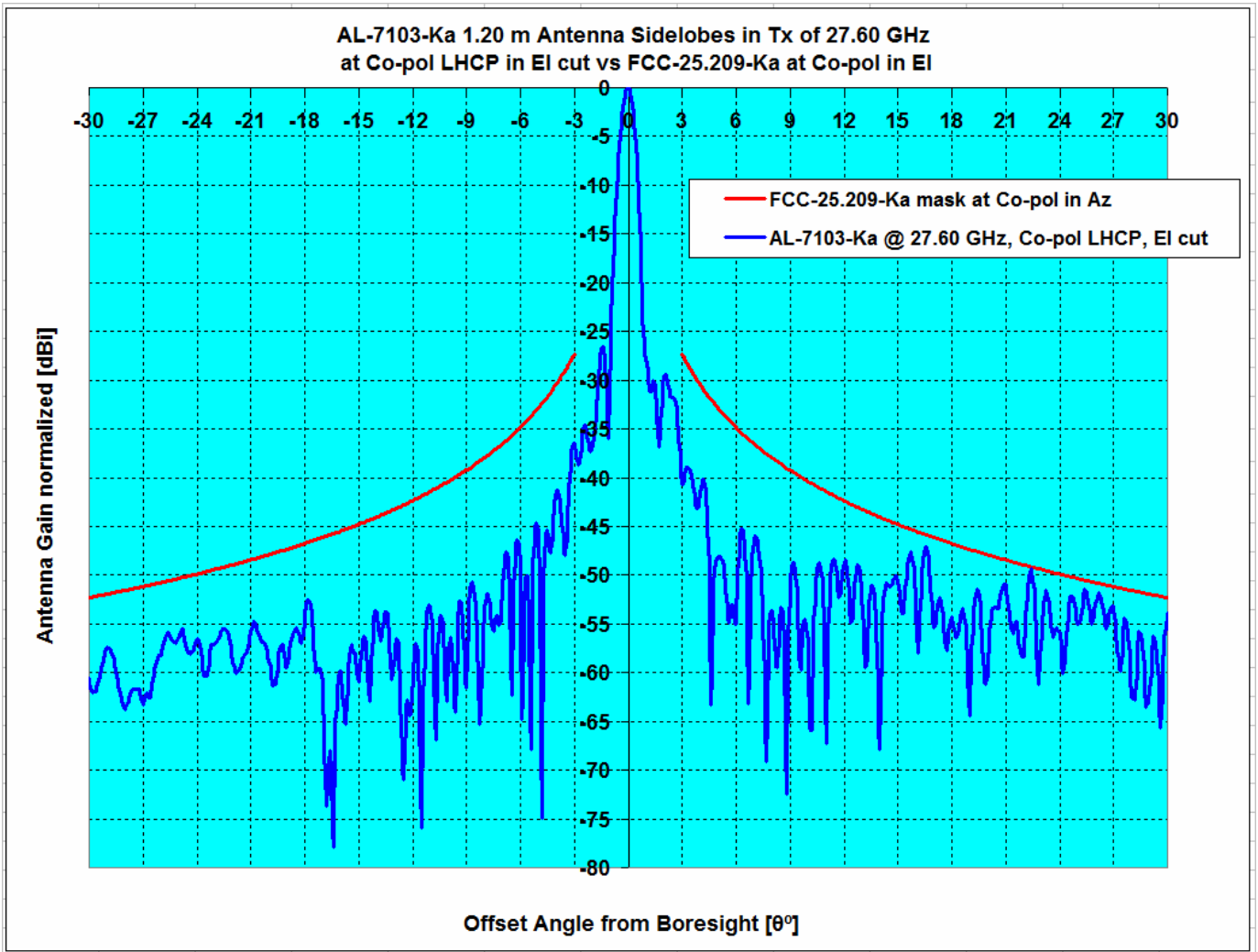


Description	Plane, CirP Type	Frequency GHz	Ant. Gain dBi	Peak Excursions dB		Over Mask %	
				1.5°≤θ≤7°	7°≤θ≤180°	1.5°≤θ≤7°	7°≤θ≤180°
FCC-25.209-Ka, Co-pol Az, vs AL-7103-Ka	Az , LHCP	27.60	47.40	-2.53	2.02	0.00%	0.14%

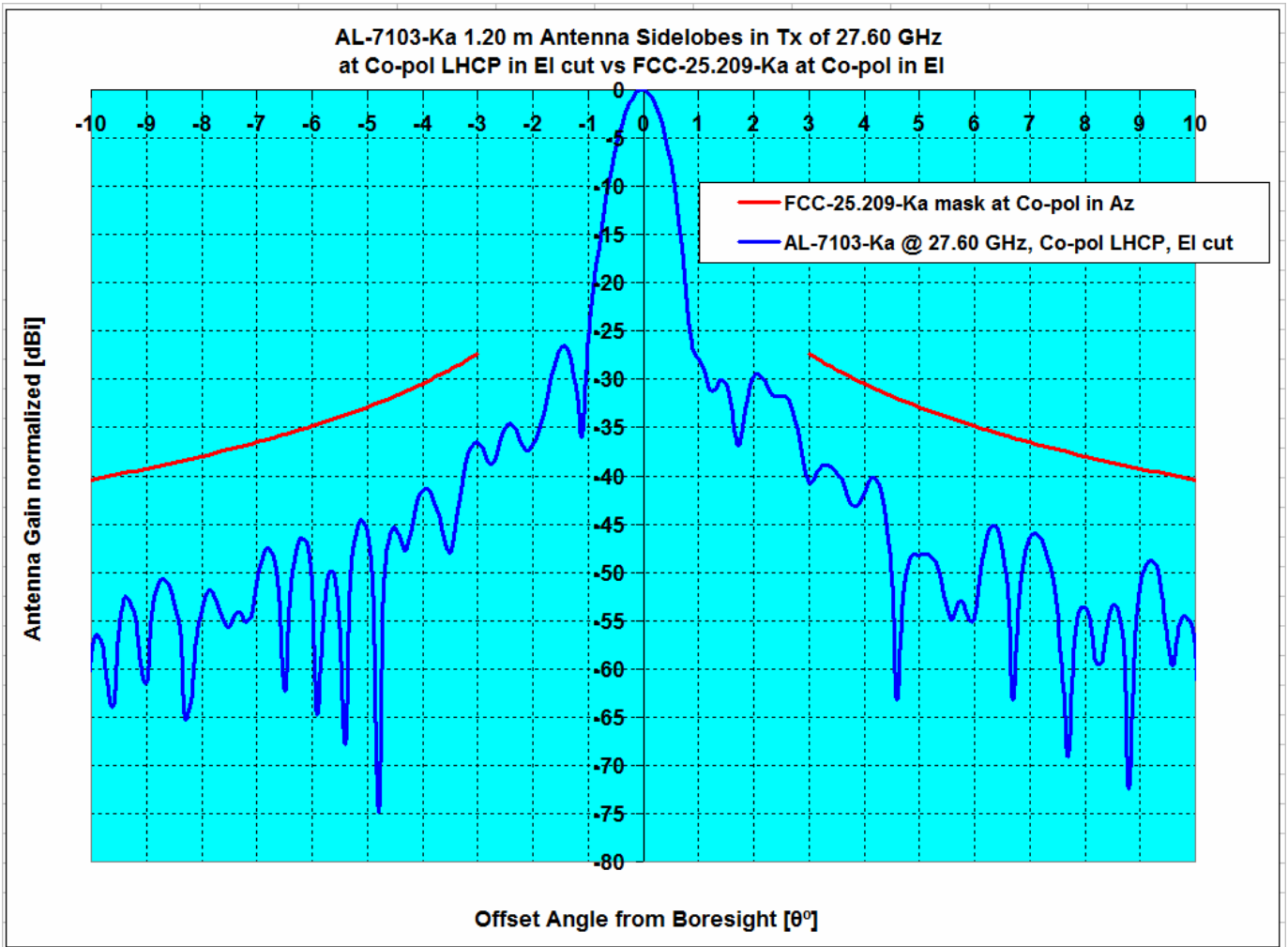


Description	Plane, CirP	Frequency	Ant. Gain	Peak Excursions dB		Over Mask %	
				1.5°≤θ≤7°	7°≤θ≤180°	1.5°≤θ≤7°	7°≤θ≤180°
FCC-25.209-Ka, Co-pol Az, vs AL-7103-Ka	Az , LHCP	27.60	47.40	-2.53	2.02	0.00%	0.14%

Orbit Communication Systems Ltd.
 AL-7103-Ka, 1.20 m Antenna, Pattern, Co-pol, Elevation LHCP

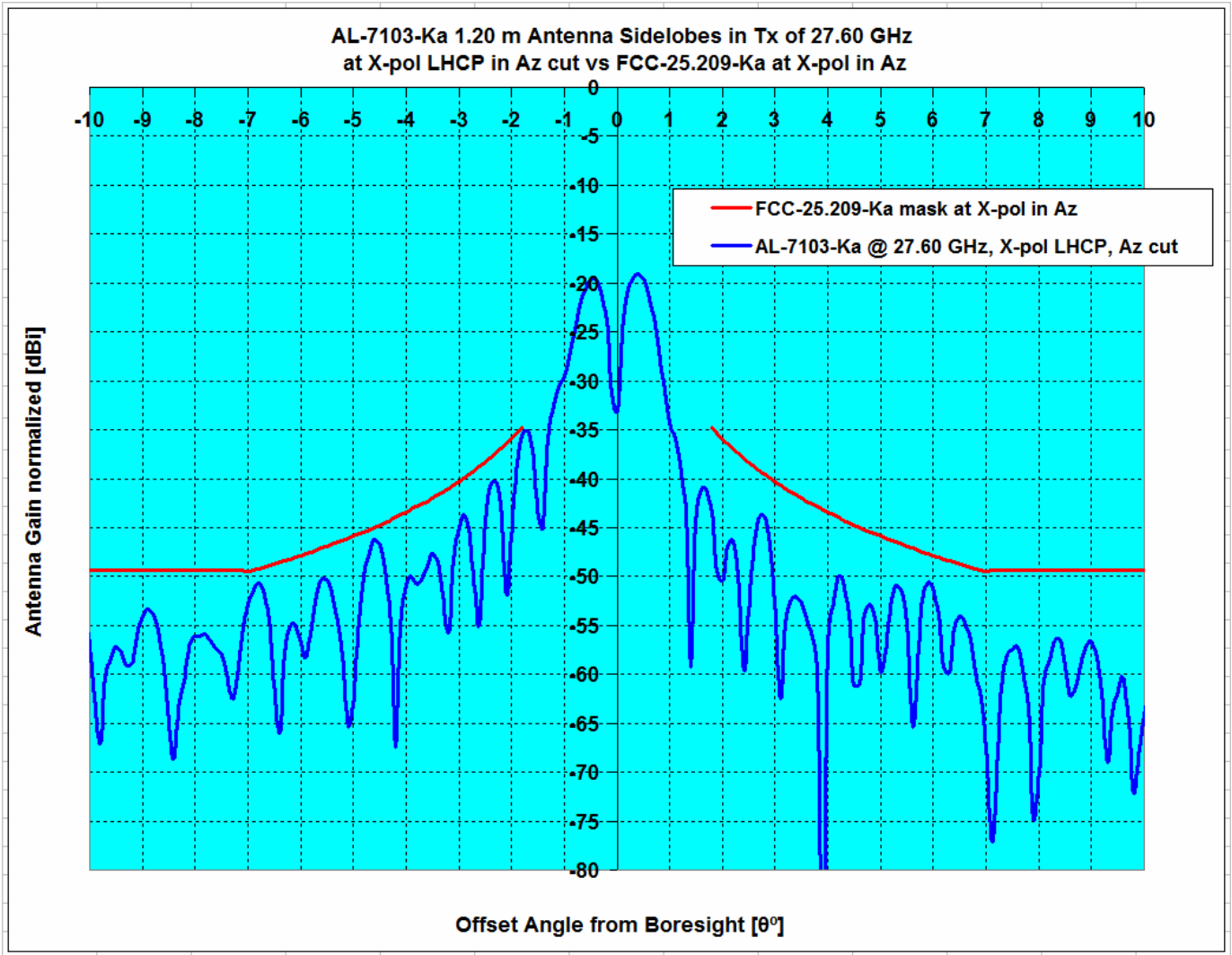


Description	Plane, CirP Type	Frequency GHz	Ant. Gain dBi	Peak Excursions dB		Over Mask %	
				3°≤θ≤7°	7°≤θ≤30°	3°≤θ≤7°	7°≤θ≤30°
FCC-25.209-Ka, Co-pol EI, vs AL-7103-Ka	EI, LHCP	27.60	47.40	-9.11	-0.19	0.00%	0.00%



Description	Plane, CirP	Frequency	Ant. Gain	Peak Excursions dB		Over Mask %	
				3°≤θ≤7°	7°≤θ≤30°	3°≤θ≤7°	7°≤θ≤30°
FCC-25.209-Ka, Co-pol EI, vs AL-7103-Ka	EI , LHCP	27.60	47.40	-9.11	-0.19	0.00%	0.00%

Orbit Communication Systems Ltd.
 AL-7103-Ka, 1.20 m Antenna, Pattern, X-pol, Azimuth LHCP



Description	Plane, CirP	Frequency	Ant. Gain	Peak Excursions dB		Over Mask %	
				1.8°≤θ≤7°	1.8°≤θ≤9.2°	1.8°≤θ≤7°	1.8°≤θ≤9.2°
Pattern Rule vs Antenna System	Type	GHz	dBi				
FCC-25.209-Ka, X-pol Az, vs AL-7103-Ka	Az , LHCP	27.60	47.40	-0.86	-0.86	0.00%	0.00%

Orbit Communication Systems Ltd.
 AL-7103-Ka, 1.20 m Antenna, Pattern Data Table
 Co-pol Azimuth RHCP, -180° to +180° @ 1.0° increment

27.60 GHz Antenna Pattern in Co-pol Az RHCP

Angle	Gain	Mask	Over Mask
Degrees	dBi	dBi	dB
-179.0	-29.1	0.0	-29.1
-178.0	-29.4	0.0	-29.4
-177.0	-23.9	0.0	-23.9
-176.0	-31.5	0.0	-31.5
-175.0	-30.9	0.0	-30.9
-174.0	-27.9	0.0	-27.9
-173.0	-35.8	0.0	-35.8
-172.0	-27.8	0.0	-27.8
-171.0	-37.8	0.0	-37.8
-170.0	-29.7	0.0	-29.7
-169.0	-27.2	0.0	-27.2
-168.0	-31.6	0.0	-31.6
-167.0	-42.9	0.0	-42.9
-166.0	-32.3	0.0	-32.3
-165.0	-26.0	0.0	-26.0
-164.0	-39.5	0.0	-39.5
-163.0	-38.1	0.0	-38.1
-162.0	-31.0	0.0	-31.0
-161.0	-31.4	0.0	-31.4
-160.0	-28.0	0.0	-28.0
-159.0	-33.1	0.0	-33.1
-158.0	-32.3	0.0	-32.3
-157.0	-25.0	0.0	-25.0
-156.0	-31.3	0.0	-31.3
-155.0	-39.0	0.0	-39.0
-154.0	-23.3	0.0	-23.3
-153.0	-34.3	0.0	-34.3
-152.0	-32.9	0.0	-32.9
-151.0	-35.2	0.0	-35.2
-150.0	-28.9	0.0	-28.9
-149.0	-33.7	0.0	-33.7
-148.0	-38.8	0.0	-38.8
-147.0	-28.5	0.0	-28.5
-146.0	-33.4	0.0	-33.4
-145.0	-30.4	0.0	-30.4
-144.0	-27.6	0.0	-27.6
-143.0	-28.9	0.0	-28.9
-142.0	-33.7	0.0	-33.7
-141.0	-29.4	0.0	-29.4
-140.0	-34.2	0.0	-34.2
-139.0	-34.9	0.0	-34.9
-138.0	-34.2	0.0	-34.2
-137.0	-28.8	0.0	-28.8
-136.0	-30.3	0.0	-30.3
-135.0	-35.5	0.0	-35.5
-134.0	-37.7	0.0	-37.7
-133.0	-29.7	0.0	-29.7
-132.0	-28.1	0.0	-28.1
-131.0	-39.4	0.0	-39.4
-130.0	-27.4	0.0	-27.4
-129.0	-33.2	0.0	-33.2
-128.0	-27.7	0.0	-27.7
-127.0	-28.0	0.0	-28.0
-126.0	-37.8	0.0	-37.8
-125.0	-30.0	0.0	-30.0
-124.0	-38.9	0.0	-38.9
-123.0	-37.9	0.0	-37.9
-122.0	-31.7	0.0	-31.7
-121.0	-29.6	0.0	-29.6
-120.0	-47.9	0.0	-47.9

27.60 GHz Antenna Pattern in Co-pol Az RHCP

Angle	Gain	Mask	Over Mask
Degrees	dBi	dBi	dB
0.0	47.2		
1.0	22.2		
2.0	9.4	21.5	-12.1
3.0	10.6	17.1	-6.5
4.0	8.5	13.9	-5.5
5.0	1.4	11.5	-10.1
6.0	-4.6	9.5	-14.1
7.0	-6.6	7.9	-14.4
8.0	-4.6	8.0	-12.6
9.0	-7.6	8.0	-15.6
10.0	-10.2	7.0	-17.2
11.0	-7.8	6.0	-13.8
12.0	-8.6	5.0	-13.6
13.0	-8.0	4.2	-12.1
14.0	-6.8	3.3	-10.1
15.0	-40.4	2.6	-43.0
16.0	-17.7	1.9	-19.6
17.0	-10.3	1.2	-11.6
18.0	-9.4	0.6	-10.1
19.0	-10.5	0.0	-10.5
20.0	-11.1	-0.5	-10.6
21.0	-7.8	-1.1	-6.7
22.0	-12.1	-1.6	-10.5
23.0	-9.8	-2.0	-7.8
24.0	-7.8	-2.5	-5.3
25.0	-8.1	-2.9	-5.2
26.0	-9.6	-3.4	-6.2
27.0	-8.4	-3.8	-4.6
28.0	-12.2	-4.2	-8.0
29.0	-9.9	-4.6	-5.4
30.0	-9.6	-4.9	-4.7
31.0	-18.3	-5.3	-13.0
32.0	-18.9	-5.6	-13.3
33.0	-20.1	-6.0	-14.1
34.0	-17.6	-6.3	-11.3
35.0	-14.9	-6.6	-8.3
36.0	-17.8	-6.9	-10.9
37.0	-22.5	-7.2	-15.3
38.0	-32.0	-7.5	-24.5
39.0	-23.5	-7.8	-15.8
40.0	-18.0	-8.1	-10.0
41.0	-16.5	-8.3	-8.2
42.0	-15.0	-8.6	-6.4
43.0	-23.5	-8.8	-14.7
44.0	-20.7	-9.1	-11.6
45.0	-19.7	-9.3	-10.4
46.0	-21.9	-9.6	-12.3
47.0	-13.5	-9.8	-3.7
48.0	-16.0	-10.0	-6.0
49.0	-35.9	-10.0	-25.9
50.0	-22.2	-10.0	-12.2
51.0	-29.4	-10.0	-19.4
52.0	-30.1	-10.0	-20.1
53.0	-19.7	-10.0	-9.7
54.0	-21.2	-10.0	-11.2
55.0	-25.1	-10.0	-15.1
56.0	-19.2	-10.0	-9.2
57.0	-25.1	-10.0	-15.1
58.0	-42.1	-10.0	-32.1
59.0	-26.1	-10.0	-16.1

Orbit Communication Systems Ltd.
AL-7103-Ka, 1.20 m Antenna, Pattern Data Table
Co-pol Azimuth RHCP, -180° to +180° @ 1.0° increment

-119.0	-30.2	0.0	-30.2
-118.0	-22.4	0.0	-22.4
-117.0	-29.3	0.0	-29.3
-116.0	-28.5	0.0	-28.5
-115.0	-32.0	0.0	-32.0
-114.0	-32.5	0.0	-32.5
-113.0	-31.1	0.0	-31.1
-112.0	-34.5	0.0	-34.5
-111.0	-28.0	0.0	-28.0
-110.0	-34.3	0.0	-34.3
-109.0	-29.5	0.0	-29.5
-108.0	-24.0	0.0	-24.0
-107.0	-22.8	0.0	-22.8
-106.0	-19.5	0.0	-19.5
-105.0	-16.6	0.0	-16.6
-104.0	-16.2	0.0	-16.2
-103.0	-14.7	0.0	-14.7
-102.0	-14.7	0.0	-14.7
-101.0	-15.4	0.0	-15.4
-100.0	-17.1	0.0	-17.1
-99.0	-14.4	0.0	-14.4
-98.0	-13.9	0.0	-13.9
-97.0	-15.3	0.0	-15.3
-96.0	-17.1	0.0	-17.1
-95.0	-19.9	0.0	-19.9
-94.0	-26.9	0.0	-26.9
-93.0	-18.8	0.0	-18.8
-92.0	-23.2	0.0	-23.2
-91.0	-20.4	0.0	-20.4
-90.0	-18.2	0.0	-18.2
-89.0	-21.8	0.0	-21.8
-88.0	-22.0	0.0	-22.0
-87.0	-24.4	0.0	-24.4
-86.0	-22.0	0.0	-22.0
-85.0	-18.9	-10.0	-8.9
-84.0	-19.1	-10.0	-9.1
-83.0	-22.6	-10.0	-12.6
-82.0	-20.9	-10.0	-10.9
-81.0	-16.3	-10.0	-6.3
-80.0	-16.7	-10.0	-6.7
-79.0	-17.1	-10.0	-7.1
-78.0	-15.1	-10.0	-5.1
-77.0	-17.9	-10.0	-7.9
-76.0	-23.5	-10.0	-13.5
-75.0	-20.9	-10.0	-10.9
-74.0	-14.1	-10.0	-4.1
-73.0	-28.0	-10.0	-18.0
-72.0	-16.9	-10.0	-6.9
-71.0	-34.7	-10.0	-24.7
-70.0	-26.2	-10.0	-16.2
-69.0	-20.7	-10.0	-10.7
-68.0	-16.8	-10.0	-6.8
-67.0	-18.5	-10.0	-8.5
-66.0	-20.3	-10.0	-10.3
-65.0	-31.2	-10.0	-21.2
-64.0	-23.1	-10.0	-13.1
-63.0	-15.8	-10.0	-5.8
-62.0	-13.6	-10.0	-3.6
-61.0	-17.7	-10.0	-7.7
-60.0	-20.7	-10.0	-10.7
-59.0	-26.8	-10.0	-16.8
-58.0	-18.8	-10.0	-8.8
-57.0	-18.3	-10.0	-8.3

60.0	-15.8	-10.0	-5.8
61.0	-18.2	-10.0	-8.2
62.0	-29.2	-10.0	-19.2
63.0	-26.1	-10.0	-16.1
64.0	-33.7	-10.0	-23.7
65.0	-15.5	-10.0	-5.5
66.0	-22.5	-10.0	-12.5
67.0	-20.0	-10.0	-10.0
68.0	-20.1	-10.0	-10.1
69.0	-23.9	-10.0	-13.9
70.0	-23.7	-10.0	-13.7
71.0	-20.5	-10.0	-10.5
72.0	-32.1	-10.0	-22.1
73.0	-18.3	-10.0	-8.3
74.0	-18.3	-10.0	-8.3
75.0	-18.0	-10.0	-8.0
76.0	-22.2	-10.0	-12.2
77.0	-16.0	-10.0	-6.0
78.0	-15.4	-10.0	-5.4
79.0	-22.9	-10.0	-12.9
80.0	-24.1	-10.0	-14.1
81.0	-28.9	-10.0	-18.9
82.0	-20.2	-10.0	-10.2
83.0	-23.2	-10.0	-13.2
84.0	-31.8	-10.0	-21.8
85.0	-30.9	-10.0	-20.9
86.0	-26.7	0.0	-26.7
87.0	-18.9	0.0	-18.9
88.0	-21.1	0.0	-21.1
89.0	-27.1	0.0	-27.1
90.0	-28.2	0.0	-28.2
91.0	-20.7	0.0	-20.7
92.0	-23.8	0.0	-23.8
93.0	-26.6	0.0	-26.6
94.0	-24.4	0.0	-24.4
95.0	-30.8	0.0	-30.8
96.0	-28.5	0.0	-28.5
97.0	-25.7	0.0	-25.7
98.0	-25.9	0.0	-25.9
99.0	-22.8	0.0	-22.8
100.0	-35.1	0.0	-35.1
101.0	-23.0	0.0	-23.0
102.0	-32.6	0.0	-32.6
103.0	-24.5	0.0	-24.5
104.0	-28.7	0.0	-28.7
105.0	-34.5	0.0	-34.5
106.0	-22.1	0.0	-22.1
107.0	-31.9	0.0	-31.9
108.0	-25.9	0.0	-25.9
109.0	-25.1	0.0	-25.1
110.0	-35.4	0.0	-35.4
111.0	-26.2	0.0	-26.2
112.0	-26.4	0.0	-26.4
113.0	-26.1	0.0	-26.1
114.0	-28.4	0.0	-28.4
115.0	-24.4	0.0	-24.4
116.0	-26.3	0.0	-26.3
117.0	-30.8	0.0	-30.8
118.0	-24.7	0.0	-24.7
119.0	-21.4	0.0	-21.4
120.0	-24.8	0.0	-24.8
121.0	-20.8	0.0	-20.8
122.0	-32.8	0.0	-32.8

Orbit Communication Systems Ltd.
AL-7103-Ka, 1.20 m Antenna, Pattern Data Table
Co-pol Azimuth RHCP, -180° to +180° @ 1.0° increment

-56.0	-17.6	-10.0	-7.6
-55.0	-15.3	-10.0	-5.3
-54.0	-17.2	-10.0	-7.2
-53.0	-17.1	-10.0	-7.1
-52.0	-14.4	-10.0	-4.4
-51.0	-18.8	-10.0	-8.8
-50.0	-23.6	-10.0	-13.6
-49.0	-20.7	-10.0	-10.7
-48.0	-15.5	-10.0	-5.4
-47.0	-20.5	-9.8	-10.7
-46.0	-13.1	-9.6	-3.6
-45.0	-17.6	-9.3	-8.2
-44.0	-14.2	-9.1	-5.1
-43.0	-11.5	-8.8	-2.7
-42.0	-12.1	-8.6	-3.5
-41.0	-12.2	-8.3	-3.9
-40.0	-13.7	-8.1	-5.7
-39.0	-9.1	-7.8	-1.3
-38.0	-6.6	-7.5	0.9
-37.0	-12.5	-7.2	-5.3
-36.0	-14.4	-6.9	-7.5
-35.0	-13.1	-6.6	-6.5
-34.0	-6.5	-6.3	-0.2
-33.0	-13.4	-6.0	-7.5
-32.0	-10.4	-5.6	-4.7
-31.0	-8.4	-5.3	-3.1
-30.0	-14.0	-4.9	-9.1
-29.0	-17.6	-4.6	-13.0
-28.0	-8.3	-4.2	-4.1
-27.0	-7.7	-3.8	-3.9
-26.0	-9.6	-3.4	-6.2
-25.0	-8.9	-2.9	-6.0
-24.0	-13.2	-2.5	-10.7
-23.0	-13.0	-2.0	-11.0
-22.0	-7.2	-1.6	-5.6
-21.0	-5.0	-1.1	-3.9
-20.0	-26.6	-0.5	-26.1
-19.0	-6.5	0.0	-6.5
-18.0	-11.3	0.6	-11.9
-17.0	-8.3	1.2	-9.5
-16.0	-2.4	1.9	-4.3
-15.0	-5.5	2.6	-8.1
-14.0	-20.5	3.3	-23.8
-13.0	-2.3	4.2	-6.5
-12.0	-6.4	5.0	-11.4
-11.0	-19.1	6.0	-25.1
-10.0	-4.3	7.0	-11.3
-9.0	-8.3	8.0	-16.3
-8.0	-7.2	8.0	-15.2
-7.0	-0.4	7.9	-8.2
-6.0	-12.0	9.5	-21.6
-5.0	3.4	11.5	-8.1
-4.0	2.4	13.9	-11.5
-3.0	8.3	17.1	-8.8
-2.0	17.1	21.5	-4.3
-1.0	18.1		
0.0	47.2		

123.0	-23.2	0.0	-23.2
124.0	-37.6	0.0	-37.6
125.0	-22.9	0.0	-22.9
126.0	-22.8	0.0	-22.8
127.0	-36.4	0.0	-36.4
128.0	-24.7	0.0	-24.7
129.0	-31.0	0.0	-31.0
130.0	-25.9	0.0	-25.9
131.0	-30.4	0.0	-30.4
132.0	-25.5	0.0	-25.5
133.0	-23.8	0.0	-23.8
134.0	-23.0	0.0	-23.0
135.0	-20.7	0.0	-20.7
136.0	-38.7	0.0	-38.7
137.0	-22.9	0.0	-22.9
138.0	-21.0	0.0	-21.0
139.0	-26.3	0.0	-26.3
140.0	-24.0	0.0	-24.0
141.0	-22.1	0.0	-22.1
142.0	-26.4	0.0	-26.4
143.0	-25.5	0.0	-25.5
144.0	-31.8	0.0	-31.8
145.0	-26.3	0.0	-26.3
146.0	-21.2	0.0	-21.2
147.0	-23.4	0.0	-23.4
148.0	-36.2	0.0	-36.2
149.0	-33.2	0.0	-33.2
150.0	-30.6	0.0	-30.6
151.0	-29.0	0.0	-29.0
152.0	-24.4	0.0	-24.4
153.0	-24.1	0.0	-24.1
154.0	-27.7	0.0	-27.7
155.0	-22.1	0.0	-22.1
156.0	-28.2	0.0	-28.2
157.0	-24.4	0.0	-24.4
158.0	-21.8	0.0	-21.8
159.0	-23.4	0.0	-23.4
160.0	-25.7	0.0	-25.7
161.0	-37.5	0.0	-37.5
162.0	-23.4	0.0	-23.4
163.0	-22.9	0.0	-22.9
164.0	-25.5	0.0	-25.5
165.0	-26.2	0.0	-26.2
166.0	-23.0	0.0	-23.0
167.0	-24.1	0.0	-24.1
168.0	-21.6	0.0	-21.6
169.0	-28.4	0.0	-28.4
170.0	-34.9	0.0	-34.9
171.0	-19.2	0.0	-19.2
172.0	-23.3	0.0	-23.3
173.0	-27.0	0.0	-27.0
174.0	-20.9	0.0	-20.9
175.0	-39.1	0.0	-39.1
176.0	-27.1	0.0	-27.1
177.0	-34.1	0.0	-34.1
178.0	-27.0	0.0	-27.0
179.0	-27.0	0.0	-27.0

Orbit Communication Systems Ltd.

AL AL-7103-Ka, 1.20 m Antenna, Pattern Data Table
Co-pol Azimuth RHCP, -10° to +10° @ 0.1° increment

27.60 GHz Antenna Pattern in Co-pol Az RHCP

Angle Degrees	Gain dBi	Mask dBi	Over Mask dB
-10.0	-4.3	7.0	-11.3
-9.9	-4.4	7.1	-11.5
-9.8	-5.8	7.2	-13.0
-9.7	-9.9	7.3	-17.2
-9.6	-10.9	7.4	-18.3
-9.5	-6.5	7.6	-14.0
-9.4	-2.7	7.7	-10.4
-9.3	-1.3	7.8	-9.0
-9.2	-1.8	8.0	-9.8
-9.1	-3.1	8.0	-11.1
-9.0	-8.3	8.0	-16.3
-8.9	-35.6	8.0	-43.6
-8.8	-9.6	8.0	-17.6
-8.7	-4.1	8.0	-12.1
-8.6	-2.6	8.0	-10.6
-8.5	-2.8	8.0	-10.8
-8.4	-5.1	8.0	-13.1
-8.3	-10.2	8.0	-18.2
-8.2	-27.6	8.0	-35.6
-8.1	-13.2	8.0	-21.2
-8.0	-7.2	8.0	-15.2
-7.9	-5.2	8.0	-13.2
-7.8	-4.2	8.0	-12.2
-7.7	-5.0	8.0	-13.0
-7.6	-7.0	8.0	-15.0
-7.5	-8.5	8.0	-16.5
-7.4	-5.6	8.0	-13.6
-7.3	-2.4	8.0	-10.4
-7.2	0.0	8.0	-8.0
-7.1	0.4	8.0	-7.6
-7.0	-0.4	7.9	-8.2
-6.9	-3.4	8.0	-11.5
-6.8	-12.7	8.2	-20.9
-6.7	-9.7	8.3	-18.1
-6.6	-1.7	8.5	-10.2
-6.5	1.4	8.7	-7.3
-6.4	2.4	8.8	-6.5
-6.3	1.8	9.0	-7.2
-6.2	-0.4	9.2	-9.6
-6.1	-4.6	9.4	-14.0
-6.0	-12.0	9.5	-21.6
-5.9	-19.8	9.7	-29.6
-5.8	-23.0	9.9	-32.9
-5.7	-17.3	10.1	-27.4
-5.6	-6.1	10.3	-16.4
-5.5	-0.4	10.5	-10.9
-5.4	1.8	10.7	-8.9
-5.3	3.1	10.9	-7.8
-5.2	3.6	11.1	-7.5
-5.1	3.5	11.3	-7.8
-5.0	3.4	11.5	-8.1
-4.9	3.4	11.7	-8.3
-4.8	2.7	12.0	-9.3
-4.7	0.4	12.2	-11.8
-4.6	-4.7	12.4	-17.1
-4.5	-4.5	12.7	-17.2
-4.4	0.8	12.9	-12.1
-4.3	3.3	13.2	-9.9
-4.2	4.0	13.4	-9.4
-4.1	3.2	13.7	-10.5

27.60 GHz Antenna Pattern in Co-pol Az RHCP

Angle Degrees	Gain dBi	Mask dBi	Over Mask dB
0.0	47.2		
0.1	47.0		
0.2	46.4		
0.3	45.2		
0.4	43.6		
0.5	41.3		
0.6	38.5		
0.7	35.2		
0.8	31.5		
0.9	27.2		
1.0	22.2		
1.1	15.1		
1.2	9.3		
1.3	16.1		
1.4	18.8		
1.5	19.2	24.6	-5.4
1.6	18.1	23.9	-5.8
1.7	15.9	23.2	-7.3
1.8	13.1	22.6	-9.6
1.9	11.0	22.0	-11.1
2.0	9.4	21.5	-12.1
2.1	8.5	20.9	-12.5
2.2	9.0	20.4	-11.4
2.3	11.3	20.0	-8.6
2.4	13.1	19.5	-6.4
2.5	13.8	19.1	-5.3
2.6	13.1	18.6	-5.5
2.7	11.6	18.2	-6.6
2.8	10.1	17.8	-7.7
2.9	9.8	17.4	-7.6
3.0	10.6	17.1	-6.5
3.1	10.5	16.7	-6.3
3.2	9.0	16.4	-7.4
3.3	6.6	16.0	-9.4
3.4	4.1	15.7	-11.6
3.5	3.0	15.4	-12.4
3.6	4.5	15.1	-10.5
3.7	6.3	14.8	-8.5
3.8	7.8	14.5	-6.7
3.9	8.6	14.2	-5.7
4.0	8.5	13.9	-5.5
4.1	7.2	13.7	-6.5
4.2	4.8	13.4	-8.6
4.3	1.8	13.2	-11.3
4.4	0.9	12.9	-12.0
4.5	1.4	12.7	-11.3
4.6	1.0	12.4	-11.4
4.7	-2.0	12.2	-14.2
4.8	-11.1	12.0	-23.1
4.9	-3.8	11.7	-15.6
5.0	1.4	11.5	-10.1
5.1	2.6	11.3	-8.7
5.2	2.0	11.1	-9.1
5.3	-0.9	10.9	-11.7
5.4	-5.7	10.7	-16.4
5.5	-5.2	10.5	-15.7
5.6	-1.6	10.3	-11.9
5.7	-1.8	10.1	-11.9
5.8	-5.1	9.9	-15.0
5.9	-18.6	9.7	-28.3

Orbit Communication Systems Ltd.

AL AL-7103-Ka, 1.20 m Antenna, Pattern Data Table
 Co-pol Azimuth RHCP, -10° to +10° @ 0.1° increment

-4.0	2.4	13.9	-11.5
-3.9	3.9	14.2	-10.3
-3.8	6.6	14.5	-7.9
-3.7	8.7	14.8	-6.1
-3.6	9.8	15.1	-5.3
-3.5	10.3	15.4	-5.1
-3.4	10.7	15.7	-5.0
-3.3	10.8	16.0	-5.2
-3.2	10.7	16.4	-5.7
-3.1	9.6	16.7	-7.1
-3.0	8.3	17.1	-8.8
-2.9	8.7	17.4	-8.8
-2.8	11.3	17.8	-6.6
-2.7	13.3	18.2	-4.9
-2.6	14.3	18.6	-4.3
-2.5	14.6	19.1	-4.4
-2.4	14.9	19.5	-4.6
-2.3	15.8	20.0	-4.2
-2.2	17.0	20.4	-3.4
-2.1	17.7	20.9	-3.3
-2.0	17.1	21.5	-4.3
-1.9	14.7	22.0	-7.3
-1.8	9.2	22.6	-13.4
-1.7	10.0	23.2	-13.3
-1.6	15.4	23.9	-8.5
-1.5	17.7	24.6	-6.9
-1.4	17.8		
-1.3	16.2		
-1.2	14.9		
-1.1	16.6		
-1.0	18.1		
-0.9	19.8		
-0.8	25.3		
-0.7	31.4		
-0.6	36.2		
-0.5	39.9		
-0.4	42.6		
-0.3	44.6		
-0.2	46.0		
-0.1	46.9		
0.0	47.2		

6.0	-4.6	9.5	-14.1
6.1	0.1	9.4	-9.3
6.2	2.0	9.2	-7.2
6.3	1.5	9.0	-7.5
6.4	-1.1	8.8	-10.0
6.5	-7.1	8.7	-15.8
6.6	-21.3	8.5	-29.9
6.7	-10.0	8.3	-18.3
6.8	-8.2	8.2	-16.4
6.9	-7.4	8.0	-15.5
7.0	-6.6	7.9	-14.4
7.1	-4.4	8.0	-12.4
7.2	-3.7	8.0	-11.7
7.3	-5.3	8.0	-13.3
7.4	-11.7	8.0	-19.7
7.5	-13.9	8.0	-21.9
7.6	-6.9	8.0	-14.9
7.7	-3.7	8.0	-11.7
7.8	-2.8	8.0	-10.8
7.9	-3.0	8.0	-11.0
8.0	-4.6	8.0	-12.6
8.1	-6.3	8.0	-14.3
8.2	-8.9	8.0	-16.9
8.3	-11.5	8.0	-19.5
8.4	-25.6	8.0	-33.6
8.5	-11.8	8.0	-19.8
8.6	-5.2	8.0	-13.2
8.7	-2.7	8.0	-10.7
8.8	-1.9	8.0	-9.9
8.9	-3.5	8.0	-11.5
9.0	-7.6	8.0	-15.6
9.1	-15.7	8.0	-23.7
9.2	-10.5	8.0	-18.5
9.3	-6.0	7.8	-13.7
9.4	-5.5	7.7	-13.1
9.5	-7.3	7.6	-14.9
9.6	-13.1	7.4	-20.6
9.7	-13.9	7.3	-21.2
9.8	-9.0	7.2	-16.2
9.9	-7.8	7.1	-14.9
10.0	-10.2	7.0	-17.2

Orbit Communication Systems Ltd.
AL-7103-Ka, 1.20 m Antenna, Pattern Data Table
Co-pol Elevation RHCP, -30° to +30° @ 0.5° increment

27.60 GHz Antenna Pattern in Co-pol EI RHCP

Angle Degrees	Gain dBi	Mask dBi	Over Mask dB
-30.0	-12.7	-4.9	-7.8
-29.5	-11.0	-4.7	-6.3
-29.0	-10.4	-4.6	-5.9
-28.5	-9.9	-4.4	-5.6
-28.0	-10.8	-4.2	-6.7
-27.5	-13.0	-4.0	-9.0
-27.0	-14.4	-3.8	-10.6
-26.5	-13.3	-3.6	-9.7
-26.0	-11.4	-3.4	-8.0
-25.5	-10.2	-3.2	-7.1
-25.0	-10.1	-2.9	-7.1
-24.5	-13.6	-2.7	-10.9
-24.0	-12.9	-2.5	-10.4
-23.5	-12.7	-2.3	-10.4
-23.0	-12.6	-2.0	-10.5
-22.5	-16.8	-1.8	-15.0
-22.0	-27.6	-1.6	-26.0
-21.5	-17.6	-1.3	-16.3
-21.0	-12.5	-1.1	-11.4
-20.5	-12.8	-0.8	-12.0
-20.0	-17.4	-0.5	-16.9
-19.5	-14.3	-0.3	-14.1
-19.0	-13.3	0.0	-13.3
-18.5	-8.3	0.3	-8.6
-18.0	-10.4	0.6	-11.0
-17.5	-11.7	0.9	-12.7
-17.0	-14.5	1.2	-15.7
-16.5	-19.8	1.6	-21.4
-16.0	-23.1	1.9	-25.0
-15.5	-15.0	2.2	-17.3
-15.0	-16.2	2.6	-18.8
-14.5	-17.3	3.0	-20.3
-14.0	-10.0	3.3	-13.4
-13.5	-7.3	3.7	-11.1
-13.0	-10.8	4.2	-14.9
-12.5	-23.5	4.6	-28.1
-12.0	-10.7	5.0	-15.7
-11.5	-17.5	5.5	-23.0
-11.0	-8.0	6.0	-14.0
-10.5	-8.6	6.5	-15.1
-10.0	-11.3	7.0	-18.3
-9.5	-9.4	7.6	-17.0
-9.0	-16.4	8.1	-24.6
-8.5	-2.7	8.8	-11.5
-8.0	-3.2	9.4	-12.7
-7.5	-10.5	10.1	-20.6
-7.0	-2.7	10.9	-13.6
-6.5	-7.8	11.7	-19.5
-6.0	-4.4	12.5	-17.0
-5.5	-4.9	13.5	-18.4
-5.0	-1.5	14.5	-16.0
-4.5	0.8	15.7	-14.8
-4.0	4.9	16.9	-12.1
-3.5	2.4	18.4	-16.0
-3.0	10.6	20.1	-9.5
-2.5	10.9		
-2.0	10.0		
-1.5	20.2		
-1.0	19.4		
-0.5	41.4		
0.0	47.2		

27.60 GHz Antenna Pattern in Co-pol EI RHCP

Angle Degrees	Gain dBi	Mask dBi	Over Mask dB
0.0	47.2		
0.5	40.3		
1.0	18.1		
1.5	16.3		
2.0	17.0		
2.5	15.5		
3.0	5.9	20.1	-14.1
3.5	8.3	18.4	-10.1
4.0	6.1	16.9	-10.8
4.5	-1.4	15.7	-17.1
5.0	-1.7	14.5	-16.2
5.5	0.5	13.5	-13.0
6.0	-6.2	12.5	-18.8
6.5	-0.6	11.7	-12.3
7.0	1.1	10.9	-9.8
7.5	-7.0	10.1	-17.1
8.0	-16.1	9.4	-25.5
8.5	-2.9	8.8	-11.6
9.0	-6.8	8.1	-14.9
9.5	-17.1	7.6	-24.6
10.0	-3.2	7.0	-10.2
10.5	-4.2	6.5	-10.7
11.0	-15.0	6.0	-20.9
11.5	-3.2	5.5	-8.7
12.0	-5.7	5.0	-10.7
12.5	-9.5	4.6	-14.0
13.0	-3.6	4.2	-7.7
13.5	-7.9	3.7	-11.6
14.0	-5.0	3.3	-8.3
14.5	-11.3	3.0	-14.2
15.0	-0.4	2.6	-3.0
15.5	-6.1	2.2	-8.3
16.0	-7.0	1.9	-8.9
16.5	-3.4	1.6	-4.9
17.0	-2.5	1.2	-3.8
17.5	-4.5	0.9	-5.4
18.0	-3.7	0.6	-4.4
18.5	-16.1	0.3	-16.4
19.0	-10.1	0.0	-10.1
19.5	-11.8	-0.3	-11.6
20.0	-12.8	-0.5	-12.3
20.5	-18.1	-0.8	-17.3
21.0	-9.0	-1.1	-8.0
21.5	-13.9	-1.3	-12.6
22.0	-13.6	-1.6	-12.0
22.5	-7.1	-1.8	-5.3
23.0	-9.5	-2.0	-7.5
23.5	-11.8	-2.3	-9.5
24.0	-10.3	-2.5	-7.8
24.5	-12.6	-2.7	-9.8
25.0	-13.6	-2.9	-10.7
25.5	-10.9	-3.2	-7.8
26.0	-8.9	-3.4	-5.6
26.5	-12.8	-3.6	-9.2
27.0	-8.7	-3.8	-5.0
27.5	-10.1	-4.0	-6.1
28.0	-19.4	-4.2	-15.3
28.5	-10.9	-4.4	-6.5
29.0	-16.5	-4.6	-11.9
29.5	-22.7	-4.7	-17.9
30.0	-10.7	-4.9	-5.7

Orbit Communication Systems Ltd.
AL-7103-Ka, 1.20 m Antenna, Pattern Data Table
Co-pol Elevation RHCP, -10° to +10° @ 0.1° increment

27.60 GHz Antenna Pattern in Co-pol EI RHCP

Angle	Gain	Mask	Over Mask
Degrees	dBi	dBi	dB
-10.0	-11.3	7.0	-18.3
-9.9	-9.6	7.1	-16.7
-9.8	-11.0	7.2	-18.2
-9.7	-14.1	7.3	-21.4
-9.6	-16.5	7.4	-23.9
-9.5	-9.4	7.6	-17.0
-9.4	-6.9	7.7	-14.6
-9.3	-6.0	7.8	-13.8
-9.2	-7.4	7.9	-15.3
-9.1	-12.6	8.0	-20.6
-9.0	-16.4	8.1	-24.6
-8.9	-7.9	8.3	-16.2
-8.8	-3.4	8.4	-11.8
-8.7	-1.6	8.5	-10.1
-8.6	-1.4	8.6	-10.1
-8.5	-2.7	8.8	-11.5
-8.4	-6.4	8.9	-15.3
-8.3	-14.9	9.0	-24.0
-8.2	-13.0	9.2	-22.2
-8.1	-6.1	9.3	-15.4
-8.0	-3.2	9.4	-12.7
-7.9	-2.7	9.6	-12.3
-7.8	-3.8	9.7	-13.5
-7.7	-7.6	9.8	-17.5
-7.6	-12.6	10.0	-22.6
-7.5	-10.5	10.1	-20.6
-7.4	-6.0	10.3	-16.2
-7.3	-4.3	10.4	-14.7
-7.2	-3.2	10.6	-13.7
-7.1	-3.3	10.7	-14.0
-7.0	-2.7	10.9	-13.6
-6.9	-2.5	11.0	-13.6
-6.8	-3.6	11.2	-14.7
-6.7	-7.4	11.3	-18.7
-6.6	-21.1	11.5	-32.6
-6.5	-7.8	11.7	-19.5
-6.4	-1.8	11.8	-13.6
-6.3	0.5	12.0	-11.5
-6.2	0.8	12.2	-11.4
-6.1	-0.8	12.4	-13.1
-6.0	-4.4	12.5	-17.0
-5.9	-8.5	12.7	-21.2
-5.8	-6.0	12.9	-19.0
-5.7	-3.5	13.1	-16.6
-5.6	-3.3	13.3	-16.6
-5.5	-4.9	13.5	-18.4
-5.4	-4.2	13.7	-17.9
-5.3	-2.1	13.9	-16.0
-5.2	0.0	14.1	-14.1
-5.1	0.1	14.3	-14.2
-5.0	-1.5	14.5	-16.0
-4.9	-7.4	14.7	-22.1
-4.8	-12.1	15.0	-27.1
-4.7	-3.9	15.2	-19.1
-4.6	-0.3	15.4	-15.7
-4.5	0.8	15.7	-14.8
-4.4	1.0	15.9	-14.9
-4.3	1.2	16.2	-15.0
-4.2	2.3	16.4	-14.1
-4.1	3.8	16.7	-12.9

27.60 GHz Antenna Pattern in Co-pol EI RHCP

Angle	Gain	Mask	Over Mask
Degrees	dBi	dBi	dB
0.0	47.2		
0.1	46.9		
0.2	46.1		
0.3	44.8		
0.4	42.9		
0.5	40.3		
0.6	37.0		
0.7	32.7		
0.8	27.2		
0.9	21.2		
1.0	18.1		
1.1	17.5		
1.2	16.7		
1.3	16.6		
1.4	16.8		
1.5	16.3		
1.6	13.8		
1.7	8.6		
1.8	8.9		
1.9	14.3		
2.0	17.0		
2.1	17.9		
2.2	17.7		
2.3	16.9		
2.4	16.0		
2.5	15.5		
2.6	15.0		
2.7	13.8		
2.8	11.7		
2.9	8.8		
3.0	5.9	20.1	-14.1
3.1	6.6	19.7	-13.1
3.2	8.5	19.4	-10.8
3.3	9.3	19.0	-9.7
3.4	9.2	18.7	-9.6
3.5	8.3	18.4	-10.1
3.6	7.2	18.1	-10.9
3.7	5.9	17.8	-11.9
3.8	5.1	17.5	-12.4
3.9	5.3	17.2	-11.9
4.0	6.1	16.9	-10.8
4.1	6.8	16.7	-9.9
4.2	6.7	16.4	-9.7
4.3	5.4	16.2	-10.8
4.4	3.2	15.9	-12.8
4.5	-1.4	15.7	-17.1
4.6	-12.7	15.4	-28.2
4.7	-9.4	15.2	-24.6
4.8	-3.5	15.0	-18.5
4.9	-1.9	14.7	-16.7
5.0	-1.7	14.5	-16.2
5.1	-2.5	14.3	-16.8
5.2	-2.7	14.1	-16.8
5.3	-1.4	13.9	-15.3
5.4	-0.4	13.7	-14.1
5.5	0.5	13.5	-13.0
5.6	1.0	13.3	-12.3
5.7	0.7	13.1	-12.4
5.8	-1.1	12.9	-14.1
5.9	-3.9	12.7	-16.6

Orbit Communication Systems Ltd.
 AL-7103-Ka, 1.20 m Antenna, Pattern Data Table
 Co-pol Elevation RHCP, -10° to +10° @ 0.1° increment

-4.0	4.9	16.9	-12.1
-3.9	5.3	17.2	-11.9
-3.8	5.1	17.5	-12.4
-3.7	4.2	17.8	-13.6
-3.6	2.7	18.1	-15.3
-3.5	2.4	18.4	-16.0
-3.4	4.9	18.7	-13.8
-3.3	7.7	19.0	-11.4
-3.2	9.7	19.4	-9.7
-3.1	10.6	19.7	-9.1
-3.0	10.6	20.1	-9.5
-2.9	10.0		
-2.8	9.5		
-2.7	9.9		
-2.6	10.6		
-2.5	10.9		
-2.4	10.1		
-2.3	8.5		
-2.2	6.9		
-2.1	7.6		
-2.0	10.0		
-1.9	12.8		
-1.8	15.4		
-1.7	17.8		
-1.6	19.5		
-1.5	20.2		
-1.4	19.8		
-1.3	17.8		
-1.2	12.8		
-1.1	7.7		
-1.0	19.4		
-0.9	26.3		
-0.8	31.3		
-0.7	35.4		
-0.6	38.7		
-0.5	41.4		
-0.4	43.6		
-0.3	45.2		
-0.2	46.4		
-0.1	47.0		
0.0	47.2		

6.0	-6.2	12.5	-18.8
6.1	-3.9	12.4	-16.3
6.2	-0.6	12.2	-12.8
6.3	0.8	12.0	-11.2
6.4	0.9	11.8	-10.9
6.5	-0.6	11.7	-12.3
6.6	-5.1	11.5	-16.6
6.7	-10.7	11.3	-22.0
6.8	-5.3	11.2	-16.5
6.9	-0.7	11.0	-11.7
7.0	1.1	10.9	-9.8
7.1	1.7	10.7	-9.1
7.2	1.4	10.6	-9.1
7.3	-0.2	10.4	-10.6
7.4	-2.8	10.3	-13.1
7.5	-7.0	10.1	-17.1
7.6	-12.6	10.0	-22.6
7.7	-19.8	9.8	-29.6
7.8	-19.7	9.7	-29.4
7.9	-15.7	9.6	-25.3
8.0	-16.1	9.4	-25.5
8.1	-11.9	9.3	-21.1
8.2	-7.7	9.2	-16.8
8.3	-4.2	9.0	-13.2
8.4	-2.9	8.9	-11.8
8.5	-2.9	8.8	-11.6
8.6	-4.3	8.6	-12.9
8.7	-7.3	8.5	-15.8
8.8	-14.8	8.4	-23.1
8.9	-12.7	8.3	-21.0
9.0	-6.8	8.1	-14.9
9.1	-4.5	8.0	-12.6
9.2	-4.3	7.9	-12.2
9.3	-6.2	7.8	-14.0
9.4	-11.3	7.7	-19.0
9.5	-17.1	7.6	-24.6
9.6	-8.1	7.4	-15.6
9.7	-4.1	7.3	-11.5
9.8	-2.4	7.2	-9.6
9.9	-2.3	7.1	-9.4
10.0	-3.2	7.0	-10.2

Orbit Communication Systems Ltd.
 AL-7103-Ka, 1.20 m Antenna, Pattern Data Table
 X-pol Azimuth RHCP, -10° to +10° @ 0.1° increment

27.60 GHz Antenna Pattern in X-pol Az RHCP

Angle Degrees	Gain dBi	Mask dBi	Over Mask dB
-10.0	-13.0	-2.0	-11.0
-9.9	-13.6	-2.0	-11.6
-9.8	-13.8	-2.0	-11.8
-9.7	-13.3	-2.0	-11.3
-9.6	-12.4	-2.0	-10.4
-9.5	-11.6	-2.0	-9.6
-9.4	-9.5	-2.0	-7.5
-9.3	-9.3	-2.0	-7.3
-9.2	-9.0	-2.0	-7.0
-9.1	-10.4	-2.0	-8.4
-9.0	-14.4	-2.0	-12.4
-8.9	-20.5	-2.0	-18.5
-8.8	-23.9	-2.0	-21.9
-8.7	-14.5	-2.0	-12.5
-8.6	-10.7	-2.0	-8.7
-8.5	-9.7	-2.0	-7.7
-8.4	-9.4	-2.0	-7.4
-8.3	-11.5	-2.0	-9.5
-8.2	-13.2	-2.0	-11.2
-8.1	-13.5	-2.0	-11.5
-8.0	-14.9	-2.0	-12.9
-7.9	-13.4	-2.0	-11.4
-7.8	-11.0	-2.0	-9.0
-7.7	-10.8	-2.0	-8.8
-7.6	-11.2	-2.0	-9.2
-7.5	-10.9	-2.0	-8.9
-7.4	-11.8	-2.0	-9.8
-7.3	-14.5	-2.0	-12.5
-7.2	-15.0	-2.0	-13.0
-7.1	-16.1	-2.0	-14.1
-7.0	-14.2	-2.1	-12.1
-6.9	-12.0	-2.0	-10.1
-6.8	-10.3	-1.8	-8.5
-6.7	-8.8	-1.7	-7.1
-6.6	-7.4	-1.5	-5.9
-6.5	-6.7	-1.3	-5.4
-6.4	-6.3	-1.2	-5.1
-6.3	-5.8	-1.0	-4.8
-6.2	-4.9	-0.8	-4.1
-6.1	-3.7	-0.6	-3.1
-6.0	-2.8	-0.5	-2.3
-5.9	-2.1	-0.3	-1.8
-5.8	-2.3	-0.1	-2.2
-5.7	-2.2	0.1	-2.3
-5.6	-2.5	0.3	-2.8
-5.5	-3.1	0.5	-3.6
-5.4	-2.9	0.7	-3.6
-5.3	-2.9	0.9	-3.8
-5.2	-2.5	1.1	-3.6
-5.1	-2.3	1.3	-3.6
-5.0	-1.8	1.5	-3.4
-4.9	-0.9	1.7	-2.7
-4.8	0.1	2.0	-1.8
-4.7	0.9	2.2	-1.3
-4.6	2.1	2.4	-0.3
-4.5	2.9	2.7	0.3
-4.4	3.3	2.9	0.3
-4.3	3.6	3.2	0.4
-4.2	3.3	3.4	-0.1
-4.1	2.8	3.7	-0.9

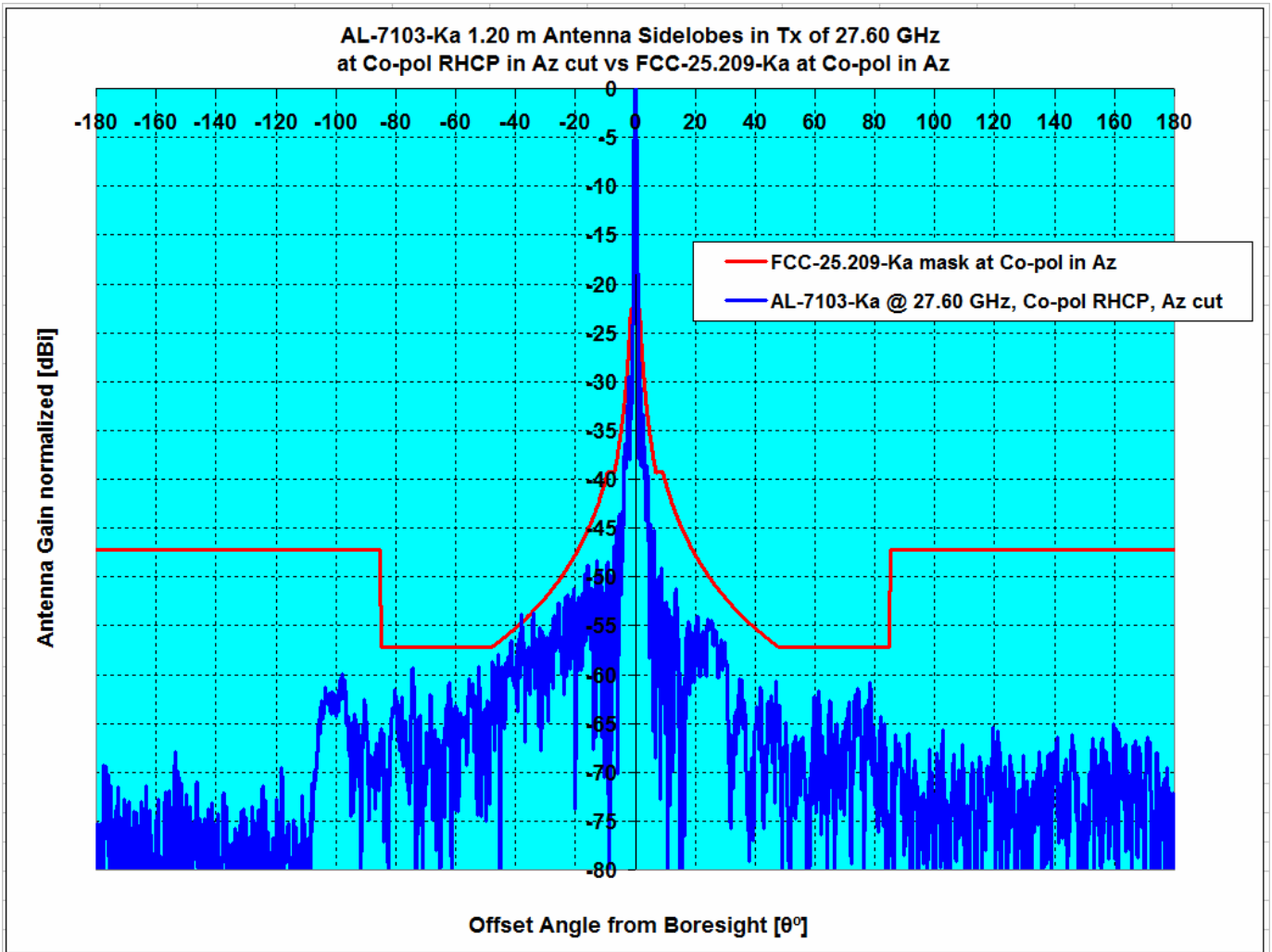
27.60 GHz Antenna Pattern in X-pol Az RHCP

Angle Degrees	Gain dBi	Mask dBi	Over Mask dB
0.0	14.2		
0.1	11.4		
0.2	9.3		
0.3	8.2		
0.4	8.0		
0.5	8.2		
0.6	7.8		
0.7	7.5		
0.8	6.6		
0.9	5.5		
1.0	4.4		
1.1	2.8		
1.2	1.4		
1.3	-0.2		
1.4	-0.7		
1.5	-1.5		
1.6	-1.6		
1.7	-3.1		
1.8	-4.1	12.6	-16.7
1.9	-5.2	12.0	-17.2
2.0	-7.4	11.5	-18.9
2.1	-7.9	10.9	-18.8
2.2	-7.1	10.4	-17.5
2.3	-5.2	10.0	-15.2
2.4	-3.0	9.5	-12.5
2.5	-3.2	9.1	-12.3
2.6	-1.7	8.6	-10.3
2.7	-1.5	8.2	-9.7
2.8	-2.5	7.8	-10.3
2.9	-2.2	7.4	-9.6
3.0	-5.5	7.1	-12.6
3.1	-9.8	6.7	-16.5
3.2	-14.5	6.4	-20.8
3.3	-12.1	6.0	-18.1
3.4	-10.7	5.7	-16.4
3.5	-15.3	5.4	-20.7
3.6	-16.6	5.1	-21.7
3.7	-12.9	4.8	-17.7
3.8	-12.6	4.5	-17.1
3.9	-13.7	4.2	-18.0
4.0	-15.1	3.9	-19.0
4.1	-26.4	3.7	-30.0
4.2	-16.2	3.4	-19.6
4.3	-19.4	3.2	-22.6
4.4	-13.7	2.9	-16.6
4.5	-16.6	2.7	-19.3
4.6	-17.7	2.4	-20.2
4.7	-17.5	2.2	-19.7
4.8	-23.1	2.0	-25.0
4.9	-15.4	1.7	-17.1
5.0	-15.0	1.5	-16.5
5.1	-18.4	1.3	-19.7
5.2	-22.5	1.1	-23.6
5.3	-22.8	0.9	-23.7
5.4	-24.2	0.7	-24.9
5.5	-22.2	0.5	-22.7
5.6	-19.8	0.3	-20.1
5.7	-24.5	0.1	-24.6
5.8	-20.0	-0.1	-19.9
5.9	-18.7	-0.3	-18.4

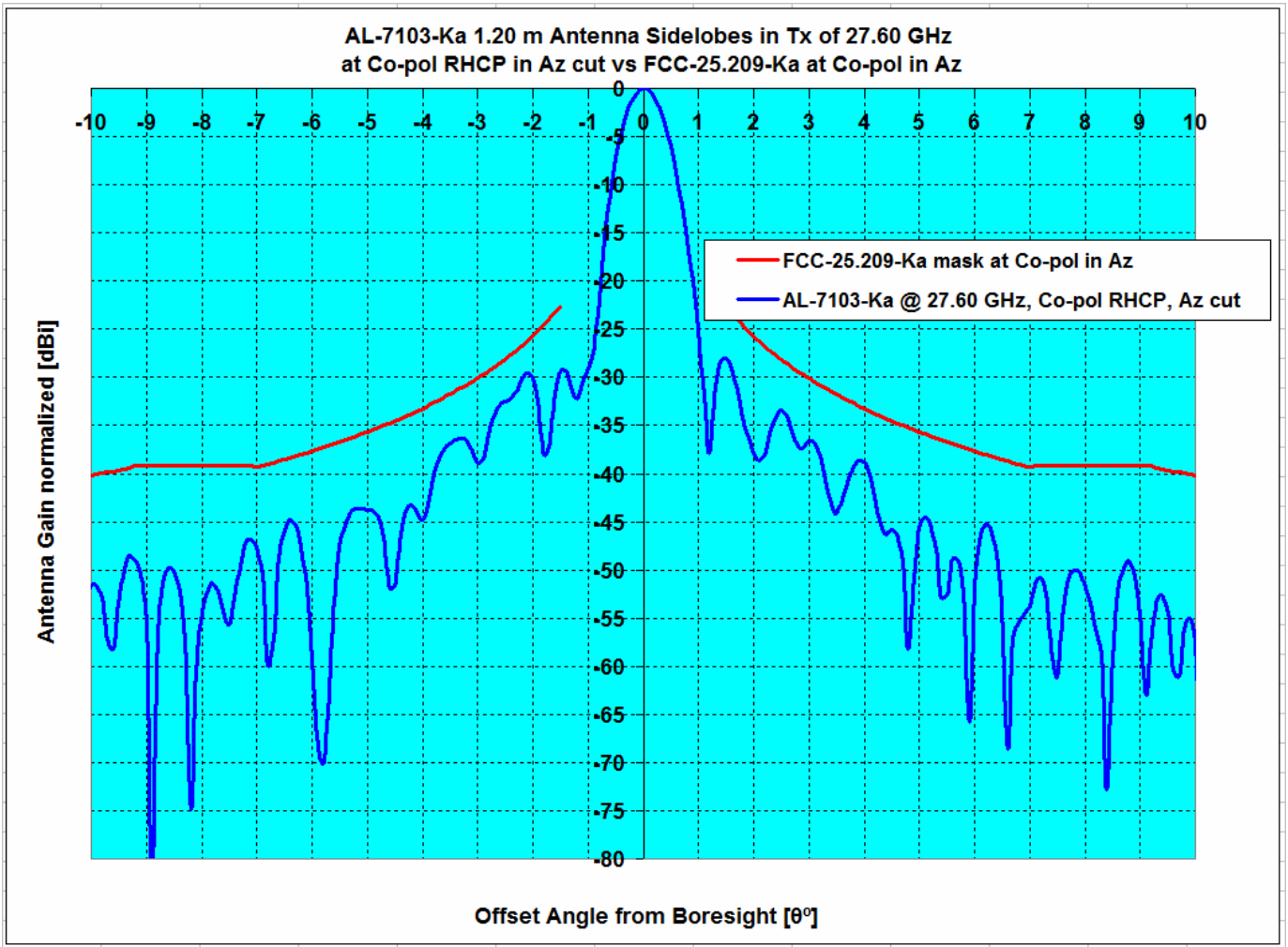
Orbit Communication Systems Ltd.
AL-7103-Ka, 1.20 m Antenna, Pattern Data Table
X-pol Azimuth RHCP, -10° to +10° @ 0.1° increment

-4.0	2.2	3.9	-1.8
-3.9	1.5	4.2	-2.7
-3.8	1.0	4.5	-3.5
-3.7	0.9	4.8	-3.9
-3.6	0.6	5.1	-4.5
-3.5	1.0	5.4	-4.4
-3.4	1.2	5.7	-4.5
-3.3	1.1	6.0	-4.9
-3.2	0.9	6.4	-5.5
-3.1	-0.1	6.7	-6.8
-3.0	-1.4	7.1	-8.5
-2.9	-1.9	7.4	-9.3
-2.8	-1.3	7.8	-9.1
-2.7	0.5	8.2	-7.7
-2.6	1.5	8.6	-7.1
-2.5	1.4	9.1	-7.6
-2.4	0.7	9.5	-8.8
-2.3	-1.8	10.0	-11.7
-2.2	-4.4	10.4	-14.9
-2.1	-4.7	10.9	-15.7
-2.0	-3.5	11.5	-15.0
-1.9	-2.9	12.0	-15.0
-1.8	-2.6	12.6	-15.2
-1.7	0.0		
-1.6	3.0		
-1.5	5.2		
-1.4	6.1		
-1.3	5.4		
-1.2	1.0		
-1.1	-7.3		
-1.0	6.6		
-0.9	12.6		
-0.8	16.1		
-0.7	18.0		
-0.6	19.1		
-0.5	19.5		
-0.4	19.7		
-0.3	19.4		
-0.2	18.4		
-0.1	16.6		
0.0	14.2		

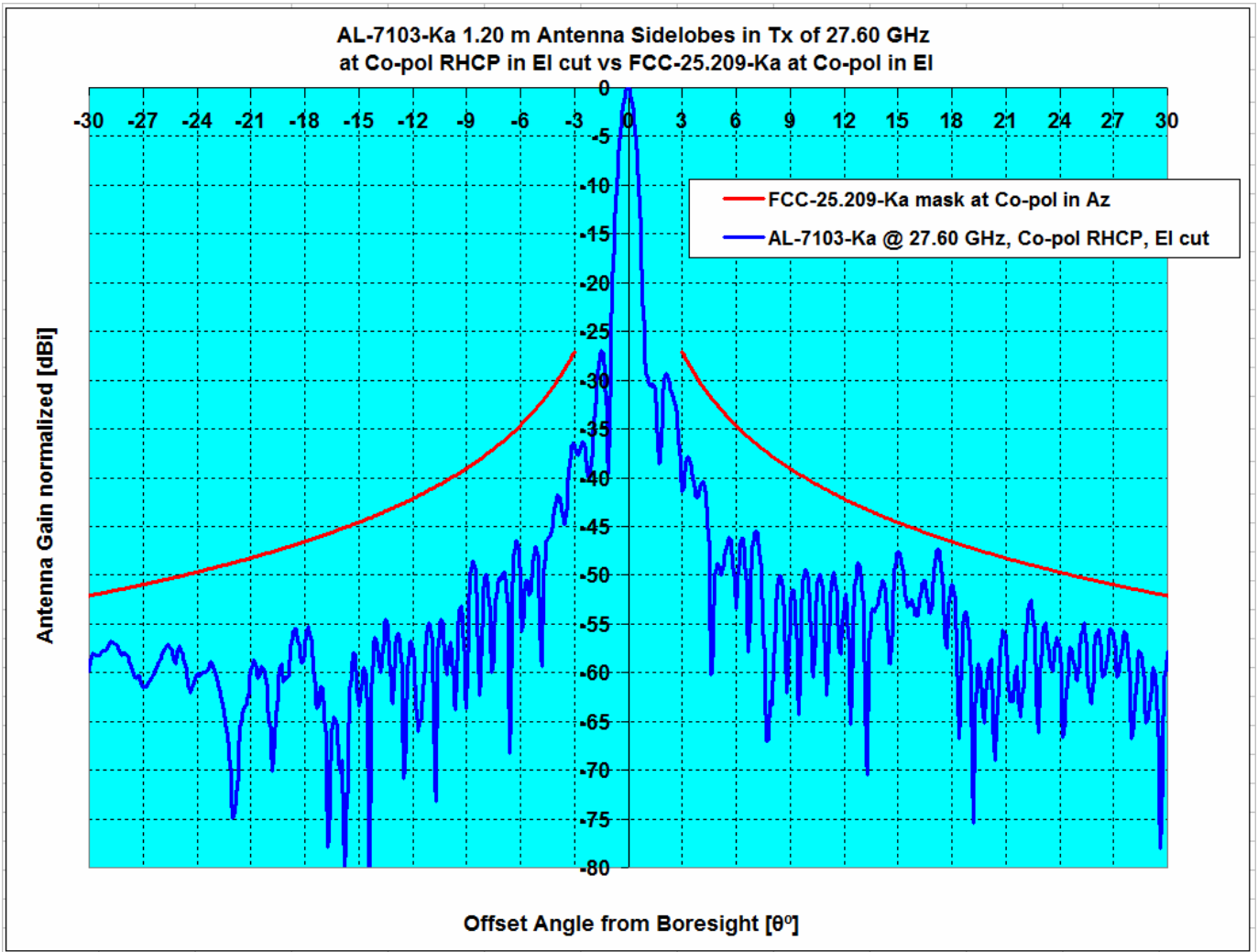
6.0	-15.2	-0.5	-14.7
6.1	-15.2	-0.6	-14.5
6.2	-13.2	-0.8	-12.4
6.3	-12.5	-1.0	-11.6
6.4	-13.1	-1.2	-12.0
6.5	-12.8	-1.3	-11.5
6.6	-13.7	-1.5	-12.2
6.7	-14.4	-1.7	-12.8
6.8	-15.3	-1.8	-13.5
6.9	-18.5	-2.0	-16.5
7.0	-22.5	-2.1	-20.4
7.1	-24.2	-2.0	-22.2
7.2	-17.1	-2.0	-15.1
7.3	-12.4	-2.0	-10.4
7.4	-9.3	-2.0	-7.3
7.5	-8.5	-2.0	-6.5
7.6	-8.1	-2.0	-6.1
7.7	-8.6	-2.0	-6.6
7.8	-9.7	-2.0	-7.7
7.9	-9.3	-2.0	-7.3
8.0	-10.2	-2.0	-8.2
8.1	-11.7	-2.0	-9.7
8.2	-11.8	-2.0	-9.8
8.3	-13.5	-2.0	-11.5
8.4	-16.2	-2.0	-14.2
8.5	-20.3	-2.0	-18.3
8.6	-24.2	-2.0	-22.2
8.7	-22.5	-2.0	-20.5
8.8	-22.3	-2.0	-20.3
8.9	-24.8	-2.0	-22.8
9.0	-23.0	-2.0	-21.0
9.1	-20.9	-2.0	-18.9
9.2	-26.6	-2.0	-24.6
9.3	-27.8	-2.0	-25.8
9.4	-32.2	-2.0	-30.2
9.5	-24.8	-2.0	-22.8
9.6	-21.7	-2.0	-19.7
9.7	-22.5	-2.0	-20.5
9.8	-27.2	-2.0	-25.2
9.9	-33.2	-2.0	-31.2
10.0	-28.7	-2.0	-26.7



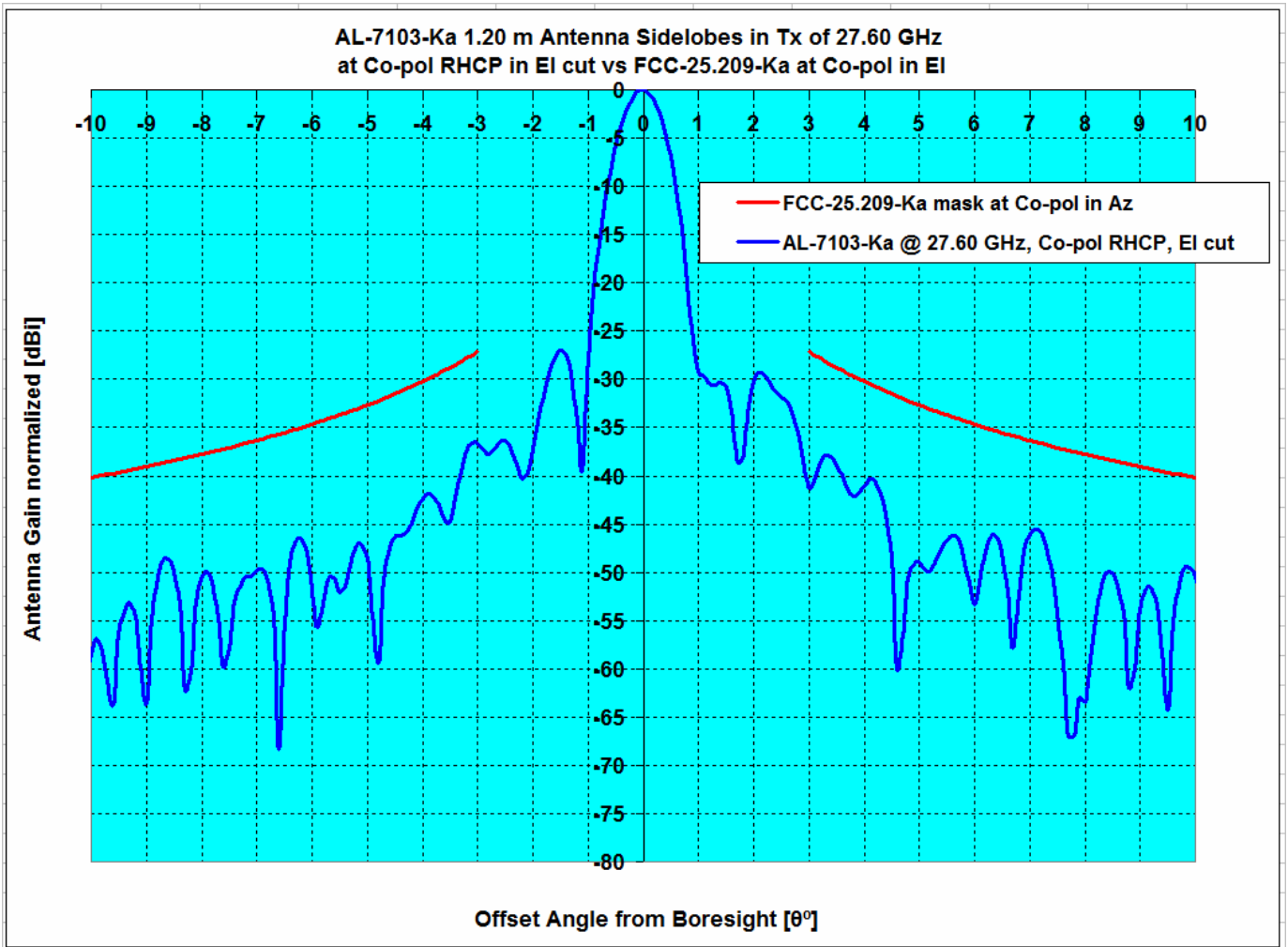
Description	Plane, CirP	Frequency	Ant. Gain	Peak Excursions dB		Over Mask %	
				1.5°≤θ≤7°	7°≤θ≤180°	1.5°≤θ≤7°	7°≤θ≤180°
Pattern Rule vs Antenna System	Type	GHz	dBi				
FCC-25.209-Ka, Co-pol Az, vs AL-7103-Ka	Az , RHCP	27.60	47.20	-3.26	0.90	0.00%	0.08%



Description	Plane, CirP Type	Frequency GHz	Ant. Gain dBi	Peak Excursions dB		Over Mask %	
				1.5°≤θ≤7°	7°≤θ≤180°	1.5°≤θ≤7°	7°≤θ≤180°
FCC-25.209-Ka, Co-pol Az, vs AL-7103-Ka	Az , RHCP	27.60	47.20	-3.26	0.90	0.00%	0.08%

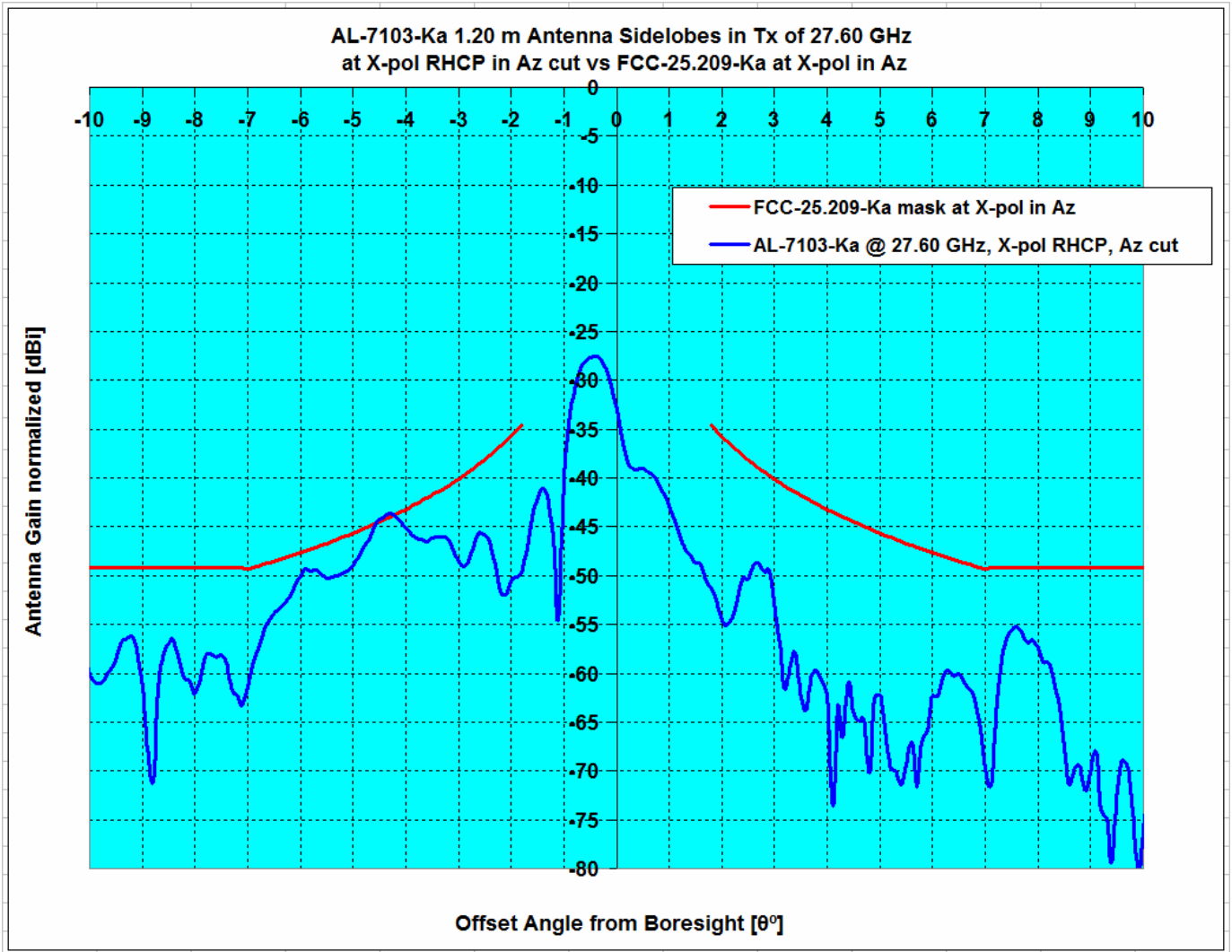


Description	Plane, CirP	Frequency	Ant. Gain	Peak Excursions dB		Over Mask %	
				3°≤θ≤7°	7°≤θ≤30°	3°≤θ≤7°	7°≤θ≤30°
FCC-25.209-Ka, Co-pol EI, vs AL-7103-Ka	EI , RHCP	27.60	47.20	-9.09	-1.24	0.00%	0.00%



Description	Plane, CirP	Frequency	Ant. Gain	Peak Excursions dB		Over Mask %	
				3° ≤ θ ≤ 7°	7° ≤ θ ≤ 30°	3° ≤ θ ≤ 7°	7° ≤ θ ≤ 30°
Pattern Rule vs Antenna System	Type	GHz	dBi				
FCC-25.209-Ka, Co-pol EI, vs AL-7103-Ka	EI, RHCP	27.60	47.20	-9.09	-1.24	0.00%	0.00%

Orbit Communication Systems Ltd.
 AL-7103-Ka, 1.20 m Antenna, Pattern, X-pol, Azimuth RHCP



Description	Plane, CirP	Frequency	Ant. Gain	Peak Excursions dB		Over Mask %	
				1.8° ≤ θ ≤ 7°	1.8° ≤ θ ≤ 9.2°	1.8° ≤ θ ≤ 7°	1.8° ≤ θ ≤ 9.2°
Pattern Rule vs Antenna System	Type	GHz	dBi				
FCC-25.209-Ka, X-pol Az, vs AL-7103-Ka	Az, RHCP	27.60	47.20	0.44	0.44	2.83%	1.81%

Orbit Communication Systems Ltd.
AL-7103-Ka, 1.20 m Antenna, Pattern Data Table
Co-pol Azimuth LHCP, -180° to +180° @ 1.0° increment

28.30 GHz Antenna Pattern in Co-pol Az LHCP

Angle	Gain	Mask	Over Mask
Degrees	dBi	dBi	dB
-179.0	-30.3	0.0	-30.3
-178.0	-30.9	0.0	-30.9
-177.0	-24.1	0.0	-24.1
-176.0	-27.0	0.0	-27.0
-175.0	-26.0	0.0	-26.0
-174.0	-32.8	0.0	-32.8
-173.0	-23.0	0.0	-23.0
-172.0	-45.2	0.0	-45.2
-171.0	-26.5	0.0	-26.5
-170.0	-28.4	0.0	-28.4
-169.0	-28.9	0.0	-28.9
-168.0	-38.7	0.0	-38.7
-167.0	-31.5	0.0	-31.5
-166.0	-32.7	0.0	-32.7
-165.0	-34.3	0.0	-34.3
-164.0	-29.4	0.0	-29.4
-163.0	-37.3	0.0	-37.3
-162.0	-34.9	0.0	-34.9
-161.0	-39.4	0.0	-39.4
-160.0	-27.7	0.0	-27.7
-159.0	-38.1	0.0	-38.1
-158.0	-35.8	0.0	-35.8
-157.0	-38.9	0.0	-38.9
-156.0	-38.9	0.0	-38.9
-155.0	-27.2	0.0	-27.2
-154.0	-30.6	0.0	-30.6
-153.0	-30.8	0.0	-30.8
-152.0	-33.4	0.0	-33.4
-151.0	-31.6	0.0	-31.6
-150.0	-31.7	0.0	-31.7
-149.0	-33.0	0.0	-33.0
-148.0	-38.0	0.0	-38.0
-147.0	-28.3	0.0	-28.3
-146.0	-36.8	0.0	-36.8
-145.0	-38.4	0.0	-38.4
-144.0	-32.8	0.0	-32.8
-143.0	-34.6	0.0	-34.6
-142.0	-47.7	0.0	-47.7
-141.0	-34.4	0.0	-34.4
-140.0	-28.4	0.0	-28.4
-139.0	-34.3	0.0	-34.3
-138.0	-28.0	0.0	-28.0
-137.0	-31.9	0.0	-31.9
-136.0	-28.8	0.0	-28.8
-135.0	-27.6	0.0	-27.6
-134.0	-25.1	0.0	-25.1
-133.0	-30.2	0.0	-30.2
-132.0	-30.5	0.0	-30.5
-131.0	-27.7	0.0	-27.7
-130.0	-26.3	0.0	-26.3
-129.0	-23.8	0.0	-23.8
-128.0	-26.0	0.0	-26.0
-127.0	-27.5	0.0	-27.5
-126.0	-37.2	0.0	-37.2
-125.0	-36.3	0.0	-36.3
-124.0	-31.3	0.0	-31.3
-123.0	-31.6	0.0	-31.6
-122.0	-26.4	0.0	-26.4
-121.0	-26.9	0.0	-26.9
-120.0	-27.2	0.0	-27.2

28.30 GHz Antenna Pattern in Co-pol Az LHCP

Angle	Gain	Mask	Over Mask
Degrees	dBi	dBi	dB
0.0	48.2		
1.0	20.0		
2.0	9.4	21.5	-12.1
3.0	10.0	17.1	-7.1
4.0	6.8	13.9	-7.2
5.0	1.4	11.5	-10.1
6.0	4.3	9.5	-5.3
7.0	1.7	7.9	-6.1
8.0	-6.5	8.0	-14.5
9.0	-6.0	8.0	-14.0
10.0	-4.7	7.0	-11.7
11.0	-10.8	6.0	-16.8
12.0	-9.8	5.0	-14.8
13.0	-6.0	4.2	-10.1
14.0	-9.1	3.3	-12.4
15.0	-8.5	2.6	-11.1
16.0	-13.4	1.9	-15.3
17.0	-14.0	1.2	-15.2
18.0	-17.6	0.6	-18.2
19.0	-22.1	0.0	-22.1
20.0	-15.5	-0.5	-15.0
21.0	-8.6	-1.1	-7.6
22.0	-14.2	-1.6	-12.6
23.0	-14.4	-2.0	-12.3
24.0	-17.7	-2.5	-15.2
25.0	-13.2	-2.9	-10.3
26.0	-9.8	-3.4	-6.4
27.0	-13.9	-3.8	-10.1
28.0	-19.1	-4.2	-14.9
29.0	-7.7	-4.6	-3.1
30.0	-9.8	-4.9	-4.9
31.0	-10.4	-5.3	-5.1
32.0	-8.5	-5.6	-2.9
33.0	-6.9	-6.0	-0.9
34.0	-8.9	-6.3	-2.6
35.0	-14.7	-6.6	-8.1
36.0	-23.5	-6.9	-16.6
37.0	-25.0	-7.2	-17.8
38.0	-20.0	-7.5	-12.5
39.0	-19.9	-7.8	-12.1
40.0	-17.1	-8.1	-9.0
41.0	-36.4	-8.3	-28.1
42.0	-22.8	-8.6	-14.2
43.0	-21.7	-8.8	-12.9
44.0	-20.2	-9.1	-11.2
45.0	-12.1	-9.3	-2.8
46.0	-12.2	-9.6	-2.6
47.0	-10.4	-9.8	-0.6
48.0	-10.7	-10.0	-0.7
49.0	-16.6	-10.0	-6.6
50.0	-18.9	-10.0	-8.9
51.0	-16.9	-10.0	-6.9
52.0	-14.8	-10.0	-4.8
53.0	-18.0	-10.0	-8.0
54.0	-22.0	-10.0	-12.0
55.0	-22.1	-10.0	-12.1
56.0	-18.7	-10.0	-8.7
57.0	-16.0	-10.0	-6.0
58.0	-24.7	-10.0	-14.7
59.0	-19.2	-10.0	-9.2

Orbit Communication Systems Ltd.
AL-7103-Ka, 1.20 m Antenna, Pattern Data Table
Co-pol Azimuth LHCP, -180° to +180° @ 1.0° increment

-119.0	-33.8	0.0	-33.8
-118.0	-27.1	0.0	-27.1
-117.0	-25.7	0.0	-25.7
-116.0	-25.3	0.0	-25.3
-115.0	-24.9	0.0	-24.9
-114.0	-23.3	0.0	-23.3
-113.0	-30.0	0.0	-30.0
-112.0	-24.9	0.0	-24.9
-111.0	-25.4	0.0	-25.4
-110.0	-25.5	0.0	-25.5
-109.0	-21.7	0.0	-21.7
-108.0	-22.6	0.0	-22.6
-107.0	-21.5	0.0	-21.5
-106.0	-16.7	0.0	-16.7
-105.0	-14.7	0.0	-14.7
-104.0	-14.6	0.0	-14.6
-103.0	-12.3	0.0	-12.3
-102.0	-12.3	0.0	-12.3
-101.0	-12.0	0.0	-12.0
-100.0	-14.1	0.0	-14.1
-99.0	-16.9	0.0	-16.9
-98.0	-18.7	0.0	-18.7
-97.0	-13.5	0.0	-13.5
-96.0	-14.1	0.0	-14.1
-95.0	-14.6	0.0	-14.6
-94.0	-13.0	0.0	-13.0
-93.0	-12.2	0.0	-12.2
-92.0	-12.9	0.0	-12.9
-91.0	-12.7	0.0	-12.7
-90.0	-19.7	0.0	-19.7
-89.0	-13.4	0.0	-13.4
-88.0	-15.1	0.0	-15.1
-87.0	-15.6	0.0	-15.6
-86.0	-12.8	0.0	-12.8
-85.0	-27.9	-10.0	-17.9
-84.0	-13.8	-10.0	-3.8
-83.0	-18.1	-10.0	-8.1
-82.0	-19.9	-10.0	-9.9
-81.0	-16.8	-10.0	-6.8
-80.0	-34.9	-10.0	-24.9
-79.0	-15.6	-10.0	-5.6
-78.0	-15.5	-10.0	-5.5
-77.0	-31.6	-10.0	-21.6
-76.0	-15.6	-10.0	-5.6
-75.0	-16.4	-10.0	-6.4
-74.0	-18.1	-10.0	-8.1
-73.0	-18.2	-10.0	-8.2
-72.0	-20.5	-10.0	-10.5
-71.0	-17.7	-10.0	-7.7
-70.0	-17.9	-10.0	-7.9
-69.0	-25.4	-10.0	-15.4
-68.0	-19.7	-10.0	-9.7
-67.0	-16.8	-10.0	-6.8
-66.0	-24.3	-10.0	-14.3
-65.0	-22.1	-10.0	-12.1
-64.0	-15.0	-10.0	-5.0
-63.0	-13.4	-10.0	-3.4
-62.0	-22.5	-10.0	-12.5
-61.0	-19.0	-10.0	-9.0
-60.0	-20.8	-10.0	-10.8
-59.0	-16.2	-10.0	-6.2
-58.0	-15.0	-10.0	-5.0
-57.0	-15.1	-10.0	-5.1

60.0	-27.5	-10.0	-17.5
61.0	-14.6	-10.0	-4.6
62.0	-16.6	-10.0	-6.6
63.0	-15.3	-10.0	-5.3
64.0	-20.0	-10.0	-10.0
65.0	-21.0	-10.0	-11.0
66.0	-20.6	-10.0	-10.6
67.0	-18.0	-10.0	-8.0
68.0	-19.1	-10.0	-9.1
69.0	-21.6	-10.0	-11.6
70.0	-17.3	-10.0	-7.3
71.0	-20.6	-10.0	-10.6
72.0	-19.9	-10.0	-9.9
73.0	-22.0	-10.0	-12.0
74.0	-14.3	-10.0	-4.3
75.0	-17.6	-10.0	-7.6
76.0	-14.8	-10.0	-4.8
77.0	-20.9	-10.0	-10.9
78.0	-17.3	-10.0	-7.3
79.0	-26.4	-10.0	-16.4
80.0	-27.1	-10.0	-17.1
81.0	-33.8	-10.0	-23.8
82.0	-26.9	-10.0	-16.9
83.0	-23.4	-10.0	-13.4
84.0	-28.3	-10.0	-18.3
85.0	-17.3	-10.0	-7.3
86.0	-26.8	0.0	-26.8
87.0	-20.5	0.0	-20.5
88.0	-30.2	0.0	-30.2
89.0	-20.4	0.0	-20.4
90.0	-21.4	0.0	-21.4
91.0	-27.9	0.0	-27.9
92.0	-31.0	0.0	-31.0
93.0	-25.3	0.0	-25.3
94.0	-23.4	0.0	-23.4
95.0	-20.9	0.0	-20.9
96.0	-28.4	0.0	-28.4
97.0	-19.2	0.0	-19.2
98.0	-22.3	0.0	-22.3
99.0	-18.2	0.0	-18.2
100.0	-21.9	0.0	-21.9
101.0	-25.2	0.0	-25.2
102.0	-24.7	0.0	-24.7
103.0	-19.8	0.0	-19.8
104.0	-20.9	0.0	-20.9
105.0	-26.2	0.0	-26.2
106.0	-20.1	0.0	-20.1
107.0	-31.4	0.0	-31.4
108.0	-22.8	0.0	-22.8
109.0	-19.1	0.0	-19.1
110.0	-24.9	0.0	-24.9
111.0	-20.4	0.0	-20.4
112.0	-26.8	0.0	-26.8
113.0	-34.9	0.0	-34.9
114.0	-35.1	0.0	-35.1
115.0	-21.1	0.0	-21.1
116.0	-24.3	0.0	-24.3
117.0	-30.2	0.0	-30.2
118.0	-19.4	0.0	-19.4
119.0	-19.0	0.0	-19.0
120.0	-45.6	0.0	-45.6
121.0	-27.7	0.0	-27.7
122.0	-20.8	0.0	-20.8

Orbit Communication Systems Ltd.
AL-7103-Ka, 1.20 m Antenna, Pattern Data Table
Co-pol Azimuth LHCP, -180° to +180° @ 1.0° increment

-56.0	-34.5	-10.0	-24.5
-55.0	-19.8	-10.0	-9.8
-54.0	-17.1	-10.0	-7.1
-53.0	-15.2	-10.0	-5.2
-52.0	-26.5	-10.0	-16.5
-51.0	-21.9	-10.0	-11.9
-50.0	-18.2	-10.0	-8.2
-49.0	-13.5	-10.0	-3.5
-48.0	-9.1	-10.0	0.9
-47.0	-11.2	-9.8	-1.4
-46.0	-11.2	-9.6	-1.7
-45.0	-12.4	-9.3	-3.1
-44.0	-12.6	-9.1	-3.5
-43.0	-14.5	-8.8	-5.7
-42.0	-11.3	-8.6	-2.7
-41.0	-18.6	-8.3	-10.3
-40.0	-12.8	-8.1	-4.8
-39.0	-11.2	-7.8	-3.4
-38.0	-10.4	-7.5	-2.9
-37.0	-9.3	-7.2	-2.1
-36.0	-11.5	-6.9	-4.6
-35.0	-12.9	-6.6	-6.3
-34.0	-16.4	-6.3	-10.1
-33.0	-15.3	-6.0	-9.4
-32.0	-12.8	-5.6	-7.2
-31.0	-8.2	-5.3	-2.9
-30.0	-10.2	-4.9	-5.3
-29.0	-11.2	-4.6	-6.7
-28.0	-7.4	-4.2	-3.2
-27.0	-5.8	-3.8	-2.0
-26.0	-19.7	-3.4	-16.3
-25.0	-4.6	-2.9	-1.6
-24.0	-4.7	-2.5	-2.2
-23.0	-10.9	-2.0	-8.9
-22.0	-6.7	-1.6	-5.1
-21.0	-7.8	-1.1	-6.8
-20.0	-3.3	-0.5	-2.8
-19.0	-3.4	0.0	-3.5
-18.0	-2.5	0.6	-3.1
-17.0	-4.7	1.2	-6.0
-16.0	-6.5	1.9	-8.4
-15.0	-1.1	2.6	-3.7
-14.0	0.3	3.3	-3.1
-13.0	-8.1	4.2	-12.3
-12.0	-0.7	5.0	-5.7
-11.0	-5.0	6.0	-11.0
-10.0	-11.9	7.0	-18.9
-9.0	-1.9	8.0	-9.9
-8.0	-8.2	8.0	-16.2
-7.0	2.0	7.9	-5.8
-6.0	-16.0	9.5	-25.5
-5.0	3.5	11.5	-8.0
-4.0	5.3	13.9	-8.6
-3.0	11.3	17.1	-5.8
-2.0	17.7	21.5	-3.8
-1.0	14.0		
0.0	48.2		

123.0	-26.2	0.0	-26.2
124.0	-29.9	0.0	-29.9
125.0	-33.1	0.0	-33.1
126.0	-33.4	0.0	-33.4
127.0	-27.3	0.0	-27.3
128.0	-26.6	0.0	-26.6
129.0	-22.4	0.0	-22.4
130.0	-19.1	0.0	-19.1
131.0	-19.6	0.0	-19.6
132.0	-28.5	0.0	-28.5
133.0	-20.0	0.0	-20.0
134.0	-23.9	0.0	-23.9
135.0	-24.0	0.0	-24.0
136.0	-25.9	0.0	-25.9
137.0	-21.6	0.0	-21.6
138.0	-25.2	0.0	-25.2
139.0	-29.6	0.0	-29.6
140.0	-26.8	0.0	-26.8
141.0	-23.9	0.0	-23.9
142.0	-22.7	0.0	-22.7
143.0	-23.8	0.0	-23.8
144.0	-30.0	0.0	-30.0
145.0	-24.1	0.0	-24.1
146.0	-26.8	0.0	-26.8
147.0	-24.4	0.0	-24.4
148.0	-25.6	0.0	-25.6
149.0	-27.2	0.0	-27.2
150.0	-37.3	0.0	-37.3
151.0	-18.7	0.0	-18.7
152.0	-20.3	0.0	-20.3
153.0	-31.6	0.0	-31.6
154.0	-30.8	0.0	-30.8
155.0	-23.1	0.0	-23.1
156.0	-29.6	0.0	-29.6
157.0	-28.1	0.0	-28.1
158.0	-23.4	0.0	-23.4
159.0	-23.6	0.0	-23.6
160.0	-23.6	0.0	-23.6
161.0	-28.8	0.0	-28.8
162.0	-30.2	0.0	-30.2
163.0	-27.8	0.0	-27.8
164.0	-37.0	0.0	-37.0
165.0	-25.7	0.0	-25.7
166.0	-26.1	0.0	-26.1
167.0	-25.9	0.0	-25.9
168.0	-27.0	0.0	-27.0
169.0	-22.5	0.0	-22.5
170.0	-37.3	0.0	-37.3
171.0	-22.4	0.0	-22.4
172.0	-26.0	0.0	-26.0
173.0	-32.0	0.0	-32.0
174.0	-25.8	0.0	-25.8
175.0	-25.5	0.0	-25.5
176.0	-30.4	0.0	-30.4
177.0	-26.3	0.0	-26.3
178.0	-34.8	0.0	-34.8
179.0	-26.2	0.0	-26.2

Orbit Communication Systems Ltd.

AL AL-7103-Ka, 1.20 m Antenna, Pattern Data Table
Co-pol Azimuth LHCP, -10° to +10° @ 0.1° increment

28.30 GHz Antenna Pattern in Co-pol Az LHCP

Angle	Gain	Mask	Over Mask
Degrees	dBi	dBi	dB
-10.0	-11.9	7.0	-18.9
-9.9	-23.4	7.1	-30.5
-9.8	-9.6	7.2	-16.8
-9.7	-6.6	7.3	-13.9
-9.6	-6.7	7.4	-14.2
-9.5	-10.2	7.6	-17.8
-9.4	-23.4	7.7	-31.1
-9.3	-11.3	7.8	-19.1
-9.2	-5.1	8.0	-13.1
-9.1	-2.4	8.0	-10.4
-9.0	-1.9	8.0	-9.9
-8.9	-2.9	8.0	-10.9
-8.8	-5.7	8.0	-13.7
-8.7	-11.6	8.0	-19.6
-8.6	-13.6	8.0	-21.6
-8.5	-9.5	8.0	-17.5
-8.4	-8.5	8.0	-16.5
-8.3	-10.8	8.0	-18.8
-8.2	-15.6	8.0	-23.6
-8.1	-12.1	8.0	-20.1
-8.0	-8.2	8.0	-16.2
-7.9	-6.1	8.0	-14.1
-7.8	-6.7	8.0	-14.7
-7.7	-9.6	8.0	-17.6
-7.6	-18.8	8.0	-26.8
-7.5	-18.1	8.0	-26.1
-7.4	-7.7	8.0	-15.7
-7.3	-3.4	8.0	-11.4
-7.2	-0.3	8.0	-8.3
-7.1	1.4	8.0	-6.6
-7.0	2.0	7.9	-5.8
-6.9	1.2	8.0	-6.9
-6.8	-1.4	8.2	-9.6
-6.7	-6.8	8.3	-15.2
-6.6	-9.6	8.5	-18.1
-6.5	-3.0	8.7	-11.7
-6.4	0.1	8.8	-8.7
-6.3	0.8	9.0	-8.2
-6.2	-0.4	9.2	-9.6
-6.1	-4.6	9.4	-14.0
-6.0	-16.0	9.5	-25.5
-5.9	-8.3	9.7	-18.0
-5.8	-2.4	9.9	-12.3
-5.7	-0.7	10.1	-10.8
-5.6	-0.5	10.3	-10.8
-5.5	-1.1	10.5	-11.6
-5.4	-1.1	10.7	-11.8
-5.3	0.1	10.9	-10.8
-5.2	1.5	11.1	-9.6
-5.1	2.6	11.3	-8.7
-5.0	3.5	11.5	-8.0
-4.9	4.2	11.7	-7.6
-4.8	4.3	12.0	-7.7
-4.7	3.2	12.2	-9.0
-4.6	0.4	12.4	-12.0
-4.5	-0.2	12.7	-12.9
-4.4	3.2	12.9	-9.7
-4.3	6.1	13.2	-7.0
-4.2	7.4	13.4	-6.0
-4.1	7.0	13.7	-6.6

28.30 GHz Antenna Pattern in Co-pol Az LHCP

Angle	Gain	Mask	Over Mask
Degrees	dBi	dBi	dB
0.0	48.2		
0.1	47.8		
0.2	47.0		
0.3	45.7		
0.4	43.9		
0.5	41.4		
0.6	38.5		
0.7	35.0		
0.8	30.8		
0.9	25.9		
1.0	20.0		
1.1	16.2		
1.2	18.8		
1.3	20.8		
1.4	21.2		
1.5	20.2	24.6	-4.4
1.6	18.1	23.9	-5.8
1.7	15.4	23.2	-7.9
1.8	12.7	22.6	-9.9
1.9	10.9	22.0	-11.2
2.0	9.4	21.5	-12.1
2.1	10.0	20.9	-10.9
2.2	12.5	20.4	-7.9
2.3	14.3	20.0	-5.7
2.4	14.8	19.5	-4.7
2.5	14.4	19.1	-4.6
2.6	13.0	18.6	-5.6
2.7	10.6	18.2	-7.6
2.8	9.0	17.8	-8.8
2.9	9.3	17.4	-8.1
3.0	10.0	17.1	-7.1
3.1	9.7	16.7	-7.0
3.2	8.7	16.4	-7.7
3.3	8.0	16.0	-8.1
3.4	8.1	15.7	-7.6
3.5	9.1	15.4	-6.3
3.6	10.2	15.1	-4.9
3.7	10.7	14.8	-4.1
3.8	10.5	14.5	-4.0
3.9	9.2	14.2	-5.0
4.0	6.8	13.9	-7.2
4.1	3.1	13.7	-10.6
4.2	-0.2	13.4	-13.6
4.3	0.3	13.2	-12.9
4.4	0.8	12.9	-12.1
4.5	-1.9	12.7	-14.6
4.6	-8.1	12.4	-20.5
4.7	-3.9	12.2	-16.1
4.8	0.8	12.0	-11.2
4.9	2.3	11.7	-9.4
5.0	1.4	11.5	-10.1
5.1	-2.3	11.3	-13.6
5.2	-8.9	11.1	-20.0
5.3	-2.5	10.9	-13.4
5.4	1.1	10.7	-9.6
5.5	1.1	10.5	-9.4
5.6	-2.8	10.3	-13.0
5.7	-13.6	10.1	-23.7
5.8	-2.9	9.9	-12.8
5.9	2.4	9.7	-7.3

Orbit Communication Systems Ltd.

AL AL-7103-Ka, 1.20 m Antenna, Pattern Data Table
Co-pol Azimuth LHCP, -10° to +10° @ 0.1° increment

-4.0	5.3	13.9	-8.6
-3.9	3.2	14.2	-11.0
-3.8	4.3	14.5	-10.2
-3.7	7.1	14.8	-7.7
-3.6	9.3	15.1	-5.8
-3.5	10.6	15.4	-4.8
-3.4	11.6	15.7	-4.1
-3.3	12.2	16.0	-3.8
-3.2	12.4	16.4	-3.9
-3.1	12.0	16.7	-4.7
-3.0	11.3	17.1	-5.8
-2.9	11.6	17.4	-5.9
-2.8	13.5	17.8	-4.3
-2.7	15.5	18.2	-2.7
-2.6	16.6	18.6	-2.0
-2.5	16.9	19.1	-2.2
-2.4	16.5	19.5	-3.0
-2.3	16.3	20.0	-3.6
-2.2	17.0	20.4	-3.4
-2.1	17.8	20.9	-3.1
-2.0	17.7	21.5	-3.8
-1.9	16.0	22.0	-6.0
-1.8	12.4	22.6	-10.2
-1.7	12.3	23.2	-10.9
-1.6	16.9	23.9	-7.0
-1.5	19.8	24.6	-4.8
-1.4	21.0		
-1.3	20.9		
-1.2	20.0		
-1.1	17.7		
-1.0	14.0		
-0.9	21.3		
-0.8	29.3		
-0.7	34.7		
-0.6	38.9		
-0.5	42.0		
-0.4	44.5		
-0.3	46.2		
-0.2	47.4		
-0.1	48.1		
0.0	48.2		

6.0	4.3	9.5	-5.3
6.1	3.9	9.4	-5.4
6.2	1.9	9.2	-7.3
6.3	-2.4	9.0	-11.4
6.4	-11.7	8.8	-20.5
6.5	-14.4	8.7	-23.0
6.6	-8.0	8.5	-16.5
6.7	-4.6	8.3	-12.9
6.8	-1.2	8.2	-9.4
6.9	0.8	8.0	-7.2
7.0	1.7	7.9	-6.1
7.1	0.9	8.0	-7.1
7.2	-2.3	8.0	-10.3
7.3	-9.1	8.0	-17.1
7.4	-6.9	8.0	-14.9
7.5	-0.9	8.0	-8.9
7.6	1.5	8.0	-6.5
7.7	2.0	8.0	-6.0
7.8	0.9	8.0	-7.1
7.9	-1.7	8.0	-9.7
8.0	-6.5	8.0	-14.5
8.1	-7.6	8.0	-15.6
8.2	-3.2	8.0	-11.2
8.3	-0.6	8.0	-8.6
8.4	0.0	8.0	-8.0
8.5	-0.9	8.0	-8.9
8.6	-4.0	8.0	-12.0
8.7	-10.8	8.0	-18.8
8.8	-15.6	8.0	-23.6
8.9	-8.3	8.0	-16.3
9.0	-6.0	8.0	-14.0
9.1	-6.1	8.0	-14.1
9.2	-9.2	8.0	-17.2
9.3	-12.4	7.8	-20.2
9.4	-9.7	7.7	-17.4
9.5	-7.1	7.6	-14.6
9.6	-8.2	7.4	-15.6
9.7	-14.0	7.3	-21.3
9.8	-21.9	7.2	-29.1
9.9	-8.7	7.1	-15.8
10.0	-4.7	7.0	-11.7

Orbit Communication Systems Ltd.

AL-7103-Ka, 1.20 m Antenna, Pattern Data Table
Co-pol Elevation LHCP, -30° to +30° @ 0.5° increment

28.30 GHz Antenna Pattern in Co-pol EI LHCP

Angle Degrees	Gain dBi	Mask dBi	Over Mask dB
-30.0	-11.0	-4.9	-6.1
-29.5	-10.4	-4.7	-5.7
-29.0	-11.3	-4.6	-6.8
-28.5	-17.9	-4.4	-13.5
-28.0	-16.4	-4.2	-12.2
-27.5	-30.6	-4.0	-26.6
-27.0	-20.6	-3.8	-16.8
-26.5	-17.0	-3.6	-13.4
-26.0	-11.3	-3.4	-8.0
-25.5	-14.7	-3.2	-11.6
-25.0	-33.5	-2.9	-30.6
-24.5	-27.2	-2.7	-24.4
-24.0	-33.7	-2.5	-31.2
-23.5	-29.3	-2.3	-27.0
-23.0	-14.9	-2.0	-12.8
-22.5	-13.3	-1.8	-11.5
-22.0	-18.8	-1.6	-17.3
-21.5	-19.2	-1.3	-17.9
-21.0	-20.1	-1.1	-19.0
-20.5	-27.2	-0.8	-26.4
-20.0	-17.3	-0.5	-16.8
-19.5	-13.0	-0.3	-12.8
-19.0	-14.1	0.0	-14.1
-18.5	-14.3	0.3	-14.6
-18.0	-8.3	0.6	-8.9
-17.5	-6.7	0.9	-7.6
-17.0	-14.0	1.2	-15.3
-16.5	-19.5	1.6	-21.1
-16.0	-18.4	1.9	-20.3
-15.5	-11.2	2.2	-13.4
-15.0	-7.6	2.6	-10.2
-14.5	-8.8	3.0	-11.8
-14.0	-20.3	3.3	-23.7
-13.5	-8.5	3.7	-12.3
-13.0	-7.6	4.2	-11.7
-12.5	-7.9	4.6	-12.4
-12.0	-13.3	5.0	-18.3
-11.5	-11.4	5.5	-16.9
-11.0	-9.3	6.0	-15.3
-10.5	-14.1	6.5	-20.5
-10.0	-11.8	7.0	-18.8
-9.5	-19.5	7.6	-27.0
-9.0	-4.0	8.1	-12.1
-8.5	-1.1	8.8	-9.9
-8.0	-10.4	9.4	-19.8
-7.5	-9.7	10.1	-19.8
-7.0	-1.0	10.9	-11.9
-6.5	-2.5	11.7	-14.2
-6.0	1.5	12.5	-11.1
-5.5	0.8	13.5	-12.7
-5.0	0.8	14.5	-13.7
-4.5	-1.0	15.7	-16.7
-4.0	5.4	16.9	-11.6
-3.5	5.8	18.4	-12.6
-3.0	10.1		
-2.5	13.4		
-2.0	10.7		
-1.5	21.2		
-1.0	23.1		
-0.5	42.5		
0.0	48.2		

28.30 GHz Antenna Pattern in Co-pol EI LHCP

Angle Degrees	Gain dBi	Mask dBi	Over Mask dB
0.0	48.2		
0.5	40.0		
1.0	13.7		
1.5	18.5		
2.0	17.2		
2.5	17.4		
3.0	10.0		
3.5	3.8	18.4	-14.6
4.0	9.2	16.9	-7.8
4.5	-4.7	15.7	-20.4
5.0	-4.0	14.5	-18.6
5.5	1.1	13.5	-12.4
6.0	-2.8	12.5	-15.3
6.5	-1.9	11.7	-13.6
7.0	2.3	10.9	-8.6
7.5	-11.6	10.1	-21.7
8.0	-18.4	9.4	-27.8
8.5	-5.8	8.8	-14.6
9.0	-2.0	8.1	-10.1
9.5	-10.6	7.6	-18.2
10.0	-8.7	7.0	-15.7
10.5	-3.7	6.5	-10.2
11.0	-3.5	6.0	-9.4
11.5	0.9	5.5	-4.6
12.0	-6.0	5.0	-11.0
12.5	-1.4	4.6	-5.9
13.0	-3.6	4.2	-7.8
13.5	-5.3	3.7	-9.0
14.0	-3.7	3.3	-7.0
14.5	1.8	3.0	-1.2
15.0	-4.6	2.6	-7.2
15.5	-1.8	2.2	-4.1
16.0	-4.4	1.9	-6.3
16.5	-2.8	1.6	-4.4
17.0	-5.9	1.2	-7.1
17.5	-1.4	0.9	-2.4
18.0	-3.0	0.6	-3.6
18.5	-3.5	0.3	-3.8
19.0	-3.1	0.0	-3.1
19.5	-4.4	-0.3	-4.2
20.0	-5.2	-0.5	-4.7
20.5	-2.2	-0.8	-1.4
21.0	-5.2	-1.1	-4.1
21.5	-11.0	-1.3	-9.7
22.0	-4.1	-1.6	-2.5
22.5	-5.2	-1.8	-3.4
23.0	-2.6	-2.0	-0.5
23.5	-7.5	-2.3	-5.2
24.0	-2.6	-2.5	-0.1
24.5	-5.0	-2.7	-2.3
25.0	-5.2	-2.9	-2.2
25.5	-4.2	-3.2	-1.1
26.0	-4.3	-3.4	-0.9
26.5	-6.0	-3.6	-2.4
27.0	-6.6	-3.8	-2.8
27.5	-5.5	-4.0	-1.5
28.0	-7.2	-4.2	-3.0
28.5	-8.2	-4.4	-3.8
29.0	-9.6	-4.6	-5.0
29.5	-9.6	-4.7	-4.8
30.0	-7.8	-4.9	-2.8

Orbit Communication Systems Ltd.
AL-7103-Ka, 1.20 m Antenna, Pattern Data Table
Co-pol Elevation LHCP, -10° to +10° @ 0.1° increment

28.30 GHz Antenna Pattern in Co-pol EI LHCP

Angle	Gain	Mask	Over Mask
Degrees	dBi	dBi	dB
-10.0	-11.8	7.0	-18.8
-9.9	-12.0	7.1	-19.1
-9.8	-9.8	7.2	-17.0
-9.7	-10.0	7.3	-17.3
-9.6	-12.8	7.4	-20.2
-9.5	-19.5	7.6	-27.0
-9.4	-10.1	7.7	-17.7
-9.3	-5.1	7.8	-12.9
-9.2	-3.1	7.9	-11.0
-9.1	-2.8	8.0	-10.9
-9.0	-4.0	8.1	-12.1
-8.9	-6.0	8.3	-14.3
-8.8	-6.0	8.4	-14.4
-8.7	-3.4	8.5	-11.9
-8.6	-1.6	8.6	-10.2
-8.5	-1.1	8.8	-9.9
-8.4	-1.6	8.9	-10.5
-8.3	-3.4	9.0	-12.5
-8.2	-7.5	9.2	-16.6
-8.1	-11.6	9.3	-20.9
-8.0	-10.4	9.4	-19.8
-7.9	-5.4	9.6	-15.0
-7.8	-3.4	9.7	-13.1
-7.7	-3.1	9.8	-12.9
-7.6	-4.9	10.0	-14.9
-7.5	-9.7	10.1	-19.8
-7.4	-29.5	10.3	-39.7
-7.3	-8.9	10.4	-19.3
-7.2	-3.8	10.6	-14.4
-7.1	-1.9	10.7	-12.7
-7.0	-1.0	10.9	-11.9
-6.9	-0.2	11.0	-11.2
-6.8	0.3	11.2	-10.9
-6.7	0.3	11.3	-11.1
-6.6	-1.0	11.5	-12.5
-6.5	-2.5	11.7	-14.2
-6.4	-1.3	11.8	-13.1
-6.3	1.7	12.0	-10.3
-6.2	3.3	12.2	-8.9
-6.1	3.5	12.4	-8.9
-6.0	1.5	12.5	-11.1
-5.9	-3.0	12.7	-15.8
-5.8	-6.6	12.9	-19.5
-5.7	-1.6	13.1	-14.7
-5.6	1.0	13.3	-12.3
-5.5	0.8	13.5	-12.7
-5.4	-2.5	13.7	-16.2
-5.3	-15.0	13.9	-28.9
-5.2	-6.2	14.1	-20.3
-5.1	-0.8	14.3	-15.1
-5.0	0.8	14.5	-13.7
-4.9	-1.1	14.7	-15.8
-4.8	-7.2	15.0	-22.2
-4.7	-12.4	15.2	-27.6
-4.6	-3.6	15.4	-19.0
-4.5	-1.0	15.7	-16.7
-4.4	-2.1	15.9	-18.0
-4.3	-5.4	16.2	-21.6
-4.2	-1.4	16.4	-17.9
-4.1	3.0	16.7	-13.7

28.30 GHz Antenna Pattern in Co-pol EI LHCP

Angle	Gain	Mask	Over Mask
Degrees	dBi	dBi	dB
0.0	48.2		
0.1	47.7		
0.2	46.8		
0.3	45.2		
0.4	43.0		
0.5	40.0		
0.6	36.2		
0.7	31.1		
0.8	24.2		
0.9	14.9		
1.0	13.7		
1.1	16.9		
1.2	19.1		
1.3	20.1		
1.4	20.0		
1.5	18.5		
1.6	16.4		
1.7	15.4		
1.8	16.4		
1.9	17.4		
2.0	17.2		
2.1	15.9		
2.2	15.0		
2.3	15.7		
2.4	17.0		
2.5	17.4		
2.6	16.9		
2.7	15.6		
2.8	13.3		
2.9	11.1		
3.0	10.0		
3.1	9.7		
3.2	8.8		
3.3	7.5		
3.4	5.7		
3.5	3.8	18.4	-14.6
3.6	2.5	18.1	-15.6
3.7	3.5	17.8	-14.3
3.8	6.1	17.5	-11.4
3.9	8.3	17.2	-8.9
4.0	9.2	16.9	-7.8
4.1	9.0	16.7	-7.6
4.2	7.7	16.4	-8.7
4.3	4.7	16.2	-11.5
4.4	-0.4	15.9	-16.3
4.5	-4.7	15.7	-20.4
4.6	-3.2	15.4	-18.7
4.7	-1.8	15.2	-17.0
4.8	-2.1	15.0	-17.1
4.9	-4.0	14.7	-18.7
5.0	-4.0	14.5	-18.6
5.1	-4.3	14.3	-18.6
5.2	-4.8	14.1	-18.9
5.3	-4.0	13.9	-17.9
5.4	-0.4	13.7	-14.1
5.5	1.1	13.5	-12.4
5.6	2.0	13.3	-11.3
5.7	0.4	13.1	-12.7
5.8	-2.9	12.9	-15.8
5.9	-5.8	12.7	-18.5

Orbit Communication Systems Ltd.
 AL-7103-Ka, 1.20 m Antenna, Pattern Data Table
 Co-pol Elevation LHCP, -10° to +10° @ 0.1° increment

-4.0	5.4	16.9	-11.6
-3.9	6.3	17.2	-11.0
-3.8	6.3	17.5	-11.2
-3.7	6.1	17.8	-11.7
-3.6	5.8	18.1	-12.3
-3.5	5.8	18.4	-12.6
-3.4	6.5		
-3.3	8.0		
-3.2	9.7		
-3.1	10.5		
-3.0	10.1		
-2.9	8.1		
-2.8	5.8		
-2.7	8.2		
-2.6	11.6		
-2.5	13.4		
-2.4	13.9		
-2.3	13.4		
-2.2	12.2		
-2.1	11.3		
-2.0	10.7		
-1.9	11.4		
-1.8	14.2		
-1.7	17.4		
-1.6	19.9		
-1.5	21.2		
-1.4	21.2		
-1.3	20.0		
-1.2	18.3		
-1.1	19.1		
-1.0	23.1		
-0.9	27.7		
-0.8	32.1		
-0.7	36.1		
-0.6	39.6		
-0.5	42.5		
-0.4	44.7		
-0.3	46.4		
-0.2	47.5		
-0.1	48.1		
0.0	48.2		

6.0	-2.8	12.5	-15.3
6.1	0.7	12.4	-11.6
6.2	2.1	12.2	-10.1
6.3	1.5	12.0	-10.6
6.4	-0.6	11.8	-12.4
6.5	-1.9	11.7	-13.6
6.6	-0.7	11.5	-12.2
6.7	1.0	11.3	-10.4
6.8	2.4	11.2	-8.7
6.9	2.7	11.0	-8.3
7.0	2.3	10.9	-8.6
7.1	0.7	10.7	-10.0
7.2	-1.8	10.6	-12.3
7.3	-5.3	10.4	-15.7
7.4	-10.9	10.3	-21.2
7.5	-11.6	10.1	-21.7
7.6	-8.5	10.0	-18.5
7.7	-7.2	9.8	-17.1
7.8	-8.1	9.7	-17.8
7.9	-14.2	9.6	-23.8
8.0	-18.4	9.4	-27.8
8.1	-7.9	9.3	-17.2
8.2	-4.0	9.2	-13.1
8.3	-2.7	9.0	-11.7
8.4	-3.4	8.9	-12.3
8.5	-5.8	8.8	-14.6
8.6	-8.5	8.6	-17.2
8.7	-5.8	8.5	-14.3
8.8	-2.7	8.4	-11.1
8.9	-1.2	8.3	-9.5
9.0	-2.0	8.1	-10.1
9.1	-3.7	8.0	-11.7
9.2	-7.6	7.9	-15.5
9.3	-12.8	7.8	-20.5
9.4	-12.9	7.7	-20.6
9.5	-10.6	7.6	-18.2
9.6	-9.6	7.4	-17.1
9.7	-11.8	7.3	-19.2
9.8	-15.2	7.2	-22.4
9.9	-13.4	7.1	-20.5
10.0	-8.7	7.0	-15.7

Orbit Communication Systems Ltd.
AL-7103-Ka, 1.20 m Antenna, Pattern Data Table
X-pol Azimuth LHCP, -10° to +10° @ 0.1° increment

28.30 GHz Antenna Pattern in X-pol Az LHCP

Angle	Gain	Mask	Over Mask
Degrees	dBi	dBi	dB
-10.0	-16.3	-2.0	-14.3
-9.9	-15.3	-2.0	-13.3
-9.8	-16.1	-2.0	-14.1
-9.7	-21.6	-2.0	-19.6
-9.6	-29.6	-2.0	-27.6
-9.5	-17.2	-2.0	-15.2
-9.4	-10.7	-2.0	-8.7
-9.3	-8.5	-2.0	-6.5
-9.2	-7.0	-2.0	-5.0
-9.1	-7.2	-2.0	-5.2
-9.0	-7.2	-2.0	-5.2
-8.9	-6.6	-2.0	-4.6
-8.8	-6.4	-2.0	-4.4
-8.7	-5.8	-2.0	-3.8
-8.6	-6.4	-2.0	-4.4
-8.5	-8.3	-2.0	-6.3
-8.4	-12.3	-2.0	-10.3
-8.3	-15.0	-2.0	-13.0
-8.2	-14.5	-2.0	-12.5
-8.1	-11.1	-2.0	-9.1
-8.0	-8.7	-2.0	-6.7
-7.9	-8.1	-2.0	-6.1
-7.8	-7.5	-2.0	-5.5
-7.7	-8.4	-2.0	-6.4
-7.6	-9.3	-2.0	-7.3
-7.5	-11.0	-2.0	-9.0
-7.4	-13.9	-2.0	-11.9
-7.3	-19.4	-2.0	-17.4
-7.2	-22.5	-2.0	-20.5
-7.1	-28.3	-2.0	-26.3
-7.0	-22.6	-2.1	-20.5
-6.9	-12.7	-2.0	-10.8
-6.8	-8.1	-1.8	-6.3
-6.7	-4.9	-1.7	-3.2
-6.6	-3.7	-1.5	-2.2
-6.5	-3.2	-1.3	-1.9
-6.4	-4.4	-1.2	-3.3
-6.3	-7.2	-1.0	-6.2
-6.2	-12.1	-0.8	-11.3
-6.1	-15.5	-0.6	-14.9
-6.0	-12.7	-0.5	-12.2
-5.9	-9.7	-0.3	-9.4
-5.8	-8.6	-0.1	-8.5
-5.7	-6.7	0.1	-6.8
-5.6	-5.1	0.3	-5.4
-5.5	-3.9	0.5	-4.4
-5.4	-3.5	0.7	-4.2
-5.3	-4.6	0.9	-5.5
-5.2	-7.2	1.1	-8.3
-5.1	-12.3	1.3	-13.6
-5.0	-17.0	1.5	-18.5
-4.9	-17.8	1.7	-19.5
-4.8	-10.8	2.0	-12.8
-4.7	-4.8	2.2	-7.0
-4.6	-1.2	2.4	-3.6
-4.5	1.1	2.7	-1.6
-4.4	2.0	2.9	-0.9
-4.3	1.6	3.2	-1.6
-4.2	-0.7	3.4	-4.1
-4.1	-5.7	3.7	-9.4

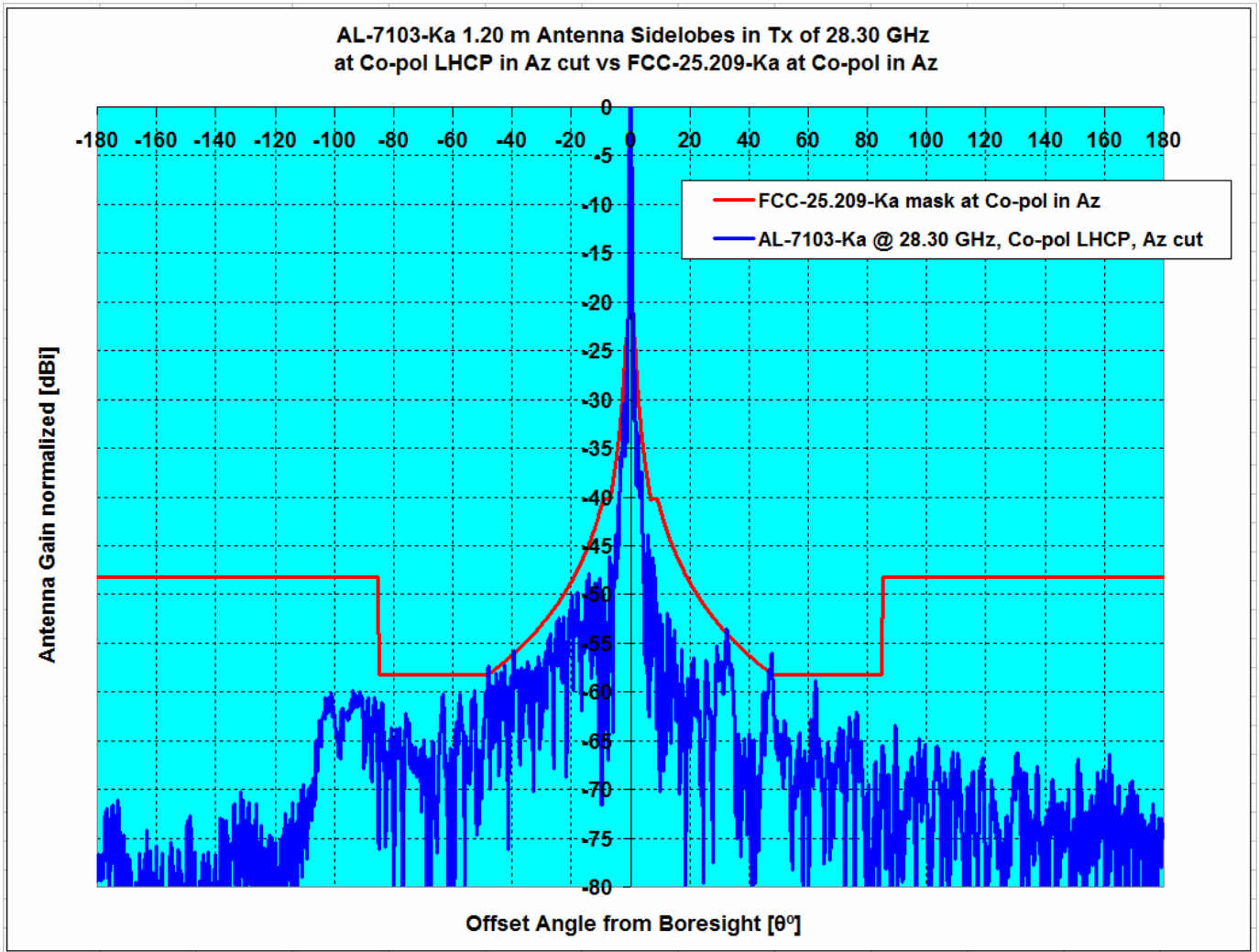
28.30 GHz Antenna Pattern in X-pol Az LHCP

Angle	Gain	Mask	Over Mask
Degrees	dBi	dBi	dB
0.0	19.2		
0.1	20.1		
0.2	23.1		
0.3	25.2		
0.4	26.1		
0.5	26.0		
0.6	24.9		
0.7	22.8		
0.8	19.9		
0.9	16.1		
1.0	12.5		
1.1	9.7		
1.2	6.8		
1.3	1.8		
1.4	-11.5		
1.5	-0.2		
1.6	3.1		
1.7	2.8		
1.8	-0.3	12.6	-12.9
1.9	-8.3	12.0	-20.3
2.0	-4.1	11.5	-15.6
2.1	-0.9	10.9	-11.8
2.2	-1.3	10.4	-11.7
2.3	-7.9	10.0	-17.9
2.4	-9.7	9.5	-19.2
2.5	-0.4	9.1	-9.5
2.6	2.7	8.6	-6.0
2.7	3.7	8.2	-4.5
2.8	2.2	7.8	-5.7
2.9	-1.5	7.4	-8.9
3.0	-10.0	7.1	-17.1
3.1	-7.2	6.7	-14.0
3.2	-2.1	6.4	-8.4
3.3	-1.0	6.0	-7.1
3.4	-2.0	5.7	-7.7
3.5	-3.9	5.4	-9.3
3.6	-8.0	5.1	-13.1
3.7	-13.2	4.8	-18.0
3.8	-15.9	4.5	-20.5
3.9	-9.6	4.2	-13.9
4.0	-7.0	3.9	-10.9
4.1	-5.8	3.7	-9.5
4.2	-6.2	3.4	-9.7
4.3	-9.4	3.2	-12.5
4.4	-14.6	2.9	-17.5
4.5	-13.6	2.7	-16.2
4.6	-10.6	2.4	-13.0
4.7	-11.5	2.2	-13.7
4.8	-22.6	2.0	-24.6
4.9	-16.0	1.7	-17.8
5.0	-7.3	1.5	-8.8
5.1	-5.1	1.3	-6.4
5.2	-4.2	1.1	-5.3
5.3	-5.9	0.9	-6.8
5.4	-11.8	0.7	-12.5
5.5	-14.7	0.5	-15.2
5.6	-7.8	0.3	-8.1
5.7	-3.9	0.1	-4.0
5.8	-3.4	-0.1	-3.3
5.9	-4.6	-0.3	-4.3

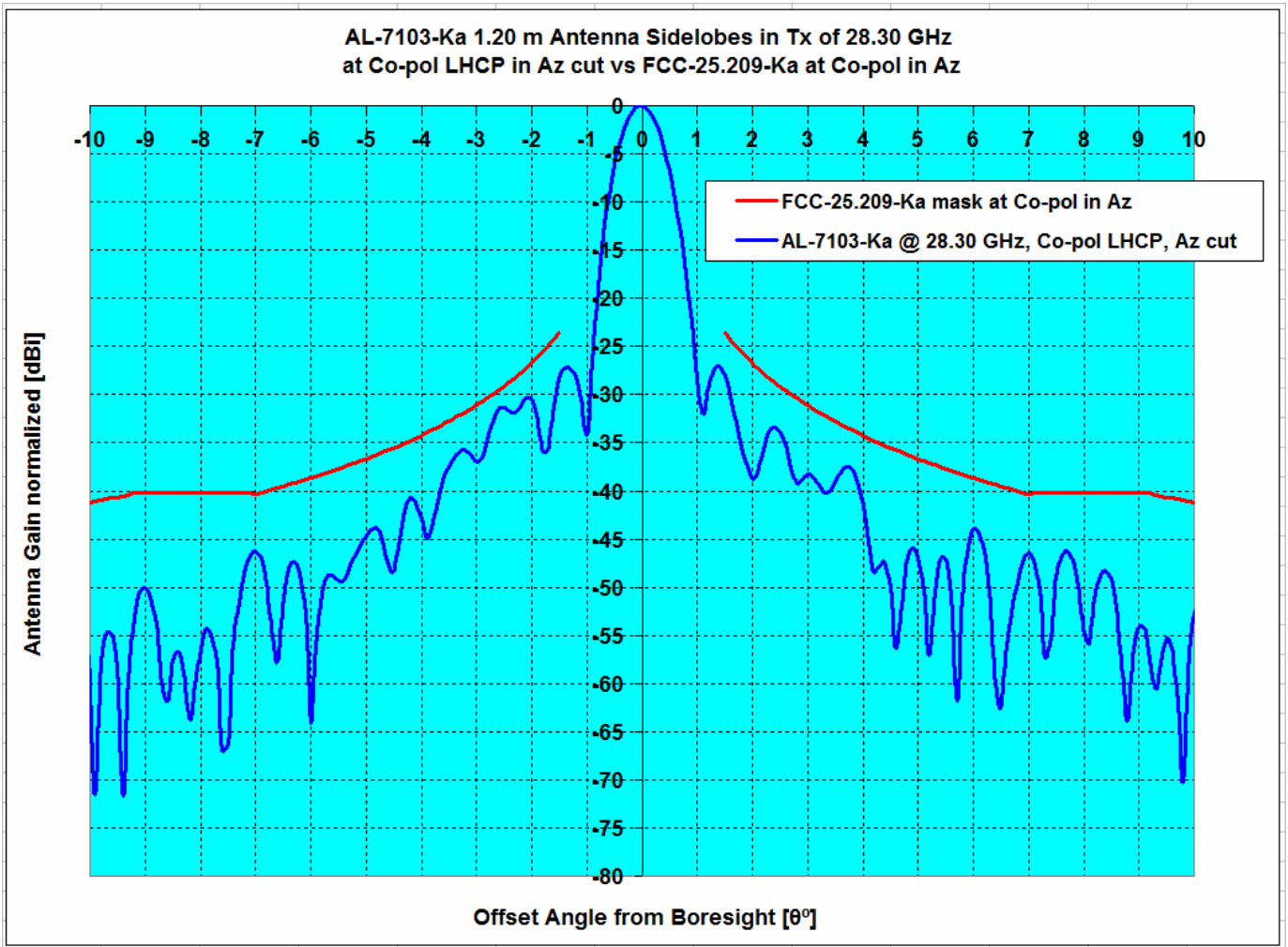
Orbit Communication Systems Ltd.
AL-7103-Ka, 1.20 m Antenna, Pattern Data Table
X-pol Azimuth LHCP, -10° to +10° @ 0.1° increment

-4.0	-14.3	3.9	-18.2
-3.9	-7.8	4.2	-12.1
-3.8	-3.8	4.5	-8.3
-3.7	-2.4	4.8	-7.2
-3.6	-2.2	5.1	-7.3
-3.5	-1.5	5.4	-6.9
-3.4	-0.7	5.7	-6.4
-3.3	-1.1	6.0	-7.1
-3.2	-4.5	6.4	-10.9
-3.1	-23.2	6.7	-29.9
-3.0	-5.4	7.1	-12.5
-2.9	1.0	7.4	-6.4
-2.8	3.4	7.8	-4.4
-2.7	2.9	8.2	-5.3
-2.6	-1.1	8.6	-9.8
-2.5	-23.3	9.1	-32.3
-2.4	0.6	9.5	-8.9
-2.3	5.6	10.0	-4.4
-2.2	7.3	10.4	-3.1
-2.1	6.3	10.9	-4.6
-2.0	1.3	11.5	-10.2
-1.9	-4.4	12.0	-16.4
-1.8	6.3	12.6	-6.3
-1.7	10.5		
-1.6	12.0		
-1.5	11.4		
-1.4	8.0		
-1.3	-2.1		
-1.2	5.3		
-1.1	12.4		
-1.0	15.7		
-0.9	18.1		
-0.8	20.5		
-0.7	22.9		
-0.6	24.9		
-0.5	26.2		
-0.4	26.7		
-0.3	26.2		
-0.2	24.7		
-0.1	22.0		
0.0	19.2		

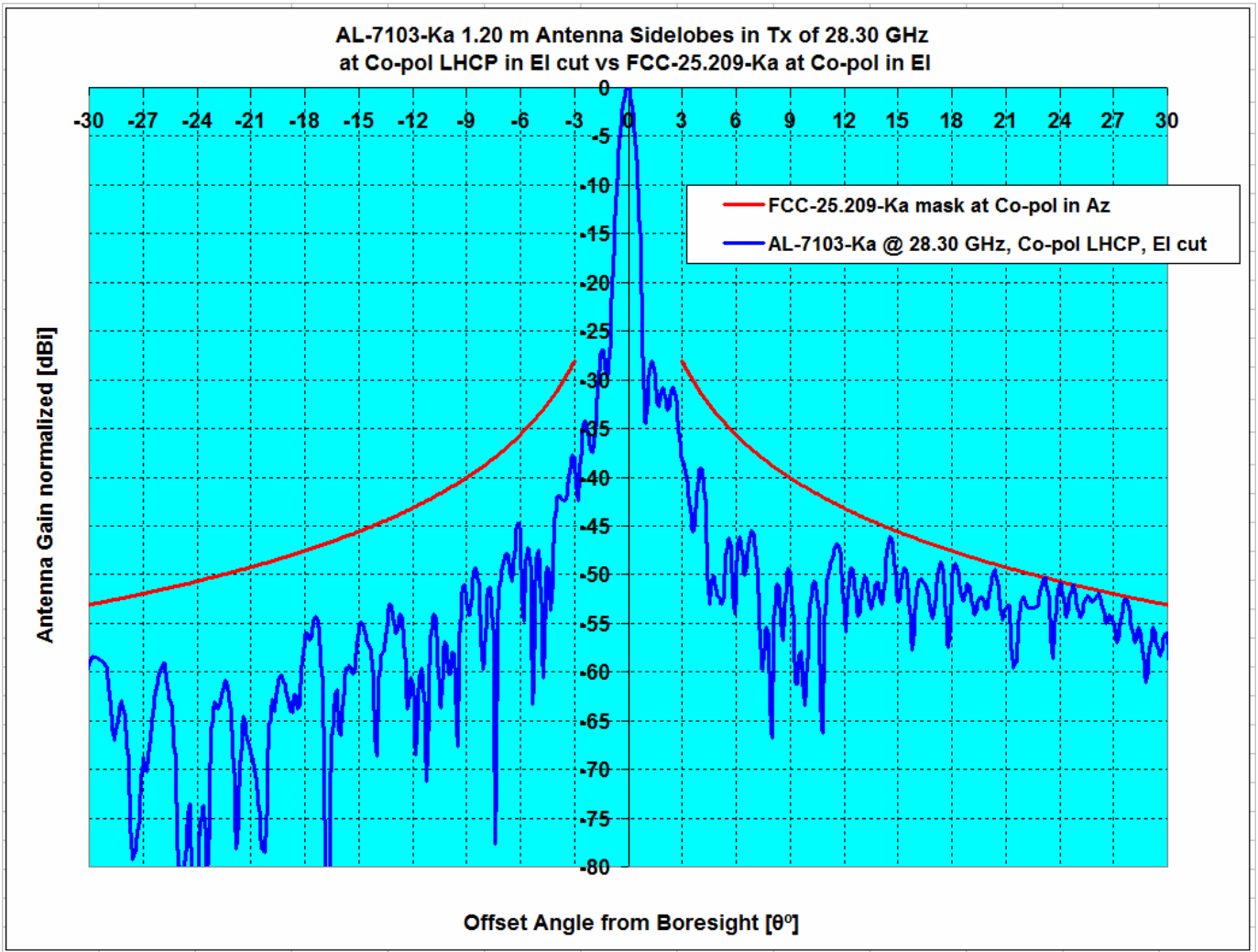
6.0	-7.9	-0.5	-7.4
6.1	-12.6	-0.6	-12.0
6.2	-15.5	-0.8	-14.7
6.3	-12.7	-1.0	-11.8
6.4	-10.7	-1.2	-9.6
6.5	-9.1	-1.3	-7.8
6.6	-6.9	-1.5	-5.4
6.7	-5.5	-1.7	-3.9
6.8	-5.0	-1.8	-3.2
6.9	-6.7	-2.0	-4.7
7.0	-10.1	-2.1	-7.9
7.1	-10.2	-2.0	-8.2
7.2	-7.8	-2.0	-5.8
7.3	-5.7	-2.0	-3.7
7.4	-5.7	-2.0	-3.7
7.5	-6.6	-2.0	-4.6
7.6	-9.0	-2.0	-7.0
7.7	-10.4	-2.0	-8.4
7.8	-9.7	-2.0	-7.7
7.9	-7.8	-2.0	-5.8
8.0	-7.2	-2.0	-5.2
8.1	-8.3	-2.0	-6.3
8.2	-9.7	-2.0	-7.7
8.3	-11.4	-2.0	-9.4
8.4	-14.7	-2.0	-12.7
8.5	-16.5	-2.0	-14.5
8.6	-14.7	-2.0	-12.7
8.7	-11.7	-2.0	-9.7
8.8	-9.2	-2.0	-7.2
8.9	-8.5	-2.0	-6.5
9.0	-9.2	-2.0	-7.2
9.1	-12.1	-2.0	-10.1
9.2	-17.8	-2.0	-15.8
9.3	-19.3	-2.0	-17.3
9.4	-17.3	-2.0	-15.3
9.5	-14.3	-2.0	-12.3
9.6	-13.3	-2.0	-11.3
9.7	-14.0	-2.0	-12.0
9.8	-14.2	-2.0	-12.2
9.9	-14.8	-2.0	-12.8
10.0	-18.5	-2.0	-16.5



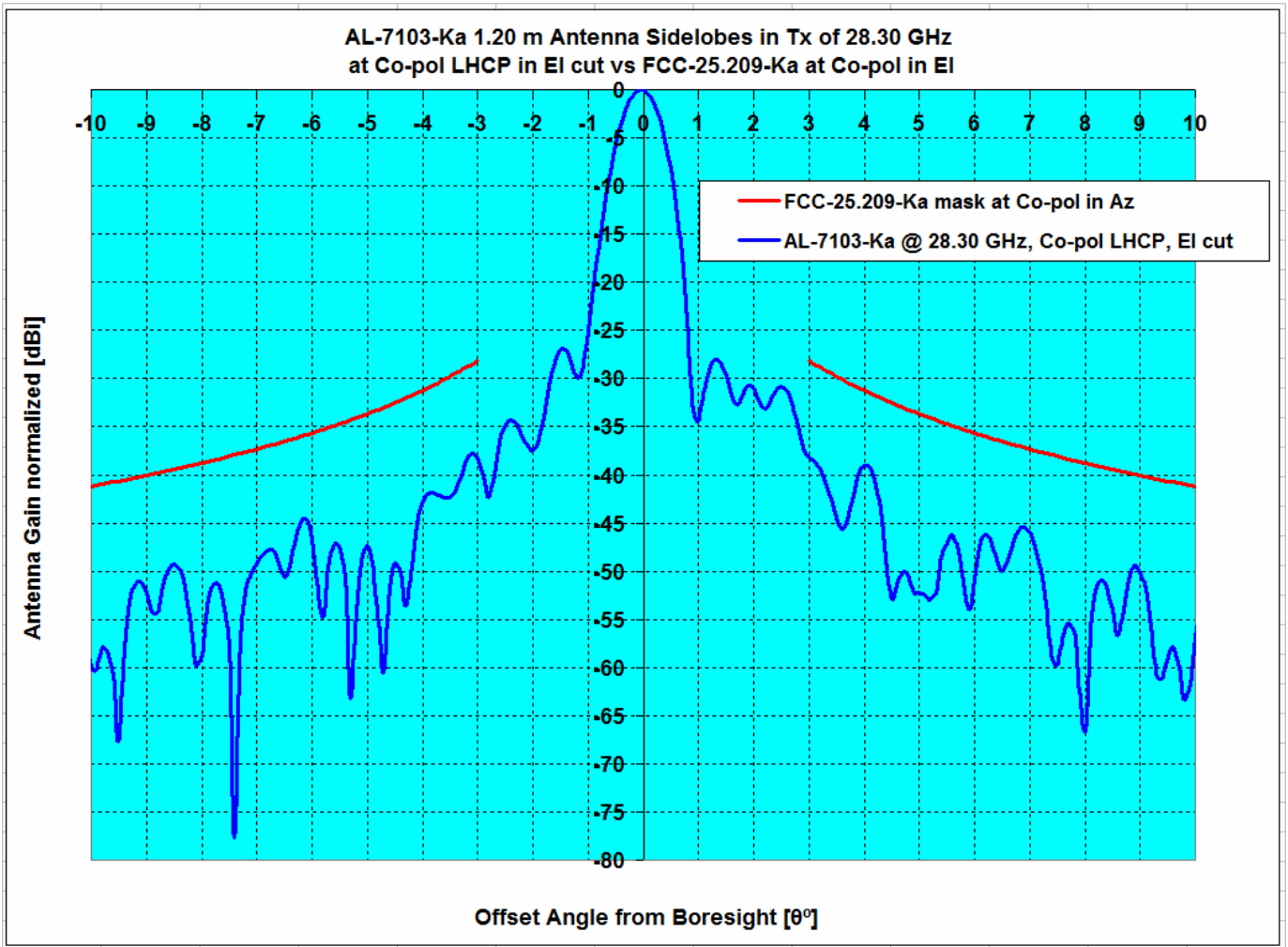
Description	Plane, CirP	Frequency	Ant. Gain	Peak Excursions dB		Over Mask %	
				1.5°≤θ≤7°	7°≤θ≤180°	1.5°≤θ≤7°	7°≤θ≤180°
Pattern Rule vs Antenna System	Type	GHz	dBi				
FCC-25.209-Ka, Co-pol Az, vs AL-7103-Ka	Az , LHCP	28.30	48.20	-1.98	2.11	0.00%	0.45%



Description	Plane, CirP	Frequency	Ant. Gain	Peak Excursions dB		Over Mask %	
				1.5° ≤ θ ≤ 7°	7° ≤ θ ≤ 180°	1.5° ≤ θ ≤ 7°	7° ≤ θ ≤ 180°
FCC-25.209-Ka, Co-pol Az, vs AL-7103-Ka	Az, LHCP	28.30	48.20	-1.98	2.11	0.00%	0.45%

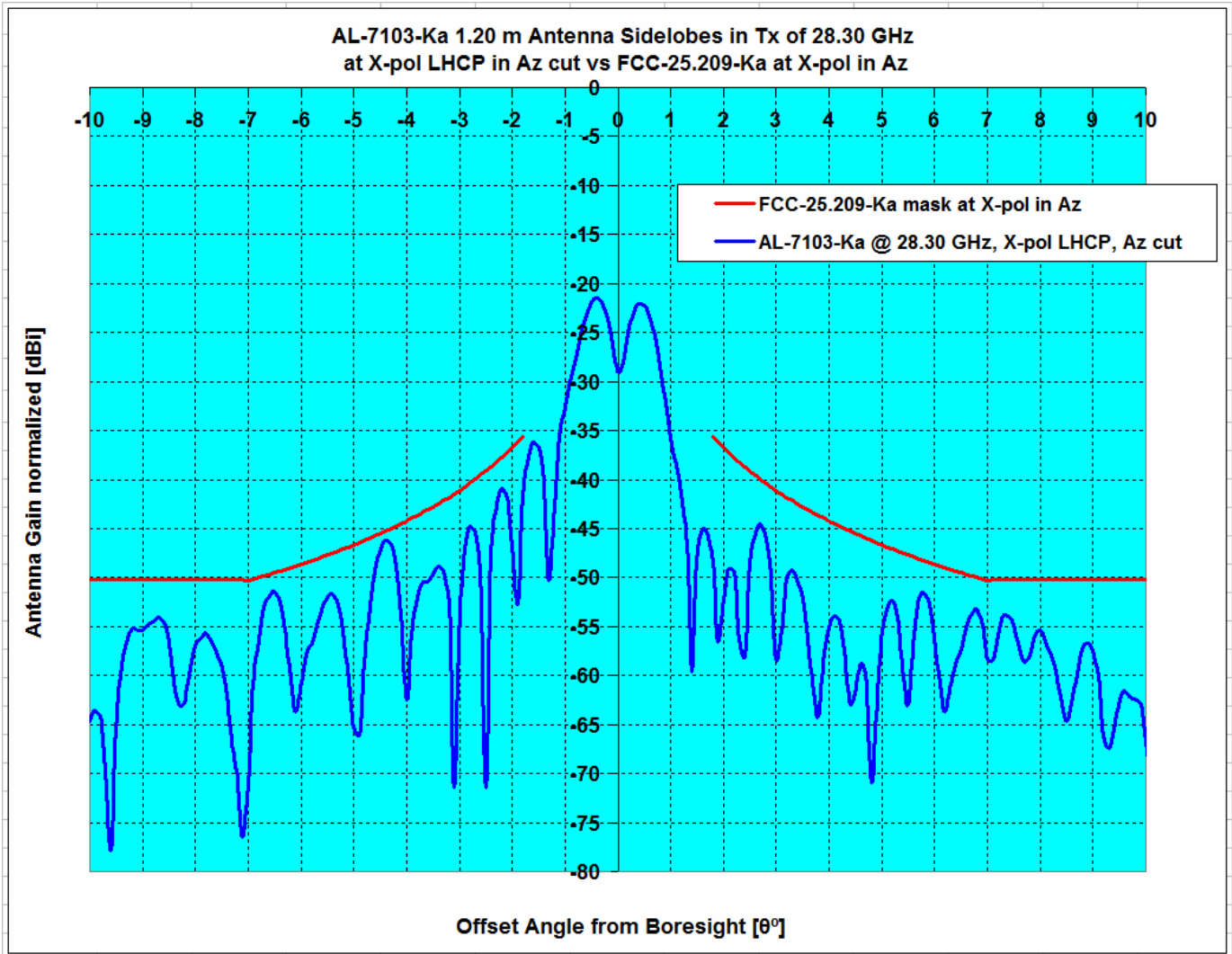


Description	Plane, CirP	Frequency	Ant. Gain	Peak Excursions dB		Over Mask %	
				3°≤θ≤7°	7°≤θ≤30°	3°≤θ≤7°	7°≤θ≤30°
FCC-25.209-Ka, Co-pol EI, vs AL-7103-Ka	EI , LHCP	28.30	48.20	-7.63	0.07	0.00%	0.18%



Description	Plane, CirP Type	Frequency GHz	Ant. Gain dBi	Peak Excursions dB		Over Mask %	
				3°≤θ≤7°	7°≤θ≤30°	3°≤θ≤7°	7°≤θ≤30°
FCC-25.209-Ka, Co-pol EI, vs AL-7103-Ka	EI , LHCP	28.30	48.20	-7.63	0.07	0.00%	0.18%

Orbit Communication Systems Ltd.
 AL-7103-Ka, 1.20 m Antenna, Pattern, X-pol, Azimuth LHCP



Description	Plane, CirP	Frequency	Ant. Gain	Peak Excursions dB		Over Mask %	
				1.8°≤θ≤7°	1.8°≤θ≤9.2°	1.8°≤θ≤7°	1.8°≤θ≤9.2°
Pattern Rule vs Antenna System	Type	GHz	dBi				
FCC-25.209-Ka, X-pol Az, vs AL-7103-Ka	Az , LHCP	28.30	48.20	-0.88	-0.88	0.00%	0.00%

Orbit Communication Systems Ltd.
AL-7103-Ka, 1.20 m Antenna, Pattern Data Table
Co-pol Azimuth RHCP, -180° to +180° @ 1.0° increment

28.30 GHz Antenna Pattern in Co-pol Az RHCP

Angle	Gain	Mask	Over Mask
Degrees	dBi	dBi	dB
-179.0	-22.7	0.0	-22.7
-178.0	-36.7	0.0	-36.7
-177.0	-27.2	0.0	-27.2
-176.0	-23.3	0.0	-23.3
-175.0	-25.0	0.0	-25.0
-174.0	-26.3	0.0	-26.3
-173.0	-35.2	0.0	-35.2
-172.0	-31.2	0.0	-31.2
-171.0	-30.7	0.0	-30.7
-170.0	-25.8	0.0	-25.8
-169.0	-32.2	0.0	-32.2
-168.0	-32.3	0.0	-32.3
-167.0	-31.9	0.0	-31.9
-166.0	-32.9	0.0	-32.9
-165.0	-33.3	0.0	-33.3
-164.0	-32.2	0.0	-32.2
-163.0	-29.3	0.0	-29.3
-162.0	-30.0	0.0	-30.0
-161.0	-42.4	0.0	-42.4
-160.0	-30.6	0.0	-30.6
-159.0	-32.7	0.0	-32.7
-158.0	-32.6	0.0	-32.6
-157.0	-33.8	0.0	-33.8
-156.0	-27.6	0.0	-27.6
-155.0	-30.4	0.0	-30.4
-154.0	-36.4	0.0	-36.4
-153.0	-28.7	0.0	-28.7
-152.0	-38.3	0.0	-38.3
-151.0	-31.9	0.0	-31.9
-150.0	-34.5	0.0	-34.5
-149.0	-27.2	0.0	-27.2
-148.0	-31.6	0.0	-31.6
-147.0	-29.1	0.0	-29.1
-146.0	-34.5	0.0	-34.5
-145.0	-28.4	0.0	-28.4
-144.0	-33.0	0.0	-33.0
-143.0	-30.3	0.0	-30.3
-142.0	-32.9	0.0	-32.9
-141.0	-27.4	0.0	-27.4
-140.0	-40.8	0.0	-40.8
-139.0	-30.8	0.0	-30.8
-138.0	-31.1	0.0	-31.1
-137.0	-30.6	0.0	-30.6
-136.0	-27.9	0.0	-27.9
-135.0	-29.7	0.0	-29.7
-134.0	-33.0	0.0	-33.0
-133.0	-28.5	0.0	-28.5
-132.0	-37.5	0.0	-37.5
-131.0	-28.5	0.0	-28.5
-130.0	-33.6	0.0	-33.6
-129.0	-37.7	0.0	-37.7
-128.0	-36.4	0.0	-36.4
-127.0	-32.8	0.0	-32.8
-126.0	-38.3	0.0	-38.3
-125.0	-34.2	0.0	-34.2
-124.0	-28.2	0.0	-28.2
-123.0	-22.4	0.0	-22.4
-122.0	-32.8	0.0	-32.8
-121.0	-30.4	0.0	-30.4
-120.0	-25.8	0.0	-25.8

28.30 GHz Antenna Pattern in Co-pol Az RHCP

Angle	Gain	Mask	Over Mask
Degrees	dBi	dBi	dB
0.0	48.3		
1.0	20.4		
2.0	9.7	21.5	-11.8
3.0	10.2	17.1	-6.9
4.0	7.2	13.9	-6.7
5.0	2.5	11.5	-9.0
6.0	3.7	9.5	-5.9
7.0	1.9	7.9	-6.0
8.0	-12.7	8.0	-20.7
9.0	-5.1	8.0	-13.1
10.0	-5.4	7.0	-12.4
11.0	-9.6	6.0	-15.6
12.0	-12.1	5.0	-17.1
13.0	-6.9	4.2	-11.0
14.0	-12.1	3.3	-15.5
15.0	-10.4	2.6	-13.0
16.0	-10.7	1.9	-12.6
17.0	-12.2	1.2	-13.5
18.0	-9.5	0.6	-10.1
19.0	-16.3	0.0	-16.4
20.0	-24.2	-0.5	-23.6
21.0	-9.4	-1.1	-8.3
22.0	-18.2	-1.6	-16.7
23.0	-13.5	-2.0	-11.4
24.0	-18.1	-2.5	-15.6
25.0	-26.3	-2.9	-23.3
26.0	-10.6	-3.4	-7.2
27.0	-16.6	-3.8	-12.8
28.0	-14.7	-4.2	-10.5
29.0	-7.3	-4.6	-2.7
30.0	-8.4	-4.9	-3.5
31.0	-10.9	-5.3	-5.7
32.0	-10.8	-5.6	-5.2
33.0	-8.2	-6.0	-2.2
34.0	-14.7	-6.3	-8.4
35.0	-17.1	-6.6	-10.5
36.0	-30.9	-6.9	-24.0
37.0	-14.3	-7.2	-7.1
38.0	-23.5	-7.5	-16.0
39.0	-16.7	-7.8	-8.9
40.0	-22.1	-8.1	-14.1
41.0	-24.3	-8.3	-16.0
42.0	-24.1	-8.6	-15.6
43.0	-13.0	-8.8	-4.2
44.0	-15.1	-9.1	-6.0
45.0	-15.3	-9.3	-6.0
46.0	-18.4	-9.6	-8.8
47.0	-14.4	-9.8	-4.6
48.0	-16.8	-10.0	-6.8
49.0	-21.1	-10.0	-11.1
50.0	-19.5	-10.0	-9.5
51.0	-13.8	-10.0	-3.8
52.0	-25.6	-10.0	-15.6
53.0	-29.9	-10.0	-19.9
54.0	-26.5	-10.0	-16.5
55.0	-28.1	-10.0	-18.1
56.0	-26.9	-10.0	-16.9
57.0	-27.2	-10.0	-17.2
58.0	-31.2	-10.0	-21.2
59.0	-19.7	-10.0	-9.7

Orbit Communication Systems Ltd.
AL-7103-Ka, 1.20 m Antenna, Pattern Data Table
Co-pol Azimuth RHCP, -180° to +180° @ 1.0° increment

-119.0	-26.5	0.0	-26.5
-118.0	-29.7	0.0	-29.7
-117.0	-26.4	0.0	-26.4
-116.0	-33.7	0.0	-33.7
-115.0	-28.2	0.0	-28.2
-114.0	-30.2	0.0	-30.2
-113.0	-27.0	0.0	-27.0
-112.0	-31.2	0.0	-31.2
-111.0	-26.7	0.0	-26.7
-110.0	-26.8	0.0	-26.8
-109.0	-34.3	0.0	-34.3
-108.0	-24.1	0.0	-24.1
-107.0	-25.4	0.0	-25.4
-106.0	-26.5	0.0	-26.5
-105.0	-29.8	0.0	-29.8
-104.0	-26.8	0.0	-26.8
-103.0	-20.9	0.0	-20.9
-102.0	-17.1	0.0	-17.1
-101.0	-15.3	0.0	-15.3
-100.0	-16.9	0.0	-16.9
-99.0	-15.8	0.0	-15.8
-98.0	-15.2	0.0	-15.2
-97.0	-16.9	0.0	-16.9
-96.0	-16.8	0.0	-16.8
-95.0	-13.2	0.0	-13.2
-94.0	-12.7	0.0	-12.7
-93.0	-16.6	0.0	-16.6
-92.0	-14.5	0.0	-14.5
-91.0	-15.2	0.0	-15.2
-90.0	-28.8	0.0	-28.8
-89.0	-15.0	0.0	-15.0
-88.0	-17.5	0.0	-17.5
-87.0	-19.7	0.0	-19.7
-86.0	-16.1	0.0	-16.1
-85.0	-36.4	-10.0	-26.4
-84.0	-21.0	-10.0	-11.0
-83.0	-43.2	-10.0	-33.2
-82.0	-14.1	-10.0	-4.1
-81.0	-14.4	-10.0	-4.4
-80.0	-22.4	-10.0	-12.4
-79.0	-32.3	-10.0	-22.3
-78.0	-23.5	-10.0	-13.5
-77.0	-22.7	-10.0	-12.7
-76.0	-13.1	-10.0	-3.1
-75.0	-14.3	-10.0	-4.3
-74.0	-18.4	-10.0	-8.4
-73.0	-24.2	-10.0	-14.2
-72.0	-20.0	-10.0	-10.0
-71.0	-21.5	-10.0	-11.5
-70.0	-14.2	-10.0	-4.2
-69.0	-21.1	-10.0	-11.1
-68.0	-16.6	-10.0	-6.6
-67.0	-15.7	-10.0	-5.7
-66.0	-18.1	-10.0	-8.1
-65.0	-19.6	-10.0	-9.6
-64.0	-16.7	-10.0	-6.7
-63.0	-14.8	-10.0	-4.8
-62.0	-21.9	-10.0	-11.9
-61.0	-15.2	-10.0	-5.2
-60.0	-14.3	-10.0	-4.3
-59.0	-15.5	-10.0	-5.5
-58.0	-22.6	-10.0	-12.6
-57.0	-12.3	-10.0	-2.3

60.0	-25.7	-10.0	-15.7
61.0	-17.4	-10.0	-7.4
62.0	-15.7	-10.0	-5.7
63.0	-13.7	-10.0	-3.7
64.0	-18.5	-10.0	-8.5
65.0	-20.7	-10.0	-10.7
66.0	-27.5	-10.0	-17.5
67.0	-14.1	-10.0	-4.1
68.0	-21.9	-10.0	-11.9
69.0	-22.4	-10.0	-12.4
70.0	-19.0	-10.0	-9.0
71.0	-13.0	-10.0	-3.0
72.0	-15.7	-10.0	-5.7
73.0	-18.1	-10.0	-8.1
74.0	-20.4	-10.0	-10.4
75.0	-13.4	-10.0	-3.4
76.0	-24.4	-10.0	-14.4
77.0	-22.0	-10.0	-12.0
78.0	-13.9	-10.0	-3.9
79.0	-16.9	-10.0	-6.9
80.0	-21.6	-10.0	-11.6
81.0	-22.7	-10.0	-12.7
82.0	-23.7	-10.0	-13.7
83.0	-20.0	-10.0	-10.0
84.0	-22.9	-10.0	-12.9
85.0	-26.0	-10.0	-16.0
86.0	-19.9	0.0	-19.9
87.0	-25.6	0.0	-25.6
88.0	-27.9	0.0	-27.9
89.0	-22.8	0.0	-22.8
90.0	-21.8	0.0	-21.8
91.0	-25.1	0.0	-25.1
92.0	-32.2	0.0	-32.2
93.0	-36.0	0.0	-36.0
94.0	-25.7	0.0	-25.7
95.0	-30.3	0.0	-30.3
96.0	-26.5	0.0	-26.5
97.0	-21.7	0.0	-21.7
98.0	-27.3	0.0	-27.3
99.0	-33.0	0.0	-33.0
100.0	-24.9	0.0	-24.9
101.0	-31.6	0.0	-31.6
102.0	-26.0	0.0	-26.0
103.0	-21.5	0.0	-21.5
104.0	-28.5	0.0	-28.5
105.0	-26.0	0.0	-26.0
106.0	-23.2	0.0	-23.2
107.0	-22.2	0.0	-22.2
108.0	-56.3	0.0	-56.3
109.0	-24.4	0.0	-24.4
110.0	-26.7	0.0	-26.7
111.0	-25.1	0.0	-25.1
112.0	-27.8	0.0	-27.8
113.0	-43.3	0.0	-43.3
114.0	-23.1	0.0	-23.1
115.0	-30.2	0.0	-30.2
116.0	-32.7	0.0	-32.7
117.0	-32.3	0.0	-32.3
118.0	-31.0	0.0	-31.0
119.0	-25.7	0.0	-25.7
120.0	-22.7	0.0	-22.7
121.0	-27.0	0.0	-27.0
122.0	-24.7	0.0	-24.7

Orbit Communication Systems Ltd.
AL-7103-Ka, 1.20 m Antenna, Pattern Data Table
Co-pol Azimuth RHCP, -180° to +180° @ 1.0° increment

-56.0	-11.1	-10.0	-1.1
-55.0	-16.7	-10.0	-6.7
-54.0	-23.2	-10.0	-13.2
-53.0	-12.1	-10.0	-2.1
-52.0	-15.3	-10.0	-5.3
-51.0	-20.1	-10.0	-10.1
-50.0	-14.4	-10.0	-4.4
-49.0	-13.6	-10.0	-3.6
-48.0	-9.3	-10.0	0.8
-47.0	-9.8	-9.8	0.0
-46.0	-14.1	-9.6	-4.5
-45.0	-15.8	-9.3	-6.5
-44.0	-10.9	-9.1	-1.9
-43.0	-18.2	-8.8	-9.3
-42.0	-13.6	-8.6	-5.0
-41.0	-13.2	-8.3	-4.9
-40.0	-11.3	-8.1	-3.3
-39.0	-9.4	-7.8	-1.6
-38.0	-10.2	-7.5	-2.7
-37.0	-10.2	-7.2	-2.9
-36.0	-9.9	-6.9	-3.0
-35.0	-11.4	-6.6	-4.8
-34.0	-12.6	-6.3	-6.3
-33.0	-14.0	-6.0	-8.0
-32.0	-11.1	-5.6	-5.4
-31.0	-8.3	-5.3	-3.0
-30.0	-7.6	-4.9	-2.7
-29.0	-9.6	-4.6	-5.1
-28.0	-5.2	-4.2	-1.1
-27.0	-5.4	-3.8	-1.6
-26.0	-8.8	-3.4	-5.5
-25.0	-4.3	-2.9	-1.3
-24.0	-4.5	-2.5	-2.0
-23.0	-3.4	-2.0	-1.3
-22.0	-5.1	-1.6	-3.5
-21.0	-9.4	-1.1	-8.4
-20.0	-8.7	-0.5	-8.1
-19.0	-3.9	0.0	-4.0
-18.0	-7.5	0.6	-8.2
-17.0	-3.9	1.2	-5.1
-16.0	-11.3	1.9	-13.2
-15.0	-5.0	2.6	-7.6
-14.0	-6.0	3.3	-9.4
-13.0	-9.5	4.2	-13.7
-12.0	-0.8	5.0	-5.9
-11.0	-7.4	6.0	-13.4
-10.0	-15.8	7.0	-22.8
-9.0	-0.4	8.0	-8.4
-8.0	-16.1	8.0	-24.1
-7.0	1.7	7.9	-6.2
-6.0	-4.4	9.5	-14.0
-5.0	2.5	11.5	-9.0
-4.0	3.6	13.9	-10.3
-3.0	11.7	17.1	-5.4
-2.0	17.7	21.5	-3.8
-1.0	13.3		
0.0	48.3		

123.0	-35.2	0.0	-35.2
124.0	-28.2	0.0	-28.2
125.0	-25.3	0.0	-25.3
126.0	-26.0	0.0	-26.0
127.0	-37.0	0.0	-37.0
128.0	-35.9	0.0	-35.9
129.0	-28.8	0.0	-28.8
130.0	-40.3	0.0	-40.3
131.0	-25.6	0.0	-25.6
132.0	-33.5	0.0	-33.5
133.0	-22.4	0.0	-22.4
134.0	-19.1	0.0	-19.1
135.0	-29.5	0.0	-29.5
136.0	-27.3	0.0	-27.3
137.0	-31.3	0.0	-31.3
138.0	-26.4	0.0	-26.4
139.0	-20.7	0.0	-20.7
140.0	-20.5	0.0	-20.5
141.0	-18.8	0.0	-18.8
142.0	-28.0	0.0	-28.0
143.0	-24.2	0.0	-24.2
144.0	-25.3	0.0	-25.3
145.0	-25.4	0.0	-25.4
146.0	-18.3	0.0	-18.3
147.0	-20.4	0.0	-20.4
148.0	-31.4	0.0	-31.4
149.0	-23.0	0.0	-23.0
150.0	-28.9	0.0	-28.9
151.0	-23.7	0.0	-23.7
152.0	-22.5	0.0	-22.5
153.0	-19.4	0.0	-19.4
154.0	-22.1	0.0	-22.1
155.0	-31.3	0.0	-31.3
156.0	-19.6	0.0	-19.6
157.0	-19.4	0.0	-19.4
158.0	-31.7	0.0	-31.7
159.0	-18.2	0.0	-18.2
160.0	-18.8	0.0	-18.8
161.0	-18.5	0.0	-18.5
162.0	-22.7	0.0	-22.7
163.0	-33.1	0.0	-33.1
164.0	-28.3	0.0	-28.3
165.0	-26.4	0.0	-26.4
166.0	-19.9	0.0	-19.9
167.0	-22.7	0.0	-22.7
168.0	-18.8	0.0	-18.8
169.0	-32.2	0.0	-32.2
170.0	-16.9	0.0	-16.9
171.0	-21.4	0.0	-21.4
172.0	-22.6	0.0	-22.6
173.0	-29.6	0.0	-29.6
174.0	-22.7	0.0	-22.7
175.0	-27.2	0.0	-27.2
176.0	-24.7	0.0	-24.7
177.0	-27.6	0.0	-27.6
178.0	-25.2	0.0	-25.2
179.0	-35.6	0.0	-35.6

Orbit Communication Systems Ltd.

AL AL-7103-Ka, 1.20 m Antenna, Pattern Data Table
 Co-pol Azimuth RHCP, -10° to +10° @ 0.1° increment

28.30 GHz Antenna Pattern in Co-pol Az RHCP

Angle	Gain	Mask	Over Mask
Degrees	dBi	dBi	dB
-10.0	-15.8	7.0	-22.8
-9.9	-11.3	7.1	-18.4
-9.8	-7.7	7.2	-14.9
-9.7	-6.0	7.3	-13.3
-9.6	-6.9	7.4	-14.3
-9.5	-8.7	7.6	-16.3
-9.4	-6.6	7.7	-14.2
-9.3	-3.4	7.8	-11.2
-9.2	-1.4	8.0	-9.4
-9.1	-0.2	8.0	-8.2
-9.0	-0.4	8.0	-8.4
-8.9	-2.1	8.0	-10.1
-8.8	-6.3	8.0	-14.3
-8.7	-11.2	8.0	-19.2
-8.6	-7.2	8.0	-15.2
-8.5	-3.1	8.0	-11.1
-8.4	-2.0	8.0	-10.0
-8.3	-2.5	8.0	-10.5
-8.2	-5.1	8.0	-13.1
-8.1	-11.1	8.0	-19.1
-8.0	-16.1	8.0	-24.1
-7.9	-10.6	8.0	-18.6
-7.8	-8.1	8.0	-16.1
-7.7	-7.1	8.0	-15.1
-7.6	-8.3	8.0	-16.3
-7.5	-9.1	8.0	-17.1
-7.4	-11.0	8.0	-19.0
-7.3	-7.3	8.0	-15.3
-7.2	-2.7	8.0	-10.7
-7.1	0.2	8.0	-7.8
-7.0	1.7	7.9	-6.2
-6.9	1.6	8.0	-6.4
-6.8	-0.3	8.2	-8.5
-6.7	-4.5	8.3	-12.8
-6.6	-5.5	8.5	-14.0
-6.5	-1.0	8.7	-9.7
-6.4	1.9	8.8	-7.0
-6.3	2.9	9.0	-6.1
-6.2	2.3	9.2	-6.9
-6.1	0.1	9.4	-9.3
-6.0	-4.4	9.5	-14.0
-5.9	-9.0	9.7	-18.7
-5.8	-5.4	9.9	-15.3
-5.7	-3.8	10.1	-13.9
-5.6	-5.1	10.3	-15.4
-5.5	-9.8	10.5	-20.3
-5.4	-7.1	10.7	-17.8
-5.3	-2.1	10.9	-13.0
-5.2	0.5	11.1	-10.6
-5.1	1.7	11.3	-9.6
-5.0	2.5	11.5	-9.0
-4.9	3.3	11.7	-8.4
-4.8	3.8	12.0	-8.1
-4.7	3.2	12.2	-9.0
-4.6	1.0	12.4	-11.4
-4.5	-1.2	12.7	-13.8
-4.4	1.9	12.9	-11.0
-4.3	4.9	13.2	-8.3
-4.2	6.2	13.4	-7.2
-4.1	5.7	13.7	-7.9

28.30 GHz Antenna Pattern in Co-pol Az RHCP

Angle	Gain	Mask	Over Mask
Degrees	dBi	dBi	dB
0.0	48.3		
0.1	48.0		
0.2	47.1		
0.3	45.8		
0.4	43.9		
0.5	41.3		
0.6	38.1		
0.7	34.4		
0.8	30.1		
0.9	25.3		
1.0	20.4		
1.1	16.9		
1.2	18.0		
1.3	19.7		
1.4	20.1		
1.5	19.1	24.6	-5.5
1.6	16.8	23.9	-7.1
1.7	13.4	23.2	-9.8
1.8	10.6	22.6	-12.0
1.9	9.3	22.0	-12.7
2.0	9.7	21.5	-11.8
2.1	11.2	20.9	-9.7
2.2	13.1	20.4	-7.4
2.3	14.7	20.0	-5.3
2.4	15.1	19.5	-4.4
2.5	14.0	19.1	-5.1
2.6	11.8	18.6	-6.8
2.7	9.1	18.2	-9.1
2.8	8.4	17.8	-9.4
2.9	9.5	17.4	-7.9
3.0	10.2	17.1	-6.9
3.1	10.1	16.7	-6.6
3.2	9.0	16.4	-7.4
3.3	8.1	16.0	-7.9
3.4	8.1	15.7	-7.7
3.5	8.7	15.4	-6.7
3.6	9.4	15.1	-5.7
3.7	9.9	14.8	-4.9
3.8	9.8	14.5	-4.7
3.9	9.1	14.2	-5.1
4.0	7.2	13.9	-6.7
4.1	4.0	13.7	-9.6
4.2	0.6	13.4	-12.9
4.3	-1.3	13.2	-14.5
4.4	-0.9	12.9	-13.9
4.5	-2.5	12.7	-15.2
4.6	-6.1	12.4	-18.5
4.7	-3.1	12.2	-15.3
4.8	1.2	12.0	-10.8
4.9	3.1	11.7	-8.6
5.0	2.5	11.5	-9.0
5.1	-1.4	11.3	-12.7
5.2	-8.7	11.1	-19.8
5.3	-3.0	10.9	-13.8
5.4	0.8	10.7	-9.8
5.5	1.8	10.5	-8.7
5.6	-0.1	10.3	-10.4
5.7	-5.3	10.1	-15.4
5.8	-3.7	9.9	-13.6
5.9	1.3	9.7	-8.5

Orbit Communication Systems Ltd.

AL AL-7103-Ka, 1.20 m Antenna, Pattern Data Table
 Co-pol Azimuth RHCP, -10° to +10° @ 0.1° increment

-4.0	3.6	13.9	-10.3
-3.9	1.2	14.2	-13.0
-3.8	3.9	14.5	-10.6
-3.7	7.2	14.8	-7.6
-3.6	9.4	15.1	-5.7
-3.5	10.4	15.4	-5.0
-3.4	11.0	15.7	-4.7
-3.3	11.4	16.0	-4.6
-3.2	11.9	16.4	-4.5
-3.1	11.9	16.7	-4.8
-3.0	11.7	17.1	-5.4
-2.9	12.1	17.4	-5.3
-2.8	13.8	17.8	-4.0
-2.7	15.5	18.2	-2.8
-2.6	16.5	18.6	-2.1
-2.5	16.5	19.1	-2.5
-2.4	15.7	19.5	-3.8
-2.3	15.2	20.0	-4.8
-2.2	16.0	20.4	-4.4
-2.1	17.4	20.9	-3.6
-2.0	17.7	21.5	-3.8
-1.9	16.6	22.0	-5.5
-1.8	13.7	22.6	-8.9
-1.7	13.0	23.2	-10.2
-1.6	16.6	23.9	-7.3
-1.5	19.0	24.6	-5.6
-1.4	19.6		
-1.3	18.2		
-1.2	15.5		
-1.1	12.9		
-1.0	13.3		
-0.9	20.8		
-0.8	28.4		
-0.7	34.1		
-0.6	38.4		
-0.5	41.8		
-0.4	44.3		
-0.3	46.1		
-0.2	47.4		
-0.1	48.1		
0.0	48.3		

6.0	3.7	9.5	-5.9
6.1	3.5	9.4	-5.9
6.2	1.7	9.2	-7.5
6.3	-1.7	9.0	-10.7
6.4	-6.4	8.8	-15.2
6.5	-6.7	8.7	-15.4
6.6	-3.9	8.5	-12.4
6.7	-1.7	8.3	-10.1
6.8	0.3	8.2	-7.9
6.9	1.6	8.0	-6.4
7.0	1.9	7.9	-6.0
7.1	0.1	8.0	-7.9
7.2	-4.4	8.0	-12.4
7.3	-9.6	8.0	-17.6
7.4	-4.4	8.0	-12.4
7.5	-0.9	8.0	-8.9
7.6	0.1	8.0	-7.9
7.7	-0.4	8.0	-8.4
7.8	-2.8	8.0	-10.8
7.9	-6.4	8.0	-14.4
8.0	-12.7	8.0	-20.7
8.1	-16.0	8.0	-24.0
8.2	-8.7	8.0	-16.7
8.3	-4.4	8.0	-12.4
8.4	-1.6	8.0	-9.6
8.5	-0.7	8.0	-8.7
8.6	-1.4	8.0	-9.4
8.7	-4.1	8.0	-12.1
8.8	-8.4	8.0	-16.4
8.9	-8.7	8.0	-16.7
9.0	-5.1	8.0	-13.1
9.1	-3.4	8.0	-11.4
9.2	-3.9	8.0	-11.9
9.3	-7.5	7.8	-15.3
9.4	-12.4	7.7	-20.1
9.5	-11.1	7.6	-18.6
9.6	-9.8	7.4	-17.3
9.7	-13.3	7.3	-20.6
9.8	-32.8	7.2	-40.0
9.9	-10.1	7.1	-17.2
10.0	-5.4	7.0	-12.4

Orbit Communication Systems Ltd.

AL-7103-Ka, 1.20 m Antenna, Pattern Data Table
Co-pol Elevation RHCP, -30° to +30° @ 0.5° increment

28.30 GHz Antenna Pattern in Co-pol EI RHCP

Angle	Gain	Mask	Over Mask
Degrees	dBi	dBi	dB
-30.0	-16.0	-4.9	-11.1
-29.5	-11.3	-4.7	-6.6
-29.0	-15.1	-4.6	-10.5
-28.5	-13.4	-4.4	-9.0
-28.0	-9.3	-4.2	-5.1
-27.5	-15.8	-4.0	-11.9
-27.0	-17.7	-3.8	-13.9
-26.5	-14.4	-3.6	-10.8
-26.0	-12.1	-3.4	-8.7
-25.5	-14.7	-3.2	-11.5
-25.0	-21.4	-2.9	-18.5
-24.5	-17.8	-2.7	-15.0
-24.0	-22.3	-2.5	-19.8
-23.5	-22.4	-2.3	-20.1
-23.0	-13.6	-2.0	-11.5
-22.5	-13.8	-1.8	-12.0
-22.0	-19.6	-1.6	-18.0
-21.5	-10.7	-1.3	-9.4
-21.0	-11.3	-1.1	-10.3
-20.5	-15.6	-0.8	-14.8
-20.0	-12.3	-0.5	-11.8
-19.5	-12.7	-0.3	-12.4
-19.0	-17.6	0.0	-17.6
-18.5	-22.2	0.3	-22.5
-18.0	-18.8	0.6	-19.4
-17.5	-12.5	0.9	-13.4
-17.0	-9.4	1.2	-10.6
-16.5	-15.3	1.6	-16.8
-16.0	-19.4	1.9	-21.3
-15.5	-11.9	2.2	-14.1
-15.0	-7.8	2.6	-10.4
-14.5	-7.5	3.0	-10.5
-14.0	-11.5	3.3	-14.8
-13.5	-13.1	3.7	-16.8
-13.0	-8.0	4.2	-12.1
-12.5	-5.4	4.6	-9.9
-12.0	-8.0	5.0	-13.0
-11.5	-17.5	5.5	-23.0
-11.0	-15.5	6.0	-21.4
-10.5	-8.9	6.5	-15.4
-10.0	-6.6	7.0	-13.6
-9.5	-12.3	7.6	-19.9
-9.0	-4.8	8.1	-12.9
-8.5	-0.1	8.8	-8.9
-8.0	-11.1	9.4	-20.6
-7.5	-4.0	10.1	-14.2
-7.0	0.3	10.9	-10.5
-6.5	-8.5	11.7	-20.2
-6.0	3.4	12.5	-9.2
-5.5	0.1	13.5	-13.4
-5.0	1.9	14.5	-12.6
-4.5	0.2	15.7	-15.5
-4.0	4.9	16.9	-12.0
-3.5	5.8	18.4	-12.6
-3.0	11.1		
-2.5	12.8		
-2.0	12.0		
-1.5	21.7		
-1.0	20.5		
-0.5	41.9		
0.0	48.3		

28.30 GHz Antenna Pattern in Co-pol EI RHCP

Angle	Gain	Mask	Over Mask
Degrees	dBi	dBi	dB
0.0	48.3		
0.5	42.0		
1.0	15.9		
1.5	19.0		
2.0	18.2		
2.5	17.5		
3.0	10.1		
3.5	6.9	18.4	-11.5
4.0	9.8	16.9	-7.2
4.5	-3.0	15.7	-18.7
5.0	-0.5	14.5	-15.1
5.5	2.6	13.5	-10.9
6.0	-8.5	12.5	-21.0
6.5	-3.0	11.7	-14.7
7.0	2.2	10.9	-8.6
7.5	-12.7	10.1	-22.8
8.0	-8.5	9.4	-17.9
8.5	-8.4	8.8	-17.2
9.0	-2.9	8.1	-11.0
9.5	-3.6	7.6	-11.2
10.0	-19.6	7.0	-26.6
10.5	-3.5	6.5	-10.0
11.0	-2.4	6.0	-8.3
11.5	-3.3	5.5	-8.7
12.0	-6.5	5.0	-11.5
12.5	-1.8	4.6	-6.4
13.0	-12.2	4.2	-16.3
13.5	-6.9	3.7	-10.6
14.0	0.8	3.3	-2.5
14.5	-5.2	3.0	-8.2
15.0	-4.7	2.6	-7.3
15.5	-6.4	2.2	-8.6
16.0	-5.7	1.9	-7.6
16.5	-8.6	1.6	-10.2
17.0	-3.7	1.2	-4.9
17.5	-3.1	0.9	-4.0
18.0	-8.3	0.6	-8.9
18.5	-3.6	0.3	-3.9
19.0	-2.1	0.0	-2.2
19.5	-1.8	-0.3	-1.6
20.0	-4.0	-0.5	-3.5
20.5	-4.3	-0.8	-3.5
21.0	-4.6	-1.1	-3.5
21.5	-14.0	-1.3	-12.7
22.0	-8.9	-1.6	-7.4
22.5	-5.6	-1.8	-3.8
23.0	-7.8	-2.0	-5.7
23.5	-7.2	-2.3	-5.0
24.0	-3.8	-2.5	-1.2
24.5	-5.3	-2.7	-2.5
25.0	-7.3	-2.9	-4.4
25.5	-8.1	-3.2	-5.0
26.0	-8.6	-3.4	-5.2
26.5	-10.7	-3.6	-7.2
27.0	-7.4	-3.8	-3.6
27.5	-6.3	-4.0	-2.3
28.0	-9.8	-4.2	-5.7
28.5	-7.1	-4.4	-2.8
29.0	-7.4	-4.6	-2.9
29.5	-8.8	-4.7	-4.1
30.0	-8.3	-4.9	-3.4

Orbit Communication Systems Ltd.
 AL-7103-Ka, 1.20 m Antenna, Pattern Data Table
 Co-pol Elevation RHCP, -10° to +10° @ 0.1° increment

28.30 GHz Antenna Pattern in Co-pol EI RHCP

Angle	Gain	Mask	Over Mask
Degrees	dBi	dBi	dB
-10.0	-6.6	7.0	-13.6
-9.9	-11.9	7.1	-19.0
-9.8	-16.1	7.2	-23.3
-9.7	-11.3	7.3	-18.6
-9.6	-8.7	7.4	-16.1
-9.5	-12.3	7.6	-19.9
-9.4	-18.6	7.7	-26.3
-9.3	-12.7	7.8	-20.5
-9.2	-6.5	7.9	-14.5
-9.1	-4.5	8.0	-12.5
-9.0	-4.8	8.1	-12.9
-8.9	-7.5	8.3	-15.8
-8.8	-11.7	8.4	-20.1
-8.7	-6.2	8.5	-14.7
-8.6	-1.9	8.6	-10.6
-8.5	-0.1	8.8	-8.9
-8.4	0.3	8.9	-8.6
-8.3	-0.8	9.0	-9.8
-8.2	-3.9	9.2	-13.1
-8.1	-9.8	9.3	-19.1
-8.0	-11.1	9.4	-20.6
-7.9	-5.3	9.6	-14.8
-7.8	-1.7	9.7	-11.4
-7.7	-0.5	9.8	-10.3
-7.6	-1.4	10.0	-11.3
-7.5	-4.0	10.1	-14.2
-7.4	-12.0	10.3	-22.3
-7.3	-13.7	10.4	-24.1
-7.2	-4.8	10.6	-15.3
-7.1	-1.4	10.7	-12.2
-7.0	0.3	10.9	-10.5
-6.9	1.0	11.0	-10.0
-6.8	0.8	11.2	-10.4
-6.7	0.0	11.3	-11.3
-6.6	-2.6	11.5	-14.1
-6.5	-8.5	11.7	-20.2
-6.4	-9.2	11.8	-21.0
-6.3	-0.9	12.0	-12.9
-6.2	2.7	12.2	-9.5
-6.1	4.1	12.4	-8.3
-6.0	3.4	12.5	-9.2
-5.9	0.6	12.7	-12.1
-5.8	-7.6	12.9	-20.5
-5.7	-11.2	13.1	-24.3
-5.6	-1.8	13.3	-15.1
-5.5	0.1	13.5	-13.4
-5.4	-1.6	13.7	-15.3
-5.3	-7.4	13.9	-21.3
-5.2	-8.3	14.1	-22.4
-5.1	-1.0	14.3	-15.3
-5.0	1.9	14.5	-12.6
-4.9	1.4	14.7	-13.3
-4.8	-2.1	15.0	-17.1
-4.7	-13.5	15.2	-28.7
-4.6	-5.3	15.4	-20.7
-4.5	0.2	15.7	-15.5
-4.4	1.8	15.9	-14.1
-4.3	0.6	16.2	-15.6
-4.2	-1.2	16.4	-17.6
-4.1	1.4	16.7	-15.3

28.30 GHz Antenna Pattern in Co-pol EI RHCP

Angle	Gain	Mask	Over Mask
Degrees	dBi	dBi	dB
0.0	48.3		
0.1	48.1		
0.2	47.4		
0.3	46.2		
0.4	44.4		
0.5	42.0		
0.6	38.7		
0.7	34.5		
0.8	28.8		
0.9	21.5		
1.0	15.9		
1.1	18.0		
1.2	19.9		
1.3	20.6		
1.4	20.5		
1.5	19.0		
1.6	16.1		
1.7	13.3		
1.8	15.0		
1.9	17.3		
2.0	18.2		
2.1	17.9		
2.2	17.0		
2.3	16.6		
2.4	17.1		
2.5	17.5		
2.6	17.3		
2.7	15.9		
2.8	13.6		
2.9	11.1		
3.0	10.1		
3.1	10.6		
3.2	10.9		
3.3	10.3		
3.4	8.9		
3.5	6.9	18.4	-11.5
3.6	4.5	18.1	-13.6
3.7	4.0	17.8	-13.8
3.8	6.0	17.5	-11.5
3.9	8.4	17.2	-8.9
4.0	9.8	16.9	-7.2
4.1	10.0	16.7	-6.6
4.2	9.2	16.4	-7.3
4.3	6.8	16.2	-9.4
4.4	2.7	15.9	-13.3
4.5	-3.0	15.7	-18.7
4.6	-2.2	15.4	-17.6
4.7	0.2	15.2	-15.0
4.8	1.2	15.0	-13.8
4.9	0.5	14.7	-14.2
5.0	-0.5	14.5	-15.1
5.1	-0.1	14.3	-14.4
5.2	0.5	14.1	-13.6
5.3	1.1	13.9	-12.8
5.4	2.0	13.7	-11.7
5.5	2.6	13.5	-10.9
5.6	2.5	13.3	-10.8
5.7	1.3	13.1	-11.8
5.8	-2.1	12.9	-15.1
5.9	-9.1	12.7	-21.9

Orbit Communication Systems Ltd.
 AL-7103-Ka, 1.20 m Antenna, Pattern Data Table
 Co-pol Elevation RHCP, -10° to +10° @ 0.1° increment

-4.0	4.9	16.9	-12.0
-3.9	7.1	17.2	-10.2
-3.8	7.8	17.5	-9.7
-3.7	7.6	17.8	-10.2
-3.6	6.9	18.1	-11.2
-3.5	5.8	18.4	-12.6
-3.4	5.7		
-3.3	7.1		
-3.2	9.1		
-3.1	10.6		
-3.0	11.1		
-2.9	10.5		
-2.8	9.3		
-2.7	9.2		
-2.6	11.1		
-2.5	12.8		
-2.4	13.6		
-2.3	13.2		
-2.2	12.0		
-2.1	11.4		
-2.0	12.0		
-1.9	13.4		
-1.8	15.2		
-1.7	17.7		
-1.6	20.1		
-1.5	21.7		
-1.4	22.5		
-1.3	21.9		
-1.2	19.7		
-1.1	17.1		
-1.0	20.5		
-0.9	26.5		
-0.8	31.4		
-0.7	35.5		
-0.6	39.0		
-0.5	41.9		
-0.4	44.1		
-0.3	45.9		
-0.2	47.2		
-0.1	48.0		
0.0	48.3		

6.0	-8.5	12.5	-21.0
6.1	-1.4	12.4	-13.8
6.2	0.9	12.2	-11.3
6.3	1.4	12.0	-10.6
6.4	-0.2	11.8	-12.1
6.5	-3.0	11.7	-14.7
6.6	-4.1	11.5	-15.6
6.7	-1.3	11.3	-12.7
6.8	1.3	11.2	-9.9
6.9	2.3	11.0	-8.8
7.0	2.2	10.9	-8.6
7.1	1.6	10.7	-9.1
7.2	-0.3	10.6	-10.9
7.3	-3.2	10.4	-13.7
7.4	-7.9	10.3	-18.2
7.5	-12.7	10.1	-22.8
7.6	-9.0	10.0	-19.0
7.7	-6.6	9.8	-16.4
7.8	-5.3	9.7	-15.0
7.9	-6.5	9.6	-16.1
8.0	-8.5	9.4	-17.9
8.1	-8.5	9.3	-17.8
8.2	-6.2	9.2	-15.4
8.3	-4.5	9.0	-13.5
8.4	-4.8	8.9	-13.7
8.5	-8.4	8.8	-17.2
8.6	-18.8	8.6	-27.5
8.7	-12.0	8.5	-20.5
8.8	-5.7	8.4	-14.1
8.9	-3.2	8.3	-11.5
9.0	-2.9	8.1	-11.0
9.1	-5.3	8.0	-13.3
9.2	-11.9	7.9	-19.9
9.3	-17.0	7.8	-24.8
9.4	-6.9	7.7	-14.6
9.5	-3.6	7.6	-11.2
9.6	-2.1	7.4	-9.6
9.7	-2.9	7.3	-10.2
9.8	-5.5	7.2	-12.7
9.9	-11.4	7.1	-18.5
10.0	-19.6	7.0	-26.6

Orbit Communication Systems Ltd.
AL-7103-Ka, 1.20 m Antenna, Pattern Data Table
X-pol Azimuth RHCP, -10° to +10° @ 0.1° increment

28.30 GHz Antenna Pattern in X-pol Az RHCP

Angle	Gain	Mask	Over Mask
Degrees	dBi	dBi	dB
-10.0	-12.7	-2.0	-10.7
-9.9	-17.7	-2.0	-15.7
-9.8	-18.5	-2.0	-16.5
-9.7	-16.9	-2.0	-14.9
-9.6	-13.7	-2.0	-11.7
-9.5	-10.0	-2.0	-8.0
-9.4	-7.9	-2.0	-5.9
-9.3	-6.3	-2.0	-4.3
-9.2	-6.7	-2.0	-4.7
-9.1	-7.2	-2.0	-5.2
-9.0	-9.7	-2.0	-7.7
-8.9	-12.8	-2.0	-10.8
-8.8	-19.6	-2.0	-17.6
-8.7	-12.8	-2.0	-10.8
-8.6	-7.9	-2.0	-5.9
-8.5	-6.0	-2.0	-4.0
-8.4	-5.4	-2.0	-3.4
-8.3	-6.6	-2.0	-4.6
-8.2	-9.5	-2.0	-7.5
-8.1	-15.3	-2.0	-13.3
-8.0	-19.4	-2.0	-17.4
-7.9	-15.4	-2.0	-13.4
-7.8	-13.5	-2.0	-11.5
-7.7	-13.8	-2.0	-11.8
-7.6	-15.9	-2.0	-13.9
-7.5	-15.8	-2.0	-13.8
-7.4	-15.1	-2.0	-13.1
-7.3	-13.4	-2.0	-11.4
-7.2	-13.3	-2.0	-11.3
-7.1	-13.0	-2.0	-11.0
-7.0	-11.8	-2.1	-9.6
-6.9	-13.1	-2.0	-11.1
-6.8	-17.4	-1.8	-15.6
-6.7	-21.3	-1.7	-19.7
-6.6	-12.7	-1.5	-11.2
-6.5	-7.1	-1.3	-5.8
-6.4	-5.5	-1.2	-4.3
-6.3	-3.1	-1.0	-2.1
-6.2	-2.7	-0.8	-1.9
-6.1	-2.2	-0.6	-1.6
-6.0	-4.0	-0.5	-3.5
-5.9	-3.8	-0.3	-3.5
-5.8	-5.0	-0.1	-4.9
-5.7	-6.4	0.1	-6.5
-5.6	-6.4	0.3	-6.7
-5.5	-5.7	0.5	-6.1
-5.4	-4.8	0.7	-5.5
-5.3	-3.8	0.9	-4.7
-5.2	-3.1	1.1	-4.2
-5.1	-2.8	1.3	-4.2
-5.0	-2.7	1.5	-4.2
-4.9	-2.8	1.7	-4.6
-4.8	-3.1	2.0	-5.0
-4.7	-3.3	2.2	-5.5
-4.6	-2.5	2.4	-5.0
-4.5	-0.9	2.7	-3.6
-4.4	0.8	2.9	-2.1
-4.3	2.6	3.2	-0.6
-4.2	3.7	3.4	0.3
-4.1	4.4	3.7	0.7

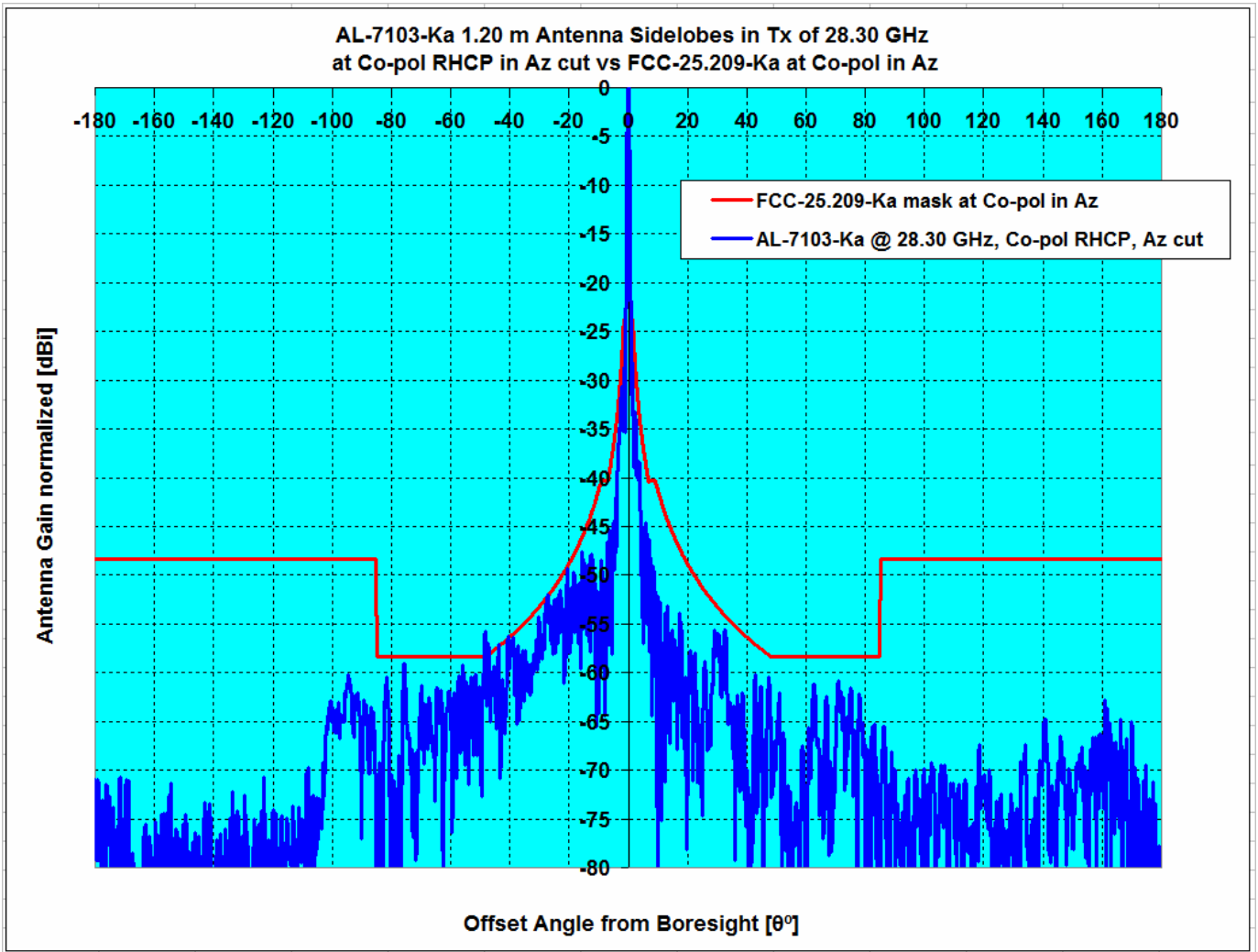
28.30 GHz Antenna Pattern in X-pol Az RHCP

Angle	Gain	Mask	Over Mask
Degrees	dBi	dBi	dB
0.0	12.9		
0.1	14.4		
0.2	15.1		
0.3	14.9		
0.4	14.0		
0.5	12.3		
0.6	9.7		
0.7	6.1		
0.8	2.3		
0.9	1.4		
1.0	2.1		
1.1	3.0		
1.2	2.6		
1.3	1.7		
1.4	-0.4		
1.5	-1.9		
1.6	-2.1		
1.7	-0.5		
1.8	-1.1	12.6	-13.7
1.9	-2.4	12.0	-14.4
2.0	-5.7	11.5	-17.1
2.1	-19.7	10.9	-30.7
2.2	-7.0	10.4	-17.4
2.3	-1.7	10.0	-11.6
2.4	0.7	9.5	-8.8
2.5	2.2	9.1	-6.8
2.6	2.5	8.6	-6.1
2.7	1.3	8.2	-7.0
2.8	-0.9	7.8	-8.8
2.9	-4.2	7.4	-11.7
3.0	-9.5	7.1	-16.6
3.1	-13.7	6.7	-20.4
3.2	-12.2	6.4	-18.6
3.3	-13.3	6.0	-19.4
3.4	-20.6	5.7	-26.4
3.5	-29.5	5.4	-34.9
3.6	-22.7	5.1	-27.8
3.7	-41.9	4.8	-46.7
3.8	-18.5	4.5	-23.1
3.9	-17.3	4.2	-21.5
4.0	-11.2	3.9	-15.2
4.1	-12.3	3.7	-15.9
4.2	-12.4	3.4	-15.8
4.3	-16.6	3.2	-19.7
4.4	-28.6	2.9	-31.5
4.5	-23.9	2.7	-26.6
4.6	-16.3	2.4	-18.7
4.7	-16.8	2.2	-19.0
4.8	-27.8	2.0	-29.7
4.9	-22.2	1.7	-23.9
5.0	-15.1	1.5	-16.6
5.1	-10.8	1.3	-12.1
5.2	-10.4	1.1	-11.5
5.3	-10.4	0.9	-11.3
5.4	-12.5	0.7	-13.2
5.5	-21.4	0.5	-21.9
5.6	-22.0	0.3	-22.3
5.7	-11.8	0.1	-11.9
5.8	-10.9	-0.1	-10.8
5.9	-9.5	-0.3	-9.2

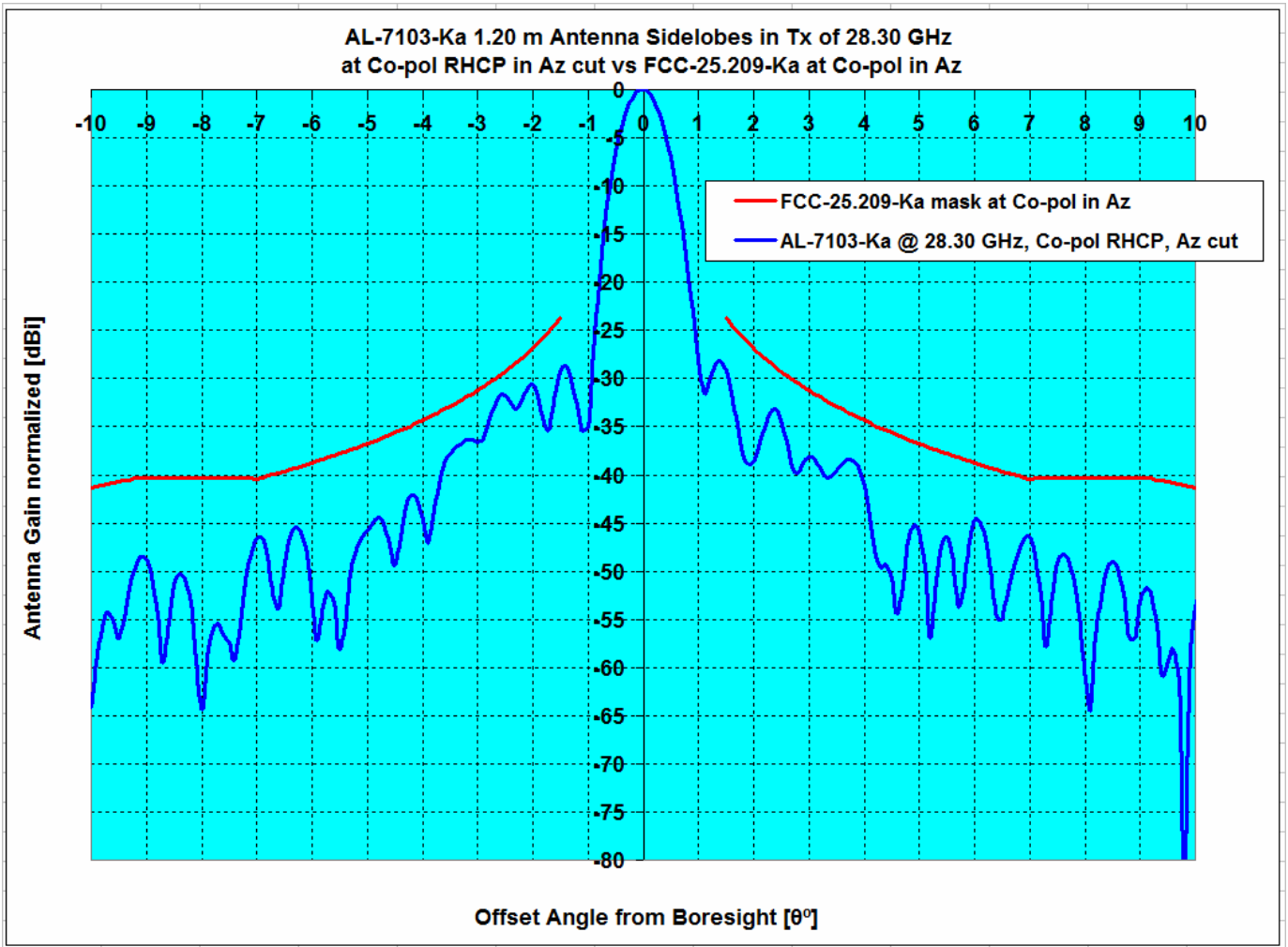
Orbit Communication Systems Ltd.
AL-7103-Ka, 1.20 m Antenna, Pattern Data Table
X-pol Azimuth RHCP, -10° to +10° @ 0.1° increment

-4.0	4.9	3.9	0.9
-3.9	4.6	4.2	0.4
-3.8	4.1	4.5	-0.4
-3.7	3.3	4.8	-1.5
-3.6	2.5	5.1	-2.6
-3.5	2.1	5.4	-3.3
-3.4	1.9	5.7	-3.8
-3.3	2.1	6.0	-3.9
-3.2	2.6	6.4	-3.8
-3.1	3.1	6.7	-3.6
-3.0	3.3	7.1	-3.8
-2.9	3.0	7.4	-4.4
-2.8	2.7	7.8	-5.2
-2.7	2.7	8.2	-5.5
-2.6	3.6	8.6	-5.0
-2.5	4.8	9.1	-4.3
-2.4	5.4	9.5	-4.1
-2.3	5.5	10.0	-4.5
-2.2	4.9	10.4	-5.6
-2.1	3.2	10.9	-7.7
-2.0	0.9	11.5	-10.6
-1.9	-1.5	12.0	-13.5
-1.8	-1.9	12.6	-14.6
-1.7	-0.8		
-1.6	1.3		
-1.5	3.1		
-1.4	4.7		
-1.3	5.2		
-1.2	5.0		
-1.1	3.6		
-1.0	0.4		
-0.9	1.1		
-0.8	5.2		
-0.7	7.9		
-0.6	10.1		
-0.5	10.6		
-0.4	9.6		
-0.3	6.3		
-0.2	6.2		
-0.1	10.2		
0.0	12.9		

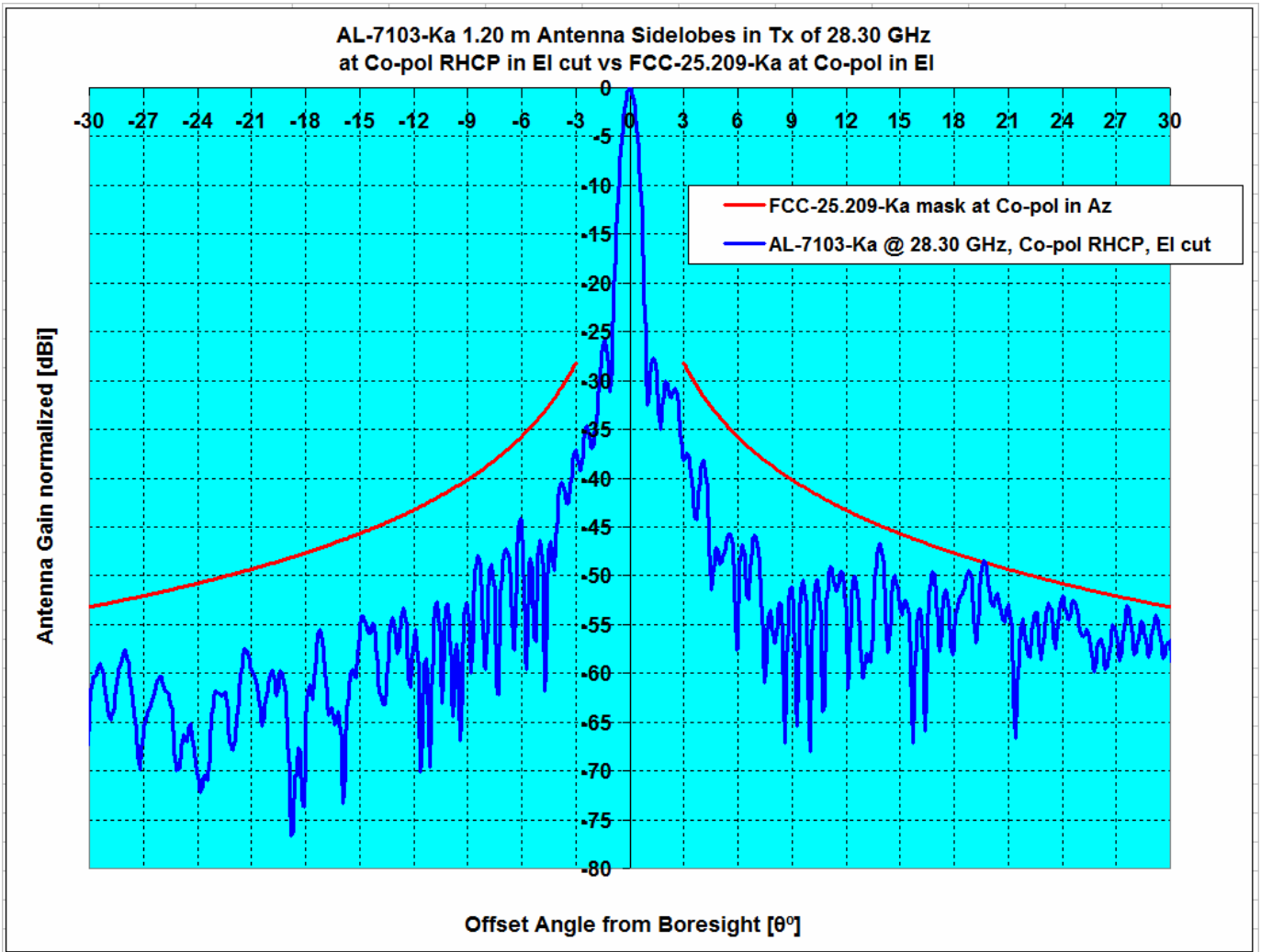
6.0	-10.7	-0.5	-10.3
6.1	-14.2	-0.6	-13.6
6.2	-18.3	-0.8	-17.4
6.3	-27.2	-1.0	-26.2
6.4	-28.9	-1.2	-27.8
6.5	-23.3	-1.3	-22.0
6.6	-16.4	-1.5	-15.0
6.7	-14.7	-1.7	-13.1
6.8	-11.0	-1.8	-9.2
6.9	-9.0	-2.0	-7.0
7.0	-7.5	-2.1	-5.4
7.1	-7.6	-2.0	-5.6
7.2	-7.0	-2.0	-5.0
7.3	-6.8	-2.0	-4.8
7.4	-7.3	-2.0	-5.3
7.5	-7.6	-2.0	-5.6
7.6	-7.4	-2.0	-5.4
7.7	-8.7	-2.0	-6.7
7.8	-9.2	-2.0	-7.2
7.9	-10.2	-2.0	-8.2
8.0	-11.2	-2.0	-9.2
8.1	-15.3	-2.0	-13.3
8.2	-18.7	-2.0	-16.7
8.3	-22.5	-2.0	-20.5
8.4	-32.3	-2.0	-30.3
8.5	-21.1	-2.0	-19.1
8.6	-21.2	-2.0	-19.2
8.7	-16.7	-2.0	-14.7
8.8	-15.4	-2.0	-13.4
8.9	-14.2	-2.0	-12.2
9.0	-13.9	-2.0	-11.9
9.1	-14.4	-2.0	-12.4
9.2	-15.2	-2.0	-13.2
9.3	-14.3	-2.0	-12.3
9.4	-14.2	-2.0	-12.2
9.5	-15.2	-2.0	-13.2
9.6	-14.9	-2.0	-12.9
9.7	-14.5	-2.0	-12.5
9.8	-16.1	-2.0	-14.1
9.9	-14.1	-2.0	-12.1
10.0	-14.2	-2.0	-12.2



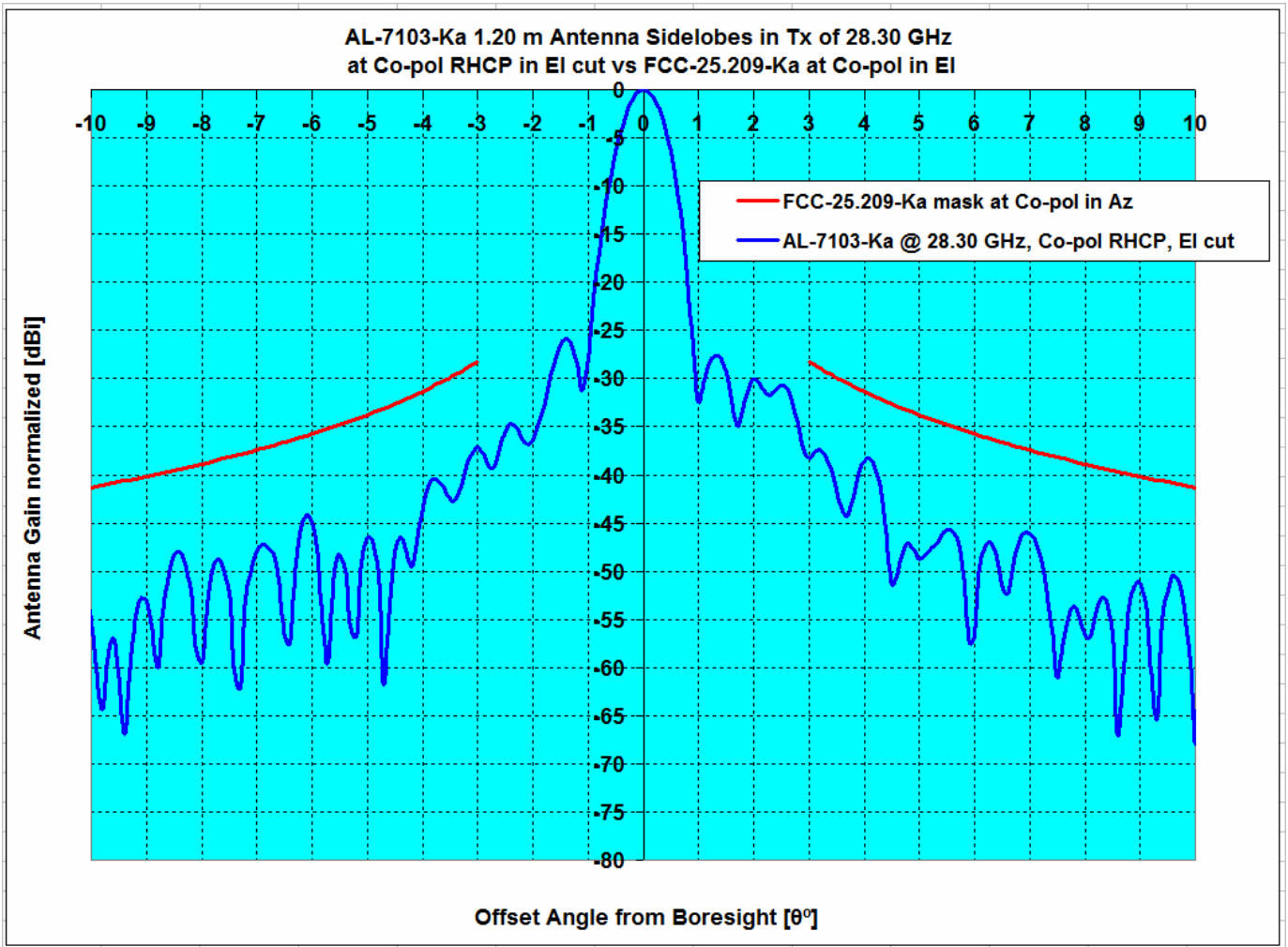
Description	Plane, CirP	Frequency	Ant. Gain	Peak Excursions dB		Over Mask %	
				1.5°≤θ≤7°	7°≤θ≤180°	1.5°≤θ≤7°	7°≤θ≤180°
Pattern Rule vs Antenna System	Type	GHz	dBi				
FCC-25.209-Ka, Co-pol Az, vs AL-7103-Ka	Az , RHCP	28.30	48.30	-2.09	2.56	0.00%	0.45%



Description	Plane, CirP Type	Frequency GHz	Ant. Gain dBi	Peak Excursions dB		Over Mask %	
				1.5°≤θ≤7°	7°≤θ≤180°	1.5°≤θ≤7°	7°≤θ≤180°
FCC-25.209-Ka, Co-pol Az, vs AL-7103-Ka	Az , RHCP	28.30	48.30	-2.09	2.56	0.00%	0.45%

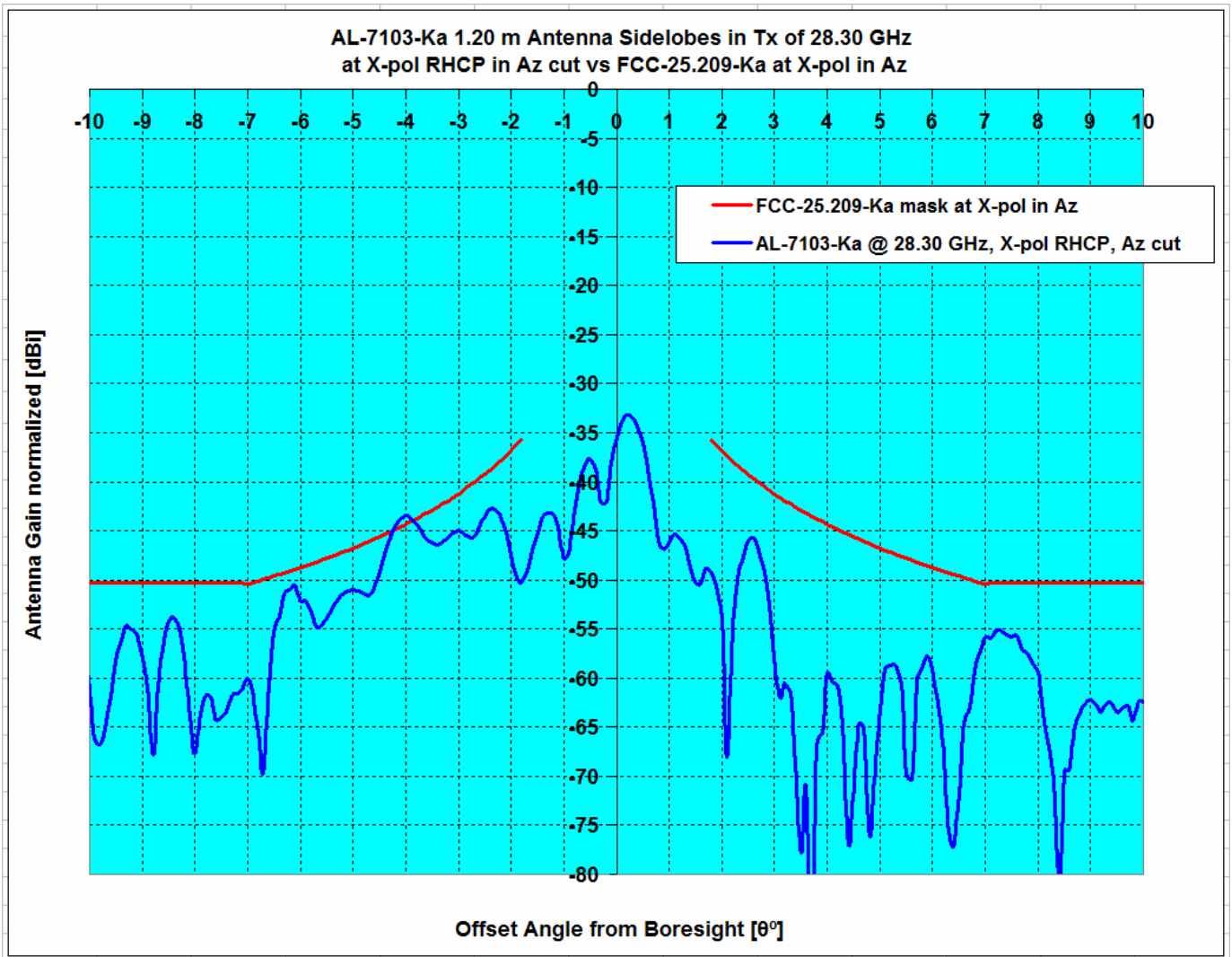


Description	Plane, CirP	Frequency	Ant. Gain	Peak Excursions dB		Over Mask %	
				3°≤θ≤7°	7°≤θ≤30°	3°≤θ≤7°	7°≤θ≤30°
Pattern Rule vs Antenna System	Type	GHz	dBi				
FCC-25.209-Ka, Co-pol EI, vs AL-7103-Ka	EI, RHCP	28.30	48.30	-6.63	0.22	0.00%	0.18%



Description	Plane, CirP Type	Frequency GHz	Ant. Gain dBi	Peak Excursions dB		Over Mask %	
				3°≤θ≤7°	7°≤θ≤30°	3°≤θ≤7°	7°≤θ≤30°
FCC-25.209-Ka, Co-pol EI, vs AL-7103-Ka	EI , RHCP	28.30	48.30	-6.63	0.22	0.00%	0.18%

Orbit Communication Systems Ltd.
 AL-7103-Ka, 1.20 m Antenna, Pattern, X-pol, Azimuth RHCP



Description	Plane, CirP	Frequency	Ant. Gain	Peak Excursions dB		Over Mask %	
				1.8°≤θ≤7°	1.8°≤θ≤9.2°	1.8°≤θ≤7°	1.8°≤θ≤9.2°
Pattern Rule vs Antenna System	Type	GHz	dBi				
FCC-25.209-Ka, X-pol Az, vs AL-7103-Ka	Az , RHCP	28.30	48.30	0.92	0.92	3.77%	2.41%

Orbit Communication Systems Ltd.
 AL-7103-Ka, 1.20 m Antenna, Pattern Data Table
 Co-pol Azimuth LHCP, -180° to +180° @ 1.0° increment

29.10 GHz Antenna Pattern in Co-pol Az LHCP

Angle	Gain	Mask	Over Mask
Degrees	dBi	dBi	dB
-179.0	-26.5	0.0	-26.5
-178.0	-34.6	0.0	-34.6
-177.0	-33.1	0.0	-33.1
-176.0	-40.3	0.0	-40.3
-175.0	-35.6	0.0	-35.6
-174.0	-37.1	0.0	-37.1
-173.0	-35.8	0.0	-35.8
-172.0	-46.4	0.0	-46.4
-171.0	-28.2	0.0	-28.2
-170.0	-35.0	0.0	-35.0
-169.0	-27.6	0.0	-27.6
-168.0	-39.6	0.0	-39.6
-167.0	-31.2	0.0	-31.2
-166.0	-33.0	0.0	-33.0
-165.0	-34.4	0.0	-34.4
-164.0	-33.2	0.0	-33.2
-163.0	-28.4	0.0	-28.4
-162.0	-27.7	0.0	-27.7
-161.0	-51.1	0.0	-51.1
-160.0	-30.5	0.0	-30.5
-159.0	-25.9	0.0	-25.9
-158.0	-32.9	0.0	-32.9
-157.0	-34.4	0.0	-34.4
-156.0	-29.0	0.0	-29.0
-155.0	-45.3	0.0	-45.3
-154.0	-35.5	0.0	-35.5
-153.0	-36.5	0.0	-36.5
-152.0	-36.3	0.0	-36.3
-151.0	-31.1	0.0	-31.1
-150.0	-36.3	0.0	-36.3
-149.0	-29.0	0.0	-29.0
-148.0	-47.2	0.0	-47.2
-147.0	-35.5	0.0	-35.5
-146.0	-34.8	0.0	-34.8
-145.0	-34.1	0.0	-34.1
-144.0	-33.9	0.0	-33.9
-143.0	-31.0	0.0	-31.0
-142.0	-34.2	0.0	-34.2
-141.0	-32.8	0.0	-32.8
-140.0	-28.1	0.0	-28.1
-139.0	-26.0	0.0	-26.0
-138.0	-31.3	0.0	-31.3
-137.0	-27.9	0.0	-27.9
-136.0	-27.6	0.0	-27.6
-135.0	-33.9	0.0	-33.9
-134.0	-31.6	0.0	-31.6
-133.0	-32.0	0.0	-32.0
-132.0	-27.3	0.0	-27.3
-131.0	-30.2	0.0	-30.2
-130.0	-28.5	0.0	-28.5
-129.0	-28.7	0.0	-28.7
-128.0	-28.7	0.0	-28.7
-127.0	-26.4	0.0	-26.4
-126.0	-33.2	0.0	-33.2
-125.0	-32.1	0.0	-32.1
-124.0	-35.6	0.0	-35.6
-123.0	-26.3	0.0	-26.3
-122.0	-24.0	0.0	-24.0
-121.0	-38.2	0.0	-38.2
-120.0	-29.9	0.0	-29.9

29.10 GHz Antenna Pattern in Co-pol Az LHCP

Angle	Gain	Mask	Over Mask
Degrees	dBi	dBi	dB
0.0	48.5		
1.0	22.1		
2.0	9.8	21.5	-11.7
3.0	11.4	17.1	-5.7
4.0	2.8	13.9	-11.1
5.0	2.4	11.5	-9.1
6.0	-1.2	9.5	-10.7
7.0	-18.0	7.9	-25.9
8.0	-12.6	8.0	-20.6
9.0	-14.2	8.0	-22.2
10.0	-8.1	7.0	-15.1
11.0	-8.1	6.0	-14.1
12.0	-23.8	5.0	-28.8
13.0	-10.7	4.2	-14.8
14.0	-10.2	3.3	-13.6
15.0	-7.7	2.6	-10.3
16.0	-15.7	1.9	-17.6
17.0	-8.8	1.2	-10.0
18.0	-29.3	0.6	-29.9
19.0	-6.2	0.0	-6.3
20.0	-18.9	-0.5	-18.4
21.0	-17.5	-1.1	-16.5
22.0	-9.5	-1.6	-8.0
23.0	-11.7	-2.0	-9.6
24.0	-7.2	-2.5	-4.7
25.0	-7.4	-2.9	-4.5
26.0	-7.0	-3.4	-3.7
27.0	-7.6	-3.8	-3.8
28.0	-8.2	-4.2	-4.0
29.0	-9.4	-4.6	-4.9
30.0	-10.5	-4.9	-5.6
31.0	-15.8	-5.3	-10.5
32.0	-18.5	-5.6	-12.9
33.0	-13.6	-6.0	-7.6
34.0	-14.0	-6.3	-7.7
35.0	-13.7	-6.6	-7.1
36.0	-13.2	-6.9	-6.3
37.0	-12.3	-7.2	-5.1
38.0	-9.2	-7.5	-1.7
39.0	-15.3	-7.8	-7.5
40.0	-16.9	-8.1	-8.9
41.0	-27.9	-8.3	-19.6
42.0	-17.7	-8.6	-9.1
43.0	-15.4	-8.8	-6.6
44.0	-14.4	-9.1	-5.3
45.0	-15.8	-9.3	-6.4
46.0	-15.5	-9.6	-6.0
47.0	-10.6	-9.8	-0.8
48.0	-33.1	-10.0	-23.1
49.0	-30.0	-10.0	-20.0
50.0	-18.1	-10.0	-8.1
51.0	-22.4	-10.0	-12.4
52.0	-20.9	-10.0	-10.9
53.0	-29.8	-10.0	-19.8
54.0	-14.7	-10.0	-4.7
55.0	-13.4	-10.0	-3.4
56.0	-17.8	-10.0	-7.8
57.0	-20.2	-10.0	-10.2
58.0	-18.0	-10.0	-8.0
59.0	-16.1	-10.0	-6.1

Orbit Communication Systems Ltd.
AL-7103-Ka, 1.20 m Antenna, Pattern Data Table
Co-pol Azimuth LHCP, -180° to +180° @ 1.0° increment

-119.0	-21.9	0.0	-21.9
-118.0	-29.2	0.0	-29.2
-117.0	-29.5	0.0	-29.5
-116.0	-33.5	0.0	-33.5
-115.0	-33.3	0.0	-33.3
-114.0	-26.4	0.0	-26.4
-113.0	-24.7	0.0	-24.7
-112.0	-23.7	0.0	-23.7
-111.0	-20.7	0.0	-20.7
-110.0	-17.0	0.0	-17.0
-109.0	-18.0	0.0	-18.0
-108.0	-16.4	0.0	-16.4
-107.0	-15.2	0.0	-15.2
-106.0	-14.6	0.0	-14.6
-105.0	-12.6	0.0	-12.6
-104.0	-11.8	0.0	-11.8
-103.0	-11.3	0.0	-11.3
-102.0	-11.7	0.0	-11.7
-101.0	-15.5	0.0	-15.5
-100.0	-20.2	0.0	-20.2
-99.0	-15.2	0.0	-15.2
-98.0	-12.0	0.0	-12.0
-97.0	-12.0	0.0	-12.0
-96.0	-13.1	0.0	-13.1
-95.0	-15.0	0.0	-15.0
-94.0	-12.5	0.0	-12.5
-93.0	-14.4	0.0	-14.4
-92.0	-21.3	0.0	-21.3
-91.0	-16.0	0.0	-16.0
-90.0	-15.9	0.0	-15.9
-89.0	-18.6	0.0	-18.6
-88.0	-14.6	0.0	-14.6
-87.0	-21.4	0.0	-21.4
-86.0	-16.4	0.0	-16.4
-85.0	-18.2	-10.0	-8.2
-84.0	-33.6	-10.0	-23.6
-83.0	-22.7	-10.0	-12.7
-82.0	-17.7	-10.0	-7.7
-81.0	-28.2	-10.0	-18.2
-80.0	-20.5	-10.0	-10.5
-79.0	-23.1	-10.0	-13.1
-78.0	-17.6	-10.0	-7.6
-77.0	-18.3	-10.0	-8.3
-76.0	-17.2	-10.0	-7.2
-75.0	-30.5	-10.0	-20.5
-74.0	-18.1	-10.0	-8.1
-73.0	-20.2	-10.0	-10.2
-72.0	-25.3	-10.0	-15.3
-71.0	-17.4	-10.0	-7.4
-70.0	-26.2	-10.0	-16.2
-69.0	-29.2	-10.0	-19.2
-68.0	-20.3	-10.0	-10.3
-67.0	-29.3	-10.0	-19.3
-66.0	-21.6	-10.0	-11.6
-65.0	-16.8	-10.0	-6.8
-64.0	-18.7	-10.0	-8.7
-63.0	-23.5	-10.0	-13.5
-62.0	-24.1	-10.0	-14.1
-61.0	-18.4	-10.0	-8.4
-60.0	-16.8	-10.0	-6.8
-59.0	-15.3	-10.0	-5.3
-58.0	-22.4	-10.0	-12.4
-57.0	-16.6	-10.0	-6.6

60.0	-14.1	-10.0	-4.1
61.0	-27.9	-10.0	-17.9
62.0	-23.0	-10.0	-13.0
63.0	-18.4	-10.0	-8.4
64.0	-15.4	-10.0	-5.4
65.0	-11.4	-10.0	-1.4
66.0	-22.2	-10.0	-12.2
67.0	-22.7	-10.0	-12.7
68.0	-21.2	-10.0	-11.2
69.0	-21.0	-10.0	-11.0
70.0	-12.8	-10.0	-2.8
71.0	-17.3	-10.0	-7.3
72.0	-14.4	-10.0	-4.4
73.0	-15.0	-10.0	-5.0
74.0	-12.8	-10.0	-2.8
75.0	-18.7	-10.0	-8.7
76.0	-19.3	-10.0	-9.3
77.0	-18.5	-10.0	-8.5
78.0	-15.1	-10.0	-5.1
79.0	-25.4	-10.0	-15.4
80.0	-18.5	-10.0	-8.5
81.0	-16.2	-10.0	-6.2
82.0	-23.2	-10.0	-13.2
83.0	-21.9	-10.0	-11.9
84.0	-22.8	-10.0	-12.8
85.0	-32.2	-10.0	-22.2
86.0	-17.4	0.0	-17.4
87.0	-19.8	0.0	-19.8
88.0	-16.0	0.0	-16.0
89.0	-24.1	0.0	-24.1
90.0	-22.2	0.0	-22.2
91.0	-23.5	0.0	-23.5
92.0	-19.0	0.0	-19.0
93.0	-28.5	0.0	-28.5
94.0	-20.8	0.0	-20.8
95.0	-17.1	0.0	-17.1
96.0	-21.5	0.0	-21.5
97.0	-28.0	0.0	-28.0
98.0	-33.9	0.0	-33.9
99.0	-18.0	0.0	-18.0
100.0	-18.9	0.0	-18.9
101.0	-21.5	0.0	-21.5
102.0	-25.1	0.0	-25.1
103.0	-20.5	0.0	-20.5
104.0	-34.7	0.0	-34.7
105.0	-16.5	0.0	-16.5
106.0	-21.5	0.0	-21.5
107.0	-26.9	0.0	-26.9
108.0	-21.8	0.0	-21.8
109.0	-35.2	0.0	-35.2
110.0	-21.5	0.0	-21.5
111.0	-24.7	0.0	-24.7
112.0	-18.9	0.0	-18.9
113.0	-26.8	0.0	-26.8
114.0	-23.8	0.0	-23.8
115.0	-25.0	0.0	-25.0
116.0	-20.3	0.0	-20.3
117.0	-18.5	0.0	-18.5
118.0	-28.1	0.0	-28.1
119.0	-21.8	0.0	-21.8
120.0	-17.6	0.0	-17.6
121.0	-27.4	0.0	-27.4
122.0	-21.8	0.0	-21.8

Orbit Communication Systems Ltd.
AL-7103-Ka, 1.20 m Antenna, Pattern Data Table
Co-pol Azimuth LHCP, -180° to +180° @ 1.0° increment

-56.0	-19.0	-10.0	-9.0
-55.0	-13.9	-10.0	-3.9
-54.0	-15.8	-10.0	-5.8
-53.0	-17.4	-10.0	-7.4
-52.0	-16.9	-10.0	-6.9
-51.0	-11.7	-10.0	-1.7
-50.0	-16.7	-10.0	-6.7
-49.0	-15.3	-10.0	-5.3
-48.0	-14.8	-10.0	-4.8
-47.0	-15.2	-9.8	-5.4
-46.0	-12.4	-9.6	-2.8
-45.0	-12.5	-9.3	-3.1
-44.0	-13.8	-9.1	-4.7
-43.0	-14.2	-8.8	-5.4
-42.0	-8.6	-8.6	0.0
-41.0	-11.1	-8.3	-2.7
-40.0	-11.5	-8.1	-3.4
-39.0	-8.4	-7.8	-0.6
-38.0	-10.3	-7.5	-2.9
-37.0	-8.7	-7.2	-1.5
-36.0	-12.6	-6.9	-5.7
-35.0	-12.2	-6.6	-5.6
-34.0	-10.5	-6.3	-4.2
-33.0	-20.8	-6.0	-14.9
-32.0	-9.7	-5.6	-4.0
-31.0	-12.5	-5.3	-7.3
-30.0	-18.5	-4.9	-13.6
-29.0	-10.9	-4.6	-6.4
-28.0	-12.7	-4.2	-8.6
-27.0	-20.0	-3.8	-16.3
-26.0	-14.0	-3.4	-10.6
-25.0	-11.1	-2.9	-8.1
-24.0	-14.9	-2.5	-12.4
-23.0	-6.0	-2.0	-3.9
-22.0	-27.5	-1.6	-25.9
-21.0	-3.6	-1.1	-2.6
-20.0	-10.6	-0.5	-10.0
-19.0	-6.7	0.0	-6.8
-18.0	-4.0	0.6	-4.6
-17.0	-9.9	1.2	-11.1
-16.0	0.1	1.9	-1.8
-15.0	-6.3	2.6	-8.9
-14.0	-9.8	3.3	-13.2
-13.0	-5.3	4.2	-9.5
-12.0	-9.7	5.0	-14.7
-11.0	-8.2	6.0	-14.2
-10.0	0.4	7.0	-6.6
-9.0	-4.6	8.0	-12.6
-8.0	-9.7	8.0	-17.7
-7.0	2.4	7.9	-5.4
-6.0	-11.4	9.5	-21.0
-5.0	4.0	11.5	-7.5
-4.0	4.4	13.9	-9.5
-3.0	9.7	17.1	-7.3
-2.0	18.6	21.5	-2.9
-1.0	14.4		
0.0	48.5		

123.0	-26.8	0.0	-26.8
124.0	-22.6	0.0	-22.6
125.0	-30.8	0.0	-30.8
126.0	-42.8	0.0	-42.8
127.0	-22.4	0.0	-22.4
128.0	-28.6	0.0	-28.6
129.0	-19.7	0.0	-19.7
130.0	-27.5	0.0	-27.5
131.0	-19.4	0.0	-19.4
132.0	-19.0	0.0	-19.0
133.0	-21.1	0.0	-21.1
134.0	-23.1	0.0	-23.1
135.0	-21.0	0.0	-21.0
136.0	-23.1	0.0	-23.1
137.0	-20.0	0.0	-20.0
138.0	-20.8	0.0	-20.8
139.0	-20.8	0.0	-20.8
140.0	-17.8	0.0	-17.8
141.0	-19.8	0.0	-19.8
142.0	-26.9	0.0	-26.9
143.0	-32.7	0.0	-32.7
144.0	-29.2	0.0	-29.2
145.0	-23.3	0.0	-23.3
146.0	-19.9	0.0	-19.9
147.0	-20.6	0.0	-20.6
148.0	-35.3	0.0	-35.3
149.0	-24.5	0.0	-24.5
150.0	-24.6	0.0	-24.6
151.0	-24.4	0.0	-24.4
152.0	-29.8	0.0	-29.8
153.0	-28.4	0.0	-28.4
154.0	-21.7	0.0	-21.7
155.0	-22.7	0.0	-22.7
156.0	-24.9	0.0	-24.9
157.0	-25.7	0.0	-25.7
158.0	-19.2	0.0	-19.2
159.0	-20.1	0.0	-20.1
160.0	-20.2	0.0	-20.2
161.0	-28.7	0.0	-28.7
162.0	-25.2	0.0	-25.2
163.0	-21.4	0.0	-21.4
164.0	-17.7	0.0	-17.7
165.0	-19.7	0.0	-19.7
166.0	-17.8	0.0	-17.8
167.0	-25.6	0.0	-25.6
168.0	-29.5	0.0	-29.5
169.0	-17.7	0.0	-17.7
170.0	-21.0	0.0	-21.0
171.0	-24.3	0.0	-24.3
172.0	-21.5	0.0	-21.5
173.0	-27.9	0.0	-27.9
174.0	-29.5	0.0	-29.5
175.0	-27.9	0.0	-27.9
176.0	-34.4	0.0	-34.4
177.0	-35.2	0.0	-35.2
178.0	-24.6	0.0	-24.6
179.0	-30.0	0.0	-30.0

Orbit Communication Systems Ltd.

AL AL-7103-Ka, 1.20 m Antenna, Pattern Data Table
Co-pol Azimuth LHCP, -10° to +10° @ 0.1° increment

29.10 GHz Antenna Pattern in Co-pol Az LHCP				29.10 GHz Antenna Pattern in Co-pol Az LHCP			
Angle	Gain	Mask	Over Mask	Angle	Gain	Mask	Over Mask
Degrees	dBi	dBi	dB	Degrees	dBi	dBi	dB
-10.0	0.4	7.0	-6.6	0.0	48.5		
-9.9	1.9	7.1	-5.2	0.1	48.3		
-9.8	2.4	7.2	-4.8	0.2	47.6		
-9.7	1.8	7.3	-5.6	0.3	46.4		
-9.6	-0.1	7.4	-7.5	0.4	44.7		
-9.5	-3.2	7.6	-10.8	0.5	42.4		
-9.4	-6.9	7.7	-14.6	0.6	39.6		
-9.3	-8.1	7.8	-15.9	0.7	36.2		
-9.2	-5.9	8.0	-13.9	0.8	32.2		
-9.1	-4.5	8.0	-12.5	0.9	27.4		
-9.0	-4.6	8.0	-12.6	1.0	22.1		
-8.9	-6.4	8.0	-14.4	1.1	17.6		
-8.8	-9.7	8.0	-17.7	1.2	18.2		
-8.7	-12.5	8.0	-20.5	1.3	19.9		
-8.6	-8.1	8.0	-16.1	1.4	20.4		
-8.5	-4.2	8.0	-12.2	1.5	19.6	24.6	-5.0
-8.4	-2.0	8.0	-10.0	1.6	17.8	23.9	-6.1
-8.3	-1.6	8.0	-9.6	1.7	15.3	23.2	-7.9
-8.2	-2.5	8.0	-10.5	1.8	12.3	22.6	-10.3
-8.1	-6.0	8.0	-14.0	1.9	10.4	22.0	-11.6
-8.0	-9.7	8.0	-17.7	2.0	9.8	21.5	-11.7
-7.9	-5.5	8.0	-13.5	2.1	11.1	20.9	-9.8
-7.8	-1.6	8.0	-9.6	2.2	12.8	20.4	-7.6
-7.7	0.2	8.0	-7.8	2.3	13.8	20.0	-6.2
-7.6	0.1	8.0	-7.9	2.4	14.3	19.5	-5.2
-7.5	-1.8	8.0	-9.8	2.5	14.0	19.1	-5.1
-7.4	-5.6	8.0	-13.6	2.6	13.4	18.6	-5.2
-7.3	-7.7	8.0	-15.7	2.7	12.7	18.2	-5.5
-7.2	-2.3	8.0	-10.3	2.8	12.3	17.8	-5.5
-7.1	1.0	8.0	-7.0	2.9	12.1	17.4	-5.3
-7.0	2.4	7.9	-5.4	3.0	11.4	17.1	-5.7
-6.9	3.1	8.0	-4.9	3.1	10.2	16.7	-6.5
-6.8	2.4	8.2	-5.8	3.2	9.2	16.4	-7.1
-6.7	0.4	8.3	-8.0	3.3	8.8	16.0	-7.3
-6.6	-3.3	8.5	-11.8	3.4	9.3	15.7	-6.4
-6.5	-11.3	8.7	-20.0	3.5	9.7	15.4	-5.7
-6.4	-9.6	8.8	-18.5	3.6	9.7	15.1	-5.4
-6.3	-4.4	9.0	-13.4	3.7	9.0	14.8	-5.8
-6.2	-2.7	9.2	-11.9	3.8	7.6	14.5	-6.9
-6.1	-4.5	9.4	-13.9	3.9	5.0	14.2	-9.2
-6.0	-11.4	9.5	-21.0	4.0	2.8	13.9	-11.1
-5.9	-12.8	9.7	-22.5	4.1	2.6	13.7	-11.1
-5.8	-3.3	9.9	-13.2	4.2	3.1	13.4	-10.3
-5.7	0.4	10.1	-9.7	4.3	2.5	13.2	-10.6
-5.6	1.3	10.3	-9.0	4.4	0.4	12.9	-12.5
-5.5	-0.1	10.5	-10.6	4.5	-1.2	12.7	-13.9
-5.4	-4.3	10.7	-15.0	4.6	1.3	12.4	-11.2
-5.3	-13.6	10.9	-24.5	4.7	4.1	12.2	-8.1
-5.2	-3.4	11.1	-14.5	4.8	5.0	12.0	-7.0
-5.1	1.9	11.3	-9.4	4.9	4.5	11.7	-7.3
-5.0	4.0	11.5	-7.5	5.0	2.4	11.5	-9.1
-4.9	4.9	11.7	-6.8	5.1	-1.2	11.3	-12.6
-4.8	4.9	12.0	-7.0	5.2	-6.2	11.1	-17.3
-4.7	4.4	12.2	-7.8	5.3	-5.5	10.9	-16.4
-4.6	2.8	12.4	-9.6	5.4	-5.5	10.7	-16.1
-4.5	0.0	12.7	-12.7	5.5	-9.5	10.5	-20.0
-4.4	-3.1	12.9	-16.0	5.6	-8.1	10.3	-18.3
-4.3	-1.2	13.2	-14.4	5.7	-3.2	10.1	-13.3
-4.2	2.7	13.4	-10.8	5.8	-0.6	9.9	-10.5
-4.1	4.4	13.7	-9.3	5.9	-0.1	9.7	-9.8
-4.0	4.4	13.9	-9.5	6.0	-1.2	9.5	-10.7
-3.9	3.5	14.2	-10.7	6.1	-4.1	9.4	-13.5

Orbit Communication Systems Ltd.

AL AL-7103-Ka, 1.20 m Antenna, Pattern Data Table
 Co-pol Azimuth LHCP, -10° to +10° @ 0.1° increment

-3.8	3.9	14.5	-10.6		6.2	-10.2	9.2	-19.4
-3.7	6.5	14.8	-8.2		6.3	-13.1	9.0	-22.1
-3.6	9.4	15.1	-5.7		6.4	-7.5	8.8	-16.3
-3.5	11.3	15.4	-4.1		6.5	-4.5	8.7	-13.2
-3.4	12.1	15.7	-3.6		6.6	-3.2	8.5	-11.7
-3.3	12.2	16.0	-3.9		6.7	-2.7	8.3	-11.1
-3.2	11.7	16.4	-4.6		6.8	-3.7	8.2	-11.9
-3.1	10.9	16.7	-5.8		6.9	-7.6	8.0	-15.6
-3.0	9.7	17.1	-7.3		7.0	-18.0	7.9	-25.9
-2.9	8.7	17.4	-8.7		7.1	-9.9	8.0	-17.9
-2.8	9.4	17.8	-8.5		7.2	-4.9	8.0	-12.9
-2.7	11.6	18.2	-6.6		7.3	-3.4	8.0	-11.4
-2.6	14.0	18.6	-4.6		7.4	-4.2	8.0	-12.2
-2.5	15.9	19.1	-3.1		7.5	-8.6	8.0	-16.6
-2.4	17.3	19.5	-2.2		7.6	-21.5	8.0	-29.5
-2.3	18.2	20.0	-1.8		7.7	-12.4	8.0	-20.4
-2.2	18.8	20.4	-1.6		7.8	-8.5	8.0	-16.5
-2.1	19.1	20.9	-1.9		7.9	-8.6	8.0	-16.6
-2.0	18.6	21.5	-2.9		8.0	-12.6	8.0	-20.6
-1.9	17.1	22.0	-4.9		8.1	-16.4	8.0	-24.4
-1.8	14.0	22.6	-8.6		8.2	-10.6	8.0	-18.6
-1.7	10.3	23.2	-13.0		8.3	-7.9	8.0	-15.9
-1.6	12.1	23.9	-11.8		8.4	-9.6	8.0	-17.6
-1.5	15.4	24.6	-9.2		8.5	-16.8	8.0	-24.8
-1.4	17.0				8.6	-15.4	8.0	-23.4
-1.3	17.2				8.7	-8.5	8.0	-16.5
-1.2	17.0				8.8	-6.9	8.0	-14.9
-1.1	16.4				8.9	-9.4	8.0	-17.4
-1.0	14.4				9.0	-14.2	8.0	-22.2
-0.9	19.2				9.1	-12.2	8.0	-20.2
-0.8	27.6				9.2	-5.5	8.0	-13.5
-0.7	33.6				9.3	-3.0	7.8	-10.8
-0.6	38.2				9.4	-3.1	7.7	-10.8
-0.5	41.6				9.5	-5.5	7.6	-13.0
-0.4	44.2				9.6	-10.7	7.4	-18.1
-0.3	46.0				9.7	-13.9	7.3	-21.2
-0.2	47.4				9.8	-9.1	7.2	-16.3
-0.1	48.2				9.9	-7.0	7.1	-14.1
0.0	48.5				10.0	-8.1	7.0	-15.1

Orbit Communication Systems Ltd.

AL-7103-Ka, 1.20 m Antenna, Pattern Data Table
Co-pol Elevation LHCP, -30° to +30° @ 0.5° increment

29.10 GHz Antenna Pattern in Co-pol EI LHCP

Angle Degrees	Gain dBi	Mask dBi	Over Mask dB
-30.0	-14.2	-4.9	-9.3
-29.5	-11.7	-4.7	-7.0
-29.0	-13.5	-4.6	-9.0
-28.5	-12.3	-4.4	-7.9
-28.0	-11.3	-4.2	-7.1
-27.5	-11.5	-4.0	-7.5
-27.0	-10.2	-3.8	-6.4
-26.5	-10.1	-3.6	-6.5
-26.0	-12.7	-3.4	-9.3
-25.5	-12.8	-3.2	-9.6
-25.0	-8.7	-2.9	-5.7
-24.5	-9.1	-2.7	-6.4
-24.0	-11.7	-2.5	-9.2
-23.5	-10.2	-2.3	-7.9
-23.0	-11.6	-2.0	-9.6
-22.5	-12.7	-1.8	-10.9
-22.0	-10.9	-1.6	-9.4
-21.5	-15.0	-1.3	-13.6
-21.0	-25.7	-1.1	-24.7
-20.5	-20.9	-0.8	-20.1
-20.0	-11.1	-0.5	-10.5
-19.5	-10.2	-0.3	-10.0
-19.0	-11.0	0.0	-11.0
-18.5	-15.9	0.3	-16.2
-18.0	-11.5	0.6	-12.2
-17.5	-7.3	0.9	-8.3
-17.0	-8.6	1.2	-9.8
-16.5	-18.7	1.6	-20.2
-16.0	-11.1	1.9	-13.0
-15.5	-13.0	2.2	-15.3
-15.0	-13.4	2.6	-16.0
-14.5	-11.2	3.0	-14.2
-14.0	-7.2	3.3	-10.6
-13.5	-8.3	3.7	-12.1
-13.0	-10.7	4.2	-14.9
-12.5	-14.8	4.6	-19.4
-12.0	-8.9	5.0	-14.0
-11.5	-11.5	5.5	-17.0
-11.0	-11.1	6.0	-17.1
-10.5	-11.4	6.5	-17.9
-10.0	-17.0	7.0	-24.0
-9.5	-9.5	7.6	-17.1
-9.0	-10.1	8.1	-18.3
-8.5	-10.0	8.8	-18.8
-8.0	-21.7	9.4	-31.1
-7.5	-20.0	10.1	-30.1
-7.0	-12.2	10.9	-23.1
-6.5	1.0	11.7	-10.6
-6.0	0.6	12.5	-11.9
-5.5	-9.2	13.5	-22.7
-5.0	2.5	14.5	-12.1
-4.5	0.6	15.7	-15.1
-4.0	0.2	16.9	-16.8
-3.5	3.3	18.4	-15.1
-3.0	11.6		
-2.5	12.4		
-2.0	12.7		
-1.5	21.5		
-1.0	23.1		
-0.5	42.5		
0.0	48.5		

29.10 GHz Antenna Pattern in Co-pol EI LHCP

Angle Degrees	Gain dBi	Mask dBi	Over Mask dB
0.0	48.5		
0.5	41.0		
1.0	16.6		
1.5	15.0		
2.0	17.4		
2.5	16.2		
3.0	6.3		
3.5	7.1	18.4	-11.3
4.0	6.7	16.9	-10.3
4.5	-0.4	15.7	-16.1
5.0	1.7	14.5	-12.8
5.5	2.5	13.5	-11.0
6.0	-14.9	12.5	-27.5
6.5	-5.8	11.7	-17.4
7.0	2.1	10.9	-8.8
7.5	0.6	10.1	-9.5
8.0	-2.7	9.4	-12.1
8.5	-1.8	8.8	-10.6
9.0	-12.4	8.1	-20.5
9.5	0.6	7.6	-6.9
10.0	0.9	7.0	-6.1
10.5	-11.2	6.5	-17.7
11.0	-6.1	6.0	-12.1
11.5	-6.1	5.5	-11.6
12.0	-12.5	5.0	-17.5
12.5	-3.3	4.6	-7.9
13.0	-11.3	4.2	-15.4
13.5	-4.4	3.7	-8.2
14.0	-1.9	3.3	-5.2
14.5	-5.8	3.0	-8.8
15.0	-3.6	2.6	-6.2
15.5	-7.8	2.2	-10.0
16.0	-8.3	1.9	-10.1
16.5	-2.8	1.6	-4.4
17.0	-28.4	1.2	-29.6
17.5	-4.5	0.9	-5.4
18.0	-6.9	0.6	-7.5
18.5	-2.8	0.3	-3.1
19.0	-6.0	0.0	-6.1
19.5	-3.5	-0.3	-3.2
20.0	-7.3	-0.5	-6.7
20.5	-7.3	-0.8	-6.5
21.0	-4.9	-1.1	-3.9
21.5	-5.3	-1.3	-4.0
22.0	-7.3	-1.6	-5.7
22.5	-5.9	-1.8	-4.1
23.0	-8.2	-2.0	-6.1
23.5	-9.9	-2.3	-7.6
24.0	-12.7	-2.5	-10.2
24.5	-16.8	-2.7	-14.1
25.0	-5.5	-2.9	-2.5
25.5	-11.9	-3.2	-8.7
26.0	-14.4	-3.4	-11.1
26.5	-7.5	-3.6	-4.0
27.0	-15.5	-3.8	-11.7
27.5	-12.6	-4.0	-8.6
28.0	-13.2	-4.2	-9.0
28.5	-13.3	-4.4	-8.9
29.0	-21.0	-4.6	-16.5
29.5	-13.9	-4.7	-9.2
30.0	-12.6	-4.9	-7.7

Orbit Communication Systems Ltd.
AL-7103-Ka, 1.20 m Antenna, Pattern Data Table
Co-pol Elevation LHCP, -10° to +10° @ 0.1° increment

29.10 GHz Antenna Pattern in Co-pol EI LHCP

Angle	Gain	Mask	Over Mask
Degrees	dBi	dBi	dB
-10.0	-17.0	7.0	-24.0
-9.9	-14.8	7.1	-21.9
-9.8	-17.8	7.2	-25.0
-9.7	-16.9	7.3	-24.3
-9.6	-12.3	7.4	-19.7
-9.5	-9.5	7.6	-17.1
-9.4	-9.3	7.7	-17.0
-9.3	-12.4	7.8	-20.2
-9.2	-21.2	7.9	-29.1
-9.1	-16.6	8.0	-24.6
-9.0	-10.1	8.1	-18.3
-8.9	-8.2	8.3	-16.4
-8.8	-9.4	8.4	-17.8
-8.7	-12.5	8.5	-21.1
-8.6	-14.9	8.6	-23.6
-8.5	-10.0	8.8	-18.8
-8.4	-7.2	8.9	-16.1
-8.3	-7.2	9.0	-16.2
-8.2	-9.1	9.2	-18.3
-8.1	-15.5	9.3	-24.8
-8.0	-21.7	9.4	-31.1
-7.9	-13.6	9.6	-23.2
-7.8	-12.2	9.7	-21.9
-7.7	-12.9	9.8	-22.7
-7.6	-15.8	10.0	-25.7
-7.5	-20.0	10.1	-30.1
-7.4	-16.5	10.3	-26.8
-7.3	-11.4	10.4	-21.8
-7.2	-8.8	10.6	-19.4
-7.1	-8.8	10.7	-19.5
-7.0	-12.2	10.9	-23.1
-6.9	-15.7	11.0	-26.8
-6.8	-7.3	11.2	-18.5
-6.7	-2.0	11.3	-13.4
-6.6	0.5	11.5	-11.0
-6.5	1.0	11.7	-10.6
-6.4	0.4	11.8	-11.4
-6.3	-2.1	12.0	-14.1
-6.2	-3.4	12.2	-15.6
-6.1	-1.3	12.4	-13.7
-6.0	0.6	12.5	-11.9
-5.9	0.9	12.7	-11.8
-5.8	-1.1	12.9	-14.0
-5.7	-6.0	13.1	-19.1
-5.6	-15.0	13.3	-28.3
-5.5	-9.2	13.5	-22.7
-5.4	-5.6	13.7	-19.3
-5.3	-7.1	13.9	-21.0
-5.2	-6.5	14.1	-20.6
-5.1	-1.0	14.3	-15.3
-5.0	2.5	14.5	-12.1
-4.9	4.2	14.7	-10.5
-4.8	4.1	15.0	-10.9
-4.7	2.6	15.2	-12.6
-4.6	0.9	15.4	-14.5
-4.5	0.6	15.7	-15.1
-4.4	1.6	15.9	-14.3
-4.3	2.3	16.2	-13.9
-4.2	2.0	16.4	-14.4
-4.1	1.1	16.7	-15.5

29.10 GHz Antenna Pattern in Co-pol EI LHCP

Angle	Gain	Mask	Over Mask
Degrees	dBi	dBi	dB
0.0	48.5		
0.1	48.2		
0.2	47.3		
0.3	45.8		
0.4	43.8		
0.5	41.0		
0.6	37.3		
0.7	32.2		
0.8	25.0		
0.9	13.9		
1.0	16.6		
1.1	18.8		
1.2	18.7		
1.3	17.6		
1.4	16.3		
1.5	15.0		
1.6	13.6		
1.7	13.8		
1.8	15.3		
1.9	16.6		
2.0	17.4		
2.1	17.8		
2.2	17.9		
2.3	17.7		
2.4	17.2		
2.5	16.2		
2.6	14.6		
2.7	12.2		
2.8	9.3		
2.9	7.1		
3.0	6.3		
3.1	6.6		
3.2	7.5		
3.3	8.4		
3.4	8.3		
3.5	7.1	18.4	-11.3
3.6	5.4	18.1	-12.7
3.7	4.0	17.8	-13.8
3.8	4.7	17.5	-12.8
3.9	6.2	17.2	-11.0
4.0	6.7	16.9	-10.3
4.1	5.8	16.7	-10.9
4.2	4.7	16.4	-11.7
4.3	2.3	16.2	-13.9
4.4	0.1	15.9	-15.8
4.5	-0.4	15.7	-16.1
4.6	0.6	15.4	-14.8
4.7	2.0	15.2	-13.2
4.8	3.3	15.0	-11.7
4.9	3.7	14.7	-11.0
5.0	1.7	14.5	-12.8
5.1	-2.6	14.3	-16.9
5.2	-14.4	14.1	-28.5
5.3	-5.6	13.9	-19.5
5.4	0.9	13.7	-12.8
5.5	2.5	13.5	-11.0
5.6	3.0	13.3	-10.3
5.7	1.6	13.1	-11.5
5.8	-2.8	12.9	-15.7
5.9	-12.9	12.7	-25.6

Orbit Communication Systems Ltd.
 AL-7103-Ka, 1.20 m Antenna, Pattern Data Table
 Co-pol Elevation LHCP, -10° to +10° @ 0.1° increment

-4.0	0.2	16.9	-16.8
-3.9	-0.2	17.2	-17.4
-3.8	-0.1	17.5	-17.6
-3.7	0.8	17.8	-17.0
-3.6	2.1	18.1	-16.0
-3.5	3.3	18.4	-15.1
-3.4	4.7		
-3.3	6.6		
-3.2	8.7		
-3.1	10.6		
-3.0	11.6		
-2.9	11.6		
-2.8	10.8		
-2.7	10.3		
-2.6	10.9		
-2.5	12.4		
-2.4	13.5		
-2.3	13.9		
-2.2	13.6		
-2.1	13.0		
-2.0	12.7		
-1.9	13.3		
-1.8	15.2		
-1.7	17.8		
-1.6	20.2		
-1.5	21.5		
-1.4	21.9		
-1.3	21.1		
-1.2	19.6		
-1.1	19.4		
-1.0	23.1		
-0.9	27.8		
-0.8	32.3		
-0.7	36.3		
-0.6	39.7		
-0.5	42.5		
-0.4	44.7		
-0.3	46.5		
-0.2	47.7		
-0.1	48.3		
0.0	48.5		

6.0	-14.9	12.5	-27.5
6.1	-6.9	12.4	-19.3
6.2	-5.5	12.2	-17.7
6.3	-5.8	12.0	-17.8
6.4	-6.7	11.8	-18.5
6.5	-5.8	11.7	-17.4
6.6	-2.8	11.5	-14.4
6.7	-0.2	11.3	-11.6
6.8	1.7	11.2	-9.5
6.9	2.3	11.0	-8.7
7.0	2.1	10.9	-8.8
7.1	1.0	10.7	-9.7
7.2	-0.7	10.6	-11.3
7.3	-1.0	10.4	-11.4
7.4	-0.1	10.3	-10.3
7.5	0.6	10.1	-9.5
7.6	1.0	10.0	-9.0
7.7	0.3	9.8	-9.6
7.8	-1.3	9.7	-11.0
7.9	-2.9	9.6	-12.5
8.0	-2.7	9.4	-12.1
8.1	-1.2	9.3	-10.5
8.2	-0.1	9.2	-9.3
8.3	0.0	9.0	-9.0
8.4	0.0	8.9	-8.9
8.5	-1.8	8.8	-10.6
8.6	-3.9	8.6	-12.5
8.7	-7.5	8.5	-16.0
8.8	-11.4	8.4	-19.8
8.9	-13.0	8.3	-21.2
9.0	-12.4	8.1	-20.5
9.1	-13.2	8.0	-21.3
9.2	-13.0	7.9	-20.9
9.3	-7.2	7.8	-15.0
9.4	-2.2	7.7	-9.9
9.5	0.6	7.6	-6.9
9.6	2.4	7.4	-5.0
9.7	3.4	7.3	-4.0
9.8	3.4	7.2	-3.8
9.9	2.3	7.1	-4.8
10.0	0.9	7.0	-6.1

Orbit Communication Systems Ltd.
AL-7103-Ka, 1.20 m Antenna, Pattern Data Table
X-pol Azimuth LHCP, -10° to +10° @ 0.1° increment

29.10 GHz Antenna Pattern in X-pol Az LHCP

Angle Degrees	Gain dBi	Mask dBi	Over Mask dB
-10.0	-7.7	-2.0	-5.7
-9.9	-10.2	-2.0	-8.2
-9.8	-14.2	-2.0	-12.2
-9.7	-22.3	-2.0	-20.3
-9.6	-27.5	-2.0	-25.5
-9.5	-17.7	-2.0	-15.7
-9.4	-16.2	-2.0	-14.2
-9.3	-17.0	-2.0	-15.0
-9.2	-15.5	-2.0	-13.5
-9.1	-10.5	-2.0	-8.5
-9.0	-7.6	-2.0	-5.6
-8.9	-5.3	-2.0	-3.3
-8.8	-4.3	-2.0	-2.3
-8.7	-3.7	-2.0	-1.7
-8.6	-4.0	-2.0	-2.0
-8.5	-5.0	-2.0	-3.0
-8.4	-6.9	-2.0	-4.9
-8.3	-9.2	-2.0	-7.2
-8.2	-10.6	-2.0	-8.6
-8.1	-8.2	-2.0	-6.2
-8.0	-6.0	-2.0	-4.0
-7.9	-4.7	-2.0	-2.7
-7.8	-4.9	-2.0	-2.9
-7.7	-7.3	-2.0	-5.3
-7.6	-11.6	-2.0	-9.6
-7.5	-21.7	-2.0	-19.7
-7.4	-12.4	-2.0	-10.4
-7.3	-8.0	-2.0	-6.0
-7.2	-6.4	-2.0	-4.4
-7.1	-7.5	-2.0	-5.5
-7.0	-10.9	-2.1	-8.8
-6.9	-18.2	-2.0	-16.2
-6.8	-16.0	-1.8	-14.2
-6.7	-10.6	-1.7	-9.0
-6.6	-7.2	-1.5	-5.7
-6.5	-6.2	-1.3	-4.9
-6.4	-6.3	-1.2	-5.2
-6.3	-7.2	-1.0	-6.2
-6.2	-10.1	-0.8	-9.3
-6.1	-14.8	-0.6	-14.2
-6.0	-20.9	-0.5	-20.5
-5.9	-11.0	-0.3	-10.8
-5.8	-7.5	-0.1	-7.4
-5.7	-6.5	0.1	-6.6
-5.6	-8.4	0.3	-8.7
-5.5	-11.1	0.5	-11.6
-5.4	-8.2	0.7	-8.9
-5.3	-3.9	0.9	-4.8
-5.2	-1.5	1.1	-2.6
-5.1	-1.0	1.3	-2.3
-5.0	-1.7	1.5	-3.2
-4.9	-4.0	1.7	-5.7
-4.8	-7.3	2.0	-9.2
-4.7	-7.2	2.2	-9.4
-4.6	-5.1	2.4	-7.5
-4.5	-3.2	2.7	-5.9
-4.4	-1.9	2.9	-4.8
-4.3	-1.2	3.2	-4.3
-4.2	-1.0	3.4	-4.4
-4.1	-2.1	3.7	-5.8

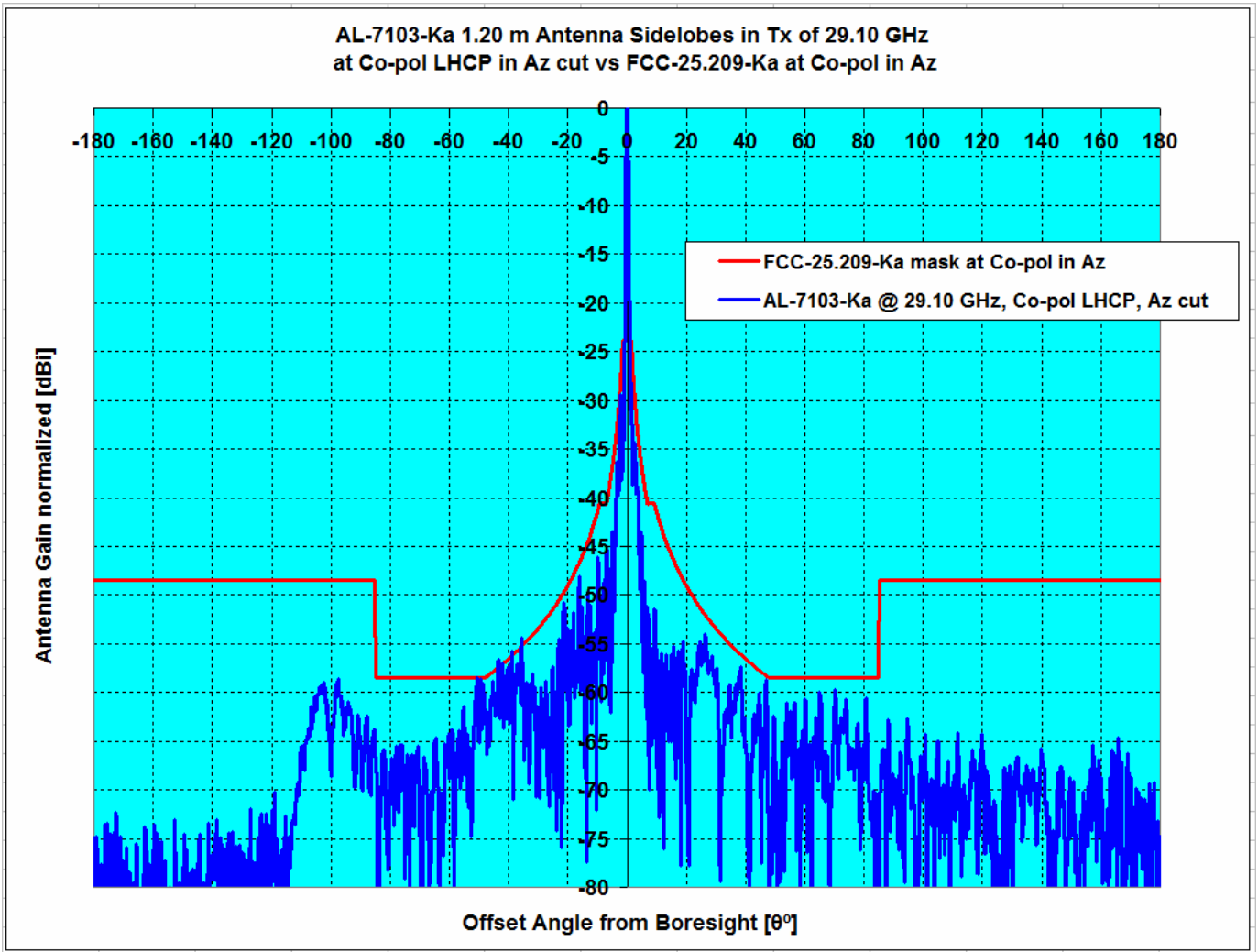
29.10 GHz Antenna Pattern in X-pol Az LHCP

Angle Degrees	Gain dBi	Mask dBi	Over Mask dB
0.0	15.5		
0.1	19.8		
0.2	23.9		
0.3	26.3		
0.4	27.7		
0.5	28.0		
0.6	27.4		
0.7	25.8		
0.8	23.2		
0.9	19.3		
1.0	13.7		
1.1	6.8		
1.2	6.4		
1.3	6.2		
1.4	1.6		
1.5	-10.4		
1.6	1.7		
1.7	5.3		
1.8	5.6	12.6	-7.0
1.9	2.7	12.0	-9.3
2.0	-4.8	11.5	-16.3
2.1	-9.3	10.9	-20.3
2.2	-2.6	10.4	-13.0
2.3	-1.5	10.0	-11.5
2.4	-1.8	9.5	-11.3
2.5	-3.5	9.1	-12.6
2.6	-1.6	8.6	-10.2
2.7	-0.1	8.2	-8.3
2.8	-0.7	7.8	-8.5
2.9	-4.6	7.4	-12.0
3.0	-11.7	7.1	-18.8
3.1	-6.8	6.7	-13.6
3.2	-2.7	6.4	-9.1
3.3	-2.2	6.0	-8.2
3.4	-5.1	5.7	-10.8
3.5	-10.0	5.4	-15.4
3.6	-13.9	5.1	-19.0
3.7	-7.2	4.8	-12.0
3.8	-3.9	4.5	-8.4
3.9	-2.9	4.2	-7.1
4.0	-3.3	3.9	-7.3
4.1	-4.2	3.7	-7.9
4.2	-7.3	3.4	-10.7
4.3	-10.9	3.2	-14.1
4.4	-21.0	2.9	-23.9
4.5	-9.5	2.7	-12.2
4.6	-5.7	2.4	-8.1
4.7	-4.4	2.2	-6.6
4.8	-4.7	2.0	-6.7
4.9	-9.9	1.7	-11.7
5.0	-13.3	1.5	-14.8
5.1	-10.1	1.3	-11.5
5.2	-7.0	1.1	-8.1
5.3	-7.9	0.9	-8.8
5.4	-12.2	0.7	-12.9
5.5	-27.4	0.5	-27.9
5.6	-11.3	0.3	-11.6
5.7	-7.7	0.1	-7.8
5.8	-7.9	-0.1	-7.8
5.9	-12.1	-0.3	-11.8

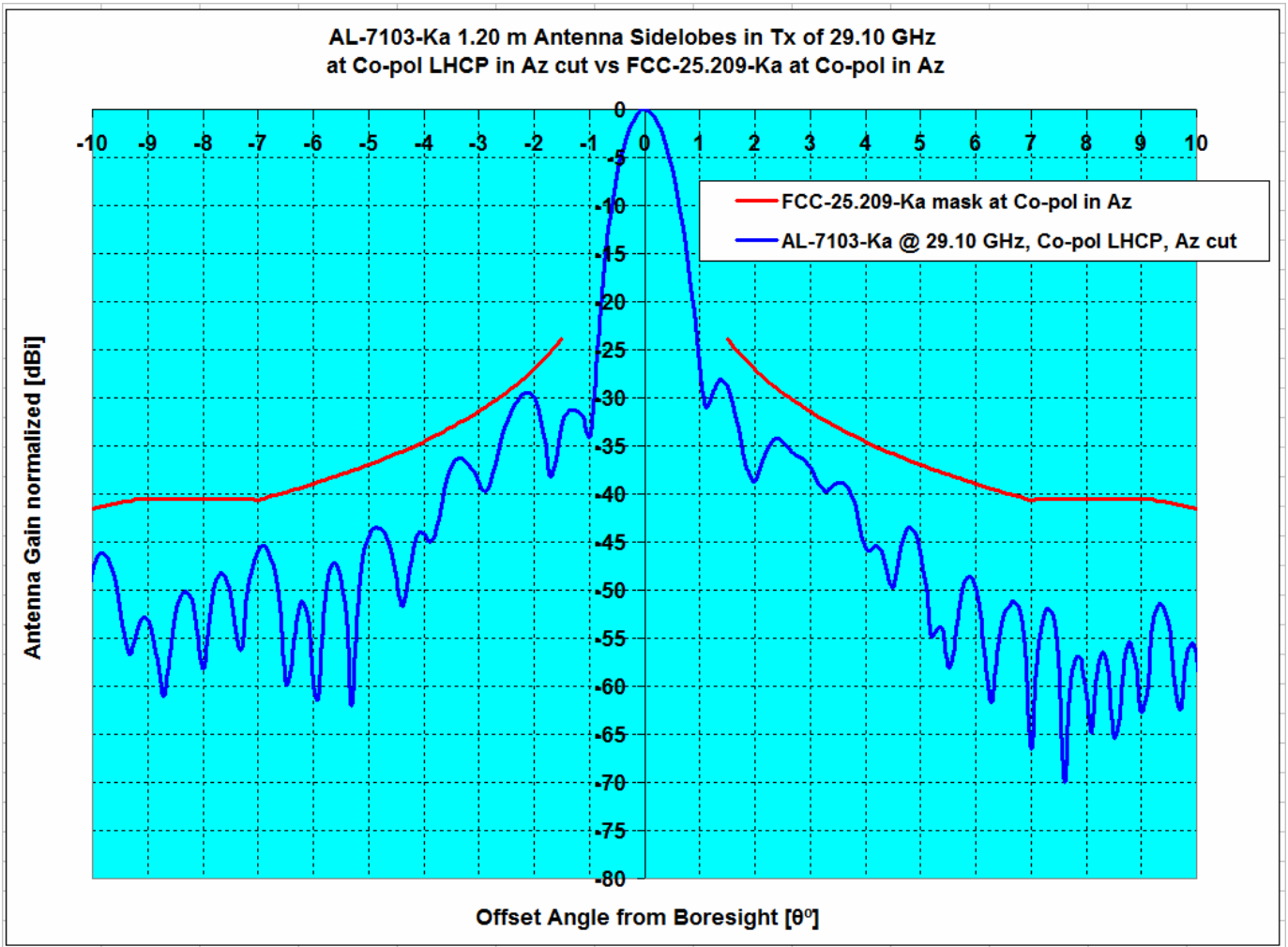
Orbit Communication Systems Ltd.
 AL-7103-Ka, 1.20 m Antenna, Pattern Data Table
 X-pol Azimuth LHCP, -10° to +10° @ 0.1° increment

-4.0	-6.1	3.9	-10.0
-3.9	-19.3	4.2	-23.5
-3.8	-7.3	4.5	-11.8
-3.7	-2.0	4.8	-6.8
-3.6	0.0	5.1	-5.1
-3.5	-0.6	5.4	-6.0
-3.4	-5.6	5.7	-11.3
-3.3	-12.2	6.0	-18.2
-3.2	-1.9	6.4	-8.3
-3.1	2.0	6.7	-4.7
-3.0	2.8	7.1	-4.2
-2.9	0.8	7.4	-6.6
-2.8	-5.7	7.8	-13.5
-2.7	-11.3	8.2	-19.5
-2.6	0.2	8.6	-8.4
-2.5	3.1	9.1	-5.9
-2.4	2.6	9.5	-6.9
-2.3	-1.6	10.0	-11.5
-2.2	-9.1	10.4	-19.5
-2.1	2.6	10.9	-8.4
-2.0	7.1	11.5	-4.3
-1.9	8.9	12.0	-3.1
-1.8	8.4	12.6	-4.2
-1.7	5.5		
-1.6	-3.0		
-1.5	0.2		
-1.4	7.3		
-1.3	10.7		
-1.2	12.4		
-1.1	13.5		
-1.0	13.8		
-0.9	13.7		
-0.8	13.7		
-0.7	15.0		
-0.6	17.2		
-0.5	19.3		
-0.4	20.7		
-0.3	21.1		
-0.2	20.2		
-0.1	17.7		
0.0	15.5		

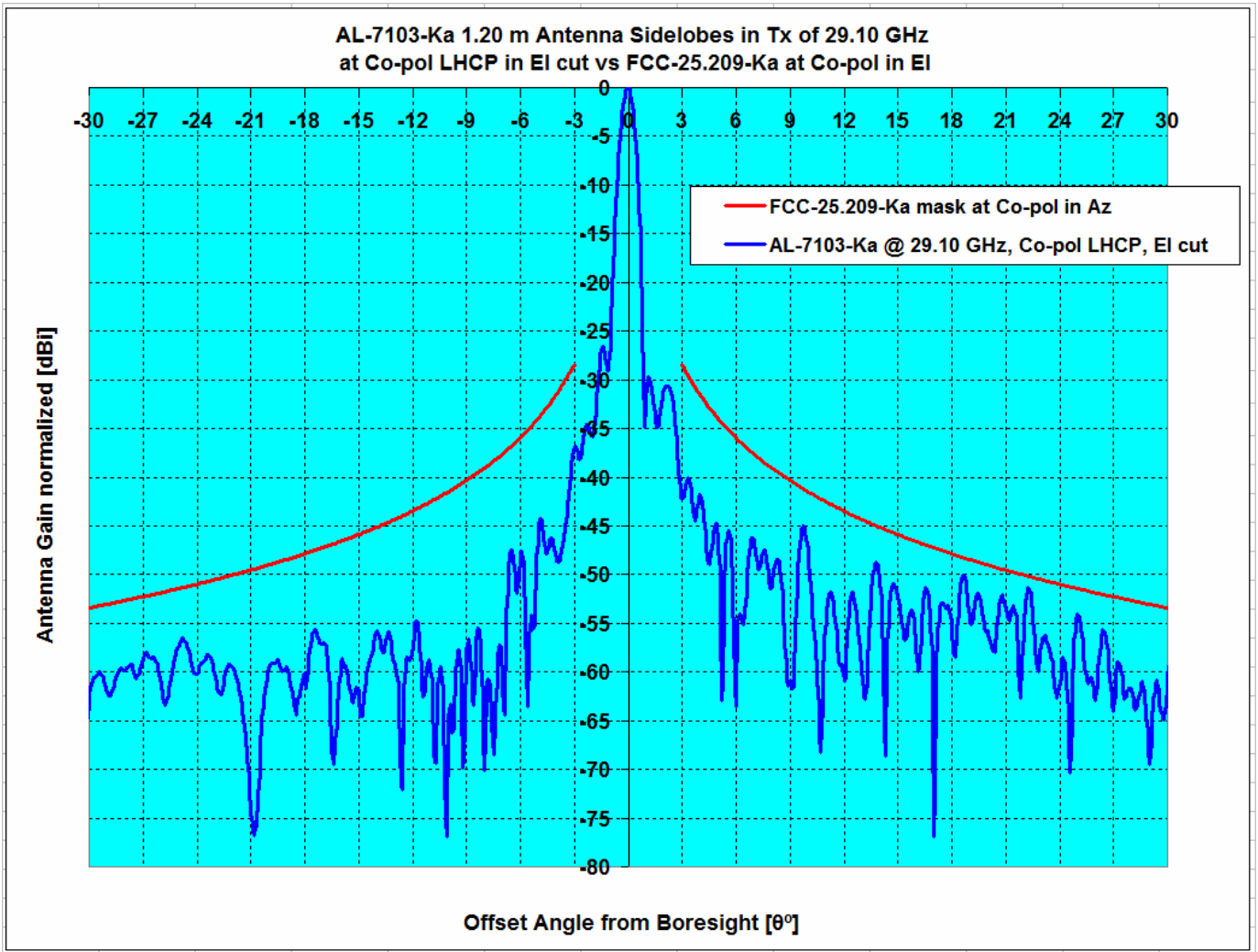
6.0	-21.7	-0.5	-21.2
6.1	-11.2	-0.6	-10.6
6.2	-6.0	-0.8	-5.2
6.3	-5.2	-1.0	-4.2
6.4	-5.9	-1.2	-4.8
6.5	-9.6	-1.3	-8.3
6.6	-15.0	-1.5	-13.5
6.7	-10.9	-1.7	-9.2
6.8	-7.7	-1.8	-5.9
6.9	-8.1	-2.0	-6.2
7.0	-10.0	-2.1	-7.9
7.1	-16.9	-2.0	-14.9
7.2	-24.7	-2.0	-22.7
7.3	-14.0	-2.0	-12.0
7.4	-13.8	-2.0	-11.8
7.5	-15.0	-2.0	-13.0
7.6	-16.2	-2.0	-14.2
7.7	-18.8	-2.0	-16.8
7.8	-18.0	-2.0	-16.0
7.9	-15.2	-2.0	-13.2
8.0	-17.0	-2.0	-15.0
8.1	-18.3	-2.0	-16.3
8.2	-24.0	-2.0	-22.0
8.3	-19.7	-2.0	-17.7
8.4	-17.1	-2.0	-15.1
8.5	-14.0	-2.0	-12.0
8.6	-13.2	-2.0	-11.2
8.7	-17.1	-2.0	-15.1
8.8	-18.8	-2.0	-16.8
8.9	-28.1	-2.0	-26.1
9.0	-18.8	-2.0	-16.8
9.1	-12.8	-2.0	-10.8
9.2	-12.1	-2.0	-10.1
9.3	-11.8	-2.0	-9.8
9.4	-12.8	-2.0	-10.8
9.5	-19.1	-2.0	-17.1
9.6	-16.6	-2.0	-14.6
9.7	-12.9	-2.0	-10.9
9.8	-10.6	-2.0	-8.6
9.9	-10.0	-2.0	-8.0
10.0	-11.6	-2.0	-9.6



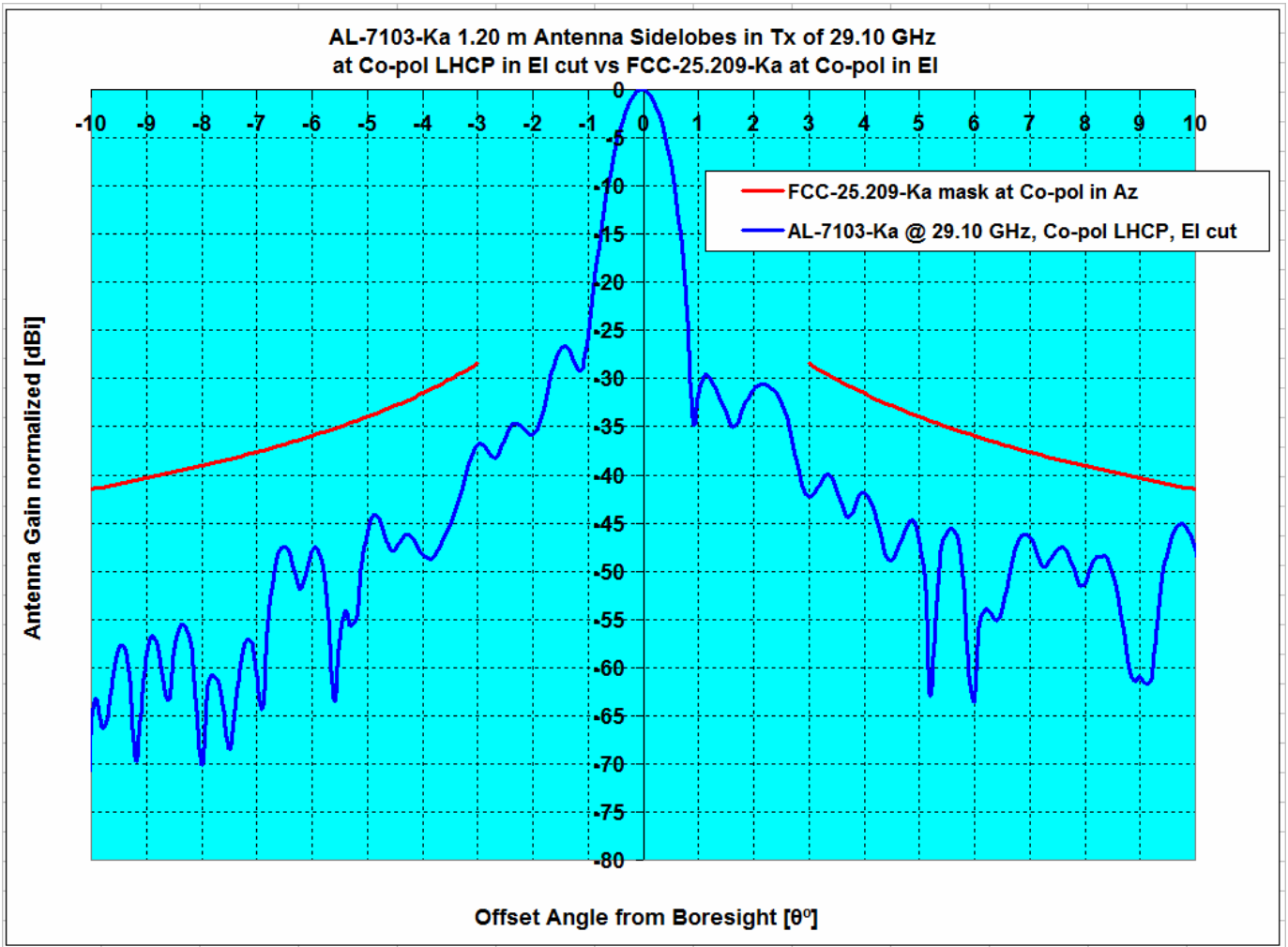
Description	Plane, CirP	Frequency	Ant. Gain	Peak Excursions dB		Over Mask %	
				1.5°≤θ≤7°	7°≤θ≤180°	1.5°≤θ≤7°	7°≤θ≤180°
Pattern Rule vs Antenna System	Type	GHz	dBi				
FCC-25.209-Ka, Co-pol Az, vs AL-7103-Ka	Az , LHCP	29.10	48.50	-1.60	0.94	0.00%	0.28%



Description	Plane, CirP	Frequency	Ant. Gain	Peak Excursions dB		Over Mask %	
				1.5°≤θ≤7°	7°≤θ≤180°	1.5°≤θ≤7°	7°≤θ≤180°
FCC-25.209-Ka, Co-pol Az, vs AL-7103-Ka	Az , LHCP	29.10	48.50	-1.60	0.94	0.00%	0.28%

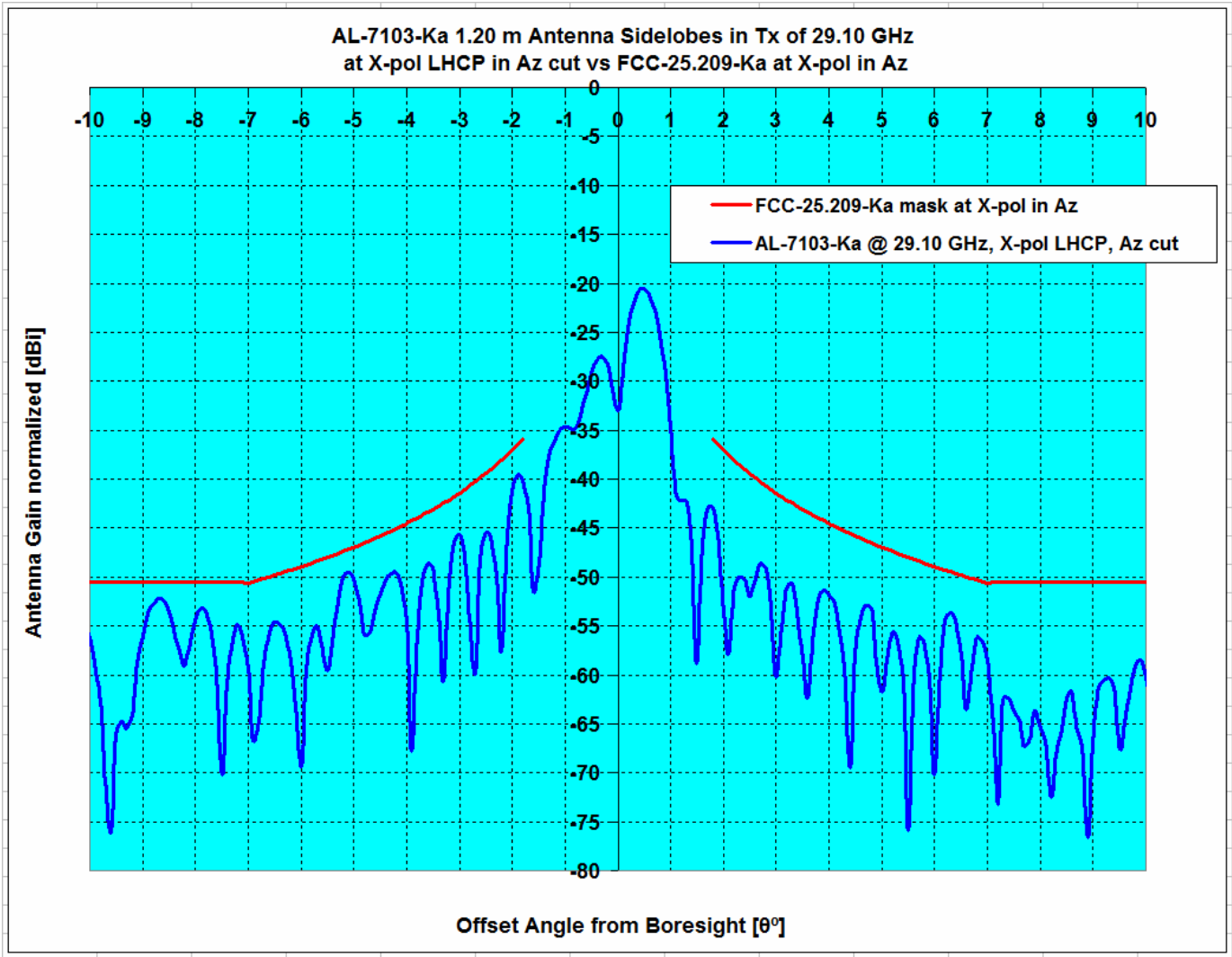


Description	Plane, CirP	Frequency	Ant. Gain	Peak Excursions dB		Over Mask %	
				3°≤θ≤7°	7°≤θ≤30°	3°≤θ≤7°	7°≤θ≤30°
FCC-25.209-Ka, Co-pol EI, vs AL-7103-Ka	EI , LHCP	29.10	48.50	-8.46	-1.17	0.00%	0.00%



Description	Plane, CirP	Frequency	Ant. Gain	Peak Excursions dB		Over Mask %	
				3°≤θ≤7°	7°≤θ≤30°	3°≤θ≤7°	7°≤θ≤30°
FCC-25.209-Ka, Co-pol EI, vs AL-7103-Ka	EI , LHCP	29.10	48.50	-8.46	-1.17	0.00%	0.00%

Orbit Communication Systems Ltd.
 AL-7103-Ka, 1.20 m Antenna, Pattern, X-pol, Azimuth LHCP



Description	Plane, CirP	Frequency	Ant. Gain	Peak Excursions dB		Over Mask %	
				1.8° ≤ θ ≤ 7°	1.8° ≤ θ ≤ 9.2°	1.8° ≤ θ ≤ 7°	1.8° ≤ θ ≤ 9.2°
Pattern Rule vs Antenna System	Type	GHz	dBi				
FCC-25.209-Ka, X-pol Az, vs AL-7103-Ka	Az , LHCP	29.10	48.50	-2.31	-1.68	0.00%	0.00%

Orbit Communication Systems Ltd.
AL-7103-Ka, 1.20 m Antenna, Pattern Data Table
Co-pol Azimuth RHCP, -180° to +180° @ 1.0° increment

29.10 GHz Antenna Pattern in Co-pol Az RHCP

Angle Degrees	Gain dBi	Mask dBi	Over Mask dB
-179.0	-31.2	0.0	-31.2
-178.0	-29.8	0.0	-29.8
-177.0	-27.5	0.0	-27.5
-176.0	-23.4	0.0	-23.4
-175.0	-31.3	0.0	-31.3
-174.0	-35.8	0.0	-35.8
-173.0	-31.5	0.0	-31.5
-172.0	-33.8	0.0	-33.8
-171.0	-35.8	0.0	-35.8
-170.0	-33.0	0.0	-33.0
-169.0	-25.5	0.0	-25.5
-168.0	-44.0	0.0	-44.0
-167.0	-25.2	0.0	-25.2
-166.0	-30.0	0.0	-30.0
-165.0	-39.8	0.0	-39.8
-164.0	-36.0	0.0	-36.0
-163.0	-36.9	0.0	-36.9
-162.0	-33.1	0.0	-33.1
-161.0	-33.9	0.0	-33.9
-160.0	-29.9	0.0	-29.9
-159.0	-33.1	0.0	-33.1
-158.0	-31.7	0.0	-31.7
-157.0	-32.8	0.0	-32.8
-156.0	-30.9	0.0	-30.9
-155.0	-35.3	0.0	-35.3
-154.0	-34.2	0.0	-34.2
-153.0	-32.3	0.0	-32.3
-152.0	-36.8	0.0	-36.8
-151.0	-31.1	0.0	-31.1
-150.0	-32.4	0.0	-32.4
-149.0	-28.0	0.0	-28.0
-148.0	-26.2	0.0	-26.2
-147.0	-28.4	0.0	-28.4
-146.0	-34.4	0.0	-34.4
-145.0	-27.0	0.0	-27.0
-144.0	-30.8	0.0	-30.8
-143.0	-33.6	0.0	-33.6
-142.0	-34.3	0.0	-34.3
-141.0	-32.6	0.0	-32.6
-140.0	-33.5	0.0	-33.5
-139.0	-27.6	0.0	-27.6
-138.0	-41.6	0.0	-41.6
-137.0	-34.1	0.0	-34.1
-136.0	-37.0	0.0	-37.0
-135.0	-29.4	0.0	-29.4
-134.0	-27.4	0.0	-27.4
-133.0	-28.1	0.0	-28.1
-132.0	-39.7	0.0	-39.7
-131.0	-30.6	0.0	-30.6
-130.0	-42.3	0.0	-42.3
-129.0	-27.9	0.0	-27.9
-128.0	-31.9	0.0	-31.9
-127.0	-25.7	0.0	-25.7
-126.0	-38.1	0.0	-38.1
-125.0	-27.5	0.0	-27.5
-124.0	-28.7	0.0	-28.7
-123.0	-34.5	0.0	-34.5
-122.0	-35.3	0.0	-35.3
-121.0	-29.9	0.0	-29.9
-120.0	-27.8	0.0	-27.8

29.10 GHz Antenna Pattern in Co-pol Az RHCP

Angle Degrees	Gain dBi	Mask dBi	Over Mask dB
0.0	48.5		
1.0	22.7		
2.0	11.0	21.5	-10.5
3.0	11.8	17.1	-5.3
4.0	0.6	13.9	-13.3
5.0	2.3	11.5	-9.2
6.0	1.3	9.5	-8.3
7.0	-27.0	7.9	-34.8
8.0	-13.7	8.0	-21.7
9.0	-16.1	8.0	-24.1
10.0	-10.4	7.0	-17.4
11.0	-13.0	6.0	-19.0
12.0	-8.6	5.0	-13.6
13.0	-7.0	4.2	-11.2
14.0	-6.5	3.3	-9.9
15.0	-9.3	2.6	-11.9
16.0	-14.8	1.9	-16.7
17.0	-6.2	1.2	-7.5
18.0	-16.8	0.6	-17.4
19.0	-10.0	0.0	-10.0
20.0	-10.8	-0.5	-10.3
21.0	-20.8	-1.1	-19.8
22.0	-12.2	-1.6	-10.6
23.0	-10.0	-2.0	-7.9
24.0	-8.2	-2.5	-5.7
25.0	-9.2	-2.9	-6.3
26.0	-9.8	-3.4	-6.4
27.0	-13.1	-3.8	-9.3
28.0	-9.9	-4.2	-5.7
29.0	-14.9	-4.6	-10.4
30.0	-14.3	-4.9	-9.4
31.0	-13.2	-5.3	-7.9
32.0	-30.0	-5.6	-24.4
33.0	-17.1	-6.0	-11.2
34.0	-22.0	-6.3	-15.7
35.0	-20.0	-6.6	-13.4
36.0	-22.1	-6.9	-15.2
37.0	-14.6	-7.2	-7.4
38.0	-18.1	-7.5	-10.7
39.0	-17.6	-7.8	-9.8
40.0	-25.4	-8.1	-17.4
41.0	-18.6	-8.3	-10.3
42.0	-18.9	-8.6	-10.4
43.0	-24.8	-8.8	-16.0
44.0	-17.0	-9.1	-7.9
45.0	-36.1	-9.3	-26.7
46.0	-17.4	-9.6	-7.8
47.0	-8.5	-9.8	1.3
48.0	-19.5	-10.0	-9.5
49.0	-15.4	-10.0	-5.4
50.0	-15.7	-10.0	-5.7
51.0	-18.0	-10.0	-8.0
52.0	-21.3	-10.0	-11.3
53.0	-31.1	-10.0	-21.1
54.0	-19.9	-10.0	-9.9
55.0	-17.0	-10.0	-7.0
56.0	-13.4	-10.0	-3.4
57.0	-18.1	-10.0	-8.1
58.0	-23.1	-10.0	-13.1
59.0	-14.2	-10.0	-4.2

Orbit Communication Systems Ltd.
AL-7103-Ka, 1.20 m Antenna, Pattern Data Table
Co-pol Azimuth RHCP, -180° to +180° @ 1.0° increment

-119.0	-37.7	0.0	-37.7
-118.0	-39.4	0.0	-39.4
-117.0	-32.2	0.0	-32.2
-116.0	-23.4	0.0	-23.4
-115.0	-25.3	0.0	-25.3
-114.0	-27.7	0.0	-27.7
-113.0	-27.6	0.0	-27.6
-112.0	-23.4	0.0	-23.4
-111.0	-25.8	0.0	-25.8
-110.0	-22.2	0.0	-22.2
-109.0	-20.3	0.0	-20.3
-108.0	-18.2	0.0	-18.2
-107.0	-15.0	0.0	-15.0
-106.0	-14.4	0.0	-14.4
-105.0	-13.1	0.0	-13.1
-104.0	-13.0	0.0	-13.0
-103.0	-13.1	0.0	-13.1
-102.0	-14.6	0.0	-14.6
-101.0	-17.3	0.0	-17.3
-100.0	-25.5	0.0	-25.5
-99.0	-47.2	0.0	-47.2
-98.0	-22.8	0.0	-22.8
-97.0	-17.0	0.0	-17.0
-96.0	-14.5	0.0	-14.5
-95.0	-14.6	0.0	-14.6
-94.0	-20.7	0.0	-20.7
-93.0	-18.3	0.0	-18.3
-92.0	-14.2	0.0	-14.2
-91.0	-18.2	0.0	-18.2
-90.0	-19.8	0.0	-19.8
-89.0	-16.8	0.0	-16.8
-88.0	-14.9	0.0	-14.9
-87.0	-13.1	0.0	-13.1
-86.0	-18.3	0.0	-18.3
-85.0	-12.5	-10.0	-2.5
-84.0	-12.6	-10.0	-2.6
-83.0	-27.9	-10.0	-17.9
-82.0	-14.9	-10.0	-4.9
-81.0	-15.4	-10.0	-5.4
-80.0	-16.5	-10.0	-6.5
-79.0	-16.8	-10.0	-6.8
-78.0	-17.9	-10.0	-7.9
-77.0	-17.5	-10.0	-7.5
-76.0	-23.3	-10.0	-13.3
-75.0	-15.3	-10.0	-5.3
-74.0	-14.4	-10.0	-4.4
-73.0	-16.0	-10.0	-6.0
-72.0	-17.4	-10.0	-7.4
-71.0	-16.4	-10.0	-6.4
-70.0	-20.9	-10.0	-10.9
-69.0	-17.2	-10.0	-7.2
-68.0	-28.3	-10.0	-18.3
-67.0	-20.7	-10.0	-10.7
-66.0	-24.3	-10.0	-14.3
-65.0	-13.2	-10.0	-3.2
-64.0	-14.4	-10.0	-4.4
-63.0	-18.5	-10.0	-8.5
-62.0	-19.2	-10.0	-9.2
-61.0	-22.9	-10.0	-12.9
-60.0	-18.0	-10.0	-8.0
-59.0	-20.4	-10.0	-10.4
-58.0	-16.5	-10.0	-6.5
-57.0	-13.4	-10.0	-3.4

60.0	-15.5	-10.0	-5.5
61.0	-21.9	-10.0	-11.9
62.0	-21.2	-10.0	-11.2
63.0	-28.3	-10.0	-18.3
64.0	-18.8	-10.0	-8.8
65.0	-10.6	-10.0	-0.6
66.0	-14.4	-10.0	-4.4
67.0	-15.8	-10.0	-5.8
68.0	-12.8	-10.0	-2.8
69.0	-14.2	-10.0	-4.2
70.0	-15.4	-10.0	-5.4
71.0	-25.0	-10.0	-15.0
72.0	-15.3	-10.0	-5.3
73.0	-18.2	-10.0	-8.2
74.0	-30.1	-10.0	-20.1
75.0	-18.2	-10.0	-8.2
76.0	-27.6	-10.0	-17.6
77.0	-20.5	-10.0	-10.5
78.0	-23.3	-10.0	-13.3
79.0	-25.1	-10.0	-15.1
80.0	-29.0	-10.0	-19.0
81.0	-13.9	-10.0	-3.9
82.0	-17.7	-10.0	-7.7
83.0	-26.3	-10.0	-16.3
84.0	-24.7	-10.0	-14.7
85.0	-18.2	-10.0	-8.2
86.0	-23.2	0.0	-23.2
87.0	-31.3	0.0	-31.3
88.0	-22.4	0.0	-22.4
89.0	-16.4	0.0	-16.4
90.0	-27.2	0.0	-27.2
91.0	-20.7	0.0	-20.7
92.0	-25.9	0.0	-25.9
93.0	-21.0	0.0	-21.0
94.0	-25.5	0.0	-25.5
95.0	-22.3	0.0	-22.3
96.0	-23.2	0.0	-23.2
97.0	-25.0	0.0	-25.0
98.0	-20.5	0.0	-20.5
99.0	-24.4	0.0	-24.4
100.0	-30.7	0.0	-30.7
101.0	-21.7	0.0	-21.7
102.0	-20.1	0.0	-20.1
103.0	-27.6	0.0	-27.6
104.0	-25.2	0.0	-25.2
105.0	-26.1	0.0	-26.1
106.0	-20.6	0.0	-20.6
107.0	-20.1	0.0	-20.1
108.0	-24.1	0.0	-24.1
109.0	-41.2	0.0	-41.2
110.0	-31.0	0.0	-31.0
111.0	-19.2	0.0	-19.2
112.0	-27.0	0.0	-27.0
113.0	-22.1	0.0	-22.1
114.0	-22.3	0.0	-22.3
115.0	-27.5	0.0	-27.5
116.0	-22.1	0.0	-22.1
117.0	-32.5	0.0	-32.5
118.0	-32.9	0.0	-32.9
119.0	-22.8	0.0	-22.8
120.0	-27.0	0.0	-27.0
121.0	-21.9	0.0	-21.9
122.0	-24.3	0.0	-24.3

Orbit Communication Systems Ltd.
AL-7103-Ka, 1.20 m Antenna, Pattern Data Table
Co-pol Azimuth RHCP, -180° to +180° @ 1.0° increment

-56.0	-16.6	-10.0	-6.6
-55.0	-10.9	-10.0	-0.9
-54.0	-12.8	-10.0	-2.8
-53.0	-16.8	-10.0	-6.8
-52.0	-18.8	-10.0	-8.8
-51.0	-10.5	-10.0	-0.5
-50.0	-10.3	-10.0	-0.3
-49.0	-19.5	-10.0	-9.5
-48.0	-12.4	-10.0	-2.4
-47.0	-13.8	-9.8	-4.0
-46.0	-16.5	-9.6	-7.0
-45.0	-11.8	-9.3	-2.4
-44.0	-12.3	-9.1	-3.2
-43.0	-12.4	-8.8	-3.6
-42.0	-5.7	-8.6	2.9
-41.0	-8.6	-8.3	-0.3
-40.0	-13.6	-8.1	-5.6
-39.0	-9.1	-7.8	-1.3
-38.0	-9.6	-7.5	-2.1
-37.0	-9.0	-7.2	-1.8
-36.0	-10.7	-6.9	-3.8
-35.0	-12.2	-6.6	-5.6
-34.0	-9.4	-6.3	-3.1
-33.0	-14.1	-6.0	-8.2
-32.0	-9.9	-5.6	-4.3
-31.0	-7.9	-5.3	-2.7
-30.0	-14.1	-4.9	-9.2
-29.0	-9.1	-4.6	-4.5
-28.0	-14.0	-4.2	-9.8
-27.0	-13.7	-3.8	-9.9
-26.0	-11.8	-3.4	-8.4
-25.0	-4.6	-2.9	-1.6
-24.0	-9.0	-2.5	-6.5
-23.0	-8.9	-2.0	-6.8
-22.0	-12.2	-1.6	-10.6
-21.0	-1.2	-1.1	-0.2
-20.0	-9.3	-0.5	-8.8
-19.0	-6.2	0.0	-6.3
-18.0	-5.5	0.6	-6.1
-17.0	-11.2	1.2	-12.4
-16.0	-2.4	1.9	-4.3
-15.0	-10.7	2.6	-13.3
-14.0	-1.1	3.3	-4.4
-13.0	-6.7	4.2	-10.9
-12.0	-17.3	5.0	-22.4
-11.0	-20.1	6.0	-26.0
-10.0	0.9	7.0	-6.1
-9.0	-12.9	8.0	-20.9
-8.0	-8.2	8.0	-16.2
-7.0	-0.2	7.9	-8.1
-6.0	-22.4	9.5	-31.9
-5.0	4.1	11.5	-7.4
-4.0	1.3	13.9	-12.6
-3.0	8.9	17.1	-8.2
-2.0	16.9	21.5	-4.6
-1.0	13.9		
0.0	48.5		

123.0	-27.6	0.0	-27.6
124.0	-20.6	0.0	-20.6
125.0	-34.2	0.0	-34.2
126.0	-24.7	0.0	-24.7
127.0	-27.5	0.0	-27.5
128.0	-21.5	0.0	-21.5
129.0	-27.9	0.0	-27.9
130.0	-19.8	0.0	-19.8
131.0	-25.2	0.0	-25.2
132.0	-26.1	0.0	-26.1
133.0	-24.3	0.0	-24.3
134.0	-19.4	0.0	-19.4
135.0	-24.9	0.0	-24.9
136.0	-28.2	0.0	-28.2
137.0	-26.0	0.0	-26.0
138.0	-18.9	0.0	-18.9
139.0	-22.5	0.0	-22.5
140.0	-28.2	0.0	-28.2
141.0	-22.6	0.0	-22.6
142.0	-19.8	0.0	-19.8
143.0	-24.9	0.0	-24.9
144.0	-35.2	0.0	-35.2
145.0	-25.6	0.0	-25.6
146.0	-32.6	0.0	-32.6
147.0	-20.2	0.0	-20.2
148.0	-19.1	0.0	-19.1
149.0	-24.5	0.0	-24.5
150.0	-25.1	0.0	-25.1
151.0	-24.3	0.0	-24.3
152.0	-23.7	0.0	-23.7
153.0	-33.0	0.0	-33.0
154.0	-23.4	0.0	-23.4
155.0	-23.1	0.0	-23.1
156.0	-25.4	0.0	-25.4
157.0	-20.2	0.0	-20.2
158.0	-29.8	0.0	-29.8
159.0	-19.5	0.0	-19.5
160.0	-17.5	0.0	-17.5
161.0	-18.5	0.0	-18.5
162.0	-25.5	0.0	-25.5
163.0	-37.8	0.0	-37.8
164.0	-26.5	0.0	-26.5
165.0	-30.3	0.0	-30.3
166.0	-28.2	0.0	-28.2
167.0	-20.9	0.0	-20.9
168.0	-24.6	0.0	-24.6
169.0	-25.4	0.0	-25.4
170.0	-41.9	0.0	-41.9
171.0	-35.7	0.0	-35.7
172.0	-18.2	0.0	-18.2
173.0	-25.8	0.0	-25.8
174.0	-23.5	0.0	-23.5
175.0	-28.9	0.0	-28.9
176.0	-27.7	0.0	-27.7
177.0	-37.1	0.0	-37.1
178.0	-33.2	0.0	-33.2
179.0	-31.0	0.0	-31.0

Orbit Communication Systems Ltd.

AL AL-7103-Ka, 1.20 m Antenna, Pattern Data Table
Co-pol Azimuth RHCP, -10° to +10° @ 0.1° increment

29.10 GHz Antenna Pattern in Co-pol Az RHCP				29.10 GHz Antenna Pattern in Co-pol Az RHCP			
Angle	Gain	Mask	Over Mask	Angle	Gain	Mask	Over Mask
Degrees	dBi	dBi	dB	Degrees	dBi	dBi	dB
-10.0	0.9	7.0	-6.1	0.0	48.5		
-9.9	2.4	7.1	-4.7	0.1	48.3		
-9.8	2.7	7.2	-4.5	0.2	47.7		
-9.7	1.8	7.3	-5.5	0.3	46.5		
-9.6	0.0	7.4	-7.4	0.4	44.8		
-9.5	-2.7	7.6	-10.3	0.5	42.4		
-9.4	-6.6	7.7	-14.3	0.6	39.5		
-9.3	-9.5	7.8	-17.3	0.7	36.0		
-9.2	-9.6	8.0	-17.6	0.8	31.9		
-9.1	-10.3	8.0	-18.3	0.9	27.3		
-9.0	-12.9	8.0	-20.9	1.0	22.7		
-8.9	-19.6	8.0	-27.6	1.1	18.6		
-8.8	-14.9	8.0	-22.9	1.2	18.1		
-8.7	-8.4	8.0	-16.4	1.3	19.4		
-8.6	-5.1	8.0	-13.1	1.4	19.9		
-8.5	-3.0	8.0	-11.0	1.5	19.4	24.6	-5.2
-8.4	-2.1	8.0	-10.1	1.6	17.6	23.9	-6.3
-8.3	-2.1	8.0	-10.1	1.7	15.0	23.2	-8.2
-8.2	-3.6	8.0	-11.6	1.8	12.2	22.6	-10.4
-8.1	-6.5	8.0	-14.5	1.9	10.7	22.0	-11.3
-8.0	-8.2	8.0	-16.2	2.0	11.0	21.5	-10.5
-7.9	-5.7	8.0	-13.7	2.1	12.3	20.9	-8.7
-7.8	-2.9	8.0	-10.9	2.2	13.7	20.4	-6.8
-7.7	-2.0	8.0	-10.0	2.3	14.3	20.0	-5.6
-7.6	-2.8	8.0	-10.8	2.4	14.5	19.5	-5.0
-7.5	-5.6	8.0	-13.6	2.5	13.9	19.1	-5.2
-7.4	-8.8	8.0	-16.8	2.6	12.6	18.6	-6.0
-7.3	-7.0	8.0	-15.0	2.7	11.8	18.2	-6.4
-7.2	-2.8	8.0	-10.8	2.8	11.5	17.8	-6.3
-7.1	-1.0	8.0	-9.0	2.9	11.8	17.4	-5.6
-7.0	-0.2	7.9	-8.1	3.0	11.8	17.1	-5.3
-6.9	-0.6	8.0	-8.6	3.1	11.4	16.7	-5.3
-6.8	-1.9	8.2	-10.0	3.2	10.4	16.4	-6.0
-6.7	-4.5	8.3	-12.8	3.3	9.5	16.0	-6.5
-6.6	-8.4	8.5	-16.9	3.4	8.9	15.7	-6.8
-6.5	-14.9	8.7	-23.5	3.5	8.3	15.4	-7.1
-6.4	-9.5	8.8	-18.3	3.6	7.7	15.1	-7.4
-6.3	-5.9	9.0	-14.9	3.7	6.8	14.8	-8.0
-6.2	-5.7	9.2	-14.9	3.8	5.0	14.5	-9.5
-6.1	-8.3	9.4	-17.6	3.9	2.8	14.2	-11.4
-6.0	-22.4	9.5	-31.9	4.0	0.6	13.9	-13.3
-5.9	-6.6	9.7	-16.4	4.1	0.6	13.7	-13.1
-5.8	-0.5	9.9	-10.4	4.2	2.3	13.4	-11.1
-5.7	1.9	10.1	-8.2	4.3	2.7	13.2	-10.5
-5.6	3.0	10.3	-7.3	4.4	3.3	12.9	-9.6
-5.5	1.8	10.5	-8.7	4.5	3.5	12.7	-9.1
-5.4	-1.5	10.7	-12.2	4.6	4.1	12.4	-8.3
-5.3	-7.2	10.9	-18.1	4.7	5.2	12.2	-7.0
-5.2	-2.9	11.1	-14.0	4.8	5.6	12.0	-6.4
-5.1	2.1	11.3	-9.2	4.9	4.5	11.7	-7.3
-5.0	4.1	11.5	-7.4	5.0	2.3	11.5	-9.2
-4.9	4.6	11.7	-7.1	5.1	-3.4	11.3	-14.7
-4.8	4.0	12.0	-8.0	5.2	-22.5	11.1	-33.6
-4.7	2.3	12.2	-9.9	5.3	-8.4	10.9	-19.3
-4.6	0.2	12.4	-12.2	5.4	-5.9	10.7	-16.6
-4.5	-1.9	12.7	-14.6	5.5	-11.6	10.5	-22.1
-4.4	-2.9	12.9	-15.8	5.6	-10.8	10.3	-21.1
-4.3	-1.4	13.2	-14.6	5.7	-3.5	10.1	-13.6
-4.2	0.7	13.4	-12.8	5.8	0.2	9.9	-9.7
-4.1	1.9	13.7	-11.8	5.9	1.7	9.7	-8.0
-4.0	1.3	13.9	-12.6	6.0	1.3	9.5	-8.3
-3.9	0.7	14.2	-13.5	6.1	-0.7	9.4	-10.1

Orbit Communication Systems Ltd.

AL AL-7103-Ka, 1.20 m Antenna, Pattern Data Table
 Co-pol Azimuth RHCP, -10° to +10° @ 0.1° increment

-3.8	2.6	14.5	-11.9		6.2	-2.6	9.2	-11.8
-3.7	6.3	14.8	-8.4		6.3	-3.0	9.0	-12.1
-3.6	9.1	15.1	-6.0		6.4	-1.8	8.8	-10.6
-3.5	10.5	15.4	-4.8		6.5	-1.7	8.7	-10.3
-3.4	11.0	15.7	-4.7		6.6	-2.5	8.5	-11.0
-3.3	10.6	16.0	-5.5		6.7	-4.4	8.3	-12.8
-3.2	9.8	16.4	-6.6		6.8	-9.2	8.2	-17.4
-3.1	9.0	16.7	-7.7		6.9	-16.1	8.0	-24.1
-3.0	8.9	17.1	-8.2		7.0	-27.0	7.9	-34.8
-2.9	9.4	17.4	-8.0		7.1	-12.1	8.0	-20.1
-2.8	10.8	17.8	-7.0		7.2	-7.6	8.0	-15.6
-2.7	12.8	18.2	-5.5		7.3	-5.9	8.0	-13.9
-2.6	14.6	18.6	-4.1		7.4	-6.6	8.0	-14.6
-2.5	15.9	19.1	-3.2		7.5	-9.7	8.0	-17.7
-2.4	16.5	19.5	-3.0		7.6	-14.0	8.0	-22.0
-2.3	16.8	20.0	-3.1		7.7	-12.3	8.0	-20.3
-2.2	17.0	20.4	-3.4		7.8	-10.0	8.0	-18.0
-2.1	17.1	20.9	-3.9		7.9	-10.9	8.0	-18.9
-2.0	16.9	21.5	-4.6		8.0	-13.7	8.0	-21.7
-1.9	15.9	22.0	-6.1		8.1	-11.0	8.0	-19.0
-1.8	14.0	22.6	-8.6		8.2	-6.5	8.0	-14.5
-1.7	12.0	23.2	-11.2		8.3	-4.7	8.0	-12.7
-1.6	12.8	23.9	-11.1		8.4	-4.5	8.0	-12.5
-1.5	14.6	24.6	-10.0		8.5	-7.5	8.0	-15.5
-1.4	15.5				8.6	-12.9	8.0	-20.9
-1.3	15.4				8.7	-16.7	8.0	-24.7
-1.2	15.5				8.8	-12.1	8.0	-20.1
-1.1	15.8				8.9	-11.6	8.0	-19.6
-1.0	13.9				9.0	-16.1	8.0	-24.1
-0.9	16.1				9.1	-22.0	8.0	-30.0
-0.8	25.9				9.2	-12.2	8.0	-20.2
-0.7	32.4				9.3	-8.1	7.8	-15.9
-0.6	37.5				9.4	-6.7	7.7	-14.4
-0.5	41.2				9.5	-8.6	7.6	-16.1
-0.4	43.9				9.6	-13.9	7.4	-21.4
-0.3	45.9				9.7	-16.7	7.3	-24.1
-0.2	47.3				9.8	-11.4	7.2	-18.6
-0.1	48.2				9.9	-8.8	7.1	-15.9
0.0	48.5				10.0	-10.4	7.0	-17.4

Orbit Communication Systems Ltd.
AL-7103-Ka, 1.20 m Antenna, Pattern Data Table
Co-pol Elevation RHCP, -30° to +30° @ 0.5° increment

29.10 GHz Antenna Pattern in Co-pol EI RHCP

Angle Degrees	Gain dBi	Mask dBi	Over Mask dB
-30.0	-8.5	-4.9	-3.6
-29.5	-6.5	-4.7	-1.7
-29.0	-8.8	-4.6	-4.2
-28.5	-8.2	-4.4	-3.9
-28.0	-7.0	-4.2	-2.8
-27.5	-8.4	-4.0	-4.5
-27.0	-8.5	-3.8	-4.7
-26.5	-7.5	-3.6	-3.9
-26.0	-8.7	-3.4	-5.3
-25.5	-6.9	-3.2	-3.7
-25.0	-5.0	-2.9	-2.0
-24.5	-7.1	-2.7	-4.3
-24.0	-12.6	-2.5	-10.1
-23.5	-11.9	-2.3	-9.6
-23.0	-7.4	-2.0	-5.3
-22.5	-9.1	-1.8	-7.3
-22.0	-13.9	-1.6	-12.3
-21.5	-15.0	-1.3	-13.7
-21.0	-16.7	-1.1	-15.6
-20.5	-19.7	-0.8	-18.9
-20.0	-16.9	-0.5	-16.4
-19.5	-15.0	-0.3	-14.7
-19.0	-9.2	0.0	-9.2
-18.5	-13.5	0.3	-13.8
-18.0	-36.4	0.6	-37.0
-17.5	-15.2	0.9	-16.2
-17.0	-11.2	1.2	-12.4
-16.5	-11.8	1.6	-13.3
-16.0	-18.0	1.9	-19.9
-15.5	-9.9	2.2	-12.1
-15.0	-12.3	2.6	-14.9
-14.5	-10.1	3.0	-13.0
-14.0	-6.4	3.3	-9.7
-13.5	-10.6	3.7	-14.3
-13.0	-12.3	4.2	-16.5
-12.5	-21.2	4.6	-25.8
-12.0	-20.6	5.0	-25.6
-11.5	-9.6	5.5	-15.1
-11.0	-8.6	6.0	-14.5
-10.5	-8.3	6.5	-14.7
-10.0	-11.3	7.0	-18.3
-9.5	-10.5	7.6	-18.0
-9.0	-60.6	8.1	-68.7
-8.5	-15.4	8.8	-24.2
-8.0	-8.7	9.4	-18.1
-7.5	-12.7	10.1	-22.8
-7.0	-3.8	10.9	-14.7
-6.5	-1.1	11.7	-12.7
-6.0	-0.4	12.5	-12.9
-5.5	-9.6	13.5	-23.1
-5.0	1.4	14.5	-13.1
-4.5	-3.5	15.7	-19.1
-4.0	1.1	16.9	-15.8
-3.5	6.0	18.4	-12.4
-3.0	11.4		
-2.5	13.2		
-2.0	11.9		
-1.5	21.4		
-1.0	22.2		
-0.5	42.5		
0.0	48.5		

29.10 GHz Antenna Pattern in Co-pol EI RHCP

Angle Degrees	Gain dBi	Mask dBi	Over Mask dB
0.0	48.5		
0.5	41.5		
1.0	16.9		
1.5	14.1		
2.0	19.1		
2.5	16.8		
3.0	7.0		
3.5	8.7	18.4	-9.7
4.0	8.1	16.9	-8.9
4.5	-6.8	15.7	-22.4
5.0	0.6	14.5	-13.9
5.5	3.6	13.5	-9.9
6.0	-11.3	12.5	-23.9
6.5	-7.7	11.7	-19.4
7.0	3.3	10.9	-7.6
7.5	2.0	10.1	-8.2
8.0	-9.3	9.4	-18.7
8.5	-5.2	8.8	-14.0
9.0	-4.4	8.1	-12.5
9.5	-2.2	7.6	-9.7
10.0	-3.7	7.0	-10.7
10.5	-4.5	6.5	-11.0
11.0	-4.6	6.0	-10.6
11.5	-19.9	5.5	-25.4
12.0	-5.9	5.0	-10.9
12.5	-7.8	4.6	-12.4
13.0	-3.1	4.2	-7.3
13.5	-8.8	3.7	-12.6
14.0	-12.8	3.3	-16.2
14.5	-6.3	3.0	-9.3
15.0	-4.5	2.6	-7.1
15.5	-9.0	2.2	-11.2
16.0	-1.4	1.9	-3.3
16.5	-7.3	1.6	-8.9
17.0	-8.2	1.2	-9.4
17.5	-6.1	0.9	-7.0
18.0	-3.6	0.6	-4.2
18.5	-6.9	0.3	-7.2
19.0	-4.9	0.0	-5.0
19.5	-7.4	-0.3	-7.1
20.0	-6.0	-0.5	-5.5
20.5	-9.1	-0.8	-8.3
21.0	-7.1	-1.1	-6.1
21.5	-6.6	-1.3	-5.3
22.0	-8.4	-1.6	-6.9
22.5	-8.8	-1.8	-7.0
23.0	-5.5	-2.0	-3.4
23.5	-10.0	-2.3	-7.7
24.0	-17.8	-2.5	-15.3
24.5	-9.4	-2.7	-6.6
25.0	-11.6	-2.9	-8.6
25.5	-20.8	-3.2	-17.6
26.0	-18.5	-3.4	-15.1
26.5	-13.9	-3.6	-10.3
27.0	-17.5	-3.8	-13.7
27.5	-17.2	-4.0	-13.2
28.0	-9.8	-4.2	-5.6
28.5	-16.8	-4.4	-12.5
29.0	-15.7	-4.6	-11.1
29.5	-14.1	-4.7	-9.3
30.0	-14.2	-4.9	-9.3

Orbit Communication Systems Ltd.
AL-7103-Ka, 1.20 m Antenna, Pattern Data Table
Co-pol Elevation RHCP, -10° to +10° @ 0.1° increment

29.10 GHz Antenna Pattern in Co-pol EI RHCP

Angle	Gain	Mask	Over Mask
Degrees	dBi	dBi	dB
-10.0	-11.3	7.0	-18.3
-9.9	-9.1	7.1	-16.2
-9.8	-9.5	7.2	-16.7
-9.7	-15.3	7.3	-22.7
-9.6	-19.9	7.4	-27.4
-9.5	-10.5	7.6	-18.0
-9.4	-7.0	7.7	-14.7
-9.3	-6.2	7.8	-14.0
-9.2	-8.0	7.9	-15.9
-9.1	-13.9	8.0	-21.9
-9.0	-60.6	8.1	-68.7
-8.9	-13.7	8.3	-22.0
-8.8	-11.5	8.4	-19.9
-8.7	-11.3	8.5	-19.8
-8.6	-13.3	8.6	-21.9
-8.5	-15.4	8.8	-24.2
-8.4	-11.4	8.9	-20.3
-8.3	-9.0	9.0	-18.0
-8.2	-7.8	9.2	-17.0
-8.1	-7.9	9.3	-17.2
-8.0	-8.7	9.4	-18.1
-7.9	-9.9	9.6	-19.5
-7.8	-10.4	9.7	-20.1
-7.7	-12.4	9.8	-22.2
-7.6	-13.6	10.0	-23.6
-7.5	-12.7	10.1	-22.8
-7.4	-10.2	10.3	-20.5
-7.3	-7.3	10.4	-17.7
-7.2	-5.6	10.6	-16.2
-7.1	-4.6	10.7	-15.3
-7.0	-3.8	10.9	-14.7
-6.9	-5.2	11.0	-16.2
-6.8	-6.9	11.2	-18.1
-6.7	-4.9	11.3	-16.2
-6.6	-2.3	11.5	-13.8
-6.5	-1.1	11.7	-12.7
-6.4	-2.0	11.8	-13.8
-6.3	-5.8	12.0	-17.8
-6.2	-9.9	12.2	-22.1
-6.1	-4.4	12.4	-16.7
-6.0	-0.4	12.5	-12.9
-5.9	0.9	12.7	-11.8
-5.8	0.4	12.9	-12.5
-5.7	-2.4	13.1	-15.5
-5.6	-8.5	13.3	-21.8
-5.5	-9.6	13.5	-23.1
-5.4	-6.5	13.7	-20.2
-5.3	-8.3	13.9	-22.2
-5.2	-14.5	14.1	-28.6
-5.1	-3.6	14.3	-17.9
-5.0	1.4	14.5	-13.1
-4.9	3.8	14.7	-10.9
-4.8	3.8	15.0	-11.2
-4.7	1.9	15.2	-13.3
-4.6	-2.9	15.4	-18.4
-4.5	-3.5	15.7	-19.1
-4.4	1.2	15.9	-14.7
-4.3	3.8	16.2	-12.4
-4.2	3.9	16.4	-12.5
-4.1	2.9	16.7	-13.8

29.10 GHz Antenna Pattern in Co-pol EI RHCP

Angle	Gain	Mask	Over Mask
Degrees	dBi	dBi	dB
0.0	48.5		
0.1	48.2		
0.2	47.4		
0.3	46.1		
0.4	44.1		
0.5	41.5		
0.6	38.0		
0.7	33.4		
0.8	27.2		
0.9	19.4		
1.0	16.9		
1.1	18.4		
1.2	18.3		
1.3	17.4		
1.4	16.1		
1.5	14.1		
1.6	11.3		
1.7	11.7		
1.8	15.1		
1.9	17.7		
2.0	19.1		
2.1	19.5		
2.2	19.5		
2.3	19.0		
2.4	18.1		
2.5	16.8		
2.6	14.7		
2.7	11.8		
2.8	8.5		
2.9	6.5		
3.0	7.0		
3.1	8.4		
3.2	9.4		
3.3	9.9		
3.4	9.6		
3.5	8.7	18.4	-9.7
3.6	7.3	18.1	-10.8
3.7	6.2	17.8	-11.6
3.8	6.5	17.5	-11.0
3.9	7.6	17.2	-9.6
4.0	8.1	16.9	-8.9
4.1	7.2	16.7	-9.5
4.2	5.0	16.4	-11.5
4.3	1.5	16.2	-14.7
4.4	-4.1	15.9	-20.1
4.5	-6.8	15.7	-22.4
4.6	-2.2	15.4	-17.6
4.7	0.9	15.2	-14.3
4.8	2.4	15.0	-12.6
4.9	2.0	14.7	-12.7
5.0	0.6	14.5	-13.9
5.1	-2.4	14.3	-16.7
5.2	-4.2	14.1	-18.3
5.3	-0.9	13.9	-14.7
5.4	2.3	13.7	-11.4
5.5	3.6	13.5	-9.9
5.6	3.4	13.3	-9.9
5.7	1.5	13.1	-11.6
5.8	-2.9	12.9	-15.8
5.9	-13.9	12.7	-26.7

Orbit Communication Systems Ltd.
 AL-7103-Ka, 1.20 m Antenna, Pattern Data Table
 Co-pol Elevation RHCP, -10° to +10° @ 0.1° increment

-4.0	1.1	16.9	-15.8
-3.9	1.3	17.2	-15.9
-3.8	3.5	17.5	-14.0
-3.7	5.2	17.8	-12.6
-3.6	6.1	18.1	-12.0
-3.5	6.0	18.4	-12.4
-3.4	5.4		
-3.3	5.9		
-3.2	7.8		
-3.1	9.8		
-3.0	11.4		
-2.9	12.1		
-2.8	12.3		
-2.7	12.3		
-2.6	12.6		
-2.5	13.2		
-2.4	13.7		
-2.3	13.5		
-2.2	12.8		
-2.1	11.9		
-2.0	11.9		
-1.9	13.1		
-1.8	15.3		
-1.7	17.8		
-1.6	20.0		
-1.5	21.4		
-1.4	21.9		
-1.3	21.4		
-1.2	19.6		
-1.1	18.4		
-1.0	22.2		
-0.9	27.7		
-0.8	32.4		
-0.7	36.4		
-0.6	39.8		
-0.5	42.5		
-0.4	44.7		
-0.3	46.4		
-0.2	47.6		
-0.1	48.3		
0.0	48.5		

6.0	-11.3	12.5	-23.9
6.1	-5.7	12.4	-18.1
6.2	-4.7	12.2	-16.9
6.3	-7.8	12.0	-19.8
6.4	-14.7	11.8	-26.5
6.5	-7.7	11.7	-19.4
6.6	-1.6	11.5	-13.1
6.7	1.5	11.3	-9.8
6.8	3.3	11.2	-7.9
6.9	3.7	11.0	-7.3
7.0	3.3	10.9	-7.6
7.1	1.5	10.7	-9.2
7.2	-0.7	10.6	-11.3
7.3	-1.5	10.4	-11.9
7.4	0.1	10.3	-10.1
7.5	2.0	10.1	-8.2
7.6	2.3	10.0	-7.7
7.7	1.5	9.8	-8.3
7.8	-1.1	9.7	-10.8
7.9	-6.5	9.6	-16.0
8.0	-9.3	9.4	-18.7
8.1	-4.5	9.3	-13.7
8.2	-1.8	9.2	-10.9
8.3	-1.1	9.0	-10.1
8.4	-2.4	8.9	-11.3
8.5	-5.2	8.8	-14.0
8.6	-10.7	8.6	-19.4
8.7	-27.2	8.5	-35.8
8.8	-11.5	8.4	-19.9
8.9	-6.2	8.3	-14.5
9.0	-4.4	8.1	-12.5
9.1	-5.7	8.0	-13.7
9.2	-8.8	7.9	-16.7
9.3	-13.6	7.8	-21.4
9.4	-7.4	7.7	-15.0
9.5	-2.2	7.6	-9.7
9.6	0.4	7.4	-7.1
9.7	1.5	7.3	-5.9
9.8	1.4	7.2	-5.8
9.9	-0.1	7.1	-7.2
10.0	-3.7	7.0	-10.7

Orbit Communication Systems Ltd.
AL-7103-Ka, 1.20 m Antenna, Pattern Data Table
X-pol Azimuth RHCP, -10° to +10° @ 0.1° increment

29.10 GHz Antenna Pattern in X-pol Az RHCP

Angle	Gain	Mask	Over Mask
Degrees	dBi	dBi	dB
-10.0	-3.8	-2.0	-1.8
-9.9	-3.4	-2.0	-1.4
-9.8	-3.2	-2.0	-1.2
-9.7	-3.4	-2.0	-1.4
-9.6	-4.5	-2.0	-2.5
-9.5	-5.4	-2.0	-3.4
-9.4	-6.9	-2.0	-4.9
-9.3	-8.7	-2.0	-6.7
-9.2	-10.5	-2.0	-8.5
-9.1	-11.9	-2.0	-9.9
-9.0	-13.8	-2.0	-11.8
-8.9	-13.3	-2.0	-11.3
-8.8	-14.7	-2.0	-12.7
-8.7	-17.9	-2.0	-15.9
-8.6	-25.4	-2.0	-23.4
-8.5	-18.0	-2.0	-16.0
-8.4	-12.7	-2.0	-10.7
-8.3	-10.5	-2.0	-8.5
-8.2	-9.2	-2.0	-7.2
-8.1	-10.4	-2.0	-8.4
-8.0	-12.9	-2.0	-10.9
-7.9	-14.2	-2.0	-12.2
-7.8	-14.3	-2.0	-12.3
-7.7	-10.8	-2.0	-8.8
-7.6	-10.9	-2.0	-8.9
-7.5	-12.2	-2.0	-10.2
-7.4	-16.8	-2.0	-14.8
-7.3	-21.3	-2.0	-19.3
-7.2	-11.6	-2.0	-9.6
-7.1	-8.1	-2.0	-6.1
-7.0	-6.5	-2.1	-4.4
-6.9	-6.1	-2.0	-4.2
-6.8	-6.9	-1.8	-5.1
-6.7	-9.4	-1.7	-7.8
-6.6	-9.0	-1.5	-7.5
-6.5	-7.1	-1.3	-5.8
-6.4	-3.7	-1.2	-2.5
-6.3	-1.3	-1.0	-0.4
-6.2	0.3	-0.8	1.1
-6.1	0.4	-0.6	1.0
-6.0	-0.6	-0.5	-0.1
-5.9	-3.1	-0.3	-2.8
-5.8	-8.2	-0.1	-8.1
-5.7	-12.7	0.1	-12.8
-5.6	-8.1	0.3	-8.4
-5.5	-4.7	0.5	-5.1
-5.4	-3.3	0.7	-4.0
-5.3	-4.5	0.9	-5.4
-5.2	-5.7	1.1	-6.8
-5.1	-5.7	1.3	-7.0
-5.0	-4.9	1.5	-6.4
-4.9	-3.7	1.7	-5.4
-4.8	-3.1	2.0	-5.1
-4.7	-3.1	2.2	-5.3
-4.6	-3.4	2.4	-5.8
-4.5	-2.1	2.7	-4.8
-4.4	-0.7	2.9	-3.6
-4.3	0.9	3.2	-2.3
-4.2	2.4	3.4	-1.0
-4.1	3.9	3.7	0.2

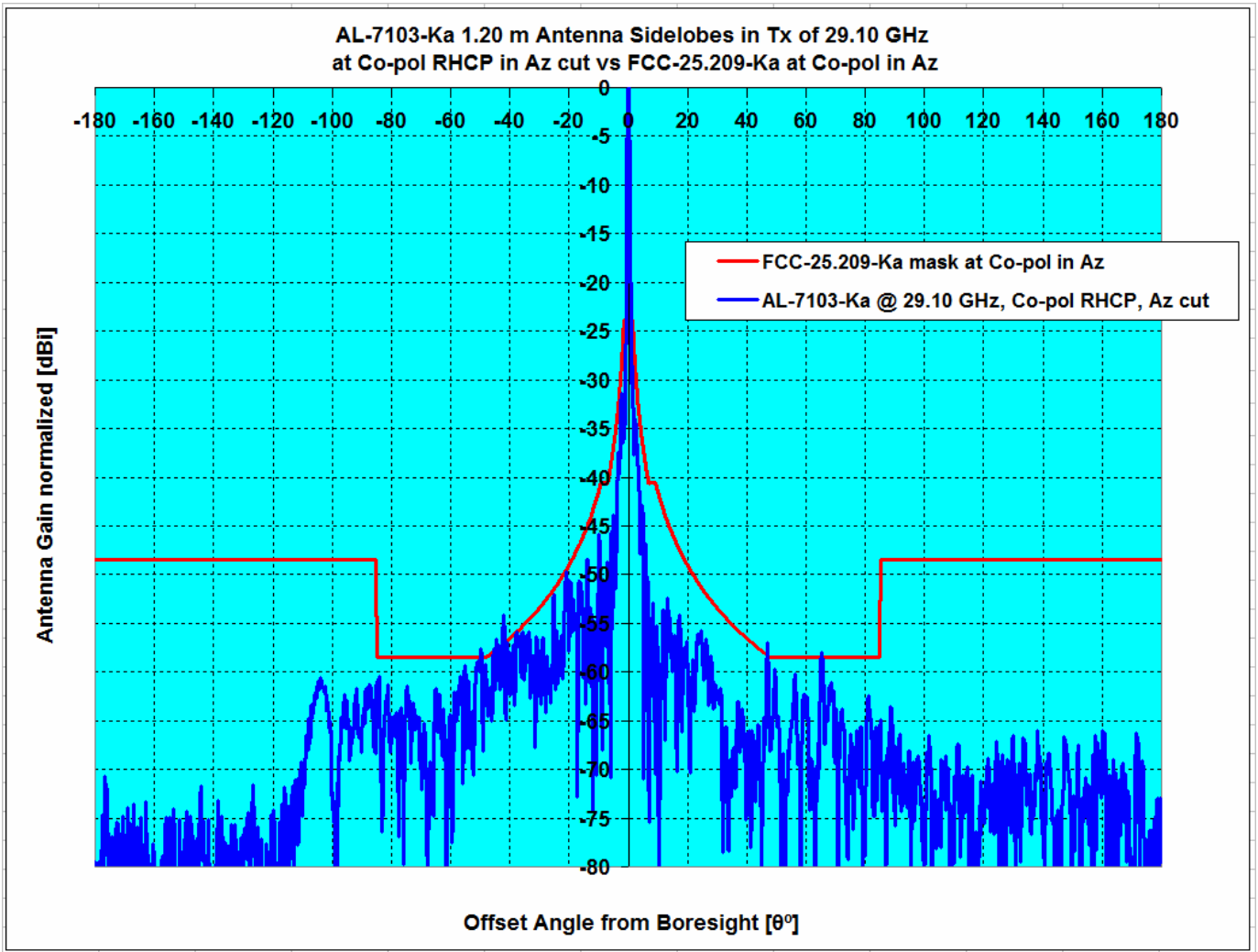
29.10 GHz Antenna Pattern in X-pol Az RHCP

Angle	Gain	Mask	Over Mask
Degrees	dBi	dBi	dB
0.0	18.5		
0.1	16.9		
0.2	16.5		
0.3	17.2		
0.4	18.3		
0.5	19.3		
0.6	19.6		
0.7	19.3		
0.8	18.2		
0.9	16.0		
1.0	12.3		
1.1	6.4		
1.2	-3.8		
1.3	-1.5		
1.4	0.6		
1.5	-1.3		
1.6	-2.9		
1.7	-0.6		
1.8	1.4	12.6	-11.2
1.9	0.9	12.0	-11.2
2.0	-2.9	11.5	-14.4
2.1	-12.4	10.9	-23.3
2.2	-9.1	10.4	-19.5
2.3	-2.5	10.0	-12.5
2.4	-1.8	9.5	-11.3
2.5	-2.9	9.1	-12.0
2.6	-4.8	8.6	-13.4
2.7	-4.9	8.2	-13.2
2.8	-3.0	7.8	-10.9
2.9	-3.3	7.4	-10.7
3.0	-5.3	7.1	-12.4
3.1	-16.1	6.7	-22.8
3.2	-14.8	6.4	-21.2
3.3	-6.0	6.0	-12.1
3.4	-4.8	5.7	-10.5
3.5	-5.5	5.4	-10.9
3.6	-6.9	5.1	-12.0
3.7	-8.8	4.8	-13.6
3.8	-8.0	4.5	-12.5
3.9	-9.3	4.2	-13.5
4.0	-12.4	3.9	-16.4
4.1	-12.4	3.7	-16.1
4.2	-8.3	3.4	-11.7
4.3	-4.7	3.2	-7.9
4.4	-4.3	2.9	-7.2
4.5	-6.1	2.7	-8.8
4.6	-12.8	2.4	-15.3
4.7	-18.1	2.2	-20.3
4.8	-9.7	2.0	-11.7
4.9	-9.4	1.7	-11.2
5.0	-10.6	1.5	-12.1
5.1	-16.6	1.3	-17.9
5.2	-20.4	1.1	-21.5
5.3	-14.1	0.9	-15.0
5.4	-9.2	0.7	-9.9
5.5	-10.6	0.5	-11.1
5.6	-17.3	0.3	-17.6
5.7	-21.3	0.1	-21.4
5.8	-12.8	-0.1	-12.7
5.9	-10.3	-0.3	-10.0

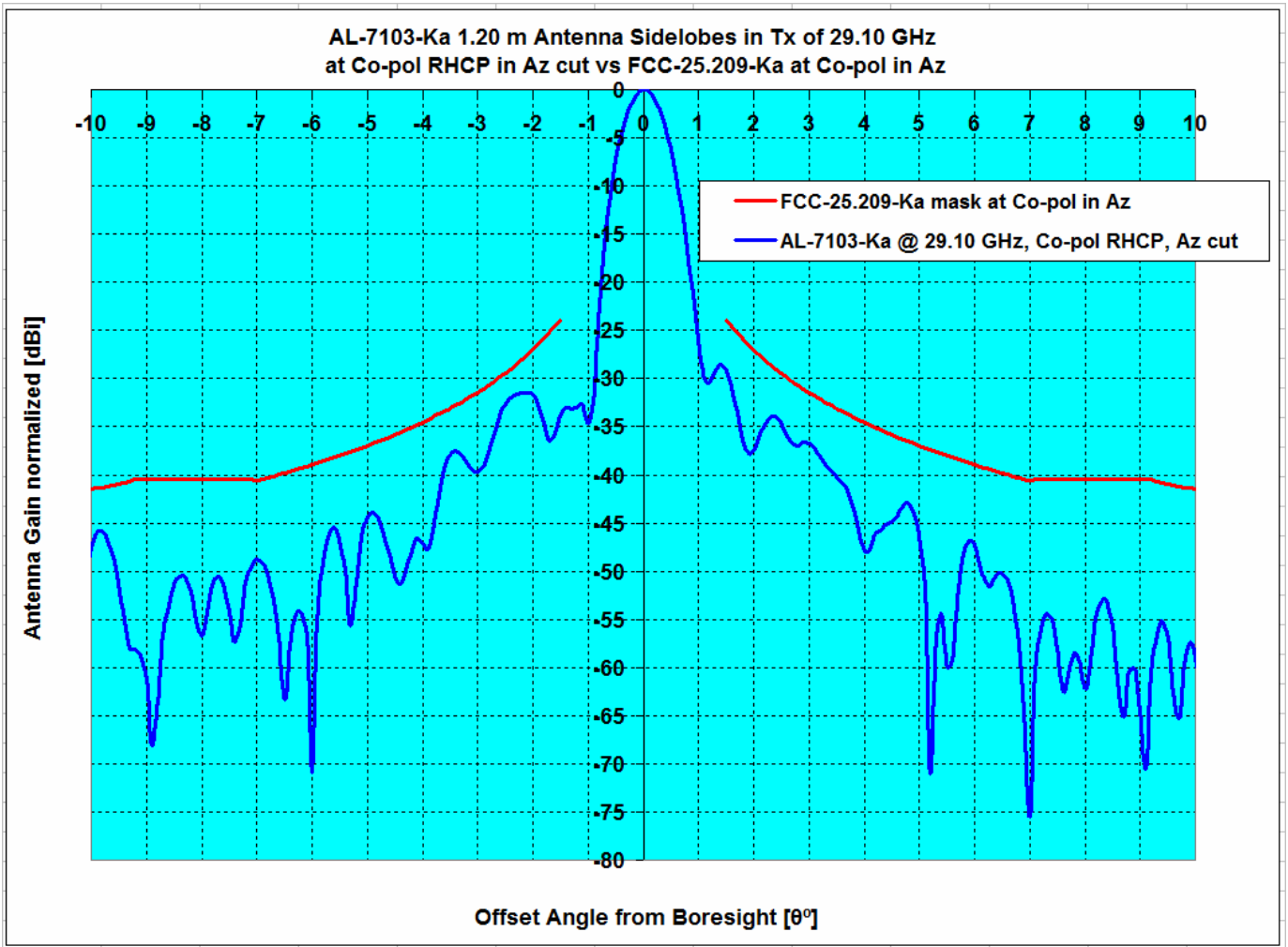
Orbit Communication Systems Ltd.
 AL-7103-Ka, 1.20 m Antenna, Pattern Data Table
 X-pol Azimuth RHCP, -10° to +10° @ 0.1° increment

-4.0	4.5	3.9	0.5
-3.9	4.6	4.2	0.4
-3.8	4.0	4.5	-0.5
-3.7	2.6	4.8	-2.2
-3.6	0.9	5.1	-4.2
-3.5	-0.7	5.4	-6.1
-3.4	-0.4	5.7	-6.2
-3.3	0.8	6.0	-5.2
-3.2	2.1	6.4	-4.3
-3.1	3.0	6.7	-3.8
-3.0	3.1	7.1	-4.0
-2.9	2.2	7.4	-5.2
-2.8	-0.2	7.8	-8.0
-2.7	-5.0	8.2	-13.2
-2.6	-10.7	8.6	-19.4
-2.5	-4.9	9.1	-13.9
-2.4	-2.3	9.5	-11.8
-2.3	-1.8	10.0	-11.8
-2.2	0.0	10.4	-10.4
-2.1	3.2	10.9	-7.8
-2.0	5.5	11.5	-6.0
-1.9	6.0	12.0	-6.0
-1.8	3.8	12.6	-8.8
-1.7	-0.3		
-1.6	6.8		
-1.5	12.7		
-1.4	16.0		
-1.3	17.5		
-1.2	17.4		
-1.1	15.4		
-1.0	10.3		
-0.9	9.7		
-0.8	16.9		
-0.7	21.0		
-0.6	23.4		
-0.5	24.4		
-0.4	24.4		
-0.3	23.8		
-0.2	22.5		
-0.1	20.6		
0.0	18.5		

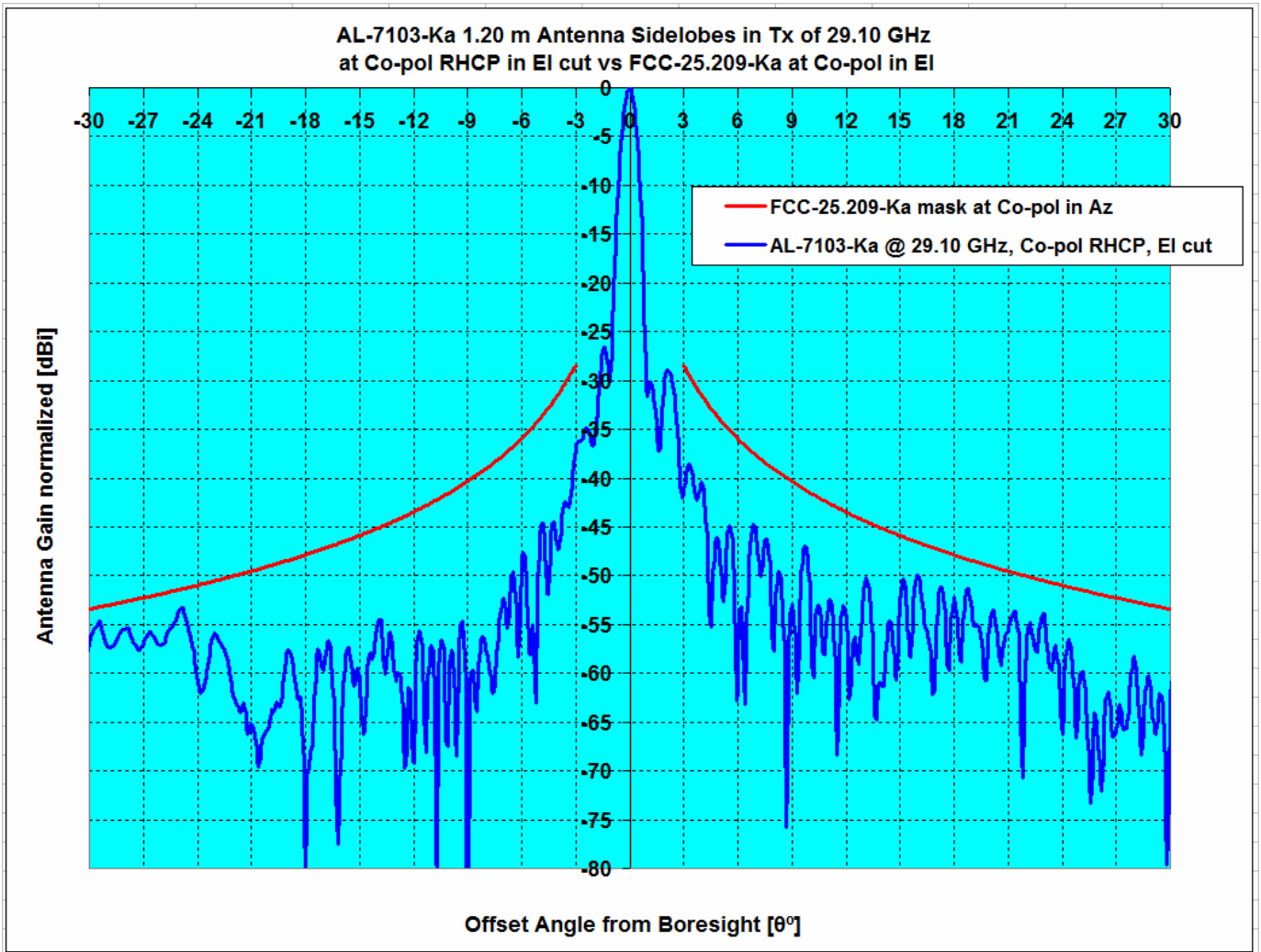
6.0	-11.1	-0.5	-10.6
6.1	-12.8	-0.6	-12.2
6.2	-16.6	-0.8	-15.8
6.3	-14.8	-1.0	-13.8
6.4	-13.7	-1.2	-12.5
6.5	-12.8	-1.3	-11.5
6.6	-16.6	-1.5	-15.1
6.7	-18.3	-1.7	-16.7
6.8	-15.5	-1.8	-13.6
6.9	-13.8	-2.0	-11.8
7.0	-15.5	-2.1	-13.4
7.1	-20.6	-2.0	-18.6
7.2	-24.8	-2.0	-22.8
7.3	-15.3	-2.0	-13.3
7.4	-13.1	-2.0	-11.1
7.5	-13.1	-2.0	-11.1
7.6	-15.3	-2.0	-13.3
7.7	-17.1	-2.0	-15.1
7.8	-15.2	-2.0	-13.2
7.9	-11.8	-2.0	-9.8
8.0	-12.9	-2.0	-10.9
8.1	-15.1	-2.0	-13.1
8.2	-24.8	-2.0	-22.8
8.3	-31.2	-2.0	-29.2
8.4	-24.4	-2.0	-22.4
8.5	-23.1	-2.0	-21.1
8.6	-28.4	-2.0	-26.4
8.7	-21.0	-2.0	-19.0
8.8	-21.8	-2.0	-19.8
8.9	-16.2	-2.0	-14.2
9.0	-17.5	-2.0	-15.5
9.1	-18.4	-2.0	-16.4
9.2	-20.1	-2.0	-18.1
9.3	-20.9	-2.0	-18.9
9.4	-19.0	-2.0	-17.0
9.5	-18.4	-2.0	-16.4
9.6	-19.8	-2.0	-17.8
9.7	-19.9	-2.0	-17.9
9.8	-26.9	-2.0	-24.9
9.9	-26.5	-2.0	-24.5
10.0	-23.8	-2.0	-21.8



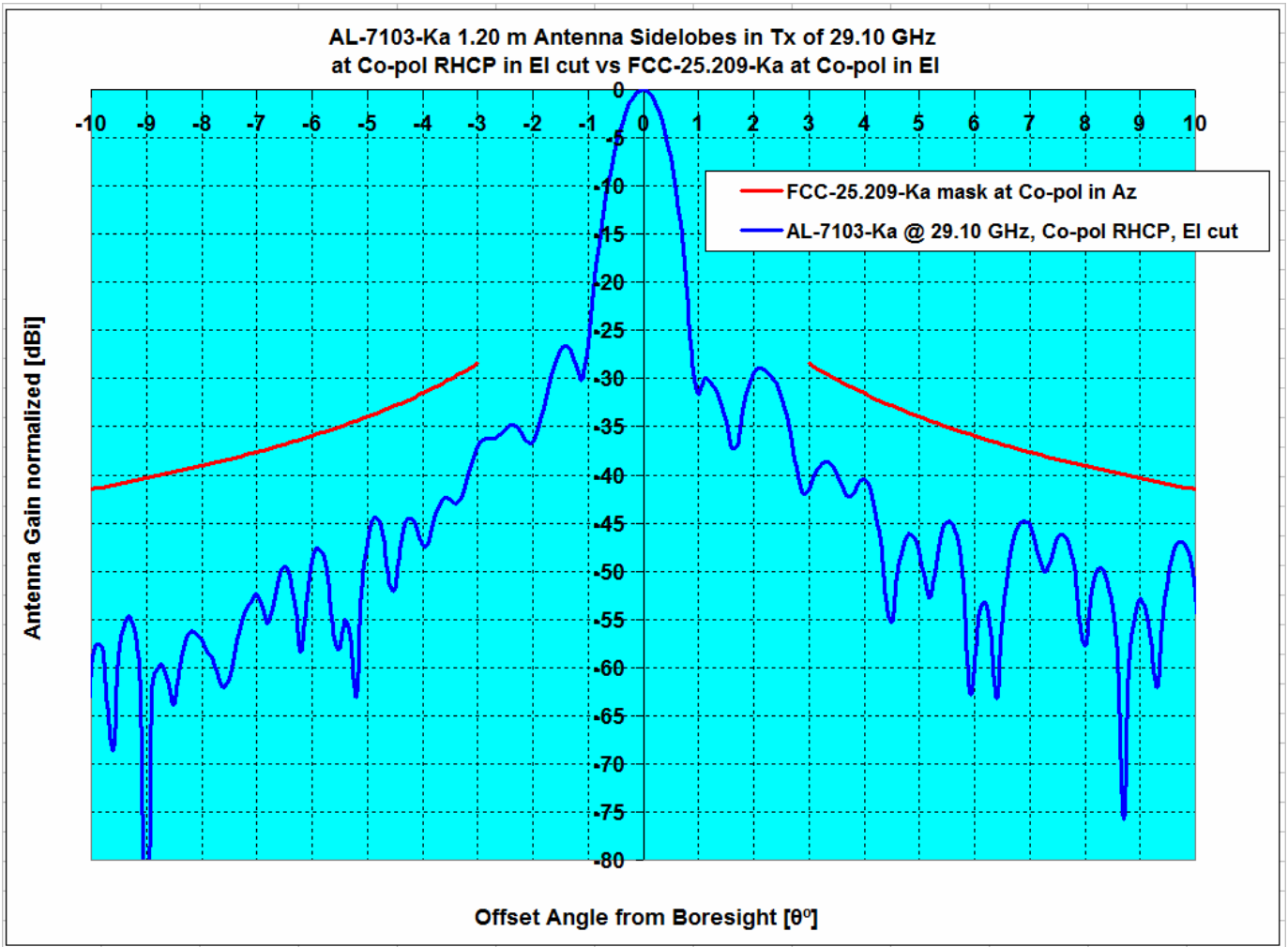
Description	Plane, CirP	Frequency	Ant. Gain	Peak Excursions dB		Over Mask %	
				1.5°≤θ≤7°	7°≤θ≤180°	1.5°≤θ≤7°	7°≤θ≤180°
FCC-25.209-Ka, Co-pol Az, vs AL-7103-Ka	Az , RHCP	29.10	48.50	-2.95	2.92	0.00%	0.70%



Description	Plane, CirP	Frequency	Ant. Gain	Peak Excursions dB		Over Mask %	
				1.5°≤θ≤7°	7°≤θ≤180°	1.5°≤θ≤7°	7°≤θ≤180°
FCC-25.209-Ka, Co-pol Az, vs AL-7103-Ka	Az , RHCP	29.10	48.50	-2.95	2.92	0.00%	0.70%

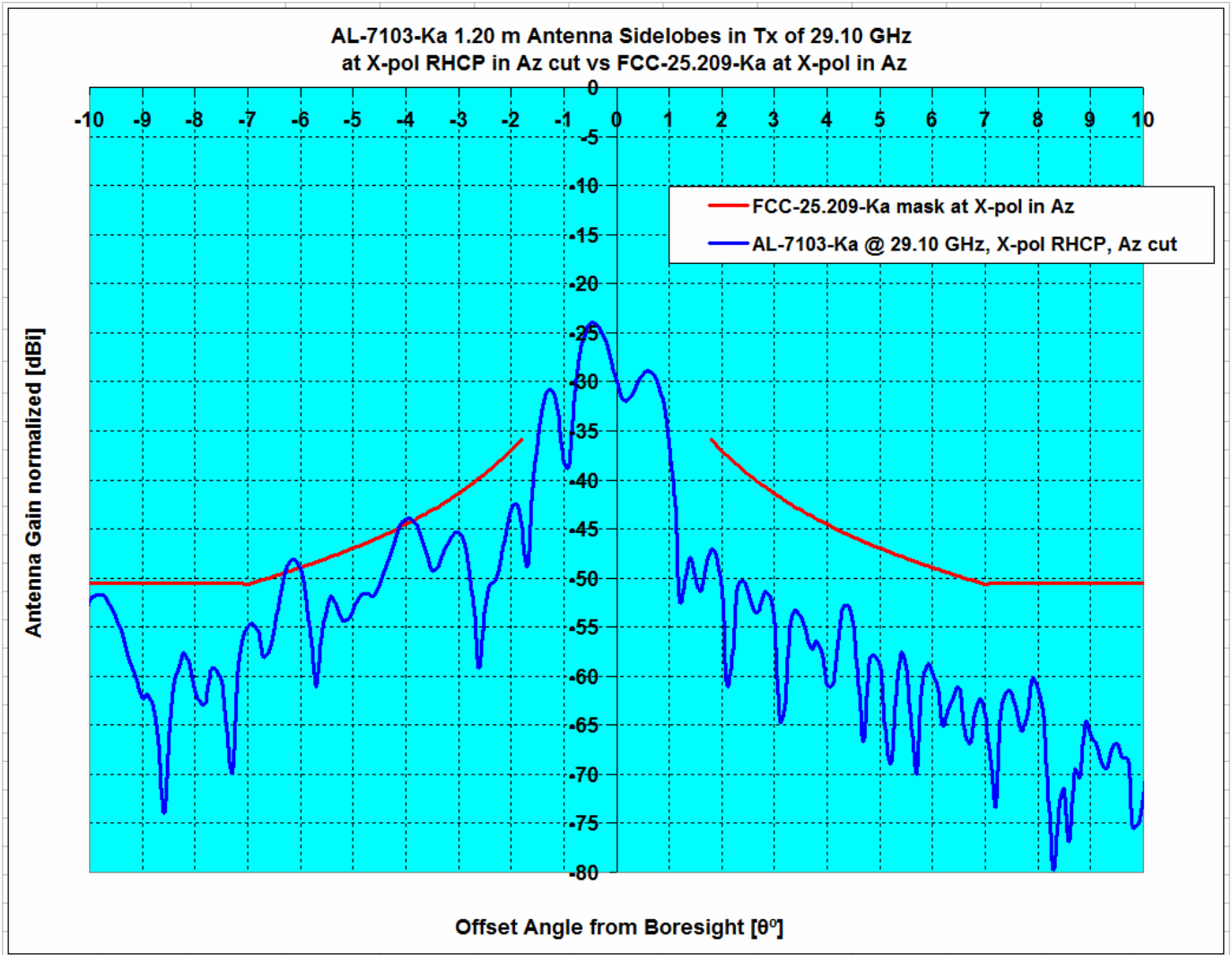


Description	Plane, CirP	Frequency	Ant. Gain	Peak Excursions dB		Over Mask %	
				3°≤θ≤7°	7°≤θ≤30°	3°≤θ≤7°	7°≤θ≤30°
FCC-25.209-Ka, Co-pol EI, vs AL-7103-Ka	EI , RHCP	29.10	48.50	-7.30	-1.44	0.00%	0.00%



Description	Plane, CirP	Frequency	Ant. Gain	Peak Excursions dB		Over Mask %	
				3°≤θ≤7°	7°≤θ≤30°	3°≤θ≤7°	7°≤θ≤30°
Pattern Rule vs Antenna System	Type	GHz	dBi				
FCC-25.209-Ka, Co-pol EI, vs AL-7103-Ka	EI , RHCP	29.10	48.50	-7.30	-1.44	0.00%	0.00%

Orbit Communication Systems Ltd.
 AL-7103-Ka, 1.20 m Antenna, Pattern, X-pol, Azimuth RHCP



Description	Plane, CirP	Frequency	Ant. Gain	Peak Excursions dB		Over Mask %	
				$1.8^\circ \leq \theta \leq 7^\circ$	$1.8^\circ \leq \theta \leq 9.2^\circ$	$1.8^\circ \leq \theta \leq 7^\circ$	$1.8^\circ \leq \theta \leq 9.2^\circ$
Pattern Rule vs Antenna System	Type	GHz	dBi				
FCC-25.209-Ka, X-pol Az, vs AL-7103-Ka	Az, RHCP	29.10	48.50	1.08	1.08	4.72%	3.01%

**Measured 30 GHz band antenna performance data for the
2.2-meter antennas**

Orbit Communication Systems Ltd.

AL-7107-Ka, 2.15 m Antenna, EIRPsd Data Table
Co-pol Azimuth LHCP, -180° to +180° @ 1.0° increment

27.55 GHz @ -12.56 dBW / 40 kHz in Co-pol Az LHCP

Angle Degrees	EIRPsd dBW/40kHz	Mask dBW/40kHz	Over Mask dB
-179.0	-33.5	-10.5	-23.0
-178.0	-39.2	-10.5	-28.7
-177.0	-39.1	-10.5	-28.6
-176.0	-30.8	-10.5	-20.3
-175.0	-33.5	-10.5	-23.0
-174.0	-33.7	-10.5	-23.2
-173.0	-35.8	-10.5	-25.3
-172.0	-38.3	-10.5	-27.8
-171.0	-35.4	-10.5	-24.9
-170.0	-36.7	-10.5	-26.2
-169.0	-35.0	-10.5	-24.5
-168.0	-34.4	-10.5	-23.9
-167.0	-40.5	-10.5	-30.0
-166.0	-38.8	-10.5	-28.3
-165.0	-32.1	-10.5	-21.6
-164.0	-30.8	-10.5	-20.3
-163.0	-34.2	-10.5	-23.7
-162.0	-40.0	-10.5	-29.5
-161.0	-38.0	-10.5	-27.5
-160.0	-36.8	-10.5	-26.3
-159.0	-30.0	-10.5	-19.5
-158.0	-33.2	-10.5	-22.7
-157.0	-31.3	-10.5	-20.8
-156.0	-30.4	-10.5	-19.9
-155.0	-39.0	-10.5	-28.5
-154.0	-29.7	-10.5	-19.2
-153.0	-35.2	-10.5	-24.7
-152.0	-31.9	-10.5	-21.4
-151.0	-27.4	-10.5	-16.9
-150.0	-30.7	-10.5	-20.2
-149.0	-29.2	-10.5	-18.7
-148.0	-34.7	-10.5	-24.2
-147.0	-36.7	-10.5	-26.2
-146.0	-27.6	-10.5	-17.1
-145.0	-31.5	-10.5	-21.0
-144.0	-29.3	-10.5	-18.8
-143.0	-27.1	-10.5	-16.6
-142.0	-27.3	-10.5	-16.8
-141.0	-26.7	-10.5	-16.2
-140.0	-31.9	-10.5	-21.4
-139.0	-29.2	-10.5	-18.7
-138.0	-26.4	-10.5	-15.9
-137.0	-37.5	-10.5	-27.0
-136.0	-30.2	-10.5	-19.7
-135.0	-28.2	-10.5	-17.7
-134.0	-32.1	-10.5	-21.6
-133.0	-32.0	-10.5	-21.5
-132.0	-29.6	-10.5	-19.1
-131.0	-31.4	-10.5	-20.9
-130.0	-31.1	-10.5	-20.6
-129.0	-27.4	-10.5	-16.9
-128.0	-29.3	-10.5	-18.8
-127.0	-34.3	-10.5	-23.8
-126.0	-29.3	-10.5	-18.8
-125.0	-28.4	-10.5	-17.9
-124.0	-28.2	-10.5	-17.7
-123.0	-32.5	-10.5	-22.0
-122.0	-32.1	-10.5	-21.6
-121.0	-29.9	-10.5	-19.4
-120.0	-34.1	-10.5	-23.6

27.55 GHz @ -12.56 dBW / 40 kHz in Co-pol Az LHCP

Angle Degrees	EIRPsd dBW/40kHz	Mask dBW/40kHz	Over Mask dB
0.0	39.5		
1.0	4.6		
2.0	-1.1	11.0	-12.1
3.0	-8.9	6.6	-15.5
4.0	-6.7	3.4	-10.1
5.0	-15.4	1.0	-16.4
6.0	-13.0	-1.0	-12.0
7.0	-9.3	-2.6	-6.6
8.0	-15.1	-2.6	-12.5
9.0	-18.1	-2.6	-15.5
10.0	-26.3	-3.5	-22.8
11.0	-20.0	-4.5	-15.5
12.0	-17.5	-5.5	-12.0
13.0	-27.9	-6.3	-21.6
14.0	-21.8	-7.2	-14.6
15.0	-17.9	-7.9	-10.0
16.0	-19.8	-8.6	-11.2
17.0	-19.7	-9.3	-10.5
18.0	-19.3	-9.9	-9.5
19.0	-18.3	-10.5	-7.8
20.0	-35.7	-11.0	-24.7
21.0	-29.0	-11.6	-17.5
22.0	-18.6	-12.1	-6.6
23.0	-20.4	-12.5	-7.9
24.0	-22.6	-13.0	-9.6
25.0	-24.1	-13.4	-10.7
26.0	-24.7	-13.9	-10.8
27.0	-24.7	-14.3	-10.4
28.0	-24.0	-14.7	-9.3
29.0	-18.9	-15.1	-3.8
30.0	-19.1	-15.4	-3.6
31.0	-17.8	-15.8	-2.0
32.0	-16.8	-16.1	-0.7
33.0	-18.4	-16.5	-1.9
34.0	-15.9	-16.8	0.9
35.0	-17.4	-17.1	-0.3
36.0	-15.5	-17.4	1.9
37.0	-15.6	-17.7	2.1
38.0	-18.7	-18.0	-0.7
39.0	-17.7	-18.3	0.6
40.0	-19.9	-18.6	-1.4
41.0	-21.4	-18.8	-2.6
42.0	-21.9	-19.1	-2.8
43.0	-25.1	-19.3	-5.8
44.0	-23.0	-19.6	-3.4
45.0	-23.6	-19.8	-3.7
46.0	-17.8	-20.1	2.3
47.0	-22.0	-20.3	-1.7
48.0	-21.4	-20.5	-0.9
49.0	-26.2	-10.5	-15.7
50.0	-26.6	-10.5	-16.1
51.0	-22.0	-10.5	-11.5
52.0	-20.0	-10.5	-9.5
53.0	-20.5	-10.5	-10.0
54.0	-21.5	-10.5	-11.0
55.0	-25.9	-10.5	-15.4
56.0	-27.2	-10.5	-16.7
57.0	-23.8	-10.5	-13.3
58.0	-24.2	-10.5	-13.7
59.0	-24.4	-10.5	-13.9

Orbit Communication Systems Ltd.
AL-7107-Ka, 2.15 m Antenna, EIRPsd Data Table
Co-pol Azimuth LHCP, -180° to +180° @ 1.0° increment

-119.0	-33.0	-10.5	-22.5
-118.0	-39.0	-10.5	-28.5
-117.0	-33.4	-10.5	-22.9
-116.0	-30.8	-10.5	-20.3
-115.0	-31.2	-10.5	-20.7
-114.0	-32.7	-10.5	-22.2
-113.0	-31.9	-10.5	-21.4
-112.0	-33.5	-10.5	-23.0
-111.0	-32.8	-10.5	-22.3
-110.0	-31.6	-10.5	-21.1
-109.0	-27.1	-10.5	-16.6
-108.0	-33.4	-10.5	-22.9
-107.0	-34.0	-10.5	-23.5
-106.0	-31.7	-10.5	-21.2
-105.0	-30.9	-10.5	-20.4
-104.0	-30.5	-10.5	-20.0
-103.0	-33.6	-10.5	-23.1
-102.0	-37.2	-10.5	-26.7
-101.0	-27.6	-10.5	-17.1
-100.0	-31.5	-10.5	-21.0
-99.0	-38.9	-10.5	-28.4
-98.0	-26.6	-10.5	-16.1
-97.0	-26.2	-10.5	-15.7
-96.0	-25.4	-10.5	-14.9
-95.0	-29.1	-10.5	-18.6
-94.0	-30.3	-10.5	-19.8
-93.0	-30.3	-10.5	-19.8
-92.0	-24.5	-10.5	-14.0
-91.0	-27.2	-10.5	-16.7
-90.0	-28.8	-10.5	-18.3
-89.0	-26.4	-10.5	-15.9
-88.0	-30.8	-10.5	-20.3
-87.0	-26.0	-10.5	-15.5
-86.0	-24.8	-10.5	-14.3
-85.0	-24.8	-10.5	-14.3
-84.0	-29.4	-10.5	-18.9
-83.0	-32.1	-10.5	-21.6
-82.0	-27.8	-10.5	-17.3
-81.0	-25.0	-10.5	-14.5
-80.0	-23.2	-10.5	-12.7
-79.0	-23.8	-10.5	-13.3
-78.0	-23.1	-10.5	-12.6
-77.0	-24.1	-10.5	-13.6
-76.0	-25.1	-10.5	-14.6
-75.0	-23.8	-10.5	-13.3
-74.0	-23.3	-10.5	-12.8
-73.0	-20.9	-10.5	-10.4
-72.0	-20.8	-10.5	-10.3
-71.0	-21.3	-10.5	-10.8
-70.0	-20.4	-10.5	-9.9
-69.0	-19.5	-10.5	-9.0
-68.0	-18.4	-10.5	-7.9
-67.0	-18.8	-10.5	-8.3
-66.0	-17.9	-10.5	-7.4
-65.0	-21.4	-10.5	-10.9
-64.0	-20.7	-10.5	-10.2
-63.0	-21.1	-10.5	-10.6
-62.0	-22.1	-10.5	-11.6
-61.0	-19.7	-10.5	-9.2
-60.0	-22.7	-10.5	-12.2
-59.0	-23.4	-10.5	-12.9
-58.0	-22.7	-10.5	-12.2
-57.0	-23.7	-10.5	-13.2

60.0	-29.1	-10.5	-18.6
61.0	-30.4	-10.5	-19.9
62.0	-27.7	-10.5	-17.2
63.0	-25.6	-10.5	-15.1
64.0	-29.8	-10.5	-19.3
65.0	-32.3	-10.5	-21.8
66.0	-23.8	-10.5	-13.3
67.0	-29.9	-10.5	-19.4
68.0	-27.1	-10.5	-16.6
69.0	-27.4	-10.5	-16.9
70.0	-25.8	-10.5	-15.3
71.0	-28.8	-10.5	-18.3
72.0	-31.7	-10.5	-21.2
73.0	-26.0	-10.5	-15.5
74.0	-31.8	-10.5	-21.3
75.0	-38.1	-10.5	-27.6
76.0	-28.9	-10.5	-18.4
77.0	-29.0	-10.5	-18.5
78.0	-33.6	-10.5	-23.1
79.0	-34.6	-10.5	-24.1
80.0	-36.8	-10.5	-26.3
81.0	-33.5	-10.5	-23.0
82.0	-38.6	-10.5	-28.1
83.0	-30.7	-10.5	-20.2
84.0	-36.6	-10.5	-26.1
85.0	-38.3	-10.5	-27.8
86.0	-33.6	-10.5	-23.1
87.0	-35.2	-10.5	-24.7
88.0	-31.6	-10.5	-21.1
89.0	-32.6	-10.5	-22.1
90.0	-35.7	-10.5	-25.2
91.0	-33.3	-10.5	-22.8
92.0	-33.9	-10.5	-23.4
93.0	-32.5	-10.5	-22.0
94.0	-34.8	-10.5	-24.3
95.0	-36.5	-10.5	-26.0
96.0	-38.3	-10.5	-27.8
97.0	-38.6	-10.5	-28.1
98.0	-31.8	-10.5	-21.3
99.0	-37.9	-10.5	-27.4
100.0	-30.2	-10.5	-19.7
101.0	-30.1	-10.5	-19.6
102.0	-37.1	-10.5	-26.6
103.0	-40.2	-10.5	-29.7
104.0	-40.5	-10.5	-30.0
105.0	-32.5	-10.5	-22.0
106.0	-36.5	-10.5	-26.0
107.0	-37.6	-10.5	-27.1
108.0	-33.6	-10.5	-23.1
109.0	-33.8	-10.5	-23.3
110.0	-40.5	-10.5	-30.0
111.0	-33.8	-10.5	-23.3
112.0	-35.4	-10.5	-24.9
113.0	-28.1	-10.5	-17.6
114.0	-34.4	-10.5	-23.9
115.0	-33.0	-10.5	-22.5
116.0	-31.2	-10.5	-20.7
117.0	-30.8	-10.5	-20.3
118.0	-33.9	-10.5	-23.4
119.0	-29.3	-10.5	-18.8
120.0	-40.5	-10.5	-30.0
121.0	-34.0	-10.5	-23.5
122.0	-30.1	-10.5	-19.6

Orbit Communication Systems Ltd.
AL-7107-Ka, 2.15 m Antenna, EIRPsd Data Table
Co-pol Azimuth LHCP, -180° to +180° @ 1.0° increment

-56.0	-21.7	-10.5	-11.2
-55.0	-26.2	-10.5	-15.7
-54.0	-23.9	-10.5	-13.4
-53.0	-26.9	-10.5	-16.4
-52.0	-25.9	-10.5	-15.4
-51.0	-30.9	-10.5	-20.4
-50.0	-25.3	-10.5	-14.8
-49.0	-28.2	-10.5	-17.7
-48.0	-27.9	-20.5	-7.3
-47.0	-31.9	-20.3	-11.6
-46.0	-26.4	-20.1	-6.3
-45.0	-30.0	-19.8	-10.2
-44.0	-35.7	-19.6	-16.1
-43.0	-34.8	-19.3	-15.4
-42.0	-34.8	-19.1	-15.7
-41.0	-33.2	-18.8	-14.3
-40.0	-28.2	-18.6	-9.7
-39.0	-35.2	-18.3	-17.0
-38.0	-29.0	-18.0	-11.0
-37.0	-28.3	-17.7	-10.6
-36.0	-31.8	-17.4	-14.4
-35.0	-31.1	-17.1	-14.0
-34.0	-34.9	-16.8	-18.1
-33.0	-33.2	-16.5	-16.7
-32.0	-36.2	-16.1	-20.1
-31.0	-30.7	-15.8	-14.9
-30.0	-27.6	-15.4	-12.1
-29.0	-30.5	-15.1	-15.5
-28.0	-29.1	-14.7	-14.5
-27.0	-29.9	-14.3	-15.6
-26.0	-29.8	-13.9	-16.0
-25.0	-32.5	-13.4	-19.1
-24.0	-29.8	-13.0	-16.8
-23.0	-28.3	-12.5	-15.7
-22.0	-27.9	-12.1	-15.9
-21.0	-28.8	-11.6	-17.3
-20.0	-31.5	-11.0	-20.5
-19.0	-25.2	-10.5	-14.7
-18.0	-30.6	-9.9	-20.7
-17.0	-26.8	-9.3	-17.6
-16.0	-30.1	-8.6	-21.5
-15.0	-30.3	-7.9	-22.4
-14.0	-38.3	-7.2	-31.2
-13.0	-19.4	-6.3	-13.0
-12.0	-16.7	-5.5	-11.2
-11.0	-20.2	-4.5	-15.6
-10.0	-18.1	-3.5	-14.6
-9.0	-16.0	-2.6	-13.4
-8.0	-16.7	-2.6	-14.0
-7.0	-10.8	-2.6	-8.1
-6.0	-23.2	-1.0	-22.2
-5.0	-9.9	1.0	-10.9
-4.0	-7.3	3.4	-10.7
-3.0	-3.6	6.6	-10.2
-2.0	-0.9	11.0	-11.9
-1.0	8.5		
0.0	39.5		

123.0	-33.0	-10.5	-22.5
124.0	-34.2	-10.5	-23.7
125.0	-38.3	-10.5	-27.8
126.0	-37.5	-10.5	-27.0
127.0	-32.2	-10.5	-21.7
128.0	-40.5	-10.5	-30.0
129.0	-38.3	-10.5	-27.8
130.0	-34.5	-10.5	-24.0
131.0	-33.1	-10.5	-22.6
132.0	-34.3	-10.5	-23.8
133.0	-37.4	-10.5	-26.9
134.0	-36.3	-10.5	-25.8
135.0	-36.0	-10.5	-25.5
136.0	-35.6	-10.5	-25.1
137.0	-34.3	-10.5	-23.8
138.0	-31.6	-10.5	-21.1
139.0	-35.7	-10.5	-25.2
140.0	-36.1	-10.5	-25.6
141.0	-33.7	-10.5	-23.2
142.0	-38.9	-10.5	-28.4
143.0	-31.0	-10.5	-20.5
144.0	-40.5	-10.5	-30.0
145.0	-33.6	-10.5	-23.1
146.0	-36.0	-10.5	-25.5
147.0	-32.3	-10.5	-21.8
148.0	-36.6	-10.5	-26.1
149.0	-35.8	-10.5	-25.3
150.0	-34.5	-10.5	-24.0
151.0	-40.5	-10.5	-30.0
152.0	-35.9	-10.5	-25.4
153.0	-34.5	-10.5	-24.0
154.0	-35.6	-10.5	-25.1
155.0	-30.4	-10.5	-19.9
156.0	-40.5	-10.5	-30.0
157.0	-39.6	-10.5	-29.1
158.0	-35.8	-10.5	-25.3
159.0	-39.8	-10.5	-29.3
160.0	-27.4	-10.5	-16.9
161.0	-35.1	-10.5	-24.6
162.0	-34.9	-10.5	-24.4
163.0	-32.4	-10.5	-21.9
164.0	-29.2	-10.5	-18.7
165.0	-32.6	-10.5	-22.1
166.0	-35.1	-10.5	-24.6
167.0	-33.7	-10.5	-23.2
168.0	-36.9	-10.5	-26.4
169.0	-39.8	-10.5	-29.3
170.0	-33.5	-10.5	-23.0
171.0	-33.8	-10.5	-23.3
172.0	-40.5	-10.5	-30.0
173.0	-32.8	-10.5	-22.3
174.0	-31.7	-10.5	-21.2
175.0	-40.5	-10.5	-30.0
176.0	-36.9	-10.5	-26.4
177.0	-33.4	-10.5	-22.9
178.0	-37.2	-10.5	-26.7
179.0	-31.9	-10.5	-21.4

Orbit Communication Systems Ltd.

AL AL-7107-Ka, 2.15 m Antenna, EIRPsd Data Table
Co-pol Azimuth LHCP LHCP, -10° to +10° @ 0.1° increment

27.55 GHz @ -12.56 dBW / 40 kHz in Co-pol Az LHCP

Angle Degrees	EIRPsd dBW/40kHz	Mask dBW/40kHz	Over Mask dB
-10.0	-18.1	-3.5	-14.6
-9.9	-15.2	-3.4	-11.8
-9.8	-14.4	-3.3	-11.1
-9.7	-14.8	-3.2	-11.6
-9.6	-16.0	-3.1	-13.0
-9.5	-20.0	-2.9	-17.0
-9.4	-24.6	-2.8	-21.8
-9.3	-19.7	-2.7	-17.0
-9.2	-15.5	-2.6	-12.9
-9.1	-15.2	-2.6	-12.6
-9.0	-16.0	-2.6	-13.4
-8.9	-18.5	-2.6	-15.8
-8.8	-16.8	-2.6	-14.2
-8.7	-15.3	-2.6	-12.7
-8.6	-15.1	-2.6	-12.5
-8.5	-16.6	-2.6	-14.0
-8.4	-19.0	-2.6	-16.3
-8.3	-18.0	-2.6	-15.3
-8.2	-14.8	-2.6	-12.2
-8.1	-13.2	-2.6	-10.6
-8.0	-16.7	-2.6	-14.0
-7.9	-26.1	-2.6	-23.5
-7.8	-24.0	-2.6	-21.3
-7.7	-17.9	-2.6	-15.3
-7.6	-15.9	-2.6	-13.3
-7.5	-15.3	-2.6	-12.7
-7.4	-18.4	-2.6	-15.8
-7.3	-13.0	-2.6	-10.3
-7.2	-10.5	-2.6	-7.9
-7.1	-10.2	-2.6	-7.6
-7.0	-10.8	-2.6	-8.1
-6.9	-9.1	-2.5	-6.6
-6.8	-7.9	-2.3	-5.5
-6.7	-8.6	-2.2	-6.5
-6.6	-9.1	-2.0	-7.1
-6.5	-10.6	-1.8	-8.8
-6.4	-14.8	-1.7	-13.1
-6.3	-20.8	-1.5	-19.3
-6.2	-16.0	-1.3	-14.6
-6.1	-14.9	-1.1	-13.7
-6.0	-23.2	-1.0	-22.2
-5.9	-14.8	-0.8	-14.1
-5.8	-10.6	-0.6	-10.0
-5.7	-12.5	-0.4	-12.1
-5.6	-27.7	-0.2	-27.5
-5.5	-14.7	0.0	-14.7
-5.4	-12.1	0.2	-12.3
-5.3	-15.4	0.4	-15.8
-5.2	-12.9	0.6	-13.5
-5.1	-10.1	0.8	-10.9
-5.0	-9.9	1.0	-10.9
-4.9	-10.5	1.2	-11.8
-4.8	-10.3	1.5	-11.7
-4.7	-9.5	1.7	-11.2
-4.6	-10.5	1.9	-12.4
-4.5	-13.3	2.2	-15.5
-4.4	-16.7	2.4	-19.1
-4.3	-14.9	2.7	-17.5
-4.2	-10.7	2.9	-13.7
-4.1	-8.5	3.2	-11.7

27.55 GHz @ -12.56 dBW / 40 kHz in Co-pol Az LHCP

Angle Degrees	EIRPsd dBW/40kHz	Mask dBW/40kHz	Over Mask dB
0.0	39.5		
0.1	39.0		
0.2	36.8		
0.3	32.8		
0.4	27.4		
0.5	21.6		
0.6	15.1		
0.7	13.9		
0.8	15.9		
0.9	14.4		
1.0	4.6		
1.1	5.7		
1.2	8.4		
1.3	4.4		
1.4	-3.1		
1.5	-1.1		
1.6	-0.8		
1.7	3.3		
1.8	5.1		
1.9	3.5		
2.0	-1.1	11.0	-12.1
2.1	-7.6	10.4	-18.0
2.2	-14.9	9.9	-24.9
2.3	-9.5	9.5	-18.9
2.4	-8.0	9.0	-17.0
2.5	-9.1	8.6	-17.6
2.6	-9.6	8.1	-17.7
2.7	-12.6	7.7	-20.3
2.8	-14.0	7.3	-21.4
2.9	-9.4	6.9	-16.3
3.0	-8.9	6.6	-15.5
3.1	-6.4	6.2	-12.7
3.2	-3.9	5.9	-9.7
3.3	-4.4	5.5	-9.9
3.4	-9.9	5.2	-15.1
3.5	-22.4	4.9	-27.3
3.6	-14.3	4.6	-18.9
3.7	-27.7	4.3	-32.0
3.8	-8.7	4.0	-12.7
3.9	-5.1	3.7	-8.8
4.0	-6.7	3.4	-10.1
4.1	-12.1	3.2	-15.3
4.2	-16.4	2.9	-19.3
4.3	-12.9	2.7	-15.6
4.4	-12.0	2.4	-14.4
4.5	-12.8	2.2	-14.9
4.6	-13.7	1.9	-15.6
4.7	-13.0	1.7	-14.7
4.8	-12.2	1.5	-13.7
4.9	-13.1	1.2	-14.3
5.0	-15.4	1.0	-16.4
5.1	-20.0	0.8	-20.8
5.2	-24.9	0.6	-25.5
5.3	-19.9	0.4	-20.3
5.4	-19.0	0.2	-19.2
5.5	-25.3	0.0	-25.2
5.6	-17.5	-0.2	-17.3
5.7	-12.1	-0.4	-11.7
5.8	-11.0	-0.6	-10.4
5.9	-11.3	-0.8	-10.5

Orbit Communication Systems Ltd.

AL AL-7107-Ka, 2.15 m Antenna, EIRPsd Data Table
Co-pol Azimuth LHCP LHCP, -10° to +10° @ 0.1° increment

-4.0	-7.3	3.4	-10.7
-3.9	-4.2	3.7	-7.9
-3.8	-2.3	4.0	-6.3
-3.7	-4.5	4.3	-8.8
-3.6	-16.3	4.6	-20.9
-3.5	-12.3	4.9	-17.1
-3.4	-11.8	5.2	-17.0
-3.3	-9.4	5.5	-14.9
-3.2	-4.2	5.9	-10.1
-3.1	-4.2	6.2	-10.4
-3.0	-3.6	6.6	-10.2
-2.9	-1.1	6.9	-8.1
-2.8	-0.8	7.3	-8.2
-2.7	-3.9	7.7	-11.6
-2.6	-8.9	8.1	-17.0
-2.5	-12.0	8.6	-20.5
-2.4	-7.1	9.0	-16.1
-2.3	-4.8	9.5	-14.3
-2.2	-7.6	9.9	-17.5
-2.1	-6.6	10.4	-17.0
-2.0	-0.9	11.0	-11.9
-1.9	-1.0		
-1.8	-2.5		
-1.7	-4.5		
-1.6	-13.4		
-1.5	0.3		
-1.4	5.5		
-1.3	7.5		
-1.2	9.5		
-1.1	10.3		
-1.0	8.5		
-0.9	0.7		
-0.8	-0.8		
-0.7	-1.0		
-0.6	10.3		
-0.5	20.5		
-0.4	28.0		
-0.3	33.7		
-0.2	37.1		
-0.1	39.1		
0.0	39.5		

6.0	-13.0	-1.0	-12.0
6.1	-20.9	-1.1	-19.8
6.2	-25.4	-1.3	-24.1
6.3	-17.2	-1.5	-15.7
6.4	-16.3	-1.7	-14.6
6.5	-19.2	-1.8	-17.4
6.6	-16.5	-2.0	-14.5
6.7	-16.0	-2.2	-13.8
6.8	-12.7	-2.3	-10.3
6.9	-10.0	-2.5	-7.5
7.0	-9.3	-2.6	-6.6
7.1	-9.2	-2.6	-6.6
7.2	-9.6	-2.6	-7.0
7.3	-12.6	-2.6	-10.0
7.4	-22.5	-2.6	-19.9
7.5	-16.4	-2.6	-13.8
7.6	-13.3	-2.6	-10.7
7.7	-14.9	-2.6	-12.2
7.8	-19.5	-2.6	-16.9
7.9	-17.3	-2.6	-14.6
8.0	-15.1	-2.6	-12.5
8.1	-12.4	-2.6	-9.8
8.2	-11.5	-2.6	-8.9
8.3	-13.1	-2.6	-10.5
8.4	-14.8	-2.6	-12.2
8.5	-15.9	-2.6	-13.3
8.6	-17.9	-2.6	-15.2
8.7	-20.5	-2.6	-17.9
8.8	-18.1	-2.6	-15.5
8.9	-16.4	-2.6	-13.8
9.0	-18.1	-2.6	-15.5
9.1	-22.0	-2.6	-19.4
9.2	-24.6	-2.6	-22.0
9.3	-21.8	-2.7	-19.1
9.4	-16.6	-2.8	-13.7
9.5	-16.2	-2.9	-13.2
9.6	-17.7	-3.1	-14.7
9.7	-26.9	-3.2	-23.7
9.8	-20.6	-3.3	-17.3
9.9	-21.8	-3.4	-18.4
10.0	-26.3	-3.5	-22.8

Orbit Communication Systems Ltd.

AL-7107-Ka, 2.15 m Antenna, EIRPsd Data Table
Co-pol Elevation LHCP, -30° to +30° @ 0.5° increment

27.55 GHz @ -12.56 dBW / 40 kHz in Co-pol EI LHCP

Angle	EIRPsd	Mask	Over Mask
Degrees	dBW/40kHz	dBW/40kHz	dB
-30.0	-20.3	-12.4	-7.9
-29.5	-22.6	-12.2	-10.4
-29.0	-24.2	-12.1	-12.2
-28.5	-24.0	-11.9	-12.2
-28.0	-23.2	-11.7	-11.5
-27.5	-24.9	-11.5	-13.4
-27.0	-20.5	-11.3	-9.2
-26.5	-22.5	-11.1	-11.4
-26.0	-30.7	-10.9	-19.8
-25.5	-26.5	-10.7	-15.9
-25.0	-28.9	-10.4	-18.4
-24.5	-21.4	-10.2	-11.2
-24.0	-23.0	-10.0	-13.0
-23.5	-20.6	-9.8	-10.8
-23.0	-27.1	-9.5	-17.6
-22.5	-19.5	-9.3	-10.2
-22.0	-18.1	-9.1	-9.0
-21.5	-18.8	-8.8	-9.9
-21.0	-28.9	-8.6	-20.3
-20.5	-21.5	-8.3	-13.2
-20.0	-15.9	-8.0	-7.9
-19.5	-12.4	-7.8	-4.6
-19.0	-11.1	-7.5	-3.6
-18.5	-14.5	-7.2	-7.3
-18.0	-15.9	-6.9	-9.0
-17.5	-31.7	-6.6	-25.1
-17.0	-36.0	-6.3	-29.7
-16.5	-26.6	-5.9	-20.7
-16.0	-25.0	-5.6	-19.4
-15.5	-20.5	-5.3	-15.3
-15.0	-33.7	-4.9	-28.8
-14.5	-19.8	-4.5	-15.3
-14.0	-27.5	-4.2	-23.4
-13.5	-23.5	-3.8	-19.7
-13.0	-21.1	-3.3	-17.7
-12.5	-23.6	-2.9	-20.6
-12.0	-19.6	-2.5	-17.1
-11.5	-32.0	-2.0	-29.9
-11.0	-20.3	-1.5	-18.8
-10.5	-23.1	-1.0	-22.0
-10.0	-19.9	-0.5	-19.4
-9.5	-31.1	0.1	-31.1
-9.0	-23.8	0.4	-24.2
-8.5	-15.0	0.4	-15.4
-8.0	-20.8	0.4	-21.1
-7.5	-15.3	0.4	-15.6
-7.0	-17.4	0.4	-17.8
-6.5	-14.3	1.2	-15.4
-6.0	-17.3	2.0	-19.4
-5.5	-23.3	3.0	-26.3
-5.0	-8.0	4.0	-12.1
-4.5	-8.3	5.2	-13.4
-4.0	-19.6	6.4	-26.1
-3.5	-9.3	7.9	-17.2
-3.0	-1.3		
-2.5	0.0		
-2.0	-5.2		
-1.5	2.3		
-1.0	8.0		
-0.5	23.9		
0.0	39.5		

27.55 GHz @ -12.56 dBW / 40 kHz in Co-pol EI LHCP

Angle	EIRPsd	Mask	Over Mask
Degrees	dBW/40kHz	dBW/40kHz	dB
0.0	39.5		
0.5	25.0		
1.0	5.5		
1.5	-4.5		
2.0	-5.2		
2.5	-2.6		
3.0	-17.6		
3.5	1.4	7.9	-6.5
4.0	-1.3	6.4	-7.7
4.5	-8.3	5.2	-13.5
5.0	-5.6	4.0	-9.6
5.5	-21.6	3.0	-24.6
6.0	-14.5	2.0	-16.6
6.5	-12.2	1.2	-13.4
7.0	-11.2	0.4	-11.6
7.5	-18.9	0.4	-19.2
8.0	-20.7	0.4	-21.1
8.5	-27.0	0.4	-27.3
9.0	-22.4	0.4	-22.8
9.5	-16.4	0.1	-16.4
10.0	-19.7	-0.5	-19.2
10.5	-17.5	-1.0	-16.5
11.0	-15.7	-1.5	-14.1
11.5	-14.6	-2.0	-12.6
12.0	-14.0	-2.5	-11.5
12.5	-14.6	-2.9	-11.7
13.0	-21.5	-3.3	-18.2
13.5	-23.4	-3.8	-19.6
14.0	-26.0	-4.2	-21.9
14.5	-21.9	-4.5	-17.4
15.0	-25.4	-4.9	-20.5
15.5	-24.1	-5.3	-18.9
16.0	-34.6	-5.6	-29.0
16.5	-26.9	-5.9	-21.0
17.0	-32.4	-6.3	-26.1
17.5	-32.5	-6.6	-25.9
18.0	-34.0	-6.9	-27.1
18.5	-23.2	-7.2	-16.1
19.0	-23.2	-7.5	-15.8
19.5	-30.2	-7.8	-22.5
20.0	-39.9	-8.0	-31.9
20.5	-31.9	-8.3	-23.6
21.0	-28.0	-8.6	-19.4
21.5	-28.1	-8.8	-19.2
22.0	-25.7	-9.1	-16.6
22.5	-30.1	-9.3	-20.8
23.0	-40.0	-9.5	-30.5
23.5	-34.6	-9.8	-24.8
24.0	-34.6	-10.0	-24.6
24.5	-37.7	-10.2	-27.5
25.0	-26.1	-10.4	-15.6
25.5	-30.0	-10.7	-19.4
26.0	-28.6	-10.9	-17.7
26.5	-30.7	-11.1	-19.6
27.0	-26.6	-11.3	-15.3
27.5	-35.7	-11.5	-24.2
28.0	-33.2	-11.7	-21.6
28.5	-34.8	-11.9	-23.0
29.0	-38.5	-12.1	-26.5
29.5	-30.9	-12.2	-18.7
30.0	-28.4	-12.4	-16.0

Orbit Communication Systems Ltd.

AL-7107-Ka, 2.15 m Antenna, EIRPsd Data Table
Co-pol Elevation LHCP, -10° to +10° @ 0.1° increment

27.55 GHz @ -12.56 dBW / 40 kHz in Co-pol EI LHCP

Angle	EIRPsd	Mask	Over Mask
Degrees	dBW/40kHz	dBW/40kHz	dB
-10.0	-19.9	-0.5	-19.4
-9.9	-17.7	-0.4	-17.3
-9.8	-15.7	-0.3	-15.5
-9.7	-16.5	-0.2	-16.3
-9.6	-28.6	-0.1	-28.5
-9.5	-31.1	0.1	-31.1
-9.4	-22.1	0.2	-22.3
-9.3	-18.7	0.3	-19.0
-9.2	-18.7	0.4	-19.1
-9.1	-20.6	0.4	-21.0
-9.0	-23.8	0.4	-24.2
-8.9	-21.1	0.4	-21.5
-8.8	-20.9	0.4	-21.3
-8.7	-28.8	0.4	-29.2
-8.6	-21.2	0.4	-21.5
-8.5	-15.0	0.4	-15.4
-8.4	-13.5	0.4	-13.9
-8.3	-12.7	0.4	-13.0
-8.2	-12.8	0.4	-13.2
-8.1	-14.2	0.4	-14.6
-8.0	-20.8	0.4	-21.1
-7.9	-33.4	0.4	-33.7
-7.8	-24.3	0.4	-24.7
-7.7	-19.8	0.4	-20.2
-7.6	-17.4	0.4	-17.8
-7.5	-15.3	0.4	-15.6
-7.4	-13.5	0.4	-13.8
-7.3	-12.5	0.4	-12.9
-7.2	-14.1	0.4	-14.4
-7.1	-20.7	0.4	-21.1
-7.0	-17.4	0.4	-17.8
-6.9	-18.7	0.5	-19.2
-6.8	-22.5	0.7	-23.2
-6.7	-17.8	0.8	-18.7
-6.6	-14.6	1.0	-15.6
-6.5	-14.3	1.2	-15.4
-6.4	-13.3	1.3	-14.6
-6.3	-11.9	1.5	-13.5
-6.2	-13.3	1.7	-15.0
-6.1	-16.3	1.9	-18.2
-6.0	-17.3	2.0	-19.4
-5.9	-20.1	2.2	-22.4
-5.8	-22.7	2.4	-25.1
-5.7	-21.9	2.6	-24.5
-5.6	-23.0	2.8	-25.8
-5.5	-23.3	3.0	-26.3
-5.4	-15.7	3.2	-18.9
-5.3	-11.1	3.4	-14.5
-5.2	-9.5	3.6	-13.1
-5.1	-8.3	3.8	-12.1
-5.0	-8.0	4.0	-12.1
-4.9	-7.5	4.2	-11.7
-4.8	-7.9	4.5	-12.4
-4.7	-11.5	4.7	-16.2
-4.6	-18.4	4.9	-23.4
-4.5	-8.3	5.2	-13.4
-4.4	-4.4	5.4	-9.8
-4.3	-3.1	5.7	-8.8
-4.2	-4.2	5.9	-10.1
-4.1	-8.0	6.2	-14.2

27.55 GHz @ -12.56 dBW / 40 kHz in Co-pol EI LHCP

Angle	EIRPsd	Mask	Over Mask
Degrees	dBW/40kHz	dBW/40kHz	dB
0.0	39.5		
0.1	38.8		
0.2	36.6		
0.3	32.7		
0.4	28.3		
0.5	25.0		
0.6	20.8		
0.7	12.5		
0.8	-4.3		
0.9	2.9		
1.0	5.5		
1.1	7.8		
1.2	6.3		
1.3	-1.1		
1.4	-2.9		
1.5	-4.5		
1.6	0.3		
1.7	2.9		
1.8	2.3		
1.9	-2.1		
2.0	-5.2		
2.1	-4.1		
2.2	-0.4		
2.3	1.1		
2.4	0.4		
2.5	-2.6		
2.6	-6.6		
2.7	-19.3		
2.8	-10.2		
2.9	-8.6		
3.0	-17.6		
3.1	-12.5		
3.2	-11.7		
3.3	-7.0		
3.4	-1.2		
3.5	1.4	7.9	-6.5
3.6	0.7	7.6	-6.9
3.7	-2.9	7.3	-10.2
3.8	-4.7	7.0	-11.7
3.9	-2.2	6.7	-9.0
4.0	-1.3	6.4	-7.7
4.1	-2.6	6.2	-8.8
4.2	-4.2	5.9	-10.1
4.3	-4.2	5.7	-9.9
4.4	-4.7	5.4	-10.1
4.5	-8.3	5.2	-13.5
4.6	-11.3	4.9	-16.2
4.7	-11.3	4.7	-16.0
4.8	-9.6	4.5	-14.1
4.9	-7.7	4.2	-11.9
5.0	-5.6	4.0	-9.6
5.1	-4.0	3.8	-7.8
5.2	-3.3	3.6	-6.9
5.3	-5.2	3.4	-8.6
5.4	-10.7	3.2	-13.8
5.5	-21.6	3.0	-24.6
5.6	-14.4	2.8	-17.2
5.7	-15.8	2.6	-18.4
5.8	-14.7	2.4	-17.1
5.9	-13.4	2.2	-15.6

Orbit Communication Systems Ltd.
 AL-7107-Ka, 2.15 m Antenna, EIRPsd Data Table
 Co-pol Elevation LHCP, -10° to +10° @ 0.1° increment

-4.0	-19.6	6.4	-26.1
-3.9	-6.1	6.7	-12.8
-3.8	-3.0	7.0	-10.0
-3.7	-3.0	7.3	-10.3
-3.6	-5.4	7.6	-13.0
-3.5	-9.3	7.9	-17.2
-3.4	-19.0		
-3.3	-18.0		
-3.2	-21.8		
-3.1	-8.4		
-3.0	-1.3		
-2.9	0.6		
-2.8	-0.3		
-2.7	-2.9		
-2.6	-2.2		
-2.5	0.0		
-2.4	1.4		
-2.3	1.8		
-2.2	0.7		
-2.1	-2.0		
-2.0	-5.2		
-1.9	-9.9		
-1.8	-8.1		
-1.7	-0.9		
-1.6	2.0		
-1.5	2.3		
-1.4	0.2		
-1.3	6.7		
-1.2	10.3		
-1.1	10.4		
-1.0	8.0		
-0.9	9.2		
-0.8	12.6		
-0.7	17.1		
-0.6	20.8		
-0.5	23.9		
-0.4	28.6		
-0.3	33.8		
-0.2	37.3		
-0.1	39.2		
0.0	39.5		

6.0	-14.5	2.0	-16.6
6.1	-22.1	1.9	-24.0
6.2	-16.4	1.7	-18.1
6.3	-11.7	1.5	-13.3
6.4	-11.6	1.3	-13.0
6.5	-12.2	1.2	-13.4
6.6	-12.7	1.0	-13.7
6.7	-10.9	0.8	-11.7
6.8	-8.7	0.7	-9.3
6.9	-8.6	0.5	-9.1
7.0	-11.2	0.4	-11.6
7.1	-20.3	0.4	-20.7
7.2	-25.8	0.4	-26.2
7.3	-20.1	0.4	-20.5
7.4	-22.8	0.4	-23.1
7.5	-18.9	0.4	-19.2
7.6	-19.9	0.4	-20.3
7.7	-17.9	0.4	-18.3
7.8	-17.7	0.4	-18.1
7.9	-19.8	0.4	-20.2
8.0	-20.7	0.4	-21.1
8.1	-26.6	0.4	-27.0
8.2	-34.4	0.4	-34.7
8.3	-24.4	0.4	-24.8
8.4	-23.1	0.4	-23.5
8.5	-27.0	0.4	-27.3
8.6	-18.3	0.4	-18.6
8.7	-17.8	0.4	-18.2
8.8	-17.1	0.4	-17.5
8.9	-20.1	0.4	-20.5
9.0	-22.4	0.4	-22.8
9.1	-19.4	0.4	-19.8
9.2	-20.4	0.4	-20.8
9.3	-27.4	0.3	-27.6
9.4	-21.7	0.2	-21.9
9.5	-16.4	0.1	-16.4
9.6	-14.2	-0.1	-14.2
9.7	-13.3	-0.2	-13.1
9.8	-13.7	-0.3	-13.4
9.9	-15.7	-0.4	-15.3
10.0	-19.7	-0.5	-19.2

Orbit Communication Systems Ltd.
AL-7107-Ka, 2.15 m Antenna, EIRPsd Data Table
X-pol Azimuth LHCP, -10° to +10° @ 0.1° increment

27.55 GHz @ -12.56 dBW / 40 kHz in X-pol Az LHCP

Angle	EIRPsd	Mask	Over Mask
Degrees	dBW/40kHz	dBW/40kHz	dB
-10.0	-18.1	-12.6	-5.4
-9.9	-18.7	-12.6	-6.1
-9.8	-23.5	-12.6	-10.8
-9.7	-19.9	-12.6	-7.3
-9.6	-18.5	-12.6	-5.9
-9.5	-18.7	-12.6	-6.1
-9.4	-20.1	-12.6	-7.5
-9.3	-21.5	-12.6	-8.9
-9.2	-21.7	-12.6	-9.0
-9.1	-24.0	-12.6	-11.4
-9.0	-25.3	-12.6	-12.7
-8.9	-29.1	-12.6	-16.5
-8.8	-21.8	-12.6	-9.1
-8.7	-19.6	-12.6	-6.9
-8.6	-19.0	-12.6	-6.4
-8.5	-18.1	-12.6	-5.5
-8.4	-17.8	-12.6	-5.2
-8.3	-19.9	-12.6	-7.3
-8.2	-19.7	-12.6	-7.1
-8.1	-18.3	-12.6	-5.7
-8.0	-14.8	-12.6	-2.2
-7.9	-15.6	-12.6	-3.0
-7.8	-16.4	-12.6	-3.8
-7.7	-19.6	-12.6	-6.9
-7.6	-25.1	-12.6	-12.4
-7.5	-18.0	-12.6	-5.3
-7.4	-15.1	-12.6	-2.4
-7.3	-13.3	-12.6	-0.7
-7.2	-15.5	-12.6	-2.9
-7.1	-19.1	-12.6	-6.4
-7.0	-30.4	-12.6	-17.7
-6.9	-27.3	-12.5	-14.9
-6.8	-21.4	-12.3	-9.1
-6.7	-16.8	-12.2	-4.7
-6.6	-14.8	-12.0	-2.8
-6.5	-15.9	-11.8	-4.1
-6.4	-16.0	-11.7	-4.4
-6.3	-15.3	-11.5	-3.8
-6.2	-13.8	-11.3	-2.5
-6.1	-14.1	-11.1	-3.0
-6.0	-15.6	-11.0	-4.7
-5.9	-20.4	-10.8	-9.7
-5.8	-16.5	-10.6	-5.9
-5.7	-14.4	-10.4	-4.0
-5.6	-13.0	-10.2	-2.8
-5.5	-12.8	-10.0	-2.8
-5.4	-17.1	-9.8	-7.3
-5.3	-22.3	-9.6	-12.7
-5.2	-30.6	-9.4	-21.2
-5.1	-23.5	-9.2	-14.3
-5.0	-17.5	-9.0	-8.5
-4.9	-17.6	-8.8	-8.8
-4.8	-21.8	-8.5	-13.3
-4.7	-27.0	-8.3	-18.7
-4.6	-20.6	-8.1	-12.5
-4.5	-20.5	-7.8	-12.7
-4.4	-22.2	-7.6	-14.6
-4.3	-16.3	-7.3	-8.9
-4.2	-13.0	-7.1	-5.9
-4.1	-13.6	-6.8	-6.7

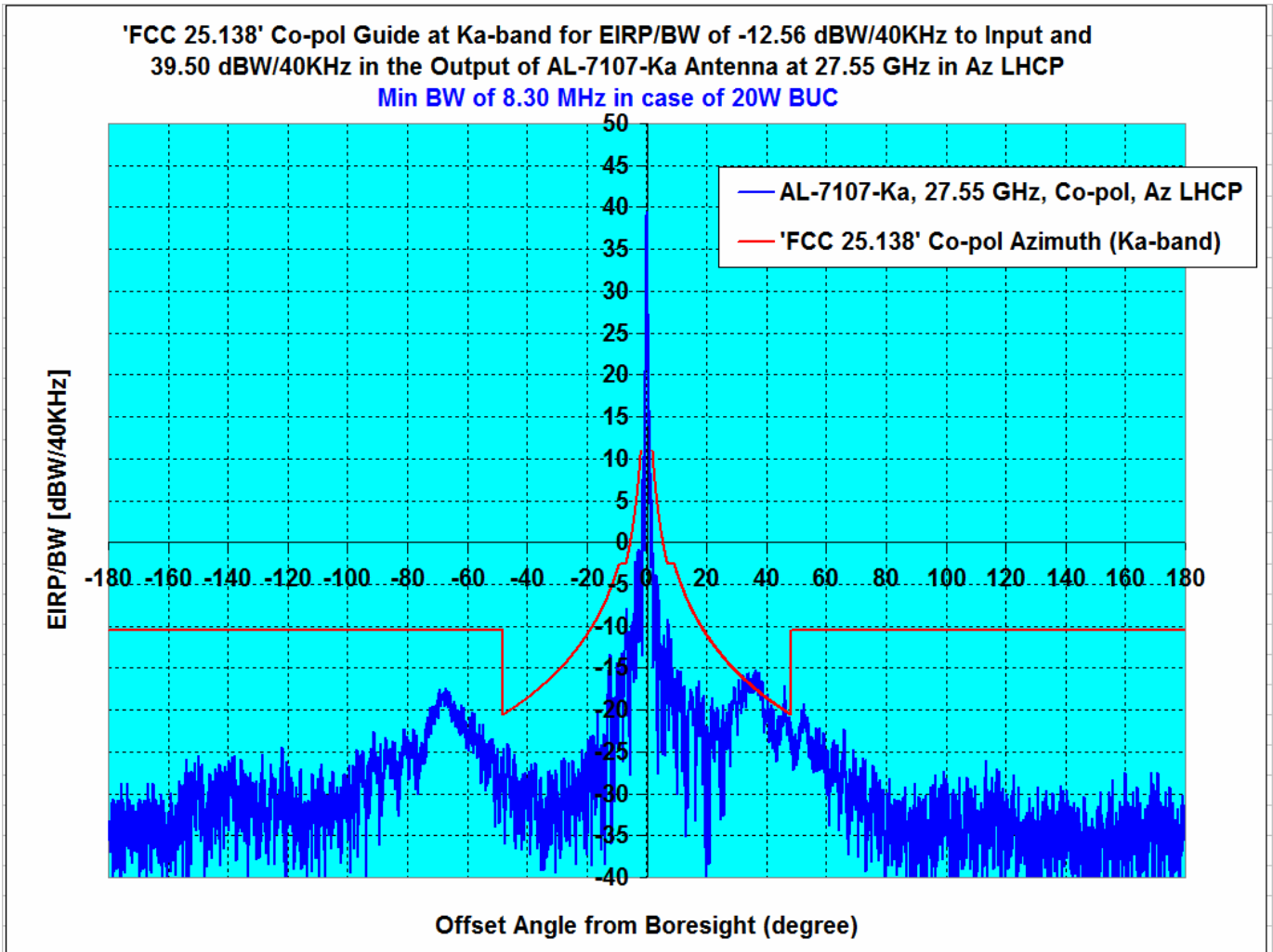
27.55 GHz @ -12.56 dBW / 40 kHz in X-pol Az LHCP

Angle	EIRPsd	Mask	Over Mask
Degrees	dBW/40kHz	dBW/40kHz	dB
0.0	10.0		
0.1	10.9		
0.2	12.6		
0.3	13.3		
0.4	12.6		
0.5	10.3		
0.6	4.1		
0.7	-11.9		
0.8	-4.0		
0.9	0.9		
1.0	1.9		
1.1	-1.1		
1.2	-15.1		
1.3	-6.5		
1.4	-3.4		
1.5	-6.1		
1.6	-10.9		
1.7	-8.3		
1.8	-8.1		
1.9	-13.7		
2.0	-18.8	1.0	-19.7
2.1	-22.6	0.4	-23.1
2.2	-19.1	-0.1	-19.0
2.3	-14.0	-0.5	-13.5
2.4	-14.3	-1.0	-13.3
2.5	-18.3	-1.4	-16.8
2.6	-25.2	-1.9	-23.3
2.7	-25.1	-2.3	-22.8
2.8	-22.9	-2.7	-20.3
2.9	-25.1	-3.1	-22.1
3.0	-32.5	-3.4	-29.1
3.1	-26.3	-3.8	-22.5
3.2	-28.4	-4.1	-24.2
3.3	-27.0	-4.5	-22.5
3.4	-20.6	-4.8	-15.8
3.5	-24.4	-5.1	-19.3
3.6	-31.0	-5.4	-25.6
3.7	-23.2	-5.7	-17.5
3.8	-17.5	-6.0	-11.5
3.9	-20.9	-6.3	-14.6
4.0	-40.5	-6.6	-33.9
4.1	-22.2	-6.8	-15.4
4.2	-20.2	-7.1	-13.1
4.3	-22.8	-7.3	-15.5
4.4	-27.8	-7.6	-20.2
4.5	-29.3	-7.8	-21.4
4.6	-33.1	-8.1	-25.0
4.7	-24.5	-8.3	-16.2
4.8	-29.3	-8.5	-20.8
4.9	-27.2	-8.8	-18.4
5.0	-24.5	-9.0	-15.5
5.1	-23.9	-9.2	-14.7
5.2	-28.8	-9.4	-19.4
5.3	-23.3	-9.6	-13.7
5.4	-21.6	-9.8	-11.8
5.5	-24.6	-10.0	-14.6
5.6	-25.5	-10.2	-15.3
5.7	-20.2	-10.4	-9.8
5.8	-20.2	-10.6	-9.6
5.9	-21.8	-10.8	-11.0

Orbit Communication Systems Ltd.
AL-7107-Ka, 2.15 m Antenna, EIRPsd Data Table
X-pol Azimuth LHCP, -10° to +10° @ 0.1° increment

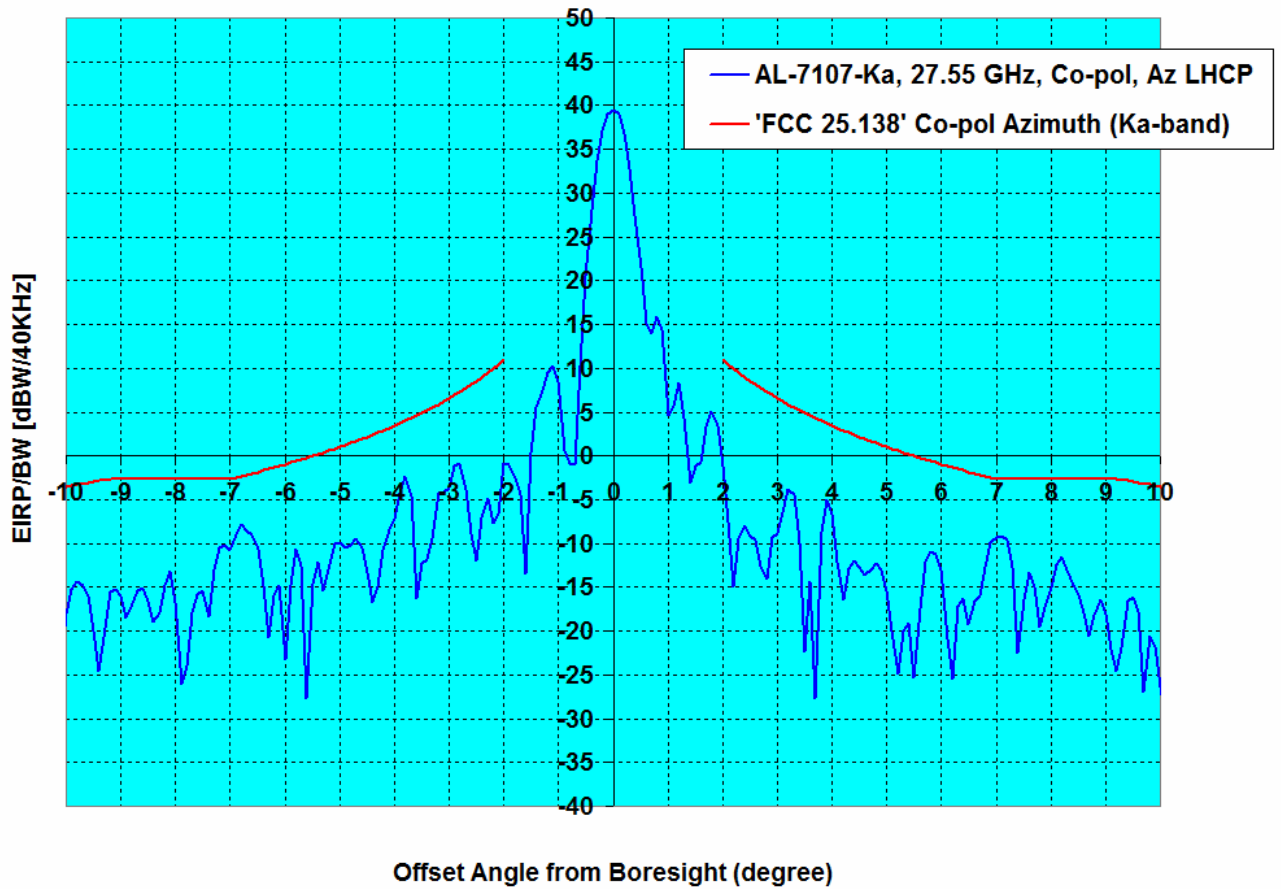
-4.0	-14.9	-6.6	-8.3
-3.9	-17.1	-6.3	-10.9
-3.8	-11.9	-6.0	-5.9
-3.7	-10.6	-5.7	-4.9
-3.6	-11.4	-5.4	-5.9
-3.5	-13.3	-5.1	-8.2
-3.4	-15.8	-4.8	-11.0
-3.3	-17.1	-4.5	-12.6
-3.2	-19.4	-4.1	-15.3
-3.1	-25.4	-3.8	-21.6
-3.0	-22.2	-3.4	-18.8
-2.9	-15.5	-3.1	-12.4
-2.8	-15.1	-2.7	-12.4
-2.7	-18.5	-2.3	-16.2
-2.6	-18.1	-1.9	-16.2
-2.5	-18.0	-1.4	-16.6
-2.4	-19.8	-1.0	-18.8
-2.3	-13.9	-0.5	-13.4
-2.2	-13.0	-0.1	-12.9
-2.1	-17.7	0.4	-18.2
-2.0	-16.6	1.0	-17.6
-1.9	-16.9		
-1.8	-17.1		
-1.7	-13.7		
-1.6	-12.4		
-1.5	-9.7		
-1.4	-8.6		
-1.3	-11.3		
-1.2	-7.8		
-1.1	-3.3		
-1.0	-2.0		
-0.9	-1.9		
-0.8	-8.1		
-0.7	1.5		
-0.6	10.4		
-0.5	14.6		
-0.4	16.1		
-0.3	15.8		
-0.2	14.2		
-0.1	11.5		
0.0	10.0		

6.0	-29.8	-11.0	-18.9
6.1	-36.5	-11.1	-25.4
6.2	-23.9	-11.3	-12.6
6.3	-19.4	-11.5	-7.9
6.4	-21.5	-11.7	-9.8
6.5	-20.7	-11.8	-8.9
6.6	-19.7	-12.0	-7.7
6.7	-17.9	-12.2	-5.8
6.8	-18.0	-12.3	-5.7
6.9	-18.6	-12.5	-6.1
7.0	-21.4	-12.6	-8.8
7.1	-19.8	-12.6	-7.2
7.2	-21.9	-12.6	-9.3
7.3	-24.6	-12.6	-12.0
7.4	-24.7	-12.6	-12.1
7.5	-24.3	-12.6	-11.7
7.6	-21.3	-12.6	-8.7
7.7	-18.2	-12.6	-5.6
7.8	-18.3	-12.6	-5.6
7.9	-19.8	-12.6	-7.1
8.0	-19.0	-12.6	-6.4
8.1	-17.9	-12.6	-5.3
8.2	-19.0	-12.6	-6.4
8.3	-20.9	-12.6	-8.2
8.4	-20.8	-12.6	-8.1
8.5	-20.8	-12.6	-8.2
8.6	-22.2	-12.6	-9.6
8.7	-24.6	-12.6	-12.0
8.8	-24.3	-12.6	-11.7
8.9	-26.4	-12.6	-13.8
9.0	-31.6	-12.6	-19.0
9.1	-34.3	-12.6	-21.7
9.2	-29.8	-12.6	-17.1
9.3	-25.9	-12.6	-13.3
9.4	-25.7	-12.6	-13.1
9.5	-20.9	-12.6	-8.3
9.6	-20.2	-12.6	-7.5
9.7	-19.2	-12.6	-6.6
9.8	-22.4	-12.6	-9.8
9.9	-27.6	-12.6	-15.0
10.0	-23.9	-12.6	-11.3



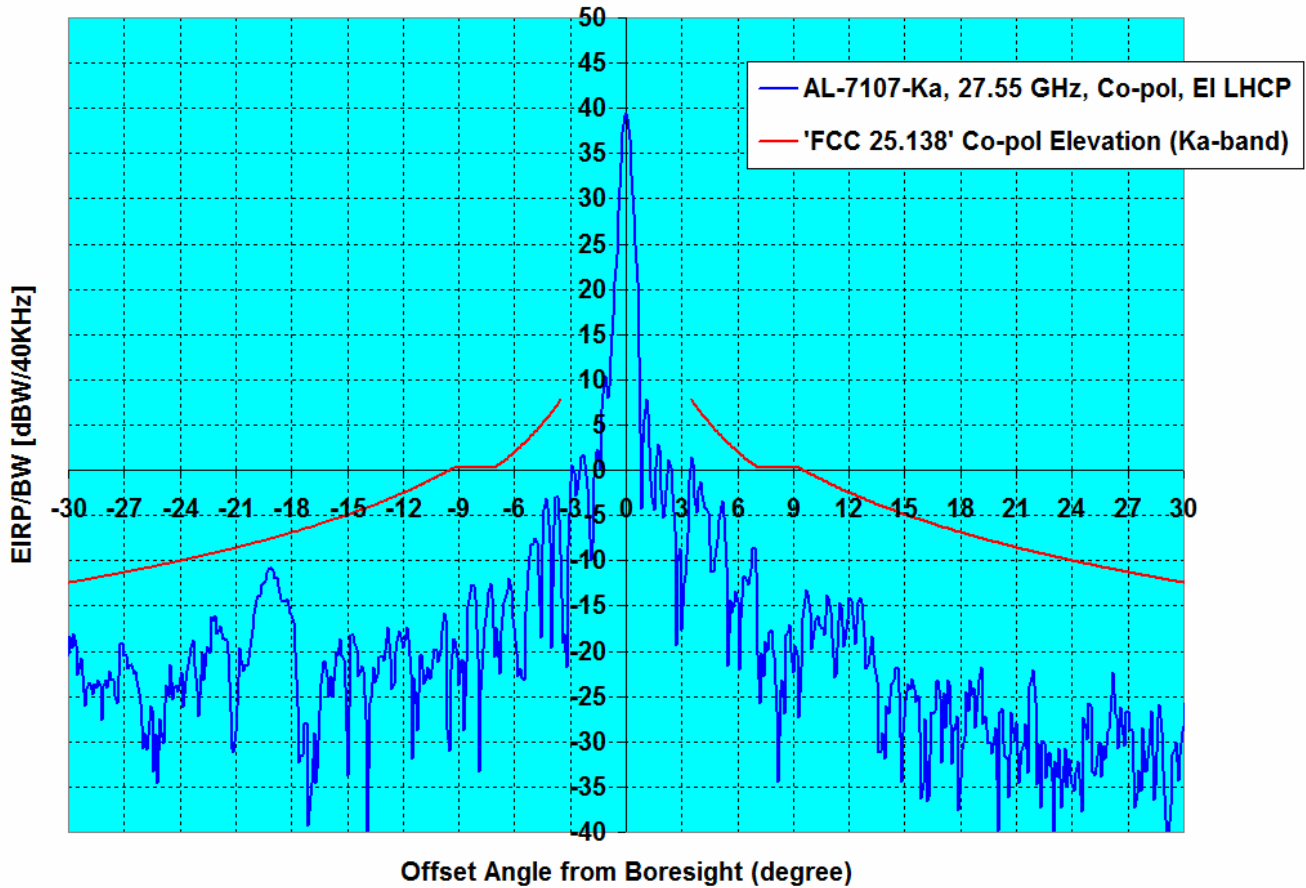
Configuration System, Freq., Polarization, Plane	Regulation EIRP/BW [dBW/40KHz]	Antenna Gain dBi	Input EIRPsd dBW/40KHz	Peak Excursions dB		Over Mask %
				± (2° to 10°)	± (10° to 180°)	
AL-7107-Ka, 27.55 GHz, Co-pol, Az LHCP	'FCC 25.138' Co-pol Azimuth (Ka-band)	52.06	-12.56	-5.55	3.00	1.38

**'FCC 25.138' Co-pol Guide at Ka-band for EIRP/BW of -12.56 dBW/40KHz to Input and
 39.50 dBW/40KHz in the Output of AL-7107-Ka Antenna at 27.55 GHz in Az LHCP
 Min BW of 8.30 MHz in case of 20W BUC**



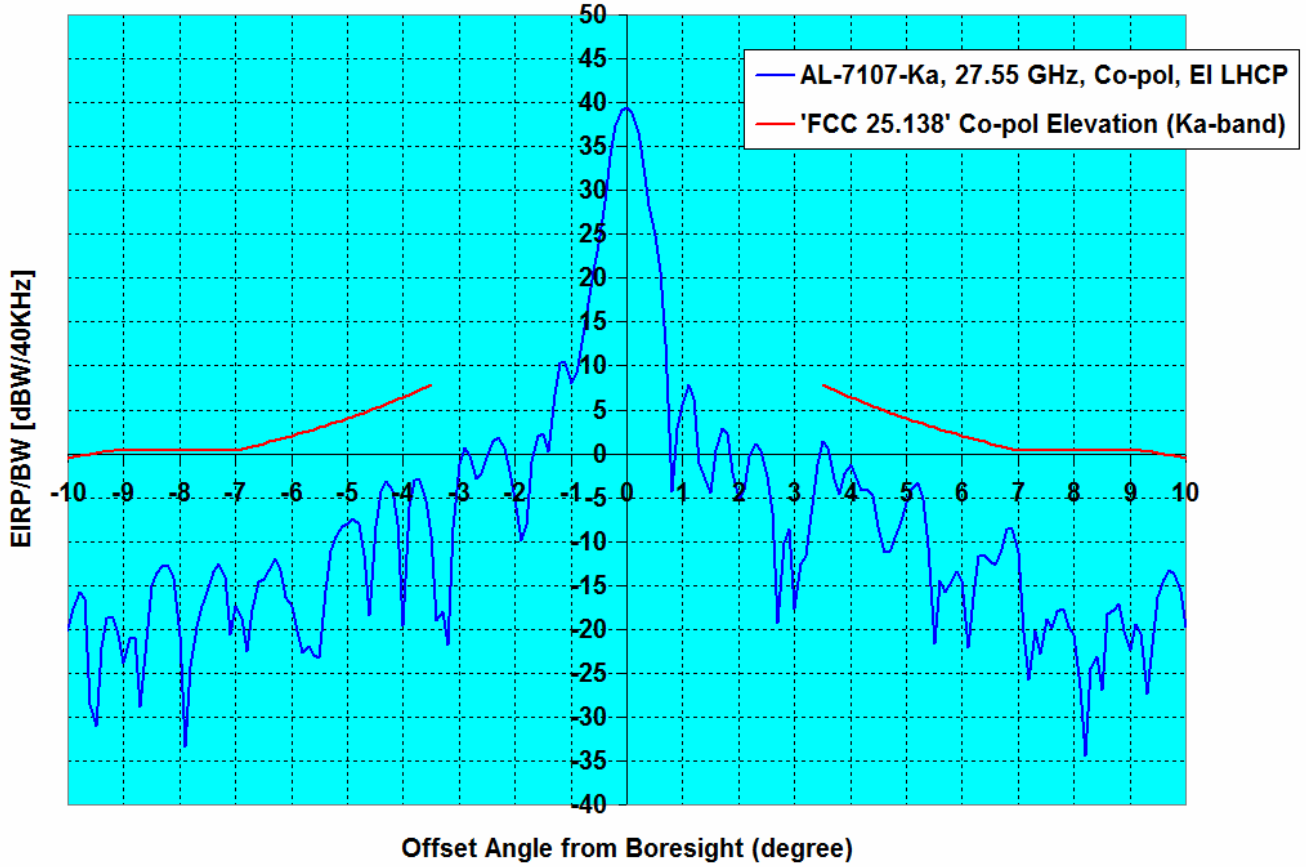
Configuration System, Freq., Polarization, Plane	Regulation EIRP/BW [dBW/40KHz]	Antenna Gain dBi	Input EIRPsd dBW/40KHz	Peak Excursions dB		Over Mask %
				± (2° to 10°)	± (10° to 180°)	
AL-7107-Ka, 27.55 GHz, Co-pol, Az LHCP	'FCC 25.138' Co-pol Azimuth (Ka-band)	52.06	-12.56	-5.55	3.00	1.38

**'FCC 25.138' Co-pol Guide at Ka-band for EIRP/BW of -12.56 dBW/40KHz to Input and
 39.50 dBW/40KHz in the Output of AL-7107-Ka Antenna at 27.55 GHz in EI LHCP
 Min BW of 8.30 MHz in case of 20W BUC**



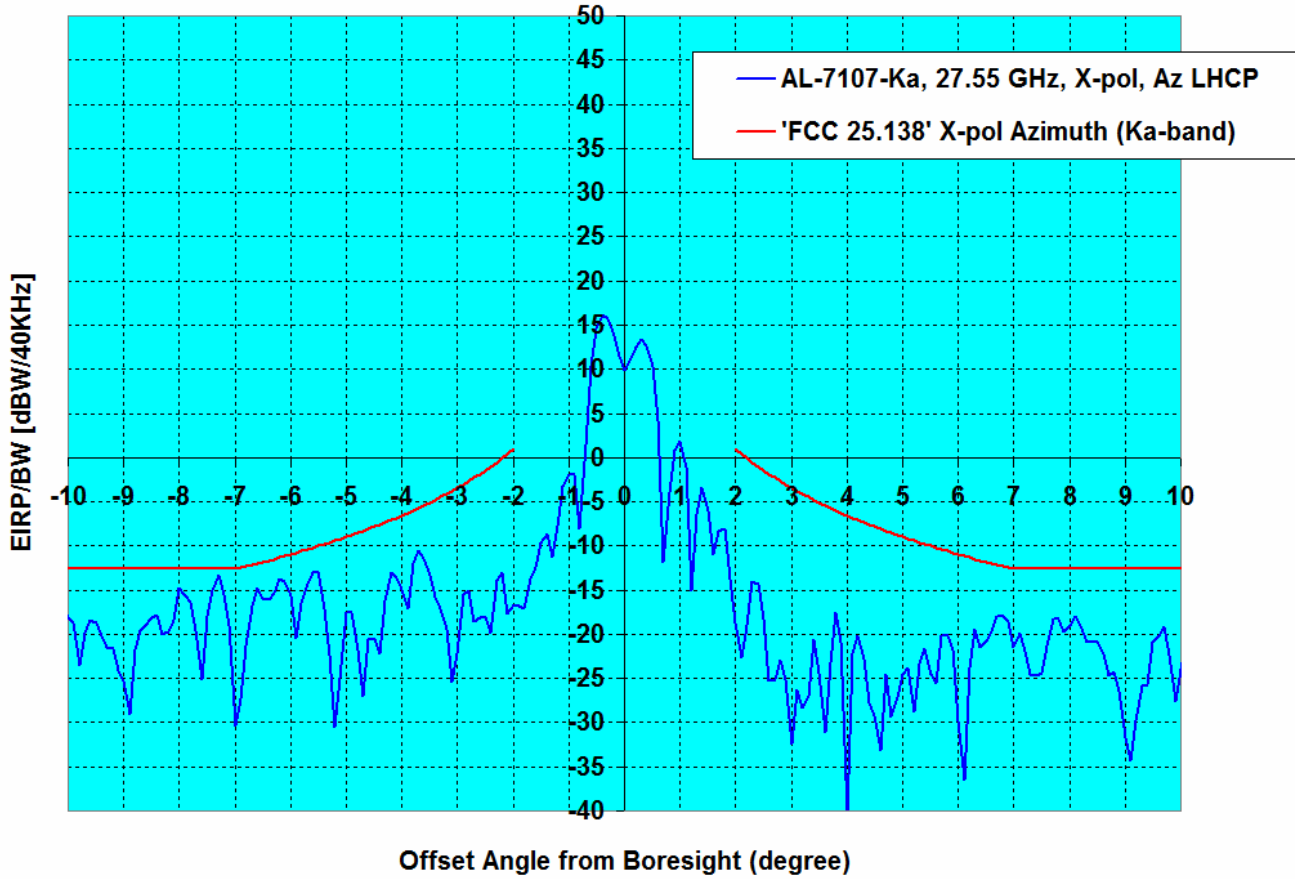
Configuration	Regulation	Antenna Gain	Input EIRPsd	Peak Excursions dB		Over Mask
System, Frequency, Polarization, Plane	EIRP/BW [dBW/40KHz]	dBi	dBW/40KHz	± (3.5° to 10°)	± (10° to 30°)	%
AL-7107-Ka, 27.55 GHz, Co-pol, EI LHCP	'FCC 25.138' Co-pol Elevation (Ka-band)	52.06	-12.56	-6.53	-3.23	0.00

**'FCC 25.138' Co-pol Guide at Ka-band for EIRP/BW of -12.56 dBW/40KHz to Input and
 39.50 dBW/40KHz in the Output of AL-7107-Ka Antenna at 27.55 GHz in EI LHCP
 Min BW of 8.30 MHz in case of 20W BUC**



Configuration System, Frequency, Polarization, Plane	Regulation EIRP/BW [dBW/40KHz]	Antenna Gain dBi	Input EIRPsd dBW/40KHz	Peak Excursions dB		Over Mask %
				± (3.5° to 10°)	± (10° to 30°)	
AL-7107-Ka, 27.55 GHz, Co-pol, EI LHCP	'FCC 25.138' Co-pol Elevation (Ka-band)	52.06	-12.56	-6.53	-3.23	0.00

**'FCC 25.138' X-pol Guide at Ka-band for EIRP/BW of -12.56 dBW/40KHz to Input and
 39.50 dBW/40KHz in the Output of AL-7107-Ka Antenna at 27.55 GHz in Az LHCP
 Min BW of 8.30 MHz in case of 20W BUC**



Configuration	Regulation EIRP/BW [dBW/40KHz]	Antenna Gain dBi	Input EIRPsd dBW/40KHz	Peak Excursions dB		Over Mask %
				± (2° to 7°)	± (2° to 9.2°)	
AL-7107-Ka, 27.55 GHz, X-pol, Az LHCP	'FCC 25.138' X-pol Azimuth (Ka-band)	52.06	-12.56	-2.50	-0.72	0.00

Orbit Communication Systems Ltd.
AL-7107-Ka, 2.15 m Antenna, EIRPsd Data Table
Co-pol Azimuth RHCP, -180° to +180° @ 1.0° increment

27.55 GHz @ -11.84 dBW / 40 kHz in Co-pol Az RHCP

Angle	EIRPsd	Mask	Over Mask
Degrees	dBW/40kHz	dBW/40kHz	dB
-179.0	-33.5	-10.5	-23.0
-178.0	-39.2	-10.5	-28.7
-177.0	-39.1	-10.5	-28.6
-176.0	-30.8	-10.5	-20.3
-175.0	-33.5	-10.5	-23.0
-174.0	-33.7	-10.5	-23.2
-173.0	-35.8	-10.5	-25.3
-172.0	-38.3	-10.5	-27.8
-171.0	-35.4	-10.5	-24.9
-170.0	-36.7	-10.5	-26.2
-169.0	-35.0	-10.5	-24.5
-168.0	-34.4	-10.5	-23.9
-167.0	-40.5	-10.5	-30.0
-166.0	-38.8	-10.5	-28.3
-165.0	-32.1	-10.5	-21.6
-164.0	-30.8	-10.5	-20.3
-163.0	-34.2	-10.5	-23.7
-162.0	-40.0	-10.5	-29.5
-161.0	-38.0	-10.5	-27.5
-160.0	-36.8	-10.5	-26.3
-159.0	-30.0	-10.5	-19.5
-158.0	-33.2	-10.5	-22.7
-157.0	-31.3	-10.5	-20.8
-156.0	-30.4	-10.5	-19.9
-155.0	-39.0	-10.5	-28.5
-154.0	-29.7	-10.5	-19.2
-153.0	-35.2	-10.5	-24.7
-152.0	-31.9	-10.5	-21.4
-151.0	-27.4	-10.5	-16.9
-150.0	-30.7	-10.5	-20.2
-149.0	-29.2	-10.5	-18.7
-148.0	-34.7	-10.5	-24.2
-147.0	-36.7	-10.5	-26.2
-146.0	-27.6	-10.5	-17.1
-145.0	-31.5	-10.5	-21.0
-144.0	-29.3	-10.5	-18.8
-143.0	-27.1	-10.5	-16.6
-142.0	-27.3	-10.5	-16.8
-141.0	-26.7	-10.5	-16.2
-140.0	-31.9	-10.5	-21.4
-139.0	-29.2	-10.5	-18.7
-138.0	-26.4	-10.5	-15.9
-137.0	-37.5	-10.5	-27.0
-136.0	-30.2	-10.5	-19.7
-135.0	-28.2	-10.5	-17.7
-134.0	-32.1	-10.5	-21.6
-133.0	-32.0	-10.5	-21.5
-132.0	-29.6	-10.5	-19.1
-131.0	-31.4	-10.5	-20.9
-130.0	-31.1	-10.5	-20.6
-129.0	-27.4	-10.5	-16.9
-128.0	-29.3	-10.5	-18.8
-127.0	-34.3	-10.5	-23.8
-126.0	-29.3	-10.5	-18.8
-125.0	-28.4	-10.5	-17.9
-124.0	-28.2	-10.5	-17.7
-123.0	-32.5	-10.5	-22.0
-122.0	-32.1	-10.5	-21.6
-121.0	-29.9	-10.5	-19.4
-120.0	-34.1	-10.5	-23.6

27.55 GHz @ -11.84 dBW / 40 kHz in Co-pol Az RHCP

Angle	EIRPsd	Mask	Over Mask
Degrees	dBW/40kHz	dBW/40kHz	dB
0.0	39.5		
1.0	4.6		
2.0	-1.1	11.0	-12.1
3.0	-8.9	6.6	-15.5
4.0	-6.7	3.4	-10.1
5.0	-15.4	1.0	-16.4
6.0	-13.0	-1.0	-12.0
7.0	-9.3	-2.6	-6.6
8.0	-15.1	-2.6	-12.5
9.0	-18.1	-2.6	-15.5
10.0	-26.3	-3.5	-22.8
11.0	-20.0	-4.5	-15.5
12.0	-17.5	-5.5	-12.0
13.0	-27.9	-6.3	-21.6
14.0	-21.8	-7.2	-14.6
15.0	-17.9	-7.9	-10.0
16.0	-19.8	-8.6	-11.2
17.0	-19.7	-9.3	-10.5
18.0	-19.3	-9.9	-9.5
19.0	-18.3	-10.5	-7.8
20.0	-35.7	-11.0	-24.7
21.0	-29.0	-11.6	-17.5
22.0	-18.6	-12.1	-6.6
23.0	-20.4	-12.5	-7.9
24.0	-22.6	-13.0	-9.6
25.0	-24.1	-13.4	-10.7
26.0	-24.7	-13.9	-10.8
27.0	-24.7	-14.3	-10.4
28.0	-24.0	-14.7	-9.3
29.0	-18.9	-15.1	-3.8
30.0	-19.1	-15.4	-3.6
31.0	-17.8	-15.8	-2.0
32.0	-16.8	-16.1	-0.7
33.0	-18.4	-16.5	-1.9
34.0	-15.9	-16.8	0.9
35.0	-17.4	-17.1	-0.3
36.0	-15.5	-17.4	1.9
37.0	-15.6	-17.7	2.1
38.0	-18.7	-18.0	-0.7
39.0	-17.7	-18.3	0.6
40.0	-19.9	-18.6	-1.4
41.0	-21.4	-18.8	-2.6
42.0	-21.9	-19.1	-2.8
43.0	-25.1	-19.3	-5.8
44.0	-23.0	-19.6	-3.4
45.0	-23.6	-19.8	-3.7
46.0	-17.8	-20.1	2.3
47.0	-22.0	-20.3	-1.7
48.0	-21.4	-20.5	-0.9
49.0	-26.2	-10.5	-15.7
50.0	-26.6	-10.5	-16.1
51.0	-22.0	-10.5	-11.5
52.0	-20.0	-10.5	-9.5
53.0	-20.5	-10.5	-10.0
54.0	-21.5	-10.5	-11.0
55.0	-25.9	-10.5	-15.4
56.0	-27.2	-10.5	-16.7
57.0	-23.8	-10.5	-13.3
58.0	-24.2	-10.5	-13.7
59.0	-24.4	-10.5	-13.9

Orbit Communication Systems Ltd.
AL-7107-Ka, 2.15 m Antenna, EIRPsd Data Table
Co-pol Azimuth RHCP, -180° to +180° @ 1.0° increment

-119.0	-33.0	-10.5	-22.5
-118.0	-39.0	-10.5	-28.5
-117.0	-33.4	-10.5	-22.9
-116.0	-30.8	-10.5	-20.3
-115.0	-31.2	-10.5	-20.7
-114.0	-32.7	-10.5	-22.2
-113.0	-31.9	-10.5	-21.4
-112.0	-33.5	-10.5	-23.0
-111.0	-32.8	-10.5	-22.3
-110.0	-31.6	-10.5	-21.1
-109.0	-27.1	-10.5	-16.6
-108.0	-33.4	-10.5	-22.9
-107.0	-34.0	-10.5	-23.5
-106.0	-31.7	-10.5	-21.2
-105.0	-30.9	-10.5	-20.4
-104.0	-30.5	-10.5	-20.0
-103.0	-33.6	-10.5	-23.1
-102.0	-37.2	-10.5	-26.7
-101.0	-27.6	-10.5	-17.1
-100.0	-31.5	-10.5	-21.0
-99.0	-38.9	-10.5	-28.4
-98.0	-26.6	-10.5	-16.1
-97.0	-26.2	-10.5	-15.7
-96.0	-25.4	-10.5	-14.9
-95.0	-29.1	-10.5	-18.6
-94.0	-30.3	-10.5	-19.8
-93.0	-30.3	-10.5	-19.8
-92.0	-24.5	-10.5	-14.0
-91.0	-27.2	-10.5	-16.7
-90.0	-28.8	-10.5	-18.3
-89.0	-26.4	-10.5	-15.9
-88.0	-30.8	-10.5	-20.3
-87.0	-26.0	-10.5	-15.5
-86.0	-24.8	-10.5	-14.3
-85.0	-24.8	-10.5	-14.3
-84.0	-29.4	-10.5	-18.9
-83.0	-32.1	-10.5	-21.6
-82.0	-27.8	-10.5	-17.3
-81.0	-25.0	-10.5	-14.5
-80.0	-23.2	-10.5	-12.7
-79.0	-23.8	-10.5	-13.3
-78.0	-23.1	-10.5	-12.6
-77.0	-24.1	-10.5	-13.6
-76.0	-25.1	-10.5	-14.6
-75.0	-23.8	-10.5	-13.3
-74.0	-23.3	-10.5	-12.8
-73.0	-20.9	-10.5	-10.4
-72.0	-20.8	-10.5	-10.3
-71.0	-21.3	-10.5	-10.8
-70.0	-20.4	-10.5	-9.9
-69.0	-19.5	-10.5	-9.0
-68.0	-18.4	-10.5	-7.9
-67.0	-18.8	-10.5	-8.3
-66.0	-17.9	-10.5	-7.4
-65.0	-21.4	-10.5	-10.9
-64.0	-20.7	-10.5	-10.2
-63.0	-21.1	-10.5	-10.6
-62.0	-22.1	-10.5	-11.6
-61.0	-19.7	-10.5	-9.2
-60.0	-22.7	-10.5	-12.2
-59.0	-23.4	-10.5	-12.9
-58.0	-22.7	-10.5	-12.2
-57.0	-23.7	-10.5	-13.2

60.0	-29.1	-10.5	-18.6
61.0	-30.4	-10.5	-19.9
62.0	-27.7	-10.5	-17.2
63.0	-25.6	-10.5	-15.1
64.0	-29.8	-10.5	-19.3
65.0	-32.3	-10.5	-21.8
66.0	-23.8	-10.5	-13.3
67.0	-29.9	-10.5	-19.4
68.0	-27.1	-10.5	-16.6
69.0	-27.4	-10.5	-16.9
70.0	-25.8	-10.5	-15.3
71.0	-28.8	-10.5	-18.3
72.0	-31.7	-10.5	-21.2
73.0	-26.0	-10.5	-15.5
74.0	-31.8	-10.5	-21.3
75.0	-38.1	-10.5	-27.6
76.0	-28.9	-10.5	-18.4
77.0	-29.0	-10.5	-18.5
78.0	-33.6	-10.5	-23.1
79.0	-34.6	-10.5	-24.1
80.0	-36.8	-10.5	-26.3
81.0	-33.5	-10.5	-23.0
82.0	-38.6	-10.5	-28.1
83.0	-30.7	-10.5	-20.2
84.0	-36.6	-10.5	-26.1
85.0	-38.3	-10.5	-27.8
86.0	-33.6	-10.5	-23.1
87.0	-35.2	-10.5	-24.7
88.0	-31.6	-10.5	-21.1
89.0	-32.6	-10.5	-22.1
90.0	-35.7	-10.5	-25.2
91.0	-33.3	-10.5	-22.8
92.0	-33.9	-10.5	-23.4
93.0	-32.5	-10.5	-22.0
94.0	-34.8	-10.5	-24.3
95.0	-36.5	-10.5	-26.0
96.0	-38.3	-10.5	-27.8
97.0	-38.6	-10.5	-28.1
98.0	-31.8	-10.5	-21.3
99.0	-37.9	-10.5	-27.4
100.0	-30.2	-10.5	-19.7
101.0	-30.1	-10.5	-19.6
102.0	-37.1	-10.5	-26.6
103.0	-40.2	-10.5	-29.7
104.0	-40.5	-10.5	-30.0
105.0	-32.5	-10.5	-22.0
106.0	-36.5	-10.5	-26.0
107.0	-37.6	-10.5	-27.1
108.0	-33.6	-10.5	-23.1
109.0	-33.8	-10.5	-23.3
110.0	-40.5	-10.5	-30.0
111.0	-33.8	-10.5	-23.3
112.0	-35.4	-10.5	-24.9
113.0	-28.1	-10.5	-17.6
114.0	-34.4	-10.5	-23.9
115.0	-33.0	-10.5	-22.5
116.0	-31.2	-10.5	-20.7
117.0	-30.8	-10.5	-20.3
118.0	-33.9	-10.5	-23.4
119.0	-29.3	-10.5	-18.8
120.0	-40.5	-10.5	-30.0
121.0	-34.0	-10.5	-23.5
122.0	-30.1	-10.5	-19.6

Orbit Communication Systems Ltd.
AL-7107-Ka, 2.15 m Antenna, EIRPsd Data Table
Co-pol Azimuth RHCP, -180° to +180° @ 1.0° increment

-56.0	-21.7	-10.5	-11.2
-55.0	-26.2	-10.5	-15.7
-54.0	-23.9	-10.5	-13.4
-53.0	-26.9	-10.5	-16.4
-52.0	-25.9	-10.5	-15.4
-51.0	-30.9	-10.5	-20.4
-50.0	-25.3	-10.5	-14.8
-49.0	-28.2	-10.5	-17.7
-48.0	-27.9	-20.5	-7.3
-47.0	-31.9	-20.3	-11.6
-46.0	-26.4	-20.1	-6.3
-45.0	-30.0	-19.8	-10.2
-44.0	-35.7	-19.6	-16.1
-43.0	-34.8	-19.3	-15.4
-42.0	-34.8	-19.1	-15.7
-41.0	-33.2	-18.8	-14.3
-40.0	-28.2	-18.6	-9.7
-39.0	-35.2	-18.3	-17.0
-38.0	-29.0	-18.0	-11.0
-37.0	-28.3	-17.7	-10.6
-36.0	-31.8	-17.4	-14.4
-35.0	-31.1	-17.1	-14.0
-34.0	-34.9	-16.8	-18.1
-33.0	-33.2	-16.5	-16.7
-32.0	-36.2	-16.1	-20.1
-31.0	-30.7	-15.8	-14.9
-30.0	-27.6	-15.4	-12.1
-29.0	-30.5	-15.1	-15.5
-28.0	-29.1	-14.7	-14.5
-27.0	-29.9	-14.3	-15.6
-26.0	-29.8	-13.9	-16.0
-25.0	-32.5	-13.4	-19.1
-24.0	-29.8	-13.0	-16.8
-23.0	-28.3	-12.5	-15.7
-22.0	-27.9	-12.1	-15.9
-21.0	-28.8	-11.6	-17.3
-20.0	-31.5	-11.0	-20.5
-19.0	-25.2	-10.5	-14.7
-18.0	-30.6	-9.9	-20.7
-17.0	-26.8	-9.3	-17.6
-16.0	-30.1	-8.6	-21.5
-15.0	-30.3	-7.9	-22.4
-14.0	-38.3	-7.2	-31.2
-13.0	-19.4	-6.3	-13.0
-12.0	-16.7	-5.5	-11.2
-11.0	-20.2	-4.5	-15.6
-10.0	-18.1	-3.5	-14.6
-9.0	-16.0	-2.6	-13.4
-8.0	-16.7	-2.6	-14.0
-7.0	-10.8	-2.6	-8.1
-6.0	-23.2	-1.0	-22.2
-5.0	-9.9	1.0	-10.9
-4.0	-7.3	3.4	-10.7
-3.0	-3.6	6.6	-10.2
-2.0	-0.9	11.0	-11.9
-1.0	8.5		
0.0	39.5		

123.0	-33.0	-10.5	-22.5
124.0	-34.2	-10.5	-23.7
125.0	-38.3	-10.5	-27.8
126.0	-37.5	-10.5	-27.0
127.0	-32.2	-10.5	-21.7
128.0	-40.5	-10.5	-30.0
129.0	-38.3	-10.5	-27.8
130.0	-34.5	-10.5	-24.0
131.0	-33.1	-10.5	-22.6
132.0	-34.3	-10.5	-23.8
133.0	-37.4	-10.5	-26.9
134.0	-36.3	-10.5	-25.8
135.0	-36.0	-10.5	-25.5
136.0	-35.6	-10.5	-25.1
137.0	-34.3	-10.5	-23.8
138.0	-31.6	-10.5	-21.1
139.0	-35.7	-10.5	-25.2
140.0	-36.1	-10.5	-25.6
141.0	-33.7	-10.5	-23.2
142.0	-38.9	-10.5	-28.4
143.0	-31.0	-10.5	-20.5
144.0	-40.5	-10.5	-30.0
145.0	-33.6	-10.5	-23.1
146.0	-36.0	-10.5	-25.5
147.0	-32.3	-10.5	-21.8
148.0	-36.6	-10.5	-26.1
149.0	-35.8	-10.5	-25.3
150.0	-34.5	-10.5	-24.0
151.0	-40.5	-10.5	-30.0
152.0	-35.9	-10.5	-25.4
153.0	-34.5	-10.5	-24.0
154.0	-35.6	-10.5	-25.1
155.0	-30.4	-10.5	-19.9
156.0	-40.5	-10.5	-30.0
157.0	-39.6	-10.5	-29.1
158.0	-35.8	-10.5	-25.3
159.0	-39.8	-10.5	-29.3
160.0	-27.4	-10.5	-16.9
161.0	-35.1	-10.5	-24.6
162.0	-34.9	-10.5	-24.4
163.0	-32.4	-10.5	-21.9
164.0	-29.2	-10.5	-18.7
165.0	-32.6	-10.5	-22.1
166.0	-35.1	-10.5	-24.6
167.0	-33.7	-10.5	-23.2
168.0	-36.9	-10.5	-26.4
169.0	-39.8	-10.5	-29.3
170.0	-33.5	-10.5	-23.0
171.0	-33.8	-10.5	-23.3
172.0	-40.5	-10.5	-30.0
173.0	-32.8	-10.5	-22.3
174.0	-31.7	-10.5	-21.2
175.0	-40.5	-10.5	-30.0
176.0	-36.9	-10.5	-26.4
177.0	-33.4	-10.5	-22.9
178.0	-37.2	-10.5	-26.7
179.0	-31.9	-10.5	-21.4

Orbit Communication Systems Ltd.

AL AL-7107-Ka, 2.15 m Antenna, EIRPsd Data Table
 Co-pol Azimuth RHCP, -10° to +10° @ 0.1° increment

27.55 GHz @ -11.84 dBW / 40 kHz in Co-pol Az RHCP

Angle	EIRPsd	Mask	Over Mask
Degrees	dBW/40kHz	dBW/40kHz	dB
-10.0	-14.8	-3.5	-11.3
-9.9	-14.6	-3.4	-11.2
-9.8	-14.0	-3.3	-10.7
-9.7	-17.8	-3.2	-14.6
-9.6	-20.1	-3.1	-17.1
-9.5	-18.6	-2.9	-15.7
-9.4	-26.5	-2.8	-23.7
-9.3	-17.8	-2.7	-15.1
-9.2	-15.6	-2.6	-13.0
-9.1	-16.7	-2.6	-14.0
-9.0	-22.5	-2.6	-19.9
-8.9	-35.9	-2.6	-33.2
-8.8	-31.7	-2.6	-29.1
-8.7	-24.9	-2.6	-22.3
-8.6	-25.0	-2.6	-22.4
-8.5	-28.1	-2.6	-25.5
-8.4	-23.1	-2.6	-20.4
-8.3	-18.0	-2.6	-15.4
-8.2	-14.0	-2.6	-11.3
-8.1	-12.9	-2.6	-10.3
-8.0	-15.4	-2.6	-12.8
-7.9	-19.3	-2.6	-16.7
-7.8	-14.2	-2.6	-11.6
-7.7	-11.8	-2.6	-9.1
-7.6	-10.5	-2.6	-7.8
-7.5	-12.1	-2.6	-9.5
-7.4	-19.2	-2.6	-16.6
-7.3	-18.3	-2.6	-15.7
-7.2	-12.6	-2.6	-10.0
-7.1	-11.8	-2.6	-9.1
-7.0	-11.6	-2.6	-9.0
-6.9	-9.0	-2.5	-6.5
-6.8	-8.0	-2.3	-5.7
-6.7	-8.5	-2.2	-6.4
-6.6	-10.3	-2.0	-8.3
-6.5	-12.1	-1.8	-10.3
-6.4	-12.3	-1.7	-10.6
-6.3	-15.7	-1.5	-14.2
-6.2	-23.1	-1.3	-21.8
-6.1	-24.4	-1.1	-23.3
-6.0	-15.0	-1.0	-14.0
-5.9	-10.7	-0.8	-9.9
-5.8	-10.0	-0.6	-9.4
-5.7	-15.0	-0.4	-14.6
-5.6	-16.0	-0.2	-15.8
-5.5	-10.0	0.0	-10.0
-5.4	-9.4	0.2	-9.5
-5.3	-16.0	0.4	-16.4
-5.2	-16.3	0.6	-16.9
-5.1	-10.8	0.8	-11.6
-5.0	-9.7	1.0	-10.7
-4.9	-9.4	1.2	-10.7
-4.8	-9.0	1.5	-10.5
-4.7	-8.1	1.7	-9.8
-4.6	-8.0	1.9	-9.9
-4.5	-9.1	2.2	-11.3
-4.4	-10.7	2.4	-13.1
-4.3	-11.4	2.7	-14.0
-4.2	-9.2	2.9	-12.1
-4.1	-7.9	3.2	-11.1

27.55 GHz @ -11.84 dBW / 40 kHz in Co-pol Az RHCP

Angle	EIRPsd	Mask	Over Mask
Degrees	dBW/40kHz	dBW/40kHz	dB
0.0	40.2		
0.1	39.5		
0.2	37.1		
0.3	32.8		
0.4	27.0		
0.5	20.3		
0.6	14.2		
0.7	15.2		
0.8	16.7		
0.9	13.9		
1.0	5.8		
1.1	5.0		
1.2	7.8		
1.3	3.0		
1.4	-6.2		
1.5	-1.9		
1.6	-1.4		
1.7	3.9		
1.8	4.6		
1.9	2.4		
2.0	-4.4	11.0	-15.4
2.1	-8.0	10.4	-18.4
2.2	-11.8	9.9	-21.7
2.3	-15.7	9.5	-25.2
2.4	-10.1	9.0	-19.1
2.5	-8.7	8.6	-17.2
2.6	-8.2	8.1	-16.3
2.7	-9.5	7.7	-17.2
2.8	-10.8	7.3	-18.1
2.9	-9.4	6.9	-16.4
3.0	-8.1	6.6	-14.7
3.1	-4.7	6.2	-10.9
3.2	-2.9	5.9	-8.7
3.3	-3.4	5.5	-8.9
3.4	-9.0	5.2	-14.3
3.5	-21.0	4.9	-25.9
3.6	-15.8	4.6	-20.4
3.7	-16.1	4.3	-20.4
3.8	-7.6	4.0	-11.6
3.9	-4.5	3.7	-8.2
4.0	-5.9	3.4	-9.4
4.1	-12.2	3.2	-15.4
4.2	-14.5	2.9	-17.4
4.3	-10.6	2.7	-13.3
4.4	-11.7	2.4	-14.1
4.5	-13.6	2.2	-15.8
4.6	-14.1	1.9	-16.0
4.7	-11.6	1.7	-13.3
4.8	-10.7	1.5	-12.1
4.9	-11.1	1.2	-12.4
5.0	-13.6	1.0	-14.6
5.1	-22.3	0.8	-23.1
5.2	-26.4	0.6	-27.0
5.3	-18.8	0.4	-19.2
5.4	-21.5	0.2	-21.7
5.5	-23.0	0.0	-23.0
5.6	-16.4	-0.2	-16.2
5.7	-13.2	-0.4	-12.8
5.8	-11.0	-0.6	-10.4
5.9	-11.4	-0.8	-10.6

Orbit Communication Systems Ltd.

AL AL-7107-Ka, 2.15 m Antenna, EIRPsd Data Table
 Co-pol Azimuth RHCP, -10° to +10° @ 0.1° increment

-4.0	-5.9	3.4	-9.4
-3.9	-3.2	3.7	-6.9
-3.8	-2.5	4.0	-6.5
-3.7	-5.4	4.3	-9.6
-3.6	-14.1	4.6	-18.7
-3.5	-11.1	4.9	-16.0
-3.4	-9.3	5.2	-14.5
-3.3	-8.0	5.5	-13.5
-3.2	-3.7	5.9	-9.6
-3.1	-2.9	6.2	-9.2
-3.0	-2.7	6.6	-9.3
-2.9	-0.2	6.9	-7.2
-2.8	-0.3	7.3	-7.6
-2.7	-2.7	7.7	-10.4
-2.6	-10.1	8.1	-18.2
-2.5	-21.8	8.6	-30.3
-2.4	-9.4	9.0	-18.4
-2.3	-5.9	9.5	-15.4
-2.2	-8.6	9.9	-18.5
-2.1	-10.6	10.4	-21.1
-2.0	-1.7	11.0	-12.7
-1.9	-0.9		
-1.8	-1.2		
-1.7	-2.1		
-1.6	-7.1		
-1.5	-0.9		
-1.4	5.1		
-1.3	7.1		
-1.2	8.7		
-1.1	8.9		
-1.0	5.8		
-0.9	4.6		
-0.8	8.1		
-0.7	8.3		
-0.6	14.2		
-0.5	23.0		
-0.4	30.0		
-0.3	35.0		
-0.2	38.2		
-0.1	39.9		
0.0	40.2		

6.0	-14.1	-1.0	-13.2
6.1	-24.4	-1.1	-23.3
6.2	-19.9	-1.3	-18.6
6.3	-16.9	-1.5	-15.4
6.4	-15.0	-1.7	-13.4
6.5	-13.5	-1.8	-11.7
6.6	-15.8	-2.0	-13.8
6.7	-14.2	-2.2	-12.1
6.8	-11.5	-2.3	-9.1
6.9	-8.6	-2.5	-6.1
7.0	-8.0	-2.6	-5.3
7.1	-7.9	-2.6	-5.3
7.2	-9.3	-2.6	-6.7
7.3	-13.9	-2.6	-11.2
7.4	-20.2	-2.6	-17.6
7.5	-14.7	-2.6	-12.1
7.6	-13.1	-2.6	-10.4
7.7	-15.1	-2.6	-12.5
7.8	-24.8	-2.6	-22.1
7.9	-15.9	-2.6	-13.2
8.0	-11.9	-2.6	-9.2
8.1	-10.7	-2.6	-8.1
8.2	-11.5	-2.6	-8.9
8.3	-14.0	-2.6	-11.4
8.4	-17.6	-2.6	-15.0
8.5	-19.0	-2.6	-16.4
8.6	-16.6	-2.6	-13.9
8.7	-18.5	-2.6	-15.9
8.8	-16.7	-2.6	-14.1
8.9	-14.6	-2.6	-12.0
9.0	-14.7	-2.6	-12.0
9.1	-17.9	-2.6	-15.3
9.2	-25.8	-2.6	-23.1
9.3	-22.7	-2.7	-20.0
9.4	-17.1	-2.8	-14.2
9.5	-16.4	-2.9	-13.4
9.6	-22.7	-3.1	-19.6
9.7	-28.0	-3.2	-24.9
9.8	-19.1	-3.3	-15.8
9.9	-17.3	-3.4	-13.9
10.0	-20.2	-3.5	-16.7

Orbit Communication Systems Ltd.

AL-7107-Ka, 2.15 m Antenna, EIRPsd Data Table
Co-pol Elevation RHCP, -30° to +30° @ 0.5° increment

27.55 GHz @ -11.84 dBW / 40 kHz in Co-pol EI RHCP

Angle	EIRPsd	Mask	Over Mask
Degrees	dBW/40kHz	dBW/40kHz	dB
-30.0	-20.3	-12.4	-7.9
-29.5	-22.6	-12.2	-10.4
-29.0	-24.2	-12.1	-12.2
-28.5	-24.0	-11.9	-12.2
-28.0	-23.2	-11.7	-11.5
-27.5	-24.9	-11.5	-13.4
-27.0	-20.5	-11.3	-9.2
-26.5	-22.5	-11.1	-11.4
-26.0	-30.7	-10.9	-19.8
-25.5	-26.5	-10.7	-15.9
-25.0	-28.9	-10.4	-18.4
-24.5	-21.4	-10.2	-11.2
-24.0	-23.0	-10.0	-13.0
-23.5	-20.6	-9.8	-10.8
-23.0	-27.1	-9.5	-17.6
-22.5	-19.5	-9.3	-10.2
-22.0	-18.1	-9.1	-9.0
-21.5	-18.8	-8.8	-9.9
-21.0	-28.9	-8.6	-20.3
-20.5	-21.5	-8.3	-13.2
-20.0	-15.9	-8.0	-7.9
-19.5	-12.4	-7.8	-4.6
-19.0	-11.1	-7.5	-3.6
-18.5	-14.5	-7.2	-7.3
-18.0	-15.9	-6.9	-9.0
-17.5	-31.7	-6.6	-25.1
-17.0	-36.0	-6.3	-29.7
-16.5	-26.6	-5.9	-20.7
-16.0	-25.0	-5.6	-19.4
-15.5	-20.5	-5.3	-15.3
-15.0	-33.7	-4.9	-28.8
-14.5	-19.8	-4.5	-15.3
-14.0	-27.5	-4.2	-23.4
-13.5	-23.5	-3.8	-19.7
-13.0	-21.1	-3.3	-17.7
-12.5	-23.6	-2.9	-20.6
-12.0	-19.6	-2.5	-17.1
-11.5	-32.0	-2.0	-29.9
-11.0	-20.3	-1.5	-18.8
-10.5	-23.1	-1.0	-22.0
-10.0	-19.9	-0.5	-19.4
-9.5	-31.1	0.1	-31.1
-9.0	-23.8	0.4	-24.2
-8.5	-15.0	0.4	-15.4
-8.0	-20.8	0.4	-21.1
-7.5	-15.3	0.4	-15.6
-7.0	-17.4	0.4	-17.8
-6.5	-14.3	1.2	-15.4
-6.0	-17.3	2.0	-19.4
-5.5	-23.3	3.0	-26.3
-5.0	-8.0	4.0	-12.1
-4.5	-8.3	5.2	-13.4
-4.0	-19.6	6.4	-26.1
-3.5	-9.3	7.9	-17.2
-3.0	-1.3		
-2.5	0.0		
-2.0	-5.2		
-1.5	2.3		
-1.0	8.0		
-0.5	23.9		
0.0	39.5		

27.55 GHz @ -11.84 dBW / 40 kHz in Co-pol EI RHCP

Angle	EIRPsd	Mask	Over Mask
Degrees	dBW/40kHz	dBW/40kHz	dB
0.0	39.5		
0.5	25.0		
1.0	5.5		
1.5	-4.5		
2.0	-5.2		
2.5	-2.6		
3.0	-17.6		
3.5	1.4	7.9	-6.5
4.0	-1.3	6.4	-7.7
4.5	-8.3	5.2	-13.5
5.0	-5.6	4.0	-9.6
5.5	-21.6	3.0	-24.6
6.0	-14.5	2.0	-16.6
6.5	-12.2	1.2	-13.4
7.0	-11.2	0.4	-11.6
7.5	-18.9	0.4	-19.2
8.0	-20.7	0.4	-21.1
8.5	-27.0	0.4	-27.3
9.0	-22.4	0.4	-22.8
9.5	-16.4	0.1	-16.4
10.0	-19.7	-0.5	-19.2
10.5	-17.5	-1.0	-16.5
11.0	-15.7	-1.5	-14.1
11.5	-14.6	-2.0	-12.6
12.0	-14.0	-2.5	-11.5
12.5	-14.6	-2.9	-11.7
13.0	-21.5	-3.3	-18.2
13.5	-23.4	-3.8	-19.6
14.0	-26.0	-4.2	-21.9
14.5	-21.9	-4.5	-17.4
15.0	-25.4	-4.9	-20.5
15.5	-24.1	-5.3	-18.9
16.0	-34.6	-5.6	-29.0
16.5	-26.9	-5.9	-21.0
17.0	-32.4	-6.3	-26.1
17.5	-32.5	-6.6	-25.9
18.0	-34.0	-6.9	-27.1
18.5	-23.2	-7.2	-16.1
19.0	-23.2	-7.5	-15.8
19.5	-30.2	-7.8	-22.5
20.0	-39.9	-8.0	-31.9
20.5	-31.9	-8.3	-23.6
21.0	-28.0	-8.6	-19.4
21.5	-28.1	-8.8	-19.2
22.0	-25.7	-9.1	-16.6
22.5	-30.1	-9.3	-20.8
23.0	-40.0	-9.5	-30.5
23.5	-34.6	-9.8	-24.8
24.0	-34.6	-10.0	-24.6
24.5	-37.7	-10.2	-27.5
25.0	-26.1	-10.4	-15.6
25.5	-30.0	-10.7	-19.4
26.0	-28.6	-10.9	-17.7
26.5	-30.7	-11.1	-19.6
27.0	-26.6	-11.3	-15.3
27.5	-35.7	-11.5	-24.2
28.0	-33.2	-11.7	-21.6
28.5	-34.8	-11.9	-23.0
29.0	-38.5	-12.1	-26.5
29.5	-30.9	-12.2	-18.7
30.0	-28.4	-12.4	-16.0

Orbit Communication Systems Ltd.
AL-7107-Ka, 2.15 m Antenna, EIRPsd Data Table
Co-pol Elevation RHCP, -10° to +10° @ 0.1° increment

27.55 GHz @ -11.84 dBW / 40 kHz in Co-pol EI RHCP

Angle	EIRPsd	Mask	Over Mask
Degrees	dBW/40kHz	dBW/40kHz	dB
-10.0	-15.2	-0.5	-14.7
-9.9	-13.3	-0.4	-12.9
-9.8	-12.3	-0.3	-12.0
-9.7	-14.8	-0.2	-14.6
-9.6	-18.3	-0.1	-18.2
-9.5	-25.4	0.1	-25.4
-9.4	-23.7	0.2	-23.8
-9.3	-21.2	0.3	-21.5
-9.2	-21.6	0.4	-22.0
-9.1	-23.2	0.4	-23.6
-9.0	-17.7	0.4	-18.0
-8.9	-14.9	0.4	-15.2
-8.8	-16.1	0.4	-16.5
-8.7	-18.4	0.4	-18.7
-8.6	-21.5	0.4	-21.9
-8.5	-17.3	0.4	-17.7
-8.4	-15.8	0.4	-16.1
-8.3	-15.5	0.4	-15.8
-8.2	-16.6	0.4	-17.0
-8.1	-18.8	0.4	-19.1
-8.0	-22.1	0.4	-22.5
-7.9	-21.5	0.4	-21.9
-7.8	-25.2	0.4	-25.6
-7.7	-24.8	0.4	-25.2
-7.6	-20.1	0.4	-20.5
-7.5	-16.0	0.4	-16.4
-7.4	-12.9	0.4	-13.3
-7.3	-13.0	0.4	-13.3
-7.2	-15.4	0.4	-15.8
-7.1	-22.3	0.4	-22.7
-7.0	-15.6	0.4	-16.0
-6.9	-13.0	0.5	-13.5
-6.8	-18.4	0.7	-19.1
-6.7	-15.7	0.8	-16.5
-6.6	-14.7	1.0	-15.7
-6.5	-13.8	1.2	-15.0
-6.4	-12.0	1.3	-13.4
-6.3	-10.3	1.5	-11.8
-6.2	-11.6	1.7	-13.3
-6.1	-13.6	1.9	-15.4
-6.0	-15.6	2.0	-17.6
-5.9	-16.2	2.2	-18.4
-5.8	-17.6	2.4	-20.0
-5.7	-16.2	2.6	-18.8
-5.6	-18.9	2.8	-21.7
-5.5	-19.4	3.0	-22.3
-5.4	-16.4	3.2	-19.6
-5.3	-11.7	3.4	-15.1
-5.2	-9.4	3.6	-13.0
-5.1	-8.2	3.8	-12.0
-5.0	-7.9	4.0	-11.9
-4.9	-7.0	4.2	-11.2
-4.8	-7.2	4.5	-11.6
-4.7	-10.8	4.7	-15.5
-4.6	-20.9	4.9	-25.8
-4.5	-7.7	5.2	-12.9
-4.4	-3.6	5.4	-9.0
-4.3	-2.8	5.7	-8.4
-4.2	-3.2	5.9	-9.2
-4.1	-7.8	6.2	-13.9

27.55 GHz @ -11.84 dBW / 40 kHz in Co-pol EI RHCP

Angle	EIRPsd	Mask	Over Mask
Degrees	dBW/40kHz	dBW/40kHz	dB
0.0	40.2		
0.1	39.4		
0.2	37.2		
0.3	33.6		
0.4	29.5		
0.5	26.1		
0.6	21.9		
0.7	12.8		
0.8	0.0		
0.9	7.4		
1.0	9.3		
1.1	10.8		
1.2	9.0		
1.3	0.8		
1.4	-3.5		
1.5	-2.8		
1.6	0.9		
1.7	4.9		
1.8	4.6		
1.9	0.3		
2.0	-2.3		
2.1	-2.5		
2.2	-0.6		
2.3	1.7		
2.4	1.2		
2.5	-1.2		
2.6	-3.2		
2.7	-7.6		
2.8	-14.8		
2.9	-7.2		
3.0	-9.2		
3.1	-17.4		
3.2	-8.0		
3.3	-8.4		
3.4	-2.6		
3.5	1.4	7.9	-6.5
3.6	1.7	7.6	-5.9
3.7	-0.1	7.3	-7.4
3.8	-4.5	7.0	-11.5
3.9	-2.4	6.7	-9.1
4.0	0.4	6.4	-6.0
4.1	0.2	6.2	-6.0
4.2	-1.5	5.9	-7.5
4.3	-3.3	5.7	-8.9
4.4	-3.9	5.4	-9.3
4.5	-5.9	5.2	-11.1
4.6	-8.4	4.9	-13.3
4.7	-8.8	4.7	-13.5
4.8	-7.0	4.5	-11.5
4.9	-7.1	4.2	-11.3
5.0	-6.2	4.0	-10.2
5.1	-4.8	3.8	-8.6
5.2	-3.9	3.6	-7.5
5.3	-4.0	3.4	-7.4
5.4	-7.8	3.2	-11.0
5.5	-18.1	3.0	-21.1
5.6	-18.6	2.8	-21.4
5.7	-16.5	2.6	-19.1
5.8	-15.6	2.4	-18.0
5.9	-13.0	2.2	-15.2

Orbit Communication Systems Ltd.
AL-7107-Ka, 2.15 m Antenna, EIRPsd Data Table
Co-pol Elevation RHCP, -10° to +10° @ 0.1° increment

-4.0	-14.4	6.4	-20.9
-3.9	-4.1	6.7	-10.8
-3.8	-1.9	7.0	-8.9
-3.7	-2.1	7.3	-9.4
-3.6	-3.9	7.6	-11.5
-3.5	-6.9	7.9	-14.8
-3.4	-18.3		
-3.3	-12.6		
-3.2	-15.0		
-3.1	-8.7		
-3.0	-0.6		
-2.9	1.5		
-2.8	1.2		
-2.7	-1.5		
-2.6	-1.5		
-2.5	1.1		
-2.4	2.1		
-2.3	2.2		
-2.2	0.1		
-2.1	-2.5		
-2.0	-4.4		
-1.9	-5.8		
-1.8	-5.6		
-1.7	0.5		
-1.6	4.0		
-1.5	4.5		
-1.4	2.7		
-1.3	7.1		
-1.2	11.4		
-1.1	11.9		
-1.0	9.3		
-0.9	8.5		
-0.8	13.0		
-0.7	17.0		
-0.6	21.0		
-0.5	24.0		
-0.4	28.5		
-0.3	34.1		
-0.2	38.0		
-0.1	39.9		
0.0	40.2		

6.0	-14.1	2.0	-16.2
6.1	-15.8	1.9	-17.6
6.2	-13.2	1.7	-14.9
6.3	-10.5	1.5	-12.0
6.4	-10.3	1.3	-11.6
6.5	-9.6	1.2	-10.8
6.6	-10.1	1.0	-11.1
6.7	-9.4	0.8	-10.2
6.8	-7.5	0.7	-8.2
6.9	-7.0	0.5	-7.5
7.0	-8.5	0.4	-8.8
7.1	-14.6	0.4	-15.0
7.2	-23.7	0.4	-24.0
7.3	-23.8	0.4	-24.2
7.4	-20.2	0.4	-20.6
7.5	-16.8	0.4	-17.2
7.6	-15.7	0.4	-16.1
7.7	-16.4	0.4	-16.8
7.8	-17.0	0.4	-17.4
7.9	-19.4	0.4	-19.7
8.0	-16.1	0.4	-16.5
8.1	-14.7	0.4	-15.1
8.2	-19.3	0.4	-19.6
8.3	-23.9	0.4	-24.2
8.4	-18.7	0.4	-19.0
8.5	-17.3	0.4	-17.7
8.6	-18.8	0.4	-19.2
8.7	-20.8	0.4	-21.2
8.8	-24.1	0.4	-24.5
8.9	-25.7	0.4	-26.1
9.0	-26.0	0.4	-26.3
9.1	-25.6	0.4	-26.0
9.2	-20.5	0.4	-20.9
9.3	-21.9	0.3	-22.1
9.4	-36.2	0.2	-36.4
9.5	-22.3	0.1	-22.4
9.6	-16.9	-0.1	-16.9
9.7	-13.5	-0.2	-13.3
9.8	-12.9	-0.3	-12.7
9.9	-13.6	-0.4	-13.2
10.0	-15.2	-0.5	-14.7

Orbit Communication Systems Ltd.
AL-7107-Ka, 2.15 m Antenna, EIRPsd Data Table
X-pol Azimuth RHCP, -10° to +10° @ 0.1° increment

27.55 GHz @ -11.84 dBW / 40 kHz in X-pol Az RHCP

Angle	EIRPsd	Mask	Over Mask
Degrees	dBW/40kHz	dBW/40kHz	dB
-10.0	-19.3	-12.6	-6.7
-9.9	-22.7	-12.6	-10.0
-9.8	-24.4	-12.6	-11.7
-9.7	-28.9	-12.6	-16.3
-9.6	-26.9	-12.6	-14.3
-9.5	-28.7	-12.6	-16.1
-9.4	-26.2	-12.6	-13.6
-9.3	-23.2	-12.6	-10.5
-9.2	-21.9	-12.6	-9.2
-9.1	-18.7	-12.6	-6.0
-9.0	-18.1	-12.6	-5.5
-8.9	-18.8	-12.6	-6.2
-8.8	-20.4	-12.6	-7.8
-8.7	-24.6	-12.6	-12.0
-8.6	-30.2	-12.6	-17.5
-8.5	-28.6	-12.6	-15.9
-8.4	-35.5	-12.6	-22.8
-8.3	-28.9	-12.6	-16.3
-8.2	-24.1	-12.6	-11.5
-8.1	-20.6	-12.6	-8.0
-8.0	-18.5	-12.6	-5.9
-7.9	-19.8	-12.6	-7.1
-7.8	-19.4	-12.6	-6.8
-7.7	-19.0	-12.6	-6.4
-7.6	-18.4	-12.6	-5.8
-7.5	-18.6	-12.6	-5.9
-7.4	-18.2	-12.6	-5.5
-7.3	-16.2	-12.6	-3.5
-7.2	-16.8	-12.6	-4.1
-7.1	-17.9	-12.6	-5.2
-7.0	-19.4	-12.6	-6.8
-6.9	-18.5	-12.5	-6.0
-6.8	-18.0	-12.3	-5.6
-6.7	-19.4	-12.2	-7.2
-6.6	-20.6	-12.0	-8.6
-6.5	-19.1	-11.8	-7.3
-6.4	-17.2	-11.7	-5.5
-6.3	-15.5	-11.5	-4.0
-6.2	-17.2	-11.3	-5.9
-6.1	-19.5	-11.1	-8.4
-6.0	-23.7	-11.0	-12.7
-5.9	-17.0	-10.8	-6.2
-5.8	-15.3	-10.6	-4.7
-5.7	-17.1	-10.4	-6.7
-5.6	-23.2	-10.2	-13.0
-5.5	-20.0	-10.0	-10.0
-5.4	-18.7	-9.8	-8.9
-5.3	-20.4	-9.6	-10.8
-5.2	-28.5	-9.4	-19.1
-5.1	-27.7	-9.2	-18.6
-5.0	-20.0	-9.0	-11.0
-4.9	-20.0	-8.8	-11.3
-4.8	-24.0	-8.5	-15.5
-4.7	-23.6	-8.3	-15.3
-4.6	-20.0	-8.1	-12.0
-4.5	-20.0	-7.8	-12.2
-4.4	-21.4	-7.6	-13.8
-4.3	-26.4	-7.3	-19.1
-4.2	-27.1	-7.1	-20.0
-4.1	-17.5	-6.8	-10.6

27.55 GHz @ -11.84 dBW / 40 kHz in X-pol Az RHCP

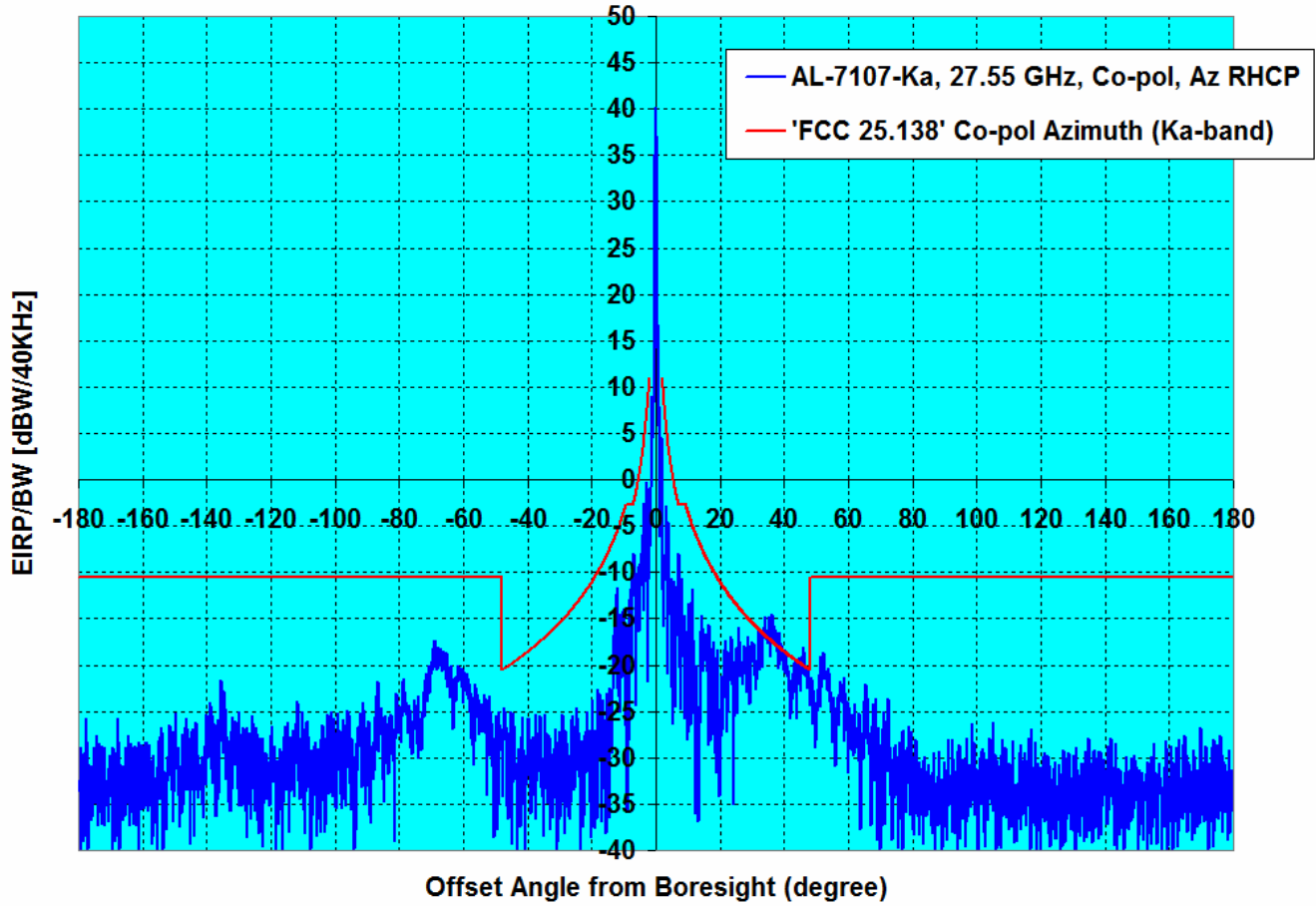
Angle	EIRPsd	Mask	Over Mask
Degrees	dBW/40kHz	dBW/40kHz	dB
0.0	8.4		
0.1	7.0		
0.2	-1.9		
0.3	10.4		
0.4	13.3		
0.5	13.4		
0.6	10.4		
0.7	3.1		
0.8	-9.9		
0.9	-10.0		
1.0	-5.0		
1.1	-1.1		
1.2	-0.9		
1.3	-5.0		
1.4	-10.2		
1.5	-7.9		
1.6	-10.0		
1.7	-15.4		
1.8	-15.0		
1.9	-12.0		
2.0	-11.3	1.0	-12.3
2.1	-11.8	0.4	-12.3
2.2	-18.9	-0.1	-18.9
2.3	-23.9	-0.5	-23.3
2.4	-16.1	-1.0	-15.1
2.5	-15.2	-1.4	-13.7
2.6	-17.3	-1.9	-15.4
2.7	-25.0	-2.3	-22.8
2.8	-15.0	-2.7	-12.3
2.9	-12.3	-3.1	-9.2
3.0	-14.1	-3.4	-10.7
3.1	-20.5	-3.8	-16.7
3.2	-21.7	-4.1	-17.6
3.3	-19.7	-4.5	-15.2
3.4	-26.6	-4.8	-21.8
3.5	-20.8	-5.1	-15.7
3.6	-16.6	-5.4	-11.2
3.7	-20.8	-5.7	-15.1
3.8	-28.0	-6.0	-22.0
3.9	-21.2	-6.3	-15.0
4.0	-19.5	-6.6	-12.9
4.1	-21.5	-6.8	-14.7
4.2	-21.8	-7.1	-14.7
4.3	-21.5	-7.3	-14.2
4.4	-20.5	-7.6	-12.9
4.5	-20.2	-7.8	-12.4
4.6	-19.6	-8.1	-11.6
4.7	-17.4	-8.3	-9.1
4.8	-16.6	-8.5	-8.1
4.9	-20.6	-8.8	-11.9
5.0	-30.4	-9.0	-21.4
5.1	-35.6	-9.2	-26.4
5.2	-29.3	-9.4	-19.9
5.3	-22.9	-9.6	-13.3
5.4	-19.7	-9.8	-9.9
5.5	-19.2	-10.0	-9.2
5.6	-19.1	-10.2	-8.9
5.7	-16.5	-10.4	-6.1
5.8	-15.3	-10.6	-4.7
5.9	-19.2	-10.8	-8.5

Orbit Communication Systems Ltd.
 AL-7107-Ka, 2.15 m Antenna, EIRPsd Data Table
 X-pol Azimuth RHCP, -10° to +10° @ 0.1° increment

-4.0	-15.6	-6.6	-9.0
-3.9	-17.2	-6.3	-10.9
-3.8	-20.1	-6.0	-14.2
-3.7	-13.9	-5.7	-8.2
-3.6	-12.9	-5.4	-7.5
-3.5	-13.7	-5.1	-8.6
-3.4	-18.8	-4.8	-14.0
-3.3	-16.2	-4.5	-11.8
-3.2	-13.1	-4.1	-9.0
-3.1	-16.5	-3.8	-12.7
-3.0	-26.8	-3.4	-23.4
-2.9	-18.7	-3.1	-15.7
-2.8	-22.3	-2.7	-19.7
-2.7	-20.4	-2.3	-18.1
-2.6	-15.3	-1.9	-13.4
-2.5	-15.5	-1.4	-14.1
-2.4	-15.4	-1.0	-14.4
-2.3	-10.9	-0.5	-10.4
-2.2	-9.9	-0.1	-9.8
-2.1	-10.2	0.4	-10.6
-2.0	-10.3	1.0	-11.2
-1.9	-17.4		
-1.8	-14.4		
-1.7	-7.2		
-1.6	-6.1		
-1.5	-4.6		
-1.4	-1.3		
-1.3	-2.1		
-1.2	-6.0		
-1.1	-0.5		
-1.0	3.5		
-0.9	4.3		
-0.8	4.6		
-0.7	7.9		
-0.6	11.9		
-0.5	14.7		
-0.4	15.4		
-0.3	14.3		
-0.2	9.6		
-0.1	4.0		
0.0	8.4		

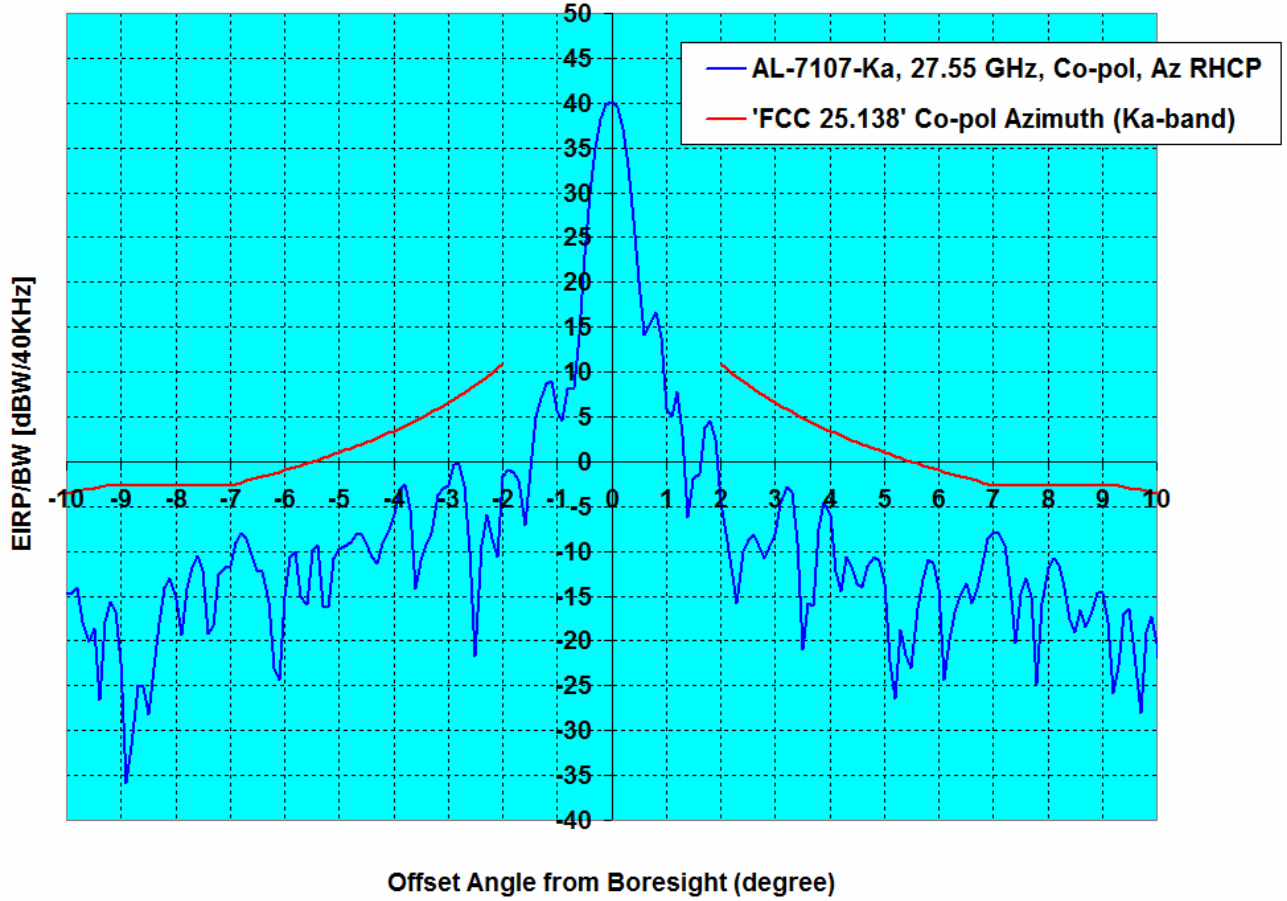
6.0	-20.7	-11.0	-9.8
6.1	-23.2	-11.1	-12.1
6.2	-27.8	-11.3	-16.5
6.3	-30.2	-11.5	-18.7
6.4	-26.8	-11.7	-15.1
6.5	-26.1	-11.8	-14.3
6.6	-21.4	-12.0	-9.4
6.7	-19.3	-12.2	-7.1
6.8	-19.7	-12.3	-7.4
6.9	-22.5	-12.5	-10.0
7.0	-23.4	-12.6	-10.8
7.1	-24.9	-12.6	-12.3
7.2	-32.6	-12.6	-20.0
7.3	-29.2	-12.6	-16.5
7.4	-28.4	-12.6	-15.8
7.5	-29.0	-12.6	-16.4
7.6	-21.9	-12.6	-9.2
7.7	-20.4	-12.6	-7.8
7.8	-22.8	-12.6	-10.1
7.9	-26.1	-12.6	-13.4
8.0	-27.6	-12.6	-15.0
8.1	-29.3	-12.6	-16.7
8.2	-31.0	-12.6	-18.4
8.3	-29.5	-12.6	-16.8
8.4	-25.5	-12.6	-12.9
8.5	-30.2	-12.6	-17.6
8.6	-37.1	-12.6	-24.4
8.7	-25.7	-12.6	-13.0
8.8	-26.8	-12.6	-14.2
8.9	-20.5	-12.6	-7.9
9.0	-18.1	-12.6	-5.5
9.1	-17.2	-12.6	-4.5
9.2	-18.8	-12.6	-6.1
9.3	-18.8	-12.6	-6.2
9.4	-22.4	-12.6	-9.8
9.5	-18.6	-12.6	-6.0
9.6	-17.4	-12.6	-4.8
9.7	-16.3	-12.6	-3.7
9.8	-17.7	-12.6	-5.1
9.9	-23.4	-12.6	-10.8
10.0	-24.5	-12.6	-11.8

**'FCC 25.138' Co-pol Guide at Ka-band for EIRP/BW of -11.84 dBW/40KHz to Input and
 40.16 dBW/40KHz in the Output of AL-7107-Ka Antenna at 27.55 GHz in Az RHCP
 Min BW of 7.02 MHz in case of 20W BUC**



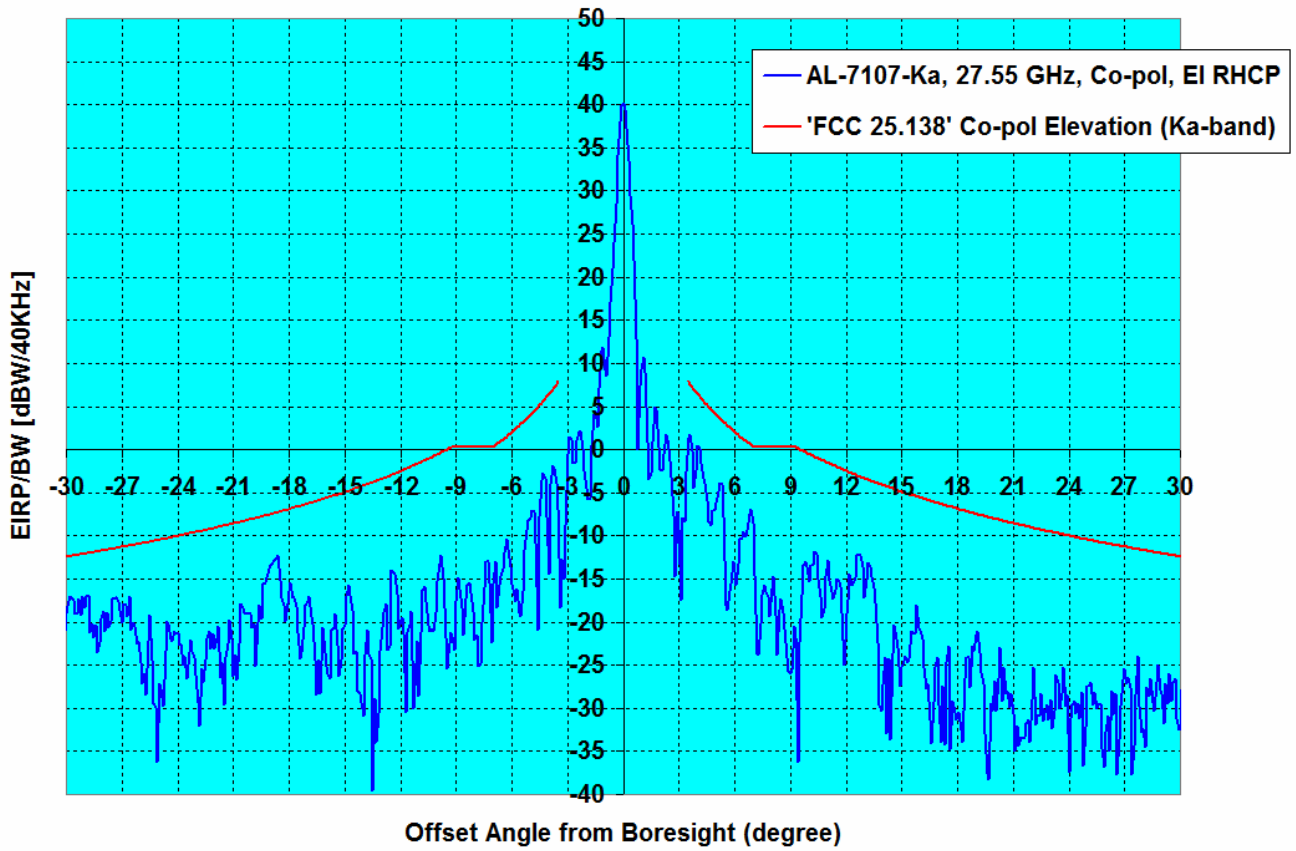
Configuration	Regulation	Antenna Gain	Input EIRPsd	Peak Excursions dB		Over Mask
System, Freq., Polarization, Plane	EIRP/BW [dBW/40KHz]	dBi	dBW/40KHz	± (2° to 10°)	± (10° to 180°)	%
AL-7107-Ka, 27.55 GHz, Co-pol, Az RHCP	'FCC 25.138' Co-pol Azimuth (Ka-band)	52.00	-11.84	-5.28	3.00	1.63

**'FCC 25.138' Co-pol Guide at Ka-band for EIRP/BW of -11.84 dBW/40KHz to Input and
 40.16 dBW/40KHz in the Output of AL-7107-Ka Antenna at 27.55 GHz in Az RHCP
 Min BW of 7.02 MHz in case of 20W BUC**



Configuration	Regulation	Antenna Gain	Input EIRPsd	Peak Excursions dB		Over Mask
System, Freq., Polarization, Plane	EIRP/BW [dBW/40KHz]	dBi	dBW/40KHz	± (2° to 10°)	± (10° to 180°)	%
AL-7107-Ka, 27.55 GHz, Co-pol, Az RHCP	'FCC 25.138' Co-pol Azimuth (Ka-band)	52.00	-11.84	-5.28	3.00	1.63

**'FCC 25.138' Co-pol Guide at Ka-band for EIRP/BW of -11.84 dBW/40KHz to Input and
 40.16 dBW/40KHz in the Output of AL-7107-Ka Antenna at 27.55 GHz in EI RHCP
 Min BW of 7.02 MHz in case of 20W BUC**

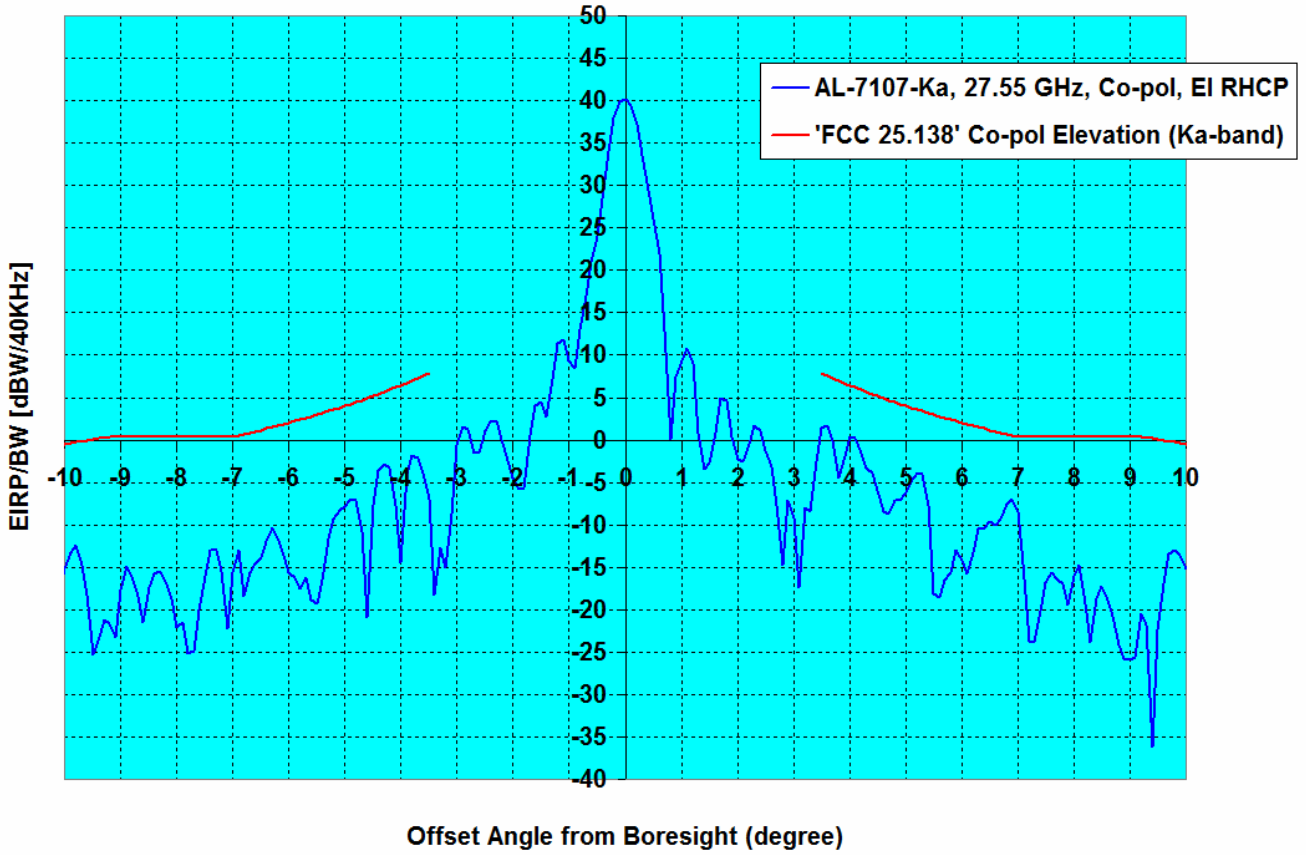


Configuration	Regulation	Antenna Gain	Input EIRPsd	Peak Excursions dB		Over Mask
System, Frequency, Polarization, Plane	EIRP/BW [dBW/40KHz]	dBi	dBW/40KHz	± (3.5° to 10°)	± (10° to 30°)	%
AL-7107-Ka, 27.55 GHz, Co-pol, EI RHCP	'FCC 25.138' Co-pol Elevation (Ka-band)	52.00	-11.84	-5.86	-4.67	0.00

Orbit Communication Systems Ltd.

AL-7107-Ka, 2.15 m Antenna, EIRPsd, Co-pol, Elevation RHCP

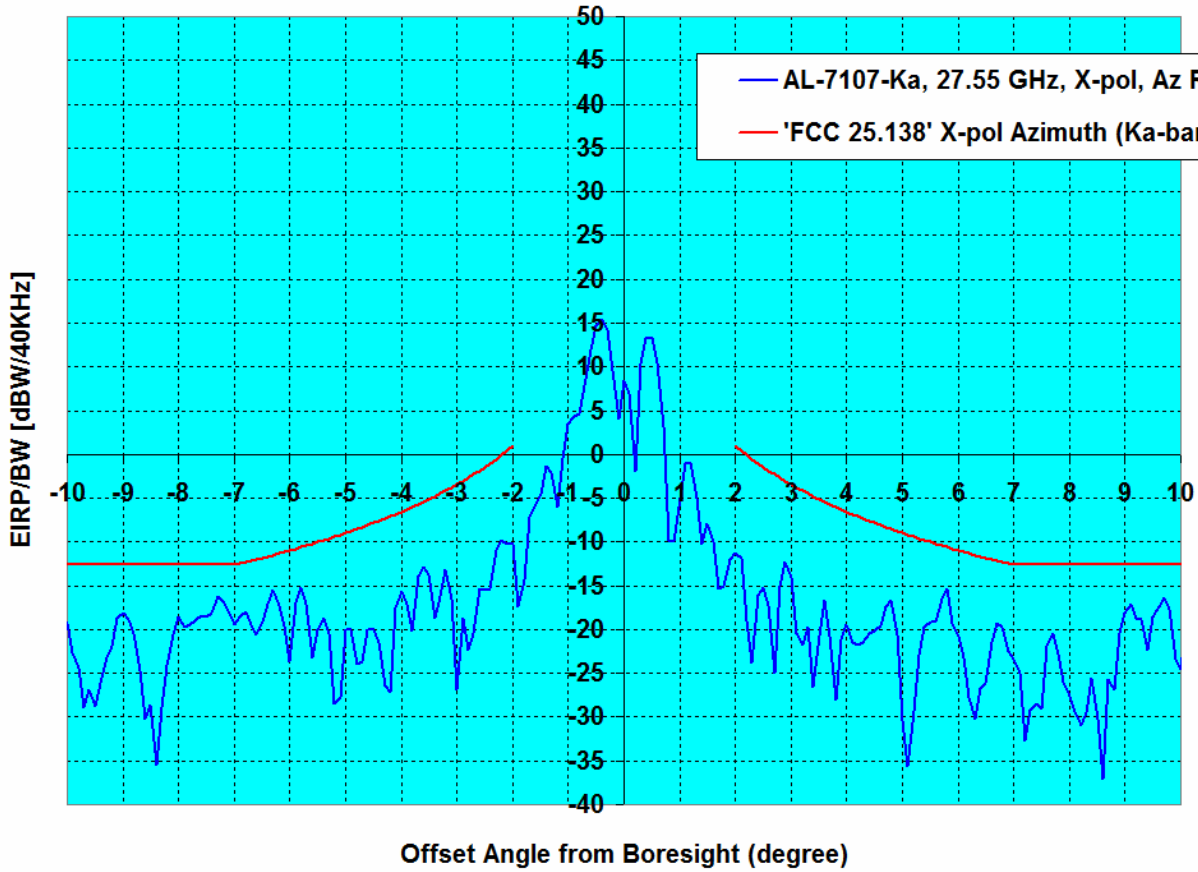
'FCC 25.138' Co-pol Guide at Ka-band for EIRP/BW of -11.84 dBW/40KHz to Input and 40.16 dBW/40KHz in the Output of AL-7107-Ka Antenna at 27.55 GHz in EI RHCP
 Min BW of 7.02 MHz in case of 20W BUC



Configuration	Regulation	Antenna Gain	Input EIRPsd	Peak Excursions dB		Over Mask
System, Frequency, Polarization, Plane	EIRP/BW [dBW/40KHz]	dBi	dBW/40KHz	± (3.5° to 10°)	± (10° to 30°)	%
AL-7107-Ka, 27.55 GHz, Co-pol, EI RHCP	'FCC 25.138' Co-pol Elevation (Ka-band)	52.00	-11.84	-5.86	-4.67	0.00

Orbit Communication Systems Ltd.
AL-7107-Ka, 2.15 m Antenna, EIRPsd, X-pol, Azimuth RHCP

'FCC 25.138' X-pol Guide at Ka-band for EIRP/BW of -11.84 dBW/40KHz to Input and 40.16 dBW/40KHz in the Output of AL-7107-Ka Antenna at 27.55 GHz in Az RHCP
Min BW of 7.02 MHz in case of 20W BUC



Configuration System, Frequency, Polarization, Plane	Regulation		Antenna Gain dBi	Input EIRPsd dBW/40KHz	Peak Excursions dB		Over Mask %
	EIRP/BW [dBW/40KHz]				± (2° to 7°)	± (2° to 9.2°)	
AL-7107-Ka, 27.55 GHz, X-pol, Az RHCP	'FCC 25.138' X-pol Azimuth (Ka-band)		52.00	-11.84	-4.04	-3.52	0.00

Orbit Communication Systems Ltd.

AL-7107-Ka, 2.15 m Antenna, EIRPsd Data Table
Co-pol Azimuth LHCP, -180° to +180° @ 1.0° increment

28.30 GHz @ -11.56 dBW / 40 kHz in Co-pol Az LHCP

Angle Degrees	EIRPsd dBW/40kHz	Mask dBW/40kHz	Over Mask dB
-179.0	-34.9	-10.5	-24.4
-178.0	-36.9	-10.5	-26.4
-177.0	-30.3	-10.5	-19.8
-176.0	-39.1	-10.5	-28.6
-175.0	-30.1	-10.5	-19.6
-174.0	-39.1	-10.5	-28.6
-173.0	-33.4	-10.5	-22.9
-172.0	-35.9	-10.5	-25.4
-171.0	-30.3	-10.5	-19.8
-170.0	-39.1	-10.5	-28.6
-169.0	-37.1	-10.5	-26.6
-168.0	-31.1	-10.5	-20.6
-167.0	-32.1	-10.5	-21.6
-166.0	-31.7	-10.5	-21.2
-165.0	-37.3	-10.5	-26.8
-164.0	-39.1	-10.5	-28.6
-163.0	-38.3	-10.5	-27.8
-162.0	-34.0	-10.5	-23.5
-161.0	-34.3	-10.5	-23.8
-160.0	-34.3	-10.5	-23.8
-159.0	-37.1	-10.5	-26.6
-158.0	-34.5	-10.5	-24.0
-157.0	-39.1	-10.5	-28.6
-156.0	-35.5	-10.5	-25.0
-155.0	-28.4	-10.5	-17.9
-154.0	-35.5	-10.5	-25.0
-153.0	-38.2	-10.5	-27.7
-152.0	-30.2	-10.5	-19.7
-151.0	-26.3	-10.5	-15.8
-150.0	-25.4	-10.5	-14.9
-149.0	-27.4	-10.5	-16.9
-148.0	-39.1	-10.5	-28.6
-147.0	-30.2	-10.5	-19.7
-146.0	-29.0	-10.5	-18.5
-145.0	-33.2	-10.5	-22.7
-144.0	-28.8	-10.5	-18.3
-143.0	-30.4	-10.5	-19.9
-142.0	-28.1	-10.5	-17.6
-141.0	-23.8	-10.5	-13.3
-140.0	-27.3	-10.5	-16.8
-139.0	-33.7	-10.5	-23.2
-138.0	-35.7	-10.5	-25.2
-137.0	-29.1	-10.5	-18.6
-136.0	-32.4	-10.5	-21.9
-135.0	-32.4	-10.5	-21.9
-134.0	-36.9	-10.5	-26.4
-133.0	-37.1	-10.5	-26.6
-132.0	-39.1	-10.5	-28.6
-131.0	-39.1	-10.5	-28.6
-130.0	-35.0	-10.5	-24.5
-129.0	-30.6	-10.5	-20.1
-128.0	-39.1	-10.5	-28.6
-127.0	-35.1	-10.5	-24.6
-126.0	-30.1	-10.5	-19.6
-125.0	-39.1	-10.5	-28.6
-124.0	-30.5	-10.5	-20.0
-123.0	-38.6	-10.5	-28.1
-122.0	-28.1	-10.5	-17.6
-121.0	-31.9	-10.5	-21.4
-120.0	-34.8	-10.5	-24.3

28.30 GHz @ -11.56 dBW / 40 kHz in Co-pol Az LHCP

Angle Degrees	EIRPsd dBW/40kHz	Mask dBW/40kHz	Over Mask dB
0.0	40.9		
1.0	5.5		
2.0	-1.0	11.0	-12.0
3.0	-11.1	6.6	-17.7
4.0	-19.4	3.4	-22.9
5.0	-12.8	1.0	-13.8
6.0	-21.7	-1.0	-20.7
7.0	-11.6	-2.6	-9.0
8.0	-14.4	-2.6	-11.8
9.0	-21.6	-2.6	-19.0
10.0	-15.1	-3.5	-11.6
11.0	-13.1	-4.5	-8.6
12.0	-15.0	-5.5	-9.5
13.0	-17.1	-6.3	-10.7
14.0	-25.2	-7.2	-18.0
15.0	-19.6	-7.9	-11.7
16.0	-28.0	-8.6	-19.4
17.0	-38.0	-9.3	-28.7
18.0	-25.8	-9.9	-16.0
19.0	-19.8	-10.5	-9.4
20.0	-28.5	-11.0	-17.4
21.0	-29.7	-11.6	-18.1
22.0	-17.5	-12.1	-5.4
23.0	-19.6	-12.5	-7.0
24.0	-21.8	-13.0	-8.8
25.0	-26.5	-13.4	-13.0
26.0	-20.5	-13.9	-6.6
27.0	-18.9	-14.3	-4.6
28.0	-20.2	-14.7	-5.5
29.0	-19.1	-15.1	-4.0
30.0	-19.9	-15.4	-4.5
31.0	-18.0	-15.8	-2.2
32.0	-17.0	-16.1	-0.8
33.0	-15.5	-16.5	1.0
34.0	-17.1	-16.8	-0.3
35.0	-19.7	-17.1	-2.6
36.0	-16.1	-17.4	1.3
37.0	-19.2	-17.7	-1.5
38.0	-16.6	-18.0	1.4
39.0	-18.6	-18.3	-0.3
40.0	-19.6	-18.6	-1.0
41.0	-22.1	-18.8	-3.2
42.0	-21.0	-19.1	-1.9
43.0	-22.7	-19.3	-3.4
44.0	-21.8	-19.6	-2.2
45.0	-20.5	-19.8	-0.6
46.0	-18.3	-20.1	1.8
47.0	-20.8	-20.3	-0.5
48.0	-26.7	-20.5	-6.2
49.0	-25.4	-10.5	-14.9
50.0	-24.1	-10.5	-13.6
51.0	-22.4	-10.5	-11.9
52.0	-21.9	-10.5	-11.4
53.0	-25.2	-10.5	-14.7
54.0	-25.7	-10.5	-15.2
55.0	-33.7	-10.5	-23.2
56.0	-28.9	-10.5	-18.4
57.0	-27.0	-10.5	-16.5
58.0	-27.2	-10.5	-16.7
59.0	-31.0	-10.5	-20.5

Orbit Communication Systems Ltd.
AL-7107-Ka, 2.15 m Antenna, EIRPsd Data Table
Co-pol Azimuth LHCP, -180° to +180° @ 1.0° increment

-119.0	-31.8	-10.5	-21.3
-118.0	-34.0	-10.5	-23.5
-117.0	-32.8	-10.5	-22.3
-116.0	-33.8	-10.5	-23.3
-115.0	-31.7	-10.5	-21.2
-114.0	-30.9	-10.5	-20.4
-113.0	-38.9	-10.5	-28.4
-112.0	-37.4	-10.5	-26.9
-111.0	-28.3	-10.5	-17.8
-110.0	-30.8	-10.5	-20.3
-109.0	-29.6	-10.5	-19.1
-108.0	-26.0	-10.5	-15.5
-107.0	-34.1	-10.5	-23.6
-106.0	-38.0	-10.5	-27.5
-105.0	-33.9	-10.5	-23.4
-104.0	-33.8	-10.5	-23.3
-103.0	-35.4	-10.5	-24.9
-102.0	-34.0	-10.5	-23.5
-101.0	-38.9	-10.5	-28.4
-100.0	-27.7	-10.5	-17.2
-99.0	-26.6	-10.5	-16.1
-98.0	-29.4	-10.5	-18.9
-97.0	-31.1	-10.5	-20.6
-96.0	-22.7	-10.5	-12.2
-95.0	-25.6	-10.5	-15.1
-94.0	-29.4	-10.5	-18.9
-93.0	-30.7	-10.5	-20.2
-92.0	-27.5	-10.5	-17.0
-91.0	-26.4	-10.5	-15.9
-90.0	-26.5	-10.5	-16.0
-89.0	-26.9	-10.5	-16.4
-88.0	-32.0	-10.5	-21.5
-87.0	-24.9	-10.5	-14.4
-86.0	-25.9	-10.5	-15.4
-85.0	-26.0	-10.5	-15.5
-84.0	-26.7	-10.5	-16.2
-83.0	-26.2	-10.5	-15.7
-82.0	-24.7	-10.5	-14.2
-81.0	-28.1	-10.5	-17.6
-80.0	-21.9	-10.5	-11.4
-79.0	-21.6	-10.5	-11.1
-78.0	-21.5	-10.5	-11.0
-77.0	-24.5	-10.5	-14.0
-76.0	-24.5	-10.5	-14.0
-75.0	-23.0	-10.5	-12.5
-74.0	-23.3	-10.5	-12.8
-73.0	-22.6	-10.5	-12.1
-72.0	-20.5	-10.5	-10.0
-71.0	-19.8	-10.5	-9.3
-70.0	-17.9	-10.5	-7.4
-69.0	-18.0	-10.5	-7.5
-68.0	-15.9	-10.5	-5.4
-67.0	-18.2	-10.5	-7.7
-66.0	-17.7	-10.5	-7.2
-65.0	-18.6	-10.5	-8.1
-64.0	-18.9	-10.5	-8.4
-63.0	-19.9	-10.5	-9.4
-62.0	-20.7	-10.5	-10.2
-61.0	-21.3	-10.5	-10.8
-60.0	-20.4	-10.5	-9.9
-59.0	-21.8	-10.5	-11.3
-58.0	-22.6	-10.5	-12.1
-57.0	-26.3	-10.5	-15.8

60.0	-29.3	-10.5	-18.8
61.0	-38.0	-10.5	-27.5
62.0	-32.0	-10.5	-21.5
63.0	-24.3	-10.5	-13.8
64.0	-31.0	-10.5	-20.5
65.0	-23.7	-10.5	-13.2
66.0	-31.6	-10.5	-21.1
67.0	-30.4	-10.5	-19.9
68.0	-37.4	-10.5	-26.9
69.0	-27.6	-10.5	-17.1
70.0	-36.1	-10.5	-25.6
71.0	-36.6	-10.5	-26.1
72.0	-34.6	-10.5	-24.1
73.0	-27.5	-10.5	-17.0
74.0	-31.6	-10.5	-21.1
75.0	-31.0	-10.5	-20.5
76.0	-33.2	-10.5	-22.7
77.0	-32.5	-10.5	-22.0
78.0	-39.1	-10.5	-28.6
79.0	-34.7	-10.5	-24.2
80.0	-38.6	-10.5	-28.1
81.0	-38.0	-10.5	-27.5
82.0	-33.9	-10.5	-23.4
83.0	-39.1	-10.5	-28.6
84.0	-34.1	-10.5	-23.6
85.0	-39.1	-10.5	-28.6
86.0	-29.9	-10.5	-19.4
87.0	-36.8	-10.5	-26.3
88.0	-35.4	-10.5	-24.9
89.0	-39.1	-10.5	-28.6
90.0	-34.7	-10.5	-24.2
91.0	-34.2	-10.5	-23.7
92.0	-37.1	-10.5	-26.6
93.0	-39.1	-10.5	-28.6
94.0	-39.1	-10.5	-28.6
95.0	-33.4	-10.5	-22.9
96.0	-31.7	-10.5	-21.2
97.0	-33.2	-10.5	-22.7
98.0	-30.6	-10.5	-20.1
99.0	-35.4	-10.5	-24.9
100.0	-38.7	-10.5	-28.2
101.0	-33.6	-10.5	-23.1
102.0	-30.3	-10.5	-19.8
103.0	-34.8	-10.5	-24.3
104.0	-39.1	-10.5	-28.6
105.0	-39.1	-10.5	-28.6
106.0	-39.1	-10.5	-28.6
107.0	-33.4	-10.5	-22.9
108.0	-32.5	-10.5	-22.0
109.0	-35.0	-10.5	-24.5
110.0	-39.1	-10.5	-28.6
111.0	-31.7	-10.5	-21.2
112.0	-39.1	-10.5	-28.6
113.0	-39.1	-10.5	-28.6
114.0	-33.3	-10.5	-22.8
115.0	-32.8	-10.5	-22.3
116.0	-36.1	-10.5	-25.6
117.0	-37.4	-10.5	-26.9
118.0	-35.4	-10.5	-24.9
119.0	-33.9	-10.5	-23.4
120.0	-35.0	-10.5	-24.5
121.0	-32.0	-10.5	-21.5
122.0	-38.4	-10.5	-27.9

Orbit Communication Systems Ltd.
AL-7107-Ka, 2.15 m Antenna, EIRPsd Data Table
Co-pol Azimuth LHCP, -180° to +180° @ 1.0° increment

-56.0	-26.9	-10.5	-16.4
-55.0	-26.3	-10.5	-15.8
-54.0	-27.8	-10.5	-17.3
-53.0	-25.8	-10.5	-15.3
-52.0	-29.8	-10.5	-19.3
-51.0	-27.3	-10.5	-16.8
-50.0	-29.7	-10.5	-19.2
-49.0	-25.9	-10.5	-15.4
-48.0	-26.2	-20.5	-5.7
-47.0	-32.3	-20.3	-12.0
-46.0	-29.4	-20.1	-9.4
-45.0	-30.7	-19.8	-10.9
-44.0	-28.1	-19.6	-8.5
-43.0	-28.7	-19.3	-9.4
-42.0	-28.3	-19.1	-9.2
-41.0	-22.3	-18.8	-3.5
-40.0	-39.1	-18.6	-20.6
-39.0	-28.8	-18.3	-10.5
-38.0	-27.9	-18.0	-9.9
-37.0	-31.8	-17.7	-14.1
-36.0	-27.2	-17.4	-9.8
-35.0	-34.4	-17.1	-17.3
-34.0	-30.0	-16.8	-13.2
-33.0	-36.8	-16.5	-20.4
-32.0	-27.7	-16.1	-11.6
-31.0	-27.6	-15.8	-11.8
-30.0	-31.7	-15.4	-16.3
-29.0	-31.8	-15.1	-16.7
-28.0	-30.8	-14.7	-16.1
-27.0	-33.3	-14.3	-19.0
-26.0	-23.4	-13.9	-9.5
-25.0	-30.4	-13.4	-16.9
-24.0	-29.2	-13.0	-16.2
-23.0	-31.3	-12.5	-18.8
-22.0	-29.0	-12.1	-17.0
-21.0	-34.2	-11.6	-22.7
-20.0	-35.8	-11.0	-24.8
-19.0	-29.5	-10.5	-19.0
-18.0	-28.5	-9.9	-18.6
-17.0	-26.2	-9.3	-16.9
-16.0	-35.7	-8.6	-27.1
-15.0	-39.1	-7.9	-31.2
-14.0	-21.8	-7.2	-14.7
-13.0	-26.4	-6.3	-20.0
-12.0	-18.9	-5.5	-13.4
-11.0	-22.5	-4.5	-18.0
-10.0	-19.5	-3.5	-16.0
-9.0	-28.5	-2.6	-25.9
-8.0	-22.9	-2.6	-20.3
-7.0	-12.4	-2.6	-9.7
-6.0	-12.7	-1.0	-11.7
-5.0	-6.6	1.0	-7.6
-4.0	-2.1	3.4	-5.6
-3.0	-6.6	6.6	-13.2
-2.0	0.9	11.0	-10.1
-1.0	9.2		
0.0	40.9		

123.0	-33.0	-10.5	-22.5
124.0	-39.1	-10.5	-28.6
125.0	-32.6	-10.5	-22.1
126.0	-39.1	-10.5	-28.6
127.0	-39.1	-10.5	-28.6
128.0	-39.1	-10.5	-28.6
129.0	-34.7	-10.5	-24.2
130.0	-34.6	-10.5	-24.1
131.0	-30.8	-10.5	-20.3
132.0	-39.1	-10.5	-28.6
133.0	-37.4	-10.5	-26.9
134.0	-37.8	-10.5	-27.3
135.0	-34.0	-10.5	-23.5
136.0	-33.6	-10.5	-23.1
137.0	-36.7	-10.5	-26.2
138.0	-33.8	-10.5	-23.3
139.0	-39.1	-10.5	-28.6
140.0	-36.3	-10.5	-25.8
141.0	-35.5	-10.5	-25.0
142.0	-38.8	-10.5	-28.3
143.0	-37.9	-10.5	-27.4
144.0	-35.1	-10.5	-24.6
145.0	-37.7	-10.5	-27.2
146.0	-39.1	-10.5	-28.6
147.0	-39.1	-10.5	-28.6
148.0	-37.9	-10.5	-27.4
149.0	-35.0	-10.5	-24.5
150.0	-37.0	-10.5	-26.5
151.0	-39.1	-10.5	-28.6
152.0	-39.1	-10.5	-28.6
153.0	-33.7	-10.5	-23.2
154.0	-39.1	-10.5	-28.6
155.0	-39.1	-10.5	-28.6
156.0	-38.0	-10.5	-27.5
157.0	-39.1	-10.5	-28.6
158.0	-39.1	-10.5	-28.6
159.0	-35.5	-10.5	-25.0
160.0	-33.7	-10.5	-23.2
161.0	-31.0	-10.5	-20.5
162.0	-30.0	-10.5	-19.5
163.0	-37.2	-10.5	-26.7
164.0	-31.6	-10.5	-21.1
165.0	-35.0	-10.5	-24.5
166.0	-32.6	-10.5	-22.1
167.0	-39.1	-10.5	-28.6
168.0	-34.3	-10.5	-23.8
169.0	-35.5	-10.5	-25.0
170.0	-30.0	-10.5	-19.5
171.0	-34.1	-10.5	-23.6
172.0	-35.1	-10.5	-24.6
173.0	-34.1	-10.5	-23.6
174.0	-39.1	-10.5	-28.6
175.0	-39.1	-10.5	-28.6
176.0	-38.7	-10.5	-28.2
177.0	-38.8	-10.5	-28.3
178.0	-35.2	-10.5	-24.7
179.0	-35.5	-10.5	-25.0

Orbit Communication Systems Ltd.

AL AL-7107-Ka, 2.15 m Antenna, EIRPsd Data Table
Co-pol Azimuth LHCP, -10° to +10° @ 0.1° increment

28.30 GHz @ -11.56 dBW / 40 kHz in Co-pol Az LHCP

Angle Degrees	EIRPsd dBW/40kHz	Mask dBW/40kHz	Over Mask dB
-10.0	-19.5	-3.5	-16.0
-9.9	-19.0	-3.4	-15.6
-9.8	-18.8	-3.3	-15.6
-9.7	-17.8	-3.2	-14.6
-9.6	-21.8	-3.1	-18.7
-9.5	-19.3	-2.9	-16.3
-9.4	-15.4	-2.8	-12.6
-9.3	-13.5	-2.7	-10.8
-9.2	-14.1	-2.6	-11.5
-9.1	-18.3	-2.6	-15.6
-9.0	-28.5	-2.6	-25.9
-8.9	-23.2	-2.6	-20.6
-8.8	-25.2	-2.6	-22.6
-8.7	-27.2	-2.6	-24.6
-8.6	-26.2	-2.6	-23.6
-8.5	-26.7	-2.6	-24.1
-8.4	-26.1	-2.6	-23.4
-8.3	-39.1	-2.6	-36.5
-8.2	-27.1	-2.6	-24.4
-8.1	-24.8	-2.6	-22.2
-8.0	-22.9	-2.6	-20.3
-7.9	-17.2	-2.6	-14.6
-7.8	-16.1	-2.6	-13.4
-7.7	-16.3	-2.6	-13.7
-7.6	-15.9	-2.6	-13.3
-7.5	-16.9	-2.6	-14.3
-7.4	-15.6	-2.6	-13.0
-7.3	-13.4	-2.6	-10.8
-7.2	-16.7	-2.6	-14.0
-7.1	-22.3	-2.6	-19.7
-7.0	-12.4	-2.6	-9.7
-6.9	-10.1	-2.5	-7.7
-6.8	-8.8	-2.3	-6.5
-6.7	-7.5	-2.2	-5.3
-6.6	-7.3	-2.0	-5.3
-6.5	-9.0	-1.8	-7.2
-6.4	-11.7	-1.7	-10.0
-6.3	-13.2	-1.5	-11.8
-6.2	-11.1	-1.3	-9.8
-6.1	-10.2	-1.1	-9.1
-6.0	-12.7	-1.0	-11.7
-5.9	-12.4	-0.8	-11.6
-5.8	-10.6	-0.6	-10.1
-5.7	-11.3	-0.4	-10.9
-5.6	-16.7	-0.2	-16.5
-5.5	-17.0	0.0	-17.0
-5.4	-9.4	0.2	-9.6
-5.3	-9.2	0.4	-9.6
-5.2	-16.7	0.6	-17.3
-5.1	-11.8	0.8	-12.6
-5.0	-6.6	1.0	-7.6
-4.9	-6.3	1.2	-7.5
-4.8	-9.9	1.5	-11.4
-4.7	-14.3	1.7	-16.0
-4.6	-7.3	1.9	-9.2
-4.5	-5.2	2.2	-7.4
-4.4	-6.9	2.4	-9.3
-4.3	-11.3	2.7	-14.0
-4.2	-17.4	2.9	-20.3
-4.1	-10.6	3.2	-13.8

28.30 GHz @ -11.56 dBW / 40 kHz in Co-pol Az LHCP

Angle Degrees	EIRPsd dBW/40kHz	Mask dBW/40kHz	Over Mask dB
0.0	40.9		
0.1	40.3		
0.2	38.0		
0.3	34.0		
0.4	28.4		
0.5	22.7		
0.6	16.8		
0.7	17.5		
0.8	18.9		
0.9	16.2		
1.0	5.5		
1.1	7.5		
1.2	8.1		
1.3	2.5		
1.4	-1.0		
1.5	-1.1		
1.6	0.9		
1.7	5.0		
1.8	4.8		
1.9	1.9		
2.0	-1.0	11.0	-12.0
2.1	-6.3	10.4	-16.7
2.2	-15.3	9.9	-25.3
2.3	-4.4	9.5	-13.9
2.4	-3.0	9.0	-12.0
2.5	-4.2	8.6	-12.8
2.6	-6.8	8.1	-14.9
2.7	-13.1	7.7	-20.8
2.8	-21.3	7.3	-28.6
2.9	-14.0	6.9	-20.9
3.0	-11.1	6.6	-17.7
3.1	-6.8	6.2	-13.0
3.2	-6.4	5.9	-12.2
3.3	-8.9	5.5	-14.4
3.4	-11.2	5.2	-16.4
3.5	-16.1	4.9	-21.0
3.6	-13.4	4.6	-18.0
3.7	-6.5	4.3	-10.8
3.8	-6.5	4.0	-10.5
3.9	-11.4	3.7	-15.1
4.0	-19.4	3.4	-22.9
4.1	-14.4	3.2	-17.6
4.2	-16.8	2.9	-19.7
4.3	-11.1	2.7	-13.7
4.4	-8.8	2.4	-11.2
4.5	-7.6	2.2	-9.8
4.6	-7.1	1.9	-9.0
4.7	-8.4	1.7	-10.1
4.8	-17.9	1.5	-19.4
4.9	-15.6	1.2	-16.8
5.0	-12.8	1.0	-13.8
5.1	-18.1	0.8	-19.0
5.2	-14.2	0.6	-14.8
5.3	-12.2	0.4	-12.6
5.4	-16.1	0.2	-16.3
5.5	-16.7	0.0	-16.7
5.6	-11.4	-0.2	-11.2
5.7	-10.5	-0.4	-10.1
5.8	-10.2	-0.6	-9.6
5.9	-12.7	-0.8	-11.9

Orbit Communication Systems Ltd.

AL AL-7107-Ka, 2.15 m Antenna, EIRPsd Data Table
 Co-pol Azimuth LHCP, -10° to +10° @ 0.1° increment

-4.0	-2.1	3.4	-5.6
-3.9	0.4	3.7	-3.3
-3.8	-1.1	4.0	-5.1
-3.7	-10.6	4.3	-14.9
-3.6	-4.6	4.6	-9.2
-3.5	-1.4	4.9	-6.3
-3.4	-2.6	5.2	-7.9
-3.3	-6.7	5.5	-12.2
-3.2	-3.8	5.9	-9.7
-3.1	-2.8	6.2	-9.0
-3.0	-6.6	6.6	-13.2
-2.9	-5.0	6.9	-11.9
-2.8	-2.0	7.3	-9.3
-2.7	-3.1	7.7	-10.8
-2.6	-9.9	8.1	-18.1
-2.5	-16.2	8.6	-24.7
-2.4	-12.5	9.0	-21.5
-2.3	-5.1	9.5	-14.5
-2.2	-4.5	9.9	-14.4
-2.1	-4.2	10.4	-14.6
-2.0	0.9	11.0	-10.1
-1.9	1.3		
-1.8	-4.4		
-1.7	-2.7		
-1.6	-1.9		
-1.5	-6.9		
-1.4	5.7		
-1.3	8.4		
-1.2	8.9		
-1.1	9.7		
-1.0	9.2		
-0.9	4.5		
-0.8	0.3		
-0.7	-1.1		
-0.6	7.0		
-0.5	19.2		
-0.4	28.1		
-0.3	34.2		
-0.2	38.3		
-0.1	40.4		
0.0	40.9		

6.0	-21.7	-1.0	-20.7
6.1	-14.7	-1.1	-13.6
6.2	-11.7	-1.3	-10.4
6.3	-11.2	-1.5	-9.8
6.4	-9.5	-1.7	-7.9
6.5	-9.6	-1.8	-7.7
6.6	-10.9	-2.0	-8.9
6.7	-11.9	-2.2	-9.8
6.8	-10.9	-2.3	-8.6
6.9	-10.2	-2.5	-7.8
7.0	-11.6	-2.6	-9.0
7.1	-14.0	-2.6	-11.4
7.2	-21.7	-2.6	-19.1
7.3	-18.3	-2.6	-15.7
7.4	-13.3	-2.6	-10.7
7.5	-13.4	-2.6	-10.8
7.6	-16.0	-2.6	-13.4
7.7	-17.6	-2.6	-15.0
7.8	-17.6	-2.6	-15.0
7.9	-15.2	-2.6	-12.6
8.0	-14.4	-2.6	-11.8
8.1	-16.7	-2.6	-14.1
8.2	-21.2	-2.6	-18.6
8.3	-16.0	-2.6	-13.4
8.4	-17.8	-2.6	-15.2
8.5	-17.8	-2.6	-15.2
8.6	-17.9	-2.6	-15.3
8.7	-16.1	-2.6	-13.5
8.8	-17.0	-2.6	-14.4
8.9	-19.4	-2.6	-16.8
9.0	-21.6	-2.6	-19.0
9.1	-19.0	-2.6	-16.3
9.2	-17.3	-2.6	-14.7
9.3	-16.2	-2.7	-13.4
9.4	-18.1	-2.8	-15.3
9.5	-23.6	-2.9	-20.6
9.6	-20.9	-3.1	-17.8
9.7	-16.5	-3.2	-13.3
9.8	-15.3	-3.3	-12.0
9.9	-14.8	-3.4	-11.4
10.0	-15.1	-3.5	-11.6

Orbit Communication Systems Ltd.

AL-7107-Ka, 2.15 m Antenna, EIRPsd Data Table
Co-pol Elevation LHCP, -30° to +30° @ 0.5° increment

28.30 GHz @ -11.56 dBW / 40 kHz in Co-pol EI LHCP

Angle	EIRPsd	Mask	Over Mask
Degrees	dBW/40kHz	dBW/40kHz	dB
-30.0	-20.5	-12.4	-8.0
-29.5	-19.8	-12.2	-7.5
-29.0	-22.7	-12.1	-10.7
-28.5	-21.0	-11.9	-9.1
-28.0	-22.1	-11.7	-10.4
-27.5	-22.9	-11.5	-11.4
-27.0	-26.2	-11.3	-14.9
-26.5	-23.3	-11.1	-12.2
-26.0	-24.7	-10.9	-13.8
-25.5	-22.7	-10.7	-12.0
-25.0	-18.6	-10.4	-8.2
-24.5	-18.5	-10.2	-8.3
-24.0	-17.8	-10.0	-7.8
-23.5	-28.0	-9.8	-18.2
-23.0	-30.6	-9.5	-21.1
-22.5	-20.6	-9.3	-11.3
-22.0	-17.2	-9.1	-8.2
-21.5	-16.5	-8.8	-7.7
-21.0	-25.4	-8.6	-16.8
-20.5	-17.3	-8.3	-9.0
-20.0	-17.6	-8.0	-9.6
-19.5	-13.1	-7.8	-5.4
-19.0	-13.1	-7.5	-5.7
-18.5	-14.4	-7.2	-7.2
-18.0	-26.0	-6.9	-19.1
-17.5	-35.1	-6.6	-28.5
-17.0	-26.7	-6.3	-20.4
-16.5	-25.9	-5.9	-20.0
-16.0	-29.9	-5.6	-24.3
-15.5	-25.1	-5.3	-19.8
-15.0	-20.7	-4.9	-15.8
-14.5	-28.5	-4.5	-24.0
-14.0	-13.6	-4.2	-9.5
-13.5	-18.3	-3.8	-14.5
-13.0	-21.3	-3.3	-17.9
-12.5	-23.4	-2.9	-20.5
-12.0	-18.1	-2.5	-15.6
-11.5	-17.6	-2.0	-15.6
-11.0	-24.6	-1.5	-23.0
-10.5	-21.9	-1.0	-20.8
-10.0	-18.1	-0.5	-17.6
-9.5	-18.2	0.1	-18.2
-9.0	-14.3	0.4	-14.7
-8.5	-20.0	0.4	-20.4
-8.0	-13.9	0.4	-14.3
-7.5	-21.6	0.4	-22.0
-7.0	-13.6	0.4	-13.9
-6.5	-17.3	1.2	-18.5
-6.0	-12.7	2.0	-14.7
-5.5	-13.2	3.0	-16.2
-5.0	-10.1	4.0	-14.1
-4.5	-10.1	5.2	-15.2
-4.0	-8.7	6.4	-15.1
-3.5	-6.9	7.9	-14.8
-3.0	-1.0		
-2.5	-2.2		
-2.0	-3.5		
-1.5	6.3		
-1.0	9.6		
-0.5	24.1		
0.0	40.9		

28.30 GHz @ -11.56 dBW / 40 kHz in Co-pol EI LHCP

Angle	EIRPsd	Mask	Over Mask
Degrees	dBW/40kHz	dBW/40kHz	dB
0.0	40.9		
0.5	26.4		
1.0	5.2		
1.5	-1.9		
2.0	-6.2		
2.5	-1.5		
3.0	-4.1		
3.5	-3.1	7.9	-11.0
4.0	1.4	6.4	-5.1
4.5	-12.5	5.2	-17.7
5.0	-4.3	4.0	-8.3
5.5	-24.0	3.0	-27.0
6.0	-13.4	2.0	-15.4
6.5	-10.7	1.2	-11.9
7.0	-13.4	0.4	-13.8
7.5	-23.6	0.4	-23.9
8.0	-26.1	0.4	-26.5
8.5	-13.1	0.4	-13.4
9.0	-14.4	0.4	-14.8
9.5	-21.3	0.1	-21.4
10.0	-11.7	-0.5	-11.2
10.5	-16.2	-1.0	-15.2
11.0	-19.7	-1.5	-18.2
11.5	-24.7	-2.0	-22.7
12.0	-24.7	-2.5	-22.2
12.5	-17.5	-2.9	-14.6
13.0	-15.9	-3.3	-12.5
13.5	-20.5	-3.8	-16.7
14.0	-29.0	-4.2	-24.9
14.5	-24.3	-4.5	-19.7
15.0	-23.6	-4.9	-18.7
15.5	-26.7	-5.3	-21.5
16.0	-30.0	-5.6	-24.4
16.5	-28.2	-5.9	-22.3
17.0	-27.0	-6.3	-20.7
17.5	-34.1	-6.6	-27.5
18.0	-25.1	-6.9	-18.2
18.5	-28.5	-7.2	-21.3
19.0	-23.7	-7.5	-16.2
19.5	-24.4	-7.8	-16.7
20.0	-29.7	-8.0	-21.7
20.5	-23.6	-8.3	-15.3
21.0	-37.9	-8.6	-29.4
21.5	-38.4	-8.8	-29.6
22.0	-30.2	-9.1	-21.1
22.5	-24.4	-9.3	-15.1
23.0	-27.6	-9.5	-18.0
23.5	-26.5	-9.8	-16.7
24.0	-33.1	-10.0	-23.1
24.5	-31.5	-10.2	-21.2
25.0	-26.9	-10.4	-16.5
25.5	-30.8	-10.7	-20.1
26.0	-39.1	-10.9	-28.3
26.5	-31.4	-11.1	-20.3
27.0	-32.1	-11.3	-20.8
27.5	-27.3	-11.5	-15.8
28.0	-25.8	-11.7	-14.2
28.5	-29.1	-11.9	-17.3
29.0	-29.1	-12.1	-17.0
29.5	-26.9	-12.2	-14.6
30.0	-36.1	-12.4	-23.7

Orbit Communication Systems Ltd.

AL-7107-Ka, 2.15 m Antenna, EIRPsd Data Table
Co-pol Elevation LHCP, -10° to +10° @ 0.1° increment

28.30 GHz @ -11.56 dBW / 40 kHz in Co-pol EI LHCP

Angle	EIRPsd	Mask	Over Mask
Degrees	dBW/40kHz	dBW/40kHz	dB
-10.0	-18.1	-0.5	-17.6
-9.9	-16.9	-0.4	-16.5
-9.8	-18.8	-0.3	-18.5
-9.7	-23.6	-0.2	-23.4
-9.6	-19.1	-0.1	-19.0
-9.5	-18.2	0.1	-18.2
-9.4	-21.9	0.2	-22.0
-9.3	-24.0	0.3	-24.3
-9.2	-16.7	0.4	-17.0
-9.1	-14.4	0.4	-14.7
-9.0	-14.3	0.4	-14.7
-8.9	-16.9	0.4	-17.2
-8.8	-25.6	0.4	-26.0
-8.7	-21.0	0.4	-21.4
-8.6	-17.2	0.4	-17.6
-8.5	-20.0	0.4	-20.4
-8.4	-17.7	0.4	-18.1
-8.3	-14.9	0.4	-15.3
-8.2	-13.4	0.4	-13.7
-8.1	-12.9	0.4	-13.3
-8.0	-13.9	0.4	-14.3
-7.9	-16.0	0.4	-16.3
-7.8	-22.2	0.4	-22.6
-7.7	-23.8	0.4	-24.1
-7.6	-23.7	0.4	-24.0
-7.5	-21.6	0.4	-22.0
-7.4	-15.7	0.4	-16.1
-7.3	-12.3	0.4	-12.6
-7.2	-9.8	0.4	-10.2
-7.1	-9.7	0.4	-10.1
-7.0	-13.6	0.4	-13.9
-6.9	-25.7	0.5	-26.2
-6.8	-12.4	0.7	-13.1
-6.7	-12.0	0.8	-12.8
-6.6	-16.4	1.0	-17.4
-6.5	-17.3	1.2	-18.5
-6.4	-13.6	1.3	-14.9
-6.3	-12.6	1.5	-14.1
-6.2	-11.5	1.7	-13.2
-6.1	-12.2	1.9	-14.0
-6.0	-12.7	2.0	-14.7
-5.9	-11.2	2.2	-13.5
-5.8	-10.1	2.4	-12.5
-5.7	-11.3	2.6	-13.9
-5.6	-12.4	2.8	-15.2
-5.5	-13.2	3.0	-16.2
-5.4	-15.6	3.2	-18.8
-5.3	-11.4	3.4	-14.8
-5.2	-7.9	3.6	-11.5
-5.1	-8.1	3.8	-11.9
-5.0	-10.1	4.0	-14.1
-4.9	-12.2	4.2	-16.5
-4.8	-12.0	4.5	-16.4
-4.7	-10.4	4.7	-15.1
-4.6	-9.6	4.9	-14.5
-4.5	-10.1	5.2	-15.2
-4.4	-8.4	5.4	-13.8
-4.3	-5.8	5.7	-11.5
-4.2	-4.6	5.9	-10.5
-4.1	-5.2	6.2	-11.4

28.30 GHz @ -11.56 dBW / 40 kHz in Co-pol EI LHCP

Angle	EIRPsd	Mask	Over Mask
Degrees	dBW/40kHz	dBW/40kHz	dB
0.0	40.9		
0.1	40.2		
0.2	37.7		
0.3	33.7		
0.4	29.3		
0.5	26.4		
0.6	22.0		
0.7	12.9		
0.8	4.9		
0.9	5.8		
1.0	5.2		
1.1	7.4		
1.2	5.0		
1.3	-4.4		
1.4	-2.4		
1.5	-1.9		
1.6	2.4		
1.7	3.1		
1.8	-0.9		
1.9	-5.3		
2.0	-6.2		
2.1	-5.1		
2.2	-0.7		
2.3	0.0		
2.4	-0.6		
2.5	-1.5		
2.6	-4.6		
2.7	-14.9		
2.8	-20.8		
2.9	-13.8		
3.0	-4.1		
3.1	-1.9		
3.2	-4.1		
3.3	-10.1		
3.4	-7.0		
3.5	-3.1	7.9	-11.0
3.6	-1.9	7.6	-9.5
3.7	-2.6	7.3	-9.8
3.8	-2.3	7.0	-9.3
3.9	0.7	6.7	-6.0
4.0	1.4	6.4	-5.1
4.1	1.1	6.2	-5.0
4.2	1.3	5.9	-4.6
4.3	1.0	5.7	-4.7
4.4	-2.5	5.4	-7.9
4.5	-12.5	5.2	-17.7
4.6	-18.5	4.9	-23.5
4.7	-13.4	4.7	-18.1
4.8	-7.4	4.5	-11.9
4.9	-4.8	4.2	-9.0
5.0	-4.3	4.0	-8.3
5.1	-4.9	3.8	-8.7
5.2	-6.8	3.6	-10.4
5.3	-10.3	3.4	-13.7
5.4	-13.5	3.2	-16.6
5.5	-24.0	3.0	-27.0
5.6	-16.6	2.8	-19.4
5.7	-11.5	2.6	-14.1
5.8	-12.9	2.4	-15.3
5.9	-17.5	2.2	-19.8

Orbit Communication Systems Ltd.
 AL-7107-Ka, 2.15 m Antenna, EIRPsd Data Table
 Co-pol Elevation LHCP, -10° to +10° @ 0.1° increment

-4.0	-8.7	6.4	-15.1
-3.9	-13.4	6.7	-20.1
-3.8	-5.7	7.0	-12.8
-3.7	-3.9	7.3	-11.2
-3.6	-4.5	7.6	-12.1
-3.5	-6.9	7.9	-14.8
-3.4	-10.7		
-3.3	-11.0		
-3.2	-11.1		
-3.1	-10.0		
-3.0	-1.0		
-2.9	2.5		
-2.8	2.5		
-2.7	0.5		
-2.6	-3.6		
-2.5	-2.2		
-2.4	-0.8		
-2.3	0.7		
-2.2	1.2		
-2.1	-0.4		
-2.0	-3.5		
-1.9	-4.5		
-1.8	-6.2		
-1.7	-2.9		
-1.6	3.5		
-1.5	6.3		
-1.4	5.1		
-1.3	4.3		
-1.2	9.7		
-1.1	11.0		
-1.0	9.6		
-0.9	10.5		
-0.8	13.5		
-0.7	17.7		
-0.6	21.6		
-0.5	24.1		
-0.4	28.8		
-0.3	34.4		
-0.2	38.3		
-0.1	40.4		
0.0	40.9		

6.0	-13.4	2.0	-15.4
6.1	-12.6	1.9	-14.5
6.2	-13.2	1.7	-14.8
6.3	-14.2	1.5	-15.7
6.4	-13.5	1.3	-14.9
6.5	-10.7	1.2	-11.9
6.6	-7.8	1.0	-8.8
6.7	-8.1	0.8	-8.9
6.8	-9.4	0.7	-10.1
6.9	-12.0	0.5	-12.6
7.0	-13.4	0.4	-13.8
7.1	-17.8	0.4	-18.2
7.2	-13.7	0.4	-14.0
7.3	-10.4	0.4	-10.8
7.4	-11.9	0.4	-12.3
7.5	-23.6	0.4	-23.9
7.6	-18.8	0.4	-19.2
7.7	-16.8	0.4	-17.2
7.8	-21.7	0.4	-22.1
7.9	-34.0	0.4	-34.3
8.0	-26.1	0.4	-26.5
8.1	-24.1	0.4	-24.5
8.2	-19.9	0.4	-20.2
8.3	-17.6	0.4	-17.9
8.4	-14.1	0.4	-14.5
8.5	-13.1	0.4	-13.4
8.6	-16.3	0.4	-16.7
8.7	-16.3	0.4	-16.7
8.8	-16.1	0.4	-16.5
8.9	-14.1	0.4	-14.4
9.0	-14.4	0.4	-14.8
9.1	-19.2	0.4	-19.5
9.2	-23.1	0.4	-23.5
9.3	-20.5	0.3	-20.8
9.4	-20.4	0.2	-20.6
9.5	-21.3	0.1	-21.4
9.6	-30.1	-0.1	-30.0
9.7	-16.8	-0.2	-16.6
9.8	-13.5	-0.3	-13.2
9.9	-11.5	-0.4	-11.1
10.0	-11.7	-0.5	-11.2

Orbit Communication Systems Ltd.
AL-7107-Ka, 2.15 m Antenna, EIRPsd Data Table
X-pol Azimuth LHCP, -10° to +10° @ 0.1° increment

28.30 GHz @ -11.56 dBW / 40 kHz in X-pol Az LHCP

Angle	EIRPsd	Mask	Over Mask
Degrees	dBW/40kHz	dBW/40kHz	dB
-10.0	-27.4	-12.6	-14.8
-9.9	-27.5	-12.6	-14.9
-9.8	-25.8	-12.6	-13.2
-9.7	-26.8	-12.6	-14.2
-9.6	-27.5	-12.6	-14.9
-9.5	-25.8	-12.6	-13.1
-9.4	-25.2	-12.6	-12.6
-9.3	-23.6	-12.6	-10.9
-9.2	-21.5	-12.6	-8.9
-9.1	-18.5	-12.6	-5.9
-9.0	-16.7	-12.6	-4.1
-8.9	-16.0	-12.6	-3.4
-8.8	-17.3	-12.6	-4.6
-8.7	-18.7	-12.6	-6.1
-8.6	-20.9	-12.6	-8.3
-8.5	-20.4	-12.6	-7.8
-8.4	-19.3	-12.6	-6.7
-8.3	-18.7	-12.6	-6.1
-8.2	-21.0	-12.6	-8.4
-8.1	-23.5	-12.6	-10.8
-8.0	-23.2	-12.6	-10.5
-7.9	-21.3	-12.6	-8.7
-7.8	-20.0	-12.6	-7.4
-7.7	-21.0	-12.6	-8.4
-7.6	-24.4	-12.6	-11.8
-7.5	-21.8	-12.6	-9.2
-7.4	-17.6	-12.6	-5.0
-7.3	-15.7	-12.6	-3.1
-7.2	-16.7	-12.6	-4.1
-7.1	-16.6	-12.6	-4.0
-7.0	-14.8	-12.6	-2.2
-6.9	-12.5	-12.5	0.0
-6.8	-12.3	-12.3	0.0
-6.7	-14.3	-12.2	-2.2
-6.6	-21.1	-12.0	-9.1
-6.5	-18.6	-11.8	-6.8
-6.4	-18.4	-11.7	-6.8
-6.3	-22.6	-11.5	-11.2
-6.2	-27.1	-11.3	-15.8
-6.1	-23.2	-11.1	-12.1
-6.0	-23.8	-11.0	-12.9
-5.9	-23.4	-10.8	-12.7
-5.8	-20.7	-10.6	-10.1
-5.7	-19.7	-10.4	-9.3
-5.6	-25.1	-10.2	-14.9
-5.5	-33.0	-10.0	-23.0
-5.4	-21.7	-9.8	-11.9
-5.3	-15.7	-9.6	-6.1
-5.2	-13.8	-9.4	-4.4
-5.1	-13.8	-9.2	-4.6
-5.0	-19.6	-9.0	-10.7
-4.9	-19.1	-8.8	-10.3
-4.8	-14.5	-8.5	-6.0
-4.7	-15.2	-8.3	-6.9
-4.6	-21.9	-8.1	-13.8
-4.5	-23.3	-7.8	-15.5
-4.4	-25.5	-7.6	-17.9
-4.3	-15.4	-7.3	-8.1
-4.2	-11.8	-7.1	-4.7
-4.1	-12.4	-6.8	-5.6

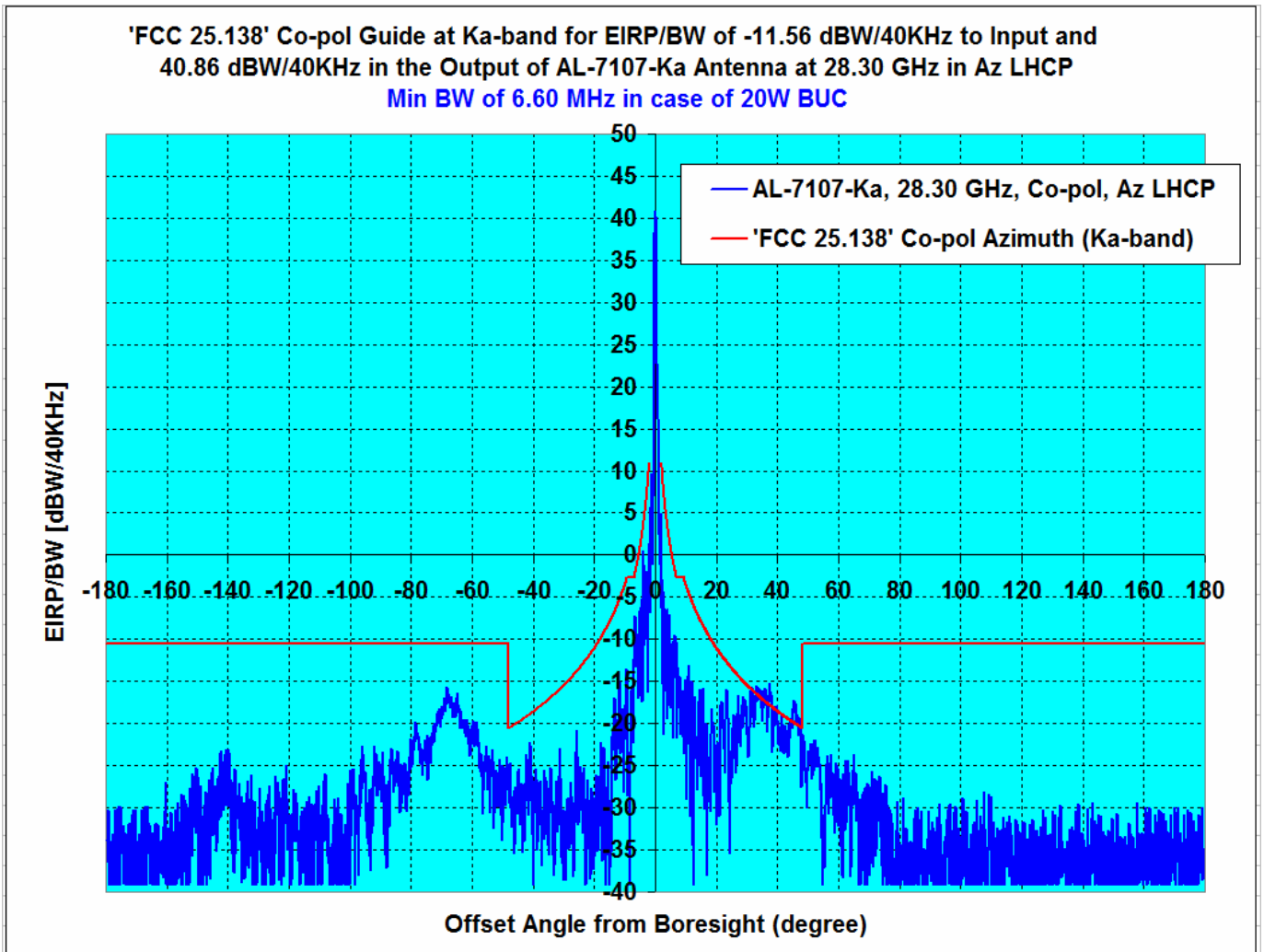
28.30 GHz @ -11.56 dBW / 40 kHz in X-pol Az LHCP

Angle	EIRPsd	Mask	Over Mask
Degrees	dBW/40kHz	dBW/40kHz	dB
0.0	6.1		
0.1	5.0		
0.2	10.7		
0.3	14.3		
0.4	14.9		
0.5	13.1		
0.6	9.4		
0.7	0.0		
0.8	-2.4		
0.9	2.8		
1.0	4.3		
1.1	2.9		
1.2	-2.7		
1.3	-6.3		
1.4	-5.2		
1.5	-6.6		
1.6	-5.8		
1.7	-5.0		
1.8	-6.9		
1.9	-12.6		
2.0	-17.9	1.0	-18.9
2.1	-15.5	0.4	-16.0
2.2	-12.2	-0.1	-12.1
2.3	-12.7	-0.5	-12.2
2.4	-16.9	-1.0	-15.9
2.5	-17.4	-1.4	-16.0
2.6	-17.2	-1.9	-15.3
2.7	-18.3	-2.3	-16.0
2.8	-16.1	-2.7	-13.4
2.9	-16.9	-3.1	-13.8
3.0	-20.5	-3.4	-17.1
3.1	-17.2	-3.8	-13.5
3.2	-17.6	-4.1	-13.5
3.3	-20.2	-4.5	-15.8
3.4	-18.6	-4.8	-13.9
3.5	-19.6	-5.1	-14.5
3.6	-21.1	-5.4	-15.7
3.7	-14.6	-5.7	-8.9
3.8	-15.8	-6.0	-9.8
3.9	-24.2	-6.3	-17.9
4.0	-25.3	-6.6	-18.7
4.1	-19.1	-6.8	-12.2
4.2	-21.9	-7.1	-14.8
4.3	-26.1	-7.3	-18.8
4.4	-21.1	-7.6	-13.5
4.5	-21.3	-7.8	-13.5
4.6	-20.7	-8.1	-12.7
4.7	-19.2	-8.3	-10.9
4.8	-19.4	-8.5	-10.9
4.9	-19.8	-8.8	-11.0
5.0	-18.8	-9.0	-9.9
5.1	-21.7	-9.2	-12.5
5.2	-24.2	-9.4	-14.8
5.3	-24.7	-9.6	-15.1
5.4	-25.7	-9.8	-15.9
5.5	-23.5	-10.0	-13.5
5.6	-22.2	-10.2	-12.0
5.7	-22.2	-10.4	-11.8
5.8	-21.5	-10.6	-10.9
5.9	-21.2	-10.8	-10.5

Orbit Communication Systems Ltd.
 AL-7107-Ka, 2.15 m Antenna, EIRPsd Data Table
 X-pol Azimuth LHCP, -10° to +10° @ 0.1° increment

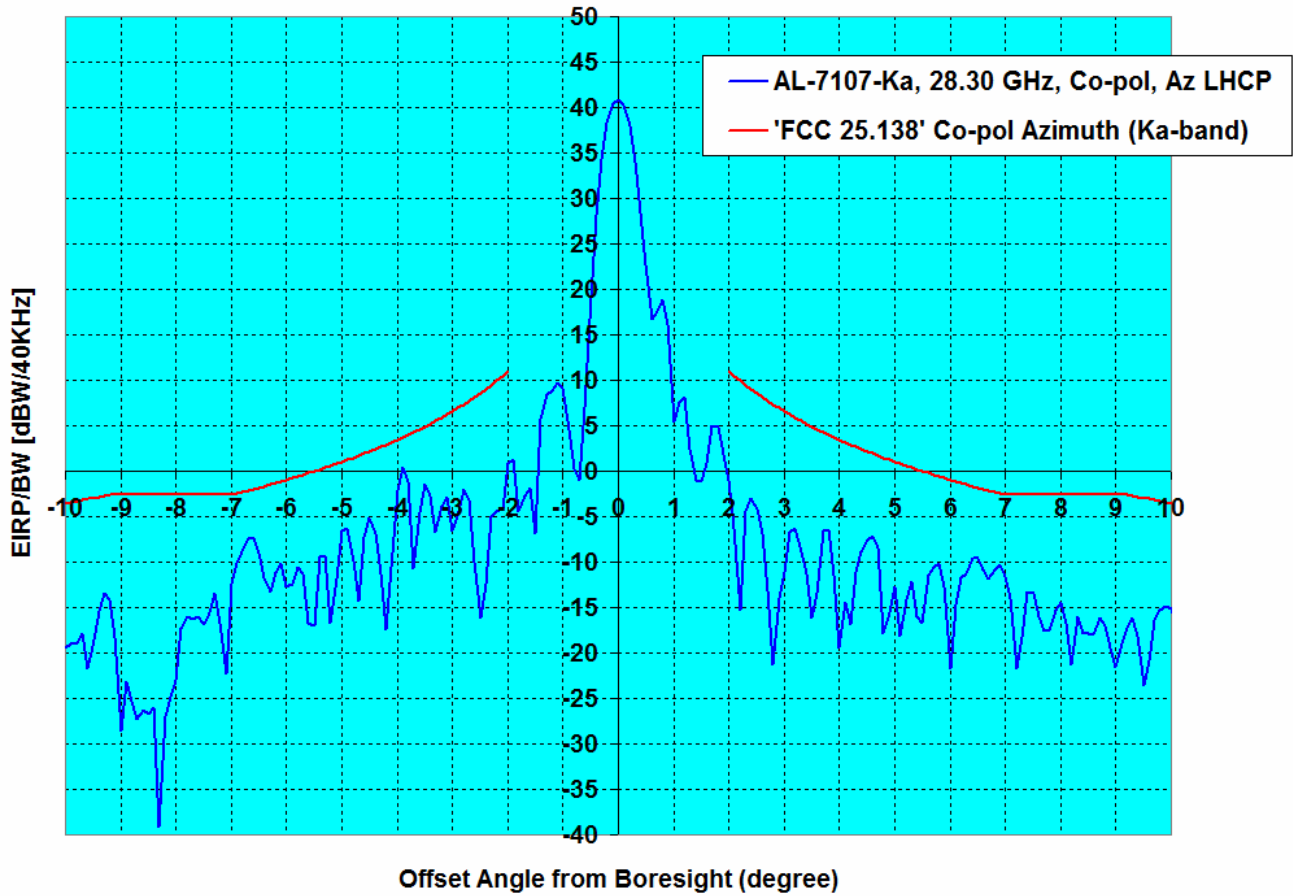
-4.0	-18.7	-6.6	-12.2
-3.9	-22.4	-6.3	-16.1
-3.8	-16.7	-6.0	-10.7
-3.7	-16.3	-5.7	-10.6
-3.6	-15.2	-5.4	-9.8
-3.5	-13.7	-5.1	-8.6
-3.4	-14.2	-4.8	-9.4
-3.3	-17.7	-4.5	-13.2
-3.2	-17.8	-4.1	-13.7
-3.1	-12.3	-3.8	-8.5
-3.0	-13.6	-3.4	-10.2
-2.9	-23.5	-3.1	-20.4
-2.8	-19.4	-2.7	-16.7
-2.7	-17.4	-2.3	-15.1
-2.6	-19.5	-1.9	-17.7
-2.5	-19.3	-1.4	-17.9
-2.4	-23.6	-1.0	-22.6
-2.3	-20.8	-0.5	-20.3
-2.2	-15.2	-0.1	-15.2
-2.1	-19.3	0.4	-19.8
-2.0	-17.8	1.0	-18.7
-1.9	-15.2		
-1.8	-21.4		
-1.7	-9.2		
-1.6	-5.5		
-1.5	-5.2		
-1.4	-6.0		
-1.3	-6.1		
-1.2	-2.5		
-1.1	1.1		
-1.0	3.6		
-0.9	3.3		
-0.8	-3.1		
-0.7	4.2		
-0.6	13.3		
-0.5	17.8		
-0.4	19.4		
-0.3	19.0		
-0.2	17.0		
-0.1	12.3		
0.0	6.1		

6.0	-23.0	-11.0	-12.1
6.1	-25.2	-11.1	-14.1
6.2	-22.7	-11.3	-11.3
6.3	-20.4	-11.5	-8.9
6.4	-20.7	-11.7	-9.1
6.5	-25.1	-11.8	-13.3
6.6	-29.4	-12.0	-17.4
6.7	-31.8	-12.2	-19.6
6.8	-29.8	-12.3	-17.5
6.9	-29.9	-12.5	-17.4
7.0	-23.5	-12.6	-10.9
7.1	-20.0	-12.6	-7.4
7.2	-19.9	-12.6	-7.2
7.3	-19.7	-12.6	-7.1
7.4	-23.8	-12.6	-11.2
7.5	-24.5	-12.6	-11.9
7.6	-25.1	-12.6	-12.5
7.7	-28.9	-12.6	-16.3
7.8	-30.3	-12.6	-17.7
7.9	-20.3	-12.6	-7.7
8.0	-17.8	-12.6	-5.1
8.1	-18.7	-12.6	-6.0
8.2	-22.0	-12.6	-9.4
8.3	-23.4	-12.6	-10.8
8.4	-24.2	-12.6	-11.5
8.5	-24.3	-12.6	-11.7
8.6	-23.2	-12.6	-10.6
8.7	-27.8	-12.6	-15.2
8.8	-22.6	-12.6	-9.9
8.9	-18.9	-12.6	-6.3
9.0	-19.2	-12.6	-6.5
9.1	-21.3	-12.6	-8.6
9.2	-25.6	-12.6	-13.0
9.3	-30.1	-12.6	-17.5
9.4	-28.6	-12.6	-16.0
9.5	-26.9	-12.6	-14.3
9.6	-26.2	-12.6	-13.6
9.7	-25.9	-12.6	-13.2
9.8	-25.3	-12.6	-12.7
9.9	-29.1	-12.6	-16.5
10.0	-37.7	-12.6	-25.1



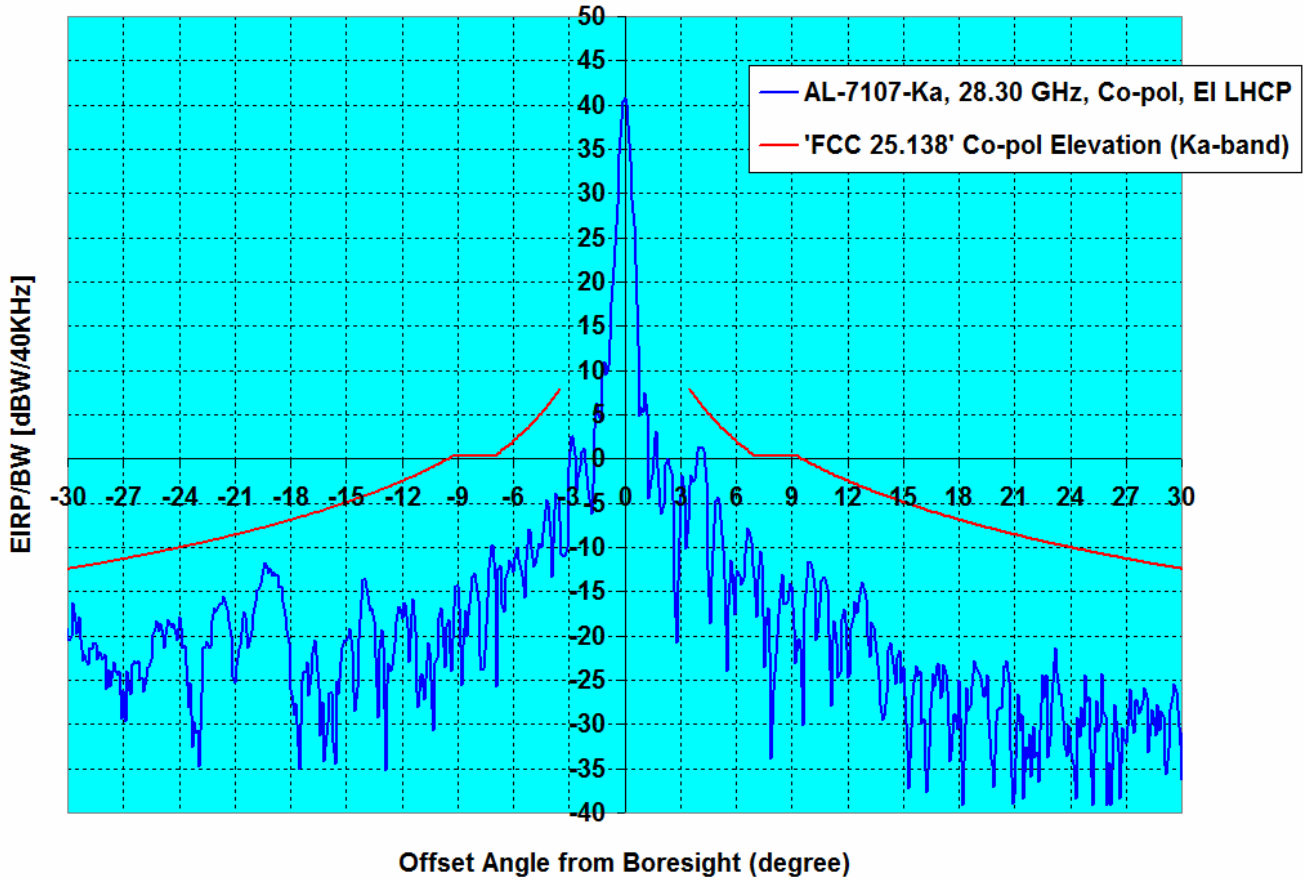
Configuration System, Freq., Polarization, Plane	Regulation EIRP/BW [dBW/40KHz]	Antenna Gain dBi	Input EIRPsd dBW/40KHz	Peak Excursions dB		Over Mask %
				± (2° to 10°)	± (10° to 180°)	
AL-7107-Ka, 28.30 GHz, Co-pol, Az LHCP	'FCC 25.138' Co-pol Azimuth (Ka-band)	52.42	-11.56	-3.29	2.67	1.72

**'FCC 25.138' Co-pol Guide at Ka-band for EIRP/BW of -11.56 dBW/40KHz to Input and
 40.86 dBW/40KHz in the Output of AL-7107-Ka Antenna at 28.30 GHz in Az LHCP
 Min BW of 6.60 MHz in case of 20W BUC**



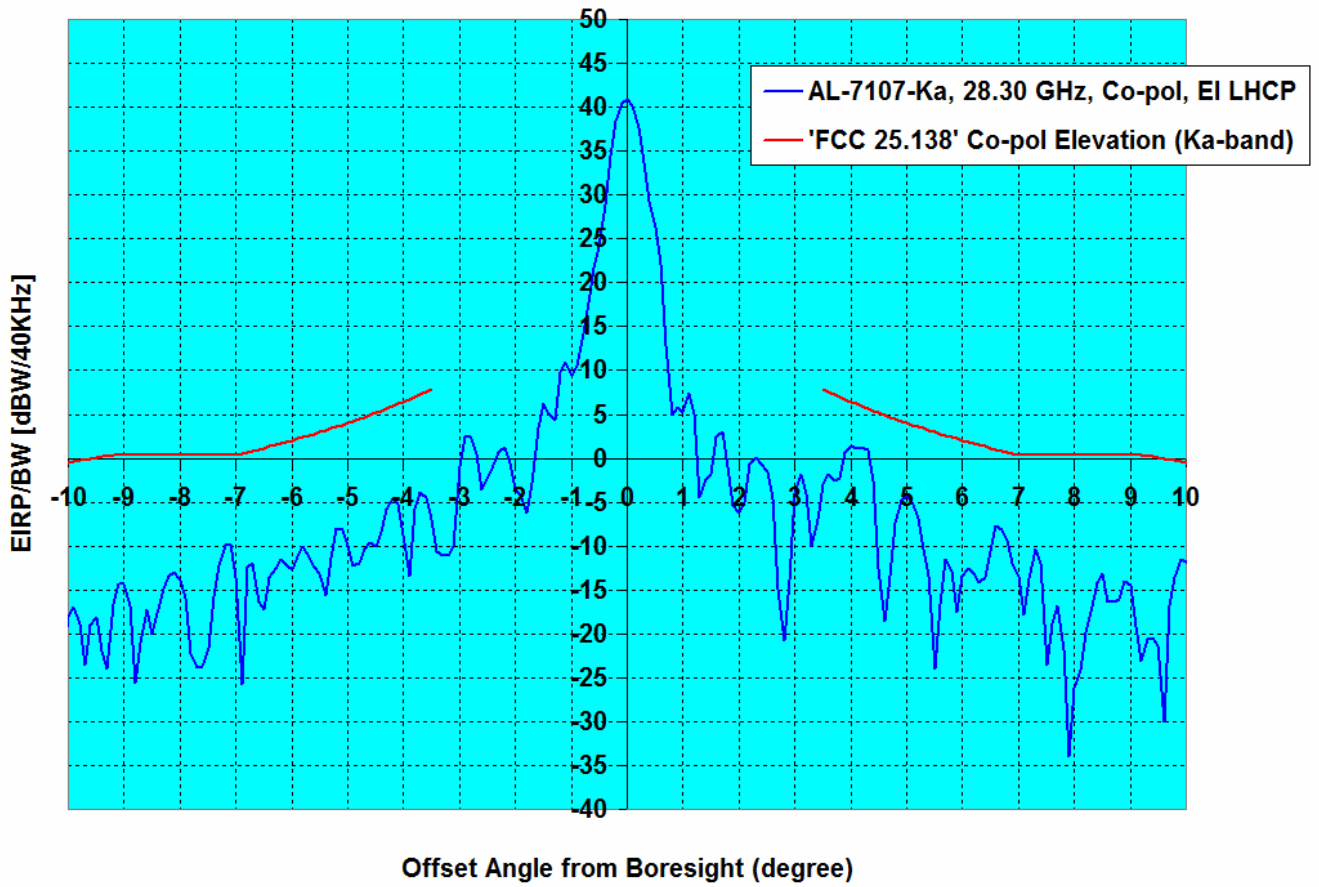
Configuration System, Freq., Polarization, Plane	Regulation EIRP/BW [dBW/40KHz]	Antenna Gain dBi	Input EIRPsd dBW/40KHz	Peak Excursions dB		Over Mask %
				± (2° to 10°)	± (10° to 180°)	
AL-7107-Ka, 28.30 GHz, Co-pol, Az LHCP	'FCC 25.138' Co-pol Azimuth (Ka-band)	52.42	-11.56	-3.29	2.67	1.72

**'FCC 25.138' Co-pol Guide at Ka-band for EIRP/BW of -11.56 dBW/40KHz to Input and
 40.86 dBW/40KHz in the Output of AL-7107-Ka Antenna at 28.30 GHz in EI LHCP
 Min BW of 6.60 MHz in case of 20W BUC**



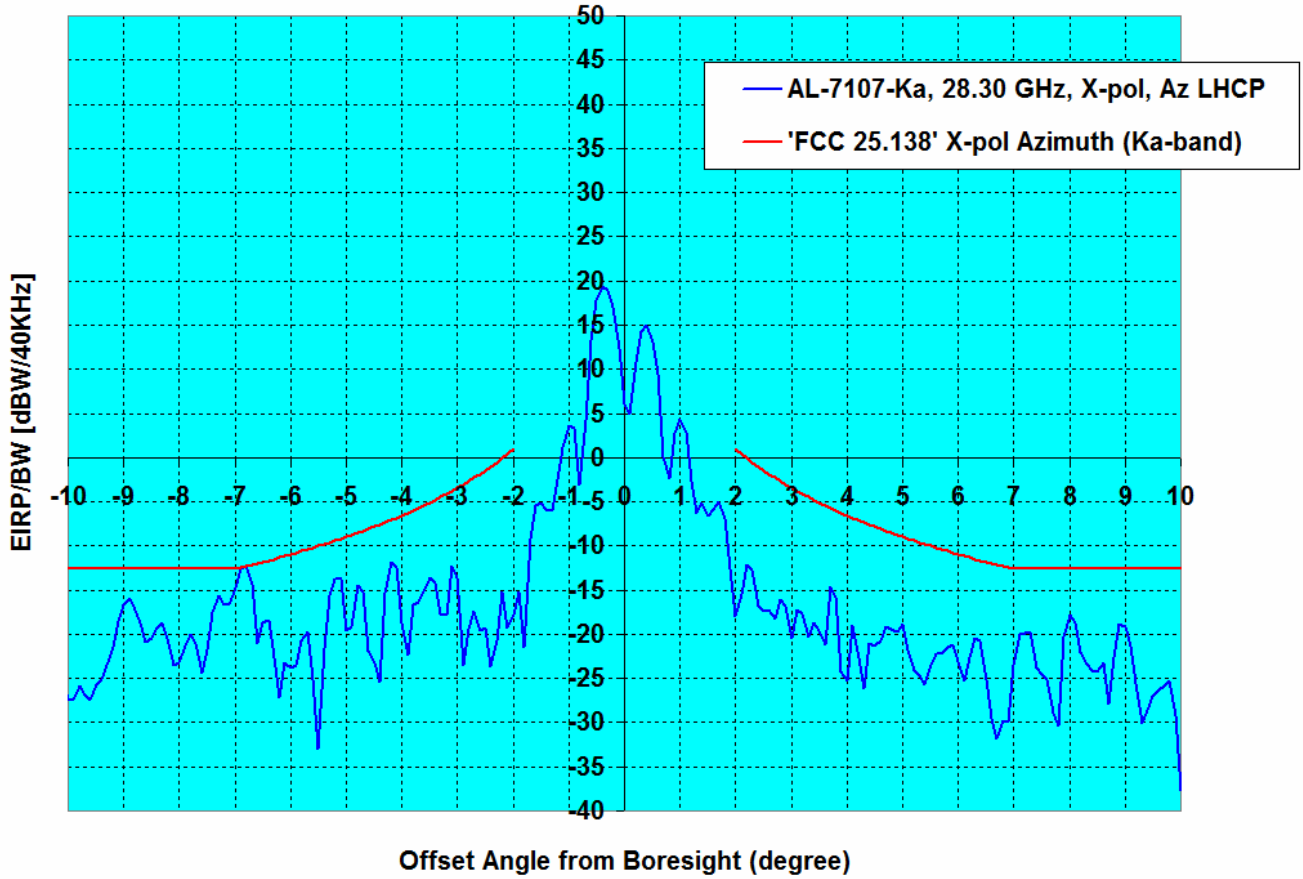
Configuration	Regulation	Antenna Gain	Input EIRPsd	Peak Excursions dB		Over Mask
System, Frequency, Polarization, Plane	EIRP/BW [dBW/40KHz]	dBi	dBW/40KHz	± (3.5° to 10°)	± (10° to 30°)	%
AL-7107-Ka, 28.30 GHz, Co-pol, EI LHCP	'FCC 25.138' Co-pol Elevation (Ka-band)	52.42	-11.56	-4.59	-4.00	0.00

**'FCC 25.138' Co-pol Guide at Ka-band for EIRP/BW of -11.56 dBW/40KHz to Input and
 40.86 dBW/40KHz in the Output of AL-7107-Ka Antenna at 28.30 GHz in EI LHCP
 Min BW of 6.60 MHz in case of 20W BUC**



Configuration	Regulation	Antenna Gain	Input EIRPsd	Peak Excursions dB		Over Mask
System, Frequency, Polarization, Plane	EIRP/BW [dBW/40KHz]	dBi	dBW/40KHz	± (3.5° to 10°)	± (10° to 30°)	%
AL-7107-Ka, 28.30 GHz, Co-pol, EI LHCP	'FCC 25.138' Co-pol Elevation (Ka-band)	52.42	-11.56	-4.59	-4.00	0.00

**'FCC 25.138' X-pol Guide at Ka-band for EIRP/BW of -11.56 dBW/40KHz to Input and
 40.86 dBW/40KHz in the Output of AL-7107-Ka Antenna at 28.30 GHz in Az LHCP
 Min BW of 6.60 MHz in case of 20W BUC**



Configuration	Regulation		Antenna Gain dBi	Input EIRPsd dBW/40KHz	Peak Excursions dB		Over Mask %
	EIRP/BW [dBW/40KHz]				\pm (2° to 7°)	\pm (2° to 9.2°)	
AL-7107-Ka, 28.30 GHz, X-pol, Az LHCP	'FCC 25.138' X-pol Azimuth (Ka-band)		52.42	-11.56	0.00	0.00	0.00

Orbit Communication Systems Ltd.

AL-7107-Ka, 2.15 m Antenna, EIRPsd Data Table
Co-pol Azimuth RHCP, -180° to +180° @ 1.0° increment

28.30 GHz @ -12.42 dBW / 40 kHz in Co-pol Az RHCP

Angle Degrees	EIRPsd dBW/40kHz	Mask dBW/40kHz	Over Mask dB
-179.0	-34.9	-10.5	-24.4
-178.0	-36.9	-10.5	-26.4
-177.0	-30.3	-10.5	-19.8
-176.0	-39.1	-10.5	-28.6
-175.0	-30.1	-10.5	-19.6
-174.0	-39.1	-10.5	-28.6
-173.0	-33.4	-10.5	-22.9
-172.0	-35.9	-10.5	-25.4
-171.0	-30.3	-10.5	-19.8
-170.0	-39.1	-10.5	-28.6
-169.0	-37.1	-10.5	-26.6
-168.0	-31.1	-10.5	-20.6
-167.0	-32.1	-10.5	-21.6
-166.0	-31.7	-10.5	-21.2
-165.0	-37.3	-10.5	-26.8
-164.0	-39.1	-10.5	-28.6
-163.0	-38.3	-10.5	-27.8
-162.0	-34.0	-10.5	-23.5
-161.0	-34.3	-10.5	-23.8
-160.0	-34.3	-10.5	-23.8
-159.0	-37.1	-10.5	-26.6
-158.0	-34.5	-10.5	-24.0
-157.0	-39.1	-10.5	-28.6
-156.0	-35.5	-10.5	-25.0
-155.0	-28.4	-10.5	-17.9
-154.0	-35.5	-10.5	-25.0
-153.0	-38.2	-10.5	-27.7
-152.0	-30.2	-10.5	-19.7
-151.0	-26.3	-10.5	-15.8
-150.0	-25.4	-10.5	-14.9
-149.0	-27.4	-10.5	-16.9
-148.0	-39.1	-10.5	-28.6
-147.0	-30.2	-10.5	-19.7
-146.0	-29.0	-10.5	-18.5
-145.0	-33.2	-10.5	-22.7
-144.0	-28.8	-10.5	-18.3
-143.0	-30.4	-10.5	-19.9
-142.0	-28.1	-10.5	-17.6
-141.0	-23.8	-10.5	-13.3
-140.0	-27.3	-10.5	-16.8
-139.0	-33.7	-10.5	-23.2
-138.0	-35.7	-10.5	-25.2
-137.0	-29.1	-10.5	-18.6
-136.0	-32.4	-10.5	-21.9
-135.0	-32.4	-10.5	-21.9
-134.0	-36.9	-10.5	-26.4
-133.0	-37.1	-10.5	-26.6
-132.0	-39.1	-10.5	-28.6
-131.0	-39.1	-10.5	-28.6
-130.0	-35.0	-10.5	-24.5
-129.0	-30.6	-10.5	-20.1
-128.0	-39.1	-10.5	-28.6
-127.0	-35.1	-10.5	-24.6
-126.0	-30.1	-10.5	-19.6
-125.0	-39.1	-10.5	-28.6
-124.0	-30.5	-10.5	-20.0
-123.0	-38.6	-10.5	-28.1
-122.0	-28.1	-10.5	-17.6
-121.0	-31.9	-10.5	-21.4
-120.0	-34.8	-10.5	-24.3

28.30 GHz @ -12.42 dBW / 40 kHz in Co-pol Az RHCP

Angle Degrees	EIRPsd dBW/40kHz	Mask dBW/40kHz	Over Mask dB
0.0	40.9		
1.0	5.5		
2.0	-1.0	11.0	-12.0
3.0	-11.1	6.6	-17.7
4.0	-19.4	3.4	-22.9
5.0	-12.8	1.0	-13.8
6.0	-21.7	-1.0	-20.7
7.0	-11.6	-2.6	-9.0
8.0	-14.4	-2.6	-11.8
9.0	-21.6	-2.6	-19.0
10.0	-15.1	-3.5	-11.6
11.0	-13.1	-4.5	-8.6
12.0	-15.0	-5.5	-9.5
13.0	-17.1	-6.3	-10.7
14.0	-25.2	-7.2	-18.0
15.0	-19.6	-7.9	-11.7
16.0	-28.0	-8.6	-19.4
17.0	-38.0	-9.3	-28.7
18.0	-25.8	-9.9	-16.0
19.0	-19.8	-10.5	-9.4
20.0	-28.5	-11.0	-17.4
21.0	-29.7	-11.6	-18.1
22.0	-17.5	-12.1	-5.4
23.0	-19.6	-12.5	-7.0
24.0	-21.8	-13.0	-8.8
25.0	-26.5	-13.4	-13.0
26.0	-20.5	-13.9	-6.6
27.0	-18.9	-14.3	-4.6
28.0	-20.2	-14.7	-5.5
29.0	-19.1	-15.1	-4.0
30.0	-19.9	-15.4	-4.5
31.0	-18.0	-15.8	-2.2
32.0	-17.0	-16.1	-0.8
33.0	-15.5	-16.5	1.0
34.0	-17.1	-16.8	-0.3
35.0	-19.7	-17.1	-2.6
36.0	-16.1	-17.4	1.3
37.0	-19.2	-17.7	-1.5
38.0	-16.6	-18.0	1.4
39.0	-18.6	-18.3	-0.3
40.0	-19.6	-18.6	-1.0
41.0	-22.1	-18.8	-3.2
42.0	-21.0	-19.1	-1.9
43.0	-22.7	-19.3	-3.4
44.0	-21.8	-19.6	-2.2
45.0	-20.5	-19.8	-0.6
46.0	-18.3	-20.1	1.8
47.0	-20.8	-20.3	-0.5
48.0	-26.7	-20.5	-6.2
49.0	-25.4	-10.5	-14.9
50.0	-24.1	-10.5	-13.6
51.0	-22.4	-10.5	-11.9
52.0	-21.9	-10.5	-11.4
53.0	-25.2	-10.5	-14.7
54.0	-25.7	-10.5	-15.2
55.0	-33.7	-10.5	-23.2
56.0	-28.9	-10.5	-18.4
57.0	-27.0	-10.5	-16.5
58.0	-27.2	-10.5	-16.7
59.0	-31.0	-10.5	-20.5

Orbit Communication Systems Ltd.
AL-7107-Ka, 2.15 m Antenna, EIRPsd Data Table
Co-pol Azimuth RHCP, -180° to +180° @ 1.0° increment

-119.0	-31.8	-10.5	-21.3
-118.0	-34.0	-10.5	-23.5
-117.0	-32.8	-10.5	-22.3
-116.0	-33.8	-10.5	-23.3
-115.0	-31.7	-10.5	-21.2
-114.0	-30.9	-10.5	-20.4
-113.0	-38.9	-10.5	-28.4
-112.0	-37.4	-10.5	-26.9
-111.0	-28.3	-10.5	-17.8
-110.0	-30.8	-10.5	-20.3
-109.0	-29.6	-10.5	-19.1
-108.0	-26.0	-10.5	-15.5
-107.0	-34.1	-10.5	-23.6
-106.0	-38.0	-10.5	-27.5
-105.0	-33.9	-10.5	-23.4
-104.0	-33.8	-10.5	-23.3
-103.0	-35.4	-10.5	-24.9
-102.0	-34.0	-10.5	-23.5
-101.0	-38.9	-10.5	-28.4
-100.0	-27.7	-10.5	-17.2
-99.0	-26.6	-10.5	-16.1
-98.0	-29.4	-10.5	-18.9
-97.0	-31.1	-10.5	-20.6
-96.0	-22.7	-10.5	-12.2
-95.0	-25.6	-10.5	-15.1
-94.0	-29.4	-10.5	-18.9
-93.0	-30.7	-10.5	-20.2
-92.0	-27.5	-10.5	-17.0
-91.0	-26.4	-10.5	-15.9
-90.0	-26.5	-10.5	-16.0
-89.0	-26.9	-10.5	-16.4
-88.0	-32.0	-10.5	-21.5
-87.0	-24.9	-10.5	-14.4
-86.0	-25.9	-10.5	-15.4
-85.0	-26.0	-10.5	-15.5
-84.0	-26.7	-10.5	-16.2
-83.0	-26.2	-10.5	-15.7
-82.0	-24.7	-10.5	-14.2
-81.0	-28.1	-10.5	-17.6
-80.0	-21.9	-10.5	-11.4
-79.0	-21.6	-10.5	-11.1
-78.0	-21.5	-10.5	-11.0
-77.0	-24.5	-10.5	-14.0
-76.0	-24.5	-10.5	-14.0
-75.0	-23.0	-10.5	-12.5
-74.0	-23.3	-10.5	-12.8
-73.0	-22.6	-10.5	-12.1
-72.0	-20.5	-10.5	-10.0
-71.0	-19.8	-10.5	-9.3
-70.0	-17.9	-10.5	-7.4
-69.0	-18.0	-10.5	-7.5
-68.0	-15.9	-10.5	-5.4
-67.0	-18.2	-10.5	-7.7
-66.0	-17.7	-10.5	-7.2
-65.0	-18.6	-10.5	-8.1
-64.0	-18.9	-10.5	-8.4
-63.0	-19.9	-10.5	-9.4
-62.0	-20.7	-10.5	-10.2
-61.0	-21.3	-10.5	-10.8
-60.0	-20.4	-10.5	-9.9
-59.0	-21.8	-10.5	-11.3
-58.0	-22.6	-10.5	-12.1
-57.0	-26.3	-10.5	-15.8

60.0	-29.3	-10.5	-18.8
61.0	-38.0	-10.5	-27.5
62.0	-32.0	-10.5	-21.5
63.0	-24.3	-10.5	-13.8
64.0	-31.0	-10.5	-20.5
65.0	-23.7	-10.5	-13.2
66.0	-31.6	-10.5	-21.1
67.0	-30.4	-10.5	-19.9
68.0	-37.4	-10.5	-26.9
69.0	-27.6	-10.5	-17.1
70.0	-36.1	-10.5	-25.6
71.0	-36.6	-10.5	-26.1
72.0	-34.6	-10.5	-24.1
73.0	-27.5	-10.5	-17.0
74.0	-31.6	-10.5	-21.1
75.0	-31.0	-10.5	-20.5
76.0	-33.2	-10.5	-22.7
77.0	-32.5	-10.5	-22.0
78.0	-39.1	-10.5	-28.6
79.0	-34.7	-10.5	-24.2
80.0	-38.6	-10.5	-28.1
81.0	-38.0	-10.5	-27.5
82.0	-33.9	-10.5	-23.4
83.0	-39.1	-10.5	-28.6
84.0	-34.1	-10.5	-23.6
85.0	-39.1	-10.5	-28.6
86.0	-29.9	-10.5	-19.4
87.0	-36.8	-10.5	-26.3
88.0	-35.4	-10.5	-24.9
89.0	-39.1	-10.5	-28.6
90.0	-34.7	-10.5	-24.2
91.0	-34.2	-10.5	-23.7
92.0	-37.1	-10.5	-26.6
93.0	-39.1	-10.5	-28.6
94.0	-39.1	-10.5	-28.6
95.0	-33.4	-10.5	-22.9
96.0	-31.7	-10.5	-21.2
97.0	-33.2	-10.5	-22.7
98.0	-30.6	-10.5	-20.1
99.0	-35.4	-10.5	-24.9
100.0	-38.7	-10.5	-28.2
101.0	-33.6	-10.5	-23.1
102.0	-30.3	-10.5	-19.8
103.0	-34.8	-10.5	-24.3
104.0	-39.1	-10.5	-28.6
105.0	-39.1	-10.5	-28.6
106.0	-39.1	-10.5	-28.6
107.0	-33.4	-10.5	-22.9
108.0	-32.5	-10.5	-22.0
109.0	-35.0	-10.5	-24.5
110.0	-39.1	-10.5	-28.6
111.0	-31.7	-10.5	-21.2
112.0	-39.1	-10.5	-28.6
113.0	-39.1	-10.5	-28.6
114.0	-33.3	-10.5	-22.8
115.0	-32.8	-10.5	-22.3
116.0	-36.1	-10.5	-25.6
117.0	-37.4	-10.5	-26.9
118.0	-35.4	-10.5	-24.9
119.0	-33.9	-10.5	-23.4
120.0	-35.0	-10.5	-24.5
121.0	-32.0	-10.5	-21.5
122.0	-38.4	-10.5	-27.9

Orbit Communication Systems Ltd.
 AL-7107-Ka, 2.15 m Antenna, EIRPsd Data Table
 Co-pol Azimuth RHCP, -180° to +180° @ 1.0° increment

-56.0	-26.9	-10.5	-16.4
-55.0	-26.3	-10.5	-15.8
-54.0	-27.8	-10.5	-17.3
-53.0	-25.8	-10.5	-15.3
-52.0	-29.8	-10.5	-19.3
-51.0	-27.3	-10.5	-16.8
-50.0	-29.7	-10.5	-19.2
-49.0	-25.9	-10.5	-15.4
-48.0	-26.2	-20.5	-5.7
-47.0	-32.3	-20.3	-12.0
-46.0	-29.4	-20.1	-9.4
-45.0	-30.7	-19.8	-10.9
-44.0	-28.1	-19.6	-8.5
-43.0	-28.7	-19.3	-9.4
-42.0	-28.3	-19.1	-9.2
-41.0	-22.3	-18.8	-3.5
-40.0	-39.1	-18.6	-20.6
-39.0	-28.8	-18.3	-10.5
-38.0	-27.9	-18.0	-9.9
-37.0	-31.8	-17.7	-14.1
-36.0	-27.2	-17.4	-9.8
-35.0	-34.4	-17.1	-17.3
-34.0	-30.0	-16.8	-13.2
-33.0	-36.8	-16.5	-20.4
-32.0	-27.7	-16.1	-11.6
-31.0	-27.6	-15.8	-11.8
-30.0	-31.7	-15.4	-16.3
-29.0	-31.8	-15.1	-16.7
-28.0	-30.8	-14.7	-16.1
-27.0	-33.3	-14.3	-19.0
-26.0	-23.4	-13.9	-9.5
-25.0	-30.4	-13.4	-16.9
-24.0	-29.2	-13.0	-16.2
-23.0	-31.3	-12.5	-18.8
-22.0	-29.0	-12.1	-17.0
-21.0	-34.2	-11.6	-22.7
-20.0	-35.8	-11.0	-24.8
-19.0	-29.5	-10.5	-19.0
-18.0	-28.5	-9.9	-18.6
-17.0	-26.2	-9.3	-16.9
-16.0	-35.7	-8.6	-27.1
-15.0	-39.1	-7.9	-31.2
-14.0	-21.8	-7.2	-14.7
-13.0	-26.4	-6.3	-20.0
-12.0	-18.9	-5.5	-13.4
-11.0	-22.5	-4.5	-18.0
-10.0	-19.5	-3.5	-16.0
-9.0	-28.5	-2.6	-25.9
-8.0	-22.9	-2.6	-20.3
-7.0	-12.4	-2.6	-9.7
-6.0	-12.7	-1.0	-11.7
-5.0	-6.6	1.0	-7.6
-4.0	-2.1	3.4	-5.6
-3.0	-6.6	6.6	-13.2
-2.0	0.9	11.0	-10.1
-1.0	9.2		
0.0	40.9		

123.0	-33.0	-10.5	-22.5
124.0	-39.1	-10.5	-28.6
125.0	-32.6	-10.5	-22.1
126.0	-39.1	-10.5	-28.6
127.0	-39.1	-10.5	-28.6
128.0	-39.1	-10.5	-28.6
129.0	-34.7	-10.5	-24.2
130.0	-34.6	-10.5	-24.1
131.0	-30.8	-10.5	-20.3
132.0	-39.1	-10.5	-28.6
133.0	-37.4	-10.5	-26.9
134.0	-37.8	-10.5	-27.3
135.0	-34.0	-10.5	-23.5
136.0	-33.6	-10.5	-23.1
137.0	-36.7	-10.5	-26.2
138.0	-33.8	-10.5	-23.3
139.0	-39.1	-10.5	-28.6
140.0	-36.3	-10.5	-25.8
141.0	-35.5	-10.5	-25.0
142.0	-38.8	-10.5	-28.3
143.0	-37.9	-10.5	-27.4
144.0	-35.1	-10.5	-24.6
145.0	-37.7	-10.5	-27.2
146.0	-39.1	-10.5	-28.6
147.0	-39.1	-10.5	-28.6
148.0	-37.9	-10.5	-27.4
149.0	-35.0	-10.5	-24.5
150.0	-37.0	-10.5	-26.5
151.0	-39.1	-10.5	-28.6
152.0	-39.1	-10.5	-28.6
153.0	-33.7	-10.5	-23.2
154.0	-39.1	-10.5	-28.6
155.0	-39.1	-10.5	-28.6
156.0	-38.0	-10.5	-27.5
157.0	-39.1	-10.5	-28.6
158.0	-39.1	-10.5	-28.6
159.0	-35.5	-10.5	-25.0
160.0	-33.7	-10.5	-23.2
161.0	-31.0	-10.5	-20.5
162.0	-30.0	-10.5	-19.5
163.0	-37.2	-10.5	-26.7
164.0	-31.6	-10.5	-21.1
165.0	-35.0	-10.5	-24.5
166.0	-32.6	-10.5	-22.1
167.0	-39.1	-10.5	-28.6
168.0	-34.3	-10.5	-23.8
169.0	-35.5	-10.5	-25.0
170.0	-30.0	-10.5	-19.5
171.0	-34.1	-10.5	-23.6
172.0	-35.1	-10.5	-24.6
173.0	-34.1	-10.5	-23.6
174.0	-39.1	-10.5	-28.6
175.0	-39.1	-10.5	-28.6
176.0	-38.7	-10.5	-28.2
177.0	-38.8	-10.5	-28.3
178.0	-35.2	-10.5	-24.7
179.0	-35.5	-10.5	-25.0

Orbit Communication Systems Ltd.

AL AL-7107-Ka, 2.15 m Antenna, EIRPsd Data Table
Co-pol Azimuth RHCP, -10° to +10° @ 0.1° increment

28.30 GHz @ -12.42 dBW / 40 kHz in Co-pol Az RHCP

Angle	EIRPsd	Mask	Over Mask
Degrees	dBW/40kHz	dBW/40kHz	dB
-10.0	-20.0	-3.5	-16.5
-9.9	-18.2	-3.4	-14.8
-9.8	-17.8	-3.3	-14.6
-9.7	-18.0	-3.2	-14.8
-9.6	-20.3	-3.1	-17.3
-9.5	-19.9	-2.9	-16.9
-9.4	-17.1	-2.8	-14.3
-9.3	-15.6	-2.7	-12.9
-9.2	-16.1	-2.6	-13.5
-9.1	-23.7	-2.6	-21.1
-9.0	-20.3	-2.6	-17.7
-8.9	-17.2	-2.6	-14.6
-8.8	-17.2	-2.6	-14.6
-8.7	-19.5	-2.6	-16.9
-8.6	-19.5	-2.6	-16.9
-8.5	-16.3	-2.6	-13.7
-8.4	-15.7	-2.6	-13.1
-8.3	-16.1	-2.6	-13.5
-8.2	-15.5	-2.6	-12.9
-8.1	-16.5	-2.6	-13.9
-8.0	-16.9	-2.6	-14.3
-7.9	-18.7	-2.6	-16.1
-7.8	-18.6	-2.6	-16.0
-7.7	-17.1	-2.6	-14.4
-7.6	-15.8	-2.6	-13.2
-7.5	-18.8	-2.6	-16.2
-7.4	-21.4	-2.6	-18.8
-7.3	-16.4	-2.6	-13.8
-7.2	-21.4	-2.6	-18.8
-7.1	-17.5	-2.6	-14.9
-7.0	-10.5	-2.6	-7.8
-6.9	-7.8	-2.5	-5.3
-6.8	-6.7	-2.3	-4.4
-6.7	-6.2	-2.2	-4.1
-6.6	-7.3	-2.0	-5.3
-6.5	-9.1	-1.8	-7.3
-6.4	-12.9	-1.7	-11.3
-6.3	-15.7	-1.5	-14.2
-6.2	-13.4	-1.3	-12.0
-6.1	-13.4	-1.1	-12.3
-6.0	-16.7	-1.0	-15.7
-5.9	-16.2	-0.8	-15.4
-5.8	-13.7	-0.6	-13.2
-5.7	-13.4	-0.4	-13.0
-5.6	-17.9	-0.2	-17.7
-5.5	-19.7	0.0	-19.7
-5.4	-13.5	0.2	-13.7
-5.3	-13.6	0.4	-14.0
-5.2	-16.6	0.6	-17.2
-5.1	-10.0	0.8	-10.8
-5.0	-8.7	1.0	-9.7
-4.9	-11.5	1.2	-12.7
-4.8	-17.5	1.5	-19.0
-4.7	-14.0	1.7	-15.7
-4.6	-7.9	1.9	-9.9
-4.5	-5.9	2.2	-8.1
-4.4	-7.8	2.4	-10.2
-4.3	-16.4	2.7	-19.0
-4.2	-18.4	2.9	-21.3
-4.1	-7.1	3.2	-10.3

28.30 GHz @ -12.42 dBW / 40 kHz in Co-pol Az RHCP

Angle	EIRPsd	Mask	Over Mask
Degrees	dBW/40kHz	dBW/40kHz	dB
0.0	40.0		
0.1	39.2		
0.2	36.6		
0.3	32.0		
0.4	26.0		
0.5	20.5		
0.6	15.4		
0.7	16.1		
0.8	16.8		
0.9	12.8		
1.0	-2.9		
1.1	7.1		
1.2	6.8		
1.3	-3.1		
1.4	-3.2		
1.5	-5.3		
1.6	0.0		
1.7	3.8		
1.8	2.6		
1.9	-1.5		
2.0	-1.5	11.0	-12.5
2.1	-3.0	10.4	-13.5
2.2	-9.9	9.9	-19.8
2.3	-6.4	9.5	-15.9
2.4	-4.8	9.0	-13.8
2.5	-4.5	8.6	-13.0
2.6	-5.5	8.1	-13.6
2.7	-11.1	7.7	-18.8
2.8	-15.2	7.3	-22.5
2.9	-13.2	6.9	-20.1
3.0	-10.4	6.6	-17.0
3.1	-6.8	6.2	-13.0
3.2	-6.4	5.9	-12.3
3.3	-9.7	5.5	-15.2
3.4	-12.8	5.2	-18.0
3.5	-19.9	4.9	-24.8
3.6	-11.5	4.6	-16.1
3.7	-7.6	4.3	-11.9
3.8	-8.4	4.0	-12.4
3.9	-17.8	3.7	-21.5
4.0	-20.2	3.4	-23.7
4.1	-16.3	3.2	-19.5
4.2	-18.4	2.9	-21.3
4.3	-11.1	2.7	-13.8
4.4	-8.7	2.4	-11.1
4.5	-7.7	2.2	-9.8
4.6	-7.1	1.9	-9.0
4.7	-9.7	1.7	-11.4
4.8	-18.6	1.5	-20.0
4.9	-17.9	1.2	-19.2
5.0	-17.2	1.0	-18.2
5.1	-18.4	0.8	-19.2
5.2	-14.0	0.6	-14.6
5.3	-14.9	0.4	-15.3
5.4	-21.5	0.2	-21.7
5.5	-16.7	0.0	-16.7
5.6	-11.6	-0.2	-11.4
5.7	-10.9	-0.4	-10.5
5.8	-11.6	-0.6	-11.1
5.9	-14.4	-0.8	-13.6

Orbit Communication Systems Ltd.

AL AL-7107-Ka, 2.15 m Antenna, EIRPsd Data Table
 Co-pol Azimuth RHCP, -10° to +10° @ 0.1° increment

-4.0	-2.0	3.4	-5.5
-3.9	-0.9	3.7	-4.6
-3.8	-2.9	4.0	-6.9
-3.7	-11.9	4.3	-16.2
-3.6	-4.7	4.6	-9.3
-3.5	-2.5	4.9	-7.4
-3.4	-4.8	5.2	-10.0
-3.3	-10.1	5.5	-15.6
-3.2	-5.4	5.9	-11.3
-3.1	-4.5	6.2	-10.7
-3.0	-5.7	6.6	-12.2
-2.9	-3.3	6.9	-10.2
-2.8	-2.0	7.3	-9.3
-2.7	-4.4	7.7	-12.1
-2.6	-14.4	8.1	-22.6
-2.5	-16.7	8.6	-25.2
-2.4	-15.0	9.0	-24.0
-2.3	-7.8	9.5	-17.2
-2.2	-6.7	9.9	-16.7
-2.1	-3.7	10.4	-14.2
-2.0	-0.1	11.0	-11.1
-1.9	-0.3		
-1.8	-6.1		
-1.7	-2.6		
-1.6	-2.1		
-1.5	-8.2		
-1.4	3.5		
-1.3	5.8		
-1.2	6.2		
-1.1	6.9		
-1.0	5.7		
-0.9	5.2		
-0.8	8.8		
-0.7	7.8		
-0.6	9.5		
-0.5	21.5		
-0.4	29.0		
-0.3	34.5		
-0.2	38.0		
-0.1	39.8		
0.0	40.0		

6.0	-21.6	-1.0	-20.6
6.1	-15.9	-1.1	-14.8
6.2	-11.5	-1.3	-10.2
6.3	-11.0	-1.5	-9.6
6.4	-10.6	-1.7	-8.9
6.5	-11.6	-1.8	-9.8
6.6	-13.1	-2.0	-11.1
6.7	-13.2	-2.2	-11.0
6.8	-12.3	-2.3	-10.0
6.9	-11.9	-2.5	-9.5
7.0	-12.8	-2.6	-10.2
7.1	-15.4	-2.6	-12.8
7.2	-25.7	-2.6	-23.1
7.3	-20.7	-2.6	-18.1
7.4	-16.4	-2.6	-13.7
7.5	-17.0	-2.6	-14.4
7.6	-18.9	-2.6	-16.3
7.7	-17.0	-2.6	-14.3
7.8	-14.6	-2.6	-12.0
7.9	-13.9	-2.6	-11.3
8.0	-14.2	-2.6	-11.6
8.1	-16.2	-2.6	-13.6
8.2	-23.6	-2.6	-20.9
8.3	-19.6	-2.6	-17.0
8.4	-16.8	-2.6	-14.2
8.5	-16.6	-2.6	-14.0
8.6	-17.4	-2.6	-14.8
8.7	-17.4	-2.6	-14.8
8.8	-18.8	-2.6	-16.2
8.9	-20.3	-2.6	-17.7
9.0	-21.6	-2.6	-18.9
9.1	-22.3	-2.6	-19.6
9.2	-23.1	-2.6	-20.5
9.3	-29.8	-2.7	-27.1
9.4	-27.1	-2.8	-24.2
9.5	-19.1	-2.9	-16.1
9.6	-17.5	-3.1	-14.5
9.7	-17.2	-3.2	-14.0
9.8	-17.4	-3.3	-14.2
9.9	-17.8	-3.4	-14.4
10.0	-18.2	-3.5	-14.7

Orbit Communication Systems Ltd.

AL-7107-Ka, 2.15 m Antenna, EIRPsd Data Table
Co-pol Elevation RHCP, -30° to +30° @ 0.5° increment

28.30 GHz @ -12.42 dBW / 40 kHz in Co-pol EI RHCP

Angle	EIRPsd	Mask	Over Mask
Degrees	dBW/40kHz	dBW/40kHz	dB
-30.0	-20.5	-12.4	-8.0
-29.5	-19.8	-12.2	-7.5
-29.0	-22.7	-12.1	-10.7
-28.5	-21.0	-11.9	-9.1
-28.0	-22.1	-11.7	-10.4
-27.5	-22.9	-11.5	-11.4
-27.0	-26.2	-11.3	-14.9
-26.5	-23.3	-11.1	-12.2
-26.0	-24.7	-10.9	-13.8
-25.5	-22.7	-10.7	-12.0
-25.0	-18.6	-10.4	-8.2
-24.5	-18.5	-10.2	-8.3
-24.0	-17.8	-10.0	-7.8
-23.5	-28.0	-9.8	-18.2
-23.0	-30.6	-9.5	-21.1
-22.5	-20.6	-9.3	-11.3
-22.0	-17.2	-9.1	-8.2
-21.5	-16.5	-8.8	-7.7
-21.0	-25.4	-8.6	-16.8
-20.5	-17.3	-8.3	-9.0
-20.0	-17.6	-8.0	-9.6
-19.5	-13.1	-7.8	-5.4
-19.0	-13.1	-7.5	-5.7
-18.5	-14.4	-7.2	-7.2
-18.0	-26.0	-6.9	-19.1
-17.5	-35.1	-6.6	-28.5
-17.0	-26.7	-6.3	-20.4
-16.5	-25.9	-5.9	-20.0
-16.0	-29.9	-5.6	-24.3
-15.5	-25.1	-5.3	-19.8
-15.0	-20.7	-4.9	-15.8
-14.5	-28.5	-4.5	-24.0
-14.0	-13.6	-4.2	-9.5
-13.5	-18.3	-3.8	-14.5
-13.0	-21.3	-3.3	-17.9
-12.5	-23.4	-2.9	-20.5
-12.0	-18.1	-2.5	-15.6
-11.5	-17.6	-2.0	-15.6
-11.0	-24.6	-1.5	-23.0
-10.5	-21.9	-1.0	-20.8
-10.0	-18.1	-0.5	-17.6
-9.5	-18.2	0.1	-18.2
-9.0	-14.3	0.4	-14.7
-8.5	-20.0	0.4	-20.4
-8.0	-13.9	0.4	-14.3
-7.5	-21.6	0.4	-22.0
-7.0	-13.6	0.4	-13.9
-6.5	-17.3	1.2	-18.5
-6.0	-12.7	2.0	-14.7
-5.5	-13.2	3.0	-16.2
-5.0	-10.1	4.0	-14.1
-4.5	-10.1	5.2	-15.2
-4.0	-8.7	6.4	-15.1
-3.5	-6.9	7.9	-14.8
-3.0	-1.0		
-2.5	-2.2		
-2.0	-3.5		
-1.5	6.3		
-1.0	9.6		
-0.5	24.1		
0.0	40.9		

28.30 GHz @ -12.42 dBW / 40 kHz in Co-pol EI RHCP

Angle	EIRPsd	Mask	Over Mask
Degrees	dBW/40kHz	dBW/40kHz	dB
0.0	40.9		
0.5	26.4		
1.0	5.2		
1.5	-1.9		
2.0	-6.2		
2.5	-1.5		
3.0	-4.1		
3.5	-3.1	7.9	-11.0
4.0	1.4	6.4	-5.1
4.5	-12.5	5.2	-17.7
5.0	-4.3	4.0	-8.3
5.5	-24.0	3.0	-27.0
6.0	-13.4	2.0	-15.4
6.5	-10.7	1.2	-11.9
7.0	-13.4	0.4	-13.8
7.5	-23.6	0.4	-23.9
8.0	-26.1	0.4	-26.5
8.5	-13.1	0.4	-13.4
9.0	-14.4	0.4	-14.8
9.5	-21.3	0.1	-21.4
10.0	-11.7	-0.5	-11.2
10.5	-16.2	-1.0	-15.2
11.0	-19.7	-1.5	-18.2
11.5	-24.7	-2.0	-22.7
12.0	-24.7	-2.5	-22.2
12.5	-17.5	-2.9	-14.6
13.0	-15.9	-3.3	-12.5
13.5	-20.5	-3.8	-16.7
14.0	-29.0	-4.2	-24.9
14.5	-24.3	-4.5	-19.7
15.0	-23.6	-4.9	-18.7
15.5	-26.7	-5.3	-21.5
16.0	-30.0	-5.6	-24.4
16.5	-28.2	-5.9	-22.3
17.0	-27.0	-6.3	-20.7
17.5	-34.1	-6.6	-27.5
18.0	-25.1	-6.9	-18.2
18.5	-28.5	-7.2	-21.3
19.0	-23.7	-7.5	-16.2
19.5	-24.4	-7.8	-16.7
20.0	-29.7	-8.0	-21.7
20.5	-23.6	-8.3	-15.3
21.0	-37.9	-8.6	-29.4
21.5	-38.4	-8.8	-29.6
22.0	-30.2	-9.1	-21.1
22.5	-24.4	-9.3	-15.1
23.0	-27.6	-9.5	-18.0
23.5	-26.5	-9.8	-16.7
24.0	-33.1	-10.0	-23.1
24.5	-31.5	-10.2	-21.2
25.0	-26.9	-10.4	-16.5
25.5	-30.8	-10.7	-20.1
26.0	-39.1	-10.9	-28.3
26.5	-31.4	-11.1	-20.3
27.0	-32.1	-11.3	-20.8
27.5	-27.3	-11.5	-15.8
28.0	-25.8	-11.7	-14.2
28.5	-29.1	-11.9	-17.3
29.0	-29.1	-12.1	-17.0
29.5	-26.9	-12.2	-14.6
30.0	-36.1	-12.4	-23.7

Orbit Communication Systems Ltd.
AL-7107-Ka, 2.15 m Antenna, EIRPsd Data Table
Co-pol Elevation RHCP, -10° to +10° @ 0.1° increment

28.30 GHz @ -12.42 dBW / 40 kHz in Co-pol EI RHCP

Angle Degrees	EIRPsd dBW/40kHz	Mask dBW/40kHz	Over Mask dB
-10.0	-25.6	-0.5	-25.1
-9.9	-22.2	-0.4	-21.8
-9.8	-19.4	-0.3	-19.2
-9.7	-18.3	-0.2	-18.1
-9.6	-17.4	-0.1	-17.4
-9.5	-16.6	0.1	-16.7
-9.4	-17.0	0.2	-17.2
-9.3	-21.7	0.3	-22.0
-9.2	-25.2	0.4	-25.6
-9.1	-19.8	0.4	-20.2
-9.0	-15.4	0.4	-15.8
-8.9	-15.5	0.4	-15.8
-8.8	-18.3	0.4	-18.7
-8.7	-24.1	0.4	-24.5
-8.6	-20.6	0.4	-21.0
-8.5	-24.7	0.4	-25.1
-8.4	-29.6	0.4	-29.9
-8.3	-22.5	0.4	-22.8
-8.2	-17.2	0.4	-17.6
-8.1	-14.9	0.4	-15.3
-8.0	-15.5	0.4	-15.9
-7.9	-18.5	0.4	-18.8
-7.8	-27.9	0.4	-28.3
-7.7	-20.1	0.4	-20.4
-7.6	-18.1	0.4	-18.4
-7.5	-21.5	0.4	-21.8
-7.4	-29.9	0.4	-30.3
-7.3	-18.0	0.4	-18.4
-7.2	-13.6	0.4	-14.0
-7.1	-11.6	0.4	-11.9
-7.0	-12.5	0.4	-12.8
-6.9	-23.5	0.5	-24.0
-6.8	-14.1	0.7	-14.8
-6.7	-10.6	0.8	-11.4
-6.6	-13.3	1.0	-14.3
-6.5	-19.7	1.2	-20.9
-6.4	-17.2	1.3	-18.5
-6.3	-15.4	1.5	-16.9
-6.2	-13.5	1.7	-15.2
-6.1	-12.9	1.9	-14.8
-6.0	-13.1	2.0	-15.1
-5.9	-12.9	2.2	-15.1
-5.8	-11.6	2.4	-14.0
-5.7	-13.6	2.6	-16.2
-5.6	-14.9	2.8	-17.7
-5.5	-12.7	3.0	-15.7
-5.4	-15.0	3.2	-18.2
-5.3	-13.1	3.4	-16.5
-5.2	-9.3	3.6	-12.9
-5.1	-8.3	3.8	-12.1
-5.0	-10.4	4.0	-14.4
-4.9	-13.5	4.2	-17.8
-4.8	-15.2	4.5	-19.7
-4.7	-12.6	4.7	-17.3
-4.6	-11.5	4.9	-16.4
-4.5	-11.2	5.2	-16.4
-4.4	-11.2	5.4	-16.6
-4.3	-9.8	5.7	-15.4
-4.2	-7.7	5.9	-13.7
-4.1	-7.7	6.2	-13.9

28.30 GHz @ -12.42 dBW / 40 kHz in Co-pol EI RHCP

Angle Degrees	EIRPsd dBW/40kHz	Mask dBW/40kHz	Over Mask dB
0.0	40.1		
0.1	39.2		
0.2	36.6		
0.3	32.1		
0.4	28.4		
0.5	24.9		
0.6	19.6		
0.7	2.8		
0.8	9.1		
0.9	8.3		
1.0	7.4		
1.1	7.5		
1.2	3.1		
1.3	-7.7		
1.4	-2.3		
1.5	-3.2		
1.6	1.6		
1.7	2.1		
1.8	-0.4		
1.9	-4.2		
2.0	-5.9		
2.1	-4.2		
2.2	-2.4		
2.3	-2.8		
2.4	-2.4		
2.5	-2.3		
2.6	-5.5		
2.7	-12.3		
2.8	-24.2		
2.9	-10.6		
3.0	-5.7		
3.1	-6.2		
3.2	-8.7		
3.3	-5.5		
3.4	-4.7		
3.5	-2.9	7.9	-10.8
3.6	-2.8	7.6	-10.4
3.7	-3.6	7.3	-10.9
3.8	-1.1	7.0	-8.1
3.9	1.0	6.7	-5.7
4.0	0.9	6.4	-5.6
4.1	-0.1	6.2	-6.3
4.2	0.0	5.9	-5.9
4.3	-1.9	5.7	-7.5
4.4	-9.5	5.4	-14.9
4.5	-21.4	5.2	-26.6
4.6	-10.8	4.9	-15.7
4.7	-7.3	4.7	-12.0
4.8	-5.5	4.5	-10.0
4.9	-6.1	4.2	-10.3
5.0	-7.5	4.0	-11.5
5.1	-8.8	3.8	-12.6
5.2	-11.5	3.6	-15.1
5.3	-20.2	3.4	-23.6
5.4	-22.7	3.2	-25.9
5.5	-16.0	3.0	-19.0
5.6	-15.5	2.8	-18.3
5.7	-17.5	2.6	-20.1
5.8	-17.6	2.4	-20.0
5.9	-14.7	2.2	-16.9

Orbit Communication Systems Ltd.
 AL-7107-Ka, 2.15 m Antenna, EIRPsd Data Table
 Co-pol Elevation RHCP, -10° to +10° @ 0.1° increment

-4.0	-10.2	6.4	-16.6
-3.9	-14.0	6.7	-20.7
-3.8	-8.3	7.0	-15.3
-3.7	-6.4	7.3	-13.7
-3.6	-7.4	7.6	-15.0
-3.5	-9.4	7.9	-17.3
-3.4	-13.7		
-3.3	-15.2		
-3.2	-15.5		
-3.1	-16.4		
-3.0	-3.1		
-2.9	1.2		
-2.8	1.3		
-2.7	-1.1		
-2.6	-4.7		
-2.5	-2.4		
-2.4	0.0		
-2.3	1.3		
-2.2	1.4		
-2.1	-0.9		
-2.0	-4.6		
-1.9	-5.9		
-1.8	-7.2		
-1.7	-3.8		
-1.6	3.0		
-1.5	5.5		
-1.4	4.3		
-1.3	3.8		
-1.2	9.4		
-1.1	10.5		
-1.0	7.7		
-0.9	9.1		
-0.8	12.9		
-0.7	17.1		
-0.6	20.4		
-0.5	22.7		
-0.4	27.8		
-0.3	34.0		
-0.2	37.8		
-0.1	39.7		
0.0	40.1		

6.0	-14.7	2.0	-16.8
6.1	-15.8	1.9	-17.7
6.2	-14.3	1.7	-16.0
6.3	-13.7	1.5	-15.2
6.4	-13.0	1.3	-14.4
6.5	-11.9	1.2	-13.0
6.6	-9.6	1.0	-10.6
6.7	-9.9	0.8	-10.7
6.8	-12.0	0.7	-12.7
6.9	-15.6	0.5	-16.1
7.0	-25.8	0.4	-26.2
7.1	-17.2	0.4	-17.5
7.2	-14.7	0.4	-15.0
7.3	-17.0	0.4	-17.4
7.4	-21.5	0.4	-21.9
7.5	-16.2	0.4	-16.5
7.6	-15.2	0.4	-15.6
7.7	-19.5	0.4	-19.9
7.8	-16.3	0.4	-16.7
7.9	-15.9	0.4	-16.2
8.0	-17.4	0.4	-17.8
8.1	-18.1	0.4	-18.4
8.2	-16.7	0.4	-17.0
8.3	-15.4	0.4	-15.8
8.4	-15.1	0.4	-15.5
8.5	-20.4	0.4	-20.8
8.6	-21.3	0.4	-21.7
8.7	-24.1	0.4	-24.5
8.8	-39.9	0.4	-40.3
8.9	-26.5	0.4	-26.9
9.0	-19.9	0.4	-20.3
9.1	-14.6	0.4	-15.0
9.2	-13.6	0.4	-14.0
9.3	-14.5	0.3	-14.8
9.4	-16.5	0.2	-16.7
9.5	-15.9	0.1	-16.0
9.6	-12.9	-0.1	-12.8
9.7	-10.8	-0.2	-10.6
9.8	-10.5	-0.3	-10.2
9.9	-11.3	-0.4	-10.9
10.0	-12.7	-0.5	-12.2

Orbit Communication Systems Ltd.
AL-7107-Ka, 2.15 m Antenna, EIRPsd Data Table
X-pol Azimuth RHCP, -10° to +10° @ 0.1° increment

28.30 GHz @ -12.42 dBW / 40 kHz in X-pol Az RHCP

Angle	EIRPsd	Mask	Over Mask
Degrees	dBW/40kHz	dBW/40kHz	dB
-10.0	-21.7	-12.6	-9.1
-9.9	-21.2	-12.6	-8.5
-9.8	-21.0	-12.6	-8.3
-9.7	-18.6	-12.6	-5.9
-9.6	-18.9	-12.6	-6.3
-9.5	-17.5	-12.6	-4.9
-9.4	-17.9	-12.6	-5.3
-9.3	-18.3	-12.6	-5.7
-9.2	-18.1	-12.6	-5.4
-9.1	-16.9	-12.6	-4.2
-9.0	-18.5	-12.6	-5.9
-8.9	-19.0	-12.6	-6.4
-8.8	-20.5	-12.6	-7.8
-8.7	-17.5	-12.6	-4.9
-8.6	-15.9	-12.6	-3.3
-8.5	-15.5	-12.6	-2.9
-8.4	-16.2	-12.6	-3.6
-8.3	-17.3	-12.6	-4.6
-8.2	-16.4	-12.6	-3.7
-8.1	-16.7	-12.6	-4.1
-8.0	-19.1	-12.6	-6.4
-7.9	-22.4	-12.6	-9.8
-7.8	-20.8	-12.6	-8.1
-7.7	-18.3	-12.6	-5.7
-7.6	-17.8	-12.6	-5.2
-7.5	-17.1	-12.6	-4.5
-7.4	-14.5	-12.6	-1.9
-7.3	-13.6	-12.6	-1.0
-7.2	-14.2	-12.6	-1.6
-7.1	-16.5	-12.6	-3.8
-7.0	-17.5	-12.6	-4.9
-6.9	-17.1	-12.5	-4.6
-6.8	-16.2	-12.3	-3.9
-6.7	-15.7	-12.2	-3.5
-6.6	-16.7	-12.0	-4.7
-6.5	-20.5	-11.8	-8.7
-6.4	-27.5	-11.7	-15.8
-6.3	-25.8	-11.5	-14.3
-6.2	-29.6	-11.3	-18.3
-6.1	-25.5	-11.1	-14.4
-6.0	-18.8	-11.0	-7.9
-5.9	-16.9	-10.8	-6.1
-5.8	-19.1	-10.6	-8.5
-5.7	-30.2	-10.4	-19.8
-5.6	-19.4	-10.2	-9.2
-5.5	-17.4	-10.0	-7.4
-5.4	-18.5	-9.8	-8.6
-5.3	-23.4	-9.6	-13.8
-5.2	-17.1	-9.4	-7.7
-5.1	-14.1	-9.2	-4.9
-5.0	-14.1	-9.0	-5.1
-4.9	-16.3	-8.8	-7.6
-4.8	-36.2	-8.5	-27.7
-4.7	-17.3	-8.3	-9.0
-4.6	-14.9	-8.1	-6.8
-4.5	-16.8	-7.8	-8.9
-4.4	-15.2	-7.6	-7.6
-4.3	-14.2	-7.3	-6.9
-4.2	-19.0	-7.1	-11.9
-4.1	-17.6	-6.8	-10.8

28.30 GHz @ -12.42 dBW / 40 kHz in X-pol Az RHCP

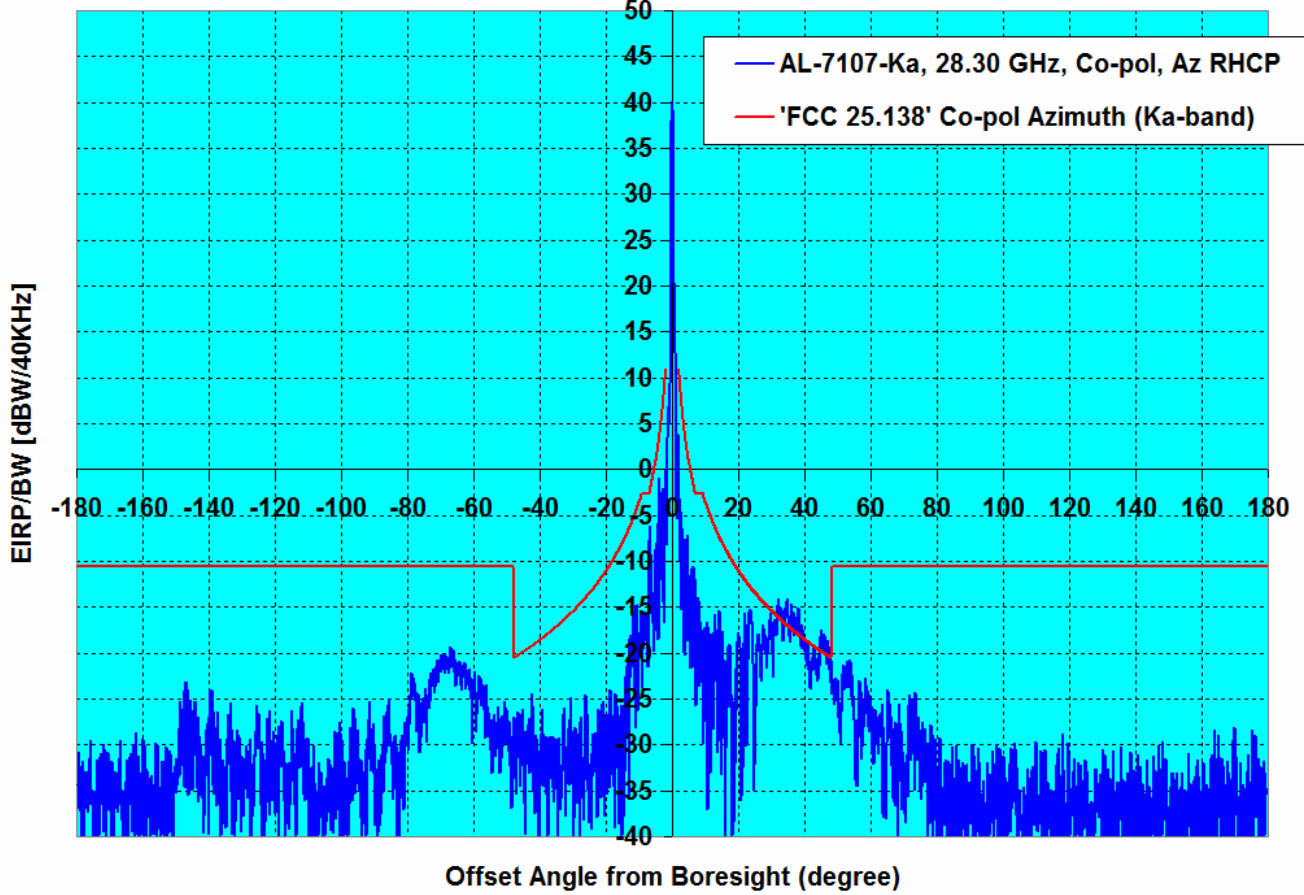
Angle	EIRPsd	Mask	Over Mask
Degrees	dBW/40kHz	dBW/40kHz	dB
0.0	15.2		
0.1	14.4		
0.2	16.2		
0.3	17.7		
0.4	17.2		
0.5	14.9		
0.6	9.5		
0.7	1.3		
0.8	-8.3		
0.9	-2.9		
1.0	2.4		
1.1	1.7		
1.2	-4.9		
1.3	-10.1		
1.4	-5.1		
1.5	-6.4		
1.6	-10.4		
1.7	-12.1		
1.8	-17.4		
1.9	-26.5		
2.0	-19.0	1.0	-20.0
2.1	-18.0	0.4	-18.4
2.2	-23.1	-0.1	-23.0
2.3	-22.9	-0.5	-22.4
2.4	-16.0	-1.0	-15.0
2.5	-15.9	-1.4	-14.4
2.6	-19.8	-1.9	-17.9
2.7	-13.0	-2.3	-10.7
2.8	-11.7	-2.7	-9.0
2.9	-13.0	-3.1	-10.0
3.0	-19.8	-3.4	-16.4
3.1	-23.1	-3.8	-19.4
3.2	-23.3	-4.1	-19.2
3.3	-28.9	-4.5	-24.4
3.4	-20.7	-4.8	-15.9
3.5	-22.4	-5.1	-17.3
3.6	-23.4	-5.4	-18.0
3.7	-21.9	-5.7	-16.2
3.8	-24.6	-6.0	-18.6
3.9	-22.2	-6.3	-15.9
4.0	-19.2	-6.6	-12.6
4.1	-19.7	-6.8	-12.9
4.2	-22.7	-7.1	-15.7
4.3	-23.2	-7.3	-15.8
4.4	-23.7	-7.6	-16.1
4.5	-22.2	-7.8	-14.4
4.6	-18.3	-8.1	-10.3
4.7	-19.4	-8.3	-11.1
4.8	-23.9	-8.5	-15.4
4.9	-26.5	-8.8	-17.7
5.0	-25.1	-9.0	-16.1
5.1	-22.5	-9.2	-13.3
5.2	-23.8	-9.4	-14.4
5.3	-24.4	-9.6	-14.8
5.4	-18.5	-9.8	-8.7
5.5	-17.7	-10.0	-7.7
5.6	-18.5	-10.2	-8.3
5.7	-23.9	-10.4	-13.5
5.8	-25.3	-10.6	-14.7
5.9	-26.5	-10.8	-15.7

Orbit Communication Systems Ltd.
AL-7107-Ka, 2.15 m Antenna, EIRPsd Data Table
X-pol Azimuth RHCP, -10° to +10° @ 0.1° increment

-4.0	-11.3	-6.6	-4.7
-3.9	-11.3	-6.3	-5.0
-3.8	-15.5	-6.0	-9.5
-3.7	-15.5	-5.7	-9.8
-3.6	-14.4	-5.4	-9.0
-3.5	-18.1	-5.1	-13.0
-3.4	-20.2	-4.8	-15.5
-3.3	-18.1	-4.5	-13.6
-3.2	-22.2	-4.1	-18.1
-3.1	-21.8	-3.8	-18.0
-3.0	-15.4	-3.4	-12.0
-2.9	-15.3	-3.1	-12.3
-2.8	-17.7	-2.7	-15.1
-2.7	-18.3	-2.3	-16.0
-2.6	-16.8	-1.9	-15.0
-2.5	-19.4	-1.4	-18.0
-2.4	-15.4	-1.0	-14.4
-2.3	-10.9	-0.5	-10.4
-2.2	-10.0	-0.1	-9.9
-2.1	-8.5	0.4	-8.9
-2.0	-9.5	1.0	-10.5
-1.9	-21.3		
-1.8	-8.1		
-1.7	-4.3		
-1.6	-3.5		
-1.5	-2.6		
-1.4	-2.5		
-1.3	-7.0		
-1.2	-4.4		
-1.1	1.4		
-1.0	2.4		
-0.9	2.3		
-0.8	6.8		
-0.7	11.7		
-0.6	14.4		
-0.5	15.9		
-0.4	15.0		
-0.3	9.9		
-0.2	9.4		
-0.1	14.5		
0.0	15.2		

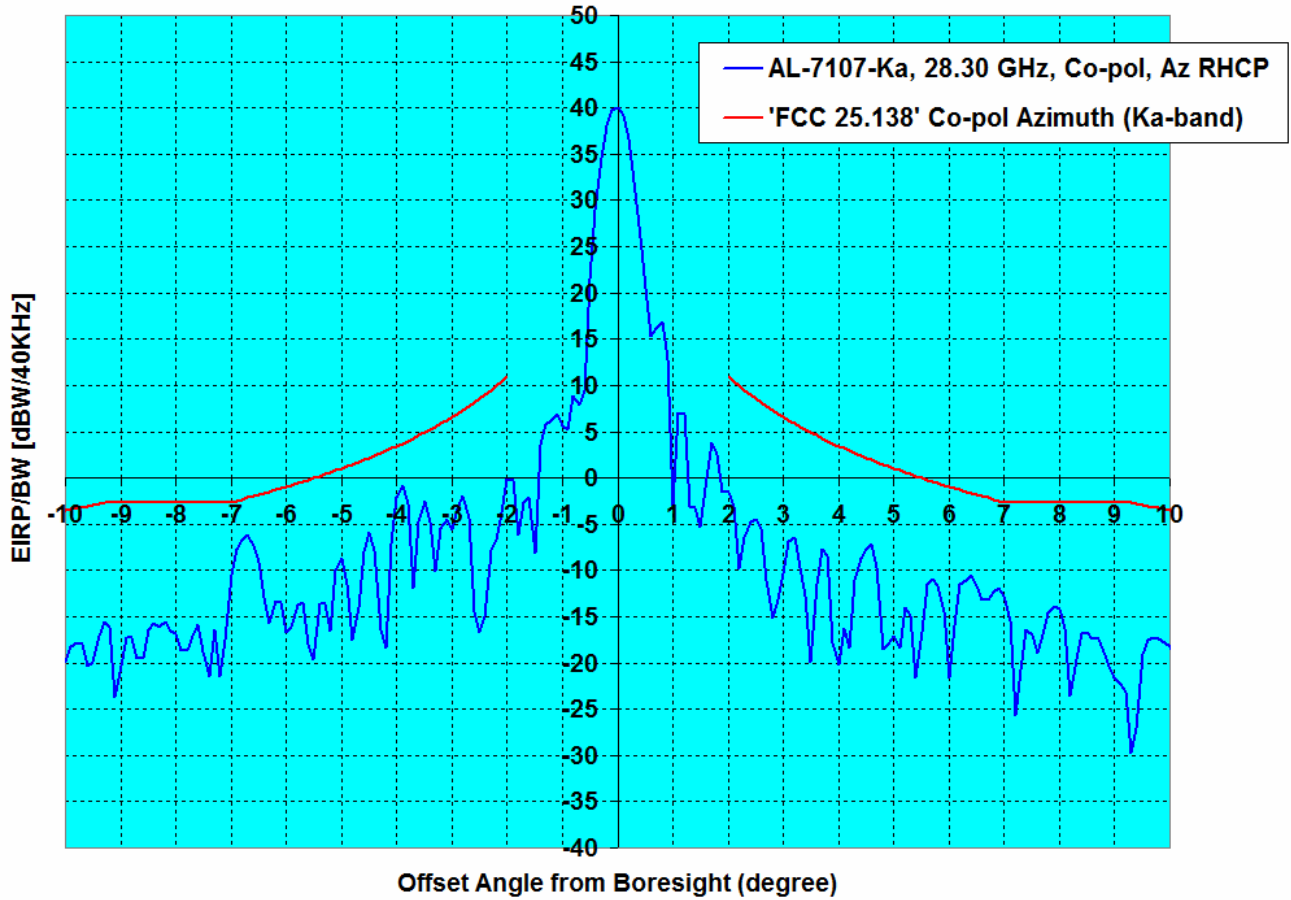
6.0	-30.7	-11.0	-19.8
6.1	-29.5	-11.1	-18.3
6.2	-30.5	-11.3	-19.2
6.3	-26.3	-11.5	-14.8
6.4	-21.2	-11.7	-9.5
6.5	-20.7	-11.8	-8.8
6.6	-21.7	-12.0	-9.7
6.7	-21.2	-12.2	-9.1
6.8	-19.9	-12.3	-7.6
6.9	-18.6	-12.5	-6.2
7.0	-19.7	-12.6	-7.1
7.1	-21.6	-12.6	-9.0
7.2	-22.8	-12.6	-10.2
7.3	-25.3	-12.6	-12.6
7.4	-26.9	-12.6	-14.3
7.5	-23.8	-12.6	-11.1
7.6	-21.1	-12.6	-8.5
7.7	-19.0	-12.6	-6.4
7.8	-17.4	-12.6	-4.7
7.9	-17.7	-12.6	-5.1
8.0	-18.5	-12.6	-5.9
8.1	-19.2	-12.6	-6.6
8.2	-20.7	-12.6	-8.1
8.3	-23.7	-12.6	-11.1
8.4	-25.3	-12.6	-12.7
8.5	-24.7	-12.6	-12.1
8.6	-22.4	-12.6	-9.8
8.7	-19.2	-12.6	-6.5
8.8	-18.0	-12.6	-5.4
8.9	-21.9	-12.6	-9.2
9.0	-22.1	-12.6	-9.4
9.1	-21.2	-12.6	-8.5
9.2	-22.1	-12.6	-9.4
9.3	-23.0	-12.6	-10.4
9.4	-24.3	-12.6	-11.7
9.5	-26.8	-12.6	-14.1
9.6	-25.5	-12.6	-12.9
9.7	-20.6	-12.6	-8.0
9.8	-22.0	-12.6	-9.4
9.9	-34.5	-12.6	-21.9
10.0	-23.2	-12.6	-10.6

**'FCC 25.138' Co-pol Guide at Ka-band for EIRP/BW of -12.42 dBW/40KHz to Input and
 40.05 dBW/40KHz in the Output of AL-7107-Ka Antenna at 28.30 GHz in Az RHCP
 Min BW of 8.04 MHz in case of 20W BUC**



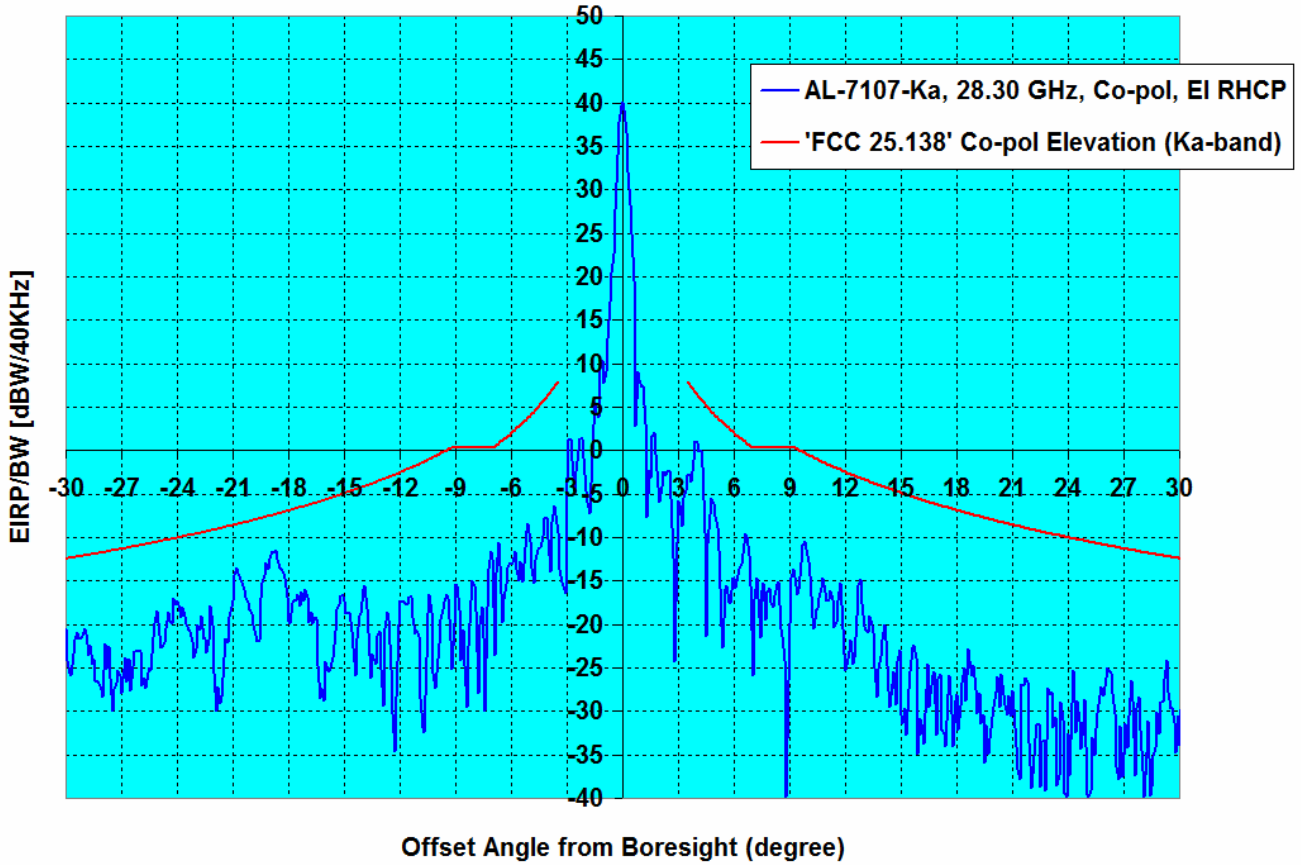
Configuration System, Freq., Polarization, Plane	Regulation EIRP/BW [dBW/40KHz]	Antenna Gain dBi	Input EIRPsd dBW/40KHz	Peak Excursions dB		Over Mask %
				± (2° to 10°)	± (10° to 180°)	
AL-7107-Ka, 28.30 GHz, Co-pol, Az RHCP	'FCC 25.138' Co-pol Azimuth (Ka-band)	52.47	-12.42	-4.06	3.00	2.56

**'FCC 25.138' Co-pol Guide at Ka-band for EIRP/BW of -12.42 dBW/40KHz to Input and
 40.05 dBW/40KHz in the Output of AL-7107-Ka Antenna at 28.30 GHz in Az RHCP
 Min BW of 8.04 MHz in case of 20W BUC**



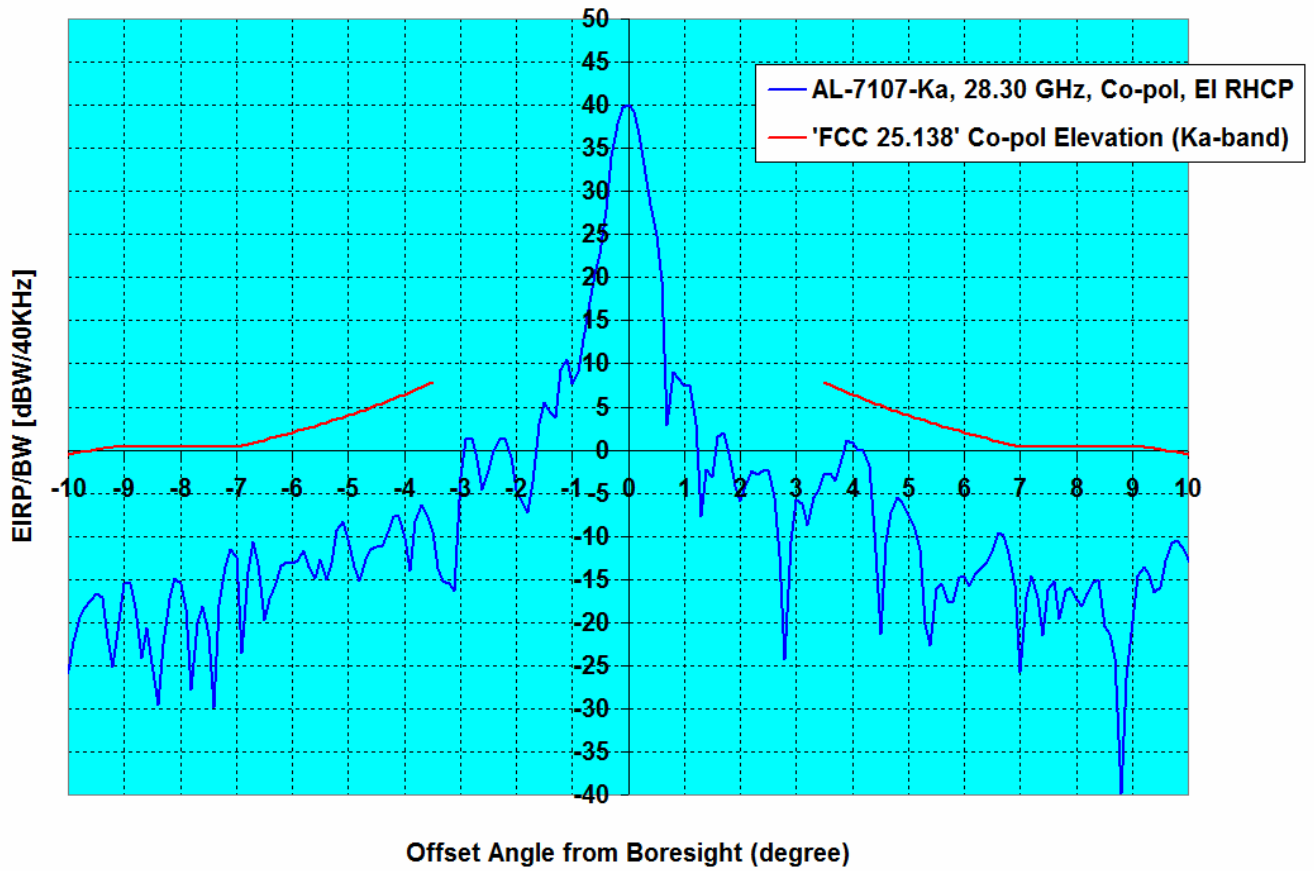
Configuration System, Freq., Polarization, Plane	Regulation EIRP/BW [dBW/40KHz]	Antenna Gain dBi	Input EIRPsd dBW/40KHz	Peak Excursions dB		Over Mask %
				± (2° to 10°)	± (10° to 180°)	
AL-7107-Ka, 28.30 GHz, Co-pol, Az RHCP	'FCC 25.138' Co-pol Azimuth (Ka-band)	52.47	-12.42	-4.06	3.00	2.56

**'FCC 25.138' Co-pol Guide at Ka-band for EIRP/BW of -12.42 dBW/40KHz to Input and
 40.05 dBW/40KHz in the Output of AL-7107-Ka Antenna at 28.30 GHz in EI RHCP
 Min BW of 8.04 MHz in case of 20W BUC**



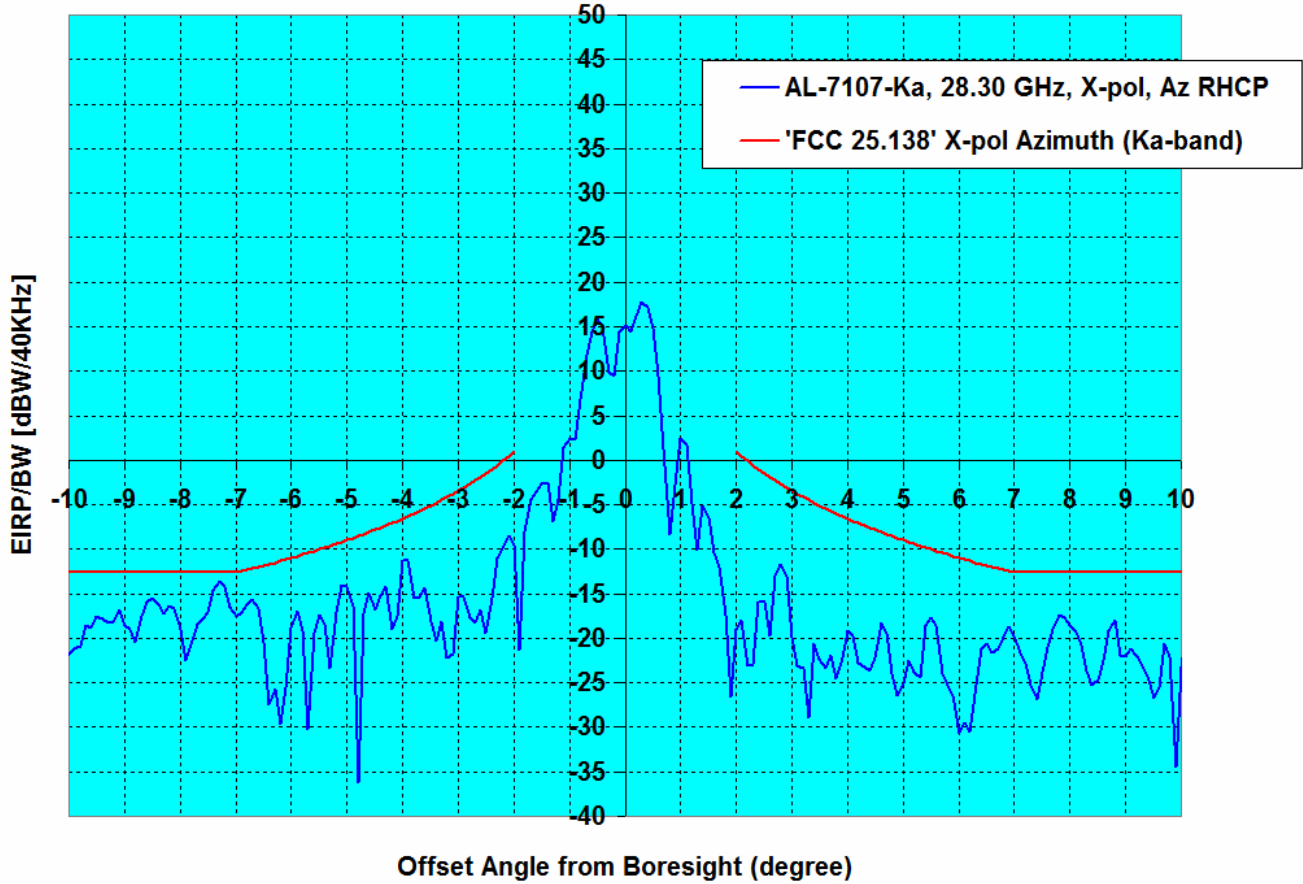
Configuration System, Frequency, Polarization, Plane	Regulation EIRP/BW [dBW/40KHz]	Antenna Gain dBi	Input EIRPsd dBW/40KHz	Peak Excursions dB		Over Mask %
				± (3.5° to 10°)	± (10° to 30°)	
AL-7107-Ka, 28.30 GHz, Co-pol, EI RHCP	'FCC 25.138' Co-pol Elevation (Ka-band)	52.47	-12.42	-5.60	-4.15	0.00

**'FCC 25.138' Co-pol Guide at Ka-band for EIRP/BW of -12.42 dBW/40KHz to Input and
 40.05 dBW/40KHz in the Output of AL-7107-Ka Antenna at 28.30 GHz in EI RHCP
 Min BW of 8.04 MHz in case of 20W BUC**



Configuration System, Frequency, Polarization, Plane	Regulation EIRP/BW [dBW/40KHz]	Antenna Gain dBi	Input EIRPsd dBW/40KHz	Peak Excursions dB		Over Mask %
				± (3.5° to 10°)	± (10° to 30°)	
AL-7107-Ka, 28.30 GHz, Co-pol, EI RHCP	'FCC 25.138' Co-pol Elevation (Ka-band)	52.47	-12.42	-5.60	-4.15	0.00

**'FCC 25.138' X-pol Guide at Ka-band for EIRP/BW of -12.42 dBW/40KHz to Input and
 40.05 dBW/40KHz in the Output of AL-7107-Ka Antenna at 28.30 GHz in Az RHCP
 Min BW of 8.04 MHz in case of 20W BUC**



Configuration System, Frequency, Polarization, Plane	Regulation EIRP/BW [dBW/40KHz]	Antenna Gain dBi	Input EIRPsd dBW/40KHz	Peak Excursions dB		Over Mask %
				± (2° to 7°)	± (2° to 9.2°)	
AL-7107-Ka, 28.30 GHz, X-pol, Az RHCP	'FCC 25.138' X-pol Azimuth (Ka-band)	52.47	-12.42	-3.50	-0.98	0.00

Orbit Communication Systems Ltd.
AL-7107-Ka, 2.15 m Antenna, EIRPsd Data Table
Co-pol Azimuth LHCP, -180° to +180° @ 1.0° increment

29.15 GHz @ -12.39 dBW / 40 kHz in Co-pol Az LHCP

Angle	EIRPsd	Mask	Over Mask
Degrees	dBW/40kHz	dBW/40kHz	dB
-179.0	-38.3	-10.5	-27.8
-178.0	-30.5	-10.5	-20.0
-177.0	-32.9	-10.5	-22.4
-176.0	-37.4	-10.5	-26.9
-175.0	-39.8	-10.5	-29.3
-174.0	-39.8	-10.5	-29.3
-173.0	-39.3	-10.5	-28.8
-172.0	-39.8	-10.5	-29.3
-171.0	-36.3	-10.5	-25.8
-170.0	-38.3	-10.5	-27.8
-169.0	-30.5	-10.5	-20.0
-168.0	-32.9	-10.5	-22.4
-167.0	-37.4	-10.5	-26.9
-166.0	-39.8	-10.5	-29.3
-165.0	-39.8	-10.5	-29.3
-164.0	-39.3	-10.5	-28.8
-163.0	-39.8	-10.5	-29.3
-162.0	-31.8	-10.5	-21.3
-161.0	-33.2	-10.5	-22.7
-160.0	-39.4	-10.5	-28.9
-159.0	-38.3	-10.5	-27.8
-158.0	-39.8	-10.5	-29.3
-157.0	-32.2	-10.5	-21.7
-156.0	-39.8	-10.5	-29.3
-155.0	-39.7	-10.5	-29.2
-154.0	-33.1	-10.5	-22.6
-153.0	-35.0	-10.5	-24.5
-152.0	-27.6	-10.5	-17.1
-151.0	-31.7	-10.5	-21.2
-150.0	-30.1	-10.5	-19.6
-149.0	-39.8	-10.5	-29.3
-148.0	-38.2	-10.5	-27.7
-147.0	-36.9	-10.5	-26.4
-146.0	-28.2	-10.5	-17.7
-145.0	-27.9	-10.5	-17.4
-144.0	-32.6	-10.5	-22.1
-143.0	-32.6	-10.5	-22.1
-142.0	-34.0	-10.5	-23.5
-141.0	-32.6	-10.5	-22.1
-140.0	-28.4	-10.5	-17.9
-139.0	-32.6	-10.5	-22.1
-138.0	-33.0	-10.5	-22.5
-137.0	-32.9	-10.5	-22.4
-136.0	-36.1	-10.5	-25.6
-135.0	-27.4	-10.5	-16.9
-134.0	-28.2	-10.5	-17.7
-133.0	-39.8	-10.5	-29.3
-132.0	-37.6	-10.5	-27.1
-131.0	-34.5	-10.5	-24.0
-130.0	-28.4	-10.5	-17.9
-129.0	-28.5	-10.5	-18.0
-128.0	-31.3	-10.5	-20.8
-127.0	-28.3	-10.5	-17.8
-126.0	-27.4	-10.5	-16.9
-125.0	-34.9	-10.5	-24.4
-124.0	-31.9	-10.5	-21.4
-123.0	-33.2	-10.5	-22.7
-122.0	-37.6	-10.5	-27.1
-121.0	-33.0	-10.5	-22.5
-120.0	-38.4	-10.5	-27.9

29.15 GHz @ -12.39 dBW / 40 kHz in Co-pol Az LHCP

Angle	EIRPsd	Mask	Over Mask
Degrees	dBW/40kHz	dBW/40kHz	dB
0.0	40.2		
1.0	3.3		
2.0	-2.4	11.0	-13.4
3.0	-3.3	6.6	-9.9
4.0	-16.5	3.4	-20.0
5.0	-22.8	1.0	-23.8
6.0	-12.1	-1.0	-11.1
7.0	-26.5	-2.6	-23.8
8.0	-17.8	-2.6	-15.2
9.0	-15.6	-2.6	-13.0
10.0	-17.7	-3.5	-14.2
11.0	-27.9	-4.5	-23.4
12.0	-15.5	-5.5	-10.0
13.0	-19.1	-6.3	-12.7
14.0	-25.1	-7.2	-17.9
15.0	-29.8	-7.9	-21.9
16.0	-35.8	-8.6	-27.2
17.0	-29.0	-9.3	-19.8
18.0	-26.8	-9.9	-16.9
19.0	-31.9	-10.5	-21.5
20.0	-23.2	-11.0	-12.2
21.0	-27.7	-11.6	-16.2
22.0	-16.9	-12.1	-4.9
23.0	-16.1	-12.5	-3.6
24.0	-18.3	-13.0	-5.3
25.0	-23.6	-13.4	-10.2
26.0	-20.0	-13.9	-6.2
27.0	-19.9	-14.3	-5.6
28.0	-25.9	-14.7	-11.2
29.0	-21.2	-15.1	-6.2
30.0	-19.6	-15.4	-4.2
31.0	-18.2	-15.8	-2.4
32.0	-22.2	-16.1	-6.1
33.0	-17.4	-16.5	-1.0
34.0	-23.3	-16.8	-6.5
35.0	-21.7	-17.1	-4.6
36.0	-17.4	-17.4	0.0
37.0	-18.8	-17.7	-1.1
38.0	-22.0	-18.0	-4.0
39.0	-21.7	-18.3	-3.5
40.0	-22.0	-18.6	-3.4
41.0	-24.7	-18.8	-5.9
42.0	-23.5	-19.1	-4.4
43.0	-24.1	-19.3	-4.8
44.0	-21.4	-19.6	-1.8
45.0	-21.6	-19.8	-1.8
46.0	-21.8	-20.1	-1.8
47.0	-20.0	-20.3	0.3
48.0	-26.5	-20.5	-6.0
49.0	-23.0	-10.5	-12.5
50.0	-25.7	-10.5	-15.2
51.0	-34.0	-10.5	-23.5
52.0	-29.1	-10.5	-18.6
53.0	-26.5	-10.5	-16.0
54.0	-28.7	-10.5	-18.2
55.0	-31.9	-10.5	-21.4
56.0	-38.9	-10.5	-28.4
57.0	-35.6	-10.5	-25.1
58.0	-32.0	-10.5	-21.5
59.0	-37.4	-10.5	-26.9

Orbit Communication Systems Ltd.
AL-7107-Ka, 2.15 m Antenna, EIRPsd Data Table
Co-pol Azimuth LHCP, -180° to +180° @ 1.0° increment

-119.0	-38.6	-10.5	-28.1
-118.0	-36.4	-10.5	-25.9
-117.0	-38.7	-10.5	-28.2
-116.0	-34.5	-10.5	-24.0
-115.0	-39.8	-10.5	-29.3
-114.0	-34.8	-10.5	-24.3
-113.0	-30.0	-10.5	-19.5
-112.0	-32.2	-10.5	-21.7
-111.0	-29.7	-10.5	-19.2
-110.0	-29.7	-10.5	-19.2
-109.0	-39.8	-10.5	-29.3
-108.0	-37.1	-10.5	-26.6
-107.0	-37.6	-10.5	-27.1
-106.0	-32.6	-10.5	-22.1
-105.0	-32.9	-10.5	-22.4
-104.0	-32.3	-10.5	-21.8
-103.0	-32.4	-10.5	-21.9
-102.0	-28.6	-10.5	-18.1
-101.0	-35.7	-10.5	-25.2
-100.0	-29.4	-10.5	-18.9
-99.0	-32.4	-10.5	-21.9
-98.0	-39.8	-10.5	-29.3
-97.0	-36.1	-10.5	-25.6
-96.0	-39.8	-10.5	-29.3
-95.0	-32.1	-10.5	-21.6
-94.0	-32.0	-10.5	-21.5
-93.0	-35.0	-10.5	-24.5
-92.0	-32.4	-10.5	-21.9
-91.0	-31.1	-10.5	-20.6
-90.0	-34.1	-10.5	-23.6
-89.0	-39.6	-10.5	-29.1
-88.0	-31.1	-10.5	-20.6
-87.0	-28.3	-10.5	-17.8
-86.0	-25.7	-10.5	-15.2
-85.0	-25.7	-10.5	-15.2
-84.0	-27.7	-10.5	-17.2
-83.0	-32.6	-10.5	-22.1
-82.0	-32.6	-10.5	-22.1
-81.0	-25.1	-10.5	-14.6
-80.0	-25.2	-10.5	-14.7
-79.0	-22.7	-10.5	-12.2
-78.0	-21.7	-10.5	-11.2
-77.0	-29.1	-10.5	-18.6
-76.0	-26.6	-10.5	-16.1
-75.0	-27.0	-10.5	-16.5
-74.0	-23.3	-10.5	-12.8
-73.0	-22.6	-10.5	-12.1
-72.0	-19.3	-10.5	-8.8
-71.0	-19.1	-10.5	-8.6
-70.0	-18.2	-10.5	-7.7
-69.0	-19.1	-10.5	-8.6
-68.0	-17.1	-10.5	-6.6
-67.0	-17.0	-10.5	-6.5
-66.0	-17.5	-10.5	-7.0
-65.0	-18.8	-10.5	-8.3
-64.0	-17.2	-10.5	-6.7
-63.0	-19.3	-10.5	-8.8
-62.0	-19.8	-10.5	-9.3
-61.0	-21.8	-10.5	-11.3
-60.0	-22.8	-10.5	-12.3
-59.0	-23.5	-10.5	-13.0
-58.0	-23.9	-10.5	-13.4
-57.0	-27.4	-10.5	-16.9

60.0	-34.8	-10.5	-24.3
61.0	-37.8	-10.5	-27.3
62.0	-36.9	-10.5	-26.4
63.0	-39.8	-10.5	-29.3
64.0	-30.5	-10.5	-20.0
65.0	-32.2	-10.5	-21.7
66.0	-39.8	-10.5	-29.3
67.0	-32.3	-10.5	-21.8
68.0	-37.5	-10.5	-27.0
69.0	-33.7	-10.5	-23.2
70.0	-32.7	-10.5	-22.2
71.0	-32.3	-10.5	-21.8
72.0	-28.5	-10.5	-18.0
73.0	-27.5	-10.5	-17.0
74.0	-29.7	-10.5	-19.2
75.0	-29.8	-10.5	-19.3
76.0	-32.3	-10.5	-21.8
77.0	-39.8	-10.5	-29.3
78.0	-32.8	-10.5	-22.3
79.0	-39.8	-10.5	-29.3
80.0	-33.9	-10.5	-23.4
81.0	-34.6	-10.5	-24.1
82.0	-35.9	-10.5	-25.4
83.0	-35.5	-10.5	-25.0
84.0	-38.8	-10.5	-28.3
85.0	-39.8	-10.5	-29.3
86.0	-37.8	-10.5	-27.3
87.0	-33.9	-10.5	-23.4
88.0	-32.0	-10.5	-21.5
89.0	-38.1	-10.5	-27.6
90.0	-31.0	-10.5	-20.5
91.0	-37.4	-10.5	-26.9
92.0	-39.2	-10.5	-28.7
93.0	-39.8	-10.5	-29.3
94.0	-30.6	-10.5	-20.1
95.0	-37.5	-10.5	-27.0
96.0	-35.0	-10.5	-24.5
97.0	-36.7	-10.5	-26.2
98.0	-37.6	-10.5	-27.1
99.0	-39.7	-10.5	-29.2
100.0	-32.3	-10.5	-21.8
101.0	-34.2	-10.5	-23.7
102.0	-36.8	-10.5	-26.3
103.0	-35.2	-10.5	-24.7
104.0	-34.6	-10.5	-24.1
105.0	-32.0	-10.5	-21.5
106.0	-36.9	-10.5	-26.4
107.0	-35.5	-10.5	-25.0
108.0	-35.8	-10.5	-25.3
109.0	-37.3	-10.5	-26.8
110.0	-35.4	-10.5	-24.9
111.0	-37.0	-10.5	-26.5
112.0	-32.1	-10.5	-21.6
113.0	-36.5	-10.5	-26.0
114.0	-37.5	-10.5	-27.0
115.0	-35.3	-10.5	-24.8
116.0	-35.6	-10.5	-25.1
117.0	-39.5	-10.5	-29.0
118.0	-37.4	-10.5	-26.9
119.0	-39.4	-10.5	-28.9
120.0	-39.8	-10.5	-29.3
121.0	-39.1	-10.5	-28.6
122.0	-33.5	-10.5	-23.0

Orbit Communication Systems Ltd.
AL-7107-Ka, 2.15 m Antenna, EIRPsd Data Table
Co-pol Azimuth LHCP, -180° to +180° @ 1.0° increment

-56.0	-27.5	-10.5	-17.0
-55.0	-27.0	-10.5	-16.5
-54.0	-28.3	-10.5	-17.8
-53.0	-23.8	-10.5	-13.3
-52.0	-24.1	-10.5	-13.6
-51.0	-27.9	-10.5	-17.4
-50.0	-28.2	-10.5	-17.7
-49.0	-28.9	-10.5	-18.4
-48.0	-33.1	-20.5	-12.5
-47.0	-39.8	-20.3	-19.5
-46.0	-26.4	-20.1	-6.3
-45.0	-28.1	-19.8	-8.3
-44.0	-25.1	-19.6	-5.5
-43.0	-30.8	-19.3	-11.5
-42.0	-28.6	-19.1	-9.5
-41.0	-29.7	-18.8	-10.9
-40.0	-29.3	-18.6	-10.8
-39.0	-35.3	-18.3	-17.0
-38.0	-34.4	-18.0	-16.4
-37.0	-31.3	-17.7	-13.6
-36.0	-26.7	-17.4	-9.2
-35.0	-30.8	-17.1	-13.7
-34.0	-28.0	-16.8	-11.2
-33.0	-28.6	-16.5	-12.1
-32.0	-29.7	-16.1	-13.5
-31.0	-32.0	-15.8	-16.2
-30.0	-27.2	-15.4	-11.8
-29.0	-30.6	-15.1	-15.6
-28.0	-31.7	-14.7	-17.1
-27.0	-33.8	-14.3	-19.5
-26.0	-33.6	-13.9	-19.7
-25.0	-23.1	-13.4	-9.7
-24.0	-32.1	-13.0	-19.1
-23.0	-30.5	-12.5	-18.0
-22.0	-31.7	-12.1	-19.6
-21.0	-31.7	-11.6	-20.1
-20.0	-30.4	-11.0	-19.4
-19.0	-33.2	-10.5	-22.7
-18.0	-31.6	-9.9	-21.7
-17.0	-31.3	-9.3	-22.1
-16.0	-21.2	-8.6	-12.6
-15.0	-34.9	-7.9	-27.0
-14.0	-25.2	-7.2	-18.1
-13.0	-23.3	-6.3	-17.0
-12.0	-24.4	-5.5	-19.0
-11.0	-18.8	-4.5	-14.2
-10.0	-15.5	-3.5	-12.0
-9.0	-20.5	-2.6	-17.9
-8.0	-20.1	-2.6	-17.5
-7.0	-15.0	-2.6	-12.4
-6.0	-11.6	-1.0	-10.7
-5.0	-20.8	1.0	-21.9
-4.0	-18.0	3.4	-21.5
-3.0	-4.5	6.6	-11.1
-2.0	-7.7	11.0	-18.6
-1.0	4.8		
0.0	40.2		

123.0	-37.9	-10.5	-27.4
124.0	-34.6	-10.5	-24.1
125.0	-31.9	-10.5	-21.4
126.0	-39.8	-10.5	-29.3
127.0	-37.2	-10.5	-26.7
128.0	-34.1	-10.5	-23.6
129.0	-37.8	-10.5	-27.3
130.0	-34.0	-10.5	-23.5
131.0	-38.5	-10.5	-28.0
132.0	-39.8	-10.5	-29.3
133.0	-39.8	-10.5	-29.3
134.0	-38.2	-10.5	-27.7
135.0	-39.4	-10.5	-28.9
136.0	-39.3	-10.5	-28.8
137.0	-39.8	-10.5	-29.3
138.0	-34.3	-10.5	-23.8
139.0	-37.2	-10.5	-26.7
140.0	-34.9	-10.5	-24.4
141.0	-33.2	-10.5	-22.7
142.0	-39.8	-10.5	-29.3
143.0	-38.2	-10.5	-27.7
144.0	-39.8	-10.5	-29.3
145.0	-39.8	-10.5	-29.3
146.0	-37.2	-10.5	-26.7
147.0	-35.9	-10.5	-25.4
148.0	-39.8	-10.5	-29.3
149.0	-36.0	-10.5	-25.5
150.0	-36.3	-10.5	-25.8
151.0	-39.4	-10.5	-28.9
152.0	-39.1	-10.5	-28.6
153.0	-34.5	-10.5	-24.0
154.0	-39.8	-10.5	-29.3
155.0	-31.0	-10.5	-20.5
156.0	-39.8	-10.5	-29.3
157.0	-39.8	-10.5	-29.3
158.0	-39.8	-10.5	-29.3
159.0	-37.9	-10.5	-27.4
160.0	-37.8	-10.5	-27.3
161.0	-32.4	-10.5	-21.9
162.0	-38.6	-10.5	-28.1
163.0	-32.6	-10.5	-22.1
164.0	-36.5	-10.5	-26.0
165.0	-39.8	-10.5	-29.3
166.0	-36.9	-10.5	-26.4
167.0	-39.8	-10.5	-29.3
168.0	-39.8	-10.5	-29.3
169.0	-39.8	-10.5	-29.3
170.0	-39.4	-10.5	-28.9
171.0	-38.9	-10.5	-28.4
172.0	-39.8	-10.5	-29.3
173.0	-39.8	-10.5	-29.3
174.0	-35.1	-10.5	-24.6
175.0	-37.2	-10.5	-26.7
176.0	-36.0	-10.5	-25.5
177.0	-39.8	-10.5	-29.3
178.0	-39.8	-10.5	-29.3
179.0	-36.3	-10.5	-25.8

Orbit Communication Systems Ltd.

AL AL-7107-Ka, 2.15 m Antenna, EIRPsd Data Table
Co-pol Azimuth LHCP, -10° to +10° @ 0.1° increment

29.15 GHz @ -12.39 dBW / 40 kHz in Co-pol Az LHCP

Angle Degrees	EIRPsd dBW/40kHz	Mask dBW/40kHz	Over Mask dB
-10.0	-15.5	-3.5	-12.0
-9.9	-13.5	-3.4	-10.1
-9.8	-12.4	-3.3	-9.1
-9.7	-13.3	-3.2	-10.1
-9.6	-15.5	-3.1	-12.5
-9.5	-17.7	-2.9	-14.8
-9.4	-17.3	-2.8	-14.5
-9.3	-16.3	-2.7	-13.6
-9.2	-19.8	-2.6	-17.1
-9.1	-33.8	-2.6	-31.1
-9.0	-20.5	-2.6	-17.9
-8.9	-22.4	-2.6	-19.8
-8.8	-28.2	-2.6	-25.6
-8.7	-26.3	-2.6	-23.7
-8.6	-24.4	-2.6	-21.7
-8.5	-23.1	-2.6	-20.5
-8.4	-24.0	-2.6	-21.4
-8.3	-34.4	-2.6	-31.8
-8.2	-23.4	-2.6	-20.8
-8.1	-20.4	-2.6	-17.8
-8.0	-20.1	-2.6	-17.5
-7.9	-17.9	-2.6	-15.3
-7.8	-16.6	-2.6	-14.0
-7.7	-13.8	-2.6	-11.2
-7.6	-12.6	-2.6	-10.0
-7.5	-13.8	-2.6	-11.2
-7.4	-14.3	-2.6	-11.6
-7.3	-11.8	-2.6	-9.2
-7.2	-11.1	-2.6	-8.5
-7.1	-11.8	-2.6	-9.1
-7.0	-15.0	-2.6	-12.4
-6.9	-10.8	-2.5	-8.4
-6.8	-7.9	-2.3	-5.6
-6.7	-8.3	-2.2	-6.1
-6.6	-12.1	-2.0	-10.1
-6.5	-13.2	-1.8	-11.3
-6.4	-11.3	-1.7	-9.6
-6.3	-10.3	-1.5	-8.9
-6.2	-10.3	-1.3	-8.9
-6.1	-10.7	-1.1	-9.6
-6.0	-11.6	-1.0	-10.7
-5.9	-17.2	-0.8	-16.4
-5.8	-21.8	-0.6	-21.2
-5.7	-21.9	-0.4	-21.5
-5.6	-23.5	-0.2	-23.2
-5.5	-17.2	0.0	-17.2
-5.4	-18.5	0.2	-18.7
-5.3	-23.8	0.4	-24.1
-5.2	-12.9	0.6	-13.5
-5.1	-11.9	0.8	-12.7
-5.0	-20.8	1.0	-21.9
-4.9	-11.8	1.2	-13.0
-4.8	-8.5	1.5	-10.0
-4.7	-8.7	1.7	-10.4
-4.6	-12.6	1.9	-14.5
-4.5	-10.4	2.2	-12.6
-4.4	-6.2	2.4	-8.6
-4.3	-5.6	2.7	-8.3
-4.2	-9.3	2.9	-12.2
-4.1	-18.5	3.2	-21.7

29.15 GHz @ -12.39 dBW / 40 kHz in Co-pol Az LHCP

Angle Degrees	EIRPsd dBW/40kHz	Mask dBW/40kHz	Over Mask dB
0.0	40.2		
0.1	39.7		
0.2	37.4		
0.3	33.4		
0.4	28.7		
0.5	23.9		
0.6	17.8		
0.7	17.9		
0.8	18.3		
0.9	15.2		
1.0	3.3		
1.1	4.0		
1.2	1.6		
1.3	-1.4		
1.4	3.7		
1.5	3.2		
1.6	4.8		
1.7	5.4		
1.8	3.1		
1.9	-1.0		
2.0	-2.4	11.0	-13.4
2.1	-8.8	10.4	-19.3
2.2	-10.7	9.9	-20.6
2.3	-6.3	9.5	-15.8
2.4	-6.7	9.0	-15.7
2.5	-6.8	8.6	-15.4
2.6	-10.0	8.1	-18.1
2.7	-12.5	7.7	-20.2
2.8	-7.1	7.3	-14.4
2.9	-5.2	6.9	-12.1
3.0	-3.3	6.6	-9.9
3.1	-3.1	6.2	-9.3
3.2	-7.4	5.9	-13.3
3.3	-21.1	5.5	-26.6
3.4	-17.8	5.2	-23.0
3.5	-20.6	4.9	-25.5
3.6	-8.4	4.6	-13.0
3.7	-6.3	4.3	-10.5
3.8	-8.8	4.0	-12.8
3.9	-18.9	3.7	-22.6
4.0	-16.5	3.4	-20.0
4.1	-12.3	3.2	-15.5
4.2	-10.2	2.9	-13.1
4.3	-10.7	2.7	-13.3
4.4	-11.7	2.4	-14.1
4.5	-13.6	2.2	-15.7
4.6	-16.9	1.9	-18.8
4.7	-16.7	1.7	-18.4
4.8	-15.0	1.5	-16.4
4.9	-19.9	1.2	-21.2
5.0	-22.8	1.0	-23.8
5.1	-17.2	0.8	-18.1
5.2	-17.5	0.6	-18.1
5.3	-12.1	0.4	-12.5
5.4	-8.7	0.2	-8.9
5.5	-10.2	0.0	-10.2
5.6	-13.5	-0.2	-13.3
5.7	-17.8	-0.4	-17.4
5.8	-18.8	-0.6	-18.2
5.9	-14.8	-0.8	-14.0

Orbit Communication Systems Ltd.

AL AL-7107-Ka, 2.15 m Antenna, EIRPsd Data Table
 Co-pol Azimuth LHCP, -10° to +10° @ 0.1° increment

-4.0	-18.0	3.4	-21.5
-3.9	-6.0	3.7	-9.7
-3.8	-1.2	4.0	-5.2
-3.7	-0.7	4.3	-5.0
-3.6	-4.4	4.6	-9.0
-3.5	-15.7	4.9	-20.6
-3.4	-6.1	5.2	-11.3
-3.3	-5.4	5.5	-10.9
-3.2	-7.2	5.9	-13.1
-3.1	-6.0	6.2	-12.2
-3.0	-4.5	6.6	-11.1
-2.9	-6.1	6.9	-13.0
-2.8	-3.3	7.3	-10.6
-2.7	-0.9	7.7	-8.6
-2.6	-2.0	8.1	-10.1
-2.5	-7.1	8.6	-15.7
-2.4	-14.8	9.0	-23.8
-2.3	-15.9	9.5	-25.4
-2.2	-8.3	9.9	-18.3
-2.1	-9.8	10.4	-20.2
-2.0	-7.7	11.0	-18.6
-1.9	-1.9		
-1.8	-2.8		
-1.7	-8.7		
-1.6	-8.1		
-1.5	-9.3		
-1.4	2.6		
-1.3	6.4		
-1.2	6.6		
-1.1	6.6		
-1.0	4.8		
-0.9	-1.4		
-0.8	3.5		
-0.7	1.6		
-0.6	10.6		
-0.5	20.4		
-0.4	27.5		
-0.3	33.4		
-0.2	37.5		
-0.1	39.7		
0.0	40.2		

6.0	-12.1	-1.0	-11.1
6.1	-12.8	-1.1	-11.6
6.2	-11.0	-1.3	-9.6
6.3	-11.7	-1.5	-10.2
6.4	-10.7	-1.7	-9.1
6.5	-9.1	-1.8	-7.2
6.6	-8.1	-2.0	-6.2
6.7	-9.2	-2.2	-7.0
6.8	-11.3	-2.3	-9.0
6.9	-16.0	-2.5	-13.5
7.0	-26.5	-2.6	-23.8
7.1	-14.4	-2.6	-11.8
7.2	-13.9	-2.6	-11.3
7.3	-16.1	-2.6	-13.5
7.4	-21.2	-2.6	-18.5
7.5	-18.9	-2.6	-16.3
7.6	-16.6	-2.6	-13.9
7.7	-14.2	-2.6	-11.6
7.8	-15.7	-2.6	-13.1
7.9	-18.8	-2.6	-16.2
8.0	-17.8	-2.6	-15.2
8.1	-14.4	-2.6	-11.7
8.2	-15.2	-2.6	-12.6
8.3	-14.4	-2.6	-11.8
8.4	-14.7	-2.6	-12.0
8.5	-17.4	-2.6	-14.8
8.6	-23.9	-2.6	-21.2
8.7	-28.2	-2.6	-25.5
8.8	-26.0	-2.6	-23.4
8.9	-17.2	-2.6	-14.5
9.0	-15.6	-2.6	-13.0
9.1	-15.5	-2.6	-12.9
9.2	-18.5	-2.6	-15.9
9.3	-15.7	-2.7	-13.0
9.4	-13.3	-2.8	-10.5
9.5	-13.8	-2.9	-10.8
9.6	-14.1	-3.1	-11.1
9.7	-18.6	-3.2	-15.4
9.8	-25.2	-3.3	-21.9
9.9	-26.9	-3.4	-23.5
10.0	-17.7	-3.5	-14.2

Orbit Communication Systems Ltd.

AL-7107-Ka, 2.15 m Antenna, EIRPsd Data Table
Co-pol Elevation LHCP, -30° to +30° @ 0.5° increment

29.15 GHz @ -12.39 dBW / 40 kHz in Co-pol EI LHCP

Angle	EIRPsd	Mask	Over Mask
Degrees	dBW/40kHz	dBW/40kHz	dB
-30.0	-20.0	-12.4	-7.6
-29.5	-21.7	-12.2	-9.4
-29.0	-21.4	-12.1	-9.4
-28.5	-19.8	-11.9	-7.9
-28.0	-21.7	-11.7	-10.0
-27.5	-25.8	-11.5	-14.3
-27.0	-25.2	-11.3	-13.9
-26.5	-24.7	-11.1	-13.7
-26.0	-19.9	-10.9	-9.1
-25.5	-20.2	-10.7	-9.6
-25.0	-25.8	-10.4	-15.3
-24.5	-18.0	-10.2	-7.7
-24.0	-20.6	-10.0	-10.6
-23.5	-26.7	-9.8	-16.9
-23.0	-27.0	-9.5	-17.4
-22.5	-30.6	-9.3	-21.3
-22.0	-28.6	-9.1	-19.5
-21.5	-18.6	-8.8	-9.8
-21.0	-18.6	-8.6	-10.0
-20.5	-18.5	-8.3	-10.2
-20.0	-14.6	-8.0	-6.6
-19.5	-12.9	-7.8	-5.2
-19.0	-12.9	-7.5	-5.4
-18.5	-15.0	-7.2	-7.8
-18.0	-17.8	-6.9	-10.9
-17.5	-24.6	-6.6	-18.0
-17.0	-23.7	-6.3	-17.5
-16.5	-23.7	-5.9	-17.7
-16.0	-31.8	-5.6	-26.2
-15.5	-23.8	-5.3	-18.5
-15.0	-17.1	-4.9	-12.2
-14.5	-22.9	-4.5	-18.3
-14.0	-16.7	-4.2	-12.6
-13.5	-21.6	-3.8	-17.8
-13.0	-18.9	-3.3	-15.5
-12.5	-16.7	-2.9	-13.8
-12.0	-27.9	-2.5	-25.4
-11.5	-17.6	-2.0	-15.6
-11.0	-19.2	-1.5	-17.6
-10.5	-19.0	-1.0	-18.0
-10.0	-22.0	-0.5	-21.5
-9.5	-16.9	0.1	-17.0
-9.0	-17.7	0.4	-18.0
-8.5	-22.6	0.4	-23.0
-8.0	-15.3	0.4	-15.7
-7.5	-19.7	0.4	-20.0
-7.0	-11.4	0.4	-11.7
-6.5	-11.4	1.2	-12.6
-6.0	-11.1	2.0	-13.1
-5.5	-13.2	3.0	-16.2
-5.0	-8.6	4.0	-12.6
-4.5	-7.8	5.2	-12.9
-4.0	-2.4	6.4	-8.8
-3.5	-3.6	7.9	-11.5
-3.0	-13.9		
-2.5	-1.1		
-2.0	-0.7		
-1.5	6.4		
-1.0	10.2		
-0.5	22.0		
0.0	40.2		

29.15 GHz @ -12.39 dBW / 40 kHz in Co-pol EI LHCP

Angle	EIRPsd	Mask	Over Mask
Degrees	dBW/40kHz	dBW/40kHz	dB
0.0	40.2		
0.5	24.7		
1.0	5.7		
1.5	-2.2		
2.0	-2.1		
2.5	-5.5		
3.0	-11.3		
3.5	0.1	7.9	-7.8
4.0	1.6	6.4	-4.8
4.5	-9.5	5.2	-14.7
5.0	-2.1	4.0	-6.2
5.5	-9.6	3.0	-12.6
6.0	-15.8	2.0	-17.9
6.5	-10.0	1.2	-11.2
7.0	-16.5	0.4	-16.9
7.5	-24.1	0.4	-24.5
8.0	-20.2	0.4	-20.6
8.5	-20.2	0.4	-20.5
9.0	-20.0	0.4	-20.4
9.5	-17.7	0.1	-17.8
10.0	-11.4	-0.5	-10.9
10.5	-21.2	-1.0	-20.2
11.0	-17.5	-1.5	-15.9
11.5	-19.1	-2.0	-17.0
12.0	-22.4	-2.5	-19.9
12.5	-14.9	-2.9	-12.0
13.0	-16.3	-3.3	-13.0
13.5	-20.5	-3.8	-16.7
14.0	-32.3	-4.2	-28.1
14.5	-26.4	-4.5	-21.9
15.0	-25.3	-4.9	-20.4
15.5	-36.1	-5.3	-30.8
16.0	-38.3	-5.6	-32.7
16.5	-23.6	-5.9	-17.6
17.0	-27.2	-6.3	-21.0
17.5	-28.3	-6.6	-21.7
18.0	-24.9	-6.9	-18.1
18.5	-23.5	-7.2	-16.3
19.0	-38.8	-7.5	-31.3
19.5	-22.9	-7.8	-15.2
20.0	-27.7	-8.0	-19.6
20.5	-28.0	-8.3	-19.7
21.0	-26.8	-8.6	-18.3
21.5	-28.6	-8.8	-19.7
22.0	-29.1	-9.1	-20.0
22.5	-26.7	-9.3	-17.4
23.0	-30.8	-9.5	-21.3
23.5	-28.3	-9.8	-18.5
24.0	-32.5	-10.0	-22.5
24.5	-39.0	-10.2	-28.8
25.0	-34.6	-10.4	-24.2
25.5	-32.7	-10.7	-22.0
26.0	-33.7	-10.9	-22.8
26.5	-30.5	-11.1	-19.4
27.0	-32.0	-11.3	-20.7
27.5	-32.8	-11.5	-21.3
28.0	-34.8	-11.7	-23.2
28.5	-35.9	-11.9	-24.1
29.0	-34.9	-12.1	-22.8
29.5	-33.7	-12.2	-21.4
30.0	-30.9	-12.4	-18.5

Orbit Communication Systems Ltd.
AL-7107-Ka, 2.15 m Antenna, EIRPsd Data Table
Co-pol Elevation LHCP, -10° to +10° @ 0.1° increment

29.15 GHz @ -12.39 dBW / 40 kHz in Co-pol EI LHCP

Angle	EIRPsd	Mask	Over Mask
Degrees	dBW/40kHz	dBW/40kHz	dB
-10.0	-22.0	-0.5	-21.5
-9.9	-30.1	-0.4	-29.7
-9.8	-23.7	-0.3	-23.5
-9.7	-15.8	-0.2	-15.7
-9.6	-14.5	-0.1	-14.4
-9.5	-16.9	0.1	-17.0
-9.4	-23.1	0.2	-23.3
-9.3	-24.5	0.3	-24.8
-9.2	-21.9	0.4	-22.3
-9.1	-22.4	0.4	-22.8
-9.0	-17.7	0.4	-18.0
-8.9	-16.2	0.4	-16.6
-8.8	-14.9	0.4	-15.3
-8.7	-14.4	0.4	-14.8
-8.6	-15.7	0.4	-16.0
-8.5	-22.6	0.4	-23.0
-8.4	-20.9	0.4	-21.3
-8.3	-20.0	0.4	-20.3
-8.2	-17.6	0.4	-18.0
-8.1	-16.8	0.4	-17.1
-8.0	-15.3	0.4	-15.7
-7.9	-14.5	0.4	-14.8
-7.8	-14.2	0.4	-14.6
-7.7	-15.0	0.4	-15.3
-7.6	-17.7	0.4	-18.1
-7.5	-19.7	0.4	-20.0
-7.4	-19.4	0.4	-19.7
-7.3	-21.1	0.4	-21.5
-7.2	-24.6	0.4	-25.0
-7.1	-16.8	0.4	-17.2
-7.0	-11.4	0.4	-11.7
-6.9	-10.3	0.5	-10.8
-6.8	-12.5	0.7	-13.2
-6.7	-19.9	0.8	-20.8
-6.6	-11.5	1.0	-12.5
-6.5	-11.4	1.2	-12.6
-6.4	-13.9	1.3	-15.3
-6.3	-19.5	1.5	-21.0
-6.2	-14.9	1.7	-16.5
-6.1	-12.6	1.9	-14.4
-6.0	-11.1	2.0	-13.1
-5.9	-12.5	2.2	-14.7
-5.8	-14.8	2.4	-17.2
-5.7	-11.8	2.6	-14.4
-5.6	-10.9	2.8	-13.7
-5.5	-13.2	3.0	-16.2
-5.4	-16.9	3.2	-20.0
-5.3	-18.4	3.4	-21.8
-5.2	-18.9	3.6	-22.5
-5.1	-11.8	3.8	-15.6
-5.0	-8.6	4.0	-12.6
-4.9	-8.7	4.2	-12.9
-4.8	-8.3	4.5	-12.7
-4.7	-7.8	4.7	-12.5
-4.6	-6.7	4.9	-11.6
-4.5	-7.8	5.2	-12.9
-4.4	-14.1	5.4	-19.5
-4.3	-9.4	5.7	-15.1
-4.2	-4.0	5.9	-9.9
-4.1	-2.3	6.2	-8.5

29.15 GHz @ -12.39 dBW / 40 kHz in Co-pol EI LHCP

Angle	EIRPsd	Mask	Over Mask
Degrees	dBW/40kHz	dBW/40kHz	dB
0.0	40.2		
0.1	39.4		
0.2	36.7		
0.3	31.9		
0.4	27.3		
0.5	24.7		
0.6	20.1		
0.7	9.6		
0.8	-2.1		
0.9	-6.3		
1.0	5.7		
1.1	7.1		
1.2	0.3		
1.3	-2.8		
1.4	-0.5		
1.5	-2.2		
1.6	1.3		
1.7	1.3		
1.8	-1.1		
1.9	-2.1		
2.0	-2.1		
2.1	0.3		
2.2	1.5		
2.3	0.3		
2.4	-2.8		
2.5	-5.5		
2.6	-11.9		
2.7	-20.1		
2.8	-13.7		
2.9	-9.3		
3.0	-11.3		
3.1	-11.9		
3.2	-2.6		
3.3	0.2		
3.4	1.1		
3.5	0.1	7.9	-7.8
3.6	-1.9	7.6	-9.5
3.7	-1.0	7.3	-8.3
3.8	0.6	7.0	-6.4
3.9	1.1	6.7	-5.6
4.0	1.6	6.4	-4.8
4.1	1.3	6.2	-4.9
4.2	0.0	5.9	-5.9
4.3	-4.2	5.7	-9.9
4.4	-10.1	5.4	-15.5
4.5	-9.5	5.2	-14.7
4.6	-7.7	4.9	-12.7
4.7	-6.1	4.7	-10.8
4.8	-4.9	4.5	-9.4
4.9	-2.7	4.2	-6.9
5.0	-2.1	4.0	-6.2
5.1	-4.3	3.8	-8.1
5.2	-10.7	3.6	-14.3
5.3	-15.3	3.4	-18.7
5.4	-9.5	3.2	-12.7
5.5	-9.6	3.0	-12.6
5.6	-13.6	2.8	-16.4
5.7	-17.6	2.6	-20.2
5.8	-15.7	2.4	-18.1
5.9	-13.5	2.2	-15.8

Orbit Communication Systems Ltd.
 AL-7107-Ka, 2.15 m Antenna, EIRPsd Data Table
 Co-pol Elevation LHCP, -10° to +10° @ 0.1° increment

-4.0	-2.4	6.4	-8.8
-3.9	-6.0	6.7	-12.8
-3.8	-23.0	7.0	-30.0
-3.7	-5.8	7.3	-13.0
-3.6	-3.2	7.6	-10.8
-3.5	-3.6	7.9	-11.5
-3.4	-5.3		
-3.3	-11.2		
-3.2	-17.2		
-3.1	-9.0		
-3.0	-13.9		
-2.9	-3.0		
-2.8	2.1		
-2.7	3.0		
-2.6	0.9		
-2.5	-1.1		
-2.4	0.4		
-2.3	1.4		
-2.2	1.5		
-2.1	0.8		
-2.0	-0.7		
-1.9	-2.6		
-1.8	-4.7		
-1.7	-0.6		
-1.6	3.4		
-1.5	6.4		
-1.4	5.9		
-1.3	0.8		
-1.2	8.1		
-1.1	11.1		
-1.0	10.2		
-0.9	9.5		
-0.8	12.7		
-0.7	15.5		
-0.6	19.5		
-0.5	22.0		
-0.4	26.8		
-0.3	33.3		
-0.2	37.6		
-0.1	39.8		
0.0	40.2		

6.0	-15.8	2.0	-17.9
6.1	-21.4	1.9	-23.3
6.2	-21.1	1.7	-22.8
6.3	-16.9	1.5	-18.4
6.4	-11.6	1.3	-12.9
6.5	-10.0	1.2	-11.2
6.6	-10.5	1.0	-11.5
6.7	-12.5	0.8	-13.4
6.8	-14.4	0.7	-15.1
6.9	-18.4	0.5	-19.0
7.0	-16.5	0.4	-16.9
7.1	-13.2	0.4	-13.5
7.2	-13.4	0.4	-13.8
7.3	-15.2	0.4	-15.5
7.4	-16.3	0.4	-16.7
7.5	-24.1	0.4	-24.5
7.6	-18.1	0.4	-18.5
7.7	-13.9	0.4	-14.3
7.8	-14.2	0.4	-14.6
7.9	-16.1	0.4	-16.5
8.0	-20.2	0.4	-20.6
8.1	-22.9	0.4	-23.3
8.2	-39.5	0.4	-39.9
8.3	-23.3	0.4	-23.6
8.4	-17.6	0.4	-17.9
8.5	-20.2	0.4	-20.5
8.6	-25.1	0.4	-25.5
8.7	-21.9	0.4	-22.3
8.8	-21.1	0.4	-21.5
8.9	-20.0	0.4	-20.4
9.0	-20.0	0.4	-20.4
9.1	-24.7	0.4	-25.0
9.2	-29.0	0.4	-29.3
9.3	-32.5	0.3	-32.8
9.4	-22.6	0.2	-22.7
9.5	-17.7	0.1	-17.8
9.6	-15.1	-0.1	-15.0
9.7	-12.6	-0.2	-12.4
9.8	-10.8	-0.3	-10.6
9.9	-10.3	-0.4	-9.9
10.0	-11.4	-0.5	-10.9

Orbit Communication Systems Ltd.
AL-7107-Ka, 2.15 m Antenna, EIRPsd Data Table
X-pol Azimuth LHCP, -10° to +10° @ 0.1° increment

29.15 GHz @ -12.39 dBW / 40 kHz in X-pol Az LHCP

Angle Degrees	EIRPsd dBW/40kHz	Mask dBW/40kHz	Over Mask dB
-10.0	-22.8	-12.6	-10.1
-9.9	-21.5	-12.6	-8.8
-9.8	-23.9	-12.6	-11.2
-9.7	-23.6	-12.6	-11.0
-9.6	-23.0	-12.6	-10.4
-9.5	-21.0	-12.6	-8.4
-9.4	-22.2	-12.6	-9.6
-9.3	-20.6	-12.6	-8.0
-9.2	-19.9	-12.6	-7.3
-9.1	-17.8	-12.6	-5.2
-9.0	-19.0	-12.6	-6.4
-8.9	-19.2	-12.6	-6.6
-8.8	-20.6	-12.6	-8.0
-8.7	-23.7	-12.6	-11.1
-8.6	-26.6	-12.6	-14.0
-8.5	-22.4	-12.6	-9.7
-8.4	-21.2	-12.6	-8.5
-8.3	-24.7	-12.6	-12.1
-8.2	-27.8	-12.6	-15.2
-8.1	-31.0	-12.6	-18.4
-8.0	-29.0	-12.6	-16.3
-7.9	-29.2	-12.6	-16.6
-7.8	-32.8	-12.6	-20.2
-7.7	-29.8	-12.6	-17.1
-7.6	-24.2	-12.6	-11.6
-7.5	-22.1	-12.6	-9.5
-7.4	-22.3	-12.6	-9.7
-7.3	-24.8	-12.6	-12.2
-7.2	-19.1	-12.6	-6.5
-7.1	-14.5	-12.6	-1.8
-7.0	-12.6	-12.6	0.0
-6.9	-13.2	-12.5	-0.7
-6.8	-15.6	-12.3	-3.3
-6.7	-20.8	-12.2	-8.7
-6.6	-23.5	-12.0	-11.5
-6.5	-23.0	-11.8	-11.2
-6.4	-22.0	-11.7	-10.4
-6.3	-31.3	-11.5	-19.8
-6.2	-27.8	-11.3	-16.4
-6.1	-23.5	-11.1	-12.4
-6.0	-23.6	-11.0	-12.7
-5.9	-29.6	-10.8	-18.8
-5.8	-34.5	-10.6	-23.9
-5.7	-29.0	-10.4	-18.6
-5.6	-22.1	-10.2	-11.9
-5.5	-17.9	-10.0	-7.9
-5.4	-15.1	-9.8	-5.3
-5.3	-13.5	-9.6	-3.9
-5.2	-15.6	-9.4	-6.2
-5.1	-28.8	-9.2	-19.6
-5.0	-17.6	-9.0	-8.6
-4.9	-13.9	-8.8	-5.2
-4.8	-16.3	-8.5	-7.8
-4.7	-22.3	-8.3	-14.0
-4.6	-17.5	-8.1	-9.5
-4.5	-16.0	-7.8	-8.1
-4.4	-18.4	-7.6	-10.8
-4.3	-20.6	-7.3	-13.2
-4.2	-18.7	-7.1	-11.6
-4.1	-14.8	-6.8	-8.0

29.15 GHz @ -12.39 dBW / 40 kHz in X-pol Az LHCP

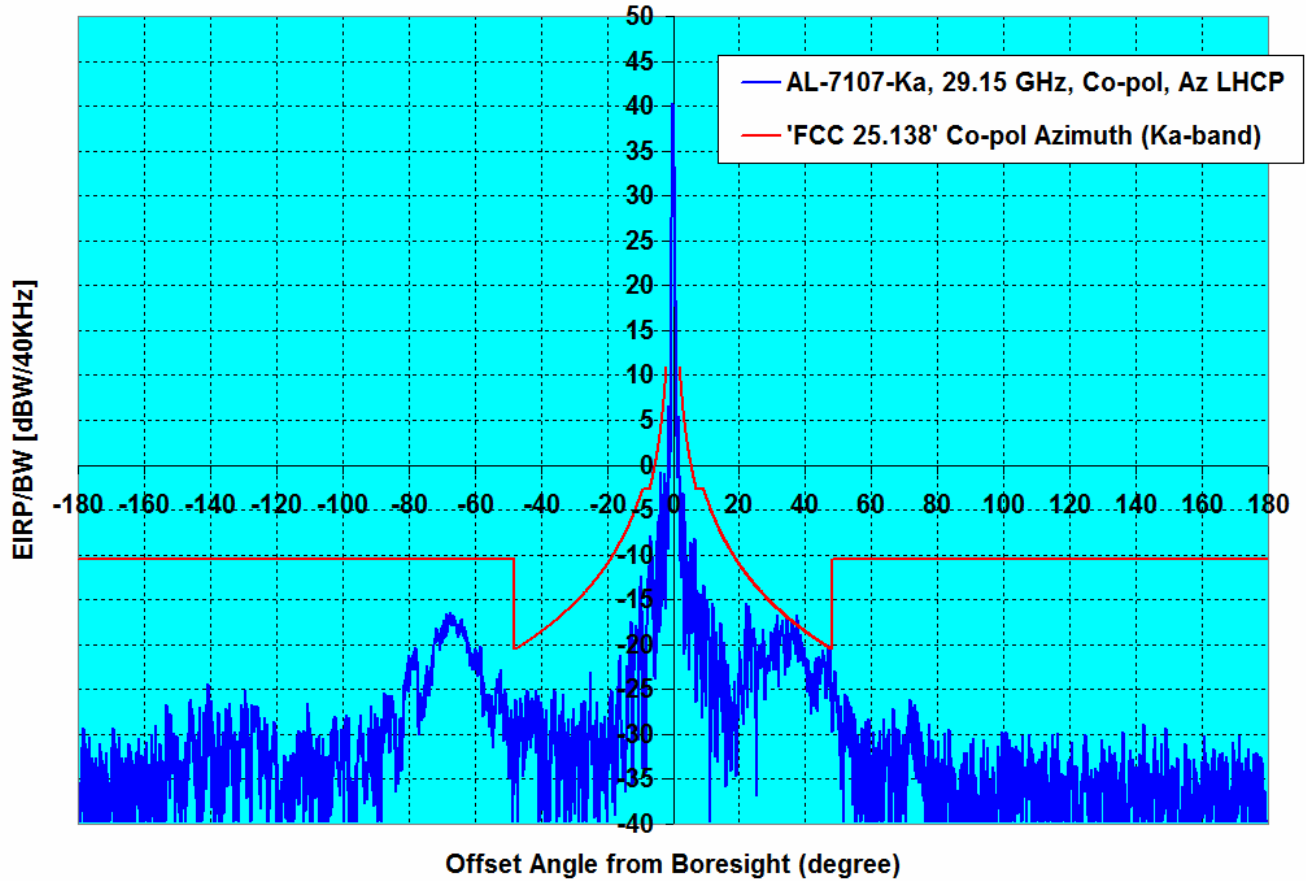
Angle Degrees	EIRPsd dBW/40kHz	Mask dBW/40kHz	Over Mask dB
0.0	11.0		
0.1	8.3		
0.2	11.8		
0.3	15.9		
0.4	16.7		
0.5	15.7		
0.6	12.0		
0.7	4.8		
0.8	-11.0		
0.9	-1.8		
1.0	1.9		
1.1	1.7		
1.2	0.3		
1.3	0.7		
1.4	0.5		
1.5	-1.3		
1.6	-4.9		
1.7	-6.8		
1.8	-9.2		
1.9	-11.8		
2.0	-12.4	1.0	-13.4
2.1	-11.1	0.4	-11.6
2.2	-10.1	-0.1	-10.1
2.3	-11.6	-0.5	-11.0
2.4	-14.8	-1.0	-13.8
2.5	-20.3	-1.4	-18.8
2.6	-19.1	-1.9	-17.2
2.7	-16.0	-2.3	-13.7
2.8	-17.9	-2.7	-15.2
2.9	-20.7	-3.1	-17.6
3.0	-16.7	-3.4	-13.3
3.1	-18.7	-3.8	-14.9
3.2	-21.2	-4.1	-17.0
3.3	-20.2	-4.5	-15.8
3.4	-18.8	-4.8	-14.0
3.5	-18.3	-5.1	-13.2
3.6	-15.2	-5.4	-9.8
3.7	-16.5	-5.7	-10.8
3.8	-21.2	-6.0	-15.2
3.9	-18.9	-6.3	-12.6
4.0	-16.8	-6.6	-10.2
4.1	-20.0	-6.8	-13.1
4.2	-24.8	-7.1	-17.7
4.3	-23.3	-7.3	-15.9
4.4	-23.6	-7.6	-16.0
4.5	-21.4	-7.8	-13.6
4.6	-18.3	-8.1	-10.2
4.7	-18.6	-8.3	-10.3
4.8	-20.3	-8.5	-11.8
4.9	-21.7	-8.8	-12.9
5.0	-19.9	-9.0	-10.9
5.1	-21.3	-9.2	-12.1
5.2	-21.9	-9.4	-12.5
5.3	-26.5	-9.6	-16.9
5.4	-33.6	-9.8	-23.8
5.5	-22.9	-10.0	-12.9
5.6	-20.5	-10.2	-10.3
5.7	-24.7	-10.4	-14.3
5.8	-25.1	-10.6	-14.5
5.9	-24.0	-10.8	-13.2

Orbit Communication Systems Ltd.
 AL-7107-Ka, 2.15 m Antenna, EIRPsd Data Table
 X-pol Azimuth LHCP, -10° to +10° @ 0.1° increment

-4.0	-15.7	-6.6	-9.1
-3.9	-19.9	-6.3	-13.6
-3.8	-26.0	-6.0	-20.1
-3.7	-34.4	-5.7	-28.7
-3.6	-21.3	-5.4	-15.9
-3.5	-16.5	-5.1	-11.4
-3.4	-14.2	-4.8	-9.4
-3.3	-13.3	-4.5	-8.8
-3.2	-16.8	-4.1	-12.7
-3.1	-24.5	-3.8	-20.7
-3.0	-18.3	-3.4	-14.8
-2.9	-17.5	-3.1	-14.4
-2.8	-19.3	-2.7	-16.6
-2.7	-26.8	-2.3	-24.5
-2.6	-21.5	-1.9	-19.6
-2.5	-17.2	-1.4	-15.8
-2.4	-17.9	-1.0	-16.9
-2.3	-34.7	-0.5	-34.1
-2.2	-23.6	-0.1	-23.5
-2.1	-23.0	0.4	-23.4
-2.0	-18.0	1.0	-18.9
-1.9	-14.0		
-1.8	-15.2		
-1.7	-9.6		
-1.6	-5.0		
-1.5	-2.6		
-1.4	-1.3		
-1.3	-0.6		
-1.2	-0.2		
-1.1	0.5		
-1.0	1.1		
-0.9	1.1		
-0.8	-1.7		
-0.7	2.0		
-0.6	11.6		
-0.5	16.2		
-0.4	17.9		
-0.3	17.7		
-0.2	15.5		
-0.1	12.1		
0.0	11.0		

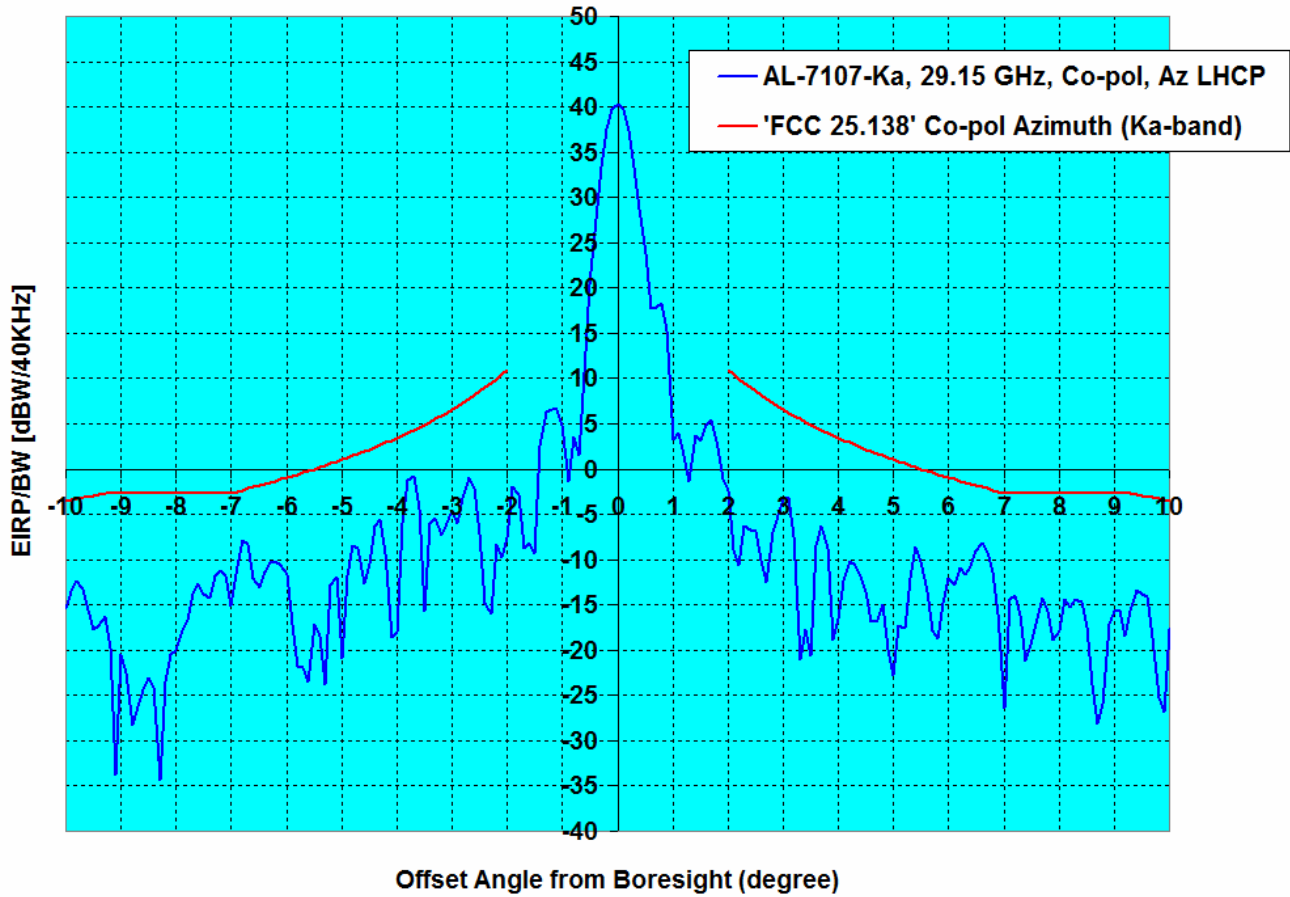
6.0	-24.5	-11.0	-13.5
6.1	-25.5	-11.1	-14.4
6.2	-29.1	-11.3	-17.8
6.3	-34.6	-11.5	-23.2
6.4	-26.6	-11.7	-15.0
6.5	-25.6	-11.8	-13.8
6.6	-27.1	-12.0	-15.1
6.7	-20.8	-12.2	-8.7
6.8	-17.7	-12.3	-5.4
6.9	-17.6	-12.5	-5.1
7.0	-19.4	-12.6	-6.8
7.1	-23.9	-12.6	-11.3
7.2	-25.2	-12.6	-12.6
7.3	-25.6	-12.6	-13.0
7.4	-25.6	-12.6	-12.9
7.5	-27.4	-12.6	-14.7
7.6	-28.7	-12.6	-16.1
7.7	-23.4	-12.6	-10.7
7.8	-25.4	-12.6	-12.7
7.9	-27.0	-12.6	-14.4
8.0	-32.1	-12.6	-19.4
8.1	-31.8	-12.6	-19.2
8.2	-27.6	-12.6	-15.0
8.3	-28.2	-12.6	-15.6
8.4	-26.4	-12.6	-13.8
8.5	-25.2	-12.6	-12.6
8.6	-23.3	-12.6	-10.7
8.7	-24.6	-12.6	-12.0
8.8	-28.8	-12.6	-16.2
8.9	-30.2	-12.6	-17.6
9.0	-33.7	-12.6	-21.1
9.1	-29.3	-12.6	-16.6
9.2	-30.1	-12.6	-17.4
9.3	-28.4	-12.6	-15.8
9.4	-32.4	-12.6	-19.8
9.5	-37.2	-12.6	-24.6
9.6	-36.5	-12.6	-23.9
9.7	-25.4	-12.6	-12.8
9.8	-22.9	-12.6	-10.3
9.9	-21.3	-12.6	-8.6
10.0	-22.0	-12.6	-9.4

'FCC 25.138' Co-pol Guide at Ka-band for EIRP/BW of -12.39 dBW/40KHz to Input and 40.24 dBW/40KHz in the Output of AL-7107-Ka Antenna at 29.15 GHz in Az LHCP
 Min BW of 7.98 MHz in case of 20W BUC



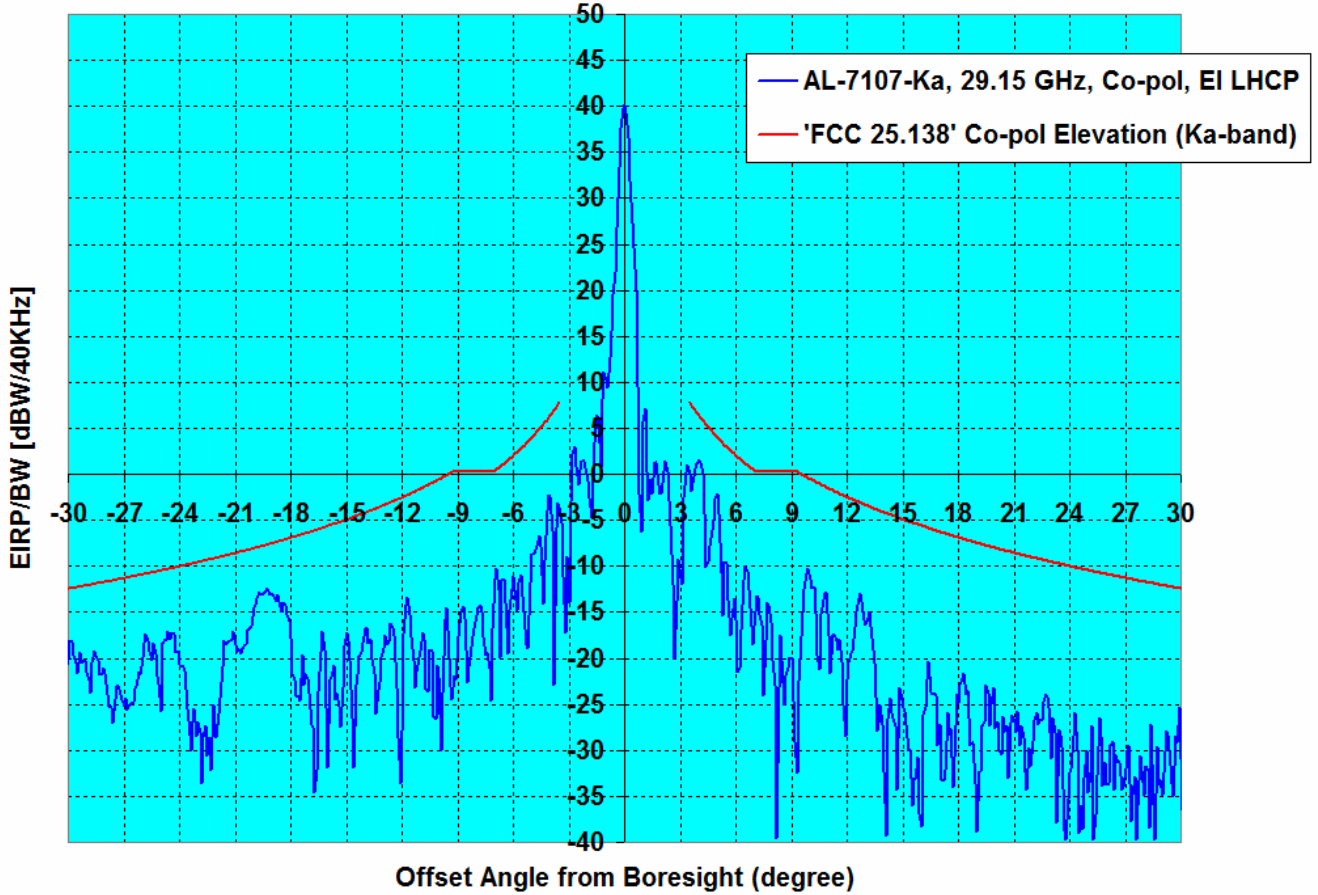
Configuration System, Freq., Polarization, Plane	Regulation EIRP/BW [dBW/40KHz]	Antenna Gain dBi	Input EIRPsd dBW/40KHz	Peak Excursions dB		Over Mask %
				± (2° to 10°)	± (10° to 180°)	
AL-7107-Ka, 29.15 GHz, Co-pol, Az LHCP	'FCC 25.138' Co-pol Azimuth (Ka-band)	52.62	-12.39	-5.01	1.11	0.17

'FCC 25.138' Co-pol Guide at Ka-band for EIRP/BW of -12.39 dBW/40KHz to Input and 40.24 dBW/40KHz in the Output of AL-7107-Ka Antenna at 29.15 GHz in Az LHCP
 Min BW of 7.98 MHz in case of 20W BUC



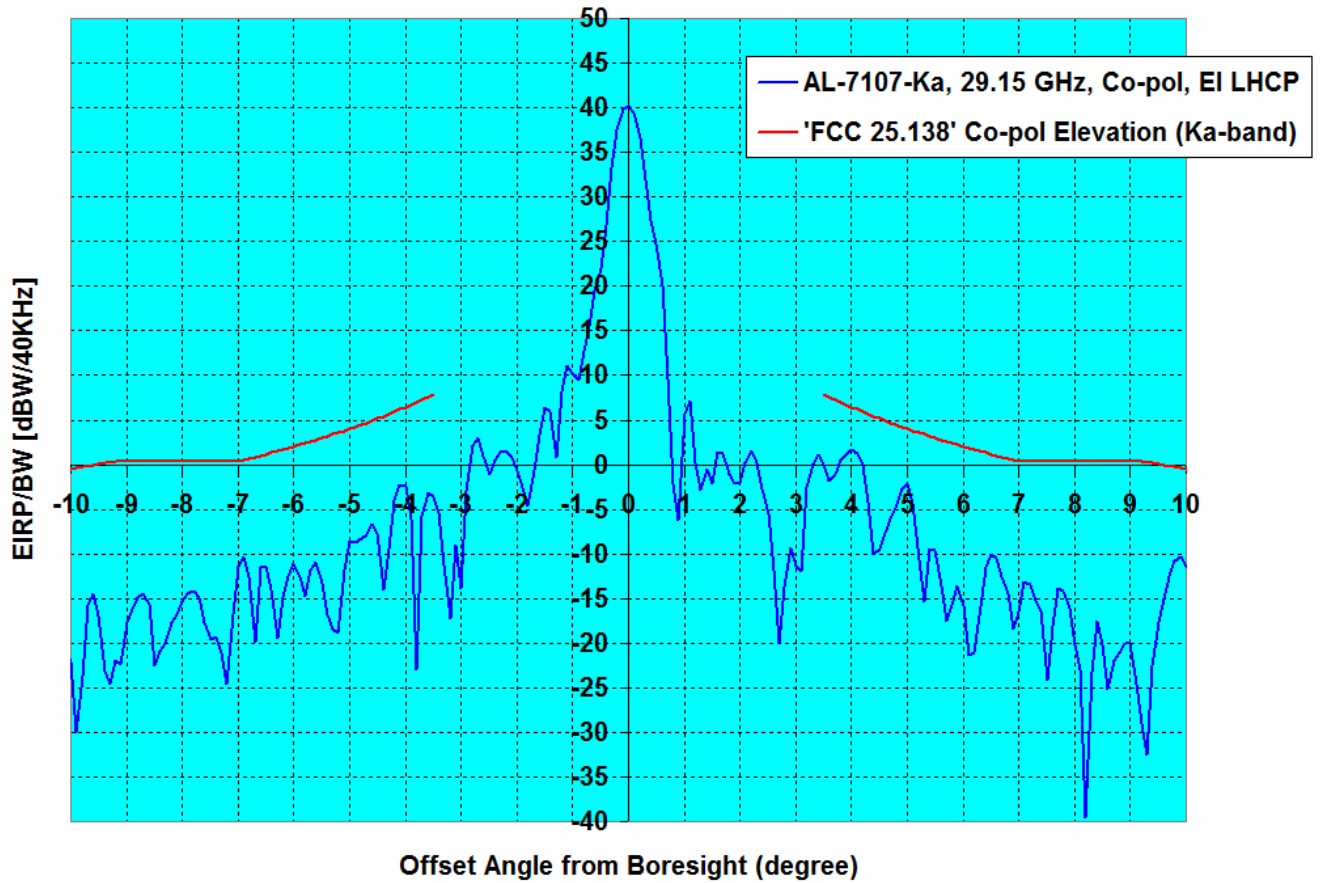
Configuration System, Freq., Polarization, Plane	Regulation EIRP/BW [dBW/40KHz]	Antenna Gain dBi	Input EIRPsd dBW/40KHz	Peak Excursions dB		Over Mask %
				± (2° to 10°)	± (10° to 180°)	
AL-7107-Ka, 29.15 GHz, Co-pol, Az LHCP	'FCC 25.138' Co-pol Azimuth (Ka-band)	52.62	-12.39	-5.01	1.11	0.17

**'FCC 25.138' Co-pol Guide at Ka-band for EIRP/BW of -12.39 dBW/40KHz to Input and
 40.24 dBW/40KHz in the Output of AL-7107-Ka Antenna at 29.15 GHz in EI LHCP
 Min BW of 7.98 MHz in case of 20W BUC**



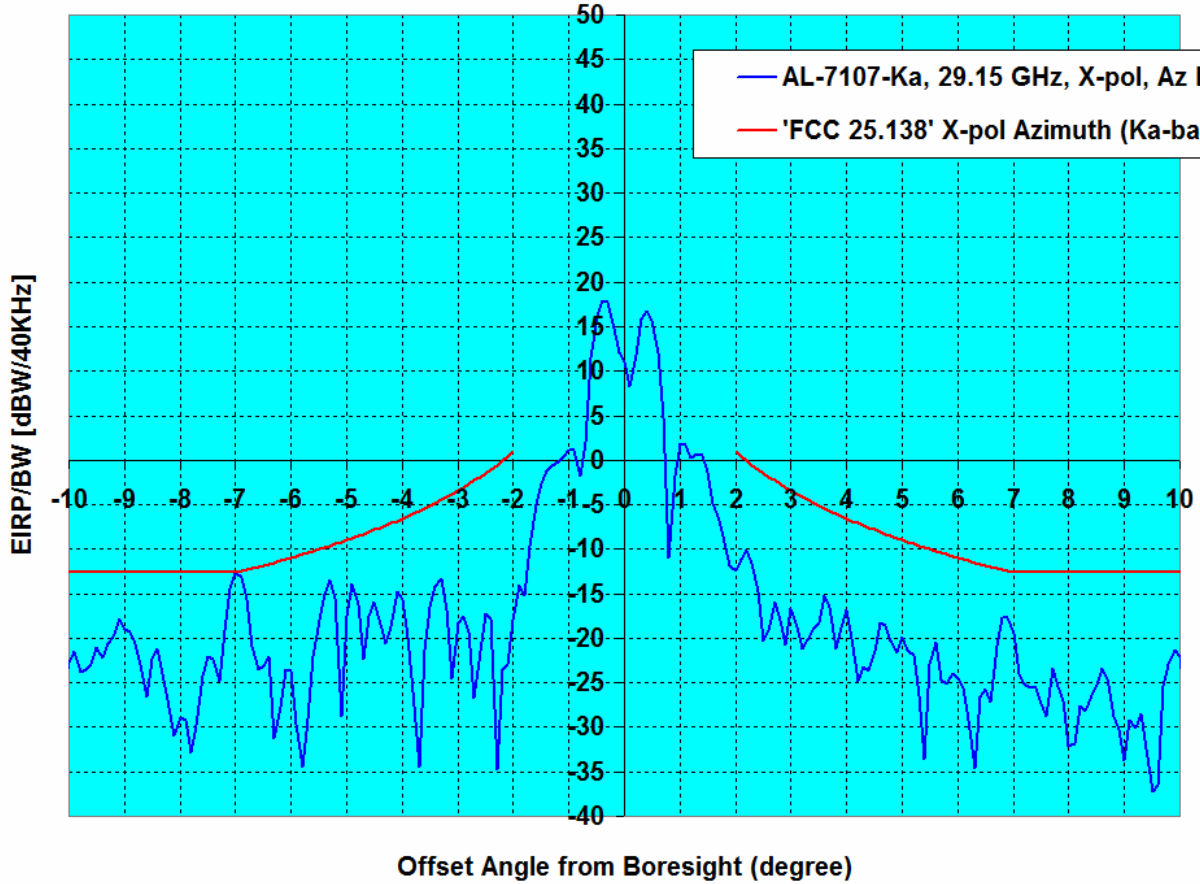
Configuration	Regulation	Antenna Gain	Input EIRPsd	Peak Excursions dB		Over Mask
System, Frequency, Polarization, Plane	EIRP/BW [dBW/40KHz]	dBi	dBW/40KHz	± (3.5° to 10°)	± (10° to 30°)	%
AL-7107-Ka, 29.15 GHz, Co-pol, EI LHCP	'FCC 25.138' Co-pol Elevation (Ka-band)	52.62	-12.39	-4.81	-4.73	0.00

**'FCC 25.138' Co-pol Guide at Ka-band for EIRP/BW of -12.39 dBW/40KHz to Input and
 40.24 dBW/40KHz in the Output of AL-7107-Ka Antenna at 29.15 GHz in Az LHCP
 Min BW of 7.98 MHz in case of 20W BUC**



Configuration	Regulation	Antenna Gain	Input EIRPsd	Peak Excursions dB		Over Mask
System, Frequency, Polarization, Plane	EIRP/BW [dBW/40KHz]	dBi	dBW/40KHz	± (3.5° to 10°)	± (10° to 30°)	%
AL-7107-Ka, 29.15 GHz, Co-pol, EI LHCP	'FCC 25.138' Co-pol Elevation (Ka-band)	52.62	-12.39	-4.81	-4.73	0.00

**'FCC 25.138' X-pol Guide at Ka-band for EIRP/BW of -12.39 dBW/40KHz to Input and
 40.24 dBW/40KHz in the Output of AL-7107-Ka Antenna at 29.15 GHz in Az LHCP
 Min BW of 7.98 MHz in case of 20W BUC**



Configuration System, Frequency, Polarization, Plane	Regulation EIRP/BW [dBW/40KHz]	Antenna Gain dBi	Input EIRPsd dBW/40KHz	Peak Excursions dB		Over Mask %
				± (2° to 7°)	± (2° to 9.2°)	
AL-7107-Ka, 29.15 GHz, X-pol, Az LHCP	'FCC 25.138' X-pol Azimuth (Ka-band)	52.62	-12.39	0.00	0.00	0.00

Orbit Communication Systems Ltd.

AL-7107-Ka, 2.15 m Antenna, EIRPsd Data Table
Co-pol Azimuth RHCP, -180° to +180° @ 1.0° increment

29.15 GHz @ -11.90 dBW / 40 kHz in Co-pol Az RHCP

Angle Degrees	EIRPsd dBW/40kHz	Mask dBW/40kHz	Over Mask dB
-179.0	-38.3	-10.5	-27.8
-178.0	-30.5	-10.5	-20.0
-177.0	-32.9	-10.5	-22.4
-176.0	-37.4	-10.5	-26.9
-175.0	-39.8	-10.5	-29.3
-174.0	-39.8	-10.5	-29.3
-173.0	-39.3	-10.5	-28.8
-172.0	-39.8	-10.5	-29.3
-171.0	-36.3	-10.5	-25.8
-170.0	-38.3	-10.5	-27.8
-169.0	-30.5	-10.5	-20.0
-168.0	-32.9	-10.5	-22.4
-167.0	-37.4	-10.5	-26.9
-166.0	-39.8	-10.5	-29.3
-165.0	-39.8	-10.5	-29.3
-164.0	-39.3	-10.5	-28.8
-163.0	-39.8	-10.5	-29.3
-162.0	-31.8	-10.5	-21.3
-161.0	-33.2	-10.5	-22.7
-160.0	-39.4	-10.5	-28.9
-159.0	-38.3	-10.5	-27.8
-158.0	-39.8	-10.5	-29.3
-157.0	-32.2	-10.5	-21.7
-156.0	-39.8	-10.5	-29.3
-155.0	-39.7	-10.5	-29.2
-154.0	-33.1	-10.5	-22.6
-153.0	-35.0	-10.5	-24.5
-152.0	-27.6	-10.5	-17.1
-151.0	-31.7	-10.5	-21.2
-150.0	-30.1	-10.5	-19.6
-149.0	-39.8	-10.5	-29.3
-148.0	-38.2	-10.5	-27.7
-147.0	-36.9	-10.5	-26.4
-146.0	-28.2	-10.5	-17.7
-145.0	-27.9	-10.5	-17.4
-144.0	-32.6	-10.5	-22.1
-143.0	-32.6	-10.5	-22.1
-142.0	-34.0	-10.5	-23.5
-141.0	-32.6	-10.5	-22.1
-140.0	-28.4	-10.5	-17.9
-139.0	-32.6	-10.5	-22.1
-138.0	-33.0	-10.5	-22.5
-137.0	-32.9	-10.5	-22.4
-136.0	-36.1	-10.5	-25.6
-135.0	-27.4	-10.5	-16.9
-134.0	-28.2	-10.5	-17.7
-133.0	-39.8	-10.5	-29.3
-132.0	-37.6	-10.5	-27.1
-131.0	-34.5	-10.5	-24.0
-130.0	-28.4	-10.5	-17.9
-129.0	-28.5	-10.5	-18.0
-128.0	-31.3	-10.5	-20.8
-127.0	-28.3	-10.5	-17.8
-126.0	-27.4	-10.5	-16.9
-125.0	-34.9	-10.5	-24.4
-124.0	-31.9	-10.5	-21.4
-123.0	-33.2	-10.5	-22.7
-122.0	-37.6	-10.5	-27.1
-121.0	-33.0	-10.5	-22.5
-120.0	-38.4	-10.5	-27.9

29.15 GHz @ -11.90 dBW / 40 kHz in Co-pol Az RHCP

Angle Degrees	EIRPsd dBW/40kHz	Mask dBW/40kHz	Over Mask dB
0.0	40.2		
1.0	3.3		
2.0	-2.4	11.0	-13.4
3.0	-3.3	6.6	-9.9
4.0	-16.5	3.4	-20.0
5.0	-22.8	1.0	-23.8
6.0	-12.1	-1.0	-11.1
7.0	-26.5	-2.6	-23.8
8.0	-17.8	-2.6	-15.2
9.0	-15.6	-2.6	-13.0
10.0	-17.7	-3.5	-14.2
11.0	-27.9	-4.5	-23.4
12.0	-15.5	-5.5	-10.0
13.0	-19.1	-6.3	-12.7
14.0	-25.1	-7.2	-17.9
15.0	-29.8	-7.9	-21.9
16.0	-35.8	-8.6	-27.2
17.0	-29.0	-9.3	-19.8
18.0	-26.8	-9.9	-16.9
19.0	-31.9	-10.5	-21.5
20.0	-23.2	-11.0	-12.2
21.0	-27.7	-11.6	-16.2
22.0	-16.9	-12.1	-4.9
23.0	-16.1	-12.5	-3.6
24.0	-18.3	-13.0	-5.3
25.0	-23.6	-13.4	-10.2
26.0	-20.0	-13.9	-6.2
27.0	-19.9	-14.3	-5.6
28.0	-25.9	-14.7	-11.2
29.0	-21.2	-15.1	-6.2
30.0	-19.6	-15.4	-4.2
31.0	-18.2	-15.8	-2.4
32.0	-22.2	-16.1	-6.1
33.0	-17.4	-16.5	-1.0
34.0	-23.3	-16.8	-6.5
35.0	-21.7	-17.1	-4.6
36.0	-17.4	-17.4	0.0
37.0	-18.8	-17.7	-1.1
38.0	-22.0	-18.0	-4.0
39.0	-21.7	-18.3	-3.5
40.0	-22.0	-18.6	-3.4
41.0	-24.7	-18.8	-5.9
42.0	-23.5	-19.1	-4.4
43.0	-24.1	-19.3	-4.8
44.0	-21.4	-19.6	-1.8
45.0	-21.6	-19.8	-1.8
46.0	-21.8	-20.1	-1.8
47.0	-20.0	-20.3	0.3
48.0	-26.5	-20.5	-6.0
49.0	-23.0	-10.5	-12.5
50.0	-25.7	-10.5	-15.2
51.0	-34.0	-10.5	-23.5
52.0	-29.1	-10.5	-18.6
53.0	-26.5	-10.5	-16.0
54.0	-28.7	-10.5	-18.2
55.0	-31.9	-10.5	-21.4
56.0	-38.9	-10.5	-28.4
57.0	-35.6	-10.5	-25.1
58.0	-32.0	-10.5	-21.5
59.0	-37.4	-10.5	-26.9

Orbit Communication Systems Ltd.
AL-7107-Ka, 2.15 m Antenna, EIRPsd Data Table
Co-pol Azimuth RHCP, -180° to +180° @ 1.0° increment

-119.0	-38.6	-10.5	-28.1
-118.0	-36.4	-10.5	-25.9
-117.0	-38.7	-10.5	-28.2
-116.0	-34.5	-10.5	-24.0
-115.0	-39.8	-10.5	-29.3
-114.0	-34.8	-10.5	-24.3
-113.0	-30.0	-10.5	-19.5
-112.0	-32.2	-10.5	-21.7
-111.0	-29.7	-10.5	-19.2
-110.0	-29.7	-10.5	-19.2
-109.0	-39.8	-10.5	-29.3
-108.0	-37.1	-10.5	-26.6
-107.0	-37.6	-10.5	-27.1
-106.0	-32.6	-10.5	-22.1
-105.0	-32.9	-10.5	-22.4
-104.0	-32.3	-10.5	-21.8
-103.0	-32.4	-10.5	-21.9
-102.0	-28.6	-10.5	-18.1
-101.0	-35.7	-10.5	-25.2
-100.0	-29.4	-10.5	-18.9
-99.0	-32.4	-10.5	-21.9
-98.0	-39.8	-10.5	-29.3
-97.0	-36.1	-10.5	-25.6
-96.0	-39.8	-10.5	-29.3
-95.0	-32.1	-10.5	-21.6
-94.0	-32.0	-10.5	-21.5
-93.0	-35.0	-10.5	-24.5
-92.0	-32.4	-10.5	-21.9
-91.0	-31.1	-10.5	-20.6
-90.0	-34.1	-10.5	-23.6
-89.0	-39.6	-10.5	-29.1
-88.0	-31.1	-10.5	-20.6
-87.0	-28.3	-10.5	-17.8
-86.0	-25.7	-10.5	-15.2
-85.0	-25.7	-10.5	-15.2
-84.0	-27.7	-10.5	-17.2
-83.0	-32.6	-10.5	-22.1
-82.0	-32.6	-10.5	-22.1
-81.0	-25.1	-10.5	-14.6
-80.0	-25.2	-10.5	-14.7
-79.0	-22.7	-10.5	-12.2
-78.0	-21.7	-10.5	-11.2
-77.0	-29.1	-10.5	-18.6
-76.0	-26.6	-10.5	-16.1
-75.0	-27.0	-10.5	-16.5
-74.0	-23.3	-10.5	-12.8
-73.0	-22.6	-10.5	-12.1
-72.0	-19.3	-10.5	-8.8
-71.0	-19.1	-10.5	-8.6
-70.0	-18.2	-10.5	-7.7
-69.0	-19.1	-10.5	-8.6
-68.0	-17.1	-10.5	-6.6
-67.0	-17.0	-10.5	-6.5
-66.0	-17.5	-10.5	-7.0
-65.0	-18.8	-10.5	-8.3
-64.0	-17.2	-10.5	-6.7
-63.0	-19.3	-10.5	-8.8
-62.0	-19.8	-10.5	-9.3
-61.0	-21.8	-10.5	-11.3
-60.0	-22.8	-10.5	-12.3
-59.0	-23.5	-10.5	-13.0
-58.0	-23.9	-10.5	-13.4
-57.0	-27.4	-10.5	-16.9

60.0	-34.8	-10.5	-24.3
61.0	-37.8	-10.5	-27.3
62.0	-36.9	-10.5	-26.4
63.0	-39.8	-10.5	-29.3
64.0	-30.5	-10.5	-20.0
65.0	-32.2	-10.5	-21.7
66.0	-39.8	-10.5	-29.3
67.0	-32.3	-10.5	-21.8
68.0	-37.5	-10.5	-27.0
69.0	-33.7	-10.5	-23.2
70.0	-32.7	-10.5	-22.2
71.0	-32.3	-10.5	-21.8
72.0	-28.5	-10.5	-18.0
73.0	-27.5	-10.5	-17.0
74.0	-29.7	-10.5	-19.2
75.0	-29.8	-10.5	-19.3
76.0	-32.3	-10.5	-21.8
77.0	-39.8	-10.5	-29.3
78.0	-32.8	-10.5	-22.3
79.0	-39.8	-10.5	-29.3
80.0	-33.9	-10.5	-23.4
81.0	-34.6	-10.5	-24.1
82.0	-35.9	-10.5	-25.4
83.0	-35.5	-10.5	-25.0
84.0	-38.8	-10.5	-28.3
85.0	-39.8	-10.5	-29.3
86.0	-37.8	-10.5	-27.3
87.0	-33.9	-10.5	-23.4
88.0	-32.0	-10.5	-21.5
89.0	-38.1	-10.5	-27.6
90.0	-31.0	-10.5	-20.5
91.0	-37.4	-10.5	-26.9
92.0	-39.2	-10.5	-28.7
93.0	-39.8	-10.5	-29.3
94.0	-30.6	-10.5	-20.1
95.0	-37.5	-10.5	-27.0
96.0	-35.0	-10.5	-24.5
97.0	-36.7	-10.5	-26.2
98.0	-37.6	-10.5	-27.1
99.0	-39.7	-10.5	-29.2
100.0	-32.3	-10.5	-21.8
101.0	-34.2	-10.5	-23.7
102.0	-36.8	-10.5	-26.3
103.0	-35.2	-10.5	-24.7
104.0	-34.6	-10.5	-24.1
105.0	-32.0	-10.5	-21.5
106.0	-36.9	-10.5	-26.4
107.0	-35.5	-10.5	-25.0
108.0	-35.8	-10.5	-25.3
109.0	-37.3	-10.5	-26.8
110.0	-35.4	-10.5	-24.9
111.0	-37.0	-10.5	-26.5
112.0	-32.1	-10.5	-21.6
113.0	-36.5	-10.5	-26.0
114.0	-37.5	-10.5	-27.0
115.0	-35.3	-10.5	-24.8
116.0	-35.6	-10.5	-25.1
117.0	-39.5	-10.5	-29.0
118.0	-37.4	-10.5	-26.9
119.0	-39.4	-10.5	-28.9
120.0	-39.8	-10.5	-29.3
121.0	-39.1	-10.5	-28.6
122.0	-33.5	-10.5	-23.0

Orbit Communication Systems Ltd.
AL-7107-Ka, 2.15 m Antenna, EIRPsd Data Table
Co-pol Azimuth RHCP, -180° to +180° @ 1.0° increment

-56.0	-27.5	-10.5	-17.0
-55.0	-27.0	-10.5	-16.5
-54.0	-28.3	-10.5	-17.8
-53.0	-23.8	-10.5	-13.3
-52.0	-24.1	-10.5	-13.6
-51.0	-27.9	-10.5	-17.4
-50.0	-28.2	-10.5	-17.7
-49.0	-28.9	-10.5	-18.4
-48.0	-33.1	-20.5	-12.5
-47.0	-39.8	-20.3	-19.5
-46.0	-26.4	-20.1	-6.3
-45.0	-28.1	-19.8	-8.3
-44.0	-25.1	-19.6	-5.5
-43.0	-30.8	-19.3	-11.5
-42.0	-28.6	-19.1	-9.5
-41.0	-29.7	-18.8	-10.9
-40.0	-29.3	-18.6	-10.8
-39.0	-35.3	-18.3	-17.0
-38.0	-34.4	-18.0	-16.4
-37.0	-31.3	-17.7	-13.6
-36.0	-26.7	-17.4	-9.2
-35.0	-30.8	-17.1	-13.7
-34.0	-28.0	-16.8	-11.2
-33.0	-28.6	-16.5	-12.1
-32.0	-29.7	-16.1	-13.5
-31.0	-32.0	-15.8	-16.2
-30.0	-27.2	-15.4	-11.8
-29.0	-30.6	-15.1	-15.6
-28.0	-31.7	-14.7	-17.1
-27.0	-33.8	-14.3	-19.5
-26.0	-33.6	-13.9	-19.7
-25.0	-23.1	-13.4	-9.7
-24.0	-32.1	-13.0	-19.1
-23.0	-30.5	-12.5	-18.0
-22.0	-31.7	-12.1	-19.6
-21.0	-31.7	-11.6	-20.1
-20.0	-30.4	-11.0	-19.4
-19.0	-33.2	-10.5	-22.7
-18.0	-31.6	-9.9	-21.7
-17.0	-31.3	-9.3	-22.1
-16.0	-21.2	-8.6	-12.6
-15.0	-34.9	-7.9	-27.0
-14.0	-25.2	-7.2	-18.1
-13.0	-23.3	-6.3	-17.0
-12.0	-24.4	-5.5	-19.0
-11.0	-18.8	-4.5	-14.2
-10.0	-15.5	-3.5	-12.0
-9.0	-20.5	-2.6	-17.9
-8.0	-20.1	-2.6	-17.5
-7.0	-15.0	-2.6	-12.4
-6.0	-11.6	-1.0	-10.7
-5.0	-20.8	1.0	-21.9
-4.0	-18.0	3.4	-21.5
-3.0	-4.5	6.6	-11.1
-2.0	-7.7	11.0	-18.6
-1.0	4.8		
0.0	40.2		

123.0	-37.9	-10.5	-27.4
124.0	-34.6	-10.5	-24.1
125.0	-31.9	-10.5	-21.4
126.0	-39.8	-10.5	-29.3
127.0	-37.2	-10.5	-26.7
128.0	-34.1	-10.5	-23.6
129.0	-37.8	-10.5	-27.3
130.0	-34.0	-10.5	-23.5
131.0	-38.5	-10.5	-28.0
132.0	-39.8	-10.5	-29.3
133.0	-39.8	-10.5	-29.3
134.0	-38.2	-10.5	-27.7
135.0	-39.4	-10.5	-28.9
136.0	-39.3	-10.5	-28.8
137.0	-39.8	-10.5	-29.3
138.0	-34.3	-10.5	-23.8
139.0	-37.2	-10.5	-26.7
140.0	-34.9	-10.5	-24.4
141.0	-33.2	-10.5	-22.7
142.0	-39.8	-10.5	-29.3
143.0	-38.2	-10.5	-27.7
144.0	-39.8	-10.5	-29.3
145.0	-39.8	-10.5	-29.3
146.0	-37.2	-10.5	-26.7
147.0	-35.9	-10.5	-25.4
148.0	-39.8	-10.5	-29.3
149.0	-36.0	-10.5	-25.5
150.0	-36.3	-10.5	-25.8
151.0	-39.4	-10.5	-28.9
152.0	-39.1	-10.5	-28.6
153.0	-34.5	-10.5	-24.0
154.0	-39.8	-10.5	-29.3
155.0	-31.0	-10.5	-20.5
156.0	-39.8	-10.5	-29.3
157.0	-39.8	-10.5	-29.3
158.0	-39.8	-10.5	-29.3
159.0	-37.9	-10.5	-27.4
160.0	-37.8	-10.5	-27.3
161.0	-32.4	-10.5	-21.9
162.0	-38.6	-10.5	-28.1
163.0	-32.6	-10.5	-22.1
164.0	-36.5	-10.5	-26.0
165.0	-39.8	-10.5	-29.3
166.0	-36.9	-10.5	-26.4
167.0	-39.8	-10.5	-29.3
168.0	-39.8	-10.5	-29.3
169.0	-39.8	-10.5	-29.3
170.0	-39.4	-10.5	-28.9
171.0	-38.9	-10.5	-28.4
172.0	-39.8	-10.5	-29.3
173.0	-39.8	-10.5	-29.3
174.0	-35.1	-10.5	-24.6
175.0	-37.2	-10.5	-26.7
176.0	-36.0	-10.5	-25.5
177.0	-39.8	-10.5	-29.3
178.0	-39.8	-10.5	-29.3
179.0	-36.3	-10.5	-25.8

Orbit Communication Systems Ltd.

AL AL-7107-Ka, 2.15 m Antenna, EIRPsd Data Table
Co-pol Azimuth RHCP, -10° to +10° @ 0.1° increment

29.15 GHz @ -11.90 dBW / 40 kHz in Co-pol Az RHCP

Angle Degrees	EIRPsd dBW/40kHz	Mask dBW/40kHz	Over Mask dB
-10.0	-12.5	-3.5	-9.0
-9.9	-11.6	-3.4	-8.2
-9.8	-11.6	-3.3	-8.3
-9.7	-12.8	-3.2	-9.7
-9.6	-14.8	-3.1	-11.7
-9.5	-16.8	-2.9	-13.9
-9.4	-17.1	-2.8	-14.3
-9.3	-19.6	-2.7	-16.9
-9.2	-25.9	-2.6	-23.3
-9.1	-21.8	-2.6	-19.1
-9.0	-17.0	-2.6	-14.3
-8.9	-16.4	-2.6	-13.7
-8.8	-19.9	-2.6	-17.3
-8.7	-26.2	-2.6	-23.6
-8.6	-22.7	-2.6	-20.1
-8.5	-17.8	-2.6	-15.2
-8.4	-16.5	-2.6	-13.9
-8.3	-19.3	-2.6	-16.7
-8.2	-20.5	-2.6	-17.9
-8.1	-20.9	-2.6	-18.2
-8.0	-20.0	-2.6	-17.4
-7.9	-17.4	-2.6	-14.8
-7.8	-13.7	-2.6	-11.0
-7.7	-11.7	-2.6	-9.1
-7.6	-11.0	-2.6	-8.4
-7.5	-11.4	-2.6	-8.8
-7.4	-10.9	-2.6	-8.3
-7.3	-10.1	-2.6	-7.5
-7.2	-11.3	-2.6	-8.7
-7.1	-16.8	-2.6	-14.2
-7.0	-18.9	-2.6	-16.3
-6.9	-9.0	-2.5	-6.5
-6.8	-7.4	-2.3	-5.0
-6.7	-8.6	-2.2	-6.5
-6.6	-13.3	-2.0	-11.3
-6.5	-10.2	-1.8	-8.4
-6.4	-8.4	-1.7	-6.7
-6.3	-8.0	-1.5	-6.6
-6.2	-8.1	-1.3	-6.8
-6.1	-8.2	-1.1	-7.1
-6.0	-9.5	-1.0	-8.5
-5.9	-14.2	-0.8	-13.5
-5.8	-23.9	-0.6	-23.3
-5.7	-23.5	-0.4	-23.1
-5.6	-26.5	-0.2	-26.3
-5.5	-23.0	0.0	-23.0
-5.4	-26.1	0.2	-26.3
-5.3	-13.0	0.4	-13.4
-5.2	-10.8	0.6	-11.4
-5.1	-13.4	0.8	-14.2
-5.0	-15.1	1.0	-16.1
-4.9	-8.7	1.2	-9.9
-4.8	-7.5	1.5	-9.0
-4.7	-10.3	1.7	-11.9
-4.6	-17.2	1.9	-19.2
-4.5	-11.3	2.2	-13.4
-4.4	-5.7	2.4	-8.1
-4.3	-4.9	2.7	-7.5
-4.2	-9.3	2.9	-12.2
-4.1	-27.3	3.2	-30.5

29.15 GHz @ -11.90 dBW / 40 kHz in Co-pol Az RHCP

Angle Degrees	EIRPsd dBW/40kHz	Mask dBW/40kHz	Over Mask dB
0.0	40.9		
0.1	40.2		
0.2	37.6		
0.3	33.2		
0.4	28.1		
0.5	23.6		
0.6	17.6		
0.7	17.7		
0.8	18.5		
0.9	15.6		
1.0	4.7		
1.1	5.3		
1.2	1.9		
1.3	-0.8		
1.4	4.3		
1.5	2.8		
1.6	4.3		
1.7	6.0		
1.8	3.8		
1.9	-1.5		
2.0	-2.4	11.0	-13.4
2.1	-6.6	10.4	-17.0
2.2	-10.8	9.9	-20.7
2.3	-7.2	9.5	-16.7
2.4	-5.7	9.0	-14.7
2.5	-4.5	8.6	-13.1
2.6	-6.7	8.1	-14.8
2.7	-11.8	7.7	-19.5
2.8	-6.8	7.3	-14.1
2.9	-4.9	6.9	-11.8
3.0	-2.5	6.6	-9.1
3.1	-2.2	6.2	-8.4
3.2	-4.1	5.9	-10.0
3.3	-12.0	5.5	-17.6
3.4	-27.5	5.2	-32.7
3.5	-16.2	4.9	-21.1
3.6	-9.0	4.6	-13.6
3.7	-7.5	4.3	-11.8
3.8	-9.9	4.0	-13.9
3.9	-18.1	3.7	-21.9
4.0	-19.6	3.4	-23.0
4.1	-13.2	3.2	-16.4
4.2	-9.3	2.9	-12.2
4.3	-8.9	2.7	-11.5
4.4	-9.2	2.4	-11.6
4.5	-10.0	2.2	-12.2
4.6	-12.7	1.9	-14.6
4.7	-21.5	1.7	-23.2
4.8	-15.9	1.5	-17.4
4.9	-19.6	1.2	-20.8
5.0	-20.1	1.0	-21.1
5.1	-15.3	0.8	-16.1
5.2	-17.3	0.6	-17.9
5.3	-15.7	0.4	-16.1
5.4	-11.4	0.2	-11.6
5.5	-10.4	0.0	-10.4
5.6	-12.3	-0.2	-12.1
5.7	-16.4	-0.4	-16.0
5.8	-23.9	-0.6	-23.3
5.9	-16.8	-0.8	-16.0

Orbit Communication Systems Ltd.

AL AL-7107-Ka, 2.15 m Antenna, EIRPsd Data Table
 Co-pol Azimuth RHCP, -10° to +10° @ 0.1° increment

-4.0	-11.2	3.4	-14.6
-3.9	-4.1	3.7	-7.9
-3.8	-0.9	4.0	-4.9
-3.7	-0.9	4.3	-5.2
-3.6	-5.3	4.6	-9.9
-3.5	-11.5	4.9	-16.4
-3.4	-6.2	5.2	-11.4
-3.3	-6.9	5.5	-12.4
-3.2	-11.4	5.9	-17.2
-3.1	-6.0	6.2	-12.2
-3.0	-4.8	6.6	-11.4
-2.9	-4.3	6.9	-11.2
-2.8	-0.3	7.3	-7.6
-2.7	1.2	7.7	-6.5
-2.6	-0.8	8.1	-8.9
-2.5	-6.9	8.6	-15.4
-2.4	-14.3	9.0	-23.3
-2.3	-11.7	9.5	-21.2
-2.2	-7.7	9.9	-17.7
-2.1	-10.8	10.4	-21.2
-2.0	-5.8	11.0	-16.8
-1.9	-0.6		
-1.8	-2.0		
-1.7	-8.4		
-1.6	-5.2		
-1.5	-7.1		
-1.4	2.6		
-1.3	7.1		
-1.2	7.6		
-1.1	7.0		
-1.0	4.1		
-0.9	-5.1		
-0.8	6.5		
-0.7	6.5		
-0.6	7.8		
-0.5	20.5		
-0.4	28.4		
-0.3	34.4		
-0.2	38.4		
-0.1	40.4		
0.0	40.9		

6.0	-12.4	-1.0	-11.5
6.1	-11.0	-1.1	-9.9
6.2	-9.7	-1.3	-8.4
6.3	-10.1	-1.5	-8.6
6.4	-11.7	-1.7	-10.1
6.5	-10.7	-1.8	-8.9
6.6	-8.7	-2.0	-6.7
6.7	-9.3	-2.2	-7.2
6.8	-11.3	-2.3	-9.0
6.9	-14.9	-2.5	-12.5
7.0	-26.3	-2.6	-23.7
7.1	-16.1	-2.6	-13.5
7.2	-13.4	-2.6	-10.7
7.3	-14.9	-2.6	-12.3
7.4	-18.4	-2.6	-15.8
7.5	-17.1	-2.6	-14.5
7.6	-16.0	-2.6	-13.4
7.7	-13.7	-2.6	-11.1
7.8	-15.2	-2.6	-12.6
7.9	-18.6	-2.6	-16.0
8.0	-25.6	-2.6	-22.9
8.1	-17.7	-2.6	-15.1
8.2	-18.4	-2.6	-15.8
8.3	-17.3	-2.6	-14.6
8.4	-16.2	-2.6	-13.5
8.5	-17.9	-2.6	-15.3
8.6	-22.9	-2.6	-20.3
8.7	-32.1	-2.6	-29.4
8.8	-27.8	-2.6	-25.2
8.9	-20.0	-2.6	-17.4
9.0	-17.1	-2.6	-14.5
9.1	-20.3	-2.6	-17.7
9.2	-22.1	-2.6	-19.4
9.3	-18.4	-2.7	-15.7
9.4	-15.5	-2.8	-12.7
9.5	-15.6	-2.9	-12.7
9.6	-16.7	-3.1	-13.6
9.7	-18.4	-3.2	-15.2
9.8	-20.9	-3.3	-17.6
9.9	-23.8	-3.4	-20.4
10.0	-19.6	-3.5	-16.1

Orbit Communication Systems Ltd.

AL-7107-Ka, 2.15 m Antenna, EIRPsd Data Table
Co-pol Elevation RHCP, -30° to +30° @ 0.5° increment

29.15 GHz @ -11.90 dBW / 40 kHz in Co-pol EI RHCP

Angle	EIRPsd	Mask	Over Mask
Degrees	dBW/40kHz	dBW/40kHz	dB
-30.0	-20.0	-12.4	-7.6
-29.5	-21.7	-12.2	-9.4
-29.0	-21.4	-12.1	-9.4
-28.5	-19.8	-11.9	-7.9
-28.0	-21.7	-11.7	-10.0
-27.5	-25.8	-11.5	-14.3
-27.0	-25.2	-11.3	-13.9
-26.5	-24.7	-11.1	-13.7
-26.0	-19.9	-10.9	-9.1
-25.5	-20.2	-10.7	-9.6
-25.0	-25.8	-10.4	-15.3
-24.5	-18.0	-10.2	-7.7
-24.0	-20.6	-10.0	-10.6
-23.5	-26.7	-9.8	-16.9
-23.0	-27.0	-9.5	-17.4
-22.5	-30.6	-9.3	-21.3
-22.0	-28.6	-9.1	-19.5
-21.5	-18.6	-8.8	-9.8
-21.0	-18.6	-8.6	-10.0
-20.5	-18.5	-8.3	-10.2
-20.0	-14.6	-8.0	-6.6
-19.5	-12.9	-7.8	-5.2
-19.0	-12.9	-7.5	-5.4
-18.5	-15.0	-7.2	-7.8
-18.0	-17.8	-6.9	-10.9
-17.5	-24.6	-6.6	-18.0
-17.0	-23.7	-6.3	-17.5
-16.5	-23.7	-5.9	-17.7
-16.0	-31.8	-5.6	-26.2
-15.5	-23.8	-5.3	-18.5
-15.0	-17.1	-4.9	-12.2
-14.5	-22.9	-4.5	-18.3
-14.0	-16.7	-4.2	-12.6
-13.5	-21.6	-3.8	-17.8
-13.0	-18.9	-3.3	-15.5
-12.5	-16.7	-2.9	-13.8
-12.0	-27.9	-2.5	-25.4
-11.5	-17.6	-2.0	-15.6
-11.0	-19.2	-1.5	-17.6
-10.5	-19.0	-1.0	-18.0
-10.0	-22.0	-0.5	-21.5
-9.5	-16.9	0.1	-17.0
-9.0	-17.7	0.4	-18.0
-8.5	-22.6	0.4	-23.0
-8.0	-15.3	0.4	-15.7
-7.5	-19.7	0.4	-20.0
-7.0	-11.4	0.4	-11.7
-6.5	-11.4	1.2	-12.6
-6.0	-11.1	2.0	-13.1
-5.5	-13.2	3.0	-16.2
-5.0	-8.6	4.0	-12.6
-4.5	-7.8	5.2	-12.9
-4.0	-2.4	6.4	-8.8
-3.5	-3.6	7.9	-11.5
-3.0	-13.9		
-2.5	-1.1		
-2.0	-0.7		
-1.5	6.4		
-1.0	10.2		
-0.5	22.0		
0.0	40.2		

29.15 GHz @ -11.90 dBW / 40 kHz in Co-pol EI RHCP

Angle	EIRPsd	Mask	Over Mask
Degrees	dBW/40kHz	dBW/40kHz	dB
0.0	40.2		
0.5	24.7		
1.0	5.7		
1.5	-2.2		
2.0	-2.1		
2.5	-5.5		
3.0	-11.3		
3.5	0.1	7.9	-7.8
4.0	1.6	6.4	-4.8
4.5	-9.5	5.2	-14.7
5.0	-2.1	4.0	-6.2
5.5	-9.6	3.0	-12.6
6.0	-15.8	2.0	-17.9
6.5	-10.0	1.2	-11.2
7.0	-16.5	0.4	-16.9
7.5	-24.1	0.4	-24.5
8.0	-20.2	0.4	-20.6
8.5	-20.2	0.4	-20.5
9.0	-20.0	0.4	-20.4
9.5	-17.7	0.1	-17.8
10.0	-11.4	-0.5	-10.9
10.5	-21.2	-1.0	-20.2
11.0	-17.5	-1.5	-15.9
11.5	-19.1	-2.0	-17.0
12.0	-22.4	-2.5	-19.9
12.5	-14.9	-2.9	-12.0
13.0	-16.3	-3.3	-13.0
13.5	-20.5	-3.8	-16.7
14.0	-32.3	-4.2	-28.1
14.5	-26.4	-4.5	-21.9
15.0	-25.3	-4.9	-20.4
15.5	-36.1	-5.3	-30.8
16.0	-38.3	-5.6	-32.7
16.5	-23.6	-5.9	-17.6
17.0	-27.2	-6.3	-21.0
17.5	-28.3	-6.6	-21.7
18.0	-24.9	-6.9	-18.1
18.5	-23.5	-7.2	-16.3
19.0	-38.8	-7.5	-31.3
19.5	-22.9	-7.8	-15.2
20.0	-27.7	-8.0	-19.6
20.5	-28.0	-8.3	-19.7
21.0	-26.8	-8.6	-18.3
21.5	-28.6	-8.8	-19.7
22.0	-29.1	-9.1	-20.0
22.5	-26.7	-9.3	-17.4
23.0	-30.8	-9.5	-21.3
23.5	-28.3	-9.8	-18.5
24.0	-32.5	-10.0	-22.5
24.5	-39.0	-10.2	-28.8
25.0	-34.6	-10.4	-24.2
25.5	-32.7	-10.7	-22.0
26.0	-33.7	-10.9	-22.8
26.5	-30.5	-11.1	-19.4
27.0	-32.0	-11.3	-20.7
27.5	-32.8	-11.5	-21.3
28.0	-34.8	-11.7	-23.2
28.5	-35.9	-11.9	-24.1
29.0	-34.9	-12.1	-22.8
29.5	-33.7	-12.2	-21.4
30.0	-30.9	-12.4	-18.5

Orbit Communication Systems Ltd.
AL-7107-Ka, 2.15 m Antenna, EIRPsd Data Table
Co-pol Elevation RHCP, -10° to +10° @ 0.1° increment

29.15 GHz @ -11.90 dBW / 40 kHz in Co-pol EI RHCP

Angle	EIRPsd	Mask	Over Mask
Degrees	dBW/40kHz	dBW/40kHz	dB
-10.0	-15.2	-0.5	-14.7
-9.9	-16.3	-0.4	-15.9
-9.8	-14.9	-0.3	-14.6
-9.7	-12.3	-0.2	-12.1
-9.6	-11.6	-0.1	-11.6
-9.5	-15.3	0.1	-15.4
-9.4	-22.6	0.2	-22.8
-9.3	-18.6	0.3	-18.9
-9.2	-19.7	0.4	-20.1
-9.1	-30.7	0.4	-31.1
-9.0	-19.3	0.4	-19.7
-8.9	-17.9	0.4	-18.3
-8.8	-20.6	0.4	-21.0
-8.7	-13.8	0.4	-14.2
-8.6	-11.6	0.4	-12.0
-8.5	-13.5	0.4	-13.8
-8.4	-21.6	0.4	-21.9
-8.3	-30.4	0.4	-30.8
-8.2	-25.0	0.4	-25.4
-8.1	-23.1	0.4	-23.4
-8.0	-18.2	0.4	-18.6
-7.9	-15.9	0.4	-16.3
-7.8	-13.8	0.4	-14.1
-7.7	-13.1	0.4	-13.4
-7.6	-16.5	0.4	-16.8
-7.5	-28.4	0.4	-28.8
-7.4	-25.2	0.4	-25.5
-7.3	-26.5	0.4	-26.9
-7.2	-30.2	0.4	-30.6
-7.1	-20.3	0.4	-20.7
-7.0	-13.0	0.4	-13.4
-6.9	-10.2	0.5	-10.7
-6.8	-11.3	0.7	-12.0
-6.7	-14.8	0.8	-15.6
-6.6	-12.2	1.0	-13.2
-6.5	-10.5	1.2	-11.7
-6.4	-12.7	1.3	-14.1
-6.3	-19.0	1.5	-20.6
-6.2	-16.1	1.7	-17.7
-6.1	-13.8	1.9	-15.7
-6.0	-11.6	2.0	-13.7
-5.9	-11.1	2.2	-13.4
-5.8	-14.3	2.4	-16.7
-5.7	-13.1	2.6	-15.7
-5.6	-11.0	2.8	-13.8
-5.5	-13.1	3.0	-16.0
-5.4	-18.8	3.2	-22.0
-5.3	-17.6	3.4	-21.0
-5.2	-16.5	3.6	-20.1
-5.1	-12.8	3.8	-16.6
-5.0	-10.1	4.0	-14.2
-4.9	-9.0	4.2	-13.2
-4.8	-10.1	4.5	-14.6
-4.7	-9.8	4.7	-14.5
-4.6	-8.0	4.9	-12.9
-4.5	-8.6	5.2	-13.7
-4.4	-12.4	5.4	-17.8
-4.3	-9.8	5.7	-15.4
-4.2	-4.8	5.9	-10.7
-4.1	-3.0	6.2	-9.2

29.15 GHz @ -11.90 dBW / 40 kHz in Co-pol EI RHCP

Angle	EIRPsd	Mask	Over Mask
Degrees	dBW/40kHz	dBW/40kHz	dB
0.0	40.9		
0.1	40.1		
0.2	37.5		
0.3	33.0		
0.4	28.6		
0.5	25.5		
0.6	20.9		
0.7	8.3		
0.8	8.1		
0.9	5.9		
1.0	4.0		
1.1	6.5		
1.2	1.9		
1.3	-5.3		
1.4	-2.0		
1.5	-5.6		
1.6	0.2		
1.7	0.3		
1.8	-1.9		
1.9	-0.3		
2.0	0.7		
2.1	1.8		
2.2	2.2		
2.3	1.4		
2.4	0.2		
2.5	-3.0		
2.6	-11.7		
2.7	-12.7		
2.8	-13.2		
2.9	-14.2		
3.0	-11.8		
3.1	-12.2		
3.2	-3.5		
3.3	-0.1		
3.4	0.4		
3.5	-0.9	7.9	-8.8
3.6	-2.7	7.6	-10.3
3.7	-0.9	7.3	-8.2
3.8	1.1	7.0	-5.9
3.9	1.3	6.7	-5.4
4.0	1.1	6.4	-5.3
4.1	0.4	6.2	-5.7
4.2	-2.6	5.9	-8.5
4.3	-10.6	5.7	-16.3
4.4	-9.8	5.4	-15.3
4.5	-8.7	5.2	-13.8
4.6	-7.5	4.9	-12.5
4.7	-6.4	4.7	-11.1
4.8	-5.8	4.5	-10.3
4.9	-2.9	4.2	-7.1
5.0	-2.4	4.0	-6.4
5.1	-4.6	3.8	-8.4
5.2	-13.7	3.6	-17.3
5.3	-17.4	3.4	-20.8
5.4	-12.9	3.2	-16.0
5.5	-15.4	3.0	-18.3
5.6	-18.8	2.8	-21.6
5.7	-23.6	2.6	-26.2
5.8	-18.5	2.4	-20.9
5.9	-18.6	2.2	-20.8

Orbit Communication Systems Ltd.
AL-7107-Ka, 2.15 m Antenna, EIRPsd Data Table
Co-pol Elevation RHCP, -10° to +10° @ 0.1° increment

-4.0	-3.3	6.4	-9.7
-3.9	-6.4	6.7	-13.1
-3.8	-22.6	7.0	-29.6
-3.7	-7.1	7.3	-14.4
-3.6	-3.7	7.6	-11.2
-3.5	-3.9	7.9	-11.8
-3.4	-5.2		
-3.3	-9.9		
-3.2	-19.5		
-3.1	-7.9		
-3.0	-11.0		
-2.9	-5.4		
-2.8	1.6		
-2.7	2.8		
-2.6	0.8		
-2.5	-1.7		
-2.4	1.6		
-2.3	2.6		
-2.2	2.5		
-2.1	1.7		
-2.0	-1.1		
-1.9	-4.8		
-1.8	-6.0		
-1.7	-2.6		
-1.6	4.1		
-1.5	7.5		
-1.4	7.8		
-1.3	1.9		
-1.2	5.6		
-1.1	10.8		
-1.0	10.6		
-0.9	9.0		
-0.8	12.5		
-0.7	16.1		
-0.6	19.1		
-0.5	20.8		
-0.4	26.3		
-0.3	33.5		
-0.2	38.1		
-0.1	40.4		
0.0	40.9		

6.0	-23.1	2.0	-25.1
6.1	-23.1	1.9	-24.9
6.2	-20.9	1.7	-22.6
6.3	-14.3	1.5	-15.8
6.4	-10.6	1.3	-12.0
6.5	-9.9	1.2	-11.0
6.6	-11.6	1.0	-12.6
6.7	-13.7	0.8	-14.5
6.8	-16.6	0.7	-17.2
6.9	-22.4	0.5	-22.9
7.0	-15.8	0.4	-16.2
7.1	-12.1	0.4	-12.5
7.2	-11.9	0.4	-12.2
7.3	-13.0	0.4	-13.3
7.4	-16.4	0.4	-16.8
7.5	-26.4	0.4	-26.8
7.6	-16.2	0.4	-16.6
7.7	-14.0	0.4	-14.4
7.8	-13.5	0.4	-13.9
7.9	-14.2	0.4	-14.6
8.0	-16.0	0.4	-16.3
8.1	-19.9	0.4	-20.3
8.2	-19.6	0.4	-19.9
8.3	-16.5	0.4	-16.9
8.4	-17.6	0.4	-18.0
8.5	-20.9	0.4	-21.3
8.6	-19.1	0.4	-19.4
8.7	-17.1	0.4	-17.5
8.8	-18.8	0.4	-19.2
8.9	-21.4	0.4	-21.8
9.0	-25.2	0.4	-25.6
9.1	-25.2	0.4	-25.6
9.2	-20.7	0.4	-21.0
9.3	-21.1	0.3	-21.4
9.4	-19.7	0.2	-19.9
9.5	-14.7	0.1	-14.7
9.6	-11.6	-0.1	-11.5
9.7	-9.1	-0.2	-8.9
9.8	-8.7	-0.3	-8.5
9.9	-8.7	-0.4	-8.3
10.0	-11.3	-0.5	-10.8

Orbit Communication Systems Ltd.
AL-7107-Ka, 2.15 m Antenna, EIRPsd Data Table
X-pol Azimuth RHCP, -10° to +10° @ 0.1° increment

29.15 GHz @ -11.90 dBW / 40 kHz in X-pol Az RHCP

Angle	EIRPsd	Mask	Over Mask
Degrees	dBW/40kHz	dBW/40kHz	dB
-10.0	-20.2	-12.6	-7.6
-9.9	-21.0	-12.6	-8.4
-9.8	-20.1	-12.6	-7.5
-9.7	-19.5	-12.6	-6.9
-9.6	-18.3	-12.6	-5.6
-9.5	-17.8	-12.6	-5.2
-9.4	-16.4	-12.6	-3.8
-9.3	-15.9	-12.6	-3.3
-9.2	-16.3	-12.6	-3.7
-9.1	-18.6	-12.6	-6.0
-9.0	-21.3	-12.6	-8.7
-8.9	-24.5	-12.6	-11.9
-8.8	-24.9	-12.6	-12.2
-8.7	-24.1	-12.6	-11.4
-8.6	-24.5	-12.6	-11.9
-8.5	-23.0	-12.6	-10.4
-8.4	-20.2	-12.6	-7.6
-8.3	-17.7	-12.6	-5.0
-8.2	-18.3	-12.6	-5.7
-8.1	-20.5	-12.6	-7.8
-8.0	-25.4	-12.6	-12.8
-7.9	-22.6	-12.6	-9.9
-7.8	-20.2	-12.6	-7.6
-7.7	-18.7	-12.6	-6.1
-7.6	-21.1	-12.6	-8.4
-7.5	-19.9	-12.6	-7.3
-7.4	-15.9	-12.6	-3.3
-7.3	-14.7	-12.6	-2.1
-7.2	-15.6	-12.6	-2.9
-7.1	-13.6	-12.6	-1.0
-7.0	-12.6	-12.6	0.0
-6.9	-12.5	-12.5	0.0
-6.8	-14.1	-12.3	-1.8
-6.7	-16.5	-12.2	-4.3
-6.6	-16.1	-12.0	-4.1
-6.5	-13.6	-11.8	-1.8
-6.4	-13.4	-11.7	-1.8
-6.3	-15.8	-11.5	-4.3
-6.2	-21.3	-11.3	-10.0
-6.1	-33.4	-11.1	-22.2
-6.0	-26.4	-11.0	-15.5
-5.9	-27.5	-10.8	-16.7
-5.8	-22.1	-10.6	-11.5
-5.7	-19.2	-10.4	-8.8
-5.6	-17.5	-10.2	-7.3
-5.5	-23.6	-10.0	-13.6
-5.4	-29.0	-9.8	-19.2
-5.3	-20.0	-9.6	-10.4
-5.2	-18.4	-9.4	-9.0
-5.1	-26.9	-9.2	-17.7
-5.0	-18.8	-9.0	-9.8
-4.9	-13.7	-8.8	-4.9
-4.8	-12.5	-8.5	-4.0
-4.7	-14.1	-8.3	-5.8
-4.6	-22.7	-8.1	-14.6
-4.5	-27.8	-7.8	-20.0
-4.4	-18.0	-7.6	-10.4
-4.3	-11.7	-7.3	-4.4
-4.2	-9.0	-7.1	-2.0
-4.1	-9.4	-6.8	-2.6

29.15 GHz @ -11.90 dBW / 40 kHz in X-pol Az RHCP

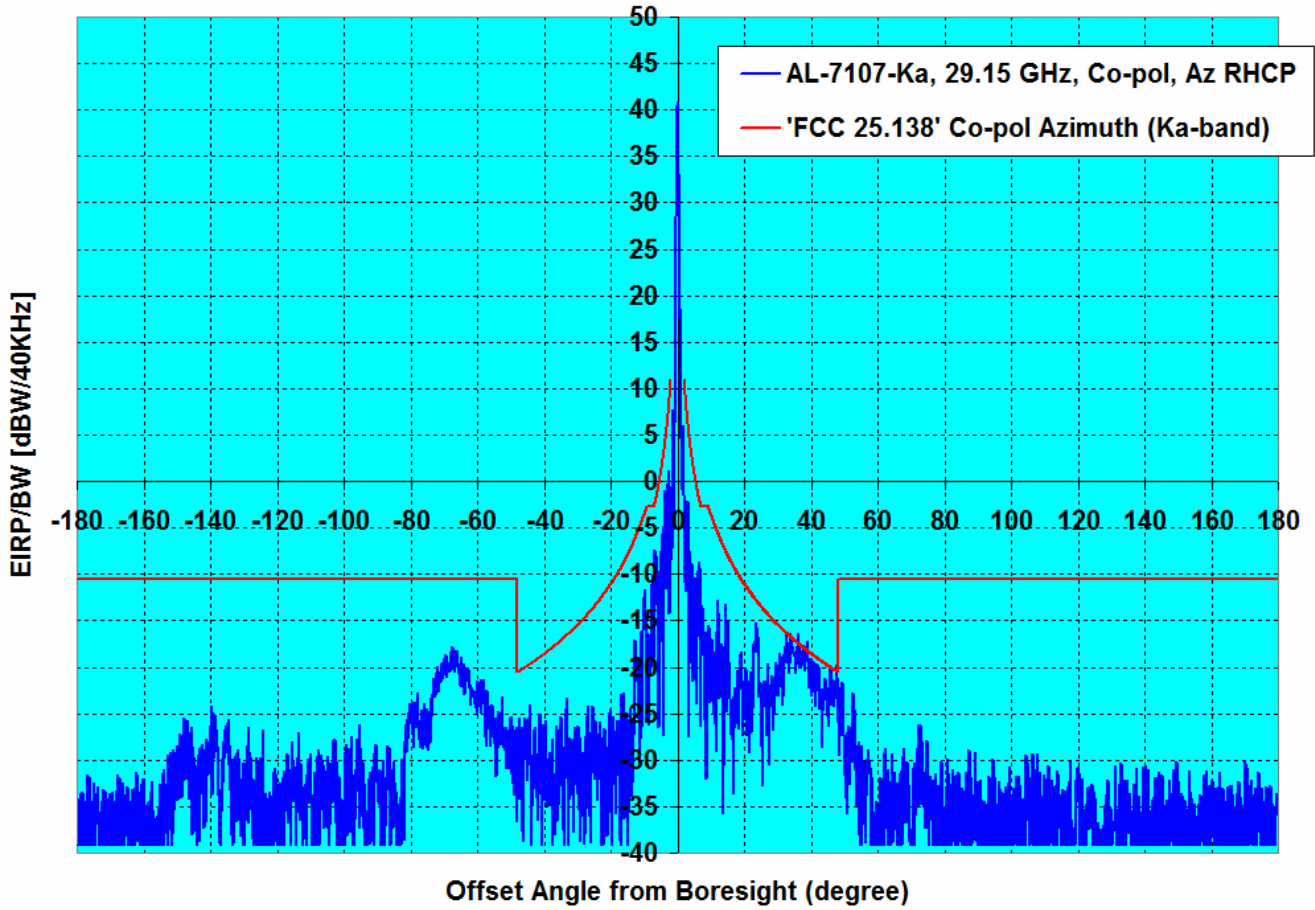
Angle	EIRPsd	Mask	Over Mask
Degrees	dBW/40kHz	dBW/40kHz	dB
0.0	15.1		
0.1	13.3		
0.2	18.8		
0.3	21.0		
0.4	21.0		
0.5	18.7		
0.6	13.7		
0.7	7.6		
0.8	0.5		
0.9	-9.7		
1.0	0.7		
1.1	0.3		
1.2	-5.1		
1.3	-4.9		
1.4	-3.5		
1.5	-3.5		
1.6	-4.8		
1.7	-9.0		
1.8	-21.4		
1.9	-20.5		
2.0	-22.8	1.0	-23.8
2.1	-17.2	0.4	-17.6
2.2	-14.9	-0.1	-14.8
2.3	-13.8	-0.5	-13.3
2.4	-14.2	-1.0	-13.2
2.5	-15.9	-1.4	-14.4
2.6	-13.4	-1.9	-11.6
2.7	-10.4	-2.3	-8.1
2.8	-9.8	-2.7	-7.2
2.9	-13.3	-3.1	-10.2
3.0	-18.6	-3.4	-15.2
3.1	-18.5	-3.8	-14.7
3.2	-20.9	-4.1	-16.8
3.3	-27.2	-4.5	-22.7
3.4	-38.8	-4.8	-34.0
3.5	-28.7	-5.1	-23.6
3.6	-30.2	-5.4	-24.8
3.7	-23.0	-5.7	-17.3
3.8	-24.1	-6.0	-18.1
3.9	-34.2	-6.3	-27.9
4.0	-20.6	-6.6	-14.0
4.1	-15.4	-6.8	-8.5
4.2	-16.8	-7.1	-9.7
4.3	-17.7	-7.3	-10.3
4.4	-16.6	-7.6	-9.0
4.5	-16.5	-7.8	-8.7
4.6	-21.9	-8.1	-13.8
4.7	-28.9	-8.3	-20.6
4.8	-29.2	-8.5	-20.7
4.9	-27.9	-8.8	-19.2
5.0	-25.0	-9.0	-16.0
5.1	-23.1	-9.2	-13.9
5.2	-22.7	-9.4	-13.3
5.3	-17.4	-9.6	-7.8
5.4	-16.0	-9.8	-6.2
5.5	-17.8	-10.0	-7.8
5.6	-21.4	-10.2	-11.2
5.7	-27.6	-10.4	-17.2
5.8	-33.2	-10.6	-22.6
5.9	-27.2	-10.8	-16.4

Orbit Communication Systems Ltd.
AL-7107-Ka, 2.15 m Antenna, EIRPsd Data Table
X-pol Azimuth RHCP, -10° to +10° @ 0.1° increment

-4.0	-14.3	-6.6	-7.8
-3.9	-21.6	-6.3	-15.4
-3.8	-13.2	-6.0	-7.2
-3.7	-13.4	-5.7	-7.7
-3.6	-20.3	-5.4	-14.9
-3.5	-20.3	-5.1	-15.2
-3.4	-20.7	-4.8	-15.9
-3.3	-36.9	-4.5	-32.4
-3.2	-19.6	-4.1	-15.5
-3.1	-20.2	-3.8	-16.4
-3.0	-32.2	-3.4	-28.7
-2.9	-16.4	-3.1	-13.4
-2.8	-14.1	-2.7	-11.4
-2.7	-17.7	-2.3	-15.4
-2.6	-33.4	-1.9	-31.5
-2.5	-23.8	-1.4	-22.4
-2.4	-13.8	-1.0	-12.8
-2.3	-8.5	-0.5	-8.0
-2.2	-7.4	-0.1	-7.3
-2.1	-8.3	0.4	-8.7
-2.0	-10.7	1.0	-11.7
-1.9	-20.4		
-1.8	-9.1		
-1.7	-3.0		
-1.6	-0.9		
-1.5	-0.4		
-1.4	-0.8		
-1.3	-4.6		
-1.2	-4.2		
-1.1	2.1		
-1.0	4.1		
-0.9	5.2		
-0.8	8.6		
-0.7	13.1		
-0.6	16.3		
-0.5	17.3		
-0.4	15.4		
-0.3	5.8		
-0.2	13.1		
-0.1	16.4		
0.0	15.1		

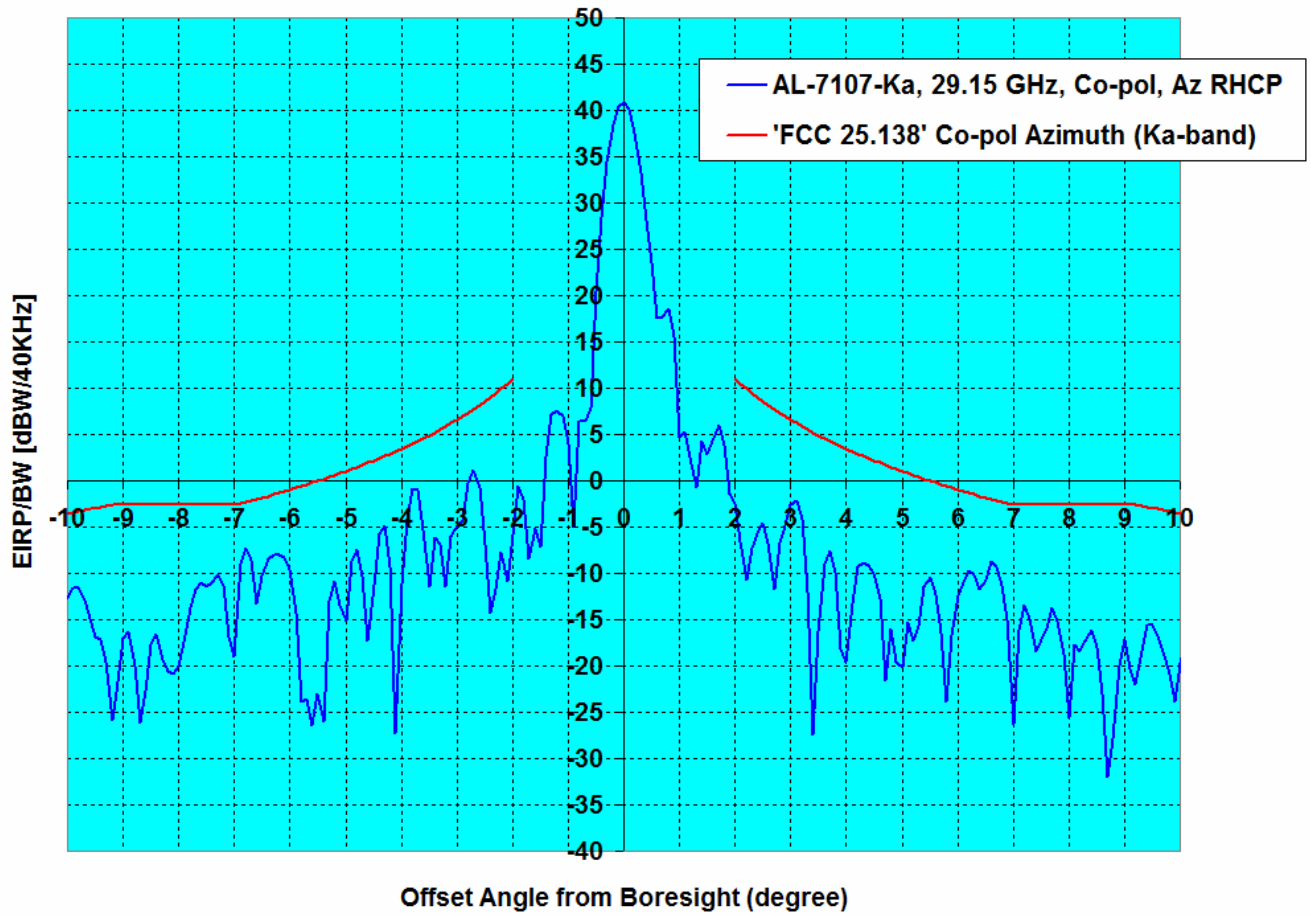
6.0	-25.4	-11.0	-14.4
6.1	-22.4	-11.1	-11.3
6.2	-19.1	-11.3	-7.8
6.3	-19.1	-11.5	-7.6
6.4	-20.2	-11.7	-8.5
6.5	-18.7	-11.8	-6.9
6.6	-16.6	-12.0	-4.6
6.7	-16.0	-12.2	-3.9
6.8	-16.2	-12.3	-3.9
6.9	-19.1	-12.5	-6.6
7.0	-22.0	-12.6	-9.4
7.1	-27.3	-12.6	-14.7
7.2	-29.4	-12.6	-16.7
7.3	-37.4	-12.6	-24.7
7.4	-34.6	-12.6	-21.9
7.5	-26.1	-12.6	-13.5
7.6	-21.3	-12.6	-8.7
7.7	-20.7	-12.6	-8.0
7.8	-26.7	-12.6	-14.1
7.9	-29.1	-12.6	-16.5
8.0	-21.7	-12.6	-9.1
8.1	-23.1	-12.6	-10.5
8.2	-26.1	-12.6	-13.5
8.3	-29.5	-12.6	-16.8
8.4	-26.5	-12.6	-13.8
8.5	-23.5	-12.6	-10.9
8.6	-23.1	-12.6	-10.4
8.7	-23.5	-12.6	-10.9
8.8	-23.9	-12.6	-11.3
8.9	-22.4	-12.6	-9.8
9.0	-21.6	-12.6	-9.0
9.1	-25.4	-12.6	-12.8
9.2	-22.8	-12.6	-10.1
9.3	-23.2	-12.6	-10.6
9.4	-25.3	-12.6	-12.7
9.5	-33.6	-12.6	-21.0
9.6	-35.5	-12.6	-22.9
9.7	-33.9	-12.6	-21.3
9.8	-30.9	-12.6	-18.3
9.9	-23.9	-12.6	-11.2
10.0	-23.8	-12.6	-11.2

**'FCC 25.138' Co-pol Guide at Ka-band for EIRP/BW of -11.90 dBW/40KHz to Input and
 40.86 dBW/40KHz in the Output of AL-7107-Ka Antenna at 29.15 GHz in Az RHCP
 Min BW of 7.13 MHz in case of 20W BUC**



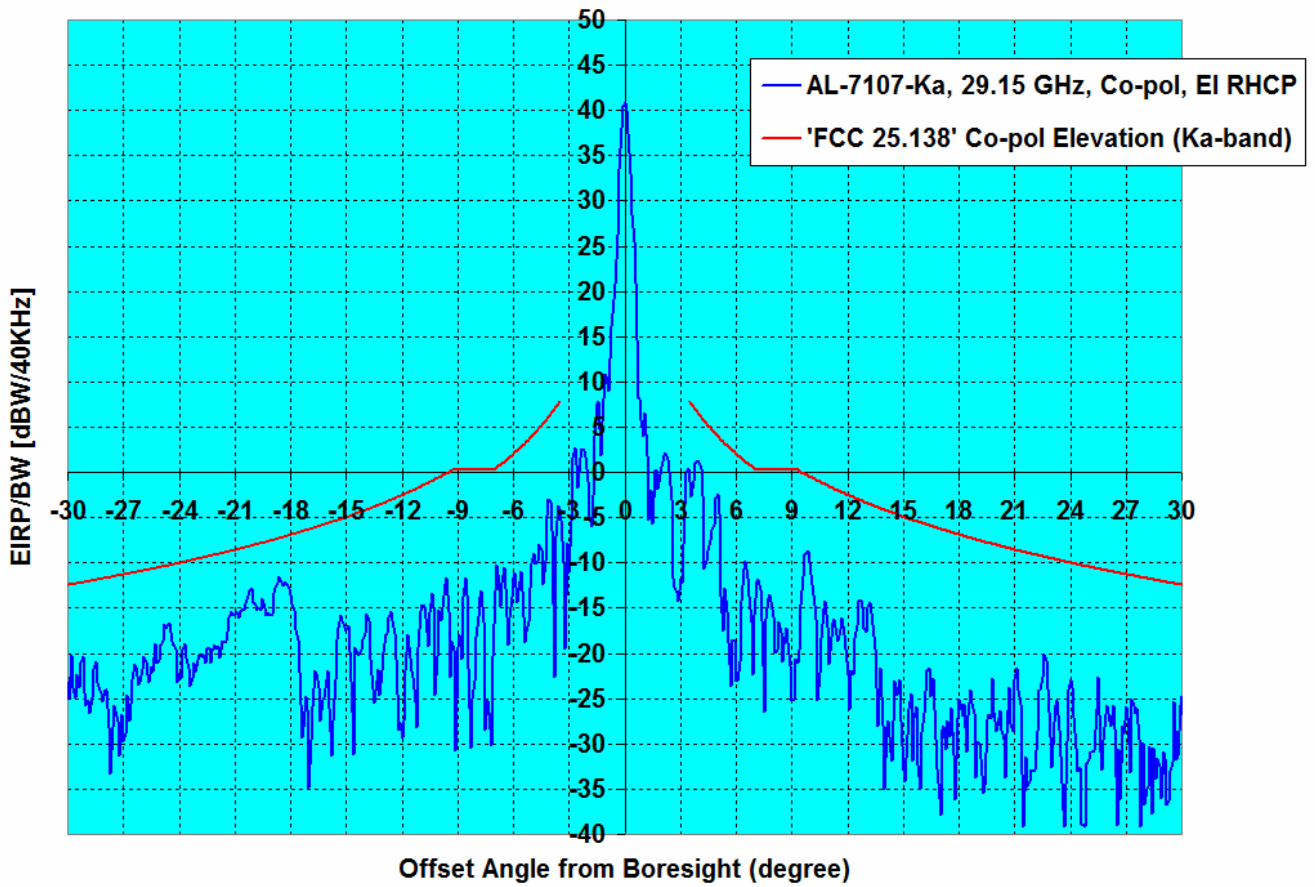
Configuration System, Freq., Polarization, Plane	Regulation EIRP/BW [dBW/40KHz]	Antenna Gain dBi	Input EIRPsd dBW/40KHz	Peak Excursions dB		Over Mask %
				± (2° to 10°)	± (10° to 180°)	
AL-7107-Ka, 29.15 GHz, Co-pol, Az RHCP	'FCC 25.138' Co-pol Azimuth (Ka-band)	52.76	-11.90	-4.92	1.10	0.34

'FCC 25.138' Co-pol Guide at Ka-band for EIRP/BW of -11.90 dBW/40KHz to Input and 40.86 dBW/40KHz in the Output of AL-7107-Ka Antenna at 29.15 GHz in Az RHCP
 Min BW of 7.13 MHz in case of 20W BUC



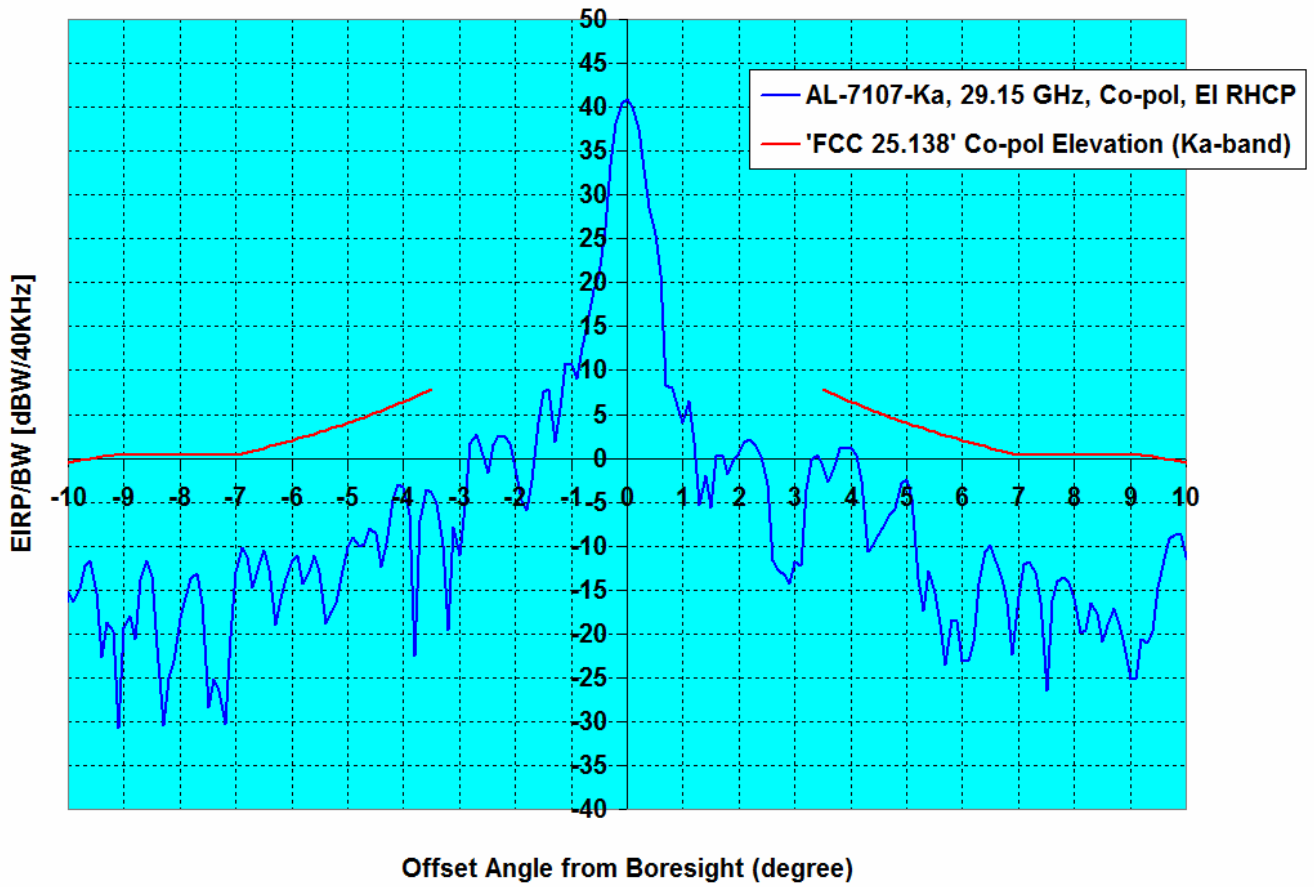
Configuration	Regulation	Antenna Gain	Input EIRPsd	Peak Excursions dB		Over Mask
System, Freq., Polarization, Plane	EIRP/BW [dBW/40KHz]	dBi	dBW/40KHz	± (2° to 10°)	± (10° to 180°)	%
AL-7107-Ka, 29.15 GHz, Co-pol, Az RHCP	'FCC 25.138' Co-pol Azimuth (Ka-band)	52.76	-11.90	-4.92	1.10	0.34

**'FCC 25.138' Co-pol Guide at Ka-band for EIRP/BW of -11.90 dBW/40KHz to Input and
 40.86 dBW/40KHz in the Output of AL-7107-Ka Antenna at 29.15 GHz in EI RHCP
 Min BW of 7.13 MHz in case of 20W BUC**



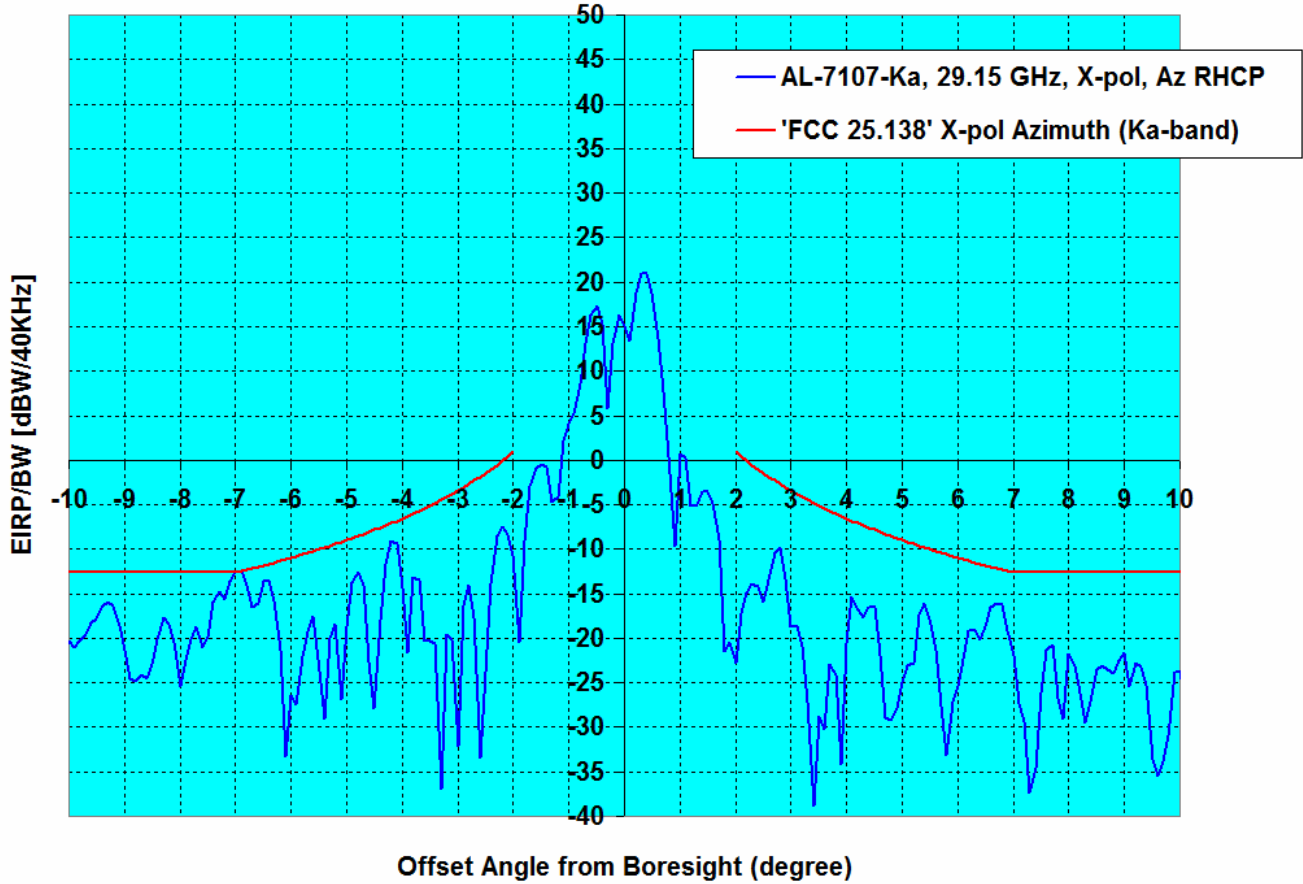
Configuration	Regulation	Antenna Gain	Input EIRPsd	Peak Excursions dB		Over Mask
System, Frequency, Polarization, Plane	EIRP/BW [dBW/40KHz]	dBi	dBW/40KHz	± (3.5° to 10°)	± (10° to 30°)	%
AL-7107-Ka, 29.15 GHz, Co-pol, EI RHCP	'FCC 25.138' Co-pol Elevation (Ka-band)	52.76	-11.90	-5.34	-4.24	0.00

**'FCC 25.138' Co-pol Guide at Ka-band for EIRP/BW of -11.90 dBW/40KHz to Input and
 40.86 dBW/40KHz in the Output of AL-7107-Ka Antenna at 29.15 GHz in EI RHCP
 Min BW of 7.13 MHz in case of 20W BUC**



Configuration	Regulation	Antenna Gain	Input EIRPsd	Peak Excursions dB		Over Mask
System, Frequency, Polarization, Plane	EIRP/BW [dBW/40KHz]	dBi	dBW/40KHz	± (3.5° to 10°)	± (10° to 30°)	%
AL-7107-Ka, 29.15 GHz, Co-pol, EI RHCP	'FCC 25.138' Co-pol Elevation (Ka-band)	52.76	-11.90	-5.34	-4.24	0.00

**'FCC 25.138' X-pol Guide at Ka-band for EIRP/BW of -11.90 dBW/40KHz to Input and
 40.86 dBW/40KHz in the Output of AL-7107-Ka Antenna at 29.15 GHz in Az RHCP
 Min BW of 7.13 MHz in case of 20W BUC**



Configuration System, Frequency, Polarization, Plane	Regulation EIRP/BW [dBW/40KHz]	Antenna Gain dBi	Input EIRPsd dBW/40KHz	Peak Excursions dB		Over Mask %
				± (2° to 7°)	± (2° to 9.2°)	
AL-7107-Ka, 29.15 GHz, X-pol, Az RHCP	'FCC 25.138' X-pol Azimuth (Ka-band)	52.76	-11.90	0.00	0.00	0.00

Orbit Communication Systems Ltd.
 AL-7107-Ka, 2.15 m Antenna, Pattern Data Table
 Co-pol Azimuth LHCP, -180° to +180° @ 1.0° increment

27.55 GHz Antenna Pattern in Co-pol Az LHCP

Angle	Gain	Mask	Over Mask
Degrees	dBi	dBi	dB
-179.0	-20.9	0.0	-20.9
-178.0	-26.7	0.0	-26.7
-177.0	-26.5	0.0	-26.5
-176.0	-18.2	0.0	-18.2
-175.0	-20.9	0.0	-20.9
-174.0	-21.1	0.0	-21.1
-173.0	-23.3	0.0	-23.3
-172.0	-25.7	0.0	-25.7
-171.0	-22.9	0.0	-22.9
-170.0	-24.2	0.0	-24.2
-169.0	-22.5	0.0	-22.5
-168.0	-21.9	0.0	-21.9
-167.0	-27.9	0.0	-27.9
-166.0	-26.2	0.0	-26.2
-165.0	-19.5	0.0	-19.5
-164.0	-18.2	0.0	-18.2
-163.0	-21.6	0.0	-21.6
-162.0	-27.5	0.0	-27.5
-161.0	-25.5	0.0	-25.5
-160.0	-24.3	0.0	-24.3
-159.0	-17.4	0.0	-17.4
-158.0	-20.6	0.0	-20.6
-157.0	-18.7	0.0	-18.7
-156.0	-17.8	0.0	-17.8
-155.0	-26.4	0.0	-26.4
-154.0	-17.1	0.0	-17.1
-153.0	-22.6	0.0	-22.6
-152.0	-19.3	0.0	-19.3
-151.0	-14.8	0.0	-14.8
-150.0	-18.1	0.0	-18.1
-149.0	-16.6	0.0	-16.6
-148.0	-22.1	0.0	-22.1
-147.0	-24.1	0.0	-24.1
-146.0	-15.1	0.0	-15.1
-145.0	-18.9	0.0	-18.9
-144.0	-16.7	0.0	-16.7
-143.0	-14.5	0.0	-14.5
-142.0	-14.8	0.0	-14.8
-141.0	-14.2	0.0	-14.2
-140.0	-19.3	0.0	-19.3
-139.0	-16.6	0.0	-16.6
-138.0	-13.8	0.0	-13.8
-137.0	-24.9	0.0	-24.9
-136.0	-17.6	0.0	-17.6
-135.0	-15.6	0.0	-15.6
-134.0	-19.6	0.0	-19.6
-133.0	-19.4	0.0	-19.4
-132.0	-17.1	0.0	-17.1
-131.0	-18.8	0.0	-18.8
-130.0	-18.5	0.0	-18.5
-129.0	-14.9	0.0	-14.9
-128.0	-16.7	0.0	-16.7
-127.0	-21.7	0.0	-21.7
-126.0	-16.7	0.0	-16.7
-125.0	-15.8	0.0	-15.8
-124.0	-15.7	0.0	-15.7
-123.0	-19.9	0.0	-19.9
-122.0	-19.6	0.0	-19.6
-121.0	-17.4	0.0	-17.4
-120.0	-21.6	0.0	-21.6

27.55 GHz Antenna Pattern in Co-pol Az LHCP

Angle	Gain	Mask	Over Mask
Degrees	dBi	dBi	dB
0.0	52.1		
1.0	17.2		
2.0	11.5	21.5	-10.0
3.0	3.6	17.1	-13.4
4.0	5.9	13.9	-8.1
5.0	-2.8	11.5	-14.3
6.0	-0.4	9.5	-10.0
7.0	3.3	7.9	-4.6
8.0	-2.5	8.0	-10.5
9.0	-5.5	8.0	-13.5
10.0	-13.8	7.0	-20.8
11.0	-7.5	6.0	-13.4
12.0	-4.9	5.0	-10.0
13.0	-15.4	4.2	-19.5
14.0	-9.2	3.3	-12.6
15.0	-5.3	2.6	-7.9
16.0	-7.2	1.9	-9.1
17.0	-7.2	1.2	-8.4
18.0	-6.8	0.6	-7.4
19.0	-5.7	0.0	-5.7
20.0	-23.1	-0.5	-22.6
21.0	-16.5	-1.1	-15.4
22.0	-6.1	-1.6	-4.5
23.0	-7.9	-2.0	-5.8
24.0	-10.1	-2.5	-7.6
25.0	-11.5	-2.9	-8.6
26.0	-12.1	-3.4	-8.7
27.0	-12.1	-3.8	-8.3
28.0	-11.4	-4.2	-7.2
29.0	-6.3	-4.6	-1.8
30.0	-6.5	-4.9	-1.6
31.0	-5.2	-5.3	0.1
32.0	-4.3	-5.6	1.4
33.0	-5.8	-6.0	0.2
34.0	-3.4	-6.3	2.9
35.0	-4.9	-6.6	1.7
36.0	-2.9	-6.9	4.0
37.0	-3.0	-7.2	4.2
38.0	-6.1	-7.5	1.4
39.0	-5.1	-7.8	2.7
40.0	-7.4	-8.1	0.7
41.0	-8.9	-8.3	-0.5
42.0	-9.3	-8.6	-0.7
43.0	-12.5	-8.8	-3.7
44.0	-10.4	-9.1	-1.3
45.0	-11.0	-9.3	-1.7
46.0	-5.2	-9.6	4.4
47.0	-9.5	-9.8	0.3
48.0	-8.9	-10.0	1.2
49.0	-13.7	-10.0	-3.7
50.0	-14.0	-10.0	-4.0
51.0	-9.4	-10.0	0.6
52.0	-7.4	-10.0	2.6
53.0	-7.9	-10.0	2.1
54.0	-8.9	-10.0	1.1
55.0	-13.3	-10.0	-3.3
56.0	-14.7	-10.0	-4.7
57.0	-11.3	-10.0	-1.3
58.0	-11.6	-10.0	-1.6
59.0	-11.8	-10.0	-1.8

Orbit Communication Systems Ltd.
AL-7107-Ka, 2.15 m Antenna, Pattern Data Table
Co-pol Azimuth LHCP, -180° to +180° @ 1.0° increment

-119.0	-20.4	0.0	-20.4
-118.0	-26.4	0.0	-26.4
-117.0	-20.8	0.0	-20.8
-116.0	-18.3	0.0	-18.3
-115.0	-18.6	0.0	-18.6
-114.0	-20.2	0.0	-20.2
-113.0	-19.3	0.0	-19.3
-112.0	-20.9	0.0	-20.9
-111.0	-20.2	0.0	-20.2
-110.0	-19.0	0.0	-19.0
-109.0	-14.5	0.0	-14.5
-108.0	-20.8	0.0	-20.8
-107.0	-21.5	0.0	-21.5
-106.0	-19.2	0.0	-19.2
-105.0	-18.4	0.0	-18.4
-104.0	-18.0	0.0	-18.0
-103.0	-21.0	0.0	-21.0
-102.0	-24.7	0.0	-24.7
-101.0	-15.1	0.0	-15.1
-100.0	-18.9	0.0	-18.9
-99.0	-26.4	0.0	-26.4
-98.0	-14.1	0.0	-14.1
-97.0	-13.6	0.0	-13.6
-96.0	-12.9	0.0	-12.9
-95.0	-16.6	0.0	-16.6
-94.0	-17.7	0.0	-17.7
-93.0	-17.7	0.0	-17.7
-92.0	-12.0	0.0	-12.0
-91.0	-14.7	0.0	-14.7
-90.0	-16.2	0.0	-16.2
-89.0	-13.8	0.0	-13.8
-88.0	-18.2	0.0	-18.2
-87.0	-13.4	0.0	-13.4
-86.0	-12.2	0.0	-12.2
-85.0	-12.3	-10.0	-2.3
-84.0	-16.9	-10.0	-6.9
-83.0	-19.5	-10.0	-9.5
-82.0	-15.3	-10.0	-5.3
-81.0	-12.5	-10.0	-2.5
-80.0	-10.7	-10.0	-0.7
-79.0	-11.3	-10.0	-1.3
-78.0	-10.5	-10.0	-0.5
-77.0	-11.5	-10.0	-1.5
-76.0	-12.6	-10.0	-2.6
-75.0	-11.3	-10.0	-1.3
-74.0	-10.8	-10.0	-0.8
-73.0	-8.3	-10.0	1.7
-72.0	-8.2	-10.0	1.8
-71.0	-8.7	-10.0	1.3
-70.0	-7.8	-10.0	2.2
-69.0	-6.9	-10.0	3.1
-68.0	-5.8	-10.0	4.2
-67.0	-6.2	-10.0	3.8
-66.0	-5.3	-10.0	4.7
-65.0	-8.9	-10.0	1.1
-64.0	-8.1	-10.0	1.9
-63.0	-8.5	-10.0	1.5
-62.0	-9.6	-10.0	0.4
-61.0	-7.2	-10.0	2.8
-60.0	-10.1	-10.0	-0.1
-59.0	-10.8	-10.0	-0.8
-58.0	-10.1	-10.0	-0.1
-57.0	-11.1	-10.0	-1.1

60.0	-16.5	-10.0	-6.5
61.0	-17.9	-10.0	-7.9
62.0	-15.2	-10.0	-5.2
63.0	-13.0	-10.0	-3.0
64.0	-17.3	-10.0	-7.3
65.0	-19.7	-10.0	-9.7
66.0	-11.2	-10.0	-1.2
67.0	-17.3	-10.0	-7.3
68.0	-14.5	-10.0	-4.5
69.0	-14.8	-10.0	-4.8
70.0	-13.2	-10.0	-3.2
71.0	-16.2	-10.0	-6.2
72.0	-19.1	-10.0	-9.1
73.0	-13.4	-10.0	-3.4
74.0	-19.3	-10.0	-9.3
75.0	-25.5	-10.0	-15.5
76.0	-16.4	-10.0	-6.4
77.0	-16.4	-10.0	-6.4
78.0	-21.0	-10.0	-11.0
79.0	-22.0	-10.0	-12.0
80.0	-24.3	-10.0	-14.3
81.0	-20.9	-10.0	-10.9
82.0	-26.0	-10.0	-16.0
83.0	-18.1	-10.0	-8.1
84.0	-24.0	-10.0	-14.0
85.0	-25.7	-10.0	-15.7
86.0	-21.1	0.0	-21.1
87.0	-22.6	0.0	-22.6
88.0	-19.0	0.0	-19.0
89.0	-20.0	0.0	-20.0
90.0	-23.1	0.0	-23.1
91.0	-20.8	0.0	-20.8
92.0	-21.3	0.0	-21.3
93.0	-19.9	0.0	-19.9
94.0	-22.3	0.0	-22.3
95.0	-23.9	0.0	-23.9
96.0	-25.8	0.0	-25.8
97.0	-26.1	0.0	-26.1
98.0	-19.2	0.0	-19.2
99.0	-25.3	0.0	-25.3
100.0	-17.6	0.0	-17.6
101.0	-17.5	0.0	-17.5
102.0	-24.6	0.0	-24.6
103.0	-27.6	0.0	-27.6
104.0	-27.9	0.0	-27.9
105.0	-20.0	0.0	-20.0
106.0	-23.9	0.0	-23.9
107.0	-25.1	0.0	-25.1
108.0	-21.1	0.0	-21.1
109.0	-21.3	0.0	-21.3
110.0	-27.9	0.0	-27.9
111.0	-21.3	0.0	-21.3
112.0	-22.8	0.0	-22.8
113.0	-15.5	0.0	-15.5
114.0	-21.9	0.0	-21.9
115.0	-20.5	0.0	-20.5
116.0	-18.7	0.0	-18.7
117.0	-18.2	0.0	-18.2
118.0	-21.3	0.0	-21.3
119.0	-16.7	0.0	-16.7
120.0	-27.9	0.0	-27.9
121.0	-21.5	0.0	-21.5
122.0	-17.6	0.0	-17.6

Orbit Communication Systems Ltd.
AL-7107-Ka, 2.15 m Antenna, Pattern Data Table
Co-pol Azimuth LHCP, -180° to +180° @ 1.0° increment

-56.0	-9.1	-10.0	0.9
-55.0	-13.6	-10.0	-3.6
-54.0	-11.4	-10.0	-1.4
-53.0	-14.3	-10.0	-4.3
-52.0	-13.3	-10.0	-3.3
-51.0	-18.3	-10.0	-8.3
-50.0	-12.7	-10.0	-2.7
-49.0	-15.6	-10.0	-5.6
-48.0	-15.3	-10.0	-5.3
-47.0	-19.3	-9.8	-9.5
-46.0	-13.8	-9.6	-4.2
-45.0	-17.5	-9.3	-8.1
-44.0	-23.2	-9.1	-14.1
-43.0	-22.2	-8.8	-13.4
-42.0	-22.2	-8.6	-13.6
-41.0	-20.6	-8.3	-12.3
-40.0	-15.6	-8.1	-7.6
-39.0	-22.7	-7.8	-14.9
-38.0	-16.5	-7.5	-9.0
-37.0	-15.8	-7.2	-8.6
-36.0	-19.3	-6.9	-12.3
-35.0	-18.5	-6.6	-11.9
-34.0	-22.3	-6.3	-16.0
-33.0	-20.6	-6.0	-14.7
-32.0	-23.6	-5.6	-18.0
-31.0	-18.1	-5.3	-12.9
-30.0	-15.0	-4.9	-10.1
-29.0	-18.0	-4.6	-13.4
-28.0	-16.6	-4.2	-12.4
-27.0	-17.3	-3.8	-13.5
-26.0	-17.3	-3.4	-13.9
-25.0	-20.0	-2.9	-17.0
-24.0	-17.3	-2.5	-14.8
-23.0	-15.7	-2.0	-13.7
-22.0	-15.4	-1.6	-13.8
-21.0	-16.3	-1.1	-15.2
-20.0	-18.9	-0.5	-18.4
-19.0	-12.6	0.0	-12.7
-18.0	-18.1	0.6	-18.7
-17.0	-14.3	1.2	-15.5
-16.0	-17.5	1.9	-19.4
-15.0	-17.7	2.6	-20.3
-14.0	-25.8	3.3	-29.1
-13.0	-6.8	4.2	-11.0
-12.0	-4.1	5.0	-9.2
-11.0	-7.6	6.0	-13.6
-10.0	-5.5	7.0	-12.5
-9.0	-3.5	8.0	-11.5
-8.0	-4.1	8.0	-12.1
-7.0	1.8	7.9	-6.1
-6.0	-10.6	9.5	-20.2
-5.0	2.7	11.5	-8.9
-4.0	5.3	13.9	-8.7
-3.0	8.9	17.1	-8.2
-2.0	11.7	21.5	-9.8
-1.0	21.0		
0.0	52.1		

123.0	-20.4	0.0	-20.4
124.0	-21.7	0.0	-21.7
125.0	-25.7	0.0	-25.7
126.0	-24.9	0.0	-24.9
127.0	-19.6	0.0	-19.6
128.0	-27.9	0.0	-27.9
129.0	-25.8	0.0	-25.8
130.0	-22.0	0.0	-22.0
131.0	-20.6	0.0	-20.6
132.0	-21.8	0.0	-21.8
133.0	-24.8	0.0	-24.8
134.0	-23.8	0.0	-23.8
135.0	-23.4	0.0	-23.4
136.0	-23.1	0.0	-23.1
137.0	-21.8	0.0	-21.8
138.0	-19.0	0.0	-19.0
139.0	-23.1	0.0	-23.1
140.0	-23.6	0.0	-23.6
141.0	-21.1	0.0	-21.1
142.0	-26.3	0.0	-26.3
143.0	-18.5	0.0	-18.5
144.0	-27.9	0.0	-27.9
145.0	-21.1	0.0	-21.1
146.0	-23.5	0.0	-23.5
147.0	-19.7	0.0	-19.7
148.0	-24.1	0.0	-24.1
149.0	-23.3	0.0	-23.3
150.0	-22.0	0.0	-22.0
151.0	-27.9	0.0	-27.9
152.0	-23.3	0.0	-23.3
153.0	-21.9	0.0	-21.9
154.0	-23.1	0.0	-23.1
155.0	-17.8	0.0	-17.8
156.0	-27.9	0.0	-27.9
157.0	-27.0	0.0	-27.0
158.0	-23.3	0.0	-23.3
159.0	-27.2	0.0	-27.2
160.0	-14.9	0.0	-14.9
161.0	-22.5	0.0	-22.5
162.0	-22.3	0.0	-22.3
163.0	-19.8	0.0	-19.8
164.0	-16.6	0.0	-16.6
165.0	-20.0	0.0	-20.0
166.0	-22.5	0.0	-22.5
167.0	-21.2	0.0	-21.2
168.0	-24.4	0.0	-24.4
169.0	-27.3	0.0	-27.3
170.0	-20.9	0.0	-20.9
171.0	-21.2	0.0	-21.2
172.0	-27.9	0.0	-27.9
173.0	-20.3	0.0	-20.3
174.0	-19.1	0.0	-19.1
175.0	-27.9	0.0	-27.9
176.0	-24.3	0.0	-24.3
177.0	-20.9	0.0	-20.9
178.0	-24.6	0.0	-24.6
179.0	-19.3	0.0	-19.3

Orbit Communication Systems Ltd.

AL AL-7107-Ka, 2.15 m Antenna, Pattern Data Table
Co-pol Azimuth LHCP, -10° to +10° @ 0.1° increment

27.55 GHz Antenna Pattern in Co-pol Az LHCP

Angle	Gain	Mask	Over Mask
Degrees	dBi	dBi	dB
-10.0	-5.5	7.0	-12.5
-9.9	-2.7	7.1	-9.8
-9.8	-1.9	7.2	-9.1
-9.7	-2.3	7.3	-9.6
-9.6	-3.4	7.4	-10.9
-9.5	-7.4	7.6	-15.0
-9.4	-12.0	7.7	-19.7
-9.3	-7.2	7.8	-14.9
-9.2	-3.0	8.0	-11.0
-9.1	-2.7	8.0	-10.7
-9.0	-3.5	8.0	-11.5
-8.9	-5.9	8.0	-13.9
-8.8	-4.3	8.0	-12.3
-8.7	-2.8	8.0	-10.8
-8.6	-2.5	8.0	-10.5
-8.5	-4.0	8.0	-12.0
-8.4	-6.4	8.0	-14.4
-8.3	-5.4	8.0	-13.4
-8.2	-2.3	8.0	-10.3
-8.1	-0.7	8.0	-8.7
-8.0	-4.1	8.0	-12.1
-7.9	-13.6	8.0	-21.6
-7.8	-11.4	8.0	-19.4
-7.7	-5.4	8.0	-13.4
-7.6	-3.3	8.0	-11.3
-7.5	-2.8	8.0	-10.8
-7.4	-5.8	8.0	-13.8
-7.3	-0.4	8.0	-8.4
-7.2	2.1	8.0	-5.9
-7.1	2.3	8.0	-5.7
-7.0	1.8	7.9	-6.1
-6.9	3.5	8.0	-4.6
-6.8	4.7	8.2	-3.5
-6.7	4.0	8.3	-4.4
-6.6	3.5	8.5	-5.0
-6.5	2.0	8.7	-6.7
-6.4	-2.2	8.8	-11.1
-6.3	-8.2	9.0	-17.2
-6.2	-3.4	9.2	-12.6
-6.1	-2.3	9.4	-11.7
-6.0	-10.6	9.5	-20.2
-5.9	-2.3	9.7	-12.0
-5.8	2.0	9.9	-8.0
-5.7	0.1	10.1	-10.0
-5.6	-15.2	10.3	-25.5
-5.5	-2.1	10.5	-12.6
-5.4	0.5	10.7	-10.2
-5.3	-2.9	10.9	-13.8
-5.2	-0.4	11.1	-11.5
-5.1	2.5	11.3	-8.8
-5.0	2.7	11.5	-8.9
-4.9	2.0	11.7	-9.7
-4.8	2.3	12.0	-9.7
-4.7	3.1	12.2	-9.1
-4.6	2.1	12.4	-10.4
-4.5	-0.8	12.7	-13.5
-4.4	-4.1	12.9	-17.0
-4.3	-2.3	13.2	-15.5
-4.2	1.8	13.4	-11.6
-4.1	4.1	13.7	-9.6

27.55 GHz Antenna Pattern in Co-pol Az LHCP

Angle	Gain	Mask	Over Mask
Degrees	dBi	dBi	dB
0.0	52.1		
0.1	51.5		
0.2	49.3		
0.3	45.4		
0.4	40.0		
0.5	34.1		
0.6	27.7		
0.7	26.5		
0.8	28.4		
0.9	26.9		
1.0	17.2		
1.1	18.3		
1.2	21.0		
1.3	17.0		
1.4	9.5		
1.5	11.5	24.6	-13.1
1.6	11.8	23.9	-12.1
1.7	15.9	23.2	-7.4
1.8	17.6	22.6	-5.0
1.9	16.0	22.0	-6.0
2.0	11.5	21.5	-10.0
2.1	5.0	20.9	-16.0
2.2	-2.4	20.4	-22.8
2.3	3.1	20.0	-16.9
2.4	4.5	19.5	-15.0
2.5	3.5	19.1	-15.6
2.6	3.0	18.6	-15.6
2.7	0.0	18.2	-18.2
2.8	-1.5	17.8	-19.3
2.9	3.2	17.4	-14.2
3.0	3.6	17.1	-13.4
3.1	6.1	16.7	-10.6
3.2	8.7	16.4	-7.7
3.3	8.2	16.0	-7.9
3.4	2.7	15.7	-13.0
3.5	-9.8	15.4	-25.2
3.6	-1.7	15.1	-16.8
3.7	-15.1	14.8	-29.9
3.8	3.8	14.5	-10.7
3.9	7.5	14.2	-6.7
4.0	5.9	13.9	-8.1
4.1	0.5	13.7	-13.2
4.2	-3.8	13.4	-17.3
4.3	-0.4	13.2	-13.5
4.4	0.6	12.9	-12.3
4.5	-0.2	12.7	-12.9
4.6	-1.1	12.4	-13.5
4.7	-0.4	12.2	-12.6
4.8	0.3	12.0	-11.6
4.9	-0.5	11.7	-12.2
5.0	-2.8	11.5	-14.3
5.1	-7.4	11.3	-18.7
5.2	-12.3	11.1	-23.4
5.3	-7.4	10.9	-18.3
5.4	-6.5	10.7	-17.2
5.5	-12.7	10.5	-23.2
5.6	-4.9	10.3	-15.2
5.7	0.5	10.1	-9.6
5.8	1.6	9.9	-8.3
5.9	1.3	9.7	-8.4

Orbit Communication Systems Ltd.

AL AL-7107-Ka, 2.15 m Antenna, Pattern Data Table
 Co-pol Azimuth LHCP, -10° to +10° @ 0.1° increment

-4.0	5.3	13.9	-8.7
-3.9	8.3	14.2	-5.9
-3.8	10.2	14.5	-4.3
-3.7	8.1	14.8	-6.7
-3.6	-3.7	15.1	-18.8
-3.5	0.3	15.4	-15.1
-3.4	0.8	15.7	-15.0
-3.3	3.2	16.0	-12.9
-3.2	8.3	16.4	-8.0
-3.1	8.4	16.7	-8.3
-3.0	8.9	17.1	-8.2
-2.9	11.4	17.4	-6.0
-2.8	11.7	17.8	-6.1
-2.7	8.7	18.2	-9.5
-2.6	3.7	18.6	-14.9
-2.5	0.6	19.1	-18.5
-2.4	5.5	19.5	-14.0
-2.3	7.7	20.0	-12.2
-2.2	5.0	20.4	-15.5
-2.1	6.0	20.9	-15.0
-2.0	11.7	21.5	-9.8
-1.9	11.6	22.0	-10.4
-1.8	10.1	22.6	-12.5
-1.7	8.1	23.2	-15.1
-1.6	-0.9	23.9	-24.8
-1.5	12.8	24.6	-11.8
-1.4	18.1		
-1.3	20.0		
-1.2	22.0		
-1.1	22.9		
-1.0	21.0		
-0.9	13.3		
-0.8	11.8		
-0.7	11.6		
-0.6	22.9		
-0.5	33.0		
-0.4	40.6		
-0.3	46.2		
-0.2	49.7		
-0.1	51.6		
0.0	52.1		

6.0	-0.4	9.5	-10.0
6.1	-8.4	9.4	-17.7
6.2	-12.9	9.2	-22.1
6.3	-4.6	9.0	-13.6
6.4	-3.7	8.8	-12.6
6.5	-6.6	8.7	-15.3
6.6	-4.0	8.5	-12.5
6.7	-3.4	8.3	-11.8
6.8	-0.1	8.2	-8.3
6.9	2.6	8.0	-5.4
7.0	3.3	7.9	-4.6
7.1	3.4	8.0	-4.6
7.2	2.9	8.0	-5.1
7.3	-0.1	8.0	-8.1
7.4	-9.9	8.0	-17.9
7.5	-3.9	8.0	-11.9
7.6	-0.8	8.0	-8.8
7.7	-2.3	8.0	-10.3
7.8	-6.9	8.0	-14.9
7.9	-4.7	8.0	-12.7
8.0	-2.5	8.0	-10.5
8.1	0.2	8.0	-7.8
8.2	1.1	8.0	-6.9
8.3	-0.5	8.0	-8.5
8.4	-2.3	8.0	-10.3
8.5	-3.3	8.0	-11.3
8.6	-5.3	8.0	-13.3
8.7	-8.0	8.0	-16.0
8.8	-5.6	8.0	-13.6
8.9	-3.9	8.0	-11.9
9.0	-5.5	8.0	-13.5
9.1	-9.4	8.0	-17.4
9.2	-12.0	8.0	-20.0
9.3	-9.3	7.8	-17.1
9.4	-4.0	7.7	-11.7
9.5	-3.6	7.6	-11.2
9.6	-5.2	7.4	-12.6
9.7	-14.3	7.3	-21.7
9.8	-8.1	7.2	-15.3
9.9	-9.3	7.1	-16.4
10.0	-13.8	7.0	-20.8

Orbit Communication Systems Ltd.

AL-7107-Ka, 2.15 m Antenna, Pattern Data Table
Co-pol Elevation LHCP, -30° to +30° @ 0.5° increment

27.55 GHz Antenna Pattern in Co-pol EI LHCP

Angle Degrees	Gain dBi	Mask dBi	Over Mask dB
-30.0	-7.7	-4.9	-2.8
-29.5	-10.1	-4.7	-5.3
-29.0	-11.7	-4.6	-7.1
-28.5	-11.5	-4.4	-7.1
-28.0	-10.6	-4.2	-6.5
-27.5	-12.3	-4.0	-8.3
-27.0	-7.9	-3.8	-4.2
-26.5	-9.9	-3.6	-6.3
-26.0	-18.1	-3.4	-14.8
-25.5	-14.0	-3.2	-10.8
-25.0	-16.3	-2.9	-13.4
-24.5	-8.9	-2.7	-6.2
-24.0	-10.4	-2.5	-7.9
-23.5	-8.1	-2.3	-5.8
-23.0	-14.6	-2.0	-12.5
-22.5	-7.0	-1.8	-5.2
-22.0	-5.5	-1.6	-4.0
-21.5	-6.2	-1.3	-4.9
-21.0	-16.3	-1.1	-15.2
-20.5	-8.9	-0.8	-8.1
-20.0	-3.3	-0.5	-2.8
-19.5	0.2	-0.3	0.4
-19.0	1.4	0.0	1.4
-18.5	-2.0	0.3	-2.3
-18.0	-3.3	0.6	-4.0
-17.5	-19.1	0.9	-20.0
-17.0	-23.4	1.2	-24.6
-16.5	-14.1	1.6	-15.6
-16.0	-12.5	1.9	-14.4
-15.5	-8.0	2.2	-10.2
-15.0	-21.1	2.6	-23.7
-14.5	-7.3	3.0	-10.2
-14.0	-15.0	3.3	-18.3
-13.5	-10.9	3.7	-14.7
-13.0	-8.5	4.2	-12.6
-12.5	-11.0	4.6	-15.6
-12.0	-7.1	5.0	-12.1
-11.5	-19.4	5.5	-24.9
-11.0	-7.7	6.0	-13.7
-10.5	-10.5	6.5	-17.0
-10.0	-7.4	7.0	-14.4
-9.5	-18.5	7.6	-26.0
-9.0	-11.2	8.1	-19.4
-8.5	-2.5	8.8	-11.2
-8.0	-8.2	9.4	-17.6
-7.5	-2.7	10.1	-12.8
-7.0	-4.8	10.9	-15.7
-6.5	-1.7	11.7	-13.4
-6.0	-4.8	12.5	-17.3
-5.5	-10.7	13.5	-24.2
-5.0	4.5	14.5	-10.0
-4.5	4.3	15.7	-11.4
-4.0	-7.1	16.9	-24.0
-3.5	3.3	18.4	-15.1
-3.0	11.3	20.1	-8.8
-2.5	12.5		
-2.0	7.4		
-1.5	14.8		
-1.0	20.6		
-0.5	36.4		
0.0	52.1		

27.55 GHz Antenna Pattern in Co-pol EI LHCP

Angle Degrees	Gain dBi	Mask dBi	Over Mask dB
0.0	52.1		
0.5	37.5		
1.0	18.1		
1.5	8.1		
2.0	7.4		
2.5	10.0		
3.0	-5.1	20.1	-25.1
3.5	13.9	18.4	-4.5
4.0	11.3	16.9	-5.7
4.5	4.3	15.7	-11.4
5.0	7.0	14.5	-7.6
5.5	-9.1	13.5	-22.5
6.0	-2.0	12.5	-14.5
6.5	0.4	11.7	-11.3
7.0	1.4	10.9	-9.5
7.5	-6.3	10.1	-16.4
8.0	-8.1	9.4	-17.5
8.5	-14.4	8.8	-23.2
9.0	-9.8	8.1	-18.0
9.5	-3.8	7.6	-11.4
10.0	-7.2	7.0	-14.2
10.5	-5.0	6.5	-11.5
11.0	-3.1	6.0	-9.1
11.5	-2.1	5.5	-7.6
12.0	-1.4	5.0	-6.5
12.5	-2.1	4.6	-6.7
13.0	-9.0	4.2	-13.1
13.5	-10.8	3.7	-14.5
14.0	-13.5	3.3	-16.8
14.5	-9.4	3.0	-12.3
15.0	-12.9	2.6	-15.5
15.5	-11.6	2.2	-13.8
16.0	-22.1	1.9	-24.0
16.5	-14.3	1.6	-15.9
17.0	-19.8	1.2	-21.1
17.5	-19.9	0.9	-20.8
18.0	-21.5	0.6	-22.1
18.5	-10.7	0.3	-11.0
19.0	-10.7	0.0	-10.7
19.5	-17.7	-0.3	-17.4
20.0	-27.3	-0.5	-26.8
20.5	-19.3	-0.8	-18.5
21.0	-15.4	-1.1	-14.3
21.5	-15.5	-1.3	-14.2
22.0	-13.1	-1.6	-11.6
22.5	-17.6	-1.8	-15.8
23.0	-27.5	-2.0	-25.4
23.5	-22.0	-2.3	-19.7
24.0	-22.0	-2.5	-19.5
24.5	-25.2	-2.7	-22.4
25.0	-13.5	-2.9	-10.5
25.5	-17.5	-3.2	-14.3
26.0	-16.0	-3.4	-12.7
26.5	-18.1	-3.6	-14.6
27.0	-14.1	-3.8	-10.3
27.5	-23.1	-4.0	-19.1
28.0	-20.7	-4.2	-16.5
28.5	-22.3	-4.4	-17.9
29.0	-26.0	-4.6	-21.4
29.5	-18.3	-4.7	-13.6
30.0	-15.8	-4.9	-10.9

Orbit Communication Systems Ltd.
AL-7107-Ka, 2.15 m Antenna, Pattern Data Table
Co-pol Elevation LHCP, -10° to +10° @ 0.1° increment

27.55 GHz Antenna Pattern in Co-pol EI LHCP

Angle Degrees	Gain dBi	Mask dBi	Over Mask dB
-10.0	-7.4	7.0	-14.4
-9.9	-5.2	7.1	-12.3
-9.8	-3.2	7.2	-10.4
-9.7	-3.9	7.3	-11.2
-9.6	-16.0	7.4	-23.5
-9.5	-18.5	7.6	-26.0
-9.4	-9.5	7.7	-17.2
-9.3	-6.1	7.8	-13.9
-9.2	-6.2	7.9	-14.1
-9.1	-8.1	8.0	-16.1
-9.0	-11.2	8.1	-19.4
-8.9	-8.5	8.3	-16.8
-8.8	-8.4	8.4	-16.8
-8.7	-16.2	8.5	-24.7
-8.6	-8.6	8.6	-17.2
-8.5	-2.5	8.8	-11.2
-8.4	-1.0	8.9	-9.9
-8.3	-0.1	9.0	-9.1
-8.2	-0.2	9.2	-9.4
-8.1	-1.6	9.3	-10.9
-8.0	-8.2	9.4	-17.6
-7.9	-20.8	9.6	-30.4
-7.8	-11.8	9.7	-21.5
-7.7	-7.2	9.8	-17.1
-7.6	-4.9	10.0	-14.8
-7.5	-2.7	10.1	-12.8
-7.4	-0.9	10.3	-11.2
-7.3	0.1	10.4	-10.4
-7.2	-1.5	10.6	-12.1
-7.1	-8.1	10.7	-18.8
-7.0	-4.8	10.9	-15.7
-6.9	-6.2	11.0	-17.2
-6.8	-10.0	11.2	-21.2
-6.7	-5.3	11.3	-16.6
-6.6	-2.0	11.5	-13.5
-6.5	-1.7	11.7	-13.4
-6.4	-0.7	11.8	-12.6
-6.3	0.6	12.0	-11.4
-6.2	-0.7	12.2	-12.9
-6.1	-3.8	12.4	-16.1
-6.0	-4.8	12.5	-17.3
-5.9	-7.6	12.7	-20.3
-5.8	-10.2	12.9	-23.1
-5.7	-9.4	13.1	-22.5
-5.6	-10.4	13.3	-23.7
-5.5	-10.7	13.5	-24.2
-5.4	-3.1	13.7	-16.8
-5.3	1.4	13.9	-12.5
-5.2	3.1	14.1	-11.0
-5.1	4.3	14.3	-10.0
-5.0	4.5	14.5	-10.0
-4.9	5.1	14.7	-9.7
-4.8	4.6	15.0	-10.3
-4.7	1.0	15.2	-14.2
-4.6	-5.9	15.4	-21.3
-4.5	4.3	15.7	-11.4
-4.4	8.2	15.9	-7.7
-4.3	9.5	16.2	-6.7
-4.2	8.4	16.4	-8.0
-4.1	4.6	16.7	-12.1

27.55 GHz Antenna Pattern in Co-pol EI LHCP

Angle Degrees	Gain dBi	Mask dBi	Over Mask dB
0.0	52.1		
0.1	51.4		
0.2	49.1		
0.3	45.3		
0.4	40.9		
0.5	37.5		
0.6	33.3		
0.7	25.1		
0.8	8.3		
0.9	15.5		
1.0	18.1		
1.1	20.4		
1.2	18.9		
1.3	11.4		
1.4	9.6		
1.5	8.1		
1.6	12.9		
1.7	15.5		
1.8	14.8		
1.9	10.5		
2.0	7.4		
2.1	8.5		
2.2	12.2		
2.3	13.7		
2.4	12.9		
2.5	10.0		
2.6	5.9		
2.7	-6.7		
2.8	2.4		
2.9	3.9		
3.0	-5.1	20.1	-25.1
3.1	0.0	19.7	-19.7
3.2	0.8	19.4	-18.5
3.3	5.6	19.0	-13.5
3.4	11.4	18.7	-7.3
3.5	13.9	18.4	-4.5
3.6	13.3	18.1	-4.8
3.7	9.7	17.8	-8.1
3.8	7.9	17.5	-9.6
3.9	10.3	17.2	-6.9
4.0	11.3	16.9	-5.7
4.1	9.9	16.7	-6.8
4.2	8.4	16.4	-8.0
4.3	8.3	16.2	-7.8
4.4	7.8	15.9	-8.1
4.5	4.3	15.7	-11.4
4.6	1.3	15.4	-14.1
4.7	1.3	15.2	-13.9
4.8	3.0	15.0	-12.0
4.9	4.9	14.7	-9.9
5.0	7.0	14.5	-7.6
5.1	8.5	14.3	-5.8
5.2	9.2	14.1	-4.9
5.3	7.4	13.9	-6.5
5.4	1.9	13.7	-11.8
5.5	-9.1	13.5	-22.5
5.6	-1.9	13.3	-15.2
5.7	-3.2	13.1	-16.3
5.8	-2.1	12.9	-15.0
5.9	-0.8	12.7	-13.6

Orbit Communication Systems Ltd.
 AL-7107-Ka, 2.15 m Antenna, Pattern Data Table
 Co-pol Elevation LHCP, -10° to +10° @ 0.1° increment

-4.0	-7.1	16.9	-24.0
-3.9	6.5	17.2	-10.7
-3.8	9.5	17.5	-8.0
-3.7	9.6	17.8	-8.2
-3.6	7.2	18.1	-10.9
-3.5	3.3	18.4	-15.1
-3.4	-6.4	18.7	-25.2
-3.3	-5.5	19.0	-24.5
-3.2	-9.3	19.4	-28.6
-3.1	4.1	19.7	-15.6
-3.0	11.3	20.1	-8.8
-2.9	13.2		
-2.8	12.3		
-2.7	9.7		
-2.6	10.4		
-2.5	12.5		
-2.4	14.0		
-2.3	14.4		
-2.2	13.2		
-2.1	10.6		
-2.0	7.4		
-1.9	2.6		
-1.8	4.5		
-1.7	11.7		
-1.6	14.6		
-1.5	14.8		
-1.4	12.8		
-1.3	19.3		
-1.2	22.9		
-1.1	22.9		
-1.0	20.6		
-0.9	21.8		
-0.8	25.2		
-0.7	29.7		
-0.6	33.4		
-0.5	36.4		
-0.4	41.2		
-0.3	46.4		
-0.2	49.9		
-0.1	51.7		
0.0	52.1		

6.0	-2.0	12.5	-14.5
6.1	-9.6	12.4	-21.9
6.2	-3.8	12.2	-16.0
6.3	0.8	12.0	-11.2
6.4	0.9	11.8	-10.9
6.5	0.4	11.7	-11.3
6.6	-0.1	11.5	-11.6
6.7	1.7	11.3	-9.7
6.8	3.9	11.2	-7.3
6.9	4.0	11.0	-7.0
7.0	1.4	10.9	-9.5
7.1	-7.7	10.7	-18.5
7.2	-13.2	10.6	-23.8
7.3	-7.6	10.4	-18.0
7.4	-10.2	10.3	-20.5
7.5	-6.3	10.1	-16.4
7.6	-7.4	10.0	-17.3
7.7	-5.3	9.8	-15.2
7.8	-5.1	9.7	-14.8
7.9	-7.2	9.6	-16.8
8.0	-8.1	9.4	-17.5
8.1	-14.1	9.3	-23.4
8.2	-21.8	9.2	-31.0
8.3	-11.8	9.0	-20.9
8.4	-10.6	8.9	-19.5
8.5	-14.4	8.8	-23.2
8.6	-5.7	8.6	-14.3
8.7	-5.2	8.5	-13.8
8.8	-4.5	8.4	-12.9
8.9	-7.6	8.3	-15.8
9.0	-9.8	8.1	-18.0
9.1	-6.9	8.0	-14.9
9.2	-7.9	7.9	-15.8
9.3	-14.8	7.8	-22.6
9.4	-9.2	7.7	-16.8
9.5	-3.8	7.6	-11.4
9.6	-1.7	7.4	-9.1
9.7	-0.7	7.3	-8.0
9.8	-1.1	7.2	-8.3
9.9	-3.1	7.1	-10.2
10.0	-7.2	7.0	-14.2

Orbit Communication Systems Ltd.
AL-7107-Ka, 2.15 m Antenna, Pattern Data Table
X-pol Azimuth LHCP, -10° to +10° @ 0.1° increment

27.55 GHz Antenna Pattern in X-pol Az LHCP

Angle Degrees	Gain dBi	Mask dBi	Over Mask dB
-10.0	-5.5	-2.0	-3.5
-9.9	-6.1	-2.0	-4.1
-9.8	-10.9	-2.0	-8.9
-9.7	-7.3	-2.0	-5.3
-9.6	-5.9	-2.0	-3.9
-9.5	-6.2	-2.0	-4.2
-9.4	-7.6	-2.0	-5.6
-9.3	-8.9	-2.0	-6.9
-9.2	-9.1	-2.0	-7.1
-9.1	-11.5	-2.0	-9.5
-9.0	-12.7	-2.0	-10.7
-8.9	-16.5	-2.0	-14.5
-8.8	-9.2	-2.0	-7.2
-8.7	-7.0	-2.0	-5.0
-8.6	-6.5	-2.0	-4.5
-8.5	-5.5	-2.0	-3.5
-8.4	-5.3	-2.0	-3.3
-8.3	-7.4	-2.0	-5.4
-8.2	-7.1	-2.0	-5.1
-8.1	-5.8	-2.0	-3.8
-8.0	-2.3	-2.0	-0.3
-7.9	-3.1	-2.0	-1.1
-7.8	-3.9	-2.0	-1.9
-7.7	-7.0	-2.0	-5.0
-7.6	-12.5	-2.0	-10.5
-7.5	-5.4	-2.0	-3.4
-7.4	-2.5	-2.0	-0.5
-7.3	-0.8	-2.0	1.2
-7.2	-2.9	-2.0	-0.9
-7.1	-6.5	-2.0	-4.5
-7.0	-17.8	-2.1	-15.7
-6.9	-14.8	-2.0	-12.8
-6.8	-8.8	-1.8	-7.0
-6.7	-4.3	-1.7	-2.6
-6.6	-2.2	-1.5	-0.7
-6.5	-3.4	-1.3	-2.0
-6.4	-3.5	-1.2	-2.3
-6.3	-2.8	-1.0	-1.8
-6.2	-1.3	-0.8	-0.4
-6.1	-1.5	-0.6	-0.9
-6.0	-3.1	-0.5	-2.6
-5.9	-7.9	-0.3	-7.6
-5.8	-3.9	-0.1	-3.8
-5.7	-1.8	0.1	-1.9
-5.6	-0.4	0.3	-0.7
-5.5	-0.3	0.5	-0.8
-5.4	-4.5	0.7	-5.2
-5.3	-9.8	0.9	-10.7
-5.2	-18.0	1.1	-19.1
-5.1	-11.0	1.3	-12.3
-5.0	-5.0	1.5	-6.5
-4.9	-5.0	1.7	-6.8
-4.8	-9.3	2.0	-11.2
-4.7	-14.5	2.2	-16.7
-4.6	-8.0	2.4	-10.4
-4.5	-7.9	2.7	-10.6
-4.4	-9.6	2.9	-12.5
-4.3	-3.7	3.2	-6.9
-4.2	-0.4	3.4	-3.9
-4.1	-1.0	3.7	-4.7

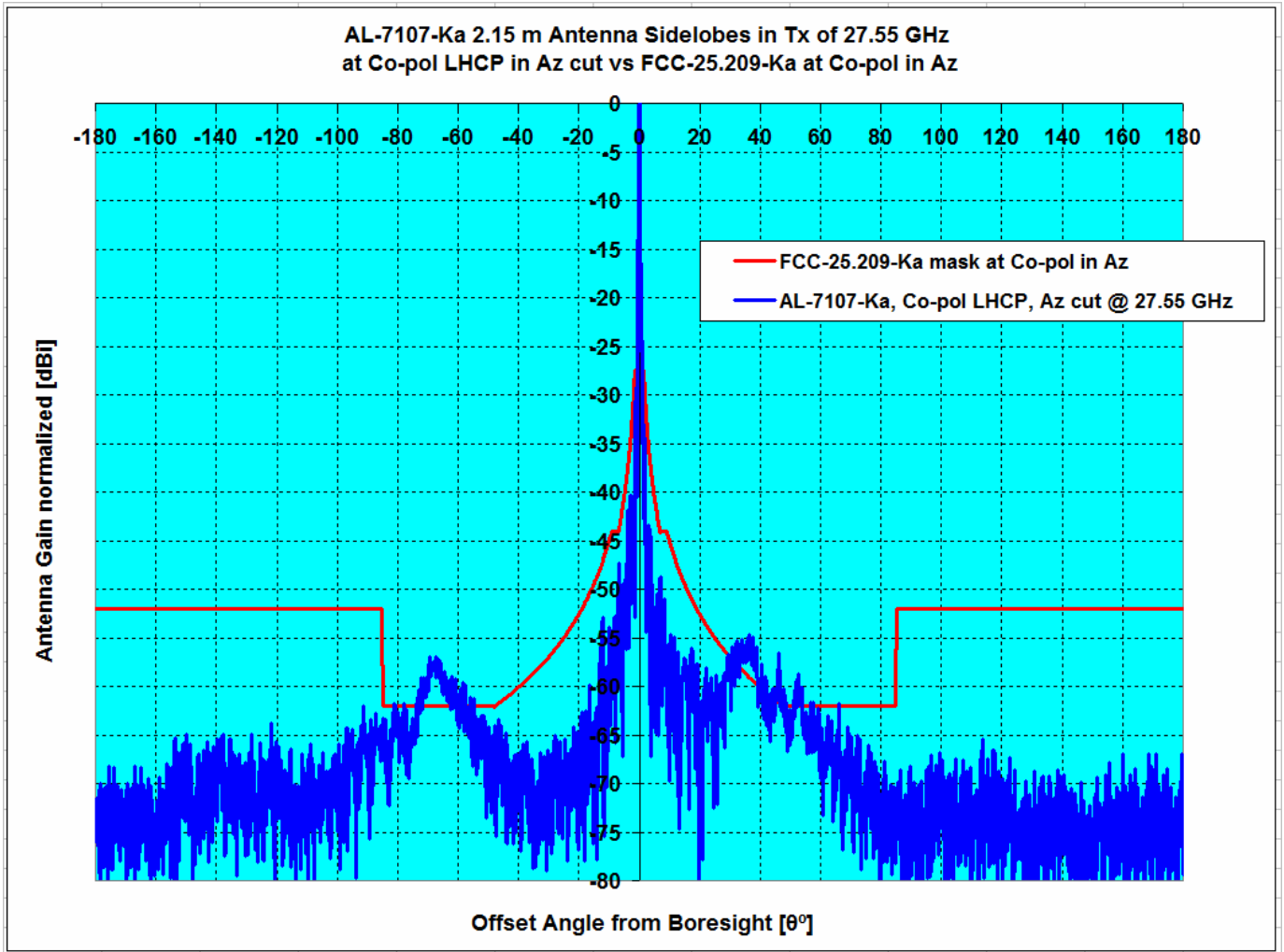
27.55 GHz Antenna Pattern in X-pol Az LHCP

Angle Degrees	Gain dBi	Mask dBi	Over Mask dB
0.0	22.5		
0.1	23.4		
0.2	25.1		
0.3	25.9		
0.4	25.2		
0.5	22.9		
0.6	16.7		
0.7	0.6		
0.8	8.6		
0.9	13.4		
1.0	14.4		
1.1	11.5		
1.2	-2.5		
1.3	6.1		
1.4	9.2		
1.5	6.5		
1.6	1.6		
1.7	4.3		
1.8	4.4	12.6	-8.2
1.9	-1.1	12.0	-13.2
2.0	-6.2	11.5	-17.7
2.1	-10.1	10.9	-21.0
2.2	-6.5	10.4	-16.9
2.3	-1.4	10.0	-11.4
2.4	-1.8	9.5	-11.3
2.5	-5.7	9.1	-14.8
2.6	-12.7	8.6	-21.3
2.7	-12.6	8.2	-20.8
2.8	-10.4	7.8	-18.2
2.9	-12.6	7.4	-20.0
3.0	-19.9	7.1	-27.0
3.1	-13.8	6.7	-20.5
3.2	-15.8	6.4	-22.2
3.3	-14.4	6.0	-20.5
3.4	-8.0	5.7	-13.7
3.5	-11.9	5.4	-17.3
3.6	-18.5	5.1	-23.6
3.7	-10.7	4.8	-15.5
3.8	-4.9	4.5	-9.4
3.9	-8.3	4.2	-12.5
4.0	-27.9	3.9	-31.9
4.1	-9.6	3.7	-13.3
4.2	-7.6	3.4	-11.1
4.3	-10.3	3.2	-13.4
4.4	-15.2	2.9	-18.1
4.5	-16.7	2.7	-19.4
4.6	-20.5	2.4	-23.0
4.7	-11.9	2.2	-14.1
4.8	-16.7	2.0	-18.7
4.9	-14.6	1.7	-16.4
5.0	-11.9	1.5	-13.5
5.1	-11.3	1.3	-12.6
5.2	-16.3	1.1	-17.4
5.3	-10.8	0.9	-11.7
5.4	-9.1	0.7	-9.7
5.5	-12.0	0.5	-12.5
5.6	-13.0	0.3	-13.3
5.7	-7.7	0.1	-7.8
5.8	-7.6	-0.1	-7.5
5.9	-9.2	-0.3	-8.9

Orbit Communication Systems Ltd.
AL-7107-Ka, 2.15 m Antenna, Pattern Data Table
X-pol Azimuth LHCP, -10° to +10° @ 0.1° increment

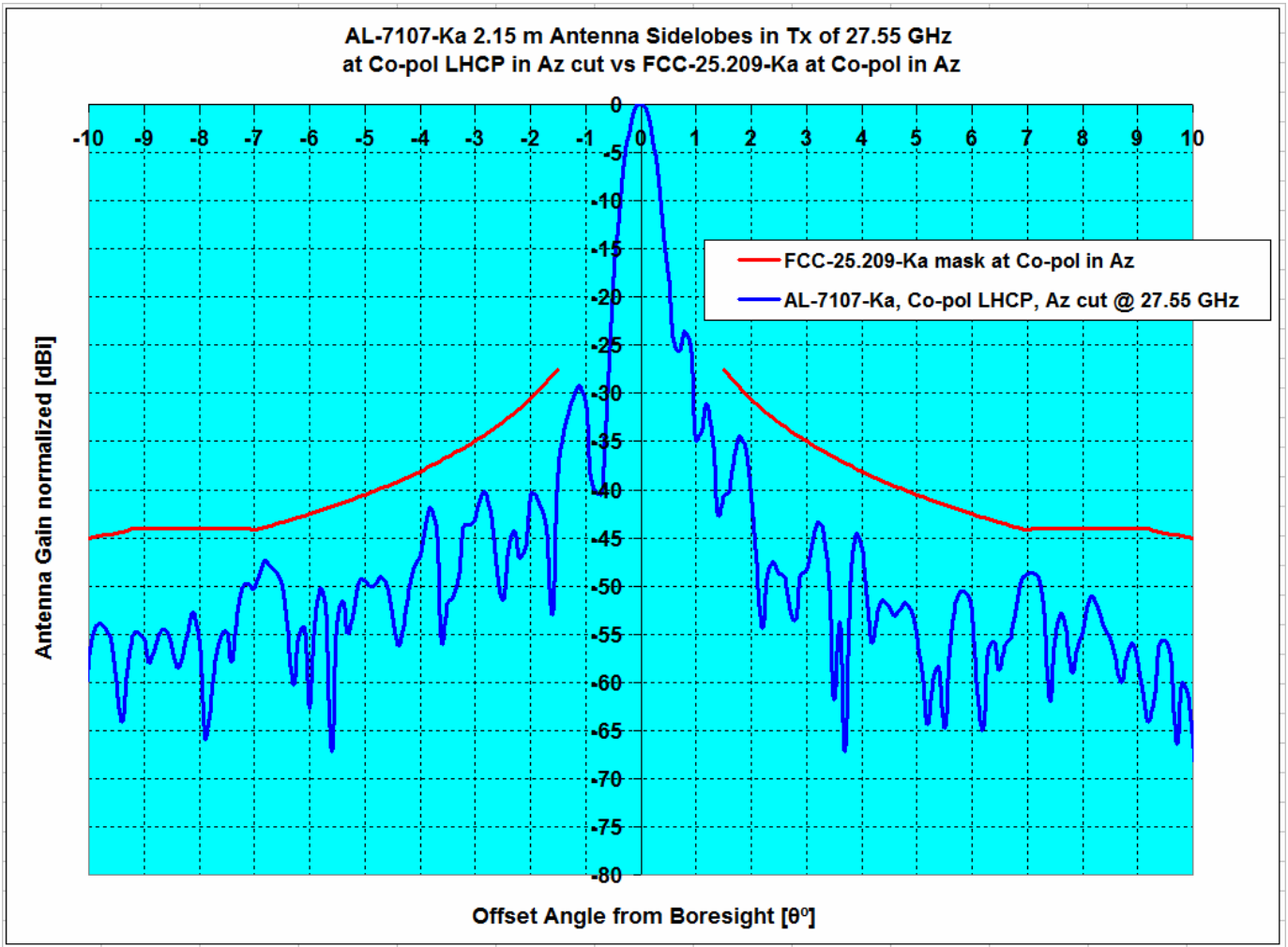
-4.0	-2.3	3.9	-6.3
-3.9	-4.6	4.2	-8.8
-3.8	0.6	4.5	-3.9
-3.7	2.0	4.8	-2.8
-3.6	1.2	5.1	-3.9
-3.5	-0.7	5.4	-6.1
-3.4	-3.2	5.7	-8.9
-3.3	-4.5	6.0	-10.5
-3.2	-6.9	6.4	-13.2
-3.1	-12.8	6.7	-19.6
-3.0	-9.6	7.1	-16.7
-2.9	-2.9	7.4	-10.3
-2.8	-2.5	7.8	-10.3
-2.7	-6.0	8.2	-14.2
-2.6	-5.5	8.6	-14.2
-2.5	-5.5	9.1	-14.5
-2.4	-7.3	9.5	-16.8
-2.3	-1.4	10.0	-11.3
-2.2	-0.4	10.4	-10.9
-2.1	-5.2	10.9	-16.1
-2.0	-4.0	11.5	-15.5
-1.9	-4.3	12.0	-16.3
-1.8	-4.5	12.6	-17.1
-1.7	-1.1		
-1.6	0.1		
-1.5	2.9		
-1.4	4.0		
-1.3	1.3		
-1.2	4.8		
-1.1	9.3		
-1.0	10.6		
-0.9	10.6		
-0.8	4.5		
-0.7	14.0		
-0.6	22.9		
-0.5	27.1		
-0.4	28.7		
-0.3	28.3		
-0.2	26.8		
-0.1	24.0		
0.0	22.5		

6.0	-17.3	-0.5	-16.8
6.1	-24.0	-0.6	-23.3
6.2	-11.3	-0.8	-10.5
6.3	-6.8	-1.0	-5.9
6.4	-8.9	-1.2	-7.7
6.5	-8.2	-1.3	-6.8
6.6	-7.2	-1.5	-5.7
6.7	-5.3	-1.7	-3.7
6.8	-5.4	-1.8	-3.6
6.9	-6.0	-2.0	-4.0
7.0	-8.9	-2.1	-6.8
7.1	-7.2	-2.0	-5.2
7.2	-9.3	-2.0	-7.3
7.3	-12.0	-2.0	-10.0
7.4	-12.2	-2.0	-10.2
7.5	-11.8	-2.0	-9.8
7.6	-8.7	-2.0	-6.7
7.7	-5.7	-2.0	-3.7
7.8	-5.7	-2.0	-3.7
7.9	-7.2	-2.0	-5.2
8.0	-6.5	-2.0	-4.5
8.1	-5.3	-2.0	-3.3
8.2	-6.4	-2.0	-4.4
8.3	-8.3	-2.0	-6.3
8.4	-8.2	-2.0	-6.2
8.5	-8.3	-2.0	-6.3
8.6	-9.7	-2.0	-7.7
8.7	-12.1	-2.0	-10.1
8.8	-11.7	-2.0	-9.7
8.9	-13.8	-2.0	-11.8
9.0	-19.1	-2.0	-17.1
9.1	-21.8	-2.0	-19.8
9.2	-17.2	-2.0	-15.2
9.3	-13.4	-2.0	-11.4
9.4	-13.2	-2.0	-11.2
9.5	-8.4	-2.0	-6.4
9.6	-7.6	-2.0	-5.6
9.7	-6.6	-2.0	-4.6
9.8	-9.8	-2.0	-7.8
9.9	-15.0	-2.0	-13.0
10.0	-11.3	-2.0	-9.3



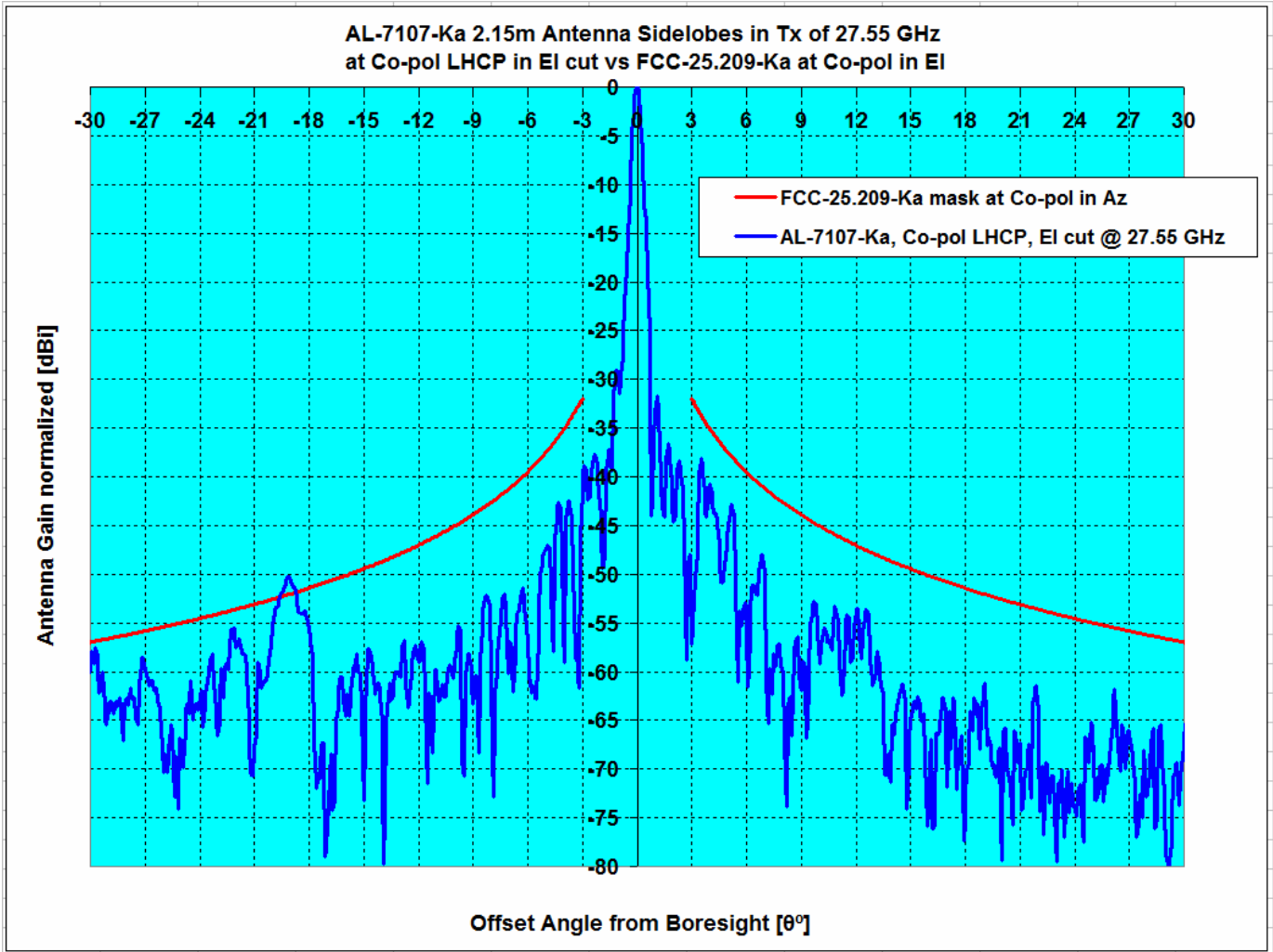
Description	Plane, CirP	Frequency	Ant. Gain	Peak Excursions dB		Over Mask %	
				1.5°≤θ≤7°	7°≤θ≤180°	1.5°≤θ≤7°	7°≤θ≤180°
FCC-25.209-Ka, Co-pol Az, vs AL-7107-Ka	Az , LHCP	27.55	52.06	-3.48	5.11	0.00%	8.04%

Orbit Communication Systems Ltd.
 AL-7107-Ka, 2.15 m Antenna, Pattern, Co-pol, Azimuth LHCP



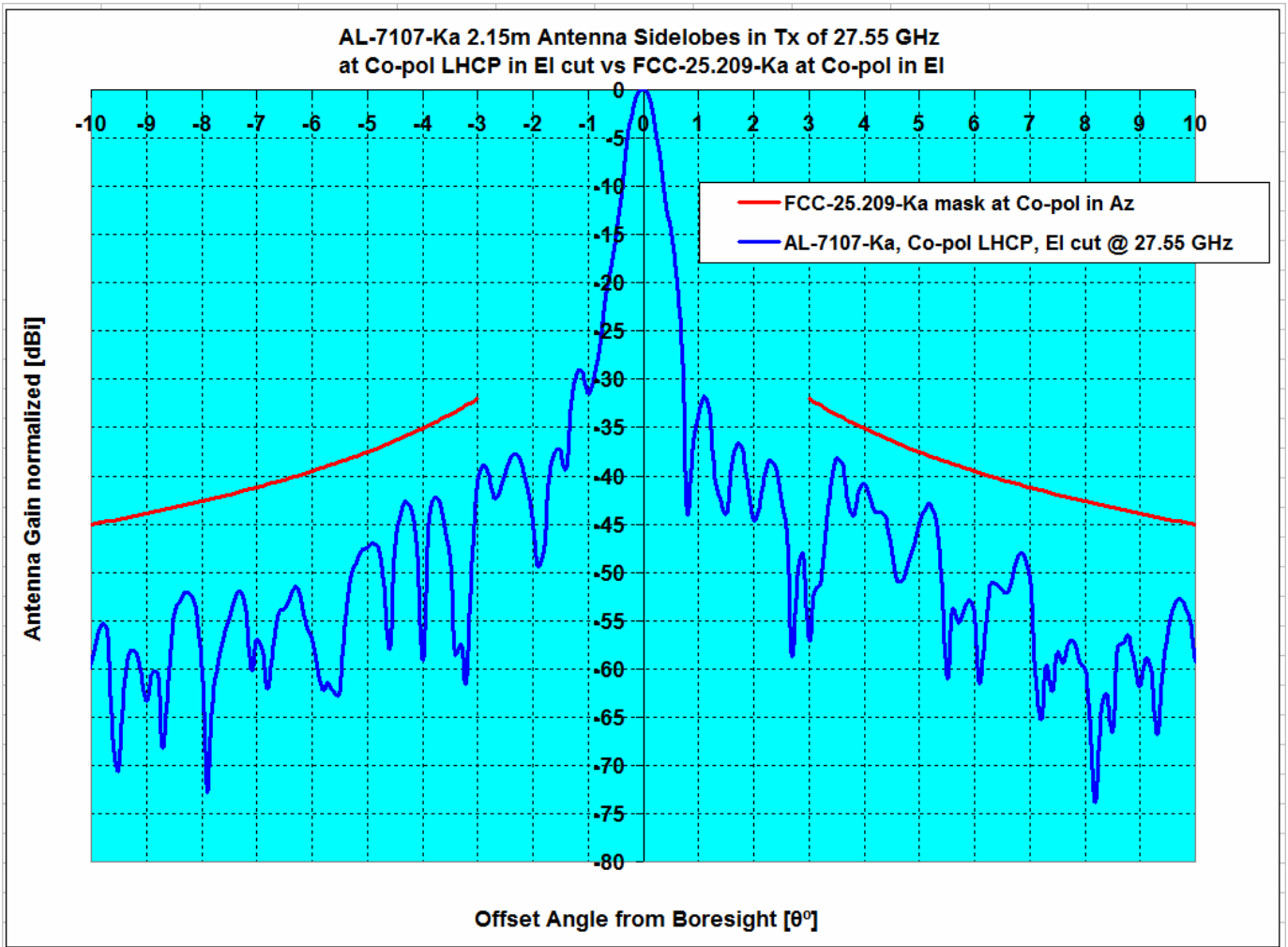
Description	Plane, CirP	Frequency	Ant. Gain	Peak Excursions dB		Over Mask %	
				1.5°≤θ≤7°	7°≤θ≤180°	1.5°≤θ≤7°	7°≤θ≤180°
FCC-25.209-Ka, Co-pol Az, vs AL-7107-Ka	Az , LHCP	27.55	52.06	-3.48	5.11	0.00%	8.04%

Orbit Communication Systems Ltd.
 AL-7107-Ka, 2.15 m Antenna, Pattern, Co-pol, Elevation LHCP



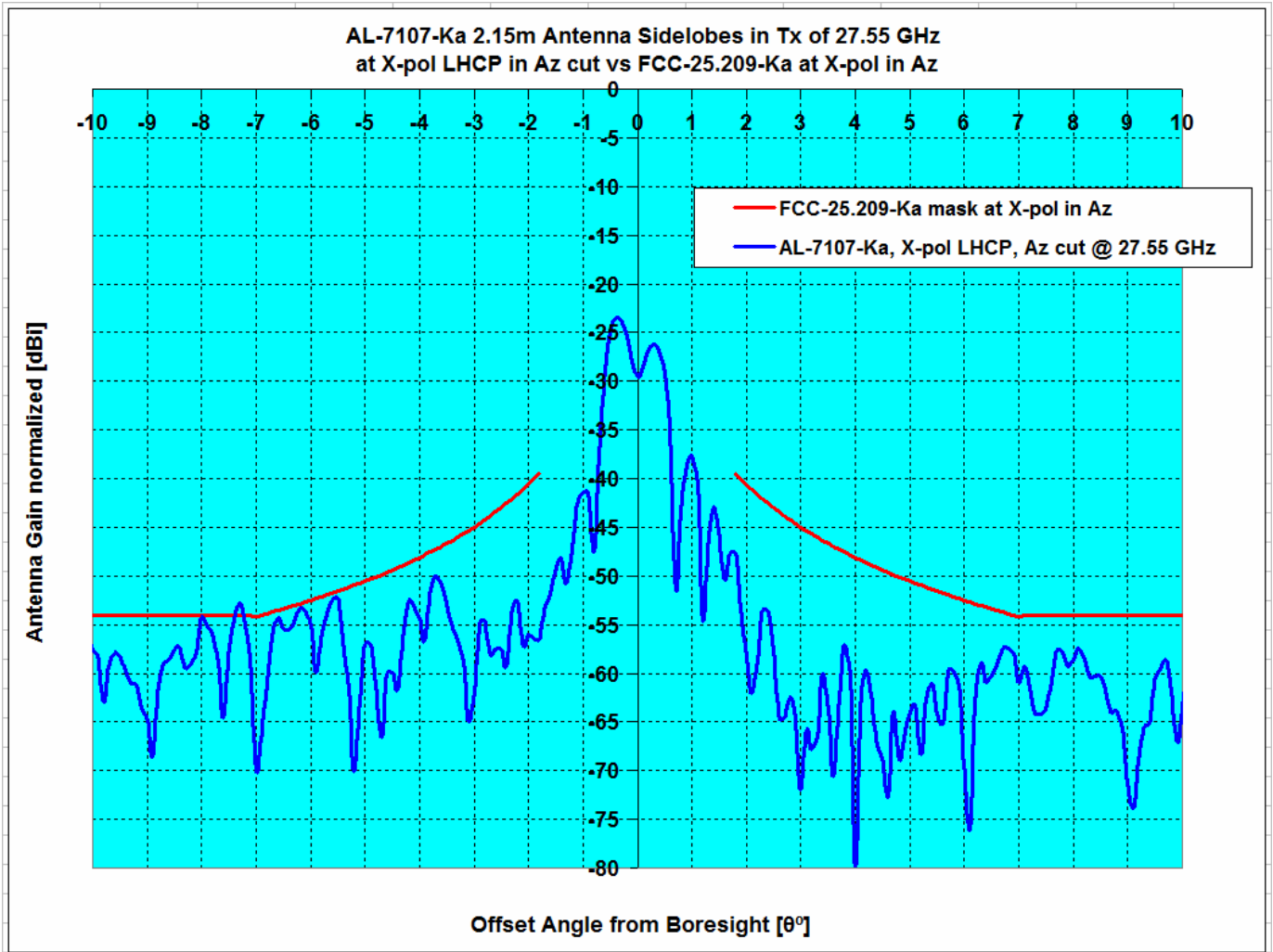
Description	Plane, CirP	Frequency	Ant. Gain	Peak Excursions dB		Over Mask %	
				3°≤θ≤7°	7°≤θ≤30°	3°≤θ≤7°	7°≤θ≤30°
Pattern Rule vs Antenna System	Type	GHz	dBi				
FCC-25.209-Ka, Co-pol EI, vs AL-7107-Ka	EI , LHCP	27.55	52.06	-4.46	1.83	0.00%	1.66%

Orbit Communication Systems Ltd.
 AL-7107-Ka, 2.15 m Antenna, Pattern, Co-pol, Elevation LHCP



Description	Plane, CirP	Frequency	Ant. Gain	Peak Excursions dB		Over Mask %	
				3°≤θ≤7°	7°≤θ≤30°	3°≤θ≤7°	7°≤θ≤30°
FCC-25.209-Ka, Co-pol EI, vs AL-7107-Ka	EI , LHCP	27.55	52.06	-4.46	1.83	0.00%	1.66%

Orbit Communication Systems Ltd.
 AL-7107-Ka, 2.15 m Antenna, Pattern, X-pol, Azimuth LHCP



Description	Plane, CirP	Frequency	Ant. Gain	Peak Excursions dB		Over Mask %	
				1.8°≤θ≤7°	1.8°≤θ≤9.2°	1.8°≤θ≤7°	1.8°≤θ≤9.2°
Pattern Rule vs Antenna System	Type	GHz	dBi				
FCC-25.209-Ka, X-pol Az, vs AL-7107-Ka	Az , LHCP	27.55	52.06	-0.44	1.22	0.00%	0.60%

Orbit Communication Systems Ltd.
AL-7107-Ka, 2.15 m Antenna, Pattern Data Table
Co-pol Azimuth RHCP, -180° to +180° @ 1.0° increment

27.55 GHz Antenna Pattern in Co-pol Az RHCP

Angle	Gain	Mask	Over Mask
Degrees	dBi	dBi	dB
-179.0	-20.9	0.0	-20.9
-178.0	-26.7	0.0	-26.7
-177.0	-26.5	0.0	-26.5
-176.0	-18.2	0.0	-18.2
-175.0	-20.9	0.0	-20.9
-174.0	-21.1	0.0	-21.1
-173.0	-23.3	0.0	-23.3
-172.0	-25.7	0.0	-25.7
-171.0	-22.9	0.0	-22.9
-170.0	-24.2	0.0	-24.2
-169.0	-22.5	0.0	-22.5
-168.0	-21.9	0.0	-21.9
-167.0	-27.9	0.0	-27.9
-166.0	-26.2	0.0	-26.2
-165.0	-19.5	0.0	-19.5
-164.0	-18.2	0.0	-18.2
-163.0	-21.6	0.0	-21.6
-162.0	-27.5	0.0	-27.5
-161.0	-25.5	0.0	-25.5
-160.0	-24.3	0.0	-24.3
-159.0	-17.4	0.0	-17.4
-158.0	-20.6	0.0	-20.6
-157.0	-18.7	0.0	-18.7
-156.0	-17.8	0.0	-17.8
-155.0	-26.4	0.0	-26.4
-154.0	-17.1	0.0	-17.1
-153.0	-22.6	0.0	-22.6
-152.0	-19.3	0.0	-19.3
-151.0	-14.8	0.0	-14.8
-150.0	-18.1	0.0	-18.1
-149.0	-16.6	0.0	-16.6
-148.0	-22.1	0.0	-22.1
-147.0	-24.1	0.0	-24.1
-146.0	-15.1	0.0	-15.1
-145.0	-18.9	0.0	-18.9
-144.0	-16.7	0.0	-16.7
-143.0	-14.5	0.0	-14.5
-142.0	-14.8	0.0	-14.8
-141.0	-14.2	0.0	-14.2
-140.0	-19.3	0.0	-19.3
-139.0	-16.6	0.0	-16.6
-138.0	-13.8	0.0	-13.8
-137.0	-24.9	0.0	-24.9
-136.0	-17.6	0.0	-17.6
-135.0	-15.6	0.0	-15.6
-134.0	-19.6	0.0	-19.6
-133.0	-19.4	0.0	-19.4
-132.0	-17.1	0.0	-17.1
-131.0	-18.8	0.0	-18.8
-130.0	-18.5	0.0	-18.5
-129.0	-14.9	0.0	-14.9
-128.0	-16.7	0.0	-16.7
-127.0	-21.7	0.0	-21.7
-126.0	-16.7	0.0	-16.7
-125.0	-15.8	0.0	-15.8
-124.0	-15.7	0.0	-15.7
-123.0	-19.9	0.0	-19.9
-122.0	-19.6	0.0	-19.6

27.55 GHz Antenna Pattern in Co-pol Az RHCP

Angle	Gain	Mask	Over Mask
Degrees	dBi	dBi	dB
0.0	52.1		
1.0	17.2		
2.0	11.5	21.5	-10.0
3.0	3.6	17.1	-13.4
4.0	5.9	13.9	-8.1
5.0	-2.8	11.5	-14.3
6.0	-0.4	9.5	-10.0
7.0	3.3	7.9	-4.6
8.0	-2.5	8.0	-10.5
9.0	-5.5	8.0	-13.5
10.0	-13.8	7.0	-20.8
11.0	-7.5	6.0	-13.4
12.0	-4.9	5.0	-10.0
13.0	-15.4	4.2	-19.5
14.0	-9.2	3.3	-12.6
15.0	-5.3	2.6	-7.9
16.0	-7.2	1.9	-9.1
17.0	-7.2	1.2	-8.4
18.0	-6.8	0.6	-7.4
19.0	-5.7	0.0	-5.7
20.0	-23.1	-0.5	-22.6
21.0	-16.5	-1.1	-15.4
22.0	-6.1	-1.6	-4.5
23.0	-7.9	-2.0	-5.8
24.0	-10.1	-2.5	-7.6
25.0	-11.5	-2.9	-8.6
26.0	-12.1	-3.4	-8.7
27.0	-12.1	-3.8	-8.3
28.0	-11.4	-4.2	-7.2
29.0	-6.3	-4.6	-1.8
30.0	-6.5	-4.9	-1.6
31.0	-5.2	-5.3	0.1
32.0	-4.3	-5.6	1.4
33.0	-5.8	-6.0	0.2
34.0	-3.4	-6.3	2.9
35.0	-4.9	-6.6	1.7
36.0	-2.9	-6.9	4.0
37.0	-3.0	-7.2	4.2
38.0	-6.1	-7.5	1.4
39.0	-5.1	-7.8	2.7
40.0	-7.4	-8.1	0.7
41.0	-8.9	-8.3	-0.5
42.0	-9.3	-8.6	-0.7
43.0	-12.5	-8.8	-3.7
44.0	-10.4	-9.1	-1.3
45.0	-11.0	-9.3	-1.7
46.0	-5.2	-9.6	4.4
47.0	-9.5	-9.8	0.3
48.0	-8.9	-10.0	1.2
49.0	-13.7	-10.0	-3.7
50.0	-14.0	-10.0	-4.0
51.0	-9.4	-10.0	0.6
52.0	-7.4	-10.0	2.6
53.0	-7.9	-10.0	2.1
54.0	-8.9	-10.0	1.1
55.0	-13.3	-10.0	-3.3
56.0	-14.7	-10.0	-4.7
57.0	-11.3	-10.0	-1.3

Orbit Communication Systems Ltd.
AL-7107-Ka, 2.15 m Antenna, Pattern Data Table
Co-pol Azimuth RHCP, -180° to +180° @ 1.0° increment

-121.0	-17.4	0.0	-17.4
-120.0	-21.6	0.0	-21.6
-119.0	-20.4	0.0	-20.4
-118.0	-26.4	0.0	-26.4
-117.0	-20.8	0.0	-20.8
-116.0	-18.3	0.0	-18.3
-115.0	-18.6	0.0	-18.6
-114.0	-20.2	0.0	-20.2
-113.0	-19.3	0.0	-19.3
-112.0	-20.9	0.0	-20.9
-111.0	-20.2	0.0	-20.2
-110.0	-19.0	0.0	-19.0
-109.0	-14.5	0.0	-14.5
-108.0	-20.8	0.0	-20.8
-107.0	-21.5	0.0	-21.5
-106.0	-19.2	0.0	-19.2
-105.0	-18.4	0.0	-18.4
-104.0	-18.0	0.0	-18.0
-103.0	-21.0	0.0	-21.0
-102.0	-24.7	0.0	-24.7
-101.0	-15.1	0.0	-15.1
-100.0	-18.9	0.0	-18.9
-99.0	-26.4	0.0	-26.4
-98.0	-14.1	0.0	-14.1
-97.0	-13.6	0.0	-13.6
-96.0	-12.9	0.0	-12.9
-95.0	-16.6	0.0	-16.6
-94.0	-17.7	0.0	-17.7
-93.0	-17.7	0.0	-17.7
-92.0	-12.0	0.0	-12.0
-91.0	-14.7	0.0	-14.7
-90.0	-16.2	0.0	-16.2
-89.0	-13.8	0.0	-13.8
-88.0	-18.2	0.0	-18.2
-87.0	-13.4	0.0	-13.4
-86.0	-12.2	0.0	-12.2
-85.0	-12.3	-10.0	-2.3
-84.0	-16.9	-10.0	-6.9
-83.0	-19.5	-10.0	-9.5
-82.0	-15.3	-10.0	-5.3
-81.0	-12.5	-10.0	-2.5
-80.0	-10.7	-10.0	-0.7
-79.0	-11.3	-10.0	-1.3
-78.0	-10.5	-10.0	-0.5
-77.0	-11.5	-10.0	-1.5
-76.0	-12.6	-10.0	-2.6
-75.0	-11.3	-10.0	-1.3
-74.0	-10.8	-10.0	-0.8
-73.0	-8.3	-10.0	1.7
-72.0	-8.2	-10.0	1.8
-71.0	-8.7	-10.0	1.3
-70.0	-7.8	-10.0	2.2
-69.0	-6.9	-10.0	3.1
-68.0	-5.8	-10.0	4.2
-67.0	-6.2	-10.0	3.8
-66.0	-5.3	-10.0	4.7
-65.0	-8.9	-10.0	1.1
-64.0	-8.1	-10.0	1.9
-63.0	-8.5	-10.0	1.5
-62.0	-9.6	-10.0	0.4
-61.0	-7.2	-10.0	2.8
-60.0	-10.1	-10.0	-0.1
-59.0	-10.8	-10.0	-0.8

58.0	-11.6	-10.0	-1.6
59.0	-11.8	-10.0	-1.8
60.0	-16.5	-10.0	-6.5
61.0	-17.9	-10.0	-7.9
62.0	-15.2	-10.0	-5.2
63.0	-13.0	-10.0	-3.0
64.0	-17.3	-10.0	-7.3
65.0	-19.7	-10.0	-9.7
66.0	-11.2	-10.0	-1.2
67.0	-17.3	-10.0	-7.3
68.0	-14.5	-10.0	-4.5
69.0	-14.8	-10.0	-4.8
70.0	-13.2	-10.0	-3.2
71.0	-16.2	-10.0	-6.2
72.0	-19.1	-10.0	-9.1
73.0	-13.4	-10.0	-3.4
74.0	-19.3	-10.0	-9.3
75.0	-25.5	-10.0	-15.5
76.0	-16.4	-10.0	-6.4
77.0	-16.4	-10.0	-6.4
78.0	-21.0	-10.0	-11.0
79.0	-22.0	-10.0	-12.0
80.0	-24.3	-10.0	-14.3
81.0	-20.9	-10.0	-10.9
82.0	-26.0	-10.0	-16.0
83.0	-18.1	-10.0	-8.1
84.0	-24.0	-10.0	-14.0
85.0	-25.7	-10.0	-15.7
86.0	-21.1	0.0	-21.1
87.0	-22.6	0.0	-22.6
88.0	-19.0	0.0	-19.0
89.0	-20.0	0.0	-20.0
90.0	-23.1	0.0	-23.1
91.0	-20.8	0.0	-20.8
92.0	-21.3	0.0	-21.3
93.0	-19.9	0.0	-19.9
94.0	-22.3	0.0	-22.3
95.0	-23.9	0.0	-23.9
96.0	-25.8	0.0	-25.8
97.0	-26.1	0.0	-26.1
98.0	-19.2	0.0	-19.2
99.0	-25.3	0.0	-25.3
100.0	-17.6	0.0	-17.6
101.0	-17.5	0.0	-17.5
102.0	-24.6	0.0	-24.6
103.0	-27.6	0.0	-27.6
104.0	-27.9	0.0	-27.9
105.0	-20.0	0.0	-20.0
106.0	-23.9	0.0	-23.9
107.0	-25.1	0.0	-25.1
108.0	-21.1	0.0	-21.1
109.0	-21.3	0.0	-21.3
110.0	-27.9	0.0	-27.9
111.0	-21.3	0.0	-21.3
112.0	-22.8	0.0	-22.8
113.0	-15.5	0.0	-15.5
114.0	-21.9	0.0	-21.9
115.0	-20.5	0.0	-20.5
116.0	-18.7	0.0	-18.7
117.0	-18.2	0.0	-18.2
118.0	-21.3	0.0	-21.3
119.0	-16.7	0.0	-16.7
120.0	-27.9	0.0	-27.9

Orbit Communication Systems Ltd.
AL-7107-Ka, 2.15 m Antenna, Pattern Data Table
Co-pol Azimuth RHCP, -180° to +180° @ 1.0° increment

-58.0	-10.1	-10.0	-0.1
-57.0	-11.1	-10.0	-1.1
-56.0	-9.1	-10.0	0.9
-55.0	-13.6	-10.0	-3.6
-54.0	-11.4	-10.0	-1.4
-53.0	-14.3	-10.0	-4.3
-52.0	-13.3	-10.0	-3.3
-51.0	-18.3	-10.0	-8.3
-50.0	-12.7	-10.0	-2.7
-49.0	-15.6	-10.0	-5.6
-48.0	-15.3	-10.0	-5.3
-47.0	-19.3	-9.8	-9.5
-46.0	-13.8	-9.6	-4.2
-45.0	-17.5	-9.3	-8.1
-44.0	-23.2	-9.1	-14.1
-43.0	-22.2	-8.8	-13.4
-42.0	-22.2	-8.6	-13.6
-41.0	-20.6	-8.3	-12.3
-40.0	-15.6	-8.1	-7.6
-39.0	-22.7	-7.8	-14.9
-38.0	-16.5	-7.5	-9.0
-37.0	-15.8	-7.2	-8.6
-36.0	-19.3	-6.9	-12.3
-35.0	-18.5	-6.6	-11.9
-34.0	-22.3	-6.3	-16.0
-33.0	-20.6	-6.0	-14.7
-32.0	-23.6	-5.6	-18.0
-31.0	-18.1	-5.3	-12.9
-30.0	-15.0	-4.9	-10.1
-29.0	-18.0	-4.6	-13.4
-28.0	-16.6	-4.2	-12.4
-27.0	-17.3	-3.8	-13.5
-26.0	-17.3	-3.4	-13.9
-25.0	-20.0	-2.9	-17.0
-24.0	-17.3	-2.5	-14.8
-23.0	-15.7	-2.0	-13.7
-22.0	-15.4	-1.6	-13.8
-21.0	-16.3	-1.1	-15.2
-20.0	-18.9	-0.5	-18.4
-19.0	-12.6	0.0	-12.7
-18.0	-18.1	0.6	-18.7
-17.0	-14.3	1.2	-15.5
-16.0	-17.5	1.9	-19.4
-15.0	-17.7	2.6	-20.3
-14.0	-25.8	3.3	-29.1
-13.0	-6.8	4.2	-11.0
-12.0	-4.1	5.0	-9.2
-11.0	-7.6	6.0	-13.6
-10.0	-5.5	7.0	-12.5
-9.0	-3.5	8.0	-11.5
-8.0	-4.1	8.0	-12.1
-7.0	1.8	7.9	-6.1
-6.0	-10.6	9.5	-20.2
-5.0	2.7	11.5	-8.9
-4.0	5.3	13.9	-8.7
-3.0	8.9	17.1	-8.2
-2.0	11.7	21.5	-9.8
-1.0	21.0		
0.0	52.1		

121.0	-21.5	0.0	-21.5
122.0	-17.6	0.0	-17.6
123.0	-20.4	0.0	-20.4
124.0	-21.7	0.0	-21.7
125.0	-25.7	0.0	-25.7
126.0	-24.9	0.0	-24.9
127.0	-19.6	0.0	-19.6
128.0	-27.9	0.0	-27.9
129.0	-25.8	0.0	-25.8
130.0	-22.0	0.0	-22.0
131.0	-20.6	0.0	-20.6
132.0	-21.8	0.0	-21.8
133.0	-24.8	0.0	-24.8
134.0	-23.8	0.0	-23.8
135.0	-23.4	0.0	-23.4
136.0	-23.1	0.0	-23.1
137.0	-21.8	0.0	-21.8
138.0	-19.0	0.0	-19.0
139.0	-23.1	0.0	-23.1
140.0	-23.6	0.0	-23.6
141.0	-21.1	0.0	-21.1
142.0	-26.3	0.0	-26.3
143.0	-18.5	0.0	-18.5
144.0	-27.9	0.0	-27.9
145.0	-21.1	0.0	-21.1
146.0	-23.5	0.0	-23.5
147.0	-19.7	0.0	-19.7
148.0	-24.1	0.0	-24.1
149.0	-23.3	0.0	-23.3
150.0	-22.0	0.0	-22.0
151.0	-27.9	0.0	-27.9
152.0	-23.3	0.0	-23.3
153.0	-21.9	0.0	-21.9
154.0	-23.1	0.0	-23.1
155.0	-17.8	0.0	-17.8
156.0	-27.9	0.0	-27.9
157.0	-27.0	0.0	-27.0
158.0	-23.3	0.0	-23.3
159.0	-27.2	0.0	-27.2
160.0	-14.9	0.0	-14.9
161.0	-22.5	0.0	-22.5
162.0	-22.3	0.0	-22.3
163.0	-19.8	0.0	-19.8
164.0	-16.6	0.0	-16.6
165.0	-20.0	0.0	-20.0
166.0	-22.5	0.0	-22.5
167.0	-21.2	0.0	-21.2
168.0	-24.4	0.0	-24.4
169.0	-27.3	0.0	-27.3
170.0	-20.9	0.0	-20.9
171.0	-21.2	0.0	-21.2
172.0	-27.9	0.0	-27.9
173.0	-20.3	0.0	-20.3
174.0	-19.1	0.0	-19.1
175.0	-27.9	0.0	-27.9
176.0	-24.3	0.0	-24.3
177.0	-20.9	0.0	-20.9
178.0	-24.6	0.0	-24.6
179.0	-19.3	0.0	-19.3

Orbit Communication Systems Ltd.

AL AL-7107-Ka, 2.15 m Antenna, Pattern Data Table
 Co-pol Azimuth RHCP, -10° to +10° @ 0.1° increment

27.55 GHz Antenna Pattern in Co-pol Az RHCP

Angle Degrees	Gain dBi	Mask dBi	Over Mask dB
-10.0	-2.9	7.0	-9.9
-9.9	-2.7	7.1	-9.8
-9.8	-2.1	7.2	-9.3
-9.7	-6.0	7.3	-13.3
-9.6	-8.3	7.4	-15.7
-9.5	-6.8	7.6	-14.4
-9.4	-14.7	7.7	-22.4
-9.3	-6.0	7.8	-13.8
-9.2	-3.8	8.0	-11.8
-9.1	-4.8	8.0	-12.8
-9.0	-10.7	8.0	-18.7
-8.9	-24.0	8.0	-32.0
-8.8	-19.9	8.0	-27.9
-8.7	-13.1	8.0	-21.1
-8.6	-13.2	8.0	-21.2
-8.5	-16.3	8.0	-24.3
-8.4	-11.2	8.0	-19.2
-8.3	-6.2	8.0	-14.2
-8.2	-2.1	8.0	-10.1
-8.1	-1.1	8.0	-9.1
-8.0	-3.6	8.0	-11.6
-7.9	-7.5	8.0	-15.5
-7.8	-2.4	8.0	-10.4
-7.7	0.1	8.0	-7.9
-7.6	1.4	8.0	-6.6
-7.5	-0.3	8.0	-8.3
-7.4	-7.4	8.0	-15.4
-7.3	-6.5	8.0	-14.5
-7.2	-0.8	8.0	-8.8
-7.1	0.1	8.0	-7.9
-7.0	0.2	7.9	-7.7
-6.9	2.9	8.0	-5.1
-6.8	3.8	8.2	-4.3
-6.7	3.3	8.3	-5.0
-6.6	1.5	8.5	-7.0
-6.5	-0.3	8.7	-8.9
-6.4	-0.4	8.8	-9.3
-6.3	-3.9	9.0	-12.9
-6.2	-11.2	9.2	-20.4
-6.1	-12.6	9.4	-21.9
-6.0	-3.2	9.5	-12.7
-5.9	1.1	9.7	-8.6
-5.8	1.8	9.9	-8.1
-5.7	-3.2	10.1	-13.3
-5.6	-4.1	10.3	-14.4
-5.5	1.9	10.5	-8.6
-5.4	2.5	10.7	-8.2
-5.3	-4.2	10.9	-15.1
-5.2	-4.5	11.1	-15.6
-5.1	1.1	11.3	-10.2
-5.0	2.1	11.5	-9.4
-4.9	2.4	11.7	-9.3
-4.8	2.8	12.0	-9.2
-4.7	3.7	12.2	-8.5
-4.6	3.9	12.4	-8.6
-4.5	2.7	12.7	-9.9
-4.4	1.1	12.9	-11.8
-4.3	0.5	13.2	-12.7
-4.2	2.6	13.4	-10.8
-4.1	3.9	13.7	-9.8

27.55 GHz Antenna Pattern in Co-pol Az RHCP

Angle Degrees	Gain dBi	Mask dBi	Over Mask dB
0.0	52.0		
0.1	51.3		
0.2	49.0		
0.3	44.7		
0.4	38.8		
0.5	32.1		
0.6	26.0		
0.7	27.0		
0.8	28.5		
0.9	25.7		
1.0	17.7		
1.1	16.9		
1.2	19.7		
1.3	14.8		
1.4	5.7		
1.5	9.9	24.6	-14.7
1.6	10.5	23.9	-13.4
1.7	15.7	23.2	-7.5
1.8	16.4	22.6	-6.2
1.9	14.3	22.0	-7.8
2.0	7.4	21.5	-14.0
2.1	3.9	20.9	-17.1
2.2	0.1	20.4	-20.4
2.3	-3.9	20.0	-23.9
2.4	1.8	19.5	-17.7
2.5	3.1	19.1	-15.9
2.6	3.7	18.6	-14.9
2.7	2.3	18.2	-15.9
2.8	1.0	17.8	-16.8
2.9	2.4	17.4	-15.0
3.0	3.7	17.1	-13.4
3.1	7.2	16.7	-9.5
3.2	9.0	16.4	-7.4
3.3	8.4	16.0	-7.6
3.4	2.8	15.7	-12.9
3.5	-9.1	15.4	-24.5
3.6	-3.9	15.1	-19.0
3.7	-4.2	14.8	-19.0
3.8	4.2	14.5	-10.3
3.9	7.3	14.2	-6.9
4.0	5.9	13.9	-8.1
4.1	-0.4	13.7	-14.0
4.2	-2.7	13.4	-16.1
4.3	1.2	13.2	-11.9
4.4	0.2	12.9	-12.8
4.5	-1.8	12.7	-14.5
4.6	-2.3	12.4	-14.7
4.7	0.2	12.2	-12.0
4.8	1.2	12.0	-10.8
4.9	0.7	11.7	-11.0
5.0	-1.8	11.5	-13.3
5.1	-10.5	11.3	-21.8
5.2	-14.5	11.1	-25.6
5.3	-6.9	10.9	-17.8
5.4	-9.7	10.7	-20.4
5.5	-11.1	10.5	-21.6
5.6	-4.5	10.3	-14.8
5.7	-1.3	10.1	-11.4
5.8	0.8	9.9	-9.1
5.9	0.5	9.7	-9.3

Orbit Communication Systems Ltd.

AL AL-7107-Ka, 2.15 m Antenna, Pattern Data Table
 Co-pol Azimuth RHCP, -10° to +10° @ 0.1° increment

-4.0	5.9	13.9	-8.1
-3.9	8.7	14.2	-5.5
-3.8	9.3	14.5	-5.2
-3.7	6.5	14.8	-8.3
-3.6	-2.3	15.1	-17.4
-3.5	0.8	15.4	-14.6
-3.4	2.6	15.7	-13.1
-3.3	3.9	16.0	-12.2
-3.2	8.1	16.4	-8.2
-3.1	8.9	16.7	-7.8
-3.0	9.1	17.1	-7.9
-2.9	11.6	17.4	-5.9
-2.8	11.5	17.8	-6.3
-2.7	9.1	18.2	-9.1
-2.6	1.7	18.6	-16.9
-2.5	-9.9	19.1	-29.0
-2.4	2.5	19.5	-17.0
-2.3	5.9	20.0	-14.0
-2.2	3.2	20.4	-17.2
-2.1	1.2	20.9	-19.7
-2.0	10.2	21.5	-11.3
-1.9	10.9	22.0	-11.1
-1.8	10.6	22.6	-12.0
-1.7	9.7	23.2	-13.5
-1.6	4.7	23.9	-19.2
-1.5	10.9	24.6	-13.7
-1.4	16.9		
-1.3	19.0		
-1.2	20.5		
-1.1	20.8		
-1.0	17.6		
-0.9	16.4		
-0.8	19.9		
-0.7	20.1		
-0.6	26.0		
-0.5	34.9		
-0.4	41.8		
-0.3	46.8		
-0.2	50.1		
-0.1	51.7		
0.0	52.0		

6.0	-2.3	9.5	-11.9
6.1	-12.6	9.4	-22.0
6.2	-8.1	9.2	-17.3
6.3	-5.1	9.0	-14.1
6.4	-3.2	8.8	-12.0
6.5	-1.7	8.7	-10.4
6.6	-4.0	8.5	-12.5
6.7	-2.4	8.3	-10.7
6.8	0.4	8.2	-7.8
6.9	3.3	8.0	-4.7
7.0	3.9	7.9	-4.0
7.1	3.9	8.0	-4.1
7.2	2.5	8.0	-5.5
7.3	-2.0	8.0	-10.0
7.4	-8.4	8.0	-16.4
7.5	-2.9	8.0	-10.9
7.6	-1.2	8.0	-9.2
7.7	-3.3	8.0	-11.3
7.8	-12.9	8.0	-20.9
7.9	-4.0	8.0	-12.0
8.0	0.0	8.0	-8.0
8.1	1.1	8.0	-6.9
8.2	0.3	8.0	-7.7
8.3	-2.2	8.0	-10.2
8.4	-5.8	8.0	-13.8
8.5	-7.2	8.0	-15.2
8.6	-4.7	8.0	-12.7
8.7	-6.7	8.0	-14.7
8.8	-4.9	8.0	-12.9
8.9	-2.8	8.0	-10.8
9.0	-2.8	8.0	-10.8
9.1	-6.1	8.0	-14.1
9.2	-13.9	8.0	-21.9
9.3	-10.9	7.8	-18.7
9.4	-5.2	7.7	-12.9
9.5	-4.5	7.6	-12.1
9.6	-10.9	7.4	-18.3
9.7	-16.2	7.3	-23.5
9.8	-7.3	7.2	-14.5
9.9	-5.5	7.1	-12.6
10.0	-8.4	7.0	-15.4

Orbit Communication Systems Ltd.
 AL-7107-Ka, 2.15 m Antenna, Pattern Data Table
 Co-pol Elevation RHCP, -30° to +30° @ 0.5° increment

27.55 GHz Antenna Pattern in Co-pol EI RHCP

Angle Degrees	Gain dBi	Mask dBi	Over Mask dB
-30.0	-7.7	-4.9	-2.8
-29.5	-10.1	-4.7	-5.3
-29.0	-11.7	-4.6	-7.1
-28.5	-11.5	-4.4	-7.1
-28.0	-10.6	-4.2	-6.5
-27.5	-12.3	-4.0	-8.3
-27.0	-7.9	-3.8	-4.2
-26.5	-9.9	-3.6	-6.3
-26.0	-18.1	-3.4	-14.8
-25.5	-14.0	-3.2	-10.8
-25.0	-16.3	-2.9	-13.4
-24.5	-8.9	-2.7	-6.2
-24.0	-10.4	-2.5	-7.9
-23.5	-8.1	-2.3	-5.8
-23.0	-14.6	-2.0	-12.5
-22.5	-7.0	-1.8	-5.2
-22.0	-5.5	-1.6	-4.0
-21.5	-6.2	-1.3	-4.9
-21.0	-16.3	-1.1	-15.2
-20.5	-8.9	-0.8	-8.1
-20.0	-3.3	-0.5	-2.8
-19.5	0.2	-0.3	0.4
-19.0	1.4	0.0	1.4
-18.5	-2.0	0.3	-2.3
-18.0	-3.3	0.6	-4.0
-17.5	-19.1	0.9	-20.0
-17.0	-23.4	1.2	-24.6
-16.5	-14.1	1.6	-15.6
-16.0	-12.5	1.9	-14.4
-15.5	-8.0	2.2	-10.2
-15.0	-21.1	2.6	-23.7
-14.5	-7.3	3.0	-10.2
-14.0	-15.0	3.3	-18.3
-13.5	-10.9	3.7	-14.7
-13.0	-8.5	4.2	-12.6
-12.5	-11.0	4.6	-15.6
-12.0	-7.1	5.0	-12.1
-11.5	-19.4	5.5	-24.9
-11.0	-7.7	6.0	-13.7
-10.5	-10.5	6.5	-17.0
-10.0	-7.4	7.0	-14.4
-9.5	-18.5	7.6	-26.0
-9.0	-11.2	8.1	-19.4
-8.5	-2.5	8.8	-11.2
-8.0	-8.2	9.4	-17.6
-7.5	-2.7	10.1	-12.8
-7.0	-4.8	10.9	-15.7
-6.5	-1.7	11.7	-13.4
-6.0	-4.8	12.5	-17.3
-5.5	-10.7	13.5	-24.2
-5.0	4.5	14.5	-10.0
-4.5	4.3	15.7	-11.4
-4.0	-7.1	16.9	-24.0
-3.5	3.3	18.4	-15.1
-3.0	11.3	20.1	-8.8
-2.5	12.5		
-2.0	7.4		
-1.5	14.8		
-1.0	20.6		
-0.5	36.4		
0.0	52.1		

27.55 GHz Antenna Pattern in Co-pol EI RHCP

Angle Degrees	Gain dBi	Mask dBi	Over Mask dB
0.0	52.1		
0.5	37.5		
1.0	18.1		
1.5	8.1		
2.0	7.4		
2.5	10.0		
3.0	-5.1	20.1	-25.1
3.5	13.9	18.4	-4.5
4.0	11.3	16.9	-5.7
4.5	4.3	15.7	-11.4
5.0	7.0	14.5	-7.6
5.5	-9.1	13.5	-22.5
6.0	-2.0	12.5	-14.5
6.5	0.4	11.7	-11.3
7.0	1.4	10.9	-9.5
7.5	-6.3	10.1	-16.4
8.0	-8.1	9.4	-17.5
8.5	-14.4	8.8	-23.2
9.0	-9.8	8.1	-18.0
9.5	-3.8	7.6	-11.4
10.0	-7.2	7.0	-14.2
10.5	-5.0	6.5	-11.5
11.0	-3.1	6.0	-9.1
11.5	-2.1	5.5	-7.6
12.0	-1.4	5.0	-6.5
12.5	-2.1	4.6	-6.7
13.0	-9.0	4.2	-13.1
13.5	-10.8	3.7	-14.5
14.0	-13.5	3.3	-16.8
14.5	-9.4	3.0	-12.3
15.0	-12.9	2.6	-15.5
15.5	-11.6	2.2	-13.8
16.0	-22.1	1.9	-24.0
16.5	-14.3	1.6	-15.9
17.0	-19.8	1.2	-21.1
17.5	-19.9	0.9	-20.8
18.0	-21.5	0.6	-22.1
18.5	-10.7	0.3	-11.0
19.0	-10.7	0.0	-10.7
19.5	-17.7	-0.3	-17.4
20.0	-27.3	-0.5	-26.8
20.5	-19.3	-0.8	-18.5
21.0	-15.4	-1.1	-14.3
21.5	-15.5	-1.3	-14.2
22.0	-13.1	-1.6	-11.6
22.5	-17.6	-1.8	-15.8
23.0	-27.5	-2.0	-25.4
23.5	-22.0	-2.3	-19.7
24.0	-22.0	-2.5	-19.5
24.5	-25.2	-2.7	-22.4
25.0	-13.5	-2.9	-10.5
25.5	-17.5	-3.2	-14.3
26.0	-16.0	-3.4	-12.7
26.5	-18.1	-3.6	-14.6
27.0	-14.1	-3.8	-10.3
27.5	-23.1	-4.0	-19.1
28.0	-20.7	-4.2	-16.5
28.5	-22.3	-4.4	-17.9
29.0	-26.0	-4.6	-21.4
29.5	-18.3	-4.7	-13.6
30.0	-15.8	-4.9	-10.9

Orbit Communication Systems Ltd.
 AL-7107-Ka, 2.15 m Antenna, Pattern Data Table
 Co-pol Elevation RHCP, -10° to +10° @ 0.1° increment

27.55 GHz Antenna Pattern in Co-pol EI RHCP

Angle	Gain	Mask	Over Mask
Degrees	dBi	dBi	dB
-10.0	-3.4	7.0	-10.4
-9.9	-1.4	7.1	-8.5
-9.8	-0.5	7.2	-7.7
-9.7	-3.0	7.3	-10.3
-9.6	-6.4	7.4	-13.9
-9.5	-13.5	7.6	-21.1
-9.4	-11.8	7.7	-19.5
-9.3	-9.4	7.8	-17.2
-9.2	-9.8	7.9	-17.7
-9.1	-11.4	8.0	-19.4
-9.0	-5.8	8.1	-14.0
-8.9	-3.0	8.3	-11.3
-8.8	-4.3	8.4	-12.7
-8.7	-6.5	8.5	-15.1
-8.6	-9.7	8.6	-18.3
-8.5	-5.5	8.8	-14.3
-8.4	-3.9	8.9	-12.8
-8.3	-3.6	9.0	-12.7
-8.2	-4.8	9.2	-13.9
-8.1	-6.9	9.3	-16.2
-8.0	-10.3	9.4	-19.7
-7.9	-9.7	9.6	-19.3
-7.8	-13.4	9.7	-23.1
-7.7	-13.0	9.8	-22.8
-7.6	-8.3	10.0	-18.2
-7.5	-4.2	10.1	-14.3
-7.4	-1.1	10.3	-11.4
-7.3	-1.1	10.4	-11.5
-7.2	-3.6	10.6	-14.2
-7.1	-10.5	10.7	-21.2
-7.0	-3.8	10.9	-14.7
-6.9	-1.1	11.0	-12.2
-6.8	-6.5	11.2	-17.7
-6.7	-3.8	11.3	-15.2
-6.6	-2.8	11.5	-14.3
-6.5	-2.0	11.7	-13.7
-6.4	-0.2	11.8	-12.0
-6.3	1.5	12.0	-10.5
-6.2	0.3	12.2	-11.9
-6.1	-1.7	12.4	-14.1
-6.0	-3.7	12.5	-16.3
-5.9	-4.3	12.7	-17.1
-5.8	-5.8	12.9	-18.7
-5.7	-4.4	13.1	-17.5
-5.6	-7.1	13.3	-20.4
-5.5	-7.5	13.5	-21.0
-5.4	-4.6	13.7	-18.3
-5.3	0.2	13.9	-13.7
-5.2	2.5	14.1	-11.6
-5.1	3.6	14.3	-10.7
-5.0	3.9	14.5	-10.6
-4.9	4.8	14.7	-9.9
-4.8	4.7	15.0	-10.3
-4.7	1.1	15.2	-14.1
-4.6	-9.1	15.4	-24.5
-4.5	4.1	15.7	-11.6
-4.4	8.3	15.9	-7.6
-4.3	9.1	16.2	-7.1
-4.2	8.6	16.4	-7.8
-4.1	4.1	16.7	-12.6

27.55 GHz Antenna Pattern in Co-pol EI RHCP

Angle	Gain	Mask	Over Mask
Degrees	dBi	dBi	dB
0.0	52.0		
0.1	51.3		
0.2	49.1		
0.3	45.4		
0.4	41.3		
0.5	37.9		
0.6	33.8		
0.7	24.7		
0.8	11.9		
0.9	19.3		
1.0	21.1		
1.1	22.6		
1.2	20.8		
1.3	12.7		
1.4	8.4		
1.5	9.1		
1.6	12.7		
1.7	16.7		
1.8	16.5		
1.9	12.2		
2.0	9.5		
2.1	9.3		
2.2	11.3		
2.3	13.6		
2.4	13.0		
2.5	10.6		
2.6	8.7		
2.7	4.2		
2.8	-2.9		
2.9	4.7		
3.0	2.6	20.1	-17.5
3.1	-5.6	19.7	-25.3
3.2	3.9	19.4	-15.5
3.3	3.4	19.0	-15.6
3.4	9.3	18.7	-9.4
3.5	13.2	18.4	-5.2
3.6	13.6	18.1	-4.5
3.7	11.7	17.8	-6.1
3.8	7.4	17.5	-10.1
3.9	9.4	17.2	-7.8
4.0	12.3	16.9	-4.7
4.1	12.0	16.7	-4.7
4.2	10.3	16.4	-6.1
4.3	8.6	16.2	-7.6
4.4	7.9	15.9	-8.0
4.5	5.9	15.7	-9.7
4.6	3.4	15.4	-12.0
4.7	3.1	15.2	-12.1
4.8	4.8	15.0	-10.2
4.9	4.8	14.7	-10.0
5.0	5.6	14.5	-8.9
5.1	7.0	14.3	-7.3
5.2	8.0	14.1	-6.1
5.3	7.9	13.9	-6.0
5.4	4.1	13.7	-9.6
5.5	-6.3	13.5	-19.8
5.6	-6.8	13.3	-20.1
5.7	-4.7	13.1	-17.8
5.8	-3.8	12.9	-16.7
5.9	-1.1	12.7	-13.9

Orbit Communication Systems Ltd.
AL-7107-Ka, 2.15 m Antenna, Pattern Data Table
Co-pol Elevation RHCP, -10° to +10° @ 0.1° increment

-4.0	-2.6	16.9	-19.5
-3.9	7.7	17.2	-9.5
-3.8	9.9	17.5	-7.6
-3.7	9.7	17.8	-8.1
-3.6	7.9	18.1	-10.2
-3.5	4.9	18.4	-13.5
-3.4	-6.5	18.7	-25.2
-3.3	-0.8	19.0	-19.8
-3.2	-3.2	19.4	-22.5
-3.1	3.1	19.7	-16.6
-3.0	11.2	20.1	-8.8
-2.9	13.3		
-2.8	13.0		
-2.7	10.3		
-2.6	10.3		
-2.5	12.9		
-2.4	13.9		
-2.3	14.1		
-2.2	11.9		
-2.1	9.4		
-2.0	7.4		
-1.9	6.0		
-1.8	6.2		
-1.7	12.3		
-1.6	15.9		
-1.5	16.4		
-1.4	14.5		
-1.3	18.9		
-1.2	23.2		
-1.1	23.7		
-1.0	21.1		
-0.9	20.3		
-0.8	24.8		
-0.7	28.8		
-0.6	32.8		
-0.5	35.8		
-0.4	40.3		
-0.3	45.9		
-0.2	49.8		
-0.1	51.7		
0.0	52.0		

6.0	-2.3	12.5	-14.8
6.1	-3.9	12.4	-16.3
6.2	-1.4	12.2	-13.6
6.3	1.4	12.0	-10.6
6.4	1.5	11.8	-10.3
6.5	2.3	11.7	-9.4
6.6	1.7	11.5	-9.8
6.7	2.5	11.3	-8.9
6.8	4.3	11.2	-6.8
6.9	4.9	11.0	-6.1
7.0	3.4	10.9	-7.5
7.1	-2.8	10.7	-13.5
7.2	-11.8	10.6	-22.4
7.3	-12.0	10.4	-22.4
7.4	-8.4	10.3	-18.7
7.5	-5.0	10.1	-15.1
7.6	-3.9	10.0	-13.8
7.7	-4.6	9.8	-14.4
7.8	-5.2	9.7	-14.9
7.9	-7.5	9.6	-17.1
8.0	-4.3	9.4	-13.7
8.1	-2.9	9.3	-12.2
8.2	-7.4	9.2	-16.6
8.3	-12.0	9.0	-21.0
8.4	-6.8	8.9	-15.7
8.5	-5.5	8.8	-14.2
8.6	-7.0	8.6	-15.7
8.7	-9.0	8.5	-17.5
8.8	-12.3	8.4	-20.6
8.9	-13.9	8.3	-22.1
9.0	-14.1	8.1	-22.3
9.1	-13.8	8.0	-21.8
9.2	-8.7	7.9	-16.6
9.3	-10.0	7.8	-17.8
9.4	-24.4	7.7	-32.0
9.5	-10.5	7.6	-18.0
9.6	-5.1	7.4	-12.5
9.7	-1.6	7.3	-9.0
9.8	-1.1	7.2	-8.3
9.9	-1.8	7.1	-8.9
10.0	-3.4	7.0	-10.4

Orbit Communication Systems Ltd.
AL-7107-Ka, 2.15 m Antenna, Pattern Data Table
X-pol Azimuth RHCP, -10° to +10° @ 0.1° increment

27.55 GHz Antenna Pattern in X-pol Az RHCP

Angle	Gain	Mask	Over Mask
Degrees	dBi	dBi	dB
-10.0	-7.5	-2.0	-5.5
-9.9	-10.8	-2.0	-8.8
-9.8	-12.5	-2.0	-10.5
-9.7	-17.0	-2.0	-15.0
-9.6	-15.1	-2.0	-13.1
-9.5	-16.9	-2.0	-14.9
-9.4	-14.4	-2.0	-12.4
-9.3	-11.3	-2.0	-9.3
-9.2	-10.0	-2.0	-8.0
-9.1	-6.8	-2.0	-4.8
-9.0	-6.3	-2.0	-4.3
-8.9	-7.0	-2.0	-5.0
-8.8	-8.6	-2.0	-6.6
-8.7	-12.8	-2.0	-10.8
-8.6	-18.3	-2.0	-16.3
-8.5	-16.7	-2.0	-14.7
-8.4	-23.6	-2.0	-21.6
-8.3	-17.1	-2.0	-15.1
-8.2	-12.3	-2.0	-10.3
-8.1	-8.8	-2.0	-6.8
-8.0	-6.7	-2.0	-4.7
-7.9	-7.9	-2.0	-5.9
-7.8	-7.6	-2.0	-5.6
-7.7	-7.2	-2.0	-5.2
-7.6	-6.6	-2.0	-4.6
-7.5	-6.7	-2.0	-4.7
-7.4	-6.3	-2.0	-4.3
-7.3	-4.3	-2.0	-2.3
-7.2	-4.9	-2.0	-2.9
-7.1	-6.0	-2.0	-4.0
-7.0	-7.6	-2.1	-5.5
-6.9	-6.7	-2.0	-4.7
-6.8	-6.1	-1.8	-4.3
-6.7	-7.5	-1.7	-5.9
-6.6	-8.8	-1.5	-7.3
-6.5	-7.3	-1.3	-5.9
-6.4	-5.3	-1.2	-4.2
-6.3	-3.7	-1.0	-2.7
-6.2	-5.4	-0.8	-4.6
-6.1	-7.7	-0.6	-7.1
-6.0	-11.9	-0.5	-11.4
-5.9	-5.2	-0.3	-4.9
-5.8	-3.4	-0.1	-3.3
-5.7	-5.3	0.1	-5.4
-5.6	-11.3	0.3	-11.6
-5.5	-8.2	0.5	-8.7
-5.4	-6.9	0.7	-7.6
-5.3	-8.6	0.9	-9.5
-5.2	-16.6	1.1	-17.7
-5.1	-15.9	1.3	-17.2
-5.0	-8.2	1.5	-9.7
-4.9	-8.2	1.7	-9.9
-4.8	-12.2	2.0	-14.1
-4.7	-11.8	2.2	-14.0
-4.6	-8.2	2.4	-10.6
-4.5	-8.2	2.7	-10.9
-4.4	-9.6	2.9	-12.5
-4.3	-14.6	3.2	-17.8
-4.2	-15.3	3.4	-18.7
-4.1	-5.6	3.7	-9.3

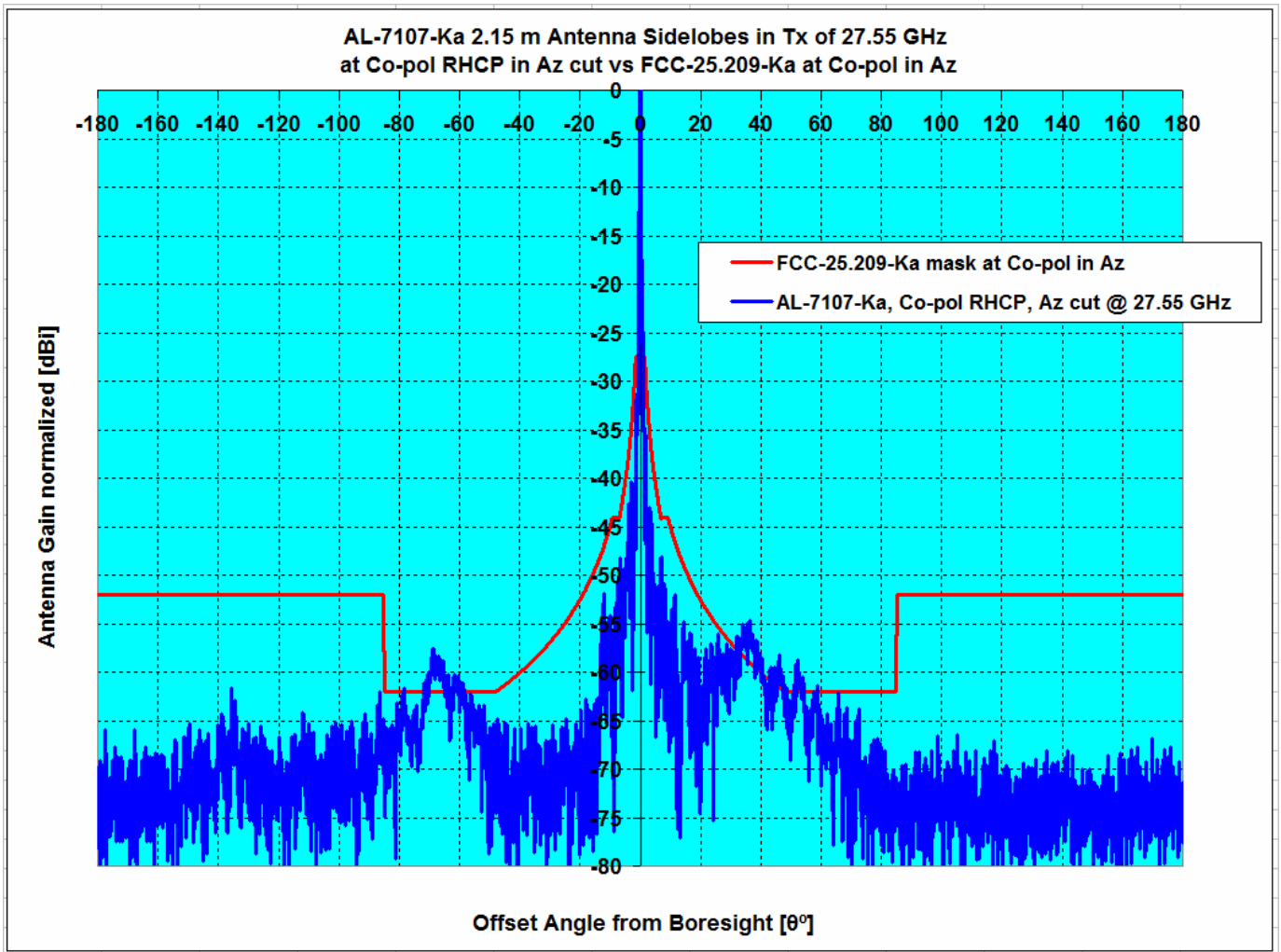
27.55 GHz Antenna Pattern in X-pol Az RHCP

Angle	Gain	Mask	Over Mask
Degrees	dBi	dBi	dB
0.0	20.3		
0.1	18.8		
0.2	9.9		
0.3	22.2		
0.4	25.1		
0.5	25.2		
0.6	22.3		
0.7	15.0		
0.8	2.0		
0.9	1.8		
1.0	6.9		
1.1	10.7		
1.2	10.9		
1.3	6.8		
1.4	1.6		
1.5	4.0		
1.6	1.8		
1.7	-3.6		
1.8	-3.2	12.6	-15.8
1.9	-0.1	12.0	-12.2
2.0	0.6	11.5	-10.9
2.1	0.0	10.9	-10.9
2.2	-7.1	10.4	-17.5
2.3	-12.0	10.0	-22.0
2.4	-4.2	9.5	-13.7
2.5	-3.3	9.1	-12.4
2.6	-5.4	8.6	-14.1
2.7	-13.2	8.2	-21.4
2.8	-3.2	7.8	-11.0
2.9	-0.4	7.4	-7.9
3.0	-2.3	7.1	-9.3
3.1	-8.6	6.7	-15.3
3.2	-9.9	6.4	-16.3
3.3	-7.8	6.0	-13.9
3.4	-14.7	5.7	-20.4
3.5	-9.0	5.4	-14.4
3.6	-4.8	5.1	-9.9
3.7	-8.9	4.8	-13.7
3.8	-16.2	4.5	-20.7
3.9	-9.4	4.2	-13.6
4.0	-7.6	3.9	-11.6
4.1	-9.7	3.7	-13.3
4.2	-10.0	3.4	-13.4
4.3	-9.7	3.2	-12.8
4.4	-8.6	2.9	-11.6
4.5	-8.4	2.7	-11.1
4.6	-7.8	2.4	-10.2
4.7	-5.6	2.2	-7.8
4.8	-4.8	2.0	-6.8
4.9	-8.8	1.7	-10.5
5.0	-18.5	1.5	-20.1
5.1	-23.8	1.3	-25.1
5.2	-17.5	1.1	-18.6
5.3	-11.1	0.9	-12.0
5.4	-7.9	0.7	-8.6
5.5	-7.3	0.5	-7.8
5.6	-7.3	0.3	-7.6
5.7	-4.7	0.1	-4.8
5.8	-3.5	-0.1	-3.4
5.9	-7.4	-0.3	-7.1

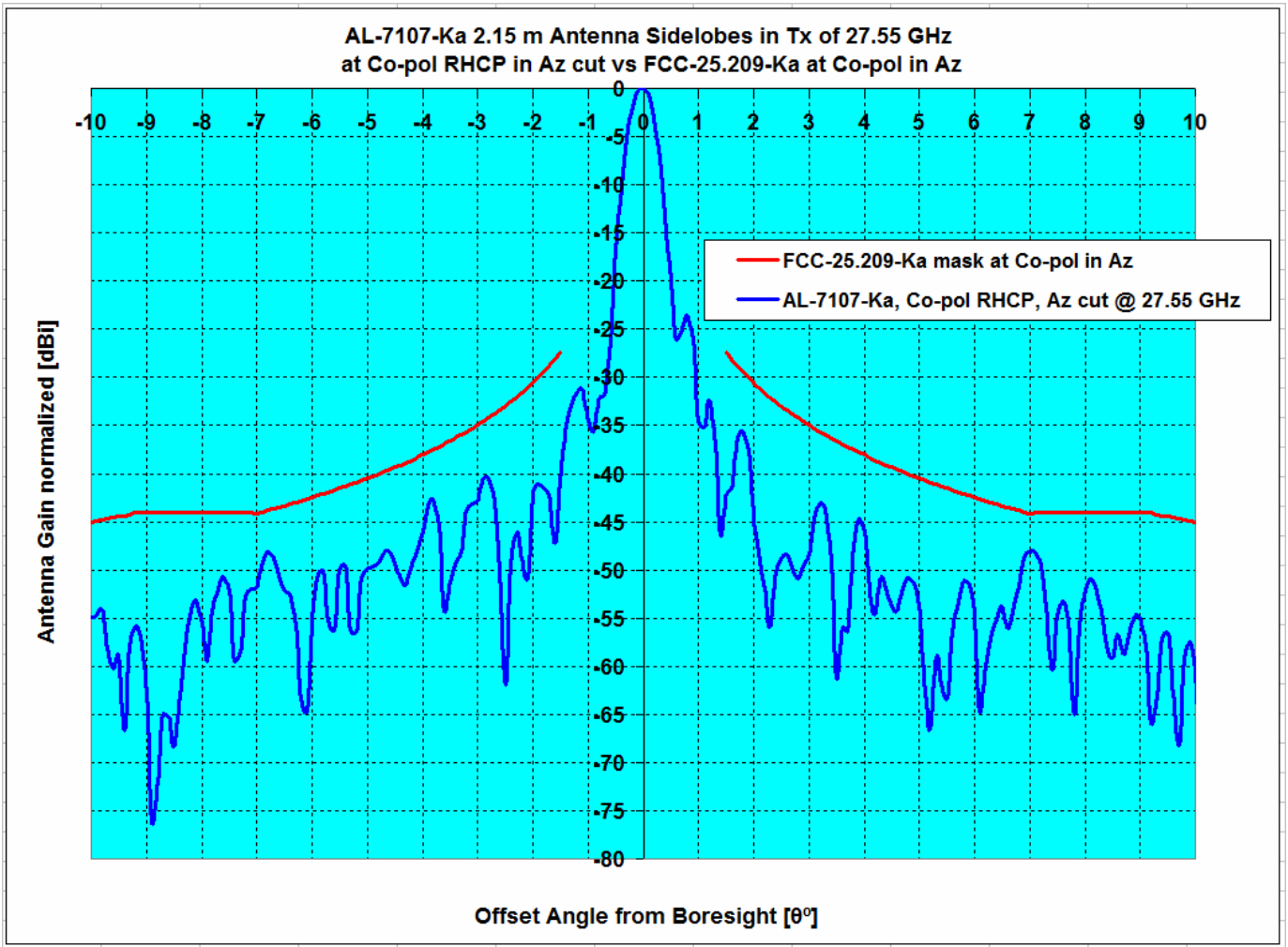
Orbit Communication Systems Ltd.
AL-7107-Ka, 2.15 m Antenna, Pattern Data Table
X-pol Azimuth RHCP, -10° to +10° @ 0.1° increment

-4.0	-3.7	3.9	-7.7
-3.9	-5.3	4.2	-9.5
-3.8	-8.3	4.5	-12.8
-3.7	-2.1	4.8	-6.9
-3.6	-1.0	5.1	-6.1
-3.5	-1.9	5.4	-7.3
-3.4	-6.9	5.7	-12.6
-3.3	-4.4	6.0	-10.4
-3.2	-1.3	6.4	-7.7
-3.1	-4.7	6.7	-11.4
-3.0	-15.0	7.1	-22.1
-2.9	-6.9	7.4	-14.3
-2.8	-10.5	7.8	-18.3
-2.7	-8.6	8.2	-16.8
-2.6	-3.4	8.6	-12.1
-2.5	-3.7	9.1	-12.7
-2.4	-3.6	9.5	-13.1
-2.3	0.9	10.0	-9.1
-2.2	2.0	10.4	-8.5
-2.1	1.6	10.9	-9.3
-2.0	1.6	11.5	-9.9
-1.9	-5.5	12.0	-17.6
-1.8	-2.5	12.6	-15.1
-1.7	4.6		
-1.6	5.8		
-1.5	7.3		
-1.4	10.5		
-1.3	9.8		
-1.2	5.8		
-1.1	11.3		
-1.0	15.3		
-0.9	16.1		
-0.8	16.5		
-0.7	19.7		
-0.6	23.8		
-0.5	26.5		
-0.4	27.2		
-0.3	26.1		
-0.2	21.4		
-0.1	15.8		
0.0	20.3		

6.0	-8.9	-0.5	-8.4
6.1	-11.4	-0.6	-10.8
6.2	-15.9	-0.8	-15.1
6.3	-18.3	-1.0	-17.4
6.4	-15.0	-1.2	-13.8
6.5	-14.3	-1.3	-12.9
6.6	-9.6	-1.5	-8.1
6.7	-7.4	-1.7	-5.8
6.8	-7.8	-1.8	-6.0
6.9	-10.7	-2.0	-8.7
7.0	-11.6	-2.1	-9.5
7.1	-13.1	-2.0	-11.1
7.2	-20.8	-2.0	-18.8
7.3	-17.3	-2.0	-15.3
7.4	-16.6	-2.0	-14.6
7.5	-17.2	-2.0	-15.2
7.6	-10.0	-2.0	-8.0
7.7	-8.6	-2.0	-6.6
7.8	-10.9	-2.0	-8.9
7.9	-14.2	-2.0	-12.2
8.0	-15.8	-2.0	-13.8
8.1	-17.5	-2.0	-15.5
8.2	-19.2	-2.0	-17.2
8.3	-17.6	-2.0	-15.6
8.4	-13.7	-2.0	-11.7
8.5	-18.4	-2.0	-16.4
8.6	-25.2	-2.0	-23.2
8.7	-13.8	-2.0	-11.8
8.8	-15.0	-2.0	-13.0
8.9	-8.7	-2.0	-6.7
9.0	-6.3	-2.0	-4.3
9.1	-5.3	-2.0	-3.3
9.2	-6.9	-2.0	-4.9
9.3	-7.0	-2.0	-5.0
9.4	-10.6	-2.0	-8.6
9.5	-6.7	-2.0	-4.7
9.6	-5.5	-2.0	-3.5
9.7	-4.5	-2.0	-2.5
9.8	-5.9	-2.0	-3.9
9.9	-11.6	-2.0	-9.6
10.0	-12.6	-2.0	-10.6

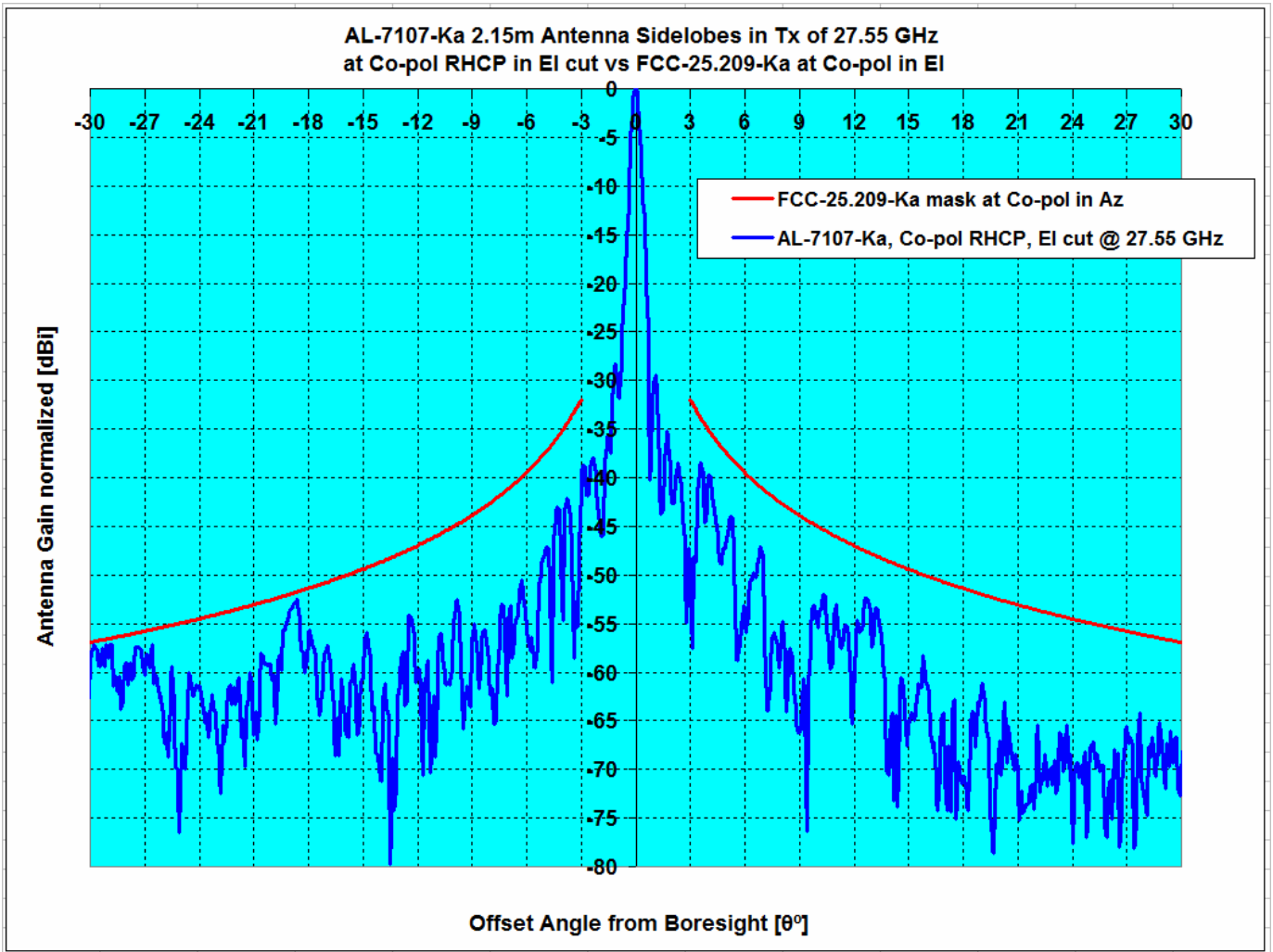


Description	Plane, CirP	Frequency	Ant. Gain	Peak Excursions dB		Over Mask %	
				1.5°≤θ≤7°	7°≤θ≤180°	1.5°≤θ≤7°	7°≤θ≤180°
FCC-25.209-Ka, Co-pol Az, vs AL-7107-Ka	Az , RHCP	27.55	52.02	-3.99	4.44	0.00%	6.55%

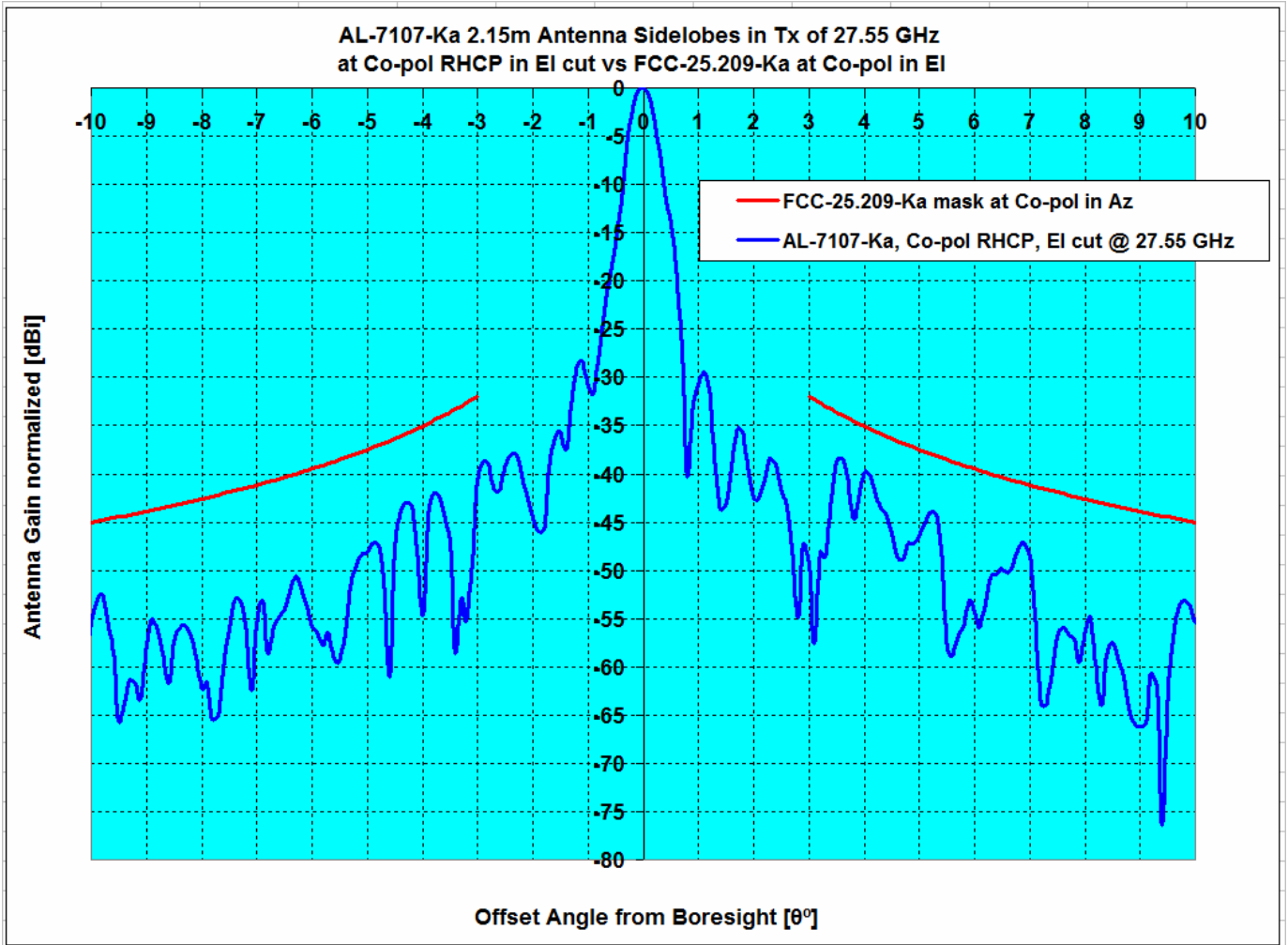


Description	Plane, CirP	Frequency	Ant. Gain	Peak Excursions dB		Over Mask %	
				1.5°≤θ≤7°	7°≤θ≤180°	1.5°≤θ≤7°	7°≤θ≤180°
FCC-25.209-Ka, Co-pol Az, vs AL-7107-Ka	Az , RHCP	27.55	52.02	-3.99	4.44	0.00%	6.55%

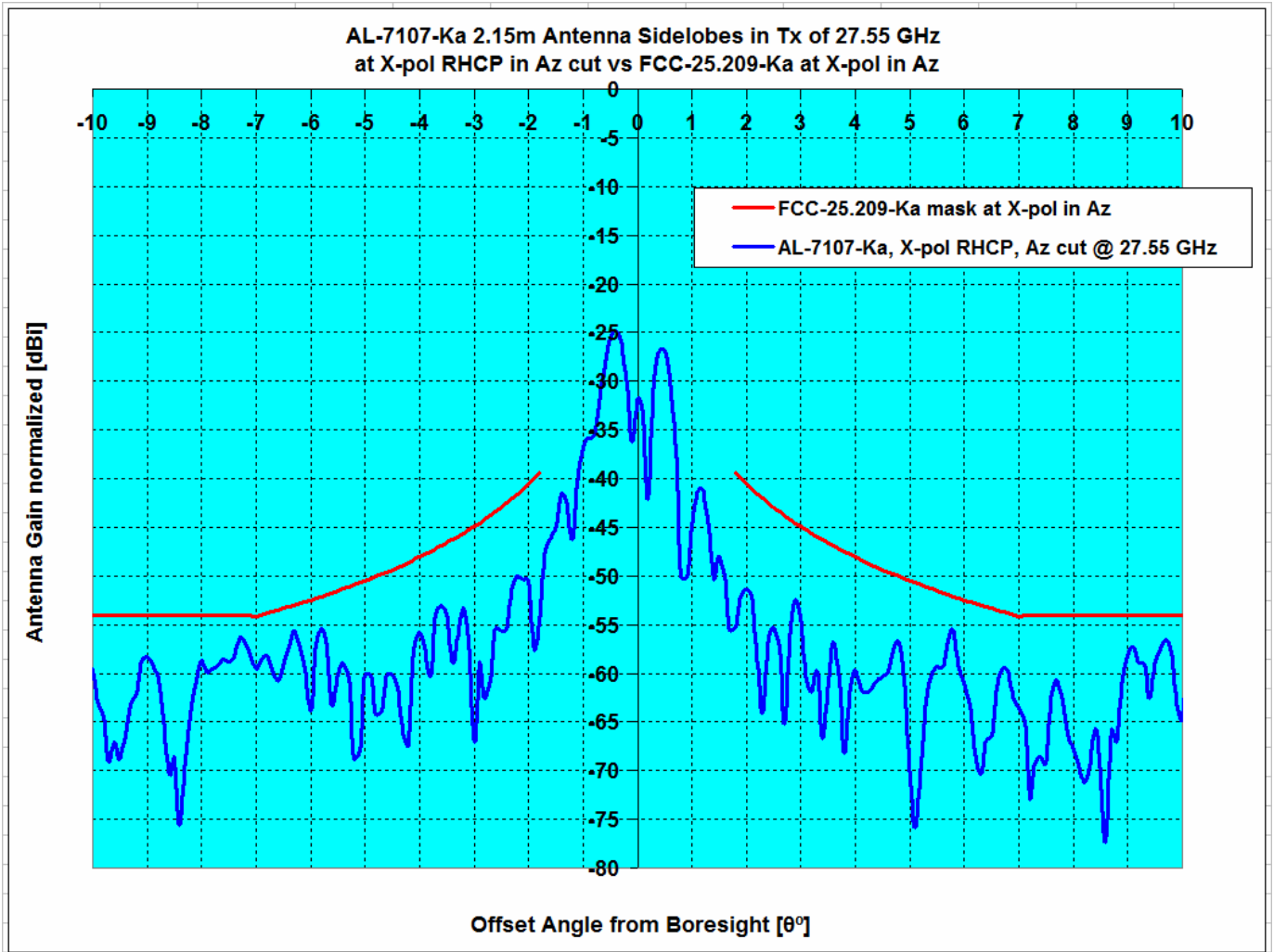
Orbit Communication Systems Ltd.
 AL-7107-Ka, 2.15 m Antenna, Pattern, Co-pol, Elevation RHCP



Description	Plane, CirP	Frequency	Ant. Gain	Peak Excursions dB		Over Mask %	
				3°≤θ≤7°	7°≤θ≤30°	3°≤θ≤7°	7°≤θ≤30°
Pattern Rule vs Antenna System	Type	GHz	dBi				
FCC-25.209-Ka, Co-pol EI, vs AL-7107-Ka	EI , RHCP	27.55	52.02	-4.53	-0.33	0.00%	0.00%



Description	Plane, CirP	Frequency	Ant. Gain	Peak Excursions dB		Over Mask %	
				3°≤θ≤7°	7°≤θ≤30°	3°≤θ≤7°	7°≤θ≤30°
FCC-25.209-Ka, Co-pol EI, vs AL-7107-Ka	EI , RHCP	27.55	52.02	-4.53	-0.33	0.00%	0.00%



Description	Plane, CirP	Frequency	Ant. Gain	Peak Excursions dB		Over Mask %	
				1.8°≤θ≤7°	1.8°≤θ≤9.2°	1.8°≤θ≤7°	1.8°≤θ≤9.2°
Pattern Rule vs Antenna System	Type	GHz	dBi				
FCC-25.209-Ka, X-pol Az, vs AL-7107-Ka	Az , RHCP	27.55	52.02	-2.70	-2.32	0.00%	0.00%

Orbit Communication Systems Ltd.
AL-7107-Ka, 2.15 m Antenna, Pattern Data Table
Co-pol Azimuth LHCP, -180° to +180° @ 1.0° increment

28.30 GHz Antenna Pattern in Co-pol Az LHCP

Angle	Gain	Mask	Over Mask
Degrees	dBi	dBi	dB
-179.0	-23.3	0.0	-23.3
-178.0	-25.3	0.0	-25.3
-177.0	-18.7	0.0	-18.7
-176.0	-27.6	0.0	-27.6
-175.0	-18.5	0.0	-18.5
-174.0	-27.5	0.0	-27.5
-173.0	-21.8	0.0	-21.8
-172.0	-24.4	0.0	-24.4
-171.0	-18.7	0.0	-18.7
-170.0	-27.6	0.0	-27.6
-169.0	-25.5	0.0	-25.5
-168.0	-19.5	0.0	-19.5
-167.0	-20.6	0.0	-20.6
-166.0	-20.1	0.0	-20.1
-165.0	-25.7	0.0	-25.7
-164.0	-27.6	0.0	-27.6
-163.0	-26.7	0.0	-26.7
-162.0	-22.4	0.0	-22.4
-161.0	-22.7	0.0	-22.7
-160.0	-22.7	0.0	-22.7
-159.0	-25.5	0.0	-25.5
-158.0	-22.9	0.0	-22.9
-157.0	-27.6	0.0	-27.6
-156.0	-23.9	0.0	-23.9
-155.0	-16.8	0.0	-16.8
-154.0	-23.9	0.0	-23.9
-153.0	-26.7	0.0	-26.7
-152.0	-18.6	0.0	-18.6
-151.0	-14.8	0.0	-14.8
-150.0	-13.9	0.0	-13.9
-149.0	-15.8	0.0	-15.8
-148.0	-27.6	0.0	-27.6
-147.0	-18.7	0.0	-18.7
-146.0	-17.5	0.0	-17.5
-145.0	-21.6	0.0	-21.6
-144.0	-17.3	0.0	-17.3
-143.0	-18.9	0.0	-18.9
-142.0	-16.5	0.0	-16.5
-141.0	-12.3	0.0	-12.3
-140.0	-15.7	0.0	-15.7
-139.0	-22.2	0.0	-22.2
-138.0	-24.1	0.0	-24.1
-137.0	-17.5	0.0	-17.5
-136.0	-20.8	0.0	-20.8
-135.0	-20.9	0.0	-20.9
-134.0	-25.3	0.0	-25.3
-133.0	-25.5	0.0	-25.5
-132.0	-27.6	0.0	-27.6
-131.0	-27.6	0.0	-27.6
-130.0	-23.4	0.0	-23.4
-129.0	-19.0	0.0	-19.0
-128.0	-27.6	0.0	-27.6
-127.0	-23.5	0.0	-23.5
-126.0	-18.5	0.0	-18.5
-125.0	-27.6	0.0	-27.6
-124.0	-18.9	0.0	-18.9
-123.0	-27.0	0.0	-27.0
-122.0	-16.5	0.0	-16.5
-121.0	-20.3	0.0	-20.3
-120.0	-23.3	0.0	-23.3

28.30 GHz Antenna Pattern in Co-pol Az LHCP

Angle	Gain	Mask	Over Mask
Degrees	dBi	dBi	dB
0.0	52.4		
1.0	17.1		
2.0	10.6	21.5	-10.9
3.0	0.4	17.1	-16.6
4.0	-7.9	13.9	-21.8
5.0	-1.2	11.5	-12.7
6.0	-10.1	9.5	-19.6
7.0	0.0	7.9	-7.9
8.0	-2.9	8.0	-10.9
9.0	-10.0	8.0	-18.0
10.0	-3.5	7.0	-10.5
11.0	-1.5	6.0	-7.5
12.0	-3.5	5.0	-8.5
13.0	-5.5	4.2	-9.7
14.0	-13.6	3.3	-17.0
15.0	-8.0	2.6	-10.6
16.0	-16.4	1.9	-18.3
17.0	-26.4	1.2	-27.6
18.0	-14.3	0.6	-14.9
19.0	-8.3	0.0	-8.3
20.0	-16.9	-0.5	-16.4
21.0	-18.1	-1.1	-17.1
22.0	-5.9	-1.6	-4.3
23.0	-8.0	-2.0	-6.0
24.0	-10.2	-2.5	-7.7
25.0	-14.9	-2.9	-12.0
26.0	-8.9	-3.4	-5.5
27.0	-7.3	-3.8	-3.5
28.0	-8.6	-4.2	-4.4
29.0	-7.5	-4.6	-2.9
30.0	-8.4	-4.9	-3.4
31.0	-6.4	-5.3	-1.1
32.0	-5.4	-5.6	0.2
33.0	-3.9	-6.0	2.1
34.0	-5.5	-6.3	0.8
35.0	-8.1	-6.6	-1.5
36.0	-4.5	-6.9	2.4
37.0	-7.6	-7.2	-0.4
38.0	-5.0	-7.5	2.5
39.0	-7.1	-7.8	0.7
40.0	-8.0	-8.1	0.1
41.0	-10.5	-8.3	-2.2
42.0	-9.4	-8.6	-0.9
43.0	-11.2	-8.8	-2.3
44.0	-10.3	-9.1	-1.2
45.0	-8.9	-9.3	0.4
46.0	-6.7	-9.6	2.8
47.0	-9.2	-9.8	0.6
48.0	-15.2	-10.0	-5.1
49.0	-13.9	-10.0	-3.9
50.0	-12.6	-10.0	-2.6
51.0	-10.9	-10.0	-0.9
52.0	-10.3	-10.0	-0.3
53.0	-13.6	-10.0	-3.6
54.0	-14.2	-10.0	-4.2
55.0	-22.1	-10.0	-12.1
56.0	-17.3	-10.0	-7.3
57.0	-15.4	-10.0	-5.4
58.0	-15.6	-10.0	-5.6
59.0	-19.4	-10.0	-9.4

Orbit Communication Systems Ltd.
AL-7107-Ka, 2.15 m Antenna, Pattern Data Table
Co-pol Azimuth LHCP, -180° to +180° @ 1.0° increment

-119.0	-20.2	0.0	-20.2
-118.0	-22.4	0.0	-22.4
-117.0	-21.3	0.0	-21.3
-116.0	-22.3	0.0	-22.3
-115.0	-20.2	0.0	-20.2
-114.0	-19.3	0.0	-19.3
-113.0	-27.3	0.0	-27.3
-112.0	-25.8	0.0	-25.8
-111.0	-16.7	0.0	-16.7
-110.0	-19.2	0.0	-19.2
-109.0	-18.1	0.0	-18.1
-108.0	-14.4	0.0	-14.4
-107.0	-22.5	0.0	-22.5
-106.0	-26.4	0.0	-26.4
-105.0	-22.3	0.0	-22.3
-104.0	-22.2	0.0	-22.2
-103.0	-23.8	0.0	-23.8
-102.0	-22.4	0.0	-22.4
-101.0	-27.3	0.0	-27.3
-100.0	-16.1	0.0	-16.1
-99.0	-15.0	0.0	-15.0
-98.0	-17.8	0.0	-17.8
-97.0	-19.5	0.0	-19.5
-96.0	-11.1	0.0	-11.1
-95.0	-14.1	0.0	-14.1
-94.0	-17.9	0.0	-17.9
-93.0	-19.2	0.0	-19.2
-92.0	-15.9	0.0	-15.9
-91.0	-14.9	0.0	-14.9
-90.0	-14.9	0.0	-14.9
-89.0	-15.3	0.0	-15.3
-88.0	-20.4	0.0	-20.4
-87.0	-13.3	0.0	-13.3
-86.0	-14.4	0.0	-14.4
-85.0	-14.4	-10.0	-4.4
-84.0	-15.1	-10.0	-5.1
-83.0	-14.6	-10.0	-4.6
-82.0	-13.1	-10.0	-3.1
-81.0	-16.5	-10.0	-6.5
-80.0	-10.3	-10.0	-0.3
-79.0	-10.0	-10.0	0.0
-78.0	-9.9	-10.0	0.1
-77.0	-12.9	-10.0	-2.9
-76.0	-12.9	-10.0	-2.9
-75.0	-11.4	-10.0	-1.4
-74.0	-11.7	-10.0	-1.7
-73.0	-11.0	-10.0	-1.0
-72.0	-8.9	-10.0	1.1
-71.0	-8.3	-10.0	1.7
-70.0	-6.4	-10.0	3.6
-69.0	-6.4	-10.0	3.6
-68.0	-4.3	-10.0	5.7
-67.0	-6.6	-10.0	3.4
-66.0	-6.1	-10.0	3.9
-65.0	-7.0	-10.0	3.0
-64.0	-7.3	-10.0	2.7
-63.0	-8.4	-10.0	1.6
-62.0	-9.1	-10.0	0.9
-61.0	-9.8	-10.0	0.2
-60.0	-8.9	-10.0	1.1
-59.0	-10.2	-10.0	-0.2
-58.0	-11.1	-10.0	-1.1
-57.0	-14.7	-10.0	-4.7

60.0	-17.8	-10.0	-7.8
61.0	-26.4	-10.0	-16.4
62.0	-20.4	-10.0	-10.4
63.0	-12.8	-10.0	-2.8
64.0	-19.5	-10.0	-9.5
65.0	-12.2	-10.0	-2.2
66.0	-20.0	-10.0	-10.0
67.0	-18.8	-10.0	-8.8
68.0	-25.8	-10.0	-15.8
69.0	-16.0	-10.0	-6.0
70.0	-24.6	-10.0	-14.6
71.0	-25.0	-10.0	-15.0
72.0	-23.0	-10.0	-13.0
73.0	-15.9	-10.0	-5.9
74.0	-20.0	-10.0	-10.0
75.0	-19.5	-10.0	-9.5
76.0	-21.6	-10.0	-11.6
77.0	-20.9	-10.0	-10.9
78.0	-27.6	-10.0	-17.6
79.0	-23.2	-10.0	-13.2
80.0	-27.0	-10.0	-17.0
81.0	-26.4	-10.0	-16.4
82.0	-22.3	-10.0	-12.3
83.0	-27.5	-10.0	-17.5
84.0	-22.5	-10.0	-12.5
85.0	-27.6	-10.0	-17.6
86.0	-18.4	0.0	-18.4
87.0	-25.3	0.0	-25.3
88.0	-23.9	0.0	-23.9
89.0	-27.6	0.0	-27.6
90.0	-23.1	0.0	-23.1
91.0	-22.6	0.0	-22.6
92.0	-25.5	0.0	-25.5
93.0	-27.6	0.0	-27.6
94.0	-27.6	0.0	-27.6
95.0	-21.9	0.0	-21.9
96.0	-20.2	0.0	-20.2
97.0	-21.6	0.0	-21.6
98.0	-19.0	0.0	-19.0
99.0	-23.9	0.0	-23.9
100.0	-27.2	0.0	-27.2
101.0	-22.1	0.0	-22.1
102.0	-18.8	0.0	-18.8
103.0	-23.2	0.0	-23.2
104.0	-27.6	0.0	-27.6
105.0	-27.6	0.0	-27.6
106.0	-27.6	0.0	-27.6
107.0	-21.8	0.0	-21.8
108.0	-21.0	0.0	-21.0
109.0	-23.5	0.0	-23.5
110.0	-27.6	0.0	-27.6
111.0	-20.2	0.0	-20.2
112.0	-27.6	0.0	-27.6
113.0	-27.6	0.0	-27.6
114.0	-21.8	0.0	-21.8
115.0	-21.3	0.0	-21.3
116.0	-24.5	0.0	-24.5
117.0	-25.8	0.0	-25.8
118.0	-23.8	0.0	-23.8
119.0	-22.4	0.0	-22.4
120.0	-23.4	0.0	-23.4
121.0	-20.5	0.0	-20.5
122.0	-26.9	0.0	-26.9

Orbit Communication Systems Ltd.
 AL-7107-Ka, 2.15 m Antenna, Pattern Data Table
 Co-pol Azimuth LHCP, -180° to +180° @ 1.0° increment

-56.0	-15.3	-10.0	-5.3
-55.0	-14.7	-10.0	-4.7
-54.0	-16.3	-10.0	-6.3
-53.0	-14.3	-10.0	-4.3
-52.0	-18.2	-10.0	-8.2
-51.0	-15.7	-10.0	-5.7
-50.0	-18.2	-10.0	-8.2
-49.0	-14.3	-10.0	-4.3
-48.0	-14.6	-10.0	-4.6
-47.0	-20.8	-9.8	-11.0
-46.0	-17.9	-9.6	-8.3
-45.0	-19.1	-9.3	-9.8
-44.0	-16.5	-9.1	-7.5
-43.0	-17.2	-8.8	-8.3
-42.0	-16.8	-8.6	-8.2
-41.0	-10.7	-8.3	-2.4
-40.0	-27.6	-8.1	-19.5
-39.0	-17.2	-7.8	-9.4
-38.0	-16.3	-7.5	-8.8
-37.0	-20.2	-7.2	-13.0
-36.0	-15.6	-6.9	-8.7
-35.0	-22.8	-6.6	-16.2
-34.0	-18.4	-6.3	-12.1
-33.0	-25.3	-6.0	-19.3
-32.0	-16.2	-5.6	-10.5
-31.0	-16.0	-5.3	-10.8
-30.0	-20.2	-4.9	-15.2
-29.0	-20.2	-4.6	-15.7
-28.0	-19.2	-4.2	-15.1
-27.0	-21.7	-3.8	-17.9
-26.0	-11.8	-3.4	-8.4
-25.0	-18.8	-2.9	-15.9
-24.0	-17.6	-2.5	-15.1
-23.0	-19.8	-2.0	-17.7
-22.0	-17.5	-1.6	-15.9
-21.0	-22.7	-1.1	-21.6
-20.0	-24.2	-0.5	-23.7
-19.0	-17.9	0.0	-17.9
-18.0	-17.0	0.6	-17.6
-17.0	-14.6	1.2	-15.8
-16.0	-24.2	1.9	-26.1
-15.0	-27.6	2.6	-30.2
-14.0	-10.3	3.3	-13.6
-13.0	-14.8	4.2	-19.0
-12.0	-7.3	5.0	-12.3
-11.0	-10.9	6.0	-16.9
-10.0	-7.9	7.0	-14.9
-9.0	-17.0	8.0	-25.0
-8.0	-11.4	8.0	-19.4
-7.0	-0.8	7.9	-8.7
-6.0	-1.1	9.5	-10.7
-5.0	5.0	11.5	-6.6
-4.0	9.5	13.9	-4.5
-3.0	4.9	17.1	-12.1
-2.0	12.5	21.5	-9.0
-1.0	20.8		
0.0	52.4		

123.0	-21.4	0.0	-21.4
124.0	-27.6	0.0	-27.6
125.0	-21.1	0.0	-21.1
126.0	-27.6	0.0	-27.6
127.0	-27.6	0.0	-27.6
128.0	-27.6	0.0	-27.6
129.0	-23.1	0.0	-23.1
130.0	-23.0	0.0	-23.0
131.0	-19.2	0.0	-19.2
132.0	-27.6	0.0	-27.6
133.0	-25.8	0.0	-25.8
134.0	-26.2	0.0	-26.2
135.0	-22.5	0.0	-22.5
136.0	-22.1	0.0	-22.1
137.0	-25.2	0.0	-25.2
138.0	-22.2	0.0	-22.2
139.0	-27.6	0.0	-27.6
140.0	-24.7	0.0	-24.7
141.0	-24.0	0.0	-24.0
142.0	-27.2	0.0	-27.2
143.0	-26.3	0.0	-26.3
144.0	-23.6	0.0	-23.6
145.0	-26.1	0.0	-26.1
146.0	-27.6	0.0	-27.6
147.0	-27.6	0.0	-27.6
148.0	-26.3	0.0	-26.3
149.0	-23.5	0.0	-23.5
150.0	-25.5	0.0	-25.5
151.0	-27.6	0.0	-27.6
152.0	-27.6	0.0	-27.6
153.0	-22.1	0.0	-22.1
154.0	-27.6	0.0	-27.6
155.0	-27.6	0.0	-27.6
156.0	-26.4	0.0	-26.4
157.0	-27.6	0.0	-27.6
158.0	-27.6	0.0	-27.6
159.0	-23.9	0.0	-23.9
160.0	-22.1	0.0	-22.1
161.0	-19.4	0.0	-19.4
162.0	-18.4	0.0	-18.4
163.0	-25.6	0.0	-25.6
164.0	-20.1	0.0	-20.1
165.0	-23.4	0.0	-23.4
166.0	-21.0	0.0	-21.0
167.0	-27.6	0.0	-27.6
168.0	-22.7	0.0	-22.7
169.0	-23.9	0.0	-23.9
170.0	-18.5	0.0	-18.5
171.0	-22.5	0.0	-22.5
172.0	-23.6	0.0	-23.6
173.0	-22.5	0.0	-22.5
174.0	-27.6	0.0	-27.6
175.0	-27.6	0.0	-27.6
176.0	-27.2	0.0	-27.2
177.0	-27.2	0.0	-27.2
178.0	-23.6	0.0	-23.6
179.0	-23.9	0.0	-23.9

Orbit Communication Systems Ltd.

AL AL-7107-Ka, 2.15 m Antenna, Pattern Data Table
 Co-pol Azimuth LHCP, -10° to +10° @ 0.1° increment

28.30 GHz Antenna Pattern in Co-pol Az LHCP

Angle	Gain	Mask	Over Mask
Degrees	dBi	dBi	dB
-10.0	-7.9	7.0	-14.9
-9.9	-7.5	7.1	-14.6
-9.8	-7.3	7.2	-14.5
-9.7	-6.2	7.3	-13.6
-9.6	-10.2	7.4	-17.7
-9.5	-7.7	7.6	-15.3
-9.4	-3.9	7.7	-11.6
-9.3	-1.9	7.8	-9.7
-9.2	-2.5	8.0	-10.5
-9.1	-6.7	8.0	-14.7
-9.0	-17.0	8.0	-25.0
-8.9	-11.6	8.0	-19.6
-8.8	-13.7	8.0	-21.7
-8.7	-15.7	8.0	-23.7
-8.6	-14.7	8.0	-22.7
-8.5	-15.2	8.0	-23.2
-8.4	-14.5	8.0	-22.5
-8.3	-27.6	8.0	-35.6
-8.2	-15.5	8.0	-23.5
-8.1	-13.2	8.0	-21.2
-8.0	-11.4	8.0	-19.4
-7.9	-5.7	8.0	-13.7
-7.8	-4.5	8.0	-12.5
-7.7	-4.8	8.0	-12.8
-7.6	-4.4	8.0	-12.4
-7.5	-5.4	8.0	-13.4
-7.4	-4.0	8.0	-12.0
-7.3	-1.9	8.0	-9.9
-7.2	-5.1	8.0	-13.1
-7.1	-10.7	8.0	-18.7
-7.0	-0.8	7.9	-8.7
-6.9	1.4	8.0	-6.6
-6.8	2.7	8.2	-5.5
-6.7	4.1	8.3	-4.2
-6.6	4.3	8.5	-4.2
-6.5	2.5	8.7	-6.1
-6.4	-0.1	8.8	-9.0
-6.3	-1.7	9.0	-10.7
-6.2	0.4	9.2	-8.8
-6.1	1.4	9.4	-8.0
-6.0	-1.1	9.5	-10.7
-5.9	-0.8	9.7	-10.5
-5.8	0.9	9.9	-9.0
-5.7	0.3	10.1	-9.8
-5.6	-5.1	10.3	-15.4
-5.5	-5.4	10.5	-15.9
-5.4	2.2	10.7	-8.5
-5.3	2.3	10.9	-8.6
-5.2	-5.1	11.1	-16.2
-5.1	-0.3	11.3	-11.6
-5.0	5.0	11.5	-6.6
-4.9	5.3	11.7	-6.4
-4.8	1.6	12.0	-10.3
-4.7	-2.7	12.2	-14.9
-4.6	4.3	12.4	-8.1
-4.5	6.4	12.7	-6.3
-4.4	4.7	12.9	-8.3
-4.3	0.3	13.2	-12.9
-4.2	-5.9	13.4	-19.3
-4.1	1.0	13.7	-12.7

28.30 GHz Antenna Pattern in Co-pol Az LHCP

Angle	Gain	Mask	Over Mask
Degrees	dBi	dBi	dB
0.0	52.4		
0.1	51.9		
0.2	49.6		
0.3	45.6		
0.4	40.0		
0.5	34.3		
0.6	28.3		
0.7	29.1		
0.8	30.4		
0.9	27.7		
1.0	17.1		
1.1	19.1		
1.2	19.7		
1.3	14.1		
1.4	10.6		
1.5	10.4	24.6	-14.2
1.6	12.5	23.9	-11.4
1.7	16.5	23.2	-6.7
1.8	16.4	22.6	-6.3
1.9	13.5	22.0	-8.6
2.0	10.6	21.5	-10.9
2.1	5.3	20.9	-15.7
2.2	-3.7	20.4	-24.2
2.3	7.1	20.0	-12.8
2.4	8.6	19.5	-10.9
2.5	7.4	19.1	-11.7
2.6	4.7	18.6	-13.9
2.7	-1.5	18.2	-19.8
2.8	-9.7	17.8	-27.5
2.9	-2.4	17.4	-19.9
3.0	0.4	17.1	-16.6
3.1	4.8	16.7	-11.9
3.2	5.2	16.4	-11.2
3.3	2.7	16.0	-13.3
3.4	0.3	15.7	-15.4
3.5	-4.6	15.4	-20.0
3.6	-1.8	15.1	-16.9
3.7	5.0	14.8	-9.8
3.8	5.1	14.5	-9.4
3.9	0.1	14.2	-14.1
4.0	-7.9	13.9	-21.8
4.1	-2.9	13.7	-16.5
4.2	-5.2	13.4	-18.6
4.3	0.5	13.2	-12.7
4.4	2.8	12.9	-10.2
4.5	4.0	12.7	-8.7
4.6	4.5	12.4	-7.9
4.7	3.2	12.2	-9.0
4.8	-6.3	12.0	-18.3
4.9	-4.0	11.7	-15.7
5.0	-1.2	11.5	-12.7
5.1	-6.6	11.3	-17.9
5.2	-2.6	11.1	-13.7
5.3	-0.6	10.9	-11.5
5.4	-4.5	10.7	-15.2
5.5	-5.2	10.5	-15.7
5.6	0.1	10.3	-10.2
5.7	1.1	10.1	-9.1
5.8	1.4	9.9	-8.5
5.9	-1.1	9.7	-10.8

Orbit Communication Systems Ltd.

AL AL-7107-Ka, 2.15 m Antenna, Pattern Data Table
 Co-pol Azimuth LHCP, -10° to +10° @ 0.1° increment

-4.0	9.5	13.9	-4.5
-3.9	12.0	14.2	-2.2
-3.8	10.5	14.5	-4.0
-3.7	0.9	14.8	-13.9
-3.6	7.0	15.1	-8.1
-3.5	10.2	15.4	-5.2
-3.4	8.9	15.7	-6.8
-3.3	4.9	16.0	-11.2
-3.2	7.7	16.4	-8.6
-3.1	8.8	16.7	-7.9
-3.0	4.9	17.1	-12.1
-2.9	6.6	17.4	-10.9
-2.8	9.6	17.8	-8.2
-2.7	8.5	18.2	-9.7
-2.6	1.6	18.6	-17.0
-2.5	-4.6	19.1	-23.7
-2.4	-0.9	19.5	-20.4
-2.3	6.5	20.0	-13.5
-2.2	7.1	20.4	-13.4
-2.1	7.4	20.9	-13.6
-2.0	12.5	21.5	-9.0
-1.9	12.9	22.0	-9.2
-1.8	7.2	22.6	-15.4
-1.7	8.8	23.2	-14.4
-1.6	9.7	23.9	-14.2
-1.5	4.7	24.6	-19.9
-1.4	17.3		
-1.3	19.9		
-1.2	20.4		
-1.1	21.2		
-1.0	20.8		
-0.9	16.1		
-0.8	11.8		
-0.7	10.5		
-0.6	18.5		
-0.5	30.7		
-0.4	39.7		
-0.3	45.8		
-0.2	49.9		
-0.1	51.9		
0.0	52.4		

6.0	-10.1	9.5	-19.6
6.1	-3.1	9.4	-12.5
6.2	-0.2	9.2	-9.3
6.3	0.3	9.0	-8.7
6.4	2.0	8.8	-6.8
6.5	2.0	8.7	-6.7
6.6	0.6	8.5	-7.9
6.7	-0.4	8.3	-8.7
6.8	0.7	8.2	-7.5
6.9	1.3	8.0	-6.7
7.0	0.0	7.9	-7.9
7.1	-2.4	8.0	-10.4
7.2	-10.1	8.0	-18.1
7.3	-6.8	8.0	-14.8
7.4	-1.8	8.0	-9.8
7.5	-1.8	8.0	-9.8
7.6	-4.5	8.0	-12.5
7.7	-6.0	8.0	-14.0
7.8	-6.1	8.0	-14.1
7.9	-3.7	8.0	-11.7
8.0	-2.9	8.0	-10.9
8.1	-5.1	8.0	-13.1
8.2	-9.7	8.0	-17.7
8.3	-4.4	8.0	-12.4
8.4	-6.2	8.0	-14.2
8.5	-6.3	8.0	-14.3
8.6	-6.4	8.0	-14.4
8.7	-4.5	8.0	-12.5
8.8	-5.4	8.0	-13.4
8.9	-7.9	8.0	-15.9
9.0	-10.0	8.0	-18.0
9.1	-7.4	8.0	-15.4
9.2	-5.8	8.0	-13.8
9.3	-4.6	7.8	-12.4
9.4	-6.5	7.7	-14.2
9.5	-12.0	7.6	-19.6
9.6	-9.3	7.4	-16.8
9.7	-4.9	7.3	-12.3
9.8	-3.7	7.2	-11.0
9.9	-3.3	7.1	-10.4
10.0	-3.5	7.0	-10.5

Orbit Communication Systems Ltd.
AL-7107-Ka, 2.15 m Antenna, Pattern Data Table
Co-pol Elevation LHCP, -30° to +30° @ 0.5° increment

28.30 GHz Antenna Pattern in Co-pol EI LHCP

Angle Degrees	Gain dBi	Mask dBi	Over Mask dB
-30.0	-8.9	-4.9	-4.0
-29.5	-8.2	-4.7	-3.5
-29.0	-11.1	-4.6	-6.6
-28.5	-9.4	-4.4	-5.1
-28.0	-10.5	-4.2	-6.4
-27.5	-11.4	-4.0	-7.4
-27.0	-14.6	-3.8	-10.8
-26.5	-11.7	-3.6	-8.2
-26.0	-13.1	-3.4	-9.7
-25.5	-11.1	-3.2	-7.9
-25.0	-7.1	-2.9	-4.1
-24.5	-6.9	-2.7	-4.2
-24.0	-6.2	-2.5	-3.7
-23.5	-16.4	-2.3	-14.1
-23.0	-19.0	-2.0	-17.0
-22.5	-9.0	-1.8	-7.2
-22.0	-5.7	-1.6	-4.1
-21.5	-5.0	-1.3	-3.7
-21.0	-13.8	-1.1	-12.7
-20.5	-5.7	-0.8	-4.9
-20.0	-6.0	-0.5	-5.5
-19.5	-1.6	-0.3	-1.3
-19.0	-1.6	0.0	-1.6
-18.5	-2.8	0.3	-3.1
-18.0	-14.4	0.6	-15.0
-17.5	-23.5	0.9	-24.4
-17.0	-15.1	1.2	-16.4
-16.5	-14.3	1.6	-15.9
-16.0	-18.3	1.9	-20.2
-15.5	-13.5	2.2	-15.8
-15.0	-9.1	2.6	-11.7
-14.5	-17.0	3.0	-19.9
-14.0	-2.1	3.3	-5.4
-13.5	-6.7	3.7	-10.5
-13.0	-9.7	4.2	-13.9
-12.5	-11.8	4.6	-16.4
-12.0	-6.5	5.0	-11.5
-11.5	-6.0	5.5	-11.5
-11.0	-13.0	6.0	-19.0
-10.5	-10.3	6.5	-16.8
-10.0	-6.5	7.0	-13.5
-9.5	-6.6	7.6	-14.2
-9.0	-2.8	8.1	-10.9
-8.5	-8.5	8.8	-17.2
-8.0	-2.4	9.4	-11.8
-7.5	-10.0	10.1	-20.2
-7.0	-2.0	10.9	-12.9
-6.5	-5.7	11.7	-17.4
-6.0	-1.1	12.5	-13.7
-5.5	-1.6	13.5	-15.1
-5.0	1.5	14.5	-13.1
-4.5	1.5	15.7	-14.2
-4.0	2.9	16.9	-14.0
-3.5	4.7	18.4	-13.7
-3.0	10.6		
-2.5	9.4		
-2.0	8.1		
-1.5	17.9		
-1.0	21.1		
-0.5	35.7		
0.0	52.4		

28.30 GHz Antenna Pattern in Co-pol EI LHCP

Angle Degrees	Gain dBi	Mask dBi	Over Mask dB
0.0	52.4		
0.5	38.0		
1.0	16.8		
1.5	9.7		
2.0	5.4		
2.5	10.1		
3.0	7.5		
3.5	8.5	18.4	-9.9
4.0	13.0	16.9	-4.0
4.5	-1.0	15.7	-16.6
5.0	7.3	14.5	-7.2
5.5	-12.4	13.5	-25.9
6.0	-1.8	12.5	-14.4
6.5	0.9	11.7	-10.8
7.0	-1.8	10.9	-12.7
7.5	-12.0	10.1	-22.1
8.0	-14.6	9.4	-24.0
8.5	-1.5	8.8	-10.3
9.0	-2.8	8.1	-11.0
9.5	-9.7	7.6	-17.3
10.0	-0.2	7.0	-7.2
10.5	-4.7	6.5	-11.1
11.0	-8.1	6.0	-14.1
11.5	-13.2	5.5	-18.6
12.0	-13.1	5.0	-18.1
12.5	-5.9	4.6	-10.5
13.0	-4.3	4.2	-8.4
13.5	-8.9	3.7	-12.6
14.0	-17.5	3.3	-20.8
14.5	-12.7	3.0	-15.7
15.0	-12.0	2.6	-14.6
15.5	-15.1	2.2	-17.4
16.0	-18.5	1.9	-20.3
16.5	-16.7	1.6	-18.2
17.0	-15.4	1.2	-16.7
17.5	-22.5	0.9	-23.5
18.0	-13.5	0.6	-14.1
18.5	-17.0	0.3	-17.3
19.0	-12.1	0.0	-12.1
19.5	-12.8	-0.3	-12.6
20.0	-18.1	-0.5	-17.6
20.5	-12.0	-0.8	-11.2
21.0	-26.3	-1.1	-25.3
21.5	-26.9	-1.3	-25.6
22.0	-18.6	-1.6	-17.1
22.5	-12.9	-1.8	-11.1
23.0	-16.0	-2.0	-14.0
23.5	-15.0	-2.3	-12.7
24.0	-21.6	-2.5	-19.1
24.5	-19.9	-2.7	-17.2
25.0	-15.4	-2.9	-12.4
25.5	-19.2	-3.2	-16.1
26.0	-27.6	-3.4	-24.2
26.5	-19.8	-3.6	-16.2
27.0	-20.5	-3.8	-16.7
27.5	-15.7	-4.0	-11.7
28.0	-14.3	-4.2	-10.1
28.5	-17.6	-4.4	-13.2
29.0	-17.5	-4.6	-13.0
29.5	-15.3	-4.7	-10.6
30.0	-24.6	-4.9	-19.7

Orbit Communication Systems Ltd.
AL-7107-Ka, 2.15 m Antenna, Pattern Data Table
Co-pol Elevation LHCP, -10° to +10° @ 0.1° increment

28.30 GHz Antenna Pattern in Co-pol EI LHCP

Angle	Gain	Mask	Over Mask
Degrees	dBi	dBi	dB
-10.0	-6.5	7.0	-13.5
-9.9	-5.3	7.1	-12.4
-9.8	-7.3	7.2	-14.5
-9.7	-12.0	7.3	-19.3
-9.6	-7.5	7.4	-15.0
-9.5	-6.6	7.6	-14.2
-9.4	-10.3	7.7	-18.0
-9.3	-12.4	7.8	-20.2
-9.2	-5.1	7.9	-13.0
-9.1	-2.8	8.0	-10.8
-9.0	-2.8	8.1	-10.9
-8.9	-5.3	8.3	-13.6
-8.8	-14.1	8.4	-22.5
-8.7	-9.5	8.5	-18.0
-8.6	-5.6	8.6	-14.3
-8.5	-8.5	8.8	-17.2
-8.4	-6.1	8.9	-15.0
-8.3	-3.3	9.0	-12.3
-8.2	-1.8	9.2	-10.9
-8.1	-1.4	9.3	-10.7
-8.0	-2.4	9.4	-11.8
-7.9	-4.4	9.6	-14.0
-7.8	-10.6	9.7	-20.3
-7.7	-12.2	9.8	-22.1
-7.6	-12.1	10.0	-22.1
-7.5	-10.0	10.1	-20.2
-7.4	-4.2	10.3	-14.4
-7.3	-0.7	10.4	-11.1
-7.2	1.7	10.6	-8.8
-7.1	1.9	10.7	-8.9
-7.0	-2.0	10.9	-12.9
-6.9	-14.1	11.0	-25.2
-6.8	-0.9	11.2	-12.1
-6.7	-0.4	11.3	-11.8
-6.6	-4.8	11.5	-16.3
-6.5	-5.7	11.7	-17.4
-6.4	-2.0	11.8	-13.8
-6.3	-1.0	12.0	-13.1
-6.2	0.0	12.2	-12.2
-6.1	-0.6	12.4	-13.0
-6.0	-1.1	12.5	-13.7
-5.9	0.3	12.7	-12.4
-5.8	1.5	12.9	-11.4
-5.7	0.3	13.1	-12.8
-5.6	-0.9	13.3	-14.2
-5.5	-1.6	13.5	-15.1
-5.4	-4.1	13.7	-17.8
-5.3	0.1	13.9	-13.8
-5.2	3.6	14.1	-10.5
-5.1	3.5	14.3	-10.8
-5.0	1.5	14.5	-13.1
-4.9	-0.7	14.7	-15.4
-4.8	-0.4	15.0	-15.4
-4.7	1.2	15.2	-14.0
-4.6	2.0	15.4	-13.5
-4.5	1.5	15.7	-14.2
-4.4	3.1	15.9	-12.8
-4.3	5.7	16.2	-10.4
-4.2	7.0	16.4	-9.4
-4.1	6.3	16.7	-10.3

28.30 GHz Antenna Pattern in Co-pol EI LHCP

Angle	Gain	Mask	Over Mask
Degrees	dBi	dBi	dB
0.0	52.4		
0.1	51.7		
0.2	49.3		
0.3	45.2		
0.4	40.9		
0.5	38.0		
0.6	33.6		
0.7	24.4		
0.8	16.4		
0.9	17.4		
1.0	16.8		
1.1	19.0		
1.2	16.6		
1.3	7.2		
1.4	9.1		
1.5	9.7		
1.6	14.0		
1.7	14.6		
1.8	10.6		
1.9	6.2		
2.0	5.4		
2.1	6.5		
2.2	10.9		
2.3	11.6		
2.4	10.9		
2.5	10.1		
2.6	7.0		
2.7	-3.3		
2.8	-9.3		
2.9	-2.2		
3.0	7.5		
3.1	9.7		
3.2	7.5		
3.3	1.4		
3.4	4.6		
3.5	8.5	18.4	-9.9
3.6	9.7	18.1	-8.4
3.7	9.0	17.8	-8.8
3.8	9.2	17.5	-8.3
3.9	12.3	17.2	-4.9
4.0	13.0	16.9	-4.0
4.1	12.7	16.7	-4.0
4.2	12.9	16.4	-3.5
4.3	12.6	16.2	-3.6
4.4	9.1	15.9	-6.9
4.5	-1.0	15.7	-16.6
4.6	-7.0	15.4	-22.4
4.7	-1.9	15.2	-17.1
4.8	4.2	15.0	-10.8
4.9	6.8	14.7	-8.0
5.0	7.3	14.5	-7.2
5.1	6.7	14.3	-7.6
5.2	4.8	14.1	-9.3
5.3	1.3	13.9	-12.6
5.4	-1.9	13.7	-15.6
5.5	-12.4	13.5	-25.9
5.6	-5.0	13.3	-18.3
5.7	0.0	13.1	-13.1
5.8	-1.3	12.9	-14.3
5.9	-6.0	12.7	-18.7

Orbit Communication Systems Ltd.
AL-7107-Ka, 2.15 m Antenna, Pattern Data Table
Co-pol Elevation LHCP, -10° to +10° @ 0.1° increment

-4.0	2.9	16.9	-14.0
-3.9	-1.8	17.2	-19.0
-3.8	5.8	17.5	-11.7
-3.7	7.7	17.8	-10.1
-3.6	7.0	18.1	-11.0
-3.5	4.7	18.4	-13.7
-3.4	0.9		
-3.3	0.6		
-3.2	0.5		
-3.1	1.5		
-3.0	10.6		
-2.9	14.0		
-2.8	14.1		
-2.7	12.0		
-2.6	8.0		
-2.5	9.4		
-2.4	10.8		
-2.3	12.3		
-2.2	12.8		
-2.1	11.1		
-2.0	8.1		
-1.9	7.1		
-1.8	5.3		
-1.7	8.7		
-1.6	15.0		
-1.5	17.9		
-1.4	16.7		
-1.3	15.9		
-1.2	21.3		
-1.1	22.6		
-1.0	21.1		
-0.9	22.1		
-0.8	25.1		
-0.7	29.3		
-0.6	33.2		
-0.5	35.7		
-0.4	40.4		
-0.3	46.0		
-0.2	49.9		
-0.1	52.0		
0.0	52.4		

6.0	-1.8	12.5	-14.4
6.1	-1.0	12.4	-13.4
6.2	-1.6	12.2	-13.8
6.3	-2.7	12.0	-14.7
6.4	-2.0	11.8	-13.8
6.5	0.9	11.7	-10.8
6.6	3.8	11.5	-7.7
6.7	3.5	11.3	-7.9
6.8	2.2	11.2	-9.0
6.9	-0.5	11.0	-11.5
7.0	-1.8	10.9	-12.7
7.1	-6.2	10.7	-16.9
7.2	-2.1	10.6	-12.7
7.3	1.2	10.4	-9.3
7.4	-0.4	10.3	-10.6
7.5	-12.0	10.1	-22.1
7.6	-7.3	10.0	-17.3
7.7	-5.2	9.8	-15.1
7.8	-10.2	9.7	-19.9
7.9	-22.4	9.6	-31.9
8.0	-14.6	9.4	-24.0
8.1	-12.6	9.3	-21.9
8.2	-8.3	9.2	-17.5
8.3	-6.0	9.0	-15.0
8.4	-2.6	8.9	-11.5
8.5	-1.5	8.8	-10.3
8.6	-4.8	8.6	-13.4
8.7	-4.8	8.5	-13.3
8.8	-4.6	8.4	-13.0
8.9	-2.5	8.3	-10.8
9.0	-2.8	8.1	-11.0
9.1	-7.6	8.0	-15.6
9.2	-11.6	7.9	-19.5
9.3	-9.0	7.8	-16.8
9.4	-8.8	7.7	-16.5
9.5	-9.7	7.6	-17.3
9.6	-18.5	7.4	-25.9
9.7	-5.2	7.3	-12.5
9.8	-2.0	7.2	-9.2
9.9	0.0	7.1	-7.1
10.0	-0.2	7.0	-7.2

Orbit Communication Systems Ltd.
AL-7107-Ka, 2.15 m Antenna, Pattern Data Table
X-pol Azimuth LHCP, -10° to +10° @ 0.1° increment

28.30 GHz Antenna Pattern in X-pol Az LHCP

Angle Degrees	Gain dBi	Mask dBi	Over Mask dB
-10.0	-15.9	-2.0	-13.9
-9.9	-15.9	-2.0	-13.9
-9.8	-14.2	-2.0	-12.2
-9.7	-15.2	-2.0	-13.2
-9.6	-15.9	-2.0	-13.9
-9.5	-14.2	-2.0	-12.2
-9.4	-13.6	-2.0	-11.6
-9.3	-12.0	-2.0	-10.0
-9.2	-10.0	-2.0	-8.0
-9.1	-6.9	-2.0	-4.9
-9.0	-5.1	-2.0	-3.1
-8.9	-4.4	-2.0	-2.4
-8.8	-5.7	-2.0	-3.7
-8.7	-7.2	-2.0	-5.2
-8.6	-9.3	-2.0	-7.3
-8.5	-8.9	-2.0	-6.9
-8.4	-7.8	-2.0	-5.8
-8.3	-7.1	-2.0	-5.1
-8.2	-9.5	-2.0	-7.5
-8.1	-11.9	-2.0	-9.9
-8.0	-11.6	-2.0	-9.6
-7.9	-9.8	-2.0	-7.8
-7.8	-8.4	-2.0	-6.4
-7.7	-9.4	-2.0	-7.4
-7.6	-12.9	-2.0	-10.9
-7.5	-10.3	-2.0	-8.3
-7.4	-6.0	-2.0	-4.0
-7.3	-4.1	-2.0	-2.1
-7.2	-5.1	-2.0	-3.1
-7.1	-5.0	-2.0	-3.0
-7.0	-3.3	-2.1	-1.1
-6.9	-0.9	-2.0	1.0
-6.8	-0.7	-1.8	1.1
-6.7	-2.7	-1.7	-1.1
-6.6	-9.5	-1.5	-8.1
-6.5	-7.1	-1.3	-5.8
-6.4	-6.9	-1.2	-5.7
-6.3	-11.1	-1.0	-10.1
-6.2	-15.5	-0.8	-14.7
-6.1	-11.7	-0.6	-11.0
-6.0	-12.3	-0.5	-11.8
-5.9	-11.9	-0.3	-11.6
-5.8	-9.1	-0.1	-9.1
-5.7	-8.2	0.1	-8.3
-5.6	-13.6	0.3	-13.9
-5.5	-21.4	0.5	-21.9
-5.4	-10.1	0.7	-10.8
-5.3	-4.1	0.9	-5.0
-5.2	-2.2	1.1	-3.3
-5.1	-2.2	1.3	-3.6
-5.0	-8.1	1.5	-9.6
-4.9	-7.5	1.7	-9.3
-4.8	-2.9	2.0	-4.9
-4.7	-3.6	2.2	-5.8
-4.6	-10.3	2.4	-12.8
-4.5	-11.7	2.7	-14.4
-4.4	-13.9	2.9	-16.8
-4.3	-3.8	3.2	-7.0
-4.2	-0.2	3.4	-3.7
-4.1	-0.8	3.7	-4.5

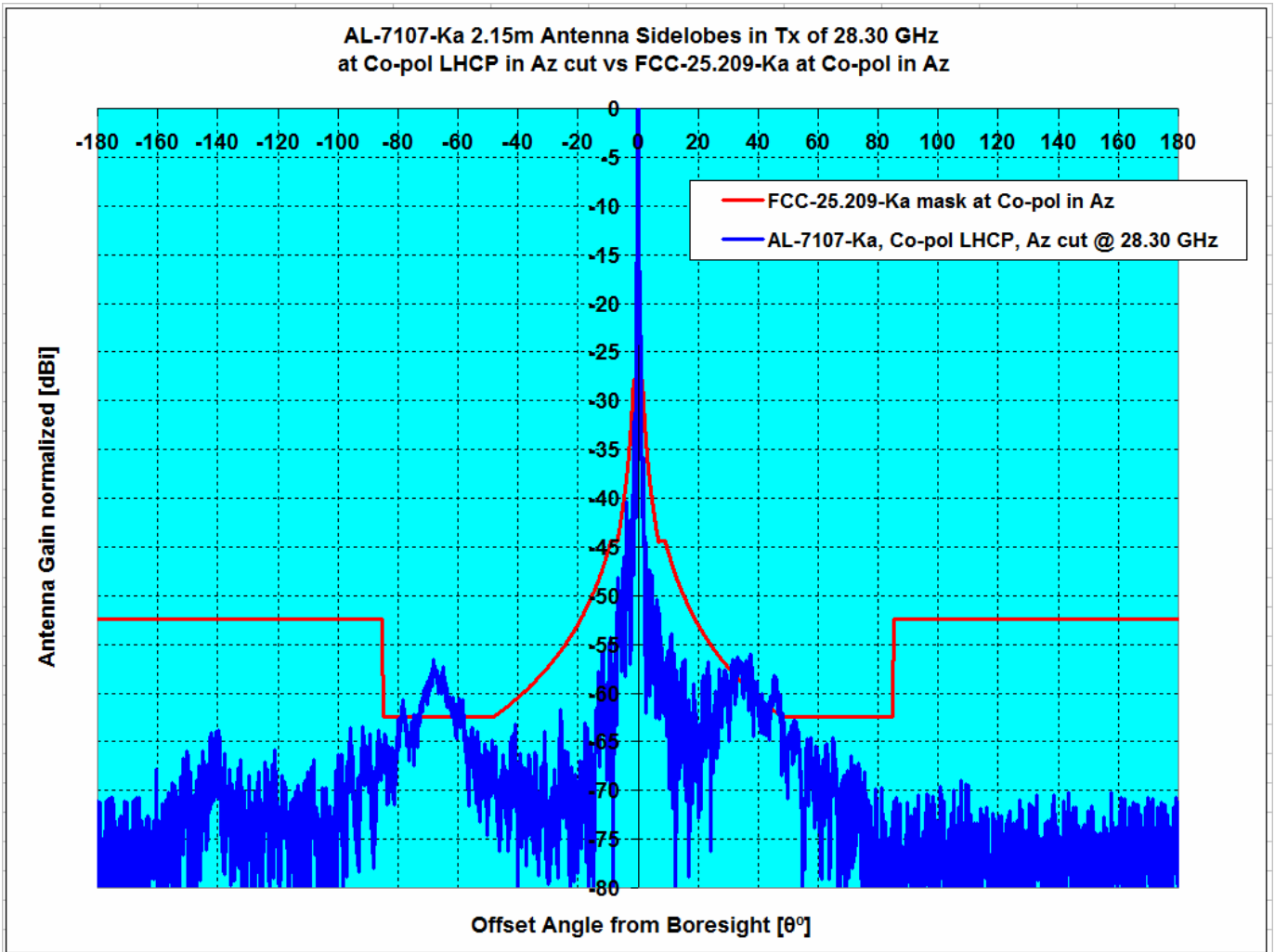
28.30 GHz Antenna Pattern in X-pol Az LHCP

Angle Degrees	Gain dBi	Mask dBi	Over Mask dB
0.0	17.6		
0.1	16.5		
0.2	22.3		
0.3	25.9		
0.4	26.5		
0.5	24.6		
0.6	21.0		
0.7	11.6		
0.8	9.1		
0.9	14.4		
1.0	15.9		
1.1	14.5		
1.2	8.8		
1.3	5.2		
1.4	6.4		
1.5	5.0		
1.6	5.7		
1.7	6.6		
1.8	4.6	12.6	-8.0
1.9	-1.0	12.0	-13.0
2.0	-6.4	11.5	-17.8
2.1	-3.9	10.9	-14.9
2.2	-0.6	10.4	-11.1
2.3	-1.2	10.0	-11.1
2.4	-5.3	9.5	-14.8
2.5	-5.9	9.1	-14.9
2.6	-5.6	8.6	-14.3
2.7	-6.7	8.2	-14.9
2.8	-4.5	7.8	-12.3
2.9	-5.3	7.4	-12.7
3.0	-8.9	7.1	-16.0
3.1	-5.7	6.7	-12.4
3.2	-6.1	6.4	-12.4
3.3	-8.7	6.0	-14.7
3.4	-7.1	5.7	-12.8
3.5	-8.1	5.4	-13.5
3.6	-9.6	5.1	-14.7
3.7	-3.0	4.8	-7.8
3.8	-4.3	4.5	-8.8
3.9	-12.7	4.2	-16.9
4.0	-13.7	3.9	-17.7
4.1	-7.5	3.7	-11.2
4.2	-10.3	3.4	-13.7
4.3	-14.6	3.2	-17.7
4.4	-9.5	2.9	-12.4
4.5	-9.7	2.7	-12.4
4.6	-9.2	2.4	-11.6
4.7	-7.6	2.2	-9.8
4.8	-7.8	2.0	-9.8
4.9	-8.2	1.7	-9.9
5.0	-7.3	1.5	-8.8
5.1	-10.2	1.3	-11.5
5.2	-12.6	1.1	-13.7
5.3	-13.1	0.9	-14.0
5.4	-14.1	0.7	-14.8
5.5	-11.9	0.5	-12.4
5.6	-10.6	0.3	-10.9
5.7	-10.7	0.1	-10.8
5.8	-10.0	-0.1	-9.9
5.9	-9.7	-0.3	-9.4

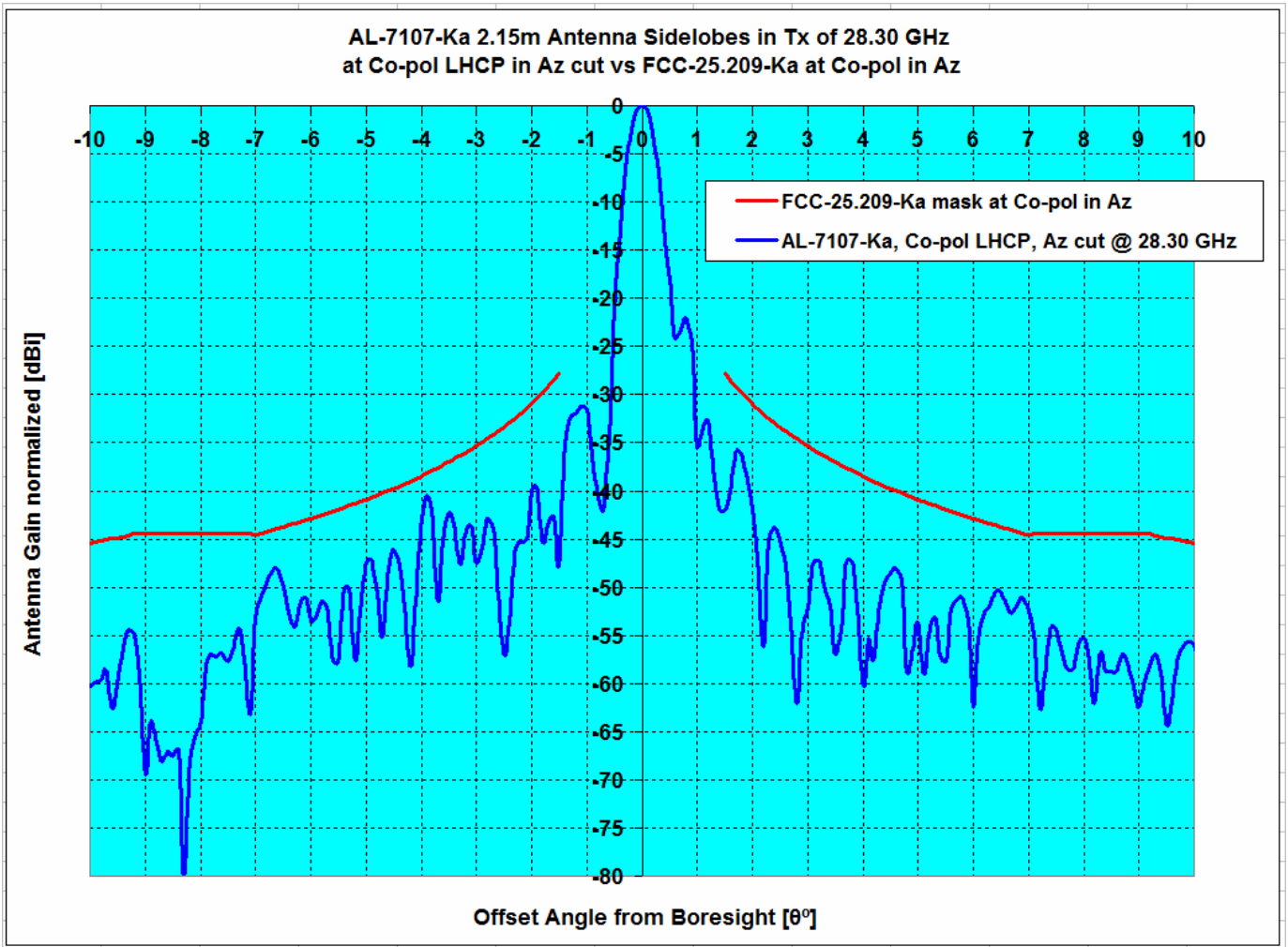
Orbit Communication Systems Ltd.
 AL-7107-Ka, 2.15 m Antenna, Pattern Data Table
 X-pol Azimuth LHCP, -10° to +10° @ 0.1° increment

-4.0	-7.2	3.9	-11.1
-3.9	-10.8	4.2	-15.0
-3.8	-5.1	4.5	-9.6
-3.7	-4.8	4.8	-9.6
-3.6	-3.7	5.1	-8.8
-3.5	-2.1	5.4	-7.5
-3.4	-2.7	5.7	-8.4
-3.3	-6.1	6.0	-12.2
-3.2	-6.2	6.4	-12.6
-3.1	-0.7	6.7	-7.4
-3.0	-2.1	7.1	-9.1
-2.9	-11.9	7.4	-19.4
-2.8	-7.9	7.8	-15.7
-2.7	-5.8	8.2	-14.0
-2.6	-8.0	8.6	-16.6
-2.5	-7.8	9.1	-16.8
-2.4	-12.0	9.5	-21.5
-2.3	-9.2	10.0	-19.2
-2.2	-3.7	10.4	-14.1
-2.1	-7.8	10.9	-18.7
-2.0	-6.2	11.5	-17.7
-1.9	-3.6	12.0	-15.7
-1.8	-9.9	12.6	-22.5
-1.7	2.3		
-1.6	6.1		
-1.5	6.4		
-1.4	5.5		
-1.3	5.5		
-1.2	9.1		
-1.1	12.7		
-1.0	15.1		
-0.9	14.9		
-0.8	8.5		
-0.7	15.8		
-0.6	24.9		
-0.5	29.3		
-0.4	31.0		
-0.3	30.5		
-0.2	28.6		
-0.1	23.9		
0.0	17.6		

6.0	-11.5	-0.5	-11.0
6.1	-13.7	-0.6	-13.0
6.2	-11.1	-0.8	-10.3
6.3	-8.8	-1.0	-7.9
6.4	-9.2	-1.2	-8.0
6.5	-13.6	-1.3	-12.3
6.6	-17.9	-1.5	-16.4
6.7	-20.2	-1.7	-18.5
6.8	-18.2	-1.8	-16.4
6.9	-18.3	-2.0	-16.3
7.0	-12.0	-2.1	-9.8
7.1	-8.4	-2.0	-6.4
7.2	-8.3	-2.0	-6.3
7.3	-8.1	-2.0	-6.1
7.4	-12.2	-2.0	-10.2
7.5	-13.0	-2.0	-11.0
7.6	-13.6	-2.0	-11.6
7.7	-17.3	-2.0	-15.3
7.8	-18.7	-2.0	-16.7
7.9	-8.7	-2.0	-6.7
8.0	-6.2	-2.0	-4.2
8.1	-7.1	-2.0	-5.1
8.2	-10.4	-2.0	-8.4
8.3	-11.8	-2.0	-9.8
8.4	-12.6	-2.0	-10.6
8.5	-12.7	-2.0	-10.7
8.6	-11.7	-2.0	-9.7
8.7	-16.3	-2.0	-14.3
8.8	-11.0	-2.0	-9.0
8.9	-7.4	-2.0	-5.4
9.0	-7.6	-2.0	-5.6
9.1	-9.7	-2.0	-7.7
9.2	-14.1	-2.0	-12.1
9.3	-18.5	-2.0	-16.5
9.4	-17.1	-2.0	-15.1
9.5	-15.4	-2.0	-13.4
9.6	-14.7	-2.0	-12.7
9.7	-14.3	-2.0	-12.3
9.8	-13.7	-2.0	-11.7
9.9	-17.6	-2.0	-15.6
10.0	-26.1	-2.0	-24.1

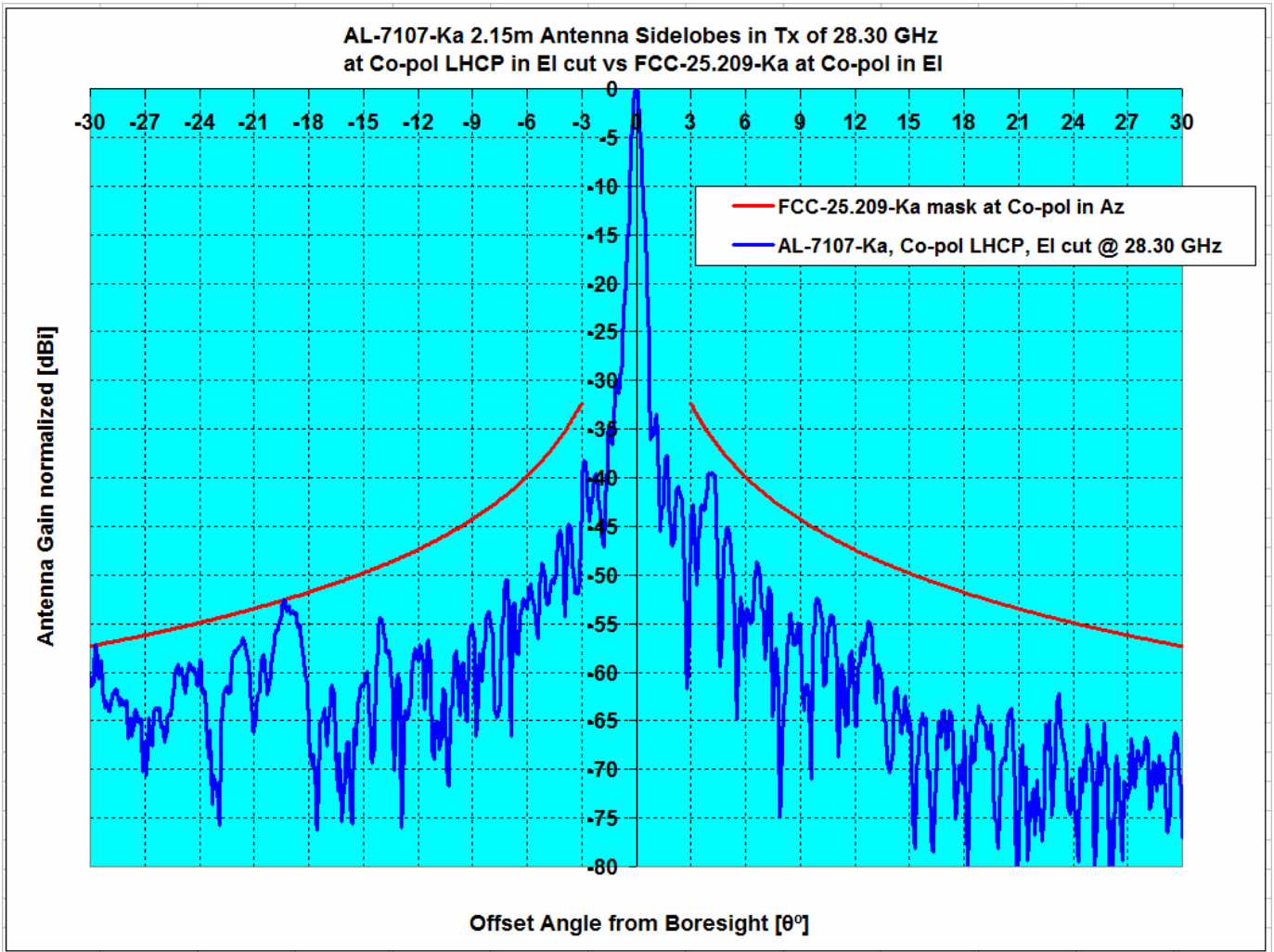


Description	Plane, CirP Type	Frequency GHz	Ant. Gain dBi	Peak Excursions dB		Over Mask %	
				1.5°≤θ≤7°	7°≤θ≤180°	1.5°≤θ≤7°	7°≤θ≤180°
FCC-25.209-Ka, Co-pol Az, vs AL-7107-Ka	Az , LHCP	28.30	52.43	-2.23	5.85	0.00%	6.94%

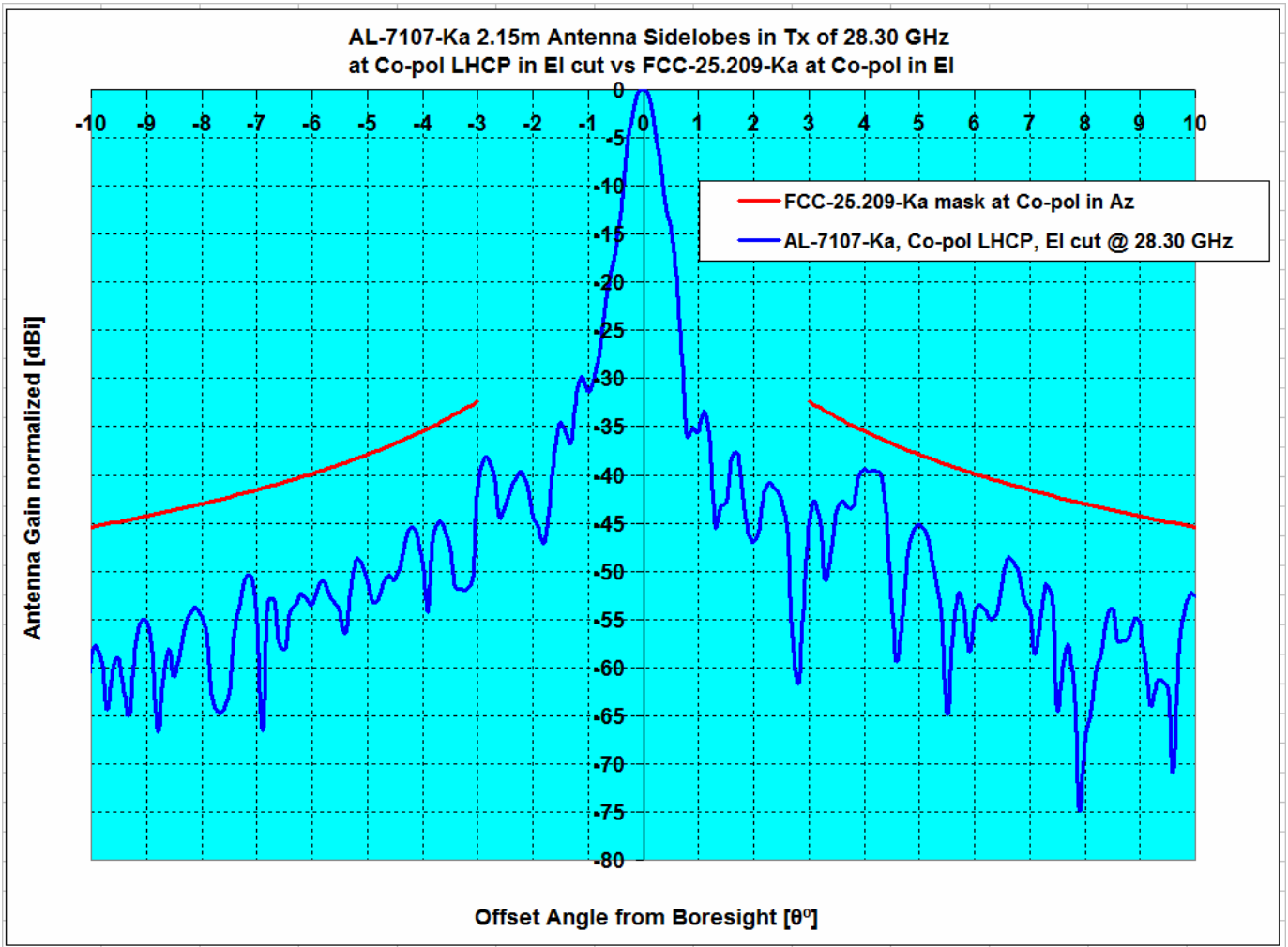


Description	Plane, CirP	Frequency	Ant. Gain	Peak Excursions dB		Over Mask %	
				1.5°≤θ≤7°	7°≤θ≤180°	1.5°≤θ≤7°	7°≤θ≤180°
FCC-25.209-Ka, Co-pol Az, vs AL-7107-Ka	Az , LHCP	28.30	52.43	-2.23	5.85	0.00%	6.94%

Orbit Communication Systems Ltd.
 AL-7107-Ka, 2.15 m Antenna, Pattern, Co-pol, Elevation LHCP

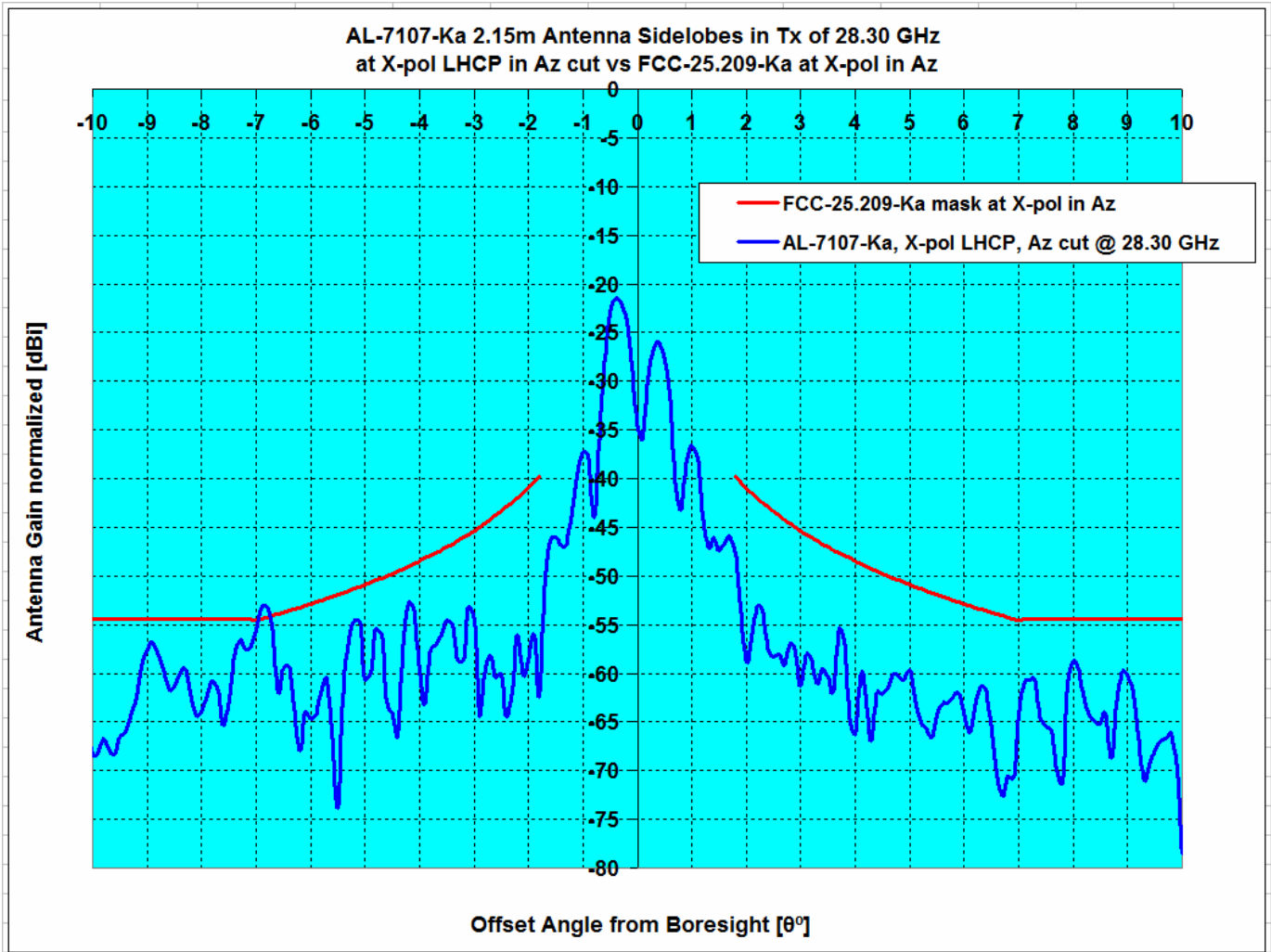


Description	Plane, CirP	Frequency	Ant. Gain	Peak Excursions dB		Over Mask %	
				3°≤θ≤7°	7°≤θ≤30°	3°≤θ≤7°	7°≤θ≤30°
Pattern Rule vs Antenna System	Type	GHz	dBi				
FCC-25.209-Ka, Co-pol EI, vs AL-7107-Ka	EI , LHCP	28.30	52.43	-3.53	0.07	0.00%	0.18%



Description	Plane, CirP	Frequency	Ant. Gain	Peak Excursions dB		Over Mask %	
				3°≤θ≤7°	7°≤θ≤30°	3°≤θ≤7°	7°≤θ≤30°
FCC-25.209-Ka, Co-pol EI, vs AL-7107-Ka	EI , LHCP	28.30	52.43	-3.53	0.07	0.00%	0.18%

Orbit Communication Systems Ltd.
 AL-7107-Ka, 2.15 m Antenna, Pattern, X-pol, Azimuth LHCP



Description	Plane, CirP	Frequency	Ant. Gain	Peak Excursions dB		Over Mask %	
				1.8°≤θ≤7°	1.8°≤θ≤9.2°	1.8°≤θ≤7°	1.8°≤θ≤9.2°
Pattern Rule vs Antenna System	Type	GHz	dBi				
FCC-25.209-Ka, X-pol Az, vs AL-7107-Ka	Az , LHCP	28.30	52.43	1.06	1.06	1.89%	1.20%

Orbit Communication Systems Ltd.
AL-7107-Ka, 2.15 m Antenna, Pattern Data Table
Co-pol Azimuth RHCP, -180° to +180° @ 1.0° increment

28.30 GHz Antenna Pattern in Co-pol Az RHCP

Angle	Gain	Mask	Over Mask
Degrees	dBi	dBi	dB
-179.0	-23.3	0.0	-23.3
-178.0	-25.3	0.0	-25.3
-177.0	-18.7	0.0	-18.7
-176.0	-27.6	0.0	-27.6
-175.0	-18.5	0.0	-18.5
-174.0	-27.5	0.0	-27.5
-173.0	-21.8	0.0	-21.8
-172.0	-24.4	0.0	-24.4
-171.0	-18.7	0.0	-18.7
-170.0	-27.6	0.0	-27.6
-169.0	-25.5	0.0	-25.5
-168.0	-19.5	0.0	-19.5
-167.0	-20.6	0.0	-20.6
-166.0	-20.1	0.0	-20.1
-165.0	-25.7	0.0	-25.7
-164.0	-27.6	0.0	-27.6
-163.0	-26.7	0.0	-26.7
-162.0	-22.4	0.0	-22.4
-161.0	-22.7	0.0	-22.7
-160.0	-22.7	0.0	-22.7
-159.0	-25.5	0.0	-25.5
-158.0	-22.9	0.0	-22.9
-157.0	-27.6	0.0	-27.6
-156.0	-23.9	0.0	-23.9
-155.0	-16.8	0.0	-16.8
-154.0	-23.9	0.0	-23.9
-153.0	-26.7	0.0	-26.7
-152.0	-18.6	0.0	-18.6
-151.0	-14.8	0.0	-14.8
-150.0	-13.9	0.0	-13.9
-149.0	-15.8	0.0	-15.8
-148.0	-27.6	0.0	-27.6
-147.0	-18.7	0.0	-18.7
-146.0	-17.5	0.0	-17.5
-145.0	-21.6	0.0	-21.6
-144.0	-17.3	0.0	-17.3
-143.0	-18.9	0.0	-18.9
-142.0	-16.5	0.0	-16.5
-141.0	-12.3	0.0	-12.3
-140.0	-15.7	0.0	-15.7
-139.0	-22.2	0.0	-22.2
-138.0	-24.1	0.0	-24.1
-137.0	-17.5	0.0	-17.5
-136.0	-20.8	0.0	-20.8
-135.0	-20.9	0.0	-20.9
-134.0	-25.3	0.0	-25.3
-133.0	-25.5	0.0	-25.5
-132.0	-27.6	0.0	-27.6
-131.0	-27.6	0.0	-27.6
-130.0	-23.4	0.0	-23.4
-129.0	-19.0	0.0	-19.0
-128.0	-27.6	0.0	-27.6
-127.0	-23.5	0.0	-23.5
-126.0	-18.5	0.0	-18.5
-125.0	-27.6	0.0	-27.6
-124.0	-18.9	0.0	-18.9
-123.0	-27.0	0.0	-27.0
-122.0	-16.5	0.0	-16.5
-121.0	-20.3	0.0	-20.3
-120.0	-23.3	0.0	-23.3

28.30 GHz Antenna Pattern in Co-pol Az RHCP

Angle	Gain	Mask	Over Mask
Degrees	dBi	dBi	dB
0.0	52.4		
1.0	17.1		
2.0	10.6	21.5	-10.9
3.0	0.4	17.1	-16.6
4.0	-7.9	13.9	-21.8
5.0	-1.2	11.5	-12.7
6.0	-10.1	9.5	-19.6
7.0	0.0	7.9	-7.9
8.0	-2.9	8.0	-10.9
9.0	-10.0	8.0	-18.0
10.0	-3.5	7.0	-10.5
11.0	-1.5	6.0	-7.5
12.0	-3.5	5.0	-8.5
13.0	-5.5	4.2	-9.7
14.0	-13.6	3.3	-17.0
15.0	-8.0	2.6	-10.6
16.0	-16.4	1.9	-18.3
17.0	-26.4	1.2	-27.6
18.0	-14.3	0.6	-14.9
19.0	-8.3	0.0	-8.3
20.0	-16.9	-0.5	-16.4
21.0	-18.1	-1.1	-17.1
22.0	-5.9	-1.6	-4.3
23.0	-8.0	-2.0	-6.0
24.0	-10.2	-2.5	-7.7
25.0	-14.9	-2.9	-12.0
26.0	-8.9	-3.4	-5.5
27.0	-7.3	-3.8	-3.5
28.0	-8.6	-4.2	-4.4
29.0	-7.5	-4.6	-2.9
30.0	-8.4	-4.9	-3.4
31.0	-6.4	-5.3	-1.1
32.0	-5.4	-5.6	0.2
33.0	-3.9	-6.0	2.1
34.0	-5.5	-6.3	0.8
35.0	-8.1	-6.6	-1.5
36.0	-4.5	-6.9	2.4
37.0	-7.6	-7.2	-0.4
38.0	-5.0	-7.5	2.5
39.0	-7.1	-7.8	0.7
40.0	-8.0	-8.1	0.1
41.0	-10.5	-8.3	-2.2
42.0	-9.4	-8.6	-0.9
43.0	-11.2	-8.8	-2.3
44.0	-10.3	-9.1	-1.2
45.0	-8.9	-9.3	0.4
46.0	-6.7	-9.6	2.8
47.0	-9.2	-9.8	0.6
48.0	-15.2	-10.0	-5.1
49.0	-13.9	-10.0	-3.9
50.0	-12.6	-10.0	-2.6
51.0	-10.9	-10.0	-0.9
52.0	-10.3	-10.0	-0.3
53.0	-13.6	-10.0	-3.6
54.0	-14.2	-10.0	-4.2
55.0	-22.1	-10.0	-12.1
56.0	-17.3	-10.0	-7.3
57.0	-15.4	-10.0	-5.4
58.0	-15.6	-10.0	-5.6
59.0	-19.4	-10.0	-9.4

Orbit Communication Systems Ltd.
 AL-7107-Ka, 2.15 m Antenna, Pattern Data Table
 Co-pol Azimuth RHCP, -180° to +180° @ 1.0° increment

-119.0	-20.2	0.0	-20.2
-118.0	-22.4	0.0	-22.4
-117.0	-21.3	0.0	-21.3
-116.0	-22.3	0.0	-22.3
-115.0	-20.2	0.0	-20.2
-114.0	-19.3	0.0	-19.3
-113.0	-27.3	0.0	-27.3
-112.0	-25.8	0.0	-25.8
-111.0	-16.7	0.0	-16.7
-110.0	-19.2	0.0	-19.2
-109.0	-18.1	0.0	-18.1
-108.0	-14.4	0.0	-14.4
-107.0	-22.5	0.0	-22.5
-106.0	-26.4	0.0	-26.4
-105.0	-22.3	0.0	-22.3
-104.0	-22.2	0.0	-22.2
-103.0	-23.8	0.0	-23.8
-102.0	-22.4	0.0	-22.4
-101.0	-27.3	0.0	-27.3
-100.0	-16.1	0.0	-16.1
-99.0	-15.0	0.0	-15.0
-98.0	-17.8	0.0	-17.8
-97.0	-19.5	0.0	-19.5
-96.0	-11.1	0.0	-11.1
-95.0	-14.1	0.0	-14.1
-94.0	-17.9	0.0	-17.9
-93.0	-19.2	0.0	-19.2
-92.0	-15.9	0.0	-15.9
-91.0	-14.9	0.0	-14.9
-90.0	-14.9	0.0	-14.9
-89.0	-15.3	0.0	-15.3
-88.0	-20.4	0.0	-20.4
-87.0	-13.3	0.0	-13.3
-86.0	-14.4	0.0	-14.4
-85.0	-14.4	-10.0	-4.4
-84.0	-15.1	-10.0	-5.1
-83.0	-14.6	-10.0	-4.6
-82.0	-13.1	-10.0	-3.1
-81.0	-16.5	-10.0	-6.5
-80.0	-10.3	-10.0	-0.3
-79.0	-10.0	-10.0	0.0
-78.0	-9.9	-10.0	0.1
-77.0	-12.9	-10.0	-2.9
-76.0	-12.9	-10.0	-2.9
-75.0	-11.4	-10.0	-1.4
-74.0	-11.7	-10.0	-1.7
-73.0	-11.0	-10.0	-1.0
-72.0	-8.9	-10.0	1.1
-71.0	-8.3	-10.0	1.7
-70.0	-6.4	-10.0	3.6
-69.0	-6.4	-10.0	3.6
-68.0	-4.3	-10.0	5.7
-67.0	-6.6	-10.0	3.4
-66.0	-6.1	-10.0	3.9
-65.0	-7.0	-10.0	3.0
-64.0	-7.3	-10.0	2.7
-63.0	-8.4	-10.0	1.6
-62.0	-9.1	-10.0	0.9
-61.0	-9.8	-10.0	0.2
-60.0	-8.9	-10.0	1.1
-59.0	-10.2	-10.0	-0.2
-58.0	-11.1	-10.0	-1.1
-57.0	-14.7	-10.0	-4.7

60.0	-17.8	-10.0	-7.8
61.0	-26.4	-10.0	-16.4
62.0	-20.4	-10.0	-10.4
63.0	-12.8	-10.0	-2.8
64.0	-19.5	-10.0	-9.5
65.0	-12.2	-10.0	-2.2
66.0	-20.0	-10.0	-10.0
67.0	-18.8	-10.0	-8.8
68.0	-25.8	-10.0	-15.8
69.0	-16.0	-10.0	-6.0
70.0	-24.6	-10.0	-14.6
71.0	-25.0	-10.0	-15.0
72.0	-23.0	-10.0	-13.0
73.0	-15.9	-10.0	-5.9
74.0	-20.0	-10.0	-10.0
75.0	-19.5	-10.0	-9.5
76.0	-21.6	-10.0	-11.6
77.0	-20.9	-10.0	-10.9
78.0	-27.6	-10.0	-17.6
79.0	-23.2	-10.0	-13.2
80.0	-27.0	-10.0	-17.0
81.0	-26.4	-10.0	-16.4
82.0	-22.3	-10.0	-12.3
83.0	-27.5	-10.0	-17.5
84.0	-22.5	-10.0	-12.5
85.0	-27.6	-10.0	-17.6
86.0	-18.4	0.0	-18.4
87.0	-25.3	0.0	-25.3
88.0	-23.9	0.0	-23.9
89.0	-27.6	0.0	-27.6
90.0	-23.1	0.0	-23.1
91.0	-22.6	0.0	-22.6
92.0	-25.5	0.0	-25.5
93.0	-27.6	0.0	-27.6
94.0	-27.6	0.0	-27.6
95.0	-21.9	0.0	-21.9
96.0	-20.2	0.0	-20.2
97.0	-21.6	0.0	-21.6
98.0	-19.0	0.0	-19.0
99.0	-23.9	0.0	-23.9
100.0	-27.2	0.0	-27.2
101.0	-22.1	0.0	-22.1
102.0	-18.8	0.0	-18.8
103.0	-23.2	0.0	-23.2
104.0	-27.6	0.0	-27.6
105.0	-27.6	0.0	-27.6
106.0	-27.6	0.0	-27.6
107.0	-21.8	0.0	-21.8
108.0	-21.0	0.0	-21.0
109.0	-23.5	0.0	-23.5
110.0	-27.6	0.0	-27.6
111.0	-20.2	0.0	-20.2
112.0	-27.6	0.0	-27.6
113.0	-27.6	0.0	-27.6
114.0	-21.8	0.0	-21.8
115.0	-21.3	0.0	-21.3
116.0	-24.5	0.0	-24.5
117.0	-25.8	0.0	-25.8
118.0	-23.8	0.0	-23.8
119.0	-22.4	0.0	-22.4
120.0	-23.4	0.0	-23.4
121.0	-20.5	0.0	-20.5
122.0	-26.9	0.0	-26.9

Orbit Communication Systems Ltd.
AL-7107-Ka, 2.15 m Antenna, Pattern Data Table
Co-pol Azimuth RHCP, -180° to +180° @ 1.0° increment

-56.0	-15.3	-10.0	-5.3
-55.0	-14.7	-10.0	-4.7
-54.0	-16.3	-10.0	-6.3
-53.0	-14.3	-10.0	-4.3
-52.0	-18.2	-10.0	-8.2
-51.0	-15.7	-10.0	-5.7
-50.0	-18.2	-10.0	-8.2
-49.0	-14.3	-10.0	-4.3
-48.0	-14.6	-10.0	-4.6
-47.0	-20.8	-9.8	-11.0
-46.0	-17.9	-9.6	-8.3
-45.0	-19.1	-9.3	-9.8
-44.0	-16.5	-9.1	-7.5
-43.0	-17.2	-8.8	-8.3
-42.0	-16.8	-8.6	-8.2
-41.0	-10.7	-8.3	-2.4
-40.0	-27.6	-8.1	-19.5
-39.0	-17.2	-7.8	-9.4
-38.0	-16.3	-7.5	-8.8
-37.0	-20.2	-7.2	-13.0
-36.0	-15.6	-6.9	-8.7
-35.0	-22.8	-6.6	-16.2
-34.0	-18.4	-6.3	-12.1
-33.0	-25.3	-6.0	-19.3
-32.0	-16.2	-5.6	-10.5
-31.0	-16.0	-5.3	-10.8
-30.0	-20.2	-4.9	-15.2
-29.0	-20.2	-4.6	-15.7
-28.0	-19.2	-4.2	-15.1
-27.0	-21.7	-3.8	-17.9
-26.0	-11.8	-3.4	-8.4
-25.0	-18.8	-2.9	-15.9
-24.0	-17.6	-2.5	-15.1
-23.0	-19.8	-2.0	-17.7
-22.0	-17.5	-1.6	-15.9
-21.0	-22.7	-1.1	-21.6
-20.0	-24.2	-0.5	-23.7
-19.0	-17.9	0.0	-17.9
-18.0	-17.0	0.6	-17.6
-17.0	-14.6	1.2	-15.8
-16.0	-24.2	1.9	-26.1
-15.0	-27.6	2.6	-30.2
-14.0	-10.3	3.3	-13.6
-13.0	-14.8	4.2	-19.0
-12.0	-7.3	5.0	-12.3
-11.0	-10.9	6.0	-16.9
-10.0	-7.9	7.0	-14.9
-9.0	-17.0	8.0	-25.0
-8.0	-11.4	8.0	-19.4
-7.0	-0.8	7.9	-8.7
-6.0	-1.1	9.5	-10.7
-5.0	5.0	11.5	-6.6
-4.0	9.5	13.9	-4.5
-3.0	4.9	17.1	-12.1
-2.0	12.5	21.5	-9.0
-1.0	20.8		
0.0	52.4		

123.0	-21.4	0.0	-21.4
124.0	-27.6	0.0	-27.6
125.0	-21.1	0.0	-21.1
126.0	-27.6	0.0	-27.6
127.0	-27.6	0.0	-27.6
128.0	-27.6	0.0	-27.6
129.0	-23.1	0.0	-23.1
130.0	-23.0	0.0	-23.0
131.0	-19.2	0.0	-19.2
132.0	-27.6	0.0	-27.6
133.0	-25.8	0.0	-25.8
134.0	-26.2	0.0	-26.2
135.0	-22.5	0.0	-22.5
136.0	-22.1	0.0	-22.1
137.0	-25.2	0.0	-25.2
138.0	-22.2	0.0	-22.2
139.0	-27.6	0.0	-27.6
140.0	-24.7	0.0	-24.7
141.0	-24.0	0.0	-24.0
142.0	-27.2	0.0	-27.2
143.0	-26.3	0.0	-26.3
144.0	-23.6	0.0	-23.6
145.0	-26.1	0.0	-26.1
146.0	-27.6	0.0	-27.6
147.0	-27.6	0.0	-27.6
148.0	-26.3	0.0	-26.3
149.0	-23.5	0.0	-23.5
150.0	-25.5	0.0	-25.5
151.0	-27.6	0.0	-27.6
152.0	-27.6	0.0	-27.6
153.0	-22.1	0.0	-22.1
154.0	-27.6	0.0	-27.6
155.0	-27.6	0.0	-27.6
156.0	-26.4	0.0	-26.4
157.0	-27.6	0.0	-27.6
158.0	-27.6	0.0	-27.6
159.0	-23.9	0.0	-23.9
160.0	-22.1	0.0	-22.1
161.0	-19.4	0.0	-19.4
162.0	-18.4	0.0	-18.4
163.0	-25.6	0.0	-25.6
164.0	-20.1	0.0	-20.1
165.0	-23.4	0.0	-23.4
166.0	-21.0	0.0	-21.0
167.0	-27.6	0.0	-27.6
168.0	-22.7	0.0	-22.7
169.0	-23.9	0.0	-23.9
170.0	-18.5	0.0	-18.5
171.0	-22.5	0.0	-22.5
172.0	-23.6	0.0	-23.6
173.0	-22.5	0.0	-22.5
174.0	-27.6	0.0	-27.6
175.0	-27.6	0.0	-27.6
176.0	-27.2	0.0	-27.2
177.0	-27.2	0.0	-27.2
178.0	-23.6	0.0	-23.6
179.0	-23.9	0.0	-23.9

Orbit Communication Systems Ltd.

AL AL-7107-Ka, 2.15 m Antenna, Pattern Data Table
Co-pol Azimuth RHCP, -10° to +10° @ 0.1° increment

28.30 GHz Antenna Pattern in Co-pol Az RHCP

Angle	Gain	Mask	Over Mask
Degrees	dBi	dBi	dB
-10.0	-7.6	7.0	-14.6
-9.9	-5.8	7.1	-12.9
-9.8	-5.4	7.2	-12.6
-9.7	-5.6	7.3	-12.9
-9.6	-7.9	7.4	-15.3
-9.5	-7.5	7.6	-15.0
-9.4	-4.7	7.7	-12.4
-9.3	-3.2	7.8	-11.0
-9.2	-3.7	8.0	-11.7
-9.1	-11.3	8.0	-19.3
-9.0	-7.9	8.0	-15.9
-8.9	-4.8	8.0	-12.8
-8.8	-4.8	8.0	-12.8
-8.7	-7.1	8.0	-15.1
-8.6	-7.1	8.0	-15.1
-8.5	-3.9	8.0	-11.9
-8.4	-3.3	8.0	-11.3
-8.3	-3.7	8.0	-11.7
-8.2	-3.1	8.0	-11.1
-8.1	-4.1	8.0	-12.1
-8.0	-4.5	8.0	-12.5
-7.9	-6.3	8.0	-14.3
-7.8	-6.2	8.0	-14.2
-7.7	-4.6	8.0	-12.6
-7.6	-3.4	8.0	-11.4
-7.5	-6.4	8.0	-14.4
-7.4	-9.0	8.0	-17.0
-7.3	-4.0	8.0	-12.0
-7.2	-9.0	8.0	-17.0
-7.1	-5.1	8.0	-13.1
-7.0	2.0	7.9	-5.9
-6.9	4.7	8.0	-3.4
-6.8	5.7	8.2	-2.5
-6.7	6.2	8.3	-2.1
-6.6	5.1	8.5	-3.4
-6.5	3.3	8.7	-5.4
-6.4	-0.5	8.8	-9.4
-6.3	-3.3	9.0	-12.3
-6.2	-0.9	9.2	-10.1
-6.1	-1.0	9.4	-10.4
-6.0	-4.3	9.5	-13.8
-5.9	-3.7	9.7	-13.5
-5.8	-1.3	9.9	-11.2
-5.7	-1.0	10.1	-11.1
-5.6	-5.5	10.3	-15.8
-5.5	-7.3	10.5	-17.8
-5.4	-1.1	10.7	-11.8
-5.3	-1.2	10.9	-12.1
-5.2	-4.1	11.1	-15.2
-5.1	2.4	11.3	-8.9
-5.0	3.7	11.5	-7.8
-4.9	1.0	11.7	-10.8
-4.8	-5.1	12.0	-17.1
-4.7	-1.6	12.2	-13.8
-4.6	4.5	12.4	-8.0
-4.5	6.5	12.7	-6.2
-4.4	4.6	12.9	-8.3
-4.3	-3.9	13.2	-17.1
-4.2	-6.0	13.4	-19.4
-4.1	5.3	13.7	-8.4

28.30 GHz Antenna Pattern in Co-pol Az RHCP

Angle	Gain	Mask	Over Mask
Degrees	dBi	dBi	dB
0.0	52.5		
0.1	51.7		
0.2	49.0		
0.3	44.4		
0.4	38.4		
0.5	32.9		
0.6	27.8		
0.7	28.5		
0.8	29.2		
0.9	25.2		
1.0	9.5		
1.1	19.5		
1.2	19.3		
1.3	9.4		
1.4	9.2		
1.5	7.1	24.6	-17.5
1.6	12.4	23.9	-11.5
1.7	16.2	23.2	-7.0
1.8	15.0	22.6	-7.6
1.9	10.9	22.0	-11.1
2.0	10.9	21.5	-10.6
2.1	9.4	20.9	-11.6
2.2	2.6	20.4	-17.9
2.3	6.0	20.0	-13.9
2.4	7.7	19.5	-11.8
2.5	7.9	19.1	-11.1
2.6	6.9	18.6	-11.7
2.7	1.3	18.2	-16.9
2.8	-2.8	17.8	-20.6
2.9	-0.8	17.4	-18.2
3.0	2.0	17.1	-15.0
3.1	5.6	16.7	-11.1
3.2	6.0	16.4	-10.4
3.3	2.8	16.0	-13.3
3.4	-0.4	15.7	-16.1
3.5	-7.4	15.4	-22.8
3.6	0.9	15.1	-14.2
3.7	4.8	14.8	-10.0
3.8	4.0	14.5	-10.5
3.9	-5.4	14.2	-19.6
4.0	-7.8	13.9	-21.8
4.1	-3.9	13.7	-17.6
4.2	-5.9	13.4	-19.4
4.3	1.3	13.2	-11.9
4.4	3.7	12.9	-9.2
4.5	4.8	12.7	-7.9
4.6	5.3	12.4	-7.1
4.7	2.7	12.2	-9.5
4.8	-6.1	12.0	-18.1
4.9	-5.5	11.7	-17.2
5.0	-4.7	11.5	-16.3
5.1	-5.9	11.3	-17.2
5.2	-1.6	11.1	-12.7
5.3	-2.5	10.9	-13.4
5.4	-9.1	10.7	-19.8
5.5	-4.3	10.5	-14.8
5.6	0.9	10.3	-9.4
5.7	1.5	10.1	-8.6
5.8	0.8	9.9	-9.1
5.9	-2.0	9.7	-11.7

Orbit Communication Systems Ltd.

AL AL-7107-Ka, 2.15 m Antenna, Pattern Data Table
 Co-pol Azimuth RHCP, -10° to +10° @ 0.1° increment

-4.0	10.4	13.9	-3.5
-3.9	11.5	14.2	-2.7
-3.8	9.6	14.5	-4.9
-3.7	0.5	14.8	-14.3
-3.6	7.7	15.1	-7.4
-3.5	9.9	15.4	-5.5
-3.4	7.7	15.7	-8.0
-3.3	2.3	16.0	-13.7
-3.2	7.0	16.4	-9.4
-3.1	7.9	16.7	-8.8
-3.0	6.8	17.1	-10.3
-2.9	9.1	17.4	-8.3
-2.8	10.4	17.8	-7.4
-2.7	8.1	18.2	-10.2
-2.6	-2.0	18.6	-20.6
-2.5	-4.2	19.1	-23.3
-2.4	-2.6	19.5	-22.1
-2.3	4.6	20.0	-15.3
-2.2	5.7	20.4	-14.8
-2.1	8.7	20.9	-12.2
-2.0	12.3	21.5	-9.1
-1.9	12.1	22.0	-9.9
-1.8	6.3	22.6	-16.3
-1.7	9.8	23.2	-13.4
-1.6	10.3	23.9	-13.6
-1.5	4.3	24.6	-20.3
-1.4	15.9		
-1.3	18.2		
-1.2	18.6		
-1.1	19.3		
-1.0	18.1		
-0.9	17.6		
-0.8	21.2		
-0.7	20.3		
-0.6	21.9		
-0.5	33.9		
-0.4	41.4		
-0.3	47.0		
-0.2	50.5		
-0.1	52.2		
0.0	52.5		

6.0	-9.2	9.5	-18.7
6.1	-3.5	9.4	-12.9
6.2	0.9	9.2	-8.3
6.3	1.4	9.0	-7.6
6.4	1.9	8.8	-7.0
6.5	0.8	8.7	-7.8
6.6	-0.7	8.5	-9.2
6.7	-0.8	8.3	-9.1
6.8	0.1	8.2	-8.1
6.9	0.5	8.0	-7.5
7.0	-0.4	7.9	-8.3
7.1	-3.0	8.0	-11.0
7.2	-13.3	8.0	-21.3
7.3	-8.3	8.0	-16.3
7.4	-4.0	8.0	-12.0
7.5	-4.6	8.0	-12.6
7.6	-6.5	8.0	-14.5
7.7	-4.5	8.0	-12.5
7.8	-2.2	8.0	-10.2
7.9	-1.5	8.0	-9.5
8.0	-1.8	8.0	-9.8
8.1	-3.8	8.0	-11.8
8.2	-11.1	8.0	-19.1
8.3	-7.2	8.0	-15.2
8.4	-4.4	8.0	-12.4
8.5	-4.2	8.0	-12.2
8.6	-5.0	8.0	-13.0
8.7	-5.0	8.0	-13.0
8.8	-6.4	8.0	-14.4
8.9	-7.9	8.0	-15.9
9.0	-9.1	8.0	-17.1
9.1	-9.8	8.0	-17.8
9.2	-10.7	8.0	-18.7
9.3	-17.4	7.8	-25.2
9.4	-14.6	7.7	-22.3
9.5	-6.6	7.6	-14.2
9.6	-5.1	7.4	-12.6
9.7	-4.8	7.3	-12.1
9.8	-5.0	7.2	-12.2
9.9	-5.4	7.1	-12.5
10.0	-5.8	7.0	-12.8

Orbit Communication Systems Ltd.
 AL-7107-Ka, 2.15 m Antenna, Pattern Data Table
 Co-pol Elevation RHCP, -30° to +30° @ 0.5° increment

28.30 GHz Antenna Pattern in Co-pol EI RHCP

Angle	Gain	Mask	Over Mask
Degrees	dBi	dBi	dB
-30.0	-8.9	-4.9	-4.0
-29.5	-8.2	-4.7	-3.5
-29.0	-11.1	-4.6	-6.6
-28.5	-9.4	-4.4	-5.1
-28.0	-10.5	-4.2	-6.4
-27.5	-11.4	-4.0	-7.4
-27.0	-14.6	-3.8	-10.8
-26.5	-11.7	-3.6	-8.2
-26.0	-13.1	-3.4	-9.7
-25.5	-11.1	-3.2	-7.9
-25.0	-7.1	-2.9	-4.1
-24.5	-6.9	-2.7	-4.2
-24.0	-6.2	-2.5	-3.7
-23.5	-16.4	-2.3	-14.1
-23.0	-19.0	-2.0	-17.0
-22.5	-9.0	-1.8	-7.2
-22.0	-5.7	-1.6	-4.1
-21.5	-5.0	-1.3	-3.7
-21.0	-13.8	-1.1	-12.7
-20.5	-5.7	-0.8	-4.9
-20.0	-6.0	-0.5	-5.5
-19.5	-1.6	-0.3	-1.3
-19.0	-1.6	0.0	-1.6
-18.5	-2.8	0.3	-3.1
-18.0	-14.4	0.6	-15.0
-17.5	-23.5	0.9	-24.4
-17.0	-15.1	1.2	-16.4
-16.5	-14.3	1.6	-15.9
-16.0	-18.3	1.9	-20.2
-15.5	-13.5	2.2	-15.8
-15.0	-9.1	2.6	-11.7
-14.5	-17.0	3.0	-19.9
-14.0	-2.1	3.3	-5.4
-13.5	-6.7	3.7	-10.5
-13.0	-9.7	4.2	-13.9
-12.5	-11.8	4.6	-16.4
-12.0	-6.5	5.0	-11.5
-11.5	-6.0	5.5	-11.5
-11.0	-13.0	6.0	-19.0
-10.5	-10.3	6.5	-16.8
-10.0	-6.5	7.0	-13.5
-9.5	-6.6	7.6	-14.2
-9.0	-2.8	8.1	-10.9
-8.5	-8.5	8.8	-17.2
-8.0	-2.4	9.4	-11.8
-7.5	-10.0	10.1	-20.2
-7.0	-2.0	10.9	-12.9
-6.5	-5.7	11.7	-17.4
-6.0	-1.1	12.5	-13.7
-5.5	-1.6	13.5	-15.1
-5.0	1.5	14.5	-13.1
-4.5	1.5	15.7	-14.2
-4.0	2.9	16.9	-14.0
-3.5	4.7	18.4	-13.7
-3.0	10.6		
-2.5	9.4		
-2.0	8.1		
-1.5	17.9		
-1.0	21.1		
-0.5	35.7		
0.0	52.4		

28.30 GHz Antenna Pattern in Co-pol EI RHCP

Angle	Gain	Mask	Over Mask
Degrees	dBi	dBi	dB
0.0	52.4		
0.5	38.0		
1.0	16.8		
1.5	9.7		
2.0	5.4		
2.5	10.1		
3.0	7.5		
3.5	8.5	18.4	-9.9
4.0	13.0	16.9	-4.0
4.5	-1.0	15.7	-16.6
5.0	7.3	14.5	-7.2
5.5	-12.4	13.5	-25.9
6.0	-1.8	12.5	-14.4
6.5	0.9	11.7	-10.8
7.0	-1.8	10.9	-12.7
7.5	-12.0	10.1	-22.1
8.0	-14.6	9.4	-24.0
8.5	-1.5	8.8	-10.3
9.0	-2.8	8.1	-11.0
9.5	-9.7	7.6	-17.3
10.0	-0.2	7.0	-7.2
10.5	-4.7	6.5	-11.1
11.0	-8.1	6.0	-14.1
11.5	-13.2	5.5	-18.6
12.0	-13.1	5.0	-18.1
12.5	-5.9	4.6	-10.5
13.0	-4.3	4.2	-8.4
13.5	-8.9	3.7	-12.6
14.0	-17.5	3.3	-20.8
14.5	-12.7	3.0	-15.7
15.0	-12.0	2.6	-14.6
15.5	-15.1	2.2	-17.4
16.0	-18.5	1.9	-20.3
16.5	-16.7	1.6	-18.2
17.0	-15.4	1.2	-16.7
17.5	-22.5	0.9	-23.5
18.0	-13.5	0.6	-14.1
18.5	-17.0	0.3	-17.3
19.0	-12.1	0.0	-12.1
19.5	-12.8	-0.3	-12.6
20.0	-18.1	-0.5	-17.6
20.5	-12.0	-0.8	-11.2
21.0	-26.3	-1.1	-25.3
21.5	-26.9	-1.3	-25.6
22.0	-18.6	-1.6	-17.1
22.5	-12.9	-1.8	-11.1
23.0	-16.0	-2.0	-14.0
23.5	-15.0	-2.3	-12.7
24.0	-21.6	-2.5	-19.1
24.5	-19.9	-2.7	-17.2
25.0	-15.4	-2.9	-12.4
25.5	-19.2	-3.2	-16.1
26.0	-27.6	-3.4	-24.2
26.5	-19.8	-3.6	-16.2
27.0	-20.5	-3.8	-16.7
27.5	-15.7	-4.0	-11.7
28.0	-14.3	-4.2	-10.1
28.5	-17.6	-4.4	-13.2
29.0	-17.5	-4.6	-13.0
29.5	-15.3	-4.7	-10.6
30.0	-24.6	-4.9	-19.7

Orbit Communication Systems Ltd.
 AL-7107-Ka, 2.15 m Antenna, Pattern Data Table
 Co-pol Elevation RHCP, -10° to +10° @ 0.1° increment

28.30 GHz Antenna Pattern in Co-pol EI RHCP

Angle	Gain	Mask	Over Mask
Degrees	dBi	dBi	dB
-10.0	-13.2	7.0	-20.2
-9.9	-9.8	7.1	-16.9
-9.8	-7.0	7.2	-14.2
-9.7	-5.9	7.3	-13.2
-9.6	-5.0	7.4	-12.5
-9.5	-4.2	7.6	-11.8
-9.4	-4.6	7.7	-12.3
-9.3	-9.3	7.8	-17.1
-9.2	-12.8	7.9	-20.7
-9.1	-7.4	8.0	-15.4
-9.0	-3.0	8.1	-11.2
-8.9	-3.0	8.3	-11.3
-8.8	-5.9	8.4	-14.3
-8.7	-11.7	8.5	-20.2
-8.6	-8.2	8.6	-16.8
-8.5	-12.3	8.8	-21.1
-8.4	-17.1	8.9	-26.0
-8.3	-10.0	9.0	-19.1
-8.2	-4.8	9.2	-13.9
-8.1	-2.5	9.3	-11.8
-8.0	-3.1	9.4	-12.5
-7.9	-6.0	9.6	-15.6
-7.8	-15.5	9.7	-25.2
-7.7	-7.6	9.8	-17.5
-7.6	-5.6	10.0	-15.6
-7.5	-9.0	10.1	-19.2
-7.4	-17.5	10.3	-27.7
-7.3	-5.6	10.4	-16.0
-7.2	-1.2	10.6	-11.7
-7.1	0.8	10.7	-9.9
-7.0	0.0	10.9	-10.9
-6.9	-11.1	11.0	-22.1
-6.8	-1.7	11.2	-12.9
-6.7	1.8	11.3	-9.5
-6.6	-0.8	11.5	-12.4
-6.5	-7.3	11.7	-19.0
-6.4	-4.8	11.8	-16.6
-6.3	-3.0	12.0	-15.0
-6.2	-1.1	12.2	-13.2
-6.1	-0.5	12.4	-12.9
-6.0	-0.7	12.5	-13.2
-5.9	-0.5	12.7	-13.2
-5.8	0.8	12.9	-12.1
-5.7	-1.2	13.1	-14.3
-5.6	-2.5	13.3	-15.8
-5.5	-0.3	13.5	-13.8
-5.4	-2.6	13.7	-16.3
-5.3	-0.7	13.9	-14.6
-5.2	3.1	14.1	-11.0
-5.1	4.1	14.3	-10.2
-5.0	2.0	14.5	-12.5
-4.9	-1.1	14.7	-15.9
-4.8	-2.8	15.0	-17.7
-4.7	-0.2	15.2	-15.4
-4.6	0.9	15.4	-14.5
-4.5	1.2	15.7	-14.5
-4.4	1.3	15.9	-14.7
-4.3	2.6	16.2	-13.5
-4.2	4.7	16.4	-11.7
-4.1	4.7	16.7	-11.9

28.30 GHz Antenna Pattern in Co-pol EI RHCP

Angle	Gain	Mask	Over Mask
Degrees	dBi	dBi	dB
0.0	52.5		
0.1	51.7		
0.2	49.0		
0.3	44.5		
0.4	40.8		
0.5	37.4		
0.6	32.0		
0.7	15.3		
0.8	21.5		
0.9	20.7		
1.0	19.8		
1.1	20.0		
1.2	15.5		
1.3	4.7		
1.4	10.1		
1.5	9.2		
1.6	14.0		
1.7	14.5		
1.8	12.1		
1.9	8.2		
2.0	6.5		
2.1	8.3		
2.2	10.1		
2.3	9.6		
2.4	10.0		
2.5	10.1		
2.6	6.9		
2.7	0.1		
2.8	-11.8		
2.9	1.8		
3.0	6.7		
3.1	6.2		
3.2	3.7		
3.3	6.9		
3.4	7.8		
3.5	9.6	18.4	-8.8
3.6	9.7	18.1	-8.4
3.7	8.8	17.8	-9.0
3.8	11.3	17.5	-6.2
3.9	13.5	17.2	-3.8
4.0	13.3	16.9	-3.7
4.1	12.3	16.7	-4.4
4.2	12.4	16.4	-4.0
4.3	10.5	16.2	-5.6
4.4	2.9	15.9	-13.0
4.5	-9.0	15.7	-24.7
4.6	1.6	15.4	-13.8
4.7	5.1	15.2	-10.1
4.8	6.9	15.0	-8.1
4.9	6.4	14.7	-8.4
5.0	4.9	14.5	-9.6
5.1	3.6	14.3	-10.7
5.2	0.9	14.1	-13.2
5.3	-7.8	13.9	-21.7
5.4	-10.3	13.7	-24.0
5.5	-3.6	13.5	-17.1
5.6	-3.0	13.3	-16.3
5.7	-5.1	13.1	-18.2
5.8	-5.2	12.9	-18.1
5.9	-2.3	12.7	-15.0

Orbit Communication Systems Ltd.
AL-7107-Ka, 2.15 m Antenna, Pattern Data Table
Co-pol Elevation RHCP, -10° to +10° @ 0.1° increment

-4.0	2.3	16.9	-14.7
-3.9	-1.5	17.2	-18.8
-3.8	4.2	17.5	-13.3
-3.7	6.0	17.8	-11.8
-3.6	5.0	18.1	-13.1
-3.5	3.0	18.4	-15.4
-3.4	-1.3		
-3.3	-2.7		
-3.2	-3.1		
-3.1	-3.9		
-3.0	9.3		
-2.9	13.7		
-2.8	13.8		
-2.7	11.3		
-2.6	7.7		
-2.5	10.1		
-2.4	12.4		
-2.3	13.7		
-2.2	13.8		
-2.1	11.6		
-2.0	7.8		
-1.9	6.6		
-1.8	5.2		
-1.7	8.6		
-1.6	15.4		
-1.5	17.9		
-1.4	16.7		
-1.3	16.2		
-1.2	21.8		
-1.1	22.9		
-1.0	20.1		
-0.9	21.5		
-0.8	25.3		
-0.7	29.5		
-0.6	32.8		
-0.5	35.1		
-0.4	40.2		
-0.3	46.4		
-0.2	50.2		
-0.1	52.2		
0.0	52.5		

6.0	-2.3	12.5	-14.9
6.1	-3.4	12.4	-15.7
6.2	-1.9	12.2	-14.1
6.3	-1.2	12.0	-13.3
6.4	-0.6	11.8	-12.4
6.5	0.6	11.7	-11.1
6.6	2.8	11.5	-8.7
6.7	2.5	11.3	-8.8
6.8	0.4	11.2	-10.7
6.9	-3.1	11.0	-14.2
7.0	-13.4	10.9	-24.3
7.1	-4.7	10.7	-15.5
7.2	-2.2	10.6	-12.8
7.3	-4.6	10.4	-15.0
7.4	-9.1	10.3	-19.4
7.5	-3.8	10.1	-13.9
7.6	-2.8	10.0	-12.8
7.7	-7.1	9.8	-16.9
7.8	-3.9	9.7	-13.6
7.9	-3.4	9.6	-13.0
8.0	-5.0	9.4	-14.4
8.1	-5.6	9.3	-14.9
8.2	-4.2	9.2	-13.4
8.3	-3.0	9.0	-12.0
8.4	-2.7	8.9	-11.6
8.5	-8.0	8.8	-16.8
8.6	-8.9	8.6	-17.5
8.7	-11.7	8.5	-20.2
8.8	-27.5	8.4	-35.9
8.9	-14.1	8.3	-22.4
9.0	-7.5	8.1	-15.7
9.1	-2.2	8.0	-10.2
9.2	-1.2	7.9	-9.1
9.3	-2.0	7.8	-9.8
9.4	-4.1	7.7	-11.8
9.5	-3.5	7.6	-11.1
9.6	-0.4	7.4	-7.9
9.7	1.6	7.3	-5.7
9.8	2.0	7.2	-5.3
9.9	1.1	7.1	-6.0
10.0	-0.3	7.0	-7.3

Orbit Communication Systems Ltd.
AL-7107-Ka, 2.15 m Antenna, Pattern Data Table
X-pol Azimuth RHCP, -10° to +10° @ 0.1° increment

28.30 GHz Antenna Pattern in X-pol Az RHCP

Angle	Gain	Mask	Over Mask
Degrees	dBi	dBi	dB
-10.0	-9.3	-2.0	-7.3
-9.9	-8.7	-2.0	-6.7
-9.8	-8.5	-2.0	-6.5
-9.7	-6.1	-2.0	-4.1
-9.6	-6.5	-2.0	-4.5
-9.5	-5.1	-2.0	-3.1
-9.4	-5.5	-2.0	-3.5
-9.3	-5.9	-2.0	-3.9
-9.2	-5.7	-2.0	-3.7
-9.1	-4.4	-2.0	-2.4
-9.0	-6.1	-2.0	-4.1
-8.9	-6.6	-2.0	-4.6
-8.8	-8.0	-2.0	-6.0
-8.7	-5.1	-2.0	-3.1
-8.6	-3.5	-2.0	-1.5
-8.5	-3.1	-2.0	-1.1
-8.4	-3.8	-2.0	-1.8
-8.3	-4.8	-2.0	-2.8
-8.2	-3.9	-2.0	-1.9
-8.1	-4.3	-2.0	-2.3
-8.0	-6.6	-2.0	-4.6
-7.9	-10.0	-2.0	-8.0
-7.8	-8.3	-2.0	-6.3
-7.7	-5.9	-2.0	-3.9
-7.6	-5.4	-2.0	-3.4
-7.5	-4.7	-2.0	-2.7
-7.4	-2.1	-2.0	-0.1
-7.3	-1.2	-2.0	0.8
-7.2	-1.8	-2.0	0.2
-7.1	-4.0	-2.0	-2.0
-7.0	-5.1	-2.1	-3.0
-6.9	-4.6	-2.0	-2.7
-6.8	-3.8	-1.8	-2.0
-6.7	-3.2	-1.7	-1.6
-6.6	-4.2	-1.5	-2.8
-6.5	-8.1	-1.3	-6.8
-6.4	-15.0	-1.2	-13.9
-6.3	-13.3	-1.0	-12.3
-6.2	-17.2	-0.8	-16.4
-6.1	-13.1	-0.6	-12.4
-6.0	-6.4	-0.5	-5.9
-5.9	-4.5	-0.3	-4.2
-5.8	-6.7	-0.1	-6.6
-5.7	-17.8	0.1	-17.9
-5.6	-7.0	0.3	-7.3
-5.5	-5.0	0.5	-5.5
-5.4	-6.0	0.7	-6.7
-5.3	-11.0	0.9	-11.8
-5.2	-4.7	1.1	-5.8
-5.1	-1.6	1.3	-3.0
-5.0	-1.7	1.5	-3.2
-4.9	-3.9	1.7	-5.6
-4.8	-23.8	2.0	-25.8
-4.7	-4.9	2.2	-7.1
-4.6	-2.5	2.4	-4.9
-4.5	-4.3	2.7	-7.0
-4.4	-2.8	2.9	-5.7
-4.3	-1.8	3.2	-4.9
-4.2	-6.6	3.4	-10.0
-4.1	-5.2	3.7	-8.8

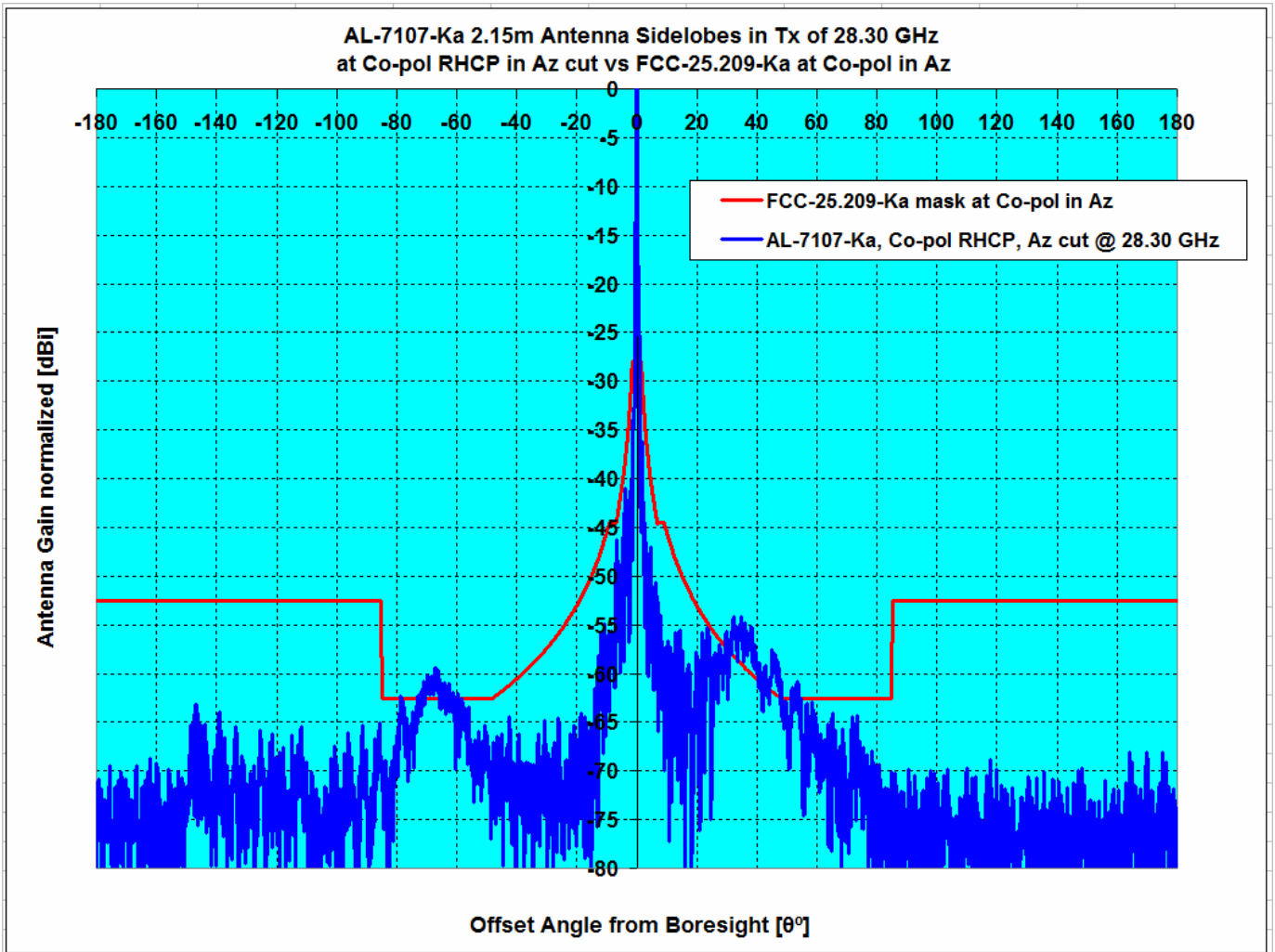
28.30 GHz Antenna Pattern in X-pol Az RHCP

Angle	Gain	Mask	Over Mask
Degrees	dBi	dBi	dB
0.0	27.6		
0.1	26.8		
0.2	28.6		
0.3	30.1		
0.4	29.6		
0.5	27.3		
0.6	21.9		
0.7	13.7		
0.8	4.1		
0.9	9.6		
1.0	14.8		
1.1	14.1		
1.2	7.5		
1.3	2.3		
1.4	7.3		
1.5	6.0		
1.6	2.0		
1.7	0.4		
1.8	-5.0	12.6	-17.6
1.9	-14.1	12.0	-26.1
2.0	-6.6	11.5	-18.1
2.1	-5.6	10.9	-16.5
2.2	-10.6	10.4	-21.1
2.3	-10.5	10.0	-20.4
2.4	-3.6	9.5	-13.1
2.5	-3.5	9.1	-12.5
2.6	-7.4	8.6	-16.0
2.7	-0.5	8.2	-8.8
2.8	0.7	7.8	-7.1
2.9	-0.6	7.4	-8.1
3.0	-7.4	7.1	-14.5
3.1	-10.7	6.7	-17.4
3.2	-10.9	6.4	-17.3
3.3	-16.5	6.0	-22.5
3.4	-8.2	5.7	-14.0
3.5	-10.0	5.4	-15.4
3.6	-11.0	5.1	-16.1
3.7	-9.5	4.8	-14.2
3.8	-12.1	4.5	-16.6
3.9	-9.7	4.2	-14.0
4.0	-6.8	3.9	-10.7
4.1	-7.3	3.7	-11.0
4.2	-10.3	3.4	-13.7
4.3	-10.7	3.2	-13.9
4.4	-11.3	2.9	-14.2
4.5	-9.8	2.7	-12.5
4.6	-5.9	2.4	-8.3
4.7	-7.0	2.2	-9.2
4.8	-11.5	2.0	-13.5
4.9	-14.1	1.7	-15.8
5.0	-12.7	1.5	-14.2
5.1	-10.1	1.3	-11.4
5.2	-11.4	1.1	-12.5
5.3	-12.0	0.9	-12.9
5.4	-6.1	0.7	-6.8
5.5	-5.3	0.5	-5.8
5.6	-6.1	0.3	-6.4
5.7	-11.5	0.1	-11.6
5.8	-12.9	-0.1	-12.8
5.9	-14.1	-0.3	-13.8

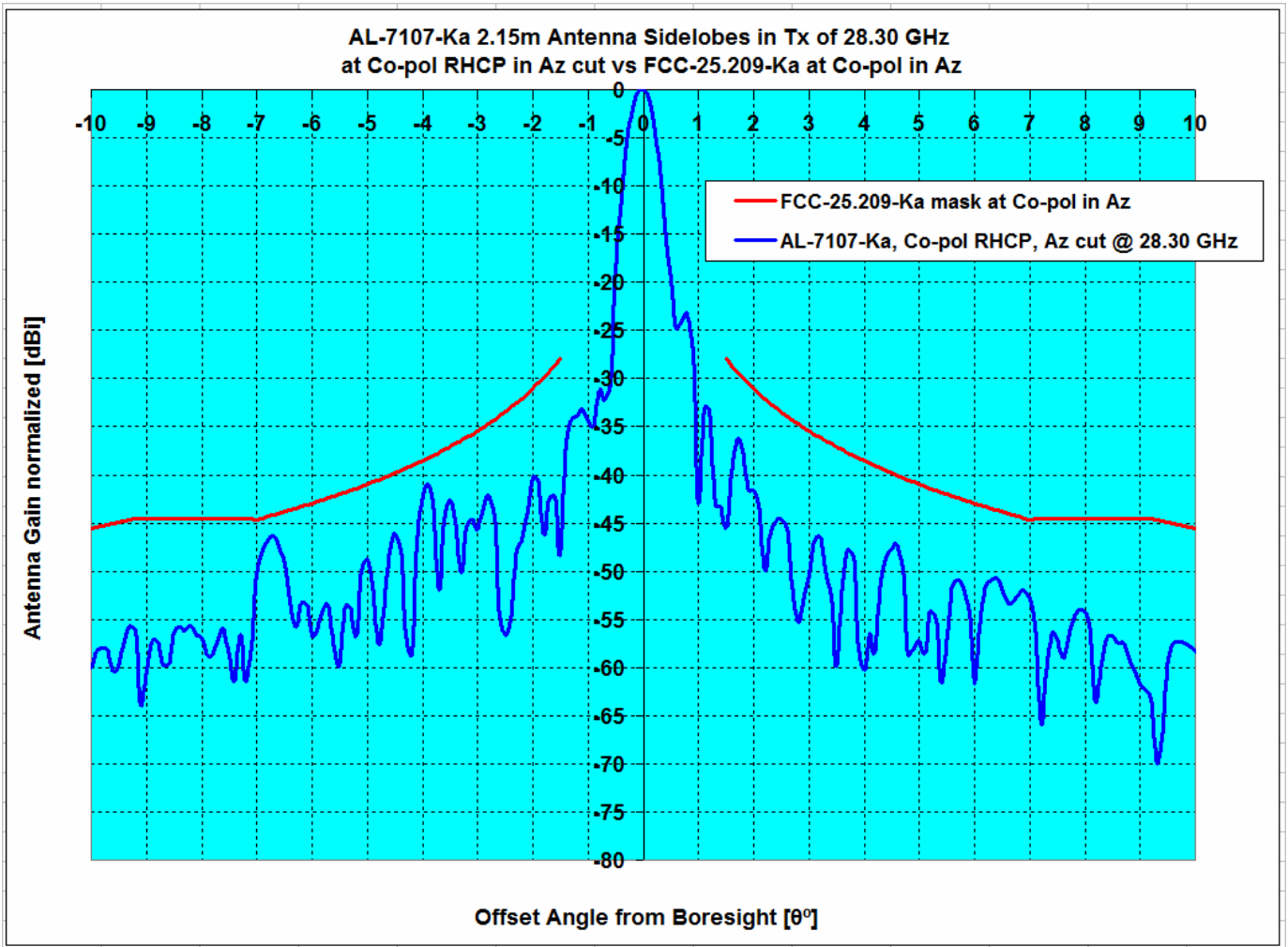
Orbit Communication Systems Ltd.
 AL-7107-Ka, 2.15 m Antenna, Pattern Data Table
 X-pol Azimuth RHCP, -10° to +10° @ 0.1° increment

-4.0	1.1	3.9	-2.8
-3.9	1.1	4.2	-3.1
-3.8	-3.0	4.5	-7.6
-3.7	-3.1	4.8	-7.9
-3.6	-2.0	5.1	-7.1
-3.5	-5.7	5.4	-11.1
-3.4	-7.8	5.7	-13.5
-3.3	-5.6	6.0	-11.7
-3.2	-9.8	6.4	-16.2
-3.1	-9.4	6.7	-16.1
-3.0	-3.0	7.1	-10.0
-2.9	-2.9	7.4	-10.4
-2.8	-5.3	7.8	-13.1
-2.7	-5.9	8.2	-14.1
-2.6	-4.4	8.6	-13.0
-2.5	-7.0	9.1	-16.0
-2.4	-3.0	9.5	-12.5
-2.3	1.5	10.0	-8.5
-2.2	2.5	10.4	-8.0
-2.1	3.9	10.9	-7.0
-2.0	2.9	11.5	-8.6
-1.9	-8.9	12.0	-20.9
-1.8	4.3	12.6	-8.3
-1.7	8.1		
-1.6	8.9		
-1.5	9.8		
-1.4	9.9		
-1.3	5.5		
-1.2	8.0		
-1.1	13.9		
-1.0	14.8		
-0.9	14.7		
-0.8	19.2		
-0.7	24.2		
-0.6	26.9		
-0.5	28.3		
-0.4	27.5		
-0.3	22.3		
-0.2	21.8		
-0.1	26.9		
0.0	27.6		

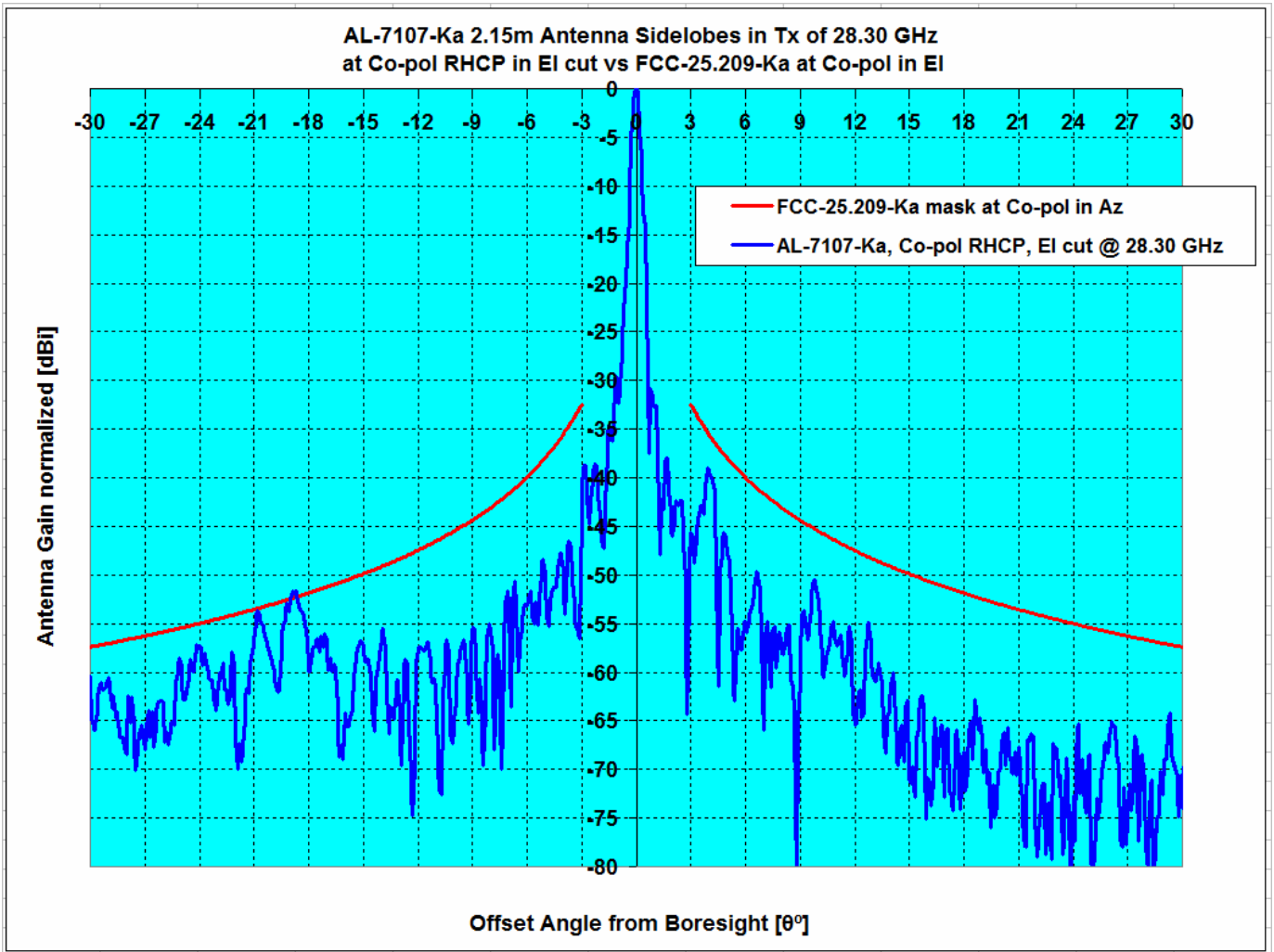
6.0	-18.3	-0.5	-17.9
6.1	-17.1	-0.6	-16.4
6.2	-18.1	-0.8	-17.3
6.3	-13.9	-1.0	-12.9
6.4	-8.8	-1.2	-7.6
6.5	-8.2	-1.3	-6.9
6.6	-9.3	-1.5	-7.8
6.7	-8.8	-1.7	-7.1
6.8	-7.5	-1.8	-5.7
6.9	-6.2	-2.0	-4.2
7.0	-7.3	-2.1	-5.1
7.1	-9.2	-2.0	-7.2
7.2	-10.4	-2.0	-8.4
7.3	-12.8	-2.0	-10.8
7.4	-14.5	-2.0	-12.5
7.5	-11.3	-2.0	-9.3
7.6	-8.7	-2.0	-6.7
7.7	-6.6	-2.0	-4.6
7.8	-5.0	-2.0	-3.0
7.9	-5.3	-2.0	-3.3
8.0	-6.1	-2.0	-4.1
8.1	-6.8	-2.0	-4.8
8.2	-8.3	-2.0	-6.3
8.3	-11.3	-2.0	-9.3
8.4	-12.9	-2.0	-10.9
8.5	-12.3	-2.0	-10.3
8.6	-10.0	-2.0	-8.0
8.7	-6.7	-2.0	-4.7
8.8	-5.6	-2.0	-3.6
8.9	-9.5	-2.0	-7.5
9.0	-9.6	-2.0	-7.6
9.1	-8.7	-2.0	-6.7
9.2	-9.6	-2.0	-7.6
9.3	-10.6	-2.0	-8.6
9.4	-11.9	-2.0	-9.9
9.5	-14.4	-2.0	-12.4
9.6	-13.1	-2.0	-11.1
9.7	-8.2	-2.0	-6.2
9.8	-9.6	-2.0	-7.6
9.9	-22.1	-2.0	-20.1
10.0	-10.8	-2.0	-8.8



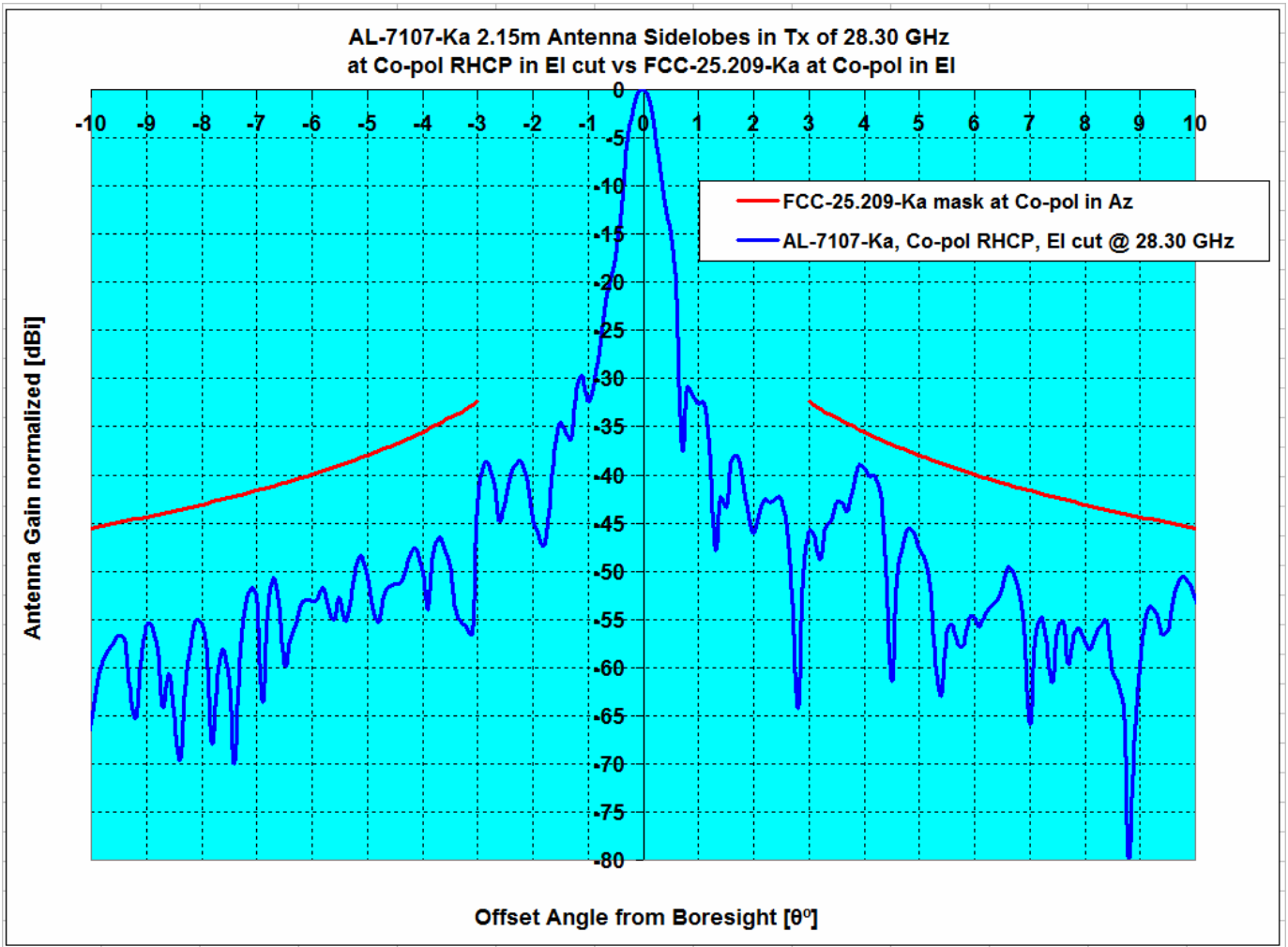
Description	Plane, CirP Type	Frequency GHz	Ant. Gain dBi	Peak Excursions dB		Over Mask %	
				1.5°≤θ≤7°	7°≤θ≤180°	1.5°≤θ≤7°	7°≤θ≤180°
FCC-25.209-Ka, Co-pol Az, vs AL-7107-Ka	Az , RHCP	28.30	52.51	-2.13	4.92	0.00%	7.22%



Description	Plane, CirP	Frequency	Ant. Gain	Peak Excursions dB		Over Mask %	
				1.5°≤θ≤7°	7°≤θ≤180°	1.5°≤θ≤7°	7°≤θ≤180°
FCC-25.209-Ka, Co-pol Az, vs AL-7107-Ka	Az , RHCP	28.30	52.51	-2.13	4.92	0.00%	7.22%

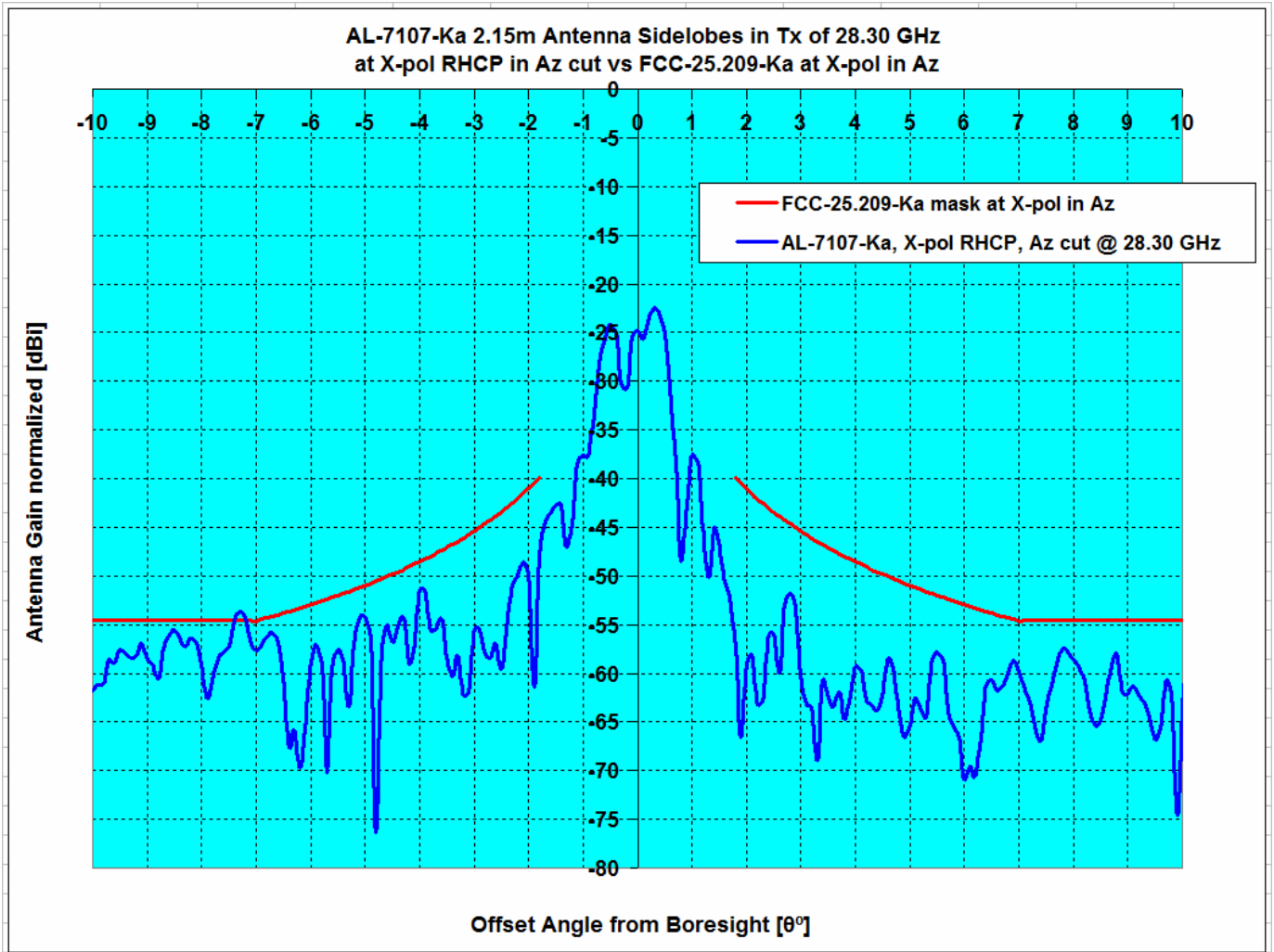


Description	Plane, CirP	Frequency	Ant. Gain	Peak Excursions dB		Over Mask %	
				3°≤θ≤7°	7°≤θ≤30°	3°≤θ≤7°	7°≤θ≤30°
Pattern Rule vs Antenna System	Type	GHz	dBi				
FCC-25.209-Ka, Co-pol EI, vs AL-7107-Ka	EI, RHCP	28.30	52.51	-3.67	0.77	0.00%	0.55%



Description	Plane, CirP	Frequency	Ant. Gain	Peak Excursions dB		Over Mask %	
				3°≤θ≤7°	7°≤θ≤30°	3°≤θ≤7°	7°≤θ≤30°
FCC-25.209-Ka, Co-pol EI, vs AL-7107-Ka	EI, RHCP	28.30	52.51	-3.67	0.77	0.00%	0.55%

Orbit Communication Systems Ltd.
 AL-7107-Ka, 2.15 m Antenna, Pattern, X-pol, Azimuth RHCP



Description	Plane, CirP	Frequency	Ant. Gain	Peak Excursions dB		Over Mask %	
				1.8°≤θ≤7°	1.8°≤θ≤9.2°	1.8°≤θ≤7°	1.8°≤θ≤9.2°
Pattern Rule vs Antenna System	Type	GHz	dBi				
FCC-25.209-Ka, X-pol Az, vs AL-7107-Ka	Az , RHCP	28.30	52.51	-1.58	0.81	0.00%	1.20%

Orbit Communication Systems Ltd.
AL-7107-Ka, 2.15 m Antenna, Pattern Data Table
Co-pol Azimuth LHCP, -180° to +180° @ 1.0° increment

29.15 GHz Antenna Pattern in Co-pol Az LHCP

Angle	Gain	Mask	Over Mask
Degrees	dBi	dBi	dB
-179.0	-25.9	0.0	-25.9
-178.0	-18.2	0.0	-18.2
-177.0	-20.5	0.0	-20.5
-176.0	-25.0	0.0	-25.0
-175.0	-27.4	0.0	-27.4
-174.0	-27.4	0.0	-27.4
-173.0	-26.9	0.0	-26.9
-172.0	-27.4	0.0	-27.4
-171.0	-23.9	0.0	-23.9
-170.0	-25.9	0.0	-25.9
-169.0	-18.2	0.0	-18.2
-168.0	-20.5	0.0	-20.5
-167.0	-25.0	0.0	-25.0
-166.0	-27.4	0.0	-27.4
-165.0	-27.4	0.0	-27.4
-164.0	-26.9	0.0	-26.9
-163.0	-27.4	0.0	-27.4
-162.0	-19.4	0.0	-19.4
-161.0	-20.8	0.0	-20.8
-160.0	-27.0	0.0	-27.0
-159.0	-26.0	0.0	-26.0
-158.0	-27.4	0.0	-27.4
-157.0	-19.8	0.0	-19.8
-156.0	-27.4	0.0	-27.4
-155.0	-27.4	0.0	-27.4
-154.0	-20.7	0.0	-20.7
-153.0	-22.6	0.0	-22.6
-152.0	-15.2	0.0	-15.2
-151.0	-19.3	0.0	-19.3
-150.0	-17.7	0.0	-17.7
-149.0	-27.4	0.0	-27.4
-148.0	-25.8	0.0	-25.8
-147.0	-24.5	0.0	-24.5
-146.0	-15.8	0.0	-15.8
-145.0	-15.5	0.0	-15.5
-144.0	-20.2	0.0	-20.2
-143.0	-20.2	0.0	-20.2
-142.0	-21.6	0.0	-21.6
-141.0	-20.2	0.0	-20.2
-140.0	-16.0	0.0	-16.0
-139.0	-20.2	0.0	-20.2
-138.0	-20.6	0.0	-20.6
-137.0	-20.5	0.0	-20.5
-136.0	-23.7	0.0	-23.7
-135.0	-15.0	0.0	-15.0
-134.0	-15.9	0.0	-15.9
-133.0	-27.4	0.0	-27.4
-132.0	-25.2	0.0	-25.2
-131.0	-22.1	0.0	-22.1
-130.0	-16.0	0.0	-16.0
-129.0	-16.1	0.0	-16.1
-128.0	-18.9	0.0	-18.9
-127.0	-15.9	0.0	-15.9
-126.0	-15.0	0.0	-15.0
-125.0	-22.5	0.0	-22.5
-124.0	-19.5	0.0	-19.5
-123.0	-20.8	0.0	-20.8
-122.0	-25.3	0.0	-25.3
-121.0	-20.6	0.0	-20.6
-120.0	-26.0	0.0	-26.0

29.15 GHz Antenna Pattern in Co-pol Az LHCP

Angle	Gain	Mask	Over Mask
Degrees	dBi	dBi	dB
0.0	52.6		
1.0	15.7		
2.0	10.0	21.5	-11.5
3.0	9.1	17.1	-8.0
4.0	-4.1	13.9	-18.1
5.0	-10.4	11.5	-21.9
6.0	0.3	9.5	-9.2
7.0	-14.1	7.9	-21.9
8.0	-5.4	8.0	-13.4
9.0	-3.3	8.0	-11.3
10.0	-5.3	7.0	-12.3
11.0	-15.6	6.0	-21.5
12.0	-3.1	5.0	-8.1
13.0	-6.7	4.2	-10.9
14.0	-12.7	3.3	-16.0
15.0	-17.4	2.6	-20.0
16.0	-23.4	1.9	-25.3
17.0	-16.6	1.2	-17.9
18.0	-14.4	0.6	-15.0
19.0	-19.6	0.0	-19.6
20.0	-10.9	-0.5	-10.3
21.0	-15.4	-1.1	-14.3
22.0	-4.5	-1.6	-3.0
23.0	-3.7	-2.0	-1.7
24.0	-5.9	-2.5	-3.4
25.0	-11.3	-2.9	-8.3
26.0	-7.7	-3.4	-4.3
27.0	-7.5	-3.8	-3.7
28.0	-13.5	-4.2	-9.3
29.0	-8.8	-4.6	-4.3
30.0	-7.2	-4.9	-2.3
31.0	-5.8	-5.3	-0.5
32.0	-9.8	-5.6	-4.2
33.0	-5.0	-6.0	0.9
34.0	-10.9	-6.3	-4.6
35.0	-9.4	-6.6	-2.8
36.0	-5.1	-6.9	1.9
37.0	-6.4	-7.2	0.8
38.0	-9.6	-7.5	-2.1
39.0	-9.4	-7.8	-1.6
40.0	-9.6	-8.1	-1.5
41.0	-12.3	-8.3	-4.0
42.0	-11.1	-8.6	-2.5
43.0	-11.7	-8.8	-2.9
44.0	-9.0	-9.1	0.1
45.0	-9.2	-9.3	0.1
46.0	-9.5	-9.6	0.1
47.0	-7.6	-9.8	2.2
48.0	-14.1	-10.0	-4.1
49.0	-10.6	-10.0	-0.6
50.0	-13.3	-10.0	-3.3
51.0	-21.6	-10.0	-11.6
52.0	-16.7	-10.0	-6.7
53.0	-14.1	-10.0	-4.1
54.0	-16.3	-10.0	-6.3
55.0	-19.5	-10.0	-9.5
56.0	-26.5	-10.0	-16.5
57.0	-23.2	-10.0	-13.2
58.0	-19.6	-10.0	-9.6
59.0	-25.0	-10.0	-15.0

Orbit Communication Systems Ltd.
AL-7107-Ka, 2.15 m Antenna, Pattern Data Table
Co-pol Azimuth LHCP, -180° to +180° @ 1.0° increment

-119.0	-26.2	0.0	-26.2
-118.0	-24.0	0.0	-24.0
-117.0	-26.3	0.0	-26.3
-116.0	-22.1	0.0	-22.1
-115.0	-27.4	0.0	-27.4
-114.0	-22.4	0.0	-22.4
-113.0	-17.6	0.0	-17.6
-112.0	-19.9	0.0	-19.9
-111.0	-17.4	0.0	-17.4
-110.0	-17.3	0.0	-17.3
-109.0	-27.4	0.0	-27.4
-108.0	-24.7	0.0	-24.7
-107.0	-25.2	0.0	-25.2
-106.0	-20.2	0.0	-20.2
-105.0	-20.5	0.0	-20.5
-104.0	-19.9	0.0	-19.9
-103.0	-20.1	0.0	-20.1
-102.0	-16.2	0.0	-16.2
-101.0	-23.3	0.0	-23.3
-100.0	-17.0	0.0	-17.0
-99.0	-20.0	0.0	-20.0
-98.0	-27.4	0.0	-27.4
-97.0	-23.7	0.0	-23.7
-96.0	-27.4	0.0	-27.4
-95.0	-19.7	0.0	-19.7
-94.0	-19.6	0.0	-19.6
-93.0	-22.6	0.0	-22.6
-92.0	-20.0	0.0	-20.0
-91.0	-18.8	0.0	-18.8
-90.0	-21.7	0.0	-21.7
-89.0	-27.2	0.0	-27.2
-88.0	-18.7	0.0	-18.7
-87.0	-15.9	0.0	-15.9
-86.0	-13.3	0.0	-13.3
-85.0	-13.3	-10.0	-3.3
-84.0	-15.3	-10.0	-5.3
-83.0	-20.2	-10.0	-10.2
-82.0	-20.2	-10.0	-10.2
-81.0	-12.7	-10.0	-2.7
-80.0	-12.8	-10.0	-2.8
-79.0	-10.3	-10.0	-0.3
-78.0	-9.3	-10.0	0.7
-77.0	-16.7	-10.0	-6.7
-76.0	-14.2	-10.0	-4.2
-75.0	-14.6	-10.0	-4.6
-74.0	-10.9	-10.0	-0.9
-73.0	-10.2	-10.0	-0.2
-72.0	-6.9	-10.0	3.1
-71.0	-6.7	-10.0	3.3
-70.0	-5.8	-10.0	4.2
-69.0	-6.8	-10.0	3.2
-68.0	-4.7	-10.0	5.3
-67.0	-4.6	-10.0	5.4
-66.0	-5.1	-10.0	4.9
-65.0	-6.4	-10.0	3.6
-64.0	-4.8	-10.0	5.2
-63.0	-6.9	-10.0	3.1
-62.0	-7.4	-10.0	2.6
-61.0	-9.4	-10.0	0.6
-60.0	-10.4	-10.0	-0.4
-59.0	-11.1	-10.0	-1.1
-58.0	-11.5	-10.0	-1.5
-57.0	-15.0	-10.0	-5.0

60.0	-22.4	-10.0	-12.4
61.0	-25.4	-10.0	-15.4
62.0	-24.5	-10.0	-14.5
63.0	-27.4	-10.0	-17.4
64.0	-18.1	-10.0	-8.1
65.0	-19.8	-10.0	-9.8
66.0	-27.4	-10.0	-17.4
67.0	-19.9	-10.0	-9.9
68.0	-25.1	-10.0	-15.1
69.0	-21.3	-10.0	-11.3
70.0	-20.3	-10.0	-10.3
71.0	-19.9	-10.0	-9.9
72.0	-16.1	-10.0	-6.1
73.0	-15.1	-10.0	-5.1
74.0	-17.3	-10.0	-7.3
75.0	-17.4	-10.0	-7.4
76.0	-19.9	-10.0	-9.9
77.0	-27.4	-10.0	-17.4
78.0	-20.4	-10.0	-10.4
79.0	-27.4	-10.0	-17.4
80.0	-21.5	-10.0	-11.5
81.0	-22.2	-10.0	-12.2
82.0	-23.5	-10.0	-13.5
83.0	-23.1	-10.0	-13.1
84.0	-26.5	-10.0	-16.5
85.0	-27.4	-10.0	-17.4
86.0	-25.4	0.0	-25.4
87.0	-21.5	0.0	-21.5
88.0	-19.6	0.0	-19.6
89.0	-25.7	0.0	-25.7
90.0	-18.6	0.0	-18.6
91.0	-25.0	0.0	-25.0
92.0	-26.8	0.0	-26.8
93.0	-27.4	0.0	-27.4
94.0	-18.2	0.0	-18.2
95.0	-25.1	0.0	-25.1
96.0	-22.6	0.0	-22.6
97.0	-24.3	0.0	-24.3
98.0	-25.3	0.0	-25.3
99.0	-27.3	0.0	-27.3
100.0	-19.9	0.0	-19.9
101.0	-21.8	0.0	-21.8
102.0	-24.4	0.0	-24.4
103.0	-22.8	0.0	-22.8
104.0	-22.2	0.0	-22.2
105.0	-19.6	0.0	-19.6
106.0	-24.5	0.0	-24.5
107.0	-23.1	0.0	-23.1
108.0	-23.4	0.0	-23.4
109.0	-24.9	0.0	-24.9
110.0	-23.0	0.0	-23.0
111.0	-24.6	0.0	-24.6
112.0	-19.7	0.0	-19.7
113.0	-24.1	0.0	-24.1
114.0	-25.2	0.0	-25.2
115.0	-22.9	0.0	-22.9
116.0	-23.2	0.0	-23.2
117.0	-27.1	0.0	-27.1
118.0	-25.0	0.0	-25.0
119.0	-27.0	0.0	-27.0
120.0	-27.4	0.0	-27.4
121.0	-26.7	0.0	-26.7
122.0	-21.1	0.0	-21.1

Orbit Communication Systems Ltd.
AL-7107-Ka, 2.15 m Antenna, Pattern Data Table
Co-pol Azimuth LHCP, -180° to +180° @ 1.0° increment

-56.0	-15.1	-10.0	-5.1
-55.0	-14.6	-10.0	-4.6
-54.0	-15.9	-10.0	-5.9
-53.0	-11.4	-10.0	-1.4
-52.0	-11.8	-10.0	-1.8
-51.0	-15.5	-10.0	-5.5
-50.0	-15.8	-10.0	-5.8
-49.0	-16.5	-10.0	-6.5
-48.0	-20.7	-10.0	-10.7
-47.0	-27.4	-9.8	-17.6
-46.0	-14.0	-9.6	-4.4
-45.0	-15.7	-9.3	-6.4
-44.0	-12.7	-9.1	-3.6
-43.0	-18.4	-8.8	-9.6
-42.0	-16.2	-8.6	-7.6
-41.0	-17.4	-8.3	-9.0
-40.0	-16.9	-8.1	-8.9
-39.0	-22.9	-7.8	-15.1
-38.0	-22.0	-7.5	-14.5
-37.0	-18.9	-7.2	-11.7
-36.0	-14.3	-6.9	-7.4
-35.0	-18.4	-6.6	-11.8
-34.0	-15.6	-6.3	-9.3
-33.0	-16.2	-6.0	-10.2
-32.0	-17.3	-5.6	-11.6
-31.0	-19.6	-5.3	-14.3
-30.0	-14.8	-4.9	-9.9
-29.0	-18.2	-4.6	-13.7
-28.0	-19.4	-4.2	-15.2
-27.0	-21.4	-3.8	-17.6
-26.0	-21.2	-3.4	-17.8
-25.0	-10.8	-2.9	-7.8
-24.0	-19.7	-2.5	-17.2
-23.0	-18.1	-2.0	-16.1
-22.0	-19.3	-1.6	-17.8
-21.0	-19.3	-1.1	-18.2
-20.0	-18.0	-0.5	-17.5
-19.0	-20.8	0.0	-20.8
-18.0	-19.2	0.6	-19.8
-17.0	-18.9	1.2	-20.2
-16.0	-8.8	1.9	-10.7
-15.0	-22.5	2.6	-25.1
-14.0	-12.8	3.3	-16.2
-13.0	-10.9	4.2	-15.1
-12.0	-12.0	5.0	-17.1
-11.0	-6.4	6.0	-12.4
-10.0	-3.1	7.0	-10.1
-9.0	-8.1	8.0	-16.1
-8.0	-7.7	8.0	-15.7
-7.0	-2.7	7.9	-10.5
-6.0	0.8	9.5	-8.8
-5.0	-8.5	11.5	-20.0
-4.0	-5.6	13.9	-19.6
-3.0	7.9	17.1	-9.2
-2.0	4.7	21.5	-16.7
-1.0	17.2		
0.0	52.6		

123.0	-25.5	0.0	-25.5
124.0	-22.2	0.0	-22.2
125.0	-19.5	0.0	-19.5
126.0	-27.4	0.0	-27.4
127.0	-24.9	0.0	-24.9
128.0	-21.7	0.0	-21.7
129.0	-25.5	0.0	-25.5
130.0	-21.6	0.0	-21.6
131.0	-26.1	0.0	-26.1
132.0	-27.4	0.0	-27.4
133.0	-27.4	0.0	-27.4
134.0	-25.8	0.0	-25.8
135.0	-27.1	0.0	-27.1
136.0	-26.9	0.0	-26.9
137.0	-27.4	0.0	-27.4
138.0	-21.9	0.0	-21.9
139.0	-24.9	0.0	-24.9
140.0	-22.5	0.0	-22.5
141.0	-20.8	0.0	-20.8
142.0	-27.4	0.0	-27.4
143.0	-25.8	0.0	-25.8
144.0	-27.4	0.0	-27.4
145.0	-27.4	0.0	-27.4
146.0	-24.8	0.0	-24.8
147.0	-23.5	0.0	-23.5
148.0	-27.4	0.0	-27.4
149.0	-23.6	0.0	-23.6
150.0	-23.9	0.0	-23.9
151.0	-27.1	0.0	-27.1
152.0	-26.7	0.0	-26.7
153.0	-22.1	0.0	-22.1
154.0	-27.4	0.0	-27.4
155.0	-18.6	0.0	-18.6
156.0	-27.4	0.0	-27.4
157.0	-27.4	0.0	-27.4
158.0	-27.4	0.0	-27.4
159.0	-25.5	0.0	-25.5
160.0	-25.5	0.0	-25.5
161.0	-20.0	0.0	-20.0
162.0	-26.2	0.0	-26.2
163.0	-20.2	0.0	-20.2
164.0	-24.1	0.0	-24.1
165.0	-27.4	0.0	-27.4
166.0	-24.5	0.0	-24.5
167.0	-27.4	0.0	-27.4
168.0	-27.4	0.0	-27.4
169.0	-27.4	0.0	-27.4
170.0	-27.0	0.0	-27.0
171.0	-26.5	0.0	-26.5
172.0	-27.4	0.0	-27.4
173.0	-27.4	0.0	-27.4
174.0	-22.7	0.0	-22.7
175.0	-24.8	0.0	-24.8
176.0	-23.7	0.0	-23.7
177.0	-27.4	0.0	-27.4
178.0	-27.4	0.0	-27.4
179.0	-23.9	0.0	-23.9

Orbit Communication Systems Ltd.

AL AL-7107-Ka, 2.15 m Antenna, Pattern Data Table
Co-pol Azimuth LHCP, -10° to +10° @ 0.1° increment

29.15 GHz Antenna Pattern in Co-pol Az LHCP

Angle	Gain	Mask	Over Mask
Degrees	dBi	dBi	dB
-10.0	-3.1	7.0	-10.1
-9.9	-1.1	7.1	-8.2
-9.8	0.0	7.2	-7.2
-9.7	-0.9	7.3	-8.2
-9.6	-3.1	7.4	-10.6
-9.5	-5.3	7.6	-12.9
-9.4	-4.9	7.7	-12.6
-9.3	-3.9	7.8	-11.7
-9.2	-7.4	8.0	-15.4
-9.1	-21.4	8.0	-29.4
-9.0	-8.1	8.0	-16.1
-8.9	-10.1	8.0	-18.1
-8.8	-15.8	8.0	-23.8
-8.7	-13.9	8.0	-21.9
-8.6	-12.0	8.0	-20.0
-8.5	-10.7	8.0	-18.7
-8.4	-11.6	8.0	-19.6
-8.3	-22.0	8.0	-30.0
-8.2	-11.0	8.0	-19.0
-8.1	-8.0	8.0	-16.0
-8.0	-7.7	8.0	-15.7
-7.9	-5.5	8.0	-13.5
-7.8	-4.3	8.0	-12.3
-7.7	-1.4	8.0	-9.4
-7.6	-0.2	8.0	-8.2
-7.5	-1.4	8.0	-9.4
-7.4	-1.9	8.0	-9.9
-7.3	0.6	8.0	-7.4
-7.2	1.2	8.0	-6.8
-7.1	0.6	8.0	-7.4
-7.0	-2.7	7.9	-10.5
-6.9	1.6	8.0	-6.5
-6.8	4.5	8.2	-3.7
-6.7	4.1	8.3	-4.2
-6.6	0.3	8.5	-8.2
-6.5	-0.8	8.7	-9.4
-6.4	1.1	8.8	-7.7
-6.3	2.0	9.0	-7.0
-6.2	2.1	9.2	-7.1
-6.1	1.7	9.4	-7.7
-6.0	0.8	9.5	-8.8
-5.9	-4.8	9.7	-14.5
-5.8	-9.4	9.9	-19.4
-5.7	-9.5	10.1	-19.6
-5.6	-11.1	10.3	-21.4
-5.5	-4.8	10.5	-15.3
-5.4	-6.1	10.7	-16.8
-5.3	-11.4	10.9	-22.3
-5.2	-0.5	11.1	-11.6
-5.1	0.5	11.3	-10.8
-5.0	-8.5	11.5	-20.0
-4.9	0.6	11.7	-11.1
-4.8	3.9	12.0	-8.1
-4.7	3.7	12.2	-8.5
-4.6	-0.2	12.4	-12.7
-4.5	2.0	12.7	-10.7
-4.4	6.2	12.9	-6.7
-4.3	6.8	13.2	-6.4
-4.2	3.1	13.4	-10.3
-4.1	-6.1	13.7	-19.8

29.15 GHz Antenna Pattern in Co-pol Az LHCP

Angle	Gain	Mask	Over Mask
Degrees	dBi	dBi	dB
0.0	52.6		
0.1	52.1		
0.2	49.8		
0.3	45.8		
0.4	41.1		
0.5	36.3		
0.6	30.2		
0.7	30.3		
0.8	30.7		
0.9	27.6		
1.0	15.7		
1.1	16.3		
1.2	13.9		
1.3	11.0		
1.4	16.1		
1.5	15.6	24.6	-9.0
1.6	17.2	23.9	-6.7
1.7	17.8	23.2	-5.4
1.8	15.5	22.6	-7.1
1.9	11.3	22.0	-10.7
2.0	10.0	21.5	-11.5
2.1	3.6	20.9	-17.4
2.2	1.7	20.4	-18.7
2.3	6.1	20.0	-13.9
2.4	5.7	19.5	-13.8
2.5	5.5	19.1	-13.5
2.6	2.4	18.6	-16.2
2.7	-0.1	18.2	-18.3
2.8	5.3	17.8	-12.5
2.9	7.2	17.4	-10.2
3.0	9.1	17.1	-8.0
3.1	9.3	16.7	-7.4
3.2	5.0	16.4	-11.4
3.3	-8.7	16.0	-24.8
3.4	-5.4	15.7	-21.1
3.5	-8.2	15.4	-23.6
3.6	4.0	15.1	-11.1
3.7	6.1	14.8	-8.7
3.8	3.6	14.5	-10.9
3.9	-6.5	14.2	-20.8
4.0	-4.1	13.9	-18.1
4.1	0.1	13.7	-13.6
4.2	2.2	13.4	-11.2
4.3	1.7	13.2	-11.4
4.4	0.7	12.9	-12.2
4.5	-1.2	12.7	-13.8
4.6	-4.5	12.4	-17.0
4.7	-4.3	12.2	-16.5
4.8	-2.6	12.0	-14.5
4.9	-7.5	11.7	-19.3
5.0	-10.4	11.5	-21.9
5.1	-4.9	11.3	-16.2
5.2	-5.1	11.1	-16.2
5.3	0.3	10.9	-10.6
5.4	3.7	10.7	-7.0
5.5	2.2	10.5	-8.3
5.6	-1.1	10.3	-11.4
5.7	-5.4	10.1	-15.5
5.8	-6.4	9.9	-16.3
5.9	-2.4	9.7	-12.1

Orbit Communication Systems Ltd.
 AL AL-7107-Ka, 2.15 m Antenna, Pattern Data Table
 Co-pol Azimuth LHCP, -10° to +10° @ 0.1° increment

-4.0	-5.6	13.9	-19.6
-3.9	6.4	14.2	-7.8
-3.8	11.2	14.5	-3.3
-3.7	11.7	14.8	-3.1
-3.6	8.0	15.1	-7.1
-3.5	-3.3	15.4	-18.7
-3.4	6.3	15.7	-9.4
-3.3	7.0	16.0	-9.0
-3.2	5.1	16.4	-11.2
-3.1	6.4	16.7	-10.3
-3.0	7.9	17.1	-9.2
-2.9	6.3	17.4	-11.1
-2.8	9.1	17.8	-8.7
-2.7	11.5	18.2	-6.7
-2.6	10.4	18.6	-8.3
-2.5	5.3	19.1	-13.8
-2.4	-2.4	19.5	-21.9
-2.3	-3.5	20.0	-23.5
-2.2	4.1	20.4	-16.4
-2.1	2.6	20.9	-18.3
-2.0	4.7	21.5	-16.7
-1.9	10.5	22.0	-11.5
-1.8	9.6	22.6	-13.0
-1.7	3.7	23.2	-19.6
-1.6	4.3	23.9	-19.6
-1.5	3.1	24.6	-21.5
-1.4	15.0		
-1.3	18.8		
-1.2	19.0		
-1.1	19.0		
-1.0	17.2		
-0.9	11.0		
-0.8	15.9		
-0.7	14.0		
-0.6	23.0		
-0.5	32.8		
-0.4	39.9		
-0.3	45.8		
-0.2	49.9		
-0.1	52.1		
0.0	52.6		

6.0	0.3	9.5	-9.2
6.1	-0.4	9.4	-9.7
6.2	1.4	9.2	-7.8
6.3	0.7	9.0	-8.3
6.4	1.7	8.8	-7.2
6.5	3.3	8.7	-5.4
6.6	4.2	8.5	-4.3
6.7	3.2	8.3	-5.2
6.8	1.1	8.2	-7.1
6.9	-3.6	8.0	-11.6
7.0	-14.1	7.9	-21.9
7.1	-2.0	8.0	-10.0
7.2	-1.5	8.0	-9.5
7.3	-3.8	8.0	-11.8
7.4	-8.8	8.0	-16.8
7.5	-6.5	8.0	-14.5
7.6	-4.2	8.0	-12.2
7.7	-1.8	8.0	-9.8
7.8	-3.3	8.0	-11.3
7.9	-6.4	8.0	-14.4
8.0	-5.4	8.0	-13.4
8.1	-2.0	8.0	-10.0
8.2	-2.9	8.0	-10.9
8.3	-2.0	8.0	-10.0
8.4	-2.3	8.0	-10.3
8.5	-5.0	8.0	-13.0
8.6	-11.5	8.0	-19.5
8.7	-15.8	8.0	-23.8
8.8	-13.6	8.0	-21.6
8.9	-4.8	8.0	-12.8
9.0	-3.3	8.0	-11.3
9.1	-3.1	8.0	-11.1
9.2	-6.1	8.0	-14.1
9.3	-3.4	7.8	-11.1
9.4	-1.0	7.7	-8.6
9.5	-1.4	7.6	-8.9
9.6	-1.7	7.4	-9.2
9.7	-6.2	7.3	-13.6
9.8	-12.8	7.2	-20.0
9.9	-14.5	7.1	-21.6
10.0	-5.3	7.0	-12.3

Orbit Communication Systems Ltd.
AL-7107-Ka, 2.15 m Antenna, Pattern Data Table
Co-pol Elevation LHCP, -30° to +30° @ 0.5° increment

29.15 GHz Antenna Pattern in Co-pol EI LHCP

Angle Degrees	Gain dBi	Mask dBi	Over Mask dB
-30.0	-7.6	-4.9	-2.7
-29.5	-9.3	-4.7	-4.5
-29.0	-9.0	-4.6	-4.5
-28.5	-7.4	-4.4	-3.1
-28.0	-9.3	-4.2	-5.1
-27.5	-13.4	-4.0	-9.4
-27.0	-12.8	-3.8	-9.1
-26.5	-12.4	-3.6	-8.8
-26.0	-7.6	-3.4	-4.2
-25.5	-7.8	-3.2	-4.7
-25.0	-13.4	-2.9	-10.4
-24.5	-5.6	-2.7	-2.8
-24.0	-8.2	-2.5	-5.7
-23.5	-14.3	-2.3	-12.0
-23.0	-14.6	-2.0	-12.5
-22.5	-18.2	-1.8	-16.4
-22.0	-16.2	-1.6	-14.6
-21.5	-6.2	-1.3	-4.9
-21.0	-6.2	-1.1	-5.1
-20.5	-6.1	-0.8	-5.3
-20.0	-2.2	-0.5	-1.7
-19.5	-0.5	-0.3	-0.3
-19.0	-0.5	0.0	-0.5
-18.5	-2.6	0.3	-2.9
-18.0	-5.4	0.6	-6.0
-17.5	-12.2	0.9	-13.1
-17.0	-11.4	1.2	-12.6
-16.5	-11.3	1.6	-12.8
-16.0	-19.4	1.9	-21.3
-15.5	-11.4	2.2	-13.6
-15.0	-4.8	2.6	-7.4
-14.5	-10.5	3.0	-13.5
-14.0	-4.3	3.3	-7.7
-13.5	-9.2	3.7	-12.9
-13.0	-6.5	4.2	-10.6
-12.5	-4.3	4.6	-8.9
-12.0	-15.5	5.0	-20.5
-11.5	-5.2	5.5	-10.7
-11.0	-6.8	6.0	-12.8
-10.5	-6.6	6.5	-13.1
-10.0	-9.6	7.0	-16.6
-9.5	-4.5	7.6	-12.1
-9.0	-5.3	8.1	-13.4
-8.5	-10.2	8.8	-19.0
-8.0	-2.9	9.4	-12.4
-7.5	-7.3	10.1	-17.4
-7.0	1.0	10.9	-9.8
-6.5	1.0	11.7	-10.7
-6.0	1.3	12.5	-11.2
-5.5	-0.8	13.5	-14.3
-5.0	3.8	14.5	-10.7
-4.5	4.6	15.7	-11.0
-4.0	10.0	16.9	-6.9
-3.5	8.8	18.4	-9.6
-3.0	-1.5		
-2.5	11.3		
-2.0	11.7		
-1.5	18.8		
-1.0	22.6		
-0.5	34.4		
0.0	52.6		

29.15 GHz Antenna Pattern in Co-pol EI LHCP

Angle Degrees	Gain dBi	Mask dBi	Over Mask dB
0.0	52.6		
0.5	37.1		
1.0	18.1		
1.5	10.2		
2.0	10.3		
2.5	6.9		
3.0	1.1		
3.5	12.4	18.4	-6.0
4.0	14.0	16.9	-2.9
4.5	2.9	15.7	-12.8
5.0	10.3	14.5	-4.3
5.5	2.8	13.5	-10.7
6.0	-3.4	12.5	-16.0
6.5	2.4	11.7	-9.3
7.0	-4.1	10.9	-15.0
7.5	-11.7	10.1	-21.8
8.0	-7.8	9.4	-17.2
8.5	-7.8	8.8	-16.5
9.0	-7.6	8.1	-15.7
9.5	-5.3	7.6	-12.9
10.0	1.0	7.0	-6.0
10.5	-8.9	6.5	-15.3
11.0	-5.1	6.0	-11.0
11.5	-6.7	5.5	-12.1
12.0	-10.0	5.0	-15.0
12.5	-2.5	4.6	-7.1
13.0	-3.9	4.2	-8.1
13.5	-8.1	3.7	-11.8
14.0	-19.9	3.3	-23.2
14.5	-14.1	3.0	-17.0
15.0	-12.9	2.6	-15.5
15.5	-23.7	2.2	-25.9
16.0	-25.9	1.9	-27.8
16.5	-11.2	1.6	-12.8
17.0	-14.8	1.2	-16.1
17.5	-15.9	0.9	-16.8
18.0	-12.5	0.6	-13.2
18.5	-11.1	0.3	-11.4
19.0	-26.4	0.0	-26.5
19.5	-10.5	-0.3	-10.3
20.0	-15.3	-0.5	-14.8
20.5	-15.6	-0.8	-14.8
21.0	-14.4	-1.1	-13.4
21.5	-16.2	-1.3	-14.8
22.0	-16.7	-1.6	-15.2
22.5	-14.3	-1.8	-12.5
23.0	-18.5	-2.0	-16.4
23.5	-15.9	-2.3	-13.6
24.0	-20.1	-2.5	-17.6
24.5	-26.6	-2.7	-23.9
25.0	-22.3	-2.9	-19.3
25.5	-20.3	-3.2	-17.2
26.0	-21.3	-3.4	-17.9
26.5	-18.1	-3.6	-14.5
27.0	-19.6	-3.8	-15.8
27.5	-20.4	-4.0	-16.4
28.0	-22.4	-4.2	-18.3
28.5	-23.5	-4.4	-19.2
29.0	-22.5	-4.6	-17.9
29.5	-21.3	-4.7	-16.5
30.0	-18.5	-4.9	-13.6

Orbit Communication Systems Ltd.
AL-7107-Ka, 2.15 m Antenna, Pattern Data Table
Co-pol Elevation LHCP, -10° to +10° @ 0.1° increment

29.15 GHz Antenna Pattern in Co-pol EI LHCP

Angle Degrees	Gain dBi	Mask dBi	Over Mask dB
-10.0	-9.6	7.0	-16.6
-9.9	-17.7	7.1	-24.8
-9.8	-11.4	7.2	-18.6
-9.7	-3.5	7.3	-10.8
-9.6	-2.1	7.4	-9.5
-9.5	-4.5	7.6	-12.1
-9.4	-10.7	7.7	-18.4
-9.3	-12.1	7.8	-19.9
-9.2	-9.6	7.9	-17.5
-9.1	-10.0	8.0	-18.0
-9.0	-5.3	8.1	-13.4
-8.9	-3.8	8.3	-12.1
-8.8	-2.5	8.4	-10.9
-8.7	-2.0	8.5	-10.5
-8.6	-3.3	8.6	-11.9
-8.5	-10.2	8.8	-19.0
-8.4	-8.5	8.9	-17.4
-8.3	-7.6	9.0	-16.6
-8.2	-5.2	9.2	-14.4
-8.1	-4.4	9.3	-13.7
-8.0	-2.9	9.4	-12.4
-7.9	-2.1	9.6	-11.6
-7.8	-1.8	9.7	-11.5
-7.7	-2.6	9.8	-12.4
-7.6	-5.3	10.0	-15.3
-7.5	-7.3	10.1	-17.4
-7.4	-7.0	10.3	-17.2
-7.3	-8.7	10.4	-19.1
-7.2	-12.2	10.6	-22.8
-7.1	-4.4	10.7	-15.2
-7.0	1.0	10.9	-9.8
-6.9	2.1	11.0	-8.9
-6.8	-0.1	11.2	-11.3
-6.7	-7.6	11.3	-18.9
-6.6	0.9	11.5	-10.6
-6.5	1.0	11.7	-10.7
-6.4	-1.6	11.8	-13.4
-6.3	-7.1	12.0	-19.1
-6.2	-2.5	12.2	-14.7
-6.1	-0.2	12.4	-12.5
-6.0	1.3	12.5	-11.2
-5.9	-0.1	12.7	-12.9
-5.8	-2.4	12.9	-15.3
-5.7	0.6	13.1	-12.5
-5.6	1.5	13.3	-11.8
-5.5	-0.8	13.5	-14.3
-5.4	-4.5	13.7	-18.2
-5.3	-6.0	13.9	-19.9
-5.2	-6.5	14.1	-20.6
-5.1	0.6	14.3	-13.7
-5.0	3.8	14.5	-10.7
-4.9	3.7	14.7	-11.0
-4.8	4.1	15.0	-10.8
-4.7	4.6	15.2	-10.6
-4.6	5.7	15.4	-9.7
-4.5	4.6	15.7	-11.0
-4.4	-1.7	15.9	-17.6
-4.3	3.0	16.2	-13.2
-4.2	8.4	16.4	-8.0
-4.1	10.1	16.7	-6.6

29.15 GHz Antenna Pattern in Co-pol EI LHCP

Angle Degrees	Gain dBi	Mask dBi	Over Mask dB
0.0	52.6		
0.1	51.8		
0.2	49.1		
0.3	44.3		
0.4	39.7		
0.5	37.1		
0.6	32.5		
0.7	22.0		
0.8	10.3		
0.9	6.1		
1.0	18.1		
1.1	19.5		
1.2	12.7		
1.3	9.6		
1.4	11.9		
1.5	10.2		
1.6	13.7		
1.7	13.7		
1.8	11.3		
1.9	10.3		
2.0	10.3		
2.1	12.7		
2.2	13.9		
2.3	12.6		
2.4	9.6		
2.5	6.9		
2.6	0.5		
2.7	-7.7		
2.8	-1.3		
2.9	3.1		
3.0	1.1		
3.1	0.5		
3.2	9.8		
3.3	12.5		
3.4	13.5		
3.5	12.4	18.4	-6.0
3.6	10.5	18.1	-7.6
3.7	11.3	17.8	-6.5
3.8	13.0	17.5	-4.5
3.9	13.5	17.2	-3.7
4.0	14.0	16.9	-2.9
4.1	13.7	16.7	-3.0
4.2	12.4	16.4	-4.0
4.3	8.2	16.2	-8.0
4.4	2.3	15.9	-13.6
4.5	2.9	15.7	-12.8
4.6	4.6	15.4	-10.8
4.7	6.3	15.2	-8.9
4.8	7.5	15.0	-7.5
4.9	9.7	14.7	-5.0
5.0	10.3	14.5	-4.3
5.1	8.1	14.3	-6.2
5.2	1.7	14.1	-12.4
5.3	-2.9	13.9	-16.8
5.4	2.9	13.7	-10.8
5.5	2.8	13.5	-10.7
5.6	-1.2	13.3	-14.5
5.7	-5.2	13.1	-18.3
5.8	-3.3	12.9	-16.2
5.9	-1.1	12.7	-13.9

Orbit Communication Systems Ltd.
 AL-7107-Ka, 2.15 m Antenna, Pattern Data Table
 Co-pol Elevation LHCP, -10° to +10° @ 0.1° increment

-4.0	10.0	16.9	-6.9
-3.9	6.3	17.2	-10.9
-3.8	-10.6	17.5	-28.1
-3.7	6.6	17.8	-11.2
-3.6	9.2	18.1	-8.9
-3.5	8.8	18.4	-9.6
-3.4	7.1		
-3.3	1.2		
-3.2	-4.8		
-3.1	3.4		
-3.0	-1.5		
-2.9	9.3		
-2.8	14.5		
-2.7	15.4		
-2.6	13.3		
-2.5	11.3		
-2.4	12.8		
-2.3	13.8		
-2.2	13.9		
-2.1	13.2		
-2.0	11.7		
-1.9	9.8		
-1.8	7.7		
-1.7	11.8		
-1.6	15.8		
-1.5	18.8		
-1.4	18.3		
-1.3	13.1		
-1.2	20.5		
-1.1	23.5		
-1.0	22.6		
-0.9	21.9		
-0.8	25.1		
-0.7	27.9		
-0.6	31.9		
-0.5	34.4		
-0.4	39.2		
-0.3	45.7		
-0.2	50.0		
-0.1	52.2		
0.0	52.6		

6.0	-3.4	12.5	-16.0
6.1	-9.0	12.4	-21.4
6.2	-8.7	12.2	-20.9
6.3	-4.5	12.0	-16.5
6.4	0.8	11.8	-11.0
6.5	2.4	11.7	-9.3
6.6	1.9	11.5	-9.6
6.7	-0.2	11.3	-11.5
6.8	-2.0	11.2	-13.2
6.9	-6.0	11.0	-17.1
7.0	-4.1	10.9	-15.0
7.1	-0.8	10.7	-11.5
7.2	-1.0	10.6	-11.6
7.3	-2.8	10.4	-13.2
7.4	-3.9	10.3	-14.2
7.5	-11.7	10.1	-21.8
7.6	-5.7	10.0	-15.7
7.7	-1.5	9.8	-11.4
7.8	-1.8	9.7	-11.5
7.9	-3.7	9.6	-13.3
8.0	-7.8	9.4	-17.2
8.1	-10.5	9.3	-19.8
8.2	-27.1	9.2	-36.3
8.3	-10.9	9.0	-19.9
8.4	-5.2	8.9	-14.1
8.5	-7.8	8.8	-16.5
8.6	-12.7	8.6	-21.4
8.7	-9.5	8.5	-18.0
8.8	-8.7	8.4	-17.1
8.9	-7.6	8.3	-15.9
9.0	-7.6	8.1	-15.7
9.1	-12.3	8.0	-20.3
9.2	-16.6	7.9	-24.5
9.3	-20.1	7.8	-27.9
9.4	-10.2	7.7	-17.8
9.5	-5.3	7.6	-12.9
9.6	-2.7	7.4	-10.1
9.7	-0.2	7.3	-7.5
9.8	1.6	7.2	-5.7
9.9	2.1	7.1	-5.0
10.0	1.0	7.0	-6.0

Orbit Communication Systems Ltd.
AL-7107-Ka, 2.15 m Antenna, Pattern Data Table
X-pol Azimuth LHCP, -10° to +10° @ 0.1° increment

29.15 GHz Antenna Pattern in X-pol Az LHCP

Angle Degrees	Gain dBi	Mask dBi	Over Mask dB
-10.0	-10.4	-2.0	-8.4
-9.9	-9.1	-2.0	-7.1
-9.8	-11.5	-2.0	-9.5
-9.7	-11.2	-2.0	-9.2
-9.6	-10.6	-2.0	-8.6
-9.5	-8.6	-2.0	-6.6
-9.4	-9.9	-2.0	-7.9
-9.3	-8.2	-2.0	-6.2
-9.2	-7.5	-2.0	-5.5
-9.1	-5.4	-2.0	-3.4
-9.0	-6.6	-2.0	-4.6
-8.9	-6.9	-2.0	-4.9
-8.8	-8.2	-2.0	-6.2
-8.7	-11.3	-2.0	-9.3
-8.6	-14.3	-2.0	-12.3
-8.5	-10.0	-2.0	-8.0
-8.4	-8.8	-2.0	-6.8
-8.3	-12.3	-2.0	-10.3
-8.2	-15.4	-2.0	-13.4
-8.1	-18.6	-2.0	-16.6
-8.0	-16.6	-2.0	-14.6
-7.9	-16.9	-2.0	-14.9
-7.8	-20.4	-2.0	-18.4
-7.7	-17.4	-2.0	-15.4
-7.6	-11.9	-2.0	-9.9
-7.5	-9.7	-2.0	-7.7
-7.4	-10.0	-2.0	-8.0
-7.3	-12.4	-2.0	-10.4
-7.2	-6.7	-2.0	-4.7
-7.1	-2.1	-2.0	-0.1
-7.0	-0.2	-2.1	1.9
-6.9	-0.8	-2.0	1.2
-6.8	-3.2	-1.8	-1.4
-6.7	-8.4	-1.7	-6.8
-6.6	-11.1	-1.5	-9.6
-6.5	-10.6	-1.3	-9.3
-6.4	-9.6	-1.2	-8.5
-6.3	-18.9	-1.0	-17.9
-6.2	-15.4	-0.8	-14.6
-6.1	-11.1	-0.6	-10.5
-6.0	-11.2	-0.5	-10.8
-5.9	-17.2	-0.3	-17.0
-5.8	-22.1	-0.1	-22.0
-5.7	-16.6	0.1	-16.7
-5.6	-9.7	0.3	-10.0
-5.5	-5.5	0.5	-6.0
-5.4	-2.7	0.7	-3.4
-5.3	-1.1	0.9	-2.0
-5.2	-3.2	1.1	-4.3
-5.1	-16.4	1.3	-17.7
-5.0	-5.2	1.5	-6.7
-4.9	-1.5	1.7	-3.3
-4.8	-3.9	2.0	-5.9
-4.7	-9.9	2.2	-12.1
-4.6	-5.1	2.4	-7.6
-4.5	-3.6	2.7	-6.2
-4.4	-6.0	2.9	-8.9
-4.3	-8.2	3.2	-11.3
-4.2	-6.3	3.4	-9.7
-4.1	-2.4	3.7	-6.1

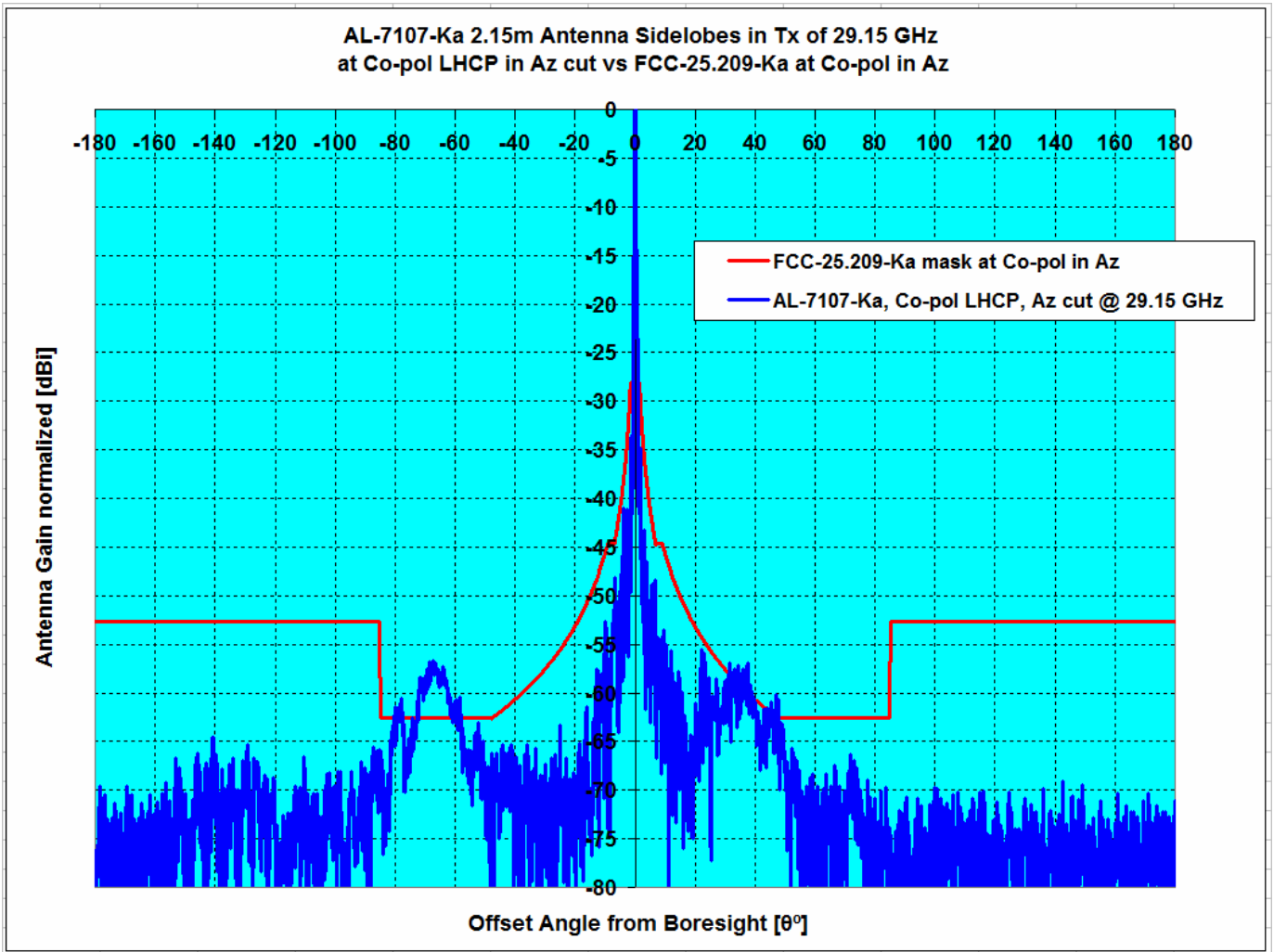
29.15 GHz Antenna Pattern in X-pol Az LHCP

Angle Degrees	Gain dBi	Mask dBi	Over Mask dB
0.0	23.4		
0.1	20.7		
0.2	24.2		
0.3	28.3		
0.4	29.1		
0.5	28.1		
0.6	24.4		
0.7	17.2		
0.8	1.4		
0.9	10.6		
1.0	14.3		
1.1	14.1		
1.2	12.7		
1.3	13.1		
1.4	12.9		
1.5	11.1		
1.6	7.5		
1.7	5.6		
1.8	3.2	12.6	-9.4
1.9	0.6	12.0	-11.5
2.0	-0.1	11.5	-11.5
2.1	1.3	10.9	-9.7
2.2	2.3	10.4	-8.2
2.3	0.8	10.0	-9.1
2.4	-2.4	9.5	-11.9
2.5	-7.9	9.1	-16.9
2.6	-6.7	8.6	-15.3
2.7	-3.6	8.2	-11.8
2.8	-5.5	7.8	-13.3
2.9	-8.3	7.4	-15.7
3.0	-4.3	7.1	-11.4
3.1	-6.3	6.7	-13.0
3.2	-8.8	6.4	-15.2
3.3	-7.8	6.0	-13.9
3.4	-6.4	5.7	-12.1
3.5	-5.9	5.4	-11.3
3.6	-2.8	5.1	-7.9
3.7	-4.1	4.8	-8.9
3.8	-8.8	4.5	-13.3
3.9	-6.5	4.2	-10.7
4.0	-4.4	3.9	-8.3
4.1	-7.6	3.7	-11.3
4.2	-12.4	3.4	-15.8
4.3	-10.9	3.2	-14.0
4.4	-11.2	2.9	-14.1
4.5	-9.0	2.7	-11.7
4.6	-5.9	2.4	-8.3
4.7	-6.2	2.2	-8.4
4.8	-7.9	2.0	-9.9
4.9	-9.3	1.7	-11.0
5.0	-7.5	1.5	-9.0
5.1	-8.9	1.3	-10.2
5.2	-9.5	1.1	-10.6
5.3	-14.1	0.9	-15.0
5.4	-21.2	0.7	-21.9
5.5	-10.5	0.5	-11.0
5.6	-8.1	0.3	-8.4
5.7	-12.3	0.1	-12.5
5.8	-12.7	-0.1	-12.6
5.9	-11.6	-0.3	-11.3

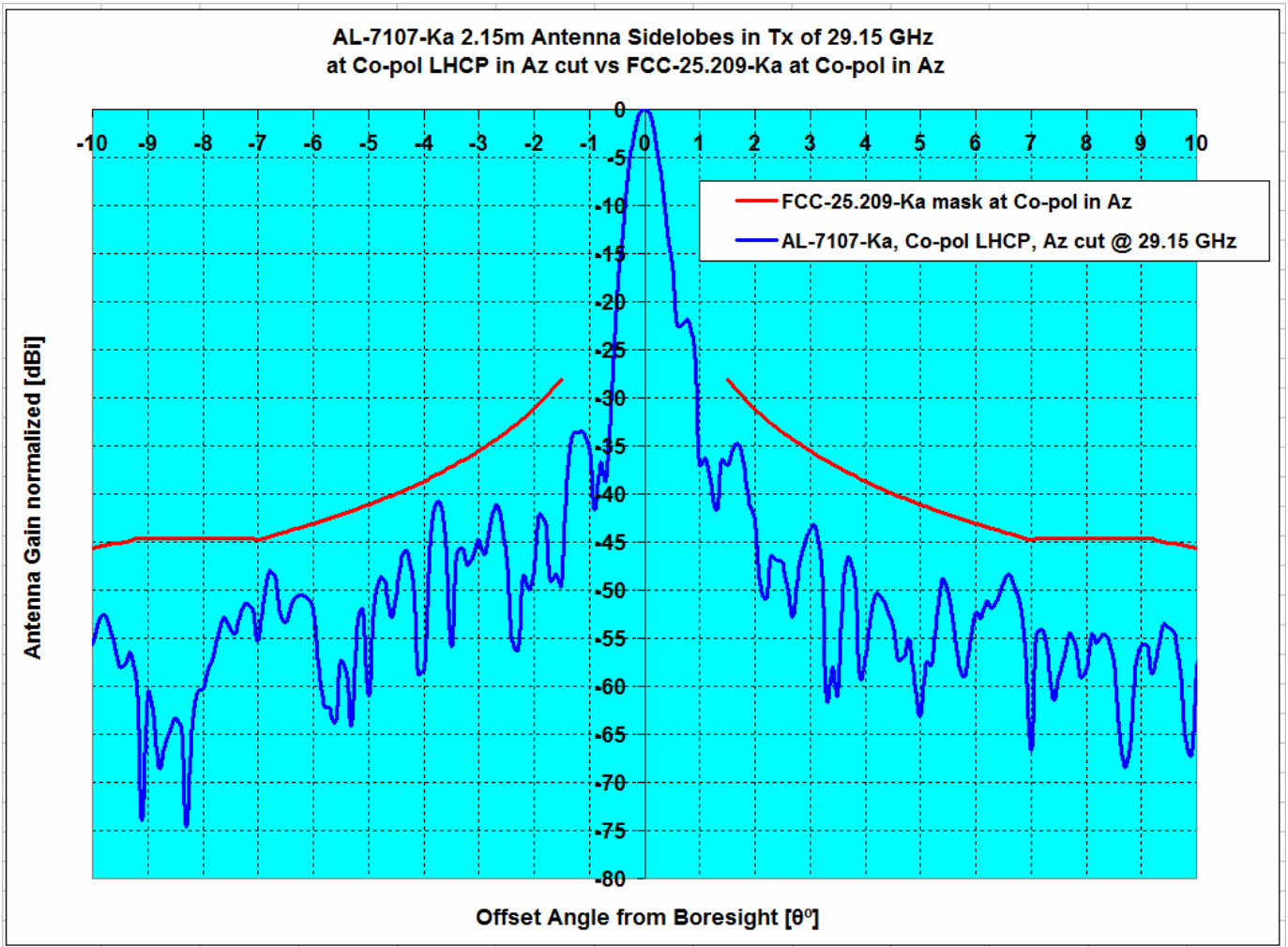
Orbit Communication Systems Ltd.
AL-7107-Ka, 2.15 m Antenna, Pattern Data Table
X-pol Azimuth LHCP, -10° to +10° @ 0.1° increment

-4.0	-3.3	3.9	-7.3
-3.9	-7.5	4.2	-11.7
-3.8	-13.7	4.5	-18.2
-3.7	-22.0	4.8	-26.8
-3.6	-8.9	5.1	-14.0
-3.5	-4.1	5.4	-9.5
-3.4	-1.8	5.7	-7.5
-3.3	-0.9	6.0	-6.9
-3.2	-4.4	6.4	-10.8
-3.1	-12.1	6.7	-18.8
-3.0	-5.9	7.1	-13.0
-2.9	-5.1	7.4	-12.6
-2.8	-6.9	7.8	-14.8
-2.7	-14.4	8.2	-22.6
-2.6	-9.1	8.6	-17.7
-2.5	-4.8	9.1	-13.9
-2.4	-5.5	9.5	-15.0
-2.3	-22.3	10.0	-32.3
-2.2	-11.2	10.4	-21.6
-2.1	-10.6	10.9	-21.5
-2.0	-5.6	11.5	-17.0
-1.9	-1.6	12.0	-13.7
-1.8	-2.8	12.6	-15.5
-1.7	2.7		
-1.6	7.4		
-1.5	9.8		
-1.4	11.1		
-1.3	11.8		
-1.2	12.2		
-1.1	12.9		
-1.0	13.5		
-0.9	13.5		
-0.8	10.7		
-0.7	14.4		
-0.6	23.9		
-0.5	28.6		
-0.4	30.3		
-0.3	30.1		
-0.2	27.9		
-0.1	24.5		
0.0	23.4		

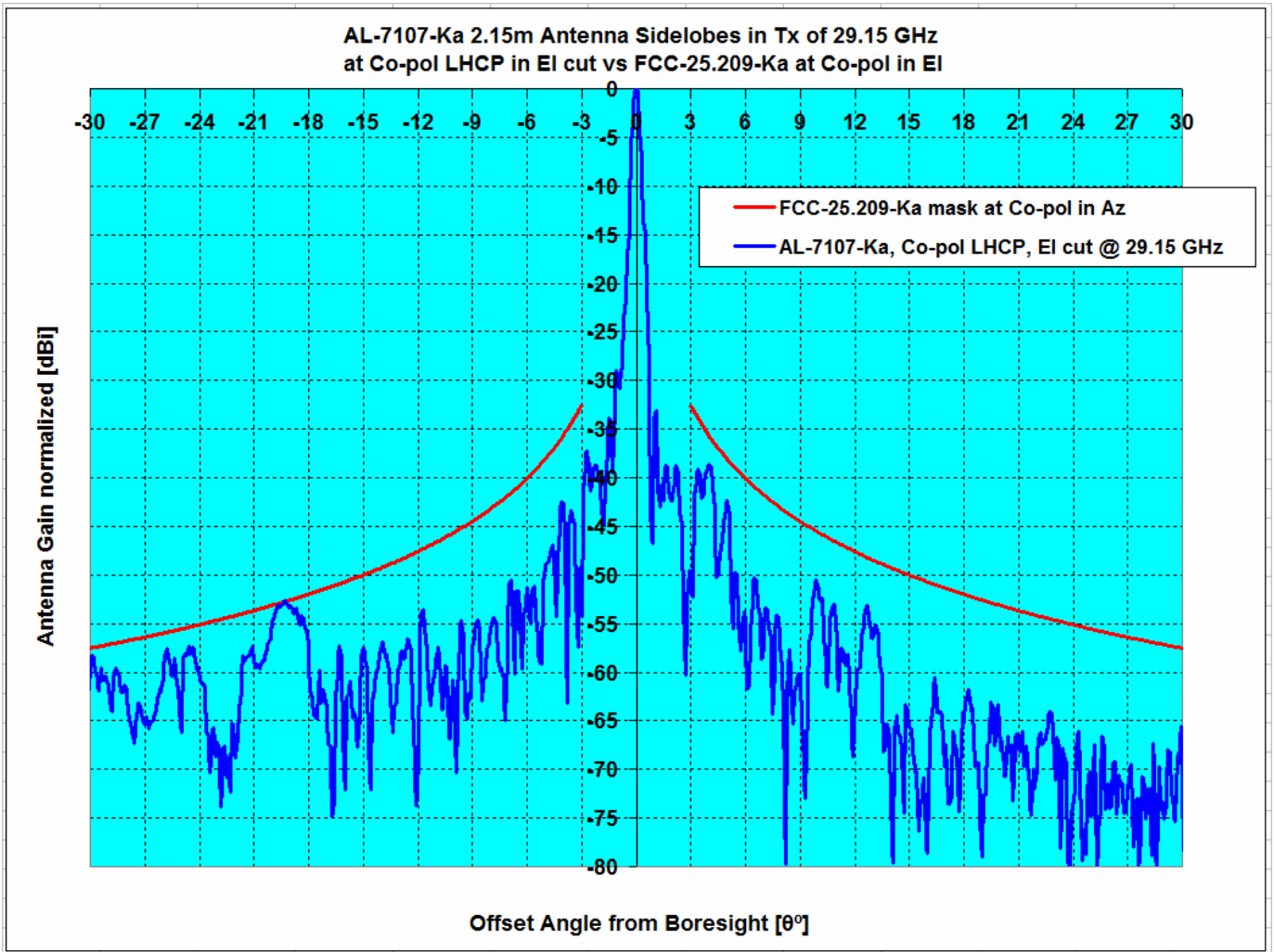
6.0	-12.1	-0.5	-11.6
6.1	-13.2	-0.6	-12.5
6.2	-16.7	-0.8	-15.9
6.3	-22.3	-1.0	-21.3
6.4	-14.3	-1.2	-13.1
6.5	-13.3	-1.3	-11.9
6.6	-14.7	-1.5	-13.2
6.7	-8.5	-1.7	-6.8
6.8	-5.3	-1.8	-3.5
6.9	-5.2	-2.0	-3.3
7.0	-7.0	-2.1	-4.9
7.1	-11.6	-2.0	-9.6
7.2	-12.8	-2.0	-10.8
7.3	-13.2	-2.0	-11.2
7.4	-13.2	-2.0	-11.2
7.5	-15.0	-2.0	-13.0
7.6	-16.4	-2.0	-14.4
7.7	-11.0	-2.0	-9.0
7.8	-13.0	-2.0	-11.0
7.9	-14.6	-2.0	-12.6
8.0	-19.7	-2.0	-17.7
8.1	-19.4	-2.0	-17.4
8.2	-15.2	-2.0	-13.2
8.3	-15.8	-2.0	-13.8
8.4	-14.0	-2.0	-12.0
8.5	-12.8	-2.0	-10.8
8.6	-11.0	-2.0	-9.0
8.7	-12.2	-2.0	-10.2
8.8	-16.4	-2.0	-14.4
8.9	-17.8	-2.0	-15.8
9.0	-21.4	-2.0	-19.4
9.1	-16.9	-2.0	-14.9
9.2	-17.7	-2.0	-15.7
9.3	-16.1	-2.0	-14.1
9.4	-20.0	-2.0	-18.0
9.5	-24.9	-2.0	-22.9
9.6	-24.1	-2.0	-22.1
9.7	-13.0	-2.0	-11.0
9.8	-10.5	-2.0	-8.5
9.9	-8.9	-2.0	-6.9
10.0	-9.6	-2.0	-7.6



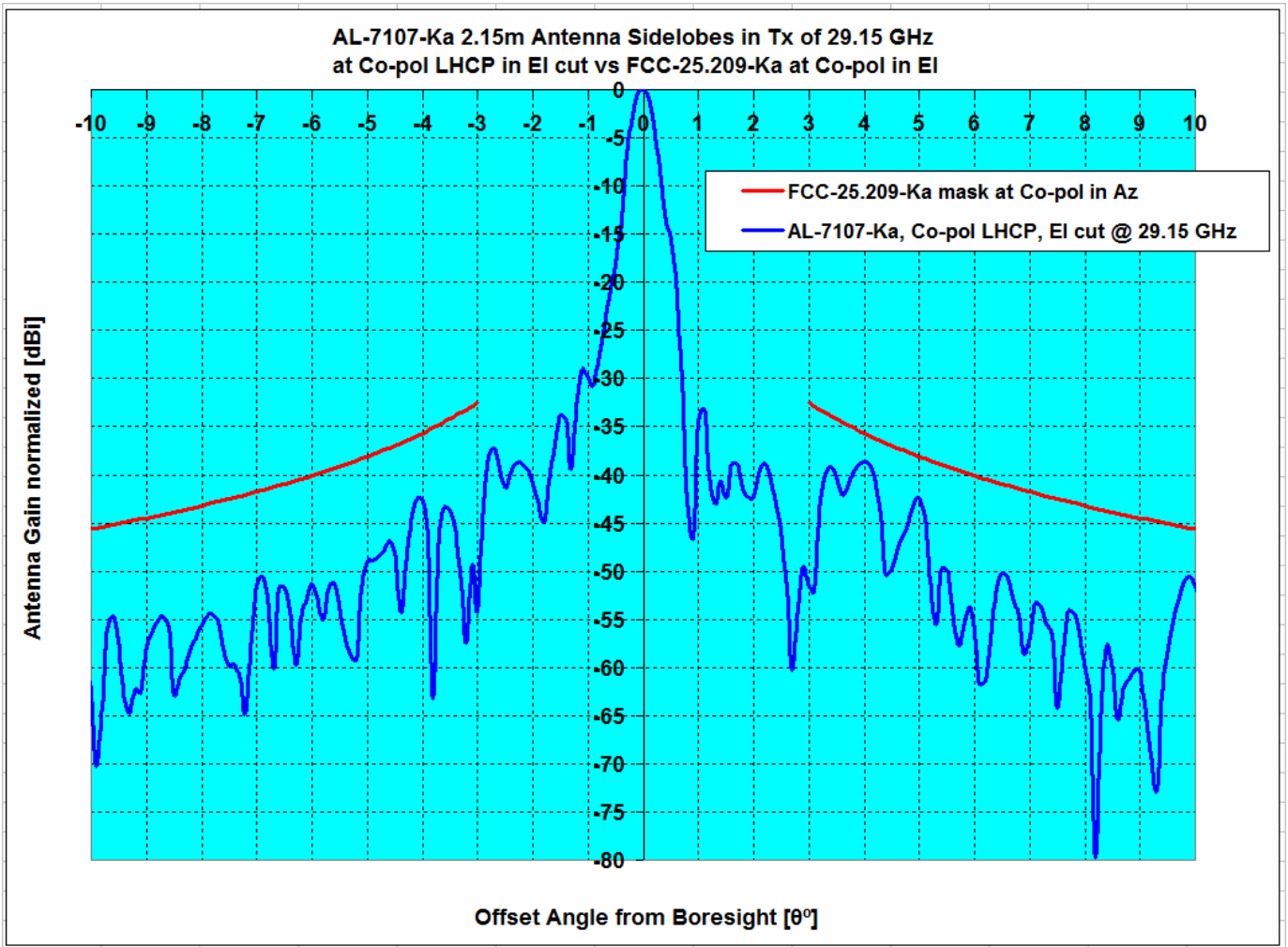
Description	Plane, CirP	Frequency	Ant. Gain	Peak Excursions dB		Over Mask %	
				1.5°≤θ≤7°	7°≤θ≤180°	1.5°≤θ≤7°	7°≤θ≤180°
FCC-25.209-Ka, Co-pol Az, vs AL-7107-Ka	Az , LHCP	29.15	52.63	-3.12	5.91	0.00%	5.71%



Description	Plane, CirP	Frequency	Ant. Gain	Peak Excursions dB		Over Mask %	
				1.5°≤θ≤7°	7°≤θ≤180°	1.5°≤θ≤7°	7°≤θ≤180°
FCC-25.209-Ka, Co-pol Az, vs AL-7107-Ka	Az , LHCP	29.15	52.63	-3.12	5.91	0.00%	5.71%

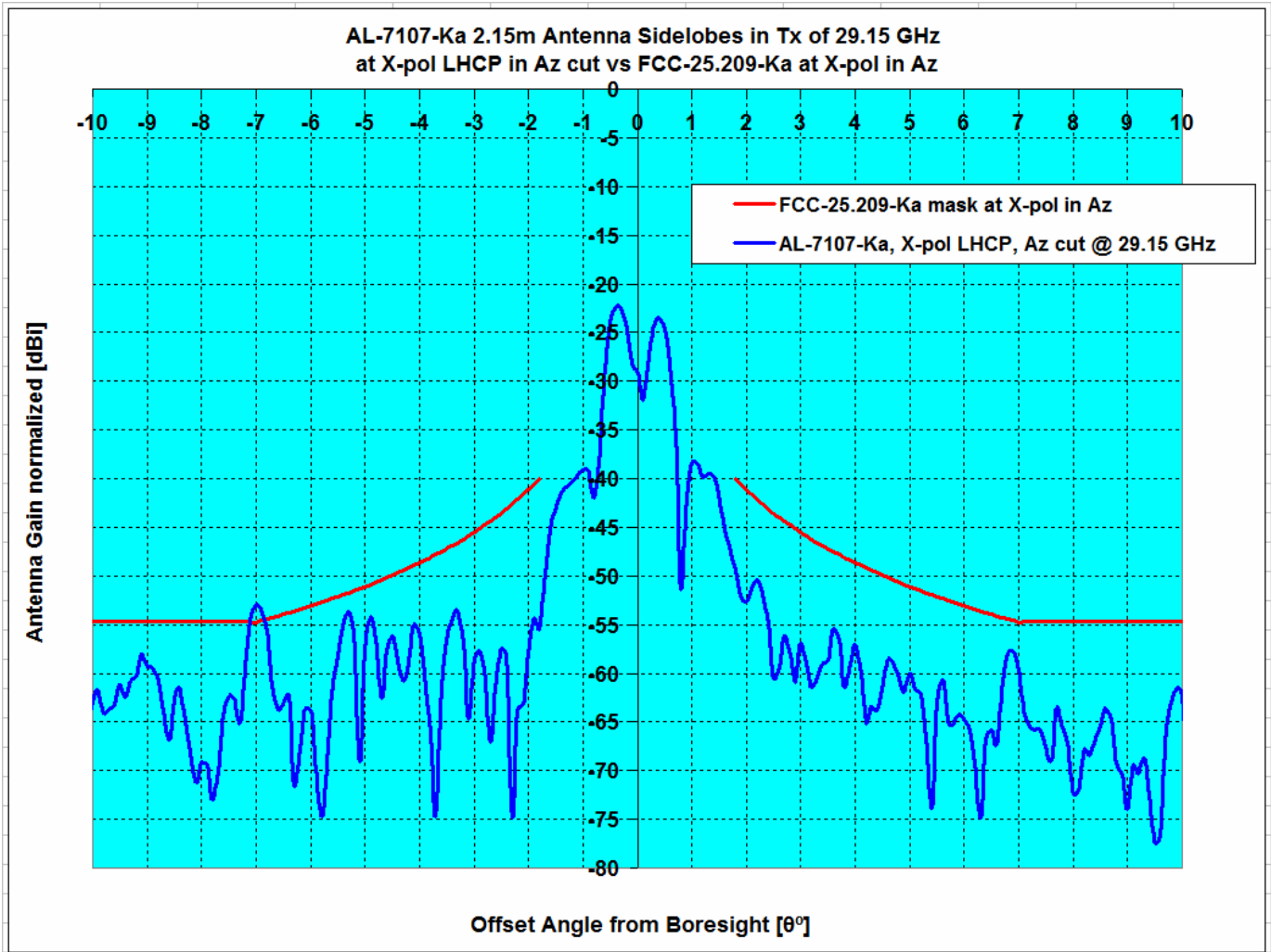


Description	Plane, CirP	Frequency	Ant. Gain	Peak Excursions dB		Over Mask %	
				3°≤θ≤7°	7°≤θ≤30°	3°≤θ≤7°	7°≤θ≤30°
Pattern Rule vs Antenna System	Type	GHz	dBi				
FCC-25.209-Ka, Co-pol EI, vs AL-7107-Ka	EI , LHCP	29.15	52.63	-2.92	0.16	0.00%	0.37%



Description	Plane, CirP	Frequency	Ant. Gain	Peak Excursions dB		Over Mask %	
				3°≤θ≤7°	7°≤θ≤30°	3°≤θ≤7°	7°≤θ≤30°
FCC-25.209-Ka, Co-pol EI, vs AL-7107-Ka	EI, LHCP	29.15	52.63	-2.92	0.16	0.00%	0.37%

Orbit Communication Systems Ltd.
 AL-7107-Ka, 2.15 m Antenna, Pattern, X-pol, Azimuth LHCP



Description	Plane, CirP	Frequency	Ant. Gain	Peak Excursions dB		Over Mask %	
				$1.8^\circ \leq \theta \leq 7^\circ$	$1.8^\circ \leq \theta \leq 9.2^\circ$	$1.8^\circ \leq \theta \leq 7^\circ$	$1.8^\circ \leq \theta \leq 9.2^\circ$
FCC-25.209-Ka, X-pol Az, vs AL-7107-Ka	Az , LHCP	29.15	52.63	1.89	1.89	1.89%	1.20%

Orbit Communication Systems Ltd.
AL-7107-Ka, 2.15 m Antenna, Pattern Data Table
Co-pol Azimuth RHCP, -180° to +180° @ 1.0° increment

29.15 GHz Antenna Pattern in Co-pol Az RHCP

Angle	Gain	Mask	Over Mask
Degrees	dBi	dBi	dB
-179.0	-25.9	0.0	-25.9
-178.0	-18.2	0.0	-18.2
-177.0	-20.5	0.0	-20.5
-176.0	-25.0	0.0	-25.0
-175.0	-27.4	0.0	-27.4
-174.0	-27.4	0.0	-27.4
-173.0	-26.9	0.0	-26.9
-172.0	-27.4	0.0	-27.4
-171.0	-23.9	0.0	-23.9
-170.0	-25.9	0.0	-25.9
-169.0	-18.2	0.0	-18.2
-168.0	-20.5	0.0	-20.5
-167.0	-25.0	0.0	-25.0
-166.0	-27.4	0.0	-27.4
-165.0	-27.4	0.0	-27.4
-164.0	-26.9	0.0	-26.9
-163.0	-27.4	0.0	-27.4
-162.0	-19.4	0.0	-19.4
-161.0	-20.8	0.0	-20.8
-160.0	-27.0	0.0	-27.0
-159.0	-26.0	0.0	-26.0
-158.0	-27.4	0.0	-27.4
-157.0	-19.8	0.0	-19.8
-156.0	-27.4	0.0	-27.4
-155.0	-27.4	0.0	-27.4
-154.0	-20.7	0.0	-20.7
-153.0	-22.6	0.0	-22.6
-152.0	-15.2	0.0	-15.2
-151.0	-19.3	0.0	-19.3
-150.0	-17.7	0.0	-17.7
-149.0	-27.4	0.0	-27.4
-148.0	-25.8	0.0	-25.8
-147.0	-24.5	0.0	-24.5
-146.0	-15.8	0.0	-15.8
-145.0	-15.5	0.0	-15.5
-144.0	-20.2	0.0	-20.2
-143.0	-20.2	0.0	-20.2
-142.0	-21.6	0.0	-21.6
-141.0	-20.2	0.0	-20.2
-140.0	-16.0	0.0	-16.0
-139.0	-20.2	0.0	-20.2
-138.0	-20.6	0.0	-20.6
-137.0	-20.5	0.0	-20.5
-136.0	-23.7	0.0	-23.7
-135.0	-15.0	0.0	-15.0
-134.0	-15.9	0.0	-15.9
-133.0	-27.4	0.0	-27.4
-132.0	-25.2	0.0	-25.2
-131.0	-22.1	0.0	-22.1
-130.0	-16.0	0.0	-16.0
-129.0	-16.1	0.0	-16.1
-128.0	-18.9	0.0	-18.9
-127.0	-15.9	0.0	-15.9
-126.0	-15.0	0.0	-15.0
-125.0	-22.5	0.0	-22.5
-124.0	-19.5	0.0	-19.5
-123.0	-20.8	0.0	-20.8
-122.0	-25.3	0.0	-25.3
-121.0	-20.6	0.0	-20.6
-120.0	-26.0	0.0	-26.0

29.15 GHz Antenna Pattern in Co-pol Az RHCP

Angle	Gain	Mask	Over Mask
Degrees	dBi	dBi	dB
0.0	52.6		
1.0	15.7		
2.0	10.0	21.5	-11.5
3.0	9.1	17.1	-8.0
4.0	-4.1	13.9	-18.1
5.0	-10.4	11.5	-21.9
6.0	0.3	9.5	-9.2
7.0	-14.1	7.9	-21.9
8.0	-5.4	8.0	-13.4
9.0	-3.3	8.0	-11.3
10.0	-5.3	7.0	-12.3
11.0	-15.6	6.0	-21.5
12.0	-3.1	5.0	-8.1
13.0	-6.7	4.2	-10.9
14.0	-12.7	3.3	-16.0
15.0	-17.4	2.6	-20.0
16.0	-23.4	1.9	-25.3
17.0	-16.6	1.2	-17.9
18.0	-14.4	0.6	-15.0
19.0	-19.6	0.0	-19.6
20.0	-10.9	-0.5	-10.3
21.0	-15.4	-1.1	-14.3
22.0	-4.5	-1.6	-3.0
23.0	-3.7	-2.0	-1.7
24.0	-5.9	-2.5	-3.4
25.0	-11.3	-2.9	-8.3
26.0	-7.7	-3.4	-4.3
27.0	-7.5	-3.8	-3.7
28.0	-13.5	-4.2	-9.3
29.0	-8.8	-4.6	-4.3
30.0	-7.2	-4.9	-2.3
31.0	-5.8	-5.3	-0.5
32.0	-9.8	-5.6	-4.2
33.0	-5.0	-6.0	0.9
34.0	-10.9	-6.3	-4.6
35.0	-9.4	-6.6	-2.8
36.0	-5.1	-6.9	1.9
37.0	-6.4	-7.2	0.8
38.0	-9.6	-7.5	-2.1
39.0	-9.4	-7.8	-1.6
40.0	-9.6	-8.1	-1.5
41.0	-12.3	-8.3	-4.0
42.0	-11.1	-8.6	-2.5
43.0	-11.7	-8.8	-2.9
44.0	-9.0	-9.1	0.1
45.0	-9.2	-9.3	0.1
46.0	-9.5	-9.6	0.1
47.0	-7.6	-9.8	2.2
48.0	-14.1	-10.0	-4.1
49.0	-10.6	-10.0	-0.6
50.0	-13.3	-10.0	-3.3
51.0	-21.6	-10.0	-11.6
52.0	-16.7	-10.0	-6.7
53.0	-14.1	-10.0	-4.1
54.0	-16.3	-10.0	-6.3
55.0	-19.5	-10.0	-9.5
56.0	-26.5	-10.0	-16.5
57.0	-23.2	-10.0	-13.2
58.0	-19.6	-10.0	-9.6
59.0	-25.0	-10.0	-15.0

Orbit Communication Systems Ltd.
AL-7107-Ka, 2.15 m Antenna, Pattern Data Table
Co-pol Azimuth RHCP, -180° to +180° @ 1.0° increment

-119.0	-26.2	0.0	-26.2
-118.0	-24.0	0.0	-24.0
-117.0	-26.3	0.0	-26.3
-116.0	-22.1	0.0	-22.1
-115.0	-27.4	0.0	-27.4
-114.0	-22.4	0.0	-22.4
-113.0	-17.6	0.0	-17.6
-112.0	-19.9	0.0	-19.9
-111.0	-17.4	0.0	-17.4
-110.0	-17.3	0.0	-17.3
-109.0	-27.4	0.0	-27.4
-108.0	-24.7	0.0	-24.7
-107.0	-25.2	0.0	-25.2
-106.0	-20.2	0.0	-20.2
-105.0	-20.5	0.0	-20.5
-104.0	-19.9	0.0	-19.9
-103.0	-20.1	0.0	-20.1
-102.0	-16.2	0.0	-16.2
-101.0	-23.3	0.0	-23.3
-100.0	-17.0	0.0	-17.0
-99.0	-20.0	0.0	-20.0
-98.0	-27.4	0.0	-27.4
-97.0	-23.7	0.0	-23.7
-96.0	-27.4	0.0	-27.4
-95.0	-19.7	0.0	-19.7
-94.0	-19.6	0.0	-19.6
-93.0	-22.6	0.0	-22.6
-92.0	-20.0	0.0	-20.0
-91.0	-18.8	0.0	-18.8
-90.0	-21.7	0.0	-21.7
-89.0	-27.2	0.0	-27.2
-88.0	-18.7	0.0	-18.7
-87.0	-15.9	0.0	-15.9
-86.0	-13.3	0.0	-13.3
-85.0	-13.3	-10.0	-3.3
-84.0	-15.3	-10.0	-5.3
-83.0	-20.2	-10.0	-10.2
-82.0	-20.2	-10.0	-10.2
-81.0	-12.7	-10.0	-2.7
-80.0	-12.8	-10.0	-2.8
-79.0	-10.3	-10.0	-0.3
-78.0	-9.3	-10.0	0.7
-77.0	-16.7	-10.0	-6.7
-76.0	-14.2	-10.0	-4.2
-75.0	-14.6	-10.0	-4.6
-74.0	-10.9	-10.0	-0.9
-73.0	-10.2	-10.0	-0.2
-72.0	-6.9	-10.0	3.1
-71.0	-6.7	-10.0	3.3
-70.0	-5.8	-10.0	4.2
-69.0	-6.8	-10.0	3.2
-68.0	-4.7	-10.0	5.3
-67.0	-4.6	-10.0	5.4
-66.0	-5.1	-10.0	4.9
-65.0	-6.4	-10.0	3.6
-64.0	-4.8	-10.0	5.2
-63.0	-6.9	-10.0	3.1
-62.0	-7.4	-10.0	2.6
-61.0	-9.4	-10.0	0.6
-60.0	-10.4	-10.0	-0.4
-59.0	-11.1	-10.0	-1.1
-58.0	-11.5	-10.0	-1.5
-57.0	-15.0	-10.0	-5.0

60.0	-22.4	-10.0	-12.4
61.0	-25.4	-10.0	-15.4
62.0	-24.5	-10.0	-14.5
63.0	-27.4	-10.0	-17.4
64.0	-18.1	-10.0	-8.1
65.0	-19.8	-10.0	-9.8
66.0	-27.4	-10.0	-17.4
67.0	-19.9	-10.0	-9.9
68.0	-25.1	-10.0	-15.1
69.0	-21.3	-10.0	-11.3
70.0	-20.3	-10.0	-10.3
71.0	-19.9	-10.0	-9.9
72.0	-16.1	-10.0	-6.1
73.0	-15.1	-10.0	-5.1
74.0	-17.3	-10.0	-7.3
75.0	-17.4	-10.0	-7.4
76.0	-19.9	-10.0	-9.9
77.0	-27.4	-10.0	-17.4
78.0	-20.4	-10.0	-10.4
79.0	-27.4	-10.0	-17.4
80.0	-21.5	-10.0	-11.5
81.0	-22.2	-10.0	-12.2
82.0	-23.5	-10.0	-13.5
83.0	-23.1	-10.0	-13.1
84.0	-26.5	-10.0	-16.5
85.0	-27.4	-10.0	-17.4
86.0	-25.4	0.0	-25.4
87.0	-21.5	0.0	-21.5
88.0	-19.6	0.0	-19.6
89.0	-25.7	0.0	-25.7
90.0	-18.6	0.0	-18.6
91.0	-25.0	0.0	-25.0
92.0	-26.8	0.0	-26.8
93.0	-27.4	0.0	-27.4
94.0	-18.2	0.0	-18.2
95.0	-25.1	0.0	-25.1
96.0	-22.6	0.0	-22.6
97.0	-24.3	0.0	-24.3
98.0	-25.3	0.0	-25.3
99.0	-27.3	0.0	-27.3
100.0	-19.9	0.0	-19.9
101.0	-21.8	0.0	-21.8
102.0	-24.4	0.0	-24.4
103.0	-22.8	0.0	-22.8
104.0	-22.2	0.0	-22.2
105.0	-19.6	0.0	-19.6
106.0	-24.5	0.0	-24.5
107.0	-23.1	0.0	-23.1
108.0	-23.4	0.0	-23.4
109.0	-24.9	0.0	-24.9
110.0	-23.0	0.0	-23.0
111.0	-24.6	0.0	-24.6
112.0	-19.7	0.0	-19.7
113.0	-24.1	0.0	-24.1
114.0	-25.2	0.0	-25.2
115.0	-22.9	0.0	-22.9
116.0	-23.2	0.0	-23.2
117.0	-27.1	0.0	-27.1
118.0	-25.0	0.0	-25.0
119.0	-27.0	0.0	-27.0
120.0	-27.4	0.0	-27.4
121.0	-26.7	0.0	-26.7
122.0	-21.1	0.0	-21.1

Orbit Communication Systems Ltd.
AL-7107-Ka, 2.15 m Antenna, Pattern Data Table
Co-pol Azimuth RHCP, -180° to +180° @ 1.0° increment

-56.0	-15.1	-10.0	-5.1
-55.0	-14.6	-10.0	-4.6
-54.0	-15.9	-10.0	-5.9
-53.0	-11.4	-10.0	-1.4
-52.0	-11.8	-10.0	-1.8
-51.0	-15.5	-10.0	-5.5
-50.0	-15.8	-10.0	-5.8
-49.0	-16.5	-10.0	-6.5
-48.0	-20.7	-10.0	-10.7
-47.0	-27.4	-9.8	-17.6
-46.0	-14.0	-9.6	-4.4
-45.0	-15.7	-9.3	-6.4
-44.0	-12.7	-9.1	-3.6
-43.0	-18.4	-8.8	-9.6
-42.0	-16.2	-8.6	-7.6
-41.0	-17.4	-8.3	-9.0
-40.0	-16.9	-8.1	-8.9
-39.0	-22.9	-7.8	-15.1
-38.0	-22.0	-7.5	-14.5
-37.0	-18.9	-7.2	-11.7
-36.0	-14.3	-6.9	-7.4
-35.0	-18.4	-6.6	-11.8
-34.0	-15.6	-6.3	-9.3
-33.0	-16.2	-6.0	-10.2
-32.0	-17.3	-5.6	-11.6
-31.0	-19.6	-5.3	-14.3
-30.0	-14.8	-4.9	-9.9
-29.0	-18.2	-4.6	-13.7
-28.0	-19.4	-4.2	-15.2
-27.0	-21.4	-3.8	-17.6
-26.0	-21.2	-3.4	-17.8
-25.0	-10.8	-2.9	-7.8
-24.0	-19.7	-2.5	-17.2
-23.0	-18.1	-2.0	-16.1
-22.0	-19.3	-1.6	-17.8
-21.0	-19.3	-1.1	-18.2
-20.0	-18.0	-0.5	-17.5
-19.0	-20.8	0.0	-20.8
-18.0	-19.2	0.6	-19.8
-17.0	-18.9	1.2	-20.2
-16.0	-8.8	1.9	-10.7
-15.0	-22.5	2.6	-25.1
-14.0	-12.8	3.3	-16.2
-13.0	-10.9	4.2	-15.1
-12.0	-12.0	5.0	-17.1
-11.0	-6.4	6.0	-12.4
-10.0	-3.1	7.0	-10.1
-9.0	-8.1	8.0	-16.1
-8.0	-7.7	8.0	-15.7
-7.0	-2.7	7.9	-10.5
-6.0	0.8	9.5	-8.8
-5.0	-8.5	11.5	-20.0
-4.0	-5.6	13.9	-19.6
-3.0	7.9	17.1	-9.2
-2.0	4.7	21.5	-16.7
-1.0	17.2		
0.0	52.6		

123.0	-25.5	0.0	-25.5
124.0	-22.2	0.0	-22.2
125.0	-19.5	0.0	-19.5
126.0	-27.4	0.0	-27.4
127.0	-24.9	0.0	-24.9
128.0	-21.7	0.0	-21.7
129.0	-25.5	0.0	-25.5
130.0	-21.6	0.0	-21.6
131.0	-26.1	0.0	-26.1
132.0	-27.4	0.0	-27.4
133.0	-27.4	0.0	-27.4
134.0	-25.8	0.0	-25.8
135.0	-27.1	0.0	-27.1
136.0	-26.9	0.0	-26.9
137.0	-27.4	0.0	-27.4
138.0	-21.9	0.0	-21.9
139.0	-24.9	0.0	-24.9
140.0	-22.5	0.0	-22.5
141.0	-20.8	0.0	-20.8
142.0	-27.4	0.0	-27.4
143.0	-25.8	0.0	-25.8
144.0	-27.4	0.0	-27.4
145.0	-27.4	0.0	-27.4
146.0	-24.8	0.0	-24.8
147.0	-23.5	0.0	-23.5
148.0	-27.4	0.0	-27.4
149.0	-23.6	0.0	-23.6
150.0	-23.9	0.0	-23.9
151.0	-27.1	0.0	-27.1
152.0	-26.7	0.0	-26.7
153.0	-22.1	0.0	-22.1
154.0	-27.4	0.0	-27.4
155.0	-18.6	0.0	-18.6
156.0	-27.4	0.0	-27.4
157.0	-27.4	0.0	-27.4
158.0	-27.4	0.0	-27.4
159.0	-25.5	0.0	-25.5
160.0	-25.5	0.0	-25.5
161.0	-20.0	0.0	-20.0
162.0	-26.2	0.0	-26.2
163.0	-20.2	0.0	-20.2
164.0	-24.1	0.0	-24.1
165.0	-27.4	0.0	-27.4
166.0	-24.5	0.0	-24.5
167.0	-27.4	0.0	-27.4
168.0	-27.4	0.0	-27.4
169.0	-27.4	0.0	-27.4
170.0	-27.0	0.0	-27.0
171.0	-26.5	0.0	-26.5
172.0	-27.4	0.0	-27.4
173.0	-27.4	0.0	-27.4
174.0	-22.7	0.0	-22.7
175.0	-24.8	0.0	-24.8
176.0	-23.7	0.0	-23.7
177.0	-27.4	0.0	-27.4
178.0	-27.4	0.0	-27.4
179.0	-23.9	0.0	-23.9

Orbit Communication Systems Ltd.

AL AL-7107-Ka, 2.15 m Antenna, Pattern Data Table
 Co-pol Azimuth RHCP, -10° to +10° @ 0.1° increment

29.15 GHz Antenna Pattern in Co-pol Az RHCP

Angle Degrees	Gain dBi	Mask dBi	Over Mask dB
-10.0	-0.6	7.0	-7.6
-9.9	0.3	7.1	-6.8
-9.8	0.3	7.2	-6.9
-9.7	-0.9	7.3	-8.3
-9.6	-2.9	7.4	-10.3
-9.5	-4.9	7.6	-12.5
-9.4	-5.2	7.7	-12.9
-9.3	-7.7	7.8	-15.5
-9.2	-14.0	8.0	-22.0
-9.1	-9.9	8.0	-17.9
-9.0	-5.1	8.0	-13.1
-8.9	-4.5	8.0	-12.5
-8.8	-8.0	8.0	-16.0
-8.7	-14.3	8.0	-22.3
-8.6	-10.8	8.0	-18.8
-8.5	-5.9	8.0	-13.9
-8.4	-4.6	8.0	-12.6
-8.3	-7.4	8.0	-15.4
-8.2	-8.6	8.0	-16.6
-8.1	-9.0	8.0	-17.0
-8.0	-8.1	8.0	-16.1
-7.9	-5.5	8.0	-13.5
-7.8	-1.8	8.0	-9.8
-7.7	0.2	8.0	-7.8
-7.6	0.9	8.0	-7.1
-7.5	0.5	8.0	-7.5
-7.4	1.0	8.0	-7.0
-7.3	1.8	8.0	-6.2
-7.2	0.6	8.0	-7.4
-7.1	-4.9	8.0	-12.9
-7.0	-7.0	7.9	-14.9
-6.9	2.9	8.0	-5.1
-6.8	4.5	8.2	-3.6
-6.7	3.3	8.3	-5.1
-6.6	-1.4	8.5	-9.9
-6.5	1.7	8.7	-7.0
-6.4	3.5	8.8	-5.3
-6.3	3.9	9.0	-5.2
-6.2	3.8	9.2	-5.4
-6.1	3.7	9.4	-5.7
-6.0	2.4	9.5	-7.1
-5.9	-2.3	9.7	-12.1
-5.8	-12.0	9.9	-21.9
-5.7	-11.6	10.1	-21.7
-5.6	-14.6	10.3	-24.9
-5.5	-11.1	10.5	-21.6
-5.4	-14.2	10.7	-24.9
-5.3	-1.1	10.9	-12.0
-5.2	1.1	11.1	-10.0
-5.1	-1.5	11.3	-12.8
-5.0	-3.2	11.5	-14.7
-4.9	3.2	11.7	-8.5
-4.8	4.4	12.0	-7.6
-4.7	1.6	12.2	-10.6
-4.6	-5.3	12.4	-17.8
-4.5	0.6	12.7	-12.0
-4.4	6.2	12.9	-6.7
-4.3	7.0	13.2	-6.1
-4.2	2.6	13.4	-10.8
-4.1	-15.4	13.7	-29.1

29.15 GHz Antenna Pattern in Co-pol Az RHCP

Angle Degrees	Gain dBi	Mask dBi	Over Mask dB
0.0	52.8		
0.1	52.1		
0.2	49.5		
0.3	45.1		
0.4	40.0		
0.5	35.5		
0.6	29.5		
0.7	29.6		
0.8	30.4		
0.9	27.5		
1.0	16.6		
1.1	17.2		
1.2	13.8		
1.3	11.1		
1.4	16.2		
1.5	14.7	24.6	-9.9
1.6	16.2	23.9	-7.7
1.7	17.9	23.2	-5.4
1.8	15.7	22.6	-6.9
1.9	10.4	22.0	-11.6
2.0	9.5	21.5	-12.0
2.1	5.3	20.9	-15.6
2.2	1.1	20.4	-19.3
2.3	4.7	20.0	-15.3
2.4	6.2	19.5	-13.3
2.5	7.4	19.1	-11.7
2.6	5.2	18.6	-13.4
2.7	0.1	18.2	-18.1
2.8	5.1	17.8	-12.7
2.9	7.0	17.4	-10.4
3.0	9.4	17.1	-7.7
3.1	9.7	16.7	-7.0
3.2	7.8	16.4	-8.6
3.3	-0.1	16.0	-16.2
3.4	-15.6	15.7	-31.3
3.5	-4.3	15.4	-19.7
3.6	2.9	15.1	-12.2
3.7	4.4	14.8	-10.4
3.8	2.0	14.5	-12.5
3.9	-6.2	14.2	-20.5
4.0	-7.7	13.9	-21.6
4.1	-1.3	13.7	-15.0
4.2	2.6	13.4	-10.8
4.3	3.0	13.2	-10.1
4.4	2.7	12.9	-10.2
4.5	1.9	12.7	-10.8
4.6	-0.8	12.4	-13.2
4.7	-9.6	12.2	-21.8
4.8	-4.0	12.0	-16.0
4.9	-7.7	11.7	-19.4
5.0	-8.2	11.5	-19.7
5.1	-3.4	11.3	-14.7
5.2	-5.4	11.1	-16.5
5.3	-3.8	10.9	-14.7
5.4	0.5	10.7	-10.2
5.5	1.5	10.5	-9.0
5.6	-0.4	10.3	-10.7
5.7	-4.5	10.1	-14.6
5.8	-12.0	9.9	-21.9
5.9	-4.9	9.7	-14.6

Orbit Communication Systems Ltd.

AL AL-7107-Ka, 2.15 m Antenna, Pattern Data Table
 Co-pol Azimuth RHCP, -10° to +10° @ 0.1° increment

-4.0	0.7	13.9	-13.2
-3.9	7.8	14.2	-6.5
-3.8	11.0	14.5	-3.5
-3.7	11.0	14.8	-3.8
-3.6	6.6	15.1	-8.5
-3.5	0.4	15.4	-15.0
-3.4	5.7	15.7	-10.0
-3.3	5.0	16.0	-11.0
-3.2	0.5	16.4	-15.8
-3.1	5.9	16.7	-10.8
-3.0	7.1	17.1	-10.0
-2.9	7.6	17.4	-9.8
-2.8	11.6	17.8	-6.2
-2.7	13.1	18.2	-5.1
-2.6	11.1	18.6	-7.5
-2.5	5.0	19.1	-14.0
-2.4	-2.4	19.5	-21.9
-2.3	0.2	20.0	-19.8
-2.2	4.2	20.4	-16.3
-2.1	1.1	20.9	-19.8
-2.0	6.1	21.5	-15.4
-1.9	11.3	22.0	-10.7
-1.8	9.9	22.6	-12.7
-1.7	3.5	23.2	-19.7
-1.6	6.7	23.9	-17.2
-1.5	4.8	24.6	-19.8
-1.4	14.5		
-1.3	19.0		
-1.2	19.5		
-1.1	18.9		
-1.0	16.0		
-0.9	6.8		
-0.8	18.4		
-0.7	18.4		
-0.6	19.7		
-0.5	32.4		
-0.4	40.3		
-0.3	46.3		
-0.2	50.3		
-0.1	52.3		
0.0	52.8		

6.0	-0.5	9.5	-10.1
6.1	0.9	9.4	-8.5
6.2	2.2	9.2	-7.0
6.3	1.8	9.0	-7.2
6.4	0.2	8.8	-8.7
6.5	1.2	8.7	-7.5
6.6	3.2	8.5	-5.3
6.7	2.6	8.3	-5.8
6.8	0.6	8.2	-7.6
6.9	-3.0	8.0	-11.1
7.0	-14.4	7.9	-22.3
7.1	-4.2	8.0	-12.2
7.2	-1.5	8.0	-9.5
7.3	-3.0	8.0	-11.0
7.4	-6.5	8.0	-14.5
7.5	-5.2	8.0	-13.2
7.6	-4.1	8.0	-12.1
7.7	-1.8	8.0	-9.8
7.8	-3.3	8.0	-11.3
7.9	-6.7	8.0	-14.7
8.0	-13.7	8.0	-21.7
8.1	-5.8	8.0	-13.8
8.2	-6.5	8.0	-14.5
8.3	-5.4	8.0	-13.4
8.4	-4.3	8.0	-12.3
8.5	-6.0	8.0	-14.0
8.6	-11.0	8.0	-19.0
8.7	-20.2	8.0	-28.2
8.8	-15.9	8.0	-23.9
8.9	-8.1	8.0	-16.1
9.0	-5.2	8.0	-13.2
9.1	-8.4	8.0	-16.4
9.2	-10.2	8.0	-18.2
9.3	-6.5	7.8	-14.3
9.4	-3.6	7.7	-11.3
9.5	-3.7	7.6	-11.3
9.6	-4.8	7.4	-12.2
9.7	-6.5	7.3	-13.8
9.8	-9.0	7.2	-16.2
9.9	-11.9	7.1	-19.0
10.0	-7.7	7.0	-14.7

Orbit Communication Systems Ltd.
 AL-7107-Ka, 2.15 m Antenna, Pattern Data Table
 Co-pol Elevation RHCP, -30° to +30° @ 0.5° increment

29.15 GHz Antenna Pattern in Co-pol EI RHCP

Angle Degrees	Gain dBi	Mask dBi	Over Mask dB
-30.0	-7.6	-4.9	-2.7
-29.5	-9.3	-4.7	-4.5
-29.0	-9.0	-4.6	-4.5
-28.5	-7.4	-4.4	-3.1
-28.0	-9.3	-4.2	-5.1
-27.5	-13.4	-4.0	-9.4
-27.0	-12.8	-3.8	-9.1
-26.5	-12.4	-3.6	-8.8
-26.0	-7.6	-3.4	-4.2
-25.5	-7.8	-3.2	-4.7
-25.0	-13.4	-2.9	-10.4
-24.5	-5.6	-2.7	-2.8
-24.0	-8.2	-2.5	-5.7
-23.5	-14.3	-2.3	-12.0
-23.0	-14.6	-2.0	-12.5
-22.5	-18.2	-1.8	-16.4
-22.0	-16.2	-1.6	-14.6
-21.5	-6.2	-1.3	-4.9
-21.0	-6.2	-1.1	-5.1
-20.5	-6.1	-0.8	-5.3
-20.0	-2.2	-0.5	-1.7
-19.5	-0.5	-0.3	-0.3
-19.0	-0.5	0.0	-0.5
-18.5	-2.6	0.3	-2.9
-18.0	-5.4	0.6	-6.0
-17.5	-12.2	0.9	-13.1
-17.0	-11.4	1.2	-12.6
-16.5	-11.3	1.6	-12.8
-16.0	-19.4	1.9	-21.3
-15.5	-11.4	2.2	-13.6
-15.0	-4.8	2.6	-7.4
-14.5	-10.5	3.0	-13.5
-14.0	-4.3	3.3	-7.7
-13.5	-9.2	3.7	-12.9
-13.0	-6.5	4.2	-10.6
-12.5	-4.3	4.6	-8.9
-12.0	-15.5	5.0	-20.5
-11.5	-5.2	5.5	-10.7
-11.0	-6.8	6.0	-12.8
-10.5	-6.6	6.5	-13.1
-10.0	-9.6	7.0	-16.6
-9.5	-4.5	7.6	-12.1
-9.0	-5.3	8.1	-13.4
-8.5	-10.2	8.8	-19.0
-8.0	-2.9	9.4	-12.4
-7.5	-7.3	10.1	-17.4
-7.0	1.0	10.9	-9.8
-6.5	1.0	11.7	-10.7
-6.0	1.3	12.5	-11.2
-5.5	-0.8	13.5	-14.3
-5.0	3.8	14.5	-10.7
-4.5	4.6	15.7	-11.0
-4.0	10.0	16.9	-6.9
-3.5	8.8	18.4	-9.6
-3.0	-1.5		
-2.5	11.3		
-2.0	11.7		
-1.5	18.8		
-1.0	22.6		
-0.5	34.4		
0.0	52.6		

29.15 GHz Antenna Pattern in Co-pol EI RHCP

Angle Degrees	Gain dBi	Mask dBi	Over Mask dB
0.0	52.6		
0.5	37.1		
1.0	18.1		
1.5	10.2		
2.0	10.3		
2.5	6.9		
3.0	1.1		
3.5	12.4	18.4	-6.0
4.0	14.0	16.9	-2.9
4.5	2.9	15.7	-12.8
5.0	10.3	14.5	-4.3
5.5	2.8	13.5	-10.7
6.0	-3.4	12.5	-16.0
6.5	2.4	11.7	-9.3
7.0	-4.1	10.9	-15.0
7.5	-11.7	10.1	-21.8
8.0	-7.8	9.4	-17.2
8.5	-7.8	8.8	-16.5
9.0	-7.6	8.1	-15.7
9.5	-5.3	7.6	-12.9
10.0	1.0	7.0	-6.0
10.5	-8.9	6.5	-15.3
11.0	-5.1	6.0	-11.0
11.5	-6.7	5.5	-12.1
12.0	-10.0	5.0	-15.0
12.5	-2.5	4.6	-7.1
13.0	-3.9	4.2	-8.1
13.5	-8.1	3.7	-11.8
14.0	-19.9	3.3	-23.2
14.5	-14.1	3.0	-17.0
15.0	-12.9	2.6	-15.5
15.5	-23.7	2.2	-25.9
16.0	-25.9	1.9	-27.8
16.5	-11.2	1.6	-12.8
17.0	-14.8	1.2	-16.1
17.5	-15.9	0.9	-16.8
18.0	-12.5	0.6	-13.2
18.5	-11.1	0.3	-11.4
19.0	-26.4	0.0	-26.5
19.5	-10.5	-0.3	-10.3
20.0	-15.3	-0.5	-14.8
20.5	-15.6	-0.8	-14.8
21.0	-14.4	-1.1	-13.4
21.5	-16.2	-1.3	-14.8
22.0	-16.7	-1.6	-15.2
22.5	-14.3	-1.8	-12.5
23.0	-18.5	-2.0	-16.4
23.5	-15.9	-2.3	-13.6
24.0	-20.1	-2.5	-17.6
24.5	-26.6	-2.7	-23.9
25.0	-22.3	-2.9	-19.3
25.5	-20.3	-3.2	-17.2
26.0	-21.3	-3.4	-17.9
26.5	-18.1	-3.6	-14.5
27.0	-19.6	-3.8	-15.8
27.5	-20.4	-4.0	-16.4
28.0	-22.4	-4.2	-18.3
28.5	-23.5	-4.4	-19.2
29.0	-22.5	-4.6	-17.9
29.5	-21.3	-4.7	-16.5
30.0	-18.5	-4.9	-13.6

Orbit Communication Systems Ltd.
AL-7107-Ka, 2.15 m Antenna, Pattern Data Table
Co-pol Elevation RHCP, -10° to +10° @ 0.1° increment

29.15 GHz Antenna Pattern in Co-pol EI RHCP

Angle Degrees	Gain dBi	Mask dBi	Over Mask dB
-10.0	-3.3	7.0	-10.3
-9.9	-4.4	7.1	-11.5
-9.8	-3.0	7.2	-10.2
-9.7	-0.4	7.3	-7.7
-9.6	0.3	7.4	-7.2
-9.5	-3.4	7.6	-11.0
-9.4	-10.7	7.7	-18.4
-9.3	-6.7	7.8	-14.5
-9.2	-7.8	7.9	-15.7
-9.1	-18.8	8.0	-26.9
-9.0	-7.4	8.1	-15.5
-8.9	-6.0	8.3	-14.3
-8.8	-8.7	8.4	-17.1
-8.7	-1.9	8.5	-10.4
-8.6	0.3	8.6	-8.4
-8.5	-1.6	8.8	-10.3
-8.4	-9.7	8.9	-18.6
-8.3	-18.5	9.0	-27.6
-8.2	-13.1	9.2	-22.3
-8.1	-11.2	9.3	-20.4
-8.0	-6.3	9.4	-15.7
-7.9	-4.0	9.6	-13.6
-7.8	-1.9	9.7	-11.6
-7.7	-1.2	9.8	-11.0
-7.6	-4.6	10.0	-14.6
-7.5	-16.5	10.1	-26.6
-7.4	-13.3	10.3	-23.5
-7.3	-14.6	10.4	-25.0
-7.2	-18.3	10.6	-28.9
-7.1	-8.4	10.7	-19.1
-7.0	-1.1	10.9	-12.0
-6.9	1.7	11.0	-9.3
-6.8	0.6	11.2	-10.6
-6.7	-2.9	11.3	-14.2
-6.6	-0.3	11.5	-11.8
-6.5	1.4	11.7	-10.3
-6.4	-0.8	11.8	-12.7
-6.3	-7.1	12.0	-19.2
-6.2	-4.2	12.2	-16.3
-6.1	-1.9	12.4	-14.3
-6.0	0.3	12.5	-12.3
-5.9	0.8	12.7	-12.0
-5.8	-2.4	12.9	-15.3
-5.7	-1.2	13.1	-14.3
-5.6	0.9	13.3	-12.4
-5.5	-1.2	13.5	-14.6
-5.4	-6.9	13.7	-20.6
-5.3	-5.7	13.9	-19.6
-5.2	-4.6	14.1	-18.7
-5.1	-0.9	14.3	-15.2
-5.0	1.8	14.5	-12.8
-4.9	2.9	14.7	-11.8
-4.8	1.8	15.0	-13.2
-4.7	2.1	15.2	-13.1
-4.6	3.9	15.4	-11.5
-4.5	3.3	15.7	-12.3
-4.4	-0.5	15.9	-16.4
-4.3	2.1	16.2	-14.0
-4.2	7.1	16.4	-9.3
-4.1	8.9	16.7	-7.8

29.15 GHz Antenna Pattern in Co-pol EI RHCP

Angle Degrees	Gain dBi	Mask dBi	Over Mask dB
0.0	52.8		
0.1	52.0		
0.2	49.4		
0.3	44.9		
0.4	40.5		
0.5	37.4		
0.6	32.8		
0.7	20.2		
0.8	20.0		
0.9	17.8		
1.0	15.9		
1.1	18.4		
1.2	13.8		
1.3	6.6		
1.4	9.9		
1.5	6.3		
1.6	12.1		
1.7	12.2		
1.8	10.0		
1.9	11.6		
2.0	12.6		
2.1	13.7		
2.2	14.1		
2.3	13.3		
2.4	12.1		
2.5	8.9		
2.6	0.2		
2.7	-0.8		
2.8	-1.3		
2.9	-2.3		
3.0	0.1		
3.1	-0.3		
3.2	8.4		
3.3	11.8		
3.4	12.3		
3.5	11.0	18.4	-7.4
3.6	9.2	18.1	-8.9
3.7	11.0	17.8	-6.8
3.8	13.0	17.5	-4.5
3.9	13.2	17.2	-4.0
4.0	13.0	16.9	-3.9
4.1	12.3	16.7	-4.3
4.2	9.3	16.4	-7.1
4.3	1.3	16.2	-14.9
4.4	2.1	15.9	-13.9
4.5	3.2	15.7	-12.4
4.6	4.4	15.4	-11.1
4.7	5.5	15.2	-9.7
4.8	6.1	15.0	-8.9
4.9	9.0	14.7	-5.7
5.0	9.5	14.5	-5.0
5.1	7.3	14.3	-7.0
5.2	-1.8	14.1	-15.9
5.3	-5.5	13.9	-19.4
5.4	-1.0	13.7	-14.6
5.5	-3.5	13.5	-16.9
5.6	-6.9	13.3	-20.2
5.7	-11.7	13.1	-24.8
5.8	-6.6	12.9	-19.5
5.9	-6.7	12.7	-19.4

Orbit Communication Systems Ltd.
 AL-7107-Ka, 2.15 m Antenna, Pattern Data Table
 Co-pol Elevation RHCP, -10° to +10° @ 0.1° increment

-4.0	8.6	16.9	-8.3
-3.9	5.5	17.2	-11.7
-3.8	-10.7	17.5	-28.2
-3.7	4.8	17.8	-13.0
-3.6	8.2	18.1	-9.8
-3.5	8.0	18.4	-10.4
-3.4	6.7		
-3.3	2.0		
-3.2	-7.6		
-3.1	4.0		
-3.0	0.9		
-2.9	6.5		
-2.8	13.5		
-2.7	14.7		
-2.6	12.7		
-2.5	10.2		
-2.4	13.5		
-2.3	14.5		
-2.2	14.4		
-2.1	13.6		
-2.0	10.8		
-1.9	7.1		
-1.8	5.9		
-1.7	9.3		
-1.6	16.0		
-1.5	19.4		
-1.4	19.7		
-1.3	13.8		
-1.2	17.5		
-1.1	22.7		
-1.0	22.5		
-0.9	20.9		
-0.8	24.4		
-0.7	28.0		
-0.6	31.0		
-0.5	32.7		
-0.4	38.2		
-0.3	45.4		
-0.2	50.0		
-0.1	52.3		
0.0	52.8		

6.0	-11.2	12.5	-23.7
6.1	-11.2	12.4	-23.5
6.2	-9.0	12.2	-21.2
6.3	-2.4	12.0	-14.4
6.4	1.3	11.8	-10.6
6.5	2.0	11.7	-9.6
6.6	0.3	11.5	-11.2
6.7	-1.8	11.3	-13.1
6.8	-4.7	11.2	-15.8
6.9	-10.5	11.0	-21.5
7.0	-3.9	10.9	-14.8
7.1	-0.2	10.7	-10.9
7.2	0.0	10.6	-10.5
7.3	-1.1	10.4	-11.5
7.4	-4.5	10.3	-14.8
7.5	-14.5	10.1	-24.7
7.6	-4.3	10.0	-14.3
7.7	-2.1	9.8	-11.9
7.8	-1.6	9.7	-11.3
7.9	-2.3	9.6	-11.9
8.0	-4.1	9.4	-13.5
8.1	-8.0	9.3	-17.3
8.2	-7.7	9.2	-16.8
8.3	-4.6	9.0	-13.7
8.4	-5.7	8.9	-14.6
8.5	-9.0	8.8	-17.8
8.6	-7.2	8.6	-15.8
8.7	-5.2	8.5	-13.8
8.8	-6.9	8.4	-15.3
8.9	-9.5	8.3	-17.8
9.0	-13.3	8.1	-21.5
9.1	-13.3	8.0	-21.3
9.2	-8.8	7.9	-16.7
9.3	-9.2	7.8	-17.0
9.4	-7.8	7.7	-15.5
9.5	-2.8	7.6	-10.3
9.6	0.3	7.4	-7.1
9.7	2.8	7.3	-4.5
9.8	3.2	7.2	-4.1
9.9	3.2	7.1	-3.9
10.0	0.6	7.0	-6.4

Orbit Communication Systems Ltd.
AL-7107-Ka, 2.15 m Antenna, Pattern Data Table
X-pol Azimuth RHCP, -10° to +10° @ 0.1° increment

29.15 GHz Antenna Pattern in X-pol Az RHCP

Angle	Gain	Mask	Over Mask
Degrees	dBi	dBi	dB
-10.0	-8.3	-2.0	-6.3
-9.9	-9.1	-2.0	-7.1
-9.8	-8.2	-2.0	-6.2
-9.7	-7.6	-2.0	-5.6
-9.6	-6.4	-2.0	-4.4
-9.5	-5.9	-2.0	-3.9
-9.4	-4.5	-2.0	-2.5
-9.3	-4.0	-2.0	-2.0
-9.2	-4.4	-2.0	-2.4
-9.1	-6.7	-2.0	-4.7
-9.0	-9.4	-2.0	-7.4
-8.9	-12.6	-2.0	-10.6
-8.8	-13.0	-2.0	-11.0
-8.7	-12.2	-2.0	-10.2
-8.6	-12.6	-2.0	-10.6
-8.5	-11.1	-2.0	-9.1
-8.4	-8.3	-2.0	-6.3
-8.3	-5.8	-2.0	-3.8
-8.2	-6.4	-2.0	-4.4
-8.1	-8.6	-2.0	-6.6
-8.0	-13.5	-2.0	-11.5
-7.9	-10.7	-2.0	-8.7
-7.8	-8.3	-2.0	-6.3
-7.7	-6.8	-2.0	-4.8
-7.6	-9.2	-2.0	-7.2
-7.5	-8.0	-2.0	-6.0
-7.4	-4.0	-2.0	-2.0
-7.3	-2.8	-2.0	-0.8
-7.2	-3.7	-2.0	-1.7
-7.1	-1.7	-2.0	0.3
-7.0	-0.7	-2.1	1.4
-6.9	-0.6	-2.0	1.4
-6.8	-2.2	-1.8	-0.4
-6.7	-4.6	-1.7	-2.9
-6.6	-4.2	-1.5	-2.7
-6.5	-1.7	-1.3	-0.4
-6.4	-1.5	-1.2	-0.4
-6.3	-3.9	-1.0	-2.9
-6.2	-9.4	-0.8	-8.6
-6.1	-21.5	-0.6	-20.8
-6.0	-14.5	-0.5	-14.1
-5.9	-15.6	-0.3	-15.3
-5.8	-10.2	-0.1	-10.1
-5.7	-7.3	0.1	-7.4
-5.6	-5.6	0.3	-5.9
-5.5	-11.7	0.5	-12.2
-5.4	-17.1	0.7	-17.8
-5.3	-8.1	0.9	-9.0
-5.2	-6.5	1.1	-7.6
-5.1	-15.0	1.3	-16.3
-5.0	-6.9	1.5	-8.4
-4.9	-1.8	1.7	-3.5
-4.8	-0.6	2.0	-2.6
-4.7	-2.2	2.2	-4.4
-4.6	-10.8	2.4	-13.2
-4.5	-15.9	2.7	-18.6
-4.4	-6.1	2.9	-9.0
-4.3	0.2	3.2	-3.0
-4.2	2.9	3.4	-0.6
-4.1	2.5	3.7	-1.2

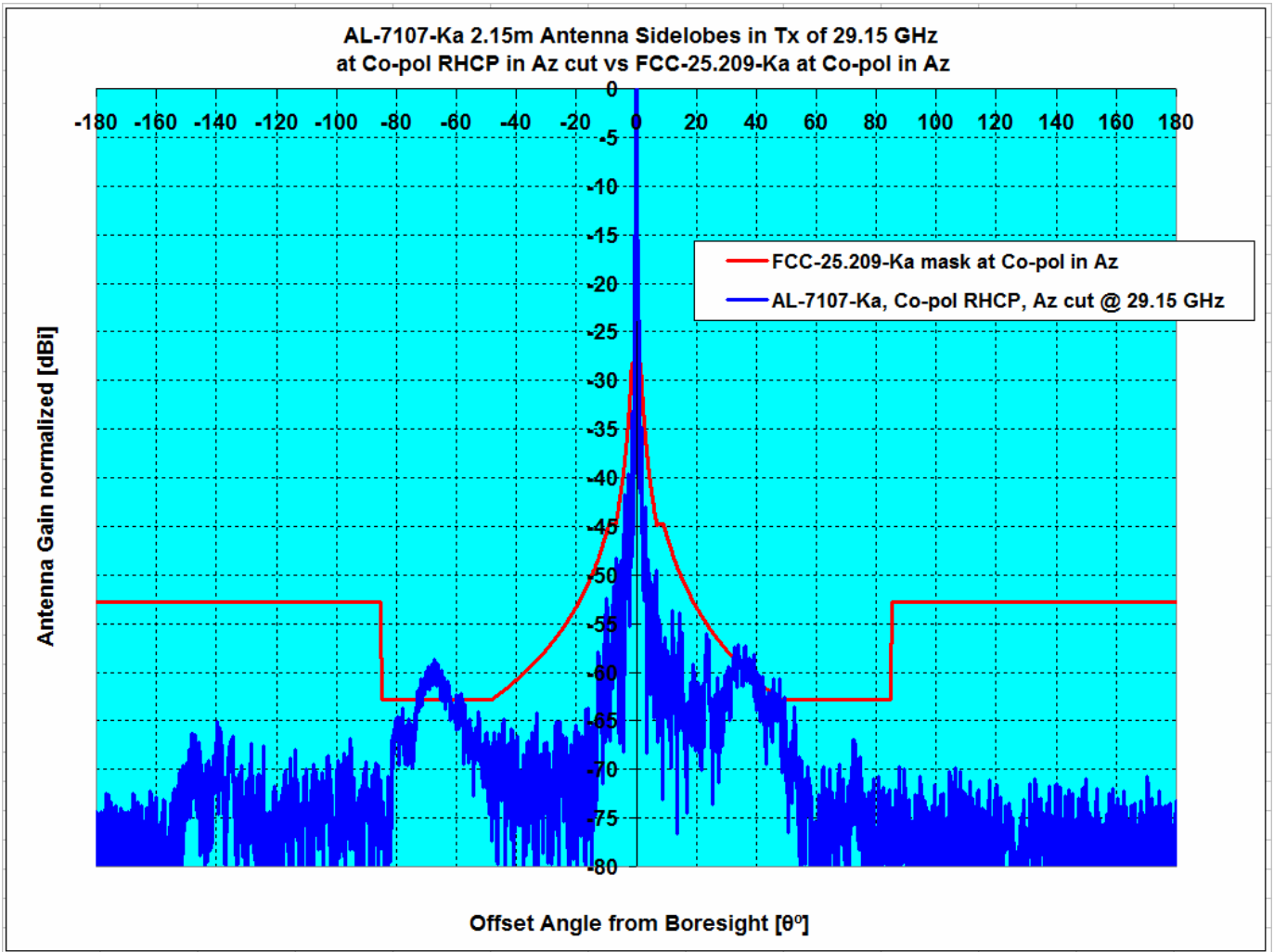
29.15 GHz Antenna Pattern in X-pol Az RHCP

Angle	Gain	Mask	Over Mask
Degrees	dBi	dBi	dB
0.0	27.0		
0.1	25.2		
0.2	30.7		
0.3	32.9		
0.4	32.9		
0.5	30.6		
0.6	25.6		
0.7	19.5		
0.8	12.4		
0.9	2.2		
1.0	12.6		
1.1	12.2		
1.2	6.8		
1.3	7.0		
1.4	8.4		
1.5	8.4		
1.6	7.1		
1.7	2.9		
1.8	-9.5	12.6	-22.1
1.9	-8.6	12.0	-20.6
2.0	-10.9	11.5	-22.4
2.1	-5.3	10.9	-16.2
2.2	-3.0	10.4	-13.4
2.3	-1.9	10.0	-11.9
2.4	-2.3	9.5	-11.8
2.5	-4.0	9.1	-13.0
2.6	-1.5	8.6	-10.2
2.7	1.5	8.2	-6.7
2.8	2.1	7.8	-5.8
2.9	-1.4	7.4	-8.8
3.0	-6.7	7.1	-13.8
3.1	-6.6	6.7	-13.3
3.2	-9.0	6.4	-15.4
3.3	-15.3	6.0	-21.3
3.4	-26.9	5.7	-32.6
3.5	-16.8	5.4	-22.2
3.6	-18.3	5.1	-23.4
3.7	-11.1	4.8	-15.9
3.8	-12.2	4.5	-16.7
3.9	-22.3	4.2	-26.5
4.0	-8.7	3.9	-12.6
4.1	-3.5	3.7	-7.1
4.2	-4.9	3.4	-8.3
4.3	-5.8	3.2	-8.9
4.4	-4.7	2.9	-7.6
4.5	-4.6	2.7	-7.3
4.6	-10.0	2.4	-12.4
4.7	-17.0	2.2	-19.2
4.8	-17.3	2.0	-19.3
4.9	-16.0	1.7	-17.8
5.0	-13.1	1.5	-14.6
5.1	-11.2	1.3	-12.5
5.2	-10.8	1.1	-11.9
5.3	-5.5	0.9	-6.4
5.4	-4.1	0.7	-4.8
5.5	-5.9	0.5	-6.4
5.6	-9.5	0.3	-9.8
5.7	-15.7	0.1	-15.8
5.8	-21.3	-0.1	-21.2
5.9	-15.3	-0.3	-15.0

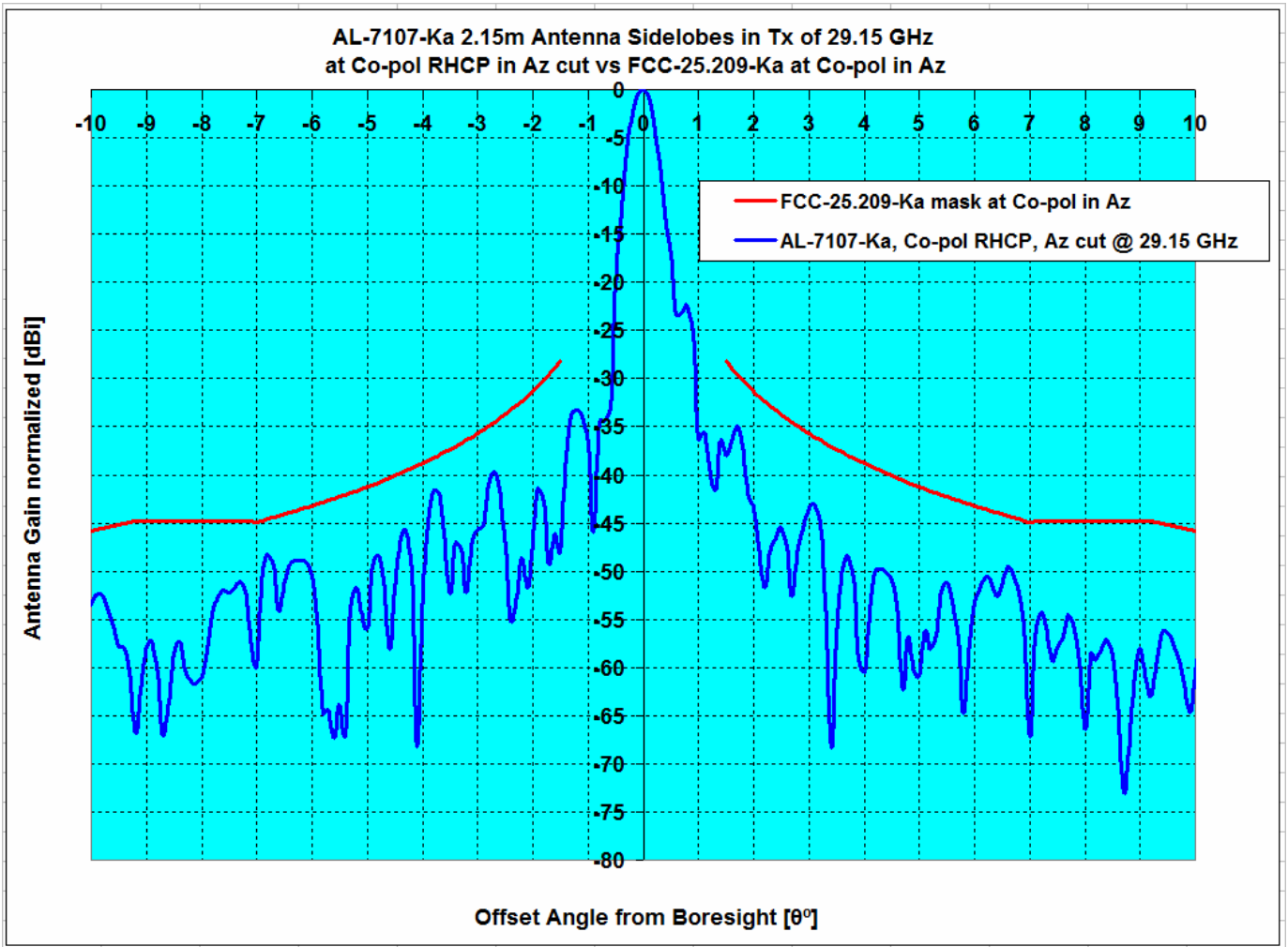
Orbit Communication Systems Ltd.
 AL-7107-Ka, 2.15 m Antenna, Pattern Data Table
 X-pol Azimuth RHCP, -10° to +10° @ 0.1° increment

-4.0	-2.4	3.9	-6.4
-3.9	-9.7	4.2	-14.0
-3.8	-1.3	4.5	-5.8
-3.7	-1.5	4.8	-6.3
-3.6	-8.4	5.1	-13.5
-3.5	-8.4	5.4	-13.8
-3.4	-8.8	5.7	-14.5
-3.3	-25.0	6.0	-31.0
-3.2	-7.7	6.4	-14.1
-3.1	-8.3	6.7	-15.0
-3.0	-20.3	7.1	-27.3
-2.9	-4.5	7.4	-12.0
-2.8	-2.2	7.8	-10.0
-2.7	-5.8	8.2	-14.0
-2.6	-21.5	8.6	-30.1
-2.5	-11.9	9.1	-21.0
-2.4	-1.9	9.5	-11.4
-2.3	3.4	10.0	-6.6
-2.2	4.5	10.4	-6.0
-2.1	3.6	10.9	-7.3
-2.0	1.2	11.5	-10.3
-1.9	-8.5	12.0	-20.5
-1.8	2.8	12.6	-9.9
-1.7	8.9		
-1.6	11.0		
-1.5	11.5		
-1.4	11.1		
-1.3	7.3		
-1.2	7.7		
-1.1	14.0		
-1.0	16.0		
-0.9	17.1		
-0.8	20.5		
-0.7	25.0		
-0.6	28.2		
-0.5	29.2		
-0.4	27.3		
-0.3	17.7		
-0.2	25.0		
-0.1	28.3		
0.0	27.0		

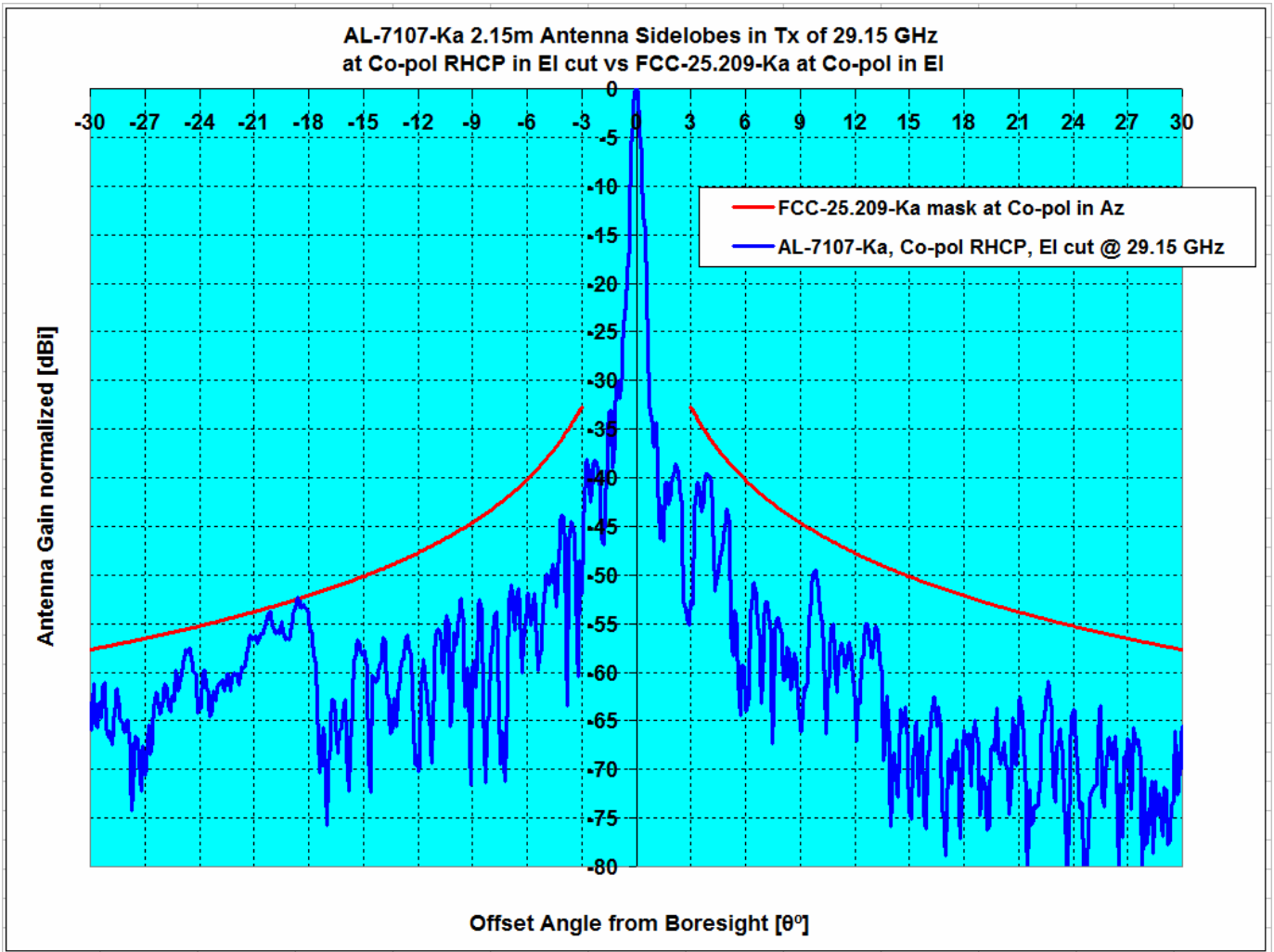
6.0	-13.5	-0.5	-13.0
6.1	-10.5	-0.6	-9.9
6.2	-7.2	-0.8	-6.4
6.3	-7.2	-1.0	-6.2
6.4	-8.3	-1.2	-7.1
6.5	-6.8	-1.3	-5.5
6.6	-4.7	-1.5	-3.2
6.7	-4.1	-1.7	-2.5
6.8	-4.3	-1.8	-2.5
6.9	-7.2	-2.0	-5.2
7.0	-10.1	-2.1	-8.0
7.1	-15.4	-2.0	-13.4
7.2	-17.5	-2.0	-15.5
7.3	-25.5	-2.0	-23.5
7.4	-22.7	-2.0	-20.7
7.5	-14.2	-2.0	-12.2
7.6	-9.4	-2.0	-7.4
7.7	-8.8	-2.0	-6.8
7.8	-14.8	-2.0	-12.8
7.9	-17.2	-2.0	-15.2
8.0	-9.8	-2.0	-7.8
8.1	-11.2	-2.0	-9.2
8.2	-14.2	-2.0	-12.2
8.3	-17.6	-2.0	-15.6
8.4	-14.6	-2.0	-12.6
8.5	-11.6	-2.0	-9.6
8.6	-11.2	-2.0	-9.2
8.7	-11.6	-2.0	-9.6
8.8	-12.0	-2.0	-10.0
8.9	-10.5	-2.0	-8.5
9.0	-9.7	-2.0	-7.7
9.1	-13.5	-2.0	-11.5
9.2	-10.9	-2.0	-8.9
9.3	-11.3	-2.0	-9.3
9.4	-13.4	-2.0	-11.4
9.5	-21.7	-2.0	-19.7
9.6	-23.6	-2.0	-21.6
9.7	-22.0	-2.0	-20.0
9.8	-19.0	-2.0	-17.0
9.9	-12.0	-2.0	-10.0
10.0	-11.9	-2.0	-9.9



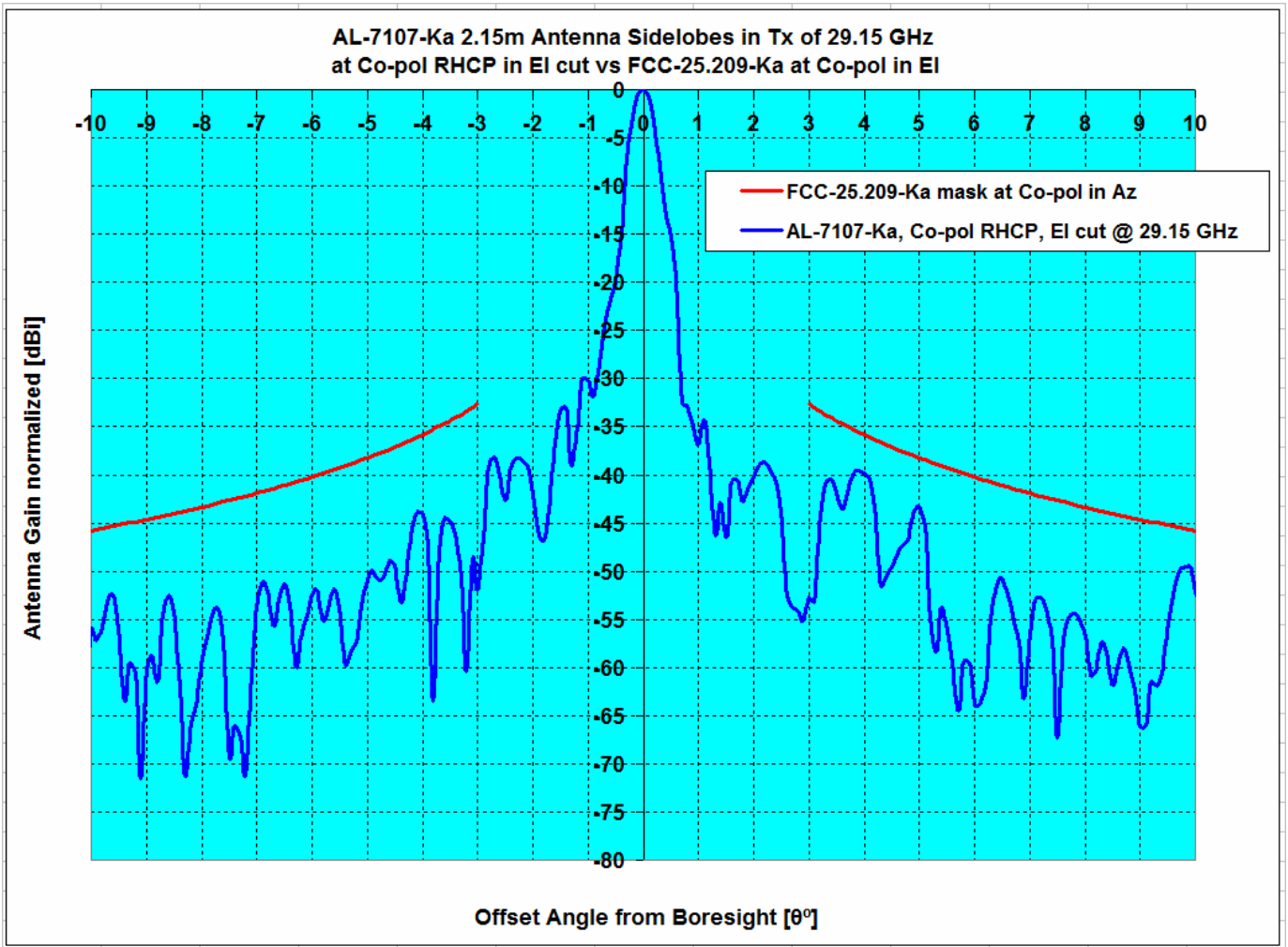
Description	Plane, CirP	Frequency	Ant. Gain	Peak Excursions dB		Over Mask %	
				1.5°≤θ≤7°	7°≤θ≤180°	1.5°≤θ≤7°	7°≤θ≤180°
Pattern Rule vs Antenna System	Type	GHz	dBi				
FCC-25.209-Ka, Co-pol Az, vs AL-7107-Ka	Az , RHCP	29.15	52.77	-3.52	4.12	0.00%	4.65%



Description	Plane, CirP Type	Frequency GHz	Ant. Gain dBi	Peak Excursions dB		Over Mask %	
				1.5°≤θ≤7°	7°≤θ≤180°	1.5°≤θ≤7°	7°≤θ≤180°
FCC-25.209-Ka, Co-pol Az, vs AL-7107-Ka	Az , RHCP	29.15	52.77	-3.52	4.12	0.00%	4.65%

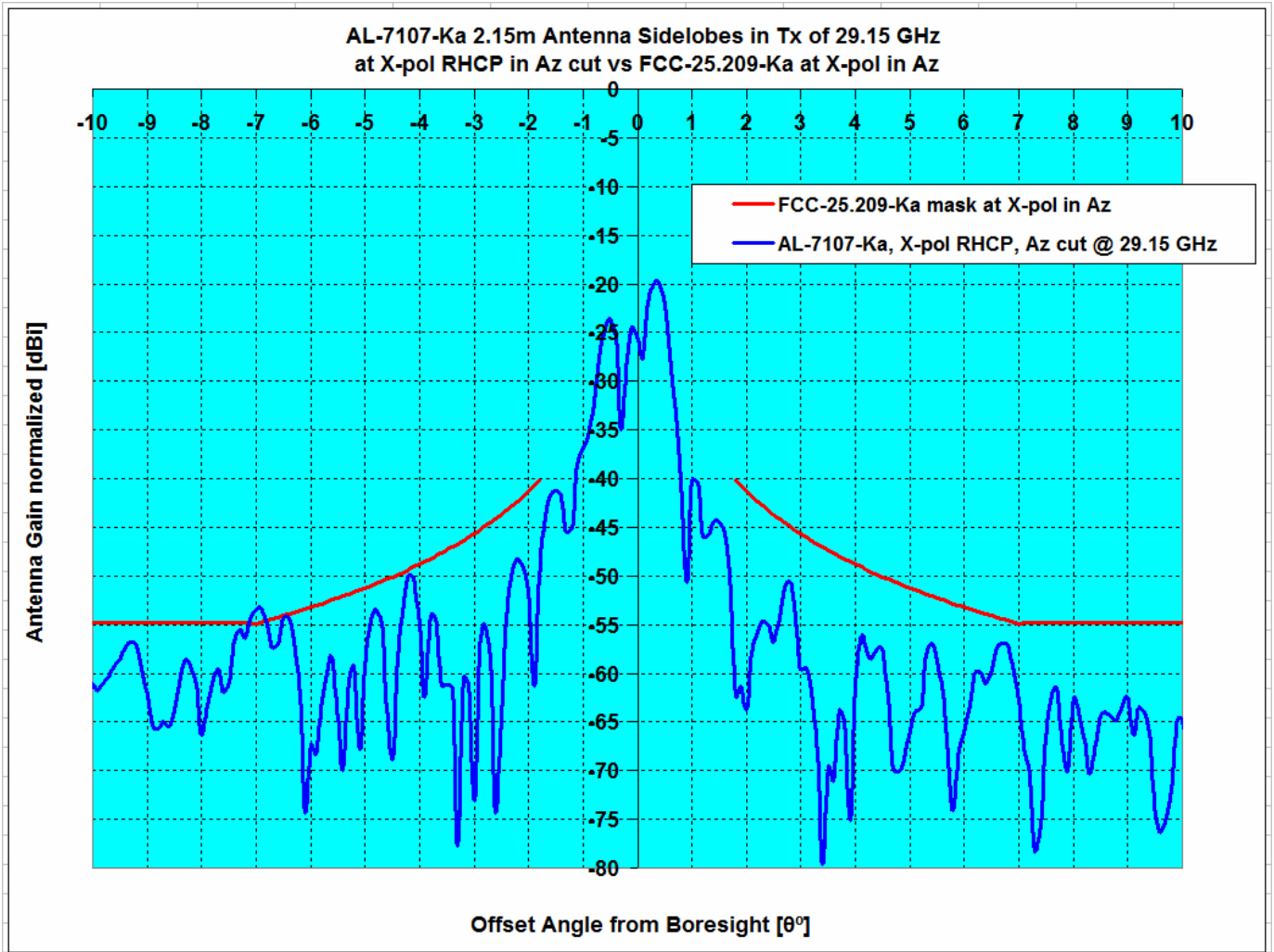


Description	Plane, CirP	Frequency	Ant. Gain	Peak Excursions dB		Over Mask %	
				3°≤θ≤7°	7°≤θ≤30°	3°≤θ≤7°	7°≤θ≤30°
Pattern Rule vs Antenna System	Type	GHz	dBi				
FCC-25.209-Ka, Co-pol EI, vs AL-7107-Ka	EI, RHCP	29.15	52.77	-3.94	0.16	0.00%	0.18%



Description	Plane, CirP	Frequency	Ant. Gain	Peak Excursions dB		Over Mask %	
				3°≤θ≤7°	7°≤θ≤30°	3°≤θ≤7°	7°≤θ≤30°
FCC-25.209-Ka, Co-pol EI, vs AL-7107-Ka	EI, RHCP	29.15	52.77	-3.94	0.16	0.00%	0.18%

Orbit Communication Systems Ltd.
 AL-7107-Ka, 2.15 m Antenna, Pattern, X-pol, Azimuth RHCP



Description	Plane, CirP	Frequency	Ant. Gain	Peak Excursions dB		Over Mask %	
				1.8°≤θ≤7°	1.8°≤θ≤9.2°	1.8°≤θ≤7°	1.8°≤θ≤9.2°
Pattern Rule vs Antenna System	Type	GHz	dBi				
FCC-25.209-Ka, X-pol Az, vs AL-7107-Ka	Az , RHCP	29.15	52.77	1.40	1.40	1.89%	1.81%

Revised 1.2-m radiation hazard study

Radiation Hazard Study

The study in this section analyzes the potential RF human exposure levels caused by the Electro Magnetic (EM) fields of an Orbit AL-7103-Ka, 1.20 m antenna, operating with a maximum power at the flange of 20 Watts. The mathematical analysis performed below complies with the methods described in the FCC Office of Engineering and Technology (OET) Bulletin No. 65 (1985 rev. 1997) R&O 96-3 26 in "Evaluating Compliance with FCC Guidelines for Human Exposure to RF EM Fields, OET Bulletin 65 (Edition 97-01), Supplement B, FCC Office of Engineering & Technology, November 1997".

Maximum Permissible Exposure

There are two separate levels of exposure limits. The first applies to persons in the general population who are in an uncontrolled environment. The second applies to trained personnel in a controlled environment. According to 47 C.F.R. § 1.1310, the Maximum Permissible Exposure (MPE) limits for frequencies above 1.5 GHz are as follows:

- * General Population / Uncontrolled Exposure: 1.0 mW/cm²
- * Occupational / Controlled Exposure: 5.0 mW/cm²

The purpose of this study is to determine the power flux density levels for the earth station under study as compared with the MPE limits. This comparison is done in each of the following regions:

1. Far-field region
2. Near-field region
3. Transition region
4. The region between the feed and the antenna surface
5. The main reflector region
6. The region between the antenna edge and the ground

Input Parameters

The following input parameters were used in the calculations:

<u>Input Parameter</u>	<u>Value</u>	<u>Unit</u>	<u>Symbol</u>
Antenna Diameter	1.20	m	D
Antenna Transmit Gain	48.50	dBi	G
Transmit Frequency	29100.0	MHz	f
Antenna Feed Flange Diam.	6.00	cm	d
Power Input to the Antenna	20.00	Watts	P

Calculated Parameters

The following values were calculated using the above input parameters and the corresponding formula:

<u>Calculated Parameter</u>	<u>Value</u>	<u>Unit</u>	<u>Symbol</u>	<u>Formula</u>
Antenna Surface Area	1.13	m ²	A	$\pi D^2/4$
Area of Antenna Flange	28.3	cm ²	a	$\pi d^2/4$
Antenna Efficiency	0.53	real	η	$g\lambda^2/(\pi^2 D^2)$
Gain Factor	70795	real	g	$10^{(G/10)}$
Wavelength	0.010	m	λ	$300/f$

Behavior of EM Fields as a Function of Distance

The behavior of the characteristics of EM fields varies depending on the distance from the radiating antenna. These characteristics are analyzed in three primary regions: the near-field region, the far-field region and the transition region. Of interest also are the region between the antenna main reflector and the subreflector, the region of the main reflector area and the region between the main reflector and ground.

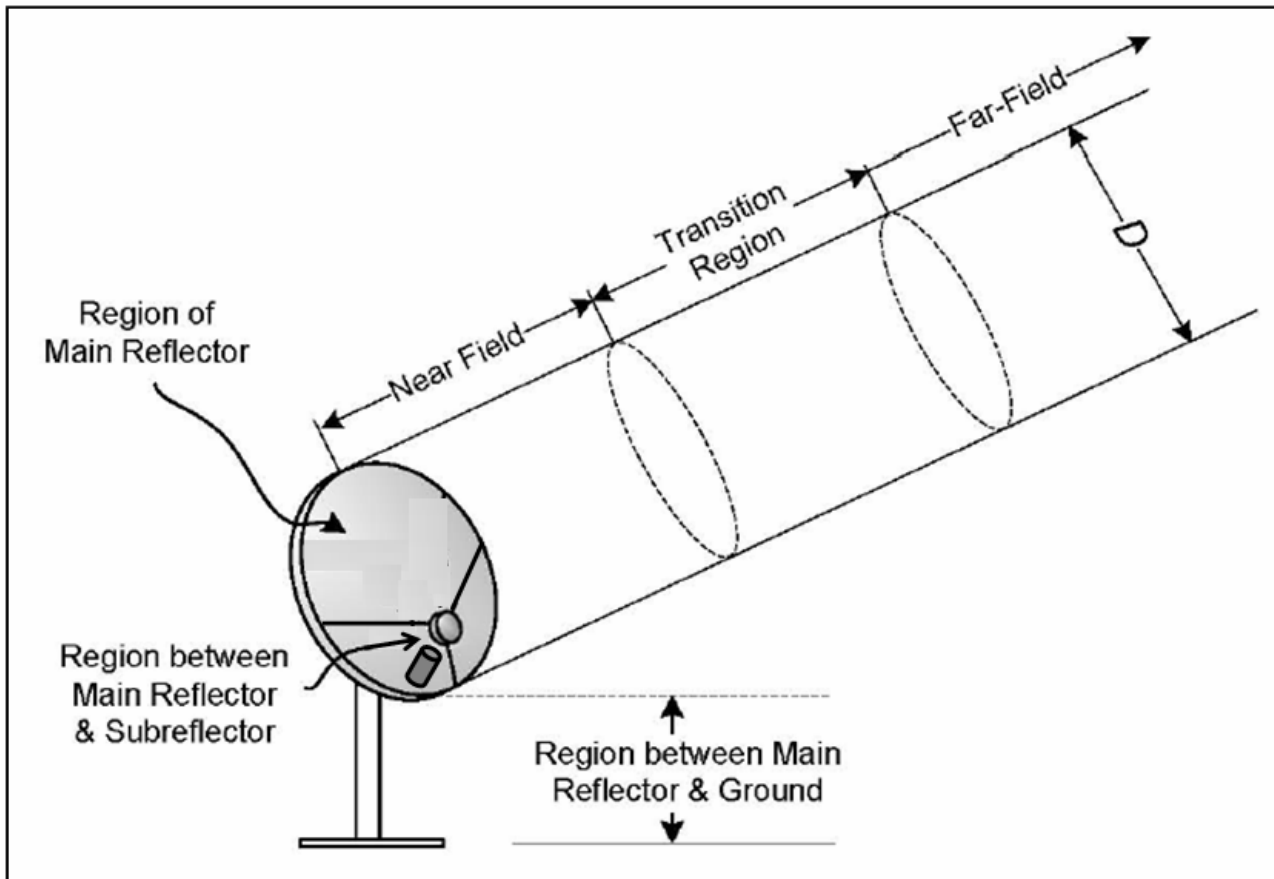


Figure 1. Electro-Magnetic Fields as a Function of Distance

For parabolic aperture antennas with circular cross sections, such as the antenna under study, the near-field, far-field and transition region distances are calculated as follows:

<u>Calculated Parameter</u>	<u>Value</u>	<u>Unit</u>	<u>Symbol</u>	<u>Formula</u>
Near-Field Distance	34.92	m	Rnf	$D^2/(4\lambda)$
Distance to Far-Field	83.81	m	Rff	$0.6D^2/\lambda$
Distance of Transition Region	34.92	m	Rt	$Rt=Rnf$

The distance in the transition region is between the near and far fields. Thus, $Rnf \leq Rt \leq Rff$. However, the power density in the transition region will not exceed the power density in the near-field. Therefore, for purposes of the present analysis, the distance of the transition region can equate the distance to the near-field.

Power Flux Density Calculations

The power flux density is considered to be at a maximum through the entire length of the near-field. This region is contained within a cylindrical volume with a diameter, D , equal to the diameter of the antenna. In the transition region and the far-field, the power density decreases inversely with the square of the distance. The following equations are used to calculate power density in these regions:

<u>Calculated Parameter</u>	<u>Value</u>	<u>Unit</u>	<u>Symbol</u>	<u>Formula</u>
Power Density in the Near-Field	3.74	mW/cm ²	Snf	$16\eta P/(\pi D^2)$
Power Density in the Far-Field	1.60	mW/cm ²	Sff	$gP/(4\pi Rff^2)$
Power Density in the Transition Region	3.74	mW/cm ²	St	$Snf \cdot Rnf/Rt$

The region between the main reflector and the subreflector is confined to within a conical shape defined by the feed assembly. The most common feed assemblies are waveguide flanges. This energy is determined as follows:

<u>Calculated Parameter</u>	<u>Value</u>	<u>Unit</u>	<u>Symbol</u>	<u>Formula</u>
Power Density at the Feed Flange	2829.4	mW/cm ²	Sfa	$4P/a$

The power density in the main reflector is determined similarly to the power density at the feed flange; except that the area of the reflector is used.

<u>Calculated Parameter</u>	<u>Value</u>	<u>Unit</u>	<u>Symbol</u>	<u>Formula</u>
Power Density at Main Reflector	7.07	mW/cm ²	Ssurface	$4P/A$

The power density between the reflector and ground, assuming uniform illumination of the reflector surface, is calculated as follows:

<u>Calculated Parameter</u>	<u>Value</u>	<u>Unit</u>	<u>Symbol</u>	<u>Formula</u>
Power Density between Reflector & Gnd	1.77	mW/cm ²	Sg	P/A

Summary of Calculations

Table 1 below summarizes the calculated power flux density values for each region. In a controlled environment, the only regions that exceed FCC limitations are the regions between the main reflector and the sub-reflector as well as the main reflector region. These regions are only accessible by trained technicians who, as a matter of procedure, turn off transmit power before performing any work in these areas.

Table 1. Power Flux Density for Each Region:

<u>Calculated Parameter</u>	<u>Unit</u>	<u>Exposure Limit</u>	
		<u>Uncontrolled Environment</u>	<u>Controlled Environment</u>
Power Densities	mW/cm²	≤ 1 mW/cm²	≤ 5 mW/cm²
Far Field Calculation	1.60	Exceeds limitations	Satisfies FCC MPE
Near Field Calculation	3.74	Exceeds limitations	Satisfies FCC MPE
Transition Region	3.74	Exceeds limitations	Satisfies FCC MPE
Region between Main & Subreflector	2829.4	Exceeds limitations	Exceeds limitations
Main Reflector Region	7.07	Exceeds limitations	Exceeds limitations
Region between Main Reflector & Gnd	1.77	Exceeds limitations	Satisfies FCC MPE

In conclusion, the results show that the antenna, in a controlled environment, and under the proper mitigation procedures, meets the guidelines specified in § 1.1310 of the Regulations.

Revised 2.2-m radiation hazard study

Radiation Hazard Study

The study in this section analyzes the potential RF human exposure levels caused by the Electro Magnetic (EM) fields of an Orbit AL-7107-Ka, 2.2 m antenna, "OceanTrx7" operating with a maximum power at the flange of 40 Watts. The mathematical analysis performed below complies with the methods described in the FCC Office of Engineering and Technology (OET) Bulletin No. 65 (1985 rev. 1997) R&O 96-3 26 in "Evaluating Compliance with FCC Guidelines for Human Exposure to RF EM Fields, OET Bulletin 65 (Edition 97-01), Supplement B, FCC Office of Engineering & Technology, November 1997".

Maximum Permissible Exposure

There are two separate levels of exposure limits. The first applies to persons in the general population who are in an uncontrolled environment. The second applies to trained personnel in a controlled environment. According to 47 C.F.R. § 1.1310, the Maximum Permissible Exposure (MPE) limits for frequencies above 1.5 GHz are as follows:

- * General Population / Uncontrolled Exposure: 1.0 mW/cm²
- * Occupational / Controlled Exposure: 5.0 mW/cm²

The purpose of this study is to determine the power flux density levels for the earth station under study as compared with the MPE limits. This comparison is done in each of the following regions:

1. Far-field region
2. Near-field region
3. Transition region
4. The region between the feed and the antenna surface
5. The main reflector region
6. The region between the antenna edge and the ground

Input Parameters

The following input parameters were used in the calculations:

<u>Input Parameter</u>	<u>Value</u>	<u>Unit</u>	<u>Symbol</u>
Antenna Diameter	2.15	m	D
Antenna Transmit Gain	52.70	dBi	G
Transmit Frequency	29100.0	MHz	f
Antenna Feed Flange Diam.	8.00	cm	d
Power Input to the Antenna	40.00	Watts	P

Calculated Parameters

The following values were calculated using the above input parameters and the corresponding formula:

<u>Calculated Parameter</u>	<u>Value</u>	<u>Unit</u>	<u>Symbol</u>	<u>Formula</u>
Antenna Surface Area	3.63	m ²	A	$\pi D^2/4$
Area of Antenna Flange	50.3	cm ²	a	$\pi d^2/4$
Antenna Efficiency	0.43	real	η	$g\lambda^2/(\pi^2 D^2)$
Gain Factor	186209	real	g	$10^{(G/10)}$
Wavelength	0.010	m	λ	$300/f$

Behavior of EM Fields as a Function of Distance

The behavior of the characteristics of EM fields varies depending on the distance from the radiating antenna. These characteristics are analyzed in three primary regions: the near-field region, the far-field region and the transition region. Of interest also are the region between the antenna main reflector and the subreflector, the region of the main reflector area and the region between the main reflector and ground.

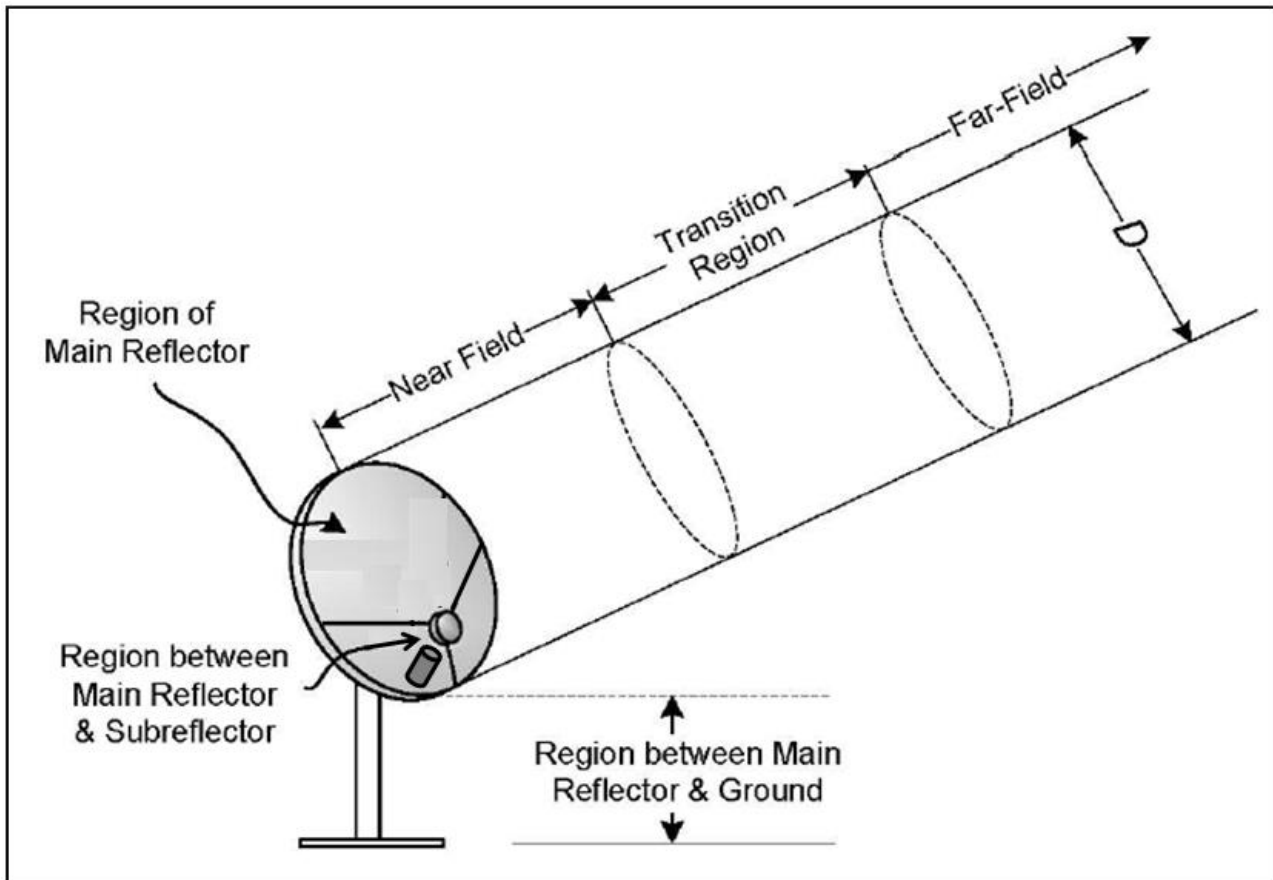


Figure 1. Electro-Magnetic Fields as a Function of Distance

For parabolic aperture antennas with circular cross sections, such as the antenna under study, the near-field, far-field and transition region distances are calculated as follows:

<u>Calculated Parameter</u>	<u>Value</u>	<u>Unit</u>	<u>Symbol</u>	<u>Formula</u>
Near-Field Distance	112.10	m	Rnf	$D^2/(4\lambda)$
Distance to Far-Field	269.03	m	Rff	$0.6D^2/\lambda$
Distance of Transition Region	112.10	m	Rt	$Rt=Rnf$

The distance in the transition region is between the near and far fields. Thus, $Rnf \leq Rt \leq Rff$. However, the power density in the transition region will not exceed the power density in the near-field. Therefore, for purposes of the present analysis, the distance of the transition region can equate the distance to the near-field.

Power Flux Density Calculations

The power flux density is considered to be at a maximum through the entire length of the near-field. This region is contained within a cylindrical volume with a diameter, D , equal to the diameter of the antenna. In the transition region and the far-field, the power density decreases inversely with the square of the distance. The following equations are used to calculate power density in these regions:

<u>Calculated Parameter</u>	<u>Value</u>	<u>Unit</u>	<u>Symbol</u>	<u>Formula</u>
Power Density in the Near-Field	1.91	mW/cm ²	Snf	$16\eta P/(\pi D^2)$
Power Density in the Far-Field	0.82	mW/cm ²	Sff	$gP/(4\pi Rff^2)$
Power Density in the Transition Region	1.91	mW/cm ²	St	$Snf \cdot Rnf/Rt$

The region between the main reflector and the subreflector is confined to within a conical shape defined by the feed assembly. The most common feed assemblies are waveguide flanges. This energy is determined as follows:

<u>Calculated Parameter</u>	<u>Value</u>	<u>Unit</u>	<u>Symbol</u>	<u>Formula</u>
Power Density at the Feed Flange	3183.1	mW/cm ²	Sfa	$4P/a$

The power density in the main reflector is determined similarly to the power density at the feed flange; except that the area of the reflector is used.

<u>Calculated Parameter</u>	<u>Value</u>	<u>Unit</u>	<u>Symbol</u>	<u>Formula</u>
Power Density at Main Reflector	4.41	mW/cm ²	Ssurface	$4P/A$

The power density between the reflector and ground, assuming uniform illumination of the reflector surface, is calculated as follows:

<u>Calculated Parameter</u>	<u>Value</u>	<u>Unit</u>	<u>Symbol</u>	<u>Formula</u>
Power Density between Reflector & Gnd	1.10	mW/cm ²	Sg	P/A

Summary of Calculations

Table 1 below summarizes the calculated power flux density values for each region. In a controlled environment, the only regions that exceed FCC limitations are the regions between the main reflector and the sub-reflector as well as the main reflector region. These regions are only accessible by trained technicians who, as a matter of procedure, turn off transmit power before performing any work in these areas.

Table 1. Power Flux Density for Each Region:

<u>Calculated Parameter</u>	<u>Unit</u>	<u>Exposure Limit</u>	
		<u>Uncontrolled Environment</u>	<u>Controlled Environment</u>
Power Densities	mW/cm²	≤ 1 mW/cm²	≤ 5 mW/cm²
Far Field Calculation	0.82	Satisfies FCC MPE	Satisfies FCC MPE
Near Field Calculation	1.91	Exceeds limitations	Satisfies FCC MPE
Transition Region	1.91	Exceeds limitations	Satisfies FCC MPE
Region between Main & Subreflector	3183.1	Exceeds limitations	Exceeds limitations
Main Reflector Region	4.41	Exceeds limitations	Satisfies FCC MPE
Region between Main Reflector & Gnd	1.10	Exceeds limitations	Satisfies FCC MPE

In conclusion, the results show that the antenna, in a controlled environment, and under the proper mitigation procedures, meets the guidelines specified in § 1.1310 of the Regulations.