Speedcast Communications Inc.
Modification of Very Small Aperture Terminal (VSAT) Blanket License

Technical Appendix

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Ku-band Radiation Hazard Study

Intellian v240M (Ku-band)

This study analyzes the non-ionizing radiation levels for the Intellian v240M antenna while operating in the Ku-band. This report is developed in accordance with the prediction methods contained in OET Bulletin No. 65, Evaluating Compliance with FCC Guidelines for Human Exposure to Radio Frequency Electromagnetic Fields, Edition 97-01.

Bulletin No. 65 specifies that there are two separate tiers of exposure limits that are depending on the area of exposure and/or the status of the individuals who are subject to the exposure -- the General Population/ Uncontrolled Environment and the Controlled Environment, where the general population cannot access.

The maximum level of non-ionizing radiation to which individuals may be exposed is limited to a power density level of 5 milliwatts per square centimeter (5 mW/cm^2) averaged over any 6 minute period in a controlled environment, and the maximum level of non-ionizing radiation to which the general public is exposed is limited to a power density level of 1 milliwatt per square centimeter (1 mW/cm^2) averaged over any 30 minute period in a uncontrolled environment.

In the normal range of transmit powers for satellite antennas, the power densities at or around the antenna surface are expected to exceed safe levels. 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:

Parameters:	Value	Unit	Symbol
Antenna Diameter	2.4	m	*D*
Antenna Transmit Gain	49	dBi	*G*
Transmit Frequency	14125	MHz	*f*
Antenna Feed Flange diameter	15	cm	*d*
Power Input to the Antenna	222	W	*P*

Calculated Parameters:

The following values were calculated using the above input parameters and the corresponding formulas:

Parameter	Value	Unit	Symbol	Formula
Antenna Surface Area	4.524	m^2	A	$\pi D^2/4$
Area of Antenna Flange	176.715	cm^2	a	$\pi d^2/4$
Antenna Efficiency	0.63		η	$G\lambda^2/(\pi^2 D^2)$
Gain Factor	79432.82		g	$10^{G/10}$
Wavelength	0.0212	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.

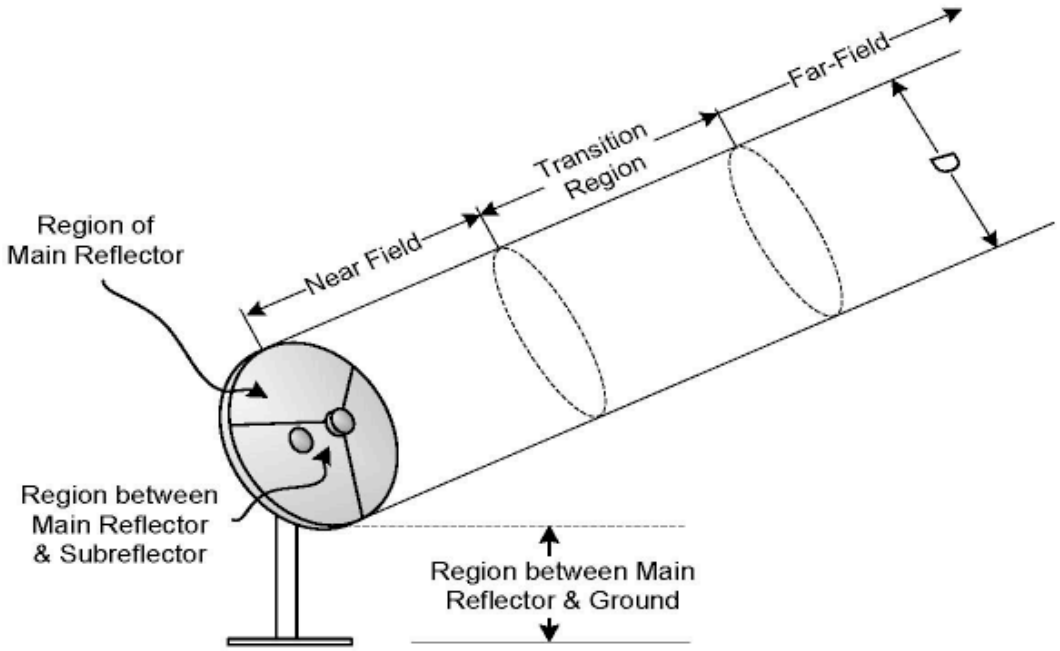


Figure 1. EM Fields as a Function of Distance

For parabolic aperture antennas with circular cross sections, such as the antenna under study, the near-field, farfield and transition region distances are calculated as follows:

Parameter	Value	Unit	Formula
Near-Field Distance	67.8	m	$R_{nf} = D^2/(4\lambda)$
Distance to Far-Field	162.72	m	$R_{ff} = 0.60D^2/(\lambda)$
Distance of Transition Region	67.8	m	$R_t = R_{nf}$

The distance in the transition region is between the near and far fields. Thus, $R_{nf} \leq R_t \leq R_{ff}$. 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.

Parameter	Value	Unit	Symbol	Formula
Power Density in the Near-Field	12.354	mW/cm^2	S_{nf}	$16.0\ \eta\ P/(\pi D^2)$
Power Density in the Far-Field	5.292	mW/cm^2	S_{ff}	$GP/(4\pi\ Rff^2)$
Power Density in the Transition Region	12.354	mW/cm^2	S_t	$S_{nf} R_{nf} /(R_t)$

The region between the main reflector and the subreflector is confined within a conical shape defined by the feed assembly. The most common feed assemblies are waveguide flanges. This energy is determined as follows:

Parameter	Value	Unit	Symbol	Formula
Power Density at the Feed Flange	5017.6	mW/cm^2	S_{fa}	$4P / a$

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.

Parameter	Value	Unit	Symbol	Formula
Power Density at Main Reflector	19.6	mW/cm^2	$S_{surface}$	$4P / A$

The power density between the reflector and ground, assuming uniform illumination of the reflector surface, is calculated as follows:

Parameter	Value	Unit	Symbol	Formula
Power Density b/w Reflector and Ground	4.9	mW/cm^2	S_g	P / A

The below table summarizes the calculated power flux density values for each region. In a controlled environment, the only regions that exceed FCC limitations are shown below. 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.

Power Density	Value	Unit	Controlled Environment
Far Field Calculation	5.292	mW/cm^2	Exceeds Limits
Near Field Calculation	12.354	mW/cm^2	Exceeds Limits
Transition Region	12.354	mW/cm^2	Exceeds Limits
Region b/w feed iris and reflector	5017.6	mW/cm^2	Exceeds Limits
Main Reflector Region	19.6	mW/cm^2	Exceeds Limits
Region b/w Main Reflector & Ground	4.9	mW/cm^2	Satisfies FCC MPE

The maximum input power assumed in this study (222 W) is much higher than the actual operational input power of the antenna, which is 62.6 W. Based on these worst-case scenario calculations, the applicant will comply with the Maximum Permissible Exposure (MPE) limits of 1 mW/cm2 for the Uncontrolled areas and the MPE limits of 5 mW/cm2 for the Controlled areas by restricting access to the antenna and posting warning signs. Access to the antenna will be restricted to the public. Only personnel with knowledge of the radiation hazards associated with the antennas at this facility will have access to those regions that exceed the MPE levels. The antenna transmitter will be turned off during maintenance in order to comply with the MPE limit of 5 mW/ cm2 for Controlled Areas. In conclusion, the antenna, under the proper mitigation procedures, meets the guidelines specified in 47 C.F.R. § 1.1310.

Analysis of Non-Ionizing Radiation for Intellian V240MT 2.4-Meter Earth Station System (Ku-Band)

This report analyzes the non-ionizing radiation levels for a 2.4-meter earth station system. The analysis and calculations performed in this report comply with the methods described in the FCC Office of Engineering and Technology Bulletin, No. 65 first published in 1985 and revised in 1997 in Edition 97-01. The radiation safety limits used in the analysis are in conformance with the FCC R&O 96-326. Bulletin No. 65 and the FCC R&O specifies that there are two separate tiers of exposure limits that are dependent on the situation in which the exposure takes place and/or the status of the individuals who are subject to the exposure. The Maximum Permissible Exposure (MPE) limits for persons in a General Population/Uncontrolled environment are shown in Table 1. The General Population/Uncontrolled MPE is a function of transmit frequency and is for an exposure period of thirty minutes or less. The MPE limits for persons in an Occupational/Controlled environment are shown in Table 2. The Occupational MPE is a function of transmit frequency and is for an exposure period of six minutes or less. The purpose of the analysis described in this report is to determine the power flux density levels of the earth station in the far-field, near-field, transition region, between the subreflector or feed and main reflector surface, at the main reflector surface, and between the antenna edge and the ground and to compare these levels to the specified MPEs.

Table 1. Limits for General Population/Uncontrolled Exposure (MPE)

Frequency Range (MHz)	Power Density (mW/cm^2)
30-300	0.2
300-1500	Frequency (MHz)*(0.8/1200)
1500-100,000	1.0

Table 2. Limits for Occupational/Controlled Exposure (MPE)

Frequency Range (MHz)	Power Density (mW/cm^2)
30-300	1.0
300-1500	Frequency (MHz)*(4.0/1200)
1500-100,000	5.0

Table 3. Formulas and Parameters Used for Determining Power Flux Densities

Parameter	Symbol	Formula	Value	Units
Antenna Diameter	D	Input	**2.40**	m
Antenna Surface Area	$A_{surface}$	πD^2/4	4.524	m^2
Subreflector Diameter	D_{sr}	Input	**15.00**	cm
Area of Subreflector	A_{sr}	πDsr^2/4	176.715	cm^2
Frequency	F	Input	**14,125**	MHz
Wavelength	λ	300 / F	0.021239	m
Transmit Power	P	Input	**77.6**	W
Antenna Gain (dBi)	Ges	Input	47.4	dBi
Antenna Gain (factor)	G	10^(Ges/10)	54,954.087	n/a
Pi	π	Constant	3.1415927	n/a
Antenna Efficiency	η	$G\lambda^2/(\pi^2D^2)$	0.44	n/a

1. Far Field Distance Calculation

The distance to the beginning of the far field can be determined from the following equation:

Distance to the Far Field Region, $R_{ff} = 0.60\ D^2 / \lambda$ (1)

$= 162.720$ m

The maximum main beam power density in the far field can be determined from the following equation:

On-Axis Power Density in the Far Field, $S_{ff} = G\ P / (4\ \pi\ R_{ff}^2)$ (2)

$= 12.817$ W/m^2

$= 1.282$ mW/cm^2

2. Near Field Calculation

Power flux density is considered to be at a maximum value throughout the entire length of the defined Near Field region. The region is contained within a cylindrical volume having the same diameter as the antenna. Past the boundary of the Near Field region, the power density from the antenna decreases linearly with respect to increasing distance.

The distance to the end of the Near Field can be determined from the following equation:

Extent of the Near Field, $R_{nf} = D^2 / (4\ \lambda)$ (3)

$= 67.80$ m

The maximum power density in the Near Field can be determined from the following equation:

Near Field Power Density, $S_{nf} = 16.0\ \eta\ P / (\pi\ D^2)$ (4)

$= 29.919$ W/m^2

$= 2.992$ mW/cm^2

3. Transition Region Calculation

The Transition region is located between the Near and Far Field regions. The power density begins to decrease linearly with increasing distance in the Transition region. While the power density decreases inversely with distance in the Transition region, the power density decreases inversely with the square of the distance in the Far Field region. The maximum power density in the Transition region will not exceed that calculated for the Near Field region. The power density calculated in Section 1 is the highest power density the antenna can produce in any of the regions away from the antenna. The power density at a distance R_t can be determined from the following equation:

Transition Region Power Density, $S_t = S_{nf}\ R_{nf} / R_t$ (5)

$= 2.992$ mW/cm^2 when $R_t = R_nf$

4. Region between the Main Reflector and the Subreflector

Transmissions from the feed assembly are directed toward the subreflector surface, and are reflected back toward the main reflector. The most common feed assemblies are waveguide flanges, horns or subreflectors. The energy between the subreflector and the reflector surfaces can be calculated by determining the power density at the subreflector surface. This can be determined from the following equation:

Power Density at the Subreflector, $S_{sr} = 4000\ P / A_{sr}$ (6)

$= 1756.505\ mW/cm^2$

5. Main Reflector Region

The power density in the main reflector is determined in the same manner as the power density at the subreflector. The area is now the area of the main reflector aperture and can be determined from the following equation:

Power Density at the Main Reflector Surface $S_{surface} = 4\ P / A_{surface}$ (7)

$= 68.613\ W/m^2$

$= 6.681\ mW/cm^2$

6. Region between the Main Reflector and the Ground

Assuming uniform illumination of the reflector surface, the power density between the antenna and the ground can be determined from the following equation:

Power Density between Reflector and Ground, $S_g = P / A_{surface}$ (8)

$= 17.153\ W/m^2$

$= 1.715\ mW/cm^2$

7. Summary of Calculations

Table 4. Summary of Expected Radiation Levels for Uncontrolled Environment

Calculated Maximum

Radiation Power Density Level (mW/cm2)

Region	Distance	Value	Unit	Power Density Symbol	Value	Unit	Hazard Assessment
1. Far Field	R_{ff}	162.7	m	S_{ff}	1.282	mW/m^2	Exceeds Limits
2. Near Field	R_{nf}	67.8	m	S_{nf}	2.992	mW/m^2	Exceeds Limits
3. Transition Region	$R_{nf} < R_t < R_{ff}$			S_t	2.992	mW/m^2	Exceeds Limits
4. Between Main Reflector and Subreflector				S_{sr}	1756.505	mW/m^2	Exceeds Limits
5. Main Reflector				$S_{surface}$	6.861	mW/m^2	Exceeds Limits
6. Between Main Reflector and Ground				S_g	1.715	mW/m^2	Exceeds Limits

Table 5. Summary of Expected Radiation Levels for Controlled Environment

Calculated Maximum

Radiation Power Density Level (mW/cm2)

Region	Distance	Value	Unit	Power Density Symbol	Value	Unit	Hazard Assessment
1. Far Field	R_{ff}	162.7	m	S_{ff}	1.282	mW/m^2	Satisfies FCC MPE
2. Near Field	R_{nf}	67.8	m	S_{nf}	2.992	mW/m^2	Satisfies FCC MPE
3. Transition Region	$R_{nf} < R_t < R_{ff}$			S_t	2.992	mW/m^2	Satisfies FCC MPE
4. Between Main Reflector and Subreflector				S_{sr}	1756.505	mW/m^2	Exceeds Limits
5. Main Reflector				$S_{surface}$	6.861	mW/m^2	Exceeds Limits
6. Between Main Reflector and Ground				S_g	1.715	mW/m^2	Satisfies FCC MPE

It is the applicant's responsibility to ensure that the public and operational personnel are not exposed to harmful levels of radiation.

8. Conclusions

Based on the above analysis it is concluded that the FCC RF Guidelines have been exceeded in the specified region(s) of Tables 4 and 5 and have been met in the specified regions under the Controlled Environment as indicated in Table 5. The applicant will comply with the Maximum Permissible Exposure (MPE) limits of 1 mW/cm^2 for the Uncontrolled areas and the MPE limits of 5 mW/cm^2 for the Controlled areas by restricting access to the antenna and posting warning signs. Access to the antenna will be restricted to the public. Only personnel with knowledge of the radiation hazards associated with the antennas at this facility will have access to those regions that exceed the MPE levels. The antenna transmitter will be turned off during maintenance in order to comply with the MPE limit of 5 mW/cm^2 for Controlled Areas. In conclusion, the antenna, under the proper mitigation procedures, meets the guidelines specified in 47 C.F.R. § 1.1310.

Analysis of Non-Ionizing Radiation for V240MT 2.4-Meter Ka-Band Earth Station System (Ka-band)

This report analyzes the non-ionizing radiation levels for a 2.4-meter Ka-Band earth station system. The analysis and calculations performed in this report comply with the methods described in the FCC Office of Engineering and Technology Bulletin, No. 65 first published in 1985 and revised in 1997 in Edition 97-01. The radiation safety limits used in the analysis are in conformance with the FCC R&O 96-326. Bulletin No. 65 and the FCC R&O specifies that there are two separate tiers of exposure limits that are dependent on the situation in which the exposure takes place and/or the status of the individuals who are subject to the exposure. The Maximum Permissible Exposure (MPE) limits for persons in a General Population/Uncontrolled environment are shown in Table 1. The General Population/Uncontrolled MPE is a function of transmit frequency and is for an exposure period of thirty minutes or less. The MPE limits for persons in an Occupational/Controlled environment are shown in Table 2. The Occupational MPE is a function of transmit frequency and is for an exposure period of six minutes or less. The purpose of the analysis described in this report is to determine the power flux density levels of the earth station in the far-field, near-field, transition region, between the subreflector or feed and main reflector surface, at the main reflector surface, and between the antenna edge and the ground and to compare these levels to the specified MPEs.

Table 1. Limits for General Population/Uncontrolled Exposure (MPE)

Frequency Range (MHz)	Power Density (mW/cm^2)
30-300	0.2
300-1500	Frequency (MHz)*(0.8/1200)
1500-100,000	1.0

Table 2. Limits for Occupational/Controlled Exposure (MPE)

Frequency Range (MHz)	Power Density (mW/cm^2)
30-300	1.0
300-1500	Frequency (MHz)*(4.0/1200)
1500-100,000	5.0

Table 3. Formulas and Parameters Used for Determining Power Flux Densities

Parameter	Symbol	Formula	Value	Units
Antenna Diameter	D	Input	2.4	m
Antenna Surface Area	$A_{surface}$	πD^2/4	4.524	m^2
Subreflector Diameter	D_{sr}	Input	**17.80**	cm
Area of Subreflector	A_{sr}	πDsr^2/4	248.846	cm^2
Frequency	F	Input	**29,875.00**	MHz
Wavelength	λ	300 / F	0.010042	m
Transmit Power	P	Input	**31.61**	W
Antenna Gain (dBi)	Ges	Input	**50.7**	dBi
Antenna Gain (factor)	G	10^(Ges/10)	117,489.455	n/a
Pi	π	Constant	3.1415927	n/a
Antenna Efficiency	η	$G\lambda^2/(\pi^2D^2)$	0.2084	n/a

1. Far Field Distance Calculation

The distance to the beginning of the far field can be determined from the following equation:

Distance to the Far Field Region, $R_{ff} = 0.60\ D^2 / \lambda$ (1)

$= 344.16$ m

The maximum main beam power density in the far field can be determined from the following equation:

On-Axis Power Density in the Far Field, $S_{ff} = G\ P / (4\ \pi\ R_{ff}^2)$ (2)

$= 2.495\ W/m^2$

$= 0.250\ mW/cm^2$

2. Near Field Calculation

Power flux density is considered to be at a maximum value throughout the entire length of the defined Near Field region. The region is contained within a cylindrical volume having the same diameter as the antenna. Past the boundary of the Near Field region, the power density from the antenna decreases linearly with respect to increasing distance.

The distance to the end of the Near Field can be determined from the following equation:

Extent of the Near Field, $R_{nf} = D^2 / (4\ \lambda)$ (3)

$= 143.40$ m

The maximum power density in the Near Field can be determined from the following equation:

Near Field Power Density, $S_{nf} = 16.0\ \eta\ P / (\pi\ D^2)$ (4)

$= 5.825\ W/m^2$

$= 0.583\ mW/cm^2$

3. Transition Region Calculation

The Transition region is located between the Near and Far Field regions. The power density begins to decrease linearly with increasing distance in the Transition region. While the power density decreases inversely with distance in the Transition region, the power density decreases inversely with the square of the distance in the Far Field region. The maximum power density in the Transition region will not exceed that calculated for the Near Field region. The power density calculated in Section 1 is the highest power density the antenna can produce in any of the regions away from the antenna. The power density at a distance R_t can be determined from the following equation:

Transition Region Power Density, $S_t = S_{nf}\ R_{nf} / R_t$ (5)

$= 0.583\ mW/cm^2$ when $R_t = R_nf$

4. Region between the Main Reflector and the Subreflector

Transmissions from the feed assembly are directed toward the subreflector surface, and are reflected back toward the main reflector. The most common feed assemblies are waveguide flanges, horns or subreflectors. The energy between the subreflector and the reflector surfaces can be calculated by determining the power density at the subreflector surface. This can be determined from the following equation:

Power Density at the Subreflector, $S_{sr} = 4000\ P / A_{sr}$ (6)

$= 508.15\ mW/cm^2$

5. Main Reflector Region

The power density in the main reflector is determined in the same manner as the power density at the subreflector. The area is now the area of the main reflector aperture and can be determined from the following equation:

Power Density at the Main Reflector Surface $S_{surface} = 4\ P / A_{surface}$ (7)

$= 27.952\ W/m^2$

$= 2.795\ mW/cm^2$

6. Region between the Main Reflector and the Ground

Assuming uniform illumination of the reflector surface, the power density between the antenna and the ground can be determined from the following equation:

Power Density between Reflector and Ground, $S_g = P / A_{surface}$ (8)

$= 6.988\ W/m^2$

$= 0.699\ mW/cm^2$

7. Summary of Calculations

Table 4. Summary of Expected Radiation Levels for Uncontrolled Environment

Calculated Maximum

Radiation Power Density Level (mW/cm2)

Region	Distance	Value	Unit	Power Density Symbol	Value	Unit	Hazard Assessment
1. Far Field	R_{ff}	713.3	m	S_{ff}	0.250	mW/m^2	Satisfies FCC MPE
2. Near Field	R_{nf}	297.2	m	S_{nf}	0.583	mW/m^2	Satisfies FCC MPE
3. Transition Region	$R_{nf} < R_t < R_{ff}$			S_t	0.583	mW/m^2	Satisfies FCC MPE
4. Between Main Reflector and Subreflector				S_{sr}	508.15	mW/m^2	Potential Hazard
5. Main Reflector				$S_{surface}$	2.795	mW/m^2	Potential Hazard
6. Between Main Reflector and Ground				S_g	0.699	mW/m^2	Satisfies FCC MPE

Table 5. Summary of Expected Radiation Levels for Controlled Environment
Calculated Maximum
Radiation Power Density Level (mW/cm2)

Region	Distance	Value	Unit	Power Density Symbol	Value	Unit	Hazard Assessment
1. Far Field	R_{ff}	713.3	m	S_{ff}	0.250	mW/m^2	Satisfies FCC MPE
2. Near Field	R_{nf}	297.2	m	S_{nf}	0.583	mW/m^2	Satisfies FCC MPE
3. Transition Region	$R_{nf} < R_t < R_{ff}$			S_t	0.583	mW/m^2	Satisfies FCC MPE
4. Between Main Reflector and Subreflector				S_{sr}	508.15	mW/m^2	Potential Hazard
5. Main Reflector				$S_{surface}$	2.795	mW/m^2	Satisfies FCC MPE
6. Between Main Reflector and Ground				S_g	0.699	mW/m^2	Satisfies FCC MPE

It is the applicant's responsibility to ensure that the public and operational personnel are not exposed to harmful levels of radiation.

8. Conclusions

Based on the above analysis it is concluded that the FCC RF Guidelines have been exceeded in the specified region(s) of Tables 4 and 5. Given these exceedances, the applicant will comply with the Maximum Permissible Exposure (MPE) limits of 1 mW/cm2 for the Uncontrolled areas and the MPE limits of 5 mW/cm2 for the Controlled areas by restricting access to the antenna and posting warning signs. Access to the antenna will be restricted to the public. Only personnel with knowledge of the radiation hazards associated with the antennas at this facility will have access to those regions that exceed the MPE levels. The antenna transmitter will be turned off during maintenance in order to comply with the MPE limit of 5 mW/cm2 for Controlled Areas. In conclusion, the antenna, under the proper mitigation procedures, meets the guidelines specified in 47 C.F.R. § 1.1310.

Radiation Hazard Study

Sailor 900B

This study analyzes the potential Radio Frequency (RF) human exposure levels caused by the Electro Magnetic (EM) fields of the above-captioned antenna. The mathematical analysis performed below complies with the methods described in the Federal Communications Commission Office of Engineering and Technology Bulletin No. 65 (1985 rev. 1997) R&O 96-326.

Maximum Permisible 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:

Parameter	Value	Unit	Symbol
Atenna Diameter:	1.03	m	D
Antenna Transmit Gain:	41.60	dBi	G
Trasmit Frequency:	14250	MHz	f
Feed Flange Diameter:	5.30	cm	d
Power Input to the Antenna:	8.00	W	P

Calculated Parameters

The following values were calculated using the above input parameters and the corresponding formulas.

Parameter	Value	Unit	Symbol	Formula
Anenna Surface Area:	0.83	m^2	A	$\pi D^2/4$
Area of Feed Flange:	22.06	cm^2	a	$\pi d^2/4$
Antenna Efficiency:	0.58		η	$G\lambda^2/(\pi^2 D^2)$
Gain Factor:	13803.84		g	$10^{G/10}$
Wavelength:	0.0211	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.

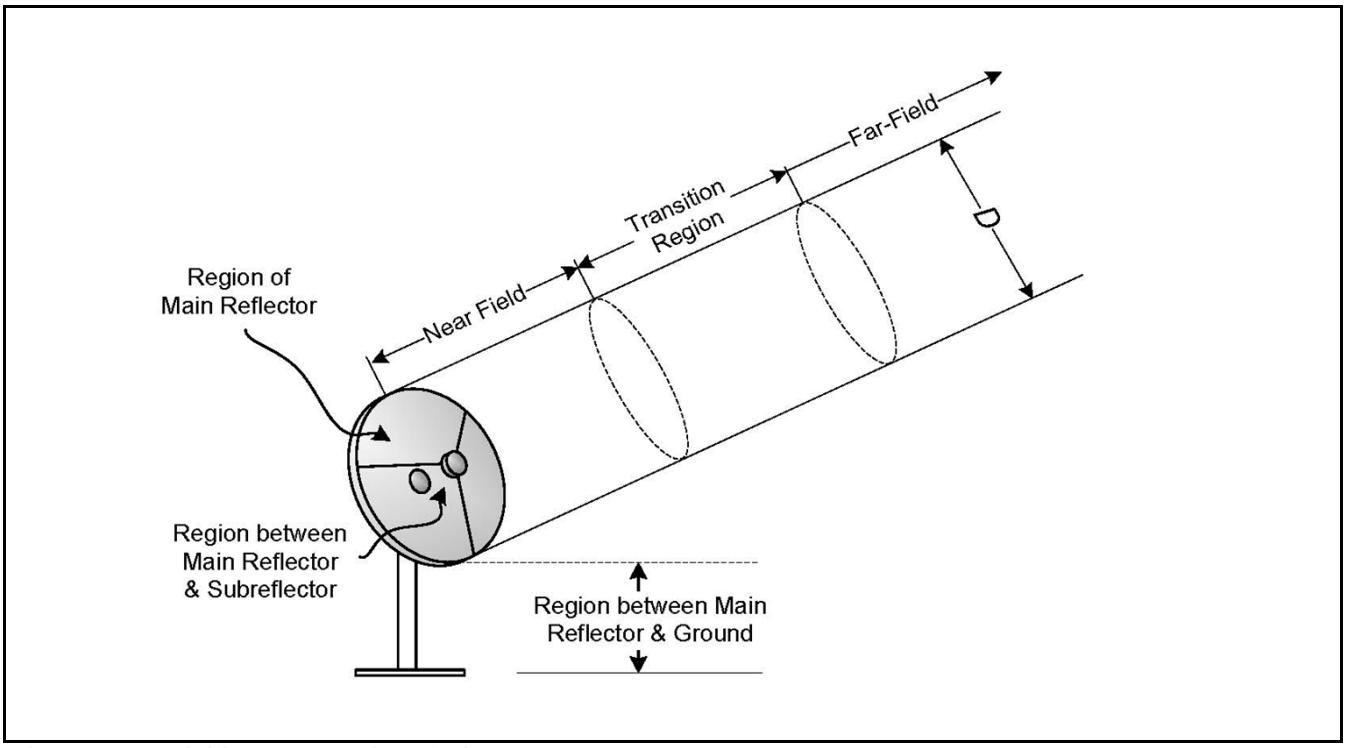


Figure 1. EM Fields as a Function of Distance

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:

Parameter	Value	Unit	Formula
Near Field Distance:	12.598	m	$R_{nf} = D^2/(4\lambda)$
Distance to Far Field:	30.236	m	Rff = 0.60D2/(λ)
Distance of Trasition Region	12.598	m	Rt = Rnf

The distance in the transition region is between the near and far fields. Thus, Rnf ≤ Rt ≤ 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.

Parameter	Value	Unit	Symbol	Formula
Power Density in the Near-Field	2.244	mW/cm^2	S_{nf}	$16.0\,\eta\,P/(\pi D^2)$
Power Density in the Far-Field	0.961	mW/cm^2	S_{ff}	$GP/(4\pi R_{ff}^2)$
Power Density in the Trans. Region	2.244	mW/cm^2	S_t	$S_{nf} R_{nf} /(R_t)$

The region between the main reflector and the subreflector is confined within a conical shape defined by the feed assembly. The most common feed assemblies are waveguide flanges. This energy is determined as follows:

Parameter	Value	Unit	Symbol	Formula
Power Density at the Feed Flange	1450.5	mW/cm^2	S_{fa}	$4P / a$

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.

Parameter	Value	Unit	Symbol	Formula
Power Density at Main Reflector	3.840	mW/cm^2	$S_{surface}$	$4P / A$

The power density between the reflector and ground, assuming uniform illumination of the reflector surface, is calculated as follows:

Parameter	Value	Unit	Symbol	Formula
Power Density between Reflector and Ground	0.960	mW/cm^2	S_g	P / A

Table 1 summarizes the calculated power flux density values for each region. In a controlled environment, the only regions that exceed FCC limitations are shown below. 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.

Power Densities	**mW/cm2**	**Controlled Environment (5 mW/cm2)**
Far Field Calculation	0.961	Satisfies FCC Requirements
Near Field Calculation	2.244	Satisfies FCC Requirements
Transition Region	2.244	Satisfies FCC Requirements
Region between Main and Subreflector	1450.5	Exceeds Limitations
Main Reflector Region	3.840	Satisfies FCC Requirements
Region between Main Reflector and Ground	0.960	Satisfies FCC Requirements

Table 1. Power Flux Density for Each Region

In conclusion, the results show that the antenna, in a controlled environment, and under the proper mitigation procedures, meets the guidelines specified in 47 C.F.R. § 1.1310. Only personnel with knowledge of the radiation hazards associated with the antennas at this facility will have access to those regions that exceed the MPE levels. The antenna transmitter will be turned off during maintenance in order to comply with the MPE limit of 5 mW/cm2 for Controlled Areas.

Analysis of Non-Ionizing Radiation for 6009 1.5-Meter Ku-Band Earth Station System

This report analyzes the non-ionizing radiation levels for a 1.5-meter Ku-Band earth station system. The analysis and calculations performed in this report comply with the methods described in the FCC Office of Engineering and Technology Bulletin, No. 65 first published in 1985 and revised in 1997 in Edition 97-01. The radiation safety limits used in the analysis are in conformance with the FCC R&O 96-326. Bulletin No. 65 and the FCC R&O specifies that there are two separate tiers of exposure limits that are dependent on the situation in which the exposure takes place and/or the status of the individuals who are subject to the exposure. The Maximum Permissible Exposure (MPE) limits for persons in a General Population/Uncontrolled environment are shown in Table 1. The General Population/Uncontrolled MPE is a function of transmit frequency and is for an exposure period of thirty minutes or less. The MPE limits for persons in an Occupational/Controlled environment are shown in Table 2. The Occupational MPE is a function of transmit frequency and is for an exposure period of six minutes or less. The purpose of the analysis described in this report is to determine the power flux density levels of the earth station in the far-field, near-field, transition region, between the subreflector or feed and main reflector surface, at the main reflector surface, and between the antenna edge and the ground and to compare these levels to the specified MPEs.

Table 1. Limits for General Population/Uncontrolled Exposure (MPE)

Frequency Range (MHz)	Power Density (mW/cm^2)
30-300	0.2
300-1500	Frequency (MHz)*(0.8/1200)
1500-100,000	1.0

Table 2. Limits for Occupational/Controlled Exposure (MPE)

Frequency Range (MHz)	Power Density (mW/cm^2)
30-300	1.0
300-1500	Frequency (MHz)*(4.0/1200)
1500-100,000	5.0

Table 3. Formulas and Parameters Used for Determining Power Flux Densities

Parameter	Symbol	Formula	Value	Units
Antenna Diameter	D	Input	**1.5**	m
Antenna Surface Area	$A_{surface}$	πD^2/4	1.767	m^2
Subreflector Diameter	D_{sr}	Input	**5.08**	cm
Area of Subreflector	A_{sr}	πDsr^2/4	20.268	cm^2
Frequency	F	Input	**14,250.00**	MHz
Wavelength	λ	300 / F	0.021053	m
Transmit Power	P	Input	**12.6**	W
Antenna Gain (dBi)	Ges	Input	**45.1**	dBi
Antenna Gain (factor)	G	10^(Ges/10)	32,359.366	n/a
Pi	π	Constant	3.1415927	n/a
Antenna Efficiency	η	$G\lambda^2/(\pi^2D^2)$	0.65	n/a

1. Far Field Distance Calculation

The distance to the beginning of the far field can be determined from the following equation:

Distance to the Far Field Region, $R_{ff} = 0.60\ D^2 / \lambda$ (1)

$= 64.125$ m

The maximum main beam power density in the far field can be determined from the following equation:

On-Axis Power Density in the Far Field, $S_{ff} = G\ P / (4\ \pi\ R_{ff}^2)$ (2)

$= 7.891$ W/m^2

$= 0.789$ mW/cm^2

2. Near Field Calculation

Power flux density is considered to be at a maximum value throughout the entire length of the defined Near Field region. The region is contained within a cylindrical volume having the same diameter as the antenna. Past the boundary of the Near Field region, the power density from the antenna decreases linearly with respect to increasing distance.

The distance to the end of the Near Field can be determined from the following equation:

Extent of the Near Field, $R_{nf} = D^2 / (4\ \lambda)$ (3)

$= 26.72$ m

The maximum power density in the Near Field can be determined from the following equation:

Near Field Power Density, $S_{nf} = 16.0\ \eta\ P / (\pi\ D^2)$ (4)

$= 18.420$ W/m^2

$= 1.842$ mW/cm^2

3. Transition Region Calculation

The Transition region is located between the Near and Far Field regions. The power density begins to decrease linearly with increasing distance in the Transition region. While the power density decreases inversely with distance in the Transition region, the power density decreases inversely with the square of the distance in the Far Field region. The maximum power density in the Transition region will not exceed that calculated for the Near Field region. The power density calculated in Section 1 is the highest power density the antenna can produce in any of the regions away from the antenna. The power density at a distance R_t can be determined from the following equation:

Distance to Beginning of Transition Region, Rt = Rnf

Transition Region Power Density, $S_t = S_{nf}\ R_{nf} / R_t$ (5)

$= 1.842$ mW/cm^2 when $R_t = R_nf$

4. Region between the Main Reflector and the Subreflector

Transmissions from the feed assembly are directed toward the subreflector surface, and are reflected back toward the main reflector. The most common feed assemblies are waveguide flanges, horns or subreflectors. The energy between the subreflector and the reflector surfaces can be calculated by determining the power density at the subreflector surface. This can be determined from the following equation:

Power Density at the Subreflector, $S_{sr} = 4000\ P / A_{sr}$ (6)

$= 2486.642\ mW/cm^2$

5. Main Reflector Region

The power density in the main reflector is determined in the same manner as the power density at the subreflector. The area is now the area of the main reflector aperture and can be determined from the following equation:

Power Density at the Main Reflector Surface $S_{surface} = 4\ P / A_{surface}$ (7)

$= 28.521\ W/m^2$

$= 2.852\ mW/cm^2$

6. Region between the Main Reflector and the Ground

Assuming uniform illumination of the reflector surface, the power density between the antenna and the ground can be determined from the following equation:

Power Density between Reflector and Ground, $S_g = P / A_{surface}$ (8)

$= 7.130\ W/m^2$

$= 0.713\ mW/cm^2$

7. Summary of Calculations

Table 4. Summary of Expected Radiation Levels for Uncontrolled Environment

Calculated Maximum

Radiation Power Density Level (mW/cm2)

Region	Distance	Value	Unit	Power Density Symbol	Value	Unit	Hazard Assessment
1. Far Field	R_{ff}	713.3	m	S_{ff}	0.789	mW/m^2	Satisfies FCC MPE
2. Near Field	R_{nf}	297.2	m	S_{nf}	1.842	mW/m^2	Potential Hazard
3. Transition Region	$R_{nf} < R_t < R_{ff}$			S_t	1.842	mW/m^2	Potential Hazard
4. Between Main Reflector and Subreflector				S_{sr}	2482.642	mW/m^2	Potential Hazard
5. Main Reflector				$S_{surface}$	2.852	mW/m^2	Potential Hazard
6. Between Main Reflector and Ground				S_g	0.713	mW/m^2	Satisfies FCC MPE

Table 5. Summary of Expected Radiation Levels for Controlled Environment
Calculated Maximum
Radiation Power Density Level (mW/cm2)

Region	Distance	Value	Unit	Power Density Symbol	Value	Unit	Hazard Assessment
1. Far Field	R_{ff}	713.3	m	S_{ff}	0.789	mW/m^2	Satisfies FCC MPE
2. Near Field	R_{nf}	297.2	m	S_{nf}	1.842	mW/m^2	Satisfies FCC MPE
3. Transition Region	$R_{nf} < R_t < R_{ff}$			S_t	1.842	mW/m^2	Satisfies FCC MPE
4. Between Main Reflector and Subreflector				S_{sr}	2482.642	mW/m^2	Potential Hazard
5. Main Reflector				$S_{surface}$	2.852	mW/m^2	Satisfies FCC MPE
6. Between Main Reflector and Ground				S_g	0.713	mW/m^2	Satisfies FCC MPE

It is the applicant's responsibility to ensure that the public and operational personnel are not exposed to harmful levels of radiation.

8. Conclusions

Based on the above analysis it is concluded that the FCC RF Guidelines have been exceeded in the specified region(s) of Tables 4 and 5. Given these exceedances, the applicant will comply with the Maximum Permissible Exposure (MPE) limits of 1 mW/cm2 for the Uncontrolled areas and the MPE limits of 5 mW/cm2 for the Controlled areas by restricting access to the antenna and posting warning signs. Access to the antenna will be restricted to the public. Only personnel with knowledge of the radiation hazards associated with the antennas at this facility will have access to those regions that exceed the MPE levels. The antenna transmitter will be turned off during maintenance in order to comply with the MPE limit of 5 mW/cm2 for Controlled Areas. In conclusion, the antenna, under the proper mitigation procedures, meets the guidelines specified in 47 C.F.R. § 1.1310.

Analysis of Non-Ionizing Radiation for 4024 2.4-Meter Ku-Band Earth Station System

This report analyzes the non-ionizing radiation levels for a 2.4-meter Ku-Band earth station system. The analysis and calculations performed in this report comply with the methods described in the FCC Office of Engineering and Technology Bulletin, No. 65 first published in 1985 and revised in 1997 in Edition 97-01. The radiation safety limits used in the analysis are in conformance with the FCC R&O 96-326. Bulletin No. 65 and the FCC R&O specifies that there are two separate tiers of exposure limits that are dependent on the situation in which the exposure takes place and/or the status of the individuals who are subject to the exposure. The Maximum Permissible Exposure (MPE) limits for persons in a General Population/Uncontrolled environment are shown in Table 1. The General Population/Uncontrolled MPE is a function of transmit frequency and is for an exposure period of thirty minutes or less. The MPE limits for persons in an Occupational/Controlled environment are shown in Table 2. The Occupational MPE is a function of transmit frequency and is for an exposure period of six minutes or less. The purpose of the analysis described in this report is to determine the power flux density levels of the earth station in the far-field, near-field, transition region, between the subreflector or feed and main reflector surface, at the main reflector surface, and between the antenna edge and the ground and to compare these levels to the specified MPEs.

Table 1. Limits for General Population/Uncontrolled Exposure (MPE)

Frequency Range (MHz)	Power Density (mW/cm^2)
30-300	0.2
300-1500	Frequency (MHz)*(0.8/1200)
1500-100,000	1.0

Table 2. Limits for Occupational/Controlled Exposure (MPE)

Frequency Range (MHz)	Power Density (mW/cm^2)
30-300	1.0
300-1500	Frequency (MHz)*(4.0/1200)
1500-100,000	5.0

Table 3. Formulas and Parameters Used for Determining Power Flux Densities

Parameter	Symbol	Formula	Value	Units
Antenna Diameter	D	Input	**2.4**	m
Antenna Surface Area	$A_{surface}$	πD^2/4	4.524	m^2
Subreflector Diameter	D_{sr}	Input	**15**	cm
Area of Subreflector	A_{sr}	πDsr^2/4	176.715	cm^2
Frequency	F	Input	**14,250.00**	MHz
Wavelength	λ	300 / F	0.021053	m
Transmit Power	P	Input	**34.13**	W
Antenna Gain (dBi)	Ges	Input	**50.1**	dBi
Antenna Gain (factor)	G	10^(Ges/10)	102,329.30	n/a
Pi	π	Constant	3.1415927	n/a
Antenna Efficiency	η	$G\lambda^2/(\pi^2D^2)$	0.80	n/a

1. Far Field Distance Calculation

The distance to the beginning of the far field can be determined from the following equation:

Distance to the Far Field Region, $R_{ff} = 0.60\ D^2 / \lambda$ (1)

$= 164.16$ m

The maximum main beam power density in the far field can be determined from the following equation:

On-Axis Power Density in the Far Field, $S_{ff} = G\ P / (4\ \pi\ R_{ff}^2)$ (2)

$= 10.313$ W/m^2

$= 1.031$ mW/cm^2

2. Near Field Calculation

Power flux density is considered to be at a maximum value throughout the entire length of the defined Near Field region. The region is contained within a cylindrical volume having the same diameter as the antenna. Past the boundary of the Near Field region, the power density from the antenna decreases linearly with respect to increasing distance.

The distance to the end of the Near Field can be determined from the following equation:

Extent of the Near Field, $R_{nf} = D^2 / (4\ \lambda)$ (3)

$= 68.40$ m

The maximum power density in the Near Field can be determined from the following equation:

Near Field Power Density, $S_{nf} = 16.0\ \eta\ P / (\pi\ D^2)$ (4)

$= 24.076$ W/m^2

$= 2.408$ mW/cm^2

3. Transition Region Calculation

The Transition region is located between the Near and Far Field regions. The power density begins to decrease linearly with increasing distance in the Transition region. While the power density decreases inversely with distance in the Transition region, the power density decreases inversely with the square of the distance in the Far Field region. The maximum power density in the Transition region will not exceed that calculated for the Near Field region. The power density calculated in Section 1 is the highest power density the antenna can produce in any of the regions away from the antenna. The power density at a distance R_t can be determined from the following equation:

Transition Region Power Density, $S_t = S_{nf}\ R_{nf} / R_t$ (5)

$= 2.408$ mW/cm^2 when $R_t = R_nf$

4. Region between the Main Reflector and the Subreflector

Transmissions from the feed assembly are directed toward the subreflector surface, and are reflected back toward the main reflector. The most common feed assemblies are waveguide flanges, horns or subreflectors. The energy between the subreflector and the reflector surfaces can be calculated by determining the power density at the subreflector surface. This can be determined from the following equation:

Power Density at the Subreflector, $S_{sr} = 4000\ P / A_{sr}$ (6)

$= 772.552\ mW/cm^2$

5. Main Reflector Region

The power density in the main reflector is determined in the same manner as the power density at the subreflector. The area is now the area of the main reflector aperture and can be determined from the following equation:

Power Density at the Main Reflector Surface $S_{surface} = 4\ P / A_{surface}$ (7)

$= 30.178\ W/m^2$

$= 3.018\ mW/cm^2$

6. Region between the Main Reflector and the Ground

Assuming uniform illumination of the reflector surface, the power density between the antenna and the ground can be determined from the following equation:

Power Density between Reflector and Ground, $S_g = P / A_{surface}$ (8)

$= 7.544\ W/m^2$

$= 0.754\ mW/cm^2$

7. Summary of Calculations

Table 4. Summary of Expected Radiation Levels for Uncontrolled Environment

Calculated Maximum

Radiation Power Density Level (mW/cm2)

Region	Distance	Value	Unit	Power Density Symbol	Value	Unit	Hazard Assessment
1. Far Field	R_{ff}	713.3	m	S_{ff}	1.031	mW/m^2	Potential Hazard
2. Near Field	R_{nf}	297.2	m	S_{nf}	2.408	mW/m^2	Potential Hazard
3. Transition Region	$R_{nf} < R_t < R_{ff}$			S_t	2.408	mW/m^2	Potential Hazard
4. Between Main Reflector and Subreflector				S_{sr}	772.55	mW/m^2	Potential Hazard
5. Main Reflector				$S_{surface}$	3.018	mW/m^2	Potential Hazard
6. Between Main Reflector and Ground				S_g	0.754	mW/m^2	Satisfies FCC MPE

Table 5. Summary of Expected Radiation Levels for Controlled Environment
Calculated Maximum
Radiation Power Density Level (mW/cm2)

Region	Distance	Value	Unit	Power Density Symbol	Value	Unit	Hazard Assessment
1. Far Field	R_{ff}	713.3	m	S_{ff}	1.031	mW/m^2	Satisfies FCC MPE
2. Near Field	R_{nf}	297.2	m	S_{nf}	2.408	mW/m^2	Satisfies FCC MPE
3. Transition Region	$R_{nf} < R_t < R_{ff}$			S_t	2.408	mW/m^2	Satisfies FCC MPE
4. Between Main Reflector and Subreflector				S_{sr}	772.55	mW/m^2	Potential Hazard
5. Main Reflector				$S_{surface}$	3.018	mW/m^2	Satisfies FCC MPE
6. Between Main Reflector and Ground				S_g	0.754	mW/m^2	Satisfies FCC MPE

It is the applicant's responsibility to ensure that the public and operational personnel are not exposed to harmful levels of radiation.

8. Conclusions

Based on the above analysis it is concluded that the FCC RF Guidelines have been exceeded in the specified region(s) of Tables 4 and 5. Given these exceedances, the applicant will comply with the Maximum Permissible Exposure (MPE) limits of 1 mW/cm2 for the Uncontrolled areas and the MPE limits of 5 mW/cm2 for the Controlled areas by restricting access to the antenna and posting warning signs. Access to the antenna will be restricted to the public. Only personnel with knowledge of the radiation hazards associated with the antennas at this facility will have access to those regions that exceed the MPE levels. The antenna transmitter will be turned off during maintenance in order to comply with the MPE limit of 5 mW/cm2 for Controlled Areas. In conclusion, the antenna, under the proper mitigation procedures, meets the guidelines specified in 47 C.F.R. § 1.1310.

Final

Ku band EIRP Spectral Density

Model Name: Intellian v240MT

Test Date: June 30, 2017

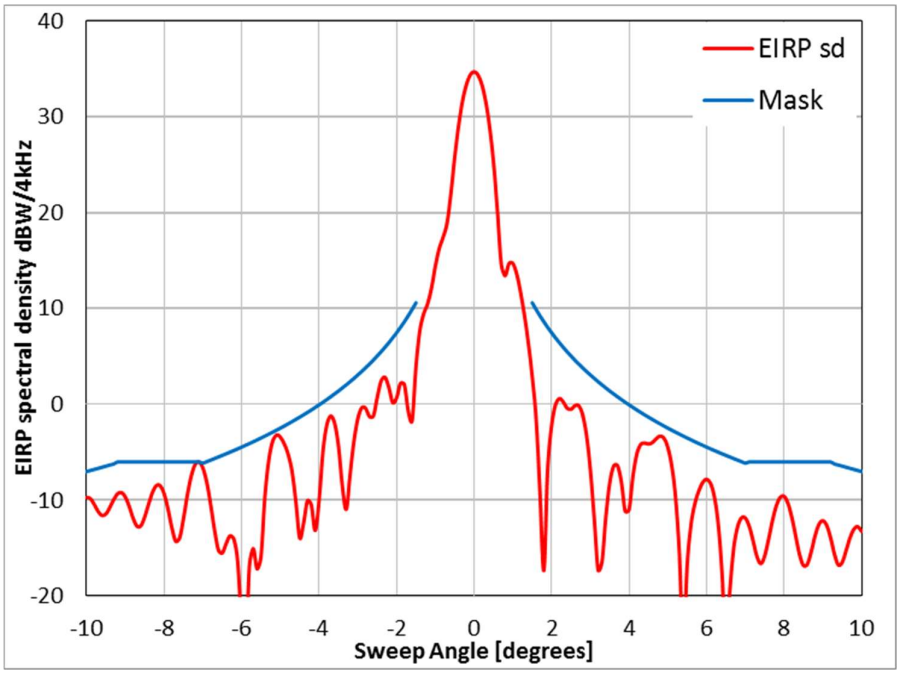
Prepared by

RF Engineering Department
Intellian Technologies, Inc.

Contents

1. EIRP Spectral Density of v240MT Ku-band

1.1. Azimuth Pattern for Co-pol, Narrow Angle (-10° ~ 10°)



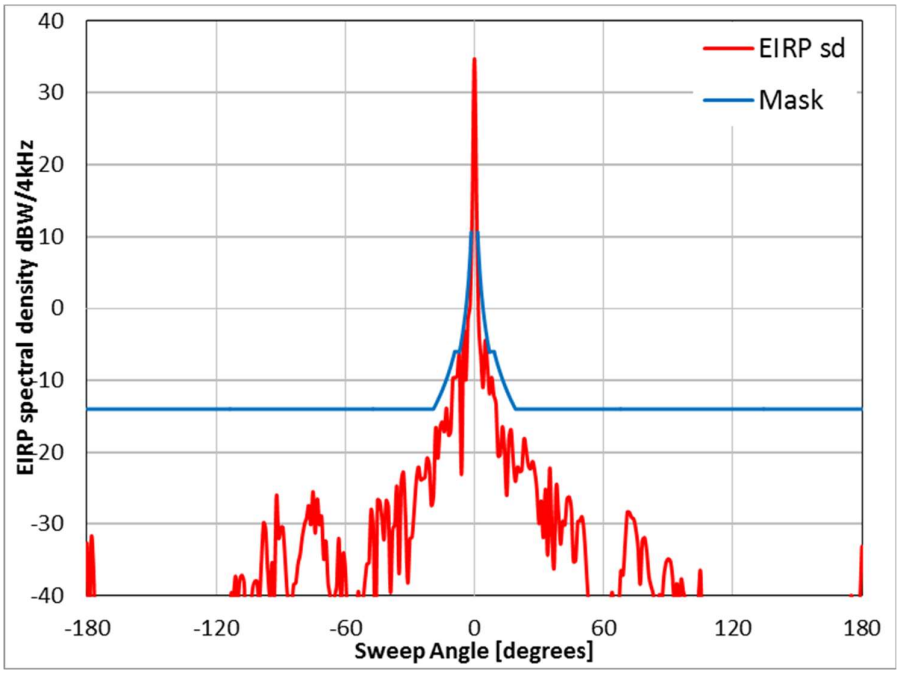
-13.7 dBW/ 4kHz Input power spectral density @ f=14.25 GHz & 0.7 dB Radome loss

- **FCC EIRP spectral density regulation**

15-25log(θ)	**dBW/4kHz**	**for**	**1.5˚ ≤ θ ≤ 7.0˚**
-6	**dBW/4kHz**	**for**	**7.0˚ < θ ≤ 9.2˚**
18-25log(θ)	**dBW/4kHz**	**for**	**9.2˚ < θ ≤ 19.1˚**
-14	**dBW/4kHz**	**for**	**19.1˚ < θ ≤ 180˚**

The v240MT's Ku band Radiation pattern meets the FCC EIRP spectral density mask when the input powers spectral density is @ -13.7 dBW/ 4kHz

1.2. Azimuth Pattern for Co-pol, Wide Angle (-180°~180°)



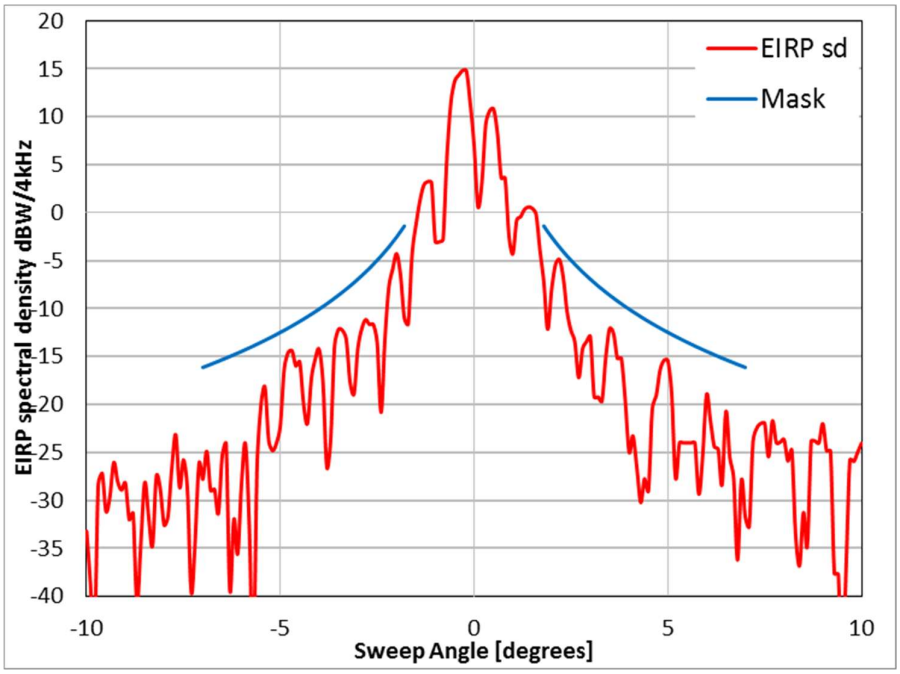
-13.7 dBW/ 4kHz Input power spectral density @ f=14.25 GHz & 0.7 dB Radome loss

- **FCC EIRP spectral density regulation**

15-25log(θ)	**dBW/4kHz**	**for**	**1.5˚ ≤ θ ≤ 7.0˚**
-6	**dBW/4kHz**	**for**	**7.0˚ < θ ≤ 9.2˚**
18-25log(θ)	**dBW/4kHz**	**for**	**9.2˚ < θ ≤ 19.1˚**
-14	**dBW/4kHz**	**for**	**19.1˚ < θ ≤ 180˚**

The v240MT's Ku band Radiation pattern meets the FCC EIRP spectral density mask when the input powers spectral density is @ -13.7 dBW/ 4kHz

1.3. Azimuth Pattern for Cross-pol, Narrow angle (-10°~10°)



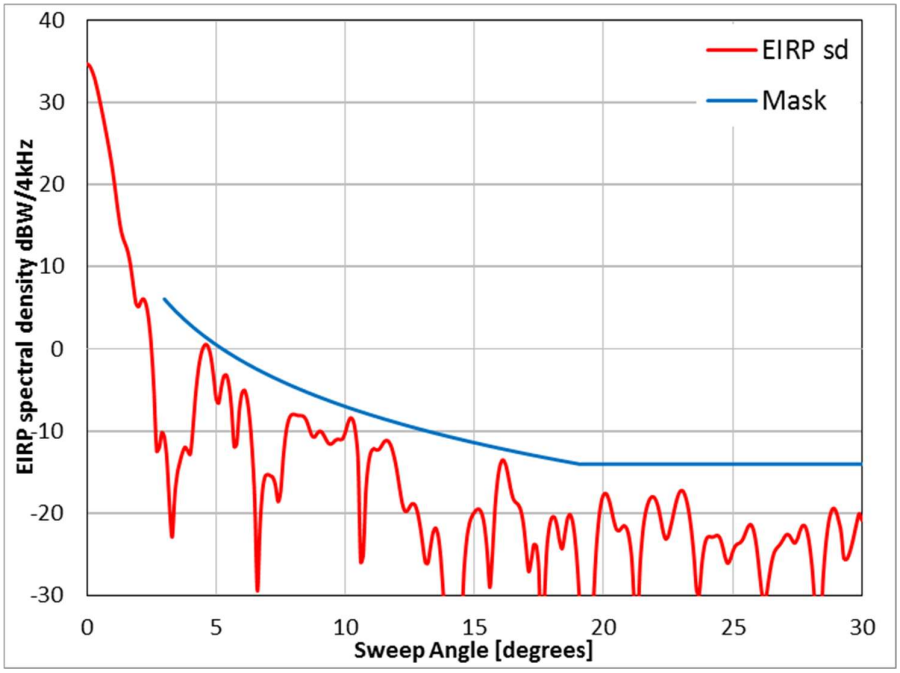
-13.7 dBW/ 4kHz Input power spectral density @ f=14.25 GHz & 0.7 dB Radome loss

- **FCC EIRP spectral density regulation**

5-25log(θ) dBW/4kHz for 1.8˚ ≤ θ ≤ 7.0˚

The v240MT's Ku band Radiation pattern meets the FCC EIRP spectral density mask when the input powers spectral density is @ -13.7 dBW/ 4kHz

1.4. Elevation Pattern for Co-pol, Narrow Angle (0°~30°)



-13.7 dBW/ 4kHz Input power spectral density @ f=14.25 GHz & 0.7 dB Radome loss

- **FCC EIRP spectral density regulation**

18-25log(θ)	**dBW/4kHz**	**for**	**3.0˚ ≤ θ ≤ 19.1˚**
-14	**dBW/4kHz**	**for**	**19.1˚ < θ ≤ 180˚**

The v240MT's Ku band Radiation pattern meets the FCC EIRP spectral density mask when the input powers spectral density is @ -13.7 dBW/ 4kHz

2. EIRP Spectral Density Data

2.1. Azimuth Pattern for Co-pol (-10°~10°)

14.25 GHz @ -13.7 dBW/4kHz		
Angle (Degree)	EIRP sd (dBW/4kHz)	Mask (dBW/4kHz)
-10.000	-9.699	-7.000
-9.900	-9.843	-6.891
-9.800	-10.470	-6.781
-9.700	-11.196	-6.669
-9.600	-11.591	-6.557
-9.500	-11.414	-6.443
-9.400	-10.751	-6.328
-9.300	-9.930	-6.212
-9.200	-9.324	-6.000
-9.100	-9.200	-6.000
-9.000	-9.670	-6.000
-8.900	-10.669	-6.000
-8.800	-11.878	-6.000
-8.700	-12.708	-6.000
-8.600	-12.654	-6.000
-8.500	-11.736	-6.000
-8.400	-10.402	-6.000
-8.300	-9.181	-6.000
-8.200	-8.474	-6.000
-8.100	-8.498	-6.000
-8.000	-9.335	-6.000
-7.900	-10.922	-6.000
-7.800	-12.895	-6.000
-7.700	-14.296	-6.000
-7.600	-13.927	-6.000
-7.500	-11.902	-6.000
-7.400	-9.457	-6.000
-7.300	-7.473	-6.000
-7.200	-6.288	-6.000
-7.100	-6.000	-6.000
-7.000	-6.627	-6.127
-6.900	-8.143	-5.971
-6.800	-10.433	-5.813
-6.700	-13.105	-5.652
-6.600	-15.184	-5.489
-6.500	-15.516	-5.323
-6.400	-14.534	-5.154
-6.300	-13.713	-4.984
-6.200	-14.066	-4.810
-6.100	-16.451	-4.633
-6.000	-23.090	-4.454
-5.900	-27.028	-4.271
-5.800	-16.860	-4.086
-5.700	-15.051	-3.897
-5.600	-17.162	-3.705
-5.500	-15.900	-3.509
-5.400	-9.696	-3.310
-5.300	-5.839	-3.107
-5.200	-3.872	-2.900
-5.100	-3.205	-2.689

14.25 GHz @ -13.7 dBW/4kHz		
Angle (Degree)	EIRP sd (dBW/4kHz)	Mask (dBW/4kHz)
-5.000	-3.413	-2.474
-4.900	-4.125	-2.255
-4.800	-5.204	-2.031
-4.700	-6.988	-1.802
-4.600	-10.156	-1.569
-4.500	-13.943	-1.330
-4.400	-12.359	-1.086
-4.300	-10.056	-0.837
-4.200	-10.518	-0.581
-4.100	-13.158	-0.320
-4.000	-9.959	-0.051
-3.900	-4.889	0.223
-3.800	-2.109	0.505
-3.700	-1.205	0.795
-3.600	-1.936	1.092
-3.500	-4.351	1.398
-3.400	-8.515	1.713
-3.300	-10.950	2.037
-3.200	-7.306	2.371
-3.100	-3.794	2.716
-3.000	-1.489	3.072
-2.900	-0.353	3.440
-2.800	-0.410	3.821
-2.700	-1.279	4.216
-2.600	-1.218	4.626
-2.500	0.704	5.051
-2.400	2.439	5.495
-2.300	2.836	5.957
-2.200	1.767	6.439
-2.100	0.184	6.945
-2.000	0.680	7.474
-1.900	2.190	8.031
-1.800	2.072	8.618
-1.700	-0.684	9.239
-1.600	-1.716	9.897
-1.500	3.980	10.598
-1.400	7.687	
-1.300	9.455	
-1.200	10.480	
-1.100	12.134	
-1.000	14.413	
-0.900	16.268	
-0.800	17.426	
-0.700	18.882	
-0.600	21.955	
-0.500	25.763	
-0.400	29.083	
-0.300	31.607	
-0.200	33.349	
-0.100	34.367	

14.25 GHz @ -13.7 dBW/4kHz		
Angle (Degree)	EIRP sd (dBW/4kHz)	Mask (dBW/4kHz)
0.000	34.703	
0.100	34.370	
0.200	33.350	
0.300	31.589	
0.400	28.974	
0.500	25.306	
0.600	20.303	
0.700	14.626	
0.800	13.425	
0.900	14.678	
1.000	14.709	
1.100	13.587	
1.200	11.685	
1.300	9.260	
1.400	6.387	
1.500	2.945	10.598
1.600	-1.493	9.897
1.700	-9.047	9.239
1.800	-17.334	8.618
1.900	-6.714	8.031
2.000	-2.225	7.474
2.100	-0.066	6.945
2.200	0.604	6.439
2.300	0.266	5.957
2.400	-0.390	5.495
2.500	-0.515	5.051
2.600	-0.153	4.626
2.700	-0.139	4.216
2.800	-1.062	3.821
2.900	-3.210	3.440
3.000	-6.787	3.072
3.100	-11.889	2.716
3.200	-17.272	2.371
3.300	-16.444	2.037
3.400	-11.731	1.713
3.500	-8.233	1.398
3.600	-6.455	1.092
3.700	-6.376	0.795
3.800	-8.076	0.505
3.900	-11.151	0.223
4.000	-10.980	-0.051
4.100	-7.496	-0.320
4.200	-5.173	-0.581
4.300	-4.183	-0.837
4.400	-4.032	-1.086
4.500	-4.133	-1.330
4.600	-3.984	-1.569
4.700	-3.579	-1.802
4.800	-3.309	-2.031
4.900	-3.534	-2.255

14.25 GHz @ -13.7 dBW/4kHz		
Angle (Degree)	EIRP sd (dBW/4kHz)	Mask (dBW/4kHz)
5.000	-4.487	-2.474
5.100	-6.404	-2.689
5.200	-9.732	-2.900
5.300	-15.739	-3.107
5.400	-25.575	-3.310
5.500	-16.826	-3.509
5.600	-12.510	-3.705
5.700	-10.348	-3.897
5.800	-9.019	-4.086
5.900	-8.152	-4.271
6.000	-7.812	-4.454
6.100	-8.220	-4.633
6.200	-9.637	-4.810
6.300	-12.464	-4.984
6.400	-17.640	-5.154
6.500	-25.500	-5.323
6.600	-19.519	-5.489
6.700	-15.010	-5.652
6.800	-12.795	-5.813
6.900	-11.849	-5.971
7.000	-11.859	-6.127
7.100	-12.711	-6.000
7.200	-14.230	-6.000
7.300	-15.878	-6.000
7.400	-16.607	-6.000
7.500	-15.823	-6.000
7.600	-14.073	-6.000
7.700	-12.145	-6.000
7.800	-10.586	-6.000
7.900	-9.695	-6.000
8.000	-9.597	-6.000
8.100	-10.316	-6.000
8.200	-11.782	-6.000
8.300	-13.743	-6.000
8.400	-15.654	-6.000
8.500	-16.808	-6.000
8.600	-16.693	-6.000
8.700	-15.381	-6.000
8.800	-13.721	-6.000
8.900	-12.524	-6.000
9.000	-12.134	-6.000
9.100	-12.625	-6.000
9.200	-13.905	-6.000
9.300	-15.591	-6.212
9.400	-16.752	-6.328
9.500	-16.506	-6.443
9.600	-15.278	-6.557
9.700	-13.954	-6.669
9.800	-13.031	-6.781
9.900	-12.754	-6.891
10.000	-13.247	-7.000

2.2. Azimuth Pattern for Co-pol (-180°~180°)

14.25 GHz @ -13.7 dBW/4kHz		
Angle (Degree)	EIRP sd (dBW/4kHz)	Mask (dBW/4kHz)
-180.000	-32.664	-14.000
-179.000	-45.616	-14.000
-178.000	-31.959	-14.000
-177.000	-36.124	-14.000
-176.000	-45.864	-14.000
-175.000	-50.061	-14.000
-174.000	-56.206	-14.000
-173.000	-54.553	-14.000
-172.000	-46.838	-14.000
-171.000	-45.654	-14.000
-170.000	-45.948	-14.000
-169.000	-43.048	-14.000
-168.000	-44.617	-14.000
-167.000	-51.380	-14.000
-166.000	-52.573	-14.000
-165.000	-52.574	-14.000
-164.000	-59.169	-14.000
-163.000	-62.778	-14.000
-162.000	-65.051	-14.000
-161.000	-54.705	-14.000
-160.000	-57.573	-14.000
-159.000	-59.320	-14.000
-158.000	-54.843	-14.000
-157.000	-54.629	-14.000
-156.000	-61.826	-14.000
-155.000	-60.431	-14.000
-154.000	-57.714	-14.000
-153.000	-53.426	-14.000
-152.000	-59.788	-14.000
-151.000	-55.341	-14.000
-150.000	-61.850	-14.000
-149.000	-53.141	-14.000
-148.000	-56.313	-14.000
-147.000	-54.116	-14.000
-146.000	-51.374	-14.000
-145.000	-65.342	-14.000
-144.000	-64.379	-14.000
-143.000	-55.950	-14.000
-142.000	-62.002	-14.000
-141.000	-57.549	-14.000
-140.000	-68.575	-14.000
-139.000	-61.158	-14.000
-138.000	-56.650	-14.000
-137.000	-54.063	-14.000
-136.000	-64.535	-14.000
-135.000	-52.295	-14.000
-134.000	-57.649	-14.000
-133.000	-63.095	-14.000
-132.000	-55.094	-14.000
-131.000	-59.692	-14.000
-130.000	-76.889	-14.000

14.25 GHz @ -13.7 dBW/4kHz		
Angle (Degree)	EIRP sd (dBW/4kHz)	Mask (dBW/4kHz)
-129.000	-58.812	-14.000
-128.000	-59.267	-14.000
-127.000	-61.479	-14.000
-126.000	-57.582	-14.000
-125.000	-56.741	-14.000
-124.000	-52.410	-14.000
-123.000	-48.495	-14.000
-122.000	-58.115	-14.000
-121.000	-53.758	-14.000
-120.000	-50.354	-14.000
-119.000	-50.250	-14.000
-118.000	-57.851	-14.000
-117.000	-54.316	-14.000
-116.000	-55.728	-14.000
-115.000	-47.607	-14.000
-114.000	-44.685	-14.000
-113.000	-39.569	-14.000
-112.000	-40.051	-14.000
-111.000	-37.255	-14.000
-110.000	-40.825	-14.000
-109.000	-37.663	-14.000
-108.000	-37.133	-14.000
-107.000	-38.206	-14.000
-106.000	-45.527	-14.000
-105.000	-42.754	-14.000
-104.000	-41.674	-14.000
-103.000	-38.903	-14.000
-102.000	-37.969	-14.000
-101.000	-37.966	-14.000
-100.000	-40.994	-14.000
-99.000	-35.519	-14.000
-98.000	-29.848	-14.000
-97.000	-30.807	-14.000
-96.000	-36.744	-14.000
-95.000	-40.014	-14.000
-94.000	-35.354	-14.000
-93.000	-40.218	-14.000
-92.000	-26.152	-14.000
-91.000	-31.853	-14.000
-90.000	-30.459	-14.000
-89.000	-30.471	-14.000
-88.000	-34.817	-14.000
-87.000	-39.526	-14.000
-86.000	-40.938	-14.000
-85.000	-41.544	-14.000
-84.000	-38.435	-14.000
-83.000	-38.180	-14.000
-82.000	-35.568	-14.000
-81.000	-34.196	-14.000
-80.000	-31.793	-14.000
-79.000	-30.056	-14.000

14.25 GHz @ -13.7 dBW/4kHz		
Angle (Degree)	EIRP sd (dBW/4kHz)	Mask (dBW/4kHz)
-78.000	-29.144	-14.000
-77.000	-27.433	-14.000
-76.000	-30.061	-14.000
-75.000	-25.503	-14.000
-74.000	-31.252	-14.000
-73.000	-26.521	-14.000
-72.000	-30.080	-14.000
-71.000	-28.947	-14.000
-70.000	-34.865	-14.000
-69.000	-32.400	-14.000
-68.000	-38.178	-14.000
-67.000	-40.396	-14.000
-66.000	-47.957	-14.000
-65.000	-40.375	-14.000
-64.000	-38.568	-14.000
-63.000	-32.005	-14.000
-62.000	-41.157	-14.000
-61.000	-34.080	-14.000
-60.000	-36.190	-14.000
-59.000	-43.476	-14.000
-58.000	-50.083	-14.000
-57.000	-48.727	-14.000
-56.000	-53.692	-14.000
-55.000	-44.832	-14.000
-54.000	-39.403	-14.000
-53.000	-42.588	-14.000
-52.000	-41.293	-14.000
-51.000	-38.293	-14.000
-50.000	-35.581	-14.000
-49.000	-35.345	-14.000
-48.000	-27.971	-14.000
-47.000	-30.635	-14.000
-46.000	-45.424	-14.000
-45.000	-26.611	-14.000
-44.000	-26.809	-14.000
-43.000	-29.131	-14.000
-42.000	-32.147	-14.000
-41.000	-26.707	-14.000
-40.000	-27.603	-14.000
-39.000	-39.518	-14.000
-38.000	-30.803	-14.000
-37.000	-30.038	-14.000
-36.000	-24.850	-14.000
-35.000	-36.894	-14.000
-34.000	-24.099	-14.000
-33.000	-22.797	-14.000
-32.000	-29.121	-14.000
-31.000	-38.168	-14.000
-30.000	-32.121	-14.000
-29.000	-31.786	-14.000
-28.000	-28.117	-14.000

14.25 GHz @ -13.7 dBW/4kHz		
Angle (Degree)	EIRP sd (dBW/4kHz)	Mask (dBW/4kHz)
-27.000	-23.835	-14.000
-26.000	-22.054	-14.000
-25.000	-23.843	-14.000
-24.000	-23.685	-14.000
-23.000	-23.479	-14.000
-22.000	-20.809	-14.000
-21.000	-21.805	-14.000
-20.000	-27.392	-14.000
-19.000	-26.010	-13.969
-18.000	-16.646	-13.382
-17.000	-20.832	-12.761
-16.000	-16.648	-12.103
-15.000	-15.778	-11.402
-14.000	-17.116	-10.653
-13.000	-13.880	-9.849
-12.000	-17.652	-8.980
-11.000	-17.015	-8.035
-10.000	-9.699	-7.000
-9.000	-9.670	-6.000
-8.000	-9.335	-6.000
-7.000	-6.627	-6.127
-6.000	-23.090	-4.454
-5.000	-3.413	-2.474
-4.000	-9.959	-0.051
-3.000	-1.489	3.072
-2.000	0.680	7.474
-1.000	14.413	
0.000	34.703	
1.000	14.709	
2.000	-2.225	7.474
3.000	-6.787	3.072
4.000	-10.980	-0.051
5.000	-4.487	-2.474
6.000	-7.812	-4.454
7.000	-11.859	-6.127
8.000	-9.597	-6.000
9.000	-12.134	-6.000
10.000	-13.247	-7.000
11.000	-20.529	-8.035
12.000	-20.349	-8.980
13.000	-16.448	-9.849
14.000	-19.809	-10.653
15.000	-26.020	-11.402
16.000	-18.109	-12.103
17.000	-16.863	-12.761
18.000	-21.163	-13.382
19.000	-24.063	-13.969
20.000	-22.081	-14.000
21.000	-22.726	-14.000
22.000	-22.464	-14.000
23.000	-18.162	-14.000

14.25 GHz @ -13.7 dBW/4kHz		
Angle (Degree)	EIRP sd (dBW/4kHz)	Mask (dBW/4kHz)
24.000	-19.654	-14.000
25.000	-21.800	-14.000
26.000	-22.328	-14.000
27.000	-21.301	-14.000
28.000	-22.623	-14.000
29.000	-25.336	-14.000
30.000	-29.940	-14.000
31.000	-26.819	-14.000
32.000	-31.868	-14.000
33.000	-25.161	-14.000
34.000	-34.317	-14.000
35.000	-22.208	-14.000
36.000	-31.399	-14.000
37.000	-36.016	-14.000
38.000	-24.703	-14.000
39.000	-28.317	-14.000
40.000	-32.788	-14.000
41.000	-29.610	-14.000
42.000	-30.092	-14.000
43.000	-26.572	-14.000
44.000	-26.222	-14.000
45.000	-27.857	-14.000
46.000	-35.212	-14.000
47.000	-35.091	-14.000
48.000	-29.694	-14.000
49.000	-29.554	-14.000
50.000	-29.022	-14.000
51.000	-31.552	-14.000
52.000	-36.292	-14.000
53.000	-41.283	-14.000
54.000	-44.869	-14.000
55.000	-40.797	-14.000
56.000	-41.804	-14.000
57.000	-44.608	-14.000
58.000	-58.353	-14.000
59.000	-58.657	-14.000
60.000	-50.098	-14.000
61.000	-48.456	-14.000
62.000	-48.128	-14.000
63.000	-42.034	-14.000
64.000	-39.529	-14.000
65.000	-44.309	-14.000
66.000	-44.154	-14.000
67.000	-42.227	-14.000
68.000	-36.514	-14.000
69.000	-37.120	-14.000
70.000	-32.664	-14.000
71.000	-28.347	-14.000
72.000	-28.383	-14.000
73.000	-29.091	-14.000
74.000	-29.314	-14.000

14.25 GHz @ -13.7 dBW/4kHz		
Angle (Degree)	EIRP sd (dBW/4kHz)	Mask (dBW/4kHz)
75.000	-30.836	-14.000
76.000	-33.317	-14.000
77.000	-38.388	-14.000
78.000	-32.311	-14.000
79.000	-31.888	-14.000
80.000	-33.684	-14.000
81.000	-37.148	-14.000
82.000	-38.610	-14.000
83.000	-39.678	-14.000
84.000	-41.772	-14.000
85.000	-41.012	-14.000
86.000	-39.786	-14.000
87.000	-40.926	-14.000
88.000	-37.290	-14.000
89.000	-35.364	-14.000
90.000	-34.851	-14.000
91.000	-35.133	-14.000
92.000	-37.253	-14.000
93.000	-41.693	-14.000
94.000	-38.272	-14.000
95.000	-41.999	-14.000
96.000	-37.703	-14.000
97.000	-39.295	-14.000
98.000	-40.999	-14.000
99.000	-46.570	-14.000
100.000	-44.412	-14.000
101.000	-45.217	-14.000
102.000	-42.509	-14.000
103.000	-40.934	-14.000
104.000	-40.352	-14.000
105.000	-36.556	-14.000
106.000	-45.934	-14.000
107.000	-41.790	-14.000
108.000	-51.672	-14.000
109.000	-59.943	-14.000
110.000	-54.153	-14.000
111.000	-49.506	-14.000
112.000	-48.128	-14.000
113.000	-49.115	-14.000
114.000	-50.568	-14.000
115.000	-63.648	-14.000
116.000	-58.578	-14.000
117.000	-54.095	-14.000
118.000	-56.891	-14.000
119.000	-56.084	-14.000
120.000	-62.616	-14.000
121.000	-53.651	-14.000
122.000	-59.926	-14.000
123.000	-54.044	-14.000
124.000	-67.298	-14.000
125.000	-55.470	-14.000

14.25 GHz @ -13.7 dBW/4kHz		
Angle (Degree)	EIRP sd (dBW/4kHz)	Mask (dBW/4kHz)
126.000	-65.227	-14.000
127.000	-57.026	-14.000
128.000	-61.334	-14.000
129.000	-62.313	-14.000
130.000	-67.863	-14.000
131.000	-52.246	-14.000
132.000	-58.714	-14.000
133.000	-53.120	-14.000
134.000	-55.583	-14.000
135.000	-52.703	-14.000
136.000	-48.842	-14.000
137.000	-56.619	-14.000
138.000	-48.975	-14.000
139.000	-48.423	-14.000
140.000	-57.188	-14.000
141.000	-55.687	-14.000
142.000	-52.636	-14.000
143.000	-49.328	-14.000
144.000	-46.980	-14.000
145.000	-55.839	-14.000
146.000	-61.016	-14.000
147.000	-54.235	-14.000
148.000	-52.709	-14.000
149.000	-54.684	-14.000
150.000	-49.647	-14.000
151.000	-55.087	-14.000
152.000	-60.683	-14.000
153.000	-60.293	-14.000
154.000	-60.175	-14.000
155.000	-50.475	-14.000
156.000	-51.806	-14.000
157.000	-55.650	-14.000
158.000	-53.523	-14.000
159.000	-49.134	-14.000
160.000	-62.020	-14.000
161.000	-56.888	-14.000
162.000	-48.455	-14.000
163.000	-61.790	-14.000
164.000	-61.515	-14.000
165.000	-48.682	-14.000
166.000	-48.459	-14.000
167.000	-61.615	-14.000
168.000	-55.354	-14.000
169.000	-53.219	-14.000
170.000	-53.562	-14.000
171.000	-46.448	-14.000
172.000	-42.738	-14.000
173.000	-49.462	-14.000
174.000	-46.910	-14.000
175.000	-39.967	-14.000
176.000	-43.987	-14.000
177.000	-46.187	-14.000
178.000	-42.722	-14.000
179.000	-41.221	-14.000
180.000	-33.097	-14.000

2.3. Azimuth Pattern for Cross-pol (-10°~10°)

14.25 GHz @ -13.7 dBW/4kHz		
Angle (Degree)	EIRP sd (dBW/4kHz)	Mask (dBW/4kHz)
-10.000	-33.225	
-9.900	-38.778	
-9.800	-44.559	
-9.700	-28.335	
-9.600	-27.175	
-9.500	-31.143	
-9.400	-29.635	
-9.300	-26.065	
-9.200	-28.010	
-9.100	-28.921	
-9.000	-28.205	
-8.900	-32.024	
-8.800	-31.360	
-8.700	-40.666	
-8.600	-34.436	
-8.500	-28.144	
-8.400	-31.749	
-8.300	-34.730	
-8.200	-27.483	
-8.100	-28.789	
-8.000	-32.565	
-7.900	-31.677	
-7.800	-26.540	
-7.700	-23.160	
-7.600	-28.666	
-7.500	-25.777	
-7.400	-28.694	
-7.300	-39.608	
-7.200	-34.332	
-7.100	-26.170	
-7.000	-27.797	-16.127
-6.900	-24.896	-15.971
-6.800	-28.962	-15.813
-6.700	-28.852	-15.652
-6.600	-31.355	-15.489
-6.500	-25.383	-15.323
-6.400	-24.137	-15.154
-6.300	-39.448	-14.984
-6.200	-31.975	-14.810
-6.100	-35.559	-14.633
-6.000	-28.059	-14.454
-5.900	-24.131	-14.271
-5.800	-32.935	-14.086
-5.700	-47.072	-13.897
-5.600	-26.540	-13.705
-5.500	-20.027	-13.509
-5.400	-18.156	-13.310
-5.300	-23.806	-13.107
-5.200	-24.818	-12.900
-5.100	-24.014	-12.689

14.25 GHz @ -13.7 dBW/4kHz		
Angle (Degree)	EIRP sd (dBW/4kHz)	Mask (dBW/4kHz)
-5.000	-22.183	-12.474
-4.900	-16.265	-12.255
-4.800	-14.6	-12.031
-4.700	-14.395	-11.802
-4.600	-15.984	-11.569
-4.500	-15.557	-11.330
-4.400	-19.981	-11.086
-4.300	-21.981	-10.837
-4.200	-17.309	-10.581
-4.100	-15.266	-10.320
-4.000	-14.261	-10.051
-3.900	-17.632	-9.777
-3.800	-26.553	-9.495
-3.700	-23.546	-9.205
-3.600	-13.885	-8.908
-3.500	-12.165	-8.602
-3.400	-12.253	-8.287
-3.300	-13.189	-7.963
-3.200	-17.699	-7.629
-3.100	-18.92	-7.284
-3.000	-14.145	-6.928
-2.900	-12.117	-6.560
-2.800	-11.152	-6.179
-2.700	-11.657	-5.784
-2.600	-11.657	-5.374
-2.500	-13.572	-4.949
-2.400	-20.809	-4.505
-2.300	-13.14	-4.043
-2.200	-7.732	-3.561
-2.100	-5.883	-3.055
-2.000	-4.27	-2.526
-1.900	-6.426	-1.969
-1.800	-10.975	-1.382
-1.700	-11.583	
-1.600	-4.398	
-1.500	-1.249	
-1.400	1.191	
-1.300	2.862	
-1.200	3.242	
-1.100	3.169	
-1.000	-3.025	
-0.900	-3.025	
-0.800	-2.771	
-0.700	5.922	
-0.600	11.452	
-0.500	13.719	
-0.400	14.347	
-0.300	14.832	
-0.200	14.832	
-0.100	11.453	

14.25 GHz @ -13.7 dBW/4kHz		
Angle (Degree)	EIRP sd (dBW/4kHz)	Mask (dBW/4kHz)
0.000	7.023	
0.100	0.643	
0.200	3.119	
0.300	9.216	
0.400	10.614	
0.500	10.837	
0.600	8.413	
0.700	3.628	
0.800	3.628	
0.900	-2.447	
1.000	-4.295	
1.100	-0.769	
1.200	-0.412	
1.300	0.349	
1.400	0.588	
1.500	0.464	
1.600	-0.157	
1.700	-3.907	
1.800	-7.265	-1.382
1.900	-12.15	-1.969
2.000	-8.019	-2.526
2.100	-5.424	-3.055
2.200	-4.863	-3.561
2.300	-6.7	-4.043
2.400	-10.292	-4.505
2.500	-12.287	-4.949
2.600	-13.457	-5.374
2.700	-17.19	-5.784
2.800	-14.197	-6.179
2.900	-13.449	-6.560
3.000	-12.913	-6.928
3.100	-19.216	-7.284
3.200	-19.216	-7.629
3.300	-19.642	-7.963
3.400	-15.013	-8.287
3.500	-12.074	-8.602
3.600	-12.61	-8.908
3.700	-15.19	-9.205
3.800	-15.19	-9.495
3.900	-19.471	-9.777
4.000	-24.947	-10.051
4.100	-23.288	-10.320
4.200	-26.576	-10.581
4.300	-30.214	-10.837
4.400	-27.756	-11.086
4.500	-28.96	-11.330
4.600	-20.471	-11.569
4.700	-19.091	-11.802
4.800	-16.427	-12.031
4.900	-15.401	-12.255

14.25 GHz @ -13.7 dBW/4kHz		
Angle (Degree)	EIRP sd (dBW/4kHz)	Mask (dBW/4kHz)
5.000	-15.401	-12.474
5.100	-18.942	-12.689
5.200	-27.669	-12.900
5.300	-24.005	-13.107
5.400	-24.005	-13.310
5.500	-24.005	-13.509
5.600	-24.005	-13.705
5.700	-24.005	-13.897
5.800	-29.342	-14.086
5.900	-25.38	-14.271
6.000	-18.98	-14.454
6.100	-21.682	-14.633
6.200	-24.4	-14.810
6.300	-24.675	-14.984
6.400	-28.382	-15.154
6.500	-20.739	-15.323
6.600	-25.504	-15.489
6.700	-27.745	-15.652
6.800	-36.219	-15.813
6.900	-27.863	-15.971
7.000	-31.735	-16.127
7.100	-32.702	
7.200	-23.817	
7.300	-22.431	
7.400	-21.977	
7.500	-21.958	
7.600	-25.445	
7.700	-21.714	
7.800	-23.987	
7.900	-23.926	
8.000	-23.664	
8.100	-25.892	
8.200	-24.808	
8.300	-33.7	
8.400	-36.827	
8.500	-31.281	
8.600	-34.751	
8.700	-23.82	
8.800	-23.82	
8.900	-23.992	
9.000	-22.002	
9.100	-24.856	
9.200	-24.856	
9.300	-37.619	
9.400	-37.689	
9.500	-48.483	
9.600	-37.292	
9.700	-25.786	
9.800	-25.942	
9.900	-24.99	
10.000	-24.038	

2.4. Elevation Pattern for Co-pol (0°~30°)

14.25 GHz @ -13.7 dBW/4kHz		
Angle (Degree)	EIRP sd (dBW/4kHz)	Mask (dBW/4kHz)
0.000	34.703	
0.100	34.465	
0.200	33.843	
0.300	32.885	
0.400	31.645	
0.500	30.200	
0.600	28.639	
0.700	27.033	
0.800	25.383	
0.900	23.610	
1.000	21.596	
1.100	19.292	
1.200	16.855	
1.300	14.769	
1.400	13.474	
1.500	12.648	
1.600	11.602	
1.700	9.917	
1.800	7.603	
1.900	5.519	
2.000	5.147	
2.100	5.834	
2.200	6.066	
2.300	5.297	
2.400	3.340	
2.500	-0.055	
2.600	-5.417	
2.700	-12.423	
2.800	-11.998	
2.900	-10.169	
3.000	-10.796	6.072
3.100	-13.623	5.716
3.200	-19.158	5.371
3.300	-22.897	5.037
3.400	-17.923	4.713
3.500	-15.163	4.398
3.600	-13.734	4.092
3.700	-12.596	3.795
3.800	-11.954	3.505
3.900	-12.384	3.223
4.000	-12.797	2.949
4.100	-9.856	2.680
4.200	-5.822	2.419
4.300	-2.844	2.163
4.400	-0.926	1.914
4.500	0.170	1.670
4.600	0.562	1.431
4.700	0.223	1.198
4.800	-0.991	0.969
4.900	-3.226	0.745

14.25 GHz @ -13.7 dBW/4kHz		
Angle (Degree)	EIRP sd (dBW/4kHz)	Mask (dBW/4kHz)
5.000	-5.999	0.526
5.100	-6.587	0.311
5.200	-4.717	0.100
5.300	-3.325	-0.107
5.400	-3.186	-0.310
5.500	-4.422	-0.509
5.600	-7.327	-0.705
5.700	-11.871	-0.897
5.800	-11.505	-1.086
5.900	-7.505	-1.271
6.000	-5.403	-1.454
6.100	-5.024	-1.633
6.200	-6.083	-1.810
6.300	-8.508	-1.984
6.400	-12.435	-2.154
6.500	-18.655	-2.323
6.600	-29.432	-2.489
6.700	-21.731	-2.652
6.800	-17.153	-2.813
6.900	-15.507	-2.971
7.000	-15.275	-3.127
7.100	-15.438	-3.281
7.200	-15.646	-3.433
7.300	-16.629	-3.583
7.400	-18.574	-3.731
7.500	-17.397	-3.877
7.600	-13.290	-4.020
7.700	-10.337	-4.162
7.800	-8.729	-4.302
7.900	-8.061	-4.441
8.000	-7.945	-4.577
8.100	-8.039	-4.712
8.200	-8.105	-4.845
8.300	-8.114	-4.977
8.400	-8.238	-5.107
8.500	-8.704	-5.235
8.600	-9.577	-5.362
8.700	-10.489	-5.488
8.800	-10.741	-5.612
8.900	-10.338	-5.735
9.000	-10.007	-5.856
9.100	-10.145	-5.976
9.200	-10.675	-6.095
9.300	-11.273	-6.212
9.400	-11.584	-6.328
9.500	-11.482	-6.443
9.600	-11.172	-6.557
9.700	-10.985	-6.669
9.800	-11.026	-6.781
9.900	-10.927	-6.891

14.25 GHz @ -13.7 dBW/4kHz		
Angle (Degree)	EIRP sd (dBW/4kHz)	Mask (dBW/4kHz)
10.000	-10.178	-7.000
10.100	-9.076	-7.108
10.200	-8.399	-7.215
10.300	-8.652	-7.321
10.400	-10.186	-7.426
10.500	-13.686	-7.530
10.600	-25.902	-7.633
10.700	-24.997	-7.735
10.800	-17.323	-7.836
10.900	-13.972	-7.936
11.000	-12.509	-8.035
11.100	-12.150	-8.133
11.200	-12.278	-8.230
11.300	-12.246	-8.327
11.400	-11.815	-8.423
11.500	-11.323	-8.517
11.600	-11.123	-8.611
11.700	-11.348	-8.705
11.800	-12.028	-8.797
11.900	-13.190	-8.889
12.000	-14.834	-8.980
12.100	-16.813	-9.070
12.200	-18.657	-9.159
12.300	-19.695	-9.248
12.400	-19.712	-9.336
12.500	-19.201	-9.423
12.600	-18.817	-9.509
12.700	-18.992	-9.595
12.800	-19.902	-9.680
12.900	-21.554	-9.765
13.000	-23.798	-9.849
13.100	-25.938	-9.932
13.200	-26.070	-10.014
13.300	-24.113	-10.096
13.400	-22.342	-10.178
13.500	-21.793	-10.258
13.600	-22.772	-10.338
13.700	-25.487	-10.418
13.800	-29.971	-10.497
13.900	-33.686	-10.575
14.000	-32.717	-10.653
14.100	-31.273	-10.730
14.200	-30.959	-10.807
14.300	-32.769	-10.883
14.400	-41.778	-10.959
14.500	-34.564	-11.034
14.600	-27.117	-11.109
14.700	-23.315	-11.183
14.800	-21.355	-11.257
14.900	-20.405	-11.330

14.25 GHz @ -13.7 dBW/4kHz		
Angle (Degree)	EIRP sd (dBW/4kHz)	Mask (dBW/4kHz)
15.000	-19.877	-11.402
15.100	-19.536	-11.474
15.200	-19.542	-11.546
15.300	-20.175	-11.617
15.400	-21.755	-11.688
15.500	-24.844	-11.758
15.600	-29.021	-11.828
15.700	-24.837	-11.897
15.800	-19.327	-11.966
15.900	-15.929	-12.035
16.000	-14.086	-12.103
16.100	-13.497	-12.171
16.200	-13.978	-12.238
16.300	-15.296	-12.305
16.400	-16.959	-12.371
16.500	-18.190	-12.437
16.600	-18.672	-12.503
16.700	-18.961	-12.568
16.800	-19.699	-12.633
16.900	-21.340	-12.697
17.000	-24.209	-12.761
17.100	-27.066	-12.825
17.200	-25.793	-12.888
17.300	-23.826	-12.951
17.400	-23.989	-13.014
17.500	-27.220	-13.076
17.600	-38.983	-13.138
17.700	-31.472	-13.199
17.800	-24.585	-13.261
17.900	-21.704	-13.321
18.000	-20.513	-13.382
18.100	-20.482	-13.442
18.200	-21.524	-13.502
18.300	-23.400	-13.561
18.400	-24.287	-13.620
18.500	-22.558	-13.679
18.600	-20.718	-13.738
18.700	-20.142	-13.796
18.800	-20.983	-13.854
18.900	-23.244	-13.912
19.000	-27.021	-13.969
19.100	-32.553	-14.026
19.200	-39.116	-14.000
19.300	-40.339	-14.000
19.400	-41.301	-14.000
19.500	-43.806	-14.000
19.600	-32.120	-14.000
19.700	-25.328	-14.000
19.800	-21.247	-14.000
19.900	-18.857	-14.000

14.25 GHz @ -13.7 dBW/4kHz		
Angle (Degree)	EIRP sd (dBW/4kHz)	Mask (dBW/4kHz)
20.000	-17.725	-14.000
20.100	-17.598	-14.000
20.200	-18.273	-14.000
20.300	-19.511	-14.000
20.400	-20.934	-14.000
20.500	-21.952	-14.000
20.600	-22.130	-14.000
20.700	-21.764	-14.000
20.800	-21.516	-14.000
20.900	-21.862	-14.000
21.000	-23.134	-14.000
21.100	-25.854	-14.000
21.200	-31.568	-14.000
21.300	-36.380	-14.000
21.400	-27.405	-14.000
21.500	-22.885	-14.000
21.600	-20.395	-14.000
21.700	-18.977	-14.000
21.800	-18.226	-14.000
21.900	-17.980	-14.000
22.000	-18.236	-14.000
22.100	-19.066	-14.000
22.200	-20.471	-14.000
22.300	-22.128	-14.000
22.400	-23.129	-14.000
22.500	-22.804	-14.000
22.600	-21.632	-14.000
22.700	-20.188	-14.000
22.800	-18.786	-14.000
22.900	-17.721	-14.000
23.000	-17.222	-14.000
23.100	-17.401	-14.000
23.200	-18.271	-14.000
23.300	-19.798	-14.000
23.400	-22.019	-14.000
23.500	-25.189	-14.000
23.600	-29.303	-14.000
23.700	-29.908	-14.000
23.800	-26.435	-14.000
23.900	-24.051	-14.000
24.000	-23.012	-14.000
24.100	-22.829	-14.000
24.200	-22.912	-14.000
24.300	-22.817	-14.000
24.400	-22.682	-14.000
24.500	-22.967	-14.000
24.600	-23.910	-14.000
24.700	-25.262	-14.000
24.800	-26.088	-14.000
24.900	-25.649	-14.000

14.25 GHz @ -13.7 dBW/4kHz		
Angle (Degree)	EIRP sd (dBW/4kHz)	Mask (dBW/4kHz)
25.000	-24.671	-14.000
25.100	-23.983	-14.000
25.200	-23.709	-14.000
25.300	-23.546	-14.000
25.400	-23.114	-14.000
25.500	-22.354	-14.000
25.600	-21.620	-14.000
25.700	-21.375	-14.000
25.800	-21.958	-14.000
25.900	-23.547	-14.000
26.000	-26.096	-14.000
26.100	-29.015	-14.000
26.200	-30.734	-14.000
26.300	-30.028	-14.000
26.400	-27.972	-14.000
26.500	-26.063	-14.000
26.600	-24.851	-14.000
26.700	-24.263	-14.000
26.800	-23.929	-14.000
26.900	-23.475	-14.000
27.000	-22.908	-14.000
27.100	-22.569	-14.000
27.200	-22.719	-14.000
27.300	-23.266	-14.000
27.400	-23.626	-14.000
27.500	-23.168	-14.000
27.600	-22.202	-14.000
27.700	-21.515	-14.000
27.800	-21.563	-14.000
27.900	-22.522	-14.000
28.000	-24.482	-14.000
28.100	-27.599	-14.000
28.200	-32.538	-14.000
28.300	-41.835	-14.000
28.400	-35.014	-14.000
28.500	-28.095	-14.000
28.600	-24.017	-14.000
28.700	-21.415	-14.000
28.800	-19.916	-14.000
28.900	-19.391	-14.000
29.000	-19.759	-14.000
29.100	-20.872	-14.000
29.200	-22.344	-14.000
29.300	-25.447	-14.000
29.400	-25.632	-14.000
29.500	-25.052	-14.000
29.600	-23.995	-14.000
29.700	-22.621	-14.000
29.800	-21.190	-14.000
29.900	-20.043	-14.000
30.000	-20.852	-14.000

Final

Ka band EIRP Spectral Density

Model Name: Intellian v240MT

Test Date: June 30, 2017

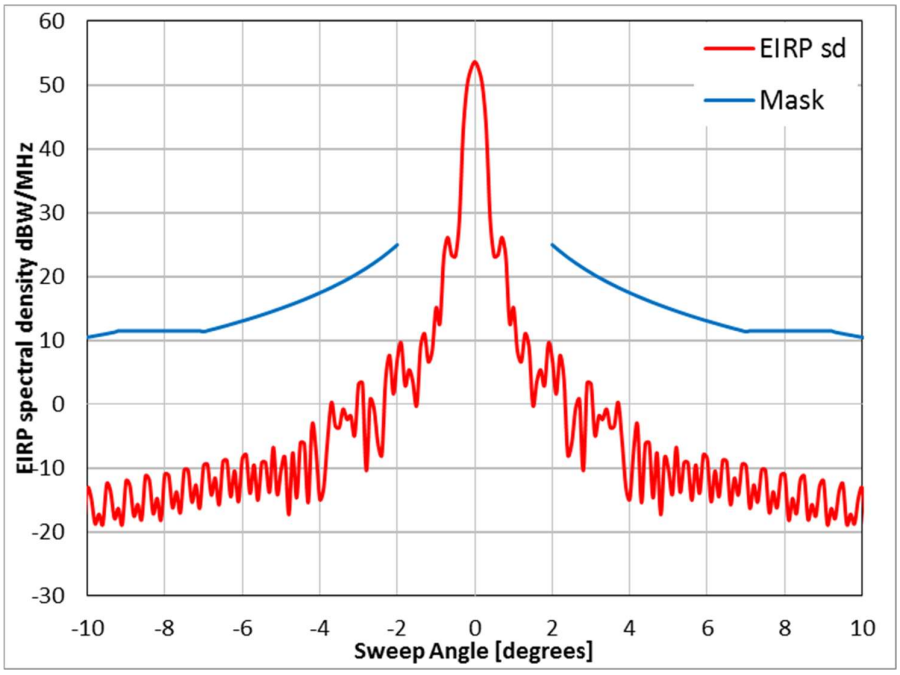
Prepared by

RF Engineering Department
Intellian Technologies, Inc.

Contents

1. EIRP Spectral Density of v240MT Ka-band 27.5 GHz

1.1. Azimuth Pattern for Co-pol, Narrow Angle (-10° ~ 10°)



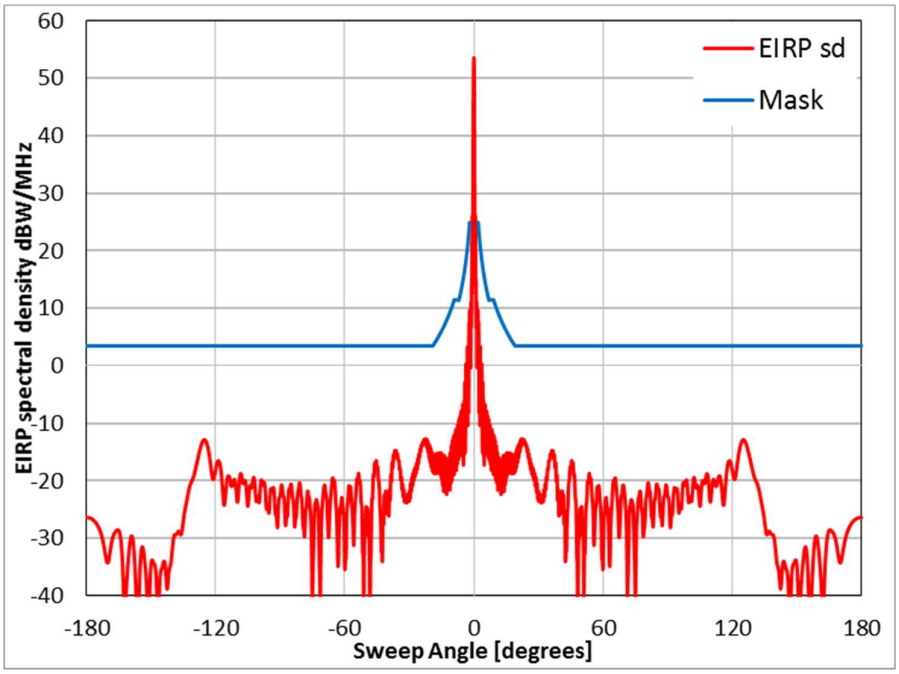
0 dBW/ MHz Input power spectral density @ f=27.5 GHz & 1.0 dB Radome loss

- **FCC EIRP spectral density regulation**

32.5-25log(θ)	**dBW/MHz**	**for**	**2.0˚ ≤ θ ≤ 7.0˚**
11.5	**dBW/MHz**	**for**	**7.0˚ < θ ≤ 9.2˚**
35.5-25log(θ)	**dBW/MHz**	**for**	**9.2˚ < θ ≤ 19.1˚**
3.5	**dBW/MHz**	**for**	**19.1˚ < θ ≤ 180˚**

The v240MT's Ka band(27.5 GHz) Radiation pattern meets the FCC EIRP spectral density mask when the input powers spectral density is @ 0 dBW/ MHz

1.2. Azimuth Pattern for Co-pol, Wide Angle (-180°~180°)



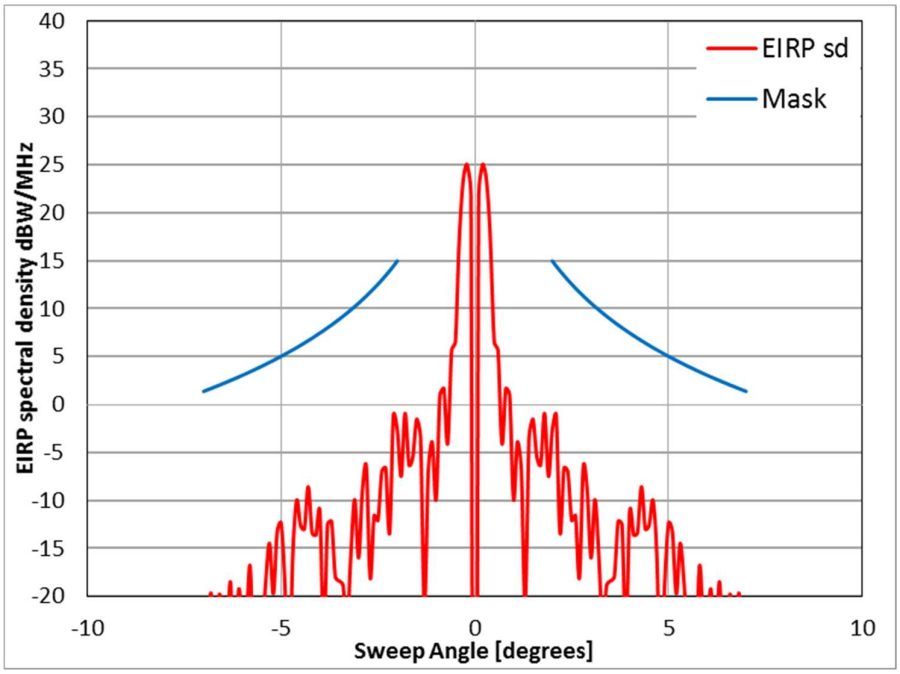
0 dBW/ MHz Input power spectral density @ f=27.5 GHz & 1.0 dB Radome loss

- **FCC EIRP spectral density regulation**

32.5-25log(θ)	**dBW/MHz**	**for**	**2.0° ≤ θ ≤ 7.0°**
11.5	**dBW/MHz**	**for**	**7.0° < θ ≤ 9.2°**
35.5-25log(θ)	**dBW/MHz**	**for**	**9.2° < θ ≤ 19.1°**
3.5	**dBW/MHz**	**for**	**19.1° < θ ≤ 180°**

The v240MT's Ka band(27.5 GHz) Radiation pattern meets the FCC EIRP spectral density mask when the input powers spectral density is @ 0 dBW/ MHz

1.3. Azimuth Pattern for Cross-pol, Narrow angle (-10°~10°)



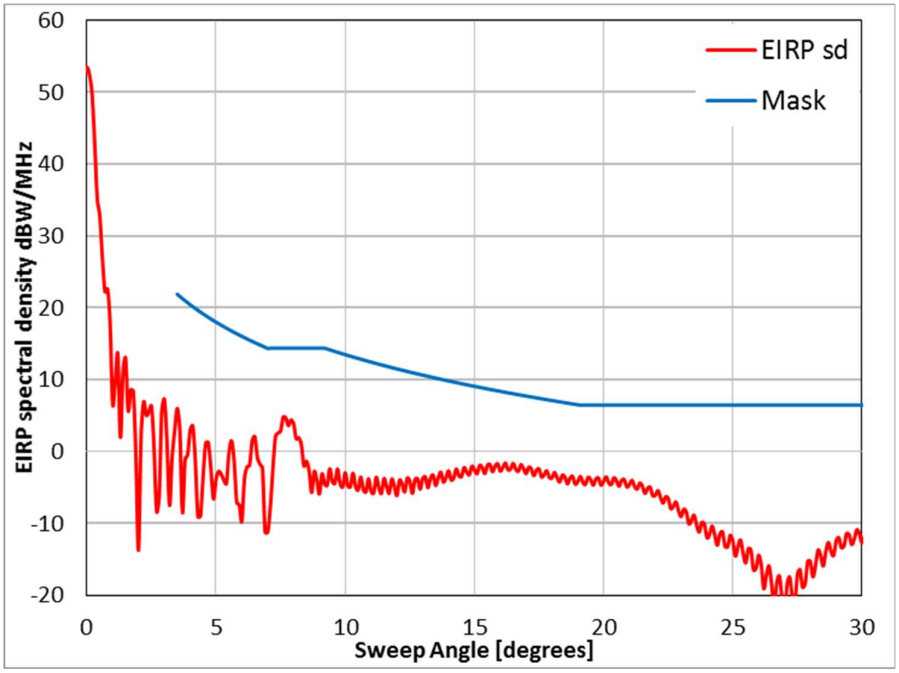
0 dBW/ MHz Input power spectral density @ f=27.5 GHz & 1.0 dB Radome loss

- **FCC EIRP spectral density regulation**

22.5-25log(θ) dBW/MHz for 2.0˚ ≤ θ ≤ 7.0˚

The v240MT's Ka band(27.5 GHz) Radiation pattern meets the FCC EIRP spectral density mask when the input powers spectral density is @ 0 dBW/ MHz

1.4. Elevation Pattern for Co-pol, Narrow Angle (0°~30°)



0 dBW/ MHz Input power spectral density @ f=27.5 GHz & 1.0 dB Radome loss

- **FCC EIRP spectral density regulation**

35.5-25log(θ)	**dBW/MHz**	**for**	**3.5˚ ≤ θ ≤ 7.0˚**
14.4	**dBW/MHz**	**for**	**7.0˚ < θ ≤ 9.2˚**
38.5-25log(θ)	**dBW/MHz**	**for**	**9.2˚ < θ ≤ 19.1˚**
6.5	**dBW/MHz**	**for**	**19.1˚ < θ ≤ 180˚**

The v240MT's Ka band(27.5 GHz) Radiation pattern meets the FCC EIRP spectral density mask when the input powers spectral density is @ 0 dBW/ MHz

2. EIRP Spectral Density Data

2.1. Azimuth Pattern for Co-pol (-10°~10°)

27.5 GHz @ 0 dBW/MHz		
Angle (Degree)	EIRP sd (dBW/MHz)	Mask (dBW/MHz)
-10.000	-13.151	10.500
-9.900	-14.673	10.609
-9.800	-18.677	10.719
-9.700	-17.185	10.831
-9.600	-18.739	10.943
-9.500	-12.465	11.057
-9.400	-13.645	11.172
-9.300	-17.870	11.288
-9.200	-16.292	11.500
-9.100	-18.790	11.500
-9.000	-11.991	11.500
-8.900	-12.766	11.500
-8.800	-17.471	11.500
-8.700	-15.661	11.500
-8.600	-18.007	11.500
-8.500	-11.230	11.500
-8.400	-11.858	11.500
-8.300	-17.096	11.500
-8.200	-14.731	11.500
-8.100	-18.097	11.500
-8.000	-10.950	11.500
-7.900	-11.121	11.500
-7.800	-16.173	11.500
-7.700	-13.700	11.500
-7.600	-16.954	11.500
-7.500	-10.278	11.500
-7.400	-10.299	11.500
-7.300	-15.286	11.500
-7.200	-12.614	11.500
-7.100	-16.237	11.500
-7.000	-9.613	11.373
-6.900	-9.377	11.529
-6.800	-14.176	11.687
-6.700	-11.538	11.848
-6.600	-15.701	12.011
-6.500	-8.969	12.177
-6.400	-8.753	12.346
-6.300	-14.430	12.516
-6.200	-10.431	12.690
-6.100	-15.238	12.867
-6.000	-8.513	13.046
-5.900	-7.886	13.229
-5.800	-13.937	13.414
-5.700	-9.484	13.603
-5.600	-14.990	13.795
-5.500	-9.161	13.991
-5.400	-9.129	14.190
-5.300	-13.754	14.393
-5.200	-6.734	14.600
-5.100	-14.087	14.811

27.5 GHz @ 0 dBW/MHz		
Angle (Degree)	EIRP sd (dBW/MHz)	Mask (dBW/MHz)
-5.000	-10.260	15.026
-4.900	-8.380	15.245
-4.800	-17.240	15.469
-4.700	-7.575	15.698
-4.600	-14.629	15.931
-4.500	-6.022	16.170
-4.400	-6.214	16.414
-4.300	-15.351	16.663
-4.200	-3.240	16.919
-4.100	-7.197	17.180
-4.000	-14.847	17.449
-3.900	-13.063	17.723
-3.800	-5.646	18.005
-3.700	0.306	18.295
-3.600	-3.357	18.592
-3.500	-3.646	18.898
-3.400	-0.759	19.213
-3.300	-2.349	19.537
-3.200	-1.819	19.871
-3.100	-4.853	20.216
-3.000	3.196	20.572
-2.900	3.367	20.940
-2.800	-10.357	21.321
-2.700	0.715	21.716
-2.600	-0.751	22.126
-2.500	-6.144	22.551
-2.400	-7.897	22.995
-2.300	4.012	23.457
-2.200	7.647	23.939
-2.100	1.637	24.445
-2.000	7.065	24.974
-1.900	9.564	
-1.800	2.965	
-1.700	5.395	
-1.600	3.566	
-1.500	-0.160	
-1.400	8.988	
-1.300	11.081	
-1.200	6.660	
-1.100	8.357	
-1.000	15.114	
-0.900	12.709	
-0.800	23.147	
-0.700	26.110	
-0.600	23.408	
-0.500	23.169	
-0.400	28.714	
-0.300	42.618	
-0.200	49.741	
-0.100	52.434	

27.5 GHz @ 0 dBW/MHz		
Angle (Degree)	EIRP sd (dBW/MHz)	Mask (dBW/MHz)
0.000	53.497	
0.100	52.434	
0.200	49.741	
0.300	42.618	
0.400	28.714	
0.500	23.169	
0.600	23.408	
0.700	26.110	
0.800	23.147	
0.900	12.709	
1.000	15.114	
1.100	8.357	
1.200	6.660	
1.300	11.081	
1.400	8.988	
1.500	-0.160	
1.600	3.565	
1.700	5.395	
1.800	2.965	
1.900	9.564	
2.000	7.065	24.974
2.100	1.637	24.445
2.200	7.647	23.939
2.300	4.012	23.457
2.400	-7.897	22.995
2.500	-6.144	22.551
2.600	-0.751	22.126
2.700	0.715	21.716
2.800	-10.356	21.321
2.900	3.367	20.940
3.000	3.196	20.572
3.100	-4.853	20.216
3.200	-1.819	19.871
3.300	-2.349	19.537
3.400	-0.759	19.213
3.500	-3.646	18.898
3.600	-3.357	18.592
3.700	0.306	18.295
3.800	-5.646	18.005
3.900	-13.064	17.723
4.000	-14.848	17.449
4.100	-7.196	17.180
4.200	-3.240	16.919
4.300	-15.350	16.663
4.400	-6.215	16.414
4.500	-6.022	16.170
4.600	-14.630	15.931
4.700	-7.575	15.698
4.800	-17.241	15.469
4.900	-8.381	15.245

27.5 GHz @ 0 dBW/MHz		
Angle (Degree)	EIRP sd (dBW/MHz)	Mask (dBW/MHz)
5.000	-10.260	15.026
5.100	-14.087	14.811
5.200	-6.734	14.600
5.300	-13.754	14.393
5.400	-9.129	14.190
5.500	-9.161	13.991
5.600	-14.990	13.795
5.700	-9.484	13.603
5.800	-13.937	13.414
5.900	-7.886	13.229
6.000	-8.513	13.046
6.100	-15.239	12.867
6.200	-10.431	12.690
6.300	-14.431	12.516
6.400	-8.753	12.346
6.500	-8.970	12.177
6.600	-15.702	12.011
6.700	-11.538	11.848
6.800	-14.176	11.687
6.900	-9.377	11.529
7.000	-9.614	11.373
7.100	-16.238	11.500
7.200	-12.614	11.500
7.300	-15.286	11.500
7.400	-10.299	11.500
7.500	-10.278	11.500
7.600	-16.954	11.500
7.700	-13.699	11.500
7.800	-16.172	11.500
7.900	-11.121	11.500
8.000	-10.950	11.500
8.100	-18.096	11.500
8.200	-14.730	11.500
8.300	-17.095	11.500
8.400	-11.858	11.500
8.500	-11.230	11.500
8.600	-18.007	11.500
8.700	-15.660	11.500
8.800	-17.470	11.500
8.900	-12.766	11.500
9.000	-11.991	11.500
9.100	-18.790	11.500
9.200	-16.292	11.500
9.300	-17.870	11.288
9.400	-13.646	11.172
9.500	-12.465	11.057
9.600	-18.739	10.943
9.700	-17.185	10.831
9.800	-18.678	10.719
9.900	-14.673	10.609
10.000	-13.151	10.500

2.2. Azimuth Pattern for Co-pol (-180°~180°)

27.5 GHz @ 0 dBW/MHz		
Angle (Degree)	EIRP sd (dBW/MHz)	Mask (dBW/MHz)
-180.000	-26.346	3.500
-179.000	-26.377	3.500
-178.000	-26.506	3.500
-177.000	-26.728	3.500
-176.000	-27.090	3.500
-175.000	-27.601	3.500
-174.000	-28.324	3.500
-173.000	-29.390	3.500
-172.000	-30.982	3.500
-171.000	-33.118	3.500
-170.000	-34.220	3.500
-169.000	-32.414	3.500
-168.000	-30.268	3.500
-167.000	-29.151	3.500
-166.000	-28.639	3.500
-165.000	-28.598	3.500
-164.000	-30.199	3.500
-163.000	-35.678	3.500
-162.000	-44.122	3.500
-161.000	-36.212	3.500
-160.000	-31.616	3.500
-159.000	-29.576	3.500
-158.000	-31.583	3.500
-157.000	-38.438	3.500
-156.000	-53.450	3.500
-155.000	-34.908	3.500
-154.000	-31.459	3.500
-153.000	-33.630	3.500
-152.000	-38.085	3.500
-151.000	-49.831	3.500
-150.000	-34.741	3.500
-149.000	-34.050	3.500
-148.000	-34.954	3.500
-147.000	-43.551	3.500
-146.000	-38.321	3.500
-145.000	-35.307	3.500
-144.000	-33.999	3.500
-143.000	-36.526	3.500
-142.000	-37.247	3.500
-141.000	-34.742	3.500
-140.000	-31.632	3.500
-139.000	-29.398	3.500
-138.000	-29.211	3.500
-137.000	-28.789	3.500
-136.000	-29.320	3.500
-135.000	-27.085	3.500
-134.000	-24.649	3.500
-133.000	-22.721	3.500
-132.000	-20.975	3.500
-131.000	-20.000	3.500
-130.000	-19.022	3.500

27.5 GHz @ 0 dBW/MHz		
Angle (Degree)	EIRP sd (dBW/MHz)	Mask (dBW/MHz)
-129.000	-17.459	3.500
-128.000	-15.794	3.500
-127.000	-14.256	3.500
-126.000	-13.152	3.500
-125.000	-12.858	3.500
-124.000	-13.548	3.500
-123.000	-15.309	3.500
-122.000	-18.030	3.500
-121.000	-19.742	3.500
-120.000	-18.156	3.500
-119.000	-16.615	3.500
-118.000	-17.000	3.500
-117.000	-20.022	3.500
-116.000	-24.222	3.500
-115.000	-20.968	3.500
-114.000	-19.121	3.500
-113.000	-20.423	3.500
-112.000	-20.504	3.500
-111.000	-19.952	3.500
-110.000	-23.367	3.500
-109.000	-20.407	3.500
-108.000	-18.926	3.500
-107.000	-20.465	3.500
-106.000	-20.270	3.500
-105.000	-24.381	3.500
-104.000	-20.887	3.500
-103.000	-20.938	3.500
-102.000	-19.666	3.500
-101.000	-23.567	3.500
-100.000	-23.437	3.500
-99.000	-20.402	3.500
-98.000	-20.758	3.500
-97.000	-21.002	3.500
-96.000	-24.589	3.500
-95.000	-24.919	3.500
-94.000	-21.528	3.500
-93.000	-21.241	3.500
-92.000	-25.875	3.500
-91.000	-26.696	3.500
-90.000	-22.699	3.500
-89.000	-21.258	3.500
-88.000	-23.773	3.500
-87.000	-26.283	3.500
-86.000	-21.847	3.500
-85.000	-20.557	3.500
-84.000	-23.257	3.500
-83.000	-27.214	3.500
-82.000	-22.768	3.500
-81.000	-20.350	3.500
-80.000	-23.040	3.500
-79.000	-28.456	3.500

27.5 GHz @ 0 dBW/MHz		
Angle (Degree)	EIRP sd (dBW/MHz)	Mask (dBW/MHz)
-78.000	-25.043	3.500
-77.000	-22.048	3.500
-76.000	-25.087	3.500
-75.000	-40.924	3.500
-74.000	-25.234	3.500
-73.000	-23.365	3.500
-72.000	-28.867	3.500
-71.000	-30.770	3.500
-70.000	-22.323	3.500
-69.000	-21.612	3.500
-68.000	-26.060	3.500
-67.000	-25.665	3.500
-66.000	-20.612	3.500
-65.000	-19.983	3.500
-64.000	-24.437	3.500
-63.000	-34.650	3.500
-62.000	-24.568	3.500
-61.000	-24.365	3.500
-60.000	-34.773	3.500
-59.000	-25.476	3.500
-58.000	-20.819	3.500
-57.000	-22.520	3.500
-56.000	-29.434	3.500
-55.000	-23.339	3.500
-54.000	-19.822	3.500
-53.000	-20.155	3.500
-52.000	-25.302	3.500
-51.000	-36.708	3.500
-50.000	-24.446	3.500
-49.000	-29.145	3.500
-48.000	-33.878	3.500
-47.000	-22.229	3.500
-46.000	-16.842	3.500
-45.000	-17.883	3.500
-44.000	-20.759	3.500
-43.000	-32.269	3.500
-42.000	-27.429	3.500
-41.000	-21.738	3.500
-40.000	-25.712	3.500
-39.000	-22.585	3.500
-38.000	-16.882	3.500
-37.000	-15.899	3.500
-36.000	-15.091	3.500
-35.000	-16.436	3.500
-34.000	-19.603	3.500
-33.000	-20.973	3.500
-32.000	-22.506	3.500
-31.000	-22.521	3.500
-30.000	-22.360	3.500
-29.000	-21.549	3.500
-28.000	-19.901	3.500

27.5 GHz @ 0 dBW/MHz		
Angle (Degree)	EIRP sd (dBW/MHz)	Mask (dBW/MHz)
-27.000	-18.406	3.500
-26.000	-16.401	3.500
-25.000	-14.448	3.500
-24.000	-13.550	3.500
-23.000	-13.363	3.500
-22.000	-13.333	3.500
-21.000	-13.563	3.500
-20.000	-14.384	3.500
-19.000	-15.491	3.531
-18.000	-16.484	4.118
-17.000	-17.111	4.739
-16.000	-17.846	5.397
-15.000	-19.259	6.098
-14.000	-20.934	6.847
-13.000	-19.824	7.651
-12.000	-16.676	8.520
-11.000	-15.233	9.465
-10.000	-13.151	10.500
-9.000	-11.991	11.500
-8.000	-10.950	11.500
-7.000	-9.613	11.373
-6.000	-8.513	13.046
-5.000	-10.260	15.026
-4.000	-14.847	17.449
-3.000	3.196	20.572
-2.000	7.065	24.974
-1.000	15.114	
0.000	53.497	
1.000	15.114	
2.000	7.065	24.974
3.000	3.196	20.572
4.000	-14.848	17.449
5.000	-10.260	15.026
6.000	-8.513	13.046
7.000	-9.614	11.373
8.000	-10.950	11.500
9.000	-11.991	11.500
10.000	-13.151	10.500
11.000	-15.233	9.465
12.000	-16.676	8.520
13.000	-19.824	7.651
14.000	-20.934	6.847
15.000	-19.259	6.098
16.000	-17.846	5.397
17.000	-17.111	4.739
18.000	-16.484	4.118
19.000	-15.491	3.531
20.000	-14.384	3.500
21.000	-13.563	3.500
22.000	-13.333	3.500
23.000	-13.363	3.500

27.5 GHz @ 0 dBW/MHz		
Angle (Degree)	EIRP sd (dBW/MHz)	Mask (dBW/MHz)
24.000	-13.550	3.500
25.000	-14.448	3.500
26.000	-16.401	3.500
27.000	-18.406	3.500
28.000	-19.901	3.500
29.000	-21.549	3.500
30.000	-22.360	3.500
31.000	-22.521	3.500
32.000	-22.506	3.500
33.000	-20.972	3.500
34.000	-19.602	3.500
35.000	-16.436	3.500
36.000	-15.091	3.500
37.000	-15.899	3.500
38.000	-16.882	3.500
39.000	-22.585	3.500
40.000	-25.713	3.500
41.000	-21.737	3.500
42.000	-27.428	3.500
43.000	-32.269	3.500
44.000	-20.759	3.500
45.000	-17.883	3.500
46.000	-16.841	3.500
47.000	-22.230	3.500
48.000	-33.878	3.500
49.000	-29.144	3.500
50.000	-24.446	3.500
51.000	-36.708	3.500
52.000	-25.302	3.500
53.000	-20.155	3.500
54.000	-19.822	3.500
55.000	-23.339	3.500
56.000	-29.434	3.500
57.000	-22.520	3.500
58.000	-20.819	3.500
59.000	-25.476	3.500
60.000	-34.773	3.500
61.000	-24.364	3.500
62.000	-24.568	3.500
63.000	-34.650	3.500
64.000	-24.437	3.500
65.000	-19.983	3.500
66.000	-20.612	3.500
67.000	-25.666	3.500
68.000	-26.060	3.500
69.000	-21.612	3.500
70.000	-22.323	3.500
71.000	-30.770	3.500
72.000	-28.867	3.500
73.000	-23.366	3.500
74.000	-25.234	3.500

27.5 GHz @ 0 dBW/MHz		
Angle (Degree)	EIRP sd (dBW/MHz)	Mask (dBW/MHz)
75.000	-40.924	3.500
76.000	-25.086	3.500
77.000	-22.048	3.500
78.000	-25.043	3.500
79.000	-28.456	3.500
80.000	-23.040	3.500
81.000	-20.350	3.500
82.000	-22.768	3.500
83.000	-27.214	3.500
84.000	-23.257	3.500
85.000	-20.557	3.500
86.000	-21.847	3.500
87.000	-26.283	3.500
88.000	-23.774	3.500
89.000	-21.258	3.500
90.000	-22.699	3.500
91.000	-26.696	3.500
92.000	-25.875	3.500
93.000	-21.241	3.500
94.000	-21.528	3.500
95.000	-24.919	3.500
96.000	-24.589	3.500
97.000	-21.002	3.500
98.000	-20.758	3.500
99.000	-20.402	3.500
100.000	-23.437	3.500
101.000	-23.567	3.500
102.000	-19.666	3.500
103.000	-20.938	3.500
104.000	-20.887	3.500
105.000	-24.381	3.500
106.000	-20.270	3.500
107.000	-20.465	3.500
108.000	-18.926	3.500
109.000	-20.407	3.500
110.000	-23.367	3.500
111.000	-19.952	3.500
112.000	-20.504	3.500
113.000	-20.423	3.500
114.000	-19.121	3.500
115.000	-20.968	3.500
116.000	-24.222	3.500
117.000	-20.022	3.500
118.000	-17.001	3.500
119.000	-16.615	3.500
120.000	-18.156	3.500
121.000	-19.742	3.500
122.000	-18.030	3.500
123.000	-15.309	3.500
124.000	-13.548	3.500
125.000	-12.858	3.500

27.5 GHz @ 0 dBW/MHz		
Angle (Degree)	EIRP sd (dBW/MHz)	Mask (dBW/MHz)
126.000	-13.152	3.500
127.000	-14.256	3.500
128.000	-15.794	3.500
129.000	-17.459	3.500
130.000	-19.023	3.500
131.000	-20.000	3.500
132.000	-20.975	3.500
133.000	-22.721	3.500
134.000	-24.649	3.500
135.000	-27.084	3.500
136.000	-29.320	3.500
137.000	-28.789	3.500
138.000	-29.211	3.500
139.000	-29.398	3.500
140.000	-31.632	3.500
141.000	-34.743	3.500
142.000	-37.248	3.500
143.000	-36.526	3.500
144.000	-34.000	3.500
145.000	-35.306	3.500
146.000	-38.323	3.500
147.000	-43.553	3.500
148.000	-34.953	3.500
149.000	-34.050	3.500
150.000	-34.740	3.500
151.000	-49.826	3.500
152.000	-38.082	3.500
153.000	-33.630	3.500
154.000	-31.459	3.500
155.000	-34.907	3.500
156.000	-53.453	3.500
157.000	-38.438	3.500
158.000	-31.583	3.500
159.000	-29.575	3.500
160.000	-31.616	3.500
161.000	-36.211	3.500
162.000	-44.126	3.500
163.000	-35.677	3.500
164.000	-30.199	3.500
165.000	-28.598	3.500
166.000	-28.638	3.500
167.000	-29.151	3.500
168.000	-30.269	3.500
169.000	-32.414	3.500
170.000	-34.221	3.500
171.000	-33.119	3.500
172.000	-30.982	3.500
173.000	-29.390	3.500
174.000	-28.324	3.500
175.000	-27.601	3.500
176.000	-27.090	3.500
177.000	-26.728	3.500
178.000	-26.506	3.500
179.000	-26.377	3.500
180.000	-26.346	3.500

2.3. Azimuth Pattern for Cross-pol (-10°~10°)

27.5 GHz @ 0 dBW/MHz		
Angle (Degree)	EIRP sd (dBW/MHz)	Mask (dBW/MHz)
-10.000	-28.544	
-9.900	-26.380	
-9.800	-25.979	
-9.700	-32.951	
-9.600	-23.586	
-9.500	-28.642	
-9.400	-27.140	
-9.300	-25.735	
-9.200	-33.884	
-9.100	-22.708	
-9.000	-27.458	
-8.900	-27.810	
-8.800	-25.030	
-8.700	-37.029	
-8.600	-22.369	
-8.500	-26.944	
-8.400	-27.406	
-8.300	-23.762	
-8.200	-40.740	
-8.100	-21.834	
-8.000	-25.847	
-7.900	-27.207	
-7.800	-22.618	
-7.700	-43.274	
-7.600	-21.552	
-7.500	-25.317	
-7.400	-26.214	
-7.300	-21.382	
-7.200	-40.730	
-7.100	-20.918	
-7.000	-24.382	1.373
-6.900	-25.247	1.529
-6.800	-20.120	1.687
-6.700	-38.542	1.848
-6.600	-20.121	2.011
-6.500	-23.186	2.177
-6.400	-24.340	2.346
-6.300	-18.743	2.516
-6.200	-34.060	2.690
-6.100	-19.536	2.867
-6.000	-22.320	3.046
-5.900	-22.780	3.229
-5.800	-16.843	3.414
-5.700	-27.527	3.603
-5.600	-20.949	3.795
-5.500	-24.238	3.991
-5.400	-18.668	4.190
-5.300	-14.495	4.393
-5.200	-19.736	4.600
-5.100	-13.239	4.811

27.5 GHz @ 0 dBW/MHz		
Angle (Degree)	EIRP sd (dBW/MHz)	Mask (dBW/MHz)
-5.000	-12.362	5.026
-4.900	-18.888	5.245
-4.800	-31.063	5.469
-4.700	-16.027	5.698
-4.600	-10.026	5.931
-4.500	-12.591	6.170
-4.400	-12.974	6.414
-4.300	-8.579	6.663
-4.200	-13.373	6.919
-4.100	-13.623	7.180
-4.000	-11.108	7.449
-3.900	-24.154	7.723
-3.800	-12.517	8.005
-3.700	-12.157	8.295
-3.600	-17.976	8.592
-3.500	-18.415	8.898
-3.400	-18.866	9.213
-3.300	-23.527	9.537
-3.200	-15.740	9.871
-3.100	-9.933	10.216
-3.000	-15.995	10.572
-2.900	-8.906	10.940
-2.800	-6.488	11.321
-2.700	-18.097	11.716
-2.600	-11.602	12.126
-2.500	-12.084	12.551
-2.400	-6.992	12.995
-2.300	-6.634	13.457
-2.200	-13.411	13.939
-2.100	-1.118	14.445
-2.000	-2.657	14.974
-1.900	-7.484	
-1.800	-0.920	
-1.700	-6.266	
-1.600	-5.480	
-1.500	-1.517	
-1.400	-3.453	
-1.300	-20.787	
-1.200	-6.822	
-1.100	-3.886	
-1.000	-9.930	
-0.900	0.961	
-0.800	1.669	
-0.700	-4.083	
-0.600	5.593	
-0.500	6.599	
-0.400	17.306	
-0.300	23.409	
-0.200	25.055	
-0.100	21.864	

27.5 GHz @ 0 dBW/MHz		
Angle (Degree)	EIRP sd (dBW/MHz)	Mask (dBW/MHz)
0.000	-110.917	
0.100	21.864	
0.200	25.055	
0.300	23.409	
0.400	17.306	
0.500	6.599	
0.600	5.593	
0.700	-4.083	
0.800	1.669	
0.900	0.961	
1.000	-9.930	
1.100	-3.886	
1.200	-6.822	
1.300	-20.787	
1.400	-3.452	
1.500	-1.517	
1.600	-5.480	
1.700	-6.266	
1.800	-0.920	
1.900	-7.484	
2.000	-2.657	14.974
2.100	-1.118	14.445
2.200	-13.410	13.939
2.300	-6.634	13.457
2.400	-6.992	12.995
2.500	-12.084	12.551
2.600	-11.602	12.126
2.700	-18.096	11.716
2.800	-6.488	11.321
2.900	-8.906	10.940
3.000	-15.995	10.572
3.100	-9.933	10.216
3.200	-15.740	9.871
3.300	-23.528	9.537
3.400	-18.866	9.213
3.500	-18.415	8.898
3.600	-17.976	8.592
3.700	-12.157	8.295
3.800	-12.518	8.005
3.900	-24.154	7.723
4.000	-11.108	7.449
4.100	-13.623	7.180
4.200	-13.373	6.919
4.300	-8.579	6.663
4.400	-12.974	6.414
4.500	-12.591	6.170
4.600	-10.026	5.931
4.700	-16.027	5.698
4.800	-31.063	5.469
4.900	-18.888	5.245

27.5 GHz @ 0 dBW/MHz		
Angle (Degree)	EIRP sd (dBW/MHz)	Mask (dBW/MHz)
5.000	-12.362	5.026
5.100	-13.239	4.811
5.200	-19.736	4.600
5.300	-14.495	4.393
5.400	-18.668	4.190
5.500	-24.238	3.991
5.600	-20.949	3.795
5.700	-27.528	3.603
5.800	-16.843	3.414
5.900	-22.780	3.229
6.000	-22.320	3.046
6.100	-19.536	2.867
6.200	-34.060	2.690
6.300	-18.743	2.516
6.400	-24.340	2.346
6.500	-23.185	2.177
6.600	-20.121	2.011
6.700	-38.544	1.848
6.800	-20.120	1.687
6.900	-25.247	1.529
7.000	-24.382	1.373
7.100	-20.918	
7.200	-40.735	
7.300	-21.382	
7.400	-26.214	
7.500	-25.317	
7.600	-21.552	
7.700	-43.275	
7.800	-22.618	
7.900	-27.207	
8.000	-25.847	
8.100	-21.834	
8.200	-40.740	
8.300	-23.762	
8.400	-27.406	
8.500	-26.945	
8.600	-22.369	
8.700	-37.030	
8.800	-25.030	
8.900	-27.811	
9.000	-27.458	
9.100	-22.708	
9.200	-33.884	
9.300	-25.734	
9.400	-27.140	
9.500	-28.641	
9.600	-23.586	
9.700	-32.951	
9.800	-25.979	
9.900	-26.380	
10.000	-28.544	

2.4. Elevation Pattern for Co-pol (0°~30°)

27.5 GHz @ 0 dBW/MHz		
Angle (Degree)	EIRP sd (dBW/MHz)	Mask (dBW/MHz)
0.000	53.497	
0.100	52.434	
0.200	49.872	
0.300	43.281	
0.400	35.382	
0.500	32.827	
0.600	27.025	
0.700	22.264	
0.800	22.645	
0.900	17.938	
1.000	6.665	
1.100	9.839	
1.200	13.518	
1.300	1.968	
1.400	11.115	
1.500	13.042	
1.600	5.711	
1.700	8.630	
1.800	8.361	
1.900	-0.628	
2.000	-13.703	
2.100	2.236	
2.200	6.929	
2.300	5.058	
2.400	5.602	
2.500	6.348	
2.600	0.626	
2.700	-8.321	
2.800	-6.262	
2.900	5.562	
3.000	7.334	
3.100	1.511	
3.200	-7.460	
3.300	-0.819	
3.400	2.973	
3.500	6.012	21.898
3.600	3.054	21.592
3.700	-8.452	21.295
3.800	-1.157	21.005
3.900	-0.444	20.723
4.000	2.971	20.449
4.100	3.570	20.180
4.200	-1.414	19.919
4.300	-9.032	19.663
4.400	-8.924	19.414
4.500	-3.461	19.170
4.600	1.186	18.931
4.700	1.267	18.698
4.800	-2.313	18.469
4.900	-6.563	18.245

27.5 GHz @ 0 dBW/MHz		
Angle (Degree)	EIRP sd (dBW/MHz)	Mask (dBW/MHz)
5.000	-3.855	18.026
5.100	-2.734	17.811
5.200	-3.149	17.600
5.300	-3.933	17.393
5.400	-4.440	17.190
5.500	-0.189	16.991
5.600	1.511	16.795
5.700	-1.337	16.603
5.800	-7.020	16.414
5.900	-7.393	16.229
6.000	-9.684	16.046
6.100	-3.711	15.867
6.200	-2.128	15.690
6.300	-1.856	15.516
6.400	1.538	15.346
6.500	2.095	15.177
6.600	-0.768	15.011
6.700	-1.743	14.848
6.800	-2.368	14.687
6.900	-11.194	14.529
7.000	-11.221	14.373
7.100	-7.722	14.400
7.200	-2.393	14.400
7.300	2.093	14.400
7.400	2.605	14.400
7.500	2.911	14.400
7.600	4.804	14.400
7.700	4.701	14.400
7.800	3.629	14.400
7.900	4.417	14.400
8.000	3.918	14.400
8.100	1.814	14.400
8.200	1.926	14.400
8.300	1.025	14.400
8.400	-1.965	14.400
8.500	-1.316	14.400
8.600	-2.593	14.400
8.700	-5.668	14.400
8.800	-2.754	14.400
8.900	-3.953	14.400
9.000	-5.906	14.400
9.100	-3.076	14.400
9.200	-4.452	14.400
9.300	-4.688	14.288
9.400	-2.388	14.172
9.500	-4.147	14.057
9.600	-4.398	13.943
9.700	-2.414	13.831
9.800	-4.409	13.719
9.900	-4.914	13.609

27.5 GHz @ 0 dBW/MHz		
Angle (Degree)	EIRP sd (dBW/MHz)	Mask (dBW/MHz)
10.000	-2.940	13.500
10.100	-4.761	13.392
10.200	-4.874	13.285
10.300	-2.996	13.179
10.400	-4.838	13.074
10.500	-5.344	12.970
10.600	-3.528	12.867
10.700	-5.242	12.765
10.800	-5.596	12.664
10.900	-3.772	12.564
11.000	-5.507	12.465
11.100	-5.763	12.367
11.200	-3.564	12.270
11.300	-4.941	12.173
11.400	-5.807	12.077
11.500	-3.744	11.983
11.600	-4.810	11.889
11.700	-5.781	11.795
11.800	-3.821	11.703
11.900	-4.798	11.611
12.000	-6.098	11.520
12.100	-3.984	11.430
12.200	-4.500	11.341
12.300	-5.600	11.252
12.400	-3.673	11.164
12.500	-4.147	11.077
12.600	-5.787	10.991
12.700	-3.858	10.905
12.800	-3.775	10.820
12.900	-5.225	10.735
13.000	-3.717	10.651
13.100	-3.499	10.568
13.200	-5.003	10.486
13.300	-3.723	10.404
13.400	-3.254	10.322
13.500	-4.700	10.242
13.600	-3.614	10.162
13.700	-2.850	10.082
13.800	-4.222	10.003
13.900	-3.607	9.925
14.000	-2.672	9.847
14.100	-3.934	9.770
14.200	-3.637	9.693
14.300	-2.411	9.617
14.400	-3.346	9.541
14.500	-3.461	9.466
14.600	-2.209	9.391
14.700	-2.844	9.317
14.800	-3.210	9.243
14.900	-2.028	9.170

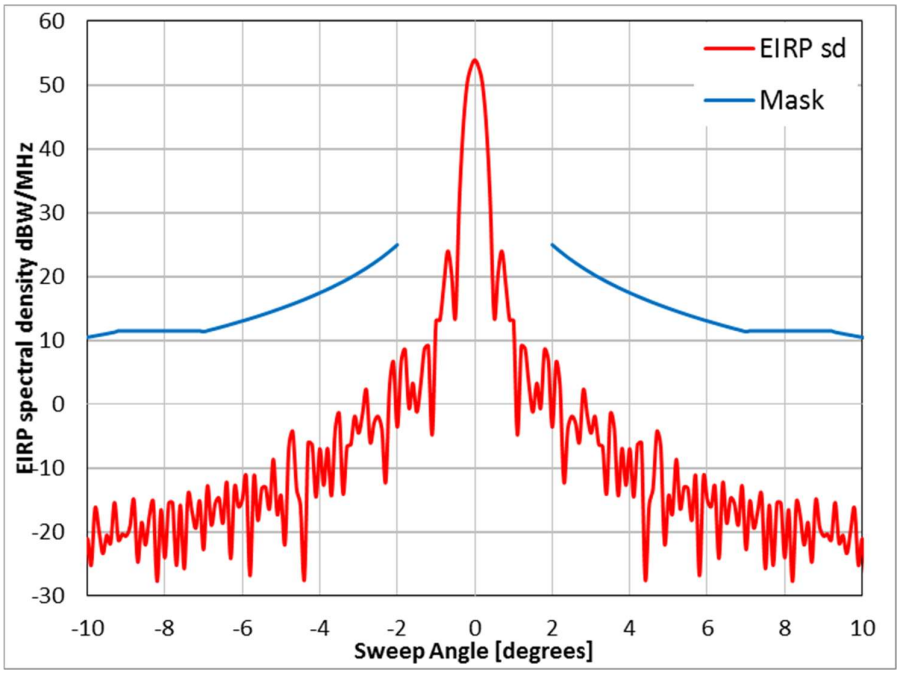
27.5 GHz @ 0 dBW/MHz		
Angle (Degree)	EIRP sd (dBW/MHz)	Mask (dBW/MHz)
15.000	-2.476	9.098
15.100	-3.077	9.026
15.200	-1.927	8.954
15.300	-2.171	8.883
15.400	-3.040	8.812
15.500	-1.919	8.742
15.600	-1.778	8.672
15.700	-2.776	8.603
15.800	-2.019	8.534
15.900	-1.669	8.465
16.000	-2.697	8.397
16.100	-2.205	8.329
16.200	-1.578	8.262
16.300	-2.512	8.195
16.400	-2.406	8.129
16.500	-1.626	8.063
16.600	-2.428	7.997
16.700	-2.719	7.932
16.800	-1.805	7.867
16.900	-2.351	7.803
17.000	-3.048	7.739
17.100	-2.165	7.675
17.200	-2.385	7.612
17.300	-3.335	7.549
17.400	-2.577	7.486
17.500	-2.412	7.424
17.600	-3.528	7.362
17.700	-3.192	7.301
17.800	-2.657	7.239
17.900	-3.609	7.179
18.000	-3.662	7.118
18.100	-2.870	7.058
18.200	-3.615	6.998
18.300	-4.219	6.939
18.400	-3.265	6.880
18.500	-3.514	6.821
18.600	-4.466	6.762
18.700	-3.686	6.704
18.800	-3.436	6.646
18.900	-4.504	6.588
19.000	-4.176	6.531
19.100	-3.442	6.474
19.200	-4.254	6.500
19.300	-4.508	6.500
19.400	-3.545	6.500
19.500	-3.917	6.500
19.600	-4.657	6.500
19.700	-3.796	6.500
19.800	-3.684	6.500
19.900	-4.645	6.500

27.5 GHz @ 0 dBW/MHz		
Angle (Degree)	EIRP sd (dBW/MHz)	Mask (dBW/MHz)
20.000	-4.126	6.500
20.100	-3.495	6.500
20.200	-4.355	6.500
20.300	-4.535	6.500
20.400	-3.633	6.500
20.500	-4.072	6.500
20.600	-4.808	6.500
20.700	-3.975	6.500
20.800	-3.892	6.500
20.900	-4.920	6.500
21.000	-4.566	6.500
21.100	-3.982	6.500
21.200	-4.856	6.500
21.300	-5.195	6.500
21.400	-4.359	6.500
21.500	-4.807	6.500
21.600	-5.796	6.500
21.700	-5.122	6.500
21.800	-4.942	6.500
21.900	-6.099	6.500
22.000	-6.084	6.500
22.100	-5.425	6.500
22.200	-6.318	6.500
22.300	-7.143	6.500
22.400	-6.275	6.500
22.500	-6.487	6.500
22.600	-7.910	6.500
22.700	-7.583	6.500
22.800	-6.994	6.500
22.900	-8.226	6.500
23.000	-9.037	6.500
23.100	-7.996	6.500
23.200	-8.373	6.500
23.300	-10.038	6.500
23.400	-9.529	6.500
23.500	-8.819	6.500
23.600	-10.204	6.500
23.700	-11.172	6.500
23.800	-9.848	6.500
23.900	-10.061	6.500
24.000	-11.951	6.500
24.100	-11.477	6.500
24.200	-10.357	6.500
24.300	-11.588	6.500
24.400	-13.010	6.500
24.500	-11.458	6.500
24.600	-11.174	6.500
24.700	-13.153	6.500
24.800	-13.235	6.500
24.900	-11.623	6.500

27.5 GHz @ 0 dBW/MHz		
Angle (Degree)	EIRP sd (dBW/MHz)	Mask (dBW/MHz)
25.000	-12.423	6.500
25.100	-14.514	6.500
25.200	-13.200	6.500
25.300	-12.292	6.500
25.400	-14.179	6.500
25.500	-15.464	6.500
25.600	-13.488	6.500
25.700	-13.647	6.500
25.800	-16.441	6.500
25.900	-16.226	6.500
26.000	-14.404	6.500
26.100	-15.752	6.500
26.200	-19.044	6.500
26.300	-17.185	6.500
26.400	-15.896	6.500
26.500	-18.339	6.500
26.600	-21.540	6.500
26.700	-18.270	6.500
26.800	-17.286	6.500
26.900	-20.218	6.500
27.000	-22.626	6.500
27.100	-18.478	6.500
27.200	-17.422	6.500
27.300	-20.122	6.500
27.400	-21.071	6.500
27.500	-17.122	6.500
27.600	-16.394	6.500
27.700	-18.861	6.500
27.800	-18.330	6.500
27.900	-15.253	6.500
28.000	-15.263	6.500
28.100	-17.398	6.500
28.200	-15.824	6.500
28.300	-13.712	6.500
28.400	-14.446	6.500
28.500	-15.911	6.500
28.600	-13.867	6.500
28.700	-12.638	6.500
28.800	-13.865	6.500
28.900	-14.439	6.500
29.000	-12.419	6.500
29.100	-11.940	6.500
29.200	-13.359	6.500
29.300	-13.136	6.500
29.400	-11.423	6.500
29.500	-11.536	6.500
29.600	-12.909	6.500
29.700	-12.169	6.500
29.800	-10.852	6.500
29.900	-11.413	6.500
30.000	-12.649	6.500

3. EIRP Spectral Density of v240MT Ka-band 28.75 GHz

3.1. Azimuth Pattern for Co-pol, Narrow Angle (-10° ~ 10°)



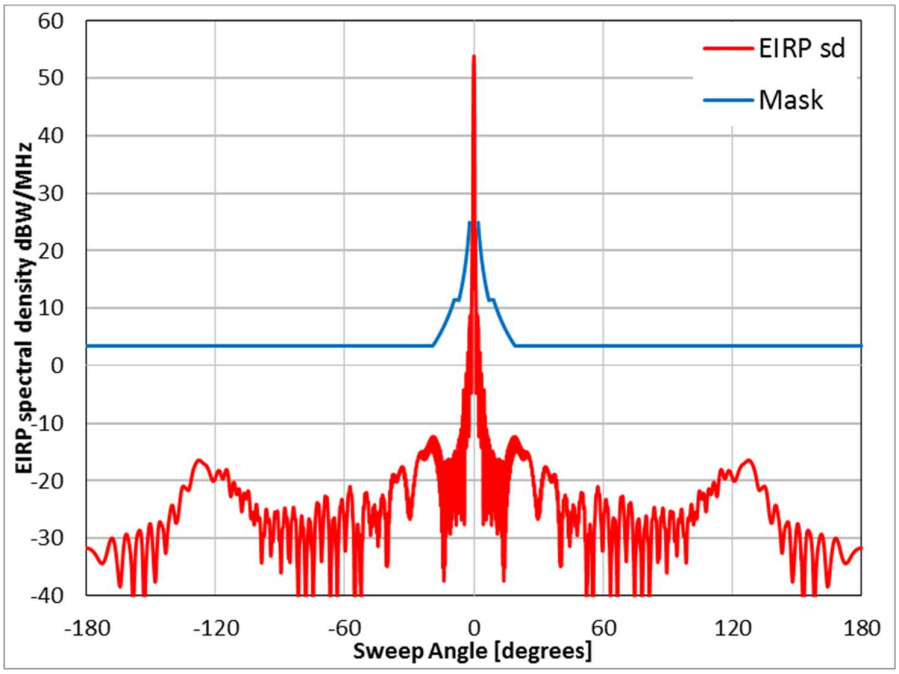
0 dBW/ MHz Input power spectral density @ f=28.75 GHz & 1.0 dB Radome loss

- **FCC EIRP spectral density regulation**

32.5-25log(θ)	**dBW/MHz**	**for**	**2.0° ≤ θ ≤ 7.0°**
11.5	**dBW/MHz**	**for**	**7.0° < θ ≤ 9.2°**
35.5-25log(θ)	**dBW/MHz**	**for**	**9.2° < θ ≤ 19.1°**
3.5	**dBW/MHz**	**for**	**19.1° < θ ≤ 180°**

The v240MT's Ka band(28.75 GHz) Radiation pattern meets the FCC EIRP spectral density mask when the input powers spectral density is @ 0 dBW/ MHz

3.2. Azimuth Pattern for Co-pol, Wide Angle (-180°~180°)



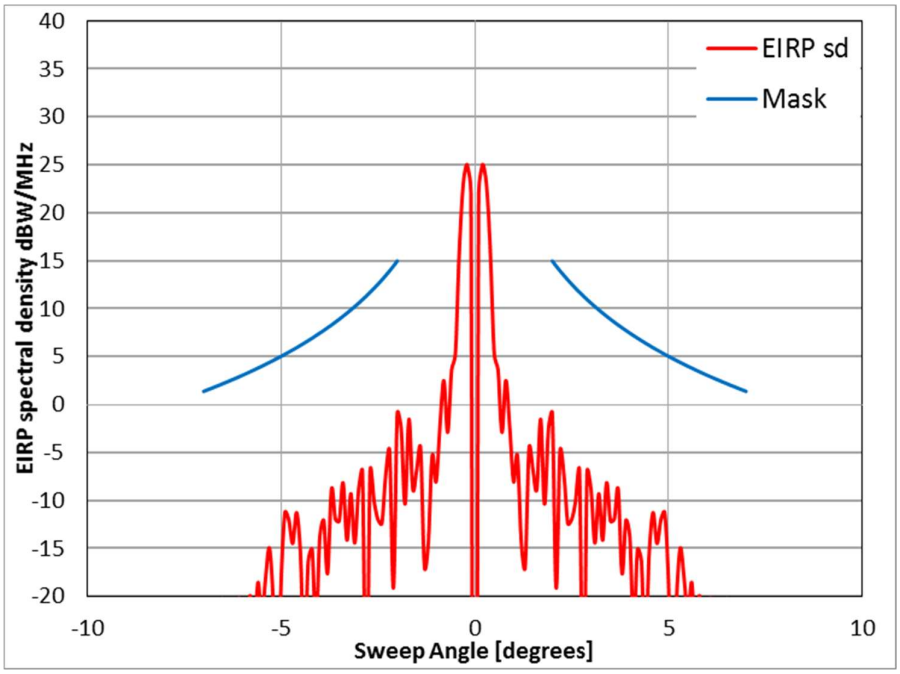
0 dBW/ MHz Input power spectral density @ f=28.75 GHz & 1.0 dB Radome loss

- **FCC EIRP spectral density regulation**

32.5-25log(θ)	**dBW/MHz**	**for**	**2.0˚ ≤ θ ≤ 7.0˚**
11.5	**dBW/MHz**	**for**	**7.0˚ < θ ≤ 9.2˚**
35.5-25log(θ)	**dBW/MHz**	**for**	**9.2˚ < θ ≤ 19.1˚**
3.5	**dBW/MHz**	**for**	**19.1˚ < θ ≤ 180˚**

The v240MT's Ka band(28.75 GHz) Radiation pattern meets the FCC EIRP spectral density mask when the input powers spectral density is @ 0 dBW/ MHz

3.3. Azimuth Pattern for Cross-pol, Narrow angle (-10°~10°)



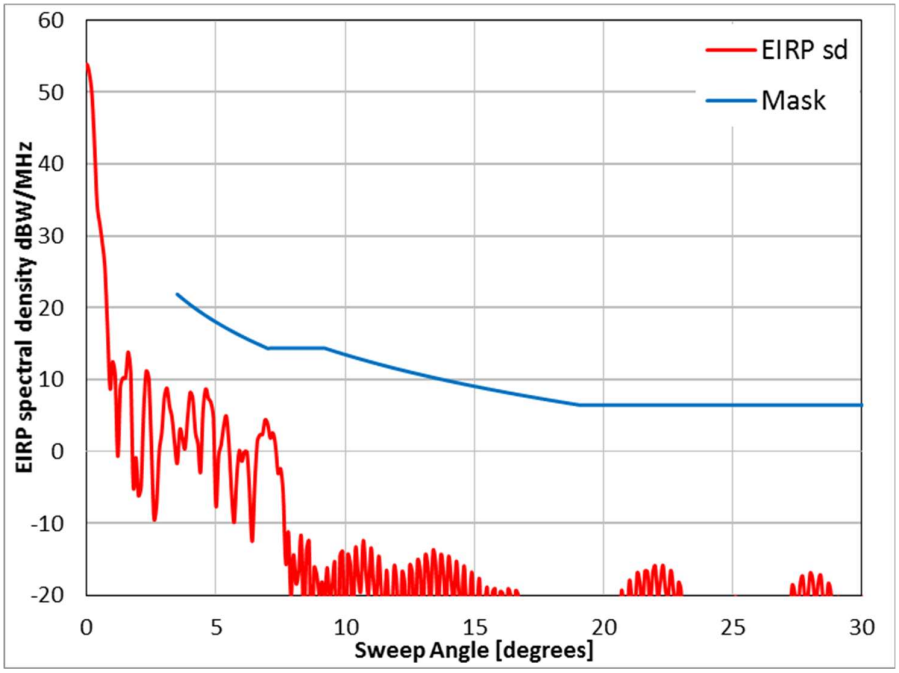
0 dBW/ MHz Input power spectral density @ f=28.75 GHz & 1.0 dB Radome loss

- **FCC EIRP spectral density regulation**

22.5-25log(θ) dBW/MHz for 2.0˚ ≤ θ ≤ 7.0˚

The v240MT's Ka band(28.75 GHz) Radiation pattern meets the FCC EIRP spectral density mask when the input powers spectral density is @ 0 dBW/ MHz

3.4. Elevation Pattern for Co-pol, Narrow Angle (0°~30°)



0 dBW/ MHz Input power spectral density @ f=28.75 GHz & 1.0 dB Radome loss

- **FCC EIRP spectral density regulation**

35.5-25log(θ)	**dBW/MHz**	**for**	**3.5˚ ≤ θ ≤ 7.0˚**
14.4	**dBW/MHz**	**for**	**7.0˚ < θ ≤ 9.2˚**
38.5-25log(θ)	**dBW/MHz**	**for**	**9.2˚ < θ ≤ 19.1˚**
6.5	**dBW/MHz**	**for**	**19.1˚ < θ ≤ 180˚**

The v240MT's Ka band(28.75 GHz) Radiation pattern meets the FCC EIRP spectral density mask when the input powers spectral density is @ 0 dBW/ MHz

4. EIRP Spectral Density Data

4.1. Azimuth Pattern for Co-pol (-10°~10°)

28.75 GHz @ 0 dBW/MHz		
Angle (Degree)	EIRP sd (dBW/MHz)	Mask (dBW/MHz)
-10.000	-21.048	10.500
-9.900	-25.124	10.609
-9.800	-16.249	10.719
-9.700	-19.762	10.831
-9.600	-23.343	10.943
-9.500	-20.462	11.057
-9.400	-21.728	11.172
-9.300	-15.370	11.288
-9.200	-21.222	11.500
-9.100	-20.306	11.500
-9.000	-20.599	11.500
-8.900	-19.141	11.500
-8.800	-14.936	11.500
-8.700	-24.654	11.500
-8.600	-18.505	11.500
-8.500	-22.002	11.500
-8.400	-17.517	11.500
-8.300	-15.288	11.500
-8.200	-27.689	11.500
-8.100	-16.523	11.500
-8.000	-23.992	11.500
-7.900	-15.493	11.500
-7.800	-15.413	11.500
-7.700	-25.175	11.500
-7.600	-15.792	11.500
-7.500	-25.708	11.500
-7.400	-14.088	11.500
-7.300	-16.781	11.500
-7.200	-19.367	11.500
-7.100	-15.119	11.500
-7.000	-22.719	11.373
-6.900	-12.777	11.529
-6.800	-18.875	11.687
-6.700	-15.525	11.848
-6.600	-14.709	12.011
-6.500	-18.596	12.177
-6.400	-12.261	12.346
-6.300	-24.115	12.516
-6.200	-12.927	12.690
-6.100	-16.012	12.867
-6.000	-14.892	13.046
-5.900	-11.398	13.229
-5.800	-26.785	13.414
-5.700	-11.225	13.603
-5.600	-18.141	13.795
-5.500	-13.190	13.991
-5.400	-12.962	14.190
-5.300	-16.334	14.393
-5.200	-8.616	14.600
-5.100	-17.163	14.811

28.75 GHz @ 0 dBW/MHz		
Angle (Degree)	EIRP sd (dBW/MHz)	Mask (dBW/MHz)
-5.000	-14.282	15.026
-4.900	-21.867	15.245
-4.800	-6.666	15.469
-4.700	-4.230	15.698
-4.600	-13.193	15.931
-4.500	-15.828	16.170
-4.400	-27.396	16.414
-4.300	-6.018	16.663
-4.200	-6.296	16.919
-4.100	-14.478	17.180
-4.000	-6.968	17.449
-3.900	-12.646	17.723
-3.800	-6.903	18.005
-3.700	-14.289	18.295
-3.600	-3.836	18.592
-3.500	-1.517	18.898
-3.400	-13.991	19.213
-3.300	-6.621	19.537
-3.200	-6.307	19.871
-3.100	-1.882	20.216
-3.000	-4.497	20.572
-2.900	-1.573	20.940
-2.800	2.266	21.321
-2.700	-5.917	21.716
-2.600	-2.894	22.126
-2.500	-1.877	22.551
-2.400	-3.843	22.995
-2.300	-12.192	23.457
-2.200	2.907	23.939
-2.100	6.631	24.445
-2.000	-3.544	24.974
-1.900	6.741	
-1.800	8.533	
-1.700	-0.571	
-1.600	3.300	
-1.500	-1.182	
-1.400	2.935	
-1.300	8.679	
-1.200	9.129	
-1.100	-4.741	
-1.000	13.106	
-0.900	13.160	
-0.800	18.723	
-0.700	23.955	
-0.600	20.386	
-0.500	13.629	
-0.400	31.568	
-0.300	43.206	
-0.200	50.049	
-0.100	52.729	

28.75 GHz @ 0 dBW/MHz		
Angle (Degree)	EIRP sd (dBW/MHz)	Mask (dBW/MHz)
0.000	53.897	
0.100	52.729	
0.200	50.049	
0.300	43.206	
0.400	31.568	
0.500	13.630	
0.600	20.386	
0.700	23.955	
0.800	18.723	
0.900	13.160	
1.000	13.106	
1.100	-4.742	
1.200	9.129	
1.300	8.679	
1.400	2.935	
1.500	-1.182	
1.600	3.300	
1.700	-0.571	
1.800	8.533	
1.900	6.741	
2.000	-3.545	24.974
2.100	6.631	24.445
2.200	2.907	23.939
2.300	-12.192	23.457
2.400	-3.842	22.995
2.500	-1.876	22.551
2.600	-2.894	22.126
2.700	-5.918	21.716
2.800	2.266	21.321
2.900	-1.573	20.940
3.000	-4.497	20.572
3.100	-1.882	20.216
3.200	-6.307	19.871
3.300	-6.621	19.537
3.400	-13.991	19.213
3.500	-1.517	18.898
3.600	-3.837	18.592
3.700	-14.288	18.295
3.800	-6.903	18.005
3.900	-12.646	17.723
4.000	-6.968	17.449
4.100	-14.478	17.180
4.200	-6.295	16.919
4.300	-6.017	16.663
4.400	-27.402	16.414
4.500	-15.826	16.170
4.600	-13.193	15.931
4.700	-4.231	15.698
4.800	-6.666	15.469
4.900	-21.866	15.245

28.75 GHz @ 0 dBW/MHz		
Angle (Degree)	EIRP sd (dBW/MHz)	Mask (dBW/MHz)
5.000	-14.281	15.026
5.100	-17.163	14.811
5.200	-8.616	14.600
5.300	-16.334	14.393
5.400	-12.962	14.190
5.500	-13.190	13.991
5.600	-18.140	13.795
5.700	-11.224	13.603
5.800	-26.784	13.414
5.900	-11.399	13.229
6.000	-14.894	13.046
6.100	-16.011	12.867
6.200	-12.928	12.690
6.300	-24.112	12.516
6.400	-12.261	12.346
6.500	-18.595	12.177
6.600	-14.709	12.011
6.700	-15.525	11.848
6.800	-18.876	11.687
6.900	-12.777	11.529
7.000	-22.720	11.373
7.100	-15.118	11.500
7.200	-19.367	11.500
7.300	-16.781	11.500
7.400	-14.088	11.500
7.500	-25.709	11.500
7.600	-15.793	11.500
7.700	-25.176	11.500
7.800	-15.413	11.500
7.900	-15.493	11.500
8.000	-23.992	11.500
8.100	-16.523	11.500
8.200	-27.691	11.500
8.300	-15.289	11.500
8.400	-17.517	11.500
8.500	-22.001	11.500
8.600	-18.505	11.500
8.700	-24.654	11.500
8.800	-14.936	11.500
8.900	-19.141	11.500
9.000	-20.600	11.500
9.100	-20.306	11.500
9.200	-21.223	11.500
9.300	-15.370	11.288
9.400	-21.730	11.172
9.500	-20.462	11.057
9.600	-23.343	10.943
9.700	-19.762	10.831
9.800	-16.249	10.719
9.900	-25.123	10.609
10.000	-21.048	10.500

4.2. Azimuth Pattern for Co-pol (-180°~180°)

28.75 GHz @ 0 dBW/MHz		
Angle (Degree)	EIRP sd (dBW/MHz)	Mask (dBW/MHz)
-180.000	-31.689	3.500
-179.000	-31.732	3.500
-178.000	-31.901	3.500
-177.000	-32.203	3.500
-176.000	-32.654	3.500
-175.000	-33.256	3.500
-174.000	-33.913	3.500
-173.000	-34.335	3.500
-172.000	-34.188	3.500
-171.000	-33.271	3.500
-170.000	-31.821	3.500
-169.000	-30.480	3.500
-168.000	-29.961	3.500
-167.000	-30.796	3.500
-166.000	-33.321	3.500
-165.000	-36.994	3.500
-164.000	-37.860	3.500
-163.000	-33.034	3.500
-162.000	-29.754	3.500
-161.000	-29.481	3.500
-160.000	-31.201	3.500
-159.000	-35.201	3.500
-158.000	-41.486	3.500
-157.000	-31.559	3.500
-156.000	-29.073	3.500
-155.000	-28.648	3.500
-154.000	-32.173	3.500
-153.000	-49.847	3.500
-152.000	-32.920	3.500
-151.000	-28.333	3.500
-150.000	-27.871	3.500
-149.000	-32.633	3.500
-148.000	-37.560	3.500
-147.000	-30.759	3.500
-146.000	-27.174	3.500
-145.000	-27.618	3.500
-144.000	-29.358	3.500
-143.000	-32.429	3.500
-142.000	-27.993	3.500
-141.000	-25.331	3.500
-140.000	-24.242	3.500
-139.000	-26.193	3.500
-138.000	-27.258	3.500
-137.000	-25.100	3.500
-136.000	-22.039	3.500
-135.000	-20.943	3.500
-134.000	-21.190	3.500
-133.000	-21.584	3.500
-132.000	-21.165	3.500
-131.000	-19.232	3.500
-130.000	-17.729	3.500

28.75 GHz @ 0 dBW/MHz		
Angle (Degree)	EIRP sd (dBW/MHz)	Mask (dBW/MHz)
-129.000	-16.884	3.500
-128.000	-16.431	3.500
-127.000	-16.496	3.500
-126.000	-16.839	3.500
-125.000	-17.106	3.500
-124.000	-17.495	3.500
-123.000	-18.334	3.500
-122.000	-19.452	3.500
-121.000	-20.054	3.500
-120.000	-19.422	3.500
-119.000	-18.396	3.500
-118.000	-18.366	3.500
-117.000	-19.431	3.500
-116.000	-19.205	3.500
-115.000	-18.037	3.500
-114.000	-19.324	3.500
-113.000	-22.643	3.500
-112.000	-20.820	3.500
-111.000	-20.786	3.500
-110.000	-22.350	3.500
-109.000	-21.436	3.500
-108.000	-24.958	3.500
-107.000	-22.706	3.500
-106.000	-22.923	3.500
-105.000	-21.893	3.500
-104.000	-24.461	3.500
-103.000	-25.594	3.500
-102.000	-27.630	3.500
-101.000	-24.051	3.500
-100.000	-26.896	3.500
-99.000	-29.478	3.500
-98.000	-29.528	3.500
-97.000	-27.547	3.500
-96.000	-26.046	3.500
-95.000	-26.835	3.500
-94.000	-31.271	3.500
-93.000	-28.967	3.500
-92.000	-26.218	3.500
-91.000	-26.045	3.500
-90.000	-31.004	3.500
-89.000	-28.792	3.500
-88.000	-25.129	3.500
-87.000	-26.288	3.500
-86.000	-33.509	3.500
-85.000	-29.306	3.500
-84.000	-25.145	3.500
-83.000	-26.627	3.500
-82.000	-34.986	3.500
-81.000	-31.288	3.500
-80.000	-26.068	3.500
-79.000	-29.003	3.500

28.75 GHz @ 0 dBW/MHz		
Angle (Degree)	EIRP sd (dBW/MHz)	Mask (dBW/MHz)
-78.000	-45.320	3.500
-77.000	-28.935	3.500
-76.000	-27.059	3.500
-75.000	-34.259	3.500
-74.000	-31.540	3.500
-73.000	-24.146	3.500
-72.000	-24.126	3.500
-71.000	-31.776	3.500
-70.000	-27.969	3.500
-69.000	-22.639	3.500
-68.000	-23.916	3.500
-67.000	-34.113	3.500
-66.000	-31.233	3.500
-65.000	-26.839	3.500
-64.000	-32.006	3.500
-63.000	-31.510	3.500
-62.000	-24.445	3.500
-61.000	-24.335	3.500
-60.000	-30.484	3.500
-59.000	-26.974	3.500
-58.000	-22.212	3.500
-57.000	-22.337	3.500
-56.000	-27.827	3.500
-55.000	-39.770	3.500
-54.000	-27.549	3.500
-53.000	-32.838	3.500
-52.000	-31.792	3.500
-51.000	-24.883	3.500
-50.000	-22.157	3.500
-49.000	-23.720	3.500
-48.000	-29.457	3.500
-47.000	-27.007	3.500
-46.000	-24.937	3.500
-45.000	-28.289	3.500
-44.000	-29.788	3.500
-43.000	-23.050	3.500
-42.000	-23.541	3.500
-41.000	-25.854	3.500
-40.000	-34.239	3.500
-39.000	-21.935	3.500
-38.000	-20.428	3.500
-37.000	-19.922	3.500
-36.000	-19.553	3.500
-35.000	-18.783	3.500
-34.000	-18.166	3.500
-33.000	-18.010	3.500
-32.000	-18.707	3.500
-31.000	-21.418	3.500
-30.000	-24.690	3.500
-29.000	-24.388	3.500
-28.000	-20.556	3.500

28.75 GHz @ 0 dBW/MHz		
Angle (Degree)	EIRP sd (dBW/MHz)	Mask (dBW/MHz)
-27.000	-17.905	3.500
-26.000	-16.387	3.500
-25.000	-15.852	3.500
-24.000	-15.776	3.500
-23.000	-15.672	3.500
-22.000	-15.106	3.500
-21.000	-14.193	3.500
-20.000	-13.402	3.500
-19.000	-13.169	3.531
-18.000	-13.690	4.118
-17.000	-14.979	4.739
-16.000	-16.953	5.397
-15.000	-20.507	6.098
-14.000	-26.272	6.847
-13.000	-29.557	7.651
-12.000	-27.044	8.520
-11.000	-22.361	9.465
-10.000	-21.048	10.500
-9.000	-20.599	11.500
-8.000	-23.992	11.500
-7.000	-22.719	11.373
-6.000	-14.892	13.046
-5.000	-14.282	15.026
-4.000	-6.968	17.449
-3.000	-4.497	20.572
-2.000	-3.544	24.974
-1.000	13.106	
0.000	53.897	
1.000	13.106	
2.000	-3.545	24.974
3.000	-4.497	20.572
4.000	-6.968	17.449
5.000	-14.281	15.026
6.000	-14.894	13.046
7.000	-22.720	11.373
8.000	-23.992	11.500
9.000	-20.600	11.500
10.000	-21.048	10.500
11.000	-22.359	9.465
12.000	-27.046	8.520
13.000	-29.552	7.651
14.000	-26.271	6.847
15.000	-20.506	6.098
16.000	-16.953	5.397
17.000	-14.979	4.739
18.000	-13.690	4.118
19.000	-13.170	3.531
20.000	-13.403	3.500
21.000	-14.193	3.500
22.000	-15.106	3.500
23.000	-15.672	3.500

28.75 GHz @ 0 dBW/MHz		
Angle (Degree)	EIRP sd (dBW/MHz)	Mask (dBW/MHz)
24.000	-15.775	3.500
25.000	-15.852	3.500
26.000	-16.387	3.500
27.000	-17.904	3.500
28.000	-20.556	3.500
29.000	-24.388	3.500
30.000	-24.690	3.500
31.000	-21.417	3.500
32.000	-18.706	3.500
33.000	-18.009	3.500
34.000	-18.166	3.500
35.000	-18.782	3.500
36.000	-19.553	3.500
37.000	-19.923	3.500
38.000	-20.428	3.500
39.000	-21.934	3.500
40.000	-34.240	3.500
41.000	-25.854	3.500
42.000	-23.541	3.500
43.000	-23.051	3.500
44.000	-29.788	3.500
45.000	-28.289	3.500
46.000	-24.936	3.500
47.000	-27.007	3.500
48.000	-29.458	3.500
49.000	-23.720	3.500
50.000	-22.158	3.500
51.000	-24.883	3.500
52.000	-31.791	3.500
53.000	-32.837	3.500
54.000	-27.549	3.500
55.000	-39.770	3.500
56.000	-27.826	3.500
57.000	-22.337	3.500
58.000	-22.213	3.500
59.000	-26.974	3.500
60.000	-30.485	3.500
61.000	-24.335	3.500
62.000	-24.445	3.500
63.000	-31.510	3.500
64.000	-32.006	3.500
65.000	-26.840	3.500
66.000	-31.234	3.500
67.000	-34.114	3.500
68.000	-23.916	3.500
69.000	-22.638	3.500
70.000	-27.969	3.500
71.000	-31.777	3.500
72.000	-24.126	3.500
73.000	-24.146	3.500
74.000	-31.539	3.500

28.75 GHz @ 0 dBW/MHz		
Angle (Degree)	EIRP sd (dBW/MHz)	Mask (dBW/MHz)
75.000	-34.258	3.500
76.000	-27.059	3.500
77.000	-28.935	3.500
78.000	-45.323	3.500
79.000	-29.003	3.500
80.000	-26.068	3.500
81.000	-31.289	3.500
82.000	-34.984	3.500
83.000	-26.627	3.500
84.000	-25.146	3.500
85.000	-29.306	3.500
86.000	-33.510	3.500
87.000	-26.288	3.500
88.000	-25.129	3.500
89.000	-28.791	3.500
90.000	-31.004	3.500
91.000	-26.045	3.500
92.000	-26.217	3.500
93.000	-28.967	3.500
94.000	-31.270	3.500
95.000	-26.835	3.500
96.000	-26.046	3.500
97.000	-27.547	3.500
98.000	-29.528	3.500
99.000	-29.478	3.500
100.000	-26.895	3.500
101.000	-24.051	3.500
102.000	-27.631	3.500
103.000	-25.593	3.500
104.000	-24.461	3.500
105.000	-21.893	3.500
106.000	-22.923	3.500
107.000	-22.706	3.500
108.000	-24.958	3.500
109.000	-21.436	3.500
110.000	-22.350	3.500
111.000	-20.785	3.500
112.000	-20.820	3.500
113.000	-22.643	3.500
114.000	-19.324	3.500
115.000	-18.037	3.500
116.000	-19.206	3.500
117.000	-19.430	3.500
118.000	-18.365	3.500
119.000	-18.397	3.500
120.000	-19.422	3.500
121.000	-20.055	3.500
122.000	-19.453	3.500
123.000	-18.333	3.500
124.000	-17.496	3.500
125.000	-17.106	3.500

28.75 GHz @ 0 dBW/MHz		
Angle (Degree)	EIRP sd (dBW/MHz)	Mask (dBW/MHz)
126.000	-16.839	3.500
127.000	-16.496	3.500
128.000	-16.431	3.500
129.000	-16.884	3.500
130.000	-17.729	3.500
131.000	-19.232	3.500
132.000	-21.165	3.500
133.000	-21.584	3.500
134.000	-21.190	3.500
135.000	-20.943	3.500
136.000	-22.039	3.500
137.000	-25.100	3.500
138.000	-27.258	3.500
139.000	-26.193	3.500
140.000	-24.240	3.500
141.000	-25.330	3.500
142.000	-27.994	3.500
143.000	-32.430	3.500
144.000	-29.359	3.500
145.000	-27.619	3.500
146.000	-27.174	3.500
147.000	-30.760	3.500
148.000	-37.559	3.500
149.000	-32.635	3.500
150.000	-27.871	3.500
151.000	-28.334	3.500
152.000	-32.919	3.500
153.000	-49.837	3.500
154.000	-32.172	3.500
155.000	-28.648	3.500
156.000	-29.072	3.500
157.000	-31.558	3.500
158.000	-41.487	3.500
159.000	-35.200	3.500
160.000	-31.201	3.500
161.000	-29.481	3.500
162.000	-29.752	3.500
163.000	-33.033	3.500
164.000	-37.858	3.500
165.000	-36.995	3.500
166.000	-33.320	3.500
167.000	-30.795	3.500
168.000	-29.962	3.500
169.000	-30.479	3.500
170.000	-31.822	3.500
171.000	-33.272	3.500
172.000	-34.190	3.500
173.000	-34.335	3.500
174.000	-33.915	3.500
175.000	-33.255	3.500
176.000	-32.656	3.500
177.000	-32.202	3.500
178.000	-31.902	3.500
179.000	-31.731	3.500
180.000	-31.689	3.500

4.3. Azimuth Pattern for Cross-pol (-10°~10°)

28.75 GHz @ 0 dBW/MHz		
Angle (Degree)	EIRP sd (dBW/MHz)	Mask (dBW/MHz)
-10.000	-26.206	
-9.900	-22.133	
-9.800	-27.351	
-9.700	-34.650	
-9.600	-34.251	
-9.500	-24.297	
-9.400	-21.762	
-9.300	-29.015	
-9.200	-30.834	
-9.100	-31.912	
-9.000	-22.902	
-8.900	-21.994	
-8.800	-31.269	
-8.700	-27.874	
-8.600	-30.381	
-8.500	-22.085	
-8.400	-22.898	
-8.300	-32.157	
-8.200	-26.503	
-8.100	-28.797	
-8.000	-21.117	
-7.900	-23.942	
-7.800	-29.065	
-7.700	-25.620	
-7.600	-27.037	
-7.500	-20.732	
-7.400	-26.270	
-7.300	-25.912	
-7.200	-25.727	
-7.100	-24.736	
-7.000	-20.457	1.373
-6.900	-29.910	1.529
-6.800	-23.287	1.687
-6.700	-26.581	1.848
-6.600	-22.513	2.011
-6.500	-20.476	2.177
-6.400	-31.658	2.346
-6.300	-21.447	2.516
-6.200	-28.225	2.690
-6.100	-20.307	2.867
-6.000	-20.849	3.046
-5.900	-27.266	3.229
-5.800	-19.946	3.414
-5.700	-25.629	3.603
-5.600	-18.609	3.795
-5.500	-22.171	3.991
-5.400	-18.087	4.190
-5.300	-15.007	4.393
-5.200	-21.006	4.600
-5.100	-33.792	4.811

28.75 GHz @ 0 dBW/MHz		
Angle (Degree)	EIRP sd (dBW/MHz)	Mask (dBW/MHz)
-5.000	-18.647	5.026
-4.900	-11.262	5.245
-4.800	-12.064	5.469
-4.700	-14.483	5.698
-4.600	-11.277	5.931
-4.500	-15.496	6.170
-4.400	-26.699	6.414
-4.300	-16.377	6.663
-4.200	-15.129	6.919
-4.100	-23.147	7.180
-4.000	-13.789	7.449
-3.900	-12.085	7.723
-3.800	-17.622	8.005
-3.700	-8.845	8.295
-3.600	-11.935	8.592
-3.500	-12.145	8.898
-3.400	-8.163	9.213
-3.300	-14.154	9.537
-3.200	-9.307	9.871
-3.100	-14.446	10.216
-3.000	-8.922	10.572
-2.900	-6.988	10.940
-2.800	-32.918	11.321
-2.700	-6.928	11.716
-2.600	-10.103	12.126
-2.500	-11.993	12.551
-2.400	-12.420	12.995
-2.300	-7.371	13.457
-2.200	-4.887	13.939
-2.100	-19.116	14.445
-2.000	-0.937	14.974
-1.900	-2.568	
-1.800	-10.388	
-1.700	-1.545	
-1.600	-8.821	
-1.500	-6.801	
-1.400	-4.542	
-1.300	-16.938	
-1.200	-14.435	
-1.100	-5.362	
-1.000	-8.042	
-0.900	-2.287	
-0.800	2.504	
-0.700	-2.900	
-0.600	3.591	
-0.500	5.343	
-0.400	16.032	
-0.300	22.954	
-0.200	25.042	
-0.100	22.079	

28.75 GHz @ 0 dBW/MHz		
Angle (Degree)	EIRP sd (dBW/MHz)	Mask (dBW/MHz)
0.000	-115.149	
0.100	22.079	
0.200	25.042	
0.300	22.954	
0.400	16.032	
0.500	5.343	
0.600	3.591	
0.700	-2.900	
0.800	2.504	
0.900	-2.287	
1.000	-8.042	
1.100	-5.362	
1.200	-14.435	
1.300	-16.938	
1.400	-4.541	
1.500	-6.801	
1.600	-8.821	
1.700	-1.546	
1.800	-10.388	
1.900	-2.568	
2.000	-0.937	14.974
2.100	-19.116	14.445
2.200	-4.887	13.939
2.300	-7.371	13.457
2.400	-12.420	12.995
2.500	-11.993	12.551
2.600	-10.103	12.126
2.700	-6.928	11.716
2.800	-32.919	11.321
2.900	-6.988	10.940
3.000	-8.922	10.572
3.100	-14.446	10.216
3.200	-9.307	9.871
3.300	-14.154	9.537
3.400	-8.163	9.213
3.500	-12.145	8.898
3.600	-11.935	8.592
3.700	-8.845	8.295
3.800	-17.623	8.005
3.900	-12.085	7.723
4.000	-13.789	7.449
4.100	-23.147	7.180
4.200	-15.129	6.919
4.300	-16.377	6.663
4.400	-26.698	6.414
4.500	-15.496	6.170
4.600	-11.277	5.931
4.700	-14.483	5.698
4.800	-12.064	5.469
4.900	-11.262	5.245

28.75 GHz @ 0 dBW/MHz		
Angle (Degree)	EIRP sd (dBW/MHz)	Mask (dBW/MHz)
5.000	-18.647	5.026
5.100	-33.792	4.811
5.200	-21.006	4.600
5.300	-15.007	4.393
5.400	-18.087	4.190
5.500	-22.170	3.991
5.600	-18.609	3.795
5.700	-25.630	3.603
5.800	-19.946	3.414
5.900	-27.266	3.229
6.000	-20.849	3.046
6.100	-20.307	2.867
6.200	-28.226	2.690
6.300	-21.447	2.516
6.400	-31.658	2.346
6.500	-20.476	2.177
6.600	-22.513	2.011
6.700	-26.582	1.848
6.800	-23.287	1.687
6.900	-29.911	1.529
7.000	-20.458	1.373
7.100	-24.736	
7.200	-25.727	
7.300	-25.912	
7.400	-26.270	
7.500	-20.732	
7.600	-27.038	
7.700	-25.620	
7.800	-29.065	
7.900	-23.942	
8.000	-21.117	
8.100	-28.797	
8.200	-26.503	
8.300	-32.156	
8.400	-22.897	
8.500	-22.085	
8.600	-30.381	
8.700	-27.875	
8.800	-31.270	
8.900	-21.994	
9.000	-22.902	
9.100	-31.913	
9.200	-30.833	
9.300	-29.016	
9.400	-21.762	
9.500	-24.297	
9.600	-34.248	
9.700	-34.648	
9.800	-27.351	
9.900	-22.133	
10.000	-26.206	

4.4. Elevation Pattern for Co-pol (0°~30°)

28.75 GHz @ 0 dBW/MHz		
Angle (Degree)	EIRP sd (dBW/MHz)	Mask (dBW/MHz)
0.000	53.897	
0.100	52.551	
0.200	49.595	
0.300	42.557	
0.400	34.294	
0.500	31.725	
0.600	29.011	
0.700	25.516	
0.800	17.407	
0.900	8.776	
1.000	12.498	
1.100	10.491	
1.200	-0.630	
1.300	9.060	
1.400	10.281	
1.500	10.269	
1.600	13.857	
1.700	10.870	
1.800	-4.823	
1.900	-0.834	
2.000	-6.131	
2.100	-4.852	
2.200	5.472	
2.300	11.206	
2.400	10.160	
2.500	0.901	
2.600	-9.295	
2.700	-7.263	
2.800	-0.009	
2.900	2.640	
3.000	7.516	
3.100	8.838	
3.200	6.351	
3.300	4.675	
3.400	1.050	
3.500	-1.624	21.898
3.600	3.041	21.592
3.700	1.877	21.295
3.800	0.451	21.005
3.900	4.728	20.723
4.000	8.224	20.449
4.100	7.391	20.180
4.200	2.739	19.919
4.300	1.106	19.663
4.400	-2.822	19.414
4.500	5.774	19.170
4.600	8.694	18.931
4.700	7.451	18.698
4.800	6.844	18.469
4.900	4.713	18.245

28.75 GHz @ 0 dBW/MHz		
Angle (Degree)	EIRP sd (dBW/MHz)	Mask (dBW/MHz)
5.000	-7.591	18.026
5.100	-0.594	17.811
5.200	0.976	17.600
5.300	3.597	17.393
5.400	4.914	17.190
5.500	1.038	16.991
5.600	-5.594	16.795
5.700	-9.843	16.603
5.800	-3.638	16.414
5.900	0.137	16.229
6.000	-1.340	16.046
6.100	0.003	15.867
6.200	-0.035	15.690
6.300	-5.688	15.516
6.400	-12.470	15.346
6.500	-4.513	15.177
6.600	1.434	15.011
6.700	2.351	14.848
6.800	2.406	14.687
6.900	4.437	14.529
7.000	3.854	14.373
7.100	1.902	14.400
7.200	2.607	14.400
7.300	0.895	14.400
7.400	-3.009	14.400
7.500	-2.386	14.400
7.600	-5.802	14.400
7.700	-15.584	14.400
7.800	-11.218	14.400
7.900	-20.122	14.400
8.000	-14.343	14.400
8.100	-18.376	14.400
8.200	-16.586	14.400
8.300	-11.817	14.400
8.400	-24.094	14.400
8.500	-13.735	14.400
8.600	-12.484	14.400
8.700	-30.408	14.400
8.800	-16.127	14.400
8.900	-17.171	14.400
9.000	-19.959	14.400
9.100	-18.112	14.400
9.200	-21.026	14.400
9.300	-16.156	14.288
9.400	-20.410	14.172
9.500	-18.393	14.057
9.600	-15.576	13.943
9.700	-38.794	13.831
9.800	-14.509	13.719
9.900	-13.904	13.609

28.75 GHz @ 0 dBW/MHz		
Angle (Degree)	EIRP sd (dBW/MHz)	Mask (dBW/MHz)
10.000	-33.555	13.500
10.100	-14.377	13.392
10.200	-15.688	13.285
10.300	-23.610	13.179
10.400	-13.408	13.074
10.500	-17.334	12.970
10.600	-19.409	12.867
10.700	-12.388	12.765
10.800	-16.877	12.664
10.900	-19.832	12.564
11.000	-13.370	12.465
11.100	-18.487	12.367
11.200	-20.602	12.270
11.300	-14.530	12.173
11.400	-19.763	12.077
11.500	-23.625	11.983
11.600	-16.511	11.889
11.700	-21.874	11.795
11.800	-23.316	11.703
11.900	-15.853	11.611
12.000	-18.647	11.520
12.100	-30.182	11.430
12.200	-16.810	11.341
12.300	-18.385	11.252
12.400	-29.184	11.164
12.500	-15.844	11.077
12.600	-17.040	10.991
12.700	-26.461	10.905
12.800	-15.147	10.820
12.900	-16.474	10.735
13.000	-24.327	10.651
13.100	-14.440	10.568
13.200	-15.962	10.486
13.300	-21.600	10.404
13.400	-13.766	10.322
13.500	-15.619	10.242
13.600	-22.674	10.162
13.700	-14.463	10.082
13.800	-16.692	10.003
13.900	-21.751	9.925
14.000	-14.657	9.847
14.100	-17.690	9.770
14.200	-21.698	9.693
14.300	-15.273	9.617
14.400	-19.415	9.541
14.500	-21.433	9.466
14.600	-15.880	9.391
14.700	-21.840	9.317
14.800	-22.039	9.243
14.900	-16.758	9.170

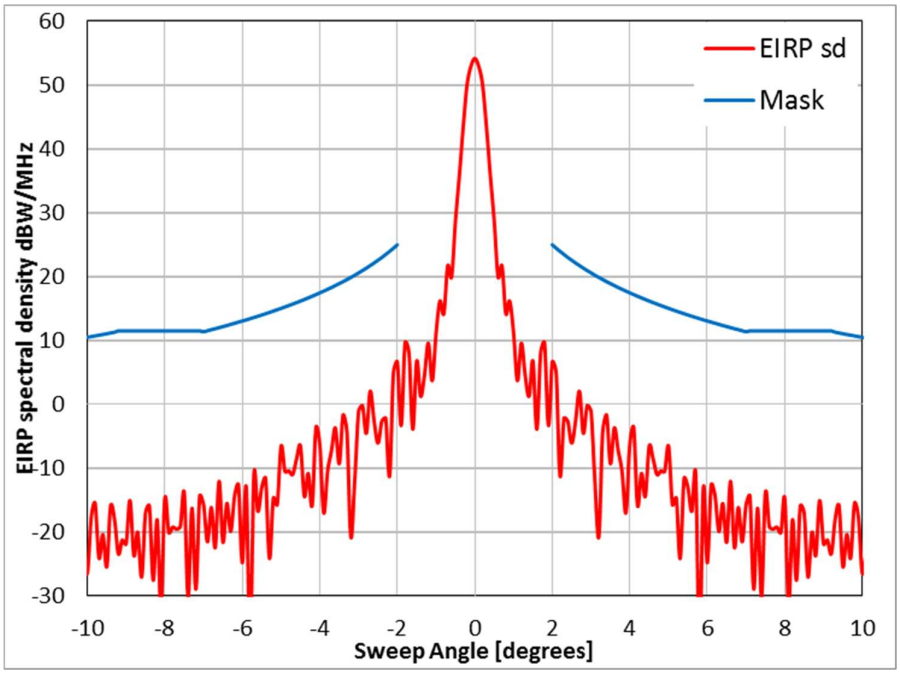
28.75 GHz @ 0 dBW/MHz		
Angle (Degree)	EIRP sd (dBW/MHz)	Mask (dBW/MHz)
15.000	-24.014	9.098
15.100	-21.485	9.026
15.200	-17.826	8.954
15.300	-28.577	8.883
15.400	-21.144	8.812
15.500	-19.082	8.742
15.600	-36.760	8.672
15.700	-19.628	8.603
15.800	-19.126	8.534
15.900	-40.706	8.465
16.000	-19.499	8.397
16.100	-19.787	8.329
16.200	-36.235	8.262
16.300	-19.179	8.195
16.400	-20.019	8.129
16.500	-36.474	8.063
16.600	-19.362	7.997
16.700	-20.128	7.932
16.800	-42.477	7.867
16.900	-20.735	7.803
17.000	-21.363	7.739
17.100	-49.552	7.675
17.200	-21.505	7.612
17.300	-21.524	7.549
17.400	-34.618	7.486
17.500	-23.910	7.424
17.600	-22.498	7.362
17.700	-29.392	7.301
17.800	-27.351	7.239
17.900	-23.367	7.179
18.000	-25.353	7.118
18.100	-30.655	7.058
18.200	-24.249	6.998
18.300	-23.330	6.939
18.400	-32.651	6.880
18.500	-25.144	6.821
18.600	-22.018	6.762
18.700	-30.411	6.704
18.800	-25.645	6.646
18.900	-20.994	6.588
19.000	-27.410	6.531
19.100	-26.673	6.474
19.200	-20.660	6.500
19.300	-25.784	6.500
19.400	-28.433	6.500
19.500	-21.099	6.500
19.600	-25.894	6.500
19.700	-28.769	6.500
19.800	-21.292	6.500
19.900	-26.172	6.500

28.75 GHz @ 0 dBW/MHz		
Angle (Degree)	EIRP sd (dBW/MHz)	Mask (dBW/MHz)
20.000	-28.620	6.500
20.100	-21.475	6.500
20.200	-27.238	6.500
20.300	-26.588	6.500
20.400	-20.441	6.500
20.500	-25.873	6.500
20.600	-25.400	6.500
20.700	-19.284	6.500
20.800	-23.280	6.500
20.900	-23.760	6.500
21.000	-17.934	6.500
21.100	-20.612	6.500
21.200	-22.948	6.500
21.300	-16.938	6.500
21.400	-18.234	6.500
21.500	-22.152	6.500
21.600	-16.623	6.500
21.700	-16.742	6.500
21.800	-21.307	6.500
21.900	-16.934	6.500
22.000	-15.908	6.500
22.100	-20.313	6.500
22.200	-18.028	6.500
22.300	-15.824	6.500
22.400	-19.505	6.500
22.500	-20.023	6.500
22.600	-16.511	6.500
22.700	-19.096	6.500
22.800	-23.212	6.500
22.900	-18.185	6.500
23.000	-19.383	6.500
23.100	-27.589	6.500
23.200	-21.182	6.500
23.300	-20.581	6.500
23.400	-30.356	6.500
23.500	-26.329	6.500
23.600	-23.240	6.500
23.700	-29.857	6.500
23.800	-30.364	6.500
23.900	-27.504	6.500
24.000	-30.818	6.500
24.100	-26.114	6.500
24.200	-27.651	6.500
24.300	-37.209	6.500
24.400	-23.604	6.500
24.500	-23.364	6.500
24.600	-35.604	6.500
24.700	-23.493	6.500
24.800	-20.850	6.500
24.900	-26.506	6.500

28.75 GHz @ 0 dBW/MHz		
Angle (Degree)	EIRP sd (dBW/MHz)	Mask (dBW/MHz)
25.000	-25.676	6.500
25.100	-20.228	6.500
25.200	-22.535	6.500
25.300	-29.994	6.500
25.400	-21.559	6.500
25.500	-21.057	6.500
25.600	-28.975	6.500
25.700	-25.817	6.500
25.800	-21.723	6.500
25.900	-25.181	6.500
26.000	-41.462	6.500
26.100	-25.422	6.500
26.200	-24.090	6.500
26.300	-28.754	6.500
26.400	-41.672	6.500
26.500	-26.313	6.500
26.600	-23.392	6.500
26.700	-26.725	6.500
26.800	-33.019	6.500
26.900	-22.154	6.500
27.000	-20.729	6.500
27.100	-25.611	6.500
27.200	-23.110	6.500
27.300	-18.594	6.500
27.400	-19.818	6.500
27.500	-23.423	6.500
27.600	-18.651	6.500
27.700	-17.284	6.500
27.800	-20.504	6.500
27.900	-20.257	6.500
28.000	-16.878	6.500
28.100	-17.952	6.500
28.200	-21.612	6.500
28.300	-18.371	6.500
28.400	-17.174	6.500
28.500	-20.680	6.500
28.600	-21.778	6.500
28.700	-18.306	6.500
28.800	-19.745	6.500
28.900	-25.783	6.500
29.000	-21.584	6.500
29.100	-20.418	6.500
29.200	-26.562	6.500
29.300	-27.132	6.500
29.400	-22.267	6.500
29.500	-26.234	6.500
29.600	-31.734	6.500
29.700	-22.645	6.500
29.800	-23.807	6.500
29.900	-30.703	6.500
30.000	-21.705	6.500

5. EIRP Spectral Density of v240MT Ka-band 30.0 GHz

5.1. Azimuth Pattern for Co-pol, Narrow Angle (-10° ~ 10°)



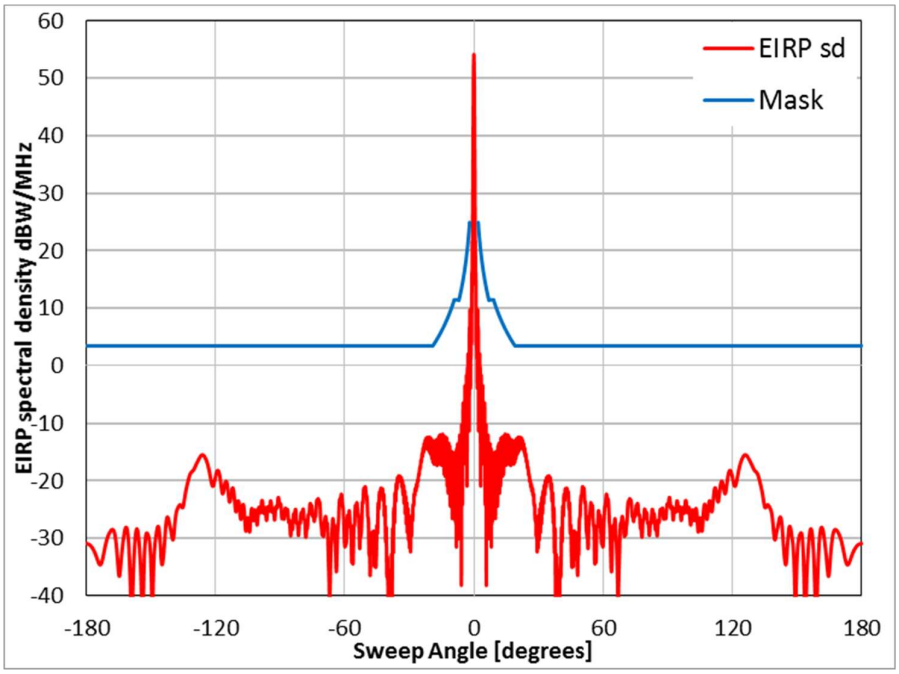
0 dBW/ MHz Input power spectral density @ f=30.0 GHz & 1.0 dB Radome loss

- **FCC EIRP spectral density regulation**

32.5-25log(θ)	**dBW/MHz**	**for**	**2.0° ≤ θ ≤ 7.0°**
11.5	**dBW/MHz**	**for**	**7.0° < θ ≤ 9.2°**
35.5-25log(θ)	**dBW/MHz**	**for**	**9.2° < θ ≤ 19.1°**
3.5	**dBW/MHz**	**for**	**19.1° < θ ≤ 180°**

The v240MT's Ka band(30.0 GHz) Radiation pattern meets the FCC EIRP spectral density mask when the input powers spectral density is @ 0 dBW/ MHz

5.2. Azimuth Pattern for Co-pol, Wide Angle (-180°~180°)



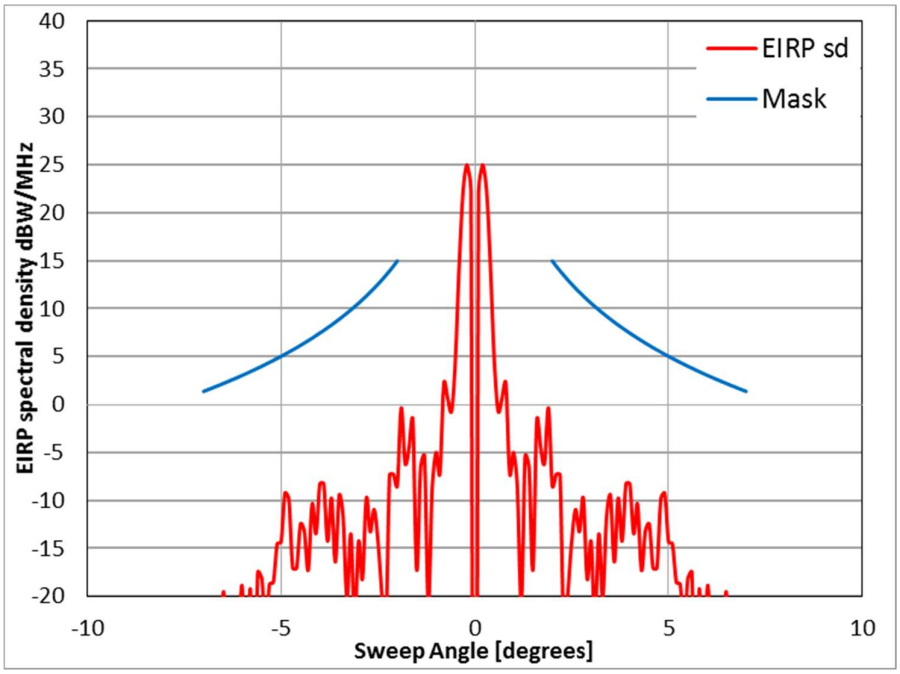
0 dBW/ MHz Input power spectral density @ f=30.0 GHz & 1.0 dB Radome loss

- **FCC EIRP spectral density regulation**

32.5-25log(θ)	**dBW/MHz**	**for**	**2.0˚ ≤ θ ≤ 7.0˚**
11.5	**dBW/MHz**	**for**	**7.0˚ < θ ≤ 9.2˚**
35.5-25log(θ)	**dBW/MHz**	**for**	**9.2˚ < θ ≤ 19.1˚**
3.5	**dBW/MHz**	**for**	**19.1˚ < θ ≤ 180˚**

The v240MT's Ka band(30.0 GHz) Radiation pattern meets the FCC EIRP spectral density mask when the input powers spectral density is @ 0 dBW/ MHz

5.3. Azimuth Pattern for Cross-pol, Narrow angle (-10°~10°)



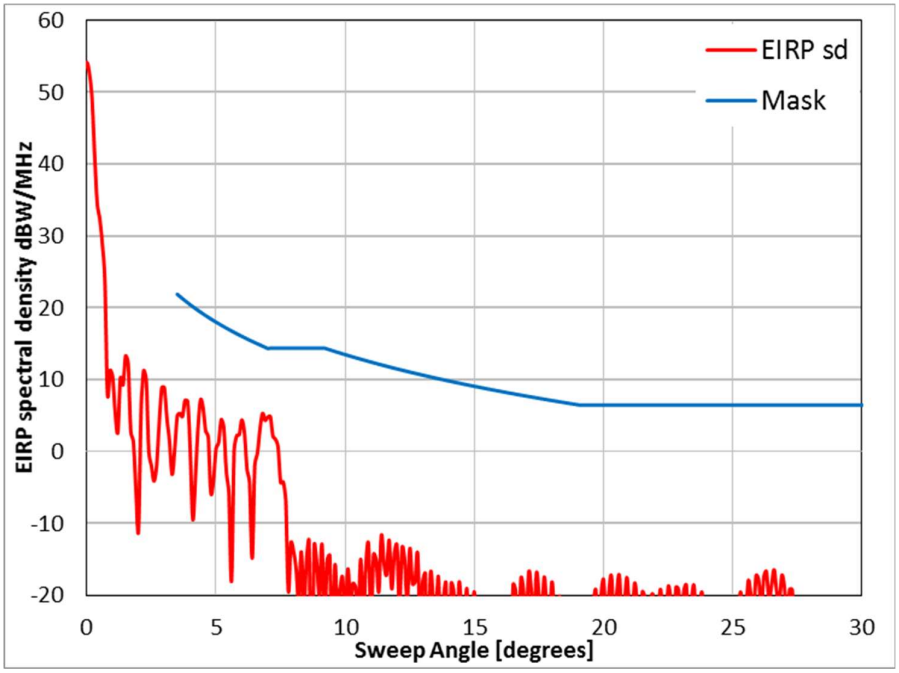
0 dBW/ MHz Input power spectral density @ f=30.0 GHz & 1.0 dB Radome loss

- **FCC EIRP spectral density regulation**

22.5-25log(θ) dBW/MHz for 2.0˚ ≤ θ ≤ 7.0˚

The v240MT's Ka band(30.0 GHz) Radiation pattern meets the FCC EIRP spectral density mask when the input powers spectral density is @ 0 dBW/ MHz

5.4. Elevation Pattern for Co-pol, Narrow Angle (0°~30°)



0 dBW/ MHz Input power spectral density @ f=30.0 GHz & 1.0 dB Radome loss

- **FCC EIRP spectral density regulation**

35.5-25log(θ)	**dBW/MHz**	**for**	**3.5˚ ≤ θ ≤ 7.0˚**
14.4	**dBW/MHz**	**for**	**7.0˚ < θ ≤ 9.2˚**
38.5-25log(θ)	**dBW/MHz**	**for**	**9.2˚ < θ ≤ 19.1˚**
6.5	**dBW/MHz**	**for**	**19.1˚ < θ ≤ 180˚**

The v240MT's Ka band(30.0 GHz) Radiation pattern meets the FCC EIRP spectral density mask when the input powers spectral density is @ 0 dBW/ MHz

6. EIRP Spectral Density Data

6.1. Azimuth Pattern for Co-pol (-10°~10°)

30 GHz @ 0 dBW/MHz		
Angle (Degree)	EIRP sd (dBW/MHz)	Mask (dBW/MHz)
-10.000	-26.381	10.500
-9.900	-17.624	10.609
-9.800	-15.484	10.719
-9.700	-24.053	10.831
-9.600	-20.368	10.943
-9.500	-25.396	11.057
-9.400	-15.917	11.172
-9.300	-18.012	11.288
-9.200	-23.407	11.500
-9.100	-21.225	11.500
-9.000	-21.824	11.500
-8.900	-15.040	11.500
-8.800	-23.633	11.500
-8.700	-20.016	11.500
-8.600	-27.030	11.500
-8.500	-17.033	11.500
-8.400	-15.916	11.500
-8.300	-27.524	11.500
-8.200	-18.059	11.500
-8.100	-31.473	11.500
-8.000	-14.773	11.500
-7.900	-20.043	11.500
-7.800	-19.206	11.500
-7.700	-19.509	11.500
-7.600	-19.109	11.500
-7.500	-13.866	11.500
-7.400	-30.103	11.500
-7.300	-16.261	11.500
-7.200	-28.921	11.500
-7.100	-14.363	11.500
-7.000	-15.726	11.373
-6.900	-21.501	11.529
-6.800	-16.156	11.687
-6.700	-22.417	11.848
-6.600	-12.045	12.011
-6.500	-21.562	12.177
-6.400	-15.512	12.346
-6.300	-19.873	12.516
-6.200	-14.323	12.690
-6.100	-12.652	12.867
-6.000	-24.762	13.046
-5.900	-12.959	13.229
-5.800	-38.143	13.414
-5.700	-10.835	13.603
-5.600	-16.731	13.795
-5.500	-13.001	13.991
-5.400	-11.598	14.190
-5.300	-24.130	14.393
-5.200	-14.660	14.600
-5.100	-15.685	14.811

30 GHz @ 0 dBW/MHz		
Angle (Degree)	EIRP sd (dBW/MHz)	Mask (dBW/MHz)
-5.000	-6.541	15.026
-4.900	-10.490	15.245
-4.800	-10.418	15.469
-4.700	-10.962	15.698
-4.600	-8.500	15.931
-4.500	-6.554	16.170
-4.400	-14.398	16.414
-4.300	-10.803	16.663
-4.200	-15.828	16.919
-4.100	-3.646	17.180
-4.000	-6.317	17.449
-3.900	-16.967	17.723
-3.800	-10.528	18.005
-3.700	-7.244	18.295
-3.600	-3.692	18.592
-3.500	-9.283	18.898
-3.400	-1.655	19.213
-3.300	-4.429	19.537
-3.200	-20.756	19.871
-3.100	-12.017	20.216
-3.000	-1.114	20.572
-2.900	-0.179	20.940
-2.800	-4.523	21.321
-2.700	2.058	21.716
-2.600	-2.624	22.126
-2.500	-6.066	22.551
-2.400	-2.661	22.995
-2.300	-2.200	23.457
-2.200	-11.209	23.939
-2.100	4.936	24.445
-2.000	6.660	24.974
-1.900	-3.309	
-1.800	9.605	
-1.700	8.099	
-1.600	-3.881	
-1.500	6.772	
-1.400	1.253	
-1.300	4.551	
-1.200	9.570	
-1.100	3.704	
-1.000	11.177	
-0.900	16.156	
-0.800	14.229	
-0.700	21.678	
-0.600	19.931	
-0.500	28.694	
-0.400	35.812	
-0.300	43.392	
-0.200	50.035	
-0.100	52.907	

30 GHz @ 0 dBW/MHz		
Angle (Degree)	EIRP sd (dBW/MHz)	Mask (dBW/MHz)
0.000	54.156	
0.100	52.907	
0.200	50.035	
0.300	43.392	
0.400	35.812	
0.500	28.694	
0.600	19.931	
0.700	21.677	
0.800	14.229	
0.900	16.156	
1.000	11.177	
1.100	3.704	
1.200	9.570	
1.300	4.551	
1.400	1.253	
1.500	6.772	
1.600	-3.881	
1.700	8.099	
1.800	9.605	
1.900	-3.309	
2.000	6.659	24.974
2.100	4.936	24.445
2.200	-11.208	23.939
2.300	-2.200	23.457
2.400	-2.660	22.995
2.500	-6.065	22.551
2.600	-2.623	22.126
2.700	2.057	21.716
2.800	-4.523	21.321
2.900	-0.178	20.940
3.000	-1.114	20.572
3.100	-12.015	20.216
3.200	-20.757	19.871
3.300	-4.429	19.537
3.400	-1.655	19.213
3.500	-9.283	18.898
3.600	-3.691	18.592
3.700	-7.244	18.295
3.800	-10.528	18.005
3.900	-16.969	17.723
4.000	-6.317	17.449
4.100	-3.645	17.180
4.200	-15.826	16.919
4.300	-10.804	16.663
4.400	-14.397	16.414
4.500	-6.555	16.170
4.600	-8.501	15.931
4.700	-10.961	15.698
4.800	-10.418	15.469
4.900	-10.490	15.245

30 GHz @ 0 dBW/MHz		
Angle (Degree)	EIRP sd (dBW/MHz)	Mask (dBW/MHz)
5.000	-6.541	15.026
5.100	-15.686	14.811
5.200	-14.660	14.600
5.300	-24.131	14.393
5.400	-11.597	14.190
5.500	-13.001	13.991
5.600	-16.732	13.795
5.700	-10.836	13.603
5.800	-38.165	13.414
5.900	-12.958	13.229
6.000	-24.758	13.046
6.100	-12.653	12.867
6.200	-14.322	12.690
6.300	-19.874	12.516
6.400	-15.513	12.346
6.500	-21.561	12.177
6.600	-12.045	12.011
6.700	-22.416	11.848
6.800	-16.157	11.687
6.900	-21.502	11.529
7.000	-15.725	11.373
7.100	-14.363	11.500
7.200	-28.923	11.500
7.300	-16.261	11.500
7.400	-30.105	11.500
7.500	-13.867	11.500
7.600	-19.110	11.500
7.700	-19.509	11.500
7.800	-19.206	11.500
7.900	-20.044	11.500
8.000	-14.773	11.500
8.100	-31.476	11.500
8.200	-18.059	11.500
8.300	-27.526	11.500
8.400	-15.917	11.500
8.500	-17.034	11.500
8.600	-27.029	11.500
8.700	-20.016	11.500
8.800	-23.634	11.500
8.900	-15.040	11.500
9.000	-21.825	11.500
9.100	-21.224	11.500
9.200	-23.405	11.500
9.300	-18.013	11.288
9.400	-15.918	11.172
9.500	-25.397	11.057
9.600	-20.367	10.943
9.700	-24.054	10.831
9.800	-15.483	10.719
9.900	-17.624	10.609
10.000	-26.384	10.500

6.2. Azimuth Pattern for Co-pol (-180°~180°)

30 GHz @ 0 dBW/MHz		
Angle (Degree)	EIRP sd (dBW/MHz)	Mask (dBW/MHz)
-180.000	-30.891	3.500
-179.000	-30.990	3.500
-178.000	-31.250	3.500
-177.000	-31.764	3.500
-176.000	-32.497	3.500
-175.000	-33.517	3.500
-174.000	-34.442	3.500
-173.000	-34.320	3.500
-172.000	-32.802	3.500
-171.000	-30.979	3.500
-170.000	-29.675	3.500
-169.000	-28.871	3.500
-168.000	-28.465	3.500
-167.000	-28.934	3.500
-166.000	-31.423	3.500
-165.000	-36.034	3.500
-164.000	-34.548	3.500
-163.000	-30.823	3.500
-162.000	-28.430	3.500
-161.000	-28.543	3.500
-160.000	-33.233	3.500
-159.000	-46.908	3.500
-158.000	-34.560	3.500
-157.000	-28.968	3.500
-156.000	-29.003	3.500
-155.000	-33.559	3.500
-154.000	-51.737	3.500
-153.000	-32.789	3.500
-152.000	-29.081	3.500
-151.000	-29.836	3.500
-150.000	-34.241	3.500
-149.000	-38.095	3.500
-148.000	-30.570	3.500
-147.000	-28.160	3.500
-146.000	-29.268	3.500
-145.000	-34.360	3.500
-144.000	-32.335	3.500
-143.000	-27.475	3.500
-142.000	-26.452	3.500
-141.000	-28.158	3.500
-140.000	-30.072	3.500
-139.000	-27.920	3.500
-138.000	-25.168	3.500
-137.000	-24.354	3.500
-136.000	-24.327	3.500
-135.000	-24.401	3.500
-134.000	-22.206	3.500
-133.000	-20.437	3.500
-132.000	-19.039	3.500
-131.000	-18.405	3.500
-130.000	-17.958	3.500

30 GHz @ 0 dBW/MHz		
Angle (Degree)	EIRP sd (dBW/MHz)	Mask (dBW/MHz)
-129.000	-17.143	3.500
-128.000	-16.395	3.500
-127.000	-15.742	3.500
-126.000	-15.468	3.500
-125.000	-15.818	3.500
-124.000	-16.698	3.500
-123.000	-18.131	3.500
-122.000	-20.088	3.500
-121.000	-20.849	3.500
-120.000	-19.259	3.500
-119.000	-18.179	3.500
-118.000	-19.197	3.500
-117.000	-21.857	3.500
-116.000	-21.275	3.500
-115.000	-20.085	3.500
-114.000	-22.299	3.500
-113.000	-23.073	3.500
-112.000	-21.204	3.500
-111.000	-23.993	3.500
-110.000	-24.362	3.500
-109.000	-24.191	3.500
-108.000	-26.315	3.500
-107.000	-24.181	3.500
-106.000	-28.675	3.500
-105.000	-26.415	3.500
-104.000	-28.354	3.500
-103.000	-24.890	3.500
-102.000	-26.261	3.500
-101.000	-26.556	3.500
-100.000	-24.832	3.500
-99.000	-25.200	3.500
-98.000	-24.302	3.500
-97.000	-24.620	3.500
-96.000	-25.757	3.500
-95.000	-25.228	3.500
-94.000	-24.475	3.500
-93.000	-25.153	3.500
-92.000	-24.544	3.500
-91.000	-23.167	3.500
-90.000	-24.168	3.500
-89.000	-26.488	3.500
-88.000	-26.286	3.500
-87.000	-25.642	3.500
-86.000	-27.211	3.500
-85.000	-29.337	3.500
-84.000	-27.053	3.500
-83.000	-25.152	3.500
-82.000	-27.354	3.500
-81.000	-27.207	3.500
-80.000	-25.667	3.500
-79.000	-26.021	3.500

30 GHz @ 0 dBW/MHz		
Angle (Degree)	EIRP sd (dBW/MHz)	Mask (dBW/MHz)
-78.000	-29.761	3.500
-77.000	-26.176	3.500
-76.000	-23.897	3.500
-75.000	-25.865	3.500
-74.000	-26.747	3.500
-73.000	-23.445	3.500
-72.000	-23.495	3.500
-71.000	-27.428	3.500
-70.000	-29.446	3.500
-69.000	-26.224	3.500
-68.000	-27.754	3.500
-67.000	-43.001	3.500
-66.000	-29.870	3.500
-65.000	-27.849	3.500
-64.000	-35.130	3.500
-63.000	-27.483	3.500
-62.000	-23.178	3.500
-61.000	-24.295	3.500
-60.000	-31.286	3.500
-59.000	-28.948	3.500
-58.000	-25.443	3.500
-57.000	-29.157	3.500
-56.000	-32.077	3.500
-55.000	-24.229	3.500
-54.000	-25.217	3.500
-53.000	-31.755	3.500
-52.000	-25.961	3.500
-51.000	-21.421	3.500
-50.000	-22.492	3.500
-49.000	-26.852	3.500
-48.000	-33.270	3.500
-47.000	-30.040	3.500
-46.000	-31.217	3.500
-45.000	-27.690	3.500
-44.000	-23.291	3.500
-43.000	-21.436	3.500
-42.000	-22.795	3.500
-41.000	-30.535	3.500
-40.000	-37.161	3.500
-39.000	-46.656	3.500
-38.000	-44.089	3.500
-37.000	-26.047	3.500
-36.000	-20.457	3.500
-35.000	-19.182	3.500
-34.000	-20.169	3.500
-33.000	-21.859	3.500
-32.000	-23.677	3.500
-31.000	-25.620	3.500
-30.000	-27.371	3.500
-29.000	-28.899	3.500
-28.000	-24.289	3.500

30 GHz @ 0 dBW/MHz		
Angle (Degree)	EIRP sd (dBW/MHz)	Mask (dBW/MHz)
-27.000	-21.458	3.500
-26.000	-19.914	3.500
-25.000	-17.653	3.500
-24.000	-15.435	3.500
-23.000	-13.938	3.500
-22.000	-13.431	3.500
-21.000	-13.976	3.500
-20.000	-15.339	3.500
-19.000	-16.735	3.531
-18.000	-16.958	4.118
-17.000	-15.647	4.739
-16.000	-13.633	5.397
-15.000	-12.010	6.098
-14.000	-12.173	6.847
-13.000	-13.956	7.651
-12.000	-19.058	8.520
-11.000	-24.187	9.465
-10.000	-26.381	10.500
-9.000	-21.824	11.500
-8.000	-14.773	11.500
-7.000	-15.726	11.373
-6.000	-24.762	13.046
-5.000	-6.541	15.026
-4.000	-6.317	17.449
-3.000	-1.114	20.572
-2.000	6.660	24.974
-1.000	11.177	
0.000	54.156	
1.000	11.177	
2.000	6.659	24.974
3.000	-1.114	20.572
4.000	-6.317	17.449
5.000	-6.541	15.026
6.000	-24.758	13.046
7.000	-15.725	11.373
8.000	-14.773	11.500
9.000	-21.825	11.500
10.000	-26.384	10.500
11.000	-24.188	9.465
12.000	-19.057	8.520
13.000	-13.955	7.651
14.000	-12.173	6.847
15.000	-12.010	6.098
16.000	-13.633	5.397
17.000	-15.646	4.739
18.000	-16.958	4.118
19.000	-16.735	3.531
20.000	-15.339	3.500
21.000	-13.976	3.500
22.000	-13.431	3.500
23.000	-13.938	3.500

30 GHz @ 0 dBW/MHz		
Angle (Degree)	EIRP sd (dBW/MHz)	Mask (dBW/MHz)
24.000	-15.434	3.500
25.000	-17.653	3.500
26.000	-19.915	3.500
27.000	-21.458	3.500
28.000	-24.289	3.500
29.000	-28.899	3.500
30.000	-27.370	3.500
31.000	-25.620	3.500
32.000	-23.677	3.500
33.000	-21.860	3.500
34.000	-20.169	3.500
35.000	-19.182	3.500
36.000	-20.457	3.500
37.000	-26.047	3.500
38.000	-44.085	3.500
39.000	-46.655	3.500
40.000	-37.163	3.500
41.000	-30.534	3.500
42.000	-22.795	3.500
43.000	-21.435	3.500
44.000	-23.291	3.500
45.000	-27.689	3.500
46.000	-31.217	3.500
47.000	-30.040	3.500
48.000	-33.269	3.500
49.000	-26.851	3.500
50.000	-22.492	3.500
51.000	-21.421	3.500
52.000	-25.961	3.500
53.000	-31.755	3.500
54.000	-25.216	3.500
55.000	-24.229	3.500
56.000	-32.077	3.500
57.000	-29.157	3.500
58.000	-25.443	3.500
59.000	-28.948	3.500
60.000	-31.286	3.500
61.000	-24.295	3.500
62.000	-23.178	3.500
63.000	-27.483	3.500
64.000	-35.130	3.500
65.000	-27.849	3.500
66.000	-29.870	3.500
67.000	-43.000	3.500
68.000	-27.754	3.500
69.000	-26.224	3.500
70.000	-29.446	3.500
71.000	-27.428	3.500
72.000	-23.495	3.500
73.000	-23.445	3.500
74.000	-26.747	3.500

30 GHz @ 0 dBW/MHz		
Angle (Degree)	EIRP sd (dBW/MHz)	Mask (dBW/MHz)
75.000	-25.865	3.500
76.000	-23.897	3.500
77.000	-26.176	3.500
78.000	-29.761	3.500
79.000	-26.021	3.500
80.000	-25.667	3.500
81.000	-27.207	3.500
82.000	-27.355	3.500
83.000	-25.152	3.500
84.000	-27.053	3.500
85.000	-29.337	3.500
86.000	-27.210	3.500
87.000	-25.642	3.500
88.000	-26.286	3.500
89.000	-26.488	3.500
90.000	-24.168	3.500
91.000	-23.166	3.500
92.000	-24.544	3.500
93.000	-25.154	3.500
94.000	-24.475	3.500
95.000	-25.227	3.500
96.000	-25.758	3.500
97.000	-24.620	3.500
98.000	-24.303	3.500
99.000	-25.200	3.500
100.000	-24.832	3.500
101.000	-26.555	3.500
102.000	-26.260	3.500
103.000	-24.890	3.500
104.000	-28.354	3.500
105.000	-26.416	3.500
106.000	-28.674	3.500
107.000	-24.180	3.500
108.000	-26.314	3.500
109.000	-24.190	3.500
110.000	-24.361	3.500
111.000	-23.993	3.500
112.000	-21.204	3.500
113.000	-23.073	3.500
114.000	-22.299	3.500
115.000	-20.084	3.500
116.000	-21.274	3.500
117.000	-21.857	3.500
118.000	-19.196	3.500
119.000	-18.180	3.500
120.000	-19.259	3.500
121.000	-20.848	3.500
122.000	-20.089	3.500
123.000	-18.131	3.500
124.000	-16.698	3.500
125.000	-15.818	3.500

30 GHz @ 0 dBW/MHz		
Angle (Degree)	EIRP sd (dBW/MHz)	Mask (dBW/MHz)
126.000	-15.468	3.500
127.000	-15.742	3.500
128.000	-16.395	3.500
129.000	-17.143	3.500
130.000	-17.958	3.500
131.000	-18.405	3.500
132.000	-19.040	3.500
133.000	-20.437	3.500
134.000	-22.206	3.500
135.000	-24.401	3.500
136.000	-24.326	3.500
137.000	-24.353	3.500
138.000	-25.167	3.500
139.000	-27.920	3.500
140.000	-30.072	3.500
141.000	-28.157	3.500
142.000	-26.452	3.500
143.000	-27.476	3.500
144.000	-32.337	3.500
145.000	-34.361	3.500
146.000	-29.266	3.500
147.000	-28.159	3.500
148.000	-30.569	3.500
149.000	-38.098	3.500
150.000	-34.244	3.500
151.000	-29.836	3.500
152.000	-29.080	3.500
153.000	-32.787	3.500
154.000	-51.725	3.500
155.000	-33.559	3.500
156.000	-29.002	3.500
157.000	-28.968	3.500
158.000	-34.560	3.500
159.000	-46.905	3.500
160.000	-33.233	3.500
161.000	-28.542	3.500
162.000	-28.432	3.500
163.000	-30.824	3.500
164.000	-34.548	3.500
165.000	-36.034	3.500
166.000	-31.424	3.500
167.000	-28.933	3.500
168.000	-28.465	3.500
169.000	-28.871	3.500
170.000	-29.676	3.500
171.000	-30.980	3.500
172.000	-32.802	3.500
173.000	-34.318	3.500
174.000	-34.445	3.500
175.000	-33.516	3.500
176.000	-32.498	3.500
177.000	-31.764	3.500
178.000	-31.251	3.500
179.000	-30.991	3.500
180.000	-30.891	3.500

6.3. Azimuth Pattern for Cross-pol (-10°~10°)

30 GHz @ 0 dBW/MHz		
Angle (Degree)	EIRP sd (dBW/MHz)	Mask (dBW/MHz)
-10.000	-31.009	
-9.900	-29.977	
-9.800	-29.466	
-9.700	-23.820	
-9.600	-37.139	
-9.500	-27.885	
-9.400	-39.253	
-9.300	-24.904	
-9.200	-25.289	
-9.100	-34.823	
-9.000	-26.515	
-8.900	-36.357	
-8.800	-22.721	
-8.700	-29.210	
-8.600	-27.600	
-8.500	-29.446	
-8.400	-26.449	
-8.300	-22.699	
-8.200	-40.777	
-8.100	-24.334	
-8.000	-39.989	
-7.900	-22.545	
-7.800	-25.140	
-7.700	-27.357	
-7.600	-24.006	
-7.500	-31.205	
-7.400	-21.147	
-7.300	-32.801	
-7.200	-22.726	
-7.100	-27.830	
-7.000	-23.275	1.373
-6.900	-21.940	1.529
-6.800	-29.415	1.687
-6.700	-20.967	1.848
-6.600	-43.860	2.011
-6.500	-20.113	2.177
-6.400	-26.342	2.346
-6.300	-21.992	2.516
-6.200	-22.472	2.690
-6.100	-24.832	2.867
-6.000	-19.210	3.046
-5.900	-36.610	3.229
-5.800	-19.233	3.414
-5.700	-33.362	3.603
-5.600	-17.497	3.795
-5.500	-18.141	3.991
-5.400	-23.151	4.190
-5.300	-18.755	4.393
-5.200	-18.542	4.600
-5.100	-14.522	4.811

30 GHz @ 0 dBW/MHz		
Angle (Degree)	EIRP sd (dBW/MHz)	Mask (dBW/MHz)
-5.000	-14.339	5.026
-4.900	-9.240	5.245
-4.800	-9.883	5.469
-4.700	-17.049	5.698
-4.600	-17.061	5.931
-4.500	-12.489	6.170
-4.400	-13.241	6.414
-4.300	-17.298	6.663
-4.200	-10.394	6.919
-4.100	-13.471	7.180
-4.000	-8.290	7.449
-3.900	-8.296	7.723
-3.800	-14.255	8.005
-3.700	-9.770	8.295
-3.600	-16.421	8.592
-3.500	-9.468	8.898
-3.400	-11.674	9.213
-3.300	-20.132	9.537
-3.200	-13.511	9.871
-3.100	-22.792	10.216
-3.000	-14.301	10.572
-2.900	-18.190	10.940
-2.800	-9.772	11.321
-2.700	-13.268	11.716
-2.600	-10.965	12.126
-2.500	-14.247	12.551
-2.400	-19.771	12.995
-2.300	-24.295	13.457
-2.200	-7.331	13.939
-2.100	-7.275	14.445
-2.000	-8.470	14.974
-1.900	-0.357	
-1.800	-6.094	
-1.700	-4.526	
-1.600	-1.684	
-1.500	-17.259	
-1.400	-6.633	
-1.300	-5.402	
-1.200	-20.642	
-1.100	-8.788	
-1.000	-5.010	
-0.900	-7.176	
-0.800	2.227	
-0.700	0.623	
-0.600	-0.651	
-0.500	4.767	
-0.400	14.811	
-0.300	22.446	
-0.200	25.000	
-0.100	22.284	

30 GHz @ 0 dBW/MHz		
Angle (Degree)	EIRP sd (dBW/MHz)	Mask (dBW/MHz)
0.000	-100.545	
0.100	22.284	
0.200	25.000	
0.300	22.446	
0.400	14.811	
0.500	4.767	
0.600	-0.651	
0.700	0.623	
0.800	2.227	
0.900	-7.176	
1.000	-5.010	
1.100	-8.788	
1.200	-20.642	
1.300	-5.402	
1.400	-6.632	
1.500	-17.259	
1.600	-1.684	
1.700	-4.526	
1.800	-6.094	
1.900	-0.357	
2.000	-8.470	14.974
2.100	-7.276	14.445
2.200	-7.331	13.939
2.300	-24.295	13.457
2.400	-19.770	12.995
2.500	-14.247	12.551
2.600	-10.965	12.126
2.700	-13.269	11.716
2.800	-9.772	11.321
2.900	-18.190	10.940
3.000	-14.301	10.572
3.100	-22.792	10.216
3.200	-13.511	9.871
3.300	-20.131	9.537
3.400	-11.674	9.213
3.500	-9.468	8.898
3.600	-16.420	8.592
3.700	-9.769	8.295
3.800	-14.255	8.005
3.900	-8.296	7.723
4.000	-8.290	7.449
4.100	-13.471	7.180
4.200	-10.394	6.919
4.300	-17.298	6.663
4.400	-13.241	6.414
4.500	-12.489	6.170
4.600	-17.061	5.931
4.700	-17.049	5.698
4.800	-9.883	5.469
4.900	-9.239	5.245

30 GHz @ 0 dBW/MHz		
Angle (Degree)	EIRP sd (dBW/MHz)	Mask (dBW/MHz)
5.000	-14.339	5.026
5.100	-14.522	4.811
5.200	-18.542	4.600
5.300	-18.755	4.393
5.400	-23.151	4.190
5.500	-18.141	3.991
5.600	-17.497	3.795
5.700	-33.362	3.603
5.800	-19.233	3.414
5.900	-36.613	3.229
6.000	-19.210	3.046
6.100	-24.832	2.867
6.200	-22.472	2.690
6.300	-21.991	2.516
6.400	-26.343	2.346
6.500	-20.113	2.177
6.600	-43.861	2.011
6.700	-20.967	1.848
6.800	-29.415	1.687
6.900	-21.940	1.529
7.000	-23.275	1.373
7.100	-27.830	
7.200	-22.726	
7.300	-32.802	
7.400	-21.147	
7.500	-31.204	
7.600	-24.006	
7.700	-27.357	
7.800	-25.140	
7.900	-22.545	
8.000	-39.989	
8.100	-24.334	
8.200	-40.777	
8.300	-22.699	
8.400	-26.449	
8.500	-29.445	
8.600	-27.600	
8.700	-29.210	
8.800	-22.720	
8.900	-36.355	
9.000	-26.515	
9.100	-34.822	
9.200	-25.289	
9.300	-24.905	
9.400	-39.254	
9.500	-27.885	
9.600	-37.138	
9.700	-23.820	
9.800	-29.466	
9.900	-29.977	
10.000	-31.009	

6.4. Elevation Pattern for Co-pol (0°~30°)

30 GHz @ 0 dBW/MHz		
Angle (Degree)	EIRP sd (dBW/MHz)	Mask (dBW/MHz)
0.000	54.156	
0.100	52.617	
0.200	49.194	
0.300	41.492	
0.400	34.621	
0.500	32.409	
0.600	28.887	
0.700	23.601	
0.800	7.958	
0.900	11.306	
1.000	10.416	
1.100	5.317	
1.200	2.715	
1.300	10.260	
1.400	9.282	
1.500	13.335	
1.600	12.298	
1.700	2.828	
1.800	1.426	
1.900	-5.145	
2.000	-11.006	
2.100	5.691	
2.200	11.280	
2.300	9.911	
2.400	-0.093	
2.500	-1.963	
2.600	-4.095	
2.700	-1.917	
2.800	3.992	
2.900	8.880	
3.000	8.901	
3.100	4.575	
3.200	1.390	
3.300	-3.160	
3.400	0.348	
3.500	4.985	21.898
3.600	5.330	21.592
3.700	4.917	21.295
3.800	7.142	21.005
3.900	7.011	20.723
4.000	0.483	20.449
4.100	-9.397	20.180
4.200	-3.909	19.919
4.300	3.123	19.663
4.400	7.211	19.414
4.500	6.073	19.170
4.600	2.865	18.931
4.700	2.006	18.698
4.800	-5.739	18.469
4.900	-4.011	18.245

30 GHz @ 0 dBW/MHz		
Angle (Degree)	EIRP sd (dBW/MHz)	Mask (dBW/MHz)
5.000	0.389	18.026
5.100	1.272	17.811
5.200	4.458	17.600
5.300	3.409	17.393
5.400	-2.880	17.190
5.500	-5.993	16.991
5.600	-18.008	16.795
5.700	0.159	16.603
5.800	2.225	16.414
5.900	2.365	16.229
6.000	4.413	16.046
6.100	2.563	15.867
6.200	-2.493	15.690
6.300	-4.344	15.516
6.400	-14.815	15.346
6.500	-1.958	15.177
6.600	-0.256	15.011
6.700	3.123	14.848
6.800	5.327	14.687
6.900	4.362	14.529
7.000	4.791	14.373
7.100	4.895	14.400
7.200	2.201	14.400
7.300	1.739	14.400
7.400	0.658	14.400
7.500	-4.304	14.400
7.600	-4.195	14.400
7.700	-6.843	14.400
7.800	-19.430	14.400
7.900	-12.689	14.400
8.000	-13.857	14.400
8.100	-16.369	14.400
8.200	-20.764	14.400
8.300	-13.924	14.400
8.400	-21.647	14.400
8.500	-15.138	14.400
8.600	-12.497	14.400
8.700	-38.604	14.400
8.800	-13.067	14.400
8.900	-15.677	14.400
9.000	-19.910	14.400
9.100	-12.872	14.400
9.200	-23.975	14.400
9.300	-15.126	14.288
9.400	-14.459	14.172
9.500	-28.831	14.057
9.600	-15.810	13.943
9.700	-22.245	13.831
9.800	-19.075	13.719
9.900	-17.545	13.609

30 GHz @ 0 dBW/MHz		
Angle (Degree)	EIRP sd (dBW/MHz)	Mask (dBW/MHz)
10.000	-24.648	13.500
10.100	-16.367	13.392
10.200	-20.982	13.285
10.300	-18.297	13.179
10.400	-18.923	13.074
10.500	-23.597	12.970
10.600	-14.971	12.867
10.700	-23.449	12.765
10.800	-15.611	12.664
10.900	-12.812	12.564
11.000	-23.593	12.465
11.100	-14.289	12.367
11.200	-15.089	12.270
11.300	-19.487	12.173
11.400	-11.617	12.077
11.500	-15.507	11.983
11.600	-17.116	11.889
11.700	-12.308	11.795
11.800	-19.091	11.703
11.900	-14.184	11.611
12.000	-12.994	11.520
12.100	-21.357	11.430
12.200	-13.347	11.341
12.300	-15.098	11.252
12.400	-20.922	11.164
12.500	-13.461	11.077
12.600	-18.389	10.991
12.700	-18.107	10.905
12.800	-14.115	10.820
12.900	-23.768	10.735
13.000	-18.079	10.651
13.100	-16.973	10.568
13.200	-33.180	10.486
13.300	-17.001	10.404
13.400	-20.170	10.322
13.500	-24.666	10.242
13.600	-17.332	10.162
13.700	-26.241	10.082
13.800	-20.524	10.003
13.900	-18.365	9.925
14.000	-38.801	9.847
14.100	-18.369	9.770
14.200	-19.487	9.693
14.300	-32.071	9.617
14.400	-18.444	9.541
14.500	-22.299	9.466
14.600	-25.992	9.391
14.700	-19.026	9.317
14.800	-26.347	9.243
14.900	-23.612	9.170

30 GHz @ 0 dBW/MHz		
Angle (Degree)	EIRP sd (dBW/MHz)	Mask (dBW/MHz)
15.000	-19.542	9.098
15.100	-26.832	9.026
15.200	-24.460	8.954
15.300	-21.593	8.883
15.400	-27.026	8.812
15.500	-25.777	8.742
15.600	-22.029	8.672
15.700	-23.649	8.603
15.800	-29.932	8.534
15.900	-21.885	8.465
16.000	-21.931	8.397
16.100	-44.264	8.329
16.200	-20.478	8.262
16.300	-20.792	8.195
16.400	-35.055	8.129
16.500	-18.506	8.063
16.600	-19.442	7.997
16.700	-28.658	7.932
16.800	-17.655	7.867
16.900	-19.382	7.803
17.000	-25.387	7.739
17.100	-16.824	7.675
17.200	-19.203	7.612
17.300	-24.281	7.549
17.400	-16.881	7.486
17.500	-19.940	7.424
17.600	-24.019	7.362
17.700	-17.450	7.301
17.800	-21.645	7.239
17.900	-24.349	7.179
18.000	-18.104	7.118
18.100	-23.130	7.058
18.200	-26.822	6.998
18.300	-20.138	6.939
18.400	-26.185	6.880
18.500	-27.895	6.821
18.600	-22.865	6.762
18.700	-27.815	6.704
18.800	-26.223	6.646
18.900	-27.391	6.588
19.000	-26.450	6.531
19.100	-23.492	6.474
19.200	-34.960	6.500
19.300	-23.339	6.500
19.400	-20.729	6.500
19.500	-31.833	6.500
19.600	-21.591	6.500
19.700	-19.218	6.500
19.800	-27.291	6.500
19.900	-19.998	6.500

30 GHz @ 0 dBW/MHz		
Angle (Degree)	EIRP sd (dBW/MHz)	Mask (dBW/MHz)
20.000	-17.818	6.500
20.100	-24.606	6.500
20.200	-19.776	6.500
20.300	-17.254	6.500
20.400	-23.037	6.500
20.500	-20.074	6.500
20.600	-17.109	6.500
20.700	-22.210	6.500
20.800	-21.325	6.500
20.900	-17.501	6.500
21.000	-21.768	6.500
21.100	-23.581	6.500
21.200	-18.310	6.500
21.300	-21.292	6.500
21.400	-27.188	6.500
21.500	-19.505	6.500
21.600	-20.576	6.500
21.700	-30.699	6.500
21.800	-21.185	6.500
21.900	-19.815	6.500
22.000	-27.333	6.500
22.100	-23.161	6.500
22.200	-19.151	6.500
22.300	-23.289	6.500
22.400	-25.067	6.500
22.500	-18.792	6.500
22.600	-20.720	6.500
22.700	-26.111	6.500
22.800	-18.864	6.500
22.900	-19.229	6.500
23.000	-25.908	6.500
23.100	-19.479	6.500
23.200	-18.563	6.500
23.300	-25.154	6.500
23.400	-20.801	6.500
23.500	-18.657	6.500
23.600	-24.685	6.500
23.700	-23.081	6.500
23.800	-19.523	6.500
23.900	-24.907	6.500
24.000	-26.603	6.500
24.100	-21.181	6.500
24.200	-26.246	6.500
24.300	-30.409	6.500
24.400	-23.222	6.500
24.500	-29.231	6.500
24.600	-29.040	6.500
24.700	-23.805	6.500
24.800	-33.188	6.500
24.900	-25.748	6.500

30 GHz @ 0 dBW/MHz		
Angle (Degree)	EIRP sd (dBW/MHz)	Mask (dBW/MHz)
25.000	-21.853	6.500
25.100	-28.891	6.500
25.200	-23.704	6.500
25.300	-19.517	6.500
25.400	-23.485	6.500
25.500	-22.716	6.500
25.600	-17.939	6.500
25.700	-19.991	6.500
25.800	-22.206	6.500
25.900	-17.246	6.500
26.000	-17.811	6.500
26.100	-21.591	6.500
26.200	-17.450	6.500
26.300	-16.658	6.500
26.400	-20.587	6.500
26.500	-18.565	6.500
26.600	-16.423	6.500
26.700	-19.531	6.500
26.800	-20.665	6.500
26.900	-17.177	6.500
27.000	-18.942	6.500
27.100	-23.556	6.500
27.200	-19.153	6.500
27.300	-19.216	6.500
27.400	-25.939	6.500
27.500	-23.030	6.500
27.600	-20.767	6.500
27.700	-26.487	6.500
27.800	-31.101	6.500
27.900	-24.227	6.500
28.000	-27.453	6.500
28.100	-34.637	6.500
28.200	-29.070	6.500
28.300	-32.278	6.500
28.400	-27.767	6.500
28.500	-25.988	6.500
28.600	-37.212	6.500
28.700	-26.837	6.500
28.800	-22.321	6.500
28.900	-25.883	6.500
29.000	-29.094	6.500
29.100	-21.375	6.500
29.200	-21.569	6.500
29.300	-28.398	6.500
29.400	-23.082	6.500
29.500	-20.317	6.500
29.600	-23.979	6.500
29.700	-28.255	6.500
29.800	-21.800	6.500
29.900	-22.039	6.500
30.000	-29.983	6.500