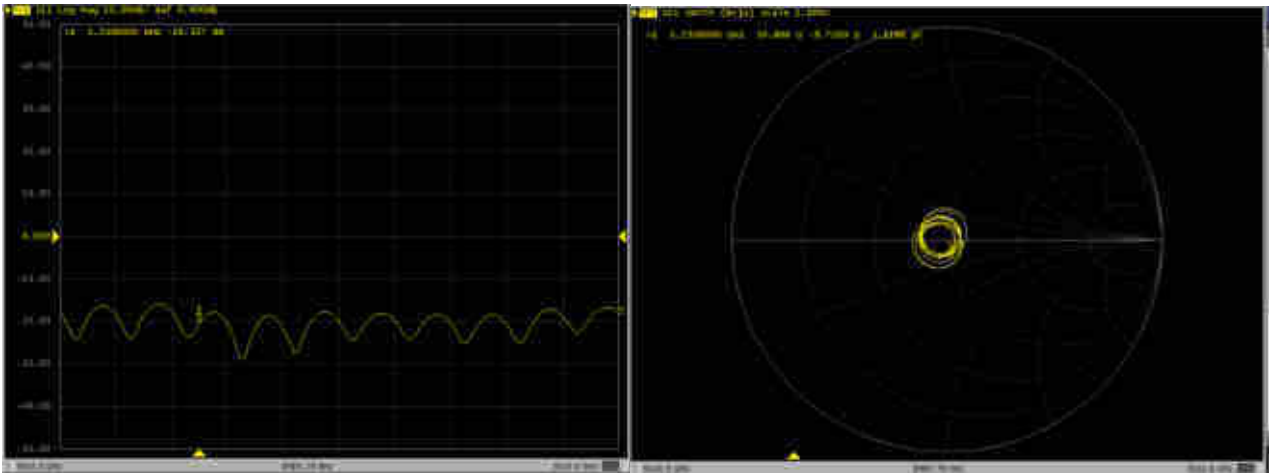


<Justification of the extended calibration>

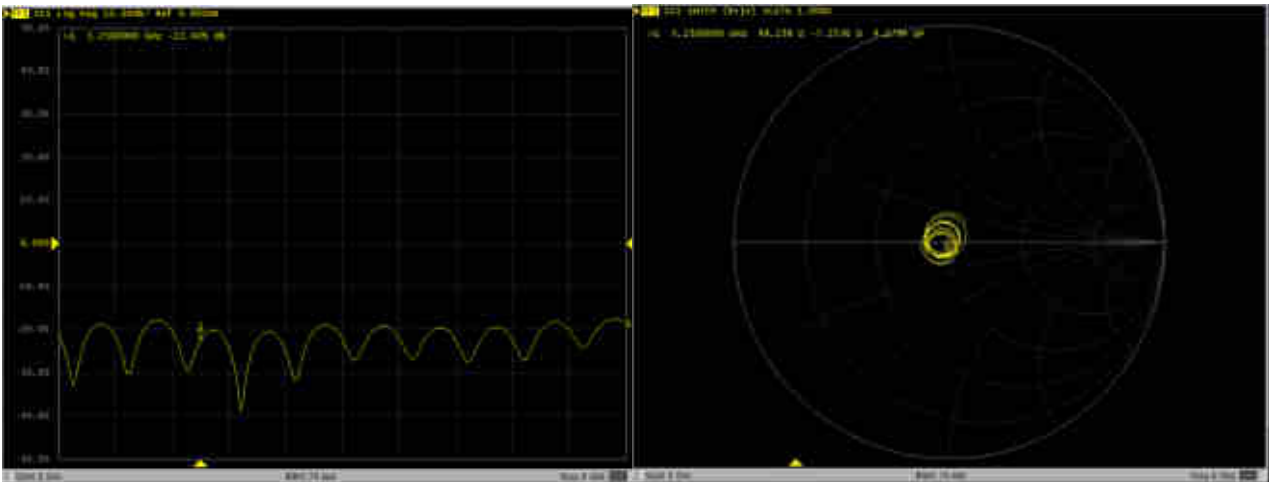
The return loss is < -20dB, within 20% of prior calibration; the impedance is within 5 ohm of prior calibration. Therefore the verification result should support extended calibration.

Dipole Verification Data> D5GHzV3, serial no. 1167

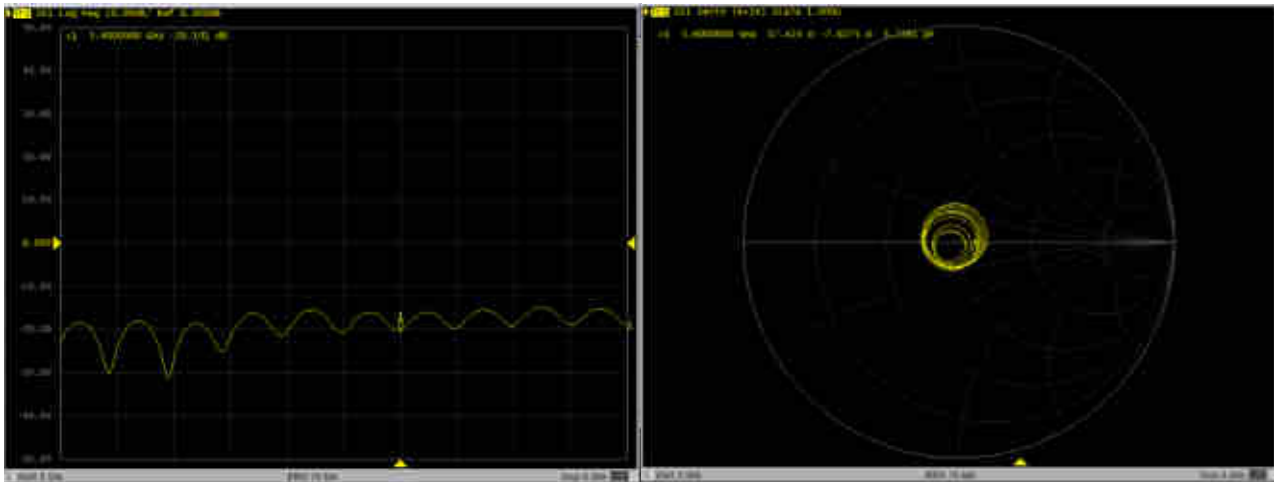
5250MHz - Head



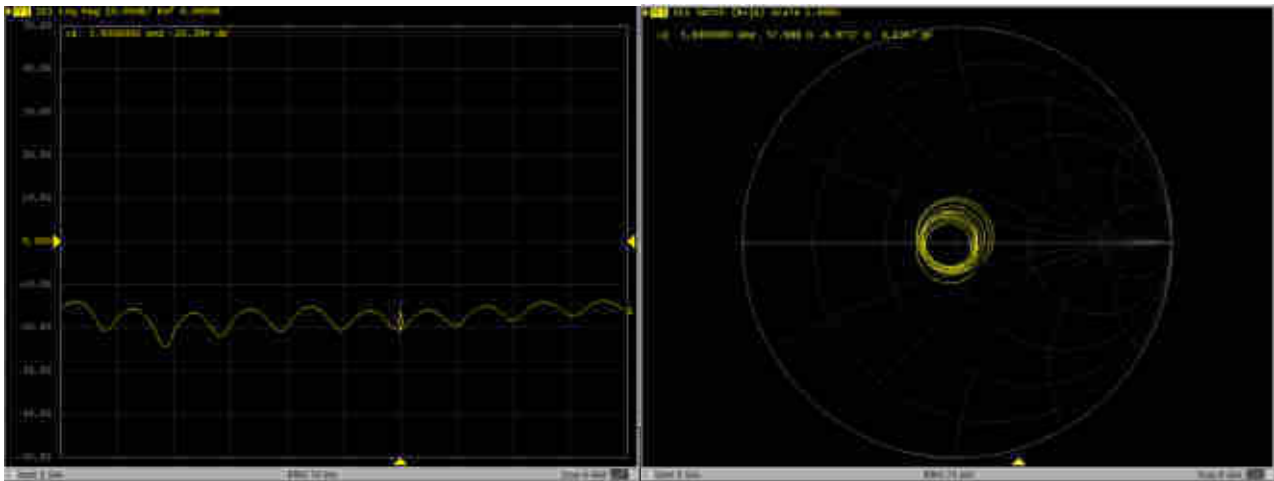
5250MHz - Body



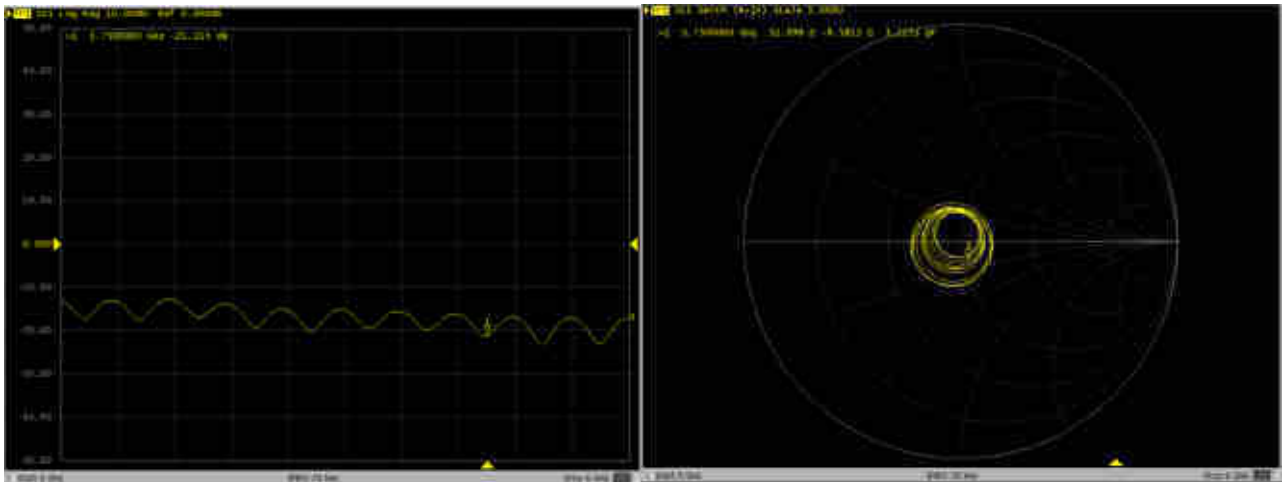
5600MHz – Head



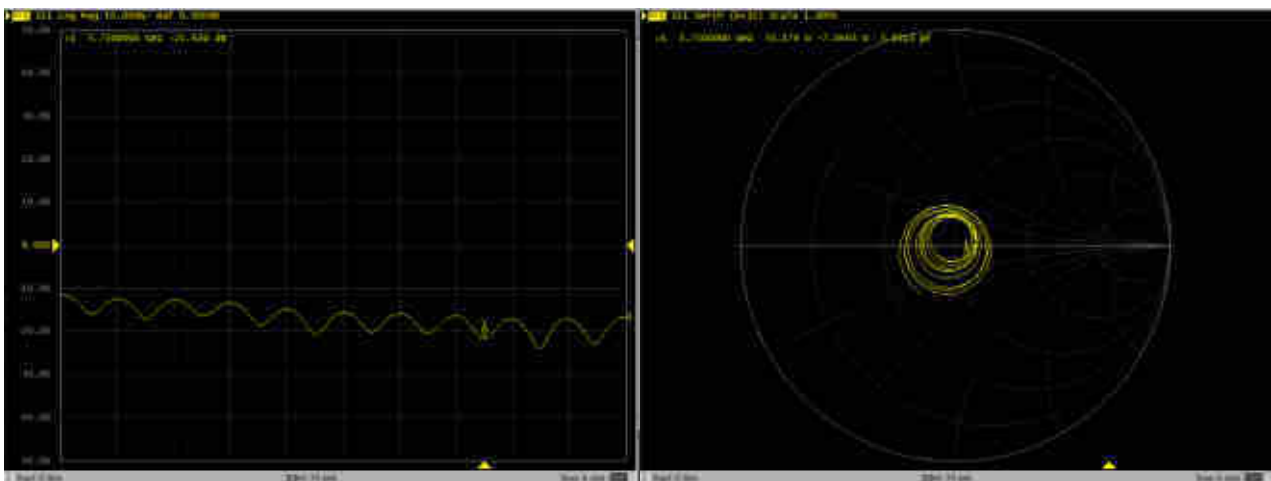
5600MHz – Body



5750MHz – Head



5750MHz – Body





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Accreditation No.: **SCS 0108**

Client **Auden**

Certificate No: **DAE3-528_Mar20**

CALIBRATION CERTIFICATE

Object: **DAE3 - SD 000 D03 AA - SN: 528**

Calibration procedure(s): **QA CAL-06.v30
Calibration procedure for the data acquisition electronics (DAE)**

Calibration date: **March 16, 2020**

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).
The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature $(22 \pm 3)^{\circ}\text{C}$ and humidity $< 70\%$.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Certificate No.)	Scheduled Calibration
Keithley Multimeter Type 2001	SN: 0810278	03-Sep-19 (No:25949)	Sep-20
Secondary Standards	ID #	Check Date (in house)	Scheduled Check
Auto DAE Calibration Unit	SE UWS 053 AA 1001	09-Jan-20 (in house check)	In house check: Jan-21
Calibrator Box V2.1	SE UMS 006 AA 1002	09-Jan-20 (in house check)	In house check: Jan-21

Calibrated by:	Name Eric Hainfeld	Function Laboratory Technician	Signature
Approved by:	Name Sven Kühn	Function Deputy Manager	Signature

Issued: March 16, 2020

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Accreditation No.: **SCS 0108**

Glossary

DAE data acquisition electronics
Connector angle information used in DASY system to align probe sensor X to the robot coordinate system.

Methods Applied and Interpretation of Parameters

- **DC Voltage Measurement:** Calibration Factor assessed for use in DASY system by comparison with a calibrated instrument traceable to national standards. The figure given corresponds to the full scale range of the voltmeter in the respective range.
- **Connector angle:** The angle of the connector is assessed measuring the angle mechanically by a tool inserted. Uncertainty is not required.
- The following parameters as documented in the Appendix contain technical information as a result from the performance test and require no uncertainty.
 - **DC Voltage Measurement Linearity:** Verification of the Linearity at +10% and -10% of the nominal calibration voltage. Influence of offset voltage is included in this measurement.
 - **Common mode sensitivity:** Influence of a positive or negative common mode voltage on the differential measurement.
 - **Channel separation:** Influence of a voltage on the neighbor channels not subject to an input voltage.
 - **AD Converter Values with inputs shorted:** Values on the internal AD converter corresponding to zero input voltage
 - **Input Offset Measurement:** Output voltage and statistical results over a large number of zero voltage measurements.
 - **Input Offset Current:** Typical value for information; Maximum channel input offset current, not considering the input resistance.
 - **Input resistance:** Typical value for information: DAE input resistance at the connector, during internal auto-zeroing and during measurement.
 - **Low Battery Alarm Voltage:** Typical value for information. Below this voltage, a battery alarm signal is generated.
 - **Power consumption:** Typical value for information. Supply currents in various operating modes.

DC Voltage Measurement

A/D - Converter Resolution nominal

High Range: 1LSB = 6.1 μ V, full range = -100...+300 mV

Low Range: 1LSB = 61nV, full range = -1.....+3mV

DASY measurement parameters: Auto Zero Time: 3 sec; Measuring time: 3 sec

Calibration Factors	X	Y	Z
High Range	404.513 \pm 0.02% (k=2)	404.615 \pm 0.02% (k=2)	404.537 \pm 0.02% (k=2)
Low Range	3.97109 \pm 1.50% (k=2)	3.95930 \pm 1.50% (k=2)	3.96568 \pm 1.50% (k=2)

Connector Angle

Connector Angle to be used in DASY system	50.0 ^o \pm 1 ^o
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Appendix (Additional assessments outside the scope of SCS0108)

1. DC Voltage Linearity

High Range	Reading (μV)	Difference (μV)	Error (%)
Channel X + Input	200037.58	3.28	0.00
Channel X + Input	20009.65	3.92	0.02
Channel X - Input	-20001.89	3.62	-0.02
Channel Y + Input	200037.90	3.50	0.00
Channel Y + Input	20005.83	0.31	0.00
Channel Y - Input	-20005.73	-0.03	0.00
Channel Z + Input	200033.51	-0.62	-0.00
Channel Z + Input	20006.48	0.89	0.00
Channel Z - Input	-20006.01	-0.27	0.00

Low Range	Reading (μV)	Difference (μV)	Error (%)
Channel X + Input	2001.68	0.24	0.01
Channel X + Input	201.09	-0.22	-0.11
Channel X - Input	-198.93	-0.12	0.06
Channel Y + Input	2001.70	0.49	0.02
Channel Y + Input	200.70	-0.24	-0.12
Channel Y - Input	-199.76	-0.76	0.38
Channel Z + Input	2001.03	-0.04	-0.00
Channel Z + Input	201.25	0.40	0.20
Channel Z - Input	-199.29	-0.32	0.16

2. Common mode sensitivity

DASY measurement parameters: Auto Zero Time: 3 sec; Measuring time: 3 sec

	Common mode Input Voltage (mV)	High Range Average Reading (μV)	Low Range Average Reading (μV)
Channel X	200	9.59	7.82
	- 200	-7.34	-8.76
Channel Y	200	14.74	14.93
	- 200	-16.81	-17.15
Channel Z	200	-3.39	-3.82
	- 200	3.03	3.16

3. Channel separation

DASY measurement parameters: Auto Zero Time: 3 sec; Measuring time: 3 sec

	Input Voltage (mV)	Channel X (μV)	Channel Y (μV)	Channel Z (μV)
Channel X	200	-	3.19	-1.66
Channel Y	200	6.79	-	4.73
Channel Z	200	7.16	5.28	-

4. AD-Converter Values with inputs shorted

DASY measurement parameters: Auto Zero Time: 3 sec; Measuring time: 3 sec

	High Range (LSB)	Low Range (LSB)
Channel X	15972	16183
Channel Y	15900	16376
Channel Z	16167	15841

5. Input Offset Measurement

DASY measurement parameters: Auto Zero Time: 3 sec; Measuring time: 3 sec

Input 10M Ω

	Average (μ V)	min. Offset (μ V)	max. Offset (μ V)	Std. Deviation (μ V)
Channel X	1.19	0.18	2.38	0.46
Channel Y	0.15	-1.39	1.24	0.47
Channel Z	0.36	-1.22	1.42	0.42

6. Input Offset Current

Nominal Input circuitry offset current on all channels: <25fA

7. Input Resistance (Typical values for information)

	Zeroing (kOhm)	Measuring (MOhm)
Channel X	200	200
Channel Y	200	200
Channel Z	200	200

8. Low Battery Alarm Voltage (Typical values for information)

Typical values	Alarm Level (VDC)
Supply (+ Vcc)	+7.9
Supply (- Vcc)	-7.6

9. Power Consumption (Typical values for information)

Typical values	Switched off (mA)	Stand by (mA)	Transmitting (mA)
Supply (+ Vcc)	+0.01	+6	+14
Supply (- Vcc)	-0.01	-8	-9

IMPORTANT NOTICE

1226

Tejet (Gortel)
52

USAGE OF THE DAE4

The DAE unit is a delicate, high precision instrument and requires careful treatment by the user. There are no serviceable parts inside the DAE. Special attention shall be given to the following points:

Battery Exchange: The battery cover of the DAE4 unit is fixed using a screw, over tightening the screw may cause the threads inside the DAE to wear out.

Shipping of the DAE: Before shipping the DAE to SPEAG for calibration, remove the batteries and pack the DAE in an antistatic bag. This antistatic bag shall then be packed into a larger box or container which protects the DAE from impacts during transportation. The package shall be marked to indicate that a fragile instrument is inside.

E-Stop Failures: Touch detection may be malfunctioning due to broken magnets in the E-stop. Rough handling of the E-stop may lead to damage of these magnets. Touch and collision errors are often caused by dust and dirt accumulated in the E-stop. To prevent E-stop failure, the customer shall always mount the probe to the DAE carefully and keep the DAE unit in a non-dusty environment if not used for measurements.

Repair: Minor repairs are performed at no extra cost during the annual calibration. However, SPEAG reserves the right to charge for any repair especially if rough unprofessional handling caused the defect.

DASY Configuration Files: Since the exact values of the DAE input resistances, as measured during the calibration procedure of a DAE unit, are not used by the DASY software, a nominal value of 200 MOhm is given in the corresponding configuration file.

Important Note:

Warranty and calibration is void if the DAE unit is disassembled partly or fully by the Customer.

Important Note:

Never attempt to grease or oil the E-stop assembly. Cleaning and readjusting of the E-stop assembly is allowed by certified SPEAG personnel only and is part of the annual calibration procedure.

Important Note:

To prevent damage of the DAE probe connector pins, use great care when installing the probe to the DAE. Carefully connect the probe with the connector notch oriented in the mating position. Avoid any rotational movement of the probe body versus the DAE while turning the locking nut of the connector. The same care shall be used when disconnecting the probe from the DAE.



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Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: SCS 0108

Client Tejet (Auden)

Certificate No: DAE4-1226_May20

CALIBRATION CERTIFICATE

Object: DAE4 - SD 000 D04 BM - SN: 1226

Calibration procedure(s): QA CAL-06.v30
Calibration procedure for the data acquisition electronics (DAE)

Calibration date: May 15, 2020

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).
The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature $(22 \pm 3)^\circ\text{C}$ and humidity $< 70\%$.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Certificate No.)	Scheduled Calibration
Keithley Multimeter Type 2001	SN: 0810278	03-Sep-19 (No:25849)	Sep-20
Secondary Standards	ID #	Check Date (in house)	Scheduled Check
Auto DAE Calibration Unit	SE UWS 053 AA 1001	09-Jan-20 (in house check)	In house check: Jan-21
Calibrator Box V2.1	SE UMS 006 AA 1002	09-Jan-20 (in house check)	In house check: Jan-21

Calibrated by:	Name Eric Hainfeld	Function Laboratory Technician	Signature
Approved by:	Sven Kühn	Deputy Manager	

Issued: May 15, 2020

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Accreditation No.: SCS 0108

Glossary

DAE	data acquisition electronics
Connector angle	information used in DASY system to align probe sensor X to the robot coordinate system.

Methods Applied and Interpretation of Parameters

- *DC Voltage Measurement:* Calibration Factor assessed for use in DASY system by comparison with a calibrated instrument traceable to national standards. The figure given corresponds to the full scale range of the voltmeter in the respective range.
- *Connector angle:* The angle of the connector is assessed measuring the angle mechanically by a tool inserted. Uncertainty is not required.
- The following parameters as documented in the Appendix contain technical information as a result from the performance test and require no uncertainty.
 - *DC Voltage Measurement Linearity:* Verification of the Linearity at +10% and -10% of the nominal calibration voltage. Influence of offset voltage is included in this measurement.
 - *Common mode sensitivity:* Influence of a positive or negative common mode voltage on the differential measurement.
 - *Channel separation:* Influence of a voltage on the neighbor channels not subject to an input voltage.
 - *AD Converter Values with inputs shorted:* Values on the internal AD converter corresponding to zero input voltage
 - *Input Offset Measurement:* Output voltage and statistical results over a large number of zero voltage measurements.
 - *Input Offset Current:* Typical value for information; Maximum channel input offset current, not considering the input resistance.
 - *Input resistance:* Typical value for information; DAE input resistance at the connector, during internal auto-zeroing and during measurement.
 - *Low Battery Alarm Voltage:* Typical value for information. Below this voltage, a battery alarm signal is generated.
 - *Power consumption:* Typical value for information. Supply currents in various operating modes.

DC Voltage Measurement

A/D - Converter Resolution nominal

High Range: 1LSB = 6.1 μ V, full range = -100...+300 mV

Low Range: 1LSB = 61nV, full range = -1.....+3mV

DASY measurement parameters: Auto Zero Time: 3 sec; Measuring time: 3 sec

Calibration Factors	X	Y	Z
High Range	404.644 \pm 0.02% (k=2)	404.410 \pm 0.02% (k=2)	404.128 \pm 0.02% (k=2)
Low Range	3.98010 \pm 1.50% (k=2)	4.00441 \pm 1.50% (k=2)	3.98517 \pm 1.50% (k=2)

Connector Angle

Connector Angle to be used in DASY system	283.5 $^{\circ}$ \pm 1 $^{\circ}$
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Appendix (Additional assessments outside the scope of SCS0108)

1. DC Voltage Linearity

High Range	Reading (μV)	Difference (μV)	Error (%)
Channel X + Input	200036.25	2.48	0.00
Channel X + Input	20007.54	2.38	0.01
Channel X - Input	-20005.86	0.51	-0.00
Channel Y + Input	200033.61	-0.21	-0.00
Channel Y + Input	20003.31	-1.72	-0.01
Channel Y - Input	-20007.95	-1.52	0.01
Channel Z + Input	200035.07	1.43	0.00
Channel Z + Input	20004.81	-0.10	-0.00
Channel Z - Input	-20007.44	-1.01	0.01

Low Range	Reading (μV)	Difference (μV)	Error (%)
Channel X + Input	2000.93	0.16	0.01
Channel X + Input	200.14	-0.66	-0.33
Channel X - Input	-199.83	-0.71	0.36
Channel Y + Input	2000.72	0.15	0.01
Channel Y + Input	199.44	-1.19	-0.59
Channel Y - Input	-200.55	-1.29	0.65
Channel Z + Input	2000.71	0.18	0.01
Channel Z + Input	200.02	-0.61	-0.31
Channel Z - Input	-199.97	-0.66	0.33

2. Common mode sensitivity

DASY measurement parameters: Auto Zero Time: 3 sec; Measuring time: 3 sec

	Common mode Input Voltage (mV)	High Range Average Reading (μV)	Low Range Average Reading (μV)
Channel X	200	5.07	2.90
	-200	-2.74	-4.97
Channel Y	200	-8.89	-9.14
	-200	7.09	6.94
Channel Z	200	-7.29	-7.53
	-200	5.53	5.89

3. Channel separation

DASY measurement parameters: Auto Zero Time: 3 sec; Measuring time: 3 sec

	Input Voltage (mV)	Channel X (μV)	Channel Y (μV)	Channel Z (μV)
Channel X	200	-	2.16	-3.66
Channel Y	200	8.18	-	3.69
Channel Z	200	9.32	5.65	-

4. AD-Converter Values with inputs shorted

DASY measurement parameters: Auto Zero Time: 3 sec; Measuring time: 3 sec

	High Range (LSB)	Low Range (LSB)
Channel X	16032	12468
Channel Y	15897	17438
Channel Z	16001	15611

5. Input Offset Measurement

DASY measurement parameters: Auto-Zero Time: 3 sec; Measuring time: 3 sec
Input 10M Ω

	Average (μ V)	min. Offset (μ V)	max. Offset (μ V)	Std. Deviation (μ V)
Channel X	-0.38	-1.14	0.42	0.38
Channel Y	-0.09	-1.14	0.85	0.39
Channel Z	-0.31	-1.86	1.00	0.41

6. Input Offset Current

Nominal Input circuitry offset current on all channels: <25fA

7. Input Resistance (Typical values for information)

	Zeroing (kOhm)	Measuring (MOhm)
Channel X	200	200
Channel Y	200	200
Channel Z	200	200

8. Low Battery Alarm Voltage (Typical values for information)

Typical values	Alarm Level (VDC)
Supply (+ Vcc)	+7.9
Supply (- Vcc)	-7.6

9. Power Consumption (Typical values for information)

Typical values	Switched off (mA)	Stand by (mA)	Transmitting (mA)
Supply (+ Vcc)	+0.01	+6	+14
Supply (- Vcc)	-0.01	-8	-9



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Accreditation No.: SCS 0108

Client: Sporton

Certificate No: EX3-3819_Apr20

CALIBRATION CERTIFICATE

Object: EX3DV4 - SN:3819

Calibration procedure(s): QA CAL-01.v9, QA CAL-14.v5, QA CAL-23.v5, QA CAL-25.v7
Calibration procedure for dosimetric E-field probes

Calibration date: April 30, 2020

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).
The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature $(22 \pm 3)^\circ\text{C}$ and humidity $< 70\%$.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID	Cal Date (Certificate No.)	Scheduled Calibration
Power meter NRP	SN: 104775	01-Apr-20 (No. 217-03100/03101)	Apr-21
Power sensor NRP-Z91	SN: 103244	01-Apr-20 (No. 217-03100)	Apr-21
Power sensor NRP-Z91	SN: 103245	01-Apr-20 (No. 217-03101)	Apr-21
Reference 20 dB Attenuator	SN: CC2552 (20x)	31-Mar-20 (No. 217-03106)	Apr-21
DAE4	SN: 660	27-Dec-19 (No. DAE4-660_Dec19)	Dec-20
Reference Probe ES3DV2	SN: 3013	31-Dec-19 (No. ES3-3013_Dec19)	Dec-20
Secondary Standards	ID	Check Date (in house)	Scheduled Check
Power meter E4419B	SN: GB41293874	06-Apr-16 (in house check Jun-18)	In house check: Jun-20
Power sensor E4412A	SN: MY41495087	06-Apr-16 (in house check Jun-18)	In house check: Jun-20
Power sensor E4412A	SN: 000110210	06-Apr-16 (in house check Jun-18)	In house check: Jun-20
RF generator HP 8648C	SN: US3642U01700	04-Aug-99 (in house check Jun-18)	In house check: Jun-20
Network Analyzer E8358A	SN: US41080477	31-Mar-14 (in house check Oct-19)	In house check: Oct-20

Calibrated by:	Name Leif Klysner	Function Laboratory Technician	Signature
Approved by:	Name Katja Pokovic	Function Technical Manager	Signature

Issued: April 30, 2020

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Accreditation No.: SCS 0108

Glossary:

TSL	tissue simulating liquid
NORM _{x,y,z}	sensitivity in free space
ConvF	sensitivity in TSL / NORM _{x,y,z}
DCP	diode compression point
CF	crest factor (1/duty_cycle) of the RF signal
A, B, C, D	modulation dependent linearization parameters
Polarization φ	φ rotation around probe axis
Polarization θ	θ rotation around an axis that is in the plane normal to probe axis (at measurement center), i.e., $\theta = 0$ is normal to probe axis
Connector Angle	information used in DASY system to align probe sensor X to the robot coordinate system

Calibration is Performed According to the Following Standards:

- IEEE Std 1528-2013, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", June 2013
- IEC 62209-1, "Measurement procedure for the assessment of Specific Absorption Rate (SAR) from hand-held and body-mounted devices used next to the ear (frequency range of 300 MHz to 6 GHz)", July 2016
- IEC 62209-2, "Procedure to determine the Specific Absorption Rate (SAR) for wireless communication devices used in close proximity to the human body (frequency range of 30 MHz to 6 GHz)", March 2010
- KDB 865664, "SAR Measurement Requirements for 100 MHz to 6 GHz"

Methods Applied and Interpretation of Parameters:

- NORM_{x,y,z}**: Assessed for E-field polarization $\theta = 0$ ($f \leq 900$ MHz in TEM-cell; $f > 1800$ MHz: R22 waveguide). NORM_{x,y,z} are only intermediate values; i.e., the uncertainties of NORM_{x,y,z} does not affect the E²-field uncertainty inside TSL (see below ConvF).
- NORM(f)_{x,y,z} = NORM_{x,y,z} * frequency_response** (see Frequency Response Chart). This linearization is implemented in DASY4 software versions later than 4.2. The uncertainty of the frequency response is included in the stated uncertainty of ConvF.
- DCP_{x,y,z}**: DCP are numerical linearization parameters assessed based on the data of power sweep with CW signal (no uncertainty required). DCP does not depend on frequency nor media.
- PAR**: PAR is the Peak to Average Ratio that is not calibrated but determined based on the signal characteristics
- A_{x,y,z}; B_{x,y,z}; C_{x,y,z}; D_{x,y,z}; VR_{x,y,z}**: A, B, C, D are numerical linearization parameters assessed based on the data of power sweep for specific modulation signal. The parameters do not depend on frequency nor media. VR is the maximum calibration range expressed in RMS voltage across the diode.
- ConvF and Boundary Effect Parameters**: Assessed in flat phantom using E-field (or Temperature Transfer Standard for $f \leq 800$ MHz) and inside waveguide using analytical field distributions based on power measurements for $f > 800$ MHz. The same setups are used for assessment of the parameters applied for boundary compensation (alpha, depth) of which typical uncertainty values are given. These parameters are used in DASY4 software to improve probe accuracy close to the boundary. The sensitivity in TSL corresponds to NORM_{x,y,z} * ConvF whereby the uncertainty corresponds to that given for ConvF. A frequency dependent ConvF is used in DASY version 4.4 and higher which allows extending the validity from ± 50 MHz to ± 100 MHz.
- Spherical isotropy (3D deviation from isotropy)**: in a field of low gradients realized using a flat phantom exposed by a patch antenna.
- Sensor Offset**: The sensor offset corresponds to the offset of virtual measurement center from the probe tip (on probe axis). No tolerance required.
- Connector Angle**: The angle is assessed using the information gained by determining the NORM_x (no uncertainty required).

DASY/EASY - Parameters of Probe: EX3DV4 - SN:3819

Basic Calibration Parameters

	Sensor X	Sensor Y	Sensor Z	Unc (k=2)
Norm ($\mu\text{V}/(\text{V}/\text{m})^2$) ^A	0.46	0.41	0.46	± 10.1 %
DCP (mV) ^B	104.6	101.5	102.0	

Calibration Results for Modulation Response

UID	Communication System Name		A dB	B dB/ μV	C	D dB	VR mV	Max dev.	Unc ^C (k=2)
0	CW ^D	X	0.0	0.0	1.0	0.00	156.7	± 3.5 %	± 4.7 %
		Y	0.0	0.0	1.0		148.5		
		Z	0.0	0.0	1.0		139.2		

The reported uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor $k=2$, which for a normal distribution corresponds to a coverage probability of approximately 95%.

^A The uncertainties of Norm X,Y,Z do not affect the E²-field uncertainty inside TSI, (see Page 5).

^B Numerical linearization parameter; uncertainty not required.

^C Uncertainty is determined using the r_{max} deviation from linear response applying rectangular distribution and is expressed for the square of the field value.

DASY/EASY - Parameters of Probe: EX3DV4 - SN:3819**Other Probe Parameters**

Sensor Arrangement	Triangular
Connector Angle (°)	113.9
Mechanical Surface Detection Mode	enabled
Optical Surface Detection Mode	disabled
Probe Overall Length	337 mm
Probe Body Diameter	10 mm
Tip Length	9 mm
Tip Diameter	2.5 mm
Probe Tip to Sensor X Calibration Point	1 mm
Probe Tip to Sensor Y Calibration Point	1 mm
Probe Tip to Sensor Z Calibration Point	1 mm
Recommended Measurement Distance from Surface	1.4 mm

DASY/EASY - Parameters of Probe: EX3DV4 - SN:3819

Calibration Parameter Determined in Head Tissue Simulating Media

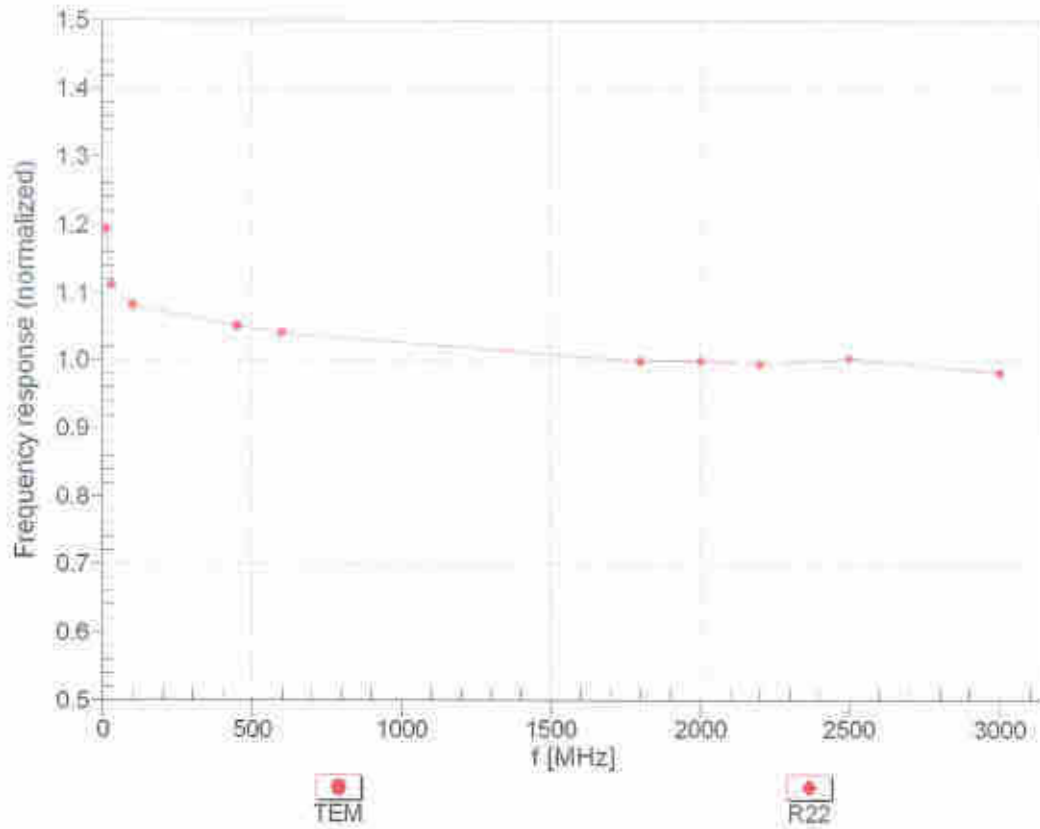
f (MHz) ^c	Relative Permittivity ^f	Conductivity (S/m) ^f	ConvF X	ConvF Y	ConvF Z	Alpha ^g	Depth (mm) ^g	Unc (k=2)
750	41.9	0.89	9.64	9.64	9.64	0.52	0.80	± 12.0 %
835	41.5	0.90	9.39	9.39	9.39	0.50	0.80	± 12.0 %
900	41.5	0.97	9.26	9.26	9.26	0.39	0.96	± 12.0 %
1750	40.1	1.37	8.43	8.43	8.43	0.34	0.80	± 12.0 %
1900	40.0	1.40	8.10	8.10	8.10	0.37	0.80	± 12.0 %
2000	40.0	1.40	7.95	7.95	7.95	0.30	0.88	± 12.0 %
2300	39.5	1.67	7.66	7.66	7.66	0.32	0.90	± 12.0 %
2450	39.2	1.80	7.42	7.42	7.42	0.38	0.90	± 12.0 %
2600	39.0	1.96	7.22	7.22	7.22	0.38	0.90	± 12.0 %
3300	38.2	2.71	6.91	6.91	6.91	0.20	1.20	± 14.0 %
3500	37.9	2.91	6.84	6.84	6.84	0.25	1.20	± 14.0 %
3700	37.7	3.12	6.75	6.75	6.75	0.25	1.25	± 14.0 %
3900	37.5	3.32	6.40	6.40	6.40	0.30	1.60	± 14.0 %
4100	37.2	3.53	6.39	6.39	6.39	0.30	1.60	± 14.0 %
4400	36.9	3.84	6.07	6.07	6.07	0.30	1.60	± 14.0 %
4600	36.7	4.04	5.98	5.98	5.98	0.30	1.70	± 14.0 %
4800	36.4	4.25	5.88	5.88	5.88	0.45	1.80	± 14.0 %
4950	36.3	4.40	5.72	5.72	5.72	0.45	1.80	± 14.0 %
5250	35.9	4.71	5.02	5.02	5.02	0.40	1.80	± 14.0 %
5600	35.5	5.07	4.56	4.56	4.56	0.40	1.80	± 14.0 %
5750	35.4	5.22	4.63	4.63	4.63	0.40	1.80	± 14.0 %

^c Frequency validity above 300 MHz of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2), else it is restricted to ± 50 MHz. The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band. Frequency validity below 300 MHz is ± 10, 25, 40, 50 and 70 MHz for ConvF assessments at 30, 64, 128, 150 and 220 MHz respectively. Validity of ConvF assessed at 6 MHz is 4-9 MHz, and ConvF assessed at 13 MHz is 9-19 MHz. Above 5 GHz frequency validity can be extended to ± 110 MHz.

^f At frequencies up to 6 GHz, the validity of tissue parameters (ϵ and σ) can be relaxed to ± 10% if liquid compensation formula is applied to measured SAR values. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.

^g Alpha/Depth are determined during calibration. SPEAG warrants that the remaining deviation due to the boundary effect after compensation is always less than ± 1% for frequencies below 3 GHz and below ± 2% for frequencies between 3-6 GHz at any distance larger than half the probe tip diameter from the boundary.

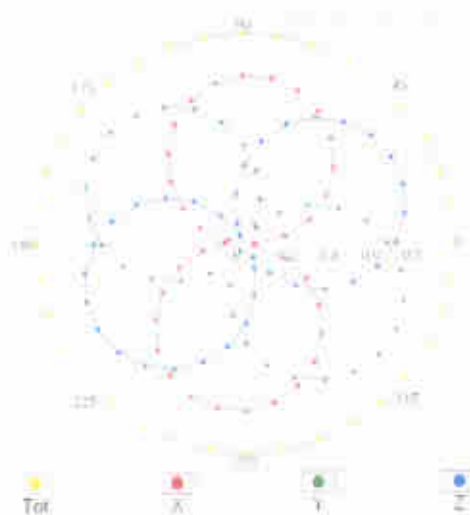
Frequency Response of E-Field (TEM-Cell: ifi110 EXX, Waveguide: R22)



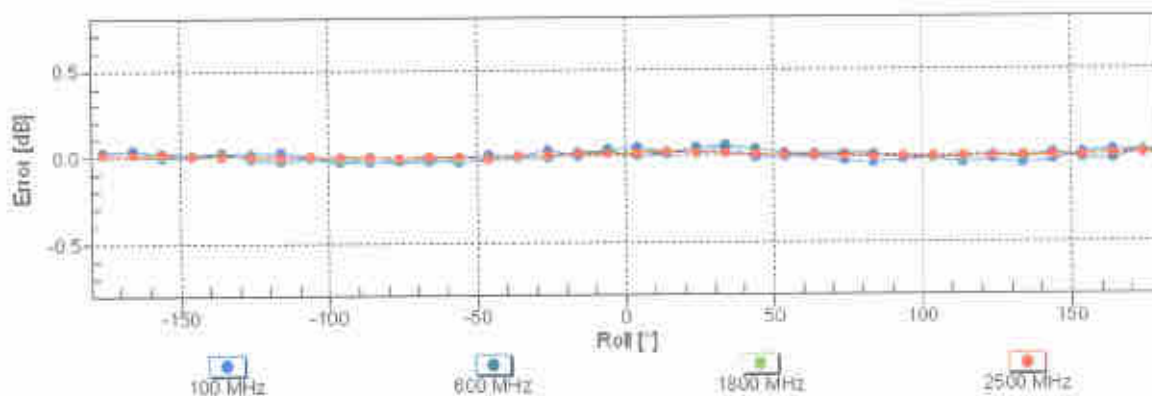
Uncertainty of Frequency Response of E-field: $\pm 6.3\%$ (k=2)

Receiving Pattern (ϕ), $\theta = 0^\circ$

f=600 MHz,TEM

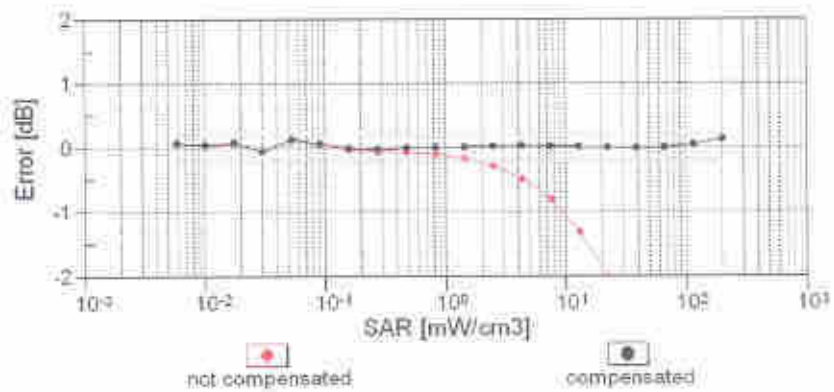
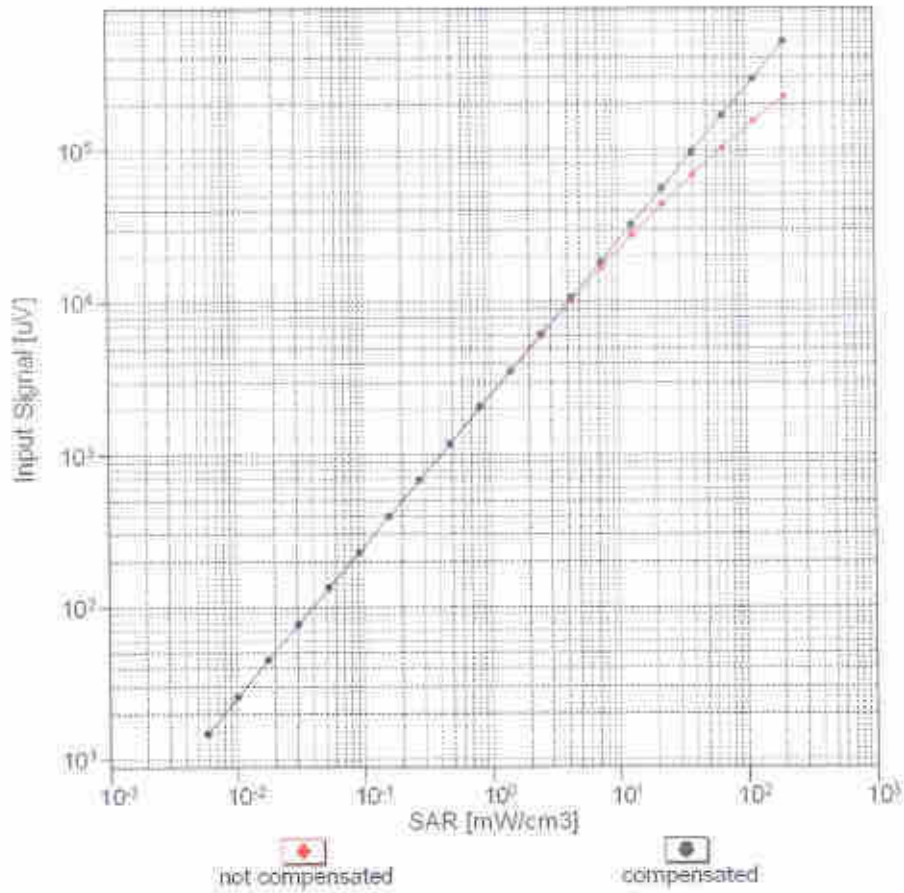


f=1800 MHz,R22



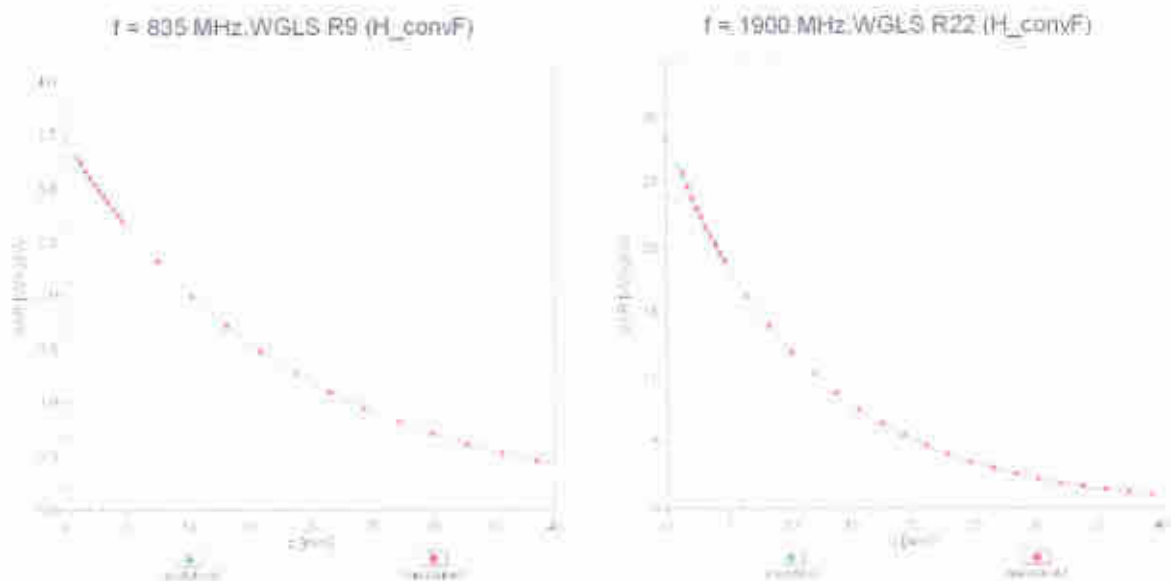
Uncertainty of Axial Isotropy Assessment: $\pm 0.5\%$ (k=2)

Dynamic Range $f(\text{SAR}_{\text{head}})$ (TEM cell, $f_{\text{eval}} = 1900 \text{ MHz}$)

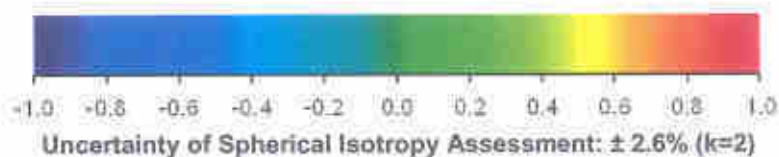
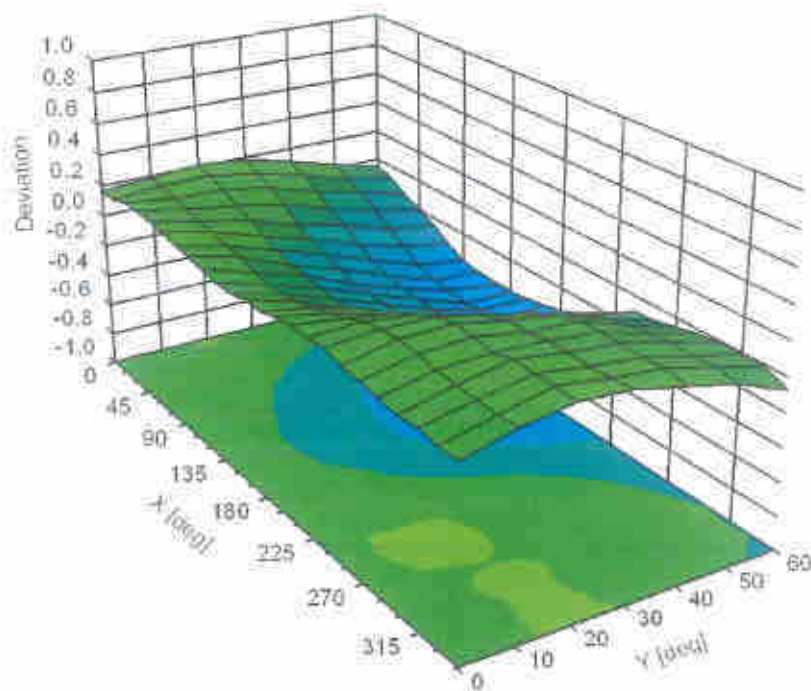


Uncertainty of Linearity Assessment: $\pm 0.6\%$ ($k=2$)

Conversion Factor Assessment



Deviation from Isotropy in Liquid Error (ϕ, θ), $f = 900$ MHz





Accredited by the Swiss Accreditation Service (SAS)
The Swiss Accreditation Service is one of the signatories to the EA
Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: **SCS 0108**

Client **Sporton**

Certificate No: **EX3-7576_Jan20**

CALIBRATION CERTIFICATE

Object **EX3DV4 - SN:7576**

Calibration procedure(s) **QA CAL-01.v9, QA CAL-14.v5, QA CAL-23.v5, QA CAL-25.v7
Calibration procedure for dosimetric E-field probes**

Calibration date: **January 22, 2020**

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).
The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature $(22 \pm 3)^\circ\text{C}$ and humidity $< 70\%$.

Calibration Equipment used (M&E critical for calibration)

Primary Standards	ID	Cal Date (Certificate No.)	Scheduled Calibration
Power meter NRP	SN: 104778	03-Apr-19 (No. 217-02892/02893)	Apr-20
Power sensor NRP-Z91	SN: 103244	03-Apr-19 (No. 217-02892)	Apr-20
Power sensor NRP-Z91	SN: 103245	03-Apr-19 (No. 217-02893)	Apr-20
Reference 20 dB Attenuator	SN: S5277 (20x)	04-Apr-19 (No. 217-02894)	Apr-20
DAE4	SN: 660	27-Dec-19 (No. DAE4-660, Dec19)	Dec-20
Reference Probe ES3DV2	SN: 3013	31-Dec-19 (No. ES3-3013, Dec19)	Dec-20
Secondary Standards	ID	Check Date (in house)	Scheduled Check
Power meter E4419B	SN: GB41293874	06-Apr-16 (in house check Jun-16)	In house check: Jun-20
Power sensor E4412A	SN: MY41498087	06-Apr-16 (in house check Jun-16)	In house check: Jun-20
Power sensor E4412A	SN: 000110210	06-Apr-16 (in house check Jun-16)	In house check: Jun-20
RF generator HP 8648C	SN: US3642U01700	04-Aug-99 (in house check Jun-18)	In house check: Jun-20
Network Analyzer E8358A	SN: US41080477	31-Mar-14 (in house check Oct-19)	In house check: Oct-20

Calibrated by:	Name Jeton Kasrati	Function Laboratory Technician	Signature
Approved by:	Name Katja Pokovic	Function Technical Manager	Signature
			Issued: January 25, 2020
This calibration certificate shall not be reproduced except in full without written approval of the laboratory.			



Accredited by the Swiss Accreditation Service (SAS)

Accreditation No.: SCS 0108

The Swiss Accreditation Service is one of the signatories to the EA
Multilateral Agreement for the recognition of calibration certificates

Glossary:

TSL	tissue simulating liquid
NORM _{x,y,z}	sensitivity in free space
ConvF	sensitivity in TSL / NORM _{x,y,z}
DCP	diode compression point
CF	crest factor (1/duty_cycle) of the RF signal
A, B, C, D	modulation dependent linearization parameters
Polarization φ	φ rotation around probe axis
Polarization ϑ	ϑ rotation around an axis that is in the plane normal to probe axis (at measurement center), i.e., $\vartheta = 0$ is normal to probe axis
Connector Angle	information used in DASY system to align probe sensor X to the robot coordinate system

Calibration is Performed According to the Following Standards:

- IEEE Std 1528-2013, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", June 2013
- IEC 62209-1, "Measurement procedure for the assessment of Specific Absorption Rate (SAR) from hand-held and body-mounted devices used next to the ear (frequency range of 300 MHz to 6 GHz)", July 2016
- IEC 62209-2, "Procedure to determine the Specific Absorption Rate (SAR) for wireless communication devices used in close proximity to the human body (frequency range of 30 MHz to 6 GHz)", March 2010
- KDB 865664, "SAR Measurement Requirements for 100 MHz to 6 GHz"

Methods Applied and Interpretation of Parameters:

- NORM_{x,y,z}**: Assessed for E-field polarization $\vartheta = 0$ ($f \leq 900$ MHz in TEM-cell; $f > 1800$ MHz: R22 waveguide). NORM_{x,y,z} are only intermediate values, i.e., the uncertainties of NORM_{x,y,z} does not affect the E^2 -field uncertainty inside TSL (see below ConvF).
- NORM(f)_{x,y,z} = NORM_{x,y,z} * frequency_response** (see Frequency Response Chart). This linearization is implemented in DASY4 software versions later than 4.2. The uncertainty of the frequency response is included in the stated uncertainty of ConvF.
- DCP_{x,y,z}**: DCP are numerical linearization parameters assessed based on the data of power sweep with CW signal (no uncertainty required). DCP does not depend on frequency nor media.
- PAR**: PAR is the Peak to Average Ratio that is not calibrated but determined based on the signal characteristics
- A_{x,y,z}; B_{x,y,z}; C_{x,y,z}; D_{x,y,z}; VR_{x,y,z}; A, B, C, D** are numerical linearization parameters assessed based on the data of power sweep for specific modulation signal. The parameters do not depend on frequency nor media. VR is the maximum calibration range expressed in RMS voltage across the diode.
- ConvF and Boundary Effect Parameters**: Assessed in flat phantom using E-field (or Temperature Transfer Standard for $f \leq 800$ MHz) and inside waveguide using analytical field distributions based on power measurements for $f > 800$ MHz. The same setups are used for assessment of the parameters applied for boundary compensation (alpha, depth) of which typical uncertainty values are given. These parameters are used in DASY4 software to improve probe accuracy close to the boundary. The sensitivity in TSL corresponds to NORM_{x,y,z} * ConvF whereby the uncertainty corresponds to that given for ConvF. A frequency dependent ConvF is used in DASY version 4.4 and higher which allows extending the validity from ± 50 MHz to ± 100 MHz.
- Spherical isotropy (3D deviation from isotropy)**: in a field of low gradients realized using a flat phantom exposed by a patch antenna.
- Sensor Offset**: The sensor offset corresponds to the offset of virtual measurement center from the probe tip (on probe axis). No tolerance required.
- Connector Angle**: The angle is assessed using the information gained by determining the NORM_x (no uncertainty required).

DASY/EASY - Parameters of Probe: EX3DV4 - SN:7576

Basic Calibration Parameters

	Sensor X	Sensor Y	Sensor Z	Unc (k=2)
Norm ($\mu\text{V}/(\text{V}/\text{m})^2$) ^A	0.48	0.63	0.63	$\pm 10.1\%$
DCP (mV) ^B	103.8	99.8	103.6	

Calibration Results for Modulation Response

UID	Communication System Name		A dB	B dB $\sqrt{\mu\text{V}}$	C	D dB	VR mV	Max dev.	Unc (k=2) ^E
0	CW	X	0.0	0.0	1.0	0.00	164.4	$\pm 2.7\%$	$\pm 4.7\%$
		Y	0.0	0.0	1.0		161.8		
		Z	0.0	0.0	1.0		164.7		

The reported uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor $k=2$, which for a normal distribution corresponds to a coverage probability of approximately 95%.

^A The uncertainties of Norm X,Y,Z do not affect the E²-field uncertainty inside TSL (see Page 5).

^B Numerical linearization parameter; uncertainty not required.

^E Uncertainty is determined using the max. deviation from linear response applying rectangular distribution and is expressed for the square of the field value.

DASY/EASY - Parameters of Probe: EX3DV4 - SN:7576**Other Probe Parameters**

Sensor Arrangement	Triangular
Connector Angle (°)	112.2
Mechanical Surface Detection Mode	enabled
Optical Surface Detection Mode	disabled
Probe Overall Length	337 mm
Probe Body Diameter	10 mm
Tip Length	9 mm
Tip Diameter	2.5 mm
Probe Tip to Sensor X Calibration Point	1 mm
Probe Tip to Sensor Y Calibration Point	1 mm
Probe Tip to Sensor Z Calibration Point	1 mm
Recommended Measurement Distance from Surface	1.4 mm

DASY/EASY - Parameters of Probe: EX3DV4 - SN:7576

Calibration Parameter Determined in Head Tissue Simulating Media

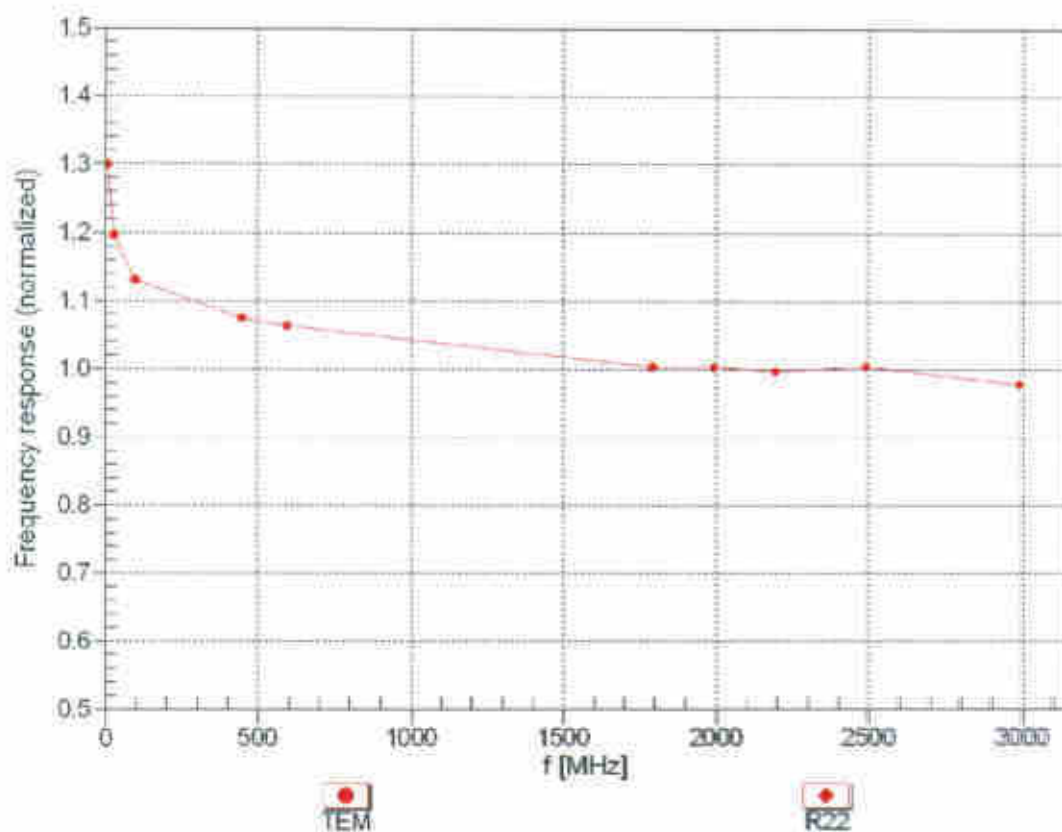
f (MHz) ^c	Relative Permittivity ^f	Conductivity (S/m) ^f	ConvF X	ConvF Y	ConvF Z	Alpha ^o	Depth (mm) ^o	Unc (k=2)
750	41.9	0.89	10.71	10.71	10.71	0.62	0.80	± 12.0 %
835	41.5	0.90	10.45	10.45	10.45	0.46	0.94	± 12.0 %
900	41.5	0.97	10.16	10.16	10.16	0.33	1.09	± 12.0 %
1750	40.1	1.37	8.88	8.88	8.88	0.42	0.86	± 12.0 %
1900	40.0	1.40	8.58	8.58	8.58	0.38	0.86	± 12.0 %
2000	40.0	1.40	8.48	8.48	8.48	0.39	0.86	± 12.0 %
2300	39.5	1.67	8.03	8.03	8.03	0.41	0.90	± 12.0 %
2450	39.2	1.80	7.76	7.76	7.76	0.44	0.90	± 12.0 %
2600	39.0	1.96	7.47	7.47	7.47	0.41	0.96	± 12.0 %
3300	38.2	2.71	7.08	7.08	7.08	0.30	1.35	± 14.0 %
3500	37.9	2.91	6.77	6.77	6.77	0.30	1.35	± 14.0 %
3700	37.7	3.12	6.74	6.74	6.74	0.30	1.35	± 14.0 %
3900	37.5	3.32	6.56	6.56	6.56	0.40	1.40	± 14.0 %
4100	37.2	3.53	6.26	6.26	6.26	0.40	1.40	± 14.0 %
4400	36.9	3.84	6.19	6.19	6.19	0.40	1.60	± 14.0 %
4600	36.7	4.04	6.06	6.06	6.06	0.40	1.60	± 14.0 %
4800	36.4	4.25	5.89	5.89	5.89	0.40	1.80	± 14.0 %
4950	36.3	4.40	5.59	5.59	5.59	0.40	1.80	± 14.0 %
5250	35.9	4.71	5.20	5.20	5.20	0.40	1.80	± 14.0 %
5600	35.5	5.07	4.62	4.62	4.62	0.40	1.80	± 14.0 %
5750	35.4	5.22	4.83	4.83	4.83	0.40	1.80	± 14.0 %

^c Frequency validity above 300 MHz of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2), else it is restricted to ± 50 MHz. The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band. Frequency validity below 300 MHz is ± 10, 25, 40, 50 and 70 MHz for ConvF assessments at 30, 64, 128, 150 and 220 MHz respectively. Validity of ConvF assessed at 6 MHz is 4-9 MHz, and ConvF assessed at 13 MHz is 9-19 MHz. Above 5 GHz frequency validity can be extended to ± 110 MHz.

^f At frequencies up to 6 GHz, the validity of tissue parameters (ϵ and σ) can be relaxed to ± 10% if liquid compensation formula is applied to measured SAR values. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.

^o Alpha/Depth are determined during calibration. SPEAG warrants that the remaining deviation due to the boundary-effect after compensation is always less than ± 1% for frequencies below 3 GHz and below ± 2% for frequencies between 3-6 GHz at any distance larger than half the probe tip diameter from the boundary.

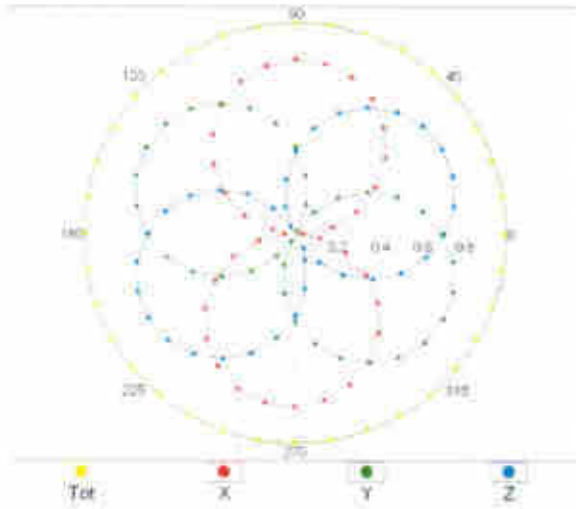
Frequency Response of E-Field (TEM-Cell:ifi110 EXX, Waveguide: R22)



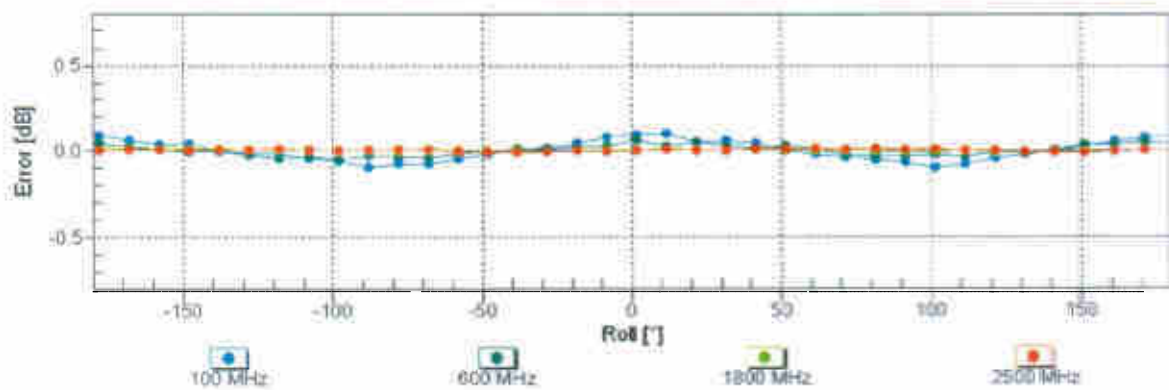
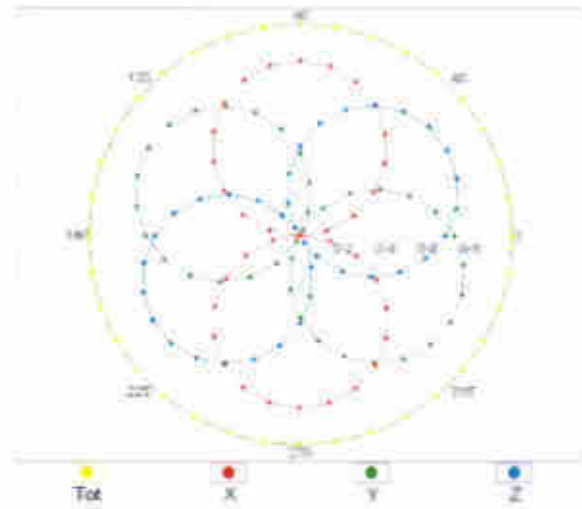
Uncertainty of Frequency Response of E-field: $\pm 6.3\%$ ($k=2$)

Receiving Pattern (ϕ), $\theta = 0^\circ$

f=600 MHz,TEM

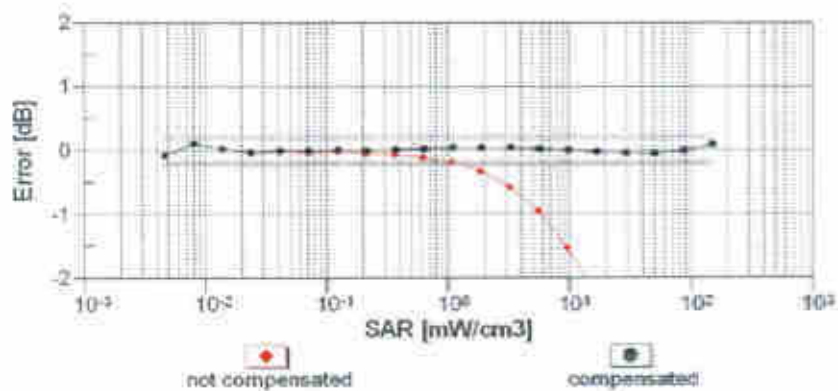
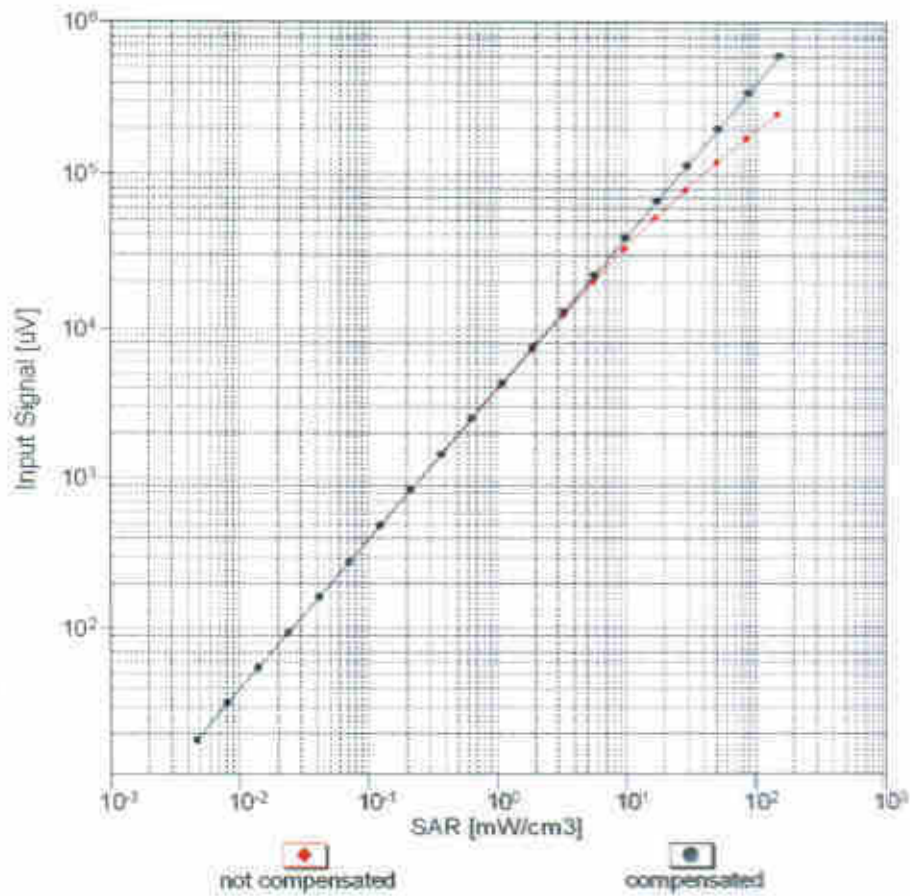


f=1800 MHz,R22



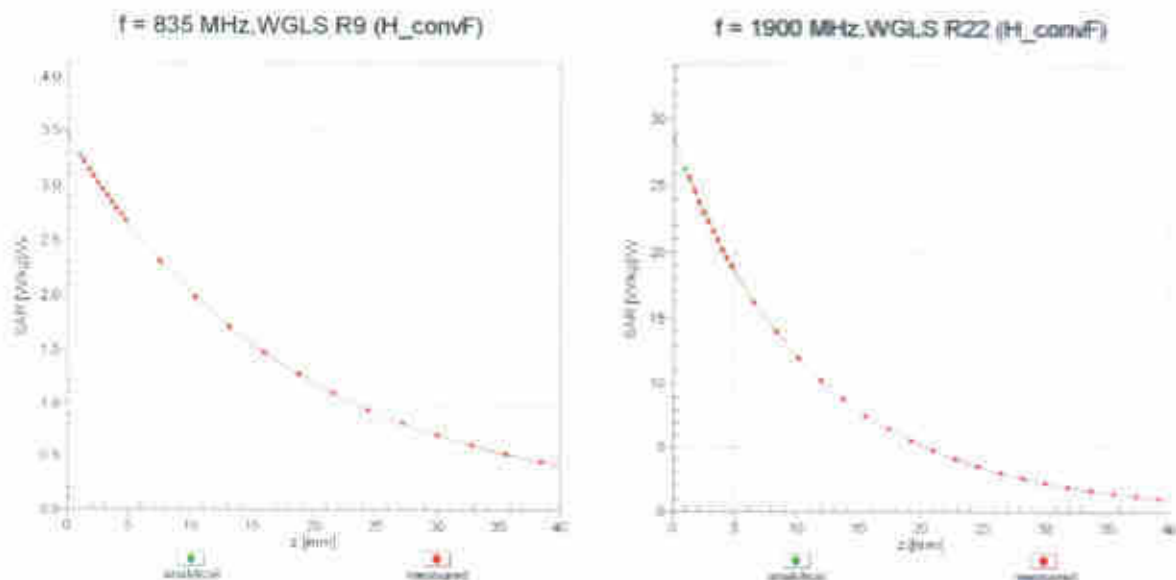
Uncertainty of Axial Isotropy Assessment: $\pm 0.5\%$ ($k=2$)

Dynamic Range $f(\text{SAR}_{\text{head}})$ (TEM cell, $f_{\text{eval}} = 1900 \text{ MHz}$)



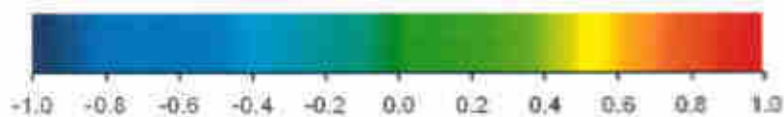
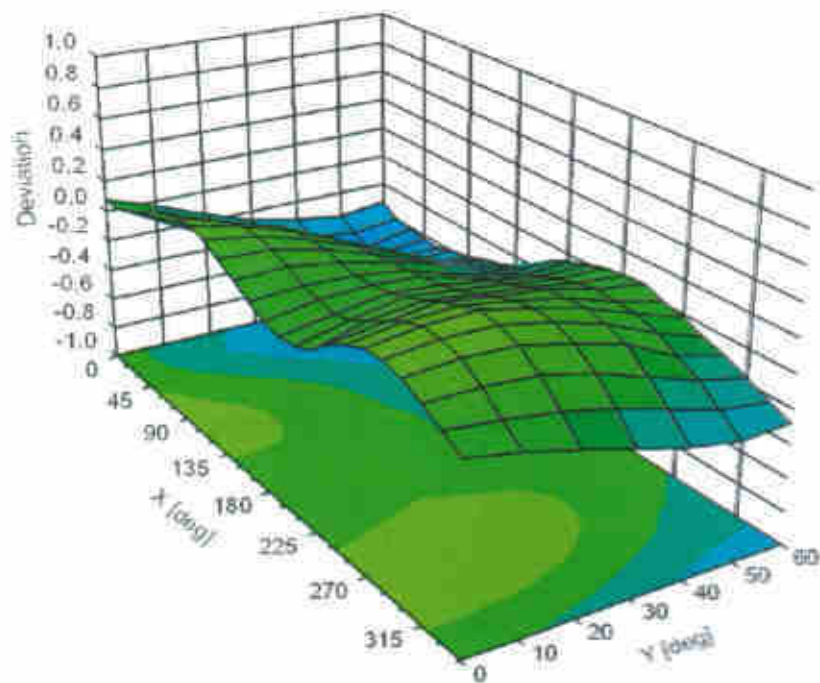
Uncertainty of Linearity Assessment: $\pm 0.6\%$ ($k=2$)

Conversion Factor Assessment



Deviation from Isotropy in Liquid

Error (ϕ, θ), f = 900 MHz



Uncertainty of Spherical Isotropy Assessment: $\pm 2.6\%$ (k=2)



Appendix E. Conducted RF Output Power Table

The detailed power tables are shown as follows.



Band 4 (1900MHz Band)									
Part 24E									
RF (MHz)	Modulation	RB Size	RB Offset	Power Ch./Freq. (dBm)	Power Ch./Freq. (dBm)	Power Ch./Freq. (dBm)	Turn-up time (min)	MPR (dB)	
Channel									
Frequency (MHz)									
20	QPSK	1	0	20.05	20.27	20.54			
20	QPSK	1	49	20.06	20.28	20.55	21.8	0	
20	QPSK	1	99	20.04	20.50	20.48			
20	QPSK	50	0	19.70	19.78	19.82			
20	QPSK	50	24	19.70	19.78	19.82	20.8	1	
20	QPSK	50	50	19.69	19.65	19.55			
20	QPSK	100	0	19.67	19.72	19.72			
20	16QAM	1	0	19.70	19.70	19.68			
20	16QAM	1	49	19.74	19.75	19.81	20.8	1	
20	16QAM	1	99	19.83	19.82	19.74			
20	16QAM	50	0	18.72	18.78	18.85			
20	16QAM	50	24	18.69	18.72	18.72	19.8	2	
20	16QAM	50	50	18.72	18.67	18.68			
20	16QAM	100	0	18.62	18.62	18.68			
20	84QAM	1	0	18.52	18.57	18.73			
20	84QAM	1	49	18.77	18.75	18.75	19.8	2	
20	84QAM	1	99	18.76	18.75	18.75			
20	84QAM	50	0	17.74	17.80	17.85			
20	84QAM	50	24	17.72	17.78	17.72	18.8	3	
20	84QAM	50	50	17.70	17.74	17.71			
20	256QAM	1	0	16.07	16.88	16.70			
20	256QAM	1	49	16.06	16.87	16.85	17.3	4.5	
20	256QAM	1	99	16.06	16.06	16.12			
20	256QAM	50	0	15.92	15.96	15.88			
20	256QAM	50	24	15.86	15.96	15.89	17.3	4.5	
20	256QAM	50	50	15.88	15.96	15.88			
20	256QAM	100	0	15.84	15.89	15.79			
Channel									
Frequency (MHz)									
15	QPSK	1	0	20.63	20.64	20.61			
15	QPSK	1	31	20.63	20.64	20.61	21.8	0	
15	QPSK	1	74	20.66	20.61	20.59			
15	QPSK	36	0	19.83	19.79	19.71			
15	QPSK	36	39	19.83	19.85	19.80	20.8	1	
15	QPSK	36	59	19.80	19.85	19.80			
15	QPSK	75	0	19.92	19.78	19.72			
15	16QAM	1	37	20.11	20.03	19.98	20.8	1	
15	16QAM	1	37	20.10	20.03	19.98			
15	16QAM	1	74	19.99	19.97	19.95			
15	16QAM	36	0	18.83	18.84	18.80			
15	16QAM	36	20	18.83	18.82	18.73	19.8	2	
15	16QAM	36	39	18.79	18.82	18.81			
15	16QAM	75	0	18.92	18.92	18.87			
15	84QAM	1	0	18.96	18.92	18.87			
15	84QAM	1	37	18.94	18.96	18.90	19.8	2	
15	84QAM	1	74	18.94	18.96	18.90			
15	84QAM	36	0	17.85	17.81	17.79			
15	84QAM	36	20	17.87	17.83	17.79	18.8	3	
15	84QAM	36	39	17.86	17.86	17.86			
15	84QAM	75	0	17.82	17.82	17.73			
15	256QAM	1	0	16.13	16.99	16.86			
15	256QAM	1	31	15.77	16.33	16.30	17.3	4.5	
15	256QAM	1	74	16.00	16.15	16.08			
15	256QAM	36	0	15.92	15.90	15.87			
15	256QAM	36	20	15.78	15.87	15.78	17.3	4.5	
15	256QAM	36	39	15.93	15.90	15.79			
15	256QAM	75	0	15.83	15.83	15.72			
Channel									
Frequency (MHz)									
10	QPSK	1	0	20.68	20.66	20.63			
10	QPSK	1	31	20.68	20.66	20.63	21.8	0	
10	QPSK	1	49	20.62	20.69	20.64			
10	QPSK	25	0	19.79	19.75	19.64			
10	QPSK	25	12	19.84	19.75	19.73	20.8	1	
10	QPSK	25	24	19.83	19.86	19.77			
10	QPSK	50	0	19.81	19.74	19.74			
10	QPSK	50	0	20.07	20.08	20.05			
10	16QAM	1	26	20.02	20.08	20.04	20.8	1	
10	16QAM	1	49	20.02	20.08	19.98			
10	16QAM	25	0	18.79	18.71	18.69			
10	16QAM	25	12	18.82	18.74	18.78	19.8	2	
10	16QAM	25	24	18.80	18.79	18.76			
10	16QAM	50	0	18.81	18.72	18.73			
10	84QAM	1	0	18.95	18.88	18.81			
10	84QAM	1	26	18.95	18.90	18.82	19.8	2	
10	84QAM	1	49	18.93	18.94	18.88			
10	84QAM	25	0	17.85	17.80	17.81			
10	84QAM	25	12	17.87	17.81	17.79	18.8	3	
10	84QAM	25	24	17.85	17.85	17.85			
10	84QAM	50	0	17.85	17.84	17.81			
10	256QAM	1	0	15.89	16.15	15.93			
10	256QAM	1	49	16.08	16.14	16.15	17.3	4.5	
10	256QAM	25	0	15.92	15.92	15.87			
10	256QAM	25	12	15.84	15.83	15.77	17.3	4.5	
10	256QAM	25	24	15.91	15.86	15.88			
10	256QAM	50	0	15.94	15.93	15.77			
Channel									
Frequency (MHz)									
5	QPSK	1	0	20.58	20.62	20.55			
5	QPSK	1	12	20.71	20.68	20.61	21.8	0	
5	QPSK	1	24	20.62	20.69	20.66			
5	QPSK	12	0	19.83	19.78	19.86			
5	QPSK	12	7	19.84	19.81	19.72	20.8	1	
5	QPSK	12	13	19.81	19.83	19.81			
5	16QAM	1	26	20.03	20.04	19.96			
5	16QAM	1	12	20.05	20.07	19.94	20.8	1	
5	16QAM	1	24	20.03	20.09	19.93			
5	16QAM	12	0	18.95	18.74	18.68			
5	16QAM	12	7	18.84	18.82	18.70	19.8	2	
5	16QAM	12	13	18.86	18.78	18.88			
5	84QAM	1	0	18.97	18.88	18.85			
5	84QAM	1	26	18.92	18.90	18.85	19.8	2	
5	84QAM	1	49	19.01	19.03	18.94			
5	84QAM	12	0	17.90	17.82	17.85			
5	84QAM	12	7	17.89	17.89	17.85	18.8	3	
5	84QAM	12	13	17.86	17.87	17.89			
5	256QAM	1	0	15.92	15.95	15.90			
5	256QAM	1	12	15.97	16.04	16.03	17.3	4.5	
5	256QAM	12	0	15.96	15.99	15.95			
5	256QAM	12	7	15.95	15.93	15.75	17.3	4.5	
5	256QAM	12	13	15.89	15.85	15.82			
5	256QAM	25	0	15.82	15.85	15.87			
Channel									
Frequency (MHz)									
1.4	QPSK	1	0	20.58	20.63	20.63			
1.4	QPSK	1	3	20.70	20.65	20.59	21.8	0	
1.4	QPSK	1	5	20.66	20.62	20.54			
1.4	QPSK	3	0	19.84	19.81	19.81			
1.4	QPSK	3	1	20.70	20.64	20.59	20.8	1	
1.4	QPSK	3	3	20.68	20.61	20.57			
1.4	16QAM	1	0	20.02	19.98	19.98			
1.4	16QAM	1	3	20.16	20.07	20.08	20.8	1	
1.4	16QAM	1	5	20.07	20.03	19.98			
1.4	16QAM	3	0	18.86	18.82	18.70			
1.4	16QAM	3	1	18.87	18.83	18.74	19.8	2	
1.4	16QAM	3	3	18.83	18.77	18.73			
1.4	84QAM	1	0	18.94	18.87	18.87			
1.4	84QAM	1	3	19.04	19.01	18.97	19.8	2	
1.4	84QAM	1	5	18.97	18.96	18.89			
1.4	84QAM	3	0	17.91	17.81	17.85			
1.4	84QAM	3	1	17.90	17.88	17.89	18.8	3	
1.4	84QAM	3	3	17.90	17.85	17.80			
1.4	256QAM	1	0	15.83	15.83	15.80			
1.4	256QAM	1	3	15.93	16.17	15.98	17.3	4.5	
1.4	256QAM	3	0	15.96	15.96	15.95			
1.4	256QAM	3	1	15.93	15.98	15.90	17.3	4.5	
1.4	256QAM	3	3	15.96	15.98	15.89			
1.4	256QAM	15	0	15.92	15.92	15.74			
Channel									
Frequency (MHz)									
1.4	QPSK	1	0	20.58	20.61	20.58			
1.4	QPSK	1	3	20.58	20.61	20.58	21.8	0	



Band 7 (2600MHz Band) Part 27										
BW (MHz)	Modulation	RB Size	RB Offset	Power Ch./Freq.	Power Ch./Freq.	Power Ch./Freq.	Turn-up limit (dB)	MFR (dB)		
Channel Frequency (MHz)				2510	2535	2560				
20	QPSK	1	0	20.28	20.39	20.53			20.8	0
20	QPSK	1	99	20.92	20.57	20.61				
20	QPSK	50	0	19.42	19.52	19.64				
20	QPSK	50	24	19.44	19.65	19.65				
20	QPSK	50	50	19.40	19.51	19.74			19.8	1
20	QPSK	100	0	19.43	19.55	19.66				
20	16QAM	1	49	19.71	19.73	19.67			19.8	1
20	16QAM	1	99	19.72	19.62	19.71				
20	16QAM	50	24	18.48	18.59	18.74			18.8	2
20	16QAM	50	50	18.47	18.69	18.79				
20	16QAM	1	0	18.43	18.67	18.71			18.8	2
20	16QAM	1	49	18.54	18.78	18.71				
20	16QAM	50	0	17.37	17.58	17.64				
20	16QAM	50	24	17.51	17.60	17.80			17.8	3
20	16QAM	50	50	17.53	17.69	17.80				
20	16QAM	1	0	17.47	17.54	17.67				
20	256QAM	1	0	15.88	15.97	15.88			16.3	4.5
20	256QAM	1	99	15.84	15.84	15.79				
20	256QAM	50	0	15.62	15.76	15.68				
20	256QAM	50	24	15.78	15.81	15.78			16.3	4.5
20	256QAM	50	50	15.78	15.77	15.71				
20	256QAM	100	0	15.72	15.81	15.63				
Channel Frequency (MHz)				2607.5	2635	2662.5	Turn-up limit (dB)	MFR (dB)		
15	QPSK	1	0	20.30	20.44	20.57			20.8	0
15	QPSK	1	74	20.37	20.59	20.58				
15	QPSK	36	0	19.32	19.62	19.65				
15	QPSK	36	36	19.44	19.68	19.78			19.8	1
15	QPSK	75	0	19.41	19.54	19.74				
15	16QAM	1	37	19.64	19.72	19.73			19.8	1
15	16QAM	1	74	19.66	19.66	19.71				
15	16QAM	36	0	18.44	18.59	18.64				
15	16QAM	36	36	18.43	18.55	18.75			18.8	2
15	16QAM	36	74	18.42	18.67	18.76				
15	16QAM	75	0	18.44	18.61	18.76				
15	16QAM	1	0	18.47	18.65	18.73			18.8	2
15	16QAM	1	37	18.58	18.74	18.75				
15	16QAM	1	74	18.60	18.79	18.79			17.8	3
15	16QAM	36	0	17.47	17.62	17.77				
15	16QAM	36	36	17.46	17.79	17.79				
15	16QAM	75	0	17.41	17.58	17.75				
15	256QAM	1	0	15.88	15.88	15.80			16.3	4.5
15	256QAM	36	0	15.79	15.91	15.75				
15	256QAM	1	74	15.89	15.90	15.82				
15	256QAM	36	36	15.88	15.76	15.68			16.3	4.5
15	256QAM	36	74	15.85	15.85	15.80				
15	256QAM	36	100	15.79	15.82	15.70				
15	256QAM	75	0	15.67	15.83	15.73				
Channel Frequency (MHz)				2605	2635	2665	Turn-up limit (dB)	MFR (dB)		
10	QPSK	1	0	20.10	20.25	20.57			20.8	0
10	QPSK	1	49	20.15	20.41	20.51				
10	QPSK	25	0	19.33	19.50	19.63				
10	QPSK	25	24	19.36	19.54	19.68			19.8	1
10	QPSK	25	26	19.37	19.60	19.73				
10	QPSK	50	0	19.36	19.63	19.66				
10	QPSK	1	0	19.53	19.76	19.71			19.8	1
10	16QAM	1	25	19.52	19.78	19.87				
10	16QAM	1	49	19.63	19.76	19.86				
10	16QAM	25	0	18.36	18.52	18.62			18.8	2
10	16QAM	25	12	18.42	18.58	18.71				
10	16QAM	25	25	18.38	18.61	18.75				
10	16QAM	50	0	18.37	18.54	18.66				
10	16QAM	1	0	18.39	18.62	18.72			18.8	2
10	16QAM	1	25	18.49	18.71	18.74				
10	16QAM	1	49	18.52	18.70	18.76				
10	16QAM	25	0	17.39	17.54	17.66			17.8	3
10	16QAM	25	12	17.44	17.58	17.71				
10	16QAM	25	25	17.41	17.67	17.77				
10	16QAM	50	0	17.39	17.58	17.72				
10	256QAM	1	25	15.81	16.04	15.86			16.3	4.5
10	256QAM	1	49	15.80	15.91	15.81				
10	256QAM	25	0	15.62	15.82	15.68			16.3	4.5
10	256QAM	25	12	15.78	15.73	15.82				
10	256QAM	25	25	15.88	15.87	15.88				
10	256QAM	50	0	15.72	15.78	15.76				
Channel Frequency (MHz)				2607.5	2635	2662.5	Turn-up limit (dB)	MFR (dB)		
5	QPSK	1	0	20.12	20.27	20.56			20.8	0
5	QPSK	1	24	20.19	20.47	20.51				
5	QPSK	12	0	19.24	19.61	19.71				
5	QPSK	12	7	19.34	19.62	19.70			19.8	1
5	QPSK	12	13	19.32	19.61	19.73				
5	QPSK	25	0	19.34	19.63	19.70				
5	16QAM	1	12	19.63	19.71	19.74			19.8	1
5	16QAM	1	24	19.62	19.74	19.74				
5	16QAM	12	0	18.36	18.67	18.72			18.8	2
5	16QAM	12	7	18.38	18.53	18.72				
5	16QAM	12	13	18.37	18.64	18.76				
5	16QAM	25	0	18.32	18.58	18.73				
5	16QAM	1	0	18.39	18.65	18.67			18.8	2
5	16QAM	1	12	18.44	18.69	18.72				
5	16QAM	1	24	18.46	18.75	18.73				
5	16QAM	12	0	17.39	17.56	17.78			17.8	3
5	16QAM	12	7	17.41	17.61	17.71				
5	16QAM	12	13	17.35	17.54	17.68				
5	16QAM	25	0	17.37	17.53	17.74			16.3	4.5
5	256QAM	1	0	15.84	15.80	15.84				
5	256QAM	1	12	15.67	15.80	15.80			16.3	4.5
5	256QAM	1	24	15.80	15.88	15.89				
5	256QAM	12	0	15.68	15.81	15.85				
5	256QAM	12	7	15.83	15.91	15.78			16.3	4.5
5	256QAM	12	13	15.82	15.84	15.77				
5	256QAM	25	0	15.63	15.80	15.76				

Band 12 (700MHz Low Band) Part 27(only on channel required)										
BW (MHz)	Modulation	RB Size	RB Offset	Power Ch./Freq.	Power Ch./Freq.	Power Ch./Freq.	Turn-up limit (dB)	MFR (dB)		
Channel Frequency (MHz)				704	707.5	711.5				
10	QPSK	1	0	22.18	22.21	22.17			23.3	0
10	QPSK	1	25	22.27	22.29	22.21				
10	QPSK	1	49	22.30	22.32	22.19				
10	QPSK	25	0	21.30	21.29	21.31				
10	QPSK	25	12	21.36	21.41	21.39			22.3	1
10	QPSK	25	25	21.38	21.43	21.34				
10	QPSK	50	0	21.34	21.39	21.32				
10	16QAM	1	0	21.50	21.53	21.41			22.3	1
10	16QAM	1	25	21.57	21.62	21.56				
10	16QAM	1	49	21.59	21.63	21.56				
10	16QAM	25	0	20.37	20.38	20.31			21.3	2
10	16QAM	25	12	20.29	20.40	20.37				
10	16QAM	25	25	20.37	20.38	20.38				
10	16QAM	50	0	20.37	20.46	20.33			21.3	2
10	16QAM	1	0	20.39	20.41	20.45				
10	16QAM	1	25	20.53	20.46	20.52			21.3	2
10	16QAM	1	49	20.50	20.45	20.53				
10	16QAM	25	0	19.29	19.28	19.27				
10	16QAM	25	12	19.36	19.41	19.29			20.3	3
10	16QAM	25	25	19.41	19.40	19.40				
10	16QAM	50	0	19.32	19.31	19.28				
10	256QAM	1	0	17.75	17.62	17.78			18.8	4.5
10	256QAM	1	49	17.79	17.62	17.76				
10	256QAM	25	0	17.66	17.61	17.66			18.8	4.5
10	256QAM	25	12	17.68	17.67	17.60				
10	256QAM	25	25	17.68	17.58	17.69				
10	256QAM	50	0	17.66	17.69	17.68				
Channel Frequency (MHz)				701.5	707.5	711.5	Turn-up limit (dB)	MFR (dB)		
5	QPSK	1	0	22.20	22.25	22.18			23.3	0
5	QPSK	1	24	22.32	22.25	22.19				
5	QPSK	1	49	22.32	22.25	22.19				
5	QPSK	12	0	21.29	21.35	21.30				
5	QPSK	12	13	21.31	21.32	21.32			22.3	1
5	QPSK	12	13	21.31	21.32	21.29				
5	QPSK	25	0	21.33	21.41	21.25				
5	16QAM	1	12	21.53	21.61	21.62			22.3	1
5	16QAM	1	24	21.53	21.61	21.60				
5	16QAM	12	0	20.35	20.41	20.40			21.3	2
5	16QAM	12	13	20.33	20.38	20.30				
5	16QAM	25	0	20.32	20.35	20.32			21.3	2
5	16QAM	25	12	20.43	20.51	20.46				
5	16QAM	25	12	20.46	20.52	20.48			21.3	2
5	16QAM	25	25	20.39	20.45	20.38				
5	16QAM	50	0	19.34	19.40	19.38			20.3	3
5	16QAM	12	0	19.39	19.46	19.43				



Band 17 (100MHz Band)										
Part 27H (only on channel required)										
RFV (MHz)	Modulation	RB Size	RB Offset	Power Ch./Freq. (dBm)	Power Ch./Freq. (dBm)	Power Ch./Freq. (dBm)	Turn-up (dB)	MPE (dB)		
Channel										
Frequency (MHz)										
19	QPSK	1	0	22.19	22.20	22.21				
19	QPSK	1	25	22.21	22.22	22.19				
19	QPSK	1	49	22.21	22.24	22.23			23.3	0
19	QPSK	25	0	21.32	21.32	21.31				
19	QPSK	25	0	21.32	21.32	21.32				
19	QPSK	25	25	21.40	21.38	21.30			23.3	1
19	QPSK	50	0	21.37	21.38	21.29				
19	16QAM	1	0	21.56	21.56	21.55				
19	16QAM	1	25	21.56	21.52	21.61			23.3	1
19	16QAM	1	49	21.65	21.63	21.64				
19	16QAM	25	0	20.38	20.35	20.31				
19	16QAM	25	12	20.41	20.43	20.31			21.3	2
19	16QAM	25	25	20.40	20.42	20.35				
19	64QAM	1	0	20.35	20.38	20.47				
19	64QAM	1	25	20.47	20.49	20.53			21.3	2
19	64QAM	25	25	19.40	19.40	19.37				
19	64QAM	50	0	19.42	19.39	19.32			20.3	3
19	256QAM	1	0	17.97	17.84	18.00				
19	256QAM	1	25	18.00	17.95	17.97			18.8	4.5
19	256QAM	1	49	18.01	17.84	17.82				
19	256QAM	25	0	17.88	17.83	17.88				
19	256QAM	25	0	17.90	17.92	17.82				
19	256QAM	25	25	17.91	17.80	17.81			18.8	4.5
19	256QAM	50	0	17.87	17.81	17.80				
Channel										
Frequency (MHz)										
5	QPSK	1	0	22.12	22.20	22.18				
5	QPSK	1	25	22.23	22.20	22.23			23.3	0
5	QPSK	1	24	22.22	22.24	22.24				
5	QPSK	12	0	21.29	21.30	21.24				
5	QPSK	12	7	21.34	21.34	21.26			23.3	1
5	QPSK	12	13	21.38	21.31	21.31				
5	QPSK	25	0	21.34	21.35	21.24				
5	16QAM	1	0	21.48	21.50	21.50				
5	16QAM	1	12	21.53	21.58	21.55			23.3	1
5	16QAM	1	24	21.62	21.63	21.58				
5	16QAM	12	0	20.38	20.38	20.30				
5	16QAM	12	7	20.38	20.38	20.30			21.3	2
5	16QAM	12	13	20.37	20.33	20.32				
5	64QAM	1	0	20.33	20.34	20.32				
5	64QAM	1	0	20.43	20.46	20.41				
5	64QAM	1	12	20.42	20.50	20.47			21.3	2
5	64QAM	12	0	19.33	19.33	19.34				
5	64QAM	12	7	19.42	19.42	19.35			20.3	3
5	64QAM	12	13	19.42	19.40	19.38				
5	256QAM	1	0	17.92	17.92	17.93				
5	256QAM	1	24	17.92	17.85	17.89			18.8	4.5
5	256QAM	12	0	17.42	17.44	17.46				
5	256QAM	12	7	17.43	17.51	17.53			18.8	4.5
5	256QAM	12	13	17.34	17.27	17.24				
5	256QAM	25	0	17.28	17.31	17.40				

Band 25 (100MHz Band)										
Part 24E										
RFV (MHz)	Modulation	RB Size	RB Offset	Power Ch./Freq. (dBm)	Power Ch./Freq. (dBm)	Power Ch./Freq. (dBm)	Turn-up (dB)	MPE (dB)		
Channel										
Frequency (MHz)										
20	QPSK	1	0	20.74	20.70	20.70				
20	QPSK	1	25	20.74	20.70	20.70			21.8	0
20	QPSK	1	99	20.59	20.59	20.61				
20	QPSK	50	0	19.75	19.75	19.70				
20	QPSK	50	24	19.75	19.75	19.70				
20	QPSK	50	59	19.76	19.74	19.69			20.8	1
20	QPSK	100	0	19.76	19.74	19.70				
20	16QAM	1	0	20.11	20.10	20.10				
20	16QAM	1	49	19.96	20.03	19.99			20.8	1
20	16QAM	1	99	19.96	19.94	19.87				
20	16QAM	50	0	18.91	18.91	18.78				
20	16QAM	50	24	18.91	18.92	18.77			19.8	2
20	16QAM	50	59	18.89	18.88	18.81				
20	16QAM	100	0	18.97	18.93	18.82				
20	64QAM	1	0	18.97	18.93	18.82				
20	64QAM	1	49	18.89	18.80	18.88			19.8	2
20	64QAM	1	99	18.76	18.76	18.76				
20	64QAM	50	0	17.85	17.84	17.78				
20	64QAM	50	24	17.83	17.82	17.78			18.8	3
20	64QAM	50	59	17.82	17.82	17.84				
20	64QAM	100	0	17.81	17.78	17.76				
20	256QAM	1	0	16.03	16.02	16.04				
20	256QAM	1	24	16.03	16.03	16.01			17.3	4.5
20	256QAM	1	99	16.01	16.05	15.92				
20	256QAM	50	0	15.96	15.91	15.92				
20	256QAM	50	24	15.96	15.92	15.97			17.3	4.5
20	256QAM	50	59	15.92	15.95	15.88				
20	256QAM	100	0	15.92	15.86	15.91				
Channel										
Frequency (MHz)										
15	QPSK	1	0	20.86	20.84	20.56				
15	QPSK	1	25	20.86	20.83	20.56			21.8	0
15	QPSK	1	74	20.55	20.56	20.50				
15	QPSK	36	0	19.79	19.73	19.62				
15	QPSK	36	24	19.79	19.73	19.62				
15	QPSK	36	59	19.67	19.71	19.65			20.8	1
15	QPSK	75	0	19.74	19.65	19.69				
15	16QAM	1	0	19.91	19.93	19.85			20.8	1
15	16QAM	1	37	19.91	19.93	19.85				
15	16QAM	1	74	19.94	19.79	19.78				
15	16QAM	36	0	18.76	18.76	18.69			19.8	2
15	16QAM	36	24	18.75	18.76	18.69				
15	16QAM	36	59	18.64	18.70	18.63				
15	16QAM	75	0	18.74	18.60	18.69				
15	64QAM	1	0	18.88	18.82	18.73				
15	64QAM	1	37	18.70	18.83	18.75			19.8	2
15	64QAM	1	74	18.70	18.71	18.71				
15	64QAM	36	0	17.71	17.72	17.68			18.8	3
15	64QAM	36	24	17.70	17.81	17.71				
15	64QAM	36	59	17.68	17.71	17.68				
15	64QAM	75	0	17.75	17.68	17.71				
15	256QAM	1	0	16.01	16.06	16.16			17.3	4.5
15	256QAM	1	24	16.01	16.06	16.04				
15	256QAM	1	74	16.01	16.01	15.99				
15	256QAM	36	0	15.92	15.97	15.99			17.3	4.5
15	256QAM	36	24	15.92	15.95	15.88				
15	256QAM	36	59	15.87	15.95	15.86				
15	256QAM	75	0	16.04	16.02	16.03				
Channel										
Frequency (MHz)										
10	QPSK	1	0	20.62	20.53	20.48				
10	QPSK	1	25	20.64	20.63	20.51			21.8	0
10	QPSK	1	49	20.54	20.53	20.51				
10	QPSK	25	0	19.73	19.83	19.65				
10	QPSK	25	24	19.73	19.65	19.65				
10	QPSK	25	28	19.70	19.71	19.67			20.8	1
10	QPSK	50	0	19.74	19.65	19.65				
10	16QAM	1	0	20.00	20.00	19.99				
10	16QAM	1	25	19.94	19.96	19.86			20.8	1
10	16QAM	1	49	19.99	19.98	19.91				
10	16QAM	25	0	18.71	18.84	18.87				
10	16QAM	25	12	18.74	18.66	18.63			19.8	2
10	16QAM	25	25	18.69	18.72	18.68				
10	16QAM	50	0	18.74	18.65	18.63				
10	64QAM	1	0	18.92	18.79	18.74				
10	64QAM	1	25	18.90	18.86	18.85			19.8	2
10	64QAM	1	49	18.80	18.79	18.81				
10	64QAM	25	0	17.73	17.69	17.59				
10	64QAM	25	12	17.74	17.76	17.73			18.8	3
10	64QAM	25	25	17.75	17.76	17.65				
10	64QAM	50	0	17.77	17.68	17.66				
10	256QAM	1	0	16.02	16.16	16.16			17.3	4.5
10	256QAM	1	24	16.00	15.98	15.87				
10	256QAM	1	49	16.00	15.98	15.87				
10	256QAM	25	0	15.92	15.97	15.99			17.3	4.5
10	256QAM	25	12	15.94	15.97	15.79				
10	256QAM	25	25	15.84	15.98	15.90				
10	256QAM	50	0	15.92	15.95	15.93				
Channel										
Frequency (MHz)										
5	QPSK	1	0	20.61	20.52	20.46				
5	QPSK	1	25	20.64	20.67	20.55			21.8	0
5	QPSK	1	24	20.61	20.62	20.58				
5	QPSK	12	0	19.72	19.60	19.61				
5	QPSK	12	7	19.73	19.74	19.65			20.8	1
5	QPSK	12	13	19.78	19.75	19.67				
5	QPSK	25	0	19.73	19.71	19.64				
5	16QAM	1	0	19.97	19.91	19.81			20.8	1
5	16QAM	1	12	19.93	19.92	19.89				
5	16QAM	1	24	19.93						



Band 30									
BW (MHz)	Modulation	RB Size	RB Offset	Power Low Ch./Freq.	Power Mid Ch./Freq.	Power High Ch./Freq.	Turn-up (dB)	MFR (dB)	
Channel Frequency (MHz)				2710	2710	2710			
10	QPSK	1	0	20.25					
10	QPSK	1	25	20.20					21.5
10	QPSK	1	49	20.34					
10	QPSK	25	0	19.44					
10	QPSK	25	25	19.40					20.5
10	QPSK	25	25	19.45					
10	QPSK	50	0	19.46					
10	16QAM	1	0	19.83					
10	16QAM	1	25	19.79					20.5
10	16QAM	1	49	19.75					
10	16QAM	25	0	18.60					
10	16QAM	25	12	18.45					19.5
10	16QAM	25	25	18.46					
10	16QAM	50	0	18.44					
10	64QAM	1	0	18.65					
10	64QAM	1	25	18.69					19.5
10	64QAM	1	49	18.61					
10	64QAM	25	0	17.46					
10	64QAM	25	12	17.50					18.5
10	64QAM	25	25	17.51					
10	64QAM	50	0	17.49					
10	256QAM	1	0	15.71					
10	256QAM	1	25	15.66					17
10	256QAM	1	49	15.77					4.5
10	256QAM	25	0	15.61					
10	256QAM	25	12	15.79					17
10	256QAM	25	25	15.69					4.5
10	256QAM	50	0	15.62					
Channel Frequency (MHz)				2760	2770	2775	Turn-up (dB)	MFR (dB)	
5	QPSK	1	0	20.30	20.32	20.39			21.5
5	QPSK	1	25	20.42	20.45	20.44			
5	QPSK	1	24	20.41	20.38	20.34			
5	QPSK	12	0	19.40	19.45	19.46			
5	QPSK	12	7	19.27	19.40	19.40			20.5
5	QPSK	12	13	19.48	19.42	19.51			
5	QPSK	25	0	18.47	18.41	18.47			
5	16QAM	1	0	18.61	18.60	18.72			20.5
5	16QAM	1	12	18.72	18.78	18.75			
5	16QAM	1	24	18.82	18.74	18.72			
5	16QAM	12	0	18.40	18.47	18.47			
5	16QAM	12	7	18.27	18.49	18.51			19.5
5	16QAM	12	13	18.53	18.48	18.50			
5	16QAM	25	0	18.47	18.43	18.48			
5	64QAM	1	0	18.58	18.59	18.64			
5	64QAM	1	12	18.67	18.68	18.67			19.5
5	64QAM	1	24	18.73	18.66	18.65			
5	64QAM	12	0	17.47	17.50	17.54			
5	64QAM	12	7	17.55	17.56	17.56			18.5
5	64QAM	12	13	17.59	17.53	17.55			
5	64QAM	25	0	17.52	17.47	17.51			
5	256QAM	1	0	15.60	15.73	15.63			
5	256QAM	1	12	15.84	15.77	15.90			17
5	256QAM	1	24	15.67	15.72	15.81			4.5
5	256QAM	12	0	15.67	15.62	15.68			
5	256QAM	12	7	15.71	15.72	15.68			17
5	256QAM	12	13	15.67	15.70	15.61			4.5
5	256QAM	25	0	15.58	15.68	15.71			

Band 66									
BW (MHz)	Modulation	RB Size	RB Offset	Power Low Ch./Freq.	Power Mid Ch./Freq.	Power High Ch./Freq.	Turn-up (dB)	MFR (dB)	
Channel Frequency (MHz)				1702	1745	1752			
20	QPSK	1	0	20.27	20.73	20.59			
20	QPSK	1	49	20.59	20.58	20.50			21.5
20	QPSK	1	99	20.39	20.58	20.43			
20	QPSK	50	0	19.84	19.71	19.61			
20	QPSK	50	25	19.83	19.68	19.60			20.8
20	QPSK	50	50	19.90	19.65	19.59			
20	QPSK	100	0	19.83	19.65	19.56			
20	16QAM	1	0	19.95	19.70	19.66			
20	16QAM	1	49	19.94	19.65	19.64			20.8
20	16QAM	1	99	19.74	19.61	19.60			
20	16QAM	50	0	18.83	18.70	18.62			
20	16QAM	50	25	18.97	18.70	18.60			19.8
20	16QAM	50	50	18.81	18.70	18.61			
20	64QAM	1	0	18.80	18.63	18.63			
20	64QAM	1	49	18.73	18.66	18.71			19.8
20	64QAM	1	99	18.80	18.63	18.63			
20	64QAM	50	0	17.64	17.74	17.84			
20	64QAM	50	25	17.88	17.70	17.61			18.8
20	64QAM	50	50	17.84	17.72	17.64			
20	64QAM	100	0	17.65	17.70	17.61			
20	256QAM	1	0	15.64	15.60	15.62			
20	256QAM	1	49	15.99	15.65	15.64			17.3
20	256QAM	1	99	15.68	15.60	15.65			4.5
20	256QAM	50	0	15.86	15.62	15.63			
20	256QAM	50	25	15.92	15.64	15.69			17.3
20	256QAM	50	50	15.88	15.67	15.66			
20	256QAM	100	0	15.89	15.61	15.66			
Channel Frequency (MHz)				1717.5	1745	1772.5	Turn-up (dB)	MFR (dB)	
15	QPSK	1	0	20.81	20.65	20.57			21.8
15	QPSK	1	25	20.47	20.61	20.48			
15	QPSK	1	74	20.43	20.57	20.48			
15	QPSK	36	0	19.87	19.68	19.56			
15	QPSK	36	25	19.84	19.70	19.65			20.8
15	QPSK	36	50	19.59	19.70	19.58			
15	QPSK	75	0	19.81	19.63	19.61			
15	16QAM	1	0	19.84	19.61	19.60			
15	16QAM	1	37	19.80	19.67	19.64			20.8
15	16QAM	1	74	19.77	19.66	19.73			
15	16QAM	36	0	18.60	18.63	18.58			
15	16QAM	36	20	18.64	18.74	18.65			19.8
15	16QAM	36	39	18.60	18.63	18.58			
15	16QAM	75	0	18.63	18.69	18.64			
15	64QAM	1	0	18.70	18.78	18.80			
15	64QAM	1	37	18.70	18.85	18.79			19.8
15	64QAM	1	74	18.65	18.79	18.63			
15	64QAM	36	0	17.62	17.73	17.63			
15	64QAM	36	20	17.71	17.85	17.70			18.8
15	64QAM	36	39	17.65	17.63	17.63			
15	64QAM	75	0	17.65	17.70	17.63			
15	256QAM	1	0	15.36	15.61	15.64			
15	256QAM	1	37	15.63	15.71	15.65			17.3
15	256QAM	1	74	15.36	15.64	15.61			4.5
15	256QAM	36	0	15.63	15.67	15.63			
15	256QAM	36	20	15.86	15.69	15.68			17.3
15	256QAM	36	39	15.78	15.79	15.67			4.5
15	256QAM	75	0	15.88	15.67	15.60			
Channel Frequency (MHz)				1717.5	1745	1772.5	Turn-up (dB)	MFR (dB)	
10	QPSK	1	0	20.49	20.56	20.48			21.8
10	QPSK	1	25	20.51	20.45	20.48			
10	QPSK	1	49	20.47	20.52	20.36			
10	QPSK	25	0	19.83	19.66	19.52			
10	QPSK	25	12	19.44	19.64	19.49			20.8
10	QPSK	25	25	19.57	19.68	19.55			
10	QPSK	50	0	19.81	19.66	19.53			
10	16QAM	1	0	19.92	19.69	19.63			
10	16QAM	1	25	19.84	19.65	19.61			20.8
10	16QAM	1	49	19.81	19.67	19.79			
10	16QAM	25	0	18.58	18.62	18.53			
10	16QAM	25	12	18.66	18.64	18.55			19.8
10	16QAM	25	25	18.56	18.60	18.53			
10	16QAM	50	0	18.63	18.69	18.64			
10	64QAM	1	0	18.78	18.62	18.69			19.8
10	64QAM	1	25	18.69	18.66	18.76			
10	64QAM	1	49	18.74	18.74	18.73			
10	64QAM	25	0	17.58	17.70	17.56			
10	64QAM	25	12	17.67	17.61	17.56			18.8
10	64QAM	25	25	17.63	17.71	17.58			
10	64QAM	50	0	17.64	17.67	17.67			
10	256QAM	1	0	15.14	15.60	15.61			
10	256QAM	1	25	15.07	15.03	15.08			17.3
10	256QAM	1	49	15.08	15.02	15.06			4.5
10	256QAM	25	0	15.62	15.76	15.69			
10	256QAM	25	12	15.85	15.68	15.69			17.3
10	256QAM	25	25	15.79	15.53	15.93			4.5
10	256QAM	50	0	15.80	15.68	15.66			
Channel Frequency (MHz)				1818.7	1832.2	1836.7	Turn-up (dB)	MFR (dB)	
3	QPSK	1	0	20.42	20.59	20.42			21.8
3	QPSK	1	8	20.58	20.68	20.51			
3	QPSK	1	14	20.53	20.60	20.46			
3	QPSK	8	0	19.82	19.66	19.61			
3	QPSK	8	4	19.64	19.72	19.58			20.8
3	QPSK	8	7	19.58	19.68	19.57			
3	QPSK	15	0	19.61	19.70	19.64			
3	16QAM	1	0	19.78	19.68	19.76			20.8
3	16QAM	1	8	19.80	19.67	19.68			
3	16QAM	1	14	19.80	19.64	19.60			
3	16QAM	8	0	18.70	18.70	18.55			
3	16QAM	8	4	18.71	18.79	18.61			19.8
3	16QAM	8	7	18.65	18.74	18.63			
3	16QAM	15	0	18.64	18.71	18.57			
3	64QAM	1	0	18.71	18.63	18.69			
3	64QAM	1	8</						



Band 71									
BW (MHz)	Modulation	RB Size	RB Offset	Power			Turn-up limit (dBm)	MPE (dB)	
				Power Ch. / Freq.	Power Ch. / Freq.	Power Ch. / Freq.			
Channel				19322	19322	19372			
Frequency (MHz)				673	683	688			
20	QPSK	1	0	22.43	22.21	22.39	23.3	0	
20	QPSK	1	48	22.18	22.28	22.28			
20	QPSK	1	96	22.22	22.22	22.16			
20	QPSK	50	0	21.39	21.42	21.40			
20	QPSK	50	24	21.40	21.39	21.41			
20	QPSK	50	50	21.34	21.52	21.27	22.3	1	
20	QPSK	100	0	21.44	21.47	21.59			
20	16QAM	1	0	21.36	21.76	21.37			
20	16QAM	1	48	21.63	21.70	21.49	22.3	1	
20	16QAM	1	96	21.49	21.51	21.57			
20	16QAM	50	0	20.51	20.47	20.47			
20	16QAM	50	24	20.48	20.43	20.50	21.3	2	
20	16QAM	50	50	20.36	20.33	20.27			
20	16QAM	100	0	20.51	20.42	20.32			
20	64QAM	1	0	20.76	20.83	20.80			
20	64QAM	1	48	20.61	20.62	20.61	21.3	2	
20	64QAM	1	96	20.38	20.47	20.41			
20	64QAM	50	0	19.54	19.52	19.48			
20	64QAM	50	24	19.57	19.38	19.41			
20	64QAM	50	50	19.41	19.41	19.38	20.3	3	
20	64QAM	100	0	19.60	19.41	19.37			
20	256QAM	1	0	17.67	17.58	17.62			
20	256QAM	1	48	17.63	17.68	17.68	18.8	4.5	
20	256QAM	1	96	17.62	17.55	17.65			
20	256QAM	50	0	17.49	17.58	17.49			
20	256QAM	50	24	17.59	17.53	17.49			
20	256QAM	50	50	17.55	17.43	17.61	18.8	4.5	
20	256QAM	100	0	17.53	17.48	17.59			
Channel				133117					
Frequency (MHz)				670.5	680.5	686.5			
15	QPSK	1	0	22.60	22.38	22.34	23.3	0	
15	QPSK	1	31	22.35	22.18	22.34			
15	QPSK	1	74	22.14	22.20	22.19			
15	QPSK	36	0	21.36	21.41	21.37			
15	QPSK	36	26	21.53	21.27	21.31	22.3	1	
15	QPSK	36	59	21.53	21.31	21.27			
15	QPSK	75	0	21.42	21.47	21.37			
15	16QAM	1	0	21.03	21.76	21.03			
15	16QAM	1	37	21.62	21.62	21.49	22.3	1	
15	16QAM	1	74	21.44	21.52	21.58			
15	16QAM	36	0	20.49	20.42	20.43			
15	16QAM	36	20	20.44	20.42	20.48	21.3	2	
15	16QAM	36	39	20.37	20.26	20.26			
15	16QAM	75	0	20.45	20.40	20.28			
15	64QAM	1	0	20.89	20.58	20.79			
15	64QAM	1	37	20.56	20.61	20.60	21.3	2	
15	64QAM	1	74	20.32	20.43	20.33			
15	64QAM	36	0	19.47	19.45	19.41			
15	64QAM	36	20	19.52	19.39	19.38	20.3	3	
15	64QAM	36	39	19.34	19.37	19.23			
15	64QAM	75	0	19.55	19.37	19.38			
15	256QAM	1	0	17.74	17.61	17.62			
15	256QAM	1	37	17.61	17.63	17.74	18.8	4.5	
15	256QAM	1	74	17.61	17.53	17.63			
15	256QAM	36	0	17.46	17.59	17.47			
15	256QAM	36	20	17.51	17.66	17.41	18.8	4.5	
15	256QAM	36	39	17.48	17.52	17.46			
15	256QAM	75	0	17.64	17.68	17.67			
Channel				133172	133272	133447			
Frequency (MHz)				668	678	683			
10	QPSK	1	0	22.53	22.40	22.32	23.3	0	
10	QPSK	1	26	22.27	22.13	22.28			
10	QPSK	1	48	22.14	22.17	22.08			
10	QPSK	25	0	21.34	21.42	21.46			
10	QPSK	25	12	21.46	21.31	21.37	22.3	1	
10	QPSK	25	26	21.27	21.34	21.28			
10	QPSK	50	0	21.49	21.47	21.37			
10	16QAM	1	0	21.91	21.80	21.79			
10	16QAM	1	26	21.63	21.72	21.43	22.3	1	
10	16QAM	1	48	21.51	21.47	21.59			
10	16QAM	25	0	20.45	20.45	20.42			
10	16QAM	25	12	20.48	20.45	20.42	21.3	2	
10	16QAM	25	26	20.38	20.29	20.24			
10	16QAM	50	0	20.43	20.35	20.28			
10	64QAM	1	0	20.78	20.64	20.79	21.3	2	
10	64QAM	1	26	20.63	20.62	20.63			
10	64QAM	1	48	20.35	20.46	20.41			
10	64QAM	25	0	19.52	19.52	19.47			
10	64QAM	25	12	19.38	19.38	19.38	20.3	3	
10	64QAM	25	26	19.38	19.35	19.26			
10	64QAM	50	0	19.56	19.42	19.32			
10	256QAM	1	0	17.57	17.59	17.63			
10	256QAM	1	26	17.54	17.75	17.64	18.8	4.5	
10	256QAM	1	48	17.62	17.58	17.60			
10	256QAM	25	0	17.42	17.56	17.50			
10	256QAM	25	12	17.64	17.43	17.52	18.8	4.5	
10	256QAM	25	26	17.46	17.53	17.41			
10	256QAM	50	0	17.50	17.41	17.39			
Channel				133147	133247	133447			
Frequency (MHz)				665.5	675.5	685.5			
5	QPSK	1	0	22.60	22.37	22.34	23.3	0	
5	QPSK	1	12	22.37	22.18	22.31			
5	QPSK	1	24	22.16	22.20	22.13			
5	QPSK	12	0	21.43	21.46	21.39			
5	QPSK	12	7	21.51	21.27	21.40	22.3	1	
5	QPSK	12	13	21.29	21.35	21.19			
5	QPSK	26	0	21.46	21.44	21.37			
5	16QAM	1	0	21.86	21.74	21.82			
5	16QAM	1	12	21.59	21.68	21.50	22.3	1	
5	16QAM	1	24	21.51	21.49	21.58			
5	16QAM	12	0	20.51	20.46	20.49			
5	16QAM	12	7	20.43	20.43	20.42	21.3	2	
5	16QAM	12	13	20.30	20.30	20.23			
5	16QAM	25	0	20.47	20.35	20.28			
5	64QAM	1	0	20.77	20.60	20.77	21.3	2	
5	64QAM	1	12	20.57	20.61	20.33			
5	64QAM	1	24	20.38	20.49	20.41			
5	64QAM	12	0	19.48	19.51	19.50			
5	64QAM	12	7	19.53	19.38	19.43	20.3	3	
5	64QAM	12	13	19.39	19.33	19.24			
5	64QAM	25	0	19.62	19.38	19.36			
5	256QAM	1	0	17.75	17.63	17.65			
5	256QAM	1	12	17.51	17.60	17.64	18.8	4.5	
5	256QAM	1	24	17.61	17.50	17.63			
5	256QAM	12	0	17.40	17.53	17.51			
5	256QAM	12	7	17.62	17.57	17.46	18.8	4.5	
5	256QAM	12	13	17.46	17.42	17.55			
5	256QAM	25	0	17.48	17.53	17.54			



Band 38 (only on channel required)												
BW (MHz)	Modulation	RB Size	RB Offset	Power Level Ch./Frac.	Power Level Ch./Frac.	Power Level Ch./Frac.	Power Level Ch./Frac.	Power Level Ch./Frac.	Power Level Ch./Frac.	Power Level Ch./Frac.	Time-up (min)	MPR (dB)
Channel												
Frequency (MHz)												
20	QPSK	1	0	20.22	20.23	20.24	20.25	20.26	20.27	20.28	20.8	0
20	QPSK	1	49	20.28	20.29	20.30	20.31	20.32	20.33	20.34	20.8	0
20	QPSK	1	99	20.41	20.42	20.43	20.44	20.45	20.46	20.47	20.8	0
20	QPSK	1	149	20.54	20.55	20.56	20.57	20.58	20.59	20.60	20.8	0
20	QPSK	50	34	19.39	19.40	19.41	19.42	19.43	19.44	19.8	1	
20	QPSK	50	84	19.52	19.53	19.54	19.55	19.56	19.57	19.8	1	
20	QPSK	100	0	19.25	19.26	19.27	19.28	19.29	19.30	19.8	1	
20	QPSK	100	49	19.47	19.48	19.49	19.50	19.51	19.52	19.8	1	
20	QPSK	100	99	19.60	19.61	19.62	19.63	19.64	19.65	19.8	1	
20	QPSK	100	149	19.73	19.74	19.75	19.76	19.77	19.78	19.8	1	
20	QPSK	50	0	18.25	18.26	18.27	18.28	18.29	18.30	18.8	2	
20	QPSK	50	49	18.47	18.48	18.49	18.50	18.51	18.52	18.8	2	
20	QPSK	50	99	18.60	18.61	18.62	18.63	18.64	18.65	18.8	2	
20	QPSK	50	149	18.73	18.74	18.75	18.76	18.77	18.78	18.8	2	
20	QPSK	100	0	17.25	17.26	17.27	17.28	17.29	17.30	17.8	3	
20	QPSK	100	49	17.47	17.48	17.49	17.50	17.51	17.52	17.8	3	
20	QPSK	100	99	17.60	17.61	17.62	17.63	17.64	17.65	17.8	3	
20	QPSK	100	149	17.73	17.74	17.75	17.76	17.77	17.78	17.8	3	
20	QPSK	50	0	15.25	15.26	15.27	15.28	15.29	15.30	16.3	4.5	
20	QPSK	50	49	15.47	15.48	15.49	15.50	15.51	15.52	16.3	4.5	
20	QPSK	50	99	15.60	15.61	15.62	15.63	15.64	15.65	16.3	4.5	
20	QPSK	50	149	15.73	15.74	15.75	15.76	15.77	15.78	16.3	4.5	
20	QPSK	100	0	13.25	13.26	13.27	13.28	13.29	13.30	16.3	4.5	
Channel												
Frequency (MHz)												
15	QPSK	1	0	20.22	20.23	20.24	20.25	20.26	20.27	20.28	20.8	0
15	QPSK	1	49	20.35	20.36	20.37	20.38	20.39	20.40	20.41	20.8	0
15	QPSK	1	99	20.48	20.49	20.50	20.51	20.52	20.53	20.54	20.8	0
15	QPSK	1	149	20.61	20.62	20.63	20.64	20.65	20.66	20.67	20.8	0
15	QPSK	36	20	19.64	19.65	19.66	19.67	19.68	19.69	19.8	1	
15	QPSK	36	70	19.77	19.78	19.79	19.80	19.81	19.82	19.8	1	
15	QPSK	36	120	19.90	19.91	19.92	19.93	19.94	19.95	19.8	1	
15	QPSK	36	170	20.03	20.04	20.05	20.06	20.07	20.08	19.8	1	
15	QPSK	36	220	20.16	20.17	20.18	20.19	20.20	20.21	19.8	1	
15	QPSK	36	270	20.29	20.30	20.31	20.32	20.33	20.34	19.8	1	
15	QPSK	36	320	20.42	20.43	20.44	20.45	20.46	20.47	19.8	1	
15	QPSK	36	370	20.55	20.56	20.57	20.58	20.59	20.60	19.8	1	
15	QPSK	36	420	20.68	20.69	20.70	20.71	20.72	20.73	19.8	1	
15	QPSK	36	470	20.81	20.82	20.83	20.84	20.85	20.86	19.8	1	
15	QPSK	36	520	20.94	20.95	20.96	20.97	20.98	20.99	19.8	1	
15	QPSK	36	570	21.07	21.08	21.09	21.10	21.11	21.12	22.3	1	
15	QPSK	36	620	21.20	21.21	21.22	21.23	21.24	21.25	22.3	1	
15	QPSK	36	670	21.33	21.34	21.35	21.36	21.37	21.38	22.3	1	
15	QPSK	36	720	21.46	21.47	21.48	21.49	21.50	21.51	22.3	1	
15	QPSK	36	770	21.59	21.60	21.61	21.62	21.63	21.64	22.3	1	
15	QPSK	36	820	21.72	21.73	21.74	21.75	21.76	21.77	22.3	1	
15	QPSK	36	870	21.85	21.86	21.87	21.88	21.89	21.90	22.3	1	
15	QPSK	36	920	21.98	21.99	22.00	22.01	22.02	22.03	22.3	1	
15	QPSK	36	970	22.11	22.12	22.13	22.14	22.15	22.16	22.3	1	
15	QPSK	36	1020	22.24	22.25	22.26	22.27	22.28	22.29	22.3	1	
15	QPSK	36	1070	22.37	22.38	22.39	22.40	22.41	22.42	22.3	1	
15	QPSK	36	1120	22.50	22.51	22.52	22.53	22.54	22.55	22.3	1	
15	QPSK	36	1170	22.63	22.64	22.65	22.66	22.67	22.68	22.3	1	
15	QPSK	36	1220	22.76	22.77	22.78	22.79	22.80	22.81	22.3	1	
15	QPSK	36	1270	22.89	22.90	22.91	22.92	22.93	22.94	22.3	1	
15	QPSK	36	1320	23.02	23.03	23.04	23.05	23.06	23.07	22.3	1	
15	QPSK	36	1370	23.15	23.16	23.17	23.18	23.19	23.20	22.3	1	
15	QPSK	36	1420	23.28	23.29	23.30	23.31	23.32	23.33	22.3	1	
15	QPSK	36	1470	23.41	23.42	23.43	23.44	23.45	23.46	22.3	1	
15	QPSK	36	1520	23.54	23.55	23.56	23.57	23.58	23.59	22.3	1	
15	QPSK	36	1570	23.67	23.68	23.69	23.70	23.71	23.72	22.3	1	
15	QPSK	36	1620	23.80	23.81	23.82	23.83	23.84	23.85	22.3	1	
15	QPSK	36	1670	23.93	23.94	23.95	23.96	23.97	23.98	22.3	1	
15	QPSK	36	1720	24.06	24.07	24.08	24.09	24.10	24.11	22.3	1	
15	QPSK	36	1770	24.19	24.20	24.21	24.22	24.23	24.24	22.3	1	
15	QPSK	36	1820	24.32	24.33	24.34	24.35	24.36	24.37	22.3	1	
15	QPSK	36	1870	24.45	24.46	24.47	24.48	24.49	24.50	22.3	1	
15	QPSK	36	1920	24.58	24.59	24.60	24.61	24.62	24.63	22.3	1	
15	QPSK	36	1970	24.71	24.72	24.73	24.74	24.75	24.76	22.3	1	
15	QPSK	36	2020	24.84	24.85	24.86	24.87	24.88	24.89	22.3	1	
15	QPSK	36	2070	24.97	24.98	24.99	25.00	25.01	25.02	22.3	1	
15	QPSK	36	2120	25.10	25.11	25.12	25.13	25.14	25.15	22.3	1	
15	QPSK	36	2170	25.23	25.24	25.25	25.26	25.27	25.28	22.3	1	
15	QPSK	36	2220	25.36	25.37	25.38	25.39	25.40	25.41	22.3	1	
15	QPSK	36	2270	25.49	25.50	25.51	25.52	25.53	25.54	22.3	1	
15	QPSK	36	2320	25.62	25.63	25.64	25.65	25.66	25.67	22.3	1	
15	QPSK	36	2370	25.75	25.76	25.77	25.78	25.79	25.80	22.3	1	
15	QPSK	36	2420	25.88	25.89	25.90	25.91	25.92	25.93	22.3	1	
15	QPSK	36	2470	26.01	26.02	26.03	26.04	26.05	26.06	22.3	1	
15	QPSK	36	2520	26.14	26.15	26.16	26.17	26.18	26.19	22.3	1	
15	QPSK	36	2570	26.27	26.28	26.29	26.30	26.31	26.32	22.3	1	
15	QPSK	36	2620	26.40	26.41	26.42	26.43	26.44	26.45	22.3	1	
15	QPSK	36	2670	26.53	26.54	26.55	26.56	26.57	26.58	22.3	1	
15	QPSK	36	2720	26.66	26.67	26.68	26.69	26.70	26.71	22.3	1	
15	QPSK	36	2770	26.79	26.80	26.81	26.82	26.83	26.84	22.3	1	
15	QPSK	36	2820	26.92	26.93	26.94	26.95	26.96	26.97	22.3	1	
15	QPSK	36	2870	27.05	27.06	27.07	27.08	27.09	27.10	22.3	1	
15	QPSK	36	2920	27.18	27.19	27.20	27.21	27.22	27.23	22.3	1	
15	QPSK	36	2970	27.31	27.32	27.33	27.34	27.35	27.36	22.3	1	
15	QPSK	36	3020	27.44	27.45	27.46	27.47	27.48	27.49	22.3	1	
15	QPSK	36	3070	27.57	27.58	27.59	27.60	27.61	27.62	22.3	1	
15	QPSK	36	3120	27.70	27.71	27.72	27.73	27.74	27.75	22.3	1	
15	QPSK	36	3170	27.83	27.84	27.85	27.86	27.87	27.88	22.3	1	
15	QPSK	36	3220	27.96	27.97	27.98	27.99	28.00	28.01	22.3	1	
15	QPSK	36	3270	28.09	28.10	28.11	28.12	28.13	28.14	22.3	1	
15	QPSK	36	3320	28.22	28.23	28.24	28.25	28.26	28.27	22.3	1	
15	QPSK	36	3370	28.35	28.36	28.37	28.38	28.39	28.40	22.3	1	
15	QPSK	36	3420	28.48	28.49	28.50	28.51	28.52	28.53	22.3	1	
15												



Band 48 (3.5G Band)-FCC										
BW (MHz)	Modulation	RB Size	RB Offset	Power Line Ch. / Freq.	Power Line Mid Ch. / Freq.	Power High Mid Ch. / Freq.	Power High Ch. / Freq.	Turn-up limit (dBm)	MPR (dB)	
Channel										
Frequency (MHz)										
20	QPSK	1	0	22.50	22.80	22.93	22.96	23.8	0	
20	QPSK	1	48	22.52	22.71	22.74	22.85			
20	QPSK	1	96	22.53	22.76	22.73	22.83			
20	QPSK	1	144	22.54	22.85	21.93	22.92			
20	QPSK	50	34	21.58	21.87	21.94	22.05	22.8	1	
20	QPSK	50	82	21.57	21.86	21.88	21.92			
20	QPSK	100	0	21.63	21.85	21.92	22.03			
20	QPSK	100	48	21.62	21.81	22.00	21.92			
20	16QAM	1	0	21.58	21.74	21.85	21.85	22.8	1	
20	16QAM	1	96	21.54	21.88	21.89	21.96			
20	16QAM	50	0	20.85	20.93	20.97	21.03			
20	16QAM	50	24	20.83	20.92	20.98	21.05			
20	16QAM	50	50	20.92	20.89	20.95	21.07	21.8	2	
20	16QAM	100	0	20.84	20.93	20.96	21.06			
20	16QAM	100	48	20.84	20.84	20.95	21.00			
20	16QAM	100	96	20.82	20.79	20.81	20.92			
20	64QAM	1	0	20.59	20.69	20.80	20.87	20.8	3	
20	64QAM	50	0	19.67	19.94	20.00	20.07			
20	64QAM	50	24	19.68	19.98	19.95	20.05			
20	64QAM	100	0	19.62	19.89	19.93	20.05			
20	256QAM	1	0	17.63	17.94	17.71	17.83	19.3	4.5	
20	256QAM	1	48	17.45	17.88	17.58	17.68			
20	256QAM	1	96	17.37	17.53	17.61	17.68			
20	256QAM	50	0	17.82	17.92	17.96	17.94			
20	256QAM	50	24	17.78	17.95	17.98	17.98	19.3	4.5	
20	256QAM	50	50	17.67	17.85	17.82	17.86			
20	256QAM	100	0	17.74	17.84	17.84	17.85			
20	256QAM	100	48	17.74	17.84	17.84	17.85			
Channel										
Frequency (MHz)										
15	QPSK	1	0	22.63	22.79	22.74	22.83	23.8	0	
15	QPSK	1	37	22.54	22.66	22.71	22.80			
15	QPSK	1	74	22.53	22.79	22.65	22.80			
15	QPSK	36	0	21.61	21.82	21.88	21.92			
15	QPSK	36	20	21.97	21.86	21.95	21.99	22.8	1	
15	QPSK	36	39	21.91	21.84	21.82	21.88			
15	QPSK	36	58	21.82	21.84	21.92	22.02			
15	QPSK	36	77	21.82	21.84	21.94	21.92			
15	16QAM	1	0	21.59	21.79	21.84	21.92	22.8	1	
15	16QAM	1	37	21.58	21.76	21.83	21.78			
15	16QAM	1	74	21.50	21.84	21.84	21.93			
15	16QAM	36	0	20.85	20.93	20.94	20.97			
15	16QAM	36	20	20.85	20.97	20.95	21.01	21.8	2	
15	16QAM	36	39	20.95	20.91	20.97	21.01			
15	16QAM	75	0	20.81	20.94	20.94	21.10			
15	64QAM	1	0	20.53	20.86	20.88	20.94			
15	64QAM	1	37	20.53	20.74	20.81	20.91	21.8	2	
15	64QAM	1	74	20.53	20.88	20.73	20.99			
15	64QAM	36	0	19.82	19.98	19.92	20.07			
15	64QAM	36	20	19.82	19.97	19.90	20.02			
15	64QAM	36	39	19.91	19.88	19.94	20.06	20.8	3	
15	64QAM	75	0	19.84	19.88	19.87	19.97			
15	256QAM	1	0	17.61	17.55	17.77	17.60			
15	256QAM	1	37	17.55	17.55	17.54	17.62			
15	256QAM	1	74	17.42	17.51	17.57	17.54	19.3	4.5	
15	256QAM	36	0	17.84	17.89	17.87	17.89			
15	256QAM	36	20	17.86	17.92	18.03	17.97			
15	256QAM	36	39	17.82	17.91	17.77	17.92			
15	256QAM	75	0	17.83	17.79	17.74	17.84	19.3	4.5	
15	256QAM	75	37	17.83	17.79	17.74	17.84			
15	256QAM	75	74	17.83	17.79	17.74	17.84			
15	256QAM	75	111	17.83	17.79	17.74	17.84			
Channel										
Frequency (MHz)										
10	QPSK	1	0	22.87	22.78	22.83	22.89	23.8	0	
10	QPSK	1	24	22.82	22.87	22.88	22.87			
10	QPSK	1	48	22.47	22.80	22.68	22.93			
10	QPSK	24	0	21.82	21.80	21.93	21.96			
10	QPSK	24	12	21.84	21.82	21.88	22.05	22.8	1	
10	QPSK	24	24	21.88	21.80	21.85	21.99			
10	QPSK	48	0	21.61	21.87	21.90	21.97			
10	16QAM	1	0	21.55	21.83	21.92	21.94			
10	16QAM	1	24	21.59	21.74	21.84	21.81	22.8	1	
10	16QAM	1	48	21.64	21.79	21.82	21.85			
10	16QAM	24	0	20.60	20.93	20.90	21.00			
10	16QAM	24	12	20.94	20.88	20.94	21.00			
10	16QAM	24	24	20.95	20.89	20.87	21.06	21.8	2	
10	16QAM	48	0	20.59	20.91	20.89	21.05			
10	64QAM	1	0	20.69	20.69	20.96	20.94			
10	64QAM	1	24	20.57	20.75	20.75	20.86			
10	64QAM	1	48	20.59	20.88	20.75	20.99	21.8	2	
10	64QAM	24	0	19.65	19.89	19.94	19.98			
10	64QAM	24	12	19.67	19.89	19.92	20.01			
10	64QAM	24	24	19.68	19.84	19.88	20.06			
10	256QAM	1	0	17.46	17.54	17.77	17.59	19.3	4.5	
10	256QAM	1	24	17.38	17.81	17.84	17.85			
10	256QAM	1	48	17.33	17.93	17.41	17.61			
10	256QAM	24	0	17.73	17.90	18.06	17.90			
10	256QAM	24	12	17.94	17.90	17.94	18.01	19.3	4.5	
10	256QAM	24	24	17.77	17.83	17.85	17.86			
10	256QAM	48	0	17.69	17.75	17.77	17.80			
10	256QAM	48	12	17.69	17.75	17.77	17.80			
Channel										
Frequency (MHz)										
5	QPSK	1	0	22.54	22.82	22.87	22.89	23.8	0	
5	QPSK	1	12	22.45	22.84	22.75	22.80			
5	QPSK	1	24	22.54	22.73	22.68	22.95			
5	QPSK	12	0	21.82	21.87	21.93	21.98			
5	QPSK	12	7	21.85	21.87	21.87	21.99	22.8	1	
5	QPSK	12	13	21.55	21.78	21.83	22.00			
5	QPSK	24	0	21.81	21.86	21.92	21.98			
5	16QAM	1	0	21.63	21.79	22.02	21.92			
5	16QAM	1	12	21.60	21.68	21.79	21.80	22.8	1	
5	16QAM	1	24	21.60	21.79	21.89	21.88			
5	16QAM	12	0	20.67	20.90	20.94	20.99			
5	16QAM	12	7	20.65	20.91	20.98	21.06			
5	16QAM	12	13	20.63	20.84	20.95	20.99	21.8	2	
5	16QAM	24	0	20.65	20.88	20.88	21.00			
5	64QAM	1	0	20.61	20.83	20.89	21.05			
5	64QAM	1	12	20.63	20.81	20.76	20.80			
5	64QAM	1	24	20.61	20.90	20.75	20.91	21.8	2	
5	64QAM	12	0	19.68	19.90	19.93	20.04			
5	64QAM	12	7	19.65	19.90	19.92	19.92			
5	64QAM	12	13	19.64	19.88	19.97	20.01			
5	64QAM	24	0	19.65	19.91	19.89	20.07	20.8	3	
5	256QAM	1	0	17.67	17.73	17.83	17.84			
5	256QAM	1	12	17.45	17.59	17.47	17.61			
5	256QAM	1	24	17.36	17.46	17.53	17.55			
5	256QAM	12	0	17.74	17.89	17.92	18.01	19.3	4.5	
5	256QAM	12	7	17.87	17.87	17.92	17.88			
5	256QAM	12	13	17.65	17.77	17.82	17.83			
5	256QAM	24	0	17.65	17.79	17.76	17.92			



Reduced power for Hotspot on-UAT

Baseband	Best Average Power (dBm)			Turn-up Limit	Frame Average Power (dBm)			Turn-up Limit
	99.2	99.4	99.8		99.2	99.4	99.8	
TX Channel	512	512	512	512	512	512	512	
Frequency (MHz)	3052	3052	3072	3200	3152	3152	3200	
OPBS-1 Tx total	30.51	30.52	30.71	32.00	21.51	21.52	21.71	
OPBS-2 Tx total	27.86	27.86	27.86	27.86	21.86	21.86	21.86	
OPBS-3 Tx total	25.08	25.08	25.02	27.25	21.72	21.69	21.76	
OPBS-4 Tx total	24.53	24.56	24.40	28.20	21.53	21.56	21.40	
EDGE-1 Tx total	24.32	24.50	24.81	28.00	19.32	19.50	19.83	
EDGE-2 Tx total	21.82	21.80	21.88	22.50	18.82	18.80	18.88	
EDGE-3 Tx total	20.77	20.70	20.86	21.00	18.51	18.51	18.60	
EDGE-4 Tx total	19.51	19.50	19.48	20.00	18.51	18.50	18.48	

Baseband	Best Average Power (dBm)			Turn-up Limit	Frame Average Power (dBm)			Turn-up Limit
	99.2	99.4	99.8		99.2	99.4	99.8	
TX Channel	512	512	512	512	512	512	512	
Frequency (MHz)	3052	3052	3072	3200	3152	3152	3200	
OPBS-1 Tx total	25.96	26.11	25.95	27.10	18.96	17.11	18.95	
OPBS-2 Tx total	23.46	23.52	23.67	24.60	17.46	17.52	17.67	
OPBS-3 Tx total	21.00	22.05	22.10	23.20	17.73	17.82	17.84	
OPBS-4 Tx total	20.40	20.51	20.52	21.80	17.40	17.51	17.52	
EDGE-1 Tx total	21.70	21.73	21.76	23.10	17.70	17.73	17.76	
EDGE-2 Tx total	20.41	20.42	20.53	22.00	18.41	18.42	18.53	
EDGE-3 Tx total	19.36	19.30	19.46	20.00	18.10	18.12	18.20	
EDGE-4 Tx total	18.06	18.12	18.27	19.00	18.06	18.12	18.27	

Baseband	WCMA II			WCMA IV			WCMA V			Turn-up Limit (dBm)	
	9662	9660	9668	1312	1415	1513	4132	4131	4233		
TX Channel	9662	9660	9668	1312	1415	1513	4132	4131	4233	9662	
Frequency (MHz)	9662.0	9660.0	9668.0	1312.0	1415.0	1513.0	4132.0	4131.0	4233.0	9662.0	
SQPP Ref #1	AMR 12.7kbps	19.28	19.35	19.25	20.00	20.39	20.41	20.42	21.10	21.84	21.00
SQPP Ref #2	AMR 12.7kbps	19.30	19.34	19.28	20.00	20.42	20.44	20.45	21.10	21.08	21.00
SQPP Ref #3	NSOP-Subnet-1	18.36	18.41	18.35	19.00	19.43	19.48	19.45	20.10	19.88	19.79
SQPP Ref #4	NSOP-Subnet-2	18.31	18.41	18.35	19.00	19.48	19.50	19.48	20.10	19.88	19.81
SQPP Ref #5	NSOP-Subnet-3	17.51	17.61	17.60	18.00	18.97	18.98	18.90	19.60	19.40	19.31
SQPP Ref #6	NSOP-Subnet-4	17.85	17.82	17.82	18.00	18.00	18.00	18.04	19.00	18.30	18.20
SQPP Ref #7	DC-HSPA-Subnet-1	18.11	18.22	18.12	19.00	19.23	19.24	19.28	20.10	19.70	19.61
SQPP Ref #8	DC-HSPA-Subnet-2	18.16	18.27	18.17	19.00	19.31	19.30	19.31	20.10	19.87	19.88
SQPP Ref #9	DC-HSPA-Subnet-3	17.29	17.73	17.69	18.00	18.82	18.83	18.78	19.60	19.21	19.09
SQPP Ref #10	DC-HSPA-Subnet-4	17.60	17.78	17.60	18.00	18.86	18.77	18.72	19.60	19.22	19.13
SQPP Ref #11	HSPA-Subnet-1	18.34	18.40	18.35	19.00	19.49	19.57	19.52	20.10	19.88	19.79
SQPP Ref #12	HSPA-Subnet-2	17.36	17.45	17.38	18.00	18.45	18.55	18.48	19.10	17.87	17.78
SQPP Ref #13	HSPA-Subnet-3	15.35	15.43	15.40	16.00	17.34	17.49	17.39	18.10	18.72	18.78
SQPP Ref #14	HSPA-Subnet-4	16.33	16.20	16.18	17.00	18.53	18.58	18.57	18.81	17.68	17.76
SQPP Ref #15	HSPA-Subnet-5	15.31	15.41	15.34	16.00	16.54	16.47	16.48	16.10	15.91	15.79
SQPP Ref #16	HSPA-Subnet-6	15.02	15.01	15.01	16.00	16.21	16.24	16.11	17.40	17.54	17.50
SQPP Ref #17	HSPA-Subnet-7	15.02	15.01	15.01	16.00	16.21	16.24	16.11	17.40	17.54	17.50

Baseband	CCMA B/C/D			CCMA B/C1			CCMA B/C10			Turn-up Limit (dBm)
	2015	2016	2017	2015	2016	2017	2015	2016	2017	
TX Channel	2015	2016	2017	2015	2016	2017	2015	2016	2017	2015
Frequency (MHz)	2015.0	2016.0	2017.0	2015.0	2016.0	2017.0	2015.0	2016.0	2017.0	2015.0
NSI B/C/D	20.62	20.65	20.62	22.20	19.30	19.40	20.40	20.77	20.81	20.79
NSI B/C/D1	20.62	20.65	20.61	22.20	19.30	19.38	20.40	20.76	20.81	20.79
NSI B/C/D1-FSDB	20.62	20.65	20.59	22.20	19.30	19.38	20.40	20.74	20.78	20.72
NSI B/C/D1-FSDB	20.60	20.61	20.57	22.20	19.29	19.35	19.27	20.72	20.78	20.70
RTAP-NSI B/C/D	20.59	20.60	20.55	22.20	18.27	19.33	19.28	20.40	20.71	20.68
RTAP-NSI B/C/D	20.57	20.59	20.53	22.20	18.25	19.32	19.24	20.40	20.69	20.73



Band 2 (1900MHz Band) Part 24E										
BW (MHz)	Modulation	RB Size	RB Offset	Power Low Ch./Freq	Power High Ch./Freq	Power High Ch./Freq	Turn-up Time (min)	MPR (dB)		
Channel										
Frequency (MHz)										
20	QPSK	1	0	18.03	18.12	18.08				
20	QPSK	1	49	18.02	18.05	17.94			19.1	0
20	QPSK	1	99	17.82	17.84	17.84				
20	QPSK	50	0	18.00	18.10	18.02				
20	QPSK	50	24	17.94	18.04	17.96			19.1	0
20	QPSK	50	50	17.93	17.93	17.95				
20	QPSK	100	0	17.98	18.03					
20	16QAM	1	0	17.99	17.91	17.99			19.1	0
20	16QAM	50	0	17.84	17.84	18.03				
20	16QAM	1	99	17.97	18.01	18.01				
20	16QAM	50	24	17.96	18.03	17.98			19.1	0
20	16QAM	50	50	17.92	18.02	18.01				
20	16QAM	100	0	17.91	18.07	18.08				
20	16QAM	1	49	17.95	18.02	17.79			19.1	0
20	16QAM	50	0	18.09	17.98	18.01				
20	16QAM	50	24	18.01	18.02	17.91			18.8	0.3
20	16QAM	100	0	17.97	17.93	18.00				
20	25QAM	1	0	18.94	18.76	18.57			17.3	1.8
20	25QAM	1	99	18.94	18.98	18.81				
20	25QAM	50	0	18.79	18.83	18.75			17.3	1.8
20	25QAM	50	24	18.73	18.82	18.75				
20	25QAM	100	0	18.71	18.76	18.66				
Channel										
Frequency (MHz)										
15	QPSK	1	0	17.92	17.92	18.08			19.1	0
15	QPSK	1	39	17.78	17.88	17.88				
15	QPSK	1	74	17.78	17.64	17.74				
15	QPSK	36	0	17.98	18.08	17.98			19.1	0
15	QPSK	36	39	17.86	17.96	17.86				
15	QPSK	36	74	17.80	18.00	17.75				
15	QPSK	75	0	17.83	17.97	17.88				
15	16QAM	1	0	17.85	17.98	17.88			19.1	0
15	16QAM	1	37	17.81	17.84	18.01				
15	16QAM	1	74	17.84	17.88	17.98				
15	16QAM	36	20	17.85	17.90	17.90			19.1	0
15	16QAM	36	39	17.94	18.05	18.02				
15	16QAM	36	74	17.84	17.88	17.83				
15	16QAM	1	0	17.81	17.85	17.88			19.1	0
15	16QAM	1	37	17.74	18.06	17.88				
15	16QAM	36	0	18.05	17.98	17.79			18.8	0.3
15	16QAM	36	20	17.79	17.80	17.72				
15	16QAM	36	39	17.87	17.93	17.83				
15	16QAM	75	0	17.87	17.93	17.83				
15	25QAM	1	0	18.75	18.72	18.60			17.3	1.8
15	25QAM	1	74	18.85	18.72	18.66				
15	25QAM	36	0	18.77	18.88	18.84			17.3	1.8
15	25QAM	36	39	18.67	18.82	18.82				
15	25QAM	75	0	18.83	18.60	18.54				
15	25QAM	1	0	18.64	18.62	18.62			19.1	0
15	25QAM	1	37	18.59	18.65	18.38				
15	25QAM	1	74	18.65	18.63	18.22				
15	25QAM	36	20	18.49	18.58	18.57			19.1	0
15	25QAM	36	39	18.46	18.68	18.63				
15	25QAM	75	0	18.59	18.54	18.52			18.8	0.3
15	25QAM	1	0	18.74	18.69	18.72				
15	25QAM	1	74	18.84	18.73	18.73			17.3	2.5
15	25QAM	36	0	18.62	18.73	18.66			17.3	2.5
15	25QAM	36	39	18.61	18.61	18.61				
15	25QAM	75	0	18.59	18.64	18.55				
Channel										
Frequency (MHz)										
10	QPSK	1	0	17.85	17.92	17.95			19.1	0
10	QPSK	1	39	17.78	17.88	17.88				
10	QPSK	1	74	17.79	17.71	17.90				
10	QPSK	25	0	17.70	17.87	18.02			19.1	0
10	QPSK	25	39	17.85	17.98	17.88				
10	QPSK	25	74	17.85	17.93	17.70				
10	QPSK	50	0	17.92	18.02	17.82				
10	16QAM	1	0	17.81	17.84	17.83			19.1	0
10	16QAM	1	26	17.62	17.96	18.05				
10	16QAM	1	49	18.01	17.82	17.80				
10	16QAM	25	0	17.88	18.03	17.88			19.1	0
10	16QAM	25	12	17.85	18.03	17.74				
10	16QAM	25	25	17.75	17.95	17.78				
10	16QAM	50	0	17.82	17.84	18.01				
10	16QAM	1	0	17.80	18.03	17.89			19.1	0
10	16QAM	1	25	18.00	17.96	17.74				
10	16QAM	1	49	17.81	17.85	17.80				
10	16QAM	25	0	18.03	17.72	17.90			18.8	0.3
10	16QAM	25	12	18.02	17.90	17.73				
10	16QAM	25	25	17.70	17.95	17.86				
10	16QAM	50	0	18.02	17.67	17.97				
10	25QAM	1	0	18.03	18.08	18.02			17.3	1.8
10	25QAM	1	25	18.05	18.05	18.02				
10	25QAM	1	25	18.05	18.05	18.02				
10	25QAM	25	0	18.07	18.09	18.09			17.3	1.8
10	25QAM	25	25	18.03	18.03	18.03				
10	25QAM	50	0	18.03	18.04	18.02				
Channel										
Frequency (MHz)										
5	QPSK	1	0	17.82	18.05	17.84			19.1	0
5	QPSK	1	12	17.72	17.88	17.83				
5	QPSK	1	24	17.70	17.78	17.84				
5	QPSK	12	0	17.73	17.85	17.88			19.1	0
5	QPSK	12	7	17.87	17.82	17.89				
5	QPSK	12	13	17.90	18.00	18.03				
5	QPSK	25	0	17.89	17.89	17.82			19.1	0
5	QPSK	25	0	17.82	17.78	18.04				
5	16QAM	1	12	17.63	18.00	17.92			19.1	0
5	16QAM	1	24	17.84	17.97	17.89				
5	16QAM	1	0	17.81	17.81	17.85				
5	16QAM	12	7	17.89	18.04	17.89			19.1	0
5	16QAM	12	13	17.90	18.01	17.86				
5	16QAM	25	0	17.86	17.77	17.82				
5	16QAM	1	0	17.89	17.80	17.91			19.1	0
5	16QAM	1	12	17.84	17.79	17.89				
5	16QAM	1	24	17.84	17.71	17.83				
5	16QAM	12	0	17.97	17.84	18.06			18.8	0.3
5	16QAM	12	7	17.86	17.82	17.82				
5	16QAM	12	13	17.85	17.75	18.05				
5	16QAM	25	0	18.02	17.83	17.82			17.3	1.8
5	25QAM	1	12	18.70	18.85	18.85			17.3	1.8
5	25QAM	1	24	18.95	18.77	18.98				
5	25QAM	12	0	18.99	18.88	18.88			17.3	1.8
5	25QAM	12	7	18.75	18.88	18.88				
5	25QAM	12	13	18.75	18.88	18.88				
5	25QAM	25	0	18.83	18.85	18.85			17.3	1.8
Channel										
Frequency (MHz)										
1.4	QPSK	1	0	18.00	17.92	18.04			19.1	0
1.4	QPSK	1	14	17.85	17.83	18.00				
1.4	QPSK	8	0	17.88	17.91	17.79			19.1	0
1.4	QPSK	8	4	17.77	17.95	17.81				
1.4	QPSK	8	7	17.75	18.01	17.86				
1.4	16QAM	1	0	17.92	17.86	18.03			19.1	0
1.4	16QAM	1	8	17.80	18.08	17.78				
1.4	16QAM	1	16	17.79	18.04	18.01				
1.4	16QAM	8	4	18.00	18.08	18.01			19.1	0
1.4	16QAM	8	7	17.97	18.01	17.90				
1.4	16QAM	15	0	17.84	17.85	17.87				
1.4	16QAM	1	0	17.75	17.87	17.92			19.1	0
1.4	16QAM	1	8	18.00	17.93	17.89				
1.4	16QAM	1	14	17.80	17.92	17.76				



Band 7 (260MHz Band) Part 27									
BW (MHz)	Modulation	RB Size	RB Offset	Power Low Ch./F.Freq.	Power High Ch./F.Freq.	Power High Ch./F.Freq.	Turn-up limit (dBm)	MPR (dB)	
Channel									
Frequency (MHz)									
20	QPSK	1	0	15.28	15.47	15.32			
20	QPSK	1	49	15.33	15.44	15.48	16.5	0	
20	QPSK	1	99	15.35	15.47	15.52			
20	QPSK	50	0	15.45	15.53	15.56			
20	QPSK	50	24	15.50	15.46	15.56	16.5	0	
20	QPSK	50	50	15.48	15.56	15.56			
20	QPSK	100	0	15.41	15.62	15.54			
20	16QAM	1	0	15.50	15.35	15.37			
20	16QAM	1	49	15.58	15.58	15.61	16.5	0	
20	16QAM	1	99	15.56	15.60	15.34			
20	16QAM	50	0	15.57	15.50	15.58			
20	16QAM	50	24	15.57	15.60	15.67	16.5	0	
20	16QAM	50	50	15.50	15.31	15.32			
20	16QAM	100	0	15.51	15.68	15.60			
20	16QAM	1	49	15.34	15.38	15.33			
20	16QAM	1	49	15.46	15.38	15.32	16.5	0	
20	16QAM	50	0	15.42	15.51	15.67			
20	16QAM	50	0	15.40	15.59	15.57			
20	16QAM	50	24	15.51	15.69	15.64	16.5	0	
20	16QAM	100	0	15.51	15.50	15.58			
20	256QAM	1	0	15.19	15.48	15.39			
20	256QAM	1	49	15.35	15.47	15.33	16.3	0.2	
20	256QAM	1	99	15.35	15.35	15.30			
20	256QAM	50	0	15.13	15.27	15.19			
20	256QAM	50	24	15.29	15.36	15.19	16.3	0.2	
20	256QAM	50	50	15.27	15.28	15.22			
20	256QAM	100	0	15.23	15.32	15.19			
Channel									
Frequency (MHz)									
18	QPSK	1	0	15.13	15.40	15.28			
18	QPSK	1	74	15.23	15.65	15.50	16.5	0	
18	QPSK	36	0	15.43	15.28	15.38			
18	QPSK	36	36	15.37	15.39	15.39	16.5	0	
18	QPSK	75	0	15.25	15.48	15.51			
18	16QAM	1	0	15.31	15.30	15.41			
18	16QAM	1	37	15.19	15.22	15.48	16.5	0	
18	16QAM	1	74	15.33	15.47	15.21			
18	16QAM	36	0	15.31	15.43	15.50			
18	16QAM	36	20	15.61	15.50	15.42	16.5	0	
18	16QAM	36	39	15.42	15.09	15.31			
18	16QAM	75	0	15.32	15.40	15.12			
18	16QAM	1	0	15.46	15.29	15.24	16.5	0	
18	16QAM	36	0	15.37	15.50	15.38			
18	16QAM	36	20	15.51	15.69	15.61	16.5	0	
18	16QAM	75	0	15.38	15.44	15.46			
18	16QAM	75	0	15.34	15.47	15.39			
18	256QAM	1	0	15.00	15.28	15.15			
18	256QAM	1	74	15.40	15.19	15.15	16.3	0.2	
18	256QAM	36	0	15.14	15.10	15.14			
18	256QAM	36	39	15.18	15.14	15.12	16.3	0.2	
18	256QAM	75	0	15.04	15.20	15.08			
Channel									
Frequency (MHz)									
19	QPSK	1	0	15.19	15.17	15.30			
19	QPSK	1	49	15.33	15.50	15.66	16.5	0	
19	QPSK	25	0	15.36	15.32	15.34			
19	QPSK	25	26	15.40	15.48	15.38	16.5	0	
19	QPSK	50	0	15.23	15.39	15.38			
19	16QAM	1	26	15.37	15.32	15.38	16.5	0	
19	16QAM	1	49	15.48	15.45	15.24			
19	16QAM	25	12	15.34	15.61	15.47			
19	16QAM	25	25	15.34	15.09	15.08	16.5	0	
19	16QAM	50	0	15.23	15.63	15.59			
19	16QAM	1	0	15.17	15.37	15.36			
19	16QAM	1	25	15.43	15.26	15.19	16.5	0	
19	16QAM	1	49	15.34	15.13	15.36			
19	16QAM	25	0	15.34	15.54	15.37			
19	16QAM	25	12	15.29	15.60	15.44	16.5	0	
19	16QAM	25	26	15.49	15.44	15.67			
19	16QAM	50	0	15.47	15.38	15.83			
19	256QAM	1	0	15.24	15.51	15.36			
19	256QAM	1	49	15.23	15.24	15.10	16.3	0.2	
19	256QAM	25	0	15.10	15.04	15.19			
19	256QAM	25	12	15.29	15.18	15.32	16.3	0.2	
19	256QAM	25	26	15.31	15.08	15.20			
19	256QAM	50	0	15.37	15.17	15.14			
Channel									
Frequency (MHz)									
20	QPSK	1	0	15.08	15.23	15.24			
20	QPSK	1	19	15.33	15.19	15.33	16.5	0	
20	QPSK	1	24	15.19	15.60	15.67			
20	QPSK	12	0	15.33	15.26	15.42			
20	QPSK	12	7	15.38	15.24	15.53	16.5	0	
20	QPSK	12	18	15.37	15.62	15.45			
20	QPSK	25	0	15.35	15.36	15.49			
20	16QAM	1	0	15.54	15.20	15.33	16.5	0	
20	16QAM	1	12	15.28	15.10	15.60			
20	16QAM	1	24	15.44	15.44	15.09			
20	16QAM	12	0	15.32	15.61	15.62	16.5	0	
20	16QAM	12	7	15.45	15.61	15.60			
20	16QAM	12	10	15.27	15.27	15.34			
20	16QAM	12	0	15.34	15.30	15.48			
20	16QAM	12	0	15.26	15.16	15.28			
20	16QAM	1	10	15.37	15.10	15.19	16.5	0	
20	16QAM	1	24	15.36	15.13	15.28			
20	16QAM	12	0	15.48	15.36	15.49			
20	16QAM	12	13	15.28	15.51	15.68	16.5	0	
20	16QAM	25	0	15.45	15.35	15.61			
20	256QAM	1	10	15.03	15.38	15.29	16.3	0.2	
20	256QAM	1	24	15.40	15.39	15.17			
20	256QAM	12	0	15.18	15.09	15.10			
20	256QAM	12	7	15.19	15.34	15.09	16.3	0.2	
20	256QAM	12	13	15.28	15.32	15.17			
20	256QAM	25	0	15.14	15.24	15.15			

Band 12 (700MHz Low Band) Part 27 (only on channel required)									
BW (MHz)	Modulation	RB Size	RB Offset	Power Low Ch./F.Freq.	Power High Ch./F.Freq.	Power High Ch./F.Freq.	Turn-up limit (dBm)	MPR (dB)	
Channel									
Frequency (MHz)									
10	QPSK	1	0	19.48	19.42	19.52			
10	QPSK	1	25	19.45	19.52	19.48	20.7	0	
10	QPSK	1	49	19.37	19.57	19.52			
10	QPSK	25	0	19.41	19.41	19.44			
10	QPSK	25	12	19.47	19.49	19.42	20.7	0	
10	QPSK	25	25	19.46	19.51	19.45			
10	QPSK	50	0	19.49	19.70	19.42			
10	16QAM	25	0	19.54	19.67	19.40			
10	16QAM	25	0	19.50	19.56	19.57	20.7	0	
10	16QAM	1	49	19.54	19.58	19.51			
10	16QAM	25	12	19.52	19.52	19.40	20.7	0	
10	16QAM	25	25	19.51	19.54	19.55			
10	16QAM	50	0	19.50	19.56	19.40			
10	16QAM	1	25	19.53	19.51	19.56	20.7	0	
10	16QAM	1	25	19.51	19.51	19.55			
10	16QAM	25	0	19.54	19.58	19.59			
10	16QAM	25	12	19.53	19.56	19.57	20.3	0.4	
10	16QAM	50	0	19.55	19.57	19.55			
10	256QAM	1	0	17.80	17.47	17.63			
10	256QAM	1	24	17.64	17.61	17.50	18.8	1.9	
10	256QAM	1	49	17.64	17.47	17.50			
10	256QAM	25	0	17.51	17.46	17.51			
10	256QAM	25	26	17.54	17.43	17.44	18.8	1.9	
10	256QAM	50	0	17.50	17.44	17.43			
Channel									
Frequency (MHz)									
5	QPSK	1	0	19.43	19.35	19.52			
5	QPSK	1	24	19.56	19.51	19.45	20.7	0	
5	QPSK	1	24	19.55	19.51	19.45			
5	QPSK	12	0	19.11	19.21	19.28			
5	QPSK	12	7	19.30	19.25	19.28	20.7	0	
5	QPSK	12	18	19.30	19.25	19.28			
5	QPSK	25	0	19.39	19.63	19.16			
5	16QAM	1	0	19.54	19.56	19.38			
5	16QAM	1	12	19.51	19.52	19.52	20.7	0	
5	16QAM	1	24	19.54	19.53	19.45			
5	16QAM	12	7	19.52	19.57	19.55	20.7	0	
5	16QAM	12	18	19.53	19.29	19.34			
5	16QAM	25	0	19.30	19.50	19.18			
5	16QAM	1	12	19.56	19.44	19.40	20.7	0	
5	16QAM	1	24	19.57	19.46	19.40			
5	16QAM	12	0	19.37	19.46	19.40			
5	16QAM	12	7	19.46	19.31	19.50	20.3	0.4	
5	16QAM	25	0	19.45	19.55	19.56			
5	256QAM	1	0	17.51	17.50	17.49			
5	256QAM	1	24	17.51	17.32	17.36	18.8	1.9	
5	256QAM	1	24	17.51	17.32	17.36			
5	256QAM	12	0	17.37	17.45	17.40			
5	256QAM	12	7	17.47	17.45	17.40	18.8	1.9	
5	256QAM	12	18	17.41	17.45	17.42			
5	256QAM	25	0	17.38	17.39	17.44			
Channel									
Frequency (MHz)									
1.4	QPSK	1	0	19.41	19.18	19.30			
1.4	QPSK	1	4	19.30	19.34	19.34	20.7	0	
1.4	QPSK	1	14	19.57	19.50	19.30			
1.4	QPSK	8	0	19.33	19.13	19.20			
1.4	QPSK	8	4	19.46	19.46	19.46			



Band 17 (100MHz Band) Part 27H(only on channel required)									
BW (MHz)	Modulation	RB Size	RB Offset	Power Ch./Freq.	Power Ch./Freq.	Power Ch./Freq.	Turn-up limit (dBm)	MPR (dB)	
Channel									
Frequency (MHz)									
10	QPSK	1	0	19.19	19.25	19.25	20.7	0	
10	QPSK	1	25	19.34	19.30	19.33			
10	QPSK	1	49	19.49	19.29	19.27			
10	QPSK	25	0	19.35	19.35	19.37			
10	QPSK	25	12	19.48	19.42	19.43	20.7	0	
10	QPSK	25	25	19.41	19.46	19.42			
10	QPSK	50	0	19.42	19.37	19.38			
10	16QAM	1	0	19.38	19.37	19.35	20.7	0	
10	16QAM	25	0	19.27	19.30	19.31			
10	16QAM	1	49	19.31	19.31	19.32			
10	16QAM	25	0	19.28	19.27	19.29	20.7	0	
10	16QAM	25	12	19.24	19.24	19.25			
10	16QAM	25	25	19.29	19.28	19.27			
10	16QAM	1	0	19.24	19.24	19.27			
10	16QAM	1	25	19.32	19.33	19.32	20.7	0	
10	16QAM	1	49	19.22	19.31	19.26			
10	16QAM	25	0	19.23	19.30	19.31			
10	16QAM	25	12	19.29	19.29	19.29	20.3	0.4	
10	16QAM	25	25	19.25	19.31	19.33			
10	16QAM	50	0	19.35	19.33	19.32			
10	256QAM	1	0	17.47	17.34	17.50	18.8	1.9	
10	256QAM	1	25	17.50	17.45	17.37			
10	256QAM	1	49	17.51	17.34	17.42			
10	256QAM	25	0	17.38	17.43	17.38			
10	256QAM	25	12	17.40	17.42	17.32			
10	256QAM	25	25	17.41	17.30	17.31	18.8	1.9	
10	256QAM	50	0	17.37	17.31	17.30			
Channel									
Frequency (MHz)									
5	QPSK	1	0	19.14	19.00	19.06	20.7	0	
5	QPSK	1	25	19.08	19.10	19.18			
5	QPSK	1	49	19.30	19.06	19.17			
5	QPSK	12	0	19.27	19.32	19.33			
5	QPSK	12	12	19.39	19.21	19.22	20.7	0	
5	QPSK	12	18	19.24	19.21	19.32			
5	QPSK	25	0	19.29	19.22	19.08			
5	16QAM	1	0	19.37	19.30	19.37	20.7	0	
5	16QAM	1	16	19.35	19.33	19.31			
5	16QAM	1	24	19.31	19.33	19.30			
5	16QAM	12	0	19.29	19.08	19.30	20.7	0	
5	16QAM	12	7	19.11	19.01	19.00			
5	16QAM	12	13	19.13	19.16	19.17			
5	16QAM	25	0	19.16	19.16	19.20			
5	16QAM	1	0	19.25	19.03	19.18			
5	16QAM	1	12	19.31	19.28	19.21	20.7	0	
5	16QAM	1	24	19.15	19.22	19.30			
5	16QAM	12	0	19.03	19.11	19.18	20.3	0.4	
5	16QAM	12	7	19.22	19.21	19.30			
5	16QAM	12	13	19.00	19.11	19.18			
5	16QAM	25	0	19.22	19.37	19.24			
5	256QAM	1	0	17.47	17.13	17.36	18.8	1.9	
5	256QAM	1	24	17.27	17.36	17.24			
5	256QAM	12	0	17.37	17.00	17.41			
5	256QAM	12	6	17.38	17.46	17.18	18.8	1.9	
5	256QAM	12	13	17.29	17.22	17.19			
5	256QAM	25	0	17.21	17.26	17.36			

Band 25 (100MHz Band) Part 24E									
BW (MHz)	Modulation	RB Size	RB Offset	Power Ch./Freq.	Power Ch./Freq.	Power Ch./Freq.	Turn-up limit (dBm)	MPR (dB)	
Channel									
Frequency (MHz)									
20	QPSK	1	0	18.19	18.30	18.19	19.1	0	
20	QPSK	1	49	18.21	18.06	18.21			
20	QPSK	1	99	18.18	18.18	18.07			
20	QPSK	50	0	18.13	18.21	18.17			
20	QPSK	50	24	18.24	18.24	18.23	19.1	0.1	
20	QPSK	50	50	18.24	18.24	18.19			
20	QPSK	100	0	18.24	18.22	18.19			
20	16QAM	1	0	18.13	18.20	18.15	19.1	0	
20	16QAM	1	49	18.13	18.17	18.30			
20	16QAM	1	99	18.29	18.13	18.27			
20	16QAM	50	24	18.27	18.21	18.27	19.1	0	
20	16QAM	50	50	18.21	18.21	18.26			
20	16QAM	1	0	18.22	18.22	18.18			
20	16QAM	1	49	18.14	18.10	18.12	19.1	0	
20	16QAM	1	99	18.17	18.25	18.23			
20	16QAM	50	0	18.17	18.25	18.23			
20	16QAM	50	24	18.12	18.23	18.21	18.8	0.3	
20	16QAM	50	50	18.26	18.15	18.20			
20	256QAM	1	0	16.89	16.88	16.90	17.3	1.8	
20	256QAM	1	49	16.92	16.91	16.87			
20	256QAM	1	99	16.87	16.91	16.79			
20	256QAM	50	0	16.82	16.77	16.78	17.3	1.8	
20	256QAM	50	24	16.86	16.86	16.81			
20	256QAM	50	50	16.78	16.81	16.71			
20	256QAM	100	0	16.78	16.72	16.77			
Channel									
Frequency (MHz)									
15	QPSK	1	0	17.91	18.26	18.16	19.1	0	
15	QPSK	1	25	18.10	18.23	17.98			
15	QPSK	1	74	18.10	18.10	17.88			
15	QPSK	36	0	17.98	18.20	18.12	19.1	0	
15	QPSK	36	18	18.07	18.22	18.18			
15	QPSK	36	36	18.07	18.23	17.83			
15	QPSK	75	0	18.05	18.23	18.08			
15	16QAM	1	0	18.07	18.22	18.18	19.1	0	
15	16QAM	1	37	18.14	18.03	18.00			
15	16QAM	1	74	18.24	17.92	18.24			
15	16QAM	36	0	18.06	18.20	18.20	19.1	0	
15	16QAM	36	36	18.09	18.07	18.10			
15	16QAM	75	0	17.94	17.95	18.11	19.1	0	
15	16QAM	1	0	17.94	17.95	18.17			
15	16QAM	1	37	18.01	17.85	17.87			
15	16QAM	1	74	18.06	18.06	18.08			
15	16QAM	36	0	18.08	18.13	17.99	18.8	0.3	
15	16QAM	36	36	18.09	18.10	18.07			
15	16QAM	75	0	18.14	18.18	18.17			
15	256QAM	1	0	16.77	16.90	16.83	17.3	1.8	
15	256QAM	1	37	16.81	16.82	16.80			
15	256QAM	1	74	16.79	16.73	16.82			
15	256QAM	36	0	16.80	16.71	16.67	17.3	1.8	
15	256QAM	36	36	16.75	16.78	16.74			
15	256QAM	75	0	16.76	16.88	16.66			
Channel									
Frequency (MHz)									
10	QPSK	1	0	18.01	18.18	18.04	19.1	0	
10	QPSK	1	25	18.13	18.13	18.08			
10	QPSK	1	49	17.99	17.93	18.04			
10	QPSK	25	0	17.89	18.18	18.10	19.1	0	
10	QPSK	25	12	18.07	18.22	18.15			
10	QPSK	25	25	18.15	18.10	18.12			
10	QPSK	50	0	17.97	18.20	18.18			
10	16QAM	1	0	18.05	18.20	18.20	19.1	0	
10	16QAM	1	25	18.00	18.19	17.88			
10	16QAM	1	49	18.23	18.17	18.11			
10	16QAM	25	0	18.10	18.18	18.14			
10	16QAM	25	12	18.22	18.24	18.13			
10	16QAM	25	25	17.98	18.11	18.04			
10	16QAM	50	0	18.17	18.18	18.00			
10	16QAM	1	0	18.03	18.16	18.19	19.1	0	
10	16QAM	1	25	18.05	18.05	18.15			
10	16QAM	1	49	18.10	17.83	18.04	19.1	0	
10	16QAM	25	0	18.08	18.08	18.08			
10	16QAM	25	12	18.06	18.17	18.20	18.8	0.3	
10	16QAM	25	25	18.21	18.01	18.01			
10	16QAM	50	0	18.22	18.20	18.14			
10	256QAM	1	0	16.84	16.86	16.84	17.3	1.8	
10	256QAM	1	25	16.88	16.90	16.82			
10	256QAM	1	49	16.81	16.82	16.82			
10	256QAM	25	0	16.84	16.82	16.83	17.3	1.8	
10	256QAM	25	12	16.78	16.78	16.86			



Band 30									
BW (MHz)	Modulation	RB Size	RB Offset	Power Low Ch./Freq.	Power High Ch./Freq.	Power High Ch./Freq.	Time-up limit (min)	MPR (dB)	MFR (dB)
Channel 2316									
10	QPSK	1	0	17.00					
10	QPSK	1	25	17.75			19	0	
10	QPSK	1	50	17.51					
10	QPSK	25	0	17.50					
10	QPSK	25	12	17.50			19	0	
10	QPSK	25	25	17.50					
10	QPSK	50	0	17.50					
10	16QAM	1	0	17.50			19	0	
10	16QAM	1	25	17.50					
10	16QAM	1	49	17.50					
10	16QAM	25	12	17.50			19	0	
10	16QAM	25	25	17.50					
10	64QAM	1	0	17.50			18.5	0.5	
10	64QAM	1	25	17.54					
10	64QAM	1	49	17.59					
10	64QAM	25	0	17.47					
10	64QAM	25	12	17.37			18.5	0.5	
10	64QAM	25	25	17.38					
10	64QAM	50	0	17.33					
10	256QAM	1	0	15.58			17.3	1.7	
10	256QAM	1	25	15.73					
10	256QAM	1	49	15.64					
10	256QAM	25	0	15.48			17.3	1.7	
10	256QAM	25	12	15.63					
10	256QAM	25	25	15.58					
10	256QAM	50	0	15.49					
Channel 2365									
Channel 2370									
Channel 2375									
5	QPSK	1	0	17.82	17.91	17.92			
5	QPSK	1	25	17.76	17.80	17.88	19	0	
5	QPSK	1	24	17.64	17.68	17.71			
5	QPSK	12	0	17.76	17.80	17.73			
5	QPSK	12	7	17.64	17.69	17.60	19	0	
5	QPSK	12	13	17.68	17.70	17.70			
5	QPSK	25	0	17.89	17.80	17.85			
5	16QAM	1	0	17.80	17.80	17.80	19	0	
5	16QAM	1	12	17.95	17.75	17.95			
5	16QAM	1	24	17.85	17.75	17.73			
5	16QAM	12	0	17.70	17.70	17.71	19	0	
5	16QAM	12	7	17.81	17.80	17.80			
5	16QAM	12	13	17.71	17.74	17.68			
5	64QAM	1	0	17.90	17.87	17.87	19	0	
5	64QAM	1	24	17.76	17.81	17.81			
5	64QAM	1	12	17.85	17.80	17.88			
5	64QAM	12	0	17.80	17.75	17.72	18.5	0.5	
5	64QAM	12	7	17.81	17.80	17.80			
5	64QAM	12	13	17.80	17.75	17.72			
5	64QAM	25	0	17.29	17.28	17.21			
5	256QAM	1	0	15.43	15.43	15.47	17.3	1.7	
5	256QAM	1	24	15.53	15.60	15.47			
5	256QAM	12	0	15.50	15.40	15.44			
5	256QAM	12	7	15.40	15.50	15.49	17.3	1.7	
5	256QAM	12	13	15.43	15.59	15.55			
5	256QAM	25	0	15.38	15.45	15.38			

Band 66									
BW (MHz)	Modulation	RB Size	RB Offset	Power Low Ch./Freq.	Power High Ch./Freq.	Power High Ch./Freq.	Time-up limit (min)	MPR (dB)	MFR (dB)
Channel 1500									
Channel 1502									
Channel 1504									
20	QPSK	1	0	15.76	15.51	15.98			
20	QPSK	1	49	15.92	15.82	15.76	19.8	0	
20	QPSK	1	99	15.77	15.89	15.76			
20	QPSK	50	0	15.82	15.87	15.85			
20	QPSK	50	24	15.89	15.94	15.85	19.8	0	
20	QPSK	50	50	15.81	15.90	15.88			
20	QPSK	100	0	15.89	15.81	15.81			
20	16QAM	1	0	15.86	15.81	15.86			
20	16QAM	1	49	15.82	15.88	15.87	19.8	0	
20	16QAM	1	99	15.81	15.86	15.88			
20	16QAM	50	0	15.86	15.89	15.87			
20	16QAM	50	24	15.87	15.82	15.85	19.8	0	
20	16QAM	50	50	15.86	15.84	15.84			
20	64QAM	1	0	15.85	15.82	15.81	18.8	1	
20	64QAM	1	49	15.81	15.88	15.86			
20	64QAM	1	99	15.85	15.85	15.85			
20	64QAM	50	0	17.89	17.98	17.87			
20	64QAM	50	24	17.95	17.99	17.84	18.8	1	
20	64QAM	50	50	17.86	17.99	17.87			
20	64QAM	100	0	17.88	17.93	17.82			
20	256QAM	1	0	15.91	15.86	15.89	17.3	2.5	
20	256QAM	1	49	15.86	15.92	15.81			
20	256QAM	1	99	15.85	15.89	15.92			
20	256QAM	50	0	15.73	15.69	15.70	17.3	2.5	
20	256QAM	50	24	15.78	15.71	15.78			
20	256QAM	50	50	15.75	15.74	15.83			
20	256QAM	100	0	15.76	15.68	15.82			
Channel 1507									
Channel 1511									
Channel 1515									
15	QPSK	1	0	15.75	15.85	15.77			
15	QPSK	1	24	15.80	15.76	15.84	19.8	0	
15	QPSK	1	74	15.50	15.41	15.64			
15	QPSK	36	0	15.81	15.84	15.87			
15	QPSK	36	25	15.75	15.88	15.83	19.8	0	
15	QPSK	36	36	15.69	15.82	15.68			
15	QPSK	75	0	15.74	15.84	15.81			
15	16QAM	1	0	15.86	15.76	15.70	19.8	0	
15	16QAM	1	37	15.69	15.81	15.75			
15	16QAM	1	74	15.84	15.87	15.87			
15	16QAM	36	0	15.85	15.82	15.79	19.8	0	
15	16QAM	36	20	15.85	15.77	15.75			
15	16QAM	36	39	15.66	15.82	15.82			
15	16QAM	75	0	15.81	15.84	15.81	19.8	0	
15	64QAM	1	0	15.81	15.82	15.85			
15	64QAM	1	37	15.69	15.87	15.85	19.8	0	
15	64QAM	1	74	15.80	15.71	15.71			
15	64QAM	36	0	17.81	17.87	17.74	18.8	1	
15	64QAM	36	20	17.74	17.74	17.71			
15	64QAM	36	39	17.67	17.98	17.80			
15	64QAM	75	0	17.76	17.85	17.83			
15	256QAM	1	0	15.84	15.68	15.71	17.3	2.5	
15	256QAM	1	37	15.72	15.71	15.60			
15	256QAM	1	74	15.76	15.69	15.78			
15	256QAM	36	0	15.54	15.63	15.60	17.3	2.5	
15	256QAM	36	20	15.77	15.52	15.60			
15	256QAM	36	39	15.67	15.51	15.60			
15	256QAM	75	0	15.68	15.71	15.62			
Channel 1715									
Channel 1745									
Channel 1775									
10	QPSK	1	0	15.47	15.83	15.82			
10	QPSK	1	25	15.76	15.68	15.82	19.8	0	
10	QPSK	1	49	15.71	15.64	15.74			
10	QPSK	25	0	15.85	15.87	15.78			
10	QPSK	25	12	15.80	15.83	15.81	19.8	0	
10	QPSK	25	25	15.83	15.81	15.70			
10	QPSK	50	0	15.72	15.86	15.77			
10	16QAM	1	0	15.87	15.82	15.70	19.8	0	
10	16QAM	1	25	15.82	15.79	15.73			
10	16QAM	1	49	15.89	15.72	15.81			
10	16QAM	25	0	15.87	15.89	15.84	19.8	0	
10	16QAM	25	12	15.80	15.85	15.81			
10	16QAM	25	25	15.86	15.81	15.86			
10	16QAM	50	0	15.82	15.82	15.80	19.8	0	
10	64QAM	1	0	15.80	15.60	15.72			
10	64QAM	1	25	15.86	15.82	15.80	19.8	0	
10	64QAM	1	49	15.86	15.83	15.85			
10	64QAM	25	0	17.85	17.86	17.81	18.8	1	
10	64QAM	25	12	17.78	17.89	17.86			
10	64QAM	25	25	17.20	17.79	17.69			
10	64QAM	50	0	17.85	17.78	17.73			
10	256QAM	1	0	15.66	15.65	15.64	17.3	2.5	
10	256QAM	1	25	15.69	15.88	15.75			
10	256QAM	1	49	15.79	15.64	15.77			
10	256QAM	25	0	15.51	15.70	15.62	17.3	2.5	
10	256QAM	25	12	15.59	15.68	15.62			



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Band 71										
BW (MHz)	Modulation	RB Size	RB Offset	Power Limit Ch./Freq.	Power Mask Ch./Freq.	Power Hgt Ch./Freq.	Totals Limit (dBm)	APR (dB)		
Channel										
Frequency (MHz)				673	683	688				
20	QPSK	1	0	21.05	21.05	21.01				
20	QPSK	1	49	20.90	20.82	20.74	22	0		
20	QPSK	1	99	20.99	20.92	20.87				
20	QPSK	50	0	20.93	20.95	20.82				
20	QPSK	50	24	20.92	20.85	21.01	22	0		
20	QPSK	50	50	20.99	21.03	20.94				
20	QPSK	100	0	21.01	21.04	21.00				
20	16QAM	1	0	20.97	20.92	21.05				
20	16QAM	1	49	20.99	21.03	20.98	22	0		
20	16QAM	1	99	20.91	21.05	20.98				
20	16QAM	50	0	21.04	21.01	21.08				
20	16QAM	50	24	20.99	20.96	21.02				
20	16QAM	50	50	20.96	20.93	20.87	22	0		
20	16QAM	100	0	20.92	20.99	20.94				
20	64QAM	1	0	20.83	20.93	20.92				
20	64QAM	1	49	20.82	20.84	20.76	22	0		
20	64QAM	1	99	20.76	20.95	20.71				
20	64QAM	50	0	19.55	19.63	19.60				
20	64QAM	50	24	19.41	19.48	19.53				
20	64QAM	50	50	19.52	19.46	19.38	20.3	1.7		
20	64QAM	100	0	19.58	19.55	19.54				
20	256QAM	1	0	17.54	17.49	17.56				
20	256QAM	1	49	17.47	17.55	17.57	18.8	3.2		
20	256QAM	1	99	17.52	17.50	17.46				
20	256QAM	50	0	17.46	17.48	17.43				
20	256QAM	50	24	17.42	17.42	17.44				
20	256QAM	50	50	17.42	17.41	17.33	18.8	3.2		
20	256QAM	100	0	17.47	17.44	17.53				
Channel										
Frequency (MHz)				670.5	680.5	690.5				
15	QPSK	1	0	20.76	20.79	20.88				
15	QPSK	1	37	20.79	20.74	20.88	22	0		
15	QPSK	1	74	20.83	20.78	20.87				
15	QPSK	36	0	20.72	20.92	20.73				
15	QPSK	36	20	20.78	20.75	20.78	22	0		
15	QPSK	36	39	20.78	20.83	20.85				
15	QPSK	75	0	20.94	20.91	20.71				
15	16QAM	1	0	21.00	20.93	21.08				
15	16QAM	1	37	21.04	21.04	20.92	22	0		
15	16QAM	1	74	20.94	21.04	20.97				
15	16QAM	36	0	20.81	20.94	21.08				
15	16QAM	36	20	20.91	20.97	20.92	22	0		
15	16QAM	36	39	20.94	20.91	20.81				
15	16QAM	75	0	20.71	20.84	20.85				
15	64QAM	1	0	20.59	20.91	20.88				
15	64QAM	1	37	20.75	20.76	20.71	22	0		
15	64QAM	1	74	20.82	20.81	20.81				
15	64QAM	36	0	19.38	19.23	19.44				
15	64QAM	36	20	19.40	19.51	19.59	20.3	1.7		
15	64QAM	36	39	19.38	19.43	19.38				
15	64QAM	75	0	19.61	19.44	19.42				
15	256QAM	1	0	17.31	17.51	17.63				
15	256QAM	1	37	17.41	17.30	17.64	18.8	3.2		
15	256QAM	1	74	17.34	17.36	17.31				
15	256QAM	36	0	17.33	17.42	17.34				
15	256QAM	36	20	17.25	17.34	17.29	18.8	3.2		
15	256QAM	36	39	17.29	17.23	17.37				
15	256QAM	75	0	17.62	17.42	17.42				
Channel										
Frequency (MHz)				668	678	683				
10	QPSK	1	0	21.05	21.06	20.86				
10	QPSK	1	26	20.75	20.78	20.73	22	0		
10	QPSK	1	49	20.94	20.81	20.79				
10	QPSK	25	0	20.87	20.84	20.77				
10	QPSK	25	13	20.88	20.83	20.78	22	0		
10	QPSK	25	26	20.77	20.75	20.72				
10	QPSK	50	0	20.90	20.91	20.77				
10	16QAM	1	0	20.91	20.74	20.98				
10	16QAM	1	26	21.01	20.97	20.82	22	0		
10	16QAM	1	49	20.75	20.92	20.76				
10	16QAM	25	0	21.00	20.81	20.82				
10	16QAM	25	13	20.75	20.90	20.76	22	0		
10	16QAM	25	26	20.77	20.88	20.83				
10	16QAM	50	0	20.94	21.02	20.88				
10	64QAM	1	0	20.84	20.86	20.82				
10	64QAM	1	26	20.76	20.74	20.62	22	0		
10	64QAM	1	49	20.72	20.84	20.81				
10	64QAM	25	0	19.41	19.62	19.36				
10	64QAM	25	13	19.25	19.52	19.36	20.3	1.7		
10	64QAM	25	26	19.34	19.44	19.27				
10	64QAM	50	0	19.50	19.34	19.31				
10	256QAM	1	0	17.39	17.41	17.38				
10	256QAM	1	26	17.32	17.60	17.50	18.8	3.2		
10	256QAM	1	49	17.30	17.47	17.38				
10	256QAM	25	0	17.23	17.43	17.31				
10	256QAM	25	13	17.46	17.32	17.46	18.8	3.2		
10	256QAM	25	26	17.31	17.41	17.35				
10	256QAM	50	0	17.49	17.42	17.45				
Channel										
Frequency (MHz)				665.5	675.5	695.5				
5	QPSK	1	0	20.90	20.85	20.95				
5	QPSK	1	12	20.94	20.72	20.83	22	0		
5	QPSK	1	24	20.85	20.73	20.68				
5	QPSK	12	0	20.91	20.82	20.66				
5	QPSK	12	7	20.77	20.87	20.97	22	0		
5	QPSK	12	13	20.93	20.91	20.84				
5	QPSK	25	0	20.94	20.90	20.99				
5	16QAM	1	0	20.95	20.75	20.87				
5	16QAM	1	12	20.78	21.05	20.92	22	0		
5	16QAM	1	24	20.69	21.02	20.89				
5	16QAM	12	0	21.04	20.84	20.99				
5	16QAM	12	7	20.89	20.71	20.77	22	0		
5	16QAM	12	13	20.84	20.77	20.71				
5	16QAM	25	0	20.80	20.78	20.99				
5	64QAM	1	0	20.68	20.86	20.71				
5	64QAM	1	12	20.66	20.77	20.66	22	0		
5	64QAM	1	24	20.63	20.72	20.67				
5	64QAM	12	0	19.51	19.44	19.55				
5	64QAM	12	7	19.24	19.47	19.49	20.3	1.7		
5	64QAM	12	13	19.43	19.43	19.42				
5	64QAM	25	0	19.51	19.49	19.37				
5	256QAM	1	0	17.34	17.49	17.36				
5	256QAM	1	12	17.62	17.44	17.56	18.8	3.2		
5	256QAM	1	24	17.28	17.39	17.45				
5	256QAM	12	0	17.25	17.27	17.19				
5	256QAM	12	7	17.29	17.58	17.44	18.8	3.2		
5	256QAM	12	13	17.28	17.38	17.36				
5	256QAM	25	0	17.32	17.26	17.42				



Band 38(only on channel required)										
BW (MHz)	Modulation	RB Size	RB Offset	Power Low Ch. (Freq.)	Power Low MidCh. (Freq.)	Power High Ch. (Freq.)	Tune-up Int. (dBm)	MPR (dB)		
Channel Frequency (MHz)										
20	QPSK	1	0	17.15	16.95	17.00	17.4	0		
20	QPSK	1	49	17.16	16.96	17.01	17.4	0		
20	QPSK	1	99	17.18	16.98	17.03	17.4	0		
20	QPSK	50	0	17.17	16.97	17.02	17.4	0		
20	QPSK	50	24	17.18	16.98	17.03	17.4	0		
20	QPSK	50	50	17.19	16.99	17.04	17.4	0		
20	QPSK	100	0	17.20	17.00	17.05	17.4	0		
20	16QAM	1	0	16.92	16.72	16.78	17.4	0		
20	16QAM	1	49	16.91	16.71	16.76	17.4	0		
20	16QAM	1	99	16.93	16.73	16.78	17.4	0		
20	16QAM	50	0	16.92	16.72	16.77	17.4	0		
20	16QAM	50	24	16.93	16.73	16.78	17.4	0		
20	16QAM	50	50	16.94	16.74	16.79	17.4	0		
20	16QAM	100	0	16.95	16.75	16.80	17.4	0		
20	64QAM	1	0	16.82	16.62	16.67	17.4	0		
20	64QAM	1	49	16.81	16.61	16.66	17.4	0		
20	64QAM	1	99	16.83	16.63	16.68	17.4	0		
20	64QAM	50	0	16.82	16.62	16.67	17.4	0		
20	64QAM	50	24	16.83	16.63	16.68	17.4	0		
20	64QAM	50	50	16.84	16.64	16.69	17.4	0		
20	64QAM	100	0	16.85	16.65	16.70	17.4	0		
20	256QAM	1	0	15.32	15.12	15.17	16.3	1.1		
20	256QAM	1	49	15.33	15.13	15.18	16.3	1.1		
20	256QAM	1	99	15.35	15.15	15.20	16.3	1.1		
20	256QAM	50	0	15.34	15.14	15.19	16.3	1.1		
20	256QAM	50	24	15.35	15.15	15.20	16.3	1.1		
20	256QAM	50	50	15.36	15.16	15.21	16.3	1.1		
20	256QAM	100	0	15.37	15.17	15.22	16.3	1.1		
Channel Frequency (MHz)										
15	QPSK	1	0	16.37	16.17	16.22	17.4	0		
15	QPSK	1	49	16.38	16.18	16.23	17.4	0		
15	QPSK	1	99	16.40	16.20	16.25	17.4	0		
15	QPSK	36	0	16.37	16.17	16.22	17.4	0		
15	QPSK	36	20	16.38	16.18	16.23	17.4	0		
15	QPSK	36	36	16.39	16.19	16.24	17.4	0		
15	QPSK	75	0	16.37	16.17	16.22	17.4	0		
15	16QAM	1	0	16.24	16.04	16.09	17.4	0		
15	16QAM	1	49	16.23	16.03	16.08	17.4	0		
15	16QAM	1	99	16.25	16.05	16.10	17.4	0		
15	16QAM	50	0	16.24	16.04	16.09	17.4	0		
15	16QAM	50	24	16.25	16.05	16.10	17.4	0		
15	16QAM	50	50	16.26	16.06	16.11	17.4	0		
15	16QAM	100	0	16.27	16.07	16.12	17.4	0		
15	64QAM	1	0	16.12	15.92	15.97	17.4	0		
15	64QAM	1	49	16.11	15.91	15.96	17.4	0		
15	64QAM	1	99	16.13	15.93	15.98	17.4	0		
15	64QAM	36	0	16.12	15.92	15.97	17.4	0		
15	64QAM	36	20	16.13	15.93	15.98	17.4	0		
15	64QAM	36	36	16.14	15.94	15.99	17.4	0		
15	64QAM	75	0	16.12	15.92	15.97	17.4	0		
15	256QAM	1	0	15.29	15.09	15.14	16.3	1.1		
15	256QAM	1	49	15.30	15.10	15.15	16.3	1.1		
15	256QAM	1	99	15.32	15.12	15.17	16.3	1.1		
15	256QAM	50	0	15.29	15.09	15.14	16.3	1.1		
15	256QAM	50	24	15.30	15.10	15.15	16.3	1.1		
15	256QAM	50	50	15.31	15.11	15.16	16.3	1.1		
15	256QAM	100	0	15.32	15.12	15.17	16.3	1.1		
Channel Frequency (MHz)										
10	QPSK	1	0	16.33	16.13	16.18	17.4	0		
10	QPSK	1	25	16.34	16.14	16.19	17.4	0		
10	QPSK	1	49	16.35	16.15	16.20	17.4	0		
10	QPSK	25	0	16.33	16.13	16.18	17.4	0		
10	QPSK	25	12	16.34	16.14	16.19	17.4	0		
10	QPSK	25	25	16.35	16.15	16.20	17.4	0		
10	QPSK	50	0	16.33	16.13	16.18	17.4	0		
10	QPSK	50	25	16.34	16.14	16.19	17.4	0		
10	16QAM	1	0	16.20	16.00	16.05	17.4	0		
10	16QAM	1	25	16.21	16.01	16.06	17.4	0		
10	16QAM	1	49	16.22	16.02	16.07	17.4	0		
10	16QAM	25	0	16.20	16.00	16.05	17.4	0		
10	16QAM	25	12	16.21	16.01	16.06	17.4	0		
10	16QAM	25	25	16.22	16.02	16.07	17.4	0		
10	16QAM	50	0	16.20	16.00	16.05	17.4	0		
10	16QAM	50	25	16.21	16.01	16.06	17.4	0		
10	64QAM	1	0	16.07	15.87	15.92	17.4	0		
10	64QAM	1	25	16.08	15.88	15.93	17.4	0		
10	64QAM	1	49	16.09	15.89	15.94	17.4	0		
10	64QAM	25	0	16.07	15.87	15.92	17.4	0		
10	64QAM	25	12	16.08	15.88	15.93	17.4	0		
10	64QAM	25	25	16.09	15.89	15.94	17.4	0		
10	64QAM	50	0	16.07	15.87	15.92	17.4	0		
10	64QAM	50	25	16.08	15.88	15.93	17.4	0		
10	256QAM	1	0	15.25	15.05	15.10	16.3	1.1		
10	256QAM	1	49	15.26	15.06	15.11	16.3	1.1		
10	256QAM	1	99	15.28	15.08	15.13	16.3	1.1		
10	256QAM	50	0	15.25	15.05	15.10	16.3	1.1		
10	256QAM	50	24	15.26	15.06	15.11	16.3	1.1		
10	256QAM	50	50	15.27	15.07	15.12	16.3	1.1		
10	256QAM	100	0	15.28	15.08	15.13	16.3	1.1		
Channel Frequency (MHz)										
5	QPSK	1	0	16.56	16.36	16.41	17.4	0		
5	QPSK	1	12	16.57	16.37	16.42	17.4	0		
5	QPSK	1	24	16.58	16.38	16.43	17.4	0		
5	QPSK	12	0	16.56	16.36	16.41	17.4	0		
5	QPSK	12	7	16.57	16.37	16.42	17.4	0		
5	QPSK	12	13	16.58	16.38	16.43	17.4	0		
5	QPSK	25	0	16.56	16.36	16.41	17.4	0		
5	QPSK	25	12	16.57	16.37	16.42	17.4	0		
5	QPSK	25	24	16.58	16.38	16.43	17.4	0		
5	16QAM	1	0	16.43	16.23	16.28	17.4	0		
5	16QAM	1	12	16.44	16.24	16.29	17.4	0		
5	16QAM	1	24	16.45	16.25	16.30	17.4	0		
5	16QAM	12	0	16.43	16.23	16.28	17.4	0		
5	16QAM	12	7	16.44	16.24	16.29	17.4	0		
5	16QAM	12	13	16.45	16.25	16.30	17.4	0		
5	16QAM	25	0	16.43	16.23	16.28	17.4	0		
5	16QAM	25	12	16.44	16.24	16.29	17.4	0		
5	16QAM	25	24	16.45	16.25	16.30	17.4	0		
5	64QAM	1	0	16.30	16.10	16.15	17.4	0		
5	64QAM	1	12	16.31	16.11	16.16	17.4	0		
5	64QAM	1	24	16.32	16.12	16.17	17.4	0		
5	64QAM	12	0	16.30	16.10	16.15	17.4	0		
5	64QAM	12	7	16.31	16.11	16.16	17.4	0		
5	64QAM	12	13	16.32	16.12	16.17	17.4	0		
5	64QAM	25	0	16.30	16.10	16.15	17.4	0		
5	64QAM	25	12	16.31	16.11	16.16	17.4	0		
5	64QAM	25	24	16.32	16.12	16.17	17.4	0		
5	256QAM	1	0	15.13	14.93	14.98	16.3	1.1		
5	256QAM	1	12	15.14	14.94	14.99	16.3	1.1		
5	256QAM	1	24	15.16	14.96	15.01	16.3	1.1		
5	256QAM	12	0	15.13	14.93	14.98	16.3	1.1		
5	256QAM	12	7	15.14	14.94	14.99	16.3	1.1		
5	256QAM	12	13	15.15	14.95	15.00	16.3	1.1		
5	256QAM	25								



Reduced power level 1 for Head-UAT

MIMO	Base-Average Power (dBm)			Turnup Limit (dBm)	Finite-Average Power (dBm)			Turnup Limit (dBm)
	198	199	201		198	199	201	
TX Channel	202	202	202	202	202	202	202	202
Frequency (MHz)	3088	3092	3107	3230	2188	2193	2207	2330
OPRS-1 Tx level	16.81	16.81	17.01	17.20	16.81	16.81	17.01	17.20
OPRS-2 Tx level	16.80	16.80	17.00	17.20	16.80	16.80	17.00	17.20
OPRS-3 Tx level	16.80	16.80	17.00	17.20	16.80	16.80	17.00	17.20
EDGE-1 Tx level	24.83	24.80	25.27	26.30	16.83	16.80	17.27	18.30
EDGE-2 Tx level	23.22	23.22	23.56	24.30	17.23	17.23	17.56	18.30
EDGE-3 Tx level	22.12	22.21	22.43	23.30	17.86	17.87	18.17	18.84
EDGE-4 Tx level	21.44	21.61	21.75	22.70	18.44	18.44	18.75	19.20

MIMO	Base-Average Power (dBm)			Turnup Limit (dBm)	Finite-Average Power (dBm)			Turnup Limit (dBm)
	198	199	200		198	199	200	
TX Channel	192.2	192.2	192.2	192.2	192.2	192.2	192.2	192.2
Frequency (MHz)	2514	2517	2534	2570	16.14	16.17	16.34	16.70
OPRS-1 Tx level	25.14	25.17	25.34	25.70	16.14	16.17	16.34	16.70
OPRS-2 Tx level	25.14	25.17	25.34	25.70	16.14	16.17	16.34	16.70
OPRS-3 Tx level	25.14	25.17	25.34	25.70	16.14	16.17	16.34	16.70
OPRS-4 Tx level	17.26	17.43	17.49	18.20	14.36	14.43	14.49	15.20
EDGE-1 Tx level	22.54	22.46	22.83	23.80	13.54	13.46	13.83	14.80
EDGE-2 Tx level	21.41	21.30	21.85	22.70	12.41	12.26	12.85	13.70
EDGE-3 Tx level	20.76	20.51	20.51	21.60	11.60	11.26	11.26	12.34
EDGE-4 Tx level	18.38	18.18	18.32	19.60	10.38	10.18	10.32	11.60

Base	WCDMA II			Turnup Limit (dBm)	WCDMA IV			Turnup Limit (dBm)	WCDMA V			Turnup Limit (dBm)
	9902	9900	9938		1312	1413	1513		4192	4192	4233	
TX Channel	9902	9900	9938	9902	9907	1698	9908	4192	4407	4498		
Frequency (MHz)	1802.4	1800	1807.8	1719.4	1721.6	1729.8	836.4	836.4	846.8			
WCDMA R1	17.60	17.67	17.57	18.50	17.72	17.77	17.80	18.70	21.87	21.90	21.80	22.60
WCDMA R2	18.05	18.07	18.05	17.00	16.73	16.81	16.78	17.70	20.89	20.92	20.95	21.60
WCDMA R3	16.81	16.86	16.84	17.50	16.76	16.83	16.81	17.70	20.87	20.84	20.96	21.60
WCDMA R4	15.81	16.17	16.09	17.00	16.27	16.31	16.30	17.20	20.21	20.16	20.01	21.10
WCDMA R5	16.16	16.13	16.11	17.00	16.30	16.32	16.32	17.20	20.20	20.13	20.00	21.10
WCDMA R6	16.41	16.43	16.41	17.50	16.53	16.57	16.61	17.70	20.51	20.59	20.59	21.60
WCDMA R7	16.40	16.50	16.40	17.50	16.61	16.63	16.64	17.70	20.48	20.48	20.58	21.60
WCDMA R8	15.59	15.59	15.88	17.00	16.12	16.16	16.11	17.20	20.02	19.92	19.87	21.10
WCDMA R9	15.95	16.01	16.89	17.00	16.16	16.10	16.05	17.20	20.03	19.98	19.79	21.10
WCDMA R10	16.04	16.21	16.04	17.50	16.79	16.80	16.80	17.70	20.87	20.82	20.98	21.60
WCDMA R11	15.98	15.68	15.87	16.50	15.75	15.68	15.81	16.70	18.68	18.62	18.58	19.60
WCDMA R12	15.95	15.86	15.90	16.50	16.64	16.61	16.70	17.70	19.53	19.61	19.56	20.60
WCDMA R13	14.43	14.40	14.47	15.50	13.83	13.87	13.80	14.70	16.87	16.88	16.80	17.80
WCDMA R14	14.61	14.76	14.63	17.50	14.84	14.89	14.79	17.70	19.72	19.82	19.54	21.60
WCDMA R15	14.22	14.29	14.20	16.00	13.51	13.57	13.44	16.20	18.35	18.33	18.37	19.10

Base	CDMA BC0			Turnup Limit (dBm)	CDMA BC1			Turnup Limit (dBm)	CDMA BC1A			Turnup Limit (dBm)
	1013	384	777		26	600	1175		476	580	688	
TX Channel	2012	2012	2012	2012	2012	2012	2012	2012	2012	2012	2012	2012
Frequency (MHz)	2015	2015	2012	2130	16.33	16.41	16.32	17.46	19.87	19.91	19.85	21.40
BC1 BC0S	2015	2015	2012	2130	16.33	16.41	16.32	17.46	19.89	19.90	19.83	21.40
BC1 BC0S1	2015	2015	2012	2130	16.33	16.38	16.28	17.46	19.84	19.81	19.85	21.40
BC1 BC0S2	2015	2015	2012	2130	16.28	16.36	16.27	17.46	19.82	19.86	19.80	21.40
BC1 BC0S3	2010	2010	2010	2130	16.28	16.25	16.25	17.46	19.81	19.82	19.78	21.40
BC1 BC0S4	2007	2007	2003	2130	16.25	16.33	16.23	17.46	19.79	19.83	19.77	21.40



Band 3b (only on channel required)											
BW (MHz)	Modulation	RB Size	RB Offset	Power Low Ch./Freq.	Power Mid Ch./Freq.	Power High Ch./Freq.	Power Low Ch./Freq.	Power Mid Ch./Freq.	Power High Ch./Freq.	Tune-up limit (dBm)	MRR (dB)
Channel											
Frequency (MHz)											
37850	38050	38150									
20	QPSK	1	0	17.26	17.27	17.28				17.9	0
20	QPSK	1	48	17.26	17.29	17.32					
20	QPSK	1	96	17.26	17.31	17.32					
20	QPSK	50	0	17.27	17.31	17.32				17.9	0
20	QPSK	50	24	17.26	17.31	17.32					
20	QPSK	100	0	17.27	17.32	17.35					
20	HQAM	1	48	17.11	16.92	16.95				17.9	0
20	HQAM	1	96	17.15	17.02	17.03					
20	HQAM	50	24	17.22	17.02	17.15				17.9	0
20	HQAM	50	48	17.27	16.96	17.07					
20	HQAM	100	100	17.20	17.05	17.06					
20	HQAM	1	0	17.21	17.02	17.05					
20	HQAM	1	48	17.19	16.96	16.98				17.9	0
20	HQAM	1	96	16.97	17.05	17.06					
20	HQAM	50	0	16.96	17.01	17.02					
20	HQAM	50	24	16.95	16.97	17.07				17.8	0.1
20	HQAM	100	0	17.22	16.92	16.96					
20	HQAM	1	48	15.41	15.32	15.27				16.3	1.6
20	HQAM	1	96	15.48	15.40	15.41					
20	HQAM	50	24	15.67	15.49	15.75					
20	HQAM	50	48	15.68	15.87	15.81				16.3	1.6
20	HQAM	100	100	15.82	15.82	15.83					
20	HQAM	1	0	15.74	15.73	15.73					
Channel											
Frequency (MHz)											
38150	38250	38350									
15	QPSK	1	0	17.29	17.17	17.11				17.9	0
15	QPSK	1	37	17.25	17.14	17.12					
15	QPSK	1	74	17.26	16.92	17.06					
15	QPSK	36	0	17.09	17.13	17.17				17.9	0
15	QPSK	36	20	17.29	17.16	17.13					
15	QPSK	36	37	17.15	17.01	17.05					
15	QPSK	75	0	17.09	17.07	17.17					
15	HQAM	1	0	17.17	17.05	16.96				17.9	0
15	HQAM	1	37	17.15	16.93	17.04					
15	HQAM	36	20	17.28	17.05	17.08				17.9	0
15	HQAM	36	38	17.28	16.99	17.04					
15	HQAM	75	0	17.08	16.98	16.94				17.9	0
15	HQAM	1	37	17.11	17.05	16.98					
15	HQAM	36	74	17.06	17.06	17.06					
15	HQAM	36	0	16.98	17.00	16.91				17.9	0
15	HQAM	1	37	17.11	17.05	16.98					
15	HQAM	36	74	17.06	17.06	17.06					
15	HQAM	36	0	16.98	17.05	17.13				17.8	0.1
15	HQAM	36	20	17.10	17.13	17.01					
15	HQAM	36	39	17.06	17.02	17.01					
15	HQAM	75	0	17.15	17.15	17.10				17.8	0.1
15	HQAM	1	37	16.98	16.48	16.60				16.3	1.6
15	HQAM	1	74	16.96	16.43	16.40					
15	HQAM	36	20	15.70	15.55	15.69				16.3	1.6
15	HQAM	36	39	15.66	15.57	15.69					
15	HQAM	75	0	15.60	15.52	15.61				16.3	1.6
Channel											
Frequency (MHz)											
38350	40160	40300	41050	41500							
10	QPSK	1	0	17.01	17.01	17.01	17.01	17.01		17.9	0
10	QPSK	1	25	17.06	17.06	17.07	17.07	17.07			
10	QPSK	1	49	17.09	17.11	17.03	17.06	16.99			
10	QPSK	1	74	17.06	17.01	17.01	17.02	17.06			
10	QPSK	25	12	17.12	17.11	17.16	17.16	17.09		17.9	0
10	QPSK	25	26	17.07	17.07	17.07	17.07	17.07			
10	QPSK	50	0	16.85	17.02	17.05	17.08	17.02			
10	HQAM	1	48	17.16	17.01	16.92	17.02	17.02		17.9	0
10	HQAM	1	96	17.12	17.01	16.92	17.03	16.93			
10	HQAM	25	12	17.01	17.17	17.01	16.91	16.81		17.9	0
10	HQAM	25	26	17.14	17.01	17.12	17.11	16.98			
10	HQAM	50	0	17.09	17.10	17.01	17.06	17.00			
10	HQAM	50	24	16.90	17.13	16.98	17.04	16.95		17.9	0
10	HQAM	1	25	16.96	17.09	16.95	17.01	17.02			
10	HQAM	1	49	17.08	17.19	17.15	17.10	17.11			
10	HQAM	25	12	17.17	17.01	17.01	17.15	17.05		17.9	0.1
10	HQAM	25	26	17.04	17.00	17.06	17.02	16.99			
10	HQAM	50	0	17.15	17.04	17.10	17.03	17.02			
10	HQAM	1	0	15.95	15.40	15.43	15.59	15.54		16.3	1.6
10	HQAM	1	25	15.98	15.63	15.34	15.37	15.45			
10	HQAM	1	49	15.40	15.38	15.45	15.39	15.45		16.3	1.6
10	HQAM	25	12	15.82	15.58	15.78	15.76	15.87			
10	HQAM	25	26	15.84	15.85	15.89	15.80	15.95		16.3	1.6
10	HQAM	50	24	15.74	15.57	15.86	15.81	15.72			
10	HQAM	50	0	15.79	15.54	15.71	15.75	15.72			
Channel											
Frequency (MHz)											
41160	41610	41650	42000	42550							
5	QPSK	1	0	17.03	17.04	17.04	17.04	17.04		17.9	0
5	QPSK	1	12	17.17	17.17	17.17	17.02	17.03			
5	QPSK	1	24	17.15	17.06	17.15	17.06	17.04			
5	QPSK	12	0	17.00	17.02	17.00	17.11	16.91			
5	QPSK	12	7	17.14	17.19	17.05	17.06	17.12		17.9	0
5	QPSK	12	13	17.16	17.00	17.02	17.02	16.88			
5	QPSK	25	0	17.03	17.04	17.19	17.09	17.11			
5	HQAM	1	0	16.94	17.09	17.08	17.07	17.14		17.9	0
5	HQAM	1	12	17.07	17.19	17.00	17.06	17.17			
5	HQAM	1	24	17.06	17.07	17.02	17.02	16.97			
5	HQAM	12	0	17.12	17.04	17.05	17.02	16.96			
5	HQAM	12	7	17.09	17.07	17.13	16.98	17.03		17.9	0
5	HQAM	12	13	17.15	17.03	17.07	17.05	16.90			
5	HQAM	25	0	17.00	17.03	17.01	17.06	17.04			
5	HQAM	1	0	17.00	17.03	16.98	17.07	17.01		17.9	0
5	HQAM	1	12	17.04	17.06	16.94	17.12	16.95			
5	HQAM	1	24	17.18	17.15	17.04	17.07	16.94			
5	HQAM	12	0	16.97	17.17	17.13	17.04	17.09		17.9	0
5	HQAM	12	7	17.14	17.18	17.06	17.18	16.95		17.8	0.1
5	HQAM	12	13	17.12	17.09	17.02	17.03	17.09			
5	HQAM	25	0	17.17	17.16	17.12	17.05	16.99			
5	HQAM	1	0	15.99	15.47	15.67	15.49	15.38		16.3	1.6
5	HQAM	1	12	15.97	15.44	15.53	15.45	15.47			
5	HQAM	12	0	15.82	15.60	15.81	15.82	15.68		16.3	1.6
5	HQAM	12	7	15.73	15.85	15.84	15.74	15.82			
5	HQAM	12	13	15.73	15.50	15.80	15.84	15.52		16.3	1.6
5	HQAM	25	0	15.78	15.72	15.70	15.71	15.63			

Band 41 (2.6G Band)-Class 3											
BW (MHz)	Modulation	RB Size	RB Offset	Power Low Ch./Freq.	Power Mid Ch./Freq.	Power High Ch./Freq.	Power Low Ch./Freq.	Power Mid Ch./Freq.	Power High Ch./Freq.	Tune-up limit (dBm)	MRR (dB)
Channel											
Frequency (MHz)											
39750	40185	40200	41050	41490							
20	QPSK	1	0	17.15	17.33	17.32	17.32	17.37		17.9	0
20	QPSK	1	49	17.21	17.35	17.22	17.28	17.32			
20	QPSK	1	99	17.28	17.34	17.20	17.23	17.28			
20	QPSK	50	0	17.10	17.26	17.18	17.18	17.30			
20	QPSK	50	24	17.18	17.21	17.16	17.26	17.06			
20	QPSK	50	36	17.16	17.26	17.20	17.25	17.07		17.9	0
20	QPSK	100	0	17.16	17.36	17.17	17.23	17.09			
20	HQAM	1	48	17.15	17.24	17.10	17.10	17.09		17.9	0
20	HQAM	1	99	17.21	17.28	17.28	17.28	17.04			
20	HQAM	50	24	17.28	17.26	17.14	17.14	17.02		17.9	0
20	HQAM	50	48	17.28	17.26	17.19	17.19	17.05			
20	HQAM	100	100	17.28	17.21	17.27	17.27	17.12			
20	HQAM	1	0	17.02	17.13	17.13	17.23	17.08			
20	HQAM	1	49	17.07	17.20	17.00	17.15	17.03		17.9	0
20	HQAM	1	99	17.10	17.24	17.24	17.25	17.02			
20	HQAM	50	0	17.10	17.22	17.22	17.18	17.09			
20	HQAM	50	24	17.24	17.20	17.26	17.19	17.08		17.8	0.1
20	HQAM	100	0	17.18	17.22	17.22	17.16	17.04			
20	HQAM	1	49	15.40	15.33	15.35	15.31	15.14		16.3	1.6
20	HQAM	1	99	15.47	15.43	15.33	15.31	15.15			
20	HQAM	50	24	15.74	15.60	15.65	15.63	15.49			
20	HQAM	50	48	15.78	15.62	15.62	15.69	15.48		16.3	1.6
20	HQAM	100	100	15.76	15.64	15.					



Band 48 (3.5G Band)-FCC										
BW (MHz)	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Low-Mid Ch. / Freq.	Power High-Mid Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MFR (dB)	
Channel				56340	56830	56160	56640			
Frequency (MHz)				5690	5690	5690	5690			
20	QPSK	1	0	17.26	17.31	17.35	17.38			
20	QPSK	1	49	17.13	17.16	17.18	17.11	18.1	0	
20	QPSK	1	99	17.17	17.18	17.22	17.25			
20	QPSK	59	0	17.22	17.25	17.23	17.25			
20	QPSK	59	24	17.24	17.23	17.24	17.25	18.1	0	
20	QPSK	59	50	17.12	17.09	17.12	17.25			
20	QPSK	100	0	17.23	17.22	17.22	17.24			
20	16QAM	1	0	17.25	17.25	17.28	17.25			
20	16QAM	1	49	17.22	17.25	17.25	17.12	18.1	0	
20	16QAM	1	99	17.20	17.29	17.28	17.19			
20	16QAM	59	0	17.22	17.21	17.22	17.25			
20	16QAM	59	24	17.27	17.29	17.24	17.23	18.1	0	
20	16QAM	59	50	17.24	17.25	17.25	17.26			
20	16QAM	100	0	17.29	17.24	17.29	17.22			
20	64QAM	1	0	17.15	17.16	17.16	17.13			
20	64QAM	1	49	17.17	17.21	17.26	17.16	18.1	0	
20	64QAM	1	99	17.21	17.26	17.25	17.15			
20	64QAM	59	0	17.20	17.28	17.22	17.20			
20	64QAM	59	24	17.25	17.25	17.22	17.25	18.1	0	
20	64QAM	59	50	17.25	17.28	17.22	17.25			
20	256QAM	1	0	17.20	17.20	17.28	17.25			
20	256QAM	1	49	17.12	17.14	17.14	17.08	18.1	0	
20	256QAM	1	99	17.10	17.15	17.19	17.16			
20	256QAM	1	99	17.18	17.16	17.16	17.22			
20	256QAM	59	0	17.26	17.26	17.21	17.26			
20	256QAM	59	24	17.20	17.29	17.21	17.22	18.1	0	
20	256QAM	59	50	17.26	17.20	17.26	17.21			
20	256QAM	100	0	17.26	17.28	17.20	17.25			
Channel				56315	56805	56160	56640			
Frequency (MHz)				56117	56117	56117	56117			
15	QPSK	1	0	17.05	17.30	17.26	17.25			
15	QPSK	1	37	16.92	17.01	17.09	17.12	18.1	0	
15	QPSK	1	74	16.91	17.01	17.03	17.22			
15	QPSK	38	0	17.07	17.21	17.24	17.17			
15	QPSK	38	20	16.88	17.15	17.26	17.19	18.1	0	
15	QPSK	38	39	16.93	17.14	17.14	17.14			
15	QPSK	75	0	16.96	17.11	17.26	17.23			
15	16QAM	1	0	16.89	16.89	17.24	17.21			
15	16QAM	1	37	16.97	17.01	17.25	17.25	18.1	0	
15	16QAM	1	74	16.88	16.94	17.02	17.16			
15	16QAM	38	0	16.92	17.24	17.22	17.16			
15	16QAM	38	20	16.94	17.20	17.27	17.18	18.1	0	
15	16QAM	38	39	16.90	17.23	17.17	17.20			
15	16QAM	75	0	16.95	17.26	17.23	17.26			
15	64QAM	1	0	16.82	17.02	17.13	17.07			
15	64QAM	1	37	16.89	17.13	17.17	17.15	18.1	0	
15	64QAM	1	74	16.70	17.27	16.99	17.25			
15	64QAM	38	0	16.93	17.19	17.23	17.20			
15	64QAM	38	20	16.97	17.25	17.19	17.28	18.1	0	
15	64QAM	38	39	16.98	17.18	17.21	17.28			
15	64QAM	75	0	16.94	17.16	17.27	17.17			
15	256QAM	1	0	17.02	16.99	17.16	17.05			
15	256QAM	1	37	17.15	17.27	17.22	17.26	18.1	0	
15	256QAM	1	74	17.22	17.29	17.27	17.23			
15	256QAM	38	0	17.14	17.22	17.17	17.25			
15	256QAM	38	20	17.20	17.22	17.27	17.15	18.1	0	
15	256QAM	38	39	17.07	17.25	17.27	17.27			
15	256QAM	75	0	17.23	17.18	17.14	17.17			
Channel				56300	56815	56160	56640			
Frequency (MHz)				56102	56102	56102	56102			
10	QPSK	1	0	17.09	17.29	17.25	17.21			
10	QPSK	1	25	16.90	17.02	17.04	17.13	18.1	0	
10	QPSK	1	49	16.86	17.22	17.06	17.25			
10	QPSK	25	0	17.08	17.19	17.29	17.26			
10	QPSK	25	12	16.97	17.11	17.29	17.25	18.1	0	
10	QPSK	25	25	16.99	17.10	17.17	17.16			
10	QPSK	59	0	16.95	17.14	17.24	17.18			
10	16QAM	1	0	16.85	17.00	17.22	17.23			
10	16QAM	1	25	17.01	17.00	17.28	17.08	18.1	0	
10	16QAM	1	49	16.72	16.89	17.00	17.18			
10	16QAM	25	0	16.87	17.24	17.17	17.19			
10	16QAM	25	12	16.93	17.21	17.20	17.17	18.1	0	
10	16QAM	25	25	16.86	17.18	17.17	17.25			
10	16QAM	59	0	16.88	17.26	17.16	17.16			
10	64QAM	1	0	16.90	16.96	17.21	17.25			
10	64QAM	1	25	16.93	17.14	17.11	17.10	18.1	0	
10	64QAM	1	49	16.85	17.25	17.01	17.21			
10	64QAM	25	0	16.90	17.12	17.25	17.12			
10	64QAM	25	12	16.86	17.17	17.21	17.27	18.1	0	
10	64QAM	25	25	17.02	17.14	17.25	17.26			
10	64QAM	59	0	16.82	17.10	17.28	17.27			
10	256QAM	1	0	16.87	16.88	17.18	17.17	18.1	0	
10	256QAM	1	25	17.04	17.23	17.22	17.24			
10	256QAM	1	49	17.13	17.21	17.21	17.27			
10	256QAM	25	0	17.03	17.23	17.26	17.21	18.1	0	
10	256QAM	25	12	17.18	17.29	17.28	17.29			
10	256QAM	25	25	17.27	17.24	17.25	17.19			
10	256QAM	59	0	17.06	17.15	17.17	17.21			
Channel				56305	56810	56160	56640			
Frequency (MHz)				56123	56123	56123	56123			
5	QPSK	1	0	17.06	17.23	17.29	17.21			
5	QPSK	1	12	16.83	16.99	17.13	17.05	18.1	0	
5	QPSK	1	24	16.92	17.15	17.06	17.27			
5	QPSK	12	0	17.08	17.16	17.29	17.23			
5	QPSK	12	7	16.91	17.16	17.28	17.16	18.1	0	
5	QPSK	12	13	16.87	17.08	17.15	17.16			
5	QPSK	25	0	16.95	17.13	17.29	17.19			
5	16QAM	1	0	16.93	16.96	17.22	17.21			
5	16QAM	1	12	17.02	16.94	17.21	17.07	18.1	0	
5	16QAM	1	24	16.71	16.89	17.07	17.09			
5	16QAM	12	0	16.94	17.21	17.21	17.18			
5	16QAM	12	7	17.00	17.24	17.23	17.23	18.1	0	
5	16QAM	12	13	16.87	17.16	17.25	17.18			
5	16QAM	25	0	16.94	17.21	17.17	17.14			
5	64QAM	1	0	16.86	16.90	17.14	17.15			
5	64QAM	1	12	16.87	17.20	17.12	17.13	18.1	0	
5	64QAM	1	24	16.87	17.29	17.01	17.13			
5	64QAM	12	0	16.99	17.13	17.24	17.17			
5	64QAM	12	7	16.95	17.18	17.21	17.18	18.1	0	
5	64QAM	12	13	17.01	17.18	17.26	17.21			
5	64QAM	25	0	17.03	17.18	17.29	17.11			
5	256QAM	1	0	16.86	17.07	17.04	17.16			
5	256QAM	1	12	17.12	17.21	17.16	17.25	18.1	0	
5	256QAM	1	24	17.15	17.24	17.25	17.24			
5	256QAM	12	0	17.04	17.22	17.25	17.23			
5	256QAM	12	7	17.21	17.26	17.28	17.25	18.1	0	
5	256QAM	12	13	17.15	17.21	17.22	17.26			
5	256QAM	25	0	17.05	17.19	17.16	17.22			



Reduced power level 2 for Head-UAT

MIMO	Best Average Power (dBm)			Turn-up Limit	Final Average Power (dBm)			Turn-up Limit
	15W	18W	20W		15W	18W	20W	
TX Channel	24.2	24.4	24.9	24.2	24.4	24.9	24.2	24.4
Frequency (MHz)	30.19	30.21	30.25	31.40	31.19	31.21	31.25	32.40
OPBS 1 Tx side	20.76	20.71	20.71	21.40	21.19	21.21	21.25	22.40
OPBS 2 Tx side	27.42	27.42	27.51	28.00	27.42	27.48	27.51	29.00
OPBS 3 Tx side	24.44	24.44	24.57	25.10	24.41	24.48	24.57	25.10
OPBS 4 Tx side	24.41	24.44	24.57	25.10	24.41	24.48	24.57	25.10
EDGE 1 Tx side	24.83	24.80	25.27	26.20	15.83	15.80	16.27	17.50
EDGE 2 Tx side	23.23	23.25	23.56	24.20	17.23	17.25	17.56	18.50
EDGE 3 Tx side	22.12	22.23	22.43	23.30	17.86	17.97	18.17	19.04
EDGE 4 Tx side	21.44	21.62	21.75	22.31	16.44	16.62	16.75	17.31

MIMO	Best Average Power (dBm)			Turn-up Limit	Final Average Power (dBm)			Turn-up Limit
	15W	18W	20W		15W	18W	20W	
TX Channel	23.2	23.4	23.9	23.2	23.4	23.9	23.2	23.4
Frequency (MHz)	23.46	23.46	23.55	24.30	24.46	24.46	24.55	25.30
OPBS 1 Tx side	20.45	20.41	20.52	21.40	21.45	21.41	21.52	22.40
OPBS 2 Tx side	21.52	21.52	21.56	22.20	21.52	21.52	21.56	22.20
OPBS 3 Tx side	19.98	19.85	19.97	21.00	19.70	19.62	19.71	20.74
OPBS 4 Tx side	19.97	19.82	19.93	20.20	19.37	19.32	19.53	20.50
EDGE 1 Tx side	22.54	22.46	22.85	23.80	19.54	19.46	19.85	21.00
EDGE 2 Tx side	21.15	21.02	21.21	22.20	16.15	16.05	16.21	17.50
EDGE 3 Tx side	19.00	19.20	19.30	20.10	16.74	16.91	17.00	18.04
EDGE 4 Tx side	17.97	18.14	18.11	19.10	14.97	15.14	15.11	16.10

MIMO	Best Average Power (dBm)			Turn-up Limit	Final Average Power (dBm)			Turn-up Limit
	15W	18W	20W		15W	18W	20W	
TX Channel	9302	9300	9308	1312	1413	1513	4192	4292
Frequency (MHz)	9602	9600	9608	1007	1008	1008	4927	4927
OPBS 1 Tx side	162.4	166	170.7	172.4	172.6	172.6	172.6	172.6
OPBS 2 Tx side	16.8	16.92	16.71	17.60	16.68	16.78	17.00	17.76
OPBS 3 Tx side	16.70	16.77	16.74	17.68	16.70	16.77	16.80	17.88
OPBS 4 Tx side	16.70	16.65	16.81	16.60	16.71	16.81	16.80	17.88
OPBS 5 Tx side	15.75	15.60	15.81	16.60	15.71	15.81	15.80	16.88
OPBS 6 Tx side	15.71	15.61	15.81	16.50	15.74	15.83	15.80	16.88
OPBS 7 Tx side	14.91	15.30	16.26	16.30	15.31	15.32	16.30	17.20
OPBS 8 Tx side	15.25	15.21	15.28	16.30	15.28	15.32	16.30	17.19
OPBS 9 Tx side	15.31	15.61	16.58	16.60	15.51	15.57	16.60	17.50
OPBS 10 Tx side	15.55	15.68	16.53	16.60	15.50	15.61	16.60	17.47
OPBS 11 Tx side	14.89	15.12	15.05	16.30	15.10	15.16	16.30	17.21
OPBS 12 Tx side	15.00	15.17	15.08	16.30	15.14	15.10	16.30	17.02
OPBS 13 Tx side	15.14	15.91	15.81	16.60	15.77	15.92	16.80	17.86
OPBS 14 Tx side	14.76	14.60	14.84	15.60	14.73	14.68	14.83	15.80
OPBS 15 Tx side	12.76	12.61	12.86	13.60	12.62	12.62	13.74	14.80
OPBS 16 Tx side	13.53	13.61	13.84	14.60	14.61	14.67	14.82	15.80
OPBS 17 Tx side	12.71	12.68	12.80	13.60	12.62	12.60	13.61	14.60
OPBS 18 Tx side	13.32	13.40	13.37	14.30	14.40	14.47	14.46	15.30

MIMO	Best Average Power (dBm)			Turn-up Limit	Final Average Power (dBm)			Turn-up Limit
	15W	18W	20W		15W	18W	20W	
TX Channel	363	384	397	26	603	1175	476	586
Frequency (MHz)	69.2	69.20	69.10	69.10	69.00	69.00	69.10	69.10
PCS S05S (F50S)	20.15	20.12	20.12	21.30	19.56	19.55	19.69	19.69
PCS S05S (F50S)	20.15	20.15	20.09	21.30	19.54	19.54	19.60	19.60
PCS S05S (F50S)	20.15	20.15	20.07	21.30	19.54	19.50	19.60	19.60
PCS S05S (F50S)	20.09	20.10	20.05	21.30	19.52	19.59	19.48	19.50
PCS S05S (F50S)	20.07	20.00	20.03	21.30	19.51	19.57	19.47	19.50



Band 2 (1900MHz Band)											
BW (MHz)	Modulation	RB Size	RB Offset	Power Ch. / Freq. (dBm)	Power Ch. / Freq. (dBm)	Power Ch. / Freq. (dBm)	Turn-up Int. (dBm)	MPE (dB)	Part 21 (Only on channel required)		
									Channel	Channel	Channel
20	QPSK	1	0	16.23	15.11	15.25					
20	QPSK	1	49	16.16	15.25	15.21	16.2	0			
20	QPSK	1	99	15.07	15.25	15.21					
20	QPSK	50	0	16.21	15.24	15.24					
20	QPSK	50	24	16.20	15.25	15.20	16.2	0			
20	QPSK	50	50	15.18	15.25	15.20					
20	QPSK	100	0	16.20	15.23	15.23					
20	16QAM	1	0	15.21	15.22	15.27	16.2	0			
20	16QAM	50	49	15.20	15.22	15.28					
20	16QAM	1	99	15.19	15.20	15.30					
20	16QAM	50	0	15.28	15.29	15.26	16.2	0			
20	16QAM	50	24	15.20	15.25	15.26					
20	16QAM	50	50	15.29	15.25	15.27					
20	16QAM	100	0	15.28	15.30	15.29	16.2	0			
20	16QAM	1	49	15.27	15.10	15.96	16.2	0			
20	84QAM	1	99	15.20	15.25	15.23					
20	84QAM	50	0	15.01	15.28	15.26	16.2	0			
20	84QAM	50	24	15.01	15.19	15.26					
20	84QAM	50	50	15.25	15.24	15.26					
20	256QAM	1	0	14.94	15.18	14.97	16.2	0			
20	256QAM	1	49	14.96	15.09	14.98					
20	256QAM	1	99	15.25	15.24	15.21					
20	256QAM	50	0	14.89	15.10	15.09	16.2	0			
20	256QAM	50	24	14.87	15.16	15.08					
20	256QAM	50	50	15.18	15.15	15.06					
20	256QAM	100	0	15.22	15.18	15.20	16.2	0			
Channel											
Frequency (MHz)	1897.5	1880	1902.5	Turn-up Int. (dBm)	MPE (dB)						
15	QPSK	1	0	15.26	15.18	15.20	16.2	0			
15	QPSK	1	37	15.01	15.13	15.00					
15	QPSK	1	74	14.98	15.01	15.00	16.2	0			
15	QPSK	36	0	15.09	15.05	15.13					
15	QPSK	36	20	14.96	15.04	15.08	16.2	0			
15	QPSK	36	38	15.23	15.04	15.08					
15	QPSK	75	0	15.12	15.27	15.02	16.2	0			
15	QPSK	1	39	15.21	15.03	15.11					
15	16QAM	1	74	14.99	15.19	15.22	16.2	0			
15	16QAM	36	0	15.20	15.06	15.08					
15	16QAM	36	20	15.24	15.24	15.25	16.2	0			
15	16QAM	36	38	15.23	15.28	15.29					
15	16QAM	75	0	15.15	15.07	15.14	16.2	0			
15	84QAM	1	37	15.15	14.88	14.85	16.2	0			
15	84QAM	74	0	15.11	15.11	15.11					
15	84QAM	36	0	15.05	15.25	15.15	16.2	0			
15	84QAM	36	20	14.84	15.14	15.18					
15	84QAM	36	38	15.08	15.08	15.08	16.2	0			
15	84QAM	75	0	15.24	15.10	15.14					
15	256QAM	1	0	15.15	14.98	15.18	16.2	0			
15	256QAM	1	37	15.07	15.09	15.08					
15	256QAM	1	74	15.08	15.27	15.14	16.2	0			
15	256QAM	36	0	14.89	15.23	15.03					
15	256QAM	36	20	14.87	15.26	15.04	16.2	0			
15	256QAM	36	38	15.03	15.04	15.17					
15	256QAM	75	0	15.25	15.17	15.05	16.2	0			
Channel											
Frequency (MHz)	1895	1880	1905	Turn-up Int. (dBm)	MPE (dB)						
10	QPSK	1	0	15.05	15.08	15.14	16.2	0			
10	QPSK	1	29	14.84	15.24	15.04					
10	QPSK	1	48	15.08	15.08	15.15	16.2	0			
10	QPSK	25	0	15.25	15.23	15.21					
10	QPSK	25	15	15.25	15.25	15.24	16.2	0			
10	QPSK	25	28	15.19	15.32	15.24					
10	QPSK	50	0	14.99	15.28	15.08	16.2	0			
10	16QAM	1	28	15.29	15.22	15.29					
10	16QAM	1	48	15.08	15.17	15.23	16.2	0			
10	16QAM	25	12	15.07	15.27	15.28					
10	16QAM	25	25	15.10	15.04	15.05	16.2	0			
10	16QAM	50	0	15.25	15.25	15.24					
10	84QAM	1	0	15.21	15.18	14.91	16.2	0			
10	84QAM	1	25	15.27	15.09	14.93					
10	84QAM	1	48	15.07	15.21	15.17	16.2	0			
10	84QAM	25	0	14.97	15.21	15.17					
10	84QAM	25	12	14.83	15.05	15.21	16.2	0			
10	84QAM	25	25	15.15	15.06	15.21					
10	84QAM	50	0	15.03	15.04	15.21	16.2	0			
10	256QAM	1	0	15.06	15.22	15.20	16.2	0			
10	256QAM	25	0	15.02	15.22	15.20					
10	256QAM	1	48	14.99	15.29	14.88	16.2	0			
10	256QAM	25	0	14.95	15.07	15.09					
10	256QAM	25	15	15.22	15.05	15.07	16.2	0			
10	256QAM	25	25	15.24	15.28	15.24					
10	256QAM	50	0	15.11	15.24	15.09	16.2	0			
Channel											
Frequency (MHz)	1892.5	1880	1907.5	Turn-up Int. (dBm)	MPE (dB)						
5	QPSK	1	0	15.06	15.20	15.10	16.2	0			
5	QPSK	1	14	14.85	15.19	15.09					
5	QPSK	1	24	14.85	15.19	15.09	16.2	0			
5	QPSK	12	0	15.18	15.23	15.06					
5	QPSK	12	7	15.25	15.25	15.25	16.2	0			
5	QPSK	12	13	15.01	15.20	15.14					
5	QPSK	25	0	15.14	15.24	14.98	16.2	0			
5	16QAM	1	12	15.09	15.10	15.09					
5	16QAM	1	24	15.12	15.08	15.12	16.2	0			
5	16QAM	12	7	15.22	15.05	15.30					
5	16QAM	12	13	15.18	15.26	15.08	16.2	0			
5	16QAM	25	0	15.09	15.18	15.28					
5	84QAM	1	0	14.94	15.17	14.92	16.2	0			
5	84QAM	1	12	15.08	14.90	14.85					
5	84QAM	1	24	15.00	15.12	15.13	16.2	0			
5	84QAM	12	0	14.91	15.25	15.23					
5	84QAM	12	7	14.89	15.21	15.21	16.2	0			
5	84QAM	12	13	15.21	15.07	15.07					
5	84QAM	25	0	15.29	15.14	15.20	16.2	0			
5	256QAM	1	0	14.96	15.22	15.09					
5	256QAM	1	12	15.01	15.27	15.27	16.2	0			
5	256QAM	12	0	14.80	15.08	15.15					
5	256QAM	12	7	15.29	14.91	14.85	16.2	0			
5	256QAM	12	13	15.03	15.27	15.23					
5	256QAM	25	0	15.30	15.30	15.13	16.2	0			
Channel											
Frequency (MHz)	1897	1880	1909.5	Turn-up Int. (dBm)	MPE (dB)						
1.4	QPSK	1	0	15.16	15.08	15.26	16.2	0			
1.4	QPSK	1	5	14.96	15.27	14.96					
1.4	QPSK	1	5	15.09	15.18	15.05	16.2	0			
1.4	QPSK	1	0	15.15	15.28	15.16					
1.4	QPSK	3	0	15.13	15.19	15.23	16.2	0			
1.4	QPSK	3	3	15.23	15.14	15.91					
1.4	16QAM	1	0	15.07	15.27	15.03	16.2	0			
1.4	16QAM	1	3	15.24	15.20	15.14					
1.4	16QAM	1	3	15.04	15.07	15.22	16.2	0			
1.4	16QAM	3	0	15.28	15.08	15.24					
1.4	16QAM	3	1	15.14	15.22	15.03	16.2	0			
1.4	16QAM	3	3	15.28	15.16	15.28					
1.4	84QAM										



Band 7 (200MHz Band)									
BW (MHz)	Modulation	RB Size	RD Offset	Power P1 (Ch./Freq.)	Power P2 (Ch./Freq.)	Power P3 (Ch./Freq.)	Turn-up limit (dBm)	MPR (dB)	MRP (dB)
Frequency (MHz)									
20	QPSK	1	0	13.89	13.98	14.00			
20	QPSK	1	49	13.92	14.01	14.05	15.1	0	
20	QPSK	1	98	13.95	14.04	14.11			
20	QPSK	50	0	14.00	14.04	14.11			
20	QPSK	50	24	13.92	14.07	14.16	15.1	0	
20	QPSK	50	50	13.99	13.99	14.10			
20	QPSK	100	0	13.90	14.04	14.10			
20	16QAM	1	0	13.88	13.82	13.84			
20	16QAM	1	49	13.75	13.81	13.93	15.1	0	
20	16QAM	1	99	13.82	13.82	13.95			
20	16QAM	50	0	13.77	13.90	13.94			
20	16QAM	50	24	13.90	13.98	13.99	15.1	0	
20	16QAM	50	50	13.91	14.02	14.05			
20	16QAM	100	0	13.88	13.97	13.94			
20	64QAM	1	0	13.89	13.73	13.81			
20	64QAM	1	49	13.89	13.94	13.90	15.1	0	
20	64QAM	1	99	13.80	13.91	13.91			
20	64QAM	50	0	13.83	13.92	13.90			
20	64QAM	50	24	13.89	13.97	14.03	15.1	0	
20	64QAM	50	50	13.88	14.06	13.91			
20	256QAM	1	0	13.83	13.85	13.98			
20	256QAM	1	99	13.72	13.89	13.65	15.1	0	
20	256QAM	50	0	13.64	13.72	13.96			
20	256QAM	50	24	13.77	13.87	13.70	15.1	0	
20	256QAM	50	50	13.84	13.75	13.71			
20	256QAM	100	0	13.73	13.87	13.93			
Channel									
Frequency (MHz)									
15	QPSK	1	0	13.79	13.73	13.97			
15	QPSK	1	37	13.83	13.84	13.98	15.1	0	
15	QPSK	1	74	13.79	13.89	13.91			
15	QPSK	36	0	13.95	13.89	13.90			
15	QPSK	36	20	13.91	13.83	13.88	15.1	0	
15	QPSK	36	36	13.91	13.71	14.08			
15	QPSK	75	0	13.74	13.76	14.05			
15	16QAM	1	0	13.58	13.82	13.91			
15	16QAM	1	37	13.53	13.79	13.81	15.1	0	
15	16QAM	1	74	13.53	13.88	13.92			
15	16QAM	36	20	13.88	13.75	13.72	15.1	0	
15	16QAM	36	39	13.74	14.01	13.84			
15	64QAM	1	0	13.67	13.86	13.84			
15	64QAM	1	37	13.68	13.57	13.71	15.1	0	
15	64QAM	1	74	13.62	13.72	13.88			
15	64QAM	36	0	13.64	13.82	13.80			
15	64QAM	36	20	13.71	13.72	13.89	15.1	0	
15	64QAM	36	39	13.67	13.50	13.68			
15	256QAM	1	0	13.49	13.43	13.37			
15	256QAM	1	37	13.54	13.66	13.60	15.1	0	
15	256QAM	1	74	13.56	13.58	13.54			
15	256QAM	36	0	13.38	13.71	13.72			
15	256QAM	36	20	13.50	13.52	13.53	15.1	0	
15	256QAM	36	39	13.58	13.61	13.84			
15	256QAM	75	0	13.58	13.61	13.84			
Channel									
Frequency (MHz)									
10	QPSK	1	0	13.89	13.82	13.93			
10	QPSK	1	26	13.80	13.78	13.86	15.1	0	
10	QPSK	1	49	13.90	13.80	14.00			
10	QPSK	25	0	13.78	14.02	13.92			
10	QPSK	25	12	13.87	13.84	13.84	15.1	0	
10	QPSK	25	26	13.83	13.72	14.10			
10	QPSK	50	0	13.61	14.02	14.10			
10	16QAM	1	0	13.65	13.86	13.89			
10	16QAM	1	26	13.56	13.82	13.69	15.1	0	
10	16QAM	1	49	13.65	13.89	13.75			
10	16QAM	25	0	13.80	13.91	13.90			
10	16QAM	25	12	13.80	13.90	13.89	15.1	0	
10	16QAM	25	26	13.84	13.91	13.96			
10	64QAM	1	0	13.63	13.51	13.64			
10	64QAM	1	26	13.88	13.73	13.69	15.1	0	
10	64QAM	1	49	13.78	13.80	13.87			
10	64QAM	25	0	13.76	13.91	13.95			
10	64QAM	25	12	13.89	13.78	13.78	15.1	0	
10	64QAM	25	26	13.84	13.91	13.96			
10	256QAM	1	0	13.34	13.48	13.96			
10	256QAM	1	49	13.51	13.64	13.84	15.1	0	
10	256QAM	25	0	13.57	13.68	13.86			
10	256QAM	25	12	13.58	13.61	13.71	15.1	0	
10	256QAM	25	26	13.44	13.68	13.88			
10	256QAM	50	0	13.63	13.81	13.87			
Channel									
Frequency (MHz)									
5	QPSK	1	0	13.87	13.87	13.88			
5	QPSK	1	12	13.86	13.71	13.81	15.1	0	
5	QPSK	1	24	13.87	14.01	14.06			
5	QPSK	12	0	13.78	13.88	13.86			
5	QPSK	12	7	13.77	13.86	14.06	15.1	0	
5	QPSK	12	13	13.90	13.71	13.97			
5	QPSK	25	0	13.78	14.00	13.82			
5	16QAM	1	0	13.68	13.61	13.72			
5	16QAM	1	12	13.69	13.91	13.81	15.1	0	
5	16QAM	1	24	13.79	13.86	13.72			
5	16QAM	12	0	13.65	13.70	13.85			
5	16QAM	12	7	13.77	13.88	13.90	15.1	0	
5	16QAM	12	13	13.91	13.72	13.93			
5	64QAM	1	0	13.61	13.86	13.64			
5	64QAM	1	12	13.64	13.47	13.58	15.1	0	
5	64QAM	1	24	13.64	13.76	13.70			
5	64QAM	12	0	13.80	13.82	13.81			
5	64QAM	12	0	13.54	13.72	13.89	15.1	0	
5	64QAM	12	7	13.86	13.70	13.81			
5	64QAM	12	13	13.89	13.90	13.86	15.1	0	
5	64QAM	25	0	13.58	13.83	13.88			
5	256QAM	1	0	13.46	13.61	13.64			
5	256QAM	1	12	13.59	13.90	13.86	15.1	0	
5	256QAM	1	24	13.57	13.77	13.93			
5	256QAM	12	0	13.54	13.62	13.93			
5	256QAM	12	7	13.88	13.61	13.76	15.1	0	
5	256QAM	12	13	13.55	13.58	13.63			
5	256QAM	25	0	13.71	13.84	13.84			

Band 12 (700MHz Low Band) Part 2ZF (only one channel required)									
BW (MHz)	Modulation	RB Size	RD Offset	Power P1 (Ch./Freq.)	Power P2 (Ch./Freq.)	Power P3 (Ch./Freq.)	Turn-up limit (dBm)	MPR (dB)	MRP (dB)
Frequency (MHz)									
10	QPSK	1	0	18.03	17.99	18.05			
10	QPSK	1	25	18.06	18.09	18.07	19.1	0	
10	QPSK	1	49	18.01	18.01	18.01			
10	QPSK	25	0	18.01	18.00	18.06			
10	QPSK	25	12	18.04	18.02	18.00	19.1	0	
10	QPSK	25	25	18.02	18.03	18.03			
10	QPSK	50	0	18.02	18.03	18.04			
10	16QAM	1	0	18.07	18.06	17.83			
10	16QAM	1	25	18.05	18.05	18.03	19.1	0	
10	16QAM	1	49	17.95	18.11	18.07			
10	16QAM	25	0	17.95	18.11	17.84			
10	16QAM	25	12	18.00	18.00	17.92	19.1	0	
10	16QAM	25	25	18.01	17.92	17.87			
10	16QAM	50	0	18.01	17.93	17.82			
10	64QAM	1	0	18.09	18.03	17.86			
10	64QAM	1	25	18.11	18.08	18.08	19.1	0	
10	64QAM	1	49	17.98	18.08	17.85			
10	64QAM	25	0	17.94	17.95	17.83			
10	64QAM	25	12	17.93	17.95	17.84	19.1	0	
10	64QAM	25	25	18.00	17.96	17.86			
10	64QAM	50	0	18.00	18.10	17.92			
10	256QAM	1	0	18.00	17.91	17.87			
10	256QAM	1	49	18.00	18.03	18.03	18.8	0.3	
10	256QAM	25	0	17.75	17.73	17.87			
10	256QAM	25	12	18.01	17.99	17.82	18.8	0.3	
10	256QAM	25	25	18.01	17.99	17.99			
10	256QAM	50	0	17.89	17.96	17.84			
Channel									
Frequency (MHz)									
5	QPSK	1	0	18.00	17.78	17.91			
5	QPSK	1	12	17.97	17.86	17.78	19.1	0	
5	QPSK	1	24	18.06	18.03	17.87			
5	QPSK	12	0	17.85	18.00	17.84			
5	QPSK	12	7	17.89	17.83	17.81	19.1	0	
5	QPSK	12	13	17.97	17.80	17.82			
5	QPSK	25	0	17.97	17.82	18.02			
5	16QAM	1	0	17.98	17.94	17.81			
5	16QAM	1	12	17.96	17.95	17.85	19.1	0	
5	16QAM	1	24	17.89	17.84	17.82			
5	16QAM	12	0	17.92	17.78	17.88			
5	16QAM	12	7	17.92	17.78	17.88	19.1	0	
5	16QAM	12	13	17.84	17.66	17.86			
5	64QAM	1	0	18.00	17.95	17.85			
5	64QAM	1	12	18.00	17.95	17.82	19.1	0	
5	64QAM	1	24	17.90	18.01	18.07			
5	64QAM	12	0	17.85	17.83	17.90			
5	64QAM	12	7	17.77	17.67	17.67	19.1	0	
5	64QAM	12	13	17.89	17.84	17.85			
5	64QAM	25	0	17.95	17.97	17.82			
5	64QAM	25	7	17.77	17.67	17.67	19.1	0	
5	64QAM	25	13	17.87	17.82	17.82			
5	256QAM	1	0	17.85	17.81	17.69			



Band 30										
BW (MHz)	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power High Ch. / Freq.	Power Low Ch. / Freq.	Power High Ch. / Freq.	Turn-up (dB)	MPR (dB)	
Channel										
Frequency (MHz)										
10	QPSK	1	0	15.20				16.4	0	
10	QPSK	1	25	15.20						
10	QPSK	1	49	15.14						
10	QPSK	25	0	15.12						
10	QPSK	25	12	15.14						
10	QPSK	25	25	15.14						
10	QPSK	50	0	15.14						
10	16QAM	1	0	15.11				16.4	0	
10	16QAM	1	25	15.14						
10	16QAM	1	49	15.14						
10	16QAM	25	0	15.14						
10	16QAM	25	12	15.14						
10	16QAM	25	25	15.12						
10	16QAM	50	0	15.10						
10	16QAM	50	12	15.12						
10	16QAM	50	25	15.12						
10	16QAM	100	0	15.12						
10	16QAM	100	12	15.12						
10	16QAM	100	25	15.12						
10	16QAM	200	0	14.97				16.4	0	
10	16QAM	200	12	14.97						
10	16QAM	200	25	14.97						
10	16QAM	400	0	14.97						
10	16QAM	400	12	14.97						
10	16QAM	400	25	14.97						
10	16QAM	800	0	14.97						
10	16QAM	800	12	14.97						
10	16QAM	800	25	14.97						
10	16QAM	1600	0	14.97						
10	16QAM	1600	12	14.97						
10	16QAM	1600	25	14.97						
10	16QAM	3200	0	14.97						
10	16QAM	3200	12	14.97						
10	16QAM	3200	25	14.97						
10	16QAM	6400	0	14.96				16.4	0	
10	16QAM	6400	12	14.96						
10	16QAM	6400	25	14.96						
10	16QAM	12800	0	14.96						
10	16QAM	12800	12	14.96						
10	16QAM	12800	25	14.96						
10	16QAM	25600	0	14.96						
10	16QAM	25600	12	14.96						
10	16QAM	25600	25	14.96						
10	16QAM	51200	0	14.96						
10	16QAM	51200	12	14.96						
10	16QAM	51200	25	14.96						
10	16QAM	102400	0	14.96						
10	16QAM	102400	12	14.96						
10	16QAM	102400	25	14.96						
10	16QAM	204800	0	14.96						
10	16QAM	204800	12	14.96						
10	16QAM	204800	25	14.96						
10	16QAM	409600	0	14.96						
10	16QAM	409600	12	14.96						
10	16QAM	409600	25	14.96						
10	16QAM	819200	0	14.96						
10	16QAM	819200	12	14.96						
10	16QAM	819200	25	14.96						
10	16QAM	1638400	0	14.96						
10	16QAM	1638400	12	14.96						
10	16QAM	1638400	25	14.96						
10	16QAM	3276800	0	14.96						
10	16QAM	3276800	12	14.96						
10	16QAM	3276800	25	14.96						
10	16QAM	6553600	0	14.96						
10	16QAM	6553600	12	14.96						
10	16QAM	6553600	25	14.96						
10	16QAM	13107200	0	14.96						
10	16QAM	13107200	12	14.96						
10	16QAM	13107200	25	14.96						
10	16QAM	26214400	0	14.96						
10	16QAM	26214400	12	14.96						
10	16QAM	26214400	25	14.96						
10	16QAM	52428800	0	14.96						
10	16QAM	52428800	12	14.96						
10	16QAM	52428800	25	14.96						
10	16QAM	104857600	0	14.96						
10	16QAM	104857600	12	14.96						
10	16QAM	104857600	25	14.96						
10	16QAM	209715200	0	14.96						
10	16QAM	209715200	12	14.96						
10	16QAM	209715200	25	14.96						
10	16QAM	419430400	0	14.96						
10	16QAM	419430400	12	14.96						
10	16QAM	419430400	25	14.96						
10	16QAM	838860800	0	14.96						
10	16QAM	838860800	12	14.96						
10	16QAM	838860800	25	14.96						
10	16QAM	1677721600	0	14.96						
10	16QAM	1677721600	12	14.96						
10	16QAM	1677721600	25	14.96						
10	16QAM	3355443200	0	14.96						
10	16QAM	3355443200	12	14.96						
10	16QAM	3355443200	25	14.96						
10	16QAM	6710886400	0	14.96						
10	16QAM	6710886400	12	14.96						
10	16QAM	6710886400	25	14.96						
10	16QAM	13421772800	0	14.96						
10	16QAM	13421772800	12	14.96						
10	16QAM	13421772800	25	14.96						
10	16QAM	26843545600	0	14.96						
10	16QAM	26843545600	12	14.96						
10	16QAM	26843545600	25	14.96						
10	16QAM	53687091200	0	14.96						
10	16QAM	53687091200	12	14.96						
10	16QAM	53687091200	25	14.96						
10	16QAM	107374182400	0	14.96						
10	16QAM	107374182400	12	14.96						
10	16QAM	107374182400	25	14.96						
10	16QAM	214748364800	0	14.96						
10	16QAM	214748364800	12	14.96						
10	16QAM	214748364800	25	14.96						
10	16QAM	429496729600	0	14.96						
10	16QAM	429496729600	12	14.96						
10	16QAM	429496729600	25	14.96						
10	16QAM	858993459200	0	14.96						
10	16QAM	858993459200	12	14.96						
10	16QAM	858993459200	25	14.96						
10	16QAM	1717986918400	0	14.96						
10	16QAM	1717986918400	12	14.96						
10	16QAM	1717986918400	25	14.96						
10	16QAM	3435973836800	0	14.96						
10	16QAM	3435973836800	12	14.96						
10	16QAM	3435973836800	25	14.96						
10	16QAM	6871947673600	0	14.96						
10	16QAM	6871947673600	12	14.96						
10	16QAM	6871947673600	25	14.96						
10	16QAM	13743895347200	0	14.96						
10	16QAM	13743895347200	12	14.96						
10	16QAM	13743895347200	25	14.96						
10	16QAM	27487790694400	0	14.96						
10	16QAM	27487790694400	12	14.96						
10	16QAM	27487790694400	25	14.96						
10	16QAM	54975581388800	0	14.96						
10	16QAM	54975581388800	12	14.96						
10	16QAM	54975581388800	25	14.96						
10	16QAM	109951162777600	0	14.96						
10	16QAM	109951162777600	12	14.96						
10	16QAM	10995116277760								



Band 3b (only on channel required)

Table with columns: BW (MHz), Modulation, RB Size, RB Offset, Power Low Ch / Freq, Power High Ch / Freq, Power High Ch / Freq, Tuning Unit (dBm), MPR (dB). Rows include various modulation schemes like QPSK, 16QAM, 64QAM, 256QAM across different RB sizes and offsets.

Band 41 (2.6G Band)-Class 3

Table with columns: BW (MHz), Modulation, RB Size, RB Offset, Power Low Ch / Freq, Power High Ch / Freq, Power High Ch / Freq, Tuning Unit (dBm), MPR (dB). Rows include various modulation schemes like QPSK, 16QAM, 64QAM, 256QAM across different RB sizes and offsets.

Band 41 (2.6G Band) HPUE (Limit 27)

Table with columns: BW (MHz), Modulation, RB Size, RB Offset, Power Low Ch / Freq, Power High Ch / Freq, Power High Ch / Freq, Tuning Unit (dBm), MPR (dB). Rows include various modulation schemes like QPSK, 16QAM, 64QAM, 256QAM across different RB sizes and offsets.



Reduced power level 3/4 for Head-UAT

EIRMSREQ	Band Average Power (dBm)			Tx Power Limit (dBm)	Frame Average Power (dBm)			Tx Power Limit (dBm)
	95.5	95.4	96.8		94.2	93.4	94.8	
TX Channel	199	196	201	194	199	196	201	194
Frequency (MHz)	24.5	24.4	24.9	24.6	24.2	24.4	24.8	24.6
OSM 1 Tx Watt	27.13	27.65	26.89	27.60	18.13	18.65	17.89	18.80
OPRS 1 Tx Watt	27.14	27.11	26.99	27.00	18.14	18.13	17.99	18.00
OPRS 2 Tx Watt	24.06	23.62	23.82	24.40	16.06	17.62	17.82	18.40
OPRS 3 Tx Watt	22.01	22.10	22.25	22.30	13.81	13.31	13.56	13.64
OPRS 4 Tx Watt	20.87	20.84	20.74	22.60	17.97	17.84	17.74	18.60
EDGE 1 Tx Watt	23.60	23.55	23.65	23.30	14.60	14.55	14.65	16.30
EDGE 2 Tx Watt	22.08	22.06	21.97	23.30	16.08	16.06	15.97	17.30
EDGE 3 Tx Watt	20.86	20.85	20.79	22.30	16.80	16.82	16.53	18.04
EDGE 4 Tx Watt	16.56	16.60	16.70	20.70	16.56	16.60	16.70	17.70

EIRMSREQ	Band Average Power (dBm)			Tx Power Limit (dBm)	Frame Average Power (dBm)			Tx Power Limit (dBm)
	512	561	560		512	561	513	
TX Channel	199	196	201	194	199	196	201	194
Frequency (MHz)	21.52	21.69	21.63	22.30	12.52	12.69	12.63	13.30
OPRS 1 Tx Watt	21.58	21.70	21.60	22.30	12.58	12.70	12.60	13.30
OPRS 2 Tx Watt	16.76	16.86	16.85	16.80	13.76	13.86	13.85	13.80
OPRS 3 Tx Watt	17.41	17.47	17.60	18.50	13.15	13.21	13.34	14.24
OPRS 4 Tx Watt	16.56	16.56	16.56	17.80	12.56	12.56	12.56	14.00
EDGE 1 Tx Watt	21.77	21.50	21.77	22.50	12.77	12.50	12.77	13.50
EDGE 2 Tx Watt	18.75	18.91	18.81	19.70	12.75	12.91	12.81	13.70
EDGE 3 Tx Watt	16.96	17.27	17.10	18.70	12.96	13.27	12.84	13.84
EDGE 4 Tx Watt	15.48	15.80	15.85	17.10	12.48	12.80	12.85	14.10

EIRMSREQ	Band			WCDMA II			WCDMA IV			WCDMA V			Tx Power Limit (dBm)		
	95.5	95.6	95.8	112.2	112.3	112.4	112.2	112.3	112.4	112.2	112.3	112.4			
TX Channel	96.0	96.0	96.8	112.2	112.3	112.4	112.2	112.3	112.4	112.2	112.3	112.4	112.2	112.3	112.4
Frequency (MHz)	112.4	112.4	112.8	112.4	112.4	112.8	112.4	112.4	112.8	112.4	112.4	112.8	112.4	112.4	112.8
ISPP Ref #1	14.07	14.13	14.09	15.10	13.15	13.15	14.02	15.20	15.17	15.13	15.10	15.10	15.17	15.13	15.10
ISPP Ref #2	14.09	14.18	14.09	15.10	13.87	14.01	14.04	15.20	15.19	15.20	15.13	15.10	15.17	15.13	15.10
ISPP Ref #3	13.14	13.24	13.16	14.20	12.86	13.05	13.04	14.20	14.21	14.20	14.20	14.20	14.21	14.20	14.20
ISPP Ref #4	13.10	13.21	13.18	14.10	13.91	13.07	13.07	14.20	13.99	13.94	13.94	13.99	13.99	13.94	13.99
ISPP Ref #5	12.20	12.74	12.61	13.60	12.42	12.55	12.58	13.70	13.53	13.48	13.44	13.34	13.44	13.34	13.34
ISPP Ref #6	12.64	12.72	12.63	13.60	12.45	12.58	12.63	13.70	13.52	13.49	13.45	13.35	13.45	13.35	13.35
ISPP Ref #7	12.90	13.02	12.93	14.10	12.88	12.81	12.87	14.20	14.83	14.89	14.72	14.80	14.83	14.89	14.72
ISPP Ref #8	12.94	13.01	12.90	14.10	12.76	12.87	12.90	14.20	14.80	14.79	14.68	14.80	14.83	14.89	14.68
ISPP Ref #9	12.08	12.53	12.40	13.60	12.27	12.40	12.37	13.70	13.34	13.42	13.20	13.20	13.34	13.20	13.20
ISPP Ref #10	12.44	12.50	12.41	13.60	12.41	12.34	12.31	13.70	13.35	13.34	13.20	13.20	13.35	13.20	13.20
ISPP Ref #11	13.13	13.20	13.18	14.10	13.04	13.14	13.11	14.20	13.99	13.90	13.90	13.99	13.99	13.90	13.99
ISPP Ref #12	12.15	12.25	12.19	13.10	12.12	12.07	12.00	13.20	13.00	14.00	14.00	14.00	14.00	14.00	14.00
ISPP Ref #13	10.14	10.21	10.21	11.10	10.79	11.08	10.98	12.20	11.85	11.91	11.88	12.20	11.85	11.91	11.88
ISPP Ref #14	10.92	11.02	10.99	12.10	11.78	11.91	11.88	12.20	14.99	14.88	14.93	14.93	14.99	14.88	14.93
ISPP Ref #15	13.70	13.21	13.15	14.10	13.90	13.94	13.90	14.20	13.64	13.61	13.61	13.64	13.61	13.61	13.64
ISPP Ref #16	10.71	10.81	10.72	12.60	11.68	11.81	11.70	12.70	14.87	14.83	14.70	14.70	14.87	14.83	14.70

EIRMSREQ	Band			CDMA BCS			CDMA BCI			CDMA BCS			Tx Power Limit (dBm)
	1013	984	777	25	603	1175	476	580	584	476	580	584	
TX Channel	99.7	99.5	88.31	90.12	100.00	90.87	117.4	105.5	102.1	102.1	105.5	102.1	
Frequency (MHz)	17.53	17.69	17.51	18.00	13.04	13.10	13.09	14.00	13.30	13.42	13.30	13.99	
ISPP Ref #1	13.50	13.50	13.50	13.99	13.03	13.00	13.01	14.00	13.27	13.41	13.26	13.99	
ISPP Ref #2	17.50	17.56	17.48	18.00	13.01	13.08	13.09	14.00	13.28	13.38	13.33	13.99	
ISPP Ref #3	17.48	17.54	17.47	18.00	13.99	13.06	13.08	14.00	13.34	13.37	13.31	13.99	
ISPP Ref #4	17.47	17.52	17.45	18.00	13.98	13.04	13.06	14.00	13.32	13.36	13.30	13.99	
ISPP Ref #5	17.45	17.51	17.43	18.00	13.96	13.02	13.05	14.00	13.31	13.34	13.28	13.99	



Full Power for LAT

Channel	Band Average Power (dBm)			Tune-up Limit (dBm)	Frame Average Power (dBm)			Tune-up Limit (dBm)
	845.2	845.4	845.8		845.2	845.4	845.8	
TX Channel	31.99	31.99	31.91	31.92	31.99	31.91	31.92	
Frequency (MHz)	315.2	315.4	315.81	32.80	32.52	32.63	32.81	
OPBS 1 Tx Limit	31.50	31.50	31.50	32.80	32.50	32.50	32.80	
OPBS 2 Tx Limit	29.89	29.70	29.80	31.30	29.89	29.70	29.80	
OPBS 3 Tx Limit	28.07	28.10	28.10	29.80	28.81	28.80	29.04	
OPBS 4 Tx Limit	27.10	27.11	27.17	28.50	24.10	24.13	24.17	
EDGE 1 Tx Limit	25.38	25.45	25.49	28.80	18.38	18.46	17.80	
EDGE 2 Tx Limit	23.82	23.86	23.86	24.92	17.85	17.84	18.02	
EDGE 3 Tx Limit	22.84	22.85	23.00	23.80	18.58	18.59	18.74	
EDGE 4 Tx Limit	22.18	22.01	22.40	23.20	18.18	18.01	18.20	

Channel	Band Average Power (dBm)			Tune-up Limit (dBm)	Frame Average Power (dBm)			Tune-up Limit (dBm)
	852	861	860		852	861	860	
TX Channel	31.99	31.99	31.91	31.92	31.99	31.91	31.92	
Frequency (MHz)	110.2	109.0	110.3	38.30	109.2	109.0	110.3	
OPBS 1 Tx Limit	28.94	28.58	28.50	30.30	18.94	18.58	20.10	
OPBS 2 Tx Limit	26.38	26.10	26.30	27.80	20.00	20.25	21.00	
OPBS 3 Tx Limit	25.14	25.22	25.28	28.50	20.88	20.58	21.02	
OPBS 4 Tx Limit	24.81	24.86	24.78	25.80	18.81	18.78	22.00	
EDGE 1 Tx Limit	24.63	24.52	24.71	25.80	18.83	18.52	18.71	
EDGE 2 Tx Limit	23.48	23.55	23.59	24.70	17.49	17.55	18.10	
EDGE 3 Tx Limit	22.47	22.54	22.56	23.60	18.21	18.09	18.24	
EDGE 4 Tx Limit	21.37	21.60	21.27	22.60	18.37	18.09	18.27	

Channel	Band	WCDMA E			WCDMA IV			WCDMA V			Tune-up Limit (dBm)
		9582	9580	9588	11212	11210	11211	4122	4120	4230	
TX Channel	9602	9602	9600	9606	44.80	43.87	43.87	44.80	44.80	44.80	44.80
Frequency (MHz)	1121.4	1121.4	1121.7	1121.4	1121.4	1121.4	1121.4	4121.4	4121.4	441.4	
ISPP Ref #1	HSR12-Sub1	23.80	23.83	23.82	24.80	23.83	23.70	24.80	23.82	23.80	24.80
ISPP Ref #2	HSR12-Sub2	23.82	23.87	23.85	24.80	23.81	23.70	24.80	23.82	23.80	24.80
ISPP Ref #3	HSR12-Sub3	23.86	23.72	23.86	23.80	23.82	23.80	23.80	23.86	23.80	23.80
ISPP Ref #4	HSR12-Sub4	22.37	22.73	22.65	23.80	22.62	22.70	23.80	22.64	22.81	22.87
ISPP Ref #5	HSR12-Sub5	22.15	22.20	22.15	23.30	22.17	22.19	23.30	22.09	22.14	22.14
ISPP Ref #6	HSR12-Sub6	22.15	22.21	22.16	23.80	22.62	22.70	23.80	22.68	22.81	22.86
ISPP Ref #7	DCHDRPA-Sub1	22.48	22.53	22.44	23.80	22.45	22.54	23.80	22.38	22.48	22.52
ISPP Ref #8	DCHDRPA-Sub2	22.18	22.48	22.48	23.80	22.42	22.51	22.66	22.38	22.38	22.45
ISPP Ref #9	DCHDRPA-Sub3	21.88	22.04	21.86	23.30	21.84	21.89	22.02	21.88	21.81	21.88
ISPP Ref #10	DCHDRPA-Sub4	21.87	21.88	21.87	23.80	21.84	21.87	23.80	21.78	21.80	21.88
ISPP Ref #11	HSR12-Sub1	22.63	22.71	22.70	23.80	22.71	22.69	23.80	22.67	22.64	22.81
ISPP Ref #12	HSR12-Sub2	21.86	21.74	21.88	22.80	21.63	21.75	21.71	21.80	20.62	20.88
ISPP Ref #13	HSR12-Sub3	19.86	19.91	19.91	21.80	20.69	20.69	21.80	21.64	21.61	21.68
ISPP Ref #14	HSR12-Sub4	20.44	20.52	20.48	21.80	21.24	21.30	21.28	21.80	20.58	20.81
ISPP Ref #15	HSR12-Sub5	22.60	22.70	22.60	23.80	22.60	22.70	23.80	22.60	22.60	22.70
ISPP Ref #16	HSR12-Sub6	20.87	20.90	20.91	22.30	21.18	21.22	21.13	22.30	20.28	20.41

Channel	Band	CDMA BCS			CDMA BCI			CDMA BCS			Tune-up Limit (dBm)
		1013	884	777	25	600	1175	476	580	884	
TX Channel	867.2	866.26	866.31	867.26	1860	1860	1860	817.4	816.5	816.5	
Frequency (MHz)	23.43	23.60	23.15	24.80	23.49	23.05	23.55	24.80	23.44	23.49	
ISPP Ref #1	ISPP Ref #1	23.42	23.60	23.14	24.80	23.48	23.01	23.54	24.80	23.41	
ISPP Ref #2	ISPP Ref #2	23.41	23.53	23.13	24.80	23.48	23.01	23.52	24.80	23.41	
ISPP Ref #3	ISPP Ref #3	23.33	23.43	23.12	24.80	23.49	23.00	23.44	24.80	23.33	
ISPP Ref #4	ISPP Ref #4	23.43	23.57	23.11	24.80	23.51	23.07	23.53	24.80	23.39	
ISPP Ref #5	ISPP Ref #5	23.43	23.56	23.10	24.80	23.49	23.06	23.51	24.80	23.37	



Band 2 (1900MHz Band) Part 24E									
SR (MHz)	Modulation	RB Size	RB Offset	Power Ch / Freq 1800	Power Ch / Freq 1880	Power Ch / Freq 1900	Time-up link (min)	MPR (dB)	
20	QPSK	1	0	22.30	22.41	22.40			
20	QPSK	1	49	22.29	22.38	22.34	23.8	0	
20	QPSK	1	99	22.21	22.34	22.34			
20	QPSK	50	0	21.43	21.44	21.43			
20	QPSK	50	24	21.43	21.44	21.43	22.8	1	
20	QPSK	50	50	21.39	21.44	21.41			
20	QPSK	100	0	21.43	21.45	21.44			
20	QPSK	100	49	21.37	21.37	21.37	22.8	1	
20	16QAM	1	99	21.85	21.74	21.72			
20	16QAM	50	24	21.88	21.87	21.88			
20	16QAM	50	50	20.46	20.48	20.38	21.8	2	
20	16QAM	50	99	20.45	20.55	20.47			
20	16QAM	100	0	20.53	20.55	20.50			
20	16QAM	100	49	20.53	20.55	20.51	21.8	2	
20	16QAM	100	99	20.53	20.55	20.52			
20	16QAM	50	24	19.82	19.82	19.84	20.8	3	
20	16QAM	50	50	19.48	19.48	19.48			
20	16QAM	100	0	19.48	19.48	19.43			
20	25QAM	1	0	17.88	17.88	17.90			
20	25QAM	1	49	17.87	17.89	17.88	19.3	4.5	
20	25QAM	1	99	17.81	17.83	17.88			
20	25QAM	50	0	17.52	17.52	17.48			
20	25QAM	50	24	17.52	17.52	17.48	19.3	4.5	
20	25QAM	50	50	17.58	17.56	17.57			
20	25QAM	100	0	17.54	17.57	17.53			
Channel									
Frequency (MHz)	1800	1880	1900	Time-up link (min)	MPR (dB)				
15	QPSK	1	0	22.34	22.38	22.37			
15	QPSK	1	39	22.20	22.29	22.25	23.8	0	
15	QPSK	1	74	22.29	22.37	22.34			
15	QPSK	36	0	21.43	21.44	21.40			
15	QPSK	36	24	21.43	21.44	21.40	22.8	1	
15	QPSK	36	39	21.41	21.52	21.51			
15	QPSK	75	0	21.45	21.46	21.42			
15	16QAM	1	39	21.65	21.56	21.54	22.8	1	
15	16QAM	1	74	21.85	21.85	21.81			
15	16QAM	36	24	20.46	20.44	20.34	21.8	2	
15	16QAM	36	39	20.44	20.53	20.48			
15	16QAM	75	0	20.53	20.55	20.56			
15	16QAM	75	39	20.53	20.55	20.51	21.8	2	
15	16QAM	75	74	20.53	20.55	20.51			
15	16QAM	36	0	19.51	19.50	19.45			
15	16QAM	36	24	19.49	19.51	19.48	20.8	3	
15	16QAM	36	39	19.47	19.45	19.44			
15	16QAM	75	0	19.47	19.45	19.44			
15	25QAM	1	0	17.84	17.88	17.81			
15	25QAM	1	39	17.80	17.82	17.84	19.3	4.5	
15	25QAM	1	74	17.77	17.83	17.81			
15	25QAM	36	0	17.54	17.55	17.58			
15	25QAM	36	24	17.54	17.56	17.54	19.3	4.5	
15	25QAM	36	39	17.52	17.47	17.63			
15	25QAM	75	0	17.52	17.55	17.57			
Channel									
Frequency (MHz)	1855	1880	1905	Time-up link (min)	MPR (dB)				
10	QPSK	1	0	22.30	22.33	22.28			
10	QPSK	1	19	22.20	22.29	22.25	23.8	0	
10	QPSK	1	49	22.28	22.33	22.32			
10	QPSK	25	0	21.33	21.35	21.29			
10	QPSK	25	24	21.32	21.38	21.38	22.8	1	
10	QPSK	25	26	21.32	21.44	21.40			
10	QPSK	50	0	21.36	21.32	21.38			
10	16QAM	1	26	21.60	21.65	21.61	22.8	1	
10	16QAM	1	49	21.61	21.60	21.60			
10	16QAM	25	12	20.38	20.38	20.27	21.8	2	
10	16QAM	25	12	20.40	20.38	20.40			
10	16QAM	25	25	20.37	20.43	20.39			
10	16QAM	50	0	20.42	20.38	20.28			
10	16QAM	50	0	21.12	21.19	21.09			
10	16QAM	1	25	21.12	21.20	21.16	21.8	2	
10	16QAM	1	49	21.05	21.12	21.12			
10	16QAM	25	0	20.03	20.00	19.88			
10	16QAM	25	12	20.04	20.01	20.04	20.8	3	
10	16QAM	25	25	20.01	20.00	20.01			
10	16QAM	50	0	20.03	19.95	20.01			
10	25QAM	1	0	17.91	17.94	17.88			
10	25QAM	1	19	17.88	17.83	17.83	19.3	4.5	
10	25QAM	1	49	17.75	17.87	17.87			
10	25QAM	25	12	17.58	17.41	17.53			
10	25QAM	25	25	17.51	17.61	17.58	19.3	4.5	
10	25QAM	25	26	17.58	17.50	17.50			
10	25QAM	50	0	17.63	17.56	17.63			
Channel									
Frequency (MHz)	1825	1880	1907.5	Time-up link (min)	MPR (dB)				
5	QPSK	1	0	22.32	22.22	22.19			
5	QPSK	1	12	22.35	22.24	22.24	23.8	0	
5	QPSK	1	24	22.32	22.23	22.28			
5	QPSK	12	0	21.45	21.40	21.38			
5	QPSK	12	7	21.43	21.47	21.43	22.8	1	
5	QPSK	12	13	21.45	21.44	21.38			
5	QPSK	25	0	21.44	21.40	21.27			
5	16QAM	1	12	21.63	21.56	21.63	22.8	1	
5	16QAM	1	12	21.63	21.66	21.58			
5	16QAM	1	24	21.62	21.69	21.53			
5	16QAM	12	7	20.45	20.38	20.29	21.8	2	
5	16QAM	12	7	20.45	20.47	20.38			
5	16QAM	12	13	20.45	20.46	20.34			
5	16QAM	25	0	20.41	20.41	20.30			
5	16QAM	25	0	21.23	21.08	21.11			
5	16QAM	12	7	21.01	21.08	21.07	21.8	2	
5	16QAM	12	13	20.04	20.11	19.98	20.8	3	
5	16QAM	25	0	20.04	20.00	19.89			
5	25QAM	1	12	17.79	17.84	17.85			
5	25QAM	1	24	17.72	17.89	17.79	19.3	4.5	
5	25QAM	12	7	17.59	17.61	17.58			
5	25QAM	12	7	17.59	17.70	17.62	19.3	4.5	
5	25QAM	12	13	17.66	17.46	17.54			
5	25QAM	25	0	17.53	17.56	17.48			
Channel									
Frequency (MHz)	1851.5	1880	1908.5	Time-up link (min)	MPR (dB)				
3	QPSK	1	0	22.28	22.22	22.24			
3	QPSK	1	8	22.35	22.36	22.33	23.8	0	
3	QPSK	1	14	22.33	22.30	22.27			
3	QPSK	8	0	21.40	21.32	21.30			
3	QPSK	8	4	21.38	21.44	21.38	22.8	1	
3	QPSK	8	7	21.42	21.38	21.38			
3	QPSK	15	0	21.43	21.46	21.40			
3	16QAM	1	8	21.58	21.55	21.55	22.8	1	
3	16QAM	1	8	21.72	21.72	21.67			
3	16QAM	1	14	21.66	21.62	21.52	21.8	2	
3	16QAM	8	4	20.45	20.37	20.39			
3	16QAM	8	7	20.48	20.48	20.38			
3	16QAM	15	0	20.43	20.35	20.33			
3	16QAM	1	0	21.13	21.08	21.11	21.8	2	
3	16QAM	8	4	20.06	20.07	19.94			
3	16QAM	8	7	20.09	20.07	20.01	20.8	3	
3	16QAM	15	0	19.80	19.84	19.93			
3	25QAM	1	8	17.84	18.01	17.88			
3	25QAM	1	14	17.77	17.82	17.85	19.3	4.5	
3	25QAM	8	4	17.46	17.48	17.48			
3	25QAM	8	7	17.52	17.62	17.54	19.3	4.5	
3	25QAM	8	7	17.67	17.47	17.48			
3	25QAM	15	0	17.54	17.47	17.52			

Band 4 (AWS Band) Part 27L (only on channel required)									
SR (MHz)	Modulation	RB Size	RB Offset	Power Ch / Freq 2060	Power Ch / Freq 2175	Power Ch / Freq 2200	Time-up link (min)	MPR (dB)	
20	QPSK	1	0	22.37	22.32	22.42			
20	QPSK	1	49	22.17	22.33	22.28	23.8	0	
20	QPSK	1	99	22.14	22.31	22.28			
20	QPSK	50	0	21.40	21.54	21.49			
20	QPSK	50							



Band 7 (260MHz Band) Part 27										
RF (MHz)	Modulation	RB Size	RB Offset	Power	Power	Power	Turn-up	MPR		
				Ch. / Freq.	Ch. / Freq.	Ch. / Freq.	lim (dB)	(dB)		
				Channel	Channel	Channel				
				Frequency (MHz)	Frequency (MHz)	Frequency (MHz)				
20	QPSK	1	0	22.21	22.42	22.43				
20	QPSK	1	49	22.30	22.47	22.51	23.8	0		
20	QPSK	1	98	22.33	22.53	22.51				
20	QPSK	50	0	21.33	21.40	21.53				
20	QPSK	50	24	21.42	21.52	21.65	22.8	1		
20	QPSK	50	50	21.30	21.50	21.55				
20	QPSK	100	0	21.41	21.52	21.61				
20	16QAM	1	49	21.98	21.81	21.87	22.8	1		
20	16QAM	1	99	21.67	21.50	22.00				
20	16QAM	50	0	20.33	20.40	20.57				
20	16QAM	50	24	20.40	20.55	20.70	21.8	2		
20	16QAM	50	50	20.40	20.53	20.72				
20	64QAM	1	0	20.42	20.59	20.67				
20	64QAM	1	49	20.48	20.64	20.76	21.8	2		
20	64QAM	1	99	20.59	20.78	20.80				
20	64QAM	50	0	19.37	19.52	19.59				
20	64QAM	50	24	19.47	19.55	19.73	20.8	3		
20	64QAM	50	50	19.46	19.64	19.73				
20	256QAM	1	0	17.78	17.85	17.75				
20	256QAM	1	49	17.77	17.79	17.64	19.3	4.5		
20	256QAM	1	99	17.74	17.76	17.63				
20	256QAM	50	0	17.63	17.70	17.52				
20	256QAM	50	24	17.68	17.66	17.54	19.3	4.5		
20	256QAM	50	50	17.64	17.68	17.53				
20	256QAM	100	0	17.71	17.69	17.60				
				Channel	Channel	Channel	Turn-up	MPR		
				Frequency (MHz)	Frequency (MHz)	Frequency (MHz)	lim (dB)	(dB)		
19	QPSK	1	0	22.25	22.40	22.51				
19	QPSK	1	74	22.36	22.54	22.51	23.8	0		
15	QPSK	36	0	21.31	21.48	21.56				
15	QPSK	36	59	21.40	21.50	21.70	22.8	1		
15	QPSK	75	0	21.42	21.50	21.66				
15	16QAM	1	37	21.64	21.78	21.87	22.8	1		
15	16QAM	1	74	21.88	21.86	21.93				
15	16QAM	36	0	20.32	20.45	20.58				
15	16QAM	36	59	20.41	20.53	20.56	21.8	2		
15	16QAM	36	98	20.42	20.61	20.70				
15	16QAM	75	0	20.38	20.45	20.58				
15	64QAM	1	0	20.43	20.63	20.65				
15	64QAM	1	37	20.57	20.70	20.79	21.8	2		
15	64QAM	1	74	20.63	20.63	19.62				
15	64QAM	36	0	19.34	19.53	19.62				
15	64QAM	36	59	19.46	19.57	19.74	20.8	3		
15	64QAM	36	98	19.43	19.51	19.68				
15	256QAM	1	0	17.78	17.85	17.75				
15	256QAM	1	37	17.77	17.79	17.64	19.3	4.5		
15	256QAM	1	74	17.74	17.76	17.63				
15	256QAM	36	0	17.63	17.70	17.52				
15	256QAM	36	59	17.68	17.66	17.54	19.3	4.5		
15	256QAM	36	98	17.64	17.68	17.53				
15	256QAM	75	0	17.71	17.69	17.60				
				Channel	Channel	Channel	Turn-up	MPR		
				Frequency (MHz)	Frequency (MHz)	Frequency (MHz)	lim (dB)	(dB)		
19	QPSK	1	0	22.15	22.31	22.40				
19	QPSK	1	49	22.20	22.38	22.49	23.8	0		
19	QPSK	25	0	21.32	21.44	21.56				
19	QPSK	25	24	21.38	21.48	21.68	22.8	1		
19	QPSK	25	26	21.35	21.57	21.66				
19	QPSK	50	0	21.34	21.46	21.56				
19	16QAM	1	0	21.52	21.71	21.81	22.8	1		
19	16QAM	1	26	21.48	21.74	21.81				
19	16QAM	1	49	21.57	21.81	21.93				
19	16QAM	1	99	20.29	20.46	20.55				
19	16QAM	25	12	20.34	20.50	20.59	21.8	2		
19	16QAM	25	26	20.33	20.55	20.65				
19	16QAM	50	0	20.33	20.45	20.57				
19	64QAM	1	0	20.36	20.54	20.66				
19	64QAM	1	26	20.40	20.66	20.81	21.8	2		
19	64QAM	1	49	20.46	20.70	20.82				
19	64QAM	25	0	19.34	19.50	19.55				
19	64QAM	25	12	19.41	19.64	19.83	20.8	3		
19	64QAM	25	26	19.37	19.58	19.69				
19	64QAM	50	0	19.38	19.52	19.58				
19	256QAM	1	0	17.78	17.85	17.75				
19	256QAM	1	37	17.77	17.79	17.64	19.3	4.5		
19	256QAM	1	49	17.74	17.76	17.63				
19	256QAM	25	0	17.63	17.70	17.52				
19	256QAM	25	12	17.68	17.66	17.54	19.3	4.5		
19	256QAM	25	26	17.64	17.68	17.53				
19	256QAM	50	0	17.71	17.69	17.60				

Band 12 (700MHz Low Band) Part 27 (only on channel required)										
RF (MHz)	Modulation	RB Size	RB Offset	Power	Power	Power	Turn-up	MPR		
				Ch. / Freq.	Ch. / Freq.	Ch. / Freq.	lim (dB)	(dB)		
				Channel	Channel	Channel				
				Frequency (MHz)	Frequency (MHz)	Frequency (MHz)				
10	QPSK	1	0	22.48	22.52	22.53				
10	QPSK	1	26	22.51	22.61	22.54	23.8	0		
10	QPSK	1	49	22.57	22.65	22.57				
10	QPSK	25	0	21.68	21.68	21.70				
10	QPSK	25	12	21.69	21.73	21.69	22.8	1		
10	QPSK	25	26	21.72	21.75	21.71				
10	QPSK	50	0	21.73	21.74	21.70				
10	16QAM	1	0	21.92	22.02	21.92				
10	16QAM	1	26	21.92	22.02	21.89	22.8	1		
10	16QAM	1	49	21.99	22.05	21.95				
10	16QAM	25	0	20.76	20.87	20.88				
10	16QAM	25	12	20.78	20.81	20.69	21.8	2		
10	16QAM	25	26	20.76	20.78	20.71				
10	64QAM	1	0	20.71	20.77	20.69				
10	64QAM	1	26	20.84	20.85	20.82	21.8	2		
10	64QAM	1	49	20.90	20.87	20.80				
10	64QAM	25	0	19.71	19.73	19.74				
10	64QAM	25	12	19.80	19.81	19.75	20.8	3		
10	64QAM	25	26	19.77	19.77	19.71				
10	64QAM	50	0	19.78	19.71	19.71				
10	256QAM	1	0	17.68	18.02	18.07				
10	256QAM	1	26	17.67	18.02	17.95	19.3	4.5		
10	256QAM	1	49	17.59	17.96	17.88				
10	256QAM	25	0	18.01	17.94	18.02				
10	256QAM	25	12	17.86	17.96	18.03	19.3	4.5		
10	256QAM	25	26	17.62	17.95	17.85				
10	256QAM	50	0	17.63	17.93	17.82				
				Channel	Channel	Channel	Turn-up	MPR		
				Frequency (MHz)	Frequency (MHz)	Frequency (MHz)	lim (dB)	(dB)		
5	QPSK	1	0	22.53	22.59	22.54				
5	QPSK	1	24	22.60	22.67	22.51	23.8	0		
5	QPSK	12	0	21.65	21.67	21.67				
5	QPSK	12	13	21.67	21.71	21.67	22.8	1		
5	QPSK	25	0	21.68	21.74	21.62				
5	16QAM	1	0	20.92	20.93	21.00				
5	16QAM	1	12	21.07	21.09	21.07	22.8	1		
5	16QAM	1	24	21.02	22.01	21.97				
5	16QAM	12	0	20.72	20.78	20.72				
5	16QAM	12	13	20.72	20.73	20.73	21.8	2		
5	16QAM	12	15	20.72	20.78	20.67				
5	16QAM	25	0	19.53	19.58	19.53				
5	64QAM	1	0	20.82	20.88	20.84				
5	64QAM	1	12	20.81	20.80	20.86	21.8	2		
5	64QAM	1	24	20.84	20.82	20.80				
5	64QAM	12	0	19.71	19.78	19.72				
5	64QAM	12	7	19.77	19.80	19.77	20.8	3		
5	64QAM	12	15	19.74	19.82	19.83				
5	64QAM	25	0	19.70	19.78	19.65				
5	256QAM	1	0	17.68	17.95	18.15				
5	256QAM	1	12	17.64	18.02	18.07	19.3	4.5		
5	256QAM	1	24	17.62	18.02	18.07				
5	256QAM	12	0	17.93	17.94	17.93				
5	256QAM	12	13	17.82	17.96	17.98	19.3	4.5		
5	256QAM	25	0	17.78	18.00	17.88				
5	256QAM	25	26	17.78	18.00	17.88				
				Channel	Channel	Channel	Turn-up	MPR		
				Frequency (MHz)	Frequency (MHz)	Frequency (MHz)	lim (dB)	(dB)		
3	QPSK	1	0	22.57	22.48	22.59				
3	QPSK	1	8	22.60	22.60	22.50	23.8	0		
3	QPSK	1	14	22.53	22.41	22.58				
3	QPSK	8	0	21.60	21.67	21.63				
3	QPSK	8	4	21.64	21.68	21.63	22.8	1		
3	QPSK	8	7	21.67	21.69	21.65				
3	QPSK	15	0	21.68	21.72	21.64				
3	16QAM	1	0	21.82	21.83	21.87				
3	16QAM	1	8	21.93	22.00	22.01	22.8	1		
3	16QAM	1	14	21.87	21.95	21.89				
3	16QAM	8	0	20.72	20.					



Band 17 (100MHz Band) Part 27H(only on channel required)									
RV (MHz)	Modulation	RB Size	RB Offset	Power Low Ch./Freq.	Power Mid Ch./Freq.	Power High Ch./Freq.	Turn-up limit (dBm)	MPE (dB)	
Channel Frequency (MHz)									
10	QPSK	1	0	22.59	22.51	22.55			
10	QPSK	1	25	22.54	22.56	22.56	23.8	0	
10	QPSK	1	49	22.50	22.57	22.57			
10	QPSK	25	0	21.61	21.62	21.60			
10	QPSK	25	12	21.67	21.67	21.64			
10	QPSK	25	25	21.67	21.65	21.62	22.8	1	
10	QPSK	50	0	21.63	21.60	21.61			
10	16QAM	1	25	21.59	21.58	21.60			
10	16QAM	1	25	21.94	21.98	21.93	22.8	1	
10	16QAM	1	49	21.99	21.98	21.95			
10	16QAM	25	0	20.81	20.83	20.81			
10	16QAM	25	12	20.86	20.77	20.86	21.8	2	
10	16QAM	25	25	20.74	20.78	20.73			
10	64QAM	1	0	20.73	20.85	20.79			
10	64QAM	1	25	20.87	20.89	20.83	21.8	2	
10	64QAM	25	0	20.87	20.87	20.85			
10	64QAM	25	12	19.73	19.77	19.79			
10	64QAM	25	25	19.77	19.78	19.77	20.8	3	
10	256QAM	1	0	17.80	17.73	17.48			
10	256QAM	1	25	17.44	17.40	17.58	19.3	4.5	
10	256QAM	1	49	17.45	17.62	17.57			
10	256QAM	25	0	17.83	17.77	17.71			
10	256QAM	25	12	17.87	17.83	17.64			
10	256QAM	25	25	17.59	17.58	17.53	19.3	4.5	
10	256QAM	50	0	17.89	17.73	17.47			
Channel Frequency (MHz)									
5	QPSK	1	0	22.52	22.57	22.54			
5	QPSK	1	25	22.49	22.59	22.54	23.8	0	
5	QPSK	1	49	22.43	22.54	22.51			
5	QPSK	12	0	21.63	21.65	21.61			
5	QPSK	12	13	21.73	21.71	21.67	22.8	1	
5	QPSK	25	0	21.73	21.73	21.63			
5	16QAM	1	0	21.68	21.65	21.60			
5	16QAM	1	12	21.95	22.07	21.98	22.8	1	
5	16QAM	1	24	22.02	22.07	21.97			
5	16QAM	12	0	20.70	20.67	20.66			
5	16QAM	12	7	20.77	20.78	20.65	21.8	2	
5	16QAM	12	13	20.73	20.77	20.69			
5	64QAM	1	0	20.73	20.75	20.66			
5	64QAM	1	12	20.85	20.93	20.86	21.8	2	
5	64QAM	12	0	19.73	19.72	19.69			
5	64QAM	12	7	19.81	19.80	19.73	20.8	3	
5	64QAM	12	13	19.78	19.81	19.73			
5	64QAM	25	0	19.77	19.77	19.68			
5	256QAM	1	0	17.74	17.64	17.51			
5	256QAM	1	24	17.64	17.74	17.59	19.3	4.5	
5	256QAM	12	0	17.87	17.86	17.85			
5	256QAM	12	13	17.83	17.86	17.85	19.3	4.5	
5	256QAM	25	0	17.81	17.80	17.81			

Band 26 (100MHz Band) Part 24E									
RV (MHz)	Modulation	RB Size	RB Offset	Power Low Ch./Freq.	Power Mid Ch./Freq.	Power High Ch./Freq.	Turn-up limit (dBm)	MPE (dB)	
Channel Frequency (MHz)									
20	QPSK	1	0	22.42	22.47	22.41			
20	QPSK	1	49	22.30	22.43	22.34	23.8	0	
20	QPSK	1	99	22.34	22.41	22.30			
20	QPSK	50	0	21.47	21.49	21.49			
20	QPSK	50	24	21.44	21.44	21.43	22.8	1	
20	QPSK	50	36	21.44	21.45	21.43			
20	QPSK	100	0	21.47	21.50	21.47			
20	16QAM	1	0	21.51	21.47	21.47			
20	16QAM	1	49	21.67	21.73	21.73	22.8	1	
20	16QAM	1	99	21.52	21.69	21.64			
20	16QAM	50	0	20.54	20.55	20.50			
20	16QAM	50	24	20.50	20.51	20.59	21.8	2	
20	16QAM	50	36	20.46	20.55	20.54			
20	64QAM	1	0	20.53	20.57	20.54			
20	64QAM	1	49	20.75	20.61	20.62			
20	64QAM	1	99	20.59	20.61	20.60	21.8	2	
20	64QAM	50	0	19.58	19.57	19.52			
20	64QAM	50	24	19.55	19.62	19.58			
20	64QAM	50	36	19.48	19.58	19.55	20.8	3	
20	256QAM	1	0	17.79	17.79	17.61			
20	256QAM	1	49	17.76	17.79	17.61	19.3	4.5	
20	256QAM	1	99	17.66	17.73	17.61			
20	256QAM	50	0	17.88	17.78	17.68			
20	256QAM	50	24	17.87	17.83	17.67	19.3	4.5	
20	256QAM	50	36	17.69	17.83	17.67			
20	256QAM	100	0	17.72	17.85	17.60			
Channel Frequency (MHz)									
15	QPSK	1	0	22.45	22.48	22.43			
15	QPSK	1	49	22.33	22.43	22.33	23.8	0	
15	QPSK	1	99	22.37	22.40	22.37			
15	QPSK	36	0	21.52	21.51	21.51			
15	QPSK	36	18	21.52	21.52	21.51	22.8	1	
15	QPSK	36	36	21.41	21.53	21.47			
15	QPSK	75	0	21.47	21.53	21.58			
15	16QAM	1	0	21.75	21.62	21.62			
15	16QAM	1	37	21.55	21.77	21.72	22.8	1	
15	16QAM	1	74	21.54	21.73	21.65			
15	16QAM	36	0	20.50	20.50	20.57			
15	16QAM	36	39	20.41	20.52	20.52	21.8	2	
15	64QAM	1	0	20.59	20.67	20.61			
15	64QAM	1	37	20.61	20.72	20.60	21.8	2	
15	64QAM	36	0	19.58	19.58	19.55			
15	64QAM	36	20	19.55	19.62	19.58	20.8	3	
15	64QAM	36	39	19.53	19.56	19.53			
15	64QAM	75	0	19.38	19.38	19.27			
15	256QAM	1	0	17.89	17.72	17.61			
15	256QAM	1	37	17.86	17.79	17.63	19.3	4.5	
15	256QAM	1	74	17.82	17.81	17.61			
15	256QAM	36	0	17.84	17.77	17.63	19.3	4.5	
15	256QAM	75	0	17.72	17.89	17.61			
Channel Frequency (MHz)									
10	QPSK	1	0	22.37	22.32	22.31			
10	QPSK	1	25	22.30	22.30	22.34	23.8	0	
10	QPSK	1	49	22.30	22.30	22.34			
10	QPSK	25	0	21.45	21.40	21.38			
10	QPSK	25	12	21.43	21.43	21.47	22.8	1	
10	QPSK	25	25	21.43	21.49	21.47			
10	QPSK	50	0	21.44	21.40	21.45			
10	16QAM	1	0	21.76	21.60	21.73			
10	16QAM	1	25	21.70	21.71	21.38	22.8	1	
10	16QAM	1	49	21.69	21.86	21.70			
10	16QAM	25	0	20.47	20.48	20.34			
10	16QAM	25	12	20.48	20.54	20.49	21.8	2	
10	16QAM	25	25	20.44	20.48	20.43			
10	16QAM	50	0	20.44	20.49	20.49			
10	64QAM	1	0	20.84	20.55	20.81			
10	64QAM	1	25	20.81	20.58	20.89	21.8	2	
10	64QAM	12	0	19.48	19.48	19.42			
10	64QAM	12	13	19.46	19.51	19.51	20.8	3	
10	64QAM	25	0	19.45	19.45	19.51			
10	64QAM	25	12	19.48	19.48	19.51			
10	64QAM	25	25	19.45	19.49	19.52	20.8	3	
10	256QAM	1	0	17.84	17.78	17.65			
10	256QAM	1	24	17.71	17.64	17.44	19.3	4.5	
10	256QAM	1	49	17.81	17.65	17.42			
10	256QAM	12	0	17.51	17.85	17.64			
10	256QAM	12	13	17.48	17.72	17.59	19.3	4.5	
10	256QAM	25	0	17.85	17.79	17.63			
10	256QAM	25	12	17.74	17.45	17.45	19.3	4.5	
Channel Frequency (MHz)									
5	QPSK	1	0	22.39	22.34	22.31			
5	QPSK	1	25	22.38	22.45	22.43	23.8	0	
5	QPSK	1	49	22.38	22.42	22.41			
5	QPSK	12	0	21.44	21.43	21.33			
5	QPSK	12	13	21.53	21.44	21.47	22.8	1	
5	QPSK	25	0	21.51					



Band 30										
RW (MHz)	Modulation	RB Size	RB Offset	Power Low Ch./Freq.	Power High Ch./Freq.	Power High Ch./Freq.	Turn-up limit (dBm)	MPR (dB)		
Channel				2710	2715	2720				
Frequency (MHz)				2710	2715	2720				
10	QPSK	1	0	22.41						
10	QPSK	1	25	22.26					23.8	0
10	QPSK	1	49	22.35						
10	QPSK	25	0	21.43						
10	QPSK	25	12	21.68					22.8	1
10	QPSK	25	25	21.45						
10	QPSK	50	0	21.47						
10	16QAM	1	0	21.51						
10	16QAM	1	25	21.78					22.8	1
10	16QAM	1	49	21.74						
10	16QAM	25	0	20.42						
10	16QAM	25	12	20.48					21.8	2
10	16QAM	25	25	20.48						
10	16QAM	50	0	20.59						
10	16QAM	50	12	20.52					21.8	2
10	16QAM	50	25	20.52						
10	16QAM	1	0	19.45						
10	16QAM	1	25	19.40					20.8	3
10	16QAM	1	49	19.35						
10	16QAM	25	0	18.18						
10	16QAM	25	12	18.40						
10	16QAM	25	25	18.24						
10	16QAM	50	0	17.38					19.3	4.5
10	16QAM	50	12	17.60						
10	16QAM	50	25	17.46					19.3	4.5
10	16QAM	100	0	17.42						
10	16QAM	100	0	17.43						
Channel				2765	2770	2775	Turn-up limit (dBm)	MPR (dB)		
Frequency (MHz)				2765	2770	2775				
5	QPSK	1	0	22.21	22.26	22.36				
5	QPSK	1	18	22.37	22.37	22.37			23.8	0
5	QPSK	1	24	22.30	22.30	22.34				
5	QPSK	12	0	21.37	21.48	21.47				
5	QPSK	12	7	21.50	21.48	21.53			22.8	1
5	QPSK	12	13	21.47	21.48	21.53				
5	QPSK	25	0	21.48	21.43	21.49				
5	16QAM	1	0	21.54	21.63	21.66				
5	16QAM	1	12	21.63	21.70	21.68			22.8	1
5	16QAM	1	24	21.71	21.68	21.67				
5	16QAM	12	0	20.38	20.46	20.52				
5	16QAM	12	7	20.50	20.51	20.58			21.8	2
5	16QAM	12	13	20.52	20.51	20.51				
5	16QAM	25	0	20.48	20.47	20.52				
5	16QAM	25	0	20.47	20.34	20.39				
5	16QAM	1	12	20.46	20.14	20.39			21.8	2
5	16QAM	1	24	20.34	20.19	20.51				
5	16QAM	12	0	19.42	19.17	19.28				
5	16QAM	12	7	19.38	19.15	19.37			20.8	3
5	16QAM	12	13	19.23	19.17	19.41				
5	16QAM	25	0	18.29	18.18	18.23				
5	16QAM	25	0	17.48	17.50	17.50			19.3	4.5
5	16QAM	1	0	17.54	17.52	17.44				
5	16QAM	1	24	17.60	17.50	17.54				
5	16QAM	12	0	17.45	17.44	17.39				
5	16QAM	12	7	17.56	17.50	17.49			19.3	4.5
5	16QAM	12	13	17.45	17.42	17.46				
5	16QAM	25	0	17.33	17.40	17.38				

Band 66										
RW (MHz)	Modulation	RB Size	RB Offset	Power Low Ch./Freq.	Power High Ch./Freq.	Power High Ch./Freq.	Turn-up limit (dBm)	MPR (dB)		
Channel				15072	15072	15072				
Frequency (MHz)				15072	15072	15072				
20	QPSK	1	0	22.35	22.35	22.44				
20	QPSK	1	49	22.25	22.44	22.30			23.8	0
20	QPSK	1	98	22.18	22.35	22.31				
20	QPSK	50	0	21.39	21.50	21.42				
20	QPSK	50	24	21.41	21.45	21.38			22.8	1
20	QPSK	50	25	21.36	21.50	21.38				
20	QPSK	100	0	21.40	21.45	21.39				
20	16QAM	1	0	21.59	21.74	21.74				
20	16QAM	1	49	21.63	21.62	21.65			22.8	1
20	16QAM	1	98	21.81	21.70	21.60				
20	16QAM	50	0	20.46	20.54	20.43				
20	16QAM	50	24	20.46	20.52	20.39			21.8	2
20	16QAM	50	25	20.43	20.50	20.40				
20	16QAM	100	0	20.46	20.51	20.38				
20	16QAM	1	0	20.57	20.73	20.59			21.8	2
20	16QAM	1	49	20.50	20.69	20.59				
20	16QAM	50	0	19.43	19.55	19.42				
20	16QAM	50	24	19.48	19.53	19.38			20.8	3
20	16QAM	50	25	19.42	19.50	19.39				
20	16QAM	100	0	19.45	19.51	19.36				
20	16QAM	1	0	17.91	17.74	17.82			19.3	4.5
20	16QAM	1	49	17.84	17.84	17.82				
20	16QAM	1	98	17.78	17.88	17.82				
20	16QAM	50	0	17.62	17.66	17.66				
20	16QAM	50	24	17.62	17.66	17.66			19.3	4.5
20	16QAM	50	25	17.73	17.64	17.67				
20	16QAM	100	0	17.72	17.63	17.68				
Channel				17175	17165	17172.5	Turn-up limit (dBm)	MPR (dB)		
Frequency (MHz)				17175	17165	17172.5				
15	QPSK	1	0	22.31	22.44	22.35				
15	QPSK	1	18	22.34	22.44	22.35			23.8	0
15	QPSK	1	24	22.22	22.37	22.22				
15	QPSK	36	0	21.33	21.48	21.35				
15	QPSK	36	18	21.36	21.45	21.37			22.8	1
15	QPSK	36	24	21.39	21.50	21.35				
15	QPSK	75	0	21.41	21.45	21.38				
15	16QAM	1	0	21.58	21.62	21.64				
15	16QAM	1	37	21.68	21.74	21.60			22.8	1
15	16QAM	1	74	21.49	21.63	21.53				
15	16QAM	36	0	20.43	20.55	20.42				
15	16QAM	36	39	20.37	20.49	20.34			21.8	2
15	16QAM	75	0	20.46	20.56	20.45				
15	16QAM	1	0	20.49	20.66	20.45			21.8	2
15	16QAM	1	37	20.49	20.71	20.49				
15	16QAM	36	0	19.43	19.50	19.35				
15	16QAM	36	39	19.45	19.55	19.45			20.8	3
15	16QAM	75	0	17.94	17.84	17.88				
15	16QAM	75	0	17.91	17.74	17.82			19.3	4.5
15	16QAM	36	0	17.64	17.64	17.62				
15	16QAM	36	39	17.73	17.64	17.67			19.3	4.5
15	16QAM	75	0	17.72	17.63	17.68				
Channel				17175	17165	17172.5	Turn-up limit (dBm)	MPR (dB)		
Frequency (MHz)				17175	17165	17172.5				
10	QPSK	1	0	22.30	22.42	22.24				
10	QPSK	1	25	22.33	22.43	22.25			23.8	0
10	QPSK	1	49	22.21	22.31	22.14				
10	QPSK	25	0	21.33	21.42	21.29				
10	QPSK	25	12	21.36	21.45	21.27			22.8	1
10	QPSK	25	25	21.32	21.49	21.29				
10	QPSK	50	0	21.37	21.41	21.25				
10	16QAM	1	0	21.68	21.62	21.64				
10	16QAM	1	25	21.61	21.79	21.67			22.8	1
10	16QAM	1	49	21.58	21.73	21.52				
10	16QAM	25	0	20.31	20.46	20.38				
10	16QAM	25	12	20.41	20.46	20.38			21.8	2
10	16QAM	25	25	20.34	20.48	20.33				
10	16QAM	50	0	20.38	20.44	20.27				
10	16QAM	1	0	20.51	20.50	20.47			21.8	2
10	16QAM	1	25	20.60	20.68	20.53				
10	16QAM	1	49	20.54	20.58	20.52			20.8	3
10	16QAM	25	0	19.34	19.50	19.35				
10	16QAM	25	12	19.46	19.48	19.33				
10	16QAM	25	25	19.45	19.55	19.34				
10	16QAM	50	0	19.41	19.48	19.29				
10	16QAM	1	0	17.91	17.74	17.82			19.3	4.5
10	16QAM	1	49	17.78	17.88	17.82				
10	16QAM	50	0	17.62	17.66	17.66				
10	16QAM	50	24	17.75	17.72	17.72			19.3	4.5
10	16QAM	50	25	17.73	17.64	17.67				
10	16QAM	100	0	17.72	17.63	17.68				
Channel				19179	19202	19267	Turn-up limit (dBm)	MPR (dB)		
Frequency (MHz)				19179	19202	19267				
3	QPSK	1	0	22.23	22.37	22.20				
3	QPSK	1	8	22.32	22.46	22.20			23.8	0
3	QPSK	1	14	22.28	22.38	22.22				
3	QPSK	8	0	21.38	21.48	21.26				
3	QPSK	8	4	21.38	21.48	21.29			22.8	1
3	QPSK	8	7	21.37	21.46	21.24				
3	QPSK	16	0	21.68	21.62	21.64				
3	16QAM	1	0	21.56	21.65	21.49				
3	16QAM	1	8	21.68	21.79	21.60				



MINISTRY OF NATIONAL DEFENSE
CUMHURBAŞKANLIĞI
MILLÎ SAVUNMA BAKANLIĞI

Band 38(only on channel required)												
BW (MHz)	Modulation	RB Size	RB Offset	Power Low Ch. (Frac.)	Power Low Meds Ch. (Frac.)	Power High Meds Ch. (Frac.)	Power High Ch. (Frac.)	Tune-up Int. (dBm)	MFR (dB)			
Channel										Frequency (MHz)	Tune-up Int. (dBm)	MFR (dB)
30	QPSK	1	0	22.56	22.56	22.56	22.56	23.8	0			
30	QPSK	1	49	22.52	22.52	22.52	22.52	23.8	0			
30	QPSK	1	99	22.50	22.50	22.50	22.50	23.8	0			
30	QPSK	50	0	21.61	21.61	21.61	21.61	22.8	1			
30	QPSK	50	50	21.62	21.62	21.62	21.62	22.8	1			
30	QPSK	50	100	0	21.21	21.21	21.21	22.8	1			
30	QPSK	50	150	0	21.57	21.57	21.57	22.8	1			
30	QPSK	50	200	0	21.63	21.63	21.63	22.8	1			
30	QPSK	50	250	0	20.56	20.56	20.56	21.8	2			
30	QPSK	50	300	0	20.57	20.57	20.57	21.8	2			
30	QPSK	50	350	0	20.58	20.58	20.58	21.8	2			
30	QPSK	50	400	0	20.59	20.59	20.59	21.8	2			
30	QPSK	50	450	0	20.60	20.60	20.60	21.8	2			
30	QPSK	50	500	0	20.61	20.61	20.61	21.8	2			
30	QPSK	50	550	0	20.62	20.62	20.62	21.8	2			
30	QPSK	50	600	0	20.63	20.63	20.63	21.8	2			
30	QPSK	50	650	0	20.64	20.64	20.64	21.8	2			
30	QPSK	50	700	0	20.65	20.65	20.65	21.8	2			
30	QPSK	50	750	0	20.66	20.66	20.66	21.8	2			
30	QPSK	50	800	0	20.67	20.67	20.67	21.8	2			
30	QPSK	50	850	0	20.68	20.68	20.68	21.8	2			
30	QPSK	50	900	0	20.69	20.69	20.69	21.8	2			
30	QPSK	50	950	0	20.70	20.70	20.70	21.8	2			
30	QPSK	50	1000	0	20.71	20.71	20.71	21.8	2			
30	QPSK	50	1050	0	20.72	20.72	20.72	21.8	2			
30	QPSK	50	1100	0	20.73	20.73	20.73	21.8	2			
30	QPSK	50	1150	0	20.74	20.74	20.74	21.8	2			
30	QPSK	50	1200	0	20.75	20.75	20.75	21.8	2			
30	QPSK	50	1250	0	20.76	20.76	20.76	21.8	2			
30	QPSK	50	1300	0	20.77	20.77	20.77	21.8	2			
30	QPSK	50	1350	0	20.78	20.78	20.78	21.8	2			
30	QPSK	50	1400	0	20.79	20.79	20.79	21.8	2			
30	QPSK	50	1450	0	20.80	20.80	20.80	21.8	2			
30	QPSK	50	1500	0	20.81	20.81	20.81	21.8	2			
30	QPSK	50	1550	0	20.82	20.82	20.82	21.8	2			
30	QPSK	50	1600	0	20.83	20.83	20.83	21.8	2			
30	QPSK	50	1650	0	20.84	20.84	20.84	21.8	2			
30	QPSK	50	1700	0	20.85	20.85	20.85	21.8	2			
30	QPSK	50	1750	0	20.86	20.86	20.86	21.8	2			
30	QPSK	50	1800	0	20.87	20.87	20.87	21.8	2			
30	QPSK	50	1850	0	20.88	20.88	20.88	21.8	2			
30	QPSK	50	1900	0	20.89	20.89	20.89	21.8	2			
30	QPSK	50	1950	0	20.90	20.90	20.90	21.8	2			
30	QPSK	50	2000	0	20.91	20.91	20.91	21.8	2			
30	QPSK	50	2050	0	20.92	20.92	20.92	21.8	2			
30	QPSK	50	2100	0	20.93	20.93	20.93	21.8	2			
30	QPSK	50	2150	0	20.94	20.94	20.94	21.8	2			
30	QPSK	50	2200	0	20.95	20.95	20.95	21.8	2			
30	QPSK	50	2250	0	20.96	20.96	20.96	21.8	2			
30	QPSK	50	2300	0	20.97	20.97	20.97	21.8	2			
30	QPSK	50	2350	0	20.98	20.98	20.98	21.8	2			
30	QPSK	50	2400	0	20.99	20.99	20.99	21.8	2			
30	QPSK	50	2450	0	21.00	21.00	21.00	21.8	2			
30	QPSK	50	2500	0	21.01	21.01	21.01	21.8	2			
30	QPSK	50	2550	0	21.02	21.02	21.02	21.8	2			
30	QPSK	50	2600	0	21.03	21.03	21.03	21.8	2			
30	QPSK	50	2650	0	21.04	21.04	21.04	21.8	2			
30	QPSK	50	2700	0	21.05	21.05	21.05	21.8	2			
30	QPSK	50	2750	0	21.06	21.06	21.06	21.8	2			
30	QPSK	50	2800	0	21.07	21.07	21.07	21.8	2			
30	QPSK	50	2850	0	21.08	21.08	21.08	21.8	2			
30	QPSK	50	2900	0	21.09	21.09	21.09	21.8	2			
30	QPSK	50	2950	0	21.10	21.10	21.10	21.8	2			
30	QPSK	50	3000	0	21.11	21.11	21.11	21.8	2			
30	QPSK	50	3050	0	21.12	21.12	21.12	21.8	2			
30	QPSK	50	3100	0	21.13	21.13	21.13	21.8	2			
30	QPSK	50	3150	0	21.14	21.14	21.14	21.8	2			
30	QPSK	50	3200	0	21.15	21.15	21.15	21.8	2			
30	QPSK	50	3250	0	21.16	21.16	21.16	21.8	2			
30	QPSK	50	3300	0	21.17	21.17	21.17	21.8	2			
30	QPSK	50	3350	0	21.18	21.18	21.18	21.8	2			
30	QPSK	50	3400	0	21.19	21.19	21.19	21.8	2			
30	QPSK	50	3450	0	21.20	21.20	21.20	21.8	2			
30	QPSK	50	3500	0	21.21	21.21	21.21	21.8	2			
30	QPSK	50	3550	0	21.22	21.22	21.22	21.8	2			
30	QPSK	50	3600	0	21.23	21.23	21.23	21.8	2			
30	QPSK	50	3650	0	21.24	21.24	21.24	21.8	2			
30	QPSK	50	3700	0	21.25	21.25	21.25	21.8	2			
30	QPSK	50	3750	0	21.26	21.26	21.26	21.8	2			
30	QPSK	50	3800	0	21.27	21.27	21.27	21.8	2			
30	QPSK	50	3850	0	21.28	21.28	21.28	21.8	2			
30	QPSK	50	3900	0	21.29	21.29	21.29	21.8	2			
30	QPSK	50	3950	0	21.30	21.30	21.30	21.8	2			
30	QPSK	50	4000	0	21.31	21.31	21.31	21.8	2			
30	QPSK	50	4050	0	21.32	21.32	21.32	21.8	2			
30	QPSK	50	4100	0	21.33	21.33	21.33	21.8	2			
30	QPSK	50	4150	0	21.34	21.34	21.34	21.8	2			
30	QPSK	50	4200	0	21.35	21.35	21.35	21.8	2			
30	QPSK	50	4250	0	21.36	21.36	21.36	21.8	2			
30	QPSK	50	4300	0	21.37	21.37	21.37	21.8	2			
30	QPSK	50	4350	0	21.38	21.38	21.38	21.8	2			
30	QPSK	50	4400	0	21.39	21.39	21.39	21.8	2			
30	QPSK	50	4450	0	21.40	21.40	21.40	21.8	2			
30	QPSK	50	4500	0	21.41	21.41	21.41	21.8	2			
30	QPSK	50	4550	0	21.42	21.42	21.42	21.8	2			
30	QPSK	50	4600	0	21.43	21.43	21.43	21.8	2			
30	QPSK	50	4650	0	21.44	21.44	21.44	21.8	2			
30	QPSK	50	4700	0	21.45	21.45	21.45	21.8	2			
30	QPSK	50	4750	0	21.46	21.46	21.46	21.8	2			
30	QPSK	50	4800	0	21.47	21.47	21.47	21.8	2			
30	QPSK	50	4850	0	21.48	21.48	21.48	21.8	2			
30	QPSK	50	4900	0	21.49	21.49	21.49	21.8	2			
30	QPSK	50	4950	0	21.50	21.50	21.50	21.8	2			
30	QPSK	50	5000	0	21.51	21.51	21.51	21.8	2			
30	QPSK	50	5050	0	21.52	21.52	21.52	21.8	2			
30	QPSK	50	5100	0	21.53	21.53	21.53	21.8	2			
30	QPSK	50	5150	0	21.54	21.54	21.54	21.8	2			
30	QPSK	50	5200	0	21.55	21.55	21.55	21.8	2			
30	QPSK	50	5250	0	21.56	21.56	21.56	21.8	2			
30	QPSK	50	5300	0	21.57	21.57	21.57	21.8	2			
30	QPSK	50	5350	0	21.58	21.58	21.58	21.8	2			
30	QPSK	50	5400	0	21.59	21.59	21.59	21.8	2			
30	QPSK	50	5450	0	21.60	21.60	21.60	21.8	2			
30	QPSK	50	5500	0	21.61	21.61	21.61	21.8	2			
30	QPSK	50	5550	0	21.62	21.62	21.62	21.8	2			
30	QPSK	50	5600	0	21.63	21.63	21.63	21.8	2			
30	QPSK	50	5650	0	21.64	21.64	21.64	21.8	2			
30	QPSK	50	5700	0	21.65	21.65	21.65	21.8	2			
30	QPSK	50	5750	0	21.66	21.66	21.66	21.8	2			
30	QPSK	50	5800	0	21.67	21.67	21.67	21.8	2			
30	QPSK	50	5850	0	21.68	21.68	21.68	21.8	2			
30	QPSK	50	5900	0	21.69	21.69	21.69	21.8	2			
30	QPSK	50	5950	0	21.70	21.70	21.70	21.8	2			
30	QPSK	50										



Reduced power for Hotspot on-LAT

Cell	Tx Channel	Burst Average Power (dBm)			Frame Average Power (dBm)		
		815	865	915	1412	1413	1413
CDMA1900	Frequency (MHz)	1892.2	1892	1898.8	1892.2	1893	1899.8
CDMA1900	EDGE 1 Tx (dB)	27.53	27.50	27.52	28.70	18.53	18.55
CDMA1900	EDGE 2 Tx (dB)	25.07	24.85	25.03	26.20	19.07	18.86
CDMA1900	EDGE 3 Tx (dB)	23.44	23.71	23.83	24.92	19.78	19.49
CDMA1900	EDGE 4 Tx (dB)	22.09	22.55	22.38	23.40	19.09	19.05
CDMA1900	EDGE 5 Tx (dB)	22.70	22.21	22.70	24.21	19.10	19.23
CDMA1900	EDGE 6 Tx (dB)	22.89	22.14	22.22	23.31	18.92	18.14
CDMA1900	EDGE 7 Tx (dB)	21.06	21.11	21.18	22.00	18.80	18.85
CDMA1900	EDGE 8 Tx (dB)	19.78	19.81	20.02	21.00	18.76	18.53

Cell	Tx Channel	MCDMA II			MCDMA IV		
		9682	9680	9688	14112	14113	14113
CDMA1900	Frequency (MHz)	1852.4	1858	1867.6	1715.4	1724.8	1732.6
CDMA1900	HSRPA Subclass 1	18.31	18.36	18.34	19.40	18.65	18.78
CDMA1900	HSRPA Subclass 2	18.33	18.35	18.36	19.40	18.66	18.80
CDMA1900	HSRPA Subclass 3	17.34	17.44	17.39	18.40	17.89	17.78
CDMA1900	HSRPA Subclass 4	17.06	17.41	17.30	18.40	17.60	17.81
CDMA1900	HSRPA Subclass 5	18.86	18.61	18.86	17.00	17.20	17.27
CDMA1900	HSRPA Subclass 6	18.86	18.61	18.86	17.00	17.20	17.30
CDMA1900	DC-HSRPA Subclass 1	16.86	16.86	16.82	17.80	17.40	17.55
CDMA1900	DC-HSRPA Subclass 2	17.19	17.24	17.15	18.40	17.50	17.65
CDMA1900	DC-HSRPA Subclass 3	16.87	17.20	17.19	18.40	17.49	17.61
CDMA1900	DC-HSRPA Subclass 4	16.84	16.75	16.87	17.80	17.01	17.13
CDMA1900	DC-HSRPA Subclass 5	16.88	16.80	16.78	17.80	17.01	17.18
CDMA1900	HSRPA Subclass 1	17.34	17.42	17.41	18.40	17.60	17.81
CDMA1900	HSRPA Subclass 2	16.37	16.41	16.39	17.40	18.70	18.85
CDMA1900	HSRPA Subclass 3	14.52	14.60	14.62	16.40	16.80	16.80
CDMA1900	HSRPA Subclass 4	15.15	15.21	15.19	16.80	16.31	16.30
CDMA1900	HSRPA Subclass 5	17.31	17.41	17.31	18.40	17.67	17.80
CDMA1900	HSRPA (TDDMA) Subclass 1	19.58	19.61	19.62	19.00	18.26	18.24

Cell	Tx Channel	CDMA1900			CDMA2000			CDMA2000		
		1013	964	777	25	600	1175	476	580	684
CDMA1900	Frequency (MHz)	2212	2212	2211	2212	2212	2212	2212	2212	2212
CDMA1900	HSRPA Subclass 1	22.23	22.05	22.05	23.60	19.84	19.92	20.90	22.14	22.10
CDMA1900	HSRPA Subclass 2	22.22	22.19	22.04	23.60	19.82	19.90	20.87	22.11	22.07
CDMA1900	HSRPA Subclass 3	22.21	22.13	22.03	23.60	19.81	19.89	20.86	22.10	22.06
CDMA1900	HSRPA Subclass 4	22.13	22.21	22.02	23.60	19.80	19.87	20.84	22.03	22.01
CDMA1900	HSRPA Subclass 5	22.23	22.19	22.01	23.60	19.78	19.85	20.82	22.09	22.07
CDMA1900	HSRPA Subclass 6	22.23	22.18	22.00	23.60	19.76	19.84	20.81	22.07	22.05



Band 2 (1800MHz Band) Part 24E										
SR (MHz)	Modulation	RB Size	RB Offset	Power Ch / Freq 1800	Power Ch / Freq 1800	Power Ch / Freq 1900	Time-up rate (dB)	MPR (dB)		
20	QPSK	1	0	17.78	17.81	17.77				
20	QPSK	1	49	17.73	17.73	17.78	18.8	0		
20	QPSK	1	99	17.67	17.73	17.73				
20	QPSK	50	0	17.73	17.74	17.69				
20	QPSK	50	24	17.73	17.73	17.73	18.8	0		
20	QPSK	50	24	17.64	17.73	17.70				
20	QPSK	100	0	17.68	17.69	17.68				
20	QPSK	100	0	17.73	17.73	17.73				
20	16QAM	1	49	17.65	17.73	17.75	18.8	0		
20	16QAM	1	99	17.70	17.72	17.69				
20	16QAM	50	24	17.74	17.76	17.70				
20	16QAM	50	24	17.72	17.72	17.73	18.8	0		
20	16QAM	50	50	17.70	17.76	17.74				
20	16QAM	50	24	17.64	17.74	17.74				
20	84QAM	1	0	17.66	17.73	17.63				
20	84QAM	1	49	17.72	17.61	17.79	18.8	0		
20	84QAM	1	99	17.66	17.73	17.73				
20	84QAM	50	0	17.70	17.69	17.70				
20	84QAM	50	24	17.71	17.72	17.70	18.8	0		
20	84QAM	50	24	17.66	17.74	17.74				
20	84QAM	100	0	17.67	17.67	17.66				
20	256QAM	1	0	17.66	17.68	17.69				
20	256QAM	1	49	17.71	17.72	17.70	18.8	0		
20	256QAM	1	99	17.66	17.73	17.73				
20	256QAM	50	0	17.65	17.65	17.66				
20	256QAM	50	24	17.72	17.72	17.72	18.8	0		
20	256QAM	50	24	17.67	17.72	17.72				
20	256QAM	50	50	17.68	17.68	17.67				
20	256QAM	100	0	17.64	17.67	17.63				
Channel										
Frequency (MHz)	1807.5	1807.5	1807.5	1807.5	1807.5	1807.5	Time-up (dB)	MPR (dB)		
15	QPSK	1	0	17.92	17.79	17.99				
15	QPSK	1	39	17.70	17.76	17.76	18.8	0		
15	QPSK	1	74	17.49	17.42	17.47				
15	QPSK	36	0	17.69	17.66	17.62				
15	QPSK	36	24	17.71	17.66	17.67				
15	QPSK	36	39	17.61	17.51	17.65	19.2	0		
15	QPSK	75	0	17.40	17.42	17.39				
15	16QAM	1	37	17.62	17.62	17.62				
15	16QAM	1	37	17.49	17.76	17.63	19.2	0		
15	16QAM	1	74	17.74	17.65	17.69				
15	16QAM	1	74	17.73	17.64	17.66				
15	16QAM	36	20	17.77	17.67	17.62				
15	16QAM	36	39	17.67	17.71	17.70				
15	16QAM	75	0	17.44	17.41	17.44				
15	84QAM	1	0	17.61	17.63	17.64				
15	84QAM	1	37	17.63	17.58	17.58	18.8	0		
15	84QAM	1	74	17.45	17.45	17.45				
15	84QAM	36	0	17.60	17.65	17.61				
15	84QAM	36	20	17.58	17.63	17.49				
15	84QAM	36	39	17.54	17.62	17.62	18.8	0		
15	84QAM	75	0	17.51	17.49	17.41				
15	256QAM	1	0	17.34	17.59	17.62				
15	256QAM	1	37	17.45	17.45	17.45	18.8	0		
15	256QAM	1	74	17.52	17.41	17.33				
15	256QAM	36	0	17.03	17.06	17.01				
15	256QAM	36	20	17.10	17.20	17.20	18.8	0		
15	256QAM	36	39	17.13	17.28	17.20				
15	256QAM	75	0	17.20	17.08	17.24				
Channel										
Frequency (MHz)	1855	1855	1855	1855	1855	1855	Time-up (dB)	MPR (dB)		
10	QPSK	1	0	17.54	17.71	17.49				
10	QPSK	1	24	17.42	17.55	17.67	18.8	0		
10	QPSK	1	49	17.42	17.55	17.67				
10	QPSK	25	0	17.49	17.58	17.45				
10	QPSK	25	12	17.45	17.46	17.46				
10	QPSK	25	26	17.60	17.54	17.51	19.2	0		
10	QPSK	50	0	17.40	17.49	17.53				
10	16QAM	1	26	17.69	17.74	17.63				
10	16QAM	1	26	17.65	17.78	17.64	18.8	0		
10	16QAM	1	49	17.55	17.67	17.68				
10	16QAM	25	0	17.69	17.66	17.64				
10	16QAM	25	12	17.68	17.56	17.62	19.2	0		
10	16QAM	25	25	17.60	17.79	17.60				
10	16QAM	50	0	17.74	17.53	17.67				
10	84QAM	1	0	17.58	17.70	17.49				
10	84QAM	1	25	17.66	17.61	17.74	18.8	0		
10	84QAM	1	49	17.65	17.70	17.60				
10	84QAM	25	0	17.66	17.64	17.63				
10	84QAM	25	12	17.48	17.62	17.60				
10	84QAM	25	26	17.59	17.71	17.64	19.2	0		
10	84QAM	50	0	17.43	17.64	17.45				
10	256QAM	1	0	17.36	17.69	17.60				
10	256QAM	1	25	17.20	17.58	17.58	18.8	0		
10	256QAM	1	49	17.46	17.42	17.45				
10	256QAM	25	12	17.15	17.11	17.03				
10	256QAM	25	12	17.18	17.16	17.13	18.8	0		
10	256QAM	25	26	17.21	17.30	17.25				
10	256QAM	50	0	17.44	17.42	17.42				
Channel										
Frequency (MHz)	1862.5	1862.5	1862.5	1862.5	1862.5	1862.5	Time-up (dB)	MPR (dB)		
5	QPSK	1	0	17.57	17.77	17.77				
5	QPSK	1	12	17.57	17.66	17.66	18.8	0		
5	QPSK	1	24	17.62	17.45	17.41				
5	QPSK	12	0	17.45	17.44	17.37				
5	QPSK	12	7	17.58	17.46	17.39				
5	QPSK	12	13	17.61	17.47	17.56	19.2	0		
5	QPSK	25	0	17.48	17.54	17.45				
5	16QAM	1	0	17.43	17.54	17.47				
5	16QAM	1	12	17.43	17.66	17.74	18.8	0		
5	16QAM	1	24	17.72	17.76	17.64				
5	16QAM	12	0	17.76	17.66	17.68				
5	16QAM	12	7	17.49	17.49	17.53	19.2	0		
5	16QAM	12	13	17.50	17.57	17.75				
5	16QAM	25	0	17.49	17.46	17.37				
5	84QAM	1	0	17.61	17.70	17.43				
5	84QAM	1	12	17.73	17.68	17.68	18.8	0		
5	84QAM	1	24	17.61	17.67	17.63				
5	84QAM	12	0	17.64	17.57	17.75				
5	84QAM	12	7	17.46	17.46	17.46	19.2	0		
5	84QAM	12	13	17.64	17.70	17.58				
5	84QAM	25	0	17.52	17.50	17.41				
5	256QAM	1	0	17.42	17.46	17.39				
5	256QAM	1	12	17.44	17.33	17.52	18.8	0		
5	256QAM	1	24	17.85	17.52	17.62				
5	256QAM	12	0	17.45	17.56	17.66				
5	256QAM	12	7	17.18	17.15	17.27				
5	256QAM	12	13	17.25	17.20	17.18	19.2	0		
5	256QAM	25	0	17.53	17.68	17.67				
Channel										
Frequency (MHz)	1851.5	1851.5	1851.5	1851.5	1851.5	1851.5	Time-up (dB)	MPR (dB)		
3	QPSK	1	0	17.62	17.63	17.69				
3	QPSK	1	8	17.45	17.43	17.53	18.8	0		
3	QPSK	1	14	17.44	17.43	17.43				
3	QPSK	8	0	17.52	17.57	17.51				
3	QPSK	8	4	17.58	17.48	17.50				
3	QPSK	8	7	17.59	17.56	17.52	18.8	0		
3	QPSK	15	0	17.44	17.46	17.46				
3	16QAM	1	0	17.48	17.61	17.59				
3	16QAM	1	8	17.68	17.71	17.56	19.2	0		
3	16QAM	1	14</							



Band 25 (1900MHz Band) Part 24E										
BW (MHz)	Modulation	RB Size	RB Offset	Power Low Ch./Freq.	Power High Ch./Freq.	Power High Ch./Freq.	Turn-up limit (dBm)	MPR (dB)		
Channel Frequency (MHz)										
20	QPSK	1	0	17.69	17.81	17.65				
20	QPSK	1	49	17.63	17.67	17.61	18.8	0		
20	QPSK	1	99	17.56	17.64	17.64				
20	QPSK	50	0	17.64	17.78	17.77				
20	QPSK	50	24	17.61	17.61	17.75	18.8	0		
20	QPSK	50	99	17.76	17.61	17.65				
20	QPSK	100	0	17.77	17.79	17.74				
20	QPSK	1	0	17.71		17.77				
20	16QAM	1	49	17.70	17.78	17.70	18.8	0		
20	16QAM	1	99	17.66	17.68	17.67				
20	16QAM	50	0	17.66	17.61	17.61				
20	16QAM	50	24	17.62	17.61	17.77	18.8	0		
20	16QAM	50	99	17.77	17.61	17.60				
20	16QAM	1	0	17.65	17.65	17.65				
20	16QAM	1	49	17.66	17.68	17.67	18.8	0		
20	16QAM	1	99	17.72	17.72	17.73				
20	16QAM	50	24	17.61	17.79	17.62	18.8	0		
20	16QAM	50	99	17.77	17.61	17.60				
20	16QAM	1	0	17.65	17.65	17.65				
20	16QAM	50	0	17.63	17.61	17.70				
20	16QAM	50	24	17.61	17.79	17.62	18.8	0		
20	16QAM	50	99	17.77	17.61	17.60				
20	16QAM	1	0	17.65	17.65	17.65				
20	16QAM	50	0	17.63	17.61	17.70				
20	16QAM	50	24	17.61	17.79	17.62	18.8	0		
20	16QAM	50	99	17.77	17.61	17.60				
20	256QAM	1	0	17.58	17.58	17.40				
20	256QAM	1	49	17.47	17.44	17.44	18.8	0		
20	256QAM	1	99	17.45	17.52	17.50				
20	256QAM	50	0	17.37	17.57	17.37				
20	256QAM	50	24	17.48	17.40	17.40	18.8	0		
20	256QAM	50	99	17.48	17.52	17.38				
20	256QAM	100	0	17.51	17.44	17.29				
Channel Frequency (MHz)										
15	QPSK	1	0	17.69	17.63	17.63				
15	QPSK	1	37	17.57	17.61	17.61	18.8	0		
15	QPSK	1	74	17.52	17.45	17.28				
15	QPSK	36	0	17.40	17.52	17.73				
15	QPSK	36	26	17.54	17.62	17.62	18.8	0		
15	QPSK	36	36	17.62	17.60	17.67				
15	QPSK	75	0	17.67	17.79	17.67				
15	16QAM	1	0	17.46	17.52	17.52				
15	16QAM	1	37	17.54	17.54	17.65	18.8	0		
15	16QAM	1	74	17.46	17.67	17.66				
15	16QAM	36	0	17.61	17.56	17.60				
15	16QAM	36	20	17.49	17.63	17.70	18.8	0		
15	16QAM	36	39	17.55	17.53	17.43				
15	16QAM	75	0	17.61	17.76	17.68				
15	16QAM	1	0	17.55	17.47	17.54				
15	16QAM	1	37	17.46	17.47	17.70	18.8	0		
15	16QAM	1	74	17.53	17.66	17.62				
15	16QAM	36	0	17.55	17.66	17.61				
15	16QAM	36	20	17.56	17.72	17.37	18.8	0		
15	16QAM	36	39	17.65	17.56	17.52				
15	16QAM	75	0	17.73	17.57	17.71				
15	256QAM	1	0	17.54	17.33	17.29				
15	256QAM	1	37	17.63	17.42	17.62	18.8	0		
15	256QAM	1	74	17.31	17.54	17.20				
15	256QAM	36	0	17.12	17.35	17.36				
15	256QAM	36	20	17.50	17.46	17.61	18.8	0		
15	256QAM	36	39	17.23	17.54	17.20				
15	256QAM	75	0	17.39	17.61	17.15				
Channel Frequency (MHz)										
10	QPSK	1	0	17.60	17.59	17.42				
10	QPSK	1	26	17.40	17.33	17.51	18.8	0		
10	QPSK	1	49	17.40	17.33	17.51				
10	QPSK	25	0	17.61	17.72	17.60				
10	QPSK	25	12	17.63	17.62	17.62	18.8	0		
10	QPSK	25	26	17.56	17.49	17.67				
10	QPSK	50	0	17.70	17.76	17.65				
10	16QAM	1	0	17.66	17.64	17.73				
10	16QAM	1	26	17.47	17.67	17.61	18.8	0		
10	16QAM	1	49	17.54	17.53	17.63				
10	16QAM	25	0	17.65	17.49	17.61				
10	16QAM	25	12	17.61	17.38	17.62	18.8	0		
10	16QAM	25	26	17.75	17.52	17.40				
10	16QAM	50	0	17.54	17.53	17.70				
10	16QAM	1	0	17.41	17.55	17.51				
10	16QAM	1	26	17.54	17.71	17.42	18.8	0		
10	16QAM	1	49	17.60	17.61	17.62				
10	16QAM	25	0	17.60	17.53	17.74				
10	16QAM	25	12	17.51	17.79	17.63	18.8	0		
10	16QAM	25	26	17.68	17.67	17.61				
10	16QAM	50	0	17.61	17.59	17.79				
10	256QAM	1	0	17.57	17.41	17.30				
10	256QAM	1	26	17.39	17.30	17.50	18.8	0		
10	256QAM	1	49	17.39	17.48	17.50				
10	256QAM	25	0	17.40	17.38	17.52				
10	256QAM	25	12	17.38	17.38	17.53	18.8	0		
10	256QAM	25	26	17.32	17.51	17.43				
10	256QAM	50	0	17.38	17.42	17.43				
Channel Frequency (MHz)										
5	QPSK	1	0	17.56	17.74	17.64				
5	QPSK	1	12	17.14	17.48	17.47	18.8	0		
5	QPSK	1	24	17.48	17.29	17.62				
5	QPSK	12	0	17.47	17.46	17.64				
5	QPSK	12	7	17.31	17.78	17.66	18.8	0		
5	QPSK	12	13	17.61	17.63	17.62				
5	QPSK	25	0	17.66	17.74	17.64				
5	16QAM	1	0	17.68	17.76	17.66				
5	16QAM	1	12	17.66	17.76	17.66	18.8	0		
5	16QAM	1	24	17.61	17.44	17.69				
5	16QAM	12	0	17.70	17.61	17.65				
5	16QAM	12	7	17.50	17.66	17.76	18.8	0		
5	16QAM	12	13	17.73	17.49	17.47				
5	16QAM	25	0	17.77	17.78	17.70				
5	16QAM	1	0	17.51	17.67	17.42				
5	16QAM	1	12	17.65	17.47	17.64	18.8	0		
5	16QAM	1	24	17.76	17.64	17.61				
5	16QAM	12	0	17.61	17.63	17.54				
5	16QAM	12	7	17.48	17.57	17.47	18.8	0		
5	16QAM	12	13	17.78	17.59	17.48				
5	16QAM	25	0	17.77	17.50	17.65				
5	256QAM	1	0	17.54	17.36	17.32				
5	256QAM	1	12	17.35	17.35	17.25	18.8	0		
5	256QAM	1	24	17.29	17.29	17.55				
5	256QAM	12	0	17.49	17.52	17.62				
5	256QAM	12	7	17.27	17.54	17.18	18.8	0		
5	256QAM	12	13	17.33	17.42	17.29				
5	256QAM	25	0	17.38	17.58	17.34				
Channel Frequency (MHz)										
3	QPSK	1	0	17.48	17.54	17.48				
3	QPSK	1	8	17.40	17.54	17.54	18.8	0		
3	QPSK	1	14	17.55	17.52	17.43				
3	QPSK	8	0	17.41	17.70	17.62				
3	QPSK	8	4	17.56	17.61	17.60	18.8	0		
3	QPSK	8	7	17.62	17.40	17.54				
3	16QAM	1	0	17.54	17.46	17.46				
3	16QAM	1	8	17.50	17.74	17.76	18.8	0		
3	16QAM	1	14	17.51	17.62	17.66				
3	16QAM	8	0	17.48	17.70	17.66				
3	16QAM	8	4	17.62	17.42	17.66	18.8	0		
3	16QAM	8	7	17.60	17.62	17.66				
3	16QAM	15	0	17.77	17.49	17.51				
3	16QAM	1	0	17.45	17.64	17.45				
3	16QAM	1	8	17.48	17.68	17.72	18.8	0		
3	16QAM	1	14	17.60	17.59	17.59				
3	16QAM	8	0	17.63	17.42	17.61				
3	16QAM	8	4	17.54	17.72	17.62	18.8	0		
3	16QAM	8	7	17.63	17.59	17.64				
3	16QAM	15	0	17.78	17.66	17.65				
3	256QAM	1	0	17.62	17.44	17.24				
3	256QAM	1	8	17.40	17.24	17.28	18.8	0		
3	256QAM	1	14	17.31	17.34	17.65				
3	256QAM	8	0	17.16	17.43	17.17				
3	256QAM	8	4	17.50	17.38	17.35	18.8	0		
3	256QAM	8	7	17.37	17.58	17.20				
3	256QAM	15	0	17.50	17.67	17.64				
Channel Frequency (MHz)										
1.4	QPSK	1	0	17.63	17.63	17.44				
1.4	QPSK	1	3	17.54	17.65	17.50				
1.4	QPSK	1	5	17.41	17.39	17.41	18.8	0		
1										



Band 30										
BW (MHz)	Modulation	RB Size	RB Offset	Power			Time-up limit (min)	MPR (dB)		
				Low Ch./Freq.	Mid Ch./Freq.	High Ch./Freq.				
Channel										
Frequency (MHz)										
10	QPSK	1	0		17.17		18.5	0		
10	QPSK	1	20		17.26					
10	QPSK	1	40		17.34					
10	QPSK	25	0		17.12					
10	QPSK	25	10		17.20		18.5	0		
10	QPSK	25	20		17.28					
10	QPSK	50	0		17.16					
10	16QAM	1	0		17.26		18.5	0		
10	16QAM	1	20		17.34					
10	16QAM	1	40		17.42					
10	16QAM	25	12		17.20		18.5	0		
10	16QAM	25	24		17.28					
10	16QAM	50	0		17.26					
10	64QAM	1	0		17.27		18.5	0		
10	64QAM	1	20		17.35					
10	64QAM	1	40		17.43					
10	64QAM	25	12		17.27		18.5	0		
10	64QAM	25	24		17.35					
10	64QAM	50	0		17.33					
10	256QAM	1	0		18.83		18.5	0		
10	256QAM	1	20		18.91					
10	256QAM	1	40		18.99					
10	256QAM	25	12		18.85		18.5	0		
10	256QAM	25	24		18.93					
10	256QAM	50	0		18.91					
Channel										
Frequency (MHz)										
5	QPSK	1	0		17.12	17.28	17.14	18.5	0	
5	QPSK	1	20		18.87	18.91	18.79			
5	QPSK	1	40		18.90	18.94	18.85			
5	QPSK	12	0		18.88	18.85	18.92	18.5	0	
5	QPSK	12	7		17.00	17.04	16.96			
5	QPSK	12	13		18.76	18.84	18.80			
5	QPSK	25	0		17.07	17.07	16.88	18.5	0	
5	16QAM	1	0		18.97	17.00	16.87			
5	16QAM	1	12		18.87	17.04	16.99	18.5	0	
5	16QAM	1	24		18.94	17.05	17.00			
5	16QAM	12	0		17.15	17.00	17.16	18.5	0	
5	16QAM	12	7		18.93	18.80	18.85			
5	16QAM	12	13		17.07	18.88	18.92			
5	16QAM	25	0		17.83	17.03	17.07	18.5	0	
5	64QAM	1	0		18.98	17.08	18.93			
5	64QAM	1	12		18.98	17.11	18.97	18.5	0	
5	64QAM	1	24		17.12	17.02	18.99			
5	64QAM	12	0		18.93	17.08	18.96	18.5	0	
5	64QAM	12	7		17.08	18.95	17.07			
5	64QAM	12	13		18.94	18.84	18.94			
5	64QAM	25	0		18.95	17.00	17.05	18.5	0	
5	256QAM	1	0		18.82	18.82	18.87	18.5	0	
5	256QAM	1	24		18.88	18.80	18.85			
5	256QAM	12	0		18.95	18.80	18.88	18.5	0	
5	256QAM	12	7		17.03	18.90	18.86			
5	256QAM	12	13		18.86	18.90	18.88	18.5	0	
5	256QAM	25	0		18.72	18.76	18.74			

Band 66										
BW (MHz)	Modulation	RB Size	RB Offset	Power			Time-up limit (min)	MPR (dB)		
				Low Ch./Freq.	Mid Ch./Freq.	High Ch./Freq.				
Channel										
Frequency (MHz)										
20	QPSK	1	0		18.17	18.34	18.27	19.2	0	
20	QPSK	1	40		18.10	18.17	18.16			
20	QPSK	1	99		18.00	18.07	18.05			
20	QPSK	50	0		18.22	18.29	18.25	19.2	0	
20	QPSK	50	24		18.16	18.24	18.24			
20	QPSK	50	50		18.19	18.25	18.25			
20	QPSK	100	0		18.25	18.28	18.23	19.2	0	
20	16QAM	1	0		18.15	18.18	18.15			
20	16QAM	1	40		18.13	18.12	18.11			
20	16QAM	1	99		18.01	18.04	18.00	19.2	0	
20	16QAM	50	0		18.16	18.28	18.28			
20	16QAM	50	24		18.28	18.24	18.18	19.2	0	
20	16QAM	50	50		18.17	18.22	18.14			
20	16QAM	100	0		18.16	18.21	18.18			
20	64QAM	1	0		18.02	18.11	18.14	19.2	0	
20	64QAM	1	40		18.08	18.08	18.12			
20	64QAM	1	99		18.26	18.24	18.18			
20	64QAM	50	0		18.20	18.25	18.10	19.2	0	
20	64QAM	50	24		18.28	18.28	18.16			
20	64QAM	50	50		18.20	18.25	18.17			
20	64QAM	100	0		18.23	18.23	18.11	19.2	0	
20	256QAM	1	0		17.88	17.89	17.77	19.2	0	
20	256QAM	1	40		17.78	17.79	17.83			
20	256QAM	1	99		17.73	17.83	17.77			
20	256QAM	50	0		17.57	17.81	17.81	19.2	0	
20	256QAM	50	24		17.70	17.87	17.87			
20	256QAM	50	50		17.88	17.89	17.82	19.2	0	
20	256QAM	100	0		17.67	17.88	17.83			
Channel										
Frequency (MHz)										
15	QPSK	1	0		17.96	18.16	18.03	19.2	0	
15	QPSK	1	37		17.88	18.14	17.88			
15	QPSK	1	74		17.70	17.77	17.79			
15	QPSK	36	0		17.92	18.17	18.22	19.2	0	
15	QPSK	36	26		17.87	18.16	18.11			
15	QPSK	36	39		17.99	18.13	18.20			
15	QPSK	75	0		18.11	18.02	18.06	19.2	0	
15	16QAM	1	0		17.94	18.02	18.06			
15	16QAM	1	37		18.03	17.87	17.84	19.2	0	
15	16QAM	1	74		17.89	18.03	17.94			
15	16QAM	36	0		18.16	18.03	18.23	19.2	0	
15	16QAM	36	26		18.20	18.07	18.08			
15	16QAM	36	39		18.04	18.22	18.08			
15	16QAM	75	0		18.21	17.98	18.21	19.2	0	
15	64QAM	1	0		17.83	18.05	17.99			
15	64QAM	1	37		17.84	17.88	18.08	19.2	0	
15	64QAM	1	74		18.15	18.06	17.84			
15	64QAM	36	0		18.03	18.32	18.07	19.2	0	
15	64QAM	36	26		18.10	18.20	18.09			
15	64QAM	36	39		17.85	18.02	18.15			
15	64QAM	75	0		18.16	17.98	17.87	19.2	0	
15	256QAM	1	0		17.74	17.84	17.84	19.2	0	
15	256QAM	1	37		17.84	17.88	17.84			
15	256QAM	1	74		17.86	17.85	17.82			
15	256QAM	36	0		17.49	17.96	17.87	19.2	0	
15	256QAM	36	26		17.81	17.85	17.83			
15	256QAM	36	39		17.66	17.80	17.81	19.2	0	
15	256QAM	75	0		17.83	17.89	17.82			
Channel										
Frequency (MHz)										
10	QPSK	1	0		18.01	18.21	18.10	19.2	0	
10	QPSK	1	26		17.81	18.08	18.02			
10	QPSK	1	49		17.76	18.03	17.81			
10	QPSK	25	0		17.98	18.07	18.21	19.2	0	
10	QPSK	25	12		17.08	18.08	18.15			
10	QPSK	25	25		17.97	18.21	18.10			
10	QPSK	50	0		18.25	18.28	18.22	19.2	0	
10	16QAM	1	0		18.03	18.19	18.15			
10	16QAM	1	25		18.05	18.16	18.10	19.2	0	
10	16QAM	1	49		17.87	17.83	17.89			
10	16QAM	25	0		17.88	18.03	18.11	19.2	0	
10	16QAM	25	12		18.30	18.25	18.21			
10	16QAM	25	25		18.21	18.09	18.01	19.2	0	
10	16QAM	50	0		18.13	18.23	18.17			
10	64QAM	1	0		17.78	18.09	18.02	19.2	0	
10	64QAM	1	25		17.98	17.87	17.83			
10	64QAM	1	49		18.05	17.99	18.12	19.2	0	
10	64QAM	25	0		17.96	18.34				



Band 3B (only on channel required)													
EW (MHz)	Modulation	RB Size	RB Offset	Power Low Mod Ch / Freq	Power High Mod Ch / Freq	Power Low Mod Ch / Freq	Power High Mod Ch / Freq	Power Low Mod Ch / Freq	Power High Mod Ch / Freq	Tune-up freq (MHz)	MFR (dB)		
Channel Frequency (MHz)												Tune-up freq (MHz)	MFR (dB)
30	QPSK	1	0	20.15	20.28	20.17	20.17	20.17	20.17	20.17	0		
30	QPSK	1	49	20.15	20.28	20.17	20.17	20.17	20.17	20.17	0		
30	QPSK	1	99	20.15	20.21	20.15	20.15	20.15	20.15	20.15	0		
30	QPSK	50	0	20.28	20.28	20.28	20.28	20.28	20.28	20.28	0		
30	QPSK	50	24	20.28	20.28	20.28	20.28	20.28	20.28	20.28	0		
30	QPSK	50	50	20.28	20.28	20.28	20.28	20.28	20.28	20.28	0		
30	QPSK	100	0	20.28	20.27	20.21	20.21	20.21	20.21	20.21	0		
30	HQAM	1	49	20.15	20.27	20.23	20.23	20.23	20.23	20.23	0		
30	HQAM	1	49	20.15	20.25	20.18	20.18	20.18	20.18	20.18	0		
30	HQAM	1	99	20.15	20.28	20.28	20.28	20.28	20.28	20.28	0		
30	HQAM	50	24	20.15	20.14	20.16	20.16	20.16	20.16	20.16	0		
30	HQAM	50	24	20.15	20.18	20.18	20.18	20.18	20.18	20.18	0		
30	HQAM	100	0	20.15	20.18	20.16	20.16	20.16	20.16	20.16	0		
30	HQAM	1	0	19.98	19.99	19.99	19.99	19.99	19.99	19.99	0		
30	HQAM	1	49	20.08	20.01	20.06	20.06	20.06	20.06	20.06	0		
30	HQAM	1	99	20.11	20.15	20.12	20.12	20.12	20.12	20.12	0		
30	HQAM	50	0	19.60	19.67	19.66	19.66	19.66	19.66	19.66	0		
30	HQAM	50	24	19.65	19.68	19.68	19.68	19.68	19.68	19.68	0		
30	HQAM	50	50	19.64	19.61	19.62	19.62	19.62	19.62	19.62	0		
30	HQAM	100	0	19.68	19.63	19.64	19.64	19.64	19.64	19.64	0		
30	HQAM	1	49	17.45	17.44	17.54	17.54	17.54	17.54	17.54	2.4		
30	HQAM	1	49	17.46	17.44	17.49	17.49	17.49	17.49	17.49	2.4		
30	HQAM	50	0	17.78	17.81	17.84	17.84	17.84	17.84	17.84	2.4		
30	HQAM	50	24	17.83	17.80	17.87	17.87	17.87	17.87	17.87	2.4		
30	HQAM	100	0	17.78	17.81	17.83	17.83	17.83	17.83	17.83	2.4		
30	HQAM	100	0	17.75	17.73	17.83	17.83	17.83	17.83	17.83	2.4		
Channel Frequency (MHz)												Tune-up freq (MHz)	MFR (dB)
15	QPSK	1	0	20.28	20.28	20.17	20.17	20.17	20.17	20.17	0		
15	QPSK	1	37	20.31	20.28	20.11	20.11	20.11	20.11	20.11	0		
15	QPSK	1	74	20.15	20.21	20.16	20.16	20.16	20.16	20.16	0		
15	QPSK	36	0	20.28	20.28	20.24	20.24	20.24	20.24	20.24	0		
15	QPSK	36	20	20.28	20.28	20.24	20.24	20.24	20.24	20.24	0		
15	QPSK	36	40	20.33	20.28	20.24	20.24	20.24	20.24	20.24	0		
15	QPSK	75	0	20.33	20.27	20.31	20.31	20.31	20.31	20.31	0		
15	HQAM	1	0	20.12	20.27	20.28	20.28	20.28	20.28	20.28	0		
15	HQAM	1	37	20.10	20.25	20.25	20.25	20.25	20.25	20.25	0		
15	HQAM	1	74	20.19	20.29	20.28	20.28	20.28	20.28	20.28	0		
15	HQAM	36	0	20.15	20.19	20.26	20.26	20.26	20.26	20.26	0		
15	HQAM	36	20	20.15	20.14	20.18	20.18	20.18	20.18	20.18	0		
15	HQAM	36	39	20.14	20.19	20.18	20.18	20.18	20.18	20.18	0		
15	HQAM	75	0	20.12	20.17	20.23	20.23	20.23	20.23	20.23	0		
15	HQAM	1	0	19.98	19.99	19.99	19.99	19.99	19.99	19.99	0		
15	HQAM	1	37	20.08	20.01	20.04	20.04	20.04	20.04	20.04	0		
15	HQAM	1	74	20.11	20.15	20.12	20.12	20.12	20.12	20.12	0		
15	HQAM	36	0	19.60	19.67	19.66	19.66	19.66	19.66	19.66	0		
15	HQAM	36	20	19.64	19.61	19.62	19.62	19.62	19.62	19.62	0		
15	HQAM	75	0	19.98	19.63	19.64	19.64	19.64	19.64	19.64	0		
15	HQAM	1	0	17.86	17.81	17.84	17.84	17.84	17.84	17.84	2.4		
15	HQAM	1	37	17.85	17.84	17.84	17.84	17.84	17.84	17.84	2.4		
15	HQAM	1	74	17.82	17.81	17.87	17.87	17.87	17.87	17.87	2.4		
15	HQAM	36	0	17.86	17.85	17.87	17.87	17.87	17.87	17.87	2.4		
15	HQAM	36	20	17.85	17.84	17.81	17.81	17.81	17.81	17.81	2.4		
15	HQAM	36	39	17.82	17.80	17.85	17.84	17.84	17.84	17.84	2.4		
15	HQAM	75	0	17.86	17.80	17.84	17.84	17.84	17.84	17.84	2.4		
Channel Frequency (MHz)												Tune-up freq (MHz)	MFR (dB)
10	QPSK	1	0	20.28	20.28	20.17	20.17	20.17	20.17	20.17	0		
10	QPSK	1	25	20.30	20.18	20.22	20.22	20.22	20.22	20.22	0		
10	QPSK	1	50	20.28	20.28	20.28	20.28	20.28	20.28	20.28	0		
10	QPSK	25	0	20.19	20.33	20.24	20.24	20.24	20.24	20.24	0		
10	QPSK	25	12	20.38	20.38	20.30	20.30	20.30	20.30	20.30	0		
10	QPSK	50	0	20.23	20.32	20.30	20.30	20.30	20.30	20.30	0		
10	HQAM	1	0	20.01	20.38	20.38	20.38	20.38	20.38	20.38	0		
10	HQAM	1	25	20.07	20.39	20.38	20.38	20.38	20.38	20.38	0		
10	HQAM	1	49	20.08	20.38	20.32	20.32	20.32	20.32	20.32	0		
10	HQAM	25	0	20.07	20.30	20.30	20.30	20.30	20.30	20.30	0		
10	HQAM	25	12	20.11	20.15	20.30	20.30	20.30	20.30	20.30	0		
10	HQAM	25	25	20.09	20.27	20.38	20.38	20.38	20.38	20.38	0		
10	HQAM	50	0	20.06	20.37	20.38	20.38	20.38	20.38	20.38	0		
10	HQAM	50	12	20.08	20.32	20.38	20.38	20.38	20.38	20.38	0		
10	HQAM	1	0	19.99	20.20	20.23	20.23	20.23	20.23	20.23	0		
10	HQAM	1	25	19.98	19.67	20.23	20.23	20.23	20.23	20.23	0		
10	HQAM	1	49	20.04	20.20	20.38	20.38	20.38	20.38	20.38	0		
10	HQAM	25	0	19.54	19.76	19.61	19.61	19.61	19.61	19.61	0		
10	HQAM	25	12	19.53	19.67	19.69	19.69	19.69	19.69	19.69	0		
10	HQAM	25	25	19.57	19.60	19.69	19.69	19.69	19.69	19.69	0		
10	HQAM	50	0	19.62	19.49	19.63	19.63	19.63	19.63	19.63	0		
10	HQAM	1	0	17.38	17.65	17.61	17.61	17.61	17.61	17.61	2.4		
10	HQAM	1	25	17.33	17.69	17.61	17.61	17.61	17.61	17.61	2.4		
10	HQAM	1	49	17.48	17.67	17.63	17.63	17.63	17.63	17.63	2.4		
10	HQAM	25	0	17.67	17.74	17.68	17.68	17.68	17.68	17.68	2.4		
10	HQAM	25	12	17.56	17.69	17.73	17.73	17.73	17.73	17.73	2.4		
10	HQAM	25	25	17.72	17.76	17.73	17.73	17.73	17.73	17.73	2.4		
10	HQAM	50	0	17.80	17.67	17.73	17.73	17.73	17.73	17.73	2.4		
Channel Frequency (MHz)												Tune-up freq (MHz)	MFR (dB)
5	QPSK	1	0	20.28	20.27	20.21	20.21	20.21	20.21	20.21	0		
5	QPSK	1	12	20.31	20.15	20.11	20.11	20.11	20.11	20.11	0		
5	QPSK	1	24	20.13	20.26	20.19	20.19	20.19	20.19	20.19	0		
5	QPSK	12	0	20.31	20.35	20.38	20.38	20.38	20.38	20.38	0		
5	QPSK	12	7	20.34	20.32	20.34	20.34	20.34	20.34	20.34	0		
5	QPSK	12	13	20.31	20.29	20.39	20.39	20.39	20.39	20.39	0		
5	QPSK	25	0	20.25	20.27	20.30	20.30	20.30	20.30	20.30	0		
5	HQAM	1	0	20.17	20.16	20.28	20.28	20.28	20.28	20.28	0		
5	HQAM	1	12	20.25	20.20	20.28	20.28	20.28	20.28	20.28	0		
5	HQAM	1	24	20.29	20.32	20.38	20.38	20.38	20.38	20.38	0		
5	HQAM	12	0	20.19	20.18	20.30	20.30	20.30	20.30	20.30	0		
5	HQAM	12	7	20.20	20.18	20.33	20.33	20.33	20.33	20.33	0		
5	HQAM	12	13	20.22	20.18	20.31	20.31	20.31</					



Reduced power for Sensor on-LAT

Band	WCDMA-R8			Turn-up	WCDMA-R4			Turn-up
	TX Channel	3902	3908		3918	TX Channel	3912	
Frequency (MHz)	5862	5900	5938	LMH	1517	1638	1758	LMH
SCPP Ref ID	11224	11900	12676	20.00	17124	17216	17312	21.00
SCPP Ref ID	1870	1925	1987	20.00	1924	2000	2081	21.00
SCPP Ref ID	HEOPA-Subsite-1	1871	1881	19.70	19.90	19.90	19.98	20.00
SCPP Ref ID	HEOPA-Subsite-2	1845	1881	18.87	19.00	18.85	19.00	18.98
SCPP Ref ID	HEOPA-Subsite-3	1823	1828	18.17	18.40	18.38	18.47	18.50
SCPP Ref ID	HEOPA-Subsite-4	1823	1828	18.23	18.40	18.38	18.52	18.50
SCPP Ref ID	DC-HEOPA-Subsite-1	1856	1881	18.46	19.00	18.88	18.15	18.82
SCPP Ref ID	DC-HEOPA-Subsite-2	1824	1827	18.50	19.00	18.95	18.81	18.84
SCPP Ref ID	DC-HEOPA-Subsite-3	1821	1822	17.88	18.40	18.17	18.50	18.30
SCPP Ref ID	DC-HEOPA-Subsite-4	1820	1822	18.00	18.40	18.17	18.20	18.20
SCPP Ref ID	HEOPA-Subsite-1	1871	1879	18.72	18.60	18.84	18.61	18.97
SCPP Ref ID	HEOPA-Subsite-2	1174	1180	11.00	11.90	11.80	11.99	18.00
SCPP Ref ID	HEOPA-Subsite-3	1534	1530	15.35	17.00	16.95	16.90	16.91
SCPP Ref ID	HEOPA-Subsite-4	1682	1680	16.80	17.00	17.47	17.60	17.58
SCPP Ref ID	HEOPA-Subsite-5	1818	1820	18.92	19.00	18.93	19.00	19.00
SCPP Ref ID	HEOPA (150MHz) Subsite-1	1835	17.04	18.93	18.40	17.42	17.52	17.41

Band	GSM-R			Turn-up
	TX Channel	25	800	
Frequency (MHz)	1851.25	1880	1868.75	LMH
SCPP Ref ID	2045	2053	2049	21.00
SCPP Ref ID	2044	2051	2048	21.00
SCPP Ref ID	2042	2050	2047	21.00
SCPP Ref ID	2040	2048	2046	21.00
SCPP Ref ID	2039	2048	2046	21.00
SCPP Ref ID	2038	2045	2042	21.00



Full Power for ANTO

Band 2 (1900MHz band)										
Part 24E										
BW (MHz)	Modulation	RB Size	RB Offset	Power Low Ch. Freq. (MHz)	Power High Ch. Freq. (MHz)	Power Mid Ch. Freq. (MHz)	Turn-up (dB)	MPR (dB)		
Channel										
20	QPSK	1	0	21.83	21.83	21.83				
20	QPSK	1	49	22.96	22.96	22.96	23.8	0		
20	QPSK	1	99	22.92	22.92	22.92				
20	QPSK	1	0	22.01	22.01	22.01				
20	QPSK	50	24	21.93	22.01	21.92	22.8	1		
20	QPSK	50	50	21.96	21.97	21.97				
20	QPSK	50	0	21.98	21.98	21.98				
20	HQAM	1	0	22.25	22.25	22.25				
20	HQAM	1	49	22.22	22.27	22.24	22.8	1		
20	HQAM	1	99	22.16	22.16	22.16				
20	HQAM	50	0	21.93	21.96	21.95				
20	HQAM	50	24	20.95	21.02	20.98	21.8	2		
20	HQAM	50	50	20.98	21.04	20.97				
20	HQAM	100	0	20.96	20.98	20.97				
20	HQAM	1	0	21.17	21.18	21.18	21.8	2		
20	HQAM	1	49	21.13	21.11	21.13				
20	HQAM	1	99	21.04	21.01	21.04				
20	HQAM	50	0	20.95	20.98	20.95				
20	HQAM	50	24	20.92	20.94	20.99	20.8	3		
20	HQAM	50	50	19.98	20.02	20.01				
20	HQAM	100	0	19.98	20.00	20.04				
20	256QAM	1	0	18.00	18.12	18.04	19.3	4.5		
20	256QAM	1	49	17.97	17.97	17.97				
20	256QAM	1	99	17.95	18.03	18.02				
20	256QAM	50	0	17.68	17.68	17.62				
20	256QAM	50	24	17.66	17.67	17.66	19.3	4.5		
20	256QAM	50	50	17.72	17.70	17.71				
20	256QAM	100	0	17.68	17.71	17.67				
Channel										
Frequency (MHz)										
15	QPSK	1	0	22.89	22.82	22.86	23.8	0		
15	QPSK	1	39	22.14	22.98	22.82				
15	QPSK	1	74	22.99	22.89	22.90				
15	QPSK	36	0	21.97	22.03	22.00	22.8	1		
15	QPSK	36	29	22.01	22.01	22.02				
15	QPSK	36	39	21.92	21.97	21.97				
15	QPSK	75	0	21.99	21.96	22.04				
15	HQAM	1	0	22.23	22.23	22.23	22.8	1		
15	HQAM	1	37	22.17	22.25	22.21				
15	HQAM	1	74	22.25	22.25	22.25				
15	HQAM	36	0	20.97	21.03	21.00	21.8	2		
15	HQAM	36	29	21.04	20.98	21.05				
15	HQAM	36	39	20.94	21.02	20.99				
15	HQAM	75	0	20.93	20.97	21.03				
15	HQAM	1	0	21.12	21.16	21.16	21.8	2		
15	HQAM	1	37	21.11	21.11	21.13				
15	HQAM	1	74	21.03	21.04	21.04				
15	HQAM	36	0	20.91	20.11	20.98	20.8	3		
15	HQAM	36	29	20.98	20.95	20.98				
15	HQAM	36	39	19.98	20.02	19.99				
15	HQAM	75	0	19.93	20.00	20.06				
15	256QAM	1	0	17.68	17.62	17.65	19.3	4.5		
15	256QAM	1	37	17.64	17.64	17.64				
15	256QAM	1	74	17.66	17.67	17.66				
15	256QAM	36	0	17.68	17.64	17.72				
15	256QAM	36	29	17.78	17.83	17.74	19.3	4.5		
15	256QAM	36	39	17.66	17.66	17.67				
15	256QAM	75	0	17.66	17.69	17.71				
Channel										
Frequency (MHz)										
10	QPSK	1	0	22.83	22.89	22.83	23.8	0		
10	QPSK	1	25	22.83	22.87	22.84				
10	QPSK	1	49	22.83	22.83	22.83				
10	QPSK	36	0	21.92	22.00	21.98	22.8	1		
10	QPSK	36	12	21.96	21.98	22.02				
10	QPSK	36	24	22.02	21.98	22.02				
10	QPSK	50	0	21.97	21.96	22.01				
10	HQAM	1	0	22.21	22.32	22.22	22.8	1		
10	HQAM	1	24	22.25	22.32	22.24				
10	HQAM	1	49	22.21	22.28	22.23				
10	HQAM	25	0	20.99	21.02	20.99	21.8	2		
10	HQAM	25	12	20.99	21.00	21.04				
10	HQAM	25	25	20.98	20.94	21.01				
10	HQAM	50	0	20.97	20.96	21.02	21.8	2		
10	HQAM	1	0	21.10	21.25	21.19	21.8	2		
10	HQAM	1	25	21.15	21.24	21.18				
10	HQAM	1	49	21.18	21.14	21.02				
10	HQAM	25	0	19.96	20.04	20.01	20.8	3		
10	HQAM	25	12	20.04	20.02	20.05				
10	HQAM	25	25	20.01	20.01	20.03				
10	HQAM	50	0	20.04	19.99	20.05				
10	256QAM	1	0	17.65	17.65	17.65	19.3	4.5		
10	256QAM	1	25	17.83	17.87	17.87				
10	256QAM	1	49	17.88	17.87	18.11				
10	256QAM	25	0	17.75	17.75	17.75	19.3	4.5		
10	256QAM	25	12	17.65	17.75	17.72				
10	256QAM	25	25	17.72	17.64	17.64				
10	256QAM	50	0	17.77	17.70	17.60				
Channel										
Frequency (MHz)										
5	QPSK	1	0	22.83	22.83	22.83	23.8	0		
5	QPSK	1	12	22.89	22.92	22.85				
5	QPSK	1	24	22.86	22.89	22.86				
5	QPSK	12	0	21.98	21.98	21.94	22.8	1		
5	QPSK	12	7	21.86	21.99	21.96				
5	QPSK	12	13	21.96	21.91	21.95				
5	QPSK	25	0	21.93	21.91	21.93				
5	HQAM	1	0	22.19	22.25	22.20	22.8	1		
5	HQAM	1	19	22.22	22.23	22.24				
5	HQAM	1	24	22.21	22.22	22.21				
5	HQAM	12	0	20.96	20.95	20.93	21.8	2		
5	HQAM	12	7	20.95	21.02	20.98				
5	HQAM	12	13	20.94	20.92	20.94				
5	HQAM	25	0	20.97	20.93	20.95	21.8	2		
5	HQAM	1	0	21.11	21.18	21.12	21.8	2		
5	HQAM	1	12	21.09	21.16	21.08				
5	HQAM	1	24	21.16	21.15	21.15				
5	HQAM	12	0	20.91	20.97	20.90	20.8	3		
5	HQAM	12	7	20.94	20.99	20.90				
5	HQAM	12	13	20.91	20.90	20.95				
5	HQAM	25	0	19.94	19.96	19.95				
5	256QAM	1	0	18.01	18.11	18.05	19.3	4.5		
5	256QAM	1	12	17.95	18.08	18.02				
5	256QAM	1	24	17.88	18.03	17.93				
5	256QAM	12	0	17.68	17.65	17.65	19.3	4.5		
5	256QAM	12	7	17.73	17.84	17.78				
5	256QAM	12	13	17.82	17.80	17.78				
5	256QAM	25	0	17.67	17.68	17.60				
Channel										
Frequency (MHz)										
3	QPSK	1	0	22.83	22.89	22.83	23.8	0		
3	QPSK	1	8	22.87	22.92	22.82				
3	QPSK	1	14	22.86	22.85	22.86				
3	QPSK	8	0	21.91	21.96	21.90	22.8	1		
3	QPSK	8	4	21.95	21.99	21.93				
3	QPSK	8	7	21.92	21.90	21.91				
3	HQAM	1	0	22.19	22.21	22.19	22.8	1		
3	HQAM	1	8	22.26	22.30	22.22				
3	HQAM	1	14	22.27	22.29	22.27				
3	HQAM	8	0	20.97	21.01	20.93	21.8	2		
3	HQAM	8	4	21.00	21.06	21.02				
3	HQAM	8	7	21.00	21.02	21.01				
3	HQAM	15	0	20.96	20.91	20.94	21.8	2		
3	HQAM	1	0	21.09	21.17	21.06	21.8	2		
3	HQAM	1	8	21.17	21.21	21.19				



Reduced power level 1/2/3/4 for Head - Ant0

Band 2 (1900MHz band)										
Part 24E										
BW (MHz)	Modulation	RB Size	RB Offset	Power Low Ch / Freq	Power High Ch / Freq	Power High Ch / Freq	Tune-up (dB)	MPE (dB)		
Channel										
Frequency (MHz)				1895	1900	1905				
20	QPSK	1	0	18.97	18.93	18.88	19.8	0		
20	QPSK	1	49	18.98	18.90	18.84	19.8	0		
20	QPSK	1	99	18.92	18.85	18.80	19.8	0		
20	QPSK	50	0	18.91	18.94	18.90	19.8	0		
20	QPSK	50	24	18.90	18.92	18.92	19.8	0		
20	QPSK	50	50	18.88	18.87	18.87	19.8	0		
20	QPSK	100	0	18.96	18.94	18.93	19.8	0		
20	16QAM	1	0	18.90	18.90	18.91	19.8	0		
20	16QAM	1	49	18.97	18.92	18.93	19.8	0		
20	16QAM	50	0	18.94	18.94	18.90	19.8	0		
20	16QAM	50	24	18.94	18.91	18.90	19.8	0		
20	16QAM	50	50	18.90	18.87	18.93	19.8	0		
20	16QAM	100	0	18.90	18.93	18.87	19.8	0		
20	16QAM	1	5	18.92	18.93	18.93	19.8	0		
20	16QAM	50	50	18.94	18.90	18.90	19.8	0		
20	16QAM	1	99	18.89	18.89	18.89	19.8	0		
20	16QAM	50	0	18.90	18.93	18.90	19.8	0		
20	16QAM	50	24	18.87	18.89	18.84	19.8	0		
20	16QAM	50	50	18.93	18.87	18.85	19.8	0		
20	16QAM	100	0	18.93	18.95	18.89	19.8	0		
20	256QAM	1	0	17.72	17.74	17.73	19.3	0.5		
20	256QAM	1	49	17.70	17.70	17.70	19.3	0.5		
20	256QAM	1	99	17.67	17.78	17.74	19.3	0.5		
20	256QAM	50	0	17.78	17.74	17.74	19.3	0.5		
20	256QAM	50	24	17.41	17.49	17.44	19.3	0.5		
20	256QAM	50	50	17.44	17.42	17.43	19.3	0.5		
20	256QAM	100	0	17.48	17.43	17.43	19.3	0.5		
Channel										
Frequency (MHz)				1895	1890	1915	Tune-up (dB)	MPE (dB)		
15	QPSK	1	0	18.98	18.91	18.84	19.8	0		
15	QPSK	1	37	18.91	18.90	18.86	19.8	0		
15	QPSK	1	74	18.98	18.86	18.87	19.8	0		
15	QPSK	36	0	18.94	18.90	18.88	19.8	0		
15	QPSK	36	20	18.98	18.92	18.92	19.8	0		
15	QPSK	36	39	18.99	18.94	18.94	19.8	0		
15	QPSK	75	0	18.97	18.98	18.91	19.8	0		
15	16QAM	1	0	18.90	18.92	18.95	19.8	0		
15	16QAM	1	37	18.94	18.92	18.96	19.8	0		
15	16QAM	36	0	18.94	18.90	18.97	19.8	0		
15	16QAM	36	20	18.91	18.95	18.92	19.8	0		
15	16QAM	75	0	18.94	18.96	18.93	19.8	0		
15	16QAM	75	0	18.90	18.94	18.90	19.8	0		
15	16QAM	75	0	18.99	18.93	18.93	19.8	0		
15	16QAM	1	37	18.98	18.93	18.92	19.8	0		
15	16QAM	1	74	18.90	18.91	18.91	19.8	0		
15	16QAM	36	0	18.98	18.88	18.95	19.8	0		
15	16QAM	36	20	18.93	18.92	18.95	19.8	0		
15	16QAM	36	39	18.95	18.89	18.96	19.8	0		
15	16QAM	75	0	18.90	18.97	18.93	19.8	0		
15	256QAM	1	0	17.72	17.76	17.69	19.3	0.5		
15	256QAM	1	37	17.68	17.65	17.62	19.3	0.5		
15	256QAM	1	74	17.65	17.71	17.73	19.3	0.5		
15	256QAM	36	0	17.42	17.38	17.48	19.3	0.5		
15	256QAM	36	20	17.82	17.87	17.48	19.3	0.5		
15	256QAM	36	39	17.40	17.35	17.81	19.3	0.5		
15	256QAM	75	0	17.40	17.43	17.45	19.3	0.5		
Channel										
Frequency (MHz)				1895	1890	1915	Tune-up (dB)	MPE (dB)		
10	QPSK	1	0	18.93	18.91	18.83	19.8	0		
10	QPSK	1	24	18.93	18.87	18.84	19.8	0		
10	QPSK	1	49	18.80	18.90	18.82	19.8	0		
10	QPSK	5	0	18.90	18.90	18.88	19.8	0		
10	QPSK	5	12	18.90	18.98	18.92	19.8	0		
10	QPSK	25	0	18.90	18.98	18.92	19.8	0		
10	QPSK	25	25	18.97	18.96	18.91	19.8	0		
10	16QAM	1	0	18.91	18.92	18.92	19.8	0		
10	16QAM	1	25	18.95	18.92	18.94	19.8	0		
10	16QAM	25	0	18.92	18.92	18.93	19.8	0		
10	16QAM	25	12	18.99	18.90	18.94	19.8	0		
10	16QAM	25	25	18.98	18.94	18.91	19.8	0		
10	16QAM	50	0	18.97	18.96	18.92	19.8	0		
10	16QAM	1	0	18.90	18.95	18.95	19.8	0		
10	16QAM	1	25	18.90	18.94	18.91	19.8	0		
10	16QAM	1	49	18.96	18.94	18.92	19.8	0		
10	16QAM	25	0	18.96	18.94	18.91	19.8	0		
10	16QAM	25	12	18.92	18.92	18.95	19.8	0		
10	16QAM	25	25	18.91	18.91	18.93	19.8	0		
10	256QAM	1	0	18.94	18.99	18.95	19.3	0.5		
10	256QAM	1	25	17.47	17.34	17.84	19.3	0.5		
10	256QAM	1	25	17.42	17.42	17.49	19.3	0.5		
10	256QAM	25	0	17.48	17.41	17.41	19.3	0.5		
10	256QAM	50	0	17.54	17.47	17.57	19.3	0.5		
Channel										
Frequency (MHz)				1895	1890	1915	Tune-up (dB)	MPE (dB)		
5	QPSK	1	0	18.93	18.90	18.83	19.8	0		
5	QPSK	1	12	18.92	18.95	18.88	19.8	0		
5	QPSK	1	24	18.89	18.92	18.89	19.8	0		
5	QPSK	12	0	18.93	18.91	18.87	19.8	0		
5	QPSK	12	7	18.91	18.92	18.89	19.8	0		
5	QPSK	12	13	18.99	18.94	18.88	19.8	0		
5	QPSK	25	0	18.96	18.94	18.89	19.8	0		
5	16QAM	1	0	18.92	18.98	18.93	19.8	0		
5	16QAM	1	12	18.96	18.96	18.97	19.8	0		
5	16QAM	1	24	18.94	18.92	18.94	19.8	0		
5	16QAM	12	0	18.99	18.98	18.96	19.8	0		
5	16QAM	12	7	18.98	18.95	18.99	19.8	0		
5	16QAM	12	13	18.97	18.95	18.97	19.8	0		
5	16QAM	25	0	19.00	18.96	18.95	19.8	0		
5	16QAM	1	0	18.94	18.91	18.95	19.8	0		
5	16QAM	1	12	18.92	18.99	18.91	19.8	0		
5	16QAM	1	24	18.99	18.98	18.98	19.8	0		
5	16QAM	12	0	18.94	18.99	18.99	19.8	0		
5	16QAM	12	7	18.97	18.92	18.93	19.8	0		
5	16QAM	12	13	18.94	18.95	18.96	19.8	0		
5	16QAM	25	0	18.97	18.99	18.99	19.8	0		
5	256QAM	1	0	17.81	17.91	17.80	19.3	0.5		
5	256QAM	1	12	17.73	17.88	17.82	19.3	0.5		
5	256QAM	1	24	17.36	17.28	17.33	19.3	0.5		
5	256QAM	12	0	17.38	17.35	17.35	19.3	0.5		
5	256QAM	12	7	17.53	17.64	17.56	19.3	0.5		
5	256QAM	12	13	17.46	17.49	17.50	19.3	0.5		
5	256QAM	25	0	17.47	17.48	17.40	19.3	0.5		
Channel										
Frequency (MHz)				1895	1890	1915	Tune-up (dB)	MPE (dB)		
3	QPSK	1	0	18.79	18.87	18.79	19.8	0		
3	QPSK	1	8	18.93	18.88	18.86	19.8	0		
3	QPSK	1	14	18.92	18.81	18.82	19.8	0		
3	QPSK	8	0	18.87	18.92	18.86	19.8	0		
3	QPSK	8	4	18.91	18.95	18.89	19.8	0		
3	QPSK	8	7	18.98	18.96	18.87	19.8	0		
3	16QAM	1	0	18.90	18.96	18.90	19.8	0		
3	16QAM	1	8	18.93	18.94	18.92	19.8	0		
3	16QAM	1	14	18.87	18.98	18.84	19.8	0		
3	16QAM	8	0	18.93	18.87	18.89	19.8	0		
3	16QAM	8	4	18.96	18.99	18.98	19.8	0		
3	16QAM	8	7	18.98	18.96	18.87	19.8	0		
3	16QAM	15	0	18.92	18.87	18.90	19.8	0		
3	16QAM	1	0	18.96	18.99	18.92	19.8	0		
3	16QAM	1	8	18.93	18.87	18.95	19.8	0		
3	16QAM	1	14	18.93	18.88	18.88	19.8	0		
3	16QAM	8	0	18.94	18.96	18.91	19.8	0		
3	16QAM	8	4	18.98	18.95	18.89	19.8	0		
3	16QAM	8	7	18.95	18.95	18.94	19.8	0		
3	16QAM	15	0	18.96	18.96	18.93	19.8	0		
3	256QAM	1	0	17.71	17.88	17.82	19.3	0.5		
3	256QAM	1	8	17.64	17.89	17.73	19.3	0.5		
3	256QAM	1	14	17.68	17.74	17.70	19.3	0.5		
3	256QAM	8	0	17.33	17.35	17.35	19.3	0.5		
3	256QAM	8	4	17.41	17.53	17.53	19.3	0.5		
3	256QAM	8	7	17.54	17.54	17.53	19.3	0.5		
3	256QAM	15	0	17.41	17.34	17.39	19.3	0.5		
Channel										
Frequency (MHz)				1895	1890	1915	Tune-up (dB)	MPE (dB)		
1.4										



CA_66C											
Combination 20MHz+20MHz (100RB+100RB)											
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Power Reduction	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset					
132072	132270	QPSK	1	0	0	0	1	0	Full	22.25	22.80
132322	132124	QPSK	1	0	0	0	1	0	Full	22.34	22.80
132572	132374	QPSK	1	0	0	0	1	0	Full	22.24	22.80
132072	132270	QPSK	50	0	0	0	1	0	Full	21.42	21.80
132322	132124	QPSK	50	0	0	0	1	0	Full	21.52	21.80
132572	132374	QPSK	50	0	0	0	1	0	Full	21.35	21.80
132072	132270	QPSK	100	0	0	0	1	0	Full	21.42	21.80
132322	132124	QPSK	100	0	0	0	1	0	Full	21.35	21.80
132572	132374	QPSK	100	0	0	0	1	0	Full	21.36	21.80
132072	132270	QPSK	1	0	0	0	1	0	Reduced	18.14	19.20
132322	132124	QPSK	1	0	0	0	1	0	Reduced	18.23	19.20
132572	132374	QPSK	1	0	0	0	1	0	Reduced	18.17	19.20
132072	132270	QPSK	50	0	0	0	1	0	Reduced	19.72	20.50
132322	132124	QPSK	50	0	0	0	1	0	Reduced	19.76	20.50
132572	132374	QPSK	50	0	0	0	1	0	Reduced	19.71	20.50

CA_41C-Class 3											
Combination 20MHz+20MHz (100RB+100RB)											
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Power Reduction	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset					
39790	39988	QPSK	1	49	0	0	1	0	Full	22.55	23.80
39750	39948	QPSK	1	49	0	0	1	0	Full	22.55	23.80
40185	39987	QPSK	1	49	0	0	1	0	Full	22.68	23.80
40620	40422	QPSK	1	49	0	0	1	0	Full	22.64	23.80
41055	40857	QPSK	1	49	0	0	1	0	Full	22.65	23.80
41490	41292	QPSK	1	49	0	0	1	0	Full	22.57	23.80
39790	39988	QPSK	50	50	0	0	1	0	Full	21.62	22.80
39750	39948	QPSK	50	50	0	0	1	0	Full	21.59	22.80
40185	39987	QPSK	50	50	0	0	1	0	Full	21.76	22.80
40620	40422	QPSK	50	50	0	0	1	0	Full	21.71	22.80
41055	40857	QPSK	50	50	0	0	1	0	Full	21.73	22.80
41490	41292	QPSK	50	50	0	0	1	0	Full	21.70	22.80
39790	39988	QPSK	100	0	0	0	1	0	Full	21.58	22.80
39750	39948	QPSK	100	0	0	0	1	0	Full	21.57	22.80
40185	39987	QPSK	100	0	0	0	1	0	Full	21.74	22.80
40620	40422	QPSK	100	0	0	0	1	0	Full	21.70	22.80
41055	40857	QPSK	100	0	0	0	1	0	Full	21.65	22.80
41490	41292	QPSK	100	0	0	0	1	0	Full	21.68	22.80
39790	39988	QPSK	50	50	0	0	1	0	Reduced	20.63	21.70
39750	39948	QPSK	50	50	0	0	1	0	Reduced	20.60	21.70
40185	39987	QPSK	50	50	0	0	1	0	Reduced	20.74	21.70
40620	40422	QPSK	50	50	0	0	1	0	Reduced	20.71	21.70
41055	40857	QPSK	50	50	0	0	1	0	Reduced	20.72	21.70
41490	41292	QPSK	50	50	0	0	1	0	Reduced	20.68	21.70



CA 41C (HPUE)											
Combination 20MHz+20MHz (100RB+100RB)											
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Power Reduction	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset					
39790	39988	QPSK	1	49	0	0	1	0	Full	24.61	25.60
39750	39948	QPSK	1	49	0	0	1	0	Full	24.60	25.60
40185	39987	QPSK	1	49	0	0	1	0	Full	24.72	25.60
40620	40422	QPSK	1	49	0	0	1	0	Full	24.70	25.60
41055	40857	QPSK	1	49	0	0	1	0	Full	24.63	25.60
41490	41292	QPSK	1	49	0	0	1	0	Full	24.62	25.60
39790	39988	QPSK	50	50	0	0	1	0	Full	23.68	24.60
39750	39948	QPSK	50	50	0	0	1	0	Full	23.73	24.60
40185	39987	QPSK	50	50	0	0	1	0	Full	23.83	24.60
40620	40422	QPSK	50	50	0	0	1	0	Full	23.81	24.60
41055	40857	QPSK	50	50	0	0	1	0	Full	23.80	24.60
41490	41292	QPSK	50	50	0	0	1	0	Full	23.77	24.60
39790	39988	QPSK	100	0	0	0	1	0	Full	23.71	24.60
39750	39948	QPSK	100	0	0	0	1	0	Full	23.69	24.60
40185	39987	QPSK	100	0	0	0	1	0	Full	23.90	24.60
40620	40422	QPSK	100	0	0	0	1	0	Full	23.85	24.60
41055	40857	QPSK	100	0	0	0	1	0	Full	23.79	24.60
41490	41292	QPSK	100	0	0	0	1	0	Full	23.73	24.60
39790	39988	QPSK	50	50	0	0	1	0	Reduced	22.20	23.30
39750	39948	QPSK	50	50	0	0	1	0	Reduced	22.23	23.30
40185	39987	QPSK	50	50	0	0	1	0	Reduced	22.38	23.30
40620	40422	QPSK	50	50	0	0	1	0	Reduced	22.35	23.30
41055	40857	QPSK	50	50	0	0	1	0	Reduced	22.34	23.30
41490	41292	QPSK	50	50	0	0	1	0	Reduced	22.27	23.30

CA 48C-FCC															
Combination 20MHz+20MHz (100RB+100RB)															
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	MPR Lev	Power Reduction	Measured Power (dBm)	Tune up Power (dBm)				
			RB Size	RB offset	RB Size	RB offset									
55340	55538	QPSK	1	0	0	0	1	0	Full	5.51	7.5				
55830	55632	QPSK	1	0	0	0	1	0	Full	5.70	7.5				
56150	55952	QPSK	1	0	0	0	1	0	Full	5.64	7.5				
56640	56442	QPSK	1	0	0	0	1	0	Full	5.72	7.5				
55340	55538	QPSK	50	24	0	0	1	0	Full	18.88	20.8				
55830	55632	QPSK	50	24	0	0	1	0	Full	19.13	20.8				
56150	55952	QPSK	50	24	0	0	1	0	Full	19.10	20.8				
56640	56442	QPSK	50	24	0	0	1	0	Full	19.16	20.8				
55340	55538	QPSK	100	0	0	0	1	0	Full	18.85	20.8				
55830	55632	QPSK	100	0	0	0	1	0	Full	19.10	20.8				
56150	55952	QPSK	100	0	0	0	1	0	Full	18.06	20.8				
56640	56442	QPSK	100	0	0	0	1	0	Full	19.13	20.8				
55340	55538	QPSK	1	0	0	0	1	0	Reduced Power level 1	5.51	7.5				
55830	55632	QPSK	1	0	0	0	1	0	Reduced Power level 1	5.70	7.5				
56150	55952	QPSK	1	0	0	0	1	0	Reduced Power level 1	5.64	7.5				
56640	56442	QPSK	1	0	0	0	1	0	Reduced Power level 1	5.72	7.5				
55340	55538	QPSK	50	24	0	0	1	0	Reduced Power level 1	17.03	18.1				
55830	55632	QPSK	50	24	0	0	1	0	Reduced Power level 1	17.20	18.1				
56150	55952	QPSK	50	24	0	0	1	0	Reduced Power level 1	17.18	18.1				
56640	56442	QPSK	50	24	0	0	1	0	Reduced Power level 1	17.27	18.1				
55340	55538	QPSK	100	0	0	0	1	0	Reduced Power level 1	17.00	18.1				
55830	55632	QPSK	100	0	0	0	1	0	Reduced Power level 1	17.17	18.1				
56150	55952	QPSK	100	0	0	0	1	0	Reduced Power level 1	17.15	18.1				
56640	56442	QPSK	100	0	0	0	1	0	Reduced Power level 1	17.22	18.1				
55340	55538	QPSK	1	0	0	0	1	0	Reduced Power level 2	5.51	7.5				
55830	55632	QPSK	1	0	0	0	1	0	Reduced Power level 2	5.70	7.5				
56150	55952	QPSK	1	0	0	0	1	0	Reduced Power level 2	5.64	7.5				
56640	56442	QPSK	1	0	0	0	1	0	Reduced Power level 2	5.72	7.5				
55340	55538	QPSK	50	24	0	0	1	0	Reduced Power level 2	15.95	17.2				
55830	55632	QPSK	50	24	0	0	1	0	Reduced Power level 2	16.08	17.2				
56150	55952	QPSK	50	24	0	0	1	0	Reduced Power level 2	16.03	17.2				
56640	56442	QPSK	50	24	0	0	1	0	Reduced Power level 2	16.10	17.2				
55340	55538	QPSK	100	0	0	0	1	0	Reduced Power level 2	15.93	17.2				
55830	55632	QPSK	100	0	0	0	1	0	Reduced Power level 2	16.11	17.2				
56150	55952	QPSK	100	0	0	0	1	0	Reduced Power level 2	16.00	17.2				
56640	56442	QPSK	100	0	0	0	1	0	Reduced Power level 2	16.07	17.2				
55340	55538	QPSK	1	0	0	0	1	0	Reduced Power level 3/4	5.51	7.5				
55830	55632	QPSK	1	0	0	0	1	0	Reduced Power level 3/4	5.70	7.5				
56150	55952	QPSK	1	0	0	0	1	0	Reduced Power level 3/4	5.64	7.5				
56640	56442	QPSK	1	0	0	0	1	0	Reduced Power level 3/4	5.72	7.5				
55340	55538	QPSK	50	24	0	0	1	0	Reduced Power level 3/4	13.55	14.7				
55830	55632	QPSK	50	24	0	0	1	0	Reduced Power level 3/4	13.73	14.7				
56150	55952	QPSK	50	24	0	0	1	0	Reduced Power level 3/4	13.75	14.7				
56640	56442	QPSK	50	24	0	0	1	0	Reduced Power level 3/4	13.80	14.7				
55340	55538	QPSK	100	0	0	0	1	0	Reduced Power level 3/4	13.52	14.7				
55830	55632	QPSK	100	0	0	0	1	0	Reduced Power level 3/4	13.70	14.7				
56150	55952	QPSK	100	0	0	0	1	0	Reduced Power level 3/4	13.73	14.7				
56640	56442	QPSK	100	0	0	0	1	0	Reduced Power level 3/4	13.77	14.7				
55340	55538	QPSK	1	0	0	0	1	0	Reduced	5.51	7.5				
55830	55632	QPSK	1	0	0	0	1	0	Reduced	5.70	7.5				
56150	55952	QPSK	1	0	0	0	1	0	Reduced	5.64	7.5				
56640	56442	QPSK	1	0	0	0	1	0	Reduced	5.72	7.5				
55340	55538	QPSK	50	24	0	0	1	0	Reduced	15.97	17.1				
55830	55632	QPSK	50	24	0	0	1	0	Reduced	16.15	17.1				
56150	55952	QPSK	50	24	0	0	1	0	Reduced	16.06	17.1				
56640	56442	QPSK	50	24	0	0	1	0	Reduced	16.17	17.1				
55340	55538	QPSK	100	0	0	0	1	0	Reduced	15.95	17.1				
55830	55632	QPSK	100	0	0	0	1	0	Reduced	16.13	17.1				
56150	55952	QPSK	100	0	0	0	1	0	Reduced	16.03	17.1				
56640	56442	QPSK	100	0	0	0	1	0	Reduced	16.15	17.1				



CA_2A-4A												
Combination 20MHz+20MHz (100RB+100RB)												
PCC Channel	SCC Channel	Modulation	PCC		SCC		PCC1 Power (dBm)	SCC2 Power (dBm)	Measured Power (dBm)	PCC1 Tune up Power (dBm)	SCC2 Tune up Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset						
18700	20050	QPSK	1	0	1	0	21.91	16.91	23.10	22.70	17.50	23.8
			1	49	1	49	21.94	16.37	23.00	22.70	17.50	23.8
			1	99	1	99	21.99	16.87	23.15	22.70	17.50	23.8
			50	0	50	0	21.21	18.23	22.98	21.80	19.50	23.8
			50	24	50	24	21.16	18.13	22.91	21.80	19.50	23.8
			50	50	50	50	21.25	18.03	22.94	21.80	19.50	23.8
18900	20175	QPSK	100	0	100	0	21.22	18.11	22.95	21.80	19.50	23.8
			1	0	1	0	21.98	16.11	22.98	22.70	17.50	23.8
			1	49	1	49	22.23	16.12	23.18	22.70	17.50	23.8
			1	99	1	99	21.96	16.19	22.98	22.70	17.50	23.8
			50	0	50	0	21.37	18.27	23.10	21.80	19.50	23.8
			50	24	50	24	21.38	18.18	23.08	21.80	19.50	23.8
19100	20300	QPSK	50	50	50	50	21.05	18.32	22.91	21.80	19.50	23.8
			100	0	100	0	21.23	18.29	23.01	21.80	19.50	23.8
			1	0	1	0	21.91	16.87	23.09	22.70	17.50	23.8
			1	49	1	49	21.88	16.32	22.95	22.70	17.50	23.8
			1	99	1	99	21.95	16.64	23.07	22.70	17.50	23.8
			50	0	50	0	21.20	18.11	22.93	21.80	19.50	23.8

CA_2A-6A												
Combination 20MHz+20MHz (100RB+100RB)												
PCC Channel	SCC Channel	Modulation	PCC		SCC		PCC1 Power (dBm)	SCC2 Power (dBm)	Measured Power (dBm)	PCC1 Tune up Power (dBm)	SCC2 Tune up Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset						
18700	132072	QPSK	1	0	1	0	21.54	16.98	22.84	22.7	17.5	23.8
			1	49	1	49	21.68	17.09	22.98	22.7	17.5	23.8
			1	99	1	99	21.72	16.87	22.95	22.7	17.5	23.8
			50	0	50	0	20.87	18.77	22.96	21.8	19.5	23.8
			50	24	50	24	20.96	18.72	22.99	21.8	19.5	23.8
			50	50	50	50	21.01	18.76	23.04	21.8	19.5	23.8
18900	132322	QPSK	100	0	100	0	20.91	18.64	22.93	21.8	19.5	23.8
			1	0	1	0	21.68	17.18	23.00	22.7	17.5	23.8
			1	49	1	49	21.64	17.13	22.96	22.7	17.5	23.8
			1	99	1	99	21.71	16.99	22.97	22.7	17.5	23.8
			50	0	50	0	20.89	18.85	23.00	21.8	19.5	23.8
			50	24	50	24	21.09	18.85	23.12	21.8	19.5	23.8
19100	132572	QPSK	50	50	50	50	20.97	18.71	23.00	21.8	19.5	23.8
			100	0	100	0	20.96	18.73	23.00	21.8	19.5	23.8
			1	0	1	0	21.57	16.98	22.87	22.7	17.5	23.8
			1	49	1	49	21.63	17.17	22.96	22.7	17.5	23.8
			1	99	1	99	21.64	16.87	22.89	22.7	17.5	23.8
			50	0	50	0	20.77	18.88	22.94	21.8	19.5	23.8

CA_4A-2A												
Combination 20MHz+20MHz (100RB+100RB)												
PCC Channel	SCC Channel	Modulation	PCC		SCC		PCC1 Power (dBm)	SCC2 Power (dBm)	Measured Power (dBm)	PCC1 Tune up Power (dBm)	SCC2 Tune up Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset						
20050	18700	QPSK	1	0	1	0	21.71	15.82	22.71	22.7	17.5	23.8
			1	49	1	49	21.62	15.89	22.65	22.7	17.5	23.8
			1	99	1	99	21.88	16.23	22.93	22.7	17.5	23.8
			50	0	50	0	20.87	18.38	22.81	21.8	19.5	23.8
			50	24	50	24	20.81	18.65	22.87	21.8	19.5	23.8
			50	50	50	50	20.98	18.61	22.97	21.8	19.5	23.8
20175	18900	QPSK	100	0	100	0	20.87	18.73	22.94	21.8	19.5	23.8
			1	0	1	0	21.63	15.76	22.63	22.7	17.5	23.8
			1	49	1	49	21.53	16.05	22.61	22.7	17.5	23.8
			1	99	1	99	21.98	16.14	22.99	22.7	17.5	23.8
			50	0	50	0	20.95	18.45	22.89	21.8	19.5	23.8
			50	24	50	24	20.78	18.77	22.90	21.8	19.5	23.8
20300	19100	QPSK	50	50	50	50	20.86	18.65	22.90	21.8	19.5	23.8
			100	0	100	0	20.99	18.65	22.99	21.8	19.5	23.8
			1	0	1	0	21.78	15.87	22.77	22.7	17.5	23.8
			1	49	1	49	21.56	16.17	22.66	22.7	17.5	23.8
			1	99	1	99	21.79	16.26	22.86	22.7	17.5	23.8
			50	0	50	0	20.99	18.27	22.85	21.8	19.5	23.8

CA_6A-2A												
Combination 20MHz+20MHz (100RB+100RB)												
PCC Channel	SCC Channel	Modulation	PCC		SCC		PCC1 Power (dBm)	SCC2 Power (dBm)	Measured Power (dBm)	PCC1 Tune up Power (dBm)	SCC2 Tune up Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset						
132072	18700	QPSK	1	0	1	0	21.94	15.97	22.92	22.70	17.50	23.8
			1	49	1	49	21.67	16.09	22.73	22.70	17.50	23.8
			1	99	1	99	21.66	15.87	22.68	22.70	17.50	23.8
			50	0	50	0	20.58	18.73	22.76	21.80	19.50	23.8
			50	24	50	24	20.73	18.81	22.81	21.80	19.50	23.8
			50	50	50	50	20.69	18.84	22.87	21.80	19.50	23.8
132322	18900	QPSK	100	0	100	0	20.71	18.58	22.78	21.80	19.50	23.8
			1	0	1	0	21.89	15.99	22.88	22.70	17.50	23.8
			1	49	1	49	21.53	16.13	22.63	22.70	17.50	23.8
			1	99	1	99	21.72	15.76	22.70	22.70	17.50	23.8
			50	0	50	0	20.71	18.68	22.82	21.80	19.50	23.8
			50	24	50	24	20.64	18.66	22.77	21.80	19.50	23.8
132572	19100	QPSK	50	50	50	50	20.88	18.71	22.94	21.80	19.50	23.8
			100	0	100	0	20.89	18.46	22.85	21.80	19.50	23.8
			1	0	1	0	21.94	15.72	22.87	22.70	17.50	23.8
			1	49	1	49	21.75	16.03	22.78	22.70	17.50	23.8
			1	99	1	99	21.65	15.89	22.67	22.70	17.50	23.8
			50	0	50	0	20.89	18.71	22.95	21.80	19.50	23.8



CA_2A-12A												
Combination 20MHz+10MHz (100RB+50RB)												
PCC Channel	SCC Channel	Modulation	PCC		SCC		PCC1 Power (dBm)	SCC2 Power (dBm)	Measured Power (dBm)	PCC1 Tune up Power (dBm)	SCC2 Tune up Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset						
18700	23060	QPSK	1	0	1	0	21.86	16.67	23.01	22.7	17.5	23.8
			1	49	1	25	21.89	16.74	23.05	22.7	17.5	23.8
			1	99	1	49	21.78	16.38	22.88	22.7	17.5	23.8
			50	0	25	0	20.87	18.79	22.96	21.8	19.5	23.8
			50	24	25	12	20.84	18.96	23.01	21.8	19.5	23.8
			50	50	25	25	20.98	18.43	22.90	21.8	19.5	23.8
18900	23095	QPSK	100	0	50	0	20.92	18.61	22.93	21.8	19.5	23.8
			1	0	1	0	21.99	16.76	23.13	22.7	17.5	23.8
			1	49	1	25	21.81	16.61	22.96	22.7	17.5	23.8
			1	99	1	49	21.72	16.26	22.81	22.7	17.5	23.8
			50	0	25	0	20.92	18.77	22.99	21.8	19.5	23.8
			50	24	25	12	20.91	18.84	23.01	21.8	19.5	23.8
19100	23130	QPSK	50	50	25	25	20.94	18.35	22.85	21.8	19.5	23.8
			100	0	50	0	20.89	18.61	22.91	21.8	19.5	23.8
			1	0	1	0	21.87	16.65	23.01	22.7	17.5	23.8
			1	49	1	25	21.93	16.69	23.07	22.7	17.5	23.8
			1	99	1	49	21.75	16.34	22.85	22.7	17.5	23.8
			50	0	25	0	20.98	18.84	23.05	21.8	19.5	23.8

CA_2A-13A												
Combination 20MHz+10MHz (100RB+50RB)												
PCC Channel	SCC Channel	Modulation	PCC		SCC		PCC1 Power (dBm)	SCC2 Power (dBm)	Measured Power (dBm)	PCC1 Tune up Power (dBm)	SCC2 Tune up Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset						
18700	23230	QPSK	1	0	1	0	21.90	16.54	23.01	22.7	17.5	23.8
			1	49	1	25	21.86	16.68	23.01	22.7	17.5	23.8
			1	99	1	49	21.84	16.84	23.03	22.7	17.5	23.8
			50	0	25	0	20.97	18.52	22.93	21.8	19.5	23.8
			50	24	25	12	21.11	18.52	23.02	21.8	19.5	23.8
			50	50	25	25	21.12	18.49	23.01	21.8	19.5	23.8
18900	23230	QPSK	100	0	50	0	21.02	18.37	22.90	21.8	19.5	23.8
			1	0	1	0	21.67	17.13	22.98	22.7	17.5	23.8
			1	49	1	25	21.82	17.12	23.09	22.7	17.5	23.8
			1	99	1	49	21.66	17.04	22.95	22.7	17.5	23.8
			50	0	25	0	20.81	18.46	22.80	21.8	19.5	23.8
			50	24	25	12	20.67	18.42	22.70	21.8	19.5	23.8
19100	23230	QPSK	50	50	25	25	20.94	18.57	22.93	21.8	19.5	23.8
			100	0	50	0	20.94	18.54	22.91	21.8	19.5	23.8
			1	0	1	0	21.85	16.81	23.03	22.7	17.5	23.8
			1	49	1	25	21.96	16.45	23.04	22.7	17.5	23.8
			1	99	1	49	21.90	16.50	23.00	22.7	17.5	23.8
			50	0	25	0	21.02	18.37	22.90	21.8	19.5	23.8

CA_12A-2A												
Combination 10MHz+20MHz (50RB+100RB)												
PCC Channel	SCC Channel	Modulation	PCC		SCC		PCC1 Power (dBm)	SCC2 Power (dBm)	Measured Power (dBm)	PCC1 Tune up Power (dBm)	SCC2 Tune up Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset						
23060	18700	QPSK	1	0	1	0	21.99	16.70	23.12	22.7	17.5	23.8
			1	25	1	49	21.75	16.65	22.92	22.7	17.5	23.8
			1	49	1	99	21.63	16.49	22.79	22.7	17.5	23.8
			25	0	50	0	21.12	18.78	23.12	21.8	19.5	23.8
			25	12	50	24	21.04	18.86	23.10	21.8	19.5	23.8
			25	25	50	50	20.78	18.86	22.94	21.8	19.5	23.8
23095	18900	QPSK	50	0	100	0	21.01	18.78	23.05	21.8	19.5	23.8
			1	0	1	0	21.80	16.42	22.91	22.7	17.5	23.8
			1	25	1	49	21.52	16.10	22.62	22.7	17.5	23.8
			1	49	1	99	21.03	16.27	22.28	22.7	17.5	23.8
			25	0	50	0	20.87	18.65	22.91	21.8	19.5	23.8
			25	12	50	24	20.62	18.71	22.78	21.8	19.5	23.8
23130	19100	QPSK	25	25	50	50	20.80	18.68	22.88	21.8	19.5	23.8
			50	0	100	0	20.54	18.67	22.72	21.8	19.5	23.8
			1	0	1	0	21.46	16.27	22.61	22.7	17.5	23.8
			1	25	1	49	21.47	16.36	22.64	22.7	17.5	23.8
			1	49	1	99	20.42	16.98	22.04	22.7	17.5	23.8
			25	0	50	0	20.90	18.75	22.97	21.8	19.5	23.8

CA_13A-2A												
Combination 10MHz+20MHz (50RB+100RB)												
PCC Channel	SCC Channel	Modulation	PCC		SCC		PCC1 Power (dBm)	SCC2 Power (dBm)	Measured Power (dBm)	PCC1 Tune up Power (dBm)	SCC2 Tune up Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset						
23230	18700	QPSK	1	0	1	0	21.78	16.76	22.97	22.7	17.5	23.8
			1	25	1	49	22.04	16.55	23.12	22.7	17.5	23.8
			1	49	1	99	22.12	16.51	23.17	22.7	17.5	23.8
			25	0	50	0	20.93	18.61	22.93	21.8	19.5	23.8
			25	12	50	24	21.03	18.61	23.00	21.8	19.5	23.8
			25	25	50	50	21.15	18.48	23.03	21.8	19.5	23.8
23230	18900	QPSK	50	0	100	0	21.02	18.56	22.97	21.8	19.5	23.8
			1	0	1	0	21.66	16.78	22.88	22.7	17.5	23.8
			1	25	1	49	21.91	16.62	23.04	22.7	17.5	23.8
			1	49	1	99	21.94	16.45	23.02	22.7	17.5	23.8
			25	0	50	0	20.89	18.67	22.93	21.8	19.5	23.8
			25	12	50	24	20.87	18.62	22.90	21.8	19.5	23.8
23230	19100	QPSK	25	25	50	50	20.86	18.56	22.87	21.8	19.5	23.8
			50	0	100	0	21.12	18.36	22.97	21.8	19.5	23.8
			1	0	1	0	21.58	16.69	22.80	22.7	17.5	23.8
			1	25	1	49	21.78	16.73	22.96	22.7	17.5	23.8
			1	49	1	99	21.82	16.54	22.95	22.7	17.5	23.8
			25	0	50	0	20.95	18.75	23.00	21.8	19.5	23.8



CA_4A-12A												
Combination 20MHz+10MHz (100RB+50RB)												
PCC Channel	SCC Channel	Modulation	PCC		SCC		PCC1 Power (dBm)	SCC2 Power (dBm)	Measured Power (dBm)	PCC1 Tune up Power (dBm)	SCC2 Tune up Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset						
20050	23060	QPSK	1	0	1	0	21.78	16.82	22.98	22.70	17.50	23.8
			1	49	1	25	21.74	16.77	22.94	22.70	17.50	23.8
			1	99	1	49	21.51	16.42	22.68	22.70	17.50	23.8
			50	0	25	0	21.12	18.91	23.16	21.80	19.50	23.8
			50	24	25	12	20.89	18.56	22.89	21.80	19.50	23.8
			50	50	25	25	20.54	18.45	22.63	21.80	19.50	23.8
20175	23095	QPSK	100	0	50	0	20.61	18.59	22.73	21.80	19.50	23.8
			1	0	1	0	21.80	16.68	22.96	22.70	17.50	23.8
			1	49	1	25	21.62	16.56	22.80	22.70	17.50	23.8
			1	99	1	49	21.65	16.13	22.72	22.70	17.50	23.8
			50	0	25	0	21.03	18.98	23.14	21.80	19.50	23.8
			50	24	25	12	20.85	18.38	22.80	21.80	19.50	23.8
20300	23130	QPSK	50	50	25	25	20.43	18.36	22.53	21.80	19.50	23.8
			100	0	50	0	20.90	18.65	22.74	21.80	19.50	23.8
			1	0	1	0	21.77	16.79	22.97	22.70	17.50	23.8
			1	49	1	25	21.73	16.67	22.91	22.70	17.50	23.8
			1	99	1	49	21.55	16.37	22.70	22.70	17.50	23.8
			50	0	25	0	21.21	18.87	23.21	21.80	19.50	23.8

CA_4A-13A												
Combination 20MHz+10MHz (100RB+50RB)												
PCC Channel	SCC Channel	Modulation	PCC		SCC		PCC1 Power (dBm)	SCC2 Power (dBm)	Measured Power (dBm)	PCC1 Tune up Power (dBm)	SCC2 Tune up Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset						
20050	23230	QPSK	1	0	1	0	21.96	16.59	23.07	22.7	17.5	23.8
			1	49	1	25	21.81	16.61	22.96	22.7	17.5	23.8
			1	99	1	49	21.65	16.74	22.87	22.7	17.5	23.8
			50	0	25	0	21.02	18.69	23.02	21.8	19.5	23.8
			50	24	25	12	20.99	18.77	23.03	21.8	19.5	23.8
			50	50	25	25	20.86	18.84	22.98	21.8	19.5	23.8
20175	23230	QPSK	100	0	50	0	20.89	18.82	22.99	21.8	19.5	23.8
			1	0	1	0	22.01	16.77	23.15	22.7	17.5	23.8
			1	49	1	25	21.98	16.70	23.11	22.7	17.5	23.8
			1	99	1	49	21.69	16.78	22.91	22.7	17.5	23.8
			50	0	25	0	20.81	19.04	23.02	21.8	19.5	23.8
			50	24	25	12	20.79	18.97	22.98	21.8	19.5	23.8
20300	23230	QPSK	50	50	25	25	20.87	18.83	22.98	21.8	19.5	23.8
			100	0	50	0	20.76	18.98	22.97	21.8	19.5	23.8
			1	0	1	0	21.83	16.56	22.96	22.7	17.5	23.8
			1	49	1	25	21.76	16.63	22.92	22.7	17.5	23.8
			1	99	1	49	21.72	16.79	22.93	22.7	17.5	23.8
			50	0	25	0	20.96	18.74	23.00	21.8	19.5	23.8

CA_12A-4A												
Combination 10MHz+20MHz (50RB+100RB)												
PCC Channel	SCC Channel	Modulation	PCC		SCC		PCC1 Power (dBm)	SCC2 Power (dBm)	Measured Power (dBm)	PCC1 Tune up Power (dBm)	SCC2 Tune up Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset						
23060	20050	QPSK	1	0	1	0	21.92	16.31	22.97	22.7	17.5	23.8
			1	25	1	49	21.67	16.11	22.74	22.7	17.5	23.8
			1	49	1	99	21.56	15.78	22.58	22.7	17.5	23.8
			25	0	50	0	21.00	18.71	23.01	21.8	19.5	23.8
			25	12	50	24	20.82	18.78	22.93	21.8	19.5	23.8
			25	25	50	50	20.78	18.89	22.95	21.8	19.5	23.8
23095	20175	QPSK	50	0	100	0	20.89	18.72	22.95	21.8	19.5	23.8
			1	0	1	0	22.13	16.35	23.15	22.7	17.5	23.8
			1	25	1	49	21.58	15.95	22.63	22.7	17.5	23.8
			1	49	1	99	21.61	15.55	22.57	22.7	17.5	23.8
			25	0	50	0	20.96	18.82	23.03	21.8	19.5	23.8
			25	12	50	24	20.89	18.67	22.93	21.8	19.5	23.8
23130	20300	QPSK	25	25	50	50	20.57	18.80	22.78	21.8	19.5	23.8
			50	0	100	0	20.83	18.54	22.84	21.8	19.5	23.8
			1	0	1	0	22.01	16.29	23.04	22.7	17.5	23.8
			1	25	1	49	21.78	15.98	22.79	22.7	17.5	23.8
			1	49	1	99	21.56	15.59	22.54	22.7	17.5	23.8
			25	0	50	0	20.92	18.72	22.97	21.8	19.5	23.8

CA_13A-4A												
Combination 10MHz+20MHz (50RB+100RB)												
PCC Channel	SCC Channel	Modulation	PCC		SCC		PCC1 Power (dBm)	SCC2 Power (dBm)	Measured Power (dBm)	PCC1 Tune up Power (dBm)	SCC2 Tune up Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset						
23230	20050	QPSK	1	0	1	0	21.96	16.31	23.01	22.7	17.5	23.8
			1	25	1	49	21.98	15.99	22.96	22.7	17.5	23.8
			1	49	1	99	21.93	15.82	22.88	22.7	17.5	23.8
			25	0	50	0	21.03	18.81	23.07	21.8	19.5	23.8
			25	12	50	24	21.12	18.88	23.15	21.8	19.5	23.8
			25	25	50	50	21.09	18.77	23.09	21.8	19.5	23.8
23230	20175	QPSK	50	0	100	0	20.93	18.81	23.01	21.8	19.5	23.8
			1	0	1	0	21.97	16.25	23.00	22.7	17.5	23.8
			1	25	1	49	22.05	15.97	23.01	22.7	17.5	23.8
			1	49	1	99	22.07	15.87	23.00	22.7	17.5	23.8
			25	0	50	0	20.97	18.88	23.06	21.8	19.5	23.8
			25	12	50	24	21.03	18.90	23.10	21.8	19.5	23.8
23230	20300	QPSK	25	25	50	50	21.04	18.63	23.01	21.8	19.5	23.8
			50	0	100	0	20.90	18.71	22.95	21.8	19.5	23.8
			1	0	1	0	21.89	16.11	22.91	22.7	17.5	23.8
			1	25	1	49	21.93	15.98	22.91	22.7	17.5	23.8
			1	49	1	99	21.97	15.91	22.93	22.7	17.5	23.8
			25	0	50	0	20.95	18.78	23.00	21.8	19.5	23.8



CA_12A-66A												
Combination 10MHz+20MHz (50RB+100RB)												
PCC Channel	SCC Channel	Modulation	PCC		SCC		PCC1 Power (dBm)	SCC2 Power (dBm)	Measured Power (dBm)	PCC1 Tune up Power (dBm)	SCC2 Tune up Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Sizes	RB offset						
23060	132072	QPSK	1	0	1	0	22.09	16.51	23.15	22.7	17.5	23.8
			1	25	1	49	22.06	16.38	23.10	22.7	17.5	23.8
			1	49	1	99	22.05	16.35	23.09	22.7	17.5	23.8
			25	0	50	0	21.10	18.31	22.94	21.8	19.5	23.8
			25	12	50	24	21.31	18.39	23.10	21.8	19.5	23.8
			25	25	50	50	21.09	18.43	22.97	21.8	19.5	23.8
23095	132322	QPSK	50	0	100	0	21.18	18.48	23.05	21.8	19.5	23.8
			1	0	1	0	21.98	16.53	23.07	22.7	17.5	23.8
			1	25	1	49	21.96	16.34	23.01	22.7	17.5	23.8
			1	49	1	99	21.92	16.34	22.98	22.7	17.5	23.8
			25	0	50	0	21.11	18.88	23.15	21.8	19.5	23.8
			25	12	50	24	21.01	18.74	23.03	21.8	19.5	23.8
23130	132572	QPSK	25	25	50	50	21.06	18.77	23.07	21.8	19.5	23.8
			50	0	100	0	21.11	18.71	23.08	21.8	19.5	23.8
			1	0	1	0	22.03	16.64	23.13	22.7	17.5	23.8
			1	25	1	49	22.05	16.55	23.13	22.7	17.5	23.8
			1	49	1	99	21.91	16.46	23.00	22.7	17.5	23.8
			25	0	50	0	21.15	18.57	23.06	21.8	19.5	23.8

CA_13A-66A												
Combination 10MHz+20MHz (50RB+100RB)												
PCC Channel	SCC Channel	Modulation	PCC		SCC		PCC1 Power (dBm)	SCC2 Power (dBm)	Measured Power (dBm)	PCC1 Tune up Power (dBm)	SCC2 Tune up Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset						
23230	132072	QPSK	1	0	1	0	21.63	16.81	22.87	22.7	17.5	23.8
			1	25	1	49	21.76	16.62	22.92	22.7	17.5	23.8
			1	49	1	99	21.92	16.47	23.01	22.7	17.5	23.8
			25	0	50	0	21.16	18.53	23.05	21.8	19.5	23.8
			25	12	50	24	21.15	18.55	23.05	21.8	19.5	23.8
			25	25	50	50	21.21	18.37	23.03	21.8	19.5	23.8
23230	132322	QPSK	50	0	100	0	21.00	18.33	22.88	21.8	19.5	23.8
			1	0	1	0	21.72	16.72	22.91	22.7	17.5	23.8
			1	25	1	49	21.91	16.54	23.02	22.7	17.5	23.8
			1	49	1	99	21.89	16.34	22.96	22.7	17.5	23.8
			25	0	50	0	21.14	18.53	23.04	21.8	19.5	23.8
			25	12	50	24	21.09	18.72	23.08	21.8	19.5	23.8
23230	132572	QPSK	25	25	50	50	21.19	18.48	23.05	21.8	19.5	23.8
			50	0	100	0	21.13	18.45	23.00	21.8	19.5	23.8
			1	0	1	0	21.63	16.60	22.82	22.7	17.5	23.8
			1	25	1	49	21.94	16.28	22.91	22.7	17.5	23.8
			1	49	1	99	21.96	16.26	23.00	22.7	17.5	23.8
			25	0	50	0	21.20	18.43	23.04	21.8	19.5	23.8

CA_66A-12A												
Combination 20MHz+10MHz (100RB+50RB)												
PCC Channel	SCC Channel	Modulation	PCC		SCC		PCC1 Power (dBm)	SCC2 Power (dBm)	Measured Power (dBm)	PCC1 Tune up Power (dBm)	SCC2 Tune up Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Sizes	RB offset						
132072	23060	QPSK	1	0	1	0	21.79	16.77	22.98	22.7	17.5	23.8
			1	49	1	25	21.62	16.76	22.85	22.7	17.5	23.8
			1	99	1	49	21.34	16.52	22.58	22.7	17.5	23.8
			50	0	25	0	20.63	19.05	22.92	21.8	19.5	23.8
			50	24	25	12	20.68	19.08	22.96	21.8	19.5	23.8
			50	50	25	25	20.59	18.99	22.87	21.8	19.5	23.8
132322	23095	QPSK	100	0	50	0	20.32	18.67	22.58	21.8	19.5	23.8
			1	0	1	0	21.72	16.82	22.94	22.7	17.5	23.8
			1	49	1	25	21.53	16.38	22.69	22.7	17.5	23.8
			1	99	1	49	21.23	16.43	22.47	22.7	17.5	23.8
			50	0	25	0	20.78	19.11	23.04	21.8	19.5	23.8
			50	24	25	12	20.57	18.98	22.86	21.8	19.5	23.8
132572	23130	QPSK	50	50	25	25	20.56	18.91	22.82	21.8	19.5	23.8
			100	0	50	0	20.16	18.36	22.36	21.8	19.5	23.8
			1	0	1	0	21.71	16.89	22.95	22.7	17.5	23.8
			1	49	1	25	21.67	16.54	22.83	22.7	17.5	23.8
			1	99	1	49	21.25	16.28	22.45	22.7	17.5	23.8
			50	0	25	0	20.69	19.04	22.95	21.8	19.5	23.8

CA_66A-13A												
Combination 20MHz+10MHz (100RB+50RB)												
PCC Channel	SCC Channel	Modulation	PCC		SCC		PCC1 Power (dBm)	SCC2 Power (dBm)	Measured Power (dBm)	PCC1 Tune up Power (dBm)	SCC2 Tune up Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset						
132072	23230	QPSK	1	0	1	0	21.88	16.62	23.01	22.7	17.5	23.8
			1	49	1	25	21.89	16.84	23.07	22.7	17.5	23.8
			1	99	1	49	21.67	17.03	22.95	22.7	17.5	23.8
			50	0	25	0	20.72	18.77	22.86	21.8	19.5	23.8
			50	24	25	12	20.67	18.78	22.84	21.8	19.5	23.8
			50	50	25	25	20.56	18.81	22.78	21.8	19.5	23.8
132322	23230	QPSK	100	0	50	0	20.82	18.91	22.98	21.8	19.5	23.8
			1	0	1	0	21.95	16.71	23.09	22.7	17.5	23.8
			1	49	1	25	21.77	17.10	23.04	22.7	17.5	23.8
			1	99	1	49	21.58	17.22	22.94	22.7	17.5	23.8
			50	0	25	0	20.89	18.74	22.96	21.8	19.5	23.8
			50	24	25	12	20.71	18.82	22.88	21.8	19.5	23.8
132572	23230	QPSK	50	50	25	25	20.67	18.95	22.90	21.8	19.5	23.8
			100	0	50	0	20.78	18.75	22.89	21.8	19.5	23.8
			1	0	1	0	21.78	16.83	22.99	22.7	17.5	23.8
			1	49	1	25	21.89	16.85	23.07	22.7	17.5	23.8
			1	99	1	49	21.64	17.09	22.95	22.7	17.5	23.8
			50	0	25	0	20.67	18.93	22.90	21.8	19.5	23.8



Full Power for ANTO

N5							
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	MPR (dB)
Channel				167500	167500	167500	
Frequency (MHz)				834	836.5	839	
20	PI/2 BPSK	1	1	22.46	22.45	22.34	
20	PI/2 BPSK	1	53	22.67	22.55	22.80	23.3
20	PI/2 BPSK	1	104	22.45	22.37	22.27	
20	PI/2 BPSK	50	0	21.87	21.82	21.95	
20	PI/2 BPSK	50	28	22.39	22.36	22.33	23.3
20	PI/2 BPSK	50	56	21.86	21.84	21.76	
20	PI/2 BPSK	100	0	21.92	21.58	21.44	22.8
20	QPSK	1	1	22.42	22.30	22.44	
20	QPSK	1	53	22.50	22.44	22.43	23.3
20	QPSK	1	104	22.35	22.37	22.35	
20	QPSK	50	0	21.33	21.35	21.38	
20	QPSK	50	28	22.37	22.35	22.27	23.3
20	QPSK	50	56	21.30	21.26	21.32	
20	QPSK	100	0	21.44	21.37	21.29	22.3
20	16QAM	1	53	21.59	21.27	21.54	22.3
20	64QAM	1	53	20.01	19.98	20.01	21.3
20	256QAM	1	53	18.12	18.12	17.98	15.8
Channel				168300	168300	168300	
Frequency (MHz)				831.5	836.5	841.5	
15	PI/2 BPSK	1	40	22.44	22.44	22.40	23.3
Channel				165800	167300	168800	
Frequency (MHz)				829	836.5	844	
10	PI/2 BPSK	1	26	22.49	22.43	22.35	23.3
Channel				165300	167300	169300	
Frequency (MHz)				826.5	836.5	846.5	
5	PI/2 BPSK	1	13	22.46	22.43	22.32	23.3

N71							
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	MPR (dB)
Channel				134600	136100	137600	
Frequency (MHz)				673	680.5	688	
20	PI/2 BPSK	1	1	22.28	22.13	22.08	
20	PI/2 BPSK	1	53	22.37	22.22	22.21	23.3
20	PI/2 BPSK	1	104	22.15	21.99	21.79	
20	PI/2 BPSK	50	0	21.67	21.66	21.62	
20	PI/2 BPSK	50	28	22.24	22.08	22.07	23.3
20	PI/2 BPSK	50	56	21.67	21.43	21.36	
20	PI/2 BPSK	100	0	21.62	21.60	21.43	22.8
20	QPSK	1	1	22.35	22.13	22.21	
20	QPSK	1	53	22.20	22.18	22.04	23.3
20	QPSK	1	104	22.18	22.03	21.85	
20	QPSK	50	0	21.13	21.15	21.03	
20	QPSK	50	28	22.20	22.05	22.04	23.3
20	QPSK	50	56	21.11	20.92	20.88	
20	QPSK	100	0	21.15	21.06	20.91	22.3
20	16QAM	1	53	21.05	20.97	20.86	22.3
20	64QAM	1	53	19.65	19.72	19.64	21.3
20	256QAM	1	53	17.84	17.96	17.95	18.3
Channel				134100	136100	138100	
Frequency (MHz)				670.5	680.5	690.5	
15	PI/2 BPSK	1	40	22.32	22.22	22.14	23.3
Channel				133600	136100	138600	
Frequency (MHz)				668	680.5	693	
10	PI/2 BPSK	1	26	22.25	22.15	22.16	23.3
Channel				133100	136100	139100	
Frequency (MHz)				665.5	680.5	695.5	
5	PI/2 BPSK	1	13	22.21	22.13	22.10	23.3



Full Power for ANT2

N2									
BW (MHz)	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)	
Channel				37600	37600	38000			
Frequency (MHz)				1880	1880	1920			
20	PI2 BPSK	1	1	21.01	20.99	20.98			
20	PI2 BPSK	1	53	21.32	21.18	21.29	21.8	0.0	
20	PI2 BPSK	1	104	20.86	20.86	20.74			
20	PI2 BPSK	50	0	20.43	20.44	20.32			
20	PI2 BPSK	50	28	20.36	20.87	20.86	21.8	0.0	
20	PI2 BPSK	50	55	20.45	20.35	20.38			
20	PI2 BPSK	100	0	20.38	20.38	20.35	21.3	0.5	
20	QPSK	1	1	21.04	21.07	20.89			
20	QPSK	1	53	21.20	21.15	20.97	21.8	0.0	
20	QPSK	1	104	20.98	21.00	20.94			
20	QPSK	50	0	19.88	19.92	19.85			
20	QPSK	50	28	20.89	20.93	20.75	21.8	0.0	
20	QPSK	50	55	19.93	19.92	19.77			
20	QPSK	100	0	19.91	19.97	19.80	20.8	1.0	
20	16QAM	1	53	20.01	20.03	20.01	20.8	1.0	
20	64QAM	1	53	19.15	19.04	18.78	19.8	2.0	
20	256QAM	1	53	16.59	16.88	16.67	17.3	4.5	
Channel				371500	376000	380500			
Frequency (MHz)				1827.5	1880	1922.5			
15	PI2 BPSK	1	40	20.98	20.97	20.90	21.8	0.0	
Channel				371000	376000	381000			
Frequency (MHz)				1855	1880	1905	(dBm)	(dB)	
10	PI2 BPSK	1	26	20.94	20.89	20.83	21.8	0.0	
Channel				375500	376000	381500			
Frequency (MHz)				1882.5	1880	1907.5	(dBm)	(dB)	
5	PI2 BPSK	1	13	20.97	20.89	20.86	21.8	0.0	

N25									
BW (MHz)	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)	
Channel				372000	376000	381000			
Frequency (MHz)				1890	1890	1925			
20	PI2 BPSK	1	1	20.90	21.04	20.87			
20	PI2 BPSK	1	53	21.10	21.11	20.97	21.8	0.0	
20	PI2 BPSK	1	104	20.95	20.96	20.92			
20	PI2 BPSK	50	0	20.53	20.38	20.30			
20	PI2 BPSK	50	28	20.98	21.01	20.88	21.8	0.0	
20	PI2 BPSK	50	55	20.55	20.54	20.50			
20	PI2 BPSK	100	0	20.49	20.55	20.30	21.3	0.5	
20	QPSK	1	1	21.05	21.07	20.97			
20	QPSK	1	53	21.09	21.08	21.06	21.8	0.0	
20	QPSK	1	104	21.08	21.06	21.01			
20	QPSK	50	0	20.00	20.02	19.89			
20	QPSK	50	28	21.00	21.04	20.88	21.8	0.0	
20	QPSK	50	55	19.98	20.15	19.98			
20	QPSK	100	0	19.95	20.03	19.87	20.8	1.0	
20	16QAM	1	53	20.11	20.07	19.99	20.8	1.0	
20	64QAM	1	53	19.23	19.13	18.86	19.8	2.0	
20	256QAM	1	53	16.50	16.83	16.72	17.3	4.5	
Channel				371500	376000	381500			
Frequency (MHz)				1827.5	1880	1927.5			
15	PI2 BPSK	1	40	21.02	20.98	20.83	21.8	0.0	
Channel				371000	376000	382000			
Frequency (MHz)				1855	1880	1910	(dBm)	(dB)	
10	PI2 BPSK	1	26	21.04	21.01	20.85	21.8	0.0	
Channel				375500	376000	382500			
Frequency (MHz)				1882.5	1880	1912.5	(dBm)	(dB)	
5	PI2 BPSK	1	13	20.99	20.99	20.81	21.8	0.0	

N66									
BW (MHz)	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)	
Channel				343000	349000	354000			
Frequency (MHz)				1720	1745	1770			
20	PI2 BPSK	1	1	21.00	20.80	20.85			
20	PI2 BPSK	1	53	21.06	20.81	20.89	21.8	0.0	
20	PI2 BPSK	1	104	20.89	20.80	20.52			
20	PI2 BPSK	50	0	20.55	20.36	20.27			
20	PI2 BPSK	50	28	20.96	20.84	20.72	21.8	0.0	
20	PI2 BPSK	50	55	20.43	20.32	20.17			
20	PI2 BPSK	100	0	20.51	20.33	20.22	21.3	0.5	
20	QPSK	1	1	21.00	20.99	20.83			
20	QPSK	1	53	21.03	20.93	20.86	21.8	0.0	
20	QPSK	1	104	20.99	20.91	20.82			
20	QPSK	50	0	19.95	19.83	19.72			
20	QPSK	50	28	20.96	20.79	20.69	21.8	0.0	
20	QPSK	50	55	19.87	19.76	19.67			
20	QPSK	100	0	19.87	19.84	19.67	20.8	1.0	
20	16QAM	1	53	19.95	20.33	20.21	20.8	1.0	
20	64QAM	1	53	19.18	18.97	18.71	19.8	2.0	
20	256QAM	1	53	16.29	16.78	16.42	17.3	4.5	
Channel				343000	349000	354500			
Frequency (MHz)				1717.5	1745	1772.5			
15	PI2 BPSK	1	40	20.93	20.97	20.95	21.8	0.0	
Channel				343000	349000	355000			
Frequency (MHz)				1745	1745	1775	(dBm)	(dB)	
10	PI2 BPSK	1	26	20.99	20.98	20.82	21.8	0.0	
Channel				342500	349000	355500			
Frequency (MHz)				1712.5	1745	1777.5	(dBm)	(dB)	
5	PI2 BPSK	1	13	20.94	20.84	20.78	21.8	0.0	



N41_FCC									
BW (MHz)	Modulation	RB Size	RB Offset	Power Low Ch. Freq.	Power Middle Ch. Freq.	Power High Ch. Freq.	Tune-up limit (dBm)	MPR (dB)	
Channel				505002	518598	528000			
Frequency (MHz)				2548.01	2592.99	2640			
100	PI2 BPSK	1	1	19.75	19.80	19.72			
100	PI2 BPSK	1	137	19.84	19.70	19.57			
100	PI2 BPSK	1	271	19.49	19.54	19.43	21.0	0.0	
100	PI2 BPSK	135	0	19.56	19.64	19.55			
100	PI2 BPSK	135	69	19.64	19.88	19.59	21.0	0.0	
100	PI2 BPSK	135	138	19.80	19.80	19.56			
100	PI2 BPSK	270	0	19.80	19.85	19.58	21.0	0.0	
100	QPSK	1	1	19.63	19.74	19.65			
100	QPSK	1	137	19.62	19.70	19.55	21.0	0.0	
100	QPSK	1	271	19.41	19.52	19.56			
100	QPSK	135	0	19.44	19.49	19.46			
100	QPSK	135	69	19.50	19.53	19.51	21.0	0.0	
100	QPSK	135	138	19.41	19.47	19.49			
100	QPSK	270	0	19.42	19.50	19.41	21.0	0.0	
100	RCQAM	1	1	19.58	19.74	19.69	21.0	0.0	
100	SCQAM	1	1	19.69	19.69	19.64	21.0	0.0	
100	255QAM	1	1	18.26	18.13	18.31	19.5	1.5	
Channel				508200	518598	528996	Tune-up limit (dB)	MPR	
Frequency (MHz)				2541	2592.99	2644.88	(dB)		
90	PI2 BPSK	1	1	19.72	19.75	19.69	21.0	0.0	
Channel				507204	518598	529996	Tune-up limit (dB)	MPR	
Frequency (MHz)				2538.02	2592.99	2649.99	(dB)		
80	PI2 BPSK	1	1	19.70	19.77	19.68	21.0	0.0	
Channel				505200	518598	531996	Tune-up limit (dB)	MPR	
Frequency (MHz)				2596	2602.99	2658.88	(dB)		
60	PI2 BPSK	1	1	19.62	19.66	19.59	21.0	0.0	
Channel				504204	518598	532998	Tune-up limit (dB)	MPR	
Frequency (MHz)				2321.02	2392.99	2404.99	(dB)		
50	PI2 BPSK	1	1	19.50	19.62	19.55	21.0	0.0	
Channel				503202	518598	534000	Tune-up limit (dB)	MPR	
Frequency (MHz)				2516.01	2592.99	2670	(dB)		
40	PI2 BPSK	1	1	19.68	19.73	19.62	21.0	0.0	
Channel				501204	518598	535998	Tune-up limit (dB)	MPR	
Frequency (MHz)				2506.02	2592.99	2639.89	(dB)		
20	PI2 BPSK	1	1	19.65	19.69	19.63	21.0	0.0	

N41(HPUF)_FCC									
BW (MHz)	Modulation	RB Size	RB Offset	Power Low Ch. Freq.	Power Middle Ch. Freq.	Power High Ch. Freq.	Tune-up limit (dBm)	MPR (dB)	
Channel				505202	518598	528000			
Frequency (MHz)				2548.01	2592.99	2640			
100	PI2 BPSK	1	1	21.71	21.74	21.58			
100	PI2 BPSK	1	137	21.58	21.67	21.45			
100	PI2 BPSK	1	271	21.32	21.42	21.40	23.0	0.0	
100	PI2 BPSK	135	0	21.57	21.61	21.53			
100	PI2 BPSK	135	69	21.59	21.66	21.55	23.0	0.0	
100	PI2 BPSK	135	138	21.52	21.62	20.47			
100	PI2 BPSK	270	0	21.57	21.65	21.53	23.0	0.0	
100	QPSK	1	1	21.70	21.72	21.41			
100	QPSK	1	137	21.51	21.61	21.41	23.0	0.0	
100	QPSK	1	271	21.37	21.54	21.35			
100	QPSK	135	0	21.45	21.51	21.35			
100	QPSK	135	69	21.40	21.51	21.31	23.0	0.0	
100	QPSK	135	138	21.30	21.39	21.30			
100	QPSK	270	0	21.36	21.46	21.29	23.0	0.0	
100	RCQAM	1	1	21.57	21.62	21.61	23.0	0.0	
100	SCQAM	1	1	20.25	20.32	20.24	21.5	1.5	
100	255QAM	1	1	18.38	18.28	18.32	19.5	3.5	
Channel				508200	518598	528996	Tune-up limit (dB)	MPR	
Frequency (MHz)				2541	2592.99	2644.88	(dB)		
90	PI2 BPSK	1	1	21.68	21.72	21.67	23.0	0.0	
Channel				507204	518598	529996	Tune-up limit (dB)	MPR	
Frequency (MHz)				2538.02	2592.99	2649.99	(dB)		
80	PI2 BPSK	1	1	21.64	21.71	21.69	23.0	0.0	
Channel				505200	518598	531996	Tune-up limit (dB)	MPR	
Frequency (MHz)				2606	2602.99	2668.88	(dB)		
60	PI2 BPSK	1	1	21.67	21.69	21.68	23.0	0.0	
Channel				504204	518598	532998	Tune-up limit (dB)	MPR	
Frequency (MHz)				2321.02	2392.99	2404.99	(dB)		
50	PI2 BPSK	1	1	21.70	21.73	21.70	23.0	0.0	
Channel				503202	518598	534000	Tune-up limit (dB)	MPR	
Frequency (MHz)				2516.01	2592.99	2670	(dB)		
40	PI2 BPSK	1	1	21.69	21.59	21.61	23.0	0.0	
Channel				501204	518598	535998	Tune-up limit (dB)	MPR	
Frequency (MHz)				2506.02	2592.99	2639.89	(dB)		
20	PI2 BPSK	1	1	21.65	21.65	21.63	23.0	0.0	



Reduced power level 1 for Head - ANT0

N5								
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				168800	167300	167800	Tune-up limit	MPR
Frequency (MHz)				834	836.5	839		
20	PI/2 BPSK	1	1	21.43	21.38	21.41	22.3	0.0
20	PI/2 BPSK	1	53	21.60	21.54	21.49		
20	PI/2 BPSK	1	104	21.42	21.39	21.43		
20	PI/2 BPSK	50	0	21.31	21.34	21.30	22.3	0.0
20	PI/2 BPSK	50	28	21.56	21.53	21.45		
20	PI/2 BPSK	50	56	21.42	21.41	21.31		
20	PI/2 BPSK	100	0	21.54	21.50	21.42	22.3	0.0
20	QPSK	1	1	21.37	21.31	21.37	22.3	0.0
20	QPSK	1	53	21.46	21.29	21.32		
20	QPSK	1	104	21.28	21.27	21.23		
20	QPSK	50	0	21.34	21.14	21.11	22.3	0.0
20	QPSK	50	28	21.35	21.30	21.31		
20	QPSK	50	56	21.29	21.25	21.30		
20	QPSK	100	0	21.17	21.16	21.14	22.3	0.0
20	16QAM	1	53	21.36	21.32	21.33	22.3	0.0
20	64QAM	1	53	21.12	21.16	21.10	22.3	0.0
20	256QAM	1	53	19.05	19.03	18.98	19.8	2.5
Channel				168300	167300	168300	Tune-up limit	MPR
Frequency (MHz)				831.5	836.5	841.5		
15	PI/2 BPSK	1	40	21.37	21.35	21.32	22.3	0.0
Channel				165800	167300	168800	Tune-up limit	MPR
Frequency (MHz)				829	836.5	844		
10	PI/2 BPSK	1	26	21.36	21.35	21.31	22.3	0.0
Channel				165300	167300	169300	Tune-up limit	MPR
Frequency (MHz)				826.5	836.5	846.5		
5	PI/2 BPSK	1	13	21.34	21.30	21.28	22.3	0.0

N71								
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				134600	136100	137600	Tune-up limit	MPR
Frequency (MHz)				673	680.5	688		
20	PI/2 BPSK	1	1	20.86	20.80	20.78	22.0	0.0
20	PI/2 BPSK	1	53	20.98	20.83	20.81		
20	PI/2 BPSK	1	104	20.73	20.69	20.74		
20	PI/2 BPSK	50	0	20.85	20.71	20.73	22.0	0.0
20	PI/2 BPSK	50	28	20.95	20.82	20.80		
20	PI/2 BPSK	50	56	20.79	20.73	20.78		
20	PI/2 BPSK	100	0	20.93	20.80	20.77	22.0	0.0
20	QPSK	1	1	20.91	20.90	20.90	22.0	0.0
20	QPSK	1	53	20.87	20.84	20.81		
20	QPSK	1	104	20.63	20.65	20.69		
20	QPSK	50	0	20.86	20.83	20.86	22.0	0.0
20	QPSK	50	28	20.68	20.71	20.66		
20	QPSK	50	56	20.78	20.76	20.78		
20	QPSK	100	0	20.78	20.78	20.79	22.0	0.0
20	16QAM	1	53	20.73	20.71	20.88	22.0	0.0
20	64QAM	1	53	20.22	20.16	20.13	22.0	0.0
20	256QAM	1	53	18.15	18.11	18.08	19.5	2.5
Channel				134100	136100	138100	Tune-up limit	MPR
Frequency (MHz)				670.5	680.5	690.5		
15	PI/2 BPSK	1	40	20.71	20.69	20.68	22.0	0.0
Channel				133600	136100	138600	Tune-up limit	MPR
Frequency (MHz)				668	680.5	693		
10	PI/2 BPSK	1	26	20.73	20.69	20.64	22.0	0.0
Channel				133100	136100	139100	Tune-up limit	MPR
Frequency (MHz)				665.5	680.5	695.5		
5	PI/2 BPSK	1	13	20.72	20.68	20.66	22.0	0.0



Reduced power level 1 for Head - ANT2

N2									
BW (MHz)	Modulation	RB Size	RB Offset	Power Low Ch. Freq.	Power Middle Ch. Freq.	Power High Ch. Freq.	Tune-up limit (dBm)	MPR (dB)	
Channel				375000	376000	380000			
Frequency (MHz)				1860	1880	1900			
20	PI2 BPSK	1	1	15.07	15.02	15.01			
20	PI2 BPSK	1	53	15.32	15.29	15.31	15.9	0.0	
20	PI2 BPSK	1	104	14.96	14.94	14.92			
20	PI2 BPSK	50	0	15.21	15.23	15.19			
20	PI2 BPSK	50	28	15.30	15.28	15.26	15.9	0.0	
20	PI2 BPSK	50	56	15.25	15.23	15.21			
20	PI2 BPSK	100	0	15.27	15.26	15.25	15.9	0.0	
20	QPSK	1	1	15.12	15.08	15.05			
20	QPSK	1	53	15.16	15.14	15.06	15.9	0.0	
20	QPSK	1	104	15.08	15.11	15.06			
20	QPSK	50	0	15.08	15.10	15.04			
20	QPSK	50	28	15.12	15.06	15.08	15.9	0.0	
20	QPSK	50	56	15.06	15.08	15.09			
20	QPSK	100	0	15.11	15.13	15.10	15.9	0.0	
20	16QAM	1	53	15.14	15.15	15.11	15.9	0.0	
20	84QAM	1	53	15.23	15.23	15.20	15.9	0.0	
20	256QAM	1	53	15.23	15.22	15.20	15.9	0.0	
Channel				371500	376000	380500			
Frequency (MHz)				1867.5	1880	1902.5			
15	PI2 BPSK	1	40	15.26	15.24	15.22	15.9	0.0	
Channel				371000	376000	381000			
Frequency (MHz)				1865	1880	1905			
10	PI2 BPSK	1	26	15.27	15.26	15.26	15.9	0.0	
Channel				370500	376000	381500			
Frequency (MHz)				1852.5	1880	1907.5			
5	PI2 BPSK	1	13	15.30	15.29	15.25	15.9	0.0	

N25									
BW (MHz)	Modulation	RB Size	RB Offset	Power Low Ch. Freq.	Power Middle Ch. Freq.	Power High Ch. Freq.	Tune-up limit (dBm)	MPR (dB)	
Channel				375000	376000	381000			
Frequency (MHz)				1860	1880	1905			
20	PI2 BPSK	1	1	14.98	15.00	14.95			
20	PI2 BPSK	1	53	15.19	15.23	15.17	15.9	0.0	
20	PI2 BPSK	1	104	15.14	15.18	15.11			
20	PI2 BPSK	50	0	14.91	14.95	14.88			
20	PI2 BPSK	50	28	15.16	15.19	15.14	15.9	0.0	
20	PI2 BPSK	50	56	15.00	15.02	14.98			
20	PI2 BPSK	100	0	15.13	15.14	15.11	15.9	0.0	
20	QPSK	1	1	14.91	14.93	14.90			
20	QPSK	1	53	15.15	15.18	15.15	15.9	0.0	
20	QPSK	1	104	15.03	15.06	15.03			
20	QPSK	50	0	14.97	14.98	14.96			
20	QPSK	50	28	15.11	15.13	15.06	15.9	0.0	
20	QPSK	50	56	15.06	15.05	15.00			
20	QPSK	100	0	14.88	14.90	14.84	15.9	0.0	
20	16QAM	1	53	15.14	15.18	15.13	15.9	0.0	
20	84QAM	1	53	15.00	15.02	15.01	15.9	0.0	
20	256QAM	1	53	15.08	15.10	15.04	15.9	0.0	
Channel				371500	376000	381500			
Frequency (MHz)				1867.5	1880	1907.5			
15	PI2 BPSK	1	40	15.03	15.05	15.01	15.9	0.0	
Channel				371000	376000	382000			
Frequency (MHz)				1865	1880	1910			
10	PI2 BPSK	1	26	15.04	15.07	15.03	15.9	0.0	
Channel				370500	376000	382500			
Frequency (MHz)				1852.5	1880	1912.5			
5	PI2 BPSK	1	13	15.08	15.07	15.06	15.9	0.0	

N66									
BW (MHz)	Modulation	RB Size	RB Offset	Power Low Ch. Freq.	Power Middle Ch. Freq.	Power High Ch. Freq.	Tune-up limit (dBm)	MPR (dB)	
Channel				344000	345000	350000			
Frequency (MHz)				1720	1745	1770			
20	PI2 BPSK	1	1	14.41	14.23	14.16			
20	PI2 BPSK	1	53	14.68	14.65	14.49	15.2	0.0	
20	PI2 BPSK	1	104	14.32	14.13	14.36			
20	PI2 BPSK	50	0	14.60	14.43	14.15			
20	PI2 BPSK	50	28	14.64	14.63	14.46	15.2	0.0	
20	PI2 BPSK	50	56	14.56	14.42	14.16			
20	PI2 BPSK	100	0	14.62	14.60	14.43	15.2	0.0	
20	QPSK	1	1	14.40	14.36	14.33			
20	QPSK	1	53	14.42	14.37	14.32	15.2	0.0	
20	QPSK	1	104	14.38	14.31	14.25			
20	QPSK	50	0	14.36	14.30	14.27			
20	QPSK	50	28	14.38	14.32	14.29	15.2	0.0	
20	QPSK	50	56	14.34	14.28	14.25			
20	QPSK	100	0	14.36	14.30	14.23	15.2	0.0	
20	16QAM	1	53	14.43	14.25	14.21	15.2	0.0	
20	84QAM	1	53	14.47	14.38	14.14	15.2	0.0	
20	256QAM	1	53	14.50	14.49	14.39	15.2	0.0	
Channel				343500	345000	346500			
Frequency (MHz)				1717.5	1745	1772.5			
15	PI2 BPSK	1	40	14.67	14.40	14.28	15.2	0.0	
Channel				343000	345000	350000			
Frequency (MHz)				1715	1745	1775			
10	PI2 BPSK	1	26	14.56	14.36	14.22	15.2	0.0	
Channel				342500	345000	350000			
Frequency (MHz)				1712.5	1745	1777.5			
5	PI2 BPSK	1	13	14.63	14.38	14.28	15.2	0.0	



N41_FCC									
BW (MHz)	Modulation	RB Size	RB Offset	Power Low Ch. Freq. (MHz)	Power Mids Ch. Freq. (MHz)	Power High Ch. Freq. (MHz)	Time-up time (min)	MFR (dB)	
Channel									
100	Frequency (MHz)		1	15.72	15.72	15.74			
100	PI/2 BPSK	1	137	15.04	15.08	15.08	16.4	0.0	
100	PI/2 BPSK	1	211	15.04	15.04	15.04			
100	PI/2 BPSK	155	0	15.02	15.03	15.02			
100	PI/2 BPSK	155	0	15.13	15.08	15.11	16.4	0.0	
100	PI/2 BPSK	155	0	15.02	15.05	15.01			
100	PI/2 BPSK	210	0	15.11	15.13	15.10	16.4	0.0	
100	QPSK	1	1	14.98	15.11	15.03			
100	QPSK	1	137	15.02	15.08	15.01	16.4	0.0	
100	QPSK	1	211	14.97	15.06	14.99			
100	QPSK	155	0	14.93	14.94	14.79			
100	QPSK	155	0	14.81	14.82	14.80	16.4	0.0	
100	QPSK	155	155	14.83	14.86	14.82			
100	QPSK	210	0	14.82	14.83	14.79	16.4	0.0	
100	BQAM	1	1	15.04	15.02	15.04	16.4	0.0	
100	BQAM	1	1	15.08	15.08	15.04	16.4	0.0	
100	ZPSK/AM	1	1	15.10	15.11	15.08	16.4	0.0	
Channel									
60	Frequency (MHz)		1	14.98	14.98	14.98			
60	PI/2 BPSK	1	1	14.98	14.98	14.94	16.4	0.0	
Channel									
80	Frequency (MHz)		1	14.94	14.95	14.95			
80	PI/2 BPSK	1	1	14.94	14.95	14.95	16.4	0.0	
Channel									
60	Frequency (MHz)		1	14.93	14.95	14.93			
60	PI/2 BPSK	1	1	14.93	14.95	14.93	16.4	0.0	
Channel									
60	Frequency (MHz)		1	14.92	14.92	14.92			
60	PI/2 BPSK	1	1	14.92	14.92	14.88	16.4	0.0	
Channel									
40	Frequency (MHz)		1	14.93	14.93	14.93			
40	PI/2 BPSK	1	1	14.93	14.93	14.89	16.4	0.0	
Channel									
40	Frequency (MHz)		1	14.93	14.93	14.93			
40	PI/2 BPSK	1	1	14.93	14.93	14.89	16.4	0.0	

N41(MPURE)_FCC									
BW (MHz)	Modulation	RB Size	RB Offset	Power Low Ch. Freq. (MHz)	Power Mids Ch. Freq. (MHz)	Power High Ch. Freq. (MHz)	Time-up time (min)	MFR (dB)	
Channel									
100	Frequency (MHz)		1	15.74	15.74	15.74			
100	PI/2 BPSK	1	137	15.04	15.08	15.08	16.4	0.0	
100	PI/2 BPSK	1	211	15.04	15.04	15.04			
100	PI/2 BPSK	150	0	15.02	15.03	15.02			
100	PI/2 BPSK	150	0	15.13	15.08	15.11	16.4	0.0	
100	PI/2 BPSK	150	0	15.02	15.05	15.01			
100	PI/2 BPSK	210	0	15.11	15.13	15.10	16.4	0.0	
100	QPSK	1	1	14.98	15.11	15.03			
100	QPSK	1	137	15.02	15.08	15.01	16.4	0.0	
100	QPSK	1	211	14.97	15.06	14.99			
100	QPSK	150	0	14.93	14.94	14.79			
100	QPSK	150	0	14.81	14.82	14.80	16.4	0.0	
100	QPSK	150	150	14.83	14.86	14.82			
100	QPSK	210	0	14.82	14.83	14.79	16.4	0.0	
100	BQAM	1	1	15.04	15.02	15.04	16.4	0.0	
100	BQAM	1	1	15.08	15.08	15.04	16.4	0.0	
100	ZPSK/AM	1	1	15.10	15.11	15.08	16.4	0.0	
Channel									
60	Frequency (MHz)		1	14.98	14.98	14.98			
60	PI/2 BPSK	1	1	14.98	14.98	14.94	16.4	0.0	
Channel									
80	Frequency (MHz)		1	14.94	14.95	14.95			
80	PI/2 BPSK	1	1	14.94	14.95	14.95	16.4	0.0	
Channel									
60	Frequency (MHz)		1	14.93	14.95	14.93			
60	PI/2 BPSK	1	1	14.93	14.95	14.93	16.4	0.0	
Channel									
60	Frequency (MHz)		1	14.92	14.92	14.92			
60	PI/2 BPSK	1	1	14.92	14.92	14.88	16.4	0.0	
Channel									
40	Frequency (MHz)		1	14.93	14.93	14.93			
40	PI/2 BPSK	1	1	14.93	14.93	14.89	16.4	0.0	
Channel									
40	Frequency (MHz)		1	14.93	14.93	14.93			
40	PI/2 BPSK	1	1	14.93	14.93	14.89	16.4	0.0	



Reduced power level 2/3/4 for Head - ANT0

N5									
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)	
Channel				166800	167300	167800			
Frequency (MHz)				834	836.5	839			
20	PI/2 BPSK	1	1	18.40	18.34	18.28			
20	PI/2 BPSK	1	53	18.44	18.40	18.38	19.2	0.0	
20	PI/2 BPSK	1	104	18.31	18.26	18.22			
20	PI/2 BPSK	50	0	18.31	18.29	18.27			
20	PI/2 BPSK	50	28	18.38	18.36	18.35	19.2	0.0	
20	PI/2 BPSK	50	56	18.22	18.23	18.17			
20	PI/2 BPSK	100	0	18.36	18.34	18.32	19.2	0.0	
20	QPSK	1	1	18.34	18.32	18.32			
20	QPSK	1	53	18.42	18.37	18.37	19.2	0.0	
20	QPSK	1	104	18.26	18.23	18.22			
20	QPSK	50	0	18.35	18.32	18.38			
20	QPSK	50	28	18.39	18.33	18.36	19.2	0.0	
20	QPSK	50	56	18.32	18.30	18.26			
20	QPSK	100	0	18.22	18.19	18.16	19.2	0.0	
20	16QAM	1	53	18.14	18.10	18.12	19.2	0.0	
20	64QAM	1	53	18.42	18.39	18.41	19.2	0.0	
20	256QAM	1	53	18.40	18.43	18.42	19.2	0.0	
Channel				166300	167300	168300	Tune-up limit (dBm)	MPR (dB)	
Frequency (MHz)				831.5	836.5	841.5	19.2	0.0	
15	PI/2 BPSK	1	40	18.33	18.32	18.28	19.2	0.0	
Channel				165800	167300	168800	Tune-up limit (dBm)	MPR (dB)	
Frequency (MHz)				829	836.5	844	19.2	0.0	
10	PI/2 BPSK	1	26	18.33	18.32	18.29	19.2	0.0	
Channel				165300	167300	169300	Tune-up limit (dBm)	MPR (dB)	
Frequency (MHz)				826.5	836.5	846.5	19.2	0.0	
5	PI/2 BPSK	1	13	18.31	18.31	18.30	19.2	0.0	

N71									
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)	
Channel				134600	136100	137600			
Frequency (MHz)				673	680.5	688			
20	PI/2 BPSK	1	1	17.80	17.70	17.59			
20	PI/2 BPSK	1	53	17.83	17.72	17.66	18.7	0.0	
20	PI/2 BPSK	1	104	17.65	17.61	17.63			
20	PI/2 BPSK	50	0	17.73	17.64	17.66			
20	PI/2 BPSK	50	28	17.80	17.69	17.64	18.7	0.0	
20	PI/2 BPSK	50	56	17.64	17.58	17.63			
20	PI/2 BPSK	100	0	17.78	17.67	17.62	18.7	0.0	
20	QPSK	1	1	17.80	17.78	17.73			
20	QPSK	1	53	17.79	17.76	17.73	18.7	0.0	
20	QPSK	1	104	17.51	17.53	17.47			
20	QPSK	50	0	17.75	17.72	17.75			
20	QPSK	50	28	17.81	17.84	17.59	18.7	0.0	
20	QPSK	50	56	17.70	17.88	17.70			
20	QPSK	100	0	17.66	17.66	17.67	18.7	0.0	
20	16QAM	1	53	17.68	17.65	17.66	18.7	0.0	
20	64QAM	1	53	17.72	17.69	17.67	18.7	0.0	
20	256QAM	1	53	17.66	17.63	17.61	18.7	0.0	
Channel				134100	136100	138100	Tune-up limit (dBm)	MPR (dB)	
Frequency (MHz)				670.5	680.5	690.5	18.7	0.0	
15	PI/2 BPSK	1	40	17.71	17.68	17.66	18.7	0.0	
Channel				133600	136100	138600	Tune-up limit (dBm)	MPR (dB)	
Frequency (MHz)				668	680.5	693	18.7	0.0	
10	PI/2 BPSK	1	26	17.69	17.66	17.63	18.7	0.0	
Channel				133100	136100	139100	Tune-up limit (dBm)	MPR (dB)	
Frequency (MHz)				665.5	680.5	695.5	18.7	0.0	
5	PI/2 BPSK	1	13	17.66	17.64	17.62	18.7	0.0	



Reduced power level 2/3/4 for Head - ANT2

N2									
BW (MHz)	Modulation	RB Size	RB Offset	Power	Power	Power	Tune-up limit (dBm)	MPR (dB)	
				Low Ch. / Freq.	Middle Ch. / Freq.	High Ch. / Freq.			
Channel				372000	376000	380000			
Frequency (MHz)				1860	1880	1900			
20	PI2 BPSK	1	1	15.07	15.02	15.01			
20	PI2 BPSK	1	53	15.32	15.29	15.31	15.9	0.0	
20	PI2 BPSK	1	104	14.96	14.94	14.92			
20	PI2 BPSK	50	0	15.21	15.23	15.19			
20	PI2 BPSK	50	28	15.30	15.28	15.28	15.9	0.0	
20	PI2 BPSK	50	56	15.25	15.23	15.21			
20	PI2 BPSK	100	0	15.27	15.26	15.25	15.9	0.0	
20	QPSK	1	1	15.12	15.08	15.05			
20	QPSK	1	53	15.16	15.14	15.08	15.9	0.0	
20	QPSK	1	104	15.08	15.11	15.04			
20	QPSK	50	0	15.08	15.10	15.04			
20	QPSK	50	28	15.12	15.06	15.08	15.9	0.0	
20	QPSK	50	56	15.06	15.08	15.09			
20	QPSK	100	0	15.11	15.13	15.10	15.9	0.0	
20	16QAM	1	53	15.14	15.15	15.11	15.9	0.0	
20	84QAM	1	53	15.23	15.23	15.20	15.9	0.0	
20	256QAM	1	53	15.23	15.22	15.20	15.9	0.0	
Channel				371500	376000	380500			
Frequency (MHz)				1867.5	1880	1902.5			
15	PI2 BPSK	1	40	15.26	15.24	15.22	15.9	0.0	
Channel				371000	376000	381000			
Frequency (MHz)				1855	1880	1905			
10	PI2 BPSK	1	26	15.27	15.26	15.26	15.9	0.0	
Channel				370500	376000	381500			
Frequency (MHz)				1823	1880	1937.5			
5	PI2 BPSK	1	13	15.30	15.29	15.25	15.9	0.0	

N25									
BW (MHz)	Modulation	RB Size	RB Offset	Power	Power	Power	Tune-up limit (dBm)	MPR (dB)	
				Low Ch. / Freq.	Middle Ch. / Freq.	High Ch. / Freq.			
Channel				372000	376000	381000			
Frequency (MHz)				1860	1880	1905			
20	PI2 BPSK	1	1	14.98	15.00	14.95			
20	PI2 BPSK	1	53	15.19	15.23	15.17	15.9	0.0	
20	PI2 BPSK	1	104	15.14	15.18	15.11			
20	PI2 BPSK	50	0	14.91	14.95	14.88			
20	PI2 BPSK	50	28	15.16	15.19	15.14	15.9	0.0	
20	PI2 BPSK	50	56	15.00	15.02	14.98			
20	PI2 BPSK	100	0	15.13	15.14	15.11	15.9	0.0	
20	QPSK	1	1	14.91	14.93	14.90			
20	QPSK	1	53	15.15	15.18	15.15	15.9	0.0	
20	QPSK	1	104	15.03	15.06	15.03			
20	QPSK	50	0	14.97	14.98	14.96			
20	QPSK	50	28	15.11	15.13	15.08	15.9	0.0	
20	QPSK	50	56	15.06	15.05	15.00			
20	QPSK	100	0	14.88	14.90	14.84	15.9	0.0	
20	16QAM	1	53	15.14	15.18	15.13	15.9	0.0	
20	84QAM	1	53	15.00	15.02	15.01	15.9	0.0	
20	256QAM	1	53	15.06	15.10	15.04	15.9	0.0	
Channel				371500	376000	381500			
Frequency (MHz)				1867.5	1880	1907.5			
15	PI2 BPSK	1	40	15.03	15.05	15.01	15.9	0.0	
Channel				371000	376000	382000			
Frequency (MHz)				1855	1880	1910			
10	PI2 BPSK	1	26	15.04	15.07	15.03	15.9	0.0	
Channel				370500	376000	382500			
Frequency (MHz)				1823	1880	1912.5			
5	PI2 BPSK	1	13	15.08	15.07	15.00	15.9	0.0	

N66									
BW (MHz)	Modulation	RB Size	RB Offset	Power	Power	Power	Tune-up limit (dBm)	MPR (dB)	
				Low Ch. / Freq.	Middle Ch. / Freq.	High Ch. / Freq.			
Channel				344000	349000	354000			
Frequency (MHz)				1720	1745	1770			
20	PI2 BPSK	1	1	14.41	14.23	14.16			
20	PI2 BPSK	1	53	14.88	14.85	14.49	15.2	0.0	
20	PI2 BPSK	1	104	14.32	14.13	14.38			
20	PI2 BPSK	50	0	14.60	14.43	14.15			
20	PI2 BPSK	50	28	14.84	14.83	14.46	15.2	0.0	
20	PI2 BPSK	50	56	14.58	14.42	14.16			
20	PI2 BPSK	100	0	14.62	14.60	14.43	15.2	0.0	
20	QPSK	1	1	14.40	14.36	14.33			
20	QPSK	1	53	14.42	14.37	14.32	15.2	0.0	
20	QPSK	1	104	14.38	14.31	14.25			
20	QPSK	50	0	14.38	14.30	14.27			
20	QPSK	50	28	14.38	14.32	14.29	15.2	0.0	
20	QPSK	50	56	14.34	14.28	14.25			
20	QPSK	100	0	14.36	14.30	14.23	15.2	0.0	
20	16QAM	1	53	14.43	14.25	14.21	15.2	0.0	
20	84QAM	1	53	14.47	14.38	14.14	15.2	0.0	
20	256QAM	1	53	14.59	14.49	14.39	15.2	0.0	
Channel				343500	349000	354500			
Frequency (MHz)				1717.5	1745	1772.5			
15	PI2 BPSK	1	40	14.57	14.40	14.28	15.2	0.0	
Channel				343000	349000	355000			
Frequency (MHz)				1715	1745	1775			
10	PI2 BPSK	1	26	14.56	14.36	14.22	15.2	0.0	
Channel				342500	349000	355500			
Frequency (MHz)				1712.5	1745	1777.5			
5	PI2 BPSK	1	13	14.53	14.38	14.29	15.2	0.0	



N41_FCC									
BW (MHz)	Modulation	RB Size	RB Offset	Power Low Ch. Freq.	Power Middle Ch. Freq.	Power High Ch. Freq.	Tune-up limit (dBm)	MPR (dB)	
Channel				592002	518598	528000			
Frequency (MHz)				2546.01	2592.99	2640			
100	PI2 BPSK	1	1	15.16	15.20	15.14			
100	PI2 BPSK	1	137	15.04	15.08	15.08	16.4	0.0	
100	PI2 BPSK	1	271	15.04	15.05	15.04			
100	PI2 BPSK	135	0	15.00	15.03	15.02			
100	PI2 BPSK	135	69	15.13	15.16	15.12	16.4	0.0	
100	PI2 BPSK	135	138	14.92	14.95	14.91			
100	PI2 BPSK	270	0	15.11	15.13	15.10	16.4	0.0	
100	QPSK	1	1	14.98	15.11	15.03			
100	QPSK	1	137	15.02	15.08	15.01	16.4	0.0	
100	QPSK	1	271	14.91	15.06	14.90			
100	QPSK	135	0	14.80	14.84	14.78			
100	QPSK	135	69	14.84	14.82	14.82	16.4	0.0	
100	QPSK	135	138	14.83	14.86	14.82			
100	QPSK	270	0	14.80	14.83	14.78	16.4	0.0	
100	16QAM	1	1	15.04	15.02	15.04	16.4	0.0	
100	64QAM	1	1	15.06	15.06	15.04	16.4	0.0	
100	256QAM	1	1	15.10	15.11	15.08	16.4	0.0	
Channel				508200	518598	528998	Tune-up limit (dB)	MPR	
Frequency (MHz)				2241	2292.99	2344.98			
90	PI2 BPSK	1	1	14.98	14.98	14.94	16.4	0.0	
Channel				507204	518598	529998	Tune-up limit (dB)	MPR	
Frequency (MHz)				2538.02	2592.99	2649.99			
80	PI2 BPSK	1	1	14.94	14.96	14.95	16.4	0.0	
Channel				505200	518598	531998	Tune-up limit (dB)	MPR	
Frequency (MHz)				2596	2652.99	2709.98			
60	PI2 BPSK	1	1	14.93	14.95	14.93	16.4	0.0	
Channel				504204	518598	532998	Tune-up limit (dB)	MPR	
Frequency (MHz)				2521.02	2592.99	2664.99			
50	PI2 BPSK	1	1	14.83	14.90	14.84	16.4	0.0	
Channel				503202	518598	534000	Tune-up limit (dB)	MPR	
Frequency (MHz)				2516.01	2592.99	2670			
40	PI2 BPSK	1	1	14.89	14.93	14.86	16.4	0.0	
Channel				501204	518598	535998	Tune-up limit (dB)	MPR	
Frequency (MHz)				2504.02	2592.99	2679.98			
20	PI2 BPSK	1	1	14.93	14.95	14.88	16.4	0.0	

N41(HPUE)_FCC									
BW (MHz)	Modulation	RB Size	RB Offset	Power Low Ch. Freq.	Power Middle Ch. Freq.	Power High Ch. Freq.	Tune-up limit (dBm)	MPR (dB)	
Channel				509202	518598	528000			
Frequency (MHz)				2546.01	2592.99	2640			
100	PI2 BPSK	1	1	15.16	15.20	15.14			
100	PI2 BPSK	1	137	15.04	15.08	15.08	16.4	0.0	
100	PI2 BPSK	1	271	15.04	15.05	15.04			
100	PI2 BPSK	135	0	15.00	15.03	15.02			
100	PI2 BPSK	135	69	15.13	15.16	15.12	16.4	0.0	
100	PI2 BPSK	135	138	14.92	14.95	14.91			
100	PI2 BPSK	270	0	15.11	15.13	15.10	16.4	0.0	
100	QPSK	1	1	14.98	15.11	15.03			
100	QPSK	1	137	15.02	15.08	15.01	16.4	0.0	
100	QPSK	1	271	14.91	15.06	14.90			
100	QPSK	135	0	14.80	14.84	14.78			
100	QPSK	135	69	14.84	14.82	14.82	16.4	0.0	
100	QPSK	135	138	14.83	14.86	14.82			
100	QPSK	270	0	14.80	14.83	14.78	16.4	0.0	
100	16QAM	1	1	15.04	15.02	15.04	16.4	0.0	
100	64QAM	1	1	15.06	15.06	15.04	14.9	1.5	
100	256QAM	1	1	15.10	15.11	15.08	12.9	3.5	
Channel				508200	518598	528998	Tune-up limit (dB)	MPR	
Frequency (MHz)				2241	2292.99	2344.98			
90	PI2 BPSK	1	1	14.98	14.98	14.94	16.4	0.0	
Channel				507204	518598	529998	Tune-up limit (dB)	MPR	
Frequency (MHz)				2538.02	2592.99	2649.99			
80	PI2 BPSK	1	1	14.94	14.96	14.95	16.4	0.0	
Channel				505200	518598	531998	Tune-up limit (dB)	MPR	
Frequency (MHz)				2596	2652.99	2709.98			
60	PI2 BPSK	1	1	14.93	14.95	14.93	16.4	0.0	
Channel				504204	518598	532998	Tune-up limit (dB)	MPR	
Frequency (MHz)				2521.02	2592.99	2664.99			
50	PI2 BPSK	1	1	14.83	14.90	14.84	16.4	0.0	
Channel				503202	518598	534000	Tune-up limit (dB)	MPR	
Frequency (MHz)				2516.01	2592.99	2670			
40	PI2 BPSK	1	1	14.89	14.93	14.86	16.4	0.0	
Channel				501204	518598	535998	Tune-up limit (dB)	MPR	
Frequency (MHz)				2504.02	2592.99	2679.98			
20	PI2 BPSK	1	1	14.93	14.95	14.88	16.4	0.0	



Reduced power for Hotspot on - ANT2

N2									
BW (MHz)	Modulation	RB Size	RB Offset	Power Low Ch / Freq	Power Middle Ch / Freq	Power High Ch / Freq	Tune-up limit (dBm)	MPR (dB)	
Channel				372000	376000	380000			
Frequency (MHz)				1860	1880	1900			
20	PI2 BPSK	1	1	17.00	16.90	16.87			
20	PI2 BPSK	1	53	17.17	17.10	17.04	17.8	0.0	
20	PI2 BPSK	1	104	16.95	16.82	16.80			
20	PI2 BPSK	50	0	16.85	16.82	16.78			
20	PI2 BPSK	50	28	17.05	17.00	16.95	17.8	0.0	
20	PI2 BPSK	50	56	16.82	16.80	16.75			
20	PI2 BPSK	100	0	16.98	16.95	16.92	17.8	0.0	
20	QPSK	1	1	17.11	16.98	16.82			
20	QPSK	1	53	17.09	16.78	16.59	17.8	0.0	
20	QPSK	1	104	17.00	16.96	16.78			
20	QPSK	50	0	16.90	16.87	16.91			
20	QPSK	50	28	17.07	16.78	16.59	17.8	0.0	
20	QPSK	50	56	16.73	16.82	16.80			
20	QPSK	100	0	16.91	17.07	16.91	17.8	0.0	
20	16QAM	1	53	17.12	16.97	17.00	17.8	0.0	
20	84QAM	1	53	16.97	16.80	16.84	17.8	0.0	
20	256QAM	1	53	17.05	16.86	16.93	17.8	0.0	
Channel				371500	376000	380500			
Frequency (MHz)				1857.5	1880	1902.5			
15	PI2 BPSK	1	40	17.08	17.03	16.98	17.8	0.0	
Channel				371000	376000	381000			
Frequency (MHz)				1855	1880	1905			
10	PI2 BPSK	1	26	17.05	16.98	16.94	17.8	0.0	
Channel				370500	376000	381500			
Frequency (MHz)				1852.5	1880	1907.5			
5	PI2 BPSK	1	13	17.10	17.00	17.02	17.8	0.0	

N25									
BW (MHz)	Modulation	RB Size	RB Offset	Power Low Ch / Freq	Power Middle Ch / Freq	Power High Ch / Freq	Tune-up limit (dBm)	MPR (dB)	
Channel				372000	378000	381000			
Frequency (MHz)				1860	1880	1900			
20	PI2 BPSK	1	1	17.05	17.09	17.02			
20	PI2 BPSK	1	53	17.18	17.20	17.14	17.8	0.0	
20	PI2 BPSK	1	104	16.98	17.01	16.95			
20	PI2 BPSK	50	0	17.00	17.09	16.98			
20	PI2 BPSK	50	28	17.12	17.15	17.11	17.8	0.0	
20	PI2 BPSK	50	56	16.96	17.00	16.92			
20	PI2 BPSK	100	0	17.08	17.11	17.07	17.8	0.0	
20	QPSK	1	1	16.94	17.04	17.00			
20	QPSK	1	53	16.76	16.95	16.81	17.8	0.0	
20	QPSK	1	104	16.76	16.94	16.84			
20	QPSK	50	0	16.86	16.97	16.71			
20	QPSK	50	28	17.07	17.10	16.97	17.8	0.0	
20	QPSK	50	56	16.92	16.74	16.79			
20	QPSK	100	0	17.02	16.89	16.90	17.8	0.0	
20	16QAM	1	53	16.91	17.07	17.00	17.8	0.0	
20	84QAM	1	53	16.98	16.81	16.85	17.8	0.0	
20	256QAM	1	53	16.79	16.75	16.84	17.8	0.0	
Channel				371500	376000	381500			
Frequency (MHz)				1857.5	1880	1907.5			
15	PI2 BPSK	1	40	16.82	16.79	16.76	17.8	0.0	
Channel				371000	376000	382000			
Frequency (MHz)				1855	1880	1910			
10	PI2 BPSK	1	26	16.78	17.05	16.94	17.8	0.0	
Channel				370500	376000	382500			
Frequency (MHz)				1852.5	1880	1912.5			
5	PI2 BPSK	1	13	16.85	16.87	16.79	17.8	0.0	

N66									
BW (MHz)	Modulation	RB Size	RB Offset	Power Low Ch / Freq	Power Middle Ch / Freq	Power High Ch / Freq	Tune-up limit (dBm)	MPR (dB)	
Channel				344000	349000	354000			
Frequency (MHz)				1720	1745	1770			
20	PI2 BPSK	1	1	16.98	16.91	16.88			
20	PI2 BPSK	1	53	16.96	16.98	16.91	19.8	0.0	
20	PI2 BPSK	1	104	16.91	16.83	16.80			
20	PI2 BPSK	50	0	16.89	16.96	16.79			
20	PI2 BPSK	50	28	16.93	16.95	16.88	19.8	0.0	
20	PI2 BPSK	50	56	16.82	16.89	16.85			
20	PI2 BPSK	100	0	16.99	16.93	16.85	19.8	0.0	
20	QPSK	1	1	16.72	16.76	16.60			
20	QPSK	1	53	16.65	16.08	16.55	19.8	0.0	
20	QPSK	1	104	16.75	16.74	16.56			
20	QPSK	50	0	16.60	16.74	16.50			
20	QPSK	50	28	16.84	16.75	16.63	19.8	0.0	
20	QPSK	50	56	16.85	16.78	16.65			
20	QPSK	100	0	16.75	16.69	16.65	19.8	0.0	
20	16QAM	1	53	16.74	16.65	16.80	19.8	0.0	
20	84QAM	1	53	16.91	16.81	16.70	19.8	0.0	
20	256QAM	1	53	16.71	16.96	16.67	19.8	0.0	
Channel				343500	349000	354500			
Frequency (MHz)				1717.5	1745	1772.5			
15	PI2 BPSK	1	40	16.62	16.67	16.74	19.8	0.0	
Channel				343000	349000	355000			
Frequency (MHz)				1715	1745	1775			
10	PI2 BPSK	1	26	16.83	16.78	16.57	19.8	0.0	
Channel				342500	349000	355500			
Frequency (MHz)				1712.5	1745	1777.5			
5	PI2 BPSK	1	13	16.73	16.63	16.52	19.8	0.0	



N41_FCC									
BW (MHz)	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)	
Channel				509202	518598	528000			
Frequency (MHz)				2546.01	2592.99	2640			
100	PI2 BPSK	1	1	17.58	17.60	17.55			
100	PI2 BPSK	1	137	17.45	17.46	17.40	18.5	0.0	
100	PI2 BPSK	1	271	17.40	17.44	17.38			
100	PI2 BPSK	135	0	17.43	17.46	17.35			
100	PI2 BPSK	135	89	17.55	17.57	17.53	18.5	0.0	
100	PI2 BPSK	135	138	17.48	17.51	17.42			
100	PI2 BPSK	270	0	17.52	17.55	17.50	18.5	0.0	
100	QPSK	1	1	17.52	17.53	17.45			
100	QPSK	1	137	17.16	17.25	17.14	18.5	0.0	
100	QPSK	1	271	17.30	17.40	17.20			
100	QPSK	135	0	17.15	17.34	17.26			
100	QPSK	135	89	17.43	17.45	17.33	18.5	0.0	
100	QPSK	135	138	17.30	17.50	17.26			
100	QPSK	270	0	17.29	17.47	17.28	18.5	0.0	
100	16QAM	1	1	17.48	17.48	17.28	18.5	0.0	
100	64QAM	1	1	17.41	17.44	17.30	18.5	0.0	
100	256QAM	1	1	17.50	17.46	17.24	18.5	0.0	
Channel				508200	518598	528996	Tune-up limit (dBm)	MPR (dB)	
Frequency (MHz)				2541	2592.99	2644.88			
90	PI2 BPSK	1	1	17.53	17.25	17.45	18.5	0.0	
Channel				507204	518598	529998	Tune-up limit (dBm)	MPR (dB)	
Frequency (MHz)				2538.02	2592.99	2649.99			
80	PI2 BPSK	1	1	17.28	17.44	17.28	18.5	0.0	
Channel				505200	518598	531196	Tune-up limit (dBm)	MPR (dB)	
Frequency (MHz)				2526	2592.99	2659.88			
60	PI2 BPSK	1	1	17.19	17.19	17.23	18.5	0.0	
Channel				504204	518598	532998	Tune-up limit (dBm)	MPR (dB)	
Frequency (MHz)				2521.02	2592.99	2654.99			
50	PI2 BPSK	1	1	17.28	17.48	17.23	18.5	0.0	
Channel				503202	518598	534000	Tune-up limit (dBm)	MPR (dB)	
Frequency (MHz)				2516.01	2592.99	2670			
40	PI2 BPSK	1	1	17.32	17.39	17.35	18.5	0.0	
Channel				501204	518598	535998	Tune-up limit (dBm)	MPR (dB)	
Frequency (MHz)				2506.02	2592.99	2679.99			
20	PI2 BPSK	1	1	17.31	17.30	17.33	18.5	0.0	

N41(HPUE)_FCC									
BW (MHz)	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)	
Channel				509202	518598	528000			
Frequency (MHz)				2546.01	2592.99	2640			
100	PI2 BPSK	1	1	17.58	17.60	17.55			
100	PI2 BPSK	1	137	17.45	17.46	17.40	18.5	0.0	
100	PI2 BPSK	1	271	17.40	17.44	17.38			
100	PI2 BPSK	135	0	17.43	17.46	17.35			
100	PI2 BPSK	135	89	17.55	17.57	17.53	18.5	0.0	
100	PI2 BPSK	135	138	17.48	17.51	17.42			
100	PI2 BPSK	270	0	17.52	17.55	17.50	18.5	0.0	
100	QPSK	1	1	17.52	17.53	17.45			
100	QPSK	1	137	17.16	17.25	17.14	18.5	0.0	
100	QPSK	1	271	17.30	17.40	17.20			
100	QPSK	135	0	17.15	17.34	17.26			
100	QPSK	135	89	17.43	17.45	17.33	18.5	0.0	
100	QPSK	135	138	17.30	17.50	17.26			
100	QPSK	270	0	17.29	17.47	17.28	18.5	0.0	
100	16QAM	1	1	17.48	17.48	17.28	18.5	0.0	
100	64QAM	1	1	17.41	17.44	17.30	18.5	0.0	
100	256QAM	1	1	17.50	17.46	17.24	18.5	0.0	
Channel				508200	518598	528996	Tune-up limit (dBm)	MPR (dB)	
Frequency (MHz)				2541	2592.99	2644.88			
90	PI2 BPSK	1	1	17.53	17.25	17.45	18.5	0.0	
Channel				507204	518598	529998	Tune-up limit (dBm)	MPR (dB)	
Frequency (MHz)				2538.02	2592.99	2649.99			
80	PI2 BPSK	1	1	17.28	17.44	17.28	18.5	0.0	
Channel				505200	518598	531196	Tune-up limit (dBm)	MPR (dB)	
Frequency (MHz)				2526	2592.99	2659.88			
60	PI2 BPSK	1	1	17.19	17.19	17.23	18.5	0.0	
Channel				504204	518598	532998	Tune-up limit (dBm)	MPR (dB)	
Frequency (MHz)				2521.02	2592.99	2654.99			
50	PI2 BPSK	1	1	17.28	17.48	17.23	18.5	0.0	
Channel				503202	518598	534000	Tune-up limit (dBm)	MPR (dB)	
Frequency (MHz)				2516.01	2592.99	2670			
40	PI2 BPSK	1	1	17.32	17.39	17.35	18.5	0.0	
Channel				501204	518598	535998	Tune-up limit (dBm)	MPR (dB)	
Frequency (MHz)				2506.02	2592.99	2679.99			
20	PI2 BPSK	1	1	17.31	17.30	17.33	18.5	0.0	



Full Power for ANT1

N5								
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				166800	167300	167800		
Frequency (MHz)				834	836.5	839		
20	PI/2 BPSK	1	1	23.17	23.13	23.09	23.8	0.0
20	PI/2 BPSK	1	53	23.37	23.31	23.24		
20	PI/2 BPSK	1	104	23.15	23.11	23.03		
20	PI/2 BPSK	50	0	22.57	22.53	22.56	23.8	0.0
20	PI/2 BPSK	50	28	23.16	23.07	23.02		
20	PI/2 BPSK	50	56	22.56	22.54	22.55		
20	PI/2 BPSK	100	0	20.56	20.53	20.51	23.3	0.5
20	QPSK	1	1	23.02	23.01	23.05	23.8	0.0
20	QPSK	1	53	23.01	23.03	23.07		
20	QPSK	1	104	22.97	22.98	22.98		
20	QPSK	50	0	22.07	22.08	22.08	23.8	0.0
20	QPSK	50	28	23.10	23.03	23.02		
20	QPSK	50	56	22.02	22.04	22.02		
20	QPSK	100	0	22.09	22.01	22.00	22.8	1.0
20	16QAM	1	53	22.21	22.01	22.05	22.8	1.0
20	64QAM	1	53	20.76	21.12	21.01	21.8	2.0
20	256QAM	1	53	18.71	18.88	18.89	19.3	4.5
Channel				166300	167300	168300	Tune-up limit	MPR
Frequency (MHz)				831.5	836.5	841.5	(dBm)	(dB)
15	PI/2 BPSK	1	40	23.12	23.12	23.05	23.8	0.0
Channel				165800	167300	168800	Tune-up limit	MPR
Frequency (MHz)				829	836.5	844	(dBm)	(dB)
10	PI/2 BPSK	1	26	23.16	23.06	23.12	23.8	0.0
Channel				163300	167300	169300	Tune-up limit	MPR
Frequency (MHz)				826.5	836.5	846.5	(dBm)	(dB)
5	PI/2 BPSK	1	13	23.08	23.04	23.07	23.8	0.0

N71								
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				134600	136100	137600		
Frequency (MHz)				673	680.5	688		
20	PI/2 BPSK	1	1	22.80	22.73	22.74	23.8	0.0
20	PI/2 BPSK	1	53	22.97	22.86	22.82		
20	PI/2 BPSK	1	104	22.73	22.62	22.53		
20	PI/2 BPSK	50	0	22.33	22.23	22.19	23.8	0.0
20	PI/2 BPSK	50	28	22.73	22.69	22.65		
20	PI/2 BPSK	50	56	22.33	22.13	22.03		
20	PI/2 BPSK	100	0	22.28	22.21	22.17	23.3	0.5
20	QPSK	1	1	22.80	22.83	22.76	23.8	0.0
20	QPSK	1	53	22.72	22.75	22.82		
20	QPSK	1	104	22.81	22.83	22.44		
20	QPSK	50	0	21.67	21.71	21.67	23.8	0.0
20	QPSK	50	28	22.58	22.67	22.82		
20	QPSK	50	56	21.55	21.57	21.53		
20	QPSK	100	0	21.68	21.70	21.67	22.8	1.0
20	16QAM	1	53	21.65	21.50	21.47	22.8	1.0
20	64QAM	1	53	20.61	20.61	20.47	21.8	2.0
20	256QAM	1	53	18.58	18.62	18.47	19.3	4.5
Channel				134100	136100	138100	Tune-up limit	MPR
Frequency (MHz)				670.5	680.5	690.5	(dBm)	(dB)
15	PI/2 BPSK	1	40	22.88	22.72	22.69	23.8	0.0
Channel				133600	136100	138600	Tune-up limit	MPR
Frequency (MHz)				668	680.5	693	(dBm)	(dB)
10	PI/2 BPSK	1	26	22.74	22.65	22.68	23.8	0.0
Channel				133100	136100	139100	Tune-up limit	MPR
Frequency (MHz)				665.5	680.5	685.5	(dBm)	(dB)
5	PI/2 BPSK	1	13	22.79	22.83	22.74	23.8	0.0



Full Power for ANT3

N2									
BW (MHz)	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)	
Channel				372000	376000	380000	Tune-up limit (dBm)	MPR (dB)	
Frequency (MHz)				1860	1880	1900			
20	PI2 BPSK	1	1	22.95	22.85	22.81			
20	PI2 BPSK	1	53	23.05	22.88	22.86	23.8	0.0	
20	PI2 BPSK	1	104	22.87	22.83	22.69			
20	PI2 BPSK	50	0	22.37	22.28	22.20			
20	PI2 BPSK	50	28	22.84	22.78	22.74	23.8	0.0	
20	PI2 BPSK	50	56	22.35	22.29	22.21			
20	PI2 BPSK	100	0	22.38	22.31	22.37	23.3	0.5	
20	QPSK	1	1	22.87	22.89	22.78			
20	QPSK	1	53	23.01	22.94	22.89	23.8	0.0	
20	QPSK	1	104	22.85	22.80	22.76			
20	QPSK	50	0	21.83	21.82	21.71			
20	QPSK	50	28	22.86	22.83	22.74	23.8	0.0	
20	QPSK	50	56	21.87	21.82	21.76			
20	QPSK	100	0	21.80	21.78	21.63	22.8	1.0	
20	16QAM	1	53	22.34	22.54	22.32	22.8	1.0	
20	64QAM	1	53	20.90	20.86	20.78	21.8	2.0	
20	256QAM	1	53	18.65	18.78	18.61	19.8	4.0	
Channel				371500	376000	380500	Tune-up limit (dBm)	MPR (dB)	
Frequency (MHz)				1852.5	1880	1907.5			
15	PI2 BPSK	1	40	22.92	22.79	22.65	23.8	0.0	
Channel				371000	376000	381000	Tune-up limit (dBm)	MPR (dB)	
Frequency (MHz)				1855	1880	1905			
10	PI2 BPSK	1	26	22.89	22.88	22.81	23.8	0.0	
Channel				370500	376000	381500	Tune-up limit (dBm)	MPR (dB)	
Frequency (MHz)				1852.5	1880	1907.5			
5	PI2 BPSK	1	13	22.88	22.79	22.84	23.8	0.0	

N25									
BW (MHz)	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)	
Channel				372000	376000	381000	Tune-up limit (dBm)	MPR (dB)	
Frequency (MHz)				1860	1880	1900			
20	PI2 BPSK	1	1	22.85	22.92	22.81			
20	PI2 BPSK	1	53	22.88	22.98	22.86	23.8	0.0	
20	PI2 BPSK	1	104	22.89	22.90	22.69			
20	PI2 BPSK	50	0	22.36	22.38	22.20			
20	PI2 BPSK	50	28	22.83	22.87	22.74	23.8	0.0	
20	PI2 BPSK	50	56	22.35	22.38	22.21			
20	PI2 BPSK	100	0	22.33	22.35	22.32	23.3	0.5	
20	QPSK	1	1	22.01	22.89	22.78			
20	QPSK	1	53	22.46	22.94	22.85	23.8	0.0	
20	QPSK	1	104	22.83	22.80	22.58			
20	QPSK	50	0	21.80	21.82	21.64			
20	QPSK	50	28	22.87	22.83	22.70	23.8	0.0	
20	QPSK	50	56	21.86	21.82	21.61			
20	QPSK	100	0	21.84	21.87	21.63	22.8	1.0	
20	16QAM	1	53	22.34	22.54	22.40	22.8	1.0	
20	64QAM	1	53	20.91	20.78	20.80	21.8	2.0	
20	256QAM	1	53	18.66	18.84	18.55	19.8	4.0	
Channel				371500	376000	381500	Tune-up limit (dBm)	MPR (dB)	
Frequency (MHz)				1857.5	1880	1907.5			
15	PI2 BPSK	1	40	22.93	22.86	22.77	23.8	0.0	
Channel				371000	376000	382000	Tune-up limit (dBm)	MPR (dB)	
Frequency (MHz)				1855	1880	1910			
10	PI2 BPSK	1	26	22.89	22.88	22.80	23.8	0.0	
Channel				370500	376000	382500	Tune-up limit (dBm)	MPR (dB)	
Frequency (MHz)				1852.5	1880	1912.5			
5	PI2 BPSK	1	13	22.89	22.81	22.78	23.8	0.0	

N66									
BW (MHz)	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)	
Channel				344000	349000	354000	Tune-up limit (dBm)	MPR (dB)	
Frequency (MHz)				1720	1745	1770			
20	PI2 BPSK	1	1	23.21	23.15	22.93			
20	PI2 BPSK	1	53	23.26	22.98	22.79	23.8	0.0	
20	PI2 BPSK	1	104	23.17	22.93	22.78			
20	PI2 BPSK	50	0	22.88	22.49	22.31			
20	PI2 BPSK	50	28	23.12	22.83	22.73	23.8	0.0	
20	PI2 BPSK	50	56	22.84	22.46	22.24			
20	PI2 BPSK	100	0	22.82	22.42	22.30	23.3	0.5	
20	QPSK	1	1	22.84	23.06	22.87			
20	QPSK	1	53	23.02	22.96	22.83	23.8	0.0	
20	QPSK	1	104	22.84	22.70	22.78			
20	QPSK	50	0	22.18	21.98	21.74			
20	QPSK	50	28	23.16	22.94	22.71	23.8	0.0	
20	QPSK	50	56	22.05	21.85	21.70			
20	QPSK	100	0	22.07	21.91	21.76	22.8	1.0	
20	16QAM	1	53	22.37	22.74	22.50	22.8	1.0	
20	64QAM	1	53	20.95	20.88	20.79	21.8	2.0	
20	256QAM	1	53	18.75	18.87	18.50	19.8	4.0	
Channel				343500	349000	354500	Tune-up limit (dBm)	MPR (dB)	
Frequency (MHz)				1717.5	1745	1772.5			
15	PI2 BPSK	1	40	23.19	23.14	22.95	23.8	0.0	
Channel				343000	349000	355000	Tune-up limit (dBm)	MPR (dB)	
Frequency (MHz)				1715	1745	1775			
10	PI2 BPSK	1	26	23.14	23.18	22.83	23.8	0.0	
Channel				342500	349000	355500	Tune-up limit (dBm)	MPR (dB)	
Frequency (MHz)				1712.5	1745	1777.5			
5	PI2 BPSK	1	13	23.10	23.05	22.76	23.8	0.0	



N41_FCC									
BW (MHz)	Modulation	RB Size	RB Offset	Power Low Ch. Freq.	Power Middle Ch. Freq.	Power High Ch. Freq.	Tune-up limit (dBm)	MPR (dB)	
Channel									
Frequency (MHz)				2548.01	2592.99	2644			
100	PI2 BPSK	1	1	23.07	23.12	23.05			
100	PI2 BPSK	1	137	23.05	23.03	23.05	24.0	0.0	
100	PI2 BPSK	1	271	22.97	23.04	22.98			
100	PI2 BPSK	135	0	22.96	23.02	22.98			
100	PI2 BPSK	135	69	23.03	23.07	23.01	24.0	0.0	
100	PI2 BPSK	135	138	22.88	22.94	22.96			
100	PI2 BPSK	270	0	23.01	23.04	22.98	24.0	0.0	
100	QPSK	1	1	23.02	23.10	23.05			
100	QPSK	1	137	22.97	23.06	22.85	24.0	0.0	
100	QPSK	1	271	22.85	23.05	22.84			
100	QPSK	135	0	22.91	23.00	22.88	24.0	0.0	
100	QPSK	135	69	22.98	23.02	22.91			
100	QPSK	135	138	22.84	22.76	22.80			
100	QPSK	270	0	22.80	22.88	22.80	24.0	0.0	
100	16QAM	1	1	23.03	23.09	23.01	24.0	0.0	
100	16QAM	1	1	22.32	22.57	22.33	23.0	1.0	
100	256QAM	1	1	20.26	20.45	20.32	21.0	3.0	
Channel									
Frequency (MHz)				508200	518598	528996	Tune-up limit (dBm)	MPR (dB)	
90	PI2 BPSK	1	1	25.11	25.02	25.02	24.0	0.0	
Channel									
Frequency (MHz)				507204	518598	528996	Tune-up limit (dBm)	MPR (dB)	
80	PI2 BPSK	1	1	25.08	25.07	25.02	24.0	0.0	
Channel									
Frequency (MHz)				2538.02	2592.99	2649.99	Tune-up limit (dBm)	MPR (dB)	
80	PI2 BPSK	1	1	23.04	23.05	23.04	24.0	0.0	
Channel									
Frequency (MHz)				505200	518598	531996	Tune-up limit (dBm)	MPR (dB)	
Channel									
Frequency (MHz)				2538.02	2592.99	2649.99	Tune-up limit (dBm)	MPR (dB)	
60	PI2 BPSK	1	1	23.02	22.94	23.02	24.0	0.0	
Channel									
Frequency (MHz)				504204	518598	532998	Tune-up limit (dBm)	MPR (dB)	
Channel									
Frequency (MHz)				2521.02	2592.99	2664.99	Tune-up limit (dBm)	MPR (dB)	
50	PI2 BPSK	1	1	22.99	22.91	22.94	24.0	0.0	
Channel									
Frequency (MHz)				2512.02	2592.99	2670	Tune-up limit (dBm)	MPR (dB)	
40	PI2 BPSK	1	1	23.03	23.05	23.00	24.0	0.0	
Channel									
Frequency (MHz)				501204	518598	535998	Tune-up limit (dBm)	MPR (dB)	
Channel									
Frequency (MHz)				2504.02	2592.99	2678.99	Tune-up limit (dBm)	MPR (dB)	
20	PI2 BPSK	1	1	23.01	23.03	22.94	24.0	0.0	

N41(HPUE)_FCC									
BW (MHz)	Modulation	RB Size	RB Offset	Power Low Ch. Freq.	Power Middle Ch. Freq.	Power High Ch. Freq.	Tune-up limit (dBm)	MPR (dB)	
Channel									
Frequency (MHz)				2548.01	2592.99	2644			
100	PI2 BPSK	1	1	25.07	25.12	25.05			
100	PI2 BPSK	1	137	24.99	25.01	24.90	26.0	0.0	
100	PI2 BPSK	1	271	24.88	24.90	24.48			
100	PI2 BPSK	135	0	24.56	24.57	24.48			
100	PI2 BPSK	135	69	25.03	25.08	24.98	26.0	0.0	
100	PI2 BPSK	135	138	24.41	24.44	24.40			
100	PI2 BPSK	270	0	24.47	24.53	24.44	25.0	0.5	
100	QPSK	1	1	24.25	24.61	24.32			
100	QPSK	1	137	24.84	24.70	24.81	26.0	0.0	
100	QPSK	1	271	23.83	24.31	23.70			
100	QPSK	135	0	23.80	23.91	23.67			
100	QPSK	135	69	24.92	24.93	24.88	26.0	0.0	
100	QPSK	135	138	23.55	23.68	23.88			
100	QPSK	270	0	23.48	23.84	23.73	25.0	1.0	
100	16QAM	1	1	22.83	23.27	23.10	25.0	1.0	
100	16QAM	1	1	21.87	22.30	21.91	23.0	2.5	
100	256QAM	1	1	20.26	20.59	20.21	21.0	4.5	
Channel									
Frequency (MHz)				508200	518598	528996	Tune-up limit (dBm)	MPR (dB)	
90	PI2 BPSK	1	1	25.11	25.02	25.02	24.0	0.0	
Channel									
Frequency (MHz)				507204	518598	528996	Tune-up limit (dBm)	MPR (dB)	
80	PI2 BPSK	1	1	25.10	25.04	25.03	26.0	0.0	
Channel									
Frequency (MHz)				505200	518598	531996	Tune-up limit (dBm)	MPR (dB)	
Channel									
Frequency (MHz)				2538.02	2592.99	2649.99	Tune-up limit (dBm)	MPR (dB)	
60	PI2 BPSK	1	1	25.04	25.02	25.04	26.0	0.0	
Channel									
Frequency (MHz)				504204	518598	532998	Tune-up limit (dBm)	MPR (dB)	
Channel									
Frequency (MHz)				2521.02	2592.99	2664.99	Tune-up limit (dBm)	MPR (dB)	
50	PI2 BPSK	1	1	25.03	25.01	24.99	26.0	0.0	
Channel									
Frequency (MHz)				2512.02	2592.99	2670	Tune-up limit (dBm)	MPR (dB)	
40	PI2 BPSK	1	1	25.02	25.11	25.04	26.0	0.0	
Channel									
Frequency (MHz)				501204	518598	535998	Tune-up limit (dBm)	MPR (dB)	
Channel									
Frequency (MHz)				2504.02	2592.99	2678.99	Tune-up limit (dBm)	MPR (dB)	
20	PI2 BPSK	1	1	25.01	25.01	25.02	26.0	0.0	



Reduced power for Hotspot on - ANT3

N2								
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				372000	376000	380000		
Frequency (MHz)				1860	1880	1900		
20	PI2 BPSK	1	1	20.95	20.88	20.82		
20	PI2 BPSK	1	53	21.00	20.91	20.85	21.8	0.0
20	PI2 BPSK	1	104	20.88	20.82	20.78		
20	PI2 BPSK	50	0	20.82	20.80	20.75		
20	PI2 BPSK	50	28	20.97	20.88	20.83	21.8	0.0
20	PI2 BPSK	50	56	20.85	20.82	20.79		
20	PI2 BPSK	100	0	20.94	20.85	20.80	21.8	0.0
20	QPSK	1	1	20.86	20.68	20.58		
20	QPSK	1	53	20.91	20.74	20.74	21.8	0.0
20	QPSK	1	104	20.68	20.67	20.75		
20	QPSK	50	0	20.58	20.52	20.58		
20	QPSK	50	28	20.77	20.85	20.70	21.8	0.0
20	QPSK	50	56	20.83	20.69	20.58		
20	QPSK	100	0	20.65	20.83	20.75	21.8	0.0
20	16QAM	1	53	20.82	20.89	20.85	21.8	0.0
20	64QAM	1	53	20.40	20.37	20.32	21.8	0.0
20	256QAM	1	53	20.90	18.85	20.80	21.8	0.0
Channel				371500	376000	380500		
Frequency (MHz)				1857.5	1880	1902.5		
15	PI2 BPSK	1	40	20.90	20.74	20.62	21.8	0.0
Channel				371000	376000	381000		
Frequency (MHz)				1855	1880	1905		
10	PI2 BPSK	1	26	20.95	20.68	20.72	21.8	0.0
Channel				375500	376000	381500		
Frequency (MHz)				1852.5	1880	1927.5		
5	PI2 BPSK	1	13	20.89	20.80	20.71	21.8	0.0

N25								
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				372000	376000	381000		
Frequency (MHz)				1860	1880	1905		
20	PI2 BPSK	1	1	20.38	20.43	20.35		
20	PI2 BPSK	1	53	20.41	20.46	20.40	21.3	0.0
20	PI2 BPSK	1	104	20.35	20.37	20.33		
20	PI2 BPSK	50	0	20.35	20.38	20.31		
20	PI2 BPSK	50	28	20.39	20.43	20.37	21.3	0.0
20	PI2 BPSK	50	56	20.30	20.36	20.25		
20	PI2 BPSK	100	0	20.36	20.40	20.34	21.3	0.0
20	QPSK	1	1	20.38	20.17	20.18		
20	QPSK	1	53	20.34	20.17	20.28	21.3	0.0
20	QPSK	1	104	20.22	20.25	20.29		
20	QPSK	50	0	20.28	20.34	20.02		
20	QPSK	50	28	20.10	20.31	20.12	21.3	0.0
20	QPSK	50	56	20.09	20.19	19.85		
20	QPSK	100	0	20.35	20.18	20.20	21.3	0.0
20	16QAM	1	53	20.35	20.40	20.31	21.3	0.0
20	64QAM	1	53	20.33	20.42	20.28	21.3	0.0
20	256QAM	1	53	18.80	18.88	20.77	21.3	0.0
Channel				371500	376000	381500		
Frequency (MHz)				1857.5	1880	1907.5		
15	PI2 BPSK	1	40	20.38	20.40	20.06	21.3	0.0
Channel				371000	376000	382000		
Frequency (MHz)				1855	1880	1910		
10	PI2 BPSK	1	26	20.35	20.32	20.18	21.3	0.0
Channel				375500	376000	382500		
Frequency (MHz)				1852.5	1880	1912.5		
5	PI2 BPSK	1	13	20.25	20.24	20.25	21.3	0.0

N66								
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				344000	348000	354000		
Frequency (MHz)				1720	1745	1770		
20	PI2 BPSK	1	1	20.15	21.11	20.95		
20	PI2 BPSK	1	53	21.20	21.16	20.88	21.8	0.0
20	PI2 BPSK	1	104	20.12	21.07	20.93		
20	PI2 BPSK	50	0	20.14	21.13	20.90		
20	PI2 BPSK	50	28	21.18	21.15	20.95	21.8	0.0
20	PI2 BPSK	50	56	20.05	21.01	20.89		
20	PI2 BPSK	100	0	21.15	21.13	20.92	21.8	0.0
20	QPSK	1	1	20.05	20.81	20.72		
20	QPSK	1	53	21.10	21.05	20.85	21.8	0.0
20	QPSK	1	104	20.08	20.85	20.87		
20	QPSK	50	0	19.84	20.85	20.82		
20	QPSK	50	28	21.17	21.06	20.84	21.8	0.0
20	QPSK	50	56	19.88	20.72	20.74		
20	QPSK	100	0	21.15	20.84	20.84	21.8	0.0
20	16QAM	1	53	21.10	21.00	20.95	21.8	0.0
20	64QAM	1	53	20.72	20.84	20.60	21.8	0.0
20	256QAM	1	53	18.85	18.58	18.53	21.8	0.0
Channel				343500	348000	354500		
Frequency (MHz)				1717.5	1745	1772.5		
15	PI2 BPSK	1	40	20.12	20.88	20.78	21.8	0.0
Channel				343000	348000	355000		
Frequency (MHz)				1715	1745	1775		
10	PI2 BPSK	1	26	20.08	20.83	20.68	21.8	0.0
Channel				342500	348000	355500		
Frequency (MHz)				1712.5	1745	1777.5		
5	PI2 BPSK	1	13	21.05	21.07	20.73	21.8	0.0



N41_FCC									
BW (MHz)	Modulation	RB Size	RB Offset	Power Low Ch. 1 Freq. (MHz)	Power High Ch. 1 Freq. (MHz)	Power Low Ch. 2 Freq. (MHz)	Power High Ch. 2 Freq. (MHz)	Time-up time (min)	MPE (dB)
Channel									
Frequency (MHz)									
100	PI/2 BPSK	1	1	20.28	20.42	20.43	20.57	21.4	0.0
100	PI/2 BPSK	1	137	20.25	20.30	20.43	20.48	21.4	0.0
100	PI/2 BPSK	1	211	20.29	20.40	20.50	20.55	21.4	0.0
100	PI/2 BPSK	135	0	20.48	20.51	20.51	20.51	21.4	0.0
100	PI/2 BPSK	135	138	20.35	20.50	20.50	20.50	21.4	0.0
100	PI/2 BPSK	270	0	20.50	20.50	20.54	20.54	21.4	0.0
100	QPSK	1	1	20.27	20.30	20.30	20.30	21.4	0.0
100	QPSK	1	137	19.99	20.32	20.29	20.29	21.4	0.0
100	QPSK	1	211	20.21	20.30	20.29	20.29	21.4	0.0
100	QPSK	135	0	20.42	20.47	20.36	20.36	21.4	0.0
100	QPSK	135	88	20.40	20.30	20.41	20.41	21.4	0.0
100	QPSK	135	138	20.30	20.47	20.35	20.35	21.4	0.0
100	QPSK	270	0	20.18	20.43	20.50	20.43	21.4	0.0
100	8QAM	1	1	20.26	20.42	20.30	20.42	21.4	0.0
100	8QAM	1	1	20.39	20.29	20.50	20.42	21.4	0.0
100	8QAM	1	1	20.11	20.26	20.26	20.26	21.4	0.0
Channel									
Frequency (MHz)									
80	PI/2 BPSK	1	1	20.41	20.42	20.47	20.47	21.4	0.0
Channel									
Frequency (MHz)									
80	PI/2 BPSK	1	1	20.38	20.38	20.50	20.50	21.4	0.0
Channel									
Frequency (MHz)									
80	PI/2 BPSK	1	1	20.30	20.40	20.30	20.30	21.4	0.0
Channel									
Frequency (MHz)									
80	PI/2 BPSK	1	1	20.32	20.42	20.44	20.44	21.4	0.0
Channel									
Frequency (MHz)									
80	PI/2 BPSK	1	1	20.32	20.42	20.44	20.44	21.4	0.0
Channel									
Frequency (MHz)									
40	PI/2 BPSK	1	1	20.30	20.38	20.40	20.40	21.4	0.0
Channel									
Frequency (MHz)									
40	PI/2 BPSK	1	1	20.40	20.42	20.50	20.50	21.4	0.0

N41(PUE)_FCC									
BW (MHz)	Modulation	RB Size	RB Offset	Power Low Ch. 1 Freq. (MHz)	Power High Ch. 1 Freq. (MHz)	Power Low Ch. 2 Freq. (MHz)	Power High Ch. 2 Freq. (MHz)	Time-up time (min)	MPE (dB)
Channel									
Frequency (MHz)									
100	PI/2 BPSK	1	1	20.28	20.42	20.43	20.57	21.4	0.0
100	PI/2 BPSK	1	137	20.25	20.30	20.43	20.48	21.4	0.0
100	PI/2 BPSK	1	211	20.29	20.40	20.50	20.55	21.4	0.0
100	PI/2 BPSK	135	0	20.48	20.51	20.51	20.51	21.4	0.0
100	PI/2 BPSK	135	138	20.35	20.50	20.50	20.50	21.4	0.0
100	PI/2 BPSK	270	0	20.50	20.50	20.54	20.54	21.4	0.0
100	QPSK	1	1	20.27	20.30	20.30	20.30	21.4	0.0
100	QPSK	1	137	19.99	20.32	20.29	20.29	21.4	0.0
100	QPSK	1	211	20.21	20.30	20.29	20.29	21.4	0.0
100	QPSK	135	0	20.42	20.47	20.36	20.36	21.4	0.0
100	QPSK	135	88	20.40	20.30	20.41	20.41	21.4	0.0
100	QPSK	135	138	20.30	20.47	20.35	20.35	21.4	0.0
100	QPSK	270	0	20.18	20.43	20.50	20.43	21.4	0.0
100	8QAM	1	1	20.26	20.42	20.30	20.42	21.4	0.0
100	8QAM	1	1	20.39	20.29	20.50	20.42	21.4	0.0
100	8QAM	1	1	20.11	20.26	20.26	20.26	21.4	0.0
Channel									
Frequency (MHz)									
80	PI/2 BPSK	1	1	20.41	20.42	20.47	20.47	21.4	0.0
Channel									
Frequency (MHz)									
80	PI/2 BPSK	1	1	20.38	20.38	20.50	20.50	21.4	0.0
Channel									
Frequency (MHz)									
80	PI/2 BPSK	1	1	20.30	20.40	20.30	20.30	21.4	0.0
Channel									
Frequency (MHz)									
80	PI/2 BPSK	1	1	20.32	20.42	20.44	20.44	21.4	0.0
Channel									
Frequency (MHz)									
40	PI/2 BPSK	1	1	20.30	20.38	20.40	20.40	21.4	0.0
Channel									
Frequency (MHz)									
40	PI/2 BPSK	1	1	20.40	20.42	20.50	20.50	21.4	0.0



Reduced power for Sensor on - ANT3

N2									
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)	
Channel				372000	376000	380000			
Frequency (MHz)				1860	1880	1900			
20	PI/2 BPSK	1	1	22.05	21.98	21.93	22.9	0.0	
20	PI/2 BPSK	1	53	22.10	22.08	22.02			
20	PI/2 BPSK	1	104	22.02	21.93	21.88			
20	PI/2 BPSK	50	0	22.06	21.92	21.86			
20	PI/2 BPSK	50	28	22.08	22.05	21.99	22.9	0.0	
20	PI/2 BPSK	50	56	22.00	21.93	21.84			
20	PI/2 BPSK	100	0	22.05	22.03	21.96			
20	QPSK	1	1	21.94	21.74	21.88			
20	QPSK	1	53	22.08	22.09	21.80	22.9	0.0	
20	QPSK	1	104	21.81	21.92	21.82			
20	QPSK	50	0	22.08	21.78	21.84			
20	QPSK	50	28	22.05	22.06	21.82			
20	QPSK	50	56	21.79	21.76	21.78	22.9	0.0	
20	QPSK	100	0	21.96	22.03	21.90			
20	16QAM	1	53	22.05	22.00	21.94			
20	64QAM	1	53	20.71	20.80	21.53			
20	256QAM	1	53	19.02	18.95	21.90	22.9	0.0	
Channel				371500	376000	380500	Tune-up limit (dBm)	MPR (dB)	
Frequency (MHz)				1857.5	1880	1902.5			
15	PI/2 BPSK	1	40	22.02	21.93	21.73	22.9	0.0	
Channel				371000	376000	381000	Tune-up limit (dBm)	MPR (dB)	
Frequency (MHz)				1855	1880	1905			
10	PI/2 BPSK	1	26	21.92	21.78	21.77	22.9	0.0	
Channel				370500	376000	381500	Tune-up limit (dBm)	MPR (dB)	
Frequency (MHz)				1852.5	1880	1907.5			
5	PI/2 BPSK	1	13	22.01	21.99	21.87	22.9	0.0	

N25									
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)	
Channel				372000	376000	381000			
Frequency (MHz)				1860	1880	1895			
20	PI/2 BPSK	1	1	21.90	21.92	21.99	22.9	0.0	
20	PI/2 BPSK	1	53	22.00	22.05	22.02			
20	PI/2 BPSK	1	104	21.82	21.84	21.83			
20	PI/2 BPSK	50	0	21.80	21.91	21.83			
20	PI/2 BPSK	50	28	21.98	22.03	22.00	22.9	0.0	
20	PI/2 BPSK	50	56	21.83	21.94	21.86			
20	PI/2 BPSK	100	0	21.94	22.00	21.96			
20	QPSK	1	1	21.75	21.65	21.81			
20	QPSK	1	53	21.71	21.93	21.94	22.9	0.0	
20	QPSK	1	104	21.73	21.58	21.64			
20	QPSK	50	0	21.79	21.65	21.53			
20	QPSK	50	28	21.82	21.79	21.94			
20	QPSK	50	56	21.83	21.91	21.58	22.9	0.0	
20	QPSK	100	0	21.68	21.79	21.96			
20	16QAM	1	53	21.61	21.77	21.85			
20	64QAM	1	53	21.50	21.74	21.81			
20	256QAM	1	53	21.66	21.85	21.53	22.9	0.0	
Channel				371500	376000	381500	Tune-up limit (dBm)	MPR (dB)	
Frequency (MHz)				1857.5	1880	1907.5			
15	PI/2 BPSK	1	40	21.62	21.89	21.73	22.9	0.0	
Channel				371000	376000	382000	Tune-up limit (dBm)	MPR (dB)	
Frequency (MHz)				1855	1880	1910			
10	PI/2 BPSK	1	26	21.66	21.81	21.79	22.9	0.0	
Channel				370500	376000	382500	Tune-up limit (dBm)	MPR (dB)	
Frequency (MHz)				1852.5	1880	1912.5			
5	PI/2 BPSK	1	13	21.51	21.75	21.64	22.9	0.0	



N41(HPUE)_FCC								
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				509202	518598	528000		
Frequency (MHz)				2546.01	2592.99	2640		
100	PI/2 BPSK	1	1	19.76	19.88	19.81	20.8	0.0
100	PI/2 BPSK	1	137	19.65	19.83	19.80		
100	PI/2 BPSK	1	271	19.60	19.79	19.78	20.8	0.0
100	PI/2 BPSK	135	0	19.60	19.73	19.65		
100	PI/2 BPSK	135	69	19.73	19.85	19.78	20.8	0.0
100	PI/2 BPSK	135	138	19.61	19.76	19.58		
100	PI/2 BPSK	270	0	19.71	19.82	19.75	20.8	0.0
100	QPSK	1	1	19.76	19.73	19.60	20.8	0.0
100	QPSK	1	137	19.41	19.67	19.70		
100	QPSK	1	271	19.41	19.84	19.61	20.8	0.0
100	QPSK	135	0	19.63	19.75	19.58		
100	QPSK	135	69	19.78	19.63	19.63	20.8	0.0
100	QPSK	135	138	19.65	19.67	19.52		
100	QPSK	270	0	19.76	19.71	19.71	20.8	0.0
100	16QAM	1	1	19.61	19.76	19.66	20.8	0.0
100	64QAM	1	1	19.74	19.71	19.74	20.8	0.0
100	256QAM	1	1	19.61	19.77	19.76	20.8	0.0
Channel				508200	518598	528996	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2541	2592.99	2644.98		
90	PI/2 BPSK	1	1	19.39	19.55	19.71	20.8	0.0
Channel				507204	518598	529998	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2538.02	2592.99	2649.98		
80	PI/2 BPSK	1	1	19.35	19.57	19.77	20.8	0.0
Channel				505200	518598	531996	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2526	2592.99	2659.98		
60	PI/2 BPSK	1	1	19.38	19.55	19.55	20.8	0.0
Channel				504204	518598	532998	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2521.02	2592.99	2664.99		
50	PI/2 BPSK	1	1	19.55	19.63	19.54	20.8	0.0
Channel				503202	518598	534000	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2516.01	2592.99	2670		
40	PI/2 BPSK	1	1	19.60	19.83	19.62	20.8	0.0
Channel				501204	518598	535998	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2506.02	2592.99	2679.99		
20	PI/2 BPSK	1	1	19.47	19.79	19.63	20.8	0.0



Bluetooth/ANT+ Full Power

Bluetooth BR/EDR

Mode	Channel	Frequency (MHz)	Average power (dBm)									Tune-up Limit
			Packet Type									
			DH1	DH3	DH5	2DH1	2DH3	2DH5	3DH1	3DH3	3DH5	
Bluetooth	CH 0	2402	8.70	8.50	8.40	8.90	8.60	8.50	8.80	8.60	8.50	10.4
	CH 39	2441	9.60	9.40	9.30	9.80	9.60	9.50	9.80	9.60	9.50	11.3
	CH 78	2480	8.70	8.50	8.40	8.90	8.70	8.60	8.90	8.70	8.60	10.4

Bluetooth LE 4.0

Mode	Channel	Frequency (MHz)	Average power (dBm)	
			GFSK	Tune-up Limit
LE	CH 00	2402	7.80	9.80
	CH 19	2440	8.80	10.80
	CH 39	2480	7.90	9.90

Bluetooth LE 5.0

Mode	Channel	Frequency (MHz)	Average power (dBm)	
			2Mbps	Tune-up Limit
LE	CH 00	2402	8.00	10.00
	CH 19	2440	9.00	11.00
	CH 39	2480	8.10	10.10

ANT+

Mode	Channel	Frequency (MHz)	Average power (dBm)	
			GFSK	Tune-up Limit
ANT+	CH 02	2402	-12.40	-10.00
	CH 41	2441	-11.90	-10.00
	CH 80	2480	-13.20	-10.00

Bluetooth Reduced Power

Bluetooth BR/EDR

Mode	Channel	Frequency (MHz)	Average power (dBm)									Tune-up Limit
			Packet Type									
			DH1	DH3	DH5	2DH1	2DH3	2DH5	3DH1	3DH3	3DH5	
Bluetooth	CH 0	2402	6.40	6.30	6.30	4.50	4.30	4.30	4.40	4.30	4.30	8.3
	CH 39	2441	6.80	6.70	6.70	4.90	4.80	4.80	4.90	4.80	4.70	8.7
	CH 78	2480	5.40	5.30	5.30	3.50	3.40	3.40	3.50	3.40	3.40	7.3

Bluetooth LE 4.0

Mode	Channel	Frequency (MHz)	Average power (dBm)	
			GFSK	Tune-up Limit
LE	CH 00	2402	4.50	6.50
	CH 19	2440	5.10	7.10
	CH 39	2480	3.60	5.60

Bluetooth LE 5.0

Mode	Channel	Frequency (MHz)	Average power (dBm)	
			2Mbps	Tune-up Limit
LE	CH 00	2402	4.60	6.60
	CH 19	2440	5.20	7.20
	CH 39	2480	3.70	5.70



WLAN Full power

2.4GHz WLAN		Ant 1+2				
Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %	
802.11b 1Mbps	1	2412	22.34	24.34	98.35	
	6	2437	22.31	24.31		
	11	2462	22.17	24.17		
802.11g 6Mbps	1	2412	20.63	22.63	99.31	
	6	2437	20.42	22.42		
	11	2462	20.37	22.37		
802.11n- HT20 MCS0	1	2412	20.23	22.23	100.00	
	6	2437	20.16	22.16		
	11	2462	20.02	22.02		
802.11n- HT40 MCS0	3	2422	19.68	21.68	100.00	
	6	2437	19.66	21.66		
	9	2452	19.53	21.53		
802.11ax- HE20 MCS0	1	2412	20.27	22.27	100.00	
	6	2437	20.21	22.21		
	11	2462	20.12	22.12		
802.11ax- HE40 MCS0	3	2422	20.34	22.34	100.00	
	6	2437	20.36	22.36		
	9	2452	20.27	22.27		

5GHz WLAN		Ant 1+2				
Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %	
802.11a 6Mbps	36	5180	20.72	22.72	98.63	
	40	5200	21.02	23.02		
	44	5220	20.73	22.73		
	48	5240	20.64	22.64		
802.11n- HT20 MCS0	36	5180	20.41	22.41	100.00	
	40	5200	20.71	22.71		
	44	5220	20.44	22.44		
	48	5240	20.34	22.34		
802.11n- HT40 MCS0	38	5190	20.87	22.87	100.00	
	46	5230	20.89	22.89		
802.11ac- VHT20 MCS0	36	5180	20.40	22.40	100.00	
	40	5200	20.70	22.70		
	44	5220	20.42	22.42		
	48	5240	20.33	22.33		
802.11ac- VHT40 MCS0	38	5190	20.85	22.85	100.00	
	46	5230	20.86	22.86		
802.11ac- VHT80 MCS0	42	5210	19.99	21.99	100.00	
	36	5180	20.44	22.44		
802.11ax- HE20 MCS0	40	5200	20.42	22.42	100.00	
	44	5220	20.45	22.45		
	48	5240	20.40	22.40		
	38	5190	19.53	21.53		
802.11ax- HE40 MCS0	46	5230	20.54	22.54	100.00	
	42	5210	18.77	20.77		

5GHz WLAN		Ant 1+2				
Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %	
802.11a 6Mbps	52	5260	20.74	22.74	98.63	
	56	5280	21.03	23.03		
	60	5300	20.60	22.60		
	64	5320	20.54	22.54		
802.11n- HT20 MCS0	52	5260	20.45	22.45	100.00	
	56	5280	20.60	22.60		
	60	5300	20.30	22.30		
	64	5320	20.24	22.24		
802.11n- HT40 MCS0	54	5270	20.90	22.90	100.00	
	62	5310	19.74	21.74		
802.11ac- VHT20 MCS0	52	5260	20.43	22.43	100.00	
	56	5280	20.58	22.58		
	60	5300	20.12	22.12		
	64	5320	20.21	22.21		
802.11ac- VHT40 MCS0	54	5270	20.87	22.87	100.00	
	62	5310	19.67	21.67		
802.11ac- VHT80 MCS0	58	5290	19.01	21.01	100.00	
	52	5260	20.46	22.46		
802.11ax- HE20 MCS0	56	5280	20.37	22.37	100.00	
	60	5300	20.35	22.35		
	64	5320	20.30	22.30		
	54	5270	20.55	22.55		
802.11ax- HE40 MCS0	62	5310	20.38	22.38	100.00	
	58	5290	19.80	21.80		



5GHz WLAN		Ant 1+2				
Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %	
802.11a 6Mbps	100	5500	20.63	22.63	98.63	
	116	5580	20.38	22.38		
	124	5620	20.60	22.60		
	132	5660	20.64	22.64		
	140	5700	20.35	22.35		
802.11n- HT20 MCS0	100	5500	20.33	22.33	100.00	
	116	5580	20.09	22.09		
	124	5620	20.60	22.60		
	132	5660	20.63	22.63		
	140	5700	20.05	22.05		
802.11n- HT40 MCS0	102	5510	20.98	22.98	100.00	
	110	5550	20.54	22.54		
	126	5630	20.97	22.97		
	134	5670	20.63	22.63		
	142	5710	20.50	22.50		
802.11ac- VHT20 MCS0	100	5500	20.30	22.30	100.00	
	116	5580	20.06	22.06		
	124	5620	20.58	22.58		
	132	5660	20.60	22.60		
	140	5700	20.03	22.03		
802.11ac- VHT40 MCS0	102	5510	20.77	22.77	100.00	
	110	5550	20.53	22.53		
	126	5630	20.75	22.75		
	134	5670	20.61	22.61		
	142	5710	20.48	22.48		
802.11ac- VHT80 MCS0	106	5530	19.65	21.65	100.00	
	122	5610	19.79	21.79		
	138	5690	19.59	21.59		
802.11ax- HE20 MCS0	100	5500	20.38	22.38	100.00	
	116	5580	20.13	22.13		
	124	5620	20.10	22.10		
	132	5660	20.11	22.11		
	140	5700	20.12	22.12		
802.11ax- HE40 MCS0	102	5510	20.42	22.42	100.00	
	110	5550	20.17	22.17		
	126	5630	20.16	22.16		
	134	5670	20.18	22.18		
	142	5710	20.18	22.18		
802.11ax- HE80 MCS0	106	5530	19.51	21.51	100.00	
	122	5610	19.66	21.66		
	138	5690	19.46	21.46		

5GHz WLAN		Ant 1+2				
Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %	
802.11a 6Mbps	149	5745	20.44	22.44	98.63	
	157	5785	20.45	22.45		
	165	5825	20.36	22.36		
802.11n- HT20 MCS0	149	5745	20.13	22.13	100.00	
	157	5785	20.14	22.14		
	165	5825	20.06	22.06		
802.11n- HT40 MCS0	151	5755	20.69	22.69	100.00	
	159	5795	20.61	22.61		
802.11ac- VHT20 MCS0	149	5745	20.12	22.12	100.00	
	157	5785	20.13	22.13		
	165	5825	20.04	22.04		
802.11ac- VHT40 MCS0	151	5755	20.67	22.67	100.00	
	159	5795	20.59	22.59		
802.11ac- VHT80 MCS0	155	5775	19.69	21.69	100.00	
802.11ax- HE20 MCS0	149	5745	20.12	22.12	100.00	
	157	5785	20.11	22.11		
	165	5825	20.04	22.04		
802.11ax- HE40 MCS0	151	5755	20.24	22.24	100.00	
	159	5795	20.17	22.17		
802.11ax- HE80 MCS0	155	5775	19.46	21.46	100.00	



Reduced Power Level 1 for Head

2.4GHz WLAN		Ant 1+2				
Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %	
802.11b 1Mbps	1	2412	17.34	19.34	98.35	
	6	2437	17.31	19.31		
	11	2462	17.17	19.17		
802.11g 6Mbps	1	2412	14.63	16.63	99.31	
	6	2437	14.42	16.42		
	11	2462	14.37	16.37		
802.11n-HT20 MCS0	1	2412	14.23	16.23	100.00	
	6	2437	14.16	16.16		
	11	2462	14.02	16.02		
802.11n-HT40 MCS0	3	2422	13.68	15.68	100.00	
	6	2437	13.66	15.66		
	9	2452	13.53	15.53		
802.11ax-HE20 MCS0	1	2412	14.27	16.27	100.00	
	6	2437	14.21	16.21		
	11	2462	14.12	16.12		
802.11ax-HE40 MCS0	3	2422	14.34	16.34	100.00	
	6	2437	14.36	16.36		
	9	2452	14.27	16.27		

5GHz WLAN		Ant 1+2				
Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %	
802.11a 6Mbps	36	5180	15.72	17.72	98.63	
	40	5200	16.02	18.02		
	44	5220	15.73	17.73		
	48	5240	15.64	17.64		
802.11n-HT20 MCS0	36	5180	15.41	17.41	100.00	
	40	5200	15.71	17.71		
	44	5220	15.44	17.44		
802.11n-HT40 MCS0	48	5240	15.34	17.34	100.00	
	38	5190	15.87	17.87		
	46	5230	15.89	17.89		
802.11ac-VHT20 MCS0	36	5180	15.40	17.40	100.00	
	40	5200	15.70	17.70		
	44	5220	15.42	17.42		
802.11ac-VHT40 MCS0	48	5240	15.33	17.33	100.00	
	38	5190	15.85	17.85		
	46	5230	15.86	17.86		
802.11ac-VHT80 MCS0	42	5210	14.99	16.99	100.00	
	36	5180	15.44	17.44		
	40	5200	15.42	17.42		
802.11ax-HE20 MCS0	44	5220	15.45	17.45	100.00	
	48	5240	15.40	17.40		
	38	5190	14.53	16.53		
802.11ax-HE40 MCS0	46	5230	15.54	17.54	100.00	
	42	5210	13.77	15.77		

5GHz WLAN		Ant 1+2				
Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %	
802.11a 6Mbps	52	5260	15.74	17.74	98.63	
	56	5280	16.03	18.03		
	60	5300	15.60	17.60		
	64	5320	15.54	17.54		
802.11n-HT20 MCS0	52	5260	15.45	17.45	100.00	
	56	5280	15.60	17.60		
	60	5300	15.30	17.30		
802.11n-HT40 MCS0	64	5320	15.24	17.24	100.00	
	54	5270	15.90	17.90		
	62	5310	14.74	16.74		
802.11ac-VHT20 MCS0	52	5260	15.43	17.43	100.00	
	56	5280	15.58	17.58		
	60	5300	15.26	17.26		
802.11ac-VHT40 MCS0	64	5320	15.21	17.21	100.00	
	54	5270	15.87	17.87		
	62	5310	14.67	16.67		
802.11ac-VHT80 MCS0	58	5290	14.01	16.01	100.00	
	52	5260	15.46	17.46		
	56	5280	15.37	17.37		
802.11ax-HE20 MCS0	60	5300	15.35	17.35	100.00	
	64	5320	15.30	17.30		
	54	5270	15.55	17.55		
802.11ax-HE40 MCS0	62	5310	15.38	17.38	100.00	
	58	5290	14.80	16.80		



5GHz WLAN		Ant 1+2				
Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %	
802.11a 6Mbps	100	5500	13.63	15.63	98.63	
	116	5580	13.38	15.38		
	124	5620	13.60	15.60		
	132	5660	13.64	15.64		
	140	5700	13.35	15.35		
802.11n- HT20 MCS0	100	5500	13.33	15.33	100.00	
	116	5580	13.09	15.09		
	124	5620	13.60	15.60		
	132	5660	13.63	15.63		
	140	5700	13.05	15.05		
802.11n- HT40 MCS0	102	5510	13.98	15.98	100.00	
	110	5550	13.54	15.54		
	126	5630	13.97	15.97		
	134	5670	13.63	15.63		
	142	5710	13.50	15.50		
802.11ac- VHT20 MCS0	100	5500	13.30	15.30	100.00	
	116	5580	13.06	15.06		
	124	5620	13.58	15.58		
	132	5660	13.60	15.60		
	140	5700	13.03	15.03		
802.11ac- VHT40 MCS0	102	5510	13.77	15.77	100.00	
	110	5550	13.53	15.53		
	126	5630	13.75	15.75		
	134	5670	13.61	15.61		
	142	5710	13.48	15.48		
802.11ac- VHT80 MCS0	106	5530	12.65	14.65	100.00	
	122	5610	12.79	14.79		
802.11ax- HE20 MCS0	100	5500	13.38	15.38	100.00	
	116	5580	13.13	15.13		
	124	5620	13.10	15.10		
	132	5660	13.11	15.11		
	140	5700	13.12	15.12		
802.11ax- HE40 MCS0	102	5510	13.42	15.42	100.00	
	110	5550	13.17	15.17		
	126	5630	13.16	15.16		
	134	5670	13.18	15.18		
802.11ax- HE80 MCS0	106	5530	12.51	14.51	100.00	
	122	5610	12.66	14.66		
	138	5690	12.46	14.46		

5GHz WLAN		Ant 1+2				
Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %	
802.11a 6Mbps	149	5745	14.44	16.44	98.63	
	157	5785	14.45	16.45		
	165	5825	14.36	16.36		
802.11n- HT20 MCS0	149	5745	14.13	16.13	100.00	
	157	5785	14.14	16.14		
	165	5825	14.06	16.06		
802.11n- HT40 MCS0	151	5755	14.69	16.69	100.00	
	159	5795	14.61	16.61		
802.11ac- VHT20 MCS0	149	5745	14.12	16.12	100.00	
	157	5785	14.13	16.13		
	165	5825	14.04	16.04		
802.11ac- VHT40 MCS0	151	5755	14.67	16.67	100.00	
	159	5795	14.59	16.59		
802.11ac- VHT80 MCS0	155	5775	13.69	15.69	100.00	
802.11ax- HE20 MCS0	149	5745	14.12	16.12	100.00	
	157	5785	14.11	16.11		
	165	5825	14.04	16.04		
802.11ax- HE40 MCS0	151	5755	14.24	16.24	100.00	
	159	5795	14.17	16.17		
802.11ax- HE80 MCS0	155	5775	13.46	15.46	100.00	



Reduced Power Level 2/3 for Head

2.4GHz WLAN		Ant 1+2				
Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %	
802.11b 1Mbps	1	2412	13.34	15.34	98.35	
	6	2437	13.31	15.31		
	11	2462	13.17	15.17		
802.11g 6Mbps	1	2412	11.63	13.63	99.31	
	6	2437	11.42	13.42		
	11	2462	11.37	13.37		
802.11n-HT20 MCS0	1	2412	11.23	13.23	100.00	
	6	2437	11.16	13.16		
	11	2462	11.02	13.02		
802.11n-HT40 MCS0	3	2422	10.68	12.68	100.00	
	6	2437	10.66	12.66		
	9	2452	10.53	12.53		
802.11ax-HE20 MCS0	1	2412	11.27	13.27	100.00	
	6	2437	11.21	13.21		
	11	2462	11.12	13.12		
802.11ax-HE40 MCS0	3	2422	11.34	13.34	100.00	
	6	2437	11.36	13.36		
	9	2452	11.27	13.27		

5GHz WLAN		Ant 1+2				
Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %	
802.11a 6Mbps	36	5180	11.72	13.72	98.63	
	40	5200	12.02	14.02		
	44	5220	11.73	13.73		
	48	5240	11.64	13.64		
802.11n-HT20 MCS0	36	5180	11.41	13.41	100.00	
	40	5200	11.71	13.71		
	44	5220	11.44	13.44		
802.11n-HT40 MCS0	48	5240	11.34	13.34	100.00	
	38	5190	11.87	13.87		
802.11ac-VHT20 MCS0	46	5230	11.89	13.89	100.00	
	36	5180	11.40	13.40		
	40	5200	11.70	13.70		
	44	5220	11.42	13.42		
802.11ac-VHT40 MCS0	48	5240	11.33	13.33	100.00	
	38	5190	11.85	13.85		
802.11ac-VHT80 MCS0	46	5230	11.86	13.86	100.00	
	42	5210	10.99	12.99		
802.11ax-HE20 MCS0	36	5180	11.44	13.44	100.00	
	40	5200	11.42	13.42		
	44	5220	11.45	13.45		
802.11ax-HE40 MCS0	48	5240	11.40	13.40	100.00	
	38	5190	10.53	12.53		
802.11ax-HE80 MCS0	46	5230	11.54	13.54	100.00	
	42	5210	9.77	11.77		

5GHz WLAN		Ant 1+2				
Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %	
802.11a 6Mbps	52	5260	11.74	13.74	98.63	
	56	5280	12.03	14.03		
	60	5300	11.60	13.60		
	64	5320	11.54	13.54		
802.11n-HT20 MCS0	52	5260	11.45	13.45	100.00	
	56	5280	11.60	13.60		
	60	5300	11.30	13.30		
802.11n-HT40 MCS0	64	5320	11.24	13.24	100.00	
	54	5270	11.90	13.90		
802.11ac-VHT20 MCS0	62	5310	10.74	12.74	100.00	
	52	5260	11.43	13.43		
	56	5280	11.58	13.58		
	60	5300	11.12	13.12		
802.11ac-VHT40 MCS0	64	5320	11.21	13.21	100.00	
	54	5270	11.87	13.87		
802.11ac-VHT80 MCS0	62	5310	10.67	12.67	100.00	
	58	5290	10.01	12.01		
802.11ax-HE20 MCS0	52	5260	11.46	13.46	100.00	
	56	5280	11.37	13.37		
	60	5300	11.35	13.35		
	64	5320	11.30	13.30		
802.11ax-HE40 MCS0	54	5270	11.55	13.55	100.00	
	62	5310	11.38	13.38		
802.11ax-HE80 MCS0	58	5290	10.80	12.80	100.00	
	54	5270	10.80	12.80		



5GHz WLAN		Ant 1+2				
Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %	
802.11a 6Mbps	100	5500	9.63	11.63	98.63	
	116	5580	9.38	11.38		
	124	5620	9.60	11.60		
	132	5660	9.64	11.64		
	144	5720	9.36	11.36		
802.11n- HT20 MCS0	100	5500	9.33	11.33	100.00	
	116	5580	9.09	11.09		
	124	5620	9.60	11.60		
	132	5660	9.63	11.63		
	144	5720	9.03	11.03		
802.11n- HT40 MCS0	102	5510	9.98	11.98	100.00	
	110	5550	9.54	11.54		
	126	5630	9.97	11.97		
	134	5670	9.63	11.63		
	142	5710	9.50	11.50		
802.11ac- VHT20 MCS0	100	5500	9.30	11.30	100.00	
	116	5580	9.06	11.06		
	124	5620	9.58	11.58		
	132	5660	9.60	11.60		
	140	5700	9.03	11.03		
802.11ac- VHT40 MCS0	102	5510	9.77	11.77	100.00	
	110	5550	9.53	11.53		
	126	5630	9.75	11.75		
	134	5670	9.61	11.61		
	142	5710	9.48	11.48		
802.11ac- VHT80 MCS0	106	5530	8.65	10.65	100.00	
	122	5610	8.79	10.79		
	138	5690	8.59	10.59		
802.11ax- HE20 MCS0	100	5500	9.38	11.38	100.00	
	116	5580	9.13	11.13		
	124	5620	9.10	11.10		
	132	5660	9.11	11.11		
	140	5700	9.12	11.12		
802.11ax- HE40 MCS0	102	5510	9.42	11.42	100.00	
	110	5550	9.17	11.17		
	126	5630	9.16	11.16		
	134	5670	9.18	11.18		
	142	5710	9.18	11.18		
802.11ax- HE80 MCS0	106	5530	8.51	10.51	100.00	
	122	5610	8.66	10.66		
	138	5690	8.46	10.46		

5GHz WLAN		Ant 1+2				
Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %	
802.11a 6Mbps	149	5745	10.44	12.44	98.63	
	157	5785	10.45	12.45		
	165	5825	10.36	12.36		
802.11n- HT20 MCS0	149	5745	10.13	12.13	100.00	
	157	5785	10.14	12.14		
	165	5825	10.06	12.06		
802.11n- HT40 MCS0	151	5755	10.69	12.69	100.00	
	159	5795	10.61	12.61		
802.11ac- VHT20 MCS0	149	5745	10.12	12.12	100.00	
	157	5785	10.13	12.13		
	165	5825	10.04	12.04		
802.11ac- VHT40 MCS0	151	5755	10.67	12.67	100.00	
	159	5795	10.59	12.59		
802.11ac- VHT80 MCS0	155	5775	9.69	11.69	100.00	
802.11ax- HE20 MCS0	149	5745	10.12	12.12	100.00	
	157	5785	10.11	12.11		
	165	5825	10.04	12.04		
802.11ax- HE40 MCS0	151	5755	10.24	12.24	100.00	
	159	5795	10.17	12.17		
802.11ax- HE80 MCS0	155	5775	9.46	11.46	100.00	



Reduced Power Level 4 for Head

2.4GHz WLAN		Ant 1+2				
Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %	
802.11b 1Mbps	1	2412	13.34	15.34	98.35	
	6	2437	13.31	15.31		
	11	2462	13.17	15.17		
802.11g 6Mbps	1	2412	11.63	13.63	99.31	
	6	2437	11.42	13.42		
	11	2462	11.37	13.37		
802.11n-HT20 MCS0	1	2412	11.23	13.23	100.00	
	6	2437	11.16	13.16		
	11	2462	11.02	13.02		
802.11n-HT40 MCS0	3	2422	10.68	12.68	100.00	
	6	2437	10.66	12.66		
	9	2452	10.53	12.53		
802.11ax-HE20 MCS0	1	2412	11.27	13.27	100.00	
	6	2437	11.21	13.21		
	11	2462	11.12	13.12		
802.11ax-HE40 MCS0	3	2422	11.34	13.34	100.00	
	6	2437	11.36	13.36		
	9	2452	11.27	13.27		

5GHz WLAN		Ant 1+2				
Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %	
802.11a 6Mbps	38	5180	11.72	13.72	98.63	
	40	5200	12.02	14.02		
	44	5220	11.73	13.73		
	48	5240	11.64	13.64		
802.11n-HT20 MCS0	36	5180	11.41	13.41	100.00	
	40	5200	11.71	13.71		
	44	5220	11.44	13.44		
802.11n-HT40 MCS0	38	5190	11.87	13.87	100.00	
	46	5230	11.89	13.89		
802.11ac-VHT20 MCS0	36	5180	11.40	13.40	100.00	
	40	5200	11.70	13.70		
	44	5220	11.42	13.42		
	48	5240	11.33	13.33		
802.11ac-VHT40 MCS0	38	5190	11.85	13.85	100.00	
	46	5230	11.86	13.86		
802.11ac-VHT80 MCS0	42	5210	10.99	12.99	100.00	
802.11ax-HE20 MCS0	36	5180	11.44	13.44	100.00	
	40	5200	11.42	13.42		
	44	5220	11.45	13.45		
802.11ax-HE40 MCS0	48	5240	11.40	13.40	100.00	
	38	5190	10.53	12.53		
802.11ax-HE80 MCS0	46	5230	11.54	13.54	100.00	
	42	5210	9.77	11.77		

5GHz WLAN		Ant 1+2				
Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %	
802.11a 6Mbps	52	5260	11.74	13.74	98.63	
	56	5280	12.03	14.03		
	60	5300	11.60	13.60		
	64	5320	11.54	13.54		
802.11n-HT20 MCS0	52	5260	11.45	13.45	100.00	
	56	5280	11.60	13.60		
	60	5300	11.30	13.30		
802.11n-HT40 MCS0	64	5320	11.24	13.24	100.00	
	54	5270	11.90	13.90		
802.11ac-VHT20 MCS0	62	5310	10.74	12.74	100.00	
	52	5260	11.43	13.43		
	56	5280	11.58	13.58		
	60	5300	11.12	13.12		
802.11ac-VHT40 MCS0	64	5320	11.21	13.21	100.00	
	54	5270	11.87	13.87		
802.11ac-VHT80 MCS0	62	5310	10.67	12.67	100.00	
802.11ax-HE20 MCS0	58	5290	10.01	12.01	100.00	
	52	5260	11.46	13.46		
	56	5280	11.37	13.37		
	60	5300	11.35	13.35		
802.11ax-HE40 MCS0	64	5320	11.30	13.30	100.00	
	54	5270	11.55	13.55		
802.11ax-HE80 MCS0	62	5310	11.38	13.38	100.00	
	58	5290	10.80	12.80		



5GHz WLAN		Ant 1+2				
Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %	
802.11a 6Mbps	100	5500	9.63	11.63	98.63	
	116	5580	9.38	11.38		
	124	5620	9.60	11.60		
	132	5660	9.64	11.64		
	140	5700	9.35	11.35		
802.11n- HT20 MCS0	100	5500	9.33	11.33	100.00	
	116	5580	9.09	11.09		
	124	5620	9.60	11.60		
	132	5660	9.63	11.63		
	140	5700	9.05	11.05		
802.11n- HT40 MCS0	102	5510	9.98	11.98	100.00	
	110	5550	9.54	11.54		
	126	5630	9.97	11.97		
	134	5670	9.63	11.63		
	142	5710	9.50	11.50		
802.11ac- VHT20 MCS0	100	5500	9.30	11.30	100.00	
	116	5580	9.06	11.06		
	124	5620	9.58	11.58		
	132	5660	9.60	11.60		
	140	5700	9.03	11.03		
802.11ac- VHT40 MCS0	102	5510	9.77	11.77	100.00	
	110	5550	9.53	11.53		
	126	5630	9.75	11.75		
	134	5670	9.61	11.61		
	142	5710	9.48	11.48		
802.11ac- VHT80 MCS0	106	5530	8.65	10.65	100.00	
	122	5610	8.79	10.79		
	138	5690	8.59	10.59		
802.11ax- HE20 MCS0	100	5500	9.38	11.38	100.00	
	116	5580	9.13	11.13		
	124	5620	9.10	11.10		
	132	5660	9.11	11.11		
	140	5700	9.12	11.12		
802.11ax- HE40 MCS0	102	5510	9.42	11.42	100.00	
	110	5550	9.17	11.17		
	126	5630	9.16	11.16		
	134	5670	9.18	11.18		
802.11ax- HE80 MCS0	106	5530	8.51	10.51	100.00	
	122	5610	8.66	10.66		
	138	5690	8.46	10.46		

5GHz WLAN		Ant 1+2				
Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %	
802.11a 6Mbps	149	5745	10.44	12.44	98.63	
	157	5785	10.45	12.45		
	165	5825	10.36	12.36		
802.11n- HT20 MCS0	149	5745	10.13	12.13	100.00	
	157	5785	10.14	12.14		
	165	5825	10.06	12.06		
802.11n- HT40 MCS0	151	5755	10.69	12.69	100.00	
	159	5795	10.61	12.61		
802.11ac- VHT20 MCS0	149	5745	10.12	12.12	100.00	
	157	5785	10.13	12.13		
	165	5825	10.04	12.04		
802.11ac- VHT40 MCS0	151	5755	10.67	12.67	100.00	
	159	5795	10.59	12.59		
802.11ac- VHT80 MCS0	155	5775	9.69	11.69	100.00	
802.11ax- HE20 MCS0	149	5745	10.12	12.12	100.00	
	157	5785	10.11	12.11		
	165	5825	10.04	12.04		
802.11ax- HE40 MCS0	151	5755	10.24	12.24	100.00	
	159	5795	10.17	12.17		
802.11ax- HE80 MCS0	155	5775	9.46	11.46	100.00	



Reduced Power Level 1 for Hotspot

2.4GHz WLAN		Ant 1+2				
Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %	
802.11b 1Mbps	1	2412	20.34	22.34	98.35	
	6	2437	20.31	22.31		
	11	2462	20.17	22.17		
802.11g 6Mbps	1	2412	17.63	19.63	99.31	
	6	2437	17.42	19.42		
	11	2462	17.37	19.37		
802.11n-HT20 MCS0	1	2412	17.23	19.23	100.00	
	6	2437	17.16	19.16		
	11	2462	17.02	19.02		
802.11n-HT40 MCS0	3	2422	16.68	18.68	100.00	
	6	2437	16.66	18.66		
	9	2452	16.53	18.53		
802.11ax-HE20 MCS0	1	2412	17.27	19.27	100.00	
	6	2437	17.21	19.21		
	11	2462	17.12	19.12		
802.11ax-HE40 MCS0	3	2422	17.34	19.34	100.00	
	6	2437	17.36	19.36		
	9	2452	17.27	19.27		

5GHz WLAN		Ant 1+2				
Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %	
802.11a 6Mbps	36	5180	20.72	22.72	98.63	
	40	5200	21.02	23.02		
	44	5220	20.73	22.73		
	48	5240	20.64	22.64		
802.11n-HT20 MCS0	36	5180	20.41	22.41	100.00	
	40	5200	20.71	22.71		
	44	5220	20.44	22.44		
	48	5240	20.34	22.34		
802.11n-HT40 MCS0	38	5190	20.87	22.87	100.00	
	46	5230	20.89	22.89		
802.11ac-VHT20 MCS0	36	5180	20.40	22.40	100.00	
	40	5200	20.70	22.70		
	44	5220	20.42	22.42		
	48	5240	20.33	22.33		
802.11ac-VHT40 MCS0	38	5190	20.85	22.85	100.00	
	46	5230	20.86	22.86		
802.11ac-VHT80 MCS0	42	5210	19.99	21.99	100.00	
	36	5180	20.44	22.44		
	40	5200	20.42	22.42		
	44	5220	20.45	22.45		
802.11ax-HE20 MCS0	38	5190	19.53	21.53	100.00	
	46	5230	20.54	22.54		
	42	5210	18.77	20.77		
	44	5220	20.45	22.45		
802.11ax-HE40 MCS0	38	5190	19.53	21.53	100.00	
	46	5230	20.54	22.54		
802.11ax-HE80 MCS0	42	5210	18.77	20.77	100.00	

5GHz WLAN		Ant 1+2				
Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %	
802.11a 6Mbps	149	5745	20.44	22.44	98.63	
	157	5785	20.45	22.45		
	165	5825	20.36	22.36		
802.11n-HT20 MCS0	149	5745	20.13	22.13	100.00	
	157	5785	20.14	22.14		
	165	5825	20.06	22.06		
802.11n-HT40 MCS0	151	5755	20.69	22.69	100.00	
	159	5795	20.61	22.61		
802.11ac-VHT20 MCS0	149	5745	20.12	22.12	100.00	
	157	5785	20.13	22.13		
	165	5825	20.04	22.04		
802.11ac-VHT40 MCS0	151	5755	20.67	22.67	100.00	
	159	5795	20.59	22.59		
802.11ac-VHT80 MCS0	155	5775	19.69	21.69	100.00	
	149	5745	20.12	22.12		
802.11ax-HE20 MCS0	157	5785	20.11	22.11	100.00	
	165	5825	20.04	22.04		
	151	5755	20.24	22.24		
802.11ax-HE40 MCS0	151	5755	20.24	22.24	100.00	
	159	5795	20.17	22.17		
802.11ax-HE80 MCS0	155	5775	19.46	21.46	100.00	



Reduced Power Level 2/3 for Hotspot

2.4GHz WLAN		Ant 1+2				
Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %	
802.11b 1Mbps	1	2412	18.34	20.34	98.35	
	6	2437	18.31	20.31		
	11	2462	18.17	20.17		
802.11g 6Mbps	1	2412	16.63	18.63	99.31	
	6	2437	16.42	18.42		
	11	2462	16.37	18.37		
802.11n-HT20 MCS0	1	2412	16.23	18.23	100.00	
	6	2437	16.16	18.16		
	11	2462	16.02	18.02		
802.11n-HT40 MCS0	3	2422	15.68	17.68	100.00	
	6	2437	15.66	17.66		
	9	2452	15.53	17.53		
802.11ax-HE20 MCS0	1	2412	16.27	18.27	100.00	
	6	2437	16.21	18.21		
	11	2462	16.12	18.12		
802.11ax-HE40 MCS0	3	2422	16.34	18.34	100.00	
	6	2437	16.36	18.36		
	9	2452	16.27	18.27		

5GHz WLAN		Ant 1+2				
Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %	
802.11a 6Mbps	36	5180	18.72	20.72	98.63	
	40	5200	19.02	21.02		
	44	5220	18.73	20.73		
	48	5240	18.64	20.64		
802.11n-HT20 MCS0	36	5180	18.41	20.41	100.00	
	40	5200	18.71	20.71		
	44	5220	18.44	20.44		
802.11n-HT40 MCS0	48	5240	18.34	20.34	100.00	
	38	5190	18.87	20.87		
	46	5230	18.89	20.89		
802.11ac-VHT20 MCS0	36	5180	18.40	20.40	100.00	
	40	5200	18.70	20.70		
	44	5220	18.42	20.42		
	48	5240	18.33	20.33		
802.11ac-VHT40 MCS0	38	5190	18.85	20.85	100.00	
	46	5230	18.86	20.86		
802.11ac-VHT80 MCS0	42	5210	17.99	19.99	100.00	
	36	5180	18.44	20.44		
802.11ax-HE20 MCS0	40	5200	18.42	20.42	100.00	
	44	5220	18.45	20.45		
	48	5240	18.40	20.40		
802.11ax-HE40 MCS0	38	5190	17.53	19.53	100.00	
	46	5230	18.54	20.54		
802.11ax-HE80 MCS0	42	5210	16.77	18.77	100.00	

5GHz WLAN		Ant 1+2				
Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %	
802.11a 6Mbps	149	5745	19.44	21.44	98.63	
	157	5785	19.45	21.45		
	165	5825	19.36	21.36		
802.11n-HT20 MCS0	149	5745	19.13	21.13	100.00	
	157	5785	19.14	21.14		
	165	5825	19.06	21.06		
802.11n-HT40 MCS0	151	5755	19.69	21.69	100.00	
	159	5795	19.61	21.61		
802.11ac-VHT20 MCS0	149	5745	19.12	21.12	100.00	
	157	5785	19.13	21.13		
802.11ac-VHT40 MCS0	165	5825	19.04	21.04	100.00	
	151	5755	19.67	21.67		
802.11ac-VHT80 MCS0	159	5795	19.59	21.59	100.00	
	155	5775	18.69	20.69		
802.11ax-HE20 MCS0	149	5745	19.12	21.12	100.00	
	157	5785	19.11	21.11		
802.11ax-HE40 MCS0	165	5825	19.04	21.04	100.00	
	151	5755	19.24	21.24		
802.11ax-HE80 MCS0	159	5795	19.17	21.17	100.00	
	155	5775	18.46	20.46		



Reduced Power Level 4 for Hotspot

2.4GHz WLAN		Ant 1+2				
Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %	
802.11b 1Mbps	1	2412	15.34	17.34	98.35	
	6	2437	15.31	17.31		
	11	2462	15.17	17.17		
802.11g 6Mbps	1	2412	13.63	15.63	99.31	
	6	2437	13.42	15.42		
	11	2462	13.37	15.37		
802.11n-HT20 MCS0	1	2412	13.23	15.23	100.00	
	6	2437	13.16	15.16		
	11	2462	13.02	15.02		
802.11n-HT40 MCS0	3	2422	12.68	14.68	100.00	
	6	2437	12.66	14.66		
	9	2452	12.53	14.53		
802.11ax-HE20 MCS0	1	2412	13.27	15.27	100.00	
	6	2437	13.21	15.21		
	11	2462	13.12	15.12		
802.11ax-HE40 MCS0	3	2422	13.34	15.34	100.00	
	6	2437	13.36	15.36		
	9	2452	13.27	15.27		

5GHz WLAN		Ant 1+2				
Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %	
802.11a 6Mbps	36	5180	15.72	17.72	98.63	
	40	5200	16.02	18.02		
	44	5220	15.73	17.73		
	48	5240	15.64	17.64		
802.11n-HT20 MCS0	36	5180	15.41	17.41	100.00	
	40	5200	15.71	17.71		
	44	5220	15.44	17.44		
802.11n-HT40 MCS0	38	5190	15.87	17.87	100.00	
	46	5230	15.89	17.89		
802.11ac-VHT20 MCS0	36	5180	15.40	17.40	100.00	
	40	5200	15.70	17.70		
	44	5220	15.42	17.42		
802.11ac-VHT40 MCS0	48	5240	15.33	17.33	100.00	
	38	5190	15.85	17.85		
	46	5230	15.86	17.86		
802.11ac-VHT80 MCS0	42	5210	14.99	16.99	100.00	
	36	5180	15.44	17.44		
	40	5200	15.42	17.42		
802.11ax-HE20 MCS0	44	5220	15.45	17.45	100.00	
	48	5240	15.40	17.40		
	38	5190	14.53	16.53		
802.11ax-HE40 MCS0	46	5230	15.54	17.54	100.00	
	42	5210	13.77	15.77		

5GHz WLAN		Ant 1+2				
Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %	
802.11a 6Mbps	149	5745	16.44	18.44	98.63	
	157	5785	16.45	18.45		
	165	5825	16.36	18.36		
802.11n-HT20 MCS0	149	5745	16.13	18.13	100.00	
	157	5785	16.14	18.14		
	165	5825	16.06	18.06		
802.11n-HT40 MCS0	151	5755	16.69	18.69	100.00	
	159	5795	16.61	18.61		
802.11ac-VHT20 MCS0	149	5745	16.12	18.12	100.00	
	157	5785	16.13	18.13		
	165	5825	16.04	18.04		
802.11ac-VHT40 MCS0	151	5755	16.67	18.67	100.00	
	159	5795	16.59	18.59		
802.11ac-VHT80 MCS0	155	5775	15.69	17.69	100.00	
	149	5745	16.12	18.12		
802.11ax-HE20 MCS0	157	5785	16.11	18.11	100.00	
	165	5825	16.04	18.04		
	151	5755	16.24	18.24		
802.11ax-HE40 MCS0	159	5795	16.17	18.17	100.00	
	155	5775	15.46	17.46		



Reduced Power Level 1 for Body

2.4GHz WLAN		Ant 1+2				
Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %	
802.11b 1Mbps	1	2412	22.34	24.34	98.35	
	6	2437	22.31	24.31		
	11	2462	22.17	24.17		
802.11g 6Mbps	1	2412	20.63	22.63	99.31	
	6	2437	20.42	22.42		
	11	2462	20.37	22.37		
802.11n-HT20 MCS0	1	2412	20.23	22.23	100.00	
	6	2437	20.16	22.16		
	11	2462	20.02	22.02		
802.11n-HT40 MCS0	3	2422	19.68	21.68	100.00	
	6	2437	19.66	21.66		
	9	2452	19.53	21.53		
802.11ax-HE20 MCS0	1	2412	20.27	22.27	100.00	
	6	2437	20.21	22.21		
	11	2462	20.12	22.12		
802.11ax-HE40 MCS0	3	2422	20.34	22.34	100.00	
	6	2437	20.36	22.36		
	9	2452	20.27	22.27		

5GHz WLAN		Ant 1+2				
Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %	
802.11a 6Mbps	36	5180	20.72	22.72	98.63	
	40	5200	21.02	23.02		
	44	5220	20.73	22.73		
	48	5240	20.64	22.64		
802.11n-HT20 MCS0	36	5180	20.41	22.41	100.00	
	40	5200	20.71	22.71		
	44	5220	20.44	22.44		
802.11n-HT40 MCS0	48	5240	20.34	22.34	100.00	
	38	5190	20.87	22.87		
	46	5230	20.89	22.89		
802.11ac-VHT20 MCS0	36	5180	20.40	22.40	100.00	
	40	5200	20.70	22.70		
	44	5220	20.42	22.42		
	48	5240	20.33	22.33		
802.11ac-VHT40 MCS0	38	5190	20.85	22.85	100.00	
	46	5230	20.86	22.86		
802.11ac-VHT80 MCS0	42	5210	19.99	21.99	100.00	
	36	5180	20.44	22.44		
802.11ax-HE20 MCS0	40	5200	20.42	22.42	100.00	
	44	5220	20.45	22.45		
	48	5240	20.40	22.40		
802.11ax-HE40 MCS0	38	5190	19.53	21.53	100.00	
	46	5230	20.54	22.54		
802.11ax-HE80 MCS0	42	5210	18.77	20.77	100.00	

5GHz WLAN		Ant 1+2				
Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %	
802.11a 6Mbps	52	5260	20.74	22.74	98.63	
	56	5280	21.03	23.03		
	60	5300	20.60	22.60		
	64	5320	20.54	22.54		
802.11n-HT20 MCS0	52	5260	20.45	22.45	100.00	
	56	5280	20.60	22.60		
	60	5300	20.30	22.30		
802.11n-HT40 MCS0	64	5320	20.24	22.24	100.00	
	54	5270	20.90	22.90		
	62	5310	19.74	21.74		
802.11ac-VHT20 MCS0	52	5260	20.43	22.43	100.00	
	56	5280	20.58	22.58		
	60	5300	20.12	22.12		
	64	5320	20.21	22.21		
802.11ac-VHT40 MCS0	54	5270	20.87	22.87	100.00	
	62	5310	19.67	21.67		
802.11ac-VHT80 MCS0	58	5290	19.01	21.01	100.00	
	52	5260	20.46	22.46		
802.11ax-HE20 MCS0	56	5280	20.37	22.37	100.00	
	60	5300	20.35	22.35		
	64	5320	20.30	22.30		
802.11ax-HE40 MCS0	54	5270	20.55	22.55	100.00	
	62	5310	20.38	22.38		
802.11ax-HE80 MCS0	58	5290	19.80	21.80	100.00	



5GHz WLAN		Ant 1+2				
Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %	
802.11a 6Mbps	100	5500	20.63	22.63	98.63	
	116	5580	20.38	22.38		
	124	5620	20.60	22.60		
	132	5660	20.64	22.64		
	144	5720	20.36	22.36		
802.11n- HT20 MCS0	100	5500	20.33	22.33	100.00	
	116	5580	20.09	22.09		
	124	5620	20.60	22.60		
	132	5660	20.63	22.63		
	144	5720	20.05	22.05		
802.11n- HT40 MCS0	102	5510	20.98	22.98	100.00	
	110	5550	20.54	22.54		
	126	5630	20.97	22.97		
	134	5670	20.63	22.63		
	142	5710	20.50	22.50		
802.11ac- VHT20 MCS0	100	5500	20.30	22.30	100.00	
	116	5580	20.06	22.06		
	124	5620	20.58	22.58		
	132	5660	20.60	22.60		
	140	5700	20.03	22.03		
802.11ac- VHT40 MCS0	102	5510	20.77	22.77	100.00	
	110	5550	20.53	22.53		
	126	5630	20.75	22.75		
	134	5670	20.61	22.61		
	142	5710	20.48	22.48		
802.11ac- VHT80 MCS0	106	5530	19.65	21.65	100.00	
	122	5610	19.79	21.79		
	138	5690	19.59	21.59		
802.11ax- HE20 MCS0	100	5500	20.38	22.38	100.00	
	116	5580	20.13	22.13		
	124	5620	20.10	22.10		
	132	5660	20.11	22.11		
	140	5700	20.12	22.12		
802.11ax- HE40 MCS0	102	5510	20.42	22.42	100.00	
	110	5550	20.17	22.17		
	126	5630	20.16	22.16		
	134	5670	20.18	22.18		
802.11ax- HE80 MCS0	106	5530	19.51	21.51	100.00	
	122	5610	19.66	21.66		
	138	5690	19.46	21.46		

5GHz WLAN		Ant 1+2				
Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %	
802.11a 6Mbps	149	5745	20.44	22.44	98.63	
	157	5785	20.45	22.45		
	165	5825	20.36	22.36		
802.11n- HT20 MCS0	149	5745	20.13	22.13	100.00	
	157	5785	20.14	22.14		
	165	5825	20.06	22.06		
802.11n- HT40 MCS0	151	5755	20.69	22.69	100.00	
	159	5795	20.61	22.61		
802.11ac- VHT20 MCS0	149	5745	20.12	22.12	100.00	
	157	5785	20.13	22.13		
	165	5825	20.04	22.04		
802.11ac- VHT40 MCS0	151	5755	20.67	22.67	100.00	
	159	5795	20.59	22.59		
802.11ac- VHT80 MCS0	155	5775	19.69	21.69	100.00	
802.11ax- HE20 MCS0	149	5745	20.12	22.12	100.00	
	157	5785	20.11	22.11		
	165	5825	20.04	22.04		
802.11ax- HE40 MCS0	151	5755	20.24	22.24	100.00	
	159	5795	20.17	22.17		
802.11ax- HE80 MCS0	155	5775	19.46	21.46	100.00	



Reduced Power Level 2/3 for Body

2.4GHz WLAN		Ant 1+2				
Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %	
802.11b 1Mbps	1	2412	18.34	20.34	98.35	
	6	2437	18.31	20.31		
	11	2462	18.17	20.17		
802.11g 6Mbps	1	2412	16.63	18.63	99.31	
	6	2437	16.42	18.42		
	11	2462	16.37	18.37		
802.11n-HT20 MCS0	1	2412	16.23	18.23	100.00	
	6	2437	16.16	18.16		
	11	2462	16.02	18.02		
802.11n-HT40 MCS0	3	2422	15.68	17.68	100.00	
	6	2437	15.66	17.66		
	9	2452	15.53	17.53		
802.11ax-HE20 MCS0	1	2412	16.27	18.27	100.00	
	6	2437	16.21	18.21		
	11	2462	16.12	18.12		
802.11ax-HE40 MCS0	3	2422	16.34	18.34	100.00	
	6	2437	16.36	18.36		
	9	2452	16.27	18.27		

5GHz WLAN		Ant 1+2				
Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %	
802.11a 6Mbps	36	5180	16.72	18.72	98.63	
	40	5200	17.02	19.02		
	44	5220	16.73	18.73		
	48	5240	16.64	18.64		
802.11n-HT20 MCS0	36	5180	16.41	18.41	100.00	
	40	5200	16.71	18.71		
	44	5220	16.44	18.44		
802.11n-HT40 MCS0	48	5240	16.34	18.34	100.00	
	38	5190	16.87	18.87		
802.11ac-VHT20 MCS0	46	5230	16.89	18.89	100.00	
	36	5180	16.40	18.40		
	40	5200	16.70	18.70		
	44	5220	16.42	18.42		
802.11ac-VHT40 MCS0	48	5240	16.33	18.33	100.00	
	38	5190	16.85	18.85		
802.11ac-VHT80 MCS0	46	5230	16.86	18.86	100.00	
	42	5210	15.99	17.99		
802.11ax-HE20 MCS0	36	5180	16.44	18.44	100.00	
	40	5200	16.42	18.42		
	44	5220	16.45	18.45		
802.11ax-HE40 MCS0	48	5240	16.40	18.40	100.00	
	38	5190	15.53	17.53		
802.11ax-HE80 MCS0	46	5230	16.54	18.54	100.00	
	42	5210	14.77	16.77		

5GHz WLAN		Ant 1+2				
Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %	
802.11a 6Mbps	52	5260	16.74	18.74	98.63	
	56	5280	17.03	19.03		
	60	5300	16.60	18.60		
	64	5320	16.54	18.54		
802.11n-HT20 MCS0	52	5260	16.45	18.45	100.00	
	56	5280	16.60	18.60		
	60	5300	16.30	18.30		
802.11n-HT40 MCS0	64	5320	16.24	18.24	100.00	
	54	5270	16.90	18.90		
802.11ac-VHT20 MCS0	62	5310	15.74	17.74	100.00	
	52	5260	16.43	18.43		
	56	5280	16.58	18.58		
	60	5300	16.12	18.12		
802.11ac-VHT40 MCS0	64	5320	16.21	18.21	100.00	
	54	5270	16.87	18.87		
802.11ac-VHT80 MCS0	62	5310	15.67	17.67	100.00	
	58	5290	15.01	17.01		
	52	5260	16.46	18.46		
802.11ax-HE20 MCS0	56	5280	16.37	18.37	100.00	
	60	5300	16.35	18.35		
	64	5320	16.30	18.30		
802.11ax-HE40 MCS0	54	5270	16.55	18.55	100.00	
	62	5310	16.38	18.38		
802.11ax-HE80 MCS0	58	5290	15.80	17.80	100.00	



5GHz WLAN		Ant 1+2				
Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %	
802.11a 6Mbps	100	5500	16.63	18.63	98.63	
	116	5580	16.38	18.38		
	124	5620	16.60	18.60		
	132	5660	16.64	18.64		
	144	5720	16.36	18.36		
802.11n- HT20 MCS0	100	5500	16.33	18.33	100.00	
	116	5580	16.09	18.09		
	124	5620	16.60	18.60		
	132	5660	16.63	18.63		
	144	5720	16.05	18.05		
802.11n- HT40 MCS0	102	5510	16.98	18.98	100.00	
	110	5550	16.54	18.54		
	126	5630	16.97	18.97		
	134	5670	16.63	18.63		
	142	5710	16.50	18.50		
802.11ac- VHT20 MCS0	100	5500	16.30	18.30	100.00	
	116	5580	16.06	18.06		
	124	5620	16.58	18.58		
	132	5660	16.60	18.60		
	140	5700	16.03	18.03		
802.11ac- VHT40 MCS0	102	5510	16.77	18.77	100.00	
	110	5550	16.53	18.53		
	126	5630	16.75	18.75		
	134	5670	16.61	18.61		
	142	5710	16.48	18.48		
802.11ac- VHT80 MCS0	106	5530	15.65	17.65	100.00	
	122	5610	15.79	17.79		
	138	5690	15.59	17.59		
802.11ax- HE20 MCS0	100	5500	16.38	18.38	100.00	
	116	5580	16.13	18.13		
	124	5620	16.10	18.10		
	132	5660	16.11	18.11		
	140	5700	16.12	18.12		
802.11ax- HE40 MCS0	102	5510	16.42	18.42	100.00	
	110	5550	16.17	18.17		
	126	5630	16.16	18.16		
	134	5670	16.18	18.18		
802.11ax- HE80 MCS0	106	5530	15.51	17.51	100.00	
	122	5610	15.66	17.66		
	138	5690	15.46	17.46		

5GHz WLAN		Ant 1+2				
Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %	
802.11a 6Mbps	149	5745	20.44	22.44	98.63	
	157	5785	20.45	22.45		
	165	5825	20.36	22.36		
802.11n- HT20 MCS0	149	5745	20.13	22.13	100.00	
	157	5785	20.14	22.14		
	165	5825	20.06	22.06		
802.11n- HT40 MCS0	151	5755	20.69	22.69	100.00	
	159	5795	20.61	22.61		
802.11ac- VHT20 MCS0	149	5745	20.12	22.12	100.00	
	157	5785	20.13	22.13		
	165	5825	20.04	22.04		
802.11ac- VHT40 MCS0	151	5755	20.67	22.67	100.00	
	159	5795	20.59	22.59		
802.11ac- VHT80 MCS0	155	5775	19.69	21.69	100.00	
802.11ax- HE20 MCS0	149	5745	20.12	22.12	100.00	
	157	5785	20.11	22.11		
	165	5825	20.04	22.04		
802.11ax- HE40 MCS0	151	5755	20.24	22.24	100.00	
	159	5795	20.17	22.17		
802.11ax- HE80 MCS0	155	5775	19.46	21.46	100.00	



Reduced Power Level 4 for Body

2.4GHz WLAN		Ant 1+2				
Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %	
802.11b 1Mbps	1	2412	15.34	17.34	98.35	
	6	2437	15.31	17.31		
	11	2462	15.17	17.17		
802.11g 6Mbps	1	2412	13.63	15.63	99.31	
	6	2437	13.42	15.42		
	11	2462	13.37	15.37		
802.11n-HT20 MCS0	1	2412	13.23	15.23	100.00	
	6	2437	13.16	15.16		
	11	2462	13.02	15.02		
802.11n-HT40 MCS0	3	2422	12.68	14.68	100.00	
	6	2437	12.66	14.66		
	9	2452	12.53	14.53		
802.11ax-HE20 MCS0	1	2412	13.27	15.27	100.00	
	6	2437	13.21	15.21		
	11	2462	13.12	15.12		
802.11ax-HE40 MCS0	3	2422	13.34	15.34	100.00	
	6	2437	13.36	15.36		
	9	2452	13.27	15.27		

5GHz WLAN		Ant 1+2				
Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %	
802.11a 6Mbps	36	5180	13.72	15.72	98.63	
	40	5200	14.02	16.02		
	44	5220	13.73	15.73		
	48	5240	13.64	15.64		
802.11n-HT20 MCS0	36	5180	13.41	15.41	100.00	
	40	5200	13.71	15.71		
	44	5220	13.44	15.44		
802.11n-HT40 MCS0	38	5190	13.87	15.87	100.00	
	46	5230	13.89	15.89		
802.11ac-VHT20 MCS0	36	5180	13.40	15.40	100.00	
	40	5200	13.70	15.70		
	44	5220	13.42	15.42		
802.11ac-VHT40 MCS0	38	5190	13.85	15.85	100.00	
	46	5230	13.86	15.86		
802.11ac-VHT80 MCS0	42	5210	12.99	14.99	100.00	
	36	5180	13.44	15.44		
802.11ax-HE20 MCS0	40	5200	13.42	15.42	100.00	
	44	5220	13.45	15.45		
	48	5240	13.40	15.40		
802.11ax-HE40 MCS0	38	5190	12.53	14.53	100.00	
	46	5230	13.54	15.54		
802.11ax-HE80 MCS0	42	5210	11.77	13.77	100.00	

5GHz WLAN		Ant 1+2				
Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %	
802.11a 6Mbps	52	5260	13.74	15.74	98.63	
	56	5280	14.03	16.03		
	60	5300	13.60	15.60		
	64	5320	13.54	15.54		
802.11n-HT20 MCS0	52	5260	13.45	15.45	100.00	
	56	5280	13.60	15.60		
	60	5300	13.30	15.30		
802.11n-HT40 MCS0	64	5320	13.24	15.24	100.00	
	54	5270	13.90	15.90		
802.11ac-VHT20 MCS0	62	5310	12.74	14.74	100.00	
	52	5260	13.43	15.43		
	56	5280	13.58	15.58		
802.11ac-VHT40 MCS0	60	5300	13.12	15.12	100.00	
	64	5320	13.21	15.21		
	54	5270	13.87	15.87		
802.11ac-VHT80 MCS0	62	5310	12.67	14.67	100.00	
	58	5290	12.01	14.01		
802.11ax-HE20 MCS0	52	5260	13.46	15.46	100.00	
	56	5280	13.37	15.37		
	60	5300	13.35	15.35		
802.11ax-HE40 MCS0	64	5320	13.30	15.30	100.00	
	54	5270	13.55	15.55		
802.11ax-HE80 MCS0	62	5310	13.38	15.38	100.00	
	58	5290	12.80	14.80		

5GHz WLAN		Ant 1+2				
Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %	
802.11a 6Mbps	100	5500	13.63	15.63	98.63	
	116	5580	13.38	15.38		
	124	5620	13.60	15.60		
	132	5660	13.64	15.64		
	144	5720	13.36	15.36		
802.11n-HT20 MCS0	100	5500	13.33	15.33	100.00	
	116	5580	13.09	15.09		
	124	5620	13.60	15.60		
	132	5660	13.63	15.63		
	144	5720	13.05	15.05		
802.11n-HT40 MCS0	102	5510	13.98	15.98	100.00	
	110	5550	13.54	15.54		
	126	5630	13.97	15.97		
	134	5670	13.63	15.63		
	142	5710	13.50	15.50		
802.11ac-VHT20 MCS0	100	5500	13.30	15.30	100.00	
	116	5580	13.06	15.06		
	124	5620	13.58	15.58		
	132	5660	13.60	15.60		
	140	5700	13.03	15.03		
802.11ac-VHT40 MCS0	102	5510	13.77	15.77	100.00	
	110	5550	13.53	15.53		
	126	5630	13.75	15.75		
	134	5670	13.61	15.61		
	142	5710	13.48	15.48		
802.11ac-VHT80 MCS0	106	5530	12.65	14.65	100.00	
	122	5610	12.79	14.79		
	138	5690	12.59	14.59		
802.11ax-HE20 MCS0	100	5500	13.38	15.38	100.00	
	116	5580	13.13	15.13		
	124	5620	13.10	15.10		
	132	5660	13.11	15.11		
	140	5700	13.12	15.12		
802.11ax-HE40 MCS0	102	5510	13.42	15.42	100.00	
	110	5550	13.17	15.17		
	126	5630	13.16	15.16		
	134	5670	13.18	15.18		
	142	5710	13.18	15.18		
802.11ax-HE80 MCS0	106	5530	12.51	14.51	100.00	
	122	5610	12.66	14.66		
	138	5690	12.46	14.46		

5GHz WLAN		Ant 1+2				
Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %	
802.11a 6Mbps	149	5745	17.44	19.44	98.63	
	157	5785	17.45	19.45		
	165	5825	17.36	19.36		
802.11n-HT20 MCS0	149	5745	17.13	19.13	100.00	
	157	5785	17.14	19.14		
	165	5825	17.06	19.06		
802.11n-HT40 MCS0	151	5755	17.69	19.69	100.00	
	159	5795	17.61	19.61		
	149	5745	17.12	19.12		
802.11ac-VHT20 MCS0	157	5785	17.13	19.13	100.00	
	165	5825	17.04	19.04		
	151	5755	17.67	19.67		
802.11ac-VHT40 MCS0	159	5795	17.59	19.59	100.00	
	155	5775	16.69	18.69		
	149	5745	17.12	19.12		
802.11ax-HE20 MCS0	157	5785	17.11	19.11	100.00	
	165	5825	17.04	19.04		
	151	5755	17.24	19.24		
802.11ax-HE40 MCS0	159	5795	17.17	19.17	100.00	
	155	5775	16.46	18.46		
	149	5745	17.12	19.12		



Reduced Power Level 1 for Product Specific

2.4GHz WLAN		Ant 1+2				
Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %	
802.11b 1Mbps	1	2412	22.34	24.34	98.35	
	6	2437	22.31	24.31		
	11	2462	22.17	24.17		
802.11g 6Mbps	1	2412	20.63	22.63	99.31	
	6	2437	20.42	22.42		
	11	2462	20.37	22.37		
802.11n- HT20 MCS0	1	2412	20.23	22.23	100.00	
	6	2437	20.16	22.16		
	11	2462	20.02	22.02		
802.11n- HT40 MCS0	3	2422	19.68	21.68	100.00	
	6	2437	19.66	21.66		
	9	2452	19.53	21.53		
802.11ax- HE20 MCS0	1	2412	20.27	22.27	100.00	
	6	2437	20.21	22.21		
	11	2462	20.12	22.12		
802.11ax- HE40 MCS0	3	2422	20.34	22.34	100.00	
	6	2437	20.36	22.36		
	9	2452	20.27	22.27		

5GHz WLAN		Ant 1+2				
Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %	
802.11a 6Mbps	36	5180	20.72	22.72	98.63	
	40	5200	21.02	23.02		
	44	5220	20.73	22.73		
	48	5240	20.64	22.64		
802.11n- HT20 MCS0	36	5180	20.41	22.41	100.00	
	40	5200	20.71	22.71		
	44	5220	20.44	22.44		
802.11n- HT40 MCS0	48	5240	20.34	22.34	100.00	
	38	5190	20.87	22.87		
802.11ac- VHT20 MCS0	46	5230	20.89	22.89	100.00	
	36	5180	20.40	22.40		
	40	5200	20.70	22.70		
	44	5220	20.42	22.42		
802.11ac- VHT40 MCS0	48	5240	20.33	22.33	100.00	
	38	5190	20.85	22.85		
	46	5230	20.66	22.66		
802.11ac- VHT80 MCS0	42	5210	19.99	21.99	100.00	
802.11ax- HE20 MCS0	36	5180	20.44	22.44	100.00	
	40	5200	20.42	22.42		
	44	5220	20.45	22.45		
802.11ax- HE40 MCS0	48	5240	20.40	22.40	100.00	
	38	5190	19.53	21.53		
802.11ax- HE80 MCS0	46	5230	20.54	22.54	100.00	
802.11ax- HE80 MCS0	42	5210	18.77	20.77	100.00	

5GHz WLAN		Ant 1+2				
Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %	
802.11a 6Mbps	52	5260	20.74	22.74	98.63	
	56	5280	21.03	23.03		
	60	5300	20.60	22.60		
	64	5320	20.54	22.54		
802.11n- HT20 MCS0	52	5260	20.45	22.45	100.00	
	56	5280	20.60	22.60		
	60	5300	20.30	22.30		
802.11n- HT40 MCS0	64	5320	20.24	22.24	100.00	
	54	5270	20.90	22.90		
802.11ac- VHT20 MCS0	62	5310	19.74	21.74	100.00	
	52	5260	20.43	22.43		
	56	5280	20.58	22.58		
	60	5300	20.12	22.12		
802.11ac- VHT40 MCS0	64	5320	20.21	22.21	100.00	
	54	5270	20.67	22.67		
	62	5310	19.67	21.67		
802.11ac- VHT80 MCS0	58	5290	19.01	21.01	100.00	
802.11ax- HE20 MCS0	52	5260	20.46	22.46	100.00	
	56	5280	20.37	22.37		
	60	5300	20.35	22.35		
802.11ax- HE40 MCS0	64	5320	20.30	22.30	100.00	
	54	5270	20.55	22.55		
802.11ax- HE80 MCS0	62	5310	20.38	22.38	100.00	
802.11ax- HE80 MCS0	58	5290	19.80	21.80	100.00	



5GHz WLAN		Ant 1+2				
Mode	Channel	Frequency (MHz)	Average power (dBm)		Duty Cycle %	
			Tune-Up Limit			
802.11a 6Mbps	100	5500	20.63	22.63	98.63	
	116	5580	20.38	22.38		
	124	5620	20.60	22.60		
	132	5660	20.64	22.64		
	140	5700	20.35	22.35		
	144	5720	20.36	22.36		
802.11n- HT20 MCS0	100	5500	20.33	22.33	100.00	
	116	5580	20.09	22.09		
	124	5620	20.60	22.60		
	132	5660	20.63	22.63		
	140	5700	20.05	22.05		
	144	5720	20.03	22.03		
802.11n- HT40 MCS0	102	5510	20.98	22.98	100.00	
	110	5550	20.54	22.54		
	126	5630	20.97	22.97		
	134	5670	20.63	22.63		
	142	5710	20.50	22.50		
	144	5710	20.50	22.50		
802.11ac- VHT20 MCS0	100	5500	20.30	22.30	100.00	
	116	5580	20.06	22.06		
	124	5620	20.58	22.58		
	132	5660	20.60	22.60		
	140	5700	20.03	22.03		
	144	5720	20.01	22.01		
802.11ac- VHT40 MCS0	102	5510	20.77	22.77	100.00	
	110	5550	20.53	22.53		
	126	5630	20.75	22.75		
	134	5670	20.61	22.61		
	142	5710	20.48	22.48		
	144	5710	20.48	22.48		
802.11ac- VHT80 MCS0	106	5530	19.65	21.65	100.00	
	122	5610	19.79	21.79		
	138	5690	19.59	21.59		
802.11ax- HE20 MCS0	100	5500	20.38	22.38	100.00	
	116	5580	20.13	22.13		
	124	5620	20.10	22.10		
	132	5660	20.11	22.11		
	140	5700	20.12	22.12		
	144	5720	20.13	22.13		
802.11ax- HE40 MCS0	102	5510	20.42	22.42	100.00	
	110	5550	20.17	22.17		
	126	5630	20.16	22.16		
	134	5670	20.18	22.18		
802.11ax- HE80 MCS0	106	5530	19.51	21.51	100.00	
	122	5610	19.66	21.66		
	138	5690	19.46	21.46		



Reduced Power Level 2/3 for Product Specific

2.4GHz WLAN		Ant 1+2				
Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %	
802.11b 1Mbps	1	2412	18.34	20.34	98.35	
	6	2437	18.31	20.31		
	11	2462	18.17	20.17		
802.11g 6Mbps	1	2412	16.63	18.63	99.31	
	6	2437	16.42	18.42		
	11	2462	16.37	18.37		
802.11n- HT20 MCS0	1	2412	16.23	18.23	100.00	
	6	2437	16.16	18.16		
	11	2462	16.02	18.02		
802.11n- HT40 MCS0	3	2422	15.68	17.68	100.00	
	6	2437	15.66	17.66		
	9	2452	15.53	17.53		
802.11ax- HE20 MCS0	1	2412	16.27	18.27	100.00	
	6	2437	16.21	18.21		
	11	2462	16.12	18.12		
802.11ax- HE40 MCS0	3	2422	16.34	18.34	100.00	
	6	2437	16.36	18.36		
	9	2452	16.27	18.27		

5GHz WLAN		Ant 1+2				
Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %	
802.11a 6Mbps	36	5180	16.72	18.72	98.63	
	40	5200	17.02	19.02		
	44	5220	16.73	18.73		
	48	5240	16.64	18.64		
802.11n- HT20 MCS0	36	5180	16.41	18.41	100.00	
	40	5200	16.71	18.71		
	44	5220	16.44	18.44		
	48	5240	16.34	18.34		
802.11n- HT40 MCS0	38	5190	16.87	18.87	100.00	
	46	5230	16.89	18.89		
802.11ac- VHT20 MCS0	36	5180	16.40	18.40	100.00	
	40	5200	16.70	18.70		
	44	5220	16.42	18.42		
	48	5240	16.33	18.33		
802.11ac- VHT40 MCS0	38	5190	16.85	18.85	100.00	
	46	5230	16.86	18.86		
802.11ac- VHT80 MCS0	42	5210	15.99	17.99	100.00	
802.11ax- HE20 MCS0	36	5180	16.44	18.44	100.00	
	40	5200	16.42	18.42		
	44	5220	16.45	18.45		
	48	5240	16.40	18.40		
802.11ax- HE40 MCS0	38	5190	15.53	17.53	100.00	
	46	5230	16.54	18.54		
802.11ax- HE80 MCS0	42	5210	14.77	16.77	100.00	

5GHz WLAN		Ant 1+2				
Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %	
802.11a 6Mbps	52	5260	16.74	18.74	98.63	
	56	5280	17.03	19.03		
	60	5300	16.60	18.60		
	64	5320	16.54	18.54		
802.11n- HT20 MCS0	52	5260	16.45	18.45	100.00	
	56	5280	16.60	18.60		
	60	5300	16.30	18.30		
	64	5320	16.24	18.24		
802.11n- HT40 MCS0	54	5270	16.90	18.90	100.00	
	62	5310	15.74	17.74		
802.11ac- VHT20 MCS0	52	5260	16.43	18.43	100.00	
	56	5280	16.58	18.58		
	60	5300	16.12	18.12		
	64	5320	16.21	18.21		
802.11ac- VHT40 MCS0	54	5270	16.87	18.87	100.00	
	62	5310	15.67	17.67		
802.11ac- VHT80 MCS0	58	5290	15.01	17.01	100.00	
802.11ax- HE20 MCS0	52	5260	16.46	18.46	100.00	
	56	5280	16.37	18.37		
	60	5300	16.35	18.35		
	64	5320	16.30	18.30		
802.11ax- HE40 MCS0	54	5270	16.55	18.55	100.00	
	62	5310	16.38	18.38		
802.11ax- HE80 MCS0	58	5290	15.80	17.80	100.00	



5GHz WLAN		Ant 1+2				
Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %	
						5.5GHz WLAN
802.11a 6Mbps	100	5500	16.63	18.63	98.63	
	116	5580	16.38	18.38		
	124	5620	16.60	18.60		
	132	5660	16.64	18.64		
	144	5720	16.36	18.36		
802.11n- HT20 MCS0	100	5500	16.33	18.33	100.00	
	116	5580	16.09	18.09		
	124	5620	16.60	18.60		
	132	5660	16.63	18.63		
	144	5720	16.05	18.05		
802.11n- HT40 MCS0	102	5510	16.98	18.98	100.00	
	110	5550	16.54	18.54		
	126	5630	16.97	18.97		
	134	5670	16.63	18.63		
	142	5710	16.50	18.50		
802.11ac- VHT20 MCS0	100	5500	16.30	18.30	100.00	
	116	5580	16.06	18.06		
	124	5620	16.58	18.58		
	132	5660	16.60	18.60		
	144	5720	16.03	18.03		
802.11ac- VHT40 MCS0	102	5510	16.77	18.77	100.00	
	110	5550	16.53	18.53		
	126	5630	16.75	18.75		
	134	5670	16.61	18.61		
	142	5710	16.48	18.48		
802.11ac- VHT80 MCS0	106	5530	15.65	17.65	100.00	
	122	5610	15.79	17.79		
	138	5690	15.59	17.59		
802.11ax- HE20 MCS0	100	5500	16.38	18.38	100.00	
	116	5580	16.13	18.13		
	124	5620	16.10	18.10		
	132	5660	16.11	18.11		
	144	5720	16.12	18.12		
802.11ax- HE40 MCS0	102	5510	16.42	18.42	100.00	
	110	5550	16.17	18.17		
	126	5630	16.16	18.16		
	134	5670	16.18	18.18		
802.11ax- HE80 MCS0	106	5530	15.51	17.51	100.00	
	122	5610	15.66	17.66		
	138	5690	15.46	17.46		



Reduced Power Level 4 for Product Specific

2.4GHz WLAN		Ant 1+2				
Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %	
802.11b 1Mbps	1	2412	15.34	17.34	98.35	
	6	2437	15.31	17.31		
	11	2462	15.17	17.17		
802.11g 6Mbps	1	2412	13.63	15.63	99.31	
	6	2437	13.42	15.42		
	11	2462	13.37	15.37		
802.11n- HT20 MCS0	1	2412	13.23	15.23	100.00	
	6	2437	13.16	15.16		
	11	2462	13.02	15.02		
802.11n- HT40 MCS0	3	2422	12.68	14.68	100.00	
	6	2437	12.66	14.66		
	9	2452	12.53	14.53		
802.11ax- HE20 MCS0	1	2412	13.27	15.27	100.00	
	6	2437	13.21	15.21		
	11	2462	13.12	15.12		
802.11ax- HE40 MCS0	3	2422	13.34	15.34	100.00	
	6	2437	13.36	15.36		
	9	2452	13.27	15.27		

5GHz WLAN		Ant 1+2				
Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %	
802.11a 6Mbps	36	5180	13.72	15.72	98.63	
	40	5200	14.02	16.02		
	44	5220	13.73	15.73		
	48	5240	13.64	15.64		
802.11n- HT20 MCS0	36	5180	13.41	15.41	100.00	
	40	5200	13.71	15.71		
	44	5220	13.44	15.44		
802.11n- HT40 MCS0	38	5190	13.87	15.87	100.00	
	46	5230	13.89	15.89		
802.11ac- VHT20 MCS0	36	5180	13.40	15.40	100.00	
	40	5200	13.70	15.70		
	44	5220	13.42	15.42		
802.11ac- VHT40 MCS0	44	5220	13.33	15.33	100.00	
	38	5190	13.85	15.85		
	46	5230	13.86	15.86		
802.11ac- VHT80 MCS0	42	5210	12.99	14.99	100.00	
802.11ax- HE20 MCS0	36	5180	13.44	15.44	100.00	
	40	5200	13.42	15.42		
	44	5220	13.45	15.45		
802.11ax- HE40 MCS0	48	5240	13.40	15.40	100.00	
	38	5190	12.53	14.53		
802.11ax- HE80 MCS0	46	5230	13.54	15.54	100.00	
802.11ax- HE80 MCS0	42	5210	11.77	13.77	100.00	

5GHz WLAN		Ant 1+2				
Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %	
802.11a 6Mbps	52	5260	13.74	15.74	98.63	
	56	5280	14.03	16.03		
	60	5300	13.60	15.60		
	64	5320	13.54	15.54		
802.11n- HT20 MCS0	52	5260	13.45	15.45	100.00	
	56	5280	13.60	15.60		
	60	5300	13.30	15.30		
802.11n- HT40 MCS0	64	5320	13.24	15.24	100.00	
	54	5270	13.90	15.90		
802.11ac- VHT20 MCS0	62	5310	12.74	14.74	100.00	
	52	5260	13.43	15.43		
	56	5280	13.58	15.58		
802.11ac- VHT40 MCS0	60	5300	13.12	15.12	100.00	
	64	5320	13.21	15.21		
	54	5270	13.87	15.87		
802.11ac- VHT80 MCS0	62	5310	12.67	14.67	100.00	
	58	5290	12.01	14.01		
802.11ax- HE20 MCS0	52	5260	13.46	15.46	100.00	
	56	5280	13.37	15.37		
	60	5300	13.35	15.35		
802.11ax- HE40 MCS0	64	5320	13.30	15.30	100.00	
	54	5270	13.55	15.55		
802.11ax- HE80 MCS0	62	5310	13.38	15.38	100.00	
802.11ax- HE80 MCS0	58	5290	12.80	14.80	100.00	



5GHz WLAN		Ant 1+2				
Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %	
802.11a 6Mbps	100	5500	13.63	15.63	98.63	
	116	5580	13.38	15.38		
	124	5620	13.60	15.60		
	132	5660	13.64	15.64		
	140	5700	13.35	15.35		
	144	5720	13.36	15.36		
802.11n- HT20 MCS0	100	5500	13.33	15.33	100.00	
	116	5580	13.09	15.09		
	124	5620	13.60	15.60		
	132	5660	13.63	15.63		
	140	5700	13.05	15.05		
	144	5720	13.03	15.03		
802.11n- HT40 MCS0	102	5510	13.98	15.98	100.00	
	110	5550	13.54	15.54		
	126	5630	13.97	15.97		
	134	5670	13.63	15.63		
	142	5710	13.50	15.50		
	144	5710	13.50	15.50		
802.11ac- VHT20 MCS0	100	5500	13.30	15.30	100.00	
	116	5580	13.06	15.06		
	124	5620	13.58	15.58		
	132	5660	13.60	15.60		
	140	5700	13.03	15.03		
	144	5720	13.01	15.01		
802.11ac- VHT40 MCS0	102	5510	13.77	15.77	100.00	
	110	5550	13.53	15.53		
	126	5630	13.75	15.75		
	134	5670	13.61	15.61		
	142	5710	13.48	15.48		
	144	5710	13.48	15.48		
802.11ac- VHT80 MCS0	106	5530	12.65	14.65	100.00	
	122	5610	12.79	14.79		
	138	5690	12.59	14.59		
802.11ax- HE20 MCS0	100	5500	13.38	15.38	100.00	
	116	5580	13.13	15.13		
	124	5620	13.10	15.10		
	132	5660	13.11	15.11		
	140	5700	13.12	15.12		
	144	5720	13.13	15.13		
802.11ax- HE40 MCS0	102	5510	13.42	15.42	100.00	
	110	5550	13.17	15.17		
	126	5630	13.16	15.16		
	134	5670	13.18	15.18		
802.11ax- HE80 MCS0	106	5530	12.51	14.51	100.00	
	122	5610	12.66	14.66		
	138	5690	12.46	14.46		



Appendix F. Supplemental Tuner Head & Body SAR Results

The results are shown as follows.

RF exposure position										Aperture 00				Aperture 01				Aperture 02				Aperture 03																					
										Average Value of Time Sweep (W/h)										Average Value of Time Sweep (W/h)				Average Value of Time Sweep (W/h)				Average Value of Time Sweep (W/h)															
										Band	Mode	Power Reduction	Channel	Frequency (MHz)	FSS State	FSS Offset	Test Position	Spacing	Measured by SAR (W/kg)	0	22	44	66	88	110	132	0	22	44	66	88	110	132	0	22	44	66	88	110	132			
RYWIN_Ant 0 Head	GSM850_L1AT	QPSK (7.5 sec)	Head Direction	128	824.2	NA	NA	Left Cheek	Open	0.702	0	0	0.038	0	0.041	0	0	0	0.168	0.266	0	0.2	0.168	0	0.056	0	0.148	0.206	0.037	0.121	0.16	0	0	0.046	0	0.061	0.047	0					
	CDMA2000_BC12_L1AT	RC3-HS05S	Head Direction	1013	824.7	NA	NA	Left Cheek	Open	0.702	0	0.015	0	0	0.038	0	0	0.011	0.158	0.216	0	0	0.045	0.082	0	0	0.121	0.096	0.037	0	0	0.052	0	0.062	0	0.054	0	0					
	CDMA2000_BC12_L1AT	RC3-HS05S	Head Direction	585	825.2	NA	NA	Left Cheek	Open	0.677	0	0	0.047	0	0.062	0	0	0	0.215	0.241	0	0.164	0.085	0	0.055	0	0.015	0.031	0.121	0	0.052	0	0	0.036	0	0.022	0	0					
	WCDMA_V_L1AT	SMC 12.2Qpsk	Head Direction	4132	826.4	NA	NA	Left Cheek	Open	0.812	0	0	0.041	0	0.053	0	0	0.024	0.368	0.419	0.087	0.312	0.043	0.075	0.125	0.044	0.121	0.144	0.133	0	0.133	0.04	0	0.074	0.047	0.085	0	0					
	LTE Band 71_L1AT	DMB-QPSK	Head Direction	13332	863	30	34	Left Cheek	Open	0.135	0.148	0	0	0.113	0.053	0	0.144	0	0	0	0	0	0	0	0	0	0	0	0	0	0.132	0.272	0	0.163	0.045	0.113	0.168						
	LTE Band 12_L1AT	16M-QPSK	Head Direction	2005	707.5	25	25	Left Cheek	Open	0.676	0.004	0	0	0.077	0.056	0	0.06	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.132	0.272	0	0.163	0.045	0.113	0.168					
	LTE Band 13_L1AT	16M-QPSK	Head Direction	2020	792	25	25	Left Cheek	Open	0.658	0	0	0	0.033	0.051	0	0	0.046	0.165	0	0.032	0.206	0.041	0.054	0.153	0	0.045	0.204	0.058	0.027	0.142	0	0	0.148	0.161	0	0	0.135					
	LTE Band 5_L1AT	16M-QPSK	Head Direction	2025	826.5	1	0	Left Cheek	Open	0.673	0	0	0	0	0	0	0	0.132	0.267	0.068	0.137	0.322	0.09	0.113	0.121	0.041	0	0.125	0.167	0.04	0.089	0.052	0	0	0.053	0.065	0	0					
	LTE Band 26_L1AT	16M-QPSK	Head Direction	2065	811.5	30	30	Left Cheek	Open	0.755	0	0	0	0	0	0	0	0.144	0.281	0.081	0.168	0	0.113	0.138	0.149	0.045	0	0.171	0.053	0	0.11	0.064	0	0	0.085	0	0.045	0.043					
	SA NP1_Ant	256PQD-BPSK	Head Direction	18100	860.5	1	13	Left Side	Open	0.889	0.183	0	0	0.196	0.051	0	0.156	0	0	0	0	0	0	0	0	0	0	0	0.046	0	0.087	0	0.208	0.33	0.055	0.241	0	0.24	0.209				
	NS_Ant	256PQD-BPSK	Head Direction	18730	826.5	1	13	Left Side	Open	0.859	0	0	0	0	0.047	0	0.021	0	0.131	0.243	0.043	0.177	0.183	0.189	0	0	0.17	0.049	0.081	0.038	0.072	0	0	0.073	0	0.082	0.044						
	RYWIN_Ant 0 Body	GSM850_L1AT	QPSK (7.5 sec)	Head on top	128	824.2	NA	NA	Left Side	Open	0.438	0	0	0	0	0	0	0	0.094	0	0.08	0.1	0	0.082	0.105	0.111	0	0	0.05	0	0.055	0.066	0.042	0	0	0.039	0	0.039	0				
		CDMA2000_BC12_L1AT	RC3-HS05S	Head on top	1013	824.7	NA	NA	Left Side	Open	0.577	0	0	0	0.036	0	0	0.022	0.13	0	0.065	0	0	0.056	0	0	0	0	0	0	0	0.083	0	0	0	0	0.052	0					
		CDMA2000_BC12_L1AT	RC3-HS05S	Head on top	585	825.2	NA	NA	Left Side	Open	0.594	0.002	0	0	0	0	0	0	0	0.125	0.14	0	0	0.122	0	0.143	0.022	0	0	0	0.094	0	0	0.028	0.033	0	0	0	0				
		WCDMA_V_L1AT	SMC 12.2Qpsk	Head on top	4132	826.4	NA	NA	Left Side	Open	0.859	0.042	0	0	0	0.034	0	0.028	0.174	0.17	0	0.066	0.287	0.082	0.23	0.073	0	0	0.086	0.127	0.094	0.103	0.055	0	0	0	0.108	0					
		LTE Band 71_L1AT	DMB-QPSK	Head on top	13332	863	30	34	Left Side	Open	0.259	0.186	0	0	0.078	0.048	0.058	0	0	0	0	0	0	0	0	0	0	0	0	0.083	0.071	0	0	0	0.117	0	0.068	0.138	0.113	0	0.116	0.077	0.08
		LTE Band 12_L1AT	16M-QPSK	Head on top	2005	707.5	25	25	Left Side	Open	0.656	0	0	0	0	0.04	0.041	0	0	0	0	0	0	0	0	0	0	0	0	0.213	0.047	0.107	0.047	0.265	0	0	0.086	0.041	0.203	0.302	0.151	0.208	
		LTE Band 13_L1AT	16M-QPSK	Head on top	2020	792	1	25	Left Side	Open	0.647	0	0	0	0	0	0	0	0	0.167	0	0.107	0	0.103	0	0	0.053	0	0	0.05	0	0	0	0	0	0	0	0.065	0.072	0.071			
		LTE Band 5_L1AT	16M-QPSK	Head on top	2025	826.5	1	0	Left Side	Open	0.426	0	0	0	0	0	0	0.052	0.127	0.104	0.07	0.077	0	0.08	0.05	0.131	0.103	0.07	0.078	0	0.065	0	0.042	0	0	0	0	0	0	0			
		LTE Band 26_L1AT	16M-QPSK	Head on top	2070	811.5	30	30	Left Side	Open	0.516	0	0	0	0	0	0	0	0.095	0.183	0.127	0.11	0.073	0	0.08	0	0.079	0	0.045	0.059	0	0.128	0	0	0	0	0	0	0.047				
SA NP1_Ant		256PQD-BPSK	Full Power	18100	860.5	100	0	Left Side	Open	0.855	0	0.056	0	0	0.152	0.042	0.143	0	0	0	0	0	0	0	0	0	0	0.122	0	0.039	0.042	0	0	0.094	0.363	0	0.232	0.216	0.045	0.198			
NS_Ant		256PQD-BPSK	Full Power	18730	826.5	50	28	Left Side	Open	0.875	0	0.04	0	0	0	0	0	0	0.112	0.255	0	0.167	0.183	0.04	0.173	0	0.083	0	0.075	0.079	0	0.114	0	0.061	0	0.082	0	0	0.048				

Aperture 04					Aperture 05					Aperture 06					Aperture 07					Aperture 08					Aperture 09																	
Average Value of Time Resop (MHz)					Average Value of Time Resop (MHz)					Average Value of Time Resop (MHz)					Average Value of Time Resop (MHz)					Average Value of Time Resop (MHz)					Average Value of Time Resop (MHz)																	
0	22	44	66	88	110	132	0	22	44	66	88	110	132	0	22	44	66	88	110	132	0	22	44	66	88	110	132	0	22	44	66	88	110	132								
0	0	0.025	0	0	0	0	0	0	0.05	0	0.04	0	0	0	0.05	0.06	0	0.017	0.040	0	0	0.021	0.052	0	0.016	0.058	0	0.04	0.06	0.016	0.059	0.065	0.024	0.042	0	0.027	0.047	0.114	0.3	0.171		
1	23	45	67	89	111	133	1	23	45	67	89	111	133	1	23	45	67	89	111	133	1	23	45	67	89	111	133	1	23	45	67	89	111	133								
0	0	0.005	0	0.027	0	0	0	0.044	0.018	0	0.076	0	0	0	0.201	0.265	0	0.196	0.095	0	0	0.233	0.336	0	0.201	0.063	0	0.265	0.084	0.209	0.362	0.463	0.317	0.201	0	0.155	0.265	0.122	0	0.196		
2	24	46	68	90	112	134	2	24	46	68	90	112	134	2	24	46	68	90	112	134	2	24	46	68	90	112	134	2	24	46	68	90	112	134								
0	0	0.041	0	0.043	0	0	0	0.027	0	0	0.082	0	0	0	0.322	0.364	0	0.147	0.070	0	0	0.213	0.294	0	0.198	0	0	0.242	0	0.162	0.051	0.123	0.241	0.037	0.116	0.014	0.102	0.027	0.121	0.057	0.211	
3	25	47	69	91	113	135	3	25	47	69	91	113	135	3	25	47	69	91	113	135	3	25	47	69	91	113	135	3	25	47	69	91	113	135								
0	0	0.005	0	0.063	0	0	0	0.144	0.242	0	0.163	0.08	0	0	0.273	0.346	0	0.274	0.06	0	0	0.28	0.356	0.042	0.205	0.054	0	0.468	0.086	0.223	0.054	0.202	0	0.477	0.317	0.042	0.158	0.207	0.16	0	0.244	
4	26	48	70	92	114	136	4	26	48	70	92	114	136	4	26	48	70	92	114	136	4	26	48	70	92	114	136	4	26	48	70	92	114	136								
0.278	0.521	0	0.472	0.264	0	0.443	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5	27	49	71	93	115	137	5	27	49	71	93	115	137	5	27	49	71	93	115	137	5	27	49	71	93	115	137	5	27	49	71	93	115	137								
0.315	0.002	0	0.243	0.124	0	0.268	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
6	28	50	72	94	116	138	6	28	50	72	94	116	138	6	28	50	72	94	116	138	6	28	50	72	94	116	138	6	28	50	72	94	116	138								
0.07	0	0	0.073	0.072	0	0.063	0	0	0	0	0.108	0.091	0	0.088	0.114	0	0	0.019	0.050	0	0	0	0.211	0.027	0.014	0	0	0	0.118	0.035	0	0	0	0	0	0	0	0	0	0.088	0.022	
7	29	51	73	95	117	139	7	29	51	73	95	117	139	7	29	51	73	95	117	139	7	29	51	73	95	117	139	7	29	51	73	95	117	139								
0	0	0	0	0	0.022	0	0	0	0.162	0	0	0.232	0.128	0	0.06	0.264	0.046	0.061	0.031	0.108	0.048	0.071	0.26	0.033	0.075	0.311	0.154	0.055	0.072	0.066	0	0.177	0.2	0.059	0.44	0.208	0.044	0	0.203	0.151	0.045	0.2
8	30	52	74	96	118	140	8	30	52	74	96	118	140	8	30	52	74	96	118	140	8	30	52	74	96	118	140	8	30	52	74	96	118	140								
0	0	0	0.041	0	0	0	0.044	0.08	0	0.047	0	0.141	0	0.074	0.332	0.083	0.079	0	0.147	0.061	0.087	0.33	0.072	0.003	0	0.144	0.074	0.084	0.113	0	0.061	0.119	0.088	0.043	0.233	0.074	0	0.301	0.077	0.074	0.24	
9	31	53	75	97	119	141	9	31	53	75	97	119	141	9	31	53	75	97	119	141	9	31	53	75	97	119	141	9	31	53	75	97	119	141								
0.469	0.151	0	0.035	0.075	0.103	0.463	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
10	32	54	76	98	120	142	10	32	54	76	98	120	142	10	32	54	76	98	120	142	10	32	54	76	98	120	142	10	32	54	76	98	120	142								
0.045	0	0	0.046	0	0.055	0	0.061	0.072	0.043	0.064	0	0.180	0.043	0.101	0.05	0.103	0.106	0	0.184	0.073	0.12	0.045	0.115	0.124	0	0.183	0.088	0.068	0	0	0.061	0.119	0.125	0.038	0.038	0	0	0.333	0.134	0.111	0.230	
11	33	55	77	99	121	143	11	33	55	77	99	121	143	11	33	55	77	99	121	143	11	33	55	77	99	121	143	11	33	55	77	99	121	143								
0	0	0	0	0	0	0	0	0.036	0	0	0	0.081	0	0	0.044	0	0	0	0.081	0.046	0.041	0.042	0	0.042	0	0.093	0	0.264	0	0	0.255	0.007	0.045	0.032	0.168	0	0	0.129	0.007	0	0.007	
12	34	56	78	100	122	0	12	34	56	78	100	122	0	12	34	56	78	100	122	0	12	34	56	78	100	122	0	12	34	56	78	100	122	0	12	34	56	78	100	122	0	0.079
0	0	0	0	0	0	0	0	0.106	0	0.104	0	0.088	0	0	0.088	0.115	0	0	0.102	0	0	0.099	0	0.055	0	0	0	0.151	0.088	0	0	0.117	0.086	0.141	0	0	0	0	0	0	0.079	
13	35	57	79	101	123	1	13	35	57	79	101	123	1	13	35	57	79	101	123	1	13	35	57	79	101	123	1	13	35	57	79	101	123	1	13	35	57	79	101	123	1	0.084
0.084	0	0	0	0.022	0.046	0	0	0	0.118	0	0.152	0	0.086	0.162	0.065	0	0	0.136	0.027	0.065	0	0	0.042	0	0.167	0	0	0	0.103	0.164	0.064	0.162	0	0	0.091	0.042	0	0	0.164			
14	36	58	80	102	124	2	14	36	58	80	102	124	2	14	36	58	80	102	124	2	14	36	58	80	102	124	2	14	36	58	80	102	124	2	14	36	58	80	102	124	2	0.142
0.07	0.045	0	0	0	0.093	0	0.083	0.237	0	0.085	0	0.238	0	0.154	0.215	0.146	0	0	0.205	0.04	0.179	0.205	0.105	0.053	0.084	0.203	0.047	0.46	0.106	0.047	0	0.265	0.222	0.036	0.094	0.087	0	0	0.182	0.184	0.203	
15	37	59	81	103	125	3	15	37	59	81	103	125	3	15	37	59	81	103	125	3	15	37	59	81	103	125	3	15	37	59	81	103	125	3	15	37	59	81	103	125	3	0.044
0.044	0.009	0	0	0.089	0.103	0.225	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
16	38	60	82	104	126	4	16	38	60	82	104	126	4	16	38	60	82	104	126	4	16	38	60	82	104	126	4	16	38	60	82	104	126	4	16	38	60	82	104	126	4	0.067
0	0.067	0	0	0.174	0.084	0.172	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.125	0
17	39	61	83	105	127	5	17	39	61	83	105	127	5	17	39	61	83	105	127	5	17	39	61	83	105	127	5	17	39	61	83	105	127	5	17	39	61	83	105	127	5	0
0	0.04	0	0	0	0.042	0	0	0.071	0	0.054	0	0.038	0	0	0.107	0	0.036	0	0.036	0	0	0.112	0	0.092	0	0.097	0	0	0.108	0.108	0.069	0.283	0.033	0	0.126	0.027	0.062	0.162	0.216	0.176		
18	40	62	84	106	128	6	18	40	62	84	106	128	6	18	40	62	84	106	128	6	18	40	62	84	106	128	6	18	40	62	84	106	128	6	18	40	62	84	106	128	6	0
0	0	0	0	0	0	0	0	0.049	0.124	0	0.084	0	0	0	0.081	0.139	0.081	0.082	0	0	0	0.072	0.137	0.094	0.078	0	0	0	0.087	0	0.064	0.283	0.059	0.311	0	0.071	0	0	0.118	0	0.154	
19	41	63	85	107	129	7	19	41	63	85	107	129	7	19	41	63	85	107	129	7	19	41	63	85	107	129	7	19	41	63	85	107	129	7	19	41	63	85	107	129	7	0
0	0.063	0	0	0	0	0	0	0.049	0.143	0	0.122	0	0	0	0.038	0.172	0.06	0.04	0	0	0	0.043	0.171	0.227	0.117	0.041	0	0.043	0	0.121	0.044	0.067	0.051	0.076	0.373	0	0.1					

RF exposure position										Aperture 00				Aperture 01				Aperture 02				Aperture 03																						
										Average Value of Time Sweep (W/kg)								Average Value of Time Sweep (W/kg)								Average Value of Time Sweep (W/kg)								Average Value of Time Sweep (W/kg)										
										Band	Mode	Power Reduction	Channel	Frequency (MHz)	RB Size	RB Offset	Test Position	Spacing	Measured Ig SAR (W/kg)	0	22	44	66	88	110	132	0	22	44	66	88	110	132	0	22	44	66	88	110	132	0	22	44	66
WLAN_Ant 1 Head	GSM850_LAT	GPRS(3 Tx slots)	Full Power	251	846.8	NA	NA	Left Cheek	0cm	0.146	0.105	0.047	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
	CDMA2000 800_LAT	HCN-SGSS	Full Power	384	838.32	NA	NA	Left Cheek	0cm	0.174	0.104	0.064	0	0	0	0	0	0.103	0.066	0.138	0	0	0	0	0	0.062	0.126	0	0.093	0	0	0	0	0	0.073	0	0	0	0	0	0	0		
	CDMA2000 800_LAT	HCN-SGSS	Full Power	684	823.1	NA	NA	Left Cheek	0cm	0.155	0.101	0.062	0	0	0	0	0	0.102	0.102	0.13	0	0	0	0	0	0.063	0.126	0	0.067	0	0	0	0	0	0.078	0	0	0	0	0	0	0	0	
	WCDMA_Y_LAT	RNC 12.2Mbps	Full Power	4233	846.6	NA	NA	Left Cheek	0cm	0.189	0.111	0.049	0	0	0	0	0	0.072	0.15	0.105	0.172	0	0	0	0	0.12	0.124	0.057	0.068	0	0	0	0	0.052	0	0	0	0	0	0	0	0		
	LTE Band 71_LAT	20M-QPSK	Full Power	133322	683	1	0	Left Cheek	0cm	0.113	0	0	0.086	0	0	0	0	0.036	0	0	0	0	0	0	0	0.061	0	0.045	0	0	0	0	0	0	0	0	0	0.046	0.043	0	0	0	0	
	LTE Band 12_LAT	10M-QPSK	Full Power	2305	707.5	1	49	Left Cheek	0cm	0.173	0	0	0.106	0.123	0	0	0	0	0	0	0	0	0	0	0	0	0	0.06	0	0	0	0	0	0	0	0	0.05	0.054	0	0	0	0	0	
	LTE Band 13_LAT	10M-QPSK	Full Power	23230	782	1	25	Left Cheek	0cm	0.121	0.097	0.071	0.050	0	0	0	0	0.043	0	0.076	0	0	0	0	0	0.071	0	0.12	0	0	0	0	0	0.006	0.085	0	0	0	0	0	0	0	0	
	LTE Band 5_LAT	10M-QPSK	Full Power	20525	836.5	1	0	Left Cheek	0cm	0.152	0.06	0.066	0	0	0	0	0	0.096	0.068	0.149	0	0	0	0	0	0.136	0.127	0.079	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	LTE Band 26_LAT	15M-PSK	Full Power	26585	841.5	1	0	Left Cheek	0cm	0.202	0.098	0.083	0	0	0	0	0	0.136	0.088	0.175	0	0	0	0	0	0.137	0.149	0.07	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	NT1_Ant1	20M-P12 BPSK	Full Power	136100	680.5	90	28	Left Cheek	0cm	0.084	0	0	0.048	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.068	0	0	0	0	0	
	NO_Ant1	20M-P12 BPSK	Full Power	167300	836.5	90	28	Left Cheek	0cm	0.129	0.071	0	0	0	0	0	0	0	0.068	0.047	0	0	0	0	0	0.066	0.083	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	WLAN_Ant 1 Body	GSM850_LAT	GPRS(3 Tx slots)	Full Power	192	858.4	NA	NA	Back	10cm	0.393	0.046	0	0.047	0	0	0	0	0.039	0	0.033	0	0	0	0	0	0.054	0	0.046	0	0	0	0	0	0.042	0	0.044	0	0	0	0	0	0	
		CDMA2000 800_LAT	HTAP 10.8Mbps	Full Power	384	838.32	NA	NA	Back	10cm	0.306	0.264	0.114	0.094	0	0	0	0.346	0.2	0.312	0.164	0.065	0	0	0	0.078	0.334	0.166	0.126	0	0	0	0	0.148	0.162	0.072	0.074	0	0	0	0	0.31		
		CDMA2000 800_LAT	HTAP 10.8Mbps	Full Power	684	823.1	NA	NA	Back	10cm	0.436	0.297	0.132	0.147	0	0	0	0.30	0.223	0.304	0.303	0.058	0.047	0.051	0.063	0.222	0.383	0.306	0.047	0	0.046	0.165	0.201	0.089	0.113	0	0	0	0	0	0	0	0	0.423
WCDMA_Y_LAT		RNC 12.2Mbps	Full Power	4132	826.4	NA	NA	Back	10cm	0.464	0.321	0.044	0.166	0	0	0	0.432	0.298	0.165	0.373	0.080	0.072	0.065	0.136	0.382	0.073	0.272	0.059	0.046	0.046	0.294	0.215	0	0	0	0	0	0	0	0	0.363			
LTE Band 71_LAT		20M-QPSK	Full Power	133322	683	1	0	Back	10cm	0.403	0.134	0	0.07	0	0	0	0	0.392	0.308	0.074	0.299	0	0	0	0	0.261	0.216	0	0.126	0	0	0	0	0.268	0.11	0	0.056	0	0	0	0	0.285		
LTE Band 12_LAT		10M-QPSK	Full Power	2305	707.5	1	49	Back	10cm	0.473	0.374	0.215	0.412	0	0	0	0	0.234	0.101	0.116	0.075	0	0	0	0	0.064	0.185	0.331	0.117	0	0	0	0	0.089	0.396	0.097	0.34	0	0	0.112	0	0.198		
LTE Band 13_LAT		10M-QPSK	Full Power	23230	782	1	25	Back	10cm	0.427	0.241	0.125	0.189	0	0	0	0	0.358	0.261	0.338	0.227	0	0	0	0	0.125	0.38	0.252	0.389	0	0.101	0	0.215	0.161	0.08	0.11	0	0	0	0	0.37			
LTE Band 5_LAT		10M-QPSK	Full Power	20525	836.5	1	0	Back	10cm	0.367	0.343	0.142	0.066	0	0	0	0	0.321	0.107	0.298	0.323	0	0.101	0	0.273	0.162	0.202	0.204	0	0.052	0	0.314	0.338	0.111	0.061	0	0	0	0	0.233				
LTE Band 26_LAT		15M-PSK	Full Power	26585	841.5	1	0	Back	10cm	0.362	0.276	0.083	0.041	0	0	0	0	0.254	0.08	0.201	0.106	0.045	0	0	0	0.163	0.15	0.067	0.063	0	0	0	0.251	0.201	0.069	0	0	0	0	0	0.128			
NT1_Ant1		20M-P12 BPSK	Full Power	136100	680.5	90	28	Back	10cm	0.271	0	0.135	0.08	0	0.22	0	0.082	0	0	0	0	0	0	0	0	0	0.046	0.069	0	0	0	0	0	0	0.089	0	0	0	0	0	0.061			
NO_Ant1		20M-P12 BPSK	Full Power	167300	836.5	90	28	Back	10cm	0.28	0.271	0.112	0.127	0	0	0	0	0.278	0.17	0.258	0.207	0.067	0	0.054	0.091	0.274	0.164	0.169	0	0	0	0.163	0.196	0.08	0.065	0	0	0	0	0.276				

Aperture 04				Aperture 05				Aperture 06				Aperture 07				Aperture 08				Aperture 09														
Average Value of Time Sweep (W/g)				Average Value of Time Sweep (W/g)				Average Value of Time Sweep (W/g)				Average Value of Time Sweep (W/g)				Average Value of Time Sweep (W/g)				Average Value of Time Sweep (W/g)														
0	22	44	66	88	110	132	0	22	44	66	88	110	132	0	22	44	66	88	110	132	0	22	44	66	88	110	132	0	22	44	66	88	110	132
0.002	0	0	0	0	0	0	0	0.044	0.091	0.268	0	0	0	0	0.104	0.093	0.037	0	0	0	0	0.054	0.058	0	0	0	0	0.068	0.044	0	0	0	0	
1	23	45	67	89	111	133	1	23	45	67	89	111	133	1	23	45	67	89	111	133	1	23	45	67	89	111	133	1	23	45	67	89	111	133
0.074	0	0	0	0	0	0	0	0.087	0.121	0.208	0	0	0	0.05	0.123	0	0.114	0	0	0	0.05	0.123	0	0.115	0	0	0	0.081	0.092	0	0.053	0	0	0
2	24	46	68	90	112	134	2	24	46	90	112	134	2	24	46	68	90	112	134	2	24	46	68	90	112	134	2	24	46	68	90	112	134	
0.079	0	0	0	0	0	0	0	0.085	0.134	0.287	0	0	0	0	0.123	0	0.133	0	0	0	0.05	0.126	0	0.132	0	0	0	0.08	0.096	0	0	0	0	
3	25	47	69	91	113	135	3	25	47	69	91	113	135	3	25	47	69	91	113	135	3	25	47	69	91	113	135	3	25	47	69	91	113	135
0.047	0	0	0	0	0	0	0.046	0.101	0.136	0.12	0	0	0	0.097	0.138	0.093	0.094	0	0	0	0.097	0.136	0.093	0.095	0	0	0	0.125	0.073	0	0	0	0	
4	26	48	70	92	114	136	4	26	48	70	92	114	136	4	26	48	70	92	114	136	4	26	48	70	92	114	136	4	26	48	70	92	114	136
0.052	0	0.039	0.042	0	0	0	0	0	0	0	0	0	0	0.046	0	0.067	0	0	0	0	0.039	0	0.076	0	0	0	0	0.064	0	0.076	0	0	0	
5	27	49	71	93	115	137	5	27	49	71	93	115	137	5	27	49	71	93	115	137	5	27	49	71	93	115	137	5	27	49	71	93	115	137
0.044	0	0.048	0.049	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.091	0	0	0	0	
6	28	50	72	94	116	138	6	28	50	72	94	116	138	6	28	50	72	94	116	138	6	28	50	72	94	116	138	6	28	50	72	94	116	138
0.062	0.063	0	0	0	0	0	0	0	0	0	0	0	0	0.055	0	0.105	0	0	0	0	0.054	0	0.106	0	0	0	0	0.064	0.046	0.062	0	0	0	
7	29	51	73	95	117	139	7	29	51	73	95	117	139	7	29	51	73	95	117	139	7	29	51	73	95	117	139	7	29	51	73	95	117	139
0	0	0	0	0	0	0	0	0.063	0	0.112	0	0	0	0	0.12	0.086	0.111	0	0	0	0.118	0.087	0.112	0	0	0	0	0.114	0.123	0	0	0	0	
8	30	52	74	96	118	140	8	30	52	74	96	118	140	8	30	52	74	96	118	140	8	30	52	74	96	118	140	8	30	52	74	96	118	140
0	0	0	0	0	0	0	0	0.088	0.052	0.12	0	0	0	0	0.142	0.122	0.116	0	0	0	0.145	0.121	0.116	0	0	0	0	0.067	0.117	0.044	0	0	0	
9	31	53	75	97	119	141	9	31	53	75	97	119	141	9	31	53	75	97	119	141	9	31	53	75	97	119	141	9	31	53	75	97	119	141
0	0	0.065	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	32	54	76	98	120	142	10	32	54	76	98	120	142	10	32	54	76	98	120	142	10	32	54	76	98	120	142	10	32	54	76	98	120	142
0	0	0	0	0	0	0	0	0.058	0.050	0	0	0	0	0	0.056	0.062	0	0	0	0	0.054	0.064	0	0	0	0	0	0.073	0.048	0	0	0	0	
11	33	55	77	99	121	143	11	33	55	77	99	121	143	11	33	55	77	99	121	143	11	33	55	77	99	121	143	11	33	55	77	99	121	143
0.042	0	0.046	0	0	0	0	0	0.067	0	0.056	0	0	0	0	0.063	0	0.091	0	0	0	0.063	0	0.091	0	0	0	0	0.047	0	0.046	0	0	0	0
12	34	56	78	100	122	0	12	34	56	78	100	122	0	12	34	56	78	100	122	0	12	34	56	78	100	122	0	12	34	56	78	100	122	0
0.173	0.067	0.075	0	0	0	0.374	0.126	0.264	0.224	0	0	0	0.062	0.260	0.167	0.14	0	0	0	0.112	0.27	0.167	0.14	0	0	0	0.11	0.31	0.106	0.104	0	0	0	
13	35	57	79	101	123	1	13	35	57	79	101	123	1	13	35	57	79	101	123	1	13	35	57	79	101	123	1	13	35	57	79	101	123	1
0.241	0.066	0.11	0	0	0	0.416	0.133	0.245	0.220	0	0	0	0.065	0.274	0.166	0.247	0.071	0.054	0.068	0.13	0.276	0.217	0.248	0.071	0.085	0.069	0.132	0.38	0.172	0.163	0	0	0	
14	36	58	80	102	124	2	14	36	58	80	102	124	2	14	36	58	80	102	124	2	14	36	58	80	102	124	2	14	36	58	80	102	124	2
0.206	0	0.119	0	0	0	0.401	0.177	0.296	0.296	0	0	0	0.068	0.372	0.097	0.313	0.09	0.076	0.073	0.169	0.371	0.097	0.313	0.092	0.083	0.082	0.167	0.362	0.053	0.262	0	0	0	
15	37	59	81	103	125	3	15	37	59	81	103	125	3	15	37	59	81	103	125	3	15	37	59	81	103	125	3	15	37	59	81	103	125	3
0.106	0	0.065	0	0	0	0.285	0.316	0	0.339	0	0	0	0.14	0.271	0	0.182	0	0	0	0.231	0.272	0	0.194	0	0	0	0.23	0.175	0	0.098	0	0	0	
16	38	60	82	104	126	4	16	38	60	82	104	126	4	16	38	60	82	104	126	4	16	38	60	82	104	126	4	16	38	60	82	104	126	4
0.368	0.091	0.318	0	0.099	0	0.203	0.052	0.058	0.047	0	0	0	0.065	0.126	0.167	0.104	0	0	0	0.073	0.126	0.179	0.102	0	0	0	0.073	0.243	0.304	0.266	0	0	0	
17	39	61	83	105	127	5	17	39	61	83	105	127	5	17	39	61	83	105	127	5	17	39	61	83	105	127	5	17	39	61	83	105	127	5
0.158	0.079	0.106	0	0	0	0.372	0.151	0.225	0.106	0	0	0	0.079	0.33	0.304	0.336	0	0	0	0.164	0.326	0.307	0.336	0	0	0	0.164	0.326	0.167	0.311	0	0.086	0	
18	40	62	84	106	128	6	18	40	62	84	106	128	6	18	40	62	84	106	128	6	18	40	62	84	106	128	6	18	40	62	84	106	128	6
0.341	0.109	0.061	0	0	0	0.222	0.071	0.309	0.253	0	0	0	0.163	0.146	0.233	0.274	0	0.06	0	0.266	0.146	0.233	0.271	0	0.079	0	0.29	0.285	0.161	0.127	0	0	0	
19	41	63	85	107	129	7	19	41	63	85	107	129	7	19	41	63	85	107	129	7	19	41	63	85	107	129	7	19	41	63	85	107	129	7
0.243	0.176	0	0	0	0	0.122	0.053	0.16	0.156	0	0	0	0.094	0.116	0.162	0.074	0	0	0	0.212	0.116	0.112	0.075	0	0	0	0.214	0.212	0.103	0	0	0		
20	42	64	86	108	130	8	20	42	64	86	108	130	8	20	42	64	86	108	130	8	20	42	64	86	108	130	8	20	42	64	86	108	130	8
0	0.068	0	0	0	0	0.088	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.061	0.069	0	0	0	0
21	43	65	87	109	131	9	21	43	65	87	109	131	9	21	43	65	87	109	131	9	21	43	65	87	109	131	9	21	43	65	87	109	131	9
0.188	0.078	0.095	0	0	0	0.269	0.102	0.225	0.196	0	0	0	0.057	0.216	0.219	0.175	0	0	0	0.123	0.217	0.183	0.175	0	0	0	0.119	0.269	0.113	0.142	0	0	0	

Aperture 10								Aperture 11								Aperture 12								Aperture 13								Aperture 14								Aperture 15										
Average Value of Time Sweep (W/g)								Average Value of Time Sweep (W/g)								Average Value of Time Sweep (W/g)								Average Value of Time Sweep (W/g)								Average Value of Time Sweep (W/g)								Average Value of Time Sweep (W/g)										
0	22	44	66	88	110	132	0	0.062	0.112	0.272	0	0	0	0	0.061	0.111	0.268	0	0	0	0.040	0.065	0	0.255	0	0	0	0.263	0	0	0	0	0	0.082	0.281	0.271	0	0	0											
1	23	45	67	89	111	133	1	0.083	0.086	0.121	0	0	0	0	0.088	0.08	0.122	0	0	0	0.067	0.101	0	0.066	0	0	0	0.086	0	0	0	0	0	0.106	0.051	0.122	0	0	0											
2	24	46	68	90	112	134	2	0.081	0.110	0.204	0	0	0	0	0.084	0.096	0.101	0	0	0	0.067	0.103	0	0.075	0	0	0	0.088	0	0	0	0	0	0.101	0.082	0.123	0	0	0											
3	25	47	69	91	113	135	3	0.097	0.125	0.117	0.153	0	0	0	0.091	0.128	0.111	0.153	0	0	0	0.113	0.085	0	0	0	0	0.071	0	0	0	0	0	0.076	0	0	0	0	0											
4	26	48	70	92	114	136	4	0.043	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.052	0	0	0	0	0	0.059	0.066	0	0	0	0	0	0	0	0	0										
5	27	49	71	93	115	137	5	0.051	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.053	0	0	0	0	0	0.094	0.075	0	0	0	0	0	0	0	0	0										
6	28	50	72	94	116	138	6	0.05	0	0	0	0	0	0	0	0	0.055	0	0	0	0	0.069	0	0.108	0	0	0	0.082	0.067	0	0	0	0	0	0	0.073	0	0	0	0										
7	29	51	73	95	117	139	7	0.077	0.052	0.144	0	0	0	0	0.081	0.056	0.146	0	0	0	0	0.117	0.117	0.052	0	0	0	0.054	0.059	0	0	0	0	0.096	0.074	0.138	0	0	0											
8	30	52	74	96	118	140	8	0.111	0.072	0.151	0	0	0	0	0.117	0.076	0.154	0	0	0	0	0.102	0.121	0.058	0	0	0	0	0.048	0	0	0	0	0.136	0.101	0.145	0	0	0											
9	31	53	75	97	119	141	9	0.044	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0										
10	32	54	76	98	120	142	10	0.074	0.06	0	0	0	0	0	0.079	0.063	0	0	0	0	0.086	0.056	0	0	0	0	0.053	0	0	0	0	0	0.044	0.091	0	0	0	0	0											
11	33	55	77	99	121	143	11	0	0	0.04	0	0	0	0	0.055	0	0.040	0	0	0	0	0.046	0	0.047	0	0	0	0	0.04	0	0.041	0	0	0	0.05	0	0.049	0	0	0										
12	34	56	78	100	122	0	0	0.117	0.044	0.062	0	0	0	0.034	0.161	0.276	0.2	0.055	0	0	0.050	0.173	0.261	0.180	0.096	0	0	0.067	0.266	0.161	0.11	0	0	0	0.163	0.21	0.088	0.081	0	0	0	0.312	0.223	0.264	0.157	0	0	0	0.089	
13	35	57	79	101	123	1	0.163	0	0	0	0	0.038	0.281	0.172	0.180	0	0	0	0.25	0.18	0.23	0.264	0	0	0	0	0.082	0.342	0.198	0.183	0	0	0	0.198	0.207	0.107	0.127	0	0	0	0.463	0.234	0.338	0.272	0.06	0	0	0.102		
14	36	58	80	102	124	2	0.143	0	0.091	0	0	0	0.0319	0.229	0.215	0.330	0.046	0	0	0.108	0.242	0.196	0.342	0.051	0.043	0.041	0.114	0.350	0.078	0.219	0	0	0	0.350	0.256	0	0.142	0	0	0	0.356	0.305	0.131	0.335	0.090	0.078	0.073	0.114		
15	37	59	81	103	125	3	0.089	0	0.046	0	0	0	0.071	0.337	0	0.317	0	0	0	0.108	0.34	0.032	0.311	0	0	0	0.162	0.22	0.043	0.133	0	0	0	0.240	0.14	0	0.073	0	0	0	0.274	0.334	0	0.274	0	0	0	0.181		
16	38	60	82	104	126	4	0.284	0.023	0.168	0	0	0	0.0396	0.075	0.07	0.094	0	0	0	0.054	0.077	0.072	0.055	0	0	0	0.066	0.164	0.274	0.152	0	0	0	0.086	0.325	0.234	0.408	0	0.066	0	0.135	0.091	0.097	0.067	0	0	0	0.061		
17	39	61	83	105	127	5	0.112	0.063	0.072	0	0	0	0.0285	0.193	0.277	0.146	0	0	0	0.096	0.202	0.285	0.157	0	0	0	0.103	0.336	0.214	0.351	0	0.089	0	0.214	0.207	0.102	0.16	0	0	0	0.309	0.252	0.308	0.219	0	0	0	0.124		
18	40	62	84	106	128	6	0.287	0.089	0.043	0	0	0	0.147	0.087	0.304	0.322	0	0.055	0	0.211	0.092	0.305	0.305	0	0.063	0	0.227	0.216	0.175	0.151	0	0	0	0.31	0.329	0.124	0.074	0	0	0	0.276	0.115	0.263	0.303	0	0.091	0	0.291		
19	41	63	85	107	129	7	0.16	0.169	0	0	0	0	0.083	0.086	0.169	0.125	0	0	0	0.123	0.07	0.16	0.119	0	0	0	0.131	0.164	0.122	0.052	0	0	0	0.222	0.253	0.082	0	0	0	0	0.158	0.089	0.175	0.069	0	0	0	0.168		
20	42	64	86	108	130	8	0.046	0.046	0	0	0	0	0.074	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.054	0	0	0	0	0	0	0.084	0.083	0	0	0	0	0.059	0	0	0	0	0	0	0
21	43	65	87	109	131	9	0.122	0.057	0.071	0	0	0	0.019	0.127	0.239	0.197	0	0	0	0.07	0.132	0.233	0.197	0	0	0	0.073	0.254	0.134	0.142	0	0	0	0.183	0.213	0.087	0.154	0	0	0	0.272	0.172	0.208	0.183	0.046	0	0	0.093		

RF exposure position											Aperture 00					
											Average Value of Time Sweep (W/kg)					
Band	Mode	Power Reduction	Channel	Frequency (MHz)	RB Size	RB Offset	Test Position	Spacing	Measured 1g SAR (W/kg)	0	24	48	72	96	120	
GSM1900_LAT	GPRS(3 Tx slots)	Full Power	661	1880	N/A	N/A	Right Cheek	0mm	0.107	0	0	0.044	0.043	0.044	0	
CDMA2000_BC1_LAT	RC3-SCS6	Full Power	1175	1908.75	N/A	N/A	Right Cheek	0mm	0.176	0.043	0.1	0.062	0.097	0.107	0.088	
WCDMA_I_LAT	RMC 12.2Kbps	Full Power	9538	1907.6	N/A	N/A	Right Cheek	0mm	0.245	0.065	0.129	0.094	0.13	0.065	0.118	
WCDMA_IV_LAT	RMC 12.2Kbps	Full Power	1513	1752.6	N/A	N/A	Left Cheek	0mm	0.381	0.145	0.215	0.239	0.141	0.213	0.193	
LTE_Band_25_LAT	QPSK	Full Power	26590	1905	1	0	Left Cheek	0mm	0.209	0.133	0.202	0.195	0.199	0.171	0.208	
LTE_Band_66_LAT	QPSK	Full Power	132072	1770	1	0	Left Cheek	0mm	0.262	0.163	0.144	0.2	0.108	0.204	0.186	
LTE_Band_7_LAT	QPSK	Full Power	21100	2535	1	99	Right Cheek	0mm	0.314	0.143	0.111	0.118	0.166	0.134	0.144	
LTE_Band_41_LAT	QPSK	Full Power	40185	2548.5	1	49	Right Cheek	0mm	0.183	0.088	0.076	0.071	0.103	0.062	0.091	
N2_Ant3	PV2 BPSK	Full Power	380000	1900	50	28	Left Cheek	0mm	0.180	0.115	0.179	0.129	0.148	0.077	0.178	
N25_Ant3	PV2 BPSK	Full Power	381000	1905	50	28	Left Cheek	0mm	0.195	0.191	0.186	0.192	0.117	0.189	0.145	
N66_Ant3	PV2 BPSK	Full Power	344000	1720	1	53	Left Cheek	0mm	0.193	0.125	0.112	0.181	0.134	0.19	0.189	
N41_Ant3	PV2 BPSK	Full Power	509202	2546.01	1	1	Right Cheek	0mm	0.262	0	0	0	0	0	0	
N2_Ant3	PV2 BPSK	Hotspot on	380000	1900	50	28	Bottom Side	10mm	0.833	0.363	0.546	0.689	0.646	0.726	0.74	
N25_Ant3	PV2 BPSK	Hotspot on	381000	1905	50	28	Bottom Side	10mm	0.788	0.532	0.583	0.398	0.636	0.445	0.608	
N66_Ant3	PV2 BPSK	Hotspot on	344000	1720	50	28	Bottom Side	10mm	0.701	0.35	0.615	0.193	0.559	0.475	0.429	
N41_Ant3	PV2 BPSK	Hotspot on	518598	2592.99	135	69	Back	10mm	0.465	0.244	0.2	0.153	0.199	0.243	0.18	

RF exposure position											Aperture 00						
											Average Value of Time Sweep (W/kg)						
Band	Mode	Power Reduction	Channel	Frequency (MHz)	RB Size	RB Offset	Test Position	Spacing	Measured 1g SAR (W/kg)	0	21	42	63	84	105	126	
										WWAN_Ant.3 Head	LTE Band 30_LAT	QPSK	Full Power	27710	2310	1	0
1	22	43	64	85	106	127											
0.107	0.159	0.162	0.083	0.156	0.137	0.112											
2	23	44	65	86	107	128											
0.134	0.17	0.166	0.108	0.165	0.13	0.138											
3	24	45	66	87	108	129											
0.154	0.168	0.074	0.122	0.168	0.095	0.147											
4	25	46	67	88	109	130											
0.162	0.166	0.112	0.129	0.162	0.132	0.15											
5	26	47	68	89	110	131											
0.171	0.158	0.139	0.133	0.155	0.154	0.148											
6	27	48	69	90	111	132											
0.168	0.042	0.153	0.132	0.076	0.166	0.145											
7	28	49	70	91	112	133											
0.169	0.071	0.16	0.129	0.095	0.168	0.142											
8	29	50	71	92	113	134											
0.164	0.1	0.162	0.123	0.124	0.167	0.133											
9	30	51	72	93	114	135											
0.067	0.122	0.159	0.073	0.144	0.163	0.055											
10	31	52	73	94	115	136											
0.107	0.134	0.156	0.114	0.153	0.162	0.086											
11	32	53	74	95	116	137											
0.14	0.152	0.148	0.141	0.161	0.157	0.109											
12	33	54	75	96	117	138											
0.162	0.153	0.074	0.159	0.16	0.077	0.121											
13	34	55	76	97	118	139											
0.165	0.152	0.111	0.166	0.156	0.116	0.124											
14	35	56	77	98	119	140											
0.171	0.145	0.138	0.171	0.147	0.139	0.125											
15	36	57	78	99	120	141											
0.169	0.095	0.152	0.168	0.042	0.152	0.122											
16	37	58	79	100	121	142											
0.172	0.093	0.155	0.173	0.069	0.156	0.117											
17	38	59	80	101	122	143											
0.149	0.158	0.156	0.167	0.096	0.155	0.111											
18	39	60	81	102	123												
0.099	0.172	0.153	0.06	0.114	0.151												
19	40	61	82	103	124												
0.085	0.161	0.151	0.096	0.125	0.146												
20	41	62	83	104	125												
0.126	0.168	0.142	0.127	0.138	0.135												

Band	Mode	Power Reduction	Channel	Frequency (MHz)	RB Size	RB Offset	Test Position	Spacing	Measured 1g SAR (W/kg)	0	21	42	63	84	105	126	
WWAN_Ant 3 Body	LTE Band 30_LAT	QPSK	Hotspot on	27710	2310	25	12	Back	10mm	0.20	0.041	0.204	0.273	0.011	0.214	0.219	0.057
											1	22	43	64	85	106	127
											0.128	0.226	0.261	0.093	0.207	0.217	0.154
											2	23	44	65	86	107	128
											0.131	0.258	0.24	0.151	0.26	0.196	0.21
											3	24	45	66	87	108	129
											0.138	0.259	0.036	0.184	0.262	0.077	0.239
											4	25	46	67	88	109	130
											0.282	0.251	0.128	0.197	0.251	0.168	0.242
											5	26	47	68	89	110	131
											0.276	0.241	0.19	0.204	0.244	0.224	0.235
											6	27	48	69	90	111	132
											0.271	0.025	0.227	0.201	0.021	0.252	0.225
											7	28	49	70	91	112	133
											0.28	0.054	0.24	0.186	0.109	0.265	0.217
											8	29	50	71	92	113	134
											0.273	0.118	0.245	0.163	0.168	0.278	0.192
											9	30	51	72	93	114	135
											0.036	0.173	0.243	0.048	0.208	0.265	0.014
											10	31	52	73	94	115	136
											0.13	0.191	0.233	0.037	0.234	0.264	0.1
											11	32	53	74	95	116	137
											0.142	0.224	0.214	0.183	0.261	0.247	0.161
											12	33	54	75	96	117	138
											0.208	0.222	0.04	0.23	0.235	0.057	0.191
											13	34	55	76	97	118	139
											0.226	0.21	0.132	0.244	0.252	0.146	0.204
											14	35	56	77	98	119	140
											0.298	0.199	0.195	0.267	0.233	0.208	0.168
											15	36	57	78	99	120	141
											0.261	0.063	0.231	0.279	0.023	0.239	0.186
											16	37	58	79	100	121	142
											0.257	0.15	0.237	0.268	0.065	0.244	0.174
											17	38	59	80	101	122	143
											0.241	0.216	0.242	0.267	0.126	0.245	0.148
											18	39	60	81	102	123	
											0.011	0.239	0.237	0.019	0.17	0.236	
											19	40	61	82	103	124	
											0.089	0.254	0.223	0.128	0.2	0.225	
											20	41	62	83	104	125	
											0.161	0.272	0.214	0.166	0.215	0.208	