

Appendix (Additional assessments outside the scope of SCS0108)

1. DC Voltage Linearity

High Range	Reading (μV)	Difference (μV)	Error (%)
Channel X + Input	200024.85	-8.32	-0.00
Channel X + Input	20005.36	0.39	0.00
Channel X - Input	-20003.50	2.72	-0.01
Channel Y + Input	200030.06	-2.90	-0.00
Channel Y + Input	20004.14	-0.70	-0.00
Channel Y - Input	-20008.00	-1.63	0.01
Channel Z + Input	200034.52	1.89	0.00
Channel Z + Input	20005.02	0.16	0.00
Channel Z - Input	-20007.28	-0.87	0.00

Low Range	Reading (μV)	Difference (μV)	Error (%)
Channel X + Input	2000.94	0.03	0.00
Channel X + Input	200.94	0.01	0.01
Channel X - Input	-198.93	0.16	-0.08
Channel Y + Input	2000.58	-0.17	-0.01
Channel Y + Input	199.97	-0.81	-0.40
Channel Y - Input	-200.24	-0.99	0.50
Channel Z + Input	2000.83	0.21	0.01
Channel Z + Input	199.97	-0.67	-0.34
Channel Z - Input	-199.90	-0.63	0.32

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	23.26	21.16
	- 200	-21.29	-22.70
Channel Y	200	-27.83	-28.04
	- 200	26.48	26.49
Channel Z	200	-11.47	-11.06
	- 200	9.80	9.70

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	-	1.92	-3.40
Channel Y	200	8.27	-	3.32
Channel Z	200	9.47	5.42	-

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	15579	16774
Channel Y	16044	14871
Channel Z	16074	16518

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	0.87	-0.93	1.98	0.46
Channel Y	-0.62	-1.71	0.15	0.38
Channel Z	-0.46	-1.45	0.52	0.39

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



In Collaboration with
s p e a g
CALIBRATION LABORATORY



中国认可
国际互认
校准
CALIBRATION
CNAS L0570

Add: No.51 Xueyuan Road, Haidian District, Beijing, 100191, China
Tel: +86-10-62304633-2512 Fax: +86-10-62304633-2504
E-mail: cttl@chinattl.com [Http://www.chinattl.cn](http://www.chinattl.cn)

Client

Sporton

Certificate No: **Z20-60181**

CALIBRATION CERTIFICATE

Object **ES3DV3 - SN : 3279**

Calibration Procedure(s) **FF-Z11-004-01**
Calibration Procedures for Dosimetric E-field Probes

Calibration date: **June 02, 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±3)°C and humidity<70%.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date(Calibrated by, Certificate No.)	Scheduled Calibration
Power Meter NRP2	101919	18-Jun-19(CTTL, No.J19X05125)	Jun-20
Power sensor NRP-Z91	101547	18-Jun-19(CTTL, No.J19X05125)	Jun-20
Power sensor NRP-Z91	101548	18-Jun-19(CTTL, No.J19X05125)	Jun-20
Reference 10dBAttenuator	18N50W-10dB	10-Feb-20(CTTL, No.J20X00525)	Feb-22
Reference 20dBAttenuator	18N50W-20dB	10-Feb-20(CTTL, No.J20X00526)	Feb-22
Reference Probe EX3DV4	SN 3617	30-Jan-20(SPEAG, No.EX3-3617_Jan20/2)	Jan-21
DAE4	SN 1556	4-Feb-20(SPEAG, No.DAE4-1556_Feb20)	Feb-21

Secondary Standards	ID #	Cal Date(Calibrated by, Certificate No.)	Scheduled Calibration
SignalGenerator MG3700A	6201052605	18-Jun-19(CTTL, No.J19X05127)	Jun-20
Network Analyzer E5071C	MY46110673	10-Feb-20(CTTL, No.J20X00515)	Feb-21

	Name	Function	Signature
Calibrated by:	Yu Zongying	SAR Test Engineer	
Reviewed by:	Lin Hao	SAR Test Engineer	
Approved by:	Qi Dianyuan	SAR Project Leader	

Issued: June 04, 2020

This calibration certificate shall not be reproduced except in full without written approval of the laboratory.



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 $\theta=0$ ($f \leq 900\text{MHz}$ in TEM-cell; $f > 1800\text{MHz}$: waveguide). NORM_{x,y,z} are only intermediate values, i.e., the uncertainties of NORM_{x,y,z} does not effect 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 (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}; VR_{x,y,z}; A,B,C** 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 $f \leq 800\text{MHz}$) and inside waveguide using analytical field distributions based on power measurements for $f > 800\text{MHz}$. The same setups are used for assessment of the parameters applied for boundary compensation (alpha, depth) of which typical uncertainty valued 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 $\pm 50\text{MHz}$ to $\pm 100\text{MHz}$.
- 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: ES3DV3 – SN:3279

Basic Calibration Parameters

	Sensor X	Sensor Y	Sensor Z	Unc (k=2)
Norm($\mu\text{V}/(\text{V}/\text{m})^2$) ^A	1.32	1.39	1.31	±10.0%
DCP(mV) ^B	104.2	106.6	106.1	

Modulation Calibration Parameters

UID	Communication System Name		A dB	B dB- μV	C	D dB	VR mV	Unc ^E (k=2)
0	CW	X	0.0	0.0	1.0	0.00	264.4	±2.2%
		Y	0.0	0.0	1.0		276.5	
		Z	0.0	0.0	1.0		268.2	

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 TSL (see Page 4).

^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: ES3DV3 – SN:3279

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 ^G (mm)	Unct. (k=2)
750	41.9	0.89	6.44	6.44	6.44	0.40	1.40	±12.1%
835	41.5	0.90	6.25	6.25	6.25	0.43	1.48	±12.1%
1750	40.1	1.37	5.40	5.40	5.40	0.75	1.19	±12.1%
1900	40.0	1.40	5.16	5.16	5.16	0.69	1.25	±12.1%
2000	40.0	1.40	5.13	5.13	5.13	0.63	1.31	±12.1%
2300	39.5	1.67	4.92	4.92	4.92	0.90	1.10	±12.1%
2450	39.2	1.80	4.71	4.71	4.71	0.90	1.16	±12.1%
2600	39.0	1.96	4.54	4.54	4.54	0.90	1.15	±12.1%

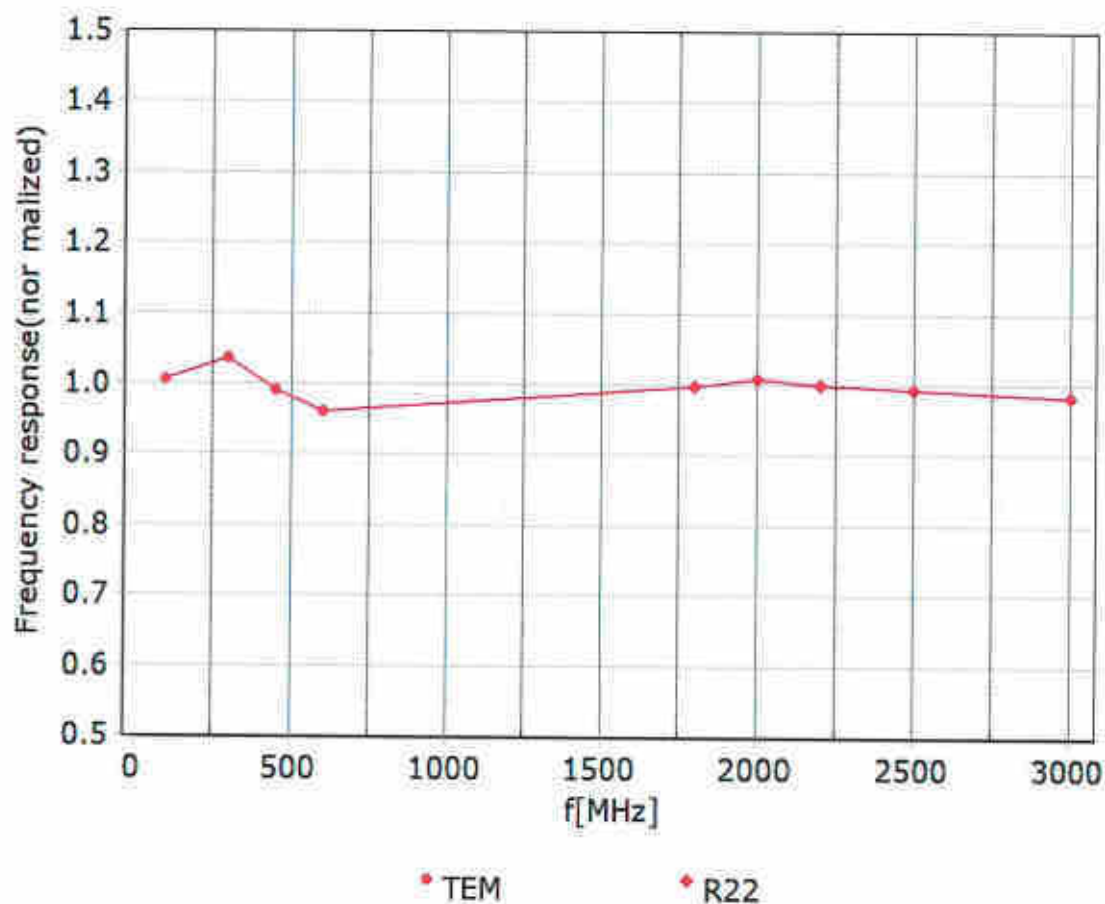
^C Frequency validity above 300 MHz of ±100MHz only applies for DASY v4.4 and higher (Page 2), else it is restricted to ±50MHz. The uncertainty is the RSS of ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band. Frequency validity below 300 MHz is ± 10, 25,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

^F At frequency below 3 GHz, the validity of tissue parameters (ϵ and σ) can be relaxed to ±10% if liquid compensation formula is applied to measured SAR values. At frequencies above 3 GHz, the validity of tissue parameters (ϵ and σ) is restricted to ±5%. 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 the 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: $\pm 7.4\%$ ($k=2$)

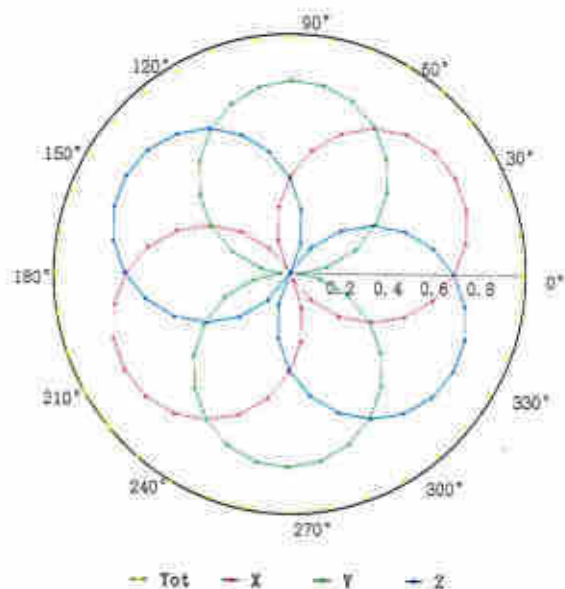


In Collaboration with
s p e a g
CALIBRATION LABORATORY

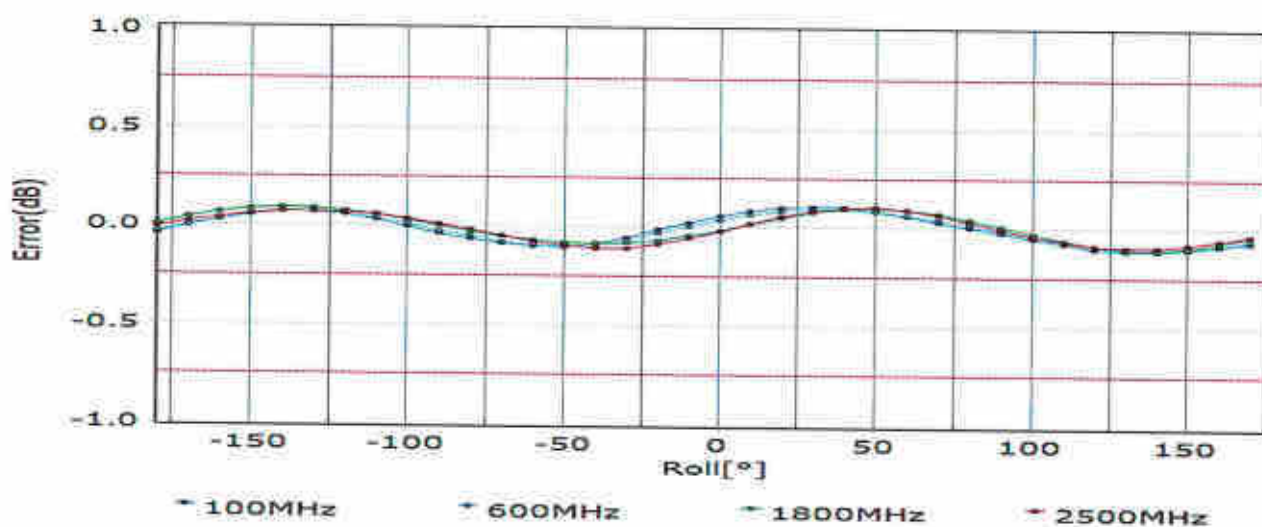
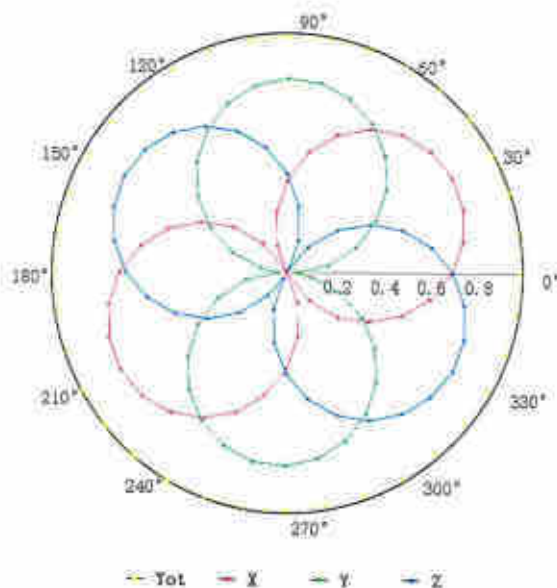
Add: No.31 Xueyuan Road, Haidian District, Beijing, 100191, China
Tel: +86-10-62304633-2512 Fax: +86-10-62304633-2504
E-mail: cttl@chinattl.com [Http://www.chinattl.cn](http://www.chinattl.cn)

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

f=600 MHz, TEM

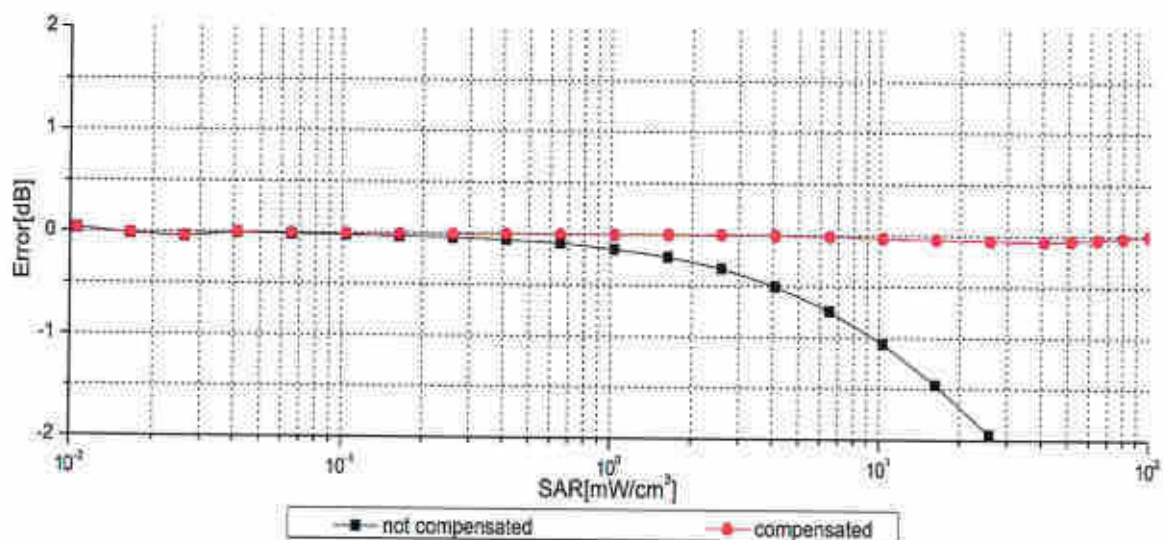
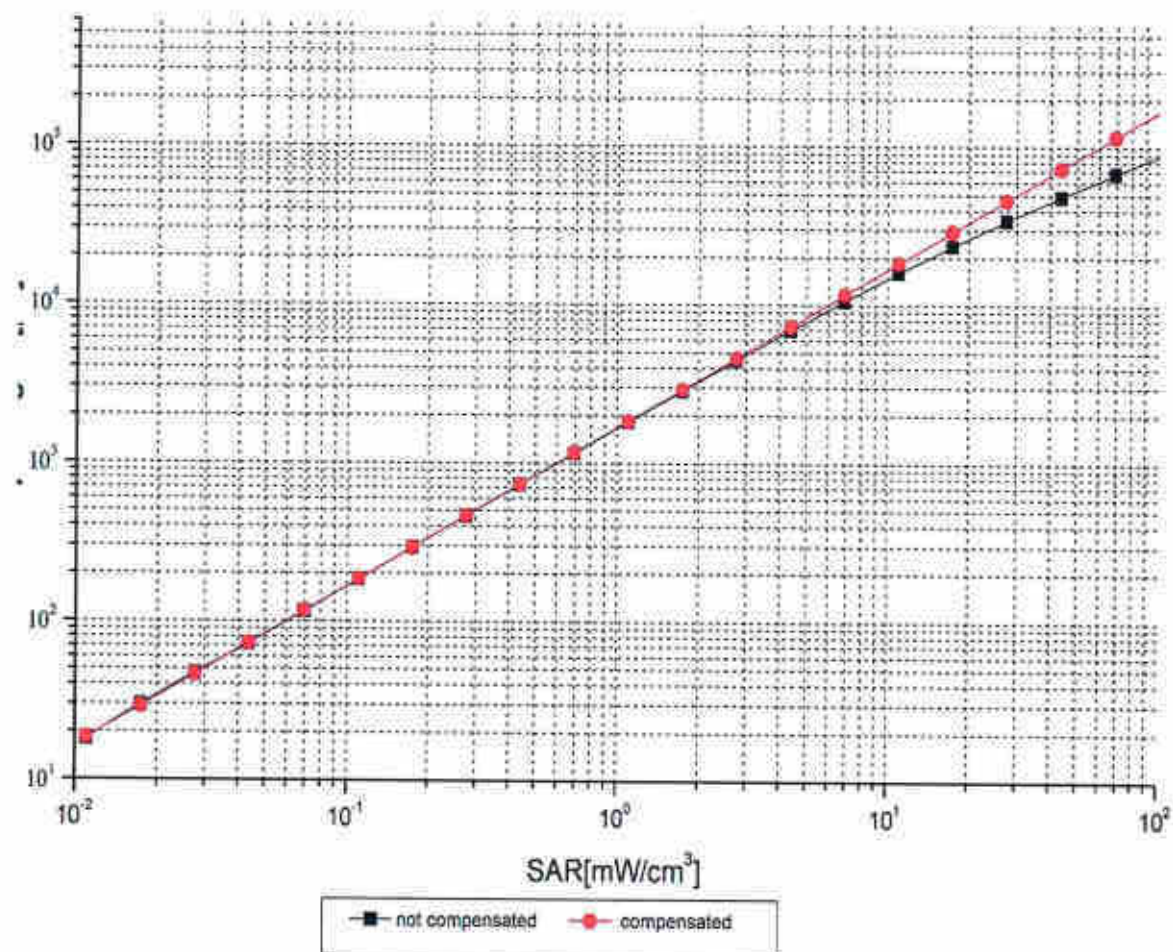


f=1800 MHz, R22



Uncertainty of Axial Isotropy Assessment: $\pm 1.2\%$ ($k=2$)

Dynamic Range f(SAR_{head}) (TEM cell, f = 900 MHz)



Uncertainty of Linearity Assessment: $\pm 0.9\%$ ($k=2$)



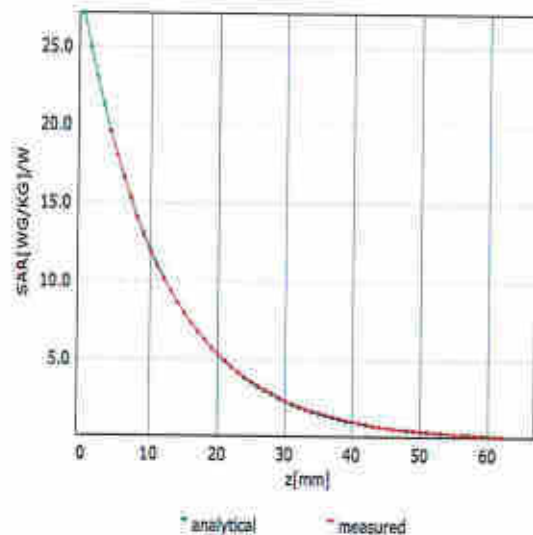
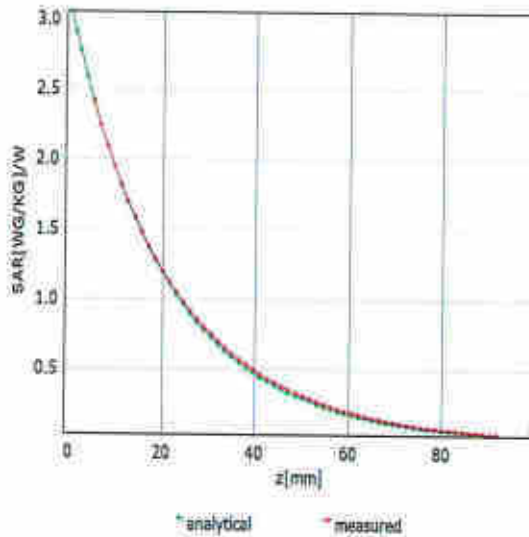
In Collaboration with
s p e a g
CALIBRATION LABORATORY

Add: No.51 Xueyuan Road, Haidian District, Beijing, 100191, China
Tel: +86-10-62304633-2512 Fax: +86-10-62304633-2504
E-mail: cttl@chinattl.com [Http://www.chinattl.cn](http://www.chinattl.cn)

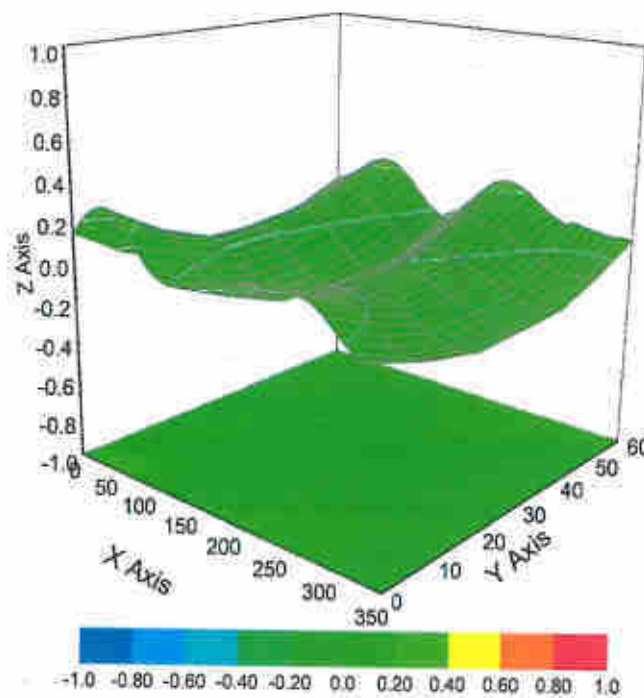
Conversion Factor Assessment

f=750 MHz,WGLS R9(H_convF)

f=1750 MHz,WGLS R22(H_convF)



Deviation from Isotropy in Liquid



Uncertainty of Spherical Isotropy Assessment: $\pm 3.2\%$ ($k=2$)



In Collaboration with
s p e a g
CALIBRATION LABORATORY

Add: No.51 Xueyuan Road, Haidian District, Beijing, 100191, China
Tel: +86-10-62304633-2512 Fax: +86-10-62304633-2504
E-mail: ttl@chinattl.com [Http://www.chinattl.cn](http://www.chinattl.cn)

DASY/EASY – Parameters of Probe: ES3DV3 – SN:3279

Other Probe Parameters

Sensor Arrangement	Triangular
Connector Angle (°)	170.7
Mechanical Surface Detection Mode	enabled
Optical Surface Detection Mode	disable
Probe Overall Length	337mm
Probe Body Diameter	10mm
Tip Length	10mm
Tip Diameter	4mm
Probe Tip to Sensor X Calibration Point	2mm
Probe Tip to Sensor Y Calibration Point	2mm
Probe Tip to Sensor Z Calibration Point	2mm
Recommended Measurement Distance from Surface	3mm



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: **EX3-3935_May20**

CALIBRATION CERTIFICATE

Object **EX3DV4 - SN:3935**

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: **May 27, 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 ± 3)°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: 104778	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: MY41498087	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

	Name	Function	Signature
Calibrated by:	Leif Klysner	Laboratory Technician	
Approved by:	Katja Pokovic	Technical Manager	
			Issued: June 1, 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:3935

Basic Calibration Parameters

	Sensor X	Sensor Y	Sensor Z	Unc (k=2)
Norm ($\mu\text{V}/(\text{V}/\text{m})^2$) ^A	0.49	0.53	0.48	± 10.1 %
DCP (mV) ^B	102.6	103.2	102.3	

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 ^E (k=2)
0	CW	X	0.0	0.0	1.0	0.00	137.0	± 3.3 %	± 4.7 %
		Y	0.0	0.0	1.0		150.1		
		Z	0.0	0.0	1.0		141.6		

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:3935

Other Probe Parameters

Sensor Arrangement	Triangular
Connector Angle (°)	44.5
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:3935

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 ^G (mm)	Unc (k=2)
750	41.9	0.89	10.58	10.58	10.58	0.57	0.80	± 12.0 %
835	41.5	0.90	10.31	10.31	10.31	0.38	0.93	± 12.0 %
900	41.5	0.97	10.16	10.16	10.16	0.40	0.88	± 12.0 %
1750	40.1	1.37	8.60	8.60	8.60	0.27	0.86	± 12.0 %
1900	40.0	1.40	8.35	8.35	8.35	0.24	0.86	± 12.0 %
2000	40.0	1.40	8.25	8.25	8.25	0.34	0.86	± 12.0 %
2300	39.5	1.67	7.86	7.86	7.86	0.35	0.90	± 12.0 %
2450	39.2	1.80	7.60	7.60	7.60	0.33	0.90	± 12.0 %
2600	39.0	1.96	7.43	7.43	7.43	0.37	0.90	± 12.0 %
5250	35.9	4.71	5.04	5.04	5.04	0.40	1.80	± 14.0 %
5600	35.5	5.07	4.76	4.76	4.76	0.40	1.80	± 14.0 %
5750	35.4	5.22	4.67	4.67	4.67	0.40	1.80	± 14.0 %

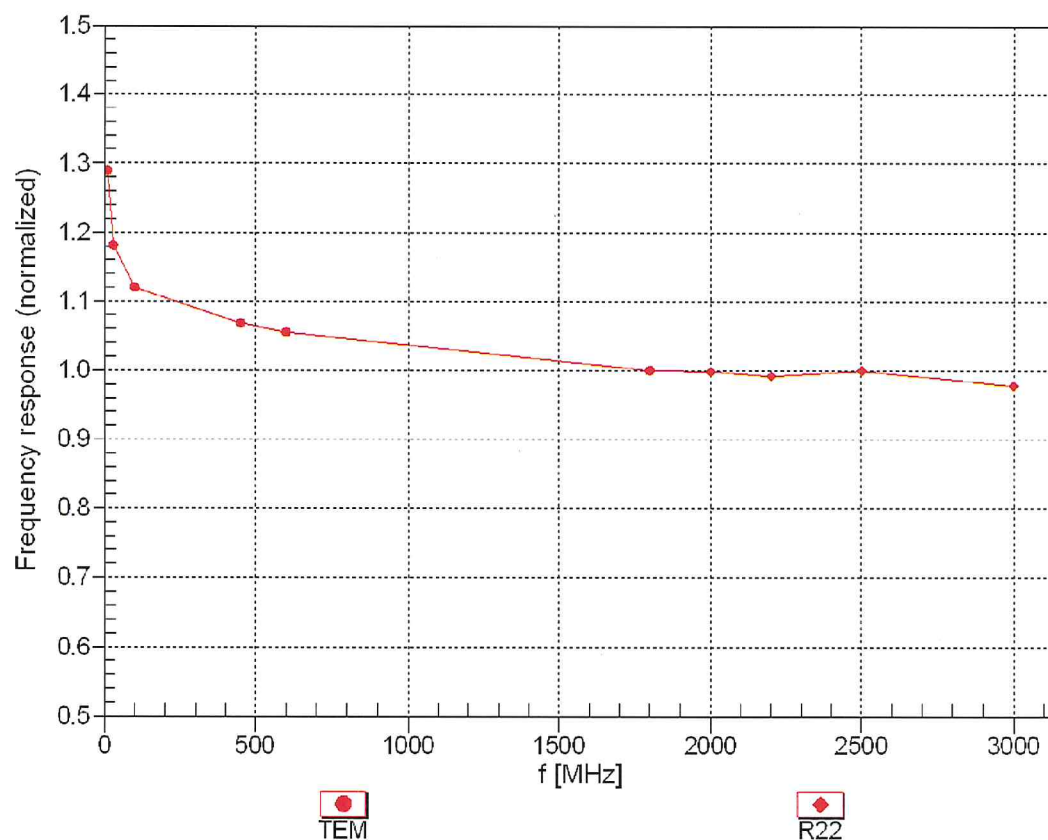
^C Frequency validity above 300 MHz of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2), else it is restricted to ± 50 MHz. The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band. Frequency validity below 300 MHz is ± 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

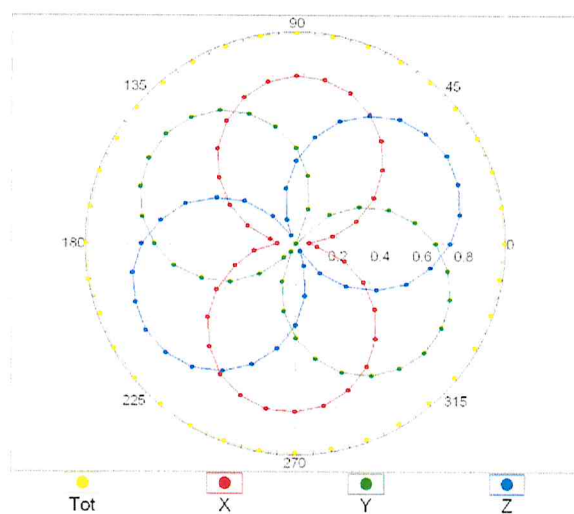
(TEM-Cell:ifi110 EXX, Waveguide: R22)



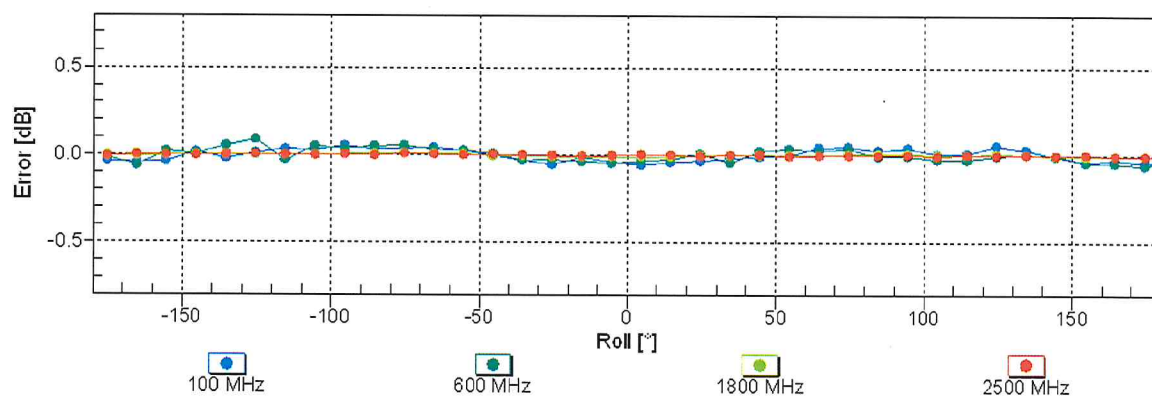
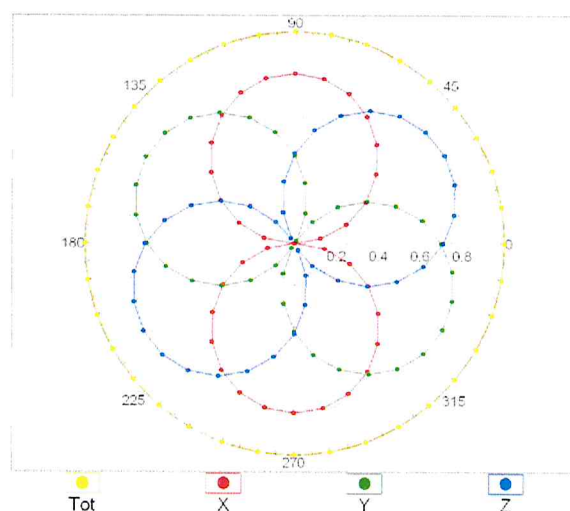
Uncertainty of Frequency Response of E-field: $\pm 6.3\%$ ($k=2$)

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

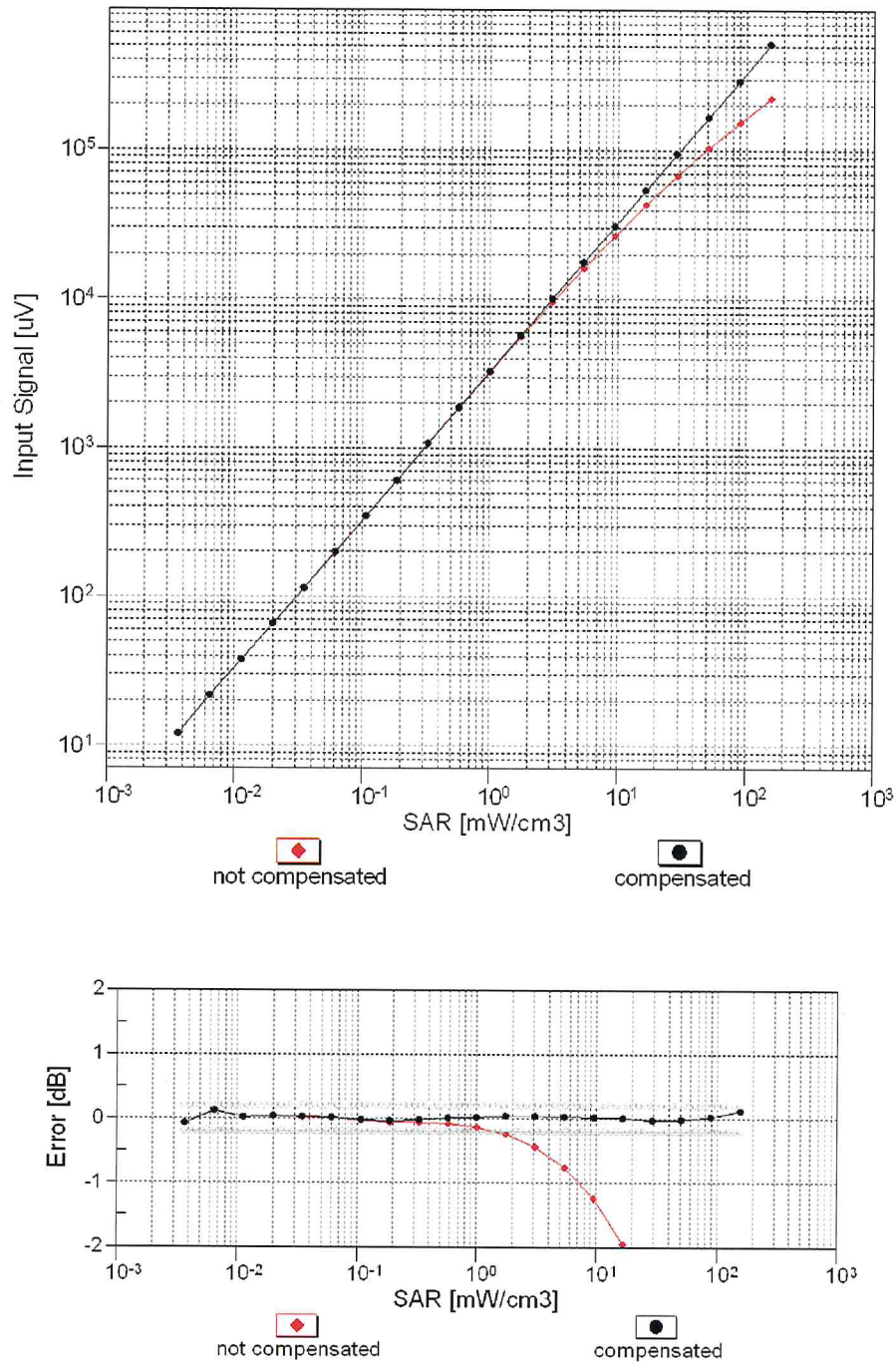
f=600 MHz,TEM



f=1800 MHz,R22

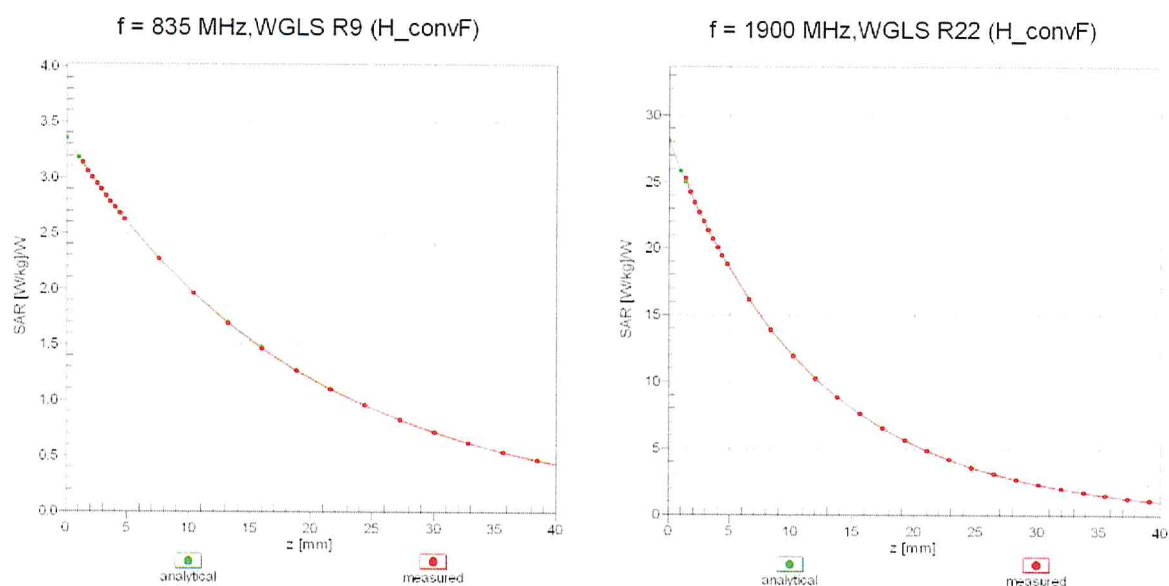
**Uncertainty of Axial Isotropy Assessment: $\pm 0.5\%$ ($k=2$)**

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



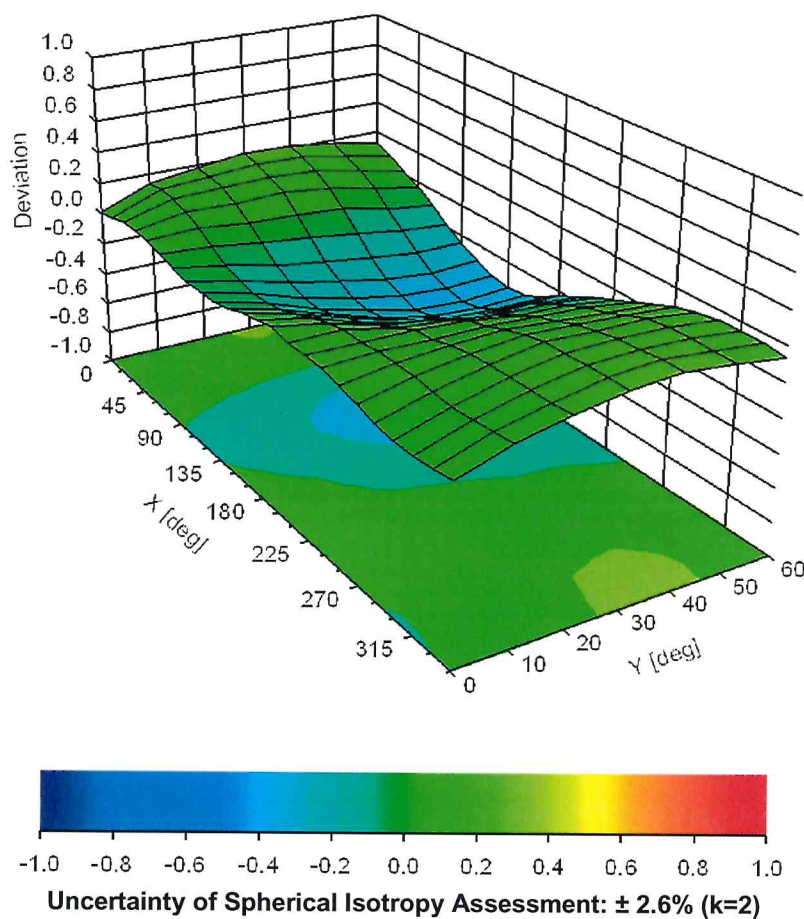
Uncertainty of Linearity Assessment: $\pm 0.6\%$ ($k=2$)

Conversion Factor Assessment



Deviation from Isotropy in Liquid

Error (ϕ, ϑ), $f = 900 \text{ MHz}$





Appendix E. Conducted RF Output Power Table

The detailed power table are shown as follows.

Full Power

GSM850		Burst Average Power (dBm)			Tune-up Limit (dBm)	Frame-Average Power (dBm)			Tune-up Limit (dBm)
TX Channel		128	189	251		128	189	251	
Frequency (MHz)		824.2	836.4	848.8		824.2	836.4	848.8	
GSM 1 Tx slot		31.85	31.98	32.03	33.50	22.85	22.98	23.03	24.50
GPRS 1 Tx slot		31.83	31.96	32.01	33.50	22.83	22.96	23.01	24.50
GPRS 2 Tx slots		28.86	29.11	29.10	30.50	22.86	23.11	23.10	24.50
GPRS 3 Tx slots		26.79	26.94	27.01	28.50	22.53	22.68	22.75	24.24
GPRS 4 Tx slots		25.42	25.11	25.26	26.50	22.42	22.11	22.26	23.50
EDGE 1 Tx slot		25.38	25.42	25.53	27.00	16.38	16.42	16.53	18.00
EDGE 2 Tx slots		25.25	25.27	25.40	26.50	19.25	19.27	19.40	20.50
EDGE 3 Tx slots		23.88	23.85	23.89	25.50	19.62	19.59	19.63	21.24
EDGE 4 Tx slots		22.37	22.48	22.45	24.00	19.37	19.48	19.45	21.00

GSM1900		Burst Average Power (dBm)			Tune-up Limit (dBm)	Frame-Average Power (dBm)			Tune-up Limit (dBm)
TX Channel		512	661	810		512	661	810	
Frequency (MHz)		1850.2	1880	1909.8		1850.2	1880	1909.8	
GSM 1 Tx slot		29.25	29.28	29.10	30.50	20.25	20.28	20.10	21.50
GPRS 1 Tx slot		29.24	29.26	29.09	30.50	20.24	20.26	20.09	21.50
GPRS 2 Tx slots		26.34	26.35	26.25	27.50	20.34	20.35	20.25	21.50
GPRS 3 Tx slots		24.36	24.34	24.14	25.50	20.10	20.08	19.88	21.24
GPRS 4 Tx slots		22.87	22.87	22.74	24.00	19.87	19.87	19.74	21.00
EDGE 1 Tx slot		25.12	25.01	24.92	26.00	16.12	16.01	15.92	17.00
EDGE 2 Tx slots		25.01	24.91	24.81	26.00	19.01	18.91	18.81	20.00
EDGE 3 Tx slots		23.11	23.11	22.97	24.00	18.85	18.85	18.71	19.74
EDGE 4 Tx slots		21.72	21.68	21.56	23.00	18.72	18.68	18.56	20.00

Band		WCDMA II			Tune-up Limit (dBm)	WCDMA IV			Tune-up Limit (dBm)	WCDMA V			Tune-up Limit (dBm)
TX Channel		9262	9400	9538		1312	1413	1513		4132	4182	4233	
Rx Channel		9662	9800	9938		1537	1638	1738		4357	4407	4459	
Frequency (MHz)		1852.4	1880	1907.6		1712.4	1732.6	1752.6		826.4	836.4	846.6	
3GPP Rel 99	AMR 12.2Kbps	22.95	23.03	22.84	24.00	23.14	23.21	23.08	24.00	23.20	23.28	23.11	24.00
3GPP Rel 99	RM 12.2Kbps	22.96	23.05	22.86	24.00	23.16	23.23	23.10	24.00	23.23	23.29	23.14	24.00
3GPP Rel 6	HSDPA Subtest-1	21.89	21.49	21.57	23.00	22.20	22.04	22.07	23.00	22.24	21.96	22.25	23.00
3GPP Rel 6	HSDPA Subtest-2	21.86	21.81	21.51	23.00	22.13	22.07	22.08	23.00	22.23	21.98	22.22	23.00
3GPP Rel 6	HSDPA Subtest-3	21.12	21.00	21.04	22.50	21.65	21.59	21.60	22.50	21.73	21.50	21.74	22.50
3GPP Rel 6	HSDPA Subtest-4	21.12	21.25	21.05	22.50	21.66	21.60	21.58	22.50	21.71	21.43	21.71	22.50
3GPP Rel 6	DC-HSDPA Subtest-1	21.86	21.59	21.56	23.00	22.16	22.03	22.04	23.00	22.23	21.93	22.23	23.00
3GPP Rel 6	DC-HSDPA Subtest-2	21.83	21.79	21.50	23.00	22.11	22.06	22.05	23.00	22.22	21.95	22.20	23.00
3GPP Rel 6	DC-HSDPA Subtest-3	21.09	21.25	21.03	22.50	21.63	21.58	21.57	22.50	21.72	21.47	21.72	22.50
3GPP Rel 6	DC-HSDPA Subtest-4	21.09	21.23	21.04	22.50	21.64	21.59	21.55	22.50	21.70	21.40	21.69	22.50
3GPP Rel 6	HSUPA Subtest-1	21.78	21.65	21.66	23.00	22.28	22.27	22.06	23.00	22.23	22.05	22.30	23.00
3GPP Rel 6	HSUPA Subtest-2	19.81	19.68	19.77	21.00	20.26	20.15	20.22	21.00	20.30	20.06	20.27	21.00
3GPP Rel 6	HSUPA Subtest-3	20.80	20.66	20.75	22.00	21.06	21.03	20.96	22.00	21.19	21.11	21.22	22.00
3GPP Rel 6	HSUPA Subtest-4	19.80	19.68	19.73	21.00	20.17	20.04	20.04	21.00	20.19	20.12	20.28	21.00
3GPP Rel 6	HSUPA Subtest-5	21.79	21.72	21.83	23.00	22.28	22.17	22.15	23.00	22.09	22.18	22.16	23.00

Band		CDMA BC0			Tune-up Limit (dBm)	CDMA BC1			Tune-up Limit (dBm)	CDMA BC10			Tune-up Limit (dBm)
TX Channel		1013	384	777		25	600	1175		476	580	684	
Frequency (MHz)		824.7	836.52	848.31		1861.25	1880	1908.75		817.9	820.5	823.1	
RC1 SO55		24.28	24.38	24.31	25.00	24.02	24.35	24.30	25.00	24.10	24.21	24.01	25.00
RC3 SO55		24.23	24.39	24.33	25.00	24.01	24.36	24.24	25.00	24.00	24.25	24.13	25.00
RC3 SO32 (F+SCH)		24.20	24.35	24.19	25.00	24.05	24.33	24.22	25.00	24.10	24.15	24.02	25.00
RC3 SO32 (H+SCH)		24.15	24.30	24.09	25.00	24.09	24.27	24.28	25.00	23.99	24.17	24.04	25.00
RTAP 153.6Kbps		24.00	24.16	23.95	25.00	24.02	24.28	24.18	25.00	23.87	24.01	24.03	25.00
RETAP 4096Kbps		23.99	24.15	23.95	25.00	24.04	24.26	24.20	25.00	23.89	24.06	24.05	25.00

Band 2 (1900MHz Band)												
Part 24E												
SPR (MHz)	Modulation	RB Size	RB Offset	Channel Low (MHz)	Channel High (MHz)	Power Max (dBm)	Power Avg (dBm)	Transmit Bandwidth (MHz)	MFR (dB)			
Channel				1800	1900	1900	1900					
Frequency (MHz)												
20	QPSK	1	0	21.21	21.22	21.22	21.22	24	0			
20	QPSK	1	0	21.09	21.10	21.10	21.10					
20	QPSK	1	99	23.12	23.13	23.13	23.13					
20	QPSK	50	0	22.41	22.42	22.42	22.42					
20	QPSK	50	0	22.09	22.10	22.10	22.10					
20	QPSK	50	50	22.04	22.07	22.07	22.07	23	1			
20	QPSK	100	0	22.26	22.27	22.28	22.28					
20	HQAM	1	0	21.52	21.56	22.29	22.29	23	1			
20	HQAM	1	0	21.38	21.39	21.39	21.39					
20	HQAM	1	99	22.24	22.24	22.24	22.24					
20	HQAM	50	0	21.35	21.53	21.49	21.49					
20	HQAM	50	50	21.24	21.35	21.24	21.24					
20	HQAM	50	50	21.22	21.26	21.26	21.41	22	2			
20	HQAM	100	0	21.57	21.59	21.59	21.59					
20	HQAM	1	0	21.37	21.37	21.46	21.46					
20	HQAM	1	0	21.23	21.23	21.23	21.23	22	2			
20	HQAM	1	99	21.15	21.16	21.16	21.16					
20	HQAM	50	0	20.91	20.91	20.91	20.91					
20	HQAM	50	50	20.87	20.92	20.92	20.92					
20	HQAM	50	50	19.74	19.83	19.83	19.83	21	3			
20	HQAM	100	0	19.94	19.87	19.86	19.86					
Channel				1800	1900	1900	1900	Transmit Bandwidth (MHz)	MFR (dB)			
Frequency (MHz)												
15	QPSK	1	0	23.14	23.21	23.21	23.26	24	0			
15	QPSK	1	37	23.24	23.22	23.13	23.13					
15	QPSK	1	74	23.21	23.21	23.21	23.26					
15	QPSK	1	111	23.15	23.16	23.16	23.16					
15	QPSK	36	20	21.95	22.05	22.05	22.05	23	1			
15	QPSK	36	36	22.19	22.05	22.03	22.03					
15	QPSK	72	0	22.02	22.06	22.06	22.06					
15	HQAM	1	0	23.91	23.94	23.94	23.94					
15	HQAM	1	37	23.25	23.21	23.21	23.21					
15	HQAM	1	74	22.42	22.10	22.13	22.13					
15	HQAM	1	111	22.42	22.10	22.10	22.10					
15	HQAM	36	20	21.48	21.35	21.28	21.28					
15	HQAM	36	36	21.50	21.20	21.32	21.32					
15	HQAM	72	0	21.57	21.38	21.33	21.33					
15	HQAM	72	0	21.35	21.39	21.45	21.45					
15	HQAM	1	37	21.30	21.15	21.15	21.15	22	2			
15	HQAM	1	74	21.58	21.42	21.42	21.42					
15	HQAM	1	111	21.58	21.42	21.42	21.42					
15	HQAM	36	20	19.04	19.80	19.80	19.80	21	3			
15	HQAM	36	36	19.77	19.92	19.92	19.92					
15	HQAM	72	0	19.92	19.93	19.93	19.93					
Channel				1800	1900	1900	1900	Transmit Bandwidth (MHz)	MFR (dB)			
Frequency (MHz)												
10	QPSK	1	0	23.15	23.26	23.26	23.30	24	0			
10	QPSK	1	25	23.17	23.18	23.24	23.24					
10	QPSK	1	49	23.19	23.19	23.19	23.19					
10	QPSK	25	0	22.26	22.20	22.20	22.30					
10	QPSK	25	12	22.15	22.25	22.25	22.30					
10	QPSK	25	25	22.30	22.22	22.22	22.30					
10	QPSK	50	0	22.33	22.20	22.10	22.10	23	1			
10	HQAM	1	0	23.37	23.71	23.25	23.25					
10	HQAM	1	25	22.90	22.36	22.34	22.34	23	1			
10	HQAM	25	0	21.56	21.42	21.42	21.47					
10	HQAM	25	12	21.46	21.47	21.28	21.28					
10	HQAM	25	25	21.49	21.49	21.49	21.49					
10	HQAM	1	0	21.32	21.42	21.34	21.34					
10	HQAM	1	0	21.32	21.35	21.34	21.34					
10	HQAM	1	25	21.22	21.11	21.11	21.11	22	2			
10	HQAM	1	25	21.22	21.11	21.11	21.11					
10	HQAM	25	0	19.02	19.74	19.70	19.70					
10	HQAM	25	12	19.86	19.83	19.74	19.74					
10	HQAM	25	25	19.90	19.87	19.72	19.72	21	3			
10	HQAM	1	0	19.00	19.87	19.72	19.72					
Channel				1800	1900	1900	1900	Transmit Bandwidth (MHz)	MFR (dB)			
Frequency (MHz)												
5	QPSK	1	0	23.15	23.26	23.26	23.30	24	0			
5	QPSK	1	12	23.19	23.19	23.08	23.08					
5	QPSK	1	24	23.16	23.17	23.17	23.17					
5	QPSK	12	0	22.40	22.17	22.09	22.09					
5	QPSK	12	6	22.23	22.22	22.22	22.22					
5	QPSK	12	12	22.12	22.15	22.15	22.15	23	1			
5	QPSK	24	0	22.36	22.33	22.33	22.33					
5	HQAM	1	0	23.43	23.20	23.11	23.11	23	1			
5	HQAM	1	24	22.24	22.21	22.21	22.21					
5	HQAM	12	0	21.59	21.49	21.35	21.35					
5	HQAM	12	6	21.42	21.43	21.29	21.29					
5	HQAM	12	12	21.32	21.48	21.28	21.28	22	2			
5	HQAM	24	0	21.59	21.68	21.34	21.34					
5	HQAM	1	0	21.32	21.48	21.65	21.65					
5	HQAM	1	24	21.24	21.21	21.21	21.21	22	2			
5	HQAM	12	0	19.90	19.75	19.73	19.73					
5	HQAM	12	6	19.86	19.74	19.74	19.74					
5	HQAM	12	12	19.75	19.79	19.71	19.71	21	3			
5	HQAM	24	0	20.07	19.97	19.70	19.70					
Channel				1800	1900	1900	1900	Transmit Bandwidth (MHz)	MFR (dB)			
Frequency (MHz)												
3	QPSK	1	0	23.15	23.00	23.00	23.21	24	0			
3	QPSK	1	6	23.24	23.18	23.00	23.00					
3	QPSK	1	14	23.17	23.04	23.01	23.01					
3	QPSK	6	0	22.22	22.12	22.04	22.04					
3	QPSK	6	4	22.22	22.02	22.02	22.04					
3	QPSK	8	7	22.18	22.13	22.04	22.04					
3	QPSK	15	0	22.44	22.36	22.11	22.11					
3	QPSK	15	7	22.18	22.12	22.02	22.02					
3	HQAM	1	0	23.16	22.99	22.92	23.11	23	1			
3	HQAM	1	14	22.02	22.12	22.39	22.39					
3	HQAM	3	0	21.45	21.55	21.31	21.31					
3	HQAM	8	7	21.47	21.42	21.34	21.34	22	2			
3	HQAM	15	0	21.41	21.37	21.28	21.28					
3	HQAM	15	7	21.59	21.59	21.59	21.59					
3	HQAM	1	6	21.16	21.15	21.11	21.11	22	2			
3	HQAM	1	14	21.10	21.17	21.03	21.03					
3	HQAM	3	0	19.72	19.72	19.72	19.72					
3	HQAM	8	4	19.79	19.80	19.75	19.75					
3	HQAM	8	7	19.86	19.78	19.65	19.65					
3	HQAM	15	0	19.89	19.72	19.65	19.65					
Channel				1800	1900	1900	1900	Transmit Bandwidth (MHz)	MFR (dB)			
Frequency (MHz)												
1.4	QPSK	1	0	23.20	23.10	23.00	23.10	24	0			
1.4	QPSK	1	3	23.15	23.20	23.10	23.10					
1.4	QPSK	1	6	23.10	23.10	23.00	23.00					
1.4	QPSK	3	0	23.19	23.25	23.11	23.11					
1.4	QPSK	3	1	23.23	23.14	23.25	23.25					
1.4	QPSK	3	3	23.25	23.15	23.25	23.25					
1.4	QPSK	6	0	22.26	22.29	22.14	22.14	23	1			
1.4	HQAM	1	0	22.45	22.48	22.38	22.38					
1.4	HQAM	1	3	22.76	22.64	22.57	22.57					
1.4	HQAM	3	0	22.36	22.46	22.36	22.36					
1.4	HQAM	3	0	22.35	22.15	22.19	22.19					
1.4	HQAM	3	1	22.30	22.31	22.10	22.10					
1.4	HQAM	3	18	22.36	22.36	22.10	22.10					
1.4	HQAM	6	0	21.45	21.35	21.22	21.22	22	2			
1.4	HQAM	1	0	21.21	21.09	21.02	21.02					
1.4	HQAM	1	3	21.23	21.25	21.03	21.03					
1.4	HQAM	3	0	21.29	21.20	21.03	21.03					
1.4	HQAM	3	0	21.16	21.07	21.05	21.05	22	2			
1.4	HQAM	3	1	21.23	21.17	21.05	21.05					
1.4	HQAM	3	3	21.23	21.16	21.02	21.02					
1.4	HQAM	3	18	21.23	21.16	21.02	21.02	21	3			

Band 4 (AWS Band)												
Part 27.UL (only on channel required)												
SPR (MHz)	Modulation	RB Size	RB Offset	Center Frequency (MHz)	Low Power Mode (MHz)	High Power Mode (MHz)	Transmit Power (dBm)	MFR (MHz)				
Channel												
Frequency (MHz)												
20	QPSK	1	0	22.84	22.28	22.88	23.0	24	0			
20	QPSK	1	0	22.84	22.28	22.88	23.0					
20	QPSK	1	99	23.23	23.24	23.24	23.0					
20	QPSK	50	0	22.23	22.23	22.23	23.0					
20	QPSK	50	0	22.23	22.23	22.23	23.0					
20	QPSK	50	50	22.07	22.08	22.07	23.0	1				
20	QPSK	100	0	22.12	22.11	22.20	23.0	23	1			
20	HQAM	1	0	22.86	22.90	22.86	23.0					
20	HQAM	1	99	23.23	23.24	23.23	23.0					
20	HQAM	50	0	22.83	22.84	22.83	23.0					
20	HQAM	50	0	21.25	21.28	21.22	23.0					
20	HQAM	50	50	21.15	21.19	21.15	23.0	21	21	21	21	21
20	HQAM	50	50	21.10	21.17	21.13	23.0	22	2			
20	HQAM	100	0	21.15	21.18	21.24	23.0					
20	HQAM	1	0	21.47	21.54	21.46	23.0					
20	HQAM	1	99	21.87	21.88	21.87	23.0					
20	HQAM	1	99	21.59	21.64	21.68	23.0					
20	HQAM	50	0	20.12	20.19	20.07	23.0	21	3			
20	HQAM	50	50	20.09	20.16	20.12	23.0					
20	HQAM	50	50	20.12	20.19	20.12	23.0					
20	HQAM	100	0	20.13	20.19	20.19	23.0					
20	HQAM	100	0	20.13	20.19	20.19	23.0					
Channel												
Frequency (MHz)												
15	QPSK	1	0	23.88	23.84	23.90	23.0	24	0			
15	QPSK	1	97	23.83	23.84	23.85	23.0					
15	QPSK	1	74	23.18	23.24	23.21	23.0					
15	QPSK	30	0	22.15	22.15	22.15	23.0					
15	QPSK	30	20	22.14	22.14	22.14	23.0					
15	QPSK	30	39	22.02	22.02	22.08	23.0	23	1			
15	QPSK	70	0	21.18	21.18	21.18	23.0					
15	HQAM	1	97	23.87	23.88	23.75	23.0					
15	HQAM	1	97	23.49	23.48	23.44	23.0					
15	HQAM	1	74	23.14	23.20	23.17	23.0					
15	HQAM	1	74	23.14	23.20	23.17	23.0	22	2			
15	HQAM	30	0	21.17	21.17	21.17	23.0					
15	HQAM	30	20	21.13	21.21	21.13	23.0					
15	HQAM	70	0	21.17	21.18	21.15	23.0					
15	HQAM	70	0	21.14	21.62	21.14	23.0					
15	HQAM	1	37	21.41	21.38	21.37	23.0	21	3			
15	HQAM	1	74	21.80	21.34	21.37	23.0					
15	HQAM	1	74	21.80	21.34	21.37	23.0					
15	HQAM	30	20	20.18	20.11	20.28	23.0					
15	HQAM	30	39	20.09	20.07	20.16	23.0					
15	HQAM	75	0	20.08	20.11	20.22	23.0	20	4			
15	HQAM	75	0	20.08	20.11	20.22	23.0					
15	HQAM	75	0	20.08	20.11	20.22	23.0					
15	HQAM	75	0	20.08	20.11	20.22	23.0					
15	HQAM	75	0	20.08	20.11	20.22	23.0					
Channel												
Frequency (MHz)												
10	QPSK	1	0	22.86	22.82	22.80	23.0	24	0			
10	QPSK	1	25	22.84	22.83	22.87	23.0					
10	QPSK	1	25	22.84	22.83	22.87	23.0					
10	QPSK	25	0	22.10	22.10	22.14	23.0					
10	QPSK	25	12	22.03	22.13	22.10	23.0					
10	QPSK	25	12	22.03	22.13	22.10	23.0	23	1			
10	QPSK	25	12	22.03	22.13	22.10	23.0					
10	QPSK	50	0	22.10	22.10	22.10	23.0					
10	QPSK	50	0	22.10	22.10	22.10	23.0					
10	HQAM	1	0	22.72	22.82	22.88	23.0					
10	HQAM	1	25	22.42	22.43	22.56	23.0	23	1			
10	HQAM	1	25	22.42	22.43	22.56	23.0					
10	HQAM	25	0	21.11	21.11	21.11	23.0					
10	HQAM	25	0	21.11	21.21	21.11	23.0					
10	HQAM	25	12	21.05	21.15	21.11	23.0					
10	HQAM	25	12	21.05	21.15	21.11	23.0	22	2			
10	HQAM	25	12	21.05	21.15	21.11	23.0					
10	HQAM	25	12	21.05	21.15	21.11	23.0					
10	HQAM	25	12	21.05	21.15	21.11	23.0					
10	HQAM	25	12	21.05	21.15	21.11	23.0					
10	HQAM	1	0	21.35	21.36	21.57	23.0	22	3			
10	HQAM	1	25	21.20	21.32	21.27	23.0					
10	HQAM	1	25	21.20	21.32	21.27	23.0					
10	HQAM	25	0	20.04	20.13	20.11	23.0					
10	HQAM	25	12	20.05	20.11	20.21	23.0					
10	HQAM	25	12	20.05	20.11	20.21	23.0	21	3			
10	HQAM	25	12	20.05	20.11	20.21	23.0					
10	HQAM	25	12	20.05	20.11	20.21	23.0					
10	HQAM	25	12	20.05	20.11	20.21	23.0					
10	HQAM	25	12	20.05	20.11	20.21	23.0					
Channel												
Frequency (MHz)												
5	QPSK	1	0	22.81	22.80	22.79	23.0	24	0			
5	QPSK	1	0	22.81	22.80	22.79	23.0					
5	QPSK	1	24	22.87	22.82	22.87	23.0					
5	QPSK	12	0	22.08	22.14	22.13	23.0					
5	QPSK	12	0	22.12	22.12	22.12	23.0					
5	QPSK	12	13	21.96	22.07	22.08	23.0	23	1			
5	QPSK	20	0	22.03	22.15	22.10	23.0					
5	HQAM	1	0	22.42	22.50	22.56	23.0					
5	HQAM	1	0	22.42	22.50	22.56	23.0					
5	HQAM	1	24	22.30	22.37	22.41	23.0					
5	HQAM	12	0	21.10	21.20	21.10	23.0	23	1			
5	HQAM	12	0	21.11	21.11	21.11	23.0					
5	HQAM	12	13	21.02	21.13	21.10	23.0					
5	HQAM	20	0	21.05	21.15	21.10	23.0					
5	HQAM	20	0	21.48	21.53	21.23	23.0					
5	HQAM	1	0	21.48	21.58	21.48	23.0	22	2			
5	HQAM	1	24	21.40	21.34	21.28	23.0					
5	HQAM	12	0	20.13	20.15	20.19	23.0					
5	HQAM	12	0	20.13	20.15	20.19	23.0					
5	HQAM	12	13	20.04	20.08	20.08	23.0					
5	HQAM	20	0	20.12	20.05	20.14	23.0	21	3			
5	HQAM	20	0	20.12	20.05	20.14	23.0					
5	HQAM	20	0	20.12	20.05	20.14	23.0					
5	HQAM	20	0	20.12	20.05	20.14	23.0					
5	HQAM	20	0	20.12	20.05	20.14	23.0					
Channel												
Frequency (MHz)												
3	QPSK	1	0	23.00	22.97	22.90	23.0	24	0			
3	QPSK	1	6	22.87	22.87	23.04	23.0					
3	QPSK	1	14	22.90	22.99	22.98	23.0					
3	QPSK	8	0	22.12	22.12	22.07	23.0					
3	QPSK	8	4	22.02	22.11	22.17	23.0					
3	QPSK	8	7	21.95	22.05	22.05	23.0	23	1			
3	QPSK	15	0	22.00	22.00	22.00	23.0					
3	QPSK	15	0	22.00	22.00	22.00	23.0					
3	HQAM	1	6	22.32	22.41	22.41	23.0					
3	HQAM	1	14	22.26	22.34	22.34	23.0					
3	HQAM	8	0	21.18	21.18	21.21	23.0	22	2			
3	HQAM	8	4	21.07	21.15	21.18	23.0					
3	HQAM	8	7	21.05	21.15	21.15	23.0					
3	HQAM	15	0	21.01	21.12	21.01	23.0					
3	HQAM	15	0	21.16	21.16	21.21	23.0					
3	HQAM	1	6	21.11	21.27	21.18	23.0	22	2			
3	HQAM	1	14	21.24	21.29	21.29	23.0					
3	HQAM	1	14	21.24	21.29	21.29	23.0					
3	HQAM	8	4	19.97	19.94	19.87	23.0					
3	HQAM	8	7	19.96	19.78	19.78	23.0					
3	HQAM	15	0	19.90	19.75	19.75	23.0	21	3			
3	HQAM	15	0	19.90	19.75	19.75	23.0					
3	HQAM	15	0	19.90	19.75	19.75	23.0					
3	HQAM	15	0	19.90	19.75	19.75	23.0					
3	HQAM	15	0	19.90	19.75	19.75	23.0					
Channel												
Frequency (MHz)												
1.4	QPSK	1	0	22.82	22.83	22.83	23.0	24	0			
1.4	QPSK	1	0	22.88	22.87	22.86	23.0					
1.4	QPSK	1	14	22.90	22.99	22.98	23.0					
1.4	QPSK	3	0	22.88	22.88	22.88	23.0					
1.4	QPSK	3	1	23.01	23.08	23.08	23.0					
1.4	QPSK	3	1	23.01	23.08	23.08	23.0	23	1			
1.4	QPSK	3	1	23.01	23.08	23.08	23.0					
1.4	HQAM	1	0	21.93	22.08	22.04	23.0					
1.4	HQAM	1	0	22.22	22.30	22.25	23.0					
1.4	HQAM	1	0	22.25	22.33	22.32	23.0					
1.4	HQAM	3	0	22.27	22.27	22.27	23.0	23	1			
1.4	HQAM	3	1	21.99	22.10	22.10	23.0					
1.4	HQAM	3	1	22.06	22.12	22.13	23.0					
1.4	HQAM	3	0	21.07	21.10	21.04	23.0					
1.4	HQAM	3	0	21.02	21.10	21.04	23.0					
1.4	HQAM	1	0	21.31	21.27	21.26	23.0	22	2			
1.4	HQAM	1	3	21.26	21.24	21.24	23.0					
1.4	HQAM	1	3	21.26	21.24	21.24	23.0					
1.4	HQAM	3	0	21.18	21.08	21.08	23.0					
1.4	HQAM	3	0	21.14	21.02	20.99	23.0					
1.4	HQAM	3	1	21.07	21.26	21.04	23.0	22	2			
1.4	HQAM	3	1	21.07	21.26	21.04	23.0					
1.4	HQAM	3	1	21.07	21.26	21.04	23.0					
1.4	HQAM	3	1	21.07	21.26	21.04	23.0					
1.4	HQAM	3	1	21.07	21.26	21.04	23.0					

Band 5 (Cellular Band)										
Part 22h(only on channel required)										
RF (MHz)	Modulation	RB Size	RB Offset	Carrier Freq. Low	Carrier Freq. High	Carrier Freq. Mid	Carrier Freq. High	Transmit Power (dBm)	MFR (dB)	
Channel				20465	20525	20585	20645			
Frequency (MHz)				EO	EO S	EO S	EO S			
10	QPSK	1	0	20465	20465	20465	20465	24	0	
10	QPSK	1	25	20480	20480	20480	20480	24	0	
10	QPSK	1	49	20495	20495	20495	20495	24	0	
10	QPSK	25	0	20520	20520	20520	20520	24	0	
10	QPSK	25	25	20535	20535	20535	20535	24	0	
10	QPSK	25	50	20550	20550	20550	20550	24	0	23
10	QPSK	50	0	20580	20580	20580	20580	24	0	
10	QPSK	50	25	20595	20595	20595	20595	24	0	
10	QPSK	50	50	20610	20610	20610	20610	24	0	23
10	QPSK	1	25	20710	20710	20710	20710	24	0	
10	QPSK	1	49	20725	20725	20725	20725	24	0	
10	QPSK	25	0	20740	20740	20740	20740	24	0	
10	QPSK	25	25	20755	20755	20755	20755	24	0	
10	QPSK	25	50	20770	20770	20770	20770	24	0	23
10	QPSK	50	0	20780	20780	20780	20780	24	0	
10	QPSK	50	25	20795	20795	20795	20795	24	0	
10	QPSK	50	50	20810	20810	20810	20810	24	0	23
10	QPSK	50	0	20825	20825	20825	20825	24	0	
10	QPSK	50	25	20840	20840	20840	20840	24	0	
10	QPSK	50	50	20855	20855	20855	20855	24	0	
5	QPSK	1	0	20912	20912	20912	20912	24	0	
5	QPSK	1	12	20922	20922	20922	20922	24	0	
5	QPSK	1	24	20932	20932	20932	20932	24	0	
5	QPSK	12	0	20932	20932	20932	20932	24	0	
5	QPSK	12	7	20935	20935	20935	20935	24	0	
5	QPSK	12	14	20938	20938	20938	20938	24	0	
5	QPSK	25	0	20944	20944	20944	20944	24	0	
5	QPSK	1	0	20950	20950	20950	20950	24	0	
5	QPSK	1	12	20970	20970	20970	20970	24	0	
5	QPSK	1	24	20980	20980	20980	20980	24	0	
5	QPSK	12	0	20980	20980	20980	20980	24	0	
5	QPSK	12	7	20983	20983	20983	20983	24	0	
5	QPSK	12	14	20986	20986	20986	20986	24	0	
5	QPSK	25	0	2100	2100	2100	2100	24	0	
5	QPSK	25	7	2103	2103	2103	2103	24	0	
5	QPSK	25	14	2106	2106	2106	2106	24	0	
5	QPSK	25	0	2114	2114	2114	2114	24	0	
5	QPSK	1	0	2140	2140	2140	2140	24	0	
5	QPSK	1	12	2127	2127	2127	2127	24	0	
5	QPSK	1	24	2137	2137	2137	2137	24	0	
5	QPSK	12	0	2094	2094	2094	2094	24	0	
5	QPSK	12	7	2097	2097	2097	2097	24	0	
5	QPSK	12	14	2100	2100	2100	2100	24	0	
5	QPSK	25	0	2106	2106	2106	2106	24	0	
5	QPSK	25	0	2108	2108	2108	2108	24	0	
5	QPSK	25	0	2108	2108	2108	2108	24	0	
5	QPSK	25	0	2108	2108	2108	2108	24	0	
5	QPSK	25	0	2108	2108	2108	2108	24	0	
5	QPSK	25	0	2108	2108	2108	2108	24	0	
5	QPSK	25	0	2108	2108	2108	2108	24	0	
5	QPSK	25	0	2108	2108	2108	2108	24	0	
5	QPSK	25	0	2108	2108	2108	2108	24	0	
5	QPSK	25	0	2108	2108	2108	2108	24	0	
5	QPSK	25	0	2108	2108	2108	2108	24	0	
5	QPSK	25	0	2108	2108	2108	2108	24	0	
5	QPSK	25	0	2108	2108	2108	2108	24	0	
5	QPSK	25	0	2108	2108	2108	2108	24	0	
5	QPSK	25	0	2108	2108	2108	2108	24	0	
5	QPSK	25	0	2108	2108	2108	2108	24	0	
5	QPSK	25	0	2108	2108	2108	2108	24	0	
5	QPSK	25	0	2108	2108	2108	2108	24	0	
5	QPSK	25	0	2108	2108	2108	2108	24	0	
5	QPSK	25	0	2108	2108	2108	2108	24	0	
5	QPSK	25	0	2108	2108	2108	2108	24	0	
5	QPSK	25	0	2108	2108	2108	2108	24	0	
5	QPSK	25	0	2108	2108	2108	2108	24	0	
5	QPSK	25	0	2108	2108	2108	2108	24	0	
5	QPSK	25	0	2108	2108	2108	2108	24	0	
5	QPSK	25	0	2108	2108	2108	2108	24	0	
5	QPSK	25	0	2108	2108	2108	2108	24	0	
5	QPSK	25	0	2108	2108	2108	2108	24	0	
5	QPSK	25	0	2108	2108	2108	2108	24	0	
5	QPSK	25	0	2108	2108	2108	2108	24	0	
5	QPSK	25	0	2108	2108	2108	2108	24	0	
5	QPSK	25	0	2108	2108	2108	2108	24	0	
5	QPSK	25	0	2108	2108	2108	2108	24	0	
5	QPSK	25	0	2108	2108	2108	2108	24	0	
5	QPSK	25	0	2108	2108	2108	2108	24	0	
5	QPSK	25	0	2108	2108	2108	2108	24	0	
5	QPSK	25	0	2108	2108	2108	2108	24	0	
5	QPSK	25	0	2108	2108	2108	2108	24	0	
5	QPSK	25	0	2108	2108	2108	2108	24	0	
5	QPSK	25	0	2108	2108	2108	2108	24	0	
5	QPSK	25	0	2108	2108	2108	2108	24	0	
5	QPSK	25	0	2108	2108	2108	2108	24	0	
5	QPSK	25</								

Band 7 (2600MHz Band)										
Part 27										
RF (MHz)	Modulation	RB Size	RB Offset	Channel	Lower Edge (MHz)	Upper Edge (MHz)	Power Class (dBm)	Power Class (dBm)	Time-slot (ms)	MBSN (MHz)
Channel										
20	QPSK	1	0	25865	21100	21560	23.5	23.5	20	
20	QPSK	1	49	2282	2298	2321	23.5	23.5	24	0
20	QPSK	1	98	2316	2316	2316	23.5	23.5		
20	QPSK	51	0	2211	2222	2197	23.5	23.5		
20	QPSK	51	0	2211	2222	2197	23.5	23.5		
20	QPSK	51	50	2296	2296	2274	23.5	23.5	23	1
20	QPSK	100	0	2204	2216	2224	23.5	23.5		
20	QPSK	100	0	2204	2216	2224	23.5	23.5		
20	HQAM	1	49	2206	2206	2226	23.5	23.5	23	1
20	HQAM	1	98	2223	2223	2220	23.5	23.5		
20	HQAM	51	0	2108	2110	2107	23.5	23.5		
20	HQAM	51	0	2108	2110	2107	23.5	23.5		
20	HQAM	51	50	2125	2121	2109	23.5	23.5	22	2
20	HQAM	100	0	2124	2124	2121	23.5	23.5		
20	HQAM	100	0	2124	2124	2121	23.5	23.5		
20	HQAM	1	49	2083	2081	2097	23.5	23.5	22	2
20	HQAM	1	98	2105	2100	2101	23.5	23.5		
20	HQAM	51	0	1922	1925	1917	23.5	23.5		
20	HQAM	51	0	1922	1925	1917	23.5	23.5		
20	HQAM	51	50	1937	1937	1932	23.5	23.5	21	3
20	HQAM	100	0	1939	1937	1923	23.5	23.5		
Time-slot (ms)										
Frequency (MHz)										
15	QPSK	1	0	2313	2301	2314	23.5	23.5		
15	QPSK	1	97	2225	2214	2222	23.5	23.5	24	0
15	QPSK	1	214	2214	2214	2214	23.5	23.5		
15	QPSK	36	0	2230	2229	2225	23.5	23.5		
15	QPSK	36	26	2223	2221	2219	23.5	23.5	23	1
15	QPSK	36	99	2224	2224	2222	23.5	23.5		
15	QPSK	78	0	2234	2232	2222	23.5	23.5		
15	HQAM	1	0	2225	2214	2224	23.5	23.5		
15	HQAM	1	97	2226	2210	2224	23.5	23.5	23	1
15	HQAM	36	0	2228	2228	2228	23.5	23.5		
15	HQAM	36	0	2122	2128	2124	23.5	23.5		
15	HQAM	36	26	2134	2136	2119	23.5	23.5	22	2
15	HQAM	78	0	2132	2132	2112	23.5	23.5		
15	HQAM	1	0	2144	2133	2153	23.5	23.5		
15	HQAM	1	97	2131	2126	2119	23.5	23.5	22	2
15	HQAM	1	214	2147	2147	2147	23.5	23.5		
15	HQAM	36	0	1934	1936	1934	23.5	23.5		
15	HQAM	36	26	1978	1970	1983	23.5	23.5	21	3
15	HQAM	78	0	1972	1972	1967	23.5	23.5		
15	HQAM	78	0	1977	1979	1968	23.5	23.5		
Channel										
10	QPSK	1	0	26010	25544	25544	23.5	23.5		
10	QPSK	1	25	2315	2307	2323	23.5	23.5	24	0
10	QPSK	1	48	2300	2311	2310	23.5	23.5		
10	QPSK	25	0	2221	2216	2217	23.5	23.5		
10	QPSK	25	0	2221	2216	2217	23.5	23.5		
10	QPSK	25	24	2204	2204	2204	23.5	23.5	23	1
10	QPSK	25	48	2203	2203	2193	23.5	23.5		
10	QPSK	50	0	2204	2204	2198	23.5	23.5		
10	QPSK	50	0	2204	2203	2197	23.5	23.5		
10	HQAM	1	25	2189	2195	2199	23.5	23.5	23	1
10	HQAM	1	48	2234	2228	2210	23.5	23.5		
10	HQAM	25	0	2120	2117	2097	23.5	23.5		
10	HQAM	25	0	2120	2116	2094	23.5	23.5		
10	HQAM	25	25	2105	2105	2095	23.5	23.5	22	2
10	HQAM	50	0	2106	2117	2107	23.5	23.5		
10	HQAM	50	0	2106	2117	2107	23.5	23.5		
10	HQAM	1	26	2140	2140	2125	23.5	23.5	21	2
10	HQAM	1	48	2149	2174	2130	23.5	23.5		
10	HQAM	25	0	1926	1926	1926	23.5	23.5		
10	HQAM	25	12	1932	1930	1943	23.5	23.5		
10	HQAM	25	26	1938	1949	1944	23.5	23.5		
10	HQAM	50	0	1939	1939	1941	23.5	23.5		
Time-slot (ms)										
Frequency (MHz)										
5	QPSK	1	0	2512	2312	2312	23.5	23.5		
5	QPSK	1	12	2297	2316	2295	23.5	23.5		
5	QPSK	1	24	2300	2300	2308	23.5	23.5		
5	QPSK	12	0	2296	2293	2186	23.5	23.5	21	0
5	QPSK	12	12	2296	2190	2187	23.5	23.5		
5	QPSK	12	24	2296	2303	2196	23.5	23.5		
5	QPSK	25	0	2208	2208	2191	23.5	23.5		
5	HQAM	1	0	2626	2627	2313	23.5	23.5		
5	HQAM	1	12	2224	2213	2227	23.5	23.5	22	1
5	HQAM	1	24	2224	2224	2224	23.5	23.5		
5	HQAM	12	0	2117	2115	2096	23.5	23.5		
5	HQAM	12	7	2114	2103	2088	23.5	23.5	22	2
5	HQAM	25	0	2106	2106	2096	23.5	23.5		
5	HQAM	25	0	2109	2116	2093	23.5	23.5		
5	HQAM	1	0	2128	2023	2038	23.5	23.5		
5	HQAM	1	12	2129	2131	2106	23.5	23.5	22	2
5	HQAM	1	24	2129	2111	2106	23.5	23.5		
5	HQAM	12	0	1938	1938	1841	23.5	23.5		
5	HQAM	12	7	1939	1936	1838	23.5	23.5		
5	HQAM	25	0	1942	1942	1837	23.5	23.5		
5	HQAM	25	0	1940	1949	1838	23.5	23.5	21	3



Band 12 (700MHz Low Band) Part 27F(only on channel required)											
BW (MHz)	Modulation	RB Size	RB Offset	Power Low Ch / Freq	Power Main Ch / Freq	Power High Ch / Freq	Turn-up rate (dBm)	MPR (dB)			
Channel											
Frequency (MHz)											
704 707.5 711											
10	QPSK	1	0	23.18	23.18	23.18		24	0		
10	QPSK	1	25	23.03	22.98	22.99					
10	QPSK	1	49	23.12	23.11	23.12					
10	QPSK	25	0	23.14	23.04	23.12					
10	QPSK	25	12	22.93	21.85	22.98		23	1		
10	QPSK	25	25	22.91	21.85	22.10					
10	QPSK	50	0	22.97	22.97	22.94					
10	16QAM	1	0	22.43	22.67	22.64					
10	16QAM	1	25	22.20	22.30	22.30		23	1		
10	16QAM	1	49	22.32	22.52	22.62					
10	16QAM	25	0	21.18	21.10	21.12					
10	16QAM	25	12	21.10	21.07	21.13					
10	16QAM	25	25	21.05	21.00	21.02		22	2		
10	16QAM	50	0	21.01	21.00	21.00					
10	8QAM	1	0	21.31	21.47	21.36					
10	8QAM	1	25	21.25	21.26	21.27		22	2		
10	8QAM	1	49	21.38	21.18	21.27					
10	8QAM	25	0	19.98	19.72	19.90					
10	8QAM	25	12	19.71	19.74	19.77		21	3		
10	8QAM	25	25	19.80	19.84	20.01					
10	8QAM	50	0	19.88	19.78	19.89					
Channel											
Frequency (MHz)											
705.5 707.5 713.5											
5	QPSK	1	0	22.94	22.78	22.79		24	0		
5	QPSK	1	12	22.92	22.93	23.01					
5	QPSK	1	24	22.87	22.93	23.13					
5	QPSK	12	0	22.98	22.83	22.69					
5	QPSK	12	7	22.92	21.88	22.85		23	1		
5	QPSK	12	14	22.94	21.88	22.85					
5	QPSK	25	0	21.96	22.00	22.00					
5	16QAM	1	0	22.21	22.23	22.23		23	1		
5	16QAM	1	12	22.27	22.09	22.20					
5	16QAM	1	24	22.13	22.24	22.29					
5	16QAM	12	0	21.92	22.08	21.91					
5	16QAM	12	7	21.91	21.84	21.94		22	2		
5	16QAM	12	14	21.92	21.84	21.93					
5	8QAM	25	0	21.01	21.08	20.98					
5	8QAM	1	0	20.86	21.09	21.01		22	2		
5	8QAM	1	12	21.06	20.91	21.10					
5	8QAM	1	24	21.03	20.99	21.17					
5	8QAM	12	0	19.72	19.73	19.77					
5	8QAM	12	7	19.73	19.72	19.75		21	3		
5	8QAM	12	14	19.74	19.74	19.77					
5	8QAM	25	0	19.76	19.72	19.81					
Channel											
Frequency (MHz)											
706.5 707.5 713.5											
3	QPSK	1	0	22.92	22.78	22.72		24	0		
3	QPSK	1	5	22.90	23.05	22.91					
3	QPSK	1	14	22.87	22.91	23.01					
3	QPSK	8	0	22.97	21.97	21.98					
3	QPSK	8	4	21.98	21.10	21.94		23	1		
3	QPSK	8	7	21.88	21.94	22.09					
3	QPSK	15	0	21.84	21.95	22.08					
3	16QAM	1	0	22.26	22.26	22.27		23	1		
3	16QAM	1	8	22.11	22.41	22.51					
3	16QAM	1	14	22.08	22.29	22.34					
3	16QAM	8	0	20.95	21.02	21.05					
3	16QAM	8	4	20.97	20.97	21.28		22	2		
3	16QAM	8	7	20.99	20.98	21.04					
3	16QAM	15	0	20.90	20.94	21.11					
3	8QAM	1	0	20.94	21.00	21.13		22	2		
3	8QAM	1	8	21.12	21.08	21.18					
3	8QAM	1	14	21.14	21.15	20.92					
3	8QAM	8	0	19.68	19.58	19.68					
3	8QAM	8	4	19.60	19.74	19.80		21	3		
3	8QAM	8	7	19.68	19.82	19.88					
3	8QAM	15	0	19.54	19.48	19.81					
Channel											
Frequency (MHz)											
699.7 707.5 715.3											
1.4	QPSK	1	0	22.76	22.92	22.86		24	0		
1.4	QPSK	1	3	22.78	22.82	23.00					
1.4	QPSK	1	5	22.76	22.82	23.00					
1.4	QPSK	3	0	22.76	23.05	23.10					
1.4	QPSK	3	1	22.75	23.02	23.11		23	1		
1.4	QPSK	3	3	22.76	22.86	23.06					
1.4	16QAM	1	0	21.74	22.98	21.96		23	1		
1.4	16QAM	1	5	22.10	22.93	22.16					
1.4	16QAM	1	3	22.98	22.41	22.45					
1.4	16QAM	1	5	22.15	22.20	22.24					
1.4	16QAM	3	0	21.80	21.87	22.04		23	1		
1.4	16QAM	3	1	21.80	21.92	22.10					
1.4	16QAM	3	3	21.90	21.95	22.08					
1.4	16QAM	6	0	20.86	20.98	21.01		22	2		
1.4	8QAM	1	0	21.04	20.80	21.07					
1.4	8QAM	1	3	21.17	21.06	21.06					
1.4	8QAM	1	5	21.21	20.88	21.17					
1.4	8QAM	3	0	20.72	21.02	21.05		22	2		
1.4	8QAM	3	1	21.13	21.04	21.19					
1.4	8QAM	3	3	20.98	20.83	21.10					
1.4	8QAM	6	0	19.57	19.69	19.62					

Band 13(700MHz Band) Part 27F												
BW (MHz)	Modulation	RB Size	RB Offset	Power Low Ch / Freq	Power Main Ch / Freq	Power High Ch / Freq	Turn-up rate (dBm)	MPR (dB)				
Channel												
Frequency (MHz)												
2320												
10	QPSK	1	0		23.25		24	0				
10	QPSK	1	25		23.14							
10	QPSK	1	49		23.12							
10	QPSK	25	0		22.97							
10	QPSK	25	12		21.98		23	1				
10	QPSK	25	25		21.90							
10	QPSK	50	0		22.97							
10	16QAM	1	0		22.36							
10	16QAM	1	25		22.04		23	1				
10	16QAM	1	49		22.40							
10	16QAM	25	0		20.97							
10	16QAM	25	12		21.08							
10	16QAM	25	25		20.91		22	2				
10	16QAM	50	0		21.04							
10	8QAM	1	0		21.17							
10	8QAM	1	25		21.44		22	2				
10	8QAM	1	49		21.45							
10	8QAM	25	0		20.99							
10	8QAM	25	12		20.10							
10	8QAM	25	25		20.98		21	3				
10	8QAM	50	0		20.12							
Channel												
Frequency (MHz)												
2305 2320 2340 2350												
5	QPSK	1	0	23.05	23.05	23.04	24	0				
5	QPSK	1	12	23.10	23.17	23.03						
5	QPSK	1	24	23.02	23.11	23.12						
5	QPSK	12	0	22.27	22.27	22.36						
5	QPSK	12	7	22.14	22.18	22.29	23	1				
5	QPSK	12	14	22.17	22.28	22.34						
5	QPSK	25	0	22.19	22.25	22.29						
5	16QAM	1	0	22.64	22.49	22.60						
5	16QAM	1	12	22.32	22.36	22.41	23	1				
5	16QAM	1	24	22.62	22.39	22.55						
5	16QAM	12	0	21.20	21.30	21.38						
5	16QAM	12	7	21.16	21.24	21.33	22	2				
5	16QAM	12	14	21.19	21.34	21.30						
5	16QAM	25	0	21.27	21.22	21.47						
5	16QAM	1	0	21.26	21.17	21.38	22	2				
5	16QAM	1	12	21.08	21.60	21.53						
5	16QAM	25	0	21.26	21.43	21.57						
5	8QAM	1	0	20.94	20.94	20.90	21	3				
5	8QAM	12	0	19.91	20.05	20.18						
5	8QAM	12	7	19.89	19.98	20.09						
5	8QAM	12	14	19.86	20.06	20.03						

Band 26 for FCC (only on channel required)											
BS (MHz)	Multicast	HS BS	HS COT	Power (W)	Power (W)	Power (W)	Power (W)	Turn-on (dBm)	MPR (dB)		
Channel				26765	26800	26835	26870				
Frequency (MHz)				815.5	815.5	815.5	815.5				
15	QPSK	1	0	23.11	23.11	23.11	23.11				
15	QPSK	1	37	23.15	23.14	23.14	23.14	24	0		
15	QPSK	1	74	23.14	23.23	23.25					
15	QPSK	36	0	22.42	22.47	22.45					
15	QPSK	36	20	22.13	22.17	22.17					
15	QPSK	36	36	22.01	22.01	22.10				23	1
15	QPSK	75	0	22.24	22.34	22.31					
15	QPSK	75	0	22.24	22.34	22.31					
15	QPSK	1	37	22.47	22.54	22.55					
15	QPSK	1	74	22.52	22.54	22.73					
15	QPSK	36	0	21.36	21.26	21.43					
15	QPSK	36	20	21.16	21.16	21.16					
15	QPSK	36	36	21.33	21.24	21.04				22	2
15	QPSK	75	0	21.06	21.21	21.24					
15	QPSK	1	0	20.56	21.17	21.28					
15	QPSK	1	37	20.57	20.47	21.08					
15	QPSK	1	74	21.36	21.27	21.08					
15	QPSK	36	0	20.14	20.14	20.21					
15	QPSK	36	20	19.86	19.86	19.86					
15	QPSK	36	36	19.57	19.74	19.74				21	3
15	QPSK	75	0	19.83	19.30	19.25					
Channel				26762	26800	26835	26870				
10	QPSK	1	0	23.11	23.24	22.97					
10	QPSK	1	26	22.93	23.04	23.04				24	0
10	QPSK	1	49	23.14	23.15	23.12					
10	QPSK	1	74	23.14	23.24	23.24					
10	QPSK	25	12	22.19	22.12	22.12					
10	QPSK	25	28	22.13	22.20	22.20				23	1
10	QPSK	36	0	22.24	22.07	22.23					
10	QPSK	36	20	22.06	22.01	22.01					
10	QPSK	1	26	22.32	22.32	22.34				23	1
10	QPSK	1	49	22.71	22.67	22.78					
10	QPSK	1	74	22.74	22.74	21.78					
10	QPSK	25	12	21.18	21.13	21.10					
10	QPSK	25	28	21.16	21.28	21.17				22	2
10	QPSK	36	0	21.15	21.17	21.22					
10	QPSK	36	20	21.12	21.23	21.23					
10	QPSK	1	25	21.19	21.36	21.31					
10	QPSK	1	49	21.33	21.31	21.34					
10	QPSK	25	12	20.81	20.88	20.91					
10	QPSK	25	28	19.95	19.89	19.92					
10	QPSK	25	28	19.91	20.07	19.97					
10	QPSK	36	0	19.93	19.96	20.05				21	3
Frequency (MHz)				815.5	815.5	815.5	815.5				
5	QPSK	1	0	22.85	23.12	23.15					
5	QPSK	1	12	22.94	23.03	23.11				24	0
5	QPSK	1	24	23.11	23.16	23.26					
5	QPSK	12	0	22.11	22.12	22.16					
5	QPSK	12	7	21.99	22.22	22.06				23	1
5	QPSK	12	13	22.00	22.15	22.11					
5	QPSK	12	19	22.14	22.19	22.19					
5	QPSK	1	0	22.28	22.48	22.48					
5	QPSK	1	12	22.06	22.20	22.27					
5	QPSK	1	24	22.47	22.51	22.51					
5	QPSK	12	0	21.16	21.10	21.10					
5	QPSK	12	7	21.08	21.21	21.10				23	1
5	QPSK	12	13	21.00	21.16	21.15					
5	QPSK	12	19	21.15	21.26	21.26					
5	QPSK	1	0	21.26	21.24	21.36					
5	QPSK	1	12	21.15	20.97	21.39				22	2
5	QPSK	1	24	21.11	21.25	21.36					
5	QPSK	12	0	20.82	20.84	20.89					
5	QPSK	12	7	19.77	19.93	19.94					
5	QPSK	12	13	19.81	19.87	19.84				21	3
5	QPSK	25	0	19.86	19.86	19.91					
Frequency (MHz)				815.5	815.5	815.5	815.5				
3	QPSK	1	0	23.14	23.12	23.15					
3	QPSK	1	9	23.11	23.21	23.28				24	0
3	QPSK	1	18	23.12	23.12	23.12					
3	QPSK	6	0	22.94	22.11	22.05					
3	QPSK	6	4	22.08	22.23	22.05				23	1
3	QPSK	6	8	22.14	22.27	22.17					
3	QPSK	15	0	22.11	22.09	22.07					
3	QPSK	1	0	22.40	22.33	22.34					
3	QPSK	1	8	22.37	22.50	22.46				23	1
3	QPSK	1	16	22.51	22.57	22.48					
3	QPSK	6	0	21.17	21.17	21.11					
3	QPSK	6	4	21.21	21.25	21.20					
3	QPSK	15	0	20.96	21.17	21.11				22	2
3	QPSK	15	8	21.04	21.16	21.10					
3	QPSK	1	0	21.05	21.18	21.40					
3	QPSK	1	8	21.26	21.32	21.17				22	2
3	QPSK	1	16	21.37	21.43	21.42					
3	QPSK	6	0	19.83	19.82	19.83					
3	QPSK	6	4	19.87	20.00	19.87				21	3
3	QPSK	15	0	19.77	19.84	19.82					
Channel				26867	26884	26902					
Frequency (MHz)				814.7	815.1	814.3					
14	QPSK	1	0	23.05	23.09	23.09					
14	QPSK	1	2	23.08	23.12	23.12					
14	QPSK	1	5	23.11	23.25	23.08				24	0
14	QPSK	3	0	23.11	23.28	23.24					
14	QPSK	3	1	23.17	23.23	23.22					
14	QPSK	3	16	23.19	23.11	23.08					
14	QPSK	6	0	22.13	22.18	22.12				23	1
14	QPSK	6	8	22.48	22.45	22.37					
14	QPSK	1	0	22.03	22.03	22.42					
14	QPSK	1	5	22.46	22.76	22.34				23	1
14	QPSK	3	0	22.09	22.18	22.24					
14	QPSK	3	1	22.22	22.31	22.25					
14	QPSK	3	16	22.38	22.27	22.24					
14	QPSK	6	0	21.16	21.26	21.21				22	2
14	QPSK	1	0	21.24	21.31	21.08					
14	QPSK	1	2	21.26	21.03	21.09					
14	QPSK	1	5	21.31	21.36	21.15					
14	QPSK	3	0	21.03	20.92	21.08				22	2
14	QPSK	3	1	21.17	21.35	21.09					
14	QPSK	3	16	21.27	21.07	21.07					
14	QPSK	6	0	19.99	19.81	19.77				21	3

Band 66												
BS (MHz)	Modulation	FSB (Hz)	RF Offset (MHz)	Power Class	Power Ch. Freq. (MHz)	Power Ch. Freq. (MHz)	Power Ch. Freq. (MHz)	Turn-on time (μs)	MFR (dB)			
Channel										150922	150922	150922
Frequency (MHz)										17115	17140	17172
30	QPSK	1	0	23.10	23.10	23.10	23.10					
20	QPSK	1	19	23.12	23.14	23.16	23.18			24	0	
10	QPSK	1	39	23.16	23.18	23.20	23.22					
20	QPSK	50	50	22.26	22.28	22.30	22.32			23	1	
10	QPSK	100	0	22.29	22.33	22.37	22.41					
20	QPSK	50	50	22.31	22.35	22.39	22.43					
20	QPSK	1	49	22.48	22.52	22.56	22.60			23	2	
20	QPSK	1	59	22.30	22.34	22.38	22.42					
20	QPSK	50	50	21.17	21.21	21.25	21.29					
20	QPSK	100	0	21.22	21.26	21.30	21.34			23	2	
20	QPSK	50	50	21.26	21.30	21.34	21.38					
20	QPSK	1	49	21.48	21.52	21.56	21.60			23	2	
20	QPSK	1	59	21.37	21.41	21.45	21.49					
20	QPSK	50	50	20.86	20.90	20.94	20.98					
20	QPSK	100	0	20.91	20.95	20.99	21.03			23	3	
20	QPSK	50	50	20.95	20.99	21.03	21.07					
20	QPSK	1	49	20.85	20.89	20.93	20.97					
20	QPSK	1	59	21.07	21.11	21.15	21.19					
Channel <th>17172</th> <th>17176</th> <th>17222</th>										17172	17176	17222
Frequency (MHz) <th>17115</th> <th>17140</th> <th>17173</th>										17115	17140	17173
16	QPSK	1	0	23.31	23.31	23.31	23.31					
16	QPSK	1	37	23.11	23.05	23.00	22.95			24	0	
16	QPSK	1	74	23.13	23.13	23.13	23.13					
16	QPSK	5	0	22.24	22.32	22.30	22.30					
16	QPSK	36	20	22.20	22.13	22.13	22.13					
16	QPSK	36	39	22.19	22.10	22.24	22.24					
16	QPSK	36	72	22.27	22.27	22.27	22.27					
16	QPSK	1	0	22.78	22.74	22.82	22.82					
16	QPSK	1	37	22.52	22.49	22.38	22.38			23	1	
16	QPSK	1	74	22.57	22.61	22.74	22.74					
16	QPSK	5	0	21.24	21.31	21.31	21.31					
16	QPSK	36	20	21.20	21.16	21.16	21.16			23	2	
16	QPSK	36	39	21.16	21.17	21.20	21.20					
16	QPSK	36	72	21.18	21.18	21.18	21.18					
16	QPSK	1	0	21.02	21.13	21.27	21.27					
16	QPSK	1	37	21.08	21.08	21.08	21.08			23	2	
16	QPSK	1	74	21.13	21.03	21.29	21.29					
16	QPSK	5	0	20.83	20.83	20.83	20.83					
16	QPSK	36	20	20.82	20.83	20.81	20.81					
16	QPSK	36	39	20.81	20.81	20.88	20.88					
16	QPSK	36	72	20.86	20.86	20.86	20.86					
Channel <th>150922</th> <th>150922</th> <th>150922</th>										150922	150922	150922
Frequency (MHz) <th>17116</th> <th>17140</th> <th>17173</th>										17116	17140	17173
10	QPSK	1	0	23.31	23.32	23.32	23.33					
10	QPSK	1	37							24	0	
10	QPSK	1	74									
10	QPSK	1	49	23.33	23.26	23.26	23.26					
10	QPSK	25	0	22.06	22.11	22.08	22.08					
10	QPSK	25	12	22.12	22.13	22.13	22.13			23	1	
10	QPSK	25	25	22.18	22.18	22.18	22.18					
10	QPSK	50	0	22.09	22.14	22.25	22.25					
10	QPSK	50	1	22.02	22.03	22.03	22.03					
10	QPSK	50	19	22.06	22.06	22.06	22.06			23	1	
10	QPSK	50	36	22.06	22.05	22.07	22.07					
10	QPSK	50	50	21.06	21.06	21.06	21.06					
10	QPSK	50	12	21.10	21.13	21.13	21.13			23	2	
10	QPSK	50	25	21.10	21.13	21.13	21.13					
10	QPSK	50	39	21.08	21.08	21.08	21.08					
10	QPSK	50	50	21.11	21.12	21.13	21.13					
10	QPSK	1	0	21.22	21.28	21.27	21.27					
10	QPSK	1	20	21.59	21.46	21.46	21.46			23	2	
10	QPSK	1	25	21.58	21.46	21.46	21.46					
10	QPSK	1	30	21.58	21.46	21.46	21.46					
10	QPSK	25	0	19.75	19.84	19.83	19.83					
10	QPSK	25	12	19.86	19.84	19.84	19.84			23	3	
10	QPSK	25	25	19.86	19.84	19.84	19.84					
10	QPSK	50	0	19.80	19.88	19.85	19.85					
Channel <th>151967</th> <th>151922</th> <th>150447</th>										151967	151922	150447
Frequency (MHz) <th>17115</th> <th>17140</th> <th>17173</th>										17115	17140	17173
5	QPSK	12	18	6	23.10	23.10	23.10					
5	QPSK	1	12	23.07	23.09	23.11	23.11			24	0	
5	QPSK	1	24	22.99	23.08	23.12	23.12					
5	QPSK	12	0	22.12	22.10	22.23	22.23					
5	QPSK	12	12	22.12	22.12	22.12	22.12					
5	QPSK	12	18	22.07	22.15	22.15	22.15			23	1	
5	QPSK	25	0	22.09	22.16	22.21	22.21					
5	QPSK	25	12	22.12	22.12	22.12	22.12					
5	QPSK	1	12	22.30	22.34	22.34	22.34					
5	QPSK	1	24	22.32	22.42	22.42	22.42					
5	QPSK	12	0	21.16	21.18	21.25	21.25			23	2	
5	QPSK	12	12	21.11	21.13	21.13	21.13					
5	QPSK	12	18	21.05	21.10	21.10	21.10					
5	QPSK	25	0	21.09	21.12	21.20	21.20					
5	QPSK	25	12	21.05	21.06	21.06	21.06					
5	QPSK	1	12	21.30	21.19	21.20	21.20					
5	QPSK	1	24	21.30	21.16	21.15	21.15					
5	QPSK	12	0	19.84	19.82	19.82	19.82			23	3	
5	QPSK	12	12	19.82	19.82	19.82	19.82					
5	QPSK	12	18	19.87	19.85	19.85	19.85					
5	QPSK	25	0	19.87	19.80	19.80	19.80					
Channel <th>17115</th> <th>17140</th> <th>17173</th>										17115	17140	17173
Frequency (MHz) <th>17116</th> <th>17140</th> <th>17173</th>										17116	17140	17173
3	QPSK	1	0	23.10	23.10	23.10	23.10					
3	QPSK	1	8	23.05	23.13	23.18	23.18			24	0	
3	QPSK	1	14	23.08	23.16	23.18	23.18					
3	QPSK	1	20	23.08	23.14	23.18	23.18					
3	QPSK	8	4	22.08	22.12	22.20	22.20					
3	QPSK	8	7	22.03	22.14	22.15	22.15					
3	QPSK	12	0	22.08	22.13	22.17	22.17					
3	QPSK	1	0	22.37	22.41	22.43	22.43					
3	QPSK	1	8	22.35	22.38	22.43	22.43			23	1	
3	QPSK	1	14	22.29	22.38	22.45	22.45					
3	QPSK	1	20	22.15	22.17	22.20	22.20					
3	QPSK	8	4	21.13	21.18	21.21	21.21			23	2	
3	QPSK	7	7	21.10	21.22	21.22	21.22					
3	QPSK	12	0	21.12	21.12	21.18	21.18					
3	QPSK	1	0	21.40	21.29	21.31	21.31					
3	QPSK	1	8	21.21	21.37	21.38	21.38			23	2	
3	QPSK	1	14	21.32	21.16	21.21	21.21					
3	QPSK	1	20	21.28	21.28	21.31	21.31					
3	QPSK	8	4	19.85	19.88	19.88	19.88			23	3	
3	QPSK	8	7	19.86	19.82	19.88	19.88					
3	QPSK	12	0	19.86	19.86	19.86	19.86					
Channel <th>151979</th> <th>151922</th> <th>150525</th>										151979	151922	150525
Frequency (MHz) <th>17117</th> <th>17140</th> <th>17173</th>										17117	17140	17173
1.4	QPSK	1	0	23.19	23.07	23.24	23.24					
1.4	QPSK	1	11	23.16	23.17	23.18	23.18					
1.4	QPSK	1	20	23.02	23.14	23.20	23.20			24	0	
1.4	QPSK	3	0	22.07	22.08	22.15	22.15					
1.4	QPSK	3	1	23.10	23.13	23.19	23.19					
1.4	QPSK	3	2	23.03	23.14	23.15	23.15					
1.4	QPSK	8	0	22.05	22.07	22.14	22.14			23	1	
1.4	QPSK	1	0	22.30	22.33	22.40	22.40					
1.4	QPSK	1	3	22.36	22.41	22.41	22.41					
1.4	QPSK	1	20	22.09	22.18	22.18	22.18			23	1	
1.4	QPSK	3	1	22.15	22.19	22.21	22.21					
1.4	QPSK	3	2	22.22	22.21	22.21	22.21					
1.4	QPSK	8	0	21.08	21.12	21.25	21.25			23	2	
1.4	QPSK	1	0	21.12	21.23	21.40	21.40					
1.4	QPSK	1	1	21.18	21.48	21.47	21.47					
1.4	QPSK	3	0	21.15	21.18	21.28	21.28			23	2	
1.4	QPSK	3	1	21.22	21.05	21.37	21.37					
1.4	QPSK	3	2	21.27	21.43	21.44	21.44					
1.4	QPSK	3	2	21.28	21.28	21.28	21.28					
1.4	QPSK	8	0	20.14	20.19	20.31	20.31			23	3	

Band 71										
BS (MHz)	Modulation	PRB Size	PRB Offset	Power (W)	Power (W)	Power (W)	Power (W)	Turn-on (dBm)	MFR (dB)	
Channel										
Frequency (MHz)										
20	QPSK	1	0	23.15	23.13	23.16				
20	QPSK	1	48	23.22	23.11	23.19			24	0
20	QPSK	1	96	23.22	25.17	23.22				
20	QPSK	1	144	23.26	25.16	23.27				
20	QPSK	55	24	22.49	22.58	22.90			23	1
20	QPSK	55	50	22.58	22.81	22.37				
20	QPSK	100	0	22.87	22.71	22.86				
20	QPSK	100	25	22.86	22.86	22.86				
20	TDMA	1	48	22.85	22.84	22.54			23	1
20	TDMA	1	96	22.51	22.81	22.93				
20	TDMA	1	144	22.86	22.71	22.71				
20	TDMA	55	24	21.49	21.63	21.43			25	2
20	TDMA	55	50	21.68	21.51	21.50				
20	TDMA	100	0	21.78	21.65	21.49				
20	TDMA	100	25	21.42	21.42	21.44				
20	TDMA	1	48	21.84	21.84	21.84			22	2
20	TDMA	1	96	21.42	21.32	21.10				
20	TDMA	1	144	21.35	21.35	21.35				
20	TDMA	55	24	20.16	20.11	19.97			21	3
20	TDMA	55	50	20.02	19.93	20.10				
20	TDMA	100	0	20.17	20.26	19.10				
Channel										
Frequency (MHz)										
15	QPSK	1	0	22.87	22.87	22.86		Turn-on (dBm)	MFR (dB)	
15	QPSK	1	32	23.26	23.08	23.13			24	0
15	QPSK	1	64	23.25	23.34	23.30				
15	QPSK	1	96	22.78	22.82	22.86				
15	QPSK	1	128	22.80	22.80	22.89			23	1
15	QPSK	1	160	22.56	22.56	22.56				
15	QPSK	75	0	22.89	22.81	22.84				
15	TDMA	1	0	22.87	22.76	22.87				
15	TDMA	1	32	22.87	22.87	22.87				
15	TDMA	1	64	22.85	22.85	22.85				
15	TDMA	1	96	21.78	21.89	21.86				
15	TDMA	1	128	21.78	21.78	21.71			22	2
15	TDMA	1	160	21.77	21.77	21.77				
15	TDMA	75	0	21.86	21.76	21.27				
15	TDMA	1	0	21.42	21.44	21.43				
15	TDMA	1	32	21.42	21.42	21.43			22	2
15	TDMA	1	64	21.39	21.37	21.31				
15	TDMA	1	96	20.50	20.49	20.36				
15	TDMA	1	128	20.29	20.27	20.22			21	3
15	TDMA	1	160	20.12	20.12	20.12				
15	TDMA	75	0	20.26	20.16	20.16		Turn-on (dBm)	MFR (dB)	
Channel										
Frequency (MHz)										
10	QPSK	1	0	23.15	23.13	23.16				
10	QPSK	1	25	23.14	23.33	23.28			24	0
10	QPSK	1	48	23.14	23.15	23.26				
10	QPSK	1	73	23.17	23.17	23.17				
10	QPSK	1	121	22.69	22.58	22.90			23	1
10	QPSK	1	169	22.68	22.58	22.52				
10	QPSK	55	0	22.80	22.53	22.44				
10	QPSK	55	25	22.87	22.87	22.87				
10	TDMA	1	25	22.77	22.89	22.89			23	1
10	TDMA	1	48	22.76	22.88	22.87				
10	TDMA	1	73	22.81	22.81	22.86				
10	TDMA	25	12	21.65	21.67	21.47			22	2
10	TDMA	25	26	21.64	21.48	21.36				
10	TDMA	50	0	21.77	21.62	21.51				
10	TDMA	50	25	21.74	21.42	21.34				
10	TDMA	1	26	21.51	21.33	21.26				
10	TDMA	1	48	21.53	21.46	21.39				
10	TDMA	1	73	21.52	21.10	20.97				
10	TDMA	25	12	20.09	20.02	19.98				
10	TDMA	25	26	20.05	19.88	19.75			21	3
10	TDMA	50	0	20.09	19.96	19.92				
Channel										
Frequency (MHz)										
5	QPSK	1	0	23.35	23.15	23.37				
5	QPSK	1	12	23.24	23.38	23.18			24	0
5	QPSK	1	25	23.15	23.35	23.26				
5	QPSK	12	0	22.86	22.57	22.45				
5	QPSK	12	7	22.86	22.67	22.44			23	1
5	QPSK	25	0	22.50	22.50	22.50				
5	QPSK	25	0	22.60	22.58	22.44				
5	TDMA	1	0	22.87	22.82	22.86				
5	TDMA	1	12	22.86	22.90	22.92				
5	TDMA	1	25	22.89	22.91	22.91				
5	TDMA	12	0	21.74	21.84	21.51				
5	TDMA	12	7	21.63	21.63	21.42			22	2
5	TDMA	25	0	21.52	21.50	21.44				
5	TDMA	25	0	21.68	21.65	21.45				
5	TDMA	1	0	21.12	21.33	21.30				
5	TDMA	1	12	21.14	21.48	21.21			21	2
5	TDMA	1	25	21.13	21.31	21.26				
5	TDMA	12	0	20.03	20.01	19.82				
5	TDMA	12	7	20.09	20.04	19.84			21	3
5	TDMA	25	0	19.97	19.97	19.97				
5	TDMA	25	0	20.11	19.91	19.91				



Band 38(only on channel required)												
BW (MHz)	Modulation	RB Size	RB Offset	Power Low Ch (F/MHz)	Power High Ch (F/MHz)	Power High Ch (F/MHz)	Turnup time (dBm)	MPE (dB)				
Channel												
Frequency (MHz)												
20	QPSK	1	0	23.22	23.23	23.14	24	0				
20	QPSK	1	49	23.22	23.22	23.14						
20	QPSK	1	99	23.11	23.13	23.22						
20	QPSK	50	0	22.06	22.01	21.92						
20	QPSK	50	24	22.01	22.04	22.02	23	1				
20	QPSK	50	50	22.03	22.04	22.06						
20	QPSK	100	0	21.99	22.04	22.12						
20	HQAM	1	0	22.33	22.34	22.18						
20	HQAM	1	49	22.33	22.34	22.17	23	1				
20	HQAM	1	99	22.18	22.34	22.15						
20	HQAM	50	0	21.03	21.14	20.99						
20	HQAM	50	24	21.04	21.04	21.02						
20	HQAM	50	50	21.18	21.07	21.04	22	2				
20	HQAM	100	0	21.09	21.19	21.16						
20	HQAM	1	0	20.94	20.97	20.99						
20	HQAM	1	49	20.93	20.93	20.97						
20	HQAM	1	99	20.76	20.90	20.97	22	2				
20	HQAM	50	0	19.93	19.95	19.93						
20	HQAM	50	24	19.99	19.81	19.98						
20	HQAM	50	50	19.87	19.87	19.82						
20	HQAM	100	0	19.94	19.70	19.73	21	3				
Channel												
Frequency (MHz)												
15	QPSK	1	0	2077.5	2086	2012.5				24	0	
15	QPSK	1	0	23.12	23.22	23.23						
15	QPSK	1	24	23.22	23.24	23.19						
15	QPSK	36	0	22.11	22.10	22.13						
15	QPSK	36	24	22.11	22.15	22.11	23	1				
15	QPSK	36	48	21.95	22.03	22.16						
15	QPSK	76	0	22.12	22.08	22.15						
15	HQAM	1	0	22.31	22.29	22.28						
15	HQAM	1	24	22.31	22.11	22.29	23	1				
15	HQAM	1	74	22.49	22.13	22.24						
15	HQAM	36	0	21.01	21.19	21.18						
15	HQAM	36	24	20.97	21.08	21.17						
15	HQAM	36	50	21.01	21.01	21.12	22	2				
15	HQAM	76	0	21.05	21.19	21.18						
15	HQAM	1	0	20.97	20.91	20.93						
15	HQAM	1	24	20.91	20.90	20.95						
15	HQAM	1	74	20.91	20.80	20.98	22	2				
15	HQAM	36	0	19.94	19.94	19.71						
15	HQAM	36	24	19.93	19.89	19.92						
15	HQAM	36	50	19.94	19.82	19.94						
15	HQAM	76	0	19.98	19.86	19.97	21	3				
Channel												
Frequency (MHz)												
10	QPSK	1	0	23.22	23.25	23.12	24	0				
10	QPSK	1	24	23.12	23.12	23.23						
10	QPSK	1	49	23.01	23.21	23.24						
10	QPSK	25	0	22.98	22.13	22.21						
10	QPSK	25	12	22.27	22.12	22.23	23	1				
10	QPSK	25	25	22.27	22.20	22.23						
10	QPSK	50	0	22.08	22.10	22.08						
10	HQAM	1	0	22.41	22.45	22.58						
10	HQAM	1	24	22.17	22.11	22.36	23	1				
10	HQAM	1	49	22.42	22.40	22.35						
10	HQAM	25	0	21.30	21.00	21.28						
10	HQAM	25	12	21.22	21.08	21.18						
10	HQAM	25	25	21.17	21.08	21.21	22	2				
10	HQAM	50	0	21.36	21.23	21.26						
10	HQAM	1	0	20.99	20.96	20.99						
10	HQAM	1	24	20.98	20.90	20.98						
10	HQAM	1	49	21.04	21.01	20.98	21	3				
10	HQAM	25	0	19.75	19.87	19.82						
10	HQAM	25	12	19.83	19.82	19.71						
10	HQAM	25	25	19.75	19.80	19.83						
10	HQAM	50	0	19.80	19.89	19.81	20					
Channel												
Frequency (MHz)												
5	QPSK	1	0	23.23	23.21	23.24	24	0				
5	QPSK	1	12	23.23	23.14	23.21						
5	QPSK	1	24	23.22	23.13	23.21						
5	QPSK	12	0	23.37	23.17	23.29						
5	QPSK	12	7	22.22	22.21	22.26	23	1				
5	QPSK	12	31	22.26	22.10	22.25						
5	QPSK	25	0	22.24	22.14	22.23						
5	HQAM	1	0	22.35	22.22	22.46						
5	HQAM	1	12	22.34	22.31	22.36	23	2				
5	HQAM	1	24	22.31	22.08	22.28						
5	HQAM	12	0	21.29	21.18	21.29						
5	HQAM	12	7	21.28	21.15	21.21						
5	HQAM	12	31	21.26	21.10	21.15	22	2				
5	HQAM	25	0	21.29	21.15	21.25						
5	HQAM	25	1	21.29	21.12	21.21						
5	HQAM	25	1	21.29	21.12	21.21						
5	HQAM	25	1	21.29	21.12	21.21	21	3				
5	HQAM	25	1	21.29	21.12	21.21						
5	HQAM	25	1	21.29	21.12	21.21						
5	HQAM	25	1	21.29	21.12	21.21						

Band 41 (2.6G Band)											
BW (MHz)	Modulation	RB Size	RB Offset	Power Low Ch (F/MHz)	Power Low Ch (F/MHz)	Power Mid Ch (F/MHz)	Power High Ch (F/MHz)	Power High Ch (F/MHz)	Turn-up time (dBm)	MPE (dB)	
Channel											
Frequency (MHz)											
20	QPSK	1	0	24.31	24.34	24.35	24.23	24.34	25	0	
20	QPSK	1	49	24.31	24.34	24.34	24.24	24.33			
20	QPSK	1	99	24.21	24.10	24.34	24.23	24.34			
20	QPSK	50	0	22.32	22.32	22.45	22.31	22.41			
20	QPSK	50	24	22.31	22.30	22.41	22.42	22.43	23	2	
20	QPSK	50	50	22.40	22.34	22.42	22.42	22.44			
20	QPSK	100	0	22.20	22.21	22.34	22.33	22.25			
20	HQAM	1	0	22.85	22.43	22.38	22.44	22.40			
20	HQAM	1	49	22.49	22.47	22.37	22.41	22.39	23	2	
20	HQAM	1	99	22.38	22.32	22.30	22.43	22.43			
20	HQAM	50	0	21.84	21.87	21.65	21.74	21.71			
20	HQAM	50	24	21.78	21.65	21.75	21.77	21.77			
20	HQAM	50	50	21.85	21.70	21.51	21.65	21.76	22	3	
20	HQAM	100	0	21.80	21.84	21.59	21.68	21.49			
20	HQAM	1	0	21.02	21.23	21.01	21.24	21.03			
20	HQAM	1	49	21.02	21.20	21.02	21.08	21.08			
20	HQAM	1	99	20.92	21.11	21.00	21.20	20.78	21	4	
20	HQAM	50	0	20.12	20.08	19.78	20.02	19.75			
20	HQAM	50	24	20.09	20.15	19.85	20.00	19.74			
20	HQAM	50	50	20.11	20.01	19.89	19.96	19.72			
20	HQAM	100	0	20.14	20.16	19.85	20.00	19.83	20		
Channel											
Frequency (MHz)											
15	QPSK	1	0	24.06	24.09	24.11	23.99	24.10	25	0	
15	QPSK	1	24	24.10	24.08	24.34	24.23	24.33			
15	QPSK	1	74	24.10	24.10	23.98	24.21	24.06			
15	QPSK	36	0	22.56	22.31	22.67	22.48	22.47			
15	QPSK	36	24	22.45	22.24	22.71	22.54	22.41	23	2	
15	QPSK	36	48	22.54	22.65	22.78	22.73	22.44			
15	QPSK	76	0	22.65	22.42	22.70	22.54	22.48			
15	HQAM	1	0	22.10	21.83	22.24	21.99	21.84			
15	HQAM	1	24	22.30	21.87	22.22	22.22	22.22	23	2	
15	HQAM	1	74	21.80	22.23	21.96	22.10	22.21			
15	HQAM	36	0	21.84	21.83	21.83	21.78	21.74			
15	HQAM	36	24	21.87	21.75	21.82	21.85	21.77			
15	HQAM	36	50	21.87	21.85	21.72	21.62	21.65	22	3	
15	HQAM	76	0	21.85	21.83	21.70	21.73	21.68			
15	HQAM	76	24	21.87	21.80	21.71	21.76	21.69			
15	HQAM	76	50	21.87	21.85	21.72	21.62	21.65			
15	HQAM	1	0	21.36	21.29	21.26	21.04	21.12	22	3	
15	HQAM	1	74	21.04	21.02	20.94	20.87	20.85			
15	HQAM	1	99	20.92	20.86	20.86	20.86	20.86			
15	HQAM	36	20	20.21	19.85	19.97	19.86	20.07			
15	HQAM	36	50	20.21	19.85	20.02	19.79	19.90	21	4	
15	HQAM	76	0	20.03	19.83	19.86	19.86	19.86			
Channel											
Frequency (MHz)											
10	QPSK	1	0	24.06	24.09	24.11	23.99	24.10	25	0	
10	QPSK	1	24	24.11	24.33	24.27	24.31	24.31			
10	QPSK	1	49	24.33	24.30	24.32	24.31	24.18			
10	QPSK	25	0	22.79	22.82	22.95	22.72	22.95			
10	QPSK	25	12	22.80	22.82	22.82	22.80	22.83	23	2	
10	QPSK	25	25	22.81	22.83	22.57	22.68	22.50			
10	QPSK	50	0	22.45	22.49	22.45	22.48	22.54			
10	HQAM	1	0	22.86	22.86	22.86	22.86	22.82			
10	HQAM	1	25	22.95	22.87	22.40	22.54	22.31	23	2	
10	HQAM	1	49	22.54	22.49	22.34	22.45	22.10			
10	HQAM	1	75	21.46	21.45	21.45	21.45	21.45			
10	HQAM	25	12	21.80	21.89	21.61	21.68	21.53			
10	HQAM	25	25	21.88	21.73	21.62	21.63	21.45	22	3	
10	HQAM	50	0	21.45	21.45	21.45	21.45	21.45			
10	HQAM	50	12	21.78	21.78	21.54	21.54	21.36			
10	HQAM	1	25	21.78	21.61	21.49	21.51	21.34			
10	HQAM	25	0	20.50	20.51	20.49	20.44	20.29	21	4	
10	HQAM	25	12	20.50	20.52	19.93	20.00	19.90			
10	HQAM	25	12	20.24	20.21	19.93	20.03	19.86			
10	HQAM	25	25	20.20	20.15	19.84	20.03	19.78			
10	HQAM	50	0	20.18	20.17	19.89	19.96	19.80	20		
Channel											
Frequency (MHz)											
5	QPSK	1	0	24.06	24.08	24.21	24.12	24.05	25	0	
5	QPSK	1	12	24.31	24.32	24.30	24.31	24.17			
5	QPSK	1	24	24.34	24.32	24.19	24.29	24.20			
5	QPSK	1	49	24.34	24.31	24.31	24.27	24.16			
5	QPSK	12	7	22.77	22.76	22.54	22.68	22.52	23	2	
5	QPSK	12	13	22.84	22.77	22.54	22.64	22.48			
5	QPSK	25	0	22.73	22.76	22.56	22.68	22.73			
5	HQAM	1	0	22.72	22.66	22.51	22.60	22.36			
5	HQAM	1	12	22.62	22.87	22.34	22.87	22.33	23	2	
5	HQAM	25	0	22.59	22.59	22.59	22.64	22.23			
5	HQAM	12	7	21.91	21.77	21.63	21.68	21.60			
5	HQAM	12	7	21.74	21.79	21.57	21.64	21.45			
5	HQAM	12	13	21.76	21.74	21.49	21.59	21.54	22	3	
5	HQAM	25	0	21.81	21.87	21.65	21.64	21.58			
5	HQAM	1	0	21.80	21.77	21.65	21.66	21.46			
5	HQAM	1	12	21.70	21.62	21.45	21.57	21.38			
5	HQAM	12	13	21.72	21.66	21.49	21.54	21.38	21	4	
5	HQAM	12	0	20.20	20.23	20.01	20.08	19.94			
5	HQAM	12	7	20.21	20.15	19.96	20.02	19.87			
5	HQAM	12	13	20.21	20.15	19.96	19.99	19.84			
5	HQAM	25	0	20.15	20.14	19.90	19.99	19.80	20		
Channel											
Frequency (MHz)											

Reduced Power Mode for Sensor on

GSM1900		Burst Average Power (dBm)			Tune-up Limit (dBm)	Frame-Average Power (dBm)			Tune-up Limit (dBm)
TX Channel		512	661	810		512	661	810	
Frequency (MHz)		1850.2	1880	1909.8		1850.2	1880	1909.8	
GSM 1 Tx slot		26.11	26.07	26.12	27.00	17.11	17.07	17.12	18.00
GPRS 1 Tx slot		26.09	26.05	26.11	27.00	17.09	17.05	17.11	18.00
GPRS 2 Tx slots		22.39	22.42	22.33	24.00	16.38	16.42	16.33	18.00
GPRS 3 Tx slots		20.95	20.83	20.90	22.00	15.69	15.57	15.64	17.74
GPRS 4 Tx slots		19.58	19.54	19.60	20.50	15.58	15.54	15.60	17.50
EDGE 1 Tx slot		21.93	22.01	21.90	22.50	12.93	13.01	12.90	13.50
EDGE 2 Tx slots		21.77	21.91	21.68	22.50	15.77	15.91	15.68	16.50
EDGE 3 Tx slots		19.80	20.02	19.69	20.50	15.54	15.76	15.43	16.24
EDGE 4 Tx slots		18.65	18.81	18.56	19.50	15.65	15.81	15.56	16.50

Band		WCDMA II			Tune-up Limit (dBm)	WCDMA IV			Tune-up Limit (dBm)	WCDMA V			Tune-up Limit (dBm)
TX Channel		9282	9400	9538		1312	1413	1513		4132	4182	4233	
Rx Channel		9682	9800	9938		1537	1638	1738		4357	4407	4458	
Frequency (MHz)		1852.4	1880	1907.6		1712.4	1732.6	1752.6		826.4	836.4	846.6	
3GPP Rel 99	AMR 12.2kbps	13.81	13.84	13.77	15.00	15.30	15.28	15.21	16.00	20.89	21.16	21.11	22.00
3GPP Rel 99	RMC 12.2kbps	13.80	13.86	13.79	15.00	15.32	15.31	15.24	16.00	20.91	21.28	21.20	22.00
3GPP Rel 6	HSDPA Subtest-1	13.23	13.12	13.23	14.00	14.22	14.15	14.16	15.00	20.18	20.41	20.42	21.00
3GPP Rel 6	HSDPA Subtest-2	13.22	13.34	13.22	14.00	14.19	14.16	14.13	15.00	20.21	20.37	20.35	21.00
3GPP Rel 6	HSDPA Subtest-3	12.56	12.56	12.67	13.50	13.73	13.64	13.69	14.50	19.73	19.54	19.91	20.50
3GPP Rel 6	HSDPA Subtest-4	12.67	12.68	12.55	13.50	13.72	13.69	13.69	14.50	19.69	19.51	19.90	20.50
3GPP Rel 8	DC-HSDPA Subtest-1	13.24	13.20	13.23	14.00	14.26	14.08	14.17	15.00	20.23	19.97	20.44	21.00
3GPP Rel 8	DC-HSDPA Subtest-2	13.21	13.45	13.11	14.00	14.17	14.13	14.16	15.00	20.20	20.01	20.39	21.00
3GPP Rel 8	DC-HSDPA Subtest-3	12.56	13.01	12.56	13.50	13.65	13.69	13.66	14.50	19.66	19.57	19.89	20.50
3GPP Rel 8	DC-HSDPA Subtest-4	12.45	12.56	12.55	13.50	13.70	13.72	13.60	14.50	19.68	19.52	19.82	20.50
3GPP Rel 6	HSUPA Subtest-1	13.24	13.23	13.23	14.00	14.32	14.38	14.15	15.00	20.19	20.15	20.47	21.00
3GPP Rel 6	HSUPA Subtest-2	11.21	11.34	11.45	12.00	12.26	12.28	12.27	13.00	18.22	18.18	18.40	19.00
3GPP Rel 6	HSUPA Subtest-3	12.33	12.32	12.44	13.00	13.10	13.14	13.05	14.00	19.15	19.21	19.39	20.00
3GPP Rel 6	HSUPA Subtest-4	11.23	11.34	11.45	12.00	12.17	12.17	12.09	13.00	18.11	18.24	18.41	19.00
3GPP Rel 6	HSUPA Subtest-5	13.49	13.24	13.54	14.00	14.30	14.28	14.24	15.00	20.03	20.28	20.33	21.00

Band		CDMA BC0			Tune-up Limit (dBm)	CDMA BC1			Tune-up Limit (dBm)	CDMA BC10			Tune-up Limit (dBm)
TX Channel		1013	384	777		25	600	1175		476	580	684	
Frequency (MHz)		824.7	838.52	848.31		1851.25	1880	1908.75		817.9	820.5	823.1	
RC1 SO55		22.28	22.35	22.36	23.00	17.22	17.11	17.13	17.50	22.38	22.46	22.44	23.00
RC3 SO55		22.30	22.37	22.34	23.00	17.24	17.31	17.12	17.50	22.36	22.47	22.34	23.00
RC3 SO32 (+SCH)		22.35	22.22	22.34	23.00	17.23	17.10	17.17	17.50	22.29	22.43	22.42	23.00
RC3 SO32 (+SCH)		22.29	22.26	22.31	23.00	17.30	17.01	17.19	17.50	22.35	22.44	22.46	23.00
RTAP 153.6kbps		22.24	22.27	22.21	23.00	17.21	17.26	17.12	17.50	22.34	22.44	22.43	23.00
RTAP 4096kbps		22.15	22.16	22.24	23.00	17.22	17.21	17.12	17.50	22.31	22.35	22.45	23.00



Band 2 (1900MHz Band)										
Part 24E										
BW (MHz)	Modulation	RB Size	RB Offset	Power Ch./Freq. (W)	Power Hoch. Ch./Freq. (W)	Power Low. Ch./Freq. (W)	Turn-up limit (dB)	MPE (dB)		
Channel										
Frequency (MHz)										
20	QPSK	1	0	15.96	15.10	15.87				
20	QPSK	1	49	15.76	15.00	15.90	16.5	0		
20	QPSK	1	99	15.69	15.94	15.84				
20	QPSK	50	0	15.94		15.78				
20	QPSK	50	24	15.82		15.71	16.5	0		
20	QPSK	50	50	15.93	15.86	15.79				
20	QPSK	100	0	15.90	15.88	15.88				
20	QPSK	100	24	15.88	15.86	15.76	16.5	0		
20	QPSK	100	50	15.71	15.71	15.79				
20	QPSK	100	75	15.84	15.80	15.81				
20	QPSK	100	100	15.98	15.79	15.88				
20	QPSK	100	125	15.76	15.76	15.78	16.5	0		
20	QPSK	100	150	15.83	15.80	15.81				
20	QPSK	100	175	15.82	15.77	15.77	16.5	0		
20	QPSK	100	200	15.92	15.82	15.81				
20	QPSK	100	225	15.79	15.79	15.79				
20	QPSK	100	250	15.90	15.80	15.87	16.5	0		
20	QPSK	100	275	15.87	15.83	15.83				
20	QPSK	100	300	15.73	15.73	15.73				
20	QPSK	100	325	15.87	15.87	15.88	16.5	0		
20	QPSK	100	350	15.84	15.83	15.83				
20	QPSK	100	375	15.78	15.78	15.78				
20	QPSK	100	400	15.86	15.86	15.87	16.5	0		
20	QPSK	100	425	15.79	15.79	15.79				
20	QPSK	100	450	15.80	15.80	15.80				
20	QPSK	100	475	15.83	15.83	15.83	16.5	0		
20	QPSK	100	500	15.76	15.76	15.76				
20	QPSK	100	525	15.88	15.88	15.88				
20	QPSK	100	550	15.79	15.79	15.79	16.5	0		
20	QPSK	100	575	15.81	15.81	15.81				
20	QPSK	100	600	15.83	15.83	15.83				
20	QPSK	100	625	15.76	15.76	15.76	16.5	0		
20	QPSK	100	650	15.80	15.80	15.80				
20	QPSK	100	675	15.83	15.83	15.83				
20	QPSK	100	700	15.76	15.76	15.76	16.5	0		
20	QPSK	100	725	15.80	15.80	15.80				
20	QPSK	100	750	15.83	15.83	15.83				
20	QPSK	100	775	15.76	15.76	15.76	16.5	0		
20	QPSK	100	800	15.80	15.80	15.80				
20	QPSK	100	825	15.83	15.83	15.83				
20	QPSK	100	850	15.76	15.76	15.76	16.5	0		
20	QPSK	100	875	15.80	15.80	15.80				
20	QPSK	100	900	15.83	15.83	15.83				
20	QPSK	100	925	15.76	15.76	15.76	16.5	0		
20	QPSK	100	950	15.80	15.80	15.80				
20	QPSK	100	975	15.83	15.83	15.83				
20	QPSK	100	1000	15.76	15.76	15.76	16.5	0		
20	QPSK	100	1025	15.80	15.80	15.80				
20	QPSK	100	1050	15.83	15.83	15.83				
20	QPSK	100	1075	15.76	15.76	15.76	16.5	0		
20	QPSK	100	1100	15.80	15.80	15.80				
20	QPSK	100	1125	15.83	15.83	15.83				
20	QPSK	100	1150	15.76	15.76	15.76	16.5	0		
20	QPSK	100	1175	15.80	15.80	15.80				
20	QPSK	100	1200	15.83	15.83	15.83				
20	QPSK	100	1225	15.76	15.76	15.76	16.5	0		
20	QPSK	100	1250	15.80	15.80	15.80				
20	QPSK	100	1275	15.83	15.83	15.83				
20	QPSK	100	1300	15.76	15.76	15.76	16.5	0		
20	QPSK	100	1325	15.80	15.80	15.80				
20	QPSK	100	1350	15.83	15.83	15.83				
20	QPSK	100	1375	15.76	15.76	15.76	16.5	0		
20	QPSK	100	1400	15.80	15.80	15.80				
20	QPSK	100	1425	15.83	15.83	15.83				
20	QPSK	100	1450	15.76	15.76	15.76	16.5	0		
20	QPSK	100	1475	15.80	15.80	15.80				
20	QPSK	100	1500	15.83	15.83	15.83				
20	QPSK	100	1525	15.76	15.76	15.76	16.5	0		
20	QPSK	100	1550	15.80	15.80	15.80				
20	QPSK	100	1575	15.83	15.83	15.83				
20	QPSK	100	1600	15.76	15.76	15.76	16.5	0		
20	QPSK	100	1625	15.80	15.80	15.80				
20	QPSK	100	1650	15.83	15.83	15.83				
20	QPSK	100	1675	15.76	15.76	15.76	16.5	0		
20	QPSK	100	1700	15.80	15.80	15.80				
20	QPSK	100	1725	15.83	15.83	15.83				
20	QPSK	100	1750	15.76	15.76	15.76	16.5	0		
20	QPSK	100	1775	15.80	15.80	15.80				
20	QPSK	100	1800	15.83	15.83	15.83				
20	QPSK	100	1825	15.76	15.76	15.76	16.5	0		
20	QPSK	100	1850	15.80	15.80	15.80				
20	QPSK	100	1875	15.83	15.83	15.83				
20	QPSK	100	1900	15.76	15.76	15.76	16.5	0		
20	QPSK	100	1925	15.80	15.80	15.80				
20	QPSK	100	1950	15.83	15.83	15.83				
20	QPSK	100	1975	15.76	15.76	15.76	16.5	0		
20	QPSK	100	2000	15.80	15.80	15.80				
20	QPSK	100	2025	15.83	15.83	15.83				
20	QPSK	100	2050	15.76	15.76	15.76	16.5	0		
20	QPSK	100	2075	15.80	15.80	15.80				
20	QPSK	100	2100	15.83	15.83	15.83				
20	QPSK	100	2125	15.76	15.76	15.76	16.5	0		
20	QPSK	100	2150	15.80	15.80	15.80				
20	QPSK	100	2175	15.83	15.83	15.83				
20	QPSK	100	2200	15.76	15.76	15.76	16.5	0		
20	QPSK	100	2225	15.80	15.80	15.80				
20	QPSK	100	2250	15.83	15.83	15.83				
20	QPSK	100	2275	15.76	15.76	15.76	16.5	0		
20	QPSK	100	2300	15.80	15.80	15.80				
20	QPSK	100	2325	15.83	15.83	15.83				
20	QPSK	100	2350	15.76	15.76	15.76	16.5	0		
20	QPSK	100	2375	15.80	15.80	15.80				
20	QPSK	100	2400	15.83	15.83	15.83				
20	QPSK	100	2425	15.76	15.76	15.76	16.5	0		
20	QPSK	100	2450	15.80	15.80	15.80				
20	QPSK	100	2475	15.83	15.83	15.83				
20	QPSK	100	2500	15.76	15.76	15.76	16.5	0		
20	QPSK	100	2525	15.80	15.80	15.80				
20	QPSK	100	2550	15.83	15.83	15.83				
20	QPSK	100	2575	15.76	15.76	15.76	16.5	0		
20	QPSK	100	2600	15.80	15.80	15.80				
20	QPSK	100	2625	15.83	15.83	15.83				
20	QPSK	100	2650	15.76	15.76	15.76	16.5	0		
20	QPSK	100	2675	15.80	15.80	15.80				
20	QPSK	100	2700	15.83	15.83	15.83				
20	QPSK	100	2725	15.76	15.76	15.76	16.5	0		
20	QPSK	100	2750	15.80	15.80	15.80				
20	QPSK	100	2775	15.83	15.83	15.83				
20	QPSK	100	2800	15.76	15.76	15.76	16.5	0		
20	QPSK	100	2825	15.80	15.80	15.80				
20	QPSK	100	2850	15.83	15.83	15.83				
20	QPSK	100	2875	15.76	15.76	15.76	16.5	0		
20	QPSK	100	2900	15.80	15.80	15.80				
20	QPSK	100	2925	15.83	15.83	15.83				
20	QPSK	100	2950	15.76	15.76	15.76	16.5	0		
20	QPSK	100	2975	15.80	15.80	15.80				
20	QPSK	100	3000	15.83	15.83	15.83				
20	QPSK	100	3025	15.76	15.76	15.76	16.5	0		
20	QPSK	100	3050	15.80	15.80	15.80				
20	QPSK	100	3075	15.83	15.83	15.83				
20	QPSK	100	3100	15.76	15.76	15.76	16.5	0		
20	QPSK	100	3125	15.80	15.80	15.80				
20	QPSK	100	3150	15.83	15.83	15.83				
20	QPSK	100	3175	15.76	15.76	15.76	16.5	0		
20	QPSK	100	3200	15.80	15.80	15.80				
20	QPSK	100	3225	15.83	15.83	15.83				
20	QPSK	100	3250	15.76	15.76	15.76	16.5	0		
20	QPSK	100	3275	15.80	15.80	15.80				
20	QPSK	100	3300	15.83	15.83	15.83				
20	QPSK	100	3325	15.76	15.76	15.76	16.5	0		
20	QPSK	100	3350	15.80	15.80	15.80				
20	QPSK	100	3375	15.83	15.83	15.83				
20	QPSK	100	3400	15.76	15.76	15.76	16.5	0		
20	QPSK	100	3425	15.80	15.80	15.80				
20	QPSK	100	3450	15.83	15.83	15.83				
20	QPSK	100	3475	15.76						

Band 25 (1900MHz Band) Part 24E												
SR (MHz)	Modulation	RB Size	RB Offset	Channel Frequency (MHz)	Channel Bandwidth (MHz)	Channel Center Frequency (MHz)	Channel Bandwidth (MHz)	Channel Center Frequency (MHz)	Channel Bandwidth (MHz)	Channel Center Frequency (MHz)	Channel Bandwidth (MHz)	Channel Center Frequency (MHz)
Channel 1												
20	QPSK	1	0	18.99	1.12	18.92	10.12	18.92	10.12			
20	QPSK	1	49	18.98	10.02	19.11	10.02	18.98	10.02			0
20	QPSK	1	98	18.97	10.02	19.11	10.02	18.97	10.02			
20	QPSK	56	0	18.81	18.82	18.80		18.81	18.82			
20	QPSK	56	20	18.82	18.82	18.84		18.82	18.84			16.5
20	QPSK	56	40	18.83	18.82	18.86		18.83	18.86			
20	QPSK	100	0	18.73	18.78	18.75	18.78	18.73	18.78			
20	QPSK	100	20	18.74	18.78	18.76	18.78	18.74	18.78			
20	QPSK	100	40	18.75	18.78	18.77	18.78	18.75	18.78			
20	QPSK	1	49	18.68	18.47	18.35	18.35	18.68	18.47			16.5
20	QPSK	1	99	18.58	18.41	18.32		18.58	18.41			
20	QPSK	1	149	18.48	18.34	18.30		18.48	18.34			
20	QPSK	56	24	18.63	18.68	18.62		18.63	18.68			
20	QPSK	56	30	18.53	18.50	18.50		18.53	18.50			
20	QPSK	56	36	18.56	18.58	18.56		18.56	18.58			
20	QPSK	1	0	18.92	18.92	18.90		18.92	18.92			
20	QPSK	1	49	18.91	18.92	18.91		18.91	18.92			16.5
20	QPSK	1	99	18.90	18.76	18.72		18.90	18.76			
20	QPSK	1	149	18.76	18.68	18.68		18.76	18.68			
20	QPSK	56	36	18.67	18.68	18.67		18.67	18.68			16.5
20	QPSK	56	50	18.54	18.48	18.47		18.54	18.48			
20	QPSK	100	0	18.77	18.79	18.77	18.79	18.77	18.79			
Channel 2												
Frequency (MHz)				1887.5	1888	1887.5		1887.5	1888			16.5
15	QPSK	1	0	18.41	18.48	18.52		18.41	18.48			
15	QPSK	1	49	18.40	18.32	18.37		18.40	18.32			16.5
15	QPSK	1	74	18.41	18.38	18.39		18.41	18.38			
15	QPSK	36	0	18.62	18.65	18.63		18.62	18.65			
15	QPSK	36	20	18.63	18.65	18.62		18.63	18.65			16.5
15	QPSK	72	0	18.73	18.70	18.65		18.73	18.70			
15	QPSK	72	20	18.74	18.70	18.67		18.74	18.70			
15	QPSK	1	0	18.83	18.78	18.07		18.83	18.78			
15	QPSK	1	37	18.85	18.87	18.05		18.85	18.87			16.5
15	QPSK	1	49	18.86	18.88	18.06		18.86	18.88			
15	QPSK	36	0	18.84	18.88	18.84		18.84	18.88			
15	QPSK	36	20	18.88	18.89	18.82		18.88	18.89			16.5
15	QPSK	72	0	18.91	18.92	18.90		18.91	18.92			
15	QPSK	72	0	18.84	18.70	18.67		18.84	18.70			
15	QPSK	1	0	18.76	18.84	18.92		18.76	18.84			
15	QPSK	1	37	18.77	18.84	18.92		18.77	18.84			
15	QPSK	1	49	18.78	18.87	18.73		18.78	18.87			
15	QPSK	1	74	18.79	18.87	18.74		18.79	18.87			
15	QPSK	24	0	18.78	18.71	18.70		18.78	18.71			
15	QPSK	24	20	18.76	18.63	18.62		18.76	18.63			16.5
15	QPSK	1	49	18.68	18.51	18.45		18.68	18.51			
15	QPSK	1	26	18.56	18.83	18.92		18.56	18.83			16.5
15	QPSK	1	49	18.58	18.96	18.78		18.58	18.96			
15	QPSK	1	74	18.70	18.92	18.73		18.70	18.92			
15	QPSK	24	12	18.75	18.65	18.60		18.75	18.65			16.5
15	QPSK	24	12	18.70	18.58	18.55		18.70	18.58			
15	QPSK	56	20	18.78	18.68	18.65		18.78	18.68			
15	QPSK	56	20	18.64	18.68	18.65		18.64	18.68			16.5
15	QPSK	36	36	18.74	18.71	18.68		18.74	18.71			
15	QPSK	36	36	18.68	18.68	18.68		18.68	18.68			
Channel 3												
Frequency (MHz)				2066.0	2064.0	2066.0		2066.0	2064.0			16.5
10	QPSK	1	0	18.96	18.79	18.70		18.96	18.79			
10	QPSK	1	26	18.94	18.92	18.90		18.94	18.92			16.5
10	QPSK	1	49	18.97	18.91	18.92		18.97	18.91			
10	QPSK	1	74	18.98	18.87	18.92		18.98	18.87			
10	QPSK	24	12	18.75	18.69	18.72		18.75	18.69			
10	QPSK	24	26	18.70	18.74	18.74		18.70	18.74			
10	QPSK	24	40	18.78	18.79	18.79		18.78	18.79			
10	QPSK	1	0	18.93	18.82	18.85		18.93	18.82			
10	QPSK	1	26	18.92	18.85	18.88		18.92	18.85			16.5
10	QPSK	1	49	18.93	18.83	18.85		18.93	18.83			
10	QPSK	1	74	18.98	18.87	18.73		18.98	18.87			
10	QPSK	1	99	18.96	18.81	18.76		18.96	18.81			
10	QPSK	24	26	18.78	18.71	18.70		18.78	18.71			
10	QPSK	24	40	18.77	18.68	18.71		18.77	18.68			16.5
10	QPSK	1	26	18.58	18.93	18.92		18.58	18.93			
10	QPSK	1	49	18.56	18.96	18.78		18.56	18.96			
10	QPSK	1	74	18.70	18.92	18.73		18.70	18.92			
10	QPSK	24	12	18.75	18.65	18.70		18.75	18.65			16.5
10	QPSK	24	26	18.70	18.68	18.68		18.70	18.68			
10	QPSK	56	20	18.74	18.64	18.71		18.74	18.64			
Channel 4												
Frequency (MHz)				2066.0	2064.0	2066.0		2066.0	2064.0			16.5
5	QPSK	1	0	18.71	18.63	18.68		18.71	18.63			
5	QPSK	1	12	18.60	18.42	18.56		18.60	18.42			
5	QPSK	1	24	18.50	18.35	18.42		18.50	18.35			16.5
5	QPSK	12	0	18.81	18.72	18.73		18.81	18.72			
5	QPSK	12	7	18.75	18.68	18.69		18.75	18.68			
5	QPSK	12	14	18.62	18.64	18.63		18.62	18.64			16.5
5	QPSK	24	0	18.75	18.67	18.71		18.75	18.67			
5	QPSK	1	12	18.65	18.51	18.59		18.65	18.51			
5	QPSK	1	24	18.51	18.42	18.46		18.51	18.42			16.5
5	QPSK	1	49	18.48	18.39	18.43		18.48	18.39			
5	QPSK	12	14	18.76	18.67	18.73		18.76	18.67			16.5
5	QPSK	12	13	18.72	18.63	18.69		18.72	18.63			
5	QPSK	12	26	18.66	18.60	18.63		18.66	18.60			
5	QPSK	1	0	18.61	18.50	18.56		18.61	18.50			
5	QPSK	1	12	18.61	18.78	18.69		18.61	18.78			16.5
5	QPSK	1	24	18.58	18.84	18.84		18.58	18.84			
5	QPSK	12	0	18.77	18.67	18.74		18.77	18.67			
5	QPSK	12	14	18.72	18.63	18.70		18.72	18.63			16.5
5	QPSK	12	13	18.70	18.62	18.67		18.70	18.62			
5	QPSK	24	0	18.74	18.67	18.67		18.74	18.67			
Channel 5												
Frequency (MHz)				1891.5	1890	1891.5		1891.5	1890			16.5
3	QPSK	1	0	18.87	18.66	18.68		18.87	18.66			
3	QPSK	1	6	18.86	18.69	18.74		18.86	18.69			
3	QPSK	1	12	18.61	18.49	18.45		18.61	18.49			16.5
3	QPSK	8	0	18.71	18.64	18.68		18.71	18.64			
3	QPSK	8	6	18.73	18.65	18.67		18.73	18.65			
3	QPSK	8	7	18.67	18.60	18.65		18.67	18.60			16.5
3	QPSK	15	0	18.70	18.65	18.70		18.70	18.65			
3	QPSK	15	6	18.72	18.67	18.69		18.72	18.67			
3	QPSK	1	8	18.94	18.89	18.92		18.94	18.89			16.5
3	QPSK	1	14	18.89	18.79	18.89		18.89	18.79			
3	QPSK	1	19	18.71	18.61	18.66		18.71	18.61			
3	QPSK	8	4	18.78	18.73	18.75		18.78	18.73			16.5
3	QPSK	8	10	18.70	18.65	18.68		18.70	18.65			
3	QPSK	1	16	18.72	18.64	18.70		18.72	18.64			
3	QPSK	1	0	18.84	18.78	18.81		18.84	18.78			16.5
3	QPSK	1	12	18.73	18.63	18.68		18.73	18.63			
3	QPSK	1	14	18.79	18.65	18.80		18.79	18.65			
3	QPSK	8	0	18.71	18.63	18.67		18.71	18.63			
3	QPSK	8	6	18.77	18.62	18.70		18.77	18.62			16.5
3	QPSK	8	7	18.65	18.56	18.64		18.65	18.56			
Channel 6												
Frequency (MHz)				2067.0	2066	2067.0		2067.0	2066			16.5
1.4	QPSK	1	0	18.67	18.65	18.64		18.67	18.65			
1.4	QPSK	1	6	18.70	18.69	18.69		18.70	18.69			
1.4	QPSK	1	8	18.62	18.56	18.58		18.62	18.56			16.5
1.4	QPSK	1	14	18.73	18.67	18.64		18.73	18.67			
1.4	QPSK	3	0	18.71	18.62	18.62		18.71	18.62			

Band 26 for FCC (only on channel required)									
BSI (MHz)	Modulation	File Size	File Offset	Time Ch./Frame	Time Ch./Frame 2016	Time Ch./Frame 2015	Time Ch./Frame 2014	Turned on/off	MFR (dB)
Frequency (MHz)									
15	QPSK	1	0	21.65	21.07	21.62	21.62	22	0
15	QPSK	1	74	21.62	21.03	21.52	21.52	22	0
15	QPSK	36	0	21.43	21.46	21.47	21.47	22	0
15	QPSK	36	1	21.43	21.43	21.43	21.43	22	0
15	QPSK	36	39	21.10	21.11	21.43	21.43	22	0
15	QPSK	75	0	21.26	21.48	21.39	21.39	22	0
15	QPSK	75	1	21.26	21.48	21.39	21.39	22	0
15	QPSK	1	37	21.51	21.59	21.52	21.52	22	0
15	QPSK	1	74	21.56	21.56	21.56	21.56	22	0
15	QPSK	36	74	21.47	21.40	21.43	21.43	22	0
15	QPSK	36	20	21.19	21.20	21.17	21.17	22	0
15	QPSK	36	21	21.19	21.20	21.17	21.17	22	0
15	QPSK	75	0	21.23	21.24	21.28	21.28	22	0
15	QPSK	1	0	21.43	21.48	21.43	21.43	22	0
15	QPSK	1	74	21.39	21.43	21.43	21.43	22	0
15	QPSK	1	74	21.56	21.44	21.63	21.63	22	0
15	QPSK	36	20	20.10	20.10	20.10	20.10	21	1
15	QPSK	36	20	19.94	19.95	19.91	19.91	21	1
15	QPSK	153	0	21.13	21.13	21.13	21.13	21	1
Channel									
15	QPSK	1	0	21.52	21.15	21.66	21.67	22	0
15	QPSK	1	26	21.55	21.11	21.05	21.05	22	0
15	QPSK	1	49	21.39	21.43	21.32	21.32	22	0
15	QPSK	1	74	21.17	21.28	21.23	21.23	22	0
15	QPSK	25	12	21.21	21.27	21.19	21.19	22	0
15	QPSK	25	12	21.21	21.27	21.19	21.19	22	0
15	QPSK	50	20	21.23	21.27	21.28	21.28	22	0
15	QPSK	1	0	21.44	21.43	21.54	21.54	22	0
15	QPSK	1	74	21.67	21.68	21.63	21.63	22	0
15	QPSK	1	49	21.66	21.48	21.63	21.63	22	0
15	QPSK	25	0	21.15	21.27	21.23	21.23	22	0
15	QPSK	25	0	21.19	21.28	21.23	21.23	22	0
15	QPSK	25	0	21.28	21.29	21.19	21.19	22	0
15	QPSK	25	0	21.29	21.29	21.19	21.19	22	0
15	QPSK	1	0	21.59	21.45	21.63	21.63	22	0
15	QPSK	1	25	21.39	21.45	21.38	21.38	22	0
15	QPSK	1	74	21.19	21.19	21.19	21.19	22	0
15	QPSK	25	0	20.88	20.18	20.14	20.14	21	1
15	QPSK	25	12	20.10	20.18	20.07	20.07	21	1
15	QPSK	25	12	20.18	20.18	20.07	20.07	21	1
15	QPSK	50	0	20.13	20.13	20.13	20.13	21	1
Frequency (MHz)									
5	QPSK	1	0	21.18	21.22	21.23	21.23	22	0
5	QPSK	1	24	21.12	21.17	21.04	21.04	22	0
5	QPSK	1	24	21.12	21.17	21.04	21.04	22	0
5	QPSK	12	0	21.18	21.23	21.14	21.14	22	0
5	QPSK	12	0	21.09	21.22	21.14	21.14	22	0
5	QPSK	12	13	21.14	21.23	21.12	21.12	22	

Band 66										
BS (MHz)	Modulation	RB Size	RB Offset	Power (dBm)	Power (dBm) 130072	Power (dBm) 130332	Power (dBm) 130172	Time-slot (ms)	MPS (kb/s)	
Channel 1										
20	QPSK	1	0	18.82	18.10	18.10	18.62			
20	QPSK	1	49	18.02	18.02	18.02	18.09	16.5	0	
20	QPSK	1	99	18.02	18.02	18.02	18.09			
20	QPSK	56	0	15.84	15.89	15.78				
20	QPSK	56	56	15.84	15.83	15.83		16.5	0	
20	QPSK	56	112	15.84	15.83	15.83				
20	QPSK	100	0	15.54	15.78	15.88				
20	QPSK	100	50	15.54	15.59	15.67				
20	QPSK	100	100	15.54	15.59	15.67				
20	QPSK	1	49	15.59	15.52	15.51	15.45			
20	QPSK	56	24	15.55	15.84	15.84				
20	QPSK	56	70	15.55	15.84	15.84				
20	QPSK	56	96	15.55	15.84	15.84				
20	QPSK	1	99	15.85	16.02	15.97				
20	QPSK	1	148	15.85	16.02	15.97				
20	QPSK	50	50	15.56	15.56	15.56		16.5	0	
20	QPSK	100	0	15.56	15.60	15.68				
20	QPSK	100	50	15.56	15.60	15.68				
20	QPSK	100	100	15.56	15.60	15.68				
Channel 2										
Frequency (MHz)				1717.5	1745	1772.5		Time-slot (ms)	MPS (kb/s)	
15	QPSK	1	0	15.62	16.37	15.74				
15	QPSK	1	49	15.62	15.48	15.78	15.8	16.5	0	
15	QPSK	1	99	15.62	15.48	15.78				
15	QPSK	1	74	15.86	16.05	15.75				
15	QPSK	36	36	15.55	15.84	15.89				
15	QPSK	36	72	15.55	15.84	15.89				
15	QPSK	36	108	15.55	15.84	15.89				
15	QPSK	36	144	15.52	15.55	15.57				
15	QPSK	72	72	15.52	15.55	15.57				
15	QPSK	72	144	15.52	15.55	15.57				
15	QPSK	1	49	15.80	16.01	15.83				
15	QPSK	1	99	15.81	16.04	15.82				
15	QPSK	1	148	15.81	16.04	15.82				
15	QPSK	36	0	15.56	16.02	15.72				
15	QPSK	36	36	15.56	16.02	15.72				
15	QPSK	36	72	15.56	16.02	15.72				
15	QPSK	36	108	15.56	16.02	15.72				
15	QPSK	36	144	15.56	16.02	15.72				
15	QPSK	72	0	15.47	15.84	15.81				
15	QPSK	72	72	15.47	15.84	15.81				
15	QPSK	72	144	15.47	15.84	15.81				
15	QPSK	1	37	15.59	15.84	15.89				
15	QPSK	1	74	15.59	15.84	15.89				
15	QPSK	1	111	15.59	15.84	15.89				
15	QPSK	1	148	15.59	15.84	15.89				
15	QPSK	36	20	15.47	16.04	15.88				
15	QPSK	36	56	15.52	15.51	15.57				
15	QPSK	36	92	15.52	15.51	15.57				
15	QPSK	36	128	15.47	16.02	15.65		16.5	0	



Band 38(only on channel required)											
SR [MHz]	Modulation	RB Size	RB Offset	Power Lst Ch / Freq	Power Lst Ch / Freq	Power Lst Ch / Freq	Time-up limit (dBm)	MPR (dB)			
Channel											
Frequency (MHz)											
30	QPSK	1	0	20.41	20.65	20.29	21.5	0			
20	QPSK	1	40	20.30	20.36	20.42					
20	QPSK	1	80	20.53	20.57	20.60					
20	QPSK	50	0	20.28	20.42	20.30	21.5	0			
20	QPSK	50	24	20.36	20.42	20.47					
20	QPSK	50	48	20.53	20.55	20.49					
20	QPSK	100	0	20.38	20.42	20.48	21.5	0			
20	16QAM	1	40	20.31	20.45	20.40					
20	16QAM	1	80	20.41	20.44	20.47					
20	16QAM	1	99	20.59	20.60	20.64	21.5	0			
20	16QAM	50	0	20.31	20.45	20.40					
20	16QAM	50	24	20.29	20.44	20.51					
20	16QAM	50	50	20.35	20.50	20.46	21.0	0.5			
20	16QAM	100	0	20.37	20.44	20.46					
20	8QAM	1	0	20.03	20.16	20.21					
20	8QAM	1	40	20.17	20.21	20.23	21.0	0.5			
20	8QAM	1	80	20.32	20.36	20.39					
20	8QAM	50	0	20.26	20.37	20.34					
20	8QAM	50	24	20.25	20.40	20.44	21.0	0.5			
20	8QAM	50	48	20.47	20.49	20.42					
20	8QAM	100	0	20.45	20.49	20.52					
Channel											
Frequency (MHz)											
15	QPSK	1	0	20.21	20.29	20.13	21.5	0			
15	QPSK	1	37	20.31	20.27	20.20					
15	QPSK	1	74	20.54	20.58	20.60					
15	QPSK	36	0	20.35	20.45	20.49	21.5	0			
15	QPSK	36	20	20.38	20.50	20.48					
15	QPSK	36	40	20.47	20.48	20.49					
15	QPSK	72	0	20.34	20.48	20.49	21.5	0			
15	QPSK	72	0	20.33	20.42	20.50					
15	QPSK	72	37	20.43	20.48	20.49					
15	16QAM	1	74	20.57	20.64	20.66	21.5	0			
15	16QAM	1	74	20.59	20.15	20.01					
15	16QAM	36	0	20.35	20.48	20.43					
15	16QAM	36	20	20.36	20.45	20.48	21.5	0			
15	16QAM	36	20	20.36	20.45	20.48					
15	16QAM	36	36	20.44	20.56	20.58					
15	16QAM	36	36	20.49	20.49	20.49	21.0	0.5			
15	8QAM	1	0	20.08	20.17	20.28					
15	8QAM	1	37	20.20	20.14	20.20					
15	8QAM	1	74	20.38	20.37	20.40	21.0	0.5			
15	8QAM	36	0	20.40	20.47	20.50					
15	8QAM	36	36	20.41	20.48	20.50					
15	8QAM	36	36	20.44	20.58	20.58	21.0	0.5			
15	8QAM	72	0	20.37	20.47	20.49					
15	8QAM	72	0	20.36	20.50	20.50					
Channel											
Frequency (MHz)											
10	QPSK	1	0	20.46	20.46	20.54	21.5	0			
10	QPSK	1	25	20.50	20.44	20.50					
10	QPSK	1	40	20.57	20.55	20.64					
10	QPSK	25	0	20.42	20.45	20.58	21.5	0			
10	QPSK	25	12	20.45	20.45	20.56					
10	QPSK	25	20	20.54	20.61	20.67					
10	QPSK	50	0	20.51	20.45	20.58	21.5	0			
10	QPSK	50	0	20.51	20.45	20.58					
10	16QAM	1	40	20.46	20.48	20.54					
10	16QAM	1	25	20.41	20.48	20.52	21.5	0			
10	16QAM	1	40	20.46	20.37	20.66					
10	16QAM	25	0	20.57	20.52	20.58					
10	16QAM	25	12	20.54	20.51	20.66	21.5	0			
10	16QAM	25	25	20.52	20.48	20.58					
10	16QAM	50	0	20.13	20.12	20.13					
10	8QAM	1	25	20.26	20.17	20.32	21.5	0			
10	8QAM	1	40	20.11	20.05	20.34					
10	8QAM	25	0	20.49	20.41	20.49					
10	8QAM	25	12	20.40	20.44	20.57	21.0	0.5			
10	8QAM	25	25	20.49	20.43	20.53					
10	8QAM	50	0	20.45	20.41	20.58					
Channel											
Frequency (MHz)											
5	QPSK	1	0	20.41	20.39	20.49	21.5	0			
5	QPSK	1	12	20.34	20.28	20.46					
5	QPSK	1	24	20.38	20.27	20.42					
5	QPSK	12	0	20.61	20.50	20.57	21.5	0			
5	QPSK	12	7	20.58	20.47	20.47					
5	QPSK	12	13	20.45	20.48	20.54					
5	QPSK	24	0	20.61	20.54	20.63	21.5	0			
5	16QAM	1	0	20.61	20.52	20.58					
5	16QAM	1	12	20.53	20.59	20.55					
5	16QAM	1	24	20.51	20.38	20.57	21.5	0			
5	16QAM	12	0	20.46	20.50	20.64					
5	16QAM	12	13	20.47	20.48	20.54					
5	16QAM	25	0	20.57	20.59	20.60	21.5	0			
5	8QAM	1	0	20.47	20.27	20.49					
5	8QAM	1	12	20.38	20.23	20.27					
5	8QAM	1	24	20.25	20.17	20.34	21	0.5			
5	8QAM	12	0	20.54	20.45	20.54					
5	8QAM	12	7	20.53	20.41	20.53					
5	8QAM	12	13	20.48	20.41	20.48	21.0	0.5			
5	8QAM	25	0	20.59	20.44	20.57					
5	8QAM	25	0	20.59	20.44	20.57					

Band 41 (2.6G Band)										
SR [MHz]	Modulation	RB Size	RB Offset	Power Level Lst Ch / Freq	Power Level Lst Ch / Freq	Power Level Lst Ch / Freq	Power Level Hst Ch / Freq	Power Level Hst Ch / Freq	Time-up limit (dBm)	MPR (dB)
Channel										
Frequency (MHz)										
20	QPSK	1	0	20.68	20.68	20.59	20.64	20.81	21.5	0
20	QPSK	1	40	20.72	20.74	20.79	20.86	20.70		
20	QPSK	1	80	20.93	20.88	20.79	20.79	20.69		
20	QPSK	50	0	20.80	20.75	20.88	20.88	20.73	21.5	0
20	QPSK	50	24	20.93	20.63	20.70	20.79	20.69		
20	QPSK	50	48	20.54	20.50	20.70	20.79	20.69		
20	16QAM	1	0	20.35	20.36	20.51	20.49	20.30	21.5	0
20	16QAM	1	0	20.40	20.44	20.27	20.31	20.35		
20	16QAM	1	40	20.43	20.41	20.54	20.53	20.37		
20	16QAM	1	80	20.76	20.39	20.11	20.32	20.28	21.5	0
20	16QAM	50	0	20.42	20.44	20.29	20.51	20.28		
20	16QAM	50	24	20.45	20.40	20.54	20.60	20.48		
20	16QAM	50	48	20.35	20.34	20.47	20.47	20.37	21	0.5
20	8QAM	1	0	19.99	20.05	19.92	20.08	20.01		
20	8QAM	1	40	20.12	20.08	20.21	20.28	20.01		
20	8QAM	50	0	20.35	20.36	20.63	20.58	20.61	21	0.5
20	8QAM	50	24	20.37	20.37	20.46	20.51	20.41		
20	8QAM	50	48	20.31	20.25	20.38	20.38	20.33		
20	8QAM	100	0	20.35	20.40	20.46	20.48	20.38	21	0.5
20	8QAM	100	0	20.35	20.40	20.46	20.48	20.38		
20	8QAM	100	0	20.35	20.40	20.46	20.48	20.38		
Channel										
Frequency (MHz)										
15	QPSK	1	0	20.42	20.31	20.15	20.31	20.08	21.5	0
15	QPSK	1	37	20.27	20.25	20.16	20.29	20.27		
15	QPSK	1	74	20.52	20.59	20.54	20.58	19.97		
15	QPSK	36	0	20.44	20.45	20.41	20.48	20.33	21.5	0
15	QPSK	36	20	20.51	20.50	20.59	20.55	20.44		
15	QPSK	36	40	20.55	20.55	20.60	20.63	20.51		
15	QPSK	72	0	20.53	20.47	20.49	20.52	20.52	21.5	0
15	QPSK	72	0	20.54	20.52	20.55	20.55	20.52		
15	QPSK	72	37	20.54	20.52	20.55	20.55	20.52		
15	16QAM	1	74	20.59	20.15	20.01	20.05	20.18	21.5	0
15	16QAM	1	74	20.59	20.15	20.01	20.05	20.18		
15	16QAM	36	0	20.35	20.48	20.43	20.44	20.24		
15	16QAM	36	20	20.46	20.41	20.59	20.50	20.44	21.5	0
15	16QAM	36	40	20.52	20.48	20.54	20.54	20.44		
15	16QAM	72	0	20.48	20.45	20.51	20.54	20.45		
15	16QAM	72	0	20.48	20.45	20.51	20.54	20.45	21.5	0
15	16QAM	72	37	20.48	20.45	20.51	20.54	20.45		
15	16QAM	72	37	20.48	20.45	20.51	20.54	20.45		
15	8QAM	1	74	19.99	19.94	19.90	20.01	19.95	21	0.5
15	8QAM	1	74	19.99	19.94	19.90	20.01	19.95		
15	8QAM	36	0	20.35	20.48	20.58	20.51	20.52		
15	8QAM	36	20	20.41	20.41	20.54	20.54	20.44	21	0.5
15	8QAM	36	40	20.50	20.46	20.58	20.55	20.44		
15	8QAM	72	0	20.48	20.49	20.50	20.60	20.51		
15	8QAM	72	0	20.48	20.49	20.50	20.60	20.51	21	0.5
15	8QAM	72	37	20.48	20.49	20.50	20.60	20.51		
15	8QAM	72	37	20.48	20.49	20.50	20.60	20.51		
Channel										
Frequency (MHz)										
10	QPSK	1	0	20.50	20.41	20.51	20.57	20.36	21.5	0
10	QPSK	1	26	20.43	20.34	20.47	20.56	20.47		
10	QPSK	1	52	20.53	20.34	20.50	20.59	20.48		
10	QPSK	25	0	20.53	20.50	20.50	20.54	20.54	21.5	0
10	QPSK	25	12	20.57	20.52	20.54	20.54	20.57		
10	QPSK	25	25	20.49	20.45	20.50	20.50	20.50		
10	QPSK	50	0	20.47	20.45	20.52	20.64	20.51	21.5	0
10	QPSK	50	0	20.51	20.48	20.52	20.64	20.56		
10	QPSK	50	25	20.53	20.46	20.52	20.64	20.56		
10	16QAM	1	26	20.53	20.46	20.52	20.64	20.56	21.5	0
10	16QAM	1	52	20.56	20.52	20.58	20.63	20.48		
10	16QAM	25	12	20.54	20.51	20.56	20.63	20.48		
10	16QAM	25	25	20.54	20.51	20.56	20.63	20.48	21.5	0
10	16QAM	50	0	20.53	20.43	20.58	20.64	20.51		
10	16QAM	50	25	20.53	20.43	20.58	20.64	20.51		
10	8QAM	1	26	20.13	20.12	20.13	20.35	20.08	21.5	0
10	8QAM	1	26	20.13	20.12	20.13	20.35	20.08		
10	8QAM	25	12	20.15	20.09	20.24	20.43	20.29		
10	8QAM	25	25	20.15	20.09	20.24	20.43	20.29	21.5	0
10	8QAM	50	0	20.20	20.15	20.24	20.43	20.29		
10	8QAM	50	25	20.20	20.15	20.24	20.43	20.29		
10	8QAM	25	0	20.49	20.41	20.49	20.60	20.49	21	0.5
10	8QAM	25	0	20.49	20.41	20.49	20.60	20.49		
10	8QAM	25	26	20.49	20.41	20.49	20.60	20.49		
10	8QAM	50	0	20.48	20.43	20.53	20.60	20.52	21	0.5
10	8QAM	50	0	20.48	20.43	20.53	20.60	20.52		
10	8QAM	50	26	20.48	20.43	20.53	20.60	20.52		
Channel										
Frequency (MHz)										
5	QPSK	1	0	20.68	20.68	20.59	20.69	20.87	21.5	0
5	QPSK	1	12	20.34	20.28	20.47	20.51	20.30		
5	QPSK	1	24	20.38	20.37	20.42	20.52	20.49		
5	QPSK	12	0	20.61	20.60	20.53	20.64	20.65	21.5	0
5	QPSK	12	7	20.56	20.41	20.51	20.63	20.54		
5	QPSK	12	13	20.45	20.48	20.54	20.63	20.53		
5	16QAM	1	0	20.61	20.54	20.47	20.54	20.54	21.5	0
5	16QAM	1	0	20.61	20.52	20.44	20.54	20.54		
5	16QAM	1	12	20.53	20.59	20.59	20.64	20.56		
5	16QAM	12	0	20.53	20.58	20.58	20.63	20.53	21.5	0
5	16QAM	12	7	20.48	20.50	20.64	20.65	20.52		
5	16QAM	12	13	20.44	20.44	20.53	20.58	20.48		
5	16QAM	25	13	20.47	20.48	20.54	20.56	20.48	21.5	0
5	16QAM	25	0	20.37	20.59	20.60	20.45	20.56		
5	16QAM	25	0	20.47	20.27	20.49	20.53	20.39		
5	8QAM	1	12	20.20	20.23	20.27	20.34	20.28	21	0.5
5	8QAM	1	24	20.23	20.17	20.24	20.40	20.29		
5	8QAM	12	0	20.54	20.45	20.49	20.61	20.52		
5	8QAM	12	7	20.52	20.41	20.53	20.61	20.48	21	0.5
5	8QAM	12	13	20.46	20.46	20.53	20.58	20.48		
5	8QAM	25	0	20.35	20.44	20.57	20.63	20.49		

Reduced Power Mode for Hotspot on

GSM1900		Burst Average Power (dBm)			Tune-up Limit (dBm)	Frame-Average Power (dBm)			Tune-up Limit (dBm)
TX Channel		512	661	810		512	661	810	
Frequency (MHz)		1850.2	1880	1909.8		1850.2	1880	1909.8	
GSM 1 Tx slot		23.42	23.56	23.44	24.50	14.42	14.56	14.44	15.50
GPRS 1 Tx slot		23.41	23.55	23.42	24.50	14.41	14.55	14.42	15.50
GPRS 2 Tx slots		20.03	20.20	20.12	21.50	14.03	14.20	14.12	15.50
GPRS 3 Tx slots		17.75	18.09	17.75	19.50	13.49	13.83	13.49	15.24
GPRS 4 Tx slots		16.63	16.86	16.63	18.00	13.63	13.86	13.63	15.00
EDGE 1 Tx slot		19.50	19.52	19.46	20.00	10.50	10.52	10.46	11.00
EDGE 2 Tx slots		19.59	19.39	19.42	20.00	13.59	13.39	13.42	14.00
EDGE 3 Tx slots		17.72	17.68	17.81	18.00	13.46	13.42	13.55	13.74
EDGE 4 Tx slots		16.03	16.12	16.02	17.00	13.03	13.12	13.02	14.00

Band		WCDMA II			Tune-up Limit (dBm)	WCDMA IV			Tune-up Limit (dBm)	WCDMA V			Tune-up Limit (dBm)
TX Channel		9262	9400	9538		1312	1413	1513		4132	4182	4233	
Rx Channel		9662	9800	9938		1537	1638	1738		4357	4407	4458	
Frequency (MHz)		1852.4	1880	1907.6		1712.4	1732.6	1752.6		826.4	836.4	846.6	
3GPP Rel 99	AMR 12.2Kbps	11.73	11.79	11.52	13.00	13.04	13.25	13.16	14.00	20.89	21.16	21.11	22.00
3GPP Rel 99	RMC 12.2Kbps	11.75	11.81	11.55	13.00	13.24	13.29	13.25	14.00	20.91	21.28	21.20	22.00
3GPP Rel 6	HSDPA Subtest-1	11.09	11.02	11.13	12.00	12.04	11.89	11.86	13.00	20.18	20.41	20.42	21.00
3GPP Rel 6	HSDPA Subtest-2	11.10	11.32	11.03	12.00	11.99	11.91	11.85	13.00	20.21	20.37	20.35	21.00
3GPP Rel 6	HSDPA Subtest-3	10.58	10.47	10.60	11.50	11.52	11.41	11.39	12.50	19.73	19.54	19.91	20.50
3GPP Rel 6	HSDPA Subtest-4	10.56	10.76	10.63	11.50	11.52	11.44	11.38	12.50	19.69	19.51	19.90	20.50
3GPP Rel 8	DC-HSDPA Subtest-1	11.12	11.06	11.16	12.00	12.05	11.85	11.85	13.00	20.23	19.97	20.44	21.00
3GPP Rel 8	DC-HSDPA Subtest-2	11.07	11.29	11.08	12.00	11.97	11.89	11.85	13.00	20.20	20.01	20.39	21.00
3GPP Rel 8	DC-HSDPA Subtest-3	10.49	10.78	10.61	11.50	11.47	11.43	11.36	12.50	19.66	19.57	19.89	20.50
3GPP Rel 8	DC-HSDPA Subtest-4	10.53	10.76	10.59	11.50	11.50	11.45	11.32	12.50	19.68	19.52	19.82	20.50
3GPP Rel 6	HSUPA Subtest-1	11.20	11.15	11.22	12.00	12.13	12.12	11.85	13.00	20.19	20.15	20.47	21.00
3GPP Rel 6	HSUPA Subtest-2	9.19	9.21	9.29	10.00	10.09	10.01	9.99	11.00	18.22	18.18	18.40	19.00
3GPP Rel 6	HSUPA Subtest-3	10.22	10.19	10.31	11.00	10.91	10.88	10.75	12.00	19.15	19.21	19.39	20.00
3GPP Rel 6	HSUPA Subtest-4	9.18	9.23	9.25	10.00	10.00	9.99	9.81	11.00	18.11	18.24	18.41	19.00
3GPP Rel 6	HSUPA Subtest-5	11.19	11.25	11.39	12.00	12.12	12.02	11.94	13.00	20.03	20.28	20.33	21.00

Band		CDMA BC0			Tune-up Limit (dBm)	CDMA BC1			Tune-up Limit (dBm)	CDMA BC10			Tune-up Limit (dBm)
TX Channel		1013	384	777		25	600	1175		476	580	684	
Frequency (MHz)		824.7	836.52	848.31		1851.25	1880	1908.75		817.9	820.5	823.1	
RC1 SO55		22.28	22.35	22.36	23.00	14.44	14.49	14.54	15.00	22.38	22.46	22.44	23.00
RC3 SO55		22.30	22.37	22.34	23.00	14.38	14.57	14.43	15.00	22.36	22.47	22.34	23.00
RC3 SO32 (F+SCH)		22.35	22.22	22.34	23.00	14.35	14.50	14.43	15.00	22.29	22.43	22.42	23.00
RC3 SO32 (+SCH)		22.29	22.26	22.31	23.00	14.43	14.44	14.51	15.00	22.35	22.44	22.46	23.00
RTAP 153.6Kbps		22.24	22.27	22.21	23.00	14.54	14.56	14.18	15.00	22.34	22.44	22.43	23.00
RETAP 4096Bits		22.15	22.16	22.24	23.00	14.51	14.54	14.11	15.00	22.31	22.35	22.45	23.00



Band 2 (1900MHz Band)										
Part 24E										
BW (MHz)	Modulation	RB Size	RB Offset	Power Ch./Freq.	Power Hoch. Ch./Freq.	Power Low. Ch./Freq.	Turn-up init. (dB)	MPR (dB)		
Channel										
Frequency (MHz)										
20	QPSK	1	0	12.96	12.78	12.61				
20	QPSK	1	49	12.45	12.35	12.35	13.5	0		
20	QPSK	1	99	12.74	12.64	12.69				
20	QPSK	50	0	12.93	12.82	12.80				
20	QPSK	50	24	12.58	12.48	12.58	13.5	0		
20	QPSK	50	50	12.35	12.27	12.32				
20	QPSK	100	0	12.46	12.41	12.40				
20	QPSK	100	24	12.32	12.22	12.28				
20	WQAM	1	49	12.33	12.62	12.61	13.5	0		
20	WQAM	50	0	12.92	12.90	12.92				
20	WQAM	50	24	12.30	12.18	12.18	13.5	0		
20	WQAM	50	50	12.11	12.01	12.03				
20	WQAM	1	0	12.65	12.54	12.55				
20	WQAM	1	49	12.35	12.35	12.32	13.5	0		
20	WQAM	1	99	12.16	12.32	12.29				
20	WQAM	50	0	12.12	12.15	12.06				
20	WQAM	50	24	12.19	12.09	12.01	13.5	0		
20	WQAM	50	50	11.93	11.86	11.91				
20	WQAM	100	0	12.09	12.01	12.04				
Channel										
Frequency (MHz)										
15	QPSK	1	0	12.33	12.30	12.27				
15	QPSK	1	37	11.92	12.00	11.93	13.5	0		
15	QPSK	1	74	12.30	12.18	12.14				
15	QPSK	36	0	12.11	12.10	11.98				
15	QPSK	36	20	12.07	12.07	12.02	13.5	0		
15	QPSK	36	36	12.08	12.05	11.96				
15	QPSK	36	52	11.97	12.00	11.95				
15	WQAM	1	0	12.72	12.70	12.61				
15	WQAM	1	37	12.71	12.61	12.54	13.5	0		
15	WQAM	1	74	12.70	12.60	12.65				
15	WQAM	36	0	12.11	12.10	12.00				
15	WQAM	36	20	12.10	12.00	12.01	13.5	0		
15	WQAM	36	36	12.10	12.00	12.02				
15	WQAM	36	52	11.98	12.00	11.93				
15	WQAM	74	0	12.54	12.48	12.38	13.5	0		
15	WQAM	74	37	12.54	12.48	12.38				
15	WQAM	1	74	12.60	12.61	12.45				
15	WQAM	36	0	12.14	12.10	12.00				
15	WQAM	36	20	12.10	12.00	12.02	13.5	0		
15	WQAM	36	36	12.10	12.00	12.00				
15	WQAM	36	52	11.95	12.00	11.95				
Channel										
Frequency (MHz)										
10	QPSK	1	0	12.21	12.20	12.04				
10	QPSK	1	25	11.62	11.60	11.64	13.5	0		
10	QPSK	1	50	12.06	12.06	12.06				
10	QPSK	25	0	12.17	12.15	12.10				
10	QPSK	25	12	12.15	12.08	12.04	13.5	0		
10	QPSK	25	25	12.09	12.05	12.01				
10	QPSK	50	0	12.13	12.10	12.14				
10	WQAM	1	0	12.71	12.70	12.58				
10	WQAM	1	25	12.64	12.65	12.45	13.5	0		
10	WQAM	1	49	12.71	12.59	12.54				
10	WQAM	25	0	12.18	12.12	12.10				
10	WQAM	25	12	12.15	12.08	12.03	13.5	0		
10	WQAM	25	25	12.05	12.01	12.03				
10	WQAM	50	0	12.08	12.06	12.00				
10	WQAM	50	0	12.07	12.05	12.00				
10	WQAM	1	25	12.41	12.34	12.30	13.5	0		
10	WQAM	1	49	12.35	12.40	12.41				
10	WQAM	25	0	12.15	12.10	12.00				
10	WQAM	25	12	12.11	12.06	12.00	13.5	0		
10	WQAM	25	25	12.05	12.00	12.00				
10	WQAM	50	0	12.10	12.00	12.00				
Channel										
Frequency (MHz)										
5	QPSK	1	0	12.15	12.18	12.16				
5	QPSK	1	12	11.99	11.96	11.89	13.5	0		
5	QPSK	1	24	12.02	11.98	11.97				
5	QPSK	12	0	12.25	12.19	12.18				
5	QPSK	12	7	12.20	12.12	12.08	13.5	0		
5	QPSK	12	13	12.18	12.07	12.07				
5	QPSK	25	0	12.20	12.13	12.11				
5	WQAM	1	0	12.60	12.60	12.50				
5	WQAM	1	12	12.51	12.47	12.37	13.5	0		
5	WQAM	1	24	12.48	12.31	12.35				
5	WQAM	12	0	12.25	12.19	12.18				
5	WQAM	12	7	12.21	12.14	12.13	13.5	0		
5	WQAM	12	13	12.19	12.11	12.09				
5	WQAM	25	0	12.18	12.10	12.00				
5	WQAM	25	0	12.00	12.00	12.00				
5	WQAM	25	7	12.27	12.18	12.13	13.5	0		
5	WQAM	25	13	12.21	12.17	12.11				
5	WQAM	25	0	12.22	12.17	12.12				
5	WQAM	25	7	12.17	12.10	12.03	13.5	0		
5	WQAM	25	13	12.13	12.07	12.03				
Channel										
Frequency (MHz)										
3	QPSK	1	0	12.17	11.85	11.97				
3	QPSK	1	8	12.10	12.00	12.00	13.5	0		
3	QPSK	1	14	12.07	11.95	11.95				
3	QPSK	8	0	12.16	12.11	12.05				
3	QPSK	8	4	12.14	12.06	12.00	13.5	0		
3	QPSK	8	7	12.13	12.08	12.02				
3	QPSK	15	0	12.19	12.11	12.08				
3	WQAM	1	0	12.44	12.38	12.30				
3	WQAM	1	8	12.38	12.30	12.29	13.5	0		
3	WQAM	1	14	12.34	12.25	12.22				
3	WQAM	8	0	12.26	12.21	12.16				
3	WQAM	8	4	12.27	12.18	12.13	13.5	0		
3	WQAM	8	7	12.21	12.17	12.11				
3	WQAM	15	0	12.16	12.10	12.00				
3	WQAM	1	0	12.30	12.28	12.17				
3	WQAM	8	0	12.24	12.20	12.20	13.5	0		
3	WQAM	1	14	12.26	12.10	12.12				
3	WQAM	8	0	12.11	12.08	12.00				
3	WQAM	8	4	12.17	12.10	12.05	13.5	0		
3	WQAM	8	7	12.09	12.00	12.03				
3	WQAM	15	0	12.12	12.05	12.05				
Channel										
Frequency (MHz)										
1.4	QPSK	1	0	12.04	11.86	11.86				
1.4	QPSK	1	5	12.11	12.08	11.98				
1.4	QPSK	1	5	12.09	12.04	12.03	13.5	0		
1.4	QPSK	3	0	12.13	12.07	12.02				
1.4	QPSK	3	1	12.17	12.08	12.03				
1.4	QPSK	3	3	12.06	12.01	11.97	13.5	0		
1.4	WQAM	1	0	12.31	12.15	12.15				
1.4	WQAM	1	5	12.37	12.30	12.21				
1.4	WQAM	3	0	12.26	12.20	12.13				
1.4	WQAM	3	1	12.27	12.16	12.11	13.5	0		
1.4	WQAM	3	1	12.25	12.21	12.17				
1.4	WQAM	3	3	12.18	12.10	12.10				
1.4	WQAM	6	0	12.12	12.05	12.00	13.5	0		
1.4	WQAM	6	0	12.11	12.02	12.02				
1.4	WQAM	6	5	12.33	12.22	12.19				
1.4	WQAM	6	5	12.23	12.10	12.11	13.5	0		
1.4	WQAM	6	1	12.27	12.22	12.13				
1.4	WQAM	6	3	12.27	12.20	12.13				
1.4	WQAM	6	3	12.28	12.18	12.13				
1.4	WQAM	6	0	12.13	12.08	12.02	13.5	0		

Band 4 (AWS Band)										
Part 27L (only on channel required)										
BW (MHz)	Modulation	RB Size	RB Offset	Power Ch./Freq.	Power Hoch. Ch./Freq.	Power Low. Ch./Freq.	Turn-up init. (dB)	MPR (dB)		
Channel										
Frequency (MHz)										
20	QPSK	1	0	12.20	12.18	12.15				
20	QPSK	1	49	12.29	12.26	12.26	14	0		
20	QPSK	1	99	12.77	12.80	12.76				
20	QPSK	50	10	12.38	12.42	12.37			14	0
20	QPSK	50	6	12.42	12.47	12.50				
20	QPSK	50	12	12.46	12.51	12.54				
20	QPSK	100	0	12.40	12.51	12.48				
20	QPSK	100	49	12.48	12.59	12.54				
20	HQAM	1	49	12.41	12.33	12.31				
20	HQAM	1	99	12.33	12.36	12.26				
20	HQAM	1	99	12.46	12.48	12.45				
20	HQAM	50	24	12.48	12.42	12.38			14	0
20	HQAM	50	20	12.42	12.46	12.48				
20	HQAM	50	16	12.45	12.48	12.45				
20	HQAM	1	0	12.59	12.69	12.64				
20	HQAM	1	49	12.67	12.76	12.76				
20	HQAM	1	99	12.72	12.82	12.82			14	0
20	HQAM	50	25	12.58	12.43	12.44				
20	HQAM	50	21	12.44	12.39	12.42				
20	HQAM	50	17	12.35	12.37	12.33				
20	HQAM	100	0	12.44	12.50	12.46			Turn-up init.	MPR (dB)
Frequency (MHz)				1717.5	1722.5	1747.5				
15	QPSK	1	0	12.03	12.13	12.14				
15	QPSK	1	49	12.20	12.20	12.20	14	0		
15	QPSK	1	74	12.41	12.43	12.34				
15	QPSK	1	99	12.50	12.50	12.50				
15	QPSK	20	25	12.05	12.03	12.05				
15	QPSK	30	30	12.40	12.47	12.44				
15	QPSK	30	26	12.43	12.45	12.43				
15	HQAM	1	0	12.91	12.90	12.90				
15	HQAM	1	27	12.75	12.76	12.76				
15	HQAM	1	49	12.83	12.83	12.83				
15	HQAM	30	0	12.46	12.51	12.49				
15	HQAM	30	25	12.02	12.04	12.04				14
15	HQAM	30	21	12.43	12.45	12.44				
15	HQAM	70	0	12.37	12.45	12.44				
15	HQAM	70	49	12.80	12.83	12.80				
15	HQAM	1	37	12.71	12.65	12.64				
15	HQAM	1	74	12.88	12.85	12.84				
15	HQAM	1	99	12.93	12.93	12.93				
15	HQAM	30	20	12.55	12.52	12.52			14	0
15	HQAM	30	16	12.41	12.44	12.41				
15	HQAM	100	0	12.77	12.44	12.45			Turn-up init.	MPR (dB)
Channel				20660	20670	20690				
Frequency (MHz)				12	12.40	12.40				
10	QPSK	1	25	12.42	12.43	12.40			14	0
10	QPSK	1	49	12.61	12.62	12.62				
10	QPSK	1	74	12.51	12.54	12.54				
10	QPSK	20	12	12.47	12.30	12.48				
10	QPSK	20	8	12.43	12.43	12.43				
10	QPSK	50	0	12.52	12.55	12.55				
10	HQAM	1	0	12.15	12.18	12.12				
10	HQAM	1	49	12.69	12.88	12.75				
10	HQAM	20	0	12.52	12.55	12.46				
10	HQAM	20	12	12.48	12.52	12.49				
10	HQAM	20	25	12.44	12.56	12.55				14
10	HQAM	50	0	12.53	12.55	12.45				
10	HQAM	50	12	12.52	12.53	12.50				
10	HQAM	50	25	12.68	12.68	12.68				14
10	HQAM	50	12	12.62	12.63	12.60				
10	HQAM	50	0	12.50	12.52	12.47				
10	HQAM	50	12	12.49	12.48	12.41				14
Frequency (MHz)				16960	16970	16978			Turn-up init.	MPR (dB)
5	QPSK	1	0	12.32	12.36	12.33				
5	QPSK	1	12	12.34	12.36	12.27				14
5	QPSK	1	49	12.51	12.51	12.51				
5	QPSK	12	0	12.54	12.56	12.52				
5	QPSK	12	7	12.47	12.51	12.45				14
5	QPSK	12	43	12.47	12.43	12.43				
5	QPSK	20	0	12.47	12.52	12.48				
5	QPSK	20	8	12.43	12.43	12.43				
5	HQAM	1	12	12.73	12.71	12.72				14
5	HQAM	1	24	12.72	12.70	12.70				
5	HQAM	1	49	12.82	12.83	12.81				
5	HQAM	12	7	12.48	12.53	12.48				14
5	HQAM	12	13	12.45	12.46	12.44				
5	HQAM	12	43	12.47	12.50	12.50				
5	HQAM	1	0	12.77	12.78	12.70				
5	HQAM	1	24	12.72	12.72	12.72				
5	HQAM	12	0	12.62	12.55	12.55				
5	HQAM	12	0	12.49	12.55	12.47				
5	HQAM	12	43	12.48	12.48	12.48				
5	HQAM	12	13	12.41	12.44	12.41				14
5	HQAM	20	0	12.49	12.51	12.47				
Frequency (MHz)				1711.5	1712.5	1713.5			Turn-up init.	MPR (dB)
3	QPSK	1	0	12.39	12.33	12.38				
3	QPSK	1	14	12.35	12.35	12.35				14
3	QPSK	8	0	12.45	12.30	12.45				
3	QPSK	8	14	12.45	12.41	12.41				
3	QPSK	8	7	12.43	12.46	12.44				
3	QPSK	16	0	12.42	12.50	12.47				
3	QPSK	16	7	12.72	12.82	12.80				
3	HQAM	1	8	12.69	12.74	12.68				
3	HQAM	8	0	12.69	12.69	12.69				
3	HQAM	8	0	12.64	12.68	12.65				
3	HQAM	8	4	12.67	12.63	12.64				
3	HQAM	16	0	12.82	12.82	12.82				
3	HQAM	16	0	12.48	12.50	12.48				
3	HQAM	16	0	12.59	12.60	12.60				
3	HQAM	16	7	12.48	12.49	12.49				
3	HQAM	16	14	12.54	12.57	12.52				
3	HQAM	8	0	12.47	12.46	12.45				
3	HQAM	8	0	12.45	12.45	12.45				
3	HQAM	8	7	12.40	12.45	12.41				
Channel				16960	16970	16968			Turn-up init.	MPR (dB)
Frequency (MHz)				1717.5	1722.5	1716.3				
1.4	QPSK	1	0	12.33	12.33	12.33				
1.4	QPSK	1	3	12.37	12.45	12.42				
1.4	QPSK	1	6	12.36	12.41	12.39				14
1.4	QPSK	1	9	12.43	12.41	12.41				
1.4	QPSK	3	0	12.48	12.47	12.45				
1.4	QPSK	3	3	12.38	12.40	12.36				
1.4	QPSK	3	6	12.42	12.39	12.42				
1.4	HQAM	1	0	12.84	12.88	12.82				
1.4	HQAM	1	3	12.83	12.86	12.81				
1.4	HQAM	3	0	12.45	12.49	12.46				
1.4	HQAM	3	3	12.53	12.53	12.53				14
1.4	HQAM	3	6	12.43	12.47	12.46				
1.4	HQAM	6	0	12.41	12.48	12.44				14
1.4	HQAM	6	3	12.50	12.50	12.50				
1.4	HQAM	6	6	12.56	12.58	12.52				
1.4	HQAM	1	0	12.43	12.51	12.52				14
1.4	HQAM	1	3	12.50	12.53	12.53				
1.4	HQAM	3	0	12.52	12.57	12.55				
1.4	HQAM	3	3	12.47	12.47	12.47				
1.4	HQAM	6	0	12.38	12.43	12.43				14



Band 25 (1900MHz Band)													
Part 24E													
BW (MHz)	Modulation	RB Size	RB Offset	Power Low Ch./Freq.	Power Middle Ch./Freq.	Power High Ch./Freq.	Turn-up Init. (min)	MPT (dB)					
Channel													
Frequency (MHz)													
20	QPSK	1	0	12.52	12.52	12.52	13.5	0					
20	QPSK	1	49	12.52	12.51	12.42							
20	QPSK	1	99	12.58	12.53	12.41							
20	QPSK	50	0	12.52	12.52	12.52							
20	QPSK	50	24	12.53	12.57	11.95							
20	QPSK	50	50	12.65	11.99	11.92	13.5	0					
20	QPSK	100	0	12.52	12.52	11.98							
20	WQAM	1	0	12.58	12.51	12.36							
20	WQAM	1	49	11.88	11.96	11.88							
20	WQAM	1	99	11.88	12.19	12.08							
20	WQAM	50	0	12.52	12.52	12.01	13.5	0					
20	WQAM	50	24	12.51	12.06	11.94							
20	WQAM	50	50	12.52	11.98	11.92							
20	WQAM	100	0	12.58	12.02	11.98							
20	WQAM	100	24	12.52	11.98	11.92							
Channel							13.5	0					
Frequency (MHz)													
15	QPSK	1	0	12.13	12.13	12.05							
15	QPSK	1	37	11.98	11.82	11.73							
15	QPSK	1	74	12.21	12.12	12.02							
15	QPSK	36	0	12.24	12.19	12.04							
15	QPSK	36	20	12.25	12.15	12.02							
15	QPSK	36	36	12.17	12.16	12.08	13.5	0					
15	QPSK	36	52	12.27	12.17	12.11							
15	WQAM	1	0	12.30	12.30	12.30							
15	WQAM	1	37	12.21	12.15	12.08							
15	WQAM	1	74	12.43	12.40	12.29							
15	WQAM	36	20	12.22	12.15	12.08	13.5	0					
15	WQAM	36	36	12.29	12.13	12.06							
15	WQAM	75	0	12.25	12.17	12.08							
15	WQAM	1	0	12.08	12.08	12.08							
15	WQAM	1	37	12.28	12.20	12.02							
Channel							13.5	0					
Frequency (MHz)													
10	QPSK	1	0	12.19	12.11	12.10							
10	QPSK	1	25	11.94	11.86	11.80							
10	QPSK	1	49	12.27	12.12	12.13							
10	QPSK	25	0	12.27	12.12	12.13	13.5	0					
10	QPSK	25	12	12.23	12.11	12.13							
10	QPSK	25	25	12.26	12.20	12.15							
10	QPSK	50	0	12.28	12.12	12.15							
10	WQAM	1	0	12.19	12.19	12.20							
10	WQAM	1	25	12.10	12.05	12.01	13.5	0					
10	WQAM	1	49	12.30	12.19	12.10							
10	WQAM	25	0	12.24	12.12	12.10							
10	WQAM	25	12	12.25	12.09	12.12							
10	WQAM	50	0	12.25	12.09	12.12							
10	WQAM	25	12	12.23	12.08	12.11	13.5	0					
10	WQAM	25	25	12.27	12.15	12.14							
10	WQAM	50	0	12.18	12.10	12.11							
Channel													
Frequency (MHz)													
5	QPSK	1	0	12.18	12.11	12.10	13.5	0					
5	QPSK	1	12	12.07	12.13	12.02							
5	QPSK	12	0	12.18	12.13	12.14							
5	QPSK	12	12	12.09	12.22	12.14							
5	QPSK	25	0	12.12	12.24	12.13							
5	WQAM	1	0	12.18	12.18	12.18	13.5	0					
5	WQAM	1	12	12.05	12.22	12.10							
5	WQAM	1	24	12.15	12.21	12.14							
5	WQAM	12	0	12.11	12.24	12.15							
5	WQAM	12	7	12.09	12.09	12.04							
5	WQAM	12	13	12.16	12.23	12.12	13.5	0					
5	WQAM	25	0	12.15	12.26	12.15							
5	WQAM	25	12	12.18	12.27	12.15							
5	WQAM	1	0	12.14	12.18	12.13							
5	WQAM	1	12	12.19	12.38	12.19							
Channel							13.5	0					
Frequency (MHz)													
3	QPSK	1	0	12.08	12.19	12.08							
3	QPSK	1	8	12.01	12.04	12.05							
3	QPSK	1	14	12.14	11.94	12.00							
3	QPSK	8	0	12.22	12.12	12.10	13.5	0					
3	QPSK	8	4	12.23	12.10	12.12							
3	QPSK	8	7	12.18	12.05	12.06							
3	WQAM	1	0	12.30	12.10	12.12							
3	WQAM	1	8	12.24	12.37	12.41							
3	WQAM	1	14	12.43	12.20	12.28	13.5	0					
3	WQAM	8	0	12.29	12.21	12.19							
3	WQAM	8	4	12.28	12.19	12.20							
3	WQAM	15	0	12.19	12.13	12.10							
3	WQAM	1	0	12.32	12.22	12.28							
3	WQAM	1	8	12.38	12.24	12.32	13.5	0					
3	WQAM	1	14	12.29	12.19	12.19							
3	WQAM	8	0	12.18	12.09	12.12							
3	WQAM	8	4	12.10	12.09	12.12							
3	WQAM	8	7	12.14	12.01	12.07							
3	WQAM	15	0	12.17	12.08	12.08	13.5	0					
Channel													
Frequency (MHz)													
1.4	QPSK	1	0	12.11	12.21	12.16	13.5	0					
1.4	QPSK	1	3	12.26	12.15	12.15							
1.4	QPSK	1	6	12.15	12.03	12.08							
1.4	QPSK	1	9	12.05	12.04	12.08							
1.4	QPSK	3	1	12.17	12.15	12.13							
1.4	QPSK	3	3	12.12	12.06	12.08	13.5	0					
1.4	QPSK	3	6	12.09	12.02	12.04							
1.4	WQAM	1	0	12.30	12.31	12.30							
1.4	WQAM	1	3	12.35	12.20	12.28							
1.4	WQAM	1	6	12.18	12.20	12.28							
1.4	WQAM	3	0	12.28	12.17	12.15	13.5	0					
1.4	WQAM	3	3	12.25	12.15	12.16							
1.4	WQAM	3	6	12.18	12.15	12.12							
1.4	WQAM	6	0	12.16	12.08	12.10							
1.4	WQAM	6	3	12.15	12.08	12.10							
1.4	WQAM	1	3	12.29	12.29	12.23	13.5	0					
1.4	WQAM	1	6	12.25	12.12	12.25							
1.4	WQAM	1	9	12.27	12.20	12.21							
1.4	WQAM	3	1	12.35	12.17	12.22							
1.4	WQAM	3	3	12.31	12.20	12.21							
1.4	WQAM	6	0	12.21	12.10	12.10	13.5	0					
Channel													



Band 38(only on channel required)											
SR [MHz]	Modulation	RB Size	RB Offset	Power Lvl Ch / Freq	Power Lvl Ch / Freq	Power Lvl Ch / Freq	Time-up limit (dBm)	MPR (dB)			
Channel											
Frequency (MHz)											
30	QPSK	1	0	20.41	20.65	20.29	21.5	0			
20	QPSK	1	40	20.30	20.36	20.42					
20	QPSK	1	80	20.33	20.37	20.40					
20	QPSK	50	0	20.28	20.42	20.30	21.5	0			
20	QPSK	50	24	20.36	20.42	20.47					
20	QPSK	50	48	20.53	20.55	20.49					
20	QPSK	100	0	20.38	20.42	20.48	21.5	0			
20	16QAM	1	40	20.31	20.45	20.40					
20	16QAM	1	80	20.41	20.44	20.47					
20	16QAM	1	99	20.59	20.65	20.64	21.5	0			
20	16QAM	50	0	20.31	20.45	20.40					
20	16QAM	50	24	20.29	20.44	20.51					
20	16QAM	100	0	20.37	20.44	20.46	21.0	0.5			
20	64QAM	1	0	20.55	20.55	20.48					
20	64QAM	50	0	20.31	20.45	20.40					
20	64QAM	50	24	20.29	20.44	20.51	21.0	0.5			
20	64QAM	100	0	20.37	20.44	20.46					
20	64QAM	100	0	20.45	20.49	20.52					
Channel											
Frequency (MHz)											
15	QPSK	1	0	20.21	20.29	20.13	21.5	0			
15	QPSK	1	37	20.31	20.27	20.20					
15	QPSK	1	74	20.54	20.58	20.60					
15	QPSK	36	0	20.35	20.45	20.49	21.5	0			
15	QPSK	36	20	20.38	20.50	20.48					
15	QPSK	36	40	20.47	20.48	20.49					
15	QPSK	72	0	20.34	20.48	20.49	21.5	0			
15	QPSK	72	0	20.33	20.42	20.50					
15	QPSK	72	37	20.43	20.48	20.48					
15	16QAM	1	74	20.67	20.64	20.66	21.5	0			
15	16QAM	1	74	20.59	20.15	20.01					
15	16QAM	36	0	20.35	20.48	20.48					
15	16QAM	36	20	20.36	20.45	20.48	21.5	0			
15	16QAM	36	20	20.34	20.56	20.58					
15	16QAM	36	40	20.47	20.48	20.49					
15	64QAM	1	0	20.68	20.17	20.28	21.0	0			
15	64QAM	1	37	20.28	20.14	20.20					
15	64QAM	1	74	20.38	20.37	20.40					
15	64QAM	36	0	20.40	20.47	20.50	21.0	0.5			
15	64QAM	36	20	20.41	20.48	20.49					
15	64QAM	36	39	20.44	20.58	20.58					
15	64QAM	72	0	20.37	20.47	20.49	21.0	0.5			
15	64QAM	72	0	20.36	20.50	20.50					
Channel											
Frequency (MHz)											
10	QPSK	1	0	20.46	20.46	20.54	21.5	0			
10	QPSK	1	25	20.50	20.44	20.50					
10	QPSK	1	40	20.67	20.65	20.64					
10	QPSK	25	0	20.42	20.45	20.58	21.5	0			
10	QPSK	25	12	20.45	20.45	20.56					
10	QPSK	25	20	20.54	20.61	20.67					
10	QPSK	50	0	20.51	20.45	20.58	21.5	0			
10	QPSK	50	0	20.51	20.45	20.58					
10	16QAM	1	0	20.54	20.58	20.64					
10	16QAM	1	40	20.67	20.54	20.62	21.5	0			
10	16QAM	25	0	20.48	20.53	20.62					
10	16QAM	25	12	20.51	20.44	20.53					
10	16QAM	25	25	20.59	20.56	20.68	21.5	0			
10	16QAM	25	12	20.51	20.44	20.53					
10	16QAM	25	25	20.59	20.56	20.68					
10	64QAM	1	0	20.35	20.45	20.55	21.0	0			
10	64QAM	1	25	20.29	20.30	20.35					
10	64QAM	1	40	20.55	20.60	20.63					
10	64QAM	25	0	20.40	20.42	20.52	21.0	0.5			
10	64QAM	25	12	20.47	20.57	20.61					
10	64QAM	25	25	20.49	20.57	20.64					
10	64QAM	50	0	20.52	20.44	20.56	21.0	0.5			
10	64QAM	50	0	20.52	20.44	20.56					
Channel											
Frequency (MHz)											
5	QPSK	1	0	20.31	20.34	20.35	21.5	0			
5	QPSK	1	12	20.36	20.38	20.52					
5	QPSK	1	24	20.49	20.50	20.51					
5	QPSK	12	0	20.41	20.54	20.67	21.5	0			
5	QPSK	12	7	20.47	20.47	20.63					
5	QPSK	12	13	20.41	20.58	20.62					
5	QPSK	24	0	20.43	20.50	20.66	21.5	0			
5	16QAM	1	0	20.36	20.61	20.62					
5	16QAM	1	12	20.47	20.45	20.64					
5	16QAM	1	24	20.53	20.58	20.67	21.5	0			
5	16QAM	12	0	20.44	20.51	20.68					
5	16QAM	12	7	20.48	20.49	20.67					
5	16QAM	12	13	20.35	20.55	20.58	21.5	0			
5	16QAM	25	0	20.44	20.51	20.61					
5	64QAM	1	0	20.32	20.37	20.46	21.5	0			
5	64QAM	1	12	20.34	20.34	20.44					
5	64QAM	1	24	20.51	20.41	20.41					
5	64QAM	12	0	20.42	20.42	20.66	21.0	0.5			
5	64QAM	12	7	20.33	20.44	20.60					
5	64QAM	12	13	20.36	20.53	20.58					
5	64QAM	25	0	20.41	20.45	20.61	21.0	0.5			
5	64QAM	25	0	20.41	20.45	20.61					
Channel											
Frequency (MHz)											
5	QPSK	1	0	20.31	20.34	20.35	21.5	0			
5	QPSK	1	12	20.36	20.38	20.52					
5	QPSK	1	24	20.38	20.27	20.42					
5	QPSK	12	0	20.63	20.50	20.57	21.5	0			
5	QPSK	12	7	20.58	20.41	20.51					
5	QPSK	12	13	20.45	20.48	20.54					
5	QPSK	24	0	20.61	20.54	20.63	21.5	0			
5	16QAM	1	0	20.61	20.52	20.44					
5	16QAM	1	12	20.53	20.59	20.55					
5	16QAM	1	24	20.51	20.38	20.57	21.5	0			
5	16QAM	12	0	20.46	20.50	20.64					
5	16QAM	12	7	20.42	20.44	20.55					
5	16QAM	12	13	20.47	20.48	20.54	21.5	0			
5	16QAM	25	0	20.57	20.59	20.60					
5	64QAM	1	0	20.47	20.27	20.49					
5	64QAM	1	12	20.28	20.23	20.27	21.5	0			
5	64QAM	1	24	20.23	20.17	20.34					
5	64QAM	12	0	20.54	20.45	20.64					
5	64QAM	12	7	20.52	20.41	20.53	21	0.5			
5	64QAM	12	13	20.48	20.41	20.48					
5	64QAM	25	0	20.59	20.44	20.57					

Band 41 (2.6G Band)										
SR [MHz]	Modulation	RB Size	RB Offset	Power Level Ch / Freq	Power Level Ch / Freq	Power Level Ch / Freq	Power Level High Margin	Power Level High Margin	Time-up limit (dBm)	MPR (dB)
Channel										
Frequency (MHz)										
20	QPSK	1	0	20.68	20.68	20.59	20.64	20.81	21.5	0
20	QPSK	1	40	20.72	20.74	20.79	20.86	20.70		
20	QPSK	1	80	20.83	20.88	20.90	20.79	20.69		
20	QPSK	50	0	20.80	20.75	20.88	20.71	20.73	21.5	0
20	QPSK	50	24	20.83	20.63	20.70	20.49	20.69		
20	QPSK	50	48	20.54	20.50	20.70	20.49	20.30		
20	QPSK	100	0	20.35	20.36	20.51	20.49	20.30	21.5	0
20	16QAM	1	40	20.40	20.44	20.27	20.31	20.55		
20	16QAM	1	80	20.43	20.41	20.54	20.53	20.23		
20	16QAM	50	0	20.41	20.39	20.41	20.51	20.48	21.5	0
20	16QAM	50	24	20.45	20.43	20.48	20.40	20.48		
20	16QAM	50	48	20.37	20.30	20.47	20.47	20.37		
20	16QAM	100	0	20.35	20.36	20.46	20.46	20.30	21.5	0
20	64QAM	1	0	19.99	20.05	19.92	19.98	20.01		
20	64QAM	1	40	20.12	20.08	20.21	20.28	20.01		
20	64QAM	1	80	19.99	20.07	19.99	20.28	20.01	21	0.5
20	64QAM	50	0	20.30	20.34	20.29	20.41	20.28		
20	64QAM	50	24	20.39	20.57	20.46	20.51	20.41		
20	64QAM	50	48	20.31	20.38	20.38	20.48	20.38	21	0.5
20	64QAM	100	0	20.33	20.40	20.48	20.48	20.38		
20	64QAM	100	0	20.33	20.40	20.48	20.48	20.38		
Frequency (MHz)										
10	QPSK	1	0	20.61	20.61	20.50	20.57	20.65	21.5	0
10	QPSK	1	0	20.62	20.51	20.10	20.51	20.08		
10	QPSK	1	40	20.27	20.25	20.28	20.29	20.27		
10	QPSK	1	74	20.22	20.06	20.06	20.08	19.87	21.5	0
10	QPSK	36	0	20.44	20.45	20.41	20.48	20.33		
10	QPSK	36	20	20.31	20.62	20.52	20.55	20.44		
10	QPSK	36	36	20.25	20.55	20.00	20.63	20.31	21.5	0
10	QPSK	36	72	20.27	20.47	20.22	20.52	20.32		
10	16QAM	1	0	20.14	20.12	20.15	20.05	20.18		
10	16QAM	1	32	20.27	20.21	20.18	20.35	20.24	21.5	0
10	16QAM	1	64	20.20	20.15	20.09	20.29	20.27		
10	16QAM	36	0	20.33	20.43	20.30	20.44	20.24		
10	16QAM	36	20	20.44	20.41	20.50	20.50	20.44	21.5	0
10	16QAM	36	36	20.32	20.48	20.34	20.64	20.44		
10	16QAM	36	72	20.48	20.45	20.51	20.54	20.45		
10	16QAM	72	0	20.48	20.45	20.51	20.54	20.45	21.5	0
10	16QAM	72	36	20.35	20.48	20.38	20.48	20.38		
10	16QAM	72	72	20.48	20.45	20.51	20.54	20.45		
10	64QAM	1	0	19.94	19.84	20.01	19.91	19.95	21	0.5
10	64QAM	1	74	19.99	19.95	19.98	20.01	20.02		
10	64QAM	1	20	20.41	20.41	20.41	20.41	20.41		
10	64QAM	36	0	20.30	20.46	20.36	20.55	20.44	21	0.5
10	64QAM	36	20	20.44	20.49	20.50	20.50	20.44		
10	64QAM	36	36	20.34	20.49	20.50	20.50	20.31		
Channel										
Frequency (MHz)										
10	QPSK	1	0	20.50	20.41	20.51	20.57	20.36	21.5	0
10	QPSK	1	20	20.63	20.34	20.47	20.56	20.47		
10	QPSK	25	0	20.50	20.50	20.50	20.50	20.50		
10	QPSK	25	12	20.37	20.52	20.64	20.34	20.57	21.5	0
10	QPSK	25	12	20.48	20.45	20.50	20.48	20.45		
10	QPSK	50	0	20.47	20.45	20.52	20.64	20.51		
10	QPSK	1	20	20.51	20.48	20.52	20.44	20.46	21.5	0
10	QPSK	1	20	20.51	20.48	20.52	20.44	20.46		
10	16QAM	1	40	20.46	20.37	20.50	20.63	20.48		
10	16QAM	1	20	20.51	20.52	20.52	20.43	20.43	21.5	0
10	16QAM	25	12	20.54	20.81	20.00	20.43	20.80		
10	16QAM	25	20	20.12	20.48	20.56	20.64	20.51		
10	16QAM	50	0	20.53	20.43	20.53	20.43	20.53	21.5	0
10	16QAM	50	20	20.11	20.59	20.24	20.43	20.29		
10	16QAM	50	40	20.46	20.41	20.40	20.60	20.49		
10	64QAM	25	0	20.46	20.44	20.53	20.65	20.46	21	0.5
10	64QAM	25	20	20.48	20.43	20.53	20.60	20.52		
10	64QAM	50	0	20.45	20.41	20.54	20.58	20.45		
Channel										
Frequency (MHz)										
5	QPSK	1	0	20.68	20.68	20.61	20.69	20.87	21.5	0
5	QPSK	1	12	20.34	20.28	20.47	20.51	20.20		
5	QPSK	1	24	20.38	20.27	20.42	20.52	20.49		
5	QPSK	12	0	20.61	20.60	20.53	20.64	20.65	21.5	0
5	QPSK	12	7	20.56	20.41	20.51	20.63	20.54		
5	QPSK	12	13	20.45	20.48	20.54	20.63	20.53		
5	16QAM	1	0	20.61	20.54	20.61	20.64	20.64	21.5	0
5	16QAM	1	12	20.33	20.59	20.59	20.44	20.59		
5	16QAM	1	24	20.51	20.38	20.51	20.63	20.51		
5	16QAM	12	0	20.46	20.50	20.64	20.65	20.52	21.5	0
5	16QAM	12	6	20.44	20.54	20.54	20.64	20.54		
5	16QAM	12	13	20.47	20.48	20.54	20.56	20.48		
5	16QAM	25	0	20.37	20.59	20.60	20.45	20.56	21	0.5
5	16QAM	25	6	20.47	20.27	20.47	20.49	20.53		
5	64QAM	1	12	20.20	20.23	20.27	20.34	20.28		
5	64QAM	1	24	20.23	20.17	20.20	20.40	20.29	21	0.5
5	64QAM	12	6	20.54	20.45	20.48	20.61	20.52		
5	64QAM	12	7	20.52	20.41	20.53	20.61	20.48		
5	64QAM	12	13	20.61	20.46	20.58	20.58	20.58	21	0.5
5	64QAM	25	0	20.35	20.44	20.53	20.43	20.49		
5	64QAM	25	6	20.35	20.44	20.53	20.43	20.49		

Reduced Power Mode for Handheld on

GSM1900	Burst Average Power (dBm)			Tune-up Limit (dBm)	Frame Average Power (dBm)			Tune-up Limit (dBm)
	512	661	810		512	661	810	
TX Channel	1850.2	1880	1909.8		1850.2	1880	1909.8	
Frequency (MHz)								
GSM 1 Tx slot	28.91	29.07	28.89	30.00	19.91	20.07	19.89	21.00
GPRS 1 Tx slot	28.90	29.05	28.84	30.00	19.90	20.05	19.84	21.00
GPRS 2 Tx slots	25.59	25.42	25.43	27.00	19.59	19.42	19.43	21.00
GPRS 3 Tx slots	24.15	23.83	24.00	25.00	19.89	19.57	19.74	20.74
GPRS 4 Tx slots	22.78	22.54	22.70	23.50	19.78	19.54	19.70	20.50
EDGE 1 Tx slot	25.01	25.01	24.78	25.50	16.01	16.01	15.78	16.50
EDGE 2 Tx slots	24.97	24.91	24.78	25.50	16.97	16.91	16.78	19.50
EDGE 3 Tx slots	23.00	23.02	22.79	23.50	18.74	18.76	18.53	19.24
EDGE 4 Tx slots	21.45	21.56	21.45	22.50	18.45	18.56	18.45	19.50

Band	WCDMA II			Tune-up Limit (dBm)	WCDMA IV			Tune-up Limit (dBm)
	9262	9400	9538		1312	1413	1513	
TX Channel	9682	9800	9938		1537	1638	1738	
Rx Channel	1852.4	1880	1907.6		1712.4	1732.6	1752.6	
Frequency (MHz)								
3GPP Rel 99	AMR 12.2Kbps	18.36	18.39	18.06	19.50	19.20	19.17	19.14
3GPP Rel 99	RMC 12.2Kbps	18.41	18.42	18.12	19.50	19.52	19.54	19.45
3GPP Rel 6	HSDPA Subtest-1	17.79	17.76	17.80	18.50	18.14	18.03	18.03
3GPP Rel 6	HSDPA Subtest-2	17.80	18.06	17.70	18.50	18.09	18.05	18.02
3GPP Rel 6	HSDPA Subtest-3	17.28	17.21	17.27	18.00	17.62	17.55	17.56
3GPP Rel 6	HSDPA Subtest-4	17.26	17.50	17.30	18.00	17.62	17.58	17.55
3GPP Rel 8	DC-HSDPA Subtest-1	17.82	17.80	17.83	18.50	18.15	17.99	18.02
3GPP Rel 8	DC-HSDPA Subtest-2	17.77	18.02	17.75	18.50	18.07	18.03	18.02
3GPP Rel 8	DC-HSDPA Subtest-3	17.19	17.52	17.26	18.00	17.57	17.57	17.53
3GPP Rel 8	DC-HSDPA Subtest-4	17.23	17.52	17.23	18.00	17.60	17.59	17.49
3GPP Rel 6	HSUPA Subtest-1	17.90	17.92	17.89	18.50	18.23	18.26	18.02
3GPP Rel 6	HSUPA Subtest-2	15.89	15.97	15.96	16.50	16.19	16.15	16.16
3GPP Rel 6	HSUPA Subtest-3	16.92	16.93	16.98	17.50	17.01	17.02	16.92
3GPP Rel 6	HSUPA Subtest-4	15.88	15.97	15.92	16.50	16.10	16.04	15.98
3GPP Rel 6	HSUPA Subtest-5	17.89	17.99	18.06	18.50	18.22	18.16	18.11

Band	CDMA BC0			Tune-up Limit (dBm)	CDMA BC1			Tune-up Limit (dBm)	CDMA BC10			Tune-up Limit (dBm)
	1013	384	777		25	500	1175		476	580	584	
TX Channel	824.7	836.52	848.31		1861.25	1880	1908.75		817.9	820.5	823.1	
Frequency (MHz)												
RC1 SO55	23.35	23.22	23.33	24.00	21.03	21.05	21.11	21.50	23.54	23.60	23.48	24.00
RC3 SO55	23.05	23.38	23.30	24.00	21.04	21.14	21.09	21.50	23.45	23.68	23.49	24.00
RC3 SO32 (F+SCH)	23.21	23.33	23.19	24.00	21.11	21.11	21.10	21.50	23.65	23.50	23.38	24.00
RC3 SO32 (F+SCH)	23.21	23.37	23.22	24.00	21.09	21.09	21.13	21.50	23.65	23.55	23.22	24.00
RTAP 153.6Kbps	23.21	23.34	23.22	24.00	21.05	21.06	21.02	21.50	23.56	23.67	23.65	24.00
RETAP 4096Bits	23.22	23.25	23.21	24.00	21.11	21.05	21.13	21.50	23.54	23.55	23.57	24.00



Band 2 (1900MHz Band) Part 24E									
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)									
20	QPSK	1	0	19.56	19.66	19.41			
20	QPSK	1	49	19.62	19.54	19.55	20	0	
20	QPSK	1	99	19.58	19.55	19.55			
20	QPSK	50	0	19.60	19.60	19.50			
20	QPSK	50	24	19.60	19.45	19.37	20	0	
20	QPSK	50	50	19.44	19.27	19.37			
20	QPSK	100	0	19.62	19.63	19.49			
20	16QAM	1	0	19.51	19.52	19.18	20	0	
20	16QAM	1	49	19.38	19.41	19.15			
20	16QAM	1	99	19.30	19.23	19.29			
20	16QAM	50	0	19.55	19.53	19.52			
20	16QAM	50	24	19.52	19.49	19.27	20	0	
20	16QAM	50	50	19.39	19.33	19.39			
20	16QAM	100	0	19.55	19.40	19.43			
20	64QAM	1	0	19.61	19.65	19.65			
20	64QAM	1	49	19.61	19.60	19.65	20	0	
20	64QAM	1	99	19.54	19.42	19.48			
20	64QAM	50	0	19.56	19.55	19.50			
20	64QAM	50	24	19.53	19.41	19.37	20	0	
20	64QAM	50	50	19.38	19.30	19.35			
20	64QAM	100	0	19.56	19.55	19.41			
Channel									
Frequency (MHz)									
15	QPSK	1	0	19.32	19.39	19.38			
15	QPSK	1	37	19.35	19.23	19.29	20	0	
15	QPSK	1	74	19.67	19.67	19.65			
15	QPSK	36	0	19.52	19.49	19.34			
15	QPSK	36	20	19.44	19.46	19.40	20	0	
15	QPSK	36	39	19.48	19.38	19.41			
15	QPSK	75	0	19.48	19.38	19.37			
15	16QAM	1	0	19.55	19.55	19.56			
15	16QAM	1	37	19.58	19.50	19.55	20	0	
15	16QAM	1	74	19.62	19.45	19.63			
15	16QAM	36	0	19.48	19.55	19.45			
15	16QAM	36	20	19.51	19.44	19.43	20	0	
15	16QAM	36	39	19.55	19.39	19.45			
15	16QAM	75	0	19.43	19.44	19.37			
15	64QAM	1	0	19.59	19.59	19.45			
15	64QAM	1	37	19.57	19.56	19.44	20	0	
15	64QAM	1	74	19.45	19.62	19.55			
15	64QAM	36	0	19.54	19.51	19.44			
15	64QAM	36	20	19.47	19.39	19.40	20	0	
15	64QAM	36	39	19.58	19.38	19.42			
15	64QAM	75	0	19.44	19.54	19.49			
Channel									
Frequency (MHz)									
10	QPSK	1	0	19.32	19.42	19.48			
10	QPSK	1	25	19.41	19.50	19.35	20	0	
10	QPSK	1	49	19.51	19.47	19.41			
10	QPSK	25	0	19.50	19.39	19.44			
10	QPSK	25	12	19.34	19.35	19.29	20	0	
10	QPSK	25	25	19.38	19.27	19.27			
10	QPSK	50	0	19.34	19.43	19.35			
10	16QAM	1	0	19.45	19.55	19.54			
10	16QAM	1	25	19.56	19.67	19.54	20	0	
10	16QAM	1	49	19.54	19.54	19.50			
10	16QAM	25	0	19.49	19.36	19.36			
10	16QAM	25	12	19.42	19.45	19.33	20	0	
10	16QAM	25	25	19.37	19.48	19.32			
10	16QAM	50	0	19.41	19.52	19.37			
10	64QAM	1	0	19.54	19.53	19.52			
10	64QAM	1	25	19.47	19.48	19.37	20	0	
10	64QAM	1	49	19.65	19.47	19.44			
10	64QAM	25	0	19.46	19.38	19.43			
10	64QAM	25	12	19.40	19.43	19.31	20	0	
10	64QAM	25	25	19.45	19.45	19.28			
10	64QAM	50	0	19.38	19.46	19.33			
Channel									
Frequency (MHz)									
5	QPSK	1	0	19.54	19.26	19.29			
5	QPSK	1	12	19.35	19.25	19.17	20	0	
5	QPSK	1	24	19.17	19.22	19.27			
5	QPSK	12	0	19.57	19.33	19.33			
5	QPSK	12	7	19.39	19.43	19.23	20	0	
5	QPSK	12	13	19.41	19.33	19.27			
5	QPSK	25	0	19.42	19.46	19.34			
5	16QAM	1	0	19.49	19.39	19.57			
5	16QAM	1	12	19.50	19.44	19.46	20	0	
5	16QAM	1	24	19.45	19.40	19.37			
5	16QAM	12	0	19.44	19.42	19.41			
5	16QAM	12	7	19.42	19.46	19.31	20	0	
5	16QAM	12	13	19.35	19.30	19.19			
5	16QAM	25	0	19.46	19.33	19.26			
5	64QAM	1	0	19.56	19.51	19.47			
5	64QAM	1	12	19.50	19.54	19.48	20	0	
5	64QAM	1	24	19.57	19.51	19.38			
5	64QAM	12	0	19.44	19.32	19.29			
5	64QAM	12	7	19.41	19.41	19.14	20	0	
5	64QAM	12	13	19.35	19.36	19.07			
5	64QAM	25	0	19.42	19.37	19.30			
Channel									
Frequency (MHz)									
3	QPSK	1	0	19.18	19.22	19.32			
3	QPSK	1	8	19.45	19.49	19.30	20	0	
3	QPSK	1	14	19.54	19.38	19.26			
3	QPSK	8	0	19.45	19.38	19.23			
3	QPSK	8	4	19.41	19.46	19.24	20	0	
3	QPSK	8	7	19.34	19.41	19.25			
3	QPSK	15	0	19.41	19.41	19.28			
3	16QAM	1	0	19.42	19.45	19.39			
3	16QAM	1	8	19.54	19.67	19.25	20	0	
3	16QAM	1	14	19.52	19.57	19.35			
3	16QAM	8	0	19.49	19.45	19.42			
3	16QAM	8	4	19.51	19.47	19.37	20	0	
3	16QAM	8	7	19.45	19.40	19.52			
3	16QAM	15	0	19.47	19.33	19.20			
3	64QAM	1	0	19.54	19.66	19.52			
3	64QAM	1	8	19.56	19.54	19.46	20	0	
3	64QAM	1	14	19.45	19.54	19.55			
3	64QAM	8	0	19.39	19.40	19.25			
3	64QAM	8	4	19.51	19.57	19.20	20	0	
3	64QAM	8	7	19.35	19.36	19.07			
3	64QAM	15	0	19.43	19.35	19.31			
Channel									
Frequency (MHz)									
1.4	QPSK	1	0	19.46	19.45	19.38			
1.4	QPSK	1	3	19.32	19.49	19.39	20	0	
1.4	QPSK	1	5	19.19	19.20	19.04			
1.4	QPSK	3	0	19.30	19.26	19.22			
1.4	QPSK	3	1	19.40	19.37	19.25			
1.4	QPSK	3	3	19.32	19.29	19.08			
1.4	QPSK	6	0	19.31	19.31	19.19	20	0	
1.4	16QAM	1	0	19.54	19.54	19.67			
1.4	16QAM	1	3	19.54	19.41	19.54	20	0	
1.4	16QAM	1	5	19.54	19.34	19.53			
1.4	16QAM	3	0	19.36	19.14	19.13			
1.4	16QAM	3	1	19.49	19.55	19.26			
1.4	16QAM	3	3	19.30	19.40	19.26			
1.4	16QAM	6	0	19.35	19.33	19.16	20	0	
1.4	64QAM	1	0	19.54	19.56	19.49			
1.4	64QAM	1	3	19.55	19.56	19.59			
1.4	64QAM	1	5	19.54	19.45	19.52	20	0	
1.4	64QAM	3	0	19.50	19.30	19.33			
1.4	64QAM	3	1	19.43	19.52	19.38			
1.4	64QAM	6	0	19.47	19.46	19.23			
1.4	64QAM	6	0	19.39	19.39	19.26	20	0	

Band 4 (AWS Band)									
Part 27L (only on channel required)									
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)									
20	QPSK	1	0	19.35	19.68	19.53			
20	QPSK	1	49	19.35	19.33	19.38	20.5	0	
20	QPSK	1	99	19.35	19.38	19.27			
20	QPSK	50	0	19.35	19.45	19.37			
20	QPSK	50	24	19.32	19.27	19.37	20.5	0	
20	QPSK	50	50	19.21	19.25	19.20			
20	QPSK	100	0	19.21	19.37	19.35			
20	16QAM	1	0	19.33	19.37	19.34			
20	16QAM	1	49	19.34	19.29	19.51	20.5	0	
20	16QAM	1	99	19.50	19.31	19.51			
20	16QAM	50	0	19.29	19.23	19.20			
20	16QAM	50	24	19.13	19.10	19.16	20.5	0	
20	16QAM	50	50	19.04	19.27	19.11			
20	16QAM	100	0	19.24	19.16	19.14			
20	64QAM	1	0	19.10	19.06	19.31			
20	64QAM	1	49	19.08	19.29	19.05	20.5	0	
20	64QAM	1	99	19.15	19.06	19.18			
20	64QAM	50	0	19.14	19.19	19.35			
20	64QAM	50	24	19.08	19.05	19.13	20.5	0	
20	64QAM	50	50	18.99	19.14	19.05			
20	64QAM	100	0	19.11	19.13	19.11			
Channel									
Frequency (MHz)									
15	QPSK	1	0	19.33	19.25	19.67			
15	QPSK	1	37	19.23	19.55	19.47	20.5	0	
15	QPSK	1	74	19.54	19.45	19.85			
15	QPSK	36	0	19.55	19.50	19.54			
15	QPSK	36	20	19.34	19.54	19.43	20.5	0	
15	QPSK	36	39	19.33	19.56	19.34			
15	QPSK	75	0	19.32	19.31	19.44			
15	16QAM	1	0	19.17	19.16	19.56			
15	16QAM	1	37	19.55	19.59	19.55	20.5	0	
15	16QAM	1	74	19.54	19.43	19.44			
15	16QAM	36	0	19.42	19.54	19.54			
15	16QAM	36	20	19.30	19.45	19.34	20.5	0	
15	16QAM	36	39	19.43	19.45	19.33			
15	16QAM	75	0	19.56	19.56	19.43			
15	64QAM	1	0	19.47	19.50	19.10			
15	64QAM	1	37	19.30	19.26	19.27	20.5	0	
15	64QAM	1	74	19.41	19.35	19.32			
15	64QAM	36	0	19.34	19.54	19.54			
15	64QAM	36	20	19.35	19.55	19.43	20.5	0	
15	64QAM	36	39	19.43	19.43	19.44			
15	64QAM	75	0	19.43	19.44	19.43			
Channel									
Frequency (MHz)									
10	QPSK	1	0	19.65	19.66	19.65			
10	QPSK	1	25	19.66	19.65	19.56	20.5	0	
10	QPSK	1	49	19.65	19.65	19.67			
10	QPSK	25	0	19.45	19.46	19.44			
10	QPSK	25	12	19.61	19.53	19.45	20.5	0	
10	QPSK	25	25	19.55	19.66	19.46			
10	QPSK	50	0	19.45	19.45	19.43			
10	16QAM	1	0	19.35	19.37	19.39			
10	16QAM	1	25	19.36	19.36	19.30	20.5	0	
10	16QAM	1	49	19.38	19.41	19.32			
10	16QAM	25	0	19.24	19.54	19.59			
10	16QAM	25	12	19.53	19.43	19.62	20.5	0	
10	16QAM	25	25	19.43	19.44	19.45			
10	16QAM	50	0	19.35	19.45	19.45			
10	64QAM	1	0	19.56	19.56	19.56	20.5	0	
10	64QAM	1	25	19.59	19.52	19.50			
10	64QAM	1	49	19.30	19.17	19.26			
10	64QAM	25	0	19.34	19.65	19.45			
10	64QAM	25	12	19.67	19.34	19.44	20.5	0	
10	64QAM	25	25	19.67	19.53	19.22			
10	64QAM	50	0	19.45	19.56	19.43			
Channel									
Frequency (MHz)									
5	QPSK	1	0	19.68	19.34	19.61			
5	QPSK	1	12	19.64	19.67	19.63	20.5	0	
5	QPSK	1	24	19.47	19.52	19.54			
5	QPSK	12	0	19.34	19.43	19.45			
5	QPSK	12	7	19.65	19.65	19.67	20.5	0	
5	QPSK	12	13	19.54	19.34	19.67			
5	QPSK	25	0	19.23	19.33	19.59			
5	16QAM	1	0	19.29	19.63	19.35			
5	16QAM	1	12	19.34	19.28	19.26	20.5	0	
5	16QAM	1	24	19.37	19.39	19.49			
5	16QAM	12	0	19.23	19.43	19.67	20.5	0	
5	16QAM	12	7	19.60	19.43	19.61			
5	16QAM	12	13	19.60	19.67	19.63			
5	16QAM	25	0	19.61	19.63	19.63			
5	64QAM	1	0	19.35	19.29	19.31			
5	64QAM	1	12	19.12	19.25	19.39	20.5	0	
5	64QAM	1	24	19.37	19.39	19.11			
5	64QAM	12	0	19.32	19.55	19.32			
5	64QAM	12	7	19.62	19.53	19.64			
5	64QAM	12	13	19.63	19.53	19.65	20.5	0	
5	64QAM	25	0	19.62	19.66	19.64			
Channel									
Frequency (MHz)									
3	QPSK	1	0	19.43	19.57	19.22			
3	QPSK	1	8	19.67	19.56	19.64	20.5	0	
3	QPSK	1	14	19.39	19.65	19.57			
3	QPSK	8	0	19.60	19.66	19.66			
3	QPSK	8	4	19.58	19.65	19.43	20.5	0	
3	QPSK	8	7	19.56	19.56	19.64			
3	QPSK	15	0	19.61	19.33	19.67			
3	16QAM	1	0	19.42	19.27	19.27			
3	16QAM	1	8	19.42	19.43	19.49	20.5	0	
3	16QAM	1	14	19.12	19.33	19.39			
3	16QAM	8	0	19.62	19.45	19.65			
3	16QAM	8	4	19.34	19.43	19.43	20.5	0	
3	16QAM	8	7	19.32	19.43	19.45			
3	16QAM	15	0	19.52	19.62	19.56			
3	64QAM	1	0	19.55	19.56	19.56			
3	64QAM	1	8	19.43	19.65	19.45	20.5	0	
3	64QAM	1	14	19.62	19.54	19.65			
3	64QAM	8	0	19.56	19.34	19.43			
3	64QAM	8	4	19.65	19.32	19.34	20.5	0	
3	64QAM	8	7	19.63	19.23	19.23			
3	64QAM	15	0	19.58	19.33	19.64			
Channel									
Frequency (MHz)									
1.4	QPSK	1	0	19.17	17.525	17.543			
1.4	QPSK	1	0	19.37	19.53	19.46			
1.4	QPSK	1	3	19.55	19.33	19.45	20.5	0	
1.4	QPSK	1	5	19.44	19.54	19.53			
1.4	QPSK	3	0	19.60	19.43	19.58			
1.4	QPSK	3	1	19.55	19.34	19.63			
1.4	QPSK	3	3	19.53	19.67	19.23	20.5	0	
1.4	QPSK	6	0	19.53	19.67	19.59			
1.4	QPSK	1	0	19.19	19.33	19.33	20.5	0	
1.4	16QAM	1	3	19.42	19.40	19.45			
1.4	16QAM	1	5	19.37	19.31	19.42	20.5	0	
1.4	16QAM	3	0	19.58	19.63	19.61			
1.4	16QAM	3	1	19.42	19.42	19.43			
1.4	16QAM	3	3	19.49	19.60	19.67			
1.4	16QAM	6	0	19.67	19.45	19.32	20.5	0	
1.4	64QAM	1	0	18.89	19.06	18.93			
1.4	64QAM	1	3	19.33	19.12	19.26			
1.4	64QAM	1	5	18.84	19.15	18.97			
1.4	64QAM	3	0	19.64	19.65	19.66			
1.4	64QAM	3	1	19.67	19.47	19.64	20.5	0	
1.4	64QAM	3	3	19.54	19.33	19.44			
1.4	64QAM	6	0	19.54	19.66	19.67	20.5	0	



Band 25 (1900MHz Band)										
Part 24E										
BW (MHz)	Modulation	RB Size	RB Offset	Power Low Ch./Freq. 26140	Power Middle Ch./Freq. 26340	Power High Ch./Freq. 26590	Tune-up limit (dBm)	MPR (dB)		
Channel										
Frequency (MHz)										
20	QPSK	1	0	19.67	19.75	19.72	20	0		
20	QPSK	1	49	19.33	19.47	19.35				
20	QPSK	1	99	19.55	19.55	19.56				
20	QPSK	50	0	19.65	19.67	19.55				
20	QPSK	50	24	19.55	19.54	19.55	20	0		
20	QPSK	50	50	19.56	19.55	19.55				
20	QPSK	100	0	19.20	19.56	19.45				
20	16QAM	1	0	19.19	19.22	19.21				
20	16QAM	1	49	19.29	19.25	19.20	20	0		
20	16QAM	1	99	19.36	19.38	19.18				
20	16QAM	50	0	19.16	19.11	19.06				
20	16QAM	50	24	19.02	19.06	18.93				
20	16QAM	50	50	19.10	19.04	19.03	20	0		
20	84QAM	1	0	19.06	19.11	19.30				
20	84QAM	1	49	19.15	19.20	19.09				
20	84QAM	1	99	19.32	19.16	19.15				
20	84QAM	50	0	19.32	19.05	19.00	20	0		
20	84QAM	50	24	19.14	19.11	18.95				
20	84QAM	50	50	19.00	19.01	18.96				
20	84QAM	100	0	19.20	19.01	19.02				
Channel							26115	26340	26615	
Frequency (MHz)							1867.5	1880	1907.5	
15	QPSK	1	0	19.20	19.18	19.16	20	0		
15	QPSK	1	37	19.11	19.06	18.96				
15	QPSK	1	74	19.22	19.16	19.05				
15	QPSK	36	0	19.22	19.17	18.97				
15	QPSK	36	20	19.29	19.17	19.05	20	0		
15	QPSK	36	39	19.18	19.18	19.09				
15	QPSK	75	0	19.33	19.21	19.07				
15	16QAM	1	0	19.43	19.44	19.43				
15	16QAM	1	37	19.44	19.53	19.46	20	0		
15	16QAM	1	74	19.45	19.60	19.58				
15	16QAM	36	0	19.26	19.21	19.12				
15	16QAM	36	20	19.34	19.11	19.10				
15	16QAM	36	39	19.29	19.15	19.02	20	0		
15	16QAM	75	0	19.27	19.11	19.01				
15	84QAM	1	0	19.70	19.60	19.58				
15	84QAM	1	37	19.45	19.43	19.44				
15	84QAM	1	74	19.68	19.82	19.56	20	0		
15	84QAM	36	0	19.36	19.19	19.00				
15	84QAM	36	20	19.32	19.19	18.98				
15	84QAM	36	39	19.20	19.15	19.13				
15	84QAM	75	0	19.26	19.19	19.21				
Channel							26090	26340	26640	
Frequency (MHz)							1855	1880	1910	
10	QPSK	1	0	19.05	18.99	19.00	20	0		
10	QPSK	1	25	19.13	18.91	19.14				
10	QPSK	1	49	19.18	19.14	19.25				
10	QPSK	25	0	19.33	19.05	19.34				
10	QPSK	25	12	19.28	19.20	19.21	20	0		
10	QPSK	25	25	19.28	19.19	19.27				
10	QPSK	50	0	19.24	19.11	19.16				
10	16QAM	1	0	19.43	19.74	19.45				
10	16QAM	1	25	19.44	19.53	19.71	20	0		
10	16QAM	1	49	19.43	19.45	19.63				
10	16QAM	25	0	19.21	19.10	19.00				
10	16QAM	25	12	19.18	19.05	19.08				
10	16QAM	25	25	19.10	18.99	19.11	20	0		
10	16QAM	50	0	19.18	19.14	19.04				
10	84QAM	1	0	19.45	19.53	19.72				
10	84QAM	1	25	19.55	19.54	19.53				
10	84QAM	1	49	19.60	19.70	19.48	20	0		
10	84QAM	25	0	19.23	19.13	19.12				
10	84QAM	25	12	19.30	19.08	19.11				
10	84QAM	25	25	19.32	19.14	19.05				
10	84QAM	50	0	19.19	19.03	19.16				
Channel							26085	26340	26685	
Frequency (MHz)							1852.5	1880	1912.5	
5	QPSK	1	0	18.84	19.32	19.33	20	0		
5	QPSK	1	12	19.05	18.88	19.07				
5	QPSK	1	24	19.23	19.12	19.13				
5	QPSK	12	0	19.23	19.08	19.14				
5	QPSK	12	7	19.17	19.08	19.01	20	0		
5	QPSK	12	13	19.18	19.07	19.15				
5	QPSK	25	0	19.20	19.15	19.18				
5	16QAM	1	0	19.68	19.65	19.72				
5	16QAM	1	12	19.70	19.48	19.61	20	0		
5	16QAM	1	24	19.74	19.64	19.46				
5	16QAM	12	0	19.26	19.10	19.14				
5	16QAM	12	7	19.22	19.08	19.10				
5	16QAM	12	13	19.11	19.02	19.05	20	0		
5	16QAM	25	0	19.11	19.08	19.09				
5	84QAM	1	0	19.52	19.40	19.39				
5	84QAM	1	12	19.39	19.30	19.34				
5	84QAM	1	24	19.54	19.48	19.32	20	0		
5	84QAM	12	0	19.29	19.22	19.19				
5	84QAM	12	7	19.24	19.12	19.14				
5	84QAM	12	13	19.26	19.07	19.09				
5	84QAM	25	0	19.23	19.12	19.13				
Channel							26055	26340	26675	
Frequency (MHz)							1851.5	1880	1913.5	
3	QPSK	1	0	19.00	18.98	18.96	20	0		
3	QPSK	1	8	19.18	19.14	19.11				
3	QPSK	1	14	19.08	18.96	19.00				
3	QPSK	8	0	19.15	19.02	19.03				
3	QPSK	8	4	19.21	19.09	19.07	20	0		
3	QPSK	8	7	19.14	19.01	19.07				
3	QPSK	15	0	19.12	19.04	19.02				
3	16QAM	1	0	19.49	19.58	19.29				
3	16QAM	1	8	19.55	19.68	19.53	20	0		
3	16QAM	1	14	19.33	19.47	19.37				
3	16QAM	8	0	19.24	19.27	19.18				
3	16QAM	8	4	19.15	19.11	19.08				
3	16QAM	8	7	19.19	19.04	18.98	20	0		
3	16QAM	15	0	19.06	18.93	19.05				
3	84QAM	1	0	19.31	19.12	19.18				
3	84QAM	1	8	19.47	19.47	19.34				
3	84QAM	1	14	19.42	19.05	19.12	20	0		
3	84QAM	8	0	19.12	19.07	19.12				
3	84QAM	8	4	19.24	19.05	19.08				
3	84QAM	8	7	19.07	19.06	19.04				
3	84QAM	15	0	19.17	19.10	19.11				
Channel							1850.7	1880	1914.3	
Frequency (MHz)							1850.7	1880	1914.3	
1.4	QPSK	1	0	19.14	19.15	19.16	20	0		
1.4	QPSK	1	3	19.14	19.14	18.98				
1.4	QPSK	1	5	19.02	18.95	18.96				
1.4	QPSK	3	1	19.14	19.06	19.06				
1.4	QPSK	3	3	19.03	18.96	19.04	20	0		
1.4	QPSK	6	0	19.13	19.00	19.04				
1.4	16QAM	1	0	19.23	19.34	19.38				
1.4	16QAM	1	3	19.41	19.28	19.40				
1.4	16QAM	1	5	19.42	19.29	19.19	20	0		
1.4	16QAM	3	0	19.27	19.10	19.11				
1.4	16QAM	3	1	19.18	19.31	19.19				
1.4	16QAM	3	3	19.20	19.02	19.20				
1.4	16QAM	6	0	19.14	19.09	19.14	20	0		
1.4	84QAM	1	0	19.01	19.10	19.05				
1.4	84QAM	1	3	19.11	18.73	18.89				
1.4	84QAM	3	5	18.92	18.77	18.81				
1.4	84QAM	3	0	19.20	18.99	19.03	20	0		
1.4	84QAM	3	1	19.20	19.02	19.11				
1.4	84QAM	3	3	19.15	19.11	19.01				
1.4	84QAM	6	0	19.20	19.09	19.05				



Band 38(only on channel required)											
SR [MHz]	Modulation	RB Size	RB Offset	Power Ch / Freq	Power Ch / Freq	Power Ch / Freq	Time-up limit (dBm)	MPR (dB)			
Channel											
Frequency [MHz]											
30	QPSK	1	0	22.39	22.31	22.35	23.5	0			
20	QPSK	1	40	22.34	22.40	22.30					
20	QPSK	1	80	22.14	22.60	22.70					
20	QPSK	50	0	22.49	22.75	22.43					
20	QPSK	50	24	22.45	22.63	22.61	23	0.5			
20	QPSK	50	50	22.59	22.67	22.72					
20	QPSK	100	0	22.84	22.65	22.69					
20	16QAM	1	0	22.55	22.63	22.61					
20	16QAM	1	40	22.85	22.54	22.58	23	0.5			
20	16QAM	1	80	22.75	22.76	22.78					
20	16QAM	50	0	22.56	22.67	22.66					
20	16QAM	50	24	20.97	20.93	21.02					
20	16QAM	100	0	21.40	21.17	21.04	22	1.5			
20	8QAM	1	0	20.97	20.89	21.13					
20	8QAM	1	40	20.94	21.03	21.02					
20	8QAM	1	80	21.19	20.94	21.26					
20	8QAM	50	0	19.45	19.47	19.41	21	2.5			
20	8QAM	50	24	19.35	19.35	19.46					
20	8QAM	50	50	19.34	19.52	19.67					
20	8QAM	100	0	19.34	19.63	19.34					
Channel											
Frequency [MHz]											
15	QPSK	1	0	22.52	22.55	22.59	23.5	0			
15	QPSK	1	37	22.51	22.42	22.40					
15	QPSK	1	74	22.61	22.78	22.75					
15	QPSK	36	0	22.48	22.53	22.64					
15	QPSK	36	20	22.46	22.52	22.62	23	0.5			
15	QPSK	36	40	22.48	22.77	22.86					
15	QPSK	75	0	22.48	22.63	22.66					
15	QPSK	1	0	22.52	22.67	22.75					
15	16QAM	1	37	22.47	22.53	22.74	23	0.5			
15	16QAM	1	74	22.75	22.71	22.84					
15	16QAM	1	111	22.68	22.77	22.87					
15	16QAM	36	20	21.19	21.15	21.07					
15	16QAM	36	50	21.03	21.16	21.10	22	1.5			
15	16QAM	36	80	20.97	21.27	21.03					
15	8QAM	1	0	20.89	20.93	21.12					
15	8QAM	1	37	21.01	20.95	21.04					
15	8QAM	1	74	21.14	21.27		21	2.5			
15	8QAM	36	0	19.41	19.56	19.48					
15	8QAM	36	20	19.40	19.43	19.46					
15	8QAM	36	39	19.43	19.61	19.71					
15	8QAM	75	0	19.40	19.46	19.51	Time-up limit (dBm)	MPR (dB)			
15	8QAM	75	0	19.40	19.59	19.59					
15	8QAM	75	0	19.40	19.59	19.59					
15	8QAM	75	0	19.40	19.59	19.59					
Channel											
Frequency [MHz]											
10	QPSK	1	0	22.35	22.37	22.39	23.5	0			
10	QPSK	1	25	22.35	22.37	22.39					
10	QPSK	1	40	22.36	22.62	22.60					
10	QPSK	25	0	22.08	22.45	22.67					
10	QPSK	25	12	22.85	22.64	22.86	23	0.5			
10	QPSK	25	20	22.84	22.84	22.74					
10	QPSK	50	0	22.81	22.51	22.53					
10	16QAM	1	0	22.87	22.71	22.85					
10	16QAM	1	25	22.86	22.66	22.86	23	0.5			
10	16QAM	1	40	22.84	22.77	22.66					
10	16QAM	25	0	20.97	21.05	20.98					
10	16QAM	25	12	21.13	20.94	21.08					
10	16QAM	25	25	21.20	21.25	21.33	22	1.5			
10	16QAM	50	0	21.05	21.20	21.30					
10	8QAM	1	0	21.02	21.15	21.25					
10	8QAM	1	25	21.08	21.05	21.09					
10	8QAM	1	40	21.18	21.14	21.24	21	2.5			
10	8QAM	25	0	19.81	19.82	19.81					
10	8QAM	25	25	19.86	19.87	19.87					
10	8QAM	50	0	19.43	19.39	19.64					
Channel											
Frequency [MHz]											
5	QPSK	1	0	22.35	22.35	22.43	23.5	0			
5	QPSK	1	12	22.77	22.44	22.79					
5	QPSK	1	24	22.54	22.51	22.66					
5	QPSK	12	0	22.67	22.61	22.69					
5	QPSK	12	7	22.51	22.45	22.53	23	0.5			
5	QPSK	12	13	22.68	22.56	22.84					
5	QPSK	36	0	22.71	22.66	22.56					
5	16QAM	1	0	22.36	22.66	22.89					
5	16QAM	1	12	22.82	22.67	22.67	23	0.5			
5	16QAM	1	24	22.64	22.61	22.67					
5	16QAM	12	0	21.21	21.15	21.17					
5	16QAM	12	7	20.99	21.08	20.96					
5	16QAM	12	13	21.13	21.05	21.26	22	1.5			
5	16QAM	25	0	21.05	21.17	21.07					
5	8QAM	1	0	21.07	20.98	21.10					
5	8QAM	1	12	20.97	20.92	21.13					
5	8QAM	1	24	21.19	21.08	21.14	21	2.5			
5	8QAM	12	0	19.38	19.45	19.71					
5	8QAM	12	7	19.38	19.39	19.60					
5	8QAM	12	13	19.43	19.36	19.56					
5	8QAM	25	0	19.39	19.74	19.63					

Band 41 (2.6G Band)												
SR [MHz]	Modulation	RB Size	RB Offset	Power Low Ch / Freq	Power Low Freq / Ch	Power High Ch / Freq	Power High Freq / Ch	Power High Ch / Freq	Power High Freq / Ch	Time-up limit (dBm)	MPR (dB)	
Channel												
Frequency [MHz]												
20	QPSK	1	0	22.22	22.25	22.26	22.24	22.29	23.5	0		
20	QPSK	1	40	22.42	22.38	22.49	22.51	22.32				
20	QPSK	1	80	22.39	22.19	22.19	22.39	22.23				
20	QPSK	50	0	21.89	21.86	21.81	21.85	21.53				
20	QPSK	50	24	21.84	21.69	21.73	21.76	21.55	23	0.5		
20	QPSK	50	50	21.81	21.78	21.82	21.85	21.51				
20	QPSK	100	0	21.81	21.82	21.83	21.89	21.48				
20	16QAM	1	0	21.86	21.82	21.84	21.86	21.47				
20	16QAM	1	40	21.85	21.73	21.88	21.79	21.51	23	0.5		
20	16QAM	1	80	21.85	21.39	21.43	21.42	21.49				
20	16QAM	50	0	20.94	20.95	20.92	20.73	20.54				
20	16QAM	50	24	20.94	20.91	20.72	20.86	20.60				
20	16QAM	100	0	20.92	20.83	20.83	20.71	20.46	22	1.5		
20	8QAM	1	0	20.95	20.72	20.79	20.91	20.78				
20	8QAM	1	40	20.99	20.70	20.98	20.78	20.82				
20	8QAM	1	80	20.79	20.62	20.67	20.92	20.96				
20	8QAM	50	0	19.41	19.42	19.39	19.19	19.02	21	2.5		
20	8QAM	50	24	19.43	19.45	19.31	19.35	19.11				
20	8QAM	50	50	19.41	19.34	19.15	19.22	19.07				
20	8QAM	100	0	19.42	19.40	19.35	19.30	19.06				
Channel												
Frequency [MHz]												
15	QPSK	1	0	22.22	22.14	21.97	22.11	21.86	23.5	0		
15	QPSK	1	37	22.23	22.25	22.15	22.17	22.23				
15	QPSK	1	74	22.21	22.09	22.07	21.94	21.86				
15	QPSK	36	0	21.88	21.93	21.81	21.68	21.59				
15	QPSK	36	20	21.87	21.81	21.72	21.77	21.68	23	0.5		
15	QPSK	36	40	22.03	21.99	21.80	21.82	21.66				
15	QPSK	75	0	22.03	21.92	21.87	21.72	21.56				
15	QPSK	1	0	21.94	21.46	21.38	21.27	21.29				
15	16QAM	1	37	21.46	21.46	21.39	21.62	21.51	23	0.5		
15	16QAM	1	74	21.35	21.33	21.32	21.38	21.47				
15	16QAM	1	111	21.08	21.08	21.09	21.09	21.09				
15	16QAM	36	20	20.98	20.91	20.70	20.78	20.60				
15	16QAM	36	40	20.99	20.95	20.76	20.78	20.64	22	1.5		
15	16QAM	75	0	21.00	20.92	20.68	20.73	20.53				
15	16QAM	1	0	21.01	20.91	20.73	20.78	20.59				
15	8QAM	1	37	20.47	20.50	20.29	20.53	20.37				
15	8QAM	1	74	20.17	20.38	20.16	20.19	20.12	21	2.5		
15	8QAM	1	111	19.35	19.45	19.33	19.33	19.14				
15	8QAM	36	20	19.08	19.54	19.33	19.38	19.18				
15	8QAM	36	40	19.44	19.61	19.39	19.46	19.28				
15	8QAM	75	0	19.05	19.51	19.30	19.33	19.14				
Channel												
Frequency [MHz]												
10	QPSK	1	0	22.43	22.38	22.41	22.40	22.50	23.5	0		
10	QPSK	1	26	22.20	22.42	22.39	22.34	22.48				
10	QPSK	1	42	22.44	22.33	22.45	22.35	22.42				
10	QPSK	25	0	21.90	21.89	21.74	21.82	21.63				
10	QPSK	25	12	21.96	21.94	21.77	21.84	21.60	23	0.5		
10	QPSK	25	25	22.00	21.91	21.78	21.82	21.63				
10	QPSK	50	0	21.94	21.87	21.73	21.79	21.71				
10	16QAM	1	0	21.98	21.90	21.76	21.77	21.68				
10	16QAM	1	26	21.96	21.83	21.69	21.81	21.61	23	0.5		
10	16QAM	1	52	21.88	21.79	21.79	21.75	21.63				
10	16QAM	25	0	20.98	20.92	20.75	20.82	20.69				
10	16QAM	25	12	21.00	20.95	20.78	20.82	20.69				
10	16QAM	25	26	20.97	20.89	20.70	20.78	20.62	22	1.5		
10	16QAM	50	0	20.97	20.92	20.73	20.78	20.69				
10	8QAM	1	0	20.73	20.75	20.41	20.74	20.39				
10	8QAM	1	26	20.78	20.78	20.45	20.72	20.36				
10	8QAM	1	52	20.76	20.73	20.39	20.73	20.38	21	2.5		
10	8QAM	25	0	19.40	19.48	19.28	19.35	19.18				
10	8QAM	25	12	19.43	19.48	19.33	19.43	19.20				
10	8QAM	25	26	19.54	19.38	19.25	19.28	19.11				
10	8QAM	50	0	19.50	19.39	19.24	19.29	19.12				
Channel												
Frequency [MHz]												
5	QPSK	1	0	22.43	22.43	22.43	22.43	22.53	23.5	0		
5	QPSK	1	12	22.41	22.30	22.45	22.45	22.30				
5	QPSK	1	14	22.39	22.25	22.39	22.45	22.38				
5	QPSK	12	0	21.92	21.90	21.75	21.83	21.64				
5	QPSK	12	7	21.95	21.90	21.70	21.80	21.62	23	0.5		
5	QPSK	12	13	21.96	21.97	21.73	21.80	21.61				
5	QPSK	12	19	21.96	21.92	21.71	21.82	21.63				
5	16QAM	1	0	22.02	21.94	21.82	21.90	21.73				
5	16QAM	1	12	21.92	21.84	21.68	21.78	21.60	23	0.5		
5	16QAM	1	14	21.95	21.87	21.74	21.84	21.65				
5	16QAM	12	0	20.98	20.98	20.75	20.87	20.63				
5	16QAM	12	19	20.97	20.97	20.65	20.79	20.54				
5	16QAM	12	13	20.97	20.97	20.65	20.79	20.54	22	1.5		
5	16QAM	25	0	21.90	20.91	20.75	20.80	20.65				
5	16QAM	25	0	20.89	20.79	20.59	20.68	20.53				
5	8QAM	1	0	20.91	20.84	20.62	20.65	20.56				
5	8QAM	1	12	20.91	20.87	20.64	20.75	20.51	21	2.5		
5	8QAM	1	14	20.94	20.88	20.64	20.75	20.51				
5	8QAM	12	7	19.37	19.43	19.20	19.38	19.15				
5	8QAM	12	13	19.42	19.43	19.20	19.38	19.15				
5	8QAM	12	19	19.42	19.46	19.24	19.33	19.15				
5	8QAM	25	0	19.40	19.46	19.24	19.33	19.15				

Full

CA_41C								
Combination 20MHz+20MHz (100RB+100RB)								
PCC Channel	SCC Channel	Modulation	PCC		SCC		Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset		
39750	39948	QPSK	1	0	0	0	24.24	25
40185	39987	QPSK	1	0	0	0	23.63	25
40620	40422	QPSK	1	0	0	0	23.31	25
41055	40857	QPSK	1	0	0	0	23.3	25
41490	41292	QPSK	1	0	0	0	23.27	25
39750	39948	16QAM	1	0	0	0	22.43	23
40185	39987	16QAM	1	0	0	0	21.89	23
40620	40422	16QAM	1	0	0	0	22.01	23
41055	40857	16QAM	1	0	0	0	22.21	23
41490	41292	16QAM	1	0	0	0	22.1	23
39750	39948	64QAM	1	0	0	0	21.34	22
40185	39987	64QAM	1	0	0	0	20.99	22
40620	40422	64QAM	1	0	0	0	21.03	22
41055	40857	64QAM	1	0	0	0	21.09	22
41490	41292	64QAM	1	0	0	0	20.89	22

Sensor on

CA_41C								
Combination 20MHz+20MHz (100RB+100RB)								
PCC Channel	SCC Channel	Modulation	PCC		SCC		Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset		
39750	39948	QPSK	1	0	0	0	20.23	21.5
40185	39987	QPSK	1	0	0	0	20.28	21.5
40620	40422	QPSK	1	0	0	0	20.17	21.5
41055	40857	QPSK	1	0	0	0	20.19	21.5
41490	41292	QPSK	1	0	0	0	20.09	21.5

Hotspot on

CA_41C								
Combination 20MHz+20MHz (100RB+100RB)								
PCC Channel	SCC Channel	Modulation	PCC		SCC		Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset		
39750	39948	QPSK	1	0	0	0	20.23	21.5
40185	39987	QPSK	1	0	0	0	20.28	21.5
40620	40422	QPSK	1	0	0	0	20.17	21.5
41055	40857	QPSK	1	0	0	0	20.19	21.5
41490	41292	QPSK	1	0	0	0	20.09	21.5

Handheld on

CA_41C								
Combination 20MHz+20MHz (100RB+100RB)								
PCC Channel	SCC Channel	Modulation	PCC		SCC		Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset		
39750	39948	QPSK	1	0	0	0	21.98	23.5
40185	39987	QPSK	1	0	0	0	21.92	23.5
40620	40422	QPSK	1	0	0	0	21.85	23.5
41055	40857	QPSK	1	0	0	0	21.75	23.5
41490	41292	QPSK	1	0	0	0	21.83	23.5

2CA DL

CA List	PCC							SCC				Power	
	LTE	BW	UL		Mod.	UL#		LTE	BW	DL		With CA	Without CA
	Band	(MHz)	Freq	Channel		RB	RB Offset	Band	(MHz)	Freq	Channel	Tx Power (dBm)	Tx Power (dBm)
			(MHz)							(MHz)			
CA_2A-5A	Band 2	20M	1880	18900	QPSK	1	0	Band 5	10M	881.5	2525	23.10	23.27
	Band 5	10M	836.5	20525	QPSK	1	0	Band 2	20M	1960	900	23.10	23.24
CA_2A-7A	Band 2	20M	1880	18900	QPSK	1	0	Band 7	20M	2655	3100	23.09	23.27
	Band 7	20M	2535	21100	QPSK	1	0	Band 2	20M	1960	900	22.95	23.24
CA_5A-7A	Band 5	10M	836.5	20525	QPSK	1	0	Band 7	20M	2655	3100	23.20	23.24
	Band 7	20M	2535	21100	QPSK	1	0	Band 5	10M	881.5	2525	23.15	23.24
CA_7A-12A	Band 7	20M	2535	21100	QPSK	1	0	Band 12	10M	737.5	5095	22.98	23.24
	Band 12	10M	707.5	23095	QPSK	1	0	Band 7	20M	2655	3100	22.98	23.18
CA_25A-26A	Band 25	20M	1880	26340	QPSK	1	0	Band 26	15M	876.5	8865	23.06	23.28
	Band 26	15M	831.5	26865	QPSK	1	0	Band 25	20M	1962.5	8365	23.20	23.27
CA_25A-41A	Band 25	20M	1880	26340	QPSK	1	0	Band 41	20M	2593	40620	23.09	23.28
CA_26A-41A	Band 26	15M	831.5	26865	QPSK	1	0	Band 41	20M	2593	40620	23.10	23.27
CA_2C	Band 2	20M	1880	18900	QPSK	1	0	Band 2	20M	1979.8	1098	23.04	23.27
CA_5B	Band 5	10M	836.5	20525	QPSK	1	0	Band 5	5M	881.2	2597	23.21	23.24
CA_7C	Band 7	20M	2535	21100	QPSK	1	0	Band 7	20M	2674.8	3298	22.93	23.24
CA_12B	Band 12	5M	707.5	23095	QPSK	1	0	Band 12	5M	742.3	5143	22.56	22.78
CA_38C	Band 38	20M	2585.1	37901	QPSK	1	0	Band 38	20M	2604.9	38099	23.05	23.26
CA_41C	Band 41	20M	2593	40620	QPSK	1	0	Band 41	20M	2612.8	40818	24.42	24.35
CA_66B	Band 66	15M	1745	132322	QPSK	1	0	Band 66	5M	2164.3	66979	22.91	23.18
CA_66C	Band 66	20M	1745	132322	QPSK	1	0	Band 66	20M	2174.8	67084	23.12	23.36
CA_2A-2A	Band 2	20M	1880	18900	QPSK	1	0	Band 2	5M	1987.5	1175	23.11	23.27
CA_4A-4A	Band 4	20M	1732.5	20175	QPSK	1	0	Band 4	5M	2152.5	2375	23.01	23.25
CA_7A-7A	Band 7	20M	2535	21100	QPSK	1	0	Band 7	5M	2687.5	3425	22.98	23.24
CA_25A-25A	Band 25	20M	1880	26340	QPSK	1	0	Band 25	5M	1992.5	8665	23.02	23.28
CA_41A-41A	Band 41	20M	2593	40620	QPSK	1	0	Band 41	5M	2687.5	41565	24.25	24.35
CA_66A-66A	Band 66	20M	1745	132322	QPSK	1	0	Band 66	5M	2197.5	67311	23.09	23.36



2.4GHz WLAN		Full power				
2.4GHz WLAN	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
	802.11b 1Mbps	1	2412	16.30	20.00	98.28
		6	2437	16.60	20.00	
		11	2462	16.70	20.00	
	802.11g 6Mbps	1	2412	15.70	16.00	98.28
		6	2437	16.80	19.00	
		11	2462	15.40	16.00	
	802.11n-HT20 MCS0	1	2412	15.00	16.00	98.16
		6	2437	17.90	19.00	
		11	2462	15.00	16.00	

5GHz WLAN		Full power & Head & Handheld				
5.2GHz WLAN	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
	802.11a 6Mbps	36	5180	14.60	15.50	97.93
		40	5200	14.72	15.50	
		44	5220	14.91	15.50	
		48	5240	14.83	15.50	
	802.11n-HT20 MCS0	36	5180	13.87	14.00	97.79
		40	5200	14.75	15.50	
		44	5220	14.97	15.50	
		48	5240	14.69	15.50	
	802.11n-HT40 MCS0	38	5190	12.13	12.50	96.03
		46	5230	15.01	13.50	
	802.11ac-VHT20 MCS0	36	5180	13.42	13.50	97.40
		40	5200	14.66	15.50	
		44	5220	14.87	15.50	
		48	5240	14.59	15.50	
	802.11ac-VHT40 MCS0	38	5190	12.08	12.50	96.04
		46	5230	14.97	15.50	
	802.11ac-VHT80 MCS0	42	5210	11.20	12.00	92.61

5GHz WLAN		Full power & Head & Handheld				
5.3GHz WLAN	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
	802.11a 6Mbps	52	5260	16.27	17.00	97.93
		56	5280	16.31	17.00	
		60	5300	16.42	17.00	
		64	5320	16.21	17.00	
	802.11n-HT20 MCS0	52	5260	16.12	17.00	97.79
		56	5280	16.19	17.00	
		60	5300	16.28	17.00	
		64	5320	15.99	17.00	
	802.11n-HT40 MCS0	54	5270	16.47	17.00	96.03
		62	5310	12.90	13.00	
	802.11ac-VHT20 MCS0	52	5260	16.02	17.00	97.40
		56	5280	16.04	17.00	
		60	5300	16.06	17.00	
		64	5320	15.84	17.00	
	802.11ac-VHT40 MCS0	54	5270	16.43	17.00	96.04
		62	5310	12.57	13.00	
	802.11ac-VHT80 MCS0	58	5290	12.33	12.50	92.61

5GHz WLAN		Full power & Head & Handheld				
5.5GHz WLAN	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
	802.11a 6Mbps	100	5500	17.45	18.50	97.93
		116	5580	17.65	18.50	
		124	5620	17.43	18.50	
		132	5660	17.55	18.50	
		140	5700	15.36	16.00	
		144	5720	17.38	18.50	
	802.11n-HT20 MCS0	100	5500	17.74	18.50	97.79
		116	5580	17.52	18.50	
		124	5620	17.43	18.50	
		132	5660	17.34	18.50	
		140	5700	13.40	14.00	
		144	5720	17.25	18.50	
	802.11n-HT40 MCS0	102	5510	15.24	16.00	96.03
		110	5550	17.82	18.50	
		126	5630	17.19	18.50	
		134	5670	17.28	18.50	
		142	5710	17.56	18.50	
	802.11ac-VHT20 MCS0	100	5500	17.64	18.50	97.40
		116	5580	17.42	18.50	
		124	5620	17.39	18.50	
		132	5660	17.28	18.50	
		140	5700	13.16	14.00	
		144	5720	17.19	18.50	
	802.11ac-VHT40 MCS0	102	5510	14.83	15.00	96.04
		110	5550	17.79	18.50	
		126	5630	17.64	18.50	
		134	5670	16.95	18.50	
		142	5710	17.51	18.50	
	802.11ac-VHT80 MCS0	106	5530	13.09	14.00	92.61
		122	5610	16.73	17.00	
		138	5690	16.14	17.00	

5GHz WLAN		Full power & Head & Handheld				
5.8GHz WLAN	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
	802.11a 6Mbps	149	5745	17.18	18.00	97.93
		157	5785	17.05	18.00	
		165	5825	16.96	18.00	
		149	5745	17.09	18.00	97.79
	802.11n-HT20 MCS0	157	5785	17.01	18.00	
		165	5825	16.89	18.00	
	802.11n-HT40 MCS0	151	5755	17.56	18.00	96.03
		159	5795	17.53	18.00	
	802.11ac-VHT20 MCS0	149	5745	16.98	18.00	97.40
		157	5785	16.90	18.00	
		165	5825	16.78	18.00	
	802.11ac-VHT40 MCS0	151	5755	17.53	18.00	96.04
		159	5795	17.50	18.00	
	802.11ac-VHT80 MCS0	155	5775	16.24	17.00	92.61

Bluetooth BR/EDR		Average power (dBm)		
Mode	Channel	Frequency (MHz)	1Mbps	3Mbps
BR / EDR	CH 00	2402	10.10	7.70
	CH 39	2441	11.00	8.70
	CH 79	2480	10.90	8.90
Tune-up Limit			11.5	9.5

Bluetooth LE		Average power (dBm)		
Mode	Channel	Frequency (MHz)	GFSK	
LE	CH 00	2402	4.60	
	CH 19	2440	5.90	
	CH 39	2480	6.40	
	Tune-up Limit		6.5	

2.4GHz WLAN		At Head				
2.4GHz WLAN	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
	802.11b 1Mbps	1	2412	15.30	16.00	98.28
		6	2437	14.70	16.00	
		11	2462	15.20	16.00	
	802.11g 6Mbps	1	2412	16.00	98.28	98.28
		6	2437	16.00		
		11	2462	16.00		
	802.11n-HT20 MCS0	1	2412	Not Required	16.00	98.16
		6	2437	16.00	16.00	
		11	2462	16.00	16.00	

5GHz WLAN		Body-worn & Hotspot				
	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
5.2GHz WLAN	802.11a 6Mbps	36	5180	Not Required	8.50	97.93
		40	5200		8.50	
		44	5220		8.50	
		48	5240		8.50	
	802.11n-HT20 MCS0	36	5180		8.50	97.79
		40	5200		8.50	
		44	5220		8.50	
		48	5240		8.50	
	802.11n-HT40 MCS0	38	5190	8.05	8.50	96.03
		46	5230	7.92	8.50	
	802.11ac-VHT20 MCS0	36	5180	Not Required	8.50	97.40
		40	5200		8.50	
		44	5220		8.50	
		48	5240		8.50	
	802.11ac-VHT40 MCS0	38	5190		8.50	96.04
		46	5230		8.50	
802.11ac-VHT80 MCS0	42	5210	8.00		92.61	

5GHz WLAN		Body-worn				
5.3GHz WLAN	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
	802.11a 6Mbps	52	5260	Not Required	8.50	97.93
		56	5280		8.50	
		60	5300		8.50	
		64	5320		8.50	
	802.11n-HT20 MCS0	52	5260		8.50	97.79
		56	5280		8.50	
		60	5300		8.50	
		64	5320		8.50	
	802.11n-HT40 MCS0	54	5270	7.70	8.50	96.03
		62	5310	7.99	8.50	
	802.11ac-VHT20 MCS0	52	5260	Not Required	8.50	97.40
		56	5280		8.50	
		60	5300		8.50	
		64	5320		8.50	
	802.11ac-VHT40 MCS0	54	5270		8.50	96.04
		62	5310		8.50	
	802.11ac-VHT80 MCS0	58	5290		8.00	92.61

5GHz WLAN		Body-worn				
5.5GHz WLAN	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
	802.11a 6Mbps	100	5550	Not Required	13.00	97.93
		116	5580		13.00	
		124	5620		13.00	
		132	5660		13.00	
		140	5700		13.00	
		144	5720		13.00	
	802.11n-HT20 MCS0	100	5550	Not Required	13.00	97.79
		116	5580		13.00	
		124	5620		13.00	
		132	5660		13.00	
		140	5700		13.00	
		144	5720		13.00	
	802.11n-HT40 MCS0	102	5510	12.01	13.00	96.03
		110	5550	12.06	13.00	
		126	5630	11.86	13.00	
		134	5670	11.75	13.00	
		142	5710	11.81	13.00	
		100	5500	Not Required	13.00	
	802.11ac-VHT20 MCS0	116	5580		13.00	
		124	5620		13.00	
		132	5660		13.00	
		140	5700		13.00	
		144	5720		13.00	
802.11ac-VHT40 MCS0		102	5510	Not Required	13.00	96.04
	110	5550	13.00			
	126	5630	13.00			
	134	5670	13.00			
	142	5710	13.00			
	802.11ac-VHT80 MCS0	106	5530		Not Required	
122		5610	12.00			
138		5690	12.00			



Appendix F. Supplemental Tuner Head & Body SAR Results

The results are shown as follows.

Head

Mode	Service/ Modulation	Channel	Frequency (MHz)	RB Size	RB Offset	Test Position	Spacing	Measured 1g SAR (W/kg)	Average Value of Time Sweep (W/kg)																									
									Auto- Tune	0	6	12	18	24	30	36	42	48	54	60	66	72	78	84	90	96	102	108	114	120	126	132	138	143
WCDMA V	RMC 12.2Kbps	4132	826.4	—	—	Right Cheek	0mm	0.487	0.533	0.026	0.253	0.221	0.056	0.376	0.270	0.014	0.367	0.217	0.029	0.427	0.335	0.012	0.357	0.177	0.014	0.398	0.280	0.005	0.260	0.104	0.005	0.297	0.166	0.256
Full Power																																		
Mode	Service/ Modulation	Channel	Frequency (MHz)	RB Size	RB Offset	Test Position	Spacing	Measured 1g SAR (W/kg)	Average Value of Time Sweep (W/kg)																									
									Auto- Tune	1	7	13	19	25	31	37	43	49	55	61	67	73	79	85	91	97	103	109	115	121	127	133	139	
LTE Band 12	QPSK	23095	711	1	0	Right Cheek	0mm	0.317	0.503	0.309	0.173	0.109	0.005	0.052	0.029	0.052	0.031	0.137	0.002	0.041	0.058	0.161	0.055	0.129	0.001	0.037	0.065	0.081	0.013	0.110	0.001	0.032	0.043	
Full Power																																		
Mode	Service/ Modulation	Channel	Frequency (MHz)	RB Size	RB Offset	Test Position	Spacing	Measured 1g SAR (W/kg)	Average Value of Time Sweep (W/kg)																									
									Auto- Tune	2	8	14	20	26	32	38	44	50	56	62	68	74	80	86	92	98	104	110	116	122	128	134	140	
LTE Band 13	QPSK	23230	782	1	0	Right Cheek	0mm	0.389	0.403	0.138	0.343	0.370	0.132	0.159	0.181	0.066	0.222	0.181	0.058	0.082	0.159	0.049	0.387	0.184	0.064	0.077	0.196	0.025	0.096	0.090	0.026	0.043	0.180	
Full Power																																		
Mode	Service/ Modulation	Channel	Frequency (MHz)	RB Size	RB Offset	Test Position	Spacing	Measured 1g SAR (W/kg)	Average Value of Time Sweep (W/kg)																									
									Auto- Tune	3	9	15	21	27	33	39	45	51	57	63	69	75	81	87	93	99	105	111	117	123	129	135	141	
LTE Band 26	QPSK	26865	831.5	1	0	Right Cheek	0mm	0.502	0.558	0.166	0.042	0.408	0.280	0.058	0.494	0.164	0.027	0.380	0.284	0.006	0.478	0.145	0.017	0.342	0.256	0.014	0.406	0.081	0.008	0.270	0.140	0.004	0.327	
Full Power																																		
Mode	Service/ Modulation	Channel	Frequency (MHz)	RB Size	RB Offset	Test Position	Spacing	Measured 1g SAR (W/kg)	Average Value of Time Sweep (W/kg)																									
									Auto- Tune	4	10	16	22	28	34	40	46	52	58	64	70	76	82	88	94	100	106	112	118	124	130	136	142	
CDMA BC0	RC3 S055	384	808.02			Right Cheek	0mm	0.567	0.627	0.260	0.058	0.420	0.351	0.080	0.554	0.322	0.031	0.530	0.439	0.044	0.544	0.350	0.057	0.492	0.425	0.055	0.512	0.125	0.010	0.427	0.234	0.009	0.645	
Full Power																																		
Mode	Service/ Modulation	Channel	Frequency (MHz)	RB Size	RB Offset	Test Position	Spacing	Measured 1g SAR (W/kg)	Average Value of Time Sweep (W/kg)																									
									Auto- Tune	5	11	17	23	29	35	41	47	53	59	65	71	77	83	89	95	101	107	113	119	125	131	137	143	
CDMA BC10	RC3 S055	580	820.5			Right Cheek	0mm	0.549	0.603	0.286	0.462	0.511	0.473	0.240	0.536	0.011	0.105	0.483	0.452	0.193	0.333	0.305	0.064	0.497	0.424	0.107	0.293	0.156	0.033	0.373	0.248	0.045	0.043	
Full Power																																		

Mode	Service/Modulation	Frequency (MHz)	Channel	RB Size	RB Offset	Test Position	Spacing	Measured 1g SAR (W/kg)	Average Value of Time Sweep (W/kg)																											
									Auto-Transmit	0	6	12	18	24	30	36	42	48	54	60	66	72	78	84	90	96	102	108	114	120	126	132	138			
WCDMA V	RMC 12.2Kbps	4233	846.6	—	—	Front	5mm	1.180	1.120	0.056	0.926	0.453	0.049	0.725	0.381	0.036	1.029	0.566	0.022	0.894	0.423	0.024	1.078	0.441	0.011	1.038	0.398	0.012	1.124	0.252	0.003	0.708	0.180			
Mode	Service/Modulation	Frequency (MHz)	Channel	RB Size	RB Offset	Test Position	Spacing	Measured 1g SAR (W/kg)	Average Value of Time Sweep (W/kg)																											
LTE Band 12	QPSK	23095	707.5	1	0	Back	5mm	1.000	1.270	1.109	1.102	0.537	0.336	0.705	0.654	0.808	0.412	1.252	0.667	1.203	1.047	1.184	1.156	1.162	1.026	1.035	0.998	0.636	0.648	1.204	0.645	0.659	0.655			
Mode	Service/Modulation	Frequency (MHz)	Channel	RB Size	RB Offset	Test Position	Spacing	Measured 1g SAR (W/kg)	Average Value of Time Sweep (W/kg)																											
LTE Band 13	QPSK	23230	782	1	0	Front	5mm	1.050	1.380	0.456	1.363	1.351	0.691	0.891	0.962	0.275	1.105	0.914	0.415	0.527	0.959	0.206	0.987	0.779	0.279	0.393	0.995	0.092	0.568	0.479	0.118	0.289	0.881			
Mode	Service/Modulation	Frequency (MHz)	Channel	RB Size	RB Offset	Test Position	Spacing	Measured 1g SAR (W/kg)	Average Value of Time Sweep (W/kg)																											
LTE Band 26	QPSK	26965	841.5	1	0	Front	5mm	1.130	1.470	0.231	0.032	1.112	0.538	0.098	0.712	0.799	0.043	1.237	0.636	0.037	0.831	0.453	0.029	1.102	0.531	0.015	1.287	0.358	0.014	1.084	0.179	0.002	1.096			
Mode	Service/Modulation	Channel	Frequency y (MHz)	RB Size	RB Offset	Test Position	Spacing	Measured 1g SAR (W/kg)	Average Value of Time Sweep (W/kg)																											
CDMA BC0	RC3 5032 (F-SCH)	777	848.31	—	—	Front	5mm	1.110	1.470	0.751	0.085	1.128	0.734	0.086	1.041	1.091	0.065	1.066	0.882	0.101	1.034	0.837	0.82	0.88	0.84	1.103	0.789	0.864	0.101	0.888	0.813	0.078	1.762			
Mode	Service/Modulation	Channel	Frequency y (MHz)	RB Size	RB Offset	Test Position	Spacing	Measured 1g SAR (W/kg)	Average Value of Time Sweep (W/kg)																											
CDMA BC10	RTAP 153.6Kbps	684	823.1	—	—	Front	5mm	1.050	1.370	0.564	0.279	0.978	0.912	0.324	1.020	0.912	0.345	1.067	0.913	0.345	0.864	0.886	0.410	1.016	0.995	0.637	0.794	0.546	0.389	0.848	0.789	0.345	0.613			

Verified SAR for higher than 1.2W/kg

Mode	Service/ Modulation	Channel	Frequency (MHz)	RB Size	RB Offset	Test Position	Spacing	Measured 1g SAR (W/kg)	Average Value of Time Sweep (W/kg)																					
									Auto-Tune	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
WCDMA V	RMC 12.2Kbps	4233	846.6			Front	5mm	1.18	1.520	0.056	0.078	0.188	0.201	0.668	0.753	0.926	0.928	0.905	0.049	0.094	0.184	0.453	0.659	0.758	0.827	0.804	0.829	0.049	0.089	0.168
										21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
										0.421	0.589	0.645	0.725	0.829	0.787	0.046	0.080	0.141	0.381	0.568	0.615	0.713	0.675	0.691	0.036	0.060	0.191	0.633	0.912	0.994
										42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62
										1.029	1.015	0.774	0.034	0.065	0.165	0.566	0.955	0.951	0.868	0.903	0.676	0.022	0.045	0.123	0.436	0.695	0.801	0.894	0.856	0.642
										63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83
										0.019	0.042	0.115	0.423	0.692	0.794	0.786	0.863	0.579	0.024	0.046	0.118	0.411	0.813	0.877	1.078	1.025	0.688	0.017	0.037	0.094
										84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104
										0.441	0.774	0.877	0.958	0.981	0.662	0.011	0.026	0.079	0.401	0.817	0.919	1.038	1.121	0.664	0.010	0.023	0.079	0.398	0.796	0.929
										105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125
										0.974	0.885	0.596	0.012	0.027	0.073	0.294	0.747	0.958	1.124	1.063	0.591	0.008	0.016	0.053	0.252	0.568	0.747	0.903	0.651	0.391
										126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143			
										0.003	0.008	0.030	0.166	0.434	0.525	0.708	0.703	0.423	0.002	0.006	0.030	0.180	0.479	0.677	0.815	0.797	0.375			

Mode	Service/ Modulation	Channel	Frequency (MHz)	RB Size	RB Offset	Test Position	Spacing	Measured 1g SAR (W/kg)	Auto-Tune	Average Value of Time Sweep (W/kg)																				
										0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
LTE Band 12	QPSK	23095	707.5	1	0	Back	5mm	1.01	1.270	1.211	1.109	0.689	1.124	1.202	0.551	1.057	1.102	0.487	0.473	0.913	0.541	0.347	0.537	0.525	0.332	0.317	0.355	0.334	0.336	0.315
										21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
										0.726	0.674	0.708	0.850	0.705	0.709	0.693	0.686	0.681	0.842	0.654	0.674	0.662	1.213	0.659	0.657	0.808	0.676	1.163	0.664	0.656
										42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62
										0.426	0.412	0.436	0.631	0.712	1.217	0.654	1.252	0.834	0.862	0.663	1.209	0.629	0.667	0.816	0.762	0.608	1.153	0.614	1.203	0.702
										63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83
										1.097	0.953	1.053	1.023	1.047	1.021	1.251	1.036	1.026	0.988	1.184	1.008	1.159	0.996	0.968	0.984	1.156	1.215	1.066	1.076	1.047
										84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104
										1.034	1.162	1.025	1.169	1.008	1.172	1.041	1.026	0.996	1.175	1.027	1.197	1.057	1.035	1.023	1.172	1.003	1.187	1.185	0.998	0.981
										105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125
										0.248	0.656	0.626	0.857	0.636	0.665	0.645	1.232	0.837	1.213	0.648	0.629	0.847	0.634	0.844	0.825	1.204	0.614	0.648	0.837	0.833
										126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143			
										0.837	0.645	1.171	0.832	0.846	0.807	1.229	0.659	0.836	0.628	0.643	0.635	0.668	0.655	0.821	0.674	0.835	0.666			

Mode	Service/ Modulation	Channel	Frequency (MHz)	RB Size	RB Offset	Test Position	Spacing	Measured 1g SAR (W/kg)	Auto-Tune	Average Value of Time Sweep (W/kg)																				
										0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
LTE Band 13	QPSK	23230	782	1	0	Bottom side	5mm	1.05	1.380	0.173	0.265	0.456	0.782	0.998	1.054	1.173	1.198	1.363	0.337	0.528	0.844	1.227	1.335	1.368	1.327	1.306	1.307	0.173	0.322	0.691
										21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
										1.254	1.338	1.258	1.188	1.116	0.891	0.094	0.171	0.427	0.918	1.014	0.962	0.923	0.893	0.671	0.086	0.144	0.275	0.541	0.721	0.816
										42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62
										0.981	0.946	1.105	0.144	0.272	0.432	0.799	0.759	0.914	0.747	0.823	0.685	0.056	0.138	0.415	1.019	1.182	1.066	0.892	0.797	0.527
										63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83
										0.033	0.069	0.259	1.021	1.161	0.959	0.723	0.618	0.330	0.062	0.104	0.206	0.422	0.598	0.651	0.763	0.929	0.987	0.108	0.215	0.445
										84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104
										0.724	0.768	0.779	0.798	0.743	0.667	0.026	0.072	0.279	1.187	1.155	0.905	0.758	0.660	0.393	0.009	0.027	0.128	0.945	1.165	0.995
										105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125
										0.620	0.596	0.328	0.029	0.048	0.092	0.213	0.294	0.341	0.394	0.459	0.568	0.047	0.100	0.232	0.439	0.482	0.479	0.464	0.452	0.422
										126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143			
										0.009	0.026	0.118	0.715	0.778	0.685	0.492	0.457	0.289	0.003	0.009	0.049	0.573	1.061	0.881	0.562	0.457	0.217			