

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



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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%

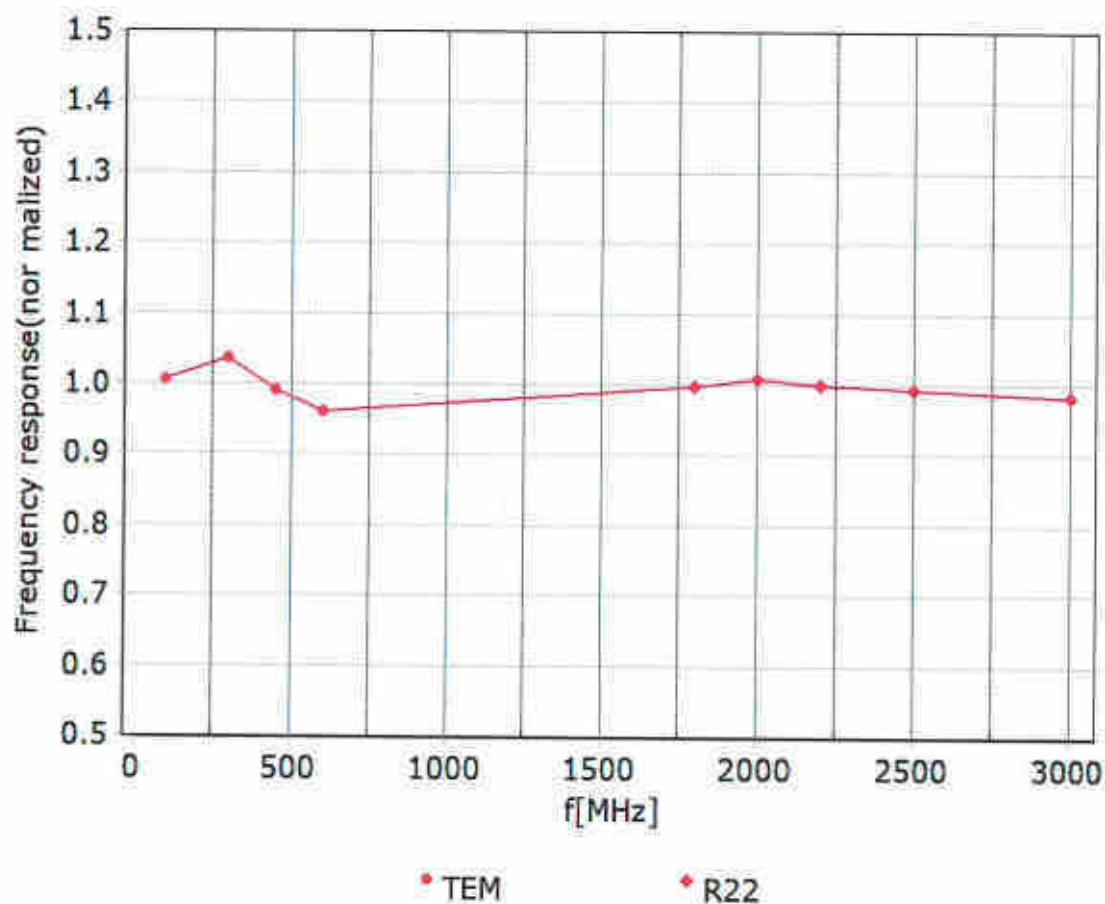
^C Frequency validity above 300 MHz of ±100MHz only applies for DASY v4.4 and higher (Page 2), else it is restricted to ±50MHz. The uncertainty is the RSS of ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band. Frequency validity below 300 MHz is ± 10, 25, 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: $\pm 7.4\%$ ($k=2$)

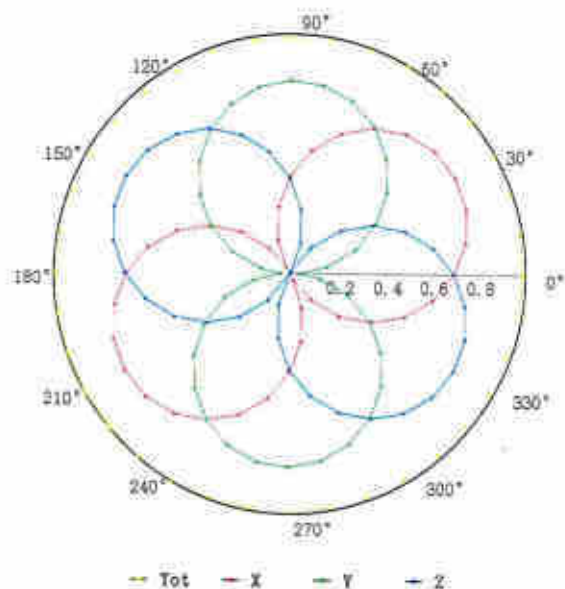


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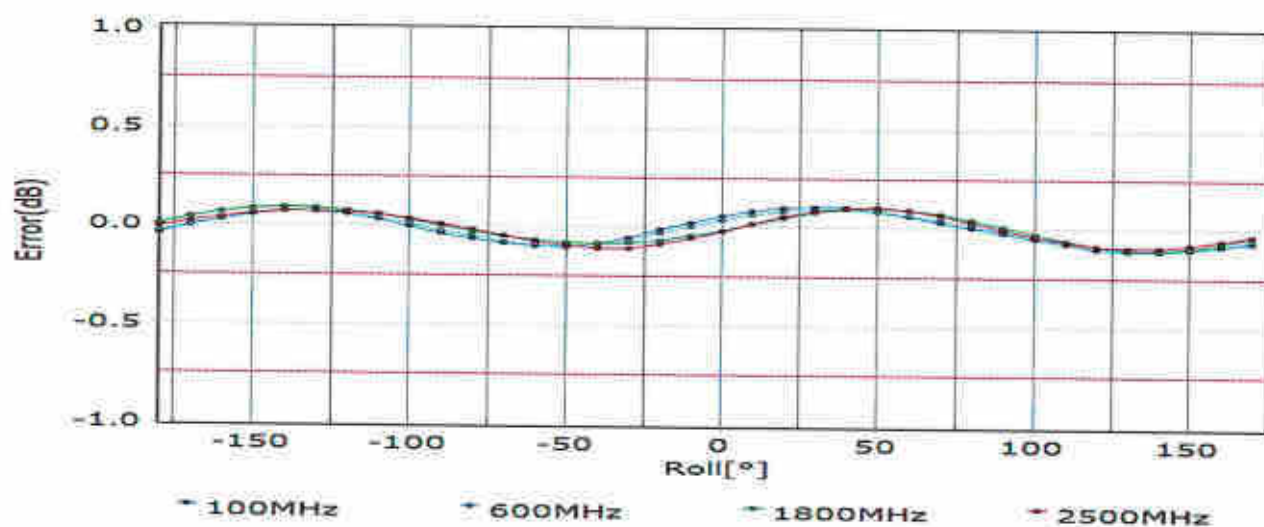
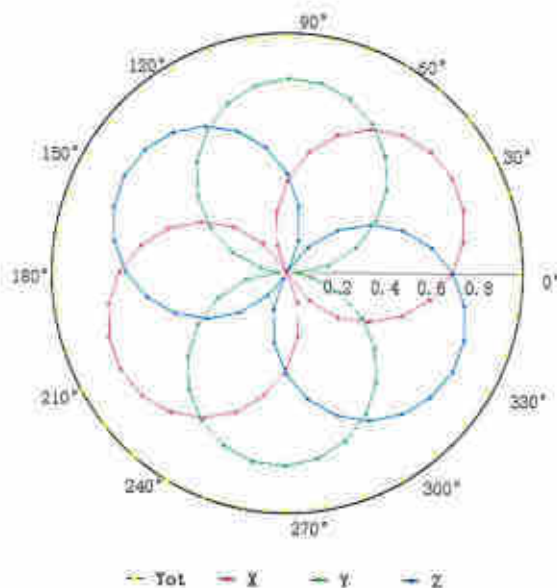
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Receiving Pattern (Φ), $\theta=0^\circ$

f=600 MHz, TEM

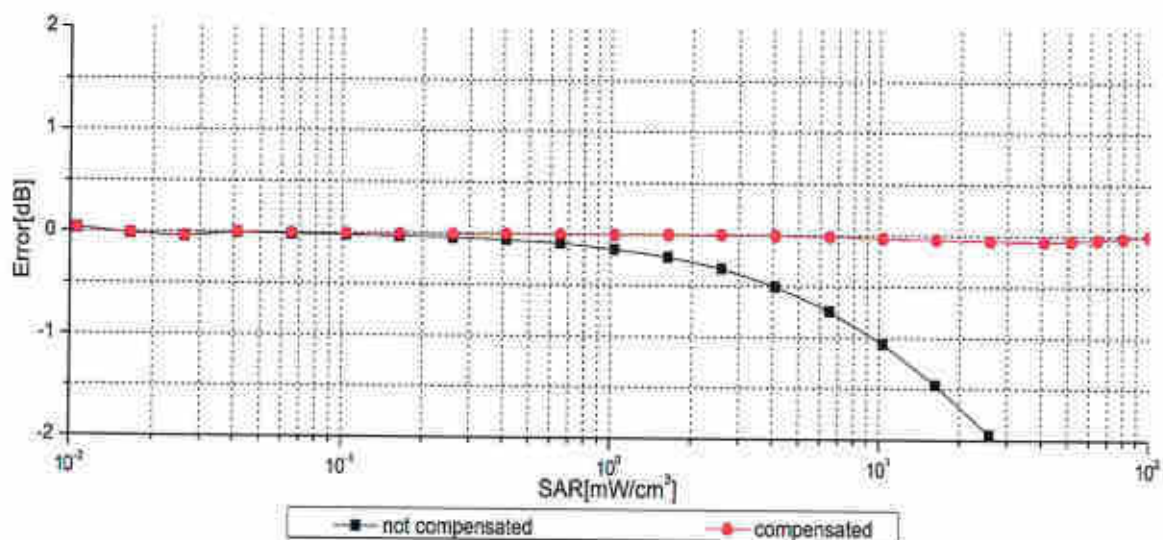
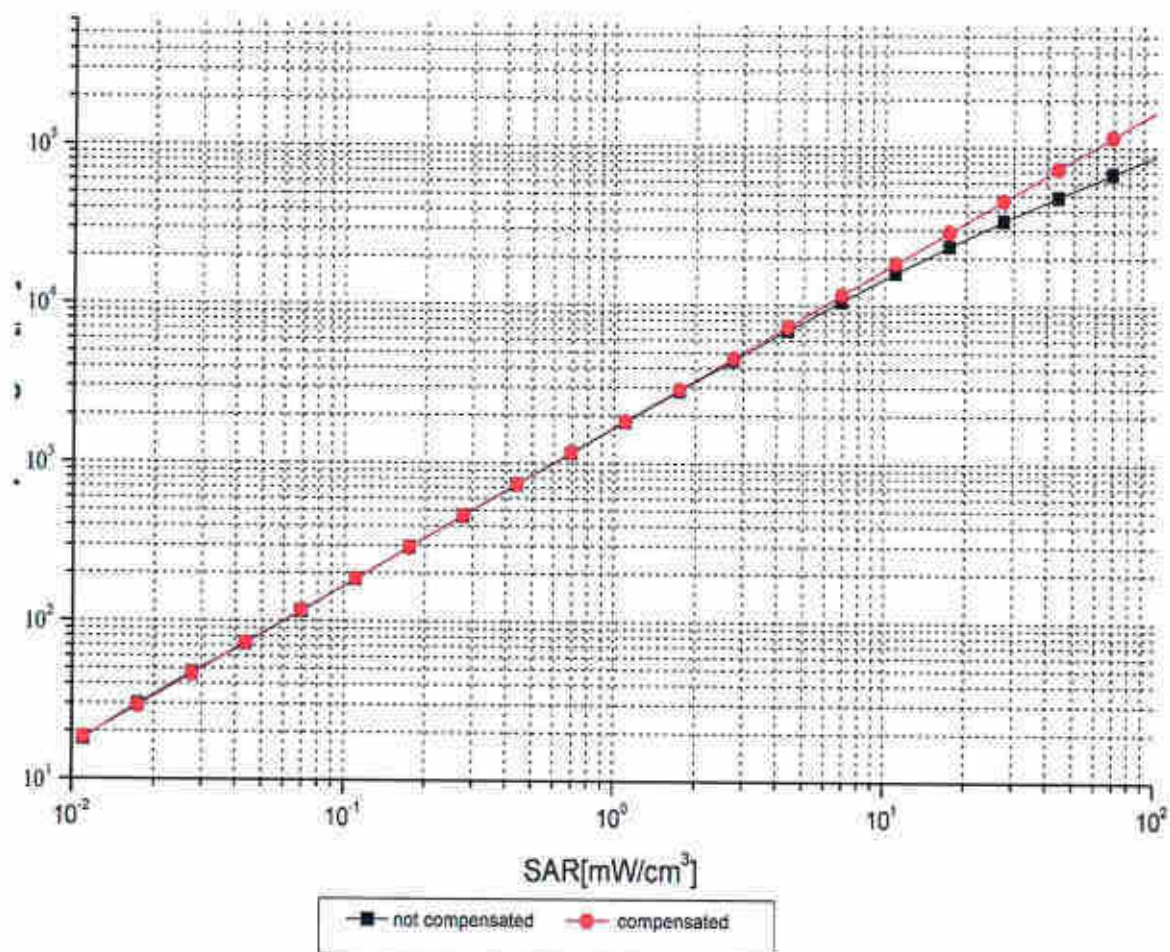


f=1800 MHz, R22



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

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



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



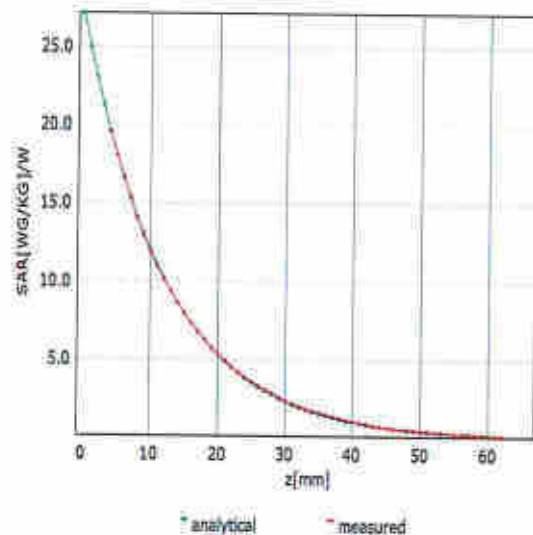
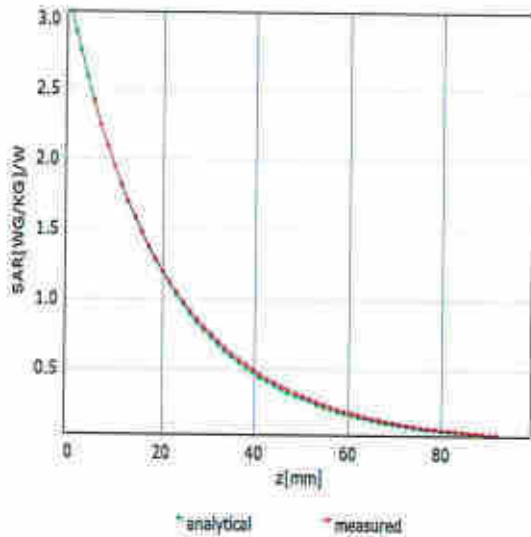
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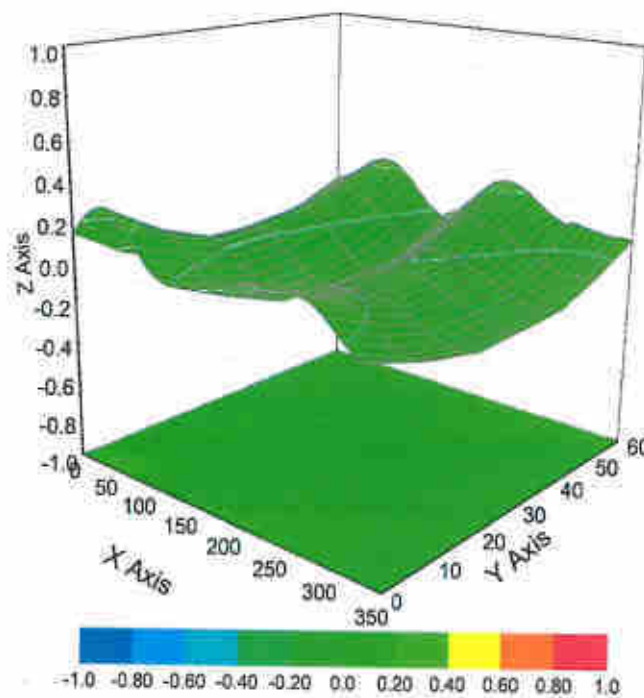
Conversion Factor Assessment

f=750 MHz,WGLS R9(H_convF)

f=1750 MHz,WGLS R22(H_convF)



Deviation from Isotropy in Liquid



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



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



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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**

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 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	$\pm 10.1 \%$
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	$\pm 3.3 \%$	$\pm 4.7 \%$
		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 %

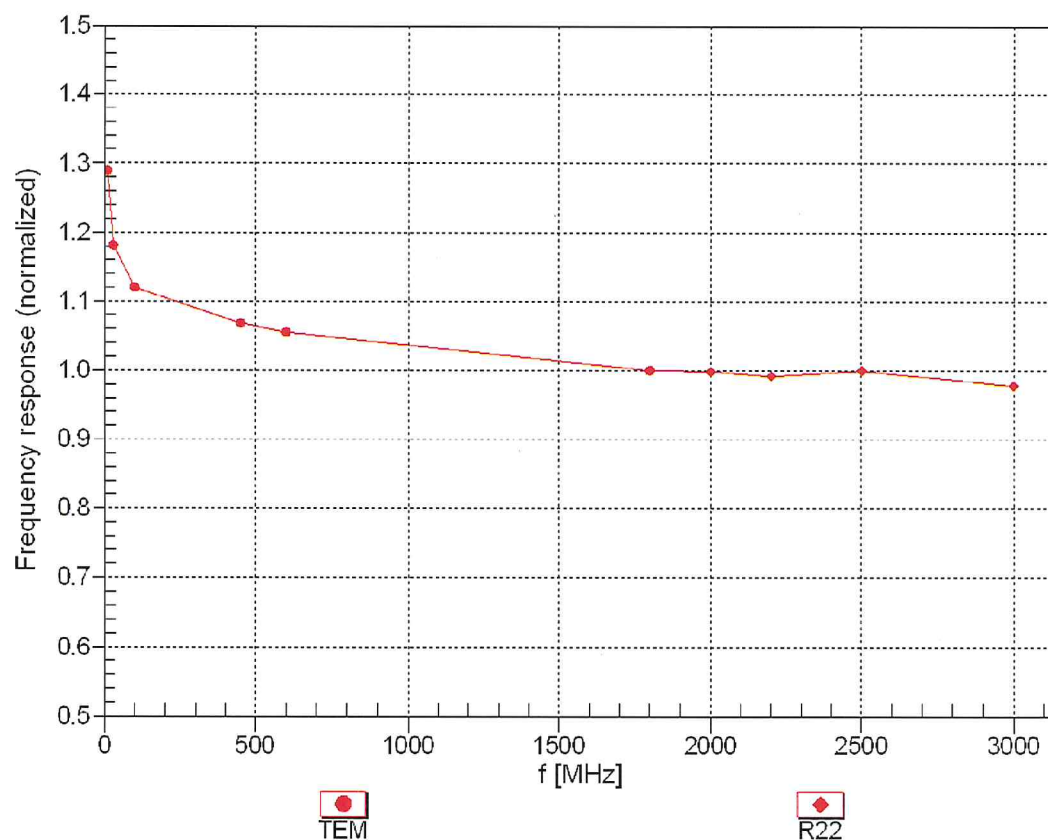
^C Frequency validity above 300 MHz of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2), else it is restricted to ± 50 MHz. The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band. Frequency validity below 300 MHz is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

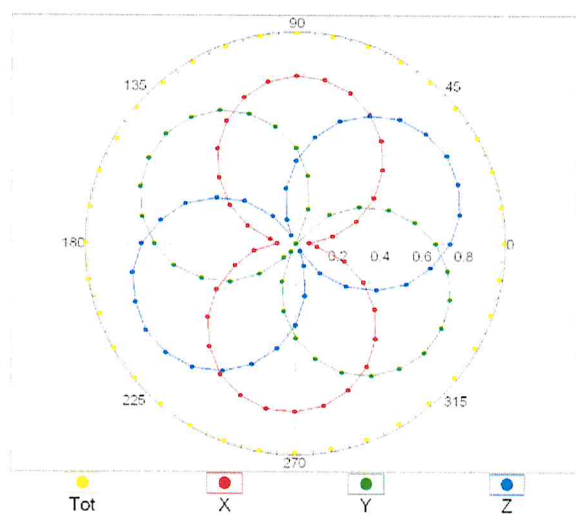
(TEM-Cell:ifi110 EXX, Waveguide: R22)



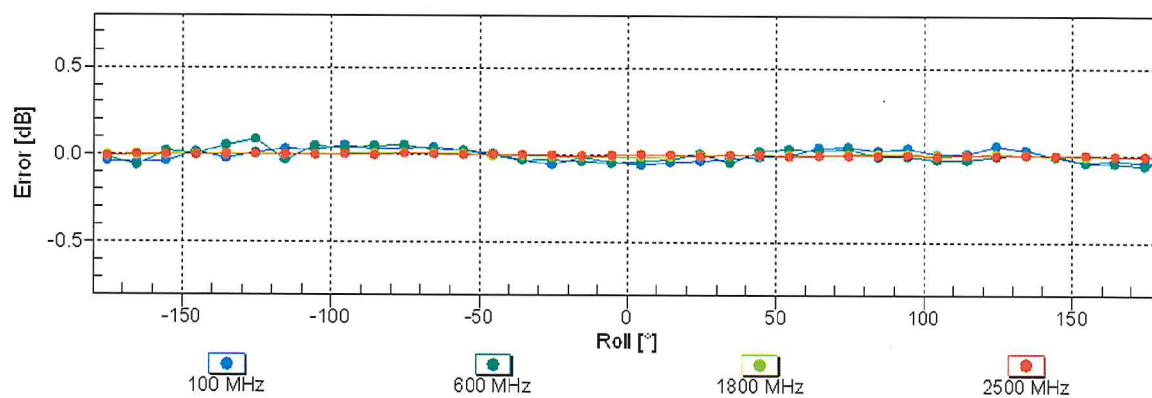
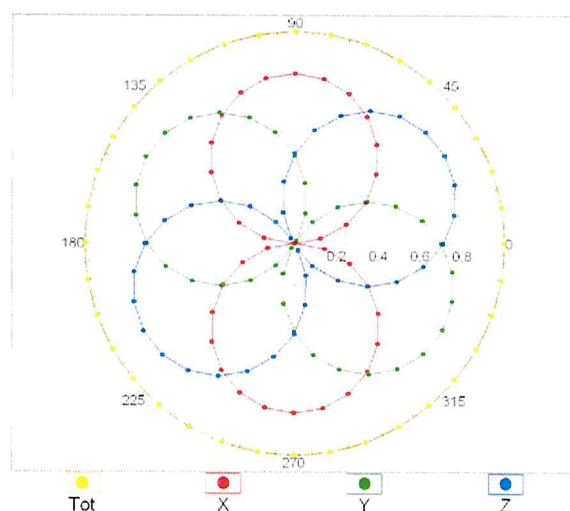
Uncertainty of Frequency Response of E-field: $\pm 6.3\%$ ($k=2$)

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

f=600 MHz, TEM

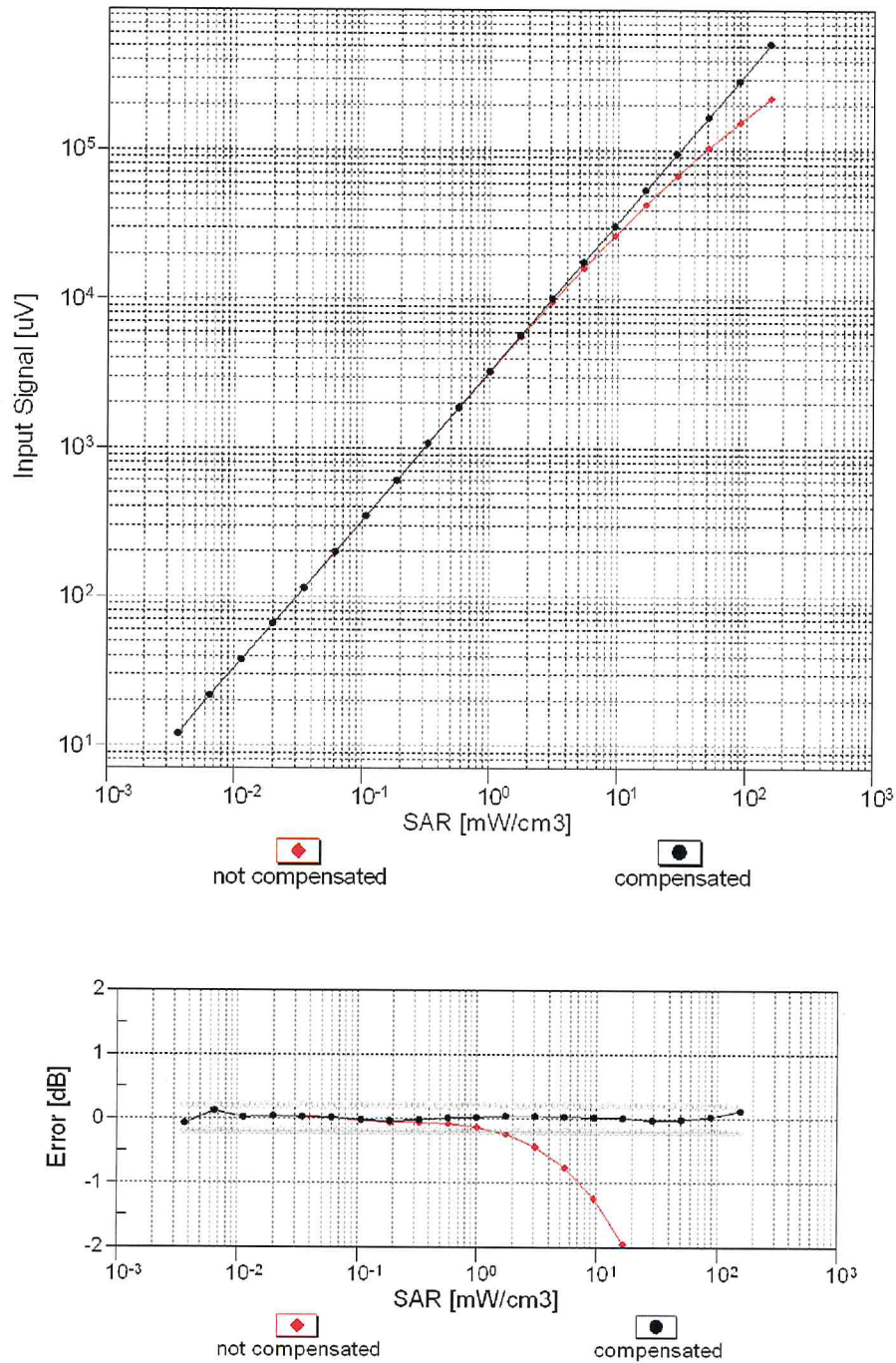


f=1800 MHz, R22



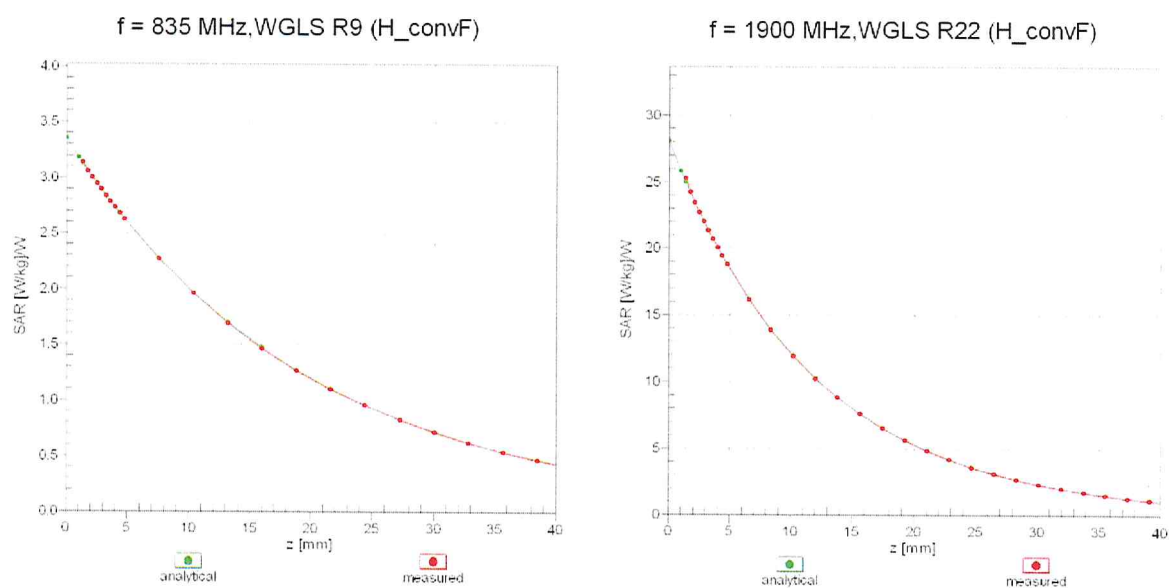
Uncertainty of Axial Isotropy Assessment: $\pm 0.5\%$ ($k=2$)

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



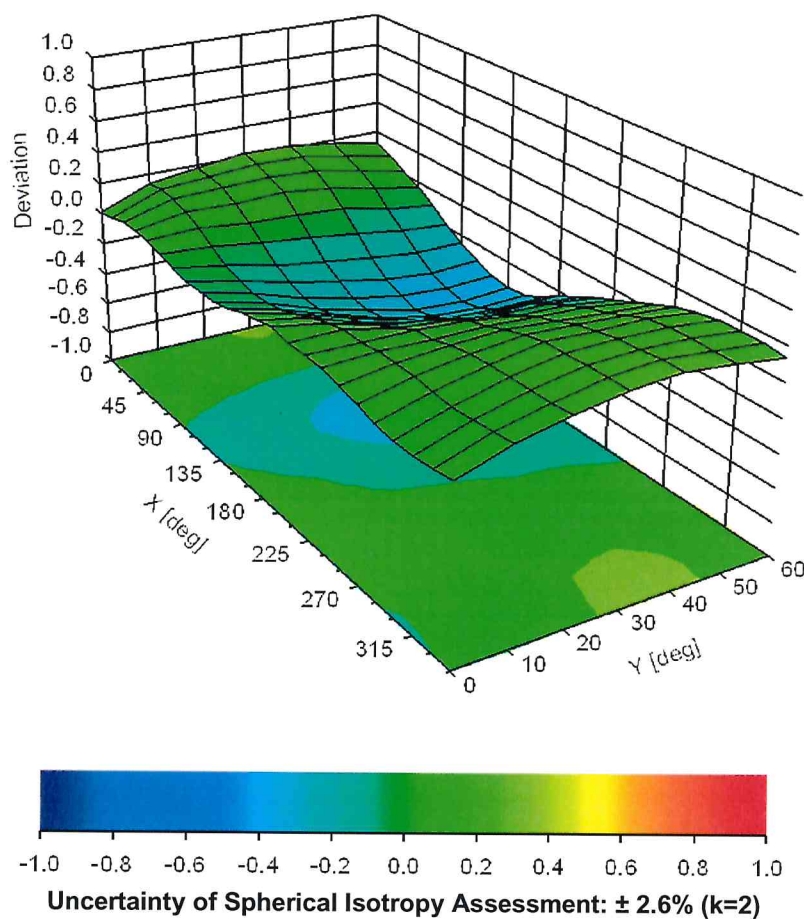
Uncertainty of Linearity Assessment: $\pm 0.6\%$ ($k=2$)

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	21.69	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	21.66	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	21.63	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									
BW (MHz)	Modulation	RB Size	RB Offset	Power Ch / Freq 18750	Power Ch / Freq 18850	Power Ch / Freq 18950	Turn-up level (dBm)	MFR (dB)	
Channel									
Frequency (MHz)									
20	QPSK	1	0	23.21	23.27	23.23			
20	QPSK	1	49	23.09	23.10	23.22	24	0	
20	QPSK	1	99	23.12	23.12	23.21			
20	QPSK	50	5	22.91	22.93	23.21			
20	QPSK	30	24	22.92	22.98	23.95	23	1	
20	QPSK	50	50	22.94	23.97	22.95			
20	QPSK	10	0	22.92	22.92	22.92			
20	16QAM	1	0	22.92	22.96	22.99			
20	16QAM	1	49	22.98	23.96	22.91	23	1	
20	16QAM	1	99	22.24	22.19	22.93			
20	16QAM	50	0	23.15	23.53	23.49			
20	16QAM	50	24	23.96	23.15	23.24			
20	16QAM	50	50	23.22	23.26	23.41			
20	16QAM	100	0	23.49	23.29	23.19	22	2	
20	8QAM	1	0	23.97	23.97	23.49			
20	8QAM	1	49	23.31	23.98	23.17	22	2	
20	8QAM	1	99	23.15	23.26	23.45			
20	8QAM	50	0	20.91	19.91	19.91			
20	8QAM	50	24	20.93	19.92	19.77	21	3	
20	8QAM	50	50	19.74	19.83	19.84			
20	8QAM	100	0	19.94	19.97	19.96			
Channel									
Frequency (MHz)									
15	QPSK	1	0	23.14	23.21	23.26			
15	QPSK	1	37	23.24	23.22	23.19	24	0	
15	QPSK	1	74	23.91	23.21	23.21			
15	QPSK	36	5	22.19	22.11	23.95			
15	QPSK	36	20	22.96	22.95	22.98	23	1	
15	QPSK	36	35	22.91	22.93	22.92			
15	QPSK	75	0	22.19	22.90	22.93			
15	16QAM	1	0	22.91	22.24	22.95			
15	16QAM	1	37	22.25	22.41	22.12	23	1	
15	16QAM	1	74	22.92	23.10	23.17			
15	16QAM	36	5	21.21	21.40	21.20			
15	16QAM	36	20	21.46	21.35	21.28	22	2	
15	16QAM	36	35	21.22	21.10	21.23			
15	16QAM	75	0	21.97	21.36	21.33			
15	8QAM	1	0	21.35	21.39	21.45			
15	8QAM	1	37	21.20	21.15	21.36	22	2	
15	8QAM	1	74	21.23	21.42	21.40			
15	8QAM	36	5	19.76	19.91	19.74			
15	8QAM	36	20	19.94	19.80	19.85	21	3	
15	8QAM	36	35	19.92	19.83	19.82			
15	8QAM	75	0	19.93	19.83	19.75			
Channel									
Frequency (MHz)									
10	QPSK	1	0	23.15	23.28	23.29			
10	QPSK	1	25	23.17	23.18	23.24	24	0	
10	QPSK	1	49	23.15	23.15	23.21			
10	QPSK	25	0	22.28	22.20	22.30			
10	QPSK	25	12	22.15	22.15	22.35	23	1	
10	QPSK	25	25	22.06	22.36	22.18			
10	QPSK	50	0	22.33	22.29	22.10			
10	QPSK	1	0	22.37	22.17	22.25			
10	16QAM	1	0	22.35	22.36	22.34	23	1	
10	16QAM	1	49	22.33	22.36	22.47			
10	16QAM	25	0	21.56	21.42	21.29			
10	16QAM	25	12	21.48	21.47	21.39	22	2	
10	16QAM	25	25	21.20	21.48	21.24			
10	16QAM	50	0	21.32	21.42	21.34			
10	8QAM	1	0	21.32	21.11	21.13	22	2	
10	8QAM	1	49	21.61	21.33	21.19			
10	8QAM	25	0	19.92	19.74	19.70			
10	8QAM	25	12	19.93	19.76	19.81	21	3	
10	8QAM	25	25	19.95	19.87	19.72			
10	8QAM	50	0	19.89	19.88	19.81			
Channel									
Frequency (MHz)									
5	QPSK	1	0	23.21	23.23	23.16			
5	QPSK	1	12	23.13	23.16	23.09	24	0	
5	QPSK	1	24	23.16	23.17	23.16			
5	QPSK	12	0	22.37	22.23	22.14			
5	QPSK	12	7	22.34	22.23	22.14	23	1	
5	QPSK	12	13	22.12	22.15	22.12			
5	QPSK	20	0	22.26	22.25	22.18			
5	16QAM	1	0	22.43	22.26	22.25			
5	16QAM	1	12	22.04	22.10	22.03	23	1	
5	16QAM	1	24	22.40	22.21	22.40			
5	16QAM	12	0	21.22	21.12	21.12	22	2	
5	16QAM	12	7	21.45	21.33	21.32			
5	16QAM	12	13	21.32	21.48	21.29			
5	16QAM	20	0	21.59	21.68	21.34			
5	8QAM	1	0	21.32	21.48	21.62			
5	8QAM	1	12	21.24	21.16	21.17	22	2	
5	8QAM	1	24	21.21	21.17	21.47			
5	8QAM	12	0	19.93	19.76	19.81			
5	8QAM	12	7	19.94	19.86	19.74	21	3	
5	8QAM	12	13	19.95	19.79	19.71			
5	8QAM	20	0	20.07	19.97	19.70			
Channel									
Frequency (MHz)									
3	QPSK	1	0	23.15	23.02	23.21			
3	QPSK	1	8	23.24	23.18	23.05	24	0	
3	QPSK	1	14	23.17	23.04	23.10			
3	QPSK	8	0	22.30	22.13	22.05			
3	QPSK	8	4	22.22	22.02	22.04	23	1	
3	QPSK	8	7	22.18	22.13	22.04			
3	QPSK	15	0	22.24	22.35	22.11			
3	16QAM	1	0	22.18	22.12	22.18			
3	16QAM	1	8	22.10	22.29	22.12	23	1	
3	16QAM	1	14	22.02	22.12	22.30			
3	16QAM	8	0	21.46	21.39	21.35			
3	16QAM	8	4	21.45	21.55	21.31	22	2	
3	16QAM	8	7	21.47	21.42	21.34			
3	16QAM	15	0	21.41	21.37	21.28			
3	8QAM	1	0	21.29	21.25	21.08			
3	8QAM	1	8	21.16	21.15	21.11	22	2	
3	8QAM	1	14	21.10	21.17	21.03			
3	8QAM	8	0	19.77	19.72	19.72			
3	8QAM	8	4	19.79	19.80	19.73	21	3	
3	8QAM	8	7	19.86	19.76	19.82			
3	8QAM	15	0	19.89	19.72	19.85			
Channel									
Frequency (MHz)									
1.4	QPSK	1	0	23.20	23.10	23.10			
1.4	QPSK	1	5	23.21	23.10	23.01	24	0	
1.4	QPSK	1	5	23.19	23.10	23.01			
1.4	QPSK	3	0	22.39	22.35	22.31			
1.4	QPSK	3	3	23.21	23.25	23.19	23	1	
1.4	QPSK	6	0	22.28	22.29	22.14	23	1	
1.4	16QAM	1	0	22.40	22.41	22.38			
1.4	16QAM	1	3	22.78	22.84	22.97	23	1	
1.4	16QAM	1	5	22.61	22.66	22.69			
1.4	16QAM	3	0	21.45	21.35	21.29	22	2	
1.4	16QAM	3	3	21.55	21.57	21.55			
1.4	16QAM	3	5	21.56	21.52	21.48	22	2	
1.4	16QAM	6	0	21.02	21.10	21.04	22	2	
1.4	8QAM	1	0	21.31	21.27	21.25			
1.4	8QAM	1	3	21.26	21.26	21.24	22	2	
1.4	8QAM	1	5	21.18	21.18	20.99			
1.4	8QAM	3	0	21.14	21.02	20.96	22	2	
1.4	8QAM	3	3	21.07	21.06	21.04			
1.4	8QAM	3	5	21.07	21.07	20.79			
1.4	8QAM	6	0	19.91	19.78	19.75	21	3	

Band 4 (AWS Band)									
Part 27L (only on channel required)									
BW (MHz)	Modulation	RB Size	RB Offset	Power Ch / Freq 20550	Power Ch / Freq 20715	Power Ch / Freq 20850	Turn-up level (dBm)	MFR (dB)	
Channel									
Frequency (MHz)									
20	QPSK	1	0	22.94	22.95	22.88			
20	QPSK	1	49	22.96	23.90	23.07	24	0	
20	QPSK	1	99	22.23	22.94	22.92			
20	QPSK	50	0	22.23	22.93	22.91			
20	QPSK	50	24	22.15	22.14	22.21	23	1	
20	QPSK	50	50	22.07	22.18	22.12			
20	QPSK	100	0	22.12	22.21	22.20			
20	16QAM	1	0	22.96	22.93	22.95			
20	16QAM	1	49	22.48	22.44	22.58	23	1	
20	16QAM	1	99	22.63	22.64	22.63			
20	16QAM	50	0	23.05	23.29	23.02			
20	16QAM	50	24	21.10	21.17	21.13	22	1	
20	16QAM	50	50	21.15	21.18	21.24			
20	16QAM	100	0	21.15	21.18	21.24			
20	16QAM	1	0	23.47	23.54	23.44			
20	16QAM	1	49	23.17	23.46	23.27	22	2	
20	16QAM	1	99	23.15	23.48	23.40			
20	16QAM	50	0	20.12	20.19	20.07			
20	16QAM	50	24	20.17	20.19	20.12	21	3	
20	16QAM	50	50	20.12	20.19	20.12			
20	16QAM	100	0	20.13	20.19	20.19			
Channel									
Frequency (MHz)									
15	QPSK	1	0	22.98	23.04	22.92			
15	QPSK	1	37	23.03	23.04	22.95	24	0	
15	QPSK	1	74	23.18	23.24	23.21			
15	QPSK	1	111	23.23	23.24	23.21			
15	QPSK	36	20	22.14	22.14	22.14			
15	QPSK	36	39	22.09	22.22	22.09			
15	QPSK	72	0	22.19	22.18	22.17	23	1	
15	QPSK	72	36	22.15	22.15	22.15			
15	QPSK	72	72	22.07	22.08	22.07			
15	16QAM	1	37	22.49	22.34	22.48			
15	16QAM	1	74	22.54	22.60	22.60			
15	16QAM	1	111	22.57	22.61	22.57			
15	16QAM	36	20	21.17	21.19	21.17	22	2	
15	16QAM	36	39	21.13	21.21	21.14			
15	16QAM	72	0	21.17	21.19	21.19			
15	16QAM	72	36	21.34	21.62	21.45			
15	16QAM	1	37	21.41	21.38	21.37	22	2	
15	16QAM	1	74	21.60	21.34	21.37			
15	16QAM	1	111	21.67	21.36	21.36			
15	16QAM	36	20	20.18	20.11	20.18	21	3	
15	16QAM	36	39	20.09	20.07	20.16			
15	16QAM	72	0	20.05	20.11	20.22			
Channel									
Frequency (MHz)									
10	QPSK	1	0	22.86	22.92	22.83			
10	QPSK	1	25	23.04	23.03	22.97	24	0	
10	QPSK	1	50	23.19	23.18	23.12			
10	QPSK	25	0	22.10	22.20	22.14			
10	QPSK	25	12	22.03	22.13	22.10	23	1	
10	QPSK	25	25	22.03	22.10	22.10			
10	QPSK	50	0	22.72	22.82	22.68			
10	QPSK	1	25	22.42	22.45	22.58	23	1	
10	QPSK	1	50	22.42	22.45	22.58			
10	16QAM	25	0	21.11	21.20	21.14			
10	16QAM	25	12	21.05	21.15	21.11	22	2	
10	16QAM	25	25	21.06	21.22	21.21			
10	16QAM	50	0	21.15	21.22	21.18			
10	16QAM	1	0	21.35	21.36	21.07			
10	16QAM	1	25	21.20	21.32	21.27			
10	16QAM	1	50	21.37	21.37	21.07			
10	16QAM	25	0	20.04	20.13	20.11	21	3	
10	16QAM	25	12	20.05	20.11	20.05			
10	16QAM	25	25	20.25	20.13	20.20			
10	16QAM	50	0	20.07	20.19	20.16	20	3	
Channel									
Frequency (MHz)									
5	QPSK	1	0	22.81	22.89	22.79			
5	QPSK	1	24	22.86	23.04	22.92	24	0	
5	QPSK	1	48	22.97	23.02	23.07			
5	QPSK	12	0	22.08	22.14	22.13			
5	QPSK	12	12	22.08	22.14	22.13	23	1	
5	QPSK	12	24	22.07	22.14	22.13			
5	QPSK	12	36	21.96	22.07	22.08			
5	QPSK	24	0	22.03	22.15	22.13			
5	QPSK	1	0	22.42	22.50	22.50			
5	QPSK	1	12	22.31	22.35	22.35	23	1	
5	QPSK	1	24	22.36	22.41	22.41			
5	16QAM	12	0	21.10	21.21	21.16			
5	16QAM	12	12	21.11	21.23	21.23	22	2	
5	16QAM	12	24	21.02	21.13	21.10			
5	16QAM	24	0	21.05	21.13	21.10			
5	16QAM	1	0	21.46	21.33	21.23			
5	16QAM	1	12	21.38	21.26	21.26	22	2	
5	16QAM	1	24	21.40	21.34	21.28			
5	16QAM	12	0	20.13	20.15	20.19			
5	16QAM	12	12	20.14	20.26	20.26			
5	16QAM	12	24	20.14	20.26	20.26	21	3	
5	16QAM	24	12	20.14	20.26	20.26			
5	16QAM	24	0	20.12	20.05	20.14			
Channel									
Frequency (MHz)									
3	QPSK	1	0	23.00	23.07	22.92			
3	QPSK	1	6	22.97	23.07	23.04	24	0	
3	QPSK	1	14	22.90	23.09	23.08			
3	QPSK	1	22	23.01	23.12	23.12			
3	QPSK	6	4	22.02	22.11	22.07			
3	QPSK	8	7	21.95	22.03	22.05			
3	QPSK	15	0	22.00	22.09	22.09	23	1	
3	QPSK	15	6	22.03	22.08	22.07			
3	QPSK	15	14	22.06	22.14	22.14			
3	QPSK	15	22	22.06	22.14	22.14	22	2	
3	16QAM	1	0	22.32	22.41	22.34			
3	16QAM	1	14	22.28	22.34	22.30			
3	16QAM	1	22	22.28	22.34	22.30	23	1	
3	16QAM	8	4	21.07	21.15	21.10			
3	16QAM	8	7	21.05	21.15	21.15			
3	16QAM	15	0	21.01	21.12	21.10			
3	16QAM	15	6	21.16	21.23	21.23	22	2	
3	16QAM	15	14	21.14	21.23	21.23			
3	16QAM	15	22	21.14	21.23	21.23	22	2	
3	16QAM	1	0	21.11	21.27	21.38			
3	16QAM	1	14	21.24	21.29	21.20			
3	16QAM	1	22	21.24	21.29	21.20			
3	16QAM	8	4	19.97	19.94	19.87			
3	16QAM	8	7	19.96	19.78	19.78			
3	16QAM	15	0	19.90	19.75	19.75	23	1	
Channel									
Frequency (MHz)									
1.4	QPSK	1	0	22.82	22.83	22.86			
1.4	QPSK	1	3	22.88	23.07	23.05	24	0	
1.4	QPSK	1	6	22.93	23.08	23.08			
1.4	QPSK	3	0	22.98	23.08	23.08			
1.4	QPSK	3	1	23.01	23.08	23.08			
1.4	QPSK	3	3	23.06	23.03	23.01	23	1	
1.4	QPSK	6	0	21.93	22.08	22.04			
1.4	16QAM	1	0	22.22	22.30	22.25			
1.4	16QAM	1	3	22.25	22.33	22.32			
1.4	16QAM	1	6	22.24	22.27	22.26	22	2	
1.4	16QAM	3	0	21.99	22.10	22.10			
1.4	16QAM	3	1	22.06	22.12	22.13			
1.4	16QAM	3	3	22.07	22.16	22.16			
1.4	16QAM	6	0	21.02	21.10	21.04			
1.4	16QAM	1	0	21.31	21.27	21.25			
1.4	16QAM	1	3	21.28	21.24	21.24			
1.4	16QAM	1	6	21.16	21.25	21.25	22	2	
1.4	16QAM	3	0	21.14	21.02	20.95			
1.4	16QAM	3	1	21.07	21.06	21.04			
1.4	16QAM	3	3	21.07	21.07	20.78			
1.4	16QAM	6	0	20.98	20.91	20.91	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	22.14	22.14	22.12			
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	22.07	22.07	22.04			
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			
10	8QAM	1	49	21.38	21.18	21.27		22	2
10	8QAM	25	0	19.93	19.72	19.90			
10	8QAM	25	12	19.71	19.74	19.77			
10	8QAM	25	25	19.80	19.84	20.01			
10	8QAM	50	0	19.86	19.76	19.81		21	3
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	22.36			
5	QPSK	25	0	21.96	22.00	22.00			
5	16QAM	1	0	22.21	22.23	22.23			
5	16QAM	1	12	22.27	22.09	22.20		23	1
5	16QAM	1	24	22.13	22.24	22.29			
5	16QAM	12	0	21.92	20.98	21.01			
5	16QAM	12	7	21.91	21.04	21.04			
5	16QAM	12	14	21.96	21.04	21.03		22	2
5	16QAM	25	0	21.01	21.08	20.98			
5	8QAM	1	0	20.86	21.09	21.01			
5	8QAM	1	12	21.06	20.91	21.10			
5	8QAM	1	24	21.03	21.09	21.17		22	2
5	8QAM	12	0	19.72	19.73	19.77			
5	8QAM	12	7	19.73	19.72	19.75			
5	8QAM	12	14	19.76	19.72	19.81			
5	8QAM	25	0	19.76	19.72	19.81		21	3
Channel									
Frequency (MHz)									
2360.5 2365.5 2370.5									
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	21.14		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			
3	16QAM	1	8	22.11	22.41	22.51		23	1
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			
3	16QAM	8	7	20.99	20.98	21.04		22	2
3	16QAM	15	0	20.90	20.94	21.11			
3	8QAM	1	0	20.94	21.00	21.13			
3	8QAM	1	8	21.32	21.38	21.18			
3	8QAM	1	14	21.14	21.15	20.92		22	2
3	8QAM	8	0	19.68	19.58	19.68			
3	8QAM	8	4	19.60	19.74	19.80			
3	8QAM	8	7	19.68	19.82	19.88			
3	8QAM	15	0	19.54	19.48	19.81		21	3
Channel									
Frequency (MHz)									
669.7 672.5 715.3									
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	20.98	21.96			
1.4	16QAM	1	5	22.10	22.23	22.16			
1.4	16QAM	1	3	22.08	22.41	22.45		23	1
1.4	16QAM	1	5	22.15	22.20	22.24			
1.4	16QAM	3	0	21.80	21.87	22.04			
1.4	16QAM	3	1	21.80	21.92	22.10			
1.4	16QAM	3	3	21.90	21.95	22.08		22	2
1.4	16QAM	6	0	20.86	20.98	21.01			
1.4	8QAM	1	0	21.04	20.80	21.07			
1.4	8QAM	1	3	21.17	21.08	21.08			
1.4	8QAM	1	5	21.21	20.88	21.17		22	2
1.4	8QAM	3	0	20.72	21.02	21.05			
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		21	3

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 2325 2330									
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				
10	8QAM	1	49		21.45		22	2	
10	8QAM	25	0		20.95				
10	8QAM	25	12		20.10				
10	8QAM	25	25		20.98				
10	8QAM	50	0		20.12		21	3	
Channel									
Frequency (MHz)									
2320.5 2325.5 2330.5									
5	QPSK	1	0	23.07	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			
5	16QAM	12	14	21.16	21.34	21.30	22	2	
5	16QAM	25	0	21.27	21.22	21.47			
5	16QAM	1	0	21.26	21.17	21.37			
5	16QAM	1	12	21.08	21.60	21.33			
5	16QAM	25	0	21.26	21.43	21.37	22	2	
5	16QAM	25	12	21.94	20.98	20.98			
5	16QAM	12	0	19.91	20.05	20.08			
5	16QAM	12	7	19.89	19.98	19.99			
5	16QAM	12	14	19.86	20.06	20.09	21	3	
5	16QAM	25	0	19.94	20.00	20.00			
5	16QAM	25	12	19.94	20.00	20.00			
5	16QAM	25	25	19.94	20.00	20.00			

Band 26 for FCC (only on channel required)																
BW (MHz)	Modulation	RB Size	RB Offset	Power Level Ch./F (W)	Power Level Ch./F (W)	Power Level Ch./F (W)	Turn-up time (dB)	MFR (dB)								
Channel																
Frequency (MHz)																
15	QPSK	1	0	23.11	23.27	23.21	24	0								
15	QPSK	1	37	23.15	23.14	23.14										
15	QPSK	1	74	23.14	23.23	23.15										
15	QPSK	36	0	22.42	22.47	22.45										
15	QPSK	36	20	22.13	22.18	22.25	23	1								
15	QPSK	36	39	22.01	22.01	22.12										
15	QPSK	75	0	22.74	22.74	22.84										
15	HQAM	1	0	22.78	22.76	22.86										
15	HQAM	1	37	22.47	22.54	22.59	23	1								
15	HQAM	1	74	22.62	22.54	22.75										
15	HQAM	36	0	21.39	21.36	21.43										
15	HQAM	36	20	21.01	21.16	21.15										
15	HQAM	36	39	21.33	21.24	21.54	22	2								
15	HQAM	75	0	21.66	21.51	21.24										
15	HQAM	1	0	20.86	21.17	21.08										
15	HQAM	1	37	20.97	21.41	21.16										
15	HQAM	1	74	21.26	21.27	21.68	22	2								
15	HQAM	36	0	20.14	20.14	20.21										
15	HQAM	36	20	19.81	19.88	19.93										
15	HQAM	36	39	19.97	19.74	19.78										
15	HQAM	75	0	19.83	19.99	20.86	21	3								
Channel																
Frequency (MHz)																
10	QPSK	1	0	23.11	23.24	23.27	24	0								
10	QPSK	1	25	22.53	23.04	23.08										
10	QPSK	1	49	23.14	23.15	23.12										
10	QPSK	36	0	22.04	22.24	22.18										
10	QPSK	25	12	22.19	22.12	22.17	23	1								
10	QPSK	36	0	22.25	22.25	22.25										
10	QPSK	36	0	22.24	22.07	22.23										
10	HQAM	1	0	22.68	22.51	22.83										
10	HQAM	1	25	22.28	22.52	22.34	23	1								
10	HQAM	1	49	22.71	22.67	22.68										
10	HQAM	25	0	21.12	21.14	21.18										
10	HQAM	25	12	21.18	21.13	21.19										
10	HQAM	25	25	21.15	21.07	21.08	22	2								
10	HQAM	50	0	21.13	21.17	21.22										
10	HQAM	1	0	21.47	21.32	21.33										
10	HQAM	1	25	21.19	21.36	21.31										
10	HQAM	1	49	21.32	21.39	21.34	22	2								
10	HQAM	25	0	19.81	19.88	19.91										
10	HQAM	25	12	19.95	19.99	19.94										
10	HQAM	25	25	19.83	19.86	19.85										
10	HQAM	50	0	19.93	19.96	20.05	21	3								
Channel																
Frequency (MHz)																
5	QPSK	1	0	22.85	23.12	23.11	24	0								
5	QPSK	1	12	22.94	23.03	23.11										
5	QPSK	1	24	23.08	23.16	23.09										
5	QPSK	12	7	22.11	22.18	22.18										
5	QPSK	12	13	22.09	22.15	22.11	23	1								
5	QPSK	25	0	22.09	22.14	22.19										
5	QPSK	1	0	22.28	22.48	22.48										
5	HQAM	1	12	22.08	22.20	22.27										
5	HQAM	1	24	22.47	22.48	22.15	23	1								
5	HQAM	12	0	21.15	21.15	21.18										
5	HQAM	12	7	21.06	21.21	21.15										
5	HQAM	12	13	21.06	21.18	21.15										
5	HQAM	25	0	21.09	21.15	21.08	22	2								
5	HQAM	1	0	21.25	21.24	21.36										
5	HQAM	1	12	21.15	20.97	21.08										
5	HQAM	1	24	21.11	21.25	21.02										
5	HQAM	12	0	19.87	19.95	19.94	22	2								
5	HQAM	12	7	19.81	19.83	19.84										
5	HQAM	12	13	19.81	19.87	19.84										
5	HQAM	25	0	19.77	19.89	19.91										
5	HQAM	25	0	19.77	19.89	19.91	21	3								
Channel																
Frequency (MHz)																
3	QPSK	1	0	23.14	23.12	23.13	24	0								
3	QPSK	1	8	23.11	23.21	23.09										
3	QPSK	1	14	22.51	23.19	22.90										
3	QPSK	3	0	22.04	22.11	22.05										
3	QPSK	3	8	22.09	22.23	22.25	23	1								
3	QPSK	8	4	22.09	22.14	22.07										
3	QPSK	15	0	22.11	22.09	22.07										
3	HQAM	1	8	22.37	22.30	22.46										
3	HQAM	1	14	22.19	22.51	22.46	23	1								
3	HQAM	3	0	21.17	21.17	21.11										
3	HQAM	3	8	21.21	21.25	21.02										
3	HQAM	8	4	20.98	21.17	21.11										
3	HQAM	15	0	21.04	21.10	21.07	22	2								
3	HQAM	1	0	21.06	21.18	21.42										
3	HQAM	1	8	21.38	21.33	21.17										
3	HQAM	1	14	21.23	21.08	21.10										
3	HQAM	3	0	19.83	19.82	19.83	22	2								
3	HQAM	3	8	19.83	19.82	19.83										
3	HQAM	8	4	19.87	20.00	19.87										
3	HQAM	8	7	19.71	19.94	19.82										
3	HQAM	15	0	19.81	19.87	19.86	21	3								
Channel																
Frequency (MHz)																
1.4	QPSK	1	0	23.05	23.08	23.10	24	0								
1.4	QPSK	1	3	23.25	23.13	23.12										
1.4	QPSK	1	5	23.11	23.25	23.08										
1.4	QPSK	3	0	23.11	23.26	23.24										
1.4	QPSK	3	1	23.17	23.23	23.22	23	1								
1.4	QPSK	3	1	23.19	23.11	22.98										
1.4	QPSK	3	5	23.11	23.25	23.08										
1.4	HQAM	1	5	22.48	22.45	22.37										
1.4	HQAM	1	3	22.48	22.63	22.42	23	1								
1.4	HQAM	3	0	22.13	22.18	22.12										
1.4	HQAM	3	1	22.48	22.36	22.24										
1.4	HQAM	3	1	22.22	22.33	22.25										
1.4	HQAM	3	3	22.14	22.26	22.17	22	2								
1.4	HQAM	3	5	21.76	21.26	21.21										
1.4	HQAM	1	0	21.24	21.31	21.08	22	2								
1.4	HQAM	1	3	21.29	21.03	21.08										
1.4	HQAM	1	5	21.31	21.36	21.21										
1.4	HQAM	3	0	21.03	20.62	21.08										
1.4	HQAM	3	1	21.17	21.35	21.09	22	2								
1.4	HQAM	3	1	21.27	21.27	21.19										
1.4	HQAM	3	5	21.27	21.27	21.19										
1.4	HQAM	6	0	19.89	19.81	19.97										

Band 38(only on channel required)

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. [F/MHz]	Power Mid Ch. [F/MHz]	Power High Ch. [F/MHz]	Tune-up time (min)	MPE (dB)		
Channel										
Frequency (MHz)										
20	QPSK	1	0	23.22	23.22	23.14	24	0		
20	QPSK	1	49	23.22	23.22	23.22				
20	QPSK	1	99	23.11	23.01	23.22				
20	QPSK	50	0	22.98	22.91	23.02				
20	QPSK	50	24	22.93	22.94	22.98	23	1		
20	QPSK	100	0	21.99	22.04	22.12				
20	WQAM	1	0	22.23	22.24	22.17				
20	WQAM	50	0	21.93	21.14	20.99				
20	WQAM	50	24	21.20	21.04	21.02	22	2		
20	WQAM	50	50	21.18	21.07	21.16				
20	WQAM	100	0	21.09	21.19	21.16				
20	WQAM	1	0	20.94	20.97	20.99				
20	WQAM	1	49	20.83	20.83	20.87	22	2		
20	WQAM	1	99	20.76	20.80	20.87				
20	WQAM	50	0	19.83	19.75	19.81				
20	WQAM	50	24	19.59	19.61	19.68				
20	WQAM	50	50	19.67	19.67	19.62	21	3		
20	WQAM	100	0	19.69	19.70	19.73				
Channel										
Frequency (MHz)										
15	QPSK	1	0	23.17.5	23.06	23.23	24	0		
15	QPSK	1	0	23.12	23.22	23.23				
15	QPSK	1	49	23.06	23.07	23.08				
15	QPSK	1	74	23.20	23.24	23.19				
15	QPSK	36	0	22.11	22.10	22.13	23	1		
15	QPSK	36	24	21.97	22.15	22.11				
15	QPSK	36	48	21.88	22.03	22.16				
15	QPSK	75	0	22.12	22.08	22.15				
15	WQAM	1	0	22.31	22.29	22.28	23	1		
15	WQAM	1	49	22.13	22.11	22.20				
15	WQAM	1	74	22.49	22.13	22.24				
15	WQAM	36	0	21.01	21.01	21.12				
15	WQAM	36	24	20.97	21.02	21.07	22	2		
15	WQAM	36	48	20.85	20.87	20.87				
15	WQAM	36	74	21.01	21.01	21.12				
15	WQAM	75	0	21.05	21.13	21.09				
15	WQAM	1	0	20.57	20.91	20.93	22	2		
15	WQAM	1	49	20.61	20.90	20.95				
15	WQAM	1	74	20.81	20.80	20.98				
15	WQAM	36	0	19.84	19.82	19.64				
15	WQAM	36	24	19.83	19.80	19.62	21	3		
15	WQAM	36	48	19.84	19.82	19.64				
15	WQAM	36	74	19.68	19.68	19.67				
15	WQAM	75	0	19.68	19.68	19.67				
Channel										
Frequency (MHz)										
10	QPSK	1	0	23.22	23.25	23.12	24	0		
10	QPSK	1	25	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	22.12	23	1		
10	QPSK	25	25	22.27	22.20	22.23				
10	QPSK	50	0	22.26	22.10	22.28				
10	WQAM	1	0	22.41	22.45	22.38				
10	WQAM	1	25	22.17	22.11	22.36	23	1		
10	WQAM	1	49	22.42	22.40	22.25				
10	WQAM	25	0	21.30	21.00	21.28				
10	WQAM	25	12	21.22	21.08	21.18				
10	WQAM	25	25	21.17	21.08	21.21	22	2		
10	WQAM	50	0	21.36	21.23	21.26				
10	WQAM	1	0	20.89	20.96	20.89				
10	WQAM	1	25	20.88	20.92	20.89				
10	WQAM	1	49	21.04	21.01	20.98	22	2		
10	WQAM	25	0	19.75	19.67	19.62				
10	WQAM	25	12	19.63	19.62	19.71				
10	WQAM	25	25	19.75	19.69	19.63				
10	WQAM	50	0	19.80	19.69	19.81	21	3		
10	WQAM	50	0	19.80	19.69	19.81				
10	WQAM	50	0	19.80	19.69	19.81				
10	WQAM	50	0	19.80	19.69	19.81				
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	23.38	23.17	23.29				
5	QPSK	12	7	22.22	22.21	22.26	23	1		
5	QPSK	12	13	22.26	22.10	22.25				
5	QPSK	25	0	22.24	22.14	22.23				
5	WQAM	1	0	22.35	22.22	22.46				
5	WQAM	1	12	22.34	22.31	22.36	23	2		
5	WQAM	1	24	22.21	22.08	22.28				
5	WQAM	12	0	21.29	21.18	21.29				
5	WQAM	12	7	21.28	21.15	21.21				
5	WQAM	12	13	21.26	21.10	21.15	22	2		
5	WQAM	25	0	21.29	21.15	21.25				
5	WQAM	25	0	21.29	21.12	21.21				
5	WQAM	25	0	21.29	21.12	21.21				
5	WQAM	25	1	20.99	20.94	20.92	22	2		
5	WQAM	25	1	20.99	20.94	20.92				
5	WQAM	25	1	20.99	20.94	20.92				
5	WQAM	25	1	20.99	20.94	20.92				
5	WQAM	12	0	19.83	19.71	19.85	21	3		
5	WQAM	12	7	19.73	19.68	19.73				
5	WQAM	12	13	19.73	19.61	19.71				
5	WQAM	25	0	19.81	19.71	19.73				

Band 41 (2.6G Band)

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Co [F/MHz]	Power Low Mid [F/MHz]	Power Mid High [F/MHz]	Power High Mid [F/MHz]	Power High Co [F/MHz]	Tune-up time (min)	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	24.27	24.34	24.22			
20	QPSK	1	99	24.21	24.10	24.34	24.34	24.22			
20	QPSK	50	0	22.52	22.52	22.45	22.31	22.41			
20	QPSK	50	24	22.51	22.59	22.41	22.42	22.41	23	2	
20	QPSK	100	0	22.20	22.21	22.34	22.33	22.26			
20	WQAM	1	0	22.65	22.43	22.38	22.54	22.32			
20	WQAM	1	49	22.46	22.46	22.47	22.41	22.33			
20	WQAM	1	99	22.28	22.22	22.30	22.43	22.33	23	2	
20	WQAM	50	0	21.84	21.87	21.65	21.74	21.69			
20	WQAM	50	24	21.70	21.65	21.75	21.77	21.77			
20	WQAM	50	50	21.85	21.70	21.51	21.63	21.63			
20	WQAM	100	0	21.80	21.84	21.59	21.68	21.76	22	3	
20	WQAM	1	0	21.62	21.23	21.01	21.24	21.02			
20	WQAM	1	49	21.62	21.20	21.02	21.00	21.08			
20	WQAM	1	99	20.92	21.11	21.00	21.24	21.02			
20	WQAM	50	0	20.12	20.08	19.78	20.02	19.75	21	4	
20	WQAM	50	24	20.09	20.15	19.89	20.02	19.76			
20	WQAM	50	50	20.11	20.01	19.89	20.00	19.75			
20	WQAM	100	0	20.14	20.16	19.85	20.03	19.83			
Channel											
Frequency (MHz)											
15	QPSK	1	0	24.03	23.84	23.93	24.07	24.03	25	0	
15	QPSK	1	27	24.08	23.89	24.11	23.99	24.10			
15	QPSK	1	74	24.15	24.10	23.98	24.21	24.06			
15	QPSK	36	0	22.58	22.31	22.67	22.58	22.47			
15	QPSK	36	24	22.45	22.54	22.71	22.56	22.41	23	2	
15	QPSK	36	48	22.56	22.65	22.78	22.53	22.44			
15	QPSK	75	0	22.68	22.42	22.70	22.54	22.48			
15	WQAM	1	0	22.10	21.83	22.24	22.29	21.84			
15	WQAM	1	49	22.30	21.87	22.28	22.30	21.93	23	2	
15	WQAM	1	74	21.82	22.23	21.96	22.10	22.21			
15	WQAM	36	0	21.84	21.83	21.83	21.78	21.74			
15	WQAM	36	24	21.87	21.75	21.82	21.72	21.77			
15	WQAM	36	48	21.87	21.85	21.72	21.62	21.65	22	3	
15	WQAM	75	0	21.40	21.53	21.70	21.53	21.68			
15	WQAM	1	0	21.23	20.87	21.53	21.53	21.28			
15	WQAM	1	49	21.26	21.29	21.28	21.28	21.28			
15	WQAM	1	74	21.04	21.02	20.94	20.84	21.12	22	3	
15	WQAM	36	0	20.21	19.88	19.84	20.27	19.85			
15	WQAM	36	24	20.21	19.85	19.82	20.27	19.80			
15	WQAM	36	48	20.21	19.85	19.82	20.27	19.80			
15	WQAM	75	0	20.22	19.76	20.01	19.78	20.03	21	4	
15	WQAM	75	0	20.22	19.76	20.01	19.78	20.03			
15	WQAM	75									
Channel											
Frequency (MHz)											
10	QPSK	1	0	24.00	24.00	24.21	24.12	24.24	25	0	
10	QPSK	1	26	24.08	24.10	24.23	24.12	24.23			
10	QPSK	1	49	24.11	24.13	24.31	24.27	24.31			
10	QPSK	1	49	24.30	24.30	24.32	24.31	24.31			
10	QPSK	25	0	22.79	22.82	22.85	22.72	22.80	23	2	
10	QPSK	25	12	22.80	22.82	22.85	22.70	22.83			
10	QPSK	25	25	22.81	22.83	22.87	22.68	22.80			
10	QPSK	50	0	22.43	22.79	22.88	22.66	22.54			
10	WQAM	1	0	22.66	22.66	22.66	22.66	22.62	23	2	
10	WQAM	1	25	22.67	22.57	22.40	22.64	22.51			
10	WQAM	1	49	22.54	22.49	22.34	22.40	22.19			
10	WQAM	25	12	21.85	21.85	21.81	21.70	21.56			
10	WQAM	25	12	21.80	21.89	21.61	21.68	21.53	22	3	
10	WQAM	25	25	21.88	21.73	21.62	21.63	21.45			
10	WQAM	50	0	21.54	21.51	21.48	21.48	21.48			
10	WQAM	50	1	21.78	21.78	21.48	21.54	21.36			
10	WQAM	1	26	21.78	21.81	21.49	21.51	21.34	22	3	
10	WQAM	25	49	21.56	21.66	21.51	21.44	21.29			
10	WQAM	25	49	20.22	19.89	19.80	20.00	19.86			
10	WQAM	25	12	20.24	20.21	19.93	20.03	19.86			
10	WQAM	25	12	20.24	20.15	19.94	20.02	19.78	21	4	
10	WQAM	50	0	20.18	20.17	19.86	20.02	19.86			
10	WQAM	50	1	20.18	20.14	19.86	20.02	19.87			
10	WQAM	50	1	20.18	20.14	19.86	20.02	19.87			
Channel											
Frequency (MHz)											
5	QPSK	1	0	24.00	24.08	24.21	24.12	24.24	25	0	
5	QPSK	1	26	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	24	24.31	24.31	24.16	24.21	24.08			
5	QPSK	12	13	22.77	22.78	22.54	22.68	22.52	23	2	
5	QPSK	12	13	22.84	22.77	22.54	22.64	22.52			
5	QPSK	25	25	22.77	22.76	22.54	22.68	22.52			
5	WQAM	1	0	22.72	22.68	22.51	22.60	22.36			
5	WQAM	1	12	22.62	22.57	22.34	22.27	22.30	23	2	
5	WQAM	25	24	22.59	22.44	22.36	22.44	22.33			
5	WQAM	25	12	21.81	21.77	21.63	21.69	21.68			
5	WQAM	12	7	21.74	21.79	21.57	21.64	21.45			
5	WQAM	12	13	21.76	21.74	21.49	21.59	21.54	22	3	
5	WQAM	25	1	21.81	21.87	21.65	21.74	21.66			
5	WQAM	1	0	21.80	21.77	21.65	21.68	21.46			
5	WQAM	1	12	20.70	21.62	21.45	21.57	21.38			
5	WQAM	12	13	21.70	21.66	21.49	21.54	21.52	21	4	
5	WQAM	12	6	20.20	20.23	20.01	20.08	19.94			
5	WQAM	12	7	20.21	20.15	19.86	20.02	19.87			
5	WQAM	12	14	20.21	20.14	19.86	20.02	19.87			

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	16.69	16.57	16.64	17.74
GPRS 4 Tx slots		19.68	19.54	19.60	20.50	16.58	16.54	16.60	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		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	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./F./File	Power Hoch./F./File	Power Low./F./File	Turn-up limit (dBm)	MPR (dB)		
Channel										
Frequency (MHz)										
20	QPSK	1	0	15.96	15.10	15.87				
20	QPSK	1	49	15.76	15.08	15.86	16.5	0		
20	QPSK	1	99	15.69	15.00	15.93				
20	QPSK	50	0	15.94	15.16	15.84				
20	QPSK	50	24	15.82	15.08	15.79	16.5	0		
20	QPSK	50	50	15.83	15.00	15.88				
20	16QAM	1	0	15.90	15.08	15.88	16.5	0		
20	16QAM	1	49	15.88	15.06	15.77				
20	16QAM	50	0	15.90	15.08	15.88				
20	16QAM	50	24	15.84	15.04	15.75	16.5	0		
20	16QAM	50	50	15.71	15.01	15.79				
20	16QAM	100	0	15.84	15.00	15.81				
20	16QAM	1	0	15.98	15.70	15.88				
20	16QAM	1	49	15.76	15.06	15.80	16.5	0		
20	16QAM	50	0	16.03	15.90	15.81				
20	16QAM	50	24	15.98	15.79	15.77	16.5	0		
20	16QAM	50	50	15.83	15.62	15.77				
20	16QAM	100	0	15.82	15.82	15.79				
Channel										
Frequency (MHz)										
15	QPSK	1	0	15.87	15.80	15.62	Turn-up limit (dBm)	MPR (dB)		
15	QPSK	1	37	15.79	15.80	15.60	16.5	0		
15	QPSK	1	74	15.81	15.80	15.81				
15	QPSK	36	0	15.98	15.87	15.86				
15	QPSK	36	20	16.02	15.98	15.91	16.5	0		
15	QPSK	36	36	15.92	15.83	15.80				
15	QPSK	36	52	15.97	15.86	15.87				
15	16QAM	1	0	15.73	15.83	16.03	16.5	0		
15	16QAM	1	37	15.88	15.87	15.80				
15	16QAM	1	74	15.83	15.82	15.74				
15	16QAM	36	0	15.99	15.88	15.82				
15	16QAM	36	20	16.03	15.98	15.93	16.5	0		
15	16QAM	36	36	15.86	15.84	15.87				
15	16QAM	36	52	16.02	15.86	15.88				
15	16QAM	1	37	15.83	15.80	15.79	16.5	0		
15	16QAM	1	74	15.88	15.87	15.82				
15	16QAM	36	20	15.91	15.80	15.87	16.5	0		
15	16QAM	36	36	15.84	15.80	15.83				
15	16QAM	36	52	15.90	15.84	15.86				
Channel										
Frequency (MHz)										
5	QPSK	1	0	15.78	15.80	15.78	Turn-up limit (dBm)	MPR (dB)		
5	QPSK	1	25	15.78	15.80	15.69	16.5	0		
5	QPSK	1	50	15.80	15.80	15.80				
5	QPSK	25	0	15.90	15.90	15.84				
5	QPSK	25	12	15.83	15.88	15.89	16.5	0		
5	QPSK	25	25	15.82	15.86	15.87				
5	QPSK	50	0	15.92	15.92	15.83				
5	16QAM	1	0	15.88	15.81	15.81	16.5	0		
5	16QAM	1	49	15.87	15.87	15.80				
5	16QAM	25	0	15.92	15.90	15.85				
5	16QAM	25	12	15.98	15.83	15.76	16.5	0		
5	16QAM	25	25	15.88	15.73	15.78				
5	16QAM	50	0	15.90	15.88	15.80				
5	16QAM	1	0	16.02	15.82	15.87				
5	16QAM	1	25	15.79	16.02	15.83	16.5	0		
5	16QAM	25	0	15.89	15.91	15.80				
5	16QAM	25	12	15.83	15.80	15.86	16.5	0		
5	16QAM	25	25	15.87	15.80	15.84				
5	16QAM	50	0	15.83	15.87	15.89				
Channel										
Frequency (MHz)										
5	QPSK	1	0	15.90	15.81	15.80	Turn-up limit (dBm)	MPR (dB)		
5	QPSK	1	12	15.87	15.70	15.71	16.5	0		
5	QPSK	1	25	15.73	15.84	15.84				
5	QPSK	12	0	16.00	15.80	15.82				
5	QPSK	12	7	15.94	15.86	15.81	16.5	0		
5	QPSK	12	13	15.88	15.82	15.78				
5	QPSK	25	0	15.97	15.83	15.84				
5	16QAM	1	0	15.88	15.80	15.80	16.5	0		
5	16QAM	1	12	15.98	15.82	15.81				
5	16QAM	1	24	16.03	15.80	16.02				
5	16QAM	12	7	15.96	15.86	15.81	16.5	0		
5	16QAM	12	13	15.90	15.87	15.77				
5	16QAM	25	0	16.01	15.87	15.79				
5	16QAM	25	7	15.79	15.76	15.78	16.5	0		
5	16QAM	25	13	15.85	15.83	15.83				
5	16QAM	25	25	15.88	15.79	15.78				
5	16QAM	50	0	15.89	15.87	15.82				
5	16QAM	1	25	15.76	16.01	15.78	16.5	0		
5	16QAM	1	49	15.82	15.82	15.84				
5	16QAM	25	0	15.79	15.87	15.78				
5	16QAM	25	12	15.83	15.89	15.75	16.5	0		
5	16QAM	25	25	15.87	15.80	15.84				
5	16QAM	50	0	15.88	15.79	15.77				
Channel										
Frequency (MHz)										
3	QPSK	1	0	16.06	15.82	15.79	Turn-up limit (dBm)	MPR (dB)		
3	QPSK	1	8	15.89	16.00	15.82	16.5	0		
3	QPSK	1	14	15.08	15.75	15.88				
3	QPSK	8	0	15.82	15.80	15.82				
3	QPSK	8	7	15.87	15.89	15.82	16.5	0		
3	QPSK	15	0	15.87	15.88	15.73				
3	16QAM	1	8	15.88	15.72	15.84				
3	16QAM	1	8	16.01	16.00	16.00	16.5	0		
3	16QAM	1	14	15.80	16.03	16.00				
3	16QAM	8	0	15.84	16.00	15.81				
3	16QAM	8	4	15.91	15.84	15.88	16.5	0		
3	16QAM	8	7	15.73	15.77	15.80				
3	16QAM	15	0	15.74	15.87	15.75				
3	16QAM	1	0	15.84	16.00	15.81				
3	16QAM	1	8	15.88	15.91	15.78	16.5	0		
3	16QAM	1	14	15.86	16.00	16.00				
3	16QAM	8	0	15.84	16.01	16.00				
3	16QAM	8	4	16.02	16.00	16.04	16.5	0		
3	16QAM	8	7	16.00	16.02	16.00				
3	16QAM	15	0	15.90	16.00	15.76				
Channel										
Frequency (MHz)										
1.4	QPSK	1	0	15.57	15.86	15.77	Turn-up limit (dBm)	MPR (dB)		
1.4	QPSK	1	5	15.60	16.00	15.85				
1.4	QPSK	1	5	15.71	15.87	15.89	16.5	0		
1.4	QPSK	3	0	16.04	15.84	15.80				
1.4	QPSK	3	1	16.03	16.00	15.86				
1.4	QPSK	3	3	15.86	16.02	15.84	16.5	0		
1.4	QPSK	6	0	15.84	15.75	15.83				
1.4	16QAM	1	0	15.84	15.75	15.78	16.5	0		
1.4	16QAM	1	5	16.06	16.04	16.07				
1.4	16QAM	3	0	15.80	15.80	15.80				
1.4	16QAM	3	1	15.94	15.77	15.78				
1.4	16QAM	3	1	16.05	16.04	16.07	16.5	0		
1.4	16QAM	6	0	15.72	15.80	15.87	16.5	0		
1.4	16QAM	1	0	15.74	16.07	16.04				
1.4	16QAM	1	5	16.00	16.00	15.71				
1.4	16QAM	1	5	16.04	15.80	16.03	16.5	0		
1.4	16QAM	3	1	15.88	15.88	15.88				
1.4	16QAM	3	1	16.09	15.89	15.85	16.5	0		
1.4	16QAM	3	3	16.03	15.78	15.84				
1.4	16QAM	6	0	16.06	16.06	15.87	16.5	0		

Band 4 (AWS Band)										
Part 27L (only on channel required)										
BW (MHz)	Modulation	RB Size	RB Offset	Power Ch./F./File	Power Hoch./F./File	Power Low./F./File	Turn-up limit (dBm)	MPR (dB)		
Channel										
Frequency (MHz)										
20	QPSK	1	0	15.71	15.71	15.66				
20	QPSK	1	49	15.72	15.72	15.67	16.5	0		
20	QPSK	1	98	15.73	15.73	15.68				
20	QPSK	50	0	15.77	15.77	15.72				
20	QPSK	50	24	15.78	15.78	15.73	16.5	0		
20	QPSK	50	49	15.79	15.79	15.74				
20	QPSK	50	74	15.80	15.80	15.75				
20	QPSK	50	99	15.81	15.81	15.76				
20	QPSK	100	0	15.76	15.83	15.84				
20	QPSK	100	25	15.77	15.84	15.85				
20	QPSK	100	50	15.78	15.85	15.86				
20	QPSK	100	75	15.79	15.86	15.87				
20	QPSK	100	100	15.80	15.87	15.88				
20	QPSK	1	0	15.99	15.78	15.77				
20	QPSK	1	49	15.97	15.77	15.76				
20	QPSK	1	99	15.97	15.77	15.76				
20	QPSK	50	0	16.04	16.88	16.89				
20	QPSK	50	25	16.05	16.89	16.90				
20	QPSK	50	50	16.06	16.91	16.92	16.5	0		
20	QPSK	50	100	16.03	16.75	16.76				
Channel										
Frequency (MHz)										
15	QPSK	1	0	15.71	15.71	15.66				
15	QPSK	1	49	15.72	15.72	15.67	16.5	0		
15	QPSK	1	98	15.73	15.73	15.68				
15	QPSK	36	0	15.75	15.74	15.64				
15	QPSK	36	18	15.76	15.75	15.65				
15	QPSK	36	36	15.77	15.76	15.66	16.5	0		
15	QPSK	36	54	15.78	15.77	15.67				
15	QPSK	36	72	15.79	15.78	15.68				
15	QPSK	36	90	15.80	15.79	15.69				
15	QPSK	1	37	15.76	16.02	16.08				
15	QPSK	1	74	15.77	16.03	16.09				
15	QPSK	36	0	15.75	15.90	15.97				
15	QPSK	36	18	15.76	15.91	15.97	16.5	0		
15	QPSK	36	36	15.77	15.92	15.98				
15	QPSK	36	54	15.78	15.93	15.99				
15	QPSK	36	72	15.79	15.94	16.00				
15	QPSK	36	90	15.80	15.95	16.01	16.5	0		
15	QPSK	36	108	15.81	15.96	16.02				
15	QPSK	1	74	15.87	16.78	16.87				
15	QPSK	1	147	15.88	16.79	16.88				
15	QPSK	36	20	15.80	16.03	16.10				
15	QPSK	36	36	15.81	16.04	16.11				
15	QPSK	36	54	15.82	16.05	16.12				
15	QPSK	36	72	15.83	16.06	16.13	16.5	0		
15	QPSK	36	90	15.84	16.07	16.14				
15	QPSK	36	108	15.85	16.08	16.15				
15	QPSK	36	126	15.86	16.09	16.16				
15	QPSK	36	144	15.87	16.10	16.17	16.5	0		
15	QPSK	36	162	15.88	16.11	16.18				
15	QPSK	36	180	15.89	16.12	16.19				
15	QPSK	36	200	15.90	16.13	16.20				
15	QPSK	36	216	15.91	16.14	16.21	16.5	0		
15	QPSK	36	234	15.92	16.15	16.22				
15	QPSK	36	252	15.93	16.16	16.23				
15	QPSK	36	270	15.94	16.17	16.24	16.5	0		
15	QPSK	36	288	15.95	16.18	16.25				
15	QPSK	36	306	15.96	16.19	16.26				
15	QPSK	36	324	15.97	16.20	16.27	16.5	0		
15	QPSK	36	342	15.98	16.21	16.28				
15	QPSK	36	360	15.99	16.22	16.29				
15	QPSK	36	378	16.00	16.23	16.30	16.5	0		
15	QPSK	36	396	16.01	16.24	16.31				
15	QPSK	36	414	16.02	16.25	16.32				
15	QPSK	36	432	16.03	16.26	16.33	16.5	0		
15	QPSK	36	450	16.04	16.27	16.34				
15	QPSK	36	468	16.05	16.28	16.35				
15	QPSK	36	486	16.06	16.29	16.36	16.5	0		
15	QPSK	36	504	16.07	16.30	16.37				
15	QPSK	36	522	16.08	16.31	16.38				
15	QPSK	36	540	16.09	16.32	16.39	16.5	0		
15	QPSK	36	558	16.10	16.33	16.40				
15	QPSK	36	576	16.11	16.34	16.41				
15	QPSK	36	594	16.12	16.35	16.42	16.5	0		
15	QPSK	36	612	16.13	16.36	16.43				
15	QPSK	36	630	16.14	16.37	16.44				
15	QPSK	36	648	16.15	16.38	16.45	16.5	0		
15	QPSK	36	666	16.16	16.39	16.46				
15	QPSK	36	684	16.17	16.40	16.47				
15	QPSK	36	702	16.18	16.41	16.48	16.5	0		
15	QPSK	36	720	16.19	16.42	16.49				
15	QPSK	36	738	16.20	16.43	16.50				
15	QPSK	36	756	16.21	16.44	16.51	16.5	0		
15	QPSK	36	774	16.22	16.45	16.52				
15	QPSK	36	792	16.23	16.46	16.53				
15	QPSK	36	810	16.24	16.47	16.54	16.5	0		
15	QPSK	36	828	16.25	16.48	16.55				
15	QPSK	36	846	16.26	16.49	16.56				
15	QPSK	36	864	16.27	16.50	16.57	16.5	0		
15	QPSK	36	882	16.28	16.51	16.58				
15	QPSK	36	900	16.29	16.52	16.59				
15	QPSK	36	918	16.30	16.53	16.60	16.5	0		
15	QPSK	36	936	16.31	16.54	16.61				
15	QPSK	36	954	16.32	16.55	16.62				
15	QPSK	36	972	16.33	16.56	16.63	16.5	0		
15	QPSK	36	990	16.34	16.57	16.64				
15	QPSK	36	1008	16.35	16.58	16.65				
15	QPSK	36	1026	16.36	16.59	16.66	16.5	0		
15	QPSK	36	1044	16.37	16.60	16.67				
15	QPSK	36	1062	16.38	16.61	16.68				
15	QPSK	36	1080	16.39	16.62	16.69	16.5	0		
15	QPSK	36	1098	16.40	16.63	16.70				
15	QPSK	36	1116	16.41	16.64	16.71				
15	QPSK	36	1134	16.42	16.65	16.72	16.5	0		
15	QPSK	36	1152	16.43	16.66	16.73				
15	QPSK	36	1170	16.44	16.67	16.74				
15	QPSK	36	1188	16.45	16.68	16.75	16.5	0		
15	QPSK	36	1206	16.46	16.69	16.76				
15	QPSK	36	1224	16.47	16.70	16.77				
15	QPSK	36	1242	16.48	16.71	16.78	16.5	0		
15	QPSK	36	1260	16.49	16.72	16.79				
15	QPSK	36	1278	16.50	16.73	16.80				
15	QPSK	36	1296	16.51	16.74	16.81	16.5	0		
15	QPSK	36	1314	16.52	16.75	16.82				
15	QPSK	36	1332	16.53	16.76	16.83				
15	QPSK	36	1350	16.54	16.77	16.84	16.5	0		
15	QPSK	36	1368	16.55	16.78	16.85				
15	QPSK	36	1386	16.56	16.79	16.86				
15	QPSK	36	1404	16.57	16.80	16.87	16.5	0		
15	QPSK	36	1422	16.58	16.81	16.88				
15	QPSK	36	1440	16.59	16.82	16.89				
15	QPSK	36	1458	16.60	16.83	16.90	16.5	0		
15	QPSK	36	1476	16.61	16.84	16.91				
15	QPSK	36	1494	16.62	16.85	16.92				
15	QPSK	36	1512	16.63	16.86	16.93	16.5	0		
15	QPSK	36	1530	16.64	16.87	16.94				
15	QPSK	36	1548	16.65	16.88	16.95				
15	QPSK	36	1566	16.66	16.89	16.96	16.5	0		
15	QPSK	36	1584	16.67	16.90	16.97				
15	QPSK	36	1602	16.68	16.91	16.98				
15	QPSK	36	1620	16.69	16.92	16.99	16.5	0		
15	QPSK	36	1638	16.70	16.93	17.00				
15	QPSK	36	1656	16.71	16.94	17.01				
15	QPSK	36	1674	16.72	16.95	17.02	16.5	0		
15	QPSK	36	1692	16.73	16.96	17.03				
15	QPSK	36	1710	16.74	16.97	17.04				
15	QPSK	36	1728	16.75	16.98	17.05	16.5	0		
15	QPSK	36	1746	16.76	16.99	17.06				
15	QPSK	36	1764	16.77	17.00	17.07				
15	QPSK	36	1782	16.78	17.01	17.08	16.5	0		
15	QPSK	36	1800	16.79	17.02	17.09				
15	QPSK	36	1818	16.80	17.03	17.10				
15	QPSK	36	1836	16.81	17.04	17.11	16.5	0		
15	QPSK	36	1854	16.82	17.05	17.12				
15	QPSK	36	1872	16.83	17.06	17.13				
15	QPSK	36	1890	16.84	17.07	17.14	16.5	0		
15	QPSK	36	1908	16.85	17.08	17.15				
15	QPSK	36	1926	16.86	17.09	17.16				
15	QPSK	36	1944	16.87	17.10	17.17	16.5	0		
15	QPSK	36	1962	16.88						

Band 25 (1900MHz Band) Part 24E												
SR (MHz)	Modulation	RB Size	RB Offset	Frequency (MHz)	Channel Bandwidth (MHz)	Power Class (W)	Power Class (W)	Power Class (W)	Power Class (W)	Time-slot (ms)	MFR (dB)	
Channel 1												
20	QPSK	1	0	18.09	1.12	15.92	15.92	15.92	15.92			
20	QPSK	1	49	15.98	15.92	15.91	15.91	15.91	15.91			0
20	QPSK	1	98	15.98	15.92	15.91	15.91	15.91	15.91			
20	QPSK	56	0	15.81	15.82	15.82	15.82	15.82	15.82			
20	QPSK	56	25	15.81	15.82	15.82	15.82	15.82	15.82	15.0		
20	QPSK	56	50	15.81	15.82	15.82	15.82	15.82	15.82			
20	QPSK	100	0	15.73	15.78	15.78	15.78	15.78	15.78			
20	QPSK	100	50	15.73	15.78	15.78	15.78	15.78	15.78			
20	QPSK	1	1	15.94	15.92	15.92	15.92	15.92	15.92			
20	QPSK	1	49	15.98	15.92	15.91	15.91	15.91	15.91	15.0		
20	QPSK	1	99	15.98	15.92	15.91	15.91	15.91	15.91			
20	QPSK	1	148	15.98	15.92	15.91	15.91	15.91	15.91			
20	QPSK	56	24	15.83	15.84	15.82	15.82	15.82	15.82			
20	QPSK	56	49	15.83	15.84	15.82	15.82	15.82	15.82	15.0		
20	QPSK	56	74	15.83	15.84	15.82	15.82	15.82	15.82			
20	QPSK	56	99	15.83	15.84	15.82	15.82	15.82	15.82			
20	QPSK	100	24	15.78	15.80	15.80	15.80	15.80	15.80			
20	QPSK	100	49	15.78	15.80	15.80	15.80	15.80	15.80	15.0		
20	QPSK	100	74	15.78	15.80	15.80	15.80	15.80	15.80			
20	QPSK	100	99	15.78	15.80	15.80	15.80	15.80	15.80	15.0		
20	QPSK	1	69	15.99	15.97	15.76	15.72	15.72	15.72			0
20	QPSK	1	118	15.99	15.97	15.76	15.72	15.72	15.72			
20	QPSK	56	0	15.76	15.88	15.88	15.88	15.88	15.88			
20	QPSK	56	25	15.76	15.88	15.88	15.88	15.88	15.88	15.0		
20	QPSK	56	50	15.76	15.88	15.88	15.88	15.88	15.88			
20	QPSK	100	0	15.77	15.69	15.67	15.67	15.67	15.67			
20	QPSK	100	50	15.77	15.69	15.67	15.67	15.67	15.67	15.0		
Channel 2												
Frequency (MHz)				1807.5	1800	1967.5				Time-slot (ms)	MFR (dB)	
15	QPSK	1	0	15.41	15.48	15.52	15.52	15.52	15.52			
15	QPSK	1	49	15.41	15.40	15.32	15.32	15.32	15.32	15.0		
15	QPSK	1	74	15.41	15.38	15.58	15.58	15.58	15.58			
15	QPSK	36	0	15.82	15.85	15.83	15.82	15.82	15.82			
15	QPSK	36	18	15.82	15.83	15.82	15.81	15.81	15.81	15.0		
15	QPSK	72	0	15.73	15.72	15.65	15.65	15.65	15.65			
15	QPSK	72	36	15.73	15.72	15.65	15.65	15.65	15.65	15.0		
15	QPSK	1	1	15.83	15.78	15.78	15.07	15.07	15.07			
15	QPSK	1	37	15.83	15.87	15.65	15.65	15.65	15.65	15.0		
15	QPSK	1	62	15.83	15.87	15.65	15.65	15.65	15.65			
15	QPSK	36	0	15.84	15.88	15.84	15.84	15.84	15.84			
15	QPSK	36	18	15.84	15.88	15.84	15.84	15.84	15.84	15.0		
15	QPSK	72	0	15.84	15.70	15.67	15.67	15.67	15.67			
15	QPSK	72	36	15.84	15.70	15.67	15.67	15.67	15.67	15.0		
15	QPSK	1	1	15.76	15.84	15.92	15.92	15.92	15.92			
15	QPSK	1	37	15.76	15.84	15.92	15.92	15.92	15.92			
15	QPSK	1	62	15.76	15.84	15.92	15.92	15.92	15.92			
15	QPSK	1	74	15.77	15.68	15.81	15.81	15.81	15.81			
15	QPSK	36	0	15.85	15.88	15.85	15.85	15.85	15.85	15.0		
15	QPSK	36	18	15.85	15.88	15.85	15.85	15.85	15.85			
15	QPSK	72	0	15.84	15.68	15.65	15.65	15.65	15.65	15.0		
15	QPSK	72	36	15.84	15.68	15.65	15.65	15.65	15.65			
15	QPSK	100	0	15.74	15.71	15.68	15.68	15.68	15.68			
15	QPSK	100	50	15.74	15.71	15.68	15.68	15.68	15.68	15.0		
Channel 3												
Frequency (MHz)				2060.0	2040.0	2080.0				Time-slot (ms)	MFR (dB)	
10	QPSK	1	0	15.96	15.70	15.70	15.70	15.70	15.70			
10	QPSK	1	26	15.94	15.50	15.50	15.50	15.50	15.50	15.0		
10	QPSK	1	49	15.77	15.71	15.72	15.72	15.72	15.72			
10	QPSK	1	74	15.77	15.67	15.72	15.72	15.72	15.72			
10	QPSK	25	12	15.75	15.69	15.72	15.72	15.72	15.72			
10	QPSK	25	25	15.75	15.74	15.74	15.74	15.74	15.74			
10	QPSK	25	37	15.75	15.79	15.79	15.79	15.79	15.79	15.0		
10	QPSK	1	0	15.93	15.62	15.65	15.65	15.65	15.65			
10	QPSK	1	26	15.93	15.62	15.65	15.65	15.65	15.65	15.0		
10	QPSK	1	49	15.93	15.63	15.65	15.65	15.65	15.65			
10	QPSK	1	62	15.93	15.63	15.65	15.65	15.65	15.65			
10	QPSK	25	26	15.78	15.71	15.70	15.70	15.70	15.70			
10	QPSK	25	37	15.78	15.71	15.70	15.70	15.70	15.70	15.0		
10	QPSK	25	49	15.78	15.71	15.70	15.70	15.70	15.70			
10	QPSK	25	62	15.78	15.71	15.70	15.70	15.70	15.70			
10	QPSK	1	49	15.98	15.96	15.96	15.96	15.96	15.96			
10	QPSK	1	74	15.98	15.96	15.96	15.96	15.96	15.96	15.0		
10	QPSK	1	99	15.98	15.96	15.96	15.96	15.96	15.96			
10	QPSK	1	124	15.98	15.96	15.96	15.96	15.96	15.96			
10	QPSK	25	12	15.75	15.65	15.70	15.70	15.70	15.70	15.0		
10	QPSK	25	25	15.75	15.65	15.70	15.70	15.70	15.70			
10	QPSK	25	37	15.75	15.65	15.70	15.70	15.70	15.70	15.0		
10	QPSK	25	49	15.75	15.65	15.70	15.70	15.70	15.70			
10	QPSK	25	62	15.75	15.65	15.70	15.70	15.70	15.70	15.0		
10	QPSK	25	74	15.74	15.64	15.70	15.70	15.70	15.70			
10	QPSK	25	87	15.74	15.64	15.70	15.70	15.70	15.70	15.0		
Channel 4												
Frequency (MHz)				2060.5	2040.0	2080.5				Time-slot (ms)	MFR (dB)	
5	QPSK	1	0	15.71	15.63	15.63	15.63	15.63	15.63			
5	QPSK	1	12	15.60	15.42	15.66	15.66	15.66	15.66			
5	QPSK	1	24	15.60	15.42	15.66	15.66	15.66	15.66	15.0		
5	QPSK	12	0	15.81	15.72	15.72	15.72	15.72	15.72			
5	QPSK	12	7	15.75	15.68	15.68	15.68	15.68	15.68			0
5	QPSK	12	14	15.75	15.68	15.68	15.68	15.68	15.68			
5	QPSK	24	0	15.75	15.67	15.71	15.71	15.71	15.71	15.0		
5	QPSK	24	12	15.65	15.61	15.69	15.69	15.69	15.69			
5	QPSK	1	24	15.63	15.54	15.63	15.63	15.63	15.63			
5	QPSK	1	48	15.63	15.54	15.63	15.63	15.63	15.63	15.0		
5	QPSK	12	0	15.76	15.67	15.73	15.73	15.73	15.73			
5	QPSK	12	13	15.72	15.63	15.69	15.69	15.69	15.69	15.0		
5	QPSK	12	26	15.72	15.63	15.69	15.69	15.69	15.69			
5	QPSK	1	0	16.01	15.90	15.90	15.90	15.90	15.90			
5	QPSK	1	12	15.81	15.78	15.89	15.89	15.89	15.89	15.0		
5	QPSK	1	24	15.81	15.78	15.89	15.89	15.89	15.89			
5	QPSK	12	0	15.77	15.67	15.74	15.74	15.74	15.74			
5	QPSK	12	13	15.72	15.63	15.70	15.70	15.70	15.70	15.0		
5	QPSK	12	26	15.72	15.63	15.70	15.70	15.70	15.70			
5	QPSK	24	0	15.74	15.67	15.87	15.87	15.87	15.87			
Channel 5												
Frequency (MHz)				1815.5	1800	1980.5				Time-slot (ms)	MFR (dB)	
3	QPSK	1	0	15.87	15.66	15.66	15.66	15.66	15.66			
3	QPSK	1	69	15.99	15.97	15.97	15.97	15.97	15.97			
3	QPSK	1	138	15.99	15.97	15.97	15.97	15.97	15.97	15.0		
3	QPSK	8	0	15.71	15.64	15.68	15.68	15.68	15.68			
3	QPSK	8	4	15.73	15.64	15.67	15.67	15.67	15.67	15.0		
3	QPSK	8	7	15.87	15.60	15.65	15.65	15.65	15.65			
3	QPSK	15	0	15.70	15.65	15.70	15.70	15.70	15.70			
3	QPSK	15	7	15.73	15.67	15.69	15.69	15.69	15.69	15.0		
3	QPSK	1	8	15.94	15.89	15.92	15.92	15.92	15.92			
3	QPSK	1	14	15.89	15.78	15.89	15.89	15.89	15.89	15.0		
3	QPSK	1	28	15.73	15.71	15.73	15.73	15.73	15.73			
3	QPSK	1	42	15.78	15.73	15.75	15.75	15.75	15.75	15.0		
3	QPSK	1	56	15.78	15.73	15.75	15.75	15.75	15.75			
3	QPSK	1	70	15.78	15.73	15.75	15.75	15.75	15.75	15.0		
3	QPSK	1	14	15.79	15.68	15.80	15.8					

Band 26 for FCC (only on channel required)									
BSI (MHz)	Modulation	File Size	File Offset	Time Ch./Frame	Time Ch./Frame 2015	Time Ch./Frame 2016	Time Ch./Frame 2017	Turned on/off	MFR (dB)
Frequency (MHz)									
15	QPSK	1	0	21.65	21.67	21.62	21.62	22	0
15	QPSK	1	1	21.65	21.67	21.62	21.62	22	0
15	QPSK	1	74	21.62	21.63	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	21.46	21.47	21.47	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	21.59	21.52	21.52	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	21.46	21.43	21.43	22	0
15	QPSK	1	1	21.43	21.46	21.43	21.43	22	0
15	QPSK	1	74	21.56	21.44	21.63	21.63	22	0
15	QPSK	36	20	21.19	21.20	21.17	21.17	22	0
15	QPSK	36	20	21.19	21.20	21.17	21.17	21	1
15	QPSK	36	20	21.19	21.20	21.17	21.17	21	1
15	QPSK	75	0	21.23	21.24	21.28	21.28	22	0
Channel									
15	QPSK	1	0	21.62	21.65	21.60	21.60	Turned on/off	MFR (dB)
15	QPSK	1	6	21.52	21.55	21.50	21.50	22	0
15	QPSK	1	26	21.65	21.61	21.61	21.61	22	0
15	QPSK	1	49	21.39	21.43	21.37	21.37	22	0
15	QPSK	1	69	21.17	21.24	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	21.26	21.27	21.28	21.28	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	1	21.47	21.46	21.54	21.54	22	0
15	QPSK	1	49	21.66	21.48	21.63	21.63	22	0
15	QPSK	25	0	21.15	21.27	21.25	21.25	22	0
15	QPSK	25	0	21.19	21.24	21.23	21.23	22	0
15	QPSK	25	0	21.28	21.29	21.19	21.19	22	0
15	QPSK	25	0	21.28	21.29	21.19	21.19	22	0
15	QPSK	1	0	21.59	21.58	21.63	21.63	22	0
15	QPSK	1	25	21.39	21.45	21.38	21.38	22	0
15	QPSK	1	25	21.39	21.45	21.38	21.38	22	0
15	QPSK	25	0	20.88	20.18	20.14	20.14	21	1
15	QPSK	25	12	20.80	20.18	20.07	20.07	21	1
15	QPSK	25	12	20.80	20.18	20.07	20.07	21	1
15	QPSK	50	0	20.13	20.13	20.13	20.13	Turned on/off	MFR (dB)
Frequency (MHz)									
5	QPSK	1	0	21.18	21.22	21.23	21.23	22	0
5	QPSK	1	0	21.18	21.22	21.23	21	22	0
5	QPSK	1	24	21.12	21.17	21.04	21.04	22	0
5	QPSK	12	0	21.16	21.23	21.14	21.14	22	0
5	QPSK	12	0	21.09	21.22	21.11	21.11	22	0
5	QPSK	12	13	21.14	21.23	21.12	21.12	22	0
5	QPSK	25	0	21.12	21.24	21.13	21.13	22	0
5	QPSK	25	0	21.15	21.24	21.13	21.13	22	0
5	QPSK	1	12	21.41	21.48	21.36	21.36	22	0
5	QPSK	24	24	21.41	21.48	21.36	21.36	22	0
5	QPSK	12	7	21.21	21.24	21.13	21.13	22	0
5	QPSK	12	7	21.14	21.27	21.15	21.15	22	0
5	QPSK	12	13	21.22	21.25	21.12	21.12	22	0
5	QPSK	25	0	21.12	21.23	21.14	21.14	22	0
5	QPSK	1	0	21.34	21.38	21.33	21.33	22	0
5	QPSK	1	0	21.18	21.36	21.15	21.15	22	0
5	QPSK	1	24	21.33	21.39	21.19	21.19	22	0
5	QPSK	12	7	21.20	21.23	21.10	21.10	22	0
5	QPSK	12	7	21.09	21.20	21.04	21.04	21	1
5	QPSK	12	13	20.90	20.10	20.00	20.00	21	1
5	QPSK	25	0	20.10	20.10	20.00	20.00	Turned on/off	MFR (dB)
Channel									
5	QPSK	1	0	20.98	20.88	20.80	20.80	Turned on/off	MFR (dB)
5	QPSK	1	8	21.15	21.19	21.07	21.07	22	0
5	QPSK	1	19	21.04	21.15	21.02	21.02	22	0
5	QPSK	1	20	21.17	21.20	21.08	21.08	22	0
5	QPSK	8	4	21.20	21.22	21.12	21.12	22	0
5	QPSK	15	0	21.20	21.20	21.14	21.14	22	0
5	QPSK	1	0	21.48	21.50	21.39	21.39	22	0
5	QPSK	8	0	21.48	21.50	21.44	21.44	22	0
5	QPSK	1	14	21.38	21.45	21.40	21.40	22	0
5	QPSK	8	0	21.24	21.30	21.13	21.13	22	0
5	QPSK	8	0	21.27	21.28	21.12	21.12	22	0
5	QPSK	8	7	21.26	21.28	21.14	21.14	22	0
5	QPSK	1	0	21.53	21.53	21.43	21.43	22	0
5	QPSK	1	0	21.31	21.34	21.25	21.25	22	0
5	QPSK	1	9	21.33	21.38	21.31	21.31	22	0
5	QPSK	8	0	21.22	21.25	21.10	21.10	22	0
5	QPSK	8	0	20.11	20.13	20.00	20.00	21	1
5	QPSK	8	0	20.11	20.13	20.00	20.00	21	1
5	QPSK	8	0	20.08	20.11	20.00	20.00	Turned on/off	MFR (dB)
5	QPSK	15	0	20.07	20.11	20.00	20.00	Turned on/off	MFR (dB)
Frequency (MHz)									
1.4	QPSK	1	0	21.67	21.71	21.63	21.63	22	0
1.4	QPSK	1	0	20.95	20.98	20.94	20.94	22	0
1.4	QPSK	1	21	21.31	21.35	21.25	21.25	22	0
1.4	QPSK	1	0	21.15	21.20	21.09	21.09	22	0
1.4	QPSK	3	0	21.17	21.20	21.08	21.08	22	0
1.4	QPSK	3	0	21.17	21.20	21.08	21.08	22	0
1.4	QPSK	3	0	21.17	21.19	21.07	21.07	22	0
1.4	QPSK	6	0	21.11	21.22	21.09	21.09	22	0
1.4	QPSK	6	0	21.43	21.48	21.35	21.35	22	0
1.4	QPSK	1	0	21.48	21.54	21.48	21.48	22	0
1.4	QPSK	3	0	21.21	21.27	21.13	21.13	22	0
1.4	QPSK	3	0	21.28	21.34	21.18	21.18	22	0
1.4	QPSK	3	0	21.29	21.35	21.09	21.09	22	0
1.4	QPSK	6	0	21.20	21.22	21.12	21.12	22	0
1.4	QPSK	1	0	21.57	21.57	21.27	21.27	22	0
1.4	QPSK	1	0	21.39	21.34	21.23	21.23	22	0
1.4	QPSK	1	0	21.33	21.34	21.24	21.24	22	0
1.4	QPSK	3	0	21.28	21.33	21.18	21.18	22	0
1.4	QPSK	3	0	21.28	21.33	21.18	21.18	22	0
1.4	QPSK	3	0	21.21	21.29	21.14	21.14	21	1

Band 66										
BS (MHz)	Modulation	RB Size	RB Offset	Power (dBm)	Power (dBm) 130072	Power (dBm) 130332	Power (dBm) 130172	Time-slot (ms)	MPE (dB)	
Channel 1										
20	QPSK	1	0	18.82	18.11	18.11	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				
20	QPSK	1	99	15.59	15.52	15.51				
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	56	122	15.55	15.84	15.84				
20	QPSK	56	148	15.55	15.84	15.84				
20	QPSK	56	174	15.55	15.84	15.84				
20	QPSK	56	200	15.55	15.84	15.84				
20	QPSK	56	226	15.55	15.84	15.84				
20	QPSK	56	252	15.55	15.84	15.84				
20	QPSK	56	278	15.55	15.84	15.84				
20	QPSK	56	304	15.55	15.84	15.84				
20	QPSK	56	330	15.55	15.84	15.84				
20	QPSK	56	356	15.55	15.84	15.84				
20	QPSK	56	382	15.55	15.84	15.84				
20	QPSK	56	408	15.55	15.84	15.84				
20	QPSK	56	434	15.55	15.84	15.84				
20	QPSK	56	460	15.55	15.84	15.84				
20	QPSK	56	486	15.55	15.84	15.84				
20	QPSK	56	512	15.55	15.84	15.84				
20	QPSK	56	538	15.55	15.84	15.84				
20	QPSK	56	564	15.55	15.84	15.84				
20	QPSK	56	590	15.55	15.84	15.84				
20	QPSK	56	616	15.55	15.84	15.84				
20	QPSK	56	642	15.55	15.84	15.84				
20	QPSK	56	668	15.55	15.84	15.84				
20	QPSK	56	694	15.55	15.84	15.84				
20	QPSK	56	720	15.55	15.84	15.84				
20	QPSK	56	746	15.55	15.84	15.84				
20	QPSK	56	772	15.55	15.84	15.84				
20	QPSK	56	798	15.55	15.84	15.84				
20	QPSK	56	824	15.55	15.84	15.84				
20	QPSK	56	850	15.55	15.84	15.84				
20	QPSK	56	876	15.55	15.84	15.84				
20	QPSK	56	902	15.55	15.84	15.84				
20	QPSK	56	928	15.55	15.84	15.84				
20	QPSK	56	954	15.55	15.84	15.84				
20	QPSK	56	980	15.55	15.84	15.84				
20	QPSK	56	1006	15.55	15.84	15.84				
20										
Channel 2										
Frequency (MHz)				17715	1745	1779	1773.5	Time-slot (ms)	MPE (dB)	
15	QPSK	1	0	16.02	16.37	16.74				
15	QPSK	1	49	15.02	15.48	15.78		16.5	0	
15	QPSK	1	99	15.02	15.48	15.78				
15	QPSK	1	74	15.86	16.05	16.75				
15	QPSK	36	0	15.55	16.44	15.69				
15	QPSK	36	36	15.55	16.44	15.69				
15	QPSK	36	72	15.52	15.55	15.57				
15	QPSK	36	108	15.52	15.55	15.57				
15	QPSK	36	144	15.52	15.55	15.57				
15	QPSK	36	180	15.52	15.55	15.57				
15	QPSK	36	216	15.52	15.55	15.57				
15	QPSK	36	252	15.52	15.55	15.57				
15	QPSK	36	288	15.52	15.55	15.57				
15	QPSK	36	324	15.52	15.55	15.57				
15	QPSK	36	360	15.52	15.55	15.57				
15	QPSK	36	396	15.52	15.55	15.57				
15	QPSK	36	432	15.52	15.55	15.57				
15	QPSK	36	468	15.52	15.55	15.57				
15	QPSK	36	504	15.52	15.55	15.57				
15	QPSK	36	540	15.52	15.55	15.57				
15	QPSK	36	576	15.52	15.55	15.57				
15	QPSK	36	612	15.52	15.55	15.57				
15	QPSK	36	648	15.52	15.55	15.57				
15	QPSK	36	684	15.52	15.55	15.57				
15	QPSK	36	720	15.52	15.55	15.57				
15	QPSK	36	756	15.52	15.55	15.57				
15	QPSK	36	792	15.52	15.55	15.57				
15	QPSK	36	828	15.52	15.55	15.57				
15	QPSK	36	864	15.52	15.55	15.57				
15	QPSK	36	900	15.52	15.55	15.57				
15	QPSK	36	936	15.52	15.55	15.57				
15	QPSK	36	972	15.52	15.55	15.57				
15	QPSK	36	1008	15.52	15.55	15.57				
15										
Channel 3										
Frequency (MHz)				17715	1745	1779	1773.5	Time-slot (ms)	MPE (dB)	
3	QPSK	1	0	15.28	15.28	15.24	15.68			
3	QPSK	1	49	15.02	15.02	15.02	15.02	16.5	0	
3	QPSK	1	99	15.02	15.02	15.02	15.02			
3	QPSK	1	14	15.02	15.24	15.02	15.24			
3	QPSK	8	0	15.57	15.48	15.54	15.68			
3	QPSK	8	40	15.57	15.57	15.54	15.58	16.5	0	
3	QPSK	8	80	15.57	15.57	15.54	15.58			
3	QPSK	8	120	15.57	15.57	15.54	15.58			
3	QPSK	8	160	15.57	15.57	15.54	15.58			
3	QPSK	8	200	15.57	15.57	15.54	15.58			
3	QPSK	8	240	15.57	15.57	15.54	15.58			
3	QPSK	8	280	15.57	15.57	15.54	15.58			
3	QPSK	8	320	15.57	15.57	15.54	15.58			
3	QPSK	8	360	15.57	15.57	15.54	15.58			
3	QPSK	8	400	15.57	15.57	15.54	15.58			
3	QPSK	8	440	15.57	15.57	15.54	15.58			
3	QPSK	8	480	15.57	15.57	15.54	15.58			
3	QPSK	8	520	15.57	15.57	15.54	15.58			
3	QPSK	8	560	15.57	15.57	15.54	15.58			
3	QPSK	8	600	15.57	15.57	15.54	15.58			
3	QPSK	8	640	15.57	15.57	15.54	15.58			
3	QPSK	8	680	15.57	15.57	15.54	15.58			
3	QPSK	8	720	15.57	15.57	15.54	15.58			
3	QPSK	8	760	15.57	15.57	15.54	15.58			
3	QPSK	8	800	15.57	15.57	15.54	15.58			
3	QPSK	8	840	15.57	15.57	15.54	15.58			
3	QPSK	8	880	15.57	15.57	15.54	15.58			
3	QPSK	8	920	15.57	15.57	15.54	15.58			
3	QPSK	8	960	15.57	15.57	15.54	15.58			
3	QPSK	8	1000	15.57	15.57	15.54	15.58			
3										
Channel 4										
Frequency (MHz)				17715	1745	1779	1773.5	Time-slot (ms)	MPE (dB)	
14	QPSK	1	0	15.57	15.57	15.58	15.67			
14	QPSK	1	49	15.57	15.57	15.58	15.67	16.5	0	
14	QPSK	1	99	15.57	15.57	15.58	15.67			
14	QPSK	1	8	15.54	15.54	15.54	15.54			
14	QPSK	3	0	15.62	15.56	15.84				
14	QPSK	3	33	15.62	15.56	15.84				
14	QPSK	3	66	15.62	15.56	15.84				
14	QPSK	3	99	15.62	15.56	15.84				
14	QPSK	3	132	15.62	15.56	15.84				
14	QPSK	3	165	15.62	15.56	15.84				
14	QPSK	3	198	15.62	15.56	15.84				
14	QPSK	3	231	15.62	15.56	15.84				
14	QPSK	3	264	15.62	15.56	15.84				
14	QPSK	3	297	15.62	15.56	15.84				
14	QPSK	3	330	15.62	15.56	15.84				
14	QPSK	3	363	15.62	15.56	15.84				
14	QPSK	3	396	15.62	15.56	15.84				
14	QPSK	3	429	15.62	15.56	15.84				
14	QPSK	3	462	15.62	15.56	15.84				
14	QPSK	3	495	15.62	15.56	15.84				
14	QPSK	3	528	15.62	15.56	15.84				
14	QPSK	3	561	15.62	15.56	15.84				
14	QPSK	3	594	15.62	15.56	15.84				
14	QPSK	3	627	15.62	15.56	15.84				
14	QPSK	3	660	15.62	15.56	15.84				
14	QPSK	3	693	15.62	15.56	15.84				
14	QPSK	3	726	15.62	15.56	15.84				
14	QPSK	3	759	15.62	15.56	15.84				
14	QPSK	3	792	15.62	15.56	15.84				
14	QPSK	3	825	15.62	15.56	15.84				
14	QPSK	3	858	15.62	15.56	15.84				
14	QPSK	3	891	15.62	15.56	15.84				
14	QPSK	3	924	15.62	15.56	15.84				
14	QPSK	3	957	15.62	15.56	15.84</				



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	20.44	20.40				
20	16QAM	1	80	20.59	20.60	20.64				
20	16QAM	50	0	20.31	20.45	20.40	21.5	0		
20	16QAM	50	24	20.29	20.44	20.51				
20	16QAM	100	0	20.37	20.44	20.46				
20	16QAM	1	40	20.41	20.44	20.47	21.0	0.5		
20	16QAM	1	80	20.59	20.60	20.64				
20	16QAM	50	0	20.31	20.45	20.40				
20	16QAM	50	24	20.25	20.45	20.44	21.0	0.5		
20	16QAM	50	50	20.47	20.49	20.42				
20	16QAM	100	0	20.45	20.45	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	1	0	20.33	20.42	20.50				
15	QPSK	1	37	20.43	20.48	20.49				
15	16QAM	1	74	20.67	20.64	20.66	21.5	0		
15	16QAM	36	0	20.39	20.48	20.49				
15	16QAM	36	20	20.36	20.45	20.48				
15	16QAM	36	40	20.44	20.56	20.58	21.0	0		
15	16QAM	36	74	20.67	20.64	20.66				
15	16QAM	36	108	20.69	20.68	20.68				
15	16QAM	72	0	20.38	20.48	20.49	21.0	0.5		
15	16QAM	72	0	20.38	20.48	20.49				
15	16QAM	72	0	20.38	20.48	20.49				
15	16QAM	72	0	20.38	20.48	20.49	21.0	0.5		
15	16QAM	72	0	20.38	20.48	20.49				
15	16QAM	72	0	20.38	20.48	20.49				
15	16QAM	72	0	20.38	20.48	20.49	21.0	0.5		
15	16QAM	72	0	20.38	20.48	20.49				
15	16QAM	72	0	20.38	20.48	20.49				
15	16QAM	72	0	20.38	20.48	20.49	21.0	0.5		
15	16QAM	72	0	20.38	20.48	20.49				
15	16QAM	72	0	20.38	20.48	20.49				
15	16QAM	72	0	20.38	20.48	20.49	21.0	0.5		
15	16QAM	72	0	20.38	20.48	20.49				
15	16QAM	72	0	20.38	20.48	20.49				
15	16QAM	72	0	20.38	20.48	20.49	21.0	0.5		
15	16QAM	72	0	20.38	20.48	20.49				
15	16QAM	72	0	20.38	20.48	20.49				
15	16QAM	72	0	20.38	20.48	20.49	21.0	0.5		
15	16QAM	72	0	20.38	20.48	20.49				
15	16QAM	72	0	20.38	20.48	20.49				
15	16QAM	72	0	20.38	20.48	20.49	21.0	0.5		
15	16QAM	72	0	20.38	20.48	20.49				
15	16QAM	72	0	20.38	20.48	20.49				
15	16QAM	72	0	20.38	20.48	20.49	21.0	0.5		
15	16QAM	72	0	20.38	20.48	20.49				
15	16QAM	72	0	20.38	20.48	20.49				
15	16QAM	72	0	20.38	20.48	20.49	21.0	0.5		
15	16QAM	72	0	20.38	20.48	20.49				
15	16QAM	72	0	20.38	20.48	20.49				
15	16QAM	72	0	20.38	20.48	20.49	21.0	0.5		
15	16QAM	72	0	20.38	20.48	20.49				
15	16QAM	72	0	20.38	20.48	20.49				
15	16QAM	72	0	20.38	20.48	20.49	21.0	0.5		
15	16QAM	72	0	20.38	20.48	20.49				
15	16QAM	72	0	20.38	20.48	20.49				
15	16QAM	72	0	20.38	20.48	20.49	21.0	0.5		
15	16QAM	72	0	20.38	20.48	20.49				
15	16QAM	72	0	20.38	20.48	20.49				
15	16QAM	72	0	20.38	20.48	20.49	21.0	0.5		
15	16QAM	72	0	20.38	20.48	20.49				
15	16QAM	72	0	20.38	20.48	20.49				
15	16QAM	72	0	20.38	20.48	20.49	21.0	0.5		
15	16QAM	72	0	20.38	20.48	20.49				
15	16QAM	72	0	20.38	20.48	20.49				
15	16QAM	72	0	20.38	20.48	20.49	21.0	0.5		
15	16QAM	72	0	20.38	20.48	20.49				
15	16QAM	72	0	20.38	20.48	20.49				
15	16QAM	72	0	20.38	20.48	20.49	21.0	0.5		
15	16QAM	72	0	20.38	20.48	20.49				
15	16QAM	72	0	20.38	20.48	20.49				
15	16QAM	72	0	20.38	20.48	20.49	21.0	0.5		
15	16QAM	72	0	20.38	20.48	20.49				
15	16QAM	72	0	20.38	20.48	20.49				
15	16QAM	72	0	20.38	20.48	20.49	21.0	0.5		
15	16QAM	72	0	20.38	20.48	20.49				
15	16QAM	72	0	20.38	20.48	20.49				
15	16QAM	72	0	20.38	20.48	20.49	21.0	0.5		
15	16QAM	72	0	20.38	20.48	20.49				
15	16QAM	72	0	20.38	20.48	20.49				
15	16QAM	72	0	20.38	20.48	20.49	21.0	0.5		
15	16QAM	72	0	20.38	20.48	20.49				
15	16QAM	72	0	20.38	20.48	20.49				
15	16QAM	72	0	20.38	20.48	20.49	21.0	0.5		
15	16QAM	72	0	20.38	20.48	20.49				
15	16QAM	72	0	20.38	20.48	20.49				
15	16QAM	72	0	20.38	20.48	20.49	21.0	0.5		
15	16QAM	72	0	20.38	20.48	20.49				
15	16QAM	72	0	20.38	20.48	20.49				
15	16QAM	72	0	20.38	20.48	20.49	21.0	0.5		
15	16QAM	72	0	20.38	20.48	20.49				
15	16QAM	72	0	20.38	20.48	20.49				
15	16QAM	72	0	20.38	20.48	20.49	21.0	0.5		
15	16QAM	72	0	20.38	20.48	20.49				
15	16QAM	72	0	20.38	20.48	20.49				
15	16QAM	72	0	20.38	20.48	20.49	21.0	0.5		
15	16QAM	72	0	20.38	20.48	20.49				
15	16QAM	72	0	20.38	20.48	20.49				
15	16QAM	72	0	20.38	20.48	20.49	21.0	0.5		
15	16QAM	72	0	20.38	20.48	20.49				
15	16QAM	72	0	20.38	20.48	20.49				
15	16QAM	72	0	20.38	20.48	20.49	21.0	0.5		
15	16QAM	72	0	20.38	20.48	20.49				
15	16QAM	72	0	20.38	20.48	20.49				
15	16QAM	72	0	20.38	20.48	20.49	21.0	0.5		
15	16QAM	72	0	20.38	20.48	20.49				
15	16QAM	72	0	20.38	20.48	20.49				
15	16QAM	72	0	20.38	20.48	20.49	21.0	0.5		
15	16QAM	72	0	20.38	20.48	20.49				
15	16QAM	72	0	20.38	20.48	20.49				
15	16QAM	72	0	20.38	20.48	20.49	21.0	0.5		
15	16QAM	72	0	20.38	20.48	20.49				
15	16QAM	72	0	20.38	20.48	20.49				
15	16QAM	72	0	20.38	20.48	20.49	21.0	0.5		
15	16QAM	72	0	20.38	20.48	20.49				
15	16QAM	72	0	20.38	20.48	20.49				
15	16QAM	72	0	20.38	20.48	20.49	21.0	0.5		
15	16QAM	72	0	20.38	20.48	20.49				
15	16QAM	72	0	20.38	20.48	20.49				
15	16QAM	72	0	20.38	20.48	20.49	21.0	0.5		
15	16QAM	72	0	20.38	20.48	20.49				
15	16QAM	72	0	20.38	20.48	20.49				
15	16QAM	72	0	20.38	20.48	20.49	21.0	0.5		
15	16QAM	72	0	20.38	20.48	20.49				
15	16QAM	72	0	20.38	20.48	20.49				
15	16QAM	72	0	20.38	20.48	20.49	21.0	0.5		
15	16QAM	72	0	20.38	20.48	20.49				
15	16QAM	72	0	20.38	20.48	20.49				
15	16QAM	72	0	20.38	20.48	20.49	21.0	0.5		
15	16QAM	72	0	20.38	20.48	20.49				
15	16QAM	72	0	20.38	20.48	20.49				
15	16QAM	72	0	20.38	20.48	20.49	21.0	0.5		
15	16QAM	72	0	20.38	20.48	20.49				
15	16QAM	72	0	20.38	20.48	20.49				
15	16QAM	72	0	20.38	20.48	20.49	21.0	0.5		
15	16QAM	72	0	20.38	20.48	20.49				
15	16QAM	72	0	20.38	20.48	20.49				
15	16QAM	72	0	20.38	20.48	20.49	21.0	0.5		
15	16QAM	72	0	20.38	20.48	20.49				
15	16QAM	72	0	20.38	20.48	20.49				
15	16QAM	72	0	20.38	20.48	20.49	21.0	0.5		
15	16QAM	72	0	20.38	20.48	20.49				
15	16QAM	72	0	20.38	20.48	20.49				
15	16QAM	72	0	20.38	20.48	20.49	21.0	0.5		

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	12.88				
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	12.96	12.41	12.40				
20	WQAM	1	0	12.34	12.38	12.35				
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	0	12.18	12.18	12.18				
20	WQAM	50	24	12.20	12.10	11.99	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	12.16	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	12.07	12.05	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	12.09	12.01	13.5	0		
15	WQAM	36	36	12.10	12.00	12.05				
15	WQAM	36	52	12.04	12.07	12.00				
15	WQAM	75	0	12.08	12.00	12.03				
15	WQAM	1	37	12.54	12.48	12.38	13.5	0		
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	12.09	12.02	13.5	0		
15	WQAM	36	36	12.08	12.00	12.03				
15	WQAM	75	0	12.05	12.07	12.00				
Channel										
Frequency (MHz)										
10	QPSK	1	0	12.21	12.20	12.04				
10	QPSK	1	25	11.62	11.60	11.84	13.5	0		
10	QPSK	1	50	12.06	12.06	12.04				
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	12.16	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	12.09	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	12.65	12.65	12.61				
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	25	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	12.58				
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	1	0	12.50	12.40	12.35	13.5	0		
5	WQAM	1	12	12.39	12.31	12.15				
5	WQAM	24	0	12.34	12.30	12.25				
5	WQAM	12	0	12.26	12.20	12.19				
5	WQAM	12	7	12.21	12.17	12.11	13.5	0		
5	WQAM	12	13	12.17	12.17	12.12				
5	WQAM	25	0	12.17	12.10	12.05				
5	WQAM	25	0	12.15	12.07	12.03				
5	WQAM	25	0	12.20	12.12	12.09	13.5	0		
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	12.10	12.07	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	12.09				
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	12.05				
3	WQAM	8	4	12.17	12.10	12.05	13.5	0		
3	WQAM	8	7	12.09	12.00	12.01				
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	1	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	5	0	12.06	12.03	12.03				
1.4	WQAM	3	0	12.21	12.16	12.11	13.5	0		
1.4	WQAM	3	1	12.25	12.20	12.15				
1.4	WQAM	3	5	12.18	12.10	12.10				
1.4	WQAM	6	0	12.12	12.05	12.00	13.5	0		
1.4	WQAM	1	0	12.11	12.02	12.02				
1.4	WQAM	5	0	12.33	12.24	12.14				
1.4	WQAM	1	5	12.25	12.20	12.15	13.5	0		
1.4	WQAM	3	0	12.21	12.16	12.11				
1.4	WQAM	3	1	12.23	12.22	12.12				
1.4	WQAM	3	5	12.18	12.12	12.10				
1.4	WQAM	6	0	12.12	12.05	12.00	13.5	0		
1.4	WQAM	1	0	12.33	12.22	12.19				
1.4	WQAM	1	5	12.23	12.18	12.11	13.5	0		
1.4	WQAM	3	1	12.27	12.22	12.13				
1.4	WQAM	3	3	12.28	12.18	12.13				
1.4	WQAM	6	0	12.13	12.06	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	12.28	13.13	13.01	14	0						
20	QPSK	1	96	12.68	13.53	13.41								
20	QPSK	1	96	12.77	13.60	13.50								
20	QPSK	50	16	12.38	12.42	12.37								
20	QPSK	100	0	12.40	12.51	12.45	14	0						
20	QPSK	100	96	12.80	12.91	12.85								
20	QPSK	100	96	12.89	12.96	12.90								
20	QPSK	50	24	12.48	12.42	12.38								
20	QPSK	100	0	12.48	12.59	12.53	14	0						
20	QPSK	100	96	12.88	12.99	12.93								
20	QPSK	100	96	12.97	13.04	12.98								
20	QPSK	50	50	12.35	12.37	12.33								
20	QPSK	100	0	12.44	12.50	12.46	14	0						
Frequency (MHz)											1717.5	1722.5	1747.5	
15	QPSK	1	0	12.03	12.13	12.14					14	0		
15	QPSK	1	96	12.43	12.53	12.54								
15	QPSK	1	74	12.41	12.43	12.34								
15	QPSK	50	16	12.50	12.50	12.50								
15	QPSK	96	0	12.05	12.07	12.05	14	0						
15	QPSK	96	96	12.40	12.47	12.44								
15	QPSK	96	96	12.45	12.45	12.45								
15	QPSK	50	24	12.37	12.35	12.46								
15	QPSK	1	0	12.91	12.90	12.90	14	0						
15	QPSK	1	96	12.75	12.76	12.76								
15	QPSK	1	96	12.83	12.84	12.84								
15	QPSK	50	16	12.46	12.51	12.49								
15	QPSK	96	0	12.02	12.04	12.04	14	0						
15	QPSK	96	96	12.43	12.45	12.44								
15	QPSK	96	96	12.43	12.45	12.44								
15	QPSK	50	24	12.37	12.45	12.46								
15	QPSK	1	0	13.01	13.00	13.00	14	0						
15	QPSK	1	96	12.71	12.65	12.64								
15	QPSK	1	74	12.88	12.65	12.64								
15	QPSK	50	16	12.53	12.53	12.53								
15	QPSK	96	0	12.43	12.43	12.43	14	0						
15	QPSK	96	96	12.85	12.82	12.82								
15	QPSK	96	96	12.81	12.44	12.41								
15	QPSK	50	24	12.37	12.44	12.45								
Channel							20060	20170	20310	Turn-up init. (dB)	MPR (dB)			
Frequency (MHz)							1717.5	1722.5	1747.5					
10	QPSK	1	0	12.40	12.40	12.40	14	0						
10	QPSK	1	25	12.42	12.43	12.40								
10	QPSK	1	49	12.61	12.61	12.61								
10	QPSK	1	73	12.51	12.54	12.51								
10	QPSK	25	12	12.47	12.30	12.48	14	0						
10	QPSK	25	12	12.47	12.30	12.48								
10	QPSK	50	0	12.52	12.52	12.52								
10	QPSK	50	0	12.52	12.52	12.52								
10	QPSK	1	0	13.15	13.18	13.12	14	0						
10	QPSK	1	96	12.99	12.98	12.91								
10	QPSK	25	0	12.52	12.55	12.46								
10	QPSK	25	0	12.48	12.52	12.44								
10	QPSK	25	25	12.54	12.56	12.55	14	0						
10	QPSK	50	0	12.53	12.55	12.48								
10	QPSK	50	0	12.52	12.53	12.48								
10	QPSK	50	0	12.53	12.55	12.48								
10	QPSK	1	0	13.02	13.03	13.00	14	0						
10	QPSK	1	25	12.68	12.68	12.68								
10	QPSK	1	49	12.68	12.68	12.68								
10	QPSK	50	16	12.50	12.50	12.50								
10	QPSK	25	12	12.49	12.48	12.41	14	0						
10	QPSK	25	12	12.49	12.48	12.41								
10	QPSK	25	12	12.49	12.48	12.41								
10	QPSK	50	0	12.49	12.56	12.45								
Channel							19690	19770	20370	Turn-up init. (dB)	MPR (dB)			
Frequency (MHz)							1717.5	1722.5	1747.5					
5	QPSK	1	0	13.32	13.36	13.30	14	0						
5	QPSK	1	12	12.34	12.36	12.27								
5	QPSK	1	24	12.35	12.36	12.27								
5	QPSK	12	0	12.54	12.56	12.50								
5	QPSK	12	0	12.47	12.51	12.45	14	0						
5	QPSK	12	0	12.43	12.47	12.41								
5	QPSK	26	0	12.47	12.52	12.46								
5	QPSK	26	0	12.47	12.52	12.46								
5	QPSK	12	12	12.73	12.71	12.70	14	0						
5	QPSK	12	12	12.73	12.71	12.70								
5	QPSK	12	12	12.73	12.71	12.70								
5	QPSK	12	12	12.73	12.71	12.70								
5	QPSK	1	0	12.77	12.78	12.70	14	0						
5	QPSK	1	24	12.72	12.70	12.70								
5	QPSK	1	24	12.72	12.70	12.70								
5	QPSK	12	0	12.62	12.55	12.50								
5	QPSK	12	0	12.49	12.55	12.47	14	0						
5	QPSK	12	0	12.49	12.55	12.47								
5	QPSK	12	0	12.49	12.55	12.47								
5	QPSK	12	12	12.41	12.45	12.41								
5	QPSK	25	12	12.49	12.51	12.47	14	0						
Frequency (MHz)											1717.5	1722.5	1747.5	
3	QPSK	1	0	12.39	12.33	12.38					14	0		
3	QPSK	1	14	12.35	12.33	12.33								
3	QPSK	8	0	12.45	12.30	12.45								
3	QPSK	8	0	12.45	12.30	12.45								
3	QPSK	1	0	12.72	12.65	12.61	14	0						
3	QPSK	1	7	12.43	12.46	12.44								
3	QPSK	15	0	12.42	12.50	12.47								
3	QPSK	15	0	12.72	12.65	12.61								
3	QPSK	8	0	12.69	12.74	12.68	14	0						
3	QPSK	8	0	12.69	12.74	12.68								
3	QPSK	8	0	12.69	12.74	12.68								
3	QPSK	8	0	12.69	12.74	12.68								
3	QPSK	8	0	12.64	12.68	12.61	14	0						
3	QPSK	8	0	12.67	12.63	12.64								
3	QPSK	8	0	12.67	12.63	12.64								
3	QPSK	15	0	12.62	12.65	12.60								
3	QPSK	15	0	12.48	12.50	12.40	14	0						
3	QPSK	15	0	12.59	12.60	12.60								
3	QPSK	15	0	12.59	12.60	12.60								
3	QPSK	15	0	12.59	12.60	12.60								
3	QPSK	14	54	12.54	12.57	12.52	14	0						
3	QPSK	8	0	12.47	12.46	12.45								
3	QPSK	8	0	12.47	12.46	12.45								
3	QPSK	8	0	12.47	12.46	12.45								
3	QPSK	8	7	12.40	12.45	12.41	14	0						
3	QPSK	8	7	12.40	12.45	12.41								
3	QPSK	8	7	12.40	12.45	12.41								
3	QPSK	8	7	12.40	12.45	12.41								
Channel							19690	19770	20370	Turn-up init. (dB)	MPR (dB)			
Frequency (MHz)							1717.5	1722.5	1747.5					
1.4	QPSK	1	0	12.37	12.35	12.35	14	0						
1.4	QPSK	1	0	12.36	12.41	12.39								
1.4	QPSK	1	0	12.43	12.41	12.41								
1.4	QPSK	3	0	12.48	12.47	12.40								
1.4	QPSK	3	0	12.38	12.40	12.36	14	0						
1.4	QPSK	3	0	12.39	12.44	12.40								
1.4	QPSK	1	0	12.64	12.68	12.62								
1.4	QPSK	1	0	12.63	12.66	12.61								
1.4	QPSK	3	0	12.45	12.49	12.46	14	0						
1.4	QPSK	3	0	12.45	12.49	12.46								
1.4	QPSK	3	0	12.45	12.49	12.46								
1.4	QPSK	3	0	12.45	12.49	12.46								
1.4	QPSK	3	0	12.56	12.58	12.52	14	0						
1.4	QPSK	3	0	12.53	12.53	12.52								
1.4	QPSK	3	0	12.53	12.53	12.52								
1.4	QPSK	3	0	12.52	12.57	12.55								
1.4	QPSK	3	0	12.38	12.43	12.42	14	0						
1.4	QPSK	3	0	12.38	12.43	12.42								
1.4	QPSK	3	0	12.38	12.43	12.42								
1.4	QPSK	3	0	12.38	12.43	12.42								



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	12.51	12.56	11.94								
20	QPSK	50	50	12.65	11.99	11.92	13.5	0						
20	WQAM	100	0	12.52	12.52	12.52								
20	WQAM	1	49	11.88	11.96	11.88								
20	WQAM	50	0	12.52	12.52	12.52								
20	WQAM	50	24	12.51	12.56	11.94								
20	WQAM	50	50	12.52	11.98	11.92	13.5	0						
20	WQAM	100	0	12.58	12.52	11.98								
20	WQAM	1	0	12.41	12.36	12.41								
20	WQAM	1	49	12.53	12.57	12.07								
20	WQAM	1	99	12.15	12.51	11.99								
20	WQAM	50	0	12.52	12.52	12.52	13.5	0						
20	WQAM	50	24	12.58	12.04	11.94								
20	WQAM	50	50	12.62	11.93	11.88								
20	WQAM	100	0	12.52	12.52	11.98								
Channel														
Frequency (MHz)														
15	QPSK	1	0	12.13	12.13	12.05	13.5	0						
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	37	0	12.27	12.15	12.08								
15	WQAM	1	74	12.43	12.40	12.29								
15	WQAM	36	0	12.25	12.15	12.04	13.5	0						
15	WQAM	36	20	12.27	12.15	12.08								
15	WQAM	36	36	12.19	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	13.5	0						
15	WQAM	1	74	12.43	12.40	12.29								
15	WQAM	36	20	12.28	12.12	12.04								
15	WQAM	36	36	12.19	12.13	12.06								
15	WQAM	75	0	12.27	12.15	12.09								
15	WQAM	1	37	12.28	12.20	12.02	13.5	0						
Channel														
Frequency (MHz)														
10	QPSK	1	0	12.19	12.11	12.10	13.5	0						
10	QPSK	1	25	11.94	11.86	11.80								
10	QPSK	1	49	12.27	12.12	12.12								
10	QPSK	25	0	12.27	12.12	12.13								
10	QPSK	25	12	12.23	12.11	12.13								
10	QPSK	25	25	12.26	12.20	12.15	13.5	0						
10	QPSK	50	0	12.28	12.12	12.15								
10	WQAM	1	0	12.10	12.10	12.20								
10	WQAM	1	49	12.30	12.19	12.10								
10	WQAM	25	0	12.24	12.12	12.15								
10	WQAM	25	12	12.25	12.09	12.12	13.5	0						
10	WQAM	25	25	12.23	12.12	12.13								
10	WQAM	50	0	12.41	12.30	12.21								
10	WQAM	1	25	12.41	12.26	12.28								
10	WQAM	1	49	12.27	12.13	12.15								
10	WQAM	25	0	12.27	12.13	12.15	13.5	0						
10	WQAM	25	12	12.22	12.08	12.13								
10	WQAM	25	25	12.22	12.12	12.14								
10	WQAM	50	0	12.19	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	12.19	12.22	12.14								
5	QPSK	25	0	12.12	12.13	12.13								
5	WQAM	1	0	12.15	12.15	12.25	13.5	0						
5	WQAM	1	12	12.15	12.25	12.30								
5	WQAM	1	24	12.45	12.33	12.34								
5	WQAM	12	0	12.21	12.24	12.15								
5	WQAM	12	12	12.14	12.27	12.12								
5	WQAM	12	13	12.16	12.22	12.12	13.5	0						
5	WQAM	25	0	12.15	12.26	12.15								
5	WQAM	25	12	12.14	12.27	12.15								
5	WQAM	1	24	12.45	12.33	12.33								
5	WQAM	1	12	12.19	12.38	12.19								
5	WQAM	12	0	12.22	12.32	12.15	13.5	0						
5	WQAM	12	12	12.27	12.38	12.15								
5	WQAM	12	13	12.27	12.38	12.15								
5	WQAM	25	0	12.20	12.35	12.25								
5	WQAM	25	12	12.21	12.35	12.25								
5	WQAM	1	24	12.45	12.38	12.31	13.5	0						
5	WQAM	1	12	12.36	12.36	12.30								
5	WQAM	1	24	12.38	12.38	12.38								
5	WQAM	12	0	12.27	12.33	12.25								
5	WQAM	12	13	12.28	12.34	12.12								
5	WQAM	25	0	12.21	12.35	12.25	13.5	0						
Channel														
Frequency (MHz)														
1.4	QPSK	1	0	12.17	12.11	12.10	13.5	0						
1.4	QPSK	1	7	12.26	12.15	12.15								
1.4	QPSK	1	6	12.15	12.03	12.08								
1.4	QPSK	1	12	12.05	12.04	12.08								
1.4	QPSK	3	1	12.17	12.15	12.13								
1.4	QPSK	3	2	12.12	12.06	12.08	13.5	0						
1.4	QPSK	3	11	12.09	12.02	12.11								
1.4	WQAM	1	0	12.30	12.31	12.38								
1.4	WQAM	1	5	12.35	12.30	12.28								
1.4	WQAM	3	0	12.28	12.20	12.28								
1.4	WQAM	3	6	12.28	12.17	12.15	13.5	0						
1.4	WQAM	3	12	12.15	12.15	12.15								
1.4	WQAM	3	7	12.18	12.15	12.12								
1.4	WQAM	6	0	12.16	12.08	12.10								
1.4	WQAM	6	12	12.16	12.08	12.10								
1.4	WQAM	1	3	12.29	12.29	12.23	13.5	0						
1.4	WQAM	1	12	12.27	12.12	12.21								
1.4	WQAM	1	1	12.35	12.17	12.22								
1.4	WQAM	3	17	12.20	12.12	12.12								
1.4	WQAM	6	6	12.21	12.10	12.10								

Band 38(only on channel required)									
RF (MHz)	Modulation	RB Size	RB Offset	Power Line 1 (dBm)	Power Max 1 (dBm)	Power Max 2 (dBm)	Time-up link (frames)	MPE (dB)	
Channel									
Frequency (MHz)				37860	38060	38150			
38	QPSK	1	0	24.01	24.01	24.15			
38	QPSK	1	48	20.36	20.37	20.36	21.5	0	
38	QPSK	1	96	16.63	16.63	16.60			
38	QPSK	1	144	12.83	12.82	12.83			
38	QPSK	16	24	20.36	20.43	20.47			
38	QPSK	16	96	16.63	16.59	16.68	21.5	0	
38	QPSK	16	168	12.82	12.83	12.84			
38	HQAM	1	0	25.36	25.44	25.50			
38	HQAM	1	48	21.64	21.64	21.67			
38	HQAM	1	96	17.99	17.99	18.00	21.5	0	
38	HQAM	1	144	14.25	14.25	14.26			
38	HQAM	16	24	20.25	20.44	20.41			
38	HQAM	16	96	16.55	16.55	16.48	21.5	0	
38	HQAM	16	168	12.77	12.81	12.81			
38	HQAM	16	192	12.77	12.81	12.81			
38	HQAM	1	48	20.37	20.27	20.26			
38	HQAM	1	96	16.63	16.63	16.60			
38	HQAM	16	24	20.26	20.37	20.34			
38	HQAM	16	96	16.55	16.48	16.44	21.0	0.5	
38	HQAM	16	0	20.45	20.49	20.52			
Channel									
Frequency (MHz)				38175	38375	38175	Time-up link (frames)	MPE (dB)	
38	QPSK	1	0	25.21	25.25	25.20			
38	QPSK	1	48	21.57	21.57	21.57			
38	QPSK	1	96	17.92	17.92	17.92	21.5	0	
38	QPSK	1	144	14.28	14.28	14.28			
38	QPSK	16	24	20.35	20.49	20.49			
38	QPSK	16	96	16.58	16.58	16.58	21.5	0	
38	QPSK	16	168	12.76	12.76	12.76			
38	QPSK	16	192	12.76	12.76	12.76			
38	HQAM	1	0	26.47	26.58	26.69			
38	HQAM	1	48	22.84	22.84	22.84			
38	HQAM	1	96	19.13	19.13	19.13	21.5	0	
38	HQAM	1	144	15.43	15.43	15.43			
38	HQAM	16	24	20.35	20.48	20.48			
38	HQAM	16	96	16.55	16.48	16.48	21.5	0	
38	HQAM	16	168	12.76	12.76	12.76			
38	HQAM	16	192	12.76	12.76	12.76			
38	HQAM	1	48	20.38	20.38	20.38			
38	HQAM	1	96	16.63	16.63	16.63			
38	HQAM	16	24	20.41	20.49	20.50			
38	HQAM	16	96	16.54	16.59	16.56	21.0	0.5	
38	HQAM	16	168	12.77	12.77	12.77			
Channel									
Frequency (MHz)				37860	38060	38050	Time-up link (frames)	MPE (dB)	
38	QPSK	1	0	20.45	20.49	20.54			
38	QPSK	1	25	16.68	16.64	16.50	21.5	0	
38	QPSK	1	50	12.83	12.84	12.85			
38	QPSK	16	25	16.62	16.48	16.59			
38	QPSK	16	50	12.85	12.85	12.86			
38	QPSK	16	75	12.84	12.81	12.83			
38	QPSK	16	100	12.84	12.81	12.83			
38	HQAM	1	0	25.8	25.8	25.8			
38	HQAM	1	25	20.45	20.45	20.45			
38	HQAM	1	50	16.63	16.63	16.63	21.5	0	
38	HQAM	1	75	12.83	12.83	12.83			
38	HQAM	1	100	12.83	12.83	12.83			
38	HQAM	16	25	16.62	16.48	16.59			
38	HQAM	16	50	12.85	12.85	12.86			
38	HQAM	16	75	12.84	12.81	12.83			
38	HQAM	16	100	12.84	12.81	12.83			
38	HQAM	1	25	20.45	20.45	20.45			
38	HQAM	1	50	16.63	16.63	16.63	21.5	0	
38	HQAM	1	75	12.83	12.83	12.83			
38	HQAM	1	100	12.83	12.83	12.83			
38	HQAM	16	25	16.62	16.48	16.59			
38	HQAM	16	50	12.85	12.85	12.86			
38	HQAM	16	75	12.84	12.81	12.83			
38	HQAM	16	100	12.84	12.81	12.83			
38	HQAM	1	25	20.45	20.45	20.45			
38	HQAM	1	50	16.63	16.63	16.63	21.5	0	
38	HQAM	1	75	12.83	12.83	12.83			
38	HQAM	1	100	12.83	12.83	12.83			
38	HQAM	16	25	16.62	16.48	16.59			
38	HQAM	16	50	12.85	12.85	12.86			
38	HQAM	16	75	12.84	12.81	12.83			
38	HQAM	16	100	12.84	12.81	12.83			
38	HQAM	1	25	20.45	20.45	20.45			
38	HQAM	1	50	16.63	16.63	16.63	21.0	0.5	
38	HQAM	1	75	12.83	12.83	12.83			
38	HQAM	1	100	12.83	12.83	12.83			
38	HQAM	16	25	16.62	16.48	16.59			
38	HQAM	16	50	12.85	12.85	12.86			
38	HQAM	16	75	12.84	12.81	12.83			
38	HQAM	16	100	12.84	12.81	12.83			

Band 41 (2.6G Band)												
PR (MHz)	Modulation	RB Size	RB Offset	Power Low (mW)	Power Low Med (mW)	Power Prime (mW)	Power Prime High (mW)	Power Prime Max (mW)	Power High (mW)	Time-up limit (dBm)	MPR (dB)	
Channel				2570	40165	4060	41005	41460				
Frequency (MHz)				2570	2461.5	2400	2440	2481.5				
20	QPSK	1	0	26.82	26.82	26.82	26.82	26.82	26.82	21.5	0	
20	QPSK	1	49	26.72	26.74	26.79	26.85	26.70	26.85			
20	QPSK	1	99	26.63	26.68	26.67	26.65	26.68	26.68			
20	QPSK	1	149	26.54	26.58	26.57	26.55	26.58	26.58			
20	QPSK	50	38	26.54	26.58	26.57	26.55	26.58	26.58	21.5	0	
20	QPSK	50	88	26.63	26.63	26.70	26.79	26.60	26.60			
20	QPSK	50	138	26.74	26.74	26.79	26.89	26.54	26.54			
20	QPSK	100	38	26.54	26.58	26.57	26.55	26.58	26.58			
20	16QAM	1	0	26.40	26.40	26.27	26.31	26.35				
20	16QAM	1	49	26.41	26.41	26.36	26.40	26.35	26.35	21.5	0	
20	16QAM	1	99	26.10	26.35	26.11	26.32	26.28	26.28			
20	16QAM	50	8	26.41	26.39	26.41	26.51	26.38				
20	16QAM	50	58	26.45	26.42	26.40	26.48	26.35	26.35			
20	16QAM	50	108	26.37	26.30	26.47	26.47	26.37	26.37	21.5	0	
20	16QAM	100	0	26.30	26.34	26.46	26.46	26.26	26.26			
20	16QAM	100	50	26.36	26.30	26.42	26.42	26.26	26.26			
20	64QAM	1	0	26.12	26.08	26.21	26.26	26.01	26.01	21	0.5	
20	64QAM	1	49	26.12	26.08	26.19	26.26	26.01	26.01			
20	64QAM	50	8	26.30	26.34	26.29	26.41	26.28				
20	64QAM	50	58	26.39	26.37	26.48	26.51	26.41	26.41	21	0.5	
20	64QAM	50	108	26.31	26.29	26.39	26.39	26.28	26.28			
20	64QAM	100	0	26.30	26.40	26.48	26.48	26.38	26.38			
Channel				2693.5	40173	4060	41081	41551				
Frequency (MHz)				2693.5	2461.5	2400	2447.8	2495.5				
15	QPSK	1	0	26.42	26.31	26.16	26.31	26.08				
15	QPSK	1	25	26.31	26.31	26.20	26.32	26.27	26.27	21.5	0	
15	QPSK	1	74	26.02	26.06	26.24	26.08	26.08	26.08			
15	QPSK	38	8	26.44	26.45	26.41	26.48	26.23				
15	QPSK	38	58	26.51	26.50	26.48	26.54	26.28	26.28	21.5	0	
15	QPSK	38	99	26.50	26.55	26.61	26.63	26.51	26.51			
15	16QAM	1	0	26.33	26.37	26.49	26.32	26.43				
15	16QAM	1	49	26.14	26.12	26.11	26.15	26.05	26.05	21.5	0	
15	16QAM	1	97	26.27	26.21	26.18	26.35	26.24	26.24			
15	16QAM	50	8	26.33	26.35	26.39	26.48	26.35	26.35			
15	16QAM	50	38	26.46	26.41	26.59	26.50	26.44	26.44	21.5	0	
15	16QAM	50	88	26.55	26.48	26.63	26.58	26.48	26.48			
15	16QAM	50	138	26.48	26.46	26.51	26.54	26.45	26.45			
15	16QAM	75	0	26.48	26.46	26.51	26.54	26.45	26.45			
15	16QAM	75	0	26.48	26.46	26.51	26.54	26.45	26.45			
15	16QAM	75	0	26.48	26.46	26.51	26.54	26.45	26.45			
15	16QAM	75	0	26.48	26.46	26.51	26.54	26.45	26.45			
15	16QAM	75	0	26.48	26.46	26.51	26.54	26.45	26.45			
15	16QAM	75	0	26.48	26.46	26.51	26.54	26.45	26.45			
15	16QAM	75	0	26.48	26.46	26.51	26.54	26.45	26.45			
15	16QAM	75	0	26.48	26.46	26.51	26.54	26.45	26.45			
15	16QAM	75	0	26.48	26.46	26.51	26.54	26.45	26.45			
15	16QAM	75	0	26.48	26.46	26.51	26.54	26.45	26.45			
15	16QAM	75	0	26.48	26.46	26.51	26.54	26.45	26.45			
15	16QAM	75	0	26.48	26.46	26.51	26.54	26.45	26.45			
15	16QAM	75	0	26.48	26.46	26.51	26.54	26.45	26.45			
15	16QAM	75	0	26.48	26.46	26.51	26.54	26.45	26.45			
15	16QAM	75	0	26.48	26.46	26.51	26.54	26.45	26.45			
15	16QAM	75	0	26.48	26.46	26.51	26.54	26.45	26.45			
15	16QAM	75	0	26.48	26.46	26.51	26.54	26.45	26.45			
15	16QAM	75	0	26.48	26.46	26.51	26.54	26.45	26.45			
15	16QAM	75	0	26.48	26.46	26.51	26.54	26.45	26.45			
15	16QAM	75	0	26.48	26.46	26.51	26.54	26.45	26.45			
15	16QAM	75	0	26.48	26.46	26.51	26.54	26.45	26.45			
15	16QAM	75	0	26.48	26.46	26.51	26.54	26.45	26.45			
15	16QAM	75	0	26.48	26.46	26.51	26.54	26.45	26.45			
15	16QAM	75	0	26.48	26.46	26.51	26.54	26.45	26.45			
15	16QAM	75	0	26.48	26.46	26.51	26.54	26.45	26.45			
15	16QAM	75	0	26.48	26.46	26.51	26.54	26.45	26.45			
15	16QAM	75	0	26.48	26.46	26.51	26.54	26.45	26.45			
15	16QAM	75	0	26.48	26.46	26.51	26.54	26.45	26.45			
15	16QAM	75	0	26.48	26.46	26.51	26.54	26.45	26.45			
15	16QAM	75	0	26.48	26.46	26.51	26.54	26.45	26.45			
15	16QAM	75	0	26.48	26.46	26.51	26.54	26.45	26.45			
15	16QAM	75	0	26.48	26.46	26.51	26.54	26.45	26.45			
15	16QAM	75	0	26.48	26.46	26.51	26.54	26.45	26.45			
15	16QAM	75	0	26.48	26.46	26.51	26.54	26.45	26.45			
15	16QAM	75	0	26.48	26.46	26.51	26.54	26.45	26.45			
15	16QAM	75	0	26.48	26.46	26.51	26.54	26.45	26.45			
15	16QAM	75	0	26.48	26.46	26.51	26.54	26.45	26.45			
15	16QAM	75	0	26.48	26.46							

Band 41 (2.6G Band) HPUE (Limit 27)																
BW [MHz]	Modulation	RIS Size	RID Offset	Power Low Co [dBm]	Power Low Mid [dBm]	Power Mid High [dBm]	Power High Mid Co [dBm]	Power High High Co [dBm]	Turn-up limit [dBm]	MPE (dB)						
Channel				39700	40100	40500	41000	41400								
Frequency [MHz]				27.06	28.01	29.03	30.05	31.05								
15	QPSK	1	0	-20.02	-20.03	-20.03	-20.03	-20.03	21.5	0						
20	QPSK	1	60	-20.08	-20.29	-20.30	-20.44	-20.45								
20	QPSK	1	60	-20.44	-20.50	-20.50	-20.64	-20.64								
20	QPSK	50	24	-20.34	-20.62	-20.65	-20.71	-20.81								
20	QPSK	50	60	-20.53	-20.68	-20.68	-20.72	-20.84								
20	QPSK	100	0	-20.15	-20.43	-20.43	-20.58	-20.59	21.5							
20	16QAM	1	0	-20.57	-20.60	-20.26	-20.32	-20.19								
20	16QAM	1	60	-20.31	-20.55	-20.55	-20.61	-20.61								
20	16QAM	1	66	-20.25	-20.32	-20.23	-20.31	-20.26								
20	16QAM	50	0	-20.25	-20.28	-20.11	-20.42	-20.17								
20	16QAM	50	60	-20.29	-20.39	-20.28	-20.41	-20.36	21.5							
20	16QAM	50	66	-20.20	-20.28	-20.26	-20.28	-20.11								
20	16QAM	100	0	-20.20	-20.10	-20.28	-20.28	-20.09								
20	16QAM	100	60	-20.02	-20.08	-20.08	-20.08	-20.01								
20	64QAM	1	0	-20.60	-20.28	-20.15	-20.32	-20.05								
20	64QAM	1	60	-20.02	-20.08	-20.08	-20.08	-20.01	21.5							
20	64QAM	50	0	-20.18	-20.18	-20.04	-20.44	-20.10								
20	64QAM	50	66	-20.01	-20.11	-20.21	-20.28	-20.01								
20	64QAM	100	0	-20.02	-20.08	-20.08	-20.08	-20.01								
20	64QAM	100	60	-20.13	-20.15	-20.32	-20.30	-20.13								
Channel				39700	40100	40500	41000	41400								
Frequency [MHz]				29.05	29.61	30.06	30.52	30.85								
15	QPSK	1	0	-20.02	-20.03	-20.04	-20.18	-19.91	21.5				0			
15	QPSK	1	0	-20.02	-20.03	-20.04	-20.18	-19.91								
15	QPSK	1	74	-20.18	-20.02	-20.02	-20.13	-19.85								
15	QPSK	36	0	-20.38	-20.67	-20.67	-20.38	-20.39								
15	QPSK	36	0	-20.42	-20.62	-20.62	-20.42	-20.42								
15	QPSK	36	30	-20.63	-20.67	-20.67	-20.70	-20.69	21.5	0						
15	QPSK	75	0	-20.43	-20.54	-20.56	-20.50	-20.37	21.5							
15	QPSK	75	0	-20.35	-20.46	-20.48	-20.38	-20.41								
15	16QAM	1	0	-20.57	-20.63	-20.29	-20.35	-20.22								
15	16QAM	1	60	-20.31	-20.55	-20.55	-20.61	-20.61								
15	16QAM	1	66	-20.25	-20.32	-20.23	-20.31	-20.26								
15	16QAM	50	0	-20.24	-20.13	-20.21	-20.02	-20.08	21.5							
15	16QAM	50	60	-20.32	-20.28	-20.28	-20.20	-20.09								
15	16QAM	50	66	-20.20	-20.18	-20.08	-20.30	-20.00								
15	16QAM	100	0	-20.29	-20.18	-20.16	-20.00	-20.12								
15	16QAM	100	60	-20.01	-20.04	-20.04	-20.06	-20.03								
15	16QAM	100	66	-20.19	-20.10	-20.12	-20.12	-20.03	21.5							
15	64QAM	1	0	-20.61	-20.28	-20.15	-20.32	-20.05								
15	64QAM	1	60	-20.02	-20.08	-20.08	-20.08	-20.01								
15	64QAM	50	0	-20.18	-20.18	-20.04	-20.44	-20.10								
15	64QAM	50	66	-20.01	-20.11	-20.21	-20.28	-20.01								
15	64QAM	100	0	-20.02	-20.08	-20.08	-20.08	-20.01	21.5							
15	64QAM	100	60	-20.13	-20.15	-20.32	-20.30	-20.13								
Channel				39700	40100	40500	41000	41400								
Frequency [MHz]				29.05	29.61	30.06	30.52	30.85								
15	QPSK	1	0	-20.02	-20.03	-20.04	-20.18	-19.91					21.5	0		
15	QPSK	1	0	-20.02	-20.03	-20.04	-20.18	-19.91								
15	QPSK	1	74	-20.18	-20.02	-20.02	-20.13	-19.85								
15	QPSK	36	0	-20.38	-20.67	-20.67	-20.38	-20.39								
15	QPSK	36	0	-20.42	-20.62	-20.62	-20.42	-20.42								
15	QPSK	36	30	-20.63	-20.67	-20.67	-20.70	-20.69	21.5	0						
15	QPSK	75	0	-20.43	-20.54	-20.56	-20.50	-20.37	21.5							
15	QPSK	75	0	-20.35	-20.46	-20.48	-20.38	-20.41								
15	16QAM	1	0	-20.57	-20.63	-20.29	-20.35	-20.22								
15	16QAM	1	60	-20.31	-20.55	-20.55	-20.61	-20.61								
15	16QAM	1	66	-20.25	-20.32	-20.23	-20.31	-20.26								
15	16QAM	50	0	-20.24	-20.13	-20.21	-20.02	-20.08	21.5							
15	16QAM	50	60	-20.32	-20.28	-20.28	-20.20	-20.09								
15	16QAM	50	66	-20.20	-20.18	-20.08	-20.30	-20.00								
15	16QAM	100	0	-20.29	-20.18	-20.16	-20.00	-20.12								
15	16QAM	100	60	-20.01	-20.04	-20.04	-20.06	-20.03								
15	16QAM	100	66	-20.19	-20.10	-20.12	-20.12	-20.03	21.5							
15	64QAM	1	0	-20.61	-20.28	-20.15	-20.32	-20.05								
15	64QAM	1	60	-20.02	-20.08	-20.08	-20.08	-20.01								
15	64QAM	50	0	-20.18	-20.18	-20.04	-20.44	-20.10								
15	64QAM	50	66	-20.01	-20.11	-20.21	-20.28	-20.01								
15	64QAM	100	0	-20.02	-20.08	-20.08	-20.08	-20.01	21.5							
15	64QAM	100	60	-20.13	-20.15	-20.32	-20.30	-20.13								
Channel				39700	40100	40500	41000	41400								
Frequency [MHz]				29.05	29.61	30.06	30.52	30.85								
15	QPSK	1	0	-20.02	-20.03	-20.04	-20.18	-19.91					21.5	0		
15	QPSK	1	0	-20.02	-20.03	-20.04	-20.18	-19.91								
15	QPSK	1	74	-20.18	-20.02	-20.02	-20.13	-19.85								
15	QPSK	36	0	-20.38	-20.67	-20.67	-20.38	-20.39								
15	QPSK	36	0	-20.42	-20.62	-20.62	-20.42	-20.42								
15	QPSK	36	30	-20.63	-20.67	-20.67	-20.70	-20.69	21.5	0						
15	QPSK	75	0	-20.43	-20.54	-20.56	-20.50	-20.37	21.5							
15	QPSK	75	0	-20.35	-20.46	-20.48	-20.38	-20.41								
15	16QAM	1	0	-20.57	-20.63	-20.29	-20.35	-20.22								
15	16QAM	1	60	-20.31	-20.55	-20.55	-20.61	-20.61								
15	16QAM	1	66	-20.25	-20.32	-20.23	-20.31	-20.26								
15	16QAM	50	0	-20.24	-20.13	-20.21	-20.02	-20.08	21.5							
15	16QAM	50	60	-20.32	-20.28	-20.28	-20.20	-20.09								
15	16QAM	50	66	-20.20	-20.18	-20.08	-20.30	-20.00								
15	16QAM	100	0	-20.29	-20.18	-20.16	-20.00	-20.12								
15	16QAM	100	60	-20.01	-20.04	-20.04	-20.06	-20.03								
15	16QAM	100	66	-20.19	-20.10	-20.12	-20.12	-20.03	21.5							
15	64QAM	1	0	-20.61	-20.28	-20.15	-20.32	-20.05								
15	64QAM	1	60	-20.02	-20.08	-20.08	-20.08	-20.01								
15	64QAM	50	0	-20.18	-20.18	-20.04	-20.44	-20.10								
15	64QAM	50	66	-20.01	-20.11	-20.21	-20.28	-20.01								
15	64QAM	100	0	-20.02	-20.08	-20.08	-20.08	-20.01	21.5							
15	64QAM	100	60	-20.13	-20.15	-20.32	-20.30	-20.13								
Channel				39700	40100	40500	41000	41400								
Frequency [MHz]				29.05	29.61	30.06	30.52	30.85								
15	QPSK	1	0	-20.02	-20.03	-20.04	-20.18	-19.91					21.5	0		
15	QPSK	1	0	-20.02	-20.03	-20.04	-20.18	-19.91								
15	QPSK	1	74	-20.18	-20.02	-20.02	-20.13	-19.85								
15	QPSK	36	0	-20.38	-20.67	-20.67	-20.38	-20.39								
15	QPSK	36	0	-20.42	-20.62	-20.62	-20.42	-20.42								
15	QPSK	36	30	-20.63	-20.67	-20.67	-20.70	-20.69	21.5	0						
15	QPSK	75	0	-20.43	-20.54	-20.56	-20.50	-20.37	21.5							
15	QPSK	75	0	-20.35	-20.46	-20.48	-20.38	-20.41								
15	16QAM	1	0	-20.57	-20.63	-20.29	-20.35	-20.22								
15	16QAM	1	60	-20.31	-20.55	-20.55	-20.61	-20.61								
15	16QAM	1	66	-20.25	-20.32	-20.23	-20.31	-20.26								
15	16QAM	50	0	-20.24	-20.13	-20.21	-20.02	-20.08	21.5							
15	16QAM	50	60	-20.32	-20.28	-20.28	-20.20	-20.09								
15	16QAM	50	66	-20.20	-20.18	-20.08	-20.30	-20.00								
15	16QAM	100	0	-20.29	-20.18	-20.16	-20.00	-20.12								
15	16QAM	100	60	-20.01	-20.04	-20.04	-20.06	-20.03								
15	16QAM	100	66	-20.19	-20.10	-20.12	-20.12	-20.03	21.5							
15	64QAM	1	0	-20.61	-20.28	-20.15	-20.32	-20.05								
15	64QAM	1	60	-20.02	-20.08	-20.08	-20.08	-20.01								
15	64QAM	50	0	-20.18	-20.18	-20.04	-20.44	-20.10								
15	64QAM	50	66	-20.01	-20.11	-20.21	-20.28	-20.01								
15	64QAM	100	0	-20.02	-20.08	-20.08	-20.08	-20.01	21.5							
15	64QAM	100	60	-20.13	-20.15	-20.32	-20.30	-20.13								
Channel				39700	40100	40500	41000	41400								
Frequency [MHz]				29.05	29.61	30.06	30.52	30.85								
15	QPSK	1	0	-20.02	-20.03	-20.04	-20.18	-19.91					21.5	0		
15	QPSK	1	0	-20.02	-20.03	-20.04	-20.18	-19.91								
15	QPSK	1	74	-20.18	-20.02	-20.02	-20.13	-19.85								
15	QPSK	36	0	-20.38	-20.67	-20.67	-20.38	-20.39								
15	QPSK	36	0	-20.42	-20.62	-20.62	-20.42	-20.42								
15	QPSK	36	30	-20.63	-20.67	-20.67	-20.70	-20.69	21.5	0						
15	QPSK	75	0	-20.43	-20.54	-20.56	-20.50	-20.37	21.5							
15	QPSK	75	0	-20.35	-20.46	-20.48	-20.38	-20.41								
15	16QAM	1	0	-20.57	-20.63	-20.29	-20.35	-20.22								
15	16QAM	1	60	-20.31	-20.55	-20.55	-20.61	-20.61								
15	16QAM	1	66	-20.25	-20.32	-20.23	-20.31	-20.26								
15	16QAM	50	0	-20.24	-20.13	-20.21	-20.02	-20.08	21.5							
15	16QAM	50	60	-20.32	-20.2											

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								
Frequency (MHz)	1852.4	1880	1907.6		1712.4	1732.6	1752.6	
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				1860	1880	1900							
Frequency (MHz)				1860	1880	1900							
20	QPSK	1	0	19.56	19.66	19.41	20	0					
20	QPSK	1	49	19.62	19.54	19.55							
20	QPSK	1	99	19.58	19.55	19.55							
20	QPSK	50	0	19.66	19.67	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	16QAM	1	49	19.38	19.41	19.15	20	0					
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	16QAM	50	50	19.39	19.33	19.39	20	0					
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	64QAM	1	99	19.54	19.42	19.48	20	0					
20	64QAM	50	0	19.56	19.55	19.50							
20	64QAM	50	24	19.53	19.41	19.37							
20	64QAM	100	0	19.56	19.38	19.41							
20	64QAM	100	0	19.56	19.55	19.41							
Channel				1867.5	1890.0	1912.5							
Frequency (MHz)				1857.5	1880	1902.5							
15	QPSK	1	0	19.32	19.39	19.38	20	0					
15	QPSK	1	37	19.35	19.23	19.29							
15	QPSK	1	74	19.67	19.63	19.65							
15	QPSK	36	0	19.52	19.48	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	19.56	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							
15	16QAM	36	39	19.55	19.39	19.45	20	0					
15	16QAM	75	0	19.43	19.43	19.37							
15	64QAM	1	0	19.56	19.56	19.45							
15	64QAM	1	37	19.57	19.56	19.44							
15	64QAM	1	74	19.45	19.62	19.55	20	0					
15	64QAM	36	0	19.54	19.51	19.44							
15	64QAM	36	20	19.47	19.39	19.40							
15	64QAM	36	39	19.58	19.38	19.42							
15	64QAM	75	0	19.44	19.54	19.49							
Channel				1865.0	1890.0	1915.0							
Frequency (MHz)				1855	1880	1905							
10	QPSK	1	0	19.32	19.42	19.48	20	0					
10	QPSK	1	25	19.41	19.50	19.35							
10	QPSK	1	49	19.51	19.67	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							
10	16QAM	25	25	19.37	19.48	19.32	20	0					
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							
10	64QAM	1	49	19.65	19.47	19.44	20	0					
10	64QAM	25	0	19.46	19.38	19.43							
10	64QAM	25	12	19.40	19.43	19.31							
10	64QAM	25	25	19.44	19.45	19.29							
10	64QAM	50	0	19.38	19.45	19.33							
Channel				1862.5	1890.0	1917.5							
Frequency (MHz)				1852.5	1880	1907.5							
5	QPSK	1	0	19.54	19.26	19.29	20	0					
5	QPSK	1	12	19.35	19.25	19.17							
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							
5	16QAM	12	13	19.35	19.36	19.19	20	0					
5	16QAM	25	0	19.46	19.33	19.24							
5	64QAM	1	0	19.56	19.51	19.47							
5	64QAM	1	12	19.50	19.54	19.48							
5	64QAM	1	24	19.57	19.51	19.38	20	0					
5	64QAM	12	0	19.44	19.32	19.29							
5	64QAM	12	7	19.41	19.41	19.14							
5	64QAM	12	13	19.35	19.36	19.19							
5	64QAM	25	0	19.42	19.37	19.30							
Channel				1861.5	1890.0	1918.5							
Frequency (MHz)				1851.5	1880	1908.5							
3	QPSK	1	0	19.18	19.22	19.32	20	0					
3	QPSK	1	8	19.45	19.49	19.30							
3	QPSK	1	14	19.54	19.38	19.26							
3	QPSK	8	0	19.45	19.36	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							
3	16QAM	8	7	19.45	19.40	19.52	20	0					
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							
3	64QAM	1	14	19.45	19.54	19.55	20	0					
3	64QAM	8	0	19.39	19.40	19.25							
3	64QAM	8	4	19.51	19.57	19.20							
3	64QAM	8	7	19.45	19.36	19.07							
3	64QAM	15	0	19.43	19.35	19.31							
Channel				1860.7	1890.0	1919.3							
Frequency (MHz)				1850.7	1880	1909.3							
1.4	QPSK	1	0	19.32	19.45	19.38	20	0					
1.4	QPSK	1	3	19.32	19.49	19.39							
1.4	QPSK	1	5	19.19	19.20	19.24							
1.4	QPSK	3	0	19.30	19.28	19.02							
1.4	QPSK	3	1	19.40	19.37	19.25	20	0					
1.4	QPSK	3	3	19.32	19.29	19.08							
1.4	QPSK	6	0	19.31	19.31	19.19							
1.4	QPSK	6	1	19.54	19.54	19.67							
1.4	16QAM	1	3	19.54	19.43	19.19	20	0					
1.4	16QAM	1	5	19.34	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	19.48	19.26	20	0					
1.4	16QAM	6	0	19.35	19.33	19.16							
1.4	64QAM	1	0	19.54	19.59	19.49							
1.4	64QAM	1	3	19.55	19.56	19.49							
1.4	64QAM	1	5	19.50	19.49	19.32	20	0					
1.4	64QAM	3	0	19.54	19.35	19.53							
1.4	64QAM	3	1	19.43	19.43	19.38							
1.4	64QAM	3	3	19.47	19.45	19.23							
1.4	64QAM	6	0	19.39	19.39	19.26	20	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	18.96	18.89	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	19.08	18.95	20	0			
20	16QAM	100	0	19.11	19.04	19.03					
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	0			
20	84QAM	50	0	19.32	19.05	19.00					
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	Tune-up limit (dBm)	MPR (dB)
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	18.88					
15	84QAM	36	39	19.20	19.15	19.13					
15	84QAM	75	0	19.26	19.19	19.21					
Channel							26090	26340	26640	Tune-up limit (dBm)	MPR (dB)
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	19.36					
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	19.45	19.71	19.47	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	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)							1852.5	1880	1912.5		
5	QPSK	1	0	19.84	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	19.06	19.06					
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	Tune-up limit (dBm)	MPR (dB)
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	18.86	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	19.06					
3	84QAM	8	7	19.07	19.06	19.04					
3	84QAM	15	0	19.17	19.10	19.11					
Channel							26047	26340	26683	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)							1850.7	1880	1914.3		
1.4	QPSK	1	0	19.14	19.15	19.19	20	0			
1.4	QPSK	1	3	19.13	19.14	18.96					
1.4	QPSK	1	5	19.02	18.95	18.96					
1.4	QPSK	3	0	19.16	19.06	19.09					
1.4	QPSK	3	1	19.14	19.07	19.12	20	0			
1.4	QPSK	3	3	19.03	18.96	19.04					
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	19.26	19.40	20	0			
1.4	16QAM	1	5	19.42	19.29	19.19					
1.4	16QAM	3	0	19.27	19.10	19.11					
1.4	16QAM	3	1	19.18	19.31	19.19	20	0			
1.4	16QAM	3	3	19.20	19.02	19.20					
1.4	16QAM	6	0	19.14	19.09	19.14					
1.4	84QAM	1	0	19.01	19.10	19.05					
1.4	84QAM	1	3	19.11	18.73	18.89	20	0			
1.4	84QAM	1	5	18.92	18.77	18.81					
1.4	84QAM	3	0	19.20	18.99	19.03					
1.4	84QAM	3	1	19.20	19.02	19.11					
1.4	84QAM	3	3	19.15	19.11	19.11	20	0			
1.4	84QAM	6	0	19.20	18.99	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)											
20	QPSK	1	0	22.39	22.51	22.55	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	21.17					
15	16QAM	36	50	21.03	21.16	21.10	22	1.5			
15	16QAM	36	80	21.07	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	30	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	22.35	22.35	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	22.66	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	21.09	21.30					
10	8QAM	1	0	21.02	21.15	21.15					
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	22.45	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	22.84	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	21.06	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	22.25	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	20.76	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	20.70	20.62	20.67	20.92	20.96			
20	8QAM	50	0	19.41	19.45	19.31	19.35	19.11	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	21.90	21.82	21.66			
15	QPSK	75	0	22.03	21.92	21.87	21.72	21.58			
15	QPSK	1	0	21.84	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	21.36	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	50	20.99	20.95	20.79	20.78	20.64	22	1.5	
15	16QAM	75	0	21.00	20.92	20.86	20.73	20.58			
15	16QAM	1	0	20.94	20.91	20.72	20.86	20.60			
15	8QAM	1	0	20.77	20.73	20.79	20.91	20.78			
15	8QAM	1	40	20.99	20.70	20.98	20.78	20.82	21	2.5	
15	8QAM	1	80	20.70	20.62	20.67	20.92	20.96			
15	8QAM	50	0	19.41	19.45	19.31	19.35	19.11			
15	8QAM	50	24	19.43	19.45	19.31	19.35	19.11			
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	52	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	38	22.00	21.94	21.77	21.84	21.60			
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	21.98	21.83	21.69	21.81	21.61	23	0.5	
10	16QAM	1	52	21.98	21.79	21.79	21.75	21.68			
10	16QAM	25	0	20.98	20.92	20.79	20.82	20.69			
10	16QAM	25	12	21.00	20.95	20.78	20.82	20.69			
10	16QAM	25	38	20.97	20.89	20.70	20.78	20.62	22	1.5	
10	16QAM	50	0	20.97	20.92	20.79	20.73	20.59			
10	8QAM	1	0	20.73	20.75	20.41	20.74	20.39			
10	8QAM	1	26	20.78	20.73	20.39	20.72	20.36			
10	8QAM	1	52	20.78	20.73	20.39	20.72	20.36	22	1.5	
10	8QAM	25	0	19.40	19.48	19.28	19.35	19.18			
10	8QAM	25	12	19.43	19.48	19.31	19.33	19.18			
10	8QAM	25	38	19.43	19.38	19.25	19.28	19.15			
10	8QAM	50	0	19.50	19.39	19.24	19.29	19.12	21	2.5	
10	8QAM	50	12	19.50	19.39	19.24	19.29	19.12			
10	8QAM	50	38	19.50	19.39	19.24	19.29	19.12			
10	8QAM	100	0	19.50	19.39	19.24	19.29	19.12			
Channel											
Frequency [MHz]											
5	QPSK	1	0	22.43	22.43	22.50	22.49	22.57	23.5	0	
5	QPSK	1	12	22.41	22.30	22.45	22.45	22.50			
5	QPSK	1	24	22.39	22.25	22.39	22.45	22.38			
5	QPSK	10	0	21.92	21.92	21.77	21.84	21.68			
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	25	0	21.96	21.92	21.77	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	24	21.95	21.81	21.72	21.84	21.67			
5	16QAM	12	0	20.96	20.98	20.75	20.87	20.63			
5	16QAM	12	13	20.97	20.97	20.65	20.79	20.54			
5	16QAM	25	0	21.00	20.91	20.75	20.80	20.65	22	1.5	
5	16QAM	25	12	20.99	20.79	20.70	20.83	20.65			
5	8QAM	1	0	20.77	20.84	20.62	20.65	20.56			
5	8QAM	1	12	20.77	20.87	20.46	20.75	20.51			
5	8QAM	1	24	20.84	20.74	20.59	20.53	20.51	22	1.5	
5	8QAM	12	7	19.52	19.43	19.20	19.38	19.15			
5	8QAM	12	13	19.53	19.43	19.20	19.38	19.15			
5	8QAM	25	0	19.45	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

uetooth BR/EDR

Mode	Channel	Frequency (MHz)	Average power (dBm)		
			1Mbps	2Mbps	3Mbps
BR / EDR	CH 00	2402	10.10	8.70	7.80
	CH 39	2441	11.00	8.70	8.60
	CH 79	2480	10.90	8.90	8.90
Tune-up Limit			11.5	9.5	9.5

Bluetooth LE

Mode	Channel	Frequency (MHz)	Average power (dBm)	
			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	Not Required	98.28
		6	2437	16.00		
		11	2462	16.00		
	802.11n-HT20 MCS0	1	2412	16.00	Not Required	98.16
		6	2437	16.00		
		11	2462	16.00		

5GHz WLAN		Body-worn & Hotspot				
5.2GHz WLAN	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
	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



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	144		
WCDMA V	IMC 12 Kbps	4132	836.4	—	—	Right Cheek	0mm	0.487	0.533	0.036	0.253	0.221	0.096	0.376	0.270	0.014	0.367	0.217	0.029	0.437	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	0.236		
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	0.159	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	23220	782	1	0	Right Cheek	0mm	0.369	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	0.187	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	26885	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 BCD	RC3 50SS	384	896.52			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	0.445			
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 50SS	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 12.2Mbps	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	0.488	0.789	0.345	0.613			

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	1520	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 lg 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
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	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	0.601
										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	0.1019	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			

Mode	Service/ Modulation	Channel	Frequency (MHz)	RB Size	RB Offset	Test Position	Spacing	Measured lg 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
LTE Band 26	QPSK	26965	841.5	1	0	Front	5mm	1.13	1.470	0.068	0.111	0.218	0.231	0.773	0.923	1.112	1.116	1.202	0.032	0.043	0.062	0.530	0.738	0.912	1.112	1.230	1.350	0.090	0.138	0.279
										21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
										0.538	0.680	0.771	0.861	1.098	0.932	0.091	0.213	0.493	0.677	0.712	0.913	0.832	1.046	0.043	0.083	0.083	0.261	0.799	1.112	1.207
										42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62
										1.138	1.219	1.103	0.043	0.273	0.386	0.799	1.121	1.201	1.237	1.322	1.113	0.039	0.089	0.234	0.636	0.793	0.921	1.080	0.968	1.029
										63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83
										0.037	0.063	0.168	0.463	0.736	0.821	0.831	1.173	0.621	0.035	0.102	0.168	0.453	0.921	1.032	1.194	1.123	1.104	0.029	0.063	0.137
										84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104
										0.533	0.836	0.921	1.102	1.236	1.034	0.019	0.043	0.096	0.531	0.962	1.103	1.137	1.276	1.040	0.015	0.035	0.092	0.421	0.836	1.138
										105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125
										1.287	1.102	0.971	0.017	0.049	0.124	0.358	0.849	1.083	1.125	1.093	0.894	0.014	0.013	0.025	0.079	0.386	0.897	1.084	0.823	0.944
										126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143			
										0.006	0.012	0.056	0.179	0.697	0.837	1.173	1.227	0.790	0.002	0.009	0.048	0.460	0.766	0.921	1.096	0.945	0.713			

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
CDMA2000 BCD	RC3 SC32 (F+SCH)	777	848.31		Front	5mm	1.11	1.470	1.130	0.751	1.031	0.725	0.751	0.807	0.697	1.133	1.108	0.957	0.085	0.269	0.675	0.582	0.885	1.061	1.128	0.904	0.049	0.086	0.172
									21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
									0.536	0.734	0.823	0.897	0.696	1.029	0.037	0.086	0.158	0.527	0.682	0.774	0.627	1.041	0.896	0.037	0.069	0.278	0.629	1.091	1.203
									42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62
									1.337	1.128	0.897	0.013	0.065	0.176	0.548	0.923	0.961	1.069	1.066	0.769	0.026	0.051	0.128	0.553	0.882	1.031	1.117	0.824	0.616
									63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83
									0.034	0.101	0.345	0.657	0.834	1.023	1.234	1.034	0.812	0.024	0.056	0.235	0.625	0.837	1.033	1.133	0.846	0.586	0.056	0.089	0.289
									84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104
									0.678	0.864	1.003	1.103	0.864	0.656	0.018	0.068	0.234	0.589	0.834	0.910	1.016	0.864	0.605	0.064	1.103	0.346	0.621	0.874	0.936
									105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125
									0.136	0.789	0.600	0.018	0.090	0.189	0.567	0.864	0.989	1.016	0.768	0.600	0.034	0.101	0.346	0.568	0.864	1.134	0.984	0.888	0.602
									126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143			
									0.034	0.064	0.134	0.534	0.813	0.913	1.006	0.716	0.536	0.034	0.078	0.125	0.476	0.764	0.812	0.962	0.762	0.488			

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-Time																				
									0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
CDMA2000 BC10	RTAP 153.6Kbps	684	823.1		Front	5mm	1.05	1.370	0.063	0.124	0.287	0.634	0.734	0.564	0.685	0.703	0.925	0.086	0.148	0.279	0.572	0.725	0.828	0.894	0.965	0.978	0.054	0.112	0.345
									21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
									0.623	0.814	0.912	1.037	1.134	1.095	0.045	0.138	0.324	0.598	0.832	0.912	1.022	1.108	1.020	0.067	0.167	0.324	0.567	0.824	0.912
									42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62
									0.967	1.033	1.013	0.038	0.134	0.345	0.589	0.794	0.886	1.067	1.134	1.067	0.034	0.156	0.345	0.589	0.824	0.913	1.050	1.060	0.933
									63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83
									0.056	0.116	0.345	0.623	0.812	0.886	1.047	0.989	0.864	0.018	0.154	0.328	0.612	0.789	0.886	1.021	1.054	1.077	0.038	0.167	0.410
									84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104
									0.568	0.808	0.914	1.036	1.124	1.016	0.056	0.176	0.437	0.658	0.896	0.995	1.016	1.011	0.920	0.036	0.205	0.637	0.889	0.936	1.010
									105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125
									1.030	0.989	0.794	0.035	0.016	0.340	0.567	0.789	0.546	0.691	1.011	0.946	0.038	0.157	0.389	0.612	0.889	0.634	0.758	0.812	0.848
									126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143			
									0.035	0.165	0.389	0.678	0.864	0.789	0.822	0.811	0.705	0.012	0.135	0.345	0.564	0.712	0.755	0.806	0.846	0.756	0.616		