7Calibration Laboratory of
Schmid & Partner
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Zeughausstrasse 43, 8004 Zurich, Switzerland

S Schweizerischer Kalibrierdienst
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Accreditation No.: SCS 0108

Client **Sporton**

Certificate No: **EX3-3843_Sep19**

CALIBRATION CERTIFICATE

Object EX3DV4 - SN:3843

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: September 26, 2019

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	03-Apr-19 (No. 217-02892/02893)	Apr-20
Power sensor NRP-Z91	SN: 103244	03-Apr-19 (No. 217-02892)	Apr-20
Power sensor NRP-Z91	SN: 103245	03-Apr-19 (No. 217-02893)	Apr-20
Reference 20 dB Attenuator	SN: S5277 (20x)	04-Apr-19 (No. 217-02894)	Apr-20
DAE4	SN: 660	19-Dec-18 (No. DAE4-660_Dec18)	Dec-19
Reference Probe ES3DV2	SN: 3013	31-Dec-18 (No. ES3-3013_Dec18)	Dec-19
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-18)	In house check: Oct-19

	Name	Function	Signature
Calibrated by:	Jeton Kastrati	Laboratory Technician	
Approved by:	Katja Pokovic	Technical Manager	

Issued: October 1, 2019

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Glossary:

TSL	tissue simulating liquid
NORMx,y,z	sensitivity in free space
ConvF	sensitivity in TSL / NORMx,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., ϑ = 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:

a) 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
b) 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
c) 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
d) KDB 865664, "SAR Measurement Requirements for 100 MHz to 6 GHz"

Methods Applied and Interpretation of Parameters:

- *NORMx,y,z:* Assessed for E-field polarization ϑ = 0 (f ≤ 900 MHz in TEM-cell; f > 1800 MHz: R22 waveguide). NORMx,y,z are only intermediate values, i.e., the uncertainties of NORMx,y,z does not affect the E^2-field uncertainty inside TSL (see below *ConvF*).
- *NORM(f)x,y,z = NORMx,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*.
- *DCPx,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
- *Ax,y,z; Bx,y,z; Cx,y,z; Dx,y,z; VRx,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 ≤ 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 *NORMx,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 *NORMx* (no uncertainty required).

DASY/EASY - Parameters of Probe: EX3DV4 - SN:3843

Basic Calibration Parameters

	Sensor X	Sensor Y	Sensor Z	Unc (k=2)
Norm ($\mu V/(V/m)^2$)[A]	0.34	0.35	0.25	± 10.1 %
DCP (mV)[B]	110.9	96.1	101.1	

Calibration Results for Modulation Response

UID	Communication System Name		A dB	B dB$\sqrt{\mu V}$	C	D dB	VR mV	Max dev.	Unc[E] (k=2)
0	CW	X	0.0	0.0	1.0	0.00	134.1	±3.8 %	± 4.7 %
		Y	0.0	0.0	1.0		146.5		
		Z	0.0	0.0	1.0		132.2		

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 E^2-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:3843

Other Probe Parameters

Sensor Arrangement	Triangular
Connector Angle (°)	-34.3
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:3843

Calibration Parameter Determined in Head Tissue Simulating Media

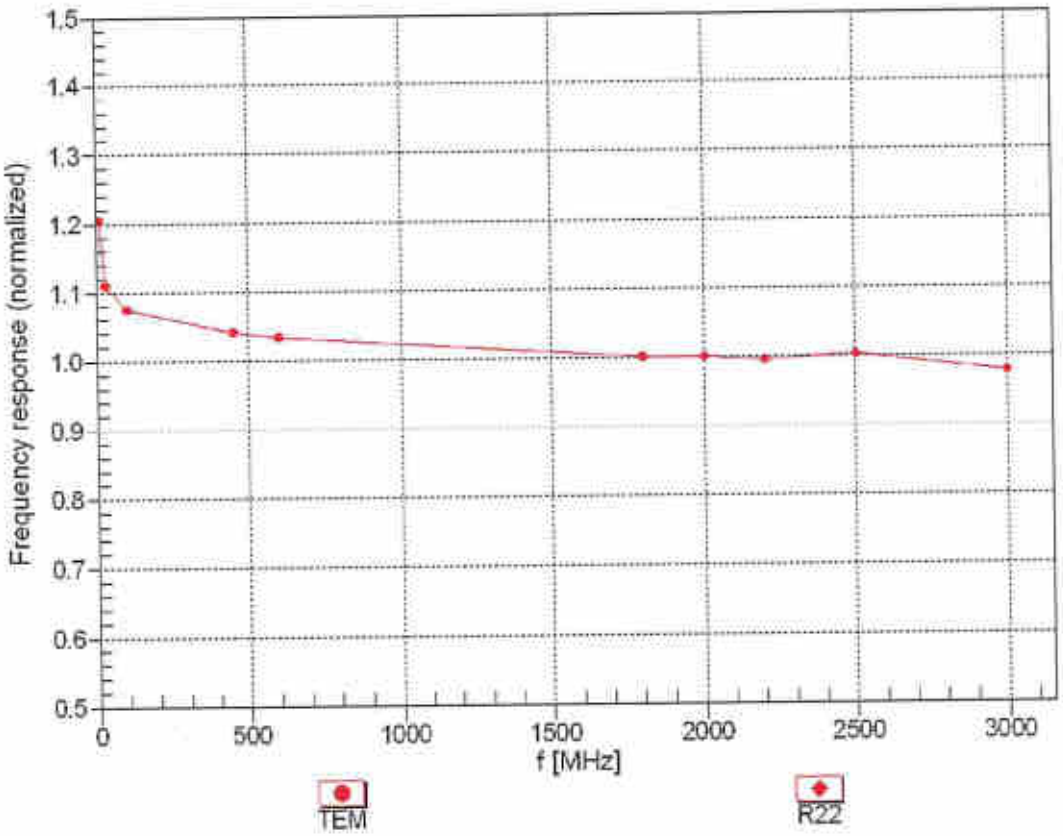
f (MHz) [C]	Relative Permittivity [F]	Conductivity (S/m) [F]	ConvF X	ConvF Y	ConvF Z	Alpha [G]	Depth [G] (mm)	Unc (k=2)
750	41.9	0.89	9.37	9.37	9.37	0.50	0.87	± 12.0 %
835	41.5	0.90	9.07	9.07	9.07	0.43	0.80	± 12.0 %
900	41.5	0.97	8.92	8.92	8.92	0.41	0.90	± 12.0 %
1450	40.5	1.20	8.17	8.17	8.17	0.32	0.80	± 12.0 %
1750	40.1	1.37	7.95	7.95	7.95	0.34	0.87	± 12.0 %
1900	40.0	1.40	7.67	7.67	7.67	0.32	0.87	± 12.0 %
2000	40.0	1.40	7.66	7.66	7.66	0.34	0.87	± 12.0 %
2300	39.5	1.67	7.30	7.30	7.30	0.26	0.90	± 12.0 %
2450	39.2	1.80	7.06	7.06	7.06	0.35	0.90	± 12.0 %
2600	39.0	1.96	6.90	6.90	6.90	0.43	0.80	± 12.0 %
5250	35.9	4.71	4.74	4.74	4.74	0.40	1.80	± 14.0 %
5600	35.5	5.07	4.47	4.47	4.47	0.40	1.80	± 14.0 %
5750	35.4	5.22	4.44	4.44	4.44	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 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 frequencies between 3-6 GHz at any distance larger than half the probe tip diameter from the boundary.

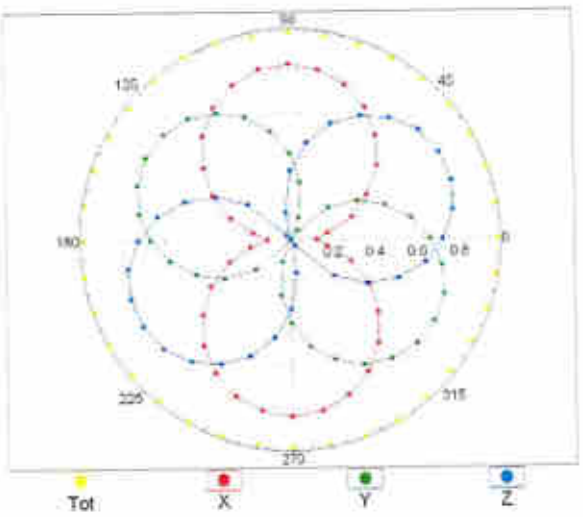
Frequency Response of E-Field
(TEM-Cell:ifi110 EXX, Waveguide: R22)



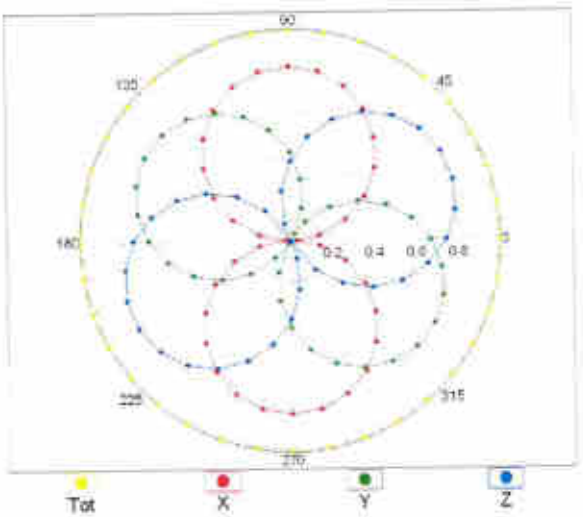
Uncertainty of Frequency Response of E-field: ± 6.3% (k=2)

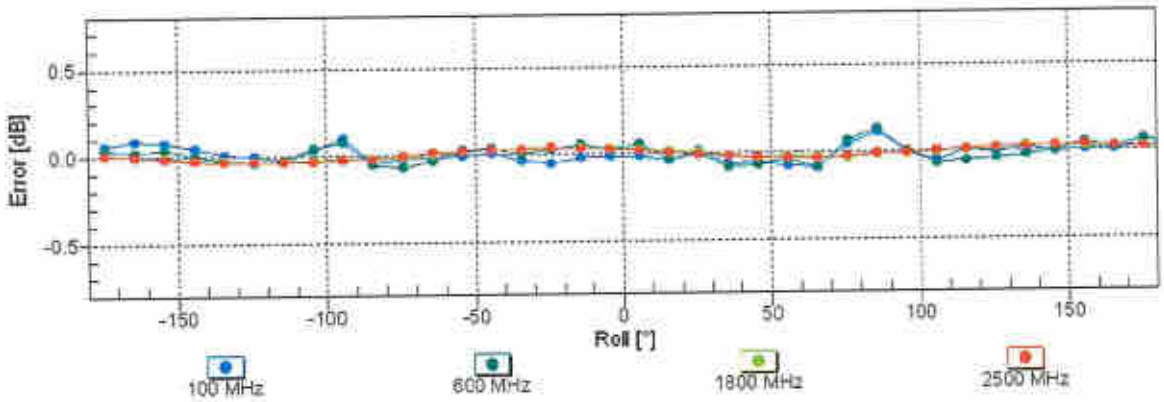
Receiving Pattern (ϕ), ϑ = 0°

f=600 MHz,TEM



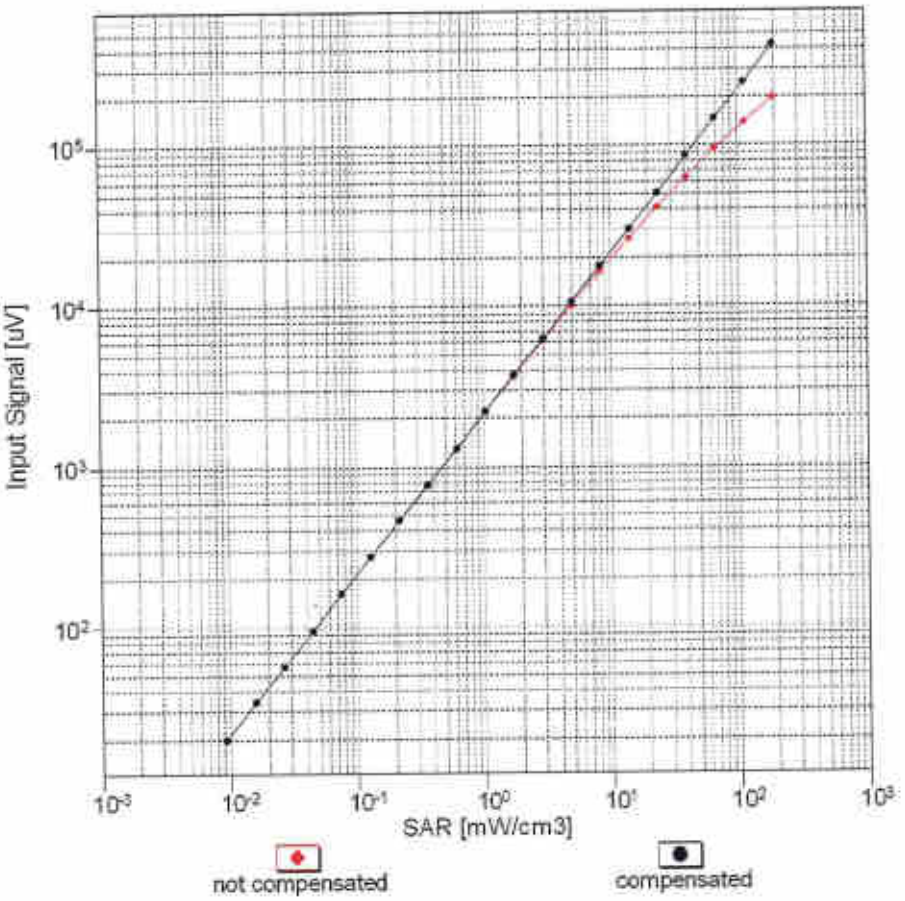
f=1800 MHz,R22

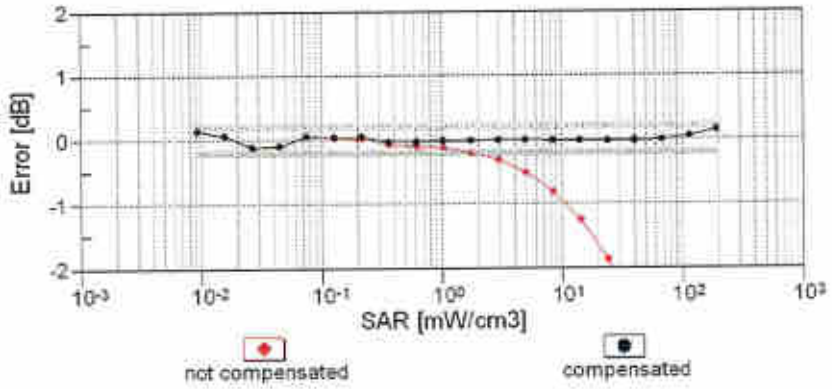




Uncertainty of Axial Isotropy Assessment: ± 0.5% (k=2)

Dynamic Range f(SAR_{head})
(TEM cell , f_{eval}= 1900 MHz)

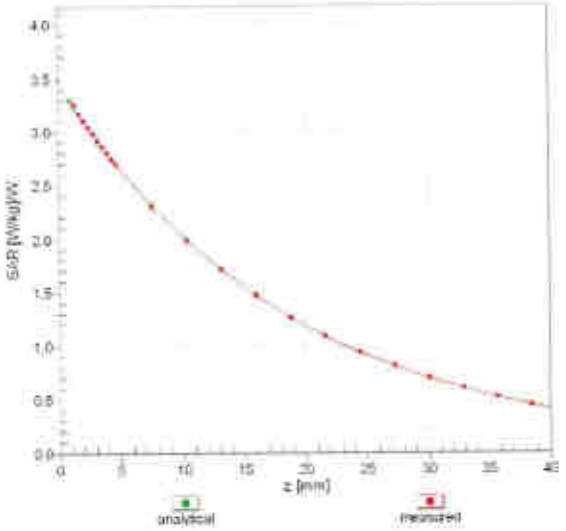




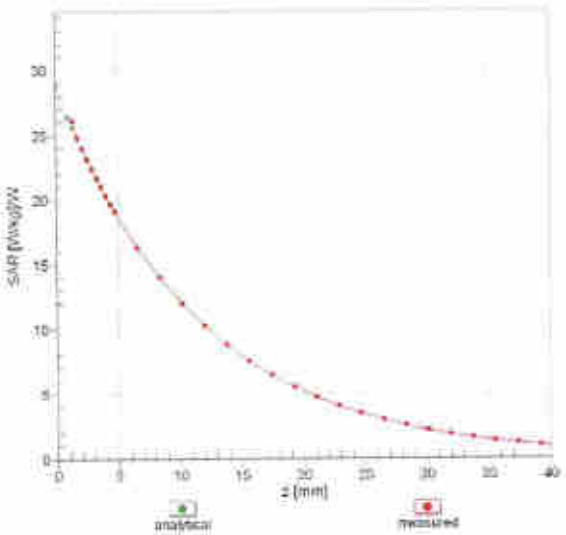
Uncertainty of Linearity Assessment: ± 0.6% (k=2)

Conversion Factor Assessment

f = 835 MHz,WGLS R9 (H_convF)

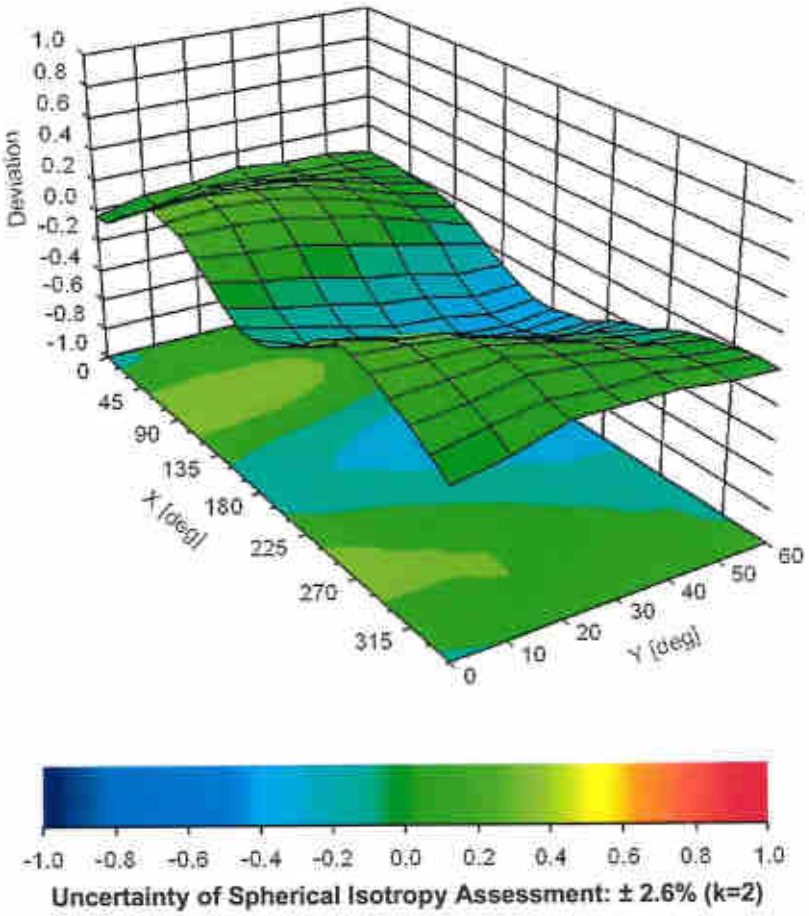


f = 1900 MHz,WGLS R22 (H_convF)



Deviation from Isotropy in Liquid

Error (ϕ, ϑ), f = 900 MHz



Uncertainty of Spherical Isotropy Assessment: ± 2.6% (k=2)

Appendix E. Conducted RF Output Power Table

The detailed power table are shown as follows.

Full Power Mode

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	31.63	31.77	31.62	32.50	22.63	22.77	22.62	23.50
GPRS 1 Tx slot	31.62	31.75	31.59	32.50	22.62	22.75	22.59	23.50
GPRS 2 Tx slots	29.73	29.88	29.75	30.50	23.73	23.88	23.75	24.50
GPRS 3 Tx slots	28.11	28.31	28.17	29.00	23.85	24.05	23.91	24.74
GPRS 4 Tx slots	27.05	27.25	27.12	28.00	24.05	24.25	24.12	25.00
EDGE 1 Tx slot	26.58	26.62	26.69	27.50	17.58	17.62	17.69	18.50
EDGE 2 Tx slots	24.17	24.12	24.31	25.00	18.17	18.12	18.31	19.00
EDGE 3 Tx slots	22.85	22.93	23.03	24.00	18.59	18.67	18.77	19.74
EDGE 4 Tx slots	22.24	22.32	22.47	23.50	19.24	19.32	19.47	20.50

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	29.16	29.28	29.31	30.50	20.16	20.28	20.31	21.50
GPRS 1 Tx slot	29.15	29.26	29.29	30.50	20.15	20.26	20.29	21.50
GPRS 2 Tx slots	26.64	26.78	26.86	27.50	20.64	20.78	20.86	21.50
GPRS 3 Tx slots	25.11	25.24	25.30	26.50	20.85	20.98	21.04	22.24
GPRS 4 Tx slots	24.11	24.35	24.34	25.50	21.11	21.35	21.34	22.50
EDGE 1 Tx slot	25.90	26.08	26.07	27.00	16.90	17.08	17.07	18.00
EDGE 2 Tx slots	23.28	23.42	23.45	24.50	17.28	17.42	17.45	18.50
EDGE 3 Tx slots	22.15	22.30	22.33	23.00	17.89	18.04	18.07	18.74
EDGE 4 Tx slots	21.47	21.65	21.67	22.50	18.47	18.65	18.67	19.50

Band		WCDMA II			Tune-up Limit (dBm)	WCDMA V			Tune-up Limit (dBm)
TX Channel		9262	9400	9538		4132	4182	4233	
Rx Channel		9662	9800	9938		4357	4407	4458	
Frequency (MHz)		1852.4	1880	1907.6		826.4	836.4	846.6	
3GPP Rel 99	AMR 12.2Kbps	22.42	22.46	22.44	24.00	23.23	23.36	23.31	24.00
3GPP Rel 99	RMC 12.2Kbps	22.43	22.48	22.46	24.00	23.24	23.37	23.34	24.00
3GPP Rel 6	HSDPA Subtest-1	21.81	21.79	21.81	23.00	22.39	22.43	22.38	23.00
3GPP Rel 6	HSDPA Subtest-2	21.76	21.72	21.72	23.00	22.37	22.32	22.41	23.00
3GPP Rel 6	HSDPA Subtest-3	21.22	21.22	21.20	22.50	21.90	21.83	21.99	22.50
3GPP Rel 6	HSDPA Subtest-4	21.23	21.21	21.18	22.50	21.94	21.85	22.01	22.50
3GPP Rel 8	DC-HSDPA Subtest-1	21.52	21.46	21.39	23.00	22.41	22.50	22.32	23.00
3GPP Rel 8	DC-HSDPA Subtest-2	21.69	21.49	21.37	23.00	22.40	22.34	22.41	23.00
3GPP Rel 8	DC-HSDPA Subtest-3	21.25	20.96	20.90	22.50	22.04	22.07	22.14	22.50
3GPP Rel 8	DC-HSDPA Subtest-4	21.22	20.95	20.89	22.50	22.07	21.96	22.09	22.50
3GPP Rel 6	HSUPA Subtest-1	21.85	21.88	21.86	23.00	21.48	21.43	21.54	23.00
3GPP Rel 6	HSUPA Subtest-2	19.83	19.81	19.86	21.00	20.42	20.45	20.51	21.00
3GPP Rel 6	HSUPA Subtest-3	20.85	20.76	20.81	22.00	21.50	21.47	21.57	22.00
3GPP Rel 6	HSUPA Subtest-4	19.44	19.34	19.35	21.00	19.94	19.92	19.95	21.00
3GPP Rel 6	HSUPA Subtest-5	21.70	21.67	21.45	23.00	21.52	21.42	21.52	23.00
3GPP Rel 7	HSPA+ (16QAM) Subtest-1	20.82	20.93	20.81	22.00	21.61	21.70	21.66	23.00

Band 4 (AWS Band)
Part 27L (only on channel required)

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				20050	20175	20300		
Frequency (MHz)				1720	1732.5	1745		
20	QPSK	1	0	22.49	22.75	22.26	24	0
20	QPSK	1	49	22.74	22.61	22.56		
20	QPSK	1	99	22.29	22.26	22.25		
20	QPSK	50	0	21.63	21.76	21.66	23	1
20	QPSK	50	24	21.66	21.56	21.52		
20	QPSK	50	50	21.74	21.48	21.51		
20	QPSK	100	0	21.69	21.78	21.60		
20	16QAM	1	0	21.72	21.70	21.60	23	1
20	16QAM	1	49	21.88	21.90	21.95		
20	16QAM	1	99	21.52	21.47	21.58		
20	16QAM	50	0	20.63	20.51	20.64	22	2
20	16QAM	50	24	20.64	20.54	20.50		
20	16QAM	50	50	20.71	20.45	20.48		
20	16QAM	100	0	20.71	20.47	20.55		
20	64QAM	1	0	20.60	20.44	20.41	22	2
20	64QAM	1	49	20.89	20.79	20.62		
20	64QAM	1	99	20.44	20.85	20.40		
20	64QAM	50	0	19.73	20.06	19.68	21	3
20	64QAM	50	24	19.69	20.06	19.60		
20	64QAM	50	50	19.80	20.03	19.63		
20	64QAM	100	0	19.76	20.05	19.65		
Channel				20025	20175	20325	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1717.5	1732.5	1747.5		
15	QPSK	1	0	22.46	22.32	22.21	24	0
15	QPSK	1	37	22.67	22.58	22.49		
15	QPSK	1	74	22.22	22.21	22.18		
15	QPSK	36	0	21.60	21.44	21.59	23	1
15	QPSK	36	20	21.59	21.53	21.47		
15	QPSK	36	39	21.71	21.41	21.44		
15	QPSK	75	0	21.62	21.44	21.57		
15	16QAM	1	0	21.67	21.63	21.53	23	1
15	16QAM	1	37	21.85	21.87	21.90		
15	16QAM	1	74	21.45	21.40	21.51		
15	16QAM	36	0	20.60	20.46	20.59	22	2
15	16QAM	36	20	20.57	20.47	20.47		
15	16QAM	36	39	20.68	20.42	20.41		
15	16QAM	75	0	20.64	20.42	20.50		
15	64QAM	1	0	20.55	20.37	20.34	22	2
15	64QAM	1	37	20.82	20.76	20.59		
15	64QAM	1	74	20.41	20.80	20.33		
15	64QAM	36	0	19.66	19.99	19.65	21	3
15	64QAM	36	20	19.64	20.03	19.55		
15	64QAM	36	39	19.73	19.98	19.56		
15	64QAM	75	0	19.73	20.00	19.62		
Channel				20000	20175	20350	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1715	1732.5	1750		
10	QPSK	1	0	22.43	22.27	22.16	24	0
10	QPSK	1	25	22.60	22.55	22.42		
10	QPSK	1	49	22.15	22.16	22.11		
10	QPSK	25	0	21.57	21.37	21.52	23	1
10	QPSK	25	12	21.52	21.50	21.42		
10	QPSK	25	25	21.68	21.34	21.37		
10	QPSK	50	0	21.55	21.39	21.54		
10	16QAM	1	0	21.62	21.56	21.46	23	1
10	16QAM	1	25	21.82	21.84	21.85		
10	16QAM	1	49	21.38	21.46	21.44		
10	16QAM	25	0	20.57	20.41	20.54	22	2
10	16QAM	25	12	20.50	20.40	20.44		
10	16QAM	25	25	20.65	20.39	20.34		
10	16QAM	50	0	20.57	20.37	20.45		
10	64QAM	1	0	20.50	20.30	20.27	22	2
10	64QAM	1	25	20.75	20.73	20.56		
10	64QAM	1	49	20.38	20.75	20.26		
10	64QAM	25	0	19.59	19.92	19.62	21	3
10	64QAM	25	12	19.59	20.00	19.70		
10	64QAM	25	25	19.66	19.89	19.66		
10	64QAM	50	0	19.70	19.95	19.59		
Channel				19975	20175	20375	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1712.5	1732.5	1752.5		
5	QPSK	1	0	22.40	22.56	22.55	24	0
5	QPSK	1	12	22.53	22.52	22.35		
5	QPSK	1	24	22.56	22.56	22.67		
5	QPSK	12	0	21.54	21.30	21.45	23	1
5	QPSK	12	7	21.45	21.47	21.37		
5	QPSK	12	13	21.65	21.27	21.30		
5	QPSK	25	0	21.48	21.34	21.51		
5	16QAM	1	0	21.57	21.49	21.39	23	1
5	16QAM	1	12	21.79	21.81	21.80		
5	16QAM	1	24	21.31	21.39	21.37		
5	16QAM	12	0	20.54	20.36	20.49	22	2
5	16QAM	12	7	20.43	20.33	20.41		
5	16QAM	12	13	20.62	20.36	20.27		
5	16QAM	25	0	20.50	20.32	20.40		
5	64QAM	1	0	20.45	20.23	20.20	22	2
5	64QAM	1	12	20.68	20.70	20.53		
5	64QAM	1	24	20.35	20.70	20.35		
5	64QAM	12	0	19.52	19.85	19.59	21	3
5	64QAM	12	7	19.54	19.97	19.65		
5	64QAM	12	13	19.59	19.82	19.59		
5	64QAM	25	0	19.67	19.90	19.56		
Channel				19965	20175	20385	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1711.5	1732.5	1753.5		
3	QPSK	1	0	22.37	22.55	22.56	24	0
3	QPSK	1	8	22.46	22.49	22.28		
3	QPSK	1	14	22.44	22.43	22.43		
3	QPSK	8	0	21.51	21.23	21.38	23	1
3	QPSK	8	4	21.38	21.44	21.32		
3	QPSK	8	7	21.62	21.20	21.23		
3	QPSK	15	0	21.41	21.29	21.48		
3	16QAM	1	0	21.52	21.42	21.43	23	1
3	16QAM	1	8	21.76	21.78	21.75		
3	16QAM	1	14	21.39	21.32	21.44		
3	16QAM	8	0	20.51	20.31	20.44	22	2
3	16QAM	8	4	20.36	20.26	20.38		
3	16QAM	8	7	20.59	20.33	20.20		
3	16QAM	15	0	20.43	20.27	20.35		
3	64QAM	1	0	20.40	20.16	20.26	22	2
3	64QAM	1	8	20.61	20.43	20.50		
3	64QAM	1	14	20.32	20.65	20.28		
3	64QAM	8	0	19.45	19.78	19.56	21	3
3	64QAM	8	4	19.49	19.94	19.60		
3	64QAM	8	7	19.52	19.75	19.52		
3	64QAM	15	0	19.64	19.85	19.53		
Channel				19957	20175	20393	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1710.7	1732.5	1754.3		
1.4	QPSK	1	0	22.34	22.12	22.09	24	0
1.4	QPSK	1	3	22.39	22.46	22.21		
1.4	QPSK	1	5	22.03	22.01	22.06		
1.4	QPSK	3	0	22.46	22.14	22.29		
1.4	QPSK	3	1	22.29	22.39	22.25		
1.4	QPSK	3	3	22.57	22.11	22.14		
1.4	QPSK	6	0	21.34	21.24	21.45	23	1
1.4	16QAM	1	0	21.47	21.35	21.36	23	1
1.4	16QAM	1	3	21.73	21.75	21.70		
1.4	16QAM	1	5	21.32	21.25	21.37		
1.4	16QAM	3	0	21.46	21.24	21.37		
1.4	16QAM	3	1	21.27	21.17	21.33		
1.4	16QAM	3	3	21.54	21.28	21.11		
1.4	16QAM	6	0	20.36	20.22	20.30	22	2
1.4	64QAM	1	0	20.35	20.16	20.19	22	2
1.4	64QAM	1	3	20.54	20.40	20.47		
1.4	64QAM	1	5	20.29	20.60	20.21		
1.4	64QAM	3	0	20.47	20.69	20.51		
1.4	64QAM	3	1	20.42	20.89	20.53		
1.4	64QAM	3	3	20.43	20.66	20.43		
1.4	64QAM	6	0	19.61	19.80	19.50	21	3

Band 7 (2600MHz Band)
Part 27

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				20850	21100	21350		
Frequency (MHz)				2510	2535	2560		
20	QPSK	1	0	22.78	23.00	22.89	24	0
20	QPSK	1	49	22.70	22.84	22.83		
20	QPSK	1	99	22.64	22.73	22.70		
20	QPSK	50	0	22.11	22.12	21.79	23	1
20	QPSK	50	24	22.06	21.77	21.81		
20	QPSK	50	50	22.05	21.72	21.87		
20	QPSK	100	0	22.07	22.09	21.80		
20	16QAM	1	0	22.02	21.81	21.82	23	1
20	16QAM	1	49	22.31	22.11	22.07		
20	16QAM	1	99	21.93	21.90	21.88		
20	16QAM	50	0	21.11	20.79	20.79	22	2
20	16QAM	50	24	21.03	20.78	20.79		
20	16QAM	50	50	21.05	20.72	20.86		
20	16QAM	100	0	21.04	20.76	20.89		
20	64QAM	1	0	20.96	20.88	21.19	22	2
20	64QAM	1	49	21.24	21.06	20.83		
20	64QAM	1	99	20.79	20.76	20.95		
20	64QAM	50	0	20.15	19.86	20.12	21	3
20	64QAM	50	24	20.09	19.79	20.00		
20	64QAM	50	50	20.11	19.76	19.88		
20	64QAM	100	0	20.11	19.82	19.83		
Channel				20825	21100	21375	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2507.5	2535	2562.5		
15	QPSK	1	0	22.76	22.77	22.76	24	0
15	QPSK	1	37	22.93	22.90	22.90		
15	QPSK	1	74	22.91	22.60	22.60		
15	QPSK	36	0	22.15	21.85	21.84	23	1
15	QPSK	36	20	22.10	21.80	21.83		
15	QPSK	36	39	22.10	21.77	21.80		
15	QPSK	75	0	22.12	21.84	21.83		
15	16QAM	1	0	22.24	22.08	22.10	23	1
15	16QAM	1	37	22.31	22.16	22.16		
15	16QAM	1	74	22.23	21.93	21.81		
15	16QAM	36	0	21.13	20.86	20.82	22	2
15	16QAM	36	20	21.09	20.79	20.80		
15	16QAM	36	39	21.09	20.76	20.79		
15	16QAM	75	0	21.11	20.80	20.80		
15	64QAM	1	0	21.03	20.87	20.94	22	2
15	64QAM	1	37	21.09	21.04	21.05		
15	64QAM	1	74	20.99	20.79	20.66		
15	64QAM	36	0	20.21	19.91	19.91	21	3
15	64QAM	36	20	20.18	19.86	19.87		
15	64QAM	36	39	20.17	19.79	19.88		
15	64QAM	75	0	20.14	19.79	19.86		
Channel				20800	21100	21400	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2505	2535	2565		
10	QPSK	1	0	22.67	22.75	22.77	24	0
10	QPSK	1	25	22.78	22.79	22.89		
10	QPSK	1	49	22.67	22.69	22.69		
10	QPSK	25	0	22.17	21.85	21.80	23	1
10	QPSK	25	12	22.11	21.80	21.84		
10	QPSK	25	25	22.11	21.79	21.87		
10	QPSK	50	0	22.16	21.84	21.83		
10	16QAM	1	0	22.34	22.03	21.97	23	1
10	16QAM	1	25	22.33	22.13	22.07		
10	16QAM	1	49	22.22	21.89	21.86		
10	16QAM	25	0	21.15	20.83	20.79	22	2
10	16QAM	25	12	21.06	20.75	20.78		
10	16QAM	25	25	21.10	20.78	20.85		
10	16QAM	50	0	21.13	20.81	20.81		
10	64QAM	1	0	21.16	20.85	20.92	22	2
10	64QAM	1	25	21.23	20.93	21.04		
10	64QAM	1	49	21.11	20.85	20.82		
10	64QAM	25	0	20.20	19.82	19.84	21	3
10	64QAM	25	12	20.06	19.85	19.82		
10	64QAM	25	25	20.02	19.77	19.87		
10	64QAM	50	0	20.07	19.80	19.86		
Channel				20775	21100	21425	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2502.5	2535	2567.5		
5	QPSK	1	0	22.96	22.66	22.67	24	0
5	QPSK	1	12	22.99	22.93	22.90		
5	QPSK	1	24	22.90	22.63	22.60		
5	QPSK	12	0	22.05	21.77	21.74	23	1
5	QPSK	12	7	22.16	21.81	21.77		
5	QPSK	12	13	22.07	21.77	21.74		
5	QPSK	25	0	22.14	21.76	21.79		
5	16QAM	1	0	22.16	21.95	21.98	23	1
5	16QAM	1	12	22.21	22.26	22.30		
5	16QAM	1	24	22.15	21.83	21.89		
5	16QAM	12	0	21.06	20.78	20.76	22	2
5	16QAM	12	7	21.12	20.79	20.81		
5	16QAM	12	13	21.08	20.75	20.73		
5	16QAM	25	0	21.06	20.76	20.73		
5	64QAM	1	0	21.14	20.89	20.82	22	2
5	64QAM	1	12	21.13	21.08	21.09		
5	64QAM	1	24	20.99	20.71	20.76		
5	64QAM	12	0	20.16	19.86	19.81	21	3
5	64QAM	12	7	20.22	19.87	19.84		
5	64QAM	12	13	20.13	19.80	19.80		
5	64QAM	25	0	20.14	19.78	19.79		

Reduced Power Mode for Receive on

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	27.76	27.75	27.73	28.50	18.78	18.75	18.73	19.50
GPRS 1 Tx slot	27.77	27.76	27.72	28.50	18.77	18.76	18.72	19.50
GPRS 2 Tx slots	25.65	25.63	25.62	26.50	19.65	19.63	19.62	20.50
GPRS 3 Tx slots	23.88	23.87	23.88	25.00	19.62	19.61	19.62	20.74
GPRS 4 Tx slots	22.89	22.82	22.84	24.00	19.89	19.82	19.84	21.00
EDGE 1 Tx slot	26.76	26.74	26.75	27.50	17.76	17.74	17.75	18.50
EDGE 2 Tx slots	24.25	24.28	24.32	25.00	18.25	18.28	18.32	19.00
EDGE 3 Tx slots	23.16	23.17	23.33	24.00	18.90	18.91	19.07	19.74
EDGE 4 Tx slots	22.35	22.35	22.43	23.50	19.35	19.35	19.43	20.50

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	23.27	23.59	24.50	14.42	14.27	14.59	15.50
GPRS 1 Tx slot	23.41	23.26	23.60	24.50	14.41	14.26	14.60	15.50
GPRS 2 Tx slots	21.22	21.06	21.39	22.50	15.22	15.06	15.39	16.50
GPRS 3 Tx slots	19.52	19.33	19.50	20.50	15.26	15.07	15.24	16.24
GPRS 4 Tx slots	18.47	18.50	18.44	20.00	15.47	15.50	15.44	17.00
EDGE 1 Tx slot	20.15	20.23	20.27	21.50	11.15	11.23	11.27	12.50
EDGE 2 Tx slots	19.43	19.55	19.53	20.50	13.43	13.55	13.53	14.50
EDGE 3 Tx slots	19.34	19.43	19.42	20.50	15.08	15.17	15.16	16.24
EDGE 4 Tx slots	18.59	18.75	18.71	18.00	15.59	15.75	15.71	15.00

Band		WCDMA II			Tune-up Limit (dBm)	WCDMA V			Tune-up Limit (dBm)
TX Channel		9262	9400	9538		4132	4182	4233	
Rx Channel		9662	9800	9938		4357	4407	4458	
Frequency (MHz)		1852.4	1880	1907.6		826.4	836.4	846.6	
3GPP Rel 99	AMR 12.2Kbps	12.61	12.45	12.41	14.00	19.03	19.00	19.01	20.00
3GPP Rel 99	RMC 12.2Kbps	12.47	12.63	12.42	14.00	19.05	19.08	19.03	20.00
3GPP Rel 6	HSDPA Subtest-1	11.31	11.44	11.38	12.50	17.73	17.73	17.70	18.50
3GPP Rel 6	HSDPA Subtest-2	11.20	11.28	11.04	12.50	17.68	17.64	17.63	18.50
3GPP Rel 6	HSDPA Subtest-3	10.73	10.79	10.82	12.00	17.18	17.13	17.15	18.00
3GPP Rel 6	HSDPA Subtest-4	10.64	10.75	10.84	12.00	17.14	17.10	17.12	18.00
3GPP Rel 8	DC-HSDPA Subtest-1	11.32	11.42	11.37	12.50	17.71	17.72	17.68	18.50
3GPP Rel 8	DC-HSDPA Subtest-2	11.21	11.27	11.03	12.50	17.66	17.62	17.62	18.50
3GPP Rel 8	DC-HSDPA Subtest-3	10.72	10.78	10.81	12.00	17.19	17.11	17.13	18.00
3GPP Rel 8	DC-HSDPA Subtest-4	10.62	10.74	10.82	12.00	17.13	17.09	17.11	18.00
3GPP Rel 6	HSUPA Subtest-1	11.32	11.42	11.36	12.50	17.70	17.72	17.65	18.50
3GPP Rel 6	HSUPA Subtest-2	9.36	9.45	9.29	10.50	15.62	15.65	15.64	16.50
3GPP Rel 6	HSUPA Subtest-3	10.56	10.59	10.62	11.50	16.58	16.61	16.63	17.50
3GPP Rel 6	HSUPA Subtest-4	9.41	9.71	9.73	10.50	15.33	15.35	15.39	16.50
3GPP Rel 6	HSUPA Subtest-5	11.31	11.26	11.35	12.50	17.65	17.66	17.66	18.50
3GPP Rel 7	HSPA+ (16QAM) Subtest-1	11.30	11.42	11.35	12.50	17.73	17.74	17.68	18.50

Band 4 (AWS Band)
Part 27L (only on channel required)

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				20050	20175	20300		
Frequency (MHz)				1720	1732.5	1745		
20	QPSK	1	0	14.00	14.16	14.04		
20	QPSK	1	49	14.14	14.01	14.00	15	0
20	QPSK	1	99	13.89	13.88	13.89		
20	QPSK	50	0	14.12	14.13	13.77		
20	QPSK	50	24	14.09	14.00	13.97	15	0
20	QPSK	50	50	13.77	14.01	13.92		
20	QPSK	100	0	13.84	14.09	14.07		
20	16QAM	1	0	13.78	14.12	13.93		
20	16QAM	1	49	14.01	13.89	13.88	15	0
20	16QAM	1	99	14.02	14.01	14.00		
20	16QAM	50	0	14.11	13.94	13.78		
20	16QAM	50	24	14.09	13.97	13.99	15	0
20	16QAM	50	50	13.78	13.98	13.92		
20	16QAM	100	0	13.76	13.82	14.09		
20	64QAM	1	0	14.02	13.96	13.79		
20	64QAM	1	49	14.02	13.87	13.88	15	0
20	64QAM	1	99	13.77	13.69	13.76		
20	64QAM	50	0	14.10	13.93	13.88		
20	64QAM	50	24	14.08	13.95	13.95	15	0
20	64QAM	50	50	13.87	14.00	13.91		
20	64QAM	100	0	13.87	13.82	14.11		
Channel				20025	20175	20325	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1717.5	1732.5	1747.5		
15	QPSK	1	0	14.08	13.97	13.86		
15	QPSK	1	37	13.89	14.08	14.11	15	0
15	QPSK	1	74	13.86	13.77	13.75		
15	QPSK	36	0	14.11	14.00	14.03		
15	QPSK	36	20	14.11	13.97	13.94	15	0
15	QPSK	36	39	14.08	13.79	13.94		
15	QPSK	75	0	14.13	13.91	13.98		
15	16QAM	1	0	14.01	13.89	14.08		
15	16QAM	1	37	14.00	14.02	14.02	15	0
15	16QAM	1	74	14.14	14.00	14.10		
15	16QAM	36	0	13.84	14.00	14.02		
15	16QAM	36	20	14.11	13.98	13.97	15	0
15	16QAM	36	39	14.10	13.80	13.96		
15	16QAM	75	0	14.13	13.88	13.96		
15	64QAM	1	0	13.87	14.10	13.94		
15	64QAM	1	37	14.03	13.82	13.88	15	0
15	64QAM	1	74	14.01	13.85	13.98		
15	64QAM	36	0	14.11	13.97	14.04		
15	64QAM	36	20	14.09	13.96	13.96	15	0
15	64QAM	36	39	14.08	13.79	13.94		
15	64QAM	75	0	14.10	13.88	13.99		
Channel				20000	20175	20350	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1715	1732.5	1750		
10	QPSK	1	0	14.14	13.99	13.92		
10	QPSK	1	25	13.89	14.11	14.04	15	0
10	QPSK	1	49	14.00	13.87	13.85		
10	QPSK	25	0	13.87	14.05	14.01		
10	QPSK	25	12	13.78	14.03	14.01	15	0
10	QPSK	25	25	14.13	13.87	14.00		
10	QPSK	50	0	13.89	13.97	14.03		
10	16QAM	1	0	13.98	13.85	13.88		
10	16QAM	1	25	14.00	13.89	14.02	15	0
10	16QAM	1	49	14.02	14.11	13.98		
10	16QAM	25	0	13.89	14.02	14.03		
10	16QAM	25	12	13.88	14.00	14.04	15	0
10	16QAM	25	25	14.13	13.87	14.02		
10	16QAM	50	0	13.87	13.95	14.05		
10	64QAM	1	0	13.89	14.13	14.06		
10	64QAM	1	25	14.02	13.87	13.89	15	0
10	64QAM	1	49	13.76	13.97	14.06		
10	64QAM	25	0	13.82	14.01	14.01		
10	64QAM	25	12	13.81	14.01	14.02	15	0
10	64QAM	25	25	14.13	13.86	13.99		
10	64QAM	50	0	13.78	13.94	14.03		
Channel				19975	20175	20375	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1712.5	1732.5	1752.5		
5	QPSK	1	0	14.02	13.87	13.84		
5	QPSK	1	12	13.89	14.07	14.04	15	0
5	QPSK	1	24	13.96	13.79	13.76		
5	QPSK	12	0	14.10	13.96	13.87		
5	QPSK	12	7	14.12	13.97	13.98	15	0
5	QPSK	12	13	14.05	13.86	13.89		
5	QPSK	25	0	14.08	13.95	13.91		
5	16QAM	1	0	13.98	14.10	13.87		
5	16QAM	1	12	13.89	14.02	14.02	15	0
5	16QAM	1	24	13.88	14.02	13.77		
5	16QAM	12	0	14.12	13.98	13.94		
5	16QAM	12	7	14.13	13.97	13.98	15	0
5	16QAM	12	13	14.07	13.87	13.91		
5	16QAM	25	0	14.08	13.90	13.90		
5	64QAM	1	0	13.76	14.02	14.02		
5	64QAM	1	12	14.02	13.89	13.87	15	0
5	64QAM	1	24	14.12	13.91	13.98		
5	64QAM	12	0	14.11	13.92	13.89		
5	64QAM	12	7	14.12	13.96	13.94	15	0
5	64QAM	12	13	14.03	13.85	13.90		
5	64QAM	25	0	14.07	13.90	13.90		
Channel				19965	20175	20385	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1711.5	1732.5	1753.5		
3	QPSK	1	0	14.09	13.94	13.93		
3	QPSK	1	8	14.09	13.89	13.90	15	0
3	QPSK	1	14	14.05	13.87	13.88		
3	QPSK	8	0	14.11	13.96	13.94		
3	QPSK	8	4	14.15	13.97	13.96	15	0
3	QPSK	8	7	14.10	13.94	13.91		
3	QPSK	15	0	14.10	13.94	13.90		
3	16QAM	1	0	14.02	13.87	13.89		
3	16QAM	1	8	14.02	14.14	13.87	15	0
3	16QAM	1	14	14.01	13.87	13.87		
3	16QAM	8	0	14.15	13.98	13.98		
3	16QAM	8	4	14.15	13.96	14.00	15	0
3	16QAM	8	7	14.14	13.96	13.98		
3	16QAM	15	0	14.09	13.90	13.92		
3	64QAM	1	0	13.92	14.08	14.07		
3	64QAM	1	8	13.89	14.06	14.03	15	0
3	64QAM	1	14	13.87	14.03	14.04		
3	64QAM	8	0	14.12	13.95	13.94		
3	64QAM	8	4	14.13	13.93	13.96	15	0
3	64QAM	8	7	14.09	13.90	13.94		
3	64QAM	15	0	14.08	13.90	13.91		
Channel				19957	20175	20393	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1710.7	1732.5	1754.3		
1.4	QPSK	1	0	14.05	13.89	13.88		
1.4	QPSK	1	3	13.88	14.05	13.99		
1.4	QPSK	1	5	14.05	13.89	13.86	15	0
1.4	QPSK	3	0	14.14	13.96	13.96		
1.4	QPSK	3	1	13.88	14.03	14.00		
1.4	QPSK	3	3	14.14	13.97	13.96		
1.4	QPSK	6	0	13.82	13.96	13.93	15	0
1.4	16QAM	1	0	13.88	14.12	14.15		
1.4	16QAM	1	3	13.89	13.88	13.82		
1.4	16QAM	1	5	13.98	13.86	13.87	15	0
1.4	16QAM	3	0	14.13	13.96	14.04		
1.4	16QAM	3	1	13.89	14.05	14.07		
1.4	16QAM	3	3	13.84	13.98	14.01		
1.4	16QAM	6	0	13.78	14.01	14.04	15	0
1.4	64QAM	1	0	13.89	14.03	14.09		
1.4	64QAM	1	3	14.02	14.15	13.87		
1.4	64QAM	1	5	13.87	14.03	14.02	15	0
1.4	64QAM	3	0	13.89	14.04	14.05		
1.4	64QAM	3	1	13.88	14.10	14.10		
1.4	64QAM	3	3	13.78	13.98	14.04		
1.4	64QAM	6	0	13.87	13.97	13.98	15	0

Band 7 (2600MHz Band)
Part 27

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				20850	21100	21350		
Frequency (MHz)				2510	2535	2560		
20	QPSK	1	0	12.04	12.10	12.03		
20	QPSK	1	49	11.96	11.94	11.93	13.5	0
20	QPSK	1	99	11.89	11.87	11.88		
20	QPSK	50	0	12.01	12.06	11.87		
20	QPSK	50	24	11.94	11.92	11.96	13.5	0
20	QPSK	50	50	12.03	11.93	12.05		
20	QPSK	100	0	12.00	12.01	11.94		
20	16QAM	1	0	11.93	11.82	11.81		
20	16QAM	1	49	12.01	11.89	12.02	13.5	0
20	16QAM	1	99	11.93	11.86	11.84		
20	16QAM	50	0	11.98	11.86	11.83		
20	16QAM	50	24	11.92	11.88	11.90	13.5	0
20	16QAM	50	50	11.99	11.88	12.03		
20	16QAM	100	0	11.96	11.85	11.92		
20	64QAM	1	0	11.78	11.71	11.70		
20	64QAM	1	49	12.09	12.05	11.90	13.5	0
20	64QAM	1	99	11.82	11.72	11.71		
20	64QAM	50	0	11.97	11.85	11.83		
20	64QAM	50	24	11.94	11.88	11.90	13.5	0
20	64QAM	50	50	11.98	11.86	12.02		
20	64QAM	100	0	11.97	11.84	11.90		
Channel				20825	21100	21375	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2507.5	2535	2562.5		
15	QPSK	1	0	11.86	11.73	11.71		
15	QPSK	1	37	12.05	11.98	11.99	13.5	0
15	QPSK	1	74	11.76	11.80	11.77		
15	QPSK	36	0	11.97	11.84	11.85		
15	QPSK	36	20	11.96	11.89	11.88	13.5	0
15	QPSK	36	39	11.94	11.86	11.90		
15	QPSK	75	0	11.97	11.91	11.89		
15	16QAM	1	0	11.83	11.96	12.00		
15	16QAM	1	37	12.02	12.01	12.00	13.5	0
15	16QAM	1	74	12.05	12.04	11.98		
15	16QAM	36	0	11.97	11.83	11.83		
15	16QAM	36	20	11.95	11.87	11.88	13.5	0
15	16QAM	36	39	11.95	11.84	11.88		
15	16QAM	75	0	11.93	11.83	11.87		
15	64QAM	1	0	11.98	11.88	11.91		
15	64QAM	1	37	11.89	11.82	11.83	13.5	0
15	64QAM	1	74	11.90	11.92	11.83		
15	64QAM	36	0	11.93	11.82	11.83		
15	64QAM	36	20	11.93	11.88	11.89	13.5	0
15	64QAM	36	39	11.93	11.85	11.88		
15	64QAM	75	0	11.91	11.84	11.87		
Channel				20800	21100	21400	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2505	2535	2565		
10	QPSK	1	0	11.91	11.79	11.81		
10	QPSK	1	25	11.97	11.91	11.92	13.5	0
10	QPSK	1	49	11.84	11.85	11.83		
10	QPSK	25	0	12.02	11.90	11.84		
10	QPSK	25	12	11.97	11.90	11.90	13.5	0
10	QPSK	25	25	11.97	11.91	11.95		
10	QPSK	50	0	12.00	11.92	11.90		
10	16QAM	1	0	11.92	12.00	12.05		
10	16QAM	1	25	12.02	11.83	11.88	13.5	0
10	16QAM	1	49	11.83	11.82	12.07		
10	16QAM	25	0	11.99	11.86	11.81		
10	16QAM	25	12	11.92	11.87	11.86	13.5	0
10	16QAM	25	25	11.95	11.85	11.93		
10	16QAM	50	0	11.97	11.87	11.87		
10	64QAM	1	0	12.07	11.89	11.94		
10	64QAM	1	25	12.09	12.06	12.04	13.5	0
10	64QAM	1	49	12.00	11.98	11.93		
10	64QAM	25	0	11.98	11.86	11.81		
10	64QAM	25	12	11.92	11.87	11.89	13.5	0
10	64QAM	25	25	11.94	11.83	11.91		
10	64QAM	50	0	11.94	11.85	11.85		
Channel				20775	21100	21425	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2502.5	2535	2567.5		
5	QPSK	1	0	11.87	11.70	11.72		
5	QPSK	1	12	12.08	11.97	11.97	13.5	0
5	QPSK	1	24	11.79	11.71	11.72		
5	QPSK	12	0	11.97	11.86	11.82		
5	QPSK	12	7	11.99	11.87	11.86	13.5	0
5	QPSK	12	13	11.92	11.83	11.86		
5	QPSK	25	0	11.98	11.87	11.85		
5	16QAM	1	0	11.82	11.95	11.98		
5	16QAM	1	12	12.01	11.89	11.89	13.5	0
5	16QAM	1	24	12.08	12.01	11.97		
5	16QAM	12	0	11.98	11.85	11.85		
5	16QAM	12	7	11.98	11.91	11.86	13.5	0
5	16QAM	12	13	11.92	11.83	11.86		
5	16QAM	25	0	11.94	11.83	11.84		
5	64QAM	1	0	11.97	11.85	11.88		
5	64QAM	1	12	11.89	12.05	11.83	13.5	0
5	64QAM	1	24	11.95	11.87	11.86		
5	64QAM	12	0	11.94	11.85	11.80		
5	64QAM	12	7	11.97	11.85	11.85	13.5	0
5	64QAM	12	13	11.91	11.80	11.84		
5	64QAM	25	0	11.95	11.83	11.81		

Reduced Power Mode for P-Sensor on

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	24.15	24.42	24.23	24.50	15.15	15.42	15.23	15.50
GPRS 1 Tx slot	24.13	24.40	24.21	24.50	15.13	15.40	15.21	15.50
GPRS 2 Tx slots	24.10	24.39	24.20	24.50	15.10	18.39	18.20	18.50
GPRS 3 Tx slots	23.46	23.73	23.59	24.50	14.46	19.47	19.33	20.24
GPRS 4 Tx slots	23.71	23.43	23.57	24.50	14.71	20.43	20.57	21.50
EDGE 1 Tx slot	22.43	22.51	22.78	23.50	13.43	13.51	13.78	14.50
EDGE 2 Tx slots	21.75	21.74	22.16	23.50	12.75	15.74	16.16	17.50
EDGE 3 Tx slots	21.63	21.64	22.04	23.50	12.63	17.38	17.78	19.24
EDGE 4 Tx slots	21.53	21.56	21.82	23.50	12.53	18.56	18.82	20.50

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	18.75	19.13	19.19	19.50	9.75	10.13	10.19	10.50
GPRS 1 Tx slot	18.73	19.10	19.17	19.50	9.73	10.10	10.17	10.50
GPRS 2 Tx slots	18.52	18.85	18.91	19.50	12.52	12.85	12.91	13.50
GPRS 3 Tx slots	18.55	18.87	18.94	19.00	14.29	14.61	14.68	14.74
GPRS 4 Tx slots	17.96	18.29	18.19	19.00	14.96	15.29	15.19	16.00
EDGE 1 Tx slot	14.86	14.74	14.86	15.50	5.86	5.74	5.86	6.50
EDGE 2 Tx slots	14.43	14.43	14.45	15.50	8.43	8.43	8.45	9.50
EDGE 3 Tx slots	14.39	14.35	14.37	15.50	10.13	10.09	10.11	11.24
EDGE 4 Tx slots	14.07	14.12	14.12	15.50	11.07	11.12	11.12	12.50

Band		WCDMA II			Tune-up Limit (dBm)	WCDMA V			Tune-up Limit (dBm)
TX Channel		9262	9400	9538		4132	4182	4233	
Rx Channel		9662	9800	9938		4357	4407	4458	
Frequency (MHz)		1852.4	1880	1907.6		826.4	836.4	846.6	
3GPP Rel 99	AMR 12.2Kbps	15.38	15.40	15.37	16.00	16.80	16.81	16.67	17.50
3GPP Rel 99	RMC 12.2Kbps	15.39	15.41	15.38	16.00	16.81	16.82	16.69	17.50
3GPP Rel 6	HSDPA Subtest-1	14.37	14.43	14.42	15.00	15.51	15.41	15.37	16.50
3GPP Rel 6	HSDPA Subtest-2	14.34	14.31	14.36	15.00	15.46	15.39	15.32	16.50
3GPP Rel 6	HSDPA Subtest-3	13.81	13.90	13.81	14.50	14.95	14.91	14.80	16.00
3GPP Rel 6	HSDPA Subtest-4	13.73	13.86	13.84	14.50	14.96	14.89	14.83	16.00
3GPP Rel 8	DC-HSDPA Subtest-1	14.34	14.40	14.39	15.00	15.49	15.37	15.34	16.50
3GPP Rel 8	DC-HSDPA Subtest-2	14.31	14.28	14.33	15.00	15.44	15.35	15.29	16.50
3GPP Rel 8	DC-HSDPA Subtest-3	13.78	13.87	13.78	14.50	14.93	14.87	14.77	16.00
3GPP Rel 8	DC-HSDPA Subtest-4	13.70	13.83	13.81	14.50	14.94	14.85	14.80	16.00
3GPP Rel 6	HSUPA Subtest-1	13.29	13.22	13.21	15.00	15.01	14.92	14.84	16.50
3GPP Rel 6	HSUPA Subtest-2	12.82	12.86	12.89	13.00	13.95	13.92	13.83	14.50
3GPP Rel 6	HSUPA Subtest-3	13.91	13.91	13.84	14.00	15.07	14.94	14.84	15.50
3GPP Rel 6	HSUPA Subtest-4	12.34	12.42	12.38	13.00	13.48	13.54	13.35	14.50
3GPP Rel 6	HSUPA Subtest-5	13.80	13.80	13.80	15.00	15.00	14.90	14.70	16.50
3GPP Rel 7	HSPA+ (16QAM) Subtest-1	13.76	13.77	13.67	15.00	14.96	14.81	14.69	16.50

Band 4 (AWS Band)
Part 27L (only on channel required)

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				20050	20175	20300		
Frequency (MHz)				1720	1732.5	1745		
20	QPSK	1	0	13.79	14.09	13.98		
20	QPSK	1	49	13.88	13.76	13.67	15	0
20	QPSK	1	99	13.77	13.87	13.76		
20	QPSK	50	0	13.86	13.92	13.88		
20	QPSK	50	24	13.82	13.74	13.67	15	0
20	QPSK	50	50	13.84	13.62	13.64		
20	QPSK	100	0	13.89	13.90	13.77		
20	16QAM	1	0	13.98	13.97	13.83		
20	16QAM	1	49	13.77	13.78	13.89	15	0
20	16QAM	1	99	13.75	13.67	13.59		
20	16QAM	50	0	13.90	13.83	13.89		
20	16QAM	50	24	13.85	13.76	13.72	15	0
20	16QAM	50	50	13.88	13.63	13.68		
20	16QAM	100	0	13.89	13.74	13.80		
20	64QAM	1	0	13.86	13.77	13.71		
20	64QAM	1	49	14.00	13.97	13.89	15	0
20	64QAM	1	99	13.59	13.53	13.65		
20	64QAM	50	0	13.87	13.81	13.87		
20	64QAM	50	24	13.84	13.74	13.70	15	0
20	64QAM	50	50	13.85	13.63	13.65		
20	64QAM	100	0	13.89	13.74	13.79		
Channel				20025	20175	20325	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1717.5	1732.5	1747.5		
15	QPSK	1	0	13.78	13.73	13.63		
15	QPSK	1	37	13.90	13.84	13.75	15	0
15	QPSK	1	74	13.61	13.52	13.42		
15	QPSK	36	0	13.81	13.76	13.67		
15	QPSK	36	20	13.81	13.70	13.64	15	0
15	QPSK	36	39	13.79	13.63	13.61		
15	QPSK	75	0	13.82	13.71	13.65		
15	16QAM	1	0	13.78	13.98	13.96		
15	16QAM	1	37	13.78	13.81	13.78	15	0
15	16QAM	1	74	13.99	13.89	13.79		
15	16QAM	36	0	13.85	13.79	13.74		
15	16QAM	36	20	13.83	13.77	13.70	15	0
15	16QAM	36	39	13.84	13.64	13.67		
15	16QAM	75	0	13.85	13.73	13.70		
15	64QAM	1	0	13.98	13.92	13.81		
15	64QAM	1	37	13.77	14.02	13.96	15	0
15	64QAM	1	74	13.84	13.74	13.66		
15	64QAM	36	0	13.84	13.78	13.74		
15	64QAM	36	20	13.86	13.75	13.72	15	0
15	64QAM	36	39	13.82	13.64	13.65		
15	64QAM	75	0	13.84	13.72	13.70		
Channel				20000	20175	20350	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1715	1732.5	1750		
10	QPSK	1	0	13.82	13.75	13.62		
10	QPSK	1	25	13.87	13.76	13.71	15	0
10	QPSK	1	49	13.71	13.60	13.48		
10	QPSK	25	0	13.81	13.74	13.69		
10	QPSK	25	12	13.83	13.72	13.69	15	0
10	QPSK	25	25	13.77	13.65	13.56		
10	QPSK	50	0	13.79	13.71	13.67		
10	16QAM	1	0	13.78	14.08	13.98		
10	16QAM	1	25	13.76	13.77	14.00	15	0
10	16QAM	1	49	14.01	13.93	13.88		
10	16QAM	25	0	13.83	13.76	13.73		
10	16QAM	25	12	13.83	13.76	13.71	15	0
10	16QAM	25	25	13.83	13.66	13.61		
10	16QAM	50	0	13.81	13.73	13.70		
10	64QAM	1	0	14.07	13.93	13.82		
10	64QAM	1	25	13.90	13.98	13.99	15	0
10	64QAM	1	49	13.92	13.82	13.71		
10	64QAM	25	0	13.81	13.76	13.70		
10	64QAM	25	12	13.83	13.76	13.72	15	0
10	64QAM	25	25	13.80	13.66	13.57		
10	64QAM	50	0	13.80	13.70	13.68		
Channel				19975	20175	20375	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1712.5	1732.5	1752.5		
5	QPSK	1	0	13.72	13.60	13.54		
5	QPSK	1	12	13.91	13.85	13.75	15	0
5	QPSK	1	24	13.60	13.53	13.76		
5	QPSK	12	0	13.77	13.70	13.65		
5	QPSK	12	7	13.81	13.75	13.60	15	0
5	QPSK	12	13	13.76	13.66	13.54		
5	QPSK	25	0	13.78	13.69	13.59		
5	16QAM	1	0	13.77	13.95	13.92		
5	16QAM	1	12	13.77	13.81	13.78	15	0
5	16QAM	1	24	13.96	13.89	13.78		
5	16QAM	12	0	13.87	13.76	13.71		
5	16QAM	12	7	13.88	13.80	13.69	15	0
5	16QAM	12	13	13.81	13.70	13.61		
5	16QAM	25	0	13.81	13.73	13.64		
5	64QAM	1	0	13.92	13.81	13.74		
5	64QAM	1	12	14.01	13.99	14.01	15	0
5	64QAM	1	24	13.85	13.75	13.67		
5	64QAM	12	0	13.82	13.73	13.70		
5	64QAM	12	7	13.86	13.78	13.67	15	0
5	64QAM	12	13	13.80	13.67	13.59		
5	64QAM	25	0	13.82	13.69	13.62		
Channel				19965	20175	20385	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1711.5	1732.5	1753.5		
3	QPSK	1	0	13.81	13.71	13.63		
3	QPSK	1	8	13.76	13.69	13.55	15	0
3	QPSK	1	14	13.75	13.66	13.53		
3	QPSK	8	0	13.80	13.74	13.61		
3	QPSK	8	4	13.81	13.76	13.63	15	0
3	QPSK	8	7	13.79	13.72	13.59		
3	QPSK	15	0	13.77	13.69	13.57		
3	16QAM	1	0	13.77	14.03	14.02		
3	16QAM	1	8	14.02	14.04	13.93	15	0
3	16QAM	1	14	14.02	14.01	13.87		
3	16QAM	8	0	13.89	13.82	13.69		
3	16QAM	8	4	13.91	13.84	13.73	15	0
3	16QAM	8	7	13.88	13.79	13.67		
3	16QAM	15	0	13.83	13.74	13.61		
3	64QAM	1	0	13.98	13.92	13.84		
3	64QAM	1	8	13.98	13.91	13.78	15	0
3	64QAM	1	14	13.93	13.87	13.77		
3	64QAM	8	0	13.84	13.76	13.65		
3	64QAM	8	4	13.85	13.79	13.65	15	0
3	64QAM	8	7	13.85	13.73	13.64		
3	64QAM	15	0	13.79	13.70	13.61		
Channel				19957	20175	20393	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1710.7	1732.5	1754.3		
1.4	QPSK	1	0	13.72	13.63	13.51		
1.4	QPSK	1	3	13.84	13.75	13.63		
1.4	QPSK	1	5	13.72	13.62	13.52	15	0
1.4	QPSK	3	0	13.78	13.70	13.56		
1.4	QPSK	3	1	13.83	13.75	13.63		
1.4	QPSK	3	3	13.80	13.69	13.57		
1.4	QPSK	6	0	13.80	13.71	13.58	15	0
1.4	16QAM	1	0	13.98	13.93	13.89		
1.4	16QAM	1	3	13.78	13.99	14.00		
1.4	16QAM	1	5	14.06	13.99	13.86	15	0
1.4	16QAM	3	0	13.86	13.77	13.64		
1.4	16QAM	3	1	13.92	13.82	13.68		
1.4	16QAM	3	3	13.84	13.76	13.66		
1.4	16QAM	6	0	13.92	13.81	13.70	15	0
1.4	64QAM	1	0	13.96	13.84	13.70		
1.4	64QAM	1	3	14.06	13.95	13.89		
1.4	64QAM	1	5	13.94	13.84	13.64	15	0
1.4	64QAM	3	0	13.93	13.78	13.67		
1.4	64QAM	3	1	13.95	13.83	13.72		
1.4	64QAM	3	3	13.90	13.82	13.67		
1.4	64QAM	6	0	13.82	13.72	13.63	15	0

Band 7 (2600MHz Band)
Part 27

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				20850	21100	21350		
Frequency (MHz)				2510	2535	2560		
20	QPSK	1	0	13.45	13.79	13.56		
20	QPSK	1	49	13.58	13.47	13.58	14.5	0
20	QPSK	1	99	13.67	13.60	13.55		
20	QPSK	50	0	13.70	13.75	13.58		
20	QPSK	50	24	13.63	13.50	13.63	14.5	0
20	QPSK	50	50	13.74	13.53	13.56		
20	QPSK	100	0	13.70	13.71	13.64		
20	16QAM	1	0	13.56	13.32	13.43		
20	16QAM	1	49	13.55	13.69	13.56	14.5	0
20	16QAM	1	99	13.46	13.48	13.54		
20	16QAM	50	0	13.66	13.51	13.56		
20	16QAM	50	24	13.58	13.46	13.61	14.5	0
20	16QAM	50	50	13.71	13.48	13.73		
20	16QAM	100	0	13.67	13.48	13.61		
20	64QAM	1	0	13.45	13.56	13.32		
20	64QAM	1	49	13.75	13.57	13.72	14.5	0
20	64QAM	1	99	13.40	13.35	13.41		
20	64QAM	50	0	13.67	13.50	13.53		
20	64QAM	50	24	13.57	13.44	13.60	14.5	0
20	64QAM	50	50	13.70	13.45	13.73		
20	64QAM	100	0	13.68	13.51	13.60		
Channel				20825	21100	21375	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2507.5	2535	2562.5		
15	QPSK	1	0	13.50	13.30	13.44		
15	QPSK	1	37	13.74	13.52	13.67	14.5	0
15	QPSK	1	74	13.46	13.37	13.50		
15	QPSK	36	0	13.68	13.49	13.57		
15	QPSK	36	20	13.63	13.47	13.61	14.5	0
15	QPSK	36	39	13.68	13.46	13.63		
15	QPSK	75	0	13.67	13.49	13.62		
15	16QAM	1	0	13.72	13.51	13.67		
15	16QAM	1	37	13.55	13.74	13.56	14.5	0
15	16QAM	1	74	13.68	13.59	13.70		
15	16QAM	36	0	13.67	13.45	13.55		
15	16QAM	36	20	13.62	13.44	13.59	14.5	0
15	16QAM	36	39	13.67	13.42	13.60		
15	16QAM	75	0	13.63	13.44	13.56		
15	64QAM	1	0	13.65	13.42	13.58		
15	64QAM	1	37	13.56	13.66	13.56	14.5	0
15	64QAM	1	74	13.57	13.50	13.57		
15	64QAM	36	0	13.65	13.43	13.54		
15	64QAM	36	20	13.62	13.42	13.59	14.5	0
15	64QAM	36	39	13.66	13.43	13.59		
15	64QAM	75	0	13.63	13.41	13.57		
Channel							Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)								
10	QPSK	1	0	13.54	13.37	13.47		
10	QPSK	1	25	13.68	13.50	13.66	14.5	0
10	QPSK	1	49	13.56	13.41	13.54		
10	QPSK	25	0	13.74	13.52	13.57		
10	QPSK	25	12	13.68	13.48	13.63	14.5	0
10	QPSK	25	25	13.70	13.49	13.67		
10	QPSK	50	0	13.72	13.54	13.61		
10	16QAM	1	0	13.76	13.59	13.71		
10	16QAM	1	25	13.65	13.71	13.66	14.5	0
10	16QAM	1	49	13.77	13.62	13.72		
10	16QAM	25	0	13.66	13.47	13.53		
10	16QAM	25	12	13.65	13.42	13.59	14.5	0
10	16QAM	25	25	13.67	13.42	13.60		
10	16QAM	50	0	13.68	13.46	13.56		
10	64QAM	1	0	13.67	13.44	13.62		
10	64QAM	1	25	13.55	13.60	13.71	14.5	0
10	64QAM	1	49	13.68	13.51	13.62		
10	64QAM	25	0	13.70	13.45	13.51		
10	64QAM	25	12	13.64	13.41	13.55	14.5	0
10	64QAM	25	25	13.66	13.43	13.59		
10	64QAM	50	0	13.64	13.45	13.54		
Channel				20775	21100	21425	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2502.5	2535	2567.5		
5	QPSK	1	0	13.44	13.77	13.45		
5	QPSK	1	12	13.77	13.55	13.76	14.5	0
5	QPSK	1	24	13.47	13.78	13.42		
5	QPSK	12	0	13.68	13.43	13.57		
5	QPSK	12	7	13.73	13.45	13.58	14.5	0
5	QPSK	12	13	13.63	13.39	13.55		
5	QPSK	25	0	13.69	13.45	13.60		
5	16QAM	1	0	13.67	13.48	13.63		
5	16QAM	1	12	13.56	13.67	13.55	14.5	0
5	16QAM	1	24	13.71	13.51	13.61		
5	16QAM	12	0	13.64	13.40	13.53		
5	16QAM	12	7	13.70	13.44	13.54	14.5	0
5	16QAM	12	13	13.63	13.38	13.51		
5	16QAM	25	0	13.65	13.40	13.55		
5	64QAM	1	0	13.53	13.34	13.55		
5	64QAM	1	12	13.56	13.71	13.67	14.5	0
5	64QAM	1	24	13.62	13.37	13.51		
5	64QAM	12	0	13.62	13.40	13.53		
5	64QAM	12	7	13.66	13.42	13.55	14.5	0
5	64QAM	12	13	13.59	13.37	13.47		
5	64QAM	25	0	13.62	13.39	13.53		

2.4GHz WLAN	Ant 1 Full power					
	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
2.4GHz WLAN	802.11b 1Mbps	1	2412	17.08	18.50	100.00
		6	2437	17.05	18.50	
		11	2462	17.03	18.50	
	802.11g 6Mbps	1	2412	14.79	16.50	97.46
		6	2437	14.98	16.50	
		11	2462	14.80	16.50	
	802.11n-HT20 MCS0	1	2412	14.78	16.50	97.83
		6	2437	14.72	16.50	
		11	2462	14.76	16.50	

2.4GHz WLAN	Ant 1 Receive on					
	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
2.4GHz WLAN	802.11b 1Mbps	1	2412	15.13	16.50	100.00
		6	2437	14.94	16.50	
		11	2462	15.08	16.50	
	802.11g 6Mbps	1	2412	Not Required	16.50	97.46
		6	2437		16.50	
		11	2462		16.50	
	802.11n-HT20 MCS0	1	2412		16.50	97.83
		6	2437		16.50	
		11	2462		16.50	

5GHz WLAN	Ant 1 Full power					
	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
5.2GHz WLAN	802.11a 6Mbps	36	5180	15.32	16.50	97.46
		40	5200	14.96	16.50	
		44	5220	15.29	16.50	
		48	5240	14.83	16.50	
	802.11n-HT20 MCS0	36	5180	15.09	16.50	97.28
		40	5200	15.11	16.50	
		44	5220	15.03	16.50	
		48	5240	14.94	16.50	
	802.11n-HT40 MCS0	38	5190	11.75	13.00	94.49
		46	5230	13.82	15.00	

5GHz WLAN	Ant 1 Receive on					
	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
5.2GHz WLAN	802.11a 6Mbps	36	5180	10.62	11.50	97.46
		40	5200	10.28	11.50	
		44	5220	10.61	11.50	
		48	5240	10.56	11.50	
	802.11n-HT20 MCS0	36	5180	Not Required	11.50	97.28
		40	5200		11.50	
		44	5220		11.50	
		48	5240		11.50	
	802.11n-HT40 MCS0	38	5190		11.50	94.49
		46	5230		11.50	

5GHz WLAN	Ant 1 Full power					
	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
5.3GHz WLAN	802.11a 6Mbps	52	5260	14.82	16.50	97.46
		56	5280	14.76	16.50	
		60	5300	14.79	16.50	
		64	5320	14.67	16.50	
	802.11n-HT20 MCS0	52	5260	14.74	16.50	97.28
		56	5280	14.71	16.50	
		60	5300	14.77	16.50	
		64	5320	14.65	16.50	
	802.11n-HT40 MCS0	54	5270	13.44	15.00	94.49
		62	5310	12.46	14.00	

5GHz WLAN	Ant 1 Receive on					
	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
5.3GHz WLAN	802.11a 6Mbps	52	5260	10.10	11.00	97.46
		56	5280	10.06	11.00	
		60	5300	10.32	11.00	
		64	5320	10.03	11.00	
	802.11n-HT20 MCS0	52	5260	Not Required	11.00	97.28
		56	5280		11.00	
		60	5300		11.00	
		64	5320		11.00	
	802.11n-HT40 MCS0	54	5270		11.00	94.49
		62	5310		11.00	

5GHz WLAN	Ant 1 Full power					
	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
5.5GHz WLAN	802.11a 6Mbps	100	5500	14.79	15.50	97.46
		116	5580	14.08	15.50	
		124	5620	14.06	15.50	
		132	5660	13.84	15.50	
		140	5700	13.13	14.50	
		144	5720	13.82	14.50	
	802.11n-HT20 MCS0	100	5500	14.65	15.50	97.28
		116	5580	14.50	15.50	
		124	5620	14.11	15.50	
		132	5660	13.70	15.50	
		140	5700	13.21	14.50	
		144	5720	13.79	14.50	
	802.11n-HT40 MCS0	102	5510	12.88	13.50	94.49
		110	5550	13.16	13.50	
		126	5630	12.96	13.50	
		134	5670	12.93	13.50	
		142	5710	12.17	13.50	

5GHz WLAN	Ant 1 Receive on					
	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
5.5GHz WLAN	802.11a 6Mbps	100	5500	11.21	12.50	97.46
		116	5580	11.06	12.50	
		124	5620	11.13	12.50	
		132	5660	10.79	11.50	
		140	5700	10.82	11.50	
		144	5720	10.49	11.50	
	802.11n-HT20 MCS0	100	5500	Not Required	11.50	97.28
		116	5580		11.50	
		124	5620		11.50	
		132	5660		11.50	
		140	5700		11.50	
		144	5720		11.50	
	802.11n-HT40 MCS0	102	5510		11.50	94.49
		110	5550		11.50	
		126	5630		11.50	
		134	5670		11.50	
		142	5710		11.50	

5GHz WLAN	Ant 1 Full power					
	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
5.8GHz WLAN	802.11a 6Mbps	149	5745	13.98	15.00	97.46
		157	5785	13.68	15.00	
		165	5825	14.30	15.00	
	802.11n-HT20 MCS0	149	5745	13.79	15.00	97.28
		157	5785	13.81	15.00	
		165	5825	13.87	15.00	
	802.11n-HT40 MCS0	151	5755	12.69	13.50	94.49
		159	5795	12.57	13.50	

5GHz WLAN	Ant 1 Receive on					
	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
5.8GHz WLAN	802.11a 6Mbps	149	5745	12.80	13.50	97.46
		157	5785	12.50	13.50	
		165	5825	12.90	13.50	
	802.11n-HT20 MCS0	149	5745	Not Required	13.50	97.28
		157	5785		13.50	
		165	5825		13.50	
	802.11n-HT40 MCS0	151	5755		13.50	94.49
		159	5795		13.50	

BR / EDR

Mode	Channel	Frequency (MHz)	Average power (dBm)		
			1Mbps	2Mbps	3Mbps
BR / EDR	CH 00	2402	6.93	4.56	5.07
	CH 39	2441	6.92	5.07	4.29
	CH 78	2480	6.80	4.60	5.11
Tune-up Limit			7.5	6	6

LE

Mode	Channel	Frequency (MHz)	Average power (dBm)
			GFSK
LE	CH 00	2402	6.42
	CH 19	2440	6.58
	CH 39	2480	6.50
Tune-up Limit			7.5