



In Collaboration with

s p e a g
CALIBRATION LABORATORY

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DASY/EASY – Parameters of Probe : ES3DV3 – SN: 3166

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	6.43	6.43	6.43	0.40	1.40	±12.1%
835	41.5	0.90	6.29	6.29	6.29	0.49	1.50	±12.1%
900	41.5	0.97	6.23	6.23	6.23	0.39	1.60	±12.1%
1750	40.1	1.37	5.35	5.35	5.35	0.56	1.36	±12.1%
1900	40.0	1.40	5.16	5.16	5.16	0.66	1.28	±12.1%
2000	40.0	1.40	5.20	5.20	5.20	0.62	1.31	±12.1%
2300	39.5	1.67	5.03	5.03	5.03	0.90	1.08	±12.1%
2450	39.2	1.80	4.76	4.76	4.76	0.90	1.10	±12.1%
2600	39.0	1.96	4.63	4.63	4.63	0.90	1.08	±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.

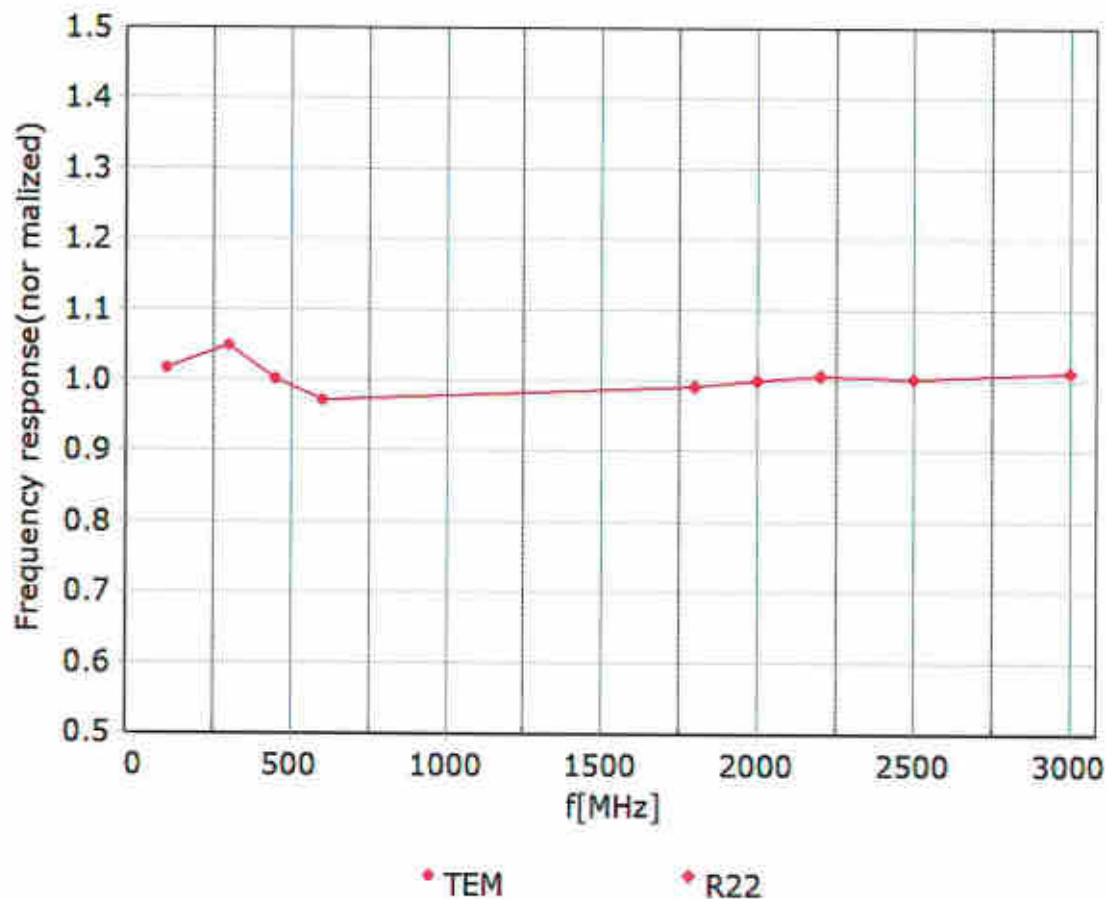
^G Alpha/Depth are determined during calibration. SPEAG warrants that the remaining deviation due to the boundary effect after compensation is always less than ± 1% for frequencies below 3 GHz and below ± 2% for the frequencies between 3-6 GHz at any distance larger than half the probe tip diameter from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



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



Uncertainty of Frequency Response of E-field: $\pm 7.4\%$ ($k=2$)

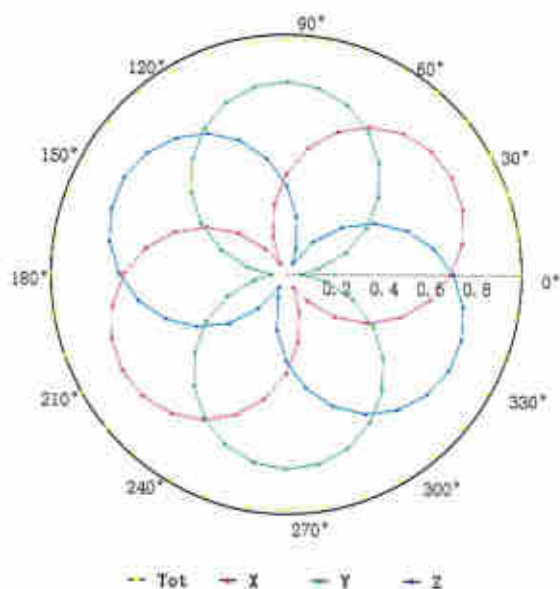


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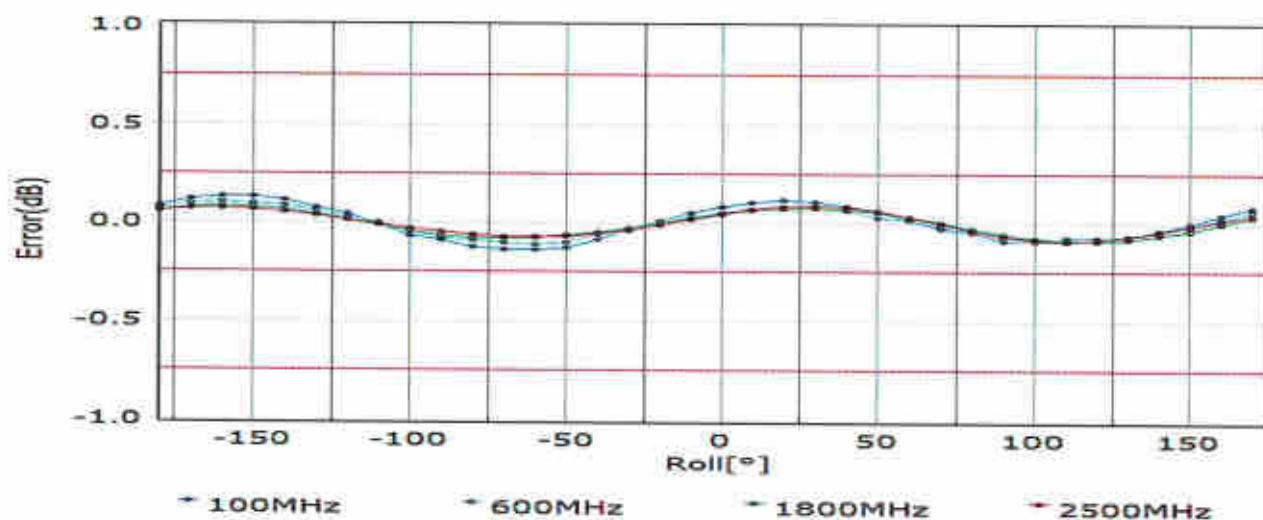
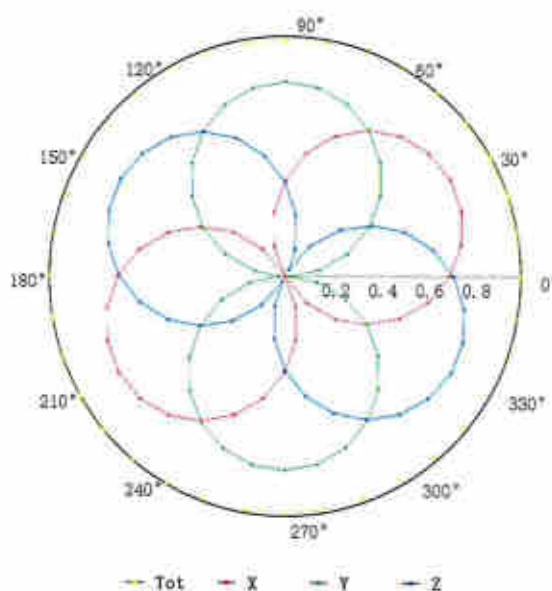
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Receiving Pattern (Φ), $\theta=0^\circ$

f=600 MHz, TEM



f=1800 MHz, R22



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

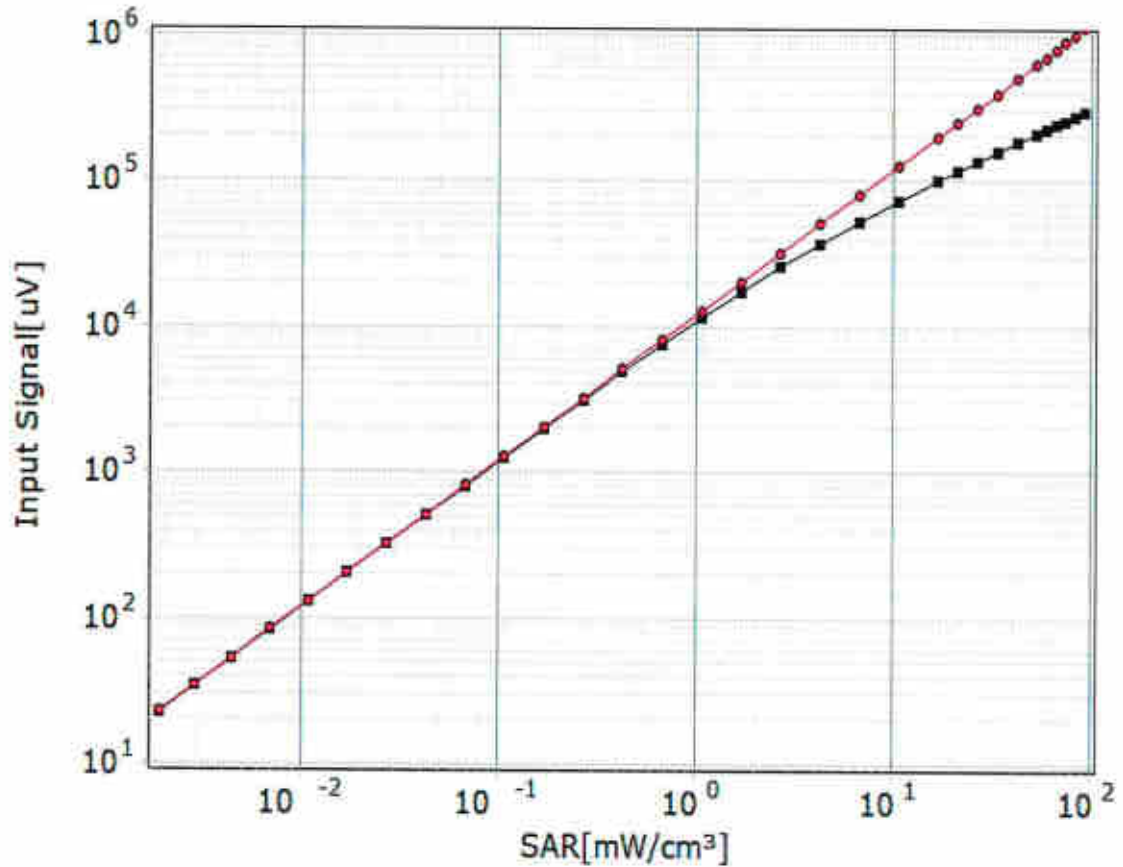


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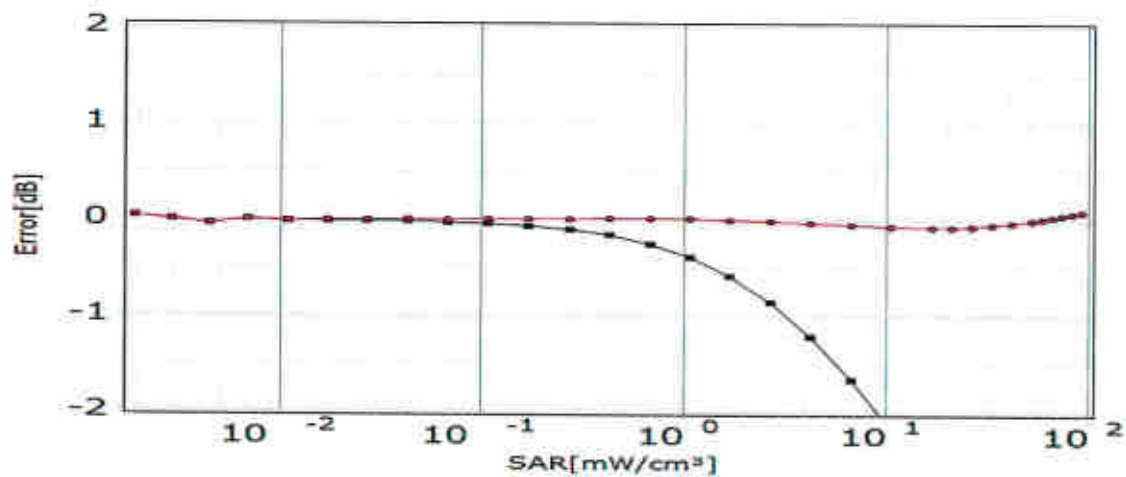
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Dynamic Range f(SAR_{head}) (TEM cell, f = 900 MHz)



■ not compensated ◆ compensated



■ not compensated ◆ compensated

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



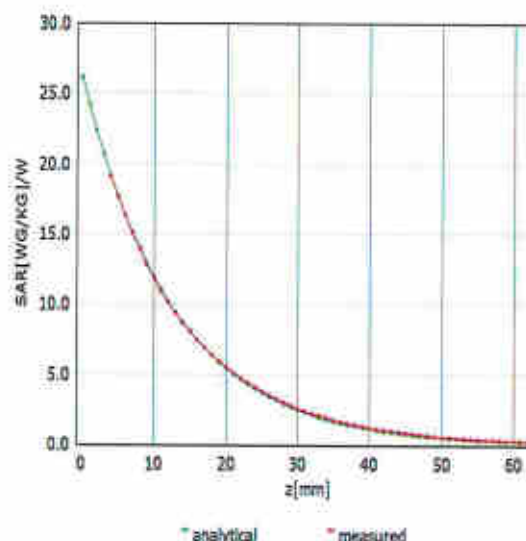
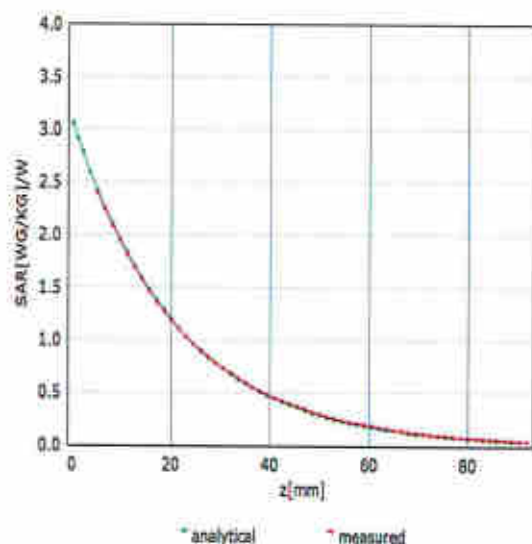
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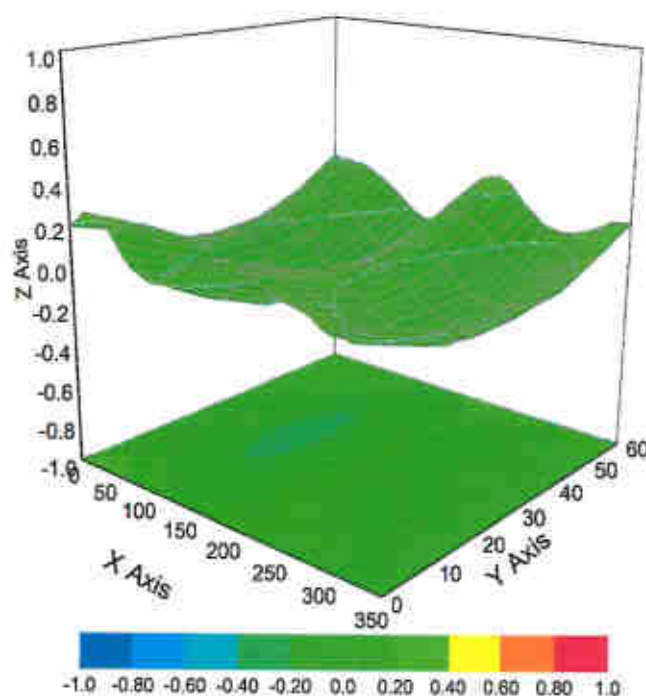
Conversion Factor Assessment

$f=750\text{ MHz}$, WGLS R9(H_convF)

$f=1750\text{ MHz}$, WGLS R22(H_convF)



Deviation from Isotropy in Liquid



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



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DASY/EASY – Parameters of Probe: ES3DV3 – SN: 3166

Other Probe Parameters

Sensor Arrangement	Triangular
Connector Angle (°)	6.2
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



Appendix E. Conducted RF Output Power Table

The detailed power table are shown as follows.

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	
Frequency (MHz)								
GSM 1 Tx slot		169.2	169.2	169.2	169.2	169.2	169.2	
		26.97	27.06	27.16	26.00	17.87	19.09	16.16
GPRS 1 Tx slot		26.97	27.08	27.14	26.00	17.97	18.08	16.14
GPRS 2 Tx slots		25.83	25.88	25.89	26.50	19.83	19.88	19.89
GPRS 3 Tx slots		23.54	23.61	23.76	24.50	19.28	19.35	19.50
GPRS 4 Tx slots		22.55	22.59	22.70	23.50	19.35	19.59	19.70
EDGE 1 Tx slot		25.80	25.61	25.31	26.00	16.80	16.61	16.31
EDGE 2 Tx slots		24.37	24.10	24.00	25.00	16.37	16.10	16.00
EDGE 3 Tx slots		22.32	21.97	21.85	23.00	16.06	17.71	17.59
EDGE 4 Tx slots		21.04	20.86	20.68	22.00	16.04	17.65	17.65

Band	WCDMA II			Tune-up Limit (dBm)	WCDMA IV			Tune-up Limit (dBm)
	TX Channel	9932	9400		9538	1312	1413	
Frequency (MHz)								
Rx Channel								
		9932	9600	9938	1337	1338	1738	
Frequency (MHz)								
		1693.2	1690	1693.2	1723.4	1723.5	1723.5	
3GPP Rel 99	AMR 12.2Kbps	17.45	17.54	17.52	16.50	16.26	16.33	
		17.46	17.56	17.54	16.50	16.33	16.34	
3GPP Rel 99	RMC 12.2Kbps	17.46	17.56	17.54	16.50	16.33	16.34	
3GPP Rel 6	HSDPA Subclass-1	16.81	16.96	16.94	17.50	15.65	15.66	16.00
		16.80	16.89	17.01	17.50	15.62	15.71	15.66
3GPP Rel 6	HSDPA Subclass-2	16.25	16.47	16.64	17.00	15.11	15.16	15.17
3GPP Rel 6	HSDPA Subclass-3	16.21	16.71	16.61	17.00	15.12	15.05	15.06
3GPP Rel 6	DC-HSDPA Subclass-1	16.80	16.90	17.11	17.50	15.54	15.73	15.69
3GPP Rel 6	DC-HSDPA Subclass-2	16.79	16.96	17.09	17.50	15.27	15.68	15.64
3GPP Rel 8	DC-HSDPA Subclass-3	16.30	16.41	16.61	17.00	15.14	15.20	15.10
3GPP Rel 8	DC-HSDPA Subclass-4	16.36	16.39	16.63	17.00	15.13	15.30	15.21
3GPP Rel 6	HSUPA Subclass-1	16.97	16.85	16.94	17.50	15.55	15.65	15.66
3GPP Rel 6	HSUPA Subclass-2	14.94	15.01	15.02	15.50	13.55	13.61	13.64
3GPP Rel 6	HSUPA Subclass-3	15.91	15.96	16.04	16.50	14.63	14.68	14.68
3GPP Rel 6	HSUPA Subclass-4	15.01	15.09	15.06	15.50	13.05	13.05	13.00
3GPP Rel 6	HSUPA Subclass-5	16.78	16.65	17.09	17.50	15.54	15.64	15.56

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				18700	18900	19100			
Frequency (MHz)				18700	18900	19100			
20	QPSK	1	0	18.04	18.24	17.99	18.5	0	
20	QPSK	1	49	17.97	18.09	18.06			
20	QPSK	1	99	17.96	17.92	18.07			
20	QPSK	50	0	17.80	18.15	18.04			
20	QPSK	50	24	17.95	18.11	18.14	18.5	0	
20	QPSK	50	50	17.93	18.00	18.00			
20	QPSK	100	0	17.96	18.07	18.04			
20	16QAM	1	0	18.10	17.93	18.11			
20	16QAM	1	49	18.16	18.10	18.12	18.5	0	
20	16QAM	1	99	18.12	18.21	18.12			
20	16QAM	50	0	17.78	17.92	17.96			
20	16QAM	50	24	17.87	18.03	18.09			
20	16QAM	50	50	18.00	17.93	17.96	18.5	0	
20	16QAM	100	0	17.94	17.84	17.93			
20	64QAM	1	0	18.12	18.23	17.96			
20	64QAM	1	49	18.12	18.08	18.10			
20	64QAM	1	99	18.10	18.01	18.12	18.5	0	
20	64QAM	50	0	17.79	17.89	18.00			
20	64QAM	50	24	17.84	17.97	18.05			
20	64QAM	50	50	17.84	17.99	17.95			
20	64QAM	100	0	17.94	17.92	17.85			
Channel				18875	18900	19125	Tune-up limit (dBm)	MPR (dB)	
Frequency (MHz)				1887.5	1880	1902.5			
15	QPSK	1	0	17.81	18.01	18.07	18.5	0	
15	QPSK	1	37	17.83	17.97	18.07			
15	QPSK	1	74	17.80	17.90	18.10			
15	QPSK	36	0	17.96	17.99	18.07			
15	QPSK	36	20	17.98	18.12	18.14	18.5	0	
15	QPSK	36	39	17.98	18.01	18.07			
15	QPSK	75	0	17.92	18.05	18.07			
15	16QAM	1	0	18.00	18.04	18.07			
15	16QAM	1	37	18.02	18.11	18.01	18.5	0	
15	16QAM	1	74	18.02	18.01	18.03			
15	16QAM	36	0	17.88	18.02	18.12			
15	16QAM	36	20	18.01	18.05	18.07			
15	16QAM	36	39	17.91	18.08	18.11	18.5	0	
15	16QAM	75	0	17.93	17.97	17.96			
15	64QAM	1	0	18.02	18.09	18.12			
15	64QAM	1	37	17.92	18.12	18.12			
15	64QAM	1	74	17.96	18.07	18.10	18.5	0	
15	64QAM	36	0	17.81	17.92	18.02			
15	64QAM	36	20	17.92	18.04	18.01			
15	64QAM	36	39	17.95	17.91	18.08			
15	64QAM	75	0	17.83	17.95	17.95			
Channel				18950	18900	19150	Tune-up limit (dBm)	MPR (dB)	
Frequency (MHz)				1895	1880	1905			
10	QPSK	1	0	18.14	18.16	18.11	18.5	0	
10	QPSK	1	25	17.87	18.13	18.05			
10	QPSK	1	49	18.08	18.17	18.03			
10	QPSK	25	0	17.81	18.05	18.03			
10	QPSK	25	12	17.96	18.06	18.07	18.5	0	
10	QPSK	25	25	17.87	18.01	18.06			
10	QPSK	50	0	17.93	18.03	18.17			
10	16QAM	1	0	18.01	18.01	18.10			
10	16QAM	1	25	18.12	18.10	18.01	18.5	0	
10	16QAM	1	49	18.12	18.10	18.22			
10	16QAM	25	0	17.89	17.85	18.06			
10	16QAM	25	12	17.93	17.89	17.97			
10	16QAM	25	25	17.94	17.85	18.02	18.5	0	
10	16QAM	50	0	17.79	18.06	18.08			
10	64QAM	1	0	18.14	18.12	18.14			
10	64QAM	1	25	18.03	18.10	18.01			
10	64QAM	1	49	18.02	18.02	18.03	18.5	0	
10	64QAM	25	0	17.84	17.89	17.99			
10	64QAM	25	12	17.87	18.01	17.90			
10	64QAM	25	25	17.91	17.93	17.90			
10	64QAM	50	0	17.85	17.96	18.00			
Channel				18925	18900	19175	Tune-up limit (dBm)	MPR (dB)	
Frequency (MHz)				1892.5	1880	1907.5			
5	QPSK	1	0	18.06	18.11	18.10	18.5	0	
5	QPSK	1	12	18.00	18.20	18.16			
5	QPSK	1	24	17.87	17.85	18.02			
5	QPSK	12	0	17.98	17.97	18.07			
5	QPSK	12	7	18.00	18.03	18.10	18.5	0	
5	QPSK	12	13	17.93	18.06	18.07			
5	QPSK	25	0	17.93	17.97	18.03			
5	16QAM	1	0	18.00	18.01	18.12			
5	16QAM	1	12	18.12	17.99	18.10	18.5	0	
5	16QAM	1	24	18.02	18.12	18.11			
5	16QAM	12	0	17.90	18.02	18.04			
5	16QAM	12	7	18.05	18.04	18.13			
5	16QAM	12	13	17.96	18.02	17.99	18.5	0	
5	16QAM	25	0	17.90	17.76	18.03			
5	64QAM	1	0	18.05	18.09	18.12			
5	64QAM	1	12	18.08	18.01	18.19			
5	64QAM	1	24	18.16	18.12	18.08	18.5	0	
5	64QAM	12	0	17.78	17.92	18.02			
5	64QAM	12	7	17.85	17.95	17.93			
5	64QAM	12	13	17.86	18.07	18.03			
5	64QAM	25	0	17.89	17.88	17.97			
Channel				18915	18900	19195	Tune-up limit (dBm)	MPR (dB)	
Frequency (MHz)				1891.5	1880	1908.5			
3	QPSK	1	0	17.88	18.05	17.96	18.5	0	
3	QPSK	1	8	18.02	18.01	18.22			
3	QPSK	1	14	17.78	17.92	17.89			
3	QPSK	8	0	17.96	18.10	18.06			
3	QPSK	8	4	17.94	18.08	18.06	18.5	0	
3	QPSK	8	7	17.91	17.96	18.05			
3	QPSK	15	0	17.93	18.06	18.08			
3	16QAM	1	0	18.07	18.01	18.02			
3	16QAM	1	8	18.04	17.97	18.01	18.5	0	
3	16QAM	1	14	18.11	18.11	18.01			
3	16QAM	8	0	17.93	17.99	18.18			
3	16QAM	8	4	18.06	18.10	18.16			
3	16QAM	8	7	18.11	17.98	18.20	18.5	0	
3	16QAM	15	0	17.91	18.00	17.92			
3	64QAM	1	0	18.15	18.17	18.06			
3	64QAM	1	8	17.97	18.12	18.21			
3	64QAM	1	14	18.17	18.11	18.10	18.5	0	
3	64QAM	8	0	18.00	17.95	17.96			
3	64QAM	8	4	18.01	18.00	18.01			
3	64QAM	8	7	17.90	17.90	17.90			
3	64QAM	15	0	17.92	17.86	17.96			
Channel				18907	18900	19203	Tune-up limit (dBm)	MPR (dB)	
Frequency (MHz)				1890.7	1880	1899.3			
1.4	QPSK	1	0	17.83	17.91	17.95	18.5	0	
1.4	QPSK	1	3	17.82	18.04	17.97			
1.4	QPSK	1	5	17.86	17.89	17.94			
1.4	QPSK	3	0	17.79	17.88	17.98			
1.4	QPSK	3	1	17.80	17.94	18.13	18.5	0	
1.4	QPSK	3	3	18.00	17.87	18.10			
1.4	QPSK	6	0	17.74	17.91	17.96			
1.4	16QAM	1	0	17.99	18.01	18.12			
1.4	16QAM	1	3	18.01	18.01	18.02	18.5	0	
1.4	16QAM	1	5	18.12	18.17	18.08			
1.4	16QAM	3	0	17.83	18.18	18.01			
1.4	16QAM	3	1	17.88	18.10	18.14			
1.4	16QAM	3	3	18.15	18.06	18.17	18.5	0	
1.4	16QAM	6	0	17.88	18.04	18.04			
1.4	64QAM	1	0	17.88	17.87	18.09			
1.4	64QAM	1	3	18.08	18.10	18.19			
1.4	64QAM	1	5	17.77	17.81	18.01	18.5	0	
1.4	64QAM	3	0	17.84	17.96	18.00			
1.4	64QAM	3	1	17.77	17.84	18.02			
1.4	64QAM	3	3	17.62	17.76	18.00			
1.4	64QAM	6	0	17.75	17.80	17.91	18.5	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	21300					
Frequency (MHz)				2087.5	2105	2125					
20	QPSK	1	0	18.45	18.60	18.58	19		0		
20	QPSK	1	49	18.37	18.42	18.38					
20	QPSK	1	99	18.32	18.39	18.22					
20	QPSK	50	0	18.36	18.53	18.47	19		0		
20	QPSK	50	24	18.42	18.49	18.49					
20	QPSK	50	50	18.46	18.50	18.41					
20	QPSK	100	0	18.40	18.56	18.46	19		0		
20	16QAM	1	0	18.48	18.43	18.44					
20	16QAM	1	49	18.35	18.42	18.45					
20	16QAM	1	99	18.40	18.35	18.39	19		0		
20	16QAM	50	0	18.46	18.53	18.45					
20	16QAM	50	24	18.48	18.34	18.55					
20	16QAM	50	50	18.54	18.56	18.58	19		0		
20	16QAM	100	0	18.44	18.59	18.45					
20	64QAM	1	0	18.45	18.45	18.35	19		0		
20	64QAM	1	49	18.35	18.44	18.41					
20	64QAM	1	99	18.45	18.34	18.44					
20	64QAM	50	0	18.57	18.59	18.35	19		0		
20	64QAM	50	24	18.55	18.54	18.45					
20	64QAM	50	50	18.35	18.55	18.53					
20	64QAM	100	0	18.51	18.55	18.45					
Channel				20825	21100	21375	Tune-up limit (dBm) MPR (dB)				
Frequency (MHz)				2087.5	2035	2062.5					
15	QPSK	1	0	18.30	18.48	18.46	19		0		
15	QPSK	1	37	18.42	18.41	18.44					
15	QPSK	1	74	18.42	18.44	18.42					
15	QPSK	36	0	18.43	18.55	18.49	19		0		
15	QPSK	36	20	18.44	18.63	18.43					
15	QPSK	36	39	18.42	18.51	18.43					
15	QPSK	75	0	18.44	18.54	18.46	19		0		
15	16QAM	1	0	18.43	18.45	18.42					
15	16QAM	1	37	18.45	18.42	18.34					
15	16QAM	1	74	18.34	18.45	18.55	19		0		
15	16QAM	36	0	18.50	18.57	18.54					
15	16QAM	36	20	18.48	18.45	18.54					
15	16QAM	36	39	18.49	18.55	18.51	19		0		
15	16QAM	75	0	18.49	18.45	18.53					
15	64QAM	1	0	18.41	18.34	18.41					
15	64QAM	1	37	18.35	18.41	18.35	19		0		
15	64QAM	1	74	18.45	18.45	18.40					
15	64QAM	36	0	18.58	18.55	18.55					
15	64QAM	36	20	18.59	18.56	18.45	19		0		
15	64QAM	36	39	18.52	18.45	18.35					
15	64QAM	75	0	18.66	18.35	18.54					
Channel				20800	21100	21400	Tune-up limit (dBm) MPR (dB)				
Frequency (MHz)				2095	2035	2095					
10	QPSK	1	0	18.32	18.45	18.37	19		0		
10	QPSK	1	25	18.30	18.37	18.38					
10	QPSK	1	49	18.24	18.44	18.34					
10	QPSK	25	0	18.39	18.44	18.41	19		0		
10	QPSK	25	12	18.38	18.44	18.45					
10	QPSK	25	25	18.43	18.55	18.34					
10	QPSK	50	0	18.41	18.43	18.41	19		0		
10	16QAM	1	0	18.44	18.41	18.35					
10	16QAM	1	25	18.53	18.41	18.41					
10	16QAM	1	49	18.19	18.35	18.44	19		0		
10	16QAM	25	0	18.45	18.59	18.55					
10	16QAM	25	12	18.42	18.58	18.55					
10	16QAM	25	25	18.45	18.55	18.57	19		0		
10	16QAM	50	0	18.45	18.49	18.59					
10	64QAM	1	0	18.34	18.53	18.48					
10	64QAM	1	25	18.41	18.35	18.41	19		0		
10	64QAM	1	49	18.40	18.33	18.35					
10	64QAM	25	0	18.53	18.54	18.58					
10	64QAM	25	12	18.51	18.55	18.55	19		0		
10	64QAM	25	25	18.54	18.54	18.55					
10	64QAM	50	0	18.53	18.57	18.57					
Channel				20775	21100	21425	Tune-up limit (dBm) MPR (dB)				
Frequency (MHz)				2092.5	2035	2092.5					
5	QPSK	1	0	18.21	18.49	18.32	19		0		
5	QPSK	1	12	18.11	18.49	18.26					
5	QPSK	1	24	18.28	18.44	18.37					
5	QPSK	12	0	18.35	18.54	18.37	19		0		
5	QPSK	12	7	18.43	18.55	18.48					
5	QPSK	12	13	18.36	18.50	18.39					
5	QPSK	25	0	18.36	18.51	18.34	19		0		
5	16QAM	1	0	18.55	18.35	18.33					
5	16QAM	1	12	18.41	18.35	18.42					
5	16QAM	1	24	18.51	18.41	18.21	19		0		
5	16QAM	12	0	18.44	18.59	18.54					
5	16QAM	12	7	18.56	18.45	18.53					
5	16QAM	12	13	18.52	18.55	18.54	19		0		
5	16QAM	25	0	18.50	18.55	18.51					
5	64QAM	1	0	18.46	18.56	18.41					
5	64QAM	1	12	18.35	18.42	18.41	19		0		
5	64QAM	1	24	18.41	18.35	18.35					
5	64QAM	12	0	18.55	18.55	18.50					
5	64QAM	12	7	18.58	18.51	18.55	19		0		
5	64QAM	12	13	18.45	18.53	18.54					
5	64QAM	25	0	18.48	18.55	18.49					

Band 66									
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				132072	132322	132672			
Frequency (MHz)				1720	1745	1770			
20	QPSK	1	0	16.35	16.51	16.25	17	0	
20	QPSK	1	49	16.35	16.21	16.25			
20	QPSK	1	99	16.16	16.17	16.17			
20	QPSK	50	0	16.16	16.32	16.10	17	0	
20	QPSK	50	24	16.20	16.32	16.18			
20	QPSK	50	50	16.24	16.22	16.16			
20	QPSK	100	0	16.20	16.36	16.19	17	0	
20	16QAM	1	0	16.29	16.17	16.10			
20	16QAM	1	49	16.25	16.31	16.34			
20	16QAM	1	99	16.36	16.17	16.48	17	0	
20	16QAM	50	0	16.22	16.40	16.32			
20	16QAM	50	24	16.32	16.35	16.30			
20	16QAM	50	50	16.29	16.38	16.29	17	0	
20	16QAM	100	0	16.42	16.48	16.31			
Channel				132047	132322	132572	Tune-up limit (dBm)	MPR (dB)	
Frequency (MHz)				1717.5	1745	1772.5			
15	QPSK	1	0	16.21	16.19	16.23	17	0	
15	QPSK	1	37	16.21	16.21	16.11			
15	QPSK	1	74	16.00	16.23	16.06			
15	QPSK	36	0	16.28	16.22	16.17	17	0	
15	QPSK	36	20	16.22	16.32	16.19			
15	QPSK	36	39	16.21	16.30	16.15	17	0	
15	QPSK	75	0	16.22	16.27	16.15			
15	16QAM	1	0	16.31	16.20	16.02			
15	16QAM	1	37	16.33	16.45	16.23	17	0	
15	16QAM	1	74	16.15	16.35	16.35			
15	16QAM	36	0	16.38	16.45	16.28	17	0	
15	16QAM	36	20	16.41	16.44	16.27			
15	16QAM	36	39	16.28	16.44	16.34			
15	16QAM	75	0	16.27	16.41	16.19	17	0	
15	64QAM	1	0	16.19	16.00	16.08			
15	64QAM	1	37	15.93	16.37	16.11			
15	64QAM	1	74	16.08	16.43	15.94	17	0	
15	64QAM	36	0	16.34	16.41	16.29			
15	64QAM	36	20	16.47	16.50	16.33	17	0	
15	64QAM	36	39	16.36	16.47	16.31			
15	64QAM	75	0	16.33	16.41	16.29			
Channel				132022	132322	132622	Tune-up limit (dBm)	MPR (dB)	
Frequency (MHz)				1715	1745	1775			
10	QPSK	1	0	16.30	16.24	16.14	17	0	
10	QPSK	1	25	16.42	16.42	16.20			
10	QPSK	1	49	16.26	16.22	16.17			
10	QPSK	25	0	16.23	16.24	16.11	17	0	
10	QPSK	25	12	16.27	16.25	16.11			
10	QPSK	25	25	16.22	16.26	16.05			
10	QPSK	50	0	16.30	16.30	16.15	17	0	
10	16QAM	1	0	16.40	16.45	16.14			
10	16QAM	1	25	16.41	16.17	16.21			
10	16QAM	1	49	15.91	16.10	16.16	17	0	
10	16QAM	25	0	16.41	16.37	16.24			
10	16QAM	25	12	16.34	16.37	16.20			
10	16QAM	25	25	16.30	16.42	16.27	17	0	
10	16QAM	50	0	16.37	16.41	16.26			
10	64QAM	1	0	16.12	16.25	16.10	17	0	
10	64QAM	1	25	16.23	16.32	16.19			
10	64QAM	1	49	15.26	15.96	15.95			
10	64QAM	25	0	16.30	16.51	16.22	17	0	
10	64QAM	25	12	16.33	16.45	16.30			
10	64QAM	25	25	16.35	16.42	16.16			
10	64QAM	50	0	16.31	16.45	16.22			
Channel				131997	132322	132647	Tune-up limit (dBm)	MPR (dB)	
Frequency (MHz)				1712.5	1745	1777.5			
5	QPSK	1	0	16.16	16.17	16.08	17	0	
5	QPSK	1	12	16.25	16.24	16.16			
5	QPSK	1	24	16.26	16.31	16.04			
5	QPSK	12	0	16.30	16.23	16.16	17	0	
5	QPSK	12	7	16.21	16.26	16.17			
5	QPSK	12	13	16.24	16.26	16.13			
5	QPSK	25	0	16.18	16.28	16.17	17	0	
5	16QAM	1	0	16.05	16.00	16.00			
5	16QAM	1	12	16.39	16.05	16.37			
5	16QAM	1	24	16.21	16.37	16.34	17	0	
5	16QAM	12	0	16.43	16.46	16.41			
5	16QAM	12	7	16.46	16.50	16.13	17	0	
5	16QAM	12	13	16.35	16.41	16.24			
5	16QAM	25	0	16.44	16.39	16.28			
5	64QAM	1	0	16.16	16.16	16.17	17	0	
5	64QAM	1	12	16.12	16.26	16.10			
5	64QAM	1	24	15.85	16.16	15.85			
5	64QAM	12	0	16.42	16.42	16.34	17	0	
5	64QAM	12	7	16.46	16.46	16.42			
5	64QAM	12	13	16.42	16.45	16.23			
5	64QAM	25	0	16.30	16.39	16.26			
Channel				131987	132322	132657	Tune-up limit (dBm)	MPR (dB)	
Frequency (MHz)				1711.5	1745	1778.5			
3	QPSK	1	0	16.26	16.26	16.01	17	0	
3	QPSK	1	8	16.12	16.21	16.14			
3	QPSK	1	14	16.20	16.28	16.08			
3	QPSK	8	0	16.24	16.22	16.15	17	0	
3	QPSK	8	4	16.33	16.23	16.11			
3	QPSK	8	7	16.34	16.23	16.16			
3	QPSK	16	0	16.20	16.14	16.11	17	0	
3	16QAM	1	0	16.26	15.90	16.09			
3	16QAM	1	8	16.03	16.19	15.87			
3	16QAM	1	14	16.25	16.33	15.84	17	0	
3	16QAM	8	0	16.48	16.39	16.13			
3	16QAM	8	4	16.28	16.45	16.32			
3	16QAM	8	7	16.40	16.39	16.37	17	0	
3	16QAM	16	0	16.15	16.37	16.32			
3	16QAM	1	0	16.31	16.35	16.48			
3	64QAM	1	8	16.35	16.51	16.46	17	0	
3	64QAM	1	14	16.44	16.26	16.35			
3	64QAM	8	0	16.34	16.45	16.25			
3	64QAM	8	4	16.45	16.42	16.31	17	0	
3	64QAM	8	7	16.44	16.39	16.33			
3	64QAM	16	0	16.45	16.48	16.19			
Channel				131979	132322	132689	Tune-up limit (dBm)	MPR (dB)	
Frequency (MHz)				1711.5	1745	1779.5			
1.4	QPSK	1	0	16.16	16.07	15.91	17	0	
1.4	QPSK	1	3	16.24	16.20	16.10			
1.4	QPSK	1	6	16.08	16.08	16.07			
1.4	QPSK	3	0	16.15	16.17	16.04	17	0	
1.4	QPSK	3	1	16.35	16.20	16.02			
1.4	QPSK	3	3	16.25	16.12	16.13			
1.4	QPSK	6	0	16.16	16.17	16.05	17	0	
1.4	16QAM	1	0	16.20	16.01	15.96			
1.4	16QAM	1	3	16.34	16.36	16.16			
1.4	16QAM	1	6	15.84	15.95	15.75	17	0	
1.4	16QAM	3	0	15.98	15.89	16.00			
1.4	16QAM	3	1	15.78	16.05	15.82			
1.4	16QAM	3	3	15.90	16.17	15.80	17	0	
1.4	16QAM	6	0	16.69	15.87	15.82			
1.4	64QAM	1	0	16.27	16.35	16.24			
1.4	64QAM	1	3	15.94	16.00	15.99	17	0	
1.4	64QAM	1	6	16.00	16.22	16.00			
1.4	64QAM	3	0	16.00	16.09	16.00			
1.4	64QAM	3	1	15.89	16.08	16.00	17	0	
1.4	64QAM	3	3	16.30	16.34	16.16			
1.4	64QAM	6	0	16.29	16.13	16.14			



Reduced Power Mode for Seonsen On

GSM1900	Band-Average Power (dBm)			Tune-up Limit (dBm)	Frame-Average Power (dBm)			Tune-up Limit (dBm)
	512	661	810		512	661	810	
TX Channel								
Frequency (MHz)	1852.2	1863	1869.2	1872.2	1862	1869	1870.8	
GSM 1 Tx slot	27.82	27.79	28.04	29.50	18.62	18.79	19.04	20.50
GPRS 1 Tx slot	27.82	27.78	28.03	29.50	18.82	18.78	19.03	20.50
GPRS 2 Tx slot	26.49	26.59	26.59	28.00	20.49	20.59	20.59	22.00
GPRS 3 Tx slot	24.32	24.47	24.40	26.00	20.06	20.21	20.14	21.74
GPRS 4 Tx slot	23.21	23.24	23.48	25.00	20.21	20.24	20.49	22.00
EDGE 1 Tx slot	25.80	25.61	25.31	26.00	16.80	16.61	16.31	17.00
EDGE 2 Tx slot	24.37	24.10	24.00	25.00	16.37	16.10	16.00	19.00
EDGE 3 Tx slot	22.32	21.97	21.85	23.00	16.06	17.71	17.09	18.74
EDGE 4 Tx slot	21.04	20.88	20.68	22.00	16.04	17.65	17.65	19.00

Band	WCDMA II			Tune-up Limit (dBm)	WCDMA IV			Tune-up Limit (dBm)
	592	9400	9538		1312	1413	1513	
TX Channel								
RX Channel	9662	9600	9538	1337	1356	1738		
Frequency (MHz)	1852.2	1860	1867.2	1722.4	1724.5	1723.5		
3GPP Rel 99	AMR 12.2kops	16.04	16.14	19.13	20.00	16.55	16.62	16.60
3GPP Rel 99	RMC 12.2kops	16.07	16.17	19.15	20.00	16.58	16.63	16.61
3GPP Rel 6	HSDPA Subclass-1	16.39	16.55	16.43	19.00	15.76	15.68	15.85
3GPP Rel 6	HSDPA Subclass-2	16.40	16.54	16.42	19.00	15.81	15.94	16.20
3GPP Rel 6	HSDPA Subclass-3	17.95	16.03	17.84	16.50	15.22	15.51	15.27
3GPP Rel 6	HSDPA Subclass-4	17.91	17.99	17.97	16.50	15.26	15.76	15.33
3GPP Rel 8	DC-HSDPA Subclass-1	16.39	16.53	16.42	19.00	15.71	15.68	15.94
3GPP Rel 8	DC-HSDPA Subclass-2	16.40	16.52	16.43	19.00	15.78	15.65	15.85
3GPP Rel 8	DC-HSDPA Subclass-3	17.96	16.02	17.83	16.50	15.23	15.42	15.32
3GPP Rel 8	DC-HSDPA Subclass-4	17.92	16.00	17.86	16.50	15.26	15.42	15.41
3GPP Rel 6	HSUPA Subclass-1	16.23	16.36	16.31	19.00	15.63	15.61	15.75
3GPP Rel 6	HSUPA Subclass-2	16.19	16.40	16.32	17.00	13.69	13.64	13.72
3GPP Rel 6	HSUPA Subclass-3	17.23	17.33	17.32	16.00	14.72	14.73	14.99
3GPP Rel 6	HSUPA Subclass-4	16.23	16.31	16.25	17.00	13.71	13.63	13.72
3GPP Rel 6	HSUPA Subclass-5	16.20	16.30	16.30	19.00	15.55	15.65	15.75

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	Turn-up limit (dBm)	MPR (dB)	
Channel				1860	1880	1900			
Frequency (MHz)				1860	1880	1900			
20	QPSK	1	0	20.35	20.42	20.33			
20	QPSK	1	49	20.15	20.01	20.21	21	0	
20	QPSK	1	99	20.21	20.15	20.06			
20	QPSK	50	0	20.31	20.35	20.33			
20	QPSK	50	24	20.16	20.11	20.11			
20	QPSK	50	50	19.95	20.05	20.11	21	0	
20	QPSK	100	0	20.24	20.24	20.20			
20	16QAM	1	0	19.98	20.22	20.11			
20	16QAM	1	49	20.08	20.32	20.29	21	0	
20	16QAM	1	99	20.03	19.88	20.20			
20	16QAM	50	0	20.01	20.01	20.01			
20	16QAM	50	24	19.89	20.14	20.05	21	0	
20	16QAM	50	50	20.04	20.08	20.09			
20	16QAM	100	0	20.05	20.04	20.02			
20	64QAM	1	0	19.97	20.01	19.92			
20	64QAM	1	49	19.89	20.11	20.20	21	0	
20	64QAM	1	99	19.75	19.99	20.13			
20	64QAM	50	0	19.91	20.04	19.99			
20	64QAM	50	24	19.95	20.10	20.11	21	0	
20	64QAM	50	50	20.04	20.06	20.13			
20	64QAM	100	0	20.08	20.05	19.89			
Channel				1867.5	1890	1912.5	Turn-up limit (dBm)	MPR (dB)	
Frequency (MHz)				1867.5	1880	1902.5			
15	QPSK	1	0	19.79	19.88	20.01			
15	QPSK	1	37	19.93	19.94	19.98	21	0	
15	QPSK	1	74	19.73	20.02	19.97			
15	QPSK	36	0	19.83	20.00	20.12			
15	QPSK	36	20	19.87	20.01	20.07	21	0	
15	QPSK	36	39	19.79	19.99	20.08			
15	QPSK	75	0	19.80	20.04	20.08			
15	16QAM	1	0	20.11	20.16	20.00			
15	16QAM	1	37	20.16	20.24	19.99	21	0	
15	16QAM	1	74	20.24	20.10	20.08			
15	16QAM	36	0	19.98	20.18	20.20			
15	16QAM	36	20	20.00	20.25	20.23	21	0	
15	16QAM	36	39	19.91	20.15	20.20			
15	16QAM	75	0	19.93	20.16	20.15			
15	64QAM	1	0	20.22	20.11	20.13			
15	64QAM	1	37	20.10	20.21	20.13	21	0	
15	64QAM	1	74	20.09	20.18	20.11			
15	64QAM	36	0	20.05	20.17	20.10			
15	64QAM	36	20	19.94	20.20	20.05	21	0	
15	64QAM	36	39	19.92	20.20	20.13			
15	64QAM	75	0	19.96	20.09	19.99			
Channel				1865	1890	1910	Turn-up limit (dBm)	MPR (dB)	
Frequency (MHz)				1865	1880	1905			
10	QPSK	1	0	19.95	20.00	20.06			
10	QPSK	1	25	19.83	19.84	20.09	21	0	
10	QPSK	1	49	19.83	19.92	19.95			
10	QPSK	25	0	19.84	19.89	19.94			
10	QPSK	25	12	19.90	19.96	19.94	21	0	
10	QPSK	25	25	19.84	19.94	19.96			
10	QPSK	50	0	19.89	19.87	19.94			
10	16QAM	1	0	19.92	19.99	20.15			
10	16QAM	1	25	20.15	20.12	19.94	21	0	
10	16QAM	1	49	20.06	20.19	20.33			
10	16QAM	25	0	19.96	20.10	20.18			
10	16QAM	25	12	19.96	20.09	20.10	21	0	
10	16QAM	25	25	19.84	19.95	20.17			
10	16QAM	50	0	19.90	20.00	20.08			
10	64QAM	1	0	20.11	20.10	20.11			
10	64QAM	1	25	20.10	19.99	20.06	21	0	
10	64QAM	1	49	20.08	20.09	20.08			
10	64QAM	25	0	19.94	20.02	20.12			
10	64QAM	25	12	19.93	20.01	20.14	21	0	
10	64QAM	25	25	20.07	20.00	20.09			
10	64QAM	50	0	19.92	20.00	20.12			
Channel				1862.5	1890	1917.5	Turn-up limit (dBm)	MPR (dB)	
Frequency (MHz)				1862.5	1880	1907.5			
5	QPSK	1	0	19.71	19.73	19.95			
5	QPSK	1	12	19.67	19.78	19.95	21	0	
5	QPSK	1	24	19.72	19.80	19.86			
5	QPSK	12	0	19.73	19.88	19.88			
5	QPSK	12	7	19.75	19.92	19.93	21	0	
5	QPSK	12	13	19.73	19.83	19.88			
5	QPSK	25	0	19.69	19.84	19.86			
5	16QAM	1	0	19.98	19.97	20.00			
5	16QAM	1	12	20.08	20.00	20.00	21	0	
5	16QAM	1	24	20.11	20.10	19.95			
5	16QAM	12	0	19.92	20.08	20.00			
5	16QAM	12	7	19.94	20.10	20.12	21	0	
5	16QAM	12	13	19.83	20.06	19.99			
5	16QAM	25	0	19.93	19.90	19.91			
5	64QAM	1	0	20.13	20.01	19.89			
5	64QAM	1	12	20.17	20.12	19.94	21	0	
5	64QAM	1	24	20.01	19.94	19.99			
5	64QAM	12	0	19.99	19.89	19.87			
5	64QAM	12	7	20.00	19.92	20.04			
5	64QAM	12	13	19.93	19.95	20.06	21	0	
5	64QAM	25	0	19.96	19.92	19.94			
Channel				1861.5	1890	1919.5	Turn-up limit (dBm)	MPR (dB)	
Frequency (MHz)				1861.5	1880	1908.5			
3	QPSK	1	0	19.81	19.83	19.95			
3	QPSK	1	8	19.77	19.88	19.96	21	0	
3	QPSK	1	14	19.82	19.90	19.96			
3	QPSK	8	0	19.86	19.96	19.98			
3	QPSK	8	4	19.86	20.02	20.03	21	0	
3	QPSK	8	7	19.83	19.93	19.98			
3	QPSK	15	0	19.79	19.94	19.96			
3	16QAM	1	0	20.08	20.07	20.10	21	0	
3	16QAM	1	8	20.18	20.11	20.10			
3	16QAM	1	14	20.21	20.20	19.95			
3	16QAM	8	0	20.02	20.18	20.10			
3	16QAM	8	4	20.04	20.20	20.22	21	0	
3	16QAM	8	7	19.99	20.16	20.09			
3	16QAM	15	0	20.03	20.00	20.01			
3	64QAM	1	0	20.23	20.11	19.99			
3	64QAM	1	8	20.27	20.22	20.04	21	0	
3	64QAM	1	14	20.11	20.04	20.09			
3	64QAM	8	0	20.09	19.99	19.97			
3	64QAM	8	4	20.19	20.02	20.14	21	0	
3	64QAM	8	7	20.03	20.05	20.16			
3	64QAM	15	0	19.96	20.02	20.04			
Channel				1893.7	1890	1893.5	Turn-up limit (dBm)	MPR (dB)	
Frequency (MHz)				1893.7	1890	1893.5			
1.4	QPSK	1	0	19.75	19.84	19.91			
1.4	QPSK	1	3	19.83	19.90	19.87	21	0	
1.4	QPSK	1	5	19.66	19.82	19.90			
1.4	QPSK	3	0	19.76	19.85	19.94			
1.4	QPSK	3	1	19.90	19.98	19.92			
1.4	QPSK	3	3	19.75	19.80	19.93			
1.4	QPSK	6	0	19.74	19.84	19.80	21	0	
1.4	16QAM	1	0	19.98	20.10	20.08			
1.4	16QAM	1	3	19.89	20.16	20.18			
1.4	16QAM	1	5	19.71	20.12	19.99	21	0	
1.4	16QAM	3	0	19.87	19.93	19.92			
1.4	16QAM	3	1	19.81	19.92	20.04			
1.4	16QAM	3	3	19.91	19.93	19.96			
1.4	16QAM	6	0	19.91	19.99	20.02	21	0	
1.4	64QAM	1	0	20.19	19.95	20.00			
1.4	64QAM	1	3	20.09	20.10	20.27			
1.4	64QAM	1	5	19.99	20.11	19.96	21	0	
1.4	64QAM	3	0	19.93	20.02	19.99			
1.4	64QAM	3	1	20.07	20.02	19.91			
1.4	64QAM	3	3	20.06	20.12	20.04			
1.4	64QAM	6	0	19.81	20.01	20.05	21	0	

Band 4 (AWS Band)									
Part 27L (only on channel required)									
BW (MHz)	Modulation	RB Size	RB Offset	Power Low Ch / Freq	Power Middle Ch / Freq	Power High Ch / Freq	Turn-up limit (dBm)	MPR (dB)	
Channel				2050	2070	2090			
Frequency (MHz)				1720	1732.5	1745			
20	QPSK	1	0	16.98	17.10	17.05			
20	QPSK	1	49	17.09	16.85	16.82	18	0	
20	QPSK	1	99	16.94	16.87	17.01			
20	QPSK	50	0	16.94	16.98	16.94			
20	QPSK	50	24	16.97	16.89	16.95	18	0	
20	QPSK	50	50	16.93	16.92	16.97			
20	QPSK	100	0	16.97	16.98	16.87			
20	16QAM	1	0	17.00	16.89	16.84			
20	16QAM	1	49	16.95	16.85	16.85	18	0	
20	16QAM	1	99	16.97	16.94	16.96			
20	16QAM	50	0	16.79	16.91	16.73			
20	16QAM	50	24	16.90	16.80	16.82	18	0	
20	16QAM	50	50	16.75	16.78	16.79			
20	16QAM	100	0	16.81	16.78	16.75			
20	64QAM	1	0	16.85	16.63	17.00			
20	64QAM	1	49	16.95	17.01	16.72	18	0	
20	64QAM	1	99	16.92	16.95	16.84			
20	64QAM	50	0	16.98	16.78	16.92			
20	64QAM	50	24	16.82	16.79	16.84	18	0	
20	64QAM	50	50	16.78	16.85	16.70			
20	64QAM	100	0	16.82	16.78	16.81			
Channel				20055 <th>20175</th> <th>20305</th> <th>Turn-up limit (dBm)</th> <th>MPR (dB)</th> <th></th>	20175	20305	Turn-up limit (dBm)	MPR (dB)	
Frequency (MHz)				1717.5	1732.5	1747.5			
15	QPSK	1	0	16.86	17.00	17.09			
15	QPSK	1	37	16.95	16.98	16.99	18	0	
15	QPSK	1	74	16.81	16.83	16.91			
15	QPSK	36	0	16.94	16.95	16.94			
15	QPSK	36	20	16.98	16.97	16.94	18	0	
15	QPSK	36	39	17.01	16.98	16.97			
15	QPSK	75	0	16.98	16.87	16.91			
15	16QAM	1	0	16.85	16.95	16.93			
15	16QAM	1	37	16.85	16.95	17.00	18	0	
15	16QAM	1	74	16.85	16.81	16.95			
15	16QAM	36	0	16.85	16.79	16.73			
15	16QAM	36	20	16.94	16.86	16.75	18	0	
15	16QAM	36	39	16.97	16.92	16.79			
15	16QAM	75	0	16.87	16.95	16.71			
15	64QAM	1	0	16.85	16.66	16.82			
15	64QAM	1	37	16.89	16.79	16.71	18	0	
15	64QAM	1	74	16.73	16.63	16.93			
15	64QAM	36	0	16.92	16.78	16.81	18	0	
15	64QAM	36	20	16.94	16.86	16.84			
15	64QAM	36	39	16.83	16.83	16.75			
15	64QAM	75	0	16.74	16.81	16.82			
Channel				20000	20115	20200	Turn-up limit (dBm)	MPR (dB)	
Frequency (MHz)				1715 <th>1732.5<th>1750<th></th><th></th><th></th></th></th>	1732.5 <th>1750<th></th><th></th><th></th></th>	1750 <th></th> <th></th> <th></th>			
10	QPSK	1	0	16.93	16.95	17.03			
10	QPSK	1	25	17.01	16.95	16.94	18	0	
10	QPSK	1	49	16.91	16.89	16.93			
10	QPSK	25	0	16.97	16.90	16.90	18	0	
10	QPSK	25	12	16.99	16.89	16.95			
10	QPSK	25	25	16.95	16.95	16.86			
10	QPSK	50	0	17.00	16.96	16.99			
10	16QAM	1	0	16.85	16.95	16.95	18	0	
10	16QAM	1	25	16.85	16.95	16.85			
10	16QAM	1	49	16.95	16.84	16.85			
10	16QAM	25	0	16.95	16.87	16.85			
10	16QAM	25	12	16.89	16.86	16.87			
10	16QAM	25	25	16.84	16.77	16.83	18	0	
10	16QAM	50	0	16.84	16.77	16.78			
10	64QAM	1	0	16.85	17.05	16.95			
10	64QAM	1	25	16.75	16.79	16.87	18	0	
10	64QAM	1	49	16.98	16.94	16.85			
10	64QAM	25	0	16.99	16.91	16.96			
10	64QAM	25	12	17.00	16.89	16.90	18	0	
10	64QAM	25	25	16.93	16.84	16.88			
10	64QAM	50	0	16.87	16.78	16.78			
Channel				19975	20075	20375	Turn-up limit (dBm)	MPR (dB)	
Frequency (MHz)				1712.5 <th>1732.5<th>1752.5<th></th><th></th><th></th></th></th>	1732.5 <th>1752.5<th></th><th></th><th></th></th>	1752.5 <th></th> <th></th> <th></th>			
5	QPSK	1	0	16.85	16.89	16.95	18	0	
5	QPSK	1	12	16.99	16.97	16.94			
5	QPSK	1	24	17.05	16.98	17.03			
5	QPSK	12	0	17.03	16.98	16.94	18	0	
5	QPSK	12	7	17.04	16.94	16.99			
5	QPSK	12	13	17.07	16.98	16.98	18	0	
5	QPSK	25	0	16.95	16.89	16.94			
5	16QAM	1	0	17.07	16.81	16.68	18	0	
5	16QAM	1	12	16.98	16.92	16.85			
5	16QAM	1	24	17.09	16.91	16.62			
5	16QAM	12	0	16.93	16.77	16.85	18	0	
5	16QAM	12	7	16.92	17.00	16.77			
5	16QAM	12	13	16.95	16.85	16.91	18	0	
5	16QAM	25	0	16.86	16.72	16.87			
5	64QAM	1	0	16.95	16.93	16.85			
5	64QAM	1	12	16.94	16.92	16.83	18	0	
5	64QAM	1	24	16.82	17.09	16.82			
5	64QAM	12	0	17.07	16.98	16.85			
5	64QAM	12	7	17.09	16.98	17.05	18	0	
5	64QAM	12	13	17.02	17.03	16.81			
5	64QAM	25	0	16.93	16.85	16.75			
Channel				19965	20075	20385	Turn-up limit (dBm)	MPR (dB)	
Frequency (MHz)				1711.5 <th>1732.5<th>1753.5<th></th><th></th><th></th></th></th>	1732.5 <th>1753.5<th></th><th></th><th></th></th>	1753.5 <th></th> <th></th> <th></th>			
3	QPSK	1	0	17.03	16.85	16.91	18	0	
3	QPSK	1	8	17.02	16.97	16.84			
3	QPSK	1	14	16.91	16.84	16.85	18	0	
3	QPSK	8	0	16.94	16.99	17.00			
3	QPSK	8	4	17.07	16.99	16.99	18	0	
3	QPSK	8	7	16.96	17.01	16.80			
3	QPSK	15	0	17.04	16.95	16.94			
3	16QAM	1	0	16.95	16.93	16.85	18	0	
3	16QAM	1	8	16.85	17.02	16.81			
3	16QAM	1	14	16.95	16.86	16.95	18	0	
3	16QAM	8	0	16.91	16.86	16.88			
3	16QAM	8	4	16.86	16.91	16.90			
3	16QAM	8	7	16.94	16.99	16.99	18	0	
3	16QAM	15	0	17.03	16.99	16.79			
3	64QAM	1	8	17.07	16.85	16.63	18	0	
3	64QAM	1	14	16.72	16.99	16.92			
3	64QAM	8	0	16.95	16.83	16.89	18	0	
3	64QAM	8	4	17.00	16.96	16.99			
3	64QAM	8	7	16.86	16.92	16.76			
3	64QAM	15	0	17.00	16.80	16.85			
Channel				19967	20075	20389	Turn-up limit (dBm)	MPR (dB)	
Frequency (MHz)				1712.7	1732.7 <th>1752.7<th></th><th></th><th></th></th>	1752.7 <th></th> <th></th> <th></th>			
1.4	QPSK	1	0	16.90	16.95	16.81	18	0	
1.4	QPSK	1	3	16.92	16.91	16.96			
1.4	QPSK	1	5	16.86	16.93	16.88			
1.4	QPSK	3	0	16.88	16.90	16.86	18	0	
1.4	QPSK	3	3	16.93	16.82	16.92			
1.4	QPSK	6	0	16.86	16.89	16.92	18	0	
1.4	16QAM	1	0	16.85	17.00	16.84			
1.4	16QAM	1	3	16.90	16.96	16.74	18	0	
1.4	16QAM	1	5	16.82	16.75	16.79			
1.4	16QAM	3	0	16.87	16.88	16.93	18	0	
1.4	16QAM	3	1	16.82	16.95	16.81			
1.4	16QAM	3	3	16.82	16.80	16.85			
1.4	16QAM	6	0	16.79	16.83	16.82	18	0	
1.4	64QAM	1	0	16.85	17.02	16.83			
1.4	64QAM	1	3	16.91	17.00	16.85	18	0	
1.4	64QAM	1	5	16.93	16.78	16.89			
1.4	64QAM	3	0	16.89	16.80	16.78	18	0	
1.4	64QAM	3	1	16.80	16.93	17.03			
1.4	64QAM	3	3	17.02	16.95	16.89			
1.4	64QAM	6	0	16.78	16.92	16.69	18	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	21300				
Frequency (MHz)				2087.5	2105	2125				
20	QPSK	1	0	18.45	18.60	18.58	19		0	
20	QPSK	1	49	18.37	18.42	18.38				
20	QPSK	1	99	18.32	18.39	18.22				
20	QPSK	50	0	18.36	18.53	18.47	19	0		
20	QPSK	50	24	18.42	18.49	18.49				
20	QPSK	50	50	18.46	18.50	18.41				
20	QPSK	100	0	18.40	18.56	18.46	19	0		
20	16QAM	1	0	18.48	18.43	18.44				
20	16QAM	1	49	18.38	18.42	18.45				
20	16QAM	50	0	18.40	18.59	18.35	19	0		
20	16QAM	50	24	18.46	18.53	18.45				
20	16QAM	50	24	18.48	18.34	18.55				
20	16QAM	50	50	18.54	18.56	18.58	19	0		
20	16QAM	100	0	18.44	18.59	18.45				
20	64QAM	1	0	18.45	18.45	18.35	19	0		
20	64QAM	1	49	18.35	18.44	18.41				
20	64QAM	1	99	18.45	18.34	18.44				
20	64QAM	50	0	18.57	18.59	18.35	19	0		
20	64QAM	50	24	18.55	18.54	18.45				
20	64QAM	50	50	18.35	18.55	18.53				
20	64QAM	100	0	18.51	18.55	18.45				
Channel				20825	21100	21375	Tune-up limit (dBm)	MPR (dB)		
Frequency (MHz)				2087.5	2035	2062.5				
15	QPSK	1	0	18.30	18.48	18.46	19	0		
15	QPSK	1	37	18.42	18.41	18.44				
15	QPSK	1	74	18.42	18.44	18.42				
15	QPSK	36	0	18.43	18.55	18.48	19	0		
15	QPSK	36	20	18.44	18.63	18.43				
15	QPSK	36	39	18.42	18.51	18.43				
15	QPSK	75	0	18.44	18.54	18.46	19	0		
15	16QAM	1	0	18.43	18.45	18.42				
15	16QAM	1	37	18.45	18.42	18.34				
15	16QAM	1	74	18.34	18.45	18.55	19	0		
15	16QAM	36	0	18.50	18.57	18.54				
15	16QAM	36	20	18.48	18.45	18.54				
15	16QAM	36	39	18.49	18.55	18.51	19	0		
15	16QAM	75	0	18.49	18.45	18.53				
15	64QAM	1	0	18.41	18.34	18.41				
15	64QAM	1	37	18.35	18.41	18.35	19	0		
15	64QAM	1	74	18.45	18.45	18.40				
15	64QAM	36	0	18.58	18.55	18.55				
15	64QAM	36	20	18.59	18.56	18.45	19	0		
15	64QAM	36	39	18.52	18.45	18.35				
15	64QAM	75	0	18.66	18.35	18.54				
Channel				20800	21100	21400	Tune-up limit (dBm)	MPR (dB)		
Frequency (MHz)				2095	2035	2065				
10	QPSK	1	0	18.32	18.45	18.37	19	0		
10	QPSK	1	25	18.30	18.37	18.38				
10	QPSK	1	49	18.24	18.44	18.34				
10	QPSK	25	0	18.39	18.44	18.41	19	0		
10	QPSK	25	12	18.38	18.44	18.45				
10	QPSK	25	25	18.43	18.55	18.34				
10	QPSK	50	0	18.41	18.43	18.41	19	0		
10	16QAM	1	0	18.44	18.41	18.35				
10	16QAM	1	25	18.53	18.41	18.41				
10	16QAM	1	49	18.19	18.35	18.44	19	0		
10	16QAM	25	0	18.45	18.59	18.55				
10	16QAM	25	12	18.42	18.58	18.55				
10	16QAM	25	25	18.45	18.55	18.57	19	0		
10	16QAM	50	0	18.45	18.49	18.59				
10	64QAM	1	0	18.34	18.53	18.48				
10	64QAM	1	25	18.41	18.35	18.41	19	0		
10	64QAM	1	49	18.40	18.33	18.35				
10	64QAM	25	0	18.53	18.54	18.58				
10	64QAM	25	12	18.51	18.55	18.55	19	0		
10	64QAM	25	25	18.54	18.54	18.55				
10	64QAM	50	0	18.53	18.57	18.57				
Channel				20775	21100	21425	Tune-up limit (dBm)	MPR (dB)		
Frequency (MHz)				2092.5	2035	2092.5				
5	QPSK	1	0	18.21	18.49	18.32	19	0		
5	QPSK	1	12	18.11	18.49	18.26				
5	QPSK	1	24	18.29	18.44	18.37				
5	QPSK	12	0	18.35	18.54	18.37	19	0		
5	QPSK	12	7	18.43	18.55	18.48				
5	QPSK	12	13	18.36	18.50	18.39				
5	QPSK	25	0	18.36	18.51	18.34	19	0		
5	16QAM	1	0	18.55	18.35	18.33				
5	16QAM	1	12	18.41	18.35	18.42				
5	16QAM	1	24	18.51	18.41	18.21	19	0		
5	16QAM	12	0	18.44	18.59	18.54				
5	16QAM	12	7	18.56	18.45	18.53				
5	16QAM	12	13	18.52	18.55	18.54	19	0		
5	16QAM	25	0	18.50	18.55	18.51				
5	64QAM	1	0	18.46	18.56	18.41				
5	64QAM	1	12	18.35	18.42	18.41	19	0		
5	64QAM	1	24	18.41	18.35	18.35				
5	64QAM	12	0	18.55	18.55	18.50				
5	64QAM	12	7	18.58	18.51	18.55	19	0		
5	64QAM	12	13	18.45	18.53	18.54				
5	64QAM	25	0	18.48	18.56	18.49				

Band 66									
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				132072	132322	132572			
Frequency (MHz)				1713	1714	1698			
20	QPSK	1	0	17.13	17.14	16.98	18	0	
20	QPSK	1	49	16.96	17.08	16.98			
20	QPSK	1	99	16.92	17.04	16.99			
20	QPSK	50	0	16.95	17.00	16.93	18	0	
20	QPSK	50	24	17.00	16.96	16.90			
20	QPSK	50	50	16.94	17.00	16.91			
20	QPSK	100	0	17.00	17.06	16.94	18	0	
20	16QAM	1	0	16.95	16.94	16.93			
20	16QAM	1	49	16.85	16.94	16.88			
20	16QAM	1	99	16.91	16.99	16.85	18	0	
20	16QAM	50	0	16.80	16.85	16.77			
20	16QAM	50	24	16.84	16.87	16.89			
20	16QAM	50	50	16.78	16.90	16.72	18	0	
20	16QAM	100	0	16.84	16.84	16.71			
20	64QAM	1	0	16.71	17.05	16.62			
20	64QAM	1	49	16.90	16.65	16.90	18	0	
20	64QAM	1	99	17.08	16.88	16.78			
20	64QAM	50	0	16.82	16.87	16.79			
20	64QAM	50	24	16.90	16.94	16.86	18	0	
20	64QAM	50	50	16.80	16.84	16.87			
20	64QAM	100	0	16.84	16.89	16.79			
Channel				132047	132322	132597	Tune-up limit (dBm)	MPR (dB)	
Frequency (MHz)				1717.5	1745	1772.5			
15	QPSK	1	0	16.93	16.85	16.93	18	0	
15	QPSK	1	37	17.01	16.95	16.94			
15	QPSK	1	74	16.91	16.89	16.93			
15	QPSK	36	0	16.97	16.90	16.90	18	0	
15	QPSK	36	20	16.99	16.89	16.95			
15	QPSK	36	39	16.95	16.95	16.86	18	0	
15	QPSK	75	0	17.00	16.98	16.99			
15	16QAM	1	0	16.89	16.95	16.70			
15	16QAM	1	37	16.82	16.95	16.82	18	0	
15	16QAM	1	74	17.10	16.89	16.92			
15	16QAM	36	0	16.95	16.87	16.96			
15	16QAM	36	20	16.96	16.86	16.97	18	0	
15	16QAM	36	39	16.94	16.77	16.93			
15	16QAM	75	0	16.84	16.77	16.78	18	0	
15	64QAM	1	0	17.01	16.85	16.85			
15	64QAM	1	37	16.75	16.79	16.95			
15	64QAM	1	74	16.88	16.91	16.53	18	0	
15	64QAM	36	0	16.99	16.91	16.96			
15	64QAM	36	20	17.06	16.89	16.90			
15	64QAM	36	39	16.86	16.84	16.86	18	0	
15	64QAM	75	0	16.87	16.78	16.78			
Channel				132022	132322	132622			
Frequency (MHz)				1715	1745	1775			
10	QPSK	1	0	16.95	16.90	16.94	18	0	
10	QPSK	1	25	16.87	16.86	16.83			
10	QPSK	1	49	16.88	17.02	16.99			
10	QPSK	25	0	16.85	17.03	17.00	18	0	
10	QPSK	25	12	16.99	17.03	16.91			
10	QPSK	25	25	16.92	16.99	16.94	18	0	
10	QPSK	50	0	17.00	16.94	16.90			
10	16QAM	1	0	16.70	16.91	16.95			
10	16QAM	1	25	16.67	16.90	16.98	18	0	
10	16QAM	1	49	16.63	16.50	16.79			
10	16QAM	25	0	16.86	16.95	16.82			
10	16QAM	25	12	16.93	16.90	16.79	18	0	
10	16QAM	25	25	16.71	16.86	16.77			
10	16QAM	50	0	16.91	16.85	16.71	18	0	
10	64QAM	1	0	17.07	16.95	16.98			
10	64QAM	1	25	17.07	17.09	16.99			
10	64QAM	1	49	16.93	16.92	16.67	18	0	
10	64QAM	25	0	16.78	16.86	16.72			
10	64QAM	25	12	16.87	16.87	16.87			
10	64QAM	25	25	16.83	16.87	16.66	18	0	
10	64QAM	50	0	16.87	16.94	16.78			
Channel				131997	132322	132628	Tune-up limit (dBm)	MPR (dB)	
Frequency (MHz)				1712.6	1745	1777.6			
5	QPSK	1	0	16.98	16.93	16.98	18	0	
5	QPSK	1	12	16.95	17.07	16.91			
5	QPSK	1	24	16.99	16.91	16.89			
5	QPSK	12	0	17.02	17.00	16.94	18	0	
5	QPSK	12	7	17.07	17.08	16.94			
5	QPSK	12	13	16.97	17.06	16.96	18	0	
5	QPSK	25	0	17.07	17.02	16.90			
5	16QAM	1	0	16.85	17.07	16.85			
5	16QAM	1	12	16.95	16.91	16.90	18	0	
5	16QAM	1	24	16.64	17.91	16.95			
5	16QAM	12	0	16.77	16.87	16.88			
5	16QAM	12	7	16.85	16.86	16.80	18	0	
5	16QAM	12	13	16.94	16.86	16.76			
5	16QAM	25	0	16.83	16.83	16.77	18	0	
5	64QAM	1	0	16.85	16.96	16.73			
5	64QAM	1	12	16.95	16.85	16.88			
5	64QAM	1	24	16.79	16.91	16.64	18	0	
5	64QAM	12	0	16.85	16.90	16.82			
5	64QAM	12	7	16.93	16.87	16.86			
5	64QAM	12	13	16.87	16.90	16.77	18	0	
5	64QAM	25	0	16.86	16.96	16.75			
Channel				131987	132322	132657	Tune-up limit (dBm)	MPR (dB)	
Frequency (MHz)				1711.5	1745	1778.5			
3	QPSK	1	0	17.06	17.10	16.98	18	0	
3	QPSK	1	8	16.96	17.08	16.88			
3	QPSK	1	14	16.92	17.14	16.99			
3	QPSK	8	0	16.95	17.01	16.93	18	0	
3	QPSK	8	4	17.06	17.06	16.95			
3	QPSK	8	7	16.94	17.07	17.01			
3	QPSK	16	0	17.00	17.06	16.94	18	0	
3	16QAM	1	0	16.85	16.91	16.85			
3	16QAM	1	8	16.85	16.85	16.95			
3	16QAM	1	14	16.95	16.85	16.95	18	0	
3	16QAM	8	0	16.80	16.85	16.77			
3	16QAM	8	4	16.84	16.87	16.89			
3	16QAM	8	7	16.78	16.91	16.80	18	0	
3	16QAM	16	0	16.84	16.84	16.71			
3	64QAM	1	0	17.00	17.05	16.95			
3	64QAM	1	8	16.90	16.85	16.90	18	0	
3	64QAM	1	14	17.08	16.89	16.79			
3	64QAM	8	0	16.82	16.87	16.79			
3	64QAM	8	4	16.90	16.94	16.86	18	0	
3	64QAM	8	7	16.80	16.84	16.87			
3	64QAM	16	0	16.84	16.89	16.79			
Channel				131979	132322	132665	Tune-up limit (dBm)	MPR (dB)	
Frequency (MHz)				1710.5	1745	1779.5			
1.4	QPSK	1	0	16.96	17.00	16.91	18	0	
1.4	QPSK	1	3	17.05	17.12	16.90			
1.4	QPSK	1	6	16.98	16.98	16.90			
1.4	QPSK	3	0	17.04	17.03	16.92	18	0	
1.4	QPSK	3	1	17.07	17.09	16.93			
1.4	QPSK	6	0	17.01	17.09	16.93			
1.4	16QAM	1	0	16.92	16.85	16.85	18	0	
1.4	16QAM	1	3	16.93	16.86	16.85			
1.4	16QAM	1	6	16.77	16.91	16.85			
1.4	16QAM	3	0	16.94	16.78	16.66	18	0	
1.4	16QAM	3	1	16.92	16.77	16.89			
1.4	16QAM	3	3	16.96	16.99	16.86			
1.4	64QAM	1	0	16.99	16.86	16.74	18	0	
1.4	64QAM	1	3	16.92	17.04	16.80			
1.4	64QAM	1	6	16.82	16.85	17.06			
1.4	64QAM	3	0	16.96	16.86	16.87	18	0	
1.4	64QAM	3	1	16.85	16.80	16.98			
1.4	64QAM	3	3	17.05	16.85	16.75			
1.4	64QAM	6	0	16.93	16.70	16.66	18	0	



Reduced Power Mode for Handheld On

GSM 1900	Band Average Power (dBm)			Turn-up Limit (dBm)	Frame-Average Power (dBm)			Turn-up Limit (dBm)
	512	661	810		512	661	810	
TX Channel	1800.2	1860	1900.8	1800.2	1860	1900.8		
Frequency (MHz)	1800.2	1860	1900.8	1800.2	1860	1900.8		
GSM 1 Tx slot	27.87	28.12	28.10	29.00	18.87	19.12	19.10	20.00
GPRS 1 Tx slot	27.87	28.11	28.09	29.00	18.87	19.11	19.09	20.00
GPRS 2 Tx slots	26.56	26.61	26.76	27.50	20.56	20.61	20.75	21.50
GPRS 3 Tx slots	24.45	24.55	24.59	25.50	20.19	20.29	20.33	21.24
GPRS 4 Tx slots	23.44	23.38	23.46	24.50	20.44	20.38	20.45	21.50
EDGE 1 Tx slot	25.80	25.61	25.31	26.00	16.80	16.61	16.31	17.00
EDGE 2 Tx slots	24.37	24.10	24.00	25.00	15.37	15.10	15.00	16.00
EDGE 3 Tx slots	22.32	21.97	21.85	23.00	13.06	12.71	12.59	13.74
EDGE 4 Tx slots	21.04	20.85	20.65	22.00	12.04	11.85	11.65	12.00

Band	WCDMA II			Turn-up Limit (dBm)	WCDMA IV			Turn-up Limit (dBm)	
	5952	5950	5938		1312	1413	1513		
TX Channel	5952	5950	5938	1312	1413	1513			
Rx Channel	5952	5950	5938	1312	1413	1513			
Frequency (MHz)	1852.4	1850	1807.6	1712.4	1752.6	1762.6			
3GPP Rel 99	AMR 12.2kops	20.13	20.15	20.13	21.00	19.09	19.11	19.12	20.00
3GPP Rel 99	AMR 10.2kops	20.15	20.17	20.15	21.00	19.11	19.15	19.14	20.00
3GPP Rel 6	HSDPA Subclass 1	19.41	19.44	19.44	20.00	18.32	18.47	18.48	19.00
3GPP Rel 6	HSDPA Subclass 2	19.42	19.54	19.43	20.00	18.36	18.49	18.54	19.00
3GPP Rel 6	HSDPA Subclass 3	18.84	19.01	18.84	19.50	17.82	17.98	18.01	18.50
3GPP Rel 6	HSDPA Subclass 4	18.85	19.03	18.98	19.50	17.83	17.98	18.04	18.50
3GPP Rel 8	DCHSDPA Subclass 1	19.34	19.46	19.45	20.00	18.33	18.48	18.49	19.00
3GPP Rel 8	DCHSDPA Subclass 2	19.34	19.45	19.46	20.00	18.35	18.48	18.53	19.00
3GPP Rel 8	DCHSDPA Subclass 3	18.88	19.03	18.95	19.50	17.81	17.97	17.98	18.50
3GPP Rel 8	DCHSDPA Subclass 4	18.84	19.00	18.89	19.50	17.83	17.95	17.99	18.50
3GPP Rel 6	HSPA Subclass 1	19.40	19.51	19.41	20.00	18.19	18.31	18.28	19.00
3GPP Rel 6	HSPA Subclass 2	17.35	17.45	17.41	18.00	16.23	16.36	16.28	17.00
3GPP Rel 6	HSPA Subclass 3	16.37	16.41	16.25	18.00	17.21	17.36	17.36	18.00
3GPP Rel 6	HSPA Subclass 4	17.45	17.40	17.43	18.00	16.17	16.30	16.29	17.00
3GPP Rel 6	HSPA Subclass 5	19.24	19.50	19.45	20.00	18.20	18.40	18.40	19.00

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				1860.5	1860	1860			
Frequency (MHz)				1860.5	1860	1860			
20	QPSK	1	0	20.43	20.70	20.46			
20	QPSK	1	49	20.53	20.44	20.61	21.5	0	
20	QPSK	1	99	20.53	20.64	20.50			
20	QPSK	50	0	20.47	20.67	20.57			
20	QPSK	50	24	20.51	20.60	20.66	21.5	0	
20	QPSK	50	50	20.55	20.61	20.63			
20	QPSK	100	0	20.50	20.58	20.57			
20	16QAM	1	0	20.59	20.56	20.57			
20	16QAM	1	49	20.42	20.45	20.60	21.5	0	
20	16QAM	1	99	20.59	20.45	20.64			
20	16QAM	50	0	20.22	20.35	20.28			
20	16QAM	50	24	20.34	20.40	20.50	21.5	0	
20	16QAM	50	50	20.34	20.30	20.43			
20	16QAM	100	0	20.38	20.40	20.33			
20	64QAM	1	0	20.36	20.36	20.63			
20	64QAM	1	49	20.45	20.41	20.50	21.5	0	
20	64QAM	1	99	20.27	20.64	20.14			
20	64QAM	50	0	19.84	19.92	19.95			
20	64QAM	50	24	19.89	19.97	19.65			
20	64QAM	50	50	19.91	19.91	19.97	21	0.5	
20	64QAM	100	0	19.97	19.89	19.90			
Channel				1867.5	18600	19125	Tune-up limit (dBm)	MPR (dB)	
Frequency (MHz)				1867.5	1860	1902.5			
15	QPSK	1	0	20.47	20.52	20.63			
15	QPSK	1	37	20.44	20.55	20.66	21.5	0	
15	QPSK	1	74	20.41	20.58	20.48			
15	QPSK	36	0	20.50	20.65	20.65			
15	QPSK	36	20	20.53	20.45	20.65	21.5	0	
15	QPSK	36	39	20.56	20.64	20.60			
15	QPSK	75	0	20.47	20.65	20.63			
15	16QAM	1	0	20.64	20.68	20.69			
15	16QAM	1	37	20.57	20.45	20.54	21.5	0	
15	16QAM	1	74	20.54	20.58	20.58			
15	16QAM	36	0	20.36	20.38	20.50			
15	16QAM	36	20	20.38	20.60	20.50	21.5	0	
15	16QAM	36	39	20.31	20.52	20.43			
15	16QAM	75	0	20.32	20.49	20.58			
15	64QAM	1	0	20.34	20.43	20.35			
15	64QAM	1	37	20.35	20.45	20.44	21.5	0	
15	64QAM	1	74	20.45	20.35	20.45			
15	64QAM	36	0	19.86	20.05	20.05			
15	64QAM	36	20	19.87	19.94	19.12			
15	64QAM	36	39	19.98	19.97	20.10	21	0.5	
15	64QAM	75	0	19.80	19.99	19.98			
Channel				18650	18600	19100	Tune-up limit (dBm)	MPR (dB)	
Frequency (MHz)				1865	1860	1905			
10	QPSK	1	0	20.51	20.56	20.62			
10	QPSK	1	25	20.41	20.45	20.67	21.5	0	
10	QPSK	1	49	20.52	20.64	20.65			
10	QPSK	25	0	20.56	20.61	20.65			
10	QPSK	25	12	20.40	20.66	20.65	21.5	0	
10	QPSK	25	25	20.40	20.63	20.66			
10	QPSK	50	0	20.50	20.57	20.62			
10	16QAM	1	0	20.54	20.44	20.55			
10	16QAM	1	25	20.65	20.16	20.49	21.5	0	
10	16QAM	1	49	20.41	20.63	20.33			
10	16QAM	25	0	20.37	20.48	20.46			
10	16QAM	25	12	20.32	20.41	20.53	21.5	0	
10	16QAM	25	25	20.37	20.47	20.40			
10	16QAM	50	0	20.29	20.40	20.44			
10	64QAM	1	0	20.59	20.53	20.40			
10	64QAM	1	25	20.63	20.40	20.43	21.5	0	
10	64QAM	1	49	20.65	20.44	20.48			
10	64QAM	25	0	19.86	20.03	20.01			
10	64QAM	25	12	19.81	20.02	20.03	21	0.5	
10	64QAM	25	25	19.81	19.97	19.93			
10	64QAM	50	0	19.83	19.99	20.00			
Channel				18625	18600	19175	Tune-up limit (dBm)	MPR (dB)	
Frequency (MHz)				1862.5	1860	1907.5			
5	QPSK	1	0	20.46	20.56	20.44			
5	QPSK	1	12	20.59	20.57	20.53	21.5	0	
5	QPSK	1	24	20.42	20.41	20.51			
5	QPSK	12	0	20.52	20.64	20.61			
5	QPSK	12	7	20.56	20.57	20.65	21.5	0	
5	QPSK	12	13	20.46	20.60	20.61			
5	QPSK	25	0	20.45	20.60	20.53			
5	16QAM	1	0	20.45	20.62	20.32			
5	16QAM	1	12	20.14	20.61	20.39	21.5	0	
5	16QAM	1	24	20.38	20.45	20.49			
5	16QAM	12	0	20.38	20.50	20.53			
5	16QAM	12	7	20.35	20.40	20.53	21.5	0	
5	16QAM	12	13	20.42	20.43	20.47			
5	16QAM	25	0	20.30	20.43	20.49			
5	64QAM	1	0	20.32	20.35	20.50			
5	64QAM	1	12	20.41	20.64	20.68	21.5	0	
5	64QAM	1	24	20.61	20.59	20.65			
5	64QAM	12	0	19.90	20.05	19.98			
5	64QAM	12	7	19.95	20.05	19.95	21.5	0	
5	64QAM	12	13	19.92	20.09	20.02			
5	64QAM	25	0	19.81	19.92	19.86	21	0.5	
Channel				18610	18600	19195	Tune-up limit (dBm)	MPR (dB)	
Frequency (MHz)				1861.5	1860	1909.5			
3	QPSK	1	0	20.51	20.54	20.58			
3	QPSK	1	8	20.45	20.52	20.61	21.5	0	
3	QPSK	1	14	20.39	20.64	20.60			
3	QPSK	8	0	20.52	20.66	20.69			
3	QPSK	8	4	20.58	20.56	20.66	21.5	0	
3	QPSK	8	7	20.55	20.63	20.64			
3	QPSK	15	0	20.55	20.60	20.62			
3	16QAM	1	0	20.44	20.51	20.49			
3	16QAM	1	8	20.45	20.50	20.36	21.5	0	
3	16QAM	1	14	20.45	20.42	20.35			
3	16QAM	8	0	20.36	20.56	20.54			
3	16QAM	8	4	20.62	20.50	20.41	21.5	0	
3	16QAM	8	7	20.51	20.46	20.40			
3	16QAM	15	0	20.30	20.38	20.38			
3	64QAM	1	0	20.58	20.51	20.45			
3	64QAM	1	8	20.41	20.57	20.40	21.5	0	
3	64QAM	1	14	20.69	20.49	20.69			
3	64QAM	8	0	19.77	19.81	19.95			
3	64QAM	8	4	19.79	19.75	19.98	21	0.5	
3	64QAM	8	7	19.77	19.91	19.94			
3	64QAM	15	0	19.90	19.97	20.00			
Channel				18607	18600	19193	Tune-up limit (dBm)	MPR (dB)	
Frequency (MHz)				1860.7	1860	1909.3			
1.4	QPSK	1	0	20.45	20.51	20.55			
1.4	QPSK	1	3	20.51	20.56	20.61	21.5	0	
1.4	QPSK	1	5	20.35	20.53	20.51			
1.4	QPSK	3	0	20.52	20.56	20.59			
1.4	QPSK	3	1	20.55	20.64	20.51			
1.4	QPSK	3	3	20.56	20.62	20.58	21.5	0	
1.4	QPSK	6	0	20.56	20.67	20.65			
1.4	16QAM	1	0	20.26	20.46	20.46			
1.4	16QAM	1	3	20.31	20.45	20.52	21.5	0	
1.4	16QAM	1	5	20.54	20.48	20.45			
1.4	16QAM	3	0	20.35	20.24	20.36	21.5	0	
1.4	16QAM	3	1	20.41	20.58	20.55			
1.4	16QAM	3	3	20.39	20.38	20.40			
1.4	16QAM	6	0	20.37	20.49	20.47	21.5	0	
1.4	64QAM	1	0	20.17	20.42	20.45			
1.4	64QAM	1	3	20.48	20.39	20.58			
1.4	64QAM	1	5	20.19	20.41	20.31	21.5	0	
1.4	64QAM	3	0	20.39	20.49	20.58			
1.4	64QAM	3	1	20.40	20.45	20.50			
1.4	64QAM	3	3	20.48	20.45	20.49			
1.4	64QAM	6	0	19.90	19.97	19.85	21	0.5	

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				2050.5	2071.5	2039.5			
Frequency (MHz)				1720	1732.5	1765			
20	QPSK	1	0	19.60	19.62	19.56			
20	QPSK	1	49	19.45	19.48	19.52	20.5	0	
20	QPSK	1	99	19.47	19.41	19.51			
20	QPSK	50	0	19.45	19.58	19.57			
20	QPSK	50	24	19.55	19.55	19.55	20.5	0	
20	QPSK	50	50	19.55	19.49	19.50			
20	QPSK	100	0	19.51	19.50	19.50			
20	16QAM	1	0	19.46	19.54	19.32			
20	16QAM	1	49	19.18	19.09	19.10	20.5	0	
20	16QAM	1	99	19.57	19.36	19.22			
20	16QAM	50	0	19.26	19.39	19.34			
20	16QAM	50	24	19.37	19.39	19.36	20.5	0	
20	16QAM	50	50	19.26	19.34	19.27			
20	16QAM	100	0	19.27	19.37	19.20			
20	64QAM	1	0	19.60	19.19	19.57			
20	64QAM	1	49	19.58	19.45	19.56	20.5	0	
20	64QAM	1	99	19.57	19.53	19.49			
20	64QAM	50	0	19.44	19.37	19.38			
20	64QAM	50	24	19.41	19.34	19.31	20.5	0	
20	64QAM	50	50	19.31	19.27	19.28			
20	64QAM	100	0	19.31	19.37	19.30			
Channel				2020.5	2071.5	2032.5	Tune-up limit (dBm)	MPR (dB)	
Frequency (MHz)				1717.5	1732.5	1747.5			
15	QPSK	1	0	19.54	19.54	19.46			
15	QPSK	1	37	19.50	19.57	19.56	20.5	0	
15	QPSK	1	74	19.47	19.40	19.49			
15	QPSK	36	0	19.56	19.52	19.55			
15	QPSK	36	20	19.53	19.53	19.57	20.5	0	
15	QPSK	36	39	19.53	19.57	19.49			
15	QPSK	75	0	19.54	19.55	19.54			
15	16QAM	1	0	19.35	19.32	19.56			
15	16QAM	1	37	19.46	19.17	19.27	20.5	0	
15	16QAM	1	74	19.19	19.27	19.25			
15	16QAM	36	0	19.52	19.27	19.28			
15	16QAM	36	20	19.36	19.38	19.27	20.5	0	
15	16QAM	36	39	19.42	19.30	19.31			
15	16QAM	75	0	19.35	19.36	19.27			
15	64QAM	1	0	19.28	19.53	19.54			
15	64QAM	1	37	19.52	19.55	19.23	20.5	0	
15	64QAM	1	74	19.54	19.51	19.50			
15	64QAM	36	0	19.33	19.33	19.30			
15	64QAM	36	20	19.43	19.33	19.32	20.5	0	
15	64QAM	36	39	19.26	19.39	19.41			
15	64QAM	75	0	19.41	19.31	19.30			
Channel				2000.5	2071.5	2039.5	Tune-up limit (dBm)	MPR (dB)	
Frequency (MHz)				1715 <th>1732.5<th>1750<th></th><th></th><th></th></th></th>	1732.5 <th>1750<th></th><th></th><th></th></th>	1750 <th></th> <th></th> <th></th>			
10	QPSK	1	0	19.51	19.53	19.54			
10	QPSK	1	25	19.54	19.56	19.55	20.5	0	
10	QPSK	1	49	19.55	19.42	19.51			
10	QPSK	25	0	19.55	19.56	19.54			
10	QPSK	25	12	19.57	19.58	19.50	20.5	0	
10	QPSK	25	25	19.56	19.52	19.51			
10	QPSK	50	0	19.56	19.54	19.50			
10	16QAM	1	0	19.20	19.30	19.22			
10	16QAM	1	25	19.49	19.16	19.28	20.5	0	
10	16QAM	1	49	19.55	19.18	19.41			
10	16QAM	25	0	19.43	19.24	19.33			
10	16QAM	25	12	19.45	19.30	19.36	20.5	0	
10	16QAM	25	25	19.38	19.33	19.36			
10	16QAM	50	0	19.42	19.30	19.38			
10	64QAM	1	0	19.34	19.54	19.55	20.5	0	
10	64QAM	1	49	19.56	19.54	19.55			
10	64QAM	25	0	19.31	19.32	19.29			
10	64QAM	25	12	19.26	19.31	19.24	20.5	0	
10	64QAM	25	25	19.34	19.36	19.27			
10	64QAM	50	0	19.37	19.33	19.30			
Channel				1997.5	2071.5	2037.5	Tune-up limit (dBm)	MPR (dB)	
Frequency (MHz)				1712.5 <th>1732.5<th>1752.5<th></th><th></th><th></th></th></th>	1732.5 <th>1752.5<th></th><th></th><th></th></th>	1752.5 <th></th> <th></th> <th></th>			
5	QPSK	1	0	19.49	19.47	19.41			
5	QPSK	1	12	19.50	19.47	19.48	20.5	0	
5	QPSK	1	24	19.50	19.34	19.57			
5	QPSK	12	0	19.54	19.54	19.55			
5	QPSK	12	7	19.60	19.58	19.55	20.5	0	
5	QPSK	12	13	19.59	19.51	19.58			
5	QPSK	25	0	19.50	19.63	19.63			
5	16QAM	1	0	19.32	19.19	19.08			
5	16QAM	1	12	19.30	19.40	19.31	20.5	0	
5	16QAM	1	24	19.20	19.41	19.37			
5	16QAM	12	0	19.45	19.34	19.34			
5	16QAM	12	7	19.41	19.40	19.50	20.5	0	
5	16QAM	12	13	19.37	19.26	19.27			
5	16QAM	25	0	19.27	19.21	19.20			
5	64QAM	1	0	19.42	19.30	19.54			
5	64QAM	1	12	19.36	19.18	19.53	20.5	0	
5	64QAM	1	24	19.54	19.27	19.51			
5	64QAM	12	0	19.49	19.49	19.51			
5	64QAM	12	7	19.57	19.48	19.36	20.5	0	
5	64QAM	12	13	19.51	19.24	19.43			
5	64QAM	25	0	19.32	19.23	19.32			
Channel				1996.5	2071.5	2036.5	Tune-up limit (dBm)	MPR (dB)	
Frequency (MHz)				1711.5 <th>1732.5<th>1753.5<th></th><th></th><th></th></th></th>	1732.5 <th>1753.5<th></th><th></th><th></th></th>	1753.5 <th></th> <th></th> <th></th>			
3	QPSK	1	0	19.58	19.53	19.48			
3	QPSK	1	8	19.54	19.52	19.47	20.5	0	
3	QPSK	1	14	19.48	19.47	19.42			
3	QPSK	8	0	19.54	19.59	19.52			
3	QPSK	8	7	19.56	19.59	19.54	20.5	0	
3	QPSK	8	14	19.57	19.58	19.56			
3	QPSK	16	0	19.57	19.46	19.54			
3	16QAM	1	0	19.11	19.16	19.39			
3	16QAM	1	8	19.45	19.45	19.34	20.5	0	
3	16QAM	1	14	19.54	19.04	19.25			
3	16QAM	8	0	19.47	19.40	19.29			
3	16QAM	8	4	19.47	19.36	19.38	20.5	0	
3	16QAM	8	7	19.40	19.46	19.43			
3	16QAM	16	0	19.45	19.23	19.34			
3	64QAM	1	0	19.54	19.54	19.56			
3	64QAM	1	8	19.47	19.56	19.52	20.5	0	
3	64QAM	8	0	19.29	19.40	19.21			
3	64QAM	8	4	19.35	19.28	19.21	20.5	0	
3	64QAM	8	7	19.27	19.55	19.27			
3	64QAM	16	0	19.34	19.35	19.30			
Channel				1997.5	2071.5	2038.5	Tune-up limit (dBm)	MPR (dB)	
Frequency (MHz)				1712.5	1732.5 <th>1753.5<th></th><th></th><th></th></th>	1753.5 <th></th> <th></th> <th></th>			
1.4	QPSK	1	0	19.53	19.55	19.50			
1.4	QPSK	1	3	19.45	19.52	19.51	20.5	0	
1.4	QPSK	1	5	19.57	19.46	19.41			
1.4	QPSK	3	0	19.48	19.53	19.46			
1.4	QPSK	3	1	19.61	19.54	19.56			
1.4	QPSK	3	3	19.59	19.54	19.45	20.5	0	
1.4	QPSK	6	0	19.15	19.09	19.07			
1.4	16QAM	1	0	19.35	19.22	19.46			
1.4	16QAM	1	8	19.45	19.46	19.24	20.5	0	
1.4	16QAM	1	5	19.36	19.45	19.32			
1.4	16QAM	3	0	19.34	19.32	19.22			
1.4	16QAM	3	1	19.35	19.44	19.44			
1.4	16QAM	3	3	19.34	19.26	19.14	20.5	0	
1.4	64QAM	1	0	19.45	19.21	19.18			
1.4	64QAM	1	3	19.45	19.53	19.29			
1.4	64QAM	1	5	19.37	19.24	19.38	20.5	0	
1.4	64QAM	3	0	19.49	19.38	19.32			
1.4	64QAM	3	1	19.37	19.32	19.30			
1.4	64QAM	3	3	19.31	19.46	19.29			
1.4	64QAM	6	0	19.40	19.13	19.20	20.5	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)				2110	2135	2160				
20	QPSK	1	0	21.23	21.36	21.38	22		0	
20	QPSK	1	49	21.34	21.28	21.22				
20	QPSK	1	99	21.23	21.36	21.22				
20	QPSK	50	0	21.34	21.38	21.12				
20	QPSK	50	24	21.36	21.21	21.22	22		0	
20	QPSK	50	50	21.23	21.22	21.21				
20	QPSK	100	0	21.21	21.26	21.23				
20	16QAM	1	0	21.26	21.23	21.32				
20	16QAM	1	49	21.36	21.21	21.13	22		0	
20	16QAM	1	99	21.23	21.26	21.21				
20	16QAM	50	0	21.16	21.27	21.37				
20	16QAM	50	24	21.28	21.38	21.12				
20	16QAM	50	50	21.34	21.31	21.21	22		0	
20	16QAM	100	0	21.38	21.31	21.36				
20	64QAM	1	0	21.21	21.36	21.37				
20	64QAM	1	49	21.27	21.32	21.25				
20	64QAM	1	99	21.23	21.35	21.23	21		1	
20	64QAM	50	0	20.47	20.47	20.63				
20	64QAM	50	24	20.43	20.44	20.51				
20	64QAM	50	50	20.55	20.44	20.46				
20	64QAM	100	0	20.43	20.47	20.66				
Channel				20825	21100	21375	Tune-up limit (dBm)	MPR (dB)		
Frequency (MHz)				20875	2105	20825				
15	QPSK	1	0	21.18	21.22	21.19	22		0	
15	QPSK	1	37	21.22	21.27	21.17				
15	QPSK	1	74	21.28	21.36	21.28				
15	QPSK	36	0	21.06	21.10	21.04				
15	QPSK	36	20	21.09	21.14	21.09	22		0	
15	QPSK	36	39	21.07	21.15	21.08				
15	QPSK	75	0	21.05	21.14	21.06				
15	16QAM	1	0	21.30	21.00	21.23				
15	16QAM	1	37	21.34	21.11	21.30	22		0	
15	16QAM	1	74	21.12	21.22	21.22				
15	16QAM	36	0	21.13	21.22	21.16				
15	16QAM	36	20	21.16	21.26	21.20				
15	16QAM	36	39	21.16	21.25	21.18	22		0	
15	16QAM	75	0	21.17	21.22	21.17				
15	64QAM	1	0	21.17	21.29	21.22				
15	64QAM	1	37	21.18	21.24	21.15				
15	64QAM	1	74	21.32	21.34	21.23	21		1	
15	64QAM	36	0	20.32	20.43	20.44				
15	64QAM	36	20	20.32	20.51	20.42				
15	64QAM	36	39	20.39	20.56	20.46				
15	64QAM	75	0	20.38	20.45	20.39				
Channel				20800	21100	21400	Tune-up limit (dBm)	MPR (dB)		
Frequency (MHz)				20905	21305	20905				
10	QPSK	1	0	21.24	21.22	21.24	22		0	
10	QPSK	1	25	21.26	21.26	21.27				
10	QPSK	1	49	21.29	21.29	21.33				
10	QPSK	25	0	21.14	21.08	21.10				
10	QPSK	25	12	21.17	21.10	21.16	22		0	
10	QPSK	25	25	21.12	21.10	21.14				
10	QPSK	50	0	21.12	21.08	21.12				
10	16QAM	1	0	21.37	21.22	21.15				
10	16QAM	1	25	21.37	21.20	21.13	22		0	
10	16QAM	1	49	21.23	21.21	21.20				
10	16QAM	25	0	21.17	21.17	21.22				
10	16QAM	25	12	21.22	21.18	21.23				
10	16QAM	25	25	21.23	21.21	21.24	22		0	
10	16QAM	50	0	21.25	21.18	21.22				
10	64QAM	1	0	21.19	21.22	21.24				
10	64QAM	1	25	21.20	21.22	21.25				
10	64QAM	1	49	21.26	21.25	21.24	21		1	
10	64QAM	25	0	20.31	20.44	20.43				
10	64QAM	25	12	20.41	20.46	20.49				
10	64QAM	25	25	20.38	20.47	20.51				
10	64QAM	50	0	20.42	20.44	20.50				
Channel				20775	21100	21425	Tune-up limit (dBm)	MPR (dB)		
Frequency (MHz)				20825	21305	20825				
5	QPSK	1	0	21.26	21.22	21.23	22		0	
5	QPSK	1	12	21.28	21.24	21.27				
5	QPSK	1	24	21.30	21.27	21.30				
5	QPSK	12	0	21.10	21.07	21.08				
5	QPSK	12	7	21.17	21.13	21.13	22		0	
5	QPSK	12	13	21.13	21.07	21.13				
5	QPSK	25	0	21.11	21.08	21.11				
5	16QAM	1	0	21.33	21.36	21.36				
5	16QAM	1	12	21.34	21.30	21.37	22		0	
5	16QAM	1	24	21.30	21.21	21.30				
5	16QAM	12	0	21.19	21.15	21.19				
5	16QAM	12	7	21.21	21.23	21.22				
5	16QAM	12	13	21.20	21.21	21.23	22		0	
5	16QAM	25	0	21.18	21.15	21.20				
5	64QAM	1	0	21.17	21.23	21.24				
5	64QAM	1	12	21.16	21.20	21.23				
5	64QAM	1	24	21.22	21.20	21.20	21		1	
5	64QAM	12	0	20.59	20.47	20.60				
5	64QAM	12	7	20.55	20.43	20.55				
5	64QAM	12	13	20.55	20.51	20.52				
5	64QAM	25	0	20.40	20.48	20.46				

Band 66										
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				130702	132322	132012				
Frequency (MHz)				1720	1745	1770				
20	QPSK	1	0	19.54	19.62	19.60	20.5	0	0	
20	QPSK	1	49	19.53	19.61	19.43				
20	QPSK	1	99	19.32	19.53	19.41				
20	QPSK	50	0	19.49	19.61	19.44				
20	QPSK	50	24	19.56	19.60	19.49	20.5	0	0	
20	QPSK	50	50	19.50	19.60	19.43				
20	QPSK	100	0	19.49	19.57	19.42				
20	16QAM	1	0	19.60	19.46	19.15				
20	16QAM	1	49	19.60	19.61	19.25	20.5	0	0	
20	16QAM	1	99	19.20	19.44	19.34				
20	16QAM	50	0	19.45	19.44	19.35				
20	16QAM	50	24	19.39	19.54	19.35				
20	16QAM	50	50	19.43	19.52	19.42	20.5	0	0	
20	16QAM	100	0	19.45	19.48	19.37				
20	64QAM	1	0	19.47	19.40	19.40				
20	64QAM	1	49	19.45	19.55	19.54				
20	64QAM	1	99	19.56	19.45	19.46	20.5	0	0	
20	64QAM	50	0	19.50	19.55	19.40				
20	64QAM	50	24	19.44	19.51	19.41				
20	64QAM	50	50	19.50	19.46	19.39				
20	64QAM	100	0	19.48	19.55	19.39				
Channel				132047	132322	132597	Tune-up limit (dBm)	MPR (dB)		
Frequency (MHz)				1717.5	1745	1772.5				
15	QPSK	1	0	19.39	19.27	19.32	20.5	0	0	
15	QPSK	1	37	19.36	19.36	19.22				
15	QPSK	1	74	19.37	19.23	19.12				
15	QPSK	36	0	19.31	19.36	19.26				
15	QPSK	36	20	19.33	19.45	19.31	20.5	0	0	
15	QPSK	36	39	19.32	19.42	19.24				
15	QPSK	75	0	19.35	19.40	19.26	20.5	0	0	
15	16QAM	1	0	19.36	19.44	19.53				
15	16QAM	1	37	19.27	19.45	19.49				
15	16QAM	1	74	19.45	19.29	19.48				
15	16QAM	36	0	19.46	19.48	19.43	20.5	0	0	
15	16QAM	36	20	19.49	19.52	19.46				
15	16QAM	36	39	19.38	19.54	19.41				
15	16QAM	75	0	19.52	19.48	19.39				
15	64QAM	1	0	19.45	19.39	19.33	20.5	0	0	
15	64QAM	1	37	19.45	19.35	19.47				
15	64QAM	1	74	19.55	19.47	19.45				
15	64QAM	36	0	19.50	19.58	19.43				
15	64QAM	36	20	19.52	19.55	19.50	20.5	0	0	
15	64QAM	36	39	19.52	19.54	19.41				
15	64QAM	75	0	19.59	19.54	19.39				
15	64QAM	1	0	19.45	19.39	19.33				
15	64QAM	1	37	19.45	19.35	19.47	20.5	0	0	
15	64QAM	1	74	19.55	19.47	19.45				
15	64QAM	36	0	19.50	19.58	19.43				
15	64QAM	36	20	19.52	19.55	19.50				
15	64QAM	75	0	19.59	19.54	19.39	20.5	0	0	
15	64QAM	1	0	19.45	19.39	19.33				
15	64QAM	1	37	19.45	19.35	19.47				
15	64QAM	1	74	19.55	19.47	19.45				
15	64QAM	36	0	19.50	19.58	19.43	20.5	0	0	
15	64QAM	36	20	19.52	19.55	19.50				
15	64QAM	75	0	19.59	19.54	19.39				
15	64QAM	1	0	19.45	19.39	19.33				
15	64QAM	1	37	19.45	19.35	19.47	20.5	0	0	
15	64QAM	1	74	19.55	19.47	19.45				
15	64QAM	36	0	19.50	19.58	19.43				
15	64QAM	36	20	19.52	19.55	19.50				
15	64QAM	75	0	19.59	19.54	19.39	20.5	0	0	
15	64QAM	1	0	19.45	19.39	19.33				
15	64QAM	1	37	19.45	19.35	19.47				
15	64QAM	1	74	19.55	19.47	19.45				
15	64QAM	36	0	19.50	19.58	19.43	20.5	0	0	
15	64QAM	36	20	19.52	19.55	19.50				
15	64QAM	75	0	19.59	19.54	19.39				
15	64QAM	1	0	19.45	19.39	19.33				
15	64QAM	1	37	19.45	19.35	19.47	20.5	0	0	
15	64QAM	1	74	19.55	19.47	19.45				
15	64QAM	36	0	19.50	19.58	19.43				
15	64QAM	36	20	19.52	19.55	19.50				
15	64QAM	75	0	19.59	19.54	19.39	20.5	0	0	
15	64QAM	1	0	19.45	19.39	19.33				
15	64QAM	1	37	19.45	19.35	19.47				
15	64QAM	1	74	19.55	19.47	19.45				
15	64QAM	36	0	19.50	19.58	19.43	20.5	0	0	
15	64QAM	36	20	19.52	19.55	19.50				
15	64QAM	75	0	19.59	19.54	19.39				
15	64QAM	1	0	19.45	19.39	19.33				
15	64QAM	1	37	19.45	19.35	19.47	20.5	0	0	
15	64QAM	1	74	19.55	19.47	19.45				
15	64QAM	36	0	19.50	19.58	19.43				
15	64QAM	36	20	19.52	19.55	19.50				
15	64QAM	75	0	19.59	19.54	19.39	20.5	0	0	
15	64QAM	1	0	19.45	19.39	19.33				
15	64QAM	1	37	19.45	19.35	19.47				
15	64QAM	1	74	19.55	19.47	19.45				
15	64QAM	36	0	19.50	19.58	19.43	20.5	0	0	
15	64QAM	36	20	19.52	19.55	19.50				
15	64QAM	75	0	19.59	19.54	19.39				
15	64QAM	1	0	19.45	19.39	19.33				
15	64QAM	1	37	19.45	19.35	19.47	20.5	0	0	
15	64QAM	1	74	19.55	19.47	19.45				
15	64QAM	36	0	19.50	19.58	19.43				
15	64QAM	36	20	19.52	19.55	19.50				
15	64QAM	75	0	19.59	19.54	19.39	20.5	0	0	
15	64QAM	1	0	19.45	19.39	19.33				
15	64QAM	1	37	19.45	19.35	19.47				
15	64QAM	1	74	19.55	19.47	19.45				
15	64QAM	36	0	19.50	19.58	19.43	20.5	0	0	
15	64QAM	36	20	19.52	19.55	19.50				
15	64QAM	75	0	19.59	19.54	19.39				
15	64QAM	1	0	19.45	19.39	19.33				
15	64QAM	1	37	19.45	19.35	19.47	20.5	0	0	
15	64QAM	1	74	19.55	19.47	19.45				
15	64QAM	36	0	19.50	19.58	19.43				
15	64QAM	36	20	19.52	19.55	19.50				
15	64QAM	75	0	19.59	19.54	19.39	20.5	0	0	
15	64QAM	1	0	19.45	19.39	19.33				
15	64QAM	1	37	19.45	19.35	19.47				
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15	64QAM	36	20	19.52	19.55	19.50				
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15	64QAM	1	0	19.45	19.39	19.33				
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15	64QAM	1	74	19.55	19.47	19.45				
15	64QAM	36	0	19.50	19.58	19.43				
15	64QAM	36	20	19.52	19.55	19.50				
15	64QAM	75	0	19.59	19.54	19.39	20.5	0	0	
15	64QAM	1	0	19.45	19.39	19.33				
15	64QAM	1	37	19.45	19.35	19.47				
15	64QAM	1	74	19.55	19.47	19.45				
15	64QAM	36	0	19.50	19.58	19.43	20.5	0	0	
15	64QAM	36	20	19.52	19.55	19.50				
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15	64QAM	1	0	19.45	19.39	19.33				
15	64QAM	1	37	19.45	19.35	19.47	20.5	0	0	
15	64QAM	1	74	19.55	19.47	19.45				
15	64QAM	36	0	19.50	19.58	19.43				
15	64QAM	36	20	19.52	19.55	19.50				
15	64QAM	75	0	19.59	19.54	19.39	20.5	0	0	
15	64QAM	1	0	19.45	19.39	19.33				
15	64QAM	1	37	19.45	19.35	19.47				
15	64QAM	1	74	19.55	19.47	19.45				
15	64QAM	36	0	19.50	19.58	19.43	20.5	0	0	
15	64QAM	36	20	19.52	19.55	19.50				
15	64QAM	75	0	19.59	19.54	19.39				
15	64QAM	1	0	19.45	19.39	19.33				
15	64QAM	1	37	19.45	19.35	19.47	20.5	0	0	
15	64QAM	1	74	19.55	19.47	19.45				
15	64QAM	36	0	19.50	19.58	19.43				
15	64QAM	36	20	19.52	19.55	19.50				
15	64QAM	75	0	19.59	19.54	19.39	20.5	0	0	
15	64QAM	1	0	19.45	19.39	19.33				
15	64QAM	1	37	19.45	19.35	19.47				
15	64QAM	1	74	19.55	19.47	19.45				
15	64QAM	36	0	19.50	19.58	19.43	20.5	0	0	
15	64QAM	36	20	19.52	19.55	19.50				
15	64QAM	75	0	19.59	19.54	19.39				
15	64QAM	1	0	19.45	19.39	19.33				
15	64QAM	1	37	19.45	19.35	19.47	20.5	0	0	
15	64QAM	1	74	19.55	19.47	19.45				
15	64QAM	36	0	19.50	19.58	19.43				
15	64QAM	36	20	19.52	19.55	19.50				
15	64QAM	75	0	19.59	19.54	19.39	20.5	0	0	
15	64QAM	1	0	19.45	19.39	19.33				
15	64QAM	1	37	19.45	19.35	19.47				
15	64QAM	1	74	19.55	19.47	19.45				
15	64QAM	36	0	19.50	19.58	19.43	20.5	0	0	
15	64QAM	36	20	19.52	19.55	19.50				
15	64QAM	75	0	19.59	19.54	19.39				
15	64QAM	1	0	19.45	19.39	19.33				
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15	64QAM	1	74	19.55	19.47	19.45				
15	64QAM	36	0	19.50	19.58	19.43				
15	64QAM	36	20	19.52	19.55	19.50				
15	64QAM	75	0	19.59	19.54	19.39	20.5	0	0	
15	64QAM	1	0	19.45	19.39	19.33				
15	64QAM	1	37	19.45	19.35	19.47				
15	64QAM	1	74	1						