



REPORT No.: SZ23040219S01

Annex E Conducted Power

Note:

Conducted power unit: dBm

The target power was recorded in the manufacture document.



Full Power

GSM850		Burst Average Power (dBm)			Tune-up Limit (dBm)	Frame-Average Power (dBm)			Tune-up Limit (dBm)	Ch Delta > 0.5
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		32.12	32.23	32.16	33.00	23.12	23.23	23.16	24.00	0.21
GPRS 1 Tx slot		32.02	32.06	32.05	33.00	23.02	23.06	23.05	24.00	
GPRS 2 Tx slots		30.06	30.16	30.13	31.00	24.06	24.16	24.13	25.00	0.10
GPRS 3 Tx slots		28.10	28.20	28.12	29.00	23.84	23.94	23.86	24.74	0.10
GPRS 4 Tx slots		25.95	26.01	25.99	27.00	22.95	23.01	22.99	24.00	0.06
EDGE 1 Tx slot		25.43	25.43	25.56	26.50	16.43	16.43	16.56	17.50	0.13
EDGE 2 Tx slots		23.22	23.24	23.28	24.00	17.22	17.24	17.28	18.00	0.06
EDGE 3 Tx slots		21.01	21.10	21.12	22.00	16.75	16.84	16.86	17.74	0.11
EDGE 4 Tx slots		19.33	19.37	19.46	20.50	16.33	16.37	16.46	17.50	0.13
Mode			Max.	32.23			Max.	24.16		
Attenuator		Cable Loss : 0.6								

GSM1900		Burst Average Power (dBm)			Tune-up Limit (dBm)	Frame-Average Power (dBm)			Tune-up Limit (dBm)	Ch Delta > 0.5
TX Channel		512	661	810		512	661	810		
Frequency (MHz)		1850.2	1880	1909.8		1850.2	1880	1909.8		
GSM 1 Tx slot		29.10	29.03	29.08	30.00	20.10	20.03	20.08	21.00	0.36
GPRS 1 Tx slot		29.37	29.27	29.39	30.50	20.37	20.27	20.39	21.50	
GPRS 2 Tx slots		26.87	26.89	26.83	28.00	20.87	20.89	20.83	22.00	0.06
GPRS 3 Tx slots		25.03	24.91	24.96	26.00	20.77	20.65	20.70	21.74	0.12
GPRS 4 Tx slots		22.38	22.35	22.45	23.50	19.38	19.35	19.45	20.50	0.10
EDGE 1 Tx slot		26.13	26.10	26.17	27.00	17.13	17.10	17.17	18.00	0.07
EDGE 2 Tx slots		24.06	24.00	24.03	25.00	18.06	18.00	18.03	19.00	0.06
EDGE 3 Tx slots		22.19	22.10	22.16	23.00	17.93	17.84	17.90	18.74	0.09
EDGE 4 Tx slots		20.11	20.00	20.04	21.00	17.11	17.00	17.04	18.00	0.11
Mode			Max.	29.39			Max.	20.89		
Attenuator		Cable Loss : 0.8								

Band		WCDMA Band II (dBm)			Tune-up Limit (dBm)	WCDMA Band IV (dBm)			Tune-up Limit (dBm)	WCDMA Band V (dBm)			Tune-up Limit (dBm)
TX Channel		9262	9400	9538		1312	1413	1513		4132	4182	4233	
Rx Channel		9662	9800	9938		1537	1638	1738		4357	4407	4458	
Frequency (MHz)		1852.4	1880	1907.6		1712.4	1732.6	1752.6		826.4	836.4	846.6	
3GPP Rel 99	RMC 12.2Kbps	21.88	21.96	21.80	23.00	21.77	21.89	21.79	23.00	22.53	22.68	22.57	23.50
3GPP Rel 6	HSDPA Subtest-1	21.82	21.75	21.57	22.50	21.58	21.50	21.53	22.50	21.68	21.64	21.37	22.50
3GPP Rel 6	HSDPA Subtest-2	21.48	21.42	21.21	22.00	21.56	21.52	21.55	22.50	21.46	21.41	21.16	22.00
3GPP Rel 6	HSDPA Subtest-3	20.75	20.64	20.44	21.50	21.54	21.55	21.52	22.50	21.18	21.13	20.88	22.00
3GPP Rel 6	HSDPA Subtest-4	21.34	21.28	21.09	22.00	21.56	21.57	21.53	22.50	21.06	21.02	20.77	22.00
3GPP Rel 6	HSUPA Subtest-1	21.86	21.75	21.57	22.50	21.55	21.58	21.41	22.50	22.34	22.36	22.18	23.00
3GPP Rel 6	HSUPA Subtest-2	21.86	21.74	21.62	22.50	21.54	21.50	21.35	22.50	22.26	22.27	22.11	23.00
3GPP Rel 6	HSUPA Subtest-3	21.84	21.73	21.59	22.50	21.55	21.54	21.37	22.50	22.32	22.33	22.16	23.00
3GPP Rel 6	HSUPA Subtest-4	21.84	21.79	21.58	22.50	21.53	21.51	21.34	22.50	22.25	22.26	22.08	23.00
3GPP Rel 6	HSUPA Subtest-5	21.77	21.77	21.54	22.50	21.56	21.52	21.38	22.50	22.33	22.34	22.17	23.00
3GPP Rel 7	HSPA+ (16QAM) Subtest-1	21.81	21.76	21.54	22.50	21.55	21.54	21.40	22.50	22.36	22.35	22.22	23.00
Attenuator			Cable Loss	0.8			Cable Loss	0.8			Cable Loss	0.6	
Mode			Max.	21.96			Max.	21.89			Max.	22.68	



Band 2 (1900MHz Band) (dBm) Part 24E							
BW (MHz)	Modulation	RB Size	RB Offset	Low Channel	Middle Channel	High Channel	Tune-up limit (dBm)
Channel				18700	18900	19100	
Frequency (MHz)				1860	1880	1900	
20	QPSK	1	0	21.93	22.01	21.99	23
20	QPSK	1	49	21.92	21.96	21.91	
20	QPSK	1	99	21.86	21.93	21.83	
20	QPSK	50	0	21.22	21.30	21.15	22
20	QPSK	50	24	21.20	21.10	21.12	
20	QPSK	50	50	21.22	21.20	21.11	
20	QPSK	100	0	21.20	21.22	21.13	22
20	16QAM	1	0	20.68	20.82	20.68	
20	16QAM	1	49	20.63	20.81	20.67	
20	16QAM	1	99	20.63	20.74	20.65	21
20	16QAM	50	0	19.98	20.06	19.95	
20	16QAM	50	24	20.04	20.09	19.93	
20	16QAM	50	50	19.99	20.05	19.97	22
20	16QAM	100	0	19.95	20.11	19.94	
20	64QAM	1	0	21.42	21.53	21.40	
20	64QAM	1	49	21.36	21.49	21.36	22
20	64QAM	1	99	21.33	21.51	21.34	
20	64QAM	50	0	18.51	18.69	18.54	
20	64QAM	50	24	18.58	18.62	18.61	20
20	64QAM	50	50	18.56	18.66	18.59	
20	64QAM	100	0	18.54	18.69	18.49	
Channel				18675	18900	19125	Tune-up limit (dBm)
Frequency (MHz)				1857.5	1880	1902.5	
15	QPSK	1	0	21.90	21.98	21.96	23
15	QPSK	1	37	21.89	21.93	21.88	
15	QPSK	1	74	21.83	21.90	21.80	
15	QPSK	36	0	21.19	21.27	21.12	22
15	QPSK	36	20	21.17	21.07	21.09	
15	QPSK	36	39	21.19	21.17	21.08	
15	QPSK	75	0	21.17	21.19	21.10	22
15	16QAM	1	0	20.65	20.79	20.65	
15	16QAM	1	37	20.60	20.78	20.64	
15	16QAM	1	74	20.60	20.71	20.62	21
15	16QAM	36	0	19.95	20.03	19.92	
15	16QAM	36	20	20.01	20.06	19.90	
15	16QAM	36	39	19.96	20.02	19.94	21
15	16QAM	75	0	19.92	20.08	19.91	
15	64QAM	1	0	21.39	21.50	21.37	
15	64QAM	1	37	21.33	21.46	21.33	21
15	64QAM	1	74	21.30	21.48	21.31	
15	64QAM	36	0	18.48	18.66	18.51	
15	64QAM	36	20	18.55	18.59	18.58	20
15	64QAM	36	39	18.53	18.63	18.56	
15	64QAM	75	0	18.51	18.66	18.46	
Channel				18650	18900	19150	Tune-up limit (dBm)
Frequency (MHz)				1855	1880	1905	
10	QPSK	1	0	21.87	21.95	21.93	23
10	QPSK	1	25	21.86	21.90	21.85	
10	QPSK	1	49	21.80	21.87	21.77	
10	QPSK	25	0	21.16	21.24	21.09	22
10	QPSK	25	12	21.14	21.04	21.06	
10	QPSK	25	25	21.16	21.14	21.05	
10	QPSK	50	0	21.14	21.16	21.07	22
10	16QAM	1	0	20.62	20.76	20.62	
10	16QAM	1	25	20.57	20.75	20.61	
10	16QAM	1	49	20.57	20.68	20.59	21
10	16QAM	25	0	19.92	20.00	19.89	
10	16QAM	25	12	19.98	20.03	19.87	
10	16QAM	25	25	19.93	19.99	19.91	21
10	16QAM	50	0	19.89	20.05	19.88	
10	64QAM	1	0	21.36	21.47	21.34	
10	64QAM	1	25	21.30	21.43	21.30	21
10	64QAM	1	49	21.27	21.45	21.28	
10	64QAM	25	0	18.45	18.63	18.48	
10	64QAM	25	12	18.52	18.56	18.55	20
10	64QAM	25	25	18.50	18.60	18.53	
10	64QAM	50	0	18.48	18.63	18.43	
Channel				18625	18900	19175	Tune-up limit (dBm)
Frequency (MHz)				1852.5	1880	1907.5	
5	QPSK	1	0	21.84	21.92	21.90	23
5	QPSK	1	12	21.83	21.87	21.82	
5	QPSK	1	24	21.77	21.84	21.74	
5	QPSK	12	0	21.13	21.21	21.06	22
5	QPSK	12	7	21.11	21.01	21.03	
5	QPSK	12	13	21.13	21.11	21.02	
5	QPSK	25	0	21.11	21.13	21.04	22
5	16QAM	1	0	20.59	20.73	20.59	
5	16QAM	1	12	20.54	20.72	20.58	
5	16QAM	1	24	20.54	20.65	20.56	21
5	16QAM	12	0	19.89	19.97	19.86	
5	16QAM	12	7	19.95	20.00	19.84	
5	16QAM	12	13	19.90	19.96	19.88	21
5	16QAM	25	0	19.86	20.02	19.85	
5	64QAM	1	0	21.33	21.44	21.31	
5	64QAM	1	12	21.27	21.40	21.27	21
5	64QAM	1	24	21.24	21.42	21.25	
5	64QAM	12	0	18.42	18.60	18.45	
5	64QAM	12	7	18.49	18.53	18.52	20
5	64QAM	12	13	18.47	18.57	18.50	
5	64QAM	25	0	18.45	18.60	18.40	
Channel				18615	18900	19185	Tune-up limit (dBm)
Frequency (MHz)				1851.5	1880	1908.5	
3	QPSK	1	0	21.81	21.89	21.87	23
3	QPSK	1	8	21.80	21.84	21.79	
3	QPSK	1	14	21.74	21.81	21.71	
3	QPSK	8	0	21.10	21.18	21.03	22
3	QPSK	8	4	21.08	20.98	21.00	
3	QPSK	8	7	21.10	21.08	20.99	

Band 4 (AWS Band) (dBm) Part 27L (only on channel required)							
BW (MHz)	Modulation	RB Size	RB Offset	Low Channel	Middle Channel	High Channel	Tune-up limit (dBm)
Channel				20050	20175	20300	
Frequency (MHz)				1720	1732.5	1745	
20	QPSK	1	0	21.68	21.63	21.67	23
20	QPSK	1	49	21.72	21.75	21.65	
20	QPSK	1	99	21.67	21.69	21.71	
20	QPSK	50	0	20.94	21.01	20.97	22
20	QPSK	50	24	20.84	20.99	20.94	
20	QPSK	50	50	20.83	20.97	20.84	
20	QPSK	100	0	20.88	20.98	20.85	22
20	16QAM	1	0	20.99	21.05	20.96	
20	16QAM	1	49	20.87	21.02	21.00	
20	16QAM	1	99	20.93	21.04	20.93	21
20	16QAM	50	0	19.90	19.91	19.88	
20	16QAM	50	24	19.80	19.83	19.91	
20	16QAM	50	50	19.72	19.81	19.84	21
20	16QAM	100	0	19.70	19.79	19.76	
20	64QAM	1	0	19.73	19.82	19.73	
20	64QAM	1	49	19.80	19.72	19.79	21
20	64QAM	1	99	19.75	19.77	19.66	
20	64QAM	50	0	18.37	18.44	18.33	
20	64QAM	50	24	18.30	18.36	18.27	20
20	64QAM	50	50	18.28	18.29	18.25	
20	64QAM	100	0	18.29	18.34	18.30	
Channel				20025	20175	20325	Tune-up limit (dBm)
Frequency (MHz)				1717.5	1732.5	1747.5	
15	QPSK	1	0	21.62	21.79	21.67	23
15	QPSK	1	37	21.73	21.70	21.64	
15	QPSK	1	74	21.63	21.63	21.72	
15	QPSK	36	0	20.95	21.00	20.97	22
15	QPSK	36	20	20.80	20.98	20.93	
15	QPSK	36	39	20.78	20.93	20.84	
15	QPSK	75	0	20.87	20.94	20.86	22
15	16QAM	1	0	20.95	21.05	20.94	
15	16QAM	1	37	20.84	20.99	20.96	
15	16QAM	1	74	20.92	21.03	20.87	21
15	16QAM	36	0	19.85	19.91	19.84	
15	16QAM	36	20	19.79	19.79	19.90	
15	16QAM	36	39	19.70	19.77	19.82	21
15	16QAM	75	0	19.67	19.75	19.73	
15	64QAM	1	0	19.73	19.77	19.73	
15	64QAM	1	37	19.79	19.69	19.79	21
15	64QAM	1	74	19.73	19.75	19.64	
15	64QAM	36	0	18.36	18.38	18.29	
15	64QAM	36	20	18.31	18.31	18.28	20
15	64QAM	36	39	18.22	18.27	18.22	
15	64QAM	75	0	18.28	18.34	18.26	
Channel				20000	20175	20350	Tune-up limit (dBm)
Frequency (MHz)				1715	1732.5	1750	
10	QPSK	1	0	21.54	21.76	21.65	23
10	QPSK	1	25	21.70	21.68	21.60	
10	QPSK	1	49	21.57	21.58	21.67	
10	QPSK	25	0	20.90	20.94	20.92	22
10	QPSK	25	12	20.74	20.92	20.84	
10	QPSK	25	25	20.71	20.86	20.77	
10	QPSK	50	0	20.80	20.91	20.84	22
10	16QAM	1	0	20.92	21.02	20.87	
10	16QAM	1	25	20.80	20.95	20.89	
10	16QAM	1	49	20.87	21.01	20.84	21
10	16QAM	25	0	19.83	19.86	19.76	
10	16QAM	25	12	19.74	19.70	19.87	
10	16QAM	25	25	19.61	19.72	19.80	21
10	16QAM	50	0	19.64	19.69	19.69	
10	64QAM	1	0	19.69	19.73	19.68	
10	64QAM	1	25	19.75	19.62	19.71	21
10	64QAM	1	49	19.70	19.69	19.55	
10	64QAM	25	0	18.33	18.32	18.24	
10	64QAM	25	12	18.28	18.28	18.22	20
10	64QAM	25	25	18.16	18.21	18.19	
10	64QAM	50	0	18.20	18.25	18.19	
Channel				19975	20175	20375	Tune-up limit (dBm)
Frequency (MHz)				1712.5	1732.5	1752.5	
5	QPSK	1	0	21.48	21.69	21.58	23
5	QPSK	1	12	21.65	21.63	21.53	
5	QPSK	1	24	21.53	21.49	21.61	
5	QPSK	12	0	20.81	20.92	20.87	22
5	QPSK	12	7	20.70	20.89	20.79	
5	QPSK	12	13	20.64	20.83	20.69	
5	QPSK	25	0	20.72	20.87	20.78	22
5	16QAM	1	0	20.84	20.95	20.84	
5	16QAM	1	12	20.75	20.86	20.80	
5	16QAM	1	24	20.85	20.96	20.77	21
5	16QAM	12	0	19.74	19.82	19.74	
5	16QAM	12	7	19.67	19.66	19.79	
5	16QAM	12	13	19.56	19.66	19.76	21
5	16QAM	25	0	19.61	19.65	19.62	
5	64QAM	1	0	19.66	19.69	19.63	
5	64QAM	1	12	19.67	19.55	19.66	21
5	64QAM	1	24	19.64	19.67	19.52	
5	64QAM	12	0	18.27	18.26	18.16	
5	64QAM	12	7	18.21	18.20	18.13	20
5	64QAM	12	13	18.14	18.15	18.15	
5	64QAM	25	0	18.16	18.23	18.10	
Channel				19965	20175	20385	Tune-up limit (dBm)
Frequency (MHz)				1711.5	1732.5	1753.5	
3	QPSK	1	0	21.48	21.68	21.57	23
3	QPSK	1	8	21.65	21.60	21.54	
3	QPSK	1	14	21.49	21.52	21.62	
3	QPSK	8	0	20.88	20.89	20.87	22
3	QPSK	8	4	20.68	20.85	20.79	
3	QPSK	8	7	20.65	20.82	20.69	



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3	QPSK	15	0	21.08	21.10	21.01	22
3	16QAM	1	0	20.56	20.70	20.56	
3	16QAM	1	8	20.51	20.69	20.55	
3	16QAM	1	14	20.51	20.62	20.53	21
3	16QAM	8	0	19.86	19.94	19.83	
3	16QAM	8	4	19.92	19.97	19.81	
3	16QAM	8	7	19.87	19.93	19.85	21
3	16QAM	15	0	19.83	19.99	19.82	
3	64QAM	1	0	21.30	21.41	21.28	
3	64QAM	1	8	21.24	21.37	21.24	21
3	64QAM	1	14	21.21	21.39	21.22	
3	64QAM	8	0	18.39	18.57	18.42	
3	64QAM	8	4	18.46	18.50	18.49	20
3	64QAM	8	7	18.44	18.54	18.47	
3	64QAM	15	0	18.42	18.57	18.37	
Channel				18607	18900	19193	Tune-up limit (dBm)
Frequency (MHz)				1850.7	1880	1909.3	
1.4	QPSK	1	0	21.76	21.84	21.82	23
1.4	QPSK	1	3	21.75	21.79	21.74	
1.4	QPSK	1	5	21.69	21.76	21.66	
1.4	QPSK	3	0	21.05	21.13	20.98	
1.4	QPSK	3	1	21.03	20.93	20.95	
1.4	QPSK	3	3	21.05	21.03	20.94	
1.4	QPSK	6	0	21.03	21.05	20.96	22
1.4	16QAM	1	0	20.51	20.65	20.51	22
1.4	16QAM	1	3	20.46	20.64	20.50	
1.4	16QAM	1	5	20.46	20.57	20.48	
1.4	16QAM	3	0	19.81	19.89	19.78	
1.4	16QAM	3	1	19.87	19.92	19.76	
1.4	16QAM	3	3	19.82	19.88	19.80	
1.4	16QAM	6	0	19.78	19.94	19.77	21
1.4	64QAM	1	0	21.25	21.36	21.23	21
1.4	64QAM	1	3	21.19	21.32	21.19	
1.4	64QAM	1	5	21.16	21.34	21.17	
1.4	64QAM	3	0	18.34	18.52	18.37	
1.4	64QAM	3	1	18.41	18.45	18.44	
1.4	64QAM	3	3	18.39	18.49	18.42	
1.4	64QAM	6	0	18.37	18.52	18.32	20

3	QPSK	15	0	20.73	20.86	20.77	22
3	16QAM	1	0	20.89	21.00	20.83	
3	16QAM	1	8	20.73	20.90	20.83	
3	16QAM	1	14	20.79	20.99	20.80	21
3	16QAM	8	0	19.78	19.80	19.72	
3	16QAM	8	4	19.72	19.63	19.82	
3	16QAM	8	7	19.52	19.68	19.77	21
3	16QAM	15	0	19.60	19.62	19.64	
3	64QAM	1	0	19.61	19.70	19.62	
3	64QAM	1	8	19.72	19.58	19.64	21
3	64QAM	1	14	19.65	19.64	19.48	
3	64QAM	8	0	18.25	18.23	18.21	
3	64QAM	8	4	18.23	18.25	18.20	20
3	64QAM	8	7	18.08	18.16	18.15	
3	64QAM	15	0	18.14	18.17	18.15	
Channel				19957	20175	20393	Tune-up limit (dBm)
Frequency (MHz)				1710.7	1732.5	1754.3	
1.4	QPSK	1	0	21.63	21.77	21.63	23
1.4	QPSK	1	3	21.66	21.70	21.61	
1.4	QPSK	1	5	21.67	21.67	21.70	
1.4	QPSK	3	0	20.90	21.01	20.92	
1.4	QPSK	3	1	20.78	20.93	20.93	
1.4	QPSK	3	3	20.82	20.95	20.80	
1.4	QPSK	6	0	20.88	20.96	20.82	22
1.4	16QAM	1	0	21.00	21.01	20.95	22
1.4	16QAM	1	3	20.88	21.02	20.95	
1.4	16QAM	1	5	20.89	21.00	20.91	
1.4	16QAM	3	0	19.88	19.88	19.85	
1.4	16QAM	3	1	19.81	19.80	19.86	
1.4	16QAM	3	3	19.73	19.80	19.79	
1.4	16QAM	6	0	19.71	19.79	19.70	21
1.4	64QAM	1	0	19.70	19.81	19.71	21
1.4	64QAM	1	3	19.81	19.66	19.77	
1.4	64QAM	1	5	19.71	19.72	19.65	
1.4	64QAM	3	0	18.46	18.44	18.48	
1.4	64QAM	3	1	18.38	18.45	18.35	
1.4	64QAM	3	3	18.36	18.39	18.31	
1.4	64QAM	6	0	18.25	18.33	18.25	20



Band 5 (Celluar Band) (dBm) Part 22H(only on channel required)								
BW [MHz]	Modulation	RB Size	RB Offset	Low Channel	Middle Channel	High Channel	Tune-up limit (dBm)	
Channel				20450	20525	20600		
Frequency (MHz)				829	836.5	844		
10	QPSK	1	0	22.69	22.81	22.76	23.5	
10	QPSK	1	25	22.73	22.73	22.71		
10	QPSK	1	49	22.71	22.68	22.61		
10	QPSK	25	0	21.96	22.00	21.87	22.5	
10	QPSK	25	12	21.92	21.89	21.85		
10	QPSK	25	25	21.81	21.84	21.79		
10	QPSK	50	0	21.81	21.90	21.86	22.5	
10	16QAM	1	0	22.04	22.09	21.97		
10	16QAM	1	25	21.99	21.97	21.95		
10	16QAM	1	49	22.00	22.05	21.87	21.5	
10	16QAM	25	0	20.89	20.95	20.90		
10	16QAM	25	12	20.78	20.86	20.76		
10	16QAM	25	25	20.83	20.81	20.75	21.5	
10	16QAM	50	0	20.68	20.75	20.80		
10	64QAM	1	0	20.62	20.71	20.60		
10	64QAM	1	25	20.49	20.69	20.49	20.5	
10	64QAM	1	49	20.46	20.47	20.36		
10	64QAM	25	0	19.20	19.31	19.23		
10	64QAM	25	12	19.12	19.19	19.09	20.5	
10	64QAM	25	25	19.05	19.14	19.07		
10	64QAM	50	0	19.06	19.14	19.05		
Channel				20425	20525	20625	Tune-up limit (dBm)	
Frequency (MHz)				826.5	836.5	846.5		
5	QPSK	1	0	22.67	22.76	22.73	23.5	
5	QPSK	1	12	22.67	22.64	22.66		
5	QPSK	1	24	22.69	22.61	22.55		
5	QPSK	12	0	21.91	21.93	21.80	22.5	
5	QPSK	12	7	21.89	21.84	21.78		
5	QPSK	12	13	21.75	21.77	21.74		
5	QPSK	25	0	21.78	21.83	21.79	22.5	
5	16QAM	1	0	21.95	22.02	21.91		
5	16QAM	1	12	21.95	21.93	21.93		
5	16QAM	1	24	21.93	22.01	21.82	21.5	
5	16QAM	12	0	20.85	20.90	20.86		
5	16QAM	12	7	20.76	20.82	20.68		
5	16QAM	12	13	20.75	20.77	20.66	21.5	
5	16QAM	25	0	20.61	20.71	20.75		
5	64QAM	1	0	20.58	20.63	20.54		
5	64QAM	1	12	20.46	20.63	20.43	21.5	
5	64QAM	1	24	20.43	20.43	20.32		
5	64QAM	12	0	19.13	19.25	19.17		
5	64QAM	12	7	19.10	19.14	19.00	20.5	
5	64QAM	12	13	19.01	19.09	19.05		
5	64QAM	25	0	18.97	19.09	18.96		
Channel				20415	20525	20635	Tune-up limit (dBm)	
Frequency (MHz)				825.5	836.5	847.5		
3	QPSK	1	0	22.65	22.69	22.71	23.5	
3	QPSK	1	8	22.64	22.57	22.59		
3	QPSK	1	14	22.64	22.55	22.49		
3	QPSK	8	0	21.83	21.88	21.74	22.5	
3	QPSK	8	4	21.86	21.81	21.73		
3	QPSK	8	7	21.72	21.74	21.67		
3	QPSK	15	0	21.75	21.80	21.70	22.5	
3	16QAM	1	0	21.91	21.95	21.85		
3	16QAM	1	8	21.87	21.84	21.90		
3	16QAM	1	14	21.87	21.96	21.76	21.5	
3	16QAM	8	0	20.81	20.88	20.83		
3	16QAM	8	4	20.70	20.78	20.63		
3	16QAM	8	7	20.72	20.71	20.61	21.5	
3	16QAM	15	0	20.57	20.63	20.70		
3	64QAM	1	0	20.50	20.58	20.45		
3	64QAM	1	8	20.43	20.55	20.37	21.5	
3	64QAM	1	14	20.36	20.37	20.24		
3	64QAM	8	0	19.04	19.21	19.10		
3	64QAM	8	4	19.06	19.07	18.91	20.5	
3	64QAM	8	7	18.97	19.04	18.99		
3	64QAM	15	0	18.94	19.05	18.90		
Channel				20407	20525	20643	Tune-up limit (dBm)	
Frequency (MHz)				824.7	836.5	848.3		
1.4	QPSK	1	0	22.60	22.72	22.66	23.5	
1.4	QPSK	1	3	22.59	22.57	22.60		
1.4	QPSK	1	5	22.64	22.58	22.48		
1.4	QPSK	3	0	21.84	21.91	21.74	22.5	
1.4	QPSK	3	1	21.87	21.76	21.70		
1.4	QPSK	3	3	21.70	21.75	21.68		
1.4	QPSK	6	0	21.73	21.78	21.74	22.5	
1.4	16QAM	1	0	21.93	21.95	21.85		
1.4	16QAM	1	3	21.87	21.85	21.84		
1.4	16QAM	1	5	21.91	21.97	21.74	22.5	
1.4	16QAM	3	0	20.82	20.83	20.82		
1.4	16QAM	3	1	20.69	20.77	20.60		
1.4	16QAM	3	3	20.69	20.72	20.57	21.5	
1.4	16QAM	6	0	20.58	20.65	20.69		
1.4	64QAM	1	0	20.51	20.60	20.51		
1.4	64QAM	1	3	20.38	20.56	20.40	21.5	
1.4	64QAM	1	5	20.34	20.38	20.25		
1.4	64QAM	3	0	19.50	19.60	19.55		
1.4	64QAM	3	1	19.43	19.46	19.46	20.5	
1.4	64QAM	3	3	19.39	19.44	19.41		
1.4	64QAM	6	0	18.92	19.00	18.91		

Band 7 (2600MHz Band) (dBm)							
Part 27							
BW [MHz]	Modulation	RB Size	RB Offset	Low Channel	Middle Channel	High Channel	Tune-up limit (dBm)
Channel				20850	21100	21350	
Frequency (MHz)				2510	2535	2560	
20	QPSK	1	0	20.42	20.50	20.38	21.5
20	QPSK	1	49	20.34	20.43	20.37	
20	QPSK	1	99	20.24	20.33	20.27	
20	QPSK	50	0	19.59	19.69	19.57	20.5
20	QPSK	50	24	19.46	19.54	19.53	
20	QPSK	50	50	19.47	19.60	19.43	
20	QPSK	100	0	19.47	19.54	19.46	20.5
20	16QAM	1	0	19.65	19.69	19.68	
20	16QAM	1	49	19.57	19.69	19.55	
20	16QAM	1	99	19.60	19.61	19.54	19.5
20	16QAM	50	0	18.85	18.87	18.79	
20	16QAM	50	24	18.76	18.86	18.68	
20	16QAM	50	50	18.75	18.85	18.66	19.5
20	16QAM	100	0	18.71	18.76	18.68	
20	64QAM	1	0	18.55	18.66	18.55	
20	64QAM	1	49	18.53	18.58	18.48	19.5
20	64QAM	1	99	18.53	18.55	18.44	
20	64QAM	50	0	17.15	17.21	17.13	
20	64QAM	50	24	17.01	17.11	17.02	18.5
20	64QAM	50	50	16.91	17.02	16.91	
20	64QAM	100	0	16.98	17.00	16.91	
Channel				20825	21100	21375	Tune-up limit (dBm)
Frequency (MHz)				2507.5	2535	2562.5	
15	QPSK	1	0	20.37	20.46	20.33	21.5
15	QPSK	1	37	20.32	20.38	20.31	
15	QPSK	1	74	20.21	20.28	20.22	
15	QPSK	36	0	19.57	19.62	19.54	20.5
15	QPSK	36	20	19.43	19.50	19.48	
15	QPSK	36	39	19.40	19.53	19.38	
15	QPSK	75	0	19.41	19.51	19.41	20.5
15	16QAM	1	0	19.60	19.65	19.66	
15	16QAM	1	37	19.53	19.65	19.52	
15	16QAM	1	74	19.57	19.58	19.48	19.5
15	16QAM	36	0	18.82	18.83	18.73	
15	16QAM	36	20	18.72	18.81	18.63	
15	16QAM	36	39	18.72	18.78	18.60	19.5
15	16QAM	75	0	18.69	18.71	18.63	
15	64QAM	1	0	18.51	18.62	18.48	
15	64QAM	1	37	18.51	18.55	18.46	19.5
15	64QAM	1	74	18.48	18.50	18.39	
15	64QAM	36	0	17.11	17.16	17.09	
15	64QAM	36	20	16.98	17.07	16.99	18.5
15	64QAM	36	39	16.84	16.99	16.85	
15	64QAM	75	0	16.93	16.97	16.85	
Channel				20800	21100	21400	Tune-up limit (dBm)
Frequency (MHz)				2505	2535	2565	
10	QPSK	1	0	20.33	20.43	20.27	21.5
10	QPSK	1	25	20.30	20.34	20.27	
10	QPSK	1	49	20.17	20.26	20.18	
10	QPSK	25	0	19.55	19.59	19.48	20.5
10	QPSK	25	12	19.41	19.46	19.43	
10	QPSK	25	25	19.37	19.48	19.33	
10	QPSK	50	0	19.35	19.49	19.35	20.5
10	16QAM	1	0	19.56	19.62	19.62	
10	16QAM	1	25	19.50	19.60	19.47	
10	16QAM	1	49	19.52	19.55	19.42	19.5
10	16QAM	25	0	18.76	18.79	18.67	
10	16QAM	25	12	18.69	18.78	18.57	
10	16QAM	25	25	18.69	18.71	18.53	19.5
10	16QAM	50	0	18.66	18.68	18.58	
10	64QAM	1	0	18.49	18.58	18.44	
10	64QAM	1	25	18.48	18.51	18.42	18.5
10	64QAM	1	49	18.45	18.45	18.37	
10	64QAM	25	0	17.96	17.10	17.04	
10	64QAM	25	12	16.93	17.01	16.96	18.5
10	64QAM	25	25	16.78	16.97	16.82	
10	64QAM	50	0	16.87	16.92	16.78	
Channel				20775	21100	21425	Tune-up limit (dBm)
Frequency (MHz)				2502.5	2535	2567.5	
5	QPSK	1	0	20.33	20.44	20.27	21.5
5	QPSK	1	12	20.27	20.35	20.26	
5	QPSK	1	24	20.19	20.25	20.18	
5	QPSK	12	0	19.55	19.56	19.49	20.5
5	QPSK	12	7	19.38	19.44	19.45	
5	QPSK	12	13	19.34	19.47	19.34	
5	QPSK	25	0	19.35	19.45	19.36	20.5
5	16QAM	1	0	19.57	19.62	19.63	
5	16QAM	1	12	19.50	19.60	19.49	
5	16QAM	1	24	19.53	19.53	19.42	19.5
5	16QAM	12	0	18.79	18.79	18.66	
5	16QAM	12	7	18.65	18.77	18.57	
5	16QAM	12	13	18.70	18.71	18.56	19.5
5	16QAM	25	0	18.66	18.68	18.56	
5	64QAM	1	0	18.48	18.58	18.44	
5	64QAM	1	12	18.46	18.50	18.42	19.5
5	64QAM	1	24	18.45	18.46	18.32	
5	64QAM	12	0	17.07	17.10	17.04	
5	64QAM	12	7	16.96	17.04	16.96	18.5
5	64QAM	12	13	16.78	16.92	16.80	
5	64QAM	25	0	16.89	16.93	16.79	



Band 12 (700MHz Low Band) (dBm) Part 27F(only on channel required)							
BW [MHz]	Modulation	RB Size	RB Offset	Low Channel	Middle Channel	High Channel	Tune-up limit (dBm)
Channel				23060	23095	23130	
Frequency (MHz)				704	707.5	711	
10	QPSK	1	0	22.74	22.79	22.72	23.5
10	QPSK	1	25	22.68	22.77	22.72	
10	QPSK	1	49	22.74	22.75	22.60	
10	QPSK	25	0	21.94	22.06	21.90	22.5
10	QPSK	25	12	21.88	21.92	21.88	
10	QPSK	25	25	21.82	21.97	21.76	
10	QPSK	50	0	21.84	21.88	21.81	22.5
10	16QAM	1	0	21.86	21.96	21.85	
10	16QAM	1	25	21.78	21.94	21.77	
10	16QAM	1	49	21.71	21.94	21.80	21.5
10	16QAM	25	0	20.89	21.01	20.85	
10	16QAM	25	12	20.83	20.92	20.77	
10	16QAM	25	25	20.77	20.82	20.76	21.5
10	16QAM	50	0	20.71	20.87	20.73	
10	64QAM	1	0	20.75	20.79	20.75	
10	64QAM	1	25	20.82	20.76	20.72	20.5
10	64QAM	1	49	20.83	20.64	20.72	
10	64QAM	25	0	19.56	19.60	19.60	
10	64QAM	25	12	19.46	19.51	19.47	20.5
10	64QAM	25	25	19.44	19.46	19.50	
10	64QAM	50	0	19.50	19.40	19.42	
Channel				23035	23095	23155	Tune-up limit (dBm)
Frequency (MHz)				701.5	707.5	713.5	
5	QPSK	1	0	22.69	22.74	22.67	23.5
5	QPSK	1	12	22.63	22.72	22.67	
5	QPSK	1	24	22.69	22.70	22.55	
5	QPSK	12	0	21.89	22.01	21.85	22.5
5	QPSK	12	7	21.83	21.87	21.83	
5	QPSK	12	13	21.77	21.92	21.71	
5	QPSK	25	0	21.79	21.83	21.76	22.5
5	16QAM	1	0	21.81	21.91	21.80	
5	16QAM	1	12	21.73	21.89	21.72	
5	16QAM	1	24	21.66	21.89	21.75	21.5
5	16QAM	12	0	20.84	20.96	20.80	
5	16QAM	12	7	20.78	20.87	20.72	
5	16QAM	12	13	20.72	20.77	20.71	21.5
5	16QAM	25	0	20.66	20.82	20.68	
5	64QAM	1	0	20.70	20.74	20.70	
5	64QAM	1	12	20.77	20.71	20.67	21.5
5	64QAM	1	24	20.78	20.59	20.67	
5	64QAM	12	0	19.51	19.55	19.55	
5	64QAM	12	7	19.41	19.46	19.42	20.5
5	64QAM	12	13	19.39	19.41	19.45	
5	64QAM	25	0	19.45	19.35	19.37	
Channel				23025	23095	23165	Tune-up limit (dBm)
Frequency (MHz)				700.5	707.5	714.5	
3	QPSK	1	0	22.64	22.69	22.62	23.5
3	QPSK	1	8	22.58	22.67	22.62	
3	QPSK	1	14	22.64	22.65	22.50	
3	QPSK	8	0	21.84	21.96	21.80	22.5
3	QPSK	8	4	21.78	21.82	21.78	
3	QPSK	8	7	21.72	21.87	21.66	
3	QPSK	15	0	21.74	21.78	21.71	22.5
3	16QAM	1	0	21.76	21.86	21.75	
3	16QAM	1	8	21.68	21.84	21.67	
3	16QAM	1	14	21.61	21.84	21.70	21.5
3	16QAM	8	0	20.79	20.91	20.75	
3	16QAM	8	4	20.73	20.82	20.67	
3	16QAM	8	7	20.67	20.72	20.66	21.5
3	16QAM	15	0	20.61	20.77	20.63	
3	64QAM	1	0	20.65	20.69	20.65	
3	64QAM	1	8	20.72	20.66	20.62	21.5
3	64QAM	1	14	20.73	20.54	20.62	
3	64QAM	8	0	19.46	19.50	19.50	
3	64QAM	8	4	19.36	19.41	19.37	20.5
3	64QAM	8	7	19.34	19.36	19.40	
3	64QAM	15	0	19.40	19.30	19.32	
Channel				23017	23095	23173	Tune-up limit (dBm)
Frequency (MHz)				699.7	707.5	715.3	
1.4	QPSK	1	0	22.59	22.64	22.57	23.5
1.4	QPSK	1	3	22.53	22.62	22.57	
1.4	QPSK	1	5	22.59	22.60	22.45	
1.4	QPSK	3	0	21.79	21.91	21.75	22.5
1.4	QPSK	3	1	21.73	21.77	21.73	
1.4	QPSK	3	3	21.67	21.82	21.61	
1.4	QPSK	6	0	21.69	21.73	21.66	22.5
1.4	16QAM	1	0	21.71	21.81	21.70	
1.4	16QAM	1	3	21.63	21.79	21.62	
1.4	16QAM	1	5	21.56	21.79	21.65	22.5
1.4	16QAM	3	0	20.74	20.86	20.70	
1.4	16QAM	3	1	20.68	20.77	20.62	
1.4	16QAM	3	3	20.62	20.67	20.61	21.5
1.4	16QAM	6	0	20.56	20.72	20.58	
1.4	64QAM	1	0	20.60	20.64	20.60	
1.4	64QAM	1	3	20.67	20.61	20.57	21.5
1.4	64QAM	1	5	20.68	20.49	20.57	
1.4	64QAM	3	0	19.41	19.45	19.45	
1.4	64QAM	3	1	19.31	19.36	19.32	20.5
1.4	64QAM	3	3	19.29	19.31	19.35	
1.4	64QAM	6	0	19.35	19.25	19.27	

Band 17 (700MHz Band) (dBm) Part 27H(only on channel required)							
BW [MHz]	Modulation	RB Size	RB Offset	Low Channel	Middle Channel	High Channel	Tune-up limit (dBm)
Channel				23780	23790	23800	
Frequency (MHz)				709	710	711	
10	QPSK	1	0	22.65	22.76	22.63	23.5
10	QPSK	1	25	22.61	22.73	22.60	
10	QPSK	1	49	22.60	22.65	22.53	
10	QPSK	25	0	21.85	21.91	21.85	22.5
10	QPSK	25	12	21.80	21.82	21.75	
10	QPSK	25	25	21.77	21.78	21.66	
10	QPSK	50	0	21.72	21.75	21.67	22.5
10	16QAM	1	0	21.87	21.94	21.88	
10	16QAM	1	25	21.85	21.92	21.80	
10	16QAM	1	49	21.74	21.93	21.74	21.5
10	16QAM	25	0	20.84	20.96	20.86	
10	16QAM	25	12	20.72	20.88	20.77	
10	16QAM	25	25	20.76	20.83	20.73	21.5
10	16QAM	50	0	20.73	20.85	20.68	
10	64QAM	1	0	20.62	20.73	20.54	
10	64QAM	1	25	20.57	20.61	20.55	21.5
10	64QAM	1	49	20.50	20.72	20.54	
10	64QAM	25	0	19.42	19.46	19.34	
10	64QAM	25	12	19.23	19.44	19.33	20.5
10	64QAM	25	25	19.32	19.34	19.25	
10	64QAM	50	0	19.21	19.37	19.19	
Channel				23755	23790	23825	Tune-up limit (dBm)
Frequency (MHz)				706.5	710	713.5	
5	QPSK	1	0	22.59	22.72	22.58	23.5
5	QPSK	1	12	22.50	22.66	22.56	
5	QPSK	1	24	22.53	22.58	22.48	
5	QPSK	12	0	21.80	21.88	21.79	22.5
5	QPSK	12	7	21.75	21.72	21.67	
5	QPSK	12	13	21.70	21.68	21.59	
5	QPSK	25	0	21.65	21.66	21.59	22.5
5	16QAM	1	0	21.82	21.92	21.81	
5	16QAM	1	12	21.78	21.88	21.75	
5	16QAM	1	24	21.68	21.87	21.72	21.5
5	16QAM	12	0	20.76	20.92	20.79	
5	16QAM	12	7	20.68	20.83	20.71	
5	16QAM	12	13	20.69	20.79	20.66	21.5
5	16QAM	25	0	20.66	20.80	20.61	
5	64QAM	1	0	20.58	20.68	20.51	
5	64QAM	1	12	20.54	20.55	20.48	21.5
5	64QAM	1	24	20.45	20.68	20.45	
5	64QAM	12	0	19.37	19.39	19.25	
5	64QAM	12	7	19.17	19.38	19.25	20.5
5	64QAM	12	13	19.28	19.26	19.17	
5	64QAM	25	0	19.16	19.32	19.14	



Band 66 (dBm)							
BW [MHz]	Modulation	RB Size	RB Offset	Low Channel	Middle Channel	High Channel	Tune-up limit (dBm)
Channel				132072	132322	132572	
Frequency (MHz)				1720	1745	1770	
20	QPSK	1	0	22.03	22.12	21.97	23
20	QPSK	1	49	22.00	22.10	22.04	
20	QPSK	1	99	21.90	22.04	21.92	
20	QPSK	50	0	21.23	21.38	21.29	22
20	QPSK	50	24	21.16	21.23	21.14	
20	QPSK	50	50	21.06	21.25	21.15	
20	QPSK	100	0	21.08	21.16	21.14	22
20	16QAM	1	0	21.36	21.32	21.31	
20	16QAM	1	49	21.38	21.40	21.38	
20	16QAM	1	99	21.23	21.38	21.31	21
20	16QAM	50	0	20.36	20.38	20.40	
20	16QAM	50	24	20.29	20.29	20.26	
20	16QAM	50	50	20.27	20.23	20.26	21
20	16QAM	100	0	20.22	20.29	20.19	
20	64QAM	1	0	20.07	20.14	20.18	
20	64QAM	1	49	20.00	20.03	20.14	20
20	64QAM	1	99	20.12	19.99	20.09	
20	64QAM	50	0	18.90	18.96	18.96	
20	64QAM	50	24	18.84	18.79	18.77	20
20	64QAM	50	50	18.75	18.78	18.72	
20	64QAM	100	0	18.76	18.78	18.78	
Channel				132047	132322	132597	Tune-up limit (dBm)
Frequency (MHz)				1717.5	1745	1772.5	
15	QPSK	1	0	22.00	22.05	21.93	23
15	QPSK	1	37	21.90	22.03	21.93	
15	QPSK	1	74	21.84	21.95	21.82	
15	QPSK	36	0	21.17	21.32	21.25	22
15	QPSK	36	20	21.09	21.13	21.07	
15	QPSK	36	39	20.99	21.19	21.09	
15	QPSK	75	0	20.99	21.05	21.07	22
15	16QAM	1	0	21.33	21.29	21.29	
15	16QAM	1	37	21.32	21.38	21.33	
15	16QAM	1	74	21.18	21.32	21.23	21
15	16QAM	36	0	20.29	20.34	20.38	
15	16QAM	36	20	20.21	20.25	20.20	
15	16QAM	36	39	20.21	20.20	20.19	21
15	16QAM	75	0	20.19	20.23	20.13	
15	64QAM	1	0	20.03	20.07	20.14	
15	64QAM	1	37	19.91	19.98	20.07	20
15	64QAM	1	74	20.04	19.94	20.03	
15	64QAM	36	0	18.86	18.92	18.87	
15	64QAM	36	20	18.77	18.73	18.72	20
15	64QAM	36	39	18.71	18.69	18.68	
15	64QAM	75	0	18.72	18.69	18.76	
Channel				132022	132322	132622	Tune-up limit (dBm)
Frequency (MHz)				1715	1745	1775	
10	QPSK	1	0	21.95	22.01	21.85	23
10	QPSK	1	25	21.85	21.93	21.82	
10	QPSK	1	49	21.73	21.84	21.71	
10	QPSK	25	0	21.08	21.29	21.20	22
10	QPSK	25	12	21.01	21.07	20.98	
10	QPSK	25	25	20.88	21.09	20.99	
10	QPSK	50	0	20.90	20.96	20.96	22
10	16QAM	1	0	21.28	21.23	21.24	
10	16QAM	1	25	21.25	21.34	21.30	
10	16QAM	1	49	21.12	21.25	21.19	21
10	16QAM	25	0	20.21	20.27	20.33	
10	16QAM	25	12	20.12	20.16	20.13	
10	16QAM	25	25	20.13	20.15	20.12	21
10	16QAM	50	0	20.16	20.15	20.05	
10	64QAM	1	0	19.99	19.98	20.08	
10	64QAM	1	25	19.85	19.90	20.02	20
10	64QAM	1	49	20.00	19.90	19.97	
10	64QAM	25	0	18.80	18.89	18.85	
10	64QAM	25	12	18.74	18.64	18.69	20
10	64QAM	25	25	18.67	18.67	18.64	
10	64QAM	50	0	18.70	18.65	18.74	
Channel				131997	132322	132647	Tune-up limit (dBm)
Frequency (MHz)				1712.5	1745	1777.5	
5	QPSK	1	0	21.93	21.97	21.88	23
5	QPSK	1	12	21.81	21.94	21.89	
5	QPSK	1	24	21.78	21.87	21.76	
5	QPSK	12	0	21.11	21.23	21.19	22
5	QPSK	12	7	21.01	21.02	21.01	
5	QPSK	12	13	20.90	21.11	21.03	
5	QPSK	25	0	20.89	20.92	20.96	22
5	16QAM	1	0	21.25	21.20	21.24	
5	16QAM	1	12	21.26	21.30	21.24	
5	16QAM	1	24	21.12	21.25	21.20	21
5	16QAM	12	0	20.26	20.26	20.30	
5	16QAM	12	7	20.16	20.19	20.11	
5	16QAM	12	13	20.16	20.15	20.16	21
5	16QAM	25	0	20.16	20.20	20.08	
5	64QAM	1	0	19.99	19.99	20.10	
5	64QAM	1	12	19.82	19.92	20.04	20
5	64QAM	1	24	19.97	19.90	19.99	
5	64QAM	12	0	18.83	18.87	18.78	
5	64QAM	12	7	18.71	18.67	18.69	20
5	64QAM	12	13	18.67	18.65	18.65	
5	64QAM	25	0	18.65	18.61	18.72	
Channel				131987	132322	132657	Tune-up limit (dBm)
Frequency (MHz)				1711.5	1745	1778.5	
3	QPSK	1	0	21.87	21.98	21.80	23
3	QPSK	1	8	21.75	21.91	21.76	
3	QPSK	1	14	21.60	21.75	21.65	
3	QPSK	8	0	21.06	21.16	21.14	22
3	QPSK	8	4	20.96	21.00	20.93	
3	QPSK	8	7	20.84	21.00	20.95	

Band 71 (dBm)							
BW [MHz]	Modulation	RB Size	RB Offset	Low Channel	Middle Channel	High Channel	Tune-up limit (dBm)
Channel				133222	133322	133372	
Frequency (MHz)				673	683	688	
20	QPSK	1	0	22.58	22.61	22.60	23.5
20	QPSK	1	49	22.58	22.54	22.45	
20	QPSK	1	99	22.40	22.55	22.41	
20	QPSK	50	0	21.77	21.90	21.75	22.5
20	QPSK	50	24	21.62	21.70	21.62	
20	QPSK	50	50	21.64	21.67	21.57	
20	QPSK	100	0	21.67	21.74	21.66	22.5
20	16QAM	1	0	21.82	21.93	21.84	
20	16QAM	1	49	21.71	21.79	21.68	
20	16QAM	1	99	21.67	21.85	21.75	21.5
20	16QAM	50	0	20.75	20.86	20.84	
20	16QAM	50	24	20.66	20.72	20.74	
20	16QAM	50	50	20.63	20.81	20.63	21.5
20	16QAM	100	0	20.62	20.74	20.58	
20	64QAM	1	0	20.49	20.52	20.46	
20	64QAM	1	49	20.35	20.54	20.44	21.5
20	64QAM	1	99	20.30	20.39	20.37	
20	64QAM	50	0	19.36	19.49	19.38	
20	64QAM	50	24	19.18	19.39	19.29	20.5
20	64QAM	50	50	19.27	19.30	19.20	
20	64QAM	100	0	19.14	19.34	19.18	
Channel				133197	133297	133397	Tune-up limit (dBm)
Frequency (MHz)				670.5	680.5	690.5	
15	QPSK	1	0	22.52	22.59	22.52	23.5
15	QPSK	1	37	22.53	22.43	22.37	
15	QPSK	1	74	22.32	22.47	22.31	
15	QPSK	36	0	21.74	21.85	21.68	22.5
15	QPSK	36	20	21.57	21.61	21.53	
15	QPSK	36	39	21.55	21.58	21.46	
15	QPSK	75	0	21.58	21.67	21.59	22.5
15	16QAM	1	0	21.79	21.86	21.79	
15	16QAM	1	37	21.63	21.74	21.63	
15	16QAM	1	74	21.59	21.79	21.70	21.5
15	16QAM	36	0	20.68	20.80	20.80	
15	16QAM	36	20	20.60	20.65	20.71	
15	16QAM	36	39	20.55	20.74	20.54	21.5
15	16QAM	75	0	20.58	20.72	20.53	
15	64QAM	1	0	20.42	20.43	20.43	
15	64QAM	1	37	20.33	20.49	20.38	21.5
15	64QAM	1	74	20.23	20.37	20.28	
15	64QAM	36	0	19.28	19.41	19.31	
15	64QAM	36	20	19.11	19.34	19.26	20.5
15	64QAM	36	39	19.19	19.23	19.16	
15	64QAM	75	0	19.09	19.28	19.15	
Channel				133172	133272	133422	Tune-up limit (dBm)
Frequency (MHz)				668	678	693	
10	QPSK	1	0	22.52	22.57	22.53	23.5
10	QPSK	1	25	22.50	22.45	22.39	
10	QPSK	1	49	22.34	22.43	22.34	
10	QPSK	25	0	21.73	21.84	21.71	22.5
10	QPSK	25	12	21.51	21.62	21.54	
10	QPSK	25	25	21.56	21.61	21.48	
10	QPSK	50	0	21.60	21.63	21.59	22.5
10	16QAM	1	0	21.76	21.88	21.80	
10	16QAM	1	25	21.66	21.72	21.62	
10	16QAM	1	49	21.59	21.82	21.72	21.5
10	16QAM	25	0	20.69	20.82	20.81	
10	16QAM	25	12	20.61	20.65	20.69	
10	16QAM	25	25	20.56	20.77	20.57	21.5
10	16QAM	50	0	20.60	20.71	20.52	
10	64QAM	1	0	20.41	20.46	20.44	
10	64QAM	1	25	20.32	20.46	20.36	21.5
10	64QAM	1	49	20.22	20.35	20.33	
10	64QAM	25	0	19.32	19.45	19.33	
10	64QAM	25	12	19.14	19.35	19.26	20.5
10	64QAM	25	25	19.23	19.24	19.16	
10	64QAM	50	0	19.11	19.29	19.15	
Channel				133147	133247	133447	Tune-up limit (dBm)
Frequency (MHz)				665.5	675.5	695.5	
5	QPSK	1	0	22.47	22.53	22.48	23.5
5	QPSK	1	12	22.46	22.41	22.34	
5	QPSK	1	24	22.26	22.33	22.25	
5	QPSK	12	0	21.68	21.79	21.64	22.5
5	QPSK	12	7	21.44	21.52	21.48	
5	QPSK	12	13	21.48	21.56	21.41	
5	QPSK	25	0	21.50	21.53	21.47	22.5
5	16QAM	1	0	21.72	21.83	21.75	
5	16QAM	1	12	21.58	21.65	21.55	
5	16QAM	1	24	21.53	21.80	21.66	22.5
5	16QAM	12	0	20.60	20.75	20.76	
5	16QAM	12	7	20.58	20.62	20.61	
5	16QAM	12	13	20.47	20.72	20.53	21.5
5	16QAM	25	0	20.58	20.64	20.49	
5	64QAM	1	0	20.37	20.38	20.40	
5	64QAM	1	12	20.27	20.41	20.30	21.5
5	64QAM	1	24	20.14	20.28	20.24	
5	64QAM	12	0	19.28	19.43	19.30	
5	64QAM	12	7	19.05	19.31	19.22	20.5
5	64QAM	12	13	19.17	19.21	19.13	
5	64QAM	25	0	19.03	19.25	19.10	



3	QPSK	15	0	20.85	20.90	20.93	22
3	16QAM	1	0	21.20	21.20	21.23	
3	16QAM	1	8	21.18	21.26	21.25	
3	16QAM	1	14	21.05	21.25	21.10	21
3	16QAM	8	0	20.19	20.26	20.28	
3	16QAM	8	4	20.08	20.20	20.04	
3	16QAM	8	7	20.10	20.12	20.12	21
3	16QAM	15	0	20.03	20.17	20.05	
3	64QAM	1	0	19.90	19.96	20.02	
3	64QAM	1	8	19.80	19.85	19.99	20
3	64QAM	1	14	19.94	19.81	19.91	
3	64QAM	8	0	18.74	18.78	18.73	
3	64QAM	8	4	18.68	18.61	18.62	20
3	64QAM	8	7	18.59	18.61	18.59	
3	64QAM	15	0	18.59	18.60	18.64	
Channel				131979	132322	132665	Tune-up limit (dBm)
Frequency (MHz)				1710.7	1745	1779.3	
1.4	QPSK	1	0	21.89	21.98	21.81	23
1.4	QPSK	1	3	21.75	21.92	21.79	
1.4	QPSK	1	5	21.63	21.76	21.61	
1.4	QPSK	3	0	21.03	21.20	21.14	
1.4	QPSK	3	1	20.98	20.98	20.96	
1.4	QPSK	3	3	20.87	21.03	20.90	
1.4	QPSK	6	0	20.80	20.89	20.88	22
1.4	16QAM	1	0	21.21	21.21	21.22	22
1.4	16QAM	1	3	21.17	21.27	21.24	
1.4	16QAM	1	5	21.09	21.26	21.06	
1.4	16QAM	3	0	20.19	20.23	20.28	
1.4	16QAM	3	1	20.08	20.19	20.10	
1.4	16QAM	3	3	20.10	20.09	20.09	
1.4	16QAM	6	0	20.04	20.16	20.07	21
1.4	64QAM	1	0	19.92	19.94	20.02	21
1.4	64QAM	1	3	19.77	19.88	19.97	
1.4	64QAM	1	5	19.88	19.82	19.91	
1.4	64QAM	3	0	18.75	18.81	18.78	
1.4	64QAM	3	1	18.85	18.80	18.88	
1.4	64QAM	3	3	18.80	18.78	18.78	
1.4	64QAM	6	0	18.59	18.53	18.59	20



2.4GHz WLAN ANT 1

	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Power Setting	Duty Cycle %
2.4GHz WLAN ANT 1	802.11b 1Mbps	CH 1	2412	16.56	17.50	15.00	98.54
		CH 7	2437	13.35	14.00	15.00	
		CH 13	2462	15.12	16.00	15.00	
	802.11g 6Mbps	CH 1	2412	15.12	16.00	13.00	92.07
		CH 7	2437	12.52	13.50	13.00	
		CH 13	2462	8.76	9.50	7.00	
	802.11n-HT20 MCS0	CH 1	2412	14.36	15.00	12.00	90.98
		CH 7	2437	11.54	12.50	12.00	
		CH 13	2462	6.39	7.00	5.00	
	802.11n-HT40 MCS0	CH 3	2422	12.59	13.50	12.00	84.55
		CH 7	2442	11.67	12.50	12.00	
		CH 11	2462	7.65	8.50	7.00	

5GHz WLAN ANT 1

	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Power Setting	Duty Cycle %
5.2GHz WLAN ANT 1	802.11a 6Mbps	CH 36	5180	11.12	12.00	14.00	92.00
		CH 44	5220	12.39	13.00	15.00	
		CH 48	5240	12.89	13.50	15.00	
	802.11n-HT20 MCS0	CH 36	5180	11.83	12.50	15.00	90.24
		CH 44	5220	12.36	13.00	15.00	
		CH 48	5240	12.36	13.00	15.00	
	802.11n-HT40 MCS0	CH 36	5190	7.80	8.50	11.00	83.09
		CH 46	5230	12.25	13.00	15.00	
		CH 36	5180	11.81	12.50	15.00	90.64
	802.11ac-VHT20 MCS0	CH 44	5220	12.41	13.00	15.00	
		CH 48	5240	12.41	13.00	15.00	
	802.11ac-VHT40 MCS0	CH 38	5190	11.83	12.50	15.00	82.69
		CH 46	5230	12.25	13.00	15.00	
		CH 42	5210	8.15	9.00	11.00	23.38

5GHz WLAN ANT 1

	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Power Setting	Duty Cycle %
5.3GHz WLAN ANT 1	802.11a 6Mbps	CH 52	5260	14.69	15.50	16.00	92.00
		CH 60	5300	14.72	15.50	16.00	
		CH 64	5320	13.49	14.00	15.00	
	802.11n-HT20 MCS0	CH 52	5260	14.21	15.00	16.00	90.24
		CH 60	5300	14.27	15.00	16.00	
		CH 64	5320	13.88	14.50	16.00	
	802.11n-HT40 MCS0	CH 54	5270	14.06	15.00	16.00	83.09
		CH 62	5310	9.75	10.50	11.00	
		CH 52	5260	14.21	15.00	16.00	90.64
	802.11ac-VHT20 MCS0	CH 60	5300	14.31	15.00	16.00	
		CH 64	5320	13.62	14.50	16.00	
	802.11ac-VHT40 MCS0	CH 54	5270	14.02	15.00	16.00	82.69
		CH 62	5310	14.12	15.00	16.00	
		CH 58	5290	10.56	11.50	14.00	23.38

5GHz WLAN ANT 1

	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Power Setting	Duty Cycle %
5.5GHz WLAN ANT 1	802.11a 6Mbps	CH 100	5500	15.22	16.00	16.00	92.00
		CH 120	5600	13.59	14.50	16.00	
		CH 140	5700	11.74	12.50	16.00	
	802.11n-HT20 MCS0	CH 100	5500	14.74	15.50	16.00	90.24
		CH 120	5600	13.64	14.50	16.00	
		CH 140	5700	11.87	12.50	16.00	
	802.11n-HT40 MCS0	CH 102	5510	9.02	10.00	9.00	83.09
		CH 126	5630	13.19	14.00	16.00	
		CH 134	5670	12.81	13.50	16.00	90.64
	802.11ac-VHT20 MCS0	CH 100	5500	14.81	15.50	16.00	
		CH 120	5600	13.79	14.50	16.00	
		CH 140	5700	11.90	12.50	16.00	82.69
	802.11ac-VHT40 MCS0	CH 102	5510	14.77	15.50	16.00	
		CH 126	5630	13.33	14.00	16.00	
		CH 134	5670	12.94	13.50	16.00	23.38
	802.11ac-VHT80 MCS0	CH 106	5530	9.66	10.50	12.00	
		CH 122	5610	13.48	14.00	18.00	
		CH 138	5690	12.18	13.00	18.00	

5GHz WLAN ANT 1

	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Power Setting	Duty Cycle %
5.8GHz WLAN ANT 1	802.11a 6Mbps	CH 149	5745	11.53	12.50	16.00	92.00
		CH 157	5785	9.75	10.50	16.00	
		CH 165	5825	8.36	9.00	16.00	90.24
	802.11n-HT20 MCS0	CH 149	5745	11.59	12.50	16.00	
		CH 157	5785	9.91	10.50	16.00	
		CH 165	5825	8.62	9.50	16.00	83.09
	802.11n-HT40 MCS0	CH 151	5755	11.53	12.50	16.00	
		CH 159	5795	9.62	10.30	16.00	
		CH 149	5745	11.69	12.50	16.00	90.64
	802.11ac-VHT20 MCS0	CH 157	5785	10.12	11.00	16.00	
		CH 165	5825	8.70	9.50	16.00	
	802.11ac-VHT40 MCS0	CH 151	5755	11.60	12.50	16.00	82.69
		CH 159	5795	9.73	10.50	16.00	
		CH 155	5775	11.36	12.00	18.00	23.38

Mode	Channel	Frequency (MHz)	Average power (dBm)		
			1Mbps	2Mbps	3Mbps
BR / EDR	CH 00	2402	7.26	5.39	5.56
	CH 39	2441	6.35	5.56	5.74
	CH 76	2480	5.80	4.89	4.96
Tune-up Limit			8	6	6
Duty Cycle %			77.6	77.54	77.54

Mode	Channel	Frequency (MHz)	Average power (dBm)	
			1Mbps	2Mbps
LE	CH 00	2402	-3.83	-3.39
	CH 19	2440	-2.88	-2.65
	CH 39	2480	-3.25	-3.21
Tune-up Limit			0.5	0.5
Duty Cycle %			32	33.33



Reduced Power

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		27.10	27.03	27.08	28.00	18.10	18.03	18.08	19.00
GPRS 1 Tx slot		27.37	27.27	27.39	28.50	18.37	18.27	18.39	19.50
GPRS 2 Tx slots		24.87	24.89	24.83	26.00	18.87	18.89	18.83	20.00
GPRS 3 Tx slots		23.03	22.91	22.96	24.00	18.77	18.65	18.70	19.74
GPRS 4 Tx slots		20.38	20.35	20.45	21.50	17.38	17.35	17.45	18.50
EDGE 1 Tx slot		24.13	24.10	24.17	25.00	15.13	15.10	15.17	16.00
EDGE 2 Tx slots		22.06	22.00	22.03	23.00	16.06	16.00	16.03	17.00
EDGE 3 Tx slots		20.19	20.10	20.16	21.00	15.93	15.84	15.90	16.74
EDGE 4 Tx slots		18.11	18.00	18.04	19.00	15.11	15.00	15.04	16.00
Mode			Max.	27.39			Max.	18.89	
Attenuator		Cable Loss : 0.8							

Band		WCDMA Band II (dBm)			Tune-up Limit (dBm)	WCDMA Band IV (dBm)			Tune-up Limit (dBm)
TX Channel		9262	9400	9538		1312	1413	1513	
Rx Channel		9662	9800	9938		1537	1638	1738	
Frequency (MHz)		1852.4	1880	1907.6		1712.4	1732.6	1752.6	
3GPP Rel 99	RMC 12.2Kbps	17.88	17.96	17.80	19.00	17.77	17.89	17.79	19.00
3GPP Rel 6	HSDPA Subtest-1	17.82	17.75	17.57	18.50	17.58	17.50	17.53	18.50
3GPP Rel 6	HSDPA Subtest-2	17.48	17.42	17.21	18.00	17.56	17.52	17.55	18.50
3GPP Rel 6	HSDPA Subtest-3	16.75	16.64	16.44	17.50	17.54	17.55	17.52	18.50
3GPP Rel 6	HSDPA Subtest-4	17.34	17.28	17.09	18.00	17.56	17.57	17.53	18.50
3GPP Rel 6	HSUPA Subtest-1	17.86	17.75	17.57	18.50	17.55	17.58	17.41	18.50
3GPP Rel 6	HSUPA Subtest-2	17.86	17.74	17.62	18.50	17.54	17.50	17.35	18.50
3GPP Rel 6	HSUPA Subtest-3	17.84	17.73	17.59	18.50	17.55	17.54	17.37	18.50
3GPP Rel 6	HSUPA Subtest-4	17.84	17.79	17.58	18.50	17.53	17.51	17.34	18.50
3GPP Rel 6	HSUPA Subtest-5	17.77	17.77	17.54	18.50	17.56	17.52	17.38	18.50
3GPP Rel 7	HSPA+ (16QAM) Subtest-1	17.81	17.76	17.54	18.50	17.55	17.54	17.40	18.50
Attenuator		Cable Loss				Cable Loss			
Mode			Max.	17.96			Max.	17.89	



Band 2 (1900MHz Band) (dBm) Part 24E							
BW (MHz)	Modulation	RB Size	RB Offset	Low Channel	Middle Channel	High Channel	Tune-up limit (dBm)
Channel				18700	18900	19100	
Frequency (MHz)				1860	1880	1900	
20	QPSK	1	0	15.93	16.01	15.99	17
20	QPSK	1	49	15.92	15.96	15.91	
20	QPSK	1	99	15.86	15.93	15.83	
20	QPSK	50	0	15.22	15.30	15.15	
20	QPSK	50	24	15.20	15.10	15.12	16
20	QPSK	50	50	15.22	15.20	15.11	
20	QPSK	100	0	15.20	15.22	15.13	
20	16QAM	1	0	14.98	15.12	14.98	
20	16QAM	1	49	14.93	15.11	14.97	16
20	16QAM	1	99	14.93	15.04	14.95	
20	16QAM	50	0	14.28	14.36	14.25	
20	16QAM	50	24	14.34	14.39	14.23	
20	16QAM	50	50	14.29	14.35	14.27	15
20	16QAM	100	0	14.25	14.41	14.24	
20	64QAM	1	0	14.42	14.53	14.40	
20	64QAM	1	49	14.36	14.49	14.36	
20	64QAM	1	99	14.33	14.51	14.34	15
20	64QAM	50	0	12.81	12.99	12.84	
20	64QAM	50	24	12.88	12.92	12.91	
20	64QAM	50	50	12.86	12.96	12.89	
20	64QAM	100	0	12.84	12.99	12.79	14
Channel				18675	18900	19125	
Frequency (MHz)				1857.5	1880	1902.5	Tune-up limit (dBm)
15	QPSK	1	0	15.90	15.98	15.96	17
15	QPSK	1	37	15.89	15.93	15.88	
15	QPSK	1	74	15.83	15.90	15.80	
15	QPSK	36	0	15.19	15.27	15.12	
15	QPSK	36	20	15.17	15.07	15.09	16
15	QPSK	36	39	15.19	15.17	15.08	
15	QPSK	75	0	15.17	15.19	15.10	
15	16QAM	1	0	14.95	15.09	14.95	
15	16QAM	1	37	14.90	15.08	14.94	16
15	16QAM	1	74	14.90	15.01	14.92	
15	16QAM	36	0	14.25	14.33	14.22	
15	16QAM	36	20	14.31	14.36	14.20	
15	16QAM	36	39	14.26	14.32	14.24	15
15	16QAM	75	0	14.22	14.38	14.21	
15	64QAM	1	0	14.39	14.50	14.37	
15	64QAM	1	37	14.33	14.46	14.33	
15	64QAM	1	74	14.30	14.48	14.31	15
15	64QAM	36	0	12.78	12.96	12.81	
15	64QAM	36	20	12.85	12.89	12.88	
15	64QAM	36	39	12.83	12.93	12.86	
15	64QAM	75	0	12.81	12.96	12.76	14
Channel				18650	18900	19150	Tune-up limit (dBm)
Frequency (MHz)				1855	1880	1905	
10	QPSK	1	0	15.87	15.95	15.93	17
10	QPSK	1	25	15.86	15.90	15.85	
10	QPSK	1	49	15.80	15.87	15.77	
10	QPSK	25	0	15.16	15.24	15.09	
10	QPSK	25	12	15.14	15.04	15.06	16
10	QPSK	25	25	15.16	15.14	15.05	
10	QPSK	50	0	15.14	15.16	15.07	
10	16QAM	1	0	14.92	15.06	14.92	
10	16QAM	1	25	14.87	15.05	14.91	16
10	16QAM	1	49	14.87	14.98	14.89	
10	16QAM	25	0	14.22	14.30	14.19	
10	16QAM	25	12	14.28	14.33	14.17	
10	16QAM	25	25	14.23	14.29	14.21	15
10	16QAM	50	0	14.19	14.35	14.18	
10	64QAM	1	0	14.36	14.47	14.34	
10	64QAM	1	25	14.30	14.43	14.30	
10	64QAM	1	49	14.27	14.45	14.28	15
10	64QAM	25	0	12.75	12.93	12.78	
10	64QAM	25	12	12.82	12.86	12.85	
10	64QAM	25	25	12.80	12.90	12.83	
10	64QAM	50	0	12.78	12.93	12.73	14
Channel				18625	18900	19175	
Frequency (MHz)				1852.5	1880	1907.5	Tune-up limit (dBm)
5	QPSK	1	0	15.84	15.92	15.90	17
5	QPSK	1	12	15.83	15.87	15.82	
5	QPSK	1	24	15.77	15.84	15.74	
5	QPSK	12	0	15.13	15.21	15.06	
5	QPSK	12	7	15.11	15.01	15.03	16
5	QPSK	12	13	15.13	15.11	15.02	
5	QPSK	25	0	15.11	15.13	15.04	
5	16QAM	1	0	14.89	15.03	14.89	
5	16QAM	1	12	14.84	15.02	14.88	16
5	16QAM	1	24	14.84	14.95	14.86	
5	16QAM	12	0	14.19	14.27	14.16	
5	16QAM	12	7	14.25	14.30	14.14	
5	16QAM	12	13	14.20	14.26	14.18	15
5	16QAM	25	0	14.16	14.32	14.15	
5	64QAM	1	0	14.33	14.44	14.31	
5	64QAM	1	12	14.27	14.40	14.27	
5	64QAM	1	24	14.24	14.42	14.25	15
5	64QAM	12	0	12.72	12.90	12.75	
5	64QAM	12	7	12.79	12.83	12.82	
5	64QAM	12	13	12.77	12.87	12.80	
5	64QAM	25	0	12.75	12.90	12.70	14
Channel				18615	18900	19185	
Frequency (MHz)				1851.5	1880	1908.5	Tune-up limit (dBm)
3	QPSK	1	0	15.81	15.89	15.87	17
3	QPSK	1	8	15.80	15.84	15.79	
3	QPSK	1	14	15.74	15.81	15.71	
3	QPSK	8	0	15.10	15.18	15.03	
3	QPSK	8	4	15.08	14.98	15.00	16
3	QPSK	8	7	15.10	15.08	14.99	

Band 4 (AWS Band) (dBm) Part 27L (only on channel required)							
BW (MHz)	Modulation	RB Size	RB Offset	Low Channel	Middle Channel	High Channel	Tune-up limit (dBm)
Channel				20050	20175	20300	
Frequency (MHz)				1720	1732.5	1745	
20	QPSK	1	0	15.68	15.83	15.67	17
20	QPSK	1	49	15.72	15.75	15.65	
20	QPSK	1	99	15.67	15.69	15.71	
20	QPSK	50	0	14.94	15.01	14.97	
20	QPSK	50	24	14.84	14.99	14.94	16
20	QPSK	50	50	14.83	14.97	14.84	
20	QPSK	100	0	14.88	14.98	14.85	
20	16QAM	1	0	14.99	15.05	14.96	
20	16QAM	1	49	14.87	15.02	15.00	16
20	16QAM	1	99	14.93	15.04	14.93	
20	16QAM	50	0	13.90	13.91	13.88	
20	16QAM	50	24	13.80	13.83	13.91	
20	16QAM	50	50	13.72	13.81	13.84	15
20	16QAM	100	0	13.70	13.79	13.76	
20	64QAM	1	0	13.73	13.82	13.73	
20	64QAM	1	49	13.80	13.72	13.79	
20	64QAM	1	99	13.75	13.77	13.66	15
20	64QAM	50	0	12.37	12.44	12.33	
20	64QAM	50	24	12.30	12.36	12.27	
20	64QAM	50	50	12.28	12.29	12.25	
20	64QAM	100	0	12.29	12.34	12.30	14
Channel				20025	20175	20325	Tune-up limit (dBm)
Frequency (MHz)				1717.5	1732.5	1747.5	
15	QPSK	1	0	15.62	15.79	15.67	17
15	QPSK	1	37	15.73	15.70	15.64	
15	QPSK	1	74	15.63	15.63	15.72	
15	QPSK	36	0	14.95	15.00	14.97	
15	QPSK	36	20	14.80	14.98	14.93	16
15	QPSK	36	39	14.78	14.93	14.84	
15	QPSK	75	0	14.87	14.94	14.86	
15	16QAM	1	0	14.95	15.05	14.94	
15	16QAM	1	37	14.84	14.99	14.96	16
15	16QAM	1	74	14.92	15.03	14.87	
15	16QAM	36	0	13.85	13.91	13.84	
15	16QAM	36	20	13.79	13.79	13.90	
15	16QAM	36	39	13.70	13.77	13.82	15
15	16QAM	75	0	13.67	13.75	13.73	
15	64QAM	1	0	13.73	13.77	13.73	
15	64QAM	1	37	13.79	13.69	13.79	
15	64QAM	1	74	13.73	13.75	13.64	15
15	64QAM	36	0	12.36	12.38	12.29	
15	64QAM	36	20	12.31	12.31	12.28	
15	64QAM	36	39	12.22	12.27	12.22	
15	64QAM	75	0	12.28	12.34	12.26	14
Channel				20000	20175	20350	Tune-up limit (dBm)
Frequency (MHz)				1715	1732.5	1750	
10	QPSK	1	0	15.54	15.76	15.65	17
10	QPSK	1	25	15.70	15.68	15.60	
10	QPSK	1	49	15.57	15.58	15.67	
10	QPSK	25	0	14.90	14.94	14.92	
10	QPSK	25	12	14.74	14.92	14.84	16
10	QPSK	25	25	14.71	14.86	14.77	
10	QPSK	50	0	14.80	14.91	14.84	
10	16QAM	1	0	14.92	15.02	14.87	
10	16QAM	1	25	14.80	14.95	14.89	16
10	16QAM	1	49	14.87	15.01	14.84	
10	16QAM	25	0	13.83	13.86	13.76	
10	16QAM	25	12	13.74	13.70	13.87	
10	16QAM	25	25	13.61	13.72	13.80	15
10	16QAM	50	0	13.64	13.69	13.69	
10	64QAM	1	0	13.69	13.73	13.68	
10	64QAM	1	25	13.75	13.62	13.71	
10	64QAM	1	49	13.70	13.69	13.55	15
10	64QAM	25	0	12.33	12.32	12.24	
10	64QAM	25	12	12.28	12.28	12.22	
10	64QAM	25	25	12.16	12.21	12.19	
10	64QAM	50	0	12.20	12.25	12.19	14
Channel				19975	20175	20375	Tune-up limit (dBm)
Frequency (MHz)				1712.5	1732.5	1752.5	
5	QPSK	1	0	15.48	15.69	15.58	17
5	QPSK	1	12	15.65	15.63	15.53	
5	QPSK	1	24	15.53	15.49	15.61	
5	QPSK	12	0	14.81	14.92	14.87	
5	QPSK	12	7	14.70	14.89	14.79	16
5	QPSK	12	13	14.64	14.83	14.69	
5	QPSK	25	0	14.72	14.87	14.78	
5	16QAM	1	0	14.84	14.95	14.84	
5	16QAM	1	12	14.75	14.86	14.80	16
5	16QAM	1	24	14.85	14.96	14.77	
5	16QAM	12	0	13.74	13.82	13.74	
5	16QAM	12	7	13.67	13.66	13.79	
5	16QAM	12	13	13.56	13.66	13.76	15
5	16QAM	25	0	13.61	13.65	13.62	
5	64QAM	1	0	13.66	13.69	13.63	
5	64QAM	1	12	13.67	13.55	13.66	
5	64QAM	1	24	13.64	13.67	13.52	15
5	64QAM	12	0	12.27	12.26	12.16	
5	64QAM	12	7	12.21	12.20	12.13	
5	64QAM	12	13	12.14	12.15	12.15	
5	64QAM	25	0	12.16	12.23	12.10	14
Channel				19965	20175	20385	Tune-up limit (dBm)
Frequency (MHz)				1711.5	1732.5	1753.5	
3	QPSK	1	0	15.48	15.68	15.57	17
3	QPSK	1	8	15.65	15.60	15.54	
3	QPSK	1	14	15.49	15.52	15.62	
3	QPSK	8	0	14.88	14.89	14.87	
3	QPSK	8	4	14.68	14.85	14.79	16
3	QPSK	8	7	14.65	14.82	14.69	



3	QPSK	15	0	15.08	15.10	15.01	16
3	16QAM	1	0	14.86	15.00	14.86	
3	16QAM	1	8	14.81	14.99	14.85	
3	16QAM	1	14	14.81	14.92	14.83	15
3	16QAM	8	0	14.16	14.24	14.13	
3	16QAM	8	4	14.22	14.27	14.11	
3	16QAM	8	7	14.17	14.23	14.15	15
3	16QAM	15	0	14.13	14.29	14.12	
3	64QAM	1	0	14.30	14.41	14.28	
3	64QAM	1	8	14.24	14.37	14.24	14
3	64QAM	1	14	14.21	14.39	14.22	
3	64QAM	8	0	12.69	12.87	12.72	
3	64QAM	8	4	12.76	12.80	12.79	14
3	64QAM	8	7	12.74	12.84	12.77	
3	64QAM	15	0	12.72	12.87	12.67	
Channel				18607	18900	19193	Tune-up limit (dBm)
Frequency (MHz)				1850.7	1880	1909.3	
1.4	QPSK	1	0	15.76	15.84	15.82	17
1.4	QPSK	1	3	15.75	15.79	15.74	
1.4	QPSK	1	5	15.69	15.76	15.66	
1.4	QPSK	3	0	15.05	15.13	14.98	16
1.4	QPSK	3	1	15.03	14.93	14.95	
1.4	QPSK	3	3	15.05	15.03	14.94	
1.4	QPSK	6	0	15.03	15.05	14.96	16
1.4	16QAM	1	0	14.81	14.95	14.81	
1.4	16QAM	1	3	14.76	14.94	14.80	
1.4	16QAM	1	5	14.76	14.87	14.78	15
1.4	16QAM	3	0	14.11	14.19	14.08	
1.4	16QAM	3	1	14.17	14.22	14.06	
1.4	16QAM	3	3	14.12	14.18	14.10	15
1.4	16QAM	6	0	14.08	14.24	14.07	
1.4	64QAM	1	0	14.25	14.36	14.23	
1.4	64QAM	1	3	14.19	14.32	14.19	15
1.4	64QAM	1	5	14.16	14.34	14.17	
1.4	64QAM	3	0	12.64	12.82	12.67	
1.4	64QAM	3	1	12.71	12.75	12.74	14
1.4	64QAM	3	3	12.69	12.79	12.72	
1.4	64QAM	6	0	12.67	12.82	12.62	

3	QPSK	15	0	14.73	14.86	14.77	16
3	16QAM	1	0	14.89	15.00	14.83	
3	16QAM	1	8	14.73	14.90	14.83	
3	16QAM	1	14	14.79	14.99	14.80	15
3	16QAM	8	0	13.78	13.80	13.72	
3	16QAM	8	4	13.72	13.63	13.82	
3	16QAM	8	7	13.52	13.68	13.77	15
3	16QAM	15	0	13.60	13.62	13.64	
3	64QAM	1	0	13.61	13.70	13.62	
3	64QAM	1	8	13.72	13.58	13.64	14
3	64QAM	1	14	13.65	13.64	13.48	
3	64QAM	8	0	12.25	12.23	12.21	
3	64QAM	8	4	12.23	12.25	12.20	14
3	64QAM	8	7	12.08	12.16	12.15	
3	64QAM	15	0	12.14	12.17	12.15	
Channel				19957	20175	20393	Tune-up limit (dBm)
Frequency (MHz)				1710.7	1732.5	1754.3	
1.4	QPSK	1	0	15.63	15.77	15.63	17
1.4	QPSK	1	3	15.66	15.70	15.61	
1.4	QPSK	1	5	15.67	15.67	15.70	
1.4	QPSK	3	0	14.90	15.01	14.92	16
1.4	QPSK	3	1	14.78	14.93	14.93	
1.4	QPSK	3	3	14.82	14.95	14.80	
1.4	QPSK	6	0	14.88	14.96	14.82	16
1.4	16QAM	1	0	15.00	15.01	14.95	
1.4	16QAM	1	3	14.88	15.02	14.95	
1.4	16QAM	1	5	14.89	15.00	14.91	15
1.4	16QAM	3	0	13.88	13.88	13.85	
1.4	16QAM	3	1	13.81	13.80	13.86	
1.4	16QAM	3	3	13.73	13.80	13.79	15
1.4	16QAM	6	0	13.71	13.79	13.70	
1.4	64QAM	1	0	13.70	13.81	13.71	
1.4	64QAM	1	3	13.81	13.66	13.77	15
1.4	64QAM	1	5	13.71	13.72	13.65	
1.4	64QAM	3	0	12.46	12.44	12.48	
1.4	64QAM	3	1	12.38	12.45	12.35	14
1.4	64QAM	3	3	12.36	12.39	12.31	
1.4	64QAM	6	0	12.25	12.33	12.25	



Band 66 (dBm)							
BW [MHz]	Modulation	RB Size	RB Offset	Low Channel	Middle Channel	High Channel	Tune-up limit (dBm)
Channel				132072	132322	132572	
Frequency (MHz)				1720	1745	1770	
20	QPSK	1	0	16.03	16.12	15.97	17
20	QPSK	1	49	16.00	16.10	16.04	
20	QPSK	1	99	15.90	16.04	15.92	
20	QPSK	50	0	15.23	15.38	15.29	16
20	QPSK	50	24	15.16	15.23	15.14	
20	QPSK	50	50	15.06	15.25	15.15	
20	QPSK	100	0	15.08	15.16	15.14	16
20	16QAM	1	0	15.36	15.32	15.31	
20	16QAM	1	49	15.38	15.40	15.38	
20	16QAM	1	99	15.23	15.38	15.31	15
20	16QAM	50	0	14.36	14.38	14.40	
20	16QAM	50	24	14.29	14.29	14.26	
20	16QAM	50	50	14.27	14.23	14.26	15
20	16QAM	100	0	14.22	14.29	14.19	
20	64QAM	1	0	14.07	14.14	14.18	
20	64QAM	1	49	14.00	14.03	14.14	15
20	64QAM	1	99	14.12	13.99	14.09	
20	64QAM	50	0	12.90	12.96	12.96	14
20	64QAM	50	24	12.84	12.79	12.77	
20	64QAM	50	50	12.75	12.78	12.72	
20	64QAM	100	0	12.76	12.78	12.78	
Channel				132047	132322	132597	Tune-up limit (dBm)
Frequency (MHz)				1717.5	1745	1772.5	
15	QPSK	1	0	16.00	16.05	15.93	17
15	QPSK	1	37	15.90	16.03	15.93	
15	QPSK	1	74	15.84	15.95	15.82	
15	QPSK	36	0	15.17	15.32	15.25	16
15	QPSK	36	20	15.09	15.13	15.07	
15	QPSK	36	39	14.99	15.19	15.09	
15	QPSK	75	0	14.99	15.05	15.07	16
15	16QAM	1	0	15.33	15.29	15.29	
15	16QAM	1	37	15.32	15.38	15.33	
15	16QAM	1	74	15.18	15.32	15.23	15
15	16QAM	36	0	14.29	14.34	14.38	
15	16QAM	36	20	14.21	14.25	14.20	
15	16QAM	36	39	14.21	14.20	14.19	15
15	16QAM	75	0	14.19	14.23	14.13	
15	64QAM	1	0	14.03	14.07	14.14	
15	64QAM	1	37	13.91	13.98	14.07	15
15	64QAM	1	74	14.04	13.94	14.03	
15	64QAM	36	0	12.86	12.92	12.87	
15	64QAM	36	20	12.77	12.73	12.72	14
15	64QAM	36	39	12.71	12.69	12.68	
15	64QAM	75	0	12.72	12.69	12.76	
Channel				132022	132322	132622	Tune-up limit (dBm)
Frequency (MHz)				1715	1745	1775	
10	QPSK	1	0	15.95	16.01	15.85	17
10	QPSK	1	25	15.85	15.93	15.82	
10	QPSK	1	49	15.73	15.84	15.71	
10	QPSK	25	0	15.08	15.29	15.20	16
10	QPSK	25	12	15.01	15.07	14.98	
10	QPSK	25	25	14.88	15.09	14.99	
10	QPSK	50	0	14.90	14.96	14.96	16
10	16QAM	1	0	15.28	15.23	15.24	
10	16QAM	1	25	15.25	15.34	15.30	
10	16QAM	1	49	15.12	15.25	15.19	15
10	16QAM	25	0	14.21	14.27	14.33	
10	16QAM	25	12	14.12	14.16	14.13	
10	16QAM	25	25	14.13	14.15	14.12	15
10	16QAM	50	0	14.16	14.15	14.05	
10	64QAM	1	0	13.99	13.98	14.08	
10	64QAM	1	25	13.85	13.90	14.02	15
10	64QAM	1	49	14.00	13.90	13.97	
10	64QAM	25	0	12.80	12.89	12.85	
10	64QAM	25	12	12.74	12.64	12.69	14
10	64QAM	25	25	12.67	12.67	12.64	
10	64QAM	50	0	12.70	12.65	12.74	
Channel				131997	132322	132647	Tune-up limit (dBm)
Frequency (MHz)				1712.5	1745	1777.5	
5	QPSK	1	0	15.93	15.97	15.88	17
5	QPSK	1	12	15.81	15.94	15.89	
5	QPSK	1	24	15.78	15.87	15.76	
5	QPSK	12	0	15.11	15.23	15.19	16
5	QPSK	12	7	15.01	15.02	15.01	
5	QPSK	12	13	14.90	15.11	15.03	
5	QPSK	25	0	14.89	14.92	14.96	16
5	16QAM	1	0	15.25	15.20	15.24	
5	16QAM	1	12	15.26	15.30	15.24	
5	16QAM	1	24	15.12	15.25	15.20	15
5	16QAM	12	0	14.26	14.26	14.30	
5	16QAM	12	7	14.16	14.19	14.11	
5	16QAM	12	13	14.16	14.15	14.16	15
5	16QAM	25	0	14.16	14.20	14.08	
5	64QAM	1	0	13.99	13.99	14.10	
5	64QAM	1	12	13.82	13.92	14.04	15
5	64QAM	1	24	13.97	13.90	13.99	
5	64QAM	12	0	12.83	12.87	12.78	
5	64QAM	12	7	12.71	12.67	12.69	14
5	64QAM	12	13	12.67	12.65	12.65	
5	64QAM	25	0	12.65	12.61	12.72	
Channel				131987	132322	132657	Tune-up limit (dBm)
Frequency (MHz)				1711.5	1745	1778.5	
3	QPSK	1	0	15.87	15.98	15.80	17
3	QPSK	1	8	15.75	15.91	15.76	
3	QPSK	1	14	15.60	15.75	15.65	
3	QPSK	8	0	15.06	15.16	15.14	16
3	QPSK	8	4	14.96	15.00	14.93	
3	QPSK	8	7	14.84	15.00	14.95	



3	QPSK	15	0	14.85	14.90	14.93	16
3	16QAM	1	0	15.20	15.20	15.23	
3	16QAM	1	8	15.18	15.26	15.25	
3	16QAM	1	14	15.05	15.25	15.10	15
3	16QAM	8	0	14.19	14.26	14.28	
3	16QAM	8	4	14.08	14.20	14.04	
3	16QAM	8	7	14.10	14.12	14.12	15
3	16QAM	15	0	14.03	14.17	14.05	
3	64QAM	1	0	13.90	13.96	14.02	
3	64QAM	1	8	13.80	13.85	13.99	14
3	64QAM	1	14	13.94	13.81	13.91	
3	64QAM	8	0	12.74	12.78	12.73	
3	64QAM	8	4	12.68	12.61	12.62	14
3	64QAM	8	7	12.59	12.61	12.59	
3	64QAM	15	0	12.59	12.60	12.64	
Channel				131979	132322	132665	Tune-up limit (dBm)
Frequency (MHz)				1710.7	1745	1779.3	
1.4	QPSK	1	0	15.89	15.98	15.81	17
1.4	QPSK	1	3	15.75	15.92	15.79	
1.4	QPSK	1	5	15.63	15.76	15.61	
1.4	QPSK	3	0	15.03	15.20	15.14	
1.4	QPSK	3	1	14.98	14.98	14.96	
1.4	QPSK	3	3	14.87	15.03	14.90	
1.4	QPSK	6	0	14.80	14.89	14.88	16
1.4	16QAM	1	0	15.21	15.21	15.22	16
1.4	16QAM	1	3	15.17	15.27	15.24	
1.4	16QAM	1	5	15.09	15.26	15.06	
1.4	16QAM	3	0	14.19	14.23	14.28	
1.4	16QAM	3	1	14.08	14.19	14.10	
1.4	16QAM	3	3	14.10	14.09	14.09	
1.4	16QAM	6	0	14.04	14.16	14.07	15
1.4	64QAM	1	0	13.92	13.94	14.02	15
1.4	64QAM	1	3	13.77	13.88	13.97	
1.4	64QAM	1	5	13.88	13.82	13.91	
1.4	64QAM	3	0	12.75	12.81	12.78	
1.4	64QAM	3	1	12.85	12.80	12.88	
1.4	64QAM	3	3	12.80	12.78	12.78	
1.4	64QAM	6	0	12.59	12.53	12.59	14