

Annex A

Output Power

Output Power for 10dBi PtoMP Antenna

Band Width	Frequency	Data Rate	J7 Level	J8 Level	J7 Level	J8 Level	Combined output power	Limit	Margin
MHz	MHz		dBm	dBm	mW	mW	dBm	dBm	dB
10	5160	vt0	2	2	1.4689	1.5704	4.8	26	-21.2
10	5200	vt0	19	18	71.7794	62.3735	21.3	26	-4.7
10	5245	vt0	18	16	63.0957	42.7563	20.2	26	-5.8
20	5165	vt0	-4	-6	0.3873	0.2793	-1.8	26	-27.8
20	5200	vt0	21	21	125.3141	116.6810	23.8	26	-2.2
20	5240	vt0	20	21	91.6220	115.0800	23.2	26	-2.8
30	5170	vt0	-5	-8	0.2938	0.1600	-3.4	26	-29.4
30	5200	vt0	20	20	103.0386	98.1748	23.0	26	-3.0
30	5235	vt0	22	21	141.5794	127.6439	24.3	26	-1.7
40	5175	vf0	-6	-8	0.2780	0.1585	-3.6	26	-29.6
40	5200	vf0	12	12	15.1705	14.3880	14.7	26	-11.3
40	5230	vf0	12	12	16.4059	16.5959	15.2	26	-10.8
50	5180	vf0	-5	-8	0.2877	0.1622	-3.5	26	-29.5
50	5200	vf0	8	8	5.8210	6.1094	10.8	26	-15.2
50	5225	vf0	20	18	94.4061	70.6318	22.2	26	-3.8
60	5185	vf0	-7	-9	0.1795	0.1202	-5.2	26	-31.2
60	5200	vf0	4	3	2.3496	2.2284	6.6	26	-19.4
60	5220	vf0	12	12	16.7494	17.0608	15.3	26	-10.7
80	5195	ve00	-6	-8	0.2270	0.1459	-4.3	26	-30.3
80	5200	ve00	-4	-5	0.4436	0.2931	-1.3	26	-27.3
80	5210	ve00	1	-1	1.1858	0.7096	2.8	26	-23.2

Output Power for 13dBi PtoMP Antenna

Band Width	Frequency	Data Rate	J7 Level	J8 Level	J7 Level	J8 Level	Combined output power	Limit	Margin
MHz	MHz		dBm	dBm	mW	mW	dBm	dBm	dB
10	5160	vt0	-1	-1	0.7362	0.7870	1.8	23	-21.2
10	5200	vt0	16	15	35.9749	31.2608	18.3	23	-4.7
10	5245	vt0	15	13	31.6228	21.4289	17.2	23	-5.8
20	5165	vt0	-7	-9	0.1941	0.1400	-4.8	23	-27.8
20	5200	vt0	18	18	62.8058	58.4790	20.8	23	-2.2
20	5240	vt0	17	18	45.9198	57.6766	20.2	23	-2.8
30	5170	vt0	-8	-11	0.1472	0.0802	-6.4	23	-29.4
30	5200	vt0	17	17	51.6416	49.2040	20.0	23	-3.0
30	5235	vt0	19	18	70.9578	63.9735	21.3	23	-1.7
40	5175	vf0	-9	-11	0.1393	0.0794	-6.6	23	-29.6
40	5200	vf0	9	9	7.6033	7.2111	11.7	23	-11.3
40	5230	vf0	9	9	8.2224	8.3176	12.2	23	-10.8
50	5180	vf0	-8	-11	0.1442	0.0813	-6.5	23	-29.5
50	5200	vf0	5	5	2.9174	3.0620	7.8	23	-15.2
50	5225	vf0	17	15	47.3151	35.3997	19.2	23	-3.8
60	5185	vf0	-10	-12	0.0899	0.0603	-8.2	23	-31.2
60	5200	vf0	1	0	1.1776	1.1169	3.6	23	-19.4
60	5220	vf0	9	9	8.3946	8.5507	12.3	23	-10.7
80	5195	ve00	-9	-11	0.1138	0.0731	-7.3	23	-30.3
80	5200	ve00	-7	-8	0.2223	0.1469	-4.3	23	-27.3
80	5210	ve00	-2	-4	0.5943	0.3556	-0.2	23	-23.2

Output Power for 16dBi PtoP Antenna

Band Width	Frequency	Data Rate	J7 Level	J8 Level	J7 Level	J8 Level	Combined output power	Limit	Margin
MHz	MHz		dBm	dBm	mW	mW	dBm	dBm	dB
10	5160	vt0	-4	-4	0.3690	0.3945	-1.2	30	-31.2
10	5200	vt0	13	12	18.0302	15.6675	15.3	30	-14.7
10	5245	vt0	12	10	15.8489	10.7399	14.2	30	-15.8
20	5165	vt0	-10	-12	0.0973	0.0701	-7.8	30	-37.8
20	5200	vt0	15	15	31.4775	29.3089	17.8	30	-12.2
20	5240	vt0	14	15	23.0144	28.9068	17.2	30	-12.8
30	5170	vt0	-11	-14	0.0738	0.0402	-9.4	30	-39.4
30	5200	vt0	14	14	25.8821	24.6604	17.0	30	-13.0
30	5235	vt0	16	15	35.5631	32.0627	18.3	30	-11.7
40	5175	vf0	-12	-14	0.0698	0.0398	-9.6	30	-39.6
40	5200	vf0	6	6	3.8107	3.6141	8.7	30	-21.3
40	5230	vfo	6	6	4.1210	4.1687	9.2	30	-20.8
50	5180	vf0	-11	-14	0.0723	0.0407	-9.5	30	-39.5
50	5200	vf0	2	2	1.4622	1.5346	4.8	30	-25.2
50	5225	vf0	14	12	23.7137	17.7419	16.2	30	-13.8
60	5185	vf0	-13	-15	0.0451	0.0302	-11.2	30	-41.2
60	5200	vf0	-2	-3	0.5902	0.5598	0.6	30	-29.4
60	5220	vf0	6	6	4.2073	4.2855	9.3	30	-20.7
80	5195	ve00	-12	-14	0.0570	0.0366	-10.3	30	-40.3
80	5200	ve00	-10	-11	0.1114	0.0736	-7.3	30	-37.3
80	5210	ve00	-5	-7	0.2979	0.1782	-3.2	30	-33.2

Output Power for 17dBi PtoP Antenna

Band Width	Frequency	Data Rate	J7 Level	J8 Level	J7 Level	J8 Level	Combined output power	Limit	Margin
MHz	MHz		dBm	dBm	mW	mW	dBm	dBm	dB
10	5160	vt0	-5	-5	0.2931	0.3133	-2.2	30	-32.2
10	5200	vt0	12	11	14.3219	12.4451	14.3	30	-15.7
10	5245	vt0	11	9	12.5893	8.5310	13.2	30	-16.8
20	5165	vt0	-11	-13	0.0773	0.0557	-8.8	30	-38.8
20	5200	vt0	14	14	25.0035	23.2809	16.8	30	-13.2
20	5240	vt0	13	14	18.2810	22.9615	16.2	30	-13.8
30	5170	vt0	-12	-15	0.0586	0.0319	-10.4	30	-40.4
30	5200	vt0	13	13	20.5589	19.5884	16.0	30	-14.0
30	5235	vt0	15	14	28.2488	25.4683	17.3	30	-12.7
40	5175	vf0	-13	-15	0.0555	0.0316	-10.6	30	-40.6
40	5200	vf0	5	5	3.0269	2.8708	7.7	30	-22.3
40	5230	vf0	5	5	3.2734	3.3113	8.2	30	-21.8
50	5180	vf0	-12	-15	0.0574	0.0324	-10.5	30	-40.5
50	5200	vf0	1	1	1.1614	1.2190	3.8	30	-26.2
50	5225	vf0	13	11	18.8365	14.0929	15.2	30	-14.8
60	5185	vf0	-14	-16	0.0358	0.0240	-12.2	30	-42.2
60	5200	vf0	-3	-4	0.4688	0.4446	-0.4	30	-30.4
60	5220	vf0	5	5	3.3420	3.4041	8.3	30	-21.7
80	5195	ve00	-13	-15	0.0453	0.0291	-11.3	30	-41.3
80	5200	ve00	-11	-12	0.0885	0.0585	-8.3	30	-38.3
80	5210	ve00	-6	-8	0.2366	0.1416	-4.2	30	-34.2

Output Power for 19dBi PtoP Antenna

Band Width	Frequency	Data Rate	J7 Level	J8 Level	J7 Level	J8 Level	Combined output power	Limit	Margin
MHz	MHz		dBm	dBm	mW	mW	dBm	dBm	dB
10	5160	vt0	-7	-7	0.1849	0.1977	-4.2	30	-34.2
10	5200	vt0	10	9	9.0365	7.8524	12.3	30	-17.7
10	5245	vt0	9	7	7.9433	5.3827	11.2	30	-18.8
20	5165	vt0	-13	-15	0.0488	0.0352	-10.8	30	-40.8
20	5200	vt0	12	12	15.7761	14.6893	14.8	30	-15.2
20	5240	vt0	11	12	11.5345	14.4877	14.2	30	-15.8
30	5170	vt0	-14	-17	0.0370	0.0201	-12.4	30	-42.4
30	5200	vt0	11	11	12.9718	12.3595	14.0	30	-16.0
30	5235	vt0	13	12	17.8238	16.0694	15.3	30	-14.7
40	5175	vf0	-15	-17	0.0350	0.0200	-12.6	30	-42.6
40	5200	vf0	3	3	1.9099	1.8113	5.7	30	-24.3
40	5230	vf0	3	3	2.0654	2.0893	6.2	30	-23.8
50	5180	vf0	-14	-17	0.0362	0.0204	-12.5	30	-42.5
50	5200	vf0	-1	-1	0.7328	0.7691	1.8	30	-28.2
50	5225	vf0	11	9	11.8850	8.8920	13.2	30	-16.8
60	5185	vf0	-16	-18	0.0226	0.0151	-14.2	30	-44.2
60	5200	vf0	-5	-6	0.2958	0.2805	-2.4	30	-32.4
60	5220	vf0	3	3	2.1086	2.1478	6.3	30	-23.7
80	5195	ve00	-15	-17	0.0286	0.0184	-13.3	30	-43.3
80	5200	ve00	-13	-14	0.0558	0.0369	-10.3	30	-40.3
80	5210	ve00	-8	-10	0.1493	0.0893	-6.2	30	-36.2

Output Power for 20dBi PtoP Antenna

Band Width	Frequency	Data Rate	J7 Level	J8 Level	J7 Level	J8 Level	Combined output power	Limit	Margin
MHz	MHz		dBm	dBm	mW	mW	dBm	dBm	dB
10	5160	vt0	-8	-8	0.1469	0.1570	-5.2	30	-35.2
10	5200	vt0	9	8	7.1779	6.2373	11.3	30	-18.7
10	5245	vt0	8	6	6.3096	4.2756	10.2	30	-19.8
20	5165	vt0	-14	-16	0.0387	0.0279	-11.8	30	-41.8
20	5200	vt0	11	11	12.5314	11.6681	13.8	30	-16.2
20	5240	vt0	10	11	9.1622	11.5080	13.2	30	-16.8
30	5170	vt0	-15	-18	0.0294	0.0160	-13.4	30	-43.4
30	5200	vt0	10	10	10.3039	9.8175	13.0	30	-17.0
30	5235	vt0	12	11	14.1579	12.7644	14.3	30	-15.7
40	5175	vf0	-16	-18	0.0278	0.0158	-13.6	30	-43.6
40	5200	vf0	2	2	1.5171	1.4388	4.7	30	-25.3
40	5230	vf0	2	2	1.6406	1.6596	5.2	30	-24.8
50	5180	vf0	-15	-18	0.0288	0.0162	-13.5	30	-43.5
50	5200	vf0	-2	-2	0.5821	0.6109	0.8	30	-29.2
50	5225	vf0	10	8	9.4406	7.0632	12.2	30	-17.8
60	5185	vf0	-17	-19	0.0179	0.0120	-15.2	30	-45.2
60	5200	vf0	-6	-7	0.2350	0.2228	-3.4	30	-33.4
60	5220	vf0	2	2	1.6749	1.7061	5.3	30	-24.7
80	5195	ve00	-16	-18	0.0227	0.0146	-14.3	30	-44.3
80	5200	ve00	-14	-15	0.0444	0.0293	-11.3	30	-41.3
80	5210	ve00	-9	-11	0.1186	0.0710	-7.2	30	-37.2

Output Power for 21dBi PtoP Antenna

Band Width	Frequency	Data Rate	J7 Level	J8 Level	J7 Level	J8 Level	Combined output power	Limit	Margin
MHz	MHz		dBm	dBm	mW	mW	dBm	dBm	dB
10	5160	vt0	-9	-9	0.1167	0.1247	-6.2	30	-36.2
10	5200	vt0	8	7	5.7016	4.9545	10.3	30	-19.7
10	5245	vt0	7	5	5.0119	3.3963	9.2	30	-20.8
20	5165	vt0	-15	-17	0.0308	0.0222	-12.8	30	-42.8
20	5200	vt0	10	10	9.9541	9.2683	12.8	30	-17.2
20	5240	vt0	9	10	7.2778	9.1411	12.2	30	-17.8
30	5170	vt0	-16	-19	0.0233	0.0127	-14.4	30	-44.4
30	5200	vt0	9	9	8.1846	7.7983	12.0	30	-18.0
30	5235	vt0	11	10	11.2460	10.1391	13.3	30	-16.7
40	5175	vf0	-17	-19	0.0221	0.0126	-14.6	30	-44.6
40	5200	vf0	1	1	1.2050	1.1429	3.7	30	-26.3
40	5230	vf0	1	1	1.3032	1.3183	4.2	30	-25.8
50	5180	vf0	-16	-19	0.0229	0.0129	-14.5	30	-44.5
50	5200	vf0	-3	-3	0.4624	0.4853	-0.2	30	-30.2
50	5225	vf0	9	7	7.4989	5.6105	11.2	30	-18.8
60	5185	vf0	-18	-20	0.0143	0.0095	-16.2	30	-46.2
60	5200	vf0	-7	-8	0.1866	0.1770	-4.4	30	-34.4
60	5220	vf0	1	1	1.3305	1.3552	4.3	30	-25.7
80	5195	ve00	-17	-19	0.0180	0.0116	-15.3	30	-45.3
80	5200	ve00	-15	-16	0.0352	0.0233	-12.3	30	-42.3
80	5210	ve00	-10	-12	0.0942	0.0564	-8.2	30	-38.2

Output Power for 22dBi PtoP Antenna

Band Width	Frequency	Data Rate	J7 Level	J8 Level	J7 Level	J8 Level	Combined output power	Limit	Margin
MHz	MHz		dBm	dBm	mW	mW	dBm	dBm	dB
10	5160	vt0	-10	-10	0.0927	0.0991	-7.2	30	-37.2
10	5200	vt0	7	6	4.5290	3.9355	9.3	30	-20.7
10	5245	vt0	6	4	3.9811	2.6977	8.2	30	-21.8
20	5165	vt0	-16	-18	0.0244	0.0176	-13.8	30	-43.8
20	5200	vt0	9	9	7.9068	7.3621	11.8	30	-18.2
20	5240	vt0	8	9	5.7810	7.2611	11.2	30	-18.8
30	5170	vt0	-17	-20	0.0185	0.0101	-15.4	30	-45.4
30	5200	vt0	8	8	6.5013	6.1944	11.0	30	-19.0
30	5235	vt0	10	9	8.9331	8.0538	12.3	30	-17.7
40	5175	vf0	-18	-20	0.0175	0.0100	-15.6	30	-45.6
40	5200	vf0	0	0	0.9572	0.9078	2.7	30	-27.3
40	5230	vf0	0	0	1.0351	1.0471	3.2	30	-26.8
50	5180	vf0	-17	-20	0.0182	0.0102	-15.5	30	-45.5
50	5200	vf0	-4	-4	0.3673	0.3855	-1.2	30	-31.2
50	5225	vf0	8	6	5.9566	4.4566	10.2	30	-19.8
60	5185	vf0	-19	-21	0.0113	0.0076	-17.2	30	-47.2
60	5200	vf0	-8	-9	0.1483	0.1406	-5.4	30	-35.4
60	5220	vf0	0	0	1.0568	1.0765	3.3	30	-26.7
80	5195	ve00	-18	-20	0.0143	0.0092	-16.3	30	-46.3
80	5200	ve00	-16	-17	0.0280	0.0185	-13.3	30	-43.3
80	5210	ve00	-11	-13	0.0748	0.0448	-9.2	30	-39.2

Output Power for 30dBi PtoP Antenna

Band Width	Frequency	Data Rate	J7 Level	J8 Level	J7 Level	J8 Level	Combined output power	Limit	Margin
MHz	MHz		dBm	dBm	mW	mW	dBm	dBm	dB
10	5160	vt0	-18	-18	0.0147	0.0157	-15.2	23	-38.2
10	5200	vt0	-1	-2	0.7178	0.6237	1.3	23	-21.7
10	5245	vt0	-2	-4	0.6310	0.4276	0.2	23	-22.8
20	5165	vt0	-24	-26	0.0039	0.0028	-21.8	23	-44.8
20	5200	vt0	1	1	1.2531	1.1668	3.8	23	-19.2
20	5240	vt0	0	1	0.9162	1.1508	3.2	23	-19.8
30	5170	vt0	-25	-28	0.0029	0.0016	-23.4	23	-46.4
30	5200	vt0	0	0	1.0304	0.9817	3.0	23	-20.0
30	5235	vt0	2	1	1.4158	1.2764	4.3	23	-18.7
40	5175	vf0	-26	-28	0.0028	0.0016	-23.6	23	-46.6
40	5200	vf0	-8	-8	0.1517	0.1439	-5.3	23	-28.3
40	5230	vf0	-8	-8	0.1641	0.1660	-4.8	23	-27.8
50	5180	vf0	-25	-28	0.0029	0.0016	-23.5	23	-46.5
50	5200	vf0	-12	-12	0.0582	0.0611	-9.2	23	-32.2
50	5225	vf0	0	-2	0.9441	0.7063	2.2	23	-20.8
60	5185	vf0	-27	-29	0.0018	0.0012	-25.2	23	-48.2
60	5200	vf0	-16	-17	0.0235	0.0223	-13.4	23	-36.4
60	5220	vf0	-8	-8	0.1675	0.1706	-4.7	23	-27.7
80	5195	ve00	-26	-28	0.0023	0.0015	-24.3	23	-47.3
80	5200	ve00	-24	-25	0.0044	0.0029	-21.3	23	-44.3
80	5210	ve00	-19	-21	0.0119	0.0071	-17.2	23	-40.2

Output Power for 31dBi PtoP Antenna

Band Width	Frequency	Data Rate	J7 Level	J8 Level	J7 Level	J8 Level	Combined output power	Limit	Margin
MHz	MHz		dBm	dBm	mW	mW	dBm	dBm	dB
10	5160	vt0	-19	-19	0.0117	0.0125	-16.2	22	-38.2
10	5200	vt0	-2	-3	0.5702	0.4955	0.3	22	-21.7
10	5245	vt0	-3	-5	0.5012	0.3396	-0.8	22	-22.8
20	5165	vt0	-25	-27	0.0031	0.0022	-22.8	22	-44.8
20	5200	vt0	0	0	0.9954	0.9268	2.8	22	-19.2
20	5240	vt0	-1	0	0.7278	0.9141	2.2	22	-19.8
30	5170	vt0	-26	-29	0.0023	0.0013	-24.4	22	-46.4
30	5200	vt0	-1	-1	0.8185	0.7798	2.0	22	-20.0
30	5235	vt0	1	0	1.1246	1.0139	3.3	22	-18.7
40	5175	vf0	-27	-29	0.0022	0.0013	-24.6	22	-46.6
40	5200	vf0	-9	-9	0.1205	0.1143	-6.3	22	-28.3
40	5230	vf0	-9	-9	0.1303	0.1318	-5.8	22	-27.8
50	5180	vf0	-26	-29	0.0023	0.0013	-24.5	22	-46.5
50	5200	vf0	-13	-13	0.0462	0.0485	-10.2	22	-32.2
50	5225	vf0	-1	-3	0.7499	0.5610	1.2	22	-20.8
60	5185	vf0	-28	-30	0.0014	0.0010	-26.2	22	-48.2
60	5200	vf0	-17	-18	0.0187	0.0177	-14.4	22	-36.4
60	5220	vf0	-9	-9	0.1330	0.1355	-5.7	22	-27.7
80	5195	ve00	-27	-29	0.0018	0.0012	-25.3	22	-47.3
80	5200	ve00	-25	-26	0.0035	0.0023	-22.3	22	-44.3
80	5210	ve00	-20	-22	0.0094	0.0056	-18.2	22	-40.2

Output Power for 34dBi PtoP Antenna

Band Width	Frequency	Data Rate	J7 Level	J8 Level	J7 Level	J8 Level	Combined output power	Limit	Margin
MHz	MHz		dBm	dBm	mW	mW	dBm	dBm	dB
10	5160	vt0	-22	-22	0.0058	0.0063	-19.2	19	-38.2
10	5200	vt0	-5	-6	0.2858	0.2483	-2.7	19	-21.7
10	5245	vt0	-6	-8	0.2512	0.1702	-3.8	19	-22.8
20	5165	vt0	-28	-30	0.0015	0.0011	-25.8	19	-44.8
20	5200	vt0	-3	-3	0.4989	0.4645	-0.2	19	-19.2
20	5240	vt0	-4	-3	0.3648	0.4581	-0.8	19	-19.8
30	5170	vt0	-29	-32	0.0012	0.0006	-27.4	19	-46.4
30	5200	vt0	-4	-4	0.4102	0.3908	-1.0	19	-20.0
30	5235	vt0	-2	-3	0.5636	0.5082	0.3	19	-18.7
40	5175	vf0	-30	-32	0.0011	0.0006	-27.6	19	-46.6
40	5200	vf0	-12	-12	0.0604	0.0573	-9.3	19	-28.3
40	5230	vf0	-12	-12	0.0653	0.0661	-8.8	19	-27.8
50	5180	vf0	-29	-32	0.0011	0.0006	-27.5	19	-46.5
50	5200	vf0	-16	-16	0.0232	0.0243	-13.2	19	-32.2
50	5225	vf0	-4	-6	0.3758	0.2812	-1.8	19	-20.8
60	5185	vf0	-31	-33	0.0007	0.0005	-29.2	19	-48.2
60	5200	vf0	-20	-21	0.0094	0.0089	-17.4	19	-36.4
60	5220	vf0	-12	-12	0.0667	0.0679	-8.7	19	-27.7
80	5195	ve00	-30	-32	0.0009	0.0006	-28.3	19	-47.3
80	5200	ve00	-28	-29	0.0018	0.0012	-25.3	19	-44.3
80	5210	ve00	-23	-25	0.0047	0.0028	-21.2	19	-40.2