

Appendix_Calculated Output Power

1. Revision History

Rev. No.	Issue Date	Description
0	April 09, 2019	First approval report
1	April 10, 2019	Revised the results

Test Results for External Ant. (Gain: 8 dBi) :

Channel BW	Modulation	Port	PSD (dBm/MHz)	99% OBW (MHz)	Total Channel Power (dBm/OBW)	MIMO Power	Antenna Gain (dBi)	EIRP (dBm)	Total EIRP (dBm)
10 MHz BW / 1 Carrier	QPSK	0	19.54	8.970	29.064	31.97	11.01	42.98	46.056
		2	19.34	8.959	28.863				
		1	19.79	8.964	29.310	32.10	11.01	43.11	
		3	19.32	8.968	28.849				
	QAM	0	19.73	8.994	29.269	32.11	11.01	43.12	46.067
		2	19.38	9.000	28.927				
		1	19.60	8.969	29.123	31.98	11.01	42.99	
		3	19.28	8.989	28.813				
20 MHz BW / 1 Carrier	QPSK	0	18.90	17.922	31.436	34.52	11.01	45.53	48.544
		2	19.04	17.937	31.582				
		1	18.96	17.920	31.494	34.53	11.01	45.54	
		3	19.00	17.964	31.540				
	QAM	0	19.20	17.924	31.730	34.80	11.01	45.81	48.810
		2	19.33	17.906	31.856				
		1	19.22	17.925	31.757	34.78	11.01	45.79	
		3	19.25	17.892	31.773				
10+10 MHz BW / 2 Carriers	QPSK	0	18.97	18.934	31.741	34.85	11.01	45.86	48.907
		2	19.18	18.920	31.944				
		1	19.14	18.909	31.907	34.92	11.01	45.93	
		3	19.15	18.906	31.911				
	QAM	0	19.12	18.935	31.888	34.98	11.01	45.99	49.025
		2	19.26	19.031	32.059				
		1	19.15	18.934	31.920	35.02	11.01	46.03	
		3	19.33	18.938	32.106				
20+10 MHz BW / 2 Carriers	QPSK	0	19.11	28.432	33.652	36.67	11.01	47.68	50.687
		2	19.13	28.419	33.668				
		1	19.01	28.385	33.539	36.66	11.01	47.67	
		3	19.23	28.427	33.762				
	QAM	0	19.31	28.370	33.842	36.76	11.01	47.77	50.821
		2	19.13	28.355	33.659				
		1	19.22	28.338	33.740	36.84	11.01	47.85	
		3	19.39	28.368	33.915				

Channel BW	Modulation	Port	PSD (dBm/MHz)	99% OBW (MHz)	Total Channel Power (dBm/OBW)	MIMO Power	Antenna Gain (dBi)	EIRP (dBm)	Total EIRP (dBm)
20+20 MHz BW / 2 Carriers	QPSK	0	19.47	37.775	35.237	38.17	11.01	49.18	52.090
		2	19.30	37.878	35.082				
		1	19.30	37.727	35.069	37.97	11.01	48.98	
		3	19.06	37.821	34.841				
	QAM	0	19.34	37.823	35.117	38.01	11.01	49.02	52.016
		2	19.11	37.818	34.888				
		1	19.21	37.829	34.991	37.98	11.01	48.99	
		3	19.16	37.887	34.941				
10+10+10 MHz BW / 3 Carriers	QPSK	0	19.34	28.830	33.936	36.90	11.01	47.91	50.811
		2	19.23	28.878	33.833				
		1	19.01	28.896	33.618	36.68	11.01	47.69	
		3	19.12	28.858	33.726				
	QAM	0	19.29	28.858	33.897	36.86	11.01	47.87	50.879
		2	19.20	28.807	33.796				
		1	19.02	28.821	33.617	36.86	11.01	47.87	
		3	19.46	28.895	34.070				
20+10+10 MHz BW / 3 Carriers	QPSK	0	19.21	38.314	35.044	38.07	11.01	49.08	52.054
		2	19.25	38.319	35.080				
		1	19.02	38.324	34.855	37.99	11.01	49.00	
		3	19.28	38.304	35.110				
	QAM	0	19.42	38.277	35.246	38.16	11.01	49.17	52.174
		2	19.22	38.324	35.051				
		1	19.37	38.268	35.201	38.15	11.01	49.16	
		3	19.23	38.345	35.070				
20+20+10 MHz BW / 3 Carriers	QPSK	0	19.31	48.268	36.143	39.29	11.01	50.30	53.351
		2	19.58	48.266	36.413				
		1	19.57	48.256	36.406	39.37	11.01	50.38	
		3	19.49	48.195	36.315				
	QAM	0	19.35	48.231	36.182	39.25	11.01	50.26	53.266
		2	19.46	48.246	36.291				
		1	19.36	48.233	36.192	39.24	11.01	50.25	
		3	19.44	48.201	36.274				

Channel BW	Modulation	Port	PSD (dBm/MHz)	99% OBW (MHz)	Total Channel Power (dBm/OBW)	MIMO Power	Antenna Gain (dBi)	EIRP (dBm)	Total EIRP (dBm)
20+20+20 MHz BW / 3 Carriers	QPSK	0	19.16	57.567	36.761	39.83	11.01	50.84	53.798
		2	19.27	57.651	36.878				
		1	19.20	57.533	36.799	39.72	11.01	50.73	
		3	19.02	57.598	36.627				
	QAM	0	19.08	57.694	36.693	39.94	11.01	50.95	53.955
		2	19.55	57.651	37.158				
		1	19.26	57.667	36.873	39.93	11.01	50.94	
		3	19.34	57.747	36.959				
10+10+10+10 MHz BW / 4 Carriers	QPSK	0	19.11	38.693	34.988	38.00	11.01	49.01	52.049
		2	19.11	38.693	34.988				
		1	19.02	38.779	34.907	38.06	11.01	49.07	
		3	19.30	38.786	35.186				
	QAM	0	19.25	38.759	35.135	38.11	11.01	49.12	52.072
		2	19.17	38.832	35.059				
		1	19.03	38.836	34.919	37.99	11.01	49.00	
		3	19.16	38.844	35.048				
20+10+10+10 MHz BW / 4 Carriers	QPSK	0	19.40	48.248	36.239	39.25	11.01	50.26	53.284
		2	19.40	48.299	36.236				
		1	19.56	48.295	36.397	39.28	11.01	50.29	
		3	19.30	48.301	36.138				
	QAM	0	19.46	48.268	36.295	39.25	11.01	50.26	53.335
		2	19.35	48.255	36.180				
		1	19.51	48.193	36.335	39.38	11.01	50.39	
		3	19.57	48.278	36.406				
20+20+10+10 MHz BW / 4 Carriers	QPSK	0	19.56	58.229	37.213	40.17	11.01	51.18	54.096
		2	19.45	58.240	37.101				
		1	19.41	58.150	37.058	39.98	11.01	50.99	
		3	19.24	58.139	36.884				
	QAM	0	19.40	58.282	37.052	40.15	11.01	51.16	54.042
		2	19.58	58.149	37.226				
		1	19.15	58.091	36.795	39.89	11.01	50.90	
		3	19.31	58.153	36.959				

Channel BW	Modulation	Port	PSD (dBm/MHz)	99% OBW (MHz)	Total Channel Power (dBm/OBW)	MIMO Power	Antenna Gain (dBi)	EIRP (dBm)	Total EIRP (dBm)
20+20+20+10 MHz BW / 4 Carriers	QPSK	0	19.14	68.114	37.467	40.46	11.01	51.47	54.548
		2	19.09	68.218	37.427				
		1	19.22	68.000	37.546	40.60	11.01	51.61	
		3	19.30	68.115	37.628				
	QAM	0	19.24	68.205	37.577	40.53	11.01	51.54	54.674
		2	19.13	68.203	37.471				
		1	19.54	68.189	37.874	40.77	11.01	51.78	
		3	19.31	68.154	37.641				
20+20+20+20 MHz BW / 4 Carriers	QPSK	0	19.26	77.480	38.147	41.06	11.01	52.07	55.093
		2	19.06	77.324	37.946				
		1	19.20	77.604	38.094	41.09	11.01	52.10	
		3	19.17	77.518	38.062				
	QAM	0	19.27	77.652	38.167	41.14	11.01	52.15	55.197
		2	19.19	77.666	38.093				
		1	19.33	77.630	38.226	41.21	11.01	52.22	
		3	19.29	77.486	38.178				

Test Results for Clip-on Ant. (Gain: 13 dBi) :

Channel BW	Modulation	Port	PSD (dBm/MHz)	99% OBW (MHz)	Total Channel Power (dBm/OBW)	MIMO Power	Antenna Gain (dBi)	EIRP (dBm)	Total EIRP (dBm)
10 MHz BW / 1 Carrier	QPSK	0	14.99	8.960	24.510	27.37	16.01	43.38	46.424
		2	14.66	9.002	24.202				
		1	14.91	8.964	24.438	27.44	16.01	43.45	
		3	14.89	8.968	24.418				
	QAM	0	14.93	9.010	24.478	27.49	16.01	43.50	46.489
		2	14.96	8.964	24.481				
		1	14.81	8.969	24.342	27.45	16.01	43.46	
		3	14.99	8.994	24.531				
20 MHz BW / 1 Carrier	QPSK	0	14.85	17.922	27.382	30.40	16.01	46.41	49.474
		2	14.87	17.883	27.389				
		1	14.97	17.942	27.511	30.51	16.01	46.52	
		3	14.94	17.997	27.490				
	QAM	0	14.99	17.901	27.519	30.51	16.01	46.52	49.532
		2	14.96	17.924	27.489				
		1	14.97	17.925	27.500	30.51	16.01	46.52	
		3	14.96	17.940	27.498				
10+10 MHz BW / 2 Carriers	QPSK	0	14.90	18.934	27.671	30.60	16.01	46.61	49.667
		2	14.75	18.920	27.515				
		1	14.95	18.909	27.719	30.69	16.01	46.70	
		3	14.87	18.906	27.639				
	QAM	0	14.81	18.888	27.576	30.67	16.01	46.68	49.698
		2	14.94	19.031	27.736				
		1	14.85	18.930	27.621	30.69	16.01	46.70	
		3	14.96	18.938	27.733				
20+10 MHz BW / 2 Carriers	QPSK	0	14.97	28.336	29.496	32.44	16.01	48.45	51.401
		2	14.82	28.419	29.360				
		1	14.74	28.385	29.269	32.32	16.01	48.33	
		3	14.82	28.397	29.355				
	QAM	0	14.95	28.370	29.481	32.49	16.01	48.50	51.515
		2	14.96	28.375	29.485				
		1	14.96	28.416	29.500	32.50	16.01	48.51	
		3	14.95	28.354	29.471				

Channel BW	Modulation	Port	PSD (dBm/MHz)	99% OBW (MHz)	Total Channel Power (dBm/OBW)	MIMO Power	Antenna Gain (dBi)	EIRP (dBm)	Total EIRP (dBm)
20+20 MHz BW / 2 Carriers	QPSK	0	14.97	37.775	30.746	33.76	16.01	49.77	52.694
		2	14.97	37.878	30.753				
		1	14.72	37.727	30.486	33.59	16.01	49.60	
		3	14.89	37.821	30.664				
	QAM	0	14.91	37.756	30.684	33.68	16.01	49.69	52.740
		2	14.88	37.815	30.660				
		1	14.98	37.828	30.758	33.76	16.01	49.77	
		3	14.96	37.793	30.735				
10+10+10 MHz BW / 3 Carriers	QPSK	0	14.93	28.830	29.527	32.45	16.01	48.46	51.475
		2	14.74	28.878	29.347				
		1	14.73	28.899	29.336	32.46	16.01	48.47	
		3	14.96	28.858	29.563				
	QAM	0	14.95	28.863	29.553	32.58	16.01	48.59	51.600
		2	14.99	28.807	29.583				
		1	14.96	28.821	29.554	32.58	16.01	48.59	
		3	14.99	28.834	29.586				
20+10+10 MHz BW / 3 Carriers	QPSK	0	14.72	38.314	30.556	33.66	16.01	49.67	52.711
		2	14.90	38.319	30.733				
		1	14.84	38.324	30.672	33.72	16.01	49.73	
		3	14.92	38.304	30.756				
	QAM	0	14.92	38.296	30.755	33.77	16.01	49.78	52.823
		2	14.94	38.324	30.770				
		1	14.99	38.302	30.824	33.83	16.01	49.84	
		3	14.98	38.366	30.820				
20+20+10 MHz BW / 3 Carriers	QPSK	0	14.92	48.268	31.760	34.63	16.01	50.64	53.656
		2	14.64	48.255	31.472				
		1	14.77	48.256	31.609	34.64	16.01	50.65	
		3	14.83	48.195	31.658				
	QAM	0	14.99	48.217	31.817	34.82	16.01	50.83	53.817
		2	14.96	48.292	31.799				
		1	14.93	48.151	31.759	34.78	16.01	50.79	
		3	14.94	48.261	31.772				

Channel BW	Modulation	Port	PSD (dBm/MHz)	99% OBW (MHz)	Total Channel Power (dBm/OBW)	MIMO Power	Antenna Gain (dBi)	EIRP (dBm)	Total EIRP (dBm)
20+20+20 MHz BW / 3 Carriers	QPSK	0	14.57	57.567	32.171	35.31	16.01	51.32	54.370
		2	14.82	57.659	32.428				
		1	14.71	57.533	32.308	35.39	16.01	51.40	
		3	14.83	57.762	32.444				
	QAM	0	14.70	57.764	32.312	35.43	16.01	51.44	54.442
		2	14.91	57.651	32.516				
		1	14.71	57.748	32.320	35.42	16.01	51.43	
		3	14.87	57.866	32.494				
10+10+10+10 MHz BW / 4 Carriers	QPSK	0	14.93	38.693	30.802	33.77	16.01	49.78	52.739
		2	14.84	38.703	30.721				
		1	14.88	38.779	30.765	33.67	16.01	49.68	
		3	14.66	38.786	30.542				
	QAM	0	14.93	38.772	30.818	33.86	16.01	49.87	52.869
		2	14.99	38.817	30.875				
		1	14.91	38.788	30.795	33.84	16.01	49.85	
		3	14.97	38.844	30.865				
20+10+10+10 MHz BW / 4 Carriers	QPSK	0	14.86	48.248	31.696	34.74	16.01	50.75	53.747
		2	14.93	48.299	31.770				
		1	14.79	48.295	31.629	34.71	16.01	50.72	
		3	14.93	48.301	31.768				
	QAM	0	14.93	48.268	31.770	34.78	16.01	50.79	53.767
		2	14.94	48.218	31.772				
		1	14.90	48.193	31.728	34.71	16.01	50.72	
		3	14.84	48.278	31.676				
20+20+10+10 MHz BW / 4 Carriers	QPSK	0	14.92	58.229	32.571	35.59	16.01	51.60	54.562
		2	14.93	58.240	32.586				
		1	14.83	58.150	32.476	35.49	16.01	51.50	
		3	14.85	58.139	32.491				
	QAM	0	14.97	58.234	32.620	35.61	16.01	51.62	54.630
		2	14.93	58.238	32.585				
		1	14.94	58.091	32.585	35.61	16.01	51.62	
		3	14.96	58.177	32.608				

Channel BW	Modulation	Port	PSD (dBm/MHz)	99% OBW (MHz)	Total Channel Power (dBm/OBW)	MIMO Power	Antenna Gain (dBi)	EIRP (dBm)	Total EIRP (dBm)
20+20+20+10 MHz BW / 4 Carriers	QPSK	0	14.69	68.161	33.027	36.08	16.01	52.09	55.167
		2	14.77	68.218	33.104				
		1	14.96	68.000	33.285	36.22	16.01	52.23	
		3	14.79	68.115	33.124				
	QAM	0	14.85	68.088	33.182	36.16	16.01	52.17	55.261
		2	14.78	68.110	33.115				
		1	14.98	68.190	33.321	36.32	16.01	52.33	
		3	14.96	68.154	33.299				
20+20+20+20 MHz BW / 4 Carriers	QPSK	0	14.91	77.480	33.797	36.60	16.01	52.61	55.693
		2	14.47	77.595	33.369				
		1	14.87	77.523	33.768	36.74	16.01	52.75	
		3	14.81	77.518	33.700				
	QAM	0	14.97	77.455	33.864	36.87	16.01	52.88	55.879
		2	14.95	77.666	33.850				
		1	14.96	77.565	33.859	36.85	16.01	52.86	
		3	14.93	77.402	33.821				