Appendix B. Maximum e.i.r.p. at any elevation angle above 30 degrees

1. Maximum e.i.r.p. at any elevation angle above 30 degrees

Mode 1 (Set 1 Dipole antenna / 3.96dBi / 1TX)

Mode	Frequency	Modulation	Channel	Data Rate	Conducted Pass Setting	Chain (dBm)	Elevation angle above 30° Max gain (dBi)	Elevation angle above 30° Max EIRP (dBm)	EIRP Power Limit (dBm)	Test Result
						1				
Non BF	5180MHz	OFDM	Ch36	6Mbps	79	18.55	2.337	20.89	21	Complies
	5200MHz	OFDM	Ch40	6Mbps	79	18.52	2.337	20.86	21	Complies
	5240MHz	OFDM	Ch48	6Mbps	81	18.48	2.337	20.82	21	Complies
	5180MHz	VHT20	Ch36	MCS0-Nss1	77	18.62	2.337	20.96	21	Complies
	5200MHz	VHT20	Ch40	MCS0-Nss1	78	18.58	2.337	20.92	21	Complies
	5240MHz	VHT20	Ch48	MCS0-Nss1	79	18.47	2.337	20.81	21	Complies
	5190MHz	VHT40	Ch38	MCS0-Nss1	75	18.46	2.337	20.80	21	Complies
	5230MHz	VHT40	Ch46	MCS0-Nss1	77	18.56	2.337	20.90	21	Complies
	5210MHz	VHT80	Ch42	MCS0-Nss1	76	18.39	2.337	20.73	21	Complies

Mode 1 (Set 1 Dipole antenna / 3.96dBi / 2TX)

Mode	Frequency	Modulation	Channel	Data Rate	Conducted Pass Setting	Chain (dBm)			Elevation angle above 30° Max gain (dBi)	Elevation angle above 30° Max EIRP (dBm)	EIRP Power Limit (dBm)	Test Result
						1	2	Total				
Non BF	5180MHz	OFDM	Ch36	6Mbps	58	14.82	16.23	18.59	2.337	20.93	21	Complies
	5200MHz	OFDM	Ch40	6Mbps	57	14.76	16.2	18.55	2.337	20.89	21	Complies
	5240MHz	OFDM	Ch48	6Mbps	59	14.38	16.23	18.41	2.337	20.75	21	Complies
	5180MHz	VHT20	Ch36	MCS0-Nss1	62	14.79	16.11	18.51	2.337	20.85	21	Complies
	5200MHz	VHT20	Ch40	MCS0-Nss1	62	14.69	16.31	18.59	2.337	20.92	21	Complies
	5240MHz	VHT20	Ch48	MCS0-Nss1	64	14.62	16.27	18.53	2.337	20.87	21	Complies
	5190MHz	VHT40	Ch38	MCS0-Nss1	64	15.53	15.51	18.53	2.337	20.87	21	Complies
	5230MHz	VHT40	Ch46	MCS0-Nss1	65	15.33	15.64	18.50	2.337	20.84	21	Complies
	5210MHz	VHT80	Ch42	MCS0-Nss1	60	14.61	16.3	18.55	2.337	20.88	21	Complies
BF	5180MHz	VHT20	Ch36	MCS0-Nss1	49	11.75	13.05	15.46	5.347	20.81	21	Complies
	5200MHz	VHT20	Ch40	MCS0-Nss1	49	11.72	13.03	15.43	5.347	20.78	21	Complies
	5240MHz	VHT20	Ch48	MCS0-Nss1	51	11.74	13.21	15.55	5.347	20.89	21	Complies
	5190MHz	VHT40	Ch38	MCS0-Nss1	51	12.24	12.76	15.52	5.347	20.87	21	Complies
	5230MHz	VHT40	Ch46	MCS0-Nss1	53	12.19	13.03	15.64	5.347	20.99	21	Complies
	5210MHz	VHT80	Ch42	MCS0-Nss1	48	11.84	13.14	15.55	5.347	20.90	21	Complies

Note: BF: Beamforming

Mode 1 (Set 1 Dipole antenna / 3.96dBi / 3TX)

Mode	Frequency	Modulation	Channel	Data Rate	Conducted Pass Setting	Chain (dBm)				Elevation angle above 30° Max gain (dBi)	Elevation angle above 30° Max EIRP (dBm)	EIRP Power Limit (dBm)	Test Result
						1	2	3	Total				
Non BF	5180MHz	OFDM	Ch36	6Mbps	56	12.97	14.49	13.9	18.60	2.337	20.94	21	Complies
	5200MHz	OFDM	Ch40	6Mbps	56	12.91	14.43	14.16	18.65	2.337	20.99	21	Complies
	5240MHz	OFDM	Ch48	6Mbps	58	12.88	14.42	14.18	18.65	2.337	20.99	21	Complies
	5180MHz	VHT20	Ch36	MCS0-Nss1	56	12.98	14.35	13.76	18.50	2.337	20.84	21	Complies
	5200MHz	VHT20	Ch40	MCS0-Nss1	56	12.9	14.42	14.06	18.61	2.337	20.95	21	Complies
	5240MHz	VHT20	Ch48	MCS0-Nss1	58	12.83	14.45	14.04	18.60	2.337	20.93	21	Complies
	5190MHz	VHT40	Ch38	MCS0-Nss1	56	13.29	13.79	14.48	18.65	2.337	20.99	21	Complies
	5230MHz	VHT40	Ch46	MCS0-Nss1	57	13.33	13.46	14.41	18.53	2.337	20.87	21	Complies
	5210MHz	VHT80	Ch42	MCS0-Nss1	56	13.36	14.74	13.36	18.64	2.337	20.98	21	Complies
BF	5180MHz	VHT20	Ch36	MCS0-Nss1	34	8.41	9.15	8.98	13.63	7.108	20.74	21	Complies
	5200MHz	VHT20	Ch40	MCS0-Nss1	34	8.55	9.56	8.77	13.75	7.108	20.86	21	Complies
	5240MHz	VHT20	Ch48	MCS0-Nss1	36	8.35	9.9	8.91	13.87	7.108	20.98	21	Complies
	5190MHz	VHT40	Ch38	MCS0-Nss1	32	8.32	8.95	9.8	13.84	7.108	20.95	21	Complies
	5230MHz	VHT40	Ch46	MCS0-Nss1	33	8.63	8.86	9.29	13.71	7.108	20.81	21	Complies
	5210MHz	VHT80	Ch42	MCS0-Nss1	32	8.86	9.78	8.33	13.80	7.108	20.91	21	Complies

Note: BF: Beamforming

Mode 1 (Set 1 Dipole antenna / 3.96dBi / 4TX)

Mode	Frequency	Modulation	Channel	Data Rate	Conducted Pass Setting	Chain (dBm)					Elevation angle above 30° Max gain (dBi)	Elevation angle above 30° Max EIRP (dBm)	EIRP Power Limit (dBm)	Test Result
						1	2	3	4	Total				
Non BF	5180MHz	OFDM	Ch36	6Mbps	45	11.98	13.12	12.39	12.9	18.64	2.337	20.98	21	Complies
	5200MHz	OFDM	Ch40	6Mbps	44	11.91	13.33	12.53	12.56	18.63	2.337	20.97	21	Complies
	5240MHz	OFDM	Ch48	6Mbps	46	11.53	13.24	12.64	12.86	18.63	2.337	20.97	21	Complies
	5180MHz	VHT20	Ch36	MCS0-Nss1	45	12.09	13.14	12.4	12.82	18.65	2.337	20.99	21	Complies
	5200MHz	VHT20	Ch40	MCS0-Nss1	44	11.95	13.34	12.51	12.46	18.61	2.337	20.95	21	Complies
	5240MHz	VHT20	Ch48	MCS0-Nss1	46	11.82	13.36	12.56	12.48	18.61	2.337	20.95	21	Complies
	5190MHz	VHT40	Ch38	MCS0-Nss1	44	12.07	12.18	12.74	12.94	18.52	2.337	20.86	21	Complies
	5230MHz	VHT40	Ch46	MCS0-Nss1	45	11.77	12.1	12.86	12.99	18.48	2.337	20.82	21	Complies
	5210MHz	VHT80	Ch42	MCS0-Nss1	43	11.94	13.44	11.01	13.55	18.63	2.337	20.97	21	Complies
BF	5180MHz	VHT20	Ch36	MCS0-Nss1	16	5.94	6.94	6.01	6.35	12.35	8.358	20.71	21	Complies
	5200MHz	VHT20	Ch40	MCS0-Nss1	17	6.14	7.28	6.37	6.58	12.63	8.358	20.99	21	Complies
	5240MHz	VHT20	Ch48	MCS0-Nss1	16	5.71	7.1	6.11	6.24	12.34	8.358	20.70	21	Complies
	5190MHz	VHT40	Ch38	MCS0-Nss1	14	5.86	6.34	6.62	6.98	12.49	8.358	20.85	21	Complies
	5230MHz	VHT40	Ch46	MCS0-Nss1	16	6.03	6.27	6.92	6.9	12.57	8.358	20.93	21	Complies
	5210MHz	VHT80	Ch42	MCS0-Nss1	13	6.29	7.29	5.46	7.15	12.63	8.358	20.99	21	Complies

Note: BF: Beamforming

Mode 2 (Set 5 Polarized Dipole antenna / (2A)3.96dBi*1 / 1TX)

Mode	Frequency	Modulation	Channel	Data Rate	Conducted Pass Setting	Chain (dBm)	Elevation angle above 30° Max gain (dBi)	Elevation angle above 30° Max EIRP (dBm)	EIRP Power Limit (dBm)	Test Result
						1				
Non BF	5180MHz	OFDM	Ch36	6Mbps	79	18.55	2.337	20.89	21	Complies
	5200MHz	OFDM	Ch40	6Mbps	79	18.52	2.337	20.86	21	Complies
	5240MHz	OFDM	Ch48	6Mbps	81	18.48	2.337	20.82	21	Complies
	5180MHz	VHT20	Ch36	MCS0-Nss1	77	18.62	2.337	20.96	21	Complies
	5200MHz	VHT20	Ch40	MCS0-Nss1	78	18.58	2.337	20.92	21	Complies
	5240MHz	VHT20	Ch48	MCS0-Nss1	79	18.47	2.337	20.81	21	Complies
	5190MHz	VHT40	Ch38	MCS0-Nss1	75	18.46	2.337	20.80	21	Complies
	5230MHz	VHT40	Ch46	MCS0-Nss1	77	18.56	2.337	20.90	21	Complies
	5210MHz	VHT80	Ch42	MCS0-Nss1	76	18.39	2.337	20.73	21	Complies

Mode 2 (Set 5 Polarized Dipole antenna / (2A)3.96dBi*1, (2B)1.66dBi*1 / 2TX)

Mode	Frequency	Modulation	Channel	Data Rate	Conducted Pass Setting	Chain (dBm)			Elevation angle above 30° Max gain (dBi)	Elevation angle above 30° Max EIRP (dBm)	EIRP Power Limit (dBm)	Test Result
						1	2	Total				
Non BF	5180MHz	OFDM	Ch36	6Mbps	58	14.82	16.23	18.59	2.337	20.93	21	Complies
	5200MHz	OFDM	Ch40	6Mbps	57	14.76	16.2	18.55	2.337	20.89	21	Complies
	5240MHz	OFDM	Ch48	6Mbps	59	14.38	16.23	18.41	2.337	20.75	21	Complies
	5180MHz	VHT20	Ch36	MCS0-Nss1	62	14.79	16.11	18.51	2.337	20.85	21	Complies
	5200MHz	VHT20	Ch40	MCS0-Nss1	62	14.69	16.31	18.59	2.337	20.92	21	Complies
	5240MHz	VHT20	Ch48	MCS0-Nss1	64	14.62	16.27	18.53	2.337	20.87	21	Complies
	5190MHz	VHT40	Ch38	MCS0-Nss1	64	15.53	15.51	18.53	2.337	20.87	21	Complies
	5230MHz	VHT40	Ch46	MCS0-Nss1	65	15.33	15.64	18.50	2.337	20.84	21	Complies
	5210MHz	VHT80	Ch42	MCS0-Nss1	60	14.61	16.3	18.55	2.337	20.88	21	Complies
BF	5180MHz	VHT20	Ch36	MCS0-Nss1	62	14.79	16.11	18.51	2.337	20.85	21	Complies
	5200MHz	VHT20	Ch40	MCS0-Nss1	62	14.69	16.31	18.59	2.337	20.92	21	Complies
	5240MHz	VHT20	Ch48	MCS0-Nss1	64	14.62	16.27	18.53	2.337	20.87	21	Complies
	5190MHz	VHT40	Ch38	MCS0-Nss1	64	15.53	15.51	18.53	2.337	20.87	21	Complies
	5230MHz	VHT40	Ch46	MCS0-Nss1	65	15.33	15.64	18.50	2.337	20.84	21	Complies
	5210MHz	VHT80	Ch42	MCS0-Nss1	60	14.61	16.3	18.55	2.337	20.88	21	Complies

Note: BF: Beamforming

Mode 2 (Set 5 Polarized Dipole antenna / (2A)3.96dBi*2, (2B)1.66dBi*1 / 3TX)

Mode	Frequency	Modulation	Channel	Data Rate	Conducted Pass Setting	Chain (dBm)				Elevation angle above 30° Max gain (dBi)	Elevation angle above 30° Max EIRP (dBm)	EIRP Power Limit (dBm)	Test Result
						1	2	3	Total				
Non BF	5180MHz	OFDM	Ch36	6Mbps	56	12.97	14.49	13.9	18.60	2.337	20.94	21	Complies
	5200MHz	OFDM	Ch40	6Mbps	56	12.91	14.43	14.16	18.65	2.337	20.99	21	Complies
	5240MHz	OFDM	Ch48	6Mbps	58	12.88	14.42	14.18	18.65	2.337	20.99	21	Complies
	5180MHz	VHT20	Ch36	MCS0-Nss1	56	12.98	14.35	13.76	18.50	2.337	20.84	21	Complies
	5200MHz	VHT20	Ch40	MCS0-Nss1	56	12.9	14.42	14.06	18.61	2.337	20.95	21	Complies
	5240MHz	VHT20	Ch48	MCS0-Nss1	58	12.83	14.45	14.04	18.60	2.337	20.93	21	Complies
	5190MHz	VHT40	Ch38	MCS0-Nss1	56	13.29	13.79	14.48	18.65	2.337	20.99	21	Complies
	5230MHz	VHT40	Ch46	MCS0-Nss1	57	13.33	13.46	14.41	18.53	2.337	20.87	21	Complies
	5210MHz	VHT80	Ch42	MCS0-Nss1	56	13.36	14.74	13.36	18.64	2.337	20.98	21	Complies
BF	5180MHz	VHT20	Ch36	MCS0-Nss1	49	11.41	12.78	12.2	16.94	3.803	20.74	21	Complies
	5200MHz	VHT20	Ch40	MCS0-Nss1	49	11.24	12.83	12.56	17.03	3.803	20.84	21	Complies
	5240MHz	VHT20	Ch48	MCS0-Nss1	41	11.44	12.83	12.57	17.09	3.803	20.89	21	Complies
	5190MHz	VHT40	Ch38	MCS0-Nss1	50	11.72	12.23	12.92	17.09	3.803	20.89	21	Complies
	5230MHz	VHT40	Ch46	MCS0-Nss1	51	11.58	12.02	12.83	16.95	3.803	20.75	21	Complies
	5210MHz	VHT80	Ch42	MCS0-Nss1	50	11.75	13.37	11.86	17.16	3.803	20.97	21	Complies

Note: BF: Beamforming

Mode 2 (Set 5 Polarized Dipole antenna / (2A)3.96dBi*2, (2B)1.66dBi*2 / 4TX)

Mode	Frequency	Modulation	Channel	Data Rate	Conducted Pass Setting	Chain (dBm)					Elevation angle above 30° Max gain (dBi)	Elevation angle above 30° Max EIRP (dBm)	EIRP Power Limit (dBm)	Test Result
						1	2	3	4	Total				
Non BF	5180MHz	OFDM	Ch36	6Mbps	45	11.98	13.12	12.39	12.9	18.64	2.337	20.98	21	Complies
	5200MHz	OFDM	Ch40	6Mbps	44	11.91	13.33	12.53	12.56	18.63	2.337	20.97	21	Complies
	5240MHz	OFDM	Ch48	6Mbps	46	11.53	13.24	12.64	12.86	18.63	2.337	20.97	21	Complies
	5180MHz	VHT20	Ch36	MCS0-Nss1	45	12.09	13.14	12.4	12.82	18.65	2.337	20.99	21	Complies
	5200MHz	VHT20	Ch40	MCS0-Nss1	44	11.95	13.34	12.51	12.46	18.61	2.337	20.95	21	Complies
	5240MHz	VHT20	Ch48	MCS0-Nss1	46	11.82	13.36	12.56	12.48	18.61	2.337	20.95	21	Complies
	5190MHz	VHT40	Ch38	MCS0-Nss1	44	12.07	12.18	12.74	12.94	18.52	2.337	20.86	21	Complies
	5230MHz	VHT40	Ch46	MCS0-Nss1	45	11.77	12.1	12.86	12.99	18.48	2.337	20.82	21	Complies
	5210MHz	VHT80	Ch42	MCS0-Nss1	43	11.94	13.44	11.01	13.55	18.63	2.337	20.97	21	Complies
BF	5180MHz	VHT20	Ch36	MCS0-Nss1	37	10.35	11.16	10.23	10.98	16.72	4.253	20.97	21	Complies
	5200MHz	VHT20	Ch40	MCS0-Nss1	37	10.32	11.21	10.54	10.47	16.67	4.253	20.92	21	Complies
	5240MHz	VHT20	Ch48	MCS0-Nss1	38	10.33	11.21	10.45	10.76	16.72	4.253	20.97	21	Complies
	5190MHz	VHT40	Ch38	MCS0-Nss1	37	10.12	10.32	11.06	11.21	16.72	4.253	20.98	21	Complies
	5230MHz	VHT40	Ch46	MCS0-Nss1	37	10.11	10.13	11.09	11.31	16.71	4.253	20.97	21	Complies
	5210MHz	VHT80	Ch42	MCS0-Nss1	35	10.06	11.03	10.12	11.33	16.69	4.253	20.94	21	Complies

Note: BF: Beamforming

Mode 3 (Set 6 Panel antenna / 2.66dBi / 1TX)

Mode	Frequency	Modulation	Channel	Data Rate	Conducted Pass Setting	Chain (dBm)	Elevation angle above 30° Max gain (dBi)	Elevation angle above 30° Max EIRP (dBm)	EIRP Power Limit (dBm)	Test Result
						1				
Non BF	5180MHz	OFDM	Ch36	6Mbps	81	19.13	1.863	20.99	21	Complies
	5200MHz	OFDM	Ch40	6Mbps	81	19.02	1.863	20.88	21	Complies
	5240MHz	OFDM	Ch48	6Mbps	83	19.09	1.863	20.95	21	Complies
	5180MHz	VHT20	Ch36	MCS0-Nss1	79	19.12	1.860	20.98	21	Complies
	5200MHz	VHT20	Ch40	MCS0-Nss1	80	18.81	1.860	20.67	21	Complies
	5240MHz	VHT20	Ch48	MCS0-Nss1	80	19.02	1.860	20.88	21	Complies
	5190MHz	VHT40	Ch38	MCS0-Nss1	77	19.04	1.860	20.90	21	Complies
	5230MHz	VHT40	Ch46	MCS0-Nss1	79	19.09	1.860	20.95	21	Complies
	5210MHz	VHT80	Ch42	MCS0-Nss1	77	19.02	1.860	20.88	21	Complies

Mode 3 (Set 6 Panel antenna / 2.66dBi / 2TX)

Mode	Frequency	Modulation	Channel	Data Rate	Conducted Pass Setting	Chain (dBm)			Elevation angle above 30° Max gain (dBi)	Elevation angle above 30° Max EIRP (dBm)	EIRP Power Limit (dBm)	Test Result
						1	2	Total				
Non BF	5180MHz	OFDM	Ch36	6Mbps	60	15.33	16.72	19.09	1.863	20.95	21	Complies
	5200MHz	OFDM	Ch40	6Mbps	60	15.24	16.85	19.13	1.863	20.99	21	Complies
	5240MHz	OFDM	Ch48	6Mbps	62	15.14	16.91	19.12	1.863	20.99	21	Complies
	5180MHz	VHT20	Ch36	MCS0-Nss1	64	15.32	16.65	19.05	1.863	20.91	21	Complies
	5200MHz	VHT20	Ch40	MCS0-Nss1	63	14.91	16.58	18.84	1.863	20.70	21	Complies
	5240MHz	VHT20	Ch48	MCS0-Nss1	65	14.87	16.77	18.93	1.863	20.80	21	Complies
	5190MHz	VHT40	Ch38	MCS0-Nss1	66	15.81	16.05	18.94	1.863	20.80	21	Complies
	5230MHz	VHT40	Ch46	MCS0-Nss1	67	15.81	16.28	19.06	1.863	20.92	21	Complies
	5210MHz	VHT80	Ch42	MCS0-Nss1	62	15.02	16.69	18.95	1.863	20.81	21	Complies
BF	5180MHz	VHT20	Ch36	MCS0-Nss1	51	12.53	13.37	15.98	4.873	20.85	21	Complies
	5200MHz	VHT20	Ch40	MCS0-Nss1	51	12.46	13.65	16.11	4.873	20.98	21	Complies
	5240MHz	VHT20	Ch48	MCS0-Nss1	53	12.31	13.71	16.08	4.873	20.95	21	Complies
	5190MHz	VHT40	Ch38	MCS0-Nss1	53	12.84	13.32	16.10	4.873	20.97	21	Complies
	5230MHz	VHT40	Ch46	MCS0-Nss1	54	12.63	13.14	15.90	4.873	20.78	21	Complies
	5210MHz	VHT80	Ch42	MCS0-Nss1	50	12.36	13.7	16.09	4.873	20.97	21	Complies

Note: BF: Beamforming

Mode 3 (Set 6 Panel antenna / 2.66dBi / 3TX)

Mode	Frequency	Modulation	Channel	Data Rate	Conducted Pass Setting	Chain (dBm)				Elevation angle above 30° Max gain (dBi)	Elevation angle above 30° Max EIRP (dBm)	EIRP Power Limit (dBm)	Test Result
						1	2	3	Total				
Non BF	5180MHz	OFDM	Ch36	6Mbps	57	13.33	14.61	14.19	18.85	1.863	20.71	21	Complies
	5200MHz	OFDM	Ch40	6Mbps	57	13.32	14.83	14.4	19.00	1.863	20.86	21	Complies
	5240MHz	OFDM	Ch48	6Mbps	60	13.37	14.89	14.53	19.08	1.863	20.94	21	Complies
	5180MHz	VHT20	Ch36	MCS0-Nss1	58	13.57	14.81	14.33	19.04	1.863	20.90	21	Complies
	5200MHz	VHT20	Ch40	MCS0-Nss1	58	13.35	14.74	14.31	18.94	1.863	20.81	21	Complies
	5240MHz	VHT20	Ch48	MCS0-Nss1	60	13.42	14.08	14.5	18.79	1.863	20.66	21	Complies
	5190MHz	VHT40	Ch38	MCS0-Nss1	58	13.83	14.2	14.81	19.07	1.863	20.93	21	Complies
	5230MHz	VHT40	Ch46	MCS0-Nss1	59	13.73	14.18	14.78	19.02	1.863	20.89	21	Complies
	5210MHz	VHT80	Ch42	MCS0-Nss1	57	13.59	15.16	13.49	18.92	1.863	20.78	21	Complies
BF	5180MHz	VHT20	Ch36	MCS0-Nss1	36	9.32	9.75	9.51	14.30	6.634	20.94	21	Complies
	5200MHz	VHT20	Ch40	MCS0-Nss1	36	8.91	10.38	9.25	14.33	6.634	20.97	21	Complies
	5240MHz	VHT20	Ch48	MCS0-Nss1	38	8.96	10.2	9.41	14.33	6.634	20.96	21	Complies
	5190MHz	VHT40	Ch38	MCS0-Nss1	34	8.85	8.91	10.23	14.15	6.634	20.78	21	Complies
	5230MHz	VHT40	Ch46	MCS0-Nss1	35	9.14	9.28	9.72	14.16	6.634	20.79	21	Complies
	5210MHz	VHT80	Ch42	MCS0-Nss1	34	9.37	10.35	8.72	14.30	6.634	20.94	21	Complies

Note: BF: Beamforming

Mode 3 (Set 6 Panel antenna / 2.66dBi / 4TX)

Mode	Frequency	Modulation	Channel	Data Rate	Conducted Pass Setting	Chain (dBm)					Elevation angle above 30° Max gain (dBi)	Elevation angle above 30° Max EIRP (dBm)	EIRP Power Limit (dBm)	Test Result
						1	2	3	4	Total				
Non BF	5180MHz	OFDM	Ch36	6Mbps	46	12.36	13.41	13.02	13.13	19.02	1.863	20.88	21	Complies
	5200MHz	OFDM	Ch40	6Mbps	46	12.32	13.51	13.28	13.18	19.12	1.863	20.98	21	Complies
	5240MHz	OFDM	Ch48	6Mbps	48	11.98	13.59	13.04	13.17	19.00	1.863	20.87	21	Complies
	5180MHz	VHT20	Ch36	MCS0-Nss1	46	12.25	13.57	13.08	13.11	19.05	1.863	20.91	21	Complies
	5200MHz	VHT20	Ch40	MCS0-Nss1	46	12.24	13.87	13.14	12.66	19.04	1.863	20.90	21	Complies
	5240MHz	VHT20	Ch48	MCS0-Nss1	49	12.21	13.56	13.15	13.39	19.13	1.863	20.99	21	Complies
	5190MHz	VHT40	Ch38	MCS0-Nss1	47	12.52	12.87	13.42	13.54	19.13	1.863	20.99	21	Complies
	5230MHz	VHT40	Ch46	MCS0-Nss1	48	12.48	12.94	13.32	13.62	19.13	1.863	20.99	21	Complies
	5210MHz	VHT80	Ch42	MCS0-Nss1	45	12.48	13.71	11.61	13.81	19.02	1.863	20.88	21	Complies
BF	5180MHz	VHT20	Ch36	MCS0-Nss1	18	6.52	7.31	6.58	6.83	12.84	7.884	20.73	21	Complies
	5200MHz	VHT20	Ch40	MCS0-Nss1	18	6.3	7.51	6.98	6.81	12.94	7.884	20.83	21	Complies
	5240MHz	VHT20	Ch48	MCS0-Nss1	20	6.47	7.74	6.8	7.04	13.06	7.884	20.94	21	Complies
	5190MHz	VHT40	Ch38	MCS0-Nss1	16	6.28	6.81	7.52	7.32	13.03	7.884	20.91	21	Complies
	5230MHz	VHT40	Ch46	MCS0-Nss1	18	6.52	6.83	7.36	7.56	13.11	7.884	20.99	21	Complies
	5210MHz	VHT80	Ch42	MCS0-Nss1	14	6.44	7.43	5.65	7.61	12.87	7.884	20.76	21	Complies

Note: BF: Beamforming

Mode 4 (Set 7 Polarized Panel antenna / 3.89dBi / 1TX)

Mode	Frequency	Modulation	Channel	Data Rate	Conducted Pass Setting	Chain (dBm)	Elevation angle above 30° Max gain (dBi)	Elevation angle above 30° Max EIRP (dBm)	EIRP Power Limit (dBm)	Test Result
						1				
Non BF	5180MHz	OFDM	Ch36	6Mbps	86	20.36	0.608	20.97	21	Complies
	5200MHz	OFDM	Ch40	6Mbps	86	20.37	0.608	20.98	21	Complies
	5240MHz	OFDM	Ch48	6Mbps	87	20.26	0.608	20.87	21	Complies
	5180MHz	VHT20	Ch36	MCS0-Nss1	83	20.21	0.608	20.82	21	Complies
	5200MHz	VHT20	Ch40	MCS0-Nss1	83	20.10	0.608	20.71	21	Complies
	5240MHz	VHT20	Ch48	MCS0-Nss1	85	20.15	0.608	20.76	21	Complies
	5190MHz	VHT40	Ch38	MCS0-Nss1	82	20.23	0.608	20.84	21	Complies
	5230MHz	VHT40	Ch46	MCS0-Nss1	83	20.33	0.608	20.94	21	Complies
	5210MHz	VHT80	Ch42	MCS0-Nss1	81	20.14	0.608	20.75	21	Complies

Mode 4 (Set 7 Polarized Panel antenna / 3.89dBi / 2TX)

Mode	Frequency	Modulation	Channel	Data Rate	Conducted Pass Setting	Chain (dBm)			Elevation angle above 30° Max gain (dBi)	Elevation angle above 30° Max EIRP (dBm)	EIRP Power Limit (dBm)	Test Result
						1	2	Total				
Non BF	5180MHz	OFDM	Ch36	6Mbps	65	16.44	17.93	20.26	0.608	20.87	21	Complies
	5200MHz	OFDM	Ch40	6Mbps	65	16.53	18.06	20.37	0.608	20.98	21	Complies
	5240MHz	OFDM	Ch48	6Mbps	66	16.12	17.97	20.15	0.608	20.76	21	Complies
	5180MHz	VHT20	Ch36	MCS0-Nss1	69	16.53	17.94	20.30	0.608	20.91	21	Complies
	5200MHz	VHT20	Ch40	MCS0-Nss1	69	16.49	18.11	20.39	0.608	20.99	21	Complies
	5240MHz	VHT20	Ch48	MCS0-Nss1	70	16.14	17.89	20.11	0.608	20.72	21	Complies
	5190MHz	VHT40	Ch38	MCS0-Nss1	71	17.23	17.49	20.37	0.608	20.98	21	Complies
	5230MHz	VHT40	Ch46	MCS0-Nss1	72	17.17	17.57	20.38	0.608	20.99	21	Complies
	5210MHz	VHT80	Ch42	MCS0-Nss1	67	16.31	17.92	20.20	0.608	20.81	21	Complies
BF	5180MHz	VHT20	Ch36	MCS0-Nss1	69	16.53	17.94	20.30	0.608	20.91	21	Complies
	5200MHz	VHT20	Ch40	MCS0-Nss1	69	16.49	18.11	20.39	0.608	20.99	21	Complies
	5240MHz	VHT20	Ch48	MCS0-Nss1	70	16.14	17.89	20.11	0.608	20.72	21	Complies
	5190MHz	VHT40	Ch38	MCS0-Nss1	71	17.23	17.49	20.37	0.608	20.98	21	Complies
	5230MHz	VHT40	Ch46	MCS0-Nss1	72	17.17	17.57	20.38	0.608	20.99	21	Complies
	5210MHz	VHT80	Ch42	MCS0-Nss1	67	16.31	17.92	20.20	0.608	20.81	21	Complies

Note: BF: Beamforming

Mode 4 (Set 7 Polarized Panel antenna / 3.89dBi / 3TX)

Mode	Frequency	Modulation	Channel	Data Rate	Conducted Pass Setting	Chain (dBm)				Elevation angle above 30° Max gain (dBi)	Elevation angle above 30° Max EIRP (dBm)	EIRP Power Limit (dBm)	Test Result
						1	2	3	Total				
Non BF	5180MHz	OFDM	Ch36	6Mbps	63	14.88	15.94	15.56	20.25	0.608	20.86	21	Complies
	5200MHz	OFDM	Ch40	6Mbps	64	14.94	15.23	16.06	20.21	0.608	20.82	21	Complies
	5240MHz	OFDM	Ch48	6Mbps	66	14.85	15.68	16.01	20.31	0.608	20.92	21	Complies
	5180MHz	VHT20	Ch36	MCS0-Nss1	63	14.77	16.22	15.41	20.28	0.608	20.89	21	Complies
	5200MHz	VHT20	Ch40	MCS0-Nss1	63	14.72	16.16	15.68	20.33	0.608	20.94	21	Complies
	5240MHz	VHT20	Ch48	MCS0-Nss1	65	14.42	16.21	15.57	20.23	0.608	20.84	21	Complies
	5190MHz	VHT40	Ch38	MCS0-Nss1	63	15.07	15.05	16.12	20.21	0.608	20.82	21	Complies
	5230MHz	VHT40	Ch46	MCS0-Nss1	64	14.86	15.16	16.16	20.20	0.608	20.81	21	Complies
	5210MHz	VHT80	Ch42	MCS0-Nss1	62	14.81	16.25	14.86	20.13	0.608	20.74	21	Complies
BF	5180MHz	VHT20	Ch36	MCS0-Nss1	56	12.98	14.37	13.54	18.44	2.369	20.81	21	Complies
	5200MHz	VHT20	Ch40	MCS0-Nss1	56	12.79	14.43	13.76	18.48	2.369	20.85	21	Complies
	5240MHz	VHT20	Ch48	MCS0-Nss1	58	12.49	14.32	13.67	18.33	2.369	20.70	21	Complies
	5190MHz	VHT40	Ch38	MCS0-Nss1	56	12.48	13.26	14.88	18.43	2.369	20.80	21	Complies
	5230MHz	VHT40	Ch46	MCS0-Nss1	56	12.98	13.45	14.56	18.49	2.369	20.85	21	Complies
	5210MHz	VHT80	Ch42	MCS0-Nss1	56	12.98	13.89	13.86	18.37	2.369	20.74	21	Complies

Note: BF: Beamforming

Mode 4 (Set 7 Polarized Panel antenna / 3.89dBi / 4TX)

Mode	Frequency	Modulation	Channel	Data Rate	Conducted Pass Setting	Chain (dBm)					Elevation angle above 30° Max gain (dBi)	Elevation angle above 30° Max EIRP (dBm)	EIRP Power Limit (dBm)	Test Result
						1	2	3	4	Total				
Non BF	5180MHz	OFDM	Ch36	6Mbps	51	13.55	14.72	14.12	14.24	20.20	0.608	20.81	21	Complies
	5200MHz	OFDM	Ch40	6Mbps	51	13.46	14.92	14.36	14.08	20.26	0.608	20.87	21	Complies
	5240MHz	OFDM	Ch48	6Mbps	53	13.17	14.68	14.42	14.51	20.25	0.608	20.86	21	Complies
	5180MHz	VHT20	Ch36	MCS0-Nss1	52	13.77	14.71	14.31	14.42	20.34	0.608	20.94	21	Complies
	5200MHz	VHT20	Ch40	MCS0-Nss1	52	13.59	15.04	14.46	14.22	20.38	0.608	20.99	21	Complies
	5240MHz	VHT20	Ch48	MCS0-Nss1	54	13.43	14.9	14.62	14.37	20.38	0.608	20.99	21	Complies
	5190MHz	VHT40	Ch38	MCS0-Nss1	52	13.89	14.01	14.56	14.88	20.37	0.608	20.98	21	Complies
	5230MHz	VHT40	Ch46	MCS0-Nss1	53	13.41	14.06	14.43	15.13	20.32	0.608	20.93	21	Complies
	5210MHz	VHT80	Ch42	MCS0-Nss1	50	13.72	14.84	13.1	14.84	20.21	0.608	20.82	21	Complies
BF	5180MHz	VHT20	Ch36	MCS0-Nss1	41	10.78	11.32	11.31	11.21	17.18	3.618	20.80	21	Complies
	5200MHz	VHT20	Ch40	MCS0-Nss1	41	10.77	11.45	11.46	11.25	17.26	3.618	20.88	21	Complies
	5240MHz	VHT20	Ch48	MCS0-Nss1	43	10.87	11.12	11.44	11.78	17.34	3.618	20.95	21	Complies
	5190MHz	VHT40	Ch38	MCS0-Nss1	41	10.89	11.01	11.56	11.78	17.35	3.618	20.96	21	Complies
	5230MHz	VHT40	Ch46	MCS0-Nss1	42	10.41	11.06	11.43	11.13	17.04	3.618	20.66	21	Complies
	5210MHz	VHT80	Ch42	MCS0-Nss1	39	10.74	11.24	11.34	11.44	17.22	3.618	20.84	21	Complies

Note: BF: Beamforming

Mode 6 (Set 9 Monopole antenna / Chain 1: 6.8dBi / 1TX)

Mode	Frequency	Modulation	Channel	Data Rate	Conducted Pass Setting	Chain (dBm)	Elevation angle above 30° Max gain (dBi)	Elevation angle above 30° Max EIRP (dBm)	EIRP Power Limit (dBm)	Test Result
						1				
Non BF	5180MHz	OFDM	Ch36	6Mbps	74	17.57	3.400	20.97	21	Complies
	5200MHz	OFDM	Ch40	6Mbps	76	17.54	3.400	20.94	21	Complies
	5240MHz	OFDM	Ch48	6Mbps	76	17.53	3.400	20.93	21	Complies
	5180MHz	VHT20	Ch36	MCS0-Nss1	74	17.42	3.400	20.82	21	Complies
	5200MHz	VHT20	Ch40	MCS0-Nss1	76	17.48	3.400	20.88	21	Complies
	5240MHz	VHT20	Ch48	MCS0-Nss1	76	17.45	3.400	20.85	21	Complies
	5190MHz	VHT40	Ch38	MCS0-Nss1	74	17.41	3.400	20.81	21	Complies
	5230MHz	VHT40	Ch46	MCS0-Nss1	74	17.31	3.400	20.71	21	Complies
	5210MHz	VHT80	Ch42	MCS0-Nss1	73	17.49	3.400	20.89	21	Complies

Mode 6 (Set 9 Monopole antenna / Chain 1: 6.8dBi, Chain 2: 6.7dBi / 2TX)

Mode	Frequency	Modulation	Channel	Data Rate	Conducted Pass Setting	Chain (dBm)			Elevation angle above 30° Max gain (dBi)	Elevation angle above 30° Max EIRP (dBm)	EIRP Power Limit (dBm)	Test Result
						1	2	Total				
Non BF	5180MHz	OFDM	Ch36	6Mbps	54	13.48	15.29	17.49	3.400	20.89	21	Complies
	5200MHz	OFDM	Ch40	6Mbps	54	13.33	15.08	17.30	3.400	20.70	21	Complies
	5240MHz	OFDM	Ch48	6Mbps	55	13.54	15.22	17.47	3.400	20.87	21	Complies
	5180MHz	VHT20	Ch36	MCS0-Nss1	54	13.44	15.38	17.53	3.400	20.93	21	Complies
	5200MHz	VHT20	Ch40	MCS0-Nss1	54	13.21	15.12	17.28	3.400	20.68	21	Complies
	5240MHz	VHT20	Ch48	MCS0-Nss1	55	13.47	15.27	17.47	3.400	20.87	21	Complies
	5190MHz	VHT40	Ch38	MCS0-Nss1	57	14.03	14.98	17.54	3.400	20.94	21	Complies
	5230MHz	VHT40	Ch46	MCS0-Nss1	57	14.13	14.71	17.44	3.400	20.84	21	Complies
	5210MHz	VHT80	Ch42	MCS0-Nss1	53	13.3	15.21	17.37	3.400	20.77	21	Complies
BF	5180MHz	VHT20	Ch36	MCS0-Nss1	42	10.57	12.27	14.51	6.410	20.92	21	Complies
	5200MHz	VHT20	Ch40	MCS0-Nss1	42	10.36	12.08	14.31	6.410	20.73	21	Complies
	5240MHz	VHT20	Ch48	MCS0-Nss1	43	10.87	12.07	14.52	6.410	20.93	21	Complies
	5190MHz	VHT40	Ch38	MCS0-Nss1	45	11.18	11.83	14.53	6.410	20.94	21	Complies
	5230MHz	VHT40	Ch46	MCS0-Nss1	45	11.15	11.87	14.54	6.410	20.95	21	Complies
	5210MHz	VHT80	Ch42	MCS0-Nss1	39	10.34	12.48	14.55	6.410	20.96	21	Complies

Note: BF: Beamforming

Mode 6 (Set 9 Monopole antenna / Chain 1: 6.8dBi, Chain 2: 6.7dBi, Chain 3: 6.6dBi / 3TX)

Mode	Frequency	Modulation	Channel	Data Rate	Conducted Pass Setting	Chain (dBm)				Elevation angle above 30° Max gain (dBi)	Elevation angle above 30° Max EIRP (dBm)	EIRP Power Limit (dBm)	Test Result
						1	2	3	Total				
Non BF	5180MHz	OFDM	Ch36	6Mbps	52	11.57	13.46	12.94	17.50	3.400	20.90	21	Complies
	5200MHz	OFDM	Ch40	6Mbps	52	11.29	13.59	12.91	17.47	3.400	20.87	21	Complies
	5240MHz	OFDM	Ch48	6Mbps	53	11.54	13.41	12.82	17.43	3.400	20.83	21	Complies
	5180MHz	VHT20	Ch36	MCS0-Nss1	52	11.52	13.18	12.9	17.36	3.400	20.76	21	Complies
	5200MHz	VHT20	Ch40	MCS0-Nss1	52	11.42	13.08	13.09	17.37	3.400	20.77	21	Complies
	5240MHz	VHT20	Ch48	MCS0-Nss1	53	11.63	13.22	12.81	17.38	3.400	20.78	21	Complies
	5190MHz	VHT40	Ch38	MCS0-Nss1	52	11.56	12.34	13.46	17.30	3.400	20.70	21	Complies
	5230MHz	VHT40	Ch46	MCS0-Nss1	54	11.95	12.54	13.21	17.37	3.400	20.77	21	Complies
	5210MHz	VHT80	Ch42	MCS0-Nss1	52	11.52	13.46	12.13	17.22	3.400	20.62	21	Complies
BF	5180MHz	VHT20	Ch36	MCS0-Nss1	32	6.95	8.63	8.04	12.70	8.171	20.87	21	Complies
	5200MHz	VHT20	Ch40	MCS0-Nss1	32	6.79	8.43	8.41	12.71	8.171	20.88	21	Complies
	5240MHz	VHT20	Ch48	MCS0-Nss1	32	7.31	8.32	7.81	12.60	8.171	20.78	21	Complies
	5190MHz	VHT40	Ch38	MCS0-Nss1	30	7.12	7.64	8.37	12.51	8.171	20.68	21	Complies
	5230MHz	VHT40	Ch46	MCS0-Nss1	30	6.92	7.61	8.63	12.55	8.171	20.72	21	Complies
	5210MHz	VHT80	Ch42	MCS0-Nss1	30	7.69	8.56	7.28	12.65	8.171	20.82	21	Complies

Note: BF: Beamforming

Mode 6 (Set 9 Monopole antenna / Chain 1: 6.8dBi, Chain 2: 6.7dBi, Chain 3: 6.6dBi, Chain 4: 5.9dBi / 4TX)

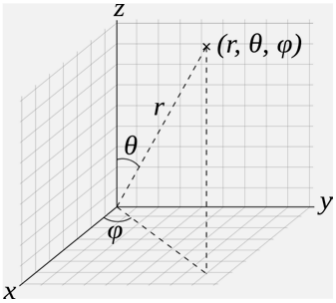
Mode	Frequency	Modulation	Channel	Data Rate	Conducted Pass Setting	Chain (dBm)					Elevation angle above 30° Max gain (dBi)	Elevation angle above 30° Max EIRP (dBm)	EIRP Power Limit (dBm)	Test Result
						1	2	3	4	Total				
Non BF	5180MHz	OFDM	Ch36	6Mbps	40	10.88	12.17	11.57	11.26	17.52	3.400	20.92	21	Complies
	5200MHz	OFDM	Ch40	6Mbps	40	10.42	11.86	11.56	11.13	17.30	3.400	20.70	21	Complies
	5240MHz	OFDM	Ch48	6Mbps	42	10.97	12.26	11.61	11.23	17.57	3.400	20.97	21	Complies
	5180MHz	VHT20	Ch36	MCS0-Nss1	40	10.84	12.08	11.58	11.09	17.44	3.400	20.84	21	Complies
	5200MHz	VHT20	Ch40	MCS0-Nss1	40	10.74	11.83	11.58	11.24	17.39	3.400	20.79	21	Complies
	5240MHz	VHT20	Ch48	MCS0-Nss1	42	10.97	12.2	11.62	11.21	17.55	3.400	20.95	21	Complies
	5190MHz	VHT40	Ch38	MCS0-Nss1	40	10.23	10.92	12.12	11.47	17.26	3.400	20.66	21	Complies
	5230MHz	VHT40	Ch46	MCS0-Nss1	42	10.82	11.34	12.07	11.36	17.44	3.400	20.84	21	Complies
	5210MHz	VHT80	Ch42	MCS0-Nss1	40	10.44	12.42	9.84	12.13	17.36	3.400	20.76	21	Complies
BF	5180MHz	VHT20	Ch36	MCS0-Nss1	13	4.55	6.24	5.67	4.91	11.41	9.421	20.83	21	Complies
	5200MHz	VHT20	Ch40	MCS0-Nss1	14	4.62	5.83	5.64	4.82	11.28	9.421	20.70	21	Complies
	5240MHz	VHT20	Ch48	MCS0-Nss1	14	4.89	5.79	5.54	4.91	11.32	9.421	20.74	21	Complies
	5190MHz	VHT40	Ch38	MCS0-Nss1	11	4.16	5.05	6.28	5.51	11.34	9.421	20.76	21	Complies
	5230MHz	VHT40	Ch46	MCS0-Nss1	12	4.56	4.85	5.98	5.33	11.23	9.421	20.65	21	Complies
	5210MHz	VHT80	Ch42	MCS0-Nss1	10	4.73	5.87	4.14	5.65	11.17	9.421	20.59	21	Complies

Note: BF: Beamforming

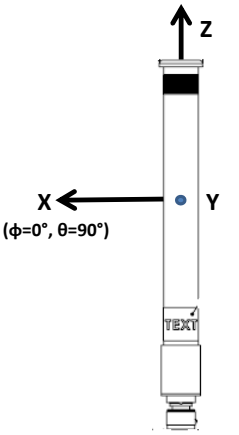
ML-2452-HPAG4A6-01

Revisions	Date	Change
0	2014/12/12	Initial release
1	2014/12/16	AZ/EL data orientation

REFERENCE COORDINATE SYSTEM



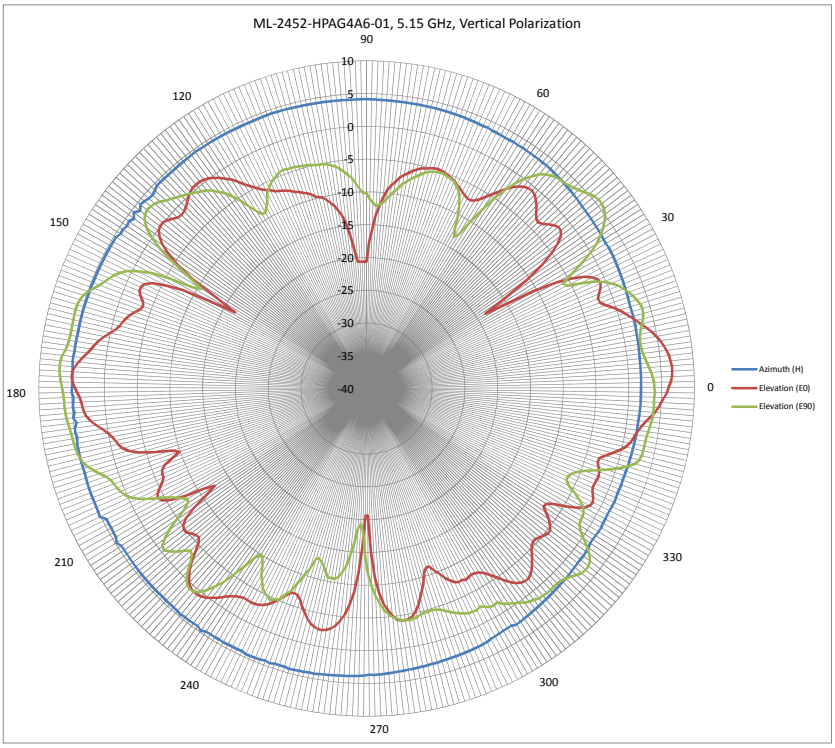
FRONT VIEW



Azimuth (H) is in XY plane, angle is phi (X-axis referenc
Elevation (E0) is in XZ plane, angle is theta (Z-axis refere
Elevation (E90) is in YZ plane, angle is theta (Z-axis refer

ML-2452-HPAG4A6-01
Vertical (Z-axis) polarization

	XY Plane	XZ Plane	YZ Plane	
Angle (°)	H (dBi)	E0 (dBi)	E90 (dBi)	Label
90	4.141	-20.629	-10.173	90
89	4.109	-17.7	-11.126	
88	4.079	-15.648	-11.632	
87	4.083	-13.642	-12.053	
86	4.088	-12.155	-11.867	
85	4.095	-10.756	-11.537	
84	4.069	-9.569	-10.917	
83	4.061	-8.748	-10.327	
82	4.057	-8.142	-9.678	
81	4.061	-7.388	-9.065	
80	4.061	-6.95	-8.292	
79	4.053	-6.507	-7.84	
78	4.055	-6.023	-7.272	
77	4.05	-5.713	-6.842	
76	4.02	-5.36	-6.45	
75	4.028	-5.248	-5.953	
74	4.039	-5.031	-5.604	
73	3.999	-4.891	-5.446	
72	3.964	-4.797	-5.312	
71	3.934	-4.889	-5.169	
70	3.905	-4.973	-5.199	
69	3.906	-5.186	-5.442	
68	3.862	-5.396	-5.482	
67	3.837	-5.573	-5.683	
66	3.824	-5.984	-6.222	
65	3.891	-6.281	-6.686	
64	3.758	-6.62	-7.632	
63	3.781	-6.967	-8.905	
62	3.742	-7.151	-10.291	
61	3.723	-7.16	-12.161	
60	3.757	-6.903	-13.327	60
59	3.767	-6.356	-12.562	
58	3.72	-5.525	-10.026	
57	3.735	-4.698	-7.336	
56	3.733	-3.782	-4.92	
55	3.734	-2.91	-2.987	
54	3.725	-2.081	-1.342	
53	3.712	-1.468	0.019	
52	3.71	-0.991	1.064	
51	3.726	-0.732	1.959	
50	3.658	-0.628	2.577	
49	3.606	-0.847	2.966	
48	3.543	-1.328	3.286	
47	3.503	-1.903	3.438	
46	3.431	-2.664	3.532	
45	3.389	-3.347	3.711	
44	3.355	-3.581	3.993	
43	3.287	-3.279	4.272	
42	3.219	-2.615	4.703	
41	3.116	-2.1	5.113	
40	3.056	-1.732	5.462	
39	3.017	-1.792	5.677	
38	2.972	-2.319	5.65	
37	2.924	-3.416	5.453	
36	2.887	-5.179	5.034	
35	2.859	-7.301	4.444	
34	2.851	-10.373	3.627	
33	2.794	-14.647	2.65	
32	2.76	-18.552	1.457	
31	2.658	-15.167	-0.184	
30	2.734	-10.278	-2.243	30
29	2.729	-6.825	-4.28	
28	2.672	-4.438	-6.014	
27	2.635	-2.661	-5.665	
26	2.573	-1.602	-3.723	
25	2.502	-0.921	-1.695	
24	2.493	-0.894	-0.291	
23	2.389	-1.16	0.699	
22	2.37	-1.743	1.491	
21	2.309	-2.153	2.079	
20	2.276	-2.024	2.593	
19	2.216	-1.393	3.037	
18	2.161	-0.457	3.396	
17	2.127	0.37	3.687	
16	2.128	1.073	3.816	
15	2.123	1.744	3.725	
14	2.125	2.374	3.515	
13	2.104	3.049	3.145	
12	2.056	3.707	2.815	
11	2.022	4.359	2.577	
10	2	4.919	2.39	
9	2.001	5.394	2.339	
8	1.992	5.795	2.387	
7	1.976	6.117	2.501	
6	1.912	6.394	2.688	
5	1.937	6.549	2.955	
4	1.882	6.689	3.231	
3	1.909	6.692	3.479	
2	1.902	6.627	3.704	
1	1.865	6.433	3.85	
0	1.836	6.106	3.891	0
359	1.884	5.829	3.984	
358	1.875	5.397	3.93	
357	1.903	5.036	3.892	
356	1.853	4.635	3.921	
355	1.845	4.143	3.899	
354	1.788	3.516	3.847	
353	1.759	2.907	3.759	
352	1.739	2.392	3.599	
351	1.74	1.962	3.478	
350	1.752	1.599	3.347	
349	1.681	1.38	3.28	
348	1.676	1.007	3.287	



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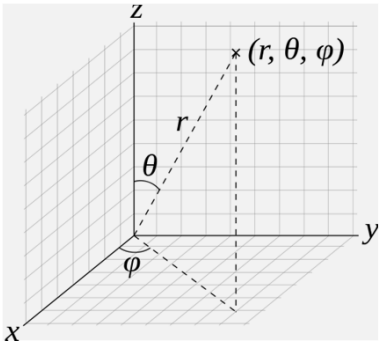
345	1.569	-1.241	3.018	
344	1.569	-2.234	2.481	
343	1.581	-2.931	1.411	
342	1.531	-2.997	0.109	
341	1.514	-2.624	-1.38	
340	1.502	-2.292	-3.001	
339	1.518	-2.18	-4.474	
338	1.507	-2.211	-5.523	
337	1.501	-2.308	-6.2	
336	1.506	-2.342	-6.501	
335	1.571	-2.068	-6.443	
334	1.551	-1.654	-5.754	
333	1.494	-1.352	-4.45	
332	1.463	-1.498	-3.269	
331	1.484	-2.149	-2.318	
330	1.547	-3.313	-1.902	330
329	1.617	-4.779	-1.677	
328	1.59	-6.403	-1.646	
327	1.494	-7.42	-1.437	
326	1.449	-7.544	-0.748	
325	1.482	-6.714	0.26	
324	1.613	-5.779	1.411	
323	1.725	-5.11	2.344	
322	1.783	-4.604	3.049	
321	1.765	-4.594	3.329	
320	1.768	-4.885	3.424	
319	1.809	-5.168	3.205	
318	1.884	-5.495	2.832	
317	1.952	-5.48	2.333	
316	2.008	-5.224	2.035	
315	1.947	-4.629	1.668	
314	1.983	-3.94	1.608	
313	2.067	-3.289	1.577	
312	2.155	-2.655	1.637	
311	2.236	-2.19	1.588	
310	2.259	-1.916	1.482	
309	2.264	-1.956	1.438	
308	2.318	-2.191	1.128	
307	2.375	-2.606	0.912	
306	2.448	-3.335	0.563	
305	2.492	-4.234	0.095	
304	2.552	-5.128	-0.299	
303	2.607	-5.939	-0.7	
302	2.651	-6.683	-1.091	
301	2.387	-7.111	-1.787	
300	2.388	-7.337	-1.589	300
299	2.428	-7.423	-1.744	
298	2.502	-7.325	-2.117	
297	2.591	-7.126	-2.538	
296	2.662	-7.382	-2.192	
295	2.843	-7.312	-2.3	
294	2.89	-7.549	-2.373	
293	2.945	-8.145	-2.609	
292	2.966	-8.727	-2.928	
291	2.995	-9.619	-3.234	
290	2.992	-10.335	-3.654	
289	3.011	-11.218	-4.065	
288	3.04	-11.209	-4.413	
287	3.08	-10.647	-4.64	
286	3.114	-9.301	-4.763	
285	3.121	-8.252	-4.691	
284	3.187	-7.104	-4.713	
283	3.197	-6.01	-4.536	
282	3.254	-5.225	-4.315	
281	3.281	-4.594	-4.193	
280	3.298	-4.236	-4.073	
279	3.345	-4.154	-4.205	
278	3.331	-4.222	-4.273	
277	3.447	-4.457	-4.585	
276	3.456	-5.117	-4.924	
275	3.527	-6.006	-5.407	
274	3.589	-7.112	-6.052	
273	3.634	-8.81	-7.223	
272	3.686	-11.185	-8.341	
271	3.706	-14.995	-9.853	
270	3.639	-20.629	-11.689	270
269	3.797	-20.629	-14.293	
268	3.85	-15.801	-18.261	
267	3.871	-11.781	-19.247	
266	3.903	-8.855	-18.531	
265	3.96	-6.929	-16.567	
264	3.988	-5.423	-14.559	
263	4.052	-4.353	-12.78	
262	4.07	-3.514	-11.787	
261	4.102	-2.972	-10.959	
260	4.174	-2.658	-10.574	
259	4.238	-2.527	-10.682	
258	4.206	-2.589	-10.509	
257	4.275	-2.804	-11.236	
256	4.303	-3.175	-12.13	
255	4.327	-3.788	-12.597	
254	4.371	-4.522	-13.039	
253	4.235	-5.297	-13.005	
252	4.251	-6.228	-11.21	
251	4.241	-6.777	-9.953	
250	4.412	-6.928	-8.564	
249	4.282	-6.729	-7.081	
248	4.419	-6.04	-6.319	
247	4.476	-5.262	-5.112	
246	4.459	-4.492	-4.929	
245	4.489	-3.871	-4.576	
244	4.321	-3.447	-4.812	
243	4.355	-3.166	-5.16	
242	4.377	-3.003	-5.617	
241	4.4	-2.893	-6.517	

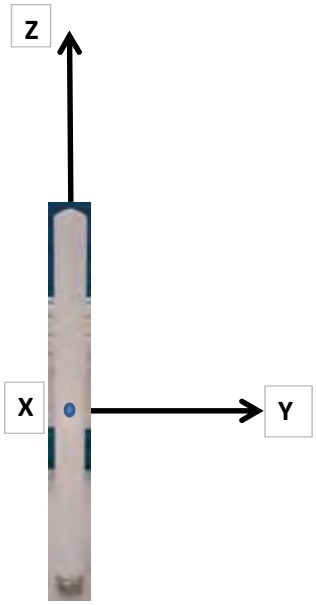
240	4.441	-2.977	-7.393	240
239	4.413	-2.953	-8.634	
238	4.427	-2.742	-9.505	
237	4.424	-2.447	-10.002	
236	4.451	-2.024	-9.107	
235	4.754	-1.47	-7.229	
234	4.473	-0.844	-5.265	
233	4.497	-0.318	-3.394	
232	4.555	0.174	-1.945	
231	4.546	0.505	-0.737	
230	4.638	0.689	0.171	
229	4.564	0.727	0.717	
228	4.492	0.539	0.816	
227	4.51	0.127	0.575	
226	4.552	-0.562	-0.055	
225	4.503	-1.47	-1.033	
224	4.505	-2.59	-2.242	
223	4.535	-3.957	-3.203	
222	4.519	-5.139	-3.497	
221	4.519	-5.841	-2.765	
220	4.538	-5.669	-1.746	
219	4.517	-5.316	-1.015	
218	4.502	-4.846	-0.46	
217	4.502	-4.75	-0.647	
216	4.467	-5.143	-1.626	
215	4.435	-6.099	-2.948	
214	4.429	-8.007	-4.697	
213	4.433	-10.734	-6.515	
212	4.438	-12.515	-7.645	
211	4.795	-10.856	-7.935	
210	4.437	-7.977	-7.209	210
209	4.4	-5.693	-6.423	
208	4.377	-4.436	-5.399	
207	4.383	-4.024	-4	
206	4.393	-4.278	-2.464	
205	5.145	-5.007	-1.249	
204	5.071	-5.721	-0.262	
203	4.997	-6.199	0.297	
202	4.98	-6.212	0.689	
201	4.984	-6.431	0.983	
200	4.988	-7.161	1.204	
199	4.981	-8.538	1.45	
198	4.972	-9.902	1.936	
197	4.927	-8.888	2.7	
196	4.895	-6.14	3.437	
195	4.902	-3.97	4.143	
194	4.894	-2.454	4.671	
193	4.932	-1.611	4.976	
192	4.966	-1.167	5.211	
191	4.971	-0.868	5.322	
190	4.948	-0.496	5.448	
189	4.757	0.052	5.499	
188	4.906	0.793	5.554	
187	4.905	1.628	5.702	
186	4.5	2.369	5.853	
185	4.983	2.921	5.994	
184	4.716	3.249	6.081	
183	4.893	3.433	6.141	
182	4.795	3.555	6.178	
181	4.728	3.796	6.25	
180	4.972	4.141	6.333	180
179	4.923	4.537	6.463	
178	4.912	4.873	6.642	
177	4.92	5.037	6.778	
176	4.939	4.945	6.899	
175	4.976	4.633	6.938	
174	5.009	4.163	6.875	
173	5.019	3.54	6.686	
172	4.891	2.933	6.328	
171	4.895	2.433	6.088	
170	4.883	1.948	5.978	
169	4.887	1.459	5.918	
168	4.831	0.794	5.937	
167	4.836	0.053	5.918	
166	4.834	-0.684	5.935	
165	4.868	-1.151	5.981	
164	4.856	-1.428	5.991	
163	4.821	-1.735	5.956	
162	4.824	-2.212	5.784	
161	4.788	-2.827	5.472	
160	4.785	-3.398	4.952	
159	4.82	-3.65	4.309	
158	4.754	-3.405	3.653	
157	4.757	-2.816	3.165	
156	4.734	-2.309	2.675	
155	4.728	-2.247	2.198	
154	4.709	-2.557	1.523	
153	4.669	-3.568	0.609	
152	4.67	-5.497	-0.886	
151	4.663	-8.153	-2.683	
150	4.658	-12.497	-5.27	150
149	4.617	-16.824	-9.288	
148	4.619	-13.41	-10.655	
147	4.344	-8.644	-8.023	
146	4.397	-5.612	-4.552	
145	4.154	-3.485	-1.865	
144	4.351	-1.911	0.136	
143	3.931	-0.925	1.522	
142	4.531	-0.201	2.477	
141	3.929	0.084	2.985	
140	4.498	0.082	3.158	
139	4.318	-0.205	3.099	
138	4.127	-0.65	2.878	
137	4.002	-1.108	2.509	
136	4.225	-1.291	1.979	
135	4.535	-1.194	1.543	
134	4.521	-0.932	1.165	

133	4.496	-0.498	0.772	
132	4.458	-0.106	0.379	
131	4.486	0.261	0.007	
130	4.469	0.491	-0.375	
129	4.486	0.536	-0.755	
128	4.501	0.541	-1.165	
127	4.519	0.373	-1.76	
126	4.54	0.14	-2.519	
125	4.537	-0.328	-3.223	
124	4.52	-0.829	-4.345	
123	4.496	-1.446	-5.535	
122	4.494	-2.03	-6.83	
121	4.48	-2.826	-8.082	
120	4.472	-3.675	-8.953	120
119	4.463	-4.388	-9.066	
118	4.441	-5.035	-8.401	
117	4.405	-5.632	-7.612	
116	4.392	-6.04	-6.548	
115	4.38	-6.304	-5.935	
114	4.39	-6.813	-5.404	
113	4.376	-7.007	-5.069	
112	4.37	-7.201	-4.764	
111	4.394	-7.447	-4.397	
110	4.367	-7.715	-4.269	
109	4.389	-8.091	-4.394	
108	4.394	-8.276	-4.436	
107	4.364	-8.607	-4.488	
106	4.355	-8.868	-4.582	
105	4.333	-9.196	-4.684	
104	4.323	-9.719	-4.717	
103	4.267	-9.88	-4.842	
102	4.277	-10.143	-5.001	
101	4.237	-10.599	-5.085	
100	4.214	-11.12	-5.139	
99	4.211	-11.705	-5.265	
98	4.192	-12.577	-5.537	
97	4.192	-13.458	-5.806	
96	4.186	-14.778	-6.252	
95	4.165	-16.606	-6.723	
94	4.153	-18.727	-7.279	
93	4.143	-20.629	-7.8	
92	4.131	-20.629	-8.704	
91	4.134	-20.629	-9.527	
90	4.141	-20.629	-10.173	

90 to 30 deg	4.141	-0.628	5.677
30 to 150 deg	4.658	0.541	3.158
30 to 150 deg (COMBINED	4.658	0.541	5.677

ML-2452-HPA6-01





Azimuth H is in XY plane, angle is phi (X-axis reference, pos disp toward Y-axis).
Elevation E0 is in XZ plane, angle is theta (Z-axis reference, pos disp toward X-axis).
Elevation E90 is in YZ plane, angle is theta (Z-axis reference, pos disp toward Y-axis).

Revisions	Date	Change
0	2015/1/6	Initial release.

ML-2452-HPA6-01, 5.15 GHz
Composite polarization

Angle (°)	XY Plane H (dBi)	XZ Plane E0 (dBi)	YZ Plane E90 (dBi)	Label
90	-4.634688213	-2.744358341	-2.744358341	90
89	-4.955332157	-2.789352644	-2.604646902	
88	-5.263327383	-2.870061093	-2.51264515	
87	-5.518256466	-2.978296021	-2.48965853	
86	-5.681222975	-3.094791269	-2.533771899	
85	-5.745149772	-3.210813694	-2.647165818	
84	-5.713867534	-3.307579116	-2.818273153	
83	-5.60808674	-3.362750563	-3.017586696	
82	-5.471715472	-3.372398583	-3.220990673	
81	-5.337831574	-3.325468186	-3.38924507	
80	-5.235240824	-3.219004326	-3.49266173	
79	-5.186172447	-3.070659258	-3.538622838	
78	-5.188260339	-2.890083559	-3.528086989	
77	-5.239224809	-2.699098327	-3.488288671	
76	-5.3243827	-2.524478561	-3.462135127	
75	-5.407667976	-2.374816379	-3.452128641	
74	-5.466457531	-2.266947878	-3.475261367	
73	-5.467689407	-2.205127684	-3.532056006	
72	-5.38207937	-2.177342564	-3.595135818	
71	-5.216169616	-2.179860507	-3.660008457	
70	-4.978468945	-2.196398097	-3.71005714	
69	-4.691484989	-2.210210259	-3.721574192	
68	-4.397916317	-2.220899574	-3.700905859	
67	-4.123560885	-2.222762776	-3.658938058	
66	-3.89430514	-2.223172791	-3.623353804	
65	-3.735943492	-2.247181721	-3.63287665	
64	-3.649031732	-2.307000574	-3.682716333	
63	-3.639824039	-2.430305058	-3.761013227	
62	-3.709088939	-2.648287214	-3.866998213	
61	-3.834357541	-2.956202755	-4.000735494	
60	-4.008817768	-3.369521457	-4.212225695	60
59	-4.207735206	-3.890616972	-4.539915871	
58	-4.38540752	-4.479233963	-4.967193071	
57	-4.521200425	-5.11293376	-5.491213038	
56	-4.581332799	-5.731226814	-6.127676639	
55	-4.543422852	-6.24556729	-6.937140522	
54	-4.423561677	-6.595486705	-8.010547533	
53	-4.233886235	-6.726053554	-9.329038715	
52	-4.0021864	-6.62242433	-10.71095303	
51	-3.771098583	-6.328718841	-11.86599441	
50	-3.558914213	-5.901249091	-12.48760916	
49	-3.391940327	-5.4128726	-12.43710852	
48	-3.293320483	-4.929943375	-11.80475359	
47	-3.256764099	-4.479734344	-10.80626094	
46	-3.295140382	-4.091398466	-9.71752488	
45	-3.410188564	-3.793922065	-8.748059494	
44	-3.57553076	-3.608868446	-7.976302842	
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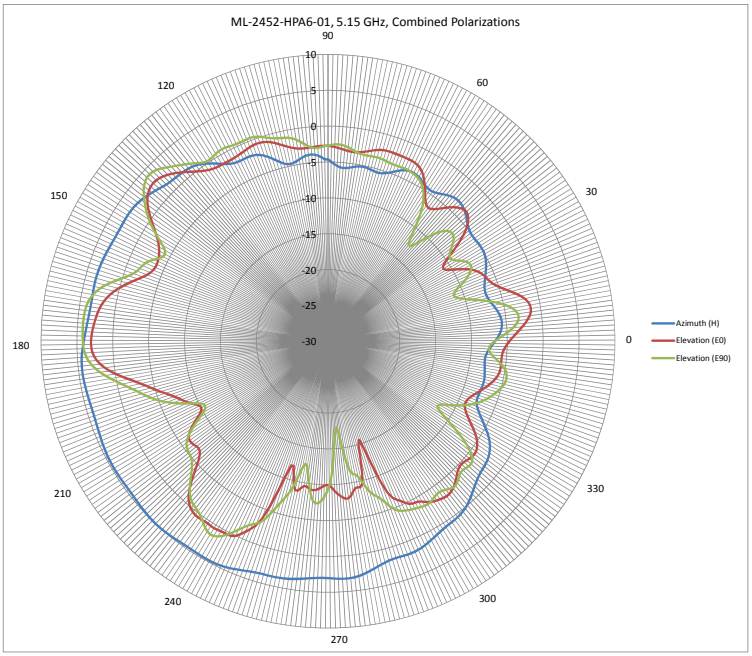

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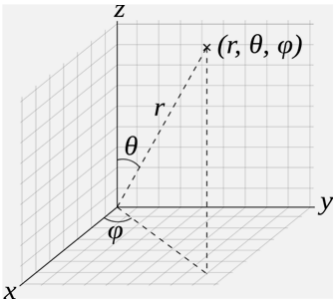
98	-4.308595107	-2.783333239	-1.534018622	
97	-4.105850704	-2.863641452	-1.873847074	
96	-3.947370206	-2.894096551	-2.249293961	
95	-3.857083527	-2.882534922	-2.598859467	
94	-3.846912546	-2.84339083	-2.859179922	
93	-3.9271454	-2.795820984	-2.993305652	
92	-4.091754326	-2.752659381	-2.992378057	
91	-4.333478585	-2.731462513	-2.88974395	
90	-4.634688213	-2.744358341	-2.744358341	

90 to 30 deg	-3.256764099	-2.177342564	-2.48965853
30 to 150 deg	3.006099283	2.889334076	4.093903869
30 to 150 deg (COMBINED)	3.006099283	2.889334076	4.093903869

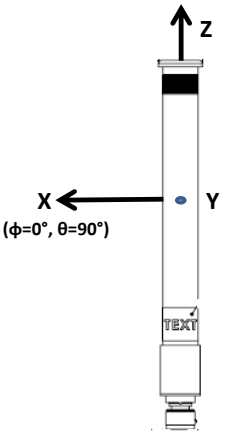
ML-5299-HPA5H-01

Revisions	Date	Change
0	2015/9/28	Initial release

REFERENCE COORDINATE SYSTEM



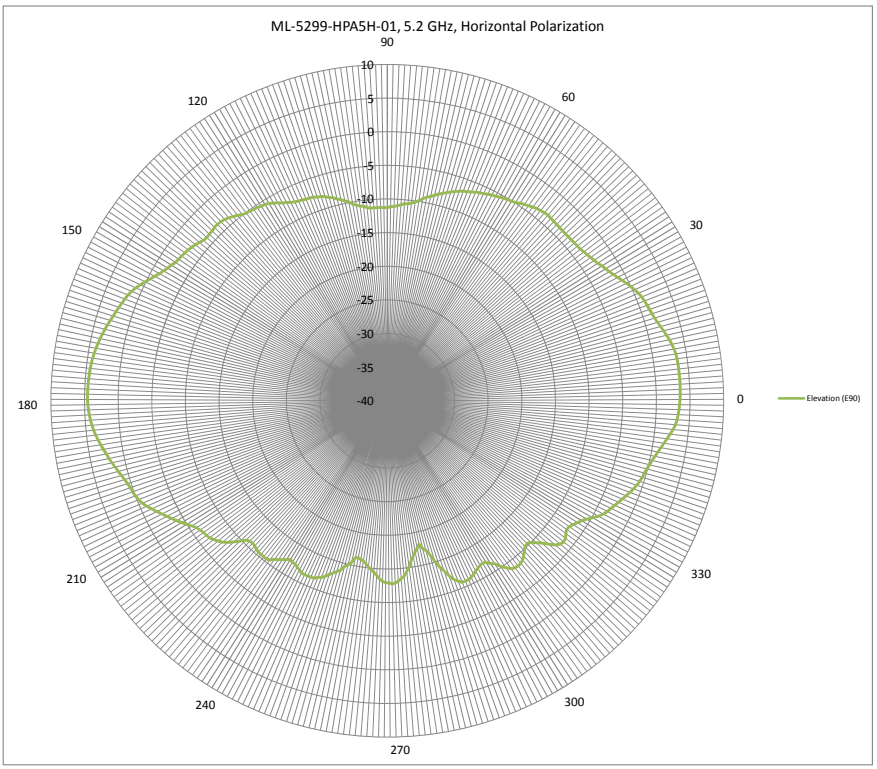
FRONT VIEW



Azimuth (H) is in XY plane, angle is phi (X-axis referenc
Elevation (E0) is in XZ plane, angle is theta (Z-axis refere
Elevation (E90) is in YZ plane, angle is theta (Z-axis refer

ML-5299-HPA5H-01
Horizontal polarization

	XY Plane	XZ Plane	YZ Plane	
Angle (°)	H (dBi)	E0 (dBi)	E90 (dBi)	Label
90			-11.274	90
89			-11.139	
88			-11.101	
87			-10.958	
86			-10.796	
85			-10.595	
84			-10.572	
83			-10.377	
82			-10.198	
81			-9.847	
80			-9.504	
79			-9.149	
78			-8.956	
77			-8.646	
76			-8.32	
75			-8.079	
74			-7.831	
73			-7.528	
72			-7.285	
71			-7.065	
70			-6.836	
69			-6.719	
68			-6.515	
67			-6.337	
66			-6.166	
65			-6.046	
64			-5.85	
63			-5.671	
62			-5.593	
61			-5.392	
60			-5.283	60
59			-5.138	
58			-5.051	
57			-4.869	
56			-4.628	
55			-4.384	
54			-4.212	
53			-3.987	
52			-3.796	
51			-3.689	
50			-3.563	
49			-3.496	
48			-3.562	
47			-3.579	
46			-3.633	
45			-3.666	
44			-3.728	
43			-3.741	
42			-3.694	
41			-3.622	
40			-3.611	
39			-3.551	
38			-3.515	
37			-3.328	
36			-3.196	
35			-3	
34			-2.804	
33			-2.614	
32			-2.302	
31			-2.082	
30			-1.813	30
29			-1.493	
28			-1.139	
27			-0.774	
26			-0.389	
25			-0.014	
24			0.315	
23			0.629	
22			0.854	
21			1.021	
20			1.163	
19			1.292	
18			1.421	
17			1.565	
16			1.836	
15			2.085	
14			2.381	
13			2.647	
12			2.891	
11			3.143	
10			3.312	
9			3.46	
8			3.516	
7			3.556	
6			3.578	
5			3.601	
4			3.602	
3			3.6	
2			3.594	
1			3.543	
0			3.507	0
359			3.452	
358			3.412	
357			3.308	
356			3.175	
355			2.998	
354			2.704	
353			2.352	
352			1.969	
351			1.595	



350	1.258	
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348	0.65	
347	0.342	
346	0.108	
345	-0.118	
344	-0.296	
343	-0.43	
342	-0.62	
341	-0.849	
340	-1.121	
339	-1.427	
338	-1.782	
337	-2.137	
336	-2.419	
335	-2.775	
334	-3.09	
333	-3.358	
332	-3.732	
331	-4.227	
330	-4.885	330
329	-5.529	
328	-6.032	
327	-6.423	
326	-6.803	
325	-7.069	
324	-7.2	
323	-6.898	
322	-6.569	
321	-6.392	
320	-6.603	
319	-7.079	
318	-7.927	
317	-8.76	
316	-9.416	
315	-10.036	
314	-10.293	
313	-10.19	
312	-9.766	
311	-9.324	
310	-8.938	
309	-8.728	
308	-8.697	
307	-8.728	
306	-8.992	
305	-9.596	
304	-10.187	
303	-10.983	
302	-11.343	
301	-11.911	
300	-12.001	300
299	-11.914	
298	-11.708	
297	-11.476	
296	-11.164	
295	-10.962	
294	-10.767	
293	-10.792	
292	-10.821	
291	-11.214	
290	-11.674	
289	-12.414	
288	-13.365	
287	-14.168	
286	-15.183	
285	-16.253	
284	-17.034	
283	-17.454	
282	-18.177	
281	-17.607	
280	-17.207	
279	-16.614	
278	-15.978	
277	-15.051	
276	-14.442	
275	-13.809	
274	-13.457	
273	-13.14	
272	-12.87	
271	-12.766	
270	-12.923	270
269	-12.942	
268	-13.162	
267	-13.528	
266	-13.985	
265	-14.414	
264	-14.78	
263	-15.152	
262	-15.583	
261	-15.923	
260	-16.101	
259	-16.26	
258	-16.199	
257	-15.395	
256	-14.922	
255	-14.562	
254	-13.849	
253	-13.517	
252	-13.164	
251	-12.802	
250	-12.323	
249	-11.967	
248	-11.807	
247	-11.44	

246	-11.455	
245	-11.353	
244	-11.397	
243	-11.381	
242	-11.682	
241	-11.849	
240	-12.149	240
239	-12.145	
238	-12.379	
237	-12.037	
236	-11.728	
235	-11.354	
234	-11.094	
233	-10.595	
232	-10.397	
231	-10.442	
230	-10.418	
229	-10.447	
228	-10.593	
227	-10.785	
226	-10.876	
225	-10.82	
224	-10.507	
223	-9.754	
222	-9.004	
221	-8.313	
220	-7.75	
219	-7.345	
218	-6.962	
217	-6.662	
216	-6.488	
215	-6.403	
214	-6.204	
213	-5.966	
212	-5.529	
211	-5.01	
210	-4.474	210
209	-3.973	
208	-3.493	
207	-3.007	
206	-2.54	
205	-1.98	
204	-1.467	
203	-0.986	
202	-0.552	
201	-0.214	
200	0.029	
199	0.193	
198	0.331	
197	0.499	
196	0.752	
195	1.044	
194	1.332	
193	1.649	
192	1.957	
191	2.23	
190	2.495	
189	2.778	
188	3.093	
187	3.391	
186	3.657	
185	3.844	
184	4.051	
183	4.195	
182	4.33	
181	4.43	
180	4.486	180
179	4.557	
178	4.583	
177	4.558	
176	4.537	
175	4.498	
174	4.437	
173	4.392	
172	4.331	
171	4.254	
170	4.16	
169	3.999	
168	3.837	
167	3.65	
166	3.48	
165	3.285	
164	3.096	
163	2.853	
162	2.627	
161	2.423	
160	2.246	
159	2.022	
158	1.848	
157	1.632	
156	1.308	
155	0.982	
154	0.559	
153	0.085	
152	-0.376	
151	-0.791	
150	-1.214	150
149	-1.541	
148	-1.897	
147	-2.101	
146	-2.404	
145	-2.52	
144	-2.639	
143	-2.734	

142	-2.867	
141	-3.023	
140	-3.237	
139	-3.506	
138	-3.722	
137	-3.846	
136	-3.753	
135	-3.758	
134	-3.59	
133	-3.602	
132	-3.656	
131	-3.78	
130	-4.033	
129	-4.306	
128	-4.571	
127	-4.929	
126	-5.109	
125	-5.203	
124	-5.293	
123	-5.379	
122	-5.536	
121	-5.618	
120	-5.813	120
119	-6.107	
118	-6.369	
117	-6.752	
116	-6.907	
115	-7.214	
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112	-7.579	
111	-7.694	
110	-7.712	
109	-7.809	
108	-7.967	
107	-8.064	
106	-8.293	
105	-8.575	
104	-8.744	
103	-9.084	
102	-9.301	
101	-9.622	
100	-9.904	
99	-10.311	
98	-10.588	
97	-10.752	
96	-10.874	
95	-11.096	
94	-11.262	
93	-11.24	
92	-11.229	
91	-11.274	
90	-11.274	

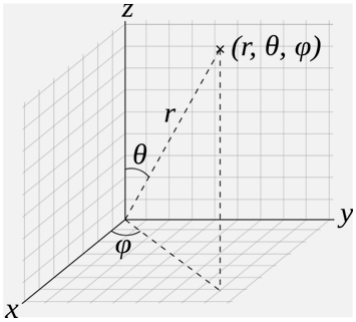
Max Gain for elevations above 30° from horizontal (assuming upright mounting orientation)

	Max Gain	Max Gain El > 30°
5.2 GHz	4.583	-1.214

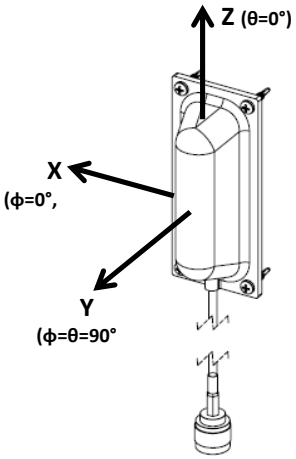
ML-2452-PNA5-01R

Revisions	Date	Change
0	2014/12/12	Initial release
1	2014/12/16	AZ/EL data orientation

REFERENCE COORDINATE SYSTEM



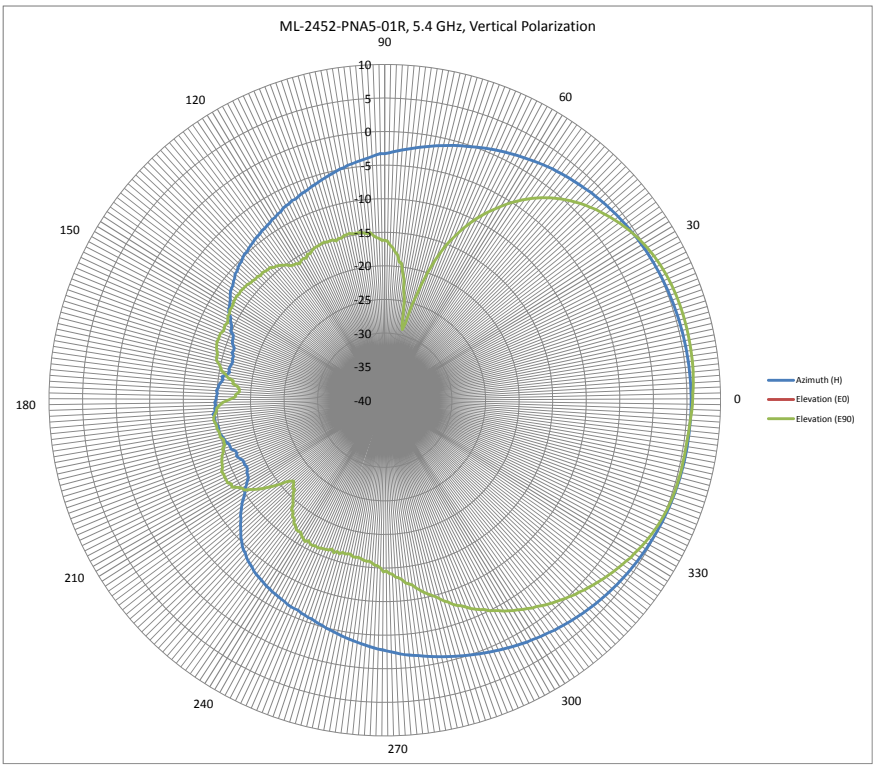
ISOMETRIC VIEW



Azimuth (H) is in XY plane, angle is phi (X-axis reference
Elevation (E0) is in XZ plane, angle is theta (Z-axis refere
Elevation (E90) is in YZ plane, angle is theta (Z-axis refer

ML-2452-PNA5-01R
Vertical (Z-axis) polarization

Angle (°)	XY Plane H (dBi)	XZ Plane E0 (dBi)	YZ Plane E90 (dBi)	Label
90	-3.276		-16.182	90
89	-3.162		-16.308	
88	-2.97		-16.874	
87	-2.822		-17.239	
86	-2.635		-17.862	
85	-2.466		-18.276	
84	-2.286		-19.312	
83	-2.174		-19.452	
82	-1.936		-20.869	
81	-1.792		-21.732	
80	-1.587		-23.705	
79	-1.438		-24.644	
78	-1.258		-26.694	
77	-1.076		-28.584	
76	-0.91		-29.169	
75	-0.747		-28.063	
74	-0.551		-25.195	
73	-0.391		-23.423	
72	-0.279		-21.017	
71	-0.091		-19.26	
70	0.093		-17.792	
69	0.256		-15.953	
68	0.437		-14.76	
67	0.594		-13.66	
66	0.769		-12.533	
65	0.907		-11.528	
64	1.053		-10.457	
63	1.246		-9.623	
62	1.36		-8.73	
61	1.507		-7.917	
60	1.661		-7.156	60
59	1.786		-6.377	
58	1.922		-5.605	
57	2.102		-4.856	
56	2.244		-4.23	
55	2.382		-3.523	
54	2.548		-2.93	
53	2.645		-2.315	
52	2.785		-1.806	
51	2.896		-1.268	
50	2.995		-0.758	
49	3.121		-0.295	
48	3.229		0.091	
47	3.339		0.541	
46	3.445		0.943	
45	3.59		1.326	
44	3.651		1.661	
43	3.778		2.003	
42	3.848		2.354	
41	3.978		2.623	
40	4.043		2.912	
39	4.133		3.243	
38	4.229		3.496	
37	4.32		3.765	
36	4.362		4.006	
35	4.471		4.233	
34	4.498		4.453	
33	4.604		4.655	
32	4.648		4.853	
31	4.727		5.036	
30	4.764		5.203	30
29	4.829		5.343	
28	4.895		5.482	
27	4.922		5.592	
26	4.986		5.721	
25	5.05		5.808	
24	5.088		5.898	
23	5.125		5.96	
22	5.177		6.034	
21	5.23		6.078	
20	5.268		6.119	
19	5.288		6.132	
18	5.336		6.162	
17	5.347		6.194	
16	5.381		6.182	
15	5.402		6.214	
14	5.415		6.198	
13	5.443		6.196	
12	5.464		6.209	
11	5.479		6.222	
10	5.502		6.21	
9	5.509		6.211	
8	5.532		6.196	
7	5.553		6.191	
6	5.571		6.146	
5	5.582		6.13	
4	5.602		6.058	
3	5.607		6.016	
2	5.614		5.962	
1	5.627		5.876	
0	5.627		5.876	0
359	5.604		5.807	
358	5.609		5.745	
357	5.607		5.661	
356	5.606		5.585	
355	5.59		5.536	
354	5.568		5.508	
353	5.584		5.448	
352	5.559		5.419	
351	5.542		5.396	



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349	5.524	5.383	
348	5.503	5.357	
347	5.493	5.361	
346	5.473	5.361	
345	5.452	5.325	
344	5.403	5.308	
343	5.389	5.297	
342	5.349	5.264	
341	5.321	5.22	
340	5.293	5.193	
339	5.235	5.096	
338	5.206	5.017	
337	5.174	4.951	
336	5.129	4.86	
335	5.081	4.715	
334	5.018	4.589	
333	4.967	4.447	
332	4.888	4.308	
331	4.851	4.169	
330	4.798	4.003	330
329	4.742	3.81	
328	4.641	3.596	
327	4.595	3.479	
326	4.504	3.216	
325	4.427	3.048	
324	4.362	2.816	
323	4.257	2.608	
322	4.215	2.392	
321	4.126	2.156	
320	4.044	1.934	
319	3.965	1.698	
318	3.877	1.427	
317	3.769	1.189	
316	3.673	0.98	
315	3.601	0.685	
314	3.474	0.509	
313	3.372	0.213	
312	3.263	-0.079	
311	3.152	-0.328	
310	3.023	-0.608	
309	2.91	-0.867	
308	2.773	-1.179	
307	2.665	-1.48	
306	2.567	-1.823	
305	2.389	-2.019	
304	2.265	-2.399	
303	2.153	-2.663	
302	2.016	-3.01	
301	1.869	-3.286	
300	1.777	-3.644	300
299	1.616	-3.944	
298	1.48	-4.366	
297	1.348	-4.707	
296	1.187	-4.986	
295	1.042	-5.49	
294	0.915	-5.726	
293	0.739	-6.088	
292	0.575	-6.442	
291	0.447	-6.901	
290	0.307	-7.313	
289	0.19	-7.585	
288	0.005	-7.948	
287	-0.126	-8.479	
286	-0.299	-8.822	
285	-0.431	-9.287	
284	-0.581	-9.776	
283	-0.733	-10.119	
282	-0.882	-10.433	
281	-1.001	-10.816	
280	-1.163	-11.255	
279	-1.319	-11.644	
278	-1.465	-12.174	
277	-1.633	-12.418	
276	-1.743	-12.615	
275	-1.888	-13.131	
274	-1.974	-13.471	
273	-2.124	-13.599	
272	-2.343	-14.057	
271	-2.496	-14.189	
270	-2.621	-14.579	270
269	-2.817	-14.432	
268	-2.911	-15.022	
267	-3.066	-15.303	
266	-3.235	-15.381	
265	-3.395	-15.698	
264	-3.574	-15.917	
263	-3.721	-15.845	
262	-3.829	-15.952	
261	-4.007	-16.122	
260	-4.199	-16.269	
259	-4.351	-16.207	
258	-4.512	-16.188	
257	-4.686	-16.501	
256	-4.835	-16.474	
255	-4.965	-16.364	
254	-5.181	-16.496	
253	-5.299	-16.147	
252	-5.455	-16.406	
251	-5.668	-16.058	
250	-5.673	-16.463	
249	-5.875	-16.186	
248	-5.918	-16.105	
247	-6.162	-16.053	

246	-6.155	-16.006	
245	-6.205	-15.835	
244	-6.31	-15.987	
243	-6.502	-15.812	
242	-6.613	-15.858	
241	-6.712	-16.201	
240	-6.832	-15.84	240
239	-6.91	-16.054	
238	-7.086	-16.283	
237	-7.162	-16.701	
236	-7.346	-16.628	
235	-7.5	-16.663	
234	-7.65	-17.072	
233	-7.767	-17.18	
232	-7.931	-17.805	
231	-8.22	-17.897	
230	-8.401	-18.52	
229	-8.578	-18.569	
228	-8.852	-19.373	
227	-9.207	-19.739	
226	-9.346	-20.148	
225	-9.666	-20.505	
224	-10.078	-21.095	
223	-10.392	-21.058	
222	-10.876	-21.566	
221	-11.28	-21.862	
220	-11.695	-21.488	
219	-12.196	-20.958	
218	-12.498	-19.893	
217	-12.98	-19.038	
216	-13.436	-18.214	
215	-13.886	-17.338	
214	-14.456	-16.66	
213	-14.959	-16.018	
212	-15.228	-15.197	
211	-15.766	-15.015	
210	-16.149	-14.534	210
209	-16.61	-13.834	
208	-16.74	-13.978	
207	-16.814	-13.528	
206	-17.092	-13.596	
205	-17.189	-13.547	
204	-17.02	-13.595	
203	-17.099	-13.47	
202	-16.999	-13.795	
201	-16.656	-13.964	
200	-16.394	-14.058	
199	-16.613	-14.255	
198	-16.496	-14.462	
197	-15.988	-14.791	
196	-15.964	-14.78	
195	-15.893	-15.221	
194	-15.524	-15.26	
193	-15.426	-15.293	
192	-15.245	-14.884	
191	-15.005	-14.909	
190	-14.881	-14.864	
189	-14.91	-14.657	
188	-14.877	-14.678	
187	-14.577	-14.544	
186	-14.479	-14.372	
185	-14.601	-14.415	
184	-14.328	-14.637	
183	-14.757	-14.894	
182	-14.618	-14.966	
181	-14.806	-15.375	
180	-14.684	-15.892	180
179	-14.894	-16.916	
178	-14.905	-17.729	
177	-15.062	-17.807	
176	-14.893	-18.319	
175	-15.128	-18.295	
174	-15.188	-18.013	
173	-15.462	-17.246	
172	-15.728	-17.273	
171	-15.517	-16.4	
170	-16.178	-15.996	
169	-16.518	-15.31	
168	-16.316	-15.08	
167	-16.437	-14.768	
166	-16.565	-14.278	
165	-16.666	-14.144	
164	-16.467	-14.175	
163	-16.552	-14.013	
162	-16.187	-13.777	
161	-16.315	-13.669	
160	-16.267	-13.553	
159	-15.863	-13.643	
158	-15.665	-13.595	
157	-15.604	-13.592	
156	-15.453	-13.865	
155	-14.854	-13.823	
154	-14.774	-13.693	
153	-14.576	-13.919	
152	-14.159	-13.727	
151	-13.997	-13.49	
150	-13.466	-13.537	150
149	-13.101	-13.304	
148	-12.984	-13.366	
147	-12.765	-13.307	
146	-12.515	-13.143	
145	-12.205	-13.088	
144	-11.904	-13.045	
143	-11.745	-13.15	

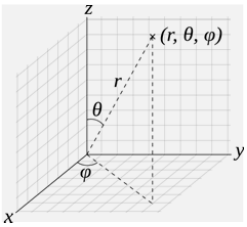
142	-11.656	-13.07	
141	-11.354	-13.151	
140	-11.184	-13.202	
139	-10.824	-13.243	
138	-10.797	-13.473	
137	-10.538	-13.481	
136	-10.374	-13.629	
135	-10.301	-13.573	
134	-10.065	-13.806	
133	-9.818	-13.676	
132	-9.851	-13.794	
131	-9.644	-13.923	
130	-9.51	-13.87	
129	-9.39	-14.237	
128	-9.212	-14.324	
127	-9.114	-14.554	
126	-9.007	-14.852	
125	-8.823	-15.125	
124	-8.782	-15.572	
123	-8.621	-15.728	
122	-8.526	-15.784	
121	-8.29	-16.059	
120	-8.257	-15.774	120
119	-7.994	-15.648	
118	-7.957	-15.83	
117	-7.659	-15.383	
116	-7.523	-15.498	
115	-7.458	-15.215	
114	-7.205	-15.02	
113	-7.25	-14.986	
112	-7.038	-14.949	
111	-6.838	-14.834	
110	-6.747	-14.805	
109	-6.588	-14.947	
108	-6.373	-14.887	
107	-6.232	-14.902	
106	-6.075	-15.19	
105	-5.853	-14.954	
104	-5.702	-15.034	
103	-5.53	-14.744	
102	-5.308	-14.722	
101	-5.137	-14.609	
100	-4.929	-14.768	
99	-4.858	-14.787	
98	-4.6	-14.754	
97	-4.474	-14.796	
96	-4.315	-14.915	
95	-4.144	-15.099	
94	-4.031	-14.947	
93	-3.851	-15.428	
92	-3.637	-15.725	
91	-3.457	-15.904	
90	-3.276	-16.182	

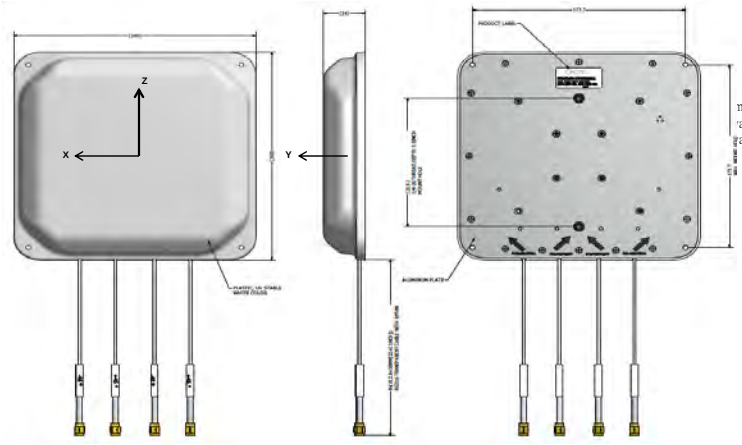
90 to 30 da	4.764	0	5.203
30 to 150 d	-3.276	0	-13.045
30 to 150 d	4.764	0	5.203

ML-2452-SEC5M4-N36

Revisions	Date	Change
0	2015/9/28	Initial release

REFERENCE COORDINATE SYSTEM

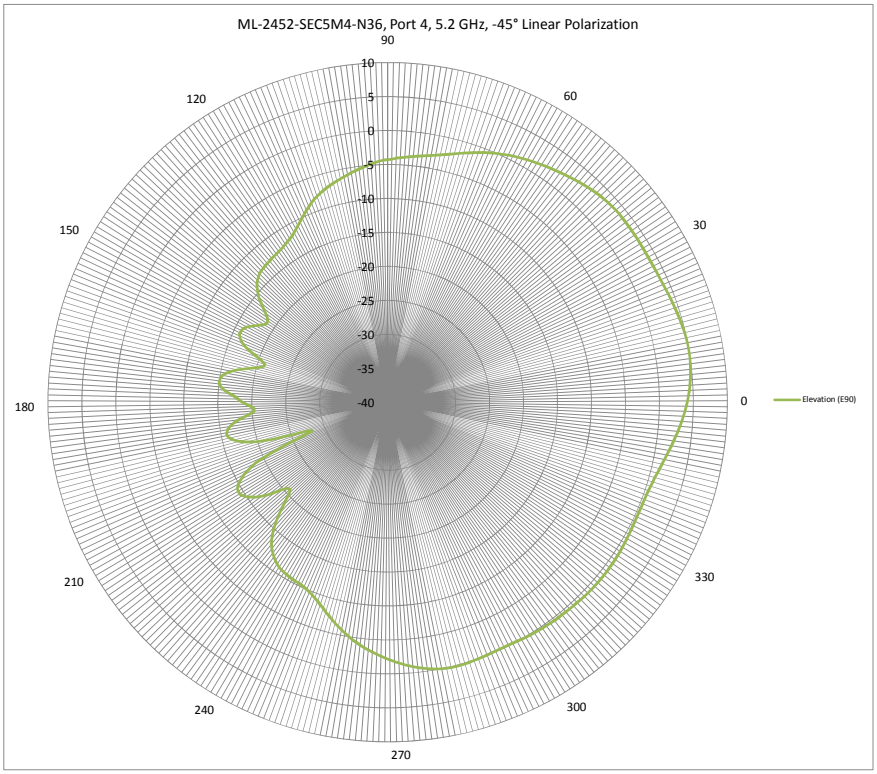




nuth (H) is in XY plane, angle is ph
ation (E0) is in XZ plane, angle is t
gation (E90) is in YZ plane, angle is

ML-2452-SEC5M4-N36
-45° linear polarization

Angle (°)	XY Plane H (dBi)	XZ Plane E0 (dBi)	YZ Plane E90 (dBi)	Label
90			-4.3107	90
89			-4.17646	
88			-4.05328	
87			-3.93895	
86			-3.81942	
85			-3.71658	
84			-3.61543	
83			-3.50615	
82			-3.38789	
81			-3.25745	
80			-3.10304	
79			-2.943	
78			-2.76498	
77			-2.56992	
76			-2.35945	
75			-2.13561	
74			-1.89316	
73			-1.6513	
72			-1.40103	
71			-1.15053	
70			-0.9003	
69			-0.65284	
68			-0.40445	
67			-0.17134	
66			0.057455	
65			0.272196	
64			0.476912	
63			0.671579	
62			0.860037	
61			1.033629	
60			1.206263	60
59			1.366966	
58			1.523698	
57			1.678149	
56			1.832813	
55			1.986124	
54			2.149688	
53			2.308093	
52			2.468365	
51			2.629382	
50			2.787846	
49			2.944329	
48			3.104357	
47			3.249249	
46			3.384304	
45			3.507129	
44			3.61235	
43			3.705621	
42			3.7915	
41			3.853537	
40			3.899331	
39			3.929505	
38			3.940193	
37			3.944449	
36			3.948546	
35			3.938177	
34			3.923666	
33			3.907531	
32			3.885633	
31			3.875366	
30			3.881538	30
29			3.886466	
28			3.899737	
27			3.922308	
26			3.947379	
25			3.99149	
24			4.056128	
23			4.119384	
22			4.189748	
21			4.266111	
20			4.339248	
19			4.42351	
18			4.519035	
17			4.603899	
16			4.685507	
15			4.76095	
14			4.819638	
13			4.876039	
12			4.929413	
11			4.961484	
10			4.978339	
9			4.977558	
8			4.949284	
7			4.911113	
6			4.860241	
5			4.784857	
4			4.69051	
3			4.577063	
2			4.435963	
1			4.288705	
0			4.129762	0
359			3.954108	
358			3.765817	
357			3.565835	
356			3.346191	
355			3.130058	
354			2.909794	
353			2.684766	
352			2.457834	



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345	1.012895	
344	0.85363	
343	0.722871	
342	0.613621	
341	0.523529	
340	0.453691	
339	0.40393	
338	0.368643	
337	0.354561	
336	0.354923	
335	0.364449	
334	0.382967	
333	0.408812	
332	0.438105	
331	0.473324	
330	0.512317	330
329	0.551325	
328	0.590702	
327	0.6288	
326	0.663096	
325	0.693947	
324	0.720663	
323	0.740222	
322	0.752724	
321	0.757306	
320	0.752864	
319	0.741526	
318	0.724139	
317	0.700207	
316	0.671564	
315	0.639535	
314	0.604529	
313	0.570875	
312	0.538735	
311	0.50837	
310	0.48004	
309	0.453233	
308	0.425645	
307	0.399356	
306	0.371054	
305	0.33964	
304	0.303563	
303	0.262165	
302	0.214431	
301	0.163957	
300	0.111012	300
299	0.05755	
298	0.006862	
297	-0.03754	
296	-0.07343	
295	-0.09654	
294	-0.1062	
293	-0.10174	
292	-0.08311	
291	-0.05211	
290	-0.01262	
289	0.032107	
288	0.074674	
287	0.113161	
286	0.14148	
285	0.155337	
284	0.151602	
283	0.127869	
282	0.077208	
281	0.00691	
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277	-0.51104	
276	-0.70076	
275	-0.90002	
274	-1.11385	
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272	-1.57606	
271	-1.8195	
270	-2.08288	270
269	-2.34101	
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267	-2.87445	
266	-3.14999	
265	-3.43312	
264	-3.7444	
263	-4.05105	
262	-4.37029	
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259	-5.40743	
258	-5.8046	
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240	-10.5245	240
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232	-12.1201	
231	-12.5635	
230	-13.0659	
229	-13.6825	
228	-14.436	
227	-15.2602	
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216	-16.8747	
215	-16.0722	
214	-15.422	
213	-14.9236	
212	-14.5474	
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210	-14.3912	210
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206	-16.3401	
205	-17.2863	
204	-18.5911	
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202	-23.556	
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193	-16.6241	
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190	-15.8666	
189	-16.1073	
188	-16.468	
187	-17.0574	
186	-17.864	
185	-18.7841	
184	-19.6959	
183	-20.3117	
182	-20.3359	
181	-19.8556	
180	-19.1712	180
179	-18.5311	
178	-18.0093	
177	-17.4265	
176	-16.6518	
175	-15.8879	
174	-15.3641	
173	-15.0786	
172	-15.0175	
171	-15.1173	
170	-15.3383	
169	-15.7908	
168	-16.4759	
167	-17.3251	
166	-18.3532	
165	-19.4703	
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163	-21.0302	
162	-21.0721	
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157	-16.9113	
156	-16.4343	
155	-16.1041	
154	-15.9564	
153	-15.9848	
152	-16.1366	
151	-16.4764	
150	-16.9739	150
149	-17.5267	
148	-18.0847	
147	-18.5375	
146	-18.733	

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129	-12.8695	
128	-12.7854	
127	-12.7323	
126	-12.6909	
125	-12.6163	
124	-12.5258	
123	-12.4175	
122	-12.2622	
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117	-11.1548	
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109	-8.23539	
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107	-7.66873	
106	-7.41585	
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103	-6.73954	
102	-6.55372	
101	-6.36287	
100	-6.17149	
99	-5.97677	
98	-5.7609	
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93	-4.80104	
92	-4.61235	
91	-4.45204	
90	-4.3107	

Max Gain for elevations above 30° from horizontal (assuming upright mounting orientation)

		Max Gain El > 30°
5.2 GHz	Port 4	3.948546