

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°	Elevation angle above 30°	EIRP Power Limit (dBm)	Test Result
						1	Max gain (dBi)	Max EIRP (dBm)		
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°	Elevation angle above 30°	EIRP Power Limit (dBm)	Test Result
						1	2	Total	Max gain (dBi)	Max EIRP (dBm)		
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°	Elevation angle above 30°	EIRP Power Limit (dBm)	Test Result
						1	Max gain (dBi)	Max EIRP (dBm)		
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°	Elevation angle above 30°	EIRP Power Limit (dBm)	Test Result
						1	2	Total	Max gain (dBi)	Max EIRP (dBm)		
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°	Elevation angle above 30°	EIRP Power Limit (dBm)	Test Result
						1	2	3	Total	Max gain (dBi)	Max EIRP (dBm)		
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°	Elevation angle above 30°	EIRP Power Limit (dBm)	Test Result
						1	2	3	4	Total	Max gain (dBi)	Max EIRP (dBm)		
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°	Elevation angle above 30°	EIRP Power Limit (dBm)	Test Result
						1	Max gain (dBi)	Max EIRP (dBm)		
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°	Elevation angle above 30°	EIRP Power Limit (dBm)	Test Result
						1	2	Total	Max gain (dBi)	Max EIRP (dBm)		
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°	Elevation angle above 30°	EIRP Power Limit (dBm)	Test Result
						1	Max gain (dBi)	Max EIRP (dBm)		
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°	Elevation angle above 30°	EIRP Power Limit (dBm)	Test Result
						1	2	Total	Max gain (dBi)	Max EIRP (dBm)		
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°	Elevation angle above 30°	EIRP Power Limit (dBm)	Test Result
						1	Max gain (dBi)	Max EIRP (dBm)		
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°	Elevation angle above 30°	EIRP Power Limit	Test Result
						1	2	Total	Max gain (dBi)	Max EIRP (dBm)	(dBm)	
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°	Elevation angle above 30°	EIRP Power Limit (dBm)	Test Result
						1	2	3	Total	Max gain (dBi)	Max EIRP (dBm)		
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

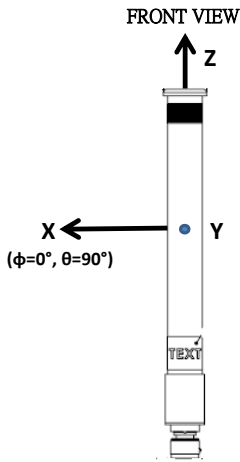
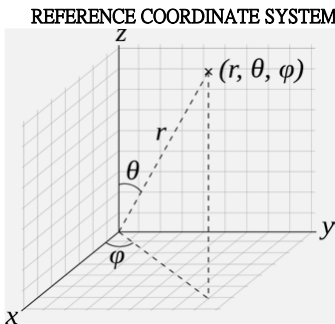
Note: BF: Beamforming

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

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

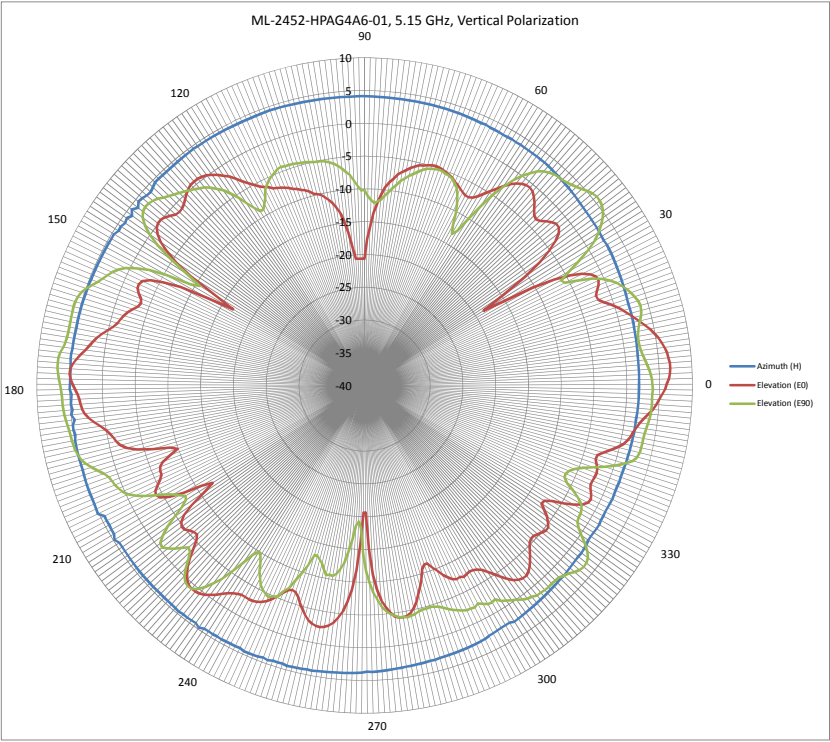


Azimuth (H) is in XY plane, angle is phi (X-axis reference)
Elevation (E0) is in XZ plane, angle is theta (Z-axis reference)
Elevation (E90) is in YZ plane, angle is theta (Z-axis reference)

ML-2452-HPAG4A6-01

Vertical (Z-axis) polarization

Angle (°)	XY PlaneXZ PlaneYZ Plane				Label
	H (dBi)	E0 (dBi)	E90 (dBi)		
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		



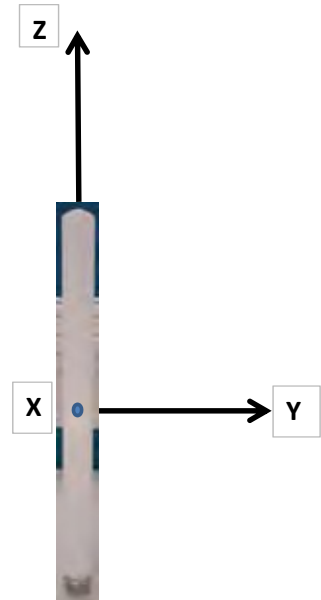
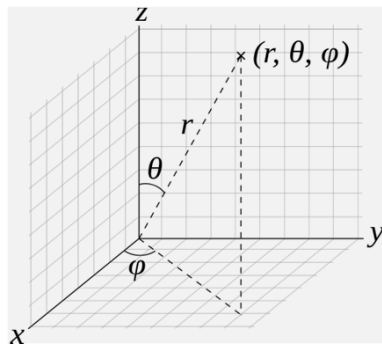
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345	1.569	-1.241	3.018
344	1.569	-2.234	2.481
343	1.581	-2.931	1.411
342	1.531	-2.997	0.109
341	1.514	-2.624	-1.38
340	1.502	-2.292	-3.001
339	1.518	-2.18	-4.474
338	1.507	-2.211	-5.523
337	1.501	-2.308	-6.2
336	1.506	-2.342	-6.501
335	1.571	-2.068	-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
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

120

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

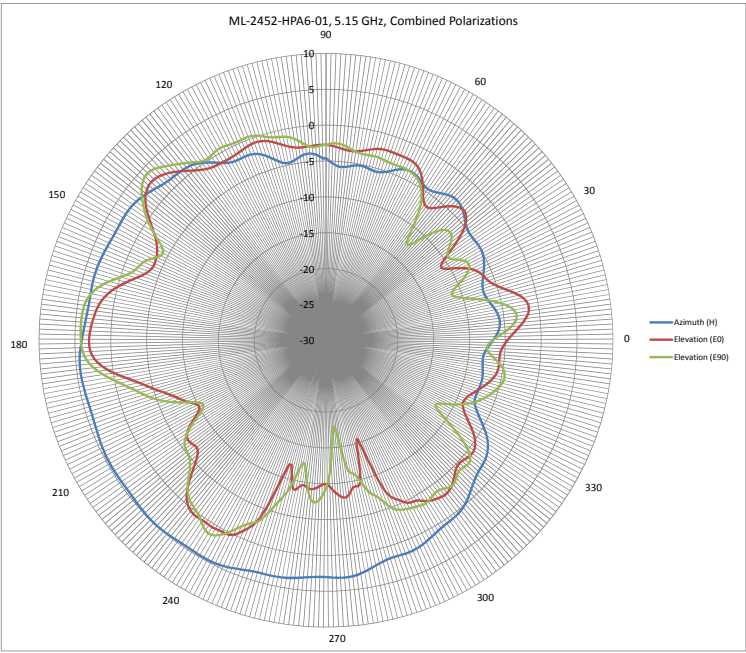


Azimuth H is in XY plane, angle is phi (X-axis reference, pos disp toward Y-axis).
 Elevation E0 is in XZ plane, angle is theta (Z-axis reference, pos disp toward X-axis).
 Elevation E90 is in YZ plane, angle is theta (Z-axis reference, pos disp toward Y-axis).

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

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

Angle (°)	XY Plane		XZ Plane		YZ Plane		Label
	H (dBi)	E0 (dBi)	E0 (dBi)	E90 (dBi)	E90 (dBi)		
90	-4.634688213	-2.744358341	-2.744358341	-2.744358341	-2.744358341		90
89	-4.955332157	-2.789352644	-2.789352644	-2.604646902	-2.604646902		
88	-5.263327383	-2.870061093	-2.870061093	-2.51264515	-2.51264515		
87	-5.518256466	-2.978296021	-2.978296021	-2.48965853	-2.48965853		
86	-5.681222975	-3.094791269	-3.094791269	-2.533771899	-2.533771899		
85	-5.745149772	-3.210813694	-3.210813694	-2.647165818	-2.647165818		
84	-5.713867534	-3.307579116	-3.307579116	-2.818273153	-2.818273153		
83	-5.60808674	-3.362750563	-3.362750563	-3.017586696	-3.017586696		
82	-5.471715472	-3.372398583	-3.372398583	-3.220990673	-3.220990673		
81	-5.337831574	-3.325468186	-3.325468186	-3.38924507	-3.38924507		
80	-5.235240824	-3.219004326	-3.219004326	-3.49266173	-3.49266173		
79	-5.186172447	-3.070659258	-3.070659258	-3.538622838	-3.538622838		
78	-5.188260339	-2.890083559	-2.890083559	-3.528086989	-3.528086989		
77	-5.239224809	-2.690098327	-2.690098327	-3.488288671	-3.488288671		
76	-5.3243827	-2.524478561	-2.524478561	-3.462135127	-3.462135127		
75	-5.407667976	-2.374816379	-2.374816379	-3.452128641	-3.452128641		
74	-5.466457531	-2.266947878	-2.266947878	-3.475261367	-3.475261367		
73	-5.467689407	-2.205127684	-2.205127684	-3.532056006	-3.532056006		
72	-5.38207937	-2.177342564	-2.177342564	-3.595135818	-3.595135818		
71	-5.216169616	-2.179860507	-2.179860507	-3.660008457	-3.660008457		
70	-4.978468945	-2.196398097	-2.196398097	-3.71005714	-3.71005714		
69	-4.691484989	-2.210210259	-2.210210259	-3.721574192	-3.721574192		
68	-4.397916317	-2.220899574	-2.220899574	-3.700905859	-3.700905859		
67	-4.123560885	-2.222762776	-2.222762776	-3.658938058	-3.658938058		
66	-3.89430514	-2.223172791	-2.223172791	-3.623353804	-3.623353804		
65	-3.735943492	-2.247181721	-2.247181721	-3.63287665	-3.63287665		
64	-3.649031732	-2.307000574	-2.307000574	-3.682716333	-3.682716333		
63	-3.639824039	-2.430305058	-2.430305058	-3.761013227	-3.761013227		
62	-3.709088939	-2.648287214	-2.648287214	-3.866998213	-3.866998213		
61	-3.834357541	-2.956202755	-2.956202755	-4.000735494	-4.000735494		
60	-4.008817768	-3.369521457	-3.369521457	-4.212225695	-4.212225695		60
59	-4.207735206	-3.890616972	-3.890616972	-4.539915871	-4.539915871		
58	-4.38540752	-4.479233963	-4.479233963	-4.967193071	-4.967193071		
57	-4.521200425	-5.11293376	-5.11293376	-5.491213038	-5.491213038		
56	-4.581332799	-5.731226814	-5.731226814	-6.127676639	-6.127676639		
55	-4.543422852	-6.24556729	-6.24556729	-6.937140522	-6.937140522		
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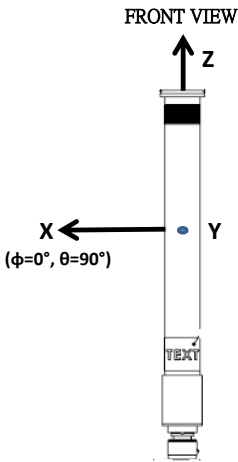
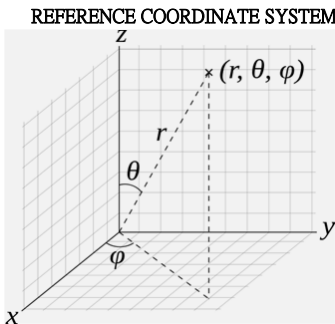


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145 2.946778259 -0.32229976 0.156068578
144 2.883018749 0.346052602 0.848141933
143 2.78648652 0.976643673 1.475075077
142 2.660304547 1.542601148 2.068132082
141 2.505754106 2.022132486 2.632434345
140 2.325077026 2.399709455 3.140513909
139 2.131293197 2.670877675 3.564025596
138 1.932061095 2.833318204 3.87537233
137 1.737469593 2.889334076 4.053029222
136 1.56393208 2.846062605 4.093903869
135 1.417005374 2.712478813 3.999451599
134 1.303523691 2.502460667 3.781671996
133 1.225253524 2.227017207 3.470085744
132 1.170492778 1.901540873 3.106268016
131 1.133601885 1.541942819 2.734280454
130 1.099198564 1.156170344 2.380311763
129 1.047834349 0.760859785 2.048880014
128 0.971782804 0.370237271 1.721111043
127 0.854628726 -0.005876279 1.374068545
126 0.68547888 -0.345149612 1.013250889
125 0.466833302 -0.635077789 0.670571013
124 0.19578574 -0.869750267 0.399265632
123 -0.12060359 -1.039277552 0.255336632
122 -0.465607223 -1.154847409 0.24620529
121 -0.825735547 -1.230688775 0.338446096
120 -1.173743149 -1.272498859 0.476353923 120
119 -1.480734058 -1.297612912 0.582295481
118 -1.727793503 -1.309876823 0.612477184
117 -1.894644653 -1.300946185 0.568910967
116 -1.983600076 -1.27029631 0.477255209
115 -2.014113724 -1.2134018 0.382147575
114 -2.004160176 -1.125877717 0.325860471
113 -1.988906536 -1.018594385 0.320511305
112 -1.999219104 -0.905977542 0.350965415
111 -2.052311689 -0.800425174 0.387773533
110 -2.171659039 -0.723748932 0.386801873
109 -2.365213784 -0.692228093 0.314955846
108 -2.630874489 -0.71264352 0.167568068
107 -2.967599538 -0.795690023 -0.046211741
106 -3.352319521 -0.941357163 -0.292028281
105 -3.75568464 -1.141342655 -0.522607745
104 -4.141346987 -1.388357115 -0.708717767
103 -4.453714178 -1.663456033 -0.83443042
102 -4.655557263 -1.945865435 -0.91289892
101 -4.727263647 -2.216740005 -0.984524354
100 -4.666116811 -2.454240918 -1.089433028
99 -4.510103287 -2.645750925 -1.266826977
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

Revisions	Date	Change
0	2015/9/28	Initial release

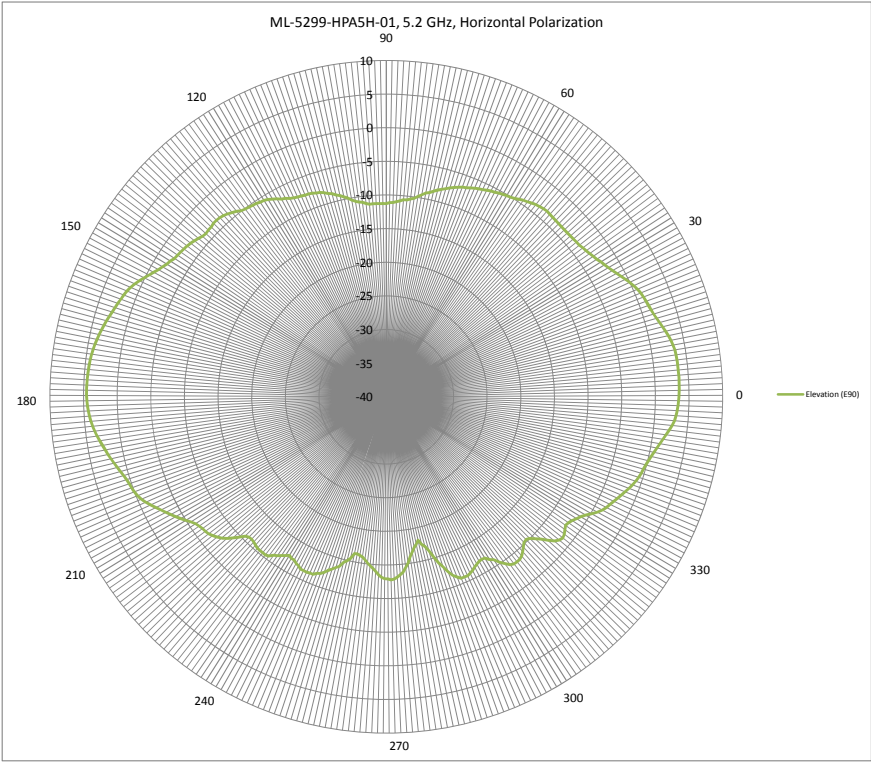


Azimuth (H) is in XY plane, angle is phi (X-axis reference)
Elevation (E0) is in XZ plane, angle is theta (Z-axis reference)
Elevation (E90) is in YZ plane, angle is theta (Z-axis reference)

ML-5299-HPA5H-01

Horizontal polarization

Angle (°)	XY Plane H (dBi)	XZ Plane E0 (dBi)	YZ Plane 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	
349	0.931	
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	

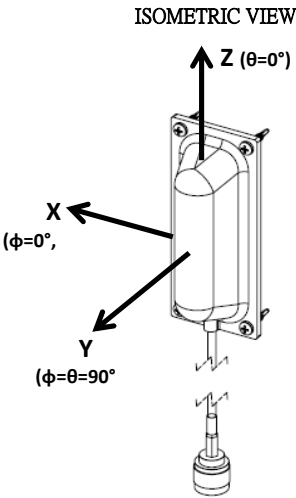
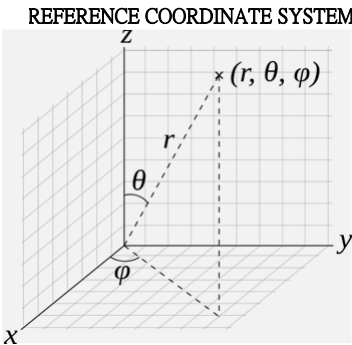
246	-11.455	
245	-11.353	
244	-11.397	
243	-11.381	
242	-11.682	
241	-11.849	
240	-12.149	240
239	-12.145	
238	-12.379	
237	-12.037	
236	-11.728	
235	-11.354	
234	-11.094	
233	-10.595	
232	-10.397	
231	-10.442	
230	-10.418	
229	-10.447	
228	-10.593	
227	-10.785	
226	-10.876	
225	-10.82	
224	-10.507	
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	
114	-7.382	
113	-7.515	
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

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

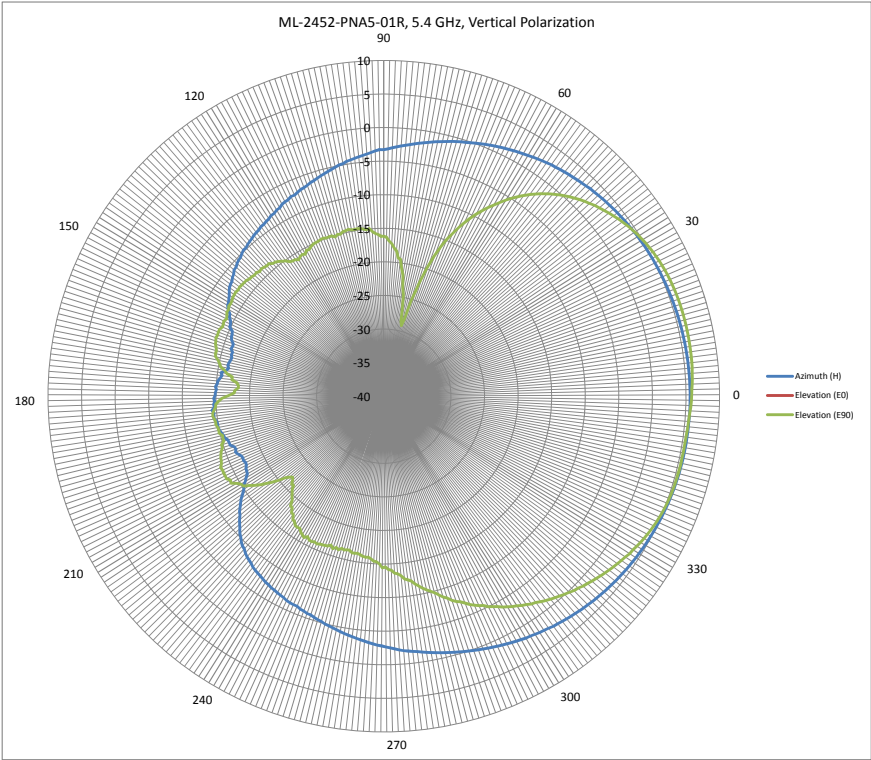


Azimuth (H) is in XY plane, angle is phi (X-axis reference)
Elevation (E0) is in XZ plane, angle is theta (Z-axis reference)
Elevation (E90) is in YZ plane, angle is theta (Z-axis reference)

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	



350	5.526	5.361	
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	

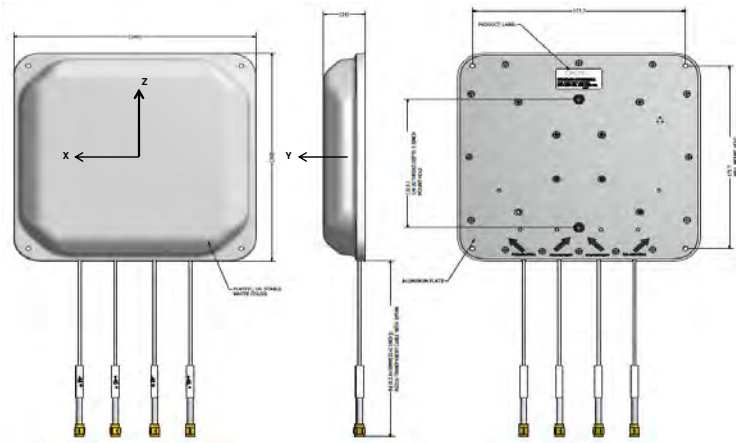
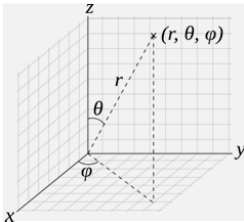
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243	-6.502	-15.812	
242	-6.613	-15.858	
241	-6.712	-16.201	
240	-6.832	-15.84	240
239	-6.91	-16.054	
238	-7.086	-16.283	
237	-7.162	-16.701	
236	-7.346	-16.628	
235	-7.5	-16.663	
234	-7.65	-17.072	
233	-7.767	-17.18	
232	-7.931	-17.805	
231	-8.22	-17.897	
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	
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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	
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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
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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
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

120

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

REFERENCE COORDINATE SYSTEM

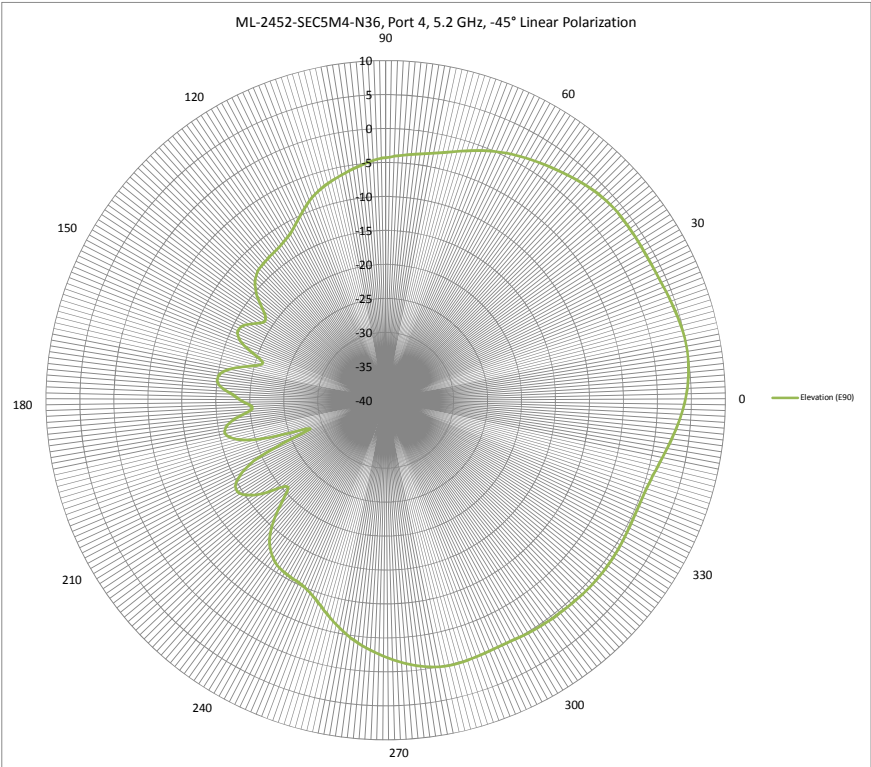


nuth (H) is in XY plane, angle is ph
ration (E0) is in XZ plane, angle is t
gation (E90) is in YZ plane, angle is

ML-2452-SECSM4-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
0			4.129762	
359			3.954108	
358			3.765817	
357			3.565835	
356			3.346191	
355			3.130058	
354			2.909794	
353			2.684766	
352			2.457834	



351	2.230896	
350	1.997675	
349	1.780138	
348	1.571059	
347	1.371238	
346	1.184119	
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	
280	-0.08788	
279	-0.20694	
278	-0.34864	
277	-0.51104	
276	-0.70076	
275	-0.90002	
274	-1.11385	
273	-1.33992	
272	-1.57606	
271	-1.8195	
270	-2.08288	270
269	-2.34101	
268	-2.60478	
267	-2.87445	
266	-3.14999	
265	-3.43312	
264	-3.7444	
263	-4.05105	
262	-4.37029	
261	-4.70302	
260	-5.04684	
259	-5.40743	
258	-5.8046	
257	-6.19497	
256	-6.59507	
255	-7.00138	
254	-7.40407	
253	-7.80979	
252	-8.22893	
251	-8.60828	
250	-8.95914	
249	-9.27481	

248	-9.54163	
247	-9.77594	
246	-9.99177	
245	-10.1417	
244	-10.2528	
243	-10.3341	
242	-10.3821	
241	-10.436	
240	-10.5245	240
239	-10.5969	
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237	-10.8108	
236	-10.9472	
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234	-11.4371	
233	-11.7469	
232	-12.1201	
231	-12.5635	
230	-13.0659	
229	-13.6825	
228	-14.436	
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226	-16.1919	
225	-17.2367	
224	-18.3495	
223	-19.4633	
222	-20.3691	
221	-20.768	
220	-20.57	
219	-19.8584	
218	-18.8354	
217	-17.7868	
216	-16.8747	
215	-16.0722	
214	-15.422	
213	-14.9236	
212	-14.5474	
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209	-14.5397	
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189	-16.1073	
188	-16.468	
187	-17.0574	
186	-17.864	
185	-18.7841	
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182	-20.3359	
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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	
164	-20.4304	
163	-21.0302	
162	-21.0721	
161	-20.4998	
160	-19.5643	
159	-18.5478	
158	-17.6185	
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	

145	-18.6693	
144	-18.3262	
143	-17.7223	
142	-16.9988	
141	-16.2618	
140	-15.5462	
139	-14.9472	
138	-14.4667	
137	-14.0532	
136	-13.726	
135	-13.4736	
134	-13.2464	
133	-13.1102	
132	-13.0398	
131	-12.9728	
130	-12.9195	
129	-12.8695	
128	-12.7854	
127	-12.7323	
126	-12.6909	
125	-12.6163	
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114	-10.0744	
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112	-9.31039	
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101	-6.36287	
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99	-5.97677	
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97	-5.56285	
96	-5.37228	
95	-5.17668	
94	-4.98547	
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