

Appendix D

LTE BAND48

CONDUCTED OUTPUT POWER AND E.I.R.P.

CONDUCTED OUTPUT POWER (dBm)

LTE band 48

Band/BW	Modulation	RB Size	RB Offset	Low CH (55265)	Mid CH (55990)	High CH (56715)
				Frequency (3552.5)MHz	Frequency (3625.0)MHz	Frequency (3697.5)MHz
48/ 5	QPSK	1	0	20.39	20.44	20.36
		1	12	20.32	20.26	20.28
		1	24	20.31	20.25	20.37
		12	0	19.30	19.48	19.34
		12	6	19.53	19.42	19.53
		12	13	19.37	19.23	19.46
		25	0	19.47	19.43	19.52
	16QAM	1	0	19.52	19.62	19.68
		1	12	19.59	19.58	19.50
		1	24	19.56	19.59	19.64
		12	0	18.30	18.45	18.38
		12	6	18.17	18.35	18.27
		12	13	18.29	18.43	18.43
		25	0	18.44	18.57	18.43
	64QAM	1	0	18.87	18.87	18.67
		1	12	18.69	18.83	18.80
		1	24	18.97	18.78	18.91
		12	0	17.30	17.55	17.45
		12	6	17.29	17.34	17.18
		12	13	17.43	17.44	17.67
		25	0	17.60	17.33	17.39
	256QAM	1	0	15.48	15.45	15.51
		1	12	15.63	15.52	15.66
		1	24	15.62	15.62	15.75
		12	0	15.38	15.47	15.42
		12	6	15.43	15.50	15.52
		12	13	15.68	15.44	15.34
		25	0	15.51	15.35	15.47

Band/BW	Modulation	RB Size	RB Offset	Low CH (55290)	Mid CH (55990)	High CH (56690)
				Frequency (3555)MHz	Frequency (3625.0)MHz	Frequency (3695)MHz
48/ 10	QPSK	1	0	20.31	20.47	20.39
		1	24	20.32	20.39	20.44
		1	49	20.14	20.39	20.45
		25	0	19.39	19.37	19.39
		25	12	19.46	19.42	19.54
		25	25	19.26	19.29	19.37
		50	0	19.45	19.29	19.38
	16QAM	1	0	19.52	19.69	19.68
		1	24	19.45	19.43	19.41
		1	49	19.74	19.71	19.49
		25	0	18.32	18.40	18.39
		25	12	18.29	18.28	18.23
		25	25	18.43	18.44	18.23
		50	0	18.57	18.45	18.53
	64QAM	1	0	18.89	18.74	18.67
		1	24	18.79	18.84	18.76
		1	49	18.89	18.83	19.02
		25	0	17.49	17.38	17.37
		25	12	17.30	17.33	17.23
		25	25	17.58	17.54	17.53
		50	0	17.44	17.34	17.56
	256QAM	1	0	15.38	15.40	15.43
		1	24	15.65	15.67	15.64
		1	49	15.65	15.56	15.60
		25	0	15.41	15.52	15.56
		25	12	15.46	15.56	15.66
		25	25	15.55	15.56	15.56
		50	0	15.50	15.48	15.42

Band/BW	Modulation	RB Size	RB Offset	Low CH (55315)	Mid CH (55990)	High CH (56665)
				Frequency (3557.5)MHz	Frequency (3625.0)MHz	Frequency (3692.5)MHz
48/ 15	QPSK	1	0	20.27	20.29	20.40
		1	37	20.46	20.30	20.24
		1	74	20.33	20.37	20.28
		36	0	19.29	19.44	19.32
		36	19	19.33	19.37	19.35
		36	39	19.21	19.43	19.37
		75	0	19.37	19.41	19.39
	16QAM	1	0	19.68	19.58	19.57
		1	37	19.44	19.52	19.55
		1	74	19.73	19.58	19.62
		36	0	18.46	18.32	18.31
		36	19	18.27	18.43	18.32
		36	39	18.44	18.31	18.25
		75	0	18.51	18.41	18.46
	64QAM	1	0	18.82	18.81	18.69
		1	37	18.59	18.83	18.71
		1	74	18.92	18.84	18.94
		36	0	17.46	17.49	17.42
		36	19	17.40	17.42	17.18
		36	39	17.63	17.54	17.64
		75	0	17.41	17.31	17.50
	256QAM	1	0	15.30	15.51	15.52
		1	37	15.54	15.71	15.47
		1	74	15.66	15.62	15.58
		36	0	15.35	15.57	15.57
		36	19	15.43	15.56	15.58
		36	39	15.63	15.44	15.55
		75	0	15.35	15.49	15.41

Band/BW	Modulation	RB Size	RB Offset	Low CH (55340)	Mid CH (55990)	High CH (56640)
				Frequency (3560)MHz	Frequency (3625.0)MHz	Frequency (3690)MHz
48/ 20	QPSK	1	0	20.47	20.48	20.49
		1	50	20.45	20.44	20.44
		1	99	20.34	20.41	20.49
		50	0	19.49	19.50	19.47
		50	25	19.53	19.54	19.56
		50	50	19.39	19.43	19.46
		100	0	19.48	19.48	19.51
	16QAM	1	0	19.68	19.68	19.74
		1	50	19.63	19.59	19.54
		1	99	19.76	19.70	19.65
		50	0	18.49	18.51	18.44
		50	25	18.35	18.42	18.41
		50	50	18.46	18.51	18.42
		100	0	18.65	18.56	18.63
	64QAM	1	0	18.89	18.87	18.87
		1	50	18.80	18.84	18.80
		1	99	18.99	18.96	19.03
		50	0	17.50	17.55	17.44
		50	25	17.41	17.45	17.34
		50	50	17.62	17.57	17.68
		100	0	17.60	17.51	17.59
	256QAM	1	0	15.51	15.60	15.57
		1	50	15.71	15.71	15.65
		1	99	15.65	15.68	15.77
		50	0	15.56	15.60	15.60
		50	25	15.61	15.62	15.71
		50	50	15.67	15.64	15.55
		100	0	15.50	15.50	15.55

EIRP

Part 96_LTE Band 48							
BW [MHz] Modulation	Channel	Frequency (MHz)	Conducted Power (dBm)	Gain (dB)	EIRP (dBm)	EIRP (mW)	FCC Limit (dbm)
20M-QPSK	55340	3560	20.47	2.4	22.87	193.64	23
	55990	3625	20.48	2.4	22.88	194.09	23
	56640	3690	20.49	2.4	22.89	194.54	23
20M-16QAM	55340	3560	19.76	2.4	22.16	164.44	23
	55990	3625	19.70	2.4	22.10	162.18	23
	56640	3690	19.74	2.4	22.14	163.68	23
20M-64QAM	55340	3560	18.99	2.4	21.39	137.72	23
	55990	3625	18.96	2.4	21.36	136.77	23
	56640	3690	19.03	2.4	21.43	139.00	23
20M-256QAM	55340	3560	15.71	2.4	18.11	64.71	23
	55990	3625	15.71	2.4	18.11	64.71	23
	56640	3690	15.77	2.4	18.17	65.61	23
BW [MHz] Modulation	Channel	Frequency (MHz)	Conducted Power (dBm)	Gain (dB)	EIRP (dBm)	EIRP (mW)	FCC Limit (dbm)
15M-QPSK	55315	3557.5	20.46	2.4	22.86	193.20	23
	55990	3625	20.37	2.4	22.77	189.23	23
	56665	3692.5	20.40	2.4	22.80	190.55	23
15M-16QAM	55315	3557.5	19.73	2.4	22.13	163.31	23
	55990	3625	19.58	2.4	21.98	157.76	23
	56665	3692.5	19.62	2.4	22.02	159.22	23
15M-64QAM	55315	3557.5	18.92	2.4	21.32	135.52	23
	55990	3625	18.84	2.4	21.24	133.05	23
	56665	3692.5	18.94	2.4	21.34	136.14	23
15M-256QAM	55315	3557.5	15.66	2.4	18.06	63.97	23
	55990	3625	15.71	2.4	18.11	64.71	23
	56665	3692.5	15.58	2.4	17.98	62.81	23

BW [MHz] Modulation	Channel	Frequency (MHz)	Conducted Power (dBm)	Gain (dB)	EIRP (dBm)	EIRP (mW)	FCC Limit (dbm)
10M-QPSK	55290	3555	20.32	2.4	22.72	187.07	23
	55990	3625	20.47	2.4	22.87	193.64	23
	56690	3695	20.45	2.4	22.85	192.75	23
10M-16QAM	55290	3555	19.74	2.4	22.14	163.68	23
	55990	3625	19.71	2.4	22.11	162.55	23
	56690	3695	19.68	2.4	22.08	161.44	23
10M-64QAM	55290	3555	18.89	2.4	21.29	134.59	23
	55990	3625	18.84	2.4	21.24	133.05	23
	56690	3695	19.02	2.4	21.42	138.68	23
10M-256QAM	55290	3555	15.65	2.4	18.05	63.83	23
	55990	3625	15.67	2.4	18.07	64.12	23
	56690	3695	15.66	2.4	18.06	63.97	23
BW [MHz] Modulation	Channel	Frequency (MHz)	Conducted Power (dBm)	Gain (dB)	EIRP (dBm)	EIRP (mW)	FCC Limit (dbm)
5M-QPSK	55265	3552.5	20.39	2.4	22.79	190.11	23
	55990	3625	20.44	2.4	22.84	192.31	23
	56715	3697.5	20.37	2.4	22.77	189.23	23
5M-16QAM	55265	3552.5	19.59	2.4	21.99	158.12	23
	55990	3625	19.62	2.4	22.02	159.22	23
	56715	3697.5	19.68	2.4	22.08	161.44	23
5M-64QAM	55265	3552.5	18.97	2.4	21.37	137.09	23
	55990	3625	18.87	2.4	21.27	133.97	23
	56715	3697.5	18.91	2.4	21.31	135.21	23
5M-256QAM	55265	3552.5	15.68	2.4	18.08	64.27	23
	55990	3625	15.62	2.4	18.02	63.39	23
	56715	3697.5	15.75	2.4	18.15	65.31	23

Note: The worst case EIRP shown in this section is found with LTE operating only using 1RB. As such, the EIRP/10MHz and full channel EIRP values will be identical since 1RB is fully contained within all available channel bandwidths (i.e., 5, 10, 15, 20MHz).

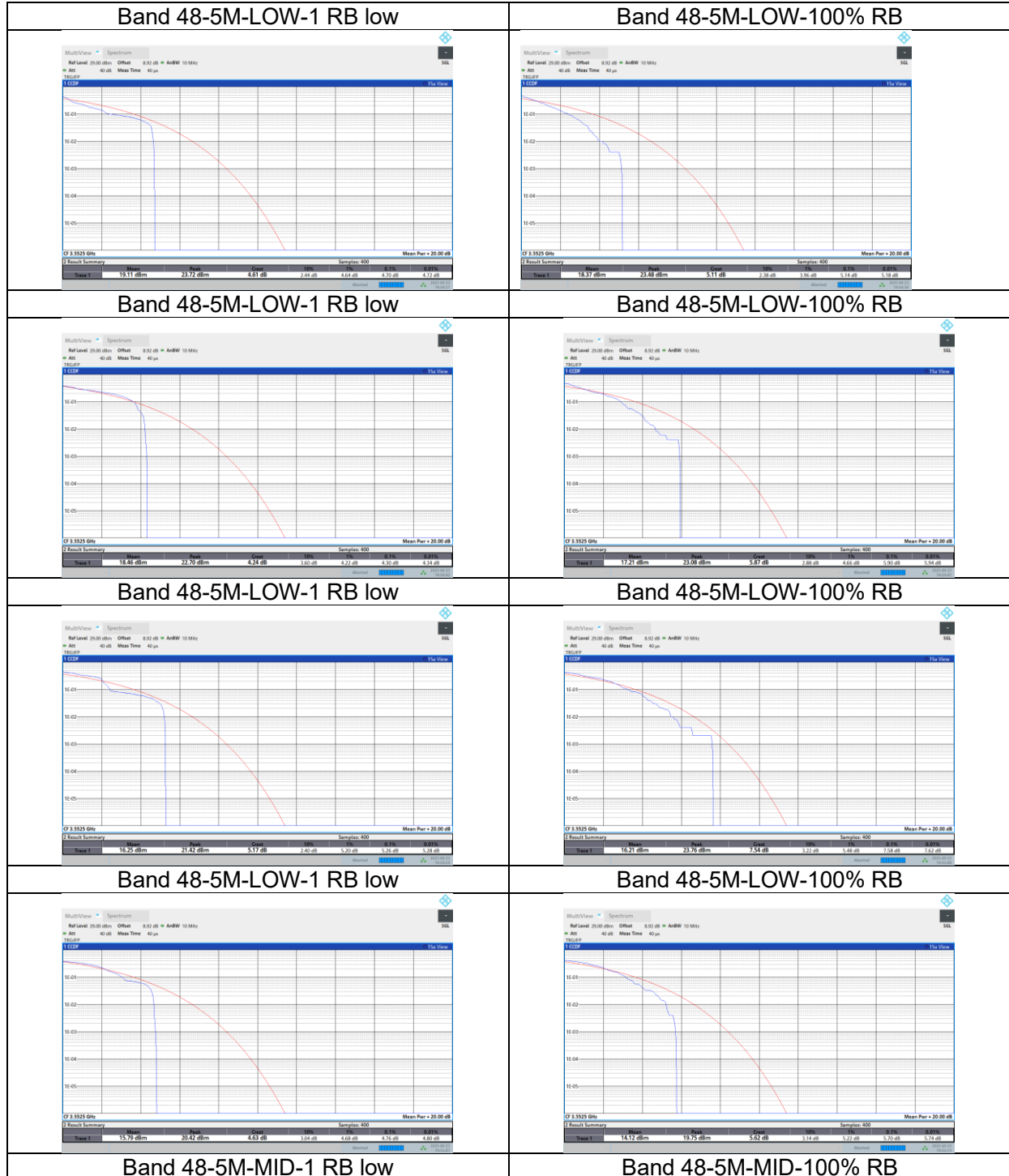
PEAK-TO-AVERAGE RATIO(CCDF)

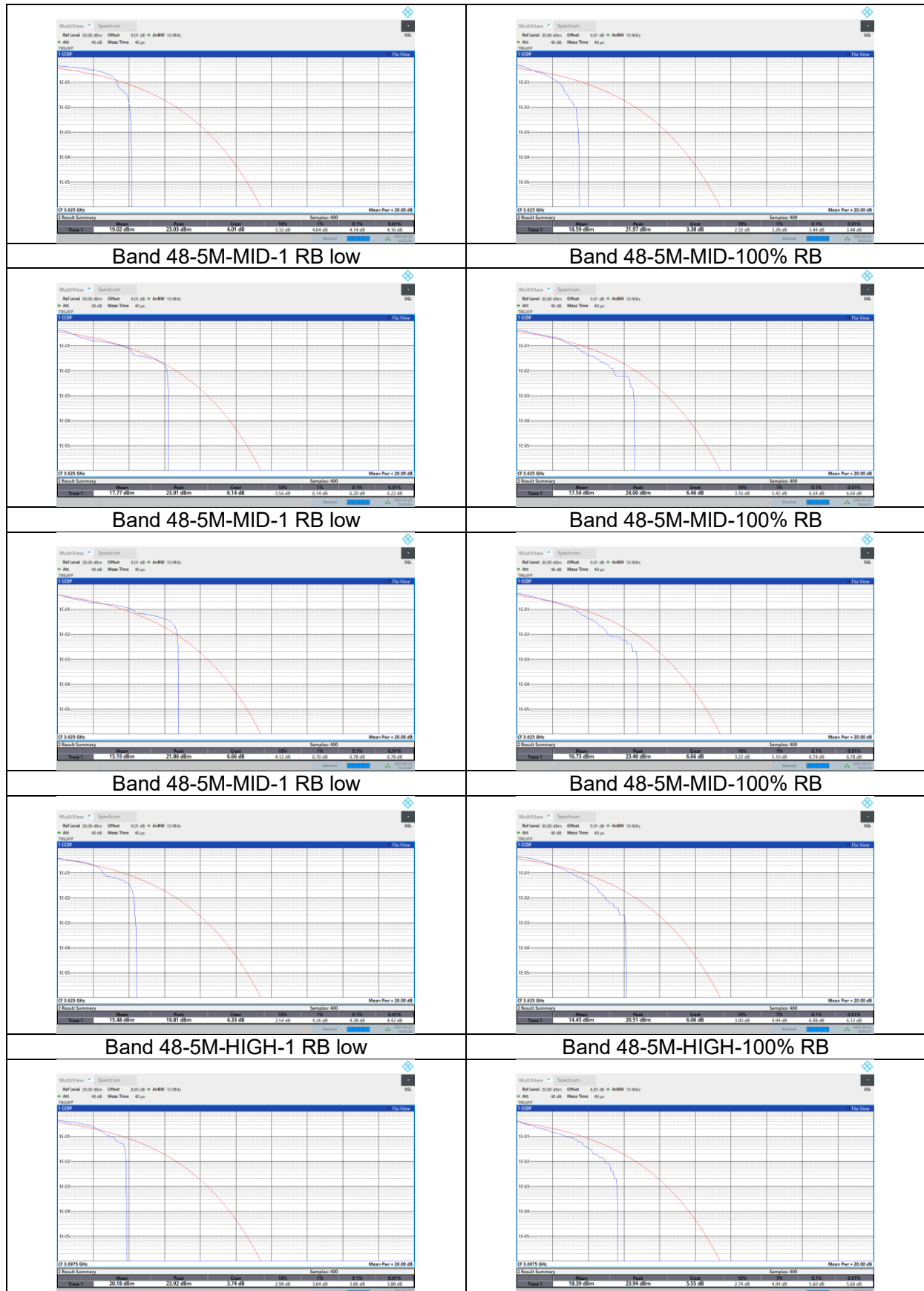
TEST RESULT

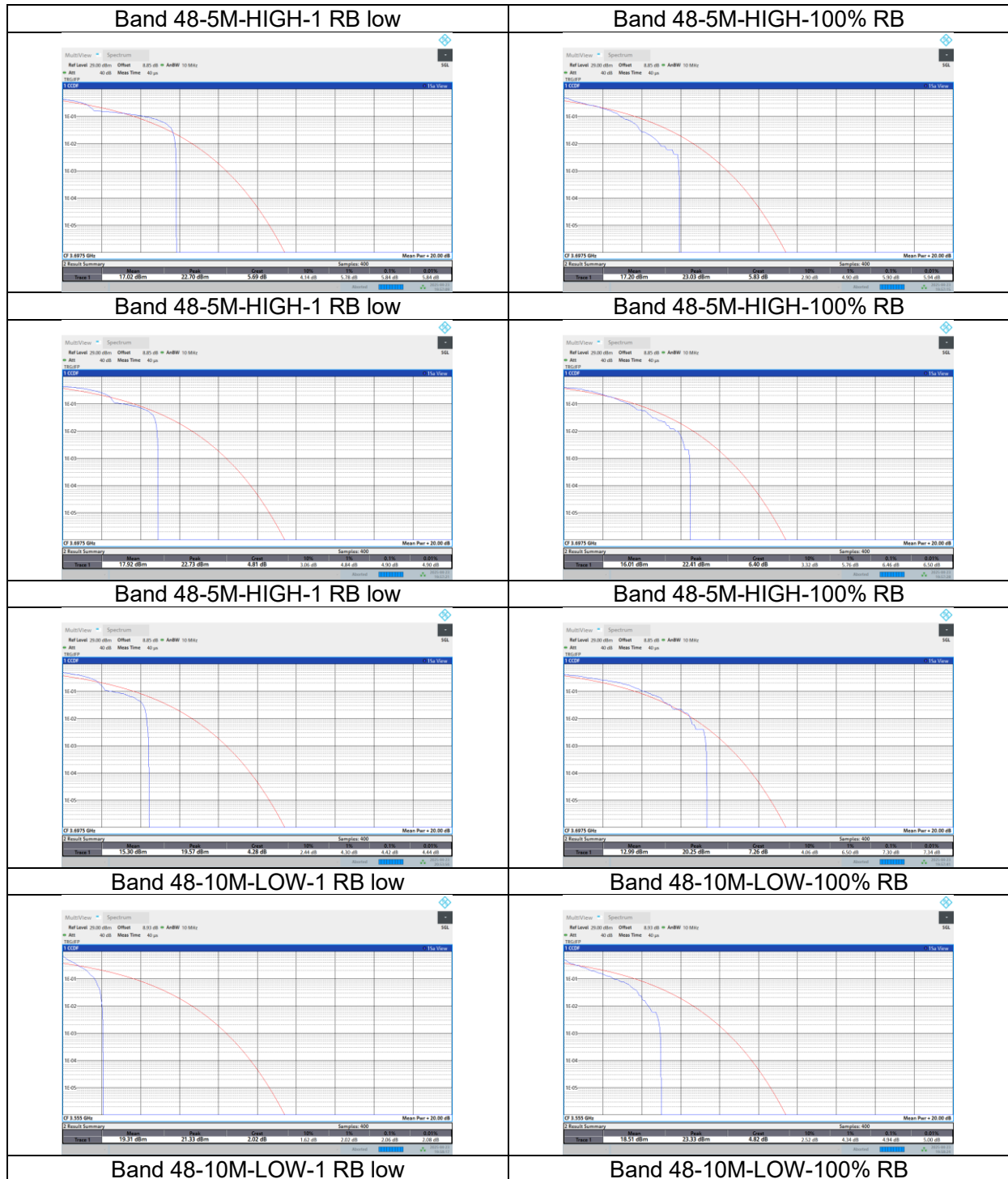
Bandwidth	Modulation	Frequency (MHz)	RB Configuration	Result (dB)	Limit (dB)	Verdict
5MHz	QPSK	3552.5	1 RB low	4.7	13	PASS
5MHz	QPSK	3552.5	100% RB	5.14	13	PASS
5MHz	16QAM	3552.5	1 RB low	4.3	13	PASS
5MHz	16QAM	3552.5	100% RB	5.9	13	PASS
5MHz	64QAM	3552.5	1 RB low	5.26	13	PASS
5MHz	64QAM	3552.5	100% RB	7.58	13	PASS
5MHz	256QAM	3552.5	1 RB low	4.76	13	PASS
5MHz	256QAM	3552.5	100% RB	5.7	13	PASS
5MHz	QPSK	3625	1 RB low	4.14	13	PASS
5MHz	QPSK	3625	100% RB	3.44	13	PASS
5MHz	16QAM	3625	1 RB low	6.2	13	PASS
5MHz	16QAM	3625	100% RB	6.54	13	PASS
5MHz	64QAM	3625	1 RB low	6.78	13	PASS
5MHz	64QAM	3625	100% RB	6.74	13	PASS
5MHz	256QAM	3625	1 RB low	4.38	13	PASS
5MHz	256QAM	3625	100% RB	6.08	13	PASS
5MHz	QPSK	3697.5	1 RB low	3.86	13	PASS
5MHz	QPSK	3697.5	100% RB	5.6	13	PASS
5MHz	16QAM	3697.5	1 RB low	5.84	13	PASS
5MHz	16QAM	3697.5	100% RB	5.9	13	PASS
5MHz	64QAM	3697.5	1 RB low	4.9	13	PASS
5MHz	64QAM	3697.5	100% RB	6.46	13	PASS
5MHz	256QAM	3697.5	1 RB low	4.42	13	PASS
5MHz	256QAM	3697.5	100% RB	7.3	13	PASS
10MHz	QPSK	3555	1 RB low	2.06	13	PASS
10MHz	QPSK	3555	100% RB	4.94	13	PASS
10MHz	16QAM	3555	1 RB low	4.2	13	PASS
10MHz	16QAM	3555	100% RB	6.26	13	PASS
10MHz	64QAM	3555	1 RB low	4.52	13	PASS
10MHz	64QAM	3555	100% RB	6.36	13	PASS
10MHz	256QAM	3555	1 RB low	4.42	13	PASS
10MHz	256QAM	3555	100% RB	7.86	13	PASS
10MHz	QPSK	3625	1 RB low	4.24	13	PASS
10MHz	QPSK	3625	100% RB	5.06	13	PASS
10MHz	16QAM	3625	1 RB low	4.04	13	PASS
10MHz	16QAM	3625	100% RB	4.66	13	PASS
10MHz	64QAM	3625	1 RB low	4.96	13	PASS
10MHz	64QAM	3625	100% RB	6	13	PASS
10MHz	256QAM	3625	1 RB low	4.12	13	PASS
10MHz	256QAM	3625	100% RB	7.2	13	PASS
10MHz	QPSK	3695	1 RB low	3.76	13	PASS
10MHz	QPSK	3695	100% RB	5.9	13	PASS
10MHz	16QAM	3695	1 RB low	3.66	13	PASS
10MHz	16QAM	3695	100% RB	6.28	13	PASS

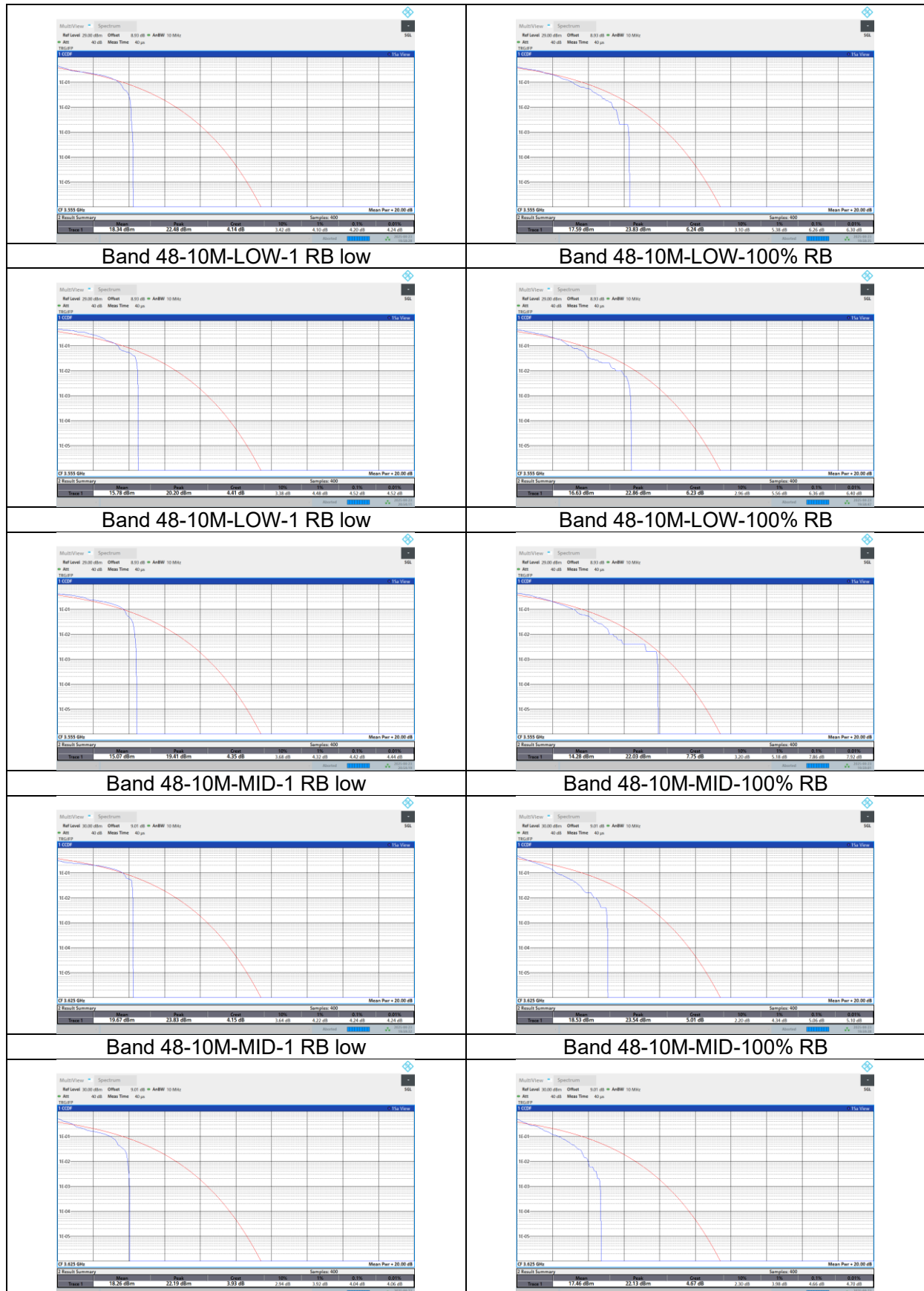
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10MHz	64QAM	3695	100% RB	6.26	13	PASS
10MHz	256QAM	3695	1 RB low	4.88	13	PASS
10MHz	256QAM	3695	100% RB	6.82	13	PASS
15MHz	QPSK	3557.5	1 RB low	2.92	13	PASS
15MHz	QPSK	3557.5	100% RB	5.44	13	PASS
15MHz	16QAM	3557.5	1 RB low	4.7	13	PASS
15MHz	16QAM	3557.5	100% RB	5.9	13	PASS
15MHz	64QAM	3557.5	1 RB low	3.56	13	PASS
15MHz	64QAM	3557.5	100% RB	6.08	13	PASS
15MHz	256QAM	3557.5	1 RB low	3.3	13	PASS
15MHz	256QAM	3557.5	100% RB	7.76	13	PASS
15MHz	QPSK	3625	1 RB low	3.58	13	PASS
15MHz	QPSK	3625	100% RB	5.42	13	PASS
15MHz	16QAM	3625	1 RB low	4.72	13	PASS
15MHz	16QAM	3625	100% RB	6.46	13	PASS
15MHz	64QAM	3625	1 RB low	5.06	13	PASS
15MHz	64QAM	3625	100% RB	6.64	13	PASS
15MHz	256QAM	3625	1 RB low	4.62	13	PASS
15MHz	256QAM	3625	100% RB	5.7	13	PASS
15MHz	QPSK	3692.5	1 RB low	3.02	13	PASS
15MHz	QPSK	3692.5	100% RB	5.8	13	PASS
15MHz	16QAM	3692.5	1 RB low	4.52	13	PASS
15MHz	16QAM	3692.5	100% RB	6.82	13	PASS
15MHz	64QAM	3692.5	1 RB low	1.5	13	PASS
15MHz	64QAM	3692.5	100% RB	6.3	13	PASS
15MHz	256QAM	3692.5	1 RB low	3.38	13	PASS
15MHz	256QAM	3692.5	100% RB	6.46	13	PASS
20MHz	QPSK	3560	1 RB low	4.04	13	PASS
20MHz	QPSK	3560	100% RB	5.32	13	PASS
20MHz	16QAM	3560	1 RB low	3.58	13	PASS
20MHz	16QAM	3560	100% RB	3.82	13	PASS
20MHz	64QAM	3560	1 RB low	2.82	13	PASS
20MHz	64QAM	3560	100% RB	3.84	13	PASS
20MHz	256QAM	3560	1 RB low	3.1	13	PASS
20MHz	256QAM	3560	100% RB	5.8	13	PASS
20MHz	QPSK	3625	1 RB low	4.02	13	PASS
20MHz	QPSK	3625	100% RB	5.5	13	PASS
20MHz	16QAM	3625	1 RB low	4.1	13	PASS
20MHz	16QAM	3625	100% RB	6.08	13	PASS
20MHz	64QAM	3625	1 RB low	3.78	13	PASS
20MHz	64QAM	3625	100% RB	6.36	13	PASS
20MHz	256QAM	3625	1 RB low	4.1	13	PASS
20MHz	256QAM	3625	100% RB	6.54	13	PASS
20MHz	QPSK	3690	1 RB low	3.58	13	PASS
20MHz	QPSK	3690	100% RB	5.7	13	PASS
20MHz	16QAM	3690	1 RB low	3.18	13	PASS
20MHz	16QAM	3690	100% RB	6.36	13	PASS
20MHz	64QAM	3690	1 RB low	2.36	13	PASS
20MHz	64QAM	3690	100% RB	6.08	13	PASS
20MHz	256QAM	3690	1 RB low	3.68	13	PASS
20MHz	256QAM	3690	100% RB	7.1	13	PASS

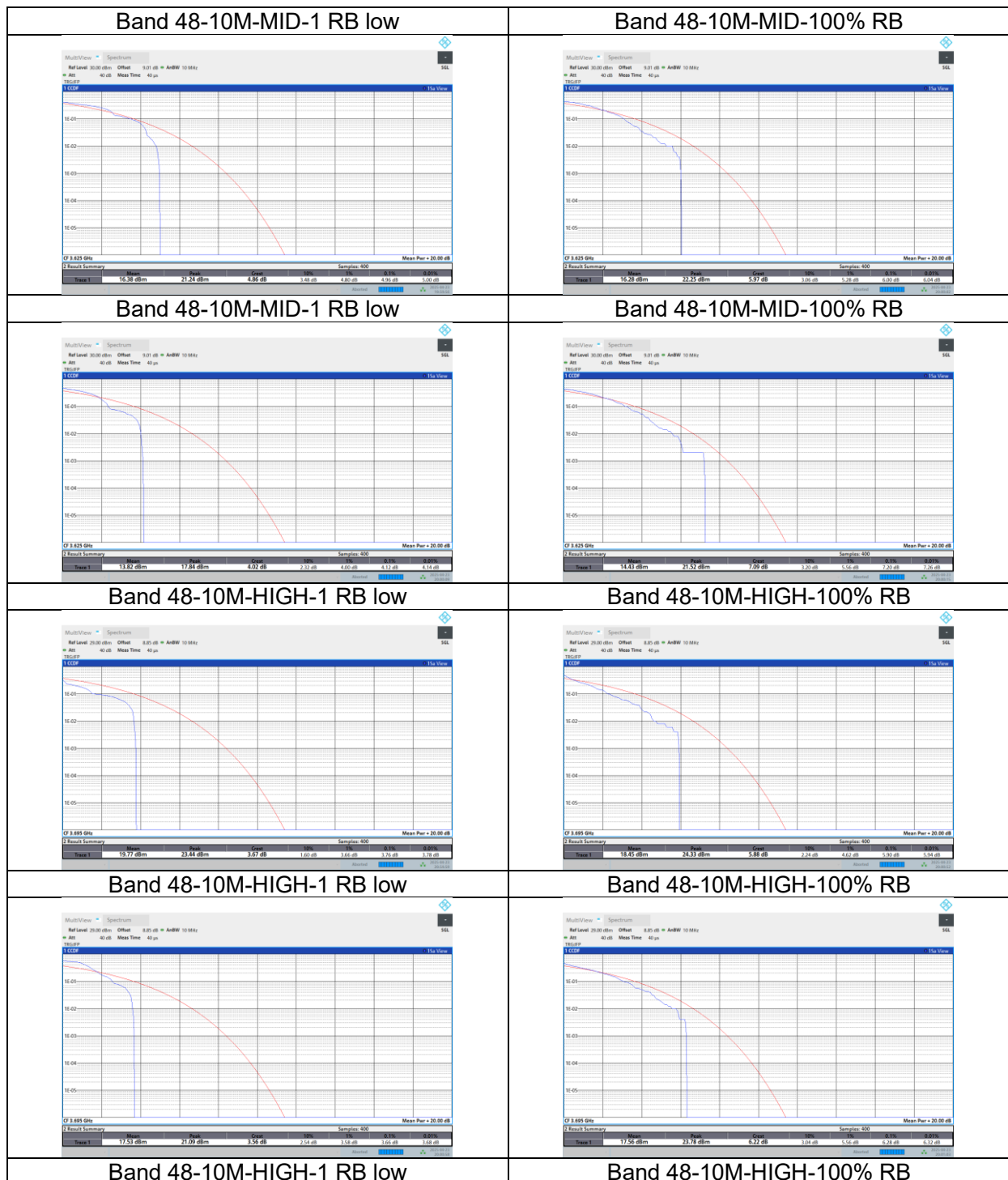
TEST GRAPHS

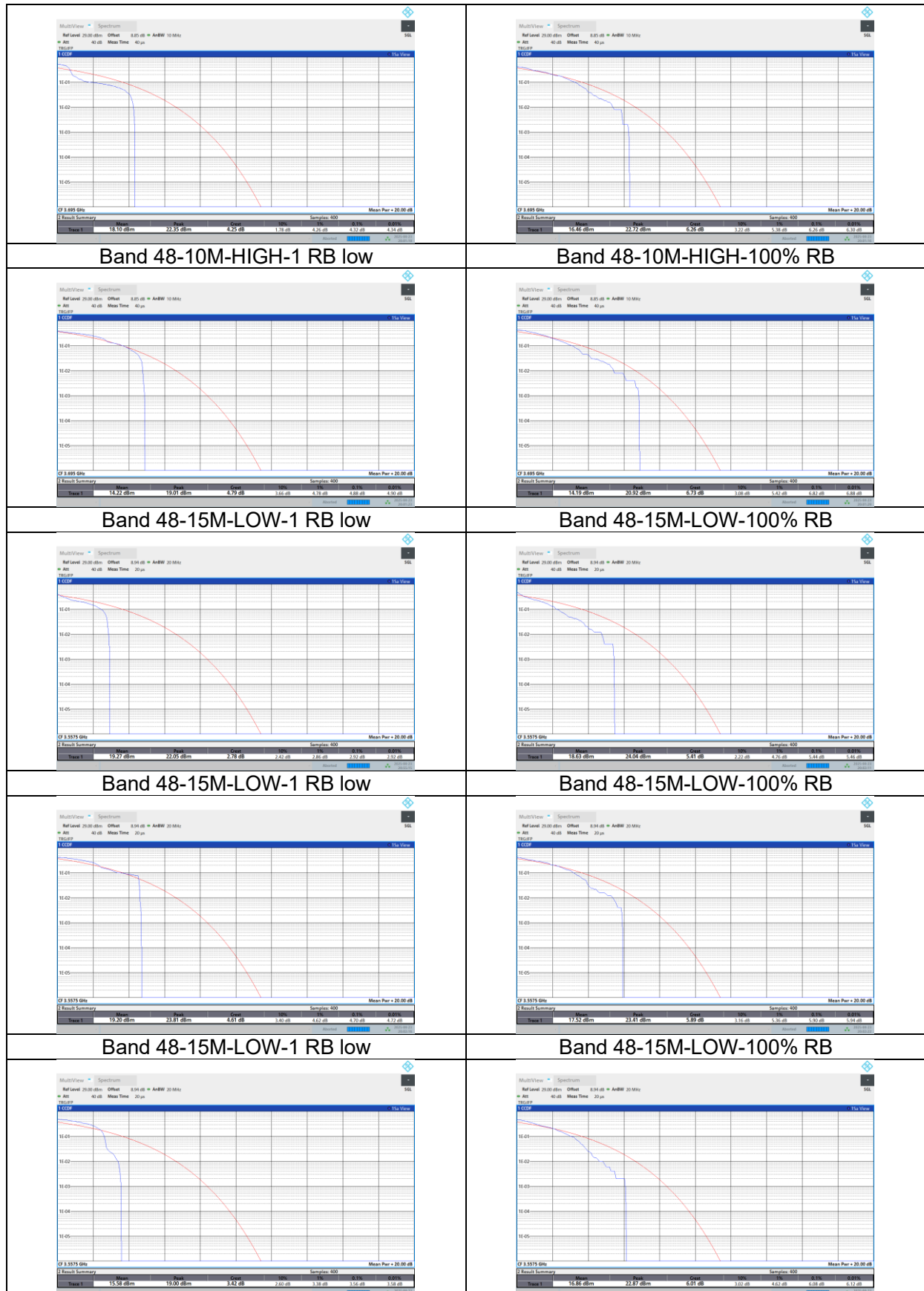


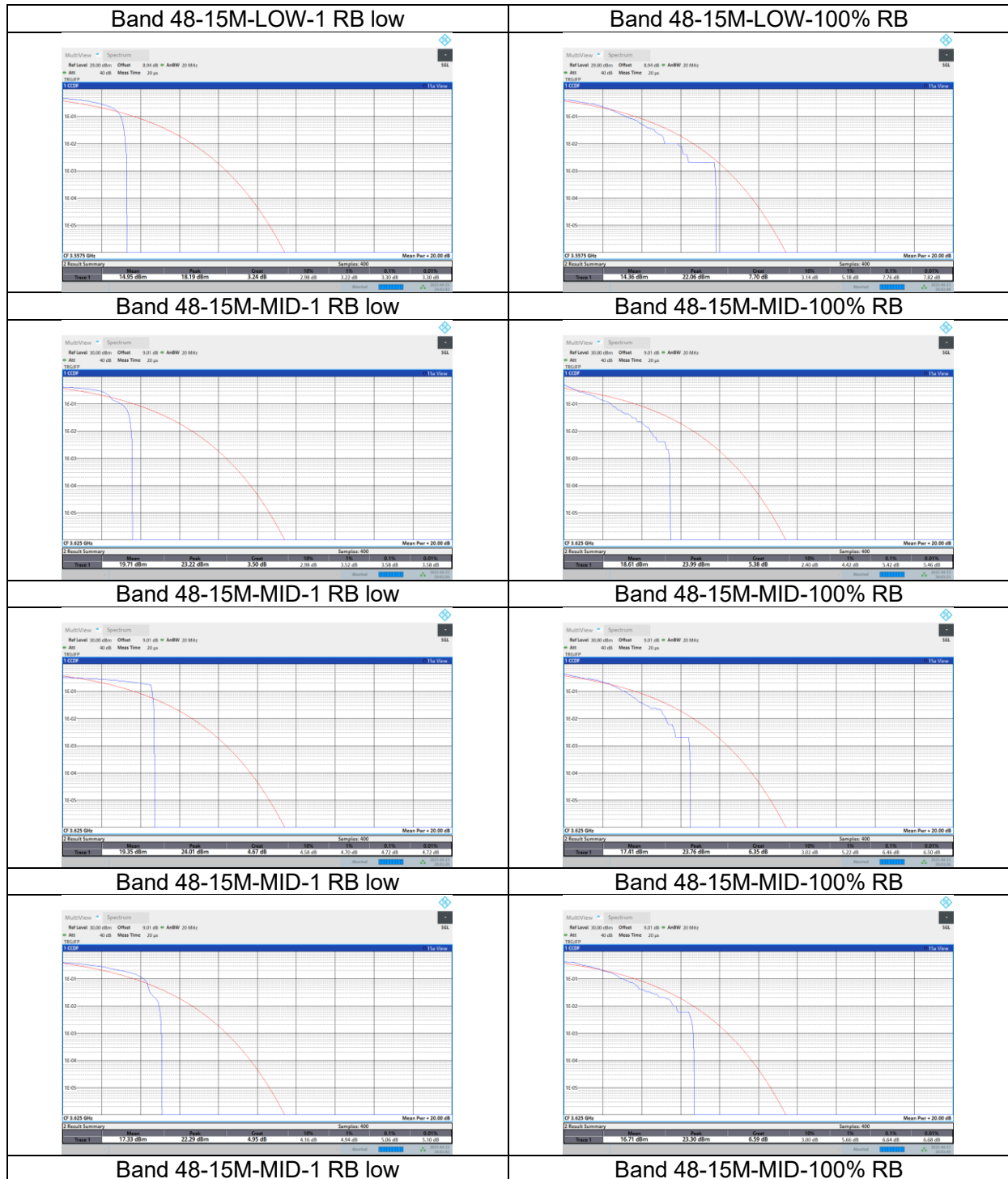


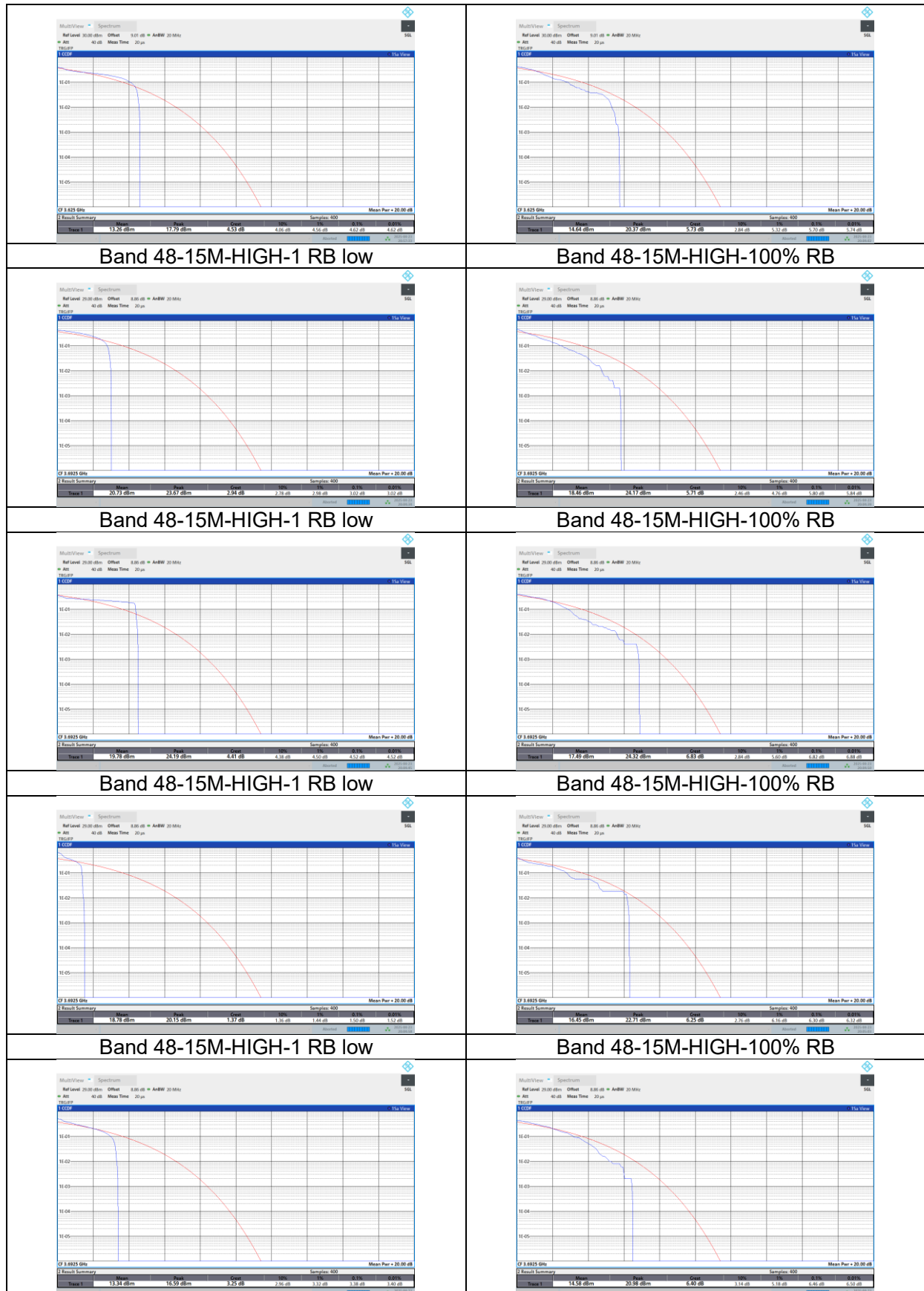


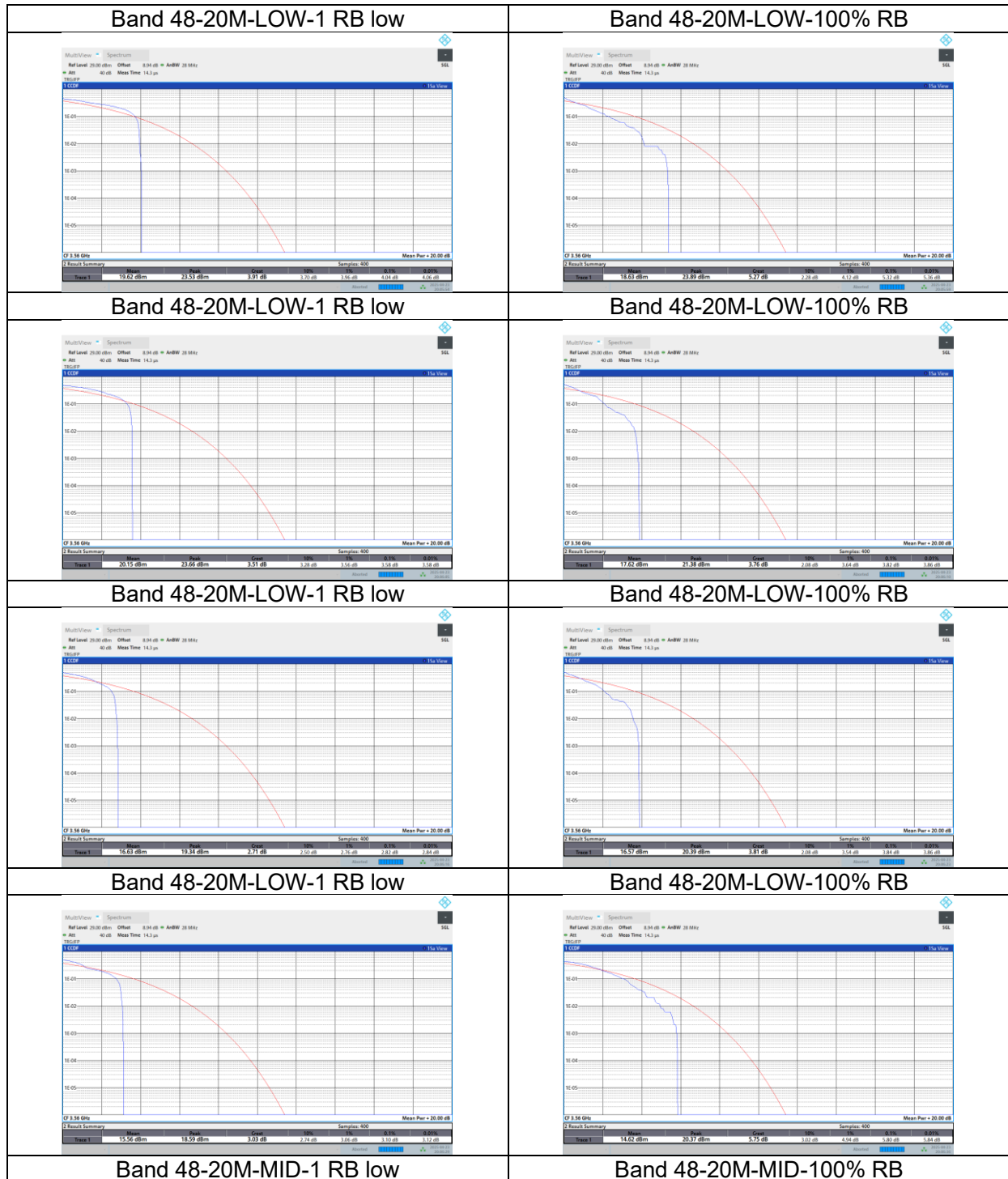


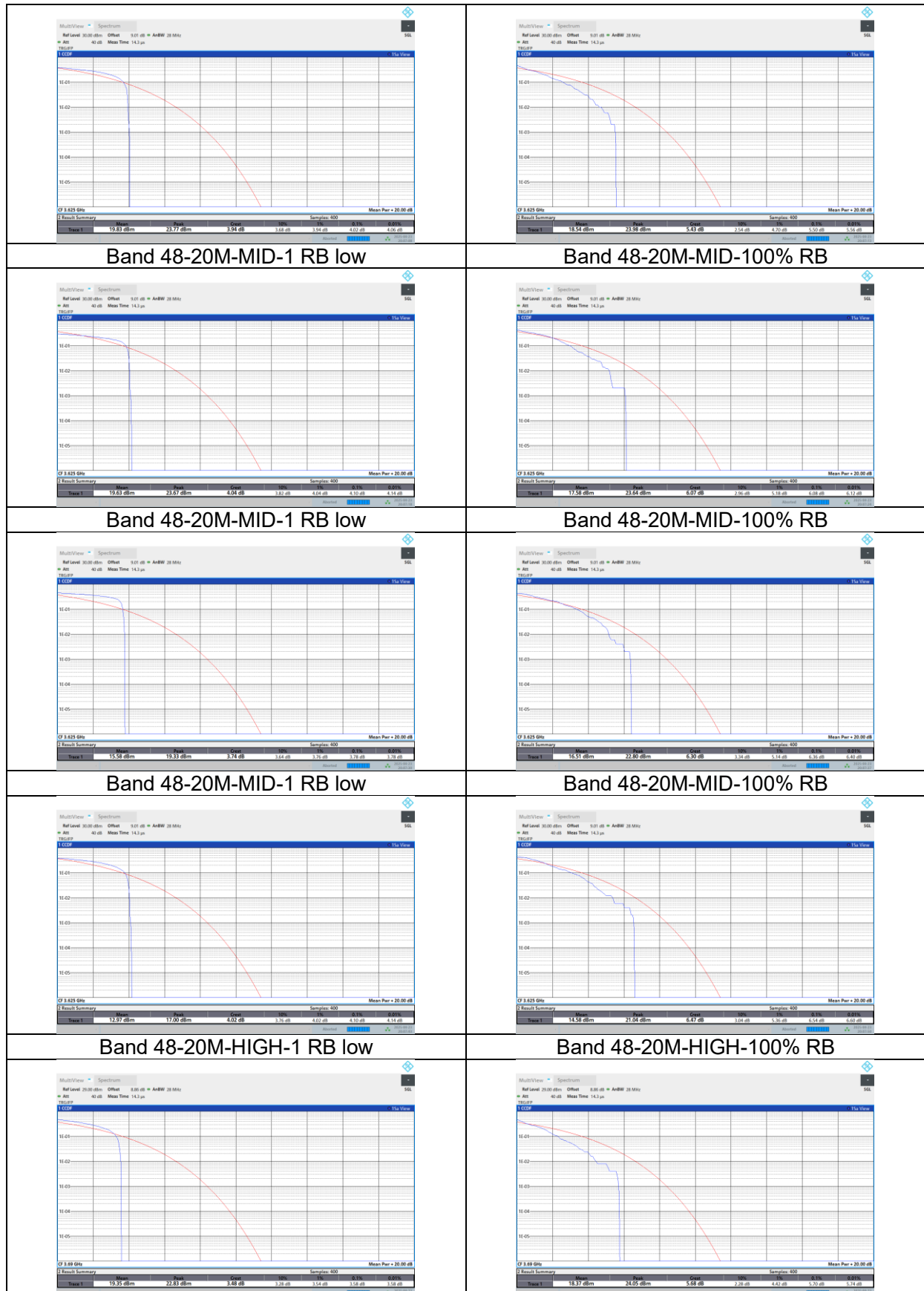


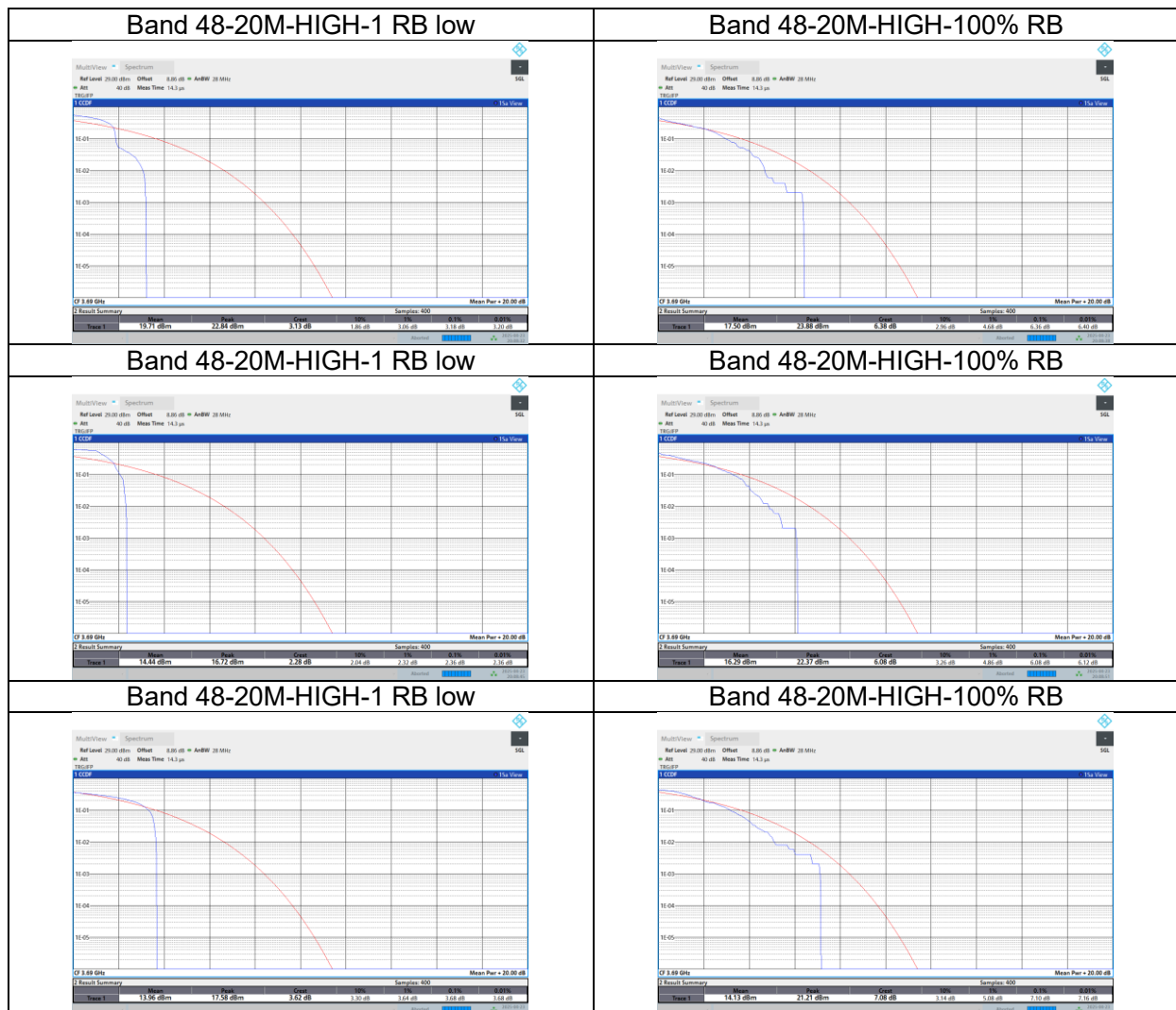








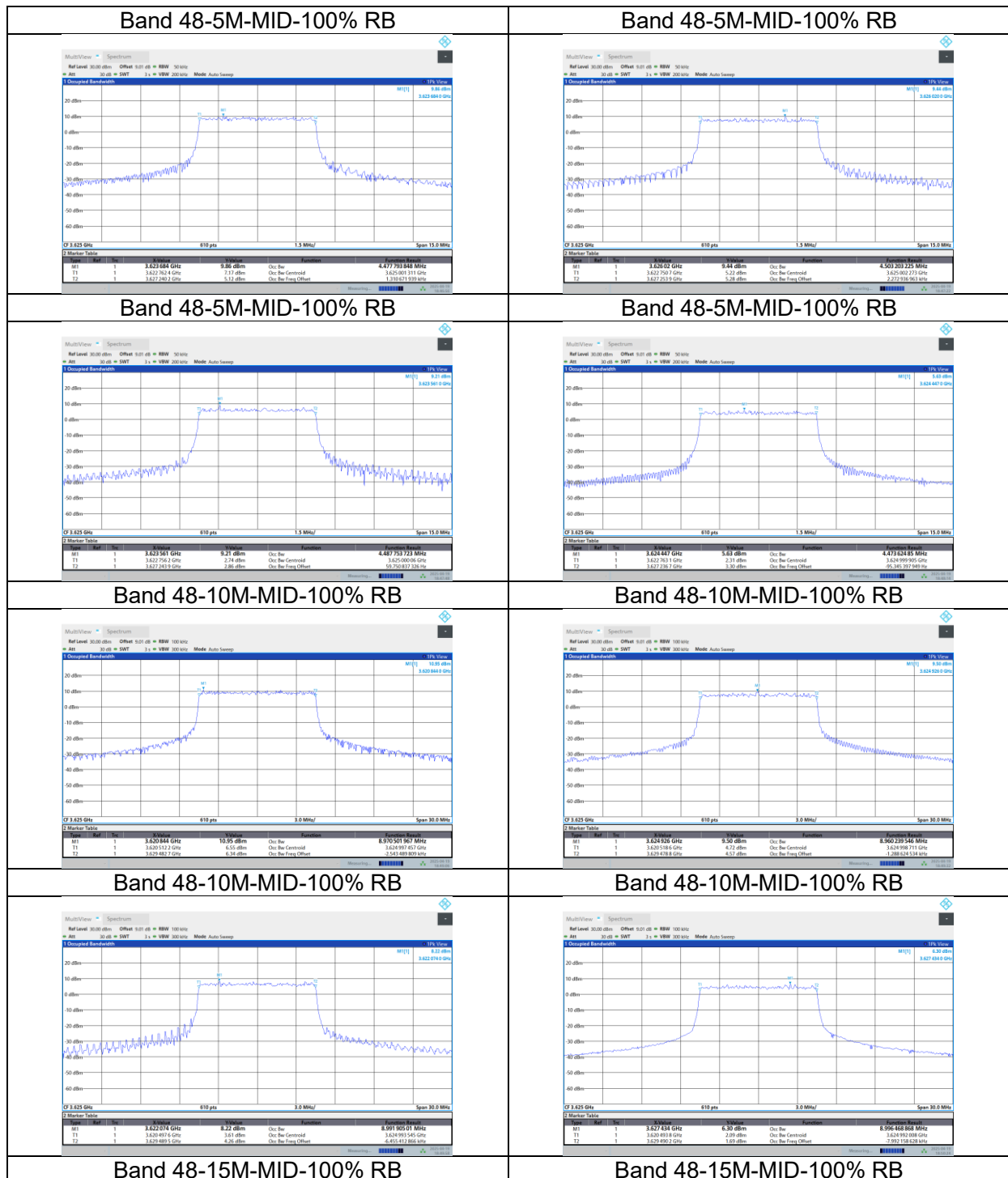


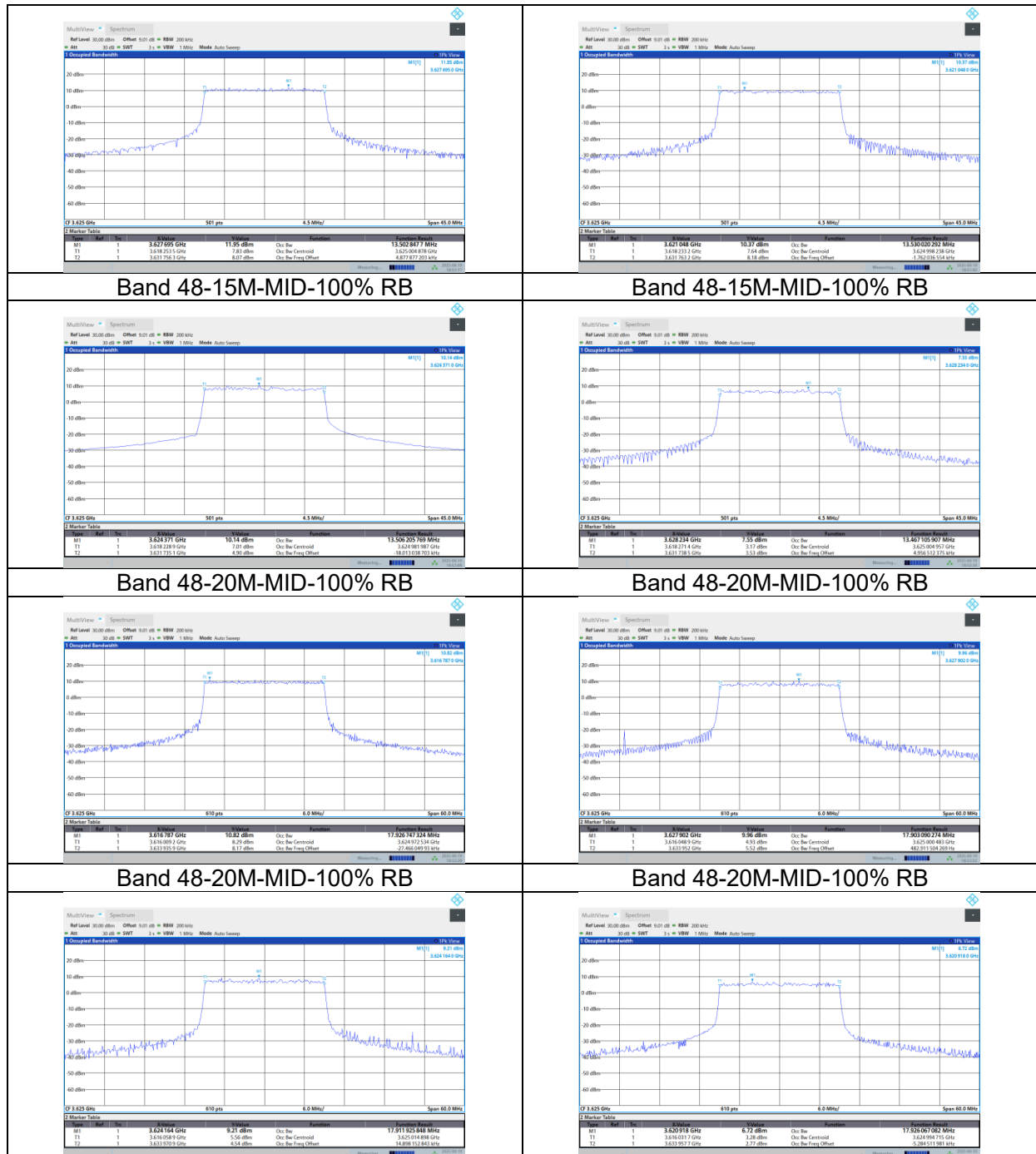


26DB BANDWIDTH AND OCCUPIED BANDWIDTH**OCCUPIED BANDWIDTH****TEST RESULT**

Bandwidth	Modulation	Frequency (MHz)	RB Configuration	Occupied Bandwidth(MHz)	Verdict
5MHz	QPSK	3625	100% RB	4.478	PASS
5MHz	16QAM	3625	100% RB	4.503	PASS
5MHz	64QAM	3625	100% RB	4.488	PASS
5MHz	256QAM	3625	100% RB	4.474	PASS
10MHz	QPSK	3625	100% RB	8.971	PASS
10MHz	16QAM	3625	100% RB	8.96	PASS
10MHz	64QAM	3625	100% RB	8.992	PASS
10MHz	256QAM	3625	100% RB	8.996	PASS
15MHz	QPSK	3625	100% RB	13.503	PASS
15MHz	16QAM	3625	100% RB	13.53	PASS
15MHz	64QAM	3625	100% RB	13.506	PASS
15MHz	256QAM	3625	100% RB	13.467	PASS
20MHz	QPSK	3625	100% RB	17.927	PASS
20MHz	16QAM	3625	100% RB	17.903	PASS
20MHz	64QAM	3625	100% RB	17.912	PASS
20MHz	256QAM	3625	100% RB	17.926	PASS

TEST GRAPHS





**26DB BANDWIDTH
Test Result**

Bandwidth	Modulation	Frequency (MHz)	RB Configuration	26dB Bandwidth(MHz)	Verdict
5MHz	QPSK	3625	100% RB	4.975	PASS
5MHz	16QAM	3625	100% RB	5.02	PASS
5MHz	64QAM	3625	100% RB	4.93	PASS
5MHz	256QAM	3625	100% RB	4.915	PASS
10MHz	QPSK	3625	100% RB	9.83	PASS
10MHz	16QAM	3625	100% RB	9.71	PASS
10MHz	64QAM	3625	100% RB	9.8	PASS
10MHz	256QAM	3625	100% RB	9.71	PASS
15MHz	QPSK	3625	100% RB	14.79	PASS
15MHz	16QAM	3625	100% RB	14.835	PASS
15MHz	64QAM	3625	100% RB	14.835	PASS
15MHz	256QAM	3625	100% RB	14.745	PASS
20MHz	QPSK	3625	100% RB	19.301	PASS
20MHz	16QAM	3625	100% RB	19.361	PASS
20MHz	64QAM	3625	100% RB	19.361	PASS
20MHz	256QAM	3625	100% RB	19.301	PASS

TEST GRAPHS

