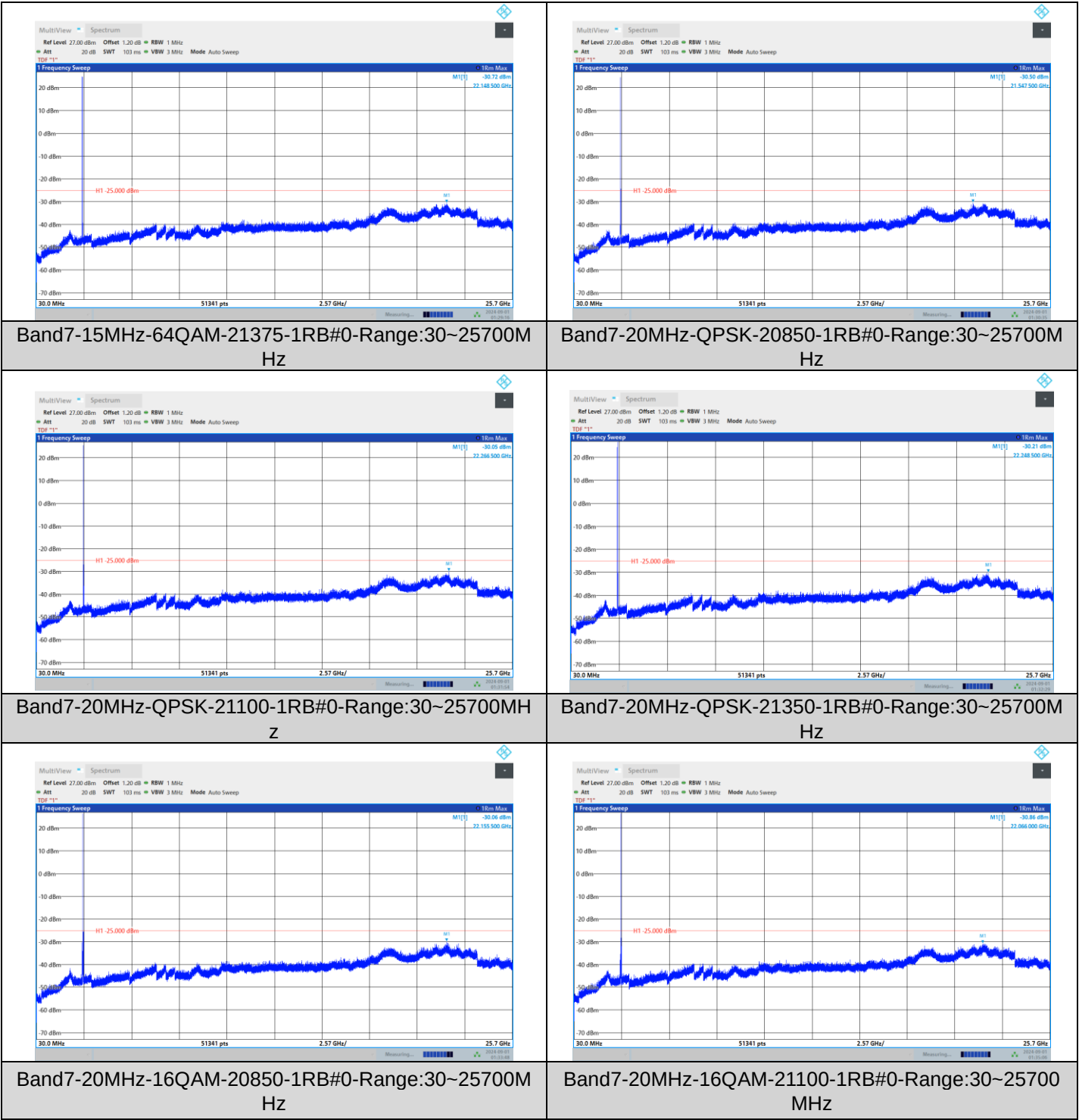
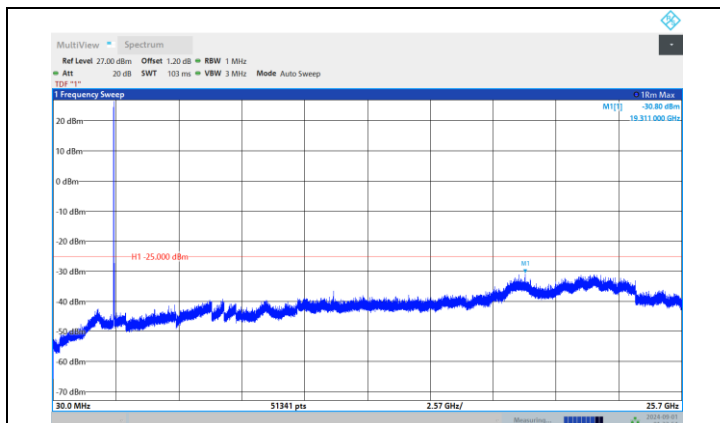




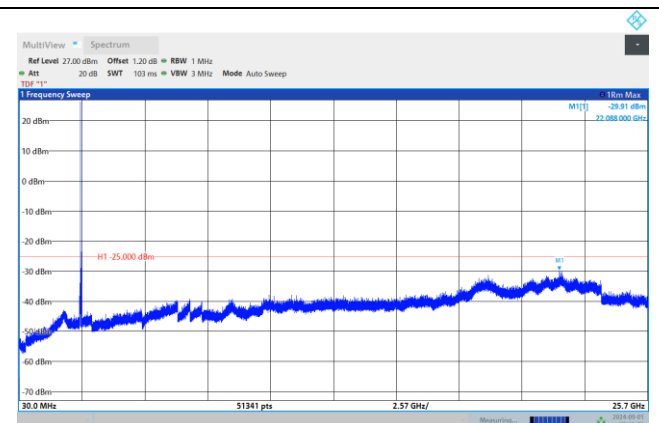


BUREAU
VERITAS

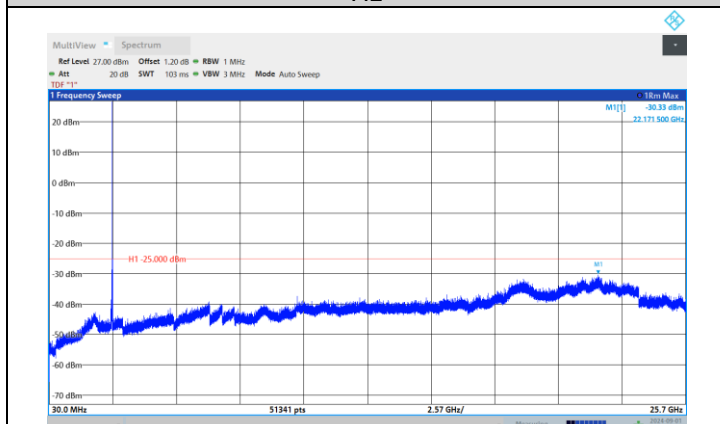
Test Report No.: PSU-NQN2406210109RF03



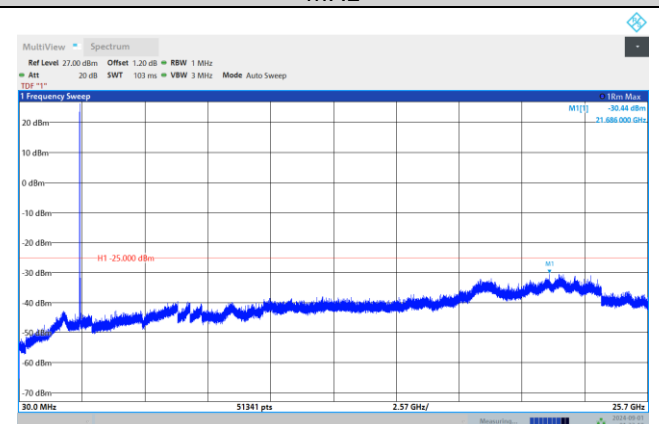
Band7-20MHz-16QAM-21350-1RB#0-Range:30~25700M
Hz



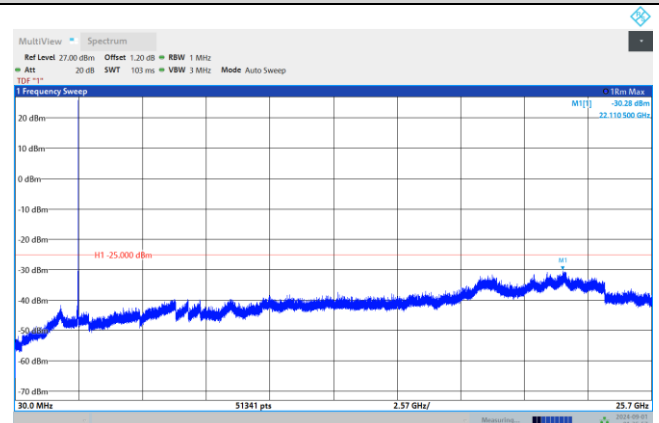
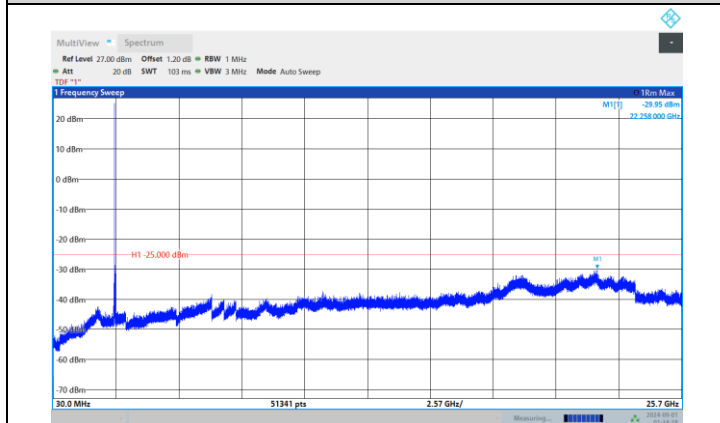
Band7-20MHz-64QAM-20850-1RB#0-Range:30~25700
MHz



Band7-20MHz-64QAM-21100-1RB#0-Range:30~25700M
Hz



Band7-20MHz-64QAM-21350-1RB#0-Range:30~25700
MHz



FREQUENCY STABILITY

Test Result

Voltage										
Band	Bandwidth	Modulation	Channel	RB Configure	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
Band7	20MHz	QPSK	20850	100RB#0	LV	NT	-13.22	-0.0053	±2.5	PASS
Band7	20MHz	QPSK	20850	100RB#0	NV	NT	11.48	0.0046	±2.5	PASS
Band7	20MHz	QPSK	20850	100RB#0	HV	NT	11.33	0.0045	±2.5	PASS
Band7	20MHz	QPSK	21100	100RB#0	LV	NT	11.38	0.0045	±2.5	PASS
Band7	20MHz	QPSK	21100	100RB#0	NV	NT	-0.52	-0.0002	±2.5	PASS
Band7	20MHz	QPSK	21100	100RB#0	HV	NT	-7.63	-0.0030	±2.5	PASS
Band7	20MHz	QPSK	21350	100RB#0	LV	NT	-1.85	-0.0007	±2.5	PASS
Band7	20MHz	QPSK	21350	100RB#0	NV	NT	-9.05	-0.0035	±2.5	PASS
Band7	20MHz	QPSK	21350	100RB#0	HV	NT	9.51	0.0037	±2.5	PASS

Temperature										
Band	Bandwidth	Modulation	Channel	RB Configure	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
Band7	20MHz	QPSK	20850	100RB#0	NV	-30	-13.10	-0.0052	±2.5	PASS
Band7	20MHz	QPSK	20850	100RB#0	NV	-20	-22.40	-0.0089	±2.5	PASS
Band7	20MHz	QPSK	20850	100RB#0	NV	-10	20.90	0.0083	±2.5	PASS
Band7	20MHz	QPSK	20850	100RB#0	NV	0	18.20	0.0073	±2.5	PASS
Band7	20MHz	QPSK	20850	100RB#0	NV	10	-11.40	-0.0045	±2.5	PASS
Band7	20MHz	QPSK	20850	100RB#0	NV	20	-26.60	-0.0106	±2.5	PASS
Band7	20MHz	QPSK	20850	100RB#0	NV	30	-0.10	0.0000	±2.5	PASS
Band7	20MHz	QPSK	20850	100RB#0	NV	40	-16.60	-0.0066	±2.5	PASS
Band7	20MHz	QPSK	20850	100RB#0	NV	50	-27.30	-0.0109	±2.5	PASS
Band7	20MHz	QPSK	21100	100RB#0	NV	-30	18.51	0.0073	±2.5	PASS
Band7	20MHz	QPSK	21100	100RB#0	NV	-20	-12.94	-0.0051	±2.5	PASS
Band7	20MHz	QPSK	21100	100RB#0	NV	-10	23.66	0.0093	±2.5	PASS
Band7	20MHz	QPSK	21100	100RB#0	NV	0	6.57	0.0026	±2.5	PASS
Band7	20MHz	QPSK	21100	100RB#0	NV	10	-19.80	-0.0078	±2.5	PASS
Band7	20MHz	QPSK	21100	100RB#0	NV	20	-6.86	-0.0027	±2.5	PASS
Band7	20MHz	QPSK	21100	100RB#0	NV	30	1.06	0.0004	±2.5	PASS
Band7	20MHz	QPSK	21100	100RB#0	NV	40	19.07	0.0075	±2.5	PASS
Band7	20MHz	QPSK	21100	100RB#0	NV	50	26.89	0.0106	±2.5	PASS
Band7	20MHz	QPSK	21350	100RB#0	NV	-30	-0.10	0.0000	±2.5	PASS
Band7	20MHz	QPSK	21350	100RB#0	NV	-20	-12.60	-0.0049	±2.5	PASS
Band7	20MHz	QPSK	21350	100RB#0	NV	-10	12.90	0.0050	±2.5	PASS
Band7	20MHz	QPSK	21350	100RB#0	NV	0	-10.90	-0.0043	±2.5	PASS
Band7	20MHz	QPSK	21350	100RB#0	NV	10	0.20	0.0001	±2.5	PASS
Band7	20MHz	QPSK	21350	100RB#0	NV	20	1.10	0.0004	±2.5	PASS
Band7	20MHz	QPSK	21350	100RB#0	NV	30	-21.90	-0.0086	±2.5	PASS
Band7	20MHz	QPSK	21350	100RB#0	NV	40	2.80	0.0011	±2.5	PASS
Band7	20MHz	QPSK	21350	100RB#0	NV	50	-9.40	-0.0037	±2.5	PASS

MAX Deviation calculation

Frequency Stability	Frequency (MHz)	Limit Line(MHz)	Result
$f_L - \text{MAX}(\Delta f) $	2501.061473	≥ 2500	PASS
$f_H + \text{MAX}(\Delta f) $	2568.954527	≤ 2570	

- Note: 1. $|\text{MAX}(\Delta f)|$ = Max Deviation
 2. f_L = Occ low channel f_L (-13dBm/MHz)
 3. f_H = Occ High channel f_H (-13dBm/MHz)
 4. $|\text{MAX}(\Delta f)|$ = 27.30Hz.

LTE BAND12 (INCLUDING LTE BAND17)

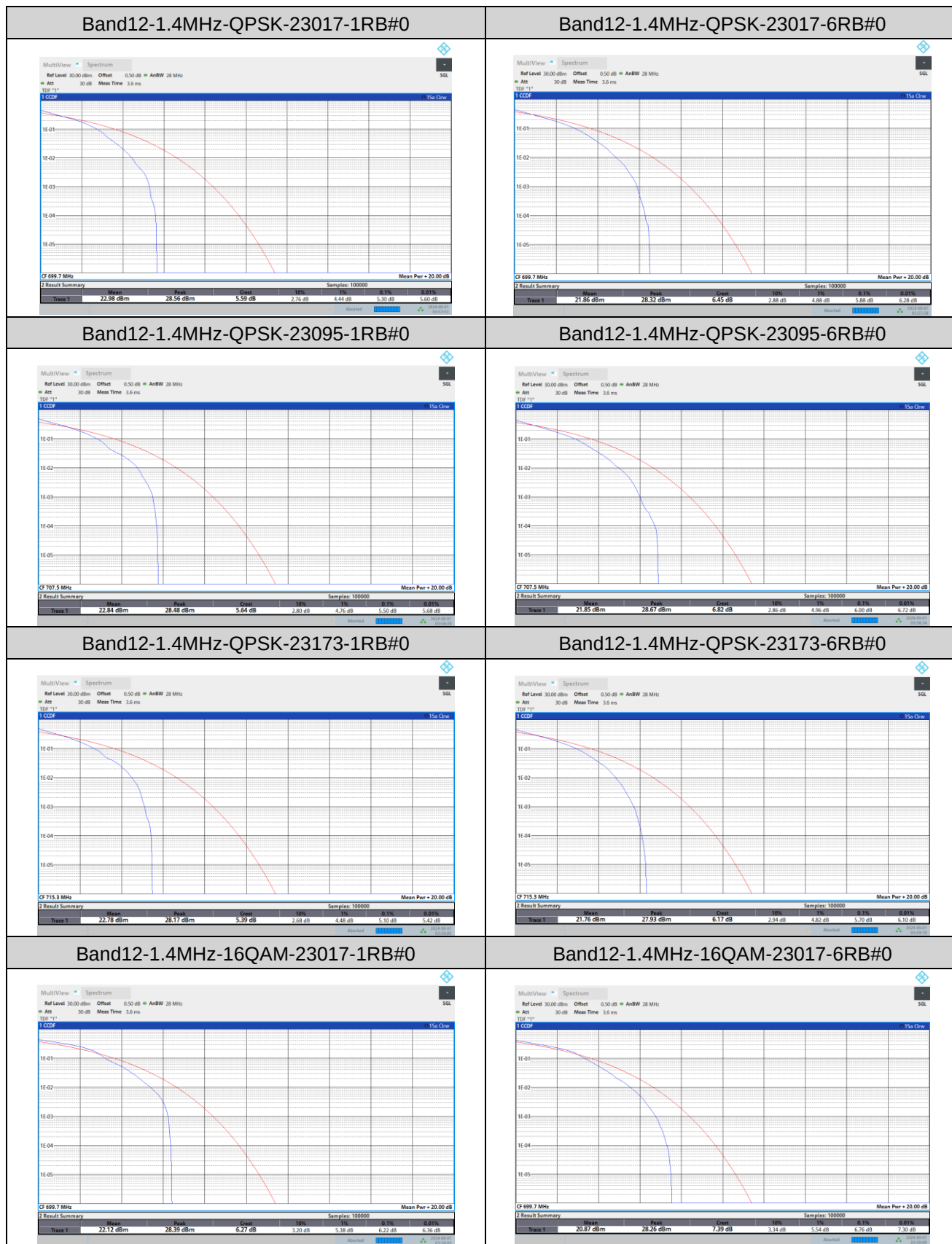
PEAK-TO-AVERAGE RATIO(CCDF)

Test Result

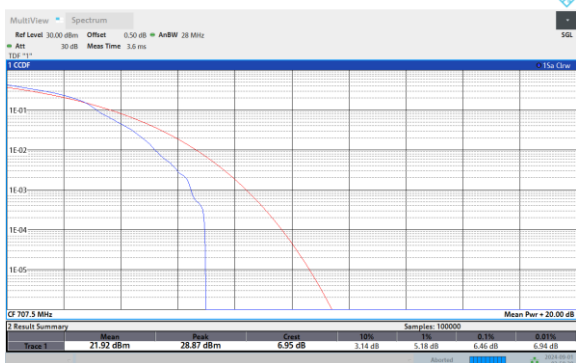
Band	Bandwidth	Modulation	Channel	RB Configuration	Result(dB)	Limit(dB)	Verdict
Band12	1.4MHz	QPSK	23017	1RB#0	5.30	13	PASS
Band12	1.4MHz	QPSK	23017	6RB#0	5.88	13	PASS
Band12	1.4MHz	QPSK	23095	1RB#0	5.50	13	PASS
Band12	1.4MHz	QPSK	23095	6RB#0	6.00	13	PASS
Band12	1.4MHz	QPSK	23173	1RB#0	5.10	13	PASS
Band12	1.4MHz	QPSK	23173	6RB#0	5.70	13	PASS
Band12	1.4MHz	16QAM	23017	1RB#0	6.22	13	PASS
Band12	1.4MHz	16QAM	23017	6RB#0	6.76	13	PASS
Band12	1.4MHz	16QAM	23095	1RB#0	6.46	13	PASS
Band12	1.4MHz	16QAM	23095	6RB#0	6.94	13	PASS
Band12	1.4MHz	16QAM	23173	1RB#0	5.88	13	PASS
Band12	1.4MHz	16QAM	23173	6RB#0	6.60	13	PASS
Band12	1.4MHz	64QAM	23017	1RB#0	6.76	13	PASS
Band12	1.4MHz	64QAM	23017	6RB#0	7.28	13	PASS
Band12	1.4MHz	64QAM	23095	1RB#0	7.28	13	PASS
Band12	1.4MHz	64QAM	23095	6RB#0	6.90	13	PASS
Band12	1.4MHz	64QAM	23173	1RB#0	6.78	13	PASS
Band12	1.4MHz	64QAM	23173	6RB#0	7.18	13	PASS
Band12	3MHz	QPSK	23025	1RB#0	5.38	13	PASS
Band12	3MHz	QPSK	23025	15RB#0	6.04	13	PASS
Band12	3MHz	QPSK	23095	1RB#0	5.64	13	PASS
Band12	3MHz	QPSK	23095	15RB#0	5.92	13	PASS
Band12	3MHz	QPSK	23165	1RB#0	5.26	13	PASS
Band12	3MHz	QPSK	23165	15RB#0	5.82	13	PASS
Band12	3MHz	16QAM	23025	1RB#0	6.26	13	PASS
Band12	3MHz	16QAM	23025	15RB#0	6.80	13	PASS
Band12	3MHz	16QAM	23095	1RB#0	6.28	13	PASS
Band12	3MHz	16QAM	23095	15RB#0	6.92	13	PASS
Band12	3MHz	16QAM	23165	1RB#0	6.02	13	PASS
Band12	3MHz	16QAM	23165	15RB#0	6.82	13	PASS
Band12	3MHz	64QAM	23025	1RB#0	6.40	13	PASS
Band12	3MHz	64QAM	23025	15RB#0	7.30	13	PASS
Band12	3MHz	64QAM	23095	1RB#0	7.34	13	PASS
Band12	3MHz	64QAM	23095	15RB#0	7.42	13	PASS
Band12	3MHz	64QAM	23165	1RB#0	6.64	13	PASS
Band12	3MHz	64QAM	23165	15RB#0	7.20	13	PASS
Band12	5MHz	QPSK	23035	1RB#0	5.52	13	PASS
Band12	5MHz	QPSK	23035	25RB#0	5.96	13	PASS
Band12	5MHz	QPSK	23095	1RB#0	5.44	13	PASS
Band12	5MHz	QPSK	23095	25RB#0	5.94	13	PASS
Band12	5MHz	QPSK	23155	1RB#0	5.38	13	PASS

Band12	5MHz	QPSK	23155	25RB#0	5.82	13	PASS
Band12	5MHz	16QAM	23035	1RB#0	5.90	13	PASS
Band12	5MHz	16QAM	23035	25RB#0	6.74	13	PASS
Band12	5MHz	16QAM	23095	1RB#0	5.88	13	PASS
Band12	5MHz	16QAM	23095	25RB#0	6.84	13	PASS
Band12	5MHz	16QAM	23155	1RB#0	6.10	13	PASS
Band12	5MHz	16QAM	23155	25RB#0	6.74	13	PASS
Band12	5MHz	64QAM	23035	1RB#0	6.28	13	PASS
Band12	5MHz	64QAM	23035	25RB#0	7.14	13	PASS
Band12	5MHz	64QAM	23095	1RB#0	6.96	13	PASS
Band12	5MHz	64QAM	23095	25RB#0	7.10	13	PASS
Band12	5MHz	64QAM	23155	1RB#0	7.30	13	PASS
Band12	5MHz	64QAM	23155	25RB#0	7.20	13	PASS
Band12	10MHz	QPSK	23060	1RB#0	5.44	13	PASS
Band12	10MHz	QPSK	23060	50RB#0	5.84	13	PASS
Band12	10MHz	QPSK	23095	1RB#0	5.32	13	PASS
Band12	10MHz	QPSK	23095	50RB#0	5.74	13	PASS
Band12	10MHz	QPSK	23130	1RB#0	5.36	13	PASS
Band12	10MHz	QPSK	23130	50RB#0	5.68	13	PASS
Band12	10MHz	16QAM	23060	1RB#0	5.92	13	PASS
Band12	10MHz	16QAM	23060	50RB#0	6.60	13	PASS
Band12	10MHz	16QAM	23095	1RB#0	6.20	13	PASS
Band12	10MHz	16QAM	23095	50RB#0	6.72	13	PASS
Band12	10MHz	16QAM	23130	1RB#0	6.18	13	PASS
Band12	10MHz	16QAM	23130	50RB#0	6.62	13	PASS
Band12	10MHz	64QAM	23060	1RB#0	6.60	13	PASS
Band12	10MHz	64QAM	23060	50RB#0	7.02	13	PASS
Band12	10MHz	64QAM	23095	1RB#0	6.78	13	PASS
Band12	10MHz	64QAM	23095	50RB#0	7.02	13	PASS
Band12	10MHz	64QAM	23130	1RB#0	7.00	13	PASS
Band12	10MHz	64QAM	23130	1RB#0	7.02	13	PASS

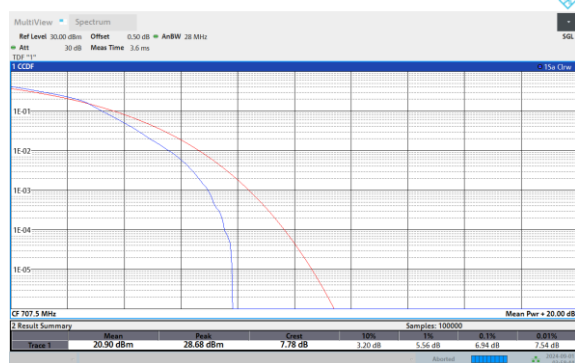
Test Graphs



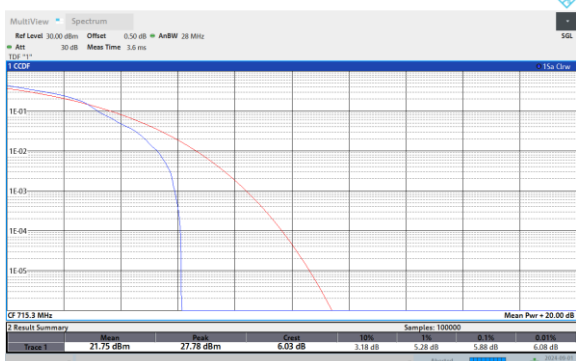
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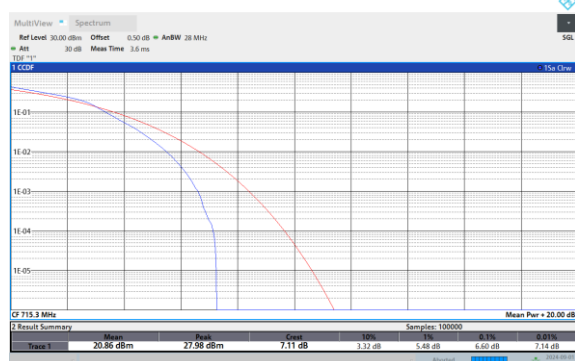
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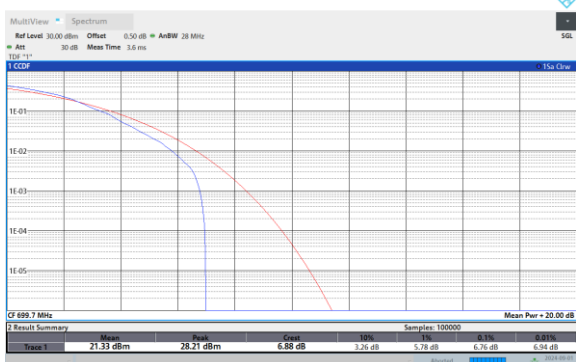
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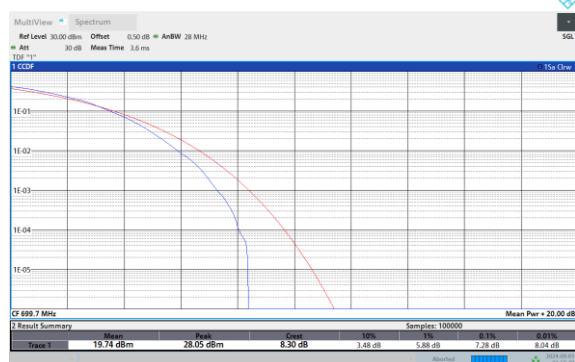
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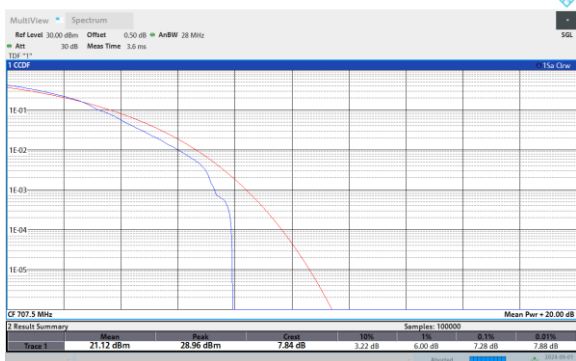
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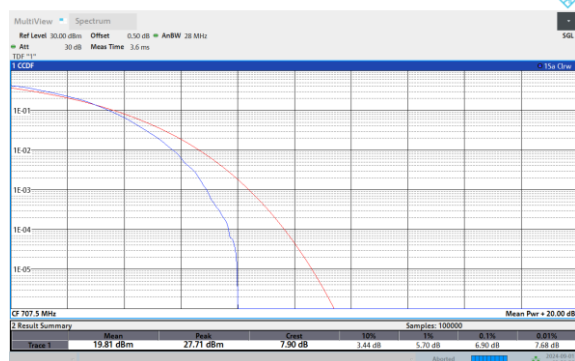
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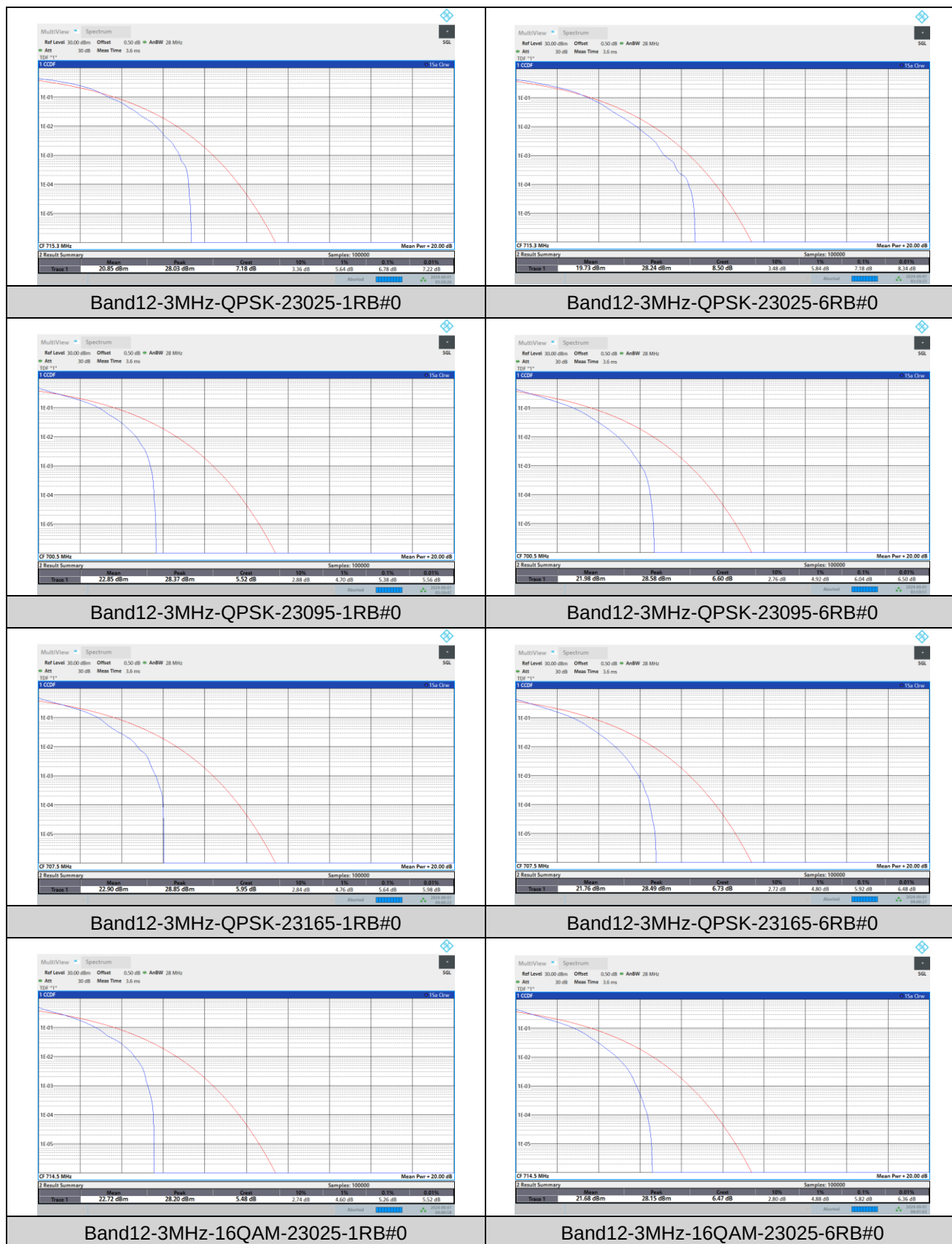


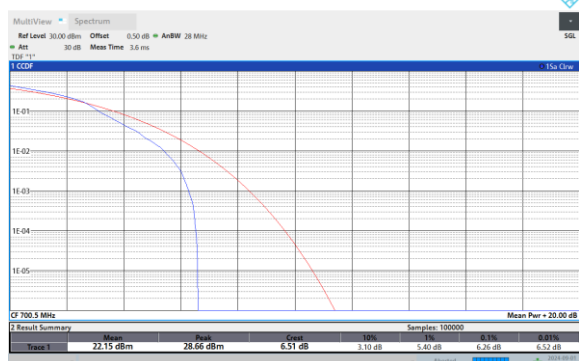
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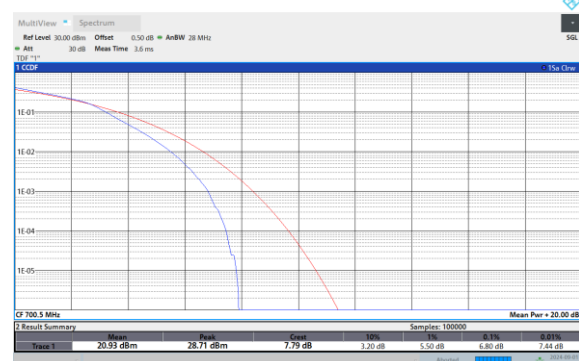
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Band12-1.4MHz-64QAM-23173-6RB#0

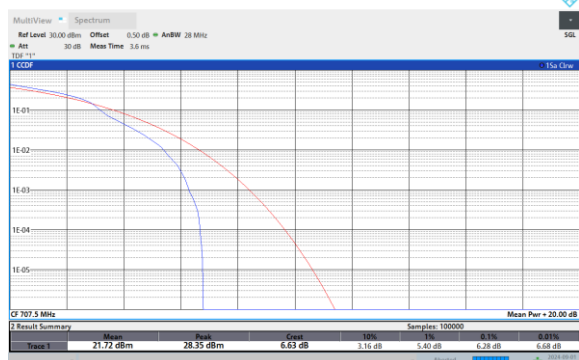




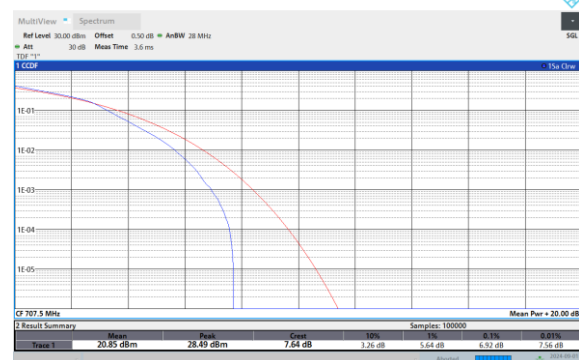
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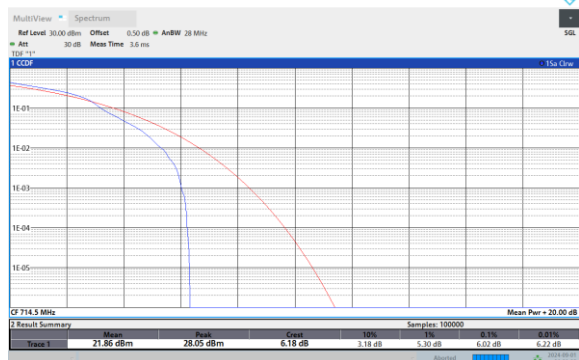
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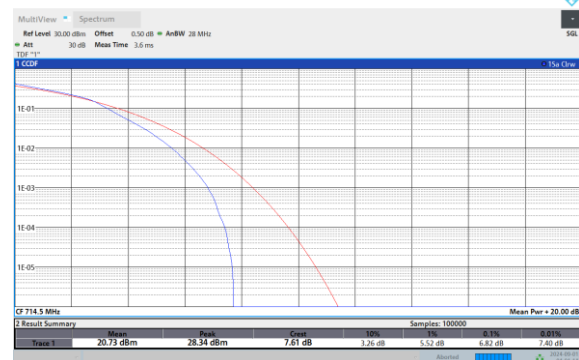
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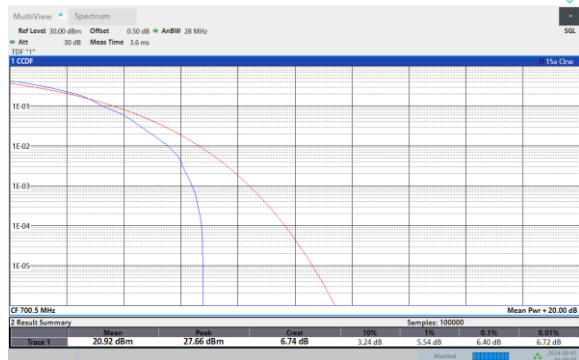
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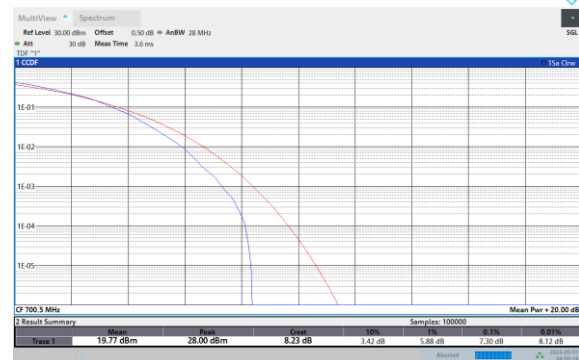
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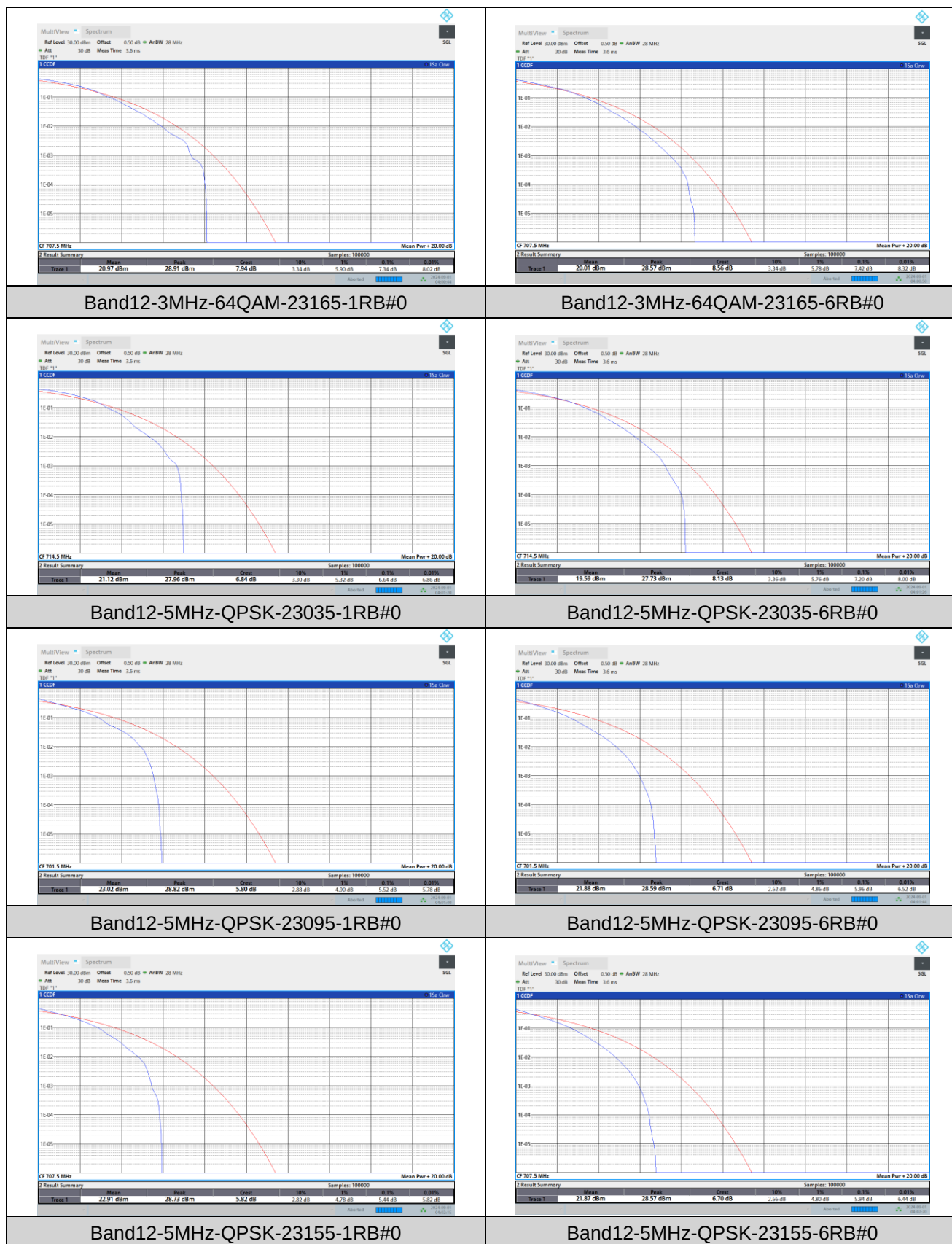
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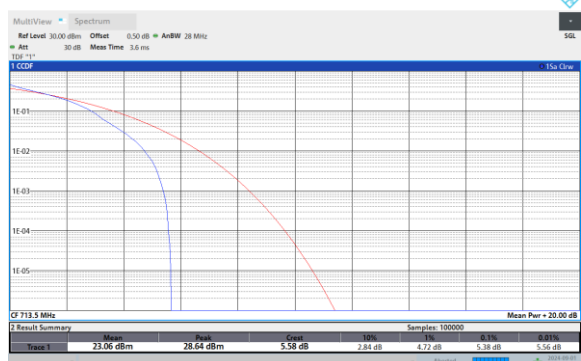


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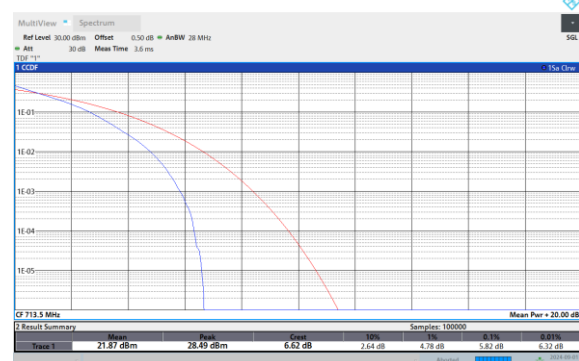


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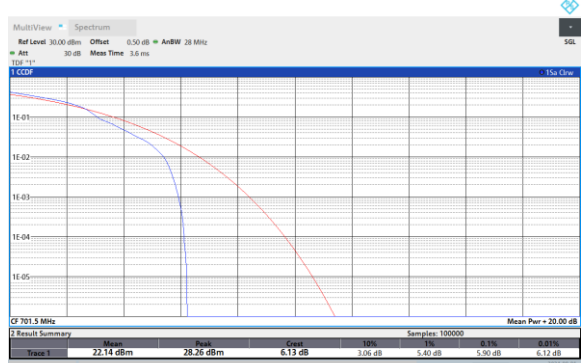




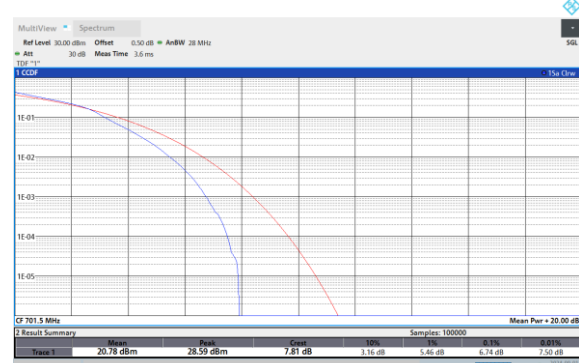
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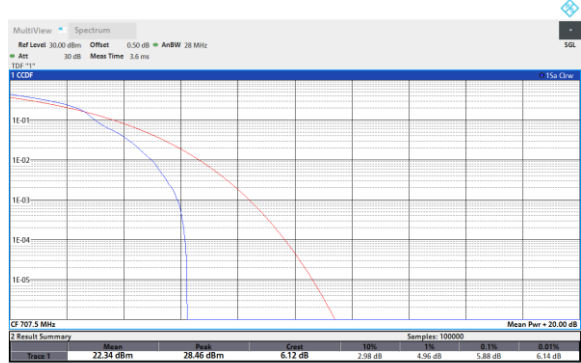
Band12-5MHz-16QAM-23035-6RB#0



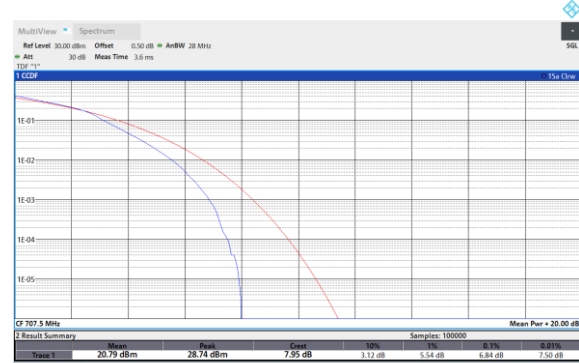
Band12-5MHz-16QAM-23095-1RB#0



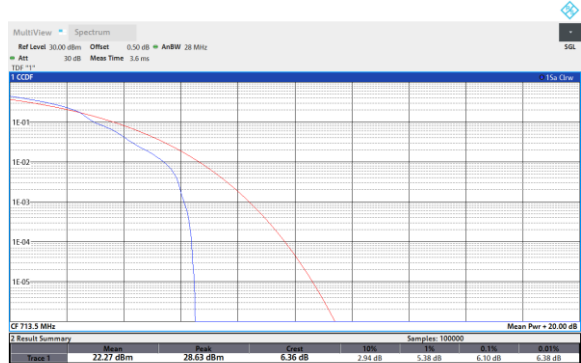
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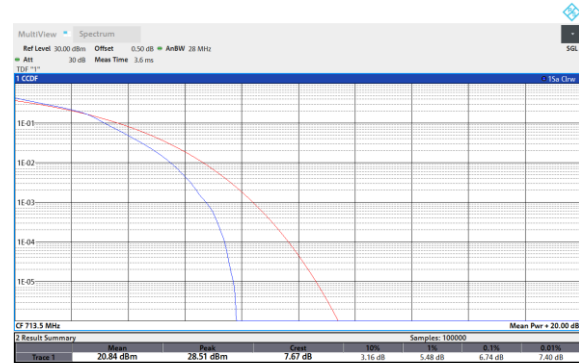
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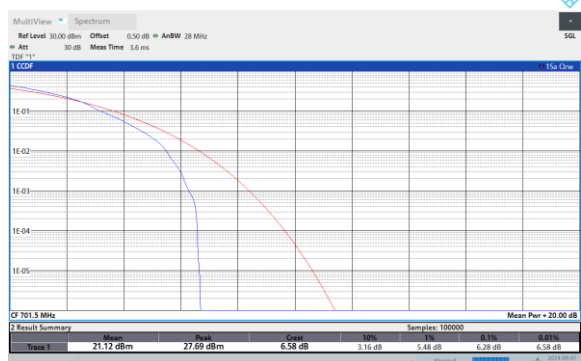
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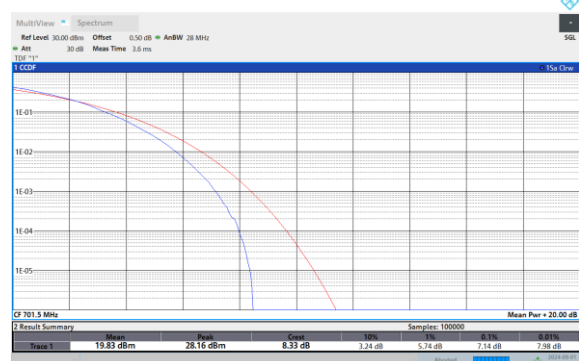
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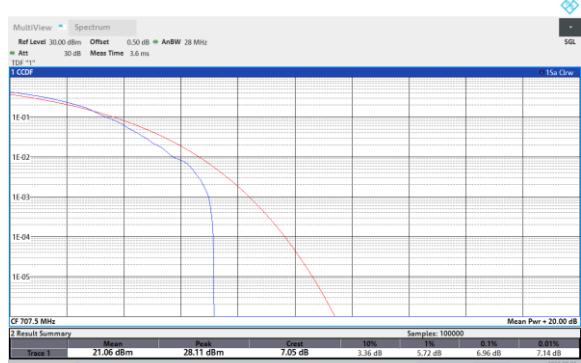
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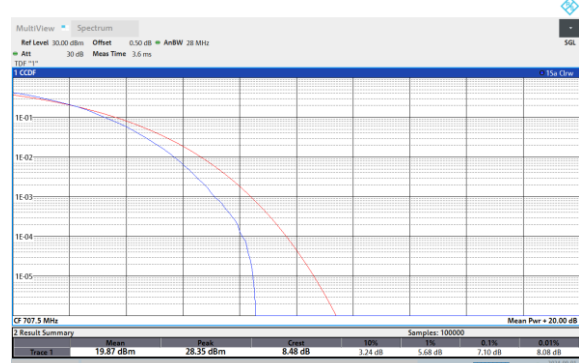
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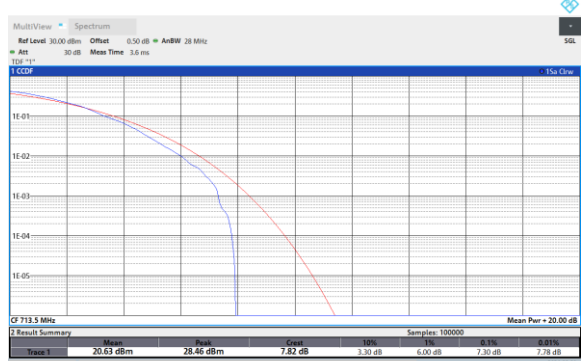
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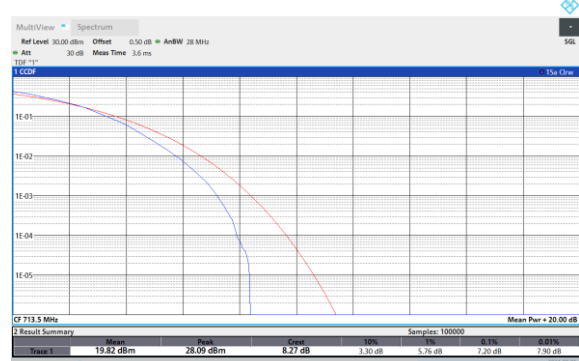
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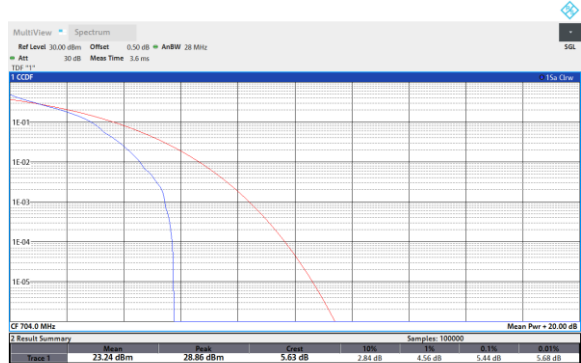
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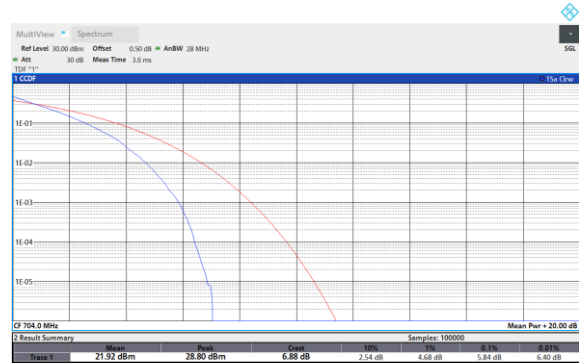
Band12-10MHz-QPSK-23060-1RB#0



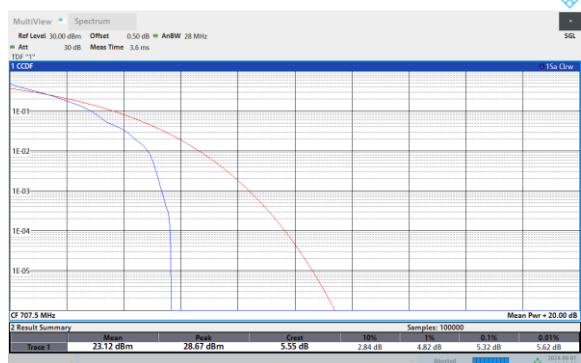
Band12-10MHz-QPSK-23060-6RB#0



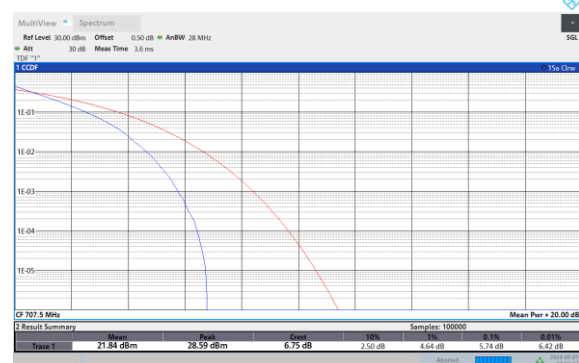
Band12-10MHz-QPSK-23095-1RB#0



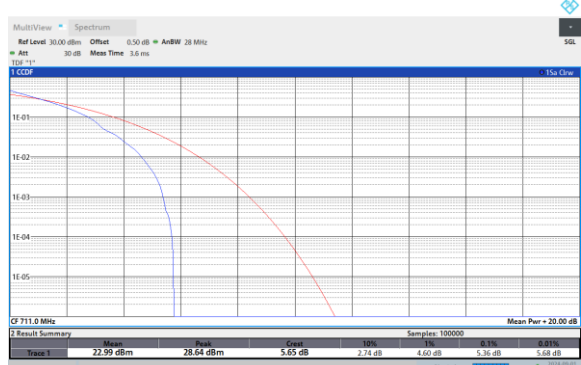
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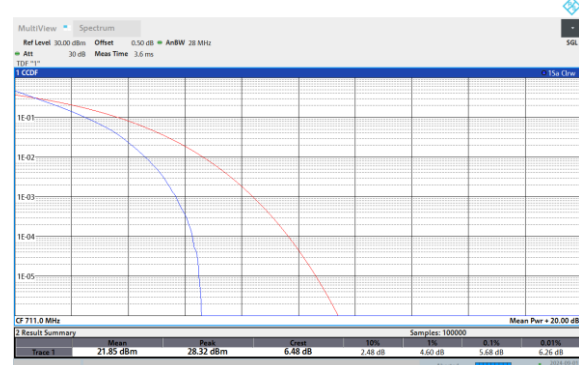
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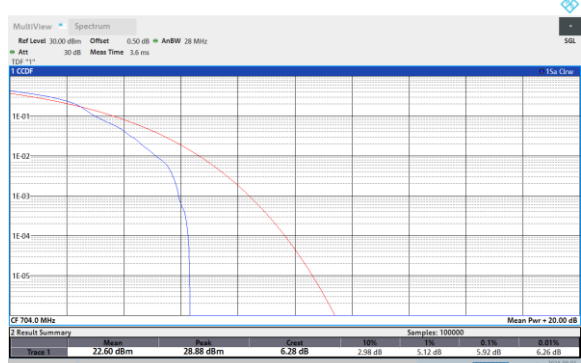
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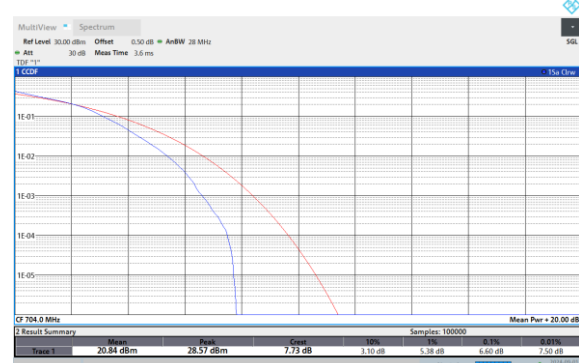
Band12-10MHz-16QAM-23060-1RB#0



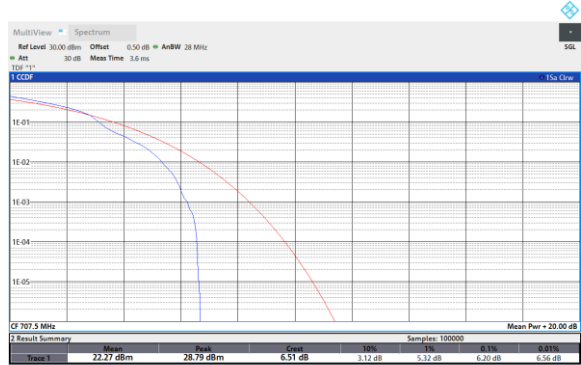
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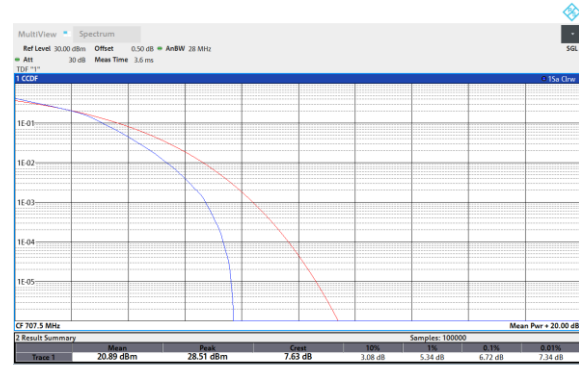
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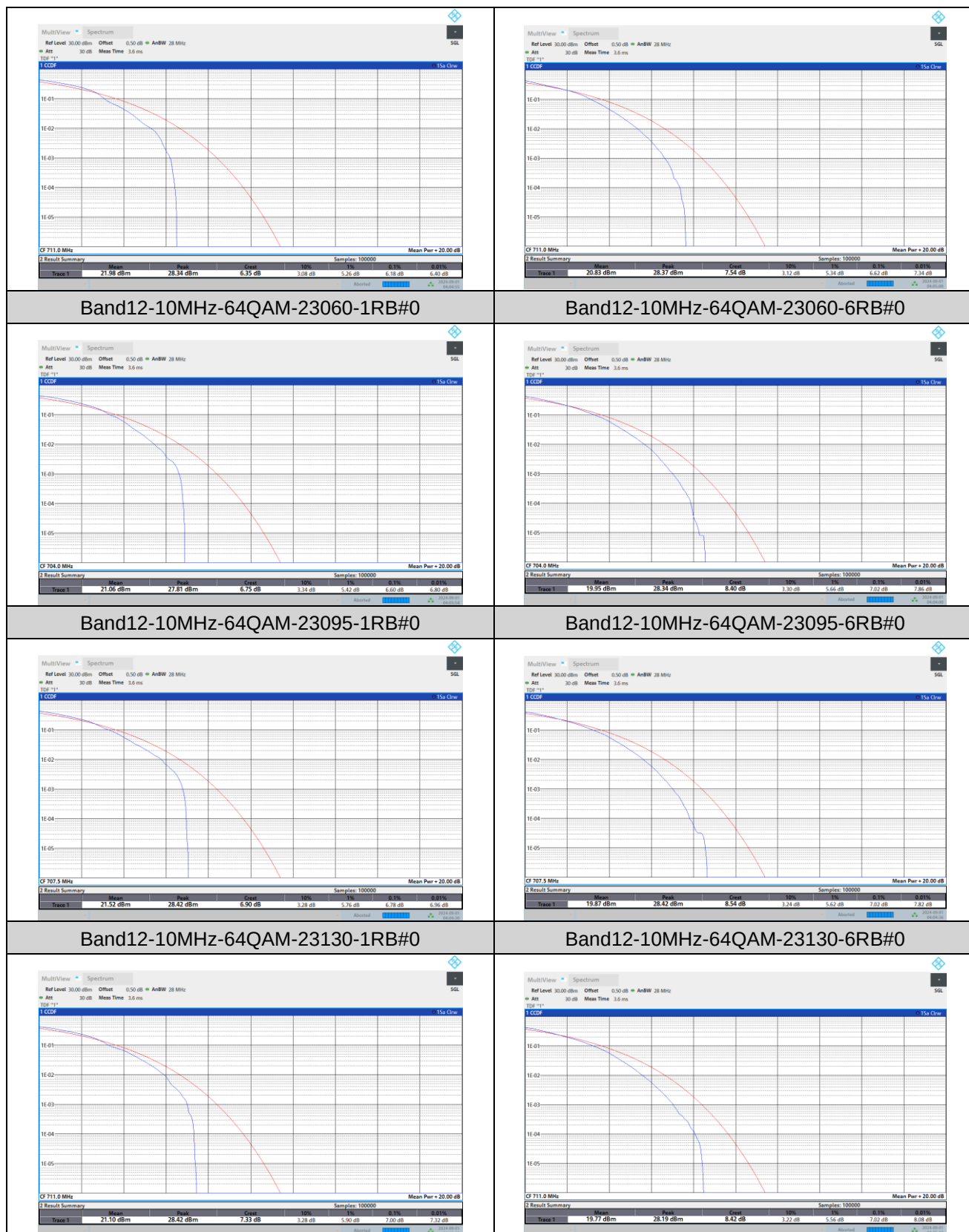
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Band12-10MHz-16QAM-23130-1RB#0



Band12-10MHz-16QAM-23130-6RB#0



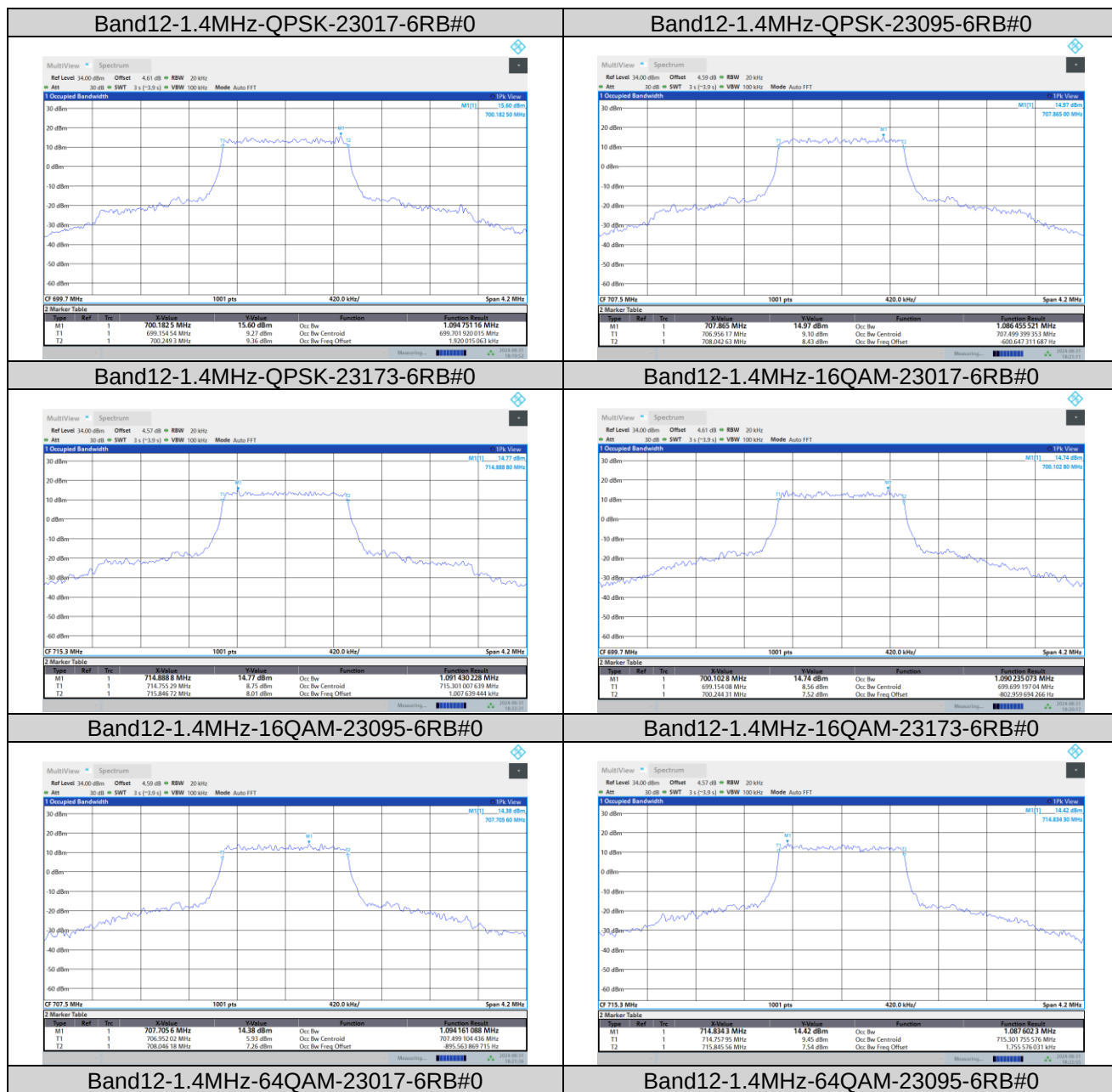
26DB BANDWIDTH AND OCCUPIED BANDWIDTH

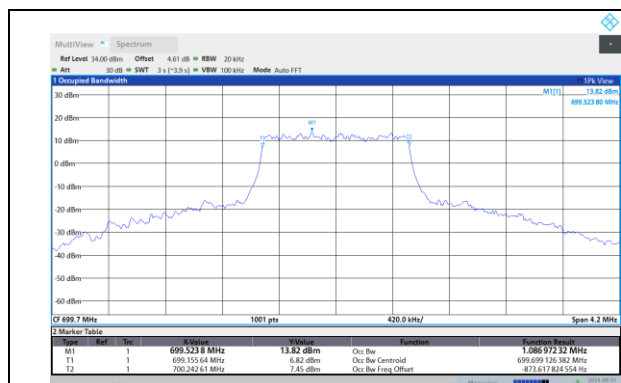
Test Result

Band	Bandwidth	Modulation	Channel	RB Configuration	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
Band12	1.4MHz	QPSK	23017	6RB#0	1.095	1.28	PASS
Band12	1.4MHz	QPSK	23095	6RB#0	1.086	1.30	PASS
Band12	1.4MHz	QPSK	23173	6RB#0	1.091	1.27	PASS
Band12	1.4MHz	16QAM	23017	6RB#0	1.090	1.29	PASS
Band12	1.4MHz	16QAM	23095	6RB#0	1.094	1.28	PASS
Band12	1.4MHz	16QAM	23173	6RB#0	1.088	1.29	PASS
Band12	1.4MHz	64QAM	23017	6RB#0	1.087	1.28	PASS
Band12	1.4MHz	64QAM	23095	6RB#0	1.086	1.32	PASS
Band12	1.4MHz	64QAM	23173	6RB#0	1.097	1.27	PASS
Band12	3MHz	QPSK	23025	15RB#0	2.694	2.93	PASS
Band12	3MHz	QPSK	23095	15RB#0	2.694	2.95	PASS
Band12	3MHz	QPSK	23165	15RB#0	2.690	2.96	PASS
Band12	3MHz	16QAM	23025	15RB#0	2.691	2.96	PASS
Band12	3MHz	16QAM	23095	15RB#0	2.690	2.96	PASS
Band12	3MHz	16QAM	23165	15RB#0	2.688	2.93	PASS
Band12	3MHz	64QAM	23025	15RB#0	2.694	2.97	PASS
Band12	3MHz	64QAM	23095	15RB#0	2.688	2.93	PASS
Band12	3MHz	64QAM	23165	15RB#0	2.693	2.95	PASS
Band12	5MHz	QPSK	23035	25RB#0	4.488	4.95	PASS
Band12	5MHz	QPSK	23095	25RB#0	4.486	4.88	PASS
Band12	5MHz	QPSK	23155	25RB#0	4.478	4.93	PASS
Band12	5MHz	16QAM	23035	25RB#0	4.481	4.87	PASS
Band12	5MHz	16QAM	23095	25RB#0	4.491	4.93	PASS
Band12	5MHz	16QAM	23155	25RB#0	4.489	4.96	PASS
Band12	5MHz	64QAM	23035	25RB#0	4.478	4.92	PASS
Band12	5MHz	64QAM	23095	25RB#0	4.490	4.95	PASS
Band12	5MHz	64QAM	23155	25RB#0	4.477	4.90	PASS
Band12	10MHz	QPSK	23060	50RB#0	8.958	9.74	PASS
Band12	10MHz	QPSK	23095	50RB#0	8.942	9.71	PASS
Band12	10MHz	QPSK	23130	50RB#0	8.946	9.74	PASS
Band12	10MHz	16QAM	23060	50RB#0	8.947	9.65	PASS
Band12	10MHz	16QAM	23095	50RB#0	8.951	9.71	PASS
Band12	10MHz	16QAM	23130	50RB#0	8.943	9.74	PASS
Band12	10MHz	64QAM	23060	50RB#0	8.945	9.65	PASS
Band12	10MHz	64QAM	23095	50RB#0	8.941	9.74	PASS
Band12	10MHz	64QAM	23130	50RB#0	8.944	9.74	PASS

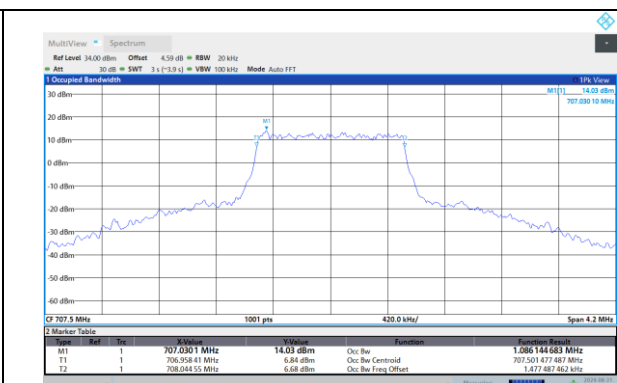
Test Graphs

Occupied Bandwidth

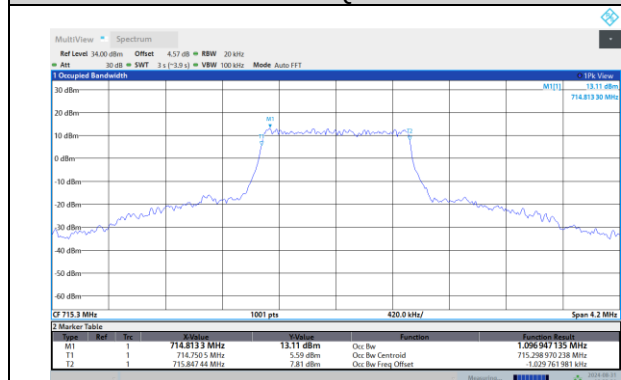




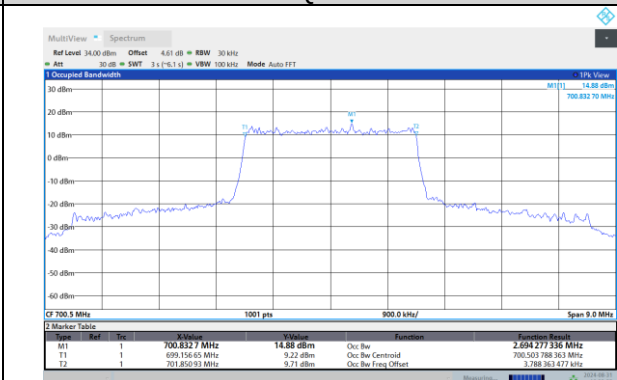
Band12-1.4MHz-64QAM-23173-6RB#0



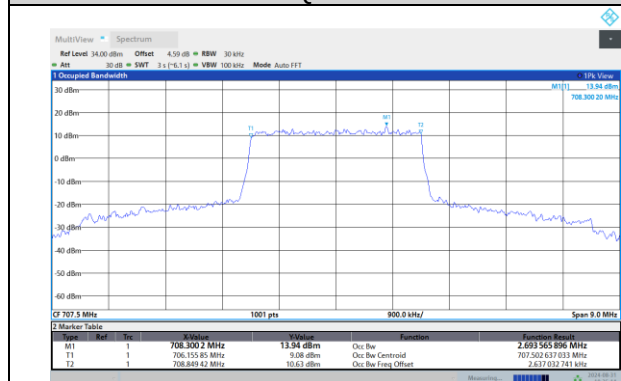
Band12-3MHz-QPSK-23025-15RB#



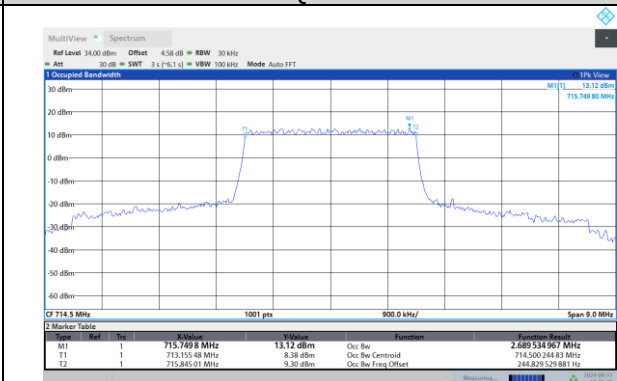
Band12-3MHz-QPSK-23095-15RB#0



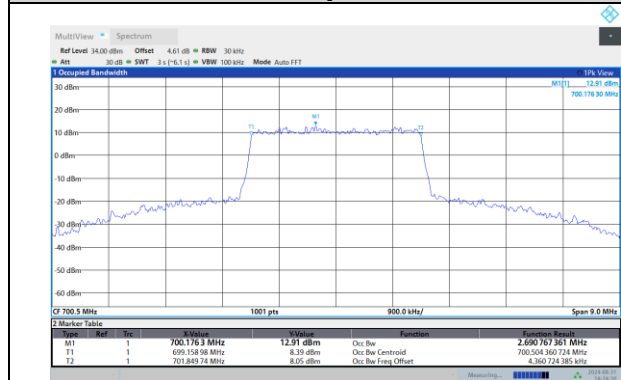
Band12-3MHz-QPSK-23165-15RB#0



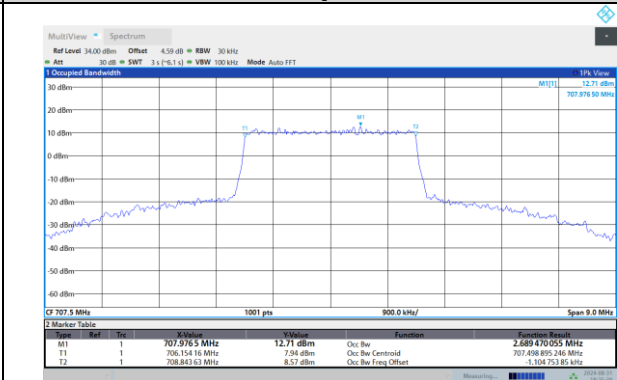
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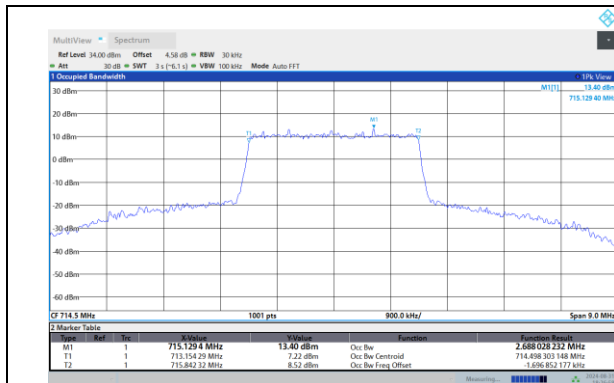
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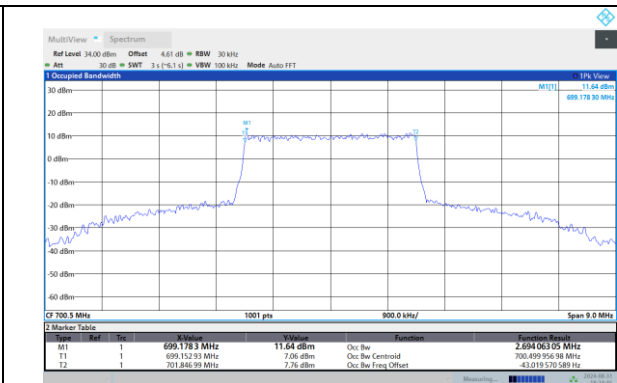
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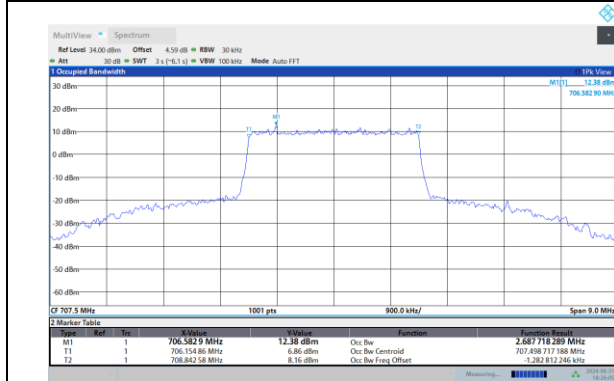
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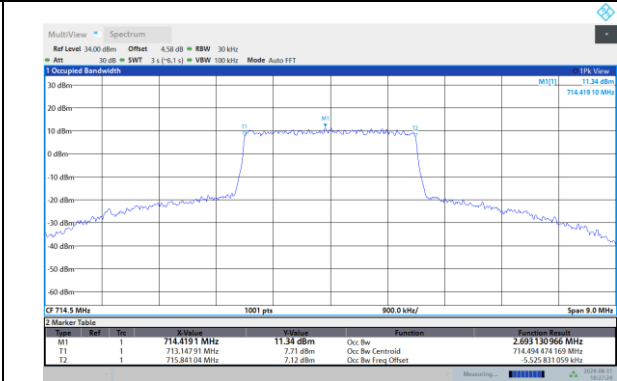
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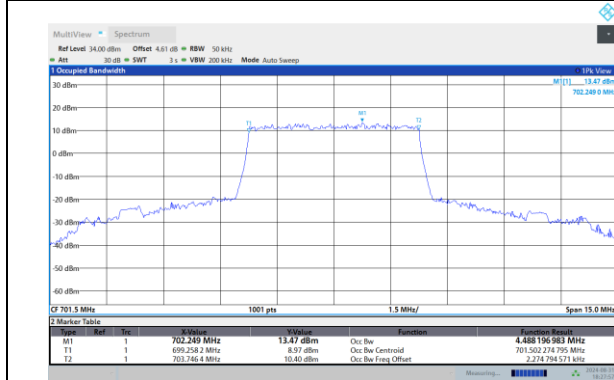
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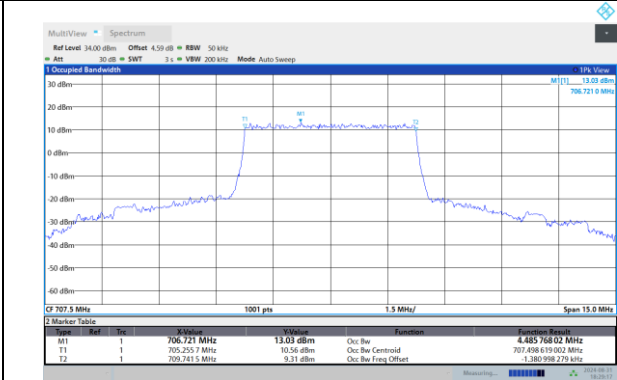
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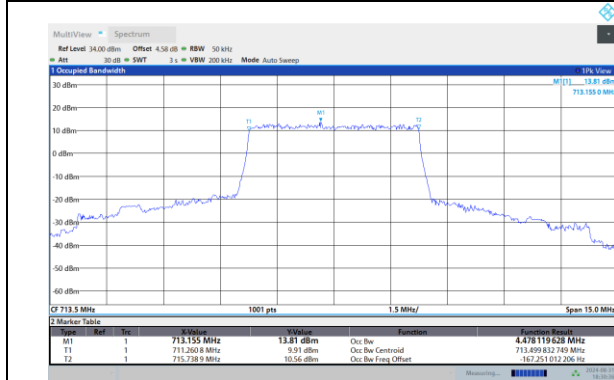
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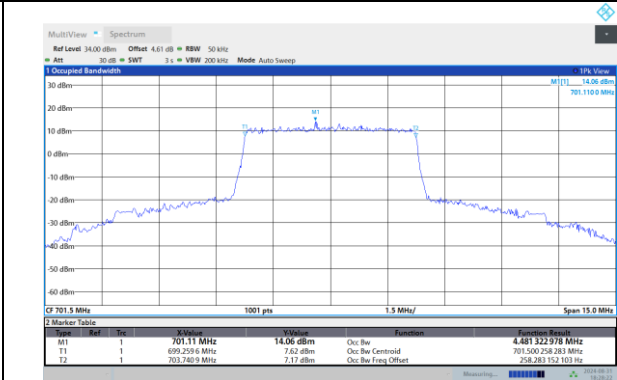
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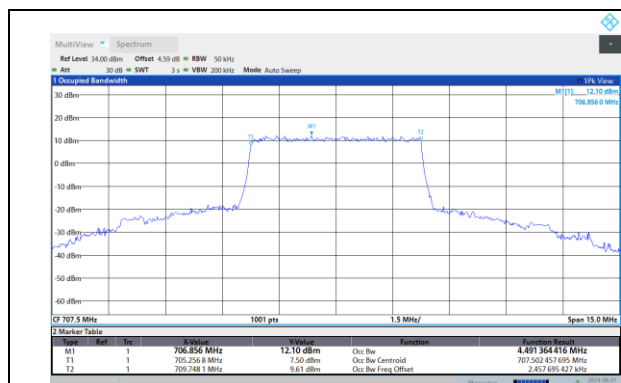
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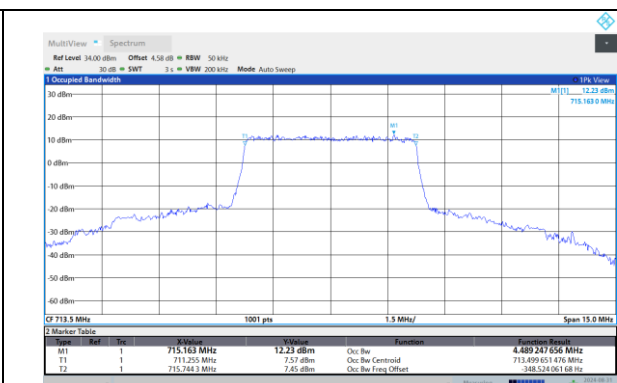
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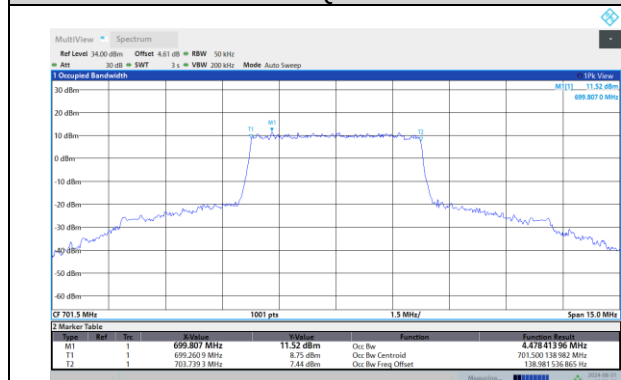
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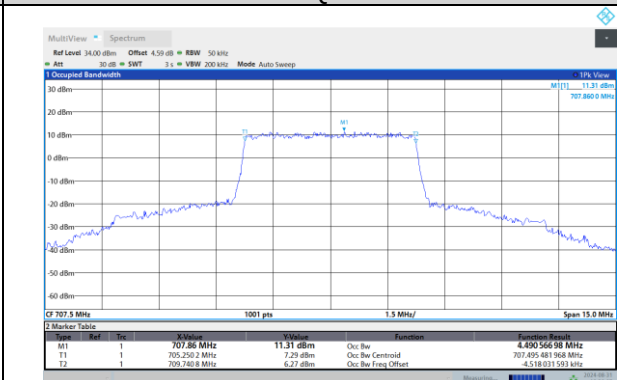
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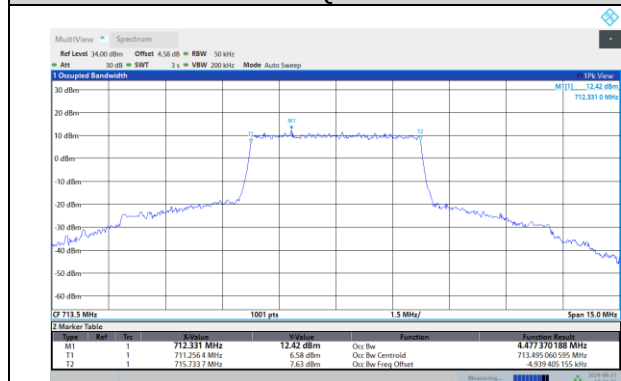
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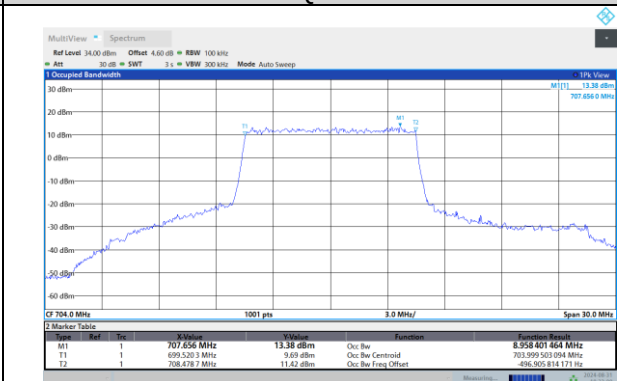
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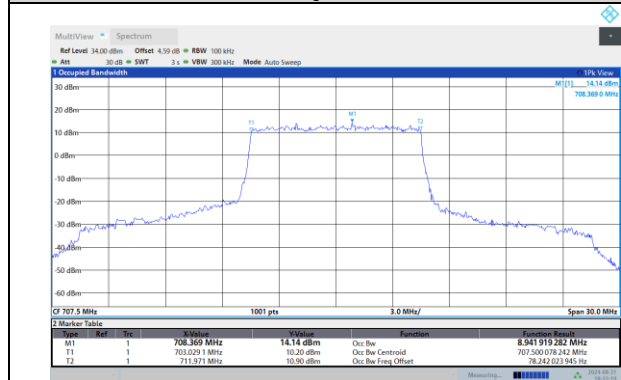
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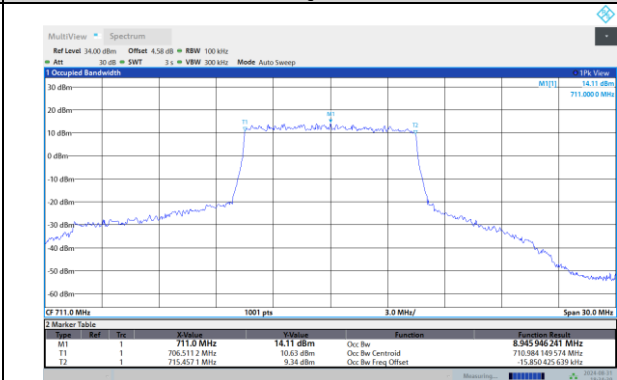
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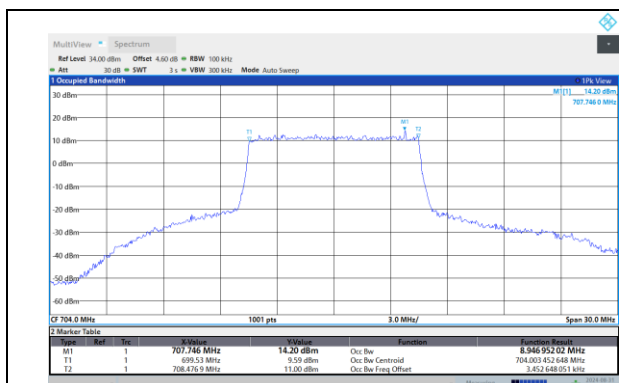
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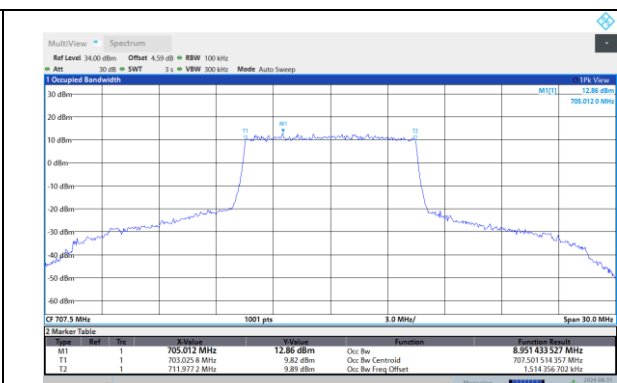
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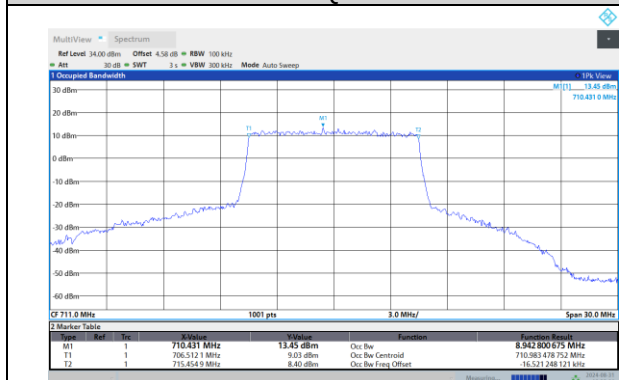
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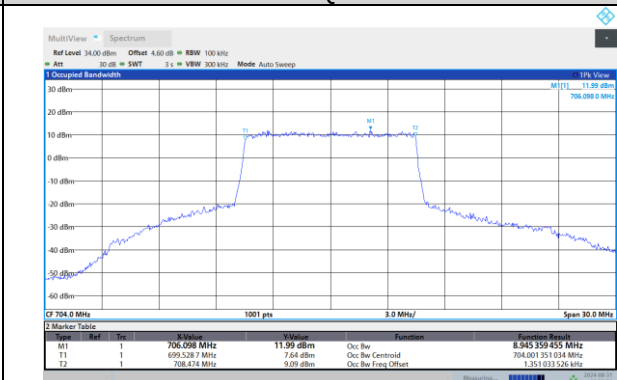
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Band12-10MHz-64QAM-23060-50RB#0



Band12-10MHz-64QAM-23095-50RB#0



Band12-10MHz-64QAM-23130-50RB#0

