

Appendix B

E-UTRA Band 12



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8.2. FREQUENCY VS TEMPERATURE53



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1 Effective (Isotropic) Radiated Power

1.1. Test Result

Band	Bandwidth	Modulation	Channel	RB Configuration	Conducted Power(dBm)	ERP (dBm)	Limit (dBm)	Verdict
Band12	1.4MHz	QPSK	23017	1RB#0	22.86	21.21	34.77	PASS
Band12	1.4MHz	QPSK	23017	1RB#2	22.99	21.34	34.77	PASS
Band12	1.4MHz	QPSK	23017	1RB#5	22.87	21.22	34.77	PASS
Band12	1.4MHz	QPSK	23017	3RB#0	22.94	21.29	34.77	PASS
Band12	1.4MHz	QPSK	23017	3RB#1	23.00	21.35	34.77	PASS
Band12	1.4MHz	QPSK	23017	3RB#3	22.93	21.28	34.77	PASS
Band12	1.4MHz	QPSK	23017	6RB#0	21.96	20.31	34.77	PASS
Band12	1.4MHz	QPSK	23095	1RB#0	22.77	21.12	34.77	PASS
Band12	1.4MHz	QPSK	23095	1RB#5	22.77	21.12	34.77	PASS
Band12	1.4MHz	QPSK	23095	1RB#2	22.91	21.26	34.77	PASS
Band12	1.4MHz	QPSK	23095	3RB#0	22.85	21.20	34.77	PASS
Band12	1.4MHz	QPSK	23095	3RB#1	22.92	21.27	34.77	PASS
Band12	1.4MHz	QPSK	23095	3RB#3	22.85	21.20	34.77	PASS
Band12	1.4MHz	QPSK	23095	6RB#0	21.89	20.24	34.77	PASS
Band12	1.4MHz	QPSK	23173	1RB#5	22.72	21.07	34.77	PASS
Band12	1.4MHz	QPSK	23173	1RB#0	22.76	21.11	34.77	PASS
Band12	1.4MHz	QPSK	23173	1RB#2	22.90	21.25	34.77	PASS
Band12	1.4MHz	QPSK	23173	3RB#0	22.81	21.16	34.77	PASS
Band12	1.4MHz	QPSK	23173	3RB#1	22.89	21.24	34.77	PASS
Band12	1.4MHz	QPSK	23173	3RB#3	22.82	21.17	34.77	PASS
Band12	1.4MHz	QPSK	23173	6RB#0	21.83	20.18	34.77	PASS
Band12	1.4MHz	16QAM	23017	1RB#0	22.25	20.60	34.77	PASS
Band12	1.4MHz	16QAM	23017	1RB#2	22.29	20.64	34.77	PASS
Band12	1.4MHz	16QAM	23017	1RB#5	21.95	20.30	34.77	PASS
Band12	1.4MHz	16QAM	23017	3RB#1	22.14	20.49	34.77	PASS
Band12	1.4MHz	16QAM	23017	3RB#0	22.02	20.37	34.77	PASS
Band12	1.4MHz	16QAM	23017	3RB#3	22.11	20.46	34.77	PASS
Band12	1.4MHz	16QAM	23017	6RB#0	21.04	19.39	34.77	PASS
Band12	1.4MHz	16QAM	23095	1RB#0	22.07	20.42	34.77	PASS
Band12	1.4MHz	16QAM	23095	1RB#2	22.17	20.52	34.77	PASS
Band12	1.4MHz	16QAM	23095	1RB#5	22.06	20.41	34.77	PASS
Band12	1.4MHz	16QAM	23095	3RB#3	21.96	20.31	34.77	PASS
Band12	1.4MHz	16QAM	23095	3RB#0	22.03	20.38	34.77	PASS
Band12	1.4MHz	16QAM	23095	3RB#1	22.02	20.37	34.77	PASS
Band12	1.4MHz	16QAM	23095	6RB#0	20.98	19.33	34.77	PASS
Band12	1.4MHz	16QAM	23173	1RB#2	22.10	20.45	34.77	PASS
Band12	1.4MHz	16QAM	23173	1RB#0	22.06	20.41	34.77	PASS
Band12	1.4MHz	16QAM	23173	1RB#5	22.01	20.36	34.77	PASS



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Band12	1.4MHz	16QAM	23173	3RB#0	21.95	20.30	34.77	PASS
Band12	1.4MHz	16QAM	23173	3RB#1	22.04	20.39	34.77	PASS
Band12	1.4MHz	16QAM	23173	3RB#3	21.98	20.33	34.77	PASS
Band12	1.4MHz	16QAM	23173	6RB#0	20.95	19.30	34.77	PASS
Band12	3MHz	QPSK	23025	1RB#8	22.87	21.22	34.77	PASS
Band12	3MHz	QPSK	23025	1RB#14	22.87	21.22	34.77	PASS
Band12	3MHz	QPSK	23025	1RB#0	22.87	21.22	34.77	PASS
Band12	3MHz	QPSK	23025	8RB#0	21.90	20.25	34.77	PASS
Band12	3MHz	QPSK	23025	8RB#4	21.96	20.31	34.77	PASS
Band12	3MHz	QPSK	23025	8RB#7	21.92	20.27	34.77	PASS
Band12	3MHz	QPSK	23025	15RB#0	21.90	20.25	34.77	PASS
Band12	3MHz	QPSK	23095	1RB#0	22.82	21.17	34.77	PASS
Band12	3MHz	QPSK	23095	1RB#14	22.77	21.12	34.77	PASS
Band12	3MHz	QPSK	23095	1RB#8	22.79	21.14	34.77	PASS
Band12	3MHz	QPSK	23095	8RB#7	21.85	20.20	34.77	PASS
Band12	3MHz	QPSK	23095	8RB#0	21.86	20.21	34.77	PASS
Band12	3MHz	QPSK	23095	8RB#4	21.91	20.26	34.77	PASS
Band12	3MHz	QPSK	23095	15RB#0	21.85	20.20	34.77	PASS
Band12	3MHz	QPSK	23165	1RB#8	22.78	21.13	34.77	PASS
Band12	3MHz	QPSK	23165	1RB#0	22.84	21.19	34.77	PASS
Band12	3MHz	QPSK	23165	1RB#14	22.75	21.10	34.77	PASS
Band12	3MHz	QPSK	23165	8RB#0	21.86	20.21	34.77	PASS
Band12	3MHz	QPSK	23165	8RB#7	21.82	20.17	34.77	PASS
Band12	3MHz	QPSK	23165	8RB#4	21.89	20.24	34.77	PASS
Band12	3MHz	QPSK	23165	15RB#0	21.83	20.18	34.77	PASS
Band12	3MHz	16QAM	23025	1RB#14	22.26	20.61	34.77	PASS
Band12	3MHz	16QAM	23025	1RB#0	22.10	20.45	34.77	PASS
Band12	3MHz	16QAM	23025	1RB#8	22.20	20.55	34.77	PASS
Band12	3MHz	16QAM	23025	8RB#7	21.00	19.35	34.77	PASS
Band12	3MHz	16QAM	23025	8RB#4	21.01	19.36	34.77	PASS
Band12	3MHz	16QAM	23025	8RB#0	20.97	19.32	34.77	PASS
Band12	3MHz	16QAM	23025	15RB#0	20.89	19.24	34.77	PASS
Band12	3MHz	16QAM	23095	1RB#14	22.04	20.39	34.77	PASS
Band12	3MHz	16QAM	23095	1RB#0	22.13	20.48	34.77	PASS
Band12	3MHz	16QAM	23095	1RB#8	22.13	20.48	34.77	PASS
Band12	3MHz	16QAM	23095	8RB#7	20.92	19.27	34.77	PASS
Band12	3MHz	16QAM	23095	8RB#0	20.92	19.27	34.77	PASS
Band12	3MHz	16QAM	23095	8RB#4	20.95	19.30	34.77	PASS
Band12	3MHz	16QAM	23095	15RB#0	20.84	19.19	34.77	PASS
Band12	3MHz	16QAM	23165	1RB#8	22.06	20.41	34.77	PASS
Band12	3MHz	16QAM	23165	1RB#0	22.08	20.43	34.77	PASS
Band12	3MHz	16QAM	23165	1RB#14	22.05	20.40	34.77	PASS
Band12	3MHz	16QAM	23165	8RB#0	20.92	19.27	34.77	PASS
Band12	3MHz	16QAM	23165	8RB#4	20.95	19.30	34.77	PASS
Band12	3MHz	16QAM	23165	8RB#7	20.87	19.22	34.77	PASS
Band12	3MHz	16QAM	23165	15RB#0	20.86	19.21	34.77	PASS
Band12	5MHz	QPSK	23035	1RB#0	22.76	21.11	34.77	PASS



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Band12	5MHz	QPSK	23035	1RB#12	23.05	21.40	34.77	PASS
Band12	5MHz	QPSK	23035	1RB#24	22.73	21.08	34.77	PASS
Band12	5MHz	QPSK	23035	12RB#0	21.85	20.20	34.77	PASS
Band12	5MHz	QPSK	23035	12RB#6	21.96	20.31	34.77	PASS
Band12	5MHz	QPSK	23035	12RB#13	21.88	20.23	34.77	PASS
Band12	5MHz	QPSK	23035	25RB#0	21.87	20.22	34.77	PASS
Band12	5MHz	QPSK	23095	1RB#0	22.73	21.08	34.77	PASS
Band12	5MHz	QPSK	23095	1RB#24	22.66	21.01	34.77	PASS
Band12	5MHz	QPSK	23095	1RB#12	22.99	21.34	34.77	PASS
Band12	5MHz	QPSK	23095	12RB#0	21.86	20.21	34.77	PASS
Band12	5MHz	QPSK	23095	12RB#6	21.92	20.27	34.77	PASS
Band12	5MHz	QPSK	23095	12RB#13	21.85	20.20	34.77	PASS
Band12	5MHz	QPSK	23095	25RB#0	21.86	20.21	34.77	PASS
Band12	5MHz	QPSK	23155	1RB#24	22.64	20.99	34.77	PASS
Band12	5MHz	QPSK	23155	1RB#0	22.68	21.03	34.77	PASS
Band12	5MHz	QPSK	23155	1RB#12	22.97	21.32	34.77	PASS
Band12	5MHz	QPSK	23155	12RB#0	21.86	20.21	34.77	PASS
Band12	5MHz	QPSK	23155	12RB#6	21.90	20.25	34.77	PASS
Band12	5MHz	QPSK	23155	12RB#13	21.78	20.13	34.77	PASS
Band12	5MHz	QPSK	23155	25RB#0	21.84	20.19	34.77	PASS
Band12	5MHz	16QAM	23035	1RB#0	22.08	20.43	34.77	PASS
Band12	5MHz	16QAM	23035	1RB#12	22.35	20.70	34.77	PASS
Band12	5MHz	16QAM	23035	1RB#24	22.05	20.40	34.77	PASS
Band12	5MHz	16QAM	23035	12RB#6	20.98	19.33	34.77	PASS
Band12	5MHz	16QAM	23035	12RB#0	20.90	19.25	34.77	PASS
Band12	5MHz	16QAM	23035	12RB#13	20.91	19.26	34.77	PASS
Band12	5MHz	16QAM	23035	25RB#0	20.91	19.26	34.77	PASS
Band12	5MHz	16QAM	23095	1RB#0	22.06	20.41	34.77	PASS
Band12	5MHz	16QAM	23095	1RB#12	22.28	20.63	34.77	PASS
Band12	5MHz	16QAM	23095	1RB#24	22.01	20.36	34.77	PASS
Band12	5MHz	16QAM	23095	12RB#13	20.86	19.21	34.77	PASS
Band12	5MHz	16QAM	23095	12RB#0	20.90	19.25	34.77	PASS
Band12	5MHz	16QAM	23095	12RB#6	20.93	19.28	34.77	PASS
Band12	5MHz	16QAM	23095	25RB#0	20.87	19.22	34.77	PASS
Band12	5MHz	16QAM	23155	1RB#12	22.30	20.65	34.77	PASS
Band12	5MHz	16QAM	23155	1RB#0	21.98	20.33	34.77	PASS
Band12	5MHz	16QAM	23155	1RB#24	21.88	20.23	34.77	PASS
Band12	5MHz	16QAM	23155	12RB#0	20.90	19.25	34.77	PASS
Band12	5MHz	16QAM	23155	12RB#6	20.92	19.27	34.77	PASS
Band12	5MHz	16QAM	23155	12RB#13	20.82	19.17	34.77	PASS
Band12	5MHz	16QAM	23155	25RB#0	20.86	19.21	34.77	PASS
Band12	10MHz	QPSK	23060	1RB#49	22.77	21.12	34.77	PASS
Band12	10MHz	QPSK	23060	1RB#24	22.94	21.29	34.77	PASS
Band12	10MHz	QPSK	23060	1RB#0	22.85	21.20	34.77	PASS
Band12	10MHz	QPSK	23060	25RB#0	21.92	20.27	34.77	PASS
Band12	10MHz	QPSK	23060	25RB#12	21.92	20.27	34.77	PASS
Band12	10MHz	QPSK	23060	25RB#25	21.95	20.30	34.77	PASS



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Band12	10MHz	QPSK	23060	50RB#0	21.92	20.27	34.77	PASS
Band12	10MHz	QPSK	23095	1RB#0	22.82	21.17	34.77	PASS
Band12	10MHz	QPSK	23095	1RB#49	22.76	21.11	34.77	PASS
Band12	10MHz	QPSK	23095	1RB#24	22.93	21.28	34.77	PASS
Band12	10MHz	QPSK	23095	25RB#25	21.90	20.25	34.77	PASS
Band12	10MHz	QPSK	23095	25RB#0	21.92	20.27	34.77	PASS
Band12	10MHz	QPSK	23095	25RB#12	21.91	20.26	34.77	PASS
Band12	10MHz	QPSK	23095	50RB#0	21.91	20.26	34.77	PASS
Band12	10MHz	QPSK	23130	1RB#24	22.89	21.24	34.77	PASS
Band12	10MHz	QPSK	23130	1RB#0	22.80	21.15	34.77	PASS
Band12	10MHz	QPSK	23130	1RB#49	22.74	21.09	34.77	PASS
Band12	10MHz	QPSK	23130	25RB#0	21.90	20.25	34.77	PASS
Band12	10MHz	QPSK	23130	25RB#25	21.82	20.17	34.77	PASS
Band12	10MHz	QPSK	23130	25RB#12	21.88	20.23	34.77	PASS
Band12	10MHz	QPSK	23130	50RB#0	21.86	20.21	34.77	PASS
Band12	10MHz	16QAM	23060	1RB#49	22.06	20.41	34.77	PASS
Band12	10MHz	16QAM	23060	1RB#0	22.21	20.56	34.77	PASS
Band12	10MHz	16QAM	23060	1RB#24	22.33	20.68	34.77	PASS
Band12	10MHz	16QAM	23060	25RB#25	20.95	19.30	34.77	PASS
Band12	10MHz	16QAM	23060	25RB#12	20.92	19.27	34.77	PASS
Band12	10MHz	16QAM	23060	25RB#0	20.92	19.27	34.77	PASS
Band12	10MHz	16QAM	23060	50RB#0	20.93	19.28	34.77	PASS
Band12	10MHz	16QAM	23095	1RB#49	22.10	20.45	34.77	PASS
Band12	10MHz	16QAM	23095	1RB#0	22.08	20.43	34.77	PASS
Band12	10MHz	16QAM	23095	1RB#24	22.27	20.62	34.77	PASS
Band12	10MHz	16QAM	23095	25RB#25	20.94	19.29	34.77	PASS
Band12	10MHz	16QAM	23095	25RB#0	20.96	19.31	34.77	PASS
Band12	10MHz	16QAM	23095	25RB#12	20.91	19.26	34.77	PASS
Band12	10MHz	16QAM	23095	50RB#0	20.91	19.26	34.77	PASS
Band12	10MHz	16QAM	23130	1RB#24	22.20	20.55	34.77	PASS
Band12	10MHz	16QAM	23130	1RB#0	22.04	20.39	34.77	PASS
Band12	10MHz	16QAM	23130	1RB#49	22.10	20.45	34.77	PASS
Band12	10MHz	16QAM	23130	25RB#0	20.91	19.26	34.77	PASS
Band12	10MHz	16QAM	23130	25RB#12	20.92	19.27	34.77	PASS
Band12	10MHz	16QAM	23130	25RB#25	20.86	19.21	34.77	PASS
Band12	10MHz	16QAM	23130	50RB#0	20.89	19.24	34.77	PASS

Remark:

a: For getting the EIRP (Efficient Isotropic Radiated Power), the following formula should be taken to calculate it,

ERP [dBm] = Conducted Power [dBm] + Gain [dBd]

EIRP [dBm] = Conducted Power [dBm] + Gain [dBi]



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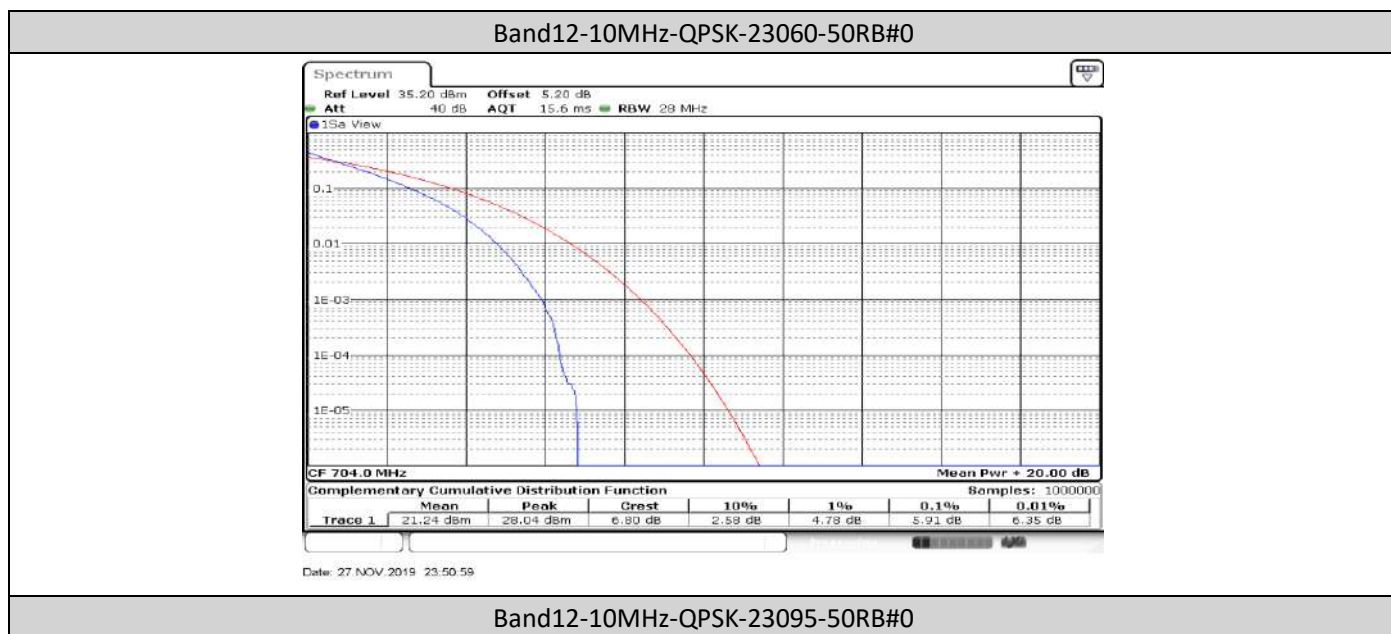


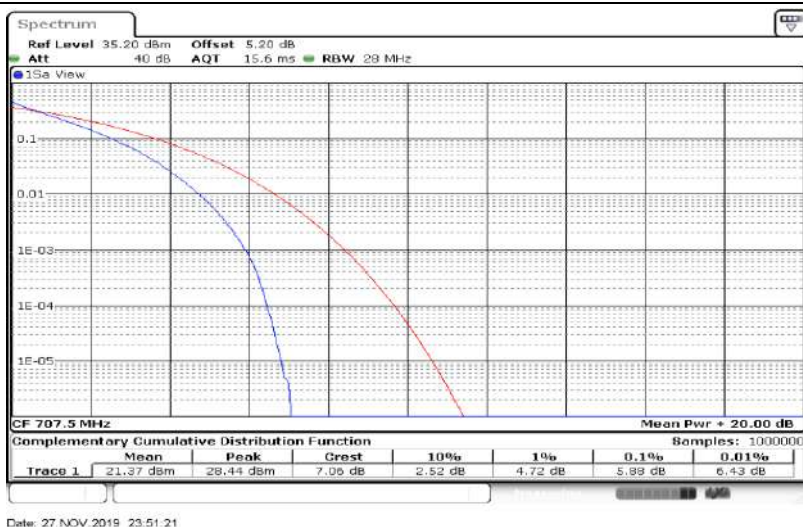
2. Peak-to-Average Ratio (CCDF)

2.1. Test Result

Band	Bandwidth	Modulation	Channel	RB Configuration	Result(dB)	Limit(dB)	Verdict
Band12	10MHz	QPSK	23060	50RB#0	5.91	13	PASS
Band12	10MHz	QPSK	23095	50RB#0	5.88	13	PASS
Band12	10MHz	QPSK	23130	50RB#0	5.83	13	PASS
Band12	10MHz	16QAM	23060	50RB#0	6.46	13	PASS
Band12	10MHz	16QAM	23095	50RB#0	6.52	13	PASS
Band12	10MHz	16QAM	23130	50RB#0	6.49	13	PASS

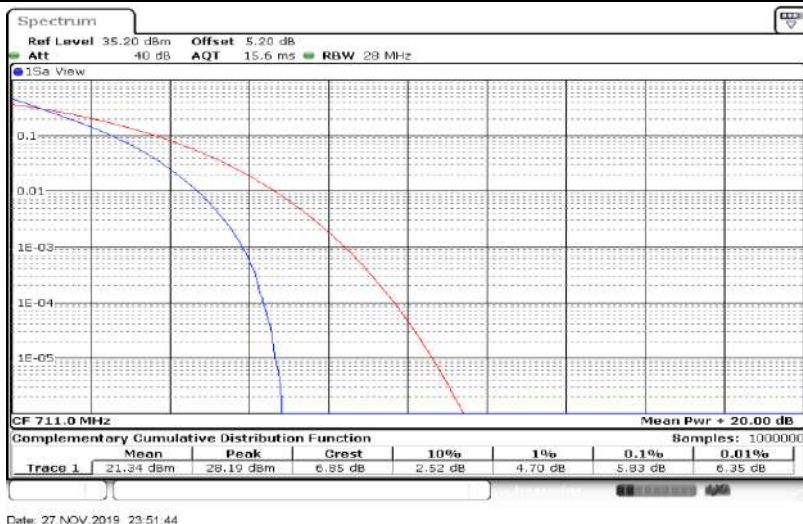
2.2. Test Plots





Date: 27 NOV 2019 23:51:21

Band12-10MHz-QPSK-23130-50RB#0



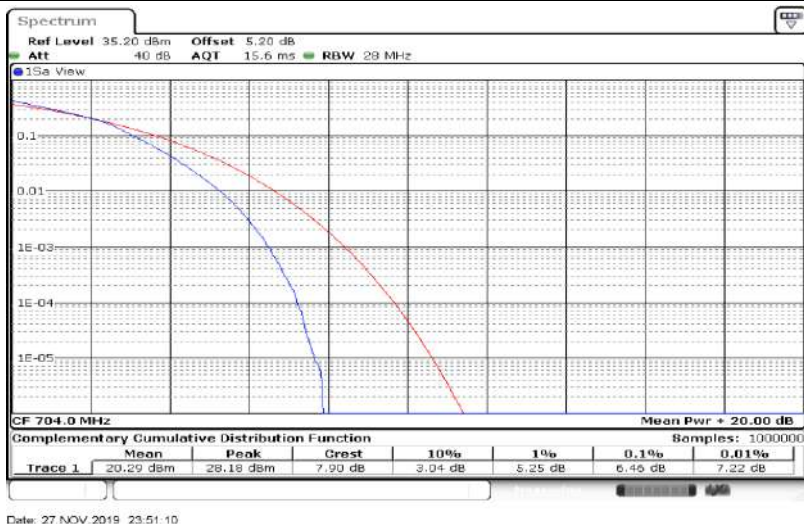
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Band12-10MHz-16QAM-23060-50RB#0



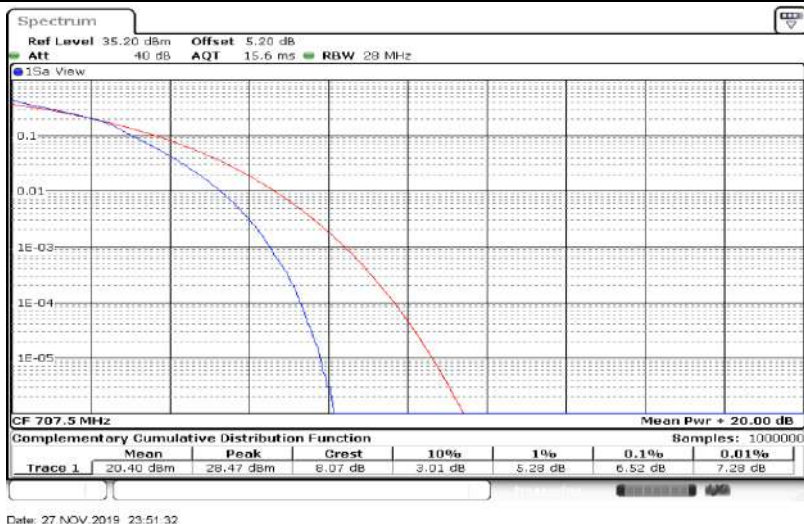
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Date: 27 NOV 2019 23:51:10

Band12-10MHz-16QAM-23095-50RB#0



Date: 27 NOV 2019 23:51:32

Band12-10MHz-16QAM-23130-50RB#0



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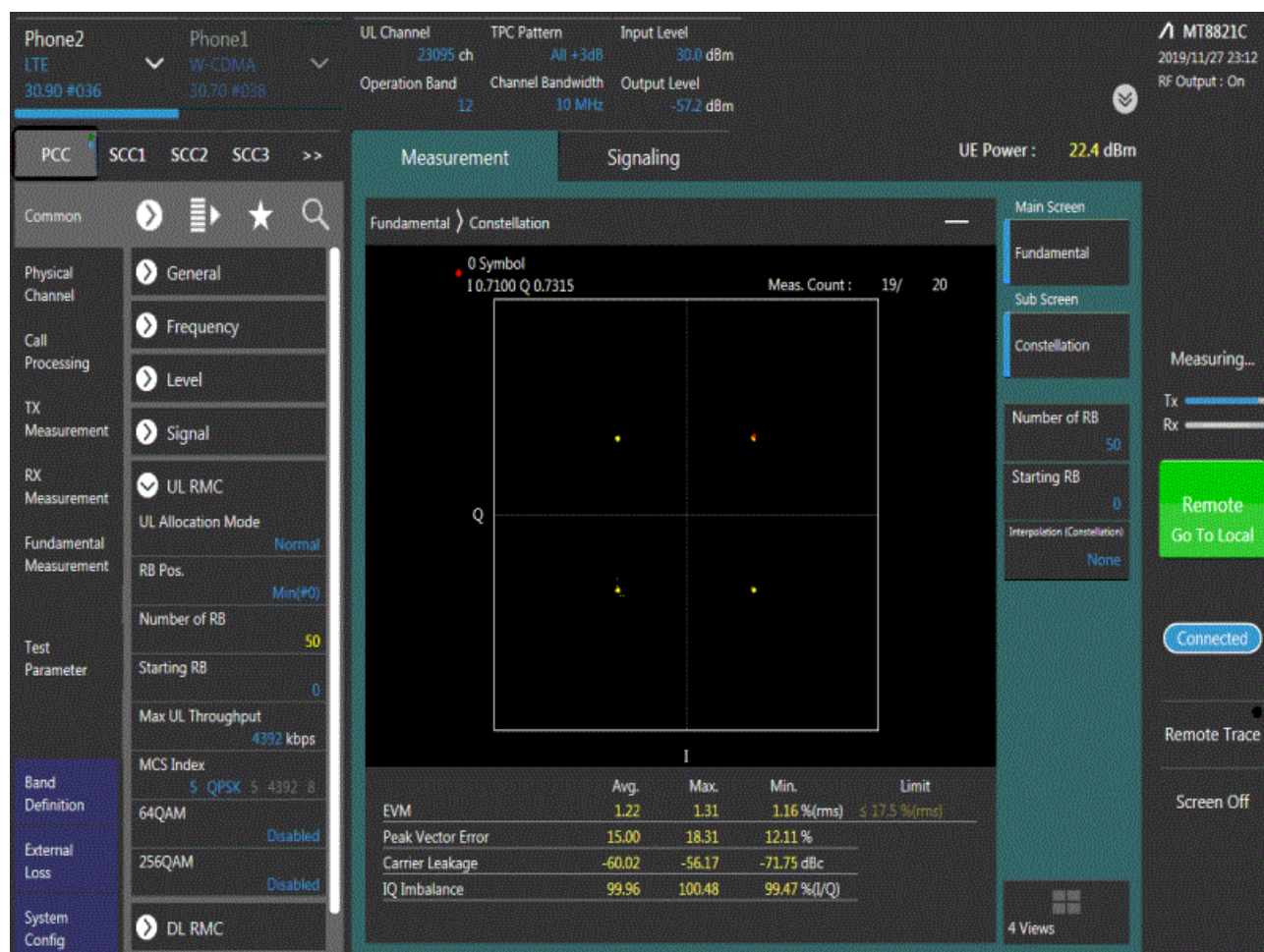
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3. Modulation Characteristics

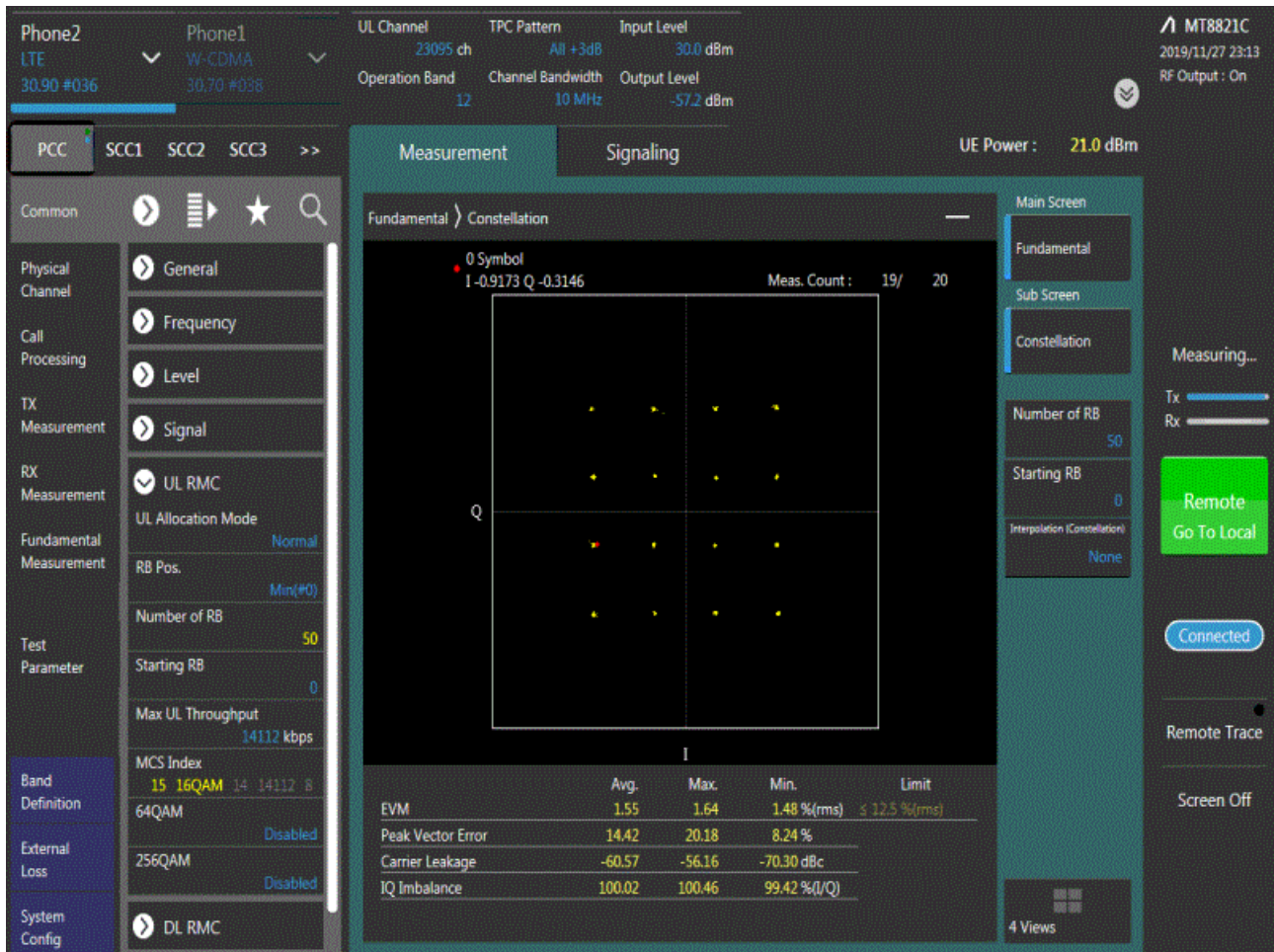
3.1. Test Mode = LTE /TM1 10MHz

3.1.1. Test Channel = MCH



3.2. Test Mode = LTE /TM2 10MHz

3.2.1. Test Channel = MCH





4. 26dB Bandwidth and Occupied Bandwidth

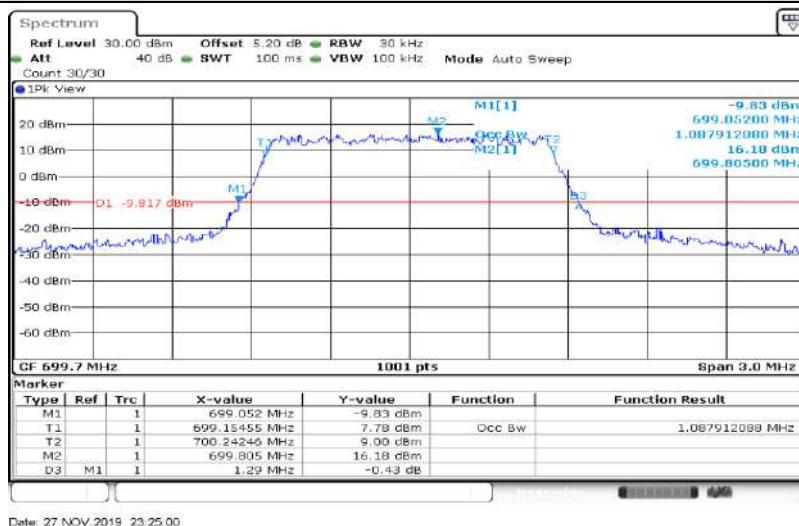
4.1. Test Result

Band	Bandwidth	Modulation	Channel	RB Configuration	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
Band12	1.4MHz	QPSK	23017	6RB#0	1.088	1.290	PASS
Band12	1.4MHz	QPSK	23095	6RB#0	1.091	1.284	PASS
Band12	1.4MHz	QPSK	23173	6RB#0	1.091	1.269	PASS
Band12	1.4MHz	16QAM	23017	6RB#0	1.088	1.278	PASS
Band12	1.4MHz	16QAM	23095	6RB#0	1.088	1.293	PASS
Band12	1.4MHz	16QAM	23173	6RB#0	1.088	1.272	PASS
Band12	3MHz	QPSK	23025	15RB#0	2.685	2.916	PASS
Band12	3MHz	QPSK	23095	15RB#0	2.691	2.880	PASS
Band12	3MHz	QPSK	23165	15RB#0	2.691	2.898	PASS
Band12	3MHz	16QAM	23025	15RB#0	2.679	2.892	PASS
Band12	3MHz	16QAM	23095	15RB#0	2.673	2.874	PASS
Band12	3MHz	16QAM	23165	15RB#0	2.679	2.862	PASS
Band12	5MHz	QPSK	23035	25RB#0	4.476	4.920	PASS
Band12	5MHz	QPSK	23095	25RB#0	4.486	4.850	PASS
Band12	5MHz	QPSK	23155	25RB#0	4.496	4.960	PASS
Band12	5MHz	16QAM	23035	25RB#0	4.486	4.890	PASS
Band12	5MHz	16QAM	23095	25RB#0	4.486	4.880	PASS
Band12	5MHz	16QAM	23155	25RB#0	4.496	4.850	PASS
Band12	10MHz	QPSK	23060	50RB#0	8.971	9.660	PASS
Band12	10MHz	QPSK	23095	50RB#0	8.971	9.640	PASS
Band12	10MHz	QPSK	23130	50RB#0	8.971	9.640	PASS
Band12	10MHz	16QAM	23060	50RB#0	8.991	9.740	PASS
Band12	10MHz	16QAM	23095	50RB#0	8.991	9.700	PASS
Band12	10MHz	16QAM	23130	50RB#0	8.951	9.460	PASS

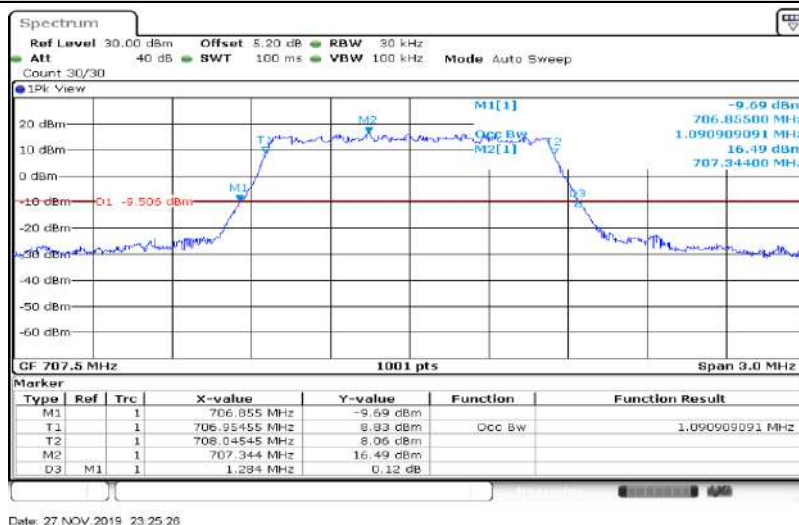


4.2. Test Plots

Band12-1.4MHz-QPSK-23017-6RB#0-1.088



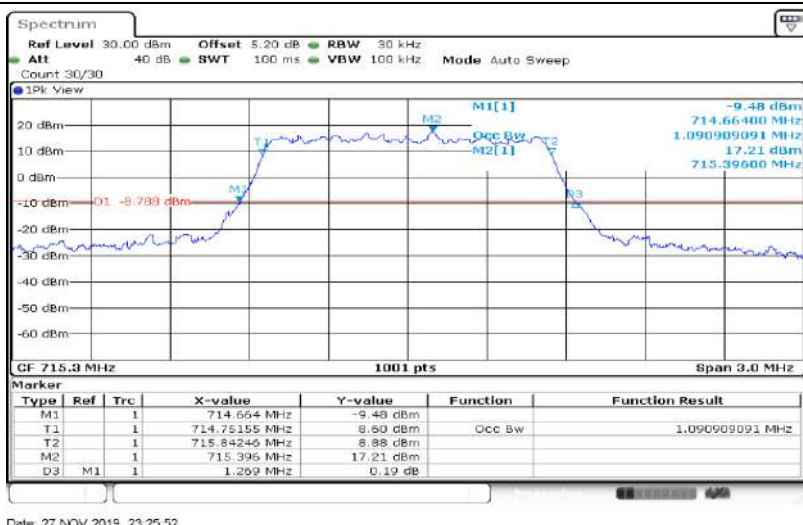
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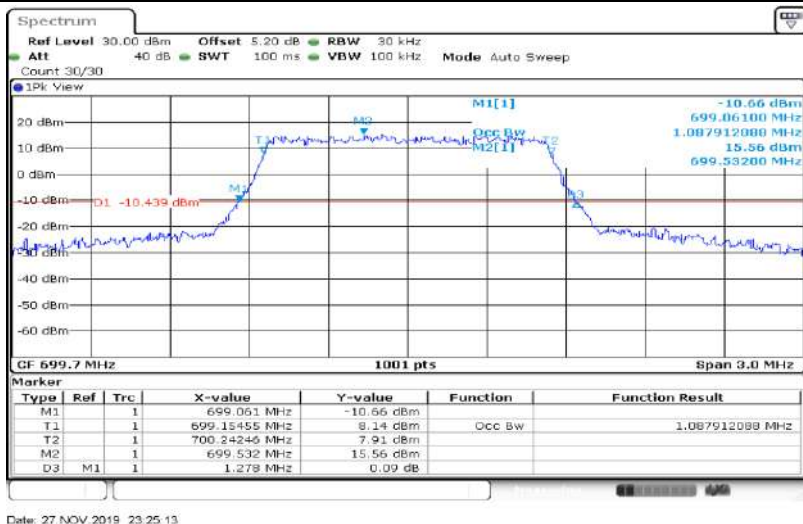
Band12-1.4MHz-QPSK-23173-6RB#0-1.091



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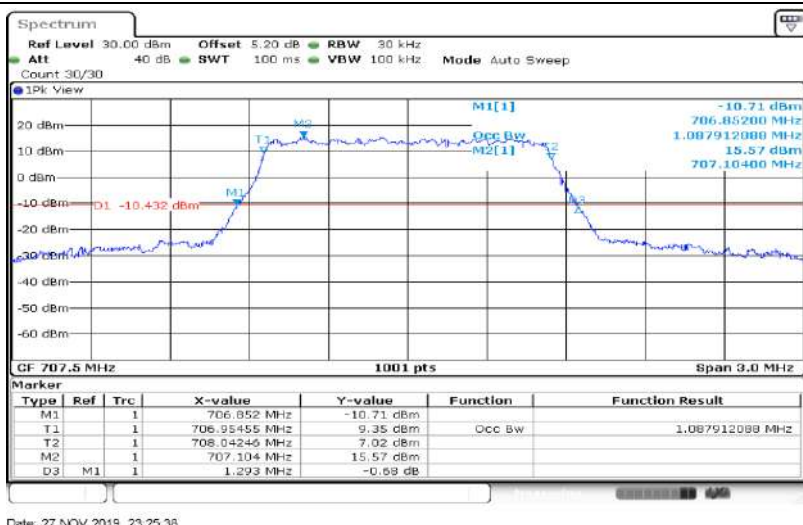


Band12-1.4MHz-16QAM-23017-6RB#0-1.088

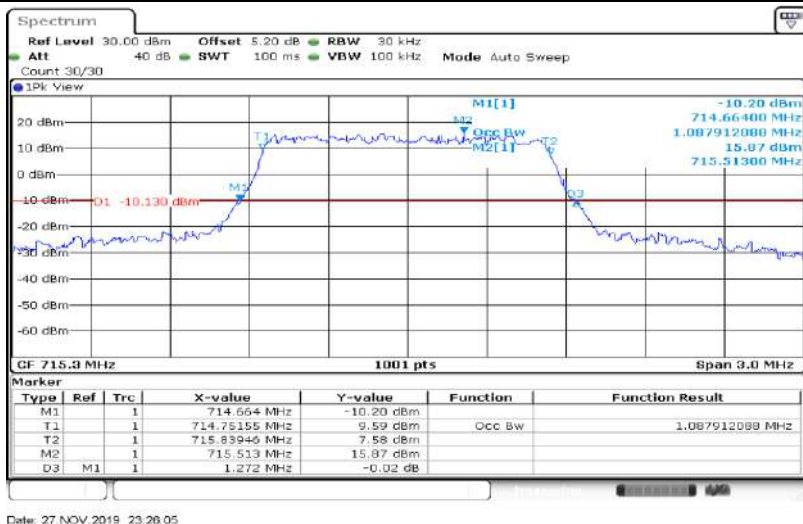


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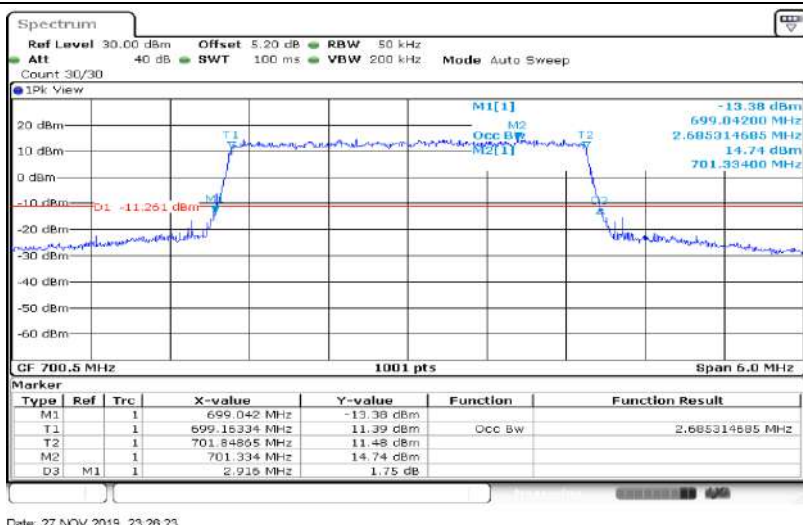


Band12-1.4MHz-16QAM-23173-6RB#0-1.088

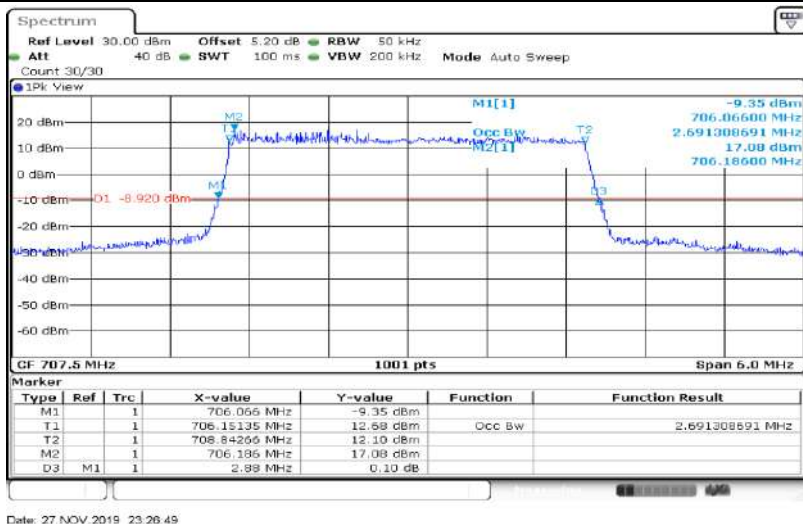


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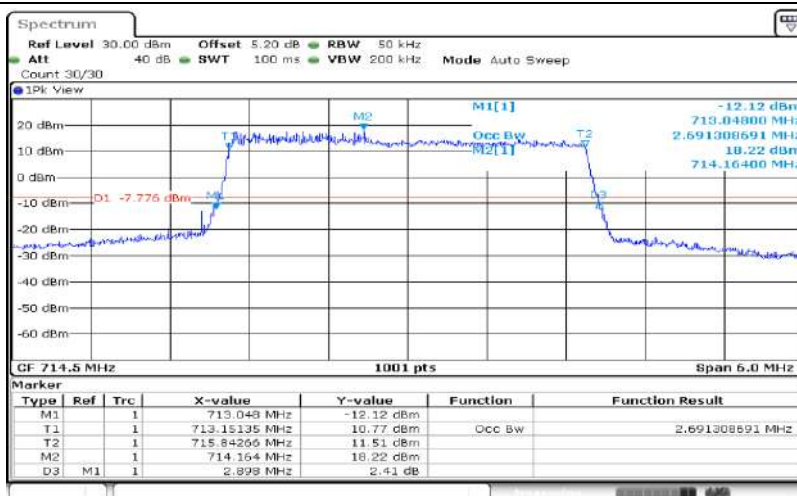


Band12-3MHz-QPSK-23095-15RB#0-2.691



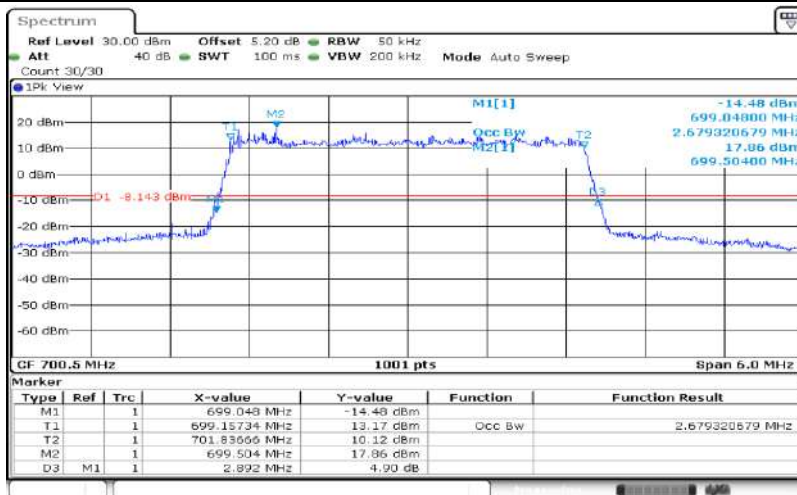
Band12-3MHz-QPSK-23165-15RB#0-2.691





Date: 27 NOV 2019 23:27:14

Band12-3MHz-16QAM-23025-15RB#0-2.679



Date: 27 NOV 2019 23:28:36

Band12-3MHz-16QAM-23095-15RB#0-2.673

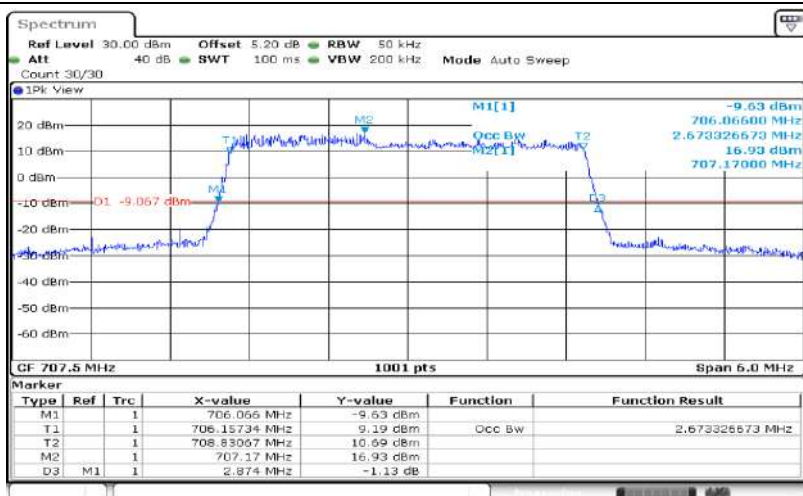


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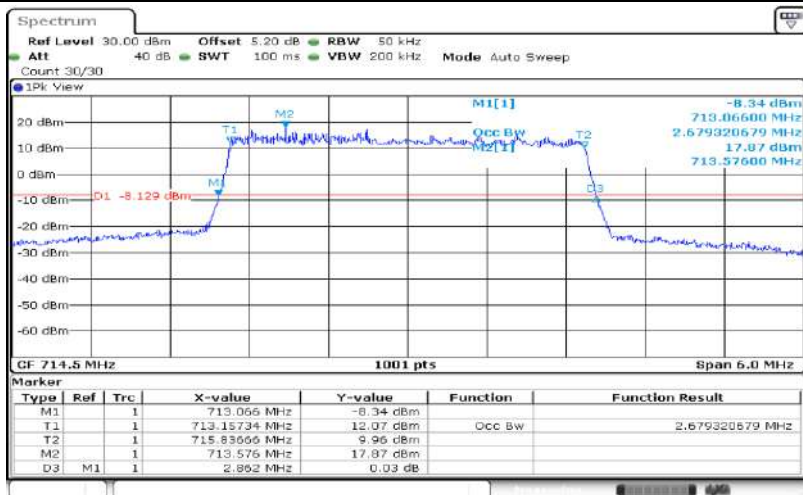
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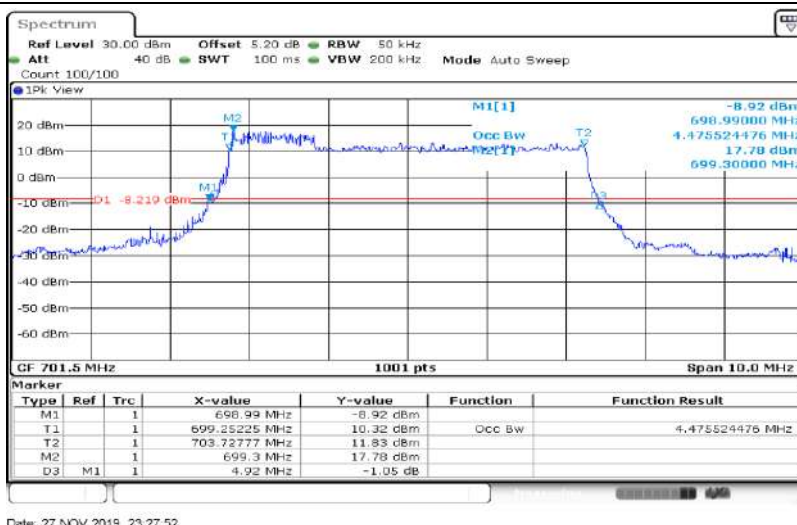
Band12-3MHz-16QAM-23165-15RB#0-2.679



Date: 27 NOV 2019 23:27:27

Band12-5MHz-QPSK-23035-25RB#0-4.476





Band12-5MHz-QPSK-23095-25RB#0-4.486



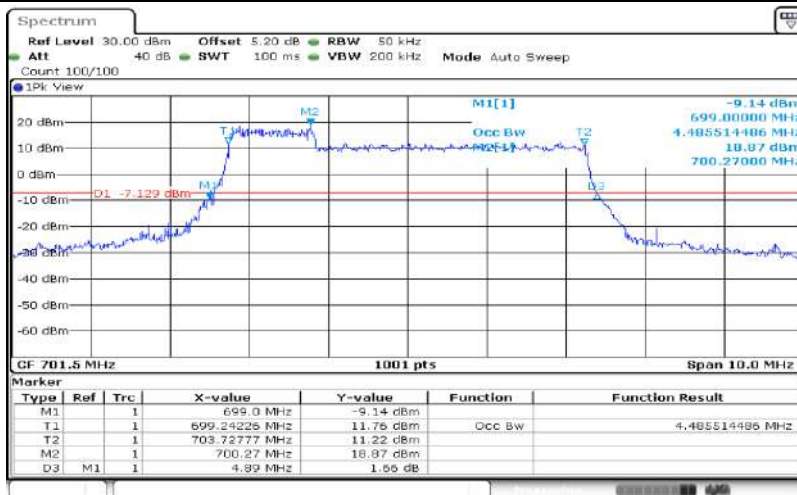
Band12-5MHz-QPSK-23155-25RB#0-4.496





Date: 27 NOV 2019 23:29:12

Band12-5MHz-16QAM-23035-25RB#0-4.486



Date: 27 NOV 2019 23:28:12

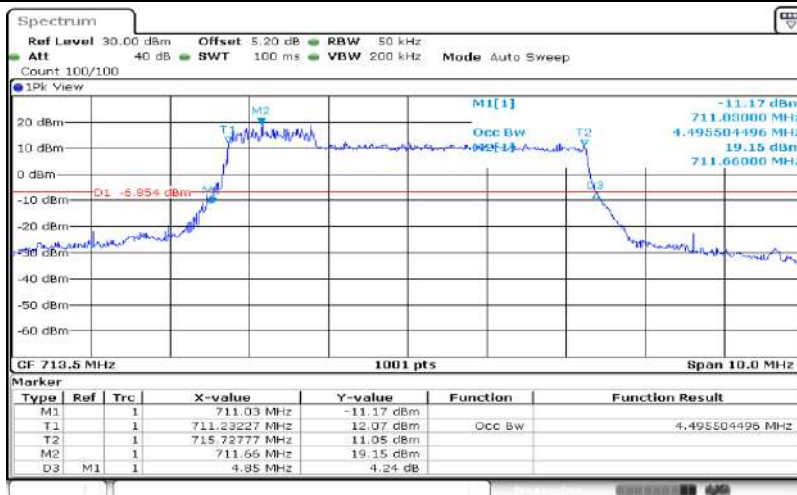
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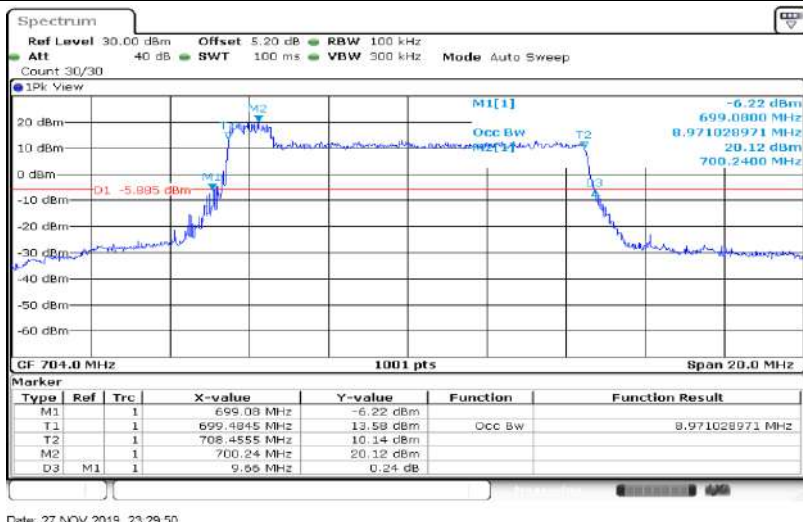
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Band12-10MHz-QPSK-23060-50RB#0-8.971



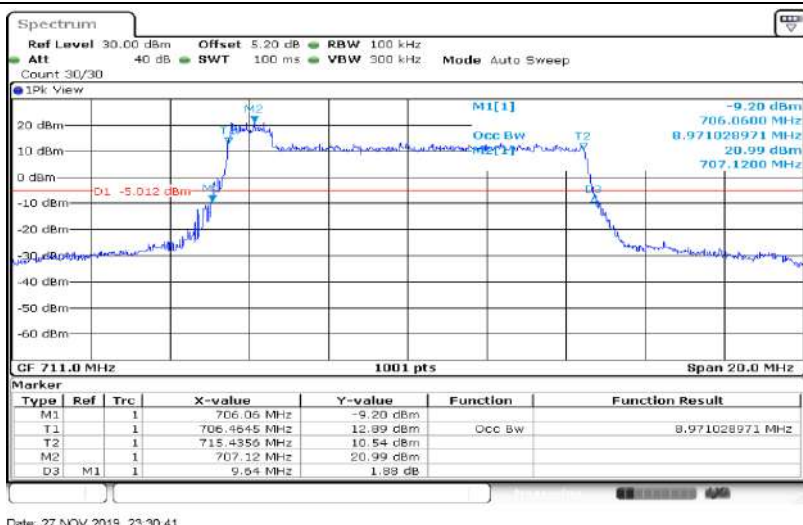


Band12-10MHz-QPSK-23095-50RB#0-8.971



Band12-10MHz-QPSK-23130-50RB#0-8.971



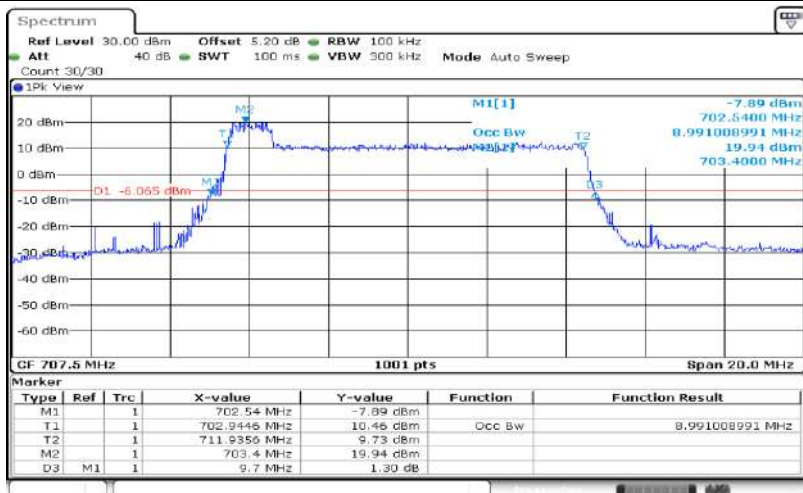


Band12-10MHz-16QAM-23060-50RB#0-8.991



Band12-10MHz-16QAM-23095-50RB#0-8.991





Date: 27 NOV 2019 23:30:28

Band12-10MHz-16QAM-23130-50RB#0-8.951



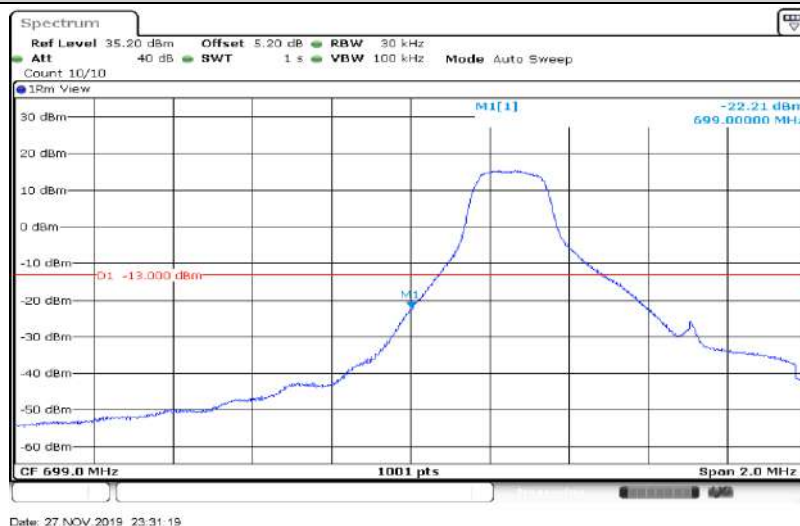
Date: 27 NOV 2019 23:30:54



5. Band Edge Compliance

5.1. Test Plots

Band12-1.4MHz-QPSK-23017-1RB#0



Band12-1.4MHz-QPSK-23017-6RB#0

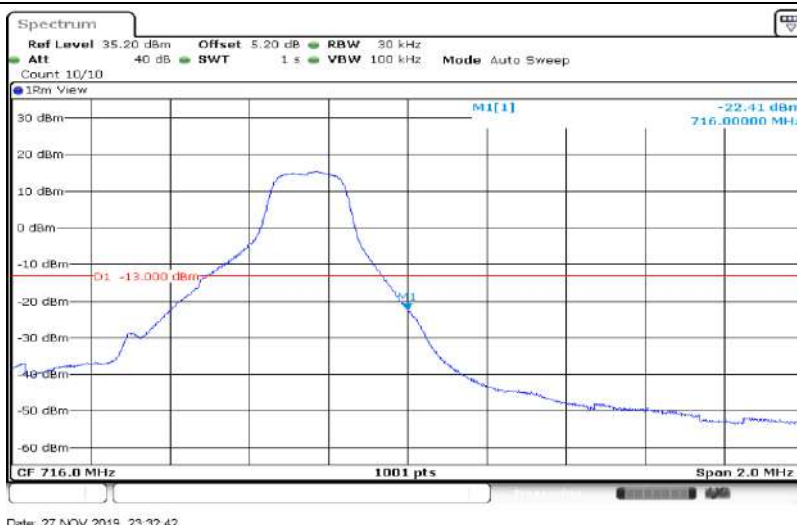


Band12-1.4MHz-QPSK-23173-1RB#5



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Band12-1.4MHz-QPSK-23173-6RB#0



Band12-1.4MHz-16QAM-23017-1RB#0



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Band12-1.4MHz-16QAM-23017-6RB#0



Band12-1.4MHz-16QAM-23173-1RB#5



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Band12-1.4MHz-16QAM-23173-6RB#0



Band12-3MHz-QPSK-23025-1RB#0



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Band12-3MHz-QPSK-23025-15RB#0



Band12-3MHz-QPSK-23165-1RB#14





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



Band12-3MHz-16QAM-23025-1RB#0



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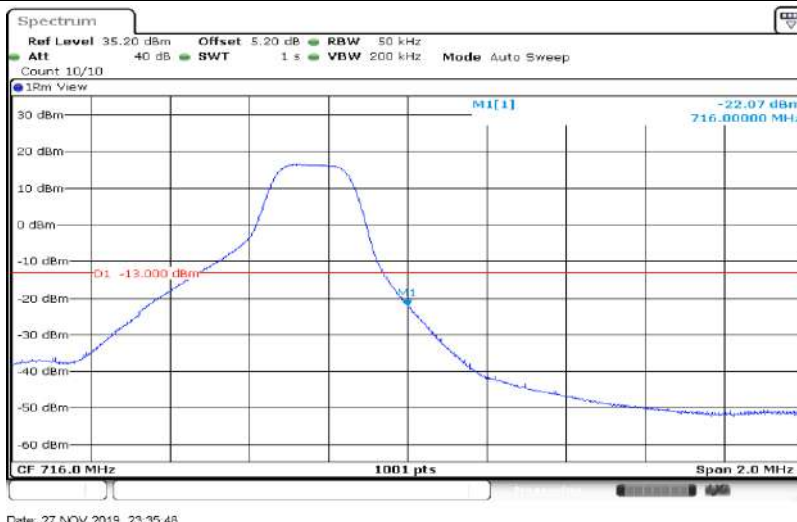


Band12-3MHz-16QAM-23025-15RB#0



Band12-3MHz-16QAM-23165-1RB#14





Band12-3MHz-16QAM-23165-15RB#0



Band12-5MHz-QPSK-23035-1RB#0

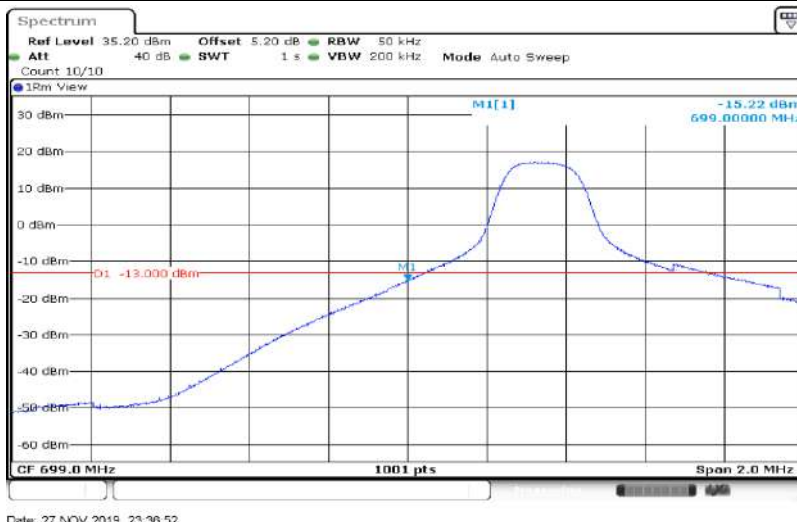


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Band12-5MHz-QPSK-23035-25RB#0



Band12-5MHz-QPSK-23155-1RB#24



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Band12-5MHz-QPSK-23155-25RB#0



Band12-5MHz-16QAM-23035-1RB#0



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Band12-5MHz-16QAM-23035-25RB#0



Band12-5MHz-16QAM-23155-1RB#24



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Band12-5MHz-16QAM-23155-25RB#0



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





Band12-10MHz-QPSK-23060-50RB#0



Band12-10MHz-QPSK-23130-1RB#49



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Band12-10MHz-QPSK-23130-50RB#0

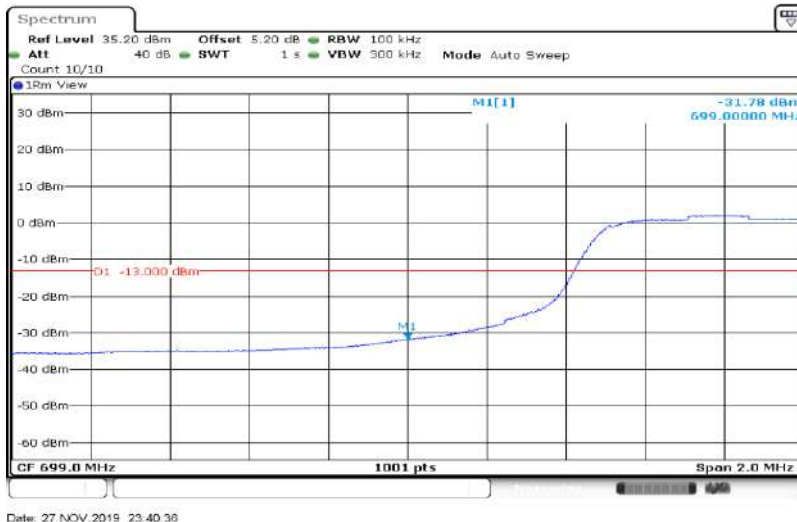


Band12-10MHz-16QAM-23060-1RB#0





Band12-10MHz-16QAM-23060-50RB#0



Band12-10MHz-16QAM-23130-1RB#49



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Band12-10MHz-16QAM-23130-50RB#0



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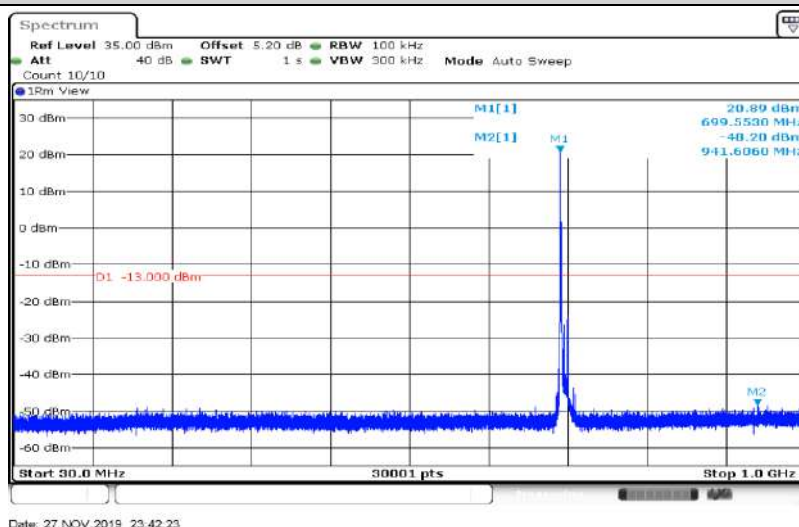
6. Spurious Emission at Antenna Terminal

Remark1: For the averaged unwanted emissions measurements, the measurement points in each sweep is greater than twice the Span/RBW in order to ensure bin-to-bin spacing of $< RBW/2$ so that narrowband signals are not lost between frequency bins. As to the present test item, the "Measurement Points = $k * (\text{Span} / RBW)$ " with k between 4 and 5, which results in an acceptable level error of less than 0.5 dB.

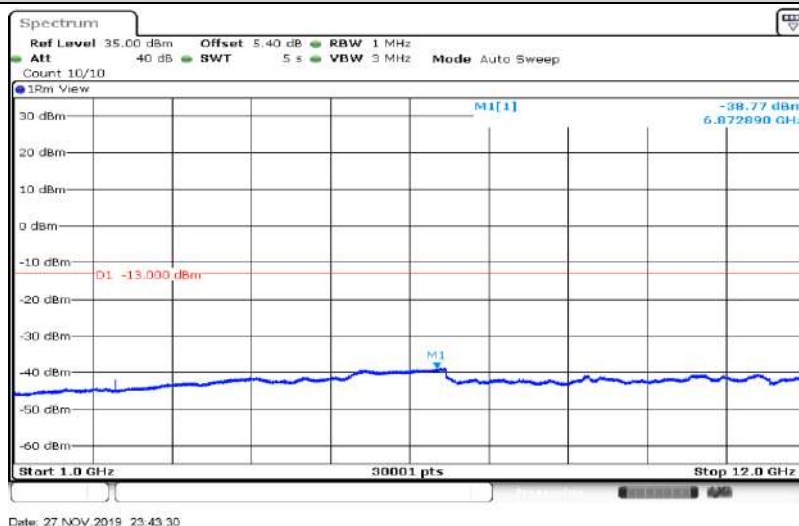
Remark2: only the worst case data displayed in this report.

6.1. Test Plots

Band12-10MHz-QPSK-23060-1RB#0-Range1:30~1000MHz

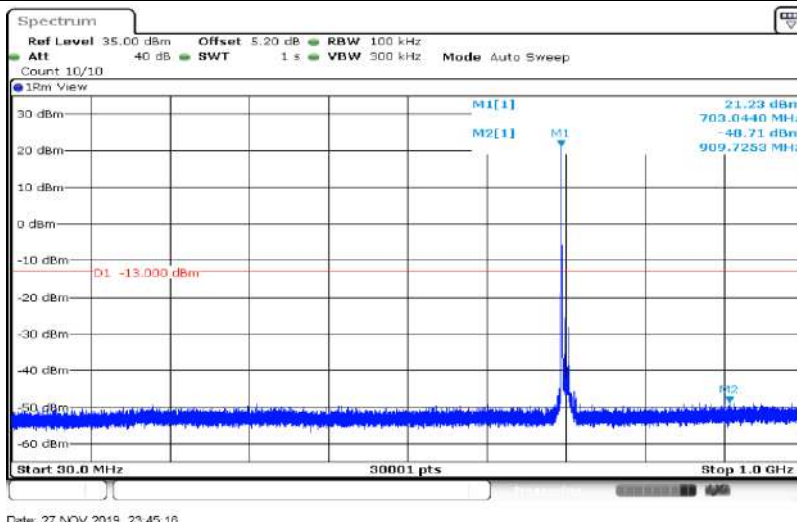


Band12-10MHz-QPSK-23060-1RB#0-Range2:1000~12000MHz

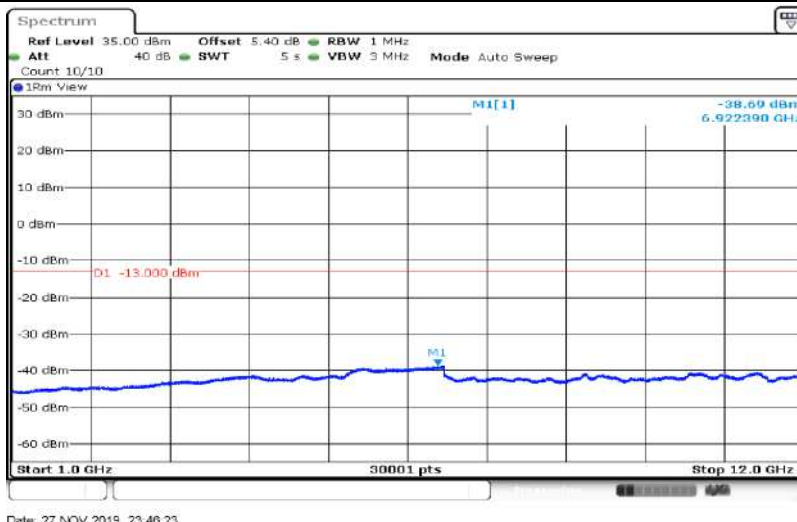


Band12-10MHz-QPSK-23095-1RB#0-Range1:30~1000MHz





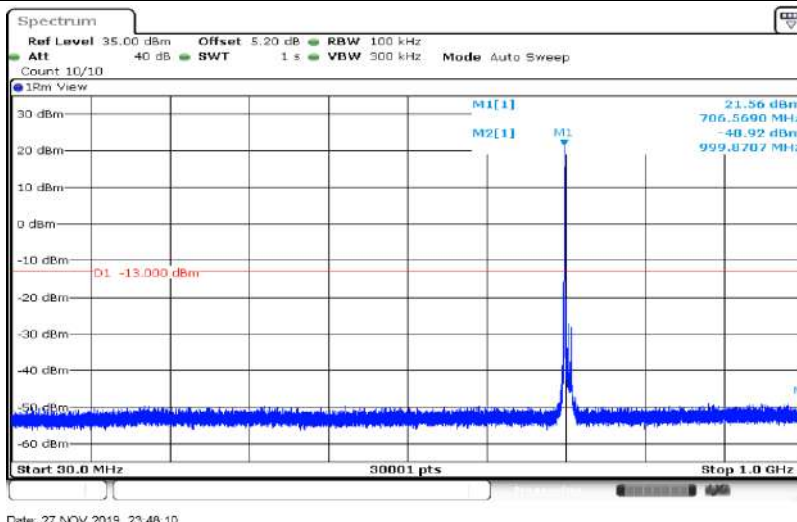
Band12-10MHz-QPSK-23095-1RB#0-Range2:1000~12000MHz



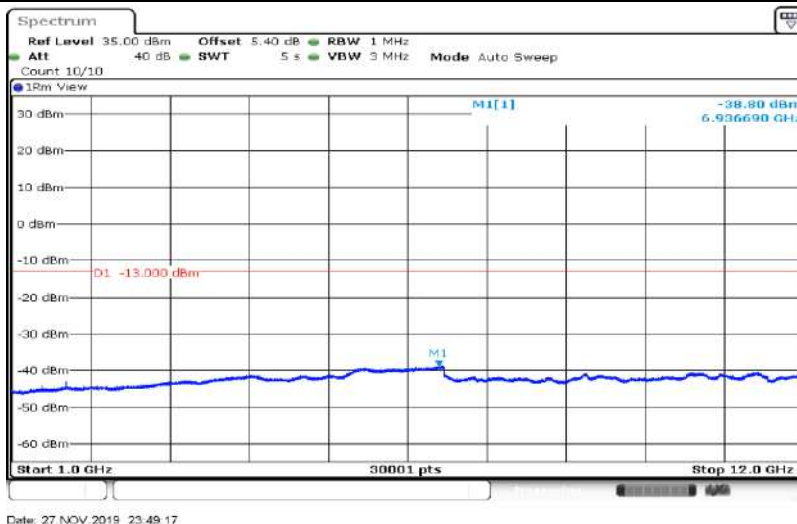
Band12-10MHz-QPSK-23130-1RB#0-Range1:30~1000MHz



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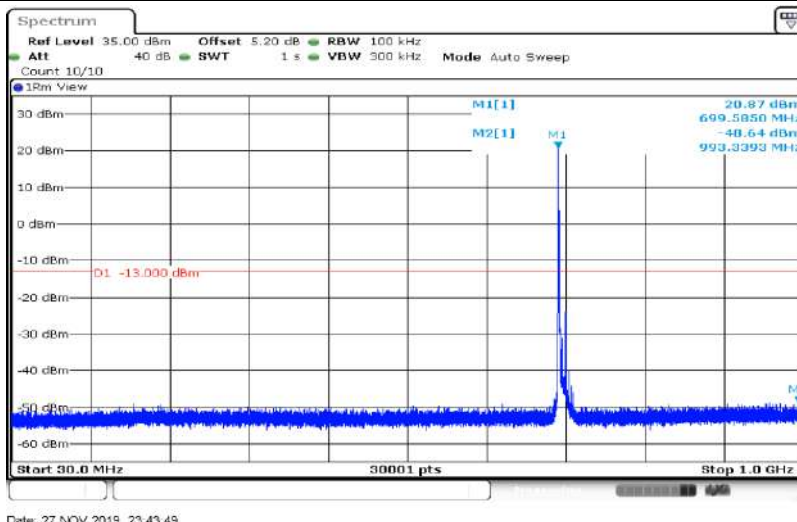


Band12-10MHz-QPSK-23130-1RB#0-Range2:1000~12000MHz

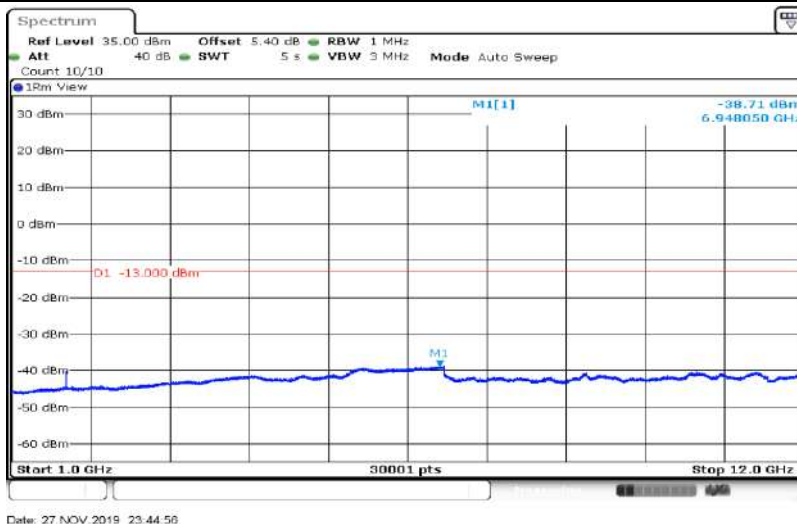


Band12-10MHz-16QAM-23060-1RB#0-Range1:30~1000MHz



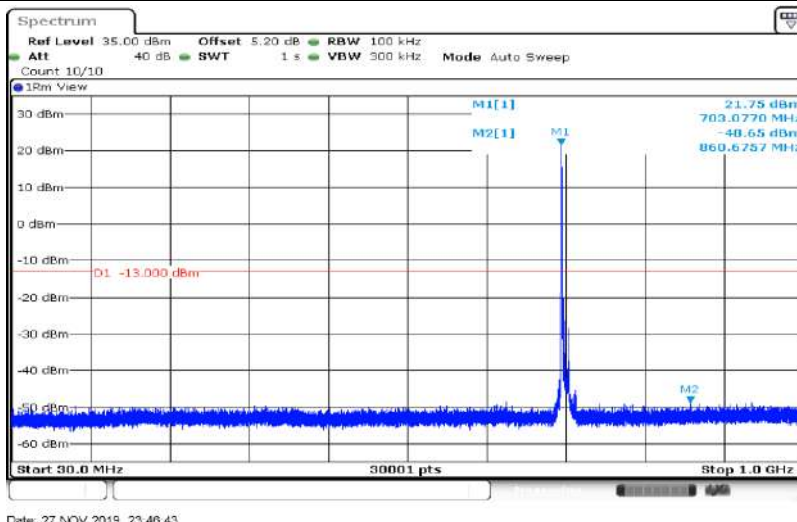


Band12-10MHz-16QAM-23060-1RB#0-Range2:1000~12000MHz

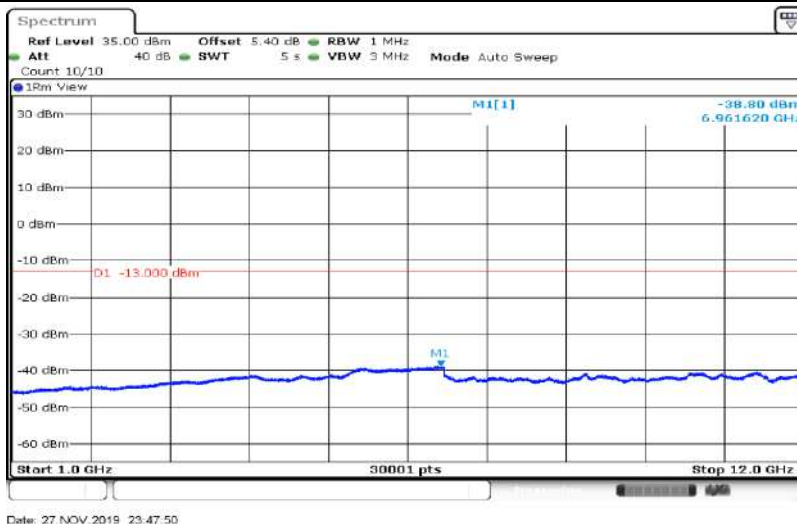


Band12-10MHz-16QAM-23095-1RB#0-Range1:30~1000MHz



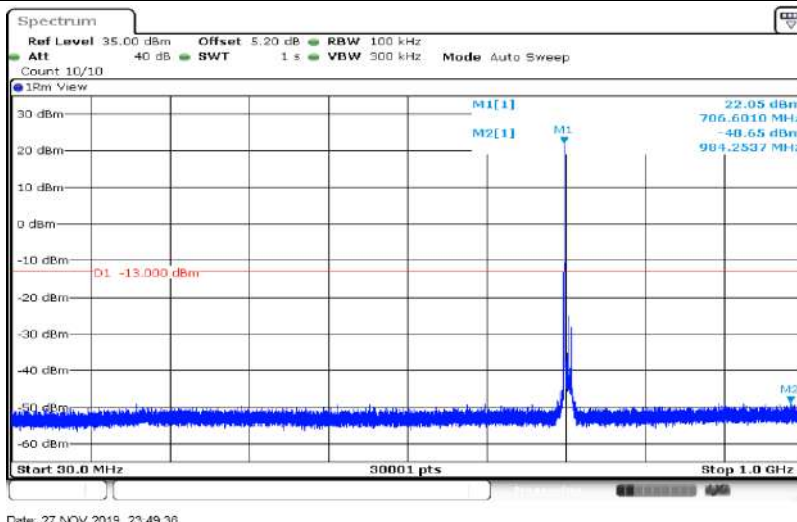


Band12-10MHz-16QAM-23095-1RB#0-Range2:1000~12000MHz

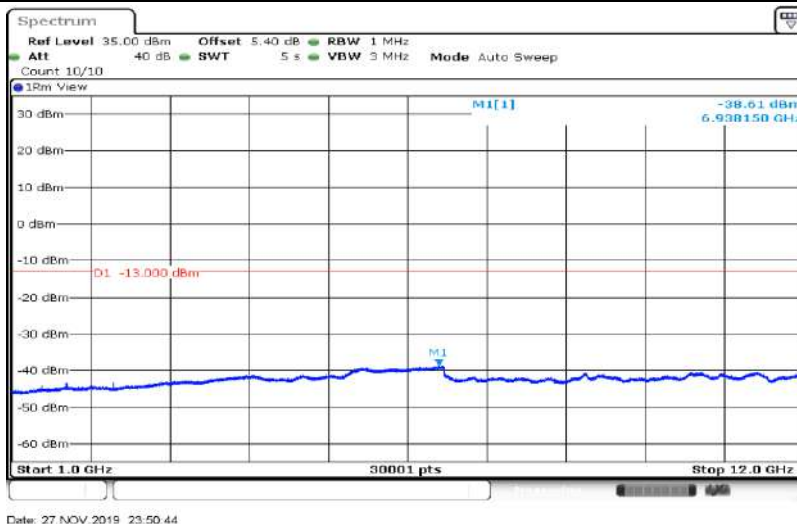


Band12-10MHz-16QAM-23130-1RB#0-Range1:30~1000MHz





Band12-10MHz-16QAM-23130-1RB#0-Range2:1000~12000MHz





7. Field Strength of Spurious Radiation

7.1. Test Mode =LTE/TM1 (Main Ant)

7.1.1. Test Channel = LCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Margin (dB)	Height (cm)	Angle (°)	Polarization
113.5212	-65.05	-13.00	52.05	258	152	Vertical
1398.8798	-56.06	-13.00	43.06	174	272	Vertical
2405.4811	-57.29	-13.00	44.29	196	158	Vertical
7400.5760	-52.70	-13.00	39.70	231	88	Vertical
14698.0679	-42.81	-13.00	29.81	252	26	Vertical
17993.9998	-34.08	-13.00	21.08	226	257	Vertical
48.7704	-63.59	-13.00	50.59	185	360	Horizontal
1398.8798	-52.85	-13.00	39.85	196	326	Horizontal
2697.1394	-56.19	-13.00	43.19	213	304	Horizontal
9313.4525	-48.66	-13.00	35.66	252	152	Horizontal
16397.3359	-38.10	-13.00	25.10	252	4	Horizontal
17998.8000	-38.11	-13.00	25.11	274	130	Horizontal

7.1.2. Test Channel = MCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Margin (dB)	Height (cm)	Angle (°)	Polarization
111.9206	-65.40	-13.00	52.40	174	263	Vertical
1406.0812	-54.21	-13.00	41.21	185	278	Vertical
2998.7998	-56.20	-13.00	43.20	196	356	Vertical
7368.1747	-53.05	-13.00	40.05	213	242	Vertical
14507.2603	-43.17	-13.00	30.17	252	220	Vertical
17992.1997	-34.46	-13.00	21.46	164	116	Vertical
48.7219	-63.15	-13.00	50.15	174	263	Horizontal
1406.0812	-50.52	-13.00	37.52	185	278	Horizontal
3515.4206	-57.17	-13.00	44.17	196	356	Horizontal
7397.5759	-53.61	-13.00	40.61	213	242	Horizontal
16396.7359	-38.79	-13.00	25.79	252	220	Horizontal
17997.5999	-39.13	-13.00	26.13	164	116	Horizontal



7.1.3. Test Channel = HCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Margin (dB)	Height (cm)	Angle (°)	Polarization
115.6068	-65.67	-13.00	52.67	185	237	Vertical
1412.8826	-59.81	-13.00	46.81	321	267	Vertical
3000.0000	-56.40	-13.00	43.40	258	321	Vertical
9317.0527	-48.88	-13.00	35.88	291	152	Vertical
14694.4678	-43.84	-13.00	30.84	154	194	Vertical
17995.7998	-35.38	-13.00	22.38	164	321	Vertical
41.2526	-61.15	-13.00	48.15	258	130	Horizontal
1412.8826	-55.43	-13.00	42.43	174	205	Horizontal
3532.8213	-55.58	-13.00	42.58	196	46	Horizontal
9119.0448	-51.85	-13.00	38.85	321	130	Horizontal
16381.1352	-39.52	-13.00	26.52	252	4	Horizontal
17999.4000	-40.17	-13.00	27.17	161	260	Horizontal

7.2. Test Mode =LTE/TM1 (Second Ant)

7.2.1. Test Channel = LCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Margin (dB)	Height (cm)	Angle (°)	Polarization
114.7337	-64.95	-13.00	51.95	258	130	Vertical
1398.8798	-57.06	-13.00	44.06	174	205	Vertical
2956.3913	-56.71	-13.00	43.71	196	46	Vertical
7357.9743	-53.15	-13.00	40.15	321	130	Vertical
14707.6683	-42.52	-13.00	29.52	252	4	Vertical
17959.7984	-34.51	-13.00	21.51	161	260	Vertical
41.2041	-64.49	-13.00	51.49	158	144	Horizontal
241.6161	-67.55	-13.00	54.55	196	292	Horizontal
1398.8798	-55.31	-13.00	42.31	321	26	Horizontal
2697.5395	-56.01	-13.00	43.01	225	181	Horizontal
7338.7736	-53.32	-13.00	40.32	226	0	Horizontal
16399.7360	-38.15	-13.00	25.15	241	144	Horizontal

7.2.2. Test Channel = MCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Margin (dB)	Height (cm)	Angle (°)	Polarization
113.2787	-64.41	-13.00	51.41	158	144	Vertical
1406.0812	-55.68	-13.00	42.68	196	292	Vertical
2991.1982	-56.48	-13.00	43.48	321	26	Vertical
7358.5743	-53.07	-13.00	40.07	225	181	Vertical
14491.0596	-43.03	-13.00	30.03	226	0	Vertical
17995.1998	-34.37	-13.00	21.37	241	144	Vertical
42.2226	-64.18	-13.00	51.18	258	0	Horizontal
240.2095	-68.31	-13.00	55.31	296	230	Horizontal
1406.0812	-54.79	-13.00	41.79	174	30	Horizontal
3516.0206	-56.40	-13.00	43.40	184	38	Horizontal
16376.9351	-38.91	-13.00	25.91	321	38	Horizontal

7.2.3. Test Channel = HCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Margin (dB)	Height (cm)	Angle (°)	Polarization
114.7337	-65.85	-13.00	52.85	258	20	Vertical
1413.2827	-59.68	-13.00	46.68	196	262	Vertical
1879.7760	-58.50	-13.00	45.50	312	140	Vertical
2593.9188	-51.32	-13.00	38.32	252	305	Vertical
14492.8597	-43.78	-13.00	30.78	261	230	Vertical
17987.3995	-36.00	-13.00	23.00	174	166	Vertical
40.6705	-64.54	-13.00	51.54	174	101	Horizontal
243.8957	-68.82	-13.00	55.82	185	334	Horizontal
1412.8826	-58.52	-13.00	45.52	196	30	Horizontal
2589.1178	-43.49	-13.00	30.49	231	60	Horizontal
3532.8213	-55.32	-13.00	42.32	252	16	Horizontal
16398.5359	-39.51	-13.00	26.51	154	101	Horizontal

Remark:

- 1 According to 971168 D01 Power Meas License Digital Systems, The amplitudes of unwanted emissions that are attenuated more than 20 dB below the applicable limit are not required to be reported.
- 2 The disturbance below 30MHz was very low, and the above harmonics were the highest point could be found when testing, so only the worst case data displayed in this report.





- 3 all modulation and all Bandwidth had been tested, but only the worst case data displayed in this report.



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8. Frequency Stability

8.1. Frequency Vs Voltage

Band	Bandwidth	Modulation	Channel	RB Configure	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
Band12	10MHz	QPSK	23060	50RB#0	VL	NT	-7.40	-0.010511	±2.5	PASS
Band12	10MHz	QPSK	23060	50RB#0	VN	NT	-1.00	-0.001420	±2.5	PASS
Band12	10MHz	QPSK	23060	50RB#0	VH	NT	-8.10	-0.011506	±2.5	PASS
Band12	10MHz	QPSK	23095	50RB#0	VL	NT	-6.50	-0.009187	±2.5	PASS
Band12	10MHz	QPSK	23095	50RB#0	VN	NT	-9.00	-0.012721	±2.5	PASS
Band12	10MHz	QPSK	23095	50RB#0	VH	NT	-0.90	-0.001272	±2.5	PASS
Band12	10MHz	QPSK	23130	50RB#0	VL	NT	-1.90	-0.002672	±2.5	PASS
Band12	10MHz	QPSK	23130	50RB#0	VN	NT	-5.30	-0.007454	±2.5	PASS
Band12	10MHz	QPSK	23130	50RB#0	VH	NT	-4.70	-0.006610	±2.5	PASS
Band12	10MHz	16QAM	23060	50RB#0	VL	NT	-0.50	-0.000710	±2.5	PASS
Band12	10MHz	16QAM	23060	50RB#0	VN	NT	-5.10	-0.007244	±2.5	PASS
Band12	10MHz	16QAM	23060	50RB#0	VH	NT	-7.90	-0.011222	±2.5	PASS
Band12	10MHz	16QAM	23095	50RB#0	VL	NT	-3.40	-0.004806	±2.5	PASS
Band12	10MHz	16QAM	23095	50RB#0	VN	NT	-8.00	-0.011307	±2.5	PASS
Band12	10MHz	16QAM	23095	50RB#0	VH	NT	-7.40	-0.010459	±2.5	PASS
Band12	10MHz	16QAM	23130	50RB#0	VL	NT	-6.70	-0.009423	±2.5	PASS
Band12	10MHz	16QAM	23130	50RB#0	VN	NT	-4.10	-0.005767	±2.5	PASS
Band12	10MHz	16QAM	23130	50RB#0	VH	NT	-9.10	-0.012799	±2.5	PASS

8.2. Frequency Vs Temperature

Band	Bandwidth	Modulation	Channel	RB Configure	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
Band12	10MHz	QPSK	23060	50RB#0	NV	-30	-3.70	-0.005256	±2.5	PASS
Band12	10MHz	QPSK	23060	50RB#0	NV	-20	-8.50	-0.012074	±2.5	PASS
Band12	10MHz	QPSK	23060	50RB#0	NV	0	-0.10	-0.000142	±2.5	PASS
Band12	10MHz	QPSK	23060	50RB#0	NV	10	-8.40	-0.011932	±2.5	PASS
Band12	10MHz	QPSK	23060	50RB#0	NV	20	-5.80	-0.008239	±2.5	PASS
Band12	10MHz	QPSK	23060	50RB#0	NV	30	-6.30	-0.008949	±2.5	PASS
Band12	10MHz	QPSK	23060	50RB#0	NV	40	-8.40	-0.011932	±2.5	PASS
Band12	10MHz	QPSK	23060	50RB#0	NV	50	-2.60	-0.003693	±2.5	PASS
Band12	10MHz	QPSK	23095	50RB#0	NV	-30	-4.90	-0.006926	±2.5	PASS
Band12	10MHz	QPSK	23095	50RB#0	NV	-20	-1.40	-0.001979	±2.5	PASS
Band12	10MHz	QPSK	23095	50RB#0	NV	0	-6.70	-0.009470	±2.5	PASS
Band12	10MHz	QPSK	23095	50RB#0	NV	10	-8.10	-0.011449	±2.5	PASS
Band12	10MHz	QPSK	23095	50RB#0	NV	20	-4.80	-0.006784	±2.5	PASS
Band12	10MHz	QPSK	23095	50RB#0	NV	30	-5.70	-0.008057	±2.5	PASS
Band12	10MHz	QPSK	23095	50RB#0	NV	40	-4.50	-0.006360	±2.5	PASS
Band12	10MHz	QPSK	23095	50RB#0	NV	50	-3.90	-0.005512	±2.5	PASS



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Band12	10MHz	QPSK	23130	50RB#0	NV	-30	-4.50	-0.006329	±2.5	PASS
Band12	10MHz	QPSK	23130	50RB#0	NV	-20	-3.40	-0.004782	±2.5	PASS
Band12	10MHz	QPSK	23130	50RB#0	NV	0	-7.50	-0.010549	±2.5	PASS
Band12	10MHz	QPSK	23130	50RB#0	NV	10	-3.50	-0.004923	±2.5	PASS
Band12	10MHz	QPSK	23130	50RB#0	NV	20	-10.20	-0.014346	±2.5	PASS
Band12	10MHz	QPSK	23130	50RB#0	NV	30	-0.40	-0.000563	±2.5	PASS
Band12	10MHz	QPSK	23130	50RB#0	NV	40	-7.20	-0.010127	±2.5	PASS
Band12	10MHz	QPSK	23130	50RB#0	NV	50	-8.40	-0.011814	±2.5	PASS
Band12	10MHz	16QAM	23060	50RB#0	NV	-30	-2.20	-0.003125	±2.5	PASS
Band12	10MHz	16QAM	23060	50RB#0	NV	-20	-6.10	-0.008665	±2.5	PASS
Band12	10MHz	16QAM	23060	50RB#0	NV	0	-2.20	-0.003125	±2.5	PASS
Band12	10MHz	16QAM	23060	50RB#0	NV	10	-5.90	-0.008381	±2.5	PASS
Band12	10MHz	16QAM	23060	50RB#0	NV	20	-1.80	-0.002557	±2.5	PASS
Band12	10MHz	16QAM	23060	50RB#0	NV	30	-6.30	-0.008949	±2.5	PASS
Band12	10MHz	16QAM	23060	50RB#0	NV	40	-10.40	-0.014773	±2.5	PASS
Band12	10MHz	16QAM	23060	50RB#0	NV	50	-7.40	-0.010511	±2.5	PASS
Band12	10MHz	16QAM	23095	50RB#0	NV	-30	-8.60	-0.012155	±2.5	PASS
Band12	10MHz	16QAM	23095	50RB#0	NV	-20	-6.50	-0.009187	±2.5	PASS
Band12	10MHz	16QAM	23095	50RB#0	NV	0	-3.90	-0.005512	±2.5	PASS
Band12	10MHz	16QAM	23095	50RB#0	NV	10	-2.00	-0.002827	±2.5	PASS
Band12	10MHz	16QAM	23095	50RB#0	NV	20	-6.70	-0.009470	±2.5	PASS
Band12	10MHz	16QAM	23095	50RB#0	NV	30	-4.90	-0.006926	±2.5	PASS
Band12	10MHz	16QAM	23095	50RB#0	NV	40	-6.30	-0.008905	±2.5	PASS
Band12	10MHz	16QAM	23095	50RB#0	NV	50	-7.90	-0.011166	±2.5	PASS
Band12	10MHz	16QAM	23130	50RB#0	NV	-30	-5.20	-0.007314	±2.5	PASS
Band12	10MHz	16QAM	23130	50RB#0	NV	-20	-4.90	-0.006926	±2.5	PASS
Band12	10MHz	16QAM	23130	50RB#0	NV	0	-6.90	-0.009705	±2.5	PASS
Band12	10MHz	16QAM	23130	50RB#0	NV	10	-10.60	-0.014909	±2.5	PASS
Band12	10MHz	16QAM	23130	50RB#0	NV	20	-8.50	-0.011955	±2.5	PASS
Band12	10MHz	16QAM	23130	50RB#0	NV	30	-4.80	-0.006751	±2.5	PASS
Band12	10MHz	16QAM	23130	50RB#0	NV	40	-3.20	-0.004501	±2.5	PASS
Band12	10MHz	16QAM	23130	50RB#0	NV	50	-3.90	-0.005485	±2.5	PASS



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