



Appendix B

E-UTRA BAND 12

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1. Effective (Isotropic) Radiated Power

1.1. Test Result

BAND	Bandwidth	Modulation	Channel	RB Configuration	Result (dBm)	ERP (dBm)	Limit (dBm)	Verdict
Band12	1.4MHz	QPSK	23017	1RB#0	23.64	15.93	36.98	PASS
Band12	1.4MHz	QPSK	23017	1RB#2	23.78	16.07	36.98	PASS
Band12	1.4MHz	QPSK	23017	1RB#5	23.65	15.94	36.98	PASS
Band12	1.4MHz	QPSK	23017	3RB#0	23.74	16.03	36.98	PASS
Band12	1.4MHz	QPSK	23017	3RB#1	23.80	16.09	36.98	PASS
Band12	1.4MHz	QPSK	23017	3RB#3	23.77	16.06	36.98	PASS
Band12	1.4MHz	QPSK	23017	6RB#0	22.85	15.14	36.98	PASS
Band12	1.4MHz	QPSK	23095	1RB#0	23.60	15.89	36.98	PASS
Band12	1.4MHz	QPSK	23095	1RB#2	23.74	16.03	36.98	PASS
Band12	1.4MHz	QPSK	23095	1RB#5	23.59	15.88	36.98	PASS
Band12	1.4MHz	QPSK	23095	3RB#0	23.52	15.81	36.98	PASS
Band12	1.4MHz	QPSK	23095	3RB#1	23.43	15.72	36.98	PASS
Band12	1.4MHz	QPSK	23095	3RB#3	23.30	15.59	36.98	PASS
Band12	1.4MHz	QPSK	23095	6RB#0	22.43	14.72	36.98	PASS
Band12	1.4MHz	QPSK	23173	1RB#0	23.14	15.43	36.98	PASS
Band12	1.4MHz	QPSK	23173	1RB#2	23.18	15.47	36.98	PASS
Band12	1.4MHz	QPSK	23173	1RB#5	23.02	15.31	36.98	PASS
Band12	1.4MHz	QPSK	23173	3RB#0	23.14	15.43	36.98	PASS
Band12	1.4MHz	QPSK	23173	3RB#1	23.19	15.48	36.98	PASS
Band12	1.4MHz	QPSK	23173	3RB#3	23.13	15.42	36.98	PASS
Band12	1.4MHz	QPSK	23173	6RB#0	22.24	14.53	36.98	PASS
Band12	1.4MHz	16QAM	23017	1RB#0	22.85	15.14	36.98	PASS
Band12	1.4MHz	16QAM	23017	1RB#2	22.84	15.13	36.98	PASS
Band12	1.4MHz	16QAM	23017	1RB#5	22.74	15.03	36.98	PASS
Band12	1.4MHz	16QAM	23017	3RB#0	22.73	15.02	36.98	PASS
Band12	1.4MHz	16QAM	23017	3RB#1	22.82	15.11	36.98	PASS
Band12	1.4MHz	16QAM	23017	3RB#3	22.75	15.04	36.98	PASS
Band12	1.4MHz	16QAM	23017	6RB#0	21.82	14.11	36.98	PASS
Band12	1.4MHz	16QAM	23095	1RB#0	22.83	15.12	36.98	PASS
Band12	1.4MHz	16QAM	23095	1RB#2	22.78	15.07	36.98	PASS
Band12	1.4MHz	16QAM	23095	1RB#5	22.59	14.88	36.98	PASS
Band12	1.4MHz	16QAM	23095	3RB#0	22.63	14.92	36.98	PASS
Band12	1.4MHz	16QAM	23095	3RB#1	22.56	14.85	36.98	PASS
Band12	1.4MHz	16QAM	23095	3RB#3	22.46	14.75	36.98	PASS
Band12	1.4MHz	16QAM	23095	6RB#0	21.54	13.83	36.98	PASS
Band12	1.4MHz	16QAM	23173	1RB#0	22.29	14.58	36.98	PASS



Band12	1.4MHz	16QAM	23173	1RB#2	22.38	14.67	36.98	PASS
Band12	1.4MHz	16QAM	23173	1RB#5	22.25	14.54	36.98	PASS
Band12	1.4MHz	16QAM	23173	3RB#0	22.23	14.52	36.98	PASS
Band12	1.4MHz	16QAM	23173	3RB#1	22.28	14.57	36.98	PASS
Band12	1.4MHz	16QAM	23173	3RB#3	22.18	14.47	36.98	PASS
Band12	1.4MHz	16QAM	23173	6RB#0	21.23	13.52	36.98	PASS
Band12	3MHz	QPSK	23025	1RB#0	23.21	15.50	36.98	PASS
Band12	3MHz	QPSK	23025	1RB#8	23.23	15.52	36.98	PASS
Band12	3MHz	QPSK	23025	1RB#14	23.22	15.51	36.98	PASS
Band12	3MHz	QPSK	23025	8RB#0	22.32	14.61	36.98	PASS
Band12	3MHz	QPSK	23025	8RB#4	22.51	14.80	36.98	PASS
Band12	3MHz	QPSK	23025	8RB#7	22.60	14.89	36.98	PASS
Band12	3MHz	QPSK	23025	15RB#0	22.61	14.90	36.98	PASS
Band12	3MHz	QPSK	23095	1RB#0	23.58	15.87	36.98	PASS
Band12	3MHz	QPSK	23095	1RB#8	23.20	15.49	36.98	PASS
Band12	3MHz	QPSK	23095	1RB#14	23.15	15.44	36.98	PASS
Band12	3MHz	QPSK	23095	8RB#0	22.33	14.62	36.98	PASS
Band12	3MHz	QPSK	23095	8RB#4	22.51	14.80	36.98	PASS
Band12	3MHz	QPSK	23095	8RB#7	22.45	14.74	36.98	PASS
Band12	3MHz	QPSK	23095	15RB#0	22.52	14.81	36.98	PASS
Band12	3MHz	QPSK	23165	1RB#0	23.29	15.58	36.98	PASS
Band12	3MHz	QPSK	23165	1RB#8	23.09	15.38	36.98	PASS
Band12	3MHz	QPSK	23165	1RB#14	23.09	15.38	36.98	PASS
Band12	3MHz	QPSK	23165	8RB#0	22.24	14.53	36.98	PASS
Band12	3MHz	QPSK	23165	8RB#4	22.24	14.53	36.98	PASS
Band12	3MHz	QPSK	23165	8RB#7	22.20	14.49	36.98	PASS
Band12	3MHz	QPSK	23165	15RB#0	22.24	14.53	36.98	PASS
Band12	3MHz	16QAM	23025	1RB#0	22.34	14.63	36.98	PASS
Band12	3MHz	16QAM	23025	1RB#8	22.40	14.69	36.98	PASS
Band12	3MHz	16QAM	23025	1RB#14	22.48	14.77	36.98	PASS
Band12	3MHz	16QAM	23025	8RB#0	21.32	13.61	36.98	PASS
Band12	3MHz	16QAM	23025	8RB#4	21.69	13.98	36.98	PASS
Band12	3MHz	16QAM	23025	8RB#7	21.62	13.91	36.98	PASS
Band12	3MHz	16QAM	23025	15RB#0	21.60	13.89	36.98	PASS
Band12	3MHz	16QAM	23095	1RB#0	22.42	14.71	36.98	PASS
Band12	3MHz	16QAM	23095	1RB#8	22.39	14.68	36.98	PASS
Band12	3MHz	16QAM	23095	1RB#14	22.31	14.60	36.98	PASS
Band12	3MHz	16QAM	23095	8RB#0	21.38	13.67	36.98	PASS
Band12	3MHz	16QAM	23095	8RB#4	21.47	13.76	36.98	PASS
Band12	3MHz	16QAM	23095	8RB#7	21.45	13.74	36.98	PASS
Band12	3MHz	16QAM	23095	15RB#0	21.54	13.83	36.98	PASS
Band12	3MHz	16QAM	23165	1RB#0	22.43	14.72	36.98	PASS



Band12	3MHz	16QAM	23165	1RB#8	22.33	14.62	36.98	PASS
Band12	3MHz	16QAM	23165	1RB#14	22.19	14.48	36.98	PASS
Band12	3MHz	16QAM	23165	8RB#0	21.20	13.49	36.98	PASS
Band12	3MHz	16QAM	23165	8RB#4	21.18	13.47	36.98	PASS
Band12	3MHz	16QAM	23165	8RB#7	21.15	13.44	36.98	PASS
Band12	3MHz	16QAM	23165	15RB#0	21.16	13.45	36.98	PASS
Band12	5MHz	QPSK	23035	1RB#0	23.13	15.42	36.98	PASS
Band12	5MHz	QPSK	23035	1RB#12	23.40	15.69	36.98	PASS
Band12	5MHz	QPSK	23035	1RB#24	23.11	15.40	36.98	PASS
Band12	5MHz	QPSK	23035	12RB#0	22.40	14.69	36.98	PASS
Band12	5MHz	QPSK	23035	12RB#6	22.35	14.64	36.98	PASS
Band12	5MHz	QPSK	23035	12RB#13	22.30	14.59	36.98	PASS
Band12	5MHz	QPSK	23035	25RB#0	22.40	14.69	36.98	PASS
Band12	5MHz	QPSK	23095	1RB#0	23.10	15.39	36.98	PASS
Band12	5MHz	QPSK	23095	1RB#12	23.32	15.61	36.98	PASS
Band12	5MHz	QPSK	23095	1RB#24	22.99	15.28	36.98	PASS
Band12	5MHz	QPSK	23095	12RB#0	22.17	14.46	36.98	PASS
Band12	5MHz	QPSK	23095	12RB#6	22.32	14.61	36.98	PASS
Band12	5MHz	QPSK	23095	12RB#13	22.33	14.62	36.98	PASS
Band12	5MHz	QPSK	23095	25RB#0	22.33	14.62	36.98	PASS
Band12	5MHz	QPSK	23155	1RB#0	23.07	15.36	36.98	PASS
Band12	5MHz	QPSK	23155	1RB#12	23.34	15.63	36.98	PASS
Band12	5MHz	QPSK	23155	1RB#24	22.97	15.26	36.98	PASS
Band12	5MHz	QPSK	23155	12RB#0	22.34	14.63	36.98	PASS
Band12	5MHz	QPSK	23155	12RB#6	22.25	14.54	36.98	PASS
Band12	5MHz	QPSK	23155	12RB#13	22.19	14.48	36.98	PASS
Band12	5MHz	QPSK	23155	25RB#0	22.30	14.59	36.98	PASS
Band12	5MHz	16QAM	23035	1RB#0	22.35	14.64	36.98	PASS
Band12	5MHz	16QAM	23035	1RB#12	22.59	14.88	36.98	PASS
Band12	5MHz	16QAM	23035	1RB#24	22.29	14.58	36.98	PASS
Band12	5MHz	16QAM	23035	12RB#0	21.40	13.69	36.98	PASS
Band12	5MHz	16QAM	23035	12RB#6	21.32	13.61	36.98	PASS
Band12	5MHz	16QAM	23035	12RB#13	21.27	13.56	36.98	PASS
Band12	5MHz	16QAM	23035	25RB#0	21.34	13.63	36.98	PASS
Band12	5MHz	16QAM	23095	1RB#0	22.28	14.57	36.98	PASS
Band12	5MHz	16QAM	23095	1RB#12	22.53	14.82	36.98	PASS
Band12	5MHz	16QAM	23095	1RB#24	22.14	14.43	36.98	PASS
Band12	5MHz	16QAM	23095	12RB#0	21.15	13.44	36.98	PASS
Band12	5MHz	16QAM	23095	12RB#6	21.28	13.57	36.98	PASS
Band12	5MHz	16QAM	23095	12RB#13	21.31	13.60	36.98	PASS
Band12	5MHz	16QAM	23095	25RB#0	21.25	13.54	36.98	PASS
Band12	5MHz	16QAM	23155	1RB#0	22.27	14.56	36.98	PASS



Band12	5MHz	16QAM	23155	1RB#12	22.49	14.78	36.98	PASS
Band12	5MHz	16QAM	23155	1RB#24	22.22	14.51	36.98	PASS
Band12	5MHz	16QAM	23155	12RB#0	21.35	13.64	36.98	PASS
Band12	5MHz	16QAM	23155	12RB#6	21.22	13.51	36.98	PASS
Band12	5MHz	16QAM	23155	12RB#13	21.15	13.44	36.98	PASS
Band12	5MHz	16QAM	23155	25RB#0	21.22	13.51	36.98	PASS
Band12	10MHz	QPSK	23060	1RB#0	23.23	15.52	36.98	PASS
Band12	10MHz	QPSK	23060	1RB#24	23.30	15.59	36.98	PASS
Band12	10MHz	QPSK	23060	1RB#49	23.15	15.44	36.98	PASS
Band12	10MHz	QPSK	23060	25RB#0	22.58	14.87	36.98	PASS
Band12	10MHz	QPSK	23060	25RB#12	22.43	14.72	36.98	PASS
Band12	10MHz	QPSK	23060	25RB#25	22.53	14.82	36.98	PASS
Band12	10MHz	QPSK	23060	50RB#0	22.59	14.88	36.98	PASS
Band12	10MHz	QPSK	23095	1RB#0	23.25	15.54	36.98	PASS
Band12	10MHz	QPSK	23095	1RB#24	23.26	15.55	36.98	PASS
Band12	10MHz	QPSK	23095	1RB#49	23.11	15.40	36.98	PASS
Band12	10MHz	QPSK	23095	25RB#0	22.31	14.60	36.98	PASS
Band12	10MHz	QPSK	23095	25RB#12	22.35	14.64	36.98	PASS
Band12	10MHz	QPSK	23095	25RB#25	22.38	14.67	36.98	PASS
Band12	10MHz	QPSK	23095	50RB#0	22.37	14.66	36.98	PASS
Band12	10MHz	QPSK	23130	1RB#0	23.19	15.48	36.98	PASS
Band12	10MHz	QPSK	23130	1RB#24	23.21	15.50	36.98	PASS
Band12	10MHz	QPSK	23130	1RB#49	23.08	15.37	36.98	PASS
Band12	10MHz	QPSK	23130	25RB#0	22.20	14.49	36.98	PASS
Band12	10MHz	QPSK	23130	25RB#12	22.29	14.58	36.98	PASS
Band12	10MHz	QPSK	23130	25RB#25	22.05	14.34	36.98	PASS
Band12	10MHz	QPSK	23130	50RB#0	22.14	14.43	36.98	PASS
Band12	10MHz	16QAM	23060	1RB#0	22.38	14.67	36.98	PASS
Band12	10MHz	16QAM	23060	1RB#24	22.58	14.87	36.98	PASS
Band12	10MHz	16QAM	23060	1RB#49	22.31	14.60	36.98	PASS
Band12	10MHz	16QAM	23060	25RB#0	21.53	13.82	36.98	PASS
Band12	10MHz	16QAM	23060	25RB#12	21.33	13.62	36.98	PASS
Band12	10MHz	16QAM	23060	25RB#25	21.46	13.75	36.98	PASS
Band12	10MHz	16QAM	23060	50RB#0	21.52	13.81	36.98	PASS
Band12	10MHz	16QAM	23095	1RB#0	22.43	14.72	36.98	PASS
Band12	10MHz	16QAM	23095	1RB#24	22.45	14.74	36.98	PASS
Band12	10MHz	16QAM	23095	1RB#49	22.30	14.59	36.98	PASS
Band12	10MHz	16QAM	23095	25RB#0	21.20	13.49	36.98	PASS
Band12	10MHz	16QAM	23095	25RB#12	21.24	13.53	36.98	PASS
Band12	10MHz	16QAM	23095	25RB#25	21.27	13.56	36.98	PASS
Band12	10MHz	16QAM	23095	50RB#0	21.34	13.63	36.98	PASS
Band12	10MHz	16QAM	23130	1RB#0	22.42	14.71	36.98	PASS

Band12	10MHz	16QAM	23130	1RB#24	22.49	14.78	36.98	PASS
Band12	10MHz	16QAM	23130	1RB#49	22.29	14.58	36.98	PASS
Band12	10MHz	16QAM	23130	25RB#0	21.12	13.41	36.98	PASS
Band12	10MHz	16QAM	23130	25RB#12	21.22	13.51	36.98	PASS
Band12	10MHz	16QAM	23130	25RB#25	21.01	13.30	36.98	PASS
Band12	10MHz	16QAM	23130	50RB#0	21.07	13.36	36.98	PASS

Remark:

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

$$ERP [dBm] = SGP [dBm] - Cable Loss [dB] + Gain [dBd]$$

$$EIRP [dBm] = SGP [dBm] - Cable Loss [dB] + Gain [dBi]$$

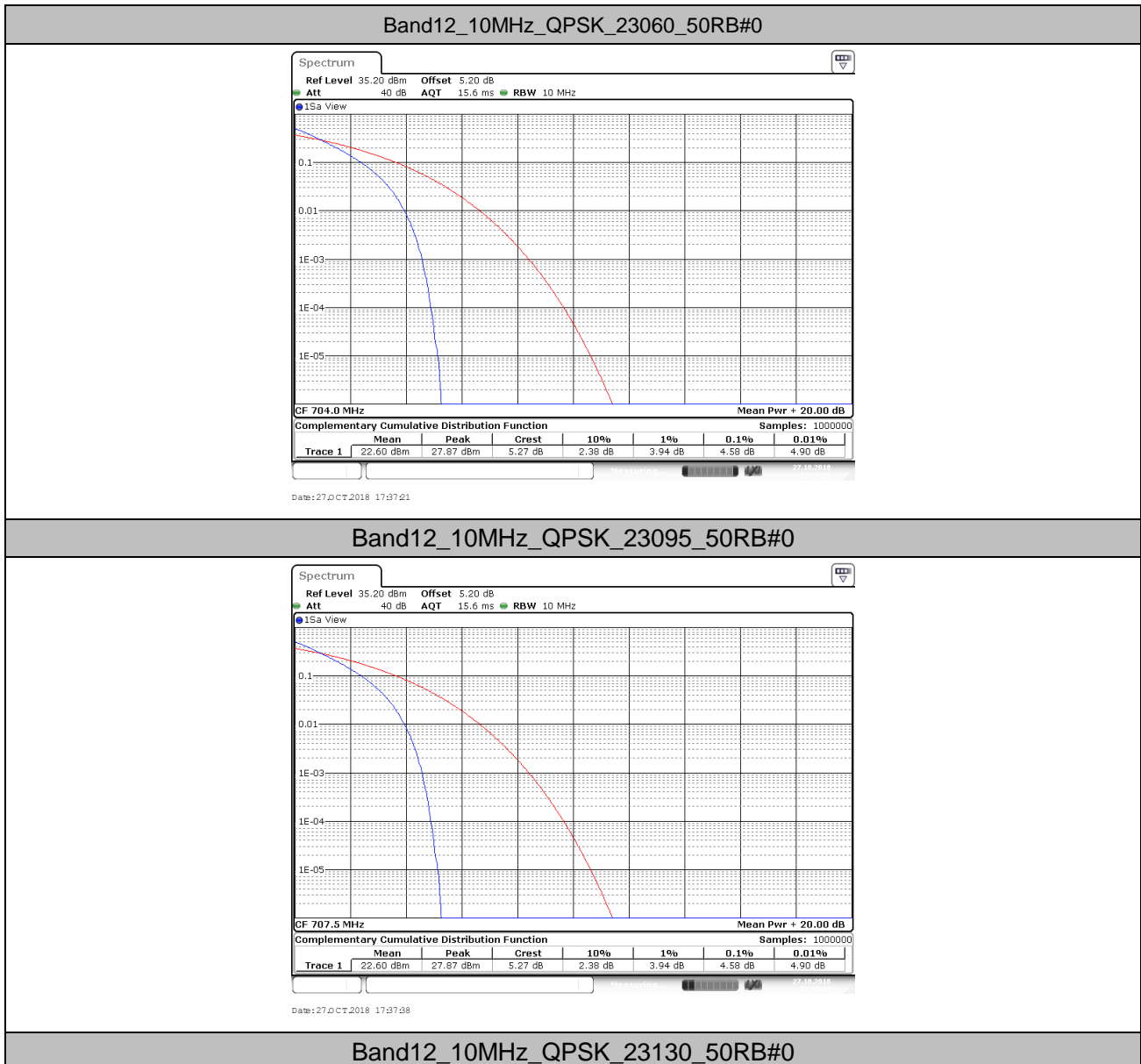
b: SGP=Signal Generator Level

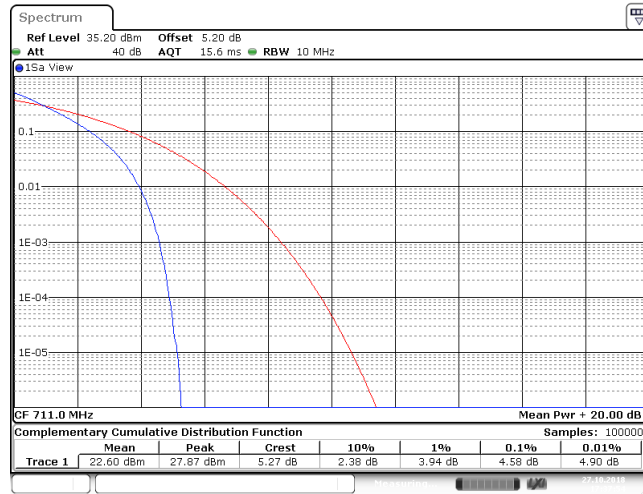
2. Peak-to-Average Ratio(CCDF)

2.1. Test Result

BAND	Bandwidth	Modulation	Channel	RB Configuration	Result(dB)	Limit(dB)	Verdict
Band12	10MHz	QPSK	23060	50RB#0	4.58	13	PASS
Band12	10MHz	QPSK	23095	50RB#0	4.58	13	PASS
Band12	10MHz	QPSK	23130	50RB#0	4.58	13	PASS
Band12	10MHz	16QAM	23060	50RB#0	4.58	13	PASS
Band12	10MHz	16QAM	23095	50RB#0	4.58	13	PASS
Band12	10MHz	16QAM	23130	50RB#0	4.58	13	PASS

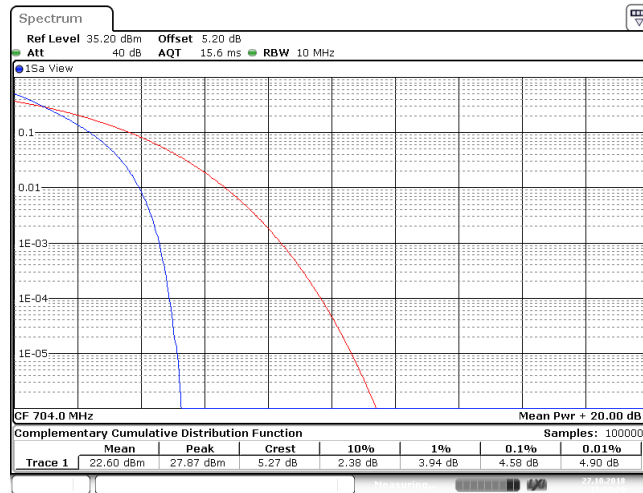
2.2. Test Plots





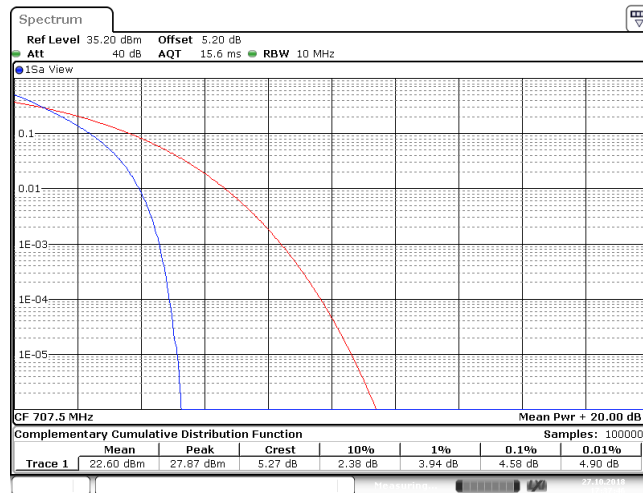
Date: 27.OCT.2018 17:37:54

Band12_10MHz_16QAM_23060_50RB#0



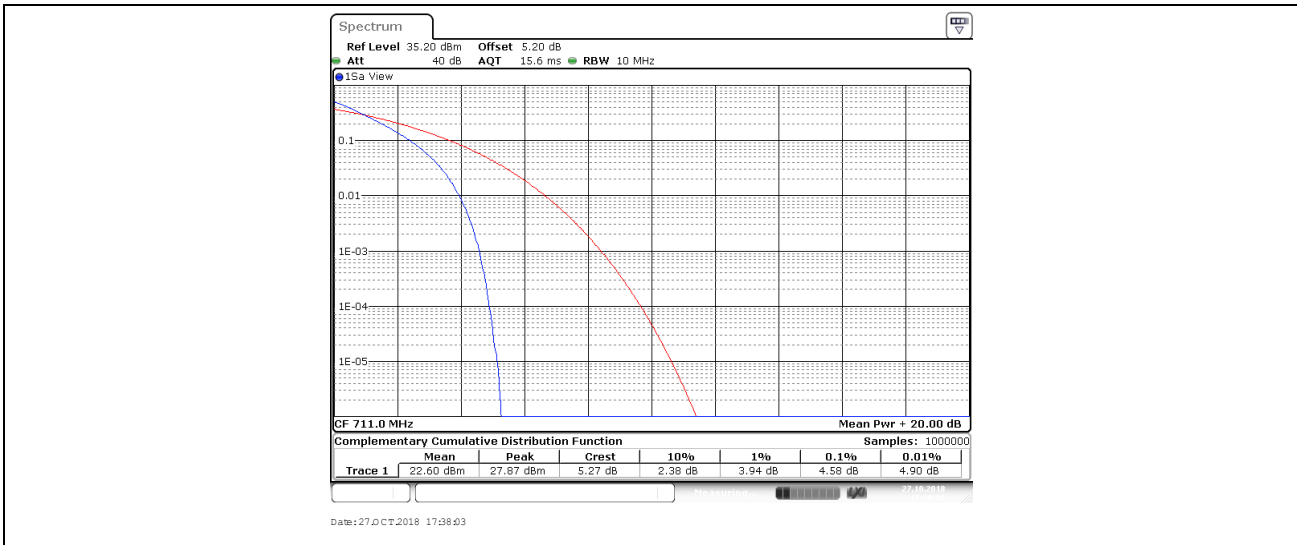
Date: 27.OCT.2018 17:37:29

Band12_10MHz_16QAM_23095_50RB#0



Date: 27.OCT.2018 17:37:46

Band12_10MHz_16QAM_23130_50RB#0

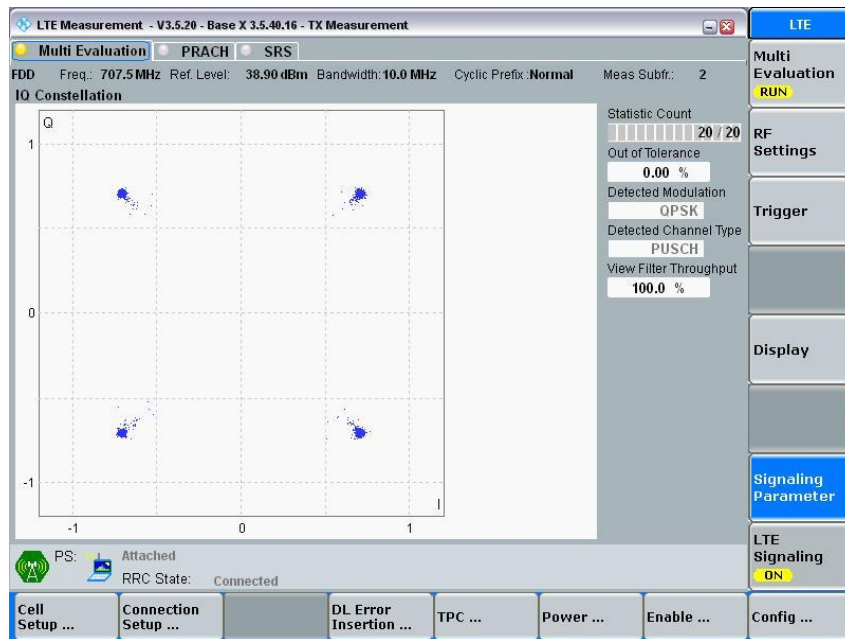


3. Modulation Characteristics

3.1. Test BAND = LTE BAND12

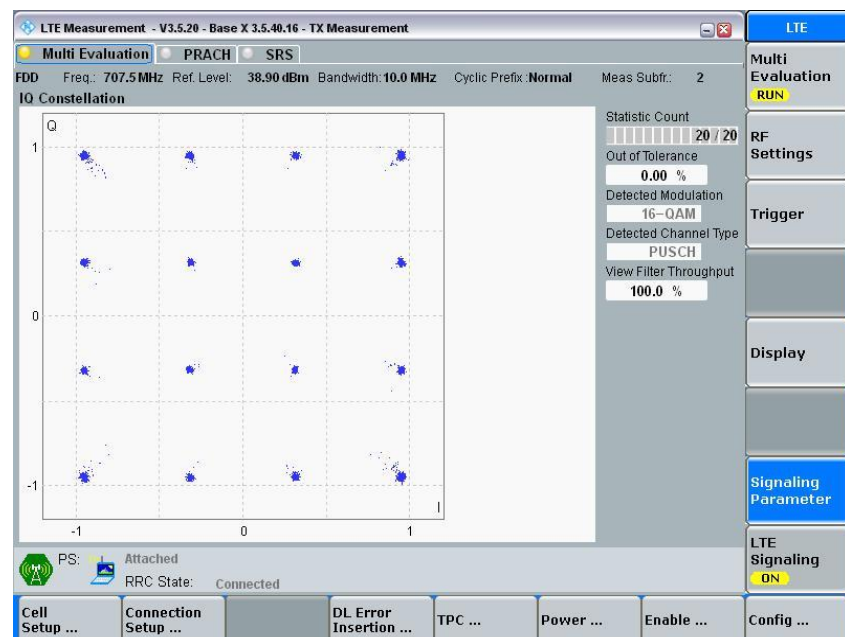
3.1.1. Test Mode = LTE /TM1 10MHz

3.1.1.1. Test Channel = MCH



3.1.2. Test Mode = LTE /TM2 10MHz

3.1.2.1. Test Channel = MCH

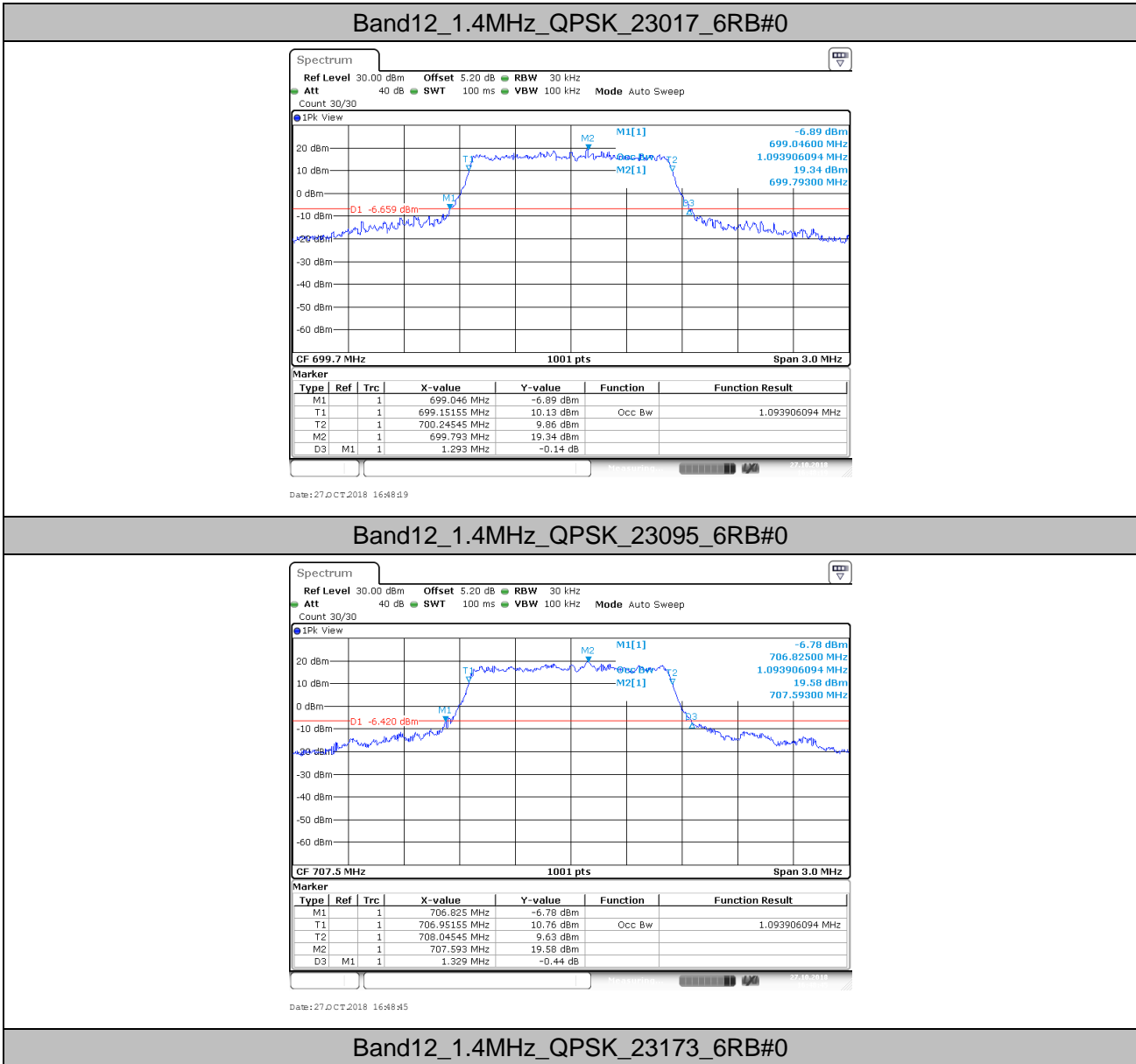


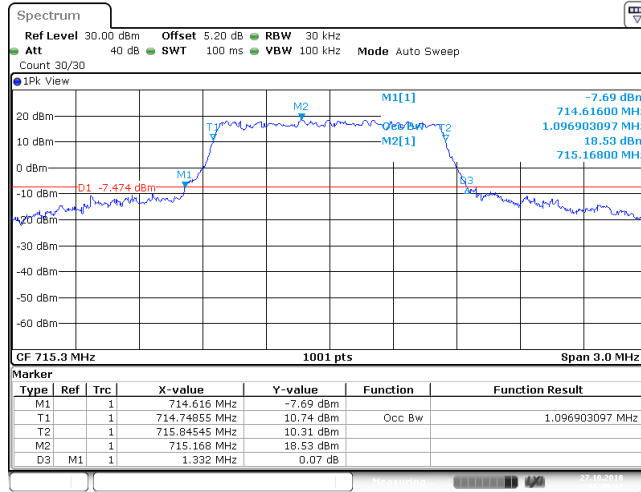
4. 26dB Bandwidth and Occupied Bandwidth

4.1. Test Result

BAND	Bandwidth	Modulation	Channel	RB Configuration	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
Band12	1.4MHz	QPSK	23017	6RB#0	1.094	1.293	PASS
Band12	1.4MHz	QPSK	23095	6RB#0	1.094	1.329	PASS
Band12	1.4MHz	QPSK	23173	6RB#0	1.097	1.332	PASS
Band12	1.4MHz	16QAM	23017	6RB#0	1.091	1.299	PASS
Band12	1.4MHz	16QAM	23095	6RB#0	1.094	1.317	PASS
Band12	1.4MHz	16QAM	23173	6RB#0	1.094	1.323	PASS
Band12	3MHz	QPSK	23025	15RB#0	2.685	2.922	PASS
Band12	3MHz	QPSK	23095	15RB#0	2.697	2.934	PASS
Band12	3MHz	QPSK	23165	15RB#0	2.691	2.934	PASS
Band12	3MHz	16QAM	23025	15RB#0	2.679	2.892	PASS
Band12	3MHz	16QAM	23095	15RB#0	2.679	2.898	PASS
Band12	3MHz	16QAM	23165	15RB#0	2.685	2.910	PASS
Band12	5MHz	QPSK	23035	25RB#0	4.486	5.060	PASS
Band12	5MHz	QPSK	23095	25RB#0	4.486	5.110	PASS
Band12	5MHz	QPSK	23155	25RB#0	4.486	5.050	PASS
Band12	5MHz	16QAM	23035	25RB#0	4.496	5.050	PASS
Band12	5MHz	16QAM	23095	25RB#0	4.496	5.240	PASS
Band12	5MHz	16QAM	23155	25RB#0	4.496	5.040	PASS
Band12	10MHz	QPSK	23060	50RB#0	8.971	9.920	PASS
Band12	10MHz	QPSK	23095	50RB#0	8.951	9.940	PASS
Band12	10MHz	QPSK	23130	50RB#0	8.911	9.760	PASS
Band12	10MHz	16QAM	23060	50RB#0	8.971	9.880	PASS
Band12	10MHz	16QAM	23095	50RB#0	8.971	9.940	PASS
Band12	10MHz	16QAM	23130	50RB#0	8.911	9.780	PASS

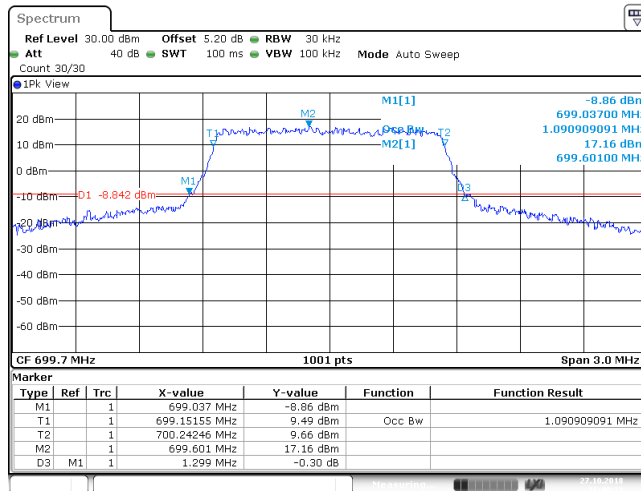
4.2. Test Plots





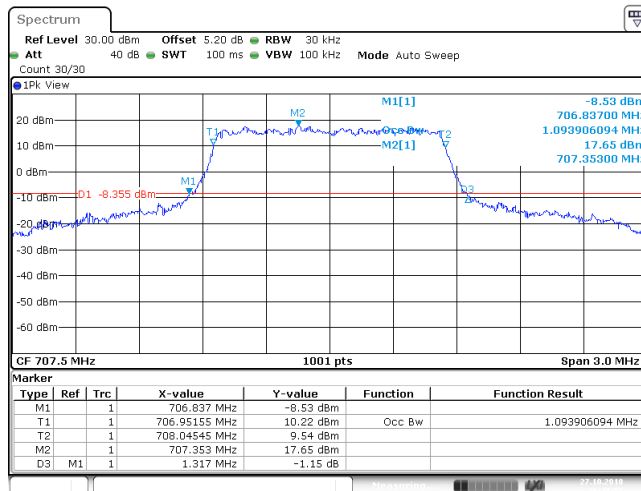
Date: 27.OCT.2018 16:49:12

Band12_1.4MHz_16QAM_23017_6RB#0



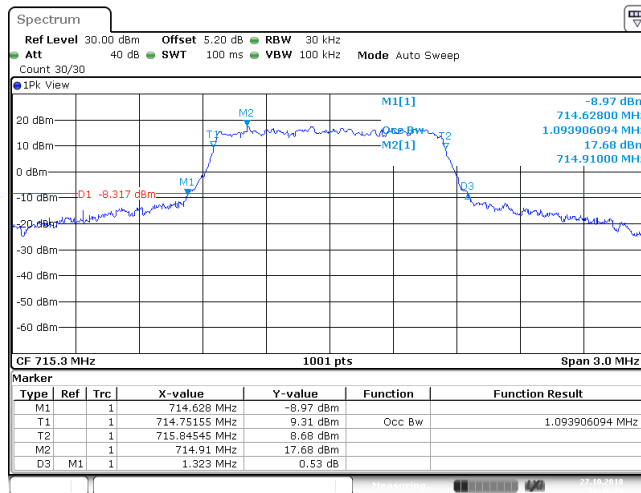
Date: 27.OCT.2018 16:48:32

Band12_1.4MHz_16QAM_23095_6RB#0



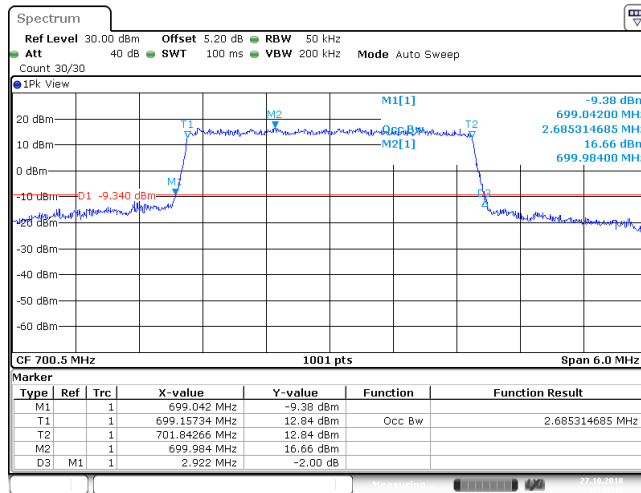
Date: 27.OCT.2018 16:48:58

Band12_1.4MHz_16QAM_23173_6RB#0



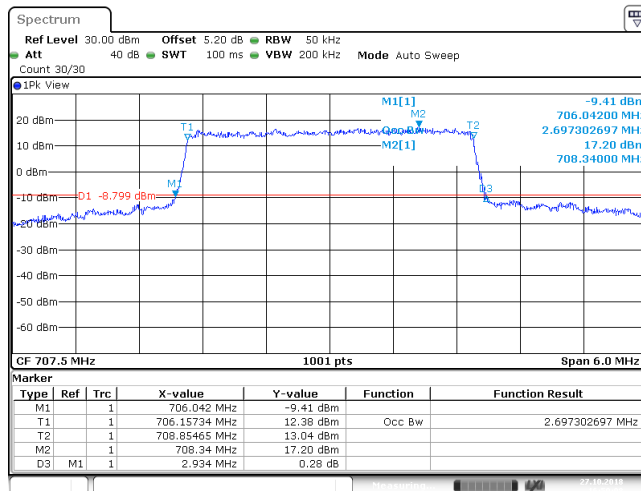
Date: 27.OCT.2018 16:49:24

Band12_3MHz_QPSK_23025_15RB#0



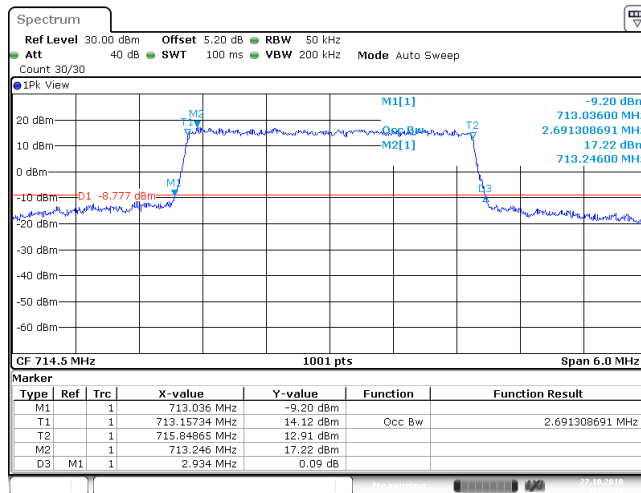
Date: 27.OCT.2018 16:49:42

Band12_3MHz_QPSK_23095_15RB#0



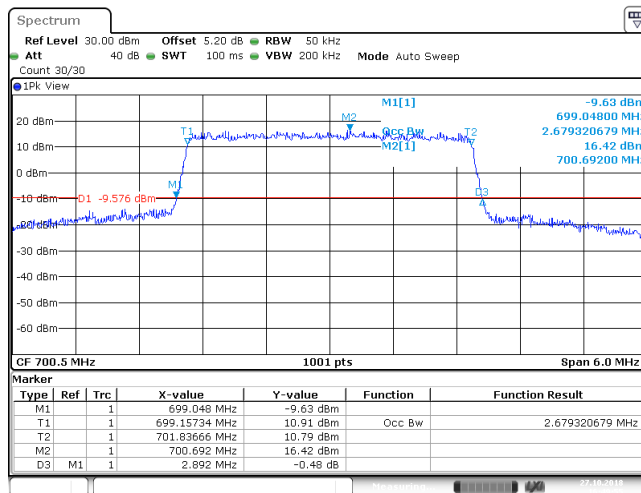
Date: 27.OCT.2018 16:50:08

Band12_3MHz_QPSK_23165_15RB#0



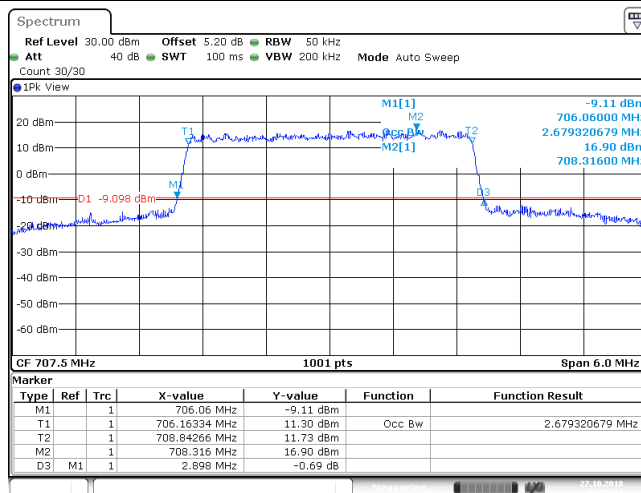
Date: 27.OCT.2018 16:50:35

Band12_3MHz_16QAM_23025_15RB#0



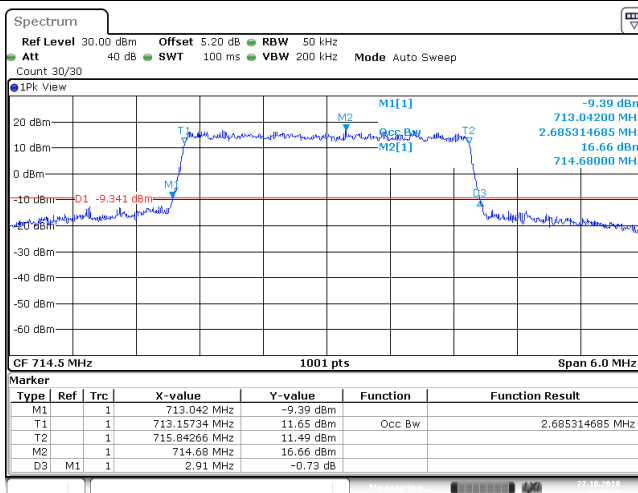
Date: 27.OCT.2018 16:49:55

Band12_3MHz_16QAM_23095_15RB#0



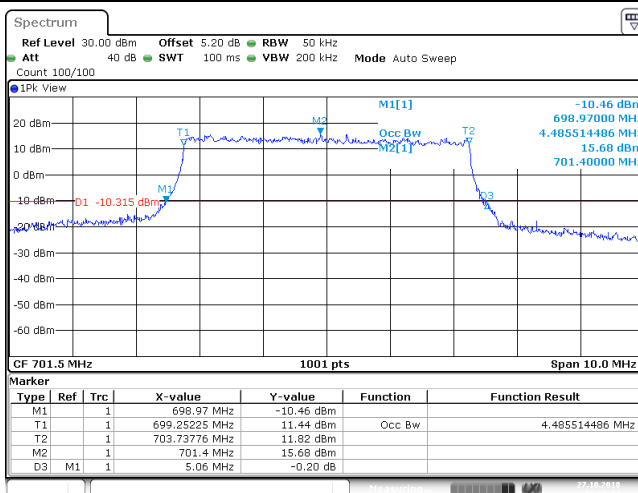
Date: 27.OCT.2018 16:50:21

Band12_3MHz_16QAM_23165_15RB#0



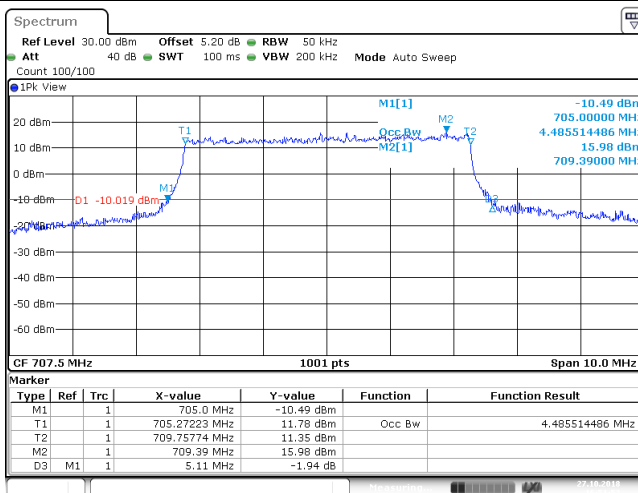
Date: 27.OCT.2018 16:50:47

Band12_5MHz_QPSK_23035_25RB#0



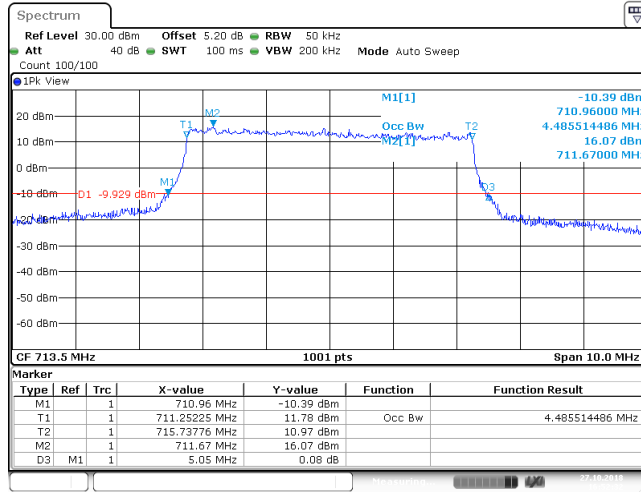
Date: 27.OCT.2018 16:51:42

Band12_5MHz_QPSK_23095_25RB#0



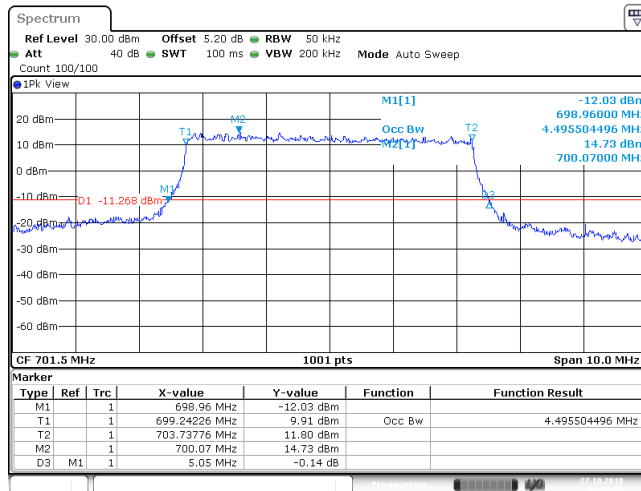
Date: 27.OCT.2018 16:51:52

Band12_5MHz_QPSK_23155_25RB#0



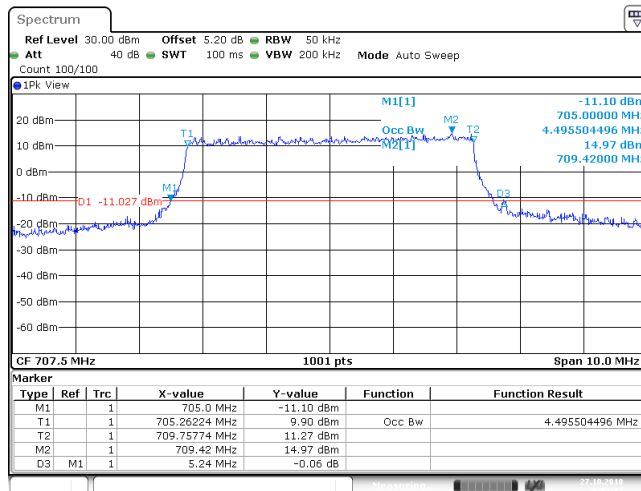
Date: 27.OCT.2018 16:52:32

Band12_5MHz_16QAM_23035_25RB#0



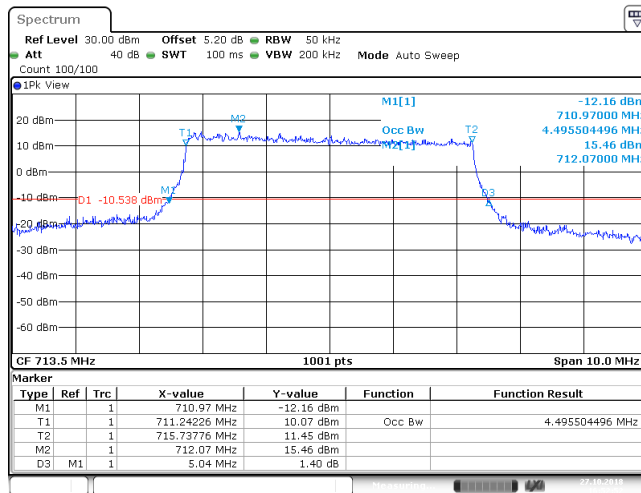
Date: 27.OCT.2018 16:51:32

Band12_5MHz_16QAM_23095_25RB#0



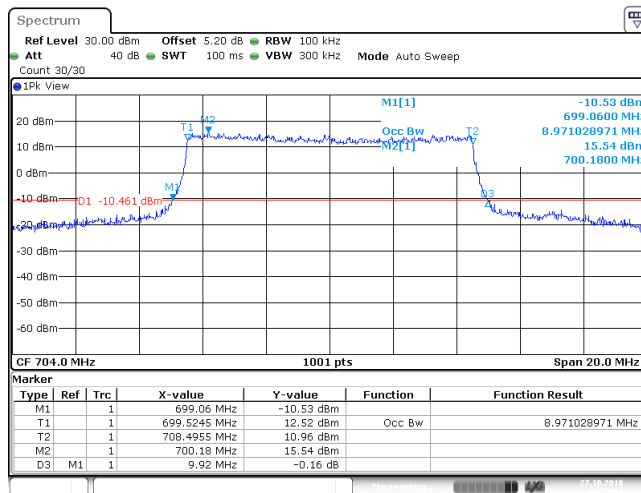
Date: 27.OCT.2018 16:52:12

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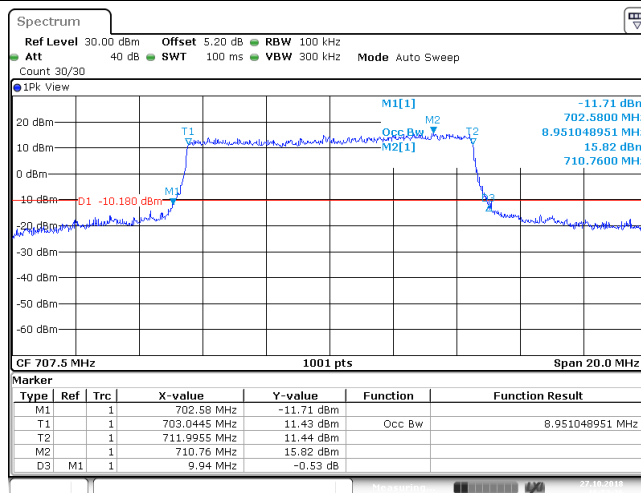
Date: 27.OCT.2018 16:52:52

Band12_10MHz_QPSK_23060_50RB#0



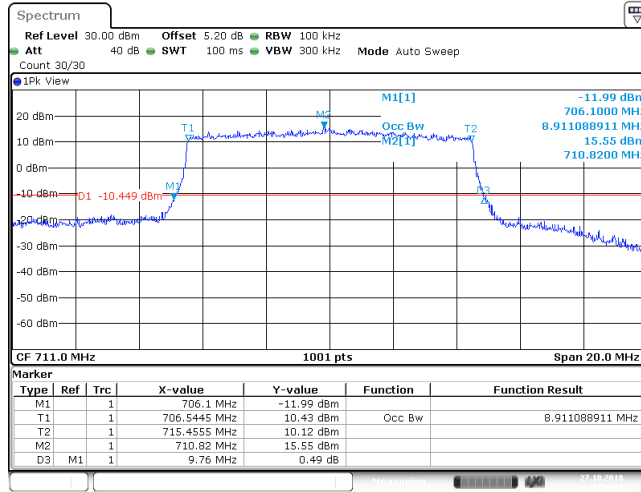
Date: 27.OCT.2018 16:53:10

Band12_10MHz_QPSK_23095_50RB#0



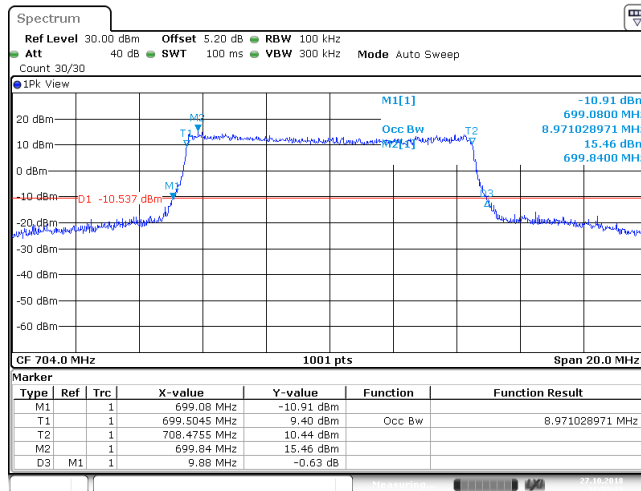
Date: 27.OCT.2018 16:53:36

Band12_10MHz_QPSK_23130_50RB#0



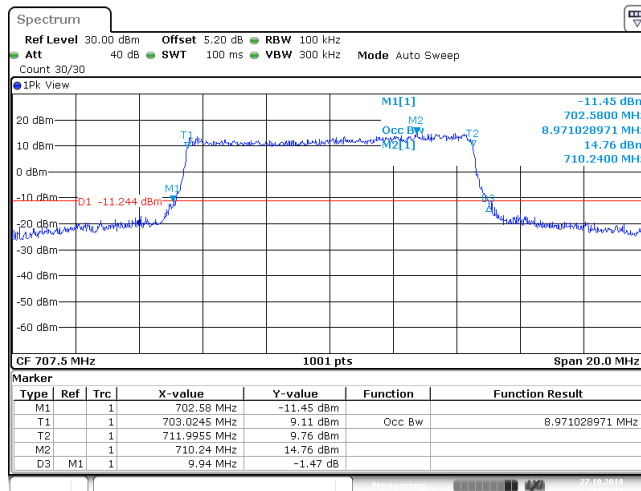
Date: 27/OCT/2018 16:54:02

Band12_10MHz_16QAM_23060_50RB#0



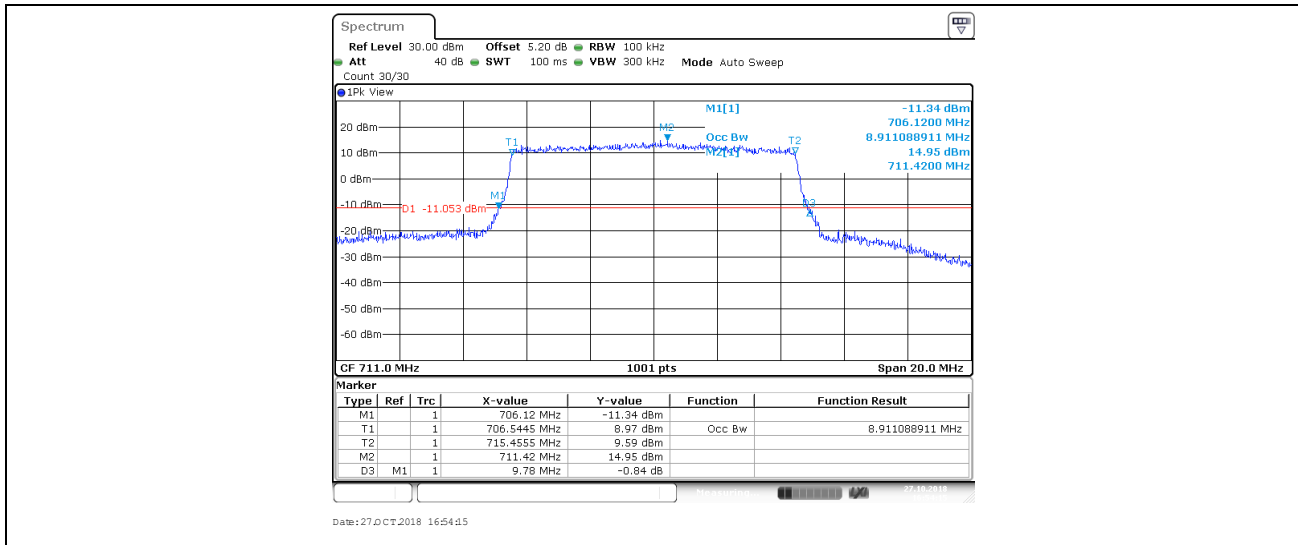
Date: 27/OCT/2018 16:53:23

Band12_10MHz_16QAM_23095_50RB#0



Date: 27/OCT/2018 16:53:49

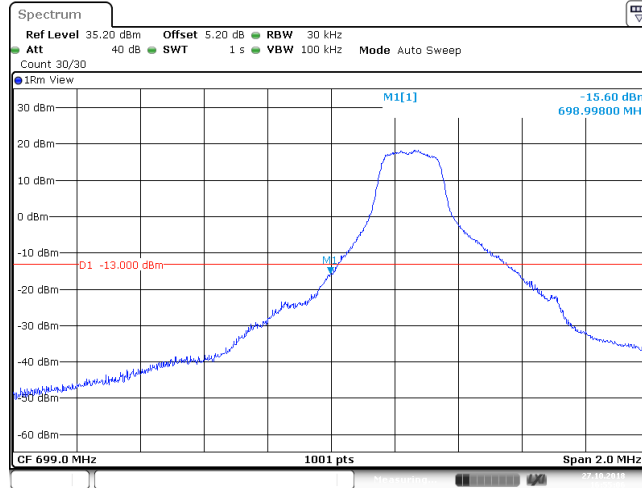
Band12_10MHz_16QAM_23130_50RB#0



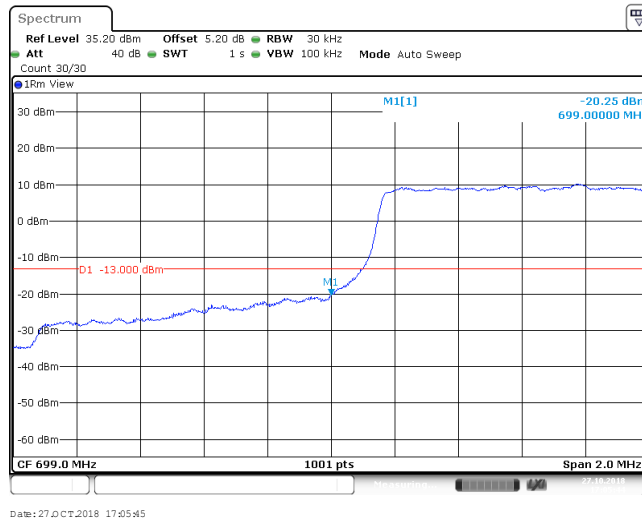
5. Band Edge Compliance

5.1. Test Plots

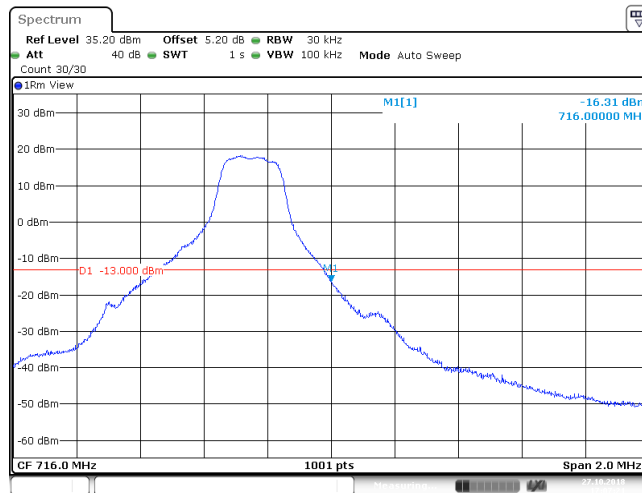
Band12_1.4MHz_QPSK_23017_1RB#0



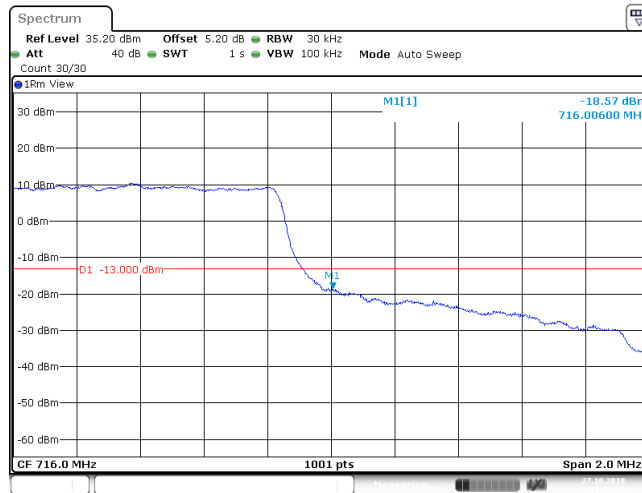
Band12_1.4MHz_QPSK_23017_6RB#0



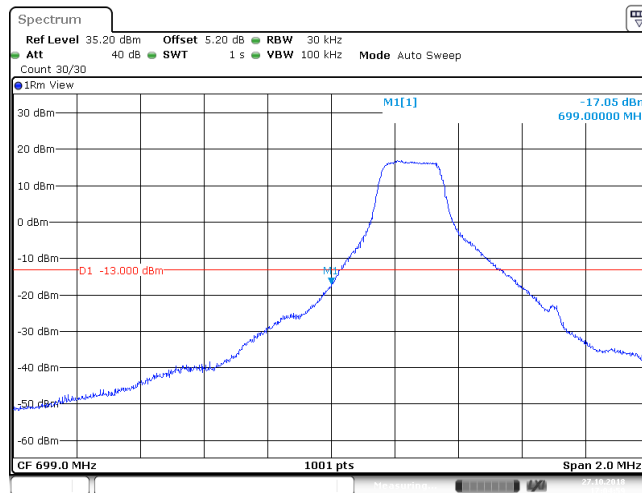
Band12_1.4MHz_QPSK_23173_1RB#5



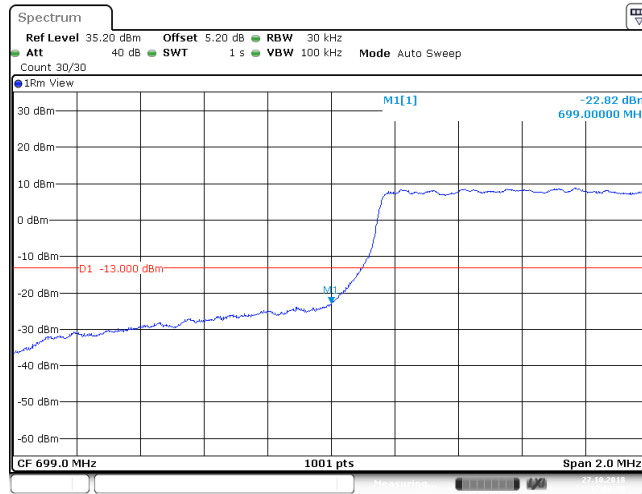
Band12_1.4MHz_QPSK_23173_6RB#0



Band12_1.4MHz_16QAM_23017_1RB#0

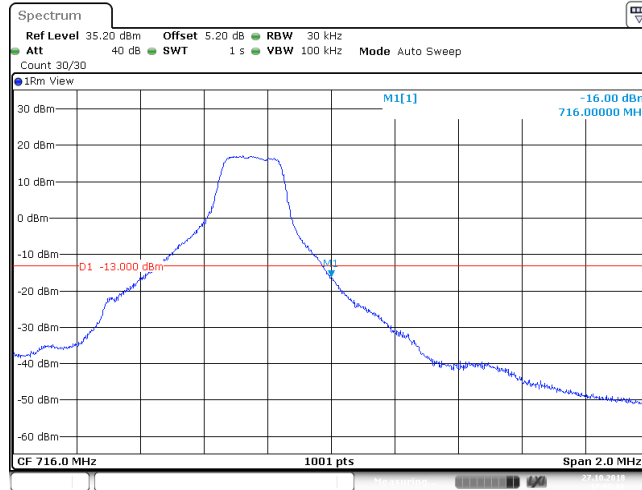


Band12_1.4MHz_16QAM_23017_6RB#0



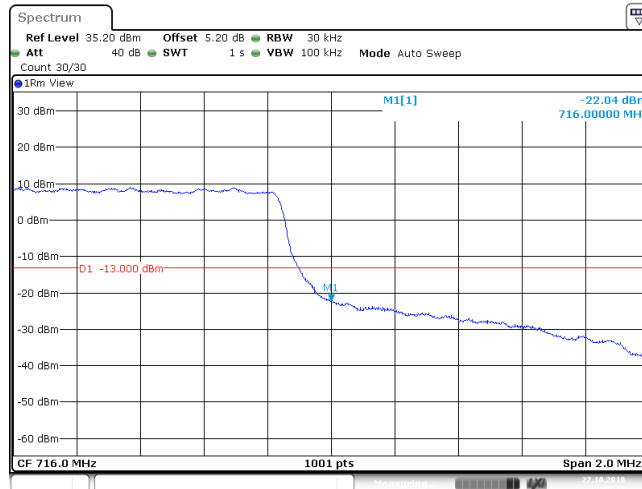
Date: 27 OCT 2018 17:06:31

Band12_1.4MHz_16QAM_23173_1RB#5



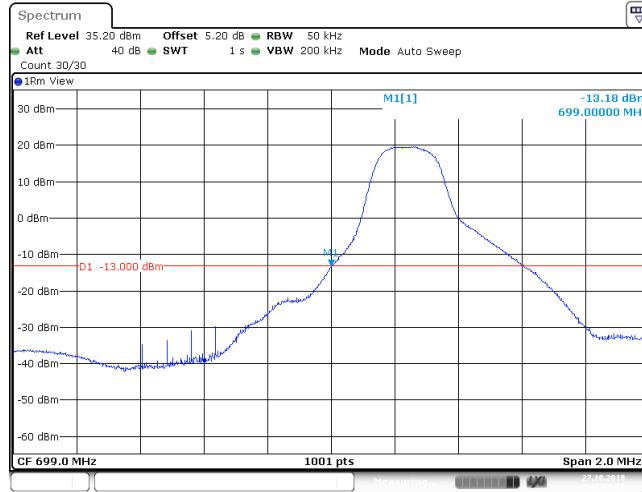
Date: 27 OCT 2018 17:08:06

Band12_1.4MHz_16QAM_23173_6RB#0



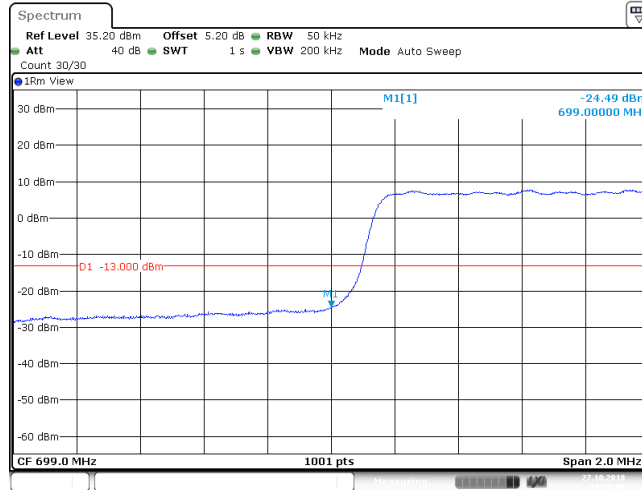
Date: 27 OCT 2018 17:09:38

Band12_3MHz_QPSK_23025_1RB#0



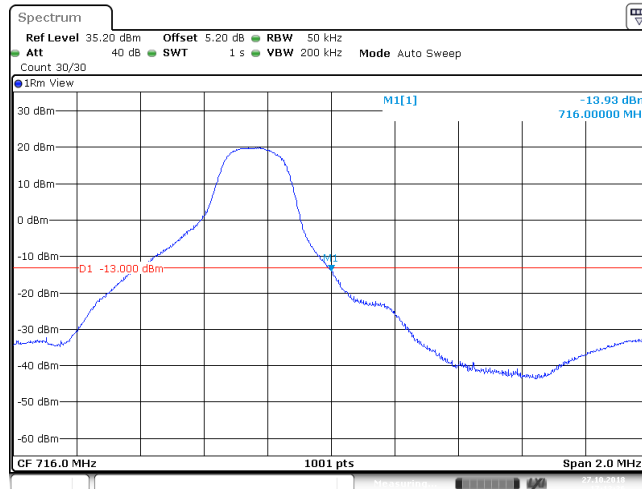
Date: 27 OCT 2018 17:10:28

Band12_3MHz_QPSK_23025_15RB#0



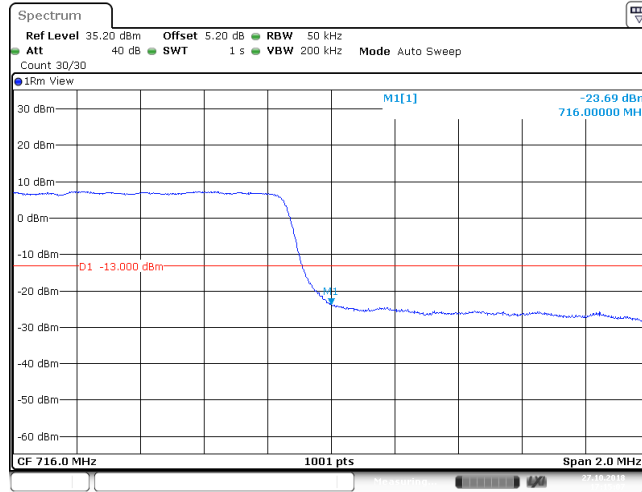
Date: 27 OCT 2018 17:12:00

Band12_3MHz_QPSK_23165_1RB#14



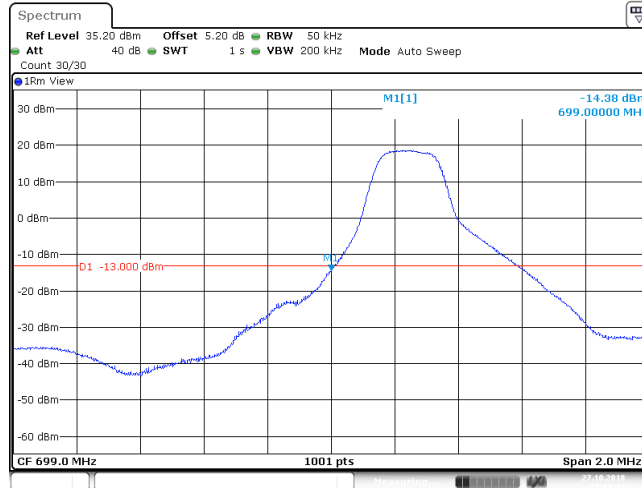
Date: 27 OCT 2018 17:13:06

Band12_3MHz_QPSK_23165_15RB#0



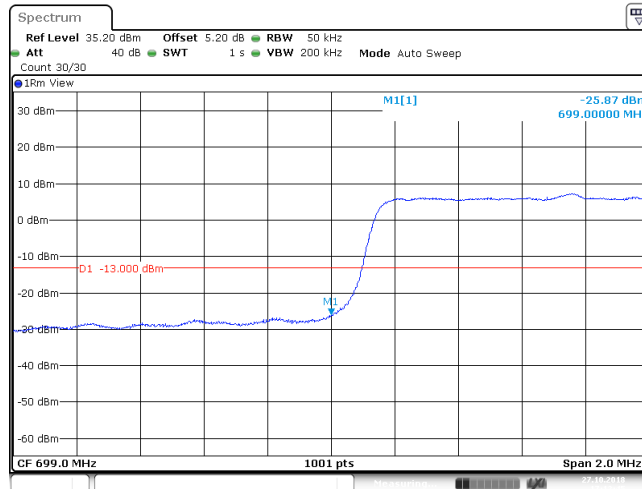
Date: 27 OCT 2018 17:15:07

Band12_3MHz_16QAM_23025_1RB#0



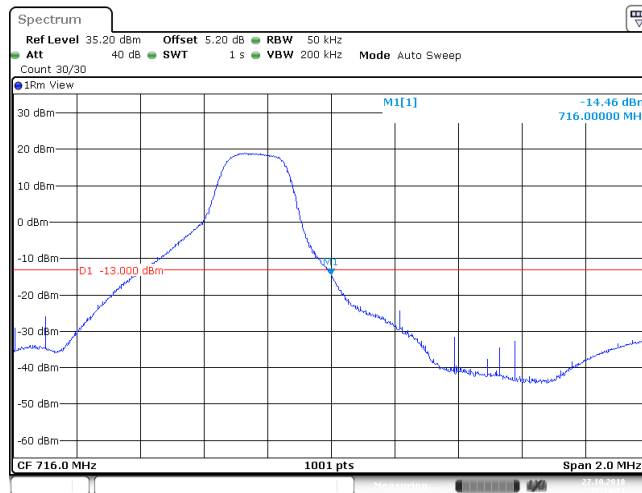
Date: 27 OCT 2018 17:11:14

Band12_3MHz_16QAM_23025_15RB#0



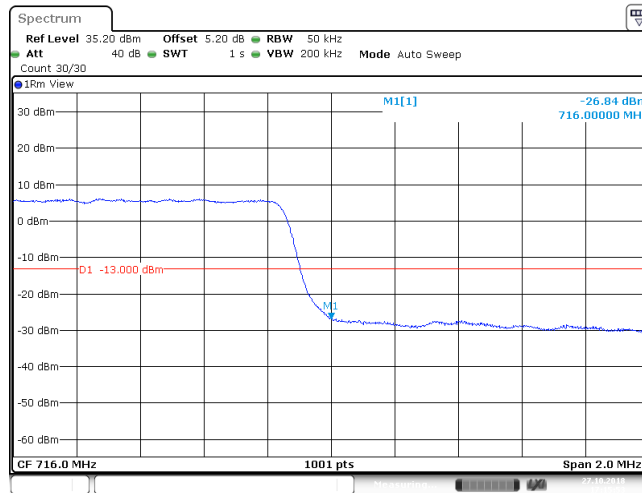
Date: 27 OCT 2018 17:12:46

Band12_3MHz_16QAM_23165_1RB#14



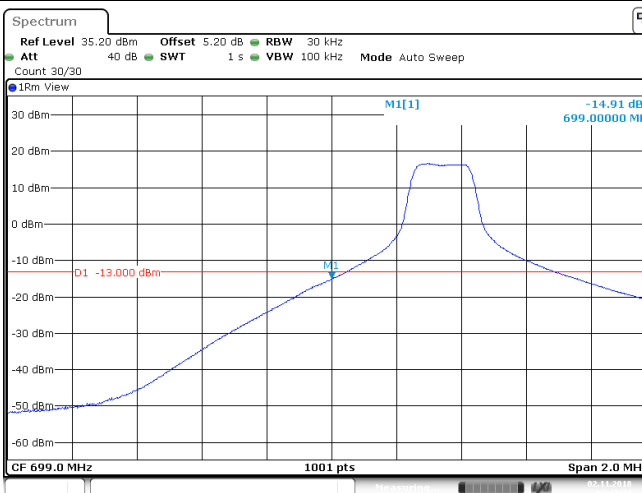
Date: 27 OCT 2018 17:14:21

Band12_3MHz_16QAM_23165_15RB#0



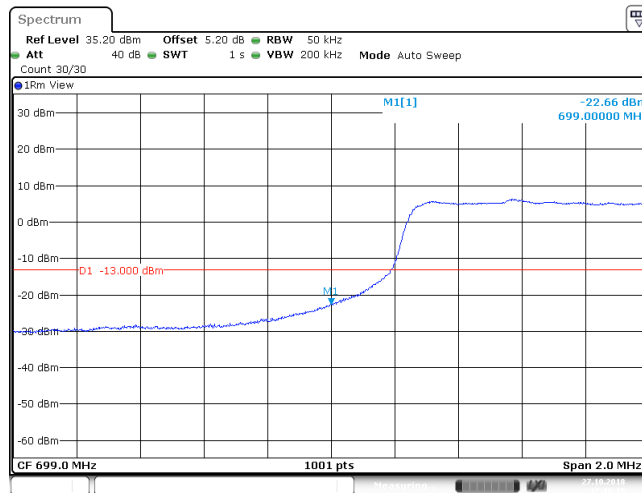
Date: 27 OCT 2018 17:15:53

Band12_5MHz_QPSK_23035_1RB#0



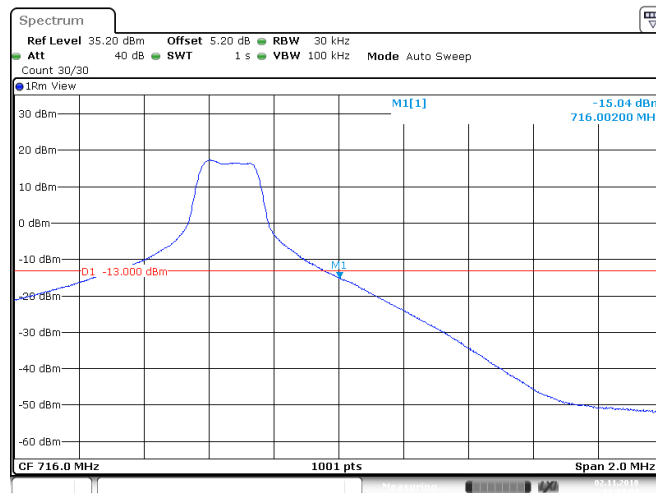
Date: 2 NOV 2018 11:42:33

Band12_5MHz_QPSK_23035_25RB#0



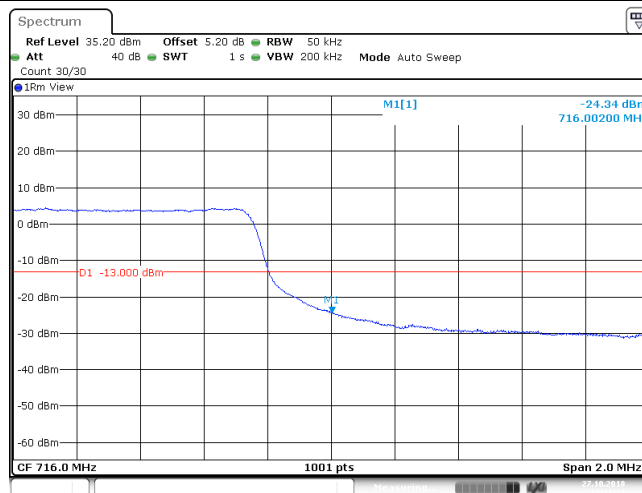
Date: 27 OCT 2018 17:18:15

Band12_5MHz_QPSK_23155_1RB#24



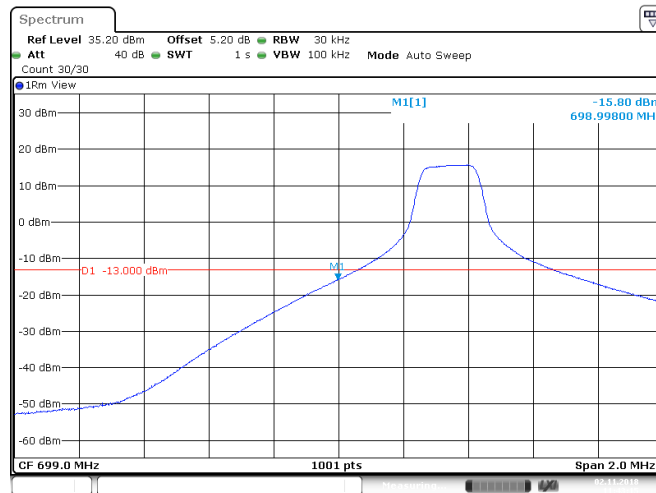
Date: 2 NOV 2018 11:44:05

Band12_5MHz_QPSK_23155_25RB#0



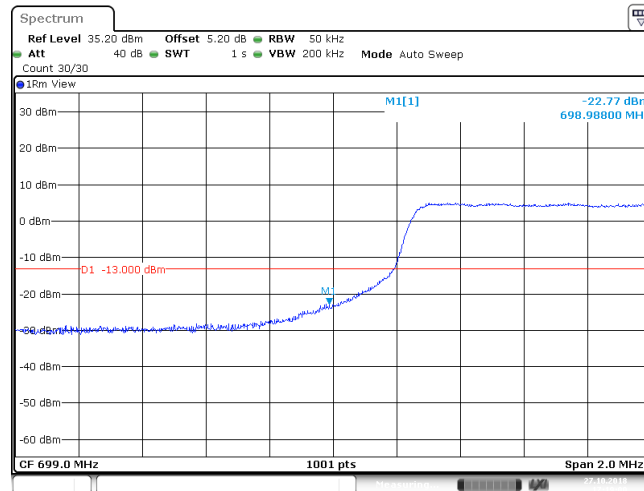
Date: 27 OCT 2018 17:21:22

Band12_5MHz_16QAM_23035_1RB#0



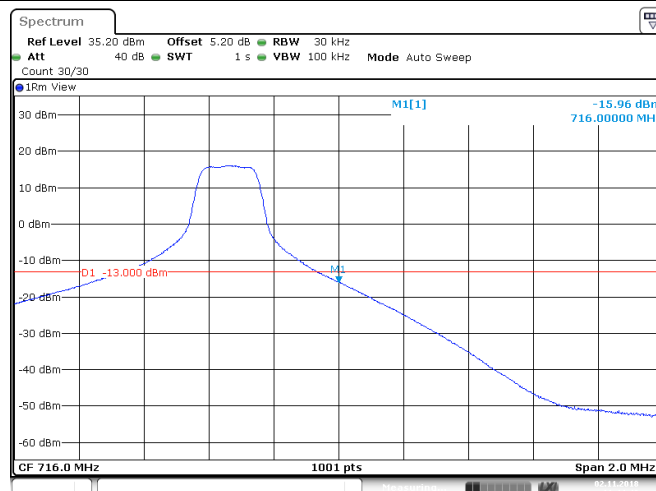
Date: 2 NOV 2018 11:43:16

Band12_5MHz_16QAM_23035_25RB#0



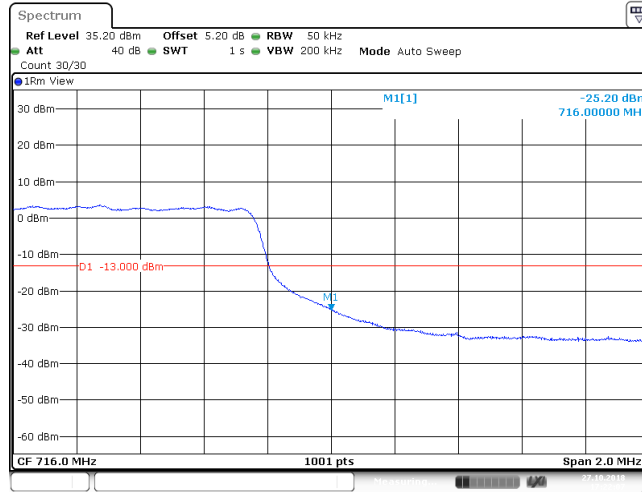
Date: 27 OCT 2018 17:19:01

Band12_5MHz_16QAM_23155_1RB#24



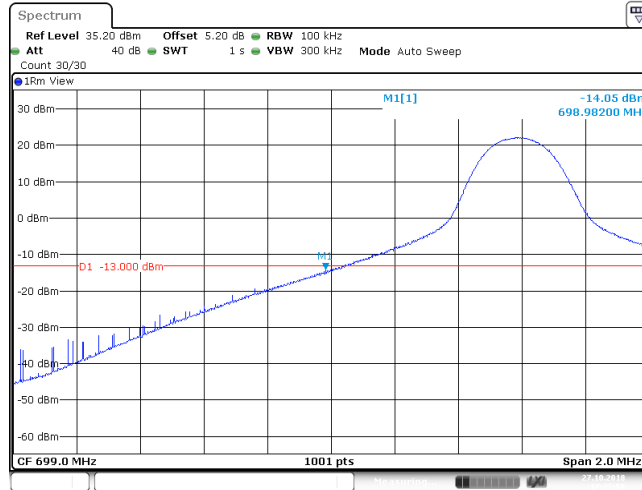
Date: 2 NOV 2018 11:44:48

Band12_5MHz_16QAM_23155_25RB#0



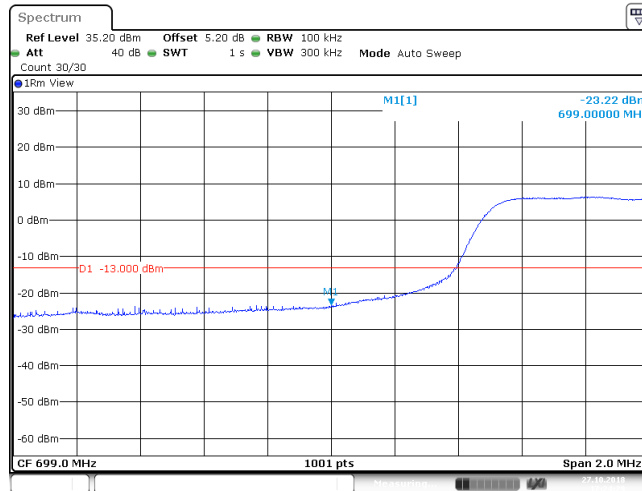
Date: 27 OCT 2018 17:22:28

Band12_10MHz_QPSK_23060_1RB#0



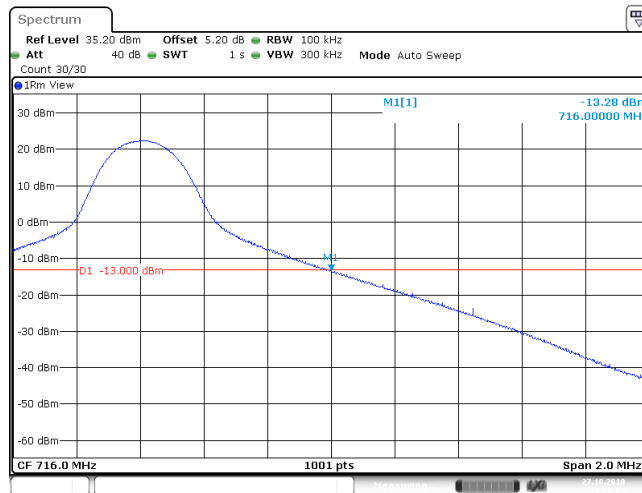
Date: 27 OCT 2018 17:22:58

Band12_10MHz_QPSK_23060_50RB#0



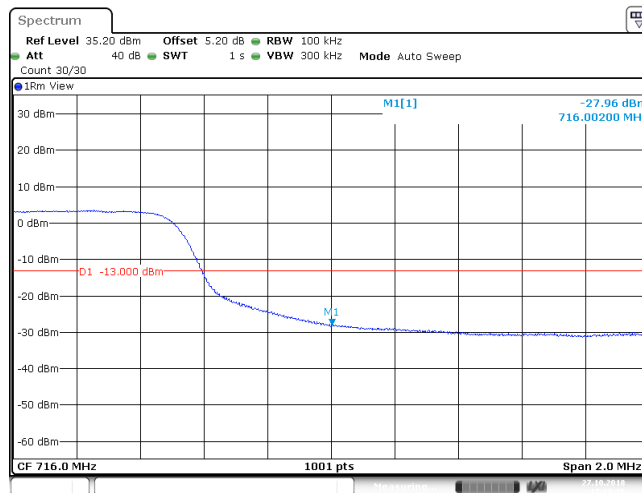
Date: 27 OCT 2018 17:24:30

Band12_10MHz_QPSK_23130_1RB#49



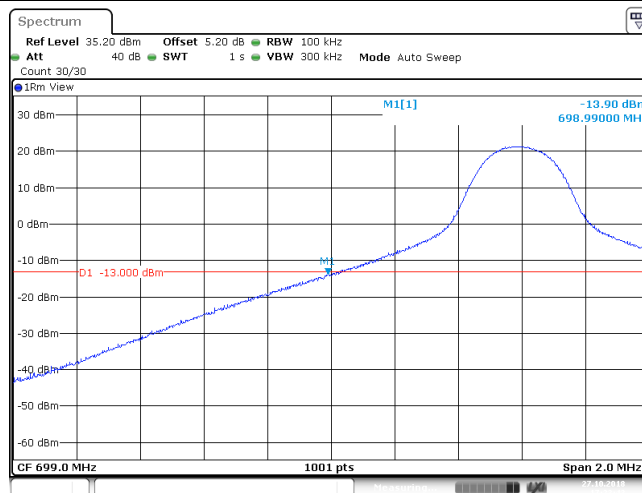
Date: 27 OCT 2018 17:26:05

Band12_10MHz_QPSK_23130_50RB#0



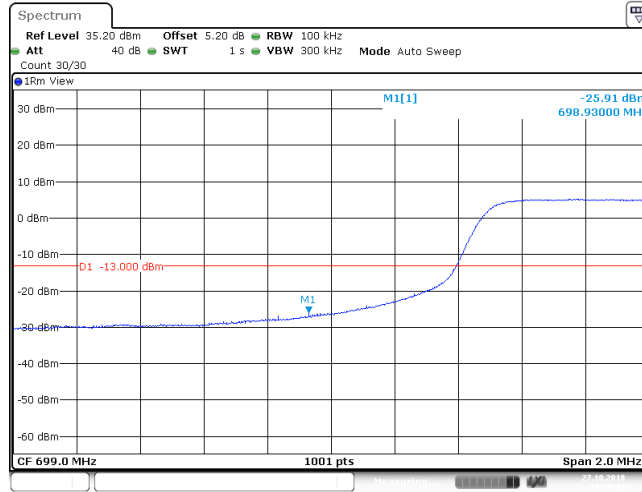
Date: 27 OCT 2018 17:27:37

Band12_10MHz_16QAM_23060_1RB#0

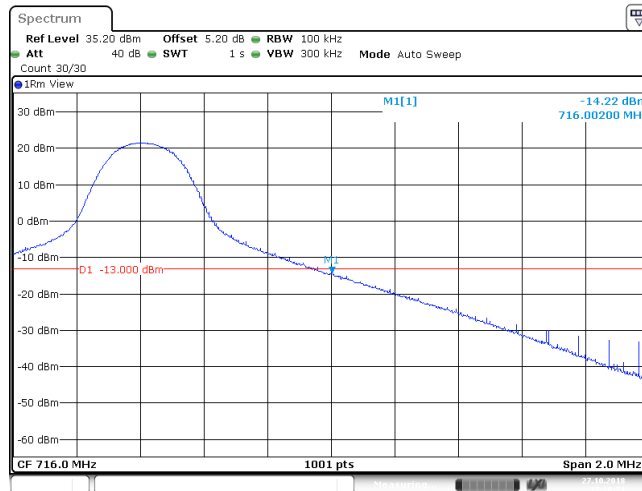


Date: 27 OCT 2018 17:23:44

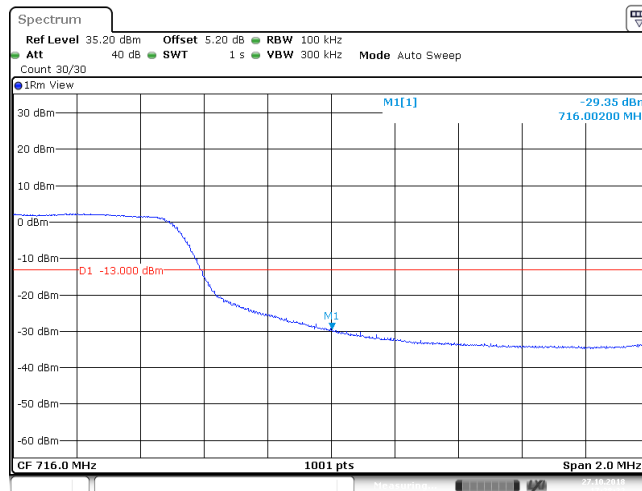
Band12_10MHz_16QAM_23060_50RB#0



Band12_10MHz_16QAM_23130_1RB#49



Band12_10MHz_16QAM_23130_50RB#0

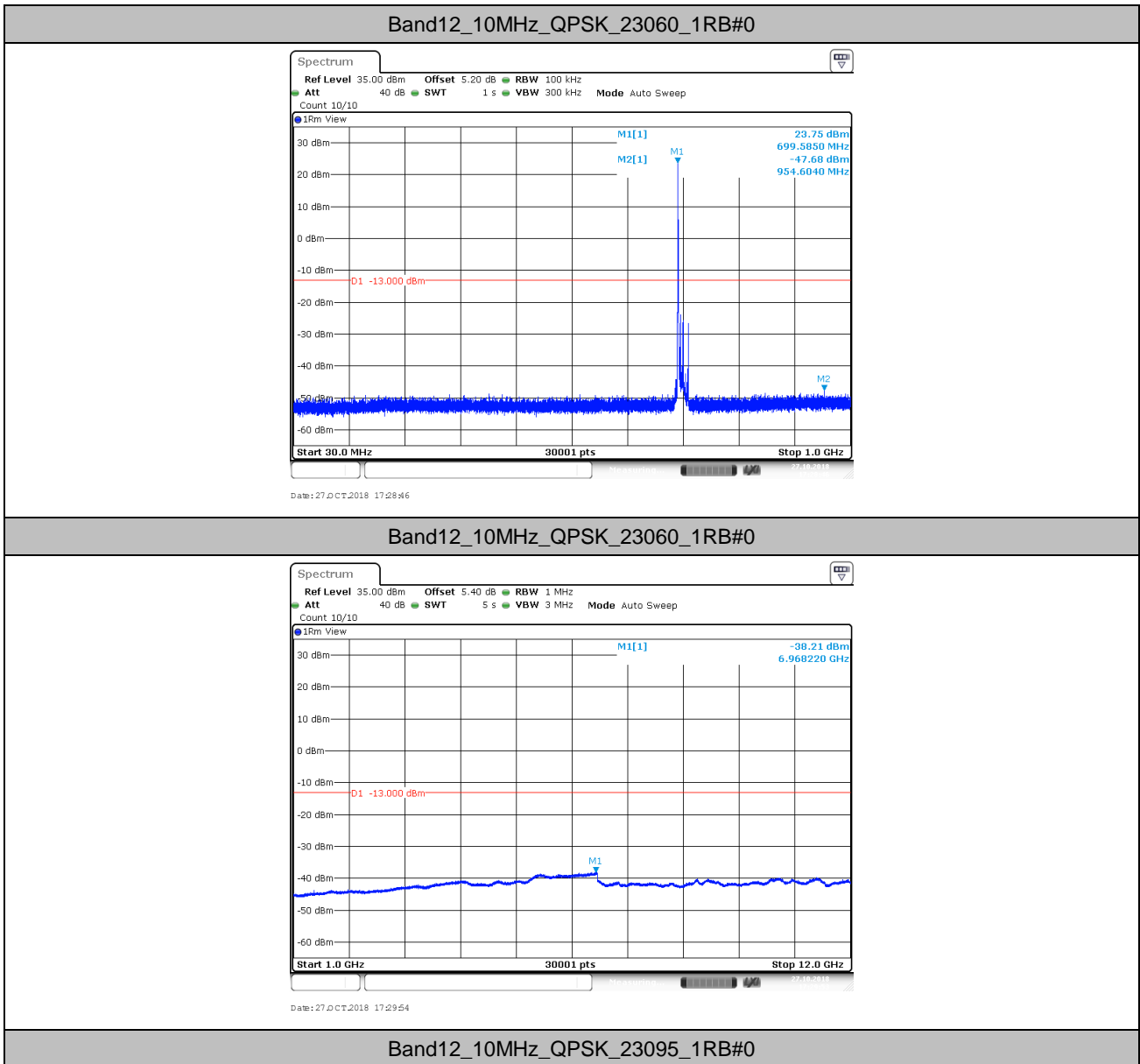


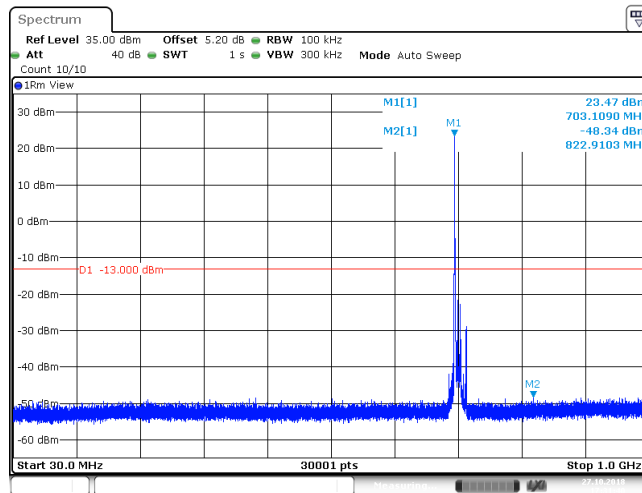
6. Spurious Emission at Antenna Terminal

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 = $k * (Span / RBW)$ " 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.

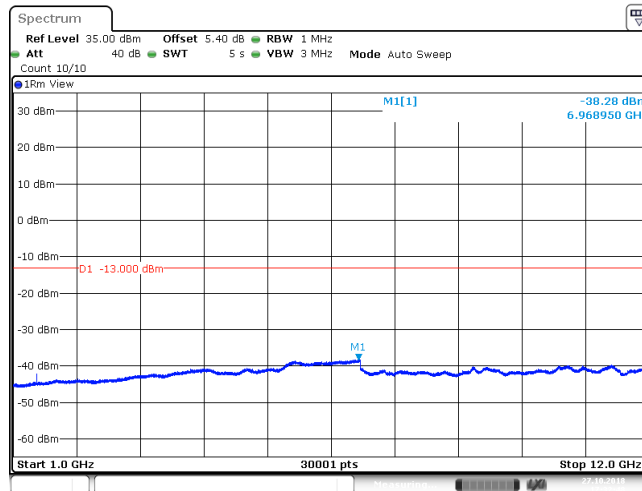
6.1. Test Plots





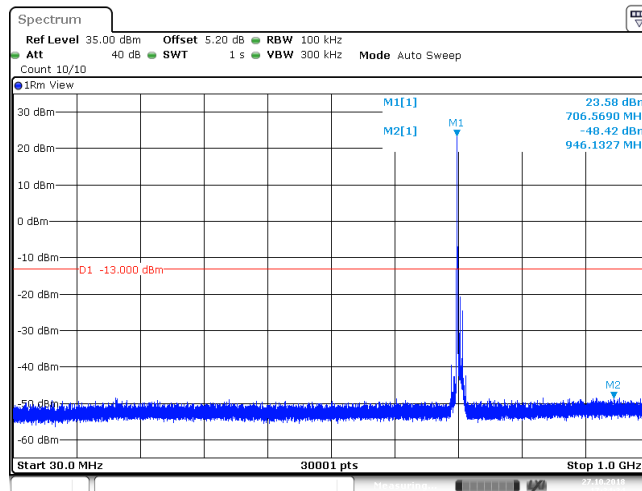
Date: 27 OCT 2018 17:31:40

Band12_10MHz_QPSK_23095_1RB#0



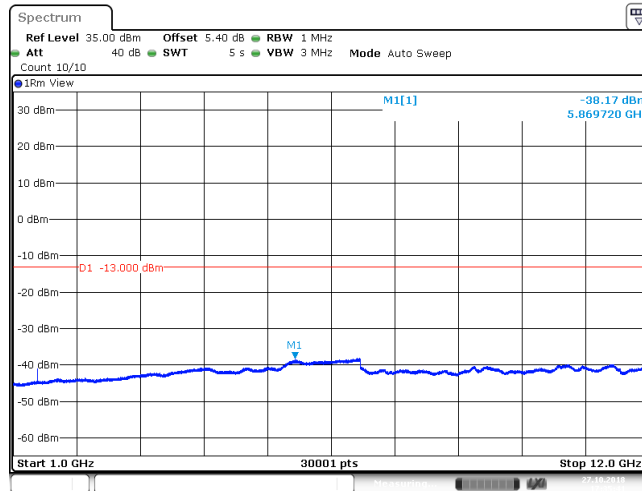
Date: 27 OCT 2018 17:32:48

Band12_10MHz_QPSK_23130_1RB#0



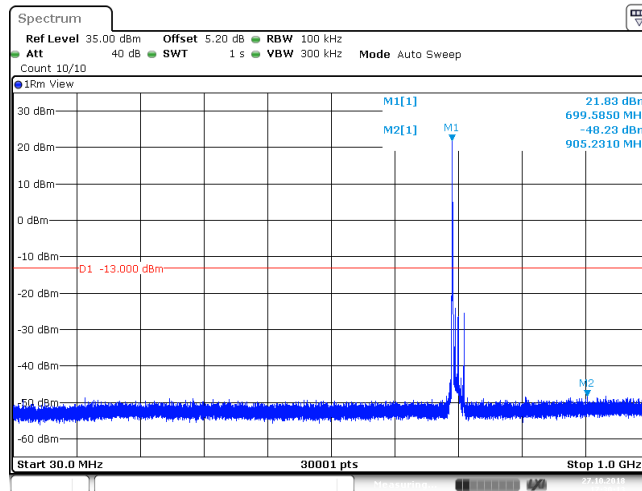
Date: 27 OCT 2018 17:34:34

Band12_10MHz_QPSK_23130_1RB#0



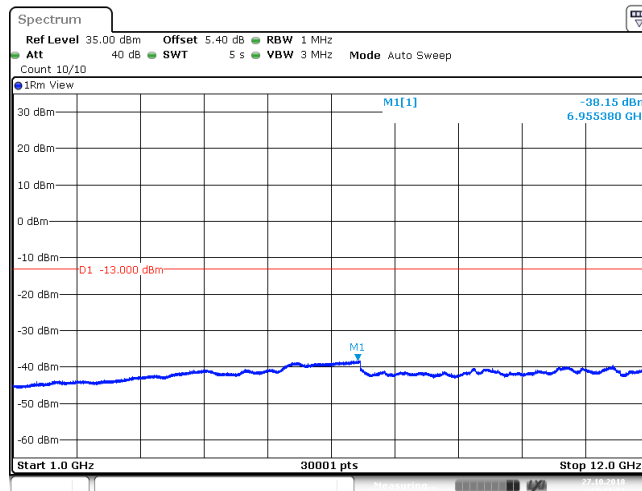
Date: 27 OCT 2018 17:35:42

Band12_10MHz_16QAM_23060_1RB#0



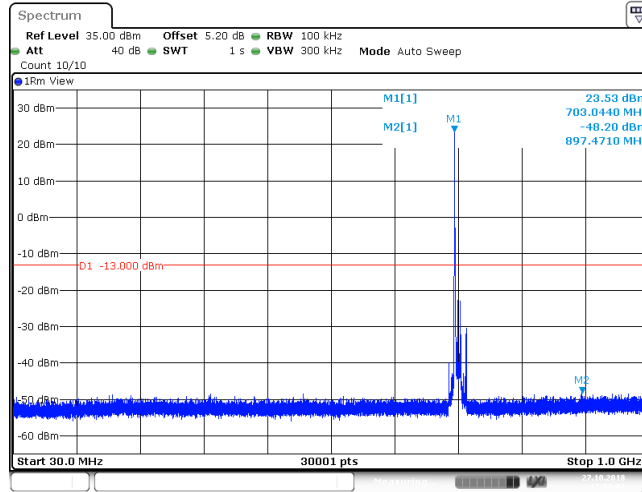
Date: 27 OCT 2018 17:30:43

Band12_10MHz_16QAM_23060_1RB#0



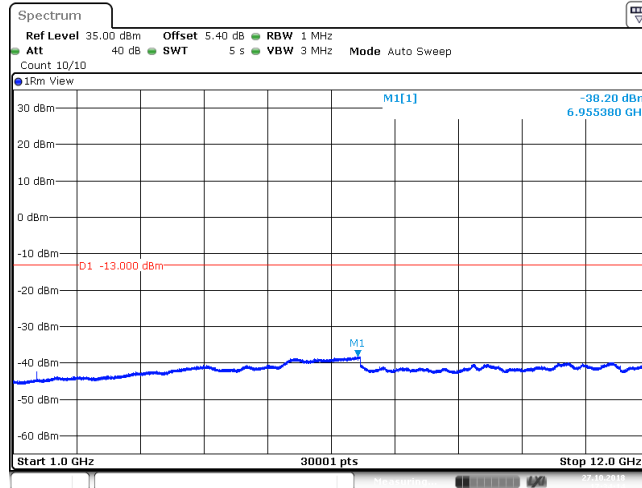
Date: 27 OCT 2018 17:31:21

Band12_10MHz_16QAM_23095_1RB#0



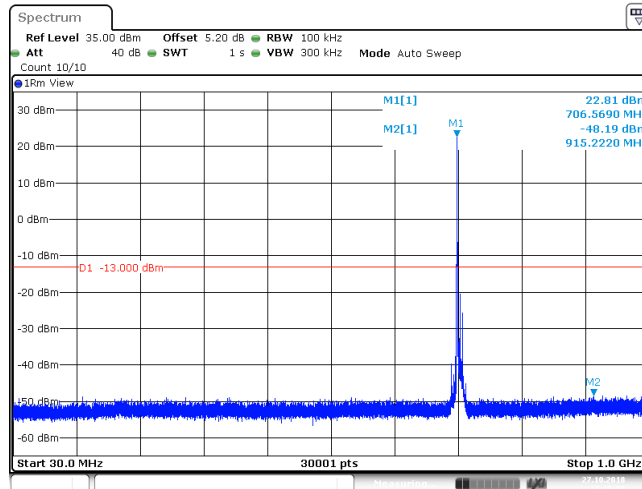
Date: 27 OCT 2018 17:33:07

Band12_10MHz_16QAM_23095_1RB#0



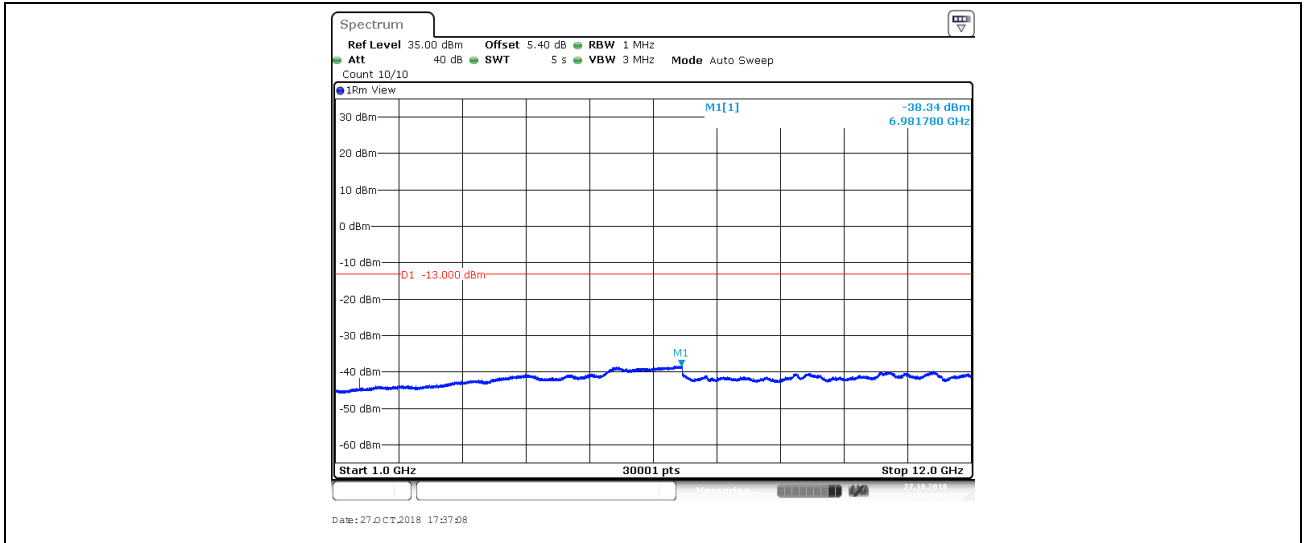
Date: 27 OCT 2018 17:34:15

Band12_10MHz_16QAM_23130_1RB#0



Date: 27 OCT 2018 17:36:01

Band12_10MHz_16QAM_23130_1RB#0



7. Field Strength of Spurious Radiation

7.1. Test BAND = LTE BAND 12

7.1.1. Test Mode = LTE/TM1 10MHz

7.1.1.1. Test Channel = LCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Margin (dB)	Polarization
64.393333	-81.34	-13.00	68.34	Vertical
192.120000	-80.45	-13.00	67.45	Vertical
1399.000000	-57.80	-13.00	44.80	Vertical
2099.000000	-59.98	-13.00	46.98	Vertical
2798.500000	-55.68	-13.00	42.68	Vertical
3497.737500	-65.86	-13.00	52.86	Vertical
62.293333	-77.59	-13.00	64.59	Horizontal
1399.000000	-63.31	-13.00	50.31	Horizontal
2099.000000	-60.58	-13.00	47.58	Horizontal
2798.500000	-54.75	-13.00	41.75	Horizontal
3497.737500	-64.30	-13.00	51.30	Horizontal
4896.862500	-65.74	-13.00	52.74	Horizontal

7.1.1.2. Test Channel = MCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Margin (dB)	Polarization
63.320000	-81.76	-13.00	68.76	Vertical
285.966667	-82.64	-13.00	69.64	Vertical
1406.000000	-61.49	-13.00	48.49	Vertical
2109.500000	-58.88	-13.00	45.88	Vertical
2812.500000	-55.13	-13.00	42.13	Vertical
3515.287500	-62.08	-13.00	49.08	Vertical
63.133333	-77.34	-13.00	64.34	Horizontal
1406.000000	-62.01	-13.00	49.01	Horizontal
2109.500000	-58.75	-13.00	45.75	Horizontal
2812.500000	-52.44	-13.00	39.44	Horizontal
3515.287500	-62.36	-13.00	49.36	Horizontal
4921.237500	-65.11	-13.00	52.11	Horizontal

7.1.1.3. Test Channel = HCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Margin (dB)	Polarization
64.440000	-81.70	-13.00	68.70	Vertical
1413.000000	-59.61	-13.00	46.61	Vertical
2120.000000	-58.79	-13.00	45.79	Vertical
2826.500000	-55.09	-13.00	42.09	Vertical
3532.837500	-65.28	-13.00	52.28	Vertical
4946.100000	-66.12	-13.00	53.12	Vertical
56.413333	-77.20	-13.00	64.20	Horizontal
1413.000000	-60.53	-13.00	47.53	Horizontal
2120.000000	-59.58	-13.00	46.58	Horizontal
2826.500000	-53.73	-13.00	40.73	Horizontal
3532.837500	-60.56	-13.00	47.56	Horizontal
4946.100000	-64.11	-13.00	51.11	Horizontal

Remark:

- 1) 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 had been displayed.
- 2) We have tested all modulation and all Bandwidth , but only the worst case data presented in this report.

8. Frequency Stability

8.1. Frequency Vs Voltage

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	-5.10	-0.007244	±2.5	PASS
Band12	10MHz	QPSK	23060	50RB#0	VN	NT	-11.10	-0.015767	±2.5	PASS
Band12	10MHz	QPSK	23060	50RB#0	VH	NT	-1.70	-0.002415	±2.5	PASS
Band12	10MHz	QPSK	23095	50RB#0	VL	NT	-0.30	-0.000424	±2.5	PASS
Band12	10MHz	QPSK	23095	50RB#0	VN	NT	-0.40	-0.000565	±2.5	PASS
Band12	10MHz	QPSK	23095	50RB#0	VH	NT	0.40	0.000565	±2.5	PASS
Band12	10MHz	QPSK	23130	50RB#0	VL	NT	-8.90	-0.012518	±2.5	PASS
Band12	10MHz	QPSK	23130	50RB#0	VN	NT	0.00	0.000000	±2.5	PASS
Band12	10MHz	QPSK	23130	50RB#0	VH	NT	-0.50	-0.000703	±2.5	PASS
Band12	10MHz	16QAM	23060	50RB#0	VL	NT	-12.30	-0.017472	±2.5	PASS
Band12	10MHz	16QAM	23060	50RB#0	VN	NT	-8.70	-0.012358	±2.5	PASS
Band12	10MHz	16QAM	23060	50RB#0	VH	NT	-8.80	-0.012500	±2.5	PASS
Band12	10MHz	16QAM	23095	50RB#0	VL	NT	-0.10	-0.000141	±2.5	PASS
Band12	10MHz	16QAM	23095	50RB#0	VN	NT	-0.20	-0.000283	±2.5	PASS
Band12	10MHz	16QAM	23095	50RB#0	VH	NT	-6.40	-0.009046	±2.5	PASS
Band12	10MHz	16QAM	23130	50RB#0	VL	NT	-0.20	-0.000281	±2.5	PASS
Band12	10MHz	16QAM	23130	50RB#0	VN	NT	-0.30	-0.000422	±2.5	PASS
Band12	10MHz	16QAM	23130	50RB#0	VH	NT	0.50	0.000703	±2.5	PASS

8.2. Frequency Vs Temperature

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	-5.90	-0.008381	±2.5	PASS
Band12	10MHz	QPSK	23060	50RB#0	NV	-20	-2.70	-0.003835	±2.5	PASS
Band12	10MHz	QPSK	23060	50RB#0	NV	0	-6.20	-0.008807	±2.5	PASS
Band12	10MHz	QPSK	23060	50RB#0	NV	10	-1.90	-0.002699	±2.5	PASS
Band12	10MHz	QPSK	23060	50RB#0	NV	20	-9.90	-0.014063	±2.5	PASS
Band12	10MHz	QPSK	23060	50RB#0	NV	30	-8.80	-0.012500	±2.5	PASS
Band12	10MHz	QPSK	23060	50RB#0	NV	40	-7.80	-0.011080	±2.5	PASS
Band12	10MHz	QPSK	23060	50RB#0	NV	50	-5.80	-0.008239	±2.5	PASS
Band12	10MHz	QPSK	23095	50RB#0	NV	-30	-0.20	-0.000283	±2.5	PASS
Band12	10MHz	QPSK	23095	50RB#0	NV	-20	-4.90	-0.006926	±2.5	PASS
Band12	10MHz	QPSK	23095	50RB#0	NV	0	-5.50	-0.007774	±2.5	PASS
Band12	10MHz	QPSK	23095	50RB#0	NV	10	-7.30	-0.010318	±2.5	PASS
Band12	10MHz	QPSK	23095	50RB#0	NV	20	-4.90	-0.006926	±2.5	PASS
Band12	10MHz	QPSK	23095	50RB#0	NV	30	-2.10	-0.002968	±2.5	PASS
Band12	10MHz	QPSK	23095	50RB#0	NV	40	-2.70	-0.003816	±2.5	PASS
Band12	10MHz	QPSK	23095	50RB#0	NV	50	-2.40	-0.003392	±2.5	PASS
Band12	10MHz	QPSK	23130	50RB#0	NV	-30	-7.30	-0.010267	±2.5	PASS
Band12	10MHz	QPSK	23130	50RB#0	NV	-20	-0.30	-0.000422	±2.5	PASS
Band12	10MHz	QPSK	23130	50RB#0	NV	0	-11.20	-0.015752	±2.5	PASS
Band12	10MHz	QPSK	23130	50RB#0	NV	10	-8.30	-0.011674	±2.5	PASS



Band12	10MHz	QPSK	23130	50RB#0	NV	20	-2.80	-0.003938	±2.5	PASS
Band12	10MHz	QPSK	23130	50RB#0	NV	30	-6.70	-0.009423	±2.5	PASS
Band12	10MHz	QPSK	23130	50RB#0	NV	40	-6.20	-0.008720	±2.5	PASS
Band12	10MHz	QPSK	23130	50RB#0	NV	50	-2.90	-0.004079	±2.5	PASS
Band12	10MHz	16QAM	23060	50RB#0	NV	-30	-12.90	-0.018324	±2.5	PASS
Band12	10MHz	16QAM	23060	50RB#0	NV	-20	-8.40	-0.011932	±2.5	PASS
Band12	10MHz	16QAM	23060	50RB#0	NV	0	-11.10	-0.015767	±2.5	PASS
Band12	10MHz	16QAM	23060	50RB#0	NV	10	-4.60	-0.006534	±2.5	PASS
Band12	10MHz	16QAM	23060	50RB#0	NV	20	-1.60	-0.002273	±2.5	PASS
Band12	10MHz	16QAM	23060	50RB#0	NV	30	-8.80	-0.012500	±2.5	PASS
Band12	10MHz	16QAM	23060	50RB#0	NV	40	-5.50	-0.007813	±2.5	PASS
Band12	10MHz	16QAM	23060	50RB#0	NV	50	-4.50	-0.006392	±2.5	PASS
Band12	10MHz	16QAM	23095	50RB#0	NV	-30	-4.20	-0.005936	±2.5	PASS
Band12	10MHz	16QAM	23095	50RB#0	NV	-20	-5.00	-0.007067	±2.5	PASS
Band12	10MHz	16QAM	23095	50RB#0	NV	0	-0.10	-0.000141	±2.5	PASS
Band12	10MHz	16QAM	23095	50RB#0	NV	10	-1.00	-0.001413	±2.5	PASS
Band12	10MHz	16QAM	23095	50RB#0	NV	20	-0.50	-0.000707	±2.5	PASS
Band12	10MHz	16QAM	23095	50RB#0	NV	30	0.40	0.000565	±2.5	PASS
Band12	10MHz	16QAM	23095	50RB#0	NV	40	-15.00	-0.021201	±2.5	PASS
Band12	10MHz	16QAM	23095	50RB#0	NV	50	-7.20	-0.010177	±2.5	PASS
Band12	10MHz	16QAM	23130	50RB#0	NV	-30	-7.70	-0.010830	±2.5	PASS
Band12	10MHz	16QAM	23130	50RB#0	NV	-20	-3.30	-0.004641	±2.5	PASS
Band12	10MHz	16QAM	23130	50RB#0	NV	0	-9.70	-0.013643	±2.5	PASS
Band12	10MHz	16QAM	23130	50RB#0	NV	10	-7.80	-0.010970	±2.5	PASS
Band12	10MHz	16QAM	23130	50RB#0	NV	20	-7.40	-0.010408	±2.5	PASS
Band12	10MHz	16QAM	23130	50RB#0	NV	30	-5.60	-0.007876	±2.5	PASS
Band12	10MHz	16QAM	23130	50RB#0	NV	40	-4.90	-0.006892	±2.5	PASS
Band12	10MHz	16QAM	23130	50RB#0	NV	50	-4.60	-0.006470	±2.5	PASS

The End