

Appendix B

E-UTRA Band 12

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1. Main Test Instruments

RE in Chamber					
Test Equipment	Manufacturer	Model No.	Inventory No.	Cal. date	Cal. Due date
				(yyyy-mm-dd)	(yyyy-mm-dd)
3m Semi-Anechoic Chamber	AUDIX	N/A	SEM001-02	2018/3/13	2021/3/12
Spectrum Analyzer (20Hz-43GHz)	Rohde & Schwarz	FSU43	SEM004-08	2019/3/2	2020/3/1
BiConiLog Antenna (26-3000MHz)	ETS-Lindgren	3142C	SEM003-01	2017/6/27	2020/6/26
Horn Antenna (800MHz-18GHz)	Rohde & Schwarz	HF907	SEM003-07	2018/4/13	2021/4/12
Horn Antenna (15-40GHz)	Schwarzbeck	BBHA 9170	SEM003-15	2017/10/17	2020/10/16
Amplifier (0.1-1300MHz)	HP	8447D	SEM005-02	2019/7/14	2020/7/14
Low Noise Amplifier (100MHz-18GHz)	Black Diamond Series	BDLNA-0118-352810	SEM005-05	2019/7/14	2020/7/14
Pre-Amplifier (0.1-26.5GHz)	Compliance Directions Systems Inc.	PAP-0126	EMC2063	2019/9/20	2020/9/19
Pre-amplifier (26-40GHz)	Compliance Directions Systems Inc.	PAP-2640-50	SEM005-08	2019/3/2	2020/3/1
Band filter	N/A	N/A	N/A	N/A	N/A
Measurement Software	AUDIX	e3 V8.2014-6-27	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM026-01	2019/6/12	2020/6/11
Wideband Radio Communication Tester	Anristu	MT8821C	6201462742	2019/4/3	2020/4/3
Wideband Radio Communication Tester	Rohde & Schwarz	CMW500	W005-02	2019/1/13	2020/1/12
RF conducted test					
Test Equipment	Manufacturer	Model No.	Inventory No.	Cal. date	Cal. Due date
				(yyyy-mm-dd)	(yyyy-mm-dd)
Dual Output Mobile Communication DC Source	Agilent Technologies Inc	66311B	W009-09	2018/11/2	2019/11/1
Signal Analyzer	Rohde & Schwarz	FSV	W005-02	2019/3/2	2020/3/1
Coaxial Cable	SGS	N/A	SEM031-01	2019/6/12	2020/6/11
Attenuator	Weinschel Associates	WA41	SEM021-09	N/A	N/A
Signal Generator	KEYSIGHT	N5173B	SEM006-05	2018/11/2	2019/11/1
Humidity/ Temperature Indicator	Shanghai Meteorological Industry Factory	HTC-1	W006-17	2018/11/2	2019/11/1
Temperature Chamber	GIANT FORCE	ICT-150-40-CP-AR	W027-03	2018/11/2	2019/11/1
Wideband Radio Communication Tester	Anristu	MT8821C	6201462742	2019/3/2	2020/3/1

2. Measurement Uncertainty

For a 95% confidence level ($k = 2$), the measurement expanded uncertainties for defined systems, in accordance with the recommendations of ISO 17025 as following:

Test Item	Extended Uncertainty	Data
Transmit Output Power Data	Power [dBm]	$U = \pm 0.37$ dB
Bandwidth	Magnitude [%]	$U = \pm 0.2\%$
Band Edge Compliance	Disturbance Power [dBm]	$U = \pm 2.0$ dB
Spurious Emissions, Conducted	Disturbance Power [dBm]	$U = \pm 2.0$ dB
Frequency Stability	Frequency Accuracy [ppm]	$U = \pm 0.24$ ppm

3 Effective (Isotropic) Radiated Power

3.1. Test Result

Band	Bandwidth	Modulation	Channel	RB Configuration	Conducted Power(dBm)	ERP (dBm)	Limit (dBm)	Verdict
Band12	1.4MHz	QPSK	23017	1RB#0	23.41	18.96	34.77	PASS
Band12	1.4MHz	QPSK	23017	1RB#2	23.51	19.06	34.77	PASS
Band12	1.4MHz	QPSK	23017	1RB#5	23.33	18.88	34.77	PASS
Band12	1.4MHz	QPSK	23017	3RB#0	23.41	18.96	34.77	PASS
Band12	1.4MHz	QPSK	23017	3RB#1	23.51	19.06	34.77	PASS
Band12	1.4MHz	QPSK	23017	3RB#3	23.40	18.95	34.77	PASS
Band12	1.4MHz	QPSK	23017	6RB#0	22.65	18.20	34.77	PASS
Band12	1.4MHz	QPSK	23095	1RB#0	23.49	19.04	34.77	PASS
Band12	1.4MHz	QPSK	23095	1RB#5	23.56	19.11	34.77	PASS
Band12	1.4MHz	QPSK	23095	1RB#2	23.53	19.08	34.77	PASS
Band12	1.4MHz	QPSK	23095	3RB#0	23.40	18.95	34.77	PASS
Band12	1.4MHz	QPSK	23095	3RB#1	23.63	19.18	34.77	PASS
Band12	1.4MHz	QPSK	23095	3RB#3	23.42	18.97	34.77	PASS
Band12	1.4MHz	QPSK	23095	6RB#0	22.71	18.26	34.77	PASS
Band12	1.4MHz	QPSK	23173	1RB#5	23.47	19.02	34.77	PASS
Band12	1.4MHz	QPSK	23173	1RB#0	23.52	19.07	34.77	PASS
Band12	1.4MHz	QPSK	23173	1RB#2	23.31	18.86	34.77	PASS
Band12	1.4MHz	QPSK	23173	3RB#0	23.31	18.86	34.77	PASS
Band12	1.4MHz	QPSK	23173	3RB#1	23.48	19.03	34.77	PASS
Band12	1.4MHz	QPSK	23173	3RB#3	23.45	19.00	34.77	PASS
Band12	1.4MHz	QPSK	23173	6RB#0	22.24	17.79	34.77	PASS
Band12	1.4MHz	16QAM	23017	1RB#0	22.51	18.06	34.77	PASS
Band12	1.4MHz	16QAM	23017	1RB#2	22.65	18.20	34.77	PASS
Band12	1.4MHz	16QAM	23017	1RB#5	22.52	18.07	34.77	PASS
Band12	1.4MHz	16QAM	23017	3RB#1	22.62	18.17	34.77	PASS
Band12	1.4MHz	16QAM	23017	3RB#0	22.72	18.27	34.77	PASS
Band12	1.4MHz	16QAM	23017	3RB#3	22.60	18.15	34.77	PASS
Band12	1.4MHz	16QAM	23017	6RB#0	21.62	17.17	34.77	PASS
Band12	1.4MHz	16QAM	23095	1RB#0	22.78	18.33	34.77	PASS
Band12	1.4MHz	16QAM	23095	1RB#2	22.98	18.53	34.77	PASS
Band12	1.4MHz	16QAM	23095	1RB#5	22.79	18.34	34.77	PASS
Band12	1.4MHz	16QAM	23095	3RB#3	22.94	18.49	34.77	PASS
Band12	1.4MHz	16QAM	23095	3RB#0	23.03	18.58	34.77	PASS
Band12	1.4MHz	16QAM	23095	3RB#1	22.95	18.50	34.77	PASS
Band12	1.4MHz	16QAM	23095	6RB#0	21.73	17.28	34.77	PASS
Band12	1.4MHz	16QAM	23173	1RB#2	22.41	17.96	34.77	PASS
Band12	1.4MHz	16QAM	23173	1RB#0	22.57	18.12	34.77	PASS
Band12	1.4MHz	16QAM	23173	1RB#5	22.40	17.95	34.77	PASS
Band12	1.4MHz	16QAM	23173	3RB#0	22.52	18.07	34.77	PASS
Band12	1.4MHz	16QAM	23173	3RB#1	22.68	18.23	34.77	PASS
Band12	1.4MHz	16QAM	23173	3RB#3	22.53	18.08	34.77	PASS
Band12	1.4MHz	16QAM	23173	6RB#0	21.38	16.93	34.77	PASS
Band12	3MHz	QPSK	23025	1RB#8	23.45	19.00	34.77	PASS
Band12	3MHz	QPSK	23025	1RB#14	23.61	19.16	34.77	PASS
Band12	3MHz	QPSK	23025	1RB#0	23.47	19.02	34.77	PASS

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Band12	3MHz	QPSK	23025	8RB#0	22.78	18.33	34.77	PASS
Band12	3MHz	QPSK	23025	8RB#4	22.55	18.10	34.77	PASS
Band12	3MHz	QPSK	23025	8RB#7	22.39	17.94	34.77	PASS
Band12	3MHz	QPSK	23025	15RB#0	22.68	18.23	34.77	PASS
Band12	3MHz	QPSK	23095	1RB#0	23.43	18.98	34.77	PASS
Band12	3MHz	QPSK	23095	1RB#14	23.70	19.25	34.77	PASS
Band12	3MHz	QPSK	23095	1RB#8	23.50	19.05	34.77	PASS
Band12	3MHz	QPSK	23095	8RB#7	22.74	18.29	34.77	PASS
Band12	3MHz	QPSK	23095	8RB#0	22.49	18.04	34.77	PASS
Band12	3MHz	QPSK	23095	8RB#4	22.71	18.26	34.77	PASS
Band12	3MHz	QPSK	23095	15RB#0	22.62	18.17	34.77	PASS
Band12	3MHz	QPSK	23165	1RB#8	23.40	18.95	34.77	PASS
Band12	3MHz	QPSK	23165	1RB#0	23.53	19.08	34.77	PASS
Band12	3MHz	QPSK	23165	1RB#14	23.35	18.90	34.77	PASS
Band12	3MHz	QPSK	23165	8RB#0	22.33	17.88	34.77	PASS
Band12	3MHz	QPSK	23165	8RB#7	22.47	18.02	34.77	PASS
Band12	3MHz	QPSK	23165	8RB#4	22.27	17.82	34.77	PASS
Band12	3MHz	QPSK	23165	15RB#0	22.28	17.83	34.77	PASS
Band12	3MHz	16QAM	23025	1RB#14	22.50	18.05	34.77	PASS
Band12	3MHz	16QAM	23025	1RB#0	22.60	18.15	34.77	PASS
Band12	3MHz	16QAM	23025	1RB#8	22.38	17.93	34.77	PASS
Band12	3MHz	16QAM	23025	8RB#7	21.76	17.31	34.77	PASS
Band12	3MHz	16QAM	23025	8RB#4	21.54	17.09	34.77	PASS
Band12	3MHz	16QAM	23025	8RB#0	21.58	17.13	34.77	PASS
Band12	3MHz	16QAM	23025	15RB#0	21.59	17.14	34.77	PASS
Band12	3MHz	16QAM	23095	1RB#14	22.71	18.26	34.77	PASS
Band12	3MHz	16QAM	23095	1RB#0	22.96	18.51	34.77	PASS
Band12	3MHz	16QAM	23095	1RB#8	22.80	18.35	34.77	PASS
Band12	3MHz	16QAM	23095	8RB#7	21.77	17.32	34.77	PASS
Band12	3MHz	16QAM	23095	8RB#0	21.59	17.14	34.77	PASS
Band12	3MHz	16QAM	23095	8RB#4	21.75	17.30	34.77	PASS
Band12	3MHz	16QAM	23095	15RB#0	21.75	17.30	34.77	PASS
Band12	3MHz	16QAM	23165	1RB#8	22.31	17.86	34.77	PASS
Band12	3MHz	16QAM	23165	1RB#0	22.44	17.99	34.77	PASS
Band12	3MHz	16QAM	23165	1RB#14	22.39	17.94	34.77	PASS
Band12	3MHz	16QAM	23165	8RB#0	21.36	16.91	34.77	PASS
Band12	3MHz	16QAM	23165	8RB#4	21.49	17.04	34.77	PASS
Band12	3MHz	16QAM	23165	8RB#7	21.30	16.85	34.77	PASS
Band12	3MHz	16QAM	23165	15RB#0	21.31	16.86	34.77	PASS
Band12	5MHz	QPSK	23035	1RB#0	23.41	18.96	34.77	PASS
Band12	5MHz	QPSK	23035	1RB#12	23.55	19.10	34.77	PASS
Band12	5MHz	QPSK	23035	1RB#24	23.42	18.97	34.77	PASS
Band12	5MHz	QPSK	23035	12RB#0	22.65	18.20	34.77	PASS
Band12	5MHz	QPSK	23035	12RB#6	22.44	17.99	34.77	PASS
Band12	5MHz	QPSK	23035	12RB#13	22.42	17.97	34.77	PASS
Band12	5MHz	QPSK	23035	25RB#0	22.61	18.16	34.77	PASS
Band12	5MHz	QPSK	23095	1RB#0	23.40	18.95	34.77	PASS
Band12	5MHz	QPSK	23095	1RB#24	23.68	19.23	34.77	PASS
Band12	5MHz	QPSK	23095	1RB#12	23.42	18.97	34.77	PASS
Band12	5MHz	QPSK	23095	12RB#0	22.69	18.24	34.77	PASS
Band12	5MHz	QPSK	23095	12RB#6	22.46	18.01	34.77	PASS
Band12	5MHz	QPSK	23095	12RB#13	22.73	18.28	34.77	PASS
Band12	5MHz	QPSK	23095	25RB#0	22.64	18.19	34.77	PASS

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Band12	5MHz	QPSK	23155	1RB#24	23.36	18.91	34.77	PASS
Band12	5MHz	QPSK	23155	1RB#0	23.48	19.03	34.77	PASS
Band12	5MHz	QPSK	23155	1RB#12	23.41	18.96	34.77	PASS
Band12	5MHz	QPSK	23155	12RB#0	22.35	17.90	34.77	PASS
Band12	5MHz	QPSK	23155	12RB#6	22.49	18.04	34.77	PASS
Band12	5MHz	QPSK	23155	12RB#13	22.22	17.77	34.77	PASS
Band12	5MHz	QPSK	23155	25RB#0	22.31	17.86	34.77	PASS
Band12	5MHz	16QAM	23035	1RB#0	22.44	17.99	34.77	PASS
Band12	5MHz	16QAM	23035	1RB#12	22.65	18.20	34.77	PASS
Band12	5MHz	16QAM	23035	1RB#24	22.43	17.98	34.77	PASS
Band12	5MHz	16QAM	23035	12RB#6	21.80	17.35	34.77	PASS
Band12	5MHz	16QAM	23035	12RB#0	21.59	17.14	34.77	PASS
Band12	5MHz	16QAM	23035	12RB#13	21.54	17.09	34.77	PASS
Band12	5MHz	16QAM	23035	25RB#0	21.66	17.21	34.77	PASS
Band12	5MHz	16QAM	23095	1RB#0	22.75	18.30	34.77	PASS
Band12	5MHz	16QAM	23095	1RB#12	22.96	18.51	34.77	PASS
Band12	5MHz	16QAM	23095	1RB#24	22.73	18.28	34.77	PASS
Band12	5MHz	16QAM	23095	12RB#13	21.65	17.20	34.77	PASS
Band12	5MHz	16QAM	23095	12RB#0	21.54	17.09	34.77	PASS
Band12	5MHz	16QAM	23095	12RB#6	21.83	17.38	34.77	PASS
Band12	5MHz	16QAM	23095	25RB#0	21.76	17.31	34.77	PASS
Band12	5MHz	16QAM	23155	1RB#12	22.37	17.92	34.77	PASS
Band12	5MHz	16QAM	23155	1RB#0	22.46	18.01	34.77	PASS
Band12	5MHz	16QAM	23155	1RB#24	22.28	17.83	34.77	PASS
Band12	5MHz	16QAM	23155	12RB#0	21.36	16.91	34.77	PASS
Band12	5MHz	16QAM	23155	12RB#6	21.57	17.12	34.77	PASS
Band12	5MHz	16QAM	23155	12RB#13	21.32	16.87	34.77	PASS
Band12	5MHz	16QAM	23155	25RB#0	21.24	16.79	34.77	PASS
Band12	10MHz	QPSK	23060	1RB#49	23.56	19.11	34.77	PASS
Band12	10MHz	QPSK	23060	1RB#24	23.74	19.29	34.77	PASS
Band12	10MHz	QPSK	23060	1RB#0	23.60	19.15	34.77	PASS
Band12	10MHz	QPSK	23060	25RB#0	22.88	18.43	34.77	PASS
Band12	10MHz	QPSK	23060	25RB#12	22.66	18.21	34.77	PASS
Band12	10MHz	QPSK	23060	25RB#25	22.64	18.19	34.77	PASS
Band12	10MHz	QPSK	23060	50RB#0	22.79	18.34	34.77	PASS
Band12	10MHz	QPSK	23095	1RB#0	23.65	19.20	34.77	PASS
Band12	10MHz	QPSK	23095	1RB#49	23.85	19.40	34.77	PASS
Band12	10MHz	QPSK	23095	1RB#24	23.63	19.18	34.77	PASS
Band12	10MHz	QPSK	23095	25RB#25	22.94	18.49	34.77	PASS
Band12	10MHz	QPSK	23095	25RB#0	22.71	18.26	34.77	PASS
Band12	10MHz	QPSK	23095	25RB#12	22.91	18.46	34.77	PASS
Band12	10MHz	QPSK	23095	50RB#0	22.87	18.42	34.77	PASS
Band12	10MHz	QPSK	23130	1RB#24	23.59	19.14	34.77	PASS
Band12	10MHz	QPSK	23130	1RB#0	23.70	19.25	34.77	PASS
Band12	10MHz	QPSK	23130	1RB#49	23.59	19.14	34.77	PASS
Band12	10MHz	QPSK	23130	25RB#0	22.53	18.08	34.77	PASS
Band12	10MHz	QPSK	23130	25RB#25	22.67	18.22	34.77	PASS
Band12	10MHz	QPSK	23130	25RB#12	22.38	17.93	34.77	PASS
Band12	10MHz	QPSK	23130	50RB#0	22.47	18.02	34.77	PASS
Band12	10MHz	16QAM	23060	1RB#49	22.62	18.17	34.77	PASS
Band12	10MHz	16QAM	23060	1RB#0	22.83	18.38	34.77	PASS
Band12	10MHz	16QAM	23060	1RB#24	22.63	18.18	34.77	PASS
Band12	10MHz	16QAM	23060	25RB#25	21.97	17.52	34.77	PASS

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Band12	10MHz	16QAM	23060	25RB#12	21.78	17.33	34.77	PASS
Band12	10MHz	16QAM	23060	25RB#0	21.74	17.29	34.77	PASS
Band12	10MHz	16QAM	23060	50RB#0	21.84	17.39	34.77	PASS
Band12	10MHz	16QAM	23095	1RB#49	22.94	18.49	34.77	PASS
Band12	10MHz	16QAM	23095	1RB#0	23.15	18.70	34.77	PASS
Band12	10MHz	16QAM	23095	1RB#24	22.95	18.50	34.77	PASS
Band12	10MHz	16QAM	23095	25RB#25	21.87	17.42	34.77	PASS
Band12	10MHz	16QAM	23095	25RB#0	21.76	17.31	34.77	PASS
Band12	10MHz	16QAM	23095	25RB#12	21.98	17.53	34.77	PASS
Band12	10MHz	16QAM	23095	50RB#0	21.96	17.51	34.77	PASS
Band12	10MHz	16QAM	23130	1RB#24	22.54	18.09	34.77	PASS
Band12	10MHz	16QAM	23130	1RB#0	22.67	18.22	34.77	PASS
Band12	10MHz	16QAM	23130	1RB#49	22.53	18.08	34.77	PASS
Band12	10MHz	16QAM	23130	25RB#0	21.57	17.12	34.77	PASS
Band12	10MHz	16QAM	23130	25RB#12	21.72	17.27	34.77	PASS
Band12	10MHz	16QAM	23130	25RB#25	21.55	17.10	34.77	PASS
Band12	10MHz	16QAM	23130	50RB#0	21.48	17.03	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]

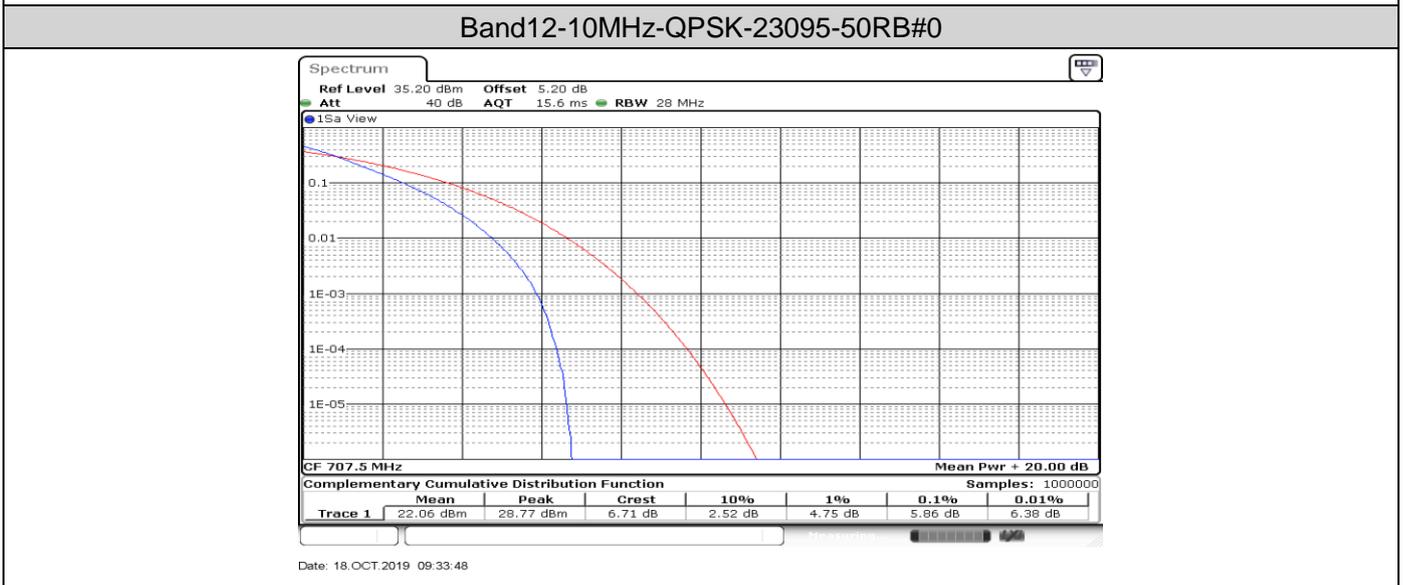
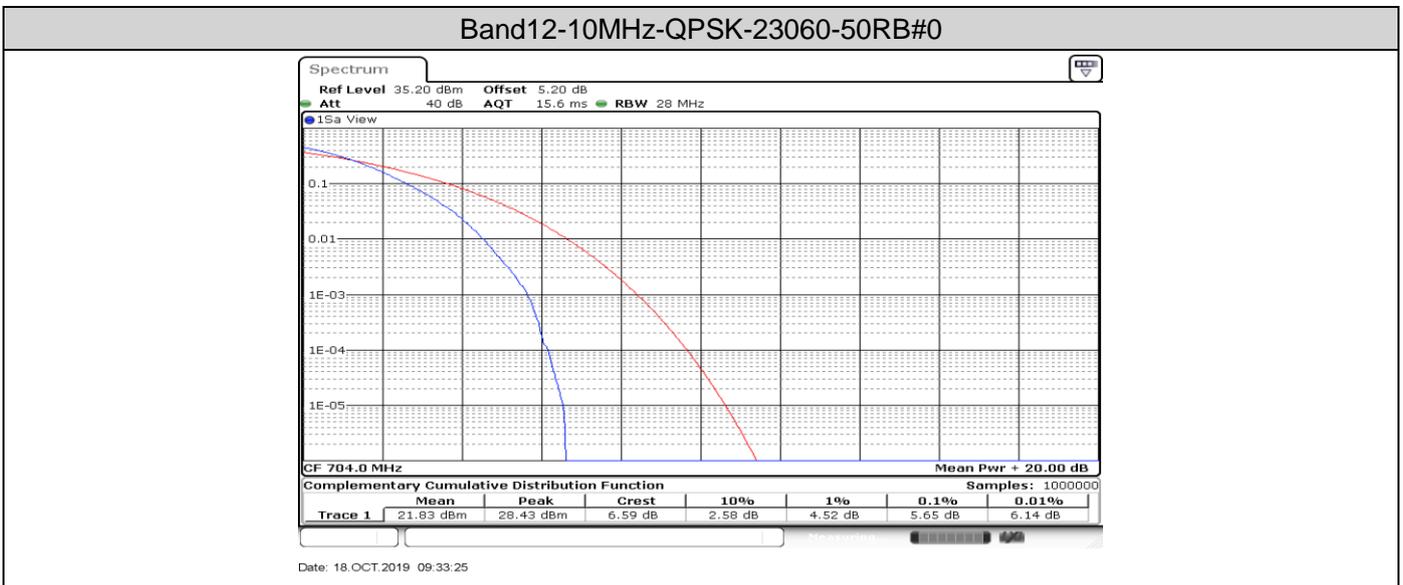
EIRP [dBm] = Conducted Power [dBm] + Gain [dBi]

4. Peak-to-Average Ratio (CCDF)

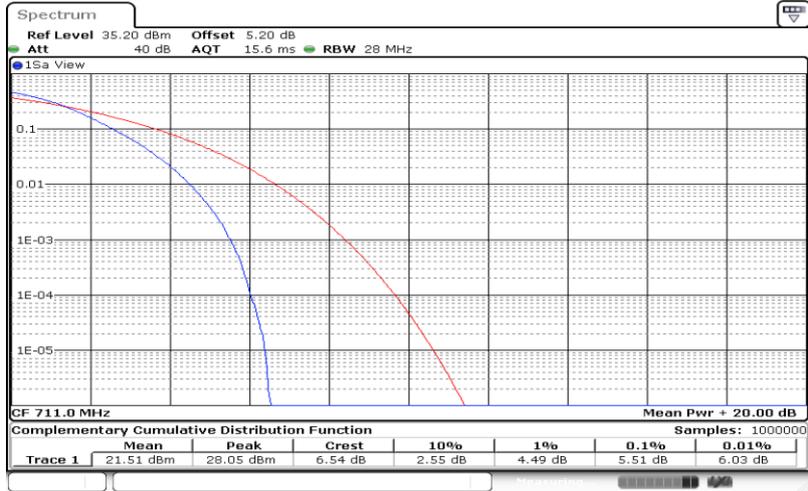
4.1. Test Result

Band	Bandwidth	Modulation	Channel	RB Configuration	Result(dB)	Limit(dB)	Verdict
Band12	10MHz	QPSK	23060	50RB#0	5.65	13	PASS
Band12	10MHz	QPSK	23095	50RB#0	5.86	13	PASS
Band12	10MHz	QPSK	23130	50RB#0	5.51	13	PASS
Band12	10MHz	16QAM	23060	50RB#0	6.20	13	PASS
Band12	10MHz	16QAM	23095	50RB#0	6.43	13	PASS
Band12	10MHz	16QAM	23130	50RB#0	6.23	13	PASS

4.2. Test Plots

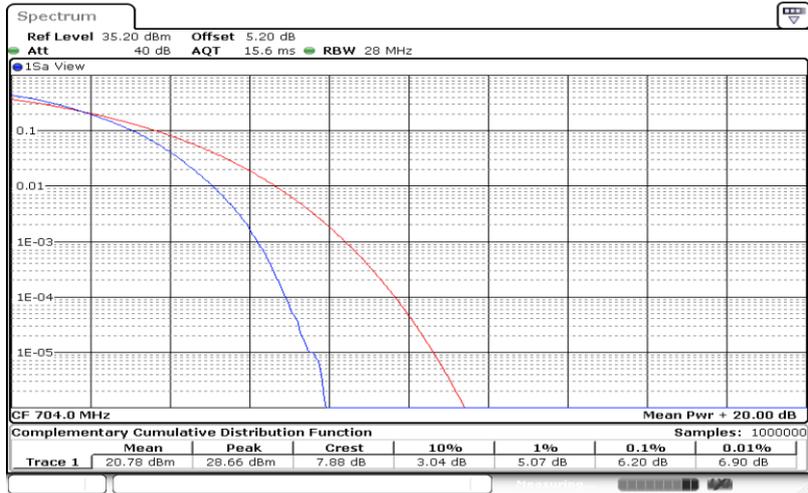


Band12-10MHz-QPSK-23130-50RB#0



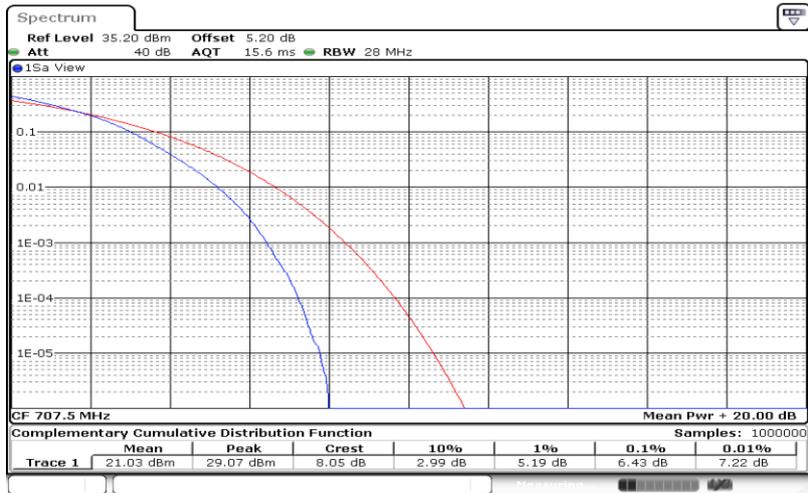
Date: 18.OCT.2019 09:34:12

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



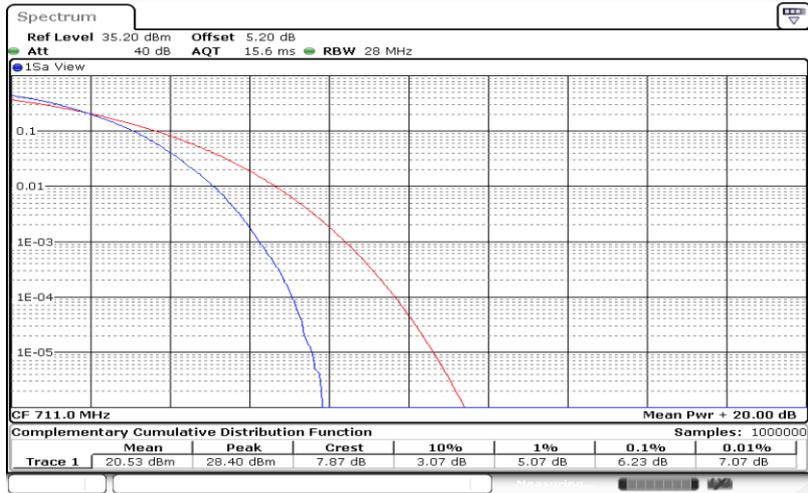
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Band12-10MHz-16QAM-23095-50RB#0



Date: 18.OCT.2019 09:34:00

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

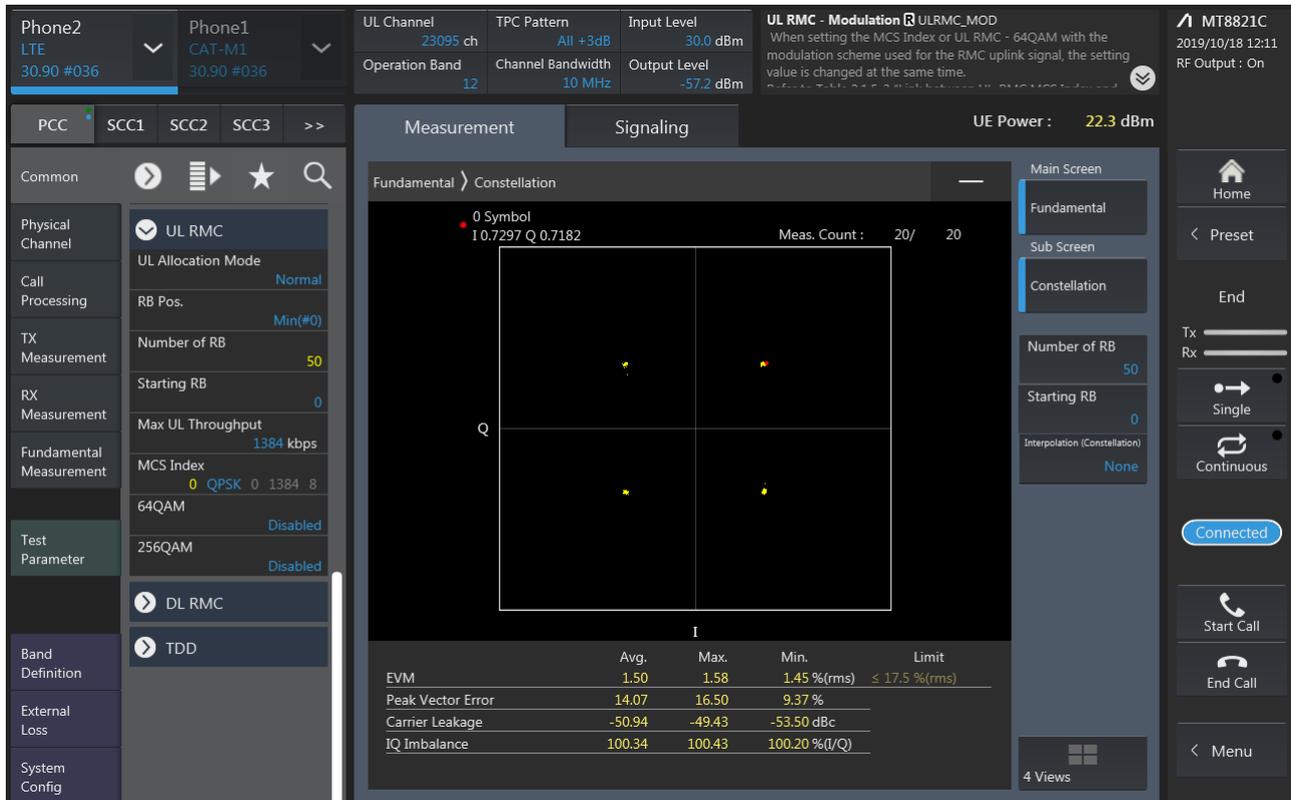


Date: 18.OCT.2019 09:34:23

5. Modulation Characteristics

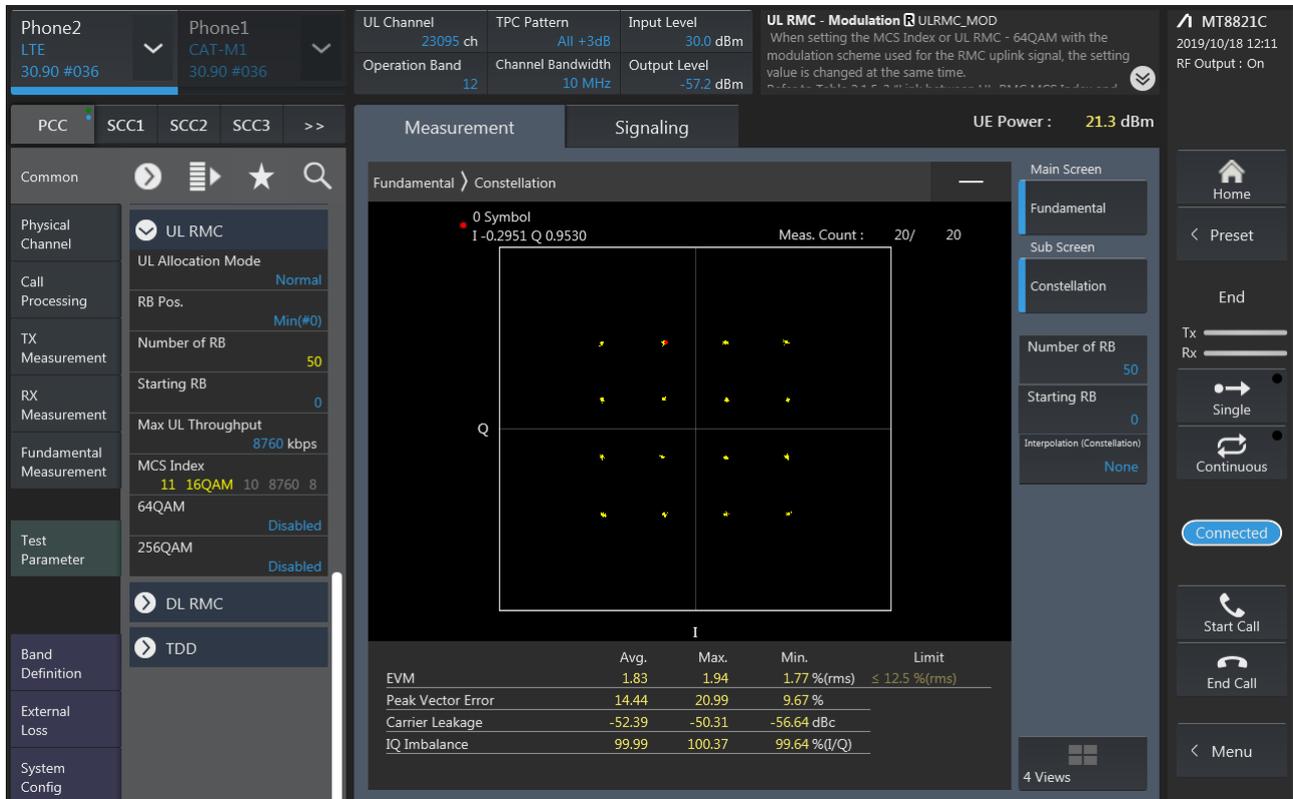
5.1. Test Mode = LTE /TM1 10MHz

5.1.1. Test Channel = MCH



5.2. Test Mode = LTE /TM2 10MHz

5.2.1. Test Channel = MCH



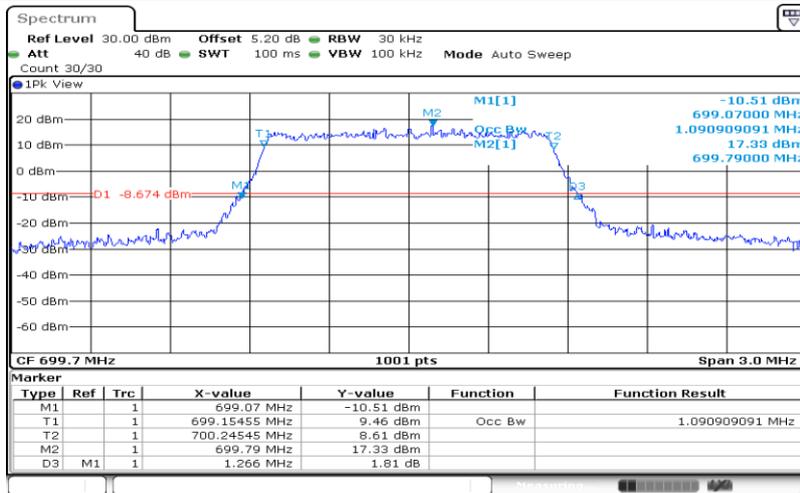
6. 26dB Bandwidth and Occupied Bandwidth

6.1. Test Result

Band	Bandwidth	Modulation	Channel	RB Configuration	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
Band12	1.4MHz	QPSK	23017	6RB#0	1.091	1.266	PASS
Band12	1.4MHz	QPSK	23095	6RB#0	1.091	1.299	PASS
Band12	1.4MHz	QPSK	23173	6RB#0	1.091	1.302	PASS
Band12	1.4MHz	16QAM	23017	6RB#0	1.088	1.296	PASS
Band12	1.4MHz	16QAM	23095	6RB#0	1.091	1.293	PASS
Band12	1.4MHz	16QAM	23173	6RB#0	1.088	1.281	PASS
Band12	3MHz	QPSK	23025	15RB#0	2.685	2.916	PASS
Band12	3MHz	QPSK	23095	15RB#0	2.691	2.916	PASS
Band12	3MHz	QPSK	23165	15RB#0	2.685	2.898	PASS
Band12	3MHz	16QAM	23025	15RB#0	2.667	2.898	PASS
Band12	3MHz	16QAM	23095	15RB#0	2.679	2.904	PASS
Band12	3MHz	16QAM	23165	15RB#0	2.667	2.898	PASS
Band12	5MHz	QPSK	23035	25RB#0	4.466	4.960	PASS
Band12	5MHz	QPSK	23095	25RB#0	4.496	5.090	PASS
Band12	5MHz	QPSK	23155	25RB#0	4.466	4.940	PASS
Band12	5MHz	16QAM	23035	25RB#0	4.476	5.030	PASS
Band12	5MHz	16QAM	23095	25RB#0	4.496	5.140	PASS
Band12	5MHz	16QAM	23155	25RB#0	4.476	4.990	PASS
Band12	10MHz	QPSK	23060	50RB#0	8.911	9.760	PASS
Band12	10MHz	QPSK	23095	50RB#0	8.991	10.020	PASS
Band12	10MHz	QPSK	23130	50RB#0	8.911	9.720	PASS
Band12	10MHz	16QAM	23060	50RB#0	8.911	9.760	PASS
Band12	10MHz	16QAM	23095	50RB#0	8.991	9.900	PASS
Band12	10MHz	16QAM	23130	50RB#0	8.911	9.740	PASS

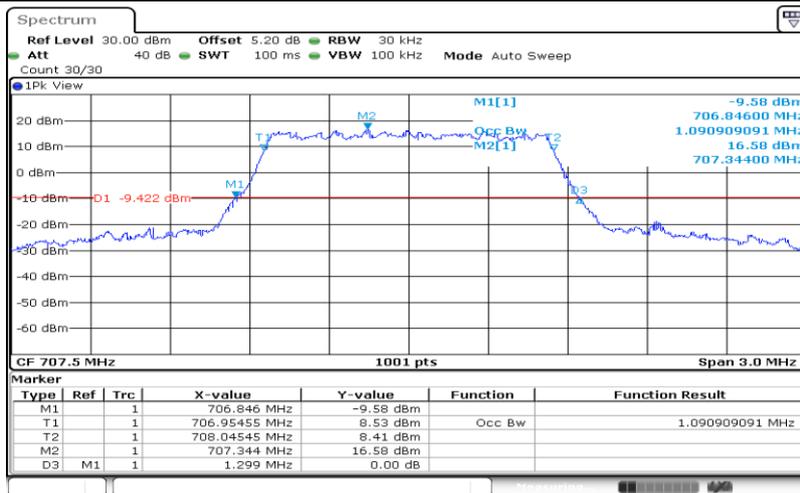
6.2. Test Plots

Band12-1.4MHz-QPSK-23017-6RB#0-1.091



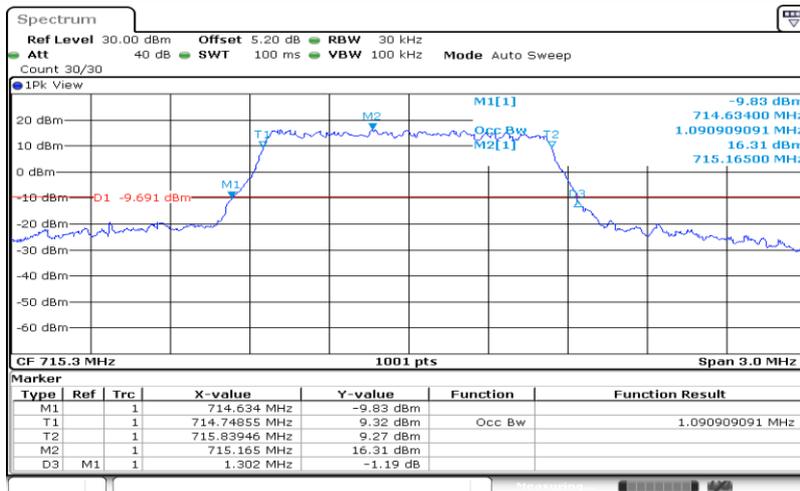
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Band12-1.4MHz-QPSK-23095-6RB#0-1.091



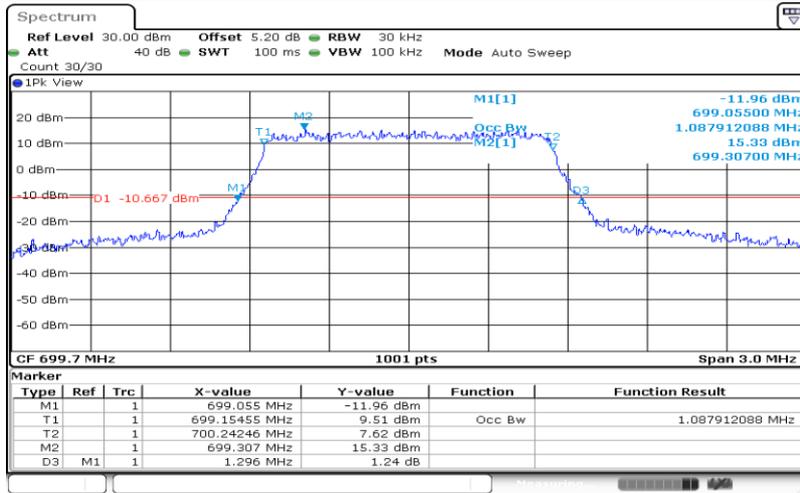
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Band12-1.4MHz-QPSK-23173-6RB#0-1.091



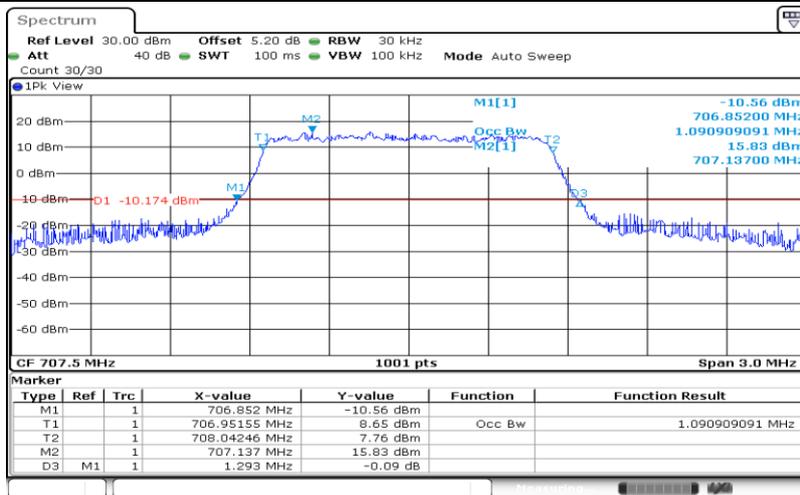
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Band12-1.4MHz-16QAM-23017-6RB#0-1.088



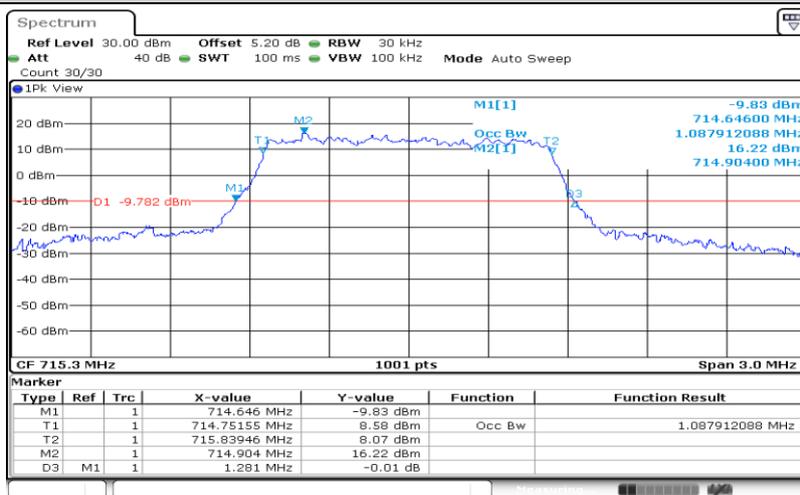
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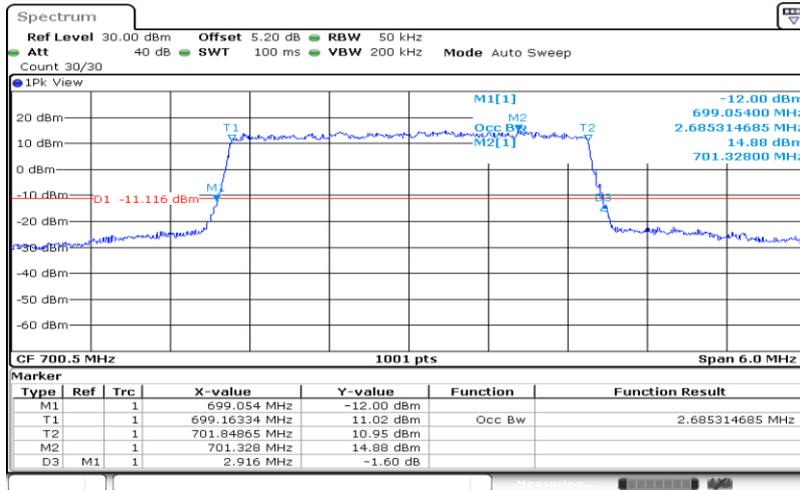
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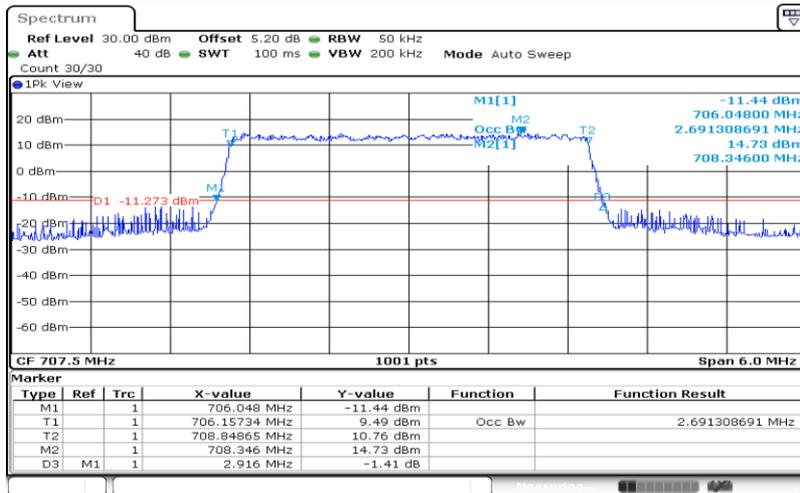
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Band12-3MHz-QPSK-23025-15RB#0-2.685



Date: 18.OCT.2019 09:08:40

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



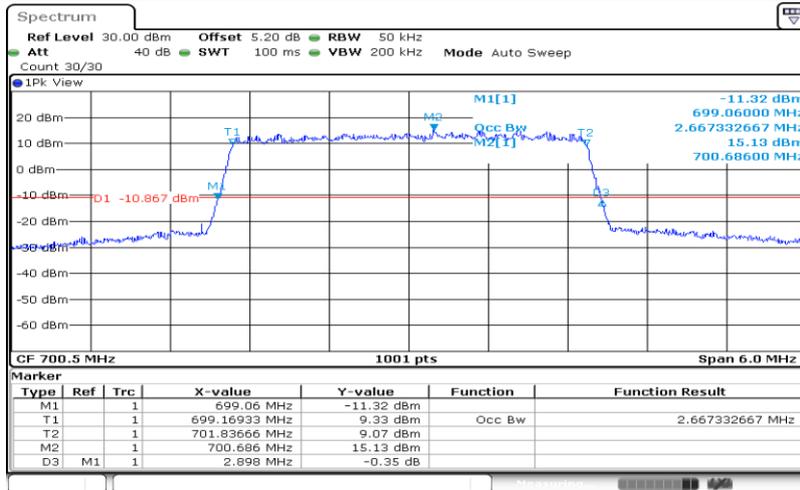
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Band12-3MHz-QPSK-23165-15RB#0-2.685

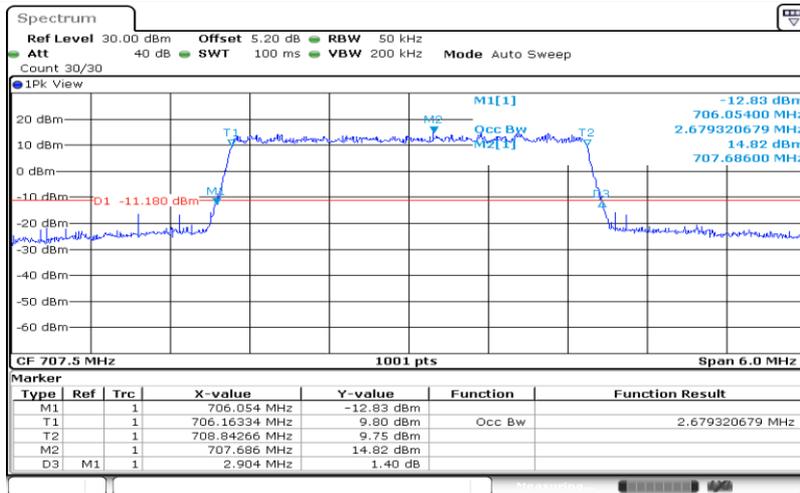


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Band12-3MHz-16QAM-23025-15RB#0-2.667



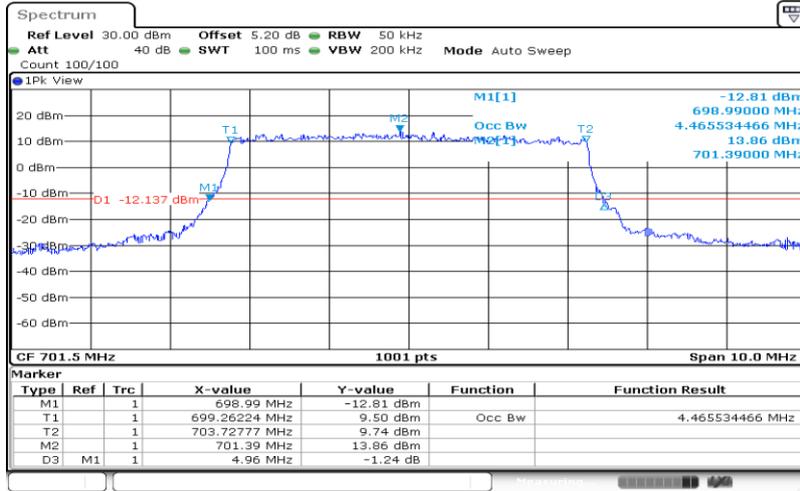
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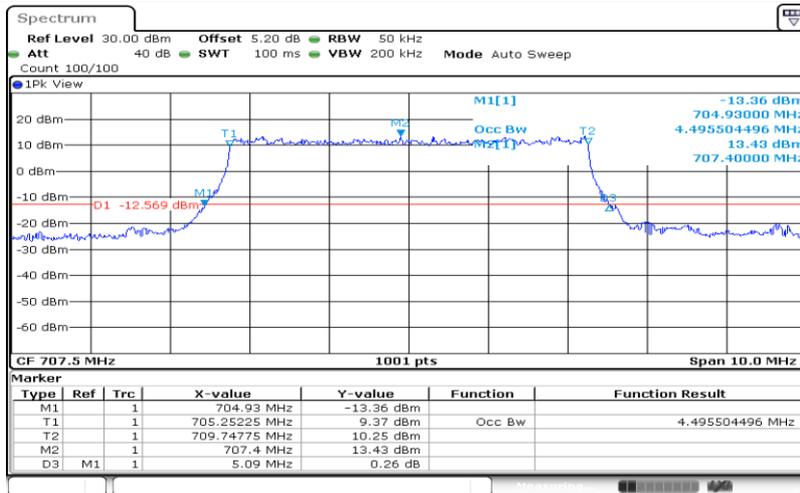
Band12-3MHz-16QAM-23165-15RB#0-2.667



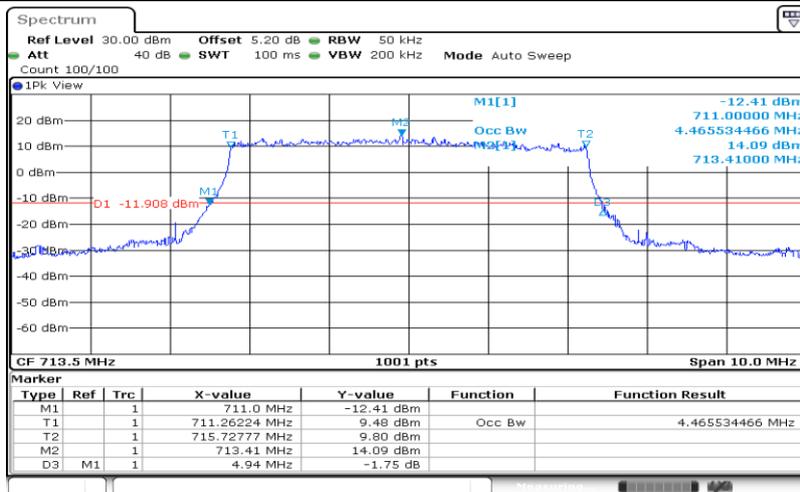
Band12-5MHz-QPSK-23035-25RB#0-4.466



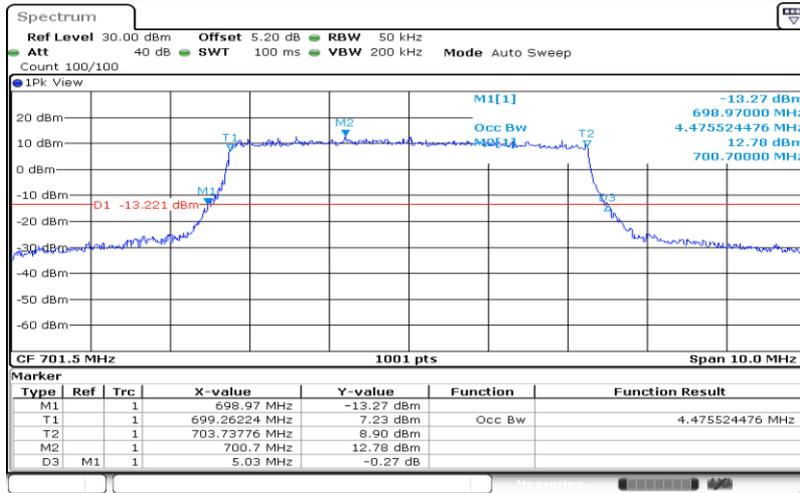
Band12-5MHz-QPSK-23095-25RB#0-4.496



Band12-5MHz-QPSK-23155-25RB#0-4.466

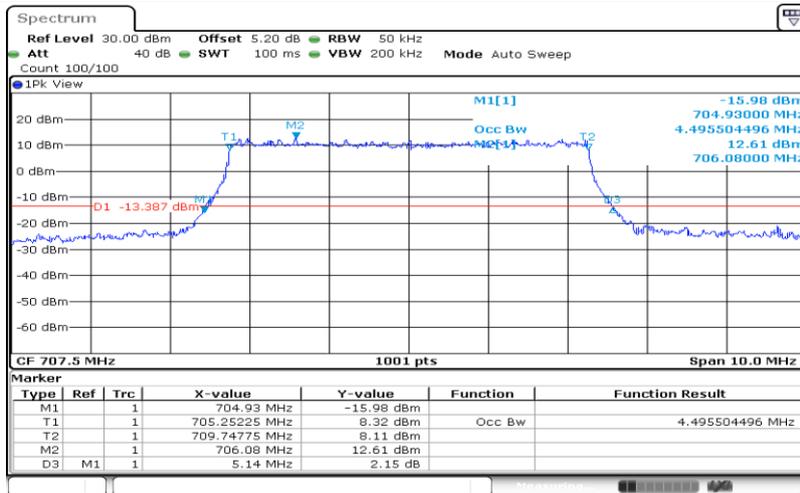


Band12-5MHz-16QAM-23035-25RB#0-4.476



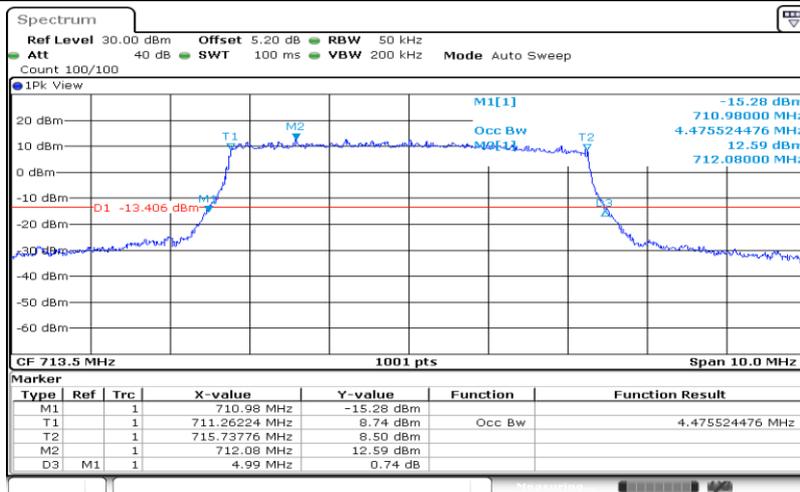
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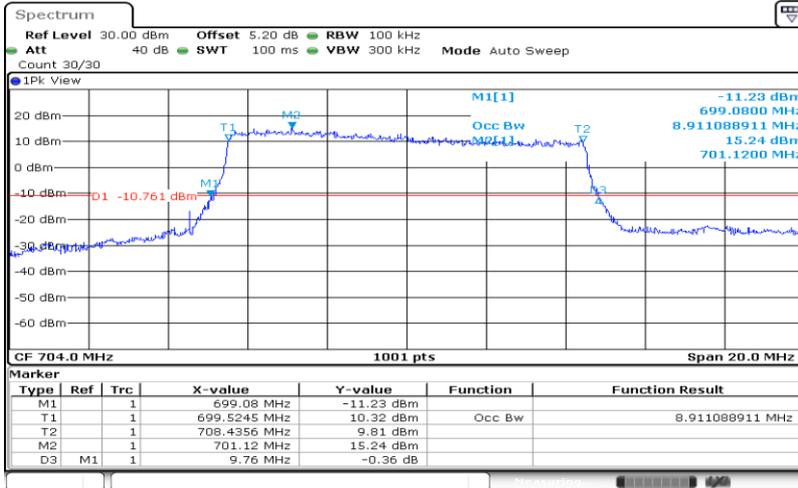
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Band12-5MHz-16QAM-23155-25RB#0-4.476



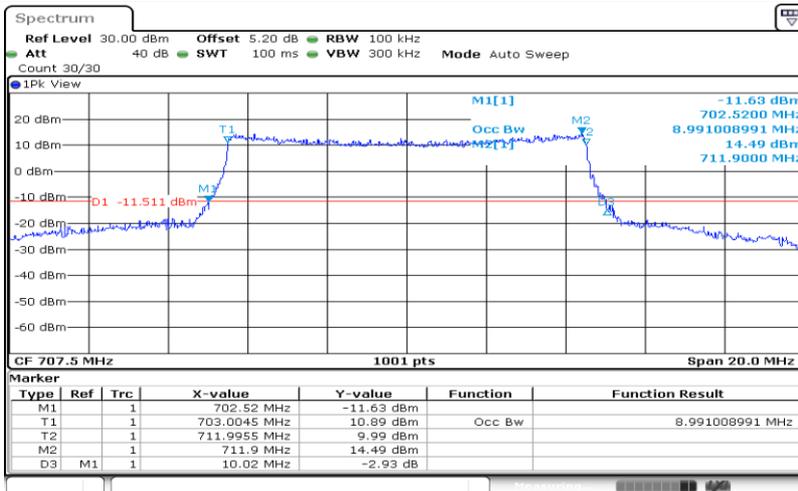
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Band12-10MHz-QPSK-23060-50RB#0-8.911



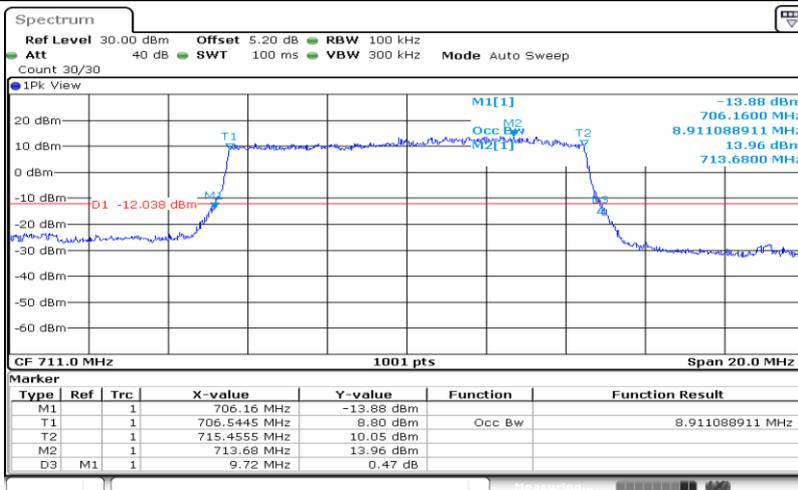
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Band12-10MHz-QPSK-23095-50RB#0-8.991



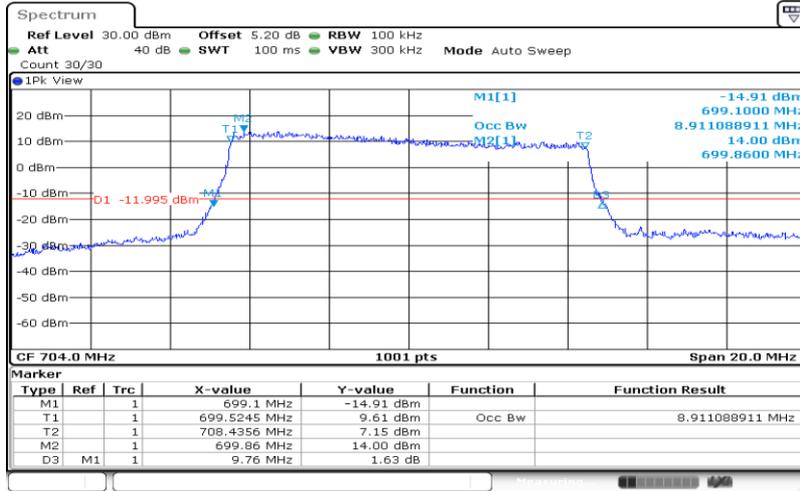
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Band12-10MHz-QPSK-23130-50RB#0-8.911

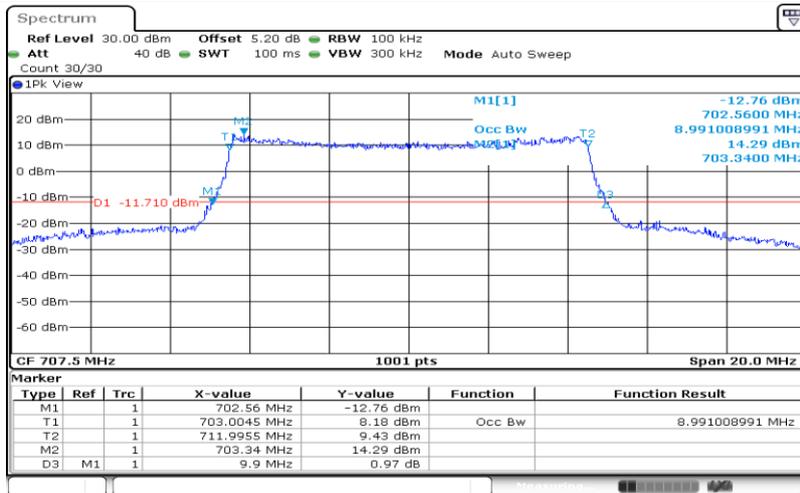


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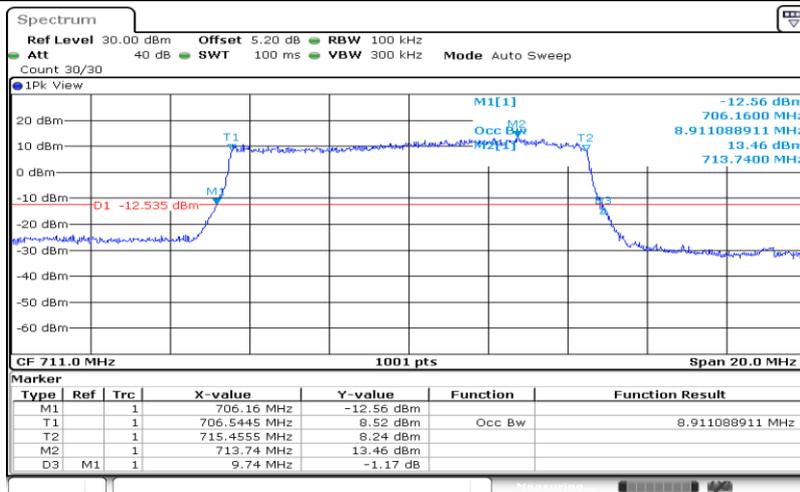
Band12-10MHz-16QAM-23060-50RB#0-8.911



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

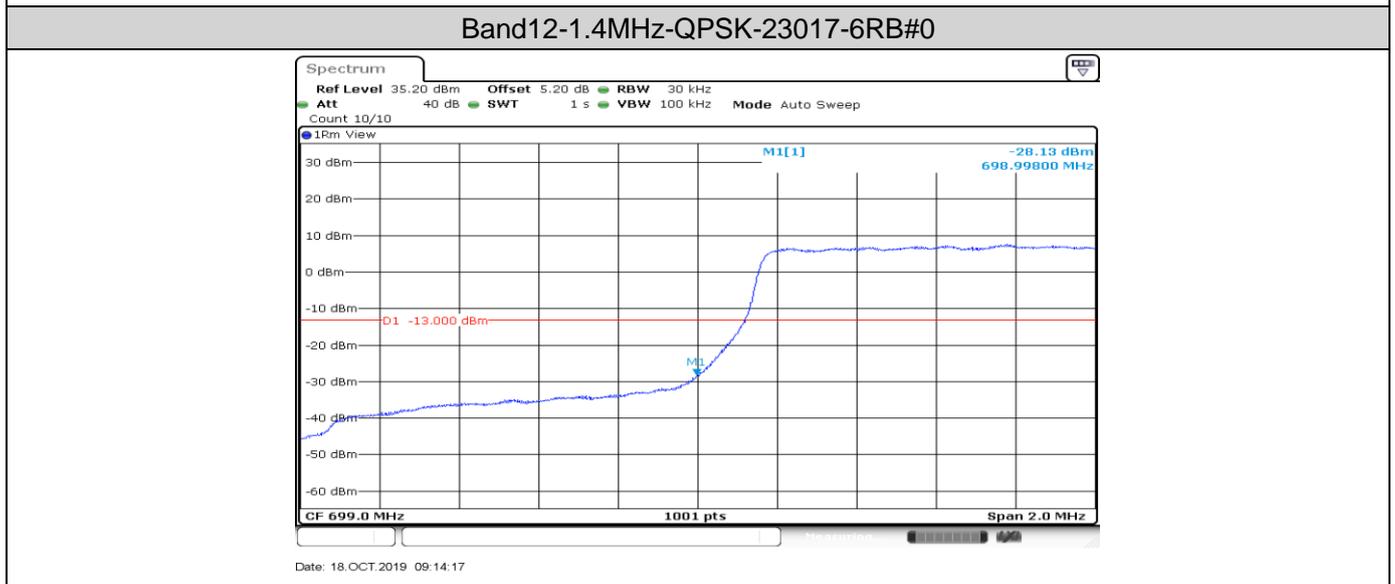
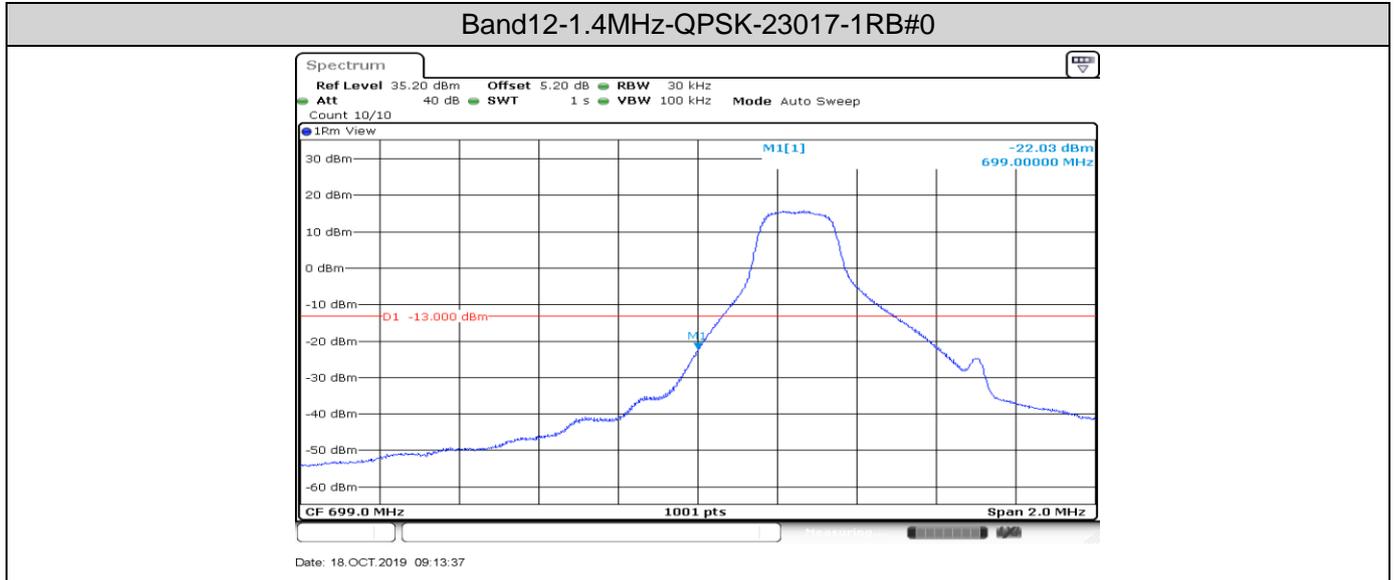


Band12-10MHz-16QAM-23130-50RB#0-8.911



7. Band Edge Compliance

7.1. Test Plots



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



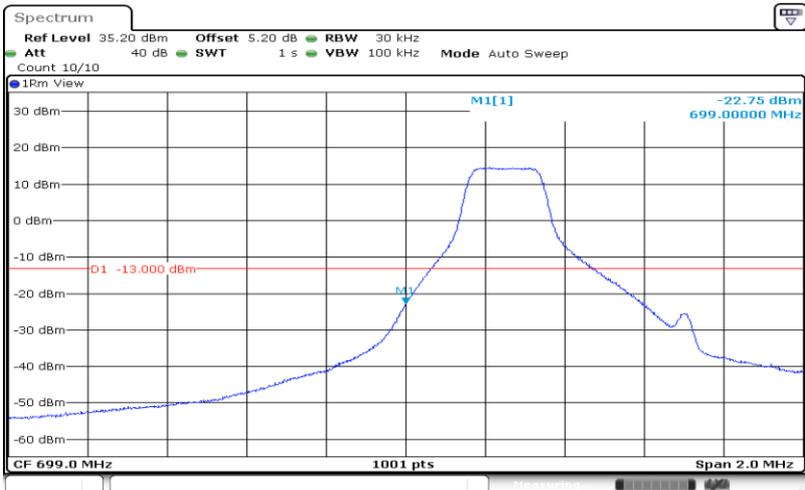
Date: 18.OCT.2019 09:15:01

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



Date: 18.OCT.2019 09:15:40

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



Date: 18.OCT.2019 09:13:57

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



Date: 18.OCT.2019 09:14:37

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



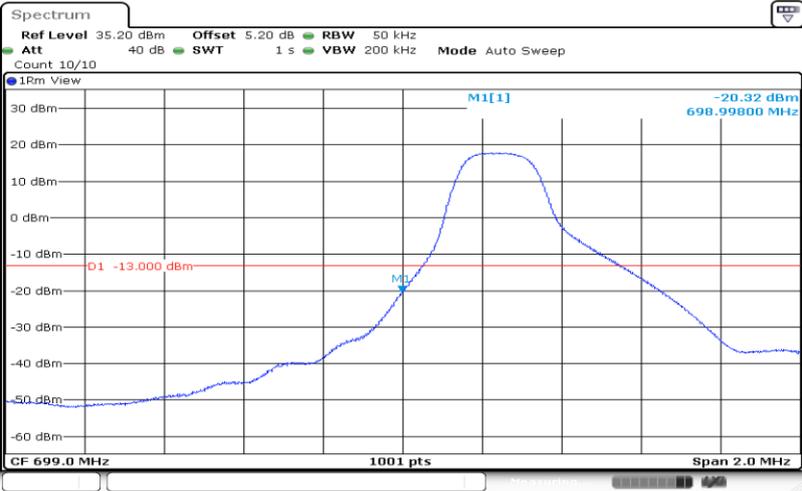
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Band12-1.4MHz-16QAM-23173-6RB#0



Date: 18.OCT.2019 09:16:00

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



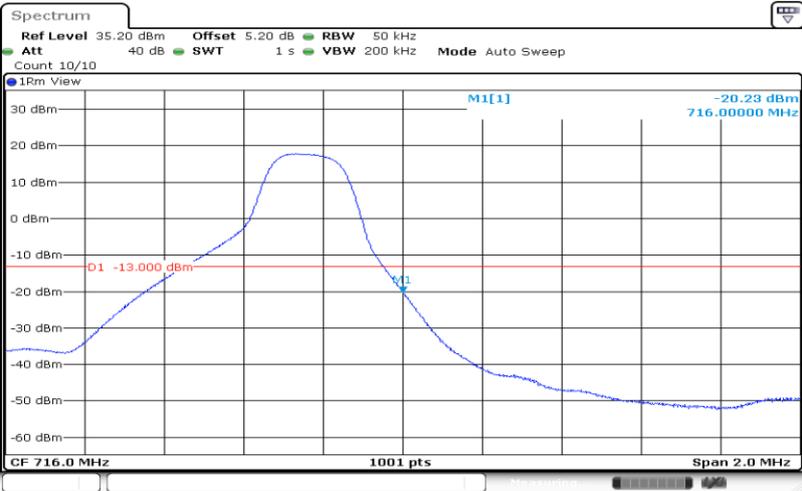
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Band12-3MHz-QPSK-23025-15RB#0



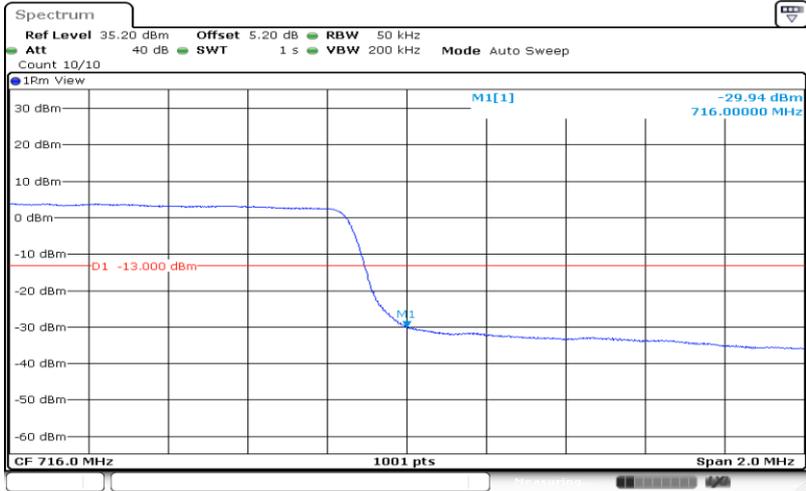
Date: 18.OCT.2019 09:17:05

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



Date: 18.OCT.2019 09:17:49

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



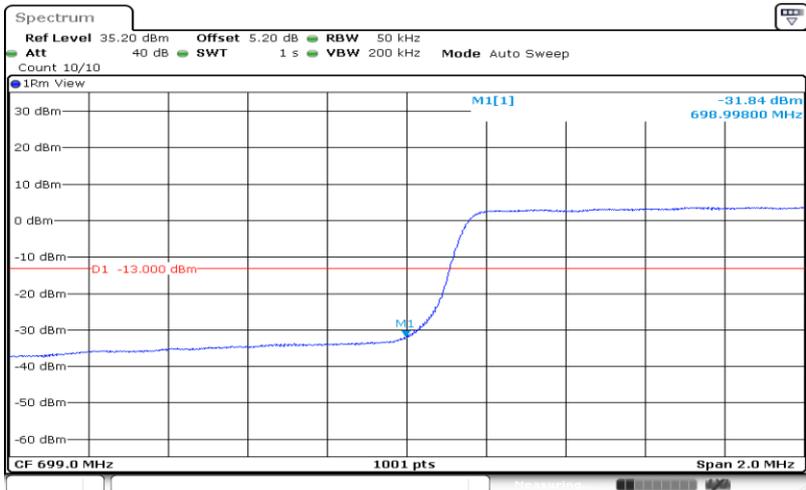
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Band12-3MHz-16QAM-23025-1RB#0



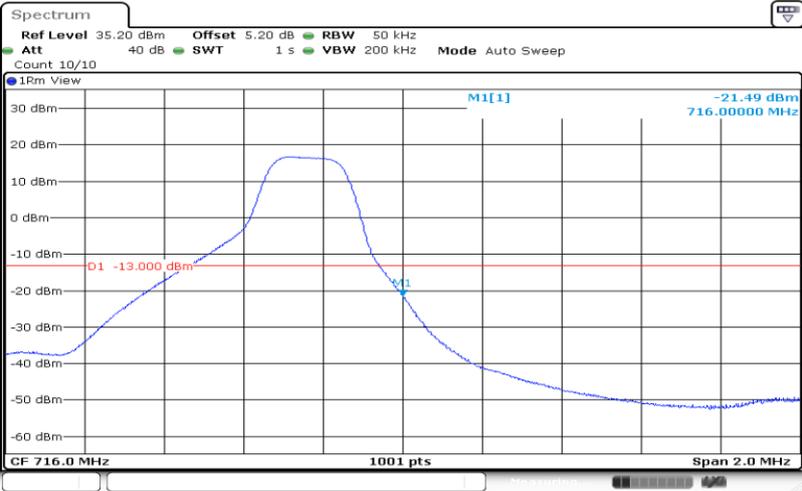
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Band12-3MHz-16QAM-23025-15RB#0



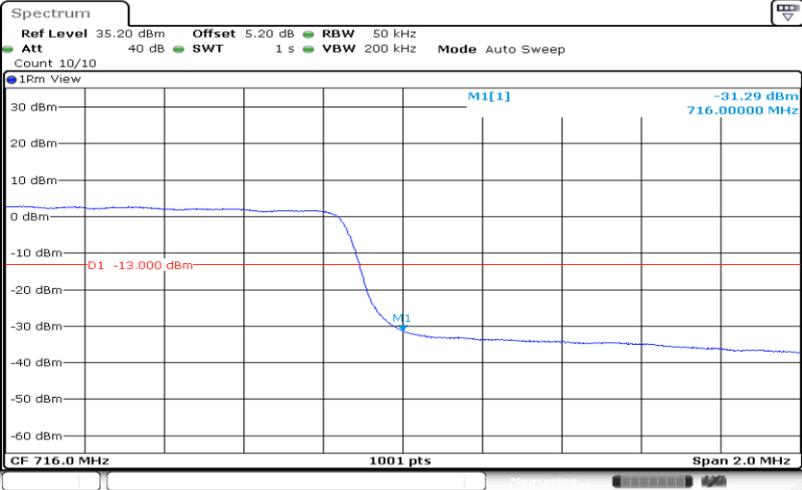
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Band12-3MHz-16QAM-23165-1RB#14



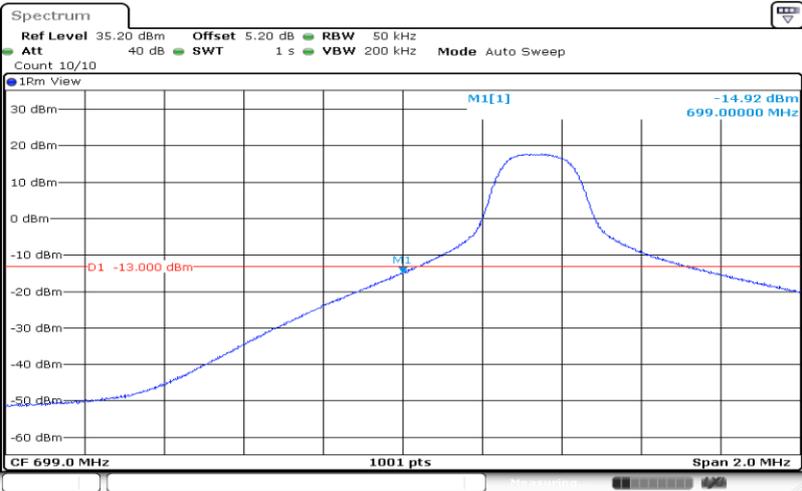
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Band12-3MHz-16QAM-23165-15RB#0



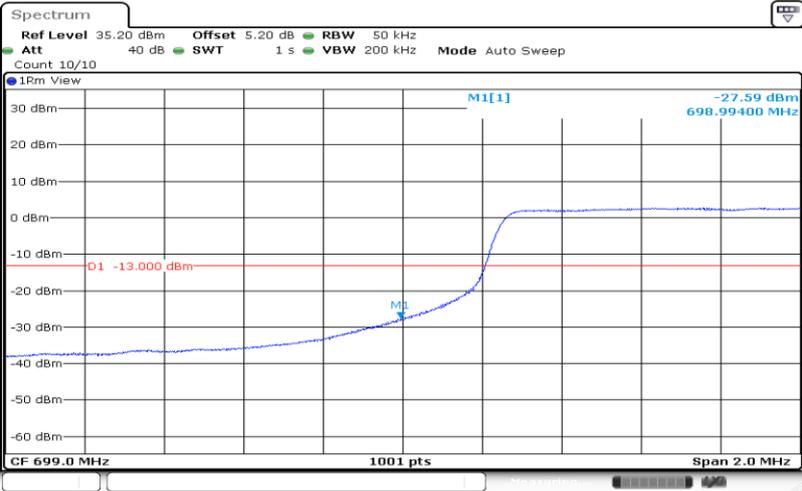
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Band12-5MHz-QPSK-23035-1RB#0



Date: 18.OCT.2019 09:19:12

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



Date: 18.OCT.2019 09:19:51

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



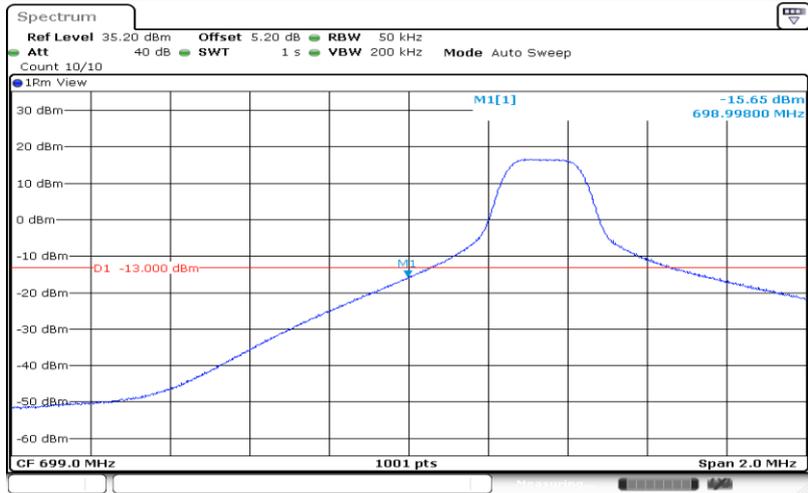
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Band12-5MHz-QPSK-23155-25RB#0



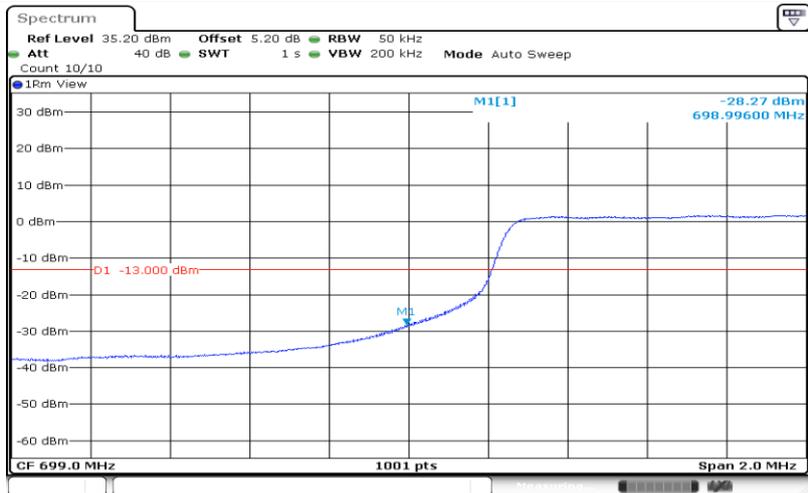
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Band12-5MHz-16QAM-23035-1RB#0



Date: 18.OCT.2019 09:19:32

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



Date: 18.OCT.2019 09:20:11

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



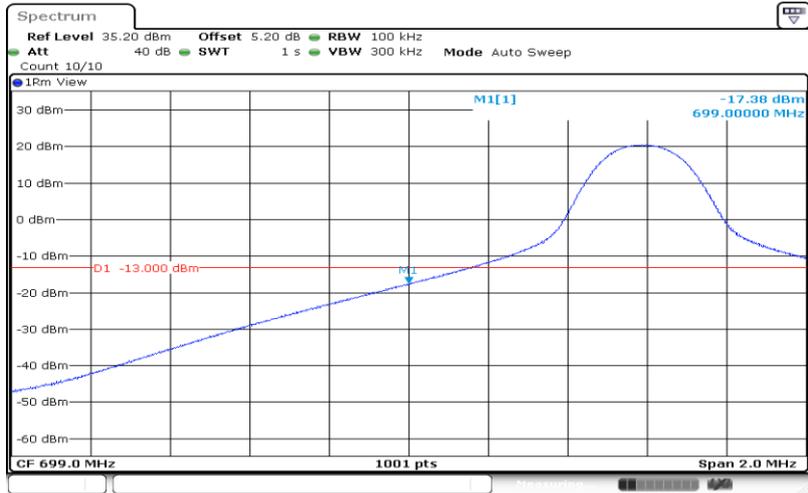
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Band12-5MHz-16QAM-23155-25RB#0



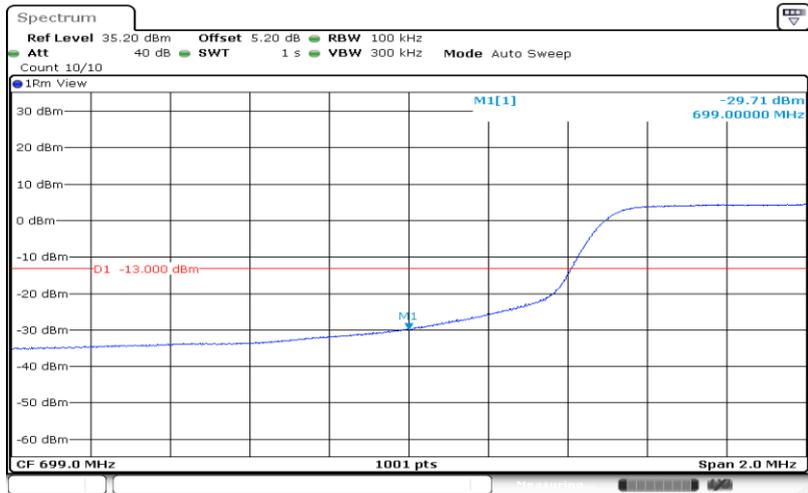
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Band12-10MHz-QPSK-23060-1RB#0



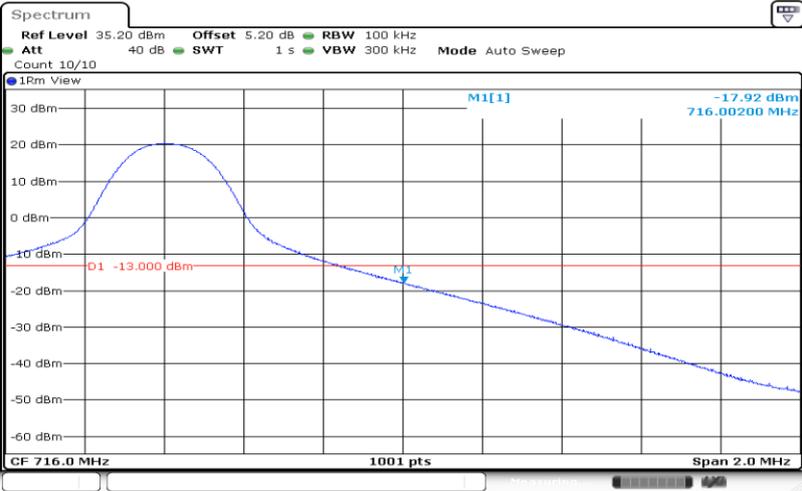
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Band12-10MHz-QPSK-23060-50RB#0



Date: 18.OCT.2019 09:22:39

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



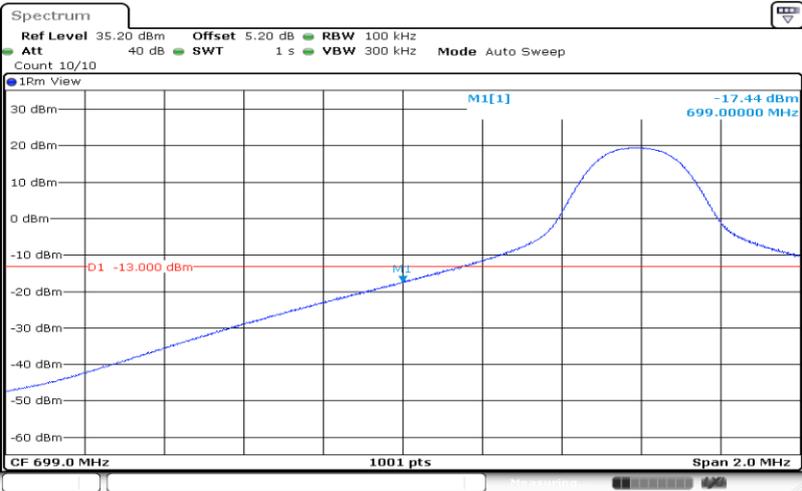
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Band12-10MHz-QPSK-23130-50RB#0



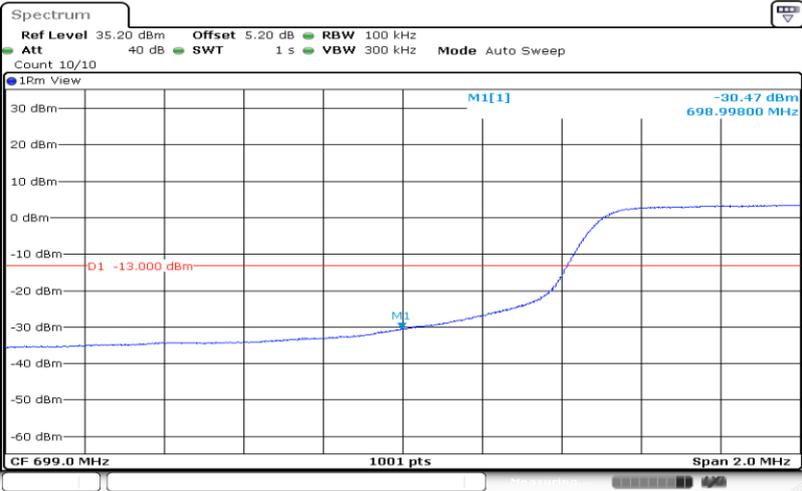
Date: 18.OCT.2019 09:24:03

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



Date: 18.OCT.2019 09:22:19

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



Date: 18.OCT.2019 09:22:58

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



Date: 18.OCT.2019 09:23:43

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



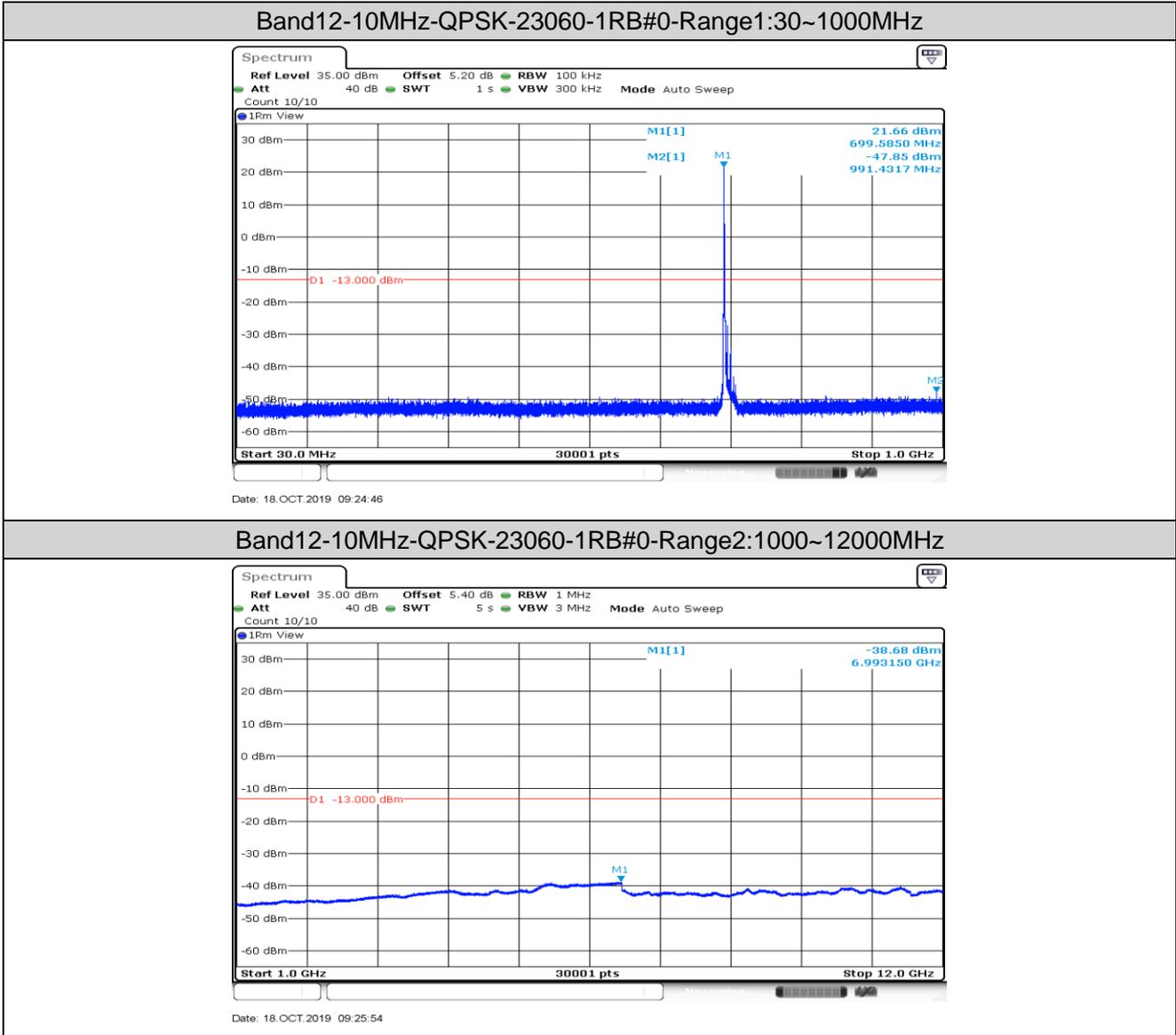
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8. Spurious Emission at Antenna Terminal

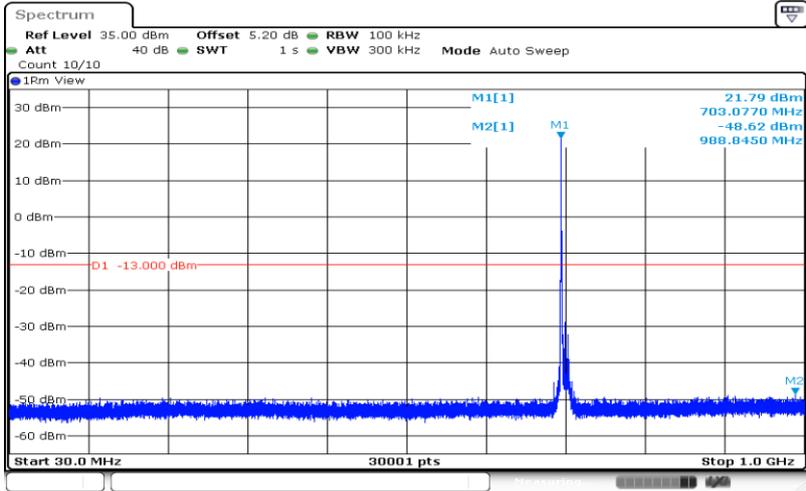
Remark1: For the averaged unwanted emissions measurements, the measurement points in each sweep is greater than twice the Span/RBW in order to ensure bin-to-bin spacing of $< RBW/2$ so that narrowband signals are not lost between frequency bins. As to the present test item, the "Measurement Points =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

8.1. Test Plots

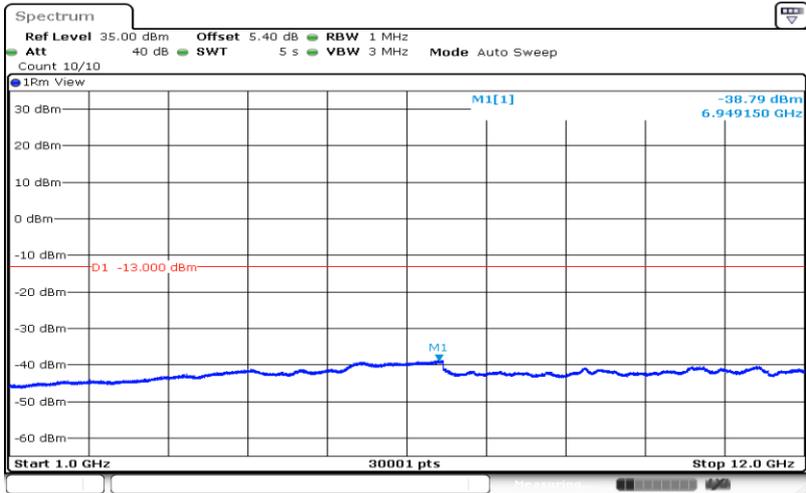


Band12-10MHz-QPSK-23095-1RB#0-Range1:30~1000MHz



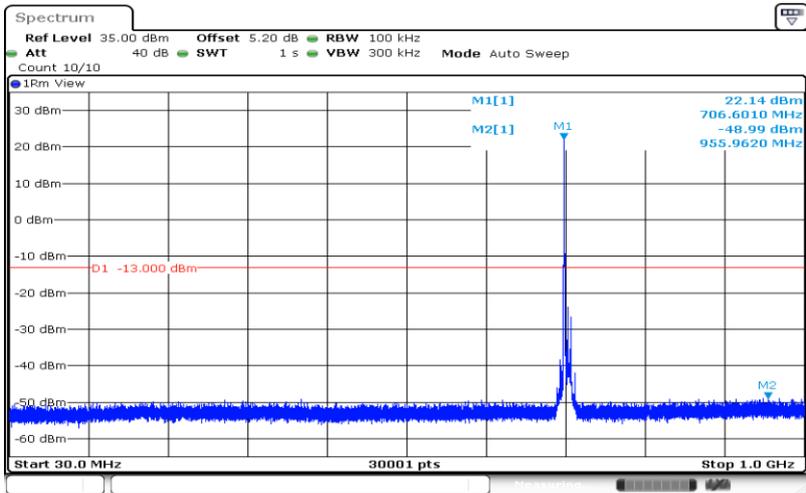
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Band12-10MHz-QPSK-23095-1RB#0-Range2:1000~12000MHz



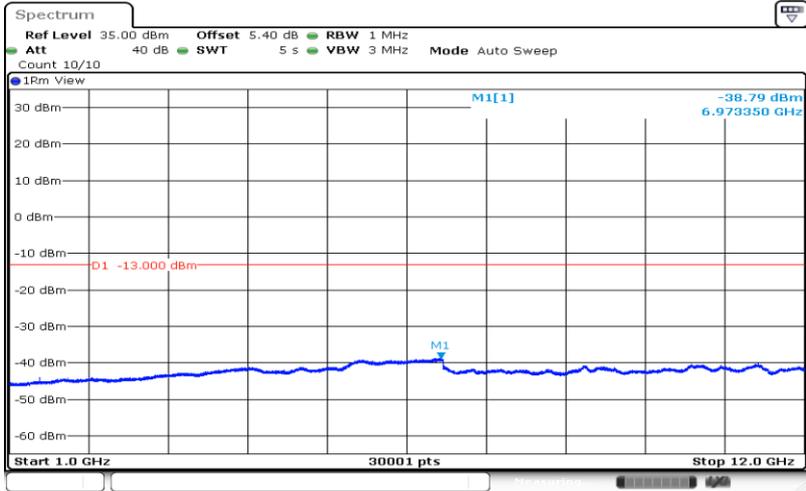
Date: 18.OCT.2019 09:28:48

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



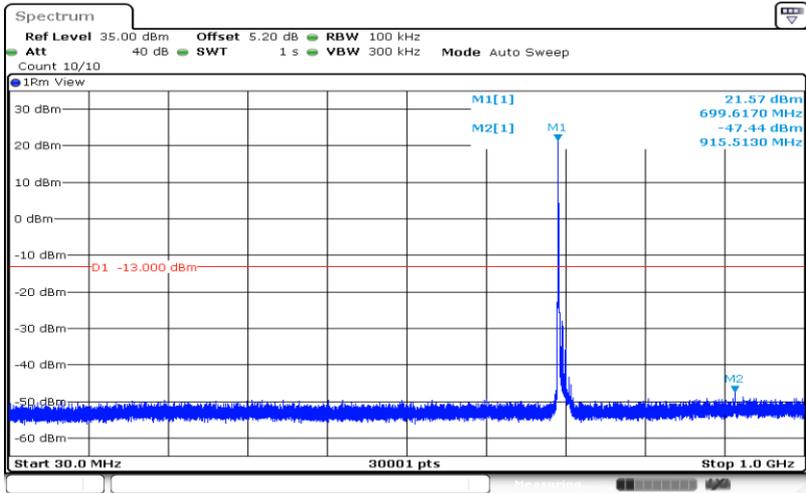
Date: 18.OCT.2019 09:30:35

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



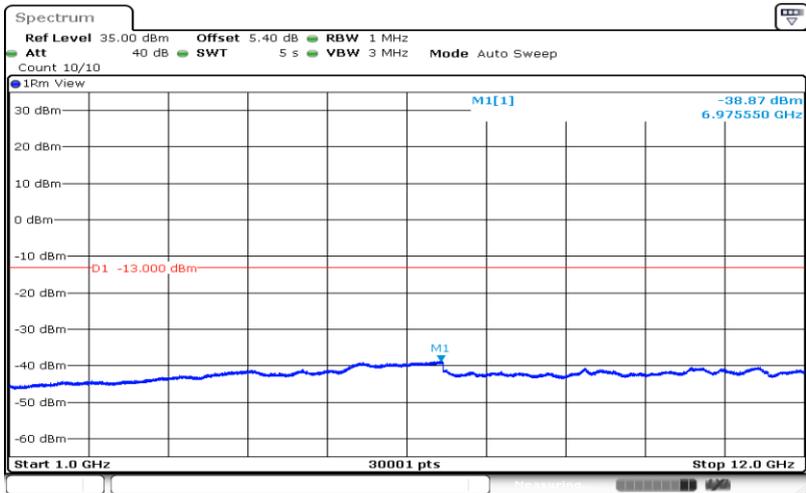
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Band12-10MHz-16QAM-23060-1RB#0-Range1:30~1000MHz



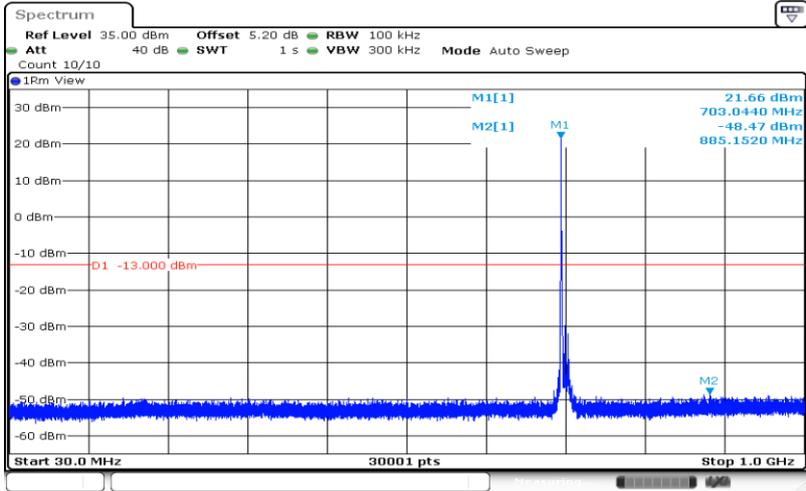
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Band12-10MHz-16QAM-23060-1RB#0-Range2:1000~12000MHz



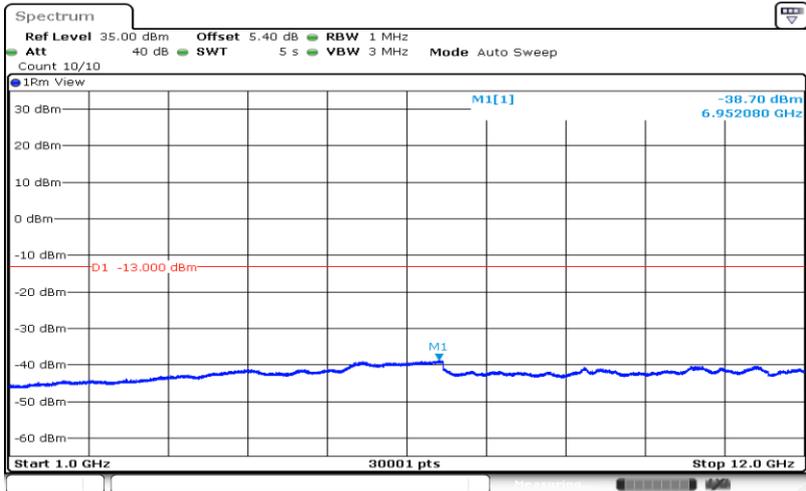
Date: 18.OCT.2019 09:27:21

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



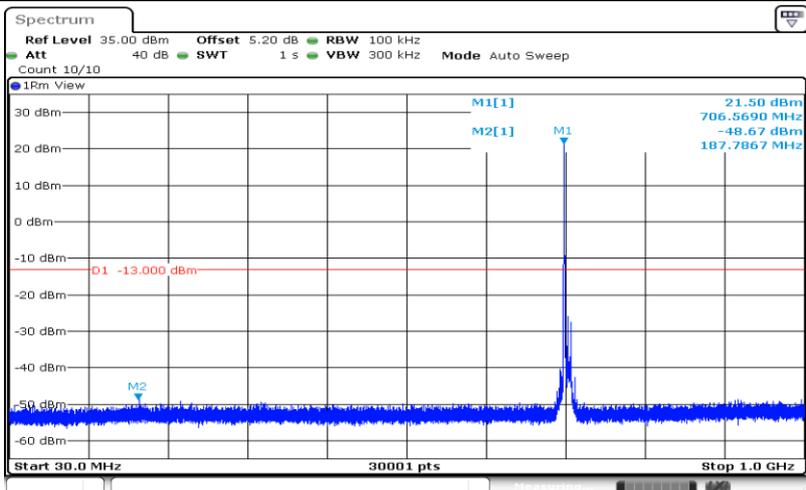
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Band12-10MHz-16QAM-23095-1RB#0-Range2:1000~12000MHz



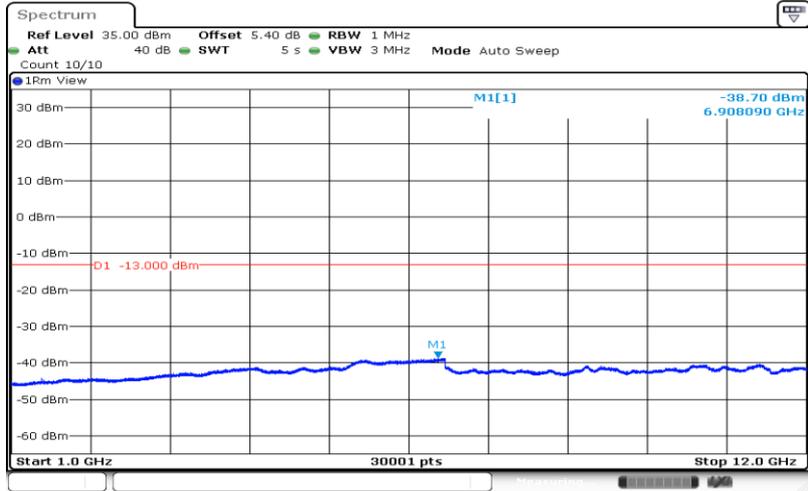
Date: 18.OCT.2019 09:30:15

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



Date: 18.OCT.2019 09:32:02

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



Date: 18.OCT.2019 09:33:09

9. Frequency Stability

9.1. 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	-6.10	-0.008665	±2.5	PASS
Band12	10MHz	QPSK	23060	50RB#0	VN	NT	-1.80	-0.002557	±2.5	PASS
Band12	10MHz	QPSK	23060	50RB#0	VH	NT	-5.80	-0.008239	±2.5	PASS
Band12	10MHz	QPSK	23095	50RB#0	VL	NT	-7.60	-0.010742	±2.5	PASS
Band12	10MHz	QPSK	23095	50RB#0	VN	NT	-7.00	-0.009894	±2.5	PASS
Band12	10MHz	QPSK	23095	50RB#0	VH	NT	-4.80	-0.006784	±2.5	PASS
Band12	10MHz	QPSK	23130	50RB#0	VL	NT	-6.00	-0.008439	±2.5	PASS
Band12	10MHz	QPSK	23130	50RB#0	VN	NT	-7.70	-0.010830	±2.5	PASS
Band12	10MHz	QPSK	23130	50RB#0	VH	NT	-2.40	-0.003376	±2.5	PASS
Band12	10MHz	16QAM	23060	50RB#0	VL	NT	-1.30	-0.001847	±2.5	PASS
Band12	10MHz	16QAM	23060	50RB#0	VN	NT	-4.80	-0.006818	±2.5	PASS
Band12	10MHz	16QAM	23060	50RB#0	VH	NT	-5.10	-0.007244	±2.5	PASS
Band12	10MHz	16QAM	23095	50RB#0	VL	NT	-6.50	-0.009187	±2.5	PASS
Band12	10MHz	16QAM	23095	50RB#0	VN	NT	-8.20	-0.011590	±2.5	PASS
Band12	10MHz	16QAM	23095	50RB#0	VH	NT	-11.90	-0.016820	±2.5	PASS
Band12	10MHz	16QAM	23130	50RB#0	VL	NT	-2.80	-0.003938	±2.5	PASS
Band12	10MHz	16QAM	23130	50RB#0	VN	NT	-2.90	-0.004079	±2.5	PASS
Band12	10MHz	16QAM	23130	50RB#0	VH	NT	-3.70	-0.005204	±2.5	PASS

9.2. 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	-2.70	-0.003835	±2.5	PASS
Band12	10MHz	QPSK	23060	50RB#0	NV	-20	-2.20	-0.003125	±2.5	PASS
Band12	10MHz	QPSK	23060	50RB#0	NV	0	-10.40	-0.014773	±2.5	PASS
Band12	10MHz	QPSK	23060	50RB#0	NV	10	-7.60	-0.010795	±2.5	PASS
Band12	10MHz	QPSK	23060	50RB#0	NV	20	-6.60	-0.009375	±2.5	PASS
Band12	10MHz	QPSK	23060	50RB#0	NV	30	-0.80	-0.001136	±2.5	PASS
Band12	10MHz	QPSK	23060	50RB#0	NV	40	-1.60	-0.002273	±2.5	PASS
Band12	10MHz	QPSK	23060	50RB#0	NV	50	-6.90	-0.009801	±2.5	PASS
Band12	10MHz	QPSK	23095	50RB#0	NV	-30	-1.90	-0.002686	±2.5	PASS
Band12	10MHz	QPSK	23095	50RB#0	NV	-20	-5.70	-0.008057	±2.5	PASS
Band12	10MHz	QPSK	23095	50RB#0	NV	0	-3.70	-0.005230	±2.5	PASS
Band12	10MHz	QPSK	23095	50RB#0	NV	10	-3.60	-0.005088	±2.5	PASS
Band12	10MHz	QPSK	23095	50RB#0	NV	20	-0.70	-0.000989	±2.5	PASS
Band12	10MHz	QPSK	23095	50RB#0	NV	30	-3.00	-0.004240	±2.5	PASS
Band12	10MHz	QPSK	23095	50RB#0	NV	40	-3.90	-0.005512	±2.5	PASS
Band12	10MHz	QPSK	23095	50RB#0	NV	50	-5.00	-0.007067	±2.5	PASS
Band12	10MHz	QPSK	23130	50RB#0	NV	-30	-8.40	-0.011814	±2.5	PASS
Band12	10MHz	QPSK	23130	50RB#0	NV	-20	-12.20	-0.017159	±2.5	PASS
Band12	10MHz	QPSK	23130	50RB#0	NV	0	-8.40	-0.011814	±2.5	PASS
Band12	10MHz	QPSK	23130	50RB#0	NV	10	-7.60	-0.010689	±2.5	PASS
Band12	10MHz	QPSK	23130	50RB#0	NV	20	-4.90	-0.006892	±2.5	PASS
Band12	10MHz	QPSK	23130	50RB#0	NV	30	-8.70	-0.012236	±2.5	PASS
Band12	10MHz	QPSK	23130	50RB#0	NV	40	-2.70	-0.003797	±2.5	PASS

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Band12	10MHz	QPSK	23130	50RB#0	NV	50	-4.20	-0.005907	±2.5	PASS
Band12	10MHz	16QAM	23060	50RB#0	NV	-30	-1.70	-0.002415	±2.5	PASS
Band12	10MHz	16QAM	23060	50RB#0	NV	-20	-5.10	-0.007244	±2.5	PASS
Band12	10MHz	16QAM	23060	50RB#0	NV	0	-7.70	-0.010938	±2.5	PASS
Band12	10MHz	16QAM	23060	50RB#0	NV	10	-7.00	-0.009943	±2.5	PASS
Band12	10MHz	16QAM	23060	50RB#0	NV	20	-3.00	-0.004261	±2.5	PASS
Band12	10MHz	16QAM	23060	50RB#0	NV	30	-5.40	-0.007670	±2.5	PASS
Band12	10MHz	16QAM	23060	50RB#0	NV	40	-2.80	-0.003977	±2.5	PASS
Band12	10MHz	16QAM	23060	50RB#0	NV	50	-11.60	-0.016477	±2.5	PASS
Band12	10MHz	16QAM	23095	50RB#0	NV	-30	-9.50	-0.013428	±2.5	PASS
Band12	10MHz	16QAM	23095	50RB#0	NV	-20	-3.60	-0.005088	±2.5	PASS
Band12	10MHz	16QAM	23095	50RB#0	NV	0	-9.40	-0.013286	±2.5	PASS
Band12	10MHz	16QAM	23095	50RB#0	NV	10	-0.10	-0.000141	±2.5	PASS
Band12	10MHz	16QAM	23095	50RB#0	NV	20	-12.40	-0.017527	±2.5	PASS
Band12	10MHz	16QAM	23095	50RB#0	NV	30	-13.80	-0.019505	±2.5	PASS
Band12	10MHz	16QAM	23095	50RB#0	NV	40	-10.10	-0.014276	±2.5	PASS
Band12	10MHz	16QAM	23095	50RB#0	NV	50	-7.40	-0.010459	±2.5	PASS
Band12	10MHz	16QAM	23130	50RB#0	NV	-30	-10.00	-0.014065	±2.5	PASS
Band12	10MHz	16QAM	23130	50RB#0	NV	-20	-8.00	-0.011252	±2.5	PASS
Band12	10MHz	16QAM	23130	50RB#0	NV	0	-3.20	-0.004501	±2.5	PASS
Band12	10MHz	16QAM	23130	50RB#0	NV	10	-8.80	-0.012377	±2.5	PASS
Band12	10MHz	16QAM	23130	50RB#0	NV	20	-2.30	-0.003235	±2.5	PASS
Band12	10MHz	16QAM	23130	50RB#0	NV	30	-6.90	-0.009705	±2.5	PASS
Band12	10MHz	16QAM	23130	50RB#0	NV	40	-7.80	-0.010970	±2.5	PASS
Band12	10MHz	16QAM	23130	50RB#0	NV	50	-1.20	-0.001688	±2.5	PASS

The End