



# 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	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,

$$ERP [dBm] = \text{Conducted Power [dBm]} + \text{Gain [dBd]}$$

$$EIRP [dBm] = \text{Conducted Power [dBm]} + \text{Gain [dBi]}$$



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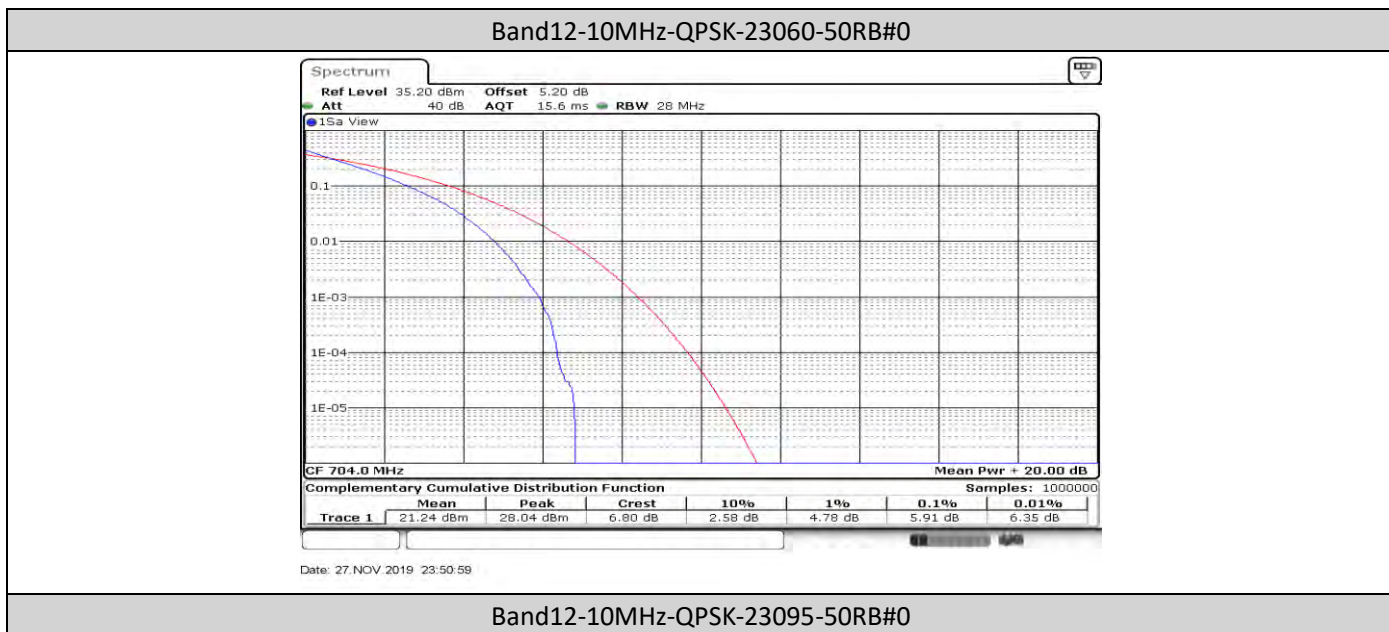


## 2. Peak-to-Average Ratio (CCDF)

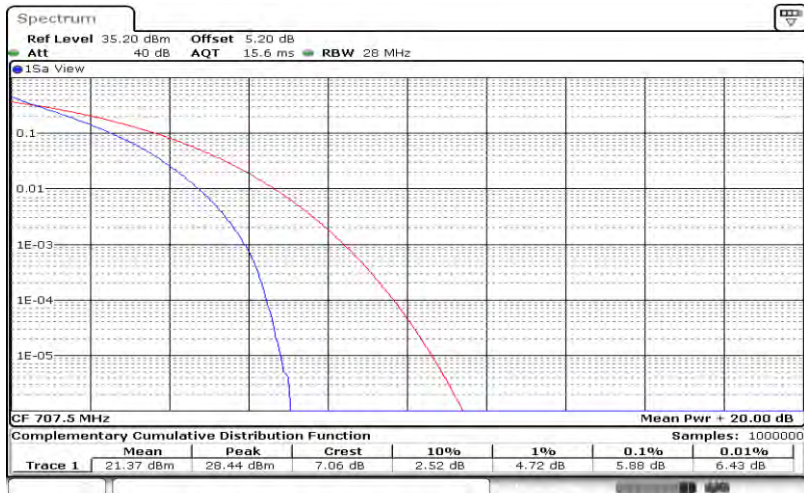
### 2.1. Test Result

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

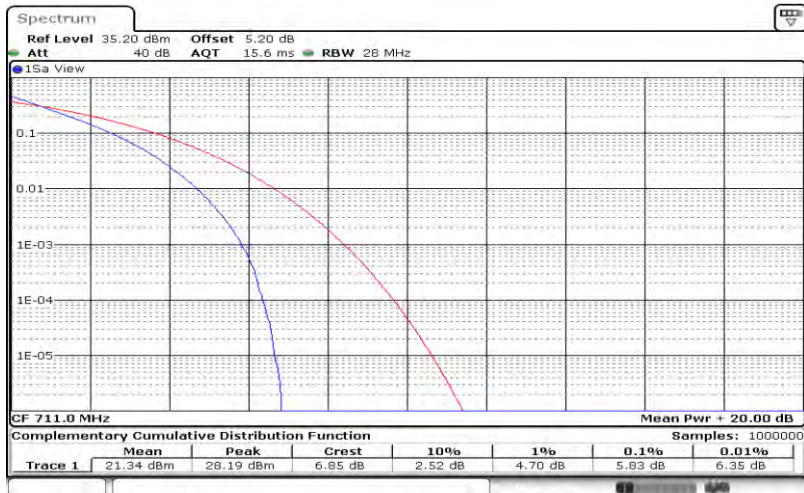






Date: 27.NOV.2019 23:51:21

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



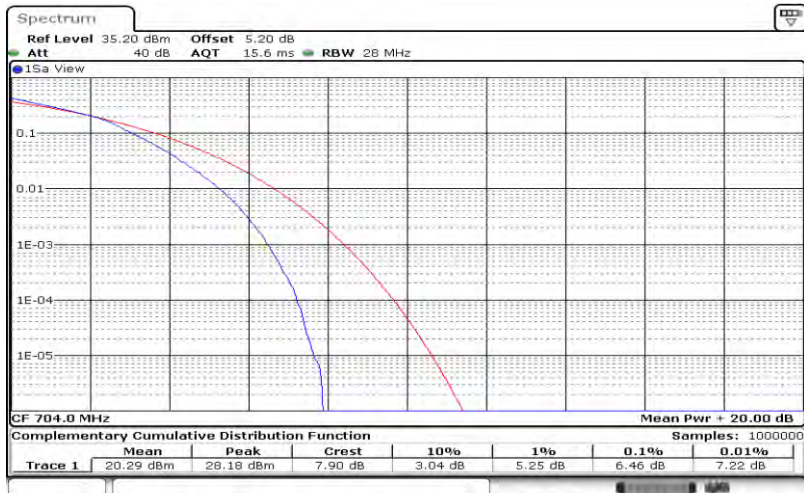
Date: 27.NOV.2019 23:51:44

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



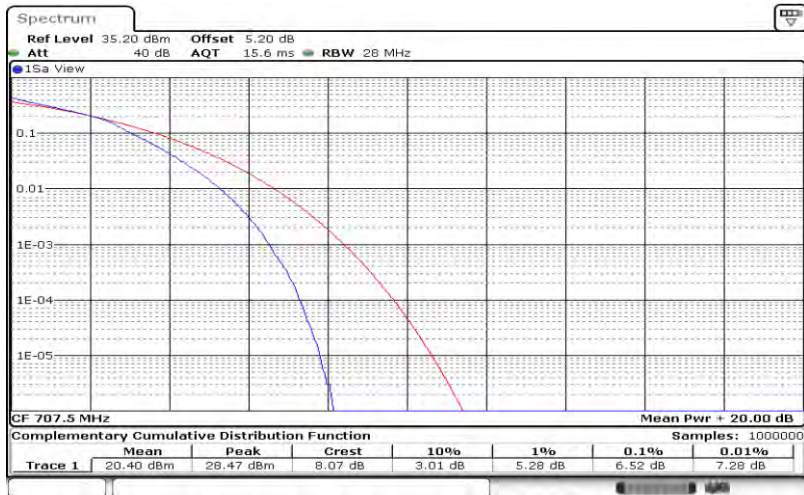
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Date: 27.NOV.2019 23:51:10

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



Date: 27.NOV.2019 23:51:32

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



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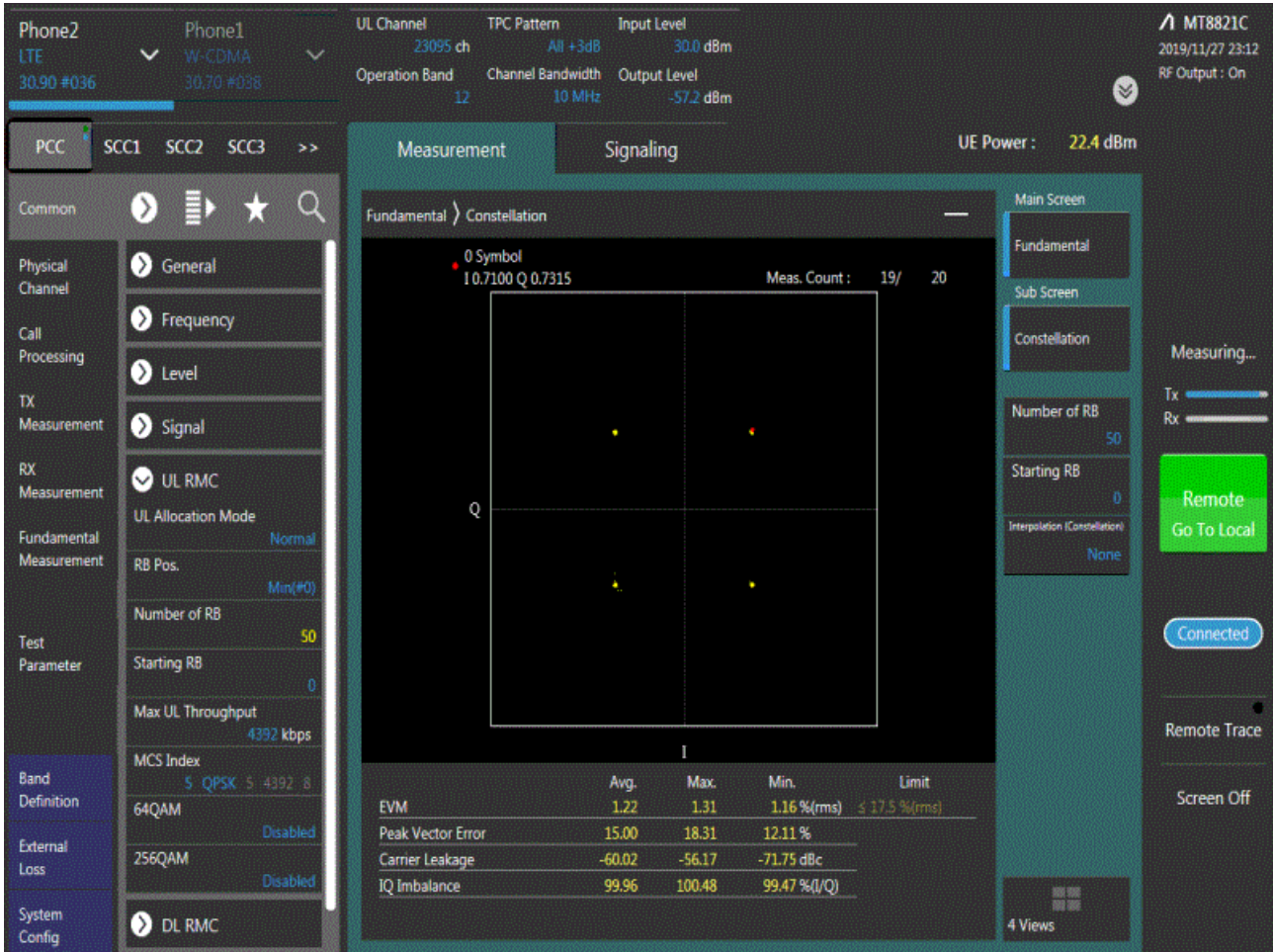
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### 3. Modulation Characteristics

#### 3.1. Test Mode = LTE /TM1 10MHz

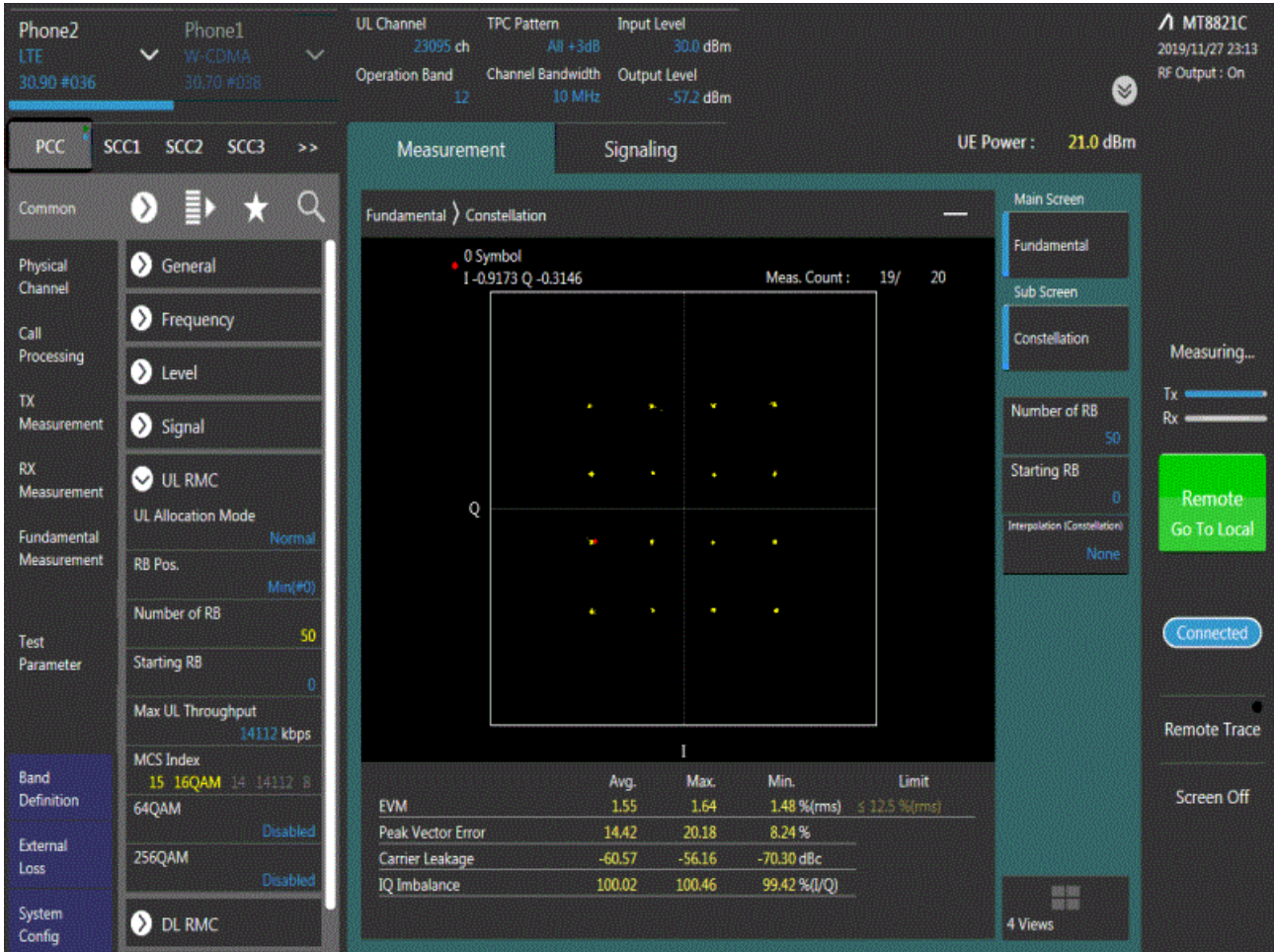
##### 3.1.1. Test Channel = MCH



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### 3.2. Test Mode = LTE /TM2 10MHz

#### 3.2.1. Test Channel = MCH



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## 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



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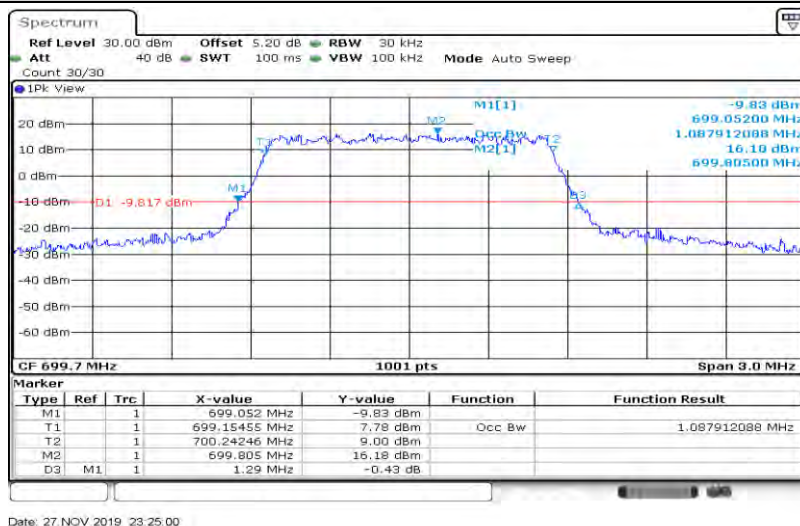
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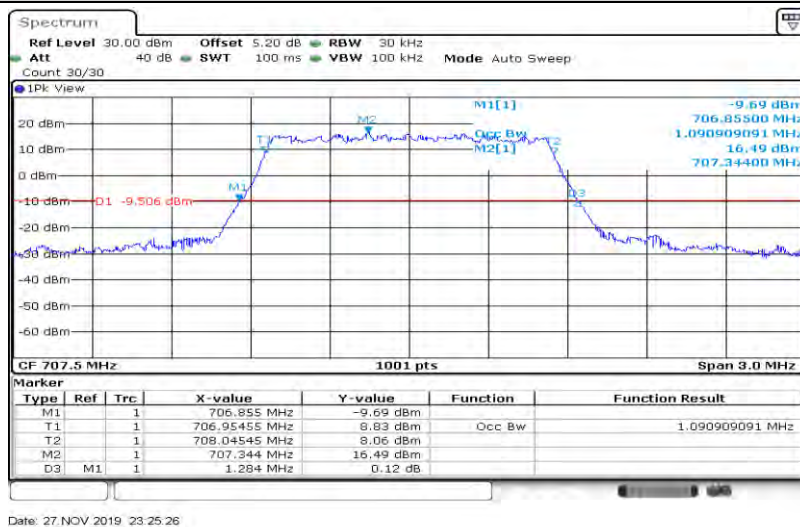


### 4.2. Test Plots

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



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



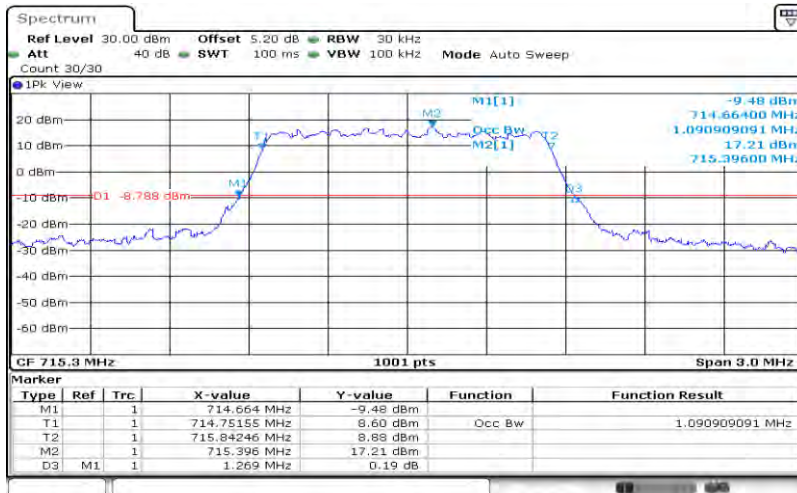
Band12-1.4MHz-QPSK-23173-6RB#0-1.091



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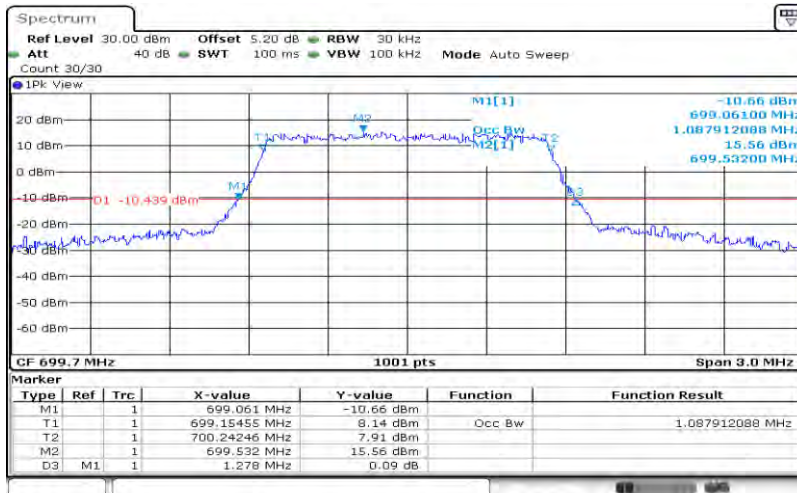
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Date: 27.NOV.2019 23:25:52

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



Date: 27.NOV.2019 23:25:13

**Band12-1.4MHz-16QAM-23095-6RB#0-1.088**



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Date: 27.NOV.2019 23:25:38

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



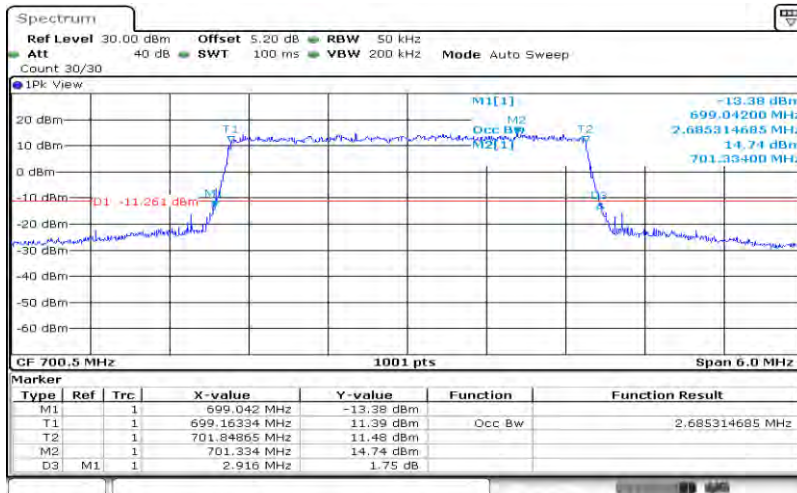
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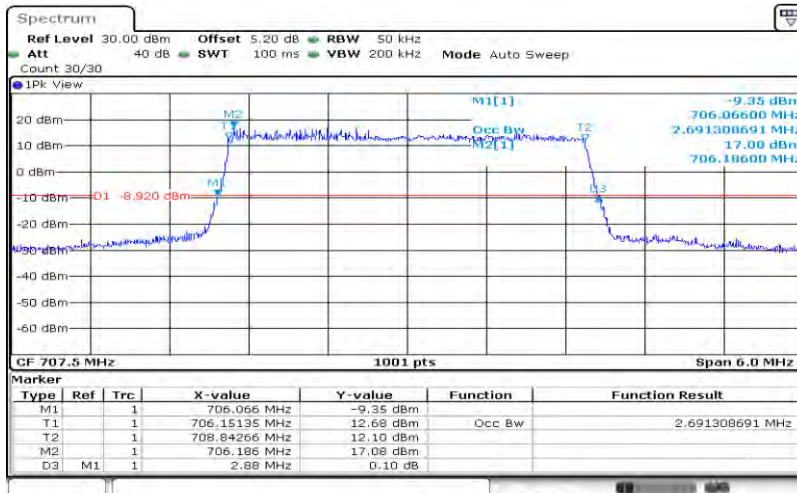
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Date: 27.NOV.2019 23:26:23

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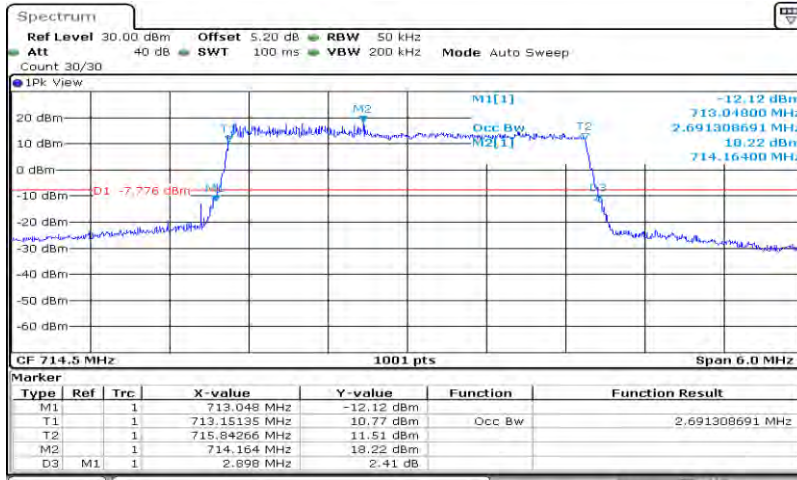


Date: 27.NOV.2019 23:26:49

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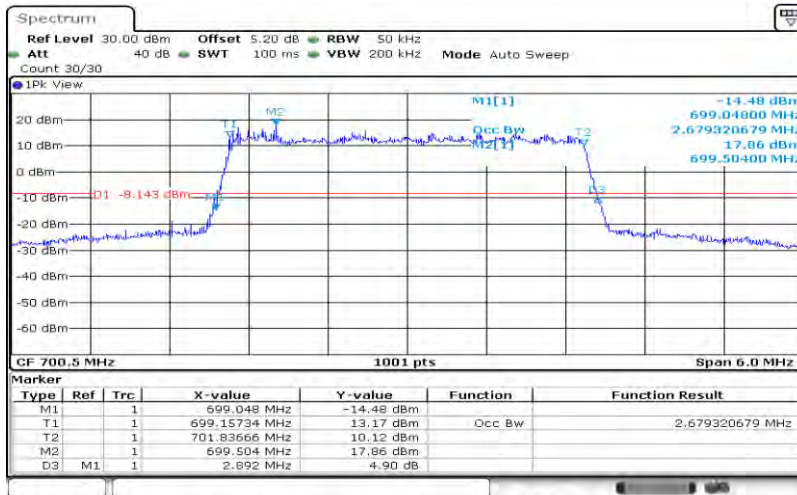


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Date: 27.NOV.2019 23.27.14

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

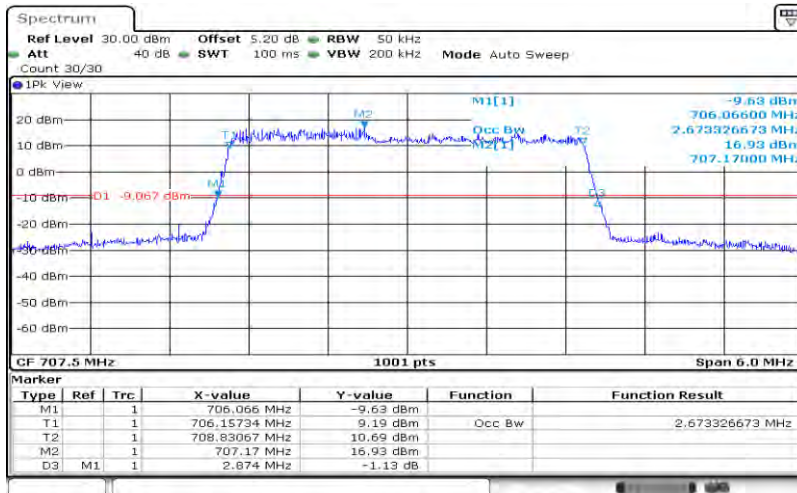


Date: 27.NOV.2019 23.26.36

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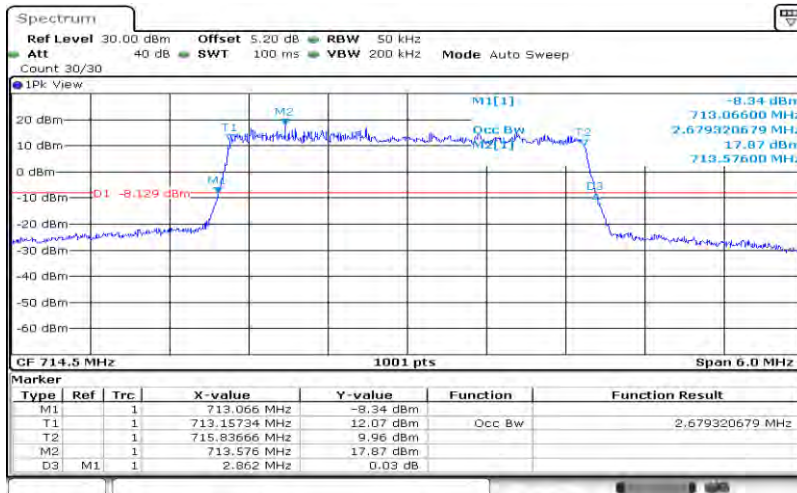


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Date: 27.NOV.2019 23:27:01

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



Date: 27.NOV.2019 23:27:27

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



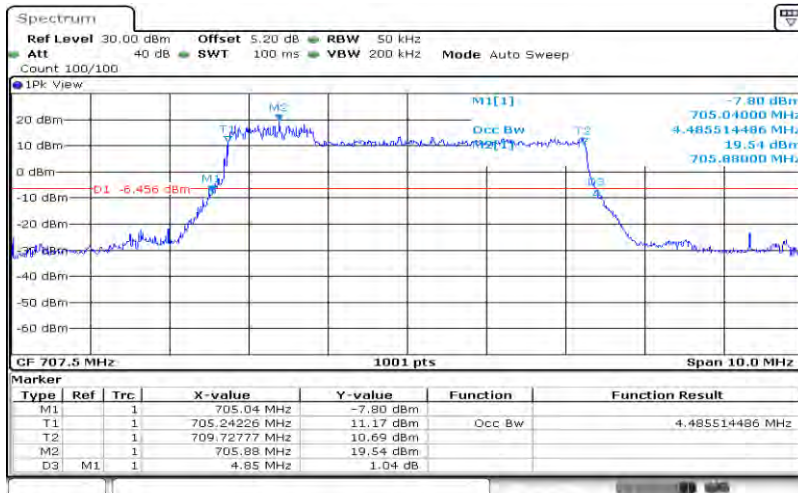
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Date: 27.NOV.2019 23:27:52

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



Date: 27.NOV.2019 23:28:32

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

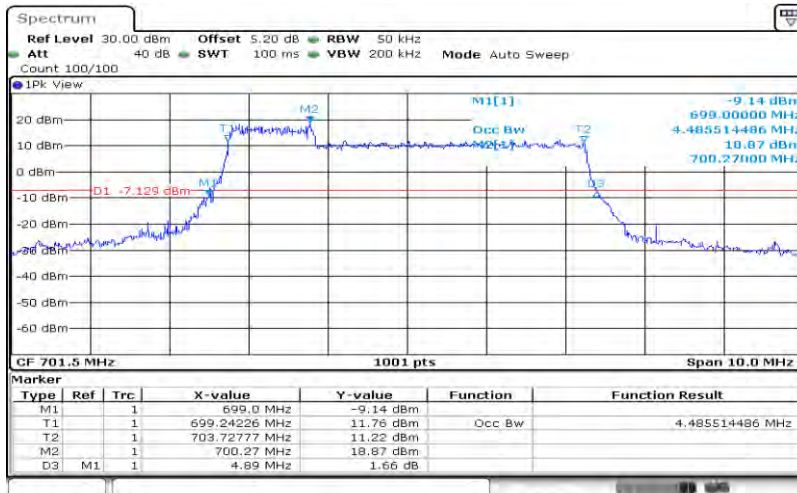


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Date: 27.NOV.2019 23:28:12

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



Date: 27.NOV.2019 23:28:12

**Band12-5MHz-16QAM-23095-25RB#0-4.486**



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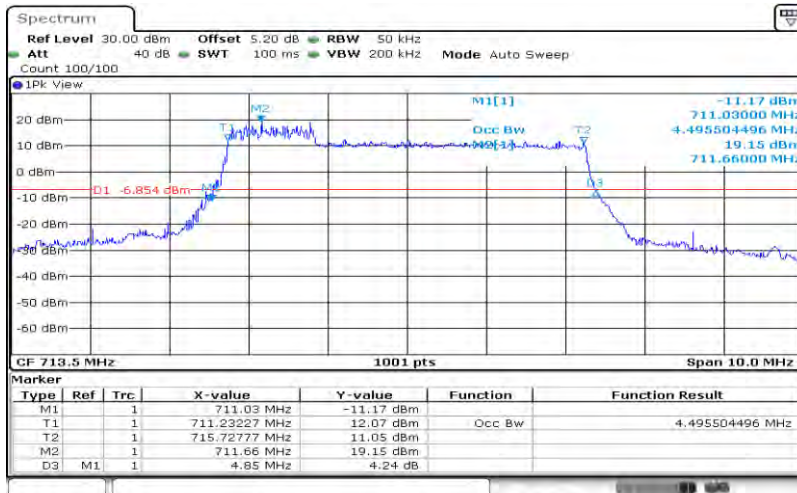
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Date: 27.NOV.2019 23:28:52

**Band12-5MHz-16QAM-23155-25RB#0-4.496**



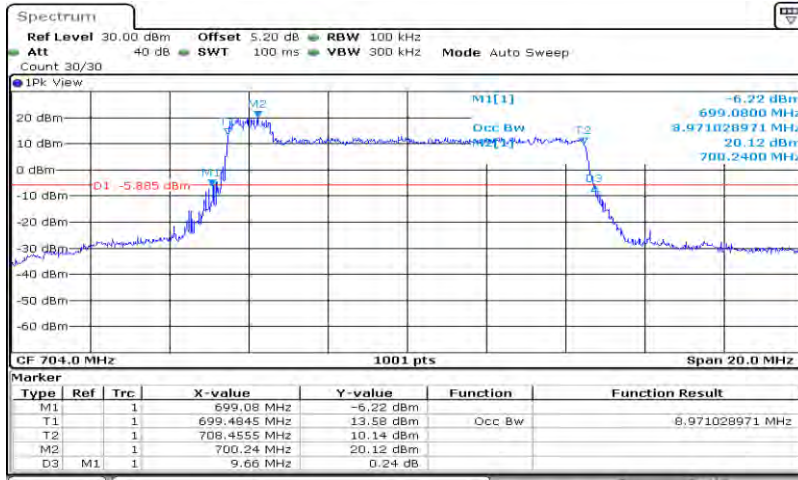
Date: 27.NOV.2019 23:29:31

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



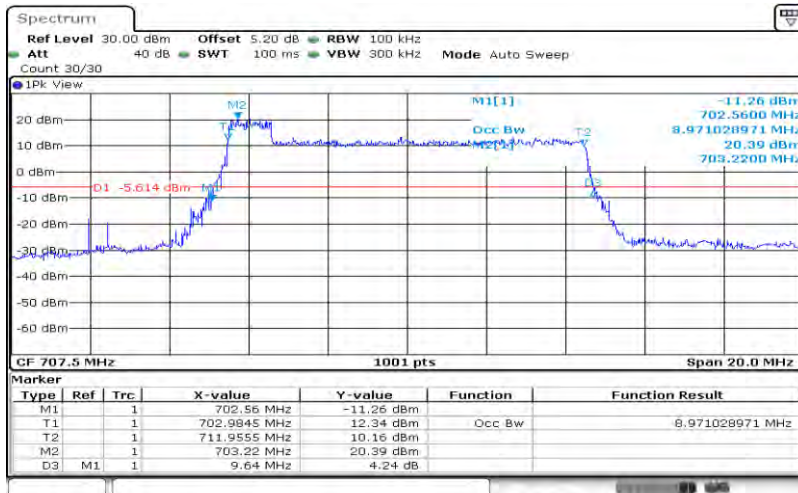
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Date: 27.NOV 2019 23:29:50

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



Date: 27.NOV 2019 23:30:15

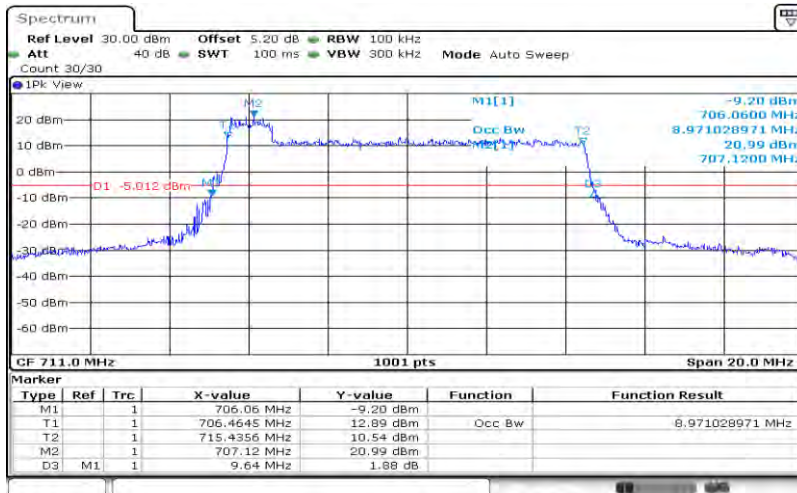
**Band12-10MHz-QPSK-23130-50RB#0-8.971**



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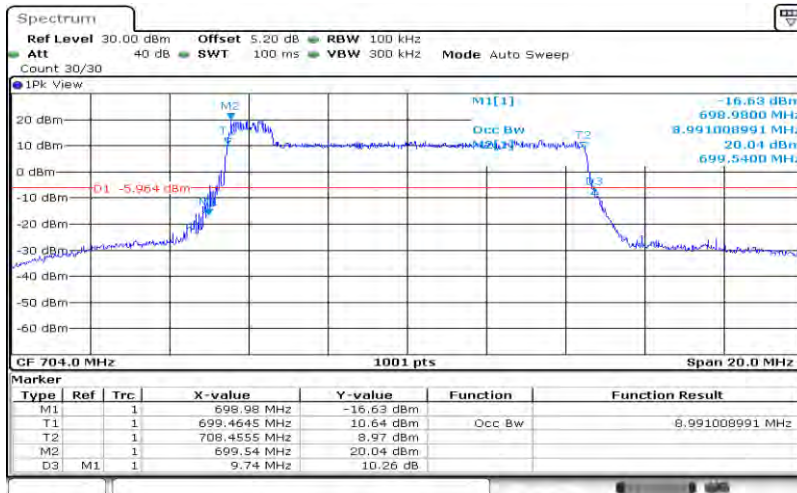
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Date: 27.NOV 2019 23:30:41

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

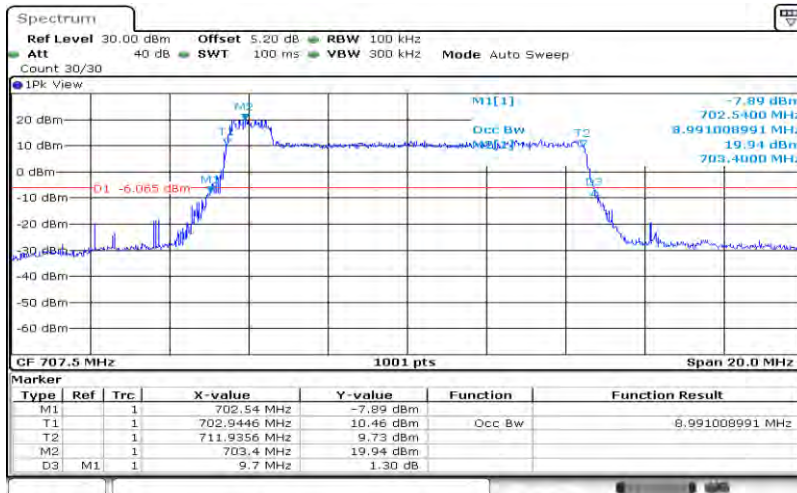


Date: 27.NOV 2019 23:30:02

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

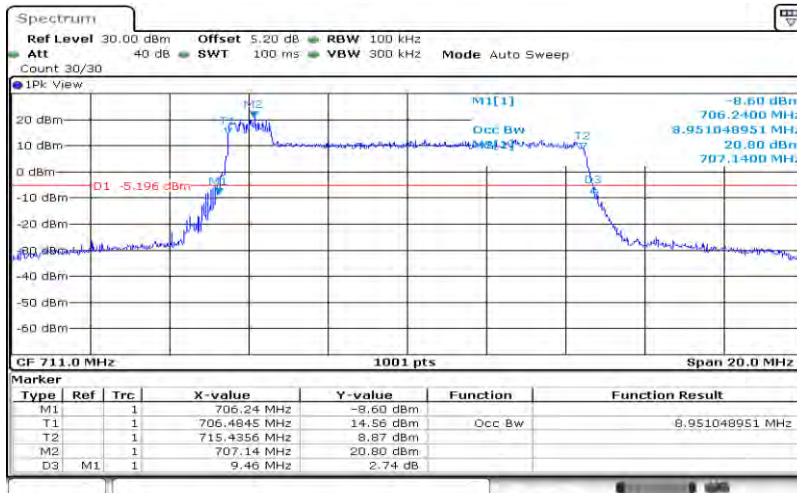


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Date: 27.NOV.2019 23:30:28

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



Date: 27.NOV.2019 23:30:54



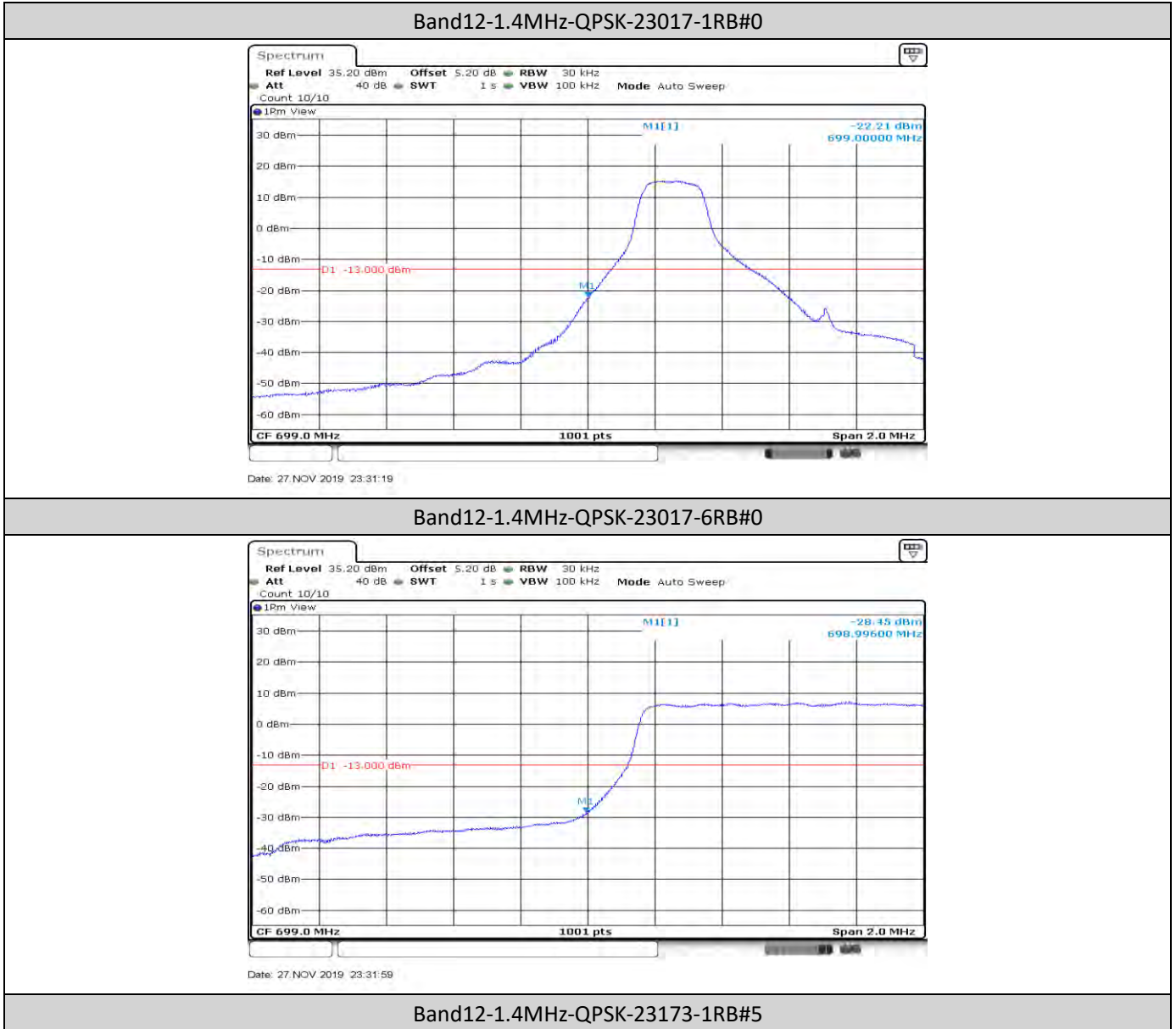
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## 5. Band Edge Compliance

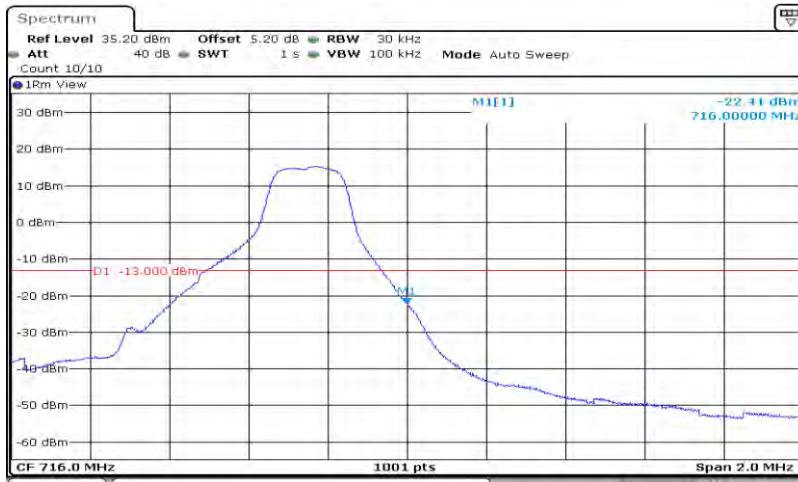
### 5.1. Test Plots



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Date: 27.NOV.2019 23:32:42

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

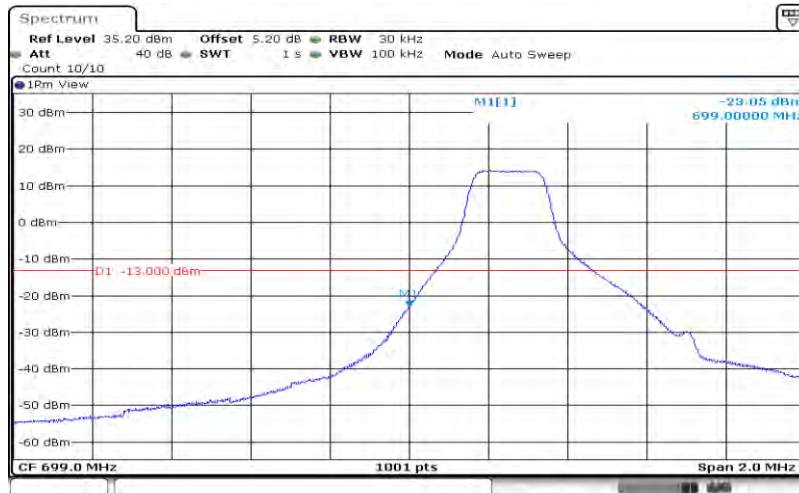


Date: 27.NOV.2019 23:33:21

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



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

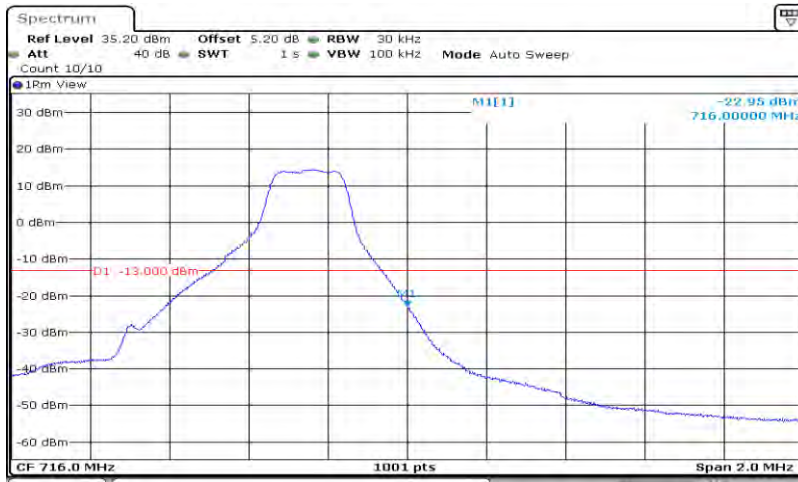


**Band12-1.4MHz-16QAM-23173-1RB#5**



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Date: 27.NOV.2019 23.33:01

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

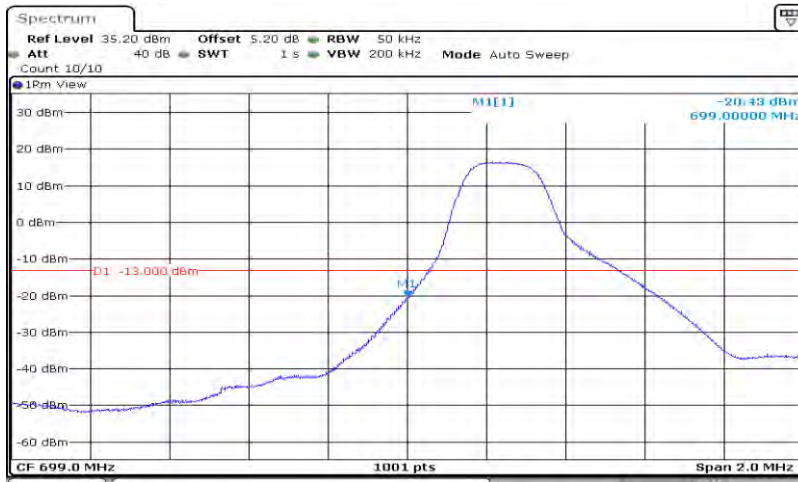


Date: 27.NOV.2019 23.33:41

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



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Date: 27.NOV.2019 23:34:06

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

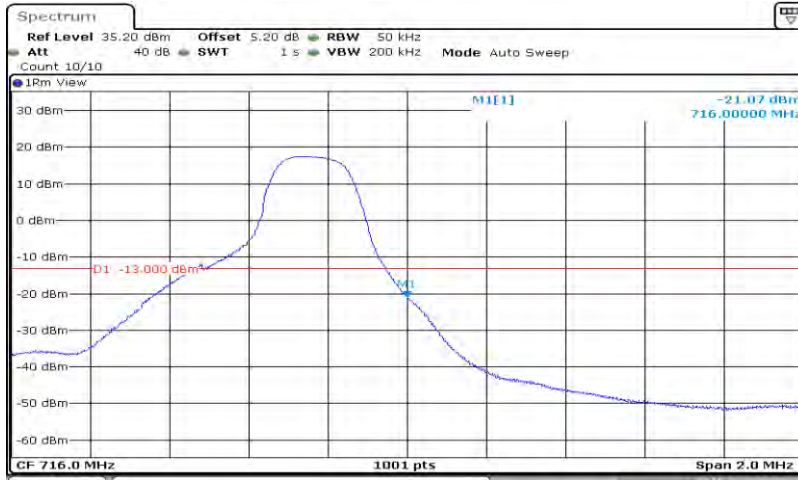


Date: 27.NOV.2019 23:34:45

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



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Date: 27.NOV.2019 23:35:29

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



Date: 27.NOV.2019 23:36:08

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



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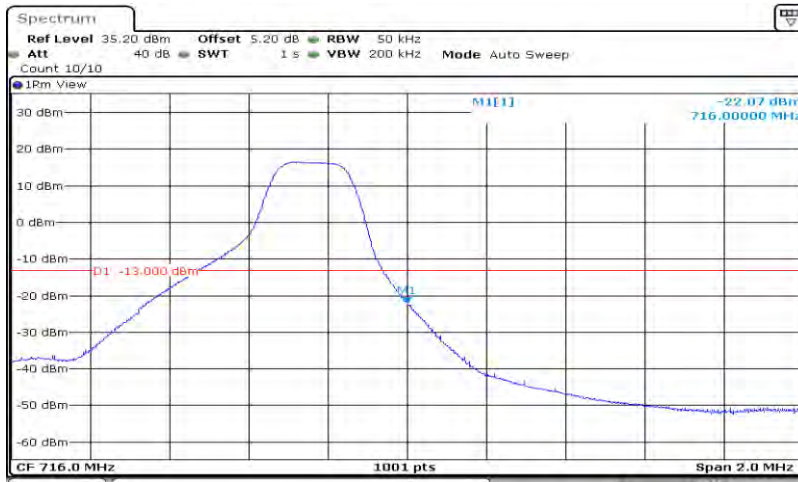
**Band12-3MHz-16QAM-23025-15RB#0**



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



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**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**



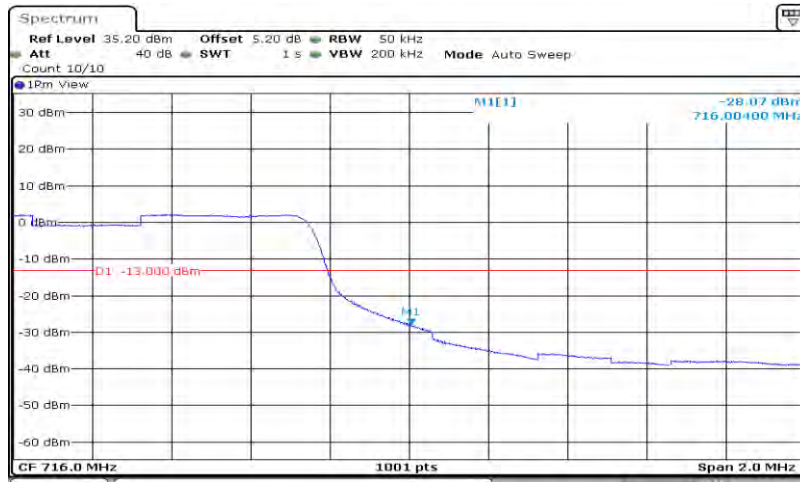
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Date: 27.NOV.2019 23:38:14

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



Date: 27.NOV.2019 23:38:53

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



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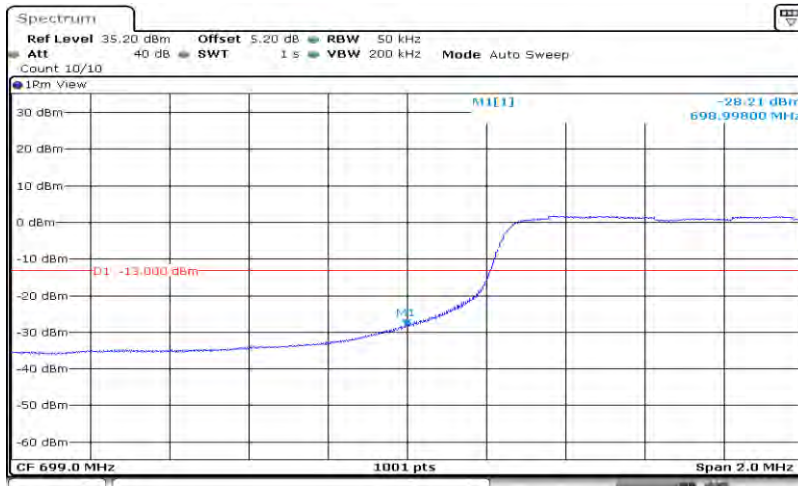
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Date: 27.NOV.2019 23:37:11

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



Date: 27.NOV.2019 23:37:50

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



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Date: 27.NOV.2019 23:38:34

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



Date: 27.NOV.2019 23:39:13

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



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Date: 27.NOV.2019 23:39:38

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



Date: 27.NOV.2019 23:40:17

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



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



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



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Date: 27.NOV.2019 23:39:57

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



Date: 27.NOV.2019 23:40:36

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



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Date: 27.NOV 2019 23:41:20

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



Date: 27.NOV 2019 23:41:58



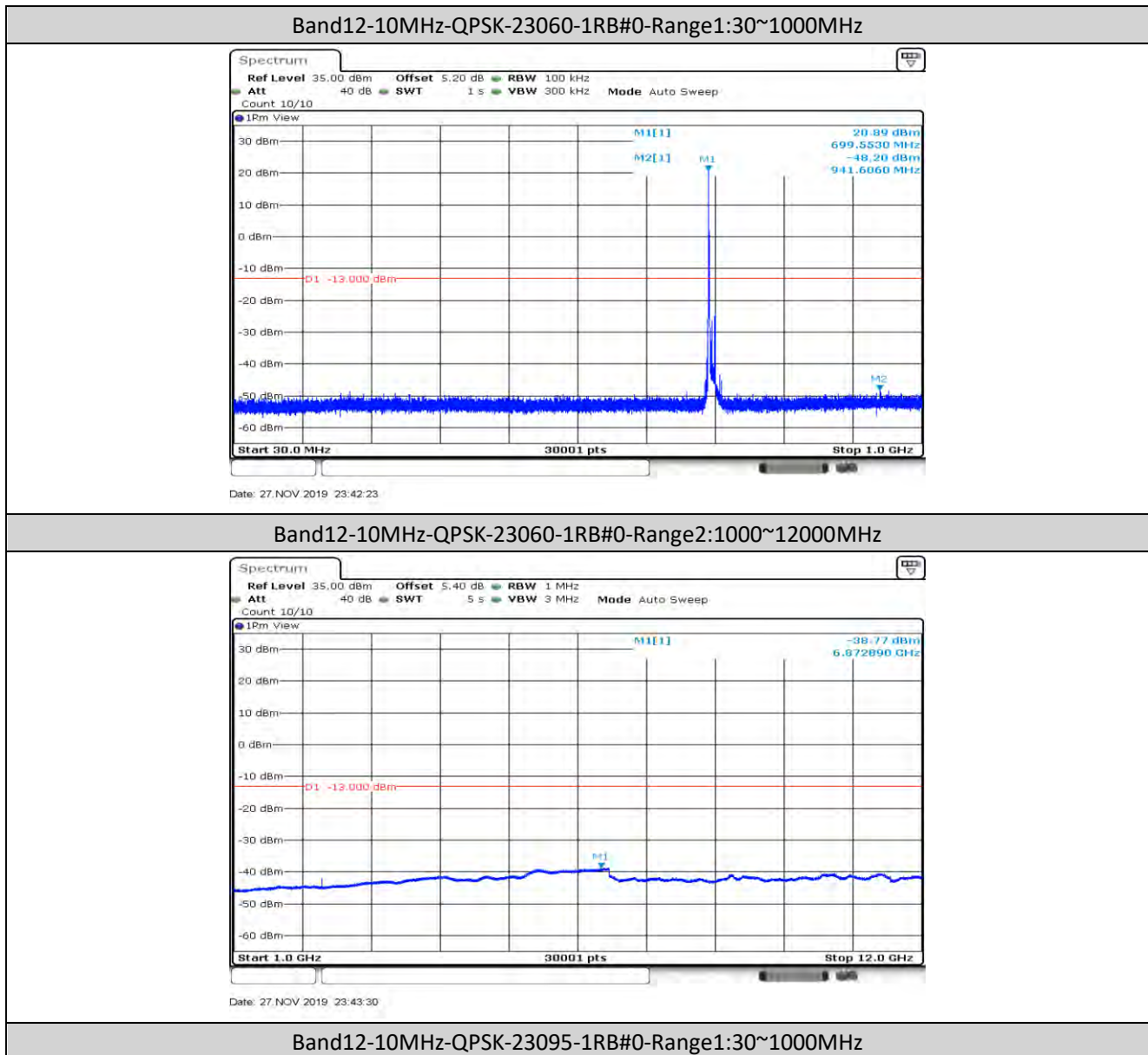
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## 6. Spurious Emission at Antenna Terminal

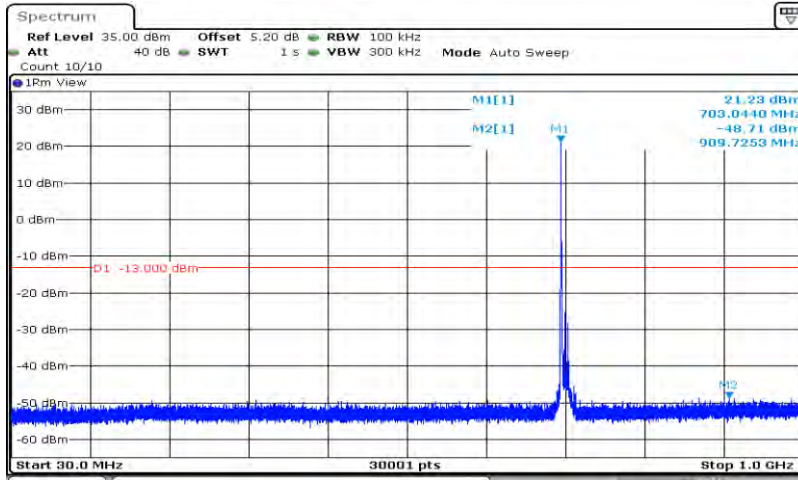
Remark1: For the averaged unwanted emissions measurements, the measurement points in each sweep is greater than twice the Span/RBW in order to ensure bin-to-bin spacing of  $< RBW/2$  so that narrowband signals are not lost between frequency bins. As to the present test item, the "Measurement Points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

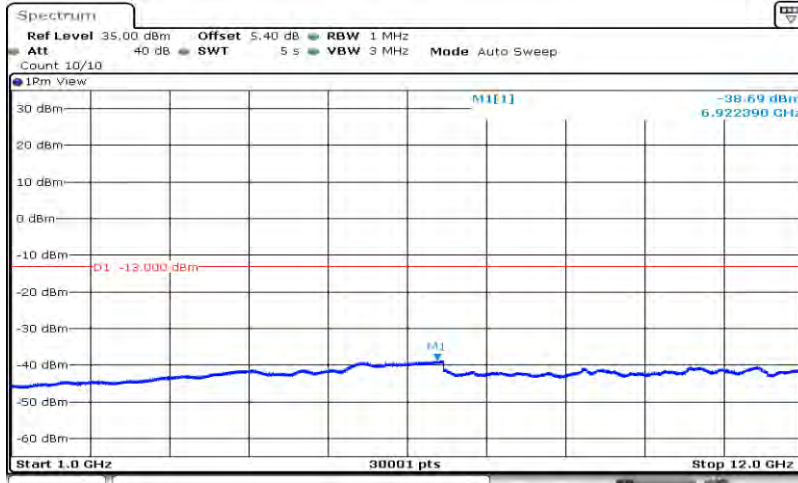


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Date: 27.NOV.2019 23:45:16

**Band12-10MHz-QPSK-23095-1RB#0-Range2:100~12000MHz**



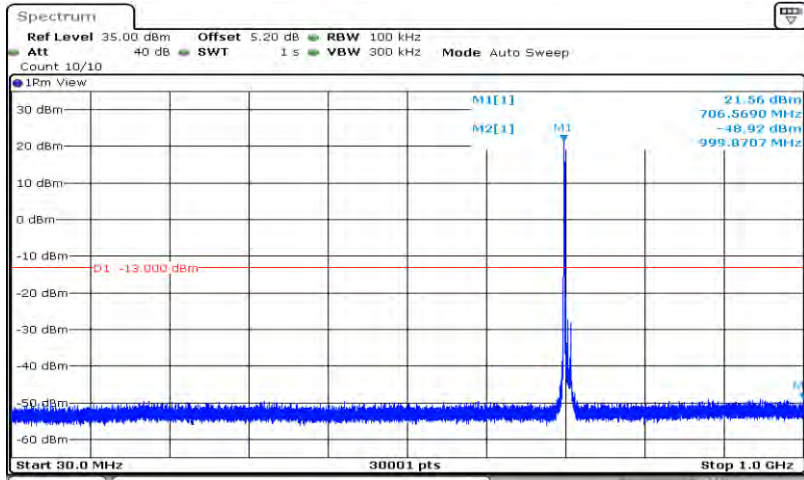
Date: 27.NOV.2019 23:46:23

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



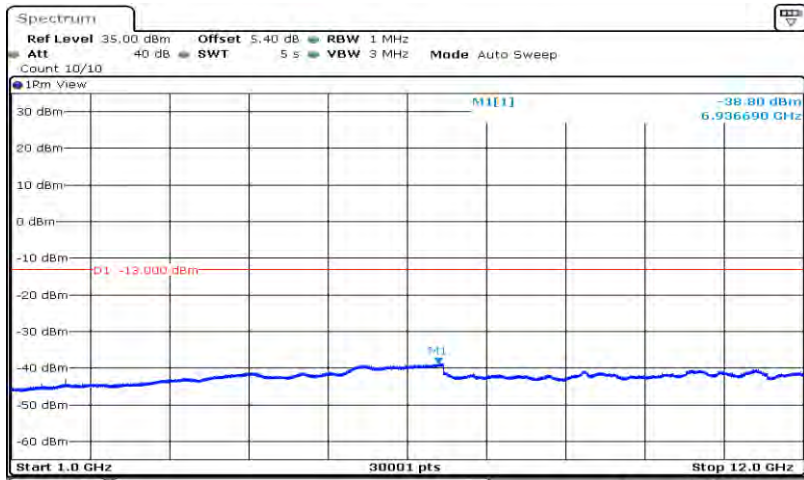
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Date: 27.NOV.2019 23:48:10

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

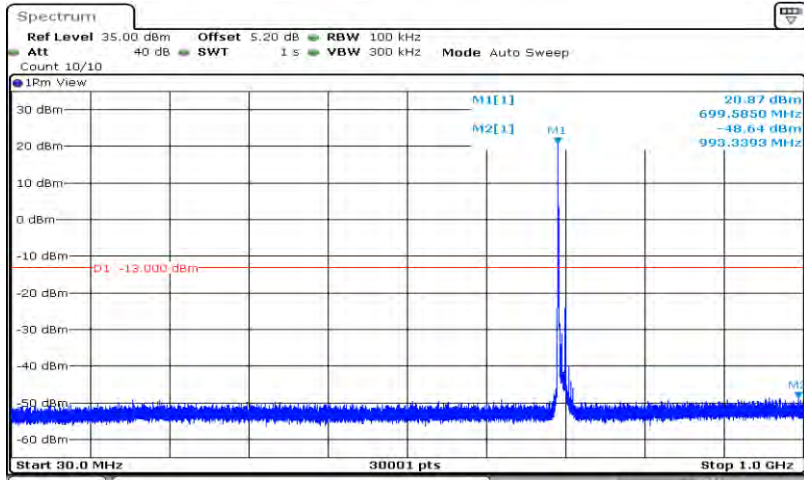


Date: 27.NOV.2019 23:49:17

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

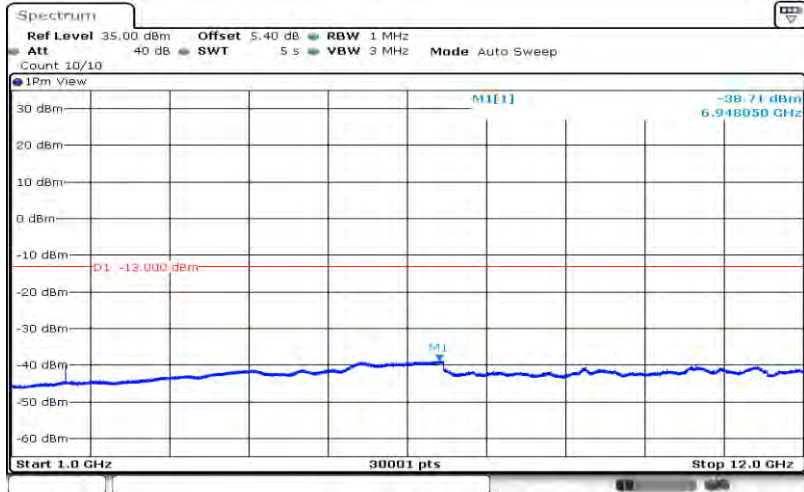


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Date: 27.NOV.2019 23:43:49

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

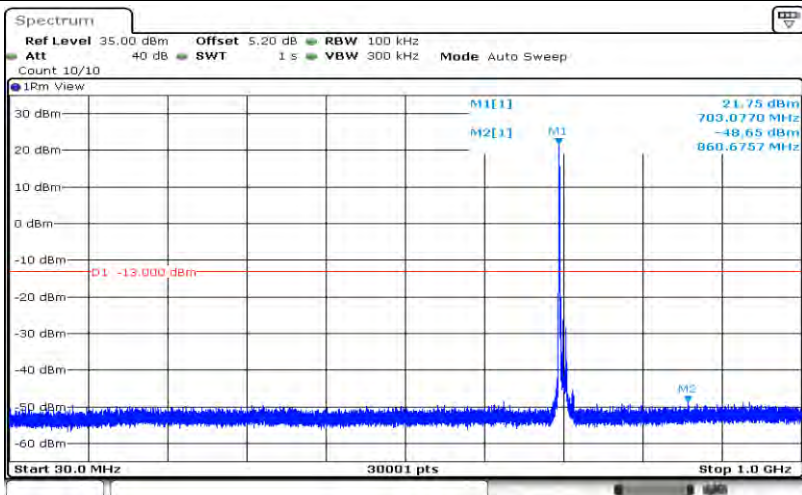


Date: 27.NOV.2019 23:44:56

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

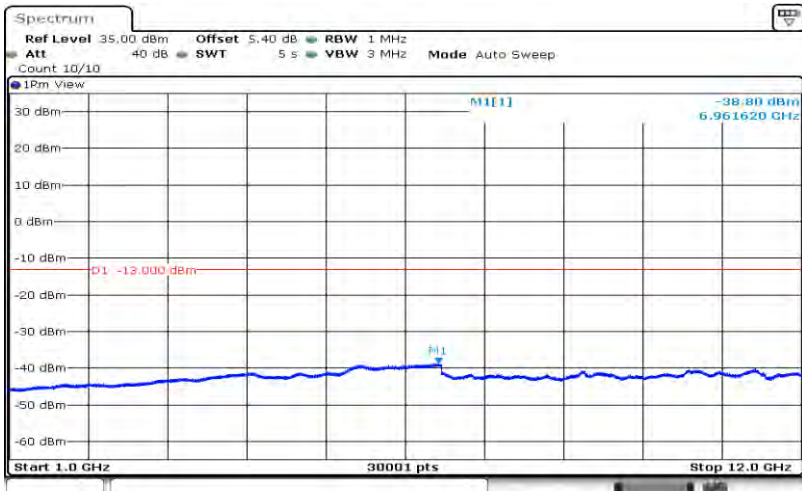


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Date: 27.NOV.2019 23:46:43

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



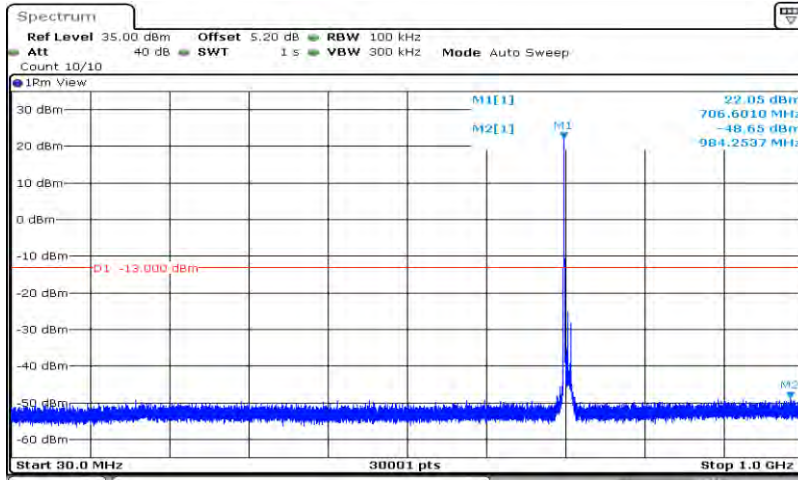
Date: 27.NOV.2019 23:47:50

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



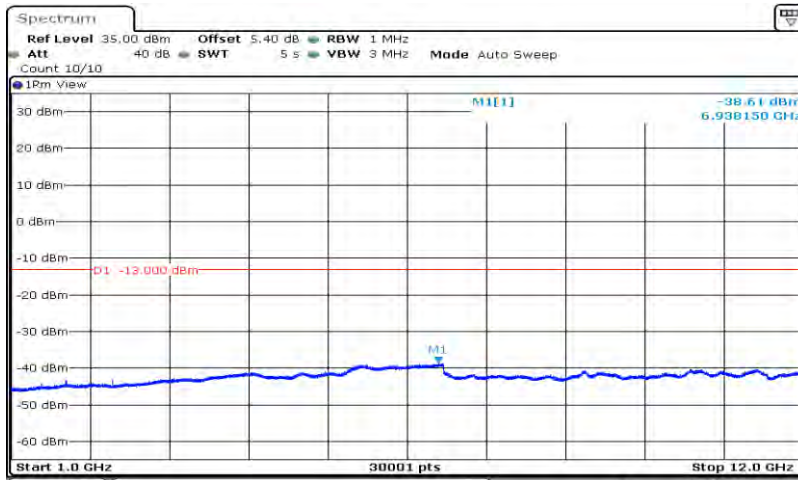
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Date: 27.NOV.2019 23:49:36

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



Date: 27.NOV.2019 23:50:44



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## 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)	Polarization
113.5212	-65.05	-13.00	52.05	Vertical
1398.8798	-56.06	-13.00	43.06	Vertical
2405.4811	-57.29	-13.00	44.29	Vertical
7400.5760	-52.70	-13.00	39.70	Vertical
14698.0679	-42.81	-13.00	29.81	Vertical
17993.9998	-34.08	-13.00	21.08	Vertical
48.7704	-63.59	-13.00	50.59	Horizontal
1398.8798	-52.85	-13.00	39.85	Horizontal
2697.1394	-56.19	-13.00	43.19	Horizontal
9313.4525	-48.66	-13.00	35.66	Horizontal
16397.3359	-38.10	-13.00	25.10	Horizontal
17998.8000	-38.11	-13.00	25.11	Horizontal

#### 7.1.2. Test Channel = MCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Margin (dB)	Polarization
111.9206	-65.40	-13.00	52.40	Vertical
1406.0812	-54.21	-13.00	41.21	Vertical
2998.7998	-56.20	-13.00	43.20	Vertical
7368.1747	-53.05	-13.00	40.05	Vertical
14507.2603	-43.17	-13.00	30.17	Vertical
17992.1997	-34.46	-13.00	21.46	Vertical
48.7219	-63.15	-13.00	50.15	Horizontal
1406.0812	-50.52	-13.00	37.52	Horizontal
3515.4206	-57.17	-13.00	44.17	Horizontal
7397.5759	-53.61	-13.00	40.61	Horizontal
16396.7359	-38.79	-13.00	25.79	Horizontal
17997.5999	-39.13	-13.00	26.13	Horizontal

#### 7.1.3. Test Channel = HCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Margin (dB)	Polarization
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115.6068	-65.67	-13.00	52.67	Vertical
1412.8826	-59.81	-13.00	46.81	Vertical
3000.0000	-56.40	-13.00	43.40	Vertical
9317.0527	-48.88	-13.00	35.88	Vertical
14694.4678	-43.84	-13.00	30.84	Vertical
17995.7998	-35.38	-13.00	22.38	Vertical
41.2526	-61.15	-13.00	48.15	Horizontal
1412.8826	-55.43	-13.00	42.43	Horizontal
3532.8213	-55.58	-13.00	42.58	Horizontal
9119.0448	-51.85	-13.00	38.85	Horizontal
16381.1352	-39.52	-13.00	26.52	Horizontal
17999.4000	-40.17	-13.00	27.17	Horizontal

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

### 7.2.1. Test Channel = LCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Margin (dB)	Polarization
114.7337	-64.95	-13.00	51.95	Vertical
1398.8798	-57.06	-13.00	44.06	Vertical
2956.3913	-56.71	-13.00	43.71	Vertical
7357.9743	-53.15	-13.00	40.15	Vertical
14707.6683	-42.52	-13.00	29.52	Vertical
17959.7984	-34.51	-13.00	21.51	Vertical
41.2041	-64.49	-13.00	51.49	Horizontal
241.6161	-67.55	-13.00	54.55	Horizontal
1398.8798	-55.31	-13.00	42.31	Horizontal
2697.5395	-56.01	-13.00	43.01	Horizontal
7338.7736	-53.32	-13.00	40.32	Horizontal
16399.7360	-38.15	-13.00	25.15	Horizontal

### 7.2.2. Test Channel = MCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Margin (dB)	Polarization
113.2787	-64.41	-13.00	51.41	Vertical
1406.0812	-55.68	-13.00	42.68	Vertical
2991.1982	-56.48	-13.00	43.48	Vertical
7358.5743	-53.07	-13.00	40.07	Vertical
14491.0596	-43.03	-13.00	30.03	Vertical
17995.1998	-34.37	-13.00	21.37	Vertical



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 中国·深圳·科技园中区M-10栋一号厂房 邮编: 518057 t (86-755) 26012053 f (86-755) 26710594 sgs.china@sgs.com



42.2226	-64.18	-13.00	51.18	Horizontal
240.2095	-68.31	-13.00	55.31	Horizontal
1406.0812	-54.79	-13.00	41.79	Horizontal
3516.0206	-56.40	-13.00	43.40	Horizontal
16376.9351	-38.91	-13.00	25.91	Horizontal
42.2226	-64.18	-13.00	51.18	Horizontal

### 7.2.3. Test Channel = HCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Margin (dB)	Polarization
114.7337	-65.85	-13.00	52.85	Vertical
1413.2827	-59.68	-13.00	46.68	Vertical
1879.7760	-58.50	-13.00	45.50	Vertical
2593.9188	-51.32	-13.00	38.32	Vertical
14492.8597	-43.78	-13.00	30.78	Vertical
17987.3995	-36.00	-13.00	23.00	Vertical
40.6705	-64.54	-13.00	51.54	Horizontal
243.8957	-68.82	-13.00	55.82	Horizontal
1412.8826	-58.52	-13.00	45.52	Horizontal
2589.1178	-43.49	-13.00	30.49	Horizontal
3532.8213	-55.32	-13.00	42.32	Horizontal
16398.5359	-39.51	-13.00	26.51	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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