



Appendix B

E-UTRA Band 7



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1 Effective (Isotropic) Radiated Power

1.1. Test Result

Band	Bandwidth	Modulation	Channel	RB Configuration	Conducted Power(dBm)	EIRP (dBm)	Limit (dBm)	Verdict
Band7	5MHz	QPSK	20775	1RB#0	22.08	22.54	33.00	PASS
Band7	5MHz	QPSK	20775	1RB#12	22.26	22.72	33.00	PASS
Band7	5MHz	QPSK	20775	1RB#24	22.14	22.60	33.00	PASS
Band7	5MHz	QPSK	20775	12RB#0	21.16	21.62	33.00	PASS
Band7	5MHz	QPSK	20775	12RB#6	21.06	21.52	33.00	PASS
Band7	5MHz	QPSK	20775	12RB#13	21.08	21.54	33.00	PASS
Band7	5MHz	QPSK	20775	25RB#0	21.08	21.54	33.00	PASS
Band7	5MHz	QPSK	21100	1RB#0	22.19	22.65	33.00	PASS
Band7	5MHz	QPSK	21100	1RB#24	22.11	22.57	33.00	PASS
Band7	5MHz	QPSK	21100	1RB#12	22.22	22.68	33.00	PASS
Band7	5MHz	QPSK	21100	12RB#0	21.08	21.54	33.00	PASS
Band7	5MHz	QPSK	21100	12RB#6	21.11	21.57	33.00	PASS
Band7	5MHz	QPSK	21100	12RB#13	21.00	21.46	33.00	PASS
Band7	5MHz	QPSK	21100	25RB#0	21.04	21.50	33.00	PASS
Band7	5MHz	QPSK	21425	1RB#24	21.66	22.12	33.00	PASS
Band7	5MHz	QPSK	21425	1RB#0	21.82	22.28	33.00	PASS
Band7	5MHz	QPSK	21425	1RB#12	21.87	22.33	33.00	PASS
Band7	5MHz	QPSK	21425	12RB#0	20.75	21.21	33.00	PASS
Band7	5MHz	QPSK	21425	12RB#6	20.82	21.28	33.00	PASS
Band7	5MHz	QPSK	21425	12RB#13	20.61	21.07	33.00	PASS
Band7	5MHz	QPSK	21425	25RB#0	20.67	21.13	33.00	PASS
Band7	5MHz	16QAM	20775	1RB#0	21.42	21.88	33.00	PASS
Band7	5MHz	16QAM	20775	1RB#12	21.47	21.93	33.00	PASS
Band7	5MHz	16QAM	20775	1RB#24	21.34	21.80	33.00	PASS
Band7	5MHz	16QAM	20775	12RB#6	20.06	20.52	33.00	PASS
Band7	5MHz	16QAM	20775	12RB#0	20.12	20.58	33.00	PASS
Band7	5MHz	16QAM	20775	12RB#13	20.10	20.56	33.00	PASS
Band7	5MHz	16QAM	20775	25RB#0	20.03	20.49	33.00	PASS
Band7	5MHz	16QAM	21100	1RB#0	21.15	21.61	33.00	PASS
Band7	5MHz	16QAM	21100	1RB#12	21.22	21.68	33.00	PASS
Band7	5MHz	16QAM	21100	1RB#24	21.10	21.56	33.00	PASS
Band7	5MHz	16QAM	21100	12RB#13	20.06	20.52	33.00	PASS
Band7	5MHz	16QAM	21100	12RB#0	20.06	20.52	33.00	PASS
Band7	5MHz	16QAM	21100	12RB#6	20.01	20.47	33.00	PASS
Band7	5MHz	16QAM	21100	25RB#0	20.12	20.58	33.00	PASS
Band7	5MHz	16QAM	21425	1RB#12	20.81	21.27	33.00	PASS
Band7	5MHz	16QAM	21425	1RB#0	20.81	21.27	33.00	PASS
Band7	5MHz	16QAM	21425	1RB#24	20.59	21.05	33.00	PASS



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Band7	5MHz	16QAM	21425	12RB#0	19.72	20.18	33.00	PASS
Band7	5MHz	16QAM	21425	12RB#6	19.72	20.18	33.00	PASS
Band7	5MHz	16QAM	21425	12RB#13	19.63	20.09	33.00	PASS
Band7	5MHz	16QAM	21425	25RB#0	19.72	20.18	33.00	PASS
Band7	10MHz	QPSK	20800	1RB#24	22.33	22.79	33.00	PASS
Band7	10MHz	QPSK	20800	1RB#49	22.08	22.54	33.00	PASS
Band7	10MHz	QPSK	20800	1RB#0	22.08	22.54	33.00	PASS
Band7	10MHz	QPSK	20800	25RB#0	21.17	21.63	33.00	PASS
Band7	10MHz	QPSK	20800	25RB#12	21.15	21.61	33.00	PASS
Band7	10MHz	QPSK	20800	25RB#25	21.17	21.63	33.00	PASS
Band7	10MHz	QPSK	20800	50RB#0	21.09	21.55	33.00	PASS
Band7	10MHz	QPSK	21100	1RB#0	22.22	22.68	33.00	PASS
Band7	10MHz	QPSK	21100	1RB#49	22.08	22.54	33.00	PASS
Band7	10MHz	QPSK	21100	1RB#24	22.25	22.71	33.00	PASS
Band7	10MHz	QPSK	21100	25RB#25	21.09	21.55	33.00	PASS
Band7	10MHz	QPSK	21100	25RB#0	21.14	21.60	33.00	PASS
Band7	10MHz	QPSK	21100	25RB#12	21.15	21.61	33.00	PASS
Band7	10MHz	QPSK	21100	50RB#0	21.09	21.55	33.00	PASS
Band7	10MHz	QPSK	21400	1RB#24	21.99	22.45	33.00	PASS
Band7	10MHz	QPSK	21400	1RB#0	22.00	22.46	33.00	PASS
Band7	10MHz	QPSK	21400	1RB#49	21.73	22.19	33.00	PASS
Band7	10MHz	QPSK	21400	25RB#0	20.91	21.37	33.00	PASS
Band7	10MHz	QPSK	21400	25RB#25	20.79	21.25	33.00	PASS
Band7	10MHz	QPSK	21400	25RB#12	20.90	21.36	33.00	PASS
Band7	10MHz	QPSK	21400	50RB#0	20.81	21.27	33.00	PASS
Band7	10MHz	16QAM	20800	1RB#49	21.37	21.83	33.00	PASS
Band7	10MHz	16QAM	20800	1RB#0	21.41	21.87	33.00	PASS
Band7	10MHz	16QAM	20800	1RB#24	21.45	21.91	33.00	PASS
Band7	10MHz	16QAM	20800	25RB#25	20.10	20.56	33.00	PASS
Band7	10MHz	16QAM	20800	25RB#12	20.06	20.52	33.00	PASS
Band7	10MHz	16QAM	20800	25RB#0	20.14	20.60	33.00	PASS
Band7	10MHz	16QAM	20800	50RB#0	20.02	20.48	33.00	PASS
Band7	10MHz	16QAM	21100	1RB#49	21.32	21.78	33.00	PASS
Band7	10MHz	16QAM	21100	1RB#0	21.40	21.86	33.00	PASS
Band7	10MHz	16QAM	21100	1RB#24	21.46	21.92	33.00	PASS
Band7	10MHz	16QAM	21100	25RB#25	20.09	20.55	33.00	PASS
Band7	10MHz	16QAM	21100	25RB#0	20.20	20.66	33.00	PASS
Band7	10MHz	16QAM	21100	25RB#12	20.11	20.57	33.00	PASS
Band7	10MHz	16QAM	21100	50RB#0	20.13	20.59	33.00	PASS
Band7	10MHz	16QAM	21400	1RB#24	20.85	21.31	33.00	PASS
Band7	10MHz	16QAM	21400	1RB#0	20.81	21.27	33.00	PASS
Band7	10MHz	16QAM	21400	1RB#49	20.62	21.08	33.00	PASS
Band7	10MHz	16QAM	21400	25RB#0	19.93	20.39	33.00	PASS
Band7	10MHz	16QAM	21400	25RB#12	19.92	20.38	33.00	PASS
Band7	10MHz	16QAM	21400	25RB#25	19.78	20.24	33.00	PASS
Band7	10MHz	16QAM	21400	50RB#0	19.82	20.28	33.00	PASS
Band7	15MHz	QPSK	20825	1RB#0	22.24	22.70	33.00	PASS



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Band7	15MHz	QPSK	20825	1RB#38	22.33	22.79	33.00	PASS
Band7	15MHz	QPSK	20825	1RB#74	22.10	22.56	33.00	PASS
Band7	15MHz	QPSK	20825	36RB#0	21.31	21.77	33.00	PASS
Band7	15MHz	QPSK	20825	36RB#18	21.25	21.71	33.00	PASS
Band7	15MHz	QPSK	20825	36RB#39	21.30	21.76	33.00	PASS
Band7	15MHz	QPSK	20825	75RB#0	21.23	21.69	33.00	PASS
Band7	15MHz	QPSK	21100	1RB#0	22.38	22.84	33.00	PASS
Band7	15MHz	QPSK	21100	1RB#74	22.18	22.64	33.00	PASS
Band7	15MHz	QPSK	21100	1RB#38	22.38	22.84	33.00	PASS
Band7	15MHz	QPSK	21100	36RB#0	21.24	21.70	33.00	PASS
Band7	15MHz	QPSK	21100	36RB#18	21.17	21.63	33.00	PASS
Band7	15MHz	QPSK	21100	36RB#39	21.10	21.56	33.00	PASS
Band7	15MHz	QPSK	21100	75RB#0	21.15	21.61	33.00	PASS
Band7	15MHz	QPSK	21375	1RB#74	21.65	22.11	33.00	PASS
Band7	15MHz	QPSK	21375	1RB#0	22.03	22.49	33.00	PASS
Band7	15MHz	QPSK	21375	1RB#38	21.98	22.44	33.00	PASS
Band7	15MHz	QPSK	21375	36RB#0	20.98	21.44	33.00	PASS
Band7	15MHz	QPSK	21375	36RB#18	20.99	21.45	33.00	PASS
Band7	15MHz	QPSK	21375	36RB#39	20.91	21.37	33.00	PASS
Band7	15MHz	QPSK	21375	75RB#0	20.91	21.37	33.00	PASS
Band7	15MHz	16QAM	20825	1RB#0	21.55	22.01	33.00	PASS
Band7	15MHz	16QAM	20825	1RB#38	21.58	22.04	33.00	PASS
Band7	15MHz	16QAM	20825	1RB#74	21.40	21.86	33.00	PASS
Band7	15MHz	16QAM	20825	36RB#18	20.17	20.63	33.00	PASS
Band7	15MHz	16QAM	20825	36RB#0	20.23	20.69	33.00	PASS
Band7	15MHz	16QAM	20825	36RB#39	20.22	20.68	33.00	PASS
Band7	15MHz	16QAM	20825	75RB#0	20.16	20.62	33.00	PASS
Band7	15MHz	16QAM	21100	1RB#0	21.21	21.67	33.00	PASS
Band7	15MHz	16QAM	21100	1RB#38	21.22	21.68	33.00	PASS
Band7	15MHz	16QAM	21100	1RB#74	21.01	21.47	33.00	PASS
Band7	15MHz	16QAM	21100	36RB#39	20.01	20.47	33.00	PASS
Band7	15MHz	16QAM	21100	36RB#0	20.05	20.51	33.00	PASS
Band7	15MHz	16QAM	21100	36RB#18	20.05	20.51	33.00	PASS
Band7	15MHz	16QAM	21100	75RB#0	20.07	20.53	33.00	PASS
Band7	15MHz	16QAM	21375	1RB#38	21.15	21.61	33.00	PASS
Band7	15MHz	16QAM	21375	1RB#0	21.27	21.73	33.00	PASS
Band7	15MHz	16QAM	21375	1RB#74	20.80	21.26	33.00	PASS
Band7	15MHz	16QAM	21375	36RB#0	20.01	20.47	33.00	PASS
Band7	15MHz	16QAM	21375	36RB#18	19.93	20.39	33.00	PASS
Band7	15MHz	16QAM	21375	36RB#39	19.74	20.20	33.00	PASS
Band7	15MHz	16QAM	21375	75RB#0	19.78	20.24	33.00	PASS
Band7	20MHz	QPSK	20850	1RB#99	22.01	22.47	33.00	PASS
Band7	20MHz	QPSK	20850	1RB#49	22.37	22.83	33.00	PASS
Band7	20MHz	QPSK	20850	1RB#0	22.05	22.51	33.00	PASS
Band7	20MHz	QPSK	20850	50RB#0	21.21	21.67	33.00	PASS
Band7	20MHz	QPSK	20850	50RB#25	21.10	21.56	33.00	PASS
Band7	20MHz	QPSK	20850	50RB#50	21.13	21.59	33.00	PASS



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Band7	20MHz	QPSK	20850	100RB#0	21.12	21.58	33.00	PASS
Band7	20MHz	QPSK	21100	1RB#0	21.91	22.37	33.00	PASS
Band7	20MHz	QPSK	21100	1RB#99	21.77	22.23	33.00	PASS
Band7	20MHz	QPSK	21100	1RB#49	22.22	22.68	33.00	PASS
Band7	20MHz	QPSK	21100	50RB#50	21.02	21.48	33.00	PASS
Band7	20MHz	QPSK	21100	50RB#0	21.19	21.65	33.00	PASS
Band7	20MHz	QPSK	21100	50RB#25	21.11	21.57	33.00	PASS
Band7	20MHz	QPSK	21100	100RB#0	21.15	21.61	33.00	PASS
Band7	20MHz	QPSK	21350	1RB#49	22.32	22.78	33.00	PASS
Band7	20MHz	QPSK	21350	1RB#0	21.92	22.38	33.00	PASS
Band7	20MHz	QPSK	21350	1RB#99	21.59	22.05	33.00	PASS
Band7	20MHz	QPSK	21350	50RB#0	20.92	21.38	33.00	PASS
Band7	20MHz	QPSK	21350	50RB#50	20.82	21.28	33.00	PASS
Band7	20MHz	QPSK	21350	50RB#25	20.95	21.41	33.00	PASS
Band7	20MHz	QPSK	21350	100RB#0	20.82	21.28	33.00	PASS
Band7	20MHz	16QAM	20850	1RB#99	21.27	21.73	33.00	PASS
Band7	20MHz	16QAM	20850	1RB#0	21.20	21.66	33.00	PASS
Band7	20MHz	16QAM	20850	1RB#49	21.63	22.09	33.00	PASS
Band7	20MHz	16QAM	20850	50RB#50	20.12	20.58	33.00	PASS
Band7	20MHz	16QAM	20850	50RB#25	20.10	20.56	33.00	PASS
Band7	20MHz	16QAM	20850	50RB#0	20.13	20.59	33.00	PASS
Band7	20MHz	16QAM	20850	100RB#0	20.07	20.53	33.00	PASS
Band7	20MHz	16QAM	21100	1RB#99	20.93	21.39	33.00	PASS
Band7	20MHz	16QAM	21100	1RB#0	21.10	21.56	33.00	PASS
Band7	20MHz	16QAM	21100	1RB#49	21.44	21.90	33.00	PASS
Band7	20MHz	16QAM	21100	50RB#50	20.18	20.64	33.00	PASS
Band7	20MHz	16QAM	21100	50RB#0	20.23	20.69	33.00	PASS
Band7	20MHz	16QAM	21100	50RB#25	20.18	20.64	33.00	PASS
Band7	20MHz	16QAM	21100	100RB#0	20.04	20.50	33.00	PASS
Band7	20MHz	16QAM	21350	1RB#49	21.28	21.74	33.00	PASS
Band7	20MHz	16QAM	21350	1RB#0	20.99	21.45	33.00	PASS
Band7	20MHz	16QAM	21350	1RB#99	20.56	21.02	33.00	PASS
Band7	20MHz	16QAM	21350	50RB#0	19.96	20.42	33.00	PASS
Band7	20MHz	16QAM	21350	50RB#25	19.96	20.42	33.00	PASS
Band7	20MHz	16QAM	21350	50RB#50	19.79	20.25	33.00	PASS
Band7	20MHz	16QAM	21350	100RB#0	19.83	20.29	33.00	PASS

Remark:

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

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

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



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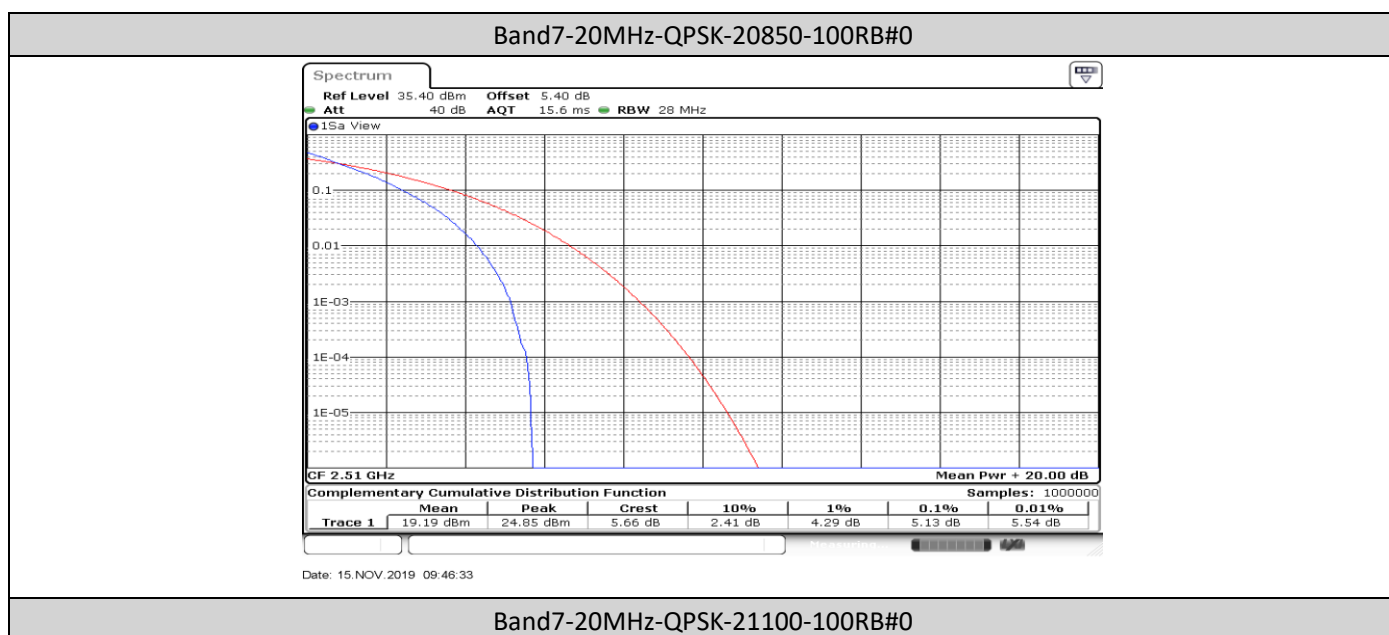


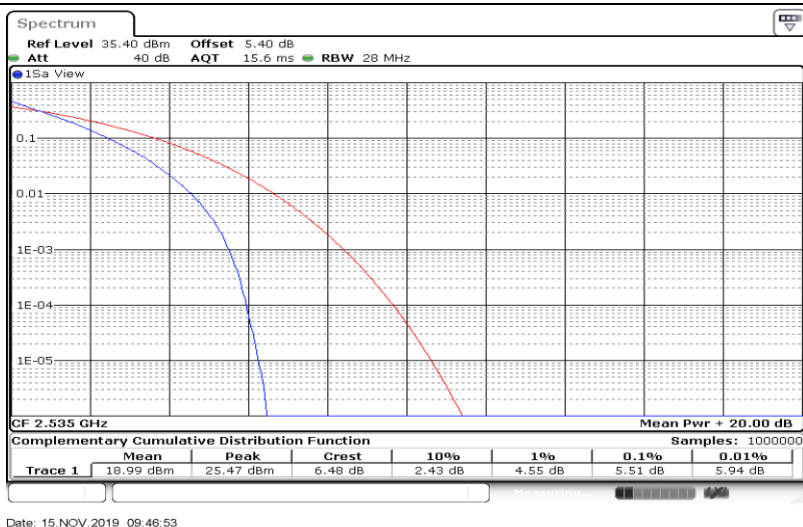
2. Peak-to-Average Ratio (CCDF)

2.1. Test Result

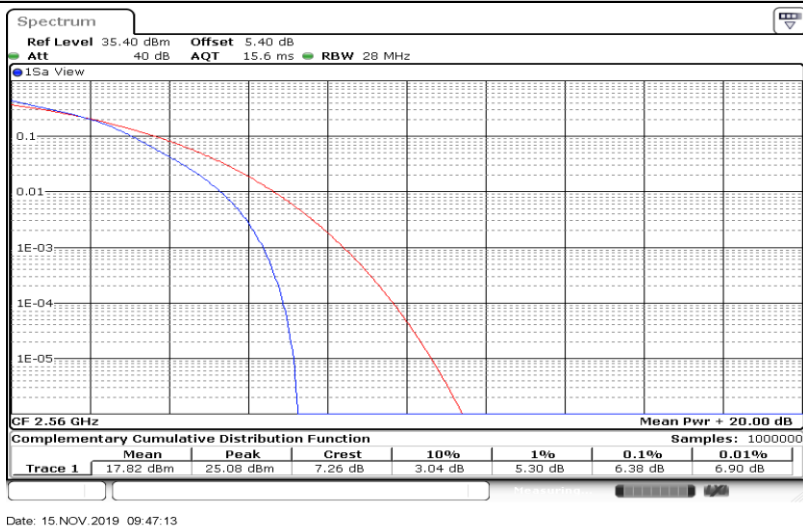
Band	Bandwidth	Modulation	Channel	RB Configuration	Result(dB)	Limit(dB)	Verdict
Band7	20MHz	QPSK	20850	100RB#0	5.13	13	PASS
Band7	20MHz	QPSK	21100	100RB#0	5.51	13	PASS
Band7	20MHz	QPSK	21350	100RB#0	6.38	13	PASS
Band7	20MHz	16QAM	20850	100RB#0	6.09	13	PASS
Band7	20MHz	16QAM	21100	100RB#0	6.38	13	PASS
Band7	20MHz	16QAM	21350	100RB#0	6.41	13	PASS

2.2. Test Plots





Band7-20MHz-QPSK-21350-100RB#0



Band7-20MHz-16QAM-20850-100RB#0



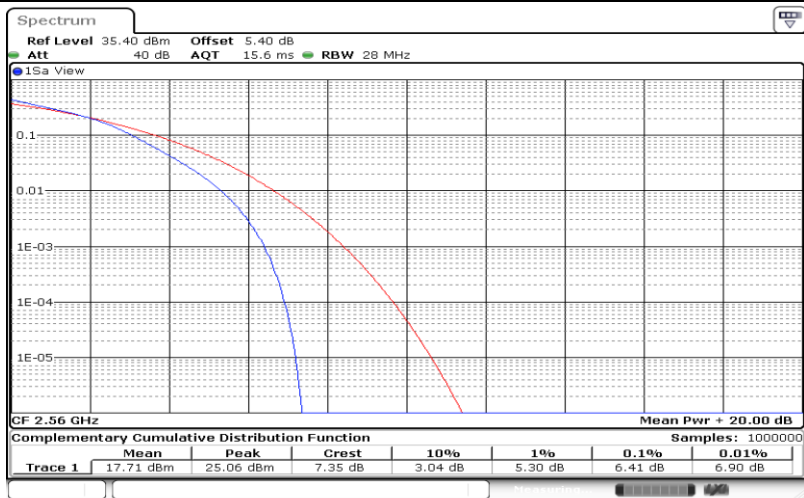


Band7-20MHz-16QAM-21100-100RB#0



Band7-20MHz-16QAM-21350-100RB#0





Date: 15.NOV.2019 09:47:21

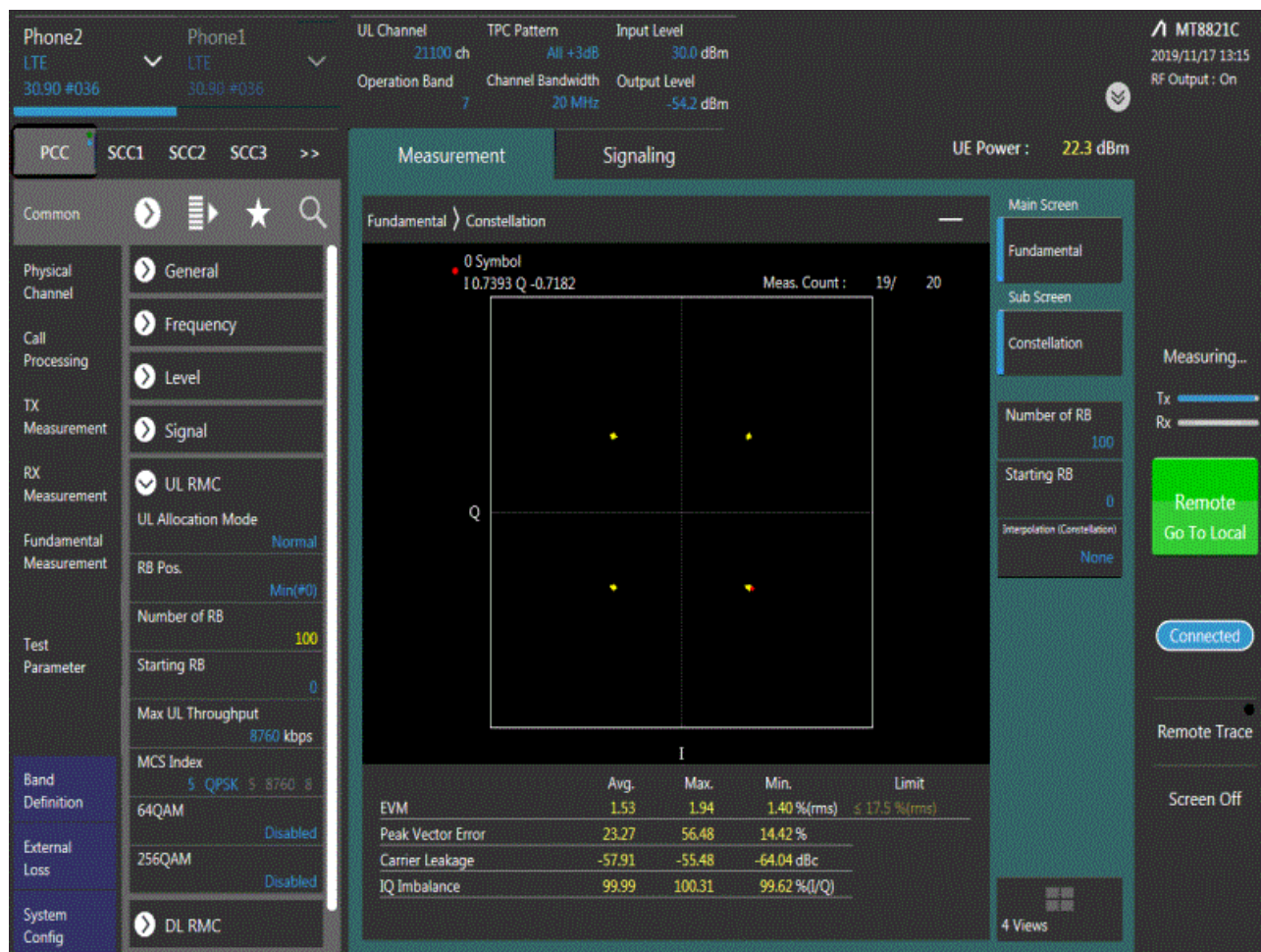


3. Modulation Characteristics

3.1. Test Band = LTE Band 7

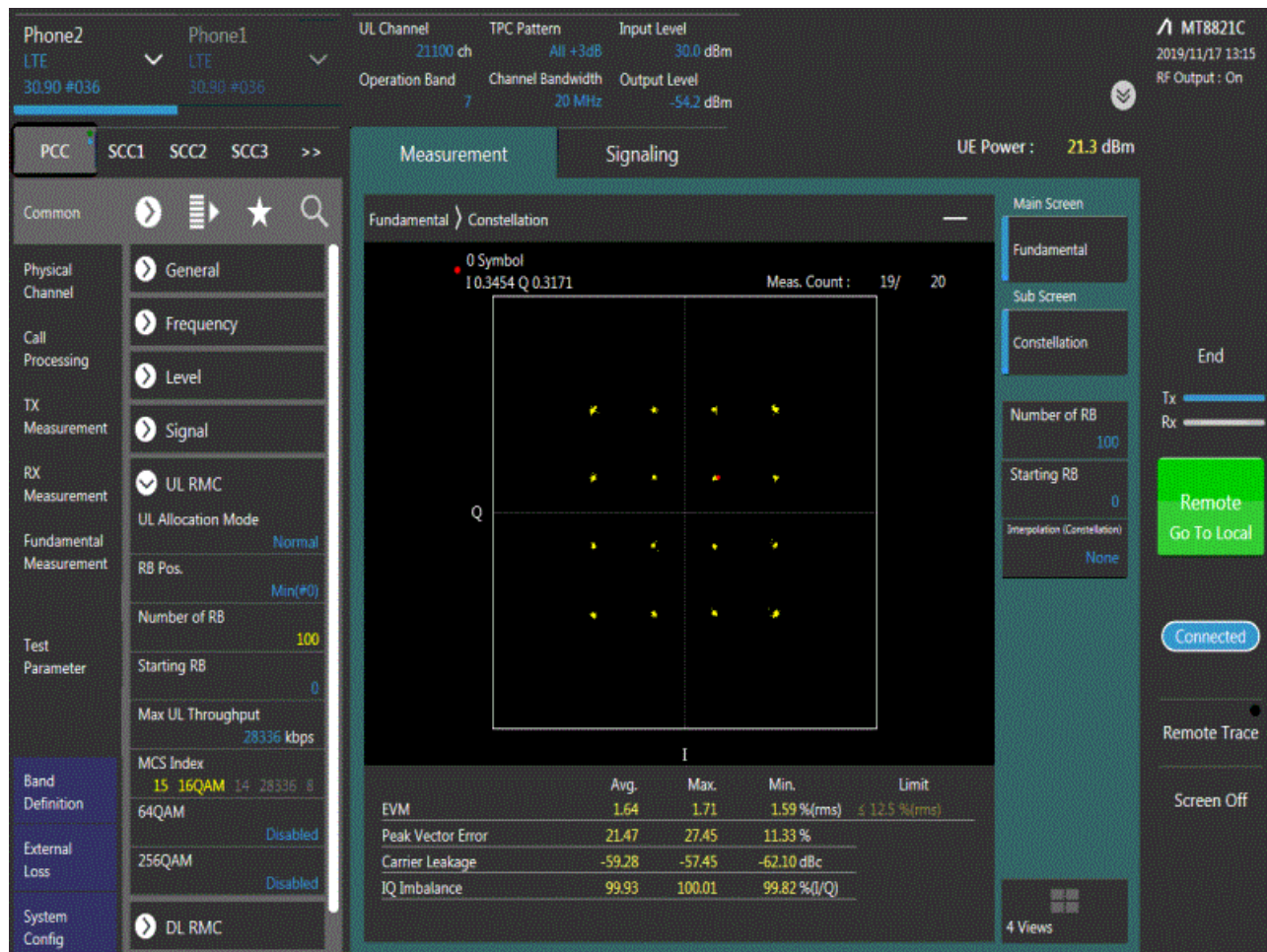
3.1.1. Test Mode = LTE /TM1 20MHz

3.1.1.1. Test Channel = MCH



3.1.2. Test Mode = LTE /TM2 20MHz

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
Band7	5MHz	QPSK	20775	25RB#0	4.466	4.830	PASS
Band7	5MHz	QPSK	21100	25RB#0	4.476	4.850	PASS
Band7	5MHz	QPSK	21425	25RB#0	4.476	4.880	PASS
Band7	5MHz	16QAM	20775	25RB#0	4.466	4.870	PASS
Band7	5MHz	16QAM	21100	25RB#0	4.476	4.860	PASS
Band7	5MHz	16QAM	21425	25RB#0	4.466	4.810	PASS
Band7	10MHz	QPSK	20800	50RB#0	8.931	9.820	PASS
Band7	10MHz	QPSK	21100	50RB#0	8.931	9.620	PASS
Band7	10MHz	QPSK	21400	50RB#0	8.931	9.600	PASS
Band7	10MHz	16QAM	20800	50RB#0	8.931	9.520	PASS
Band7	10MHz	16QAM	21100	50RB#0	8.931	9.640	PASS
Band7	10MHz	16QAM	21400	50RB#0	8.951	9.640	PASS
Band7	15MHz	QPSK	20825	75RB#0	13.457	14.730	PASS
Band7	15MHz	QPSK	21100	75RB#0	13.427	14.700	PASS
Band7	15MHz	QPSK	21375	75RB#0	13.487	14.820	PASS
Band7	15MHz	16QAM	20825	75RB#0	13.457	14.700	PASS
Band7	15MHz	16QAM	21100	75RB#0	13.427	14.700	PASS
Band7	15MHz	16QAM	21375	75RB#0	13.487	15.270	PASS
Band7	20MHz	QPSK	20850	100RB#0	17.942	19.520	PASS
Band7	20MHz	QPSK	21100	100RB#0	17.862	20.120	PASS
Band7	20MHz	QPSK	21350	100RB#0	17.902	19.200	PASS
Band7	20MHz	16QAM	20850	100RB#0	17.902	19.160	PASS
Band7	20MHz	16QAM	21100	100RB#0	17.902	19.400	PASS
Band7	20MHz	16QAM	21350	100RB#0	17.942	19.320	PASS

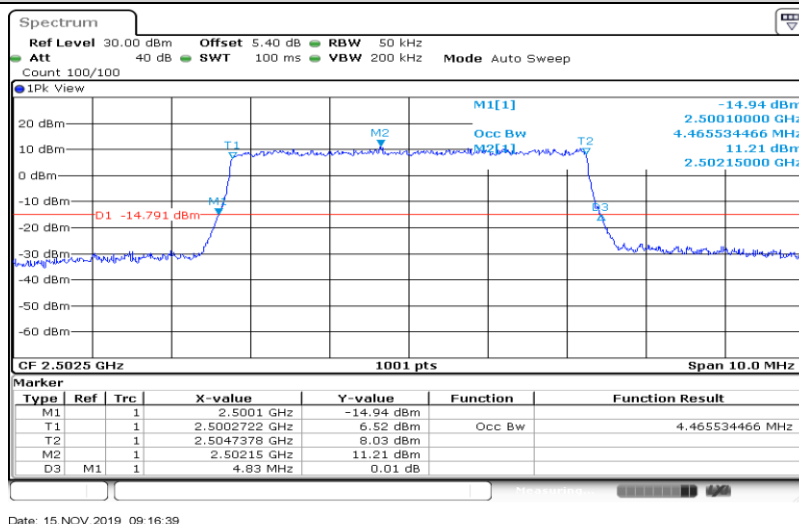


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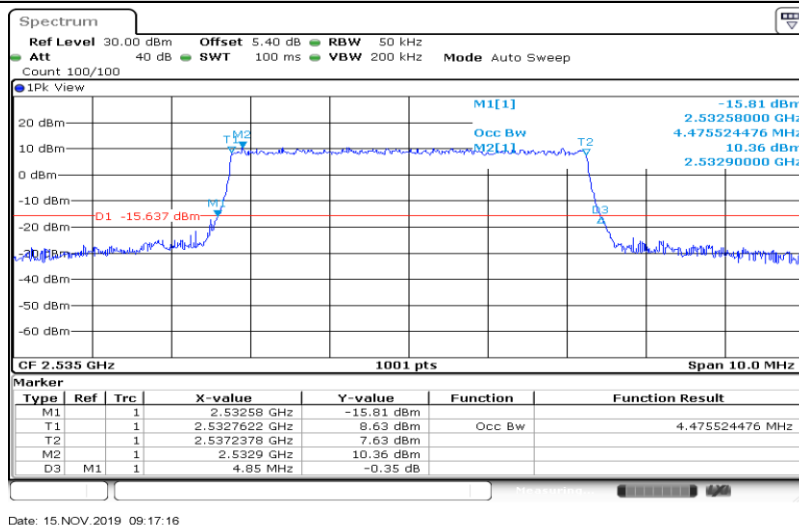
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4.2. Test Plots

Band7-5MHz-QPSK-20775-25RB#0-4.466



Band7-5MHz-QPSK-21100-25RB#0-4.476



Band7-5MHz-QPSK-21425-25RB#0-4.476

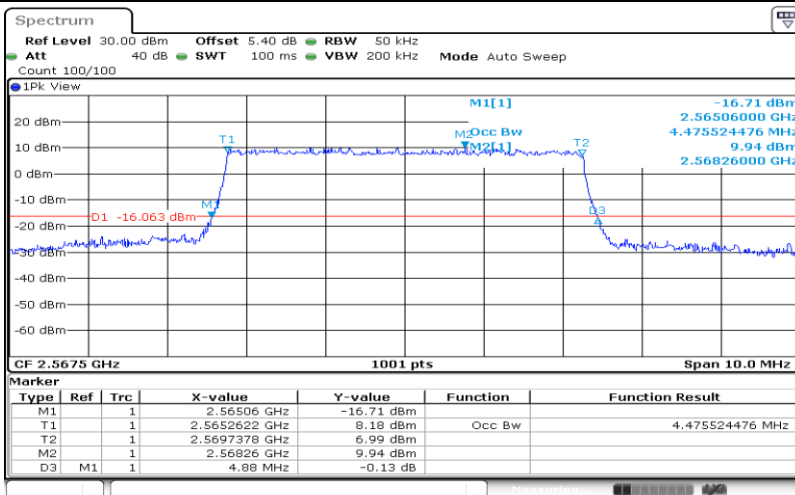


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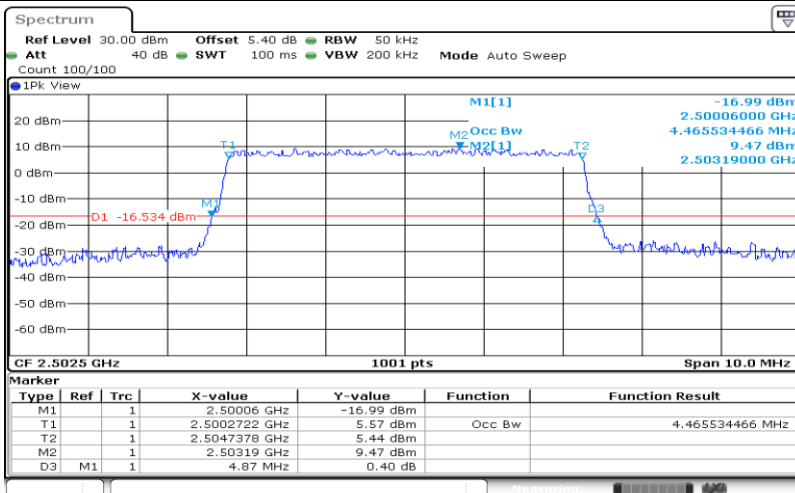
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Date: 15.NOV.2019 09:17:52

Band7-5MHz-16QAM-20775-25RB#0-4.466

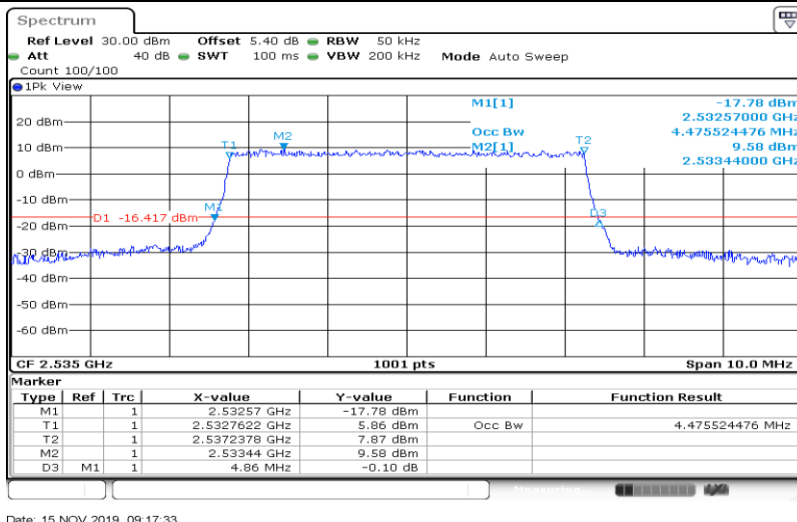


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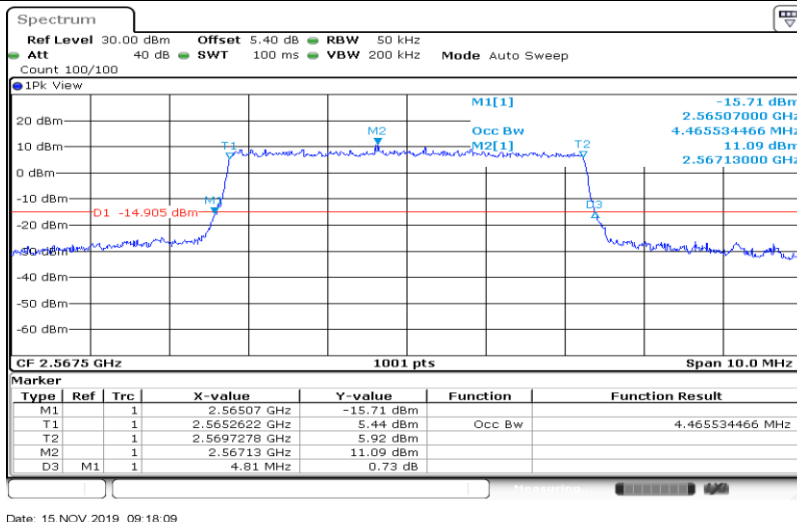
Band7-5MHz-16QAM-21100-25RB#0-4.476



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Band7-5MHz-16QAM-21425-25RB#0-4.466

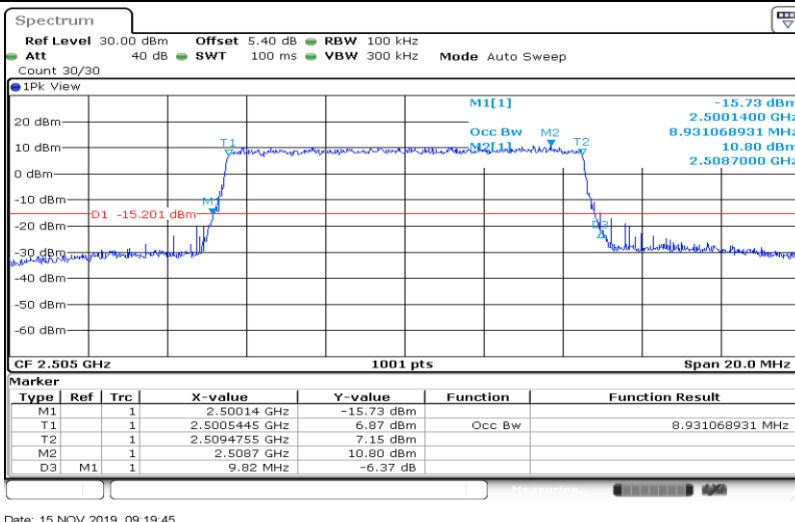


Band7-10MHz-QPSK-20800-50RB#0-8.931

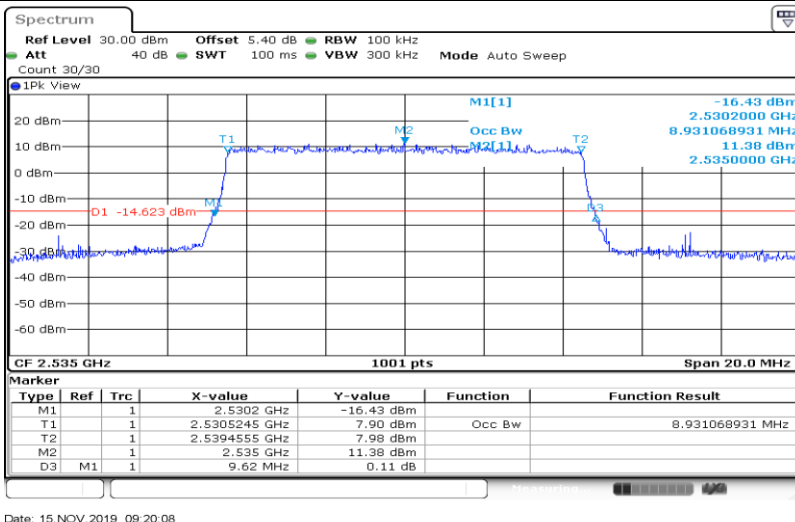


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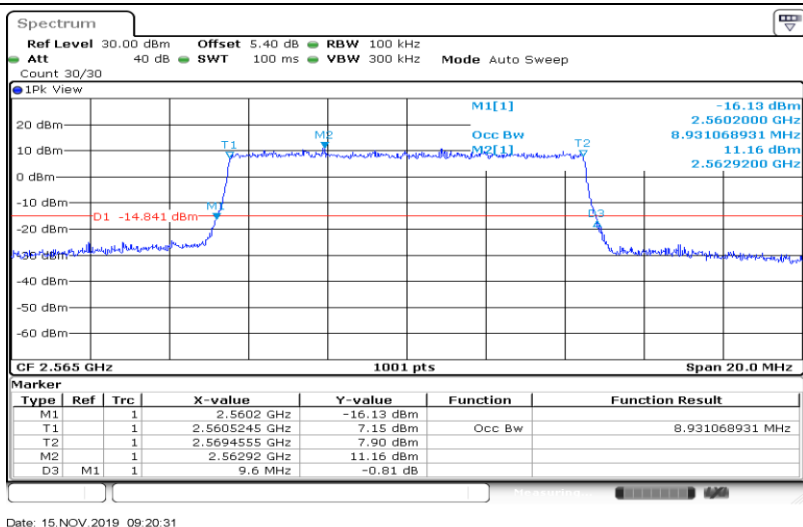


Band7-10MHz-QPSK-21100-50RB#0-8.931

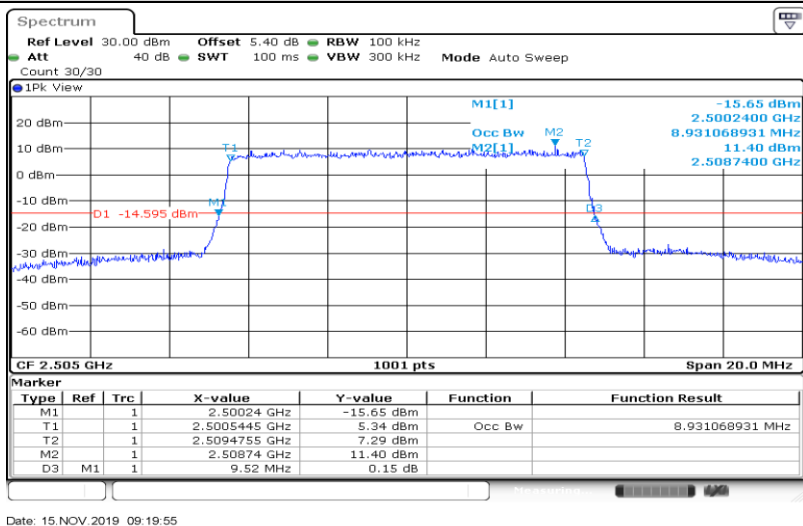


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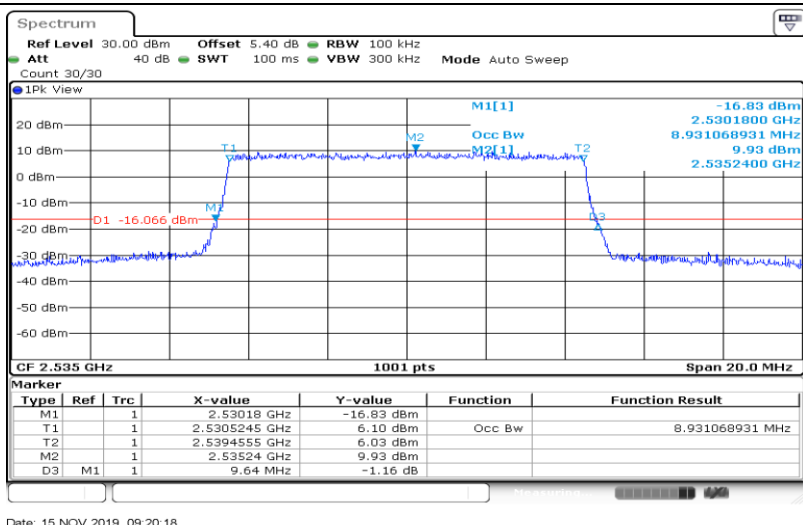


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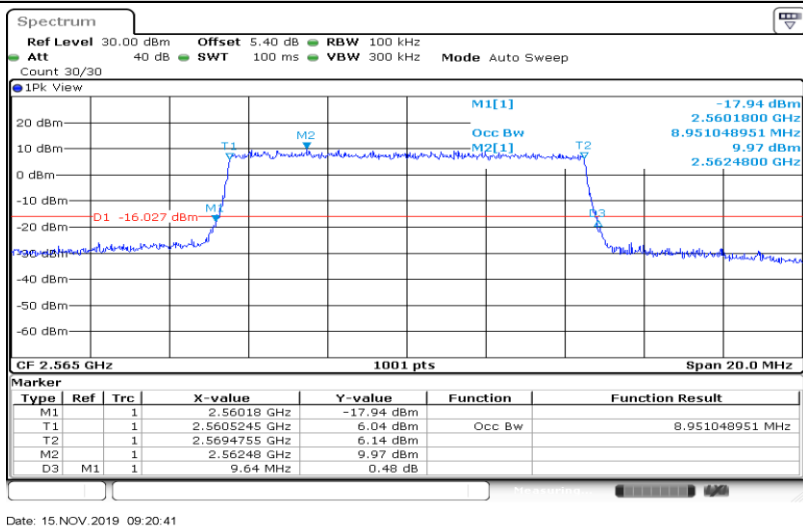


Band7-10MHz-16QAM-21100-50RB#0-8.931



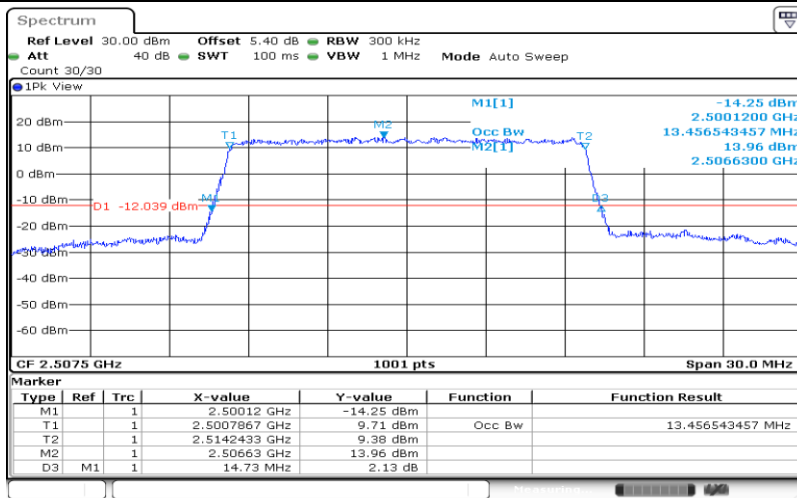


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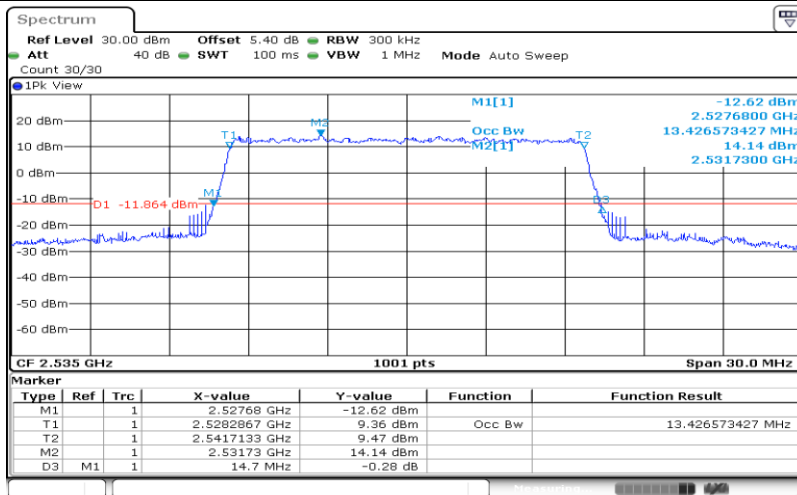
Band7-15MHz-QPSK-20825-75RB#0-13.457





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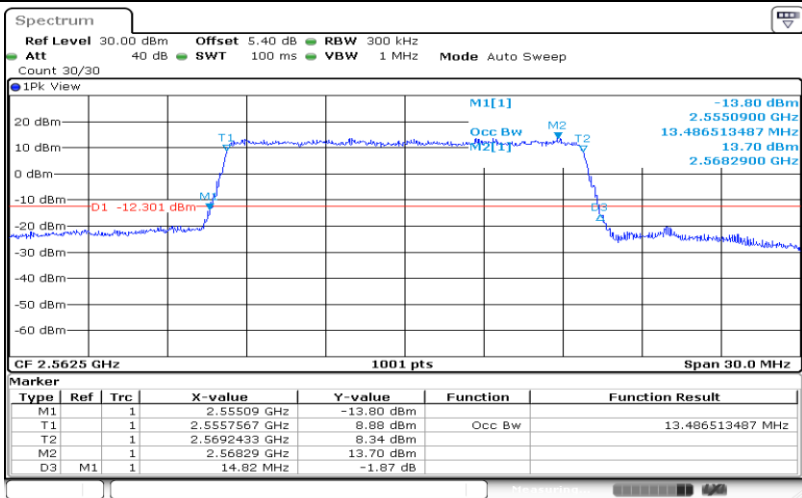
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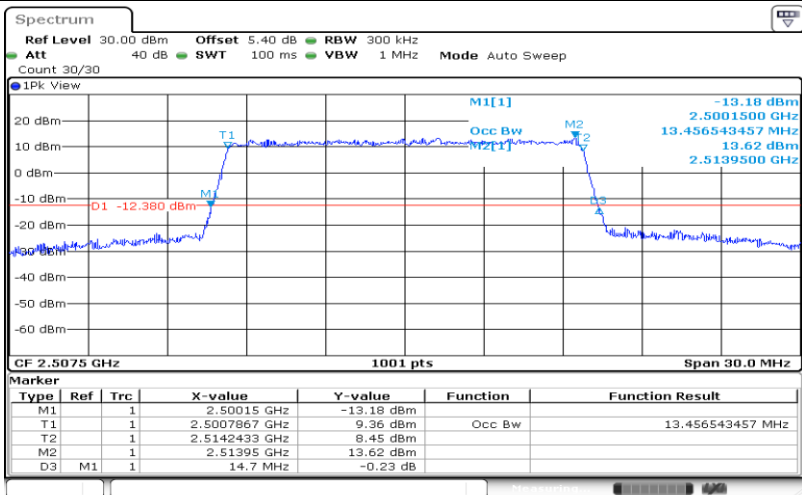
Band7-15MHz-QPSK-21375-75RB#0-13.487





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Band7-15MHz-16QAM-20825-75RB#0-13.457



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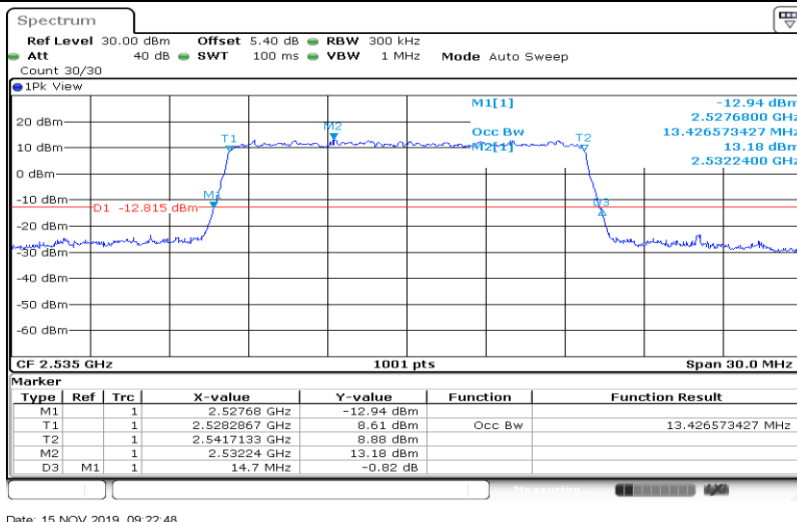
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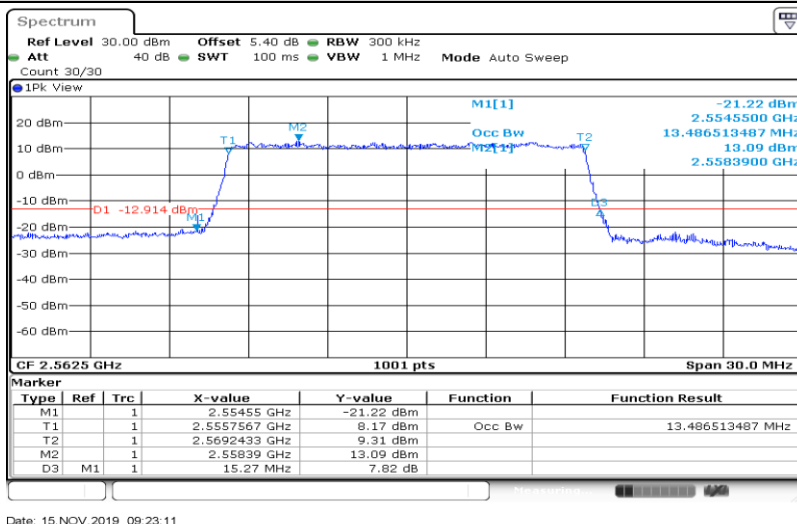
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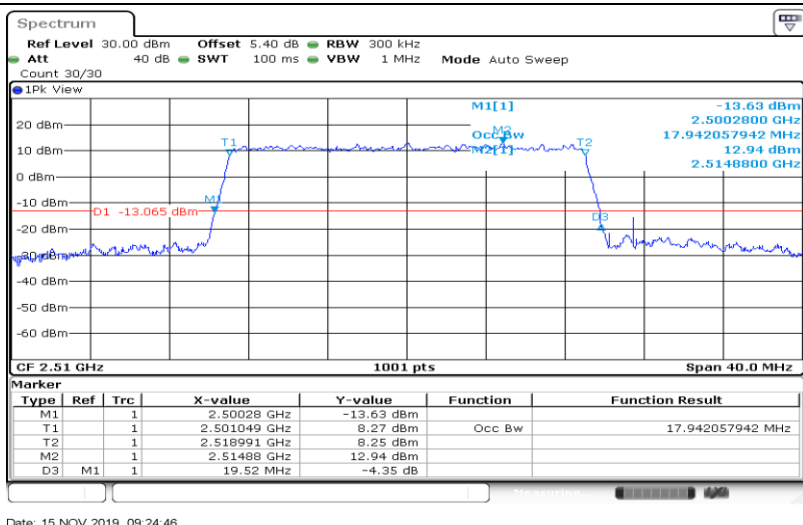


Band7-15MHz-16QAM-21375-75RB#0-13.487

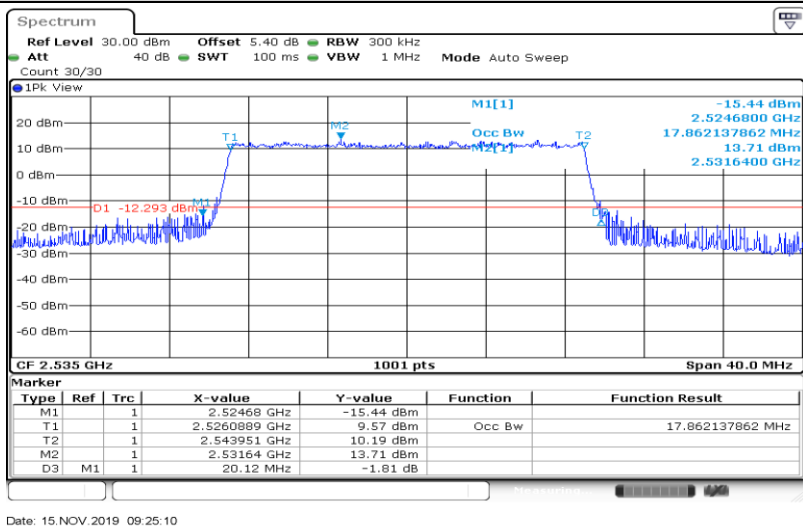


Band7-20MHz-QPSK-20850-100RB#0-17.942



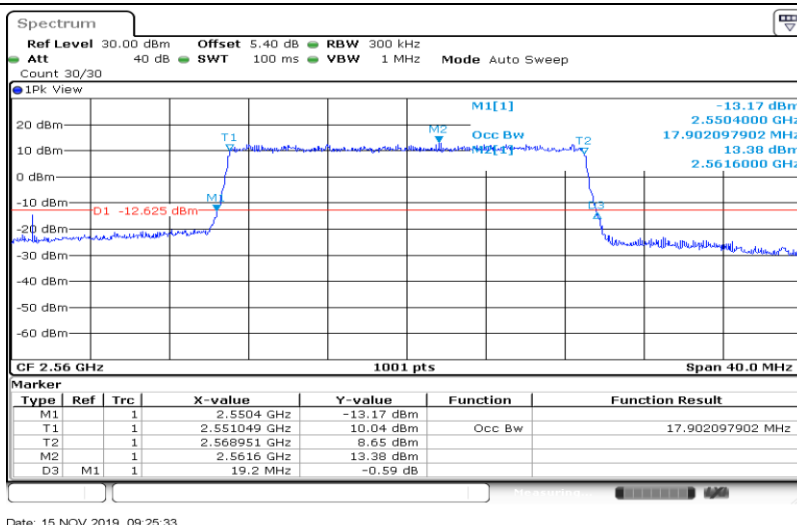


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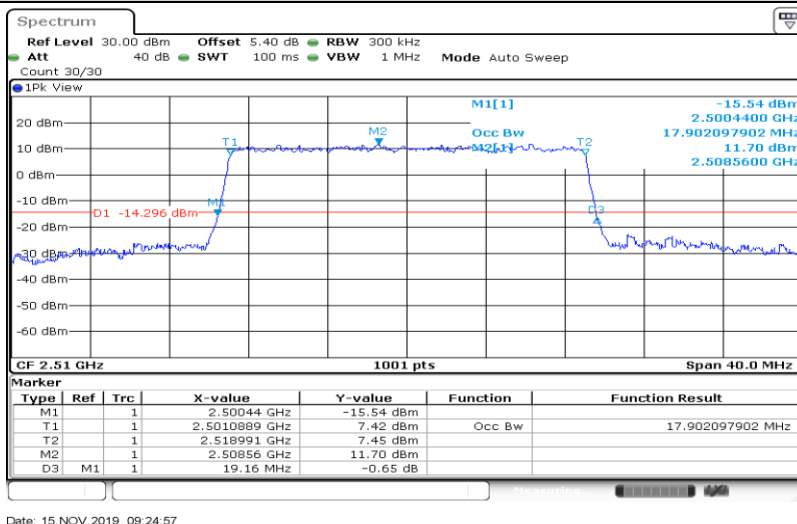


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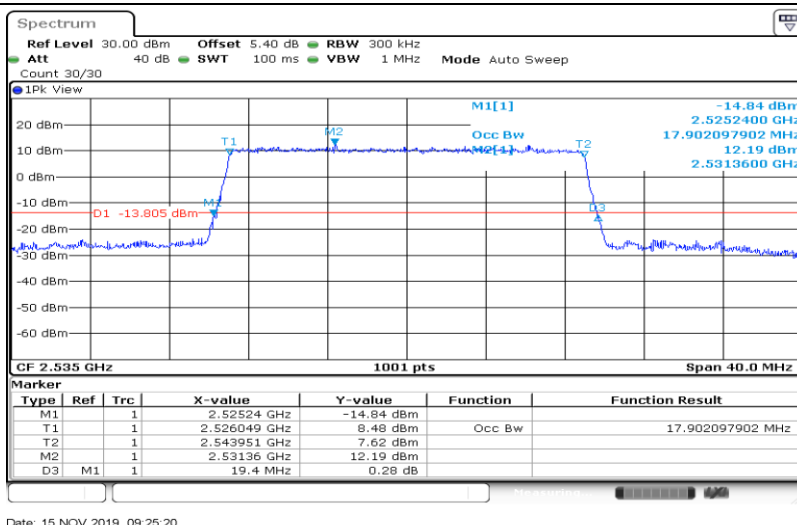


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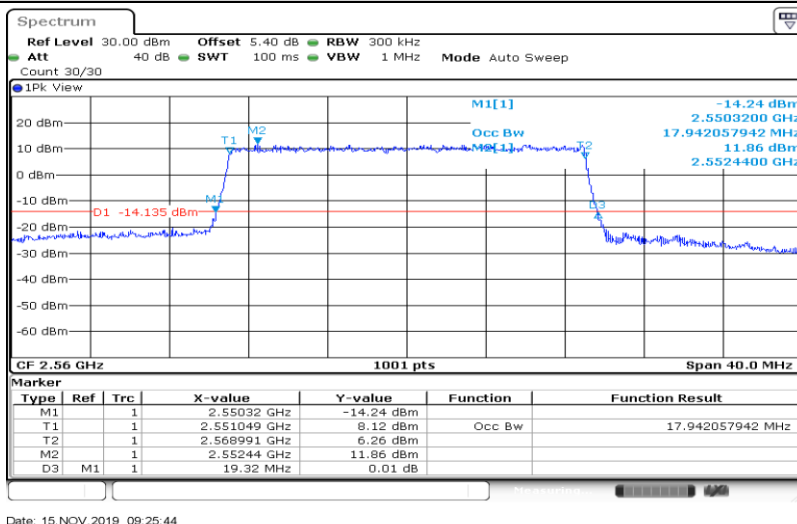


Band7-20MHz-16QAM-21100-100RB#0-17.902





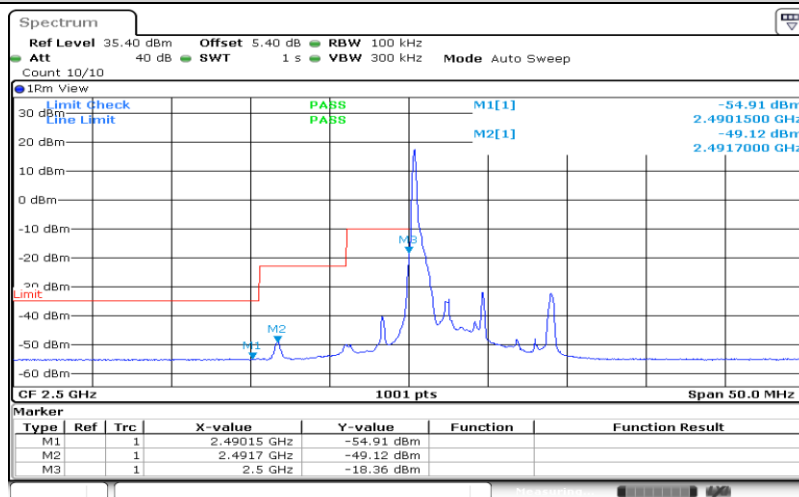
Band7-20MHz-16QAM-21350-100RB#0-17.942



5. Band Edge Compliance

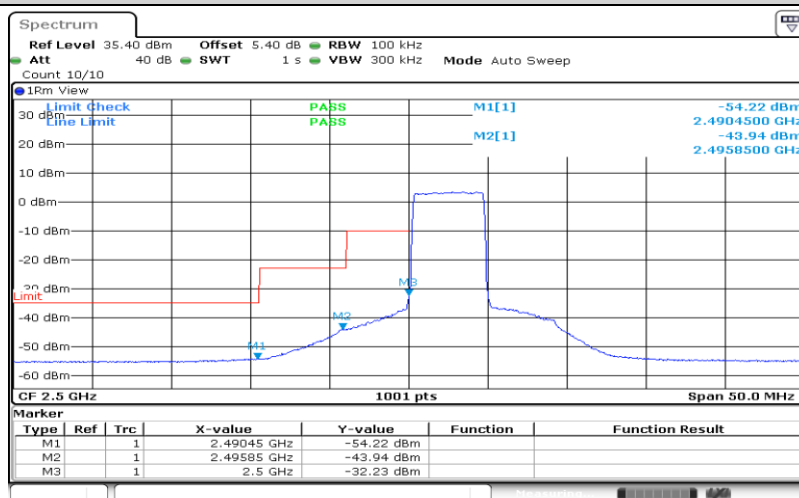
5.1. Test Plots

Band7-5MHz-QPSK-20775-1RB#0



Date: 15.NOV.2019 09:27:32

Band7-5MHz-QPSK-20775-25RB#0



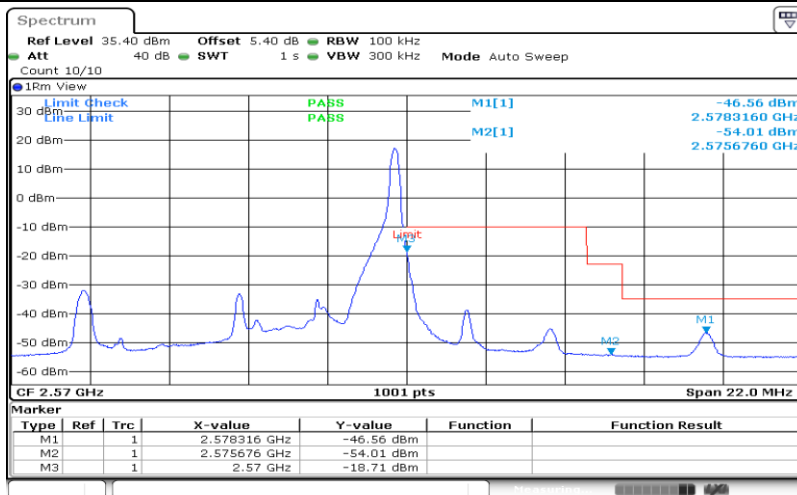
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Band7-5MHz-QPSK-21425-1RB#24



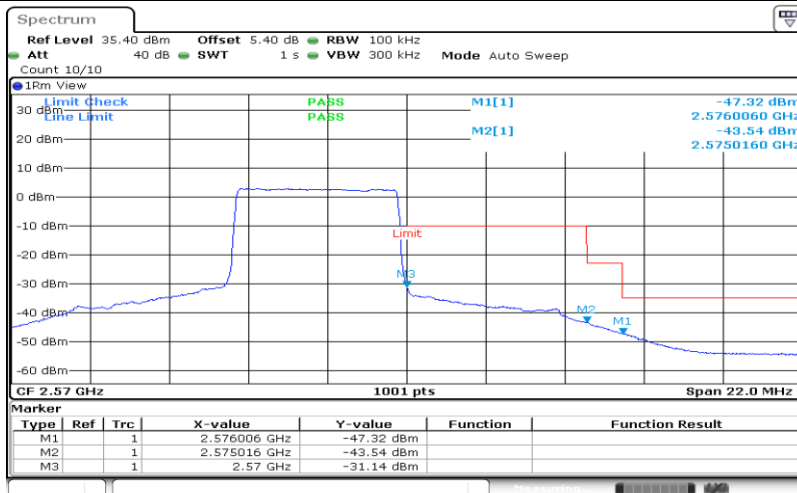
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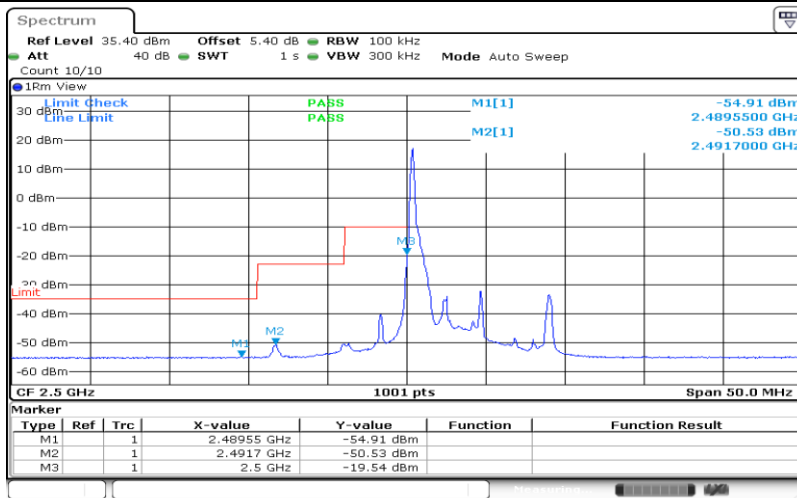
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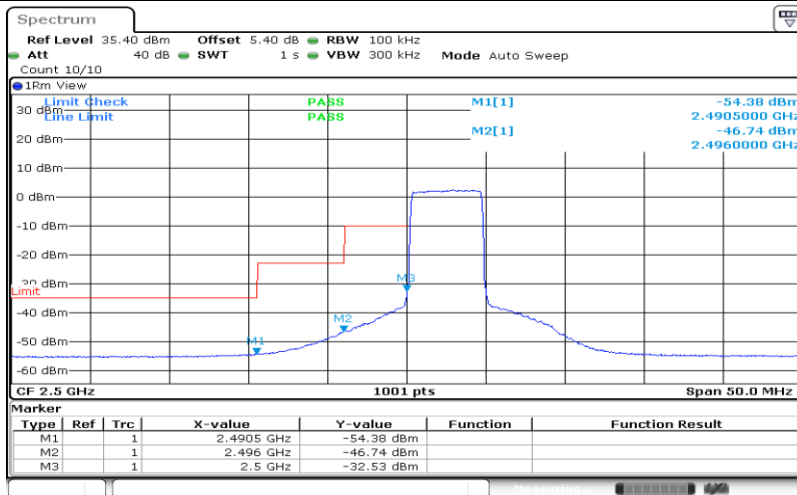
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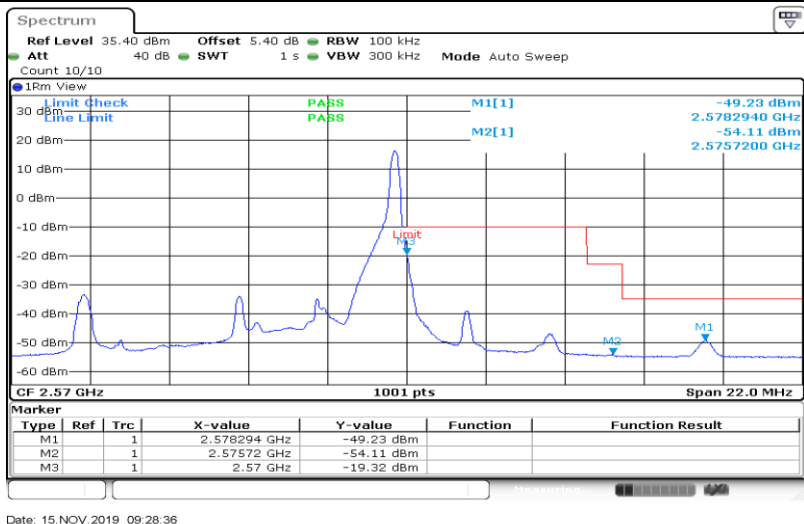


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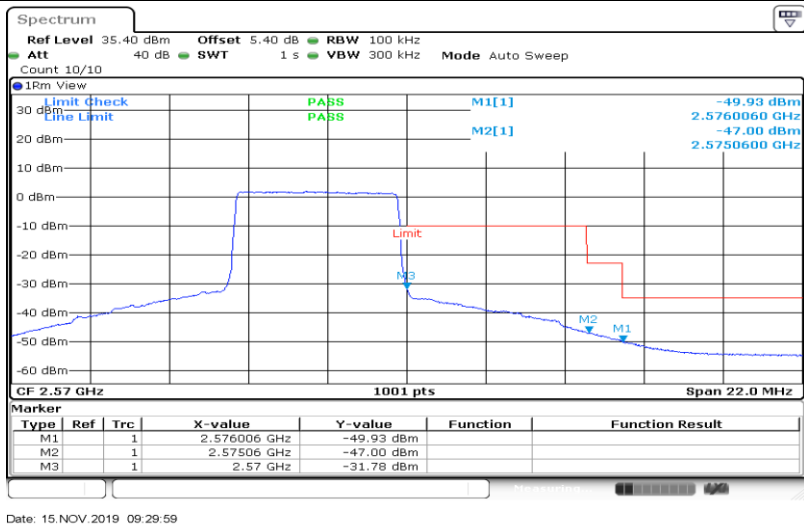


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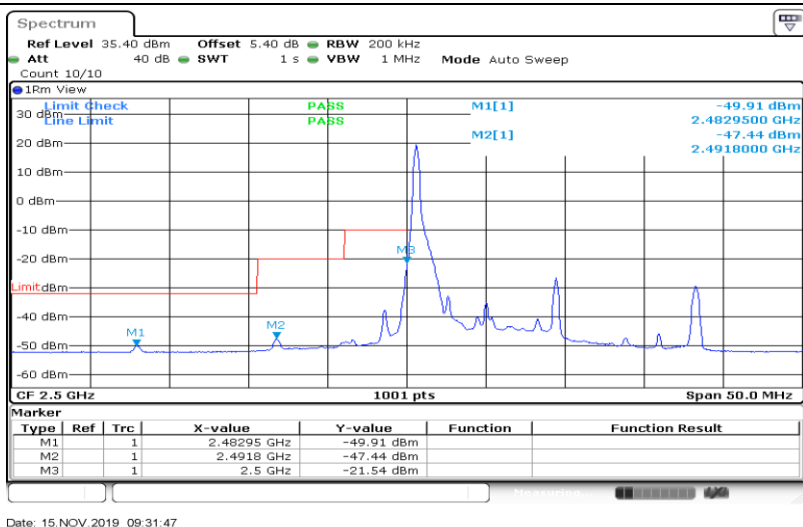


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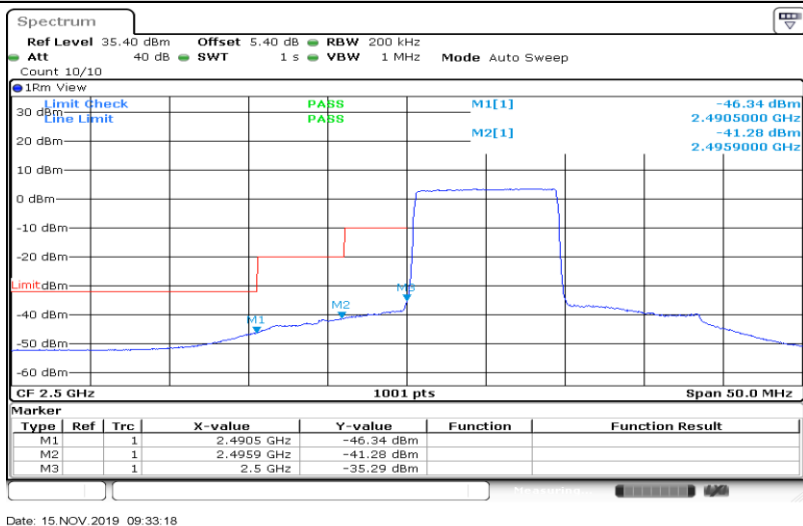


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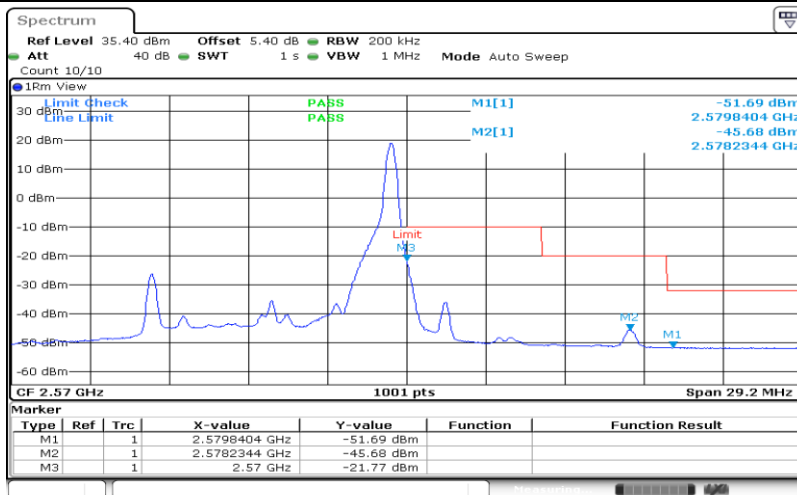


Band7-10MHz-QPSK-20800-50RB#0

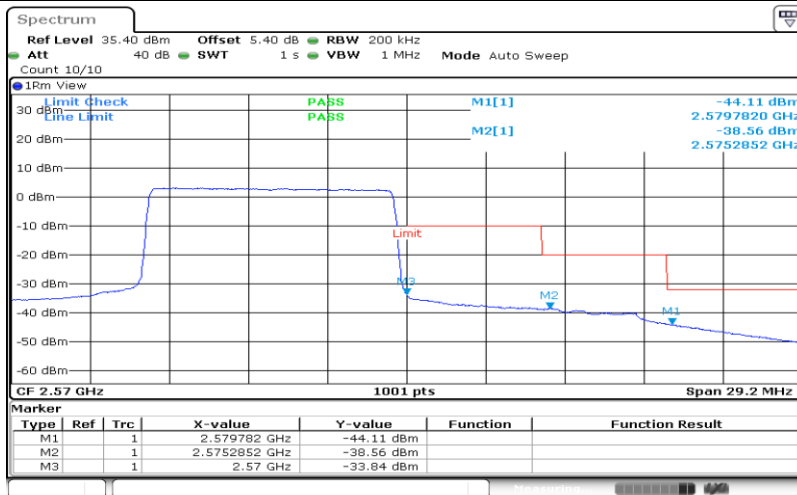


Band7-10MHz-QPSK-21400-1RB#49



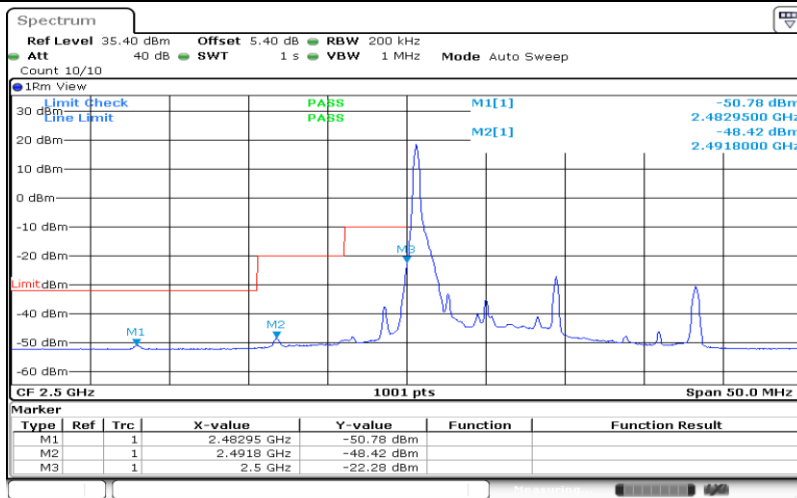


Band7-10MHz-QPSK-21400-50RB#0

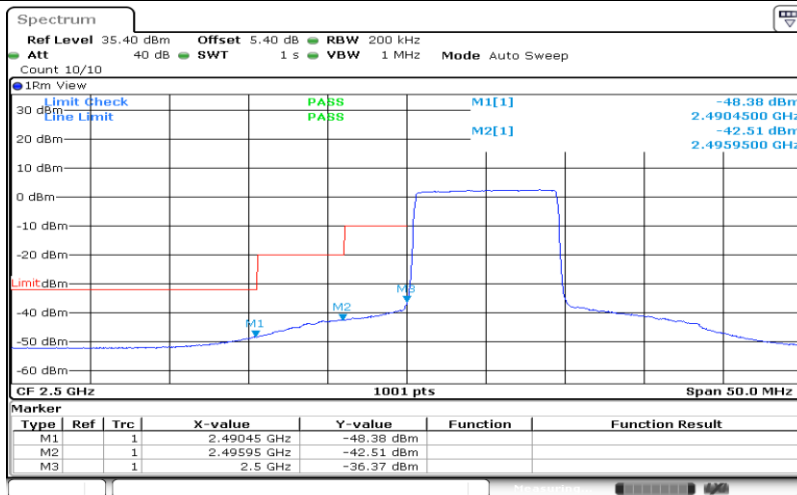


Band7-10MHz-16QAM-20800-1RB#0



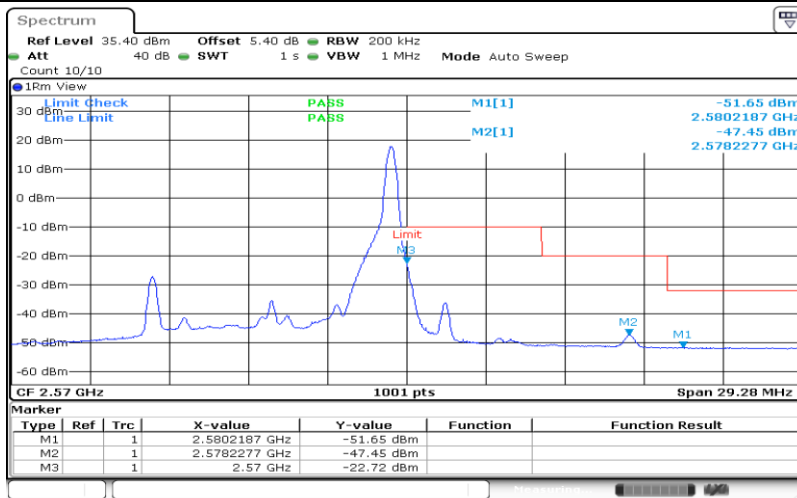


Band7-10MHz-16QAM-20800-50RB#0

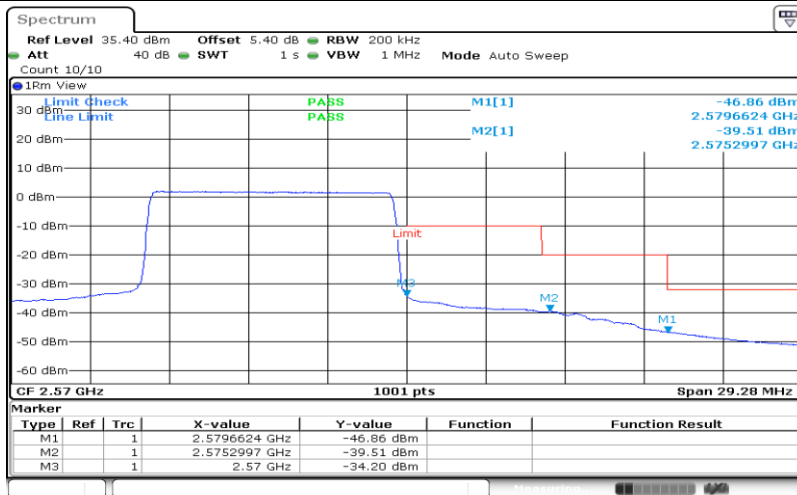


Band7-10MHz-16QAM-21400-1RB#49



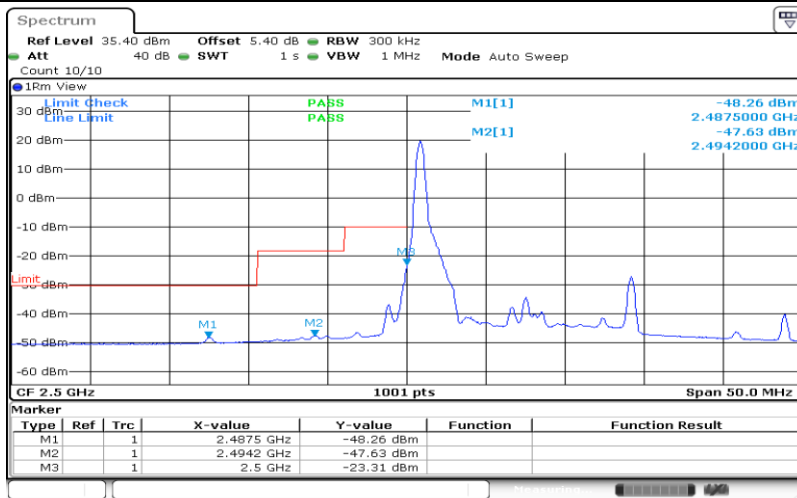


Band7-10MHz-16QAM-21400-50RB#0

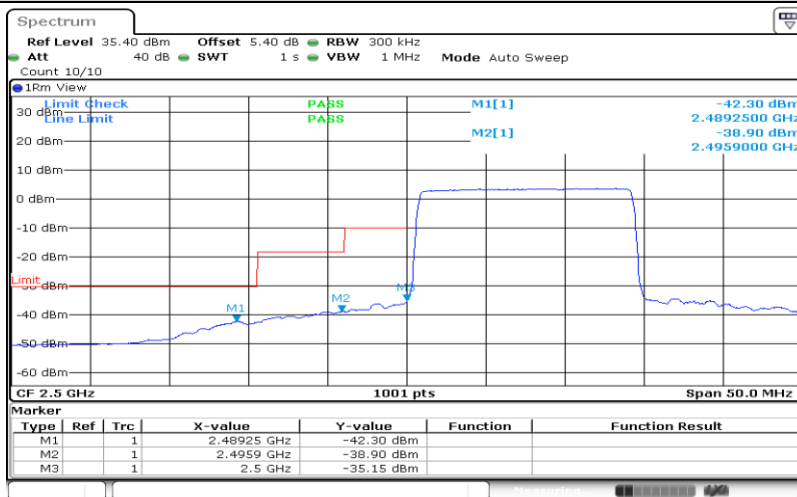


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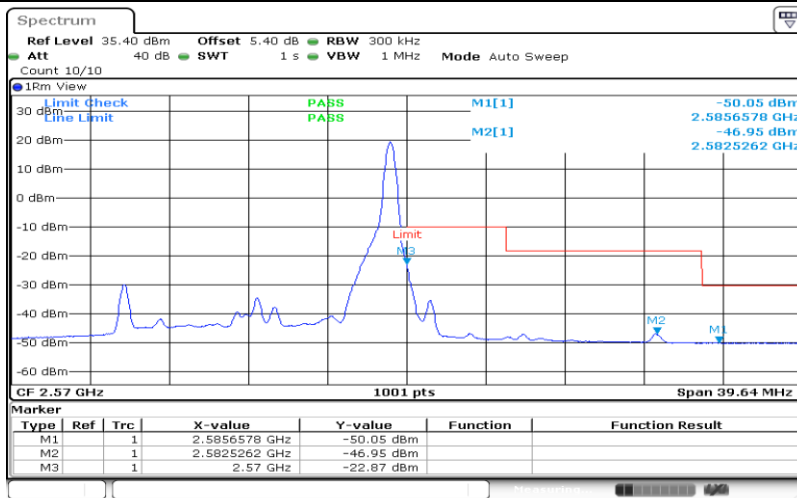


Band7-15MHz-QPSK-20825-75RB#0

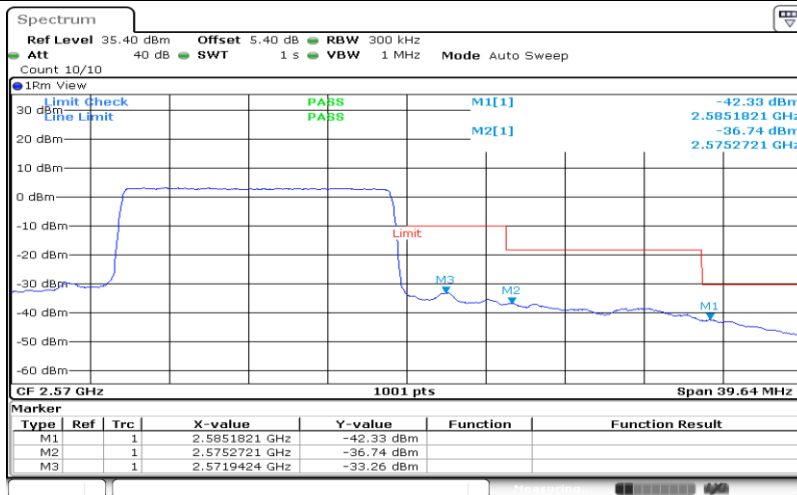


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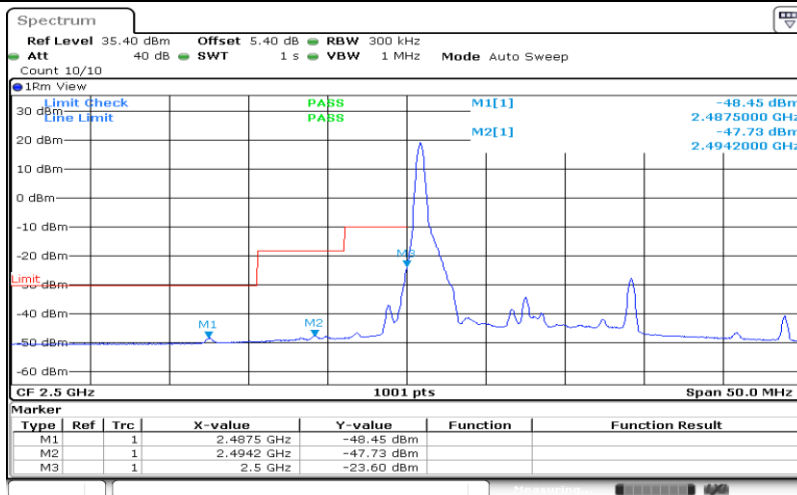


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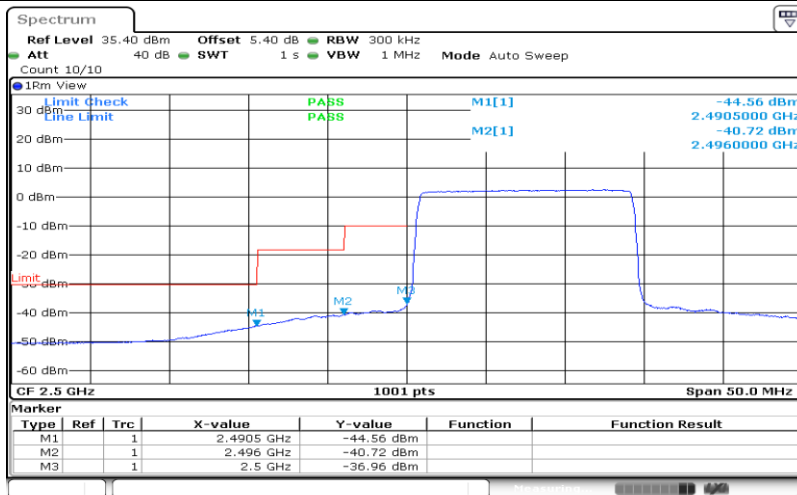
Band7-15MHz-16QAM-20825-1RB#0





Date: 15.NOV.2019 09:36:22

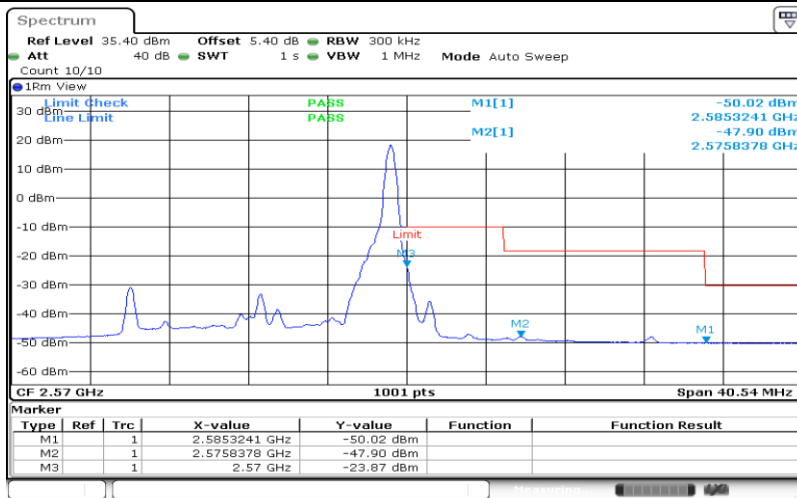
Band7-15MHz-16QAM-20825-75RB#0



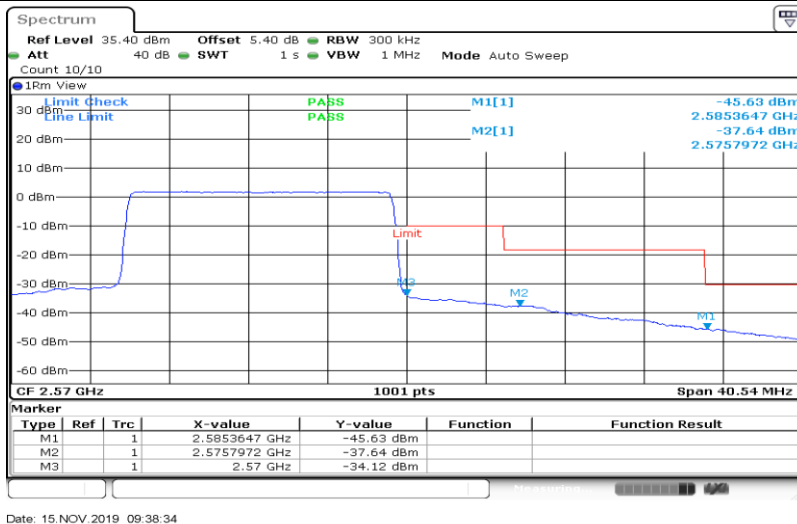
Date: 15.NOV.2019 09:37:54

Band7-15MHz-16QAM-21375-1RB#74



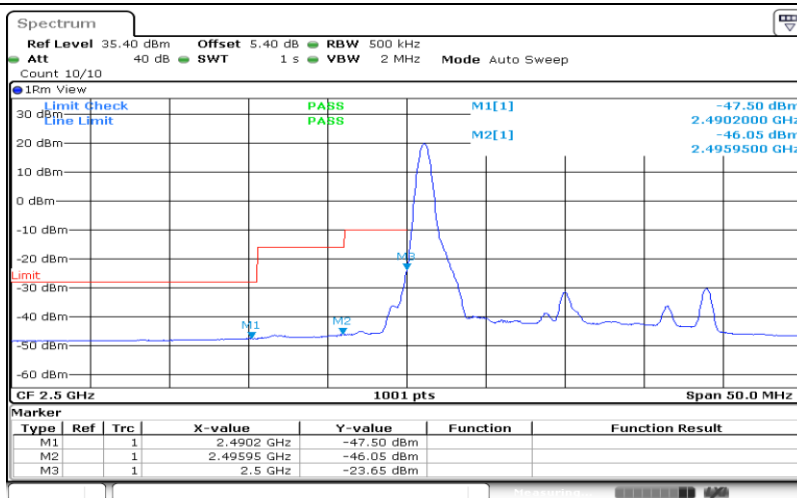


Band7-15MHz-16QAM-21375-75RB#0

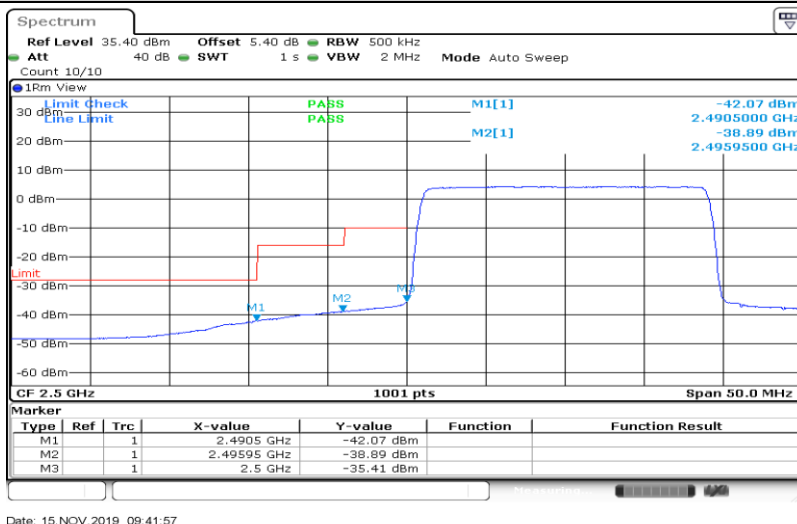


Band7-20MHz-QPSK-20850-1RB#0



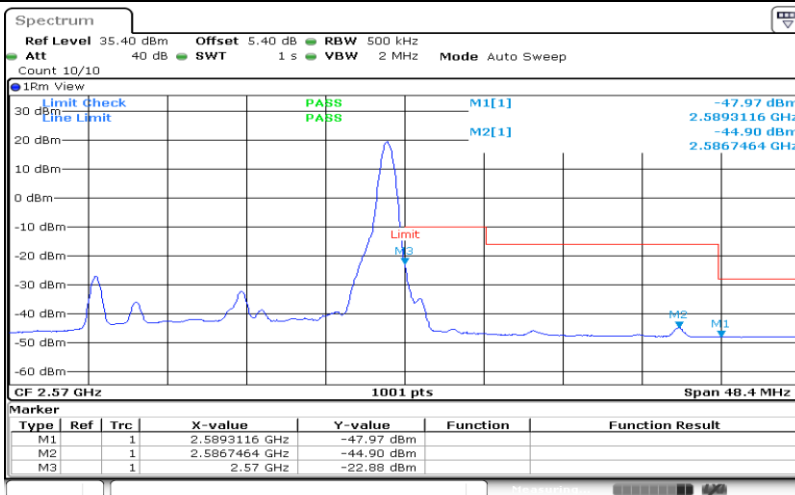


Band7-20MHz-QPSK-20850-100RB#0

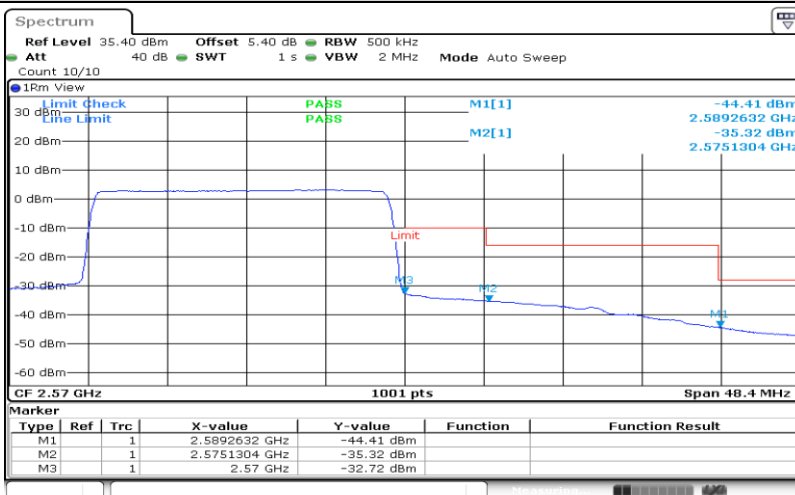


Band7-20MHz-QPSK-21350-1RB#99



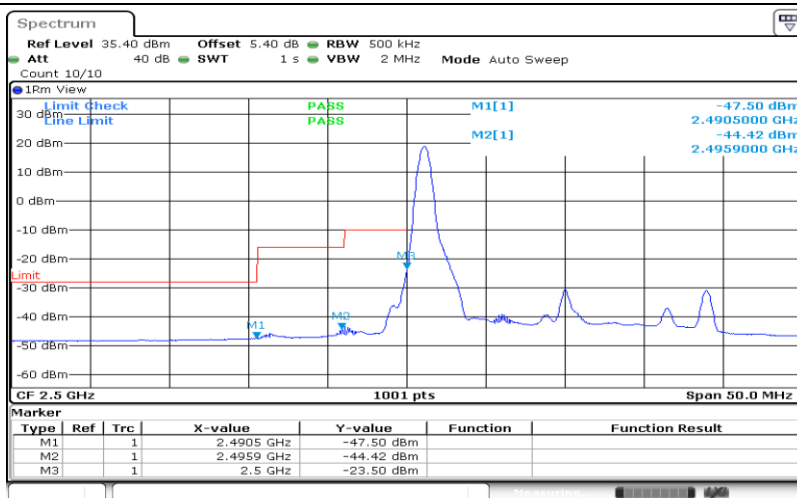


Band7-20MHz-QPSK-21350-100RB#0



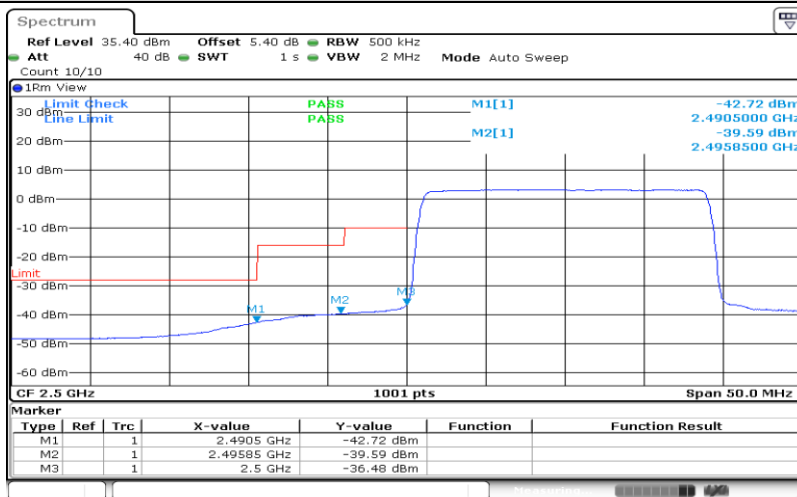
Band7-20MHz-16QAM-20850-1RB#0





Date: 15.NOV.2019 09:40:42

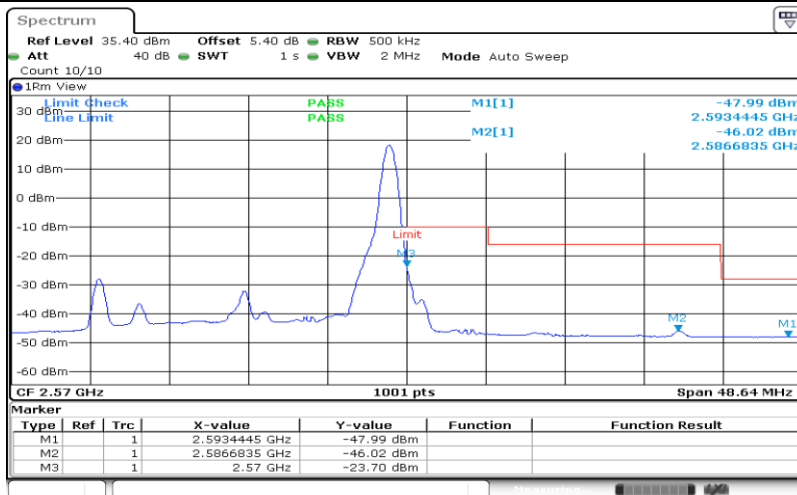
Band7-20MHz-16QAM-20850-100RB#0



Date: 15.NOV.2019 09:42:16

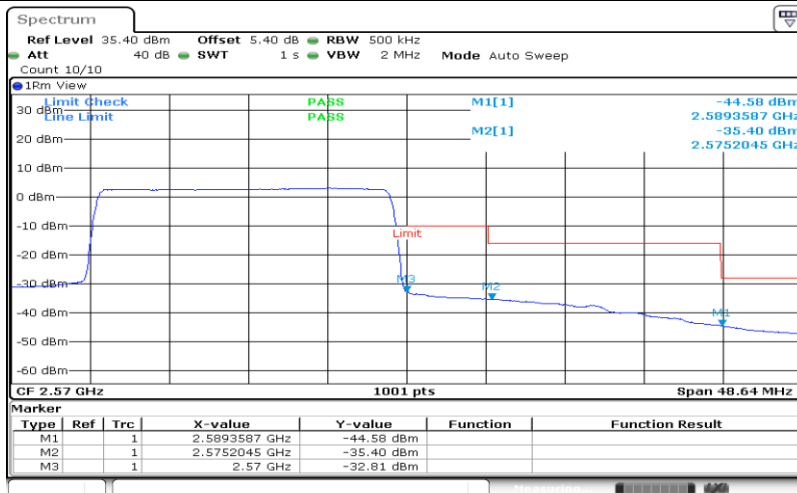
Band7-20MHz-16QAM-21350-1RB#99





Date: 15.NOV.2019 09:41:29

Band7-20MHz-16QAM-21350-100RB#0



Date: 15.NOV.2019 09:42:57



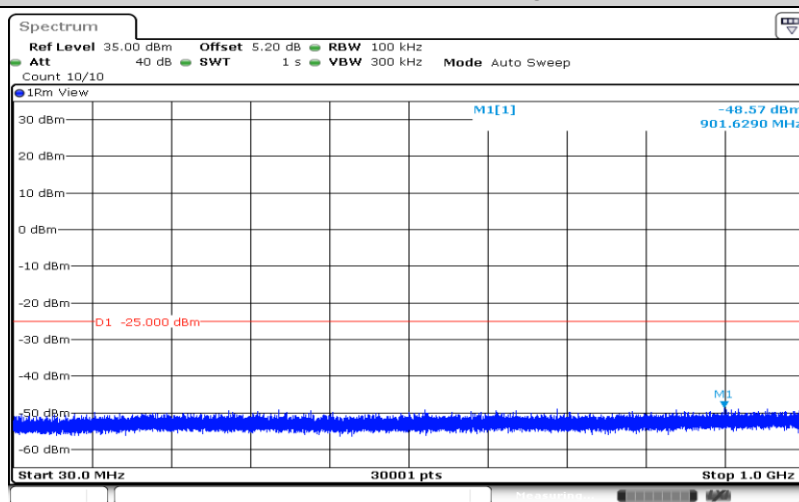
6. Spurious Emission at Antenna Terminal

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

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

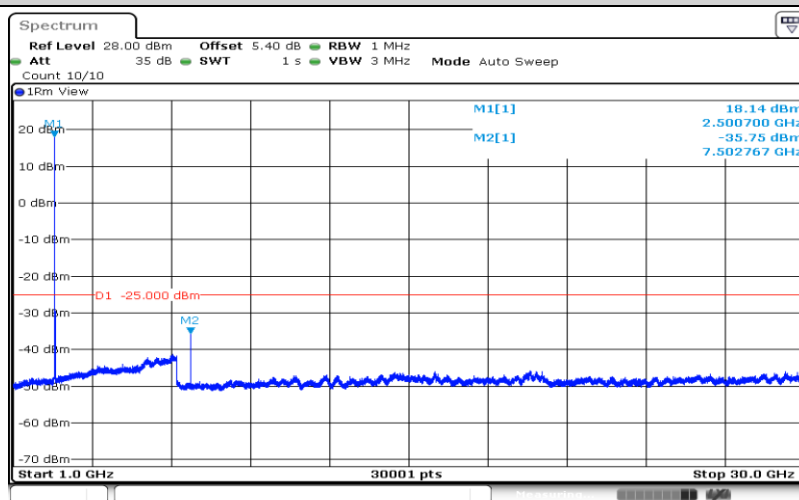
6.1. Test Plots

Band7-20MHz-QPSK-20850-1RB#0-Range1:30~1000MHz



Date: 15.NOV.2019 09:43:16

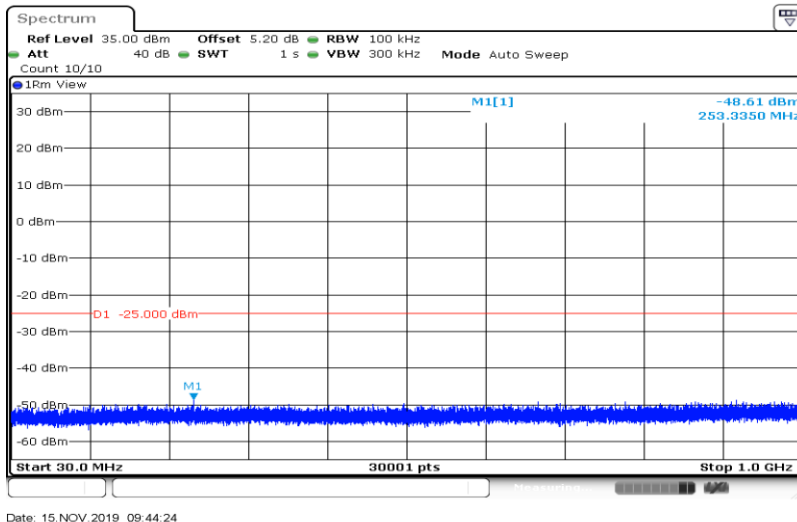
Band7-20MHz-QPSK-20850-1RB#0-Range2:1000~30000MHz



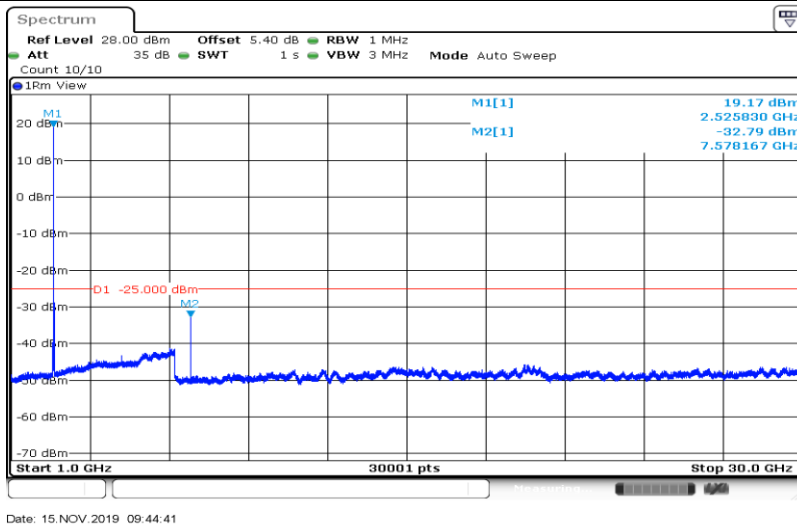
Date: 15.NOV.2019 09:43:33

Band7-20MHz-QPSK-21100-1RB#0-Range1:30~1000MHz



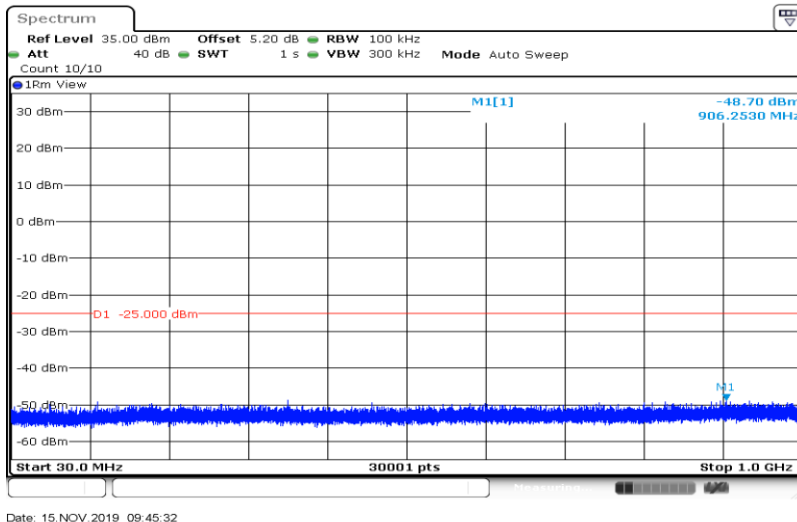


Band7-20MHz-QPSK-21100-1RB#0-Range2:1000~30000MHz

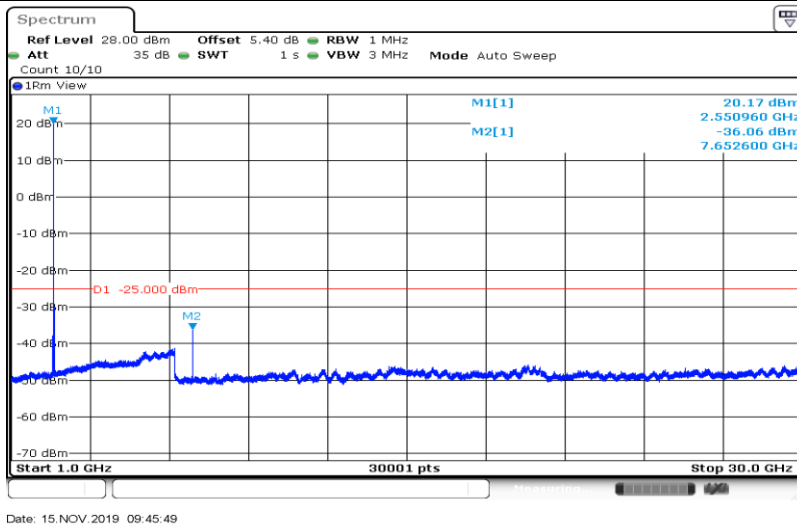


Band7-20MHz-QPSK-21350-1RB#0-Range1:30~1000MHz



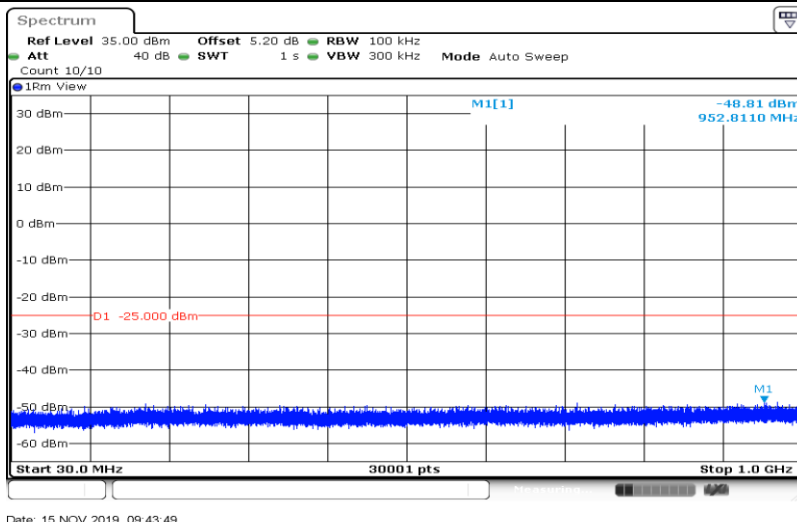


Band7-20MHz-QPSK-21350-1RB#0-Range2:1000~30000MHz

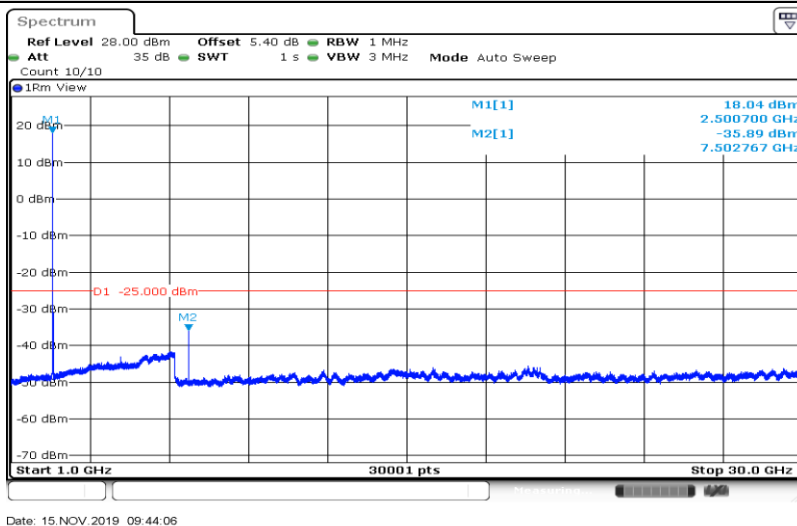


Band7-20MHz-16QAM-20850-1RB#0-Range1:30~1000MHz



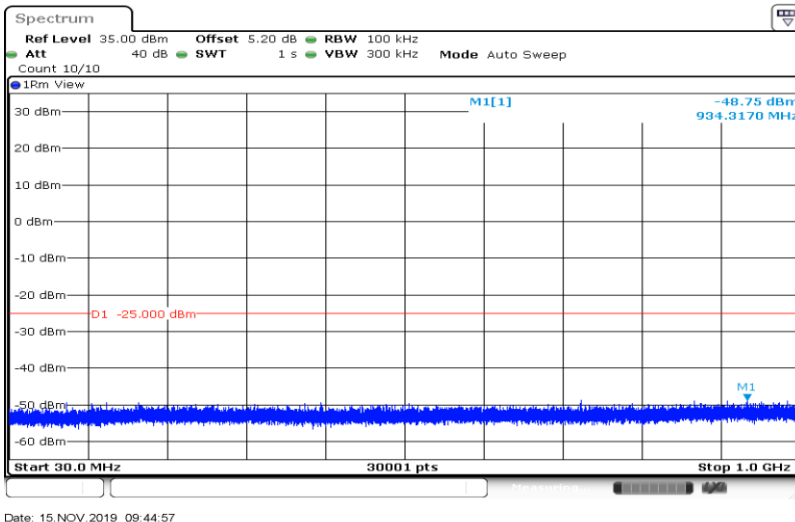


Band7-20MHz-16QAM-20850-1RB#0-Range2:1000~30000MHz

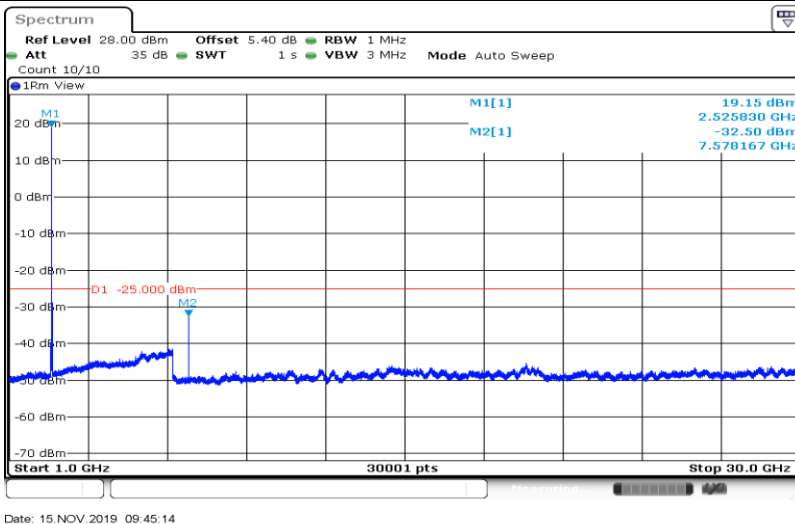


Band7-20MHz-16QAM-21100-1RB#0-Range1:30~1000MHz



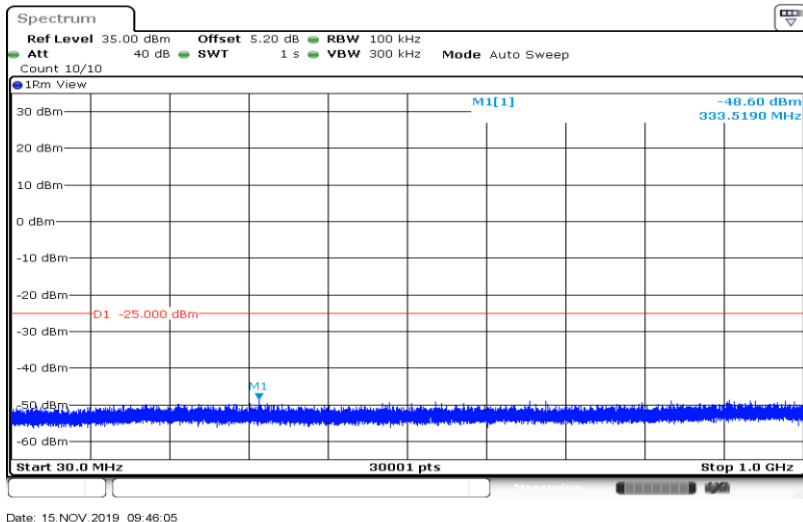


Band7-20MHz-16QAM-21100-1RB#0-Range2:1000~30000MHz

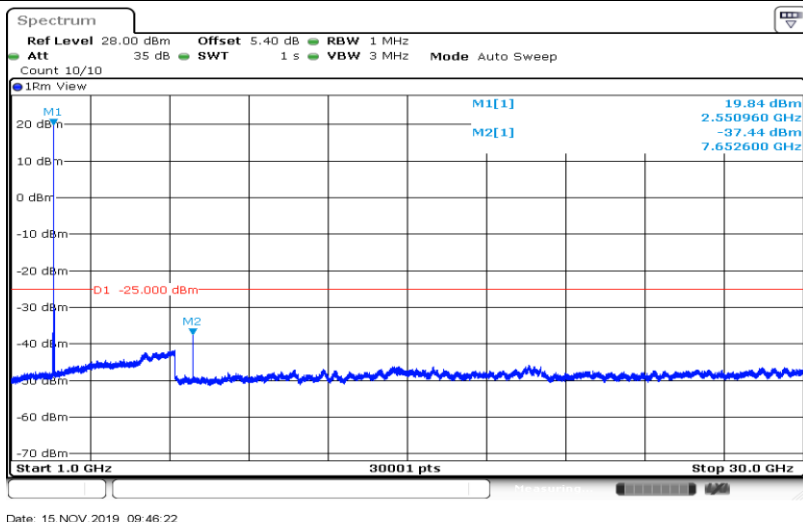


Band7-20MHz-16QAM-21350-1RB#0-Range1:30~1000MHz





Band7-20MHz-16QAM-21350-1RB#0-Range2:1000~30000MHz



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7. Field Strength of Spurious Radiation

7.1. Test Band = LTE Band 7

7.1.1. Test Mode = LTE/TM1

7.1.1.1. Test Channel = LCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Margin (dB)	Height [cm]	Angle [°]	Polarization
49.8375	-72.15	-25.00	47.15	188	121	Vertical
119.9235	-65.67	-25.00	40.67	154	100	Vertical
518.5649	-67.02	-25.00	42.02	196	100	Vertical
5052.0821	-53.16	-25.00	28.16	213	15	Vertical
7578.1831	-42.52	-25.00	17.52	262	186	Vertical
10104.2842	-39.71	-25.00	14.71	274	15	Vertical
42.6591	-64.62	-25.00	39.62	258	271	Horizontal
232.7886	-68.98	-25.00	43.98	174	57	Horizontal
498.4364	-67.78	-25.00	42.78	196	78	Horizontal
1588.1176	-45.98	-25.00	20.98	321	257	Horizontal
7578.1831	-49.27	-25.00	24.27	252	163	Horizontal
16397.9359	-40.10	-25.00	15.10	261	163	Horizontal

7.1.1.2. Test Channel = MCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Margin (dB)	Height [cm]	Angle [°]	Polarization
118.6624	-65.47	-25.00	40.47	159	72	Vertical
359.4770	-68.61	-25.00	43.61	196	72	Vertical
1411.2823	-48.86	-25.00	23.86	231	355	Vertical
5002.2801	-49.30	-25.00	24.30	262	4	Vertical
7503.1801	-37.63	-25.00	12.63	284	24	Vertical
10004.6802	-40.15	-25.00	15.15	154	4	Vertical
44.2597	-65.74	-25.00	40.74	174	334	Horizontal
234.5832	-68.91	-25.00	43.91	185	186	Horizontal
1799.3599	-44.28	-25.00	19.28	196	264	Horizontal
5002.2801	-56.81	-25.00	31.81	213	164	Horizontal
7503.1801	-42.85	-25.00	17.85	252	164	Horizontal
16394.3358	-40.80	-25.00	15.80	261	58	Horizontal



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7.1.1.3. Test Channel = HCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Margin (dB)	Height [cm]	Angle [°]	Polarization
47.2669	-70.96	-25.00	45.96	185	271	Vertical
118.8079	-65.22	-25.00	40.22	321	271	Vertical
1567.7135	-46.36	-25.00	21.36	252	102	Vertical
5102.4841	-55.17	-25.00	30.17	261	334	Vertical
7653.1861	-44.37	-25.00	19.37	184	207	Vertical
10204.4882	-41.32	-25.00	16.32	315	15	Vertical
43.1442	-64.70	-25.00	39.70	159	10	Horizontal
250.2495	-68.54	-25.00	43.54	196	10	Horizontal
1587.3175	-45.91	-25.00	20.91	231	151	Horizontal
5101.8841	-57.44	-25.00	32.44	258	158	Horizontal
7653.1861	-49.57	-25.00	24.57	274	180	Horizontal
16384.1354	-40.71	-25.00	15.71	184	116	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
Band7	20MHz	QPSK	20850	100RB#0	VL	NT	-19.47	-0.007757	±2.5	PASS
Band7	20MHz	QPSK	20850	100RB#0	VN	NT	-21.20	-0.008446	±2.5	PASS
Band7	20MHz	QPSK	20850	100RB#0	VH	NT	-21.50	-0.008566	±2.5	PASS
Band7	20MHz	QPSK	21100	100RB#0	VL	NT	-23.63	-0.009321	±2.5	PASS
Band7	20MHz	QPSK	21100	100RB#0	VN	NT	-22.86	-0.009018	±2.5	PASS
Band7	20MHz	QPSK	21100	100RB#0	VH	NT	16.78	0.006619	±2.5	PASS
Band7	20MHz	QPSK	21350	100RB#0	VL	NT	-13.92	-0.005438	±2.5	PASS
Band7	20MHz	QPSK	21350	100RB#0	VN	NT	-20.34	-0.007945	±2.5	PASS
Band7	20MHz	QPSK	21350	100RB#0	VH	NT	-13.69	-0.005348	±2.5	PASS
Band7	20MHz	16QAM	20850	100RB#0	VL	NT	-20.10	-0.008008	±2.5	PASS
Band7	20MHz	16QAM	20850	100RB#0	VN	NT	-16.79	-0.006689	±2.5	PASS
Band7	20MHz	16QAM	20850	100RB#0	VH	NT	-18.25	-0.007271	±2.5	PASS
Band7	20MHz	16QAM	21100	100RB#0	VL	NT	-19.23	-0.007586	±2.5	PASS
Band7	20MHz	16QAM	21100	100RB#0	VN	NT	-18.87	-0.007444	±2.5	PASS
Band7	20MHz	16QAM	21100	100RB#0	VH	NT	-20.01	-0.007893	±2.5	PASS
Band7	20MHz	16QAM	21350	100RB#0	VL	NT	-20.37	-0.007957	±2.5	PASS
Band7	20MHz	16QAM	21350	100RB#0	VN	NT	-18.30	-0.007148	±2.5	PASS
Band7	20MHz	16QAM	21350	100RB#0	VH	NT	-18.35	-0.007168	±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
Band7	20MHz	QPSK	20850	100RB#0	NV	-30	-18.93	-0.007542	±2.5	PASS
Band7	20MHz	QPSK	20850	100RB#0	NV	-20	-15.52	-0.006183	±2.5	PASS
Band7	20MHz	QPSK	20850	100RB#0	NV	0	-17.90	-0.007131	±2.5	PASS
Band7	20MHz	QPSK	20850	100RB#0	NV	10	-17.48	-0.006964	±2.5	PASS
Band7	20MHz	QPSK	20850	100RB#0	NV	20	-17.45	-0.006952	±2.5	PASS
Band7	20MHz	QPSK	20850	100RB#0	NV	30	-22.92	-0.009131	±2.5	PASS
Band7	20MHz	QPSK	20850	100RB#0	NV	40	-16.67	-0.006641	±2.5	PASS
Band7	20MHz	QPSK	20850	100RB#0	NV	50	-17.90	-0.007131	±2.5	PASS
Band7	20MHz	QPSK	21100	100RB#0	NV	-30	-18.78	-0.007408	±2.5	PASS
Band7	20MHz	QPSK	21100	100RB#0	NV	-20	-18.00	-0.007101	±2.5	PASS
Band7	20MHz	QPSK	21100	100RB#0	NV	0	18.91	0.007460	±2.5	PASS
Band7	20MHz	QPSK	21100	100RB#0	NV	10	-15.94	-0.006288	±2.5	PASS
Band7	20MHz	QPSK	21100	100RB#0	NV	20	-11.06	-0.004363	±2.5	PASS
Band7	20MHz	QPSK	21100	100RB#0	NV	30	-16.84	-0.006643	±2.5	PASS
Band7	20MHz	QPSK	21100	100RB#0	NV	40	-20.11	-0.007933	±2.5	PASS
Band7	20MHz	QPSK	21100	100RB#0	NV	50	-20.77	-0.008193	±2.5	PASS



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Band7	20MHz	QPSK	21350	100RB#0	NV	-30	-20.60	-0.008047	±2.5	PASS
Band7	20MHz	QPSK	21350	100RB#0	NV	-20	-16.97	-0.006629	±2.5	PASS
Band7	20MHz	QPSK	21350	100RB#0	NV	0	-944.88	-0.369094	±2.5	PASS
Band7	20MHz	QPSK	21350	100RB#0	NV	10	-24.29	-0.009488	±2.5	PASS
Band7	20MHz	QPSK	21350	100RB#0	NV	20	-21.49	-0.008395	±2.5	PASS
Band7	20MHz	QPSK	21350	100RB#0	NV	30	-23.62	-0.009227	±2.5	PASS
Band7	20MHz	QPSK	21350	100RB#0	NV	40	-22.67	-0.008855	±2.5	PASS
Band7	20MHz	QPSK	21350	100RB#0	NV	50	-18.11	-0.007074	±2.5	PASS
Band7	20MHz	16QAM	20850	100RB#0	NV	-30	-14.59	-0.005813	±2.5	PASS
Band7	20MHz	16QAM	20850	100RB#0	NV	-20	-15.92	-0.006343	±2.5	PASS
Band7	20MHz	16QAM	20850	100RB#0	NV	0	-15.22	-0.006064	±2.5	PASS
Band7	20MHz	16QAM	20850	100RB#0	NV	10	16.55	0.006594	±2.5	PASS
Band7	20MHz	16QAM	20850	100RB#0	NV	20	-10.57	-0.004211	±2.5	PASS
Band7	20MHz	16QAM	20850	100RB#0	NV	30	-19.14	-0.007625	±2.5	PASS
Band7	20MHz	16QAM	20850	100RB#0	NV	40	-17.18	-0.006845	±2.5	PASS
Band7	20MHz	16QAM	20850	100RB#0	NV	50	-21.59	-0.008602	±2.5	PASS
Band7	20MHz	16QAM	21100	100RB#0	NV	-30	-16.22	-0.006398	±2.5	PASS
Band7	20MHz	16QAM	21100	100RB#0	NV	-20	15.69	0.006189	±2.5	PASS
Band7	20MHz	16QAM	21100	100RB#0	NV	0	-13.78	-0.005436	±2.5	PASS
Band7	20MHz	16QAM	21100	100RB#0	NV	10	-13.50	-0.005325	±2.5	PASS
Band7	20MHz	16QAM	21100	100RB#0	NV	20	-17.52	-0.006911	±2.5	PASS
Band7	20MHz	16QAM	21100	100RB#0	NV	30	-17.52	-0.006911	±2.5	PASS
Band7	20MHz	16QAM	21100	100RB#0	NV	40	-20.13	-0.007941	±2.5	PASS
Band7	20MHz	16QAM	21100	100RB#0	NV	50	-13.73	-0.005416	±2.5	PASS
Band7	20MHz	16QAM	21350	100RB#0	NV	-30	-19.13	-0.007473	±2.5	PASS
Band7	20MHz	16QAM	21350	100RB#0	NV	-20	-27.07	-0.010574	±2.5	PASS
Band7	20MHz	16QAM	21350	100RB#0	NV	0	-26.98	-0.010539	±2.5	PASS
Band7	20MHz	16QAM	21350	100RB#0	NV	10	-23.49	-0.009176	±2.5	PASS
Band7	20MHz	16QAM	21350	100RB#0	NV	20	-27.34	-0.010680	±2.5	PASS
Band7	20MHz	16QAM	21350	100RB#0	NV	30	-23.55	-0.009199	±2.5	PASS
Band7	20MHz	16QAM	21350	100RB#0	NV	40	-21.80	-0.008516	±2.5	PASS
Band7	20MHz	16QAM	21350	100RB#0	NV	50	-26.56	-0.010375	±2.5	PASS



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