



# Appendix B

## E-UTRA Band 7



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## CONTENT

<b>1</b>	<b>EFFECTIVE (ISOTROPIC) RADIATED POWER .....</b>	<b>4</b>
1.1.	TEST RESULT .....	4
<b>2.</b>	<b>PEAK-TO-AVERAGE RATIO (CCDF) .....</b>	<b>8</b>
2.1.	TEST RESULT .....	8
2.2.	TEST PLOTS.....	8
<b>3.</b>	<b>MODULATION CHARACTERISTICS .....</b>	<b>12</b>
3.1.	TEST BAND = LTE BAND 7 .....	12
3.1.1.	TEST MODE = LTE /TM1 20MHZ .....	12
3.1.1.1.	TEST CHANNEL = MCH.....	12
3.1.2.	TEST MODE = LTE /TM2 20MHZ .....	13
3.1.2.1.	TEST CHANNEL = MCH.....	13
<b>4.</b>	<b>26DB BANDWIDTH AND OCCUPIED BANDWIDTH .....</b>	<b>14</b>
4.1.	TEST RESULT .....	14
4.2.	TEST PLOTS.....	15
<b>5.</b>	<b>BAND EDGE COMPLIANCE .....</b>	<b>27</b>
5.1.	TEST PLOTS.....	27
<b>6.</b>	<b>SPURIOUS EMISSION AT ANTENNA TERMINAL .....</b>	<b>43</b>
6.1.	TEST PLOTS.....	43
<b>7.</b>	<b>FIELD STRENGTH OF SPURIOUS RADIATION .....</b>	<b>49</b>
7.1.	TEST BAND = LTE BAND 7 .....	49
7.1.1.	TEST MODE =LTE/TM1 (MAIN ANT) .....	49
7.1.1.1.	TEST CHANNEL = LCH .....	49
7.1.1.2.	TEST CHANNEL = MCH.....	50
7.1.1.3.	TEST CHANNEL = HCH .....	50
7.1.2.	TEST MODE =LTE/TM1 (SECOND ANT) .....	51
7.1.2.1.	TEST CHANNEL = LCH .....	51
7.1.2.2.	TEST CHANNEL = MCH.....	51
7.1.2.3.	TEST CHANNEL = HCH .....	52



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8. FREQUENCY STABILITY .....	53
8.1. FREQUENCY VS VOLTAGE .....	53
8.2. FREQUENCY VS TEMPERATURE .....	53



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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	22.42	22.92	33.00	PASS
Band7	5MHz	QPSK	20775	1RB#12	22.70	23.20	33.00	PASS
Band7	5MHz	QPSK	20775	1RB#24	22.39	22.89	33.00	PASS
Band7	5MHz	QPSK	20775	12RB#0	21.55	22.05	33.00	PASS
Band7	5MHz	QPSK	20775	12RB#6	21.61	22.11	33.00	PASS
Band7	5MHz	QPSK	20775	12RB#13	21.54	22.04	33.00	PASS
Band7	5MHz	QPSK	20775	25RB#0	21.58	22.08	33.00	PASS
Band7	5MHz	QPSK	21100	1RB#0	22.46	22.96	33.00	PASS
Band7	5MHz	QPSK	21100	1RB#24	22.44	22.94	33.00	PASS
Band7	5MHz	QPSK	21100	1RB#12	22.73	23.23	33.00	PASS
Band7	5MHz	QPSK	21100	12RB#0	21.60	22.10	33.00	PASS
Band7	5MHz	QPSK	21100	12RB#6	21.64	22.14	33.00	PASS
Band7	5MHz	QPSK	21100	12RB#13	21.55	22.05	33.00	PASS
Band7	5MHz	QPSK	21100	25RB#0	21.59	22.09	33.00	PASS
Band7	5MHz	QPSK	21425	1RB#24	22.46	22.96	33.00	PASS
Band7	5MHz	QPSK	21425	1RB#0	22.46	22.96	33.00	PASS
Band7	5MHz	QPSK	21425	1RB#12	22.77	23.27	33.00	PASS
Band7	5MHz	QPSK	21425	12RB#0	21.61	22.11	33.00	PASS
Band7	5MHz	QPSK	21425	12RB#6	21.64	22.14	33.00	PASS
Band7	5MHz	QPSK	21425	12RB#13	21.58	22.08	33.00	PASS
Band7	5MHz	QPSK	21425	25RB#0	21.60	22.10	33.00	PASS
Band7	5MHz	16QAM	20775	1RB#0	21.60	22.10	33.00	PASS
Band7	5MHz	16QAM	20775	1RB#12	21.92	22.42	33.00	PASS
Band7	5MHz	16QAM	20775	1RB#24	21.55	22.05	33.00	PASS
Band7	5MHz	16QAM	20775	12RB#6	20.58	21.08	33.00	PASS
Band7	5MHz	16QAM	20775	12RB#0	20.54	21.04	33.00	PASS
Band7	5MHz	16QAM	20775	12RB#13	20.52	21.02	33.00	PASS
Band7	5MHz	16QAM	20775	25RB#0	20.54	21.04	33.00	PASS
Band7	5MHz	16QAM	21100	1RB#0	22.54	23.04	33.00	PASS
Band7	5MHz	16QAM	21100	1RB#12	21.85	22.35	33.00	PASS
Band7	5MHz	16QAM	21100	1RB#24	21.58	22.08	33.00	PASS
Band7	5MHz	16QAM	21100	12RB#13	20.61	21.11	33.00	PASS
Band7	5MHz	16QAM	21100	12RB#0	20.60	21.10	33.00	PASS
Band7	5MHz	16QAM	21100	12RB#6	20.63	21.13	33.00	PASS
Band7	5MHz	16QAM	21100	25RB#0	20.59	21.09	33.00	PASS
Band7	5MHz	16QAM	21425	1RB#12	21.91	22.41	33.00	PASS
Band7	5MHz	16QAM	21425	1RB#0	21.62	22.12	33.00	PASS
Band7	5MHz	16QAM	21425	1RB#24	21.70	22.20	33.00	PASS



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Band7	5MHz	16QAM	21425	12RB#0	20.63	21.13	33.00	PASS
Band7	5MHz	16QAM	21425	12RB#6	20.65	21.15	33.00	PASS
Band7	5MHz	16QAM	21425	12RB#13	20.58	21.08	33.00	PASS
Band7	5MHz	16QAM	21425	25RB#0	22.58	23.08	33.00	PASS
Band7	10MHz	QPSK	20800	1RB#24	22.64	23.14	33.00	PASS
Band7	10MHz	QPSK	20800	1RB#49	22.48	22.98	33.00	PASS
Band7	10MHz	QPSK	20800	1RB#0	22.54	23.04	33.00	PASS
Band7	10MHz	QPSK	20800	25RB#0	21.67	22.17	33.00	PASS
Band7	10MHz	QPSK	20800	25RB#12	21.65	22.15	33.00	PASS
Band7	10MHz	QPSK	20800	25RB#25	21.62	22.12	33.00	PASS
Band7	10MHz	QPSK	20800	50RB#0	21.67	22.17	33.00	PASS
Band7	10MHz	QPSK	21100	1RB#0	22.58	23.08	33.00	PASS
Band7	10MHz	QPSK	21100	1RB#49	22.51	23.01	33.00	PASS
Band7	10MHz	QPSK	21100	1RB#24	22.67	23.17	33.00	PASS
Band7	10MHz	QPSK	21100	25RB#25	21.65	22.15	33.00	PASS
Band7	10MHz	QPSK	21100	25RB#0	21.73	22.23	33.00	PASS
Band7	10MHz	QPSK	21100	25RB#12	21.67	22.17	33.00	PASS
Band7	10MHz	QPSK	21100	50RB#0	21.70	22.20	33.00	PASS
Band7	10MHz	QPSK	21400	1RB#24	22.67	23.17	33.00	PASS
Band7	10MHz	QPSK	21400	1RB#0	22.57	23.07	33.00	PASS
Band7	10MHz	QPSK	21400	1RB#49	22.55	23.05	33.00	PASS
Band7	10MHz	QPSK	21400	25RB#0	21.71	22.21	33.00	PASS
Band7	10MHz	QPSK	21400	25RB#25	21.60	22.10	33.00	PASS
Band7	10MHz	QPSK	21400	25RB#12	21.66	22.16	33.00	PASS
Band7	10MHz	QPSK	21400	50RB#0	21.71	22.21	33.00	PASS
Band7	10MHz	16QAM	20800	1RB#49	21.66	22.16	33.00	PASS
Band7	10MHz	16QAM	20800	1RB#0	21.74	22.24	33.00	PASS
Band7	10MHz	16QAM	20800	1RB#24	21.88	22.38	33.00	PASS
Band7	10MHz	16QAM	20800	25RB#25	20.61	21.11	33.00	PASS
Band7	10MHz	16QAM	20800	25RB#12	20.62	21.12	33.00	PASS
Band7	10MHz	16QAM	20800	25RB#0	20.67	21.17	33.00	PASS
Band7	10MHz	16QAM	20800	50RB#0	20.65	21.15	33.00	PASS
Band7	10MHz	16QAM	21100	1RB#49	21.76	22.26	33.00	PASS
Band7	10MHz	16QAM	21100	1RB#0	21.79	22.29	33.00	PASS
Band7	10MHz	16QAM	21100	1RB#24	21.93	22.43	33.00	PASS
Band7	10MHz	16QAM	21100	25RB#25	20.62	21.12	33.00	PASS
Band7	10MHz	16QAM	21100	25RB#0	22.62	23.12	33.00	PASS
Band7	10MHz	16QAM	21100	25RB#12	20.64	21.14	33.00	PASS
Band7	10MHz	16QAM	21100	50RB#0	20.66	21.16	33.00	PASS
Band7	10MHz	16QAM	21400	1RB#24	21.87	22.37	33.00	PASS
Band7	10MHz	16QAM	21400	1RB#0	21.71	22.21	33.00	PASS
Band7	10MHz	16QAM	21400	1RB#49	21.69	22.19	33.00	PASS
Band7	10MHz	16QAM	21400	25RB#0	20.68	21.18	33.00	PASS
Band7	10MHz	16QAM	21400	25RB#12	20.64	21.14	33.00	PASS
Band7	10MHz	16QAM	21400	25RB#25	20.57	21.07	33.00	PASS
Band7	10MHz	16QAM	21400	50RB#0	20.66	21.16	33.00	PASS
Band7	15MHz	QPSK	20825	1RB#0	22.51	23.01	33.00	PASS



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Band7	15MHz	QPSK	20825	1RB#38	22.58	23.08	33.00	PASS
Band7	15MHz	QPSK	20825	1RB#74	22.46	22.96	33.00	PASS
Band7	15MHz	QPSK	20825	36RB#0	21.66	22.16	33.00	PASS
Band7	15MHz	QPSK	20825	36RB#18	21.65	22.15	33.00	PASS
Band7	15MHz	QPSK	20825	36RB#39	21.64	22.14	33.00	PASS
Band7	15MHz	QPSK	20825	75RB#0	21.64	22.14	33.00	PASS
Band7	15MHz	QPSK	21100	1RB#0	22.55	23.05	33.00	PASS
Band7	15MHz	QPSK	21100	1RB#74	22.46	22.96	33.00	PASS
Band7	15MHz	QPSK	21100	1RB#38	22.60	23.10	33.00	PASS
Band7	15MHz	QPSK	21100	36RB#0	21.69	22.19	33.00	PASS
Band7	15MHz	QPSK	21100	36RB#18	21.67	22.17	33.00	PASS
Band7	15MHz	QPSK	21100	36RB#39	21.61	22.11	33.00	PASS
Band7	15MHz	QPSK	21100	75RB#0	21.65	22.15	33.00	PASS
Band7	15MHz	QPSK	21375	1RB#74	22.54	23.04	33.00	PASS
Band7	15MHz	QPSK	21375	1RB#0	22.55	23.05	33.00	PASS
Band7	15MHz	QPSK	21375	1RB#38	22.57	23.07	33.00	PASS
Band7	15MHz	QPSK	21375	36RB#0	21.68	22.18	33.00	PASS
Band7	15MHz	QPSK	21375	36RB#18	21.66	22.16	33.00	PASS
Band7	15MHz	QPSK	21375	36RB#39	21.58	22.08	33.00	PASS
Band7	15MHz	QPSK	21375	75RB#0	21.62	22.12	33.00	PASS
Band7	15MHz	16QAM	20825	1RB#0	21.64	22.14	33.00	PASS
Band7	15MHz	16QAM	20825	1RB#38	21.81	22.31	33.00	PASS
Band7	15MHz	16QAM	20825	1RB#74	21.64	22.14	33.00	PASS
Band7	15MHz	16QAM	20825	36RB#18	20.61	21.11	33.00	PASS
Band7	15MHz	16QAM	20825	36RB#0	20.63	21.13	33.00	PASS
Band7	15MHz	16QAM	20825	36RB#39	20.59	21.09	33.00	PASS
Band7	15MHz	16QAM	20825	75RB#0	20.62	21.12	33.00	PASS
Band7	15MHz	16QAM	21100	1RB#0	21.73	22.23	33.00	PASS
Band7	15MHz	16QAM	21100	1RB#38	21.78	22.28	33.00	PASS
Band7	15MHz	16QAM	21100	1RB#74	21.68	22.18	33.00	PASS
Band7	15MHz	16QAM	21100	36RB#39	20.57	21.07	33.00	PASS
Band7	15MHz	16QAM	21100	36RB#0	20.66	21.16	33.00	PASS
Band7	15MHz	16QAM	21100	36RB#18	20.62	21.12	33.00	PASS
Band7	15MHz	16QAM	21100	75RB#0	20.64	21.14	33.00	PASS
Band7	15MHz	16QAM	21375	1RB#38	21.76	22.26	33.00	PASS
Band7	15MHz	16QAM	21375	1RB#0	21.76	22.26	33.00	PASS
Band7	15MHz	16QAM	21375	1RB#74	22.61	23.11	33.00	PASS
Band7	15MHz	16QAM	21375	36RB#0	20.62	21.12	33.00	PASS
Band7	15MHz	16QAM	21375	36RB#18	20.62	21.12	33.00	PASS
Band7	15MHz	16QAM	21375	36RB#39	20.57	21.07	33.00	PASS
Band7	15MHz	16QAM	21375	75RB#0	20.60	21.10	33.00	PASS
Band7	20MHz	QPSK	20850	1RB#99	22.37	22.87	33.00	PASS
Band7	20MHz	QPSK	20850	1RB#49	22.70	23.20	33.00	PASS
Band7	20MHz	QPSK	20850	1RB#0	22.48	22.98	33.00	PASS
Band7	20MHz	QPSK	20850	50RB#0	21.65	22.15	33.00	PASS
Band7	20MHz	QPSK	20850	50RB#25	21.68	22.18	33.00	PASS
Band7	20MHz	QPSK	20850	50RB#50	21.67	22.17	33.00	PASS



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Band7	20MHz	QPSK	20850	100RB#0	21.65	22.15	33.00	PASS
Band7	20MHz	QPSK	21100	1RB#0	22.49	22.99	33.00	PASS
Band7	20MHz	QPSK	21100	1RB#99	22.37	22.87	33.00	PASS
Band7	20MHz	QPSK	21100	1RB#49	22.69	23.19	33.00	PASS
Band7	20MHz	QPSK	21100	50RB#50	21.57	22.07	33.00	PASS
Band7	20MHz	QPSK	21100	50RB#0	21.74	22.24	33.00	PASS
Band7	20MHz	QPSK	21100	50RB#25	21.66	22.16	33.00	PASS
Band7	20MHz	QPSK	21100	100RB#0	21.63	22.13	33.00	PASS
Band7	20MHz	QPSK	21350	1RB#49	22.68	23.18	33.00	PASS
Band7	20MHz	QPSK	21350	1RB#0	22.52	23.02	33.00	PASS
Band7	20MHz	QPSK	21350	1RB#99	22.42	22.92	33.00	PASS
Band7	20MHz	QPSK	21350	50RB#0	21.66	22.16	33.00	PASS
Band7	20MHz	QPSK	21350	50RB#50	21.55	22.05	33.00	PASS
Band7	20MHz	QPSK	21350	50RB#25	21.67	22.17	33.00	PASS
Band7	20MHz	QPSK	21350	100RB#0	21.58	22.08	33.00	PASS
Band7	20MHz	16QAM	20850	1RB#99	21.50	22.00	33.00	PASS
Band7	20MHz	16QAM	20850	1RB#0	21.64	22.14	33.00	PASS
Band7	20MHz	16QAM	20850	1RB#49	21.87	22.37	33.00	PASS
Band7	20MHz	16QAM	20850	50RB#50	20.61	21.11	33.00	PASS
Band7	20MHz	16QAM	20850	50RB#25	20.63	21.13	33.00	PASS
Band7	20MHz	16QAM	20850	50RB#0	20.63	21.13	33.00	PASS
Band7	20MHz	16QAM	20850	100RB#0	20.65	21.15	33.00	PASS
Band7	20MHz	16QAM	21100	1RB#99	21.52	22.02	33.00	PASS
Band7	20MHz	16QAM	21100	1RB#0	21.75	22.25	33.00	PASS
Band7	20MHz	16QAM	21100	1RB#49	21.82	22.32	33.00	PASS
Band7	20MHz	16QAM	21100	50RB#50	20.55	21.05	33.00	PASS
Band7	20MHz	16QAM	21100	50RB#0	20.72	21.22	33.00	PASS
Band7	20MHz	16QAM	21100	50RB#25	20.65	21.15	33.00	PASS
Band7	20MHz	16QAM	21100	100RB#0	20.62	21.12	33.00	PASS
Band7	20MHz	16QAM	21350	1RB#49	21.87	22.37	33.00	PASS
Band7	20MHz	16QAM	21350	1RB#0	21.76	22.26	33.00	PASS
Band7	20MHz	16QAM	21350	1RB#99	21.61	22.11	33.00	PASS
Band7	20MHz	16QAM	21350	50RB#0	20.63	21.13	33.00	PASS
Band7	20MHz	16QAM	21350	50RB#25	20.65	21.15	33.00	PASS
Band7	20MHz	16QAM	21350	50RB#50	20.51	21.01	33.00	PASS
Band7	20MHz	16QAM	21350	100RB#0	20.60	21.10	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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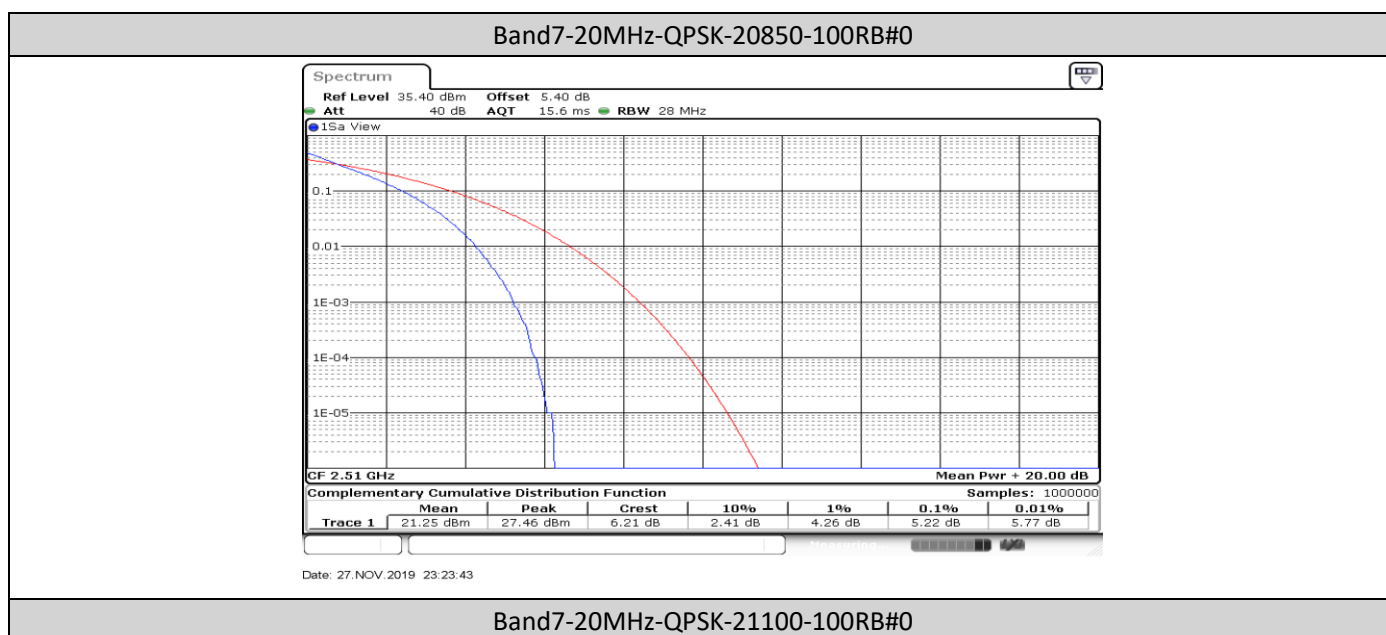


## 2. Peak-to-Average Ratio (CCDF)

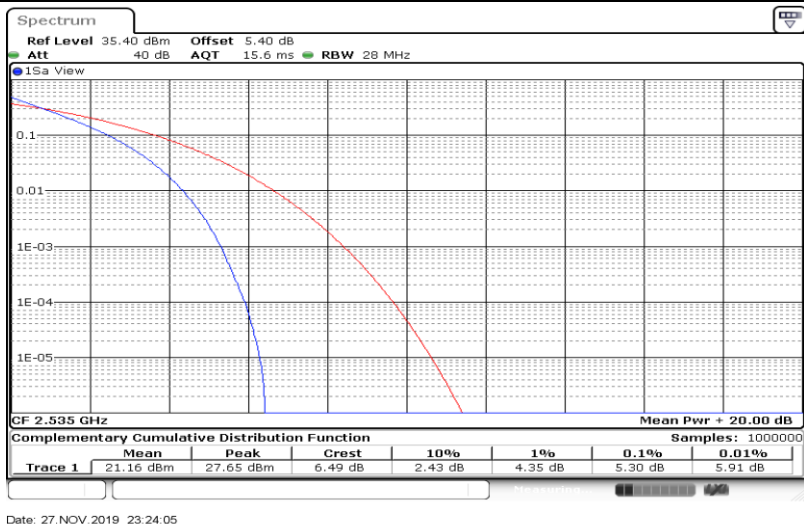
### 2.1. Test Result

Band	Bandwidth	Modulation	Channel	RB Configuration	Result(dB)	Limit(dB)	Verdict
Band7	20MHz	QPSK	20850	100RB#0	5.22	13	PASS
Band7	20MHz	QPSK	21100	100RB#0	5.30	13	PASS
Band7	20MHz	QPSK	21350	100RB#0	5.22	13	PASS
Band7	20MHz	16QAM	20850	100RB#0	6.06	13	PASS
Band7	20MHz	16QAM	21100	100RB#0	6.12	13	PASS
Band7	20MHz	16QAM	21350	100RB#0	6.03	13	PASS

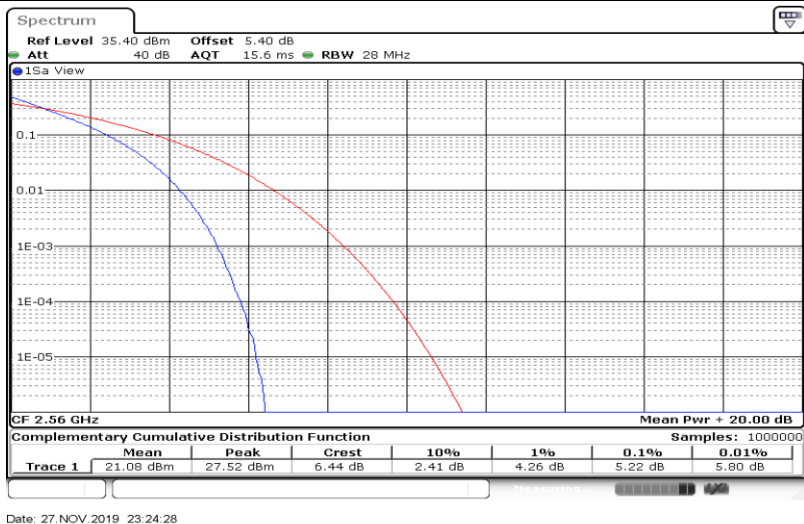
### 2.2. Test Plots





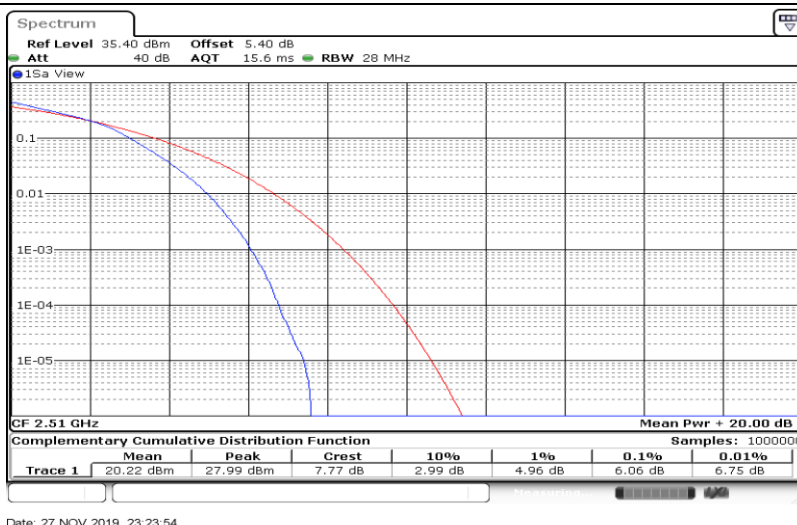


**Band7-20MHz-QPSK-21350-100RB#0**



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



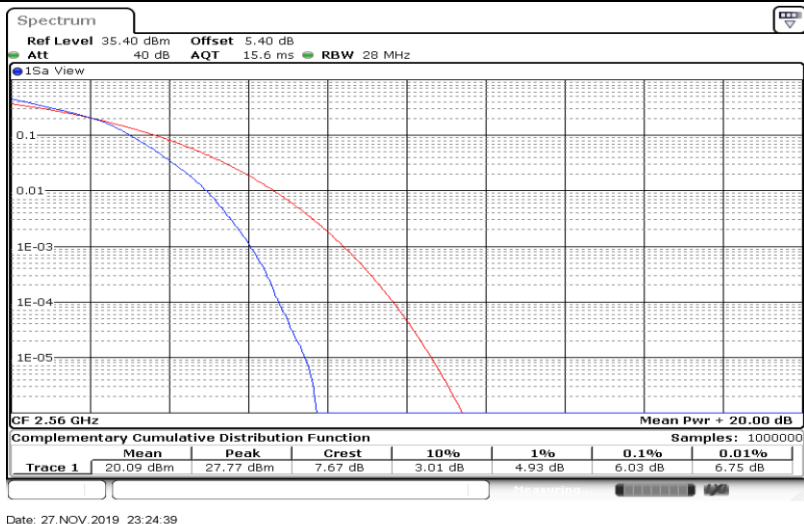


**Band7-20MHz-16QAM-21100-100RB#0**



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





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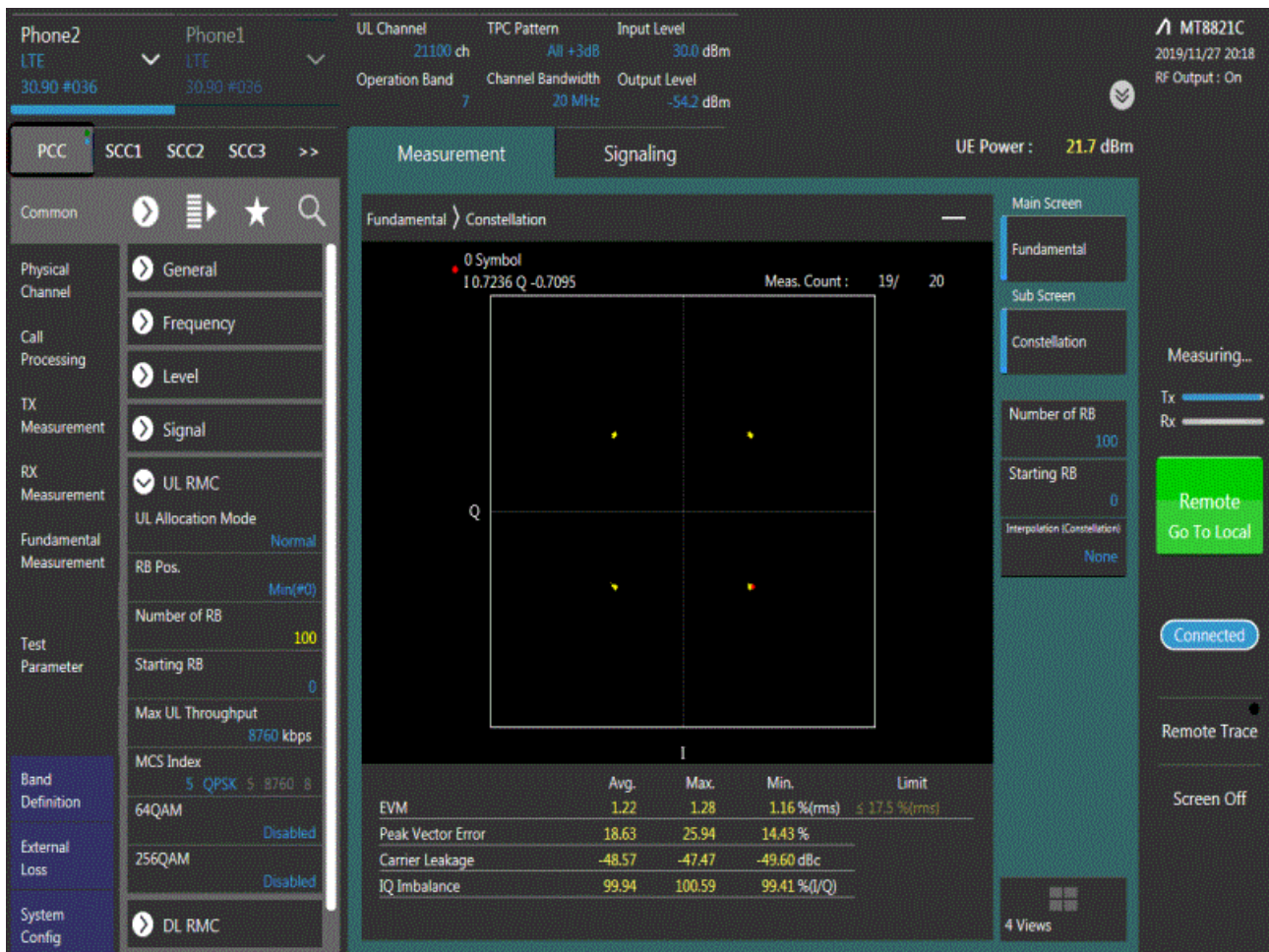


### 3. Modulation Characteristics

#### 3.1. Test Band = LTE Band 7

##### 3.1.1. Test Mode = LTE /TM1 20MHz

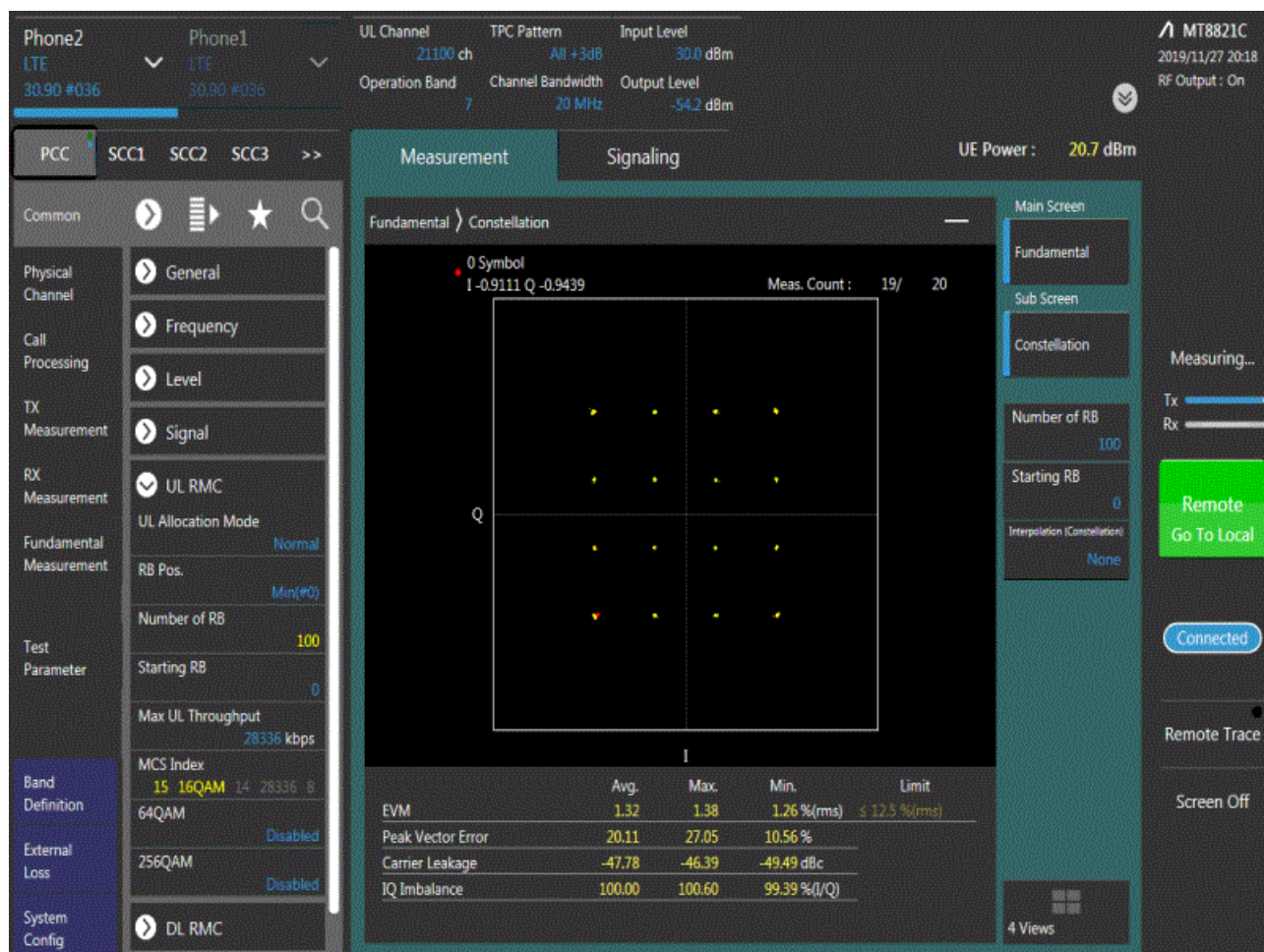
##### 3.1.1.1. Test Channel = MCH





### 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	4.486	4.870	PASS
Band7	5MHz	QPSK	21100	25RB#0	4.486	4.930	PASS
Band7	5MHz	QPSK	21425	25RB#0	4.486	4.950	PASS
Band7	5MHz	16QAM	20775	25RB#0	4.486	4.900	PASS
Band7	5MHz	16QAM	21100	25RB#0	4.496	4.860	PASS
Band7	5MHz	16QAM	21425	25RB#0	4.496	4.880	PASS
Band7	10MHz	QPSK	20800	50RB#0	8.931	10.520	PASS
Band7	10MHz	QPSK	21100	50RB#0	8.971	9.740	PASS
Band7	10MHz	QPSK	21400	50RB#0	8.971	9.640	PASS
Band7	10MHz	16QAM	20800	50RB#0	8.951	9.600	PASS
Band7	10MHz	16QAM	21100	50RB#0	8.951	9.620	PASS
Band7	10MHz	16QAM	21400	50RB#0	8.991	9.580	PASS
Band7	15MHz	QPSK	20825	75RB#0	13.636	14.970	PASS
Band7	15MHz	QPSK	21100	75RB#0	13.636	14.820	PASS
Band7	15MHz	QPSK	21375	75RB#0	13.636	14.880	PASS
Band7	15MHz	16QAM	20825	75RB#0	13.666	14.850	PASS
Band7	15MHz	16QAM	21100	75RB#0	13.636	14.850	PASS
Band7	15MHz	16QAM	21375	75RB#0	13.636	14.850	PASS
Band7	20MHz	QPSK	20850	100RB#0	18.182	19.520	PASS
Band7	20MHz	QPSK	21100	100RB#0	18.142	19.360	PASS
Band7	20MHz	QPSK	21350	100RB#0	18.142	19.360	PASS
Band7	20MHz	16QAM	20850	100RB#0	18.102	19.360	PASS
Band7	20MHz	16QAM	21100	100RB#0	18.102	19.320	PASS
Band7	20MHz	16QAM	21350	100RB#0	18.062	19.520	PASS



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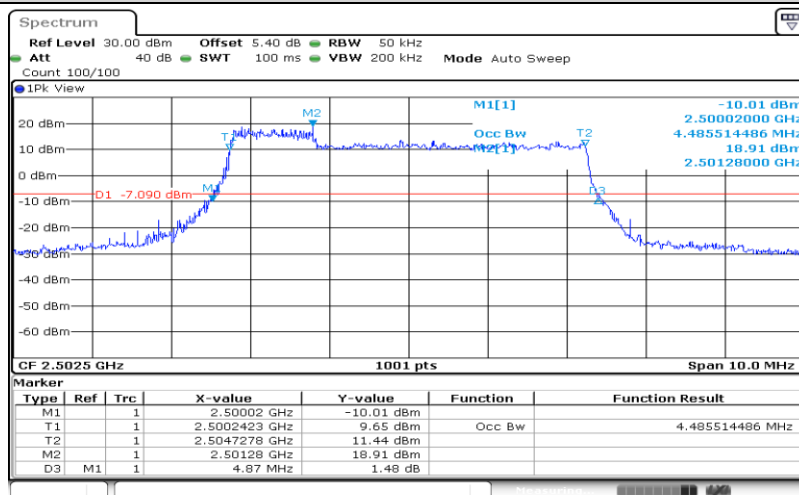
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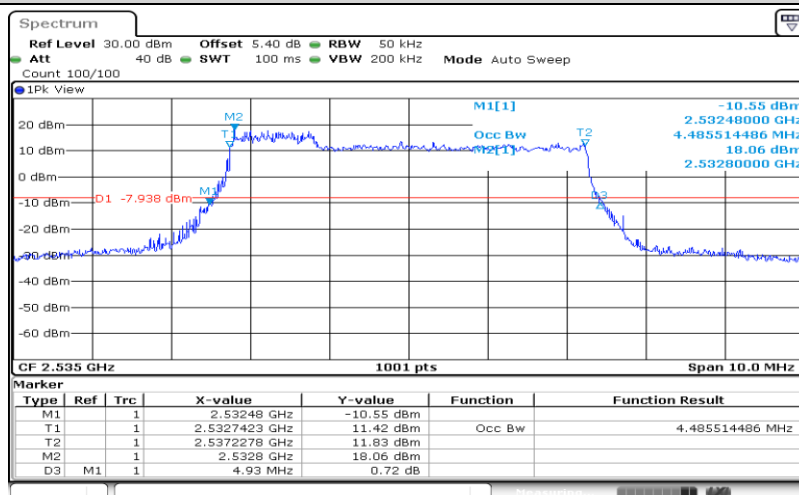
## 4.2. Test Plots

Band7-5MHz-QPSK-20775-25RB#0-4.486



Date: 27.NOV.2019 22:44:07

Band7-5MHz-QPSK-21100-25RB#0-4.486



Date: 27.NOV.2019 22:44:47

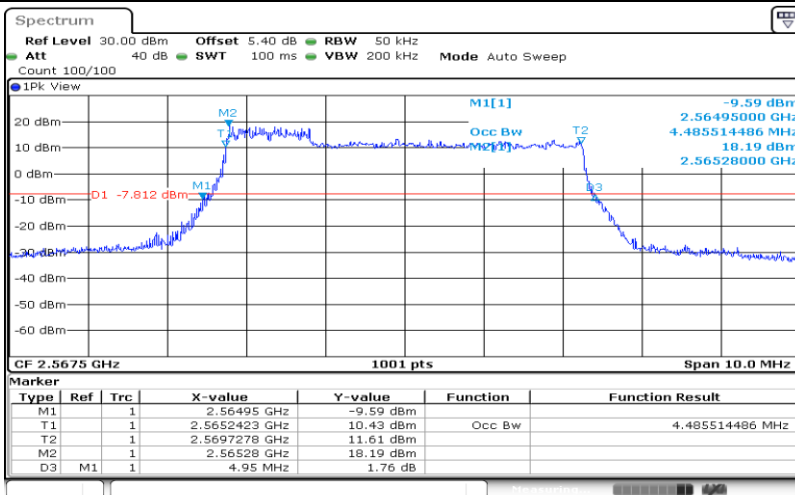
Band7-5MHz-QPSK-21425-25RB#0-4.486



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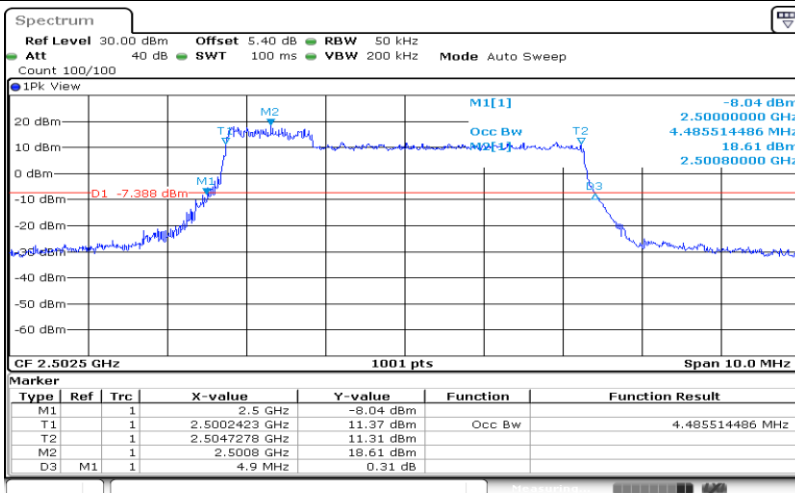
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Date: 27.NOV.2019 22:45:26

## Band7-5MHz-16QAM-20775-25RB#0-4.486

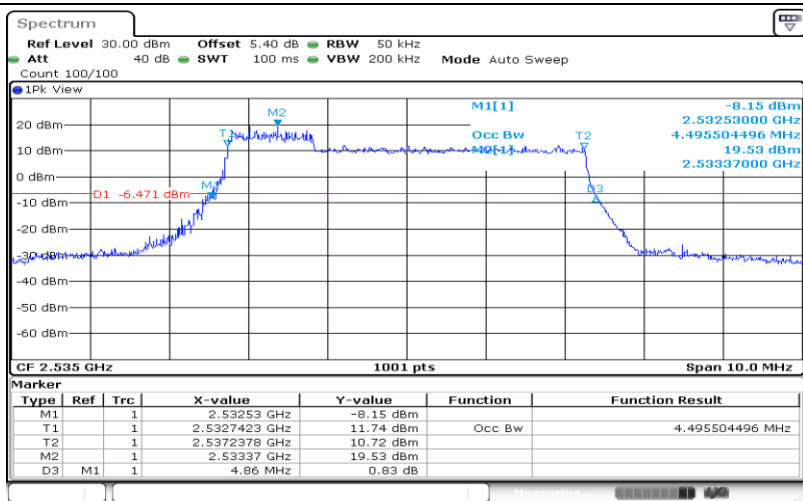


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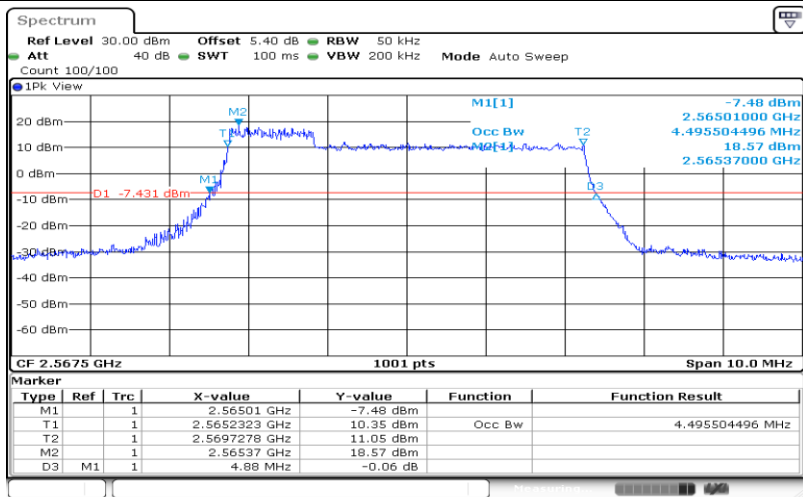






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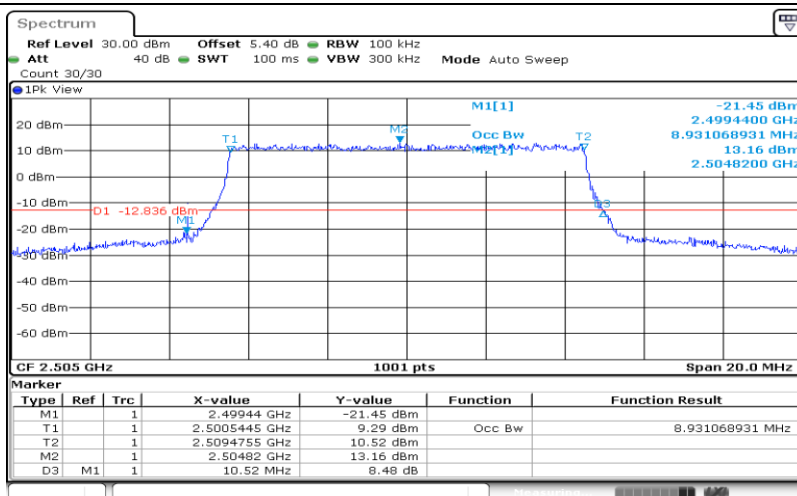
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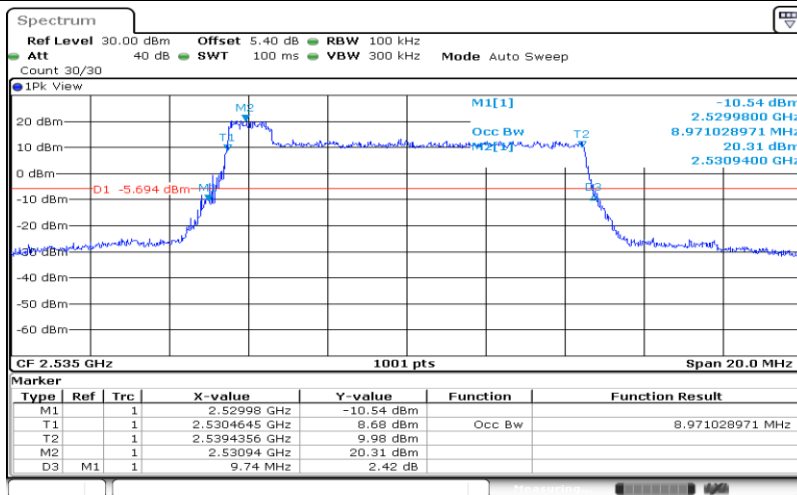
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Date: 27.NOV.2019 22:46:04

## Band7-10MHz-QPSK-21100-50RB#0-8.971



Date: 27.NOV.2019 22:46:30

## Band7-10MHz-QPSK-21400-50RB#0-8.971

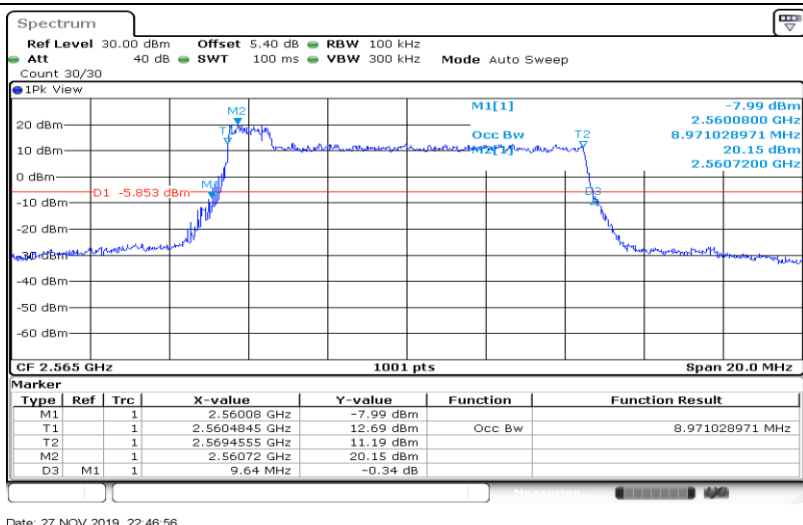


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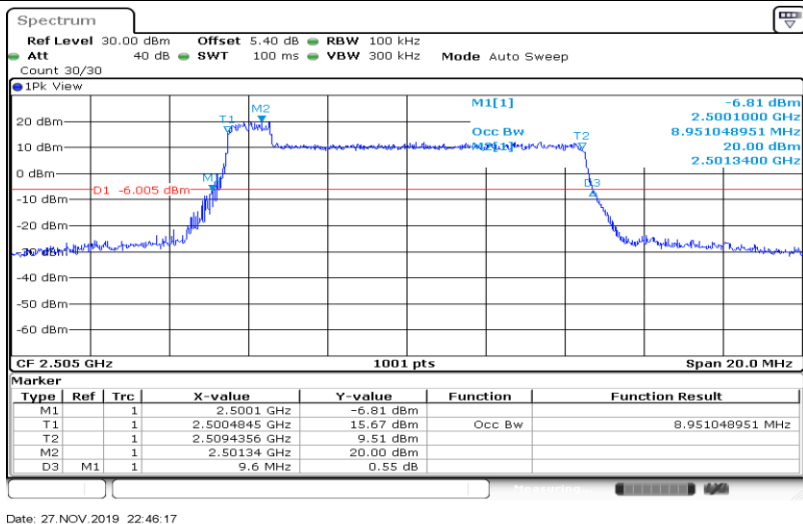
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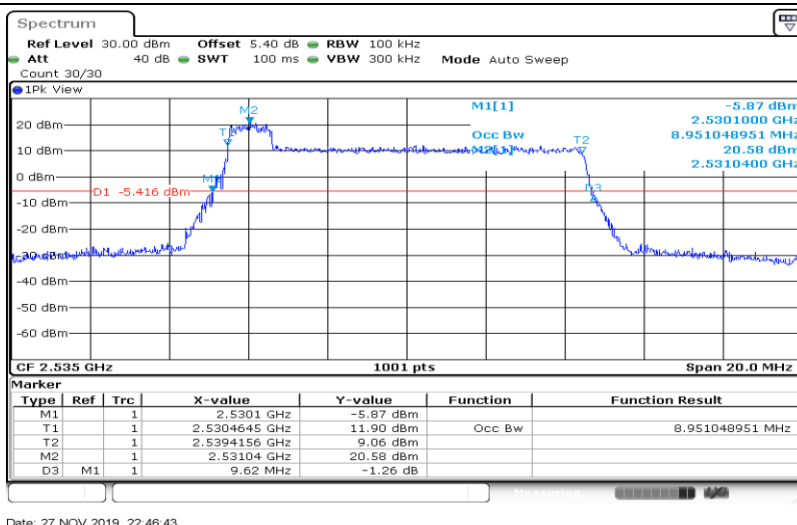


## Band7-10MHz-16QAM-20800-50RB#0-8.951

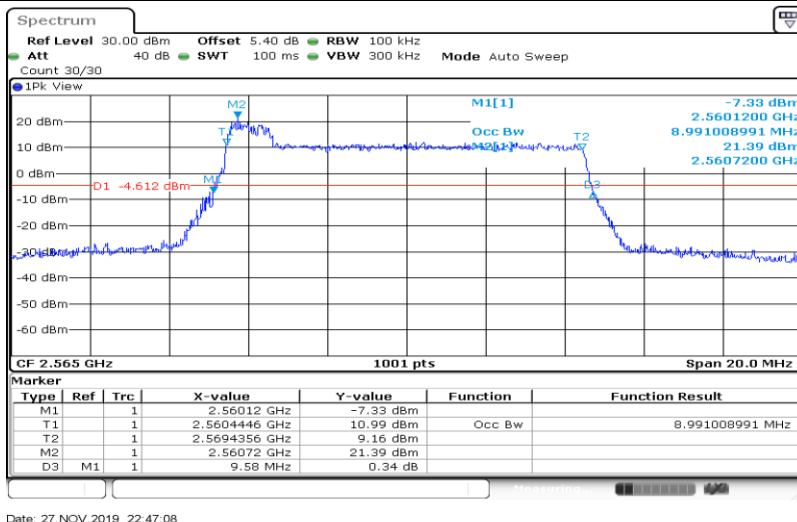


## Band7-10MHz-16QAM-21100-50RB#0-8.951





Band7-10MHz-16QAM-21400-50RB#0-8.991



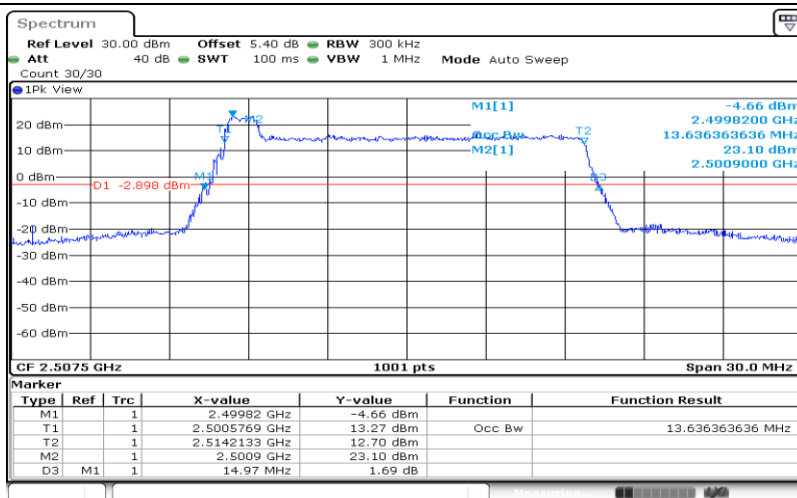
Band7-15MHz-QPSK-20825-75RB#0-13.636



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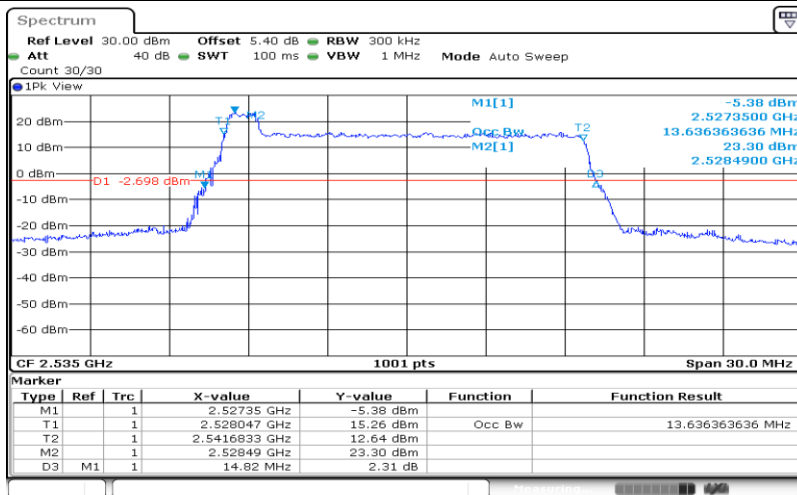
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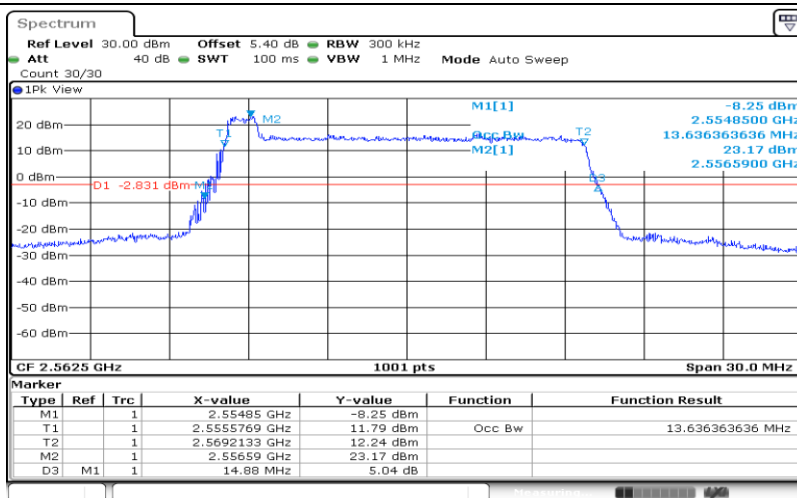
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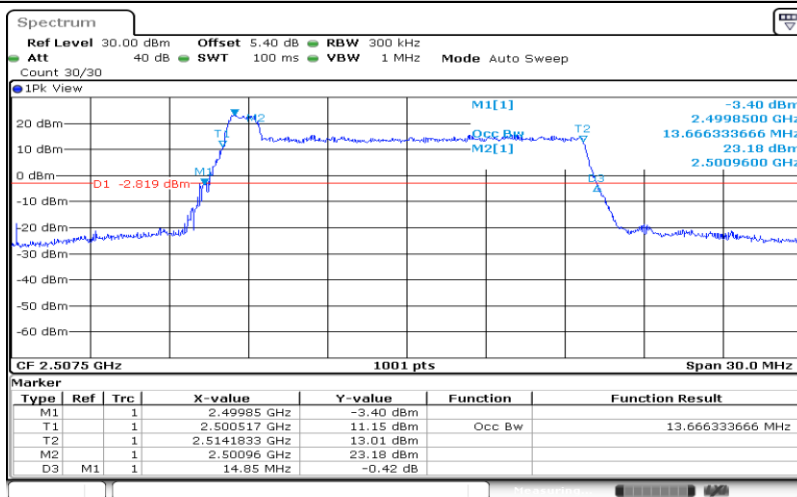
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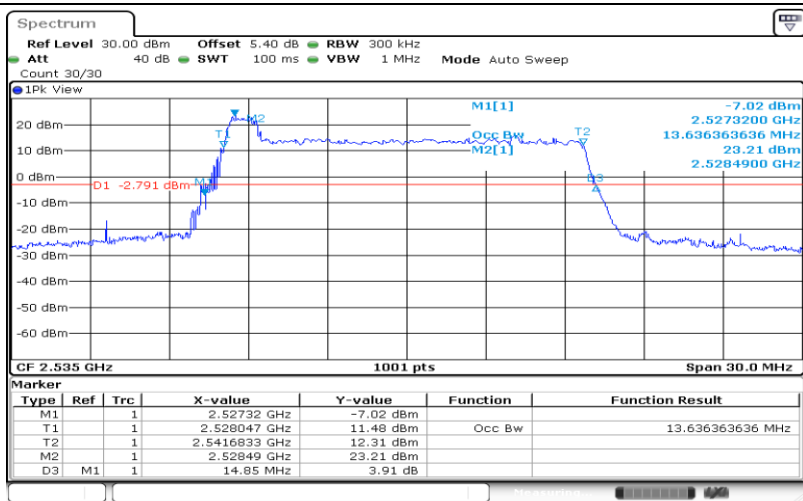
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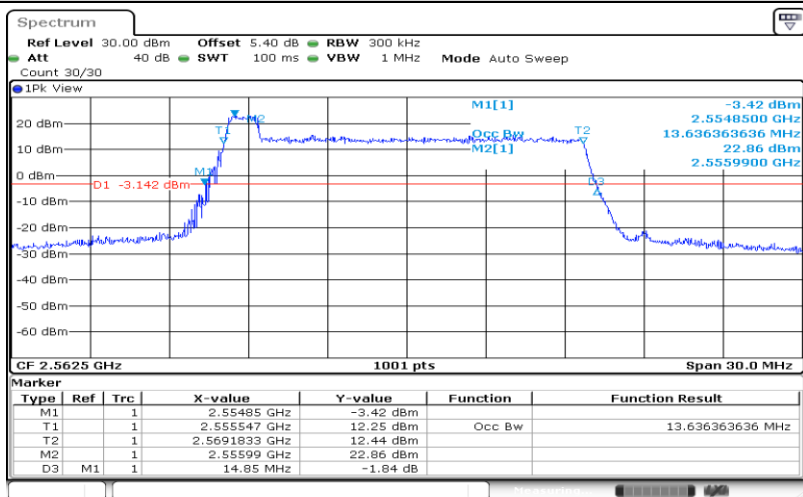
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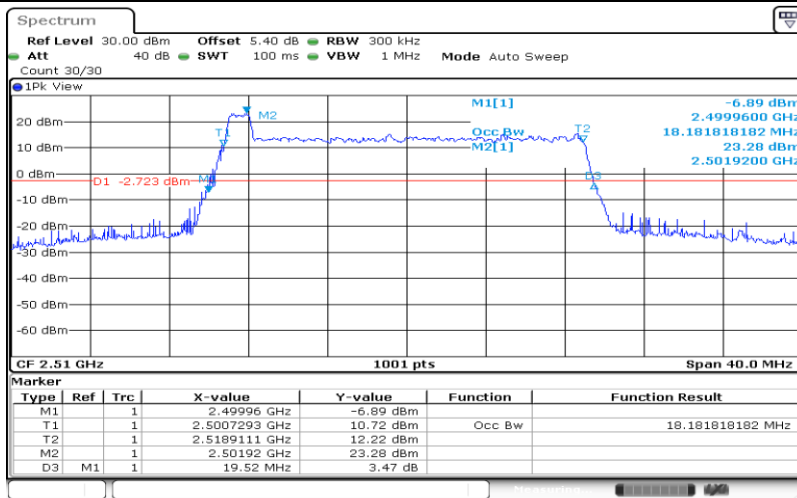
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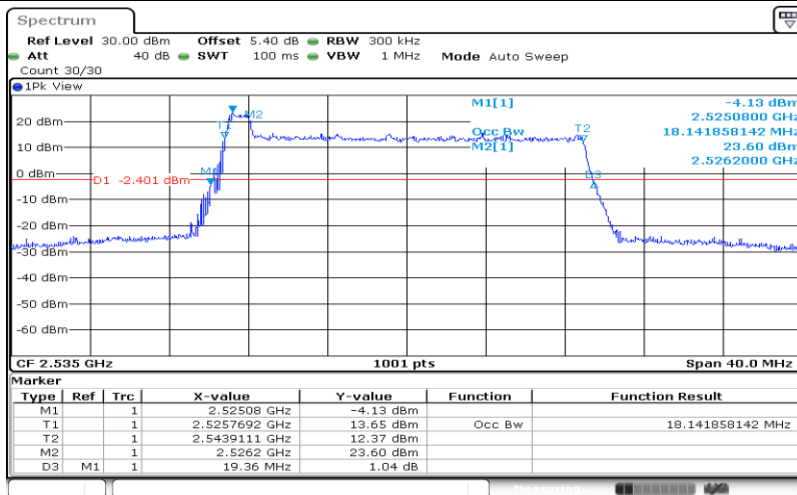
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Date: 27.NOV.2019 22:48:49

Band7-20MHz-QPSK-21100-100RB#0-18.142



Date: 27.NOV.2019 22:49:15

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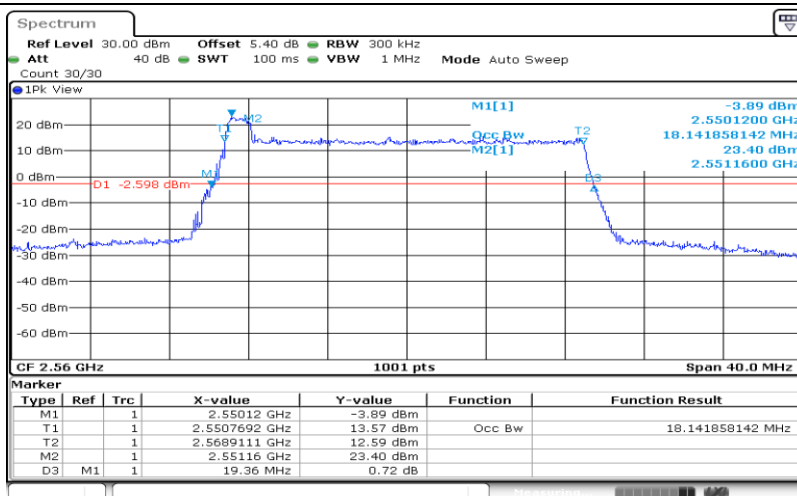


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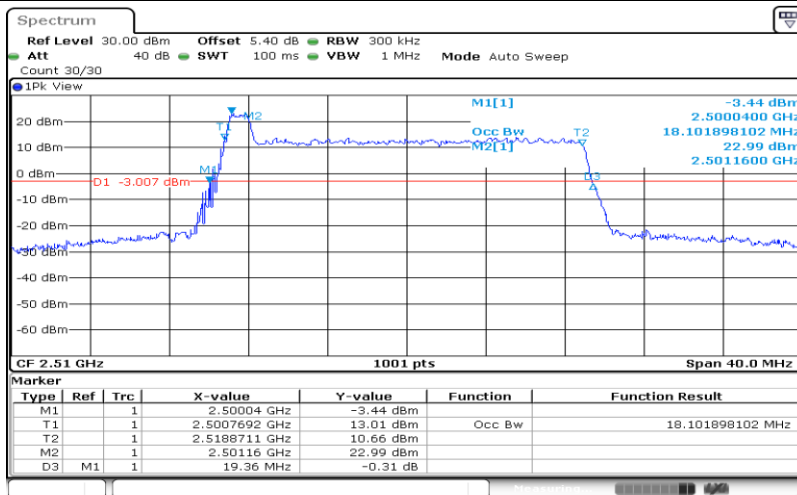
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Date: 27.NOV.2019 22:49:41

## Band7-20MHz-16QAM-20850-100RB#0-18.102



Date: 27.NOV.2019 22:49:02

## Band7-20MHz-16QAM-21100-100RB#0-18.102



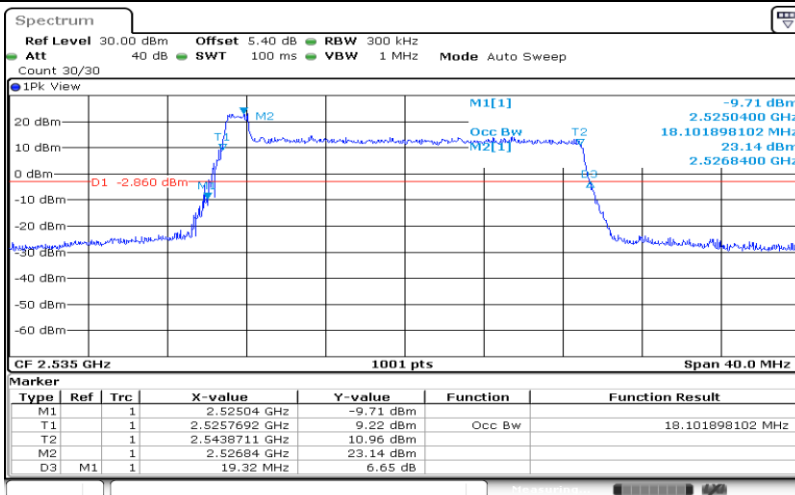
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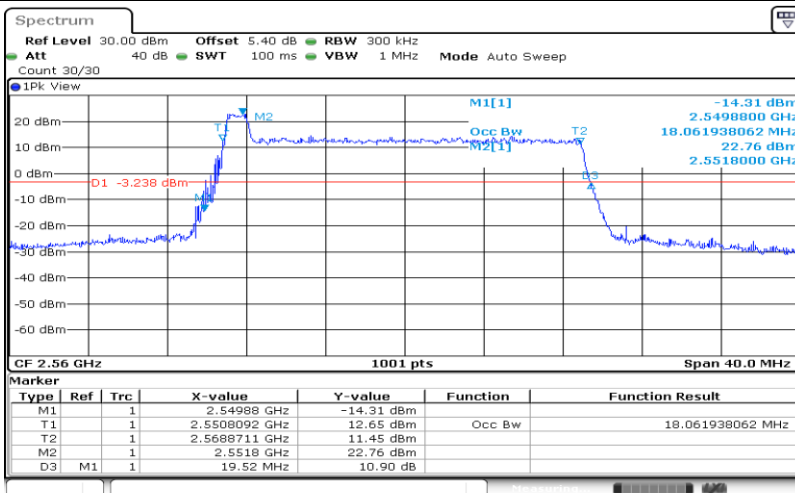
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Date: 27.NOV.2019 22:49:28

## Band7-20MHz-16QAM-21350-100RB#0-18.062



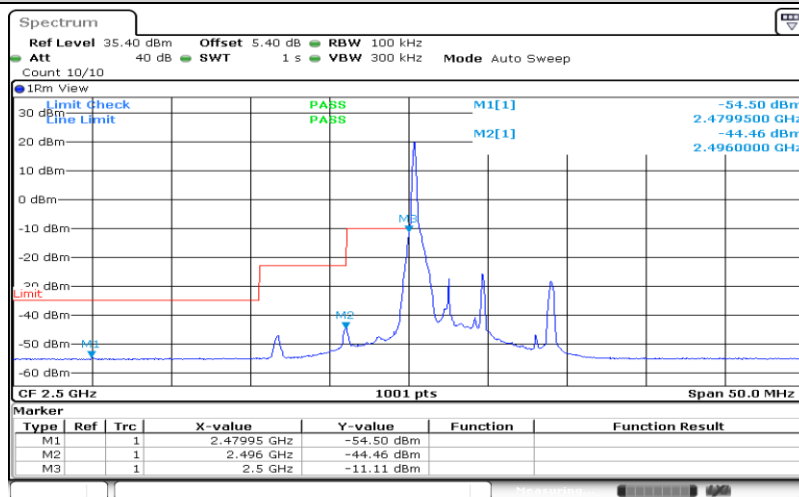
Date: 27.NOV.2019 22:49:53



## 5. Band Edge Compliance

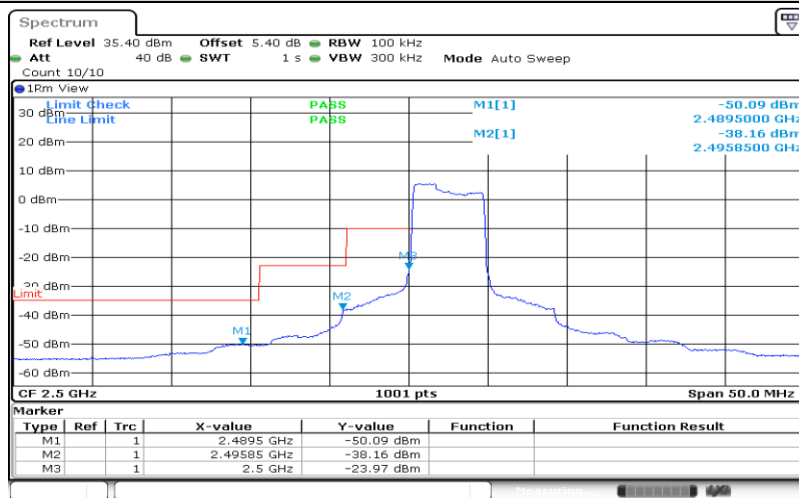
### 5.1. Test Plots

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



Date: 27.NOV.2019 22:50:19

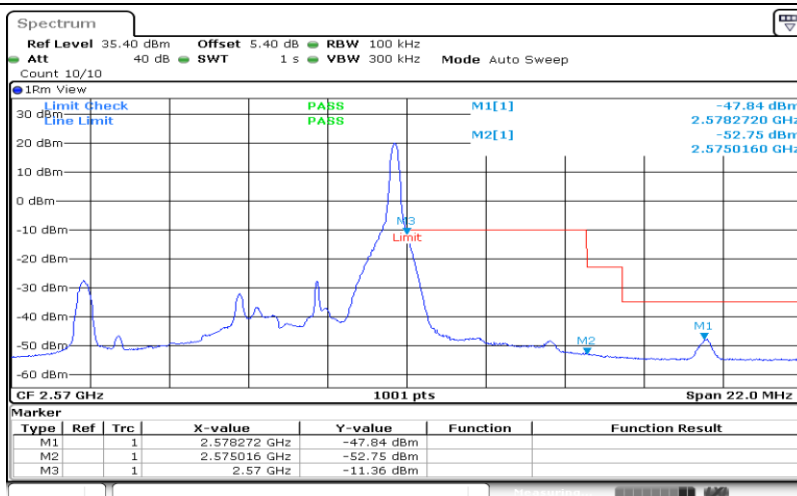
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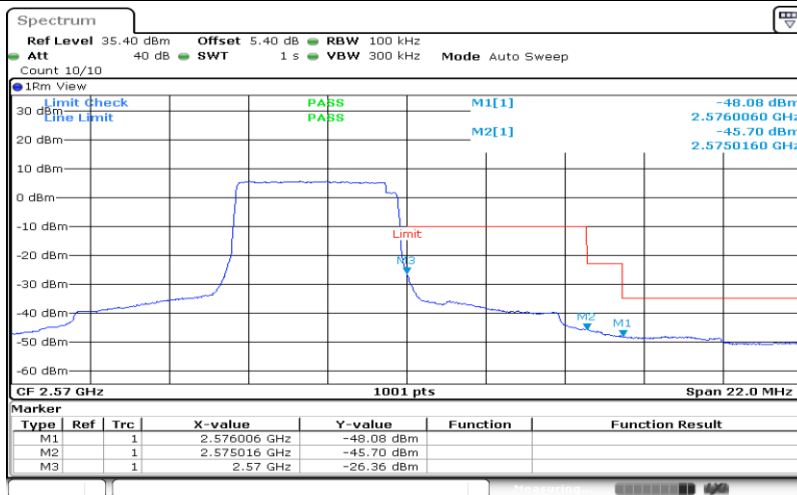
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Band7-5MHz-QPSK-21425-1RB#24





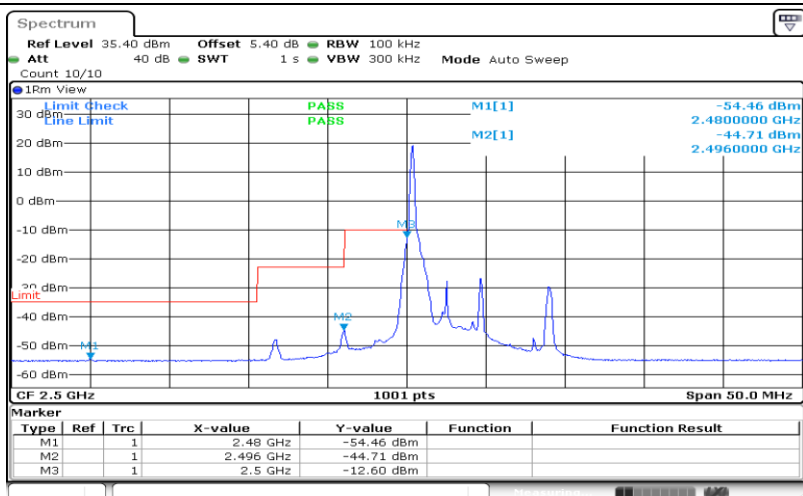
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## Band7-5MHz-16QAM-20775-1RB#0

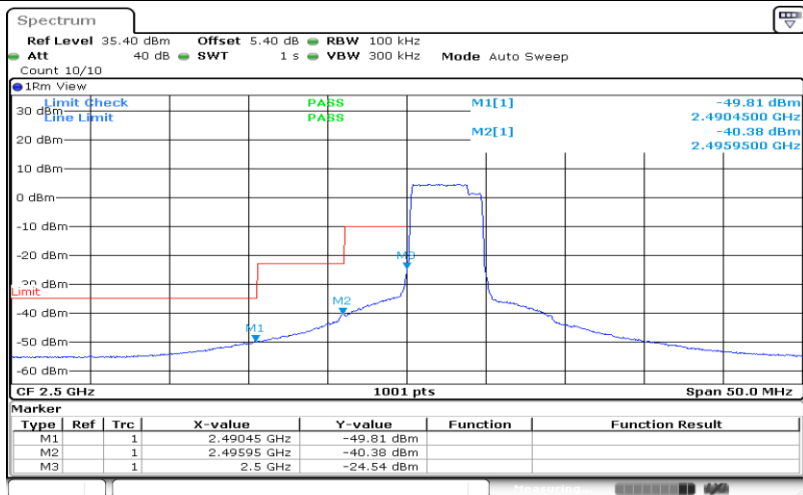






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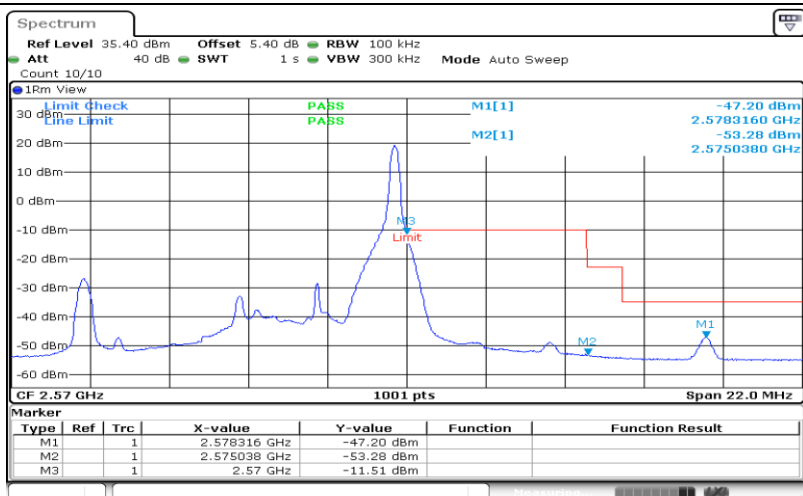
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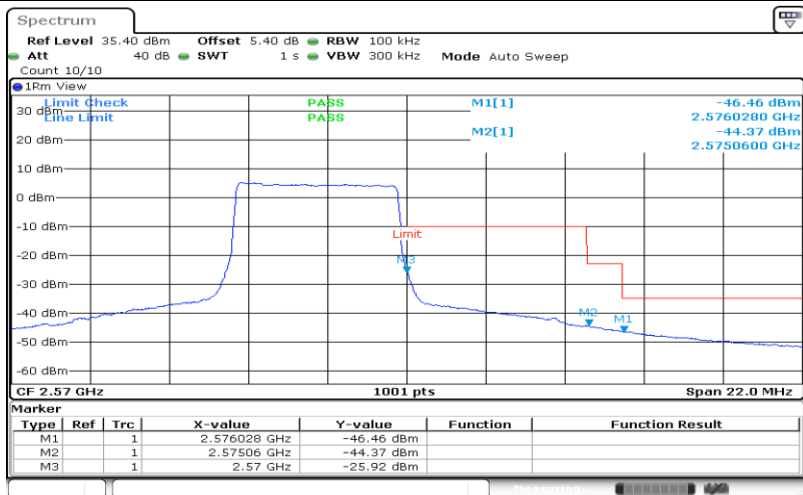
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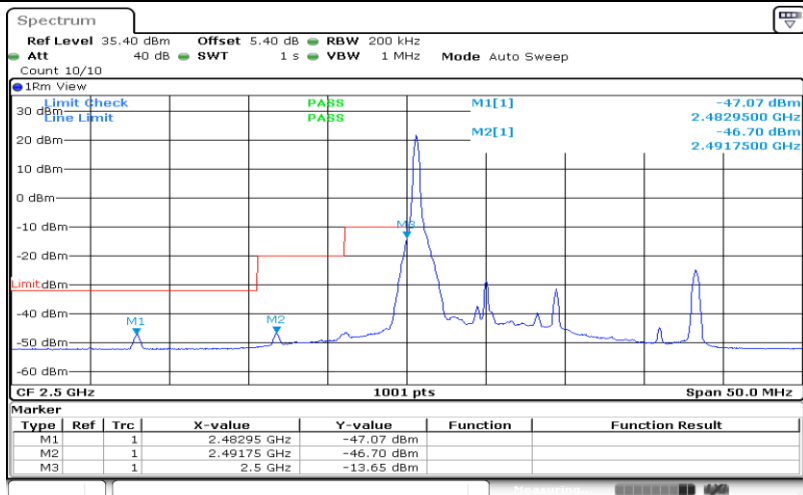
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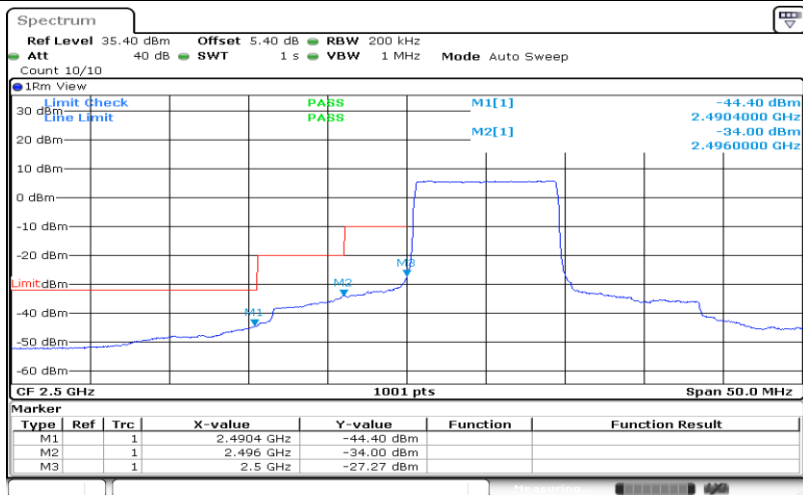
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Date: 27.NOV.2019 22:53:16

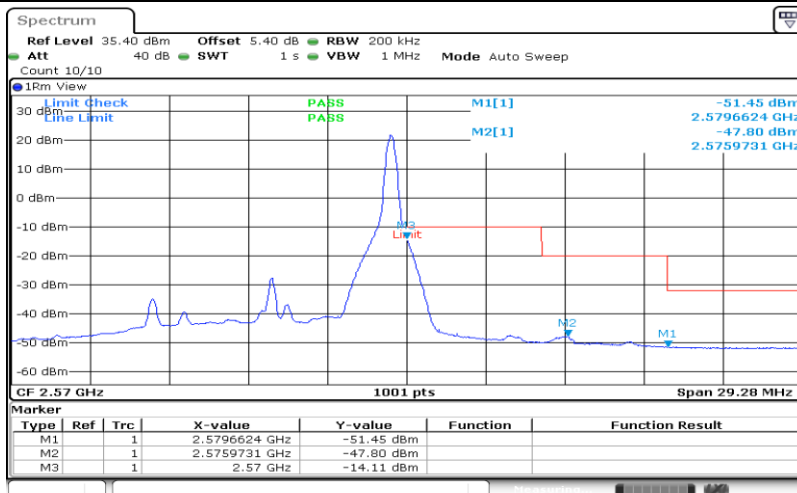
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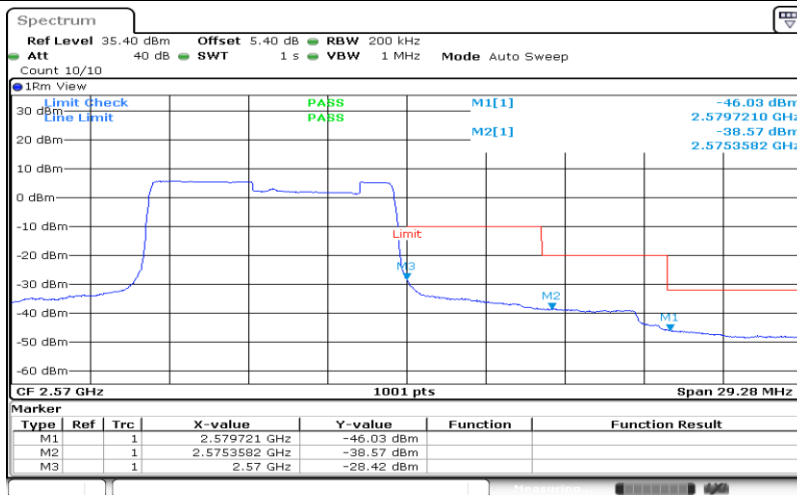
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Date: 27.NOV.2019 22:54:01

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

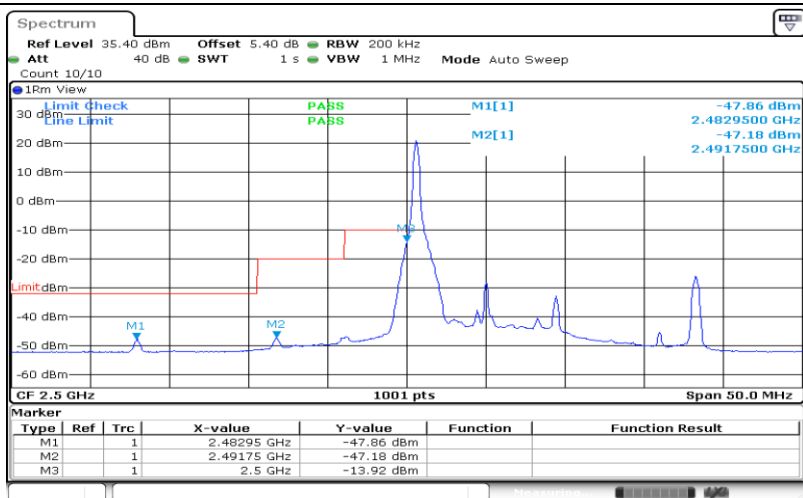


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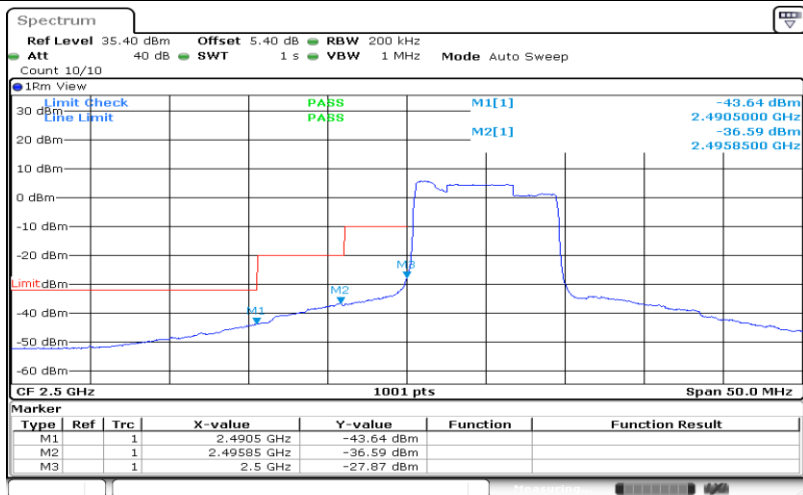






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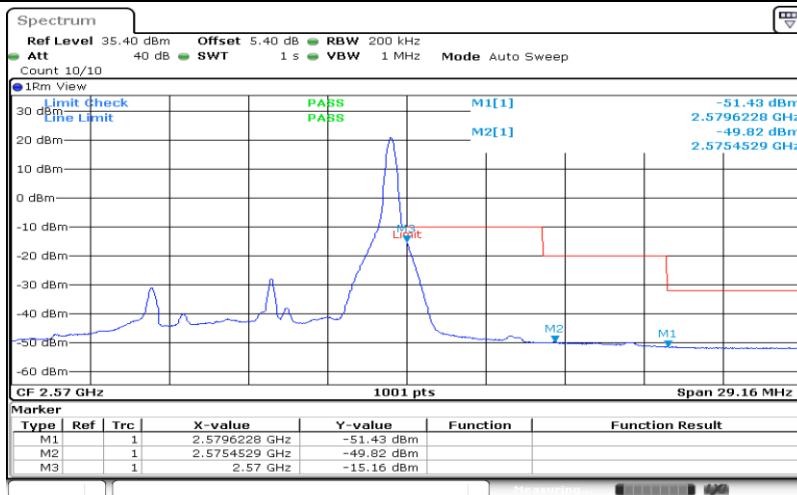
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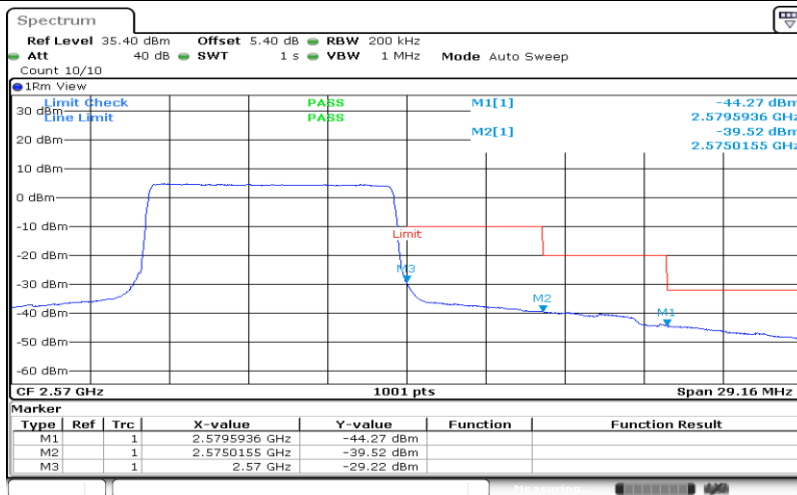
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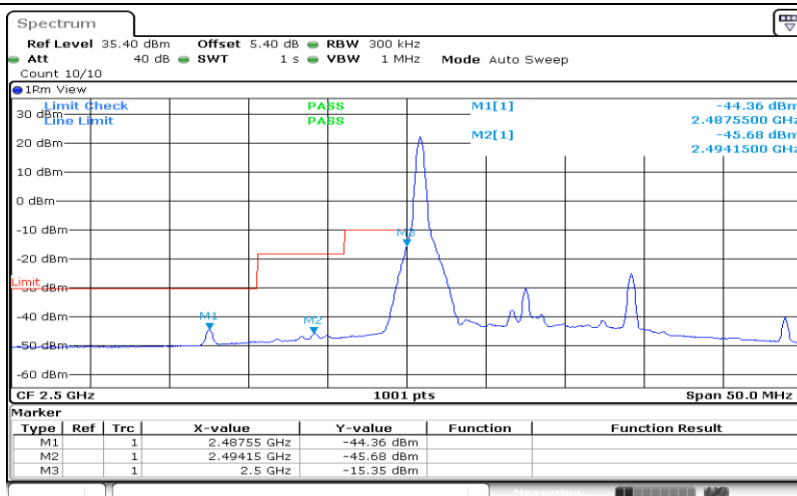


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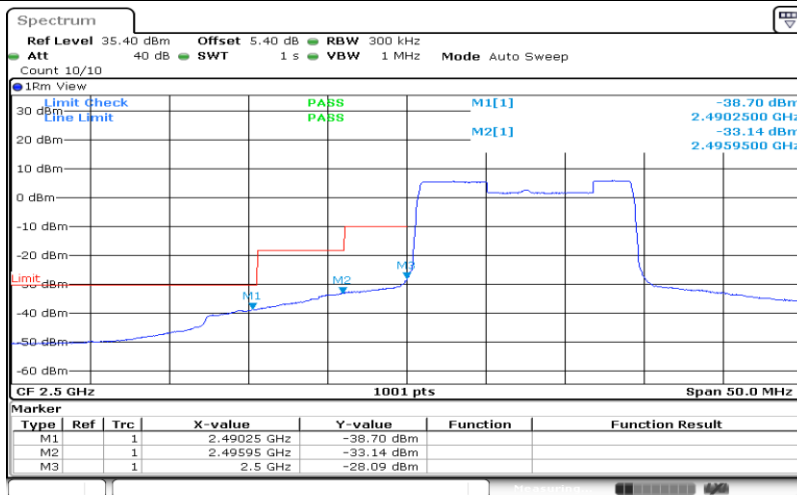
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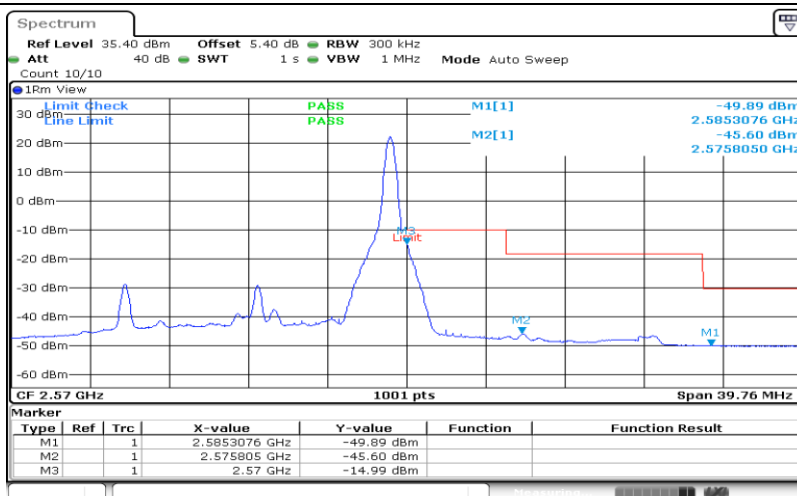
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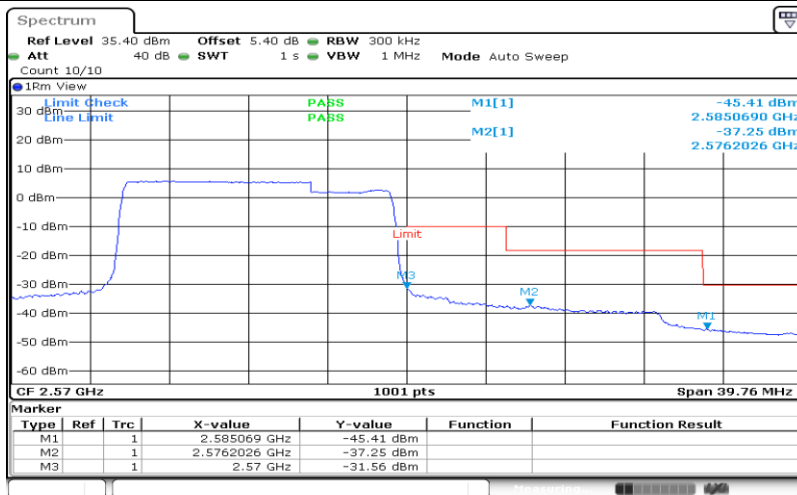
## Band7-15MHz-QPSK-21375-1RB#74





Date: 27.NOV.2019 22:56:58

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

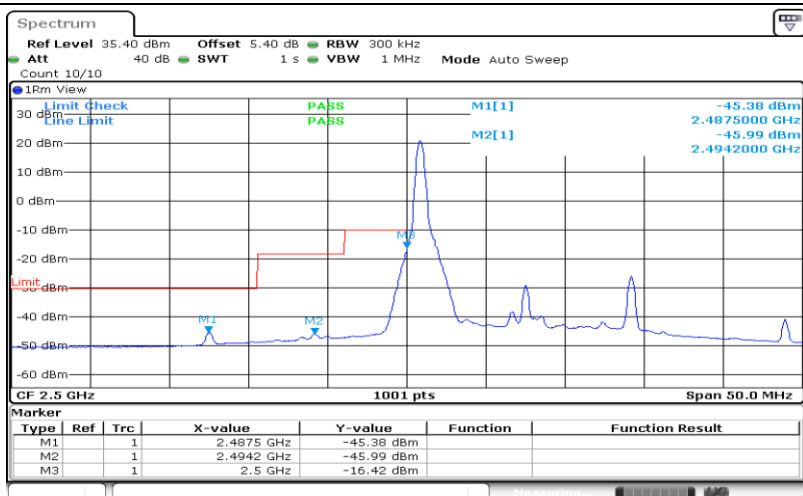


Date: 27.NOV.2019 22:58:24

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

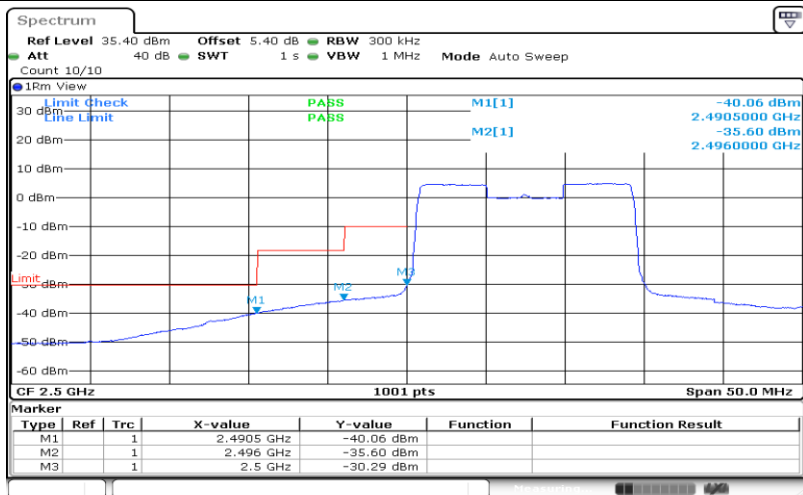






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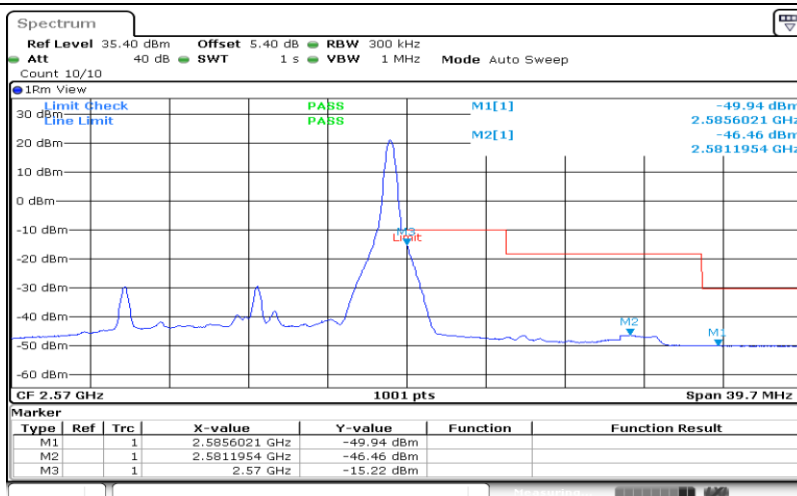
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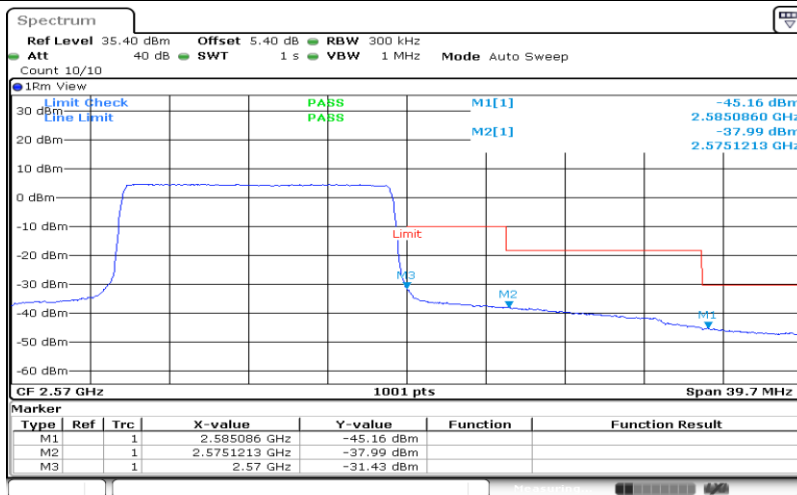
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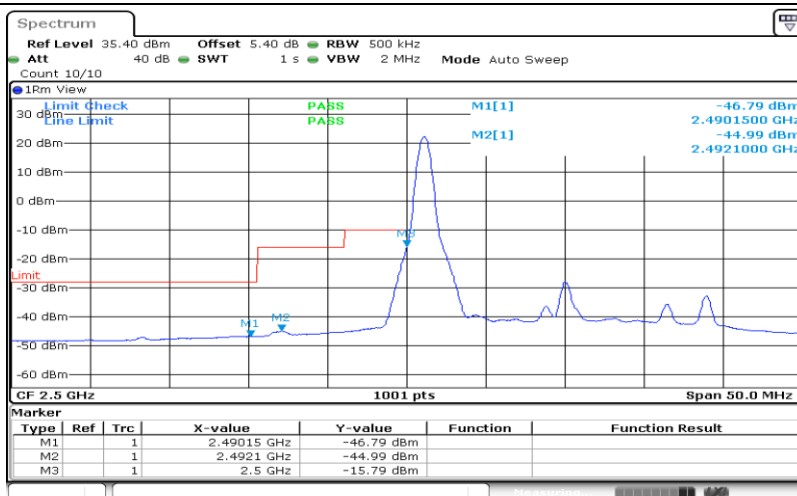
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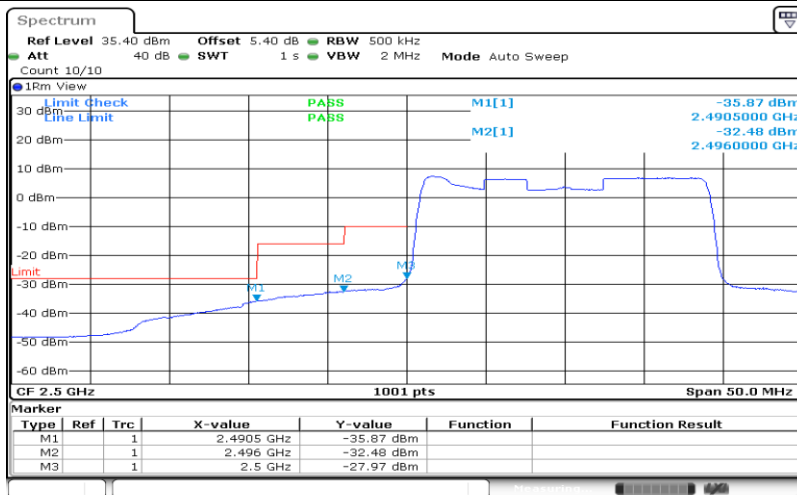
Date: 27.NOV.2019 22:58:45

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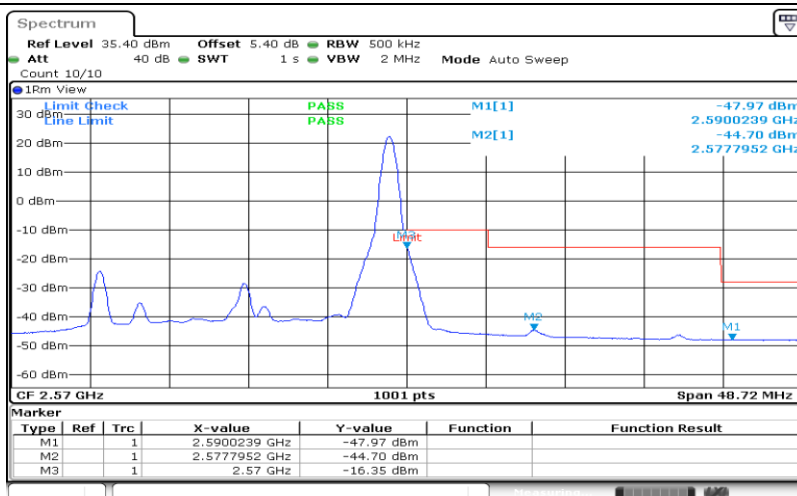


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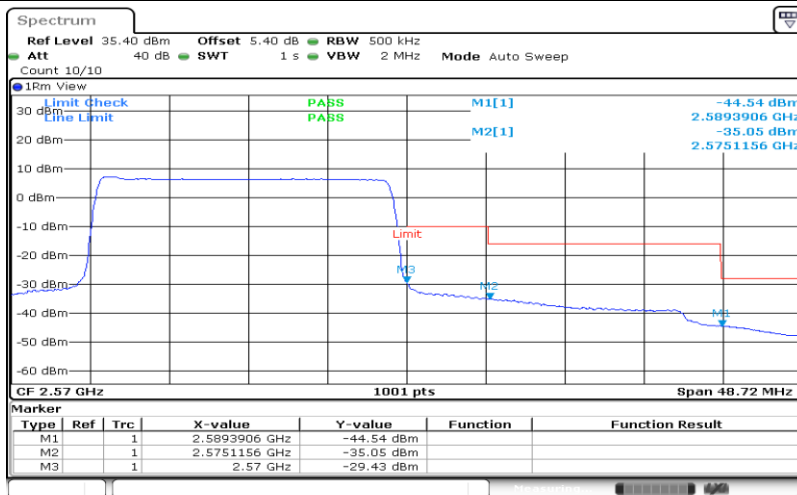
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Date: 27.NOV.2019 22:59:55

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

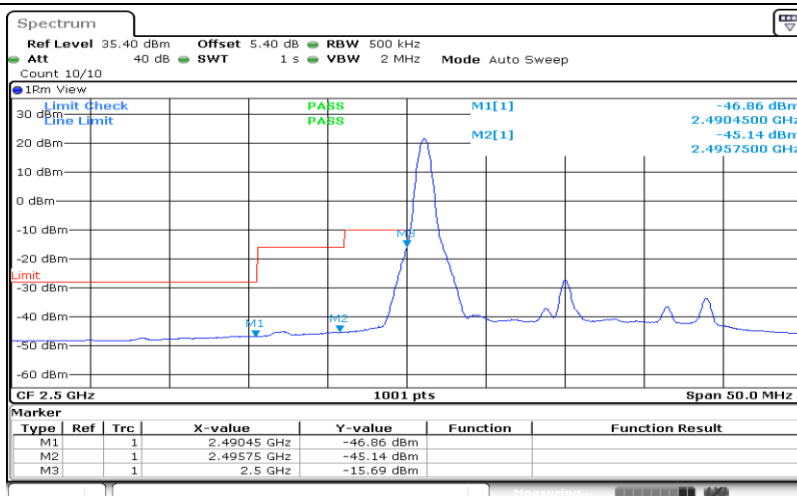


Date: 27.NOV.2019 23:01:21

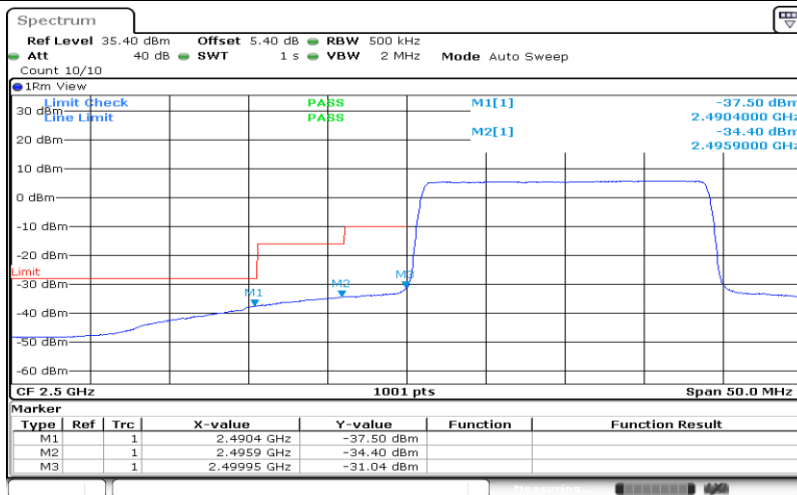
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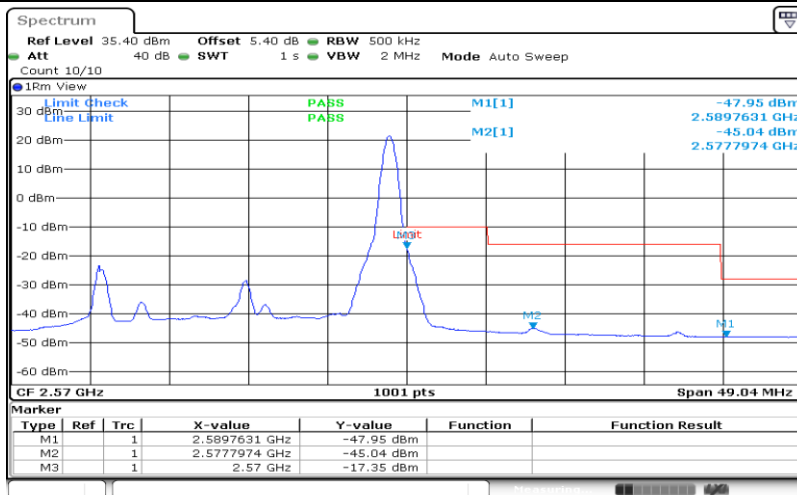


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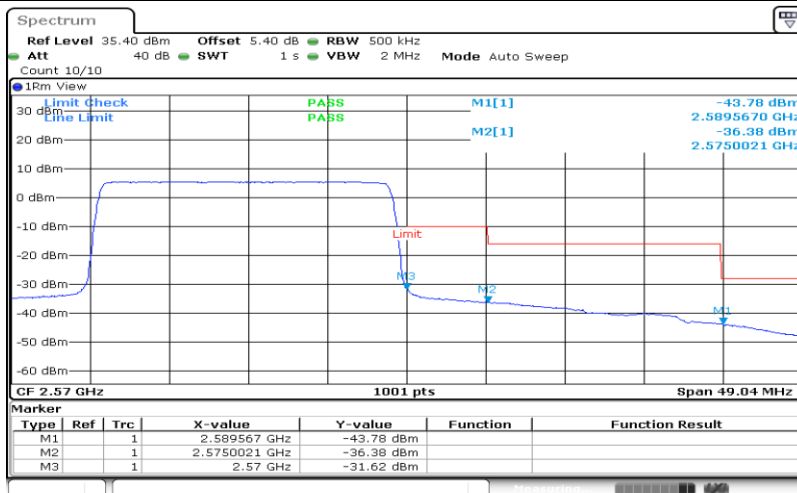
## Band7-20MHz-16QAM-21350-1RB#99





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



Date: 27.NOV.2019 23:01:42



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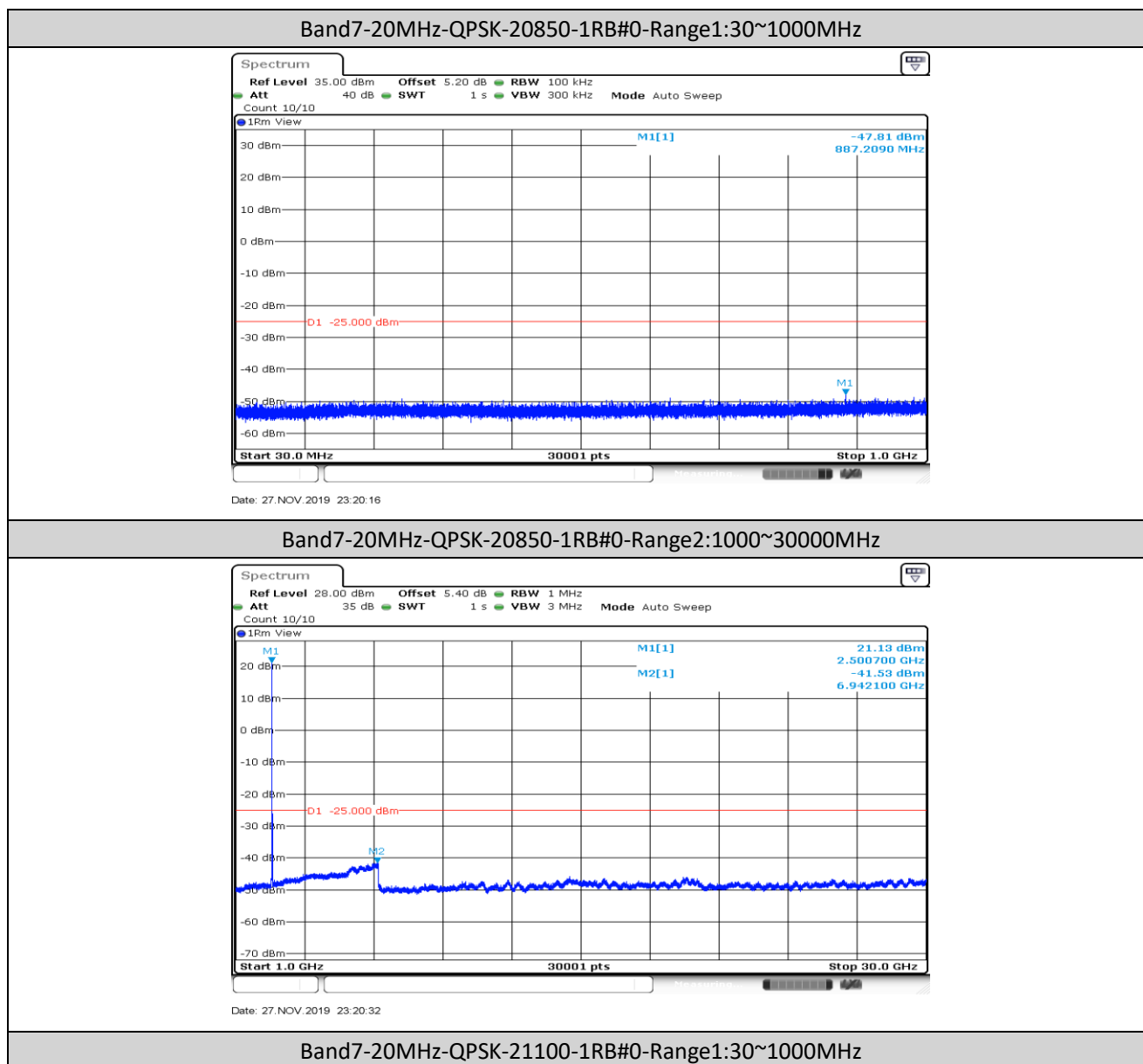
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## 6. Spurious Emission at Antenna Terminal

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

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

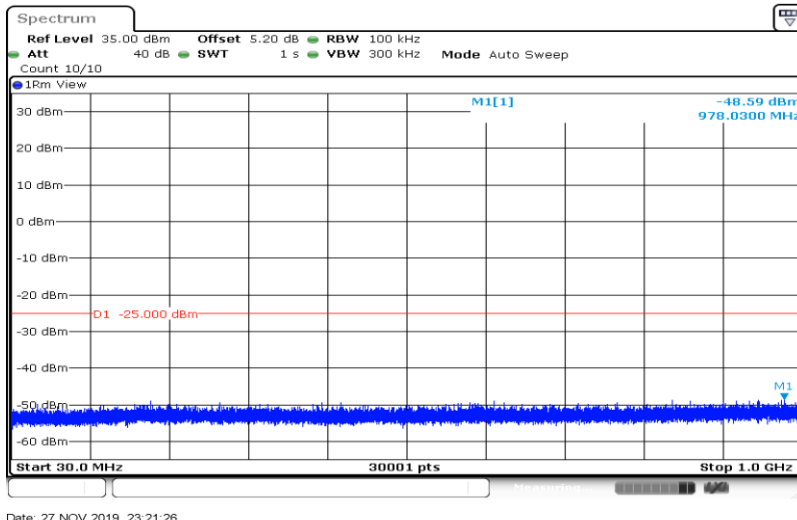
### 6.1. Test Plots



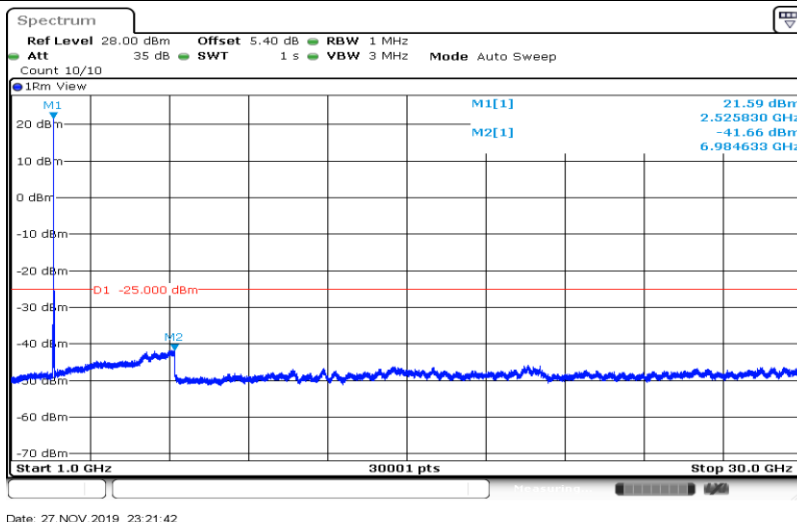
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**Band7-20MHz-QPSK-21100-1RB#0-Range2:1000~30000MHz**



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

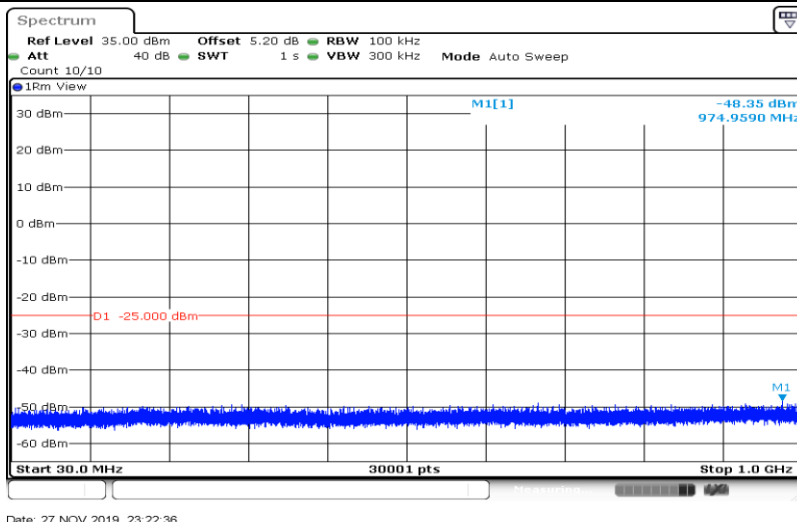


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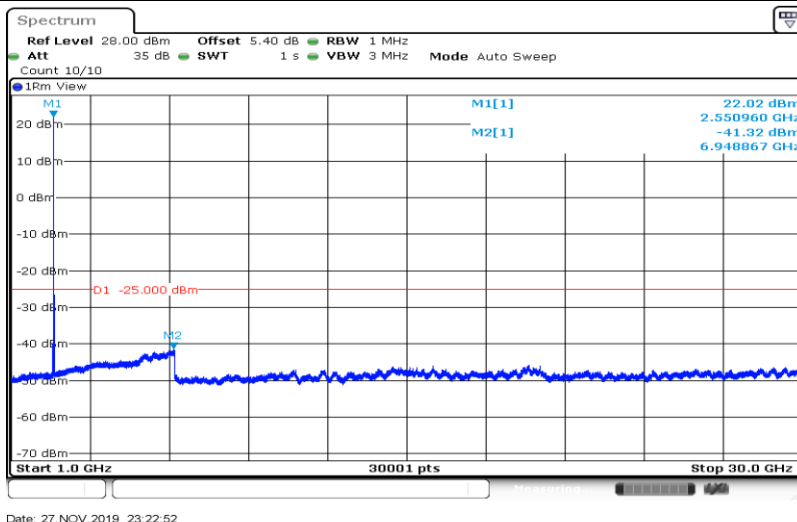
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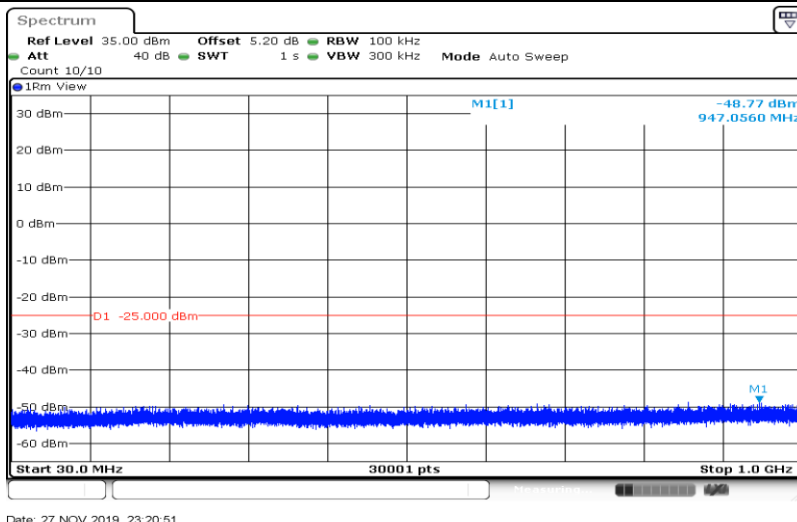


## Band7-20MHz-QPSK-21350-1RB#0-Range2:1000~30000MHz

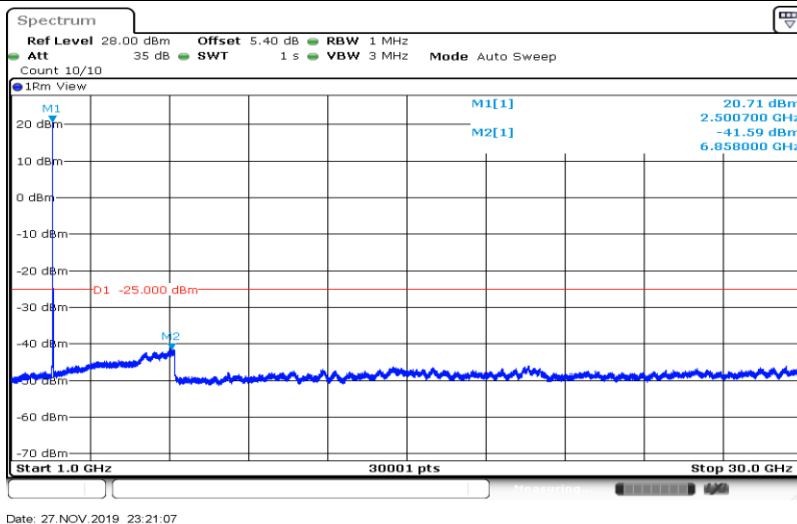


## Band7-20MHz-16QAM-20850-1RB#0-Range1:30~1000MHz



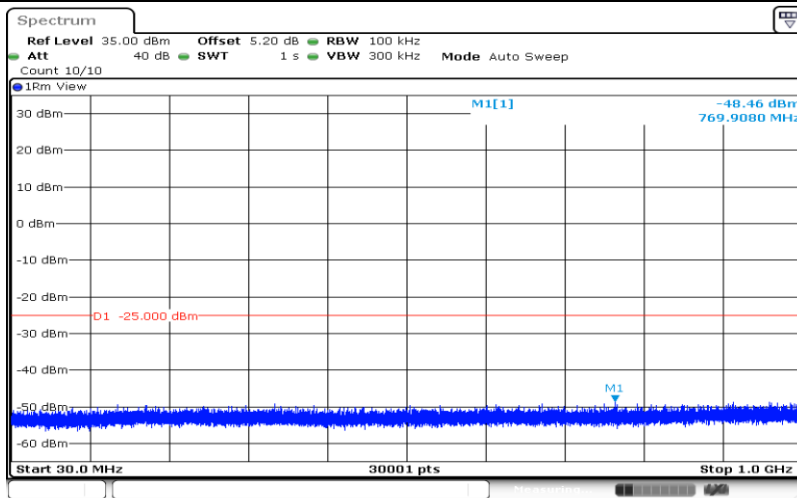


Band7-20MHz-16QAM-20850-1RB#0-Range2:1000~30000MHz



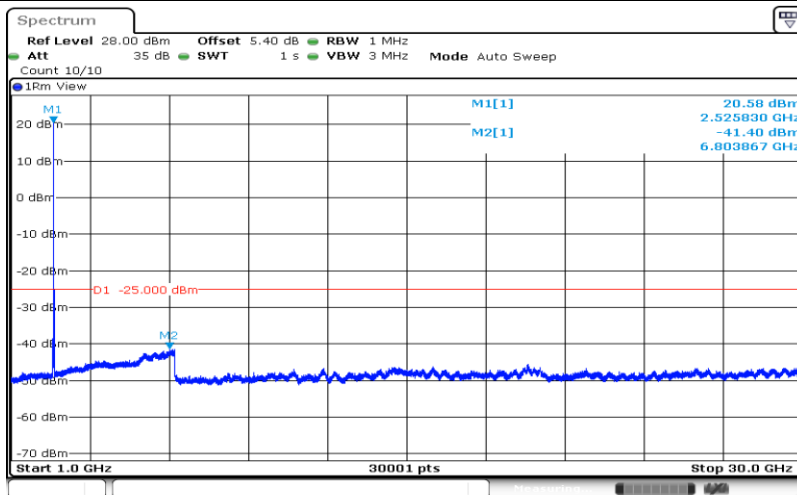
Band7-20MHz-16QAM-21100-1RB#0-Range1:30~1000MHz





Date: 27.NOV.2019 23:22:01

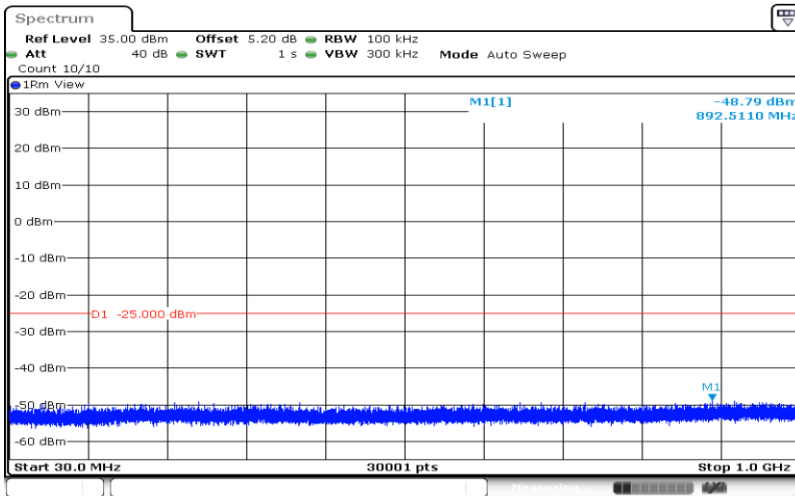
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Date: 27.NOV.2019 23:22:17

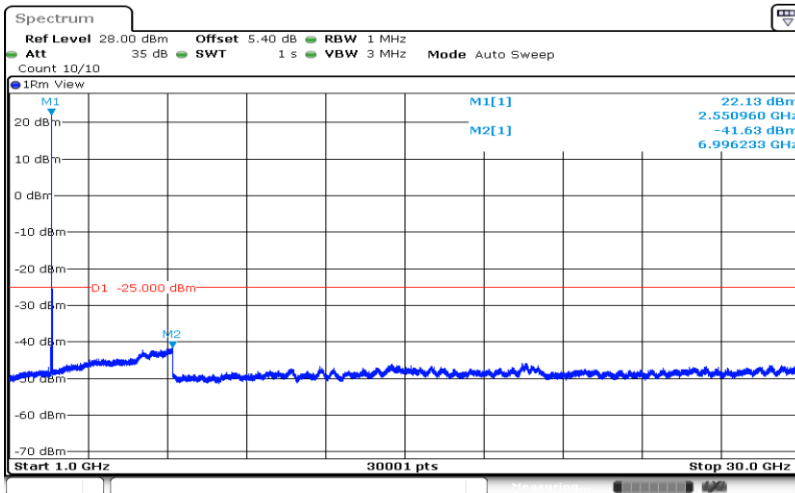
## Band7-20MHz-16QAM-21350-1RB#0-Range1:30~1000MHz





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

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



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



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## 7. Field Strength of Spurious Radiation

### 7.1. Test Band = LTE Band 7

#### 7.1.1. Test Mode = LTE/TM1 (Main Ant)

##### 7.1.1.1. Test Channel = LCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Margin (dB)	Height (cm)	Angle (°)	Polarization
112.2116	-64.78	-25.00	39.78	236	228	Vertical
752.2011	-62.21	-25.00	37.21	188	16	Vertical
1699.7399	-45.15	-25.00	20.15	184	144	Vertical
7321.3729	-55.15	-25.00	30.15	312	228	Vertical
14490.4596	-45.27	-25.00	20.27	252	143	Vertical
17992.1997	-36.78	-25.00	11.78	216	313	Vertical
42.0286	-64.48	-25.00	39.48	158	183	Horizontal
230.9941	-68.89	-25.00	43.89	196	159	Horizontal
2117.0234	-41.93	-25.00	16.93	321	190	Horizontal
7351.9741	-55.49	-25.00	30.49	252	203	Horizontal
16396.1358	-41.02	-25.00	16.02	284	113	Horizontal
17993.9998	-41.45	-25.00	16.45	194	50	Horizontal



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### 7.1.1.2. Test Channel = MCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Margin (dB)	Height (cm)	Angle (°)	Polarization
108.8164	-66.18	-25.00	41.18	185	292	Vertical
864.7752	-60.90	-25.00	35.90	196	140	Vertical
1712.9426	-45.42	-25.00	20.42	213	30	Vertical
7344.7738	-55.47	-25.00	30.47	252	228	Vertical
14489.2596	-45.67	-25.00	20.67	274	10	Vertical
17995.7998	-38.04	-25.00	13.04	154	95	Vertical
45.0843	-64.65	-25.00	39.65	158	117	Horizontal
233.7587	-68.36	-25.00	43.36	174	356	Horizontal
1800.5601	-44.54	-25.00	19.54	196	84	Horizontal
7362.7745	-56.13	-25.00	31.13	213	9	Horizontal
16385.9354	-41.10	-25.00	16.10	225	9	Horizontal
17989.1996	-41.88	-25.00	16.88	248	117	Horizontal

### 7.1.1.3. Test Channel = HCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Margin (dB)	Height (cm)	Angle (°)	Polarization
109.7380	-66.44	-25.00	41.44	185	188	Vertical
660.7255	-65.25	-25.00	40.25	196	103	Vertical
1685.3371	-45.46	-25.00	20.46	321	209	Vertical
7386.7755	-55.93	-25.00	30.93	252	103	Vertical
14455.6582	-46.27	-25.00	21.27	274	335	Vertical
17908.7964	-39.37	-25.00	14.37	184	19	Vertical
42.4166	-66.00	-25.00	41.00	185	30	Horizontal
892.0821	-62.12	-25.00	37.12	196	162	Horizontal
2977.5955	-39.65	-25.00	14.65	215	140	Horizontal
7425.1770	-56.18	-25.00	31.18	284	311	Horizontal
16397.9359	-42.08	-25.00	17.08	194	289	Horizontal
17983.7994	-43.31	-25.00	18.31	321	120	Horizontal



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

### 7.1.2.1. Test Channel = LCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Margin (dB)	Height (cm)	Angle (°)	Polarization
111.1931	-65.95	-25.00	40.95	181	25	Vertical
603.5412	-65.01	-25.00	40.01	196	153	Vertical
1753.7508	-43.77	-25.00	18.77	232	192	Vertical
7342.9737	-55.45	-25.00	30.45	252	342	Vertical
14729.8692	-46.00	-25.00	21.00	161	216	Vertical
17996.9999	-37.53	-25.00	12.53	184	153	Vertical
42.2711	-65.65	-25.00	40.65	258	4	Horizontal
249.4250	-69.50	-25.00	44.50	174	283	Horizontal
2940.7882	-39.89	-25.00	14.89	196	172	Horizontal
7363.9746	-56.12	-25.00	31.12	312	347	Horizontal
16389.5356	-42.48	-25.00	17.48	262	241	Horizontal
17995.1998	-43.27	-25.00	18.27	215	304	Horizontal

### 7.1.2.2. Test Channel = MCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Margin (dB)	Height (cm)	Angle (°)	Polarization
111.7751	-65.32	-25.00	40.32	148	46	Vertical
786.7348	-62.35	-25.00	37.35	196	342	Vertical
2941.5883	-39.28	-25.00	14.28	231	356	Vertical
7393.9758	-55.12	-25.00	30.12	252	342	Vertical
14688.4675	-45.18	-25.00	20.18	261	360	Vertical
17992.7997	-36.73	-25.00	11.73	174	68	Vertical
43.3867	-64.67	-25.00	39.67	258	215	Horizontal
232.3036	-69.67	-25.00	44.67	196	321	Horizontal
2700.3401	-37.31	-25.00	12.31	261	69	Horizontal
9305.0522	-51.06	-25.00	26.06	185	215	Horizontal
16398.5359	-40.93	-25.00	15.93	254	173	Horizontal
17999.4000	-41.71	-25.00	16.71	231	110	Horizontal



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### 7.1.2.3. Test Channel = HCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Margin (dB)	Height (cm)	Angle (°)	Polarization
114.1517	-65.72	-25.00	40.72	163	197	Vertical
817.8249	-62.73	-25.00	37.73	284	27	Vertical
2243.0486	-40.63	-25.00	15.63	154	322	Vertical
7350.1740	-54.41	-25.00	29.41	231	312	Vertical
14716.6687	-44.76	-25.00	19.76	284	6	Vertical
17998.8000	-35.91	-25.00	10.91	194	176	Vertical
40.0400	-64.82	-25.00	39.82	258	38	Horizontal
228.3264	-69.71	-25.00	44.71	196	102	Horizontal
1799.3599	-44.26	-25.00	19.26	321	292	Horizontal
7448.5779	-55.15	-25.00	30.15	235	0	Horizontal
16396.1358	-39.78	-25.00	14.78	224	81	Horizontal
17997.5999	-40.44	-25.00	15.44	184	187	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	20.70	0.008247	±2.5	PASS
Band7	20MHz	QPSK	20850	100RB#0	VN	NT	20.80	0.008287	±2.5	PASS
Band7	20MHz	QPSK	20850	100RB#0	VH	NT	-12.00	-0.004781	±2.5	PASS
Band7	20MHz	QPSK	21100	100RB#0	VL	NT	2.70	0.001065	±2.5	PASS
Band7	20MHz	QPSK	21100	100RB#0	VN	NT	-20.30	-0.008008	±2.5	PASS
Band7	20MHz	QPSK	21100	100RB#0	VH	NT	22.80	0.008994	±2.5	PASS
Band7	20MHz	QPSK	21350	100RB#0	VL	NT	-20.20	-0.007891	±2.5	PASS
Band7	20MHz	QPSK	21350	100RB#0	VN	NT	1.50	0.000586	±2.5	PASS
Band7	20MHz	QPSK	21350	100RB#0	VH	NT	14.10	0.005508	±2.5	PASS
Band7	20MHz	16QAM	20850	100RB#0	VL	NT	-14.00	-0.005578	±2.5	PASS
Band7	20MHz	16QAM	20850	100RB#0	VN	NT	6.80	0.002709	±2.5	PASS
Band7	20MHz	16QAM	20850	100RB#0	VH	NT	-16.40	-0.006534	±2.5	PASS
Band7	20MHz	16QAM	21100	100RB#0	VL	NT	-26.00	-0.010256	±2.5	PASS
Band7	20MHz	16QAM	21100	100RB#0	VN	NT	-16.00	-0.006312	±2.5	PASS
Band7	20MHz	16QAM	21100	100RB#0	VH	NT	-27.60	-0.010888	±2.5	PASS
Band7	20MHz	16QAM	21350	100RB#0	VL	NT	-30.30	-0.011836	±2.5	PASS
Band7	20MHz	16QAM	21350	100RB#0	VN	NT	-22.10	-0.008633	±2.5	PASS
Band7	20MHz	16QAM	21350	100RB#0	VH	NT	-20.00	-0.007813	±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	-7.60	-0.003028	±2.5	PASS
Band7	20MHz	QPSK	20850	100RB#0	NV	-20	13.60	0.005418	±2.5	PASS
Band7	20MHz	QPSK	20850	100RB#0	NV	0	2.30	0.000916	±2.5	PASS
Band7	20MHz	QPSK	20850	100RB#0	NV	10	-8.70	-0.003466	±2.5	PASS
Band7	20MHz	QPSK	20850	100RB#0	NV	20	-19.30	-0.007689	±2.5	PASS
Band7	20MHz	QPSK	20850	100RB#0	NV	30	7.30	0.002908	±2.5	PASS
Band7	20MHz	QPSK	20850	100RB#0	NV	40	-10.60	-0.004223	±2.5	PASS
Band7	20MHz	QPSK	20850	100RB#0	NV	50	-13.10	-0.005219	±2.5	PASS
Band7	20MHz	QPSK	21100	100RB#0	NV	-30	21.60	0.008521	±2.5	PASS
Band7	20MHz	QPSK	21100	100RB#0	NV	-20	13.40	0.005286	±2.5	PASS
Band7	20MHz	QPSK	21100	100RB#0	NV	0	18.60	0.007337	±2.5	PASS
Band7	20MHz	QPSK	21100	100RB#0	NV	10	20.20	0.007968	±2.5	PASS
Band7	20MHz	QPSK	21100	100RB#0	NV	20	-10.20	-0.004024	±2.5	PASS
Band7	20MHz	QPSK	21100	100RB#0	NV	30	-16.50	-0.006509	±2.5	PASS
Band7	20MHz	QPSK	21100	100RB#0	NV	40	-11.90	-0.004694	±2.5	PASS
Band7	20MHz	QPSK	21100	100RB#0	NV	50	-10.10	-0.003984	±2.5	PASS



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Band7	20MHz	QPSK	21350	100RB#0	NV	-30	8.90	0.003477	±2.5	PASS
Band7	20MHz	QPSK	21350	100RB#0	NV	-20	-3.90	-0.001523	±2.5	PASS
Band7	20MHz	QPSK	21350	100RB#0	NV	0	-18.50	-0.007227	±2.5	PASS
Band7	20MHz	QPSK	21350	100RB#0	NV	10	-19.30	-0.007539	±2.5	PASS
Band7	20MHz	QPSK	21350	100RB#0	NV	20	-3.90	-0.001523	±2.5	PASS
Band7	20MHz	QPSK	21350	100RB#0	NV	30	-18.70	-0.007305	±2.5	PASS
Band7	20MHz	QPSK	21350	100RB#0	NV	40	6.70	0.002669	±2.5	PASS
Band7	20MHz	QPSK	21350	100RB#0	NV	50	13.40	0.005234	±2.5	PASS
Band7	20MHz	16QAM	20850	100RB#0	NV	-30	-15.20	-0.006056	±2.5	PASS
Band7	20MHz	16QAM	20850	100RB#0	NV	-20	6.70	0.002669	±2.5	PASS
Band7	20MHz	16QAM	20850	100RB#0	NV	0	-23.20	-0.009243	±2.5	PASS
Band7	20MHz	16QAM	20850	100RB#0	NV	10	-10.60	-0.004223	±2.5	PASS
Band7	20MHz	16QAM	20850	100RB#0	NV	20	12.40	0.004892	±2.5	PASS
Band7	20MHz	16QAM	20850	100RB#0	NV	30	-4.60	-0.001833	±2.5	PASS
Band7	20MHz	16QAM	20850	100RB#0	NV	40	10.30	0.004104	±2.5	PASS
Band7	20MHz	16QAM	20850	100RB#0	NV	50	-9.40	-0.003745	±2.5	PASS
Band7	20MHz	16QAM	21100	100RB#0	NV	-30	4.80	0.001893	±2.5	PASS
Band7	20MHz	16QAM	21100	100RB#0	NV	-20	8.10	0.003195	±2.5	PASS
Band7	20MHz	16QAM	21100	100RB#0	NV	0	-19.30	-0.007613	±2.5	PASS
Band7	20MHz	16QAM	21100	100RB#0	NV	10	-11.40	-0.004497	±2.5	PASS
Band7	20MHz	16QAM	21100	100RB#0	NV	20	12.40	0.004892	±2.5	PASS
Band7	20MHz	16QAM	21100	100RB#0	NV	30	18.30	0.007219	±2.5	PASS
Band7	20MHz	16QAM	21100	100RB#0	NV	40	5.40	0.002130	±2.5	PASS
Band7	20MHz	16QAM	21100	100RB#0	NV	50	-6.60	-0.002604	±2.5	PASS
Band7	20MHz	16QAM	21350	100RB#0	NV	-30	4.70	0.001836	±2.5	PASS
Band7	20MHz	16QAM	21350	100RB#0	NV	-20	-12.20	-0.004766	±2.5	PASS
Band7	20MHz	16QAM	21350	100RB#0	NV	0	0.70	0.000273	±2.5	PASS
Band7	20MHz	16QAM	21350	100RB#0	NV	10	-18.50	-0.007227	±2.5	PASS
Band7	20MHz	16QAM	21350	100RB#0	NV	20	1.80	0.000703	±2.5	PASS
Band7	20MHz	16QAM	21350	100RB#0	NV	30	9.60	0.003750	±2.5	PASS
Band7	20MHz	16QAM	21350	100RB#0	NV	40	3.90	0.001523	±2.5	PASS
Band7	20MHz	16QAM	21350	100RB#0	NV	50	-19.70	-0.007695	±2.5	PASS



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