



Appendix B

E-UTRA Band 14



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1 Effective (Isotropic) Radiated Power

1.1 Test Result

Band	Bandwidth	Modulation	Channel	RB Config.	Result (dBm)	ERP (dBm)	Limit (dBm)	Verdict
Band14	5MHz	QPSK	23305	1RB#0	23.02	20.97	34.77	PASS
Band14	5MHz	QPSK	23305	1RB#12	24.06	22.01	34.77	PASS
Band14	5MHz	QPSK	23305	1RB#24	23.34	21.29	34.77	PASS
Band14	5MHz	QPSK	23305	12RB#0	21.98	19.93	34.77	PASS
Band14	5MHz	QPSK	23305	12RB#6	22.53	20.48	34.77	PASS
Band14	5MHz	QPSK	23305	12RB#13	22.38	20.33	34.77	PASS
Band14	5MHz	QPSK	23305	25RB#0	22.13	20.08	34.77	PASS
Band14	5MHz	QPSK	23330	1RB#0	22.90	20.85	34.77	PASS
Band14	5MHz	QPSK	23330	1RB#12	23.35	21.30	34.77	PASS
Band14	5MHz	QPSK	23330	1RB#24	23.05	21.00	34.77	PASS
Band14	5MHz	QPSK	23330	12RB#0	22.35	20.30	34.77	PASS
Band14	5MHz	QPSK	23330	12RB#6	22.24	20.19	34.77	PASS
Band14	5MHz	QPSK	23330	12RB#13	22.15	20.10	34.77	PASS
Band14	5MHz	QPSK	23330	25RB#0	22.17	20.12	34.77	PASS
Band14	5MHz	QPSK	23355	1RB#0	23.18	21.13	34.77	PASS
Band14	5MHz	QPSK	23355	1RB#12	22.99	20.94	34.77	PASS
Band14	5MHz	QPSK	23355	1RB#24	22.72	20.67	34.77	PASS
Band14	5MHz	QPSK	23355	12RB#0	22.46	20.41	34.77	PASS
Band14	5MHz	QPSK	23355	12RB#6	22.10	20.05	34.77	PASS
Band14	5MHz	QPSK	23355	12RB#13	21.90	19.85	34.77	PASS
Band14	5MHz	QPSK	23355	25RB#0	22.25	20.20	34.77	PASS
Band14	5MHz	16QAM	23305	1RB#0	21.58	19.53	34.77	PASS
Band14	5MHz	16QAM	23305	1RB#12	22.63	20.58	34.77	PASS
Band14	5MHz	16QAM	23305	1RB#24	21.60	19.55	34.77	PASS
Band14	5MHz	16QAM	23305	12RB#0	20.68	18.63	34.77	PASS
Band14	5MHz	16QAM	23305	12RB#6	21.06	19.01	34.77	PASS
Band14	5MHz	16QAM	23305	12RB#13	20.94	18.89	34.77	PASS
Band14	5MHz	16QAM	23305	25RB#0	20.75	18.70	34.77	PASS
Band14	5MHz	16QAM	23330	1RB#0	21.77	19.72	34.77	PASS
Band14	5MHz	16QAM	23330	1RB#12	22.05	20.00	34.77	PASS
Band14	5MHz	16QAM	23330	1RB#24	21.72	19.67	34.77	PASS
Band14	5MHz	16QAM	23330	12RB#0	20.99	18.94	34.77	PASS



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Band14	5MHz	16QAM	23330	12RB#6	20.71	18.66	34.77	PASS
Band14	5MHz	16QAM	23330	12RB#13	20.92	18.87	34.77	PASS
Band14	5MHz	16QAM	23330	25RB#0	20.84	18.79	34.77	PASS
Band14	5MHz	16QAM	23355	1RB#0	21.77	19.72	34.77	PASS
Band14	5MHz	16QAM	23355	1RB#12	21.68	19.63	34.77	PASS
Band14	5MHz	16QAM	23355	1RB#24	21.38	19.33	34.77	PASS
Band14	5MHz	16QAM	23355	12RB#0	21.01	18.96	34.77	PASS
Band14	5MHz	16QAM	23355	12RB#6	20.55	18.50	34.77	PASS
Band14	5MHz	16QAM	23355	12RB#13	20.45	18.40	34.77	PASS
Band14	5MHz	16QAM	23355	25RB#0	20.97	18.92	34.77	PASS
Band14	10MHz	QPSK	23330	1RB#0	22.93	20.88	34.77	PASS
Band14	10MHz	QPSK	23330	1RB#24	24.11	22.06	34.77	PASS
Band14	10MHz	QPSK	23330	1RB#49	22.29	20.24	34.77	PASS
Band14	10MHz	QPSK	23330	25RB#0	22.53	20.48	34.77	PASS
Band14	10MHz	QPSK	23330	25RB#12	22.58	20.53	34.77	PASS
Band14	10MHz	QPSK	23330	25RB#25	22.08	20.03	34.77	PASS
Band14	10MHz	QPSK	23330	50RB#0	21.92	19.87	34.77	PASS
Band14	10MHz	16QAM	23330	1RB#0	21.75	19.70	34.77	PASS
Band14	10MHz	16QAM	23330	1RB#24	21.98	19.93	34.77	PASS
Band14	10MHz	16QAM	23330	1RB#49	21.28	19.23	34.77	PASS
Band14	10MHz	16QAM	23330	25RB#0	21.03	18.98	34.77	PASS
Band14	10MHz	16QAM	23330	25RB#12	21.11	19.06	34.77	PASS
Band14	10MHz	16QAM	23330	25RB#25	20.63	18.58	34.77	PASS
Band14	10MHz	16QAM	23330	27RB#0	20.86	18.81	34.77	PASS

Remark:

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

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

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



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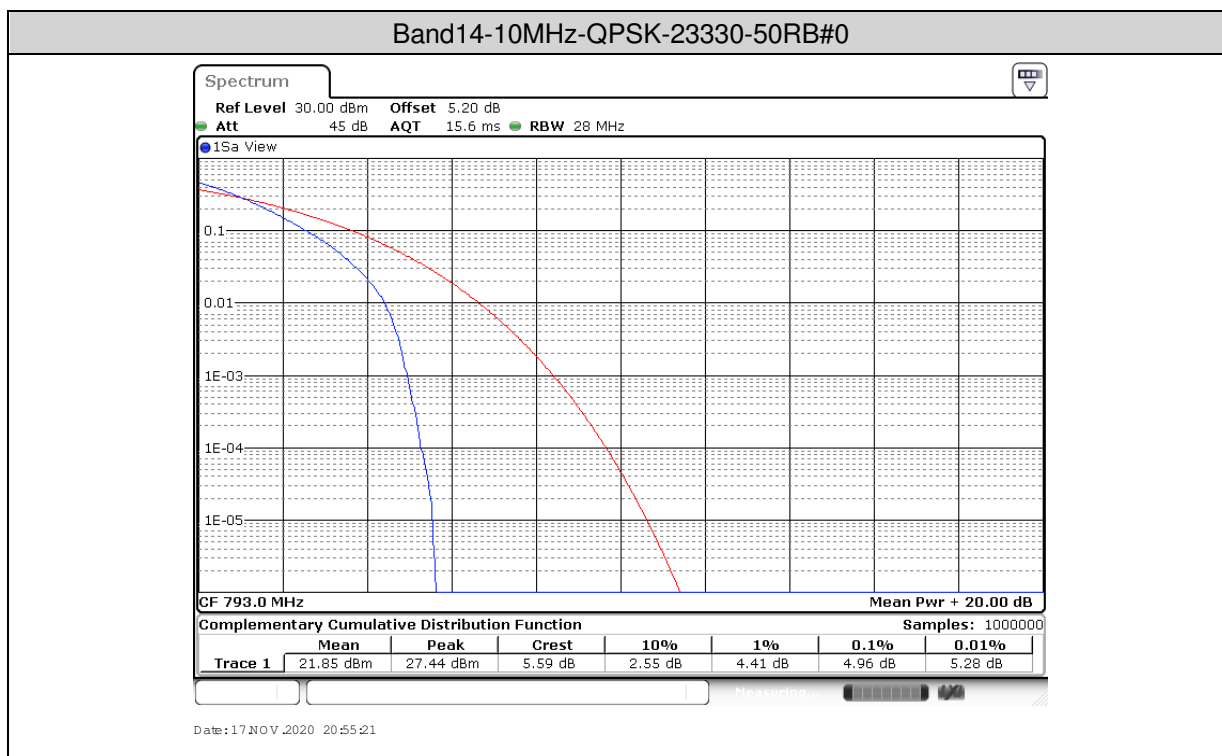
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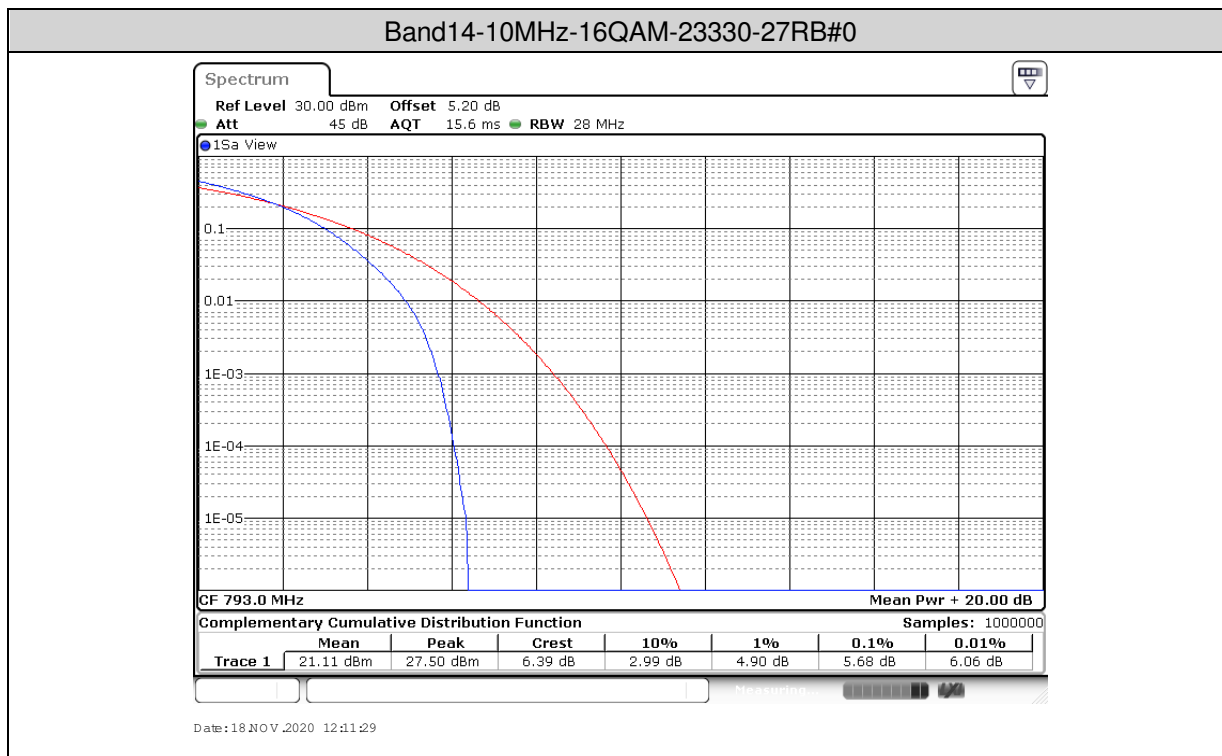
2 Peak-to-Average Ratio (CCDF)

2.1 Test Result

Band	Bandwidth h	Modulation	Channel	RB Configuration	Result(dB)	Limit(dB)	Verdict
Band14	10MHz	QPSK	23330	50RB#0	4.96	13	PASS
Band14	10MHz	16QAM	23330	27RB#0	5.68	13	PASS

2.2 Test Plots

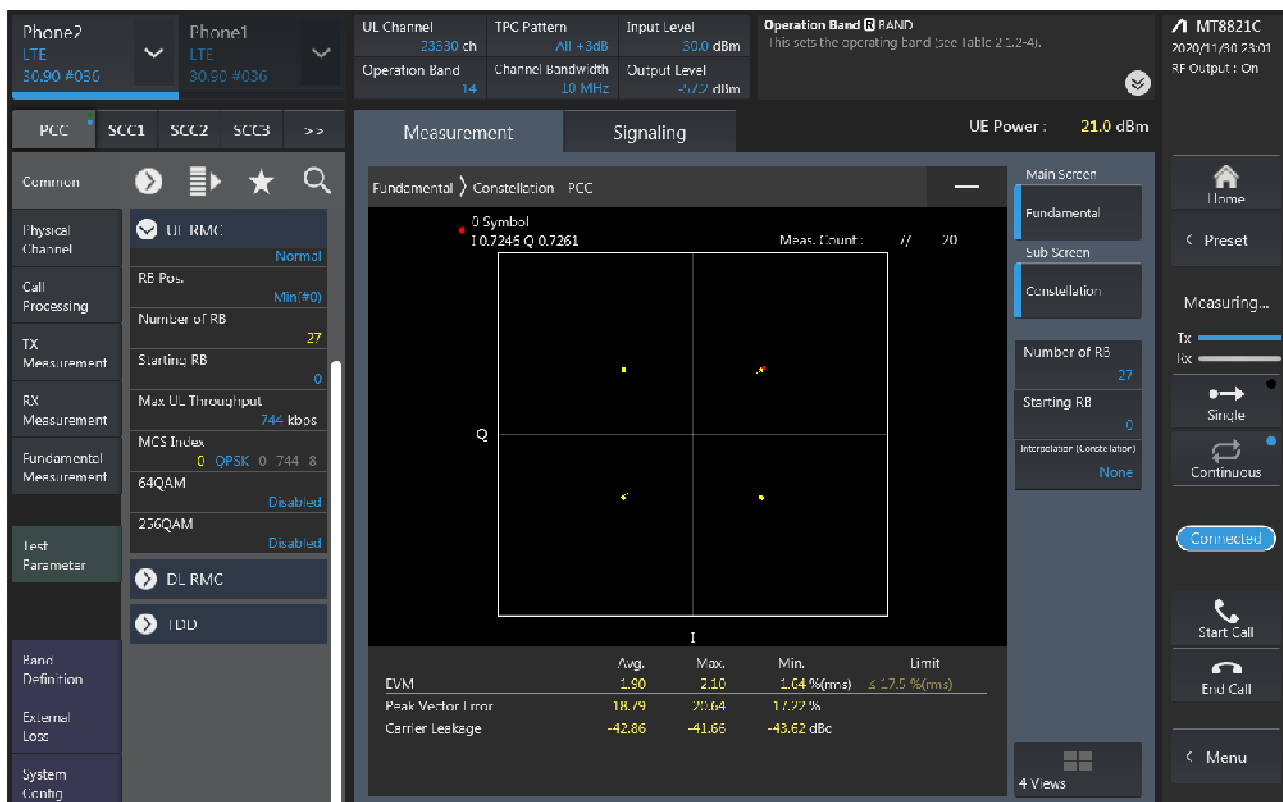




3 Modulation Characteristics

3.1 Test Mode = LTE /TM1 10MHz

3.1.1 Test Channel = MCH

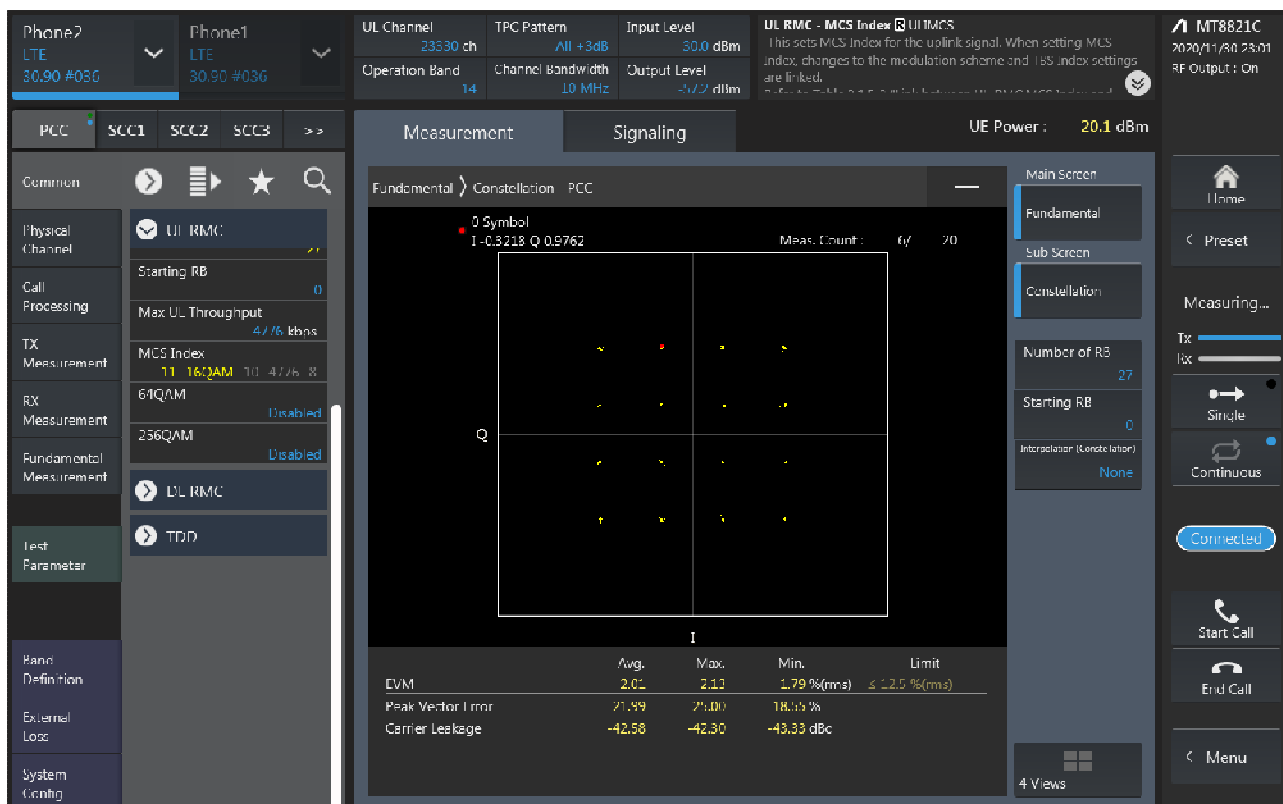


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3.2 Test Mode = LTE /TM2 10MHz

3.2.1 Test Channel = MCH



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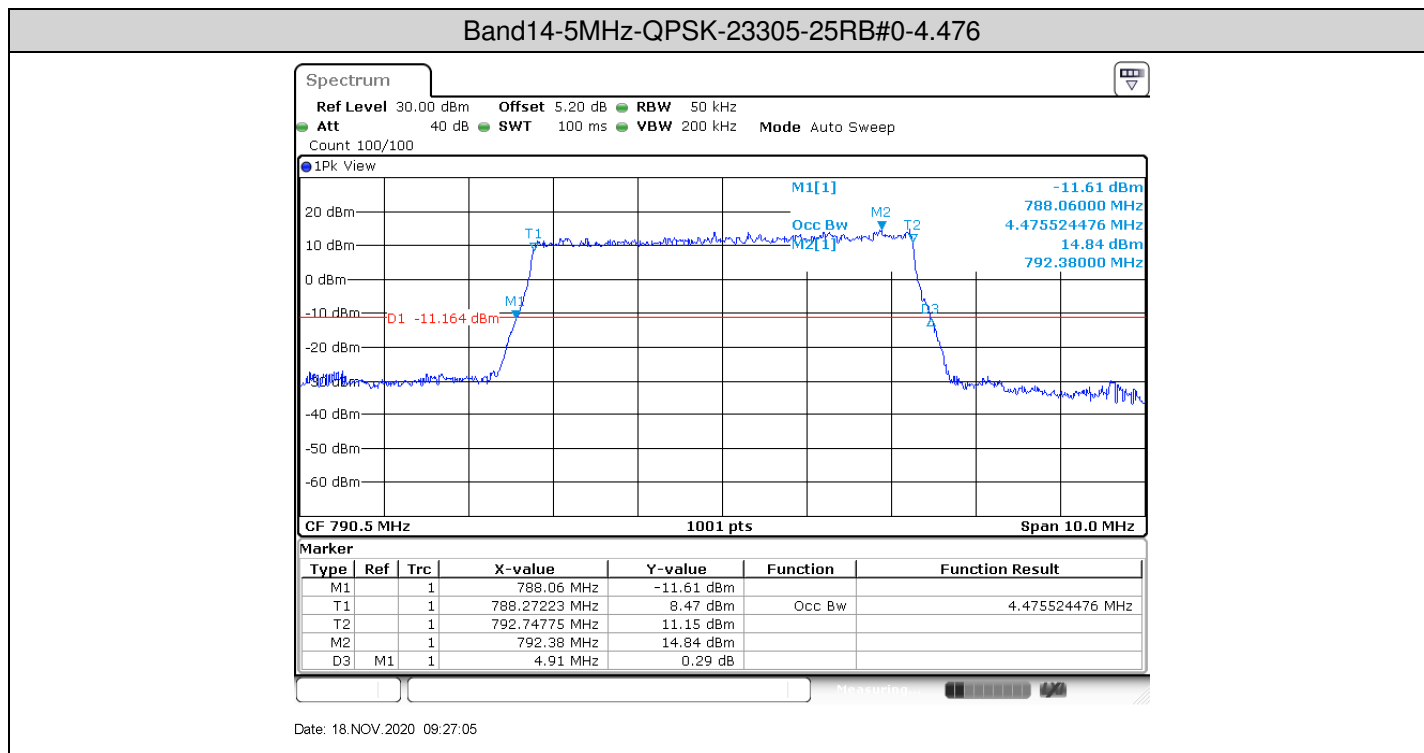


4 26dB Bandwidth and Occupied Bandwidth

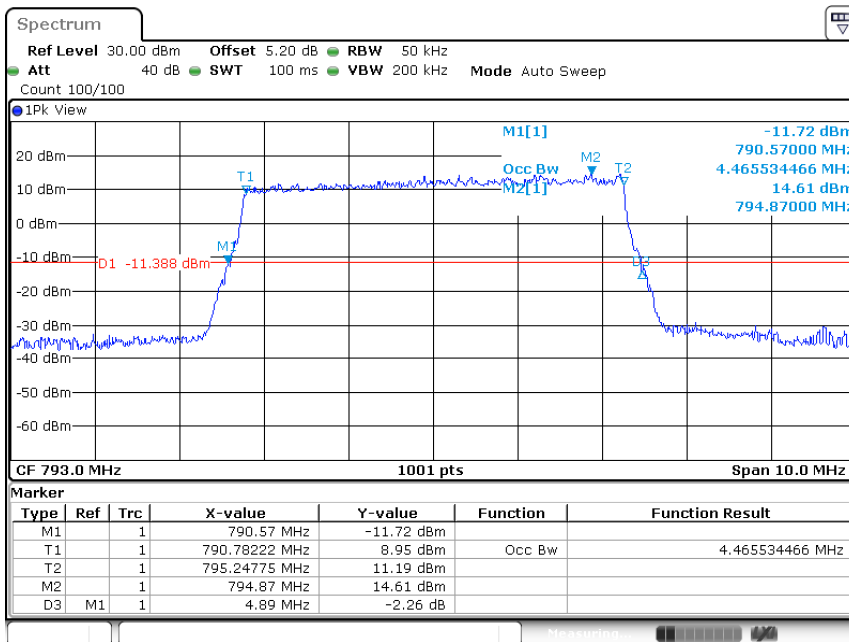
4.1 Test Result

Band	Bandwidth	Modulation	Channel	RB Configuration	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
Band14	5MHz	QPSK	23305	25RB#0	4.476	4.910	PASS
Band14	5MHz	QPSK	23330	25RB#0	4.466	4.890	PASS
Band14	5MHz	QPSK	23355	25RB#0	4.456	4.900	PASS
Band14	5MHz	16QAM	23305	25RB#0	4.486	4.930	PASS
Band14	5MHz	16QAM	23330	25RB#0	4.476	4.930	PASS
Band14	5MHz	16QAM	23355	25RB#0	4.476	4.940	PASS
Band14	10MHz	QPSK	23330	50RB#0	8.911	9.660	PASS
Band14	10MHz	16QAM	23330	27RB#0	4.855	5.680	PASS

4.2 Test Plots

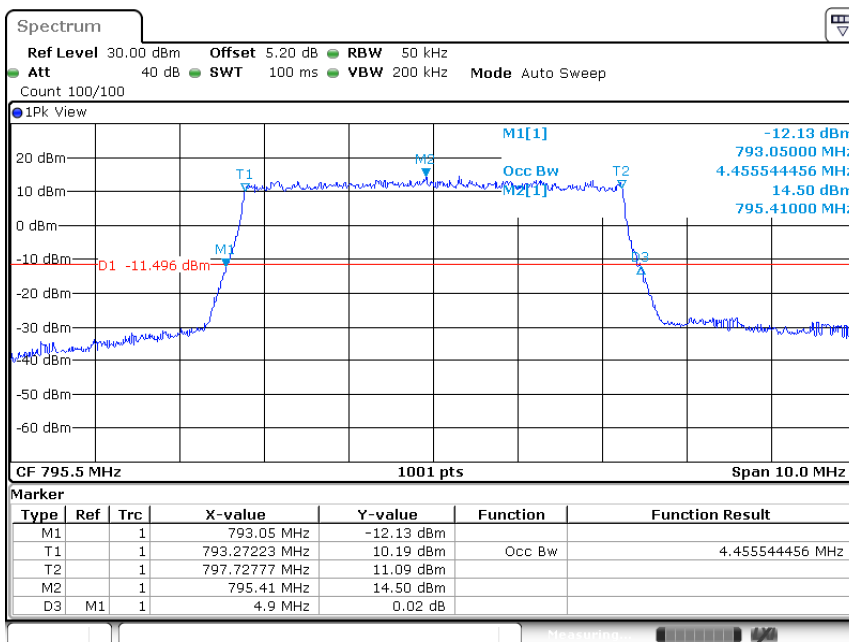


Band14-5MHz-QPSK-23330-25RB#0-4.466



Date: 18.NOV.2020 09:27:25

Band14-5MHz-QPSK-23355-25RB#0-4.456



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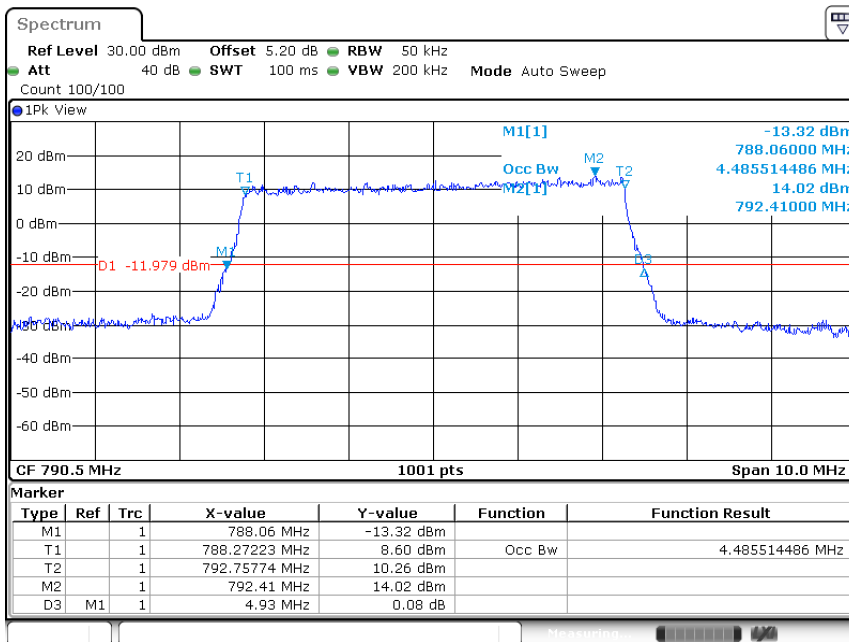


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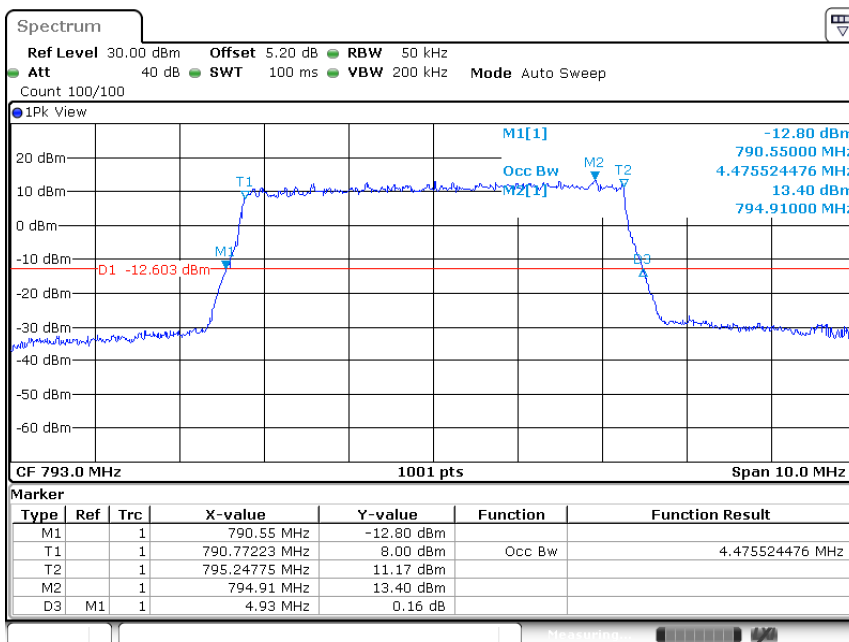
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Band14-5MHz-16QAM-23305-25RB#0-4.486



Date: 18.NOV.2020 10:06:18

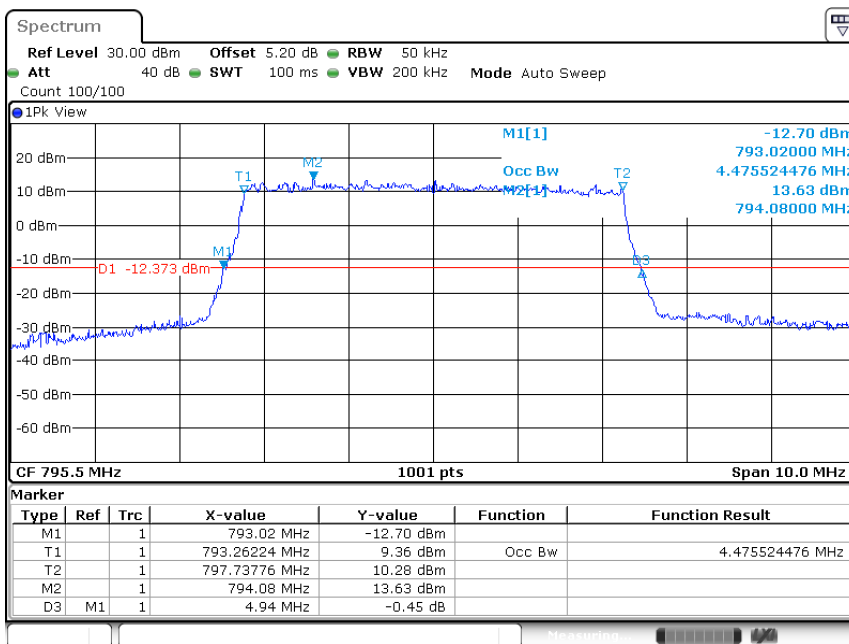
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Date: 18.NOV.2020 10:06:37

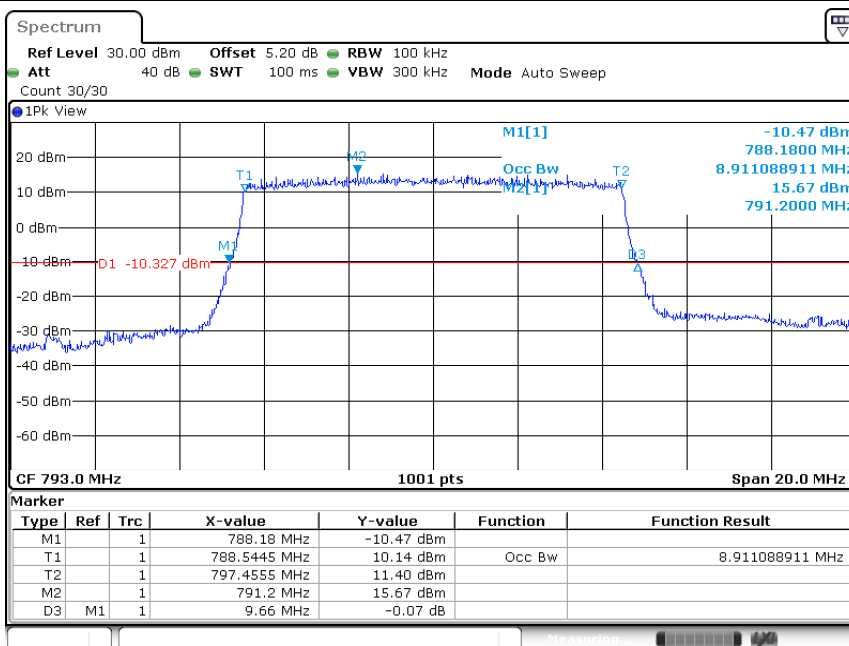


Band14-5MHz-16QAM-23355-25RB#0-4.476



Date: 18.NOV.2020 10:06:58

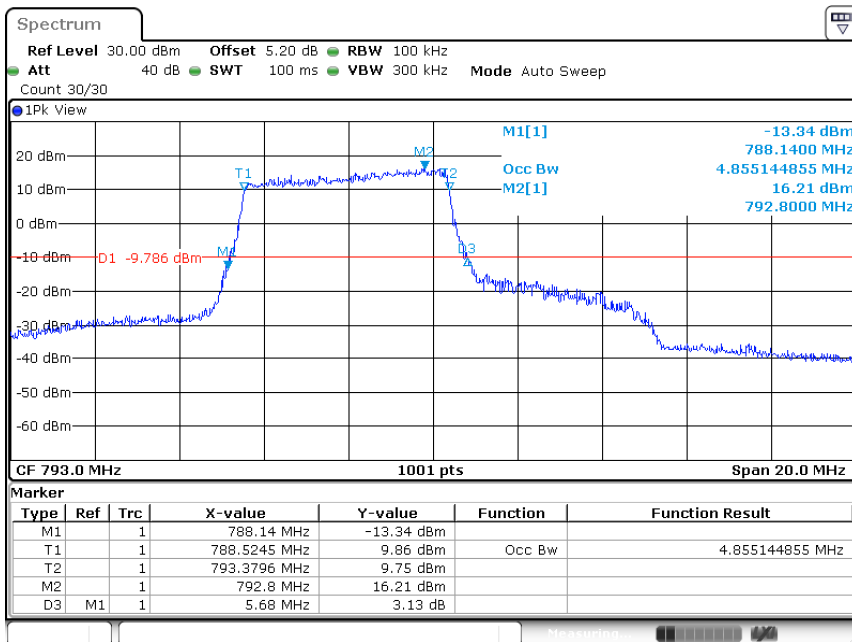
Band14-10MHz-QPSK-23330-50RB#0-8.911



Date: 26.NOV.2020 17:35:42



Band14-10MHz-16QAM-23330-27RB#0-4.855

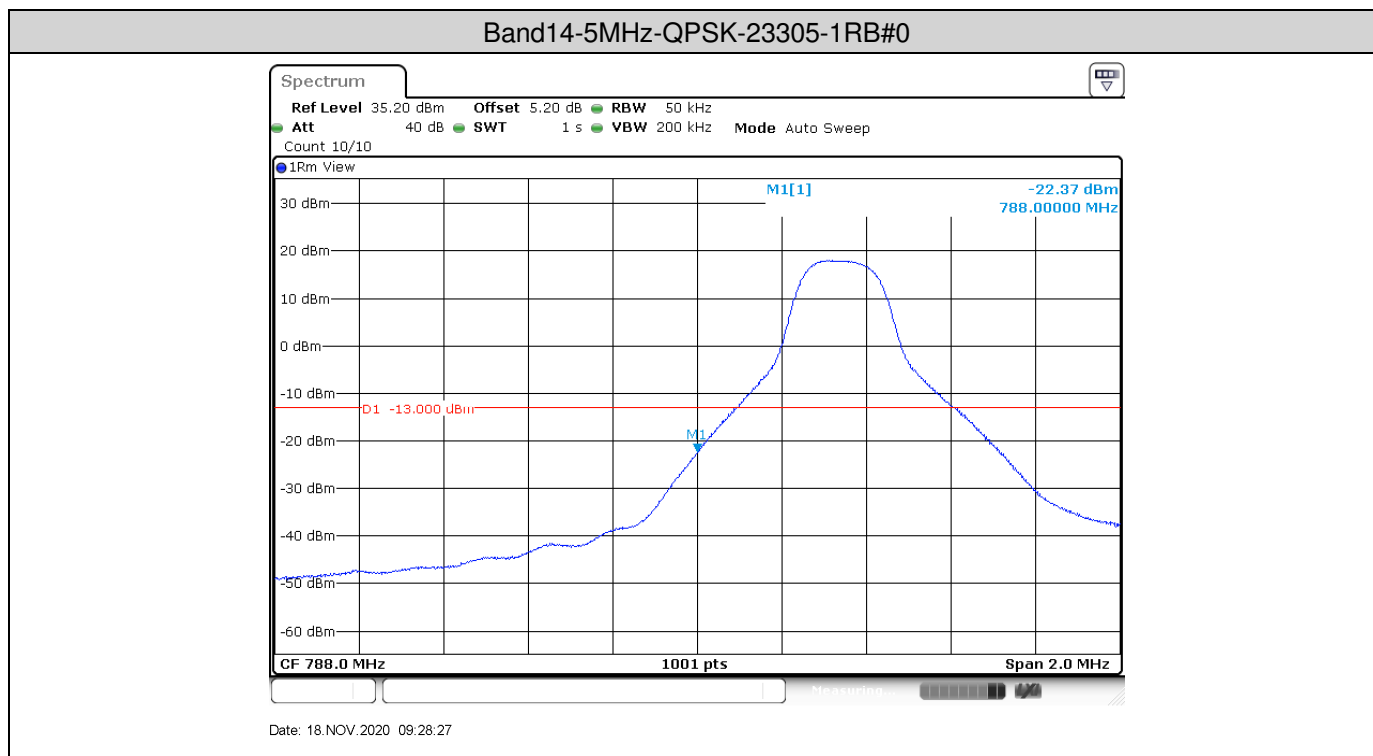


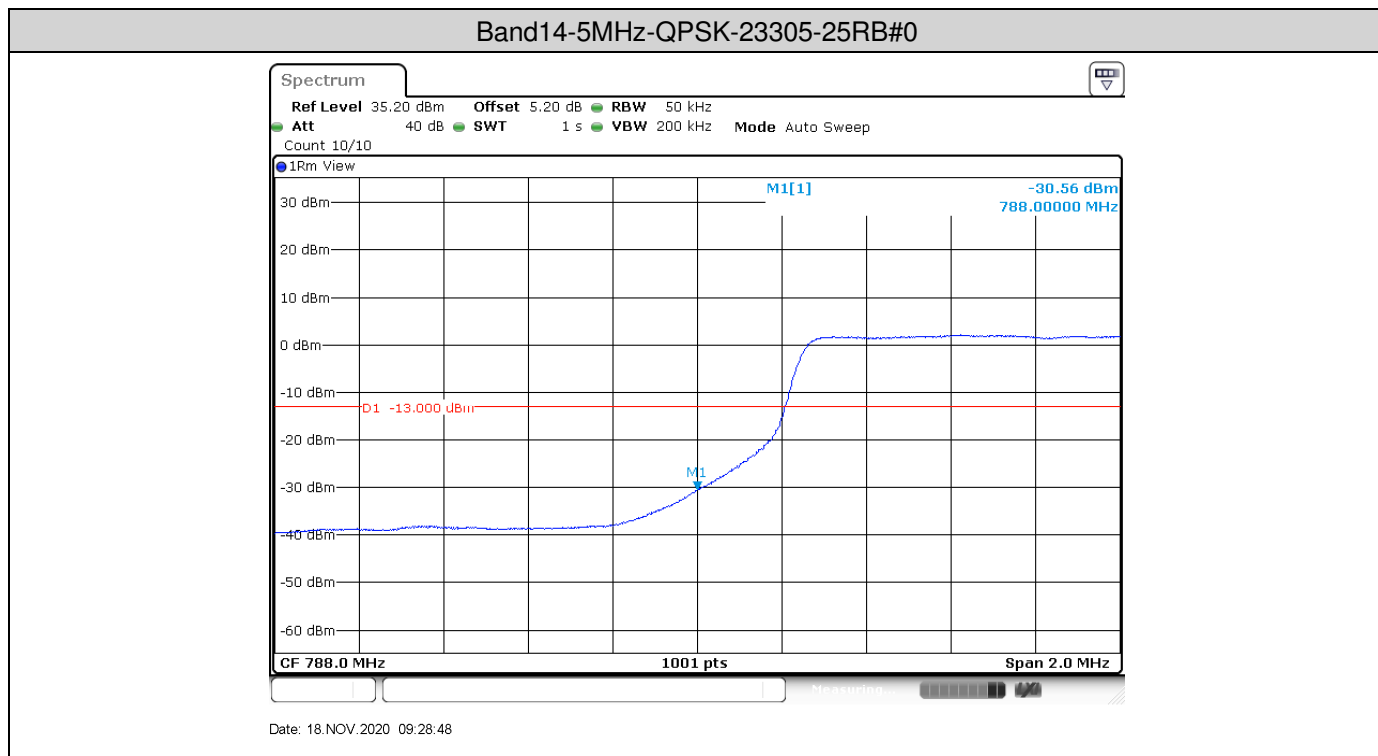
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5 Band Edge Compliance

5.1 Test Plots





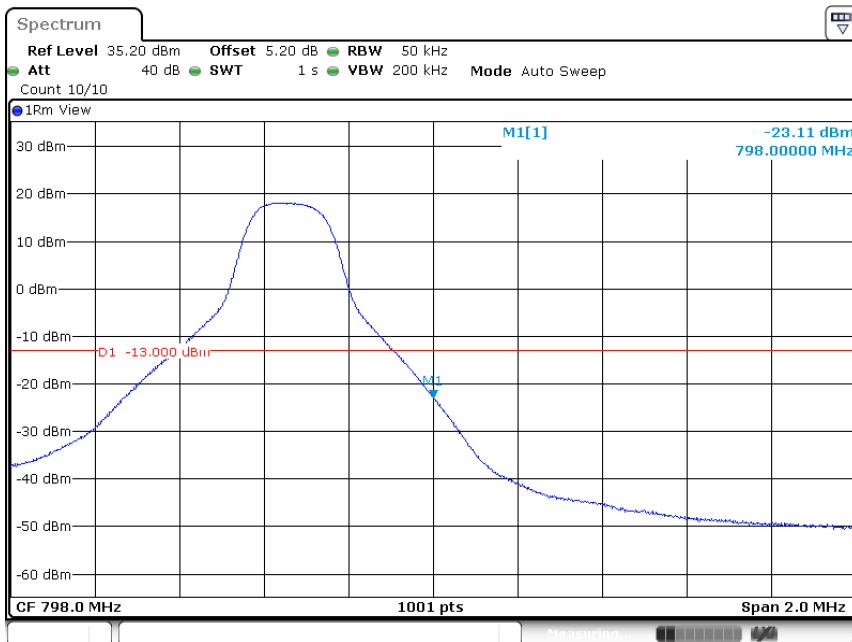
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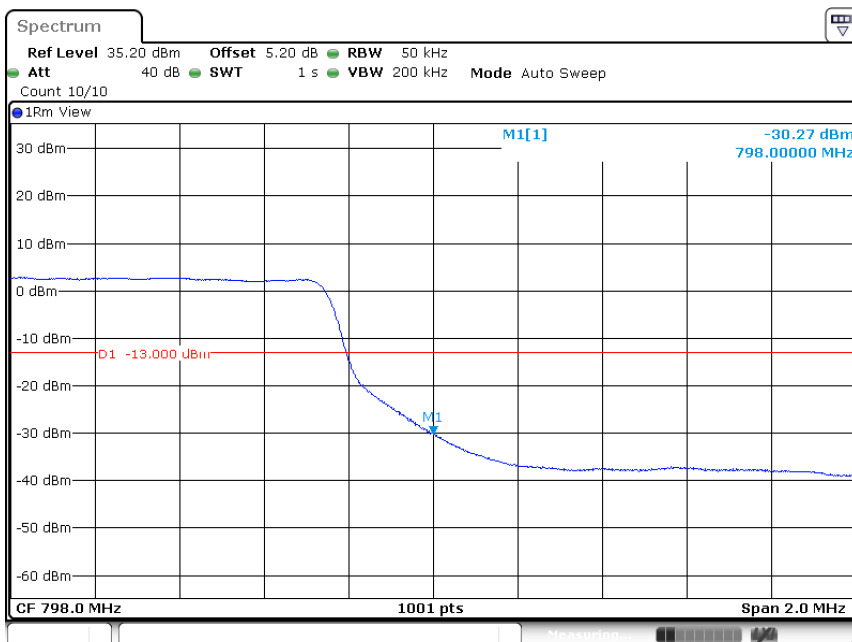
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Band14-5MHz-QPSK-23355-1RB#24



Date: 18.NOV.2020 09:29:13

Band14-5MHz-QPSK-23355-25RB#0



Date: 18.NOV.2020 09:29:33

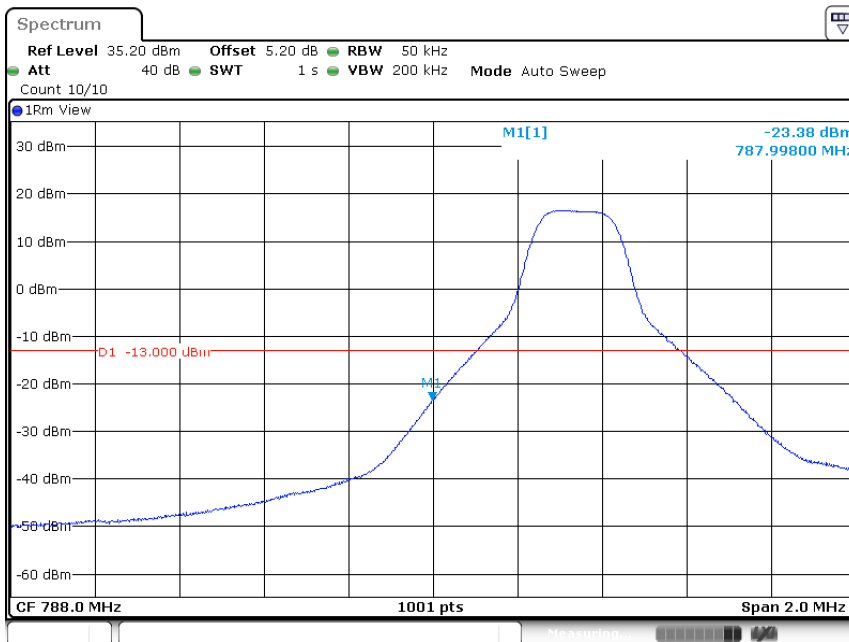


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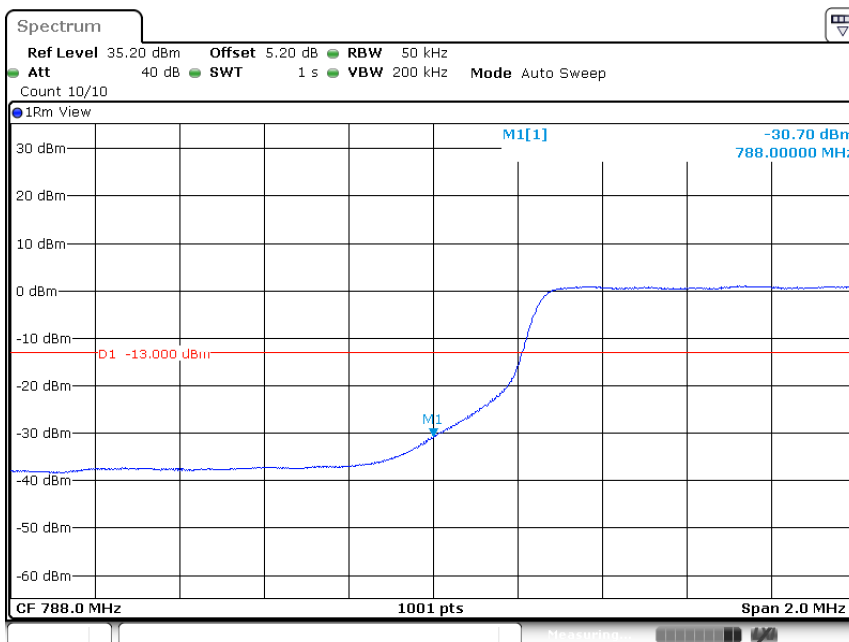
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Band14-5MHz-16QAM-23305-1RB#0



Date: 18.NOV.2020 10:07:40

Band14-5MHz-16QAM-23305-25RB#0



Date: 18.NOV.2020 10:08:00

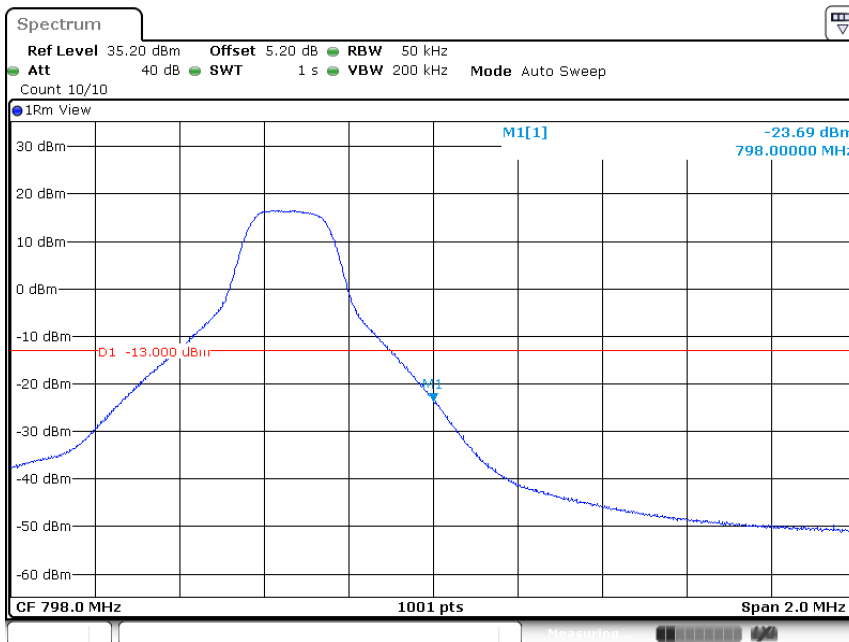


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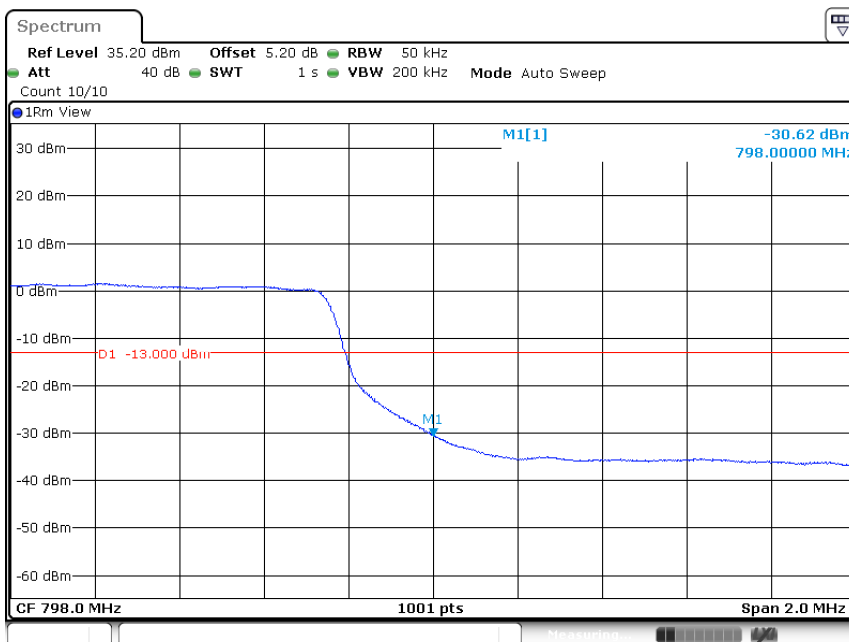


Band14-5MHz-16QAM-23355-1RB#24



Date: 18.NOV.2020 10:08:26

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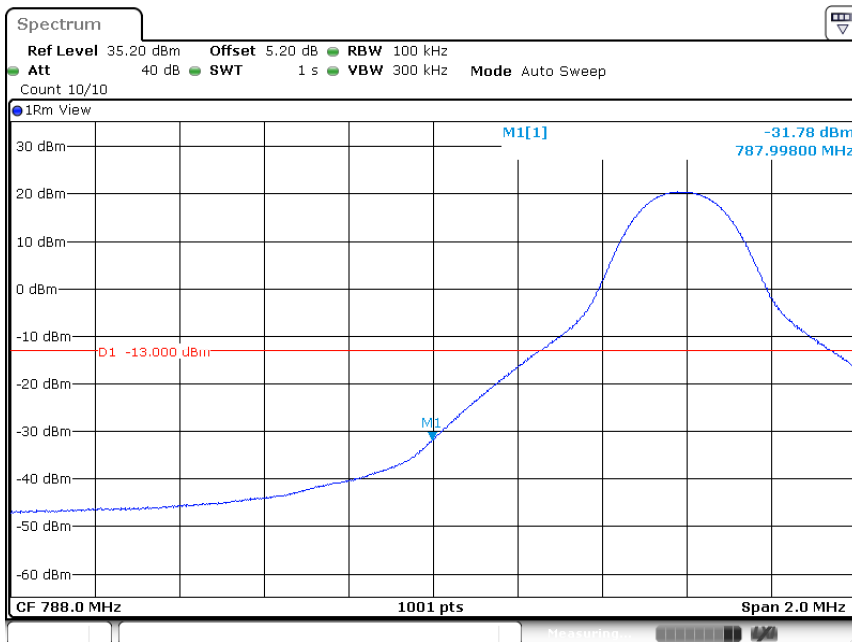
Date: 18.NOV.2020 10:08:46



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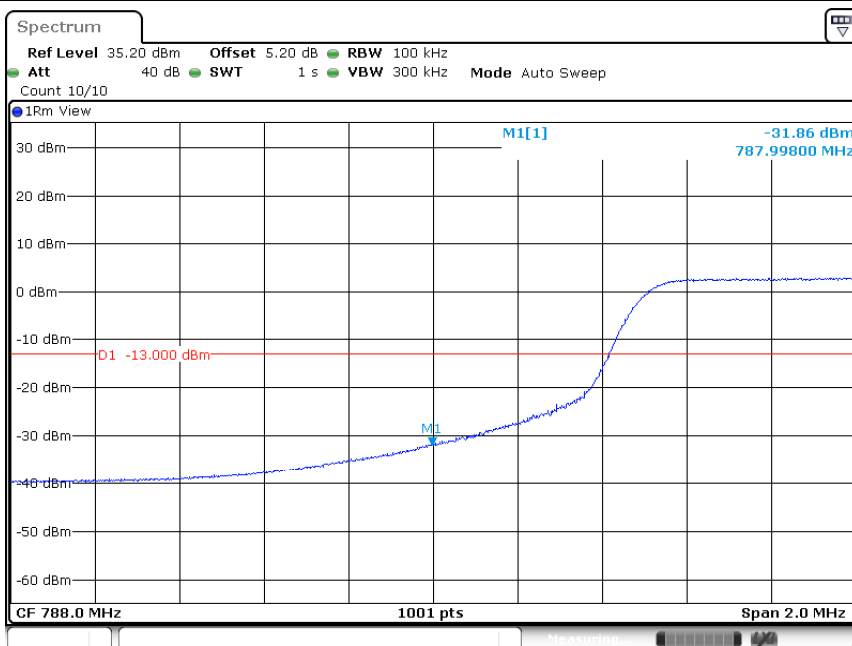
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Band14-10MHz-QPSK-23330_Left-1RB#0



Date: 18.NOV.2020 09:39:16

Band14-10MHz-QPSK-23330_Left-50RB#0

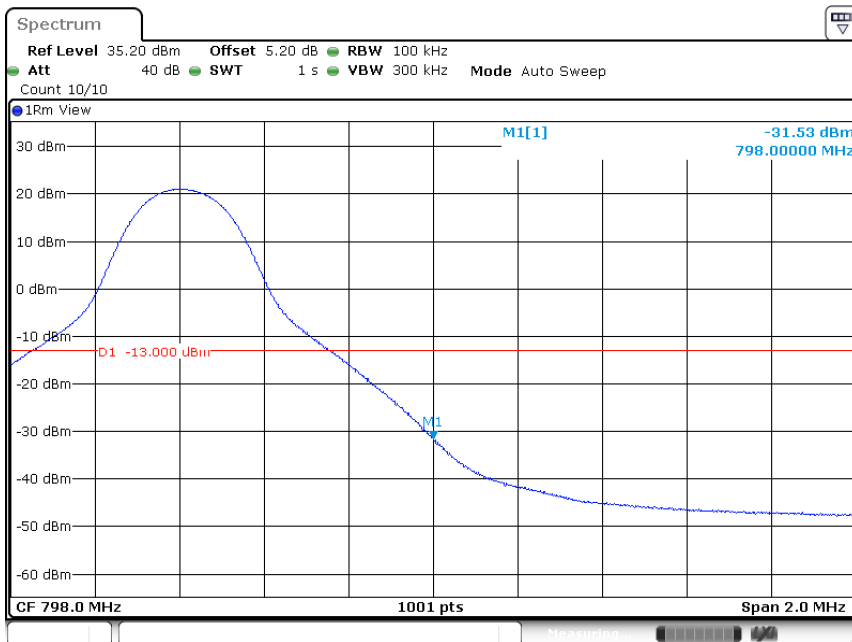


Date: 26.NOV.2020 17:36:06



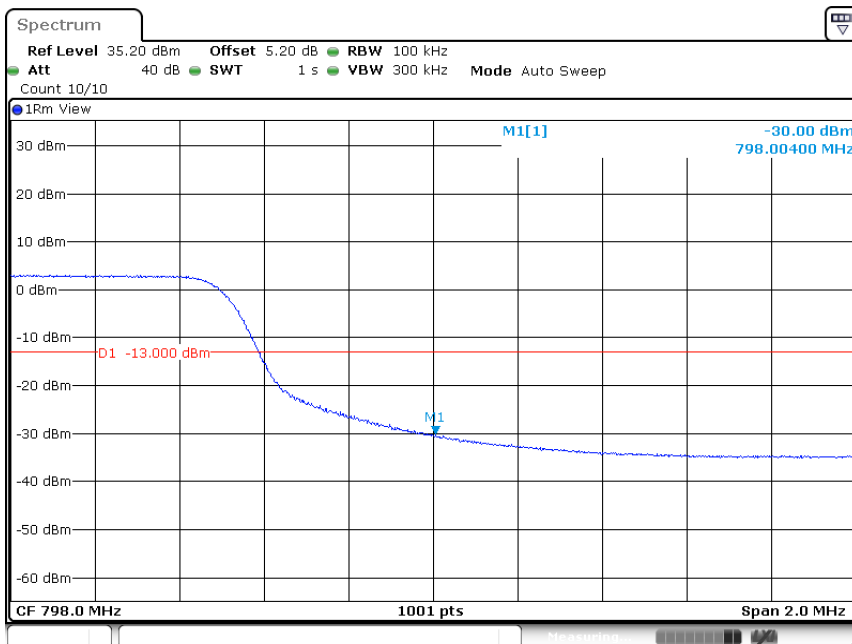
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Band14-10MHz-QPSK-23330_Right-1RB#49



Date: 18.NOV.2020 09:30:23

Band14-10MHz-QPSK-23330_Right-50RB#0



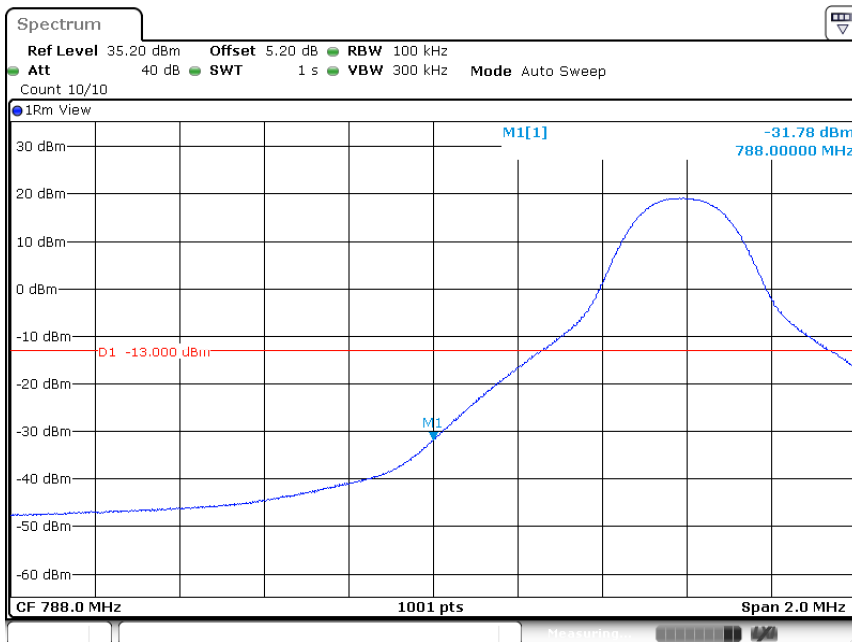
Date: 26.NOV.2020 17:36:30



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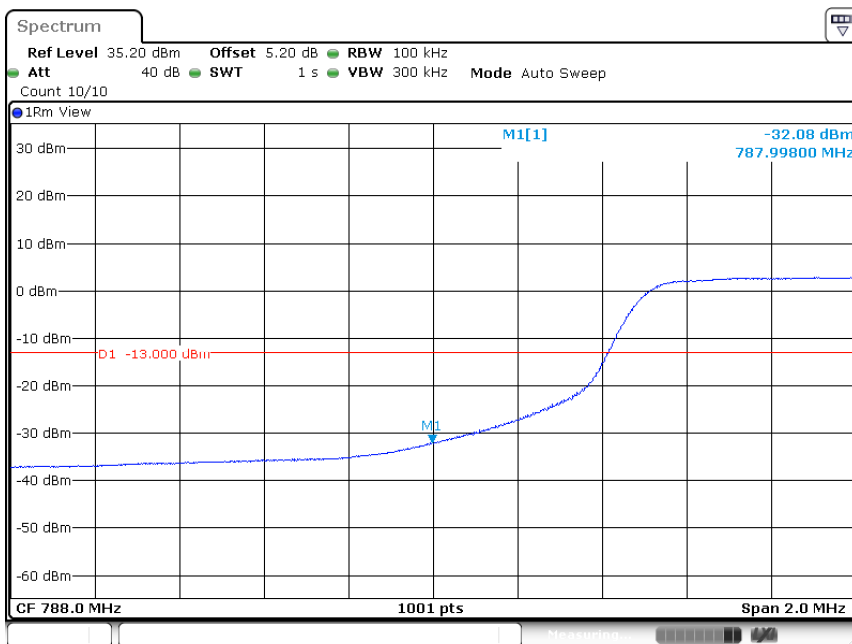
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Band14-10MHz-16QAM-23330_Left-1RB#0



Date: 18.NOV.2020 10:09:11

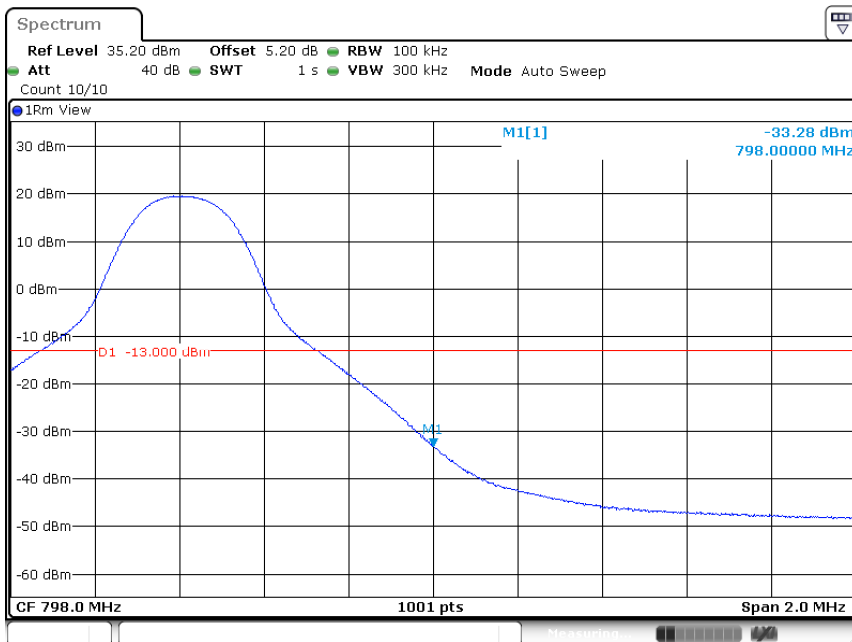
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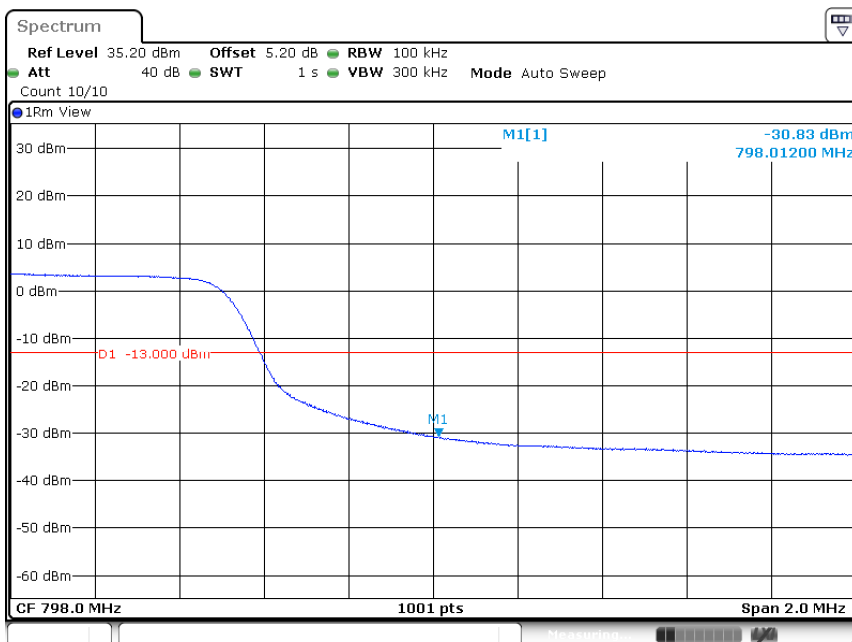


Band14-10MHz-16QAM-23330_Right-1RB#49



Date: 18.NOV.2020 10:09:56

Band14-10MHz-16QAM-23330_Right-27RB#23



Date: 18.NOV.2020 10:10:16



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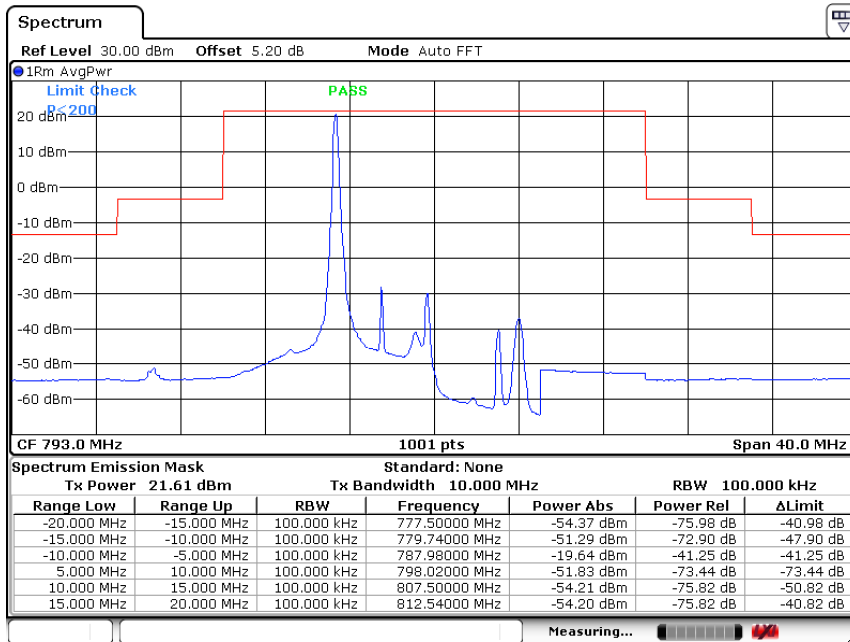
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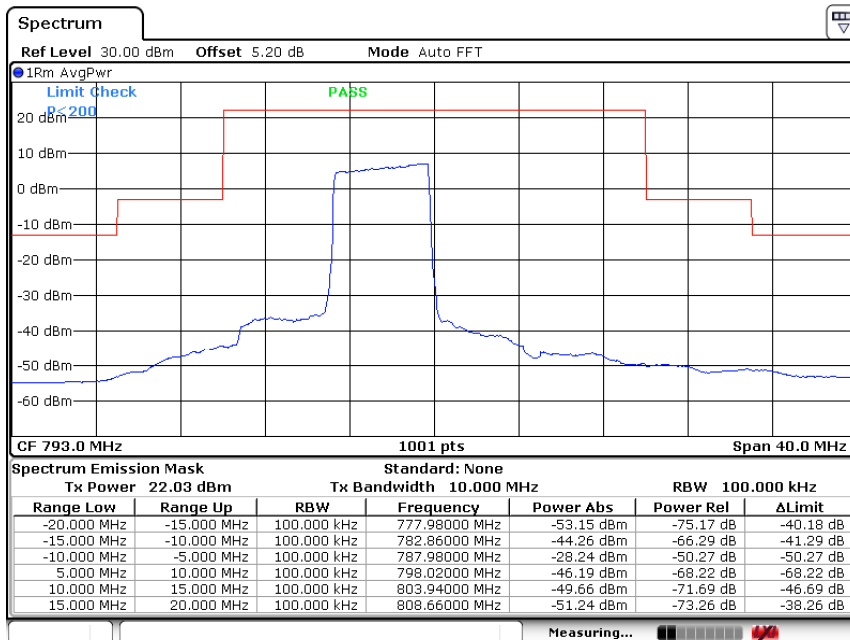
6 Emission mask

Band14-5MHz-QPSK-23305-1RB#0



Date: 18.NOV.2020 09:49:02

Band14-5MHz-QPSK-23305-25RB#0



Date: 18.NOV.2020 09:48:36



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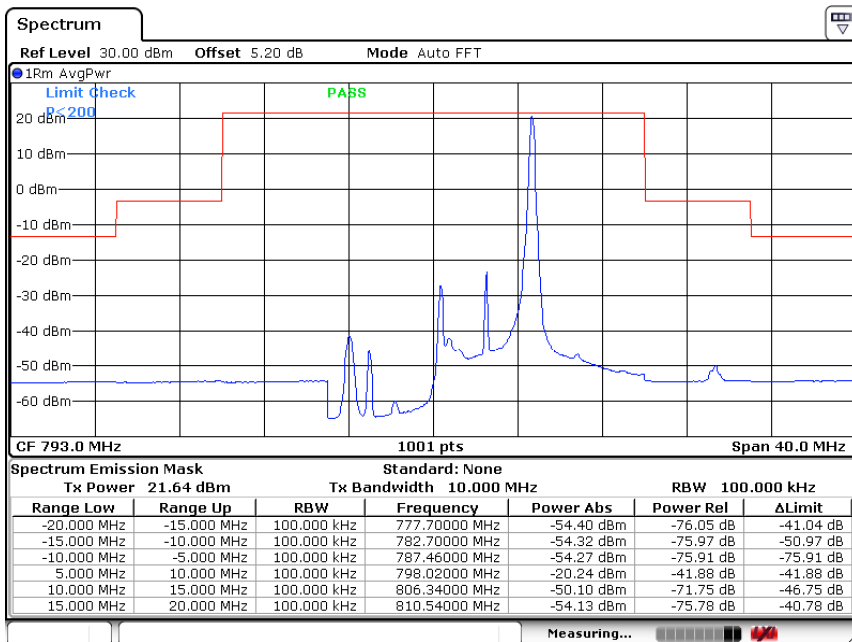
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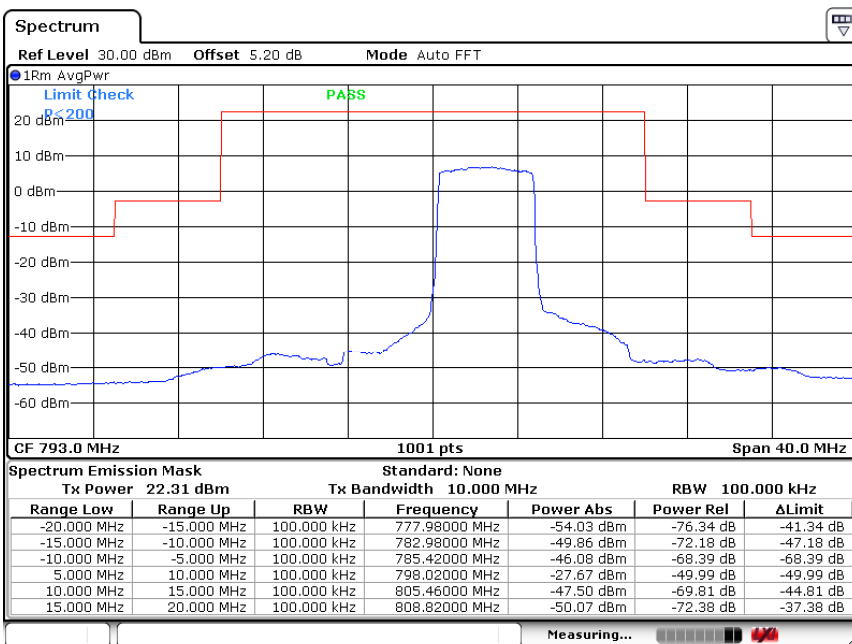
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Band14-5MHz-QPSK-23355-1RB#24



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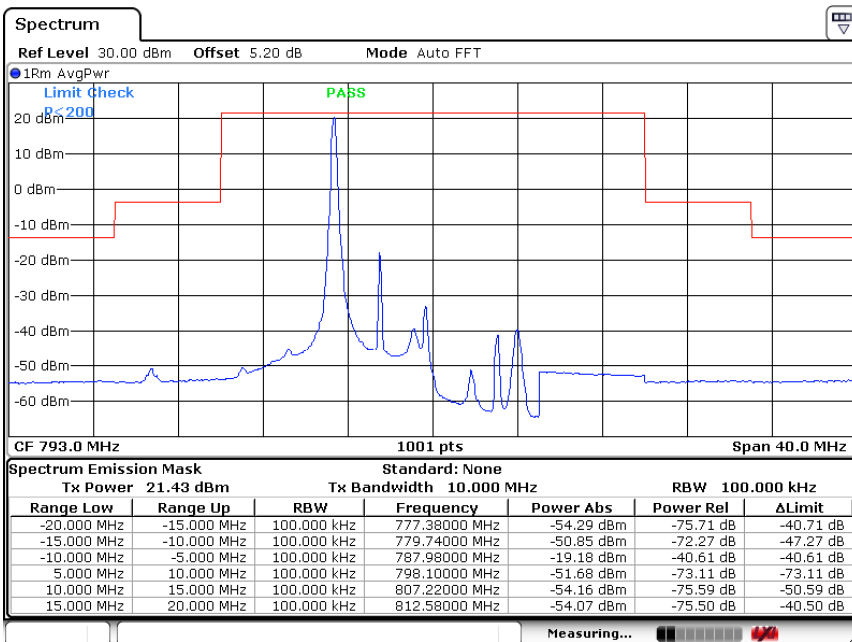
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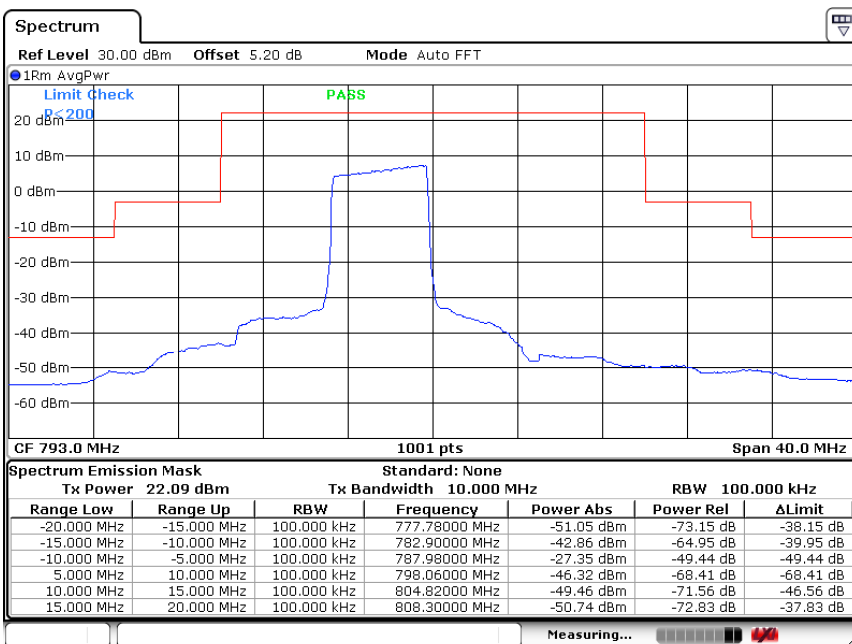


Band14-5MHz-16QAM-23305-1RB#0



Date: 18.NOV.2020 10:41:15

Band14-5MHz-16QAM-23305-25RB#0



Date: 18.NOV.2020 10:41:34



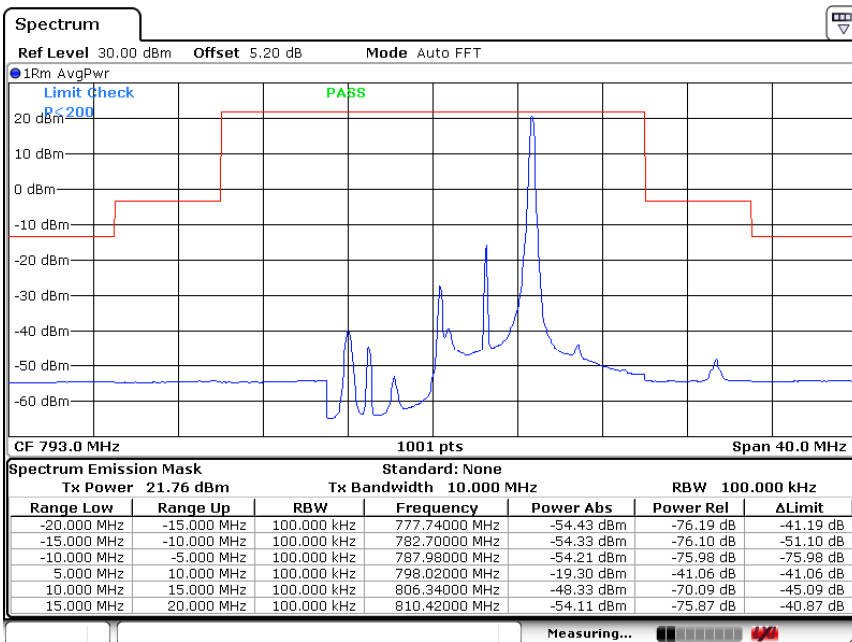
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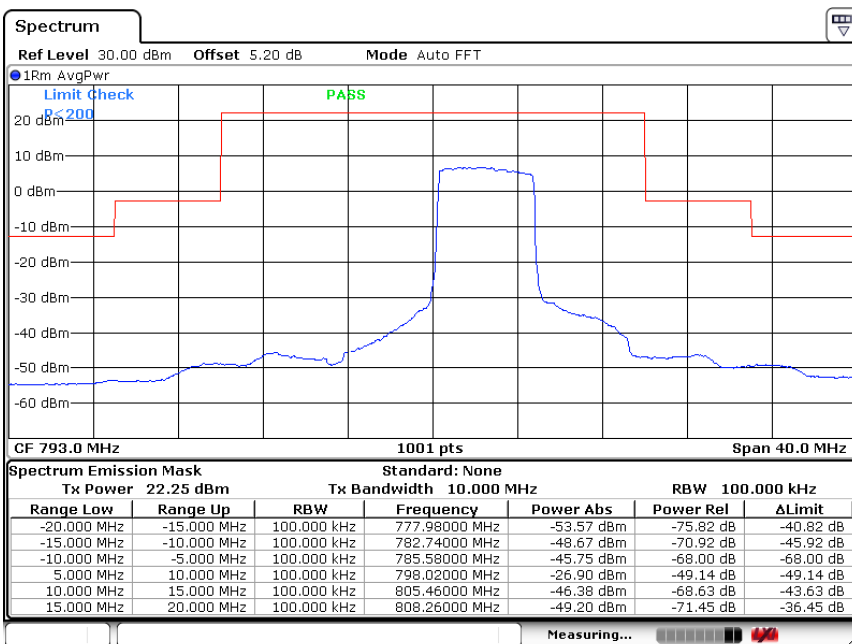
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Band14-5MHz-16QAM-23355-1RB#24



Date: 18.NOV.2020 10:42:45

Band14-5MHz-16QAM-23355-25RB#0

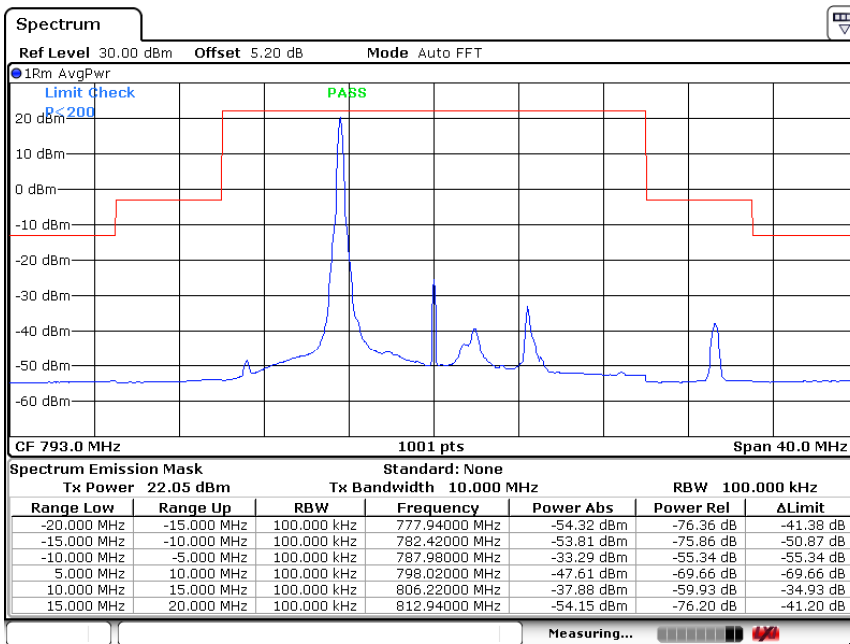


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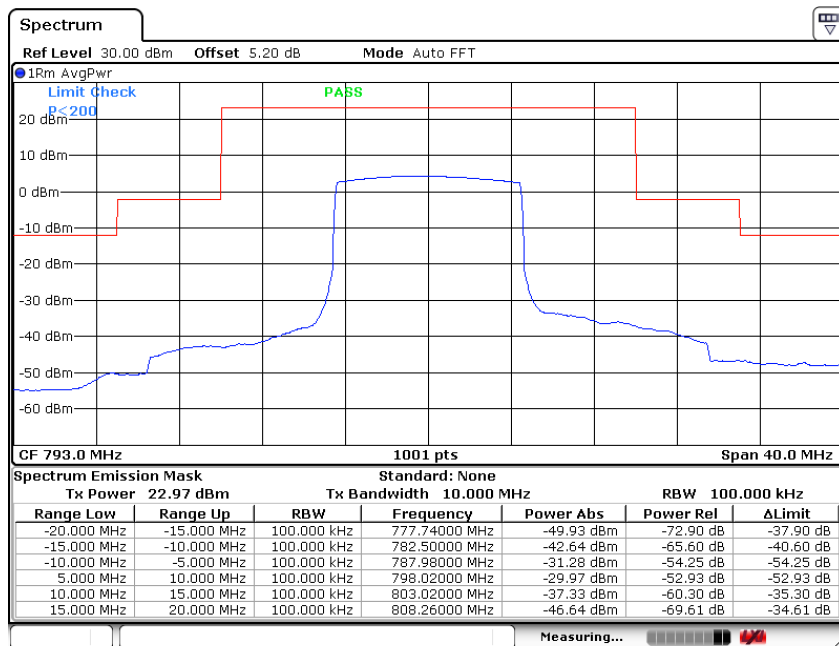


Band14-10MHz-QPSK-23330_Left-1RB#0



Date: 18.NOV.2020 09:47:21

Band14-10MHz-QPSK-23330_50RB#0



Date: 26.NOV.2020 17:45:19



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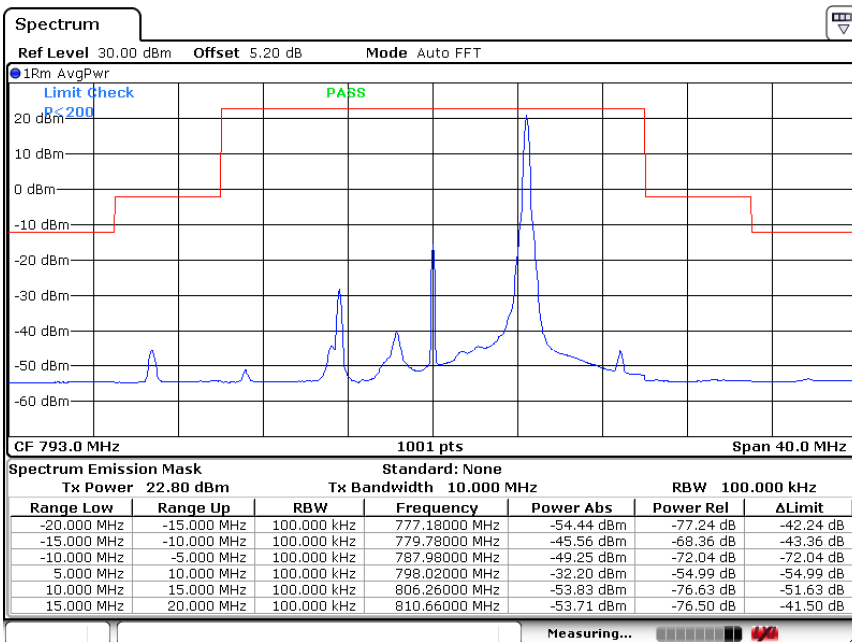
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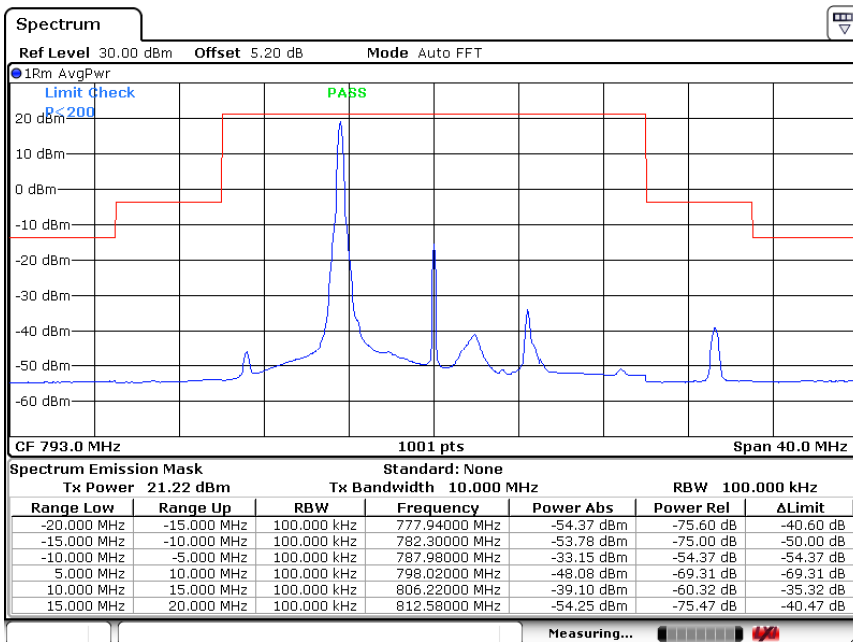
Band14-10MHz-QPSK-23330_Right-1RB#49



Date: 18.NOV.2020 10:40:19

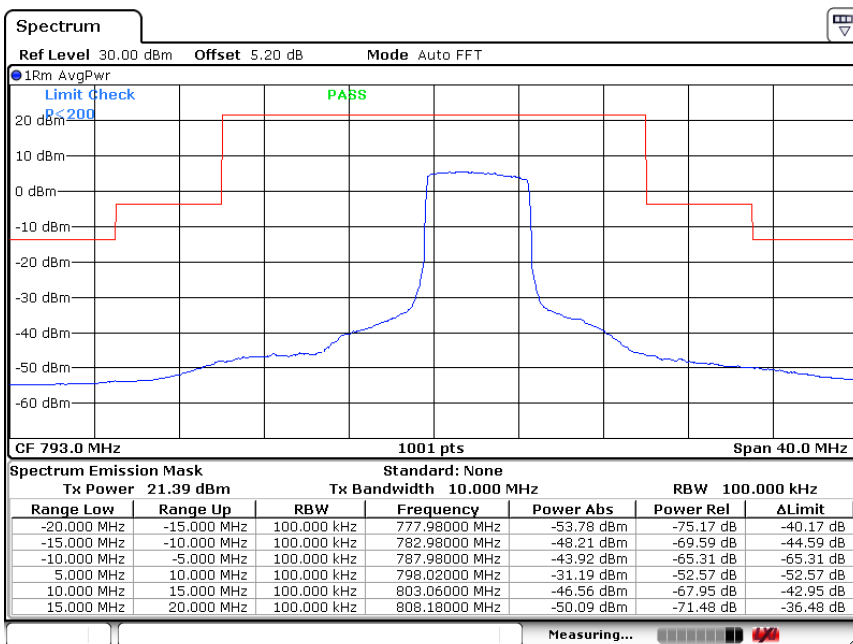


Band14-10MHz-16QAM-23330_Left-1RB#0



Date: 18.NOV.2020 10:39:08

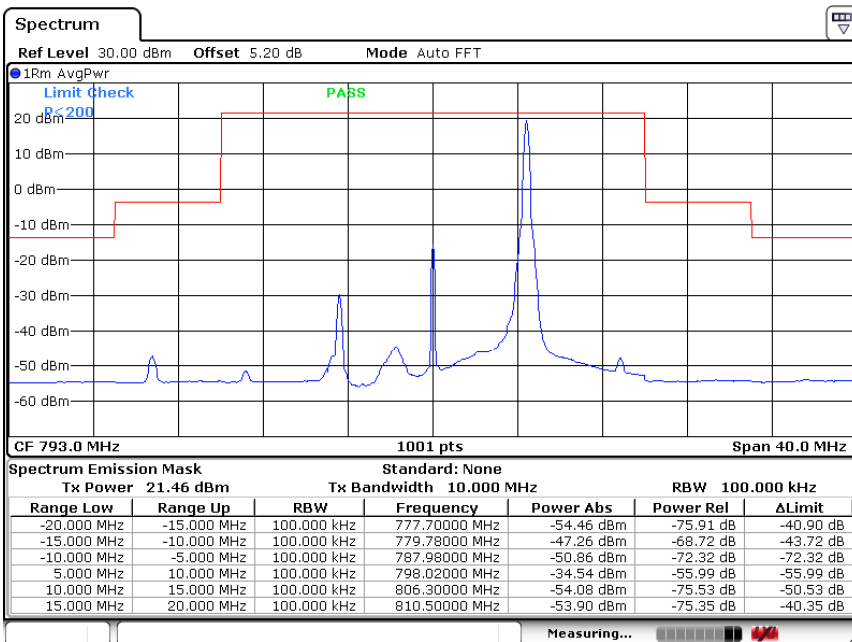
Band14-10MHz-16QAM-23330_27RB#0



Date: 18.NOV.2020 10:38:39



Band14-10MHz-16QAM-23330_Right-1RB#49



Date: 18.NOV.2020 10:39:32

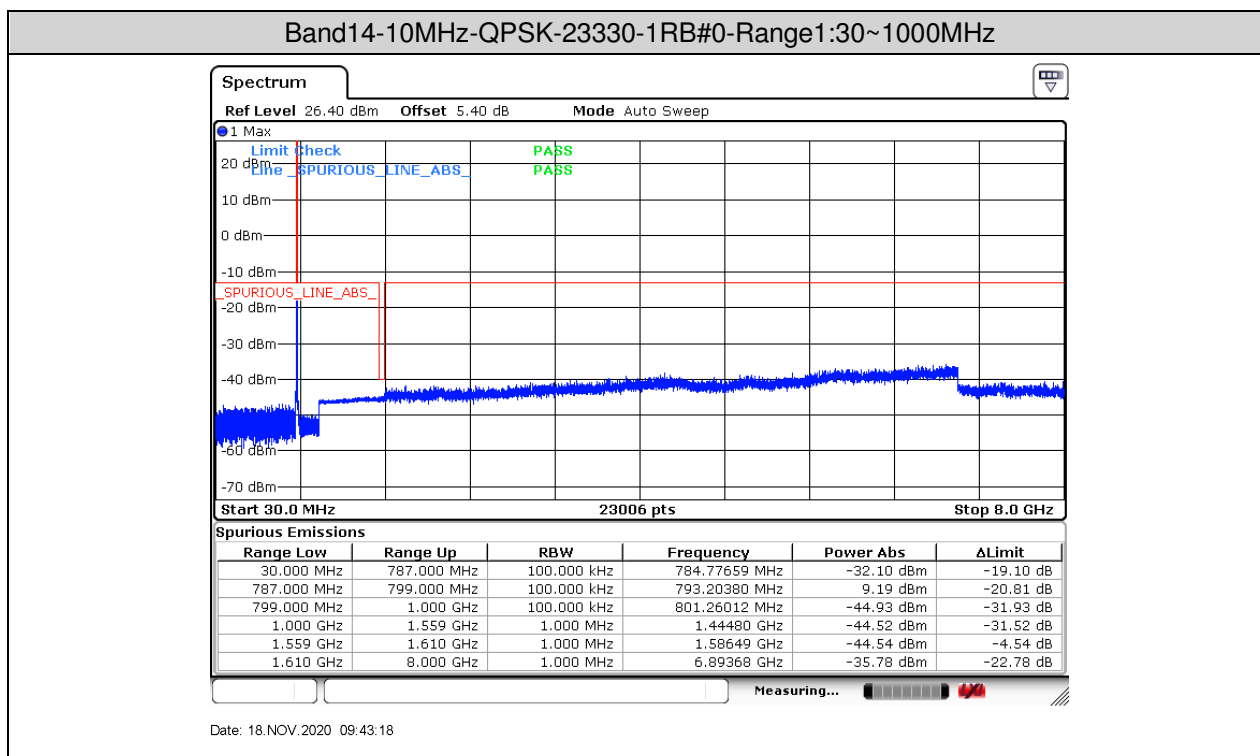


7 Spurious Emission at Antenna Terminal

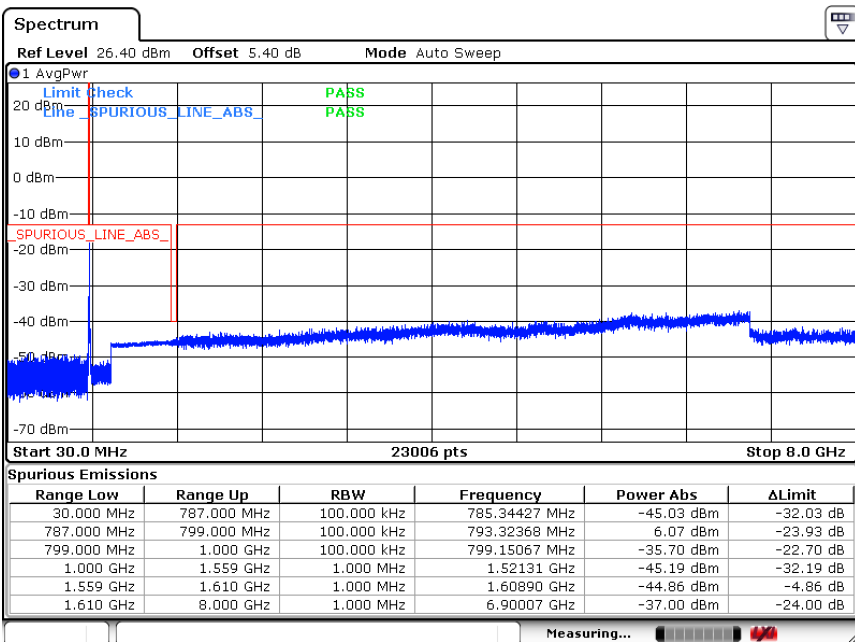
Remark1: For the averaged unwanted emissions measurements, the measurement points in each sweep is greater than twice the Span/RBW in order to ensure bin-to-bin spacing of $< RBW/2$ so that narrowband signals are not lost between frequency bins. As to the present test item, the "Measurement Points =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

7.1 Test Plots



Band14-10MHz-16QAM-23330-1RB#0-Range1:30~1000MHz



Date: 18.NOV.2020 10:38:03



8 Field Strength of Spurious Radiation

8.1 Test Mode =LTE/TM1 10MHz

8.1.1 Test Channel = MCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Margin (dB)	Polarization
30.2910	-62.27	-13.00	49.27	Vertical
116.6738	-60.72	-13.00	47.72	Vertical
399.6855	-67.53	-13.00	54.53	Vertical
1576.9154	-58.63	-40.00	18.63	Vertical
2365.8732	-39.68	-13.00	26.68	Vertical
9806.2322	-52.79	-13.00	39.79	Vertical
46.1028	-57.75	-13.00	44.75	Horizontal
120.8450	-67.79	-13.00	54.79	Horizontal
236.7658	-66.93	-13.00	53.93	Horizontal
1577.3155	-57.82	-40.00	17.82	Horizontal
2365.8732	-37.50	-13.00	24.50	Horizontal
9323.7730	-52.65	-13.00	39.65	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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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



9 Frequency Stability

9.1 Frequency Vs Voltage

Band	Bandwidth	Modulation	Channel	RB Configure	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
Band14	10MHz	QPSK	23330	50RB#0	VL	NT	-0.30	-0.000378	±2.5	PASS
Band14	10MHz	QPSK	23330	50RB#0	VN	NT	0.40	0.000504	±2.5	PASS
Band14	10MHz	QPSK	23330	50RB#0	VH	NT	1.10	0.001387	±2.5	PASS
Band14	10MHz	16QAM	23330	27RB#0	VL	NT	0.10	0.000126	±2.5	PASS
Band14	10MHz	16QAM	23330	27RB#0	VN	NT	-0.30	-0.000378	±2.5	PASS
Band14	10MHz	16QAM	23330	27RB#0	VH	NT	0.30	0.000378	±2.5	PASS

9.2 Frequency Vs Temperature

Band	Bandwidth	Modulation	Channel	RB Configure	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
Band14	10MHz	QPSK	23330	50RB#0	NV	-30	0.50	0.000631	±2.5	PASS
Band14	10MHz	QPSK	23330	50RB#0	NV	-20	-0.50	-0.000631	±2.5	PASS
Band14	10MHz	QPSK	23330	50RB#0	NV	0	-1.10	-0.001387	±2.5	PASS
Band14	10MHz	QPSK	23330	50RB#0	NV	10	0.20	0.000252	±2.5	PASS
Band14	10MHz	QPSK	23330	50RB#0	NV	20	-0.60	-0.000757	±2.5	PASS
Band14	10MHz	QPSK	23330	50RB#0	NV	30	-0.60	-0.000757	±2.5	PASS
Band14	10MHz	QPSK	23330	50RB#0	NV	40	-1.60	-0.002018	±2.5	PASS
Band14	10MHz	QPSK	23330	50RB#0	NV	50	-0.70	-0.000883	±2.5	PASS
Band14	10MHz	16QAM	23330	27RB#0	NV	-30	-0.10	-0.000126	±2.5	PASS
Band14	10MHz	16QAM	23330	27RB#0	NV	-20	-0.20	-0.000252	±2.5	PASS
Band14	10MHz	16QAM	23330	27RB#0	NV	0	-2.00	-0.002522	±2.5	PASS
Band14	10MHz	16QAM	23330	27RB#0	NV	10	1.30	0.001639	±2.5	PASS
Band14	10MHz	16QAM	23330	27RB#0	NV	20	0.90	0.001135	±2.5	PASS
Band14	10MHz	16QAM	23330	27RB#0	NV	30	0.00	0.000000	±2.5	PASS
Band14	10MHz	16QAM	23330	27RB#0	NV	40	-0.80	-0.001009	±2.5	PASS
Band14	10MHz	16QAM	23330	27RB#0	NV	50	-2.00	-0.002522	±2.5	PASS

The End



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SGS-CSTC Standards Technical Services Co., Ltd.
Shenzhen Branch (CSTC) Laboratory

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