



Appendix B

E-UTRA Band 14



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1 Effective (Isotropic) Radiated Power

1.1. Test Result

Band	Bandwidth	Modulation	Channel	RB Configuration	Conducted Power(dBm)	ERP (dBm)	Limit (dBm)	Verdict
Band14	5MHz	QPSK	23305	1RB#12	23.27	24.76	34.77	PASS
Band14	5MHz	QPSK	23305	1RB#24	23.34	24.83	34.77	PASS
Band14	5MHz	QPSK	23305	1RB#0	23.10	24.59	34.77	PASS
Band14	5MHz	QPSK	23305	12RB#0	22.30	23.79	34.77	PASS
Band14	5MHz	QPSK	23305	12RB#6	22.39	23.88	34.77	PASS
Band14	5MHz	QPSK	23305	12RB#13	22.32	23.81	34.77	PASS
Band14	5MHz	QPSK	23305	25RB#0	22.35	23.84	34.77	PASS
Band14	5MHz	QPSK	23330	1RB#0	23.13	24.62	34.77	PASS
Band14	5MHz	QPSK	23330	1RB#12	23.27	24.76	34.77	PASS
Band14	5MHz	QPSK	23330	1RB#24	23.04	24.53	34.77	PASS
Band14	5MHz	QPSK	23330	12RB#0	22.37	23.86	34.77	PASS
Band14	5MHz	QPSK	23330	12RB#6	22.37	23.86	34.77	PASS
Band14	5MHz	QPSK	23330	12RB#13	22.28	23.77	34.77	PASS
Band14	5MHz	QPSK	23330	25RB#0	22.29	23.78	34.77	PASS
Band14	5MHz	QPSK	23355	1RB#24	23.11	24.60	34.77	PASS
Band14	5MHz	QPSK	23355	1RB#0	23.25	24.74	34.77	PASS
Band14	5MHz	QPSK	23355	1RB#12	23.19	24.68	34.77	PASS
Band14	5MHz	QPSK	23355	12RB#6	22.46	23.95	34.77	PASS
Band14	5MHz	QPSK	23355	12RB#0	22.40	23.89	34.77	PASS
Band14	5MHz	QPSK	23355	12RB#13	22.31	23.80	34.77	PASS
Band14	5MHz	QPSK	23355	25RB#0	22.31	23.80	34.77	PASS
Band14	5MHz	16QAM	23305	1RB#12	22.26	23.75	34.77	PASS
Band14	5MHz	16QAM	23305	1RB#0	22.71	24.20	34.77	PASS
Band14	5MHz	16QAM	23305	1RB#24	22.22	23.71	34.77	PASS
Band14	5MHz	16QAM	23305	12RB#13	21.29	22.78	34.77	PASS
Band14	5MHz	16QAM	23305	12RB#6	21.40	22.89	34.77	PASS
Band14	5MHz	16QAM	23305	12RB#0	21.32	22.81	34.77	PASS



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Band14	5MHz	16QAM	23305	25RB#0	21.29	22.78	34.77	PASS
Band14	5MHz	16QAM	23330	1RB#0	22.68	24.17	34.77	PASS
Band14	5MHz	16QAM	23330	1RB#12	22.48	23.97	34.77	PASS
Band14	5MHz	16QAM	23330	1RB#24	22.32	23.81	34.77	PASS
Band14	5MHz	16QAM	23330	12RB#0	21.42	22.91	34.77	PASS
Band14	5MHz	16QAM	23330	12RB#6	21.41	22.90	34.77	PASS
Band14	5MHz	16QAM	23330	12RB#13	21.35	22.84	34.77	PASS
Band14	5MHz	16QAM	23330	25RB#0	21.30	22.79	34.77	PASS
Band14	5MHz	16QAM	23355	1RB#0	22.44	23.93	34.77	PASS
Band14	5MHz	16QAM	23355	1RB#12	22.48	23.97	34.77	PASS
Band14	5MHz	16QAM	23355	1RB#24	22.40	23.89	34.77	PASS
Band14	5MHz	16QAM	23355	12RB#13	21.35	22.84	34.77	PASS
Band14	5MHz	16QAM	23355	12RB#0	21.42	22.91	34.77	PASS
Band14	5MHz	16QAM	23355	12RB#6	21.29	22.78	34.77	PASS
Band14	5MHz	16QAM	23355	25RB#0	21.32	22.81	34.77	PASS
Band14	10MHz	QPSK	23330	1RB#49	23.15	24.64	34.77	PASS
Band14	10MHz	QPSK	23330	1RB#24	23.42	24.91	34.77	PASS
Band14	10MHz	QPSK	23330	1RB#0	23.30	24.79	34.77	PASS
Band14	10MHz	QPSK	23330	25RB#0	22.58	24.07	34.77	PASS
Band14	10MHz	QPSK	23330	25RB#12	22.33	23.82	34.77	PASS
Band14	10MHz	QPSK	23330	25RB#25	22.28	23.77	34.77	PASS
Band14	10MHz	QPSK	23330	50RB#0	22.41	23.90	34.77	PASS
Band14	10MHz	16QAM	23330	1RB#49	22.56	24.05	34.77	PASS
Band14	10MHz	16QAM	23330	1RB#0	22.74	24.23	34.77	PASS
Band14	10MHz	16QAM	23330	1RB#24	22.35	23.84	34.77	PASS
Band14	10MHz	16QAM	23330	25RB#0	21.57	23.06	34.77	PASS
Band14	10MHz	16QAM	23330	25RB#12	21.37	22.86	34.77	PASS
Band14	10MHz	16QAM	23330	25RB#25	21.28	22.77	34.77	PASS
Band14	10MHz	16QAM	23330	50RB#0	21.43	22.92	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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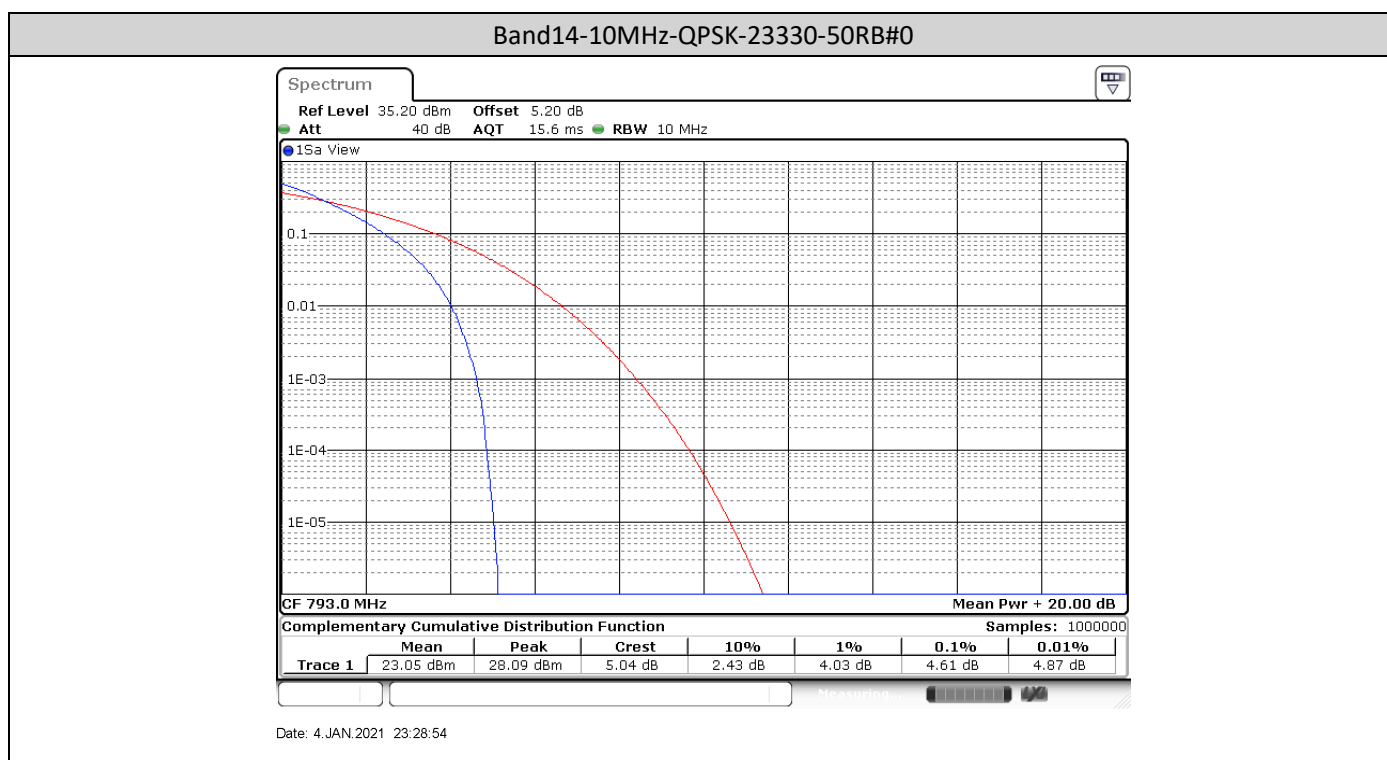


2. Peak-to-Average Ratio (CCDF)

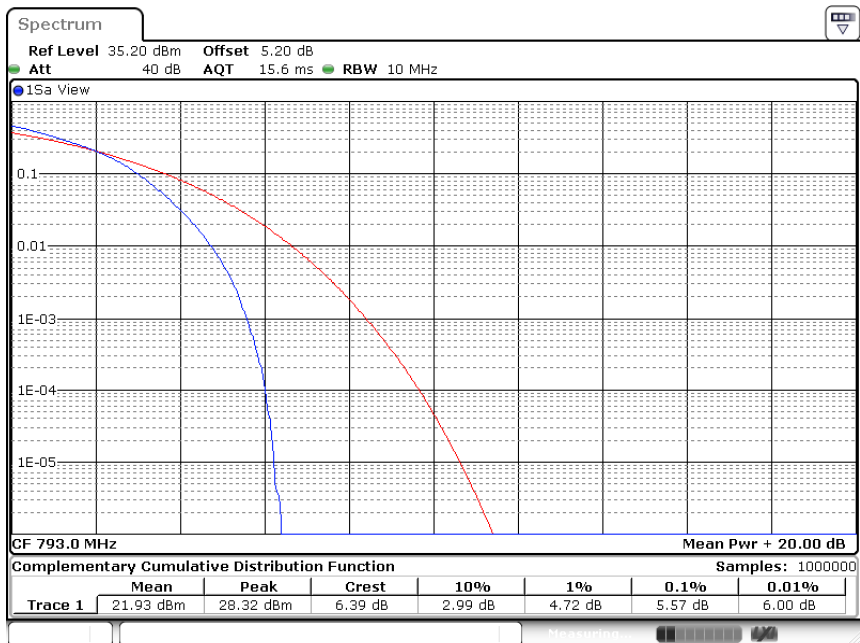
2.1. Test Result

Band	Bandwidth	Modulation	Channel	RB Configuration	Result(dB)	Limit(dB)	Verdict
Band14	10MHz	QPSK	23330	50RB#0	4.61	13	PASS
Band14	10MHz	16QAM	23330	50RB#0	5.57	13	PASS

2.2. Test Plots



Band14-10MHz-16QAM-23330-50RB#0



Date: 4.JAN.2021 23:29:05



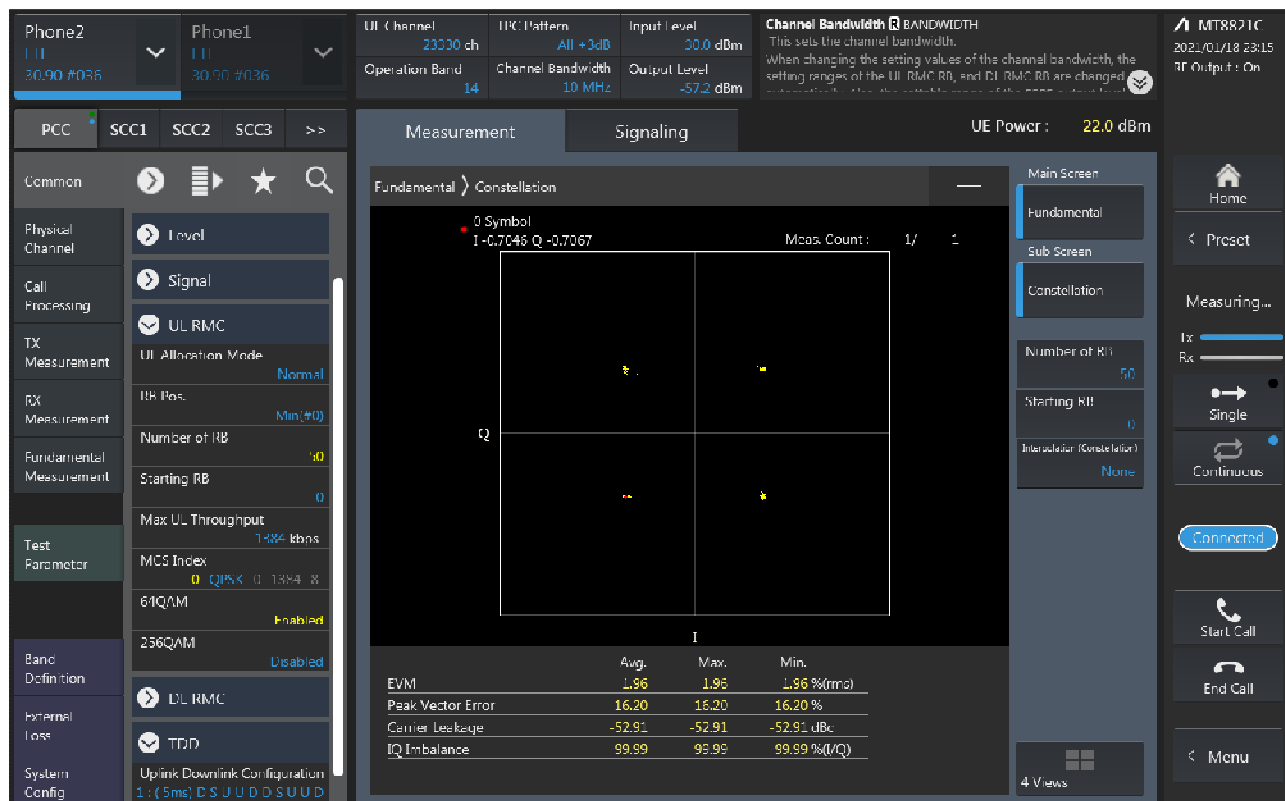
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3. Modulation Characteristics

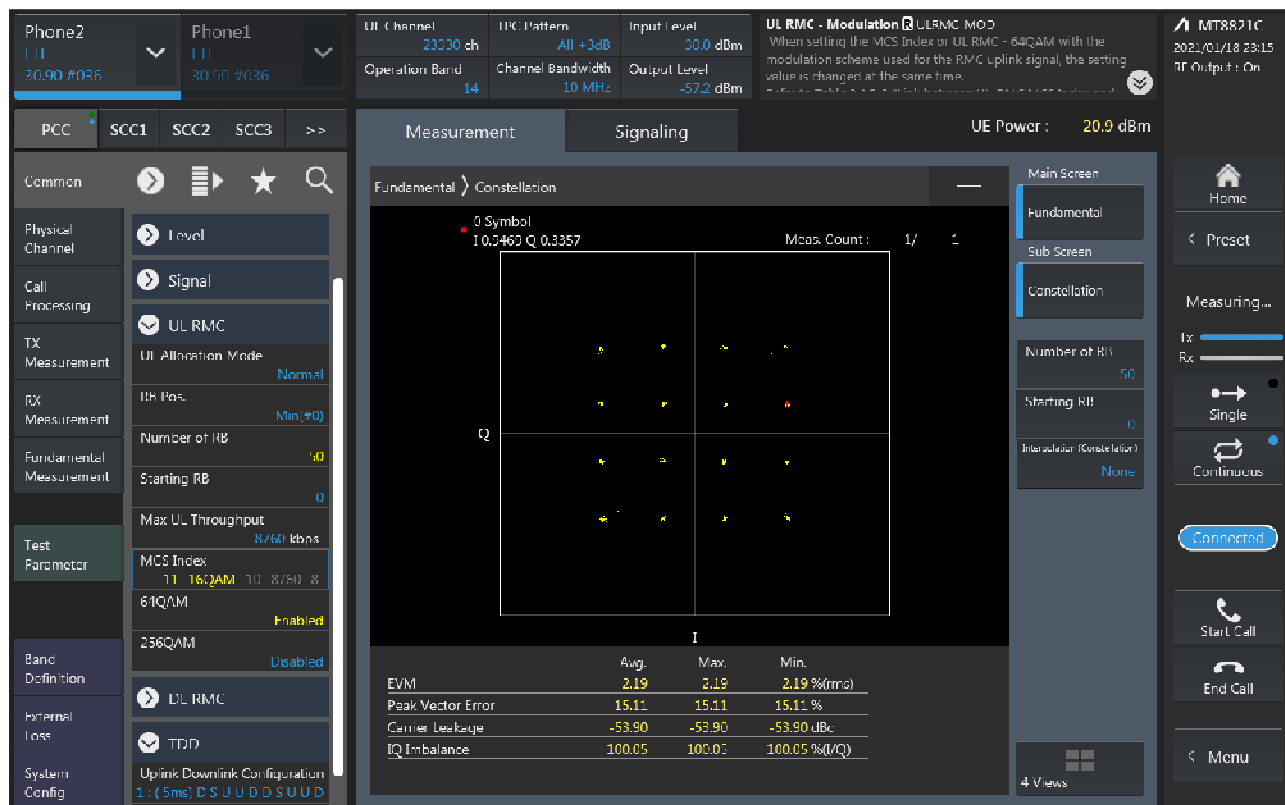
3.1. Test Mode = LTE /TM1 10MHz

3.1.1. Test Channel = MCH



3.2. Test Mode = LTE /TM2 10MHz

3.2.1. Test Channel = MCH



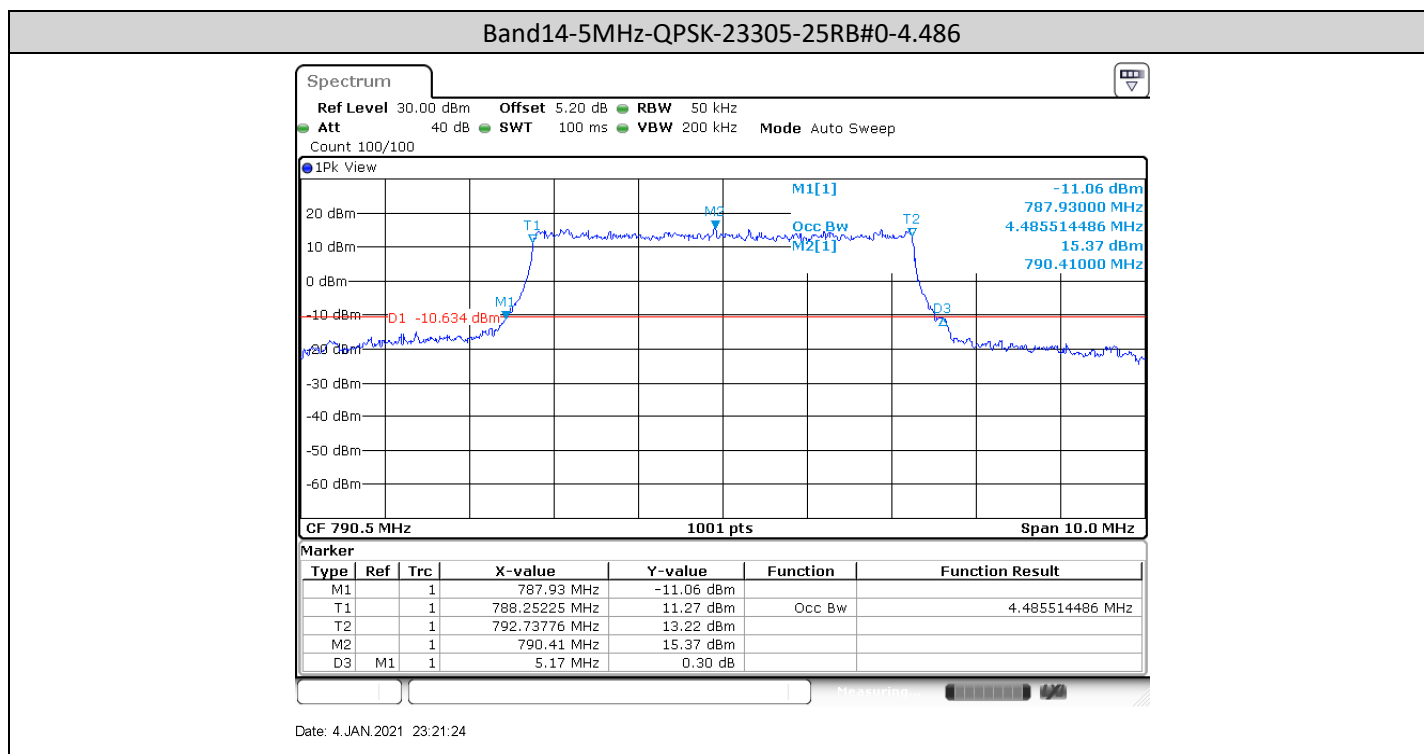


4. 26dB Bandwidth and Occupied Bandwidth

4.1. Test Result

Band	Bandwidth	Modulation	Channel	RB Configuration	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
Band14	5MHz	QPSK	23305	25RB#0	4.486	5.170	PASS
Band14	5MHz	QPSK	23330	25RB#0	4.486	5.060	PASS
Band14	5MHz	QPSK	23355	25RB#0	4.476	5.030	PASS
Band14	5MHz	16QAM	23305	25RB#0	4.505	5.140	PASS
Band14	5MHz	16QAM	23330	25RB#0	4.496	5.090	PASS
Band14	5MHz	16QAM	23355	25RB#0	4.496	5.060	PASS
Band14	10MHz	QPSK	23330	50RB#0	8.951	9.920	PASS
Band14	10MHz	16QAM	23330	50RB#0	8.951	9.940	PASS

4.2. Test Plots

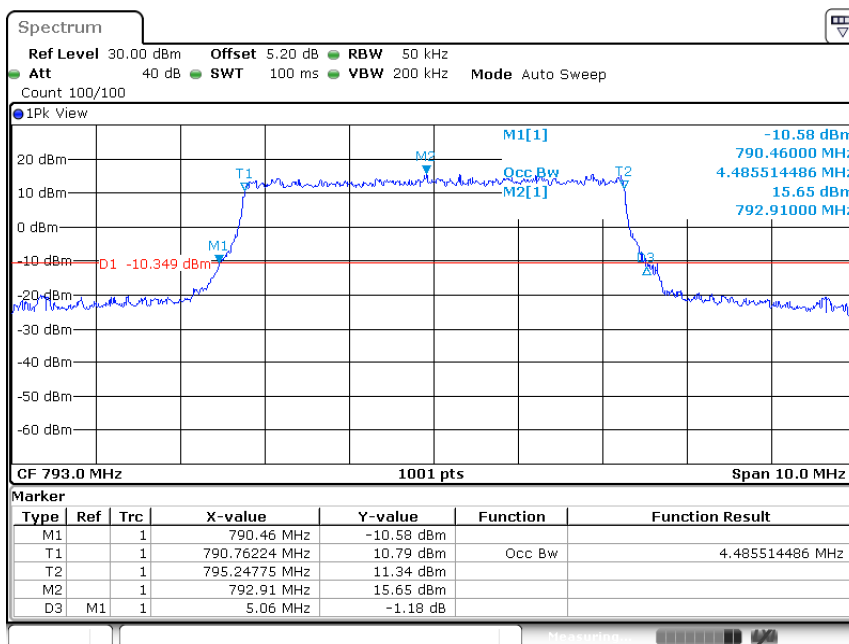


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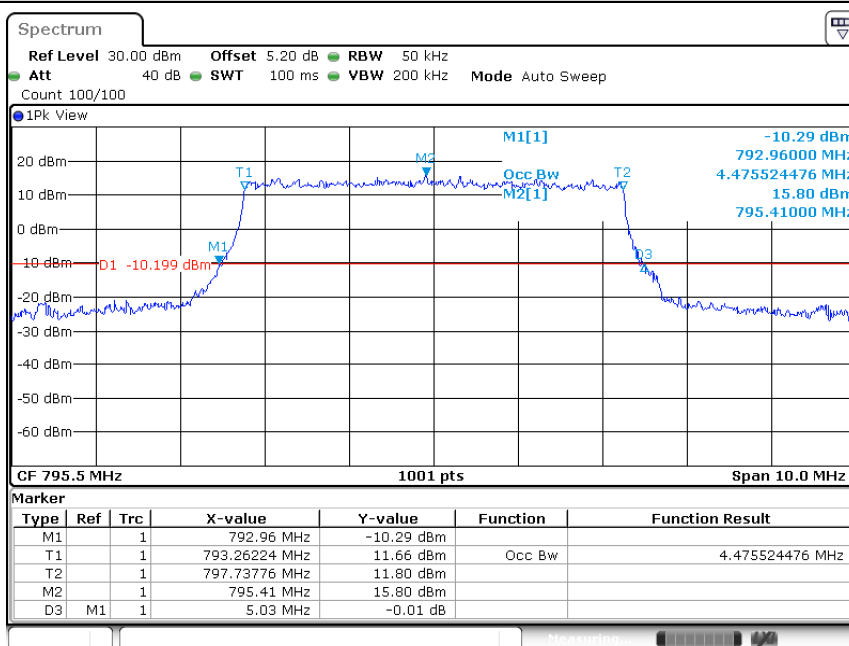


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Date: 4.JAN.2021 23:22:04

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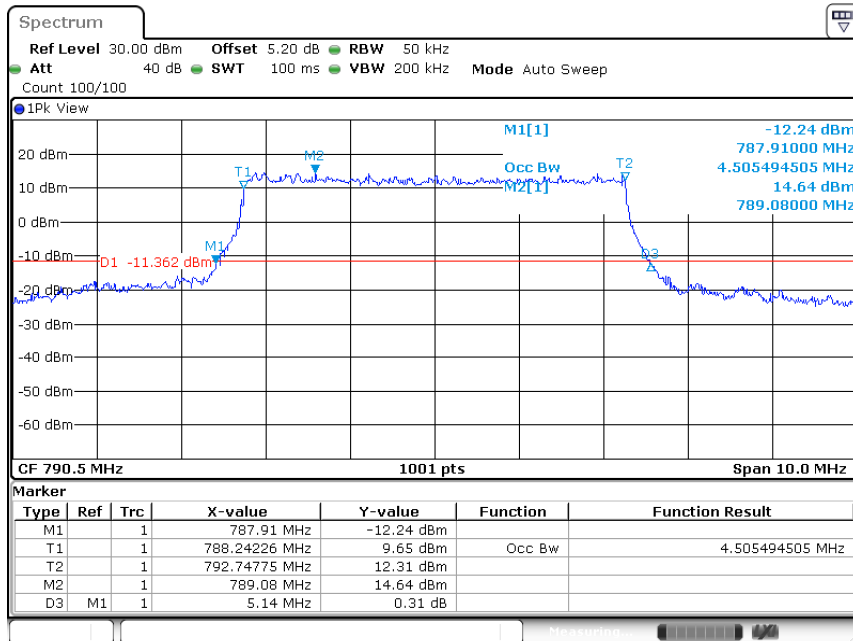


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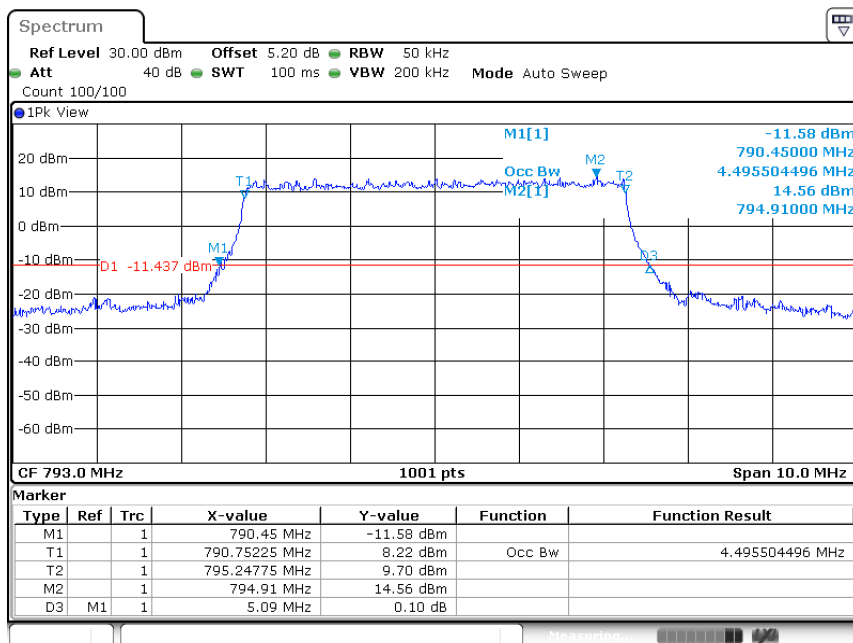


Band14-5MHz-16QAM-23305-25RB#0-4.505



Date: 4.JAN.2021 23:21:44

Band14-5MHz-16QAM-23330-25RB#0-4.496



Date: 4.JAN.2021 23:22:24



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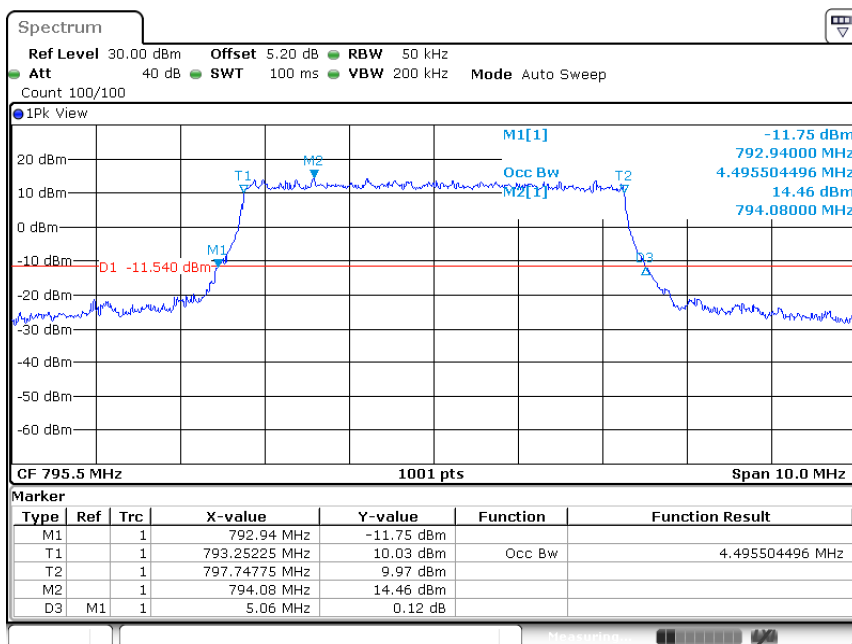
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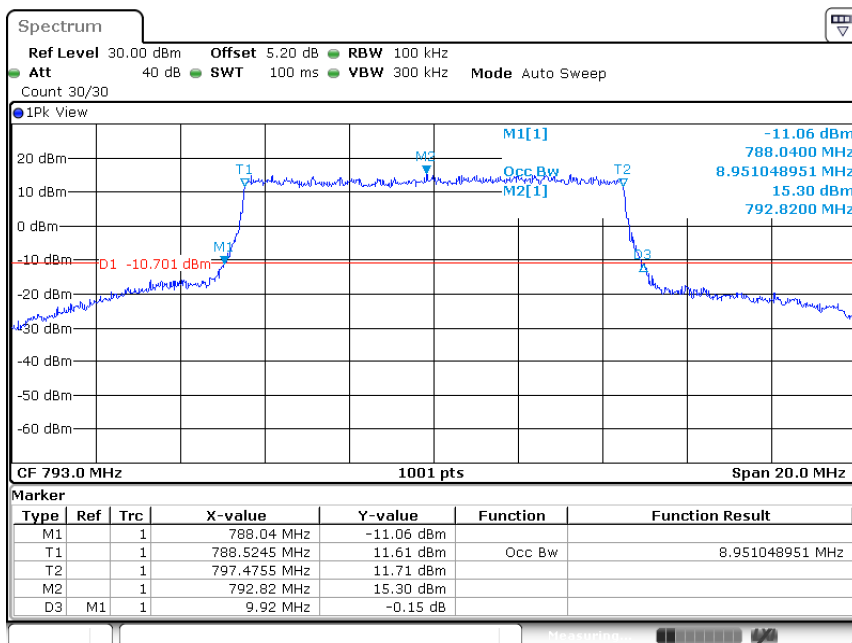
sgs.china@sgs.com

Band14-5MHz-16QAM-23355-25RB#0-4.496



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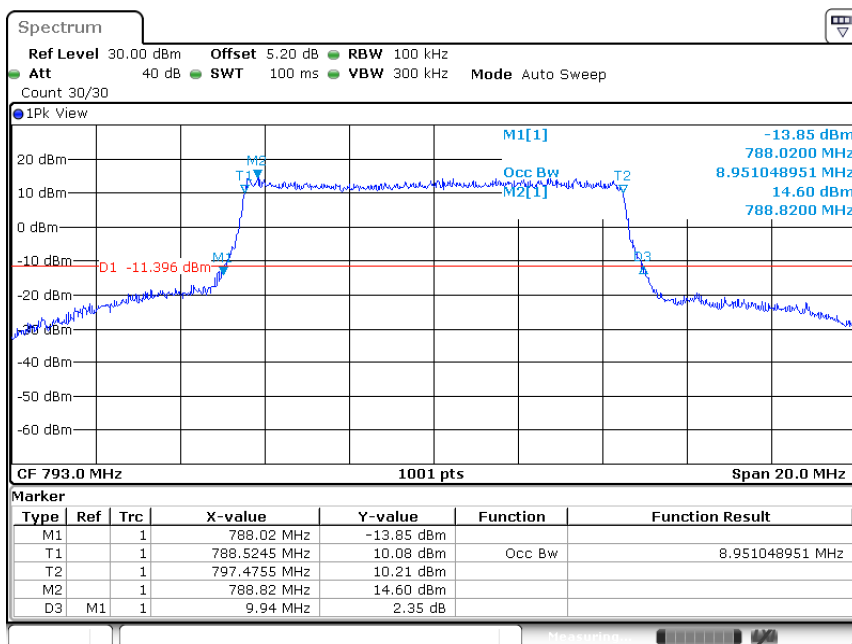
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Date: 4.JAN.2021 23:23:22



Band14-10MHz-16QAM-23330-50RB#0-8.951



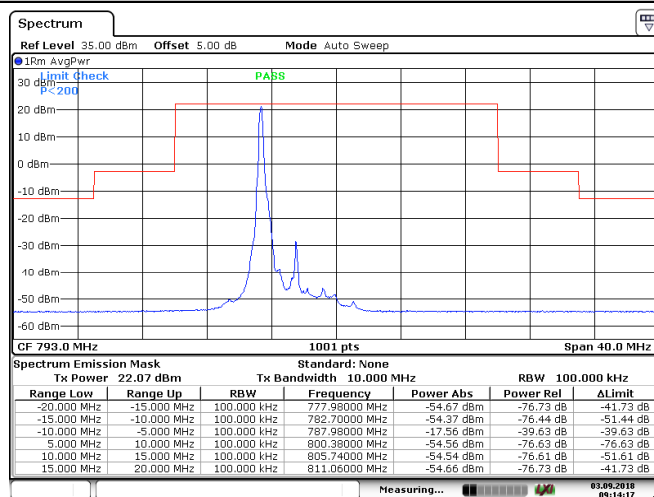
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5. Emission Mask

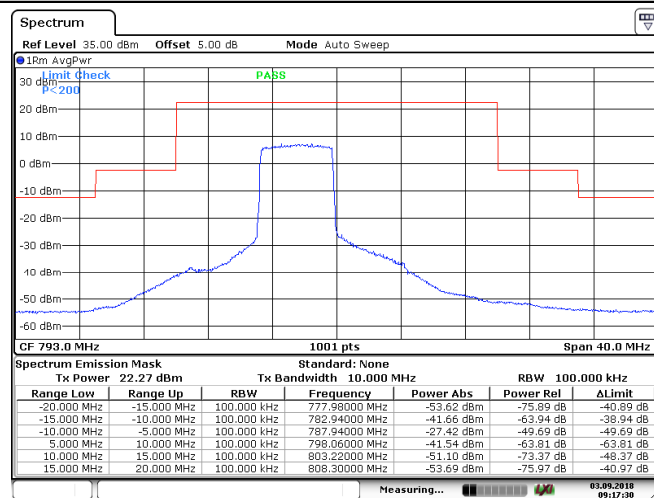
5.1. Test Plots

BAND 14_5MHz_QPSK_23305_1RB#0



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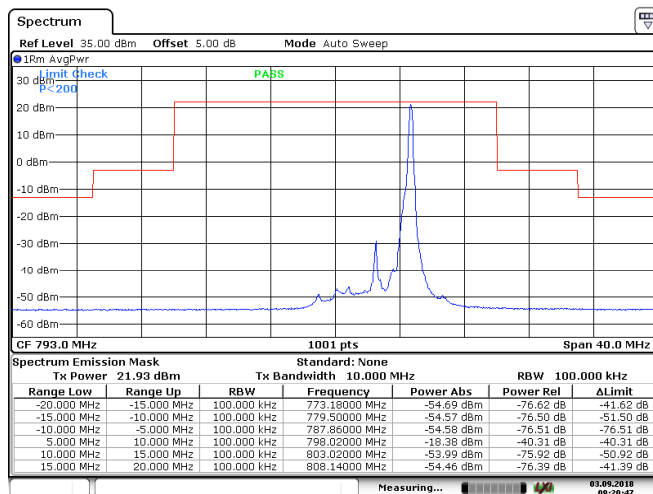
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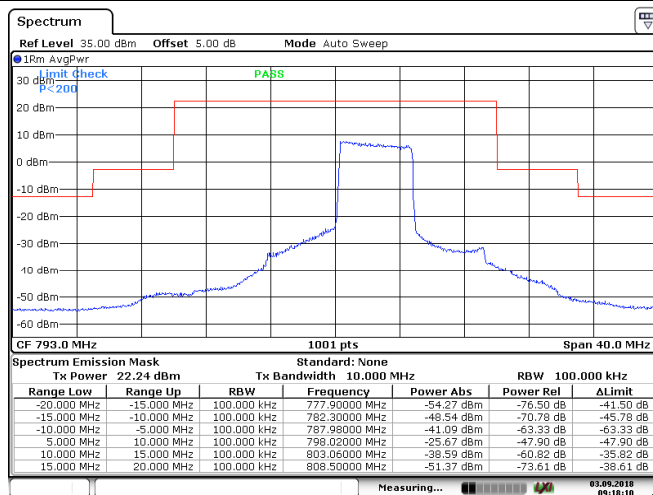


BAND 14_5MHz_QPSK_23355_1RB#24



Date: 3 SEP 2018 09:20:47

BAND 14_5MHz_QPSK_23355_25RB#0



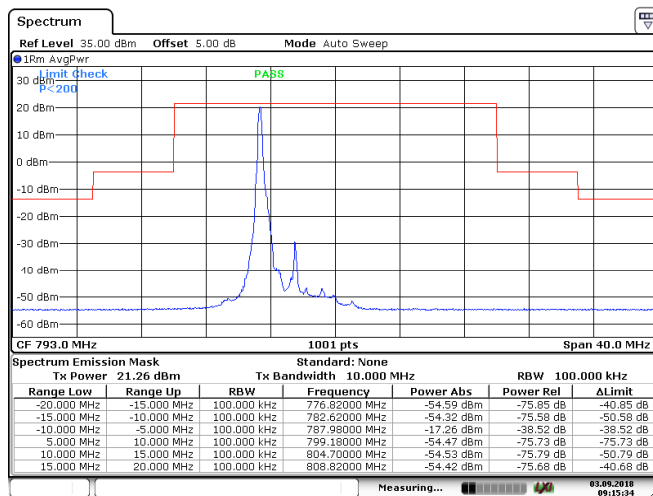
Date: 3 SEP 2018 09:18:10



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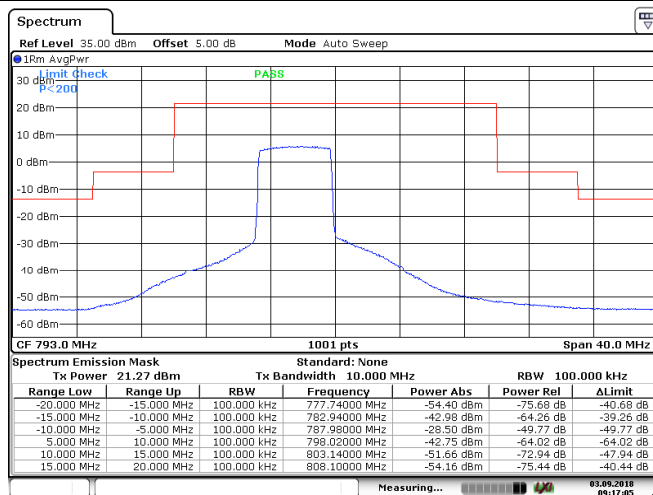
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BAND 14_5MHz_16QAM_23305_1RB#0



Date: 3 SEP 2018 09:15:34

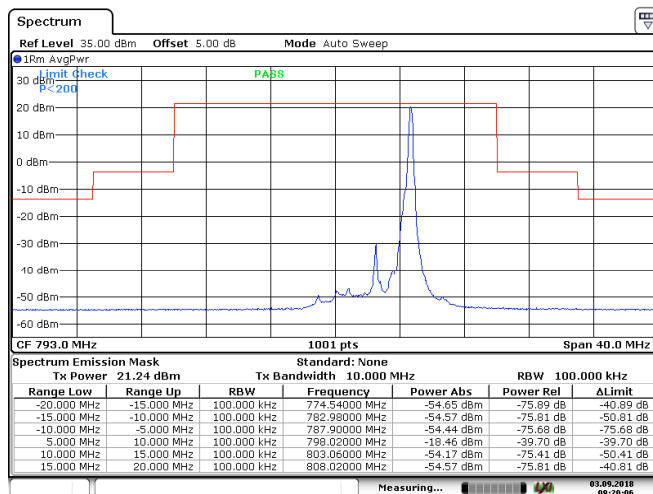
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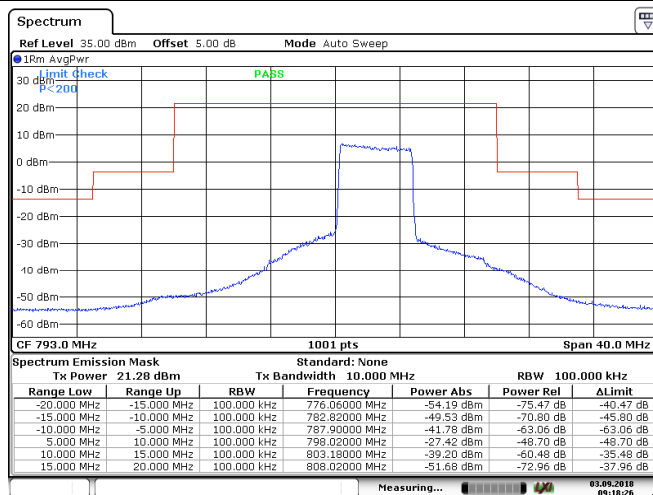


BAND 14_5MHz_16QAM_23355_1RB#24



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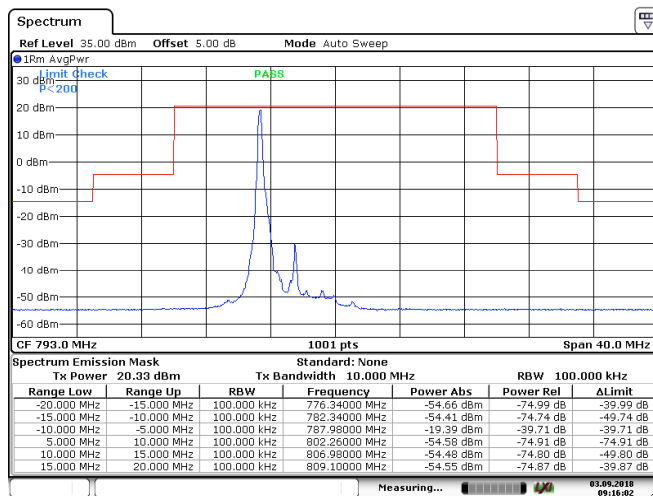
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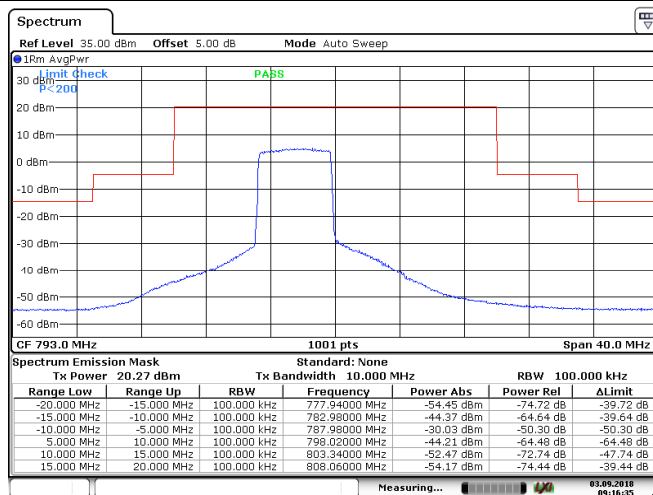


BAND 14_5MHz_64QAM_23305_1RB#0



Date: 3 SEP 2018 09:16:03

BAND 14_5MHz_64QAM_23305_25RB#0



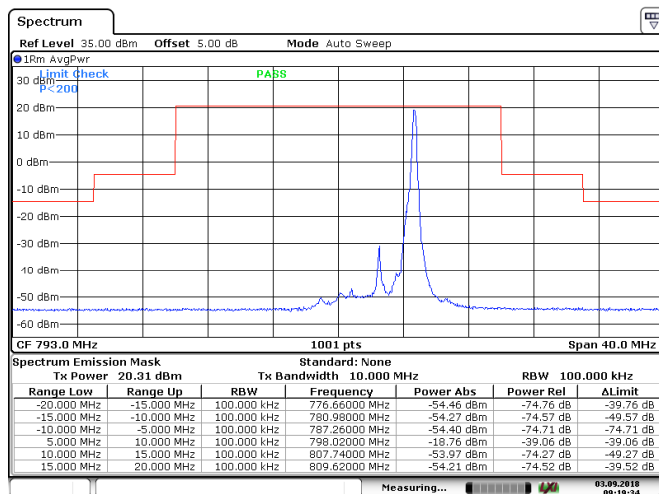
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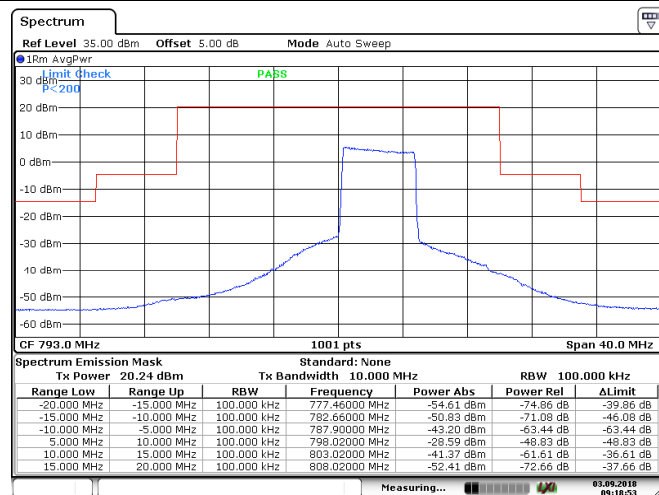
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BAND 14_5MHz_64QAM_23355_1RB#24



Date: 3 SEP 2018 09:19:35

BAND 14_5MHz_64QAM_23355_25RB#0



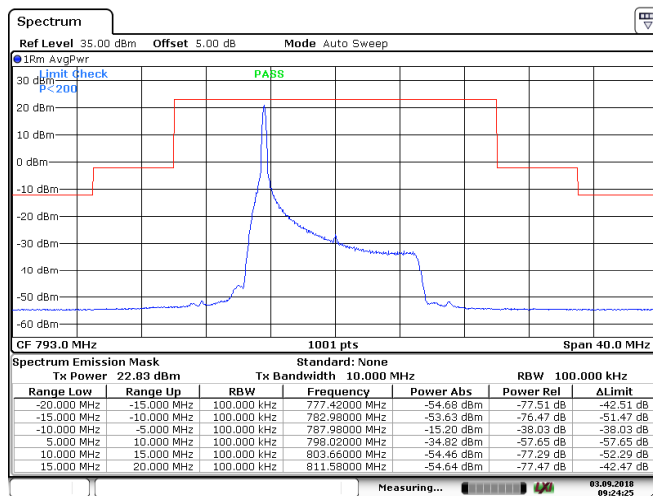
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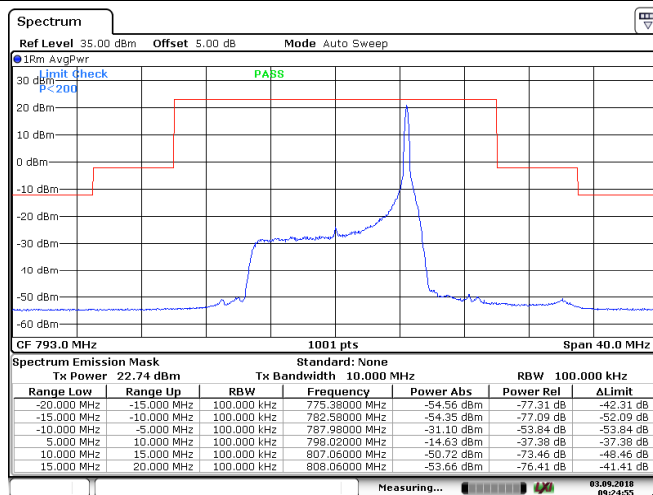
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BAND 14_10MHz_QPSK_23330_1RB#0



Date: 3 SEP 2018 09:24:25

BAND 14_10MHz_QPSK_23330_1RB#49



Date: 3 SEP 2018 09:24:56

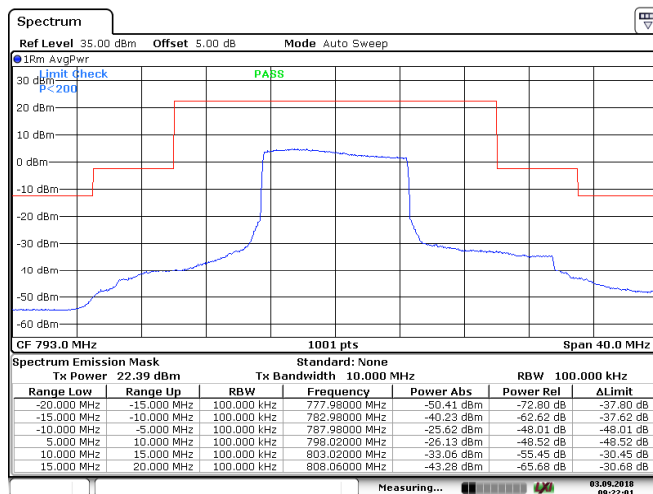


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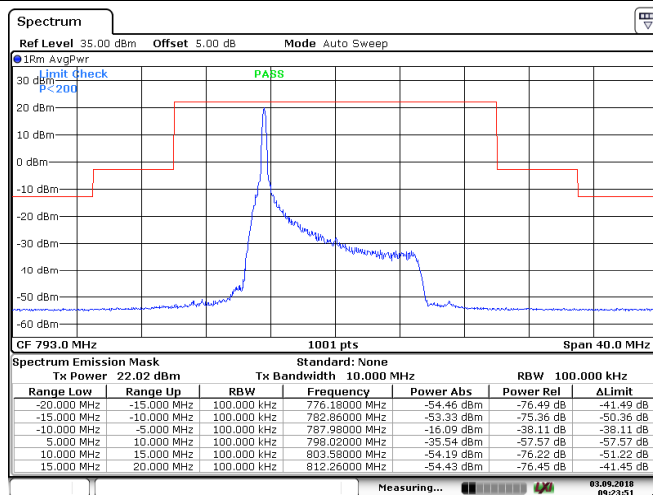
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BAND 14_10MHz_QPSK_23330_50RB#0



Date: 3 SEP 2018 09:22:01

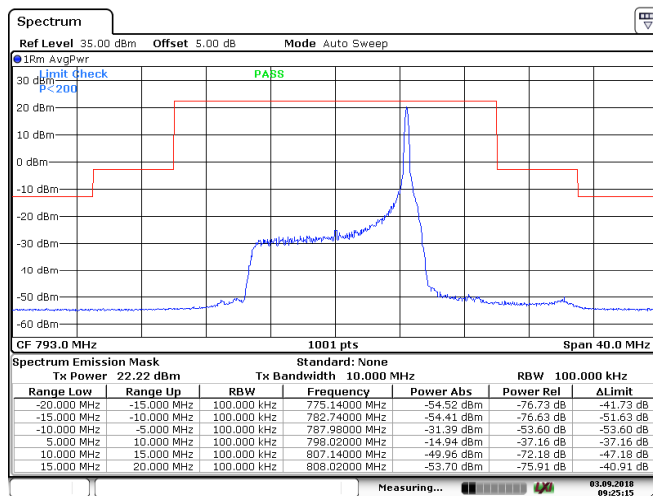
BAND 14_10MHz_16QAM_23330_1RB#0



Date: 3 SEP 2018 09:23:51

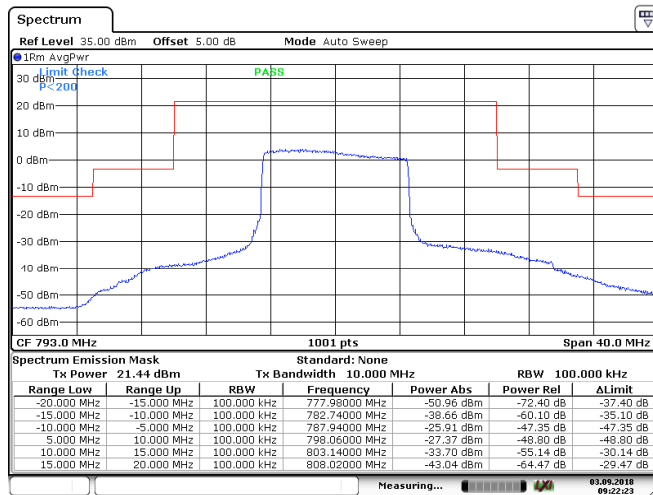


BAND 14_10MHz_16QAM_23330_1RB#49



Date: 3 SEP 2018 09:25:15

BAND 14_10MHz_16QAM_23330_50RB#0



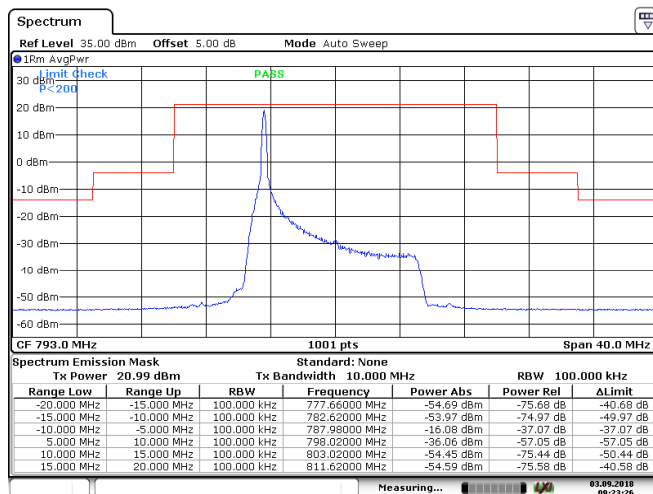
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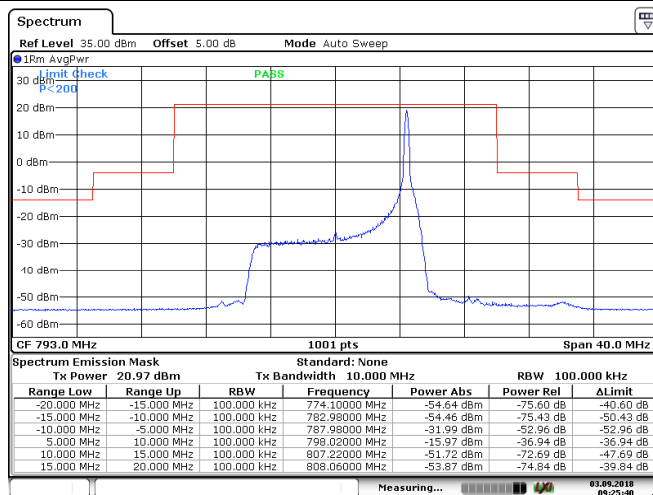
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BAND 14_10MHz_64QAM_23330_1RB#0



Date: 3 SEP 2018 09:23:27

BAND 14_10MHz_64QAM_23330_1RB#49



Date: 3 SEP 2018 09:25:40

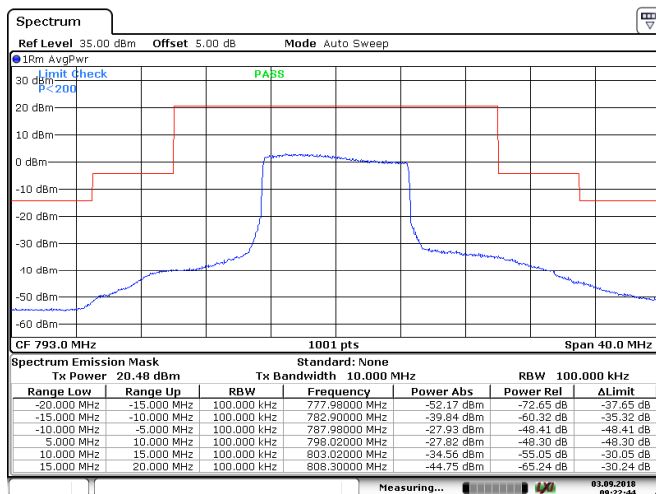


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BAND 14_10MHz_64QAM_23330_50RB#0



Date: 3.SEP.2018 09:22:44



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6. Band Edge Compliance

6.1. Test Result

Band	Bandwidth	Modulation	Channel	RB Configuration	Result(dBm)	Verdict
Band14	5MHz	QPSK	23305	1RB#0	-17.30	PASS
Band14	5MHz	QPSK	23305	25RB#0	-23.96	PASS
Band14	5MHz	QPSK	23355	1RB#24	-18.20	PASS
Band14	5MHz	QPSK	23355	25RB#0	-27.99	PASS
Band14	5MHz	16QAM	23305	1RB#0	-18.42	PASS
Band14	5MHz	16QAM	23305	25RB#0	-25.66	PASS
Band14	5MHz	16QAM	23355	1RB#24	-18.18	PASS
Band14	5MHz	16QAM	23355	25RB#0	-29.11	PASS
Band14	10MHz	QPSK	23330_Left	1RB#0	-14.42	PASS
Band14	10MHz	QPSK	23330_Right	1RB#49	-15.32	PASS
Band14	10MHz	QPSK	23330_Right	50RB#0	-26.46	PASS
Band14	10MHz	16QAM	23330_Left	1RB#0	-14.63	PASS
Band14	10MHz	16QAM	23330_Right	1RB#49	-16.49	PASS
Band14	10MHz	16QAM	23330_Right	50RB#0	-28.49	PASS



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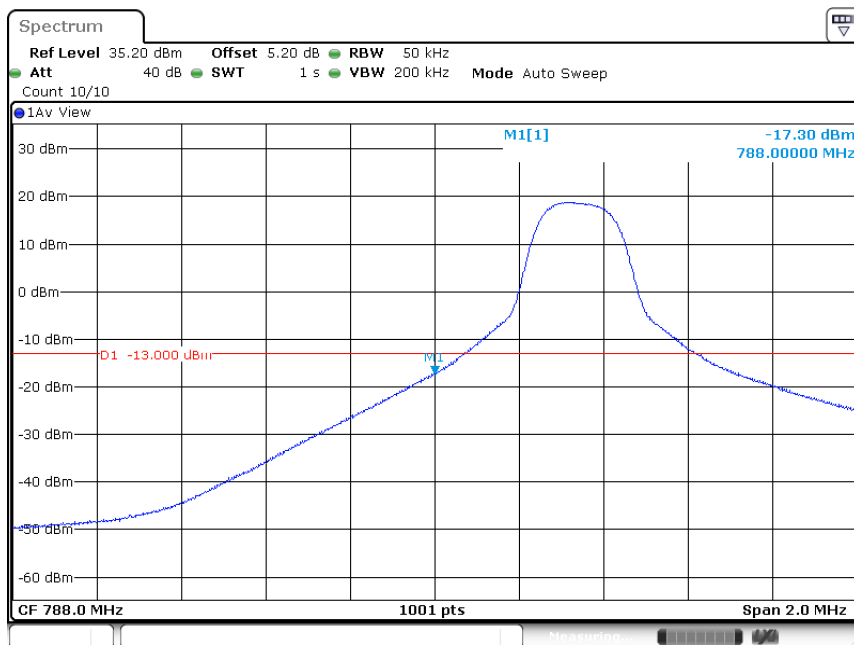
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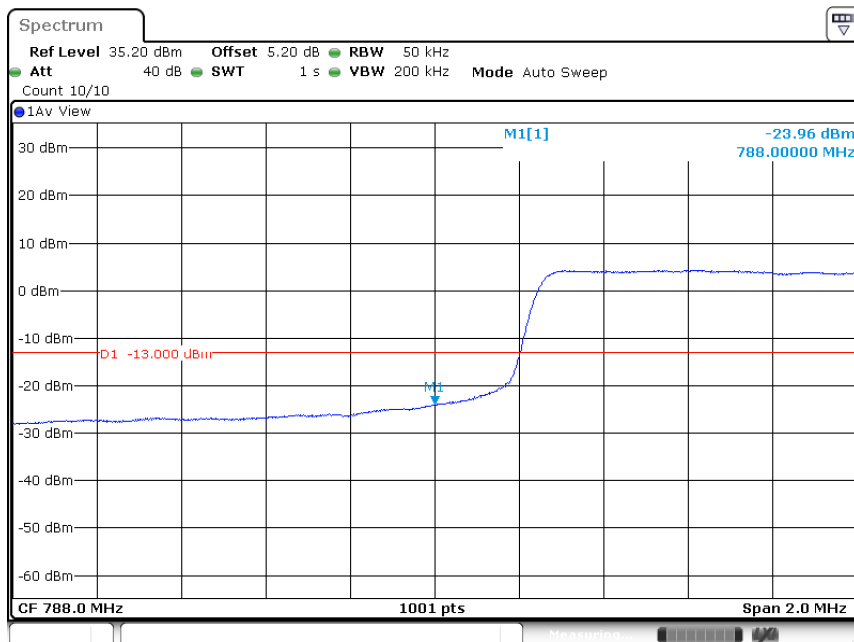
6.2. Test Plots

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



Date: 5.JAN.2021 09:07:28

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



Date: 5.JAN.2021 09:08:09

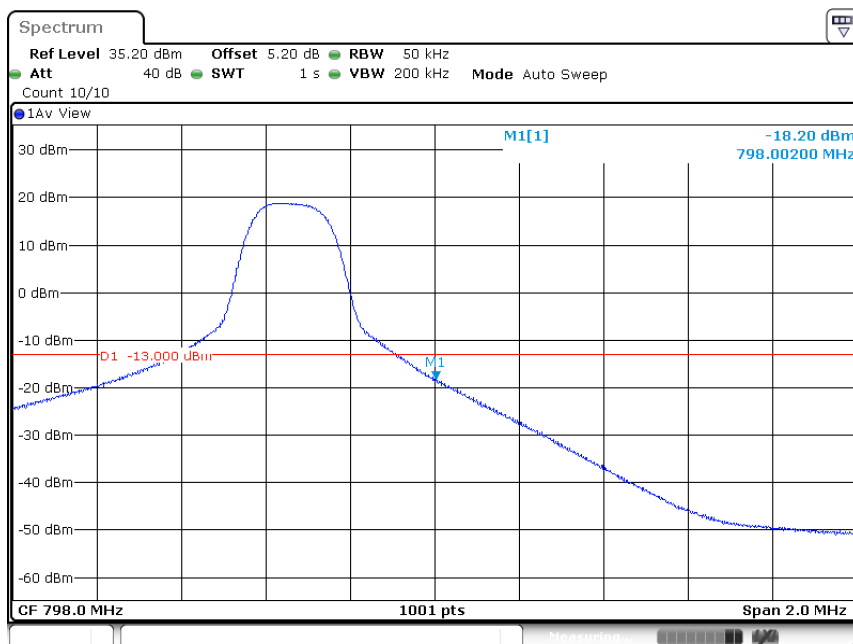


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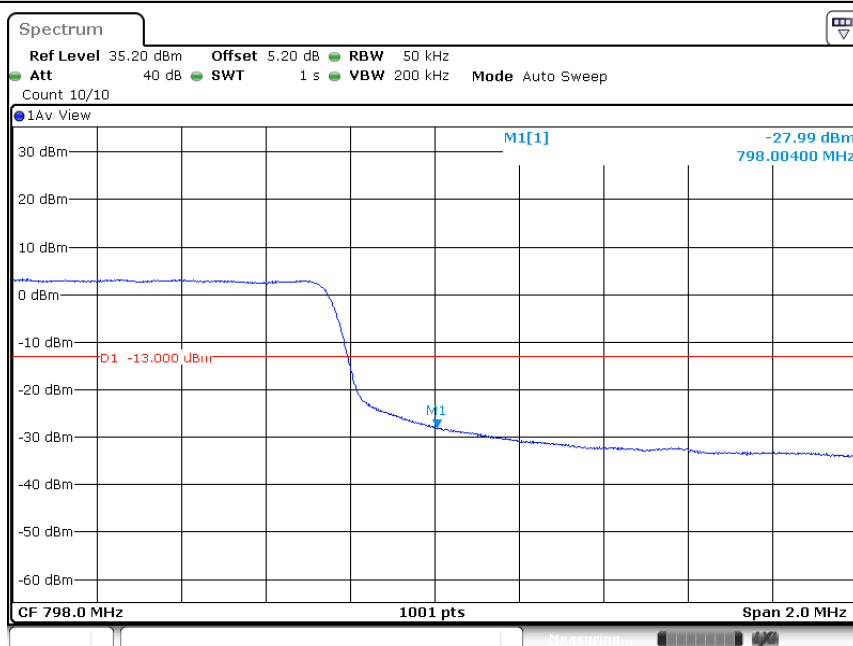
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Band14-5MHz-QPSK-23355-1RB#24



Date: 5 JAN 2021 09:09:06

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



Date: 5 JAN 2021 09:09:47



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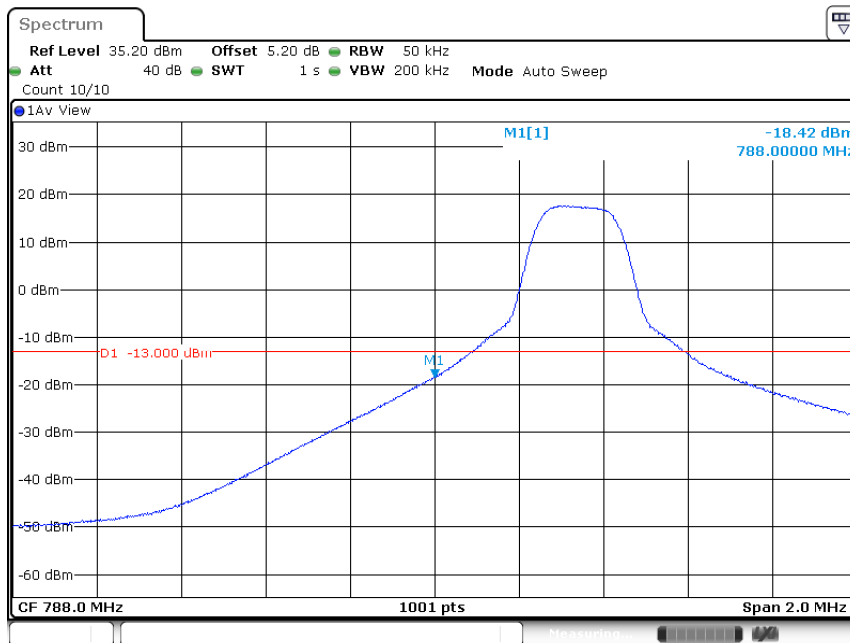
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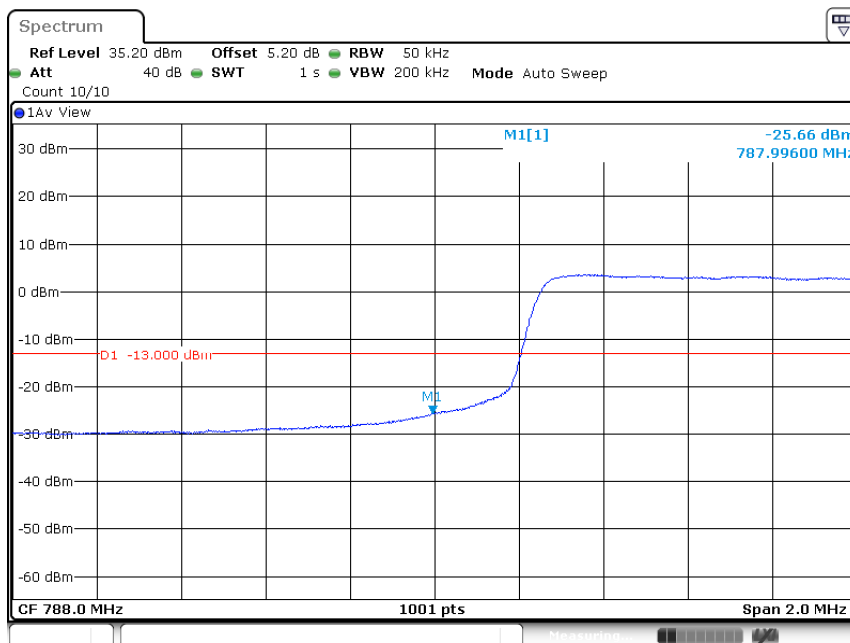


Band14-5MHz-16QAM-23305-1RB#0



Date: 5.JAN.2021 09:07:49

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



Date: 5.JAN.2021 09:08:30



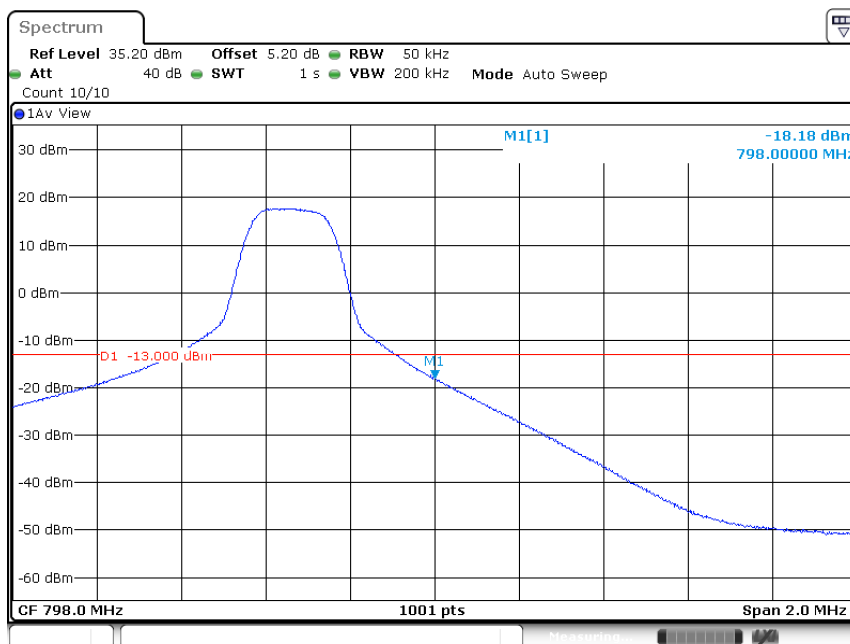
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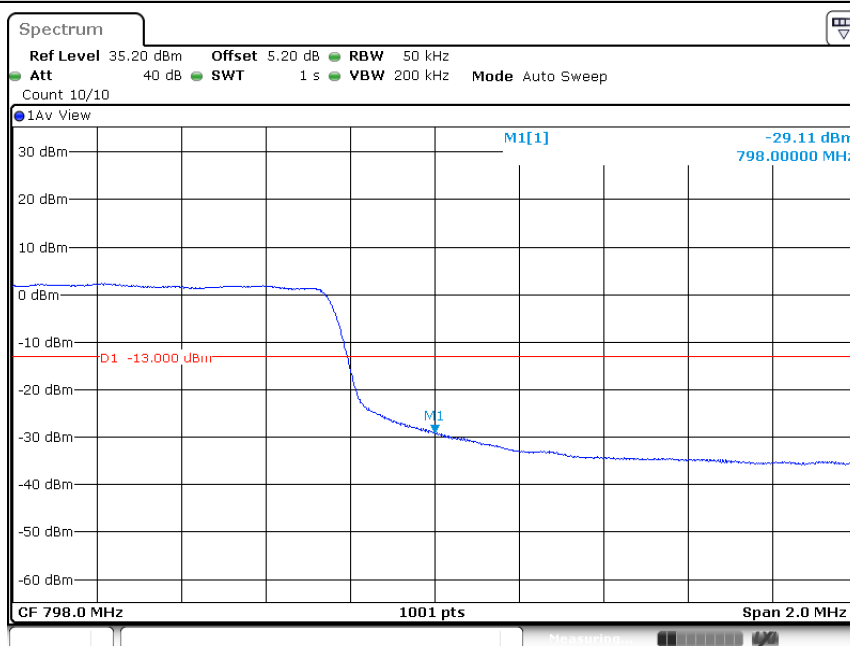


Band14-5MHz-16QAM-23355-1RB#24



Date: 5.JAN.2021 09:09:27

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



Date: 5.JAN.2021 09:10:08



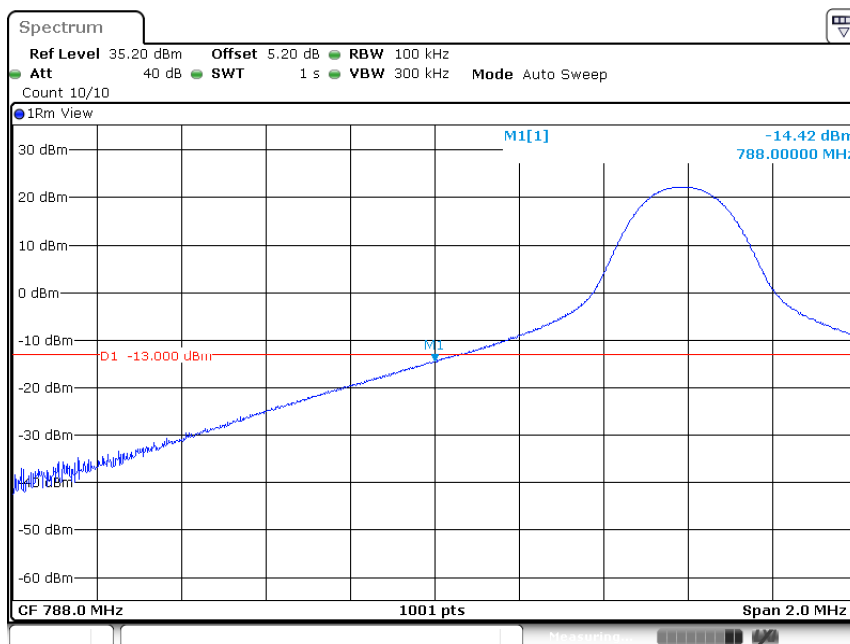
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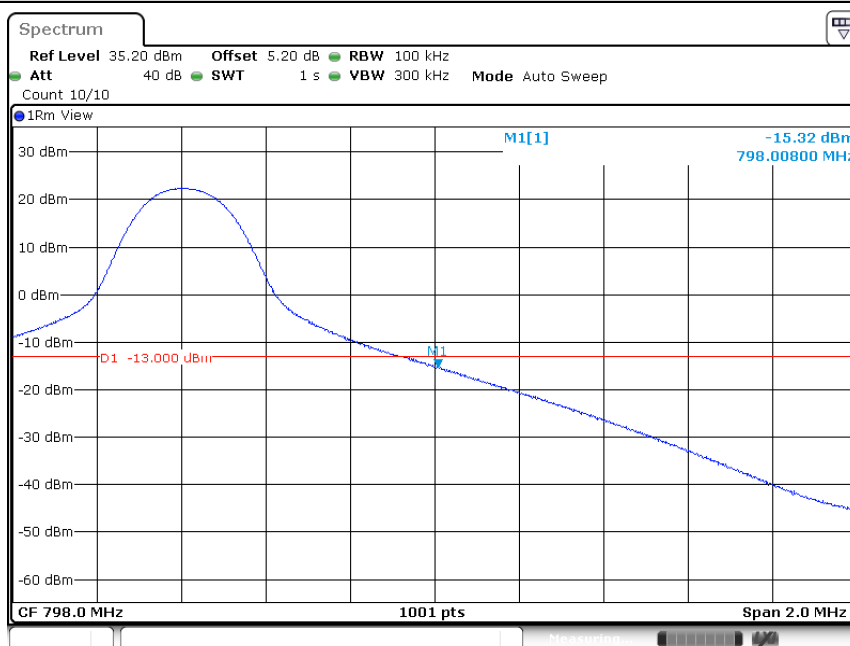


Band14-10MHz-QPSK-23330_Left-1RB#0



Date: 4.JAN.2021 23:26:52

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

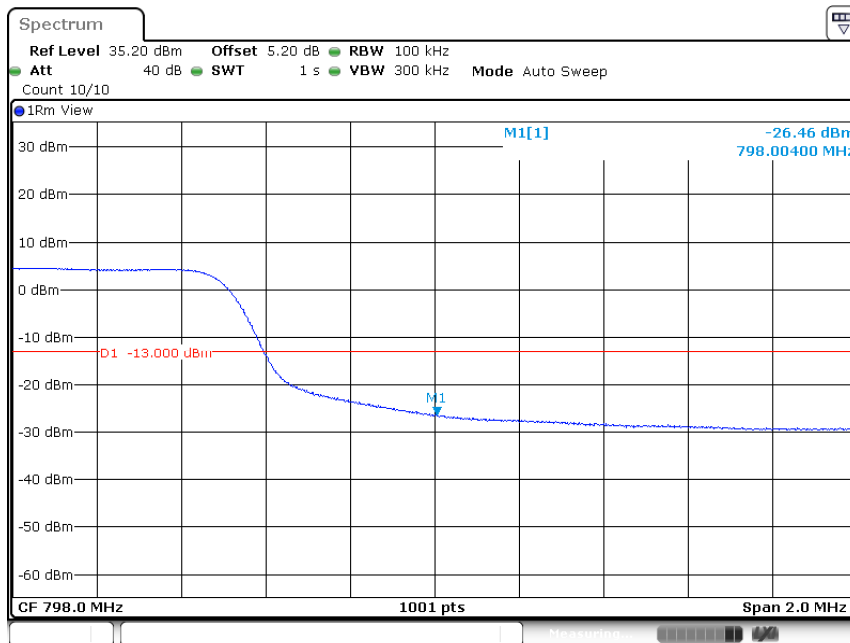


Date: 4.JAN.2021 23:27:38



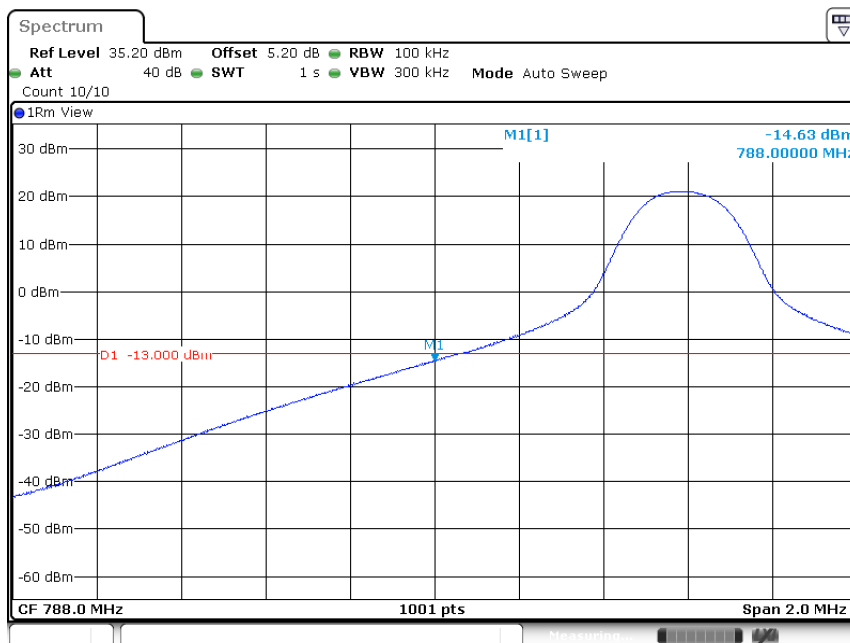


Band14-10MHz-QPSK-23330_Right-50RB#0



Date: 4.JAN.2021 23:28:19

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



Date: 4.JAN.2021 23:27:13



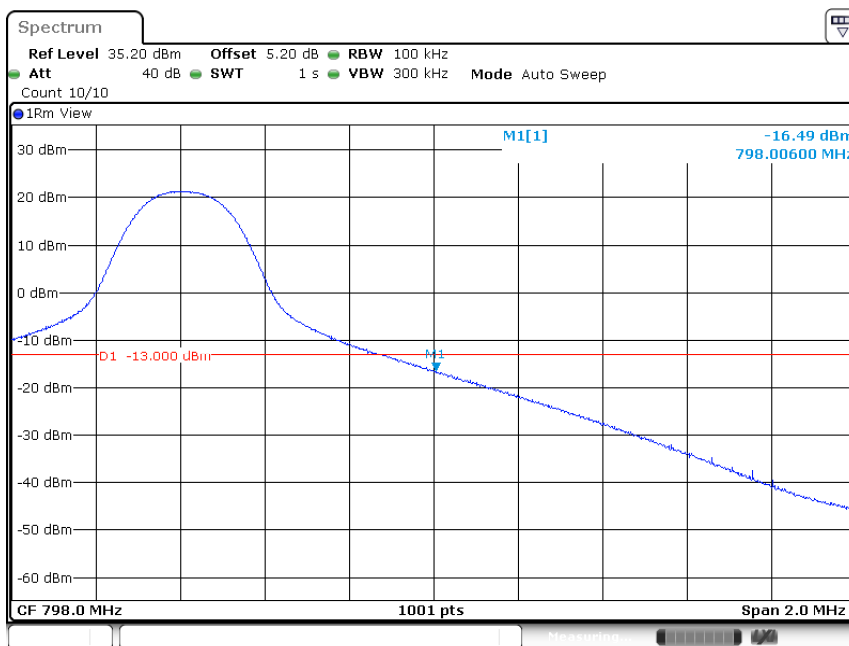
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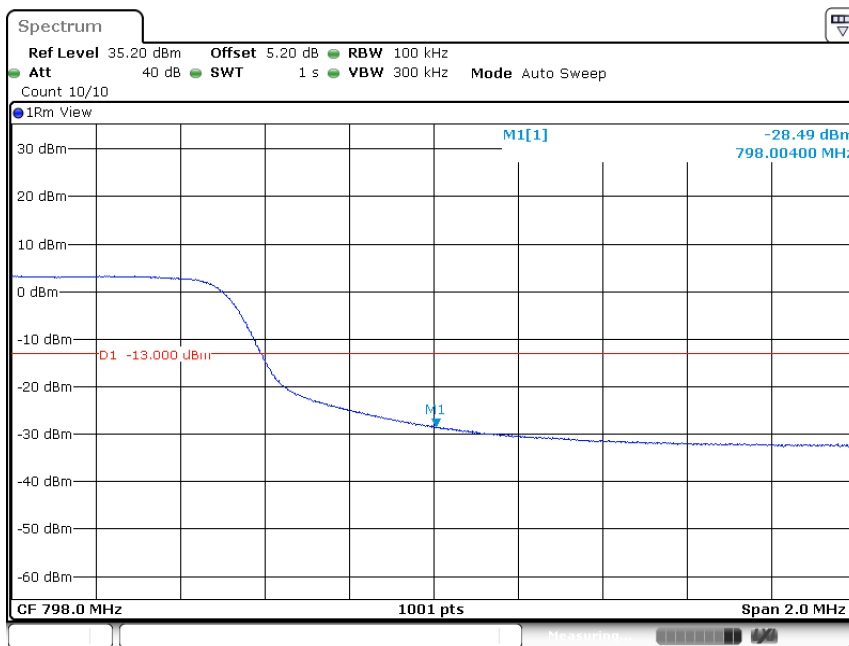


Band14-10MHz-16QAM-23330_Right-1RB#49



Date: 4.JAN.2021 23:27:58

Band14-10MHz-16QAM-23330_Right-50RB#0



Date: 4.JAN.2021 23:28:39



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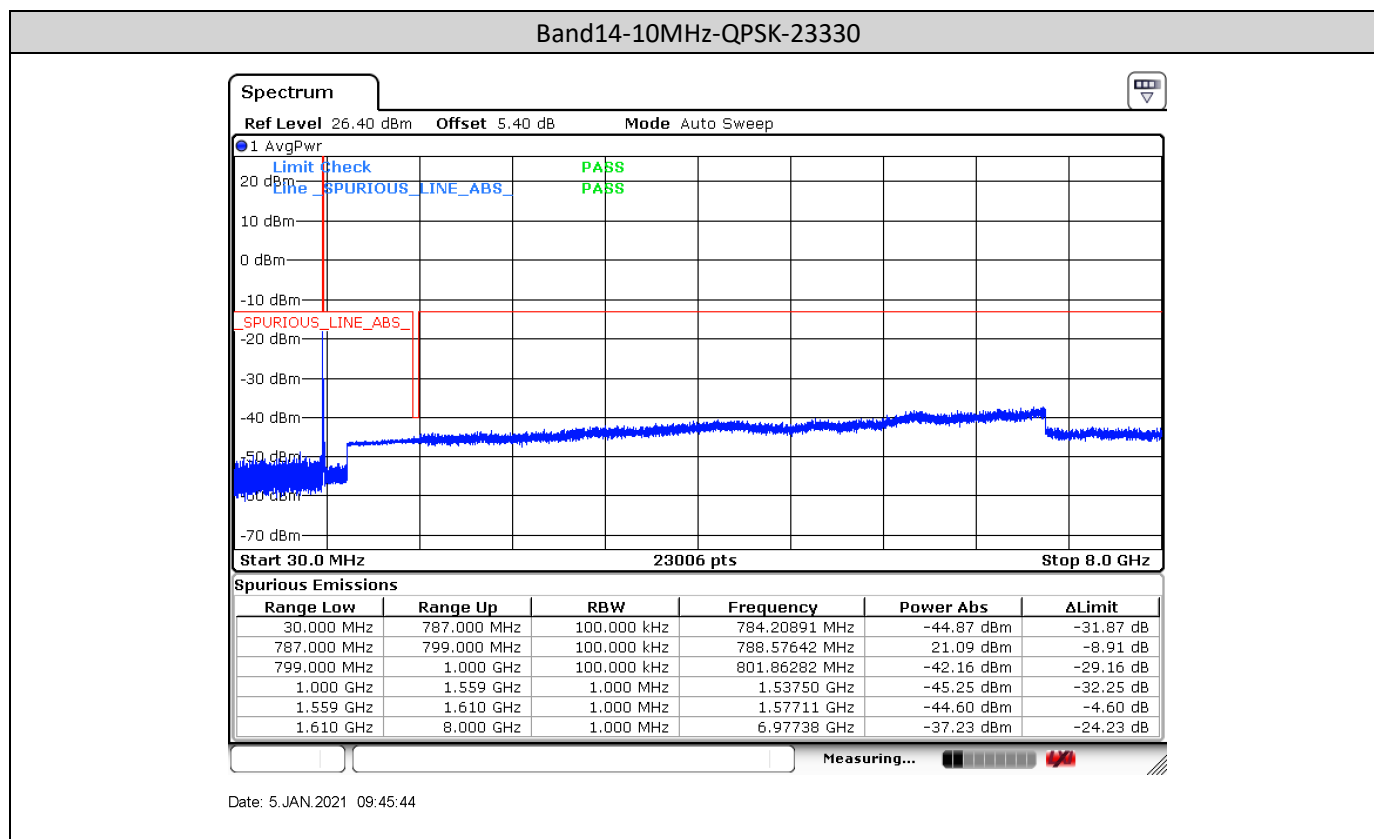
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7. Spurious Emission at Antenna Terminal

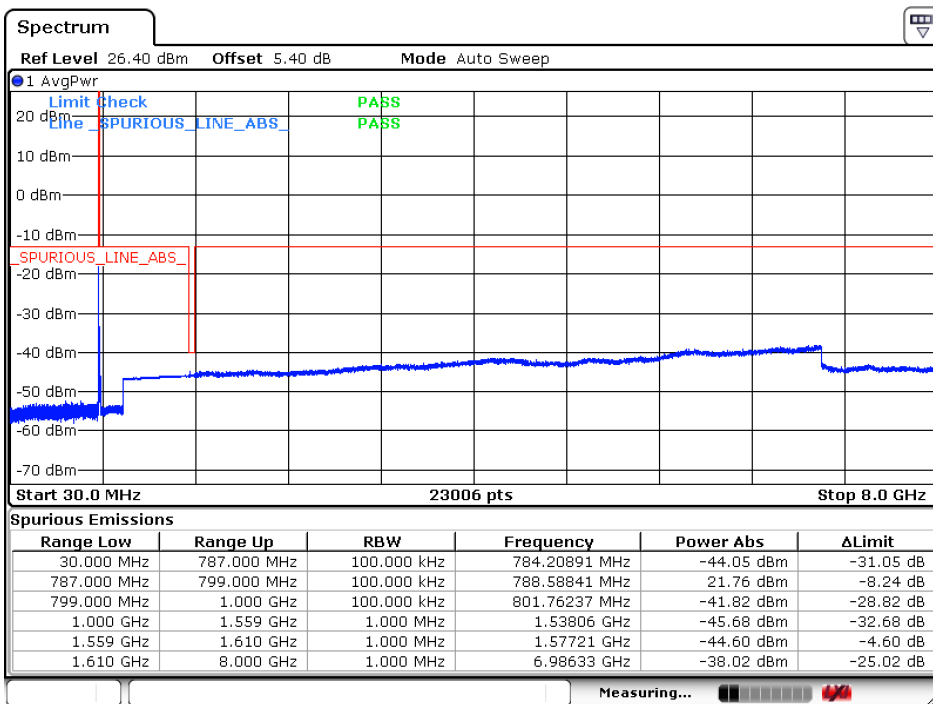
Remark1: For the averaged unwanted emissions measurements, the measurement points in each sweep is greater than twice the Span/RBW in order to ensure bin-to-bin spacing of $< \text{RBW}/2$ so that narrowband signals are not lost between frequency bins. As to the present test item, the "Measurement Points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



Date: 5 JAN 2021 09:47:41



8. Field Strength of Spurious Radiation

8.1. Test Band = LTE_14_TM1

8.1.1. Test Channel = Mid Channel

Suspected Data List					
NO.	Freq. [MHz]	Level [dBm]	Limit [dBm]	Margin [dB]	Polarity
1	42.8046	-63.44	-13.00	50.44	Horizontal
2	250.8800	-68.21	-13.00	55.21	Horizontal
3	626.3373	-63.68	-13.00	50.68	Horizontal
4	1577.3155	-60.07	-40.00	20.07	Horizontal
5	2695.1390	-55.68	-13.00	42.68	Horizontal
6	9536.3015	-54.08	-13.00	41.08	Horizontal



8.2. Test Band = LTE_14_TM1**8.2.1. Test Channel = Mid Channel**

Suspected Data List					
NO.	Freq. [MHz]	Level [dBm]	Limit [dBm]	Margin [dB]	Polarity
1	50.2740	-71.35	-13.00	58.35	Vertical
2	112.0176	-64.68	-13.00	51.68	Vertical
3	608.9734	-63.44	-13.00	50.44	Vertical
4	1577.3155	-58.07	-40.00	18.07	Vertical
5	2688.3377	-56.86	-13.00	43.86	Vertical
6	9302.4921	-54.22	-13.00	41.22	Vertical

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.





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	-3.20	-0.004035	±2.5	PASS
Band14	10MHz	QPSK	23330	50RB#0	VN	NT	-8.60	-0.010845	±2.5	PASS
Band14	10MHz	QPSK	23330	50RB#0	VH	NT	-7.70	-0.009710	±2.5	PASS
Band14	10MHz	16QAM	23330	50RB#0	VL	NT	-6.00	-0.007566	±2.5	PASS
Band14	10MHz	16QAM	23330	50RB#0	VN	NT	-10.80	-0.013619	±2.5	PASS
Band14	10MHz	16QAM	23330	50RB#0	VH	NT	-2.20	-0.002774	±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	-4.10	-0.005170	±2.5	PASS
Band14	10MHz	QPSK	23330	50RB#0	NV	-20	-2.10	-0.002648	±2.5	PASS
Band14	10MHz	QPSK	23330	50RB#0	NV	-10	-13.30	-0.016772	±2.5	PASS
Band14	10MHz	QPSK	23330	50RB#0	NV	0	-9.60	-0.012106	±2.5	PASS
Band14	10MHz	QPSK	23330	50RB#0	NV	10	-5.00	-0.006305	±2.5	PASS
Band14	10MHz	QPSK	23330	50RB#0	NV	20	-2.80	-0.003531	±2.5	PASS
Band14	10MHz	QPSK	23330	50RB#0	NV	30	-10.80	-0.013619	±2.5	PASS
Band14	10MHz	QPSK	23330	50RB#0	NV	40	-8.60	-0.010845	±2.5	PASS
Band14	10MHz	QPSK	23330	50RB#0	NV	50	-5.90	-0.007440	±2.5	PASS
Band14	10MHz	16QAM	23330	50RB#0	NV	-30	-6.30	-0.007945	±2.5	PASS
Band14	10MHz	16QAM	23330	50RB#0	NV	-20	-9.40	-0.011854	±2.5	PASS
Band14	10MHz	16QAM	23330	50RB#0	NV	-10	-9.70	-0.012232	±2.5	PASS
Band14	10MHz	16QAM	23330	50RB#0	NV	0	-6.30	-0.007945	±2.5	PASS
Band14	10MHz	16QAM	23330	50RB#0	NV	10	-8.20	-0.010340	±2.5	PASS
Band14	10MHz	16QAM	23330	50RB#0	NV	20	-4.20	-0.005296	±2.5	PASS
Band14	10MHz	16QAM	23330	50RB#0	NV	30	-4.60	-0.005801	±2.5	PASS
Band14	10MHz	16QAM	23330	50RB#0	NV	40	-2.20	-0.002774	±2.5	PASS
Band14	10MHz	16QAM	23330	50RB#0	NV	50	-10.00	-0.012610	±2.5	PASS



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