

# Appendix F: Test Results of Band 14 for eMTC operation

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## APPENDIX F.1: RF POWER OUTPUT AND EFFECTIVE (ISOTROPIC) RADIATED POWER OUTPUT DATA FOR M1

### Test Result

Band	Bandwidth	Modulation	Channel	RB Size	RB Start	Index	Result (dBm)	Verdict
Band14	5MHz	23305	QPSK	1	0	Low	24.11	PASS
Band14	5MHz	23305	QPSK	6	0	Low	22.90	PASS
Band14	5MHz	23330	QPSK	1	0	Low	24.08	PASS
Band14	5MHz	23330	QPSK	6	0	Low	22.87	PASS
Band14	5MHz	23355	QPSK	1	5	High	23.73	PASS
Band14	5MHz	23355	QPSK	3	3	High	22.72	PASS
Band14	5MHz	23305	16QAM	1	0	Low	24.15	PASS
Band14	5MHz	23305	16QAM	6	0	Low	22.89	PASS
Band14	5MHz	23330	16QAM	1	0	Low	24.13	PASS
Band14	5MHz	23330	16QAM	6	0	Low	22.87	PASS
Band14	5MHz	23355	16QAM	1	5	High	23.79	PASS
Band14	5MHz	23355	16QAM	3	3	High	22.82	PASS
Band14	10MHz	23330	QPSK	1	0	Low	24.11	PASS
Band14	10MHz	23330	QPSK	1	5	High	23.67	PASS
Band14	10MHz	23330	QPSK	5	0	Low	22.94	PASS
Band14	10MHz	23330	QPSK	5	1	High	22.79	PASS
Band14	10MHz	23330	16QAM	1	0	Low	24.14	PASS
Band14	10MHz	23330	16QAM	1	5	High	23.76	PASS
Band14	10MHz	23330	16QAM	5	0	Low	23.00	PASS
Band14	10MHz	23330	16QAM	5	1	High	22.87	PASS

**Note:** The highest antenna gain permitted including cable loss, must satisfy both EIRP (ERP) limit and RF exposure requirements.

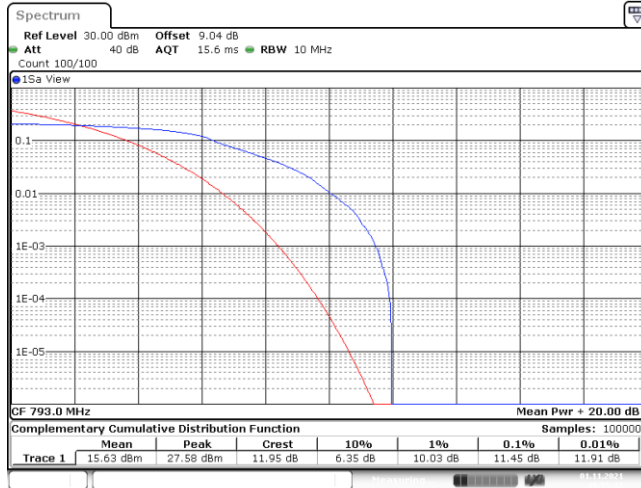
## APPENDIX F.2: PEAK-TO-AVERAGE RATIO (CCDF) FOR M1

### Test Result

Band	Bandwidth	Modulation	Channel	RB Size	RB Start	Index	Result (dB)	Limit (dB)	Verdict
Band14	5MHz	23330	QPSK	6	0	Low	11.45	<=13	PASS
Band14	5MHz	23330	16QAM	6	0	Low	9.33	<=13	PASS
Band14	10MHz	23330	QPSK	6	0	Low	11.36	<=13	PASS
Band14	10MHz	23330	16QAM	6	0	Low	9.30	<=13	PASS

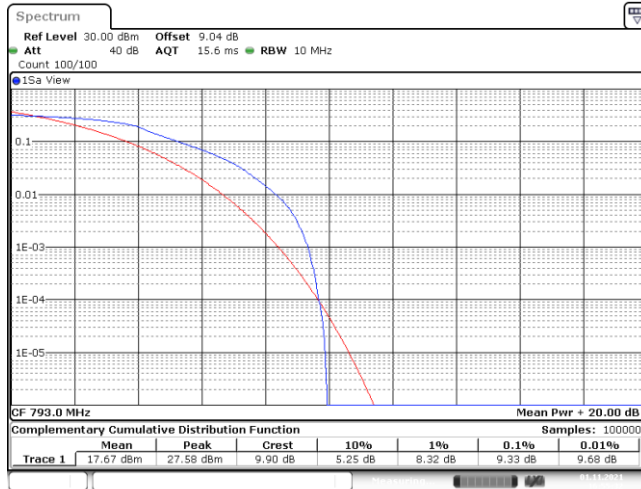
### Test Graphs

#### Band14-5MHz-QPSK-23330-6-0-Low-11.45-<=13-PASS



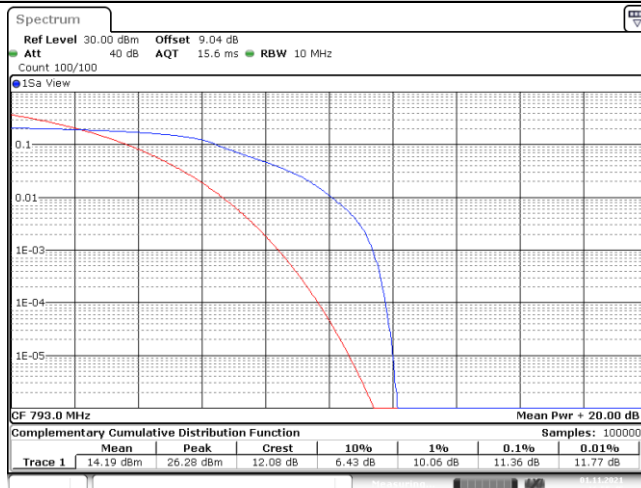
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#### Band14-5MHz-16QAM-23330-6-0-Low-9.33-<=13-PASS



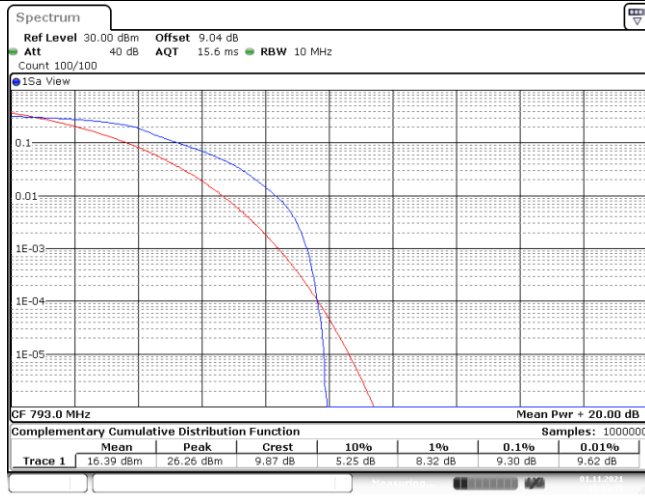
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#### Band14-10MHz-QPSK-23330-6-0-Low-11.36-<=13-PASS



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Band14-10MHz-16QAM-23330-6-0-Low-9.30-<=13-PASS



Date: 1.NOV.2021 16:55:54

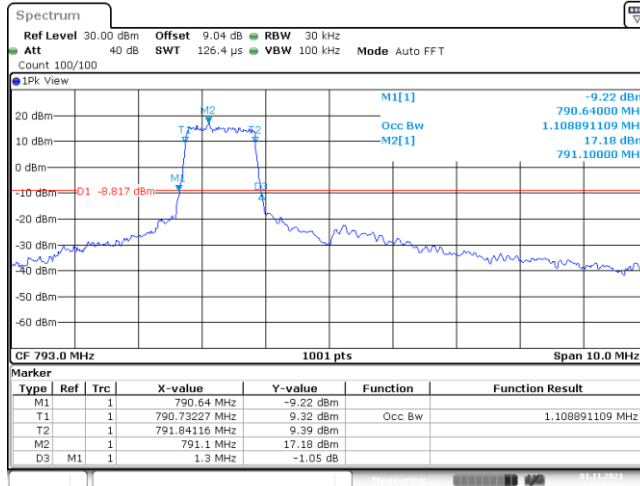
### APPENDIX F.3: 26dB BANDWIDTH AND OCCUPIED BANDWIDTH FOR M1

#### Test Result

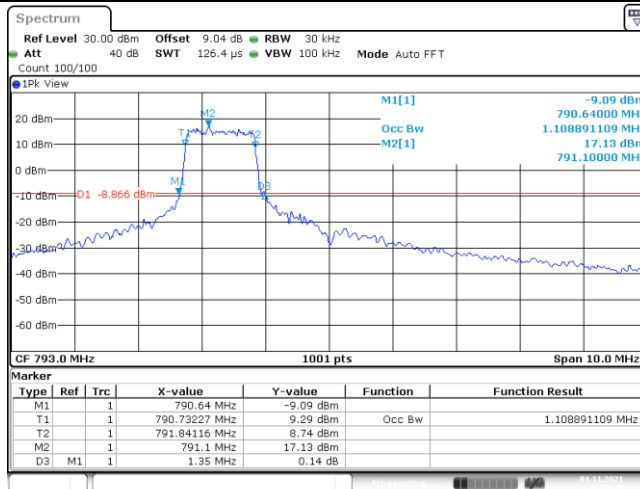
Band	Bandwidth	Modulation	Channel	RB Size	RB Start	Index	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
Band14	5MHz	23330	QPSK	6	0	Low	1.109	1.300	PASS
Band14	5MHz	23330	16QAM	6	0	Low	1.109	1.350	PASS
Band14	10MHz	23330	QPSK	6	0	Low	1.099	1.320	PASS
Band14	10MHz	23330	16QAM	6	0	Low	1.099	1.320	PASS

### Test Graphs

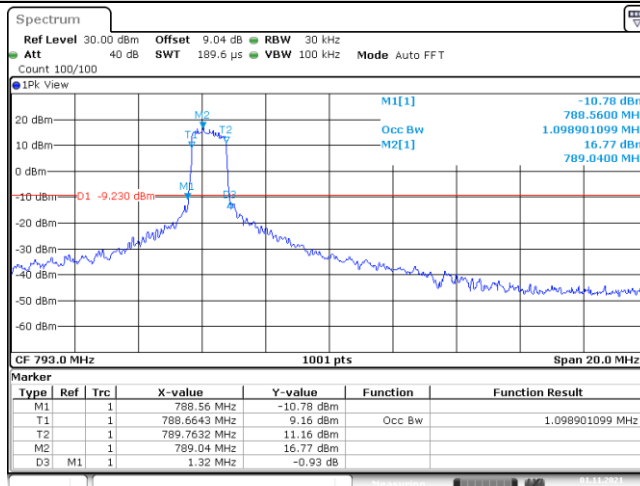
#### Band14-5MHz-QPSK-23330-6-0-Low-1.109-1.300-PASS



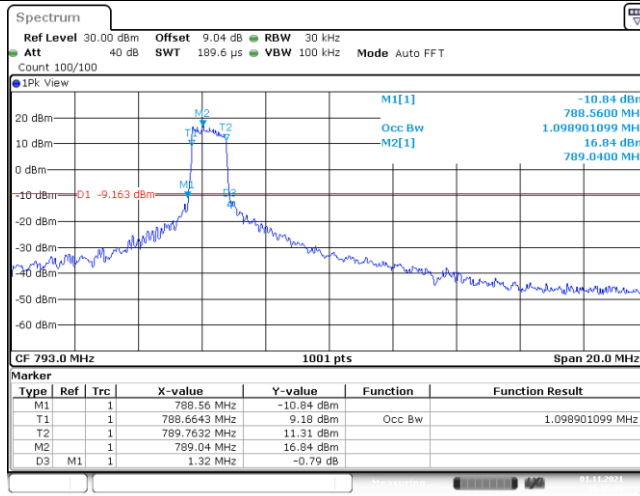
#### Band14-5MHz-16QAM-23330-6-0-Low-1.109-1.350-PASS



#### Band14-10MHz-QPSK-23330-6-0-Low-1.099-1.320-PASS



Band14-10MHz-16QAM-23330-6-0-Low-1.099-1.320-PASS



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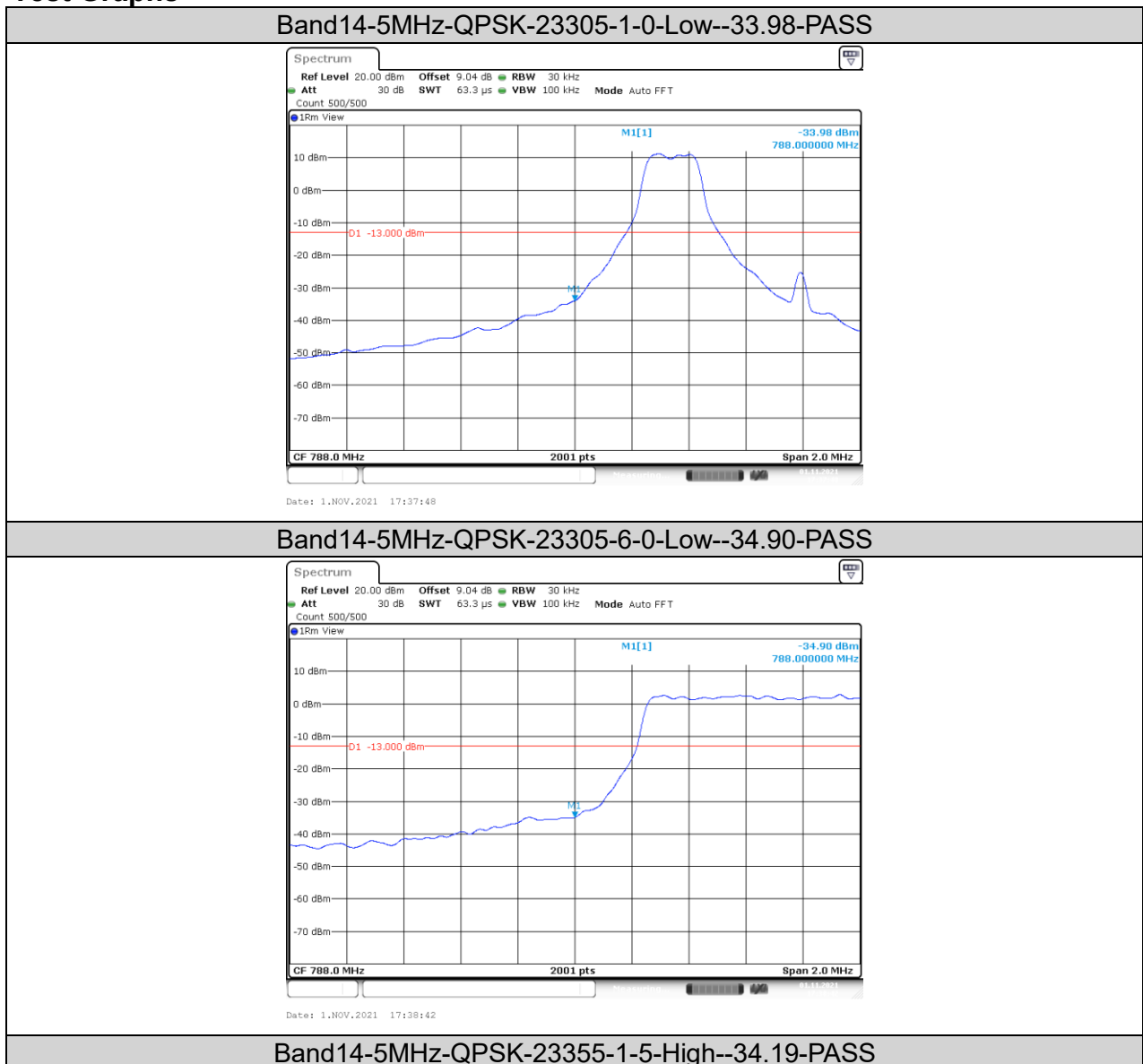


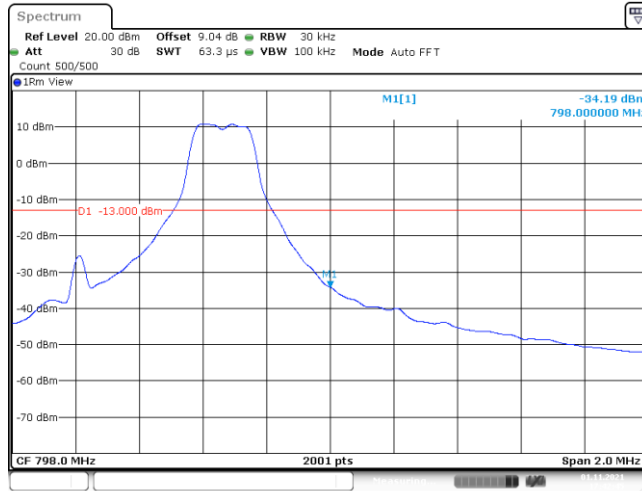
## APPENDIX F.4: BAND EDGE FOR M1

### Test Result

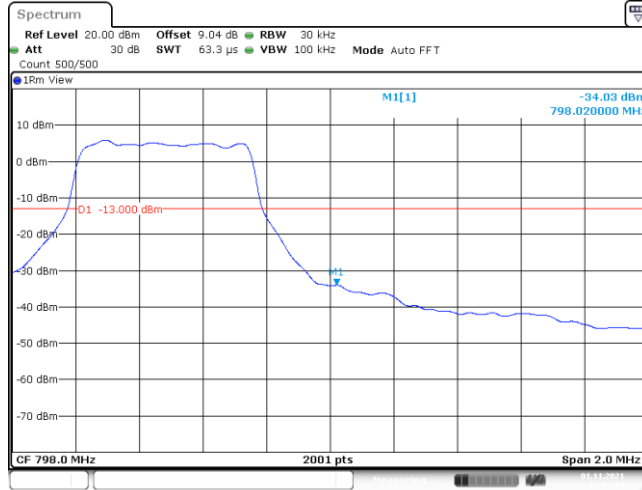
Band	Bandwidth	Modulation	Channel	RB Size	RB Start	NB Index	Result(dBm)	Verdict
Band14	5MHz	23305	QPSK	1	0	Low	-33.98	PASS
Band14	5MHz	23305	QPSK	6	0	Low	-34.90	PASS
Band14	5MHz	23355	QPSK	1	5	High	-34.19	PASS
Band14	5MHz	23355	QPSK	3	3	High	-34.03	PASS
Band14	5MHz	23305	16QAM	1	0	Low	-33.27	PASS
Band14	5MHz	23305	16QAM	6	0	Low	-34.71	PASS
Band14	5MHz	23355	16QAM	1	5	High	-34.66	PASS
Band14	5MHz	23355	16QAM	3	3	High	-32.95	PASS

### Test Graphs





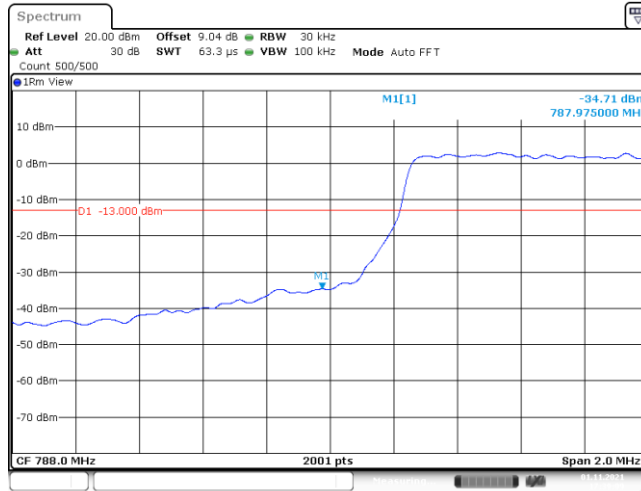
Band14-5MHz-QPSK-23355-3-3-High--34.03-PASS



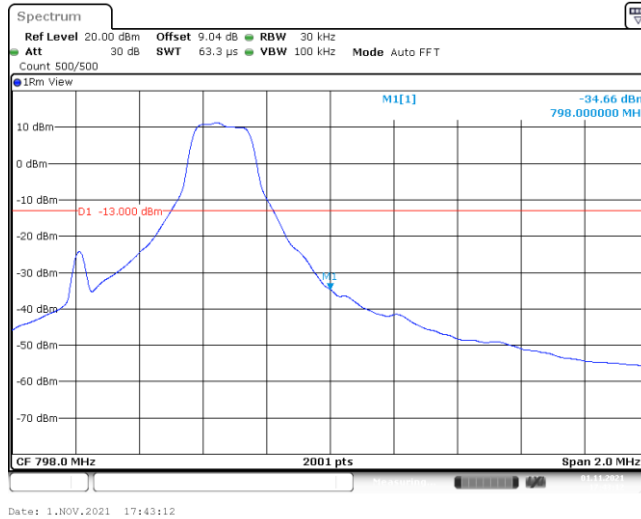
Band14-5MHz-16QAM-23305-1-0-Low--33.27-PASS



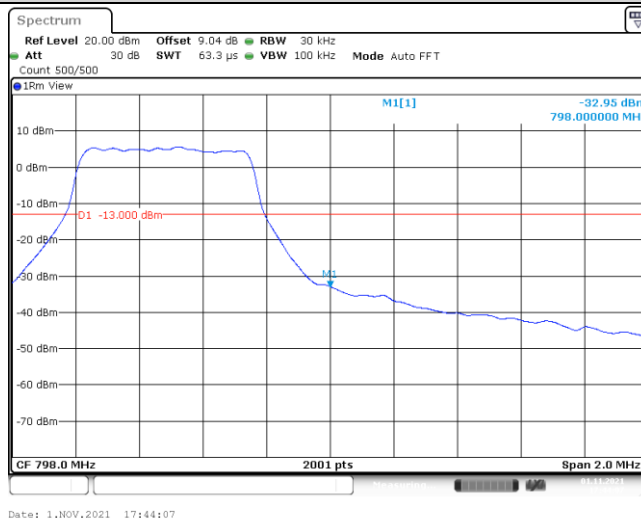
Band14-5MHz-16QAM-23305-6-0-Low--34.71-PASS



Band14-5MHz-16QAM-23355-1-5-High--34.66-PASS



Band14-5MHz-16QAM-23355-3-3-High--32.95-PASS



## APPENDIX F.5: CONDUCTED SPURIOUS EMISSION FOR M1

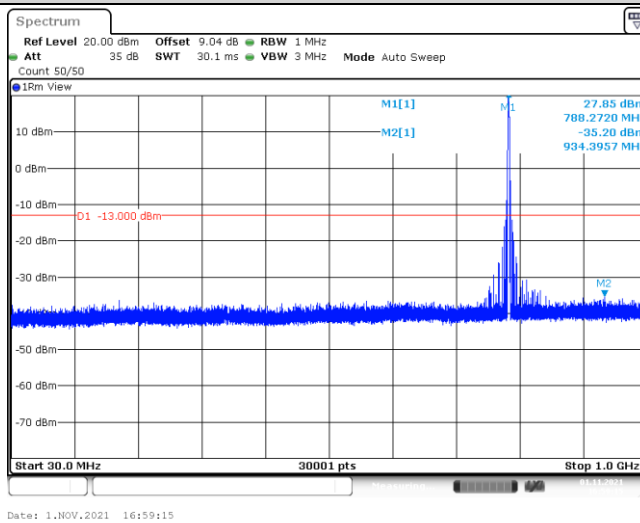
### Test Result

Band	Bandwidth	Modulation	Channel	RB Size	RB Start	Index	Start Freq	Stop Freq	Result (dBm)	Verdict
Band14	5MHz	23305	QPSK	1	0	Low	30	1000	-35.2	PASS
Band14	5MHz	23305	QPSK	1	0	Low	1000	5000	-40.57	PASS
Band14	5MHz	23305	QPSK	1	0	Low	5000	12000	-53.86	PASS
Band14	5MHz	23305	QPSK	1	0	Low	12000	26500	-50.08	PASS
Band14	5MHz	23305	QPSK	6	0	Low	30	1000	-35.2	PASS
Band14	5MHz	23305	QPSK	6	0	Low	1000	5000	-40.82	PASS
Band14	5MHz	23305	QPSK	6	0	Low	5000	12000	-53.87	PASS
Band14	5MHz	23305	QPSK	6	0	Low	12000	26500	-49.93	PASS
Band14	5MHz	23330	QPSK	1	0	Low	30	1000	-35.82	PASS
Band14	5MHz	23330	QPSK	1	0	Low	1000	5000	-40.77	PASS
Band14	5MHz	23330	QPSK	1	0	Low	5000	12000	-53.92	PASS
Band14	5MHz	23330	QPSK	1	0	Low	12000	26500	-50.02	PASS
Band14	5MHz	23330	QPSK	6	0	Low	30	1000	-35.34	PASS
Band14	5MHz	23330	QPSK	6	0	Low	1000	5000	-40.88	PASS
Band14	5MHz	23330	QPSK	6	0	Low	5000	12000	-53.96	PASS
Band14	5MHz	23330	QPSK	6	0	Low	12000	26500	-50.04	PASS
Band14	5MHz	23355	QPSK	1	5	High	30	1000	-36.04	PASS
Band14	5MHz	23355	QPSK	1	5	High	1000	5000	-40.77	PASS
Band14	5MHz	23355	QPSK	1	5	High	5000	12000	-53.98	PASS
Band14	5MHz	23355	QPSK	1	5	High	12000	26500	-49.99	PASS
Band14	5MHz	23355	QPSK	3	3	High	30	1000	-35.57	PASS
Band14	5MHz	23355	QPSK	3	3	High	1000	5000	-40.79	PASS
Band14	5MHz	23355	QPSK	3	3	High	5000	12000	-53.97	PASS
Band14	5MHz	23355	QPSK	3	3	High	12000	26500	-50.22	PASS
Band14	5MHz	23305	16QAM	1	0	Low	30	1000	-35.68	PASS
Band14	5MHz	23305	16QAM	1	0	Low	1000	5000	-40.67	PASS
Band14	5MHz	23305	16QAM	1	0	Low	5000	12000	-53.93	PASS
Band14	5MHz	23305	16QAM	1	0	Low	12000	26500	-50.15	PASS
Band14	5MHz	23305	16QAM	6	0	Low	30	1000	-36.04	PASS
Band14	5MHz	23305	16QAM	6	0	Low	1000	5000	-40.9	PASS
Band14	5MHz	23305	16QAM	6	0	Low	5000	12000	-53.95	PASS
Band14	5MHz	23305	16QAM	6	0	Low	12000	26500	-50.24	PASS
Band14	5MHz	23330	16QAM	1	0	Low	30	1000	-35.86	PASS
Band14	5MHz	23330	16QAM	1	0	Low	1000	5000	-40.84	PASS
Band14	5MHz	23330	16QAM	1	0	Low	5000	12000	-53.77	PASS
Band14	5MHz	23330	16QAM	1	0	Low	12000	26500	-50.01	PASS
Band14	5MHz	23330	16QAM	6	0	Low	30	1000	-35.95	PASS
Band14	5MHz	23330	16QAM	6	0	Low	1000	5000	-40.83	PASS
Band14	5MHz	23330	16QAM	6	0	Low	5000	12000	-53.85	PASS
Band14	5MHz	23330	16QAM	6	0	Low	12000	26500	-50.06	PASS
Band14	5MHz	23355	16QAM	1	5	High	30	1000	-35.94	PASS

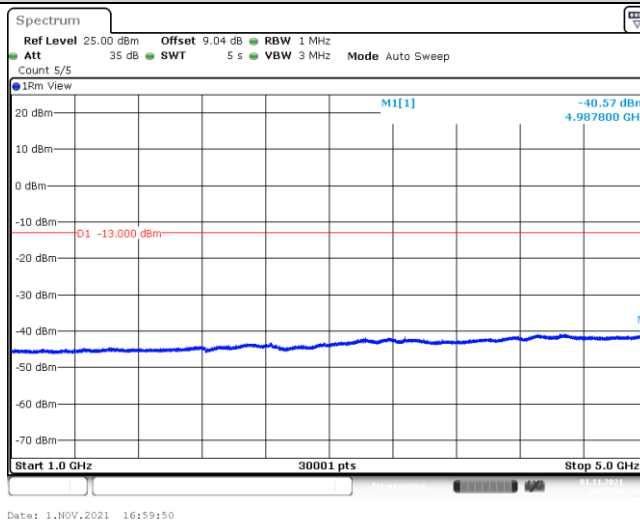
Band14	5MHz	23355	16QAM	1	5	High	1000	5000	-40.75	PASS
Band14	5MHz	23355	16QAM	1	5	High	5000	12000	-53.84	PASS
Band14	5MHz	23355	16QAM	1	5	High	12000	26500	-50.08	PASS
Band14	5MHz	23355	16QAM	3	3	High	30	1000	-35.91	PASS
Band14	5MHz	23355	16QAM	3	3	High	1000	5000	-40.81	PASS
Band14	5MHz	23355	16QAM	3	3	High	5000	12000	-53.85	PASS
Band14	5MHz	23355	16QAM	3	3	High	12000	26500	-50.22	PASS

### Test Graphs

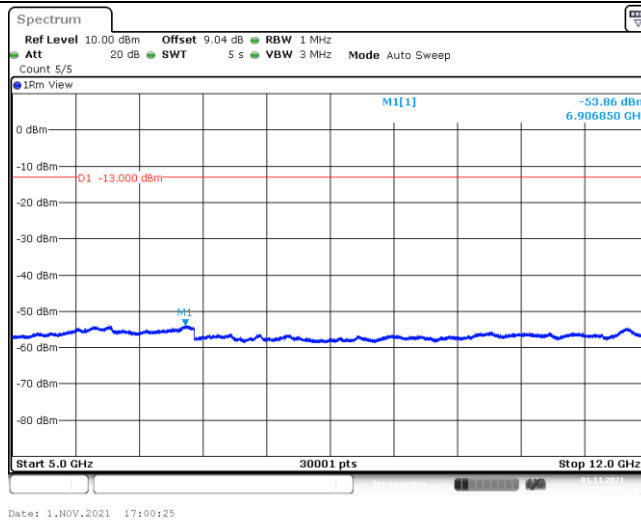
Band14-5MHz-QPSK-23305-1-0-Low-30-1000--35.2-PASS



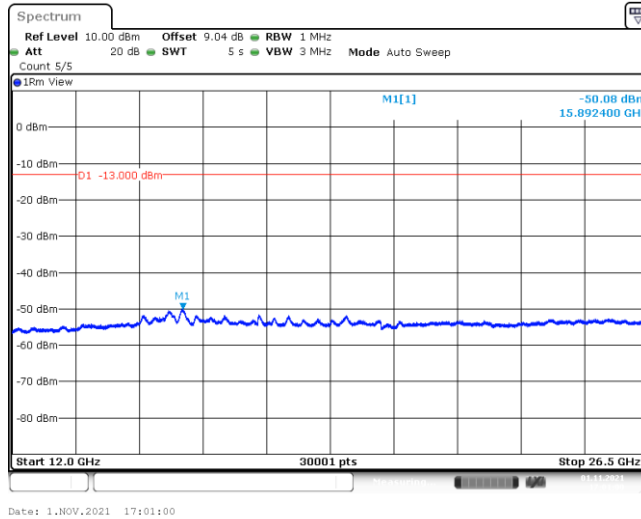
Band14-5MHz-QPSK-23305-1-0-Low-1000-5000--40.57-PASS



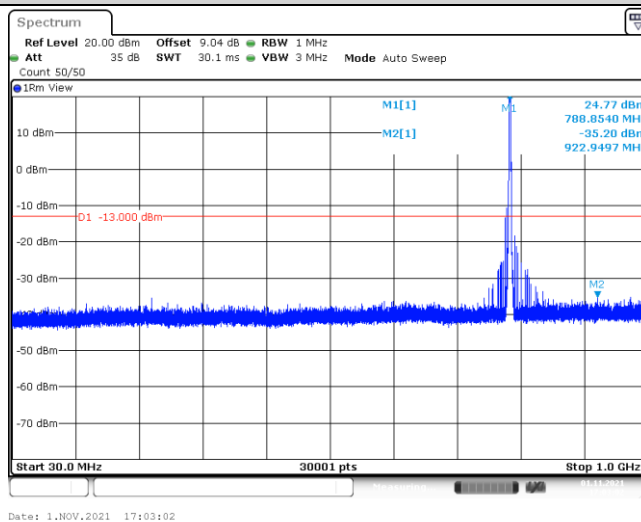
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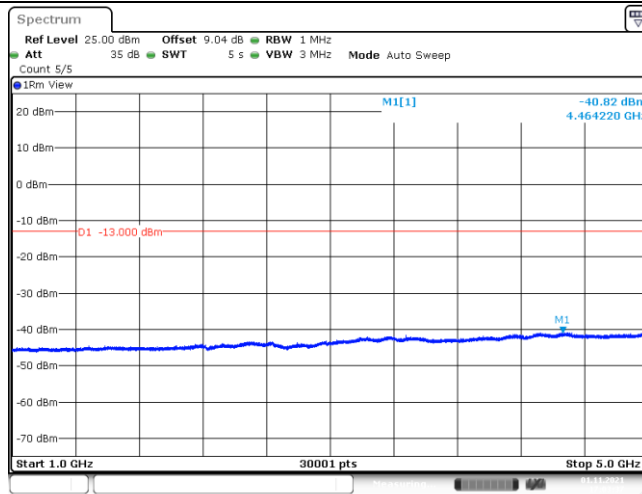
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Band14-5MHz-QPSK-23305-6-0-Low-30-1000--35.2-PASS

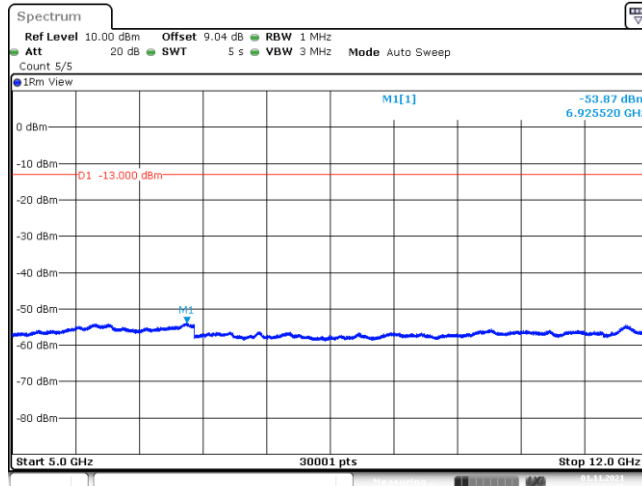


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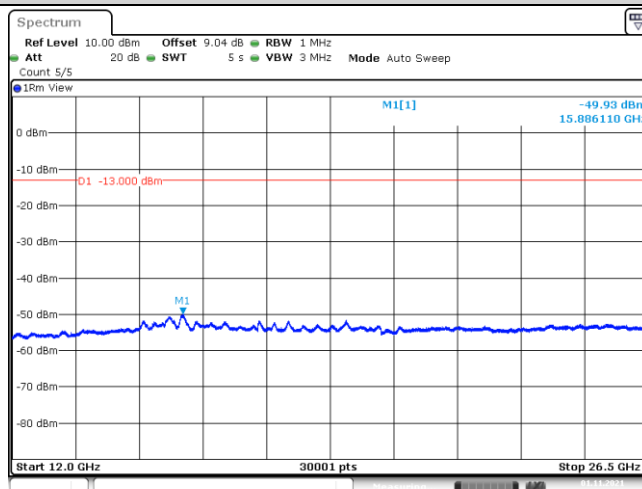
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Band14-5MHz-QPSK-23305-6-0-Low-5000-12000--53.87-PASS



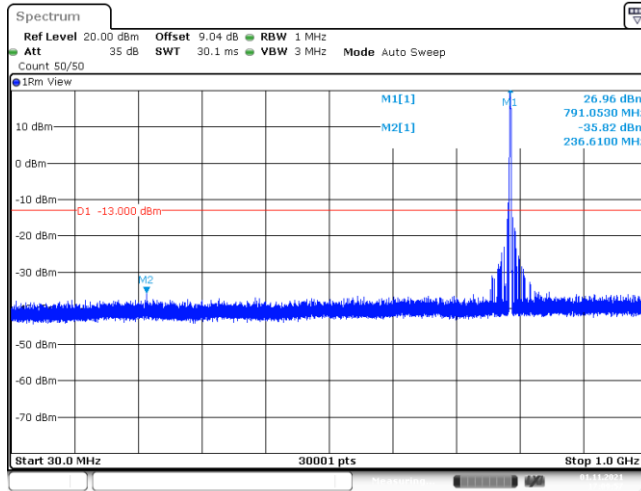
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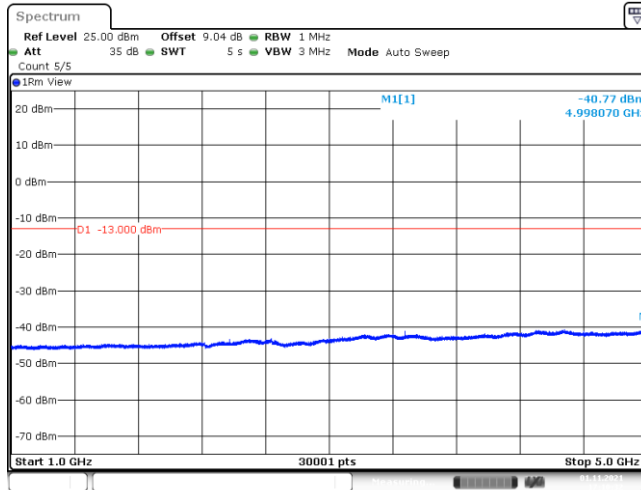


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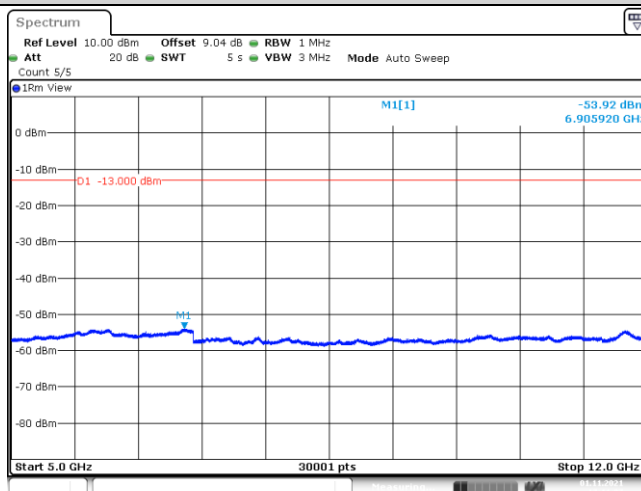
Band14-5MHz-QPSK-23330-1-0-Low-30-1000--35.82-PASS



Band14-5MHz-QPSK-23330-1-0-Low-1000-5000--40.77-PASS

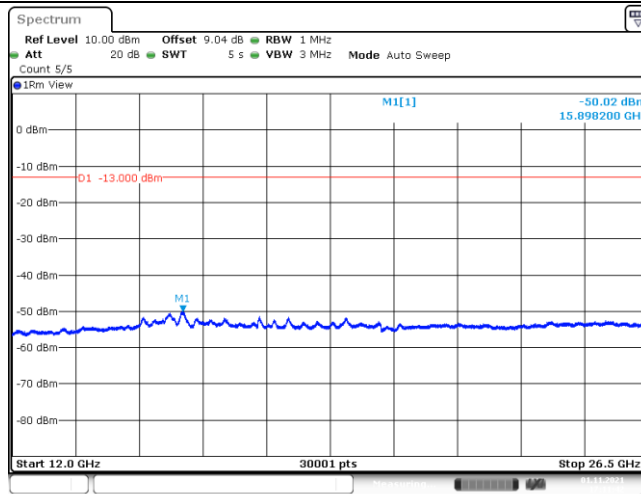


Band14-5MHz-QPSK-23330-1-0-Low-5000-12000--53.92-PASS



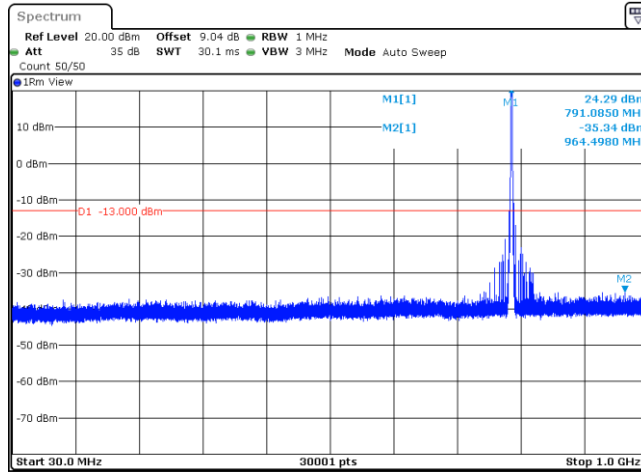
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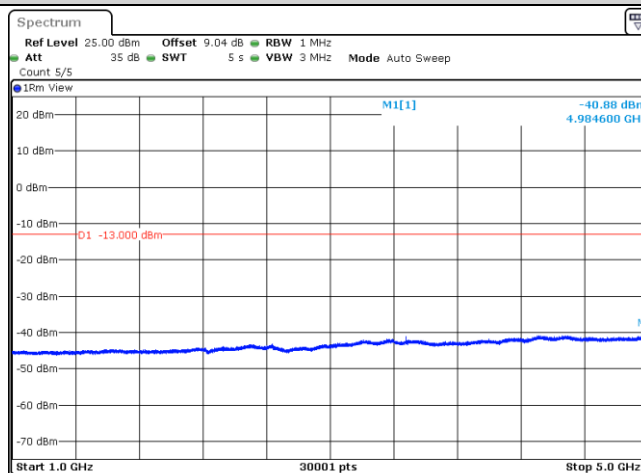
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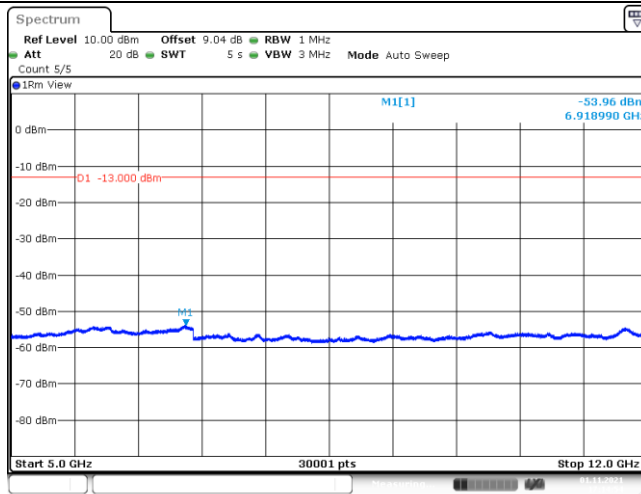
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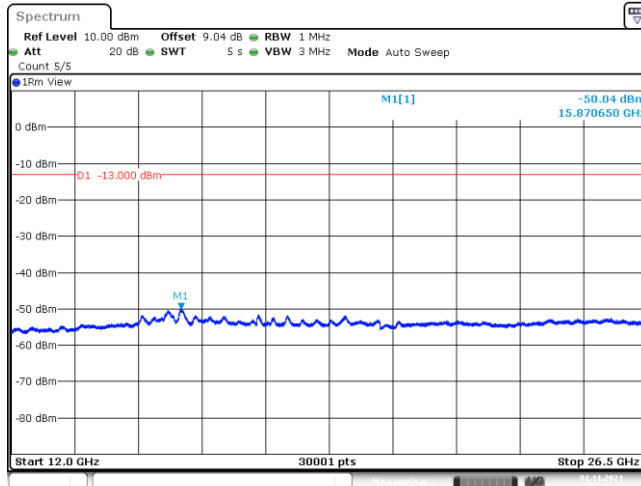
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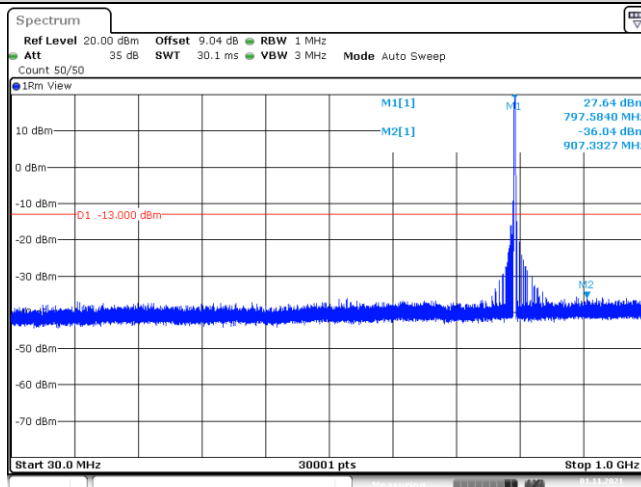
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Band14-5MHz-QPSK-23330-6-0-Low-12000-26500--50.04-PASS



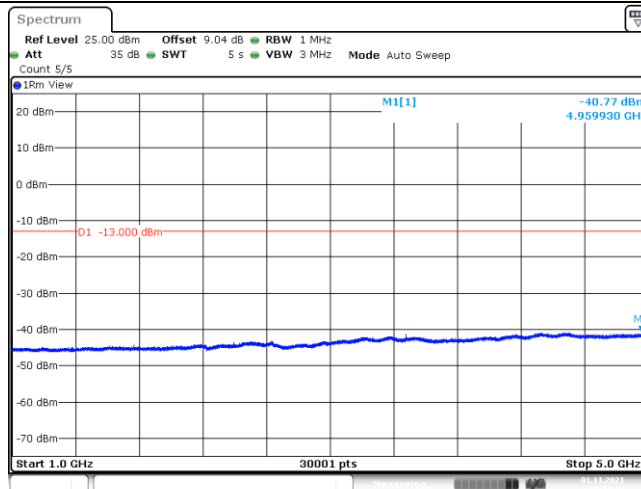
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Band14-5MHz-QPSK-23355-1-5-High-30-1000--36.04-PASS



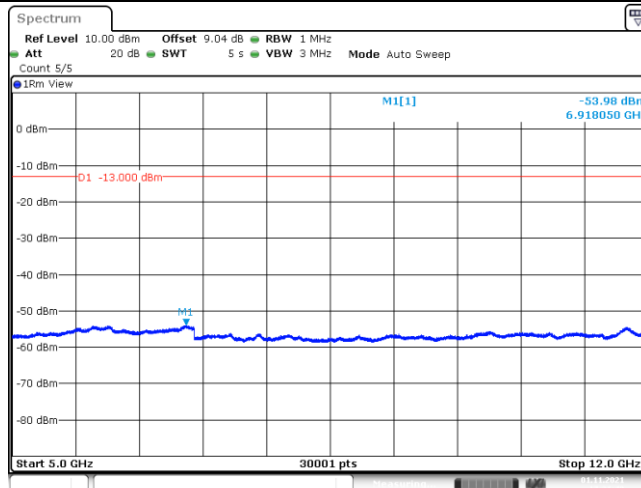
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Band14-5MHz-QPSK-23355-1-5-High-1000-5000--40.77-PASS



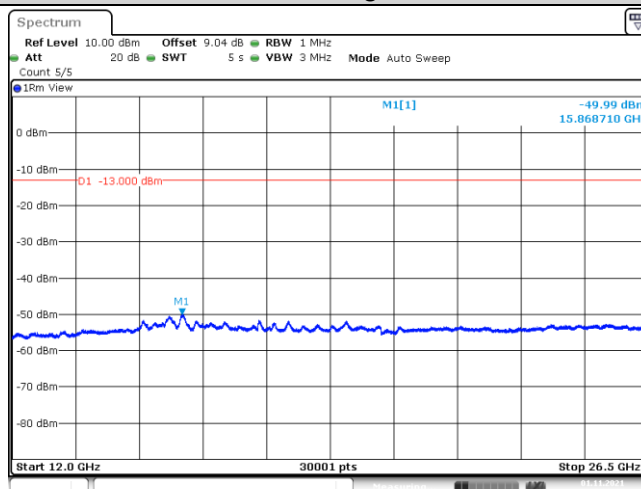
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Band14-5MHz-QPSK-23355-1-5-High-5000-12000--53.98-PASS



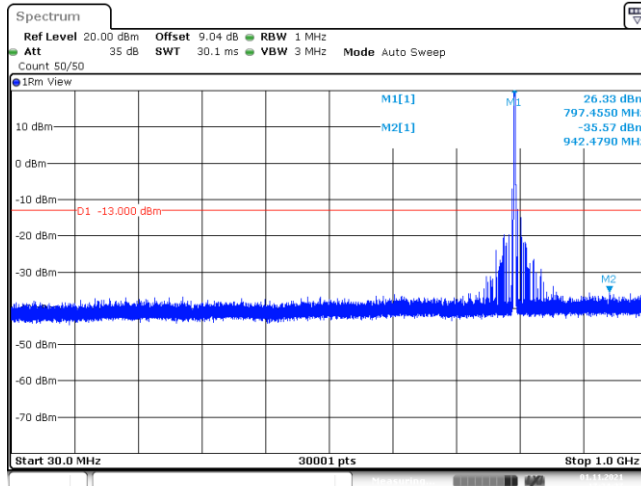
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Band14-5MHz-QPSK-23355-1-5-High-12000-26500--49.99-PASS



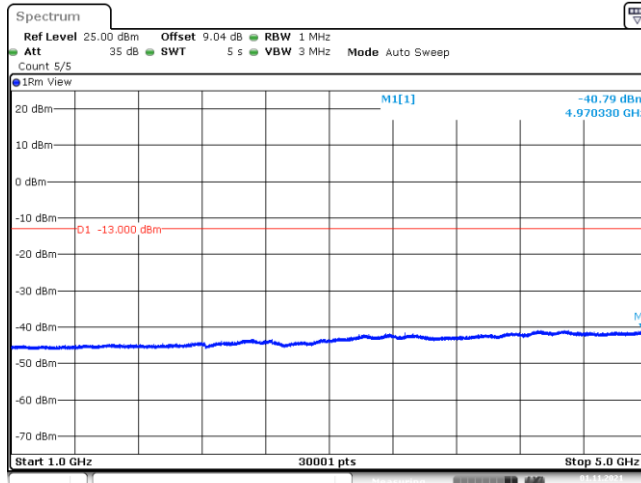
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Band14-5MHz-QPSK-23355-3-3-High-30-1000--35.57-PASS



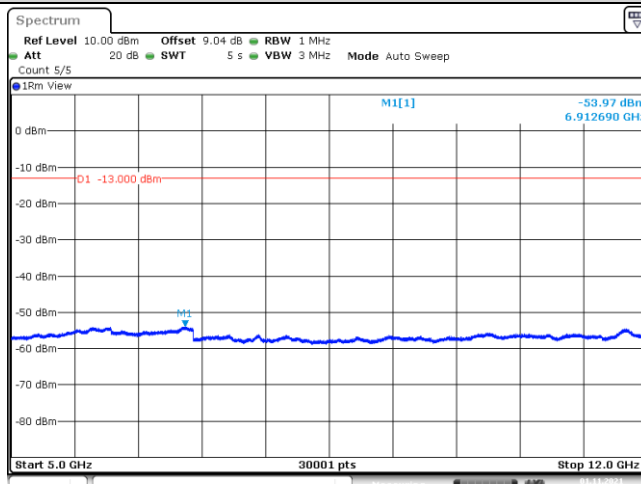
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Band14-5MHz-QPSK-23355-3-3-High-1000-5000--40.79-PASS



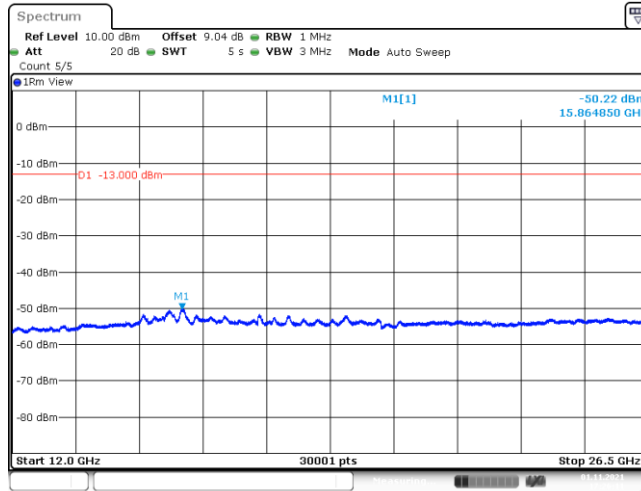
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Band14-5MHz-QPSK-23355-3-3-High-5000-12000--53.97-PASS



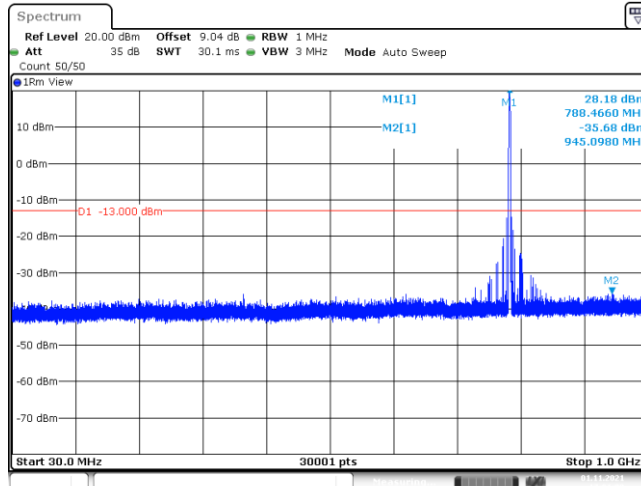
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Band14-5MHz-QPSK-23355-3-3-High-12000-26500--50.22-PASS



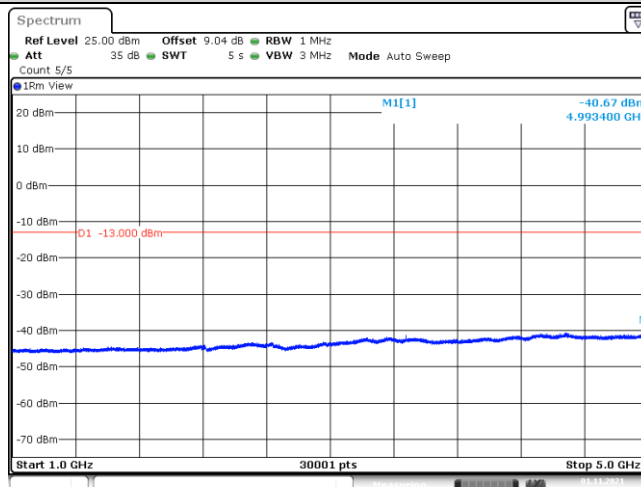
Date: 1.NOV.2021 17:26:11

Band14-5MHz-16QAM-23305-1-0-Low-30-1000--35.68-PASS



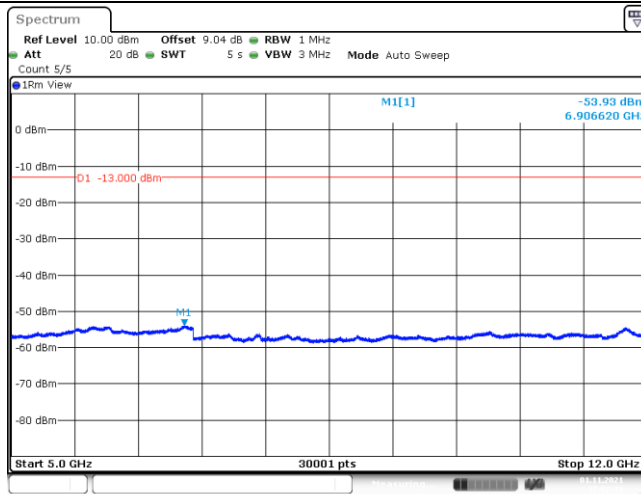
Date: 1.NOV.2021 17:01:09

Band14-5MHz-16QAM-23305-1-0-Low-1000-5000--40.67-PASS



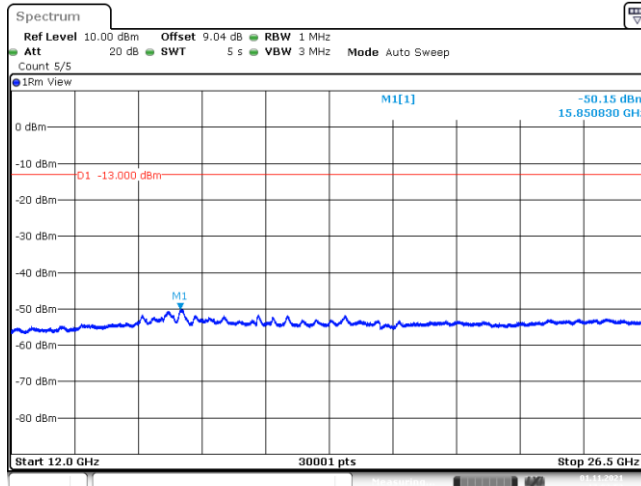
Date: 1.NOV.2021 17:01:43

Band14-5MHz-16QAM-23305-1-0-Low-5000-12000--53.93-PASS



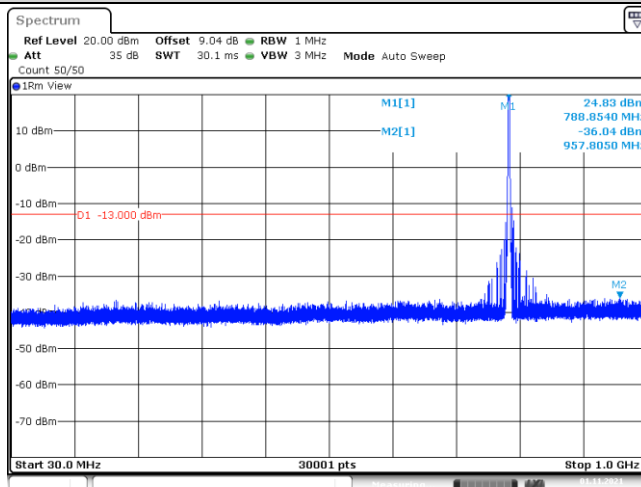
Date: 1.NOV.2021 17:02:18

Band14-5MHz-16QAM-23305-1-0-Low-12000-26500--50.15-PASS



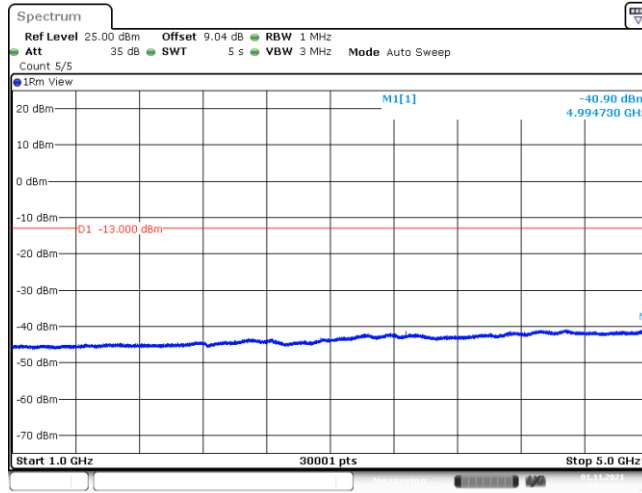
Date: 1.NOV.2021 17:02:53

Band14-5MHz-16QAM-23305-6-0-Low-30-1000--36.04-PASS



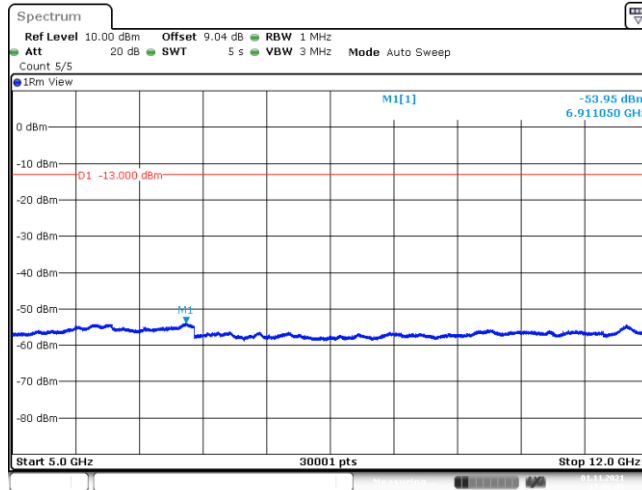
Date: 1.NOV.2021 17:04:55

Band14-5MHz-16QAM-23305-6-0-Low-1000-5000--40.9-PASS



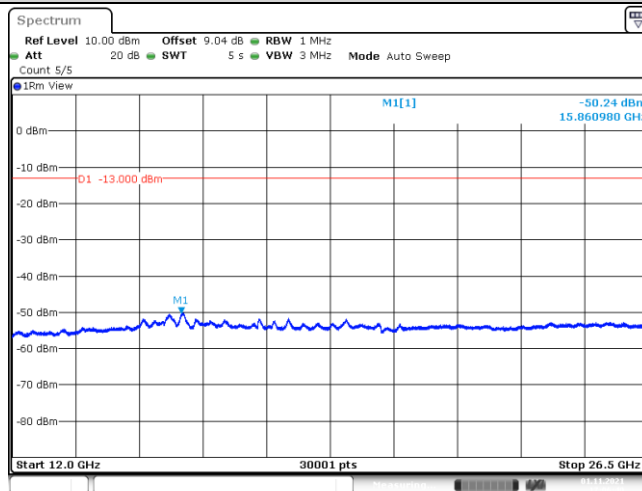
Date: 1.NOV.2021 17:05:30

Band14-5MHz-16QAM-23305-6-0-Low-5000-12000--53.95-PASS



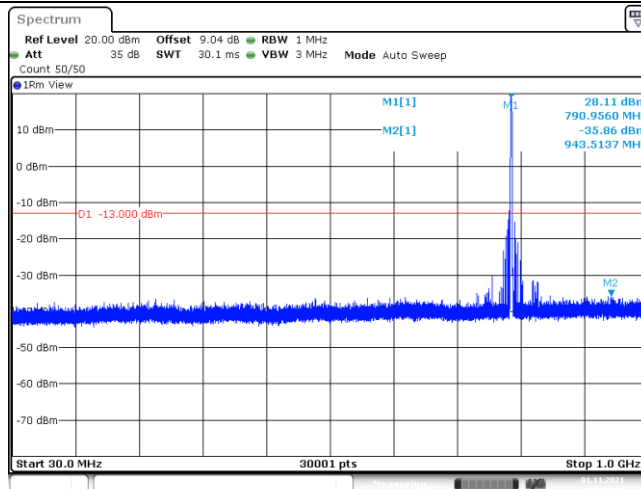
Date: 1.NOV.2021 17:06:05

Band14-5MHz-16QAM-23305-6-0-Low-12000-26500--50.24-PASS



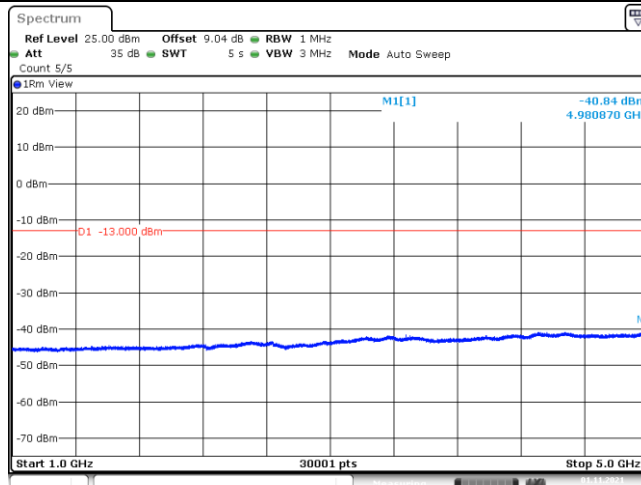
Date: 1.NOV.2021 17:06:40

Band14-5MHz-16QAM-23330-1-0-Low-30-1000--35.86-PASS



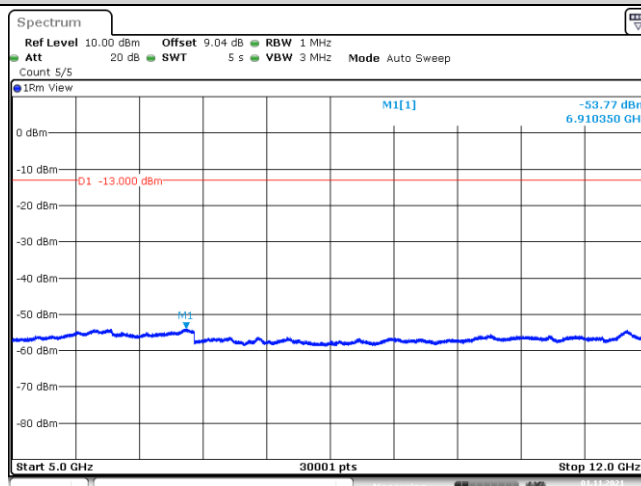
Date: 1.NOV.2021 17:11:51

Band14-5MHz-16QAM-23330-1-0-Low-1000-5000--40.84-PASS



Date: 1.NOV.2021 17:12:25

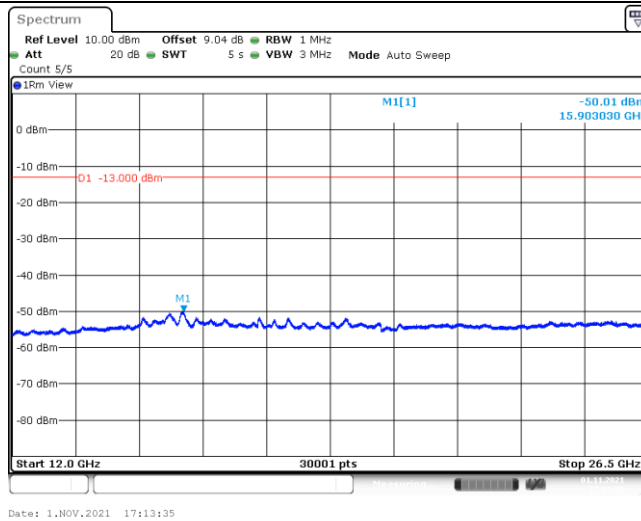
Band14-5MHz-16QAM-23330-1-0-Low-5000-12000--53.77-PASS



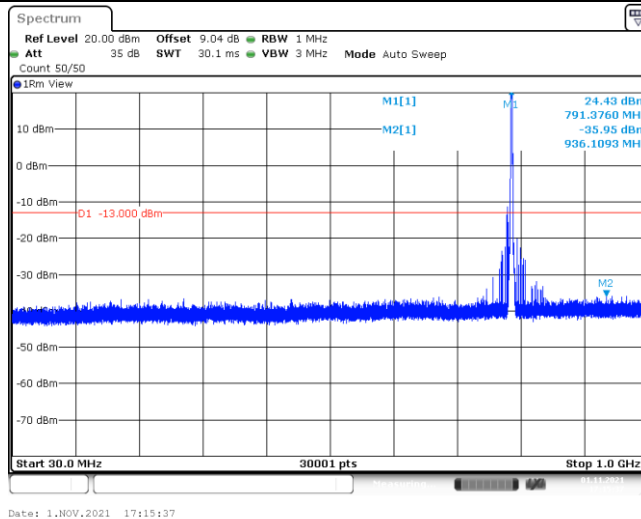
Date: 1.NOV.2021 17:13:00

Band14-5MHz-16QAM-23330-1-0-Low-12000-26500--50.01-PASS

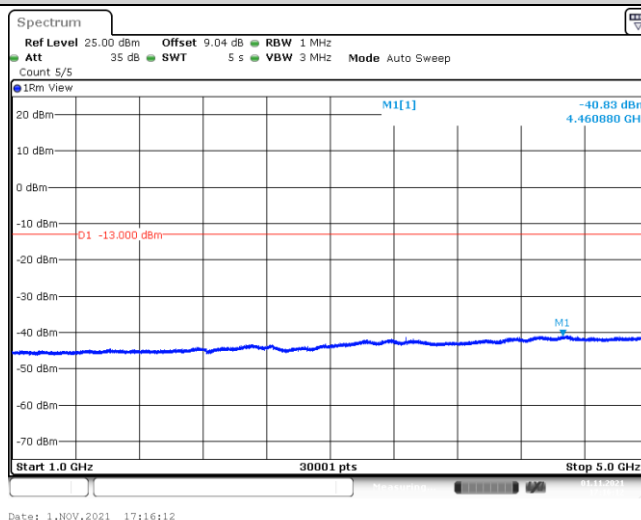




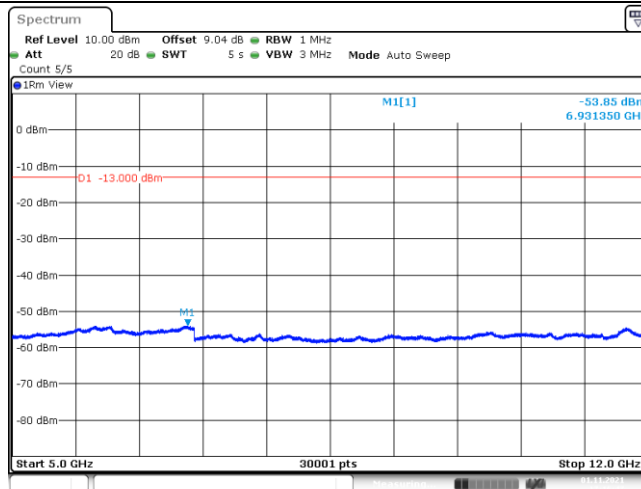
Band14-5MHz-16QAM-23330-6-0-Low-30-1000--35.95-PASS



Band14-5MHz-16QAM-23330-6-0-Low-1000-5000--40.83-PASS

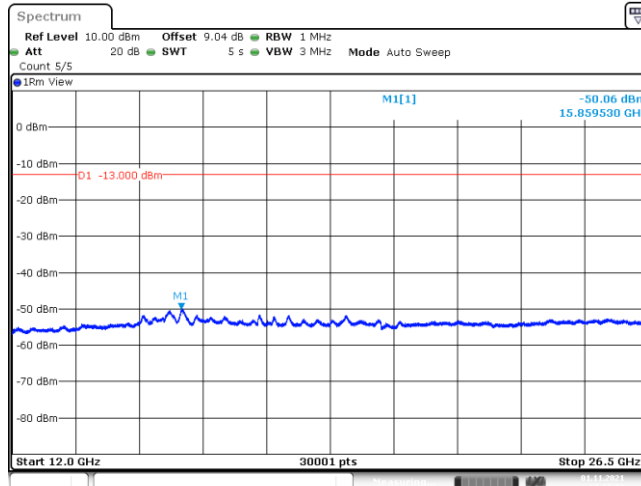


Band14-5MHz-16QAM-23330-6-0-Low-5000-12000--53.85-PASS



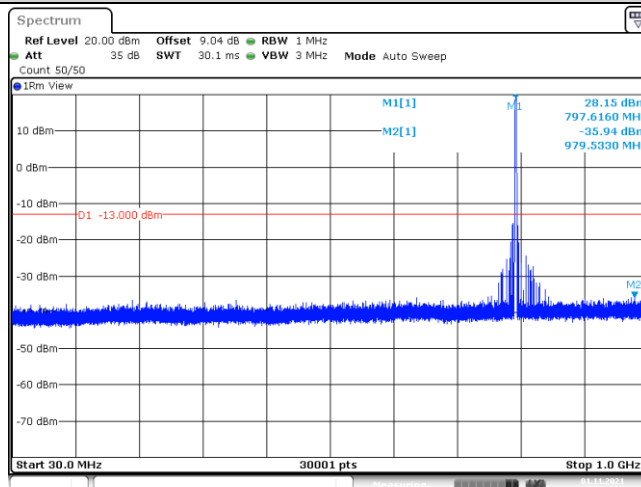
Date: 1.NOV.2021 17:16:47

Band14-5MHz-16QAM-23330-6-0-Low-12000-26500--50.06-PASS



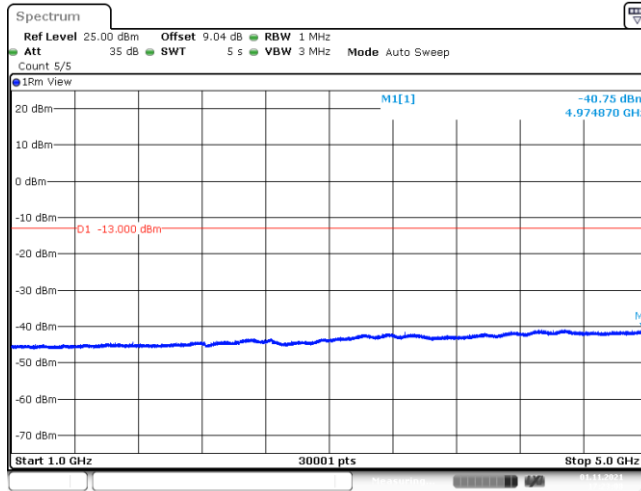
Date: 1.NOV.2021 17:17:21

Band14-5MHz-16QAM-23355-1-5-High-30-1000--35.94-PASS



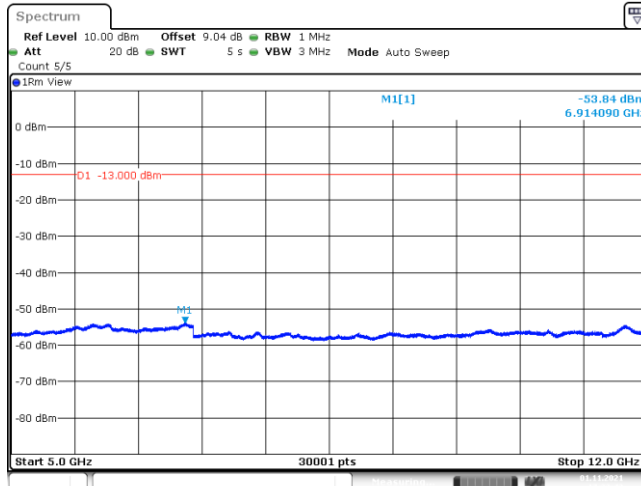
Date: 1.NOV.2021 17:22:33

Band14-5MHz-16QAM-23355-1-5-High-1000-5000--40.75-PASS



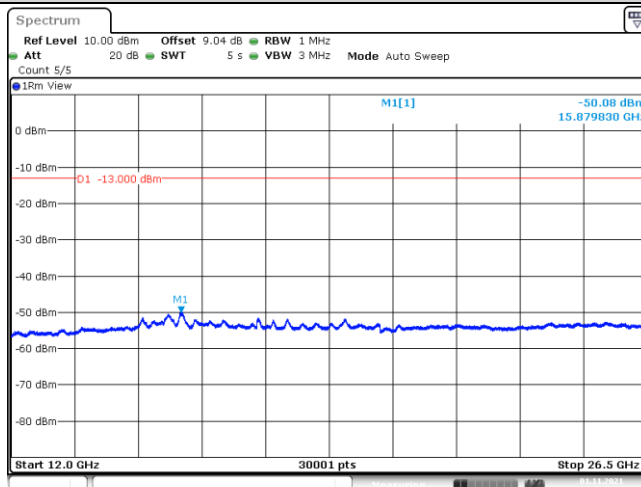
Date: 1.NOV.2021 17:23:08

Band14-5MHz-16QAM-23355-1-5-High-5000-12000--53.84-PASS



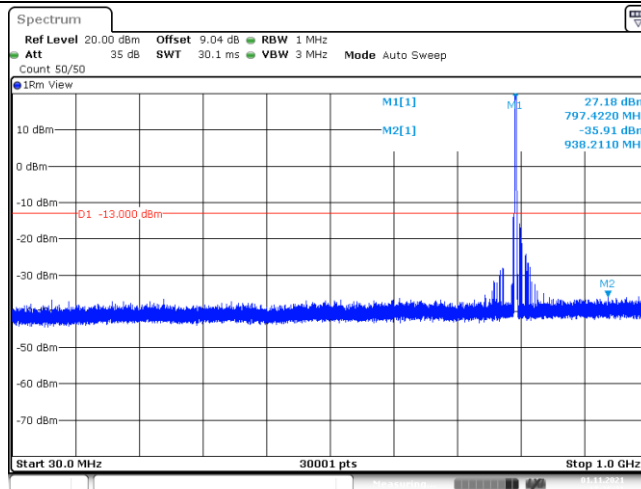
Date: 1.NOV.2021 17:23:43

Band14-5MHz-16QAM-23355-1-5-High-12000-26500--50.08-PASS



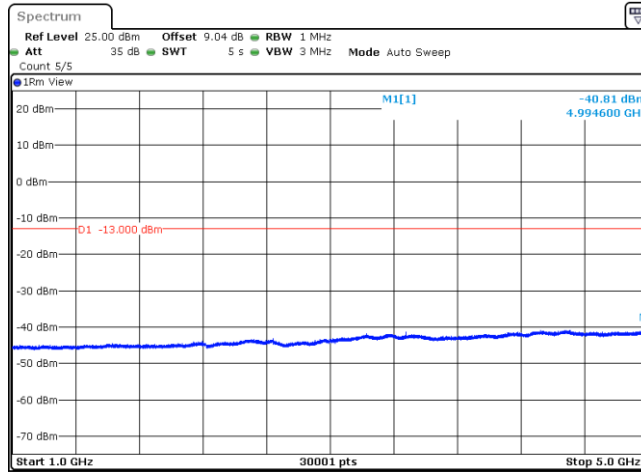
Date: 1.NOV.2021 17:24:18

Band14-5MHz-16QAM-23355-3-3-High-30-1000--35.91-PASS



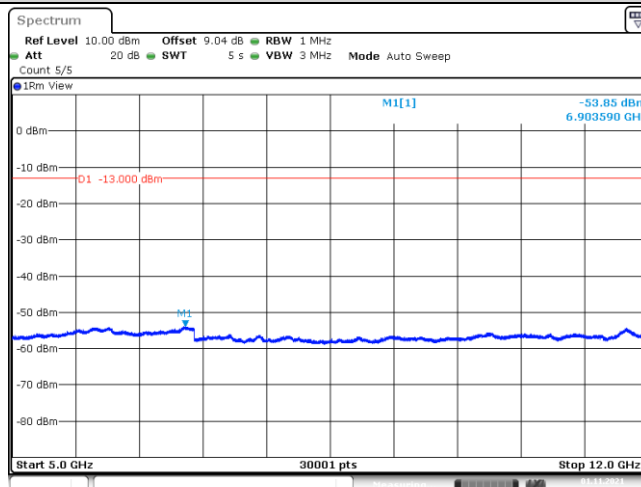
Date: 1.NOV.2021 17:26:20

Band14-5MHz-16QAM-23355-3-3-High-1000-5000--40.81-PASS



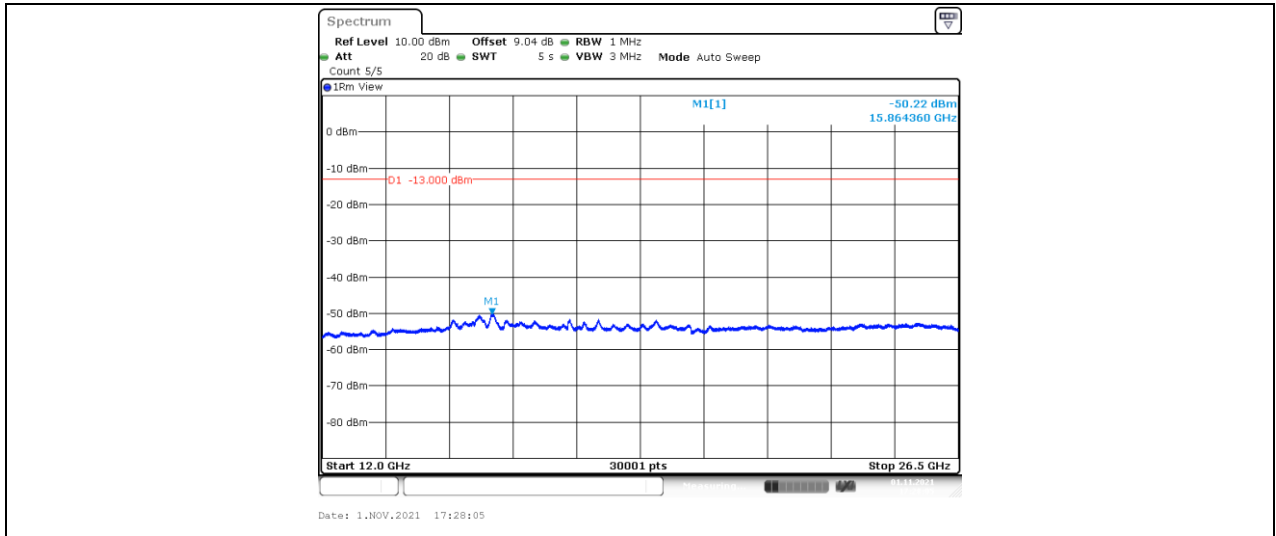
Date: 1.NOV.2021 17:26:55

Band14-5MHz-16QAM-23355-3-3-High-5000-12000--53.85-PASS



Date: 1.NOV.2021 17:27:30

Band14-5MHz-16QAM-23355-3-3-High-12000-26500--50.22-PASS



## APPENDIX F.6: FREQUENCY STABILITY FOR M1

### Test Result

Voltage												
Band	Bandwidth	Channel	Modulation	RB Size	RB Start	Index	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
Band14	5MHz	23330	QPSK	1	0	Low	HV	NT	-7.11	-0.008966	±2.5	PASS
Band14	5MHz	23330	QPSK	1	0	Low	LV	NT	-6.98	-0.008802	±2.5	PASS
Band14	5MHz	23330	QPSK	1	0	Low	NV	NT	-8.00	-0.010088	±2.5	PASS
Band14	5MHz	23330	16QAM	1	0	Low	HV	NT	-4.53	-0.005712	±2.5	PASS
Band14	5MHz	23330	16QAM	1	0	Low	LV	NT	-6.69	-0.008436	±2.5	PASS
Band14	5MHz	23330	16QAM	1	0	Low	NV	NT	-6.24	-0.007869	±2.5	PASS

Temperature												
Band	Bandwidth	Channel	Modulation	RB Size	RB Start	Index	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
Band14	5MHz	23330	QPSK	1	0	Low	NV	85	-5.08	-0.006406	±2.5	PASS
Band14	5MHz	23330	QPSK	1	0	Low	NV	-30	-6.68	-0.008424	±2.5	PASS
Band14	5MHz	23330	QPSK	1	0	Low	NV	-20	-7.18	-0.009054	±2.5	PASS
Band14	5MHz	23330	QPSK	1	0	Low	NV	-10	-7.22	-0.009105	±2.5	PASS
Band14	5MHz	23330	QPSK	1	0	Low	NV	0	-6.42	-0.008096	±2.5	PASS
Band14	5MHz	23330	QPSK	1	0	Low	NV	10	-5.64	-0.007112	±2.5	PASS
Band14	5MHz	23330	QPSK	1	0	Low	NV	20	-6.32	-0.007970	±2.5	PASS
Band14	5MHz	23330	QPSK	1	0	Low	NV	30	-7.11	-0.008966	±2.5	PASS
Band14	5MHz	23330	QPSK	1	0	Low	NV	40	-6.79	-0.008562	±2.5	PASS
Band14	5MHz	23330	QPSK	1	0	Low	NV	50	-6.90	-0.008701	±2.5	PASS
Band14	5MHz	23330	QPSK	1	0	Low	NV	60	-7.58	-0.009559	±2.5	PASS
Band14	5MHz	23330	QPSK	1	0	Low	NV	70	-7.77	-0.009798	±2.5	PASS
Band14	5MHz	23330	QPSK	1	0	Low	NV	-40	-7.71	-0.009723	±2.5	PASS
Band14	5MHz	23330	QPSK	1	0	Low	NV	80	-6.82	-0.008600	±2.5	PASS
Band14	5MHz	23330	16QAM	1	0	Low	NV	85	-7.38	-0.009306	±2.5	PASS
Band14	5MHz	23330	16QAM	1	0	Low	NV	-30	-5.85	-0.007377	±2.5	PASS
Band14	5MHz	23330	16QAM	1	0	Low	NV	-20	-6.34	-0.007995	±2.5	PASS
Band14	5MHz	23330	16QAM	1	0	Low	NV	-10	-4.49	-0.005662	±2.5	PASS
Band14	5MHz	23330	16QAM	1	0	Low	NV	0	-6.77	-0.008537	±2.5	PASS
Band14	5MHz	23330	16QAM	1	0	Low	NV	10	-6.47	-0.008159	±2.5	PASS
Band14	5MHz	23330	16QAM	1	0	Low	NV	20	-5.45	-0.006873	±2.5	PASS
Band14	5MHz	23330	16QAM	1	0	Low	NV	30	-6.51	-0.008209	±2.5	PASS
Band14	5MHz	23330	16QAM	1	0	Low	NV	40	-6.47	-0.008159	±2.5	PASS
Band14	5MHz	23330	16QAM	1	0	Low	NV	50	-6.64	-0.008373	±2.5	PASS
Band14	5MHz	23330	16QAM	1	0	Low	NV	60	-7.68	-0.009685	±2.5	PASS
Band14	5MHz	23330	16QAM	1	0	Low	NV	70	-6.34	-0.007995	±2.5	PASS
Band14	5MHz	23330	16QAM	1	0	Low	NV	80	-4.62	-0.005826	±2.5	PASS
Band14	5MHz	23330	16QAM	1	0	Low	NV	-40	-5.98	-0.007541	±2.5	PASS