

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

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## APPENDIX F.1: 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	23.22	PASS
Band14	5MHz	23305	QPSK	6	0	Low	22.01	PASS
Band14	5MHz	23330	QPSK	1	0	Low	23.24	PASS
Band14	5MHz	23330	QPSK	6	0	Low	21.92	PASS
Band14	5MHz	23355	QPSK	1	5	High	22.93	PASS
Band14	5MHz	23355	QPSK	3	3	High	21.82	PASS
Band14	5MHz	23305	16QAM	1	0	Low	23.41	PASS
Band14	5MHz	23305	16QAM	6	0	Low	22.01	PASS
Band14	5MHz	23330	16QAM	1	0	Low	23.43	PASS
Band14	5MHz	23330	16QAM	6	0	Low	21.93	PASS
Band14	5MHz	23355	16QAM	1	5	High	23.19	PASS
Band14	5MHz	23355	16QAM	3	3	High	22.09	PASS
Band14	10MHz	23330	QPSK	1	0	Low	23.22	PASS
Band14	10MHz	23330	QPSK	1	5	High	22.87	PASS
Band14	10MHz	23330	QPSK	5	0	Low	22.03	PASS
Band14	10MHz	23330	QPSK	5	1	High	21.94	PASS
Band14	10MHz	23330	16QAM	1	0	Low	23.39	PASS
Band14	10MHz	23330	16QAM	1	5	High	23.15	PASS
Band14	10MHz	23330	16QAM	5	0	Low	22.15	PASS
Band14	10MHz	23330	16QAM	5	1	High	22.08	PASS

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

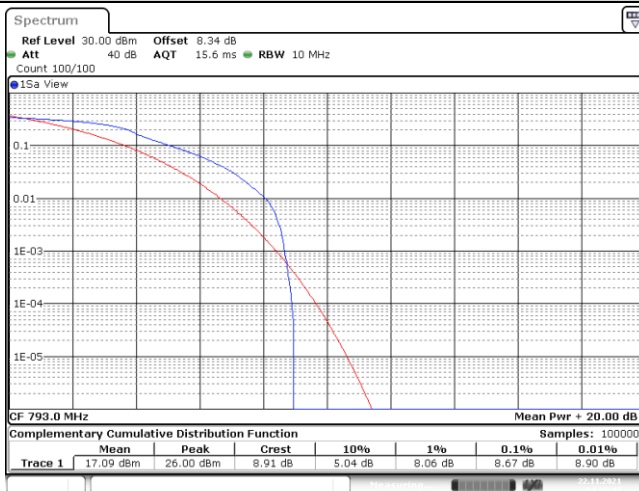
## APPENDIX F.2: PEAK-TO-AVERAGE RATIO (CCDF) FOR M1

### Test Result

Band	Bandwidth	Modulation	Channel	RB Size	RB Start	Index	Result (dB)	Limit (dB)	Verdict
Band14	5MHz	23330	QPSK	6	0	Low	8.67	<=13	PASS
Band14	5MHz	23330	16QAM	6	0	Low	10.17	<=13	PASS
Band14	10MHz	23330	QPSK	6	0	Low	8.96	<=13	PASS
Band14	10MHz	23330	16QAM	6	0	Low	11.16	<=13	PASS

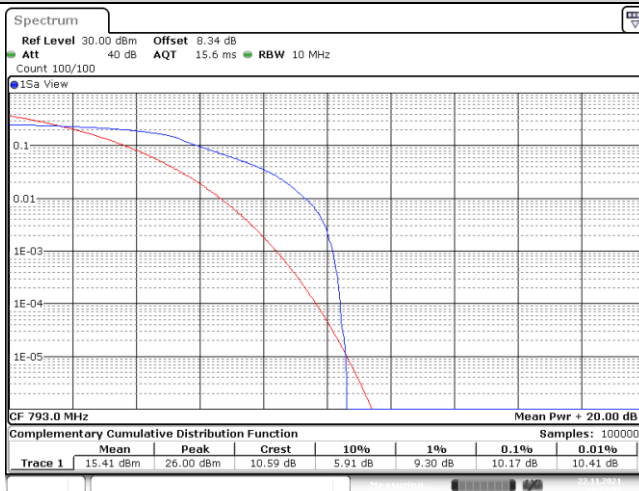
### Test Graphs

Band14-5MHz-QPSK-23330-6-0-Low-8.67-<=13-PASS



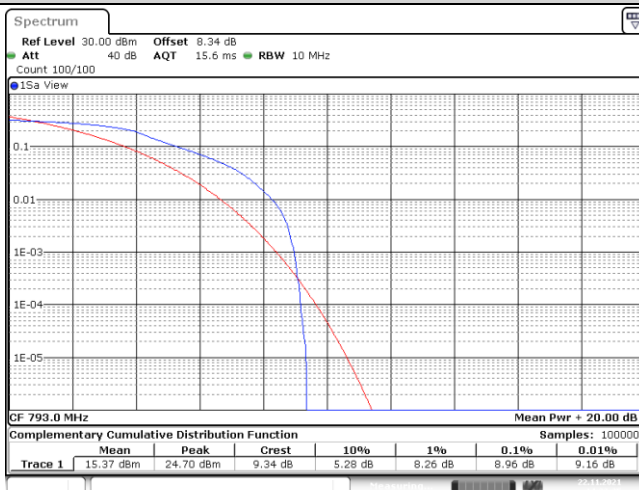
Date: 22.NOV.2021 14:27:47

Band14-5MHz-16QAM-23330-6-0-Low-10.17-<=13-PASS



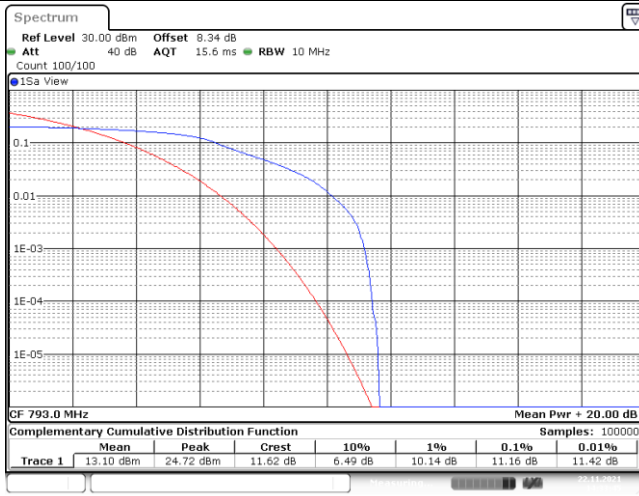
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Band14-10MHz-QPSK-23330-6-0-Low-8.96-<=13-PASS



Date: 22.NOV.2021 14:33:36

Band14-10MHz-16QAM-23330-6-0-Low-11.16-<=13-PASS



Date: 22.NOV.2021 14:33:45

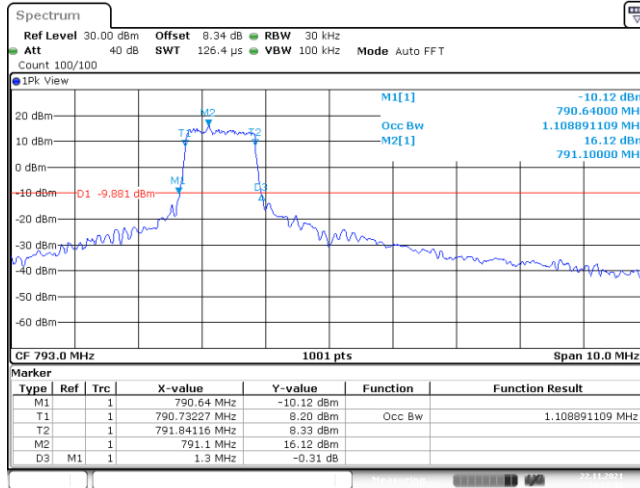
### APPENDIX F.3: 26dB BANDWIDTH AND OCCUPIED BANDWIDTH FOR M1

#### Test Result

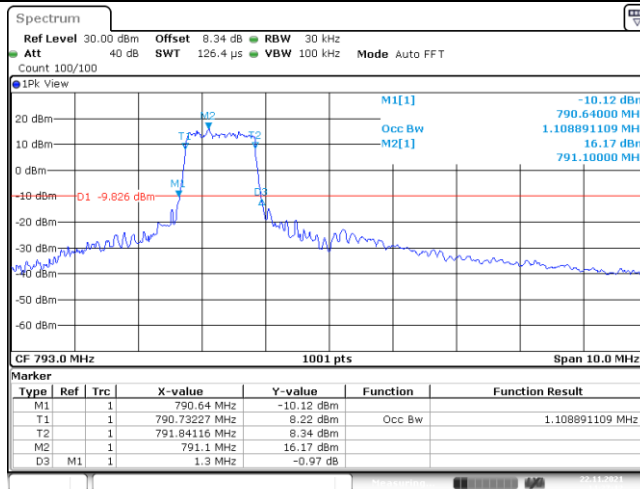
Band	Bandwidth	Modulation	Channel	RB Size	RB Start	Index	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
Band14	5MHz	23330	QPSK	6	0	Low	1.109	1.300	PASS
Band14	5MHz	23330	16QAM	6	0	Low	1.109	1.300	PASS
Band14	10MHz	23330	QPSK	6	0	Low	1.099	1.300	PASS
Band14	10MHz	23330	16QAM	6	0	Low	1.119	1.320	PASS

### Test Graphs

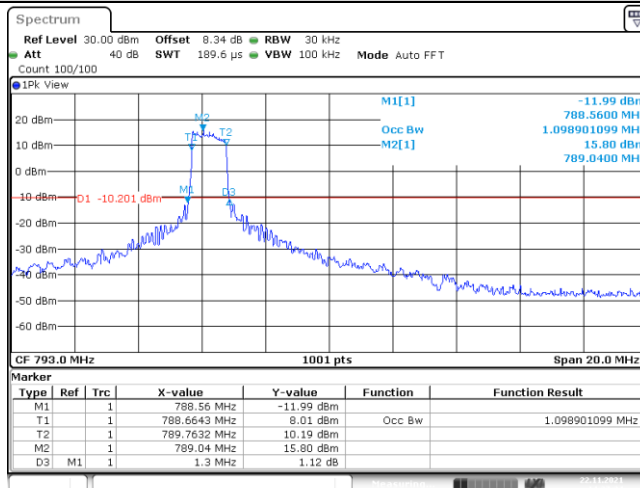
#### Band14-5MHz-QPSK-23330-6-0-Low-1.109-1.300-PASS



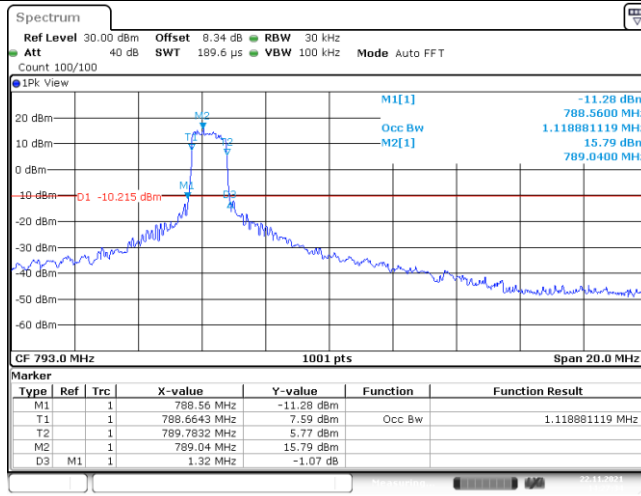
#### Band14-5MHz-16QAM-23330-6-0-Low-1.109-1.300-PASS



#### Band14-10MHz-QPSK-23330-6-0-Low-1.099-1.300-PASS



Band14-10MHz-16QAM-23330-6-0-Low-1.119-1.320-PASS



Date: 22.NOV.2021 14:27:34

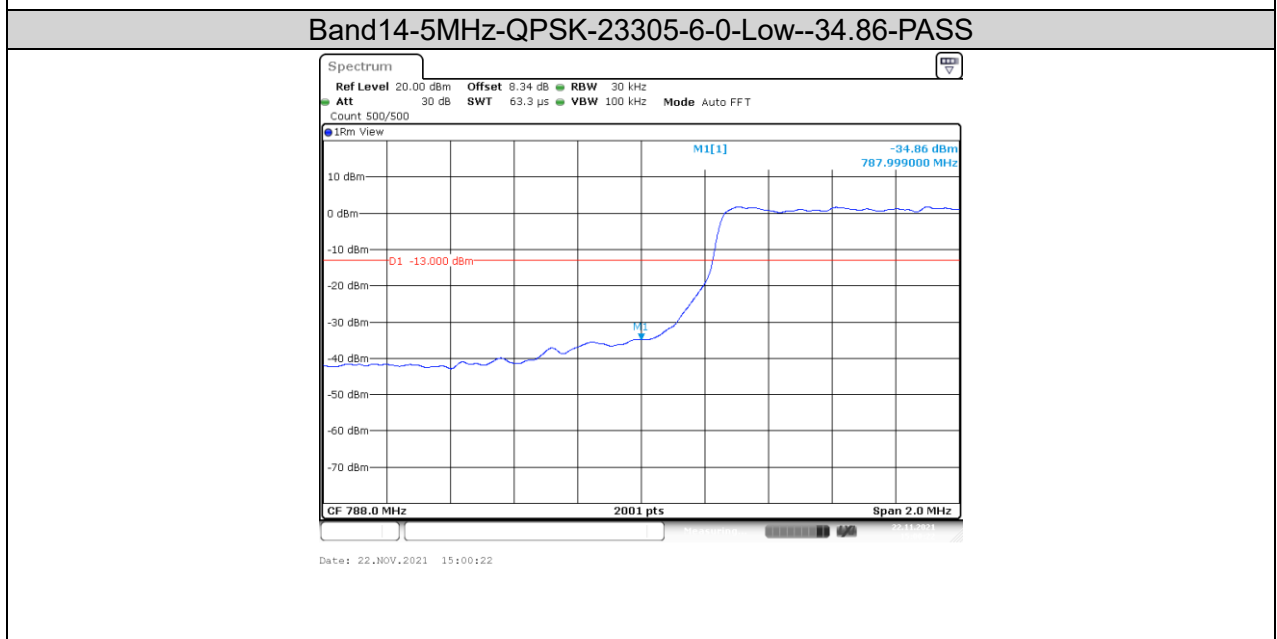
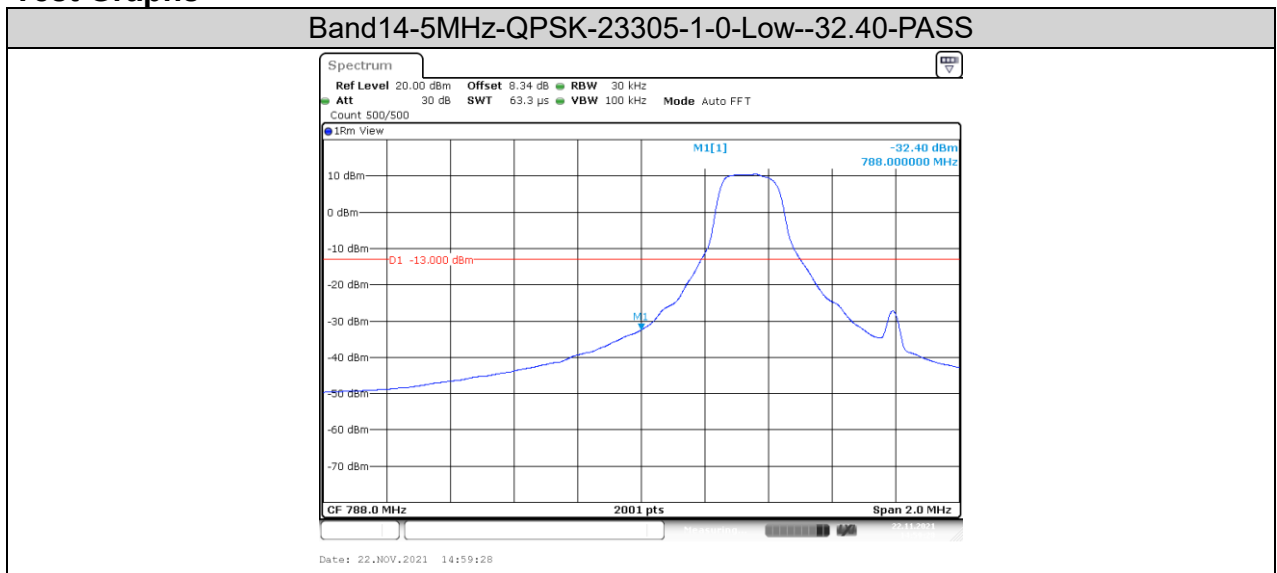


## APPENDIX F.4: BAND EDGE FOR M1

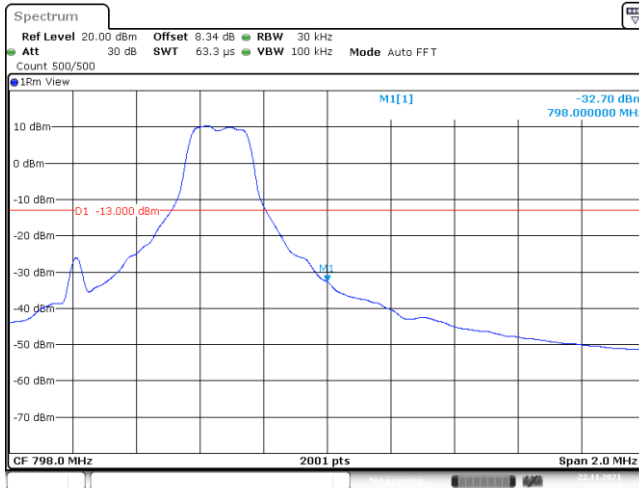
### Test Result

Band	Bandwidth	Modulation	Channel	RB Size	RB Start	NB Index	Result(dBm)	Verdict
Band14	5MHz	23305	QPSK	1	0	Low	-32.40	PASS
Band14	5MHz	23305	QPSK	6	0	Low	-34.86	PASS
Band14	5MHz	23355	QPSK	1	5	High	-32.70	PASS
Band14	5MHz	23355	QPSK	3	3	High	-34.24	PASS
Band14	5MHz	23305	16QAM	1	0	Low	-31.26	PASS
Band14	5MHz	23305	16QAM	6	0	Low	-35.08	PASS
Band14	5MHz	23355	16QAM	1	5	High	-33.52	PASS
Band14	5MHz	23355	16QAM	3	3	High	-33.19	PASS

### Test Graphs



Band14-5MHz-QPSK-23355-1-5-High--32.70-PASS



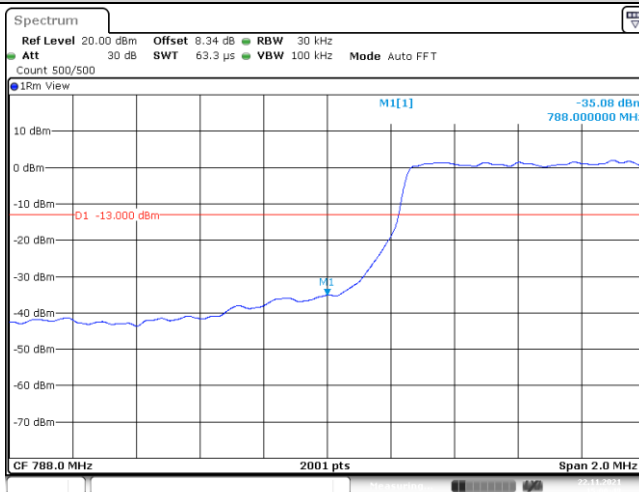
Band14-5MHz-QPSK-23355-3-3-High--34.24-PASS



Band14-5MHz-16QAM-23305-1-0-Low--31.26-PASS



Band14-5MHz-16QAM-23305-6-0-Low--35.08-PASS



Band14-5MHz-16QAM-23355-1-5-High--33.52-PASS



Band14-5MHz-16QAM-23355-3-3-High--33.19-PASS



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

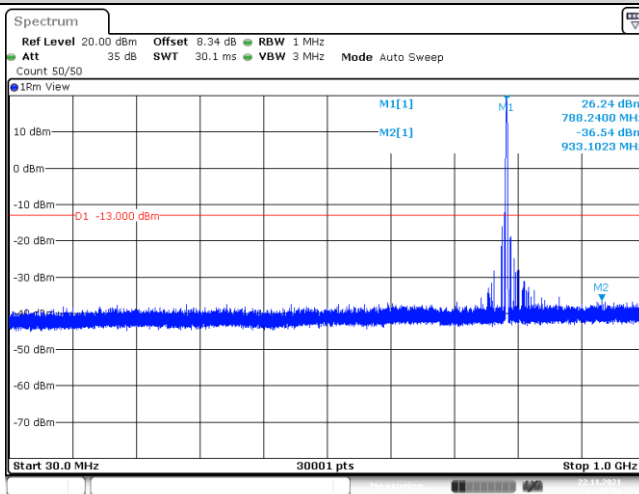
### Test Result

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	-36.54	PASS
Band14	5MHz	23305	QPSK	1	0	Low	1000	5000	-36.08	PASS
Band14	5MHz	23305	QPSK	1	0	Low	5000	12000	-54.67	PASS
Band14	5MHz	23305	QPSK	1	0	Low	12000	26500	-50.76	PASS
Band14	5MHz	23305	QPSK	6	0	Low	30	1000	-35.73	PASS
Band14	5MHz	23305	QPSK	6	0	Low	1000	5000	-38.66	PASS
Band14	5MHz	23305	QPSK	6	0	Low	5000	12000	-54.58	PASS
Band14	5MHz	23305	QPSK	6	0	Low	12000	26500	-50.74	PASS
Band14	5MHz	23330	QPSK	1	0	Low	30	1000	-35.86	PASS
Band14	5MHz	23330	QPSK	1	0	Low	1000	5000	-36.24	PASS
Band14	5MHz	23330	QPSK	1	0	Low	5000	12000	-54.59	PASS
Band14	5MHz	23330	QPSK	1	0	Low	12000	26500	-50.75	PASS
Band14	5MHz	23330	QPSK	6	0	Low	30	1000	-36.02	PASS
Band14	5MHz	23330	QPSK	6	0	Low	1000	5000	-38.78	PASS
Band14	5MHz	23330	QPSK	6	0	Low	5000	12000	-54.49	PASS
Band14	5MHz	23330	QPSK	6	0	Low	12000	26500	-50.79	PASS
Band14	5MHz	23355	QPSK	1	5	High	30	1000	-36.52	PASS
Band14	5MHz	23355	QPSK	1	5	High	1000	5000	-36.6	PASS
Band14	5MHz	23355	QPSK	1	5	High	5000	12000	-54.43	PASS
Band14	5MHz	23355	QPSK	1	5	High	12000	26500	-50.78	PASS
Band14	5MHz	23355	QPSK	3	3	High	30	1000	-36.29	PASS
Band14	5MHz	23355	QPSK	3	3	High	1000	5000	-38.14	PASS
Band14	5MHz	23355	QPSK	3	3	High	5000	12000	-54.62	PASS
Band14	5MHz	23355	QPSK	3	3	High	12000	26500	-50.72	PASS
Band14	5MHz	23305	16QAM	1	0	Low	30	1000	-36.07	PASS
Band14	5MHz	23305	16QAM	1	0	Low	1000	5000	-35.88	PASS
Band14	5MHz	23305	16QAM	1	0	Low	5000	12000	-54.59	PASS
Band14	5MHz	23305	16QAM	1	0	Low	12000	26500	-50.92	PASS
Band14	5MHz	23305	16QAM	6	0	Low	30	1000	-36.16	PASS
Band14	5MHz	23305	16QAM	6	0	Low	1000	5000	-38.49	PASS
Band14	5MHz	23305	16QAM	6	0	Low	5000	12000	-54.68	PASS
Band14	5MHz	23305	16QAM	6	0	Low	12000	26500	-50.75	PASS
Band14	5MHz	23330	16QAM	1	0	Low	30	1000	-36.39	PASS
Band14	5MHz	23330	16QAM	1	0	Low	1000	5000	-35.52	PASS
Band14	5MHz	23330	16QAM	1	0	Low	5000	12000	-54.54	PASS
Band14	5MHz	23330	16QAM	1	0	Low	12000	26500	-50.72	PASS
Band14	5MHz	23330	16QAM	6	0	Low	30	1000	-36.06	PASS
Band14	5MHz	23330	16QAM	6	0	Low	1000	5000	-38.48	PASS
Band14	5MHz	23330	16QAM	6	0	Low	5000	12000	-54.57	PASS
Band14	5MHz	23330	16QAM	6	0	Low	12000	26500	-50.59	PASS
Band14	5MHz	23355	16QAM	1	5	High	30	1000	-36.63	PASS

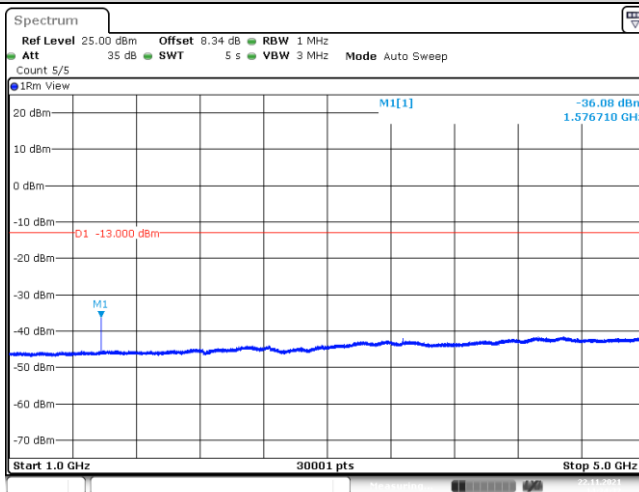
Band14	5MHz	23355	16QAM	1	5	High	1000	5000	-36.29	PASS
Band14	5MHz	23355	16QAM	1	5	High	5000	12000	-54.48	PASS
Band14	5MHz	23355	16QAM	1	5	High	12000	26500	-50.15	PASS
Band14	5MHz	23355	16QAM	3	3	High	30	1000	-36.24	PASS
Band14	5MHz	23355	16QAM	3	3	High	1000	5000	-37.79	PASS
Band14	5MHz	23355	16QAM	3	3	High	5000	12000	-54.54	PASS
Band14	5MHz	23355	16QAM	3	3	High	12000	26500	-50.82	PASS

### Test Graphs

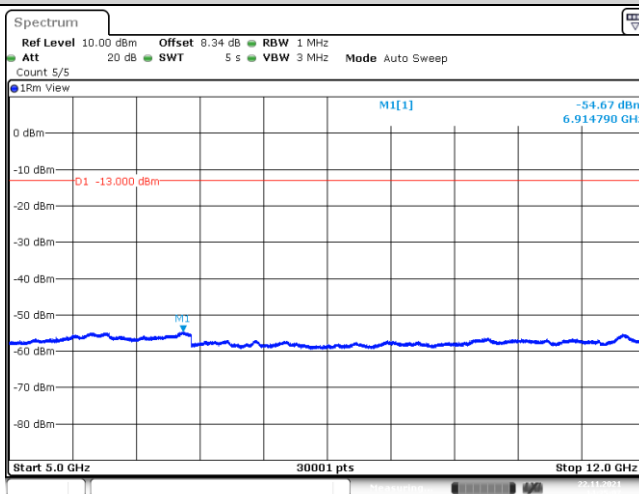
Band14-5MHz-QPSK-23305-1-0-Low-30-1000--36.54-PASS



Band14-5MHz-QPSK-23305-1-0-Low-1000-5000--36.08-PASS

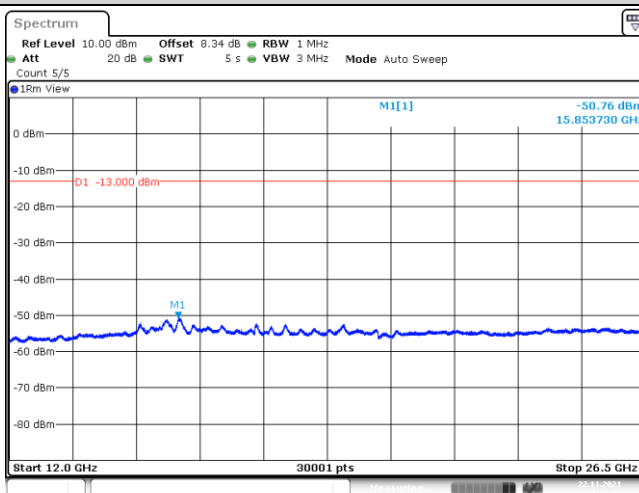


Band14-5MHz-QPSK-23305-1-0-Low-5000-12000--54.67-PASS



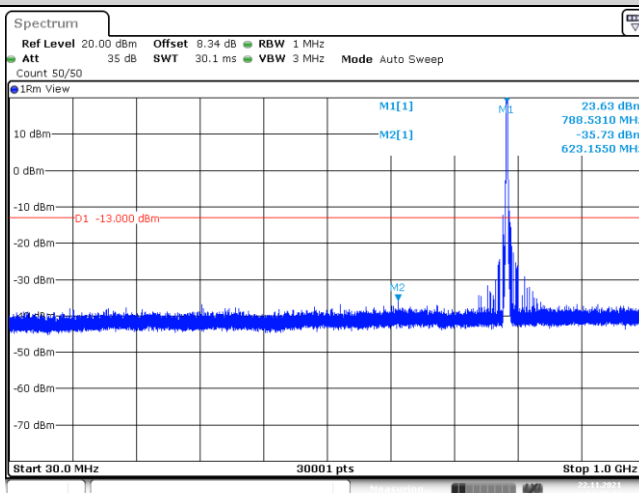
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Band14-5MHz-QPSK-23305-1-0-Low-12000-26500--50.76-PASS



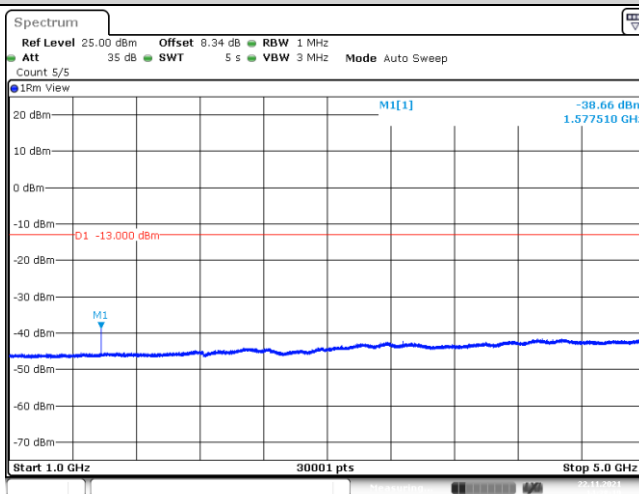
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Band14-5MHz-QPSK-23305-6-0-Low-30-1000--35.73-PASS



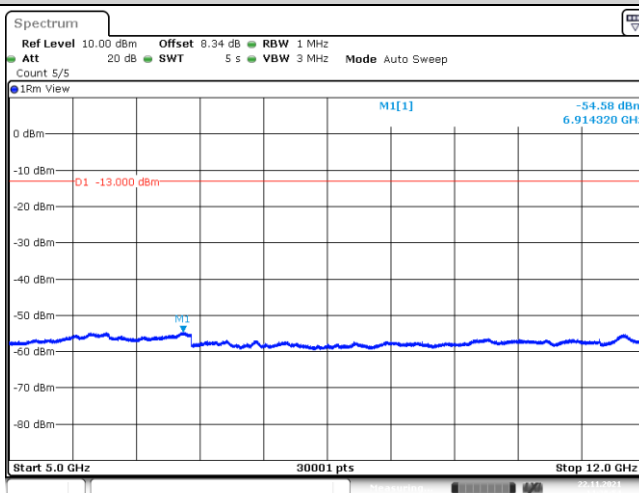
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Band14-5MHz-QPSK-23305-6-0-Low-1000-5000--38.66-PASS



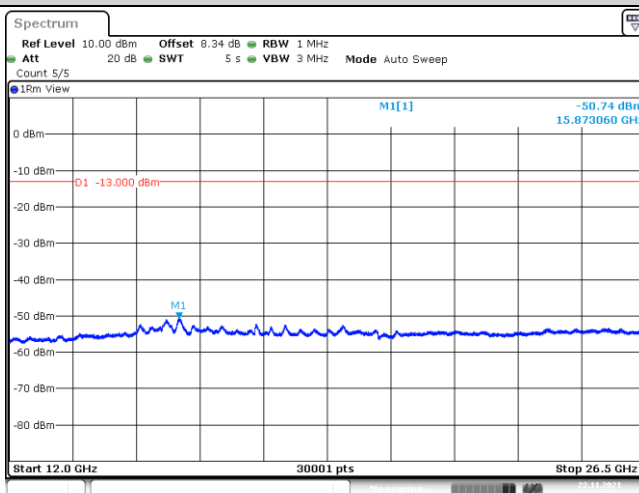
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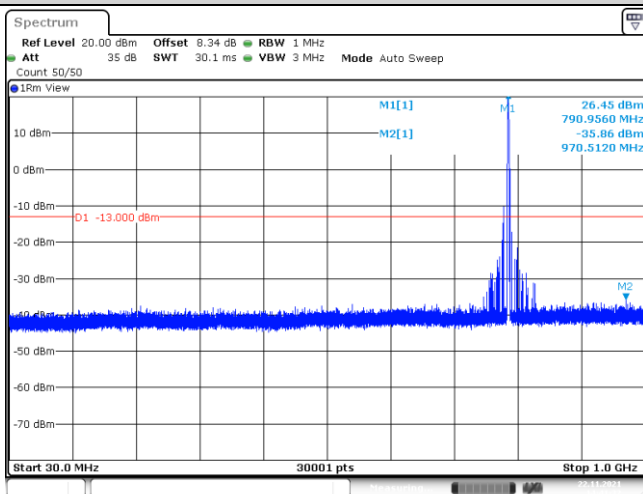
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Band14-5MHz-QPSK-23305-6-0-Low-12000-26500--50.74-PASS



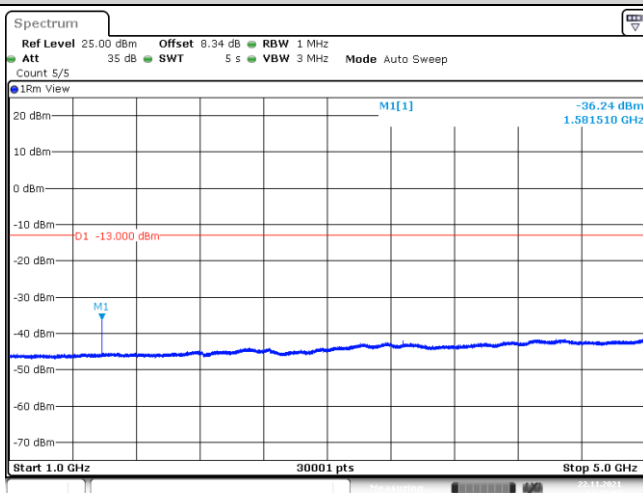
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Band14-5MHz-QPSK-23330-1-0-Low-30-1000--35.86-PASS



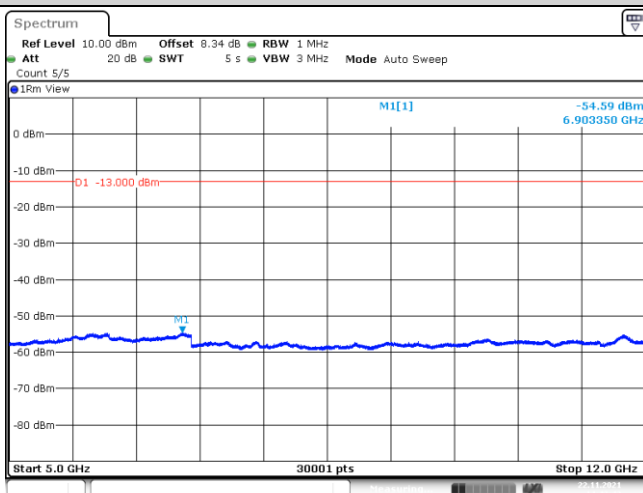
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Band14-5MHz-QPSK-23330-1-0-Low-1000-5000--36.24-PASS



Date: 22.NOV.2021 14:42:07

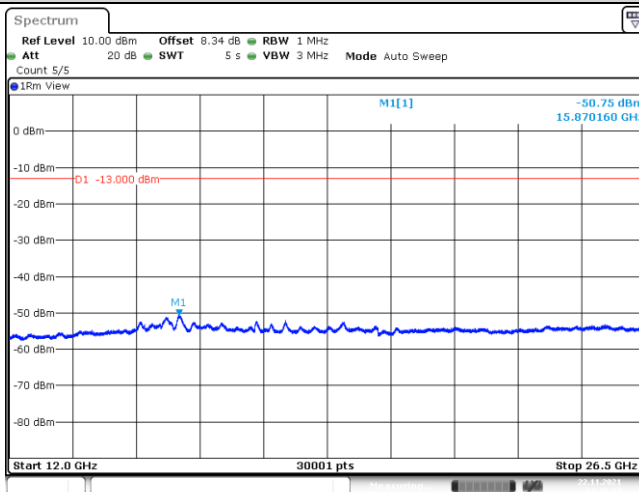
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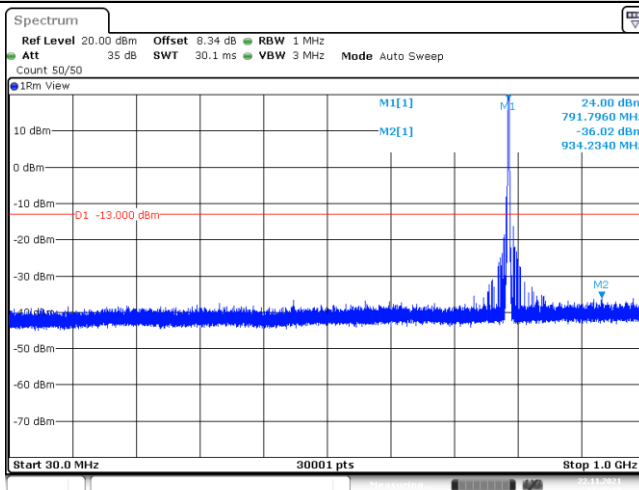


Band14-5MHz-QPSK-23330-1-0-Low-12000-26500--50.75-PASS



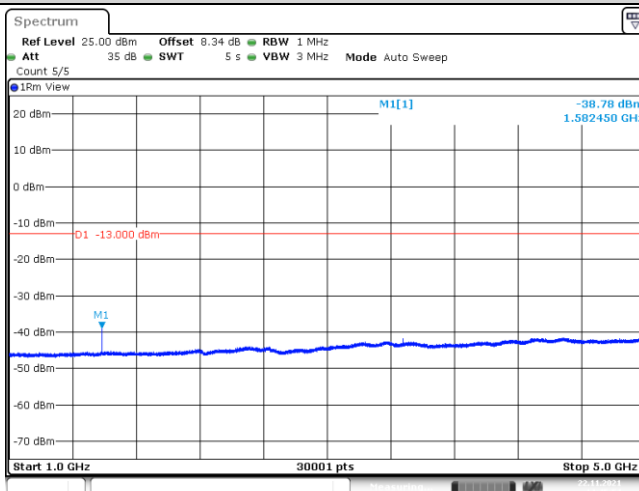
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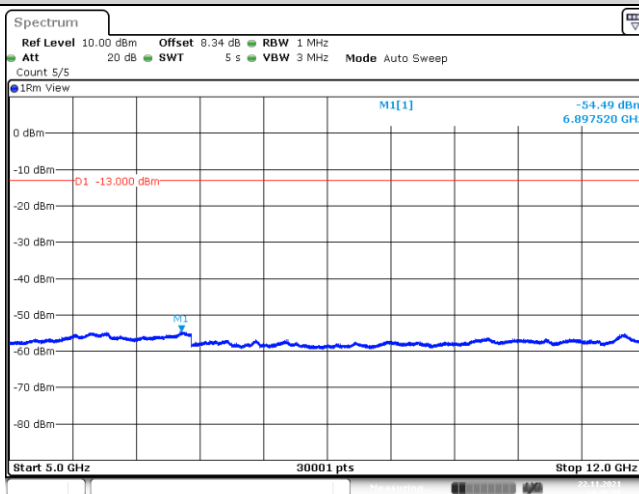
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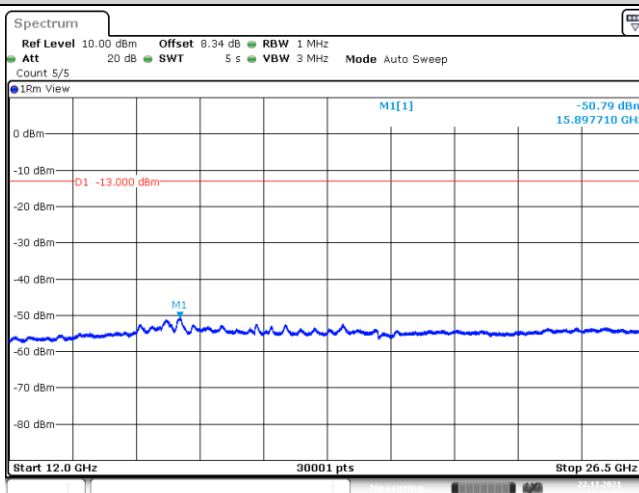
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Band14-5MHz-QPSK-23330-6-0-Low-5000-12000--54.49-PASS



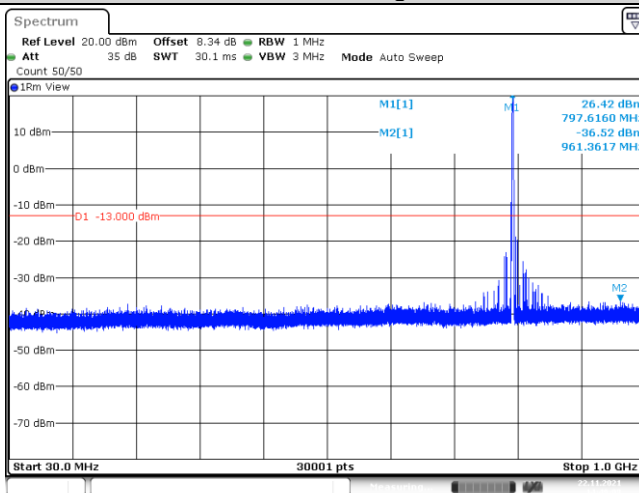
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Band14-5MHz-QPSK-23330-6-0-Low-12000-26500--50.79-PASS



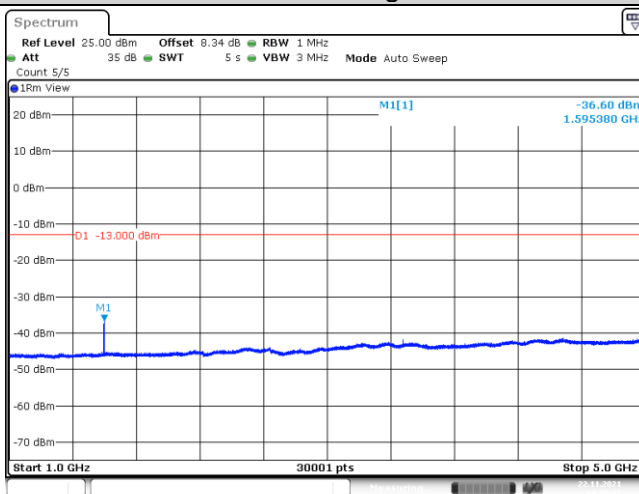
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Band14-5MHz-QPSK-23355-1-5-High-30-1000--36.52-PASS



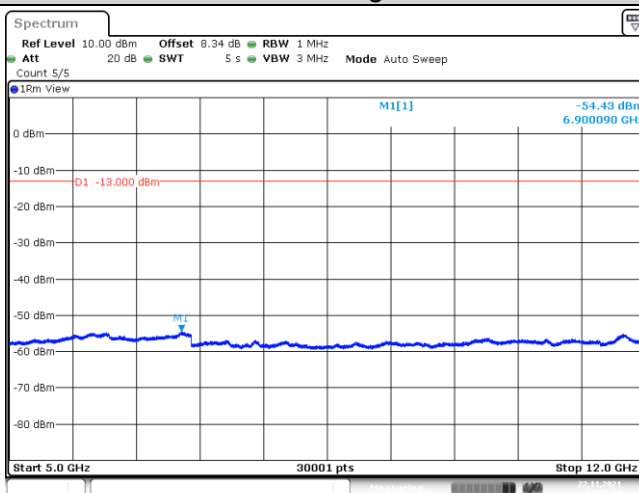
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Band14-5MHz-QPSK-23355-1-5-High-1000-5000--36.6-PASS



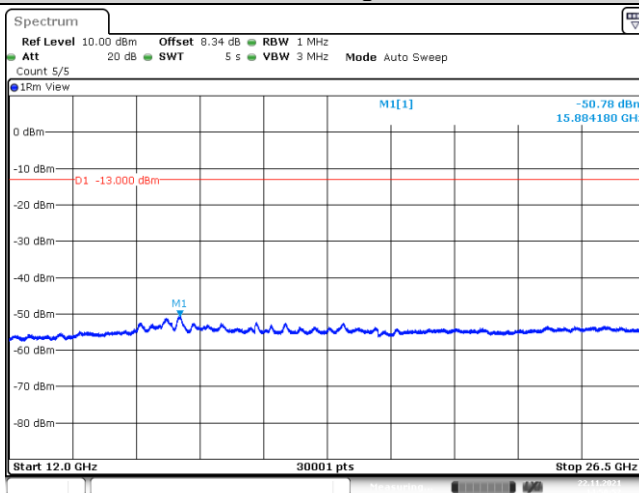
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Band14-5MHz-QPSK-23355-1-5-High-5000-12000--54.43-PASS



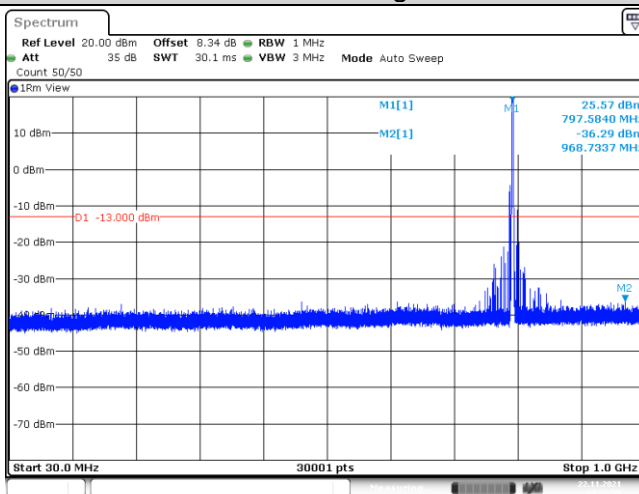
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Band14-5MHz-QPSK-23355-1-5-High-12000-26500--50.78-PASS



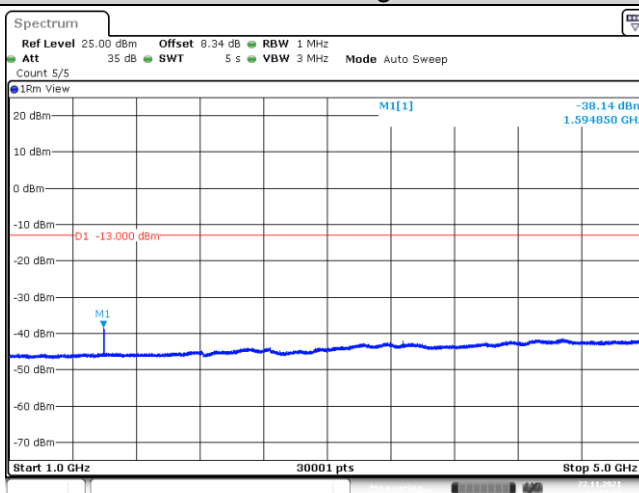
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Band14-5MHz-QPSK-23355-3-3-High-30-1000--36.29-PASS



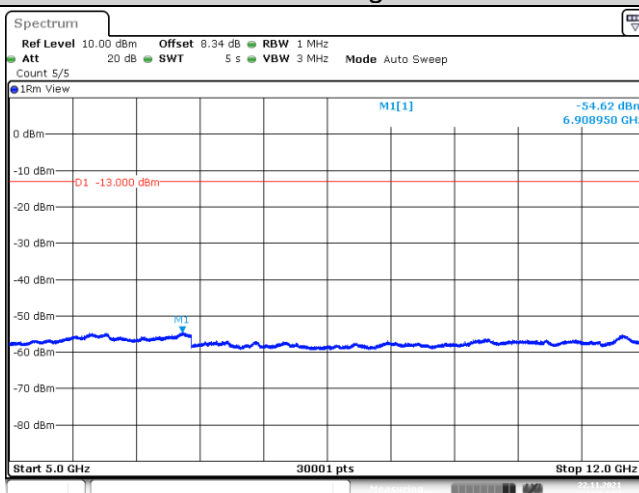
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Band14-5MHz-QPSK-23355-3-3-High-1000-5000--38.14-PASS



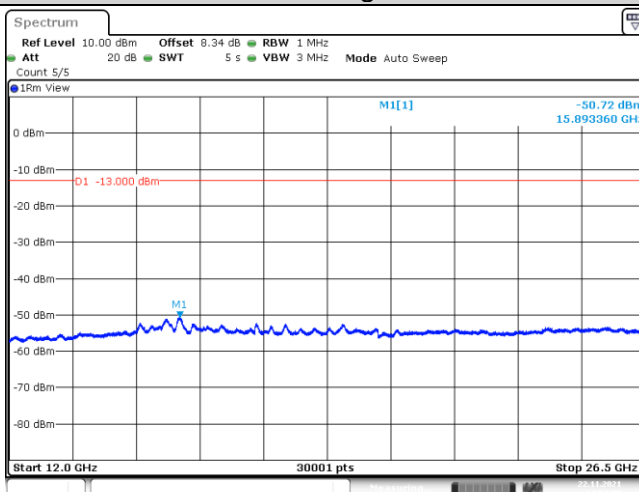
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Band14-5MHz-QPSK-23355-3-3-High-5000-12000--54.62-PASS



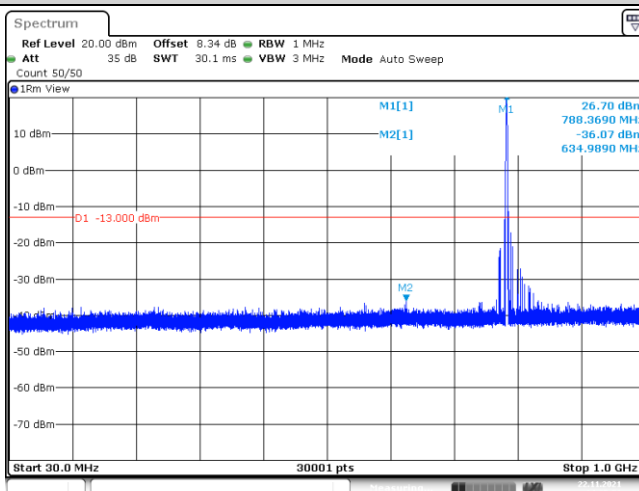
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Band14-5MHz-QPSK-23355-3-3-High-12000-26500--50.72-PASS



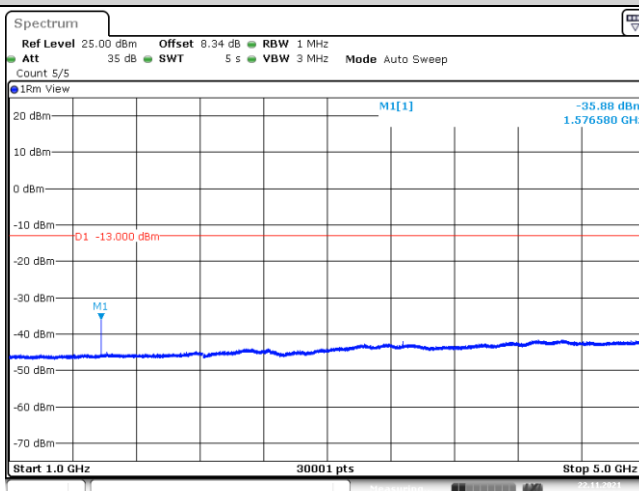
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Band14-5MHz-16QAM-23305-1-0-Low-30-1000--36.07-PASS



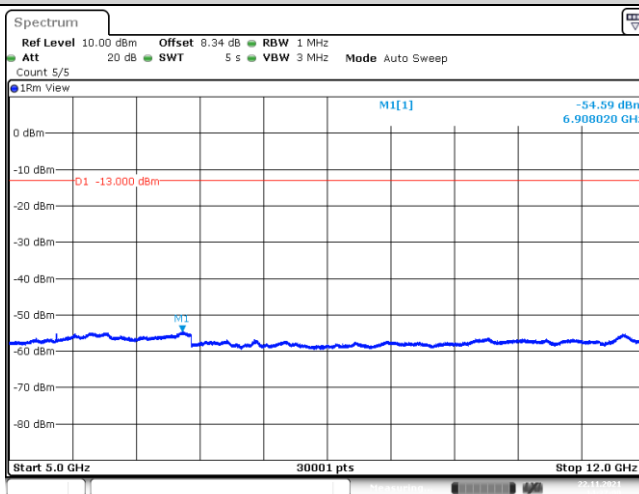
Date: 22.NOV.2021 14:35:51

Band14-5MHz-16QAM-23305-1-0-Low-1000-5000--35.88-PASS



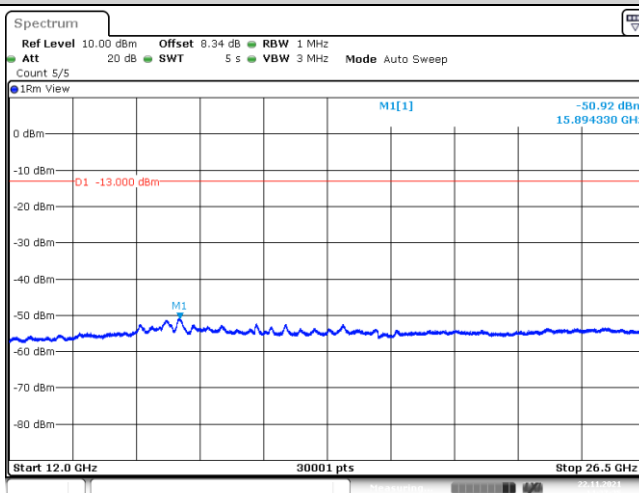
Date: 22.NOV.2021 14:36:26

Band14-5MHz-16QAM-23305-1-0-Low-5000-12000--54.59-PASS



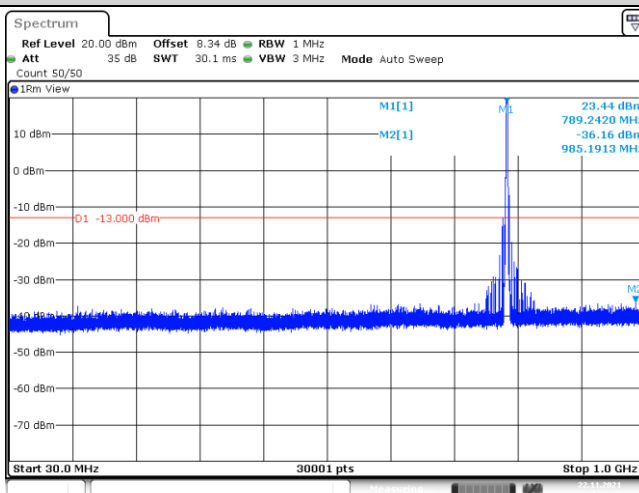
Date: 22.NOV.2021 14:37:01

Band14-5MHz-16QAM-23305-1-0-Low-12000-26500--50.92-PASS



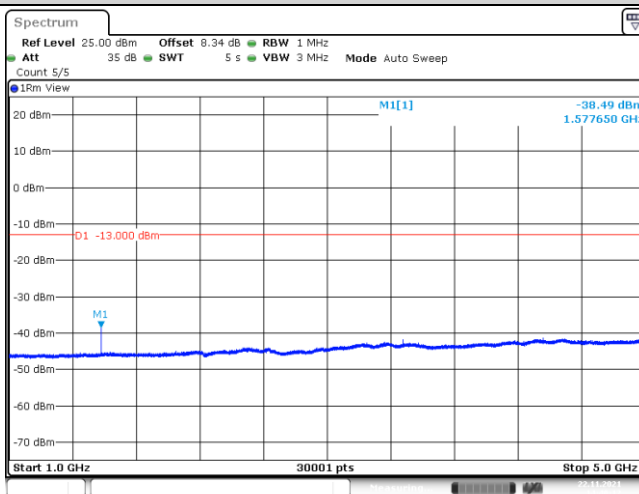
Date: 22.NOV.2021 14:37:35

Band14-5MHz-16QAM-23305-6-0-Low-30-1000--36.16-PASS



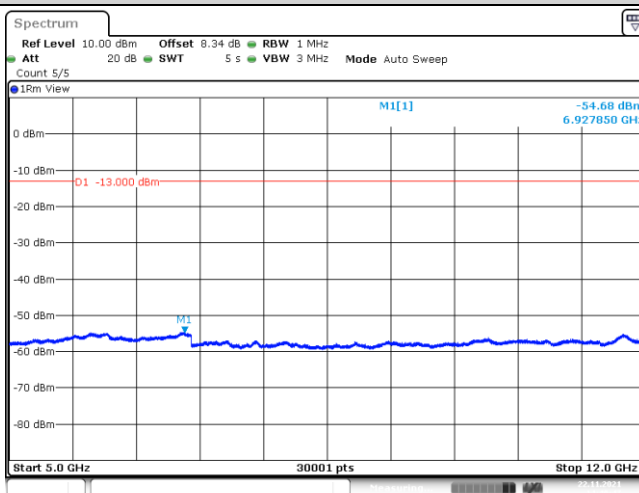
Date: 22.NOV.2021 14:39:37

Band14-5MHz-16QAM-23305-6-0-Low-1000-5000--38.49-PASS



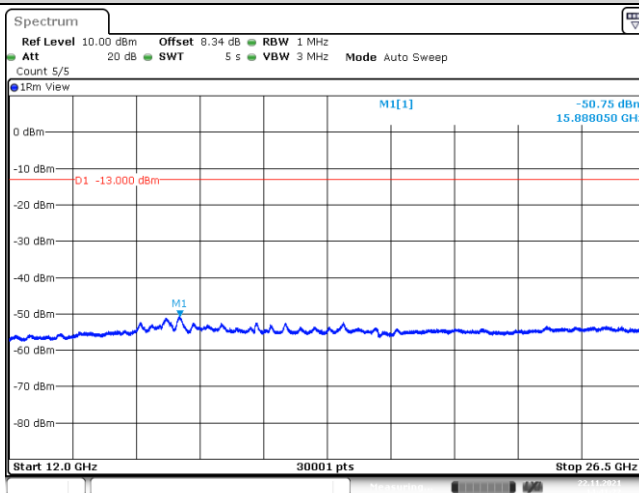
Date: 22.NOV.2021 14:40:12

Band14-5MHz-16QAM-23305-6-0-Low-5000-12000--54.68-PASS



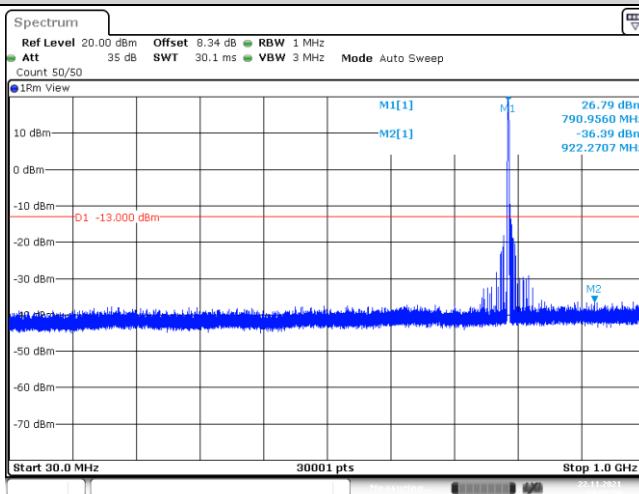
Date: 22.NOV.2021 14:40:47

Band14-5MHz-16QAM-23305-6-0-Low-12000-26500--50.75-PASS



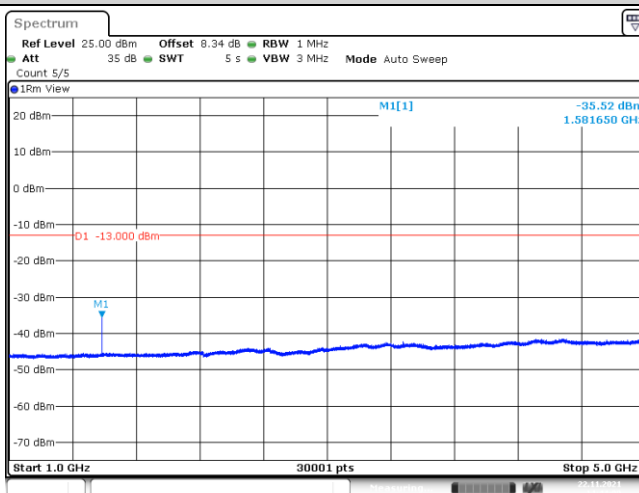
Date: 22.NOV.2021 14:41:22

Band14-5MHz-16QAM-23330-1-0-Low-30-1000--36.39-PASS



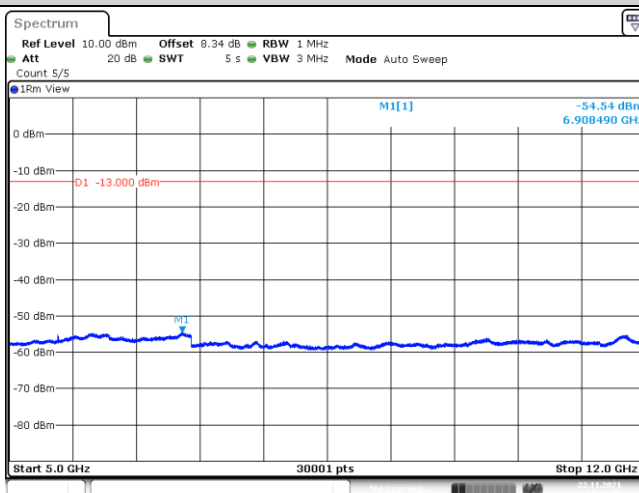
Date: 22.NOV.2021 14:43:26

Band14-5MHz-16QAM-23330-1-0-Low-1000-5000--35.52-PASS



Date: 22.NOV.2021 14:44:01

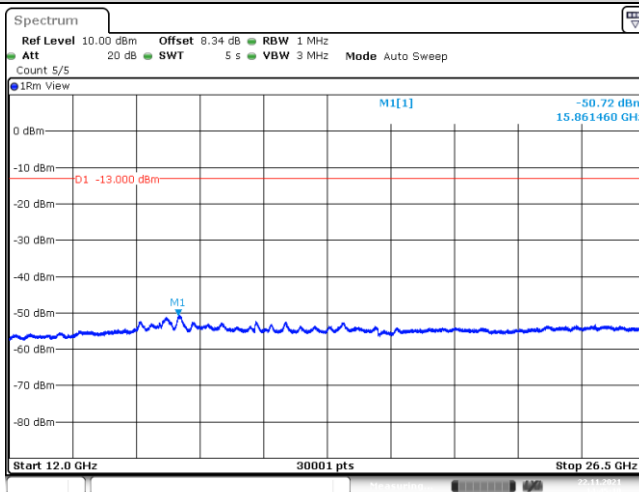
Band14-5MHz-16QAM-23330-1-0-Low-5000-12000--54.54-PASS



Date: 22.NOV.2021 14:44:35

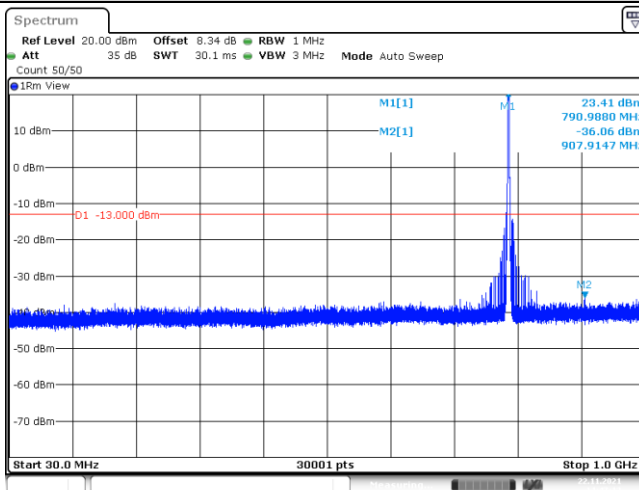


Band14-5MHz-16QAM-23330-1-0-Low-12000-26500--50.72-PASS



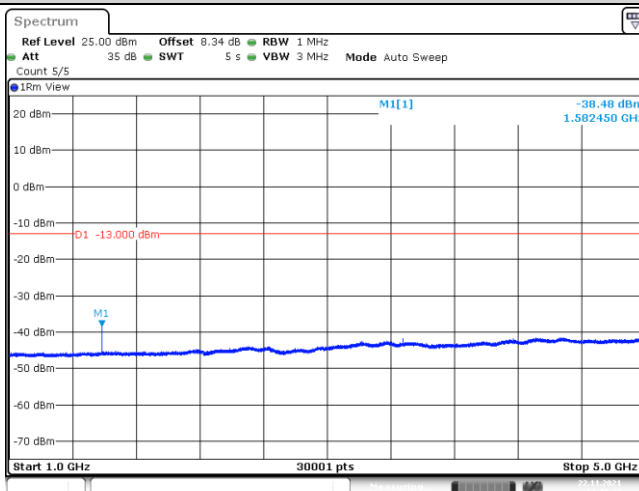
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Band14-5MHz-16QAM-23330-6-0-Low-30-1000--36.06-PASS



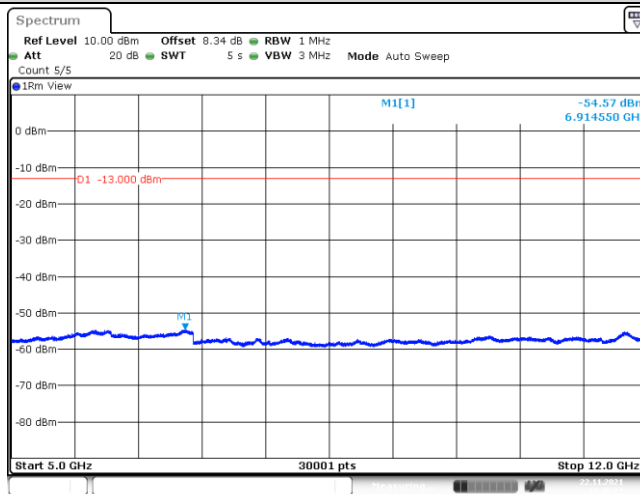
Date: 22.NOV.2021 14:47:12

Band14-5MHz-16QAM-23330-6-0-Low-1000-5000--38.48-PASS



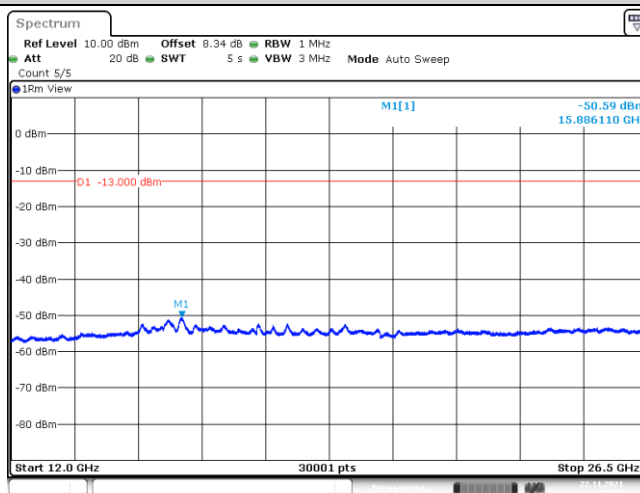
Date: 22.NOV.2021 14:47:47

Band14-5MHz-16QAM-23330-6-0-Low-5000-12000--54.57-PASS



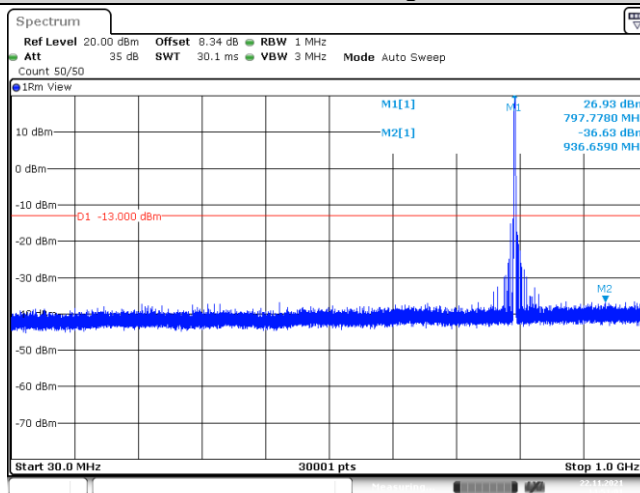
Date: 22.NOV.2021 14:48:22

Band14-5MHz-16QAM-23330-6-0-Low-12000-26500--50.59-PASS



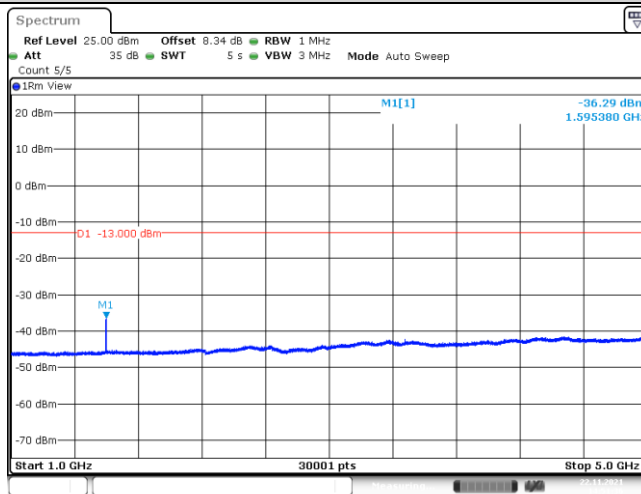
Date: 22.NOV.2021 14:48:57

Band14-5MHz-16QAM-23355-1-5-High-30-1000--36.63-PASS

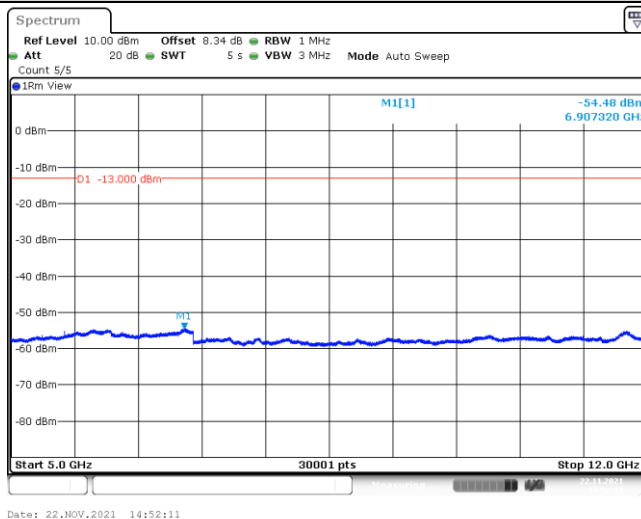


Date: 22.NOV.2021 14:51:01

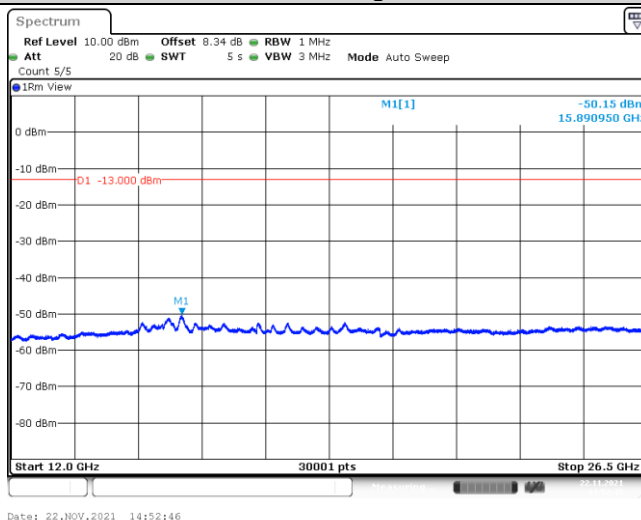
Band14-5MHz-16QAM-23355-1-5-High-1000-5000--36.29-PASS



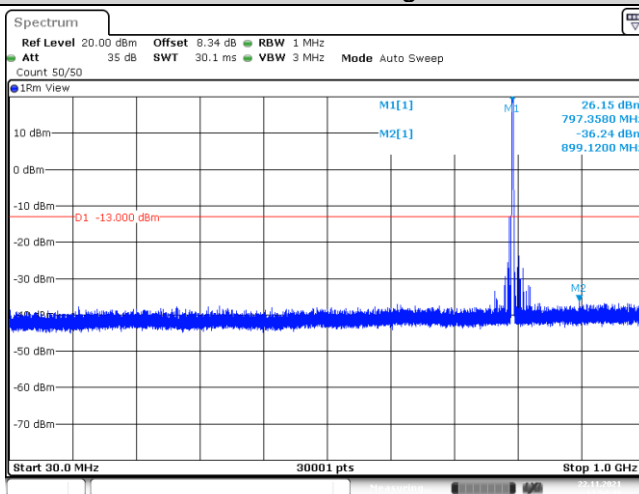
Band14-5MHz-16QAM-23355-1-5-High-5000-12000--54.48-PASS



Band14-5MHz-16QAM-23355-1-5-High-12000-26500--50.15-PASS

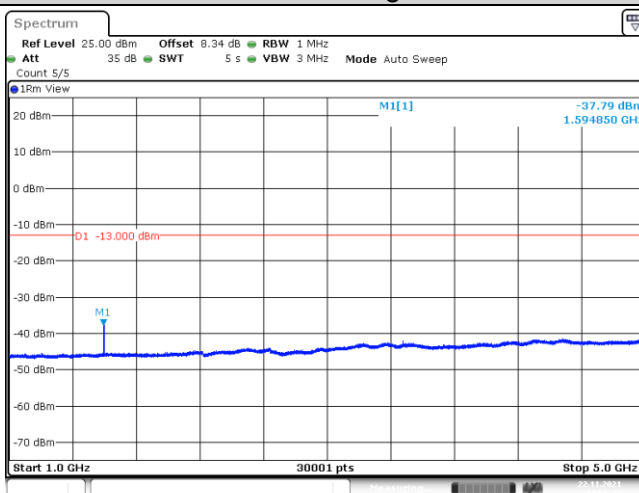


Band14-5MHz-16QAM-23355-3-3-High-30-1000--36.24-PASS



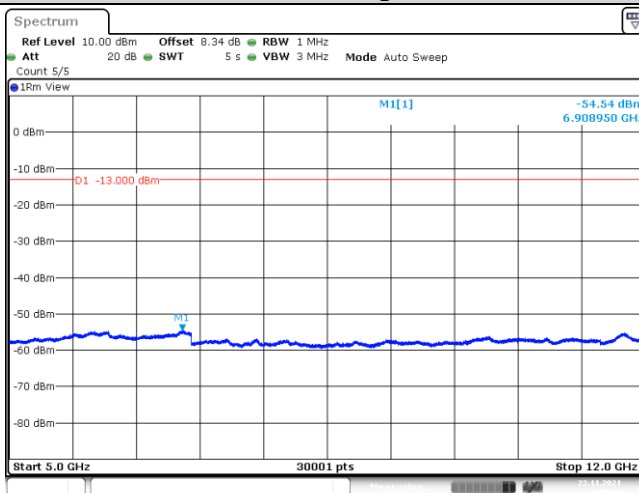
Date: 22.NOV.2021 14:54:48

Band14-5MHz-16QAM-23355-3-3-High-1000-5000--37.79-PASS



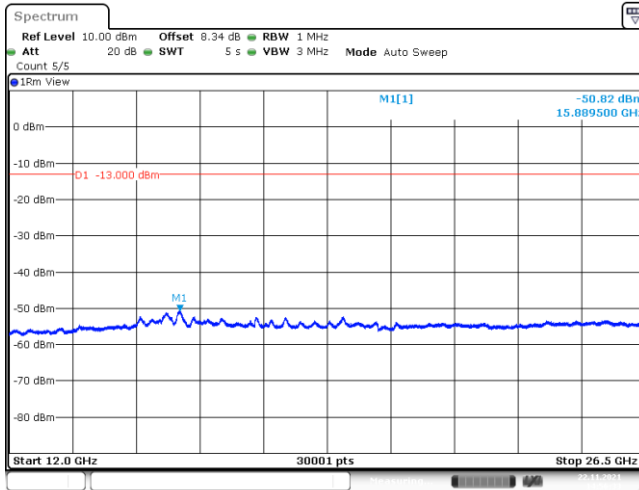
Date: 22.NOV.2021 14:55:23

Band14-5MHz-16QAM-23355-3-3-High-5000-12000--54.54-PASS



Date: 22.NOV.2021 14:55:58

Band14-5MHz-16QAM-23355-3-3-High-12000-26500--50.82-PASS



Date: 22.NOV.2021 14:56:33

## 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	-7.55	-0.009521	±2.5	PASS
Band14	5MHz	23330	QPSK	1	0	Low	LV	NT	-6.94	-0.008752	±2.5	PASS
Band14	5MHz	23330	QPSK	1	0	Low	NV	NT	-7.52	-0.009483	±2.5	PASS
Band14	5MHz	23330	16QAM	1	0	Low	HV	NT	-8.71	-0.010984	±2.5	PASS
Band14	5MHz	23330	16QAM	1	0	Low	LV	NT	-6.94	-0.008752	±2.5	PASS
Band14	5MHz	23330	16QAM	1	0	Low	NV	NT	-8.15	-0.010277	±2.5	PASS

Temperature												
Band	Bandwidth	Modulation	Channel	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	-7.34	-0.0093	±2.5	PASS
Band14	5MHz	23330	QPSK	1	0	Low	NV	-30	-6.51	-0.0082	±2.5	PASS
Band14	5MHz	23330	QPSK	1	0	Low	NV	-20	-7.00	-0.0088	±2.5	PASS
Band14	5MHz	23330	QPSK	1	0	Low	NV	-10	-6.21	-0.0078	±2.5	PASS
Band14	5MHz	23330	QPSK	1	0	Low	NV	0	-4.58	-0.0058	±2.5	PASS
Band14	5MHz	23330	QPSK	1	0	Low	NV	10	-5.97	-0.0075	±2.5	PASS
Band14	5MHz	23330	QPSK	1	0	Low	NV	20	-5.35	-0.0067	±2.5	PASS
Band14	5MHz	23330	QPSK	1	0	Low	NV	30	-5.25	-0.0066	±2.5	PASS
Band14	5MHz	23330	QPSK	1	0	Low	NV	40	-8.07	-0.0102	±2.5	PASS
Band14	5MHz	23330	QPSK	1	0	Low	NV	50	-7.40	-0.0093	±2.5	PASS
Band14	5MHz	23330	QPSK	1	0	Low	NV	60	-8.98	-0.0113	±2.5	PASS
Band14	5MHz	23330	QPSK	1	0	Low	NV	70	-6.95	-0.0088	±2.5	PASS
Band14	5MHz	23330	QPSK	1	0	Low	NV	-40	-8.64	-0.0109	±2.5	PASS
Band14	5MHz	23330	QPSK	1	0	Low	NV	80	-8.47	-0.0107	±2.5	PASS
Band14	5MHz	23330	16QAM	1	0	Low	NV	85	-8.38	-0.0106	±2.5	PASS
Band14	5MHz	23330	16QAM	1	0	Low	NV	-30	-7.40	-0.0093	±2.5	PASS
Band14	5MHz	23330	16QAM	1	0	Low	NV	-20	-8.18	-0.0103	±2.5	PASS
Band14	5MHz	23330	16QAM	1	0	Low	NV	-10	-9.10	-0.0115	±2.5	PASS
Band14	5MHz	23330	16QAM	1	0	Low	NV	0	-7.85	-0.0099	±2.5	PASS
Band14	5MHz	23330	16QAM	1	0	Low	NV	10	-8.91	-0.0112	±2.5	PASS
Band14	5MHz	23330	16QAM	1	0	Low	NV	20	-8.63	-0.0109	±2.5	PASS
Band14	5MHz	23330	16QAM	1	0	Low	NV	30	-8.05	-0.0102	±2.5	PASS
Band14	5MHz	23330	16QAM	1	0	Low	NV	40	-6.94	-0.0088	±2.5	PASS
Band14	5MHz	23330	16QAM	1	0	Low	NV	50	-7.82	-0.0099	±2.5	PASS
Band14	5MHz	23330	16QAM	1	0	Low	NV	60	-8.21	-0.0104	±2.5	PASS
Band14	5MHz	23330	16QAM	1	0	Low	NV	70	-7.60	-0.0096	±2.5	PASS
Band14	5MHz	23330	16QAM	1	0	Low	NV	80	-7.78	-0.0098	±2.5	PASS
Band14	5MHz	23330	16QAM	1	0	Low	NV	-40	-7.44	-0.0094	±2.5	PASS