

Appendix K: Test Results of Band 85 for eMTC operation

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APPENDIX K.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
Band85	5MHz	134027	QPSK	1	0	Low	23.58	PASS
Band85	5MHz	134027	QPSK	6	0	Low	22.45	PASS
Band85	5MHz	134092	QPSK	1	0	Low	23.59	PASS
Band85	5MHz	134092	QPSK	6	0	Low	22.43	PASS
Band85	5MHz	134157	QPSK	1	5	High	23.55	PASS
Band85	5MHz	134157	QPSK	3	3	High	22.46	PASS
Band85	5MHz	134027	16QAM	1	0	Low	23.68	PASS
Band85	5MHz	134027	16QAM	6	0	Low	22.46	PASS
Band85	5MHz	134092	16QAM	1	0	Low	23.68	PASS
Band85	5MHz	134092	16QAM	6	0	Low	22.44	PASS
Band85	5MHz	134157	16QAM	1	5	High	23.56	PASS
Band85	5MHz	134157	16QAM	3	3	High	22.73	PASS
Band85	10MHz	134092	QPSK	1	0	Low	23.57	PASS
Band85	10MHz	134092	QPSK	1	5	High	23.42	PASS
Band85	10MHz	134092	QPSK	5	0	Low	22.46	PASS
Band85	10MHz	134092	QPSK	5	1	High	22.48	PASS
Band85	10MHz	134092	16QAM	1	0	Low	23.65	PASS
Band85	10MHz	134092	16QAM	1	5	High	23.55	PASS
Band85	10MHz	134092	16QAM	5	0	Low	22.54	PASS
Band85	10MHz	134092	16QAM	5	1	High	22.62	PASS

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

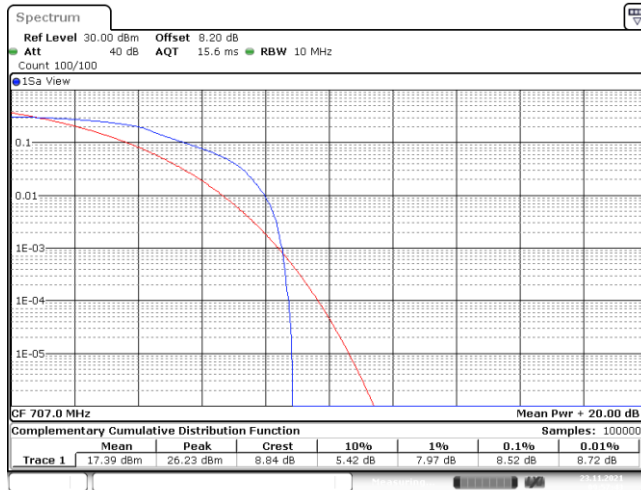
APPENDIX K.2: PEAK-TO-AVERAGE RATIO (CCDF) FOR M1

Test Result

Band	Bandwidth	Modulation	Channel	RB Size	RB Start	Index	Result (dB)	Limit (dB)	Verdict
Band85	5MHz	134092	QPSK	6	0	Low	8.52	<=13	PASS
Band85	5MHz	134092	16QAM	6	0	Low	10.67	<=13	PASS
Band85	10MHz	134092	QPSK	6	0	Low	8.41	<=13	PASS
Band85	10MHz	134092	16QAM	6	0	Low	10.96	<=13	PASS

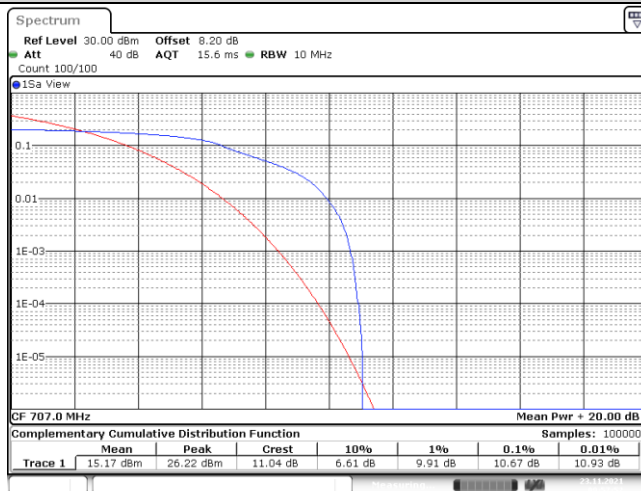
Test Graphs

Band85-5MHz-QPSK-134092-6-0-Low-8.52-<=13-PASS



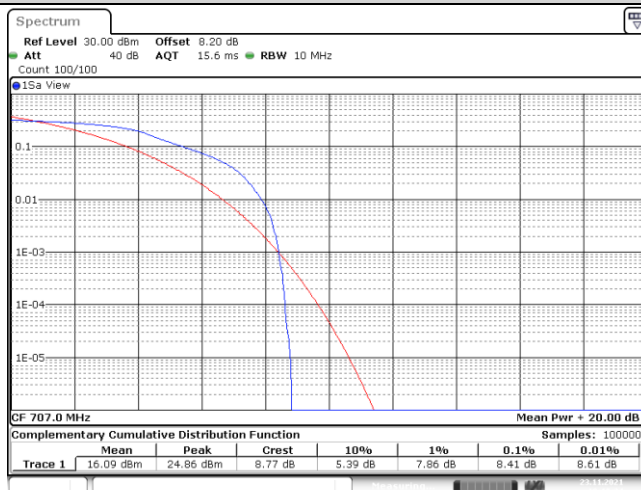
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Band85-5MHz-16QAM-134092-6-0-Low-10.67-<=13-PASS



Date: 23.NOV.2021 09:57:52

Band85-10MHz-QPSK-134092-6-0-Low-8.41-<=13-PASS



Date: 23.NOV.2021 10:10:34

Band85-10MHz-16QAM-134092-6-0-Low-10.96-<=13-PASS



Date: 23.NOV.2021 10:10:44

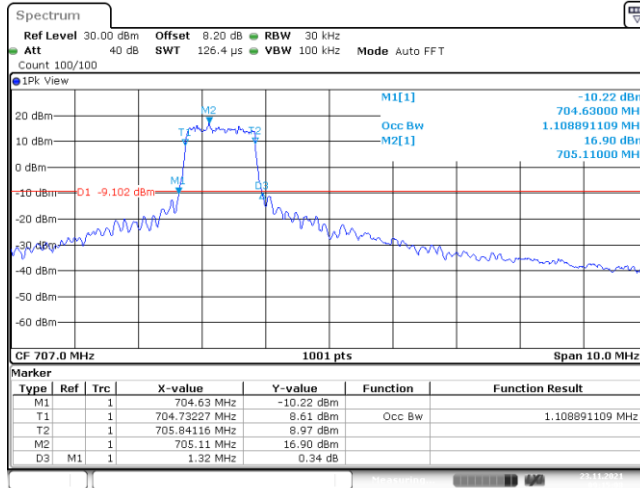
APPENDIX K.3: 26dB BANDWIDTH AND OCCUPIED BANDWIDTH FOR M1

Test Result

Band	Bandwidth	Modulation	Channel	RB Size	RB Start	Index	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
Band85	5MHz	134092	QPSK	6	0	Low	1.109	1.320	PASS
Band85	5MHz	134092	16QAM	6	0	Low	1.109	1.320	PASS
Band85	10MHz	134092	QPSK	6	0	Low	1.099	1.300	PASS
Band85	10MHz	134092	16QAM	6	0	Low	1.099	1.320	PASS

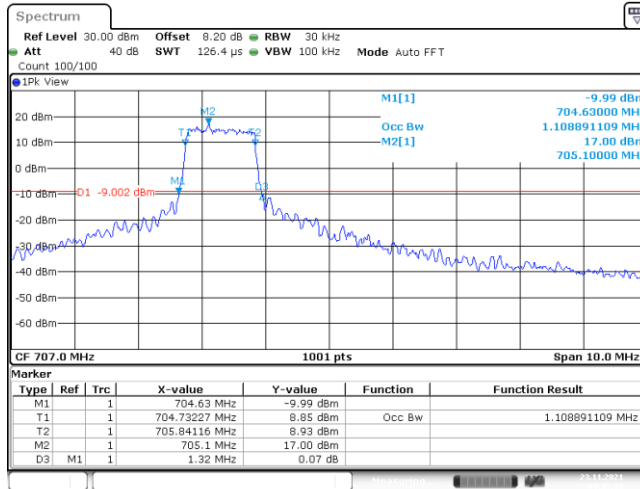
Test Graphs

Band85-5MHz-QPSK-134092-6-0-Low-1.109-1.320-PASS



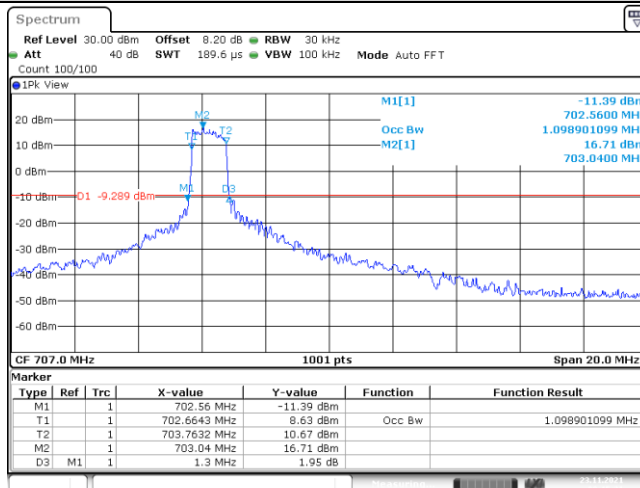
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Band85-5MHz-16QAM-134092-6-0-Low-1.109-1.320-PASS



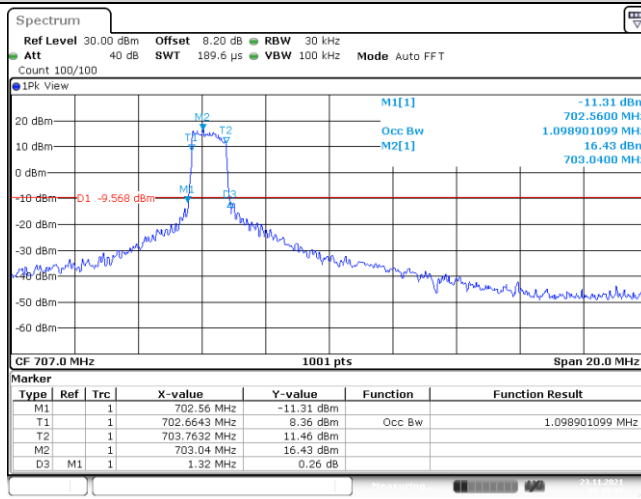
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Band85-10MHz-QPSK-134092-6-0-Low-1.099-1.300-PASS



Date: 23.NOV.2021 09:15:31

Band85-10MHz-16QAM-134092-6-0-Low-1.099-1.320-PASS



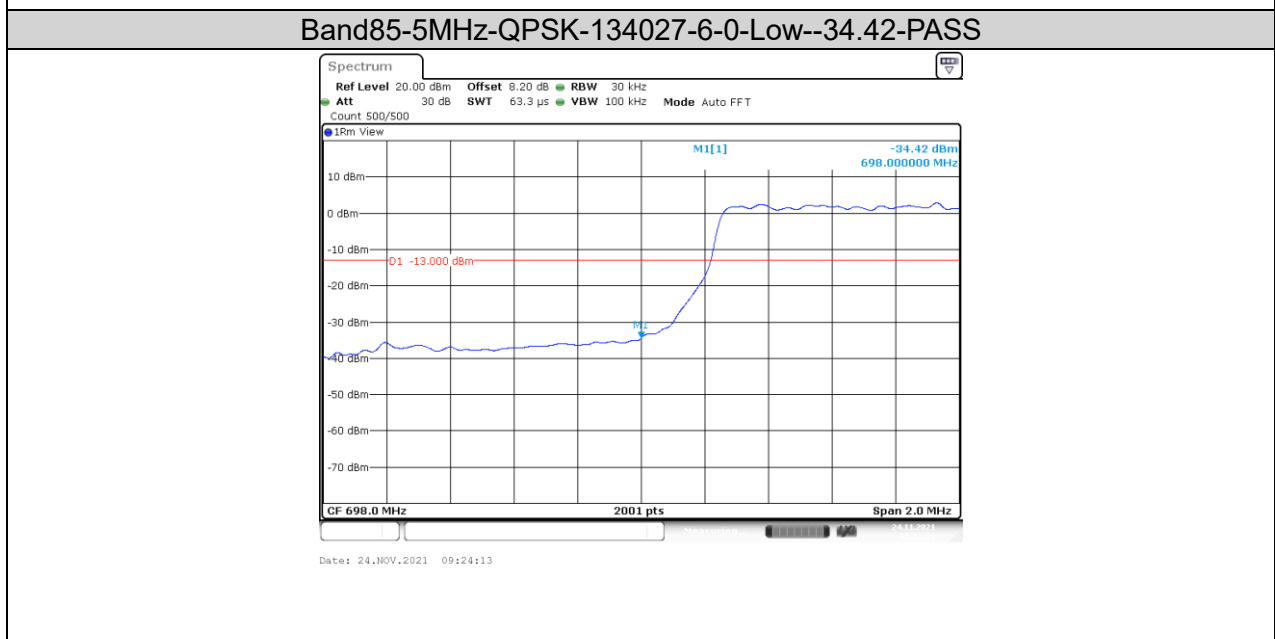
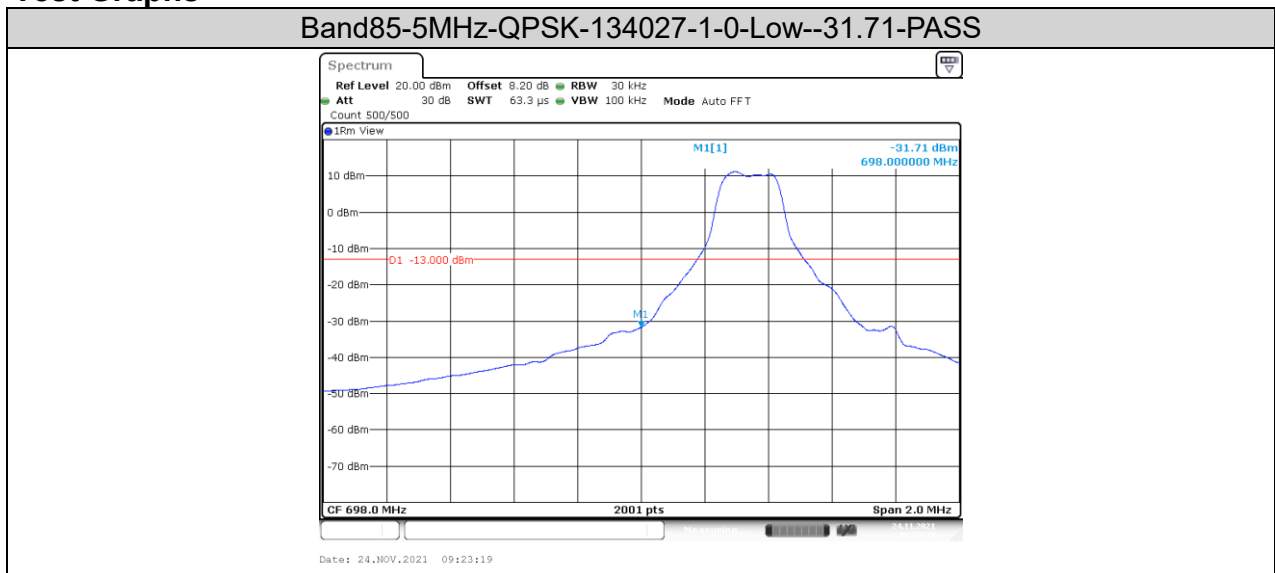
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APPENDIX K.4: BAND EDGE FOR M1

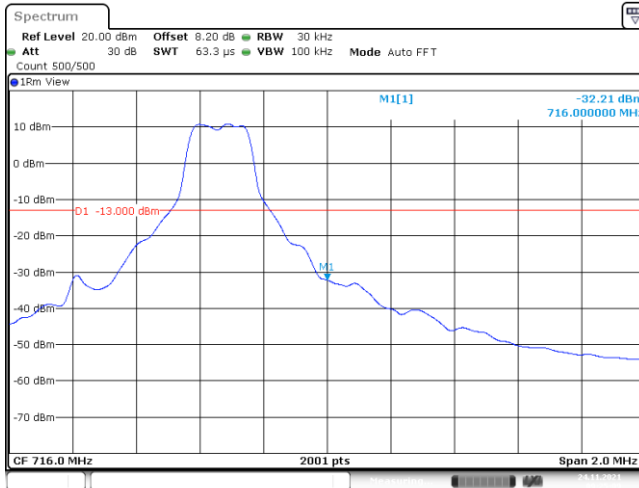
Test Result

Band	Bandwidth	Modulation	Channel	RB Size	RB Start	NB Index	Result(dBm)	Verdict
Band85	5MHz	134027	QPSK	1	0	Low	-31.71	PASS
Band85	5MHz	134027	QPSK	6	0	Low	-34.42	PASS
Band85	5MHz	134157	QPSK	1	5	High	-32.21	PASS
Band85	5MHz	134157	QPSK	3	3	High	-33.84	PASS
Band85	5MHz	134027	16QAM	1	0	Low	-30.79	PASS
Band85	5MHz	134027	16QAM	6	0	Low	-34.35	PASS
Band85	5MHz	134157	16QAM	1	5	High	-30.85	PASS
Band85	5MHz	134157	16QAM	3	3	High	-29.30	PASS

Test Graphs



Band85-5MHz-QPSK-134157-1-5-High--32.21-PASS



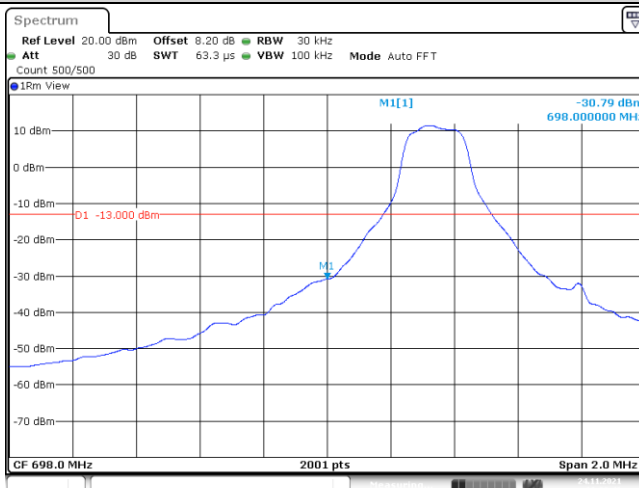
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Band85-5MHz-QPSK-134157-3-3-High--33.84-PASS



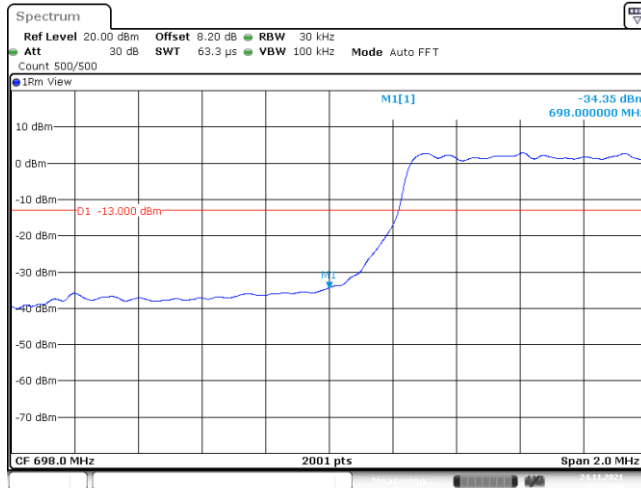
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Band85-5MHz-16QAM-134027-1-0-Low--30.79-PASS

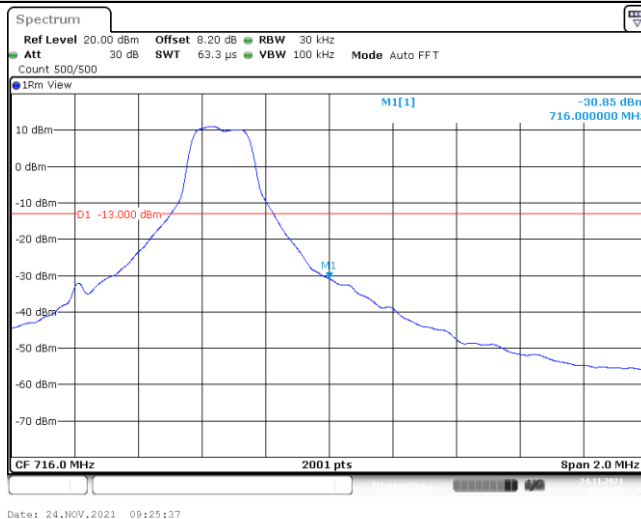


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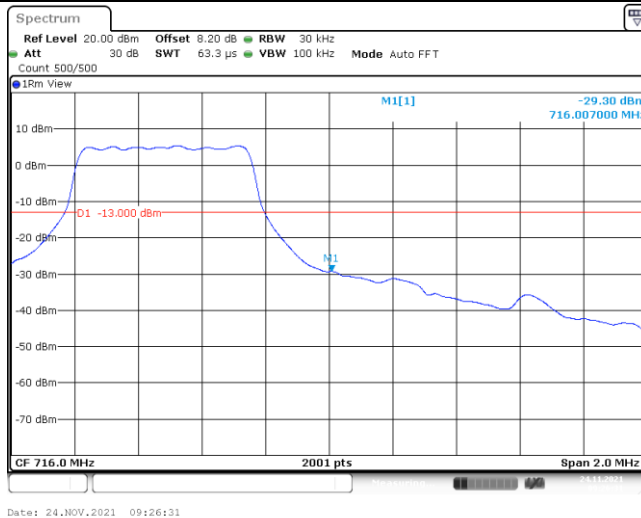
Band85-5MHz-16QAM-134027-6-0-Low--34.35-PASS



Band85-5MHz-16QAM-134157-1-5-High--30.85-PASS



Band85-5MHz-16QAM-134157-3-3-High--29.30-PASS



APPENDIX K.5: CONDUCTED SPURIOUS EMISSION FOR M1

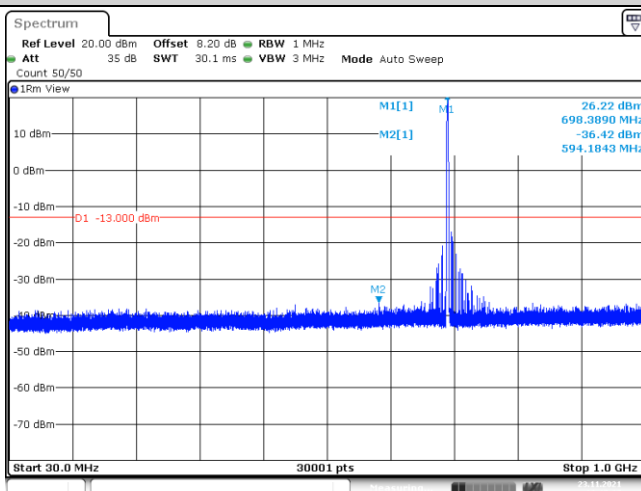
Test Result

Band	Bandwidth	Modulation	Channel	RB Size	RB Start	Index	Start Freq	Stop Freq	Result (dBm)	Verdict
Band85	5MHz	134027	QPSK	1	0	Low	30	1000	-36.42	PASS
Band85	5MHz	134027	QPSK	1	0	Low	1000	5000	-38.54	PASS
Band85	5MHz	134027	QPSK	1	0	Low	5000	12000	-54.29	PASS
Band85	5MHz	134027	QPSK	1	0	Low	12000	26500	-50.88	PASS
Band85	5MHz	134027	QPSK	6	0	Low	30	1000	-36.13	PASS
Band85	5MHz	134027	QPSK	6	0	Low	1000	5000	-41.05	PASS
Band85	5MHz	134027	QPSK	6	0	Low	5000	12000	-54.45	PASS
Band85	5MHz	134027	QPSK	6	0	Low	12000	26500	-50.68	PASS
Band85	5MHz	134092	QPSK	1	0	Low	30	1000	-36.56	PASS
Band85	5MHz	134092	QPSK	1	0	Low	1000	5000	-39.07	PASS
Band85	5MHz	134092	QPSK	1	0	Low	5000	12000	-54.78	PASS
Band85	5MHz	134092	QPSK	1	0	Low	12000	26500	-50.95	PASS
Band85	5MHz	134092	QPSK	6	0	Low	30	1000	-36.02	PASS
Band85	5MHz	134092	QPSK	6	0	Low	1000	5000	-41.19	PASS
Band85	5MHz	134092	QPSK	6	0	Low	5000	12000	-54.65	PASS
Band85	5MHz	134092	QPSK	6	0	Low	12000	26500	-50.91	PASS
Band85	5MHz	134157	QPSK	1	5	High	30	1000	-36.46	PASS
Band85	5MHz	134157	QPSK	1	5	High	1000	5000	-38.91	PASS
Band85	5MHz	134157	QPSK	1	5	High	5000	12000	-54.61	PASS
Band85	5MHz	134157	QPSK	1	5	High	12000	26500	-50.85	PASS
Band85	5MHz	134157	QPSK	3	3	High	30	1000	-36.65	PASS
Band85	5MHz	134157	QPSK	3	3	High	1000	5000	-40.1	PASS
Band85	5MHz	134157	QPSK	3	3	High	5000	12000	-54.74	PASS
Band85	5MHz	134157	QPSK	3	3	High	12000	26500	-50.77	PASS
Band85	5MHz	134027	16QAM	1	0	Low	30	1000	-36.26	PASS
Band85	5MHz	134027	16QAM	1	0	Low	1000	5000	-38.83	PASS
Band85	5MHz	134027	16QAM	1	0	Low	5000	12000	-52.28	PASS
Band85	5MHz	134027	16QAM	1	0	Low	12000	26500	-50.82	PASS
Band85	5MHz	134027	16QAM	6	0	Low	30	1000	-36.46	PASS
Band85	5MHz	134027	16QAM	6	0	Low	1000	5000	-40.87	PASS
Band85	5MHz	134027	16QAM	6	0	Low	5000	12000	-54.68	PASS
Band85	5MHz	134027	16QAM	6	0	Low	12000	26500	-50.83	PASS
Band85	5MHz	134092	16QAM	1	0	Low	30	1000	-36.16	PASS
Band85	5MHz	134092	16QAM	1	0	Low	1000	5000	-38.82	PASS
Band85	5MHz	134092	16QAM	1	0	Low	5000	12000	-53.22	PASS
Band85	5MHz	134092	16QAM	1	0	Low	12000	26500	-50.87	PASS
Band85	5MHz	134092	16QAM	6	0	Low	30	1000	-36.38	PASS
Band85	5MHz	134092	16QAM	6	0	Low	1000	5000	-41.31	PASS
Band85	5MHz	134092	16QAM	6	0	Low	5000	12000	-54.46	PASS
Band85	5MHz	134092	16QAM	6	0	Low	12000	26500	-50.83	PASS
Band85	5MHz	134157	16QAM	1	5	High	30	1000	-35.87	PASS

Band85	5MHz	134157	16QAM	1	5	High	1000	5000	-39.3	PASS
Band85	5MHz	134157	16QAM	1	5	High	5000	12000	-53.51	PASS
Band85	5MHz	134157	16QAM	1	5	High	12000	26500	-50.85	PASS
Band85	5MHz	134157	16QAM	3	3	High	30	1000	-36.53	PASS
Band85	5MHz	134157	16QAM	3	3	High	1000	5000	-40.06	PASS
Band85	5MHz	134157	16QAM	3	3	High	5000	12000	-54.67	PASS
Band85	5MHz	134157	16QAM	3	3	High	12000	26500	-50.77	PASS

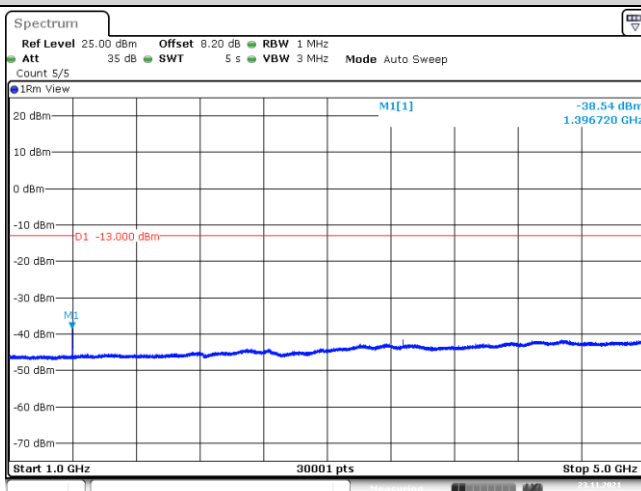
Test Graphs

Band85-5MHz-QPSK-134027-1-0-Low-30-1000--36.42-PASS



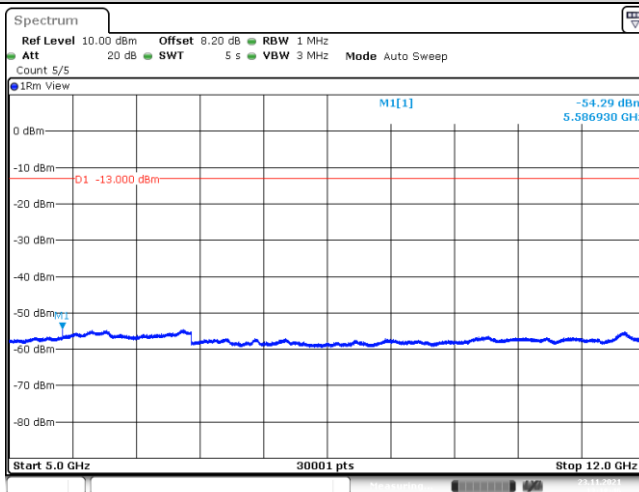
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Band85-5MHz-QPSK-134027-1-0-Low-1000-5000--38.54-PASS



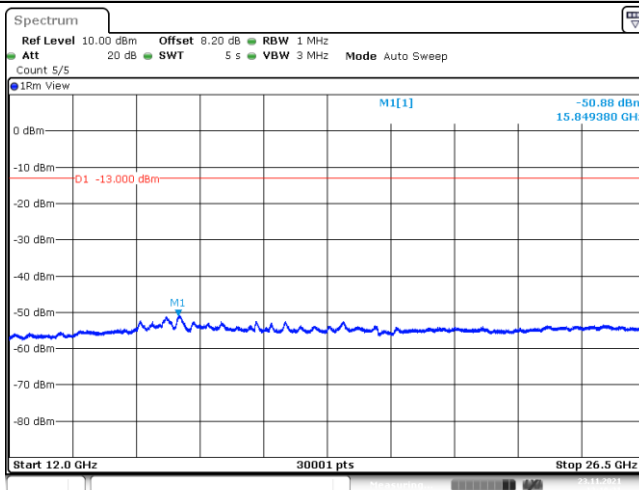
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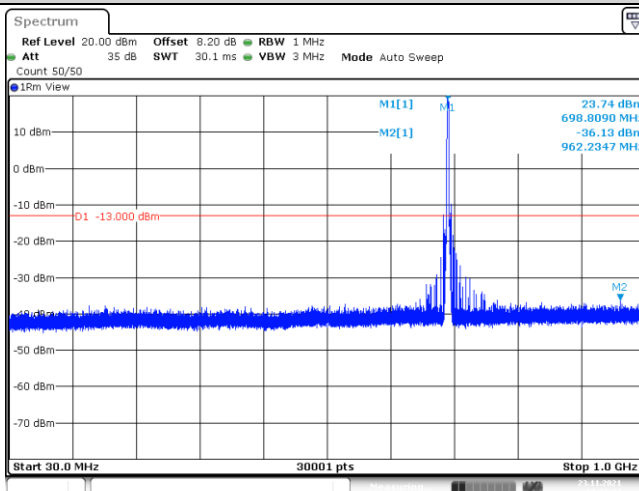
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Band85-5MHz-QPSK-134027-1-0-Low-12000-26500--50.88-PASS



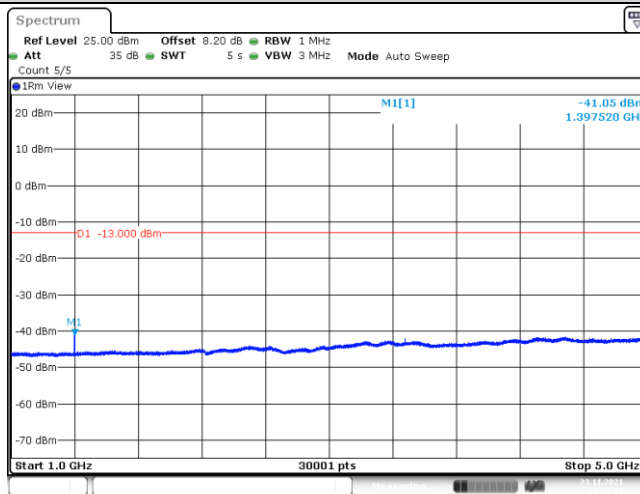
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Band85-5MHz-QPSK-134027-6-0-Low-30-1000--36.13-PASS



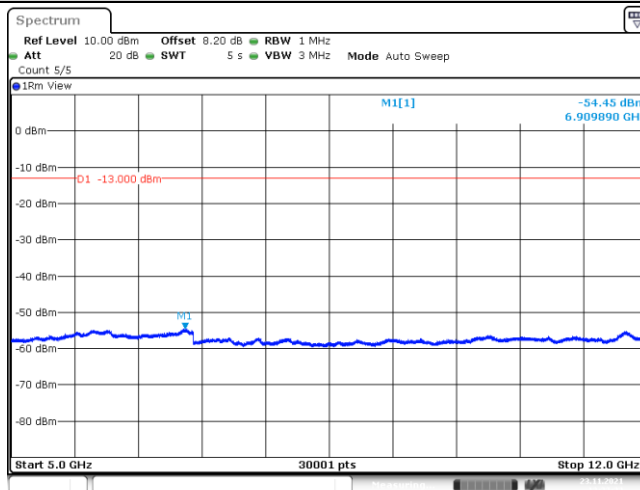
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Band85-5MHz-QPSK-134027-6-0-Low-1000-5000--41.05-PASS



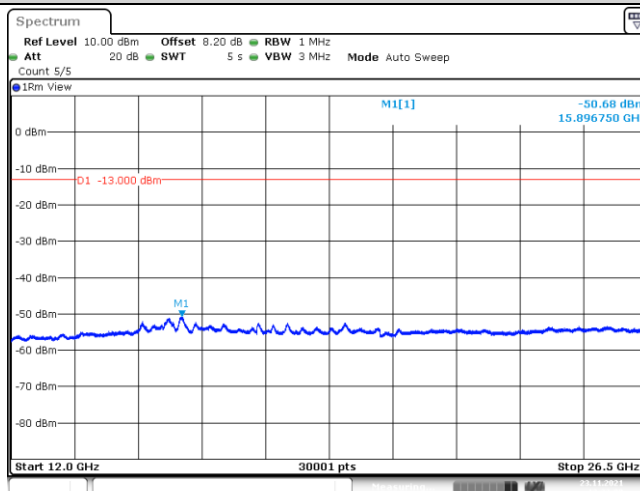
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Band85-5MHz-QPSK-134027-6-0-Low-5000-12000--54.45-PASS



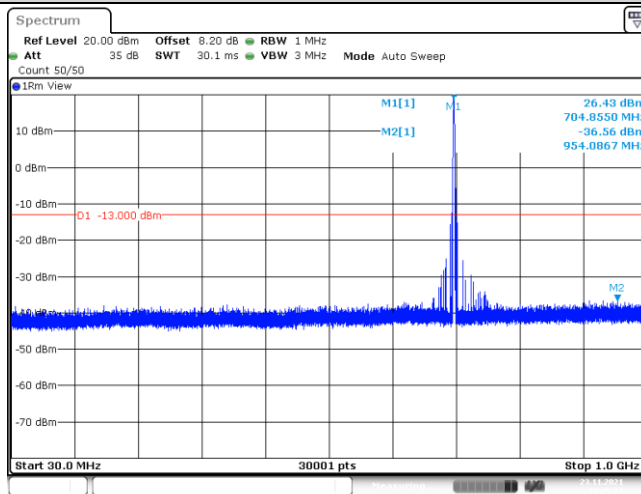
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Band85-5MHz-QPSK-134027-6-0-Low-12000-26500--50.68-PASS



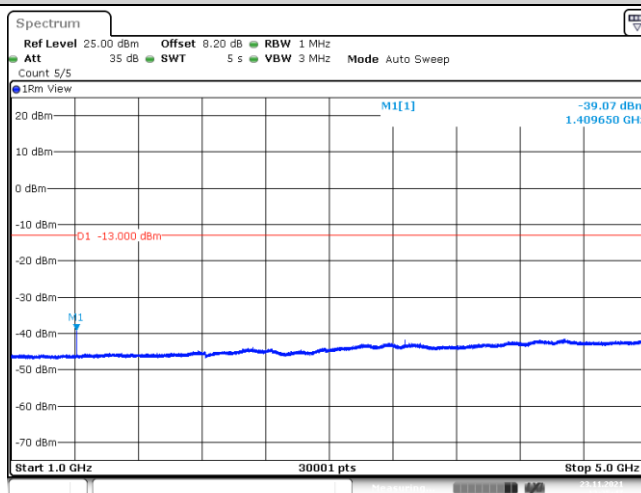
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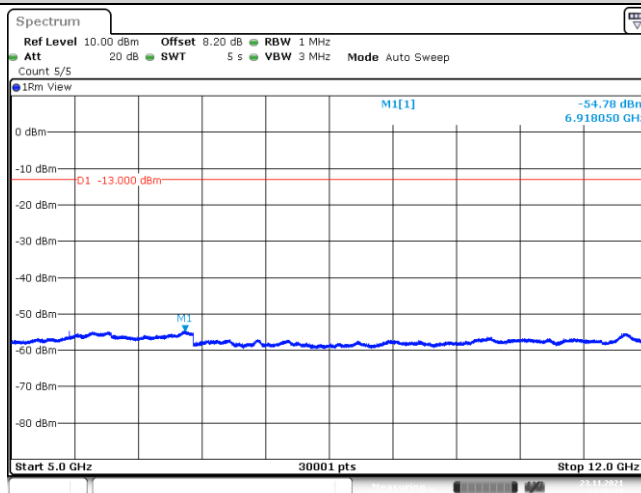
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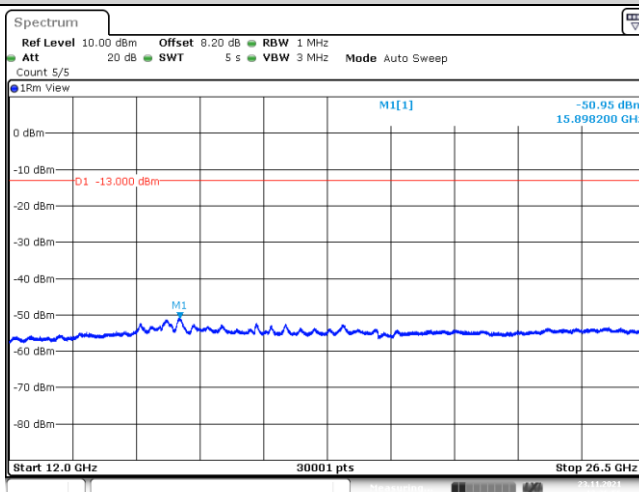
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Band85-5MHz-QPSK-134092-1-0-Low-5000-12000--54.78-PASS



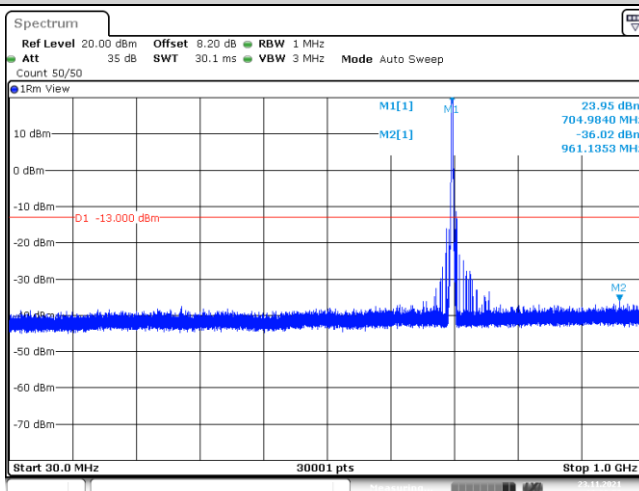
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Band85-5MHz-QPSK-134092-1-0-Low-12000-26500--50.95-PASS



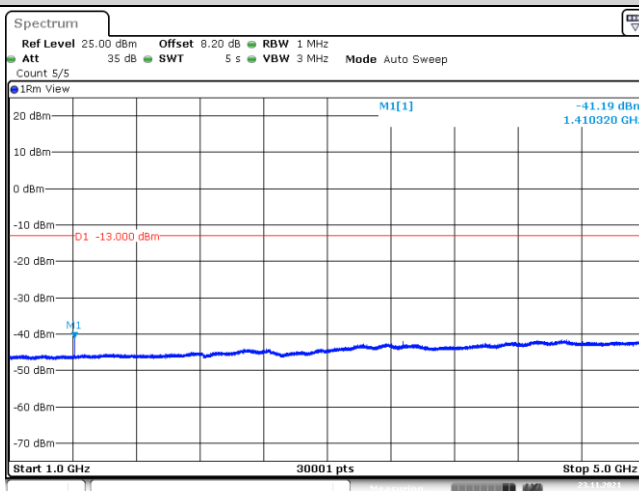
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Band85-5MHz-QPSK-134092-6-0-Low-30-1000--36.02-PASS



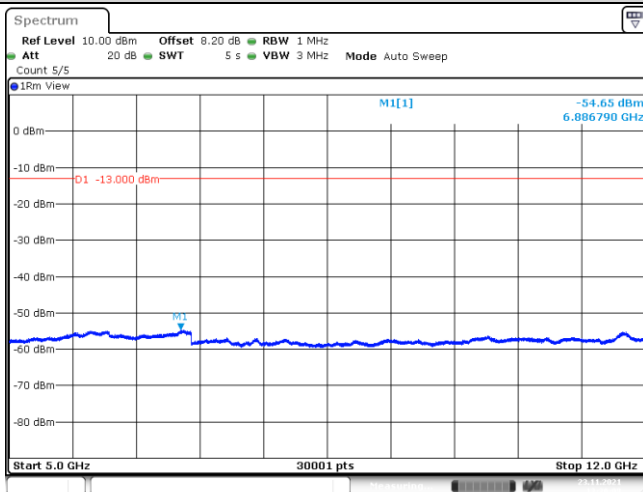
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Band85-5MHz-QPSK-134092-6-0-Low-1000-5000--41.19-PASS



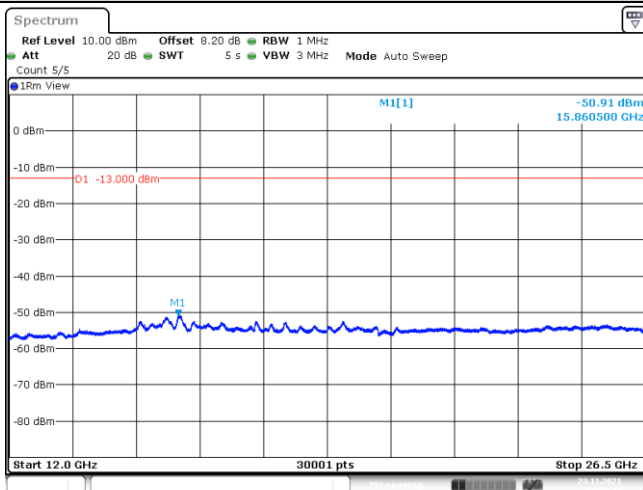
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Band85-5MHz-QPSK-134092-6-0-Low-5000-12000--54.65-PASS



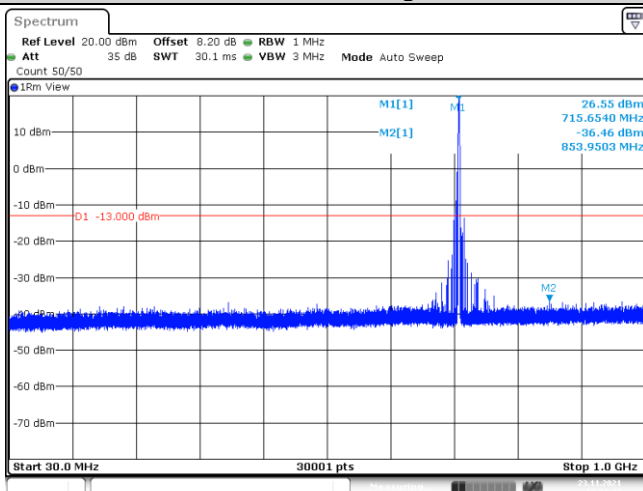
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Band85-5MHz-QPSK-134092-6-0-Low-12000-26500--50.91-PASS



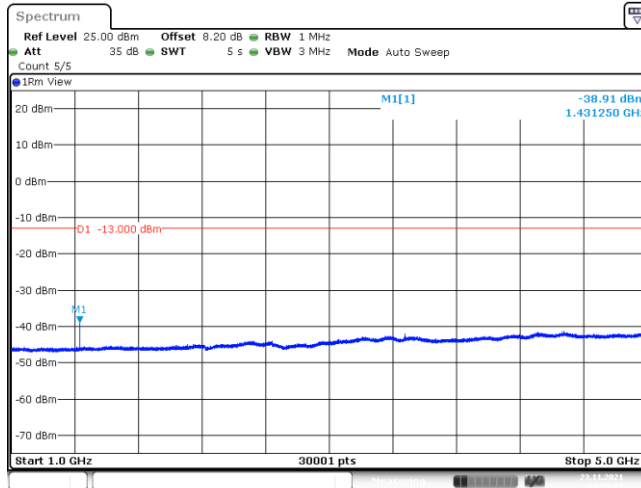
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Band85-5MHz-QPSK-134157-1-5-High-30-1000--36.46-PASS

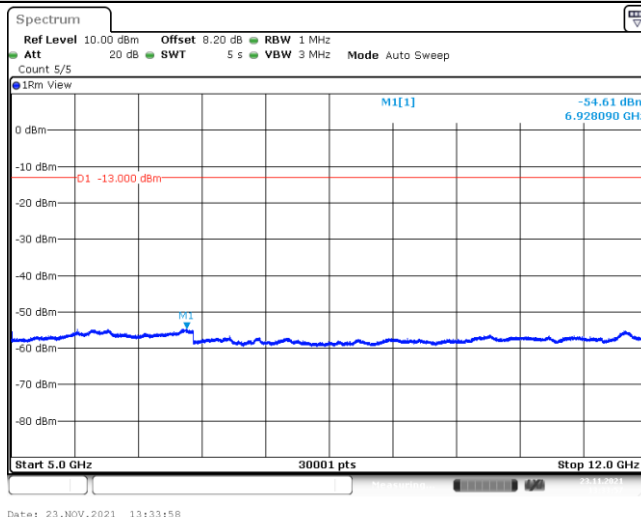


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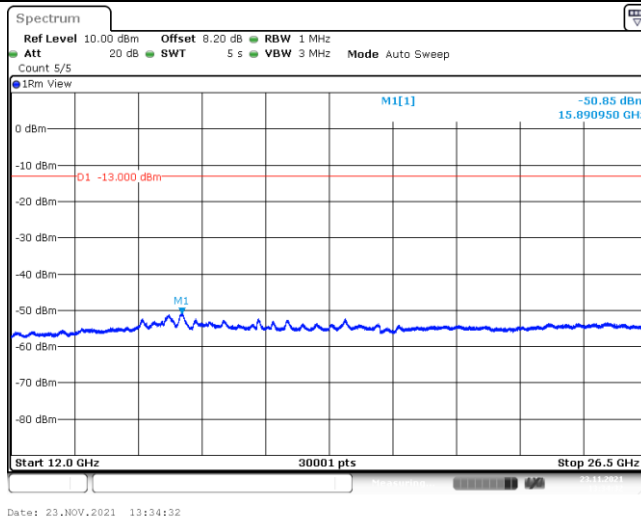
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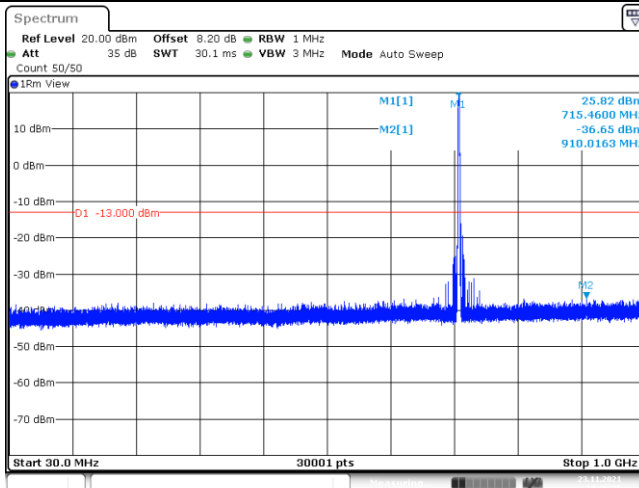
Band85-5MHz-QPSK-134157-1-5-High-5000-12000--54.61-PASS



Band85-5MHz-QPSK-134157-1-5-High-12000-26500--50.85-PASS

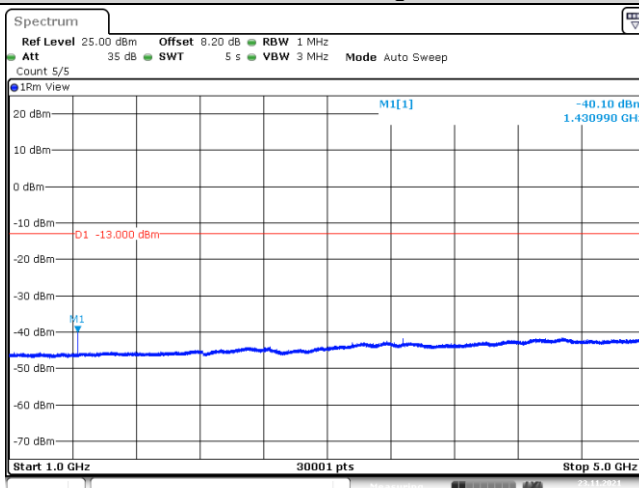


Band85-5MHz-QPSK-134157-3-3-High-30-1000--36.65-PASS



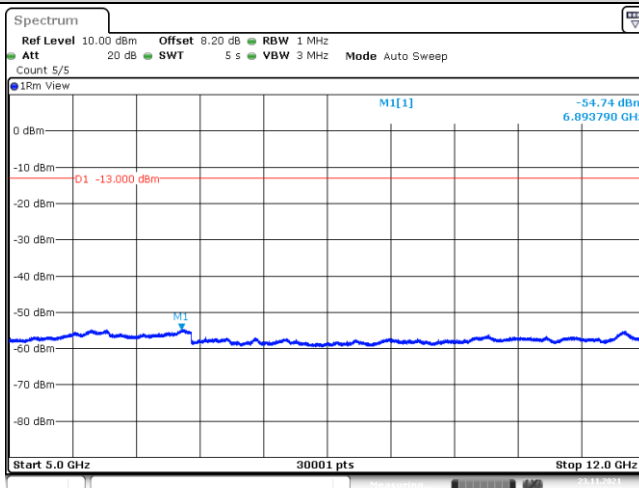
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Band85-5MHz-QPSK-134157-3-3-High-1000-5000--40.1-PASS



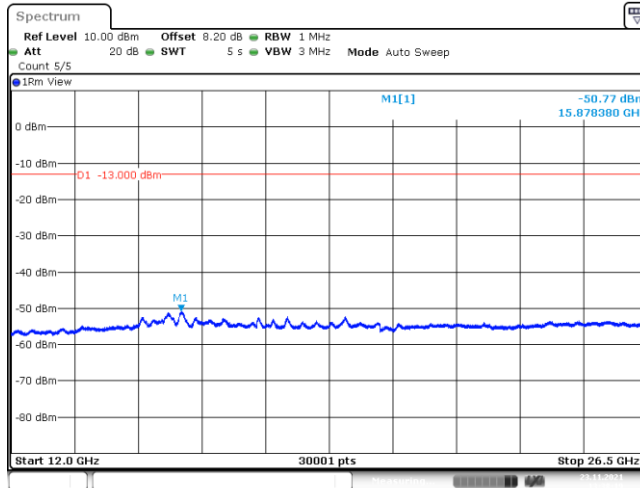
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Band85-5MHz-QPSK-134157-3-3-High-5000-12000--54.74-PASS



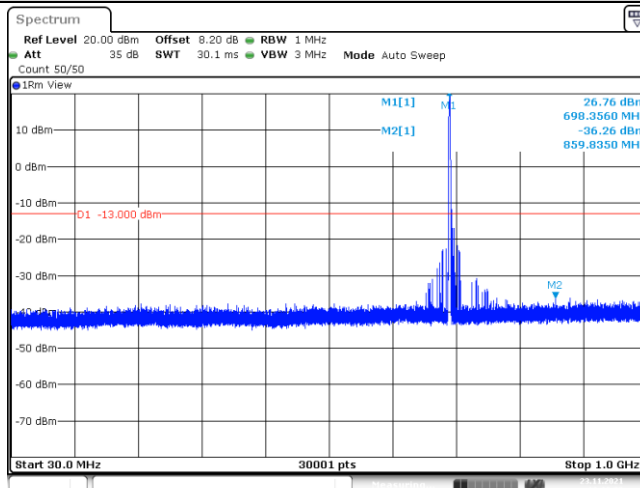
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Band85-5MHz-QPSK-134157-3-3-High-12000-26500--50.77-PASS



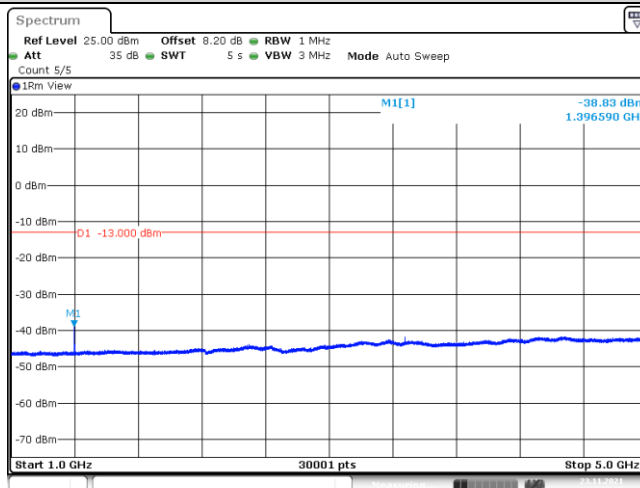
Date: 23.NOV.2021 13:38:20

Band85-5MHz-16QAM-134027-1-0-Low-30-1000--36.26-PASS



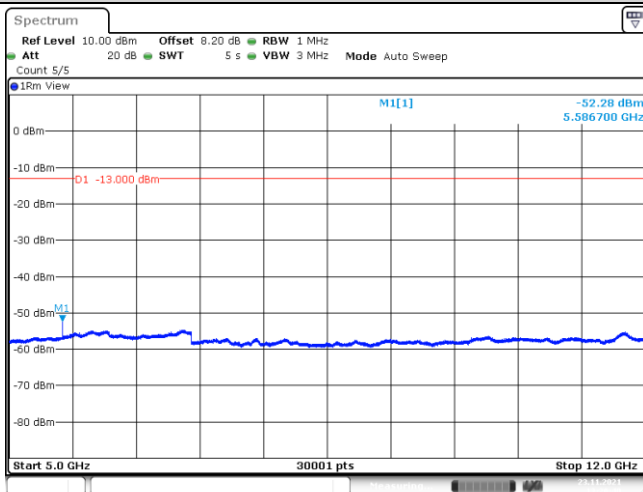
Date: 23.NOV.2021 13:19:31

Band85-5MHz-16QAM-134027-1-0-Low-1000-5000--38.83-PASS



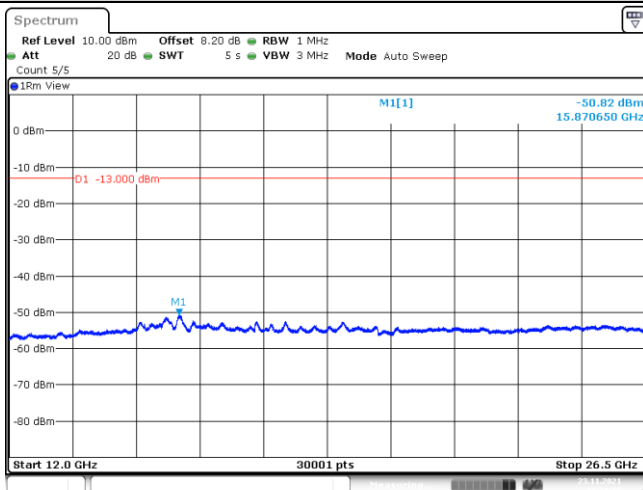
Date: 23.NOV.2021 13:20:05

Band85-5MHz-16QAM-134027-1-0-Low-5000-12000--52.28-PASS



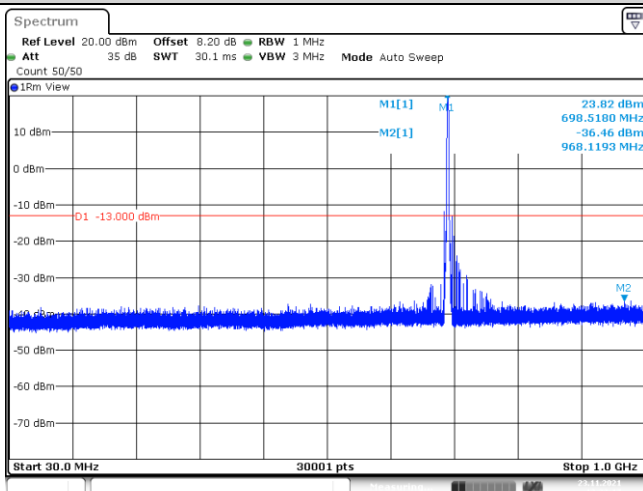
Date: 23.NOV.2021 13:20:40

Band85-5MHz-16QAM-134027-1-0-Low-12000-26500--50.82-PASS



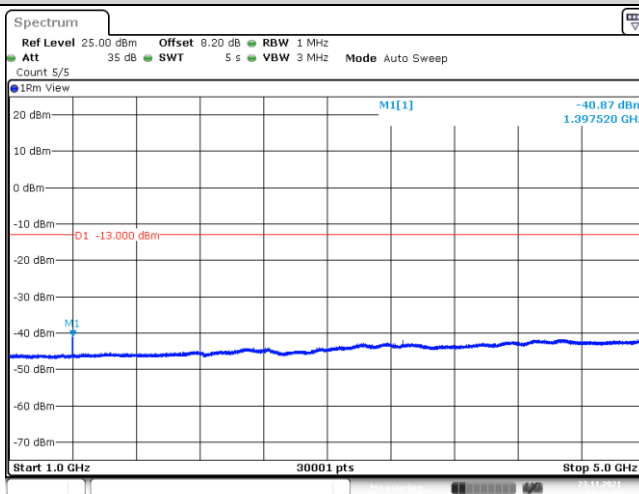
Date: 23.NOV.2021 13:21:15

Band85-5MHz-16QAM-134027-6-0-Low-30-1000--36.46-PASS



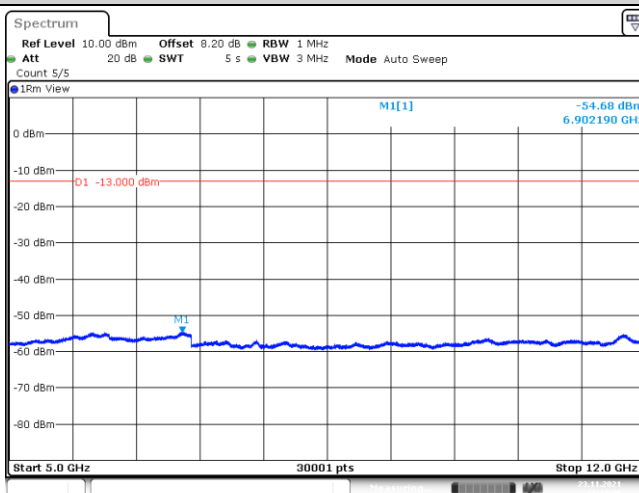
Date: 23.NOV.2021 13:23:17

Band85-5MHz-16QAM-134027-6-0-Low-1000-5000--40.87-PASS



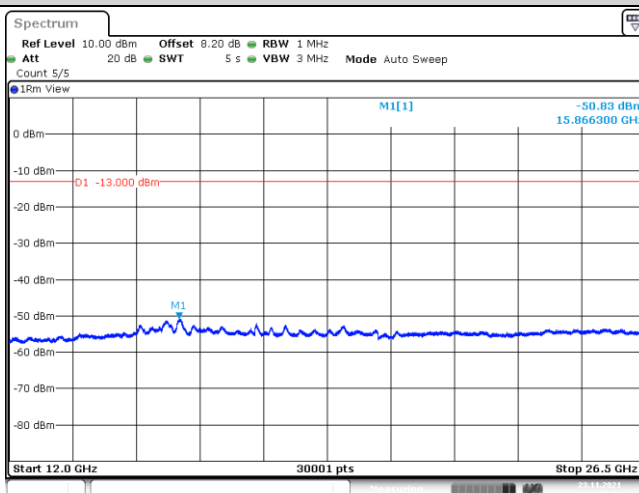
Date: 23.NOV.2021 13:23:52

Band85-5MHz-16QAM-134027-6-0-Low-5000-12000--54.68-PASS



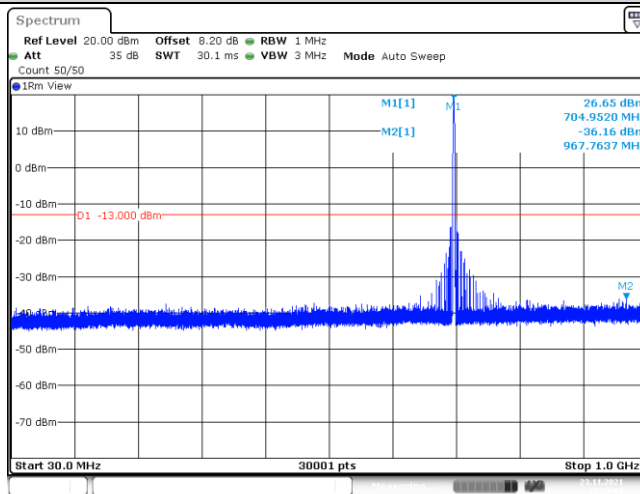
Date: 23.NOV.2021 13:24:27

Band85-5MHz-16QAM-134027-6-0-Low-12000-26500--50.83-PASS



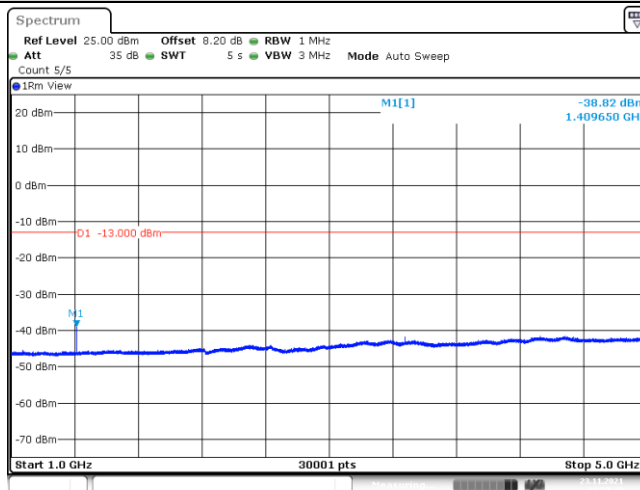
Date: 23.NOV.2021 13:25:02

Band85-5MHz-16QAM-134092-1-0-Low-30-1000--36.16-PASS



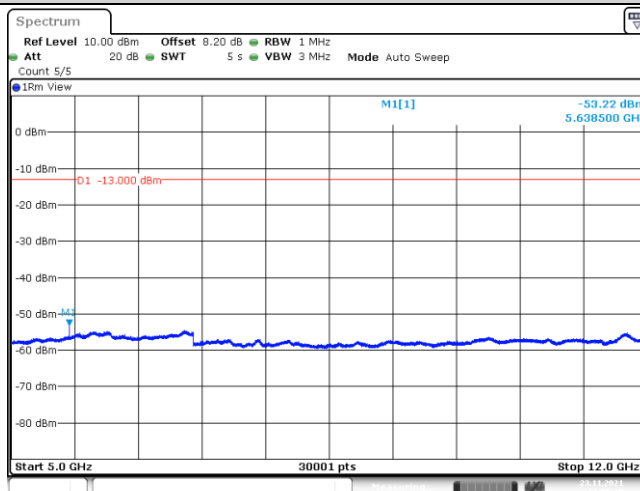
Date: 23.NOV.2021 13:27:06

Band85-5MHz-16QAM-134092-1-0-Low-1000-5000--38.82-PASS



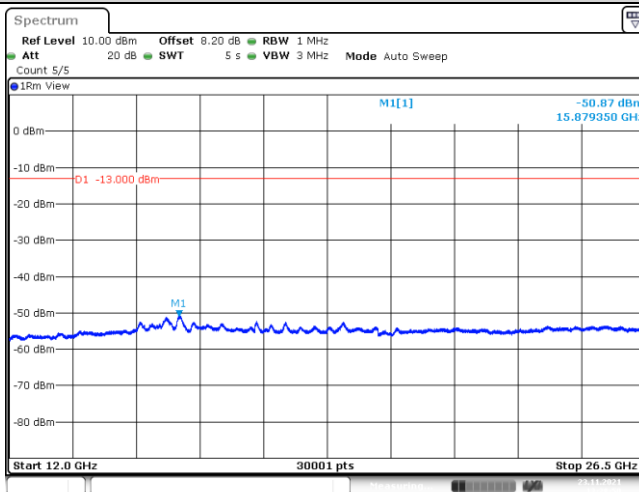
Date: 23.NOV.2021 13:27:41

Band85-5MHz-16QAM-134092-1-0-Low-5000-12000--53.22-PASS



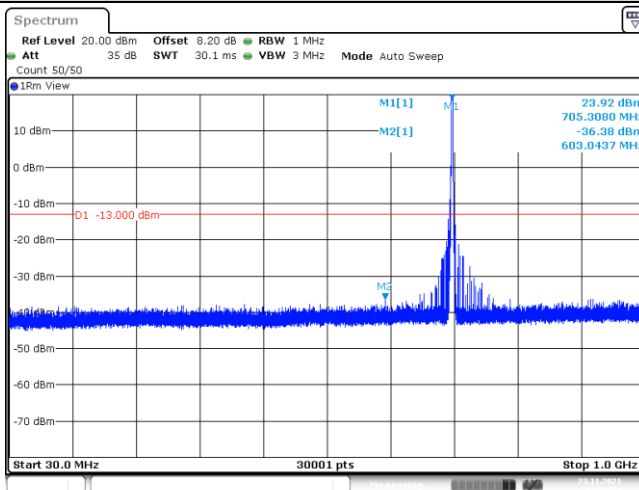
Date: 23.NOV.2021 13:28:15

Band85-5MHz-16QAM-134092-1-0-Low-12000-26500--50.87-PASS



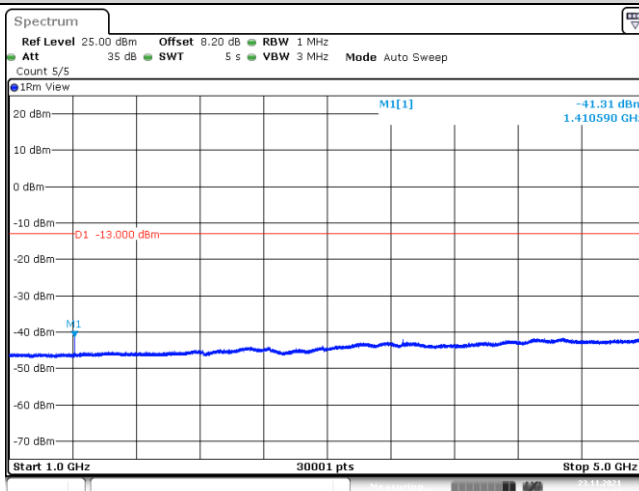
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Band85-5MHz-16QAM-134092-6-0-Low-30-1000--36.38-PASS



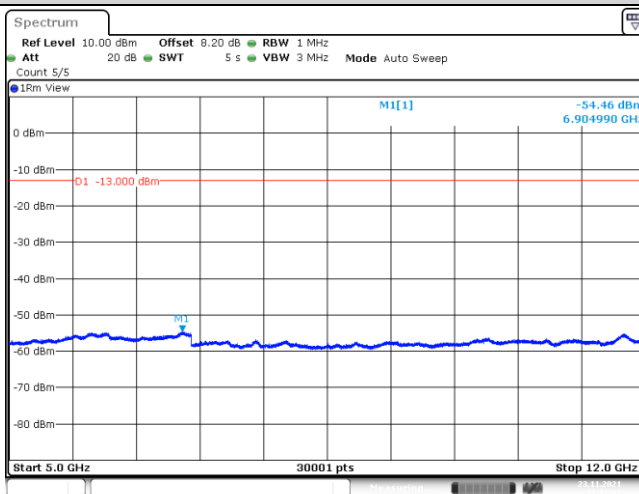
Date: 23.NOV.2021 13:30:52

Band85-5MHz-16QAM-134092-6-0-Low-1000-5000--41.31-PASS



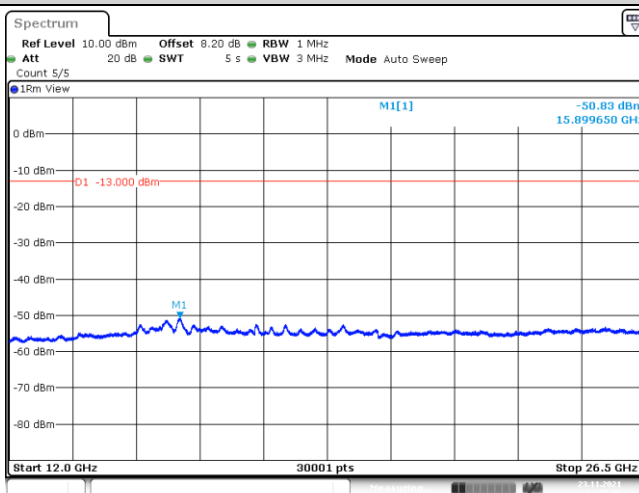
Date: 23.NOV.2021 13:31:27

Band85-5MHz-16QAM-134092-6-0-Low-5000-12000--54.46-PASS



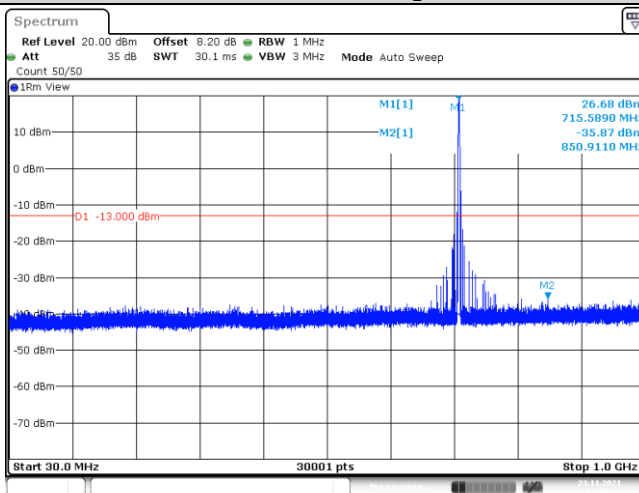
Date: 23.NOV.2021 13:32:02

Band85-5MHz-16QAM-134092-6-0-Low-12000-26500--50.83-PASS



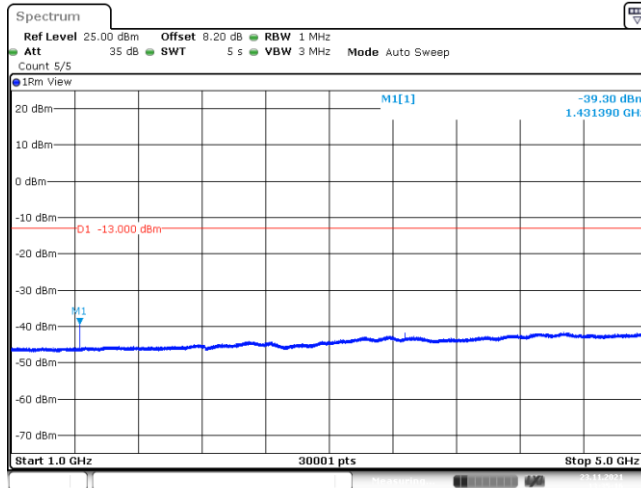
Date: 23.NOV.2021 13:32:37

Band85-5MHz-16QAM-134157-1-5-High-30-1000--35.87-PASS

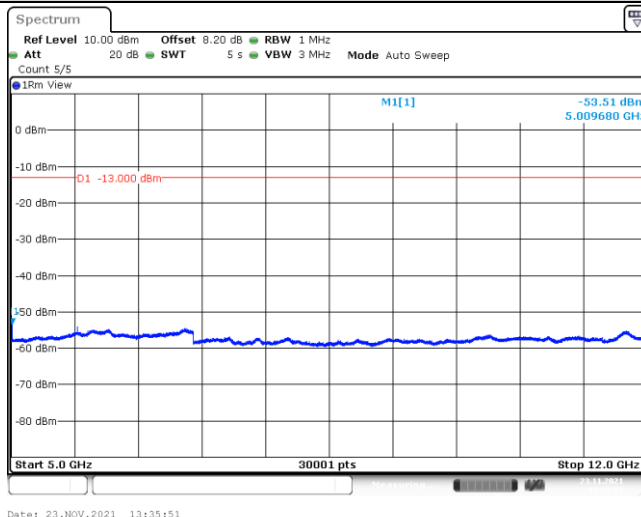


Date: 23.NOV.2021 13:34:42

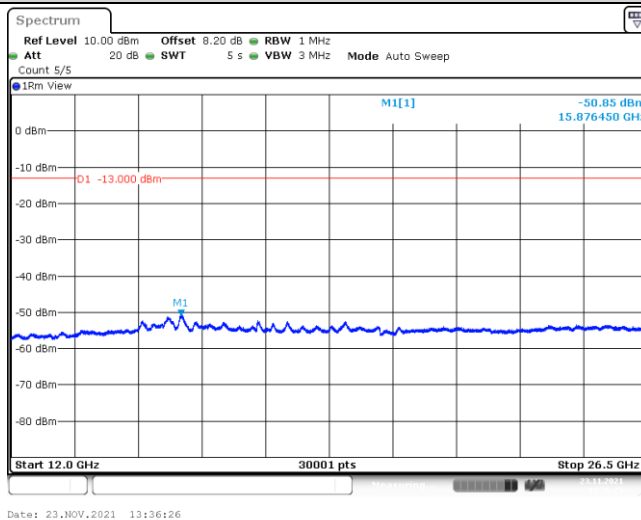
Band85-5MHz-16QAM-134157-1-5-High-1000-5000--39.3-PASS



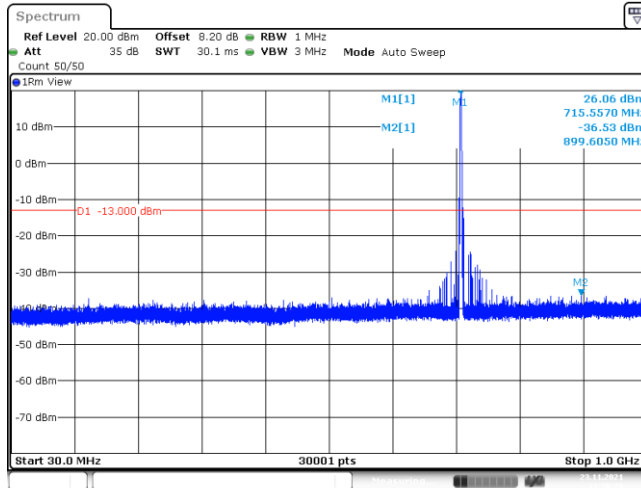
Band85-5MHz-16QAM-134157-1-5-High-5000-12000--53.51-PASS



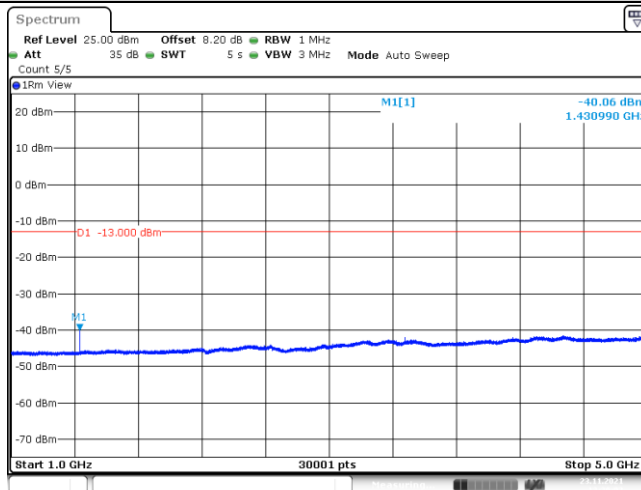
Band85-5MHz-16QAM-134157-1-5-High-12000-26500--50.85-PASS



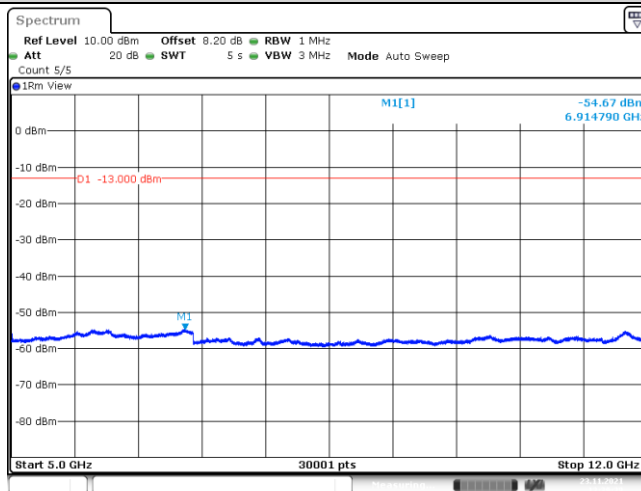
Band85-5MHz-16QAM-134157-3-3-High-30-1000--36.53-PASS



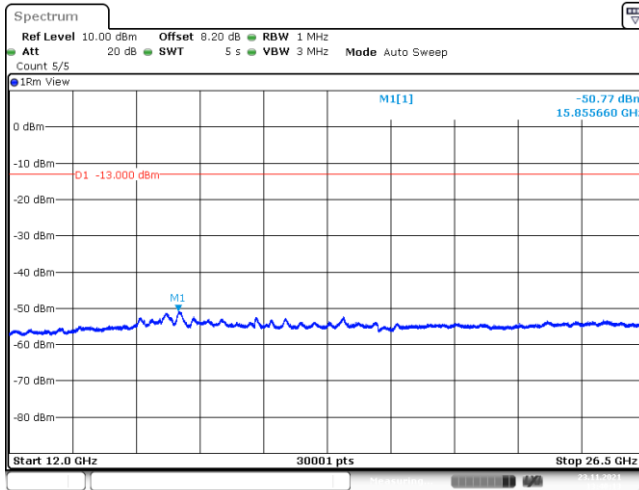
Band85-5MHz-16QAM-134157-3-3-High-1000-5000--40.06-PASS



Band85-5MHz-16QAM-134157-3-3-High-5000-12000--54.67-PASS



Band85-5MHz-16QAM-134157-3-3-High-12000-26500--50.77-PASS



Date: 23.NOV.2021 13:40:13

APPENDIX K.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
Band85	5MHz	134092	QPSK	1	0	Low	HV	NT	4.61	0.006521	±2.5	PASS
Band85	5MHz	134092	QPSK	1	0	Low	LV	NT	7.60	0.010750	±2.5	PASS
Band85	5MHz	134092	QPSK	1	0	Low	NV	NT	4.91	0.006945	±2.5	PASS
Band85	5MHz	134092	16QAM	1	0	Low	HV	NT	7.31	0.010339	±2.5	PASS
Band85	5MHz	134092	16QAM	1	0	Low	LV	NT	8.27	0.011697	±2.5	PASS
Band85	5MHz	134092	16QAM	1	0	Low	NV	NT	9.66	0.013663	±2.5	PASS

Temperature												
Band	Bandwidth	Modulation	Channel	RB Size	RB Start	Index	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
Band85	5MHz	134092	QPSK	1	0	Low	NV	85	3.58	0.005064	±2.5	PASS
Band85	5MHz	134092	QPSK	1	0	Low	NV	-30	4.66	0.006591	±2.5	PASS
Band85	5MHz	134092	QPSK	1	0	Low	NV	-20	4.79	0.006775	±2.5	PASS
Band85	5MHz	134092	QPSK	1	0	Low	NV	-10	4.59	0.006492	±2.5	PASS
Band85	5MHz	134092	QPSK	1	0	Low	NV	0	5.61	0.007935	±2.5	PASS
Band85	5MHz	134092	QPSK	1	0	Low	NV	10	6.51	0.009208	±2.5	PASS
Band85	5MHz	134092	QPSK	1	0	Low	NV	20	3.62	0.005120	±2.5	PASS
Band85	5MHz	134092	QPSK	1	0	Low	NV	30	5.22	0.007383	±2.5	PASS
Band85	5MHz	134092	QPSK	1	0	Low	NV	40	5.76	0.008147	±2.5	PASS
Band85	5MHz	134092	QPSK	1	0	Low	NV	50	4.92	0.006959	±2.5	PASS
Band85	5MHz	134092	QPSK	1	0	Low	NV	60	5.21	0.007369	±2.5	PASS
Band85	5MHz	134092	QPSK	1	0	Low	NV	70	6.92	0.009788	±2.5	PASS
Band85	5MHz	134092	QPSK	1	0	Low	NV	-40	5.56	0.007864	±2.5	PASS
Band85	5MHz	134092	QPSK	1	0	Low	NV	80	6.92	0.009788	±2.5	PASS
Band85	5MHz	134092	16QAM	1	0	Low	NV	85	6.74	0.009533	±2.5	PASS
Band85	5MHz	134092	16QAM	1	0	Low	NV	-30	7.75	0.010962	±2.5	PASS
Band85	5MHz	134092	16QAM	1	0	Low	NV	-20	8.23	0.011641	±2.5	PASS
Band85	5MHz	134092	16QAM	1	0	Low	NV	-10	6.79	0.009604	±2.5	PASS
Band85	5MHz	134092	16QAM	1	0	Low	NV	0	6.98	0.009873	±2.5	PASS
Band85	5MHz	134092	16QAM	1	0	Low	NV	10	5.56	0.007864	±2.5	PASS
Band85	5MHz	134092	16QAM	1	0	Low	NV	20	6.95	0.009830	±2.5	PASS
Band85	5MHz	134092	16QAM	1	0	Low	NV	30	6.21	0.008784	±2.5	PASS
Band85	5MHz	134092	16QAM	1	0	Low	NV	40	7.37	0.010424	±2.5	PASS
Band85	5MHz	134092	16QAM	1	0	Low	NV	50	8.71	0.012320	±2.5	PASS
Band85	5MHz	134092	16QAM	1	0	Low	NV	60	8.24	0.011655	±2.5	PASS
Band85	5MHz	134092	16QAM	1	0	Low	NV	70	7.14	0.010099	±2.5	PASS
Band85	5MHz	134092	16QAM	1	0	Low	NV	80	6.08	0.008600	±2.5	PASS
Band85	5MHz	134092	16QAM	1	0	Low	NV	-40	6.45	0.009123	±2.5	PASS