

# 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	24.10	PASS
Band85	5MHz	134027	QPSK	6	0	Low	23.01	PASS
Band85	5MHz	134092	QPSK	1	0	Low	24.06	PASS
Band85	5MHz	134092	QPSK	6	0	Low	23.01	PASS
Band85	5MHz	134157	QPSK	1	5	High	23.84	PASS
Band85	5MHz	134157	QPSK	3	3	High	22.86	PASS
Band85	5MHz	134027	16QAM	1	0	Low	24.13	PASS
Band85	5MHz	134027	16QAM	6	0	Low	23.00	PASS
Band85	5MHz	134092	16QAM	1	0	Low	24.14	PASS
Band85	5MHz	134092	16QAM	6	0	Low	23.00	PASS
Band85	5MHz	134157	16QAM	1	5	High	23.88	PASS
Band85	5MHz	134157	16QAM	3	3	High	22.99	PASS
Band85	10MHz	134092	QPSK	1	0	Low	24.13	PASS
Band85	10MHz	134092	QPSK	1	5	High	23.76	PASS
Band85	10MHz	134092	QPSK	5	0	Low	22.97	PASS
Band85	10MHz	134092	QPSK	5	1	High	22.97	PASS
Band85	10MHz	134092	16QAM	1	0	Low	24.07	PASS
Band85	10MHz	134092	16QAM	1	5	High	23.80	PASS
Band85	10MHz	134092	16QAM	5	0	Low	23.04	PASS
Band85	10MHz	134092	16QAM	5	1	High	22.96	PASS

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

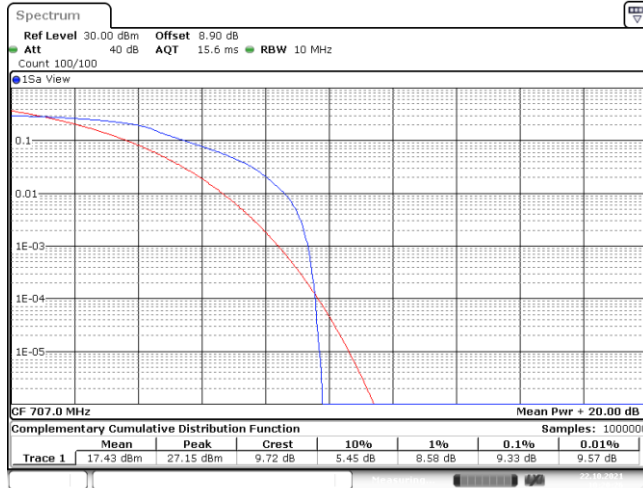
## APPENDIX K.2: PEAK-TO-AVERAGE RATIO (CCDF) FOR M1

### Test Result

Band	Bandwidth	Modulation	Channel	RB Size	RB Start	Index	Result (dB)	Limit (dB)	Verdict
Band85	5MHz	134092	QPSK	6	0	Low	9.33	<=13	PASS
Band85	5MHz	134092	16QAM	6	0	Low	10.49	<=13	PASS
Band85	10MHz	134092	QPSK	6	0	Low	10.81	<=13	PASS
Band85	10MHz	134092	16QAM	6	0	Low	11.30	<=13	PASS

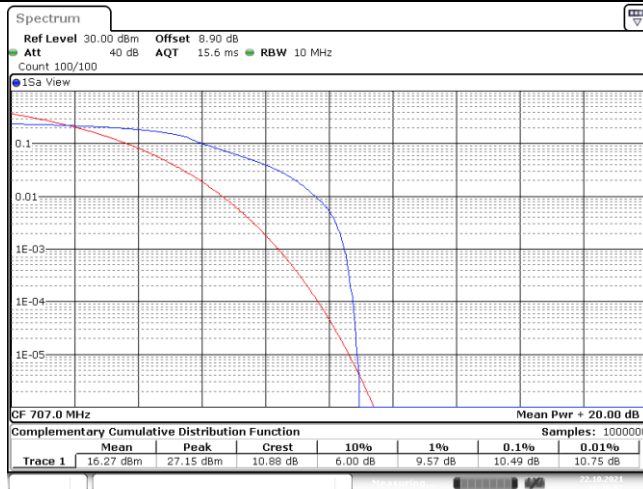
### Test Graphs

#### Band85-5MHz-QPSK-134092-6-0-Low-9.33-<=13-PASS



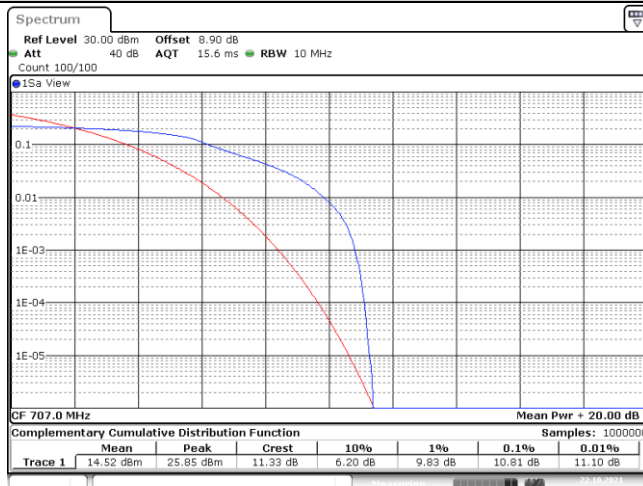
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#### Band85-5MHz-16QAM-134092-6-0-Low-10.49-<=13-PASS



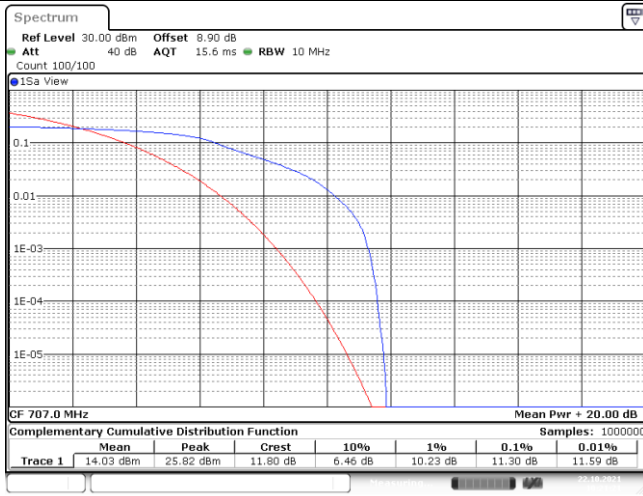
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#### Band85-10MHz-QPSK-134092-6-0-Low-10.81-<=13-PASS



Date: 22.OCT.2021 10:21:12

Band85-10MHz-16QAM-134092-6-0-Low-11.30-<=13-PASS



Date: 22.OCT.2021 10:21:21

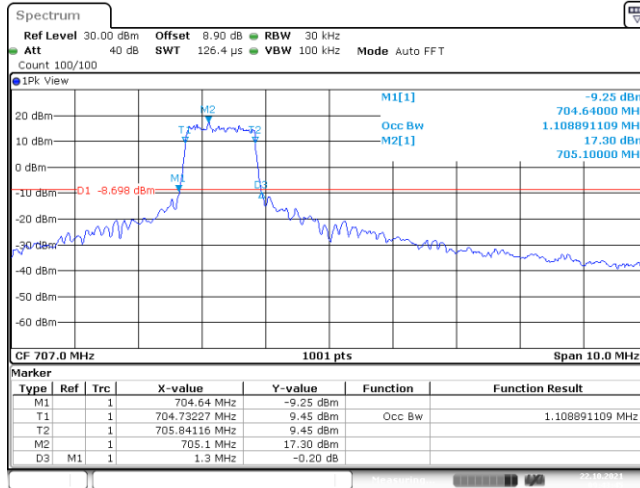
### APPENDIX K.3: 26dB BANDWIDTH AND OCCUPIED BANDWIDTH FOR M1

#### 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	1.300	PASS
Band85	5MHz	134092	16QAM	6	0	Low	1.109	1.300	PASS
Band85	10MHz	134092	QPSK	6	0	Low	1.099	1.320	PASS
Band85	10MHz	134092	16QAM	6	0	Low	1.099	1.320	PASS

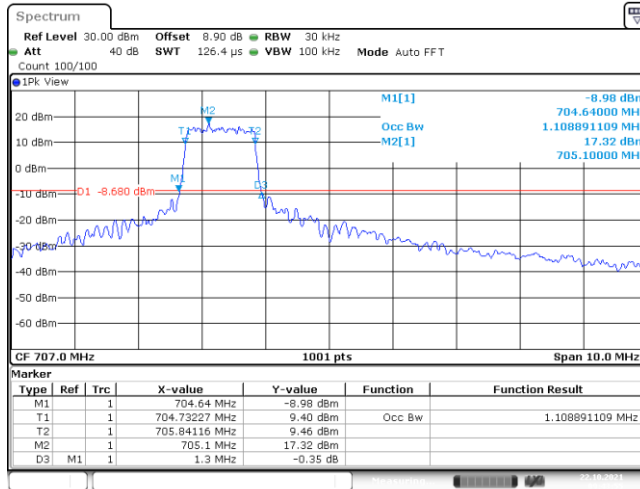
### Test Graphs

#### Band85-5MHz-QPSK-134092-6-0-Low-1.109-1.300-PASS



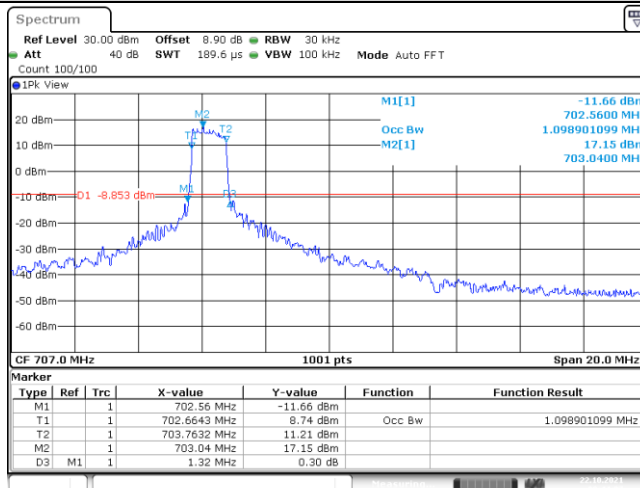
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#### Band85-5MHz-16QAM-134092-6-0-Low-1.109-1.300-PASS



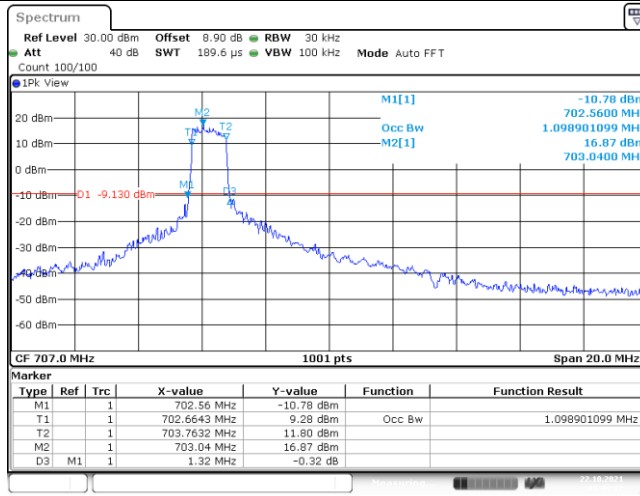
Date: 22.OCT.2021 09:43:55

#### Band85-10MHz-QPSK-134092-6-0-Low-1.099-1.320-PASS



Date: 22.OCT.2021 09:44:07

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



Date: 22.OCT.2021 09:44:17

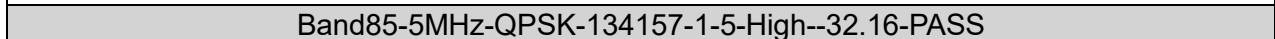
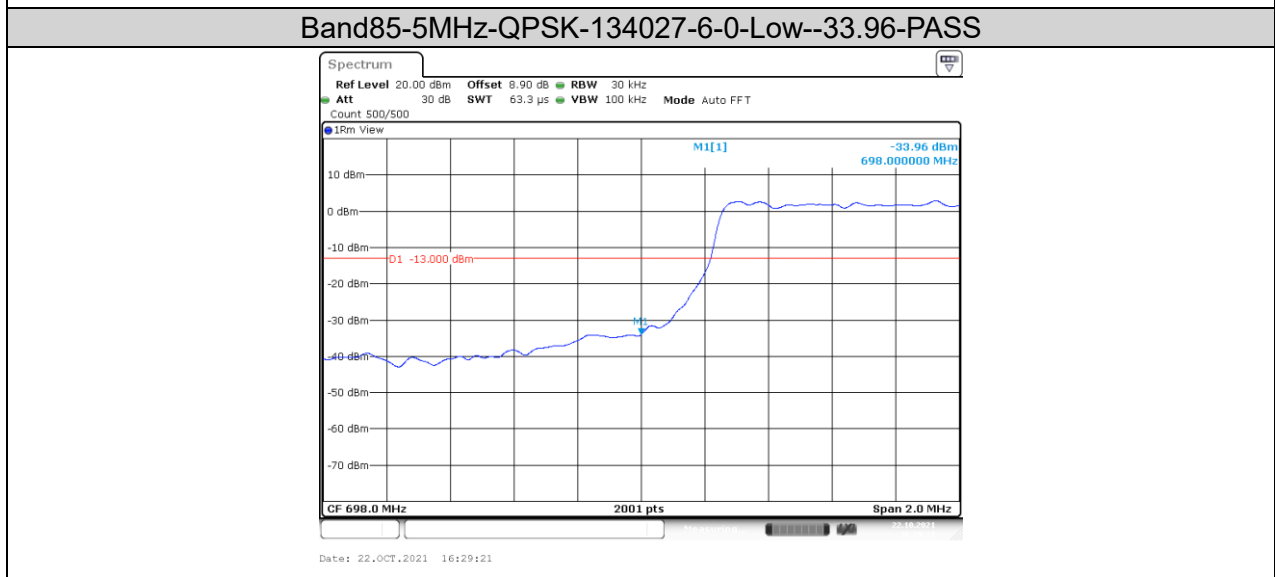
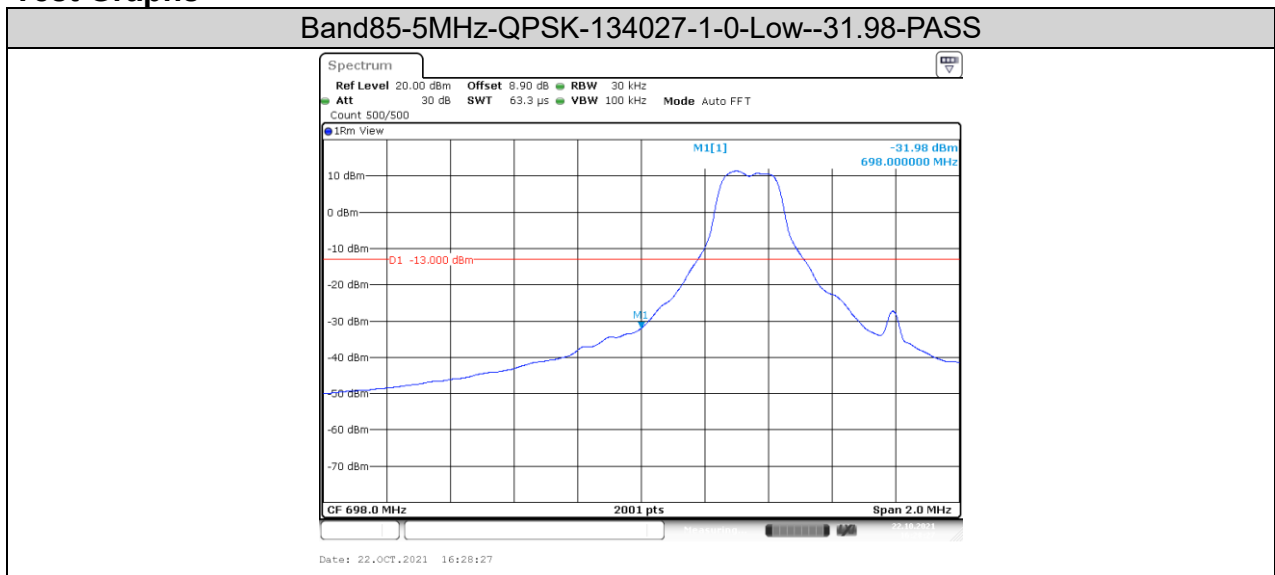


## APPENDIX K.4: BAND EDGE FOR M1

### Test Result

Band	Bandwidth	Modulation	Channel	RB Size	RB Start	NB Index	Result(dBm)	Verdict
Band85	5MHz	134027	QPSK	1	0	Low	-31.98	PASS
Band85	5MHz	134027	QPSK	6	0	Low	-33.96	PASS
Band85	5MHz	134157	QPSK	1	5	High	-32.16	PASS
Band85	5MHz	134157	QPSK	3	3	High	-32.84	PASS
Band85	5MHz	134027	16QAM	1	0	Low	-31.91	PASS
Band85	5MHz	134027	16QAM	6	0	Low	-33.82	PASS
Band85	5MHz	134157	16QAM	1	5	High	-32.24	PASS
Band85	5MHz	134157	16QAM	3	3	High	-31.69	PASS

### Test Graphs





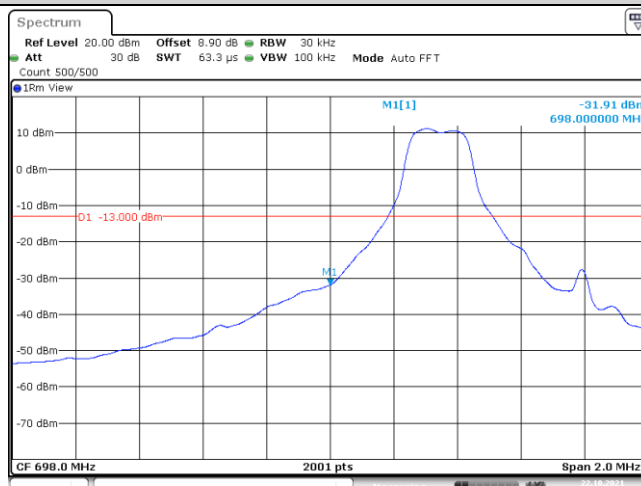
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Band85-5MHz-QPSK-134157-3-3-High--32.84-PASS



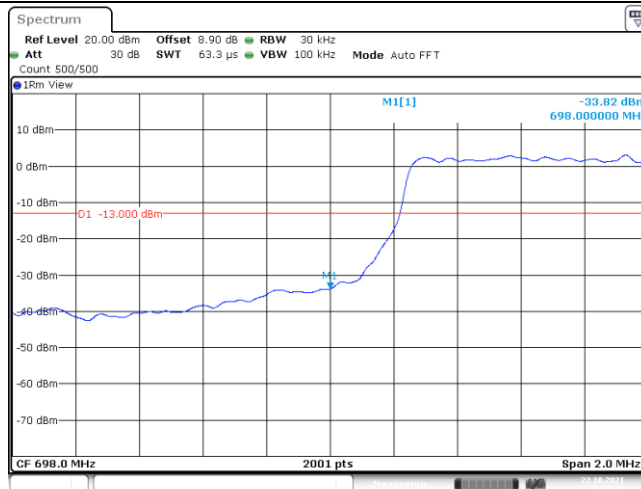
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Band85-5MHz-16QAM-134027-1-0-Low--31.91-PASS



Date: 22.OCT.2021 16:28:54

Band85-5MHz-16QAM-134027-6-0-Low--33.82-PASS



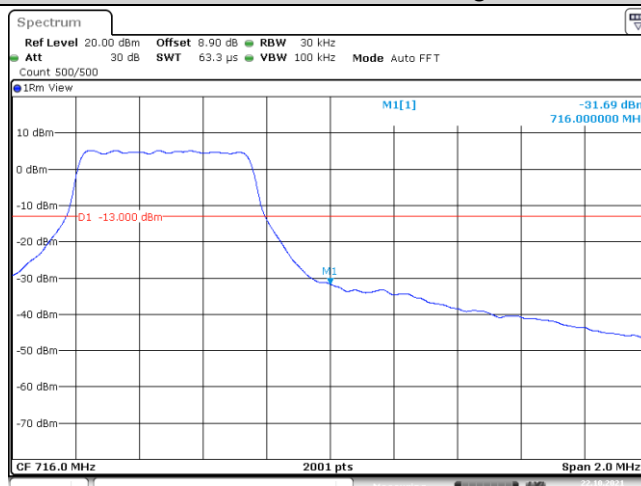
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Band85-5MHz-16QAM-134157-1-5-High--32.24-PASS



Date: 22.OCT.2021 16:30:44

Band85-5MHz-16QAM-134157-3-3-High--31.69-PASS



Date: 22.OCT.2021 16:31:39

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

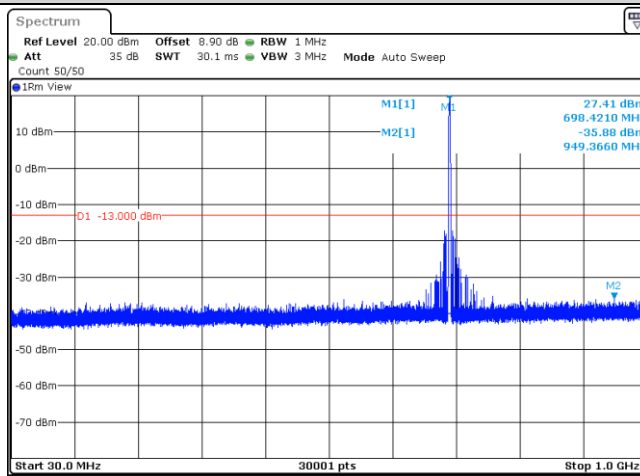
### Test Result

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	-35.88	PASS
Band85	5MHz	134027	QPSK	1	0	Low	1000	5000	-40.99	PASS
Band85	5MHz	134027	QPSK	1	0	Low	5000	12000	-53.97	PASS
Band85	5MHz	134027	QPSK	1	0	Low	12000	26500	-50.31	PASS
Band85	5MHz	134027	QPSK	6	0	Low	30	1000	-35.61	PASS
Band85	5MHz	134027	QPSK	6	0	Low	1000	5000	-40.91	PASS
Band85	5MHz	134027	QPSK	6	0	Low	5000	12000	-53.78	PASS
Band85	5MHz	134027	QPSK	6	0	Low	12000	26500	-50.08	PASS
Band85	5MHz	134092	QPSK	1	0	Low	30	1000	-36.28	PASS
Band85	5MHz	134092	QPSK	1	0	Low	1000	5000	-40.99	PASS
Band85	5MHz	134092	QPSK	1	0	Low	5000	12000	-54.05	PASS
Band85	5MHz	134092	QPSK	1	0	Low	12000	26500	-50.23	PASS
Band85	5MHz	134092	QPSK	6	0	Low	30	1000	-34.31	PASS
Band85	5MHz	134092	QPSK	6	0	Low	1000	5000	-40.92	PASS
Band85	5MHz	134092	QPSK	6	0	Low	5000	12000	-53.84	PASS
Band85	5MHz	134092	QPSK	6	0	Low	12000	26500	-50.26	PASS
Band85	5MHz	134157	QPSK	1	5	High	30	1000	-36.09	PASS
Band85	5MHz	134157	QPSK	1	5	High	1000	5000	-40.95	PASS
Band85	5MHz	134157	QPSK	1	5	High	5000	12000	-54.09	PASS
Band85	5MHz	134157	QPSK	1	5	High	12000	26500	-50.26	PASS
Band85	5MHz	134157	QPSK	3	3	High	30	1000	-36.32	PASS
Band85	5MHz	134157	QPSK	3	3	High	1000	5000	-40.87	PASS
Band85	5MHz	134157	QPSK	3	3	High	5000	12000	-54.04	PASS
Band85	5MHz	134157	QPSK	3	3	High	12000	26500	-50.19	PASS
Band85	5MHz	134027	16QAM	1	0	Low	30	1000	-36.08	PASS
Band85	5MHz	134027	16QAM	1	0	Low	1000	5000	-40.62	PASS
Band85	5MHz	134027	16QAM	1	0	Low	5000	12000	-54.05	PASS
Band85	5MHz	134027	16QAM	1	0	Low	12000	26500	-50.28	PASS
Band85	5MHz	134027	16QAM	6	0	Low	30	1000	-35.9	PASS
Band85	5MHz	134027	16QAM	6	0	Low	1000	5000	-40.69	PASS
Band85	5MHz	134027	16QAM	6	0	Low	5000	12000	-54.05	PASS
Band85	5MHz	134027	16QAM	6	0	Low	12000	26500	-50.2	PASS
Band85	5MHz	134092	16QAM	1	0	Low	30	1000	-35.05	PASS
Band85	5MHz	134092	16QAM	1	0	Low	1000	5000	-40.95	PASS
Band85	5MHz	134092	16QAM	1	0	Low	5000	12000	-54.08	PASS
Band85	5MHz	134092	16QAM	1	0	Low	12000	26500	-50.24	PASS
Band85	5MHz	134092	16QAM	6	0	Low	30	1000	-35.85	PASS
Band85	5MHz	134092	16QAM	6	0	Low	1000	5000	-40.81	PASS
Band85	5MHz	134092	16QAM	6	0	Low	5000	12000	-54.12	PASS
Band85	5MHz	134092	16QAM	6	0	Low	12000	26500	-50.24	PASS
Band85	5MHz	134157	16QAM	1	5	High	30	1000	-34.74	PASS

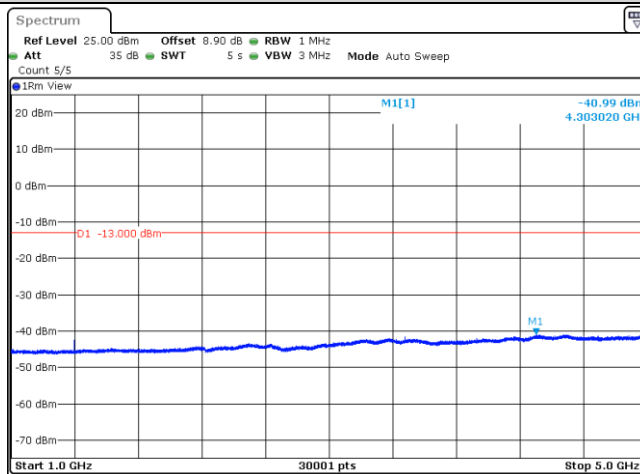
Band85	5MHz	134157	16QAM	1	5	High	1000	5000	-40.91	PASS
Band85	5MHz	134157	16QAM	1	5	High	5000	12000	-53.99	PASS
Band85	5MHz	134157	16QAM	1	5	High	12000	26500	-50.28	PASS
Band85	5MHz	134157	16QAM	3	3	High	30	1000	-35.85	PASS
Band85	5MHz	134157	16QAM	3	3	High	1000	5000	-40.9	PASS
Band85	5MHz	134157	16QAM	3	3	High	5000	12000	-53.93	PASS
Band85	5MHz	134157	16QAM	3	3	High	12000	26500	-50.26	PASS

### Test Graphs

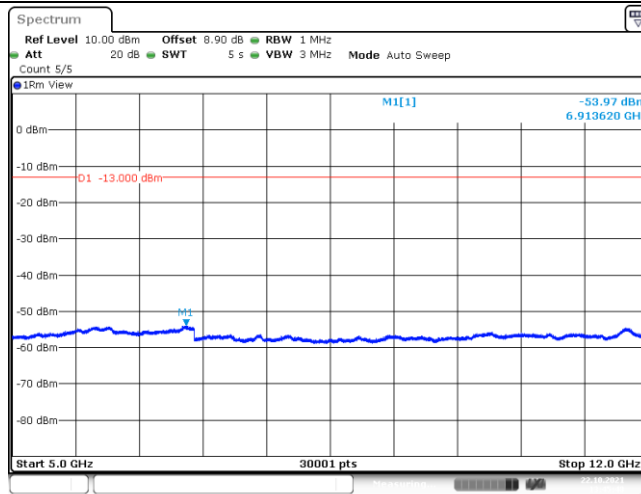
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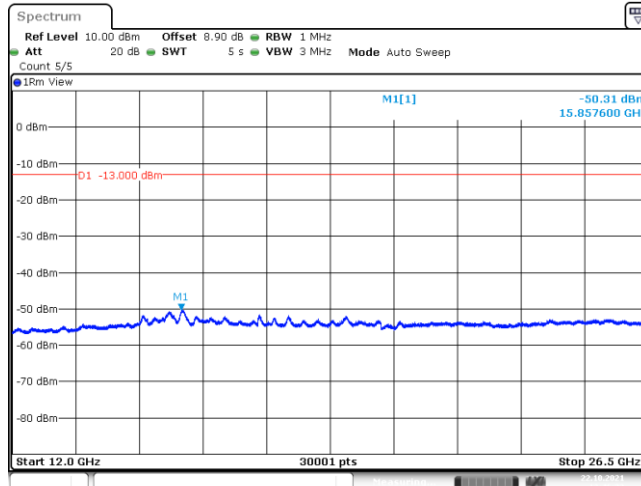


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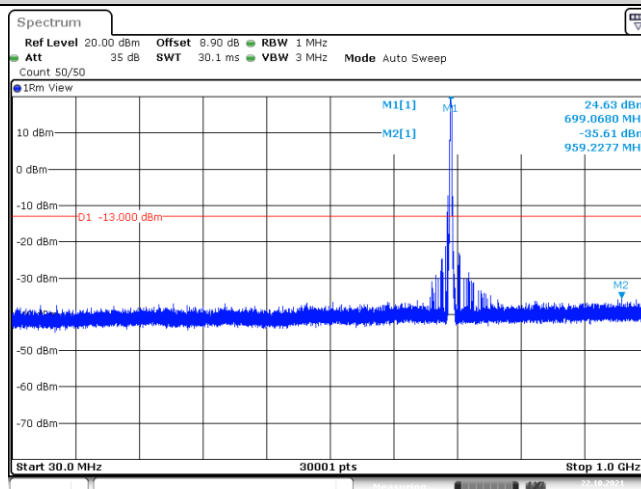
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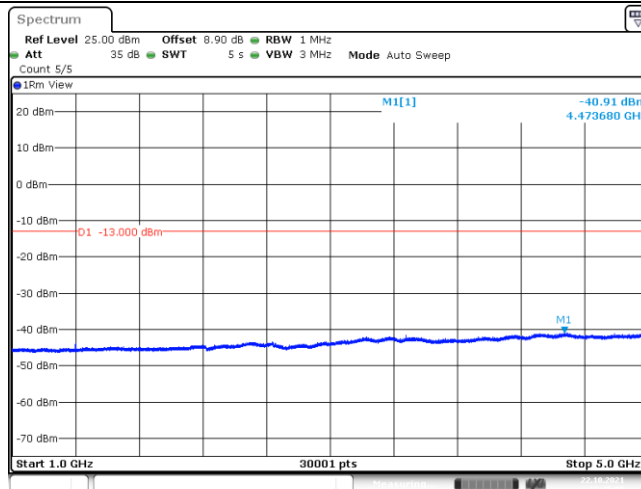
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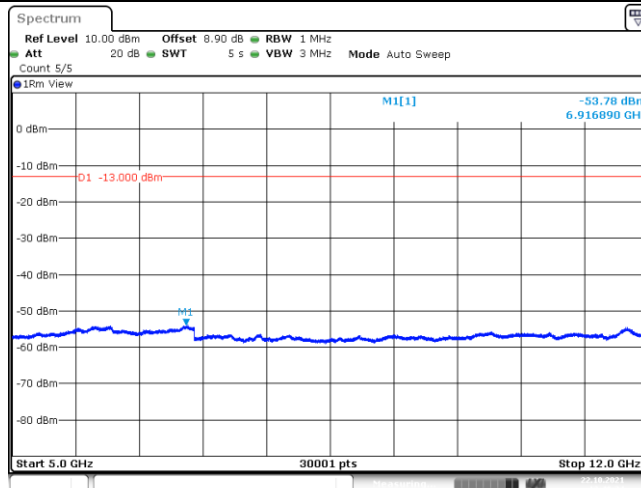
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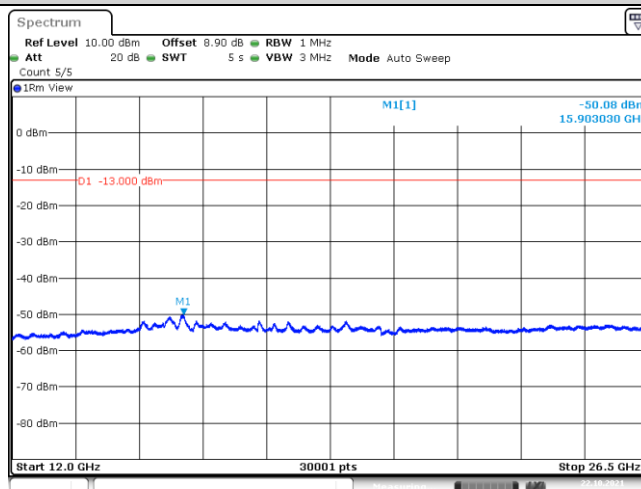
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Band85-5MHz-QPSK-134027-6-0-Low-5000-12000--53.78-PASS



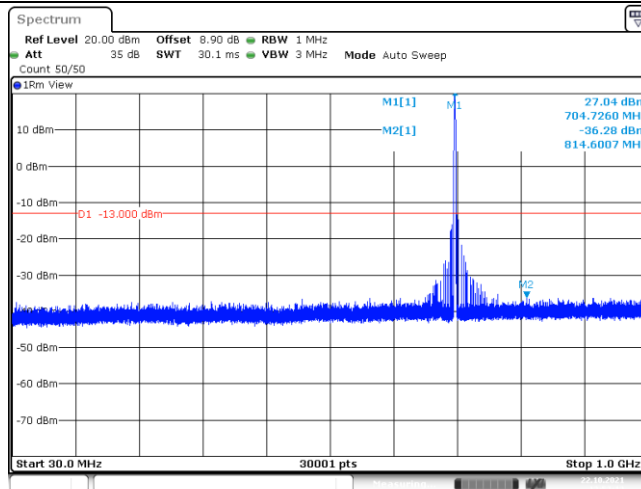
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Band85-5MHz-QPSK-134027-6-0-Low-12000-26500--50.08-PASS



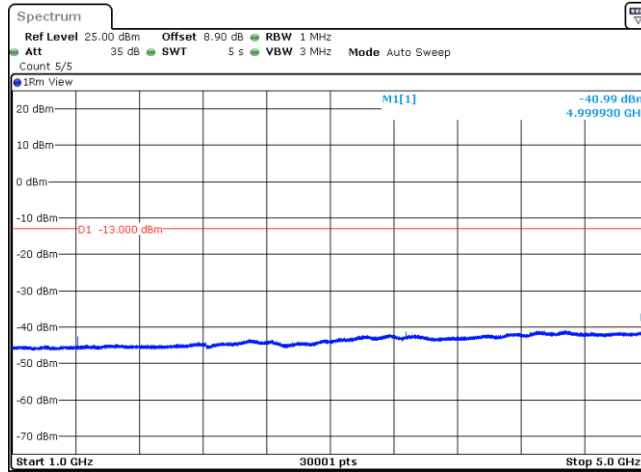
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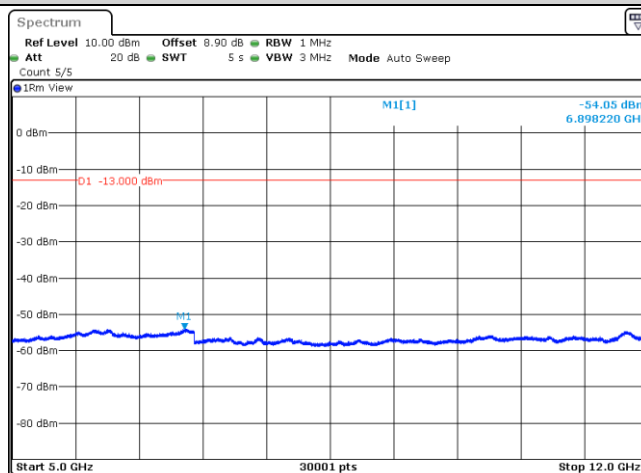
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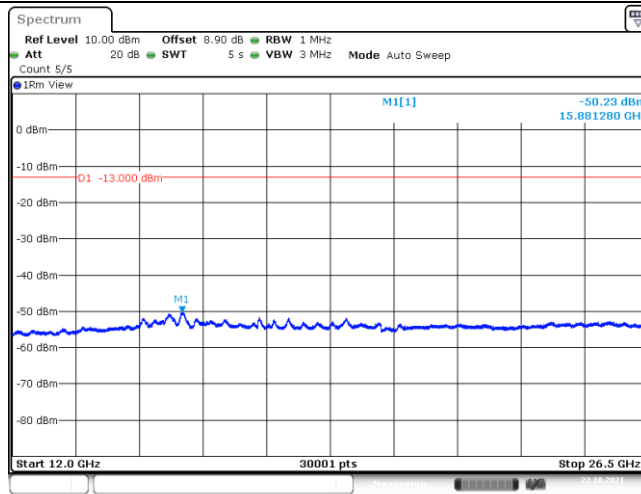
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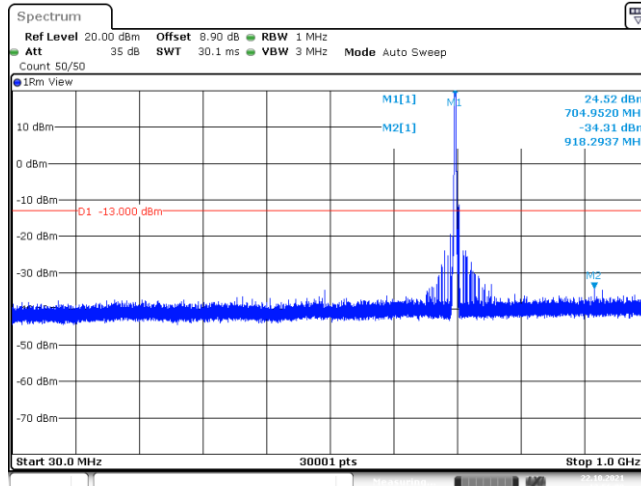
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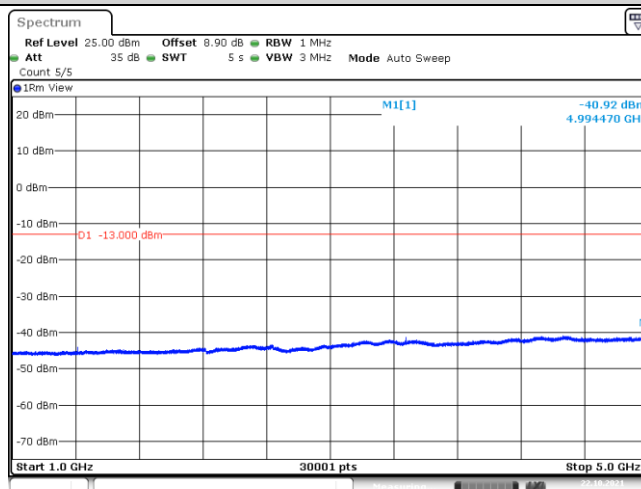
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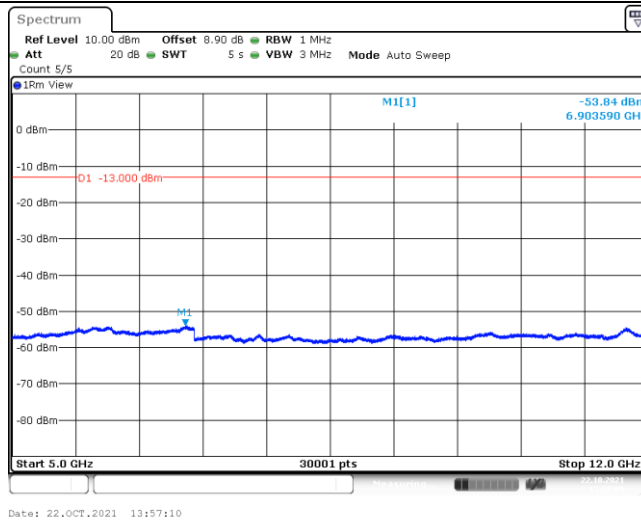
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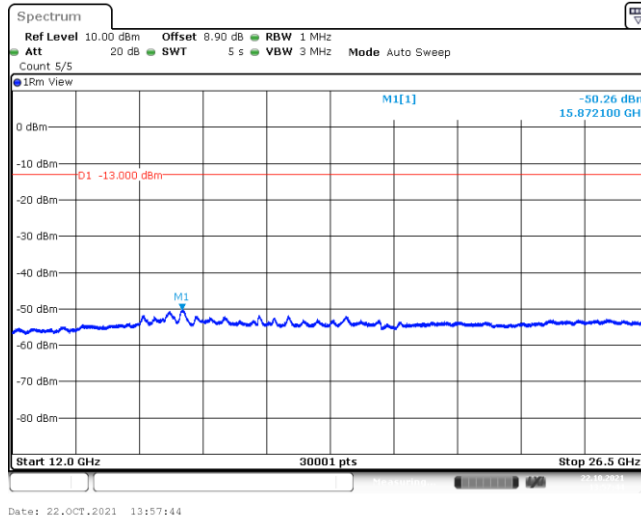


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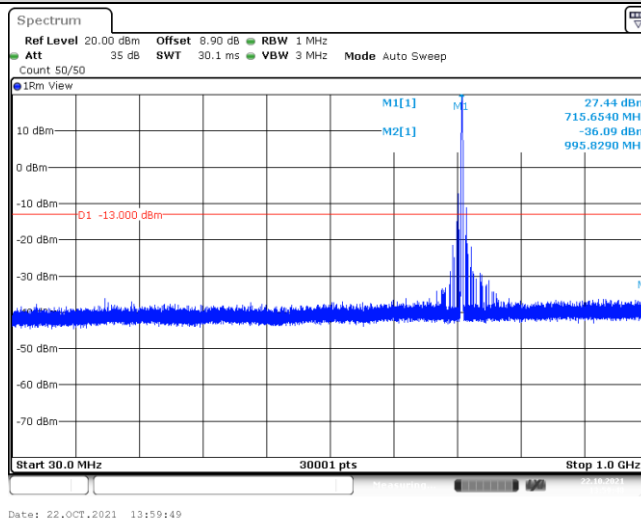
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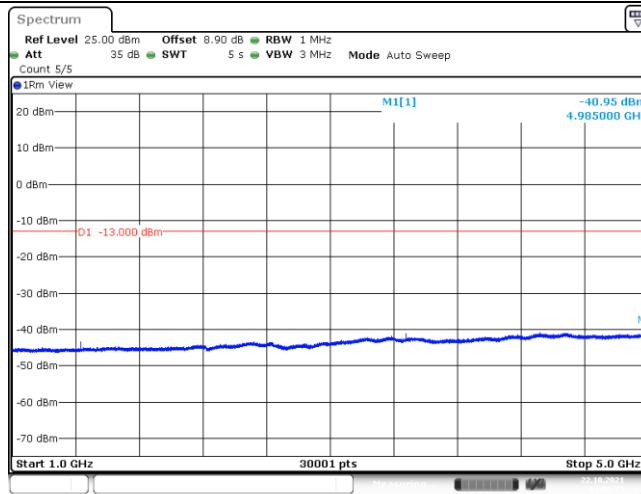
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Band85-5MHz-QPSK-134157-1-5-High-30-1000--36.09-PASS

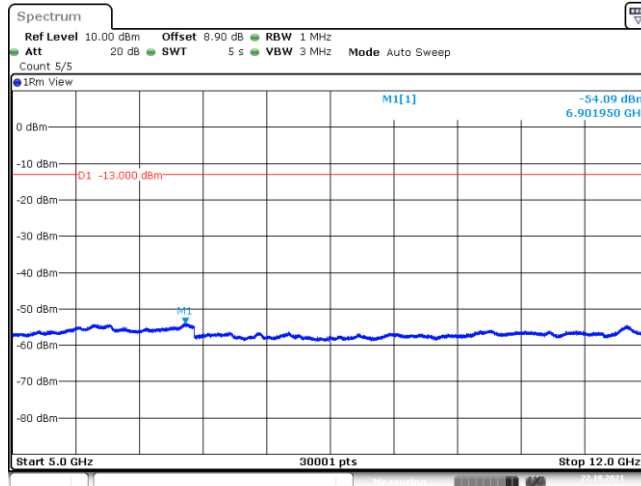


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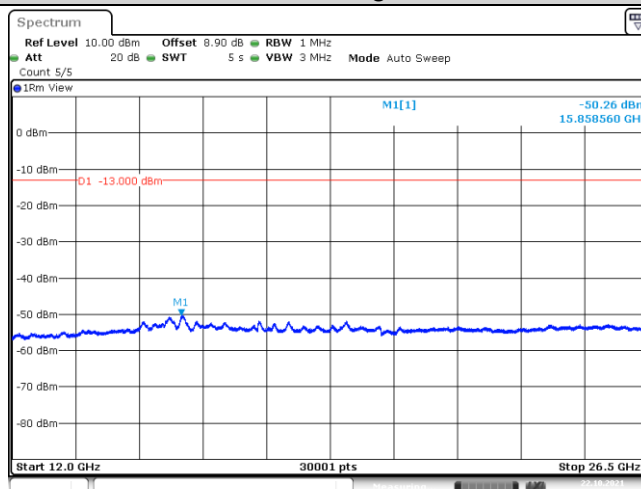
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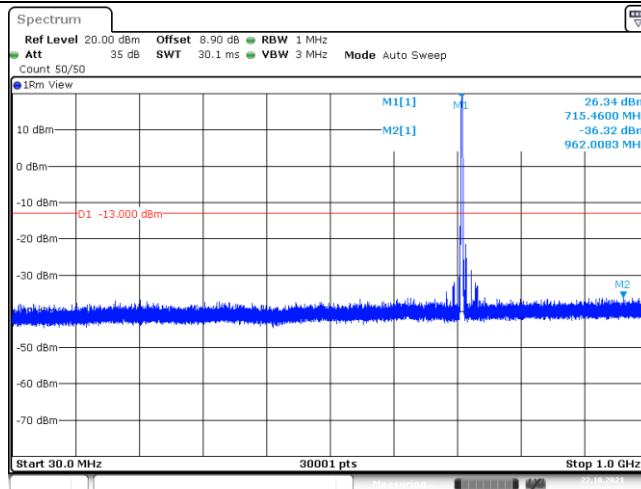
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Band85-5MHz-QPSK-134157-1-5-High-12000-26500--50.26-PASS



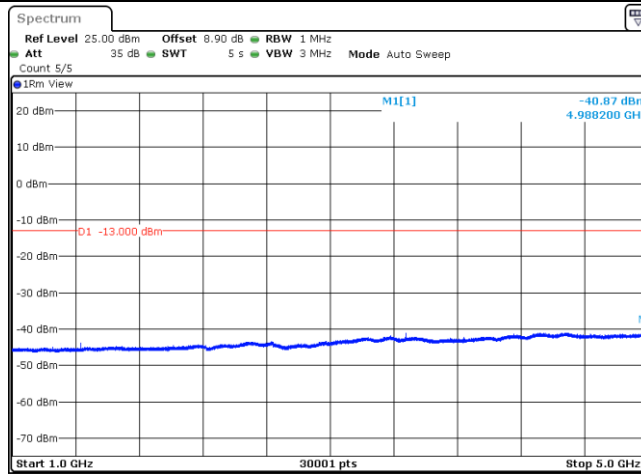
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Band85-5MHz-QPSK-134157-3-3-High-30-1000--36.32-PASS



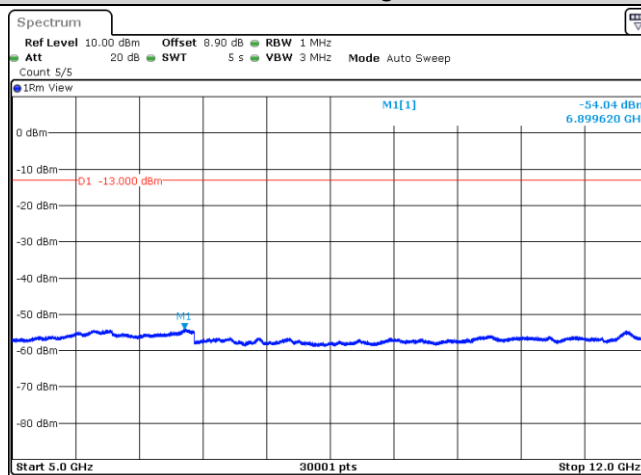
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Band85-5MHz-QPSK-134157-3-3-High-1000-5000--40.87-PASS



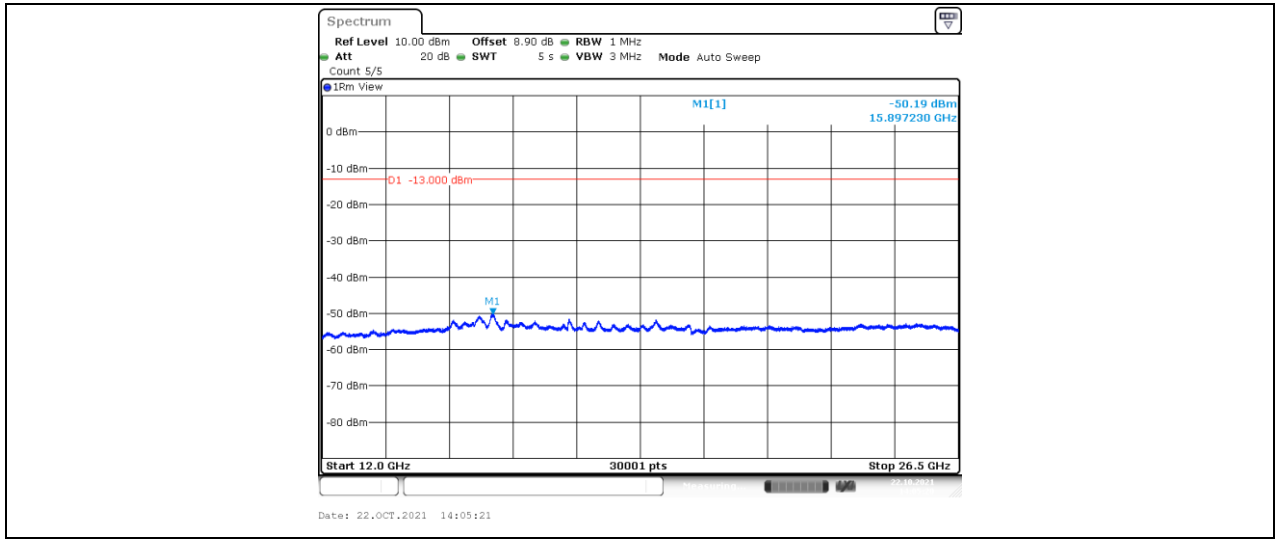
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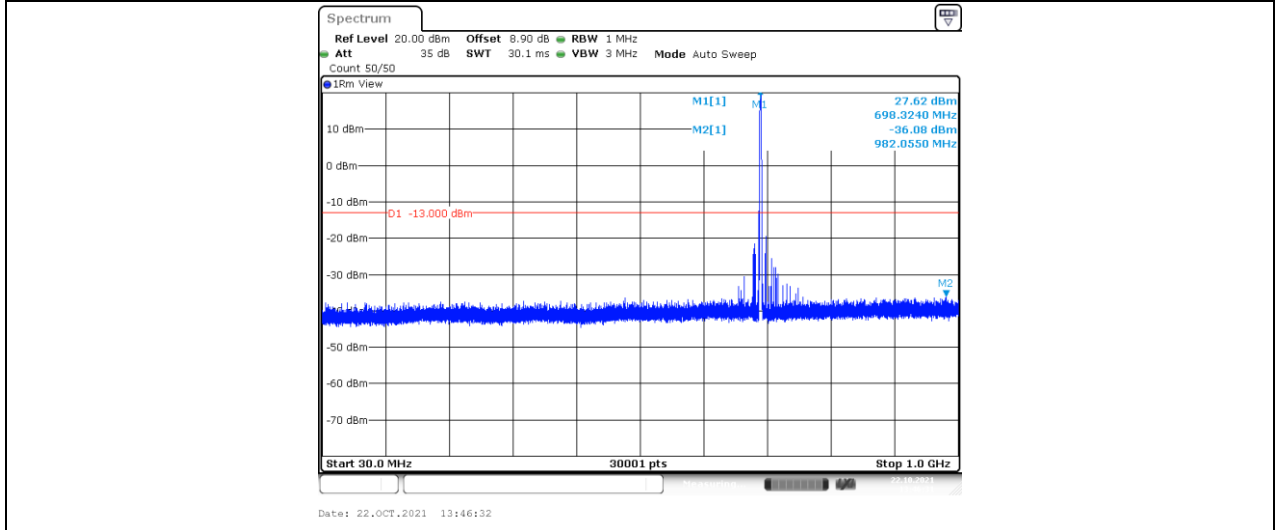


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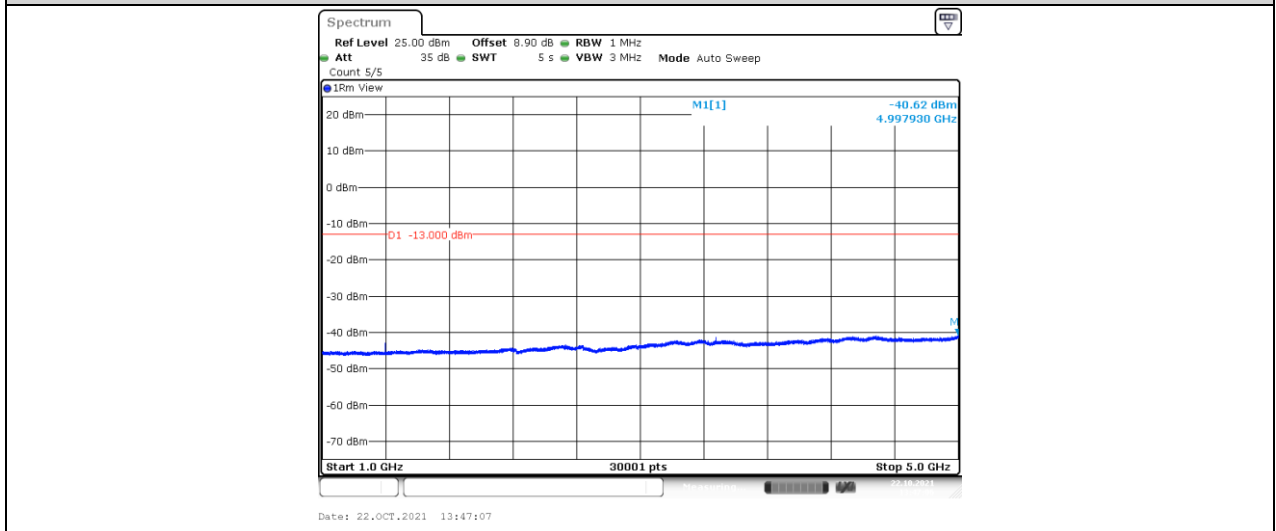
Band85-5MHz-QPSK-134157-3-3-High-12000-26500--50.19-PASS



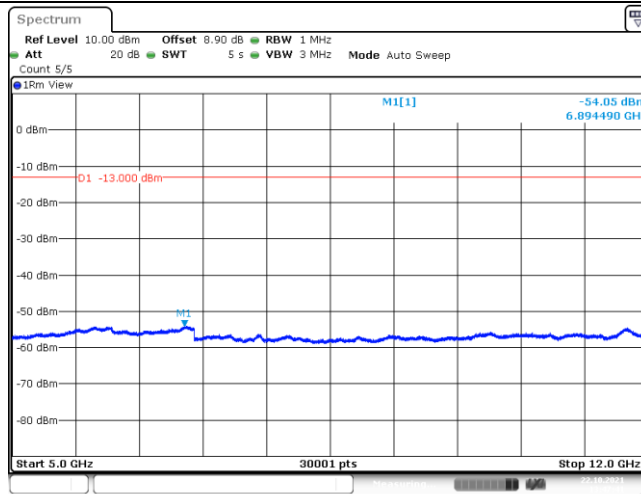
Band85-5MHz-16QAM-134027-1-0-Low-30-1000--36.08-PASS



Band85-5MHz-16QAM-134027-1-0-Low-1000-5000--40.62-PASS

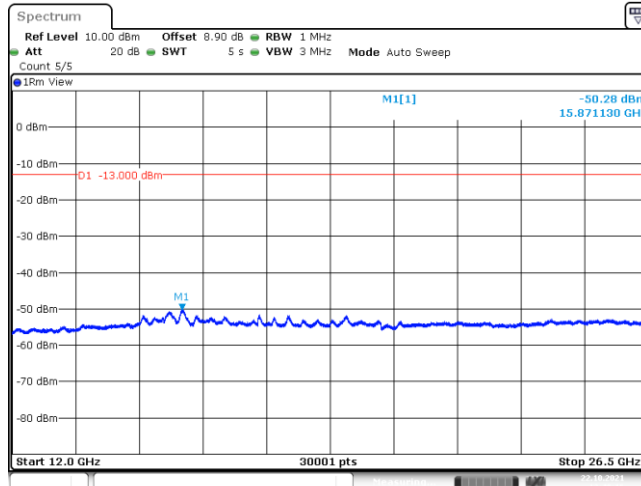


Band85-5MHz-16QAM-134027-1-0-Low-5000-12000--54.05-PASS



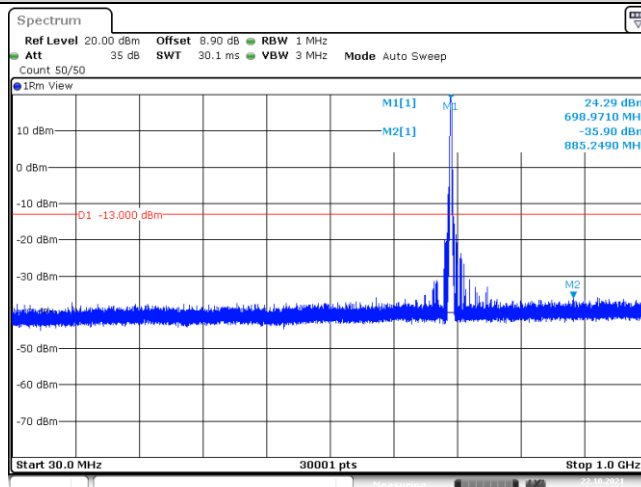
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Band85-5MHz-16QAM-134027-1-0-Low-12000-26500--50.28-PASS



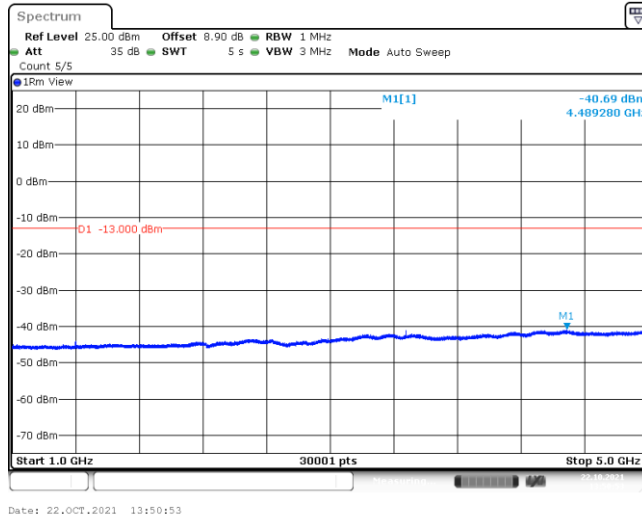
Date: 22.OCT.2021 13:48:16

Band85-5MHz-16QAM-134027-6-0-Low-30-1000--35.9-PASS

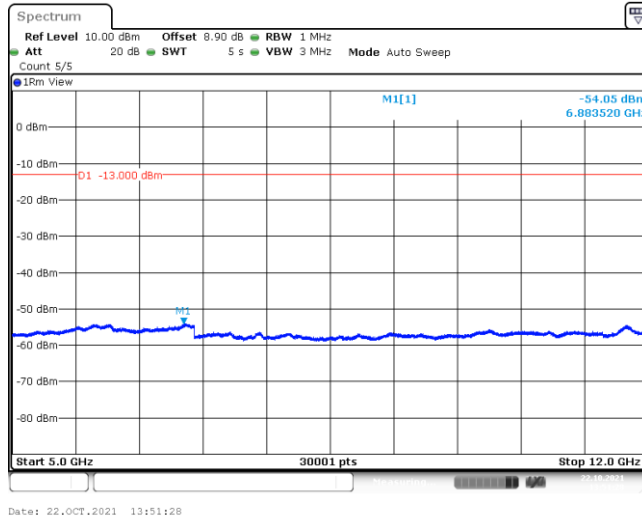


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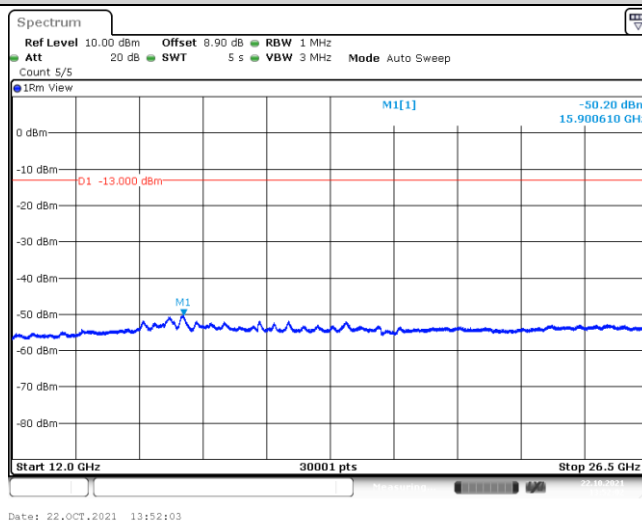
Band85-5MHz-16QAM-134027-6-0-Low-1000-5000--40.69-PASS



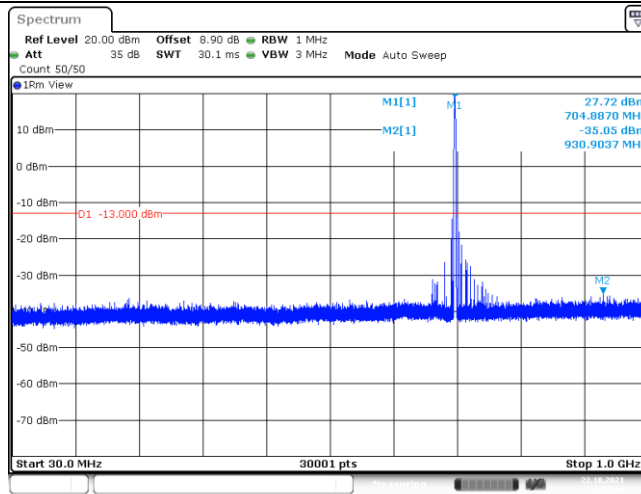
Band85-5MHz-16QAM-134027-6-0-Low-5000-12000--54.05-PASS



Band85-5MHz-16QAM-134027-6-0-Low-12000-26500--50.2-PASS

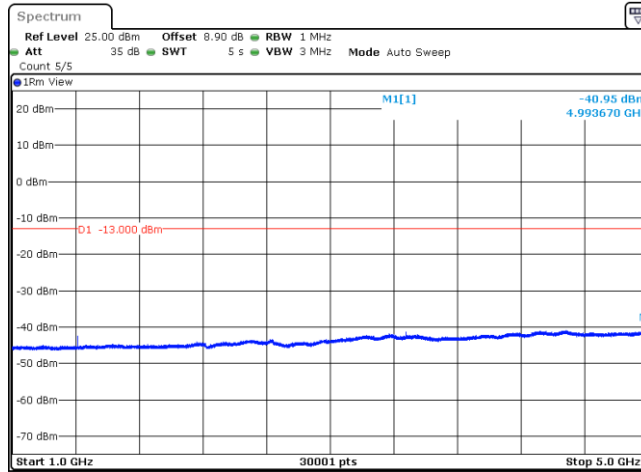


Band85-5MHz-16QAM-134092-1-0-Low-30-1000--35.05-PASS



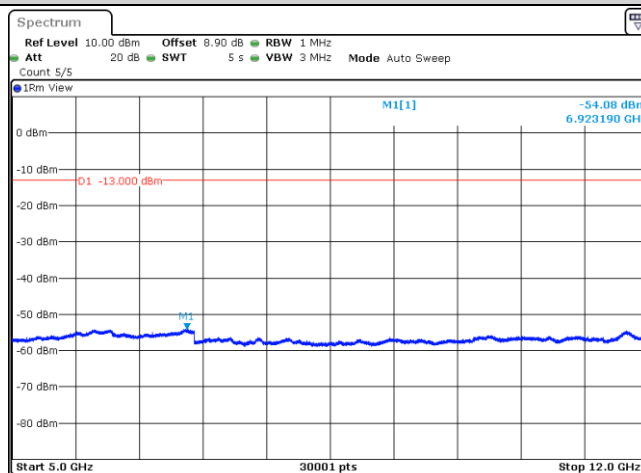
Date: 22.OCT.2021 13:54:07

Band85-5MHz-16QAM-134092-1-0-Low-1000-5000--40.95-PASS



Date: 22.OCT.2021 13:54:41

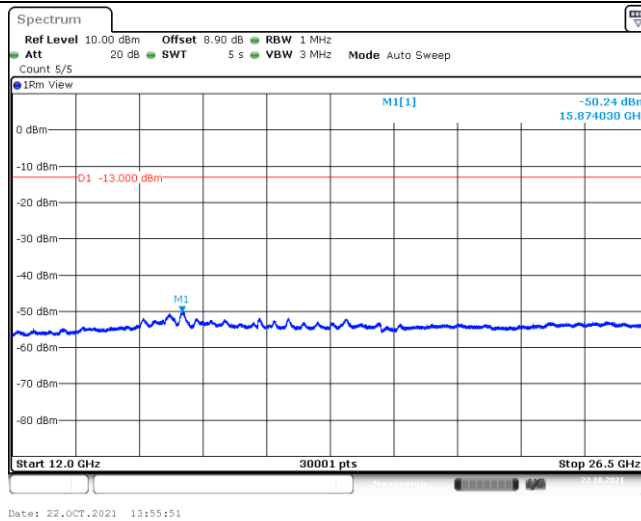
Band85-5MHz-16QAM-134092-1-0-Low-5000-12000--54.08-PASS



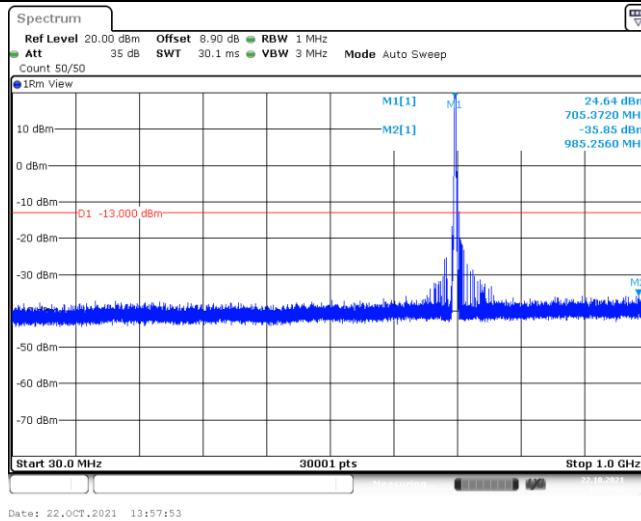
Date: 22.OCT.2021 13:55:16

Band85-5MHz-16QAM-134092-1-0-Low-12000-26500--50.24-PASS

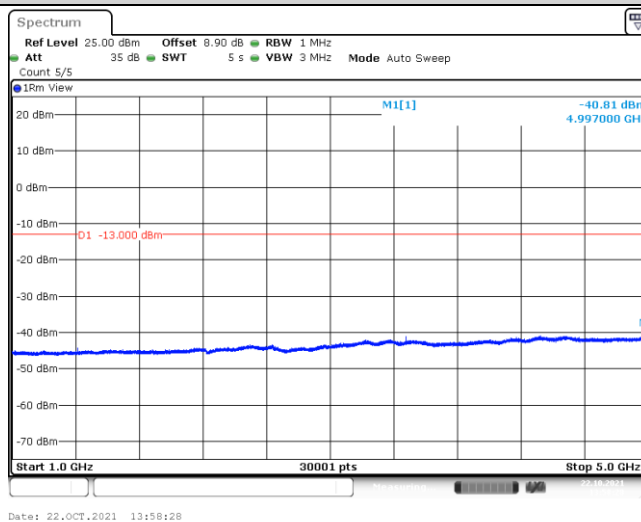




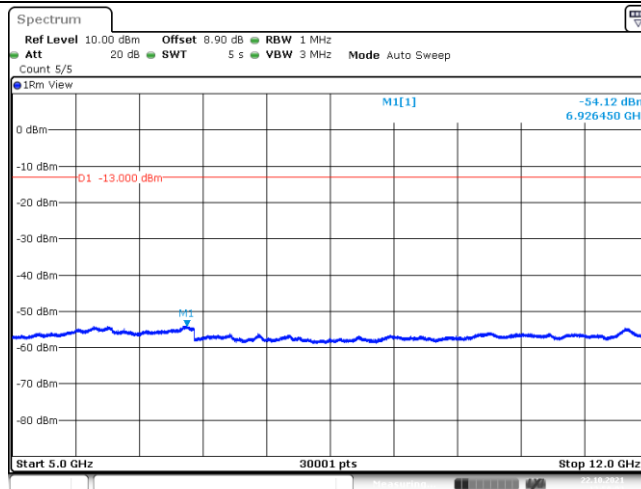
Band85-5MHz-16QAM-134092-6-0-Low-30-1000--35.85-PASS



Band85-5MHz-16QAM-134092-6-0-Low-1000-5000--40.81-PASS

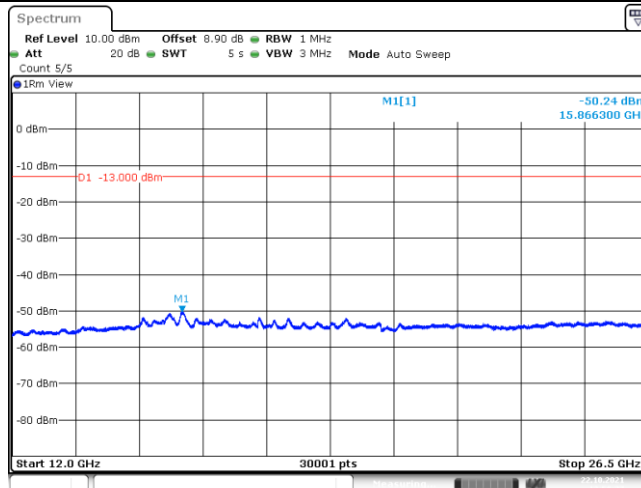


Band85-5MHz-16QAM-134092-6-0-Low-5000-12000--54.12-PASS



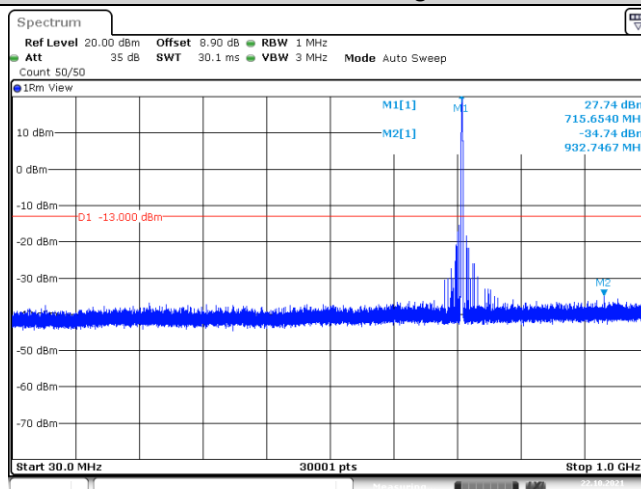
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Band85-5MHz-16QAM-134092-6-0-Low-12000-26500--50.24-PASS



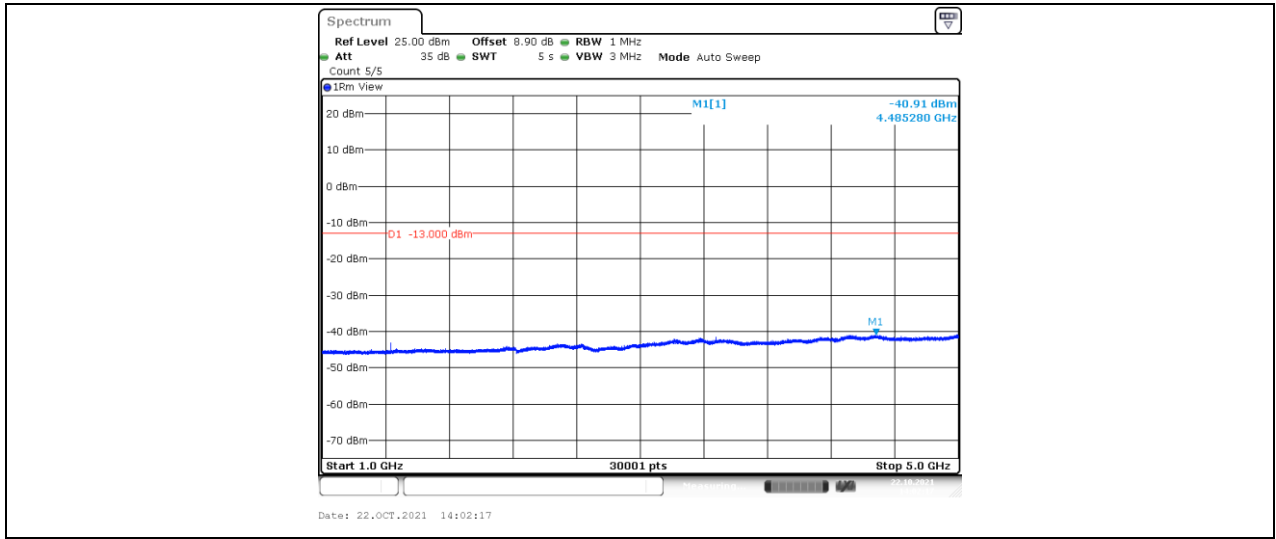
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Band85-5MHz-16QAM-134157-1-5-High-30-1000--34.74-PASS

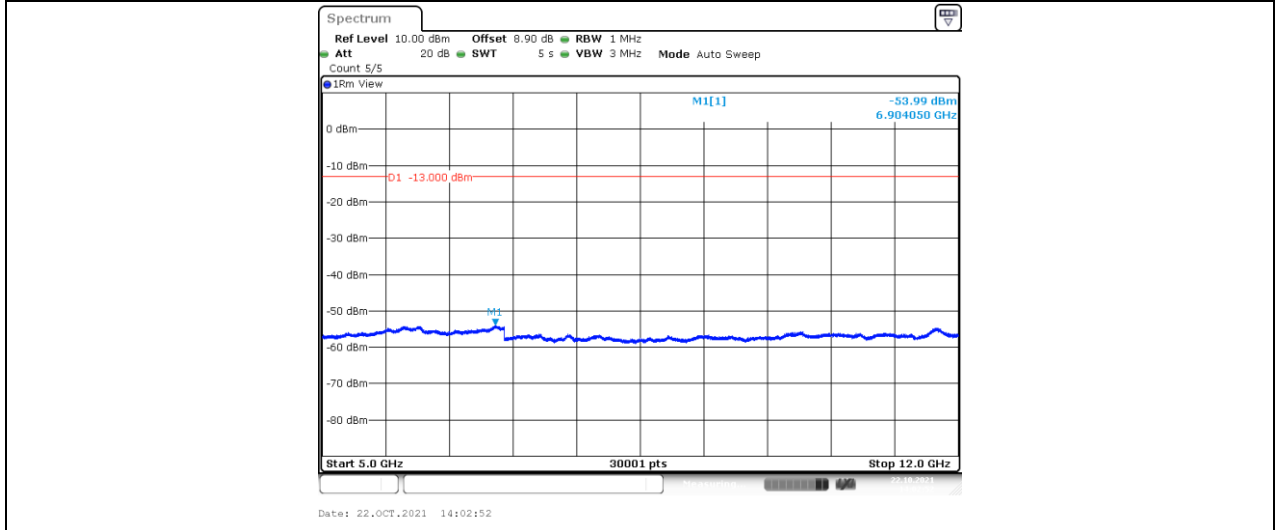


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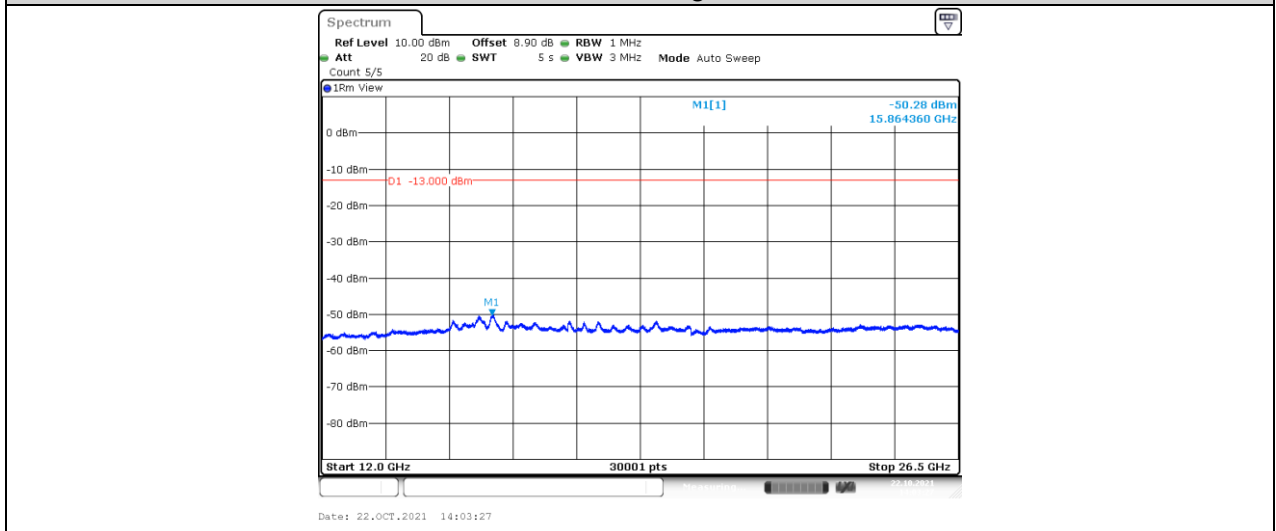
Band85-5MHz-16QAM-134157-1-5-High-1000-5000--40.91-PASS



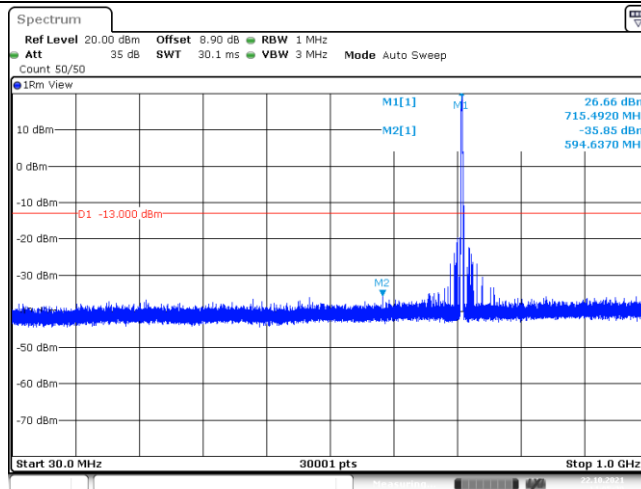
Band85-5MHz-16QAM-134157-1-5-High-5000-12000--53.99-PASS



Band85-5MHz-16QAM-134157-1-5-High-12000-26500--50.28-PASS

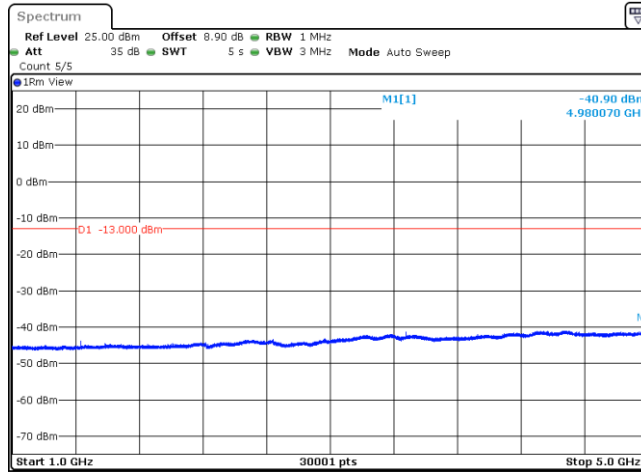


Band85-5MHz-16QAM-134157-3-3-High-30-1000--35.85-PASS



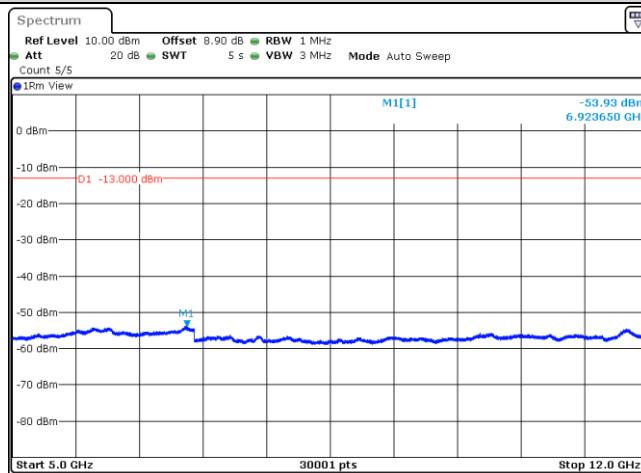
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Band85-5MHz-16QAM-134157-3-3-High-1000-5000--40.9-PASS



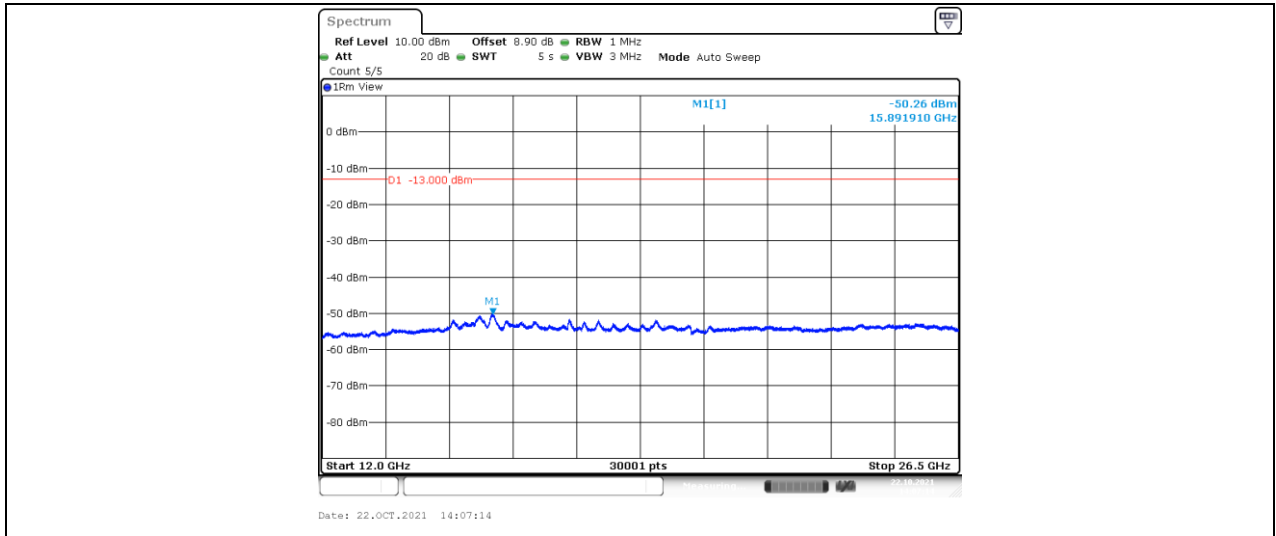
Date: 22.OCT.2021 14:06:04

Band85-5MHz-16QAM-134157-3-3-High-5000-12000--53.93-PASS



Date: 22.OCT.2021 14:06:39

Band85-5MHz-16QAM-134157-3-3-High-12000-26500--50.26-PASS



## 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	5.88	0.008317	±2.5	PASS
Band85	5MHz	134092	QPSK	1	0	Low	LV	NT	6.32	0.008939	±2.5	PASS
Band85	5MHz	134092	QPSK	1	0	Low	NV	NT	7.04	0.009958	±2.5	PASS
Band85	5MHz	134092	16QAM	1	0	Low	HV	NT	-17.40	-0.024611	±2.5	PASS
Band85	5MHz	134092	16QAM	1	0	Low	LV	NT	-16.81	-0.023777	±2.5	PASS
Band85	5MHz	134092	16QAM	1	0	Low	NV	NT	-16.55	-0.023409	±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	5.49	0.007765	±2.5	PASS
Band85	5MHz	134092	QPSK	1	0	Low	NV	-30	5.55	0.007850	±2.5	PASS
Band85	5MHz	134092	QPSK	1	0	Low	NV	-20	5.87	0.008303	±2.5	PASS
Band85	5MHz	134092	QPSK	1	0	Low	NV	-10	5.72	0.008091	±2.5	PASS
Band85	5MHz	134092	QPSK	1	0	Low	NV	0	5.02	0.007100	±2.5	PASS
Band85	5MHz	134092	QPSK	1	0	Low	NV	10	6.49	0.009180	±2.5	PASS
Band85	5MHz	134092	QPSK	1	0	Low	NV	20	4.71	0.006662	±2.5	PASS
Band85	5MHz	134092	QPSK	1	0	Low	NV	30	6.09	0.008614	±2.5	PASS
Band85	5MHz	134092	QPSK	1	0	Low	NV	40	6.14	0.008685	±2.5	PASS
Band85	5MHz	134092	QPSK	1	0	Low	NV	50	7.47	0.010566	±2.5	PASS
Band85	5MHz	134092	QPSK	1	0	Low	NV	60	8.33	0.011782	±2.5	PASS
Band85	5MHz	134092	QPSK	1	0	Low	NV	70	5.21	0.007369	±2.5	PASS
Band85	5MHz	134092	QPSK	1	0	Low	NV	-40	7.41	0.010481	±2.5	PASS
Band85	5MHz	134092	QPSK	1	0	Low	NV	80	6.19	0.008755	±2.5	PASS
Band85	5MHz	134092	16QAM	1	0	Low	NV	85	-15.49	-0.021909	±2.5	PASS
Band85	5MHz	134092	16QAM	1	0	Low	NV	-30	-16.14	-0.022829	±2.5	PASS
Band85	5MHz	134092	16QAM	1	0	Low	NV	-20	-14.46	-0.020453	±2.5	PASS
Band85	5MHz	134092	16QAM	1	0	Low	NV	-10	-16.78	-0.023734	±2.5	PASS
Band85	5MHz	134092	16QAM	1	0	Low	NV	0	-17.45	-0.024682	±2.5	PASS
Band85	5MHz	134092	16QAM	1	0	Low	NV	10	-18.47	-0.026124	±2.5	PASS
Band85	5MHz	134092	16QAM	1	0	Low	NV	20	-14.98	-0.021188	±2.5	PASS
Band85	5MHz	134092	16QAM	1	0	Low	NV	30	-17.94	-0.025375	±2.5	PASS
Band85	5MHz	134092	16QAM	1	0	Low	NV	40	-17.52	-0.024781	±2.5	PASS
Band85	5MHz	134092	16QAM	1	0	Low	NV	50	-15.19	-0.021485	±2.5	PASS
Band85	5MHz	134092	16QAM	1	0	Low	NV	60	-17.31	-0.024484	±2.5	PASS
Band85	5MHz	134092	16QAM	1	0	Low	NV	70	-16.14	-0.022829	±2.5	PASS
Band85	5MHz	134092	16QAM	1	0	Low	NV	80	-16.37	-0.023154	±2.5	PASS
Band85	5MHz	134092	16QAM	1	0	Low	NV	-40	-17.61	-0.024908	±2.5	PASS