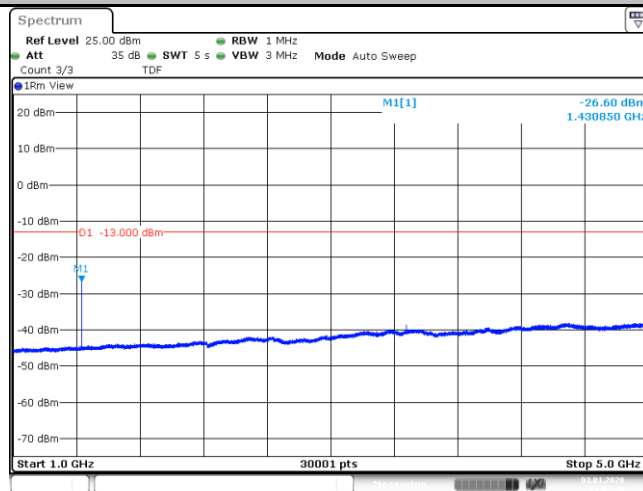
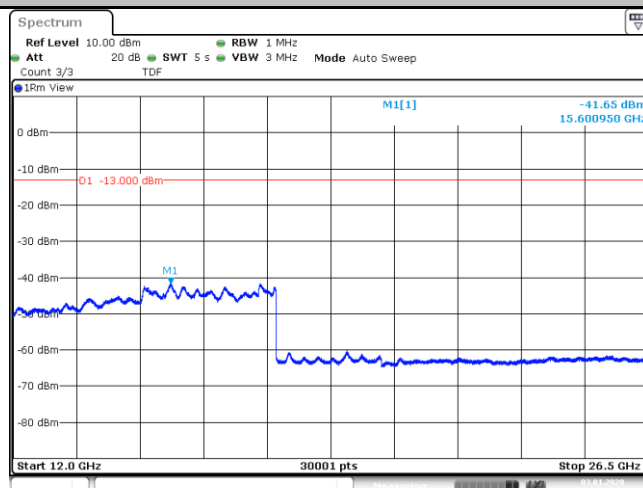


Band12_1.4MHz_QPSK_23173_1_5_Low_1000_5000_-26.6_PASS_



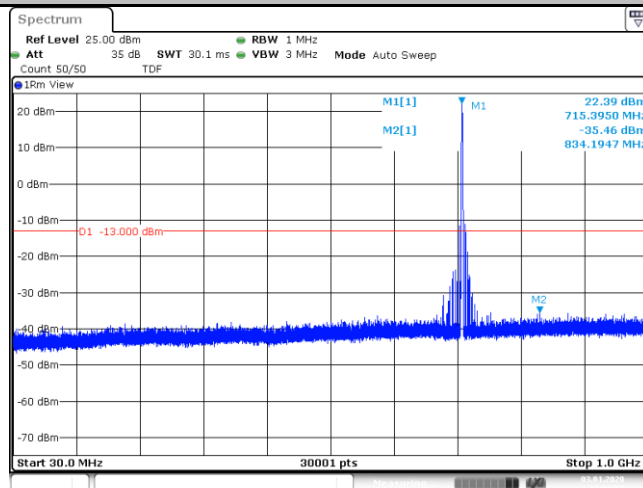
Date: 3.JAN.2020 14:02:20

Band12_1.4MHz_QPSK_23173_1_5_Low_12000_26500_-41.65_PASS_



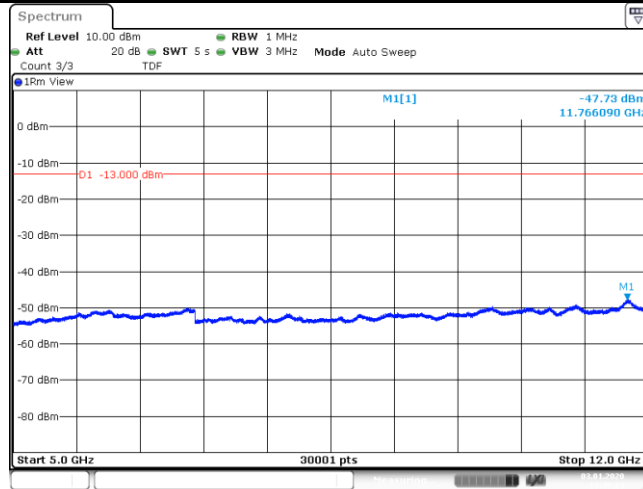
Date: 3.JAN.2020 14:03:04

Band12_1.4MHz_QPSK_23173_1_5_Low_30_1000_-35.46_PASS_



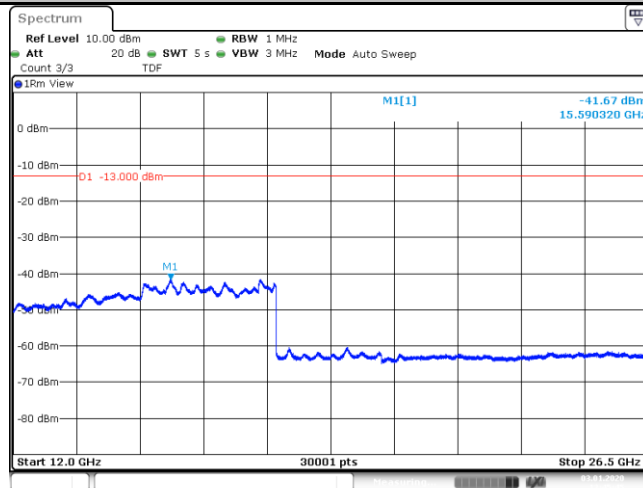
Date: 3.JAN.2020 14:01:58

Band12_1.4MHz_QPSK_23017_6_0_Low_5000_12000_-47.73_PASS__



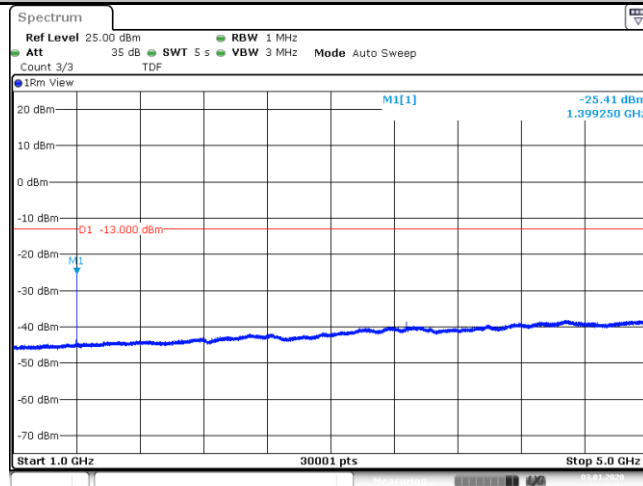
Date: 3.JAN.2020 13:45:23

Band12_1.4MHz_QPSK_23017_6_0_Low_12000_26500_-41.67_PASS__



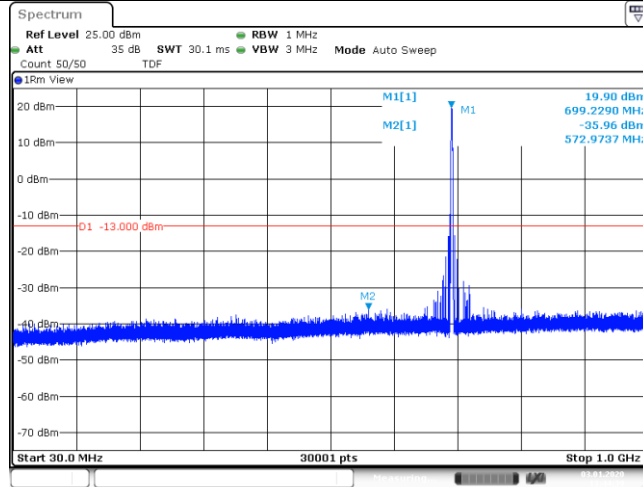
Date: 3.JAN.2020 13:45:45

Band12_1.4MHz_QPSK_23017_6_0_Low_1000_5000_-25.41_PASS__



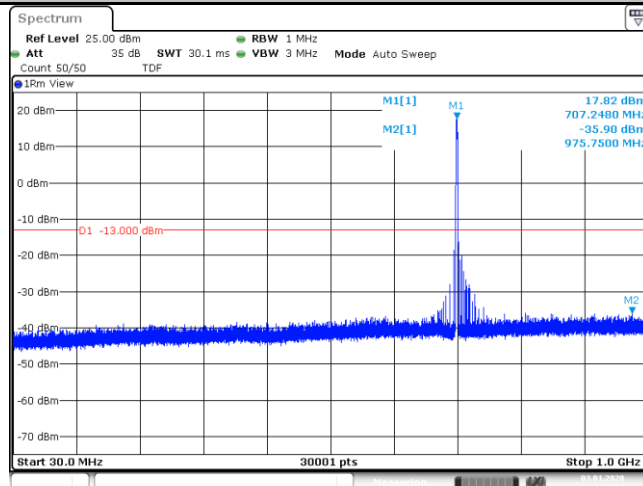
Date: 3.JAN.2020 13:45:01

Band12_1.4MHz_QPSK_23017_6_0_Low_30_1000_-35.96_PASS__



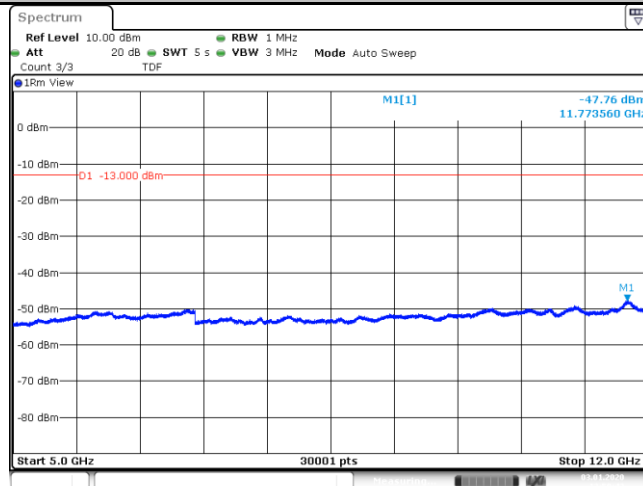
Date: 3.JAN.2020 13:44:39

Band12_1.4MHz_QPSK_23095_6_0_Low_30_1000_-35.9_PASS__



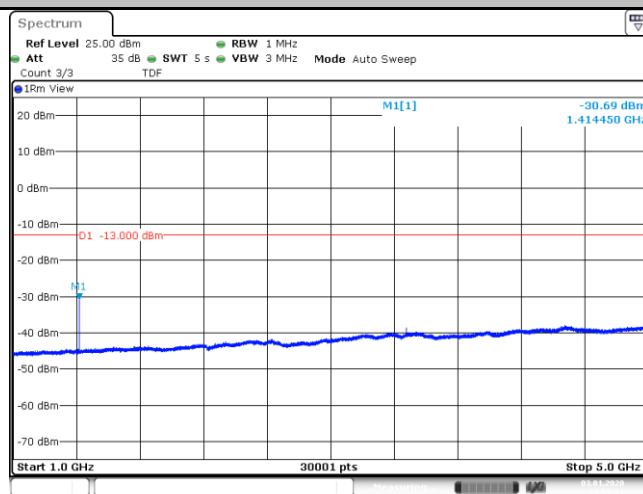
Date: 3.JAN.2020 13:58:59

Band12_1.4MHz_QPSK_23095_6_0_Low_5000_12000_-47.76_PASS__



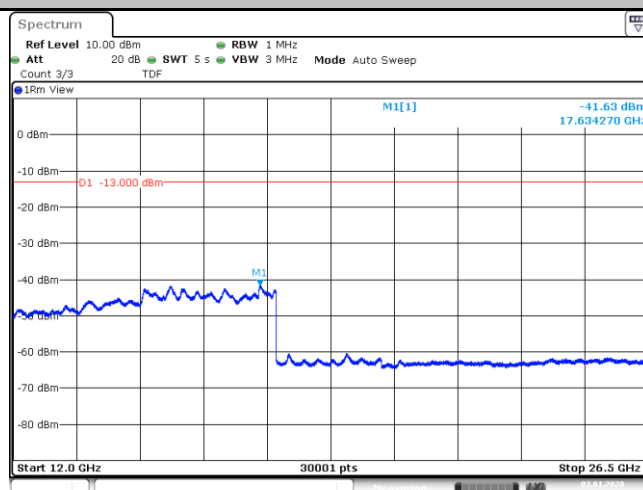
Date: 3.JAN.2020 13:59:43

Band12_1.4MHz_QPSK_23095_6_0_Low_1000_5000_-30.69_PASS__



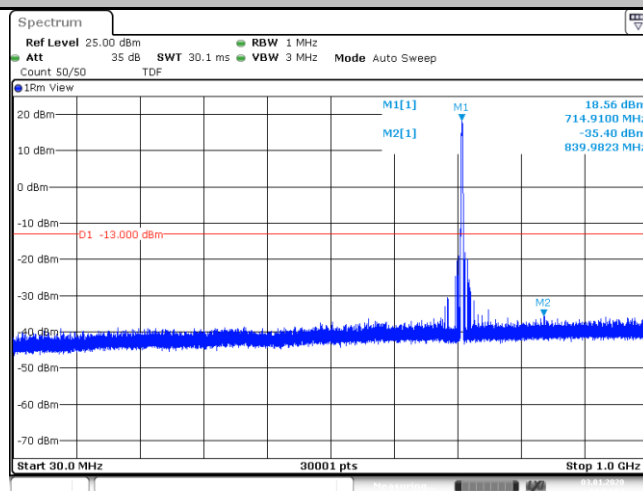
Date: 3.JAN.2020 13:59:21

Band12_1.4MHz_QPSK_23095_6_0_Low_12000_26500_-41.63_PASS__



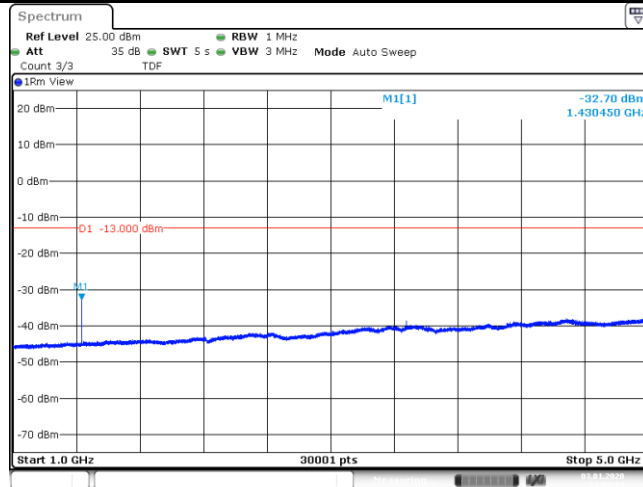
Date: 3.JAN.2020 14:00:05

Band12_1.4MHz_QPSK_23173_6_0_Low_30_1000_-35.4_PASS__



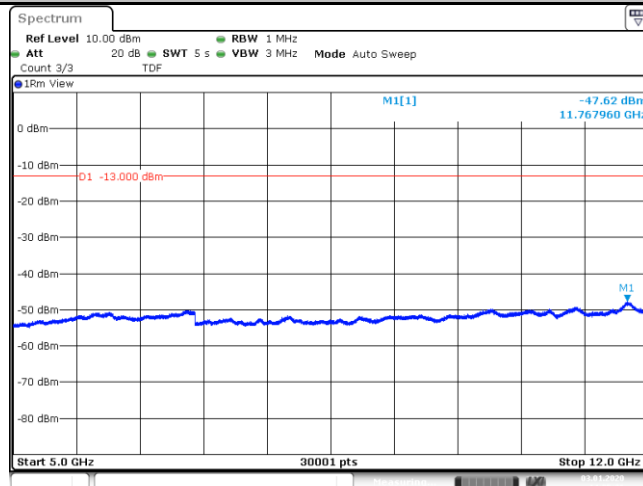
Date: 3.JAN.2020 14:04:52

Band12_1.4MHz_QPSK_23173_6_0_Low_1000_5000_-32.7_PASS__



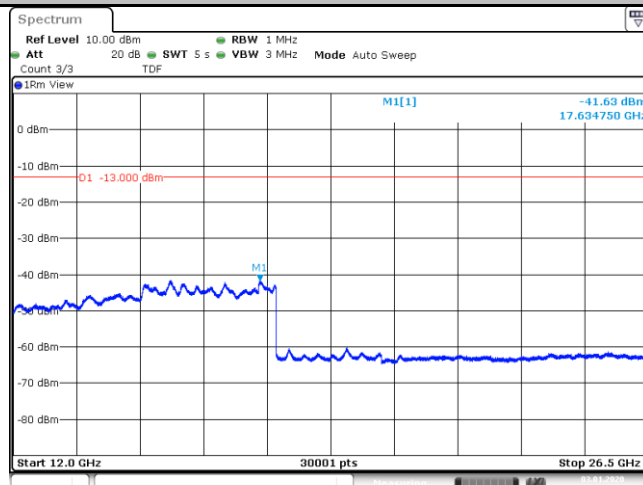
Date: 3.JAN.2020 14:05:14

Band12_1.4MHz_QPSK_23173_6_0_Low_5000_12000_-47.62_PASS__



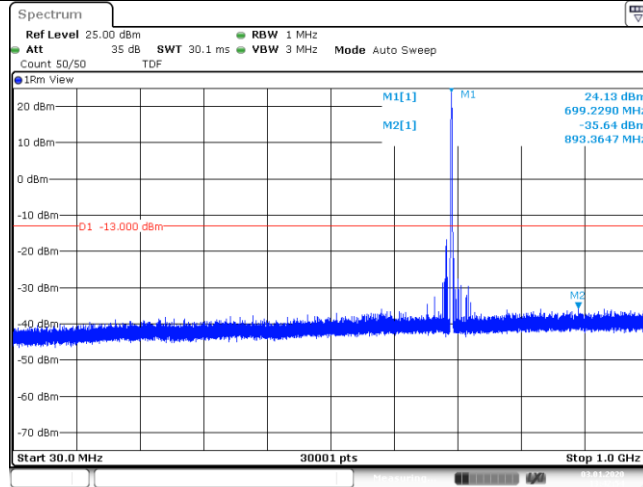
Date: 3.JAN.2020 14:05:16

Band12_1.4MHz_QPSK_23173_6_0_Low_12000_26500_-41.63_PASS__



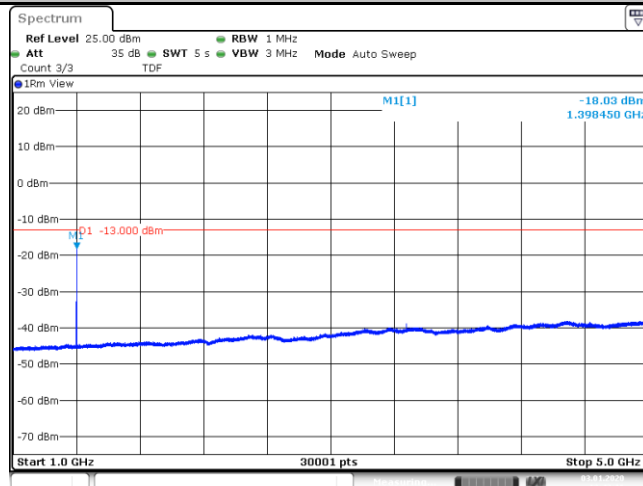
Date: 3.JAN.2020 14:05:18

Band12_1.4MHz_16QAM_23017_1_0_Low_30_1000_-35.64_PASS__



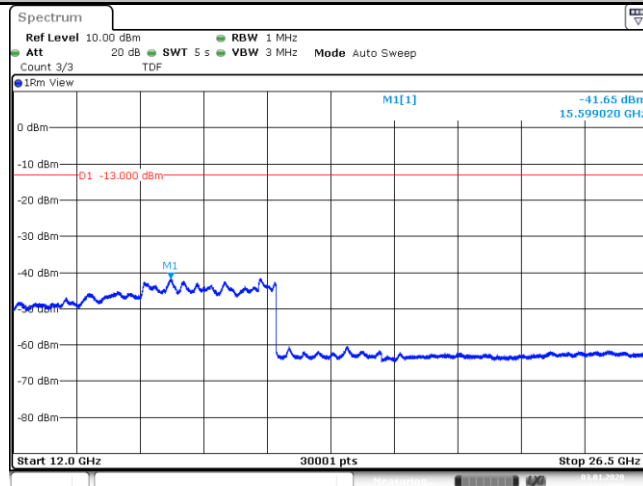
Date: 3.JAN.2020 13:42:54

Band12_1.4MHz_16QAM_23017_1_0_Low_1000_5000_-18.03_PASS__



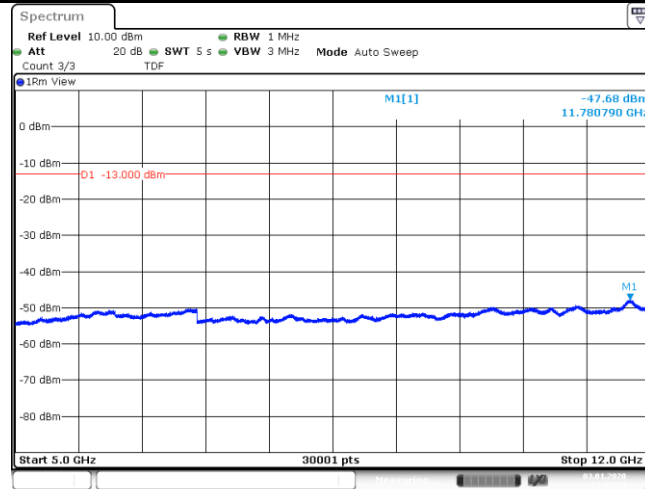
Date: 3.JAN.2020 13:43:16

Band12_1.4MHz_16QAM_23017_1_0_Low_12000_26500_-41.65_PASS__



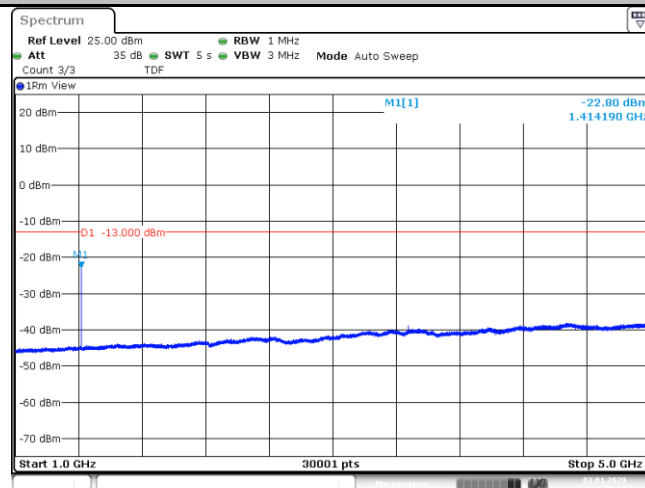
Date: 3.JAN.2020 13:44:00

Band12_1.4MHz_16QAM_23017_1_0_Low_5000_12000_-47.68_PASS__



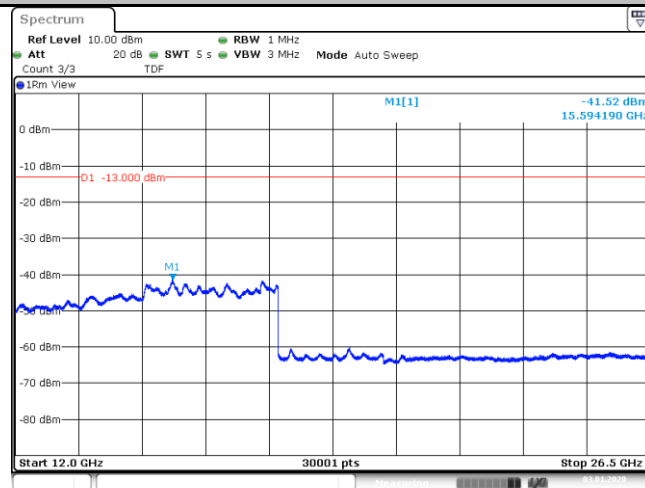
Date: 3.JAN.2020 13:43:38

Band12_1.4MHz_16QAM_23095_1_0_Low_1000_5000_-22.8_PASS__



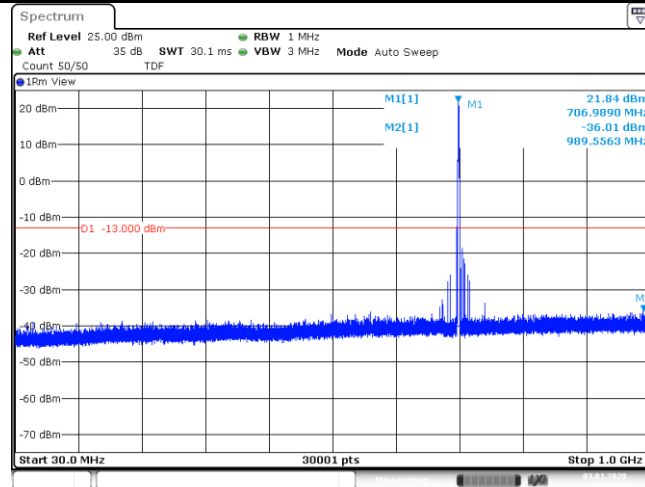
Date: 3.JAN.2020 13:57:20

Band12_1.4MHz_16QAM_23095_1_0_Low_12000_26500_-41.52_PASS__

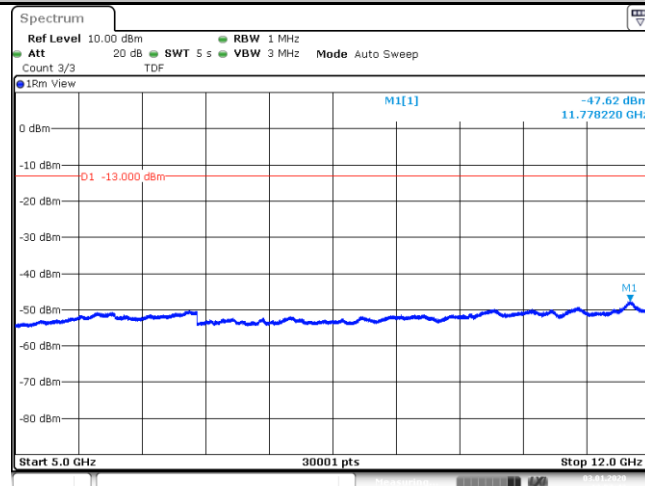


Date: 3.JAN.2020 13:58:04

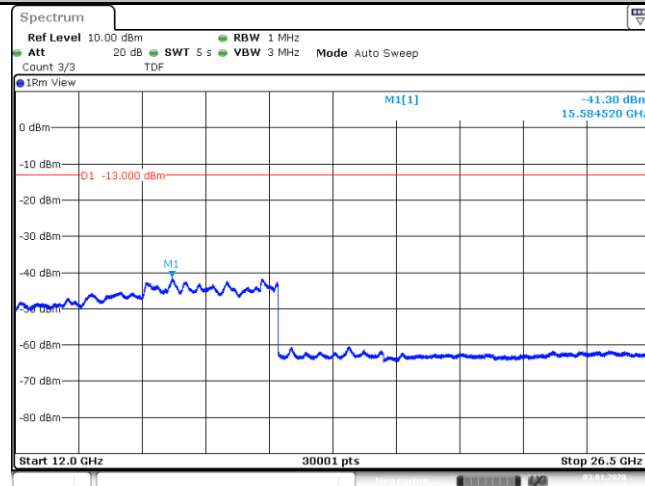
Band12_1.4MHz_16QAM_23095_1_0_Low_30_1000_-36.01_PASS__



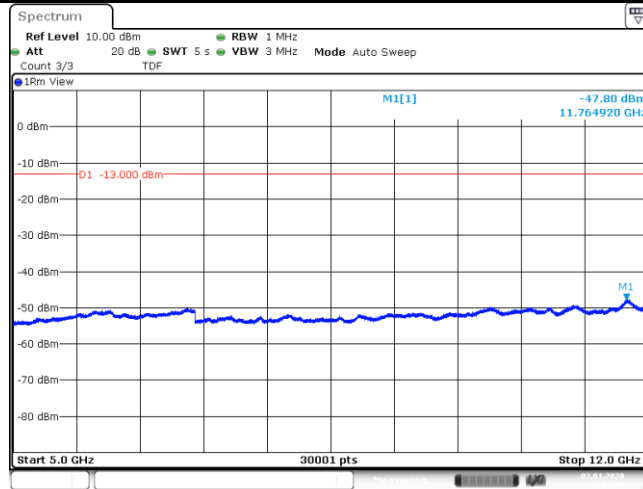
Band12_1.4MHz_16QAM_23095_1_0_Low_5000_12000_-47.62_PASS__



Band12_1.4MHz_16QAM_23173_1_5_Low_12000_26500_-41.3_PASS__

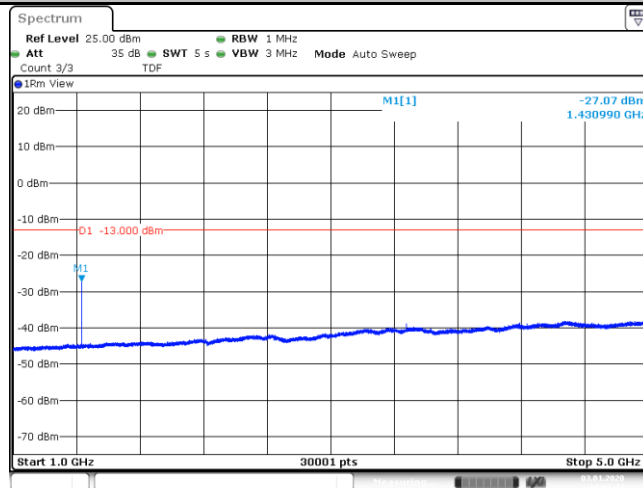


Band12_1.4MHz_16QAM_23173_1_5_Low_5000_12000_-47.8_PASS_



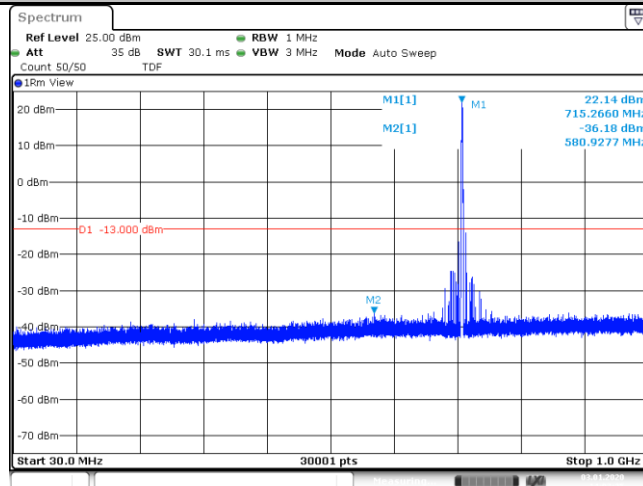
Date: 3.JAN.2020 14:04:09

Band12_1.4MHz_16QAM_23173_1_5_Low_1000_5000_-27.07_PASS_



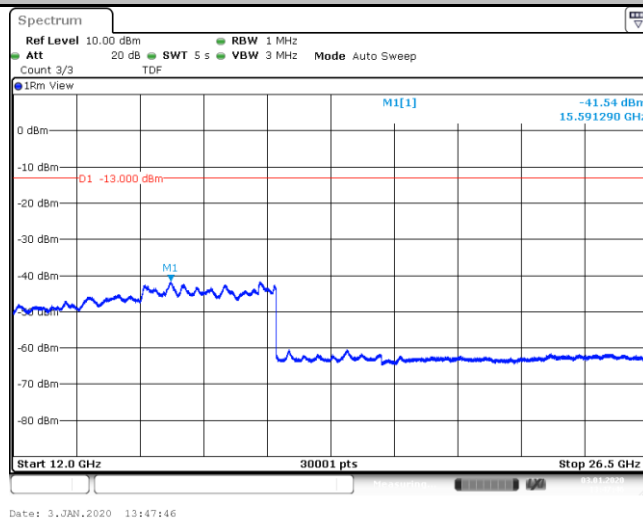
Date: 3.JAN.2020 14:03:47

Band12_1.4MHz_16QAM_23173_1_5_Low_30_1000_-36.18_PASS_

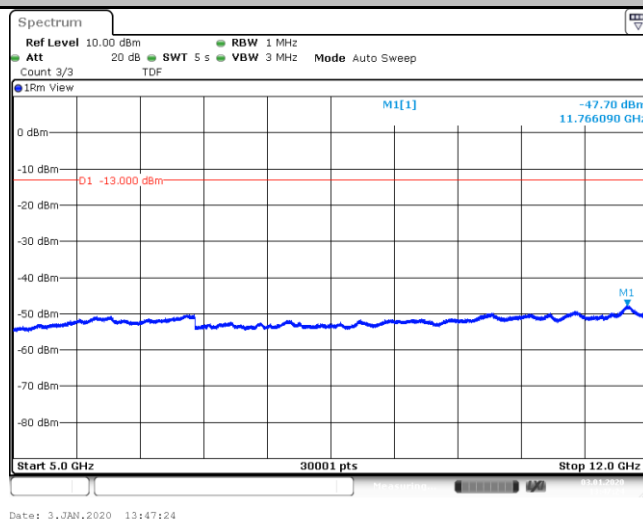


Date: 3.JAN.2020 14:03:25

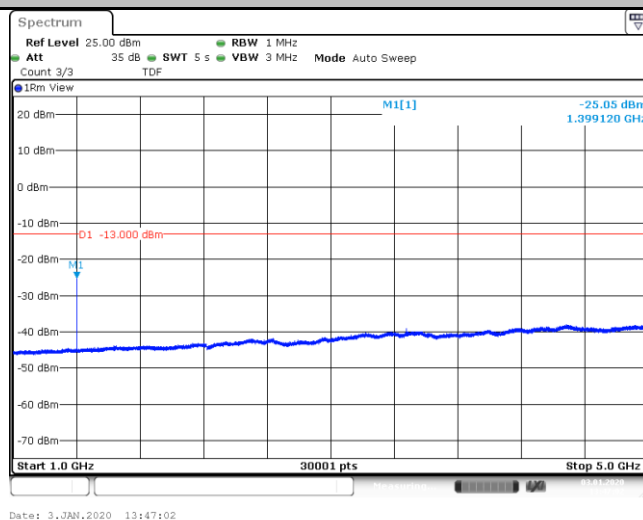
Band12_1.4MHz_16QAM_23017_6_0_Low_12000_26500_-41.54_PASS_



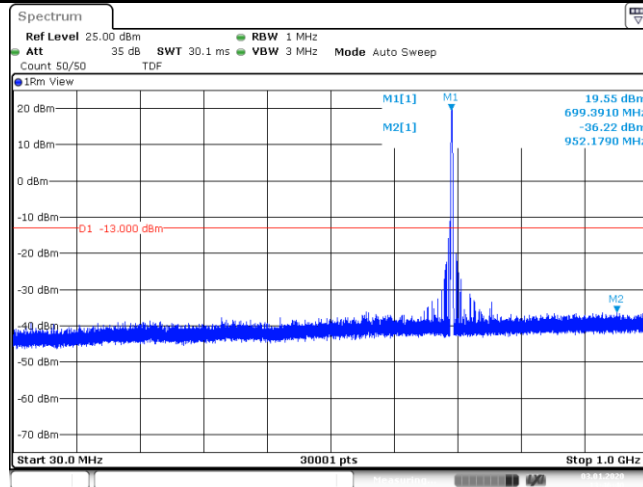
Band12_1.4MHz_16QAM_23017_6_0_Low_5000_12000_-47.7_PASS_



Band12_1.4MHz_16QAM_23017_6_0_Low_1000_5000_-25.05_PASS_

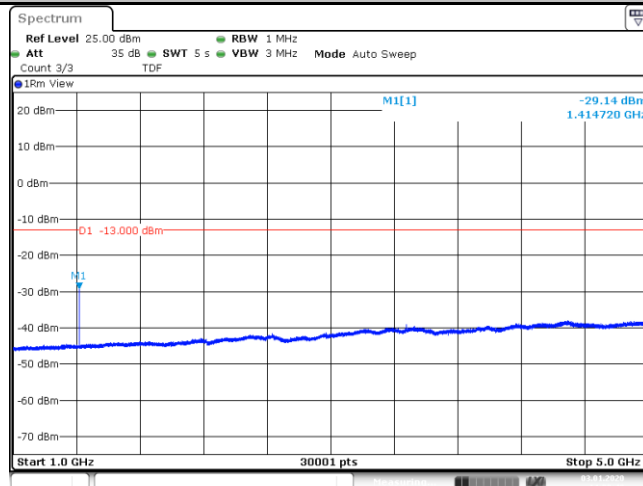


Band12_1.4MHz_16QAM_23017_6_0_Low_30_1000_-36.22_PASS_



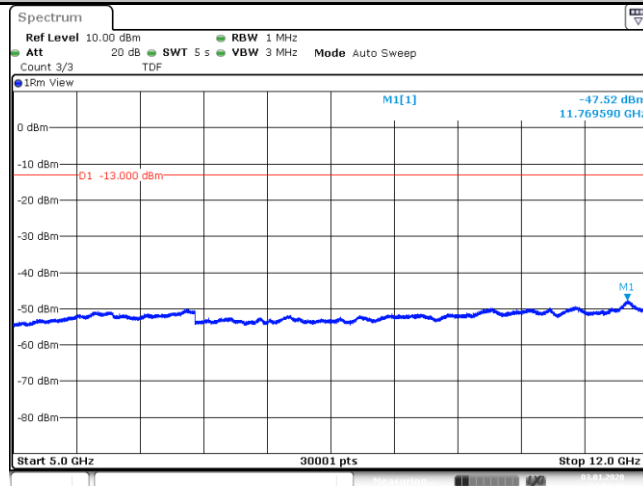
Date: 3.JAN.2020 13:46:40

Band12_1.4MHz_16QAM_23095_6_0_Low_1000_5000_-29.14_PASS_



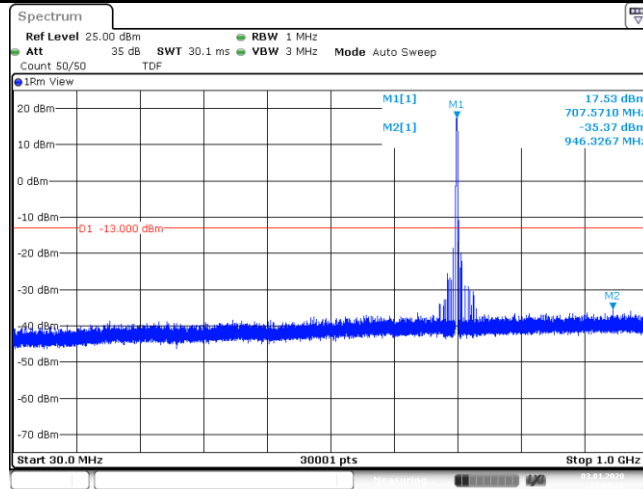
Date: 3.JAN.2020 14:00:48

Band12_1.4MHz_16QAM_23095_6_0_Low_5000_12000_-47.52_PASS_



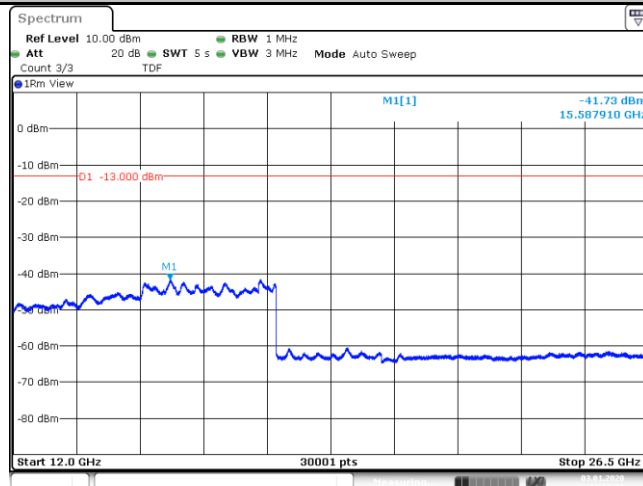
Date: 3.JAN.2020 14:01:10

Band12_1.4MHz_16QAM_23095_6_0_Low_30_1000_-35.37_PASS__



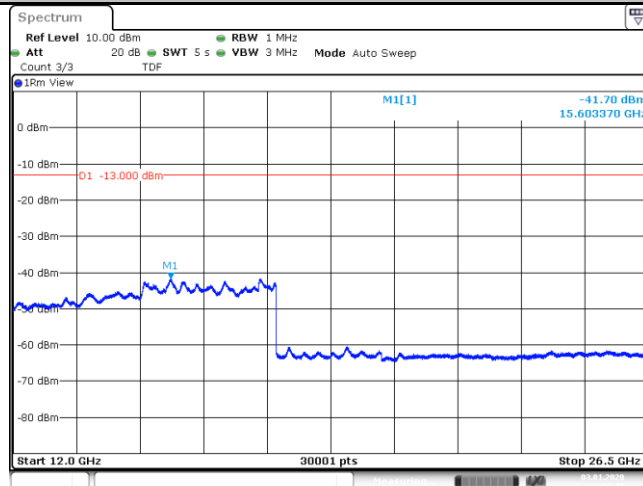
Date: 3.JAN.2020 14:00:26

Band12_1.4MHz_16QAM_23095_6_0_Low_12000_26500_-41.73_PASS__



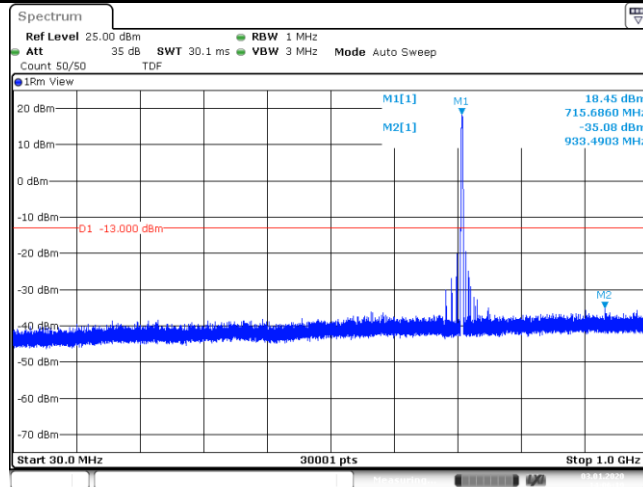
Date: 3.JAN.2020 14:01:32

Band12_1.4MHz_16QAM_23173_6_0_Low_12000_26500_-41.7_PASS__



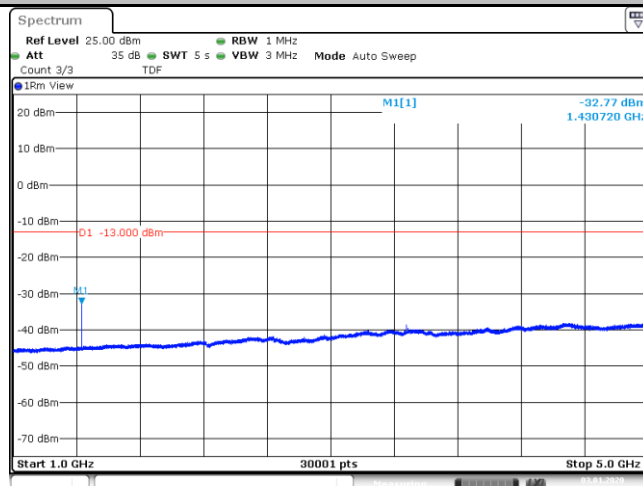
Date: 3.JAN.2020 14:07:25

Band12_1.4MHz_16QAM_23173_6_0_Low_30_1000_-35.08_PASS__



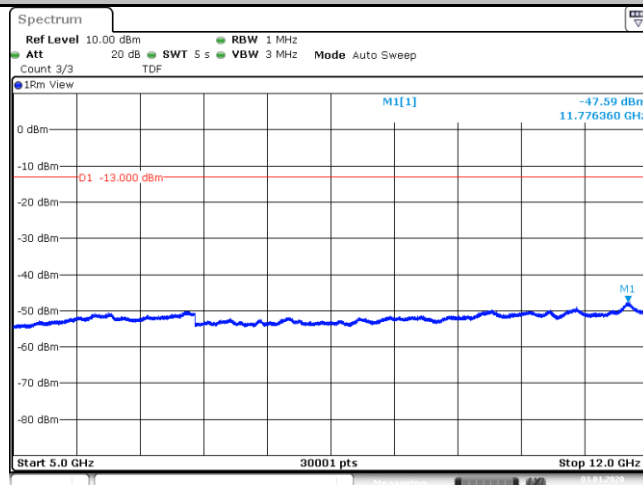
Date: 3.JAN.2020 14:06:19

Band12_1.4MHz_16QAM_23173_6_0_Low_1000_5000_-32.77_PASS__



Date: 3.JAN.2020 14:06:41

Band12_1.4MHz_16QAM_23173_6_0_Low_5000_12000_-47.59_PASS__



Date: 3.JAN.2020 14:07:03

Appendix D.6: Frequency Stability for M1

Test Result

Voltage												
Band	Bandwidth	Modulation	Channel	RB Size	RB Start	NB Index	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
Band12	1.4MHz	QPSK	23095	1	0	Low	HV	NT	-9.00	-0.012721	±2.5	PASS
Band12	1.4MHz	QPSK	23095	1	0	Low	LV	NT	-9.24	-0.013060	±2.5	PASS
Band12	1.4MHz	QPSK	23095	1	0	Low	NV	NT	-8.98	-0.012693	±2.5	PASS
Band12	1.4MHz	16QAM	23095	1	0	Low	HV	NT	-8.91	-0.012594	±2.5	PASS
Band12	1.4MHz	16QAM	23095	1	0	Low	LV	NT	-7.30	-0.010318	±2.5	PASS
Band12	1.4MHz	16QAM	23095	1	0	Low	NV	NT	-8.61	-0.012170	±2.5	PASS

Temperature												
Band	Bandwidth	Modulation	Channel	RB Size	RB Start	NB Index	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
Band12	1.4MHz	QPSK	23095	1	0	Low	NV	85	-6.27	-0.008862	±2.5	PASS
Band12	1.4MHz	QPSK	23095	1	0	Low	NV	-30	-7.95	-0.011237	±2.5	PASS
Band12	1.4MHz	QPSK	23095	1	0	Low	NV	-20	-10.89	-0.015392	±2.5	PASS
Band12	1.4MHz	QPSK	23095	1	0	Low	NV	-10	-7.57	-0.010700	±2.5	PASS
Band12	1.4MHz	QPSK	23095	1	0	Low	NV	0	-8.63	-0.012198	±2.5	PASS
Band12	1.4MHz	QPSK	23095	1	0	Low	NV	10	-9.51	-0.013442	±2.5	PASS
Band12	1.4MHz	QPSK	23095	1	0	Low	NV	20	-7.75	-0.010954	±2.5	PASS
Band12	1.4MHz	QPSK	23095	1	0	Low	NV	30	-7.18	-0.010148	±2.5	PASS
Band12	1.4MHz	QPSK	23095	1	0	Low	NV	40	-8.60	-0.012155	±2.5	PASS
Band12	1.4MHz	QPSK	23095	1	0	Low	NV	50	-9.04	-0.012777	±2.5	PASS
Band12	1.4MHz	QPSK	23095	1	0	Low	NV	60	-8.35	-0.011802	±2.5	PASS
Band12	1.4MHz	QPSK	23095	1	0	Low	NV	70	-6.91	-0.009767	±2.5	PASS
Band12	1.4MHz	QPSK	23095	1	0	Low	NV	-40	-8.68	-0.012269	±2.5	PASS
Band12	1.4MHz	QPSK	23095	1	0	Low	NV	80	-6.78	-0.009583	±2.5	PASS
Band12	1.4MHz	16QAM	23095	1	0	Low	NV	85	-5.69	-0.008042	±2.5	PASS
Band12	1.4MHz	16QAM	23095	1	0	Low	NV	-30	-8.35	-0.011802	±2.5	PASS
Band12	1.4MHz	16QAM	23095	1	0	Low	NV	-20	-6.79	-0.009597	±2.5	PASS
Band12	1.4MHz	16QAM	23095	1	0	Low	NV	-10	-6.77	-0.009569	±2.5	PASS
Band12	1.4MHz	16QAM	23095	1	0	Low	NV	0	-7.00	-0.009894	±2.5	PASS
Band12	1.4MHz	16QAM	23095	1	0	Low	NV	10	-7.60	-0.010742	±2.5	PASS
Band12	1.4MHz	16QAM	23095	1	0	Low	NV	20	-7.77	-0.010982	±2.5	PASS
Band12	1.4MHz	16QAM	23095	1	0	Low	NV	30	-6.98	-0.009866	±2.5	PASS
Band12	1.4MHz	16QAM	23095	1	0	Low	NV	40	-5.81	-0.008212	±2.5	PASS
Band12	1.4MHz	16QAM	23095	1	0	Low	NV	50	-9.66	-0.013654	±2.5	PASS
Band12	1.4MHz	16QAM	23095	1	0	Low	NV	60	-6.57	-0.009286	±2.5	PASS
Band12	1.4MHz	16QAM	23095	1	0	Low	NV	70	-6.87	-0.009710	±2.5	PASS
Band12	1.4MHz	16QAM	23095	1	0	Low	NV	80	-7.22	-0.010205	±2.5	PASS
Band12	1.4MHz	16QAM	23095	1	0	Low	NV	-40	-8.24	-0.011647	±2.5	PASS

Appendix E: Test Results of Band 13 for eMTC operation

APPENDIX E.1: RF POWER OUTPUT AND EFFECTIVE (ISOTROPIC) RADIATED POWER OUTPUT DATA FOR M1 2
 Test Result..... 2

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 Test Graphs..... 3

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APPENDIX E.5: CONDUCTED SPURIOUS EMISSION FOR M1 10
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APPENDIX E.6: FREQUENCY STABILITY FOR M1 27
 Test Result..... 27

Appendix E.1: RF Power Output and Effective (Isotropic) Radiated Power Output Data for M1

Test Result

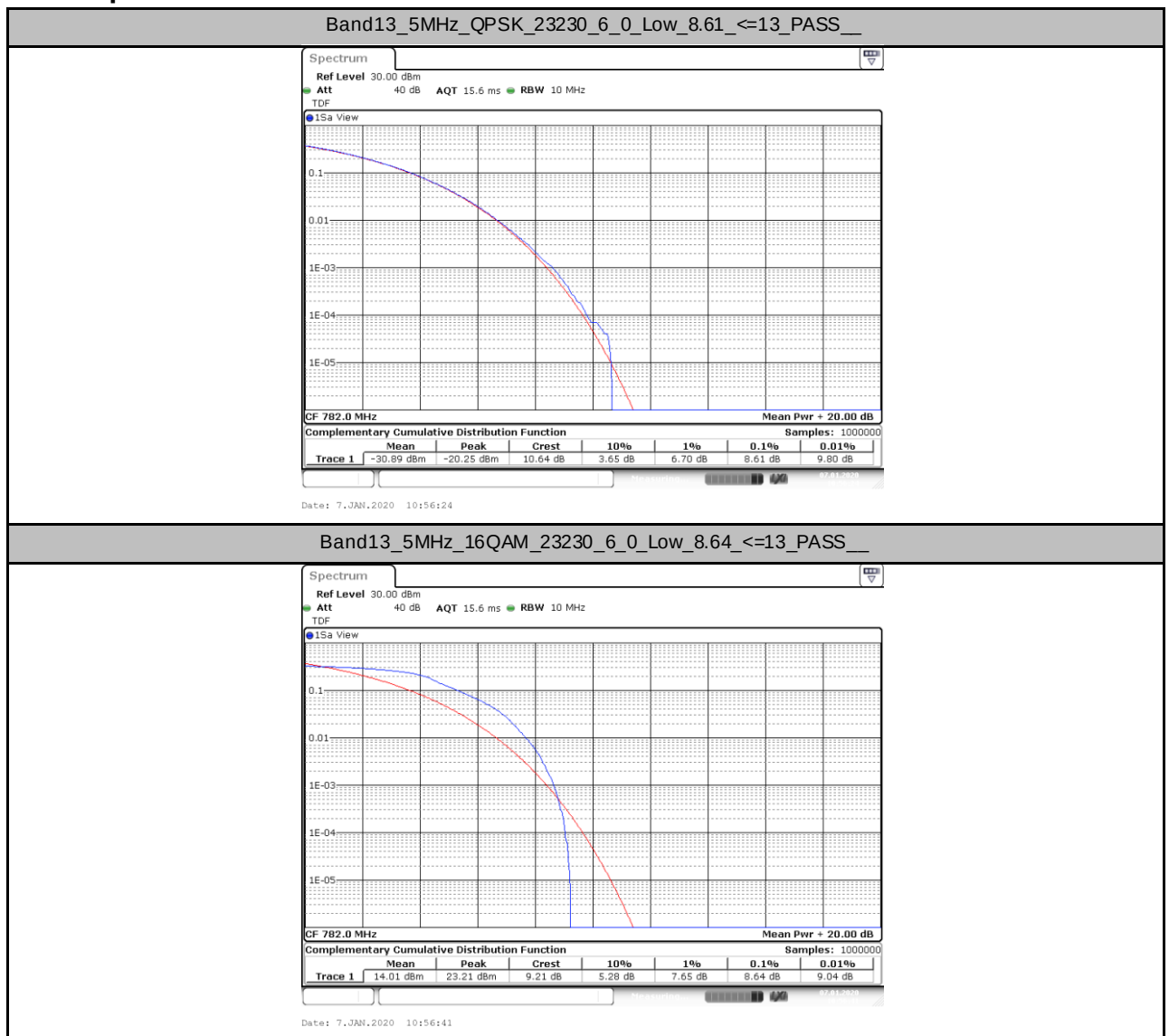
Band	Bandwidth	Modulation	Channel	RB Size	RB Start	NBIndex	Result (dBm)	ERP		Limit (watts)	Verdict
								dBm	Watts		
Band13	5MHz	QPSK	23205	1	0	Low	23.43	23.42	0.220	3	PASS
Band13	5MHz	QPSK	23230	1	0	Low	23.37	23.36	0.217	3	PASS
Band13	5MHz	QPSK	23255	1	5	High	23.56	23.55	0.226	3	PASS
Band13	5MHz	QPSK	23255	3	3	High	22.68	22.67	0.185	3	PASS
Band13	5MHz	QPSK	23205	6	0	Low	22.44	22.43	0.175	3	PASS
Band13	5MHz	QPSK	23230	6	0	Low	22.34	22.33	0.171	3	PASS
Band13	5MHz	16QAM	23205	1	0	Low	23.51	23.5	0.224	3	PASS
Band13	5MHz	16QAM	23230	1	0	Low	23.31	23.3	0.214	3	PASS
Band13	5MHz	16QAM	23255	1	5	High	23.6	23.59	0.229	3	PASS
Band13	5MHz	16QAM	23255	3	3	High	22.71	22.7	0.186	3	PASS
Band13	5MHz	16QAM	23205	6	0	Low	22.44	22.43	0.175	3	PASS
Band13	5MHz	16QAM	23230	6	0	Low	22.4	22.39	0.173	3	PASS
Band13	10MHz	QPSK	23230	1	0	Low	23.43	23.42	0.220	3	PASS
Band13	10MHz	QPSK	23230	1	5	High	23.53	23.52	0.225	3	PASS
Band13	10MHz	QPSK	23230	5	0	Low	22.47	22.46	0.176	3	PASS
Band13	10MHz	QPSK	23230	5	1	High	22.62	22.61	0.182	3	PASS
Band13	10MHz	16QAM	23230	1	0	Low	23.49	23.48	0.223	3	PASS
Band13	10MHz	16QAM	23230	1	5	High	23.59	23.58	0.228	3	PASS
Band13	10MHz	16QAM	23230	5	0	Low	22.45	22.44	0.175	3	PASS
Band13	10MHz	16QAM	23230	5	1	High	22.61	22.6	0.182	3	PASS

Appendix E.2: Peak-to-Average Ratio (CCDF) for M1

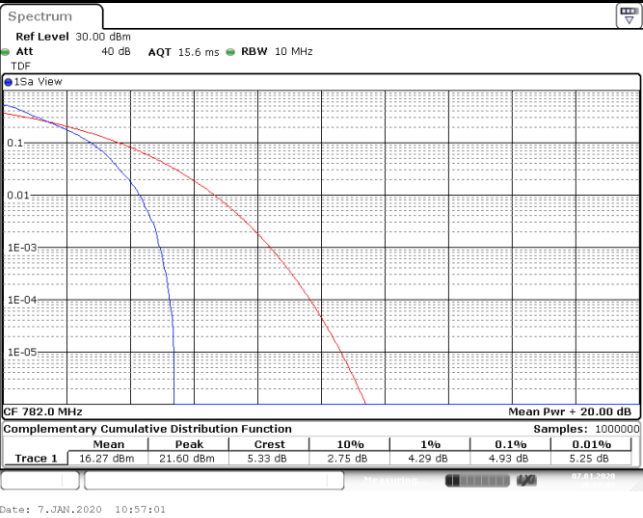
Test Result

Band	Bandwidth	Modulation	Channel	RB Size	RB Start	NBIndex	Result(dB)	Limit(dB)	Verdict
Band13	5MHz	QPSK	23230	6	0	Low	8.61	<=13	PASS
Band13	5MHz	16QAM	23230	6	0	Low	8.64	<=13	PASS
Band13	10MHz	QPSK	23230	6	0	Low	4.93	<=13	PASS
Band13	10MHz	16QAM	23230	6	0	Low	8.64	<=13	PASS

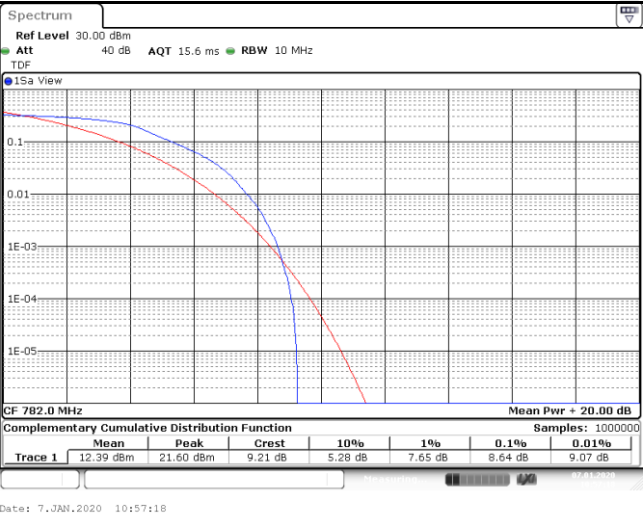
Test Graphs



Band13_10MHz_QPSK_23230_6_0_Low_4.93_<=13_PASS__



Band13_10MHz_16QAM_23230_6_0_Low_8.64_<=13_PASS__

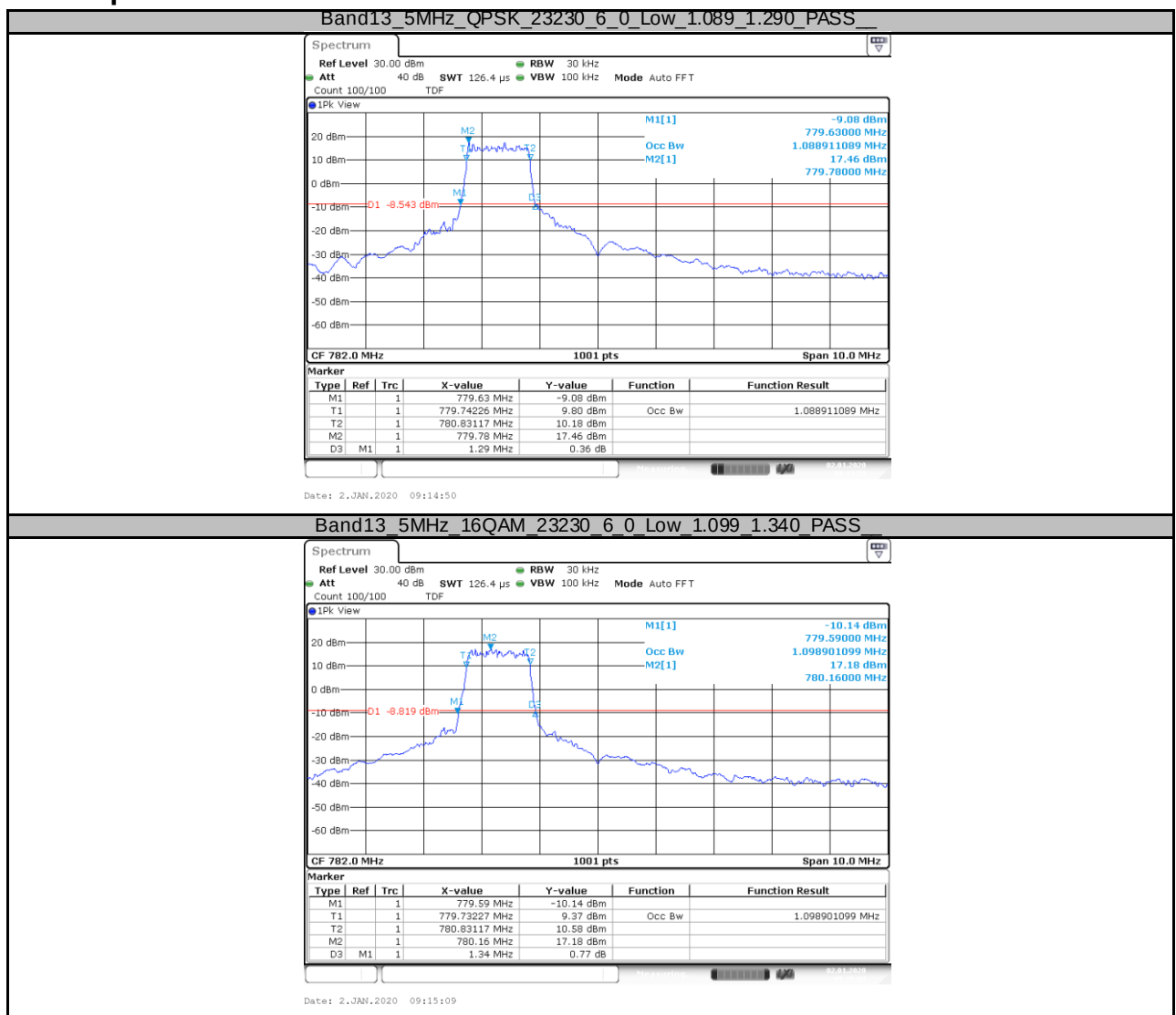


Appendix E.3: 26dB Bandwidth and Occupied Bandwidth for M1

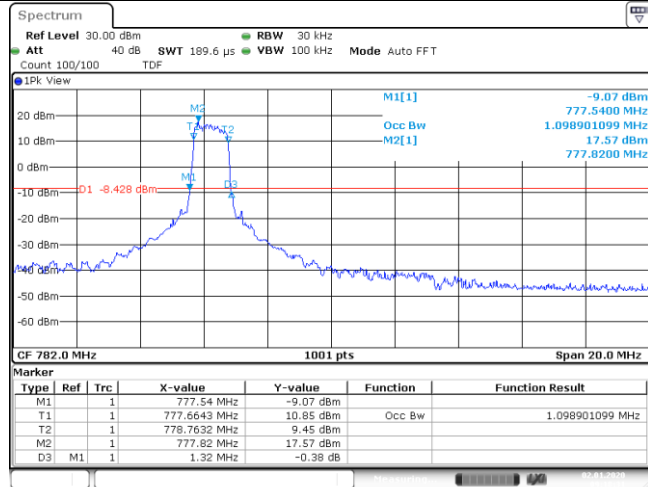
Test Result

Band	Bandwidth	Modulation	Channel	RB Size	RB Start	NB Index	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
Band13	5MHz	QPSK	23230	6	0	Low	1.089	1.290	PASS
Band13	5MHz	16QAM	23230	6	0	Low	1.099	1.340	PASS
Band13	10MHz	QPSK	23230	6	0	Low	1.099	1.320	PASS
Band13	10MHz	16QAM	23230	6	0	Low	1.099	1.320	PASS

Test Graphs

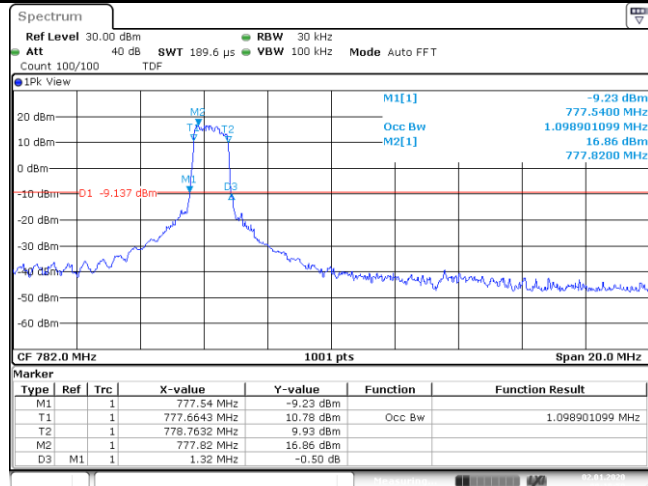


Band13_10MHz_QPSK_23230_6_0_Low_1.099_1.320_PASS



Date: 2.JAN.2020 09:18:32

Band13_10MHz_16QAM_23230_6_0_Low_1.099_1.320_PASS



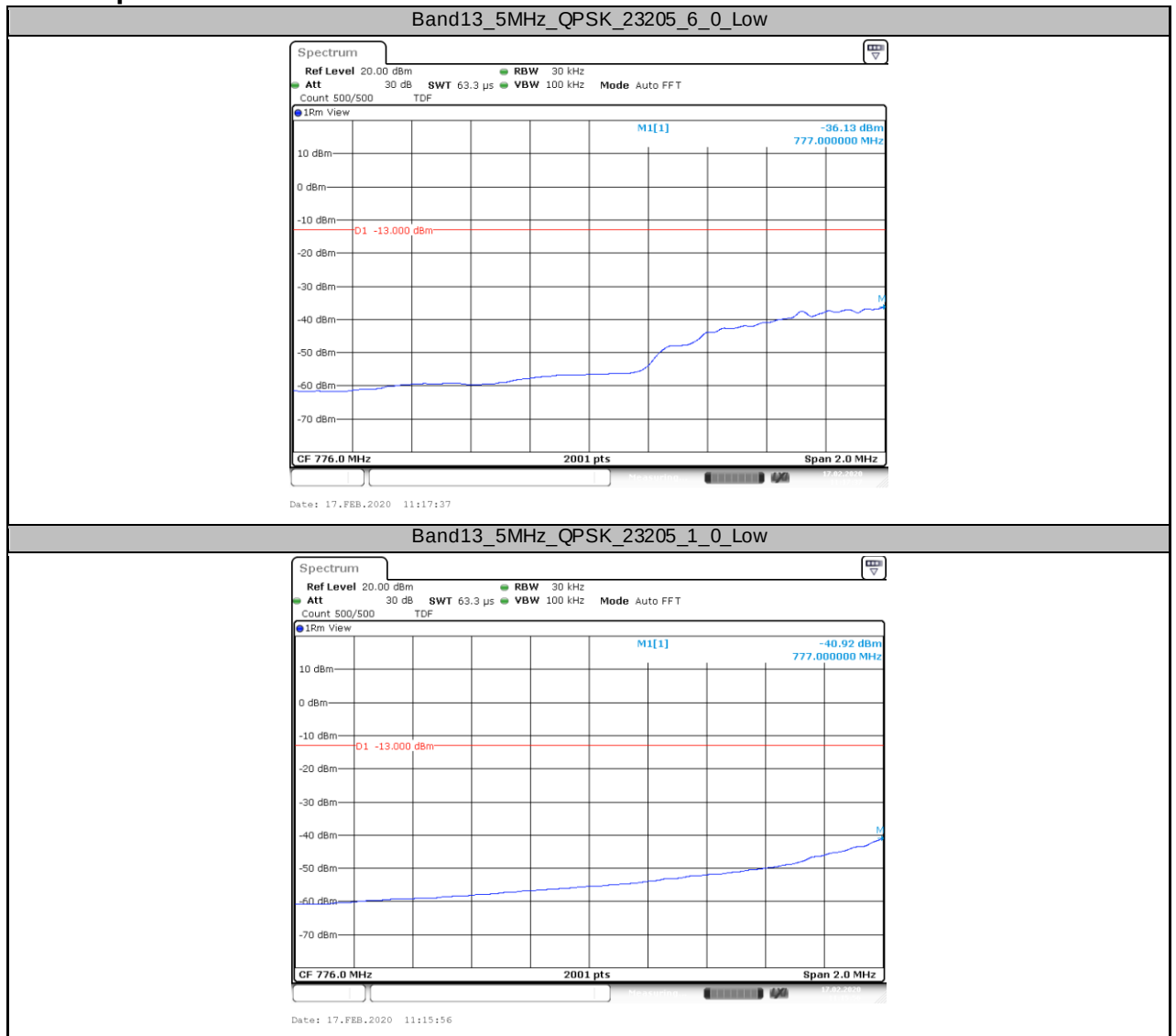
Date: 2.JAN.2020 09:18:50

Appendix E.4: Band Edge for M1

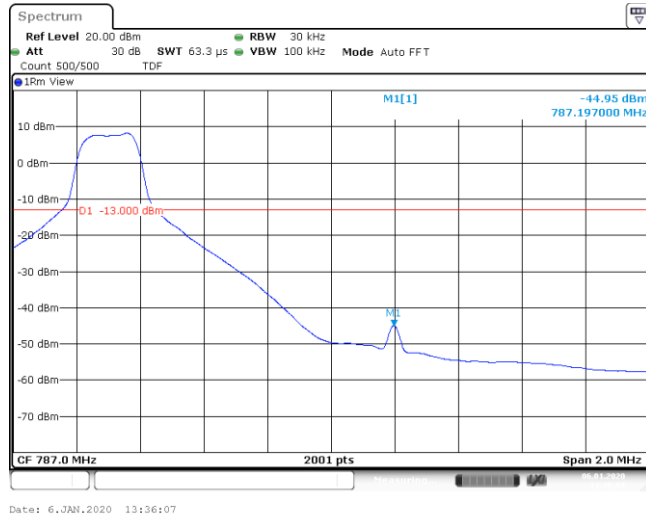
Test Result

Band	Bandwidth	Modulation	Channel	RB Size	RB Start	NB Index	Result (dBm)	Verdict
Band13	5MHz	QPSK	23205	6	0	Low	-56.56	PASS
Band13	5MHz	QPSK	23205	1	0	Low	-55.44	PASS
Band13	5MHz	QPSK	23255	1	5	High	-44.95	PASS
Band13	5MHz	QPSK	23255	3	3	High	-48.57	PASS
Band13	5MHz	16QAM	23205	6	0	Low	-57.28	PASS
Band13	5MHz	16QAM	23205	1	0	Low	-57.32	PASS
Band13	5MHz	16QAM	23255	1	5	High	-45.28	PASS
Band13	5MHz	16QAM	23255	3	3	High	-50.57	PASS

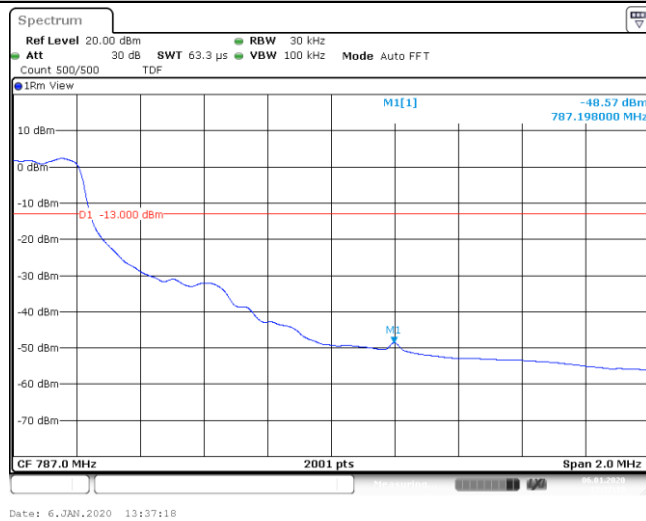
Test Graphs



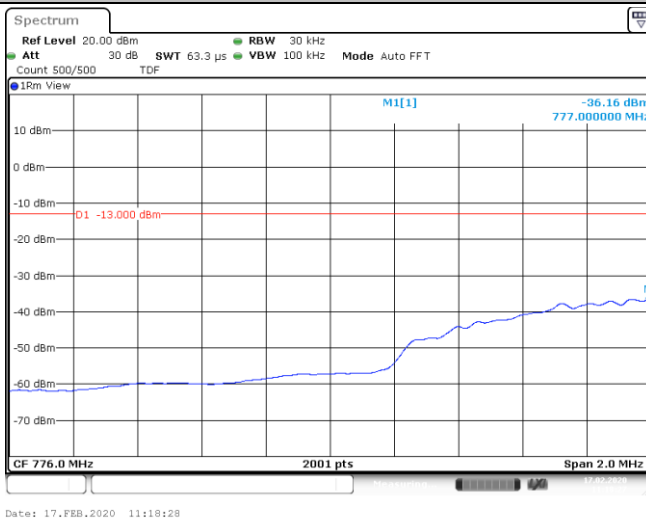
Band13_5MHz_QPSK_23255_3_3_High



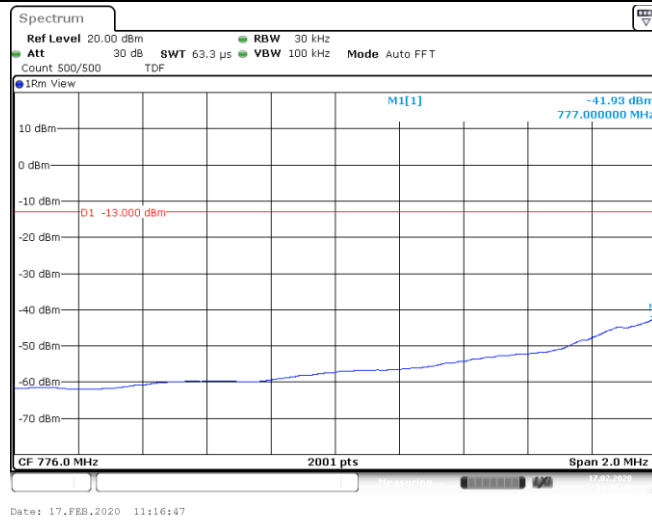
Band13_5MHz_QPSK_23255_1_5_High



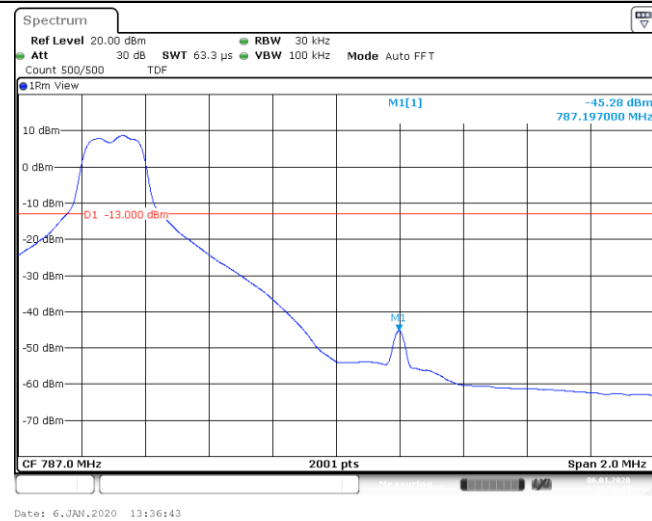
Band13_5MHz_16QAM_23205_6_0_Low



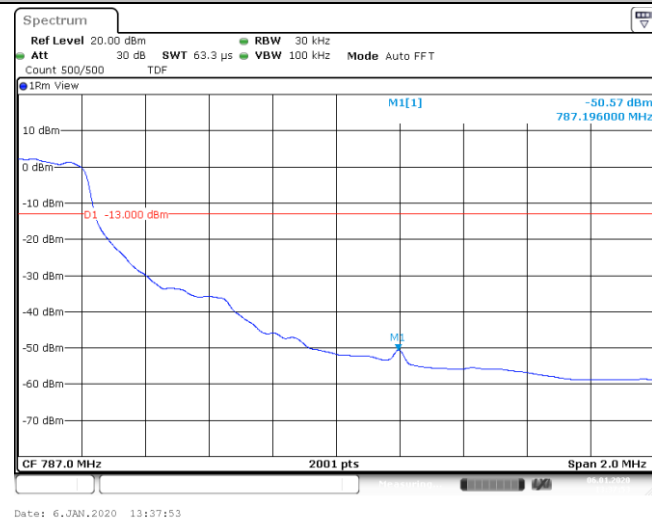
Band13_5MHz_16QAM_23205_1_0_Low



Band13_5MHz_16QAM_23255_3_3_High



Band13_5MHz_16QAM_23255_1_5_High



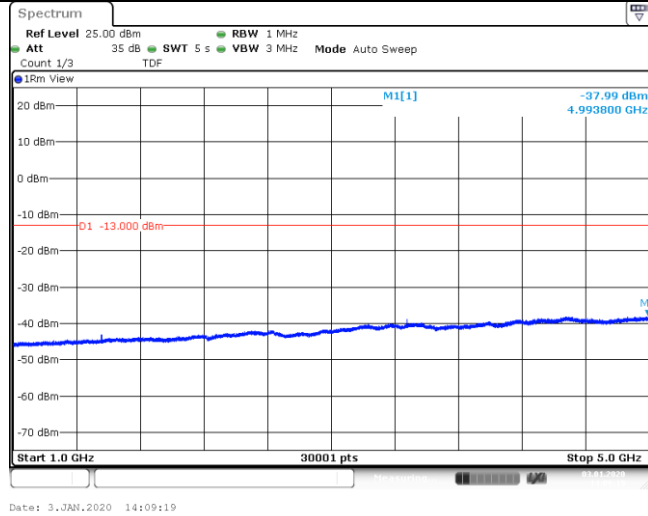
Appendix E.5: Conducted Spurious Emission for M1

Test Result

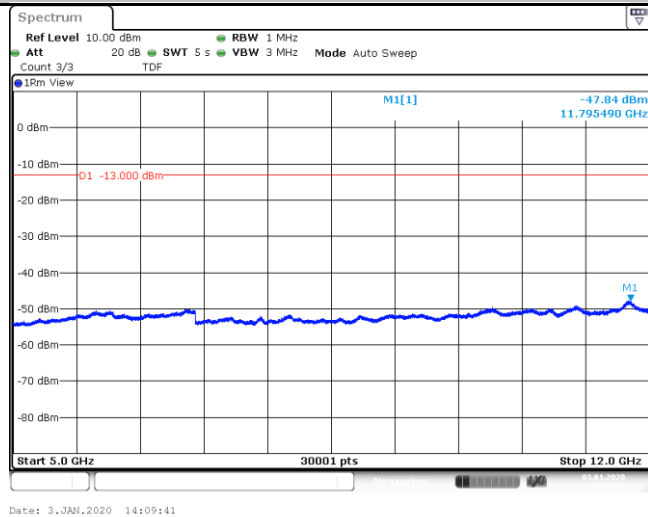
Band	Bandwidth	Modulation	Channel	RB Size	RB Start	NB Index	Start Freq	Stop Freq	Result (dBm)	Verdict
Band13	5MHz	QPSK	23205	1	0	Low	1000	5000	-37.99	PASS
Band13	5MHz	QPSK	23205	1	0	Low	5000	12000	-47.84	PASS
Band13	5MHz	QPSK	23205	1	0	Low	12000	26500	-41.65	PASS
Band13	5MHz	QPSK	23205	1	0	Low	30	1000	-35.72	PASS
Band13	5MHz	QPSK	23230	1	0	Low	5000	12000	-47.8	PASS
Band13	5MHz	QPSK	23230	1	0	Low	1000	5000	-37.99	PASS
Band13	5MHz	QPSK	23230	1	0	Low	30	1000	-35.38	PASS
Band13	5MHz	QPSK	23230	1	0	Low	12000	26500	-41.58	PASS
Band13	5MHz	QPSK	23255	1	5	High	5000	12000	-47.73	PASS
Band13	5MHz	QPSK	23255	1	5	High	1000	5000	-38.01	PASS
Band13	5MHz	QPSK	23255	1	5	High	12000	26500	-41.61	PASS
Band13	5MHz	QPSK	23255	1	5	High	30	1000	-35.33	PASS
Band13	5MHz	QPSK	23255	3	3	High	12000	26500	-41.62	PASS
Band13	5MHz	QPSK	23255	3	3	High	5000	12000	-47.82	PASS
Band13	5MHz	QPSK	23255	3	3	High	1000	5000	-37.98	PASS
Band13	5MHz	QPSK	23255	3	3	High	30	1000	-35.71	PASS
Band13	5MHz	QPSK	23205	6	0	Low	5000	12000	-47.48	PASS
Band13	5MHz	QPSK	23205	6	0	Low	12000	26500	-41.7	PASS
Band13	5MHz	QPSK	23205	6	0	Low	1000	5000	-38.15	PASS
Band13	5MHz	QPSK	23205	6	0	Low	30	1000	-35.67	PASS
Band13	5MHz	QPSK	23230	6	0	Low	5000	12000	-47.73	PASS
Band13	5MHz	QPSK	23230	6	0	Low	1000	5000	-37.93	PASS
Band13	5MHz	QPSK	23230	6	0	Low	30	1000	-35.83	PASS
Band13	5MHz	QPSK	23230	6	0	Low	12000	26500	-41.66	PASS
Band13	5MHz	16QAM	23205	1	0	Low	12000	26500	-41.58	PASS
Band13	5MHz	16QAM	23205	1	0	Low	30	1000	-34.26	PASS
Band13	5MHz	16QAM	23205	1	0	Low	1000	5000	-38.12	PASS
Band13	5MHz	16QAM	23205	1	0	Low	5000	12000	-47.7	PASS
Band13	5MHz	16QAM	23230	1	0	Low	30	1000	-36.27	PASS
Band13	5MHz	16QAM	23230	1	0	Low	1000	5000	-38.14	PASS
Band13	5MHz	16QAM	23230	1	0	Low	12000	26500	-41.69	PASS
Band13	5MHz	16QAM	23230	1	0	Low	5000	12000	-47.86	PASS
Band13	5MHz	16QAM	23255	1	5	High	12000	26500	-41.6	PASS
Band13	5MHz	16QAM	23255	1	5	High	5000	12000	-47.82	PASS
Band13	5MHz	16QAM	23255	1	5	High	1000	5000	-38.06	PASS
Band13	5MHz	16QAM	23255	1	5	High	30	1000	-35.82	PASS
Band13	5MHz	16QAM	23255	3	3	High	1000	5000	-37.91	PASS
Band13	5MHz	16QAM	23255	3	3	High	30	1000	-35.27	PASS
Band13	5MHz	16QAM	23255	3	3	High	5000	12000	-47.77	PASS
Band13	5MHz	16QAM	23255	3	3	High	12000	26500	-41.5	PASS
Band13	5MHz	16QAM	23205	6	0	Low	1000	5000	-38.06	PASS
Band13	5MHz	16QAM	23205	6	0	Low	5000	12000	-47.71	PASS
Band13	5MHz	16QAM	23205	6	0	Low	12000	26500	-41.51	PASS
Band13	5MHz	16QAM	23205	6	0	Low	30	1000	-36.04	PASS
Band13	5MHz	16QAM	23230	6	0	Low	1000	5000	-38.03	PASS
Band13	5MHz	16QAM	23230	6	0	Low	5000	12000	-47.76	PASS
Band13	5MHz	16QAM	23230	6	0	Low	30	1000	-35.51	PASS
Band13	5MHz	16QAM	23230	6	0	Low	12000	26500	-41.63	PASS

Test Graphs

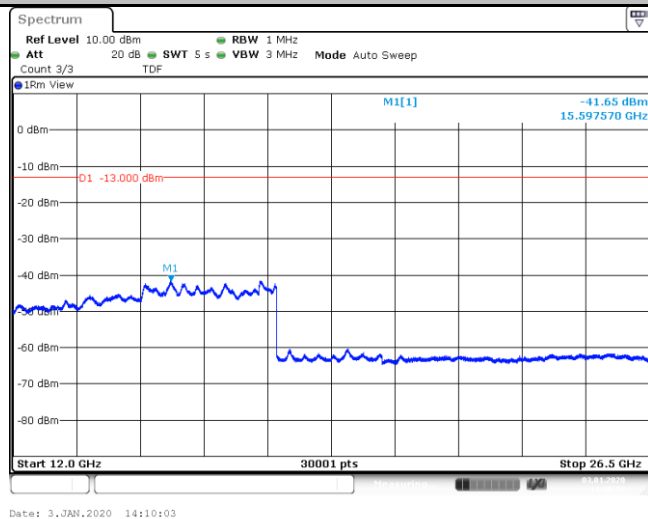
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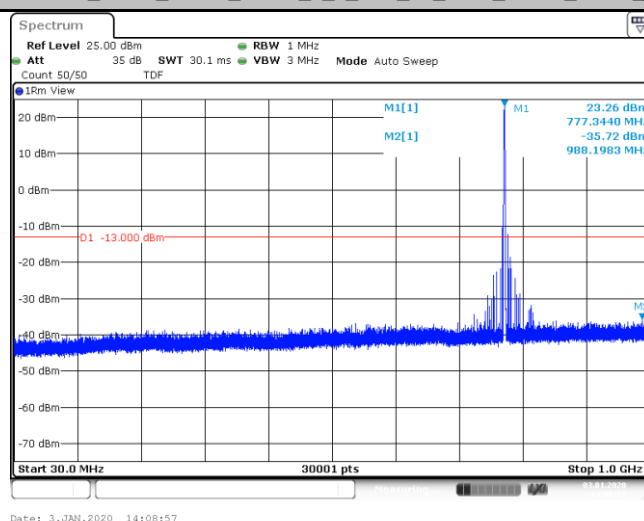
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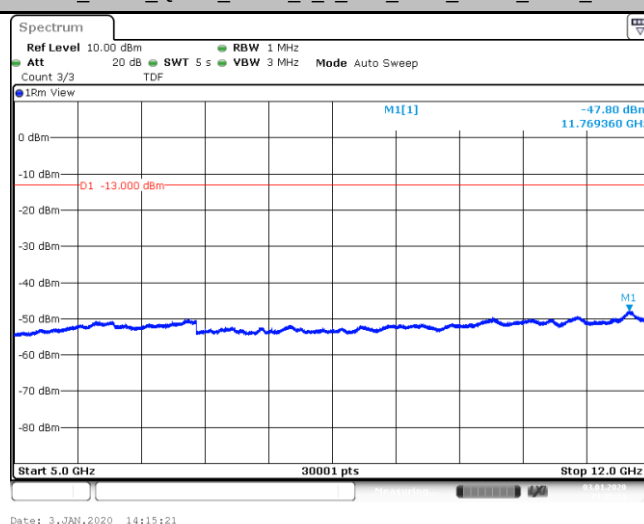
Band13_5MHz_QPSK_23205_1_0_Low_12000_26500_-41.65_PASS__



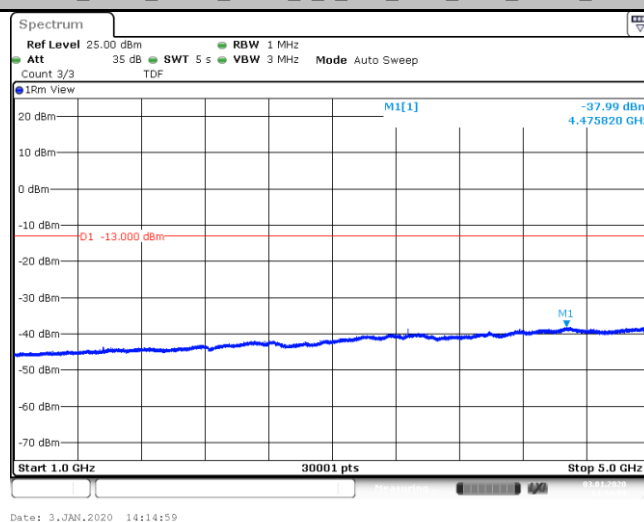
Band13_5MHz_QPSK_23205_1_0_Low_30_1000_-35.72_PASS__



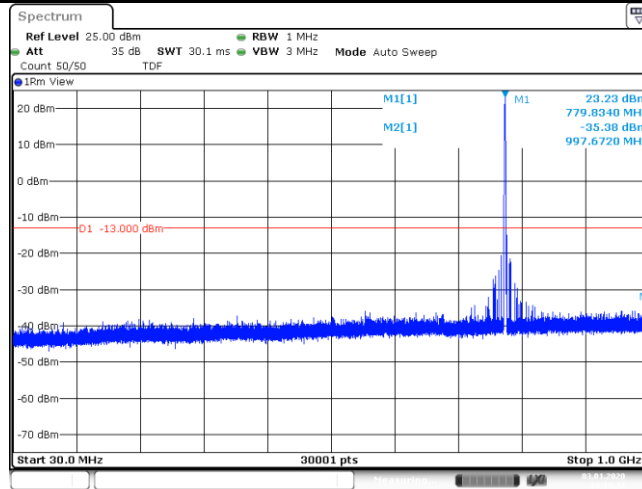
Band13_5MHz_QPSK_23230_1_0_Low_5000_12000_-47.8_PASS__



Band13_5MHz_QPSK_23230_1_0_Low_1000_5000_-37.99_PASS__

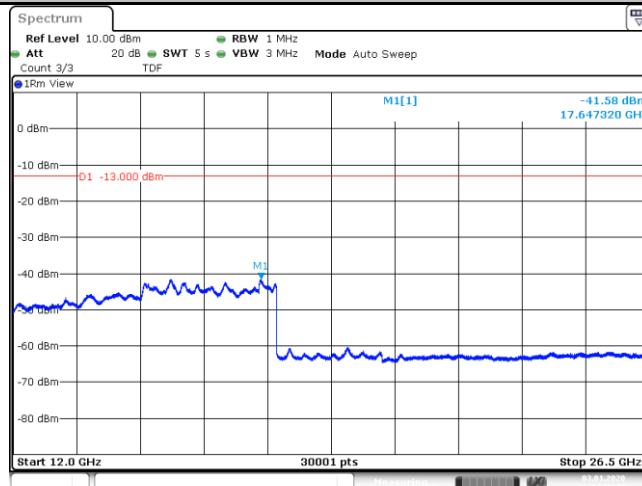


Band13_5MHz_QPSK_23230_1_0_Low_30_1000_-35.38_PASS



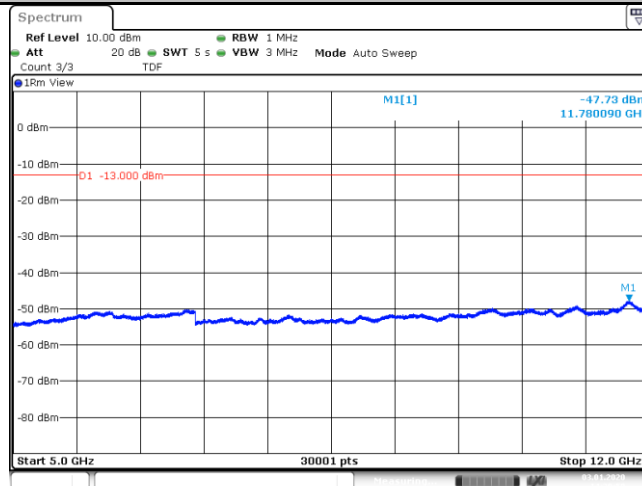
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Band13_5MHz_QPSK_23230_1_0_Low_12000_26500_-41.58_PASS



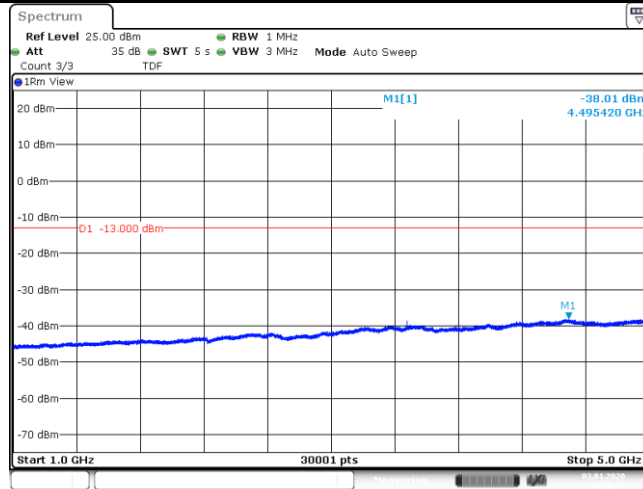
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Band13_5MHz_QPSK_23255_1_5_High_5000_12000_-47.73_PASS

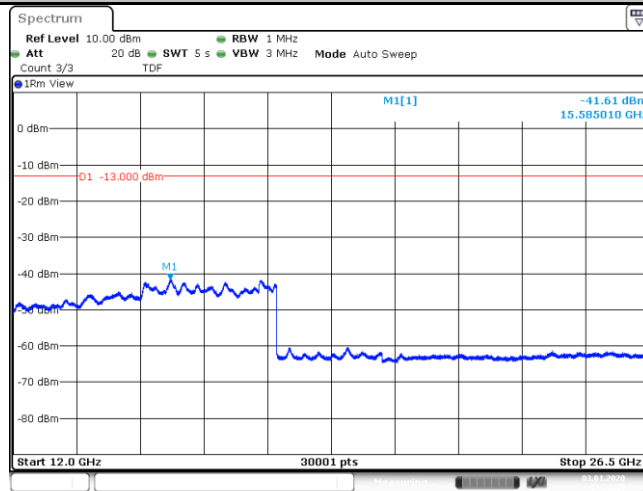


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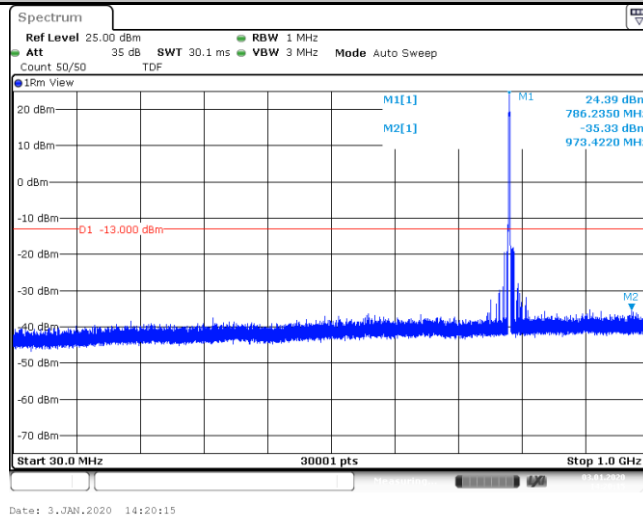
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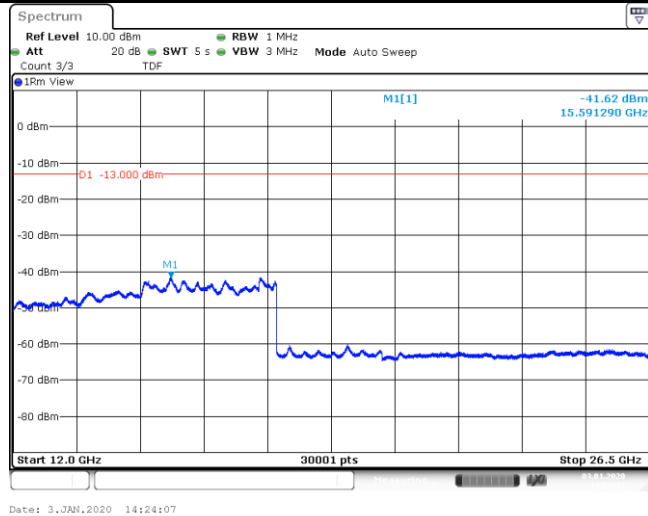
Band13_5MHz_QPSK_23255_1_5_High_12000_26500_-41.61_PASS__



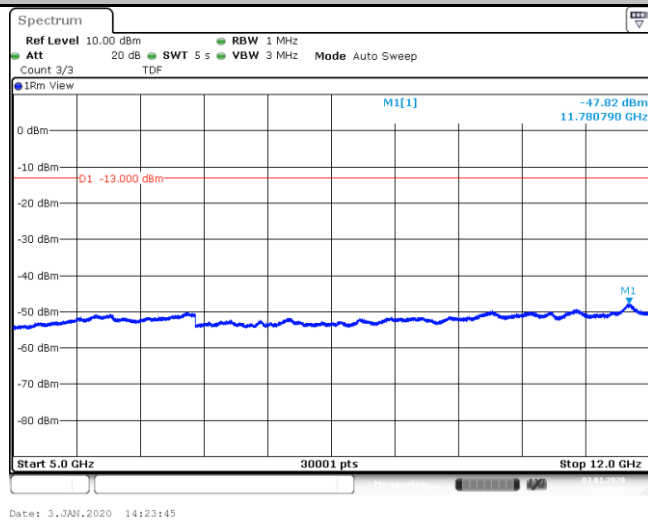
Band13_5MHz_QPSK_23255_1_5_High_30_1000_-35.33_PASS__



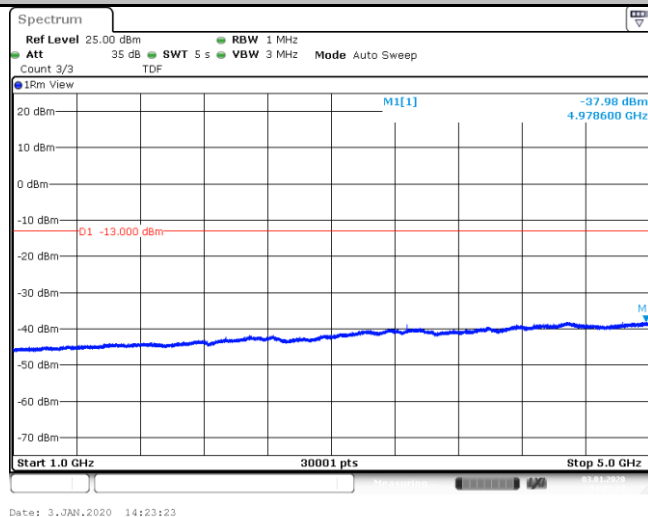
Band13_5MHz_QPSK_23255_3_3_High_12000_26500_-41.62_PASS__



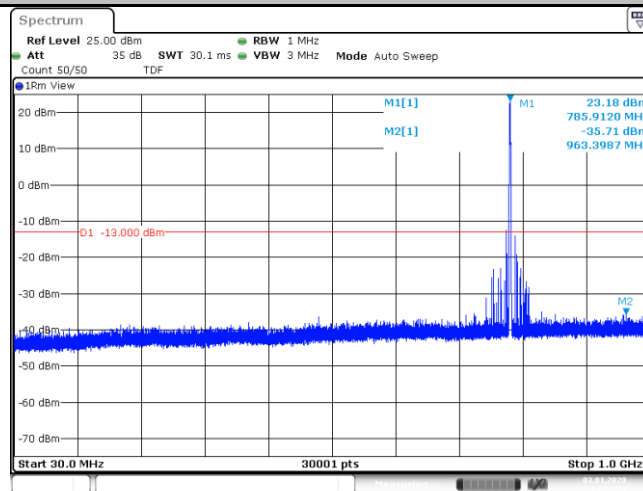
Band13_5MHz_QPSK_23255_3_3_High_5000_12000_-47.82_PASS__



Band13_5MHz_QPSK_23255_3_3_High_1000_5000_-37.98_PASS__

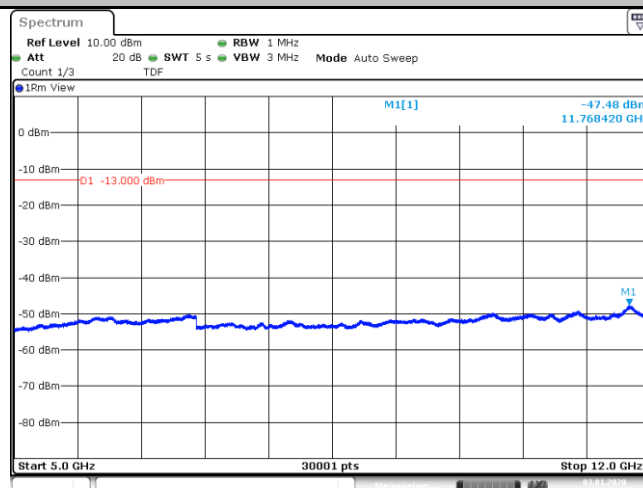


Band13_5MHz_QPSK_23255_3_3_High_30_1000_-35.71_PASS__



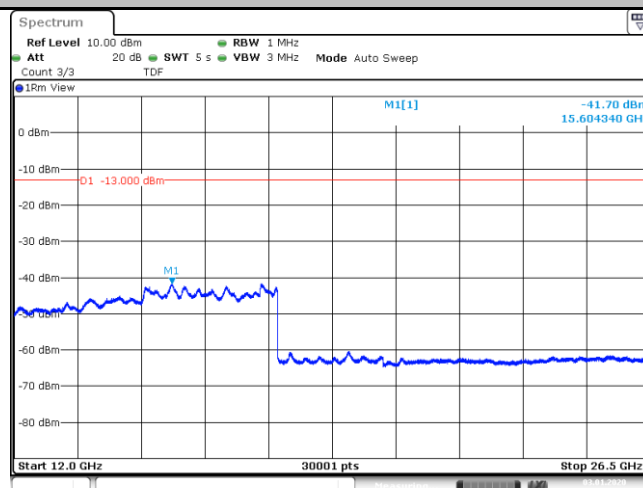
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Band13_5MHz_QPSK_23205_6_0_Low_5000_12000_-47.48_PASS__



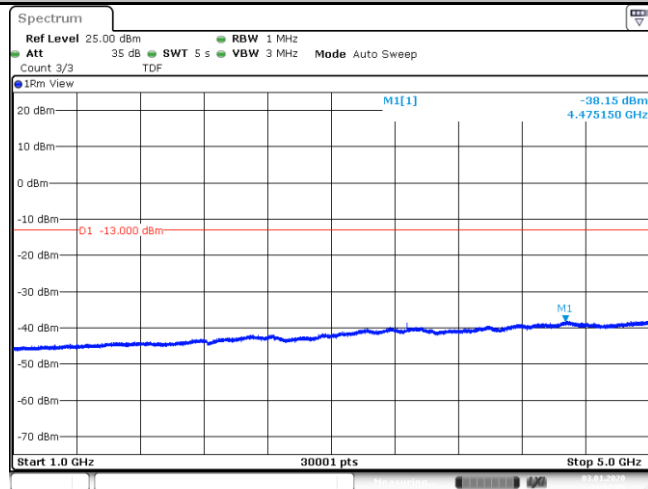
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Band13_5MHz_QPSK_23205_6_0_Low_12000_26500_-41.7_PASS__



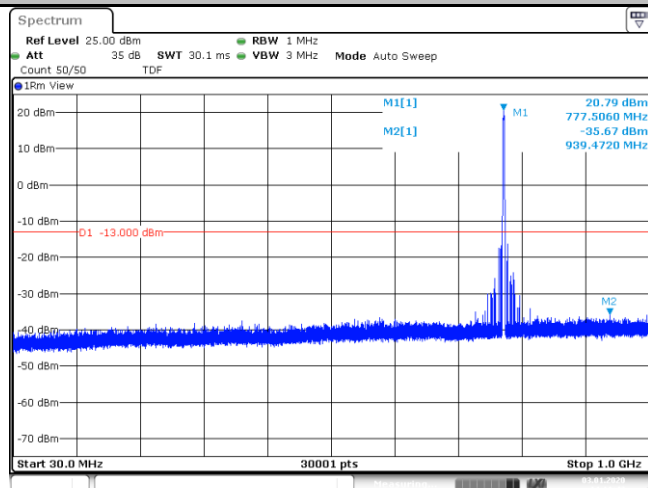
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Band13_5MHz_QPSK_23205_6_0_Low_1000_5000_-38.15_PASS__



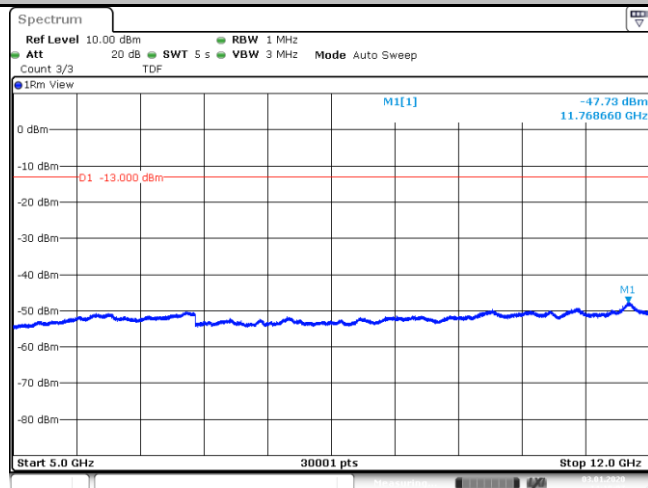
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Band13_5MHz_QPSK_23205_6_0_Low_30_1000_-35.67_PASS__



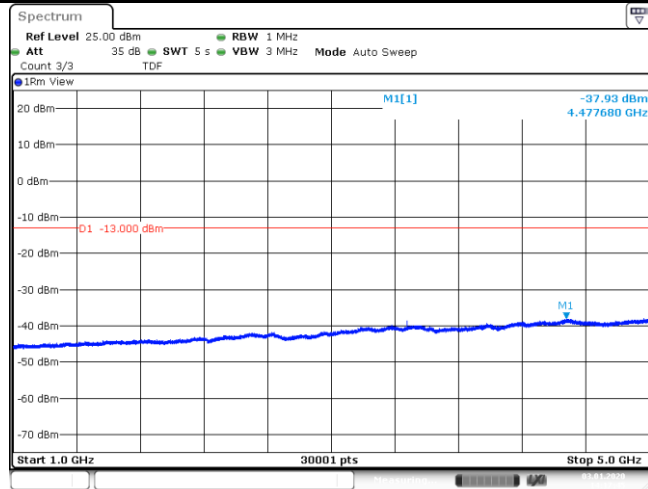
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Band13_5MHz_QPSK_23230_6_0_Low_5000_12000_-47.73_PASS__



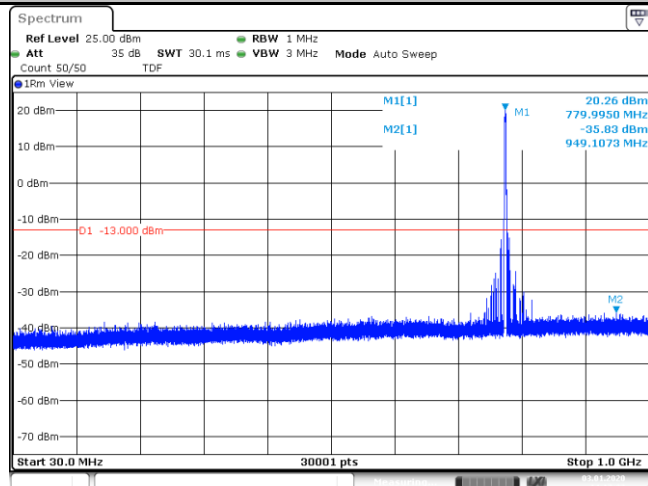
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Band13_5MHz_QPSK_23230_6_0_Low_1000_5000_-37.93_PASS__



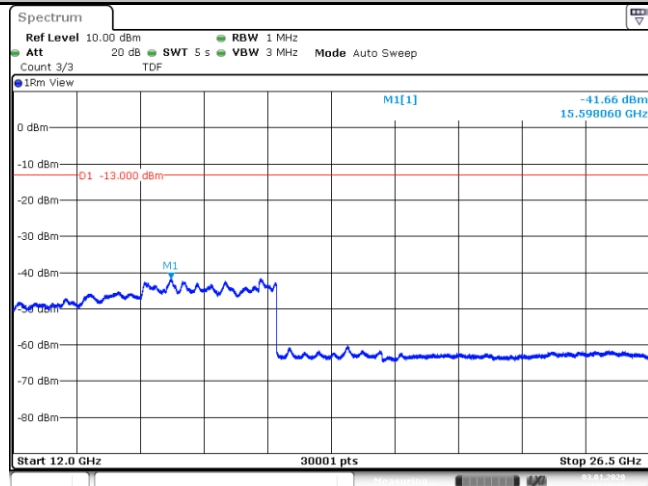
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Band13_5MHz_QPSK_23230_6_0_Low_30_1000_-35.83_PASS__



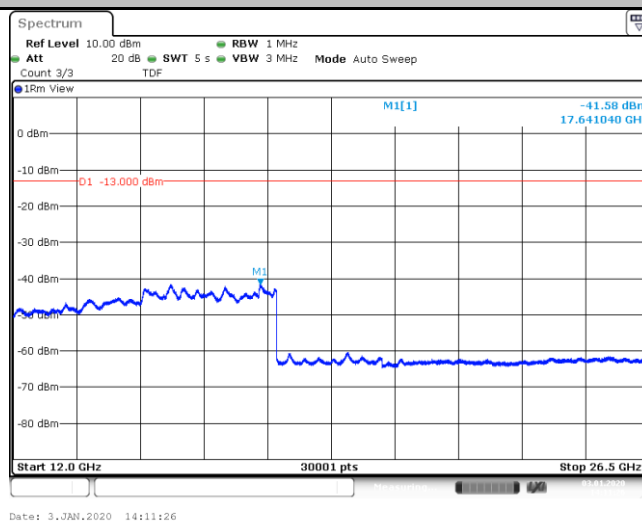
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Band13_5MHz_QPSK_23230_6_0_Low_12000_26500_-41.66_PASS__



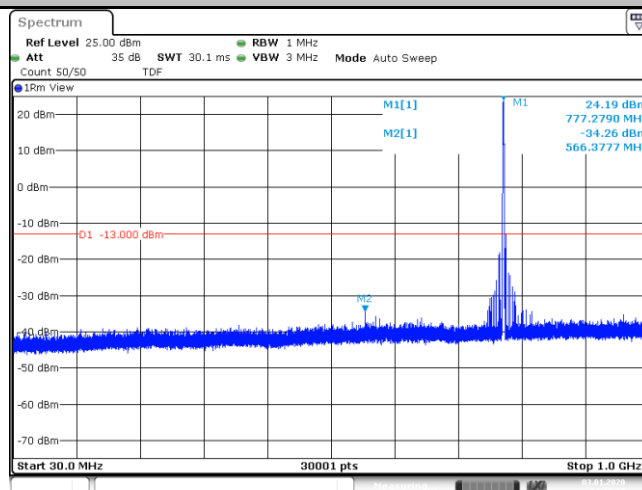
Date: 3.JAN.2020 14:18:29

Band13_5MHz_16QAM_23205_1_0_Low_12000_26500_-41.58_PASS__



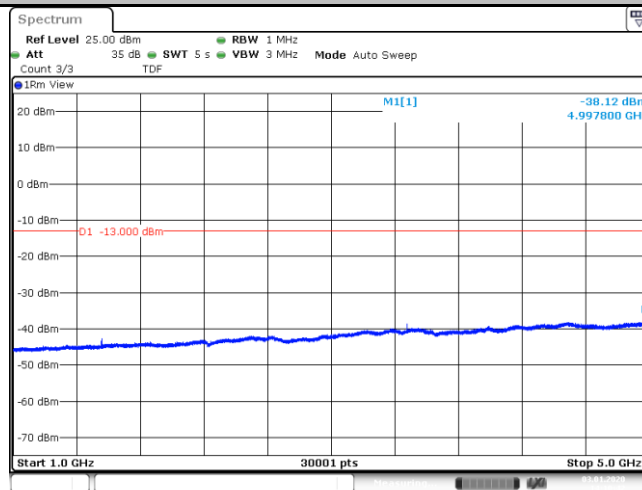
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Band13_5MHz_16QAM_23205_1_0_Low_30_1000_-34.26_PASS__



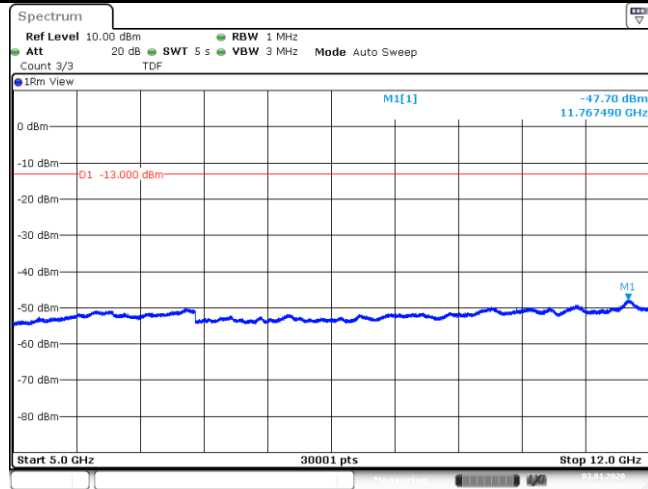
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Band13_5MHz_16QAM_23205_1_0_Low_1000_5000_-38.12_PASS__



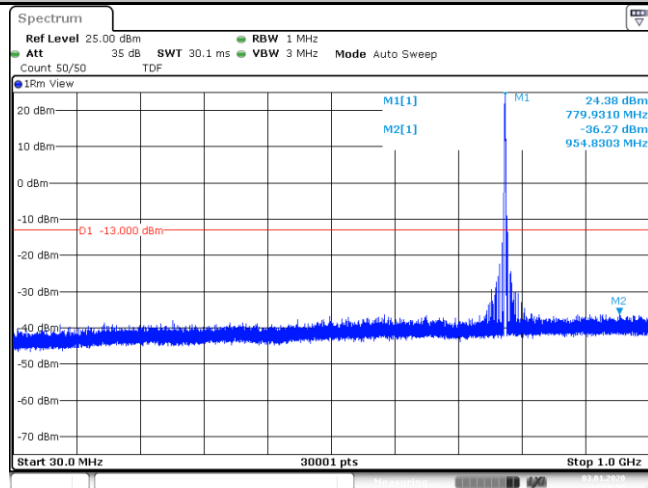
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Band13_5MHz_16QAM_23205_1_0_Low_5000_12000_-47.7_PASS__



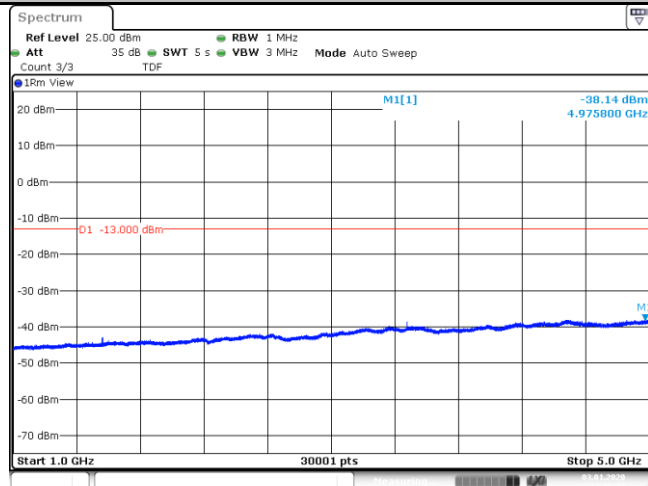
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Band13_5MHz_16QAM_23230_1_0_Low_30_1000_-36.27_PASS__



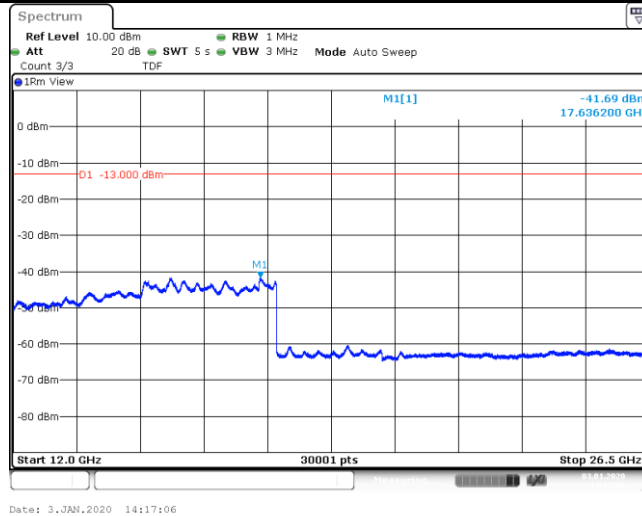
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Band13_5MHz_16QAM_23230_1_0_Low_1000_5000_-38.14_PASS__

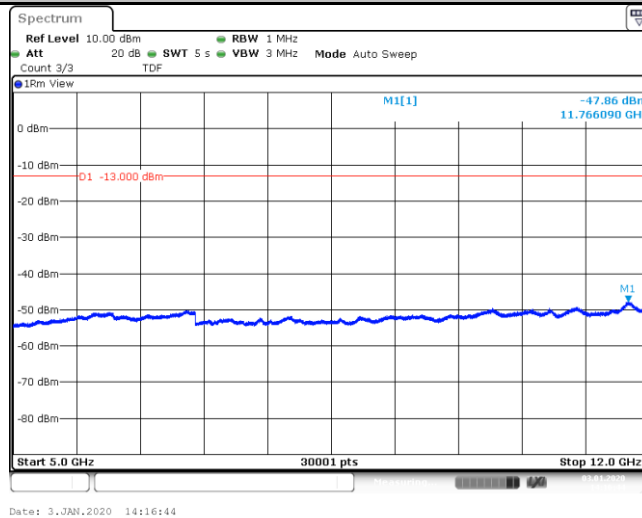


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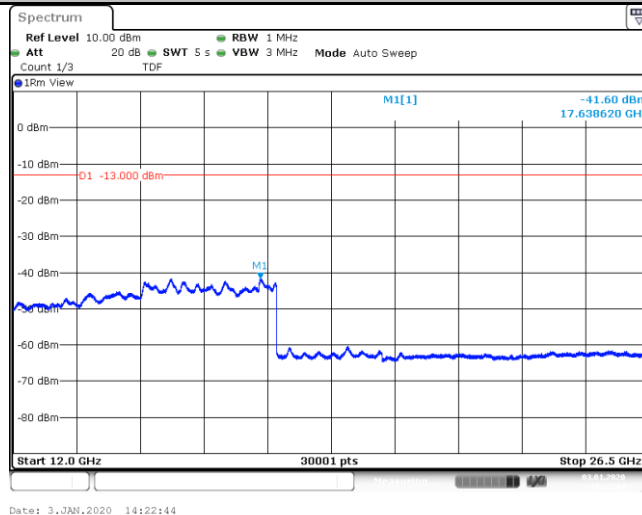
Band13_5MHz_16QAM_23230_1_0_Low_12000_26500_-41.69_PASS__



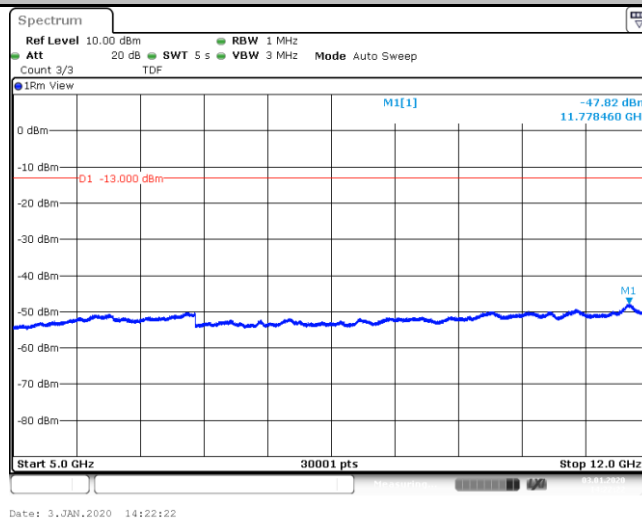
Band13_5MHz_16QAM_23230_1_0_Low_5000_12000_-47.86_PASS__



Band13_5MHz_16QAM_23255_1_5_High_12000_26500_-41.6_PASS__

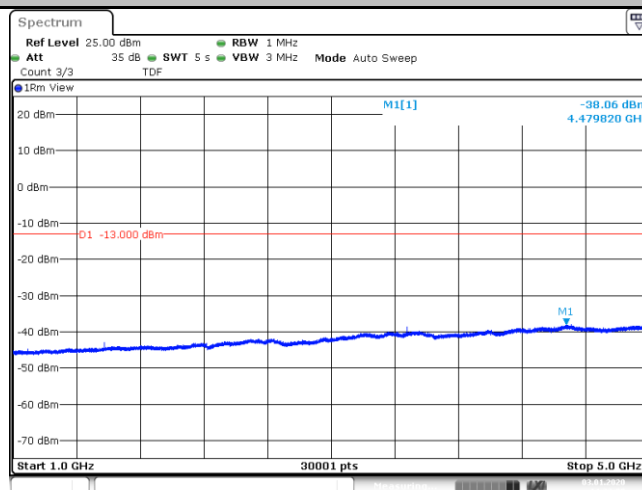


Band13_5MHz_16QAM_23255_1_5_High_5000_12000_-47.82_PASS__



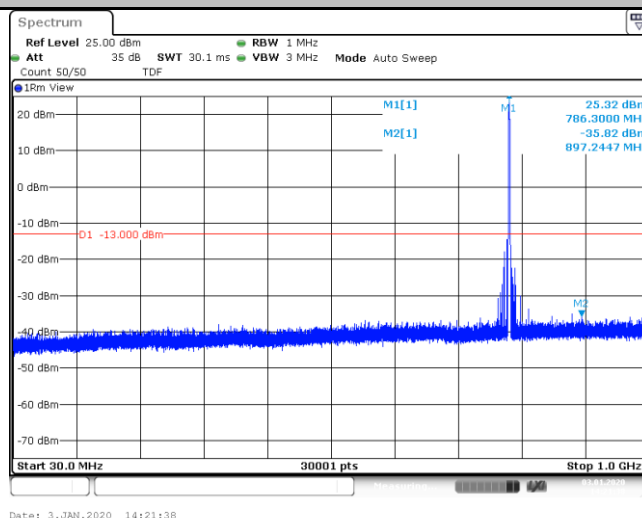
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Band13_5MHz_16QAM_23255_1_5_High_1000_5000_-38.06_PASS__



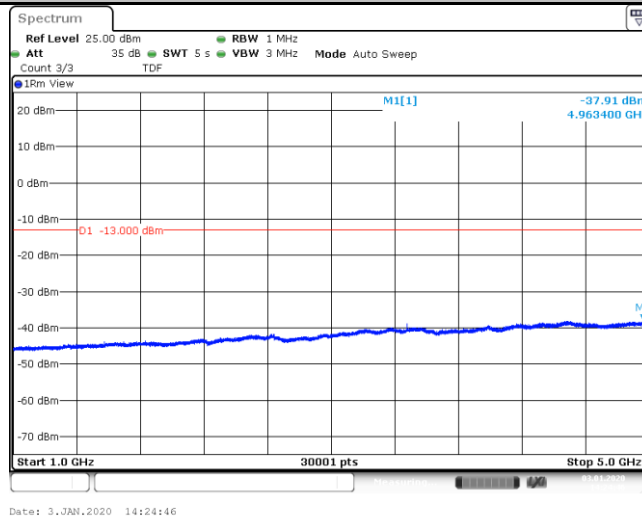
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Band13_5MHz_16QAM_23255_1_5_High_30_1000_-35.82_PASS__

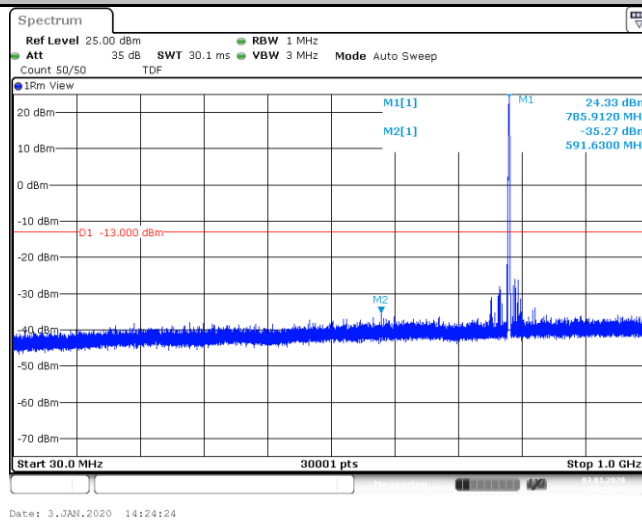


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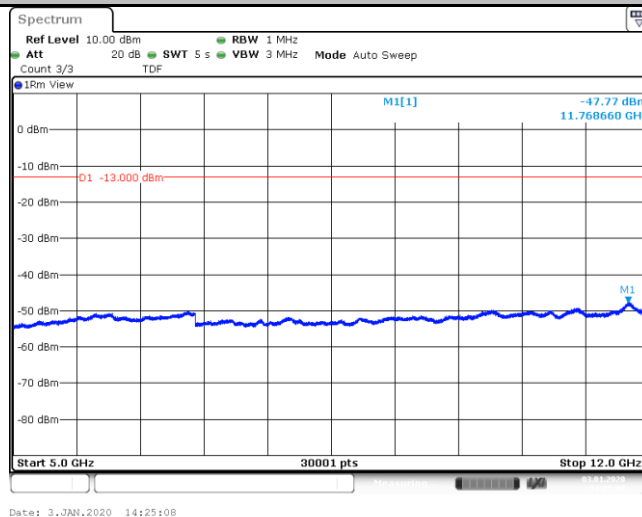
Band13_5MHz_16QAM_23255_3_3_High_1000_5000_-37.91_PASS__



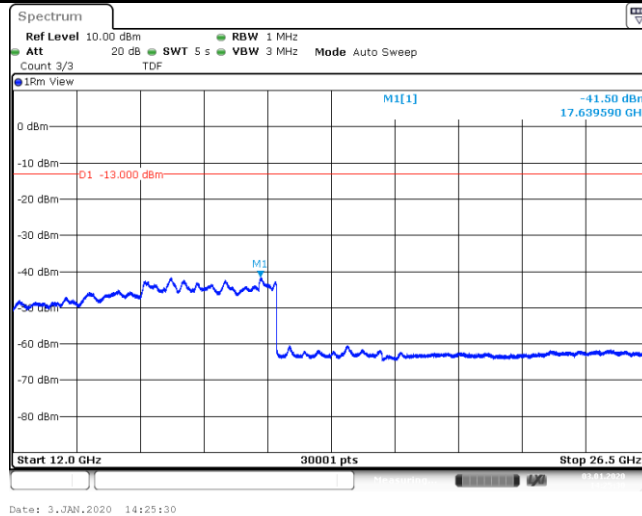
Band13_5MHz_16QAM_23255_3_3_High_30_1000_-35.27_PASS__



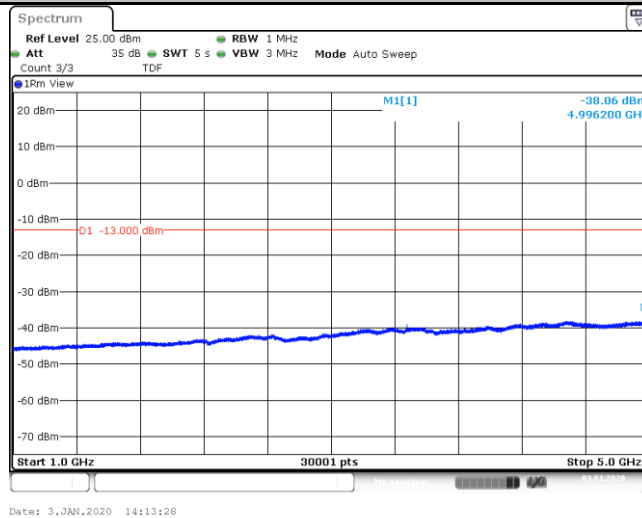
Band13_5MHz_16QAM_23255_3_3_High_5000_12000_-47.77_PASS__



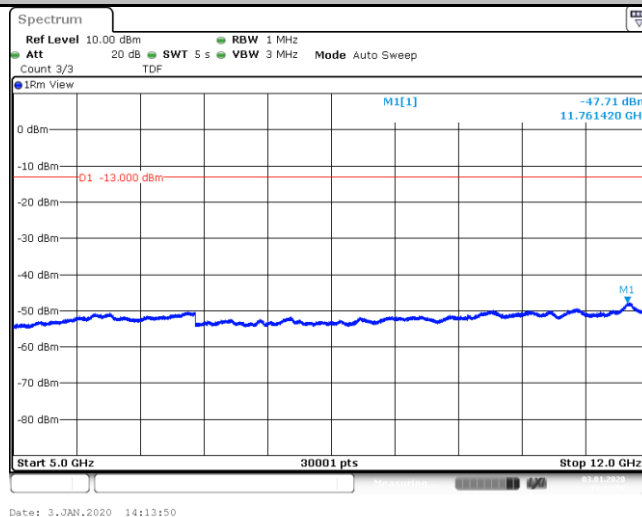
Band13_5MHz_16QAM_23255_3_3_High_12000_26500_-41.5_PASS__



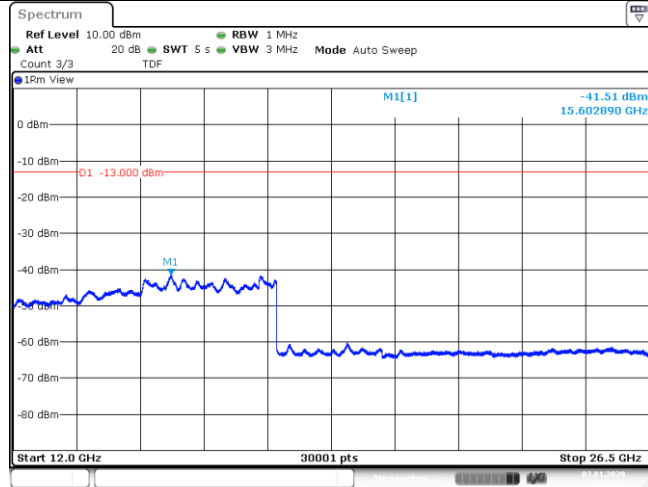
Band13_5MHz_16QAM_23205_6_0_Low_1000_5000_-38.06_PASS__



Band13_5MHz_16QAM_23205_6_0_Low_5000_12000_-47.71_PASS__

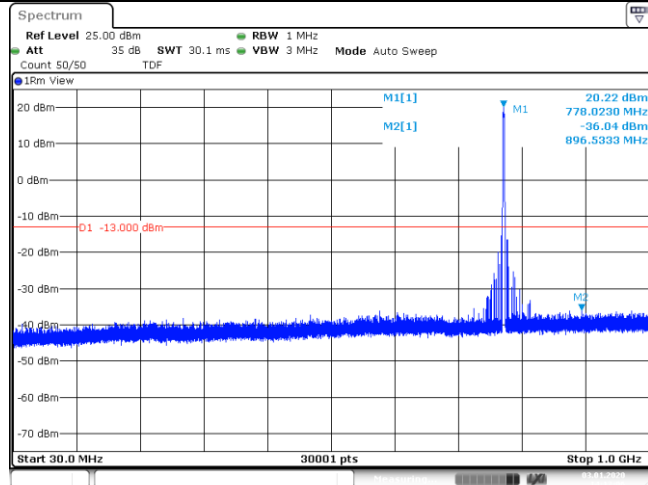


Band13_5MHz_16QAM_23205_6_0_Low_12000_26500_-41.51_PASS__



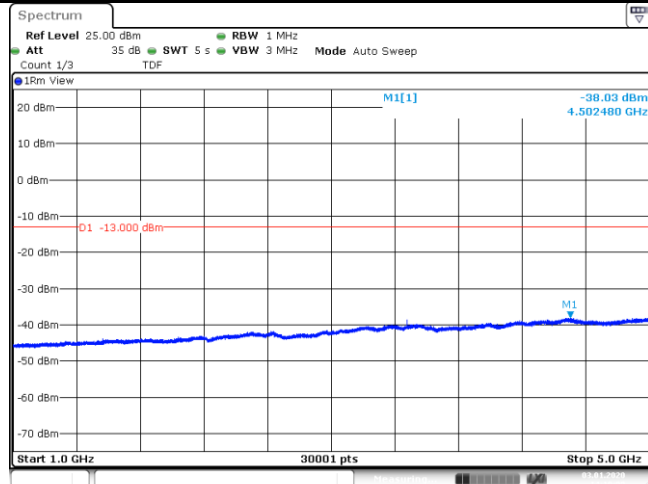
Date: 3.JAN.2020 14:14:12

Band13_5MHz_16QAM_23205_6_0_Low_30_1000_-36.04_PASS__



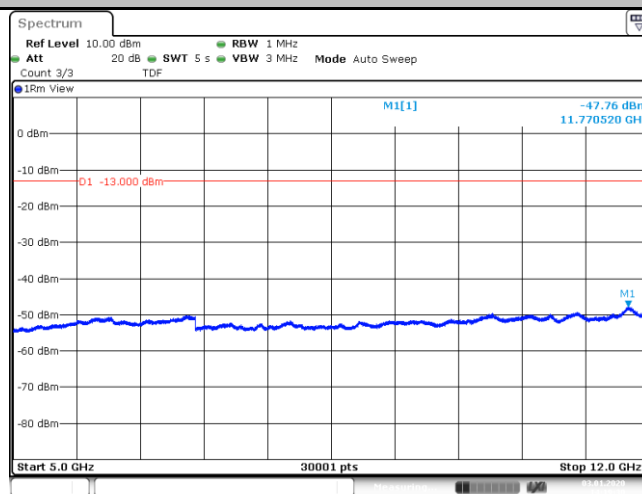
Date: 3.JAN.2020 14:13:06

Band13_5MHz_16QAM_23230_6_0_Low_1000_5000_-38.03_PASS__



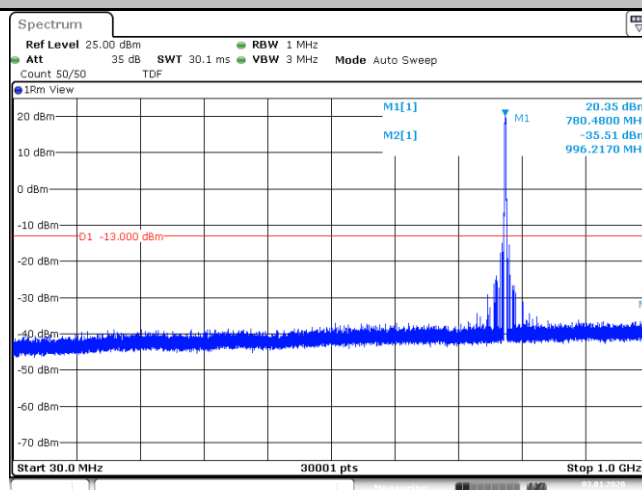
Date: 3.JAN.2020 14:19:08

Band13_5MHz_16QAM_23230_6_0_Low_5000_12000_-47.76_PASS__



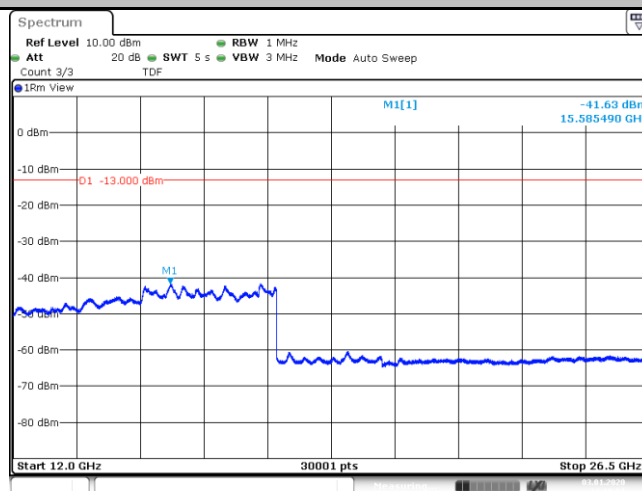
Date: 3.JAN.2020 14:19:30

Band13_5MHz_16QAM_23230_6_0_Low_30_1000_-35.51_PASS__



Date: 3.JAN.2020 14:18:46

Band13_5MHz_16QAM_23230_6_0_Low_12000_26500_-41.63_PASS__



Date: 3.JAN.2020 14:19:51

Appendix E.6: Frequency Stability for M1

Test Result

Voltage												
Band	Bandwidth	Modulation	Channel	RB Size	RB Start	NB Index	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
Band13	5MHz	QPSK	23230	1	0	Low	HV	NT	-10.31	-0.013184	±2.5	PASS
Band13	5MHz	QPSK	23230	1	0	Low	LV	NT	-10.23	-0.013082	±2.5	PASS
Band13	5MHz	QPSK	23230	1	0	Low	NV	NT	-10.19	-0.013031	±2.5	PASS
Band13	5MHz	16QAM	23230	1	0	Low	HV	NT	-5.99	-0.007660	±2.5	PASS
Band13	5MHz	16QAM	23230	1	0	Low	LV	NT	-6.38	-0.008159	±2.5	PASS
Band13	5MHz	16QAM	23230	1	0	Low	NV	NT	-6.42	-0.008210	±2.5	PASS

Temperature												
Band	Bandwidth	Modulation	Channel	RB Size	RB Start	NB Index	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
Band13	5MHz	QPSK	23230	1	0	Low	NV	85	-8.98	-0.011483	±2.5	PASS
Band13	5MHz	QPSK	23230	1	0	Low	NV	-30	-10.09	-0.012903	±2.5	PASS
Band13	5MHz	QPSK	23230	1	0	Low	NV	-20	-9.74	-0.012455	±2.5	PASS
Band13	5MHz	QPSK	23230	1	0	Low	NV	-10	-11.34	-0.014501	±2.5	PASS
Band13	5MHz	QPSK	23230	1	0	Low	NV	0	-8.90	-0.011381	±2.5	PASS
Band13	5MHz	QPSK	23230	1	0	Low	NV	10	-20.53	-0.026253	±2.5	PASS
Band13	5MHz	QPSK	23230	1	0	Low	NV	20	-9.93	-0.012698	±2.5	PASS
Band13	5MHz	QPSK	23230	1	0	Low	NV	30	-20.40	-0.026087	±2.5	PASS
Band13	5MHz	QPSK	23230	1	0	Low	NV	40	-9.88	-0.012634	±2.5	PASS
Band13	5MHz	QPSK	23230	1	0	Low	NV	50	-10.06	-0.012864	±2.5	PASS
Band13	5MHz	QPSK	23230	1	0	Low	NV	60	-9.88	-0.012634	±2.5	PASS
Band13	5MHz	QPSK	23230	1	0	Low	NV	70	-11.27	-0.014412	±2.5	PASS
Band13	5MHz	QPSK	23230	1	0	Low	NV	-40	-9.36	-0.011969	±2.5	PASS
Band13	5MHz	QPSK	23230	1	0	Low	NV	80	-9.88	-0.012634	±2.5	PASS
Band13	5MHz	16QAM	23230	1	0	Low	NV	85	-5.72	-0.007315	±2.5	PASS
Band13	5MHz	16QAM	23230	1	0	Low	NV	-30	-5.89	-0.007532	±2.5	PASS
Band13	5MHz	16QAM	23230	1	0	Low	NV	-20	-5.69	-0.007276	±2.5	PASS
Band13	5MHz	16QAM	23230	1	0	Low	NV	-10	-5.62	-0.007187	±2.5	PASS
Band13	5MHz	16QAM	23230	1	0	Low	NV	0	-6.42	-0.008210	±2.5	PASS
Band13	5MHz	16QAM	23230	1	0	Low	NV	10	-6.55	-0.008376	±2.5	PASS
Band13	5MHz	16QAM	23230	1	0	Low	NV	20	-7.80	-0.009974	±2.5	PASS
Band13	5MHz	16QAM	23230	1	0	Low	NV	30	-5.64	-0.007212	±2.5	PASS
Band13	5MHz	16QAM	23230	1	0	Low	NV	40	-6.25	-0.007992	±2.5	PASS
Band13	5MHz	16QAM	23230	1	0	Low	NV	50	-5.25	-0.006714	±2.5	PASS
Band13	5MHz	16QAM	23230	1	0	Low	NV	60	-6.39	-0.008171	±2.5	PASS
Band13	5MHz	16QAM	23230	1	0	Low	NV	70	-5.59	-0.007148	±2.5	PASS
Band13	5MHz	16QAM	23230	1	0	Low	NV	80	-6.71	-0.008581	±2.5	PASS
Band13	5MHz	16QAM	23230	1	0	Low	NV	-40	-6.24	-0.007980	±2.5	PASS

Appendix F: Test Results of Band 25 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	NBIndex	Result (dBm)	EIRP		Limit (watts)	Verdict
								dBm	Watts		
Band25	1.4MHz	QPSK	26047	1	0	Low	23.47	25.61	0.364	2	PASS
Band25	1.4MHz	QPSK	26365	1	0	Low	23.35	25.49	0.354	2	PASS
Band25	1.4MHz	QPSK	26683	1	5	Low	23.63	25.77	0.378	2	PASS
Band25	1.4MHz	QPSK	26047	6	0	Low	21.92	24.06	0.255	2	PASS
Band25	1.4MHz	QPSK	26365	6	0	Low	21.77	23.91	0.246	2	PASS
Band25	1.4MHz	QPSK	26683	6	0	Low	21.67	23.81	0.240	2	PASS
Band25	1.4MHz	16QAM	26047	1	0	Low	22.64	24.78	0.301	2	PASS
Band25	1.4MHz	16QAM	26365	1	0	Low	22.59	24.73	0.297	2	PASS
Band25	1.4MHz	16QAM	26683	1	5	Low	22.49	24.63	0.290	2	PASS
Band25	1.4MHz	16QAM	26047	6	0	Low	21.93	24.07	0.255	2	PASS
Band25	1.4MHz	16QAM	26365	6	0	Low	21.78	23.92	0.247	2	PASS
Band25	1.4MHz	16QAM	26683	6	0	Low	21.66	23.8	0.240	2	PASS
Band25	3MHz	QPSK	26055	1	0	Low	23.44	25.58	0.361	2	PASS
Band25	3MHz	QPSK	26365	1	0	Low	23.38	25.52	0.356	2	PASS
Band25	3MHz	QPSK	26675	1	5	High	23.71	25.85	0.385	2	PASS
Band25	3MHz	QPSK	26055	6	0	Low	21.86	24	0.251	2	PASS
Band25	3MHz	QPSK	26365	6	0	Low	21.81	23.95	0.248	2	PASS
Band25	3MHz	QPSK	26675	6	0	High	21.52	23.66	0.232	2	PASS
Band25	3MHz	16QAM	26055	1	0	Low	22.48	24.62	0.290	2	PASS
Band25	3MHz	16QAM	26365	1	0	Low	22.41	24.55	0.285	2	PASS
Band25	3MHz	16QAM	26675	1	5	High	22.81	24.95	0.313	2	PASS
Band25	3MHz	16QAM	26055	6	0	Low	21.85	23.99	0.251	2	PASS
Band25	3MHz	16QAM	26365	6	0	Low	21.78	23.92	0.247	2	PASS
Band25	3MHz	16QAM	26675	6	0	High	21.51	23.65	0.232	2	PASS
Band25	5MHz	QPSK	26065	1	0	Low	23.3	25.44	0.350	2	PASS
Band25	5MHz	QPSK	26365	1	0	Low	23.31	25.45	0.351	2	PASS
Band25	5MHz	QPSK	26665	1	5	High	23.72	25.86	0.385	2	PASS
Band25	5MHz	QPSK	26665	3	3	High	22.1	24.24	0.265	2	PASS
Band25	5MHz	QPSK	26065	6	0	Low	22.69	24.83	0.304	2	PASS
Band25	5MHz	QPSK	26365	6	0	Low	22.61	24.75	0.299	2	PASS
Band25	5MHz	16QAM	26065	1	0	Low	23.75	25.89	0.388	2	PASS
Band25	5MHz	16QAM	26365	1	0	Low	23.83	25.97	0.395	2	PASS
Band25	5MHz	16QAM	26665	1	5	High	23.89	26.03	0.401	2	PASS
Band25	5MHz	16QAM	26665	3	3	High	22.83	24.97	0.314	2	PASS
Band25	5MHz	16QAM	26065	6	0	Low	22.6	24.74	0.298	2	PASS
Band25	5MHz	16QAM	26365	6	0	Low	22.62	24.76	0.299	2	PASS
Band25	10MHz	QPSK	26090	1	0	Low	23.35	25.49	0.354	2	PASS
Band25	10MHz	QPSK	26365	1	0	Low	23.28	25.42	0.348	2	PASS
Band25	10MHz	QPSK	26640	1	5	High	23.73	25.87	0.386	2	PASS
Band25	10MHz	QPSK	26090	5	0	Low	22.7	24.84	0.305	2	PASS
Band25	10MHz	QPSK	26365	5	0	Low	22.62	24.76	0.299	2	PASS
Band25	10MHz	QPSK	26640	5	1	High	22.06	24.2	0.263	2	PASS
Band25	10MHz	16QAM	26090	1	0	Low	23.69	25.83	0.383	2	PASS
Band25	10MHz	16QAM	26365	1	0	Low	23.99	26.13	0.410	2	PASS
Band25	10MHz	16QAM	26640	1	5	High	23.88	26.02	0.400	2	PASS
Band25	10MHz	16QAM	26090	5	0	Low	22.35	24.49	0.281	2	PASS
Band25	10MHz	16QAM	26365	5	0	Low	22.28	24.42	0.277	2	PASS
Band25	10MHz	16QAM	26640	5	1	High	22.74	24.88	0.308	2	PASS
Band25	15MHz	QPSK	26115	1	0	Low	23.36	25.5	0.355	2	PASS
Band25	15MHz	QPSK	26365	1	0	Low	23.18	25.32	0.340	2	PASS
Band25	15MHz	QPSK	26615	1	5	High	23.71	25.85	0.385	2	PASS

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Band25	15MHz	QPSK	26115	6	0	Low	23.16	25.3	0.339	2	PASS
Band25	15MHz	QPSK	26365	6	0	Low	22.99	25.13	0.326	2	PASS
Band25	15MHz	QPSK	26615	6	0	High	23.54	25.68	0.370	2	PASS
Band25	15MHz	16QAM	26115	1	0	Low	23.91	26.05	0.403	2	PASS
Band25	15MHz	16QAM	26365	1	0	Low	23.92	26.06	0.404	2	PASS
Band25	15MHz	16QAM	26615	1	5	High	23.86	26	0.398	2	PASS
Band25	15MHz	16QAM	26115	6	0	Low	23.16	25.3	0.339	2	PASS
Band25	15MHz	16QAM	26365	6	0	Low	22.99	25.13	0.326	2	PASS
Band25	15MHz	16QAM	26615	6	0	High	23.56	25.7	0.372	2	PASS
Band25	20MHz	QPSK	26140	1	0	Low	23.32	25.46	0.352	2	PASS
Band25	20MHz	QPSK	26365	1	0	Low	23.15	25.29	0.338	2	PASS
Band25	20MHz	QPSK	26590	1	5	High	23.73	25.87	0.386	2	PASS
Band25	20MHz	QPSK	26140	6	0	Low	23.16	25.3	0.339	2	PASS
Band25	20MHz	QPSK	26365	6	0	Low	23	25.14	0.327	2	PASS
Band25	20MHz	QPSK	26590	6	0	High	23.6	25.74	0.375	2	PASS
Band25	20MHz	16QAM	26140	1	0	Low	23.87	26.01	0.399	2	PASS
Band25	20MHz	16QAM	26365	1	0	Low	23.73	25.87	0.386	2	PASS
Band25	20MHz	16QAM	26590	1	5	High	23.9	26.04	0.402	2	PASS
Band25	20MHz	16QAM	26140	6	0	Low	23.16	25.3	0.339	2	PASS
Band25	20MHz	16QAM	26365	6	0	Low	23	25.14	0.327	2	PASS
Band25	20MHz	16QAM	26590	6	0	High	23.58	25.72	0.373	2	PASS

Appendix F.2: Peak-to-Average Ratio (CCDF) for M1

Test Result

Band	Bandwidth	Modulation	Channel	RB Size	RB Start	NBIndex	Result(dB)	Limit(dB)	Verdict
Band25	1.4MHz	QPSK	26365	6	0	Low	8.35	<=13	PASS
Band25	1.4MHz	16QAM	26365	6	0	Low	9.71	<=13	PASS
Band25	3MHz	QPSK	26365	6	0	Low	5.33	<=13	PASS
Band25	3MHz	16QAM	26365	6	0	Low	11.39	<=13	PASS
Band25	5MHz	QPSK	26365	6	0	Low	8.64	<=13	PASS
Band25	5MHz	16QAM	26365	6	0	Low	9.13	<=13	PASS
Band25	10MHz	QPSK	26365	6	0	Low	6.43	<=13	PASS
Band25	10MHz	16QAM	26365	6	0	Low	9.16	<=13	PASS
Band25	15MHz	QPSK	26365	6	0	Low	8.49	<=13	PASS
Band25	15MHz	16QAM	26365	6	0	Low	10.55	<=13	PASS
Band25	20MHz	QPSK	26365	6	0	Low	8.46	<=13	PASS
Band25	20MHz	16QAM	26365	6	0	Low	10.32	<=13	PASS

Test Graphs

