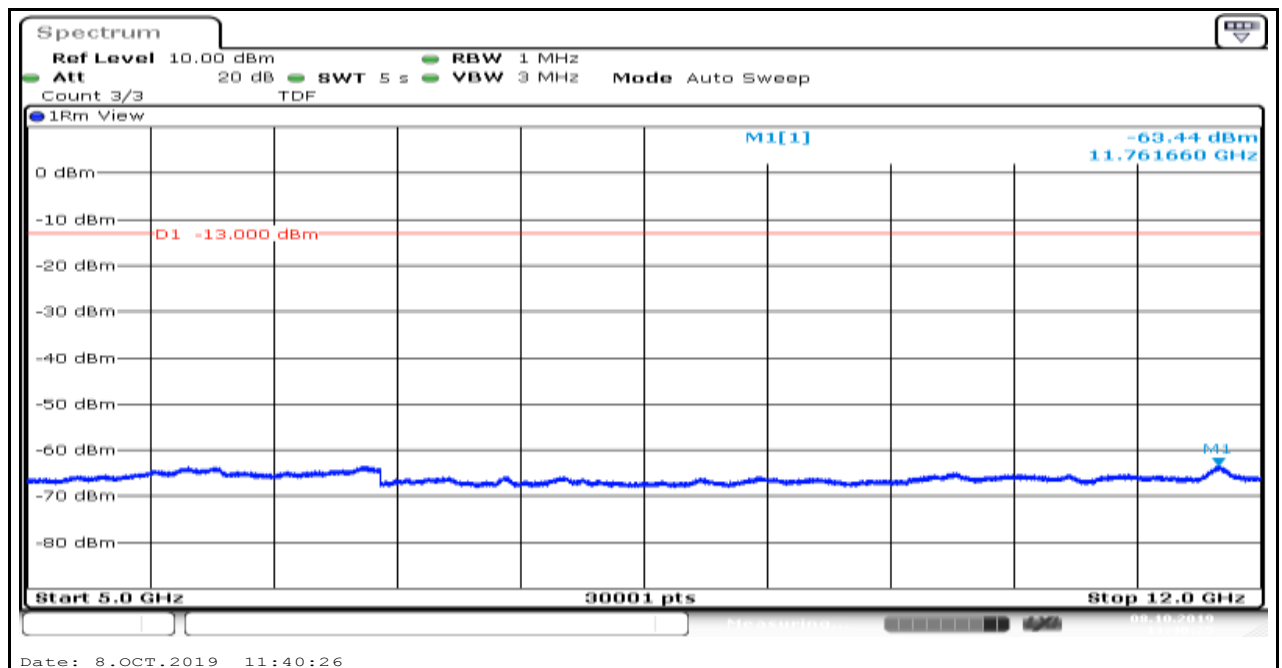
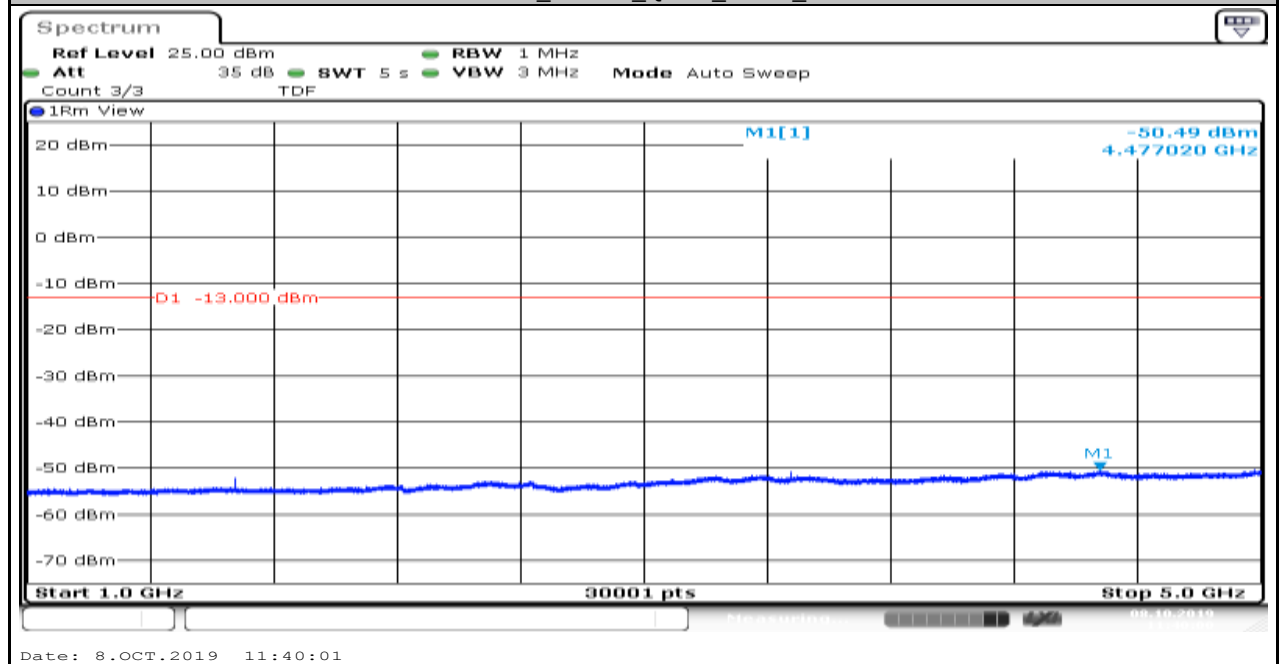


Produkte
Products

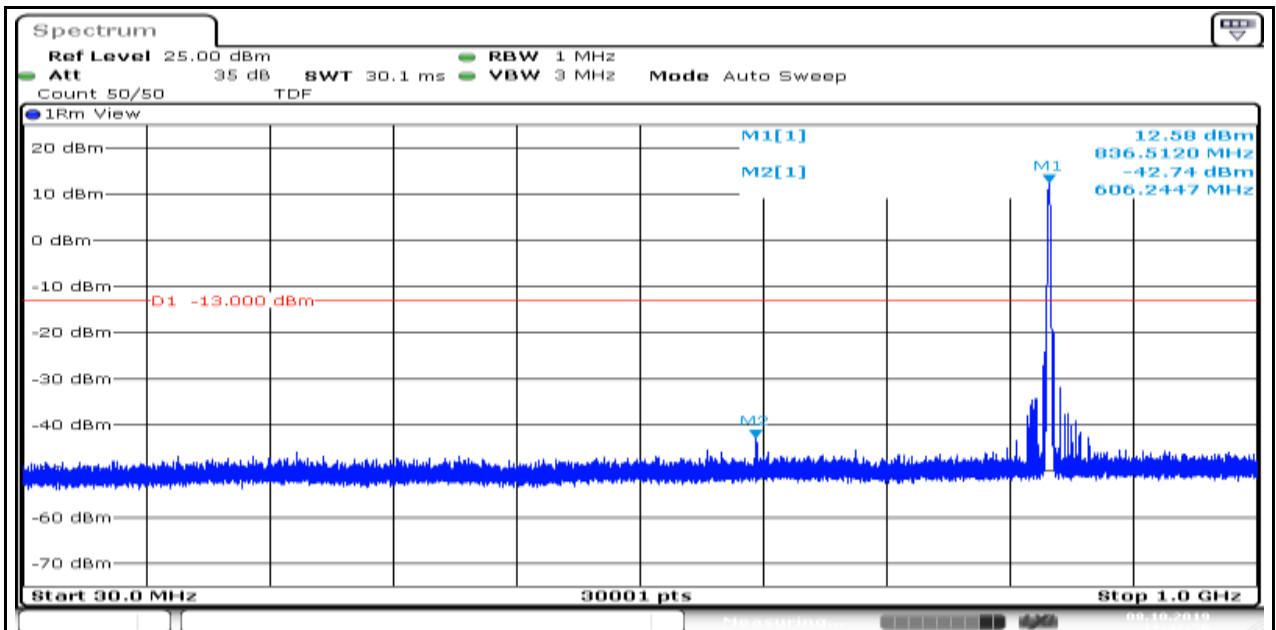


Band5_1.4MHz_QPSK_20525_1



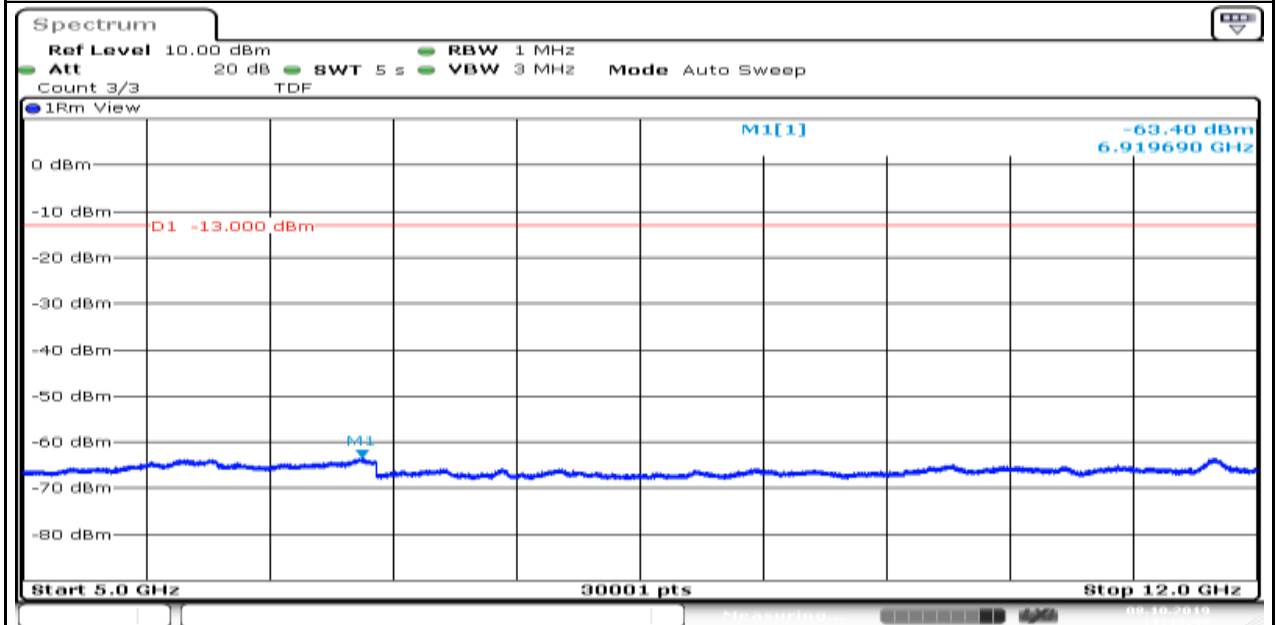
Band5_1.4MHz_QPSK_20525_6

Produkte
Products



Date: 8.OCT.2019 11:42:50

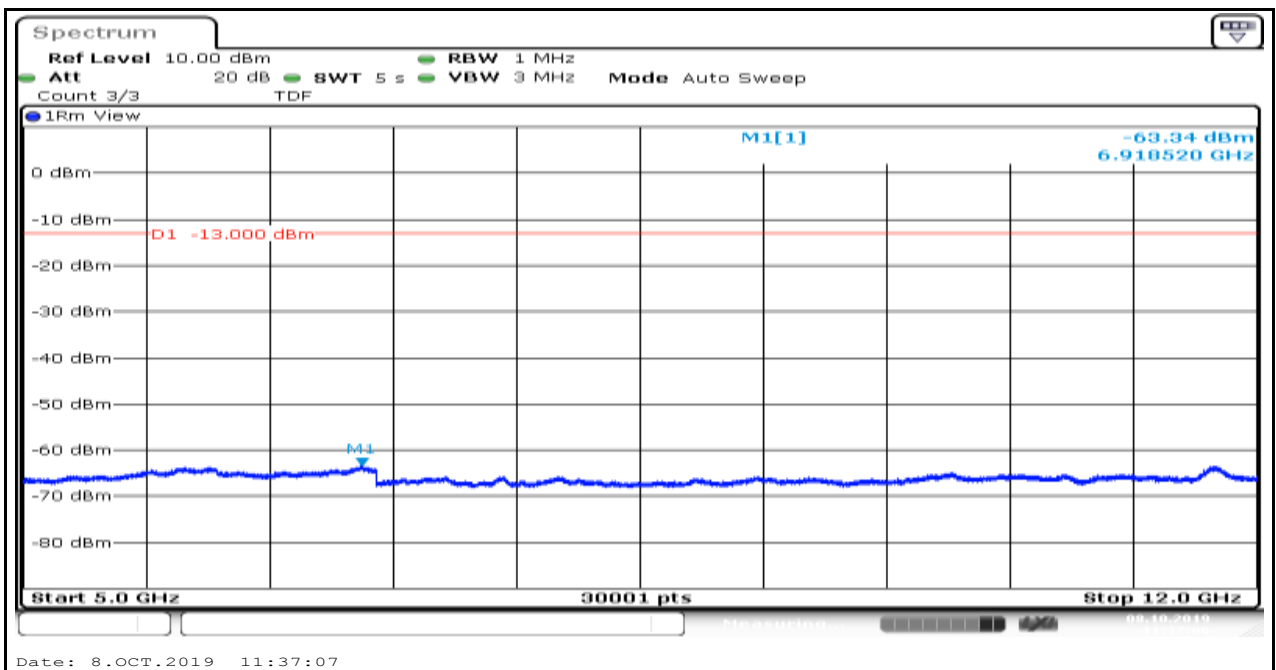
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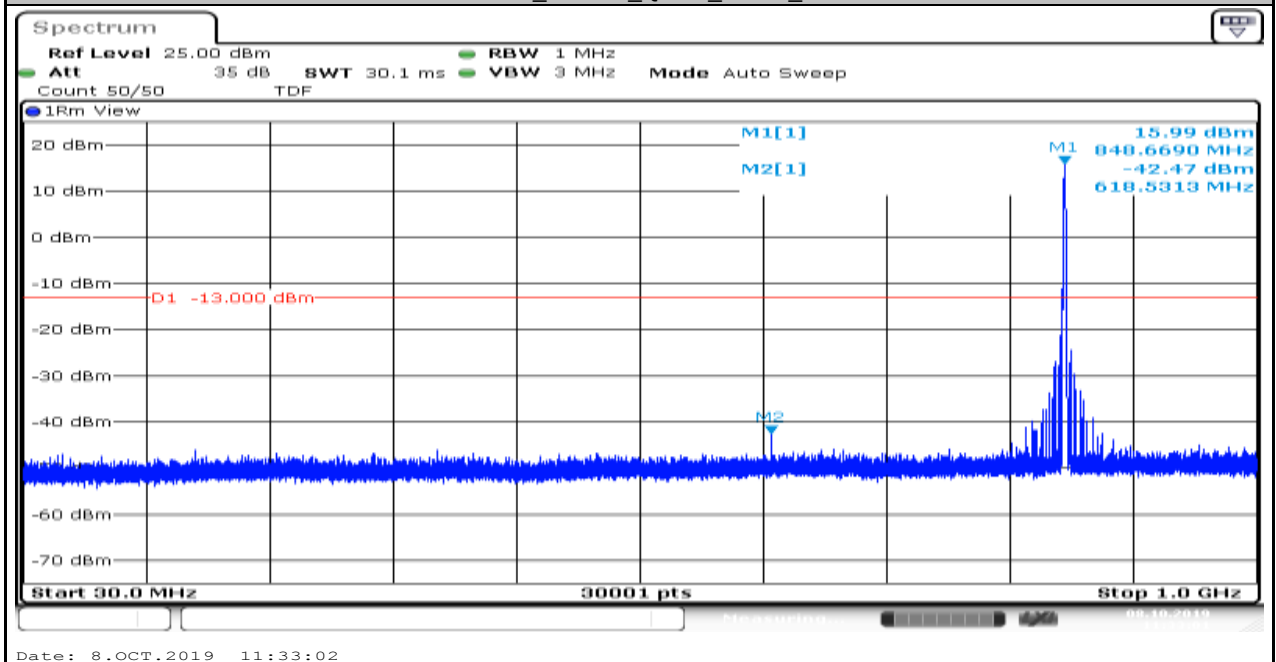
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Band5_1.4MHz_QPSK_20643_6

Produkte
Products

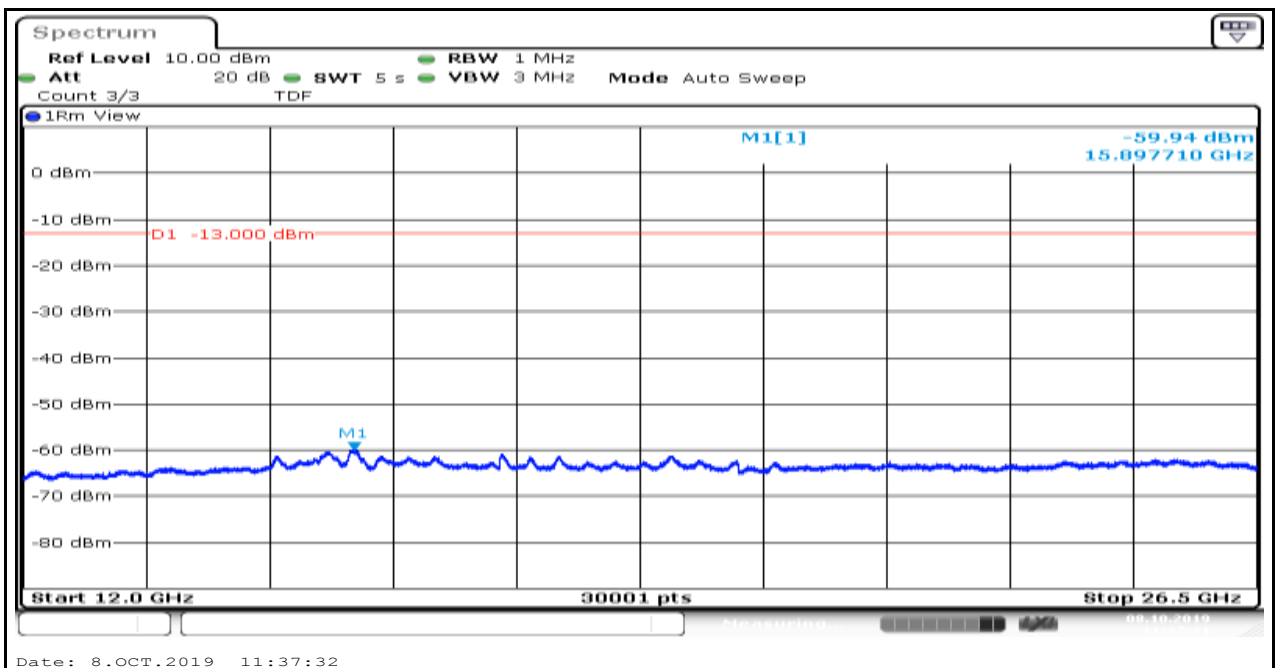


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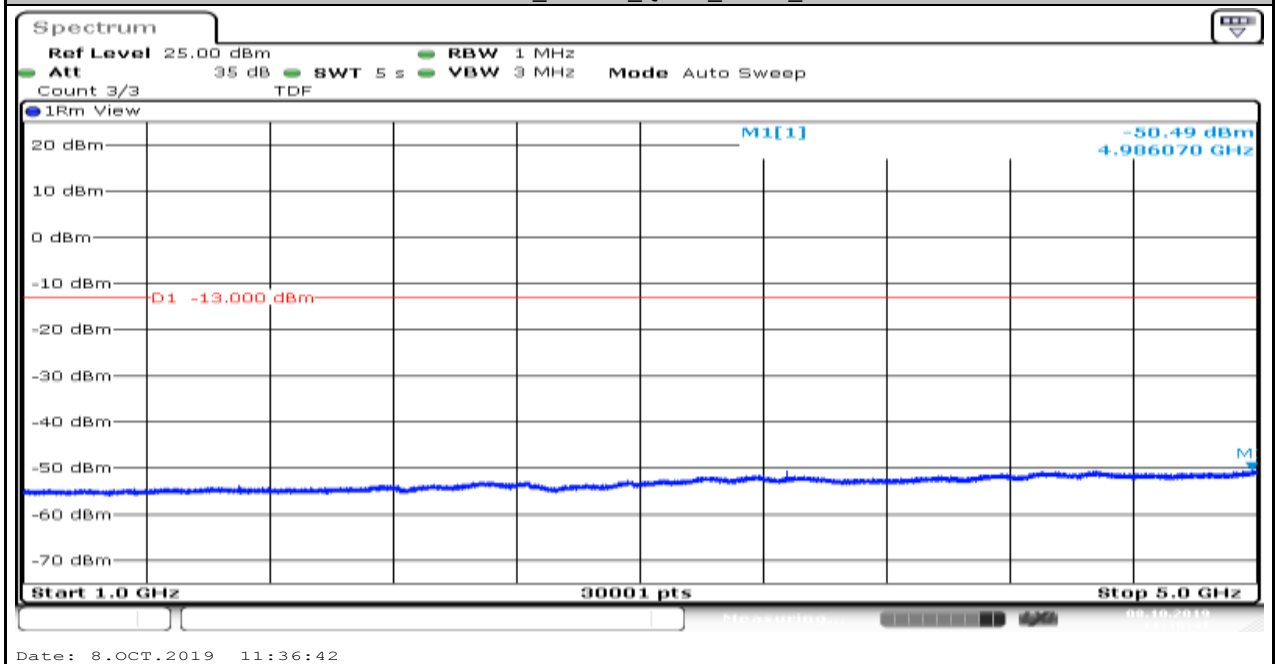


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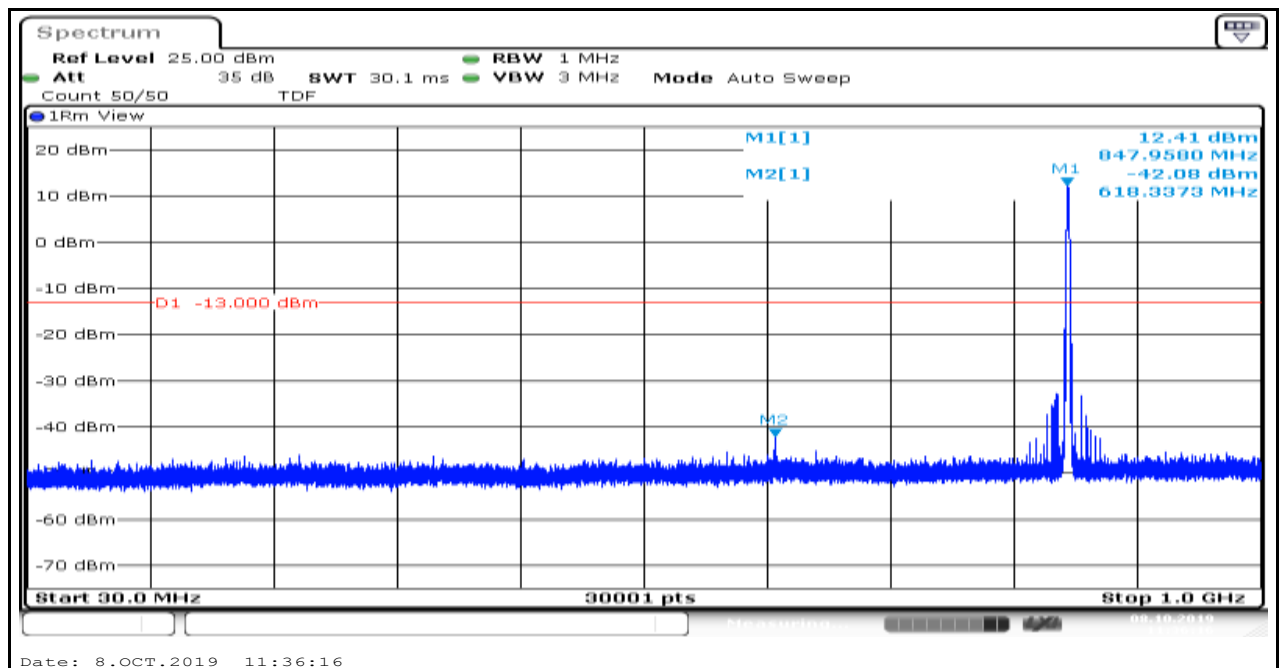
Produkte
Products



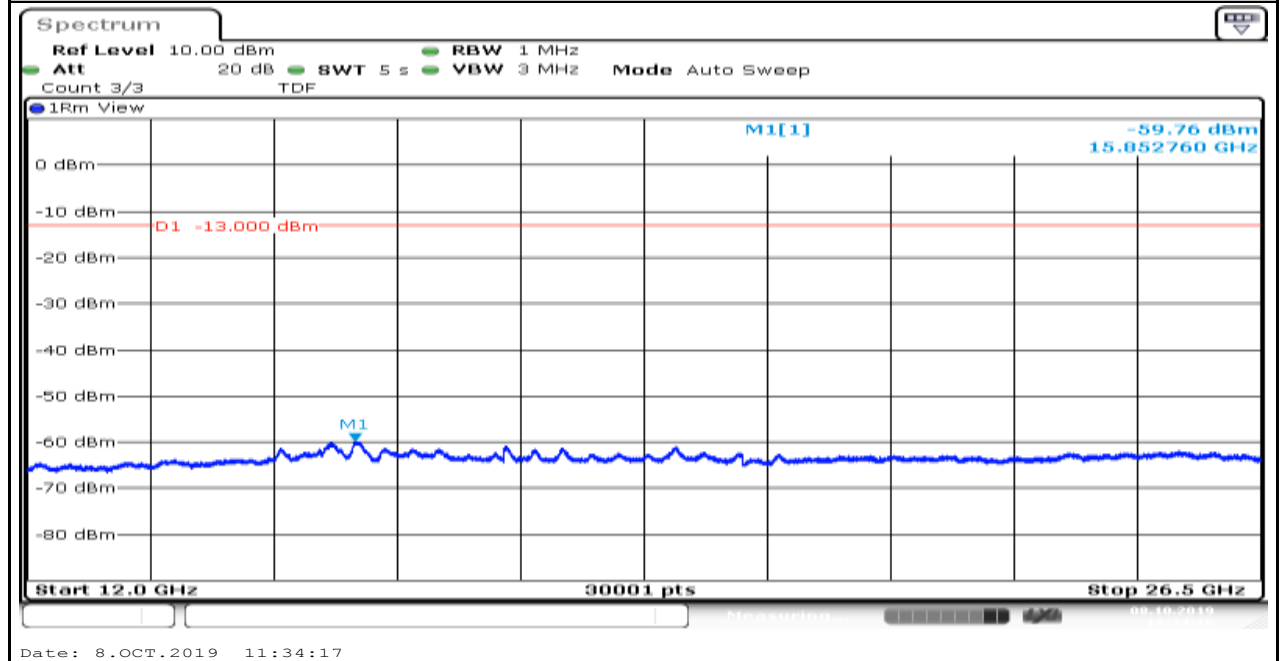
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Band5_1.4MHz_QPSK_20643_6

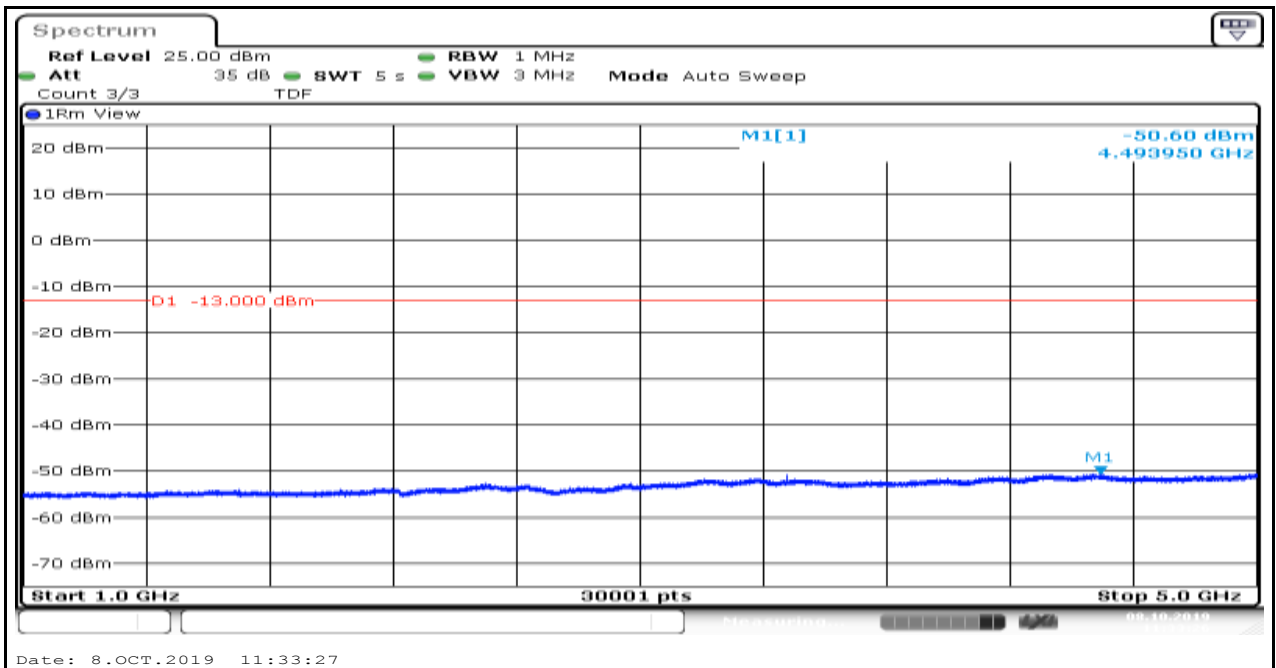


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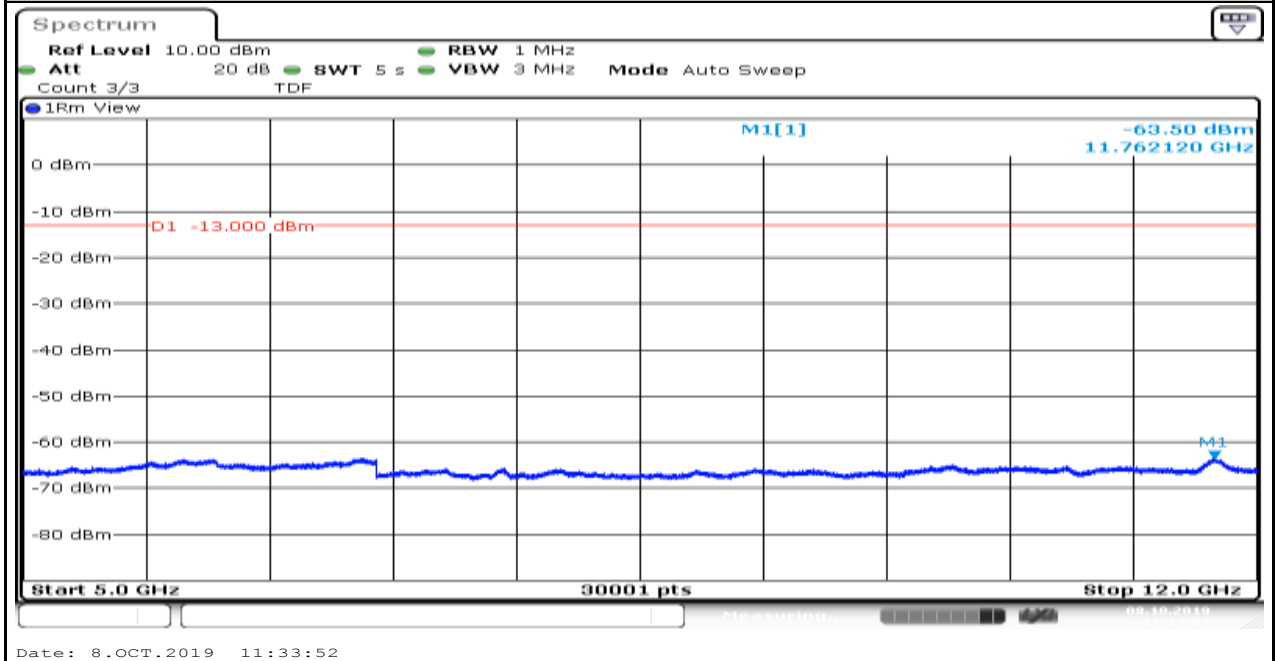


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Produkte
Products

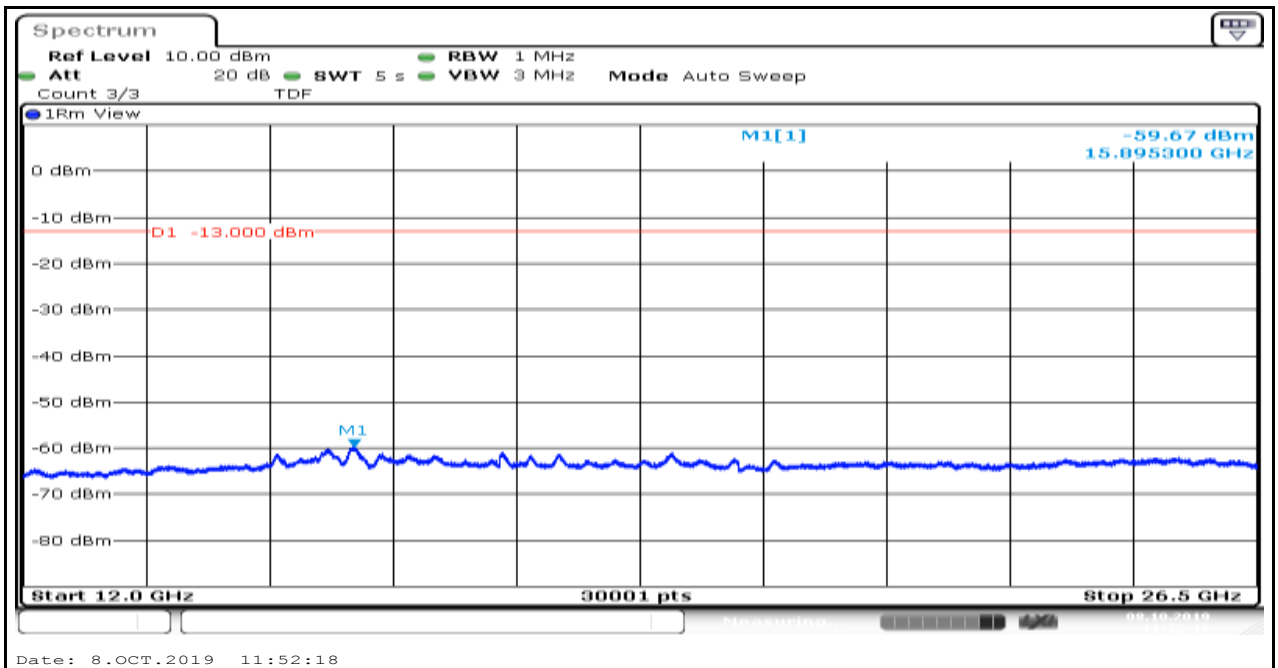


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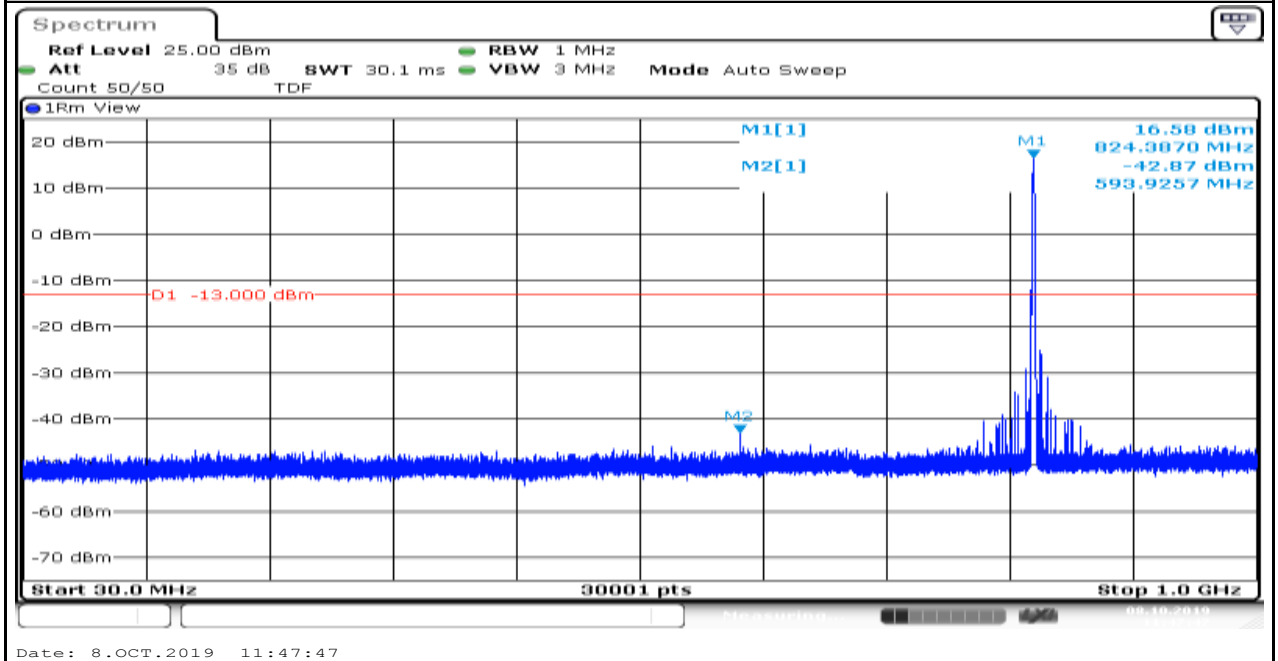


Band5_1.4MHz_16QAM_20407_6

Produkte
Products

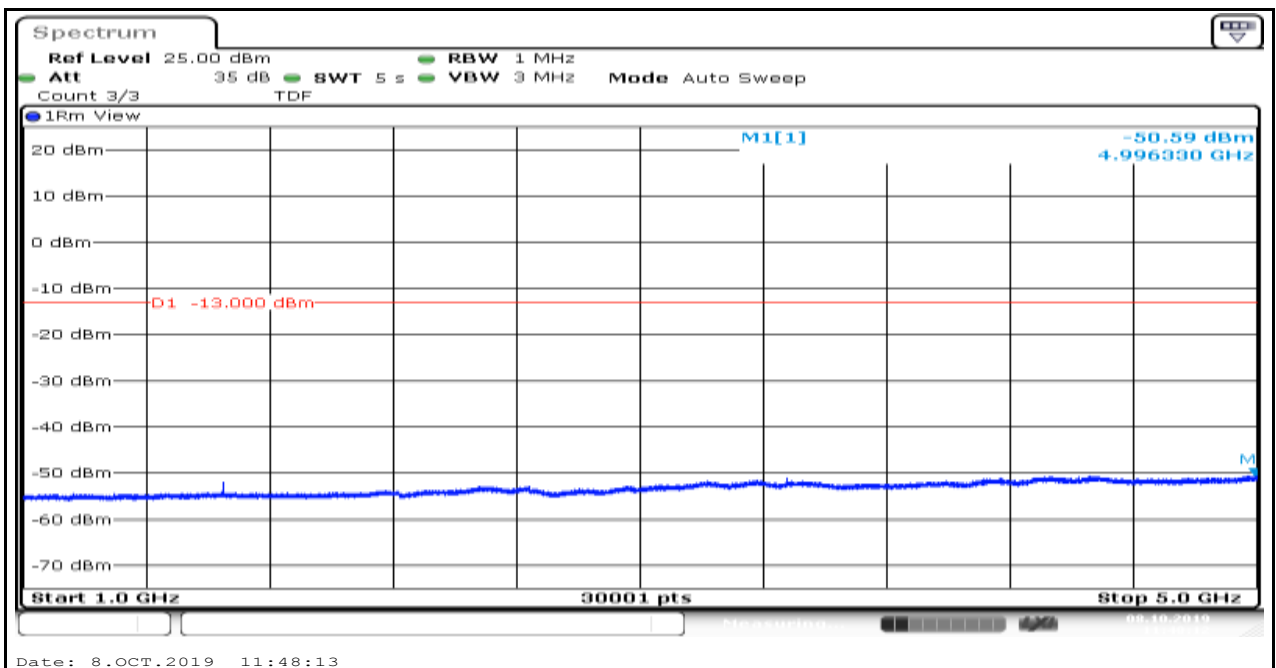


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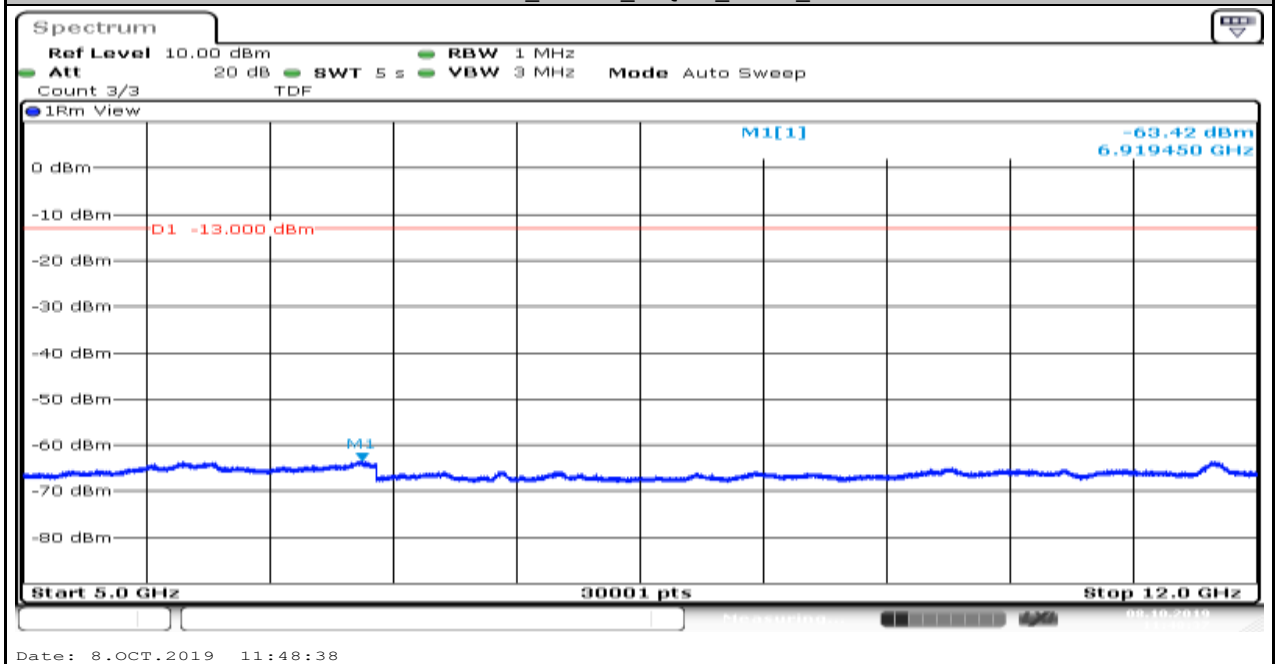


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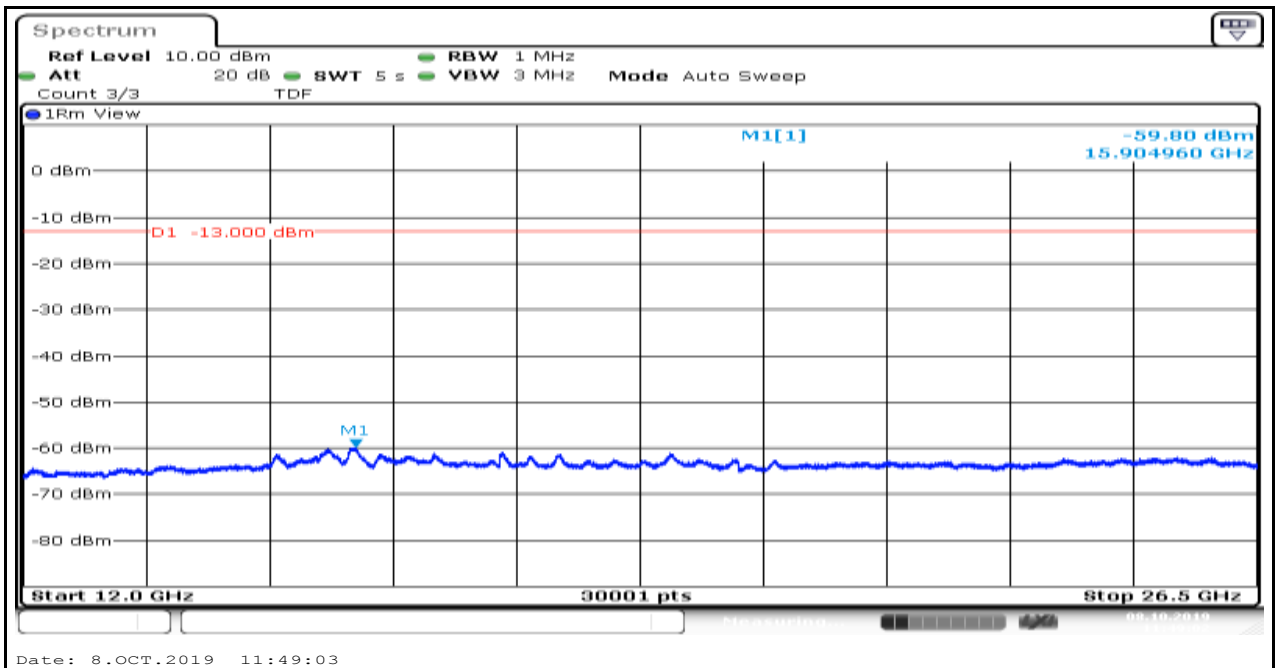
Produkte
Products



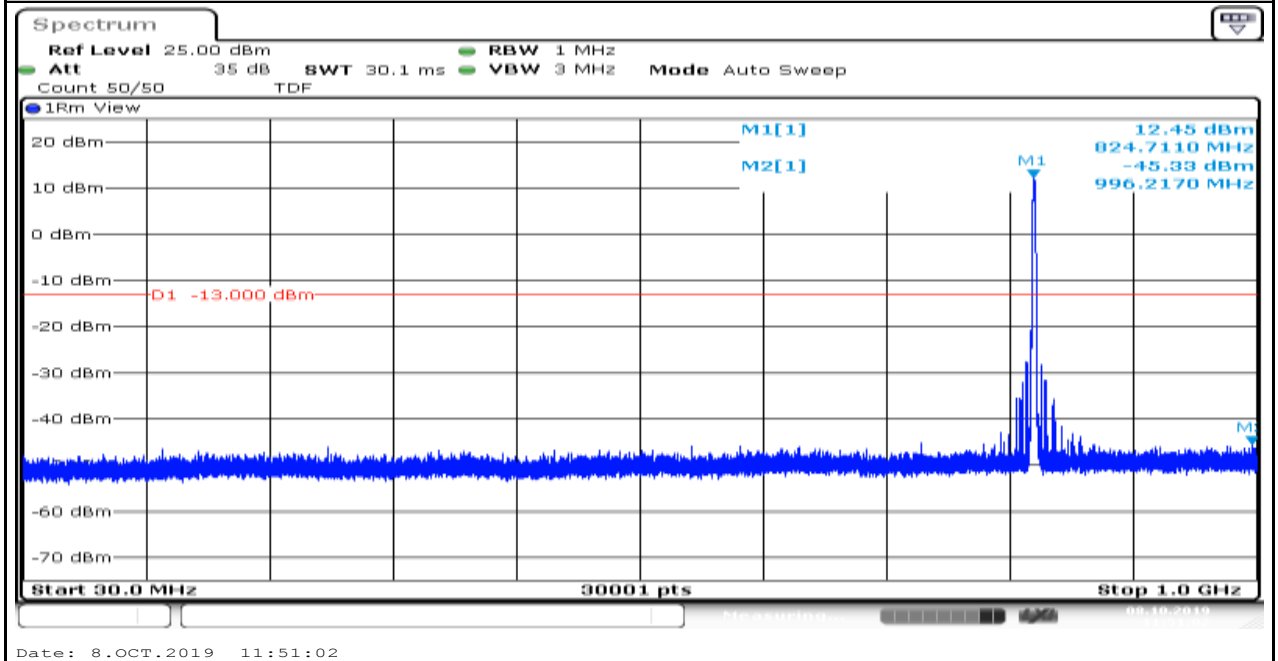
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Band5_1.4MHz_16QAM_20407_1

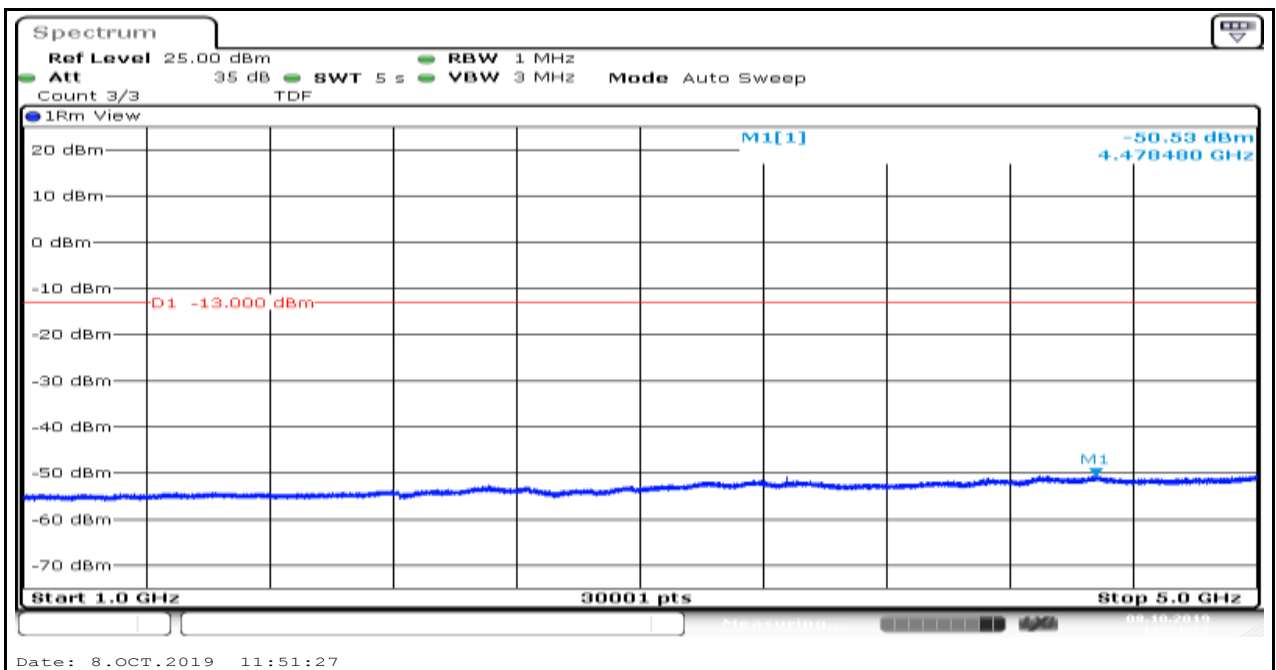


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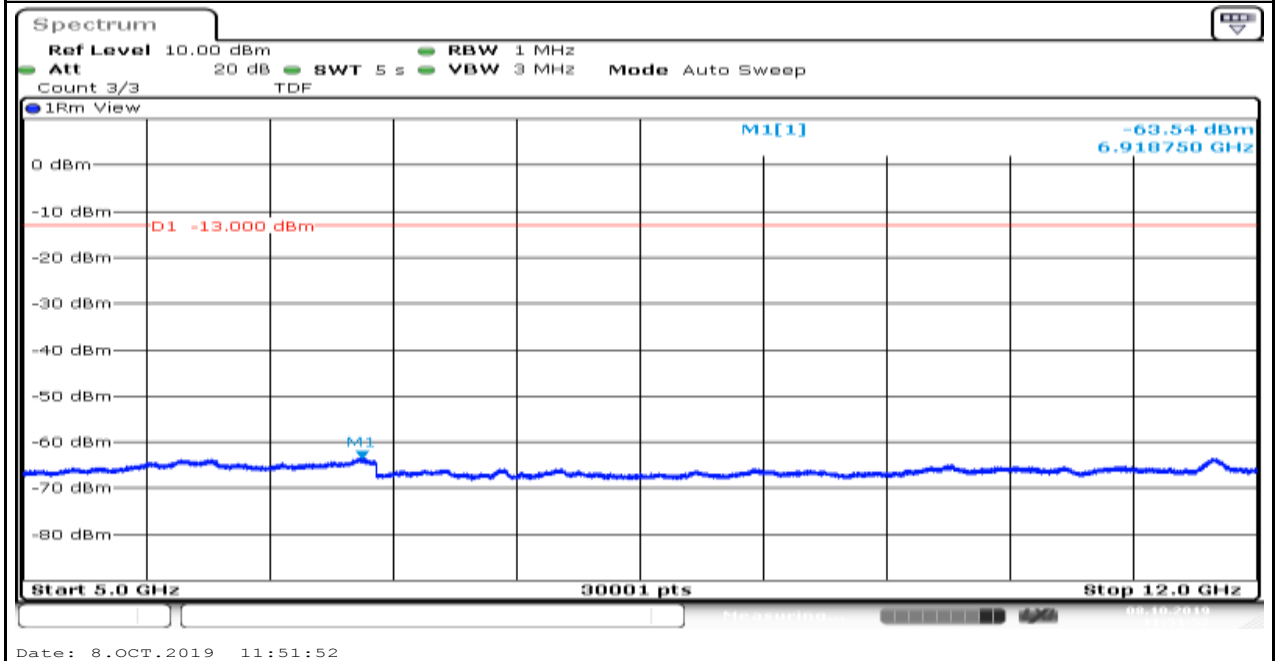


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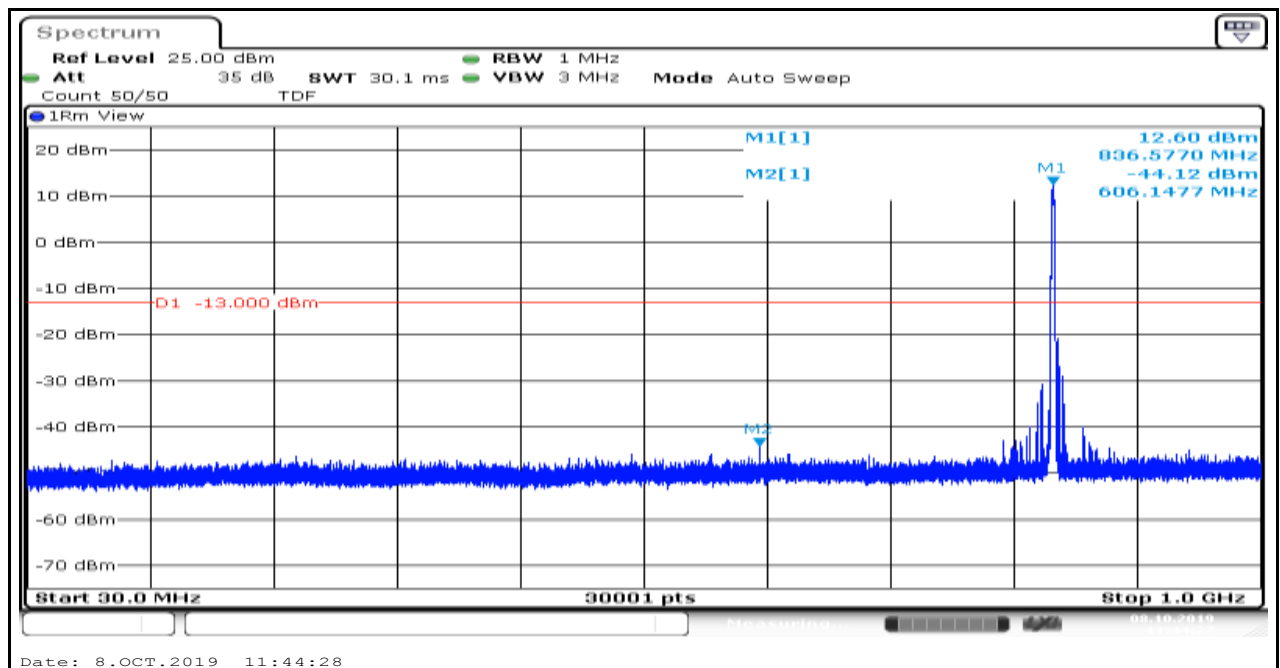
Produkte
Products



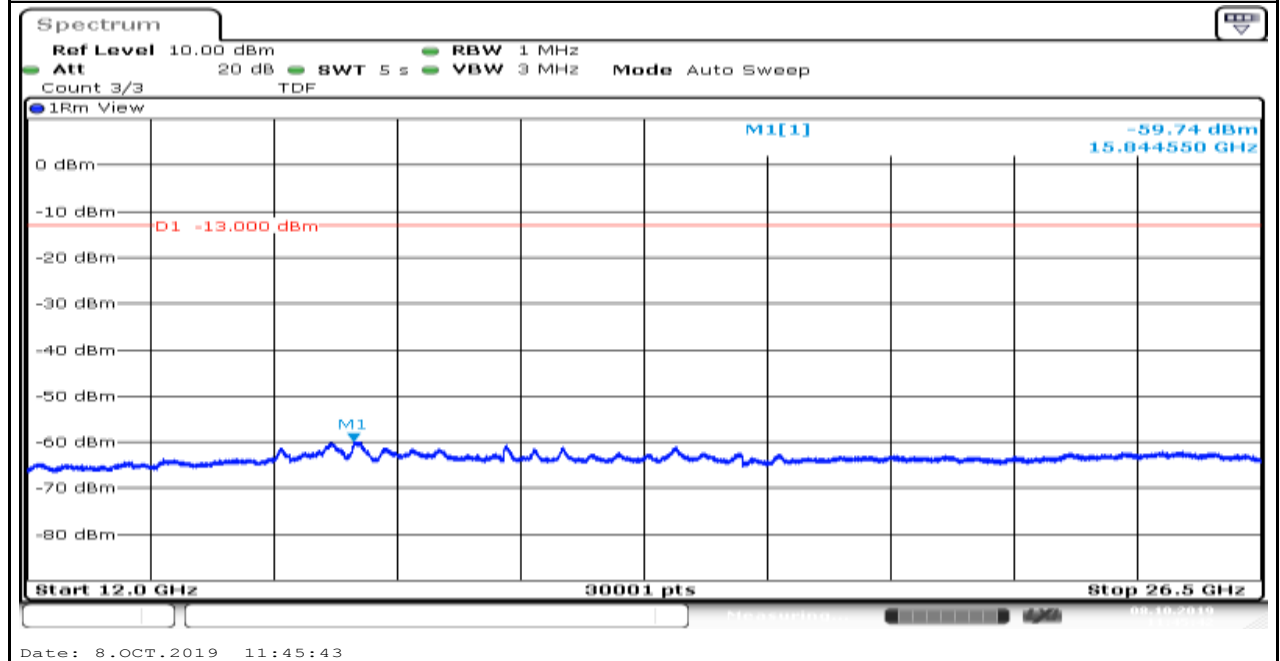
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Band5_1.4MHz_16QAM_20525_6

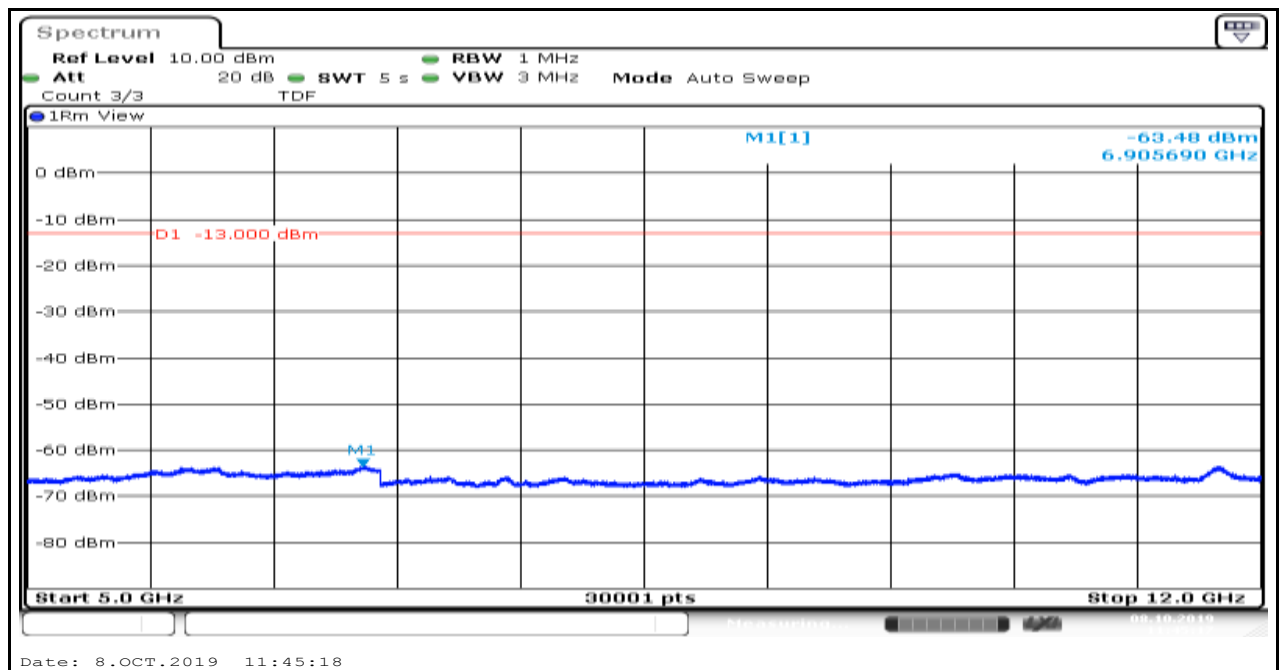


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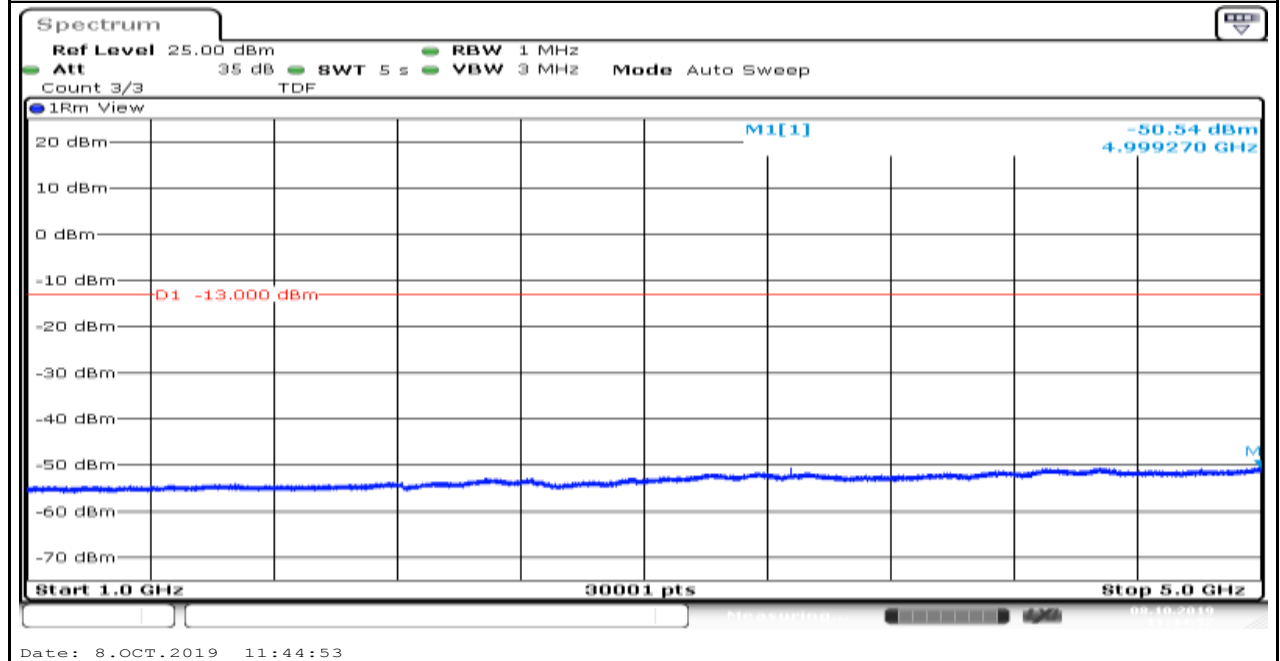


Band5_1.4MHz_16QAM_20525_6

Produkte
Products

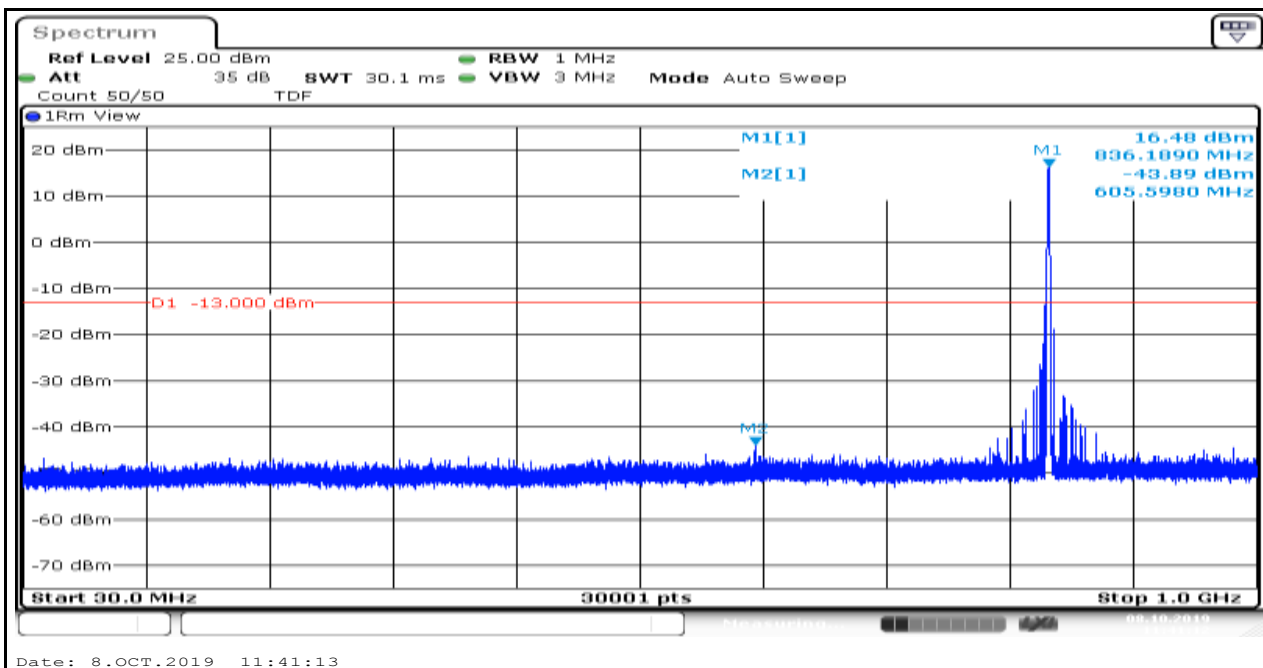


Band5_1.4MHz_16QAM_20525_6

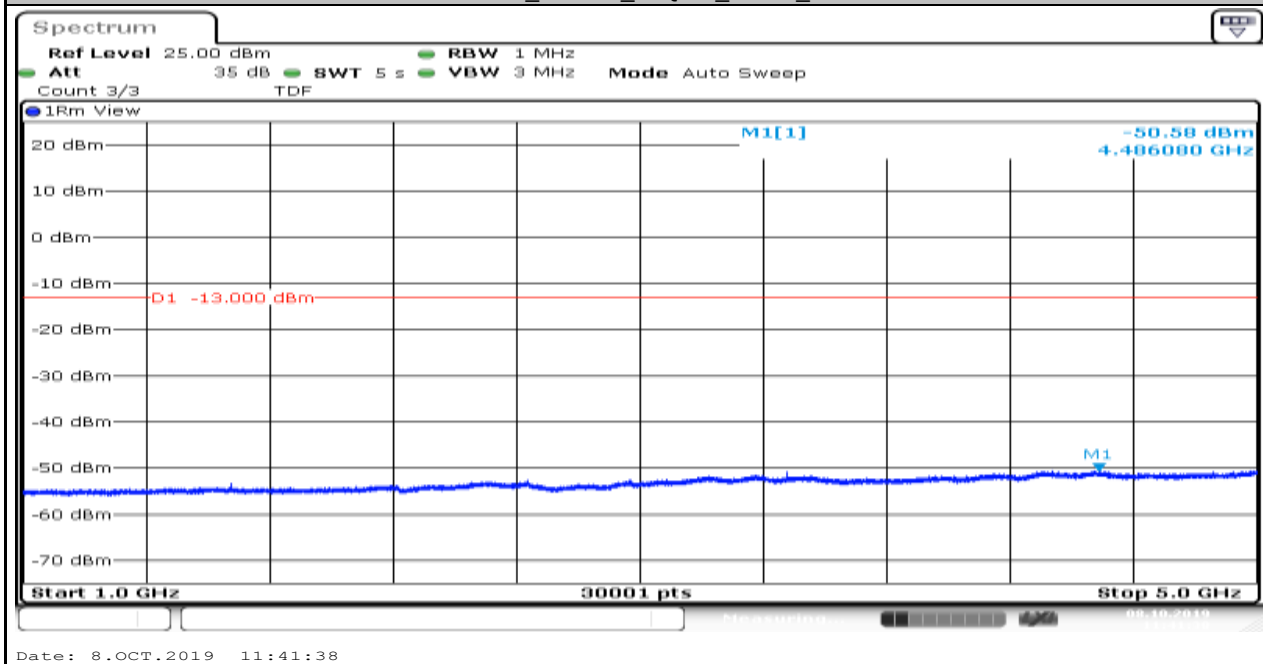


Band5_1.4MHz_16QAM_20525_1

Produkte
Products

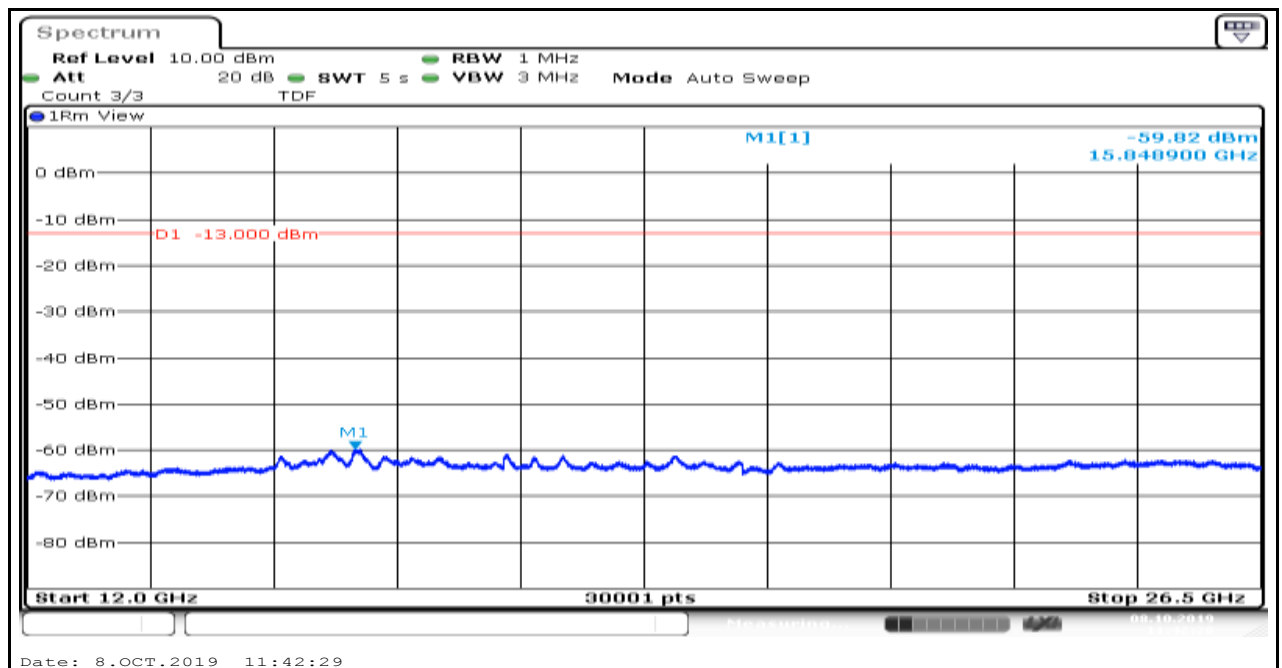


Band5_1.4MHz_16QAM_20525_1

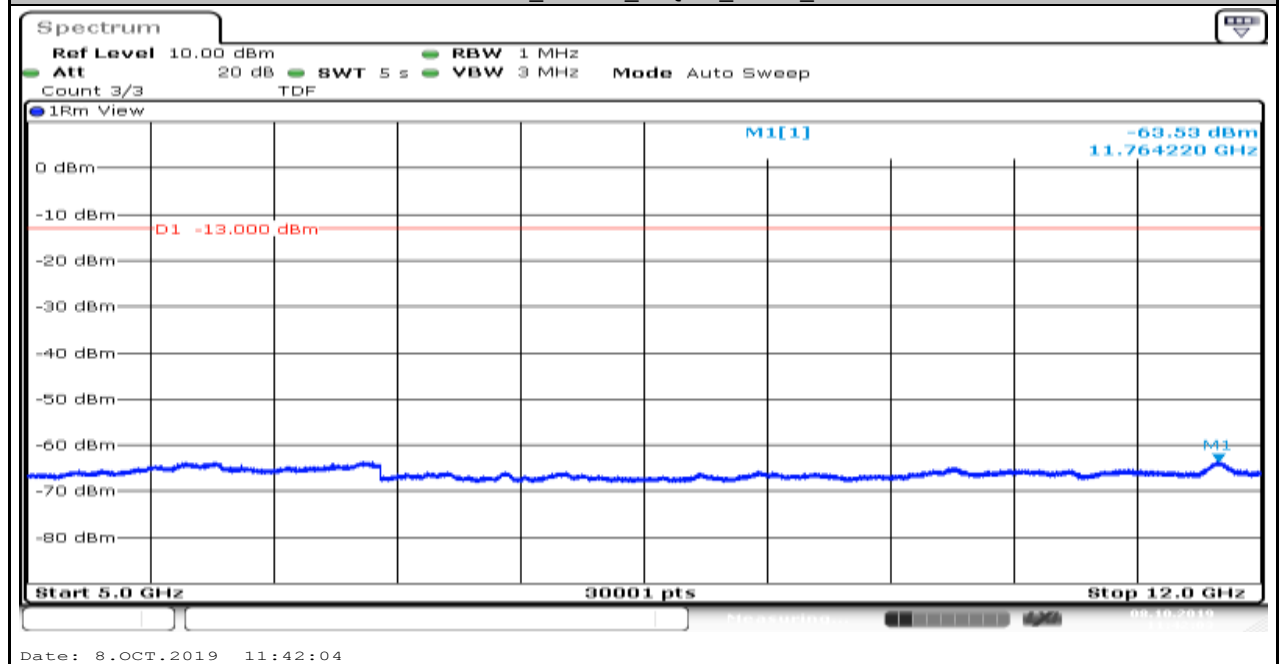


Band5_1.4MHz_16QAM_20525_1

Produkte
Products

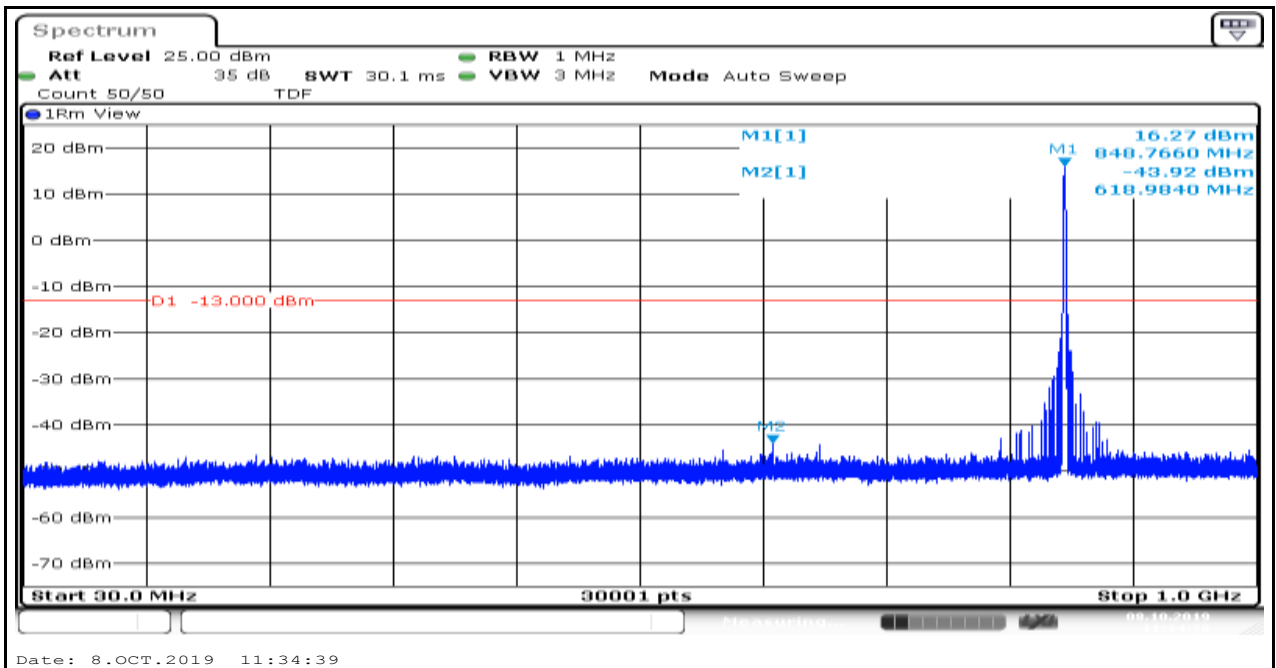


Band5_1.4MHz_16QAM_20525_1

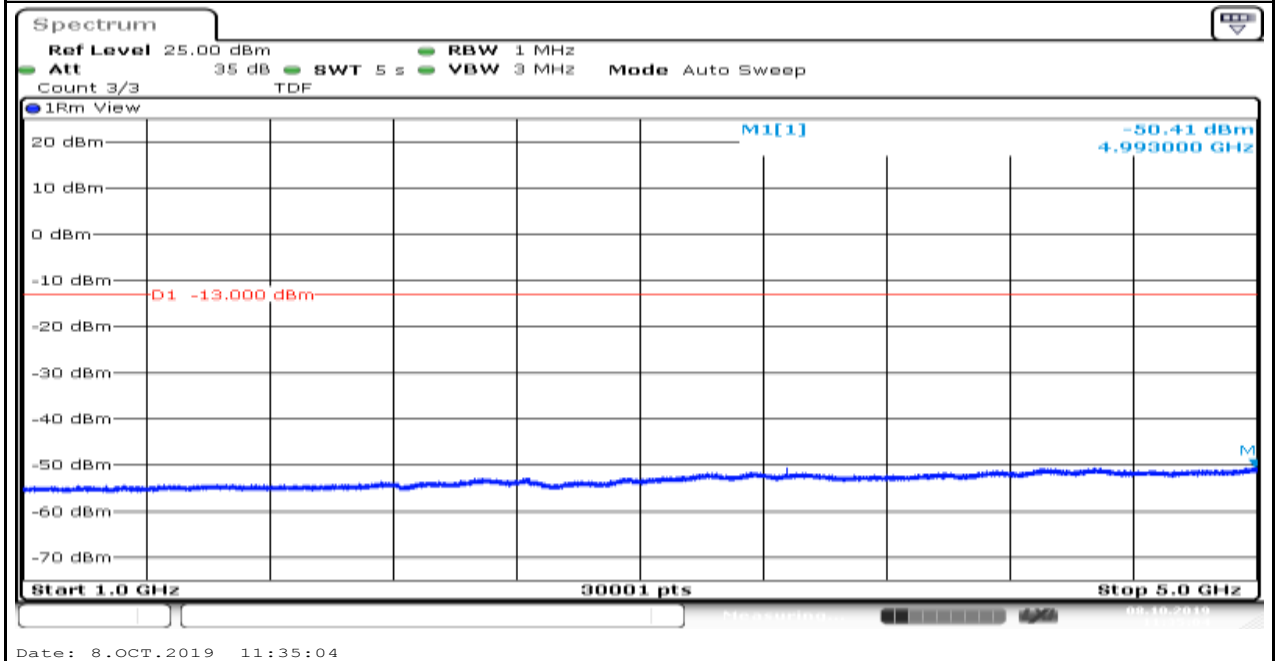


Band5_1.4MHz_16QAM_20643_1

Produkte
Products

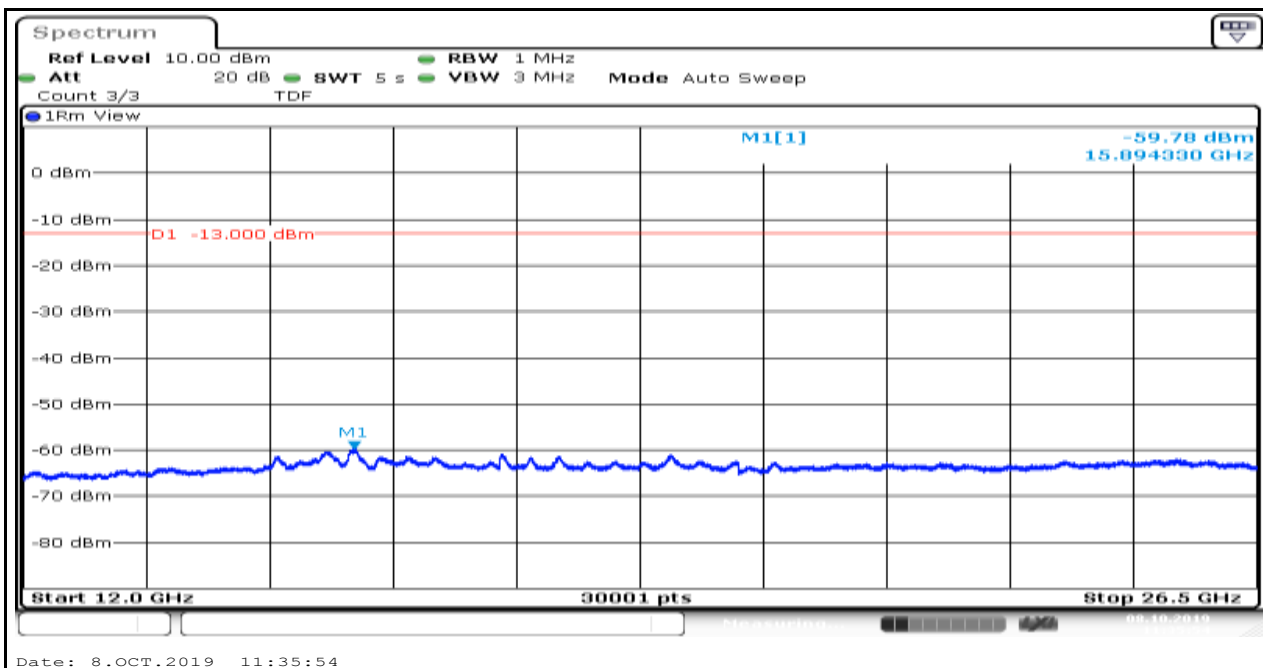


Band5_1.4MHz_16QAM_20643_1

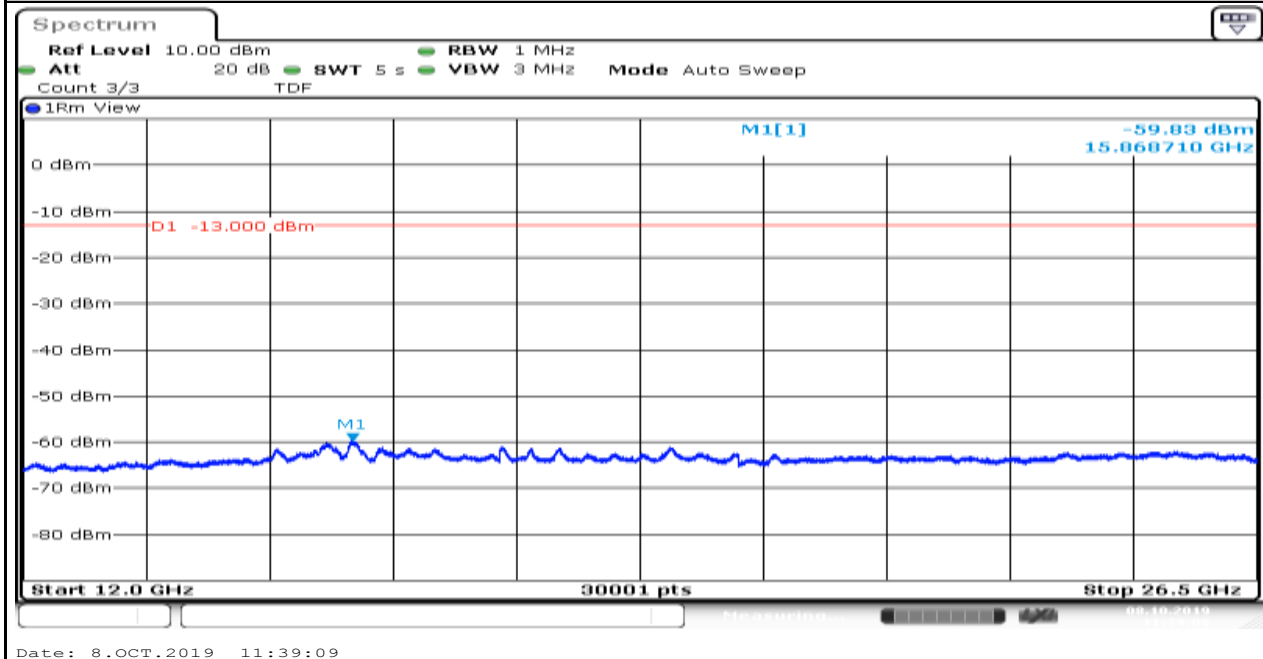


Band5_1.4MHz_16QAM_20643_1

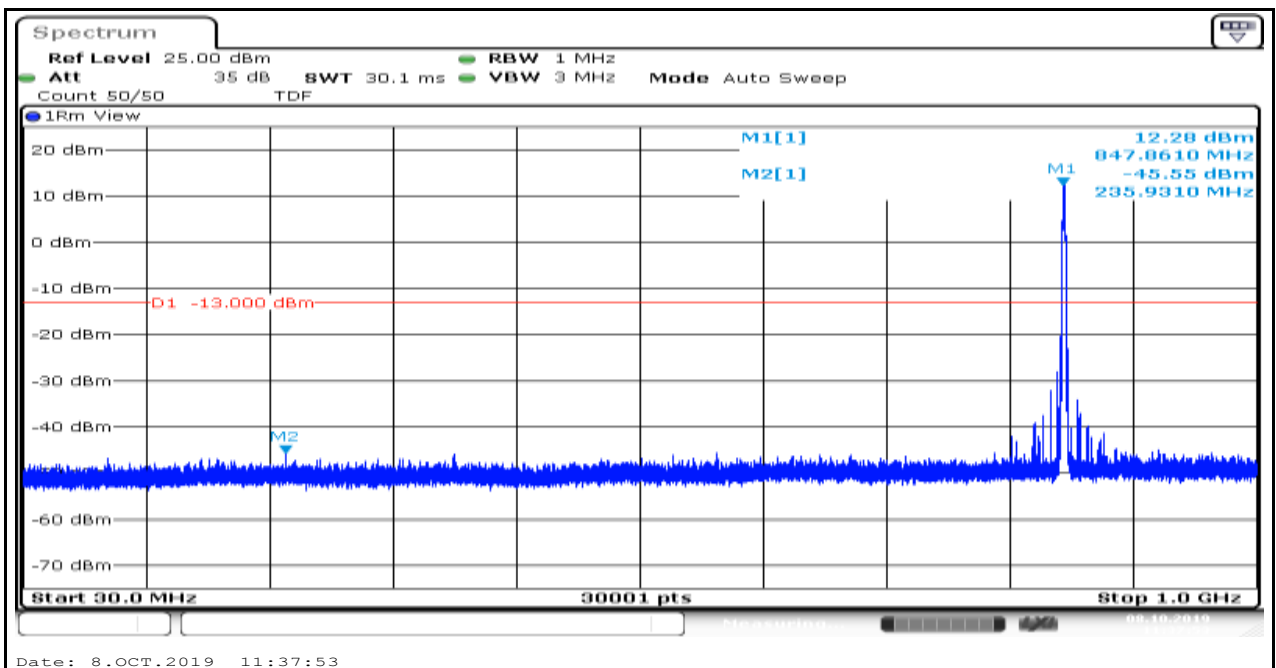
Produkte
Products



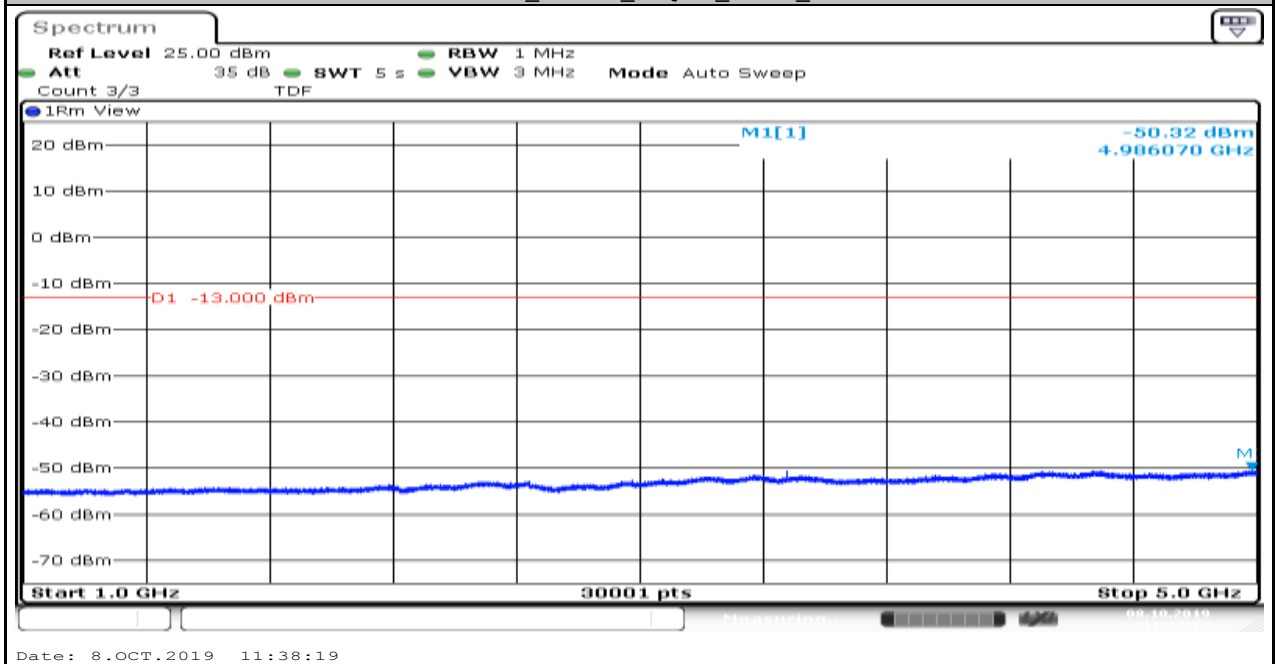
Band5_1.4MHz_16QAM_20643_6



Band5_1.4MHz_16QAM_20643_6

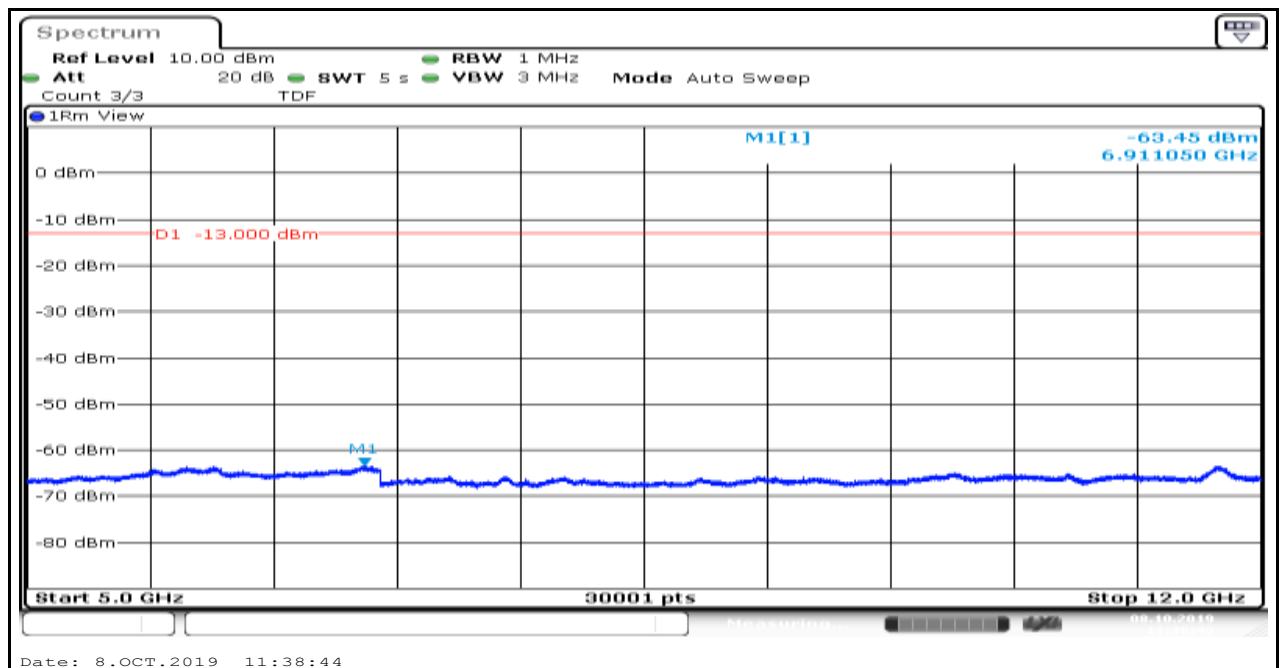


Band5_1.4MHz_16QAM_20643_6

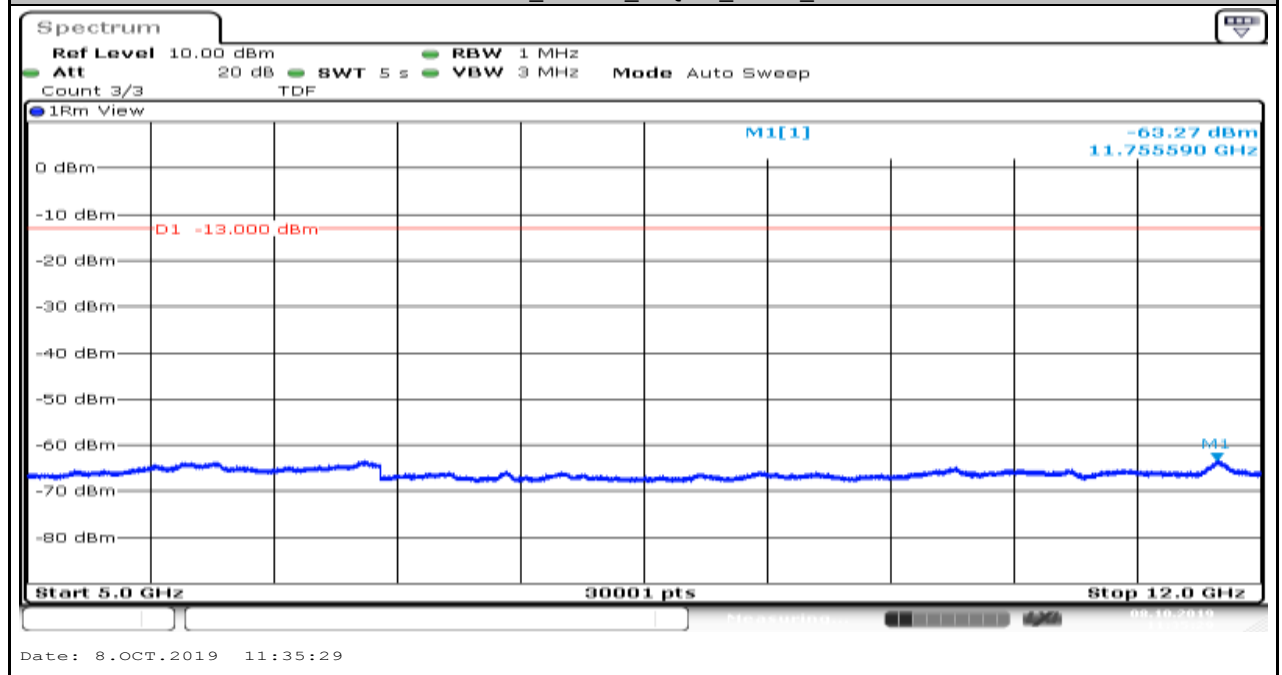


Band5_1.4MHz_16QAM_20643_6

Produkte
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Band5_1.4MHz_16QAM_20643_1



Appendix C.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
Band5	1.4MHz	QPSK	20525	1	0	Low	HV	NT	-9.43	-0.011273	±2.5	PASS
Band5	1.4MHz	QPSK	20525	1	0	Low	LV	NT	-11.16	-0.013341	±2.5	PASS
Band5	1.4MHz	QPSK	20525	1	0	Low	NV	NT	9.16	0.010950	±2.5	PASS
Band5	1.4MHz	16QAM	20525	1	0	Low	HV	NT	-9.21	-0.011010	±2.5	PASS
Band5	1.4MHz	16QAM	20525	1	0	Low	LV	NT	-8.68	-0.010377	±2.5	PASS
Band5	1.4MHz	16QAM	20525	1	0	Low	NV	NT	-8.93	-0.010675	±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
Band5	1.4MHz	QPSK	20525	1	0	Low	NV	50	-10.54	-0.012600	±2.5	PASS
Band5	1.4MHz	QPSK	20525	1	0	Low	NV	-20	-11.43	-0.013664	±2.5	PASS
Band5	1.4MHz	QPSK	20525	1	0	Low	NV	-10	-9.27	-0.011082	±2.5	PASS
Band5	1.4MHz	QPSK	20525	1	0	Low	NV	0	-10.59	-0.012660	±2.5	PASS
Band5	1.4MHz	QPSK	20525	1	0	Low	NV	10	8.87	0.010604	±2.5	PASS
Band5	1.4MHz	QPSK	20525	1	0	Low	NV	20	-11.69	-0.013975	±2.5	PASS
Band5	1.4MHz	QPSK	20525	1	0	Low	NV	30	-9.86	-0.011787	±2.5	PASS
Band5	1.4MHz	QPSK	20525	1	0	Low	NV	-30	8.48	0.010137	±2.5	PASS
Band5	1.4MHz	QPSK	20525	1	0	Low	NV	40	-8.91	-0.010652	±2.5	PASS
Band5	1.4MHz	16QAM	20525	1	0	Low	NV	50	-8.97	-0.010723	±2.5	PASS
Band5	1.4MHz	16QAM	20525	1	0	Low	NV	-20	-8.10	-0.009683	±2.5	PASS
Band5	1.4MHz	16QAM	20525	1	0	Low	NV	-10	-8.87	-0.010604	±2.5	PASS
Band5	1.4MHz	16QAM	20525	1	0	Low	NV	0	-9.66	-0.011548	±2.5	PASS
Band5	1.4MHz	16QAM	20525	1	0	Low	NV	10	-9.21	-0.011010	±2.5	PASS
Band5	1.4MHz	16QAM	20525	1	0	Low	NV	20	8.35	0.009982	±2.5	PASS
Band5	1.4MHz	16QAM	20525	1	0	Low	NV	30	-9.26	-0.011070	±2.5	PASS
Band5	1.4MHz	16QAM	20525	1	0	Low	NV	40	10.07	0.012038	±2.5	PASS
Band5	1.4MHz	16QAM	20525	1	0	Low	NV	-30	-9.14	-0.010926	±2.5	PASS
Band5	1.4MHz	QPSK	20525	1	0	Low	NV	85	-6.71	-0.008022	±2.5	PASS
Band5	1.4MHz	QPSK	20525	1	0	Low	NV	80	-7.15	-0.008548	±2.5	PASS
Band5	1.4MHz	QPSK	20525	1	0	Low	NV	70	-5.75	-0.006874	±2.5	PASS
Band5	1.4MHz	QPSK	20525	1	0	Low	NV	60	-4.46	-0.005332	±2.5	PASS
Band5	1.4MHz	QPSK	20525	1	0	Low	NV	-40	-4.36	-0.005212	±2.5	PASS
Band5	1.4MHz	16QAM	20525	1	0	Low	NV	85	7.14	0.008536	±2.5	PASS
Band5	1.4MHz	16QAM	20525	1	0	Low	NV	80	6.34	0.007579	±2.5	PASS
Band5	1.4MHz	16QAM	20525	1	0	Low	NV	70	7.07	0.008452	±2.5	PASS
Band5	1.4MHz	16QAM	20525	1	0	Low	NV	60	-4.88	-0.005834	±2.5	PASS
Band5	1.4MHz	16QAM	20525	1	0	Low	NV	-40	4.99	0.005965	±2.5	PASS

Appendix D: Test Results of Band 12 for eMTC operation

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

Test Result

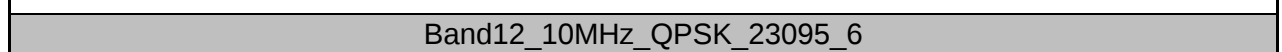
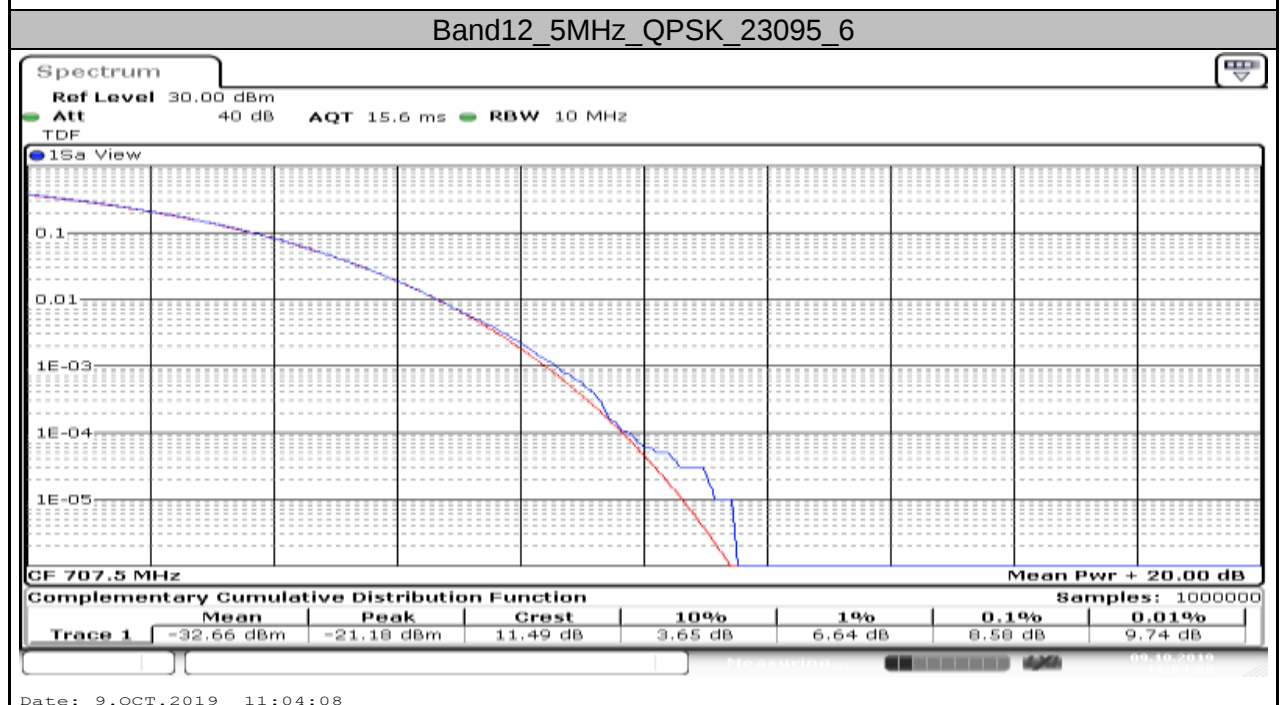
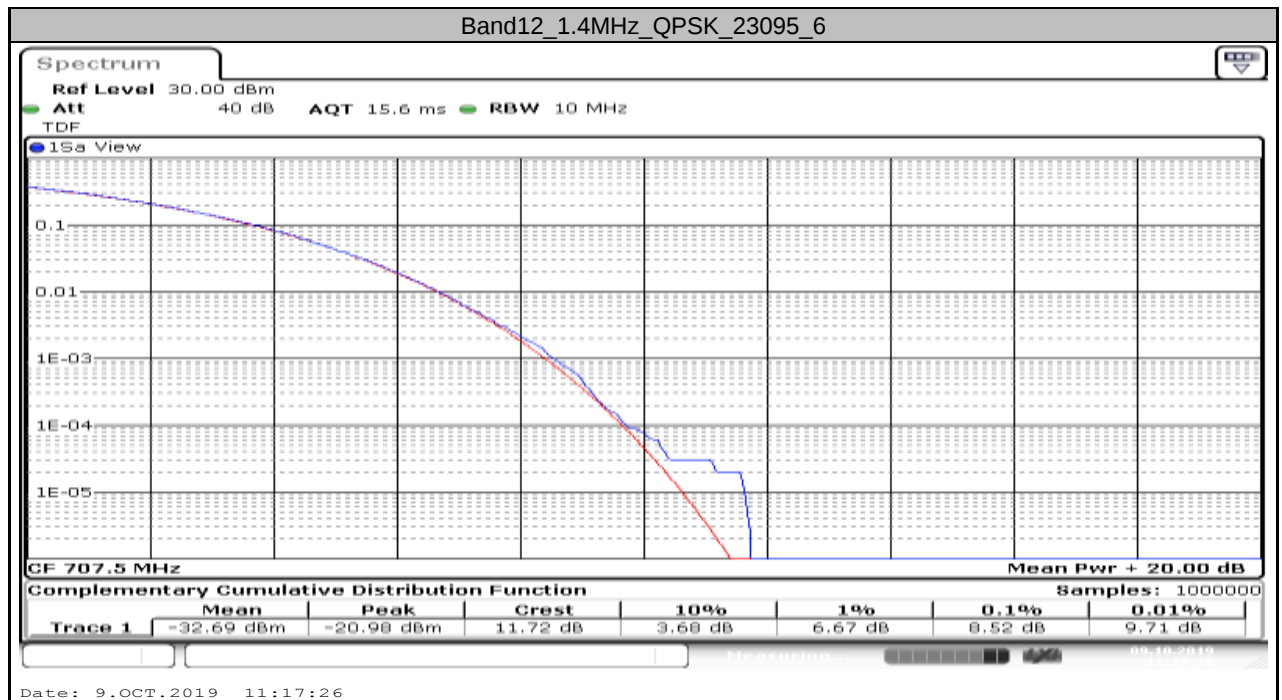
Band	Bandwidth	Modulation	Channel	RB Size	RB	NBIndex	Result (dBm)	ERP		Limit (watts)	Verdict
					Start			dBm	Watts		
Band12	1.4MHz	QPSK	23017	6	0	Low	19.36	19.35	0.086	3	PASS
Band12	1.4MHz	QPSK	23017	1	0	Low	21.6	21.59	0.144	3	PASS
Band12	1.4MHz	QPSK	23095	6	0	Low	19.35	19.34	0.086	3	PASS
Band12	1.4MHz	QPSK	23095	1	0	Low	21.43	21.42	0.139	3	PASS
Band12	1.4MHz	QPSK	23173	6	0	Low	19.28	19.27	0.085	3	PASS
Band12	1.4MHz	QPSK	23173	1	5	Low	21.4	21.39	0.138	3	PASS
Band12	1.4MHz	16QAM	23017	1	0	Low	20.08	20.07	0.102	3	PASS
Band12	1.4MHz	16QAM	23017	6	0	Low	19.37	19.36	0.086	3	PASS
Band12	1.4MHz	16QAM	23095	6	0	Low	19.35	19.34	0.086	3	PASS
Band12	1.4MHz	16QAM	23095	1	0	Low	19.99	19.98	0.100	3	PASS
Band12	1.4MHz	16QAM	23173	1	5	Low	19.85	19.84	0.096	3	PASS
Band12	1.4MHz	16QAM	23173	6	0	Low	19.28	19.27	0.085	3	PASS
Band12	3MHz	QPSK	23025	1	0	Low	21.58	21.57	0.144	3	PASS
Band12	3MHz	QPSK	23025	6	0	Low	19.45	19.44	0.088	3	PASS
Band12	3MHz	QPSK	23095	1	0	Low	21.41	21.4	0.138	3	PASS
Band12	3MHz	QPSK	23095	6	0	Low	19.29	19.28	0.085	3	PASS
Band12	3MHz	QPSK	23165	6	0	High	19.22	19.21	0.083	3	PASS
Band12	3MHz	QPSK	23165	1	5	High	21.38	21.37	0.137	3	PASS
Band12	3MHz	16QAM	23025	1	0	Low	20.75	20.74	0.119	3	PASS
Band12	3MHz	16QAM	23025	6	0	Low	19.45	19.44	0.088	3	PASS
Band12	3MHz	16QAM	23095	1	0	Low	20.69	20.68	0.117	3	PASS
Band12	3MHz	16QAM	23095	6	0	Low	19.28	19.27	0.085	3	PASS
Band12	3MHz	16QAM	23165	6	0	High	19.22	19.21	0.083	3	PASS
Band12	3MHz	16QAM	23165	1	5	High	20.46	20.45	0.111	3	PASS
Band12	5MHz	QPSK	23035	6	0	Low	20.36	20.35	0.108	3	PASS
Band12	5MHz	QPSK	23035	1	0	Low	21.28	21.27	0.134	3	PASS
Band12	5MHz	QPSK	23095	6	0	Low	20.28	20.27	0.106	3	PASS
Band12	5MHz	QPSK	23095	1	0	Low	21.33	21.32	0.136	3	PASS
Band12	5MHz	QPSK	23155	3	3	High	21.1	21.09	0.129	3	PASS
Band12	5MHz	QPSK	23155	1	5	High	20.95	20.94	0.124	3	PASS
Band12	5MHz	16QAM	23035	6	0	Low	20.36	20.35	0.108	3	PASS
Band12	5MHz	16QAM	23035	1	0	Low	20.89	20.88	0.122	3	PASS
Band12	5MHz	16QAM	23095	1	0	Low	20.84	20.83	0.121	3	PASS
Band12	5MHz	16QAM	23095	6	0	Low	20.28	20.27	0.106	3	PASS
Band12	5MHz	16QAM	23155	1	5	High	20.59	20.58	0.114	3	PASS
Band12	5MHz	16QAM	23155	3	3	High	20.96	20.95	0.124	3	PASS
Band12	10MHz	QPSK	23060	5	0	Low	21.29	21.28	0.134	3	PASS
Band12	10MHz	QPSK	23060	1	0	Low	21.3	21.29	0.135	3	PASS
Band12	10MHz	QPSK	23095	5	0	Low	21.24	21.23	0.133	3	PASS
Band12	10MHz	QPSK	23095	1	0	Low	21.26	21.25	0.133	3	PASS
Band12	10MHz	QPSK	23130	1	5	High	20.99	20.98	0.125	3	PASS
Band12	10MHz	QPSK	23130	5	1	High	21.31	21.3	0.135	3	PASS
Band12	10MHz	16QAM	23060	1	0	Low	20.91	20.9	0.123	3	PASS
Band12	10MHz	16QAM	23060	5	0	Low	21.19	21.18	0.131	3	PASS
Band12	10MHz	16QAM	23095	1	0	Low	20.87	20.86	0.122	3	PASS
Band12	10MHz	16QAM	23095	5	0	Low	21.08	21.07	0.128	3	PASS
Band12	10MHz	16QAM	23130	1	5	High	20.77	20.76	0.119	3	PASS
Band12	10MHz	16QAM	23130	5	1	High	21.11	21.1	0.129	3	PASS

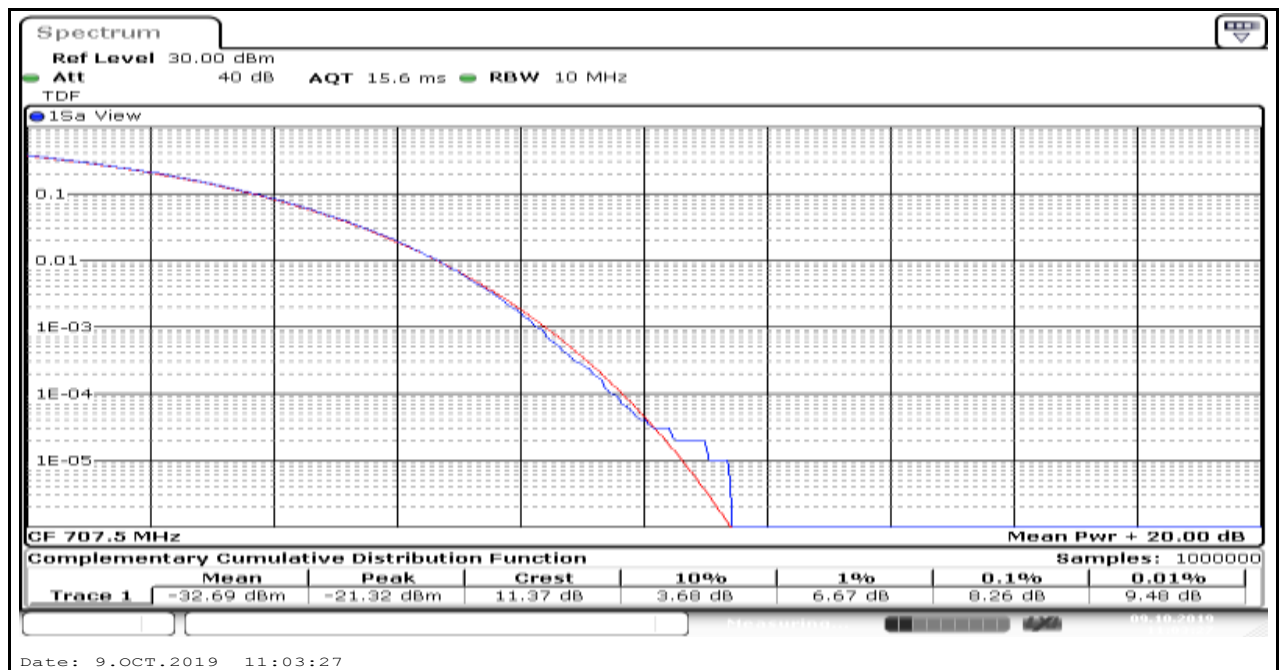
Appendix D.2: Peak-to-Average Ratio (CCDF) for M1

Test Result

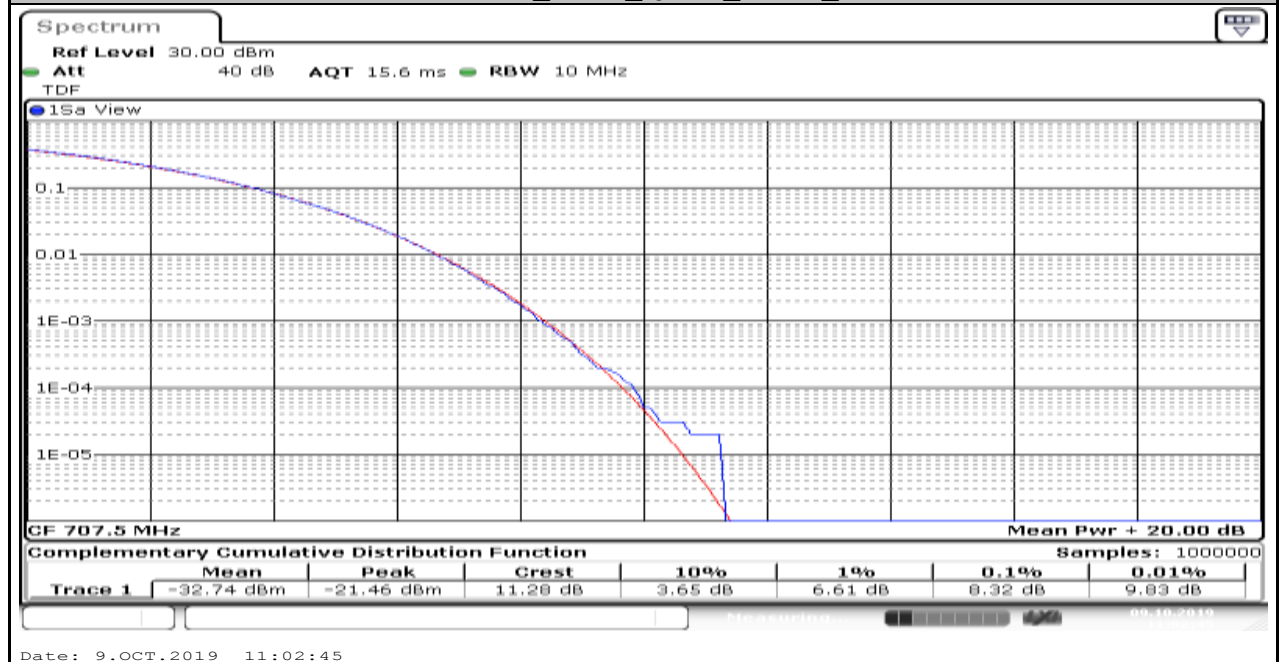
Band	Bandwidth	Modulation	Channel	RB Size	RB Start	NBIndex	Result(dB)	Limit(dB)	Verdict
Band12	1.4MHz	QPSK	23095	6	0	Low	8.52	<=13	PASS
Band12	5MHz	QPSK	23095	6	0	Low	8.58	<=13	PASS
Band12	10MHz	QPSK	23095	6	0	Low	8.26	<=13	PASS
Band12	3MHz	QPSK	23095	6	0	Low	8.32	<=13	PASS
Band12	1.4MHz	16QAM	23095	6	0	Low	8.61	<=13	PASS
Band12	5MHz	16QAM	23095	6	0	Low	8.70	<=13	PASS
Band12	10MHz	16QAM	23095	6	0	Low	8.93	<=13	PASS
Band12	3MHz	16QAM	23095	6	0	Low	8.72	<=13	PASS

Test Graphs

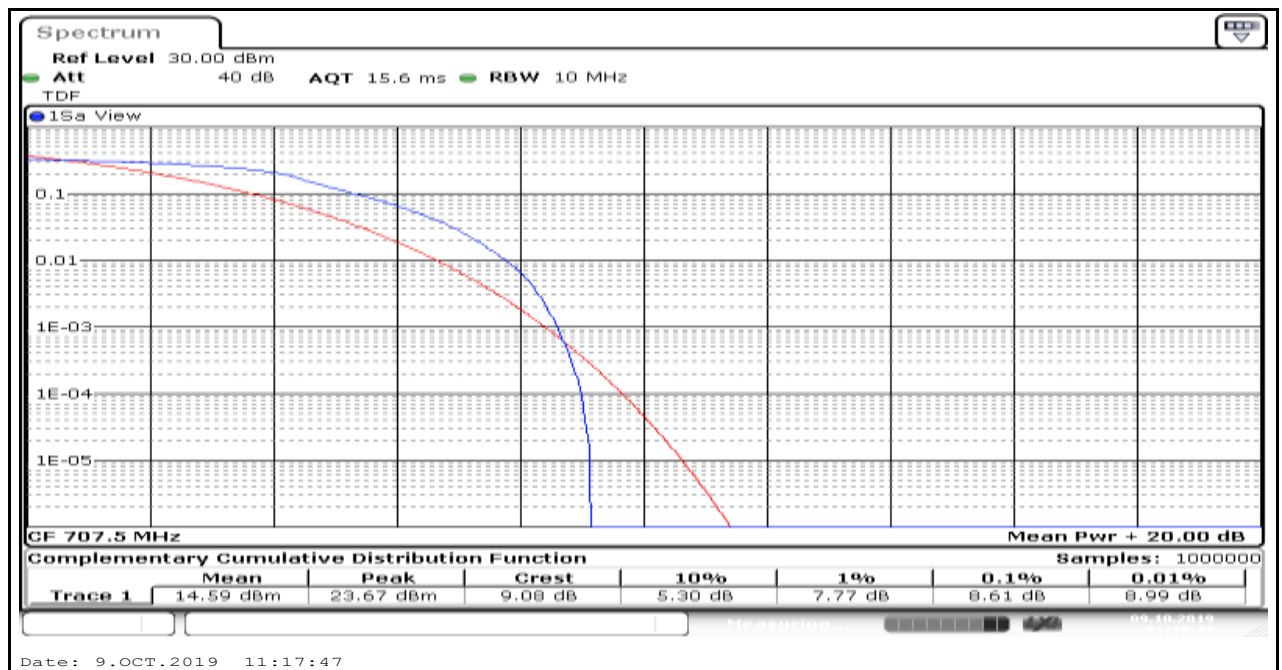




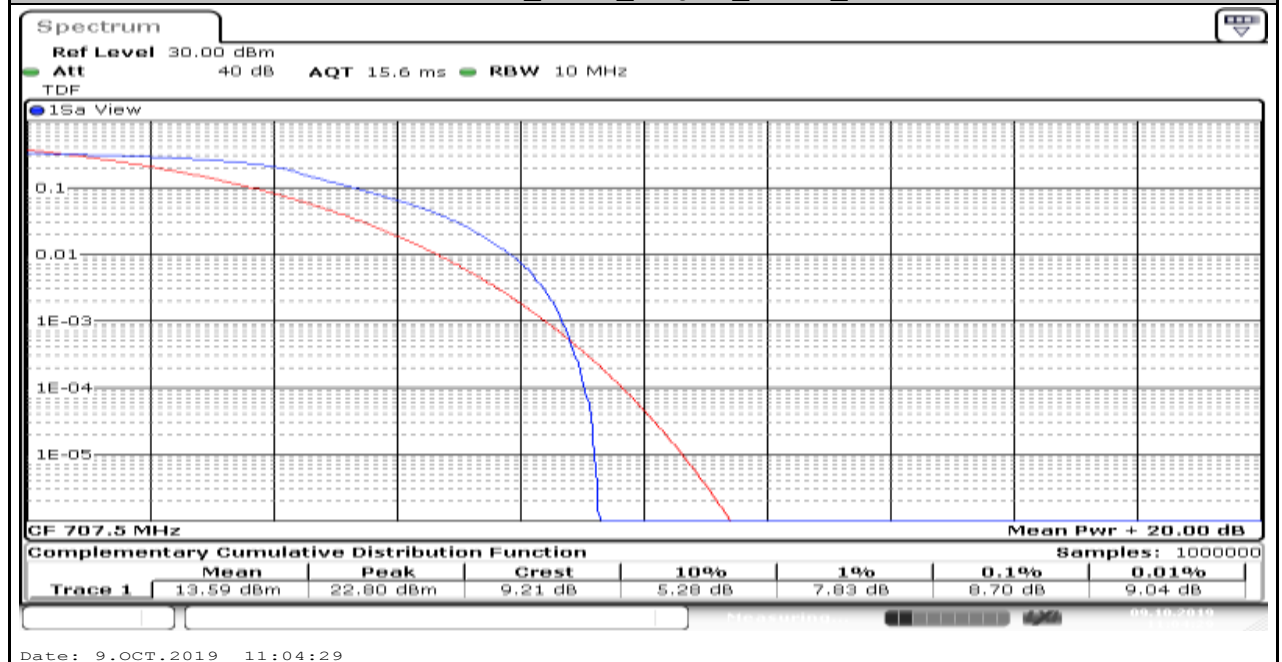
Band12_3MHz_QPSK_23095_6



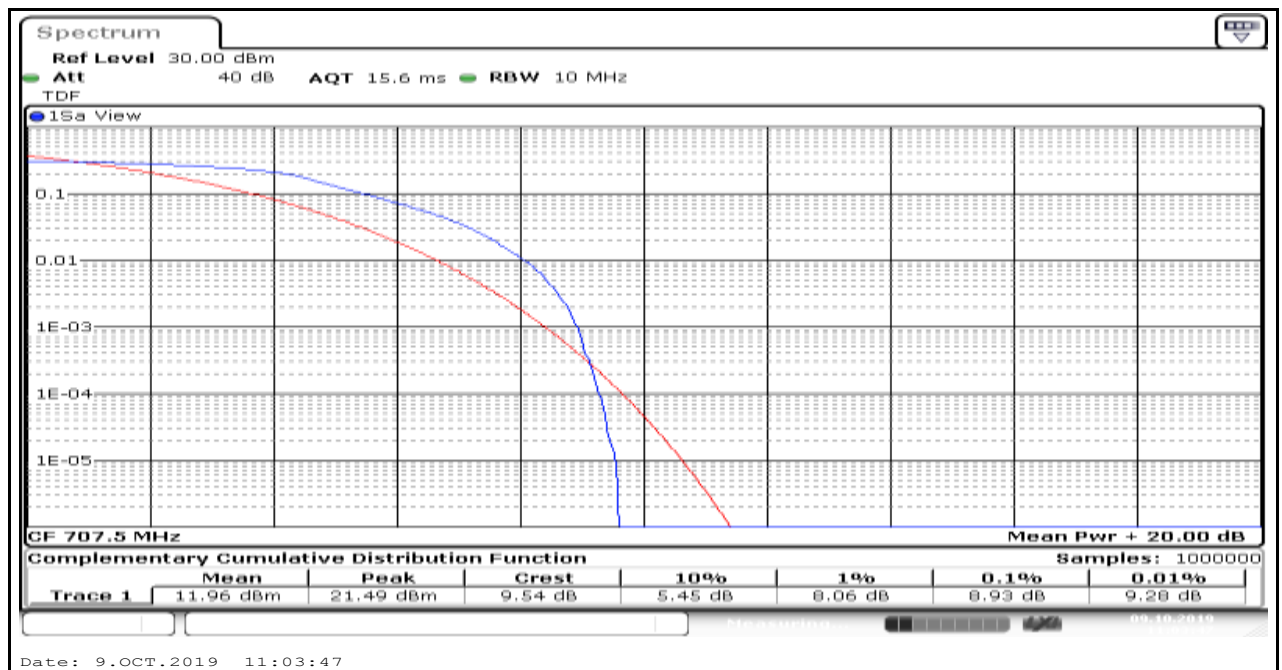
Band12_1.4MHz_16QAM_23095_6



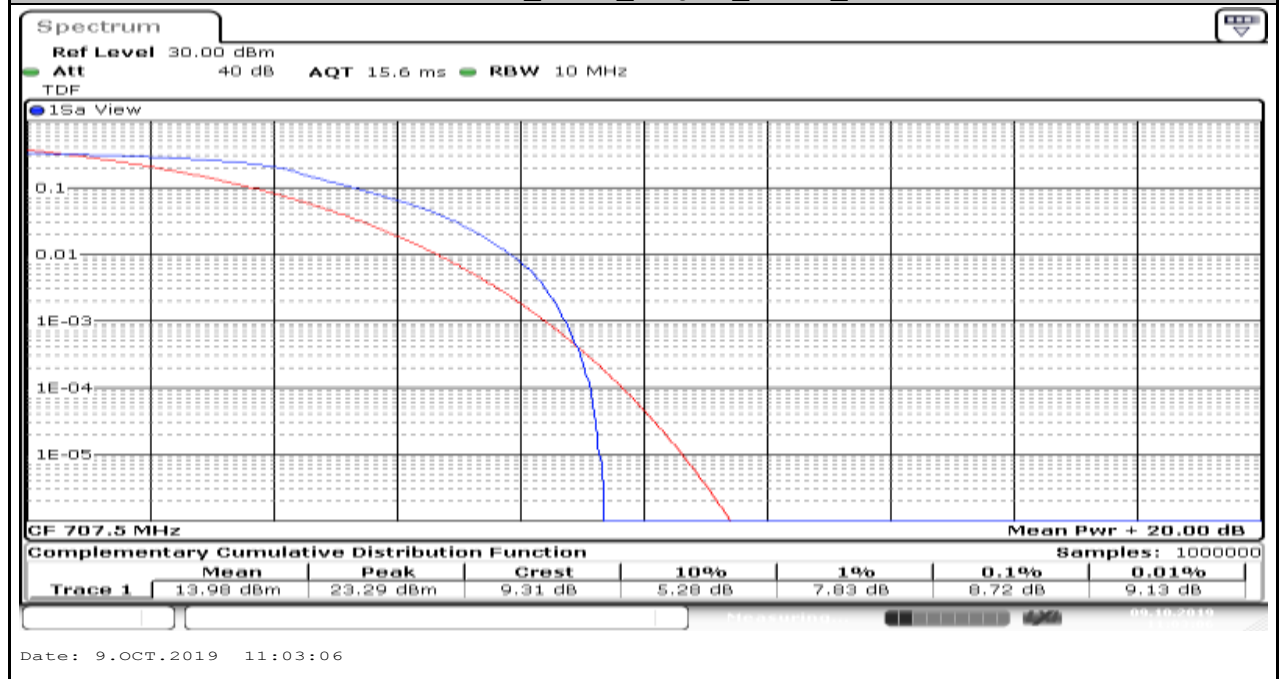
Band12_5MHz_16QAM_23095_6



Band12_10MHz_16QAM_23095_6



Band12_3MHz_16QAM_23095_6

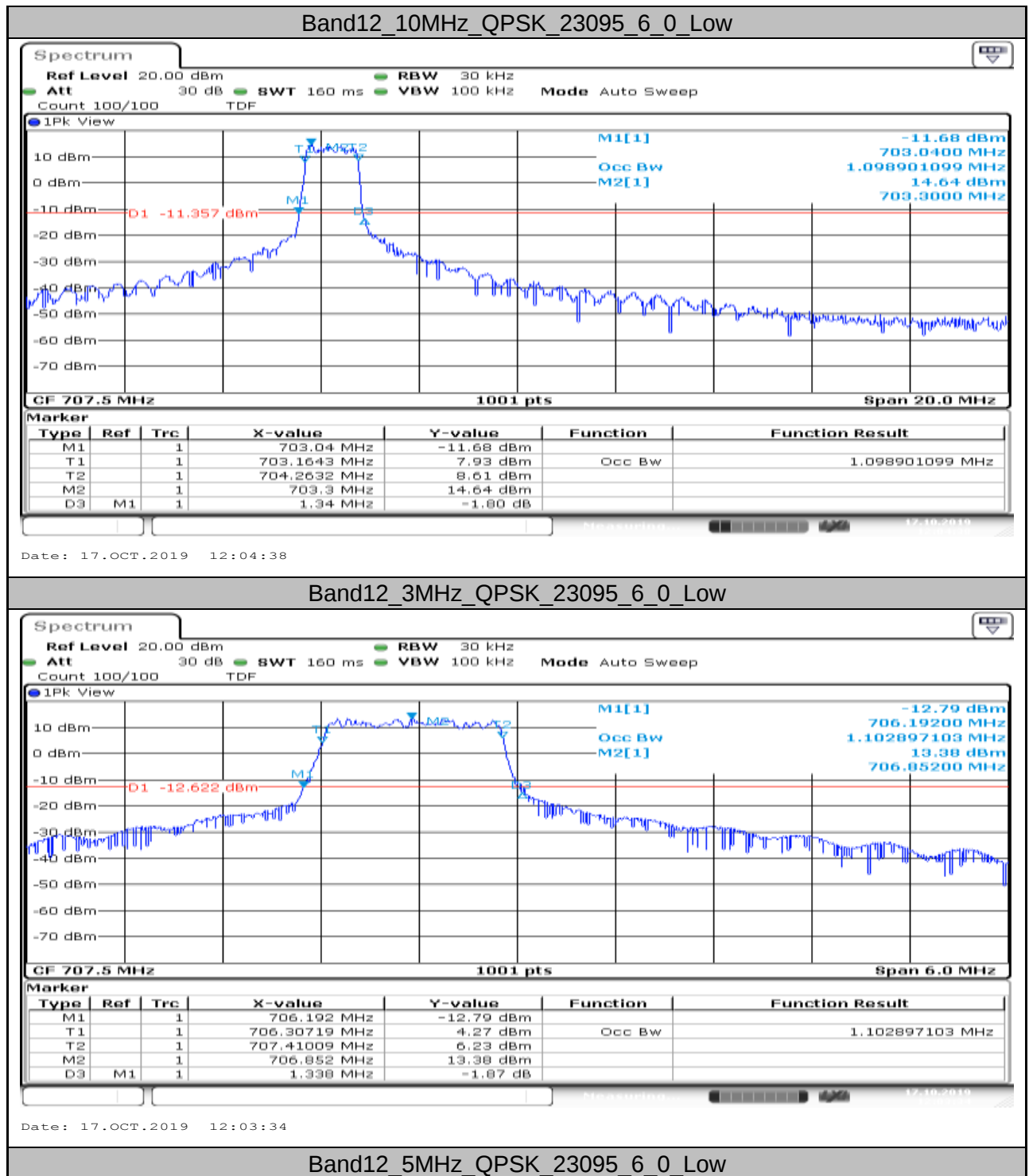


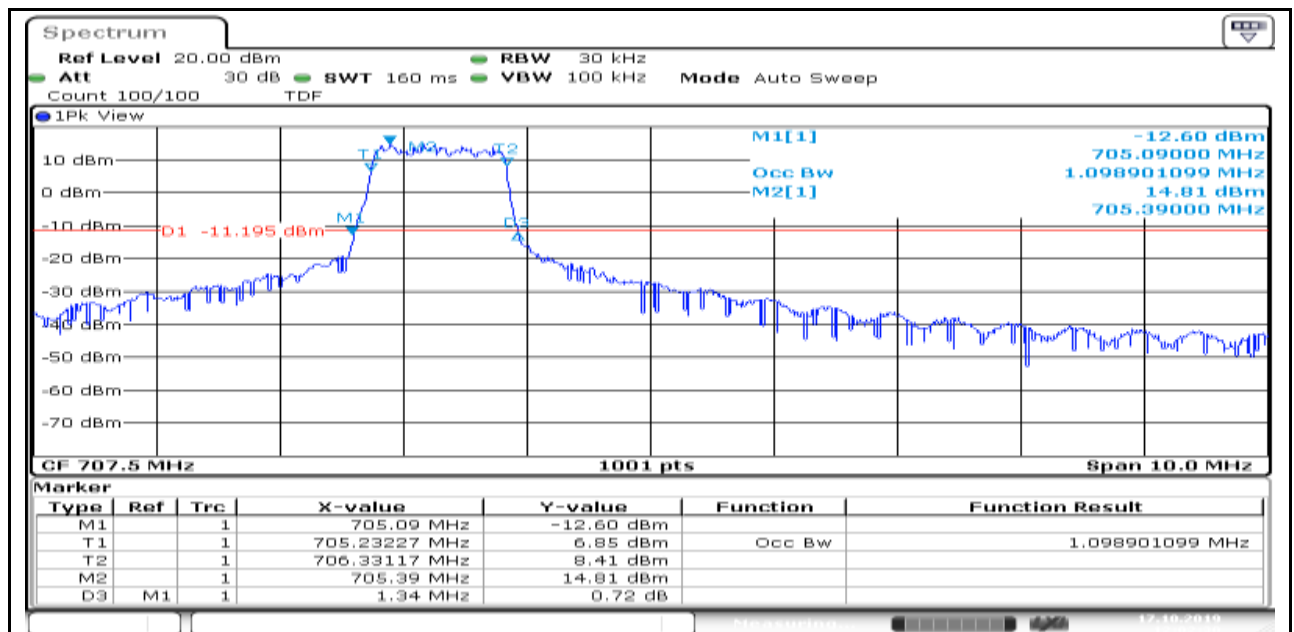
Appendix D.3: 26dB Bandwidth and Occupied Bandwidth for M1

Test Result

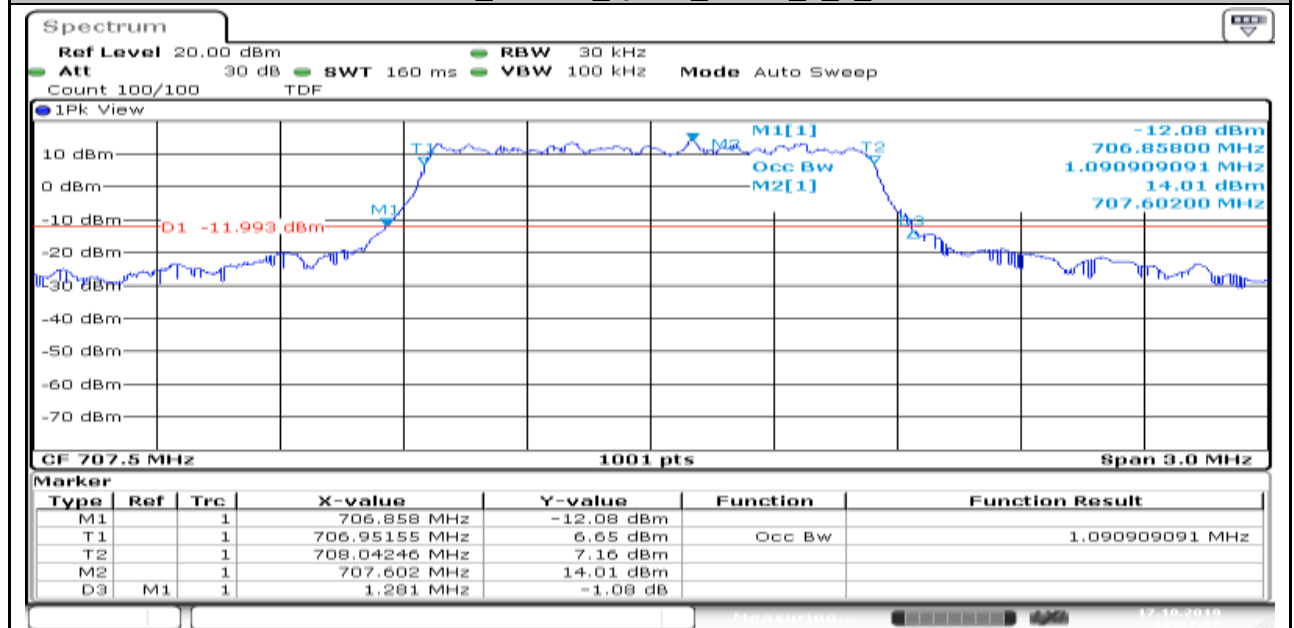
Band	Bandwidth	Modulation	Channel	RB Size	RB Start	NB Index	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
Band12	10MHz	QPSK	23095	6	0	Low	1.099	1.340	PASS
Band12	3MHz	QPSK	23095	6	0	Low	1.103	1.338	PASS
Band12	5MHz	QPSK	23095	6	0	Low	1.099	1.340	PASS
Band12	1.4MHz	QPSK	23095	6	0	Low	1.091	1.281	PASS
Band12	10MHz	16QAM	23095	6	0	Low	1.099	1.320	PASS
Band12	3MHz	16QAM	23095	6	0	Low	1.097	1.338	PASS
Band12	5MHz	16QAM	23095	6	0	Low	1.099	1.330	PASS
Band12	1.4MHz	16QAM	23095	6	0	Low	1.106	1.341	PASS

Test Graphs

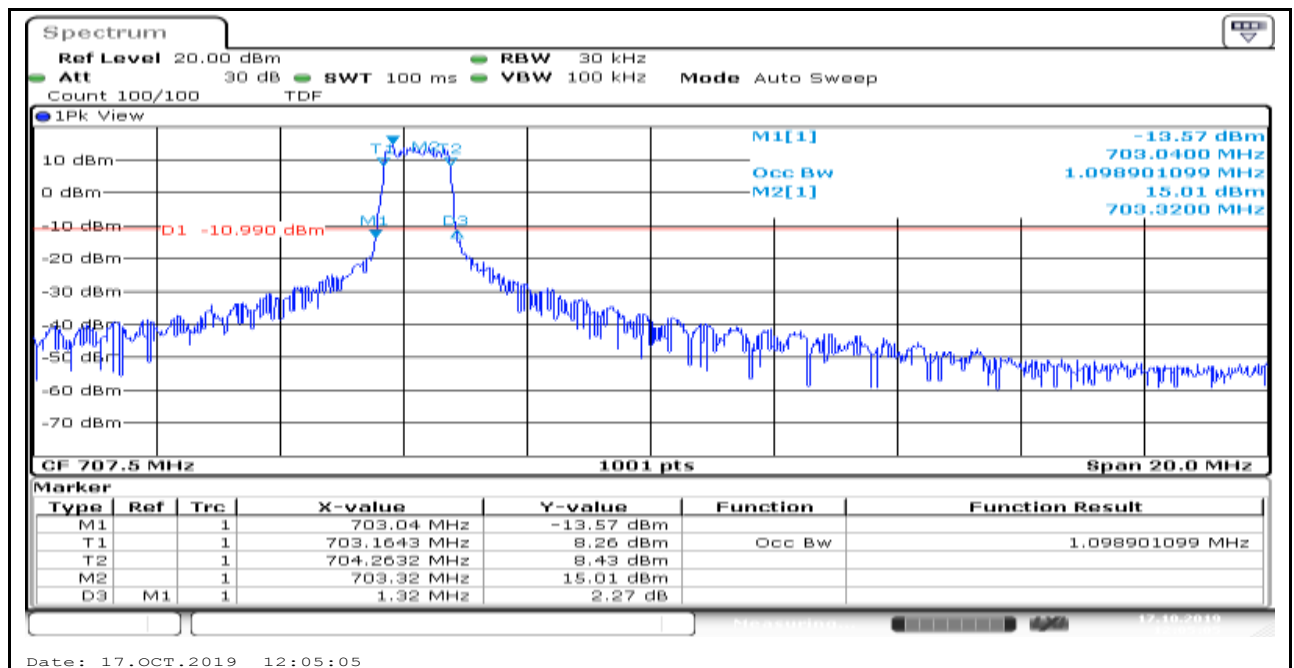




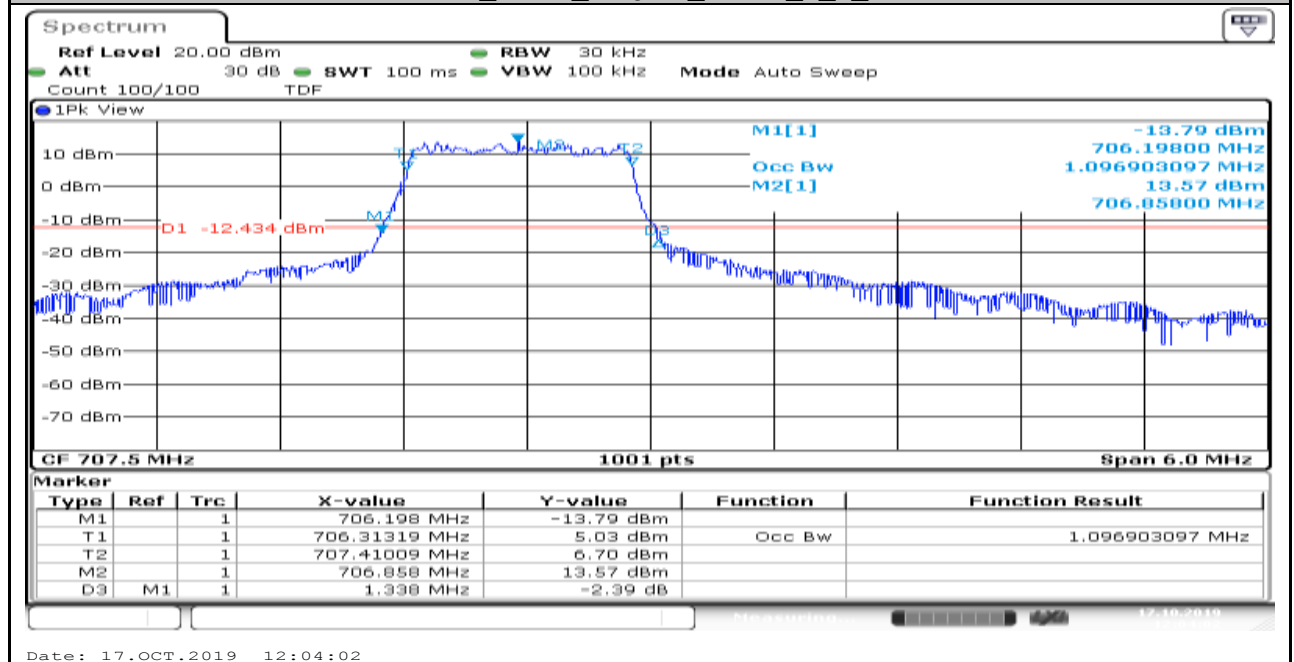
Band12_1.4MHz_QPSK_23095_6_0_Low



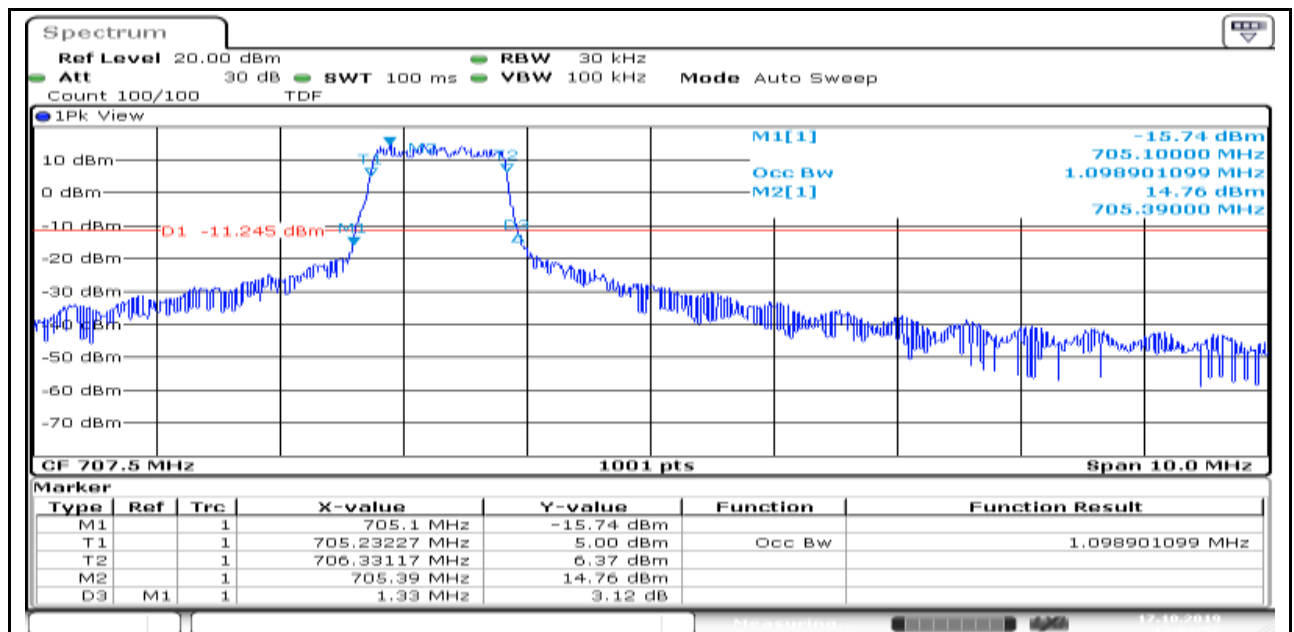
Band12_10MHz_16QAM_23095_6_0_Low



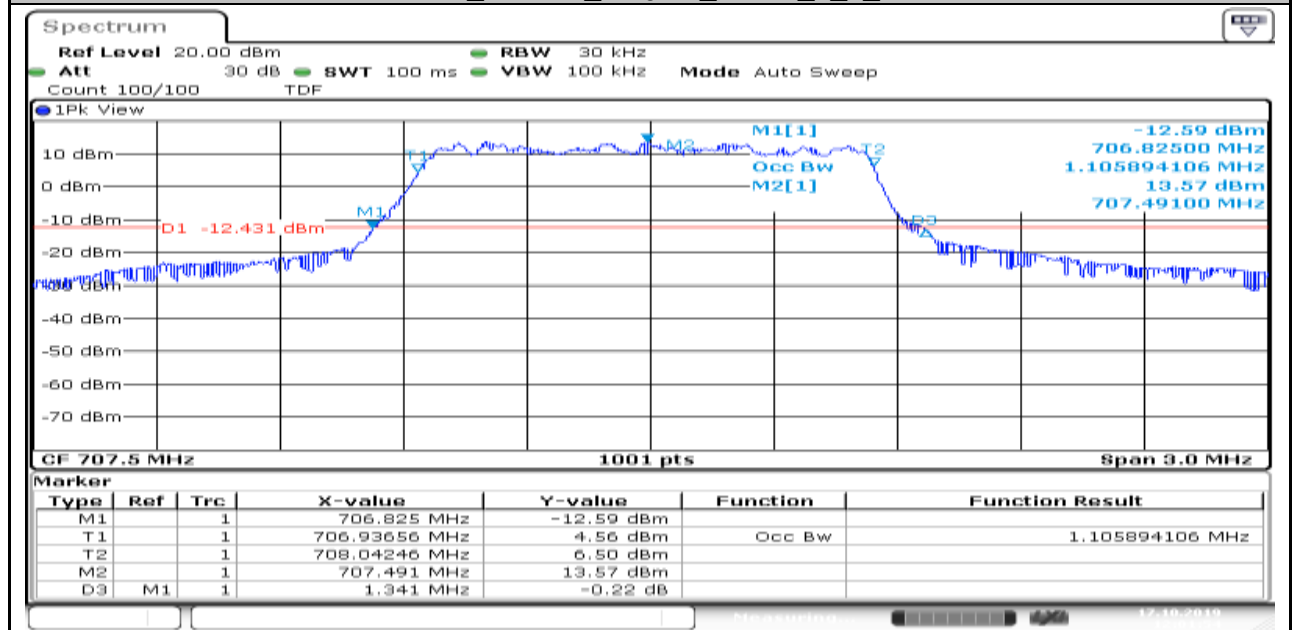
Band12_3MHz_16QAM_23095_6_0_Low



Band12_5MHz_16QAM_23095_6_0_Low



Band12_1.4MHz_16QAM_23095_6_0_Low

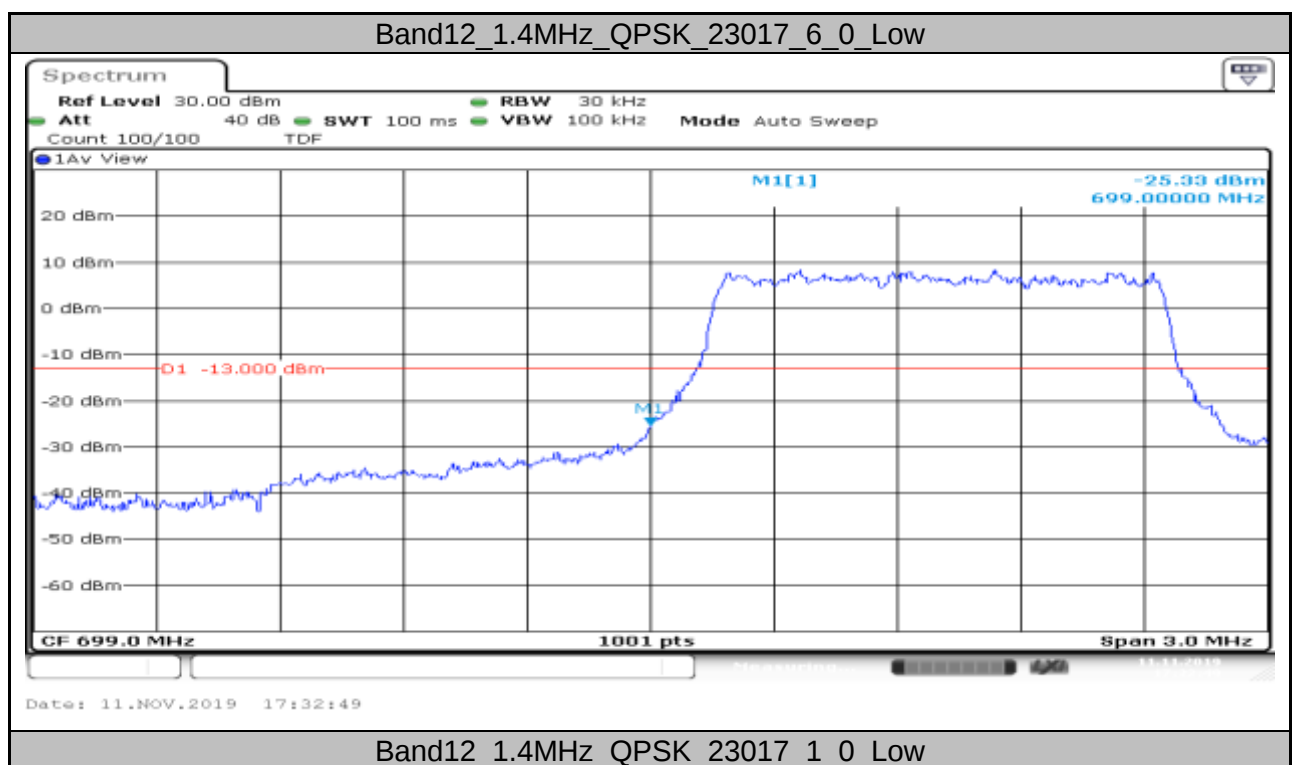


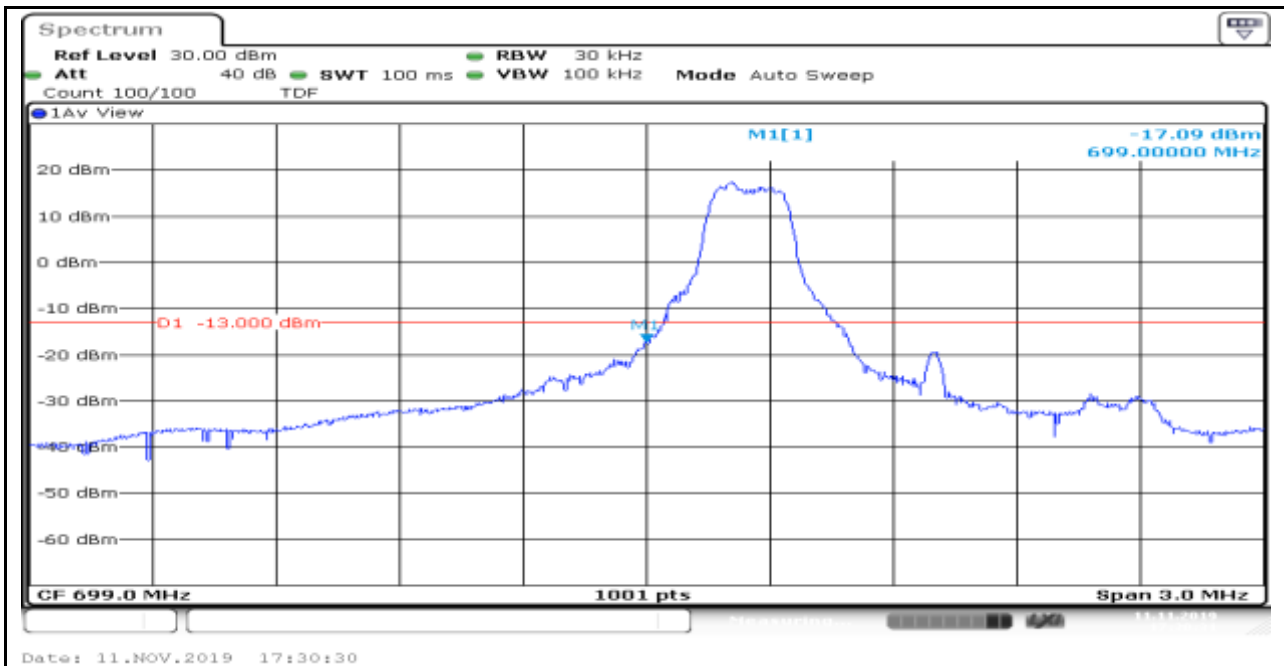
Appendix D.4: Band Edge for M1

Test Result

Band	Bandwidth	Modulation	Channel	RB Size	RB Start	NB Index	Result (dBm)	Verdict
Band12	1.4MHz	QPSK	23017	6	0	Low	-25.33	PASS
Band12	1.4MHz	QPSK	23017	1	0	Low	-17.09	PASS
Band12	1.4MHz	QPSK	23173	6	0	Low	-23.43	PASS
Band12	1.4MHz	QPSK	23173	1	5	Low	-25.20	PASS
Band12	1.4MHz	16QAM	23017	6	0	Low	-24.67	PASS
Band12	1.4MHz	16QAM	23017	1	0	Low	-18.31	PASS
Band12	1.4MHz	16QAM	23173	6	0	Low	-23.38	PASS
Band12	1.4MHz	16QAM	23173	1	5	Low	-24.06	PASS

Test Graphs

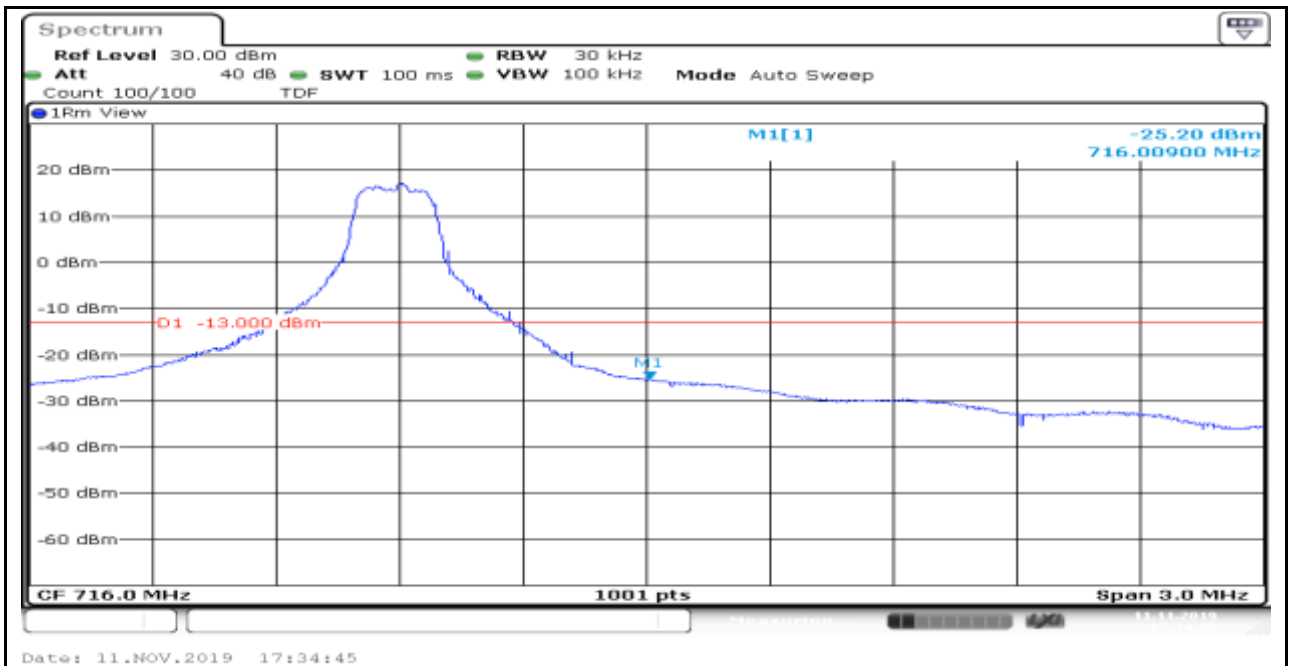




Band12_1.4MHz_QPSK_23173_6_0_Low



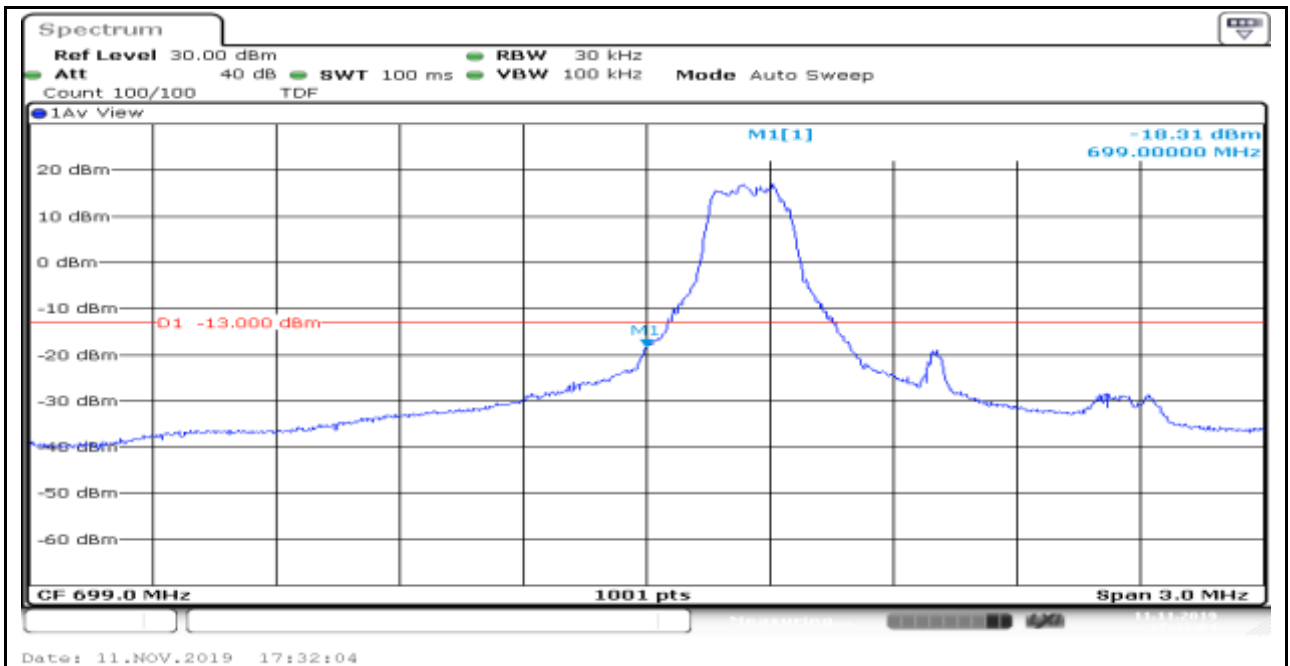
Band12_1.4MHz_QPSK_23173_1_5_Low



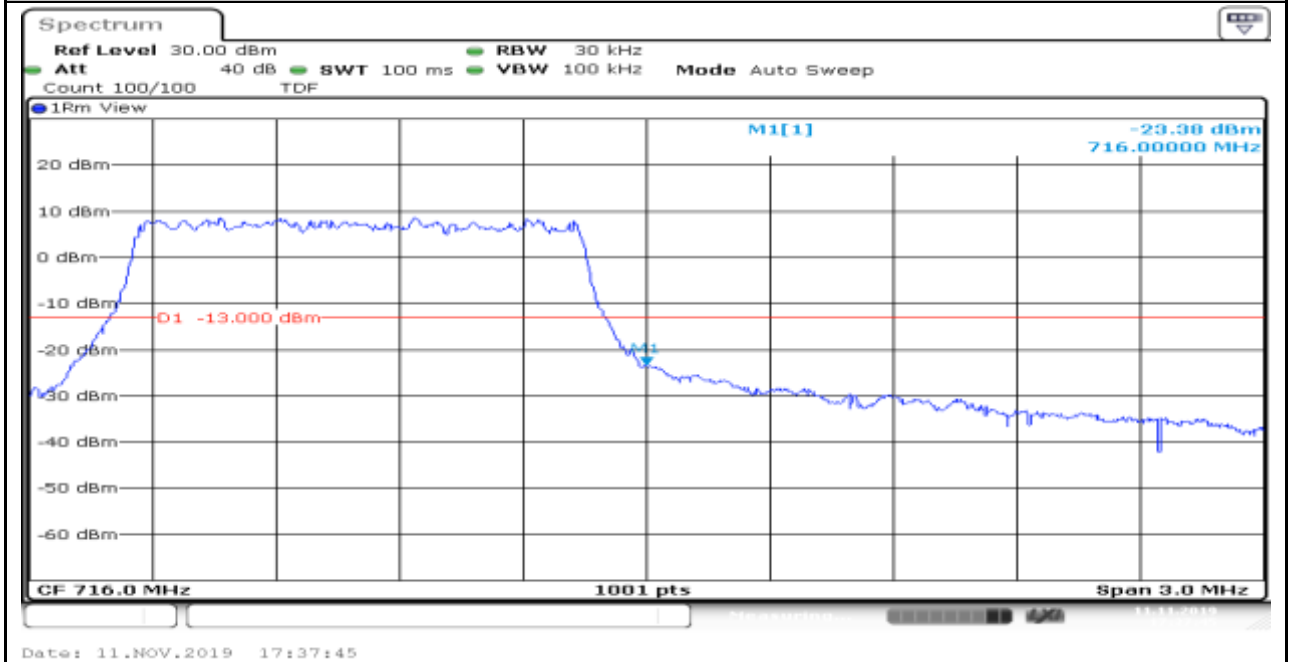
Band12_1.4MHz_16QAM_23017_6_0_Low



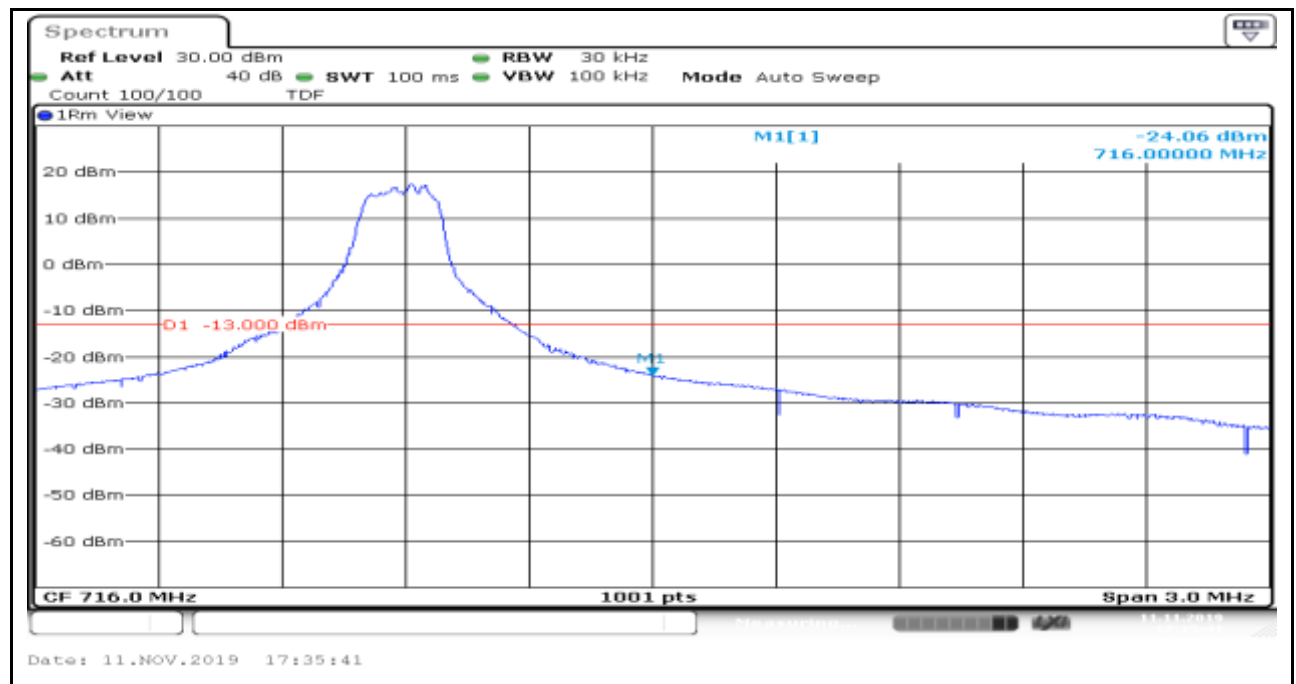
Band12_1.4MHz_16QAM_23017_1_0_Low



Band12_1.4MHz_16QAM_23173_6_0_Low



Band12_1.4MHz_16QAM_23173_1_5_Low



Appendix D.5: Conducted Spurious Emission for M1

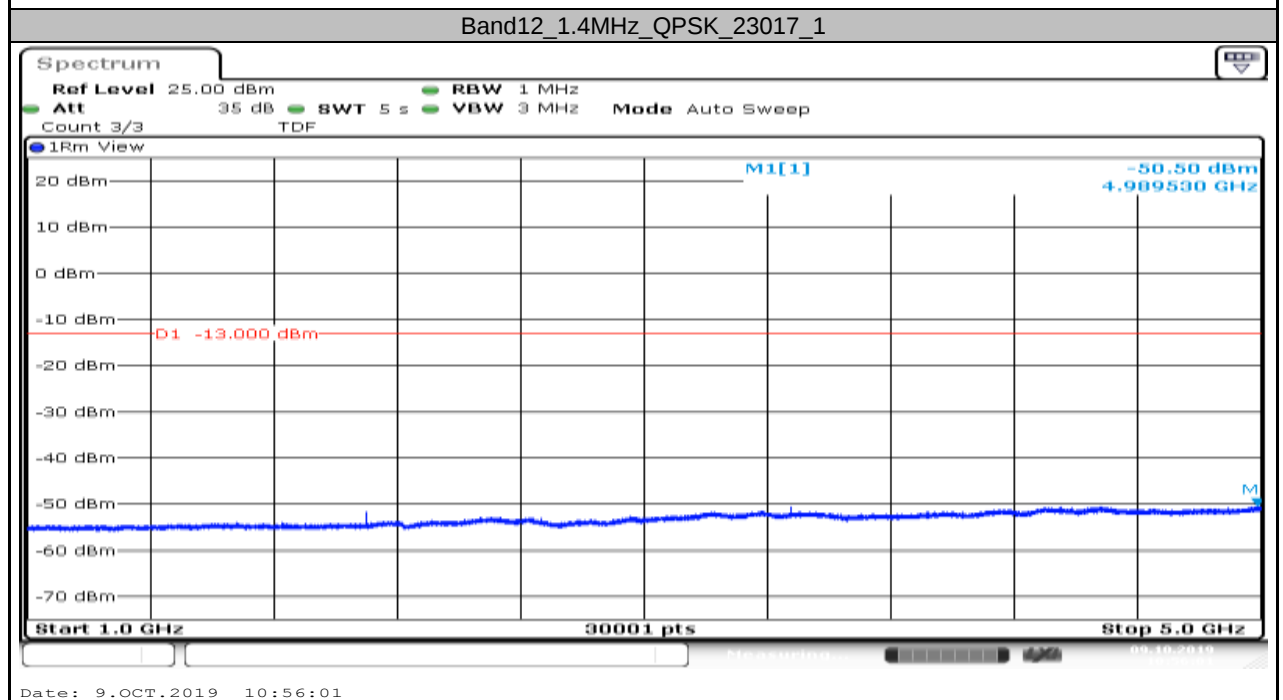
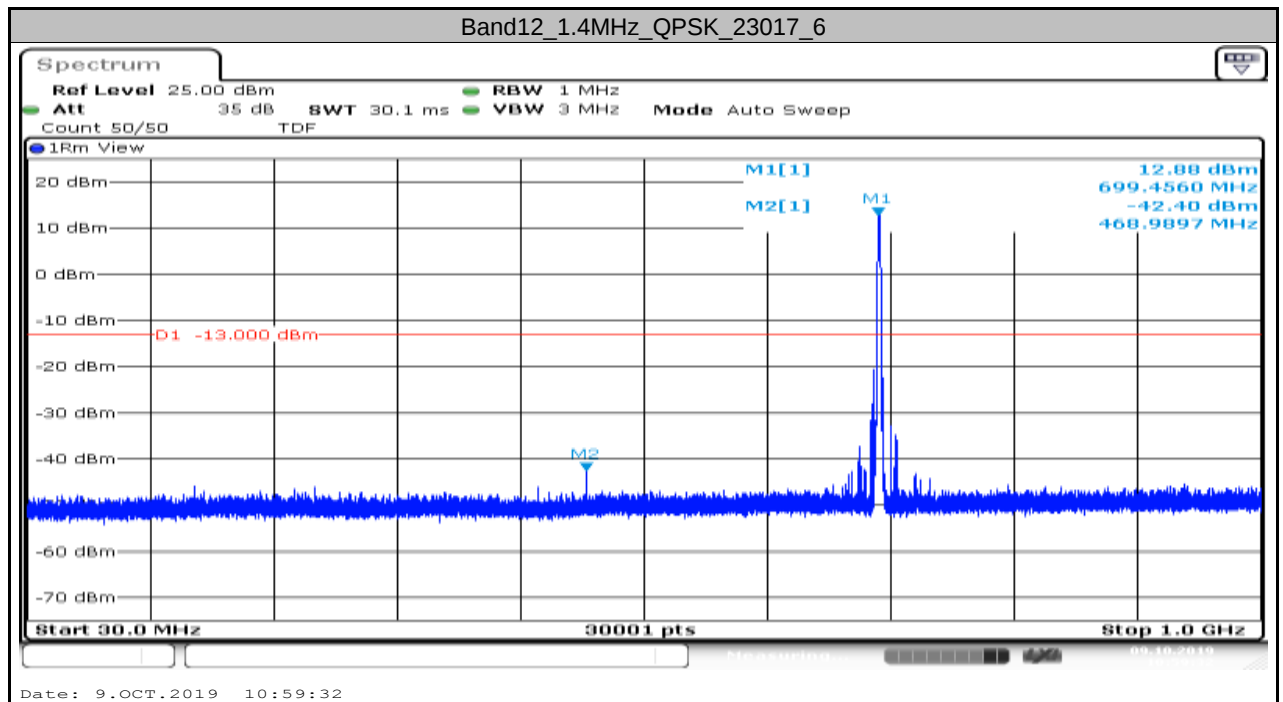
Test Result

Band	Bandwidth	Modulation	Channel	RB Size	RB Start	NB Index	Start Freq	Stop Freq	Result (dBm)	Verdict
Band12	1.4MHz	QPSK	23017	6	0	Low	30	1000	-42.4	PASS
Band12	1.4MHz	QPSK	23017	1	0	Low	1000	5000	-50.5	PASS
Band12	1.4MHz	QPSK	23017	1	0	Low	5000	12000	-63.29	PASS
Band12	1.4MHz	QPSK	23017	1	0	Low	12000	26500	-59.74	PASS
Band12	1.4MHz	QPSK	23017	1	0	Low	30	1000	-43.75	PASS
Band12	1.4MHz	QPSK	23017	6	0	Low	1000	5000	-50.32	PASS
Band12	1.4MHz	QPSK	23017	6	0	Low	5000	12000	-63.4	PASS
Band12	1.4MHz	QPSK	23017	6	0	Low	12000	26500	-59.61	PASS
Band12	1.4MHz	QPSK	23095	6	0	Low	1000	5000	-50.2	PASS
Band12	1.4MHz	QPSK	23095	1	0	Low	30	1000	-43.21	PASS
Band12	1.4MHz	QPSK	23095	6	0	Low	12000	26500	-59.4	PASS
Band12	1.4MHz	QPSK	23095	1	0	Low	12000	26500	-59.62	PASS
Band12	1.4MHz	QPSK	23095	1	0	Low	5000	12000	-63.38	PASS
Band12	1.4MHz	QPSK	23095	1	0	Low	1000	5000	-50.44	PASS
Band12	1.4MHz	QPSK	23095	6	0	Low	30	1000	-43.03	PASS
Band12	1.4MHz	QPSK	23095	6	0	Low	5000	12000	-63.31	PASS
Band12	1.4MHz	QPSK	23173	6	0	Low	5000	12000	-63.26	PASS
Band12	1.4MHz	QPSK	23173	1	5	Low	30	1000	-41.94	PASS
Band12	1.4MHz	QPSK	23173	6	0	Low	12000	26500	-59.69	PASS
Band12	1.4MHz	QPSK	23173	6	0	Low	1000	5000	-50.52	PASS
Band12	1.4MHz	QPSK	23173	6	0	Low	30	1000	-42.97	PASS
Band12	1.4MHz	QPSK	23173	1	5	Low	12000	26500	-59.55	PASS
Band12	1.4MHz	QPSK	23173	1	5	Low	1000	5000	-50.18	PASS
Band12	1.4MHz	QPSK	23173	1	5	Low	5000	12000	-63.25	PASS
Band12	1.4MHz	16QAM	23017	6	0	Low	12000	26500	-59.79	PASS
Band12	1.4MHz	16QAM	23017	1	0	Low	30	1000	-44.48	PASS
Band12	1.4MHz	16QAM	23017	1	0	Low	1000	5000	-50.53	PASS
Band12	1.4MHz	16QAM	23017	1	0	Low	5000	12000	-63.38	PASS
Band12	1.4MHz	16QAM	23017	1	0	Low	12000	26500	-59.62	PASS
Band12	1.4MHz	16QAM	23017	6	0	Low	30	1000	-45.47	PASS
Band12	1.4MHz	16QAM	23017	6	0	Low	1000	5000	-50.47	PASS
Band12	1.4MHz	16QAM	23017	6	0	Low	5000	12000	-63.45	PASS
Band12	1.4MHz	16QAM	23095	6	0	Low	30	1000	-43.18	PASS
Band12	1.4MHz	16QAM	23095	6	0	Low	12000	26500	-59.68	PASS
Band12	1.4MHz	16QAM	23095	6	0	Low	5000	12000	-63.33	PASS
Band12	1.4MHz	16QAM	23095	6	0	Low	1000	5000	-50.58	PASS
Band12	1.4MHz	16QAM	23095	1	0	Low	30	1000	-44.82	PASS
Band12	1.4MHz	16QAM	23095	1	0	Low	1000	5000	-50.56	PASS
Band12	1.4MHz	16QAM	23095	1	0	Low	12000	26500	-59.71	PASS
Band12	1.4MHz	16QAM	23095	1	0	Low	5000	12000	-63.15	PASS
Band12	1.4MHz	16QAM	23173	1	5	Low	30	1000	-41.64	PASS
Band12	1.4MHz	16QAM	23173	1	5	Low	1000	5000	-50.49	PASS
Band12	1.4MHz	16QAM	23173	1	5	Low	12000	26500	-59.63	PASS
Band12	1.4MHz	16QAM	23173	6	0	Low	12000	26500	-59.75	PASS
Band12	1.4MHz	16QAM	23173	6	0	Low	30	1000	-45.21	PASS
Band12	1.4MHz	16QAM	23173	6	0	Low	1000	5000	-50.46	PASS
Band12	1.4MHz	16QAM	23173	6	0	Low	5000	12000	-63.39	PASS

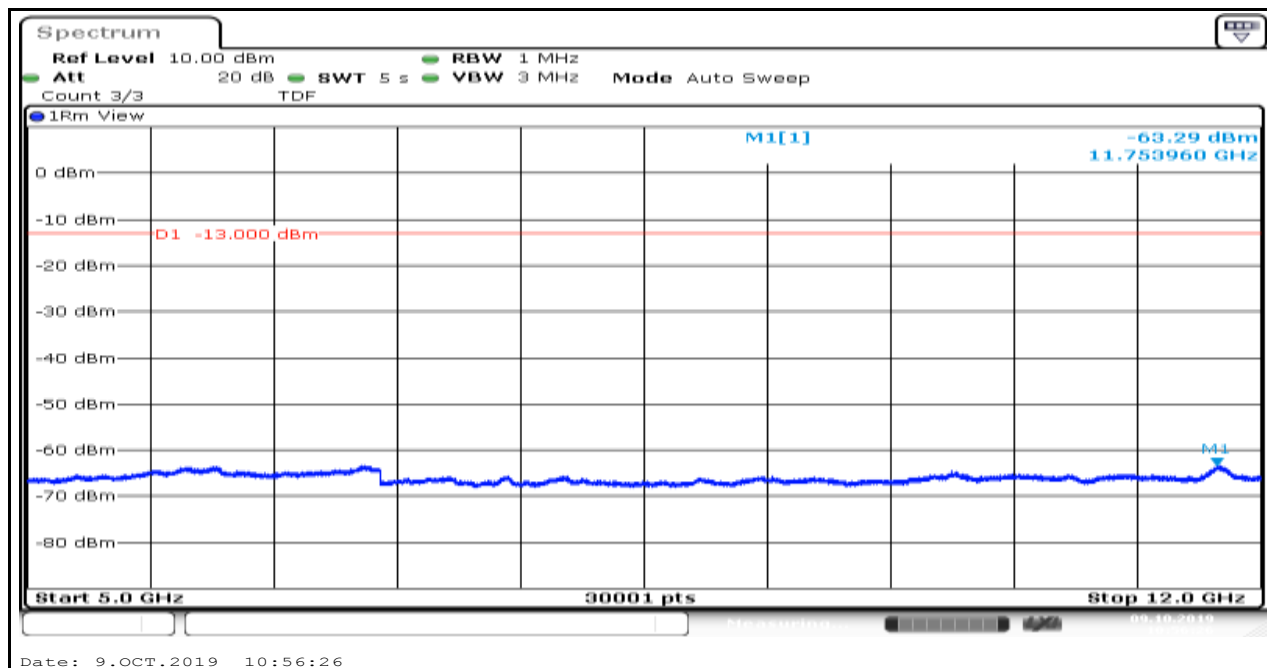
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Band12	1.4MHz	16QAM	23173	1	5	Low	5000	12000	-63.29	PASS
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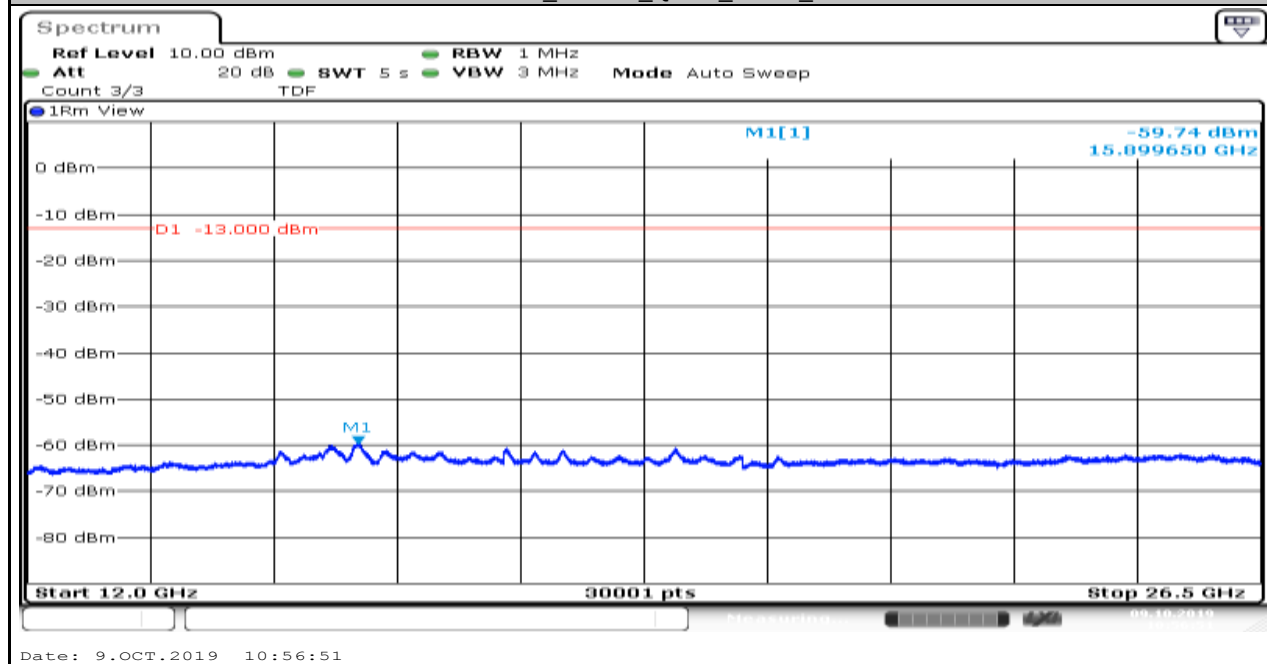
Test Graphs



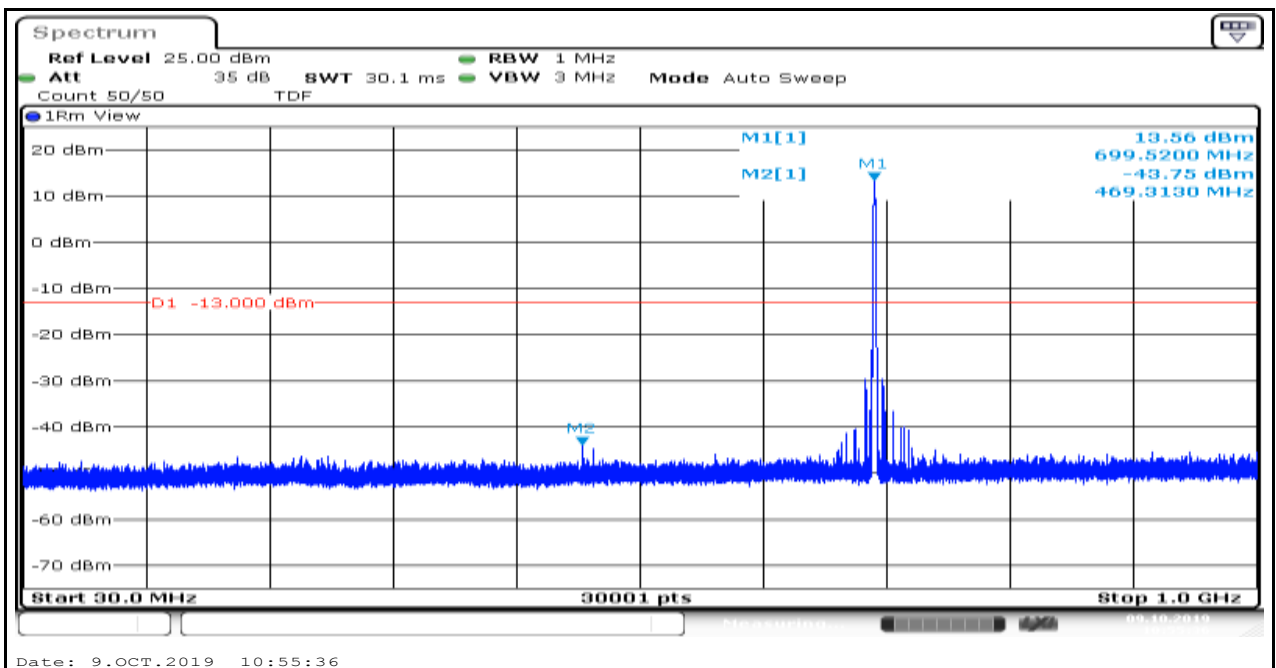
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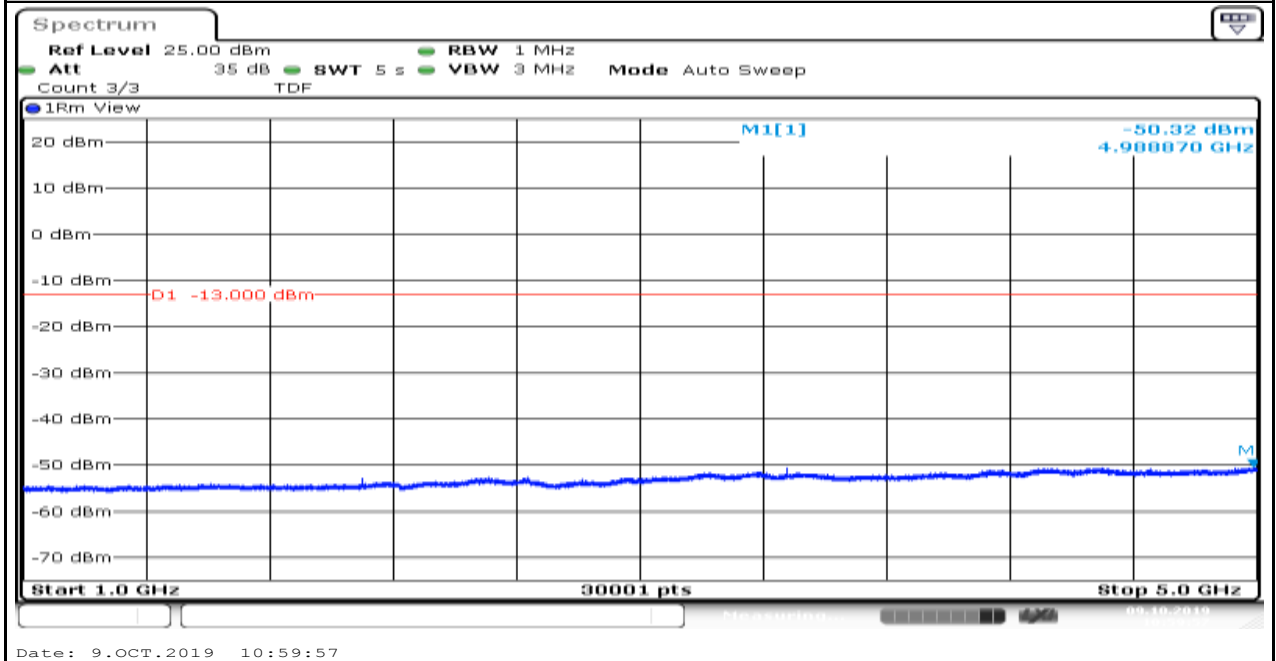
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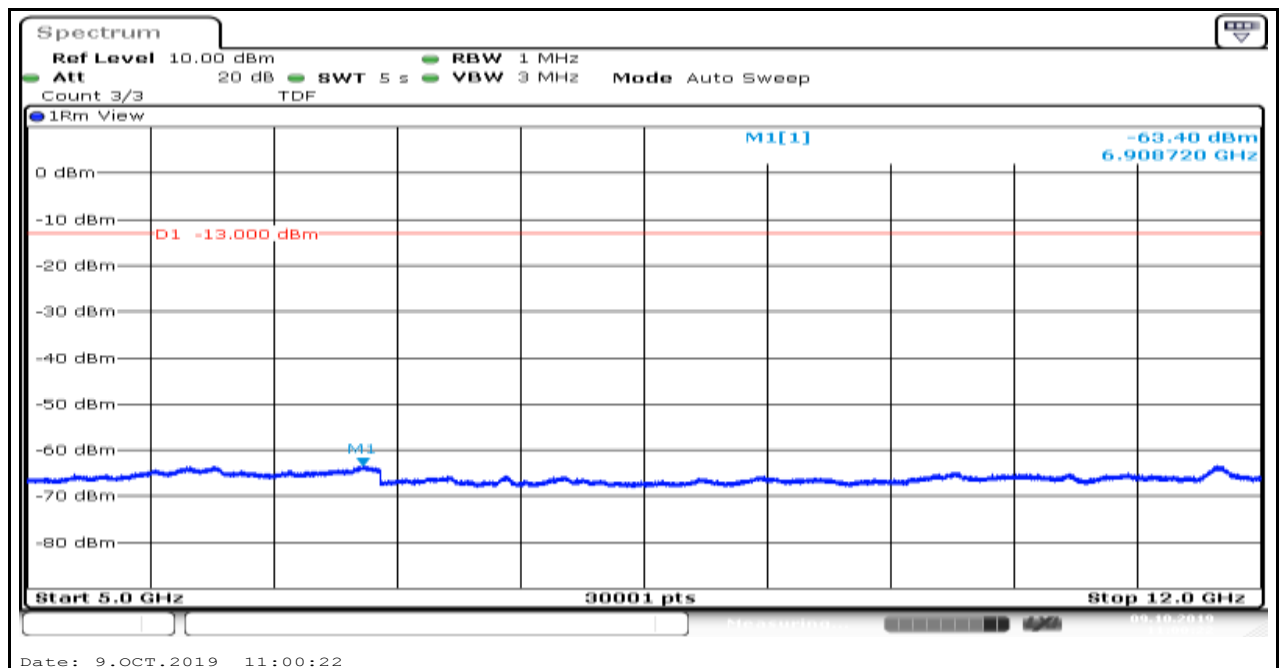
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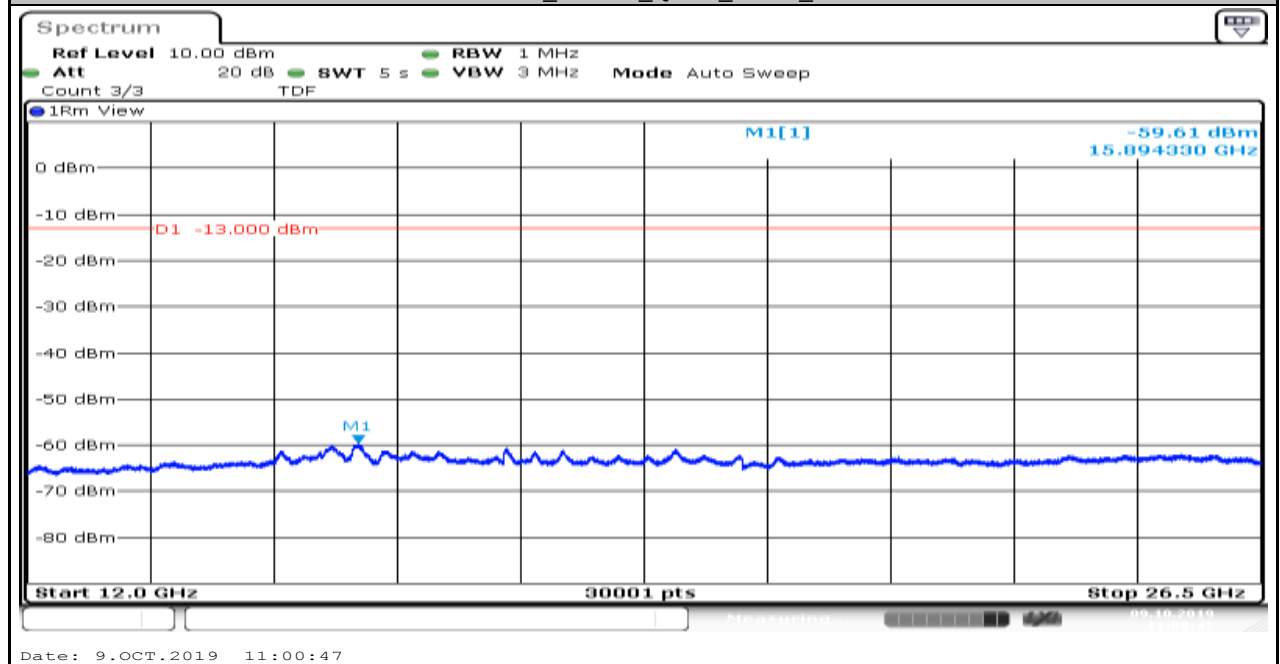
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Band12_1.4MHz_QPSK_23017_6

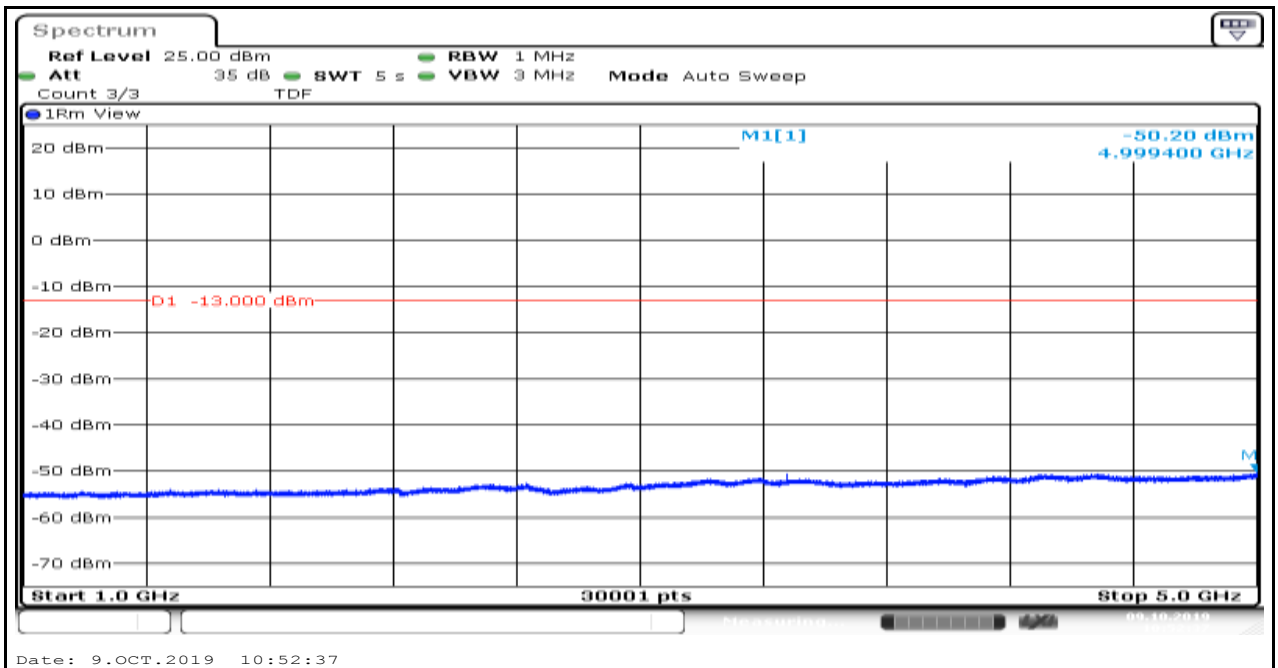


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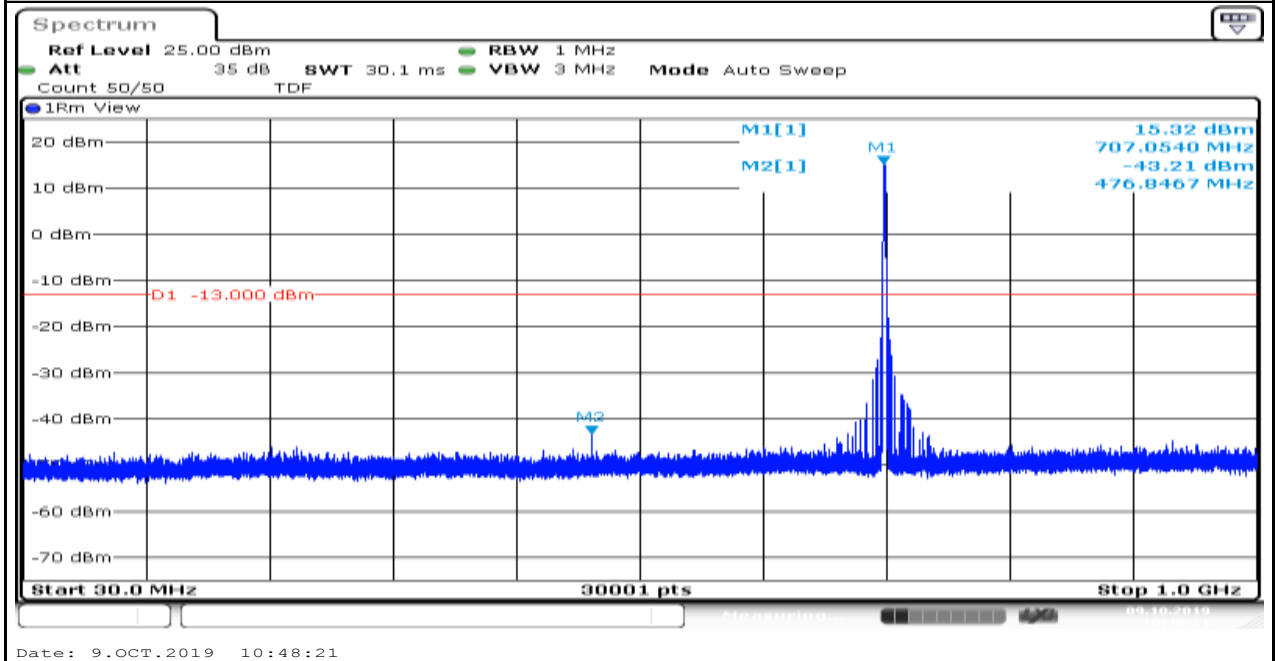


Band12_1.4MHz_QPSK_23095_6

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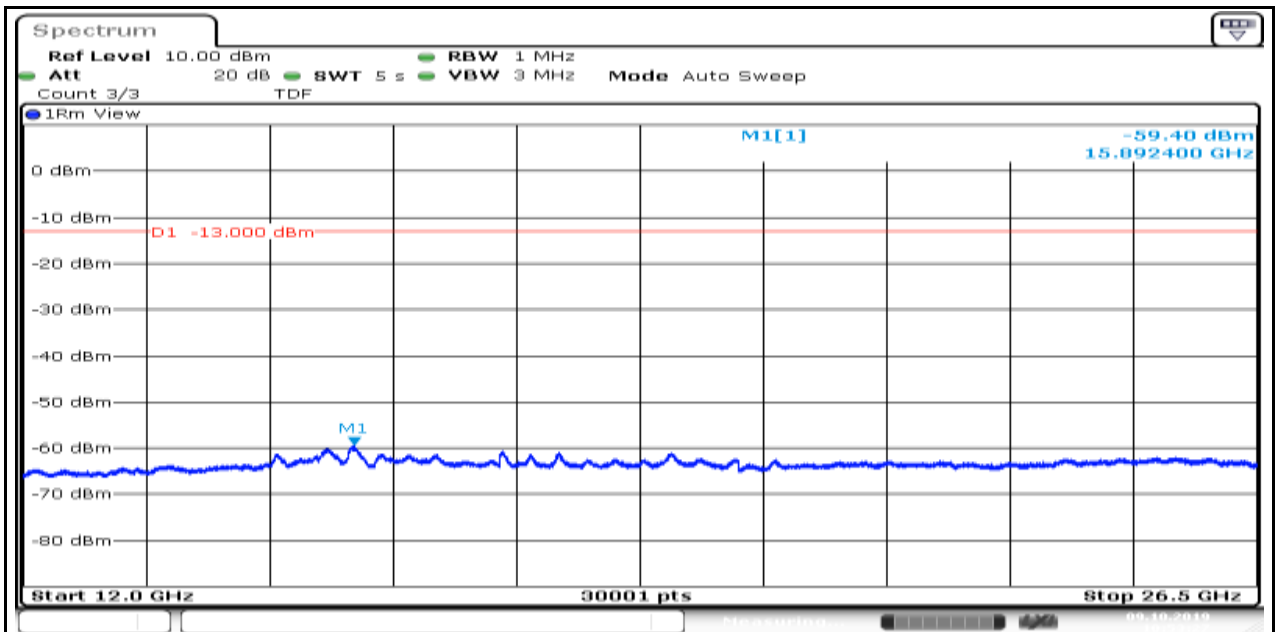


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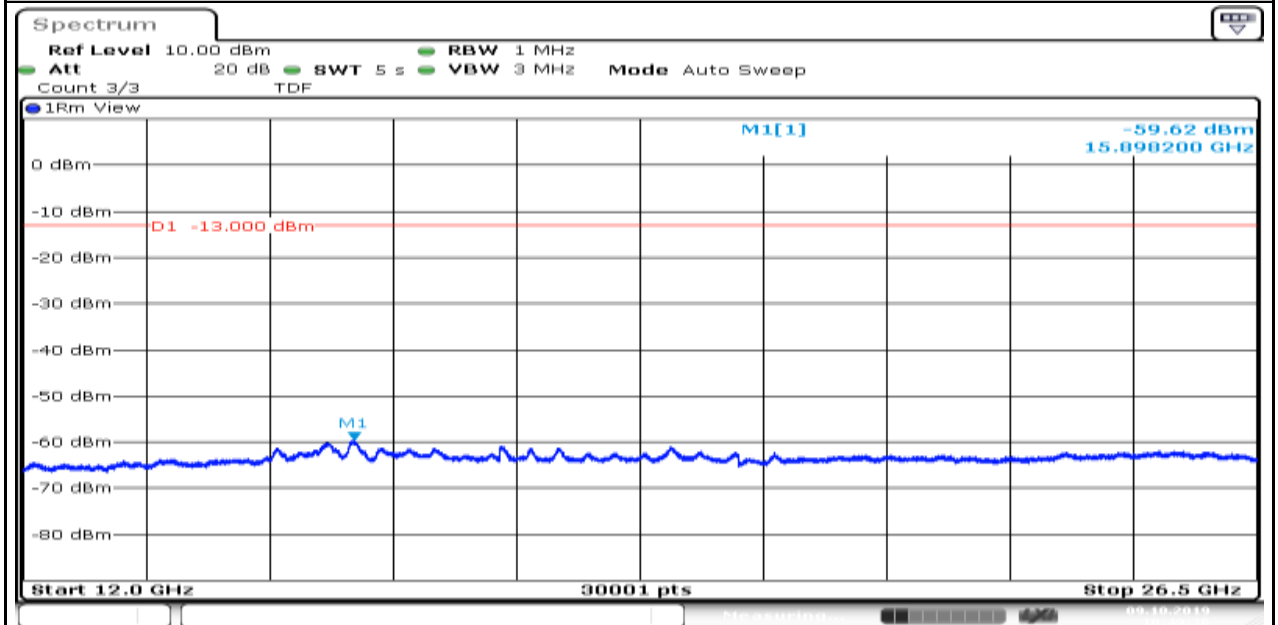
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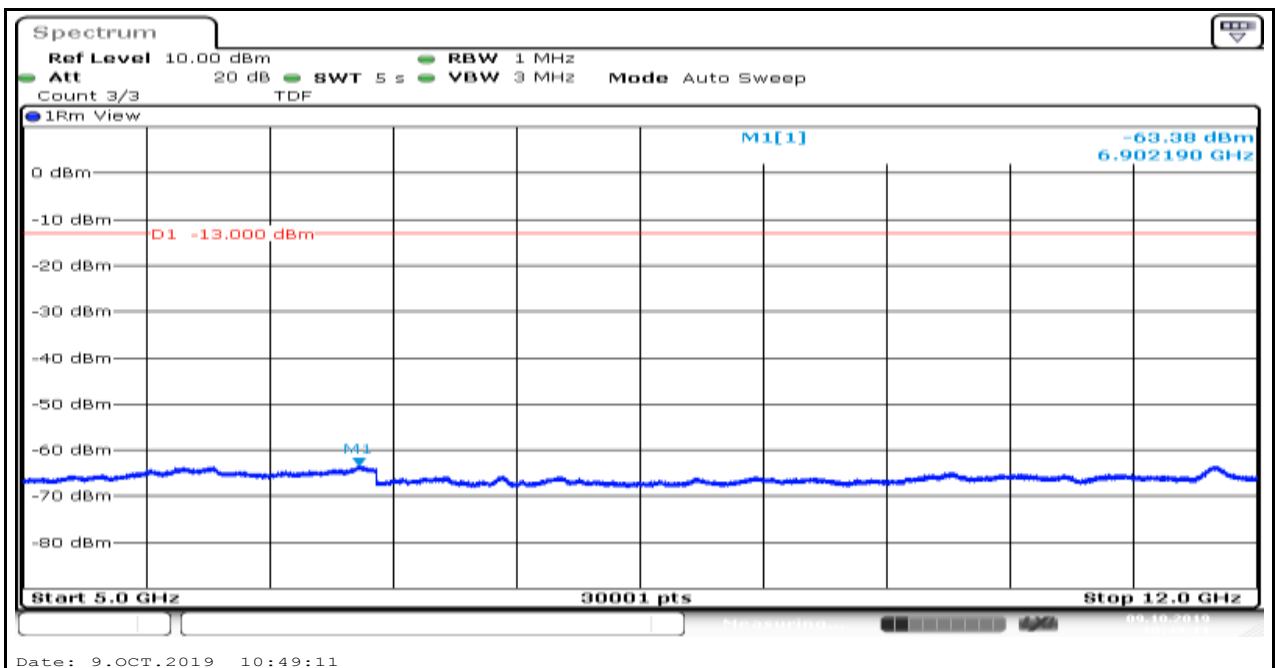
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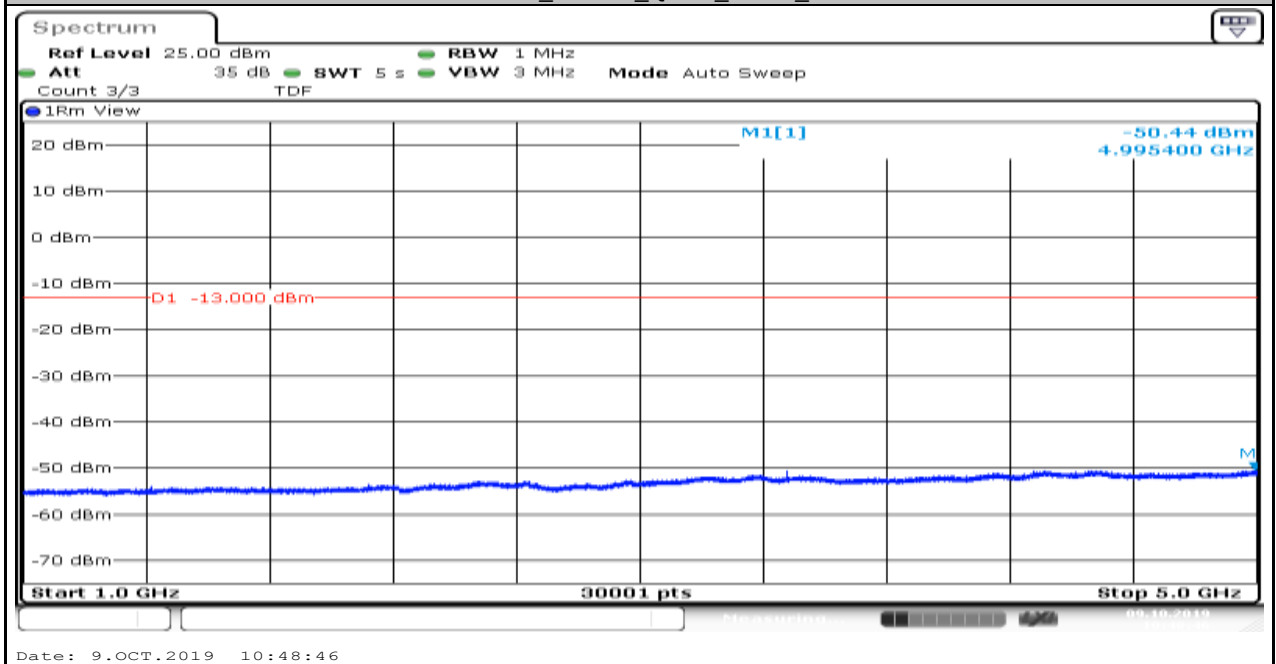
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Band12_1.4MHz_QPSK_23095_1

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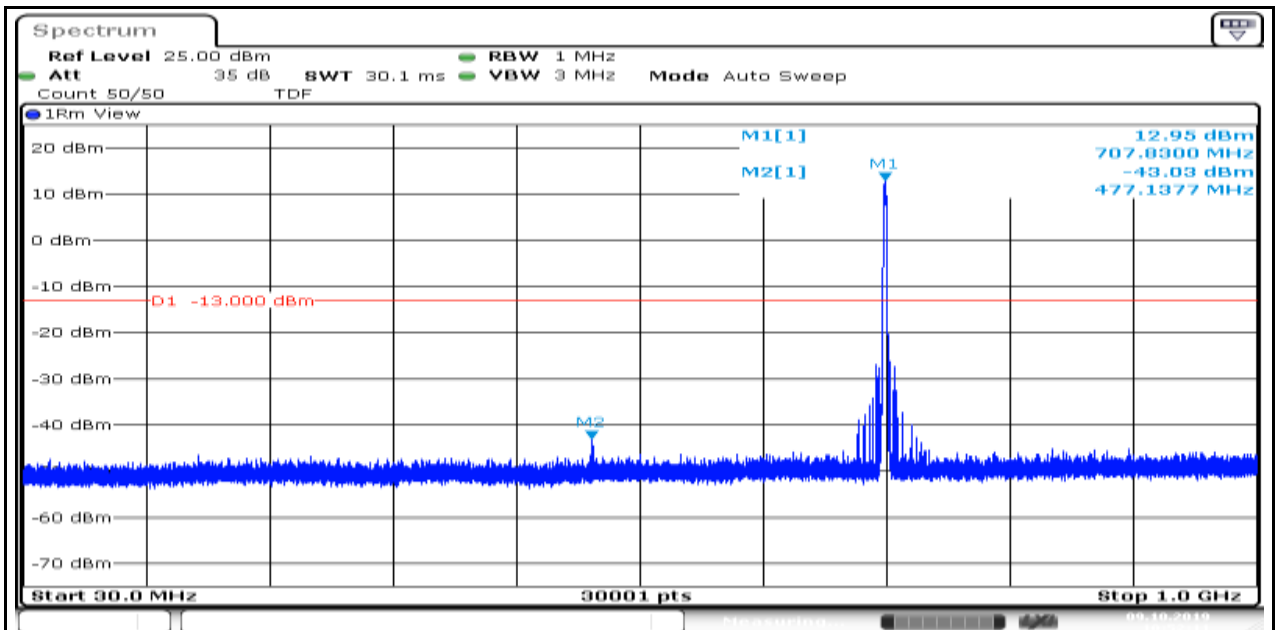


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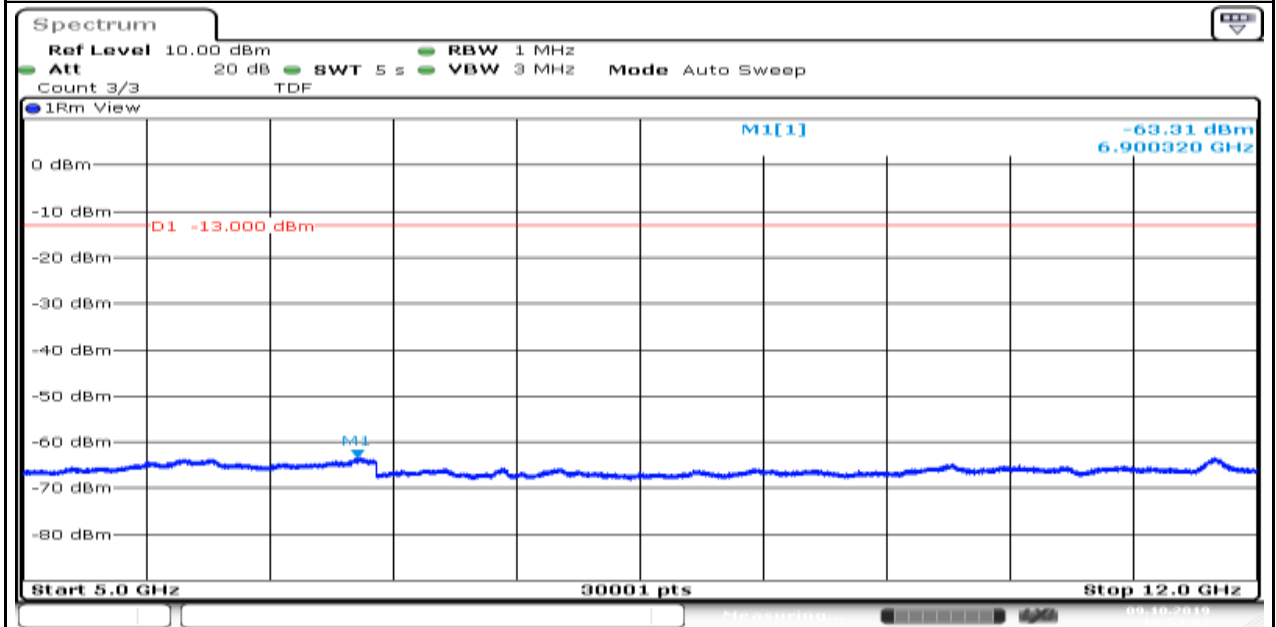


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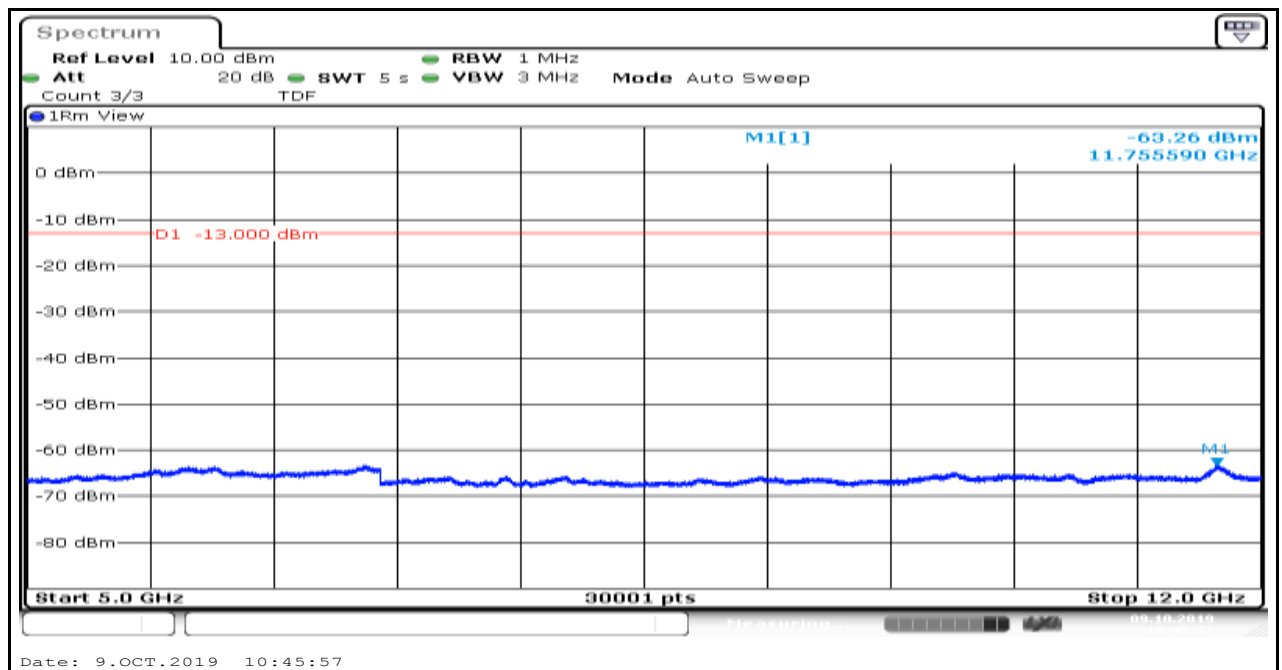
Produkte
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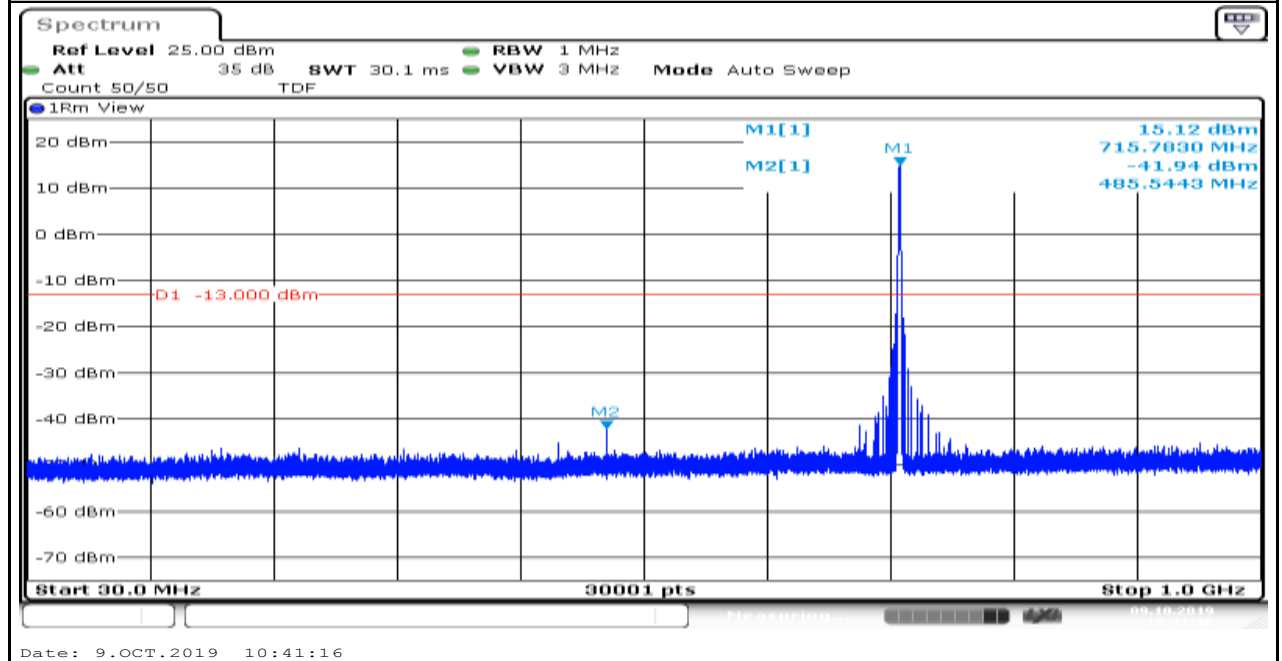
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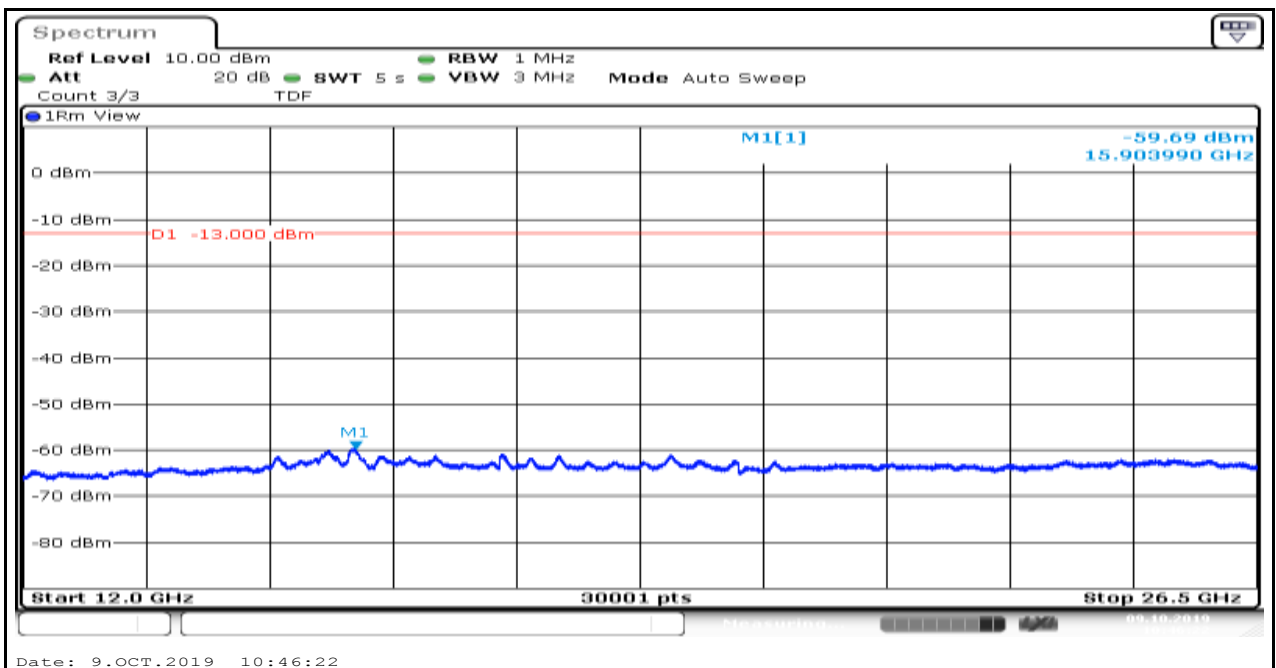
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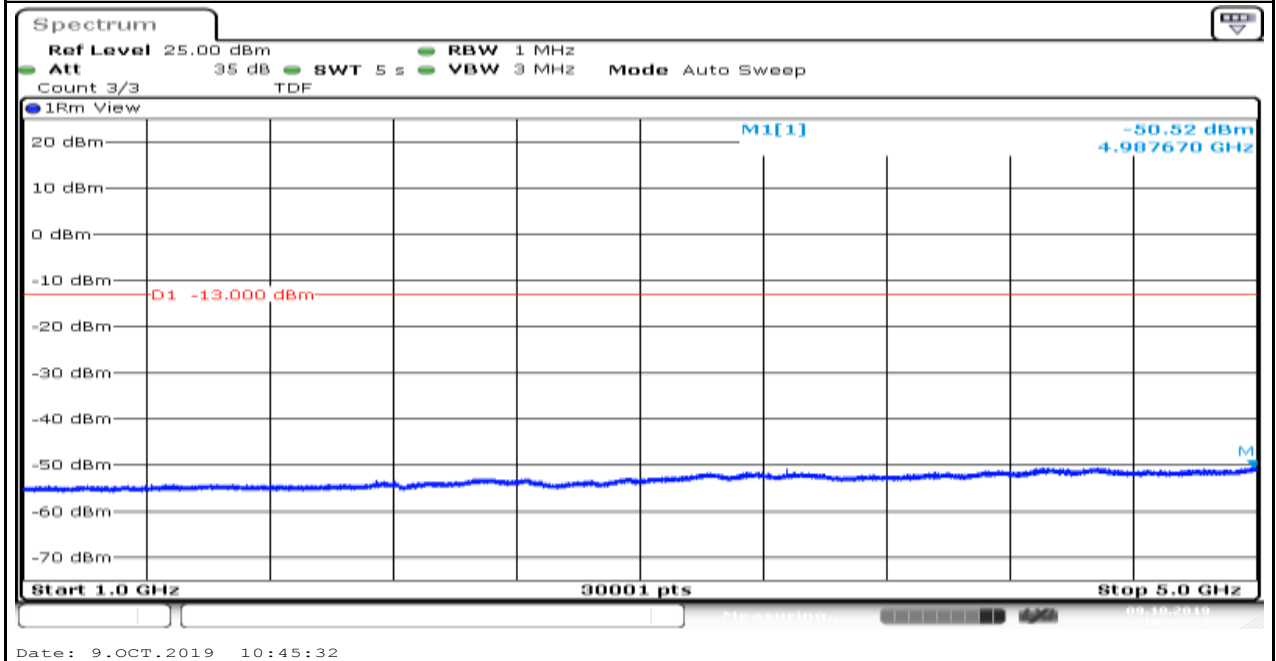
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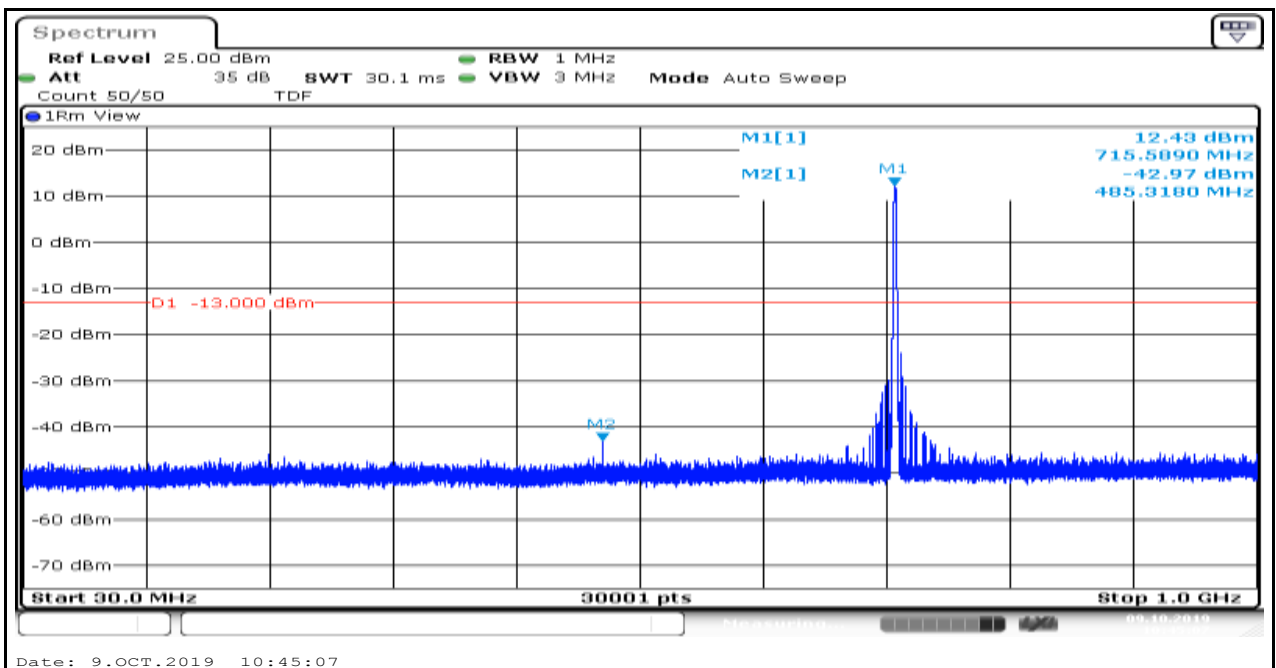
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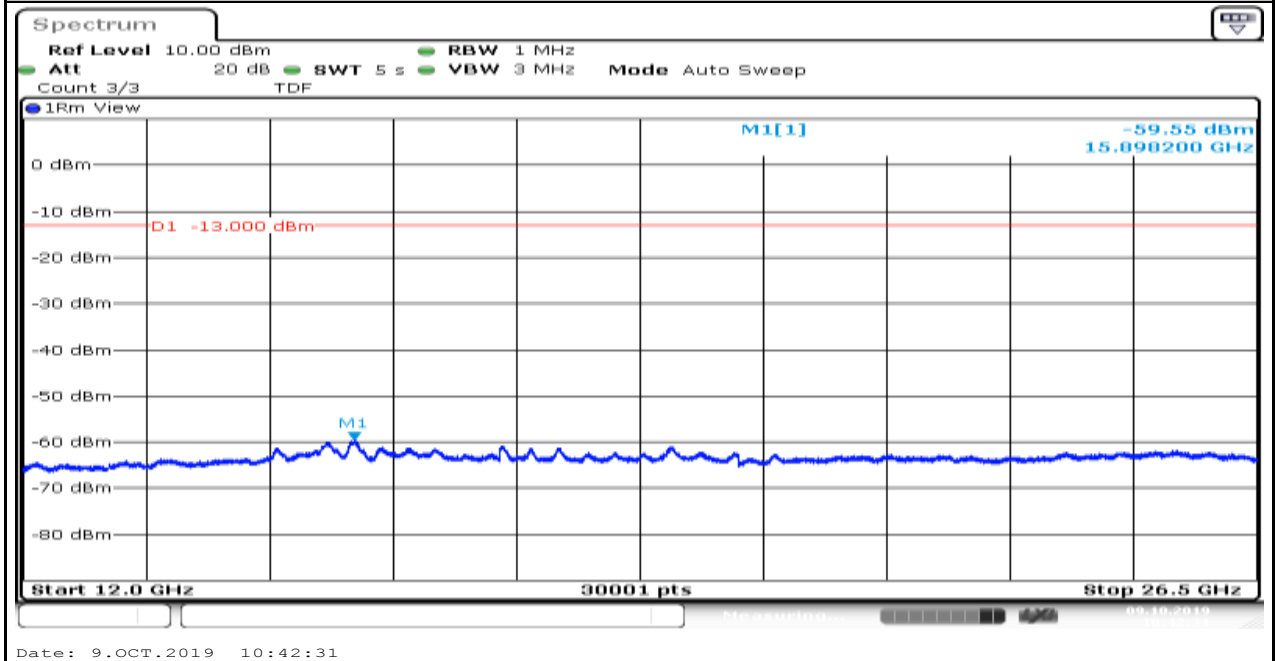
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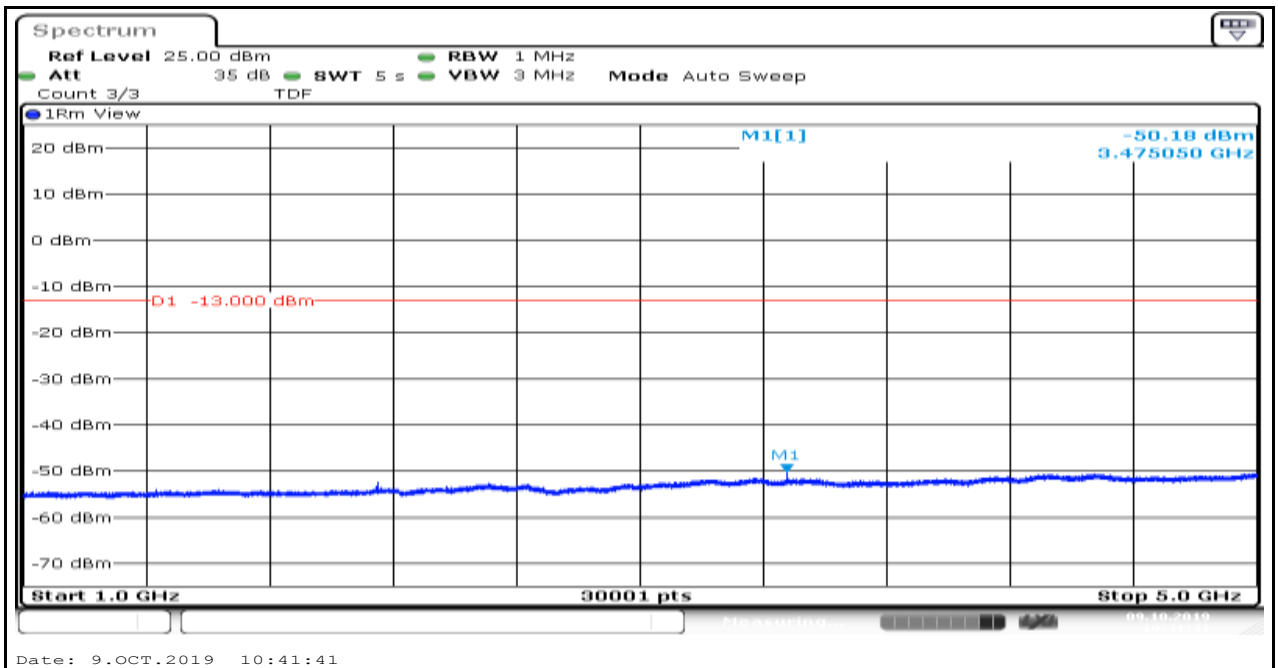
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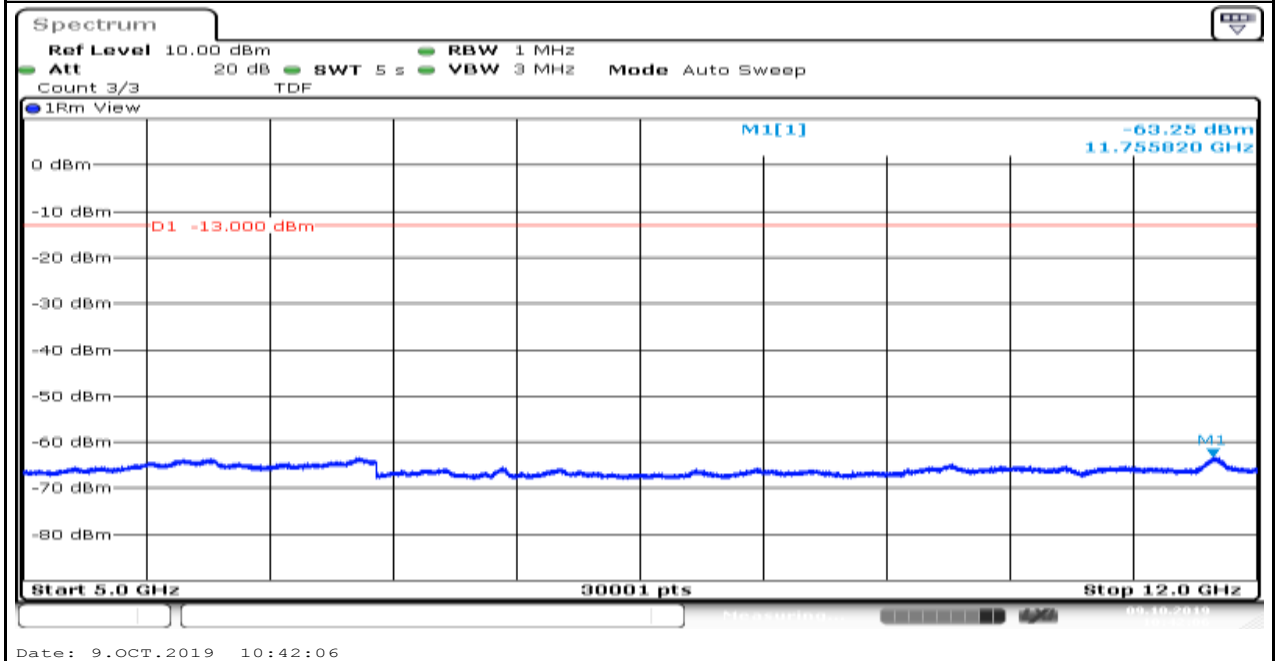
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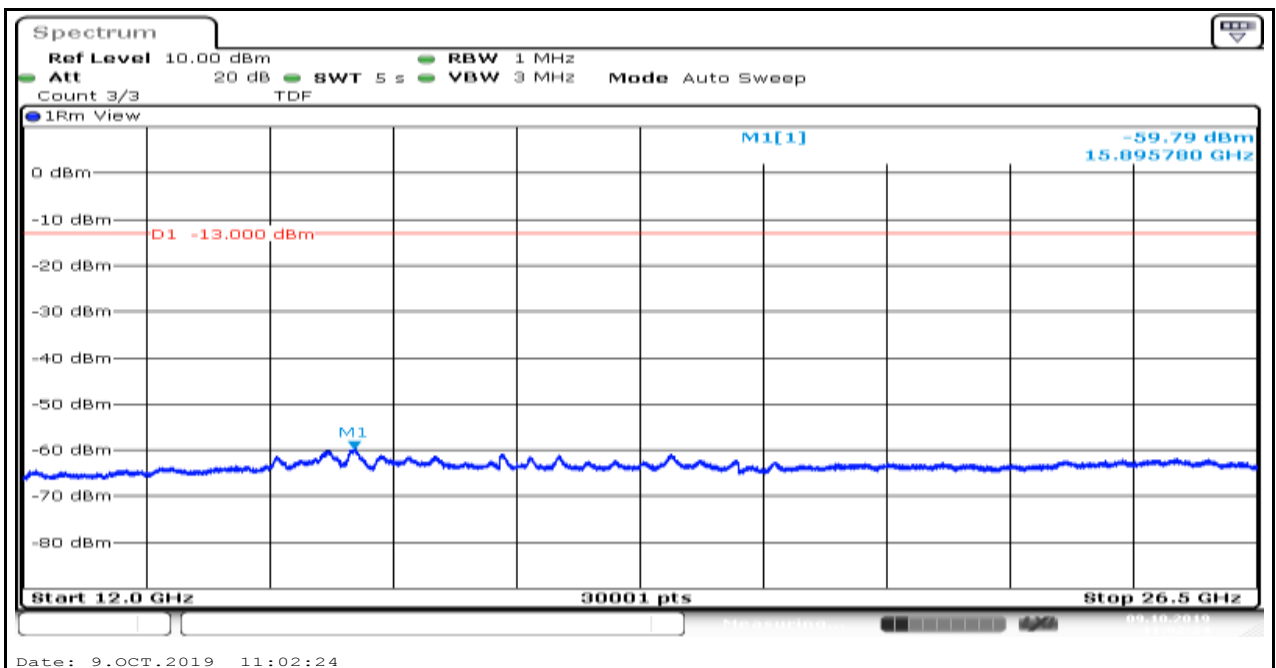
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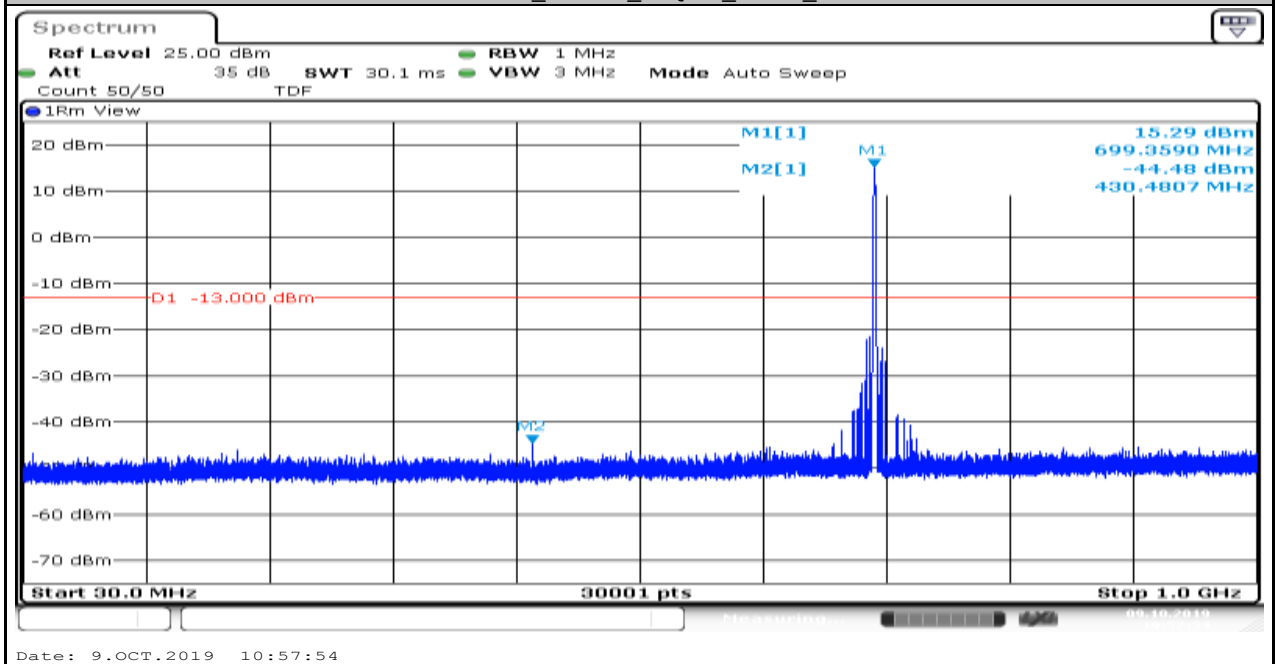
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Band12_1.4MHz_16QAM_23017_6

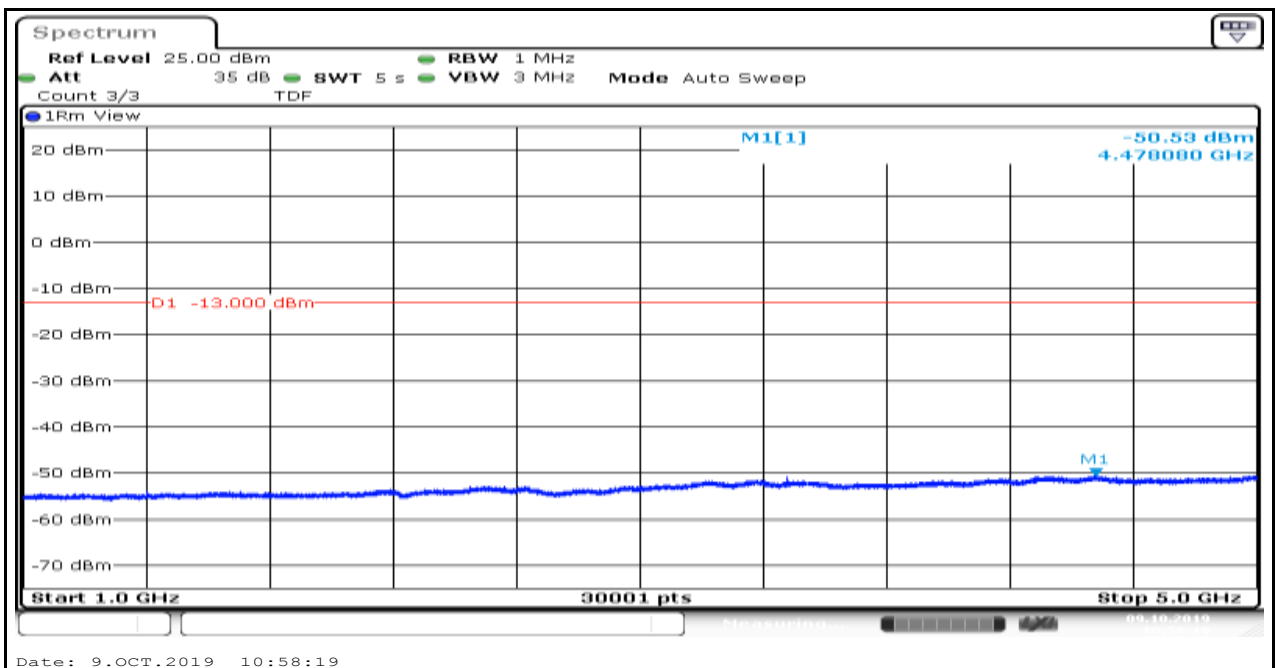


Band12_1.4MHz_16QAM_23017_1

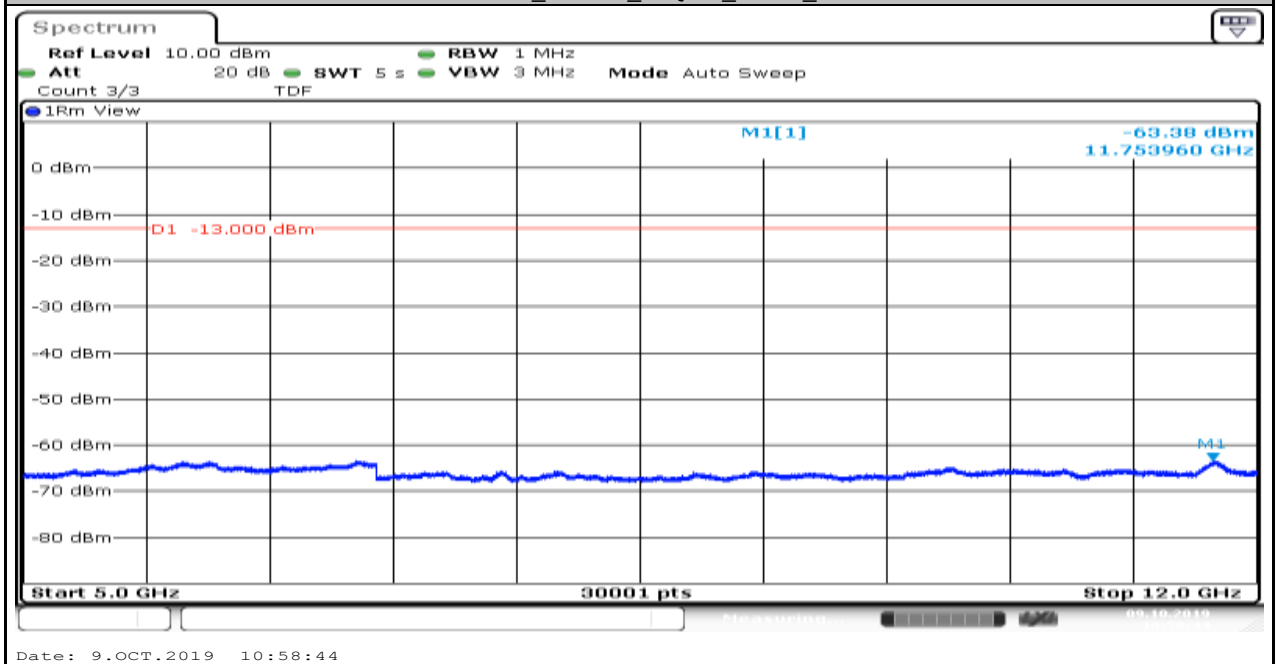


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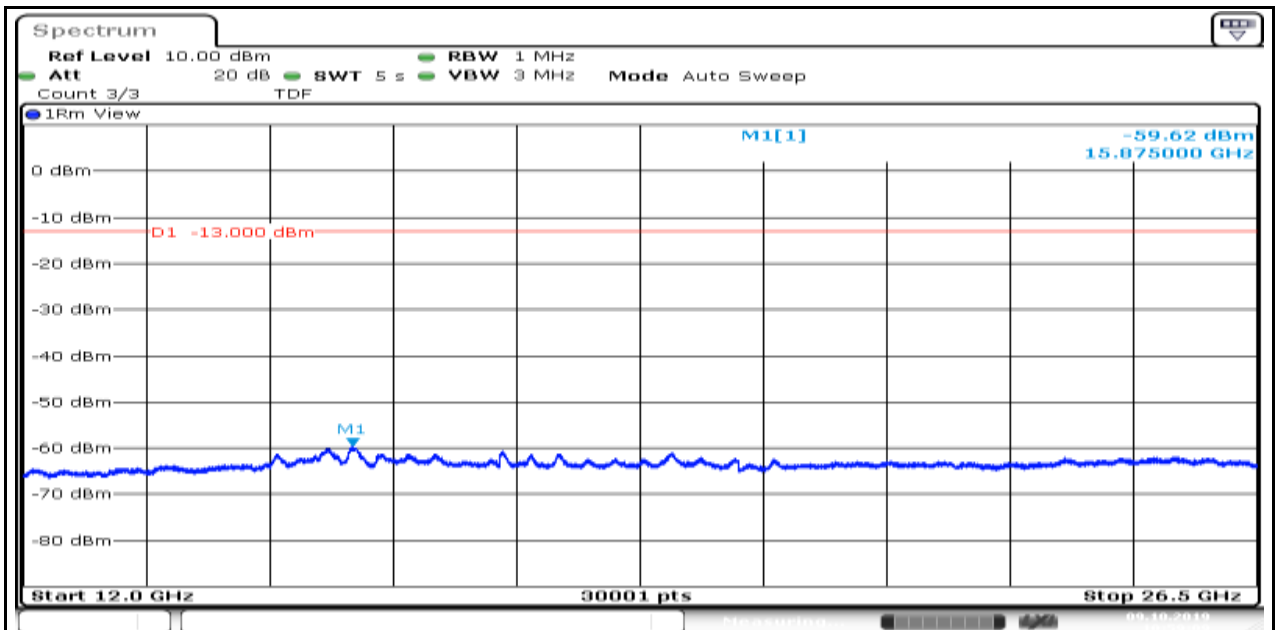
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Band12_1.4MHz_16QAM_23017_1

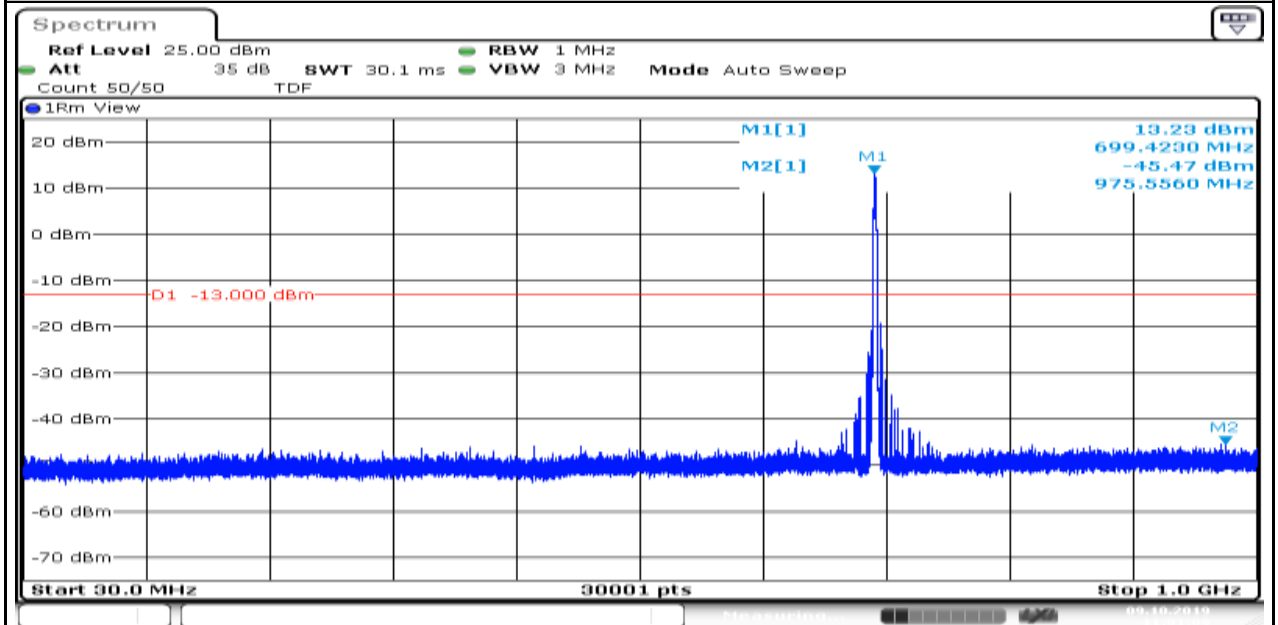


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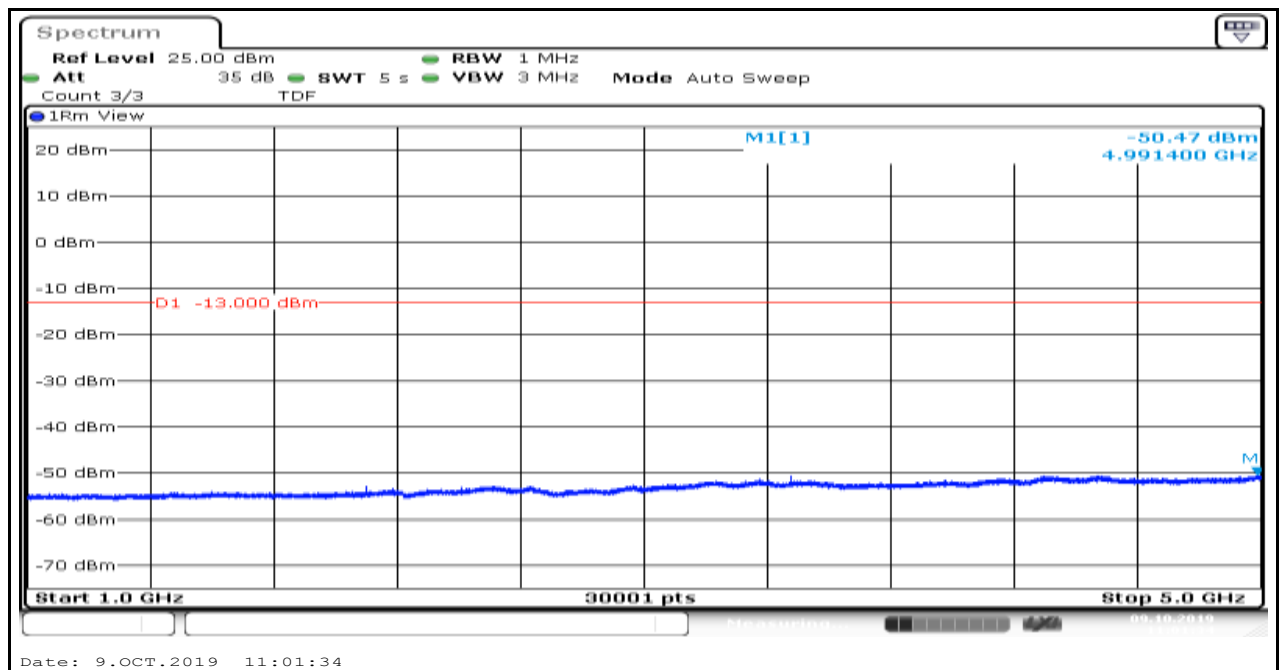
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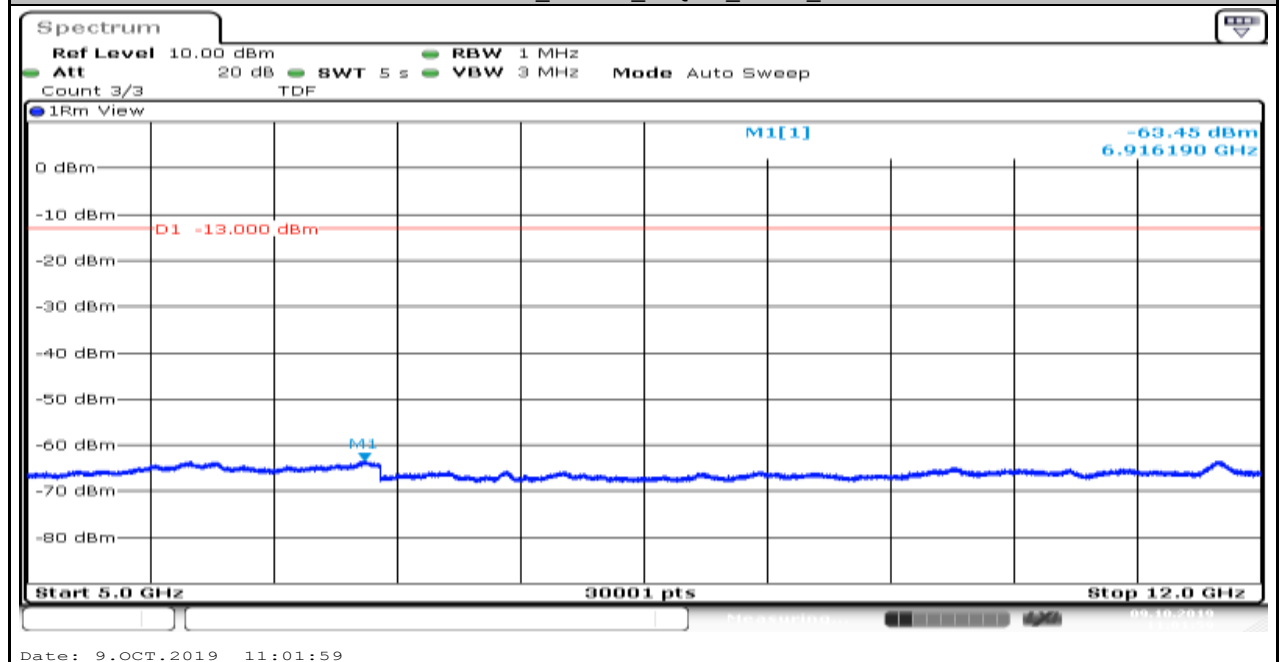
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Band12_1.4MHz_16QAM_23017_6

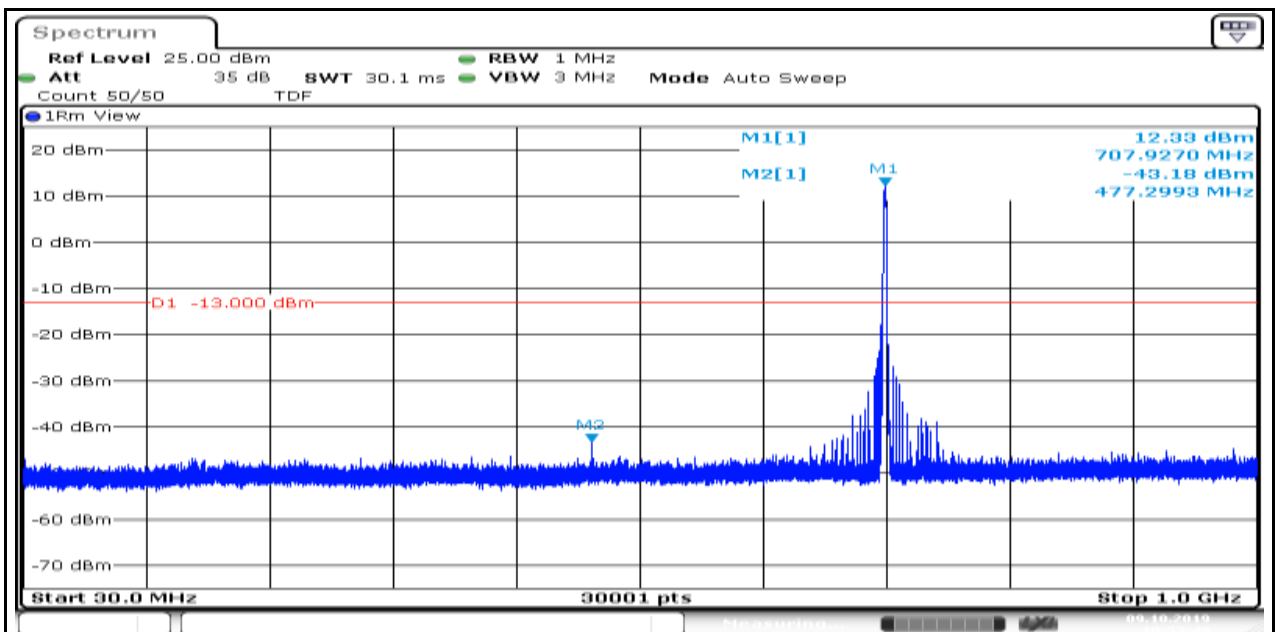
Produkte
Products



Band12_1.4MHz_16QAM_23017_6

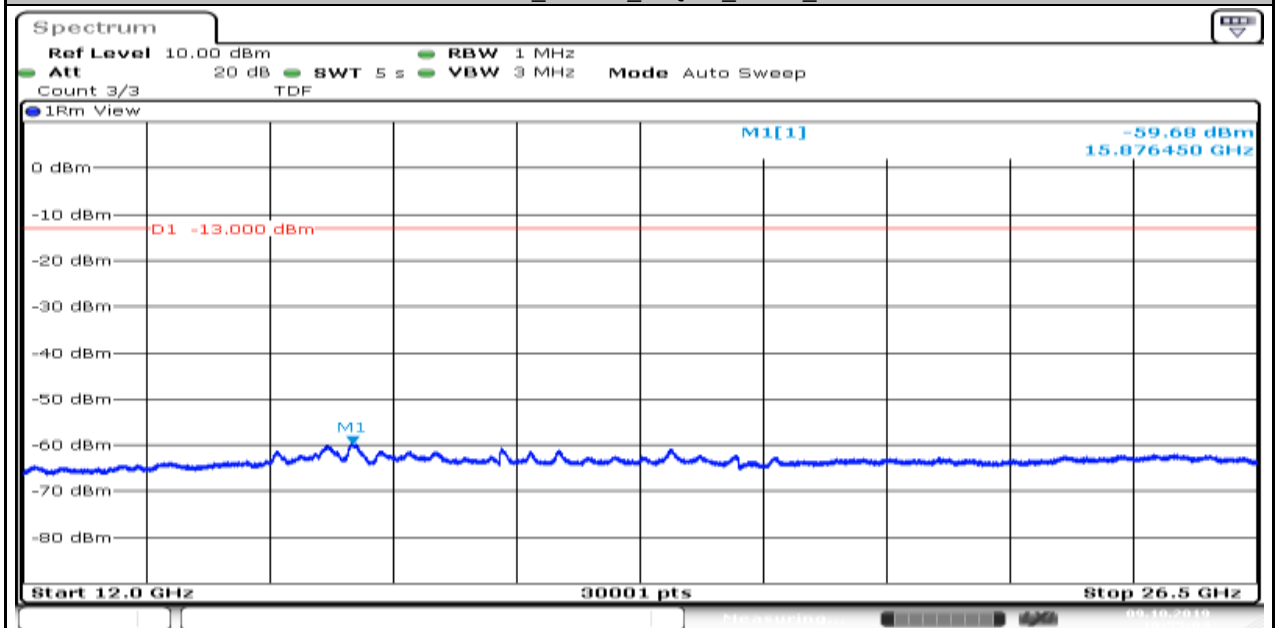


Band12_1.4MHz_16QAM_23095_6



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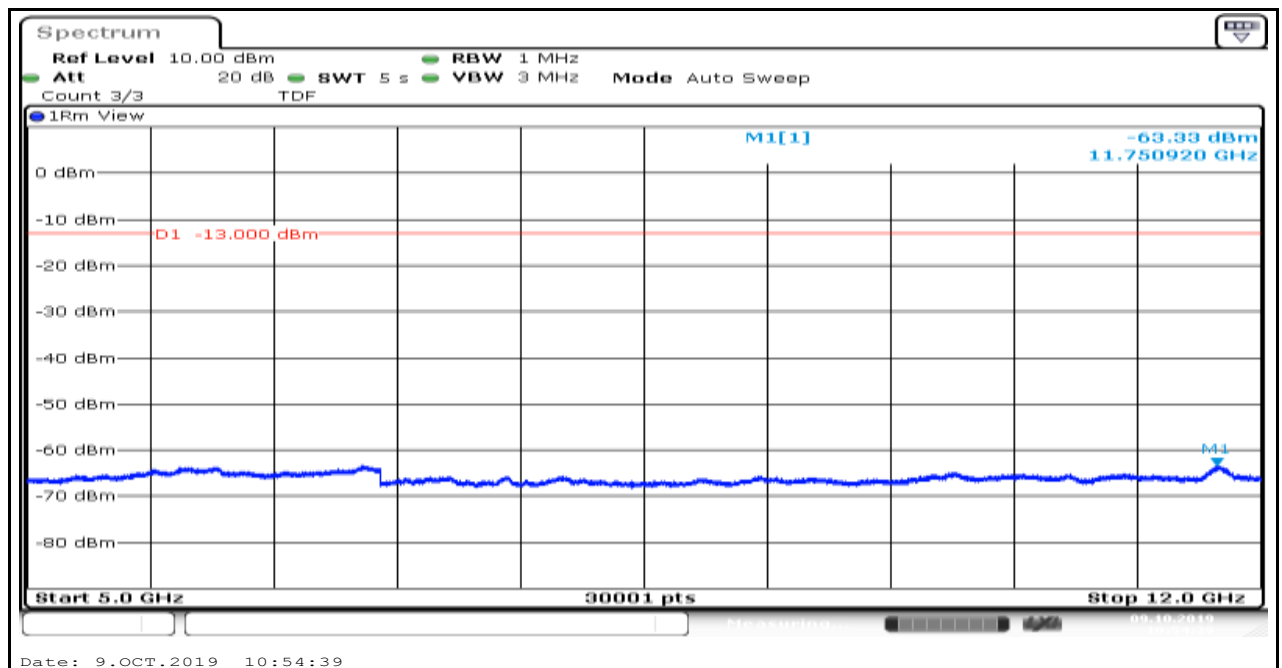
Band12_1.4MHz_16QAM_23095_6



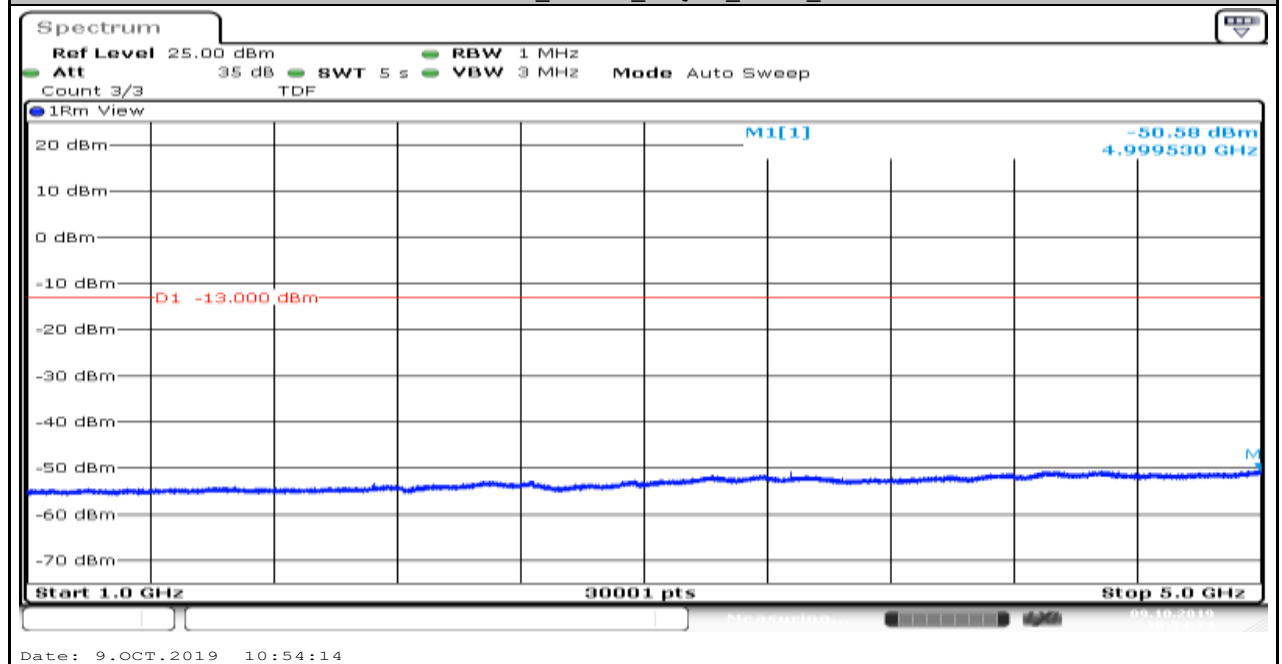
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Band12_1.4MHz_16QAM_23095_6

Produkte
Products

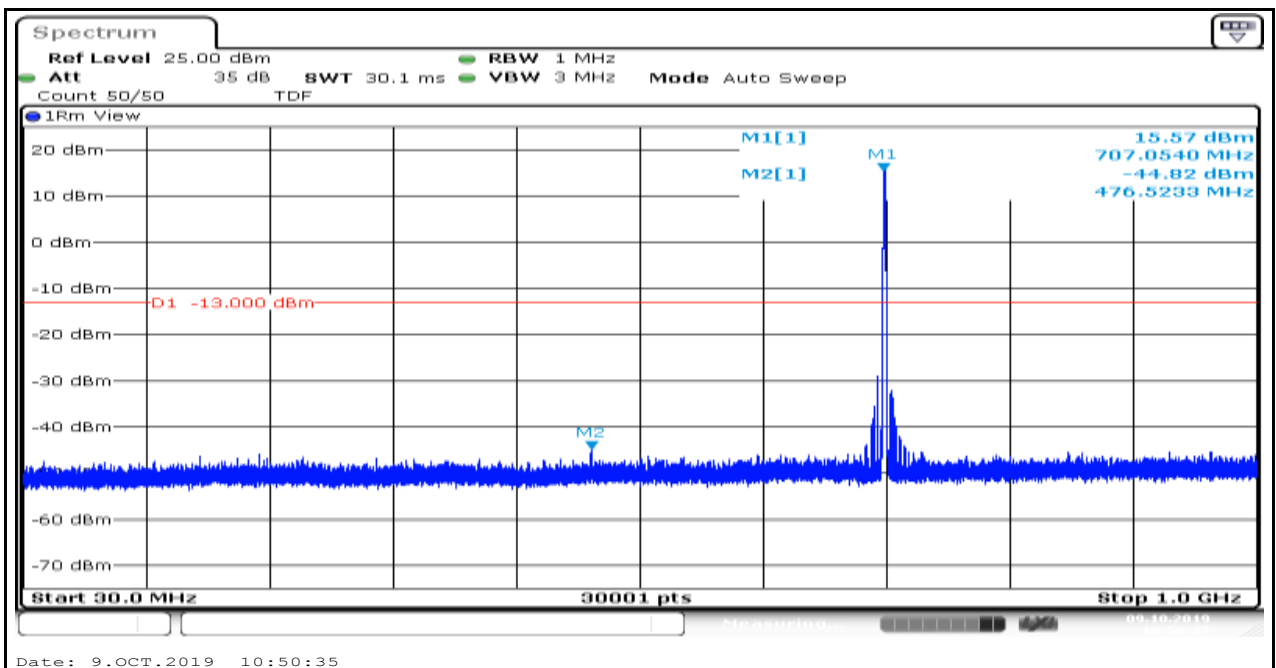


Band12_1.4MHz_16QAM_23095_6

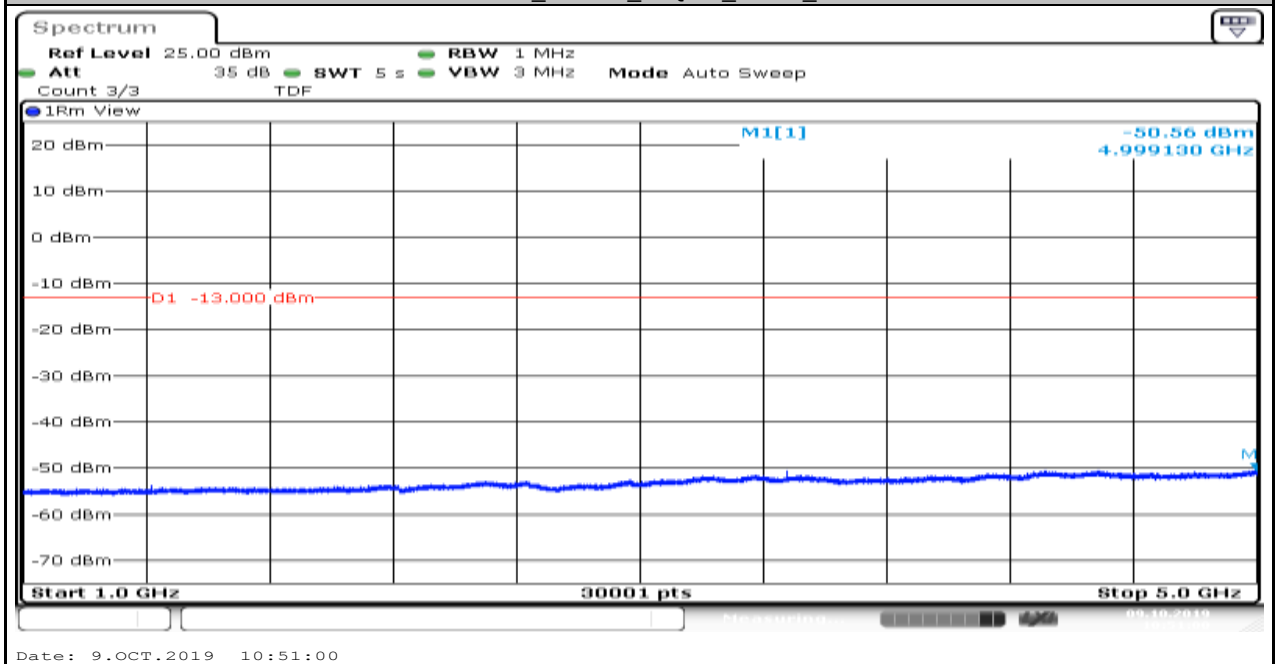


Band12_1.4MHz_16QAM_23095_1

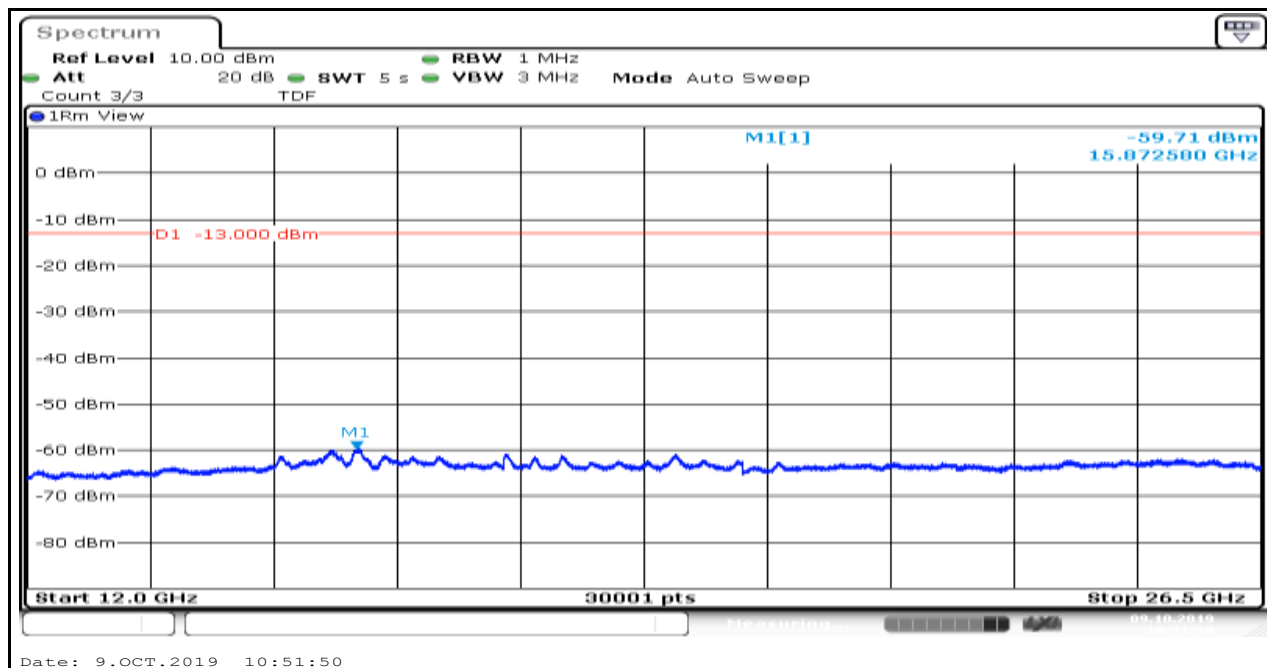
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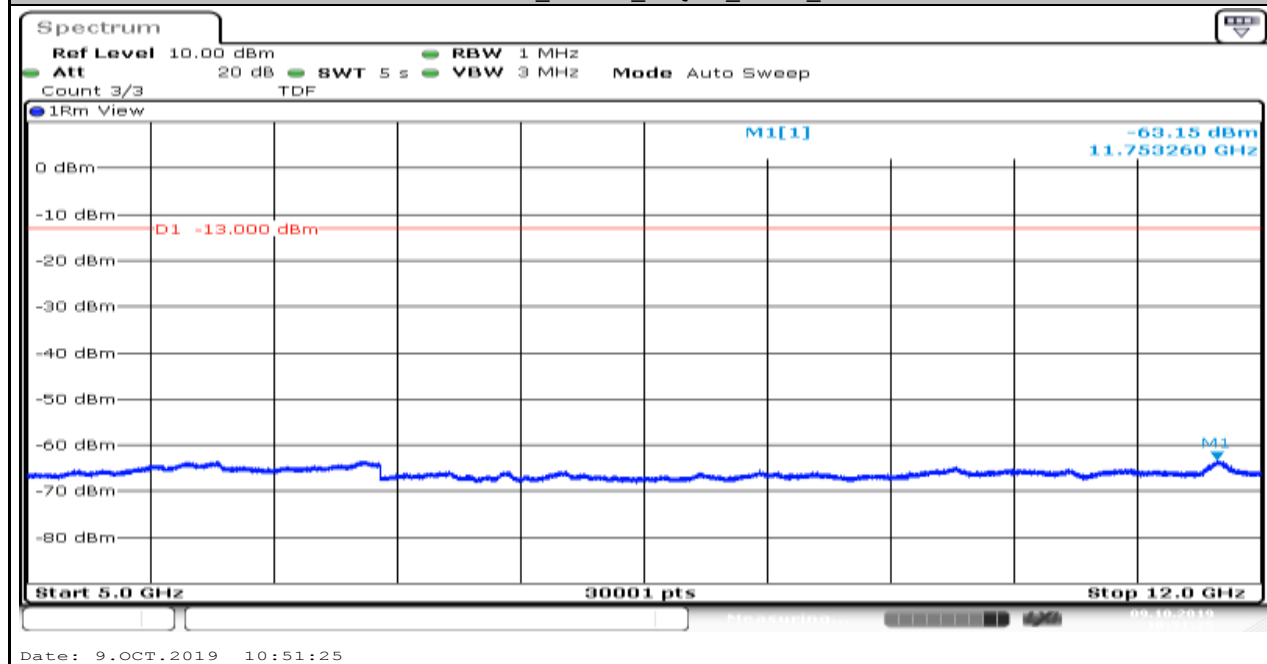
Band12_1.4MHz_16QAM_23095_1



Band12_1.4MHz_16QAM_23095_1

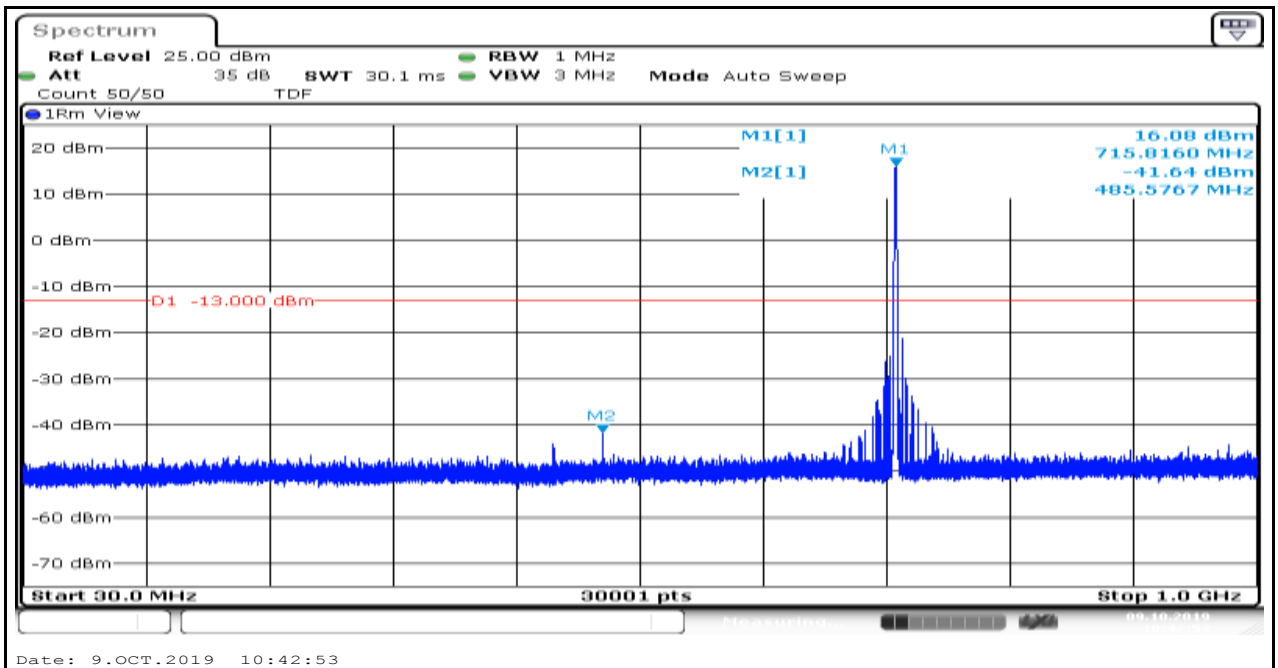


Band12_1.4MHz_16QAM_23095_1

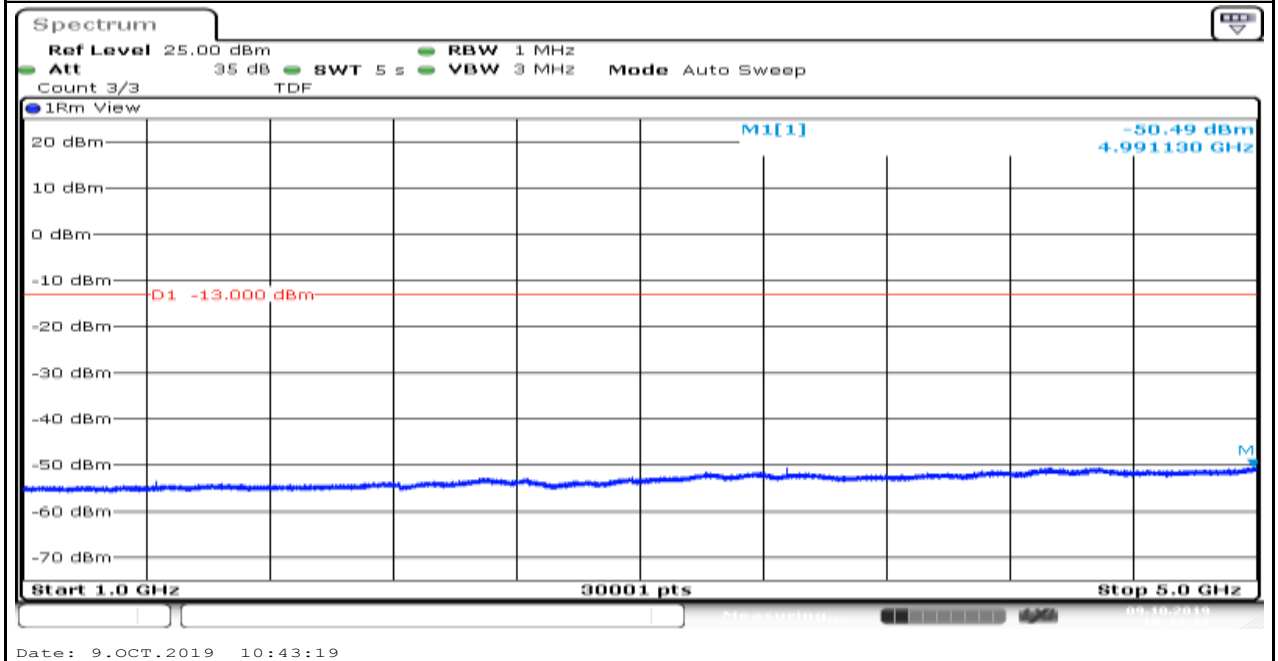


Band12_1.4MHz_16QAM_23173_1

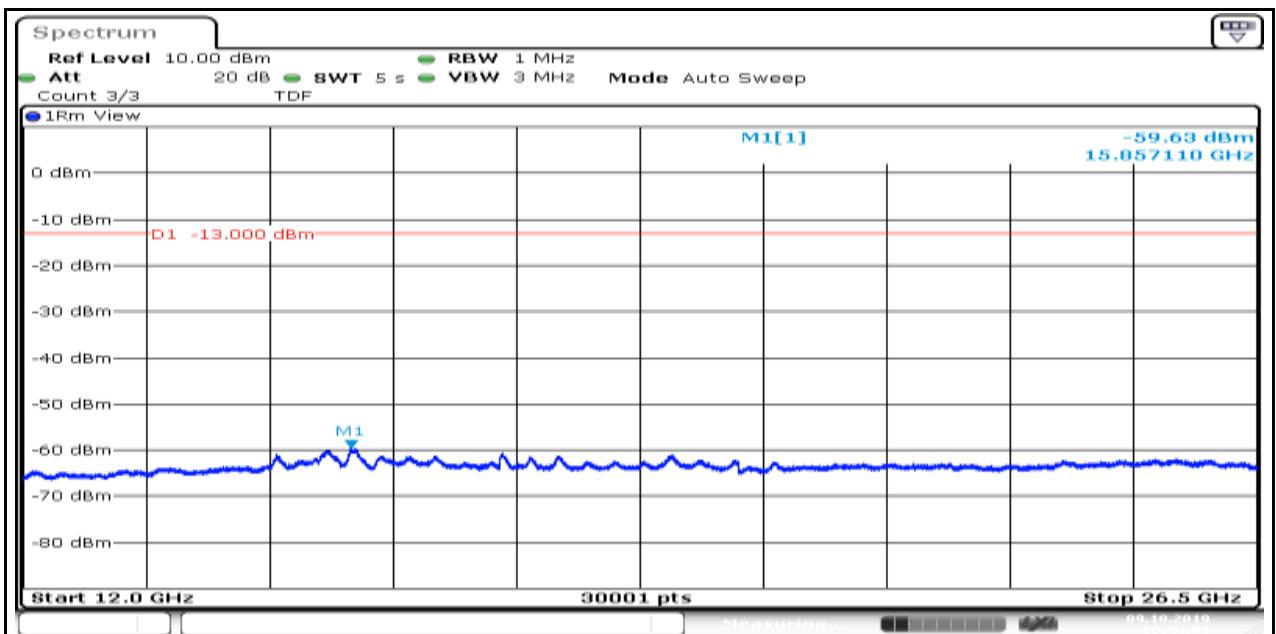
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Band12_1.4MHz_16QAM_23173_1

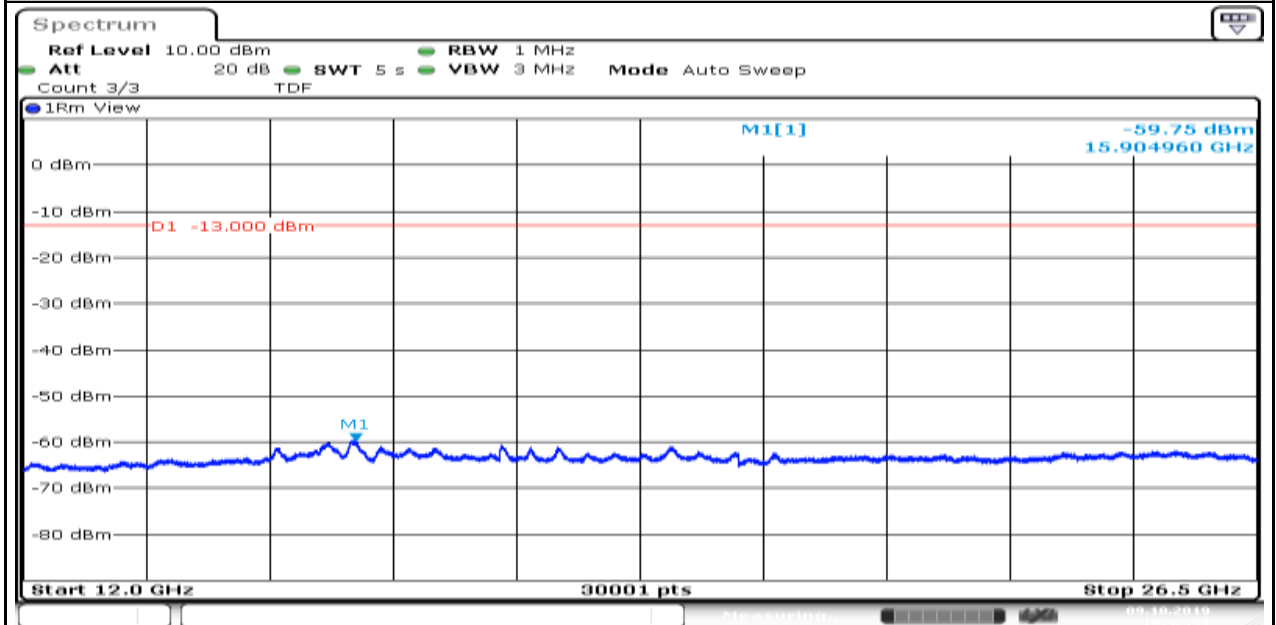


Band12_1.4MHz_16QAM_23173_1



Date: 9.OCT.2019 10:44:09

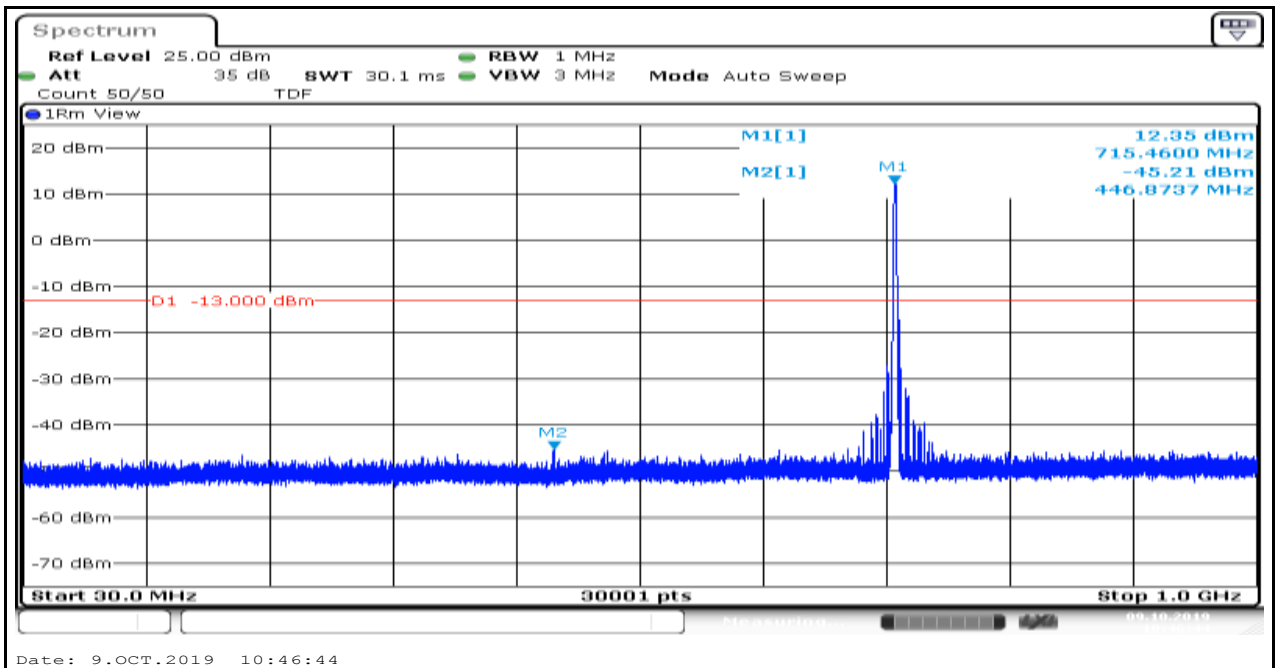
Band12_1.4MHz_16QAM_23173_6



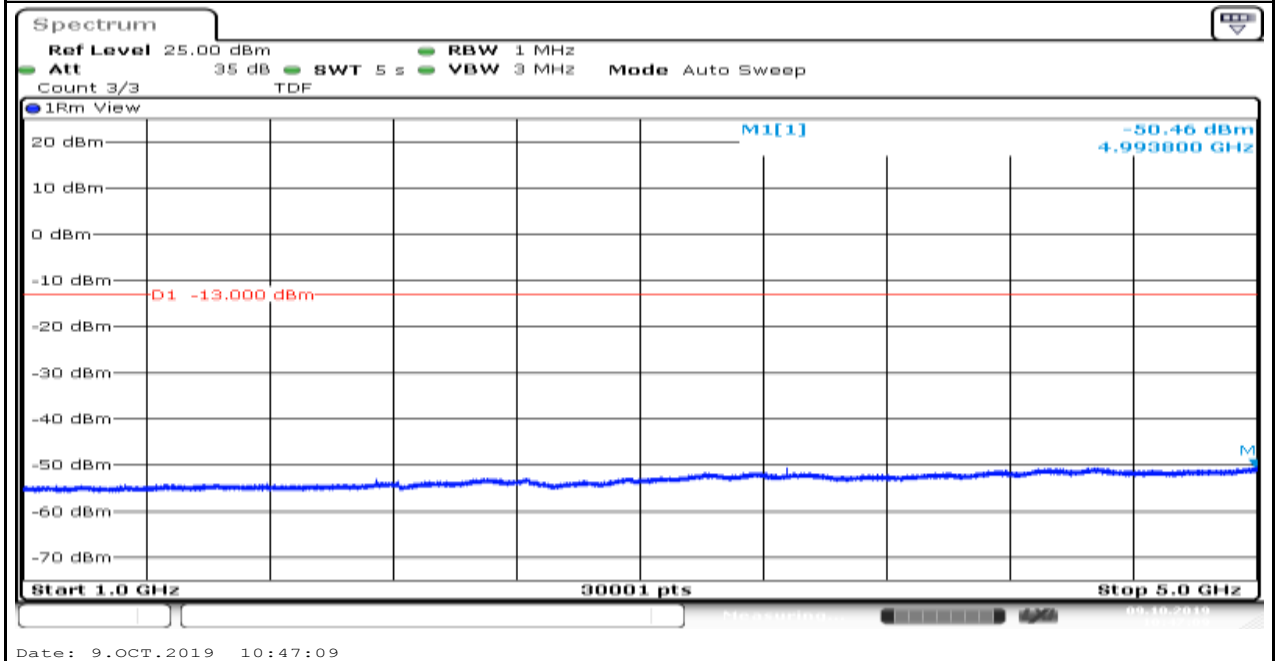
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Band12_1.4MHz_16QAM_23173_6

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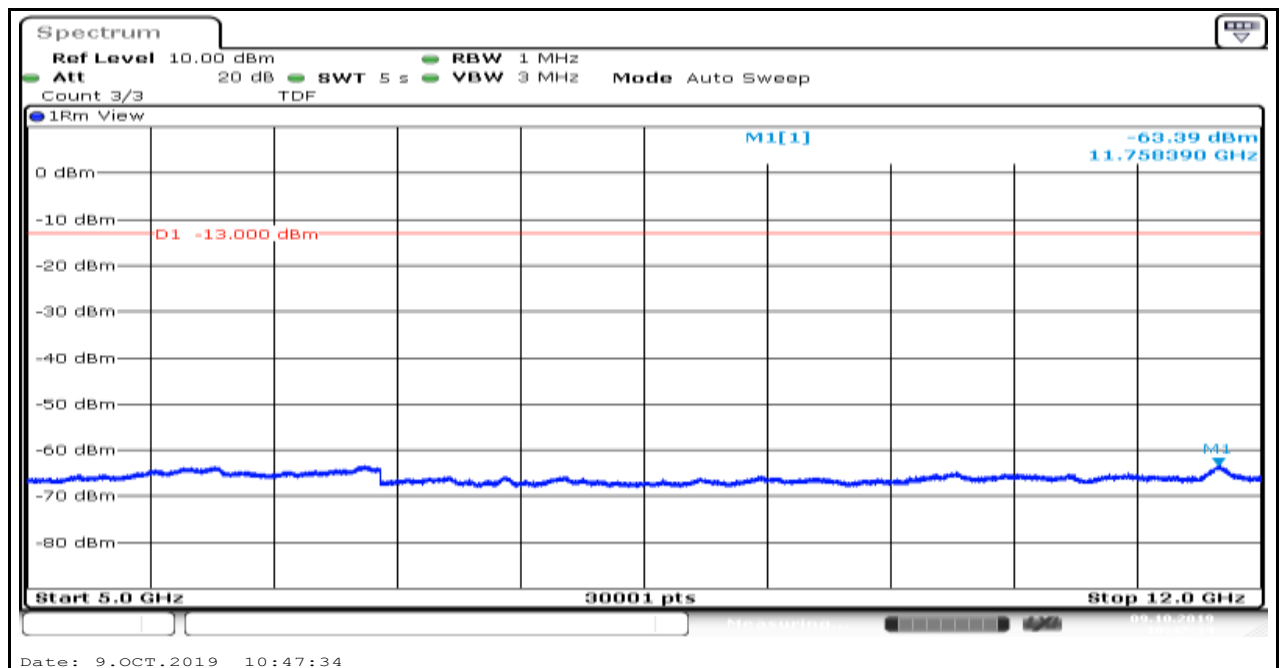


Band12_1.4MHz_16QAM_23173_6

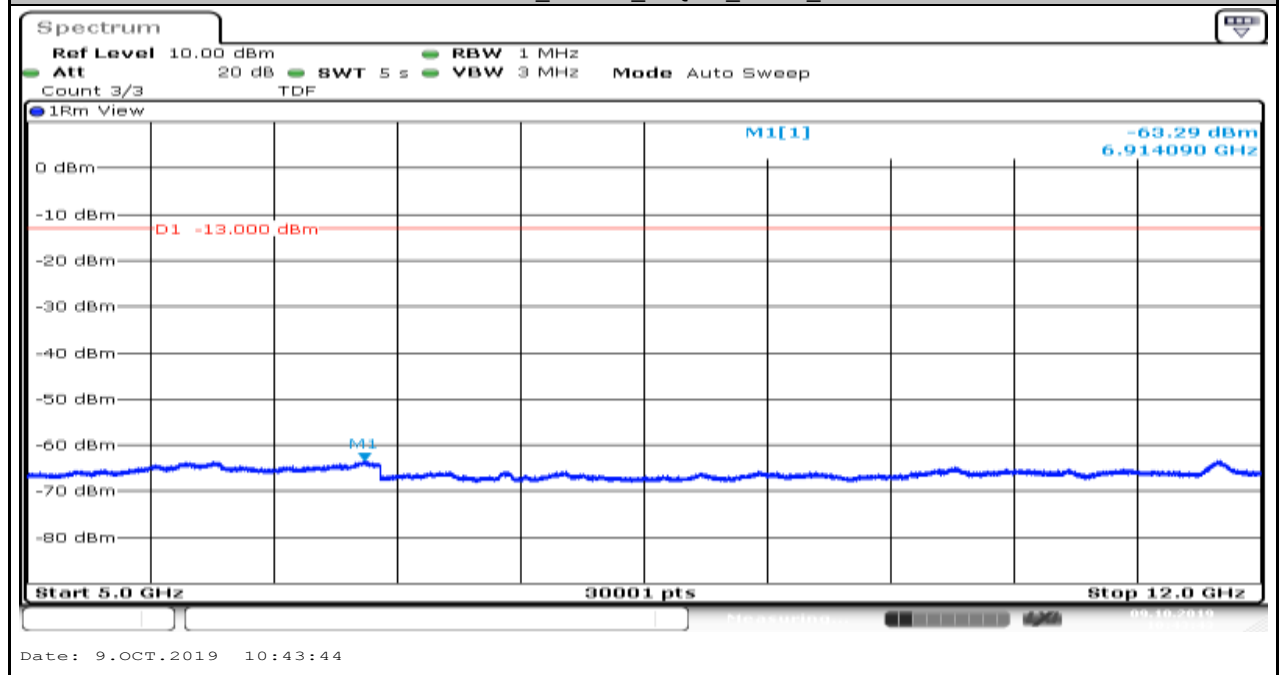


Band12_1.4MHz_16QAM_23173_6

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Band12_1.4MHz_16QAM_23173_1



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	-7.64	-0.010799	±2.5	PASS
Band12	1.4MHz	QPSK	23095	1	0	Low	LV	NT	-6.32	-0.008933	±2.5	PASS
Band12	1.4MHz	QPSK	23095	1	0	Low	NV	NT	-8.60	-0.012155	±2.5	PASS
Band12	1.4MHz	16QAM	23095	1	0	Low	HV	NT	-6.81	-0.009625	±2.5	PASS
Band12	1.4MHz	16QAM	23095	1	0	Low	LV	NT	-6.95	-0.009823	±2.5	PASS
Band12	1.4MHz	16QAM	23095	1	0	Low	NV	NT	-6.85	-0.009682	±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	20	-7.45	-0.010530	±2.5	PASS
Band12	1.4MHz	QPSK	23095	1	0	Low	NV	-20	-6.17	-0.008721	±2.5	PASS
Band12	1.4MHz	QPSK	23095	1	0	Low	NV	-10	-6.42	-0.009074	±2.5	PASS
Band12	1.4MHz	QPSK	23095	1	0	Low	NV	0	-8.60	-0.012155	±2.5	PASS
Band12	1.4MHz	QPSK	23095	1	0	Low	NV	10	-7.68	-0.010855	±2.5	PASS
Band12	1.4MHz	QPSK	23095	1	0	Low	NV	30	-8.14	-0.011505	±2.5	PASS
Band12	1.4MHz	QPSK	23095	1	0	Low	NV	40	-8.15	-0.011519	±2.5	PASS
Band12	1.4MHz	QPSK	23095	1	0	Low	NV	-30	-6.22	-0.008792	±2.5	PASS
Band12	1.4MHz	QPSK	23095	1	0	Low	NV	50	-8.40	-0.011873	±2.5	PASS
Band12	1.4MHz	16QAM	23095	1	0	Low	NV	20	-7.61	-0.010756	±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	-10	-6.65	-0.009399	±2.5	PASS
Band12	1.4MHz	16QAM	23095	1	0	Low	NV	0	-4.91	-0.006940	±2.5	PASS
Band12	1.4MHz	16QAM	23095	1	0	Low	NV	10	-7.78	-0.010996	±2.5	PASS
Band12	1.4MHz	16QAM	23095	1	0	Low	NV	30	-5.45	-0.007703	±2.5	PASS
Band12	1.4MHz	16QAM	23095	1	0	Low	NV	40	-4.92	-0.006954	±2.5	PASS
Band12	1.4MHz	16QAM	23095	1	0	Low	NV	50	-7.18	-0.010148	±2.5	PASS
Band12	1.4MHz	16QAM	23095	1	0	Low	NV	-30	-7.04	-0.009951	±2.5	PASS
Band12	1.4MHz	QPSK	23095	1	0	Low	NV	85	-8.28	-0.011703	±2.5	PASS
Band12	1.4MHz	QPSK	23095	1	0	Low	NV	80	-7.05	-0.009965	±2.5	PASS
Band12	1.4MHz	QPSK	23095	1	0	Low	NV	70	-8.27	-0.011689	±2.5	PASS
Band12	1.4MHz	QPSK	23095	1	0	Low	NV	60	-7.68	-0.010855	±2.5	PASS
Band12	1.4MHz	QPSK	23095	1	0	Low	NV	-40	-8.44	-0.011929	±2.5	PASS
Band12	1.4MHz	16QAM	23095	1	0	Low	NV	85	-10.61	-0.014996	±2.5	PASS
Band12	1.4MHz	16QAM	23095	1	0	Low	NV	80	-7.75	-0.010954	±2.5	PASS
Band12	1.4MHz	16QAM	23095	1	0	Low	NV	70	-7.42	-0.010488	±2.5	PASS
Band12	1.4MHz	16QAM	23095	1	0	Low	NV	60	-8.97	-0.012678	±2.5	PASS
Band12	1.4MHz	16QAM	23095	1	0	Low	NV	-40	-7.67	-0.010841	±2.5	PASS

Appendix E: Test Results of Band 13 for eMTC operation

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

Test Result

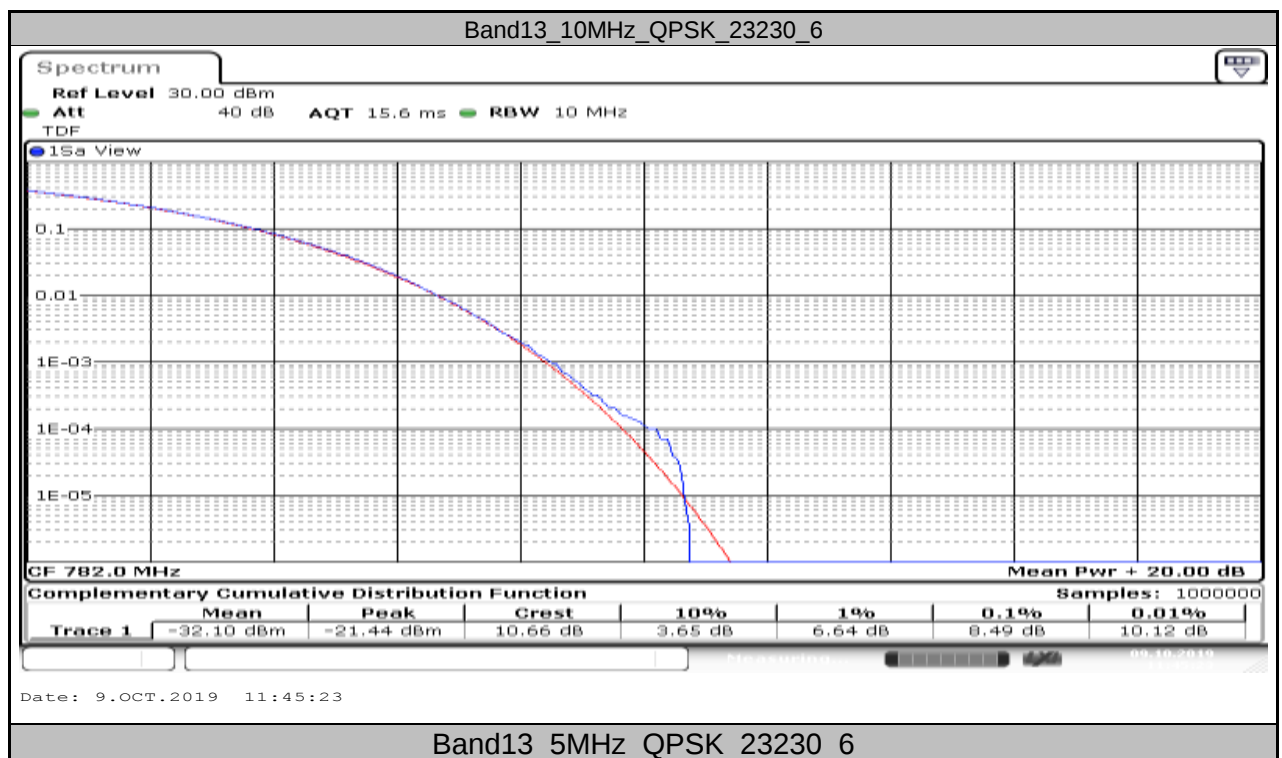
Band	Bandwidth	Modulation	Channel	RB Size	RB Start	NBIndex	Result (dBm)	ERP		Limit (watts)	Verdict
								dBm	Watts		
Band13	5MHz	QPSK	23205	1	0	Low	20.98	20.97	0.125	3	PASS
Band13	5MHz	QPSK	23205	6	0	Low	20.3	20.29	0.107	3	PASS
Band13	5MHz	QPSK	23230	6	0	Low	20.41	20.4	0.110	3	PASS
Band13	5MHz	QPSK	23230	1	0	Low	21.08	21.07	0.128	3	PASS
Band13	5MHz	QPSK	23255	3	3	High	21.14	21.13	0.130	3	PASS
Band13	5MHz	QPSK	23255	1	5	High	21.37	21.36	0.137	3	PASS
Band13	5MHz	16QAM	23205	6	0	Low	20.3	20.29	0.107	3	PASS
Band13	5MHz	16QAM	23205	1	0	Low	20.57	20.56	0.114	3	PASS
Band13	5MHz	16QAM	23230	1	0	Low	20.67	20.66	0.116	3	PASS
Band13	5MHz	16QAM	23230	6	0	Low	20.41	20.4	0.110	3	PASS
Band13	5MHz	16QAM	23255	1	5	High	20.86	20.85	0.122	3	PASS
Band13	5MHz	16QAM	23255	3	3	High	20.87	20.86	0.122	3	PASS
Band13	10MHz	QPSK	23230	5	0	Low	21.03	21.02	0.126	3	PASS
Band13	10MHz	QPSK	23230	1	0	Low	21.05	21.04	0.127	3	PASS
Band13	10MHz	QPSK	23230	1	5	High	21.35	21.34	0.136	3	PASS
Band13	10MHz	QPSK	23230	5	1	High	21.39	21.38	0.137	3	PASS
Band13	10MHz	16QAM	23230	1	5	High	20.84	20.83	0.121	3	PASS
Band13	10MHz	16QAM	23230	5	1	High	21.14	21.13	0.130	3	PASS
Band13	10MHz	16QAM	23230	1	0	Low	20.53	20.52	0.113	3	PASS
Band13	10MHz	16QAM	23230	5	0	Low	20.81	20.8	0.120	3	PASS

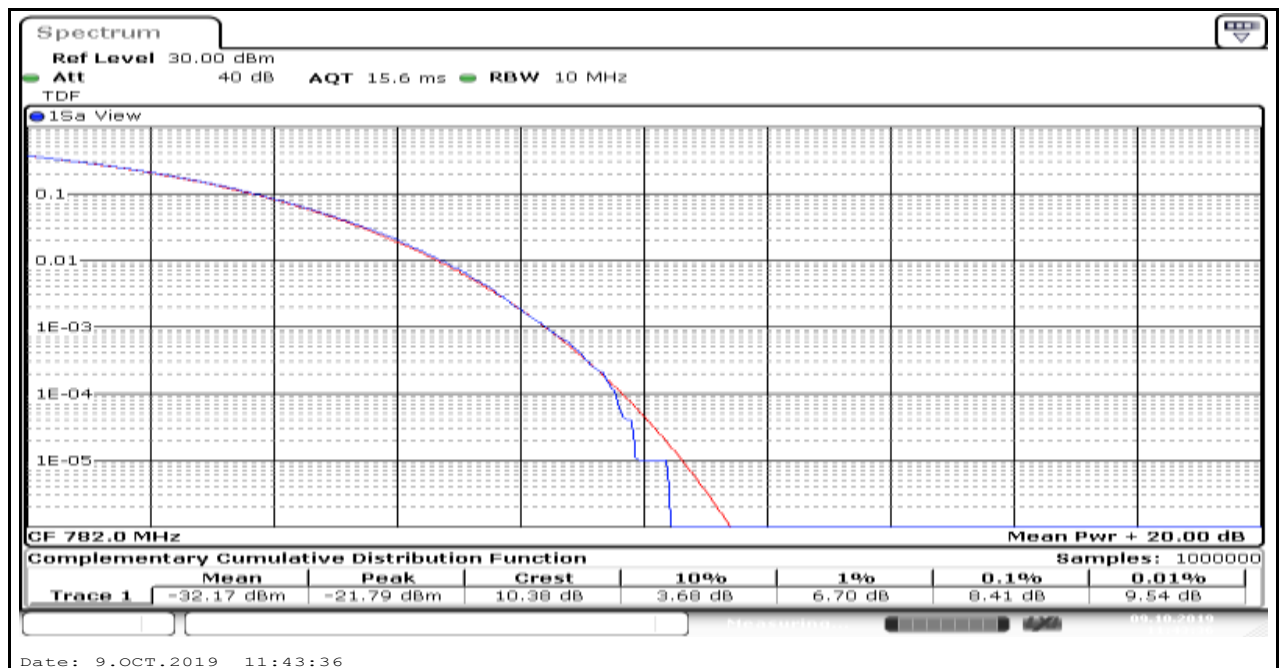
Appendix E.2: Peak-to-Average Ratio (CCDF) for M1

Test Result

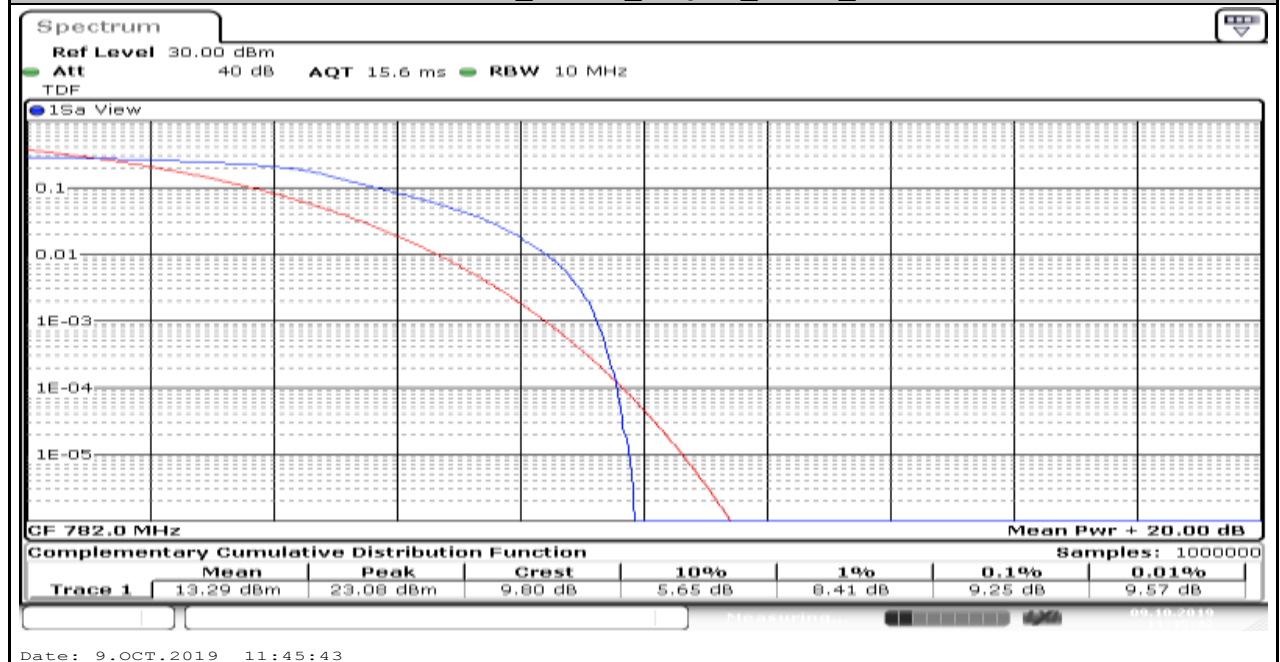
Band	Bandwidth	Modulation	Channel	RB Size	RB Start	NBIndex	Result(dB)	Limit(dB)	Verdict
Band13	10MHz	QPSK	23230	6	0	Low	8.49	<=13	PASS
Band13	5MHz	QPSK	23230	6	0	Low	8.41	<=13	PASS
Band13	10MHz	16QAM	23230	6	0	Low	9.25	<=13	PASS
Band13	5MHz	16QAM	23230	6	0	Low	8.75	<=13	PASS

Test Graphs



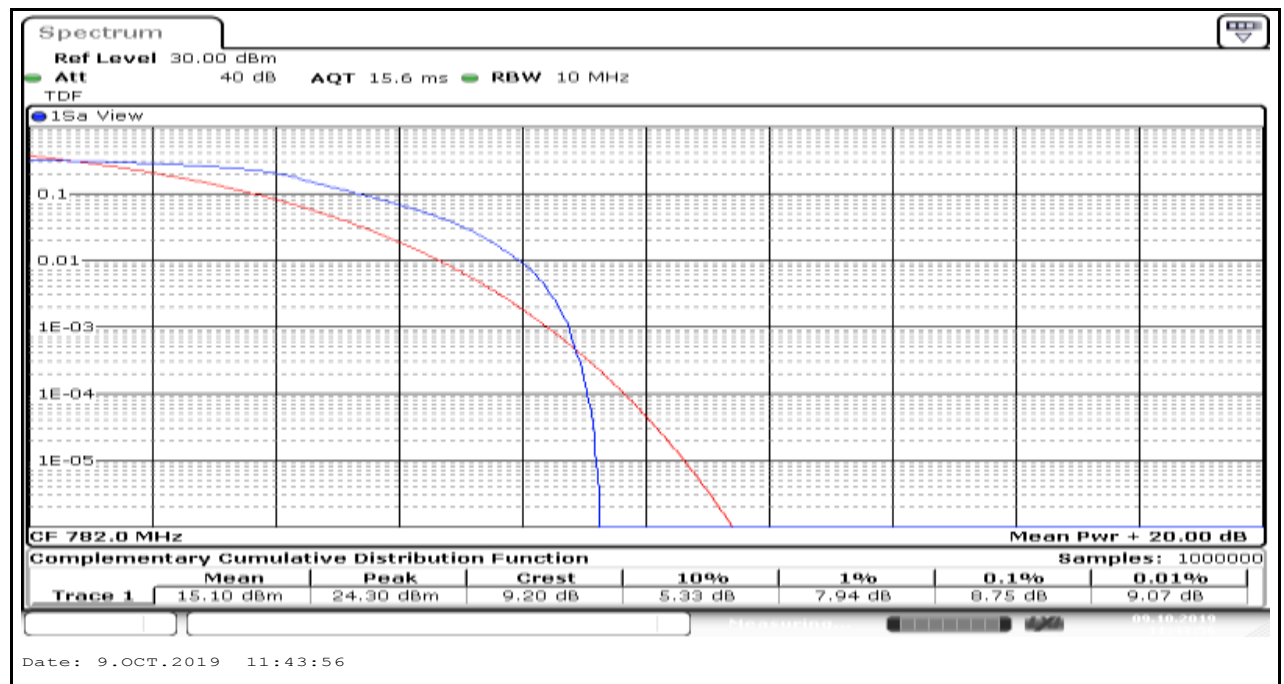


Band13_10MHz_16QAM_23230_6



Band13_5MHz_16QAM_23230_6

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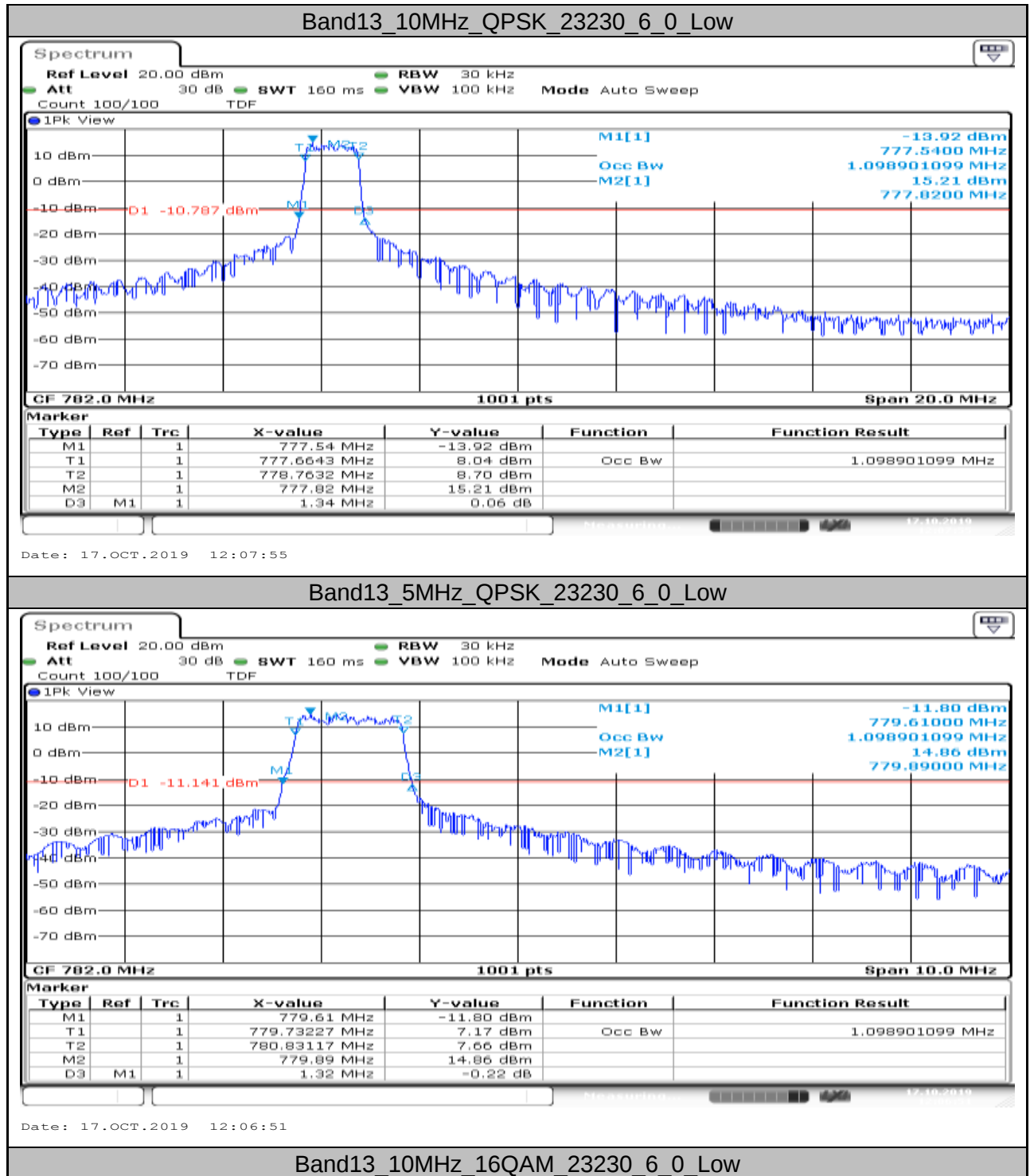


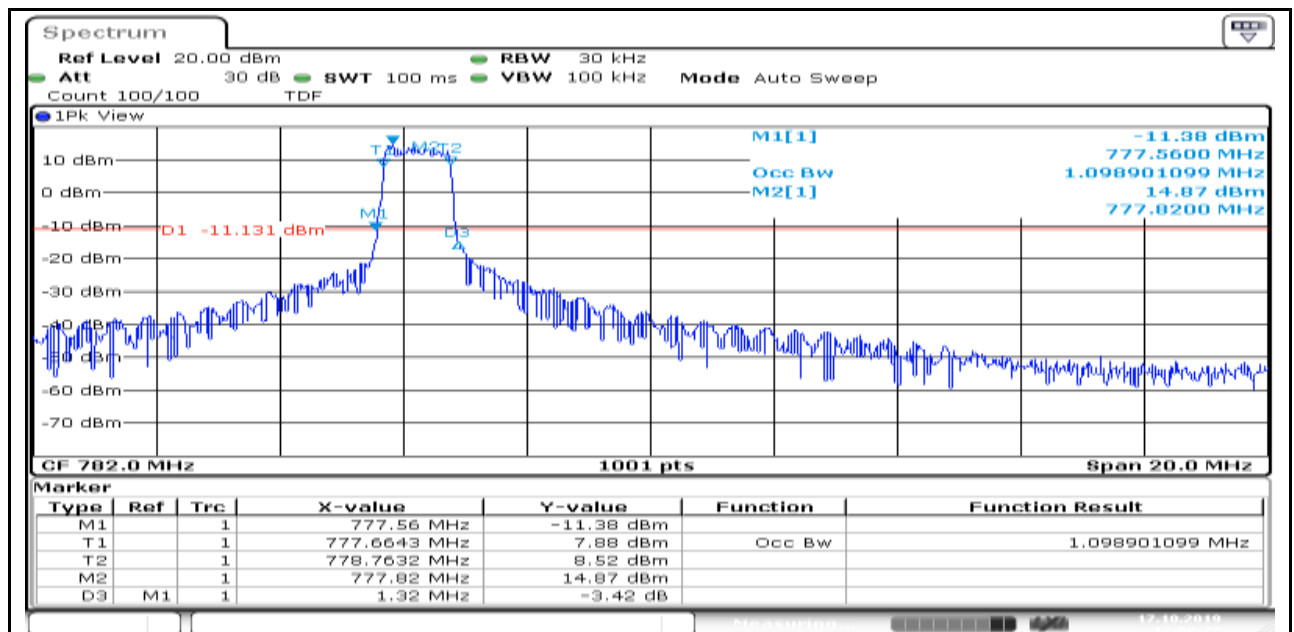
Appendix E.3: 26dB Bandwidth and Occupied Bandwidth for M1

Test Result

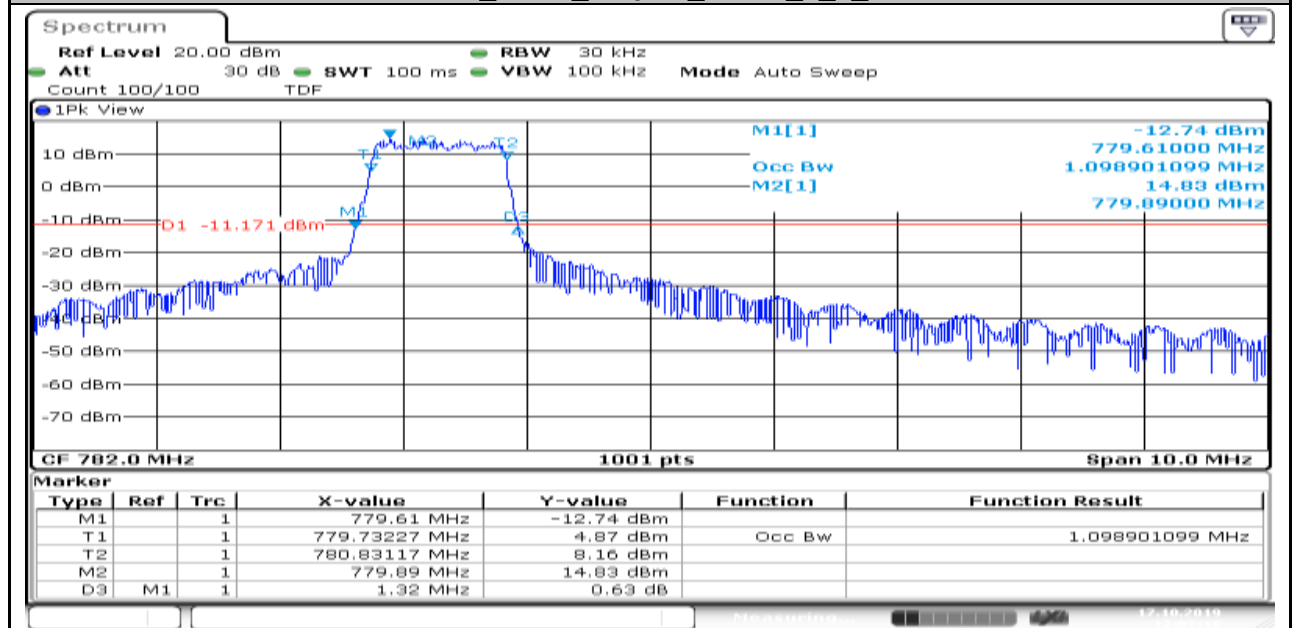
Band	Bandwidth	Modulation	Channel	RB Size	RB Start	NB Index	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
Band13	10MHz	QPSK	23230	6	0	Low	1.099	1.340	PASS
Band13	5MHz	QPSK	23230	6	0	Low	1.099	1.320	PASS
Band13	10MHz	16QAM	23230	6	0	Low	1.099	1.320	PASS
Band13	5MHz	16QAM	23230	6	0	Low	1.099	1.320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

Test Graphs





Band13_5MHz_16QAM_23230_6_0_Low

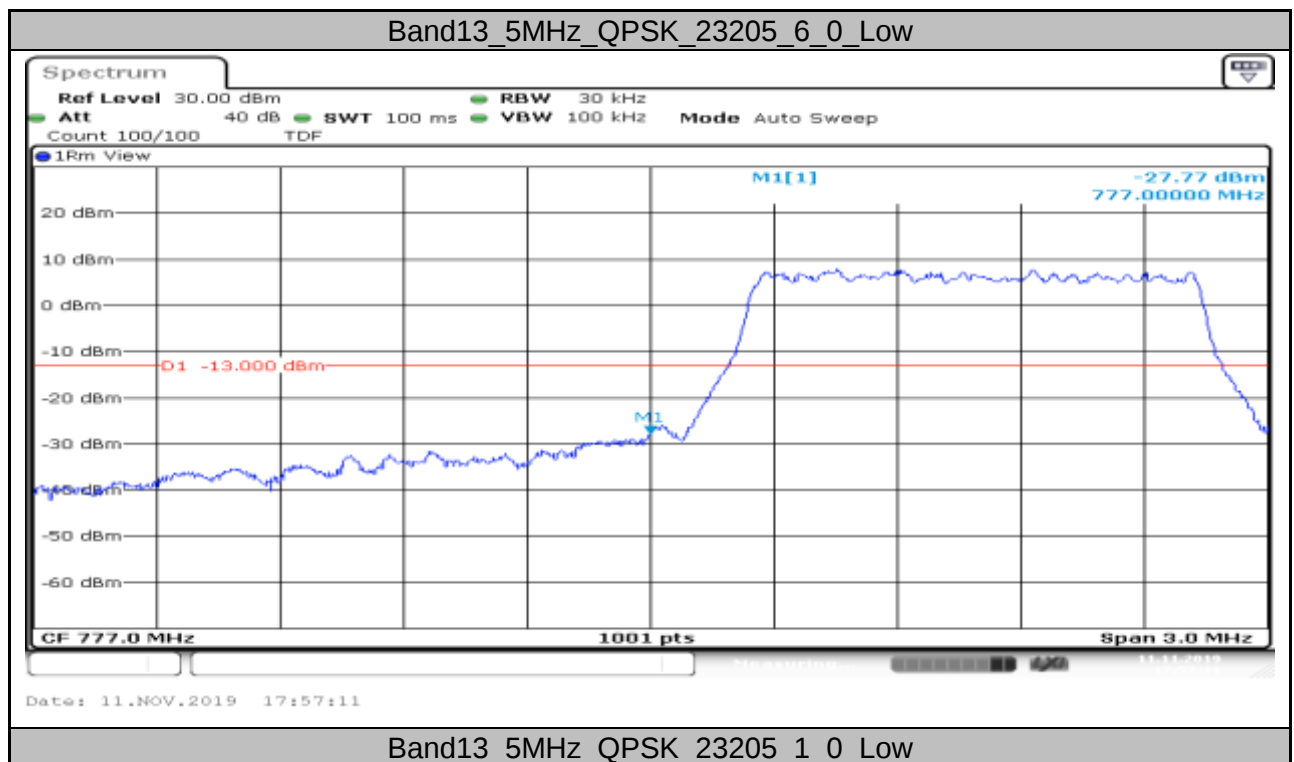


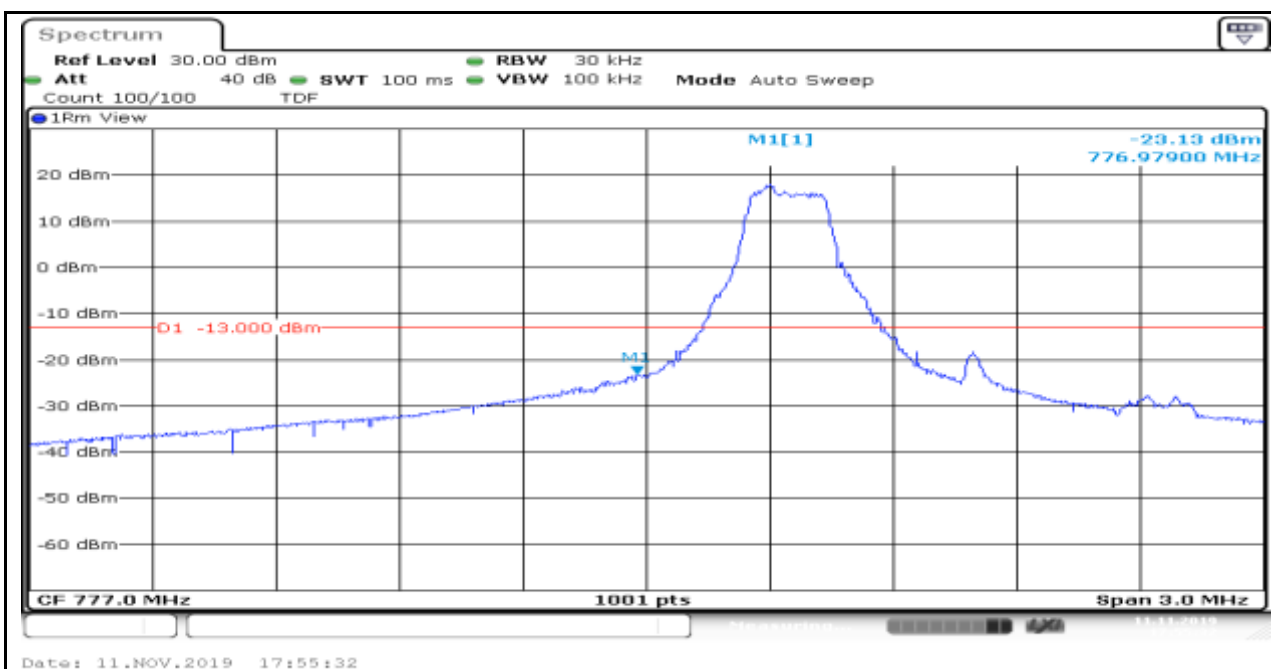
Appendix E.4: Band Edge for M1

Test Result

Band	Bandwidth	Modulation	Channel	RB Size	RB Start	NB Index	Result (dBm)	Verdict
Band13	5MHz	QPSK	23205	6	0	Low	-27.77	PASS
Band13	5MHz	QPSK	23205	1	0	Low	-23.13	PASS
Band13	5MHz	QPSK	23255	3	3	High	-20.28	PASS
Band13	5MHz	QPSK	23255	1	5	High	-22.33	PASS
Band13	5MHz	16QAM	23205	6	0	Low	-27.80	PASS
Band13	5MHz	16QAM	23205	1	0	Low	-26.66	PASS
Band13	5MHz	16QAM	23255	3	3	High	-22.77	PASS
Band13	5MHz	16QAM	23255	1	5	High	-25.73	PASS

Test Graphs

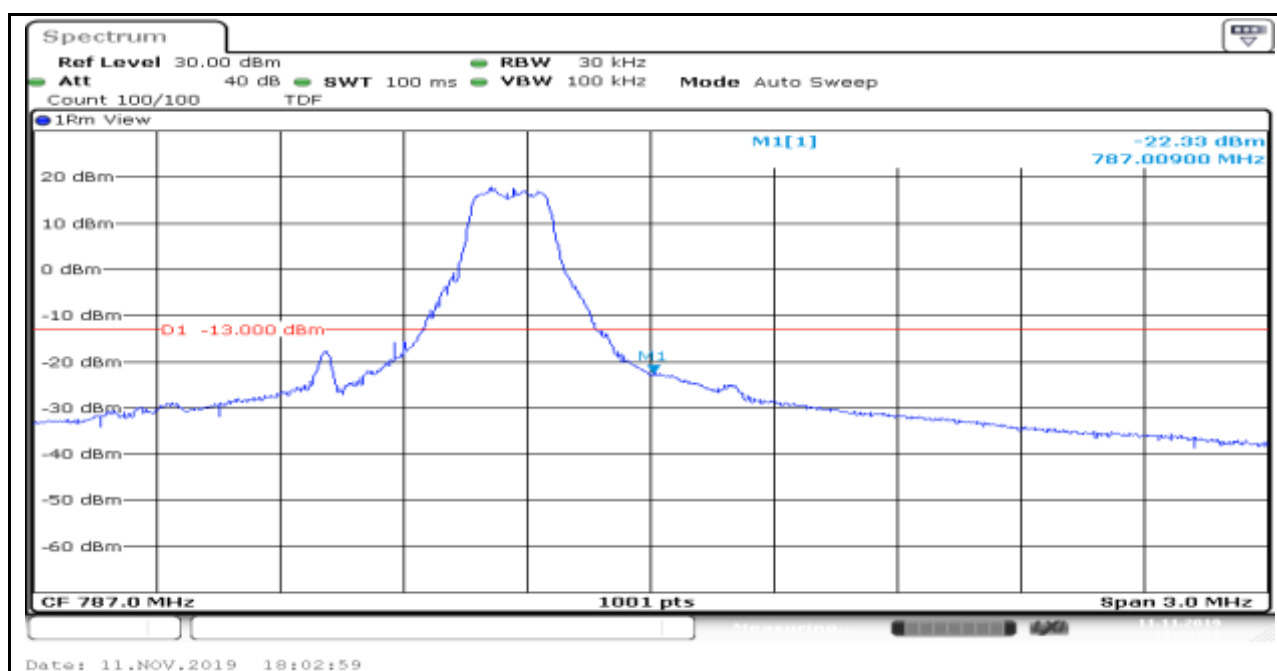




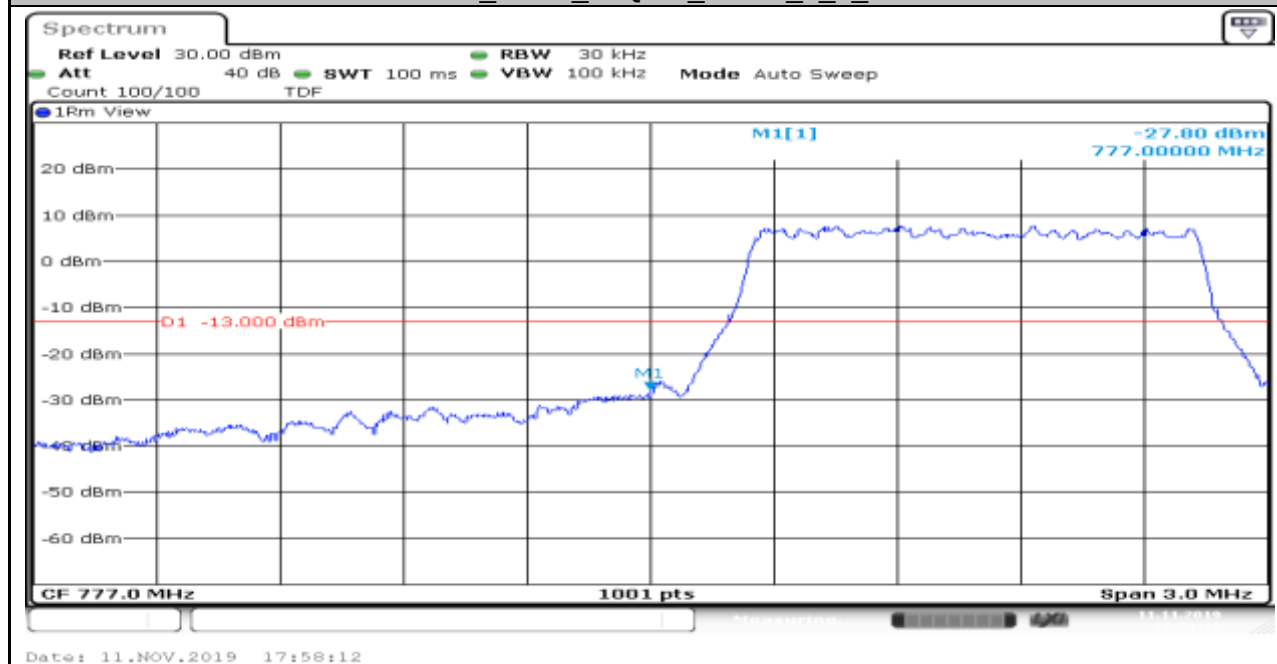
Band13_5MHz_QPSK_23255_3_3_High



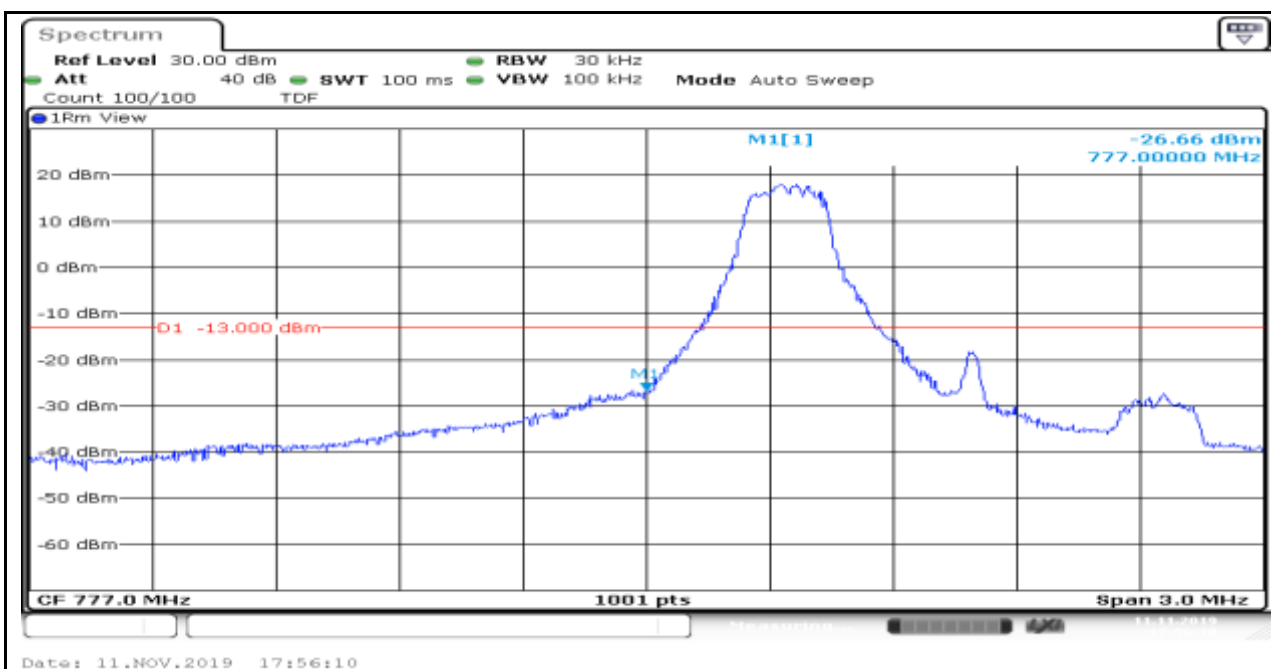
Band13_5MHz_QPSK_23255_1_5_High



Band13_5MHz_16QAM_23205_6_0_Low



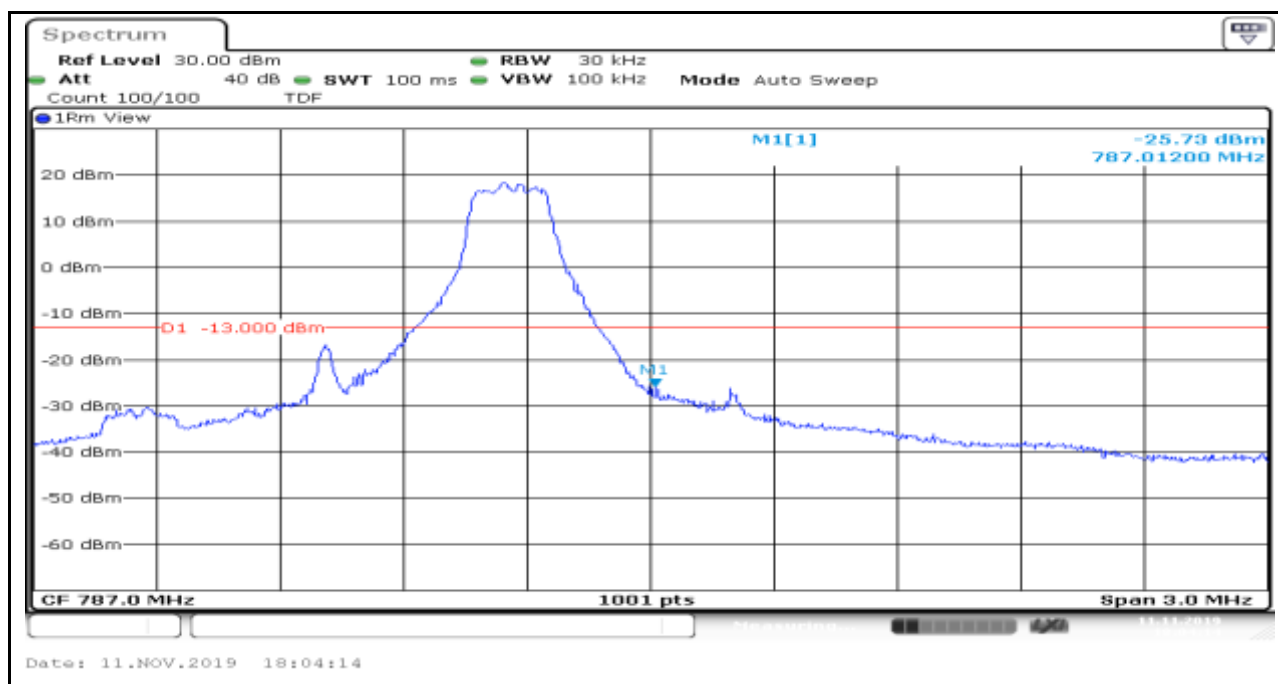
Band13_5MHz_16QAM_23205_1_0_Low



Band13_5MHz_16QAM_23255_3_3_High



Band13_5MHz_16QAM_23255_1_5_High



Appendix E.5: Conducted Spurious Emission for M1

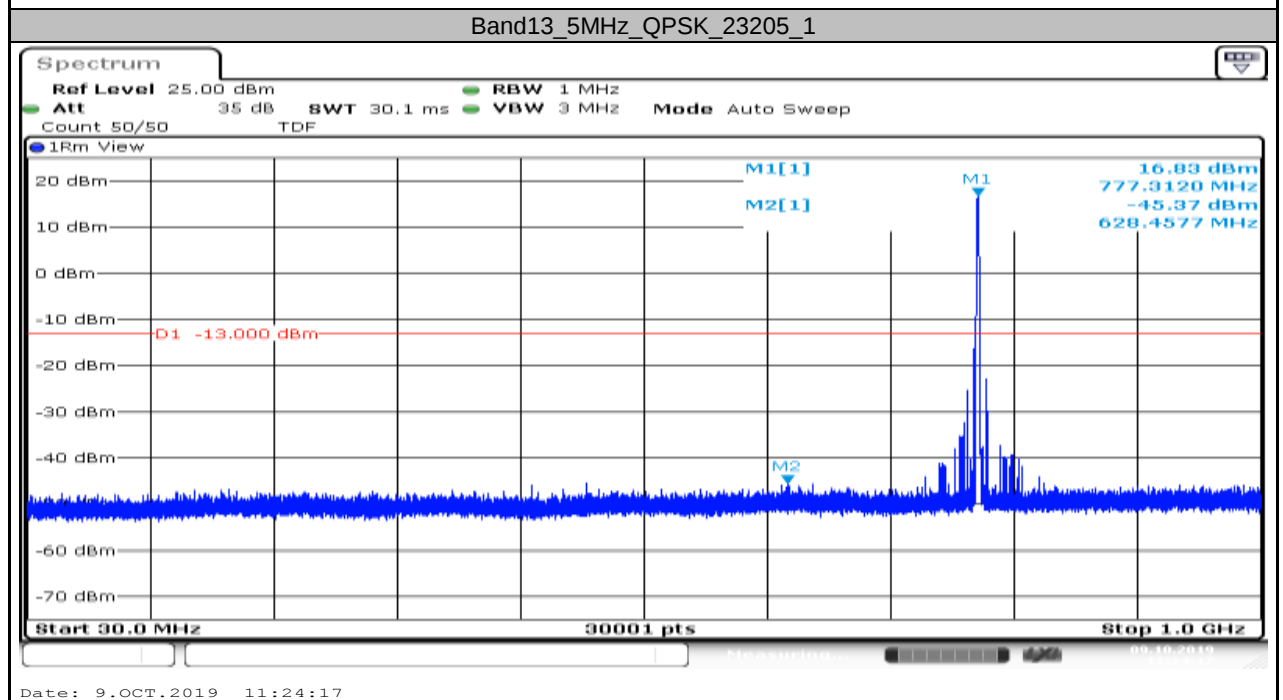
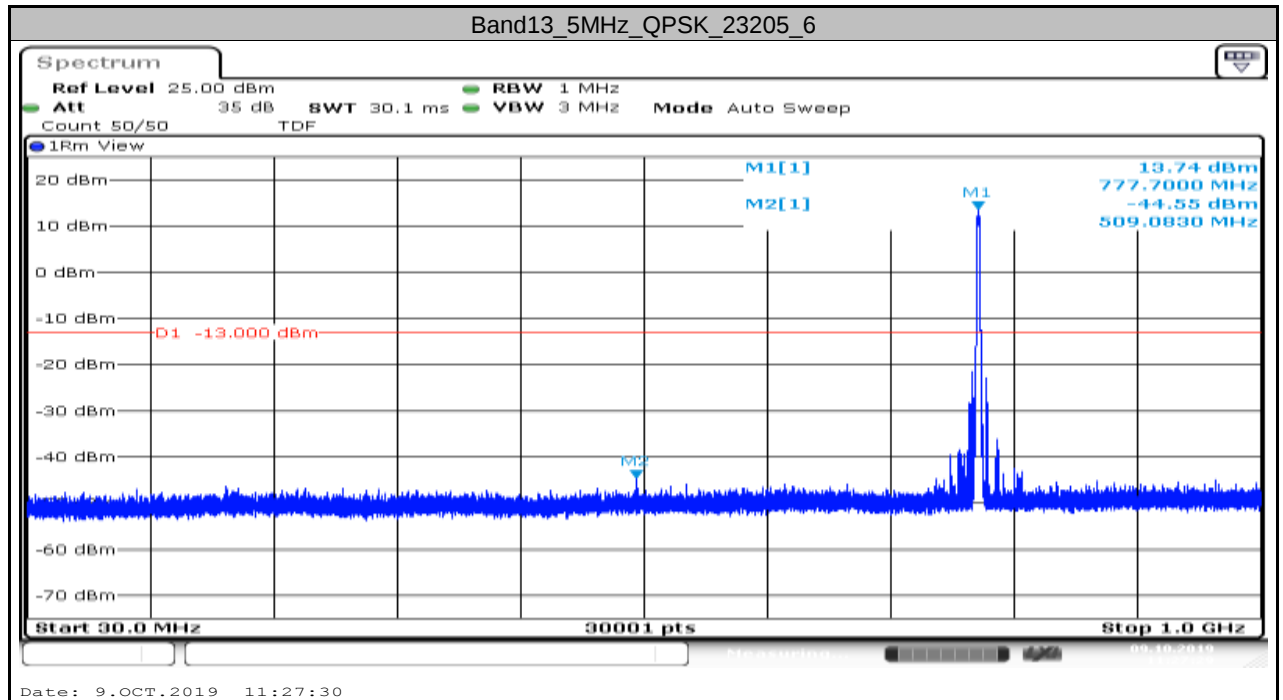
Test Result

Band	Bandwidth	Modulation	Channel	RB Size	RB Start	NB Index	Start Freq	Stop Freq	Result (dBm)	Verdict
Band13	5MHz	QPSK	23205	6	0	Low	30	1000	-44.55	PASS
Band13	5MHz	QPSK	23205	1	0	Low	30	1000	-45.37	PASS
Band13	5MHz	QPSK	23205	6	0	Low	12000	26500	-59.81	PASS
Band13	5MHz	QPSK	23205	6	0	Low	5000	12000	-63.56	PASS
Band13	5MHz	QPSK	23205	6	0	Low	1000	5000	-50.49	PASS
Band13	5MHz	QPSK	23205	1	0	Low	12000	26500	-59.69	PASS
Band13	5MHz	QPSK	23205	1	0	Low	1000	5000	-50.45	PASS
Band13	5MHz	QPSK	23205	1	0	Low	5000	12000	-63.4	PASS
Band13	5MHz	QPSK	23230	6	0	Low	12000	26500	-59.89	PASS
Band13	5MHz	QPSK	23230	1	0	Low	1000	5000	-50.51	PASS
Band13	5MHz	QPSK	23230	1	0	Low	5000	12000	-63.49	PASS
Band13	5MHz	QPSK	23230	1	0	Low	12000	26500	-59.74	PASS
Band13	5MHz	QPSK	23230	6	0	Low	1000	5000	-50.44	PASS
Band13	5MHz	QPSK	23230	1	0	Low	30	1000	-42.99	PASS
Band13	5MHz	QPSK	23230	6	0	Low	5000	12000	-63.35	PASS
Band13	5MHz	QPSK	23230	6	0	Low	30	1000	-41.77	PASS
Band13	5MHz	QPSK	23255	1	5	Low	12000	26500	-59.88	PASS
Band13	5MHz	QPSK	23255	6	0	Low	12000	26500	-59.86	PASS
Band13	5MHz	QPSK	23255	6	0	Low	5000	12000	-63.46	PASS
Band13	5MHz	QPSK	23255	6	0	Low	30	1000	-45.29	PASS
Band13	5MHz	QPSK	23255	1	5	Low	1000	5000	-50.59	PASS
Band13	5MHz	QPSK	23255	1	5	Low	5000	12000	-63.45	PASS
Band13	5MHz	QPSK	23255	1	5	Low	30	1000	-43.23	PASS
Band13	5MHz	QPSK	23255	6	0	Low	1000	5000	-50.58	PASS
Band13	5MHz	16QAM	23205	1	0	Low	1000	5000	-50.4	PASS
Band13	5MHz	16QAM	23205	1	0	Low	5000	12000	-63.53	PASS
Band13	5MHz	16QAM	23205	1	0	Low	12000	26500	-59.89	PASS
Band13	5MHz	16QAM	23205	6	0	Low	12000	26500	-59.93	PASS
Band13	5MHz	16QAM	23205	6	0	Low	5000	12000	-63.45	PASS
Band13	5MHz	16QAM	23205	6	0	Low	30	1000	-43.02	PASS
Band13	5MHz	16QAM	23205	1	0	Low	30	1000	-41.75	PASS
Band13	5MHz	16QAM	23205	6	0	Low	1000	5000	-50.59	PASS
Band13	5MHz	16QAM	23230	6	0	Low	12000	26500	-59.92	PASS
Band13	5MHz	16QAM	23230	1	0	Low	1000	5000	-50.51	PASS
Band13	5MHz	16QAM	23230	1	0	Low	12000	26500	-59.95	PASS
Band13	5MHz	16QAM	23230	6	0	Low	30	1000	-43	PASS
Band13	5MHz	16QAM	23230	6	0	Low	1000	5000	-50.49	PASS
Band13	5MHz	16QAM	23230	6	0	Low	5000	12000	-63.49	PASS
Band13	5MHz	16QAM	23230	1	0	Low	30	1000	-42.82	PASS
Band13	5MHz	16QAM	23230	1	0	Low	5000	12000	-63.41	PASS
Band13	5MHz	16QAM	23255	6	0	Low	5000	12000	-63.45	PASS
Band13	5MHz	16QAM	23255	6	0	Low	1000	5000	-50.61	PASS
Band13	5MHz	16QAM	23255	6	0	Low	30	1000	-44.18	PASS
Band13	5MHz	16QAM	23255	1	5	Low	12000	26500	-59.92	PASS
Band13	5MHz	16QAM	23255	1	5	Low	5000	12000	-63.43	PASS
Band13	5MHz	16QAM	23255	1	5	Low	30	1000	-45.11	PASS
Band13	5MHz	16QAM	23255	6	0	Low	12000	26500	-59.9	PASS

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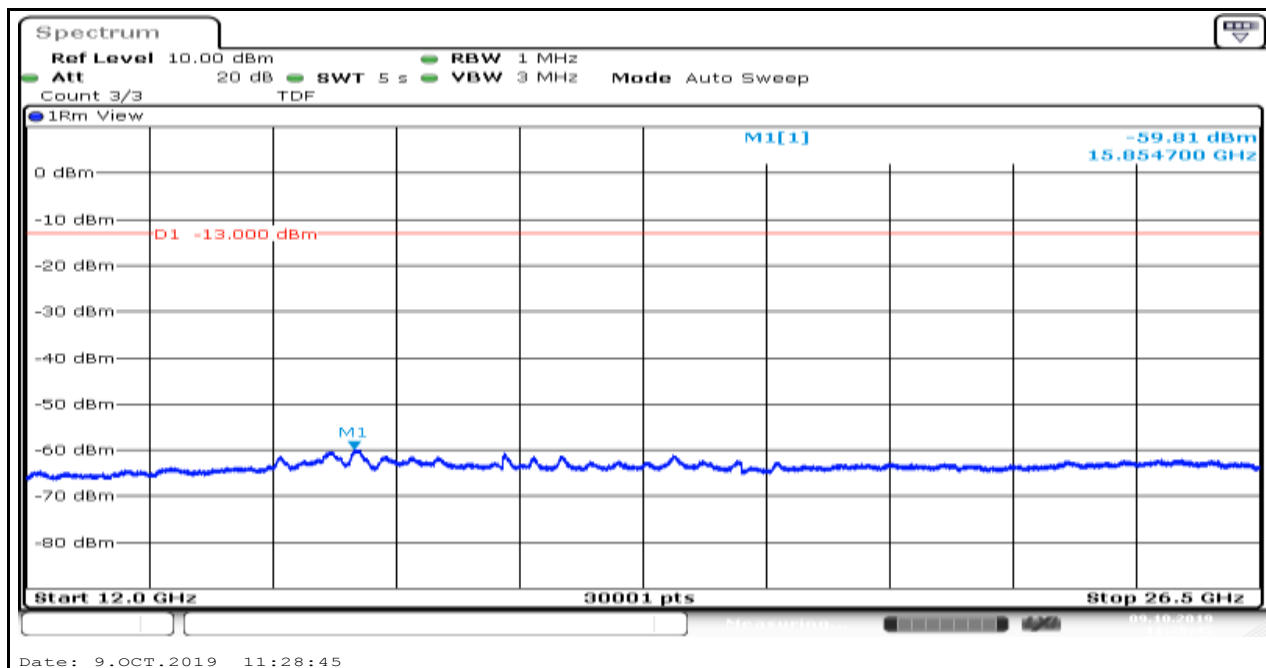
Band13	5MHz	16QAM	23255	1	5	Low	1000	5000	-50.58	PASS
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Test Graphs

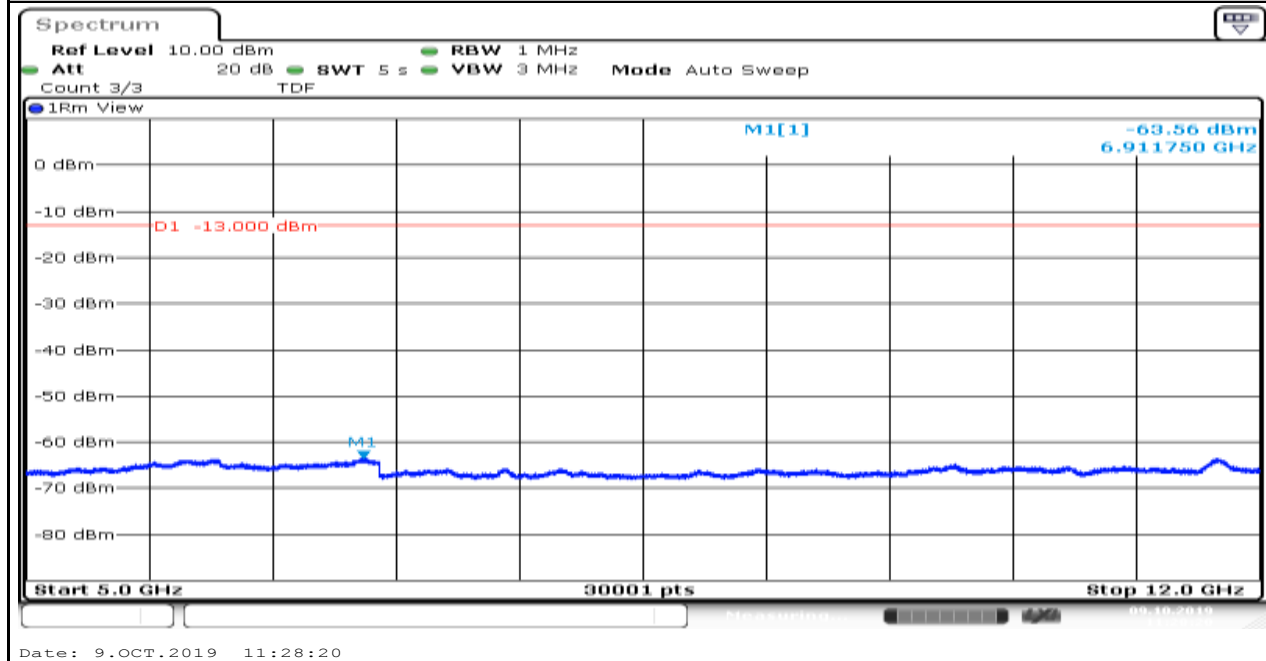


Band13_5MHz_QPSK_23205_6

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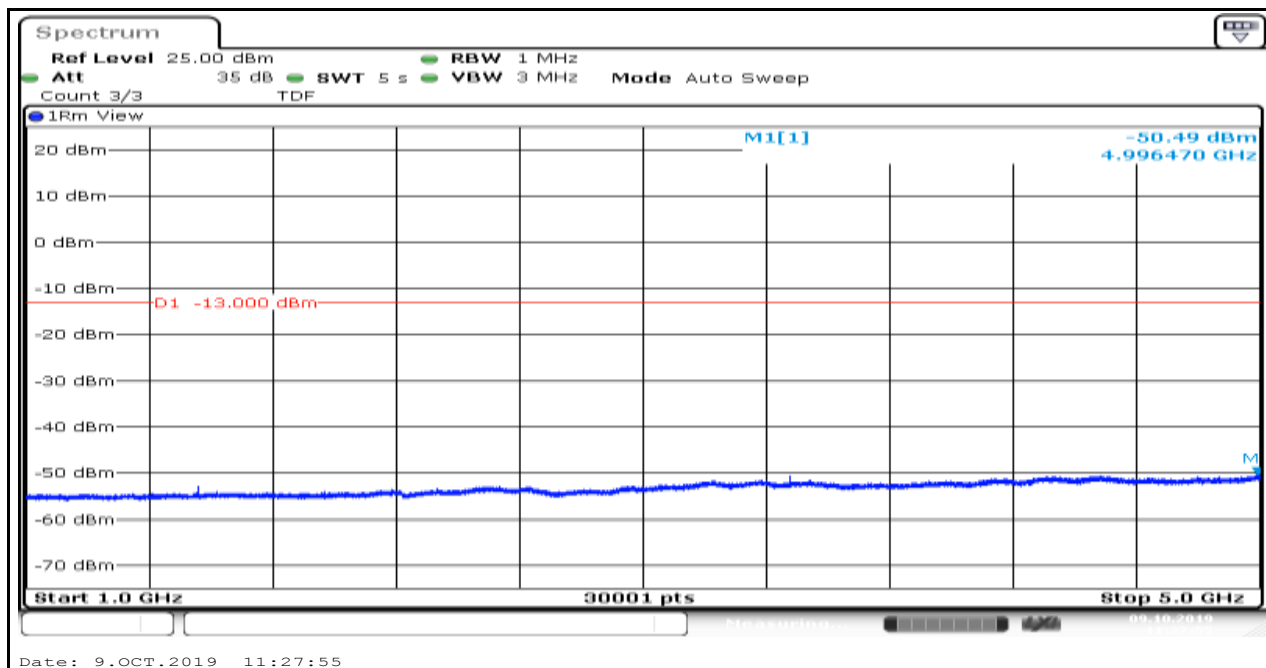


Band13_5MHz_QPSK_23205_6

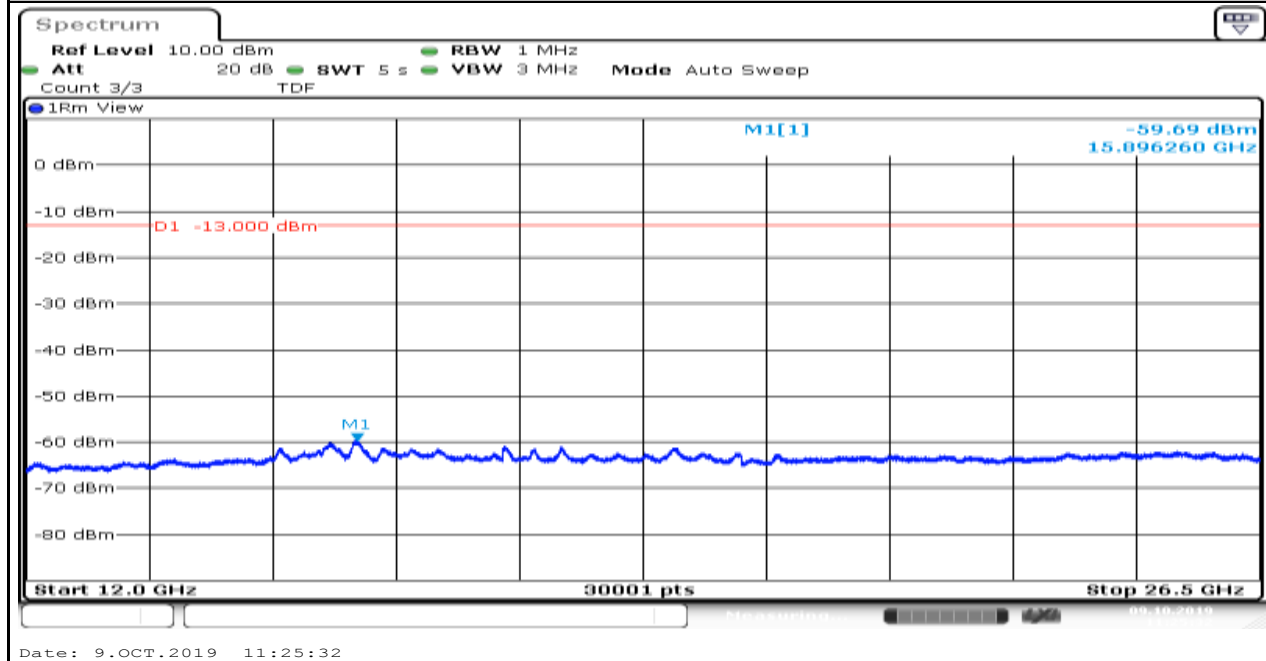


Band13_5MHz_QPSK_23205_6

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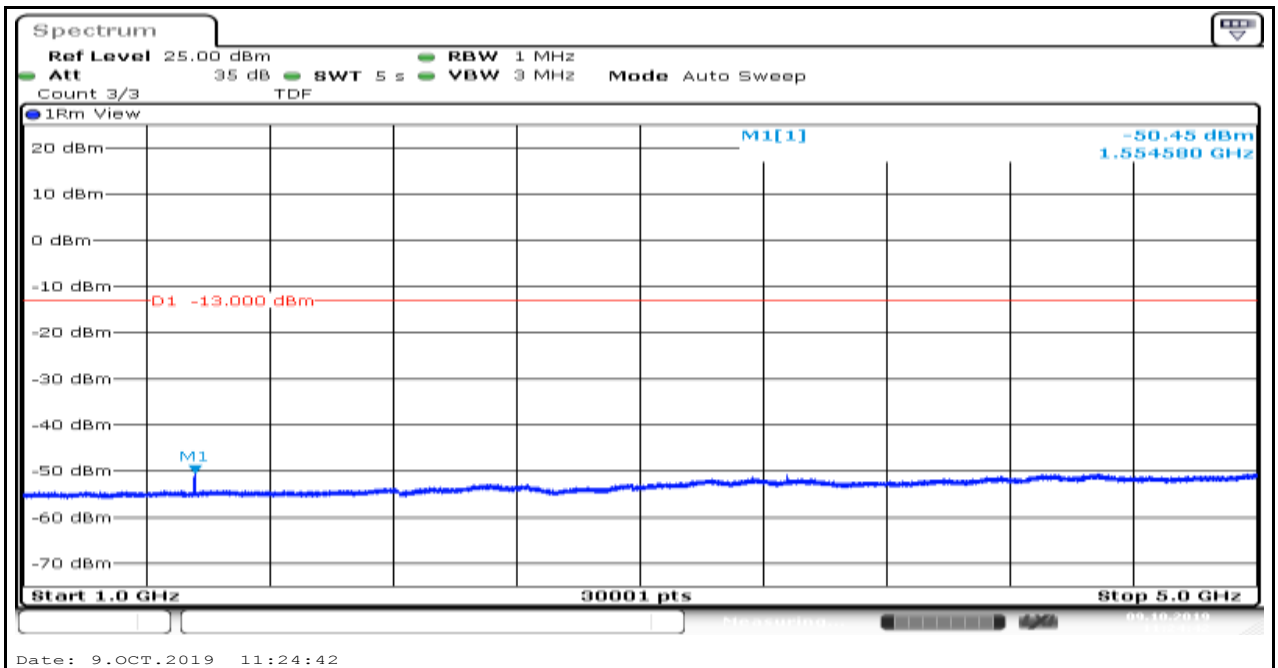


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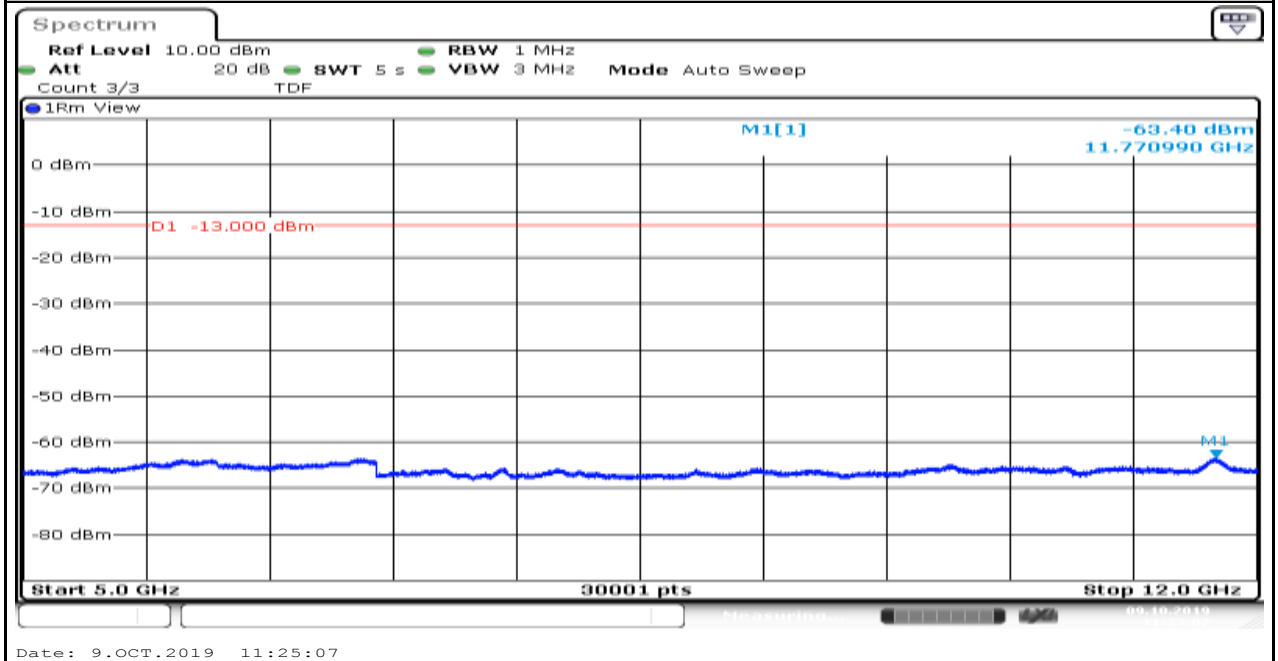


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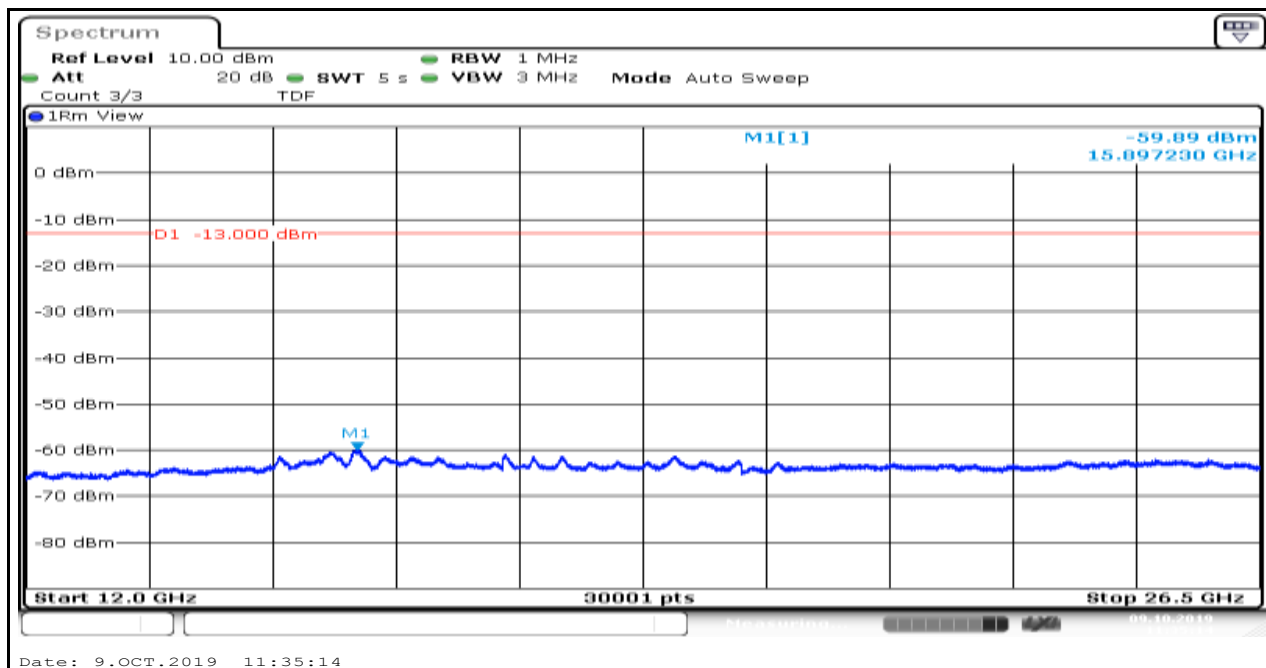
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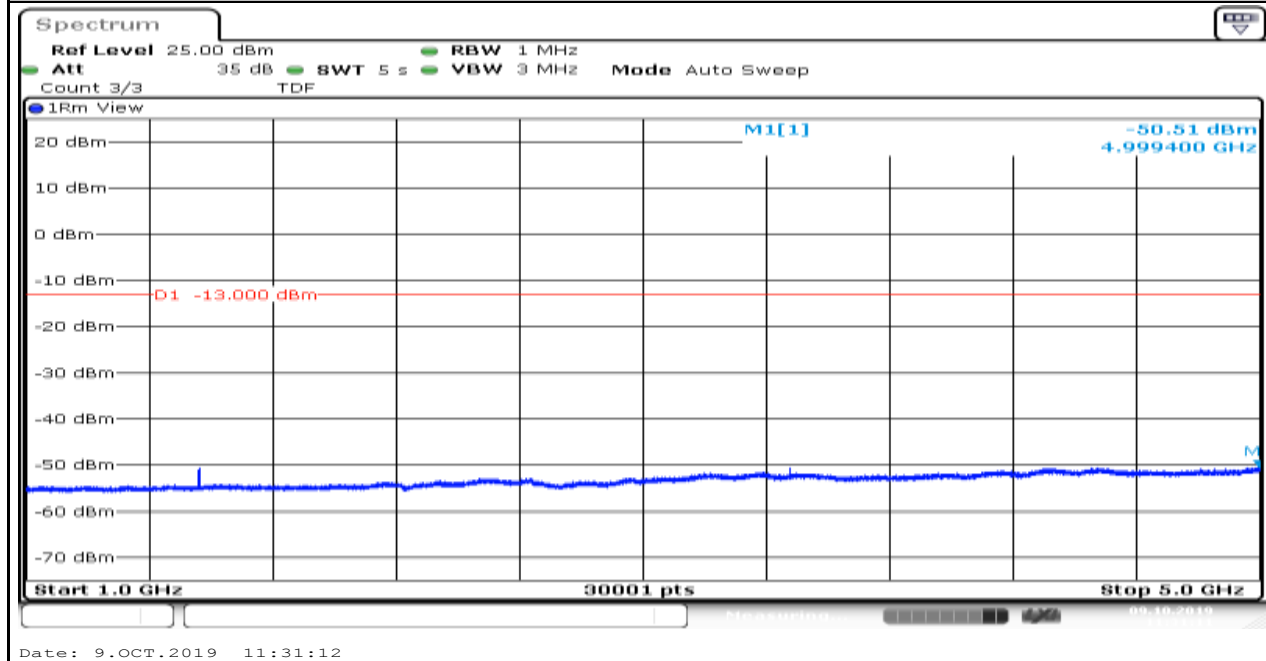
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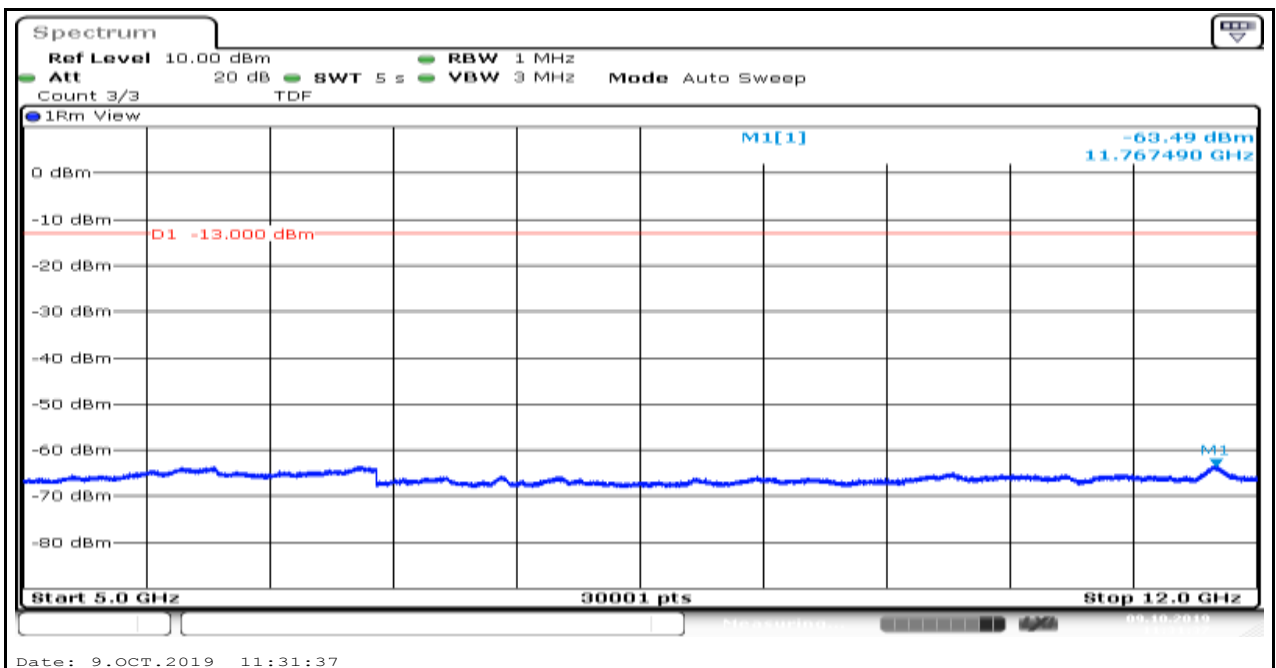
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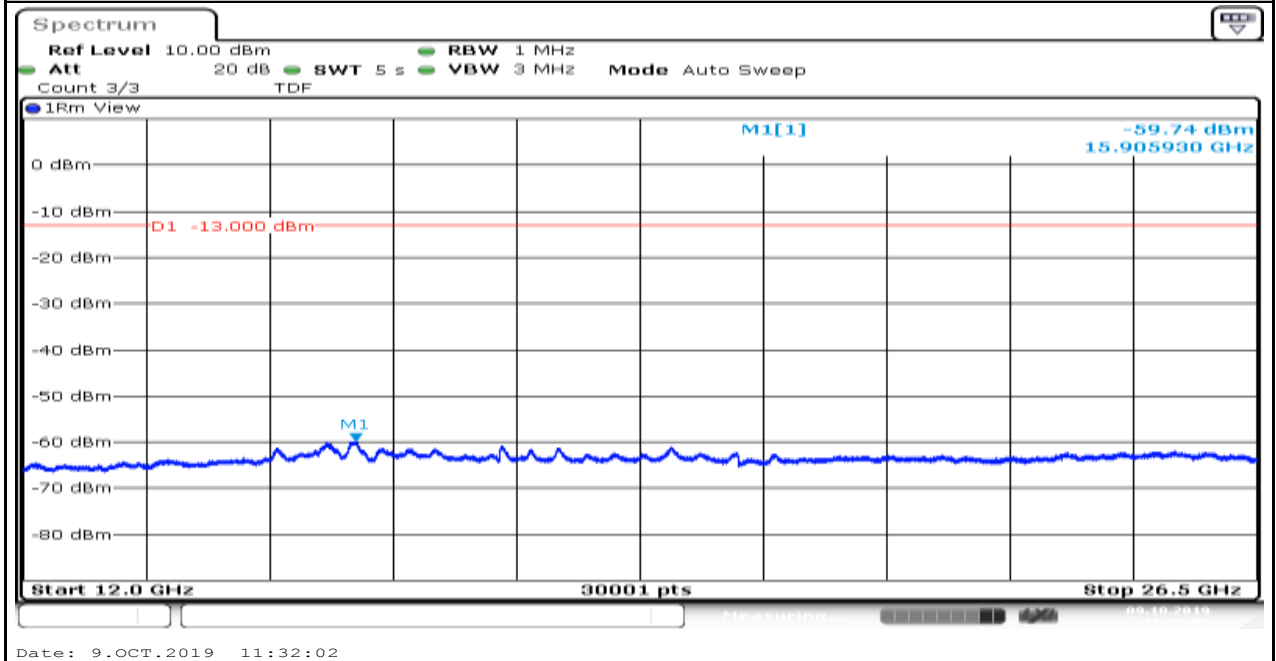
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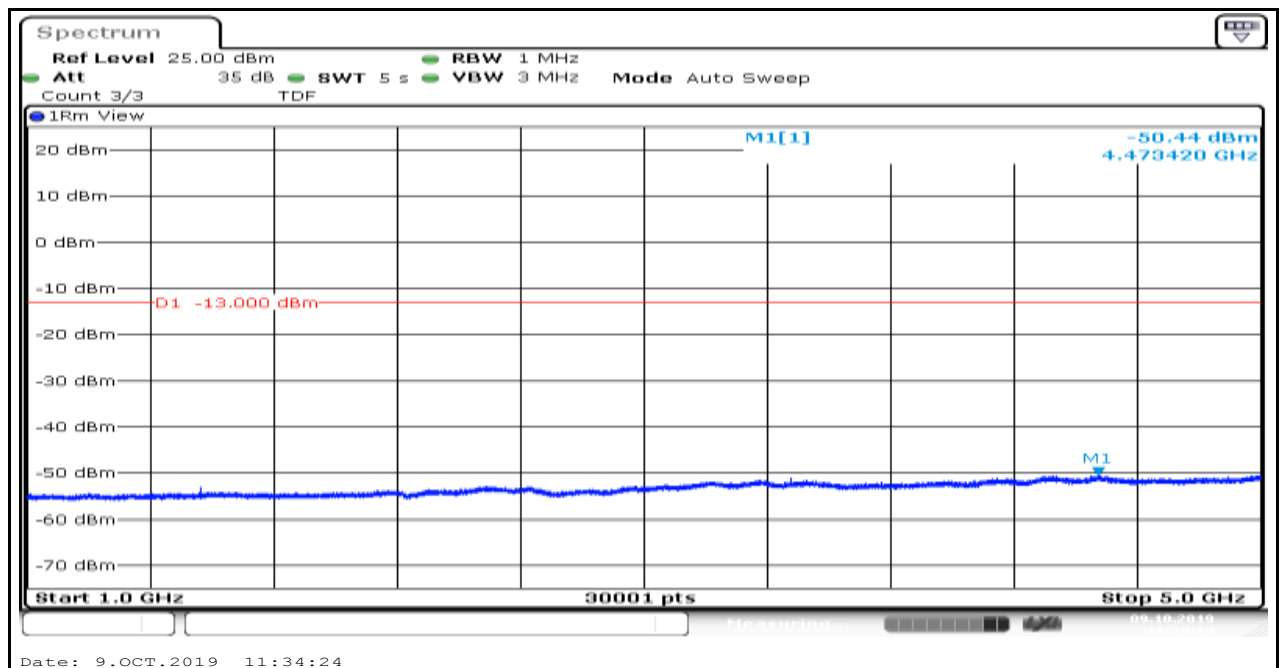
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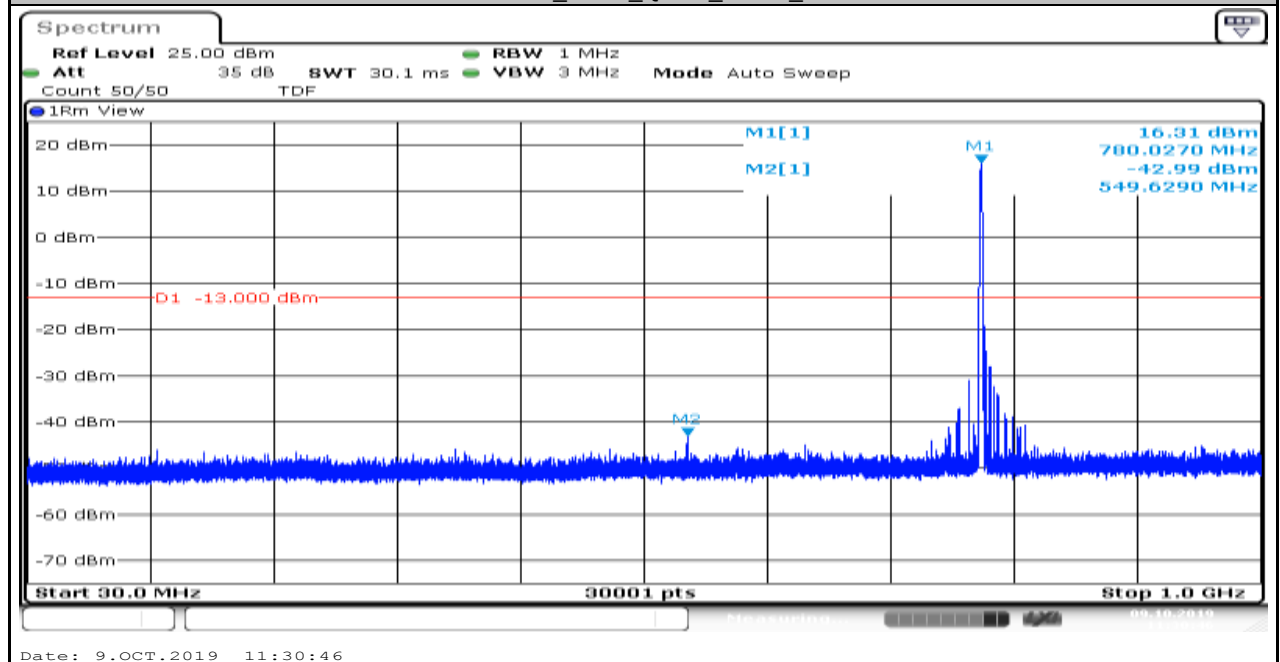
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Band13_5MHz_QPSK_23230_6

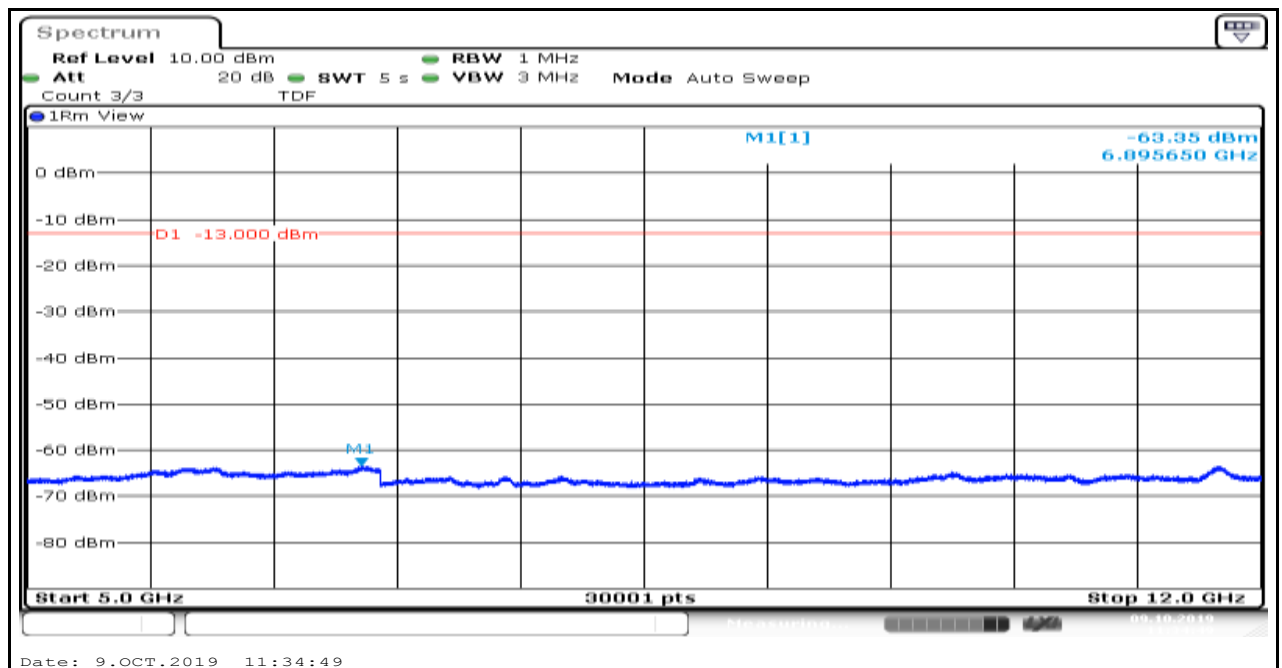


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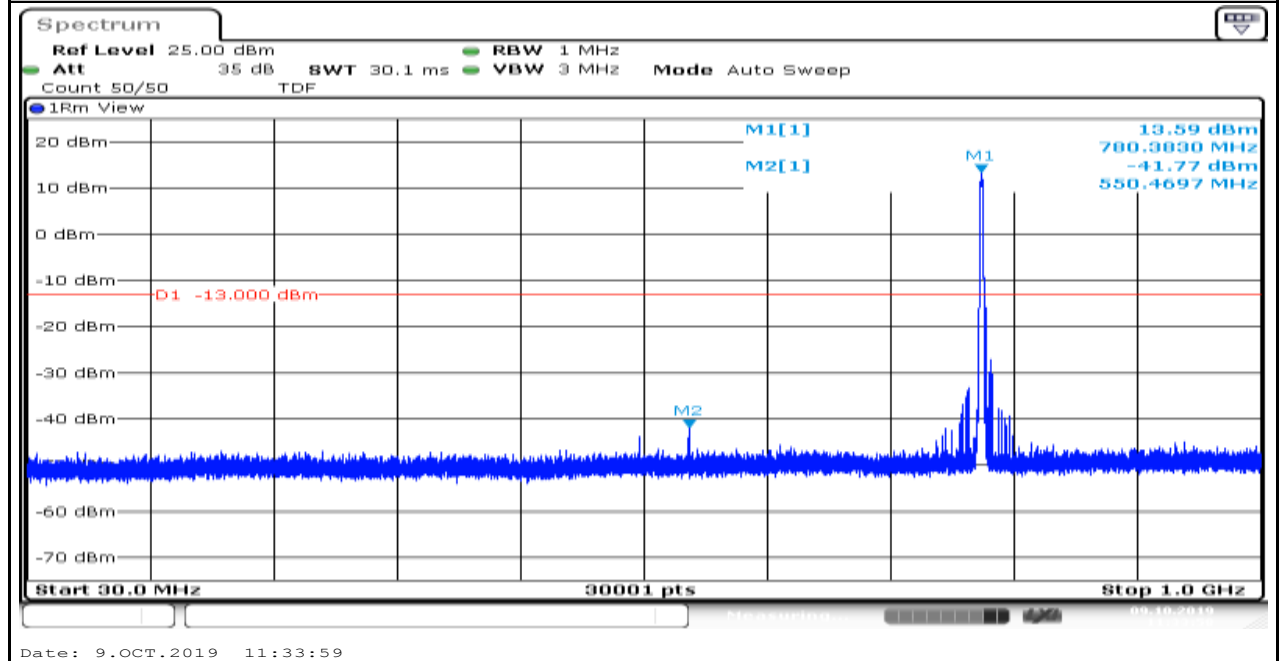


Band13_5MHz_QPSK_23230_6

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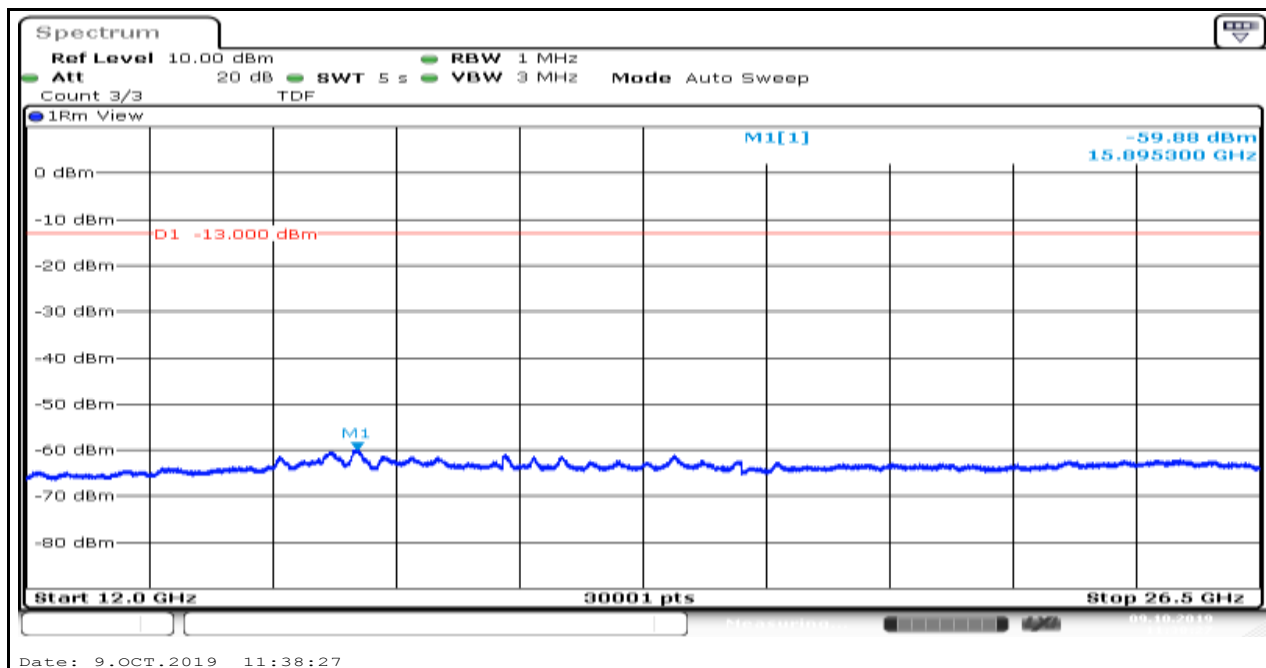


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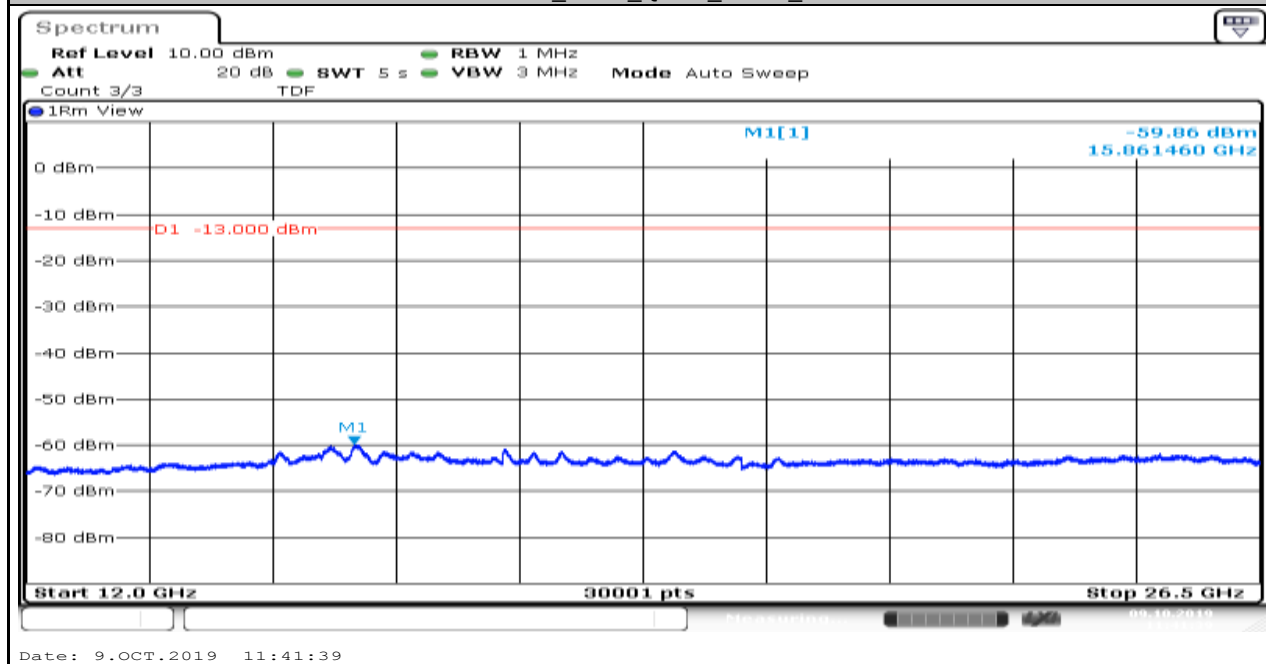


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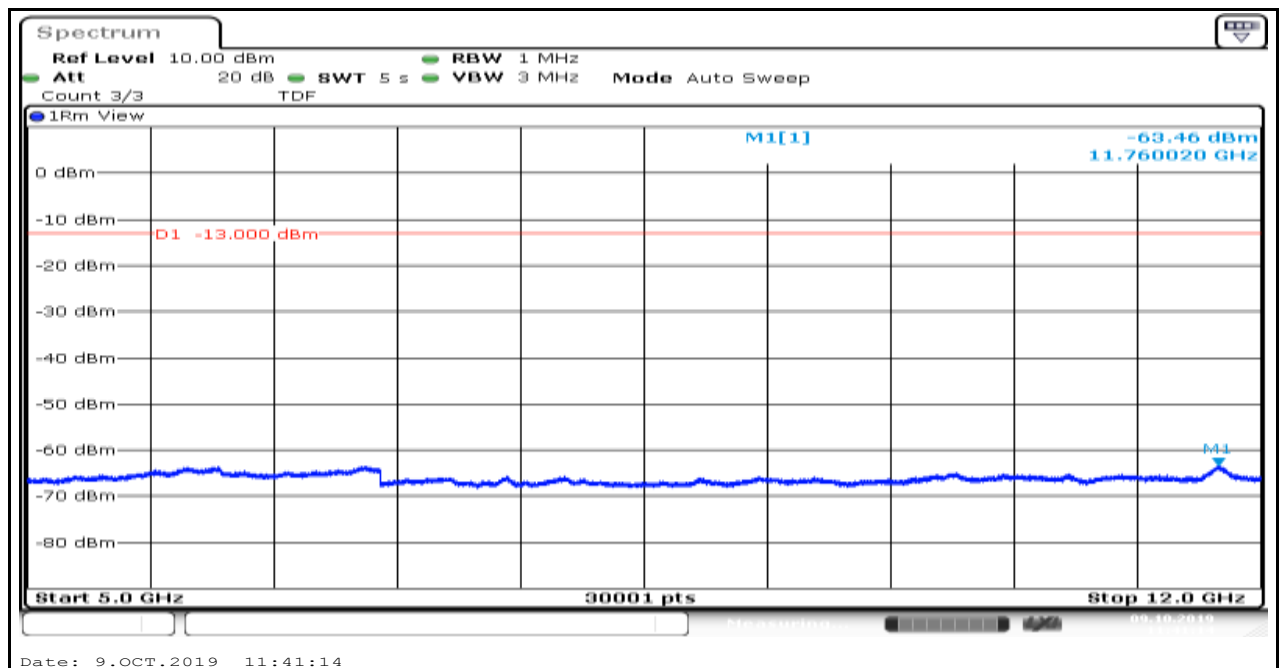
Produkte
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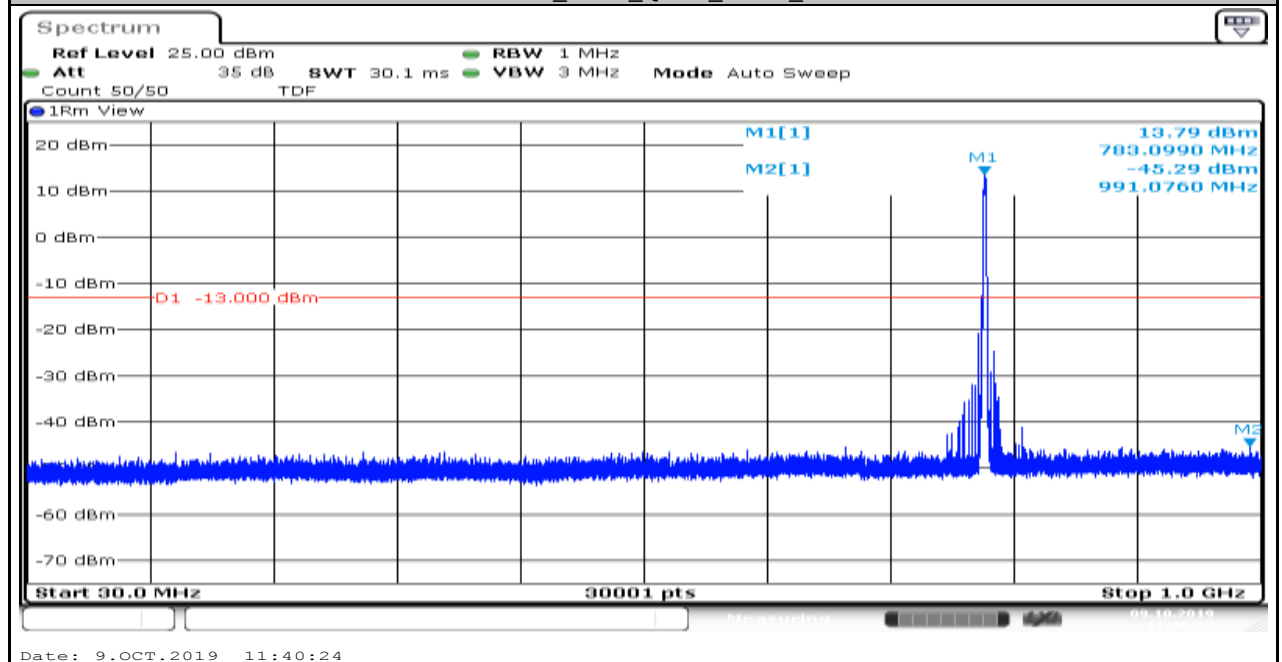
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Band13_5MHz_QPSK_23255_6

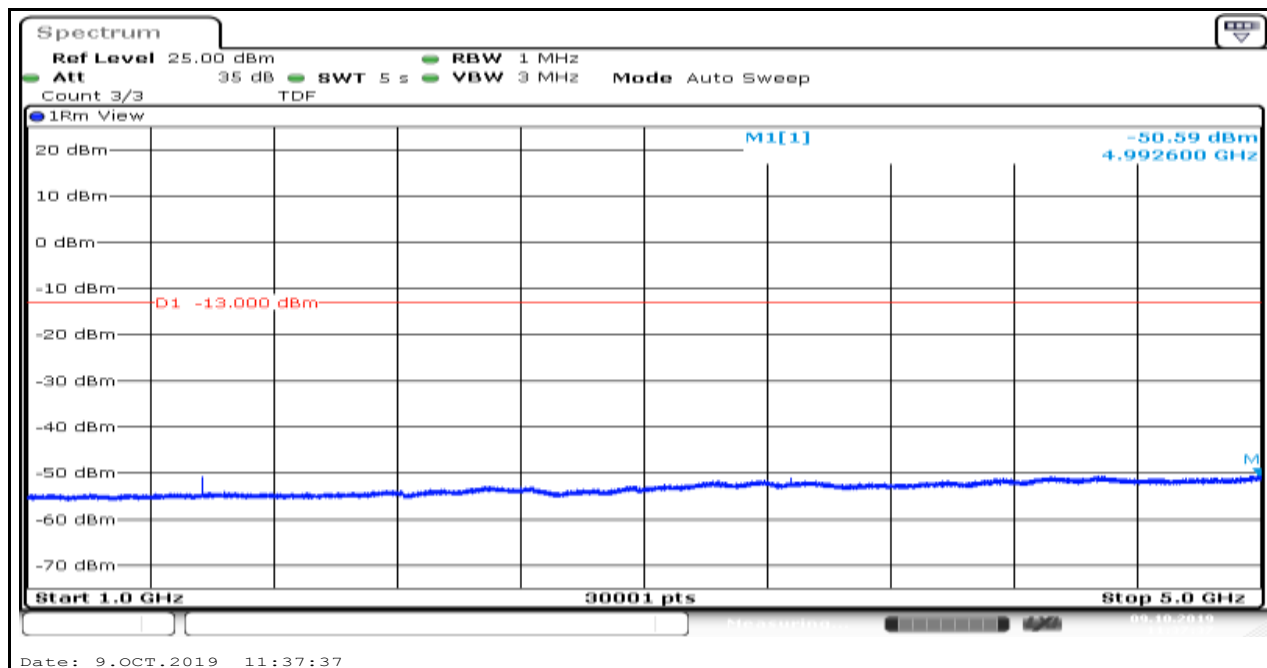


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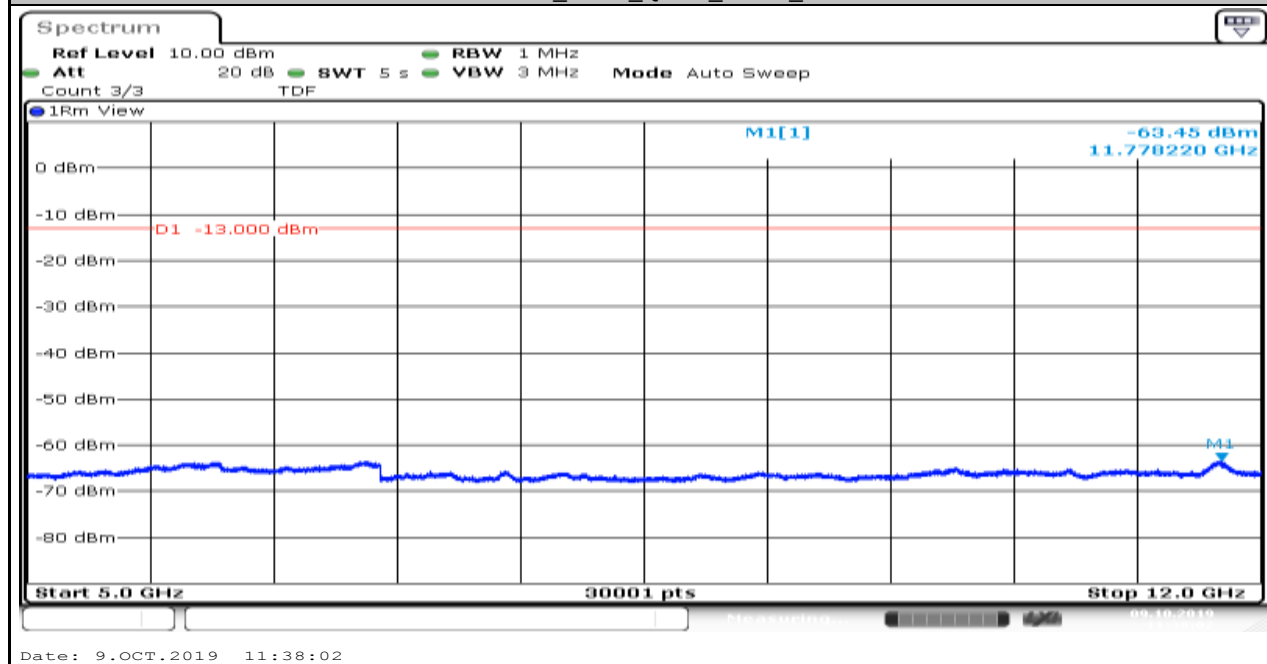


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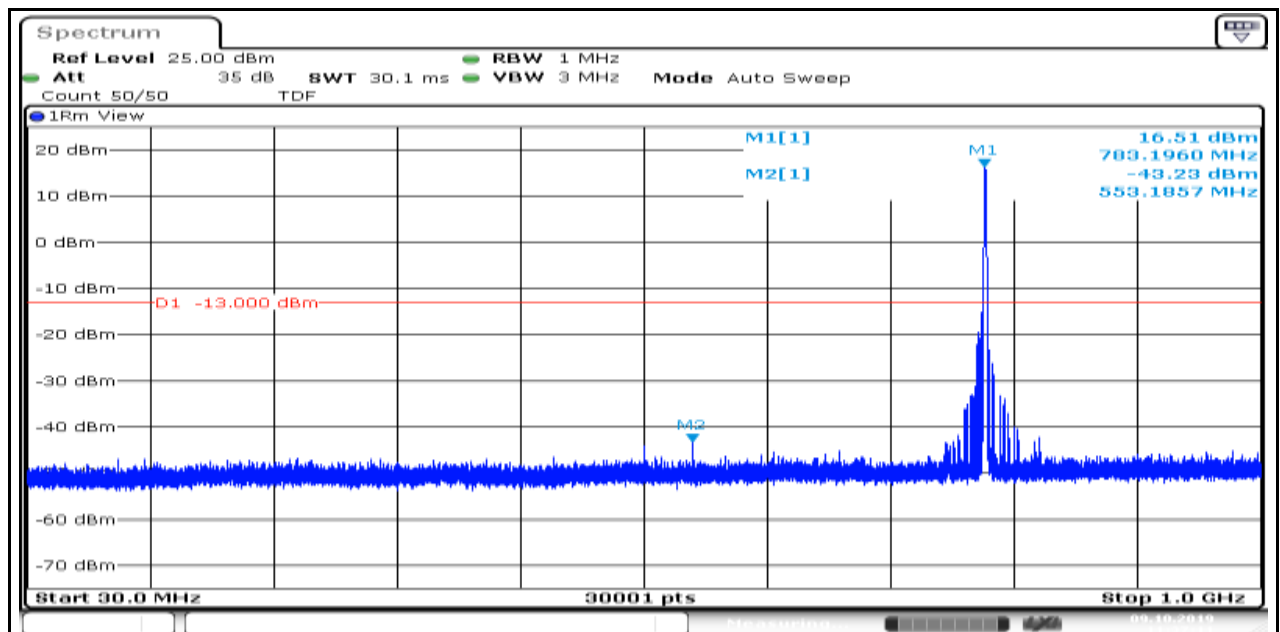
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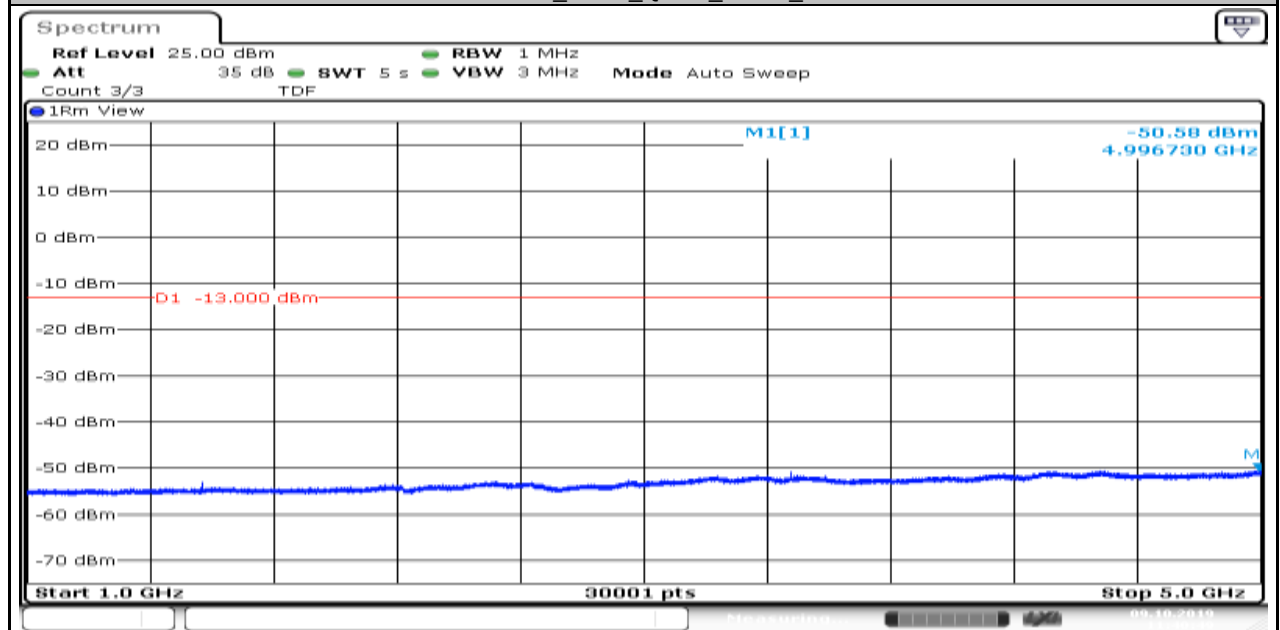
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Band13_5MHz_QPSK_23255_1

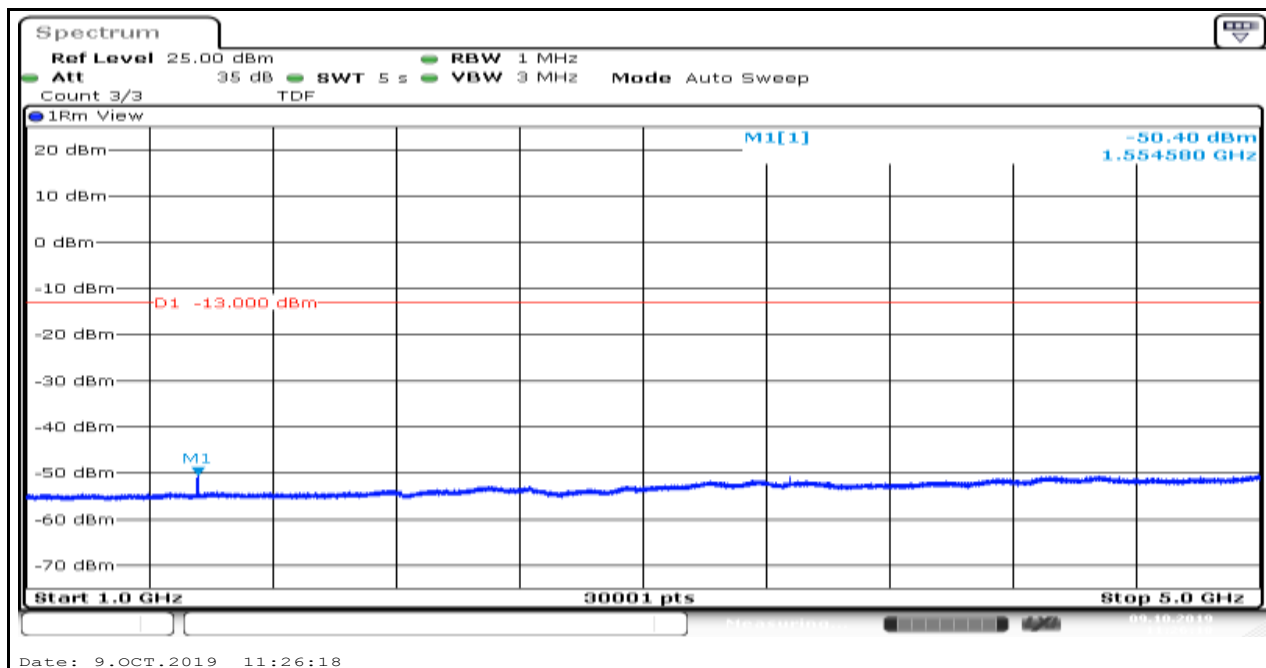


Band13_5MHz_QPSK_23255_6

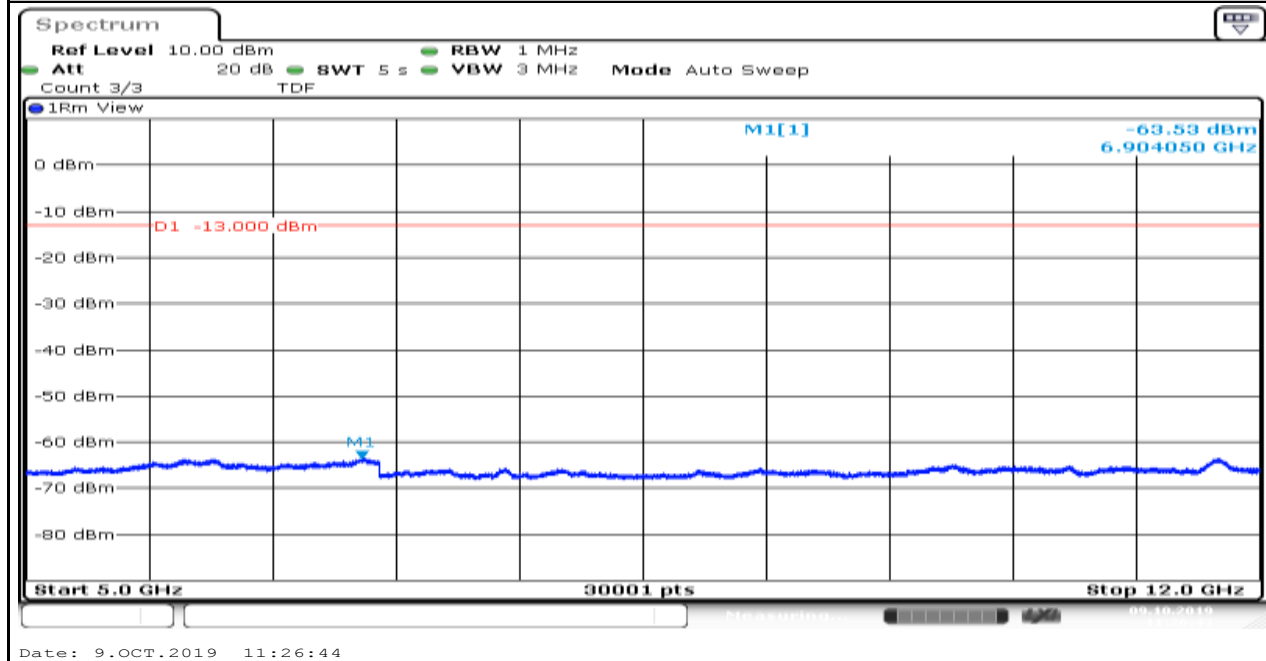


Band13_5MHz_16QAM_23205_1

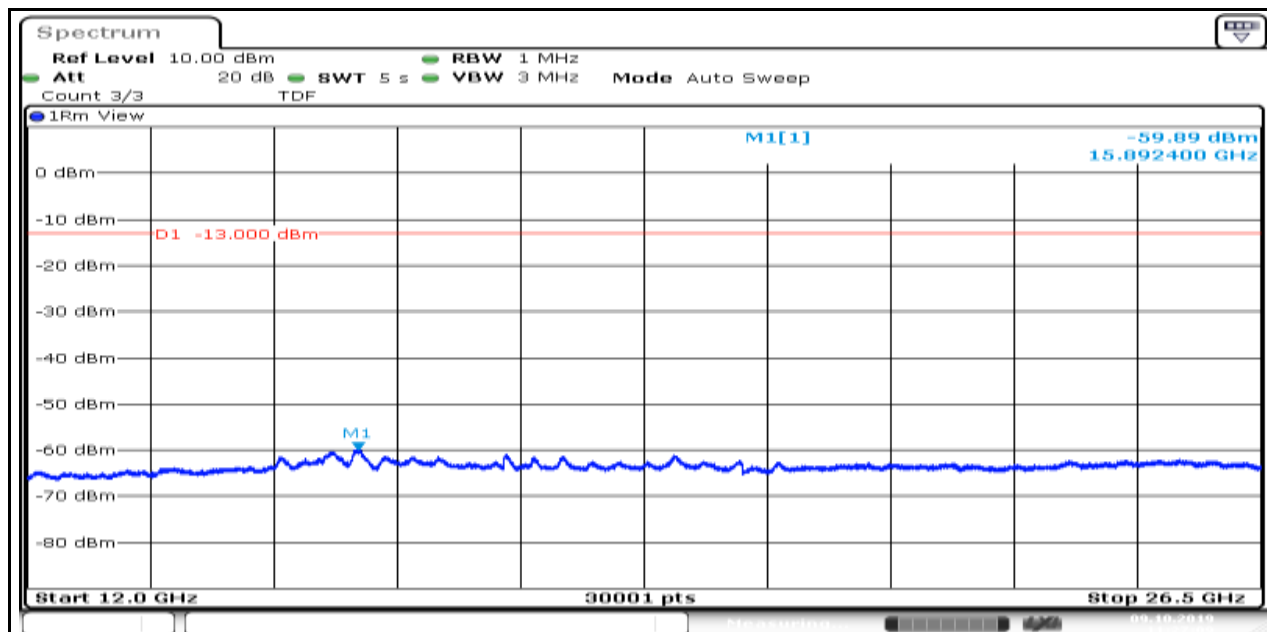
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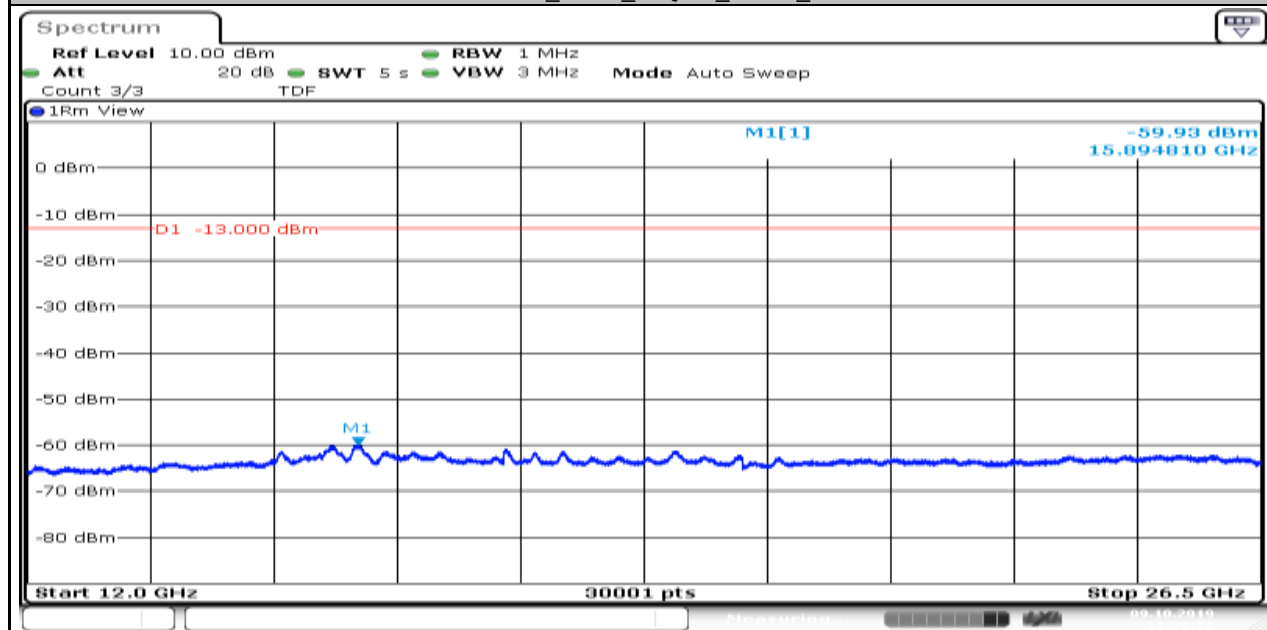
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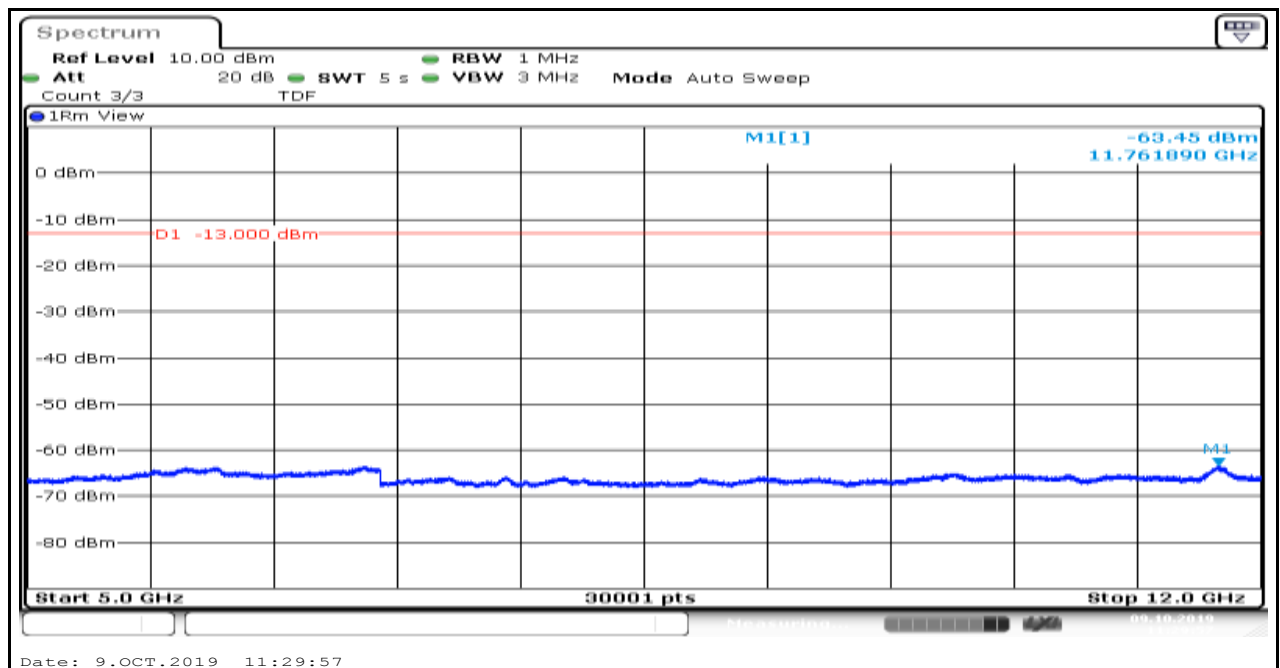
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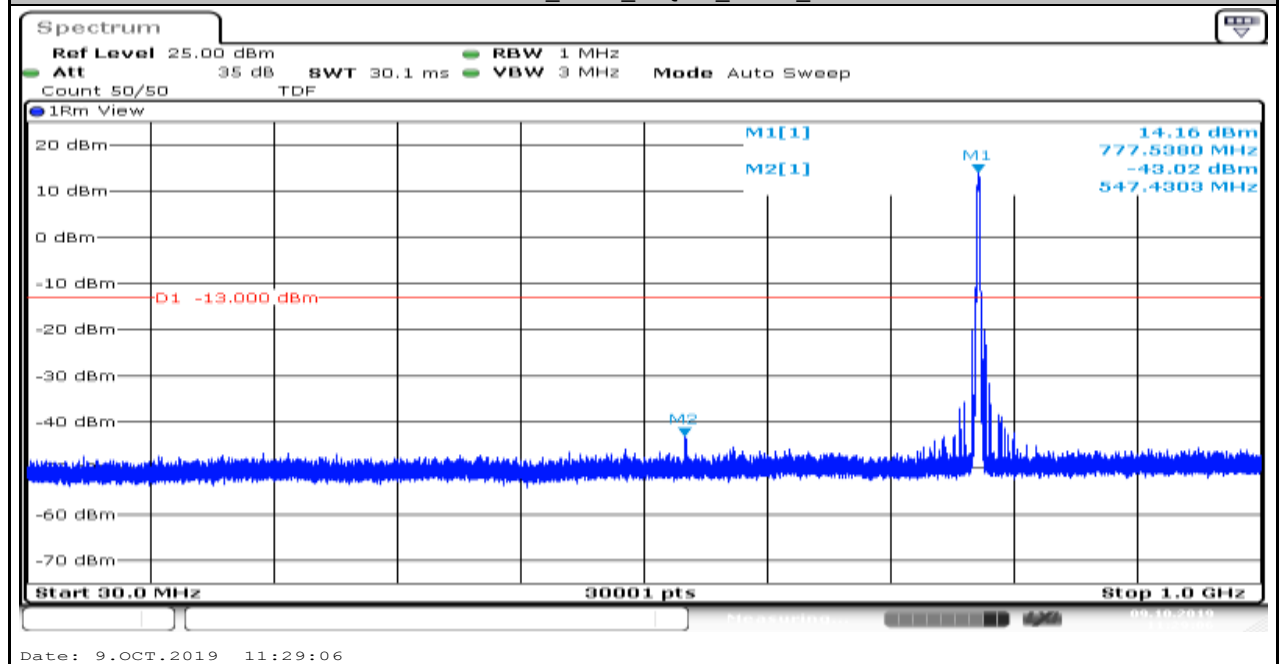
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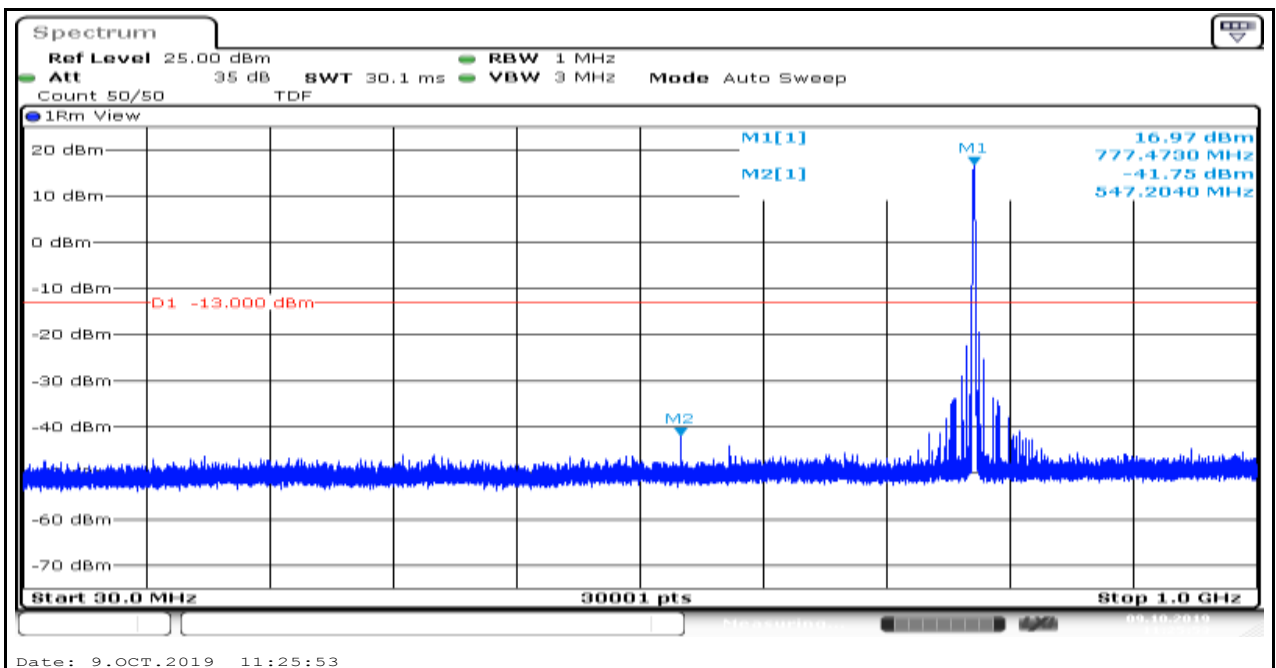
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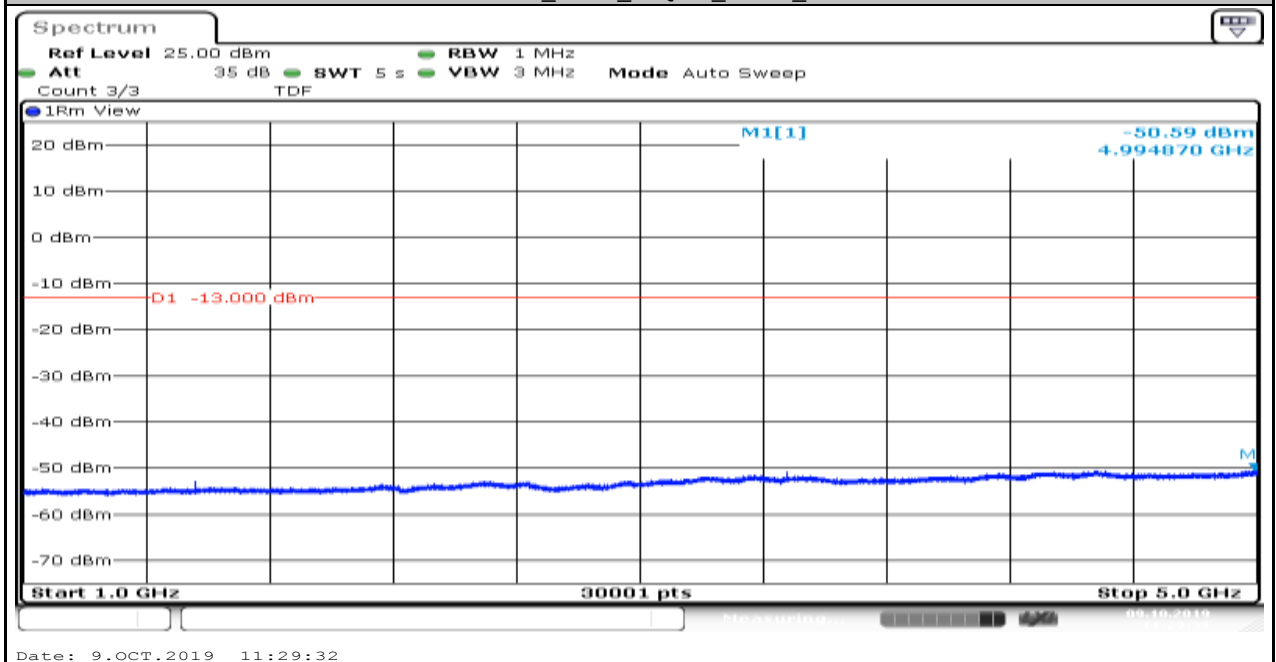
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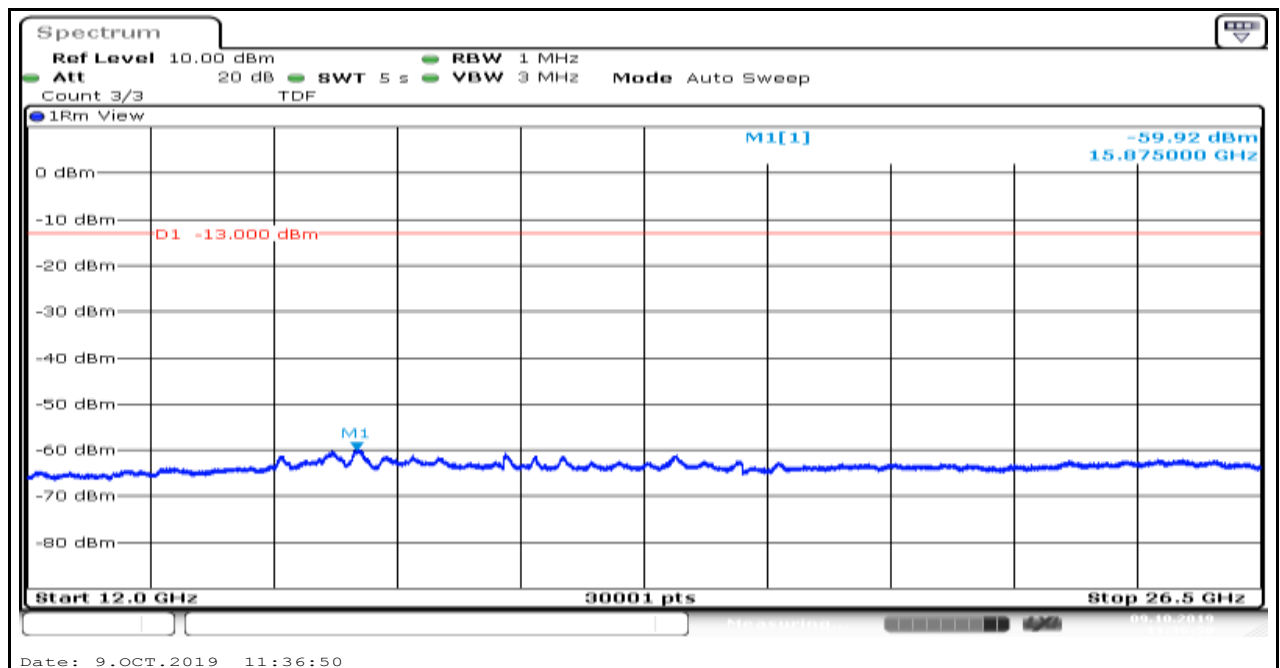
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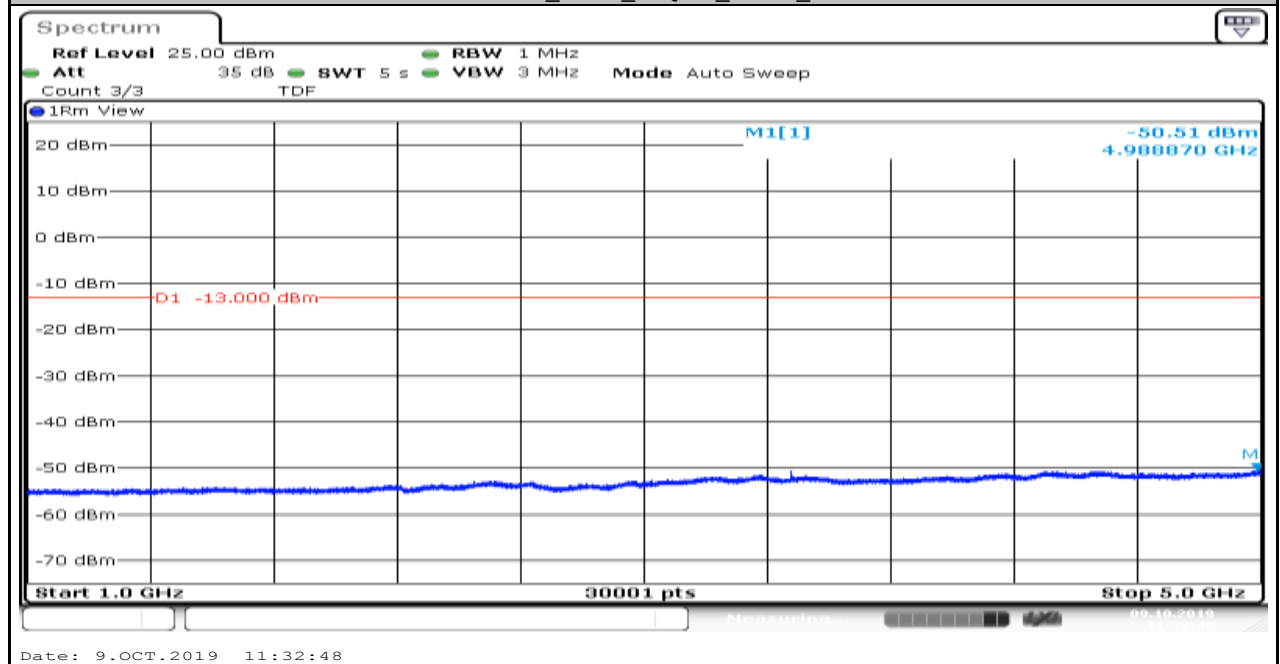
Band13_5MHz_16QAM_23205_6



Band13_5MHz_16QAM_23230_6

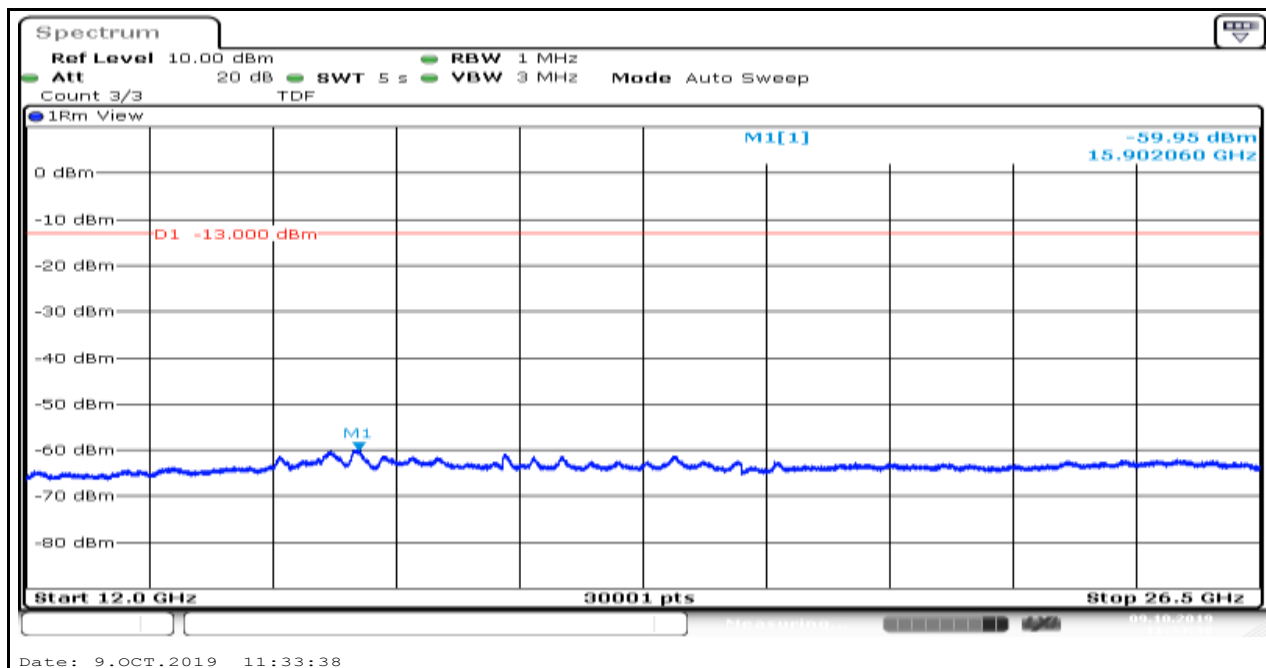


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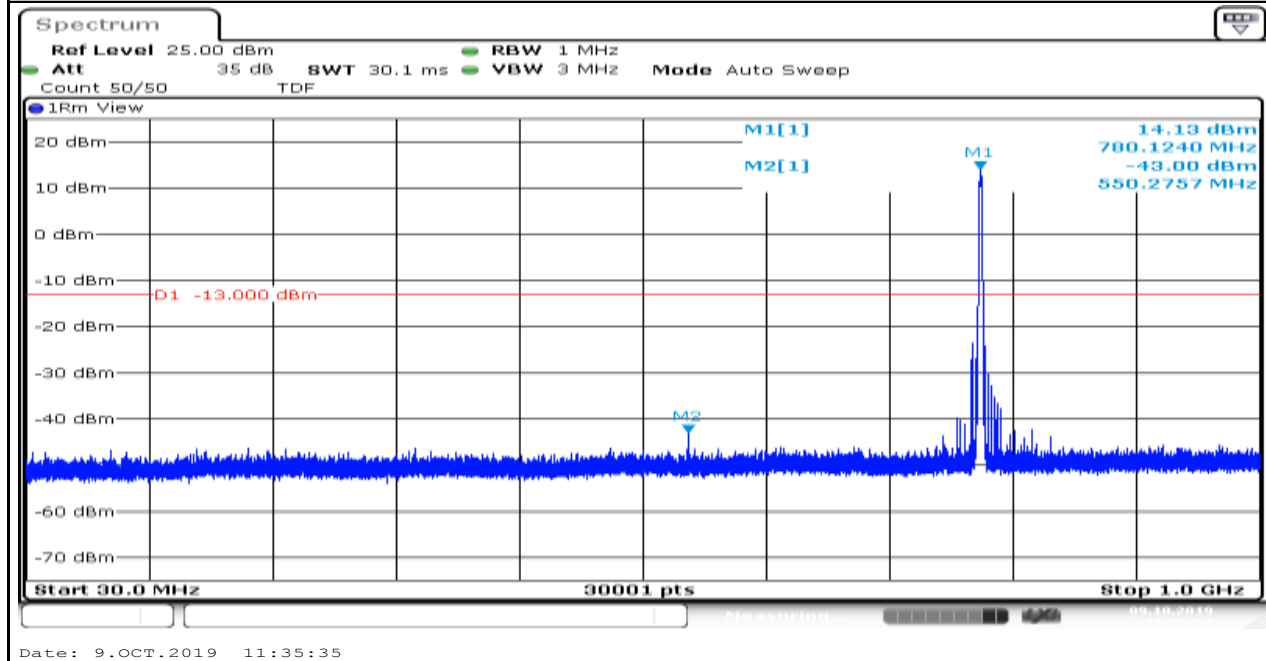


Band13_5MHz_16QAM_23230_1

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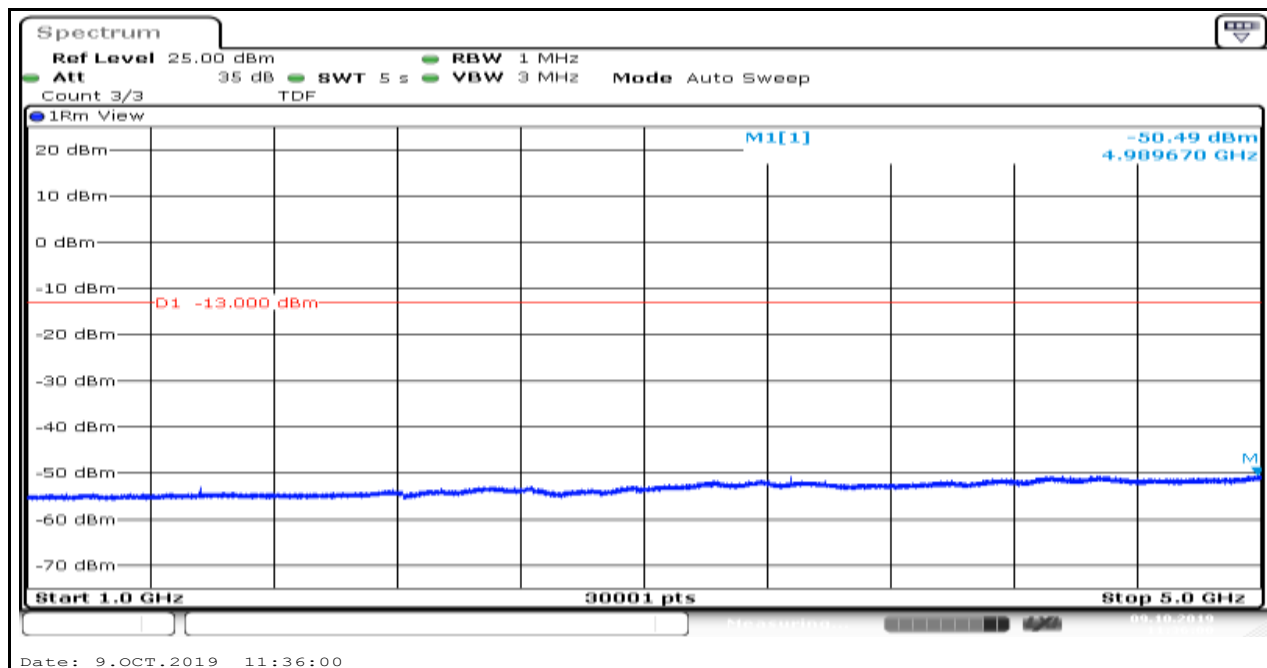


Band13_5MHz_16QAM_23230_6

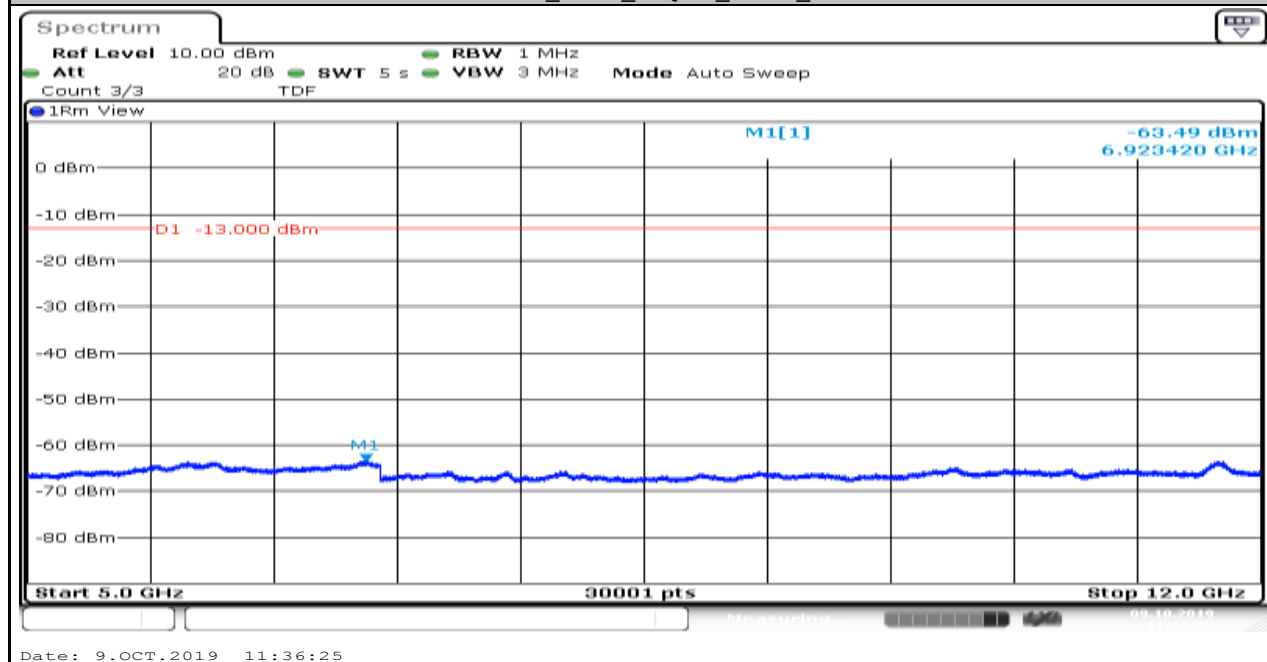


Band13_5MHz_16QAM_23230_6

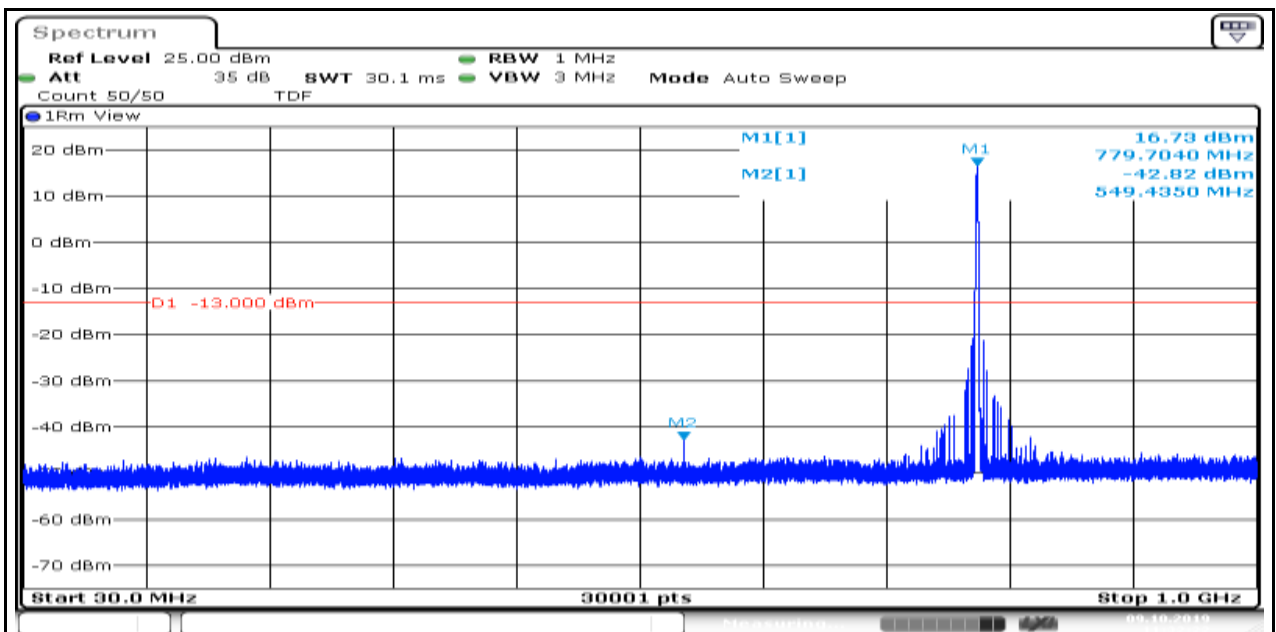
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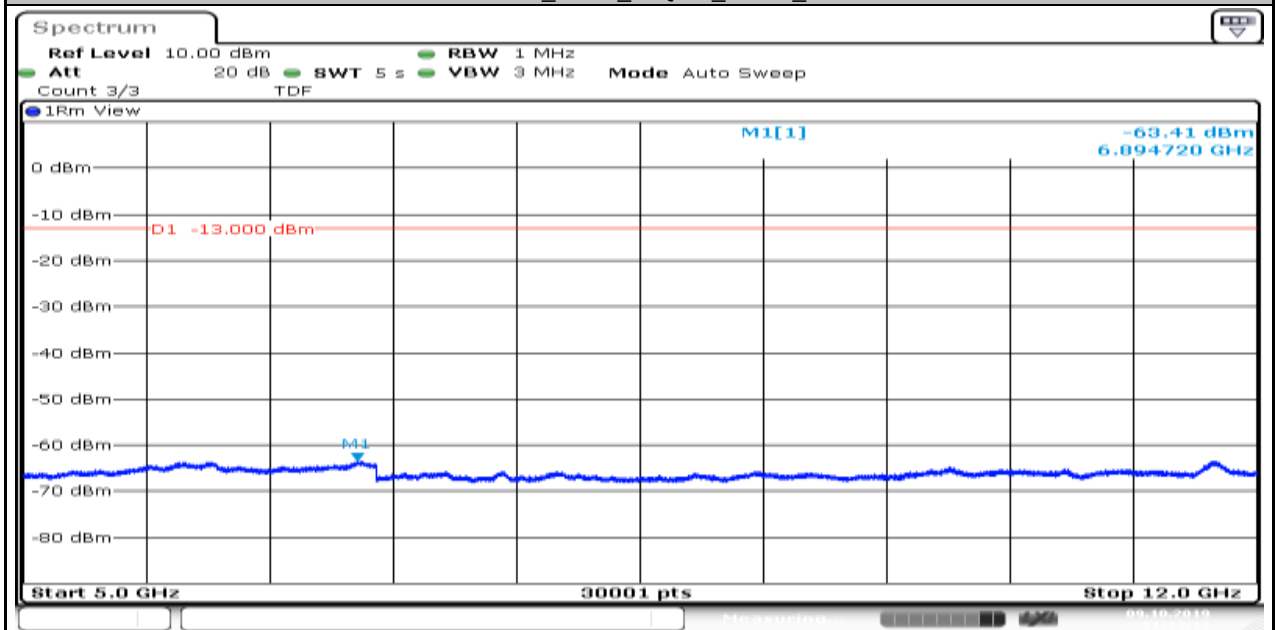
Band13_5MHz_16QAM_23230_6



Band13_5MHz_16QAM_23230_1

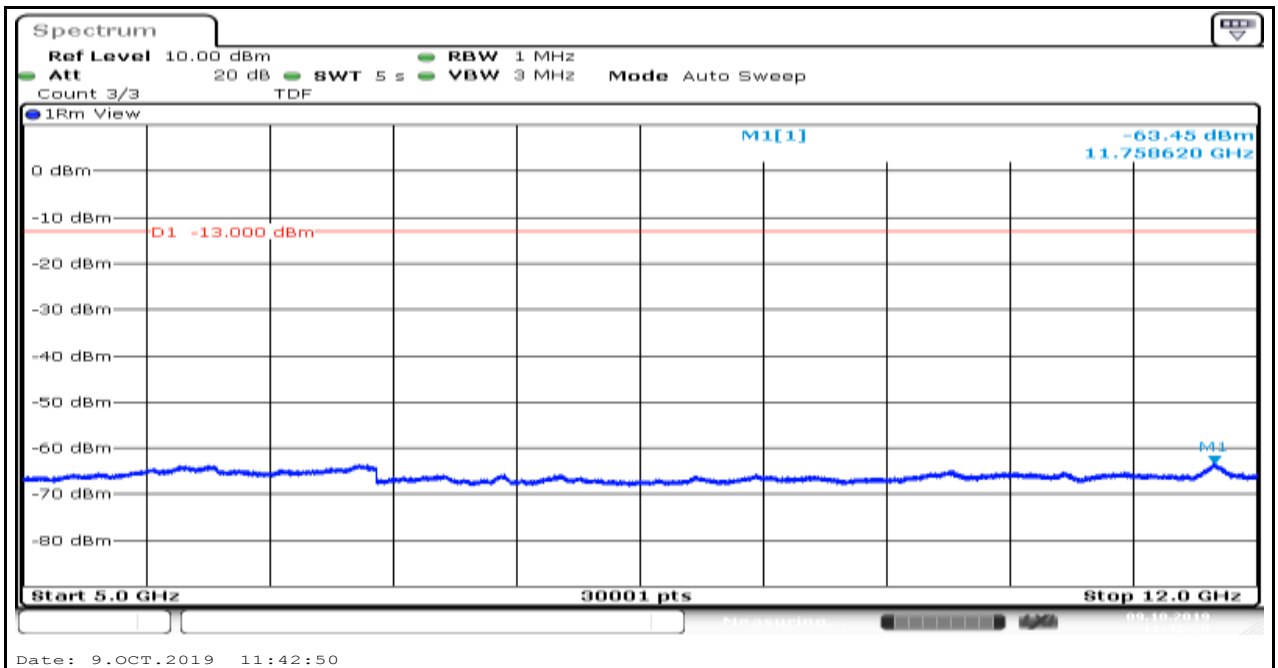


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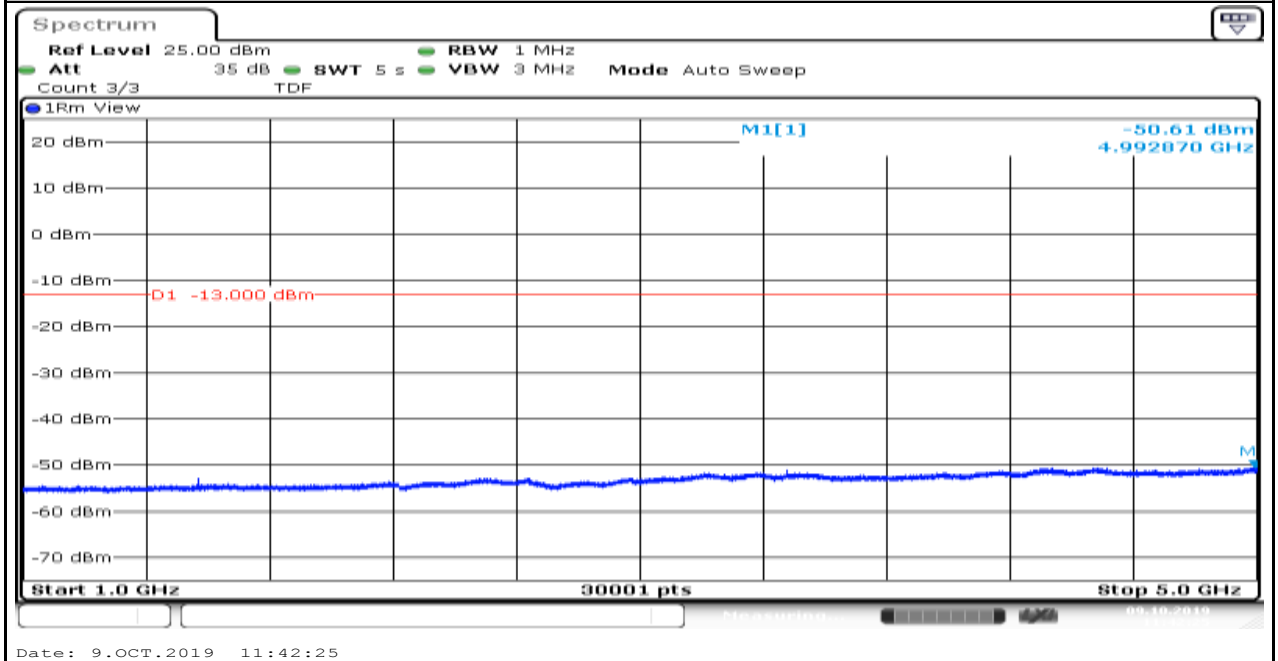


Band13_5MHz_16QAM_23255_6

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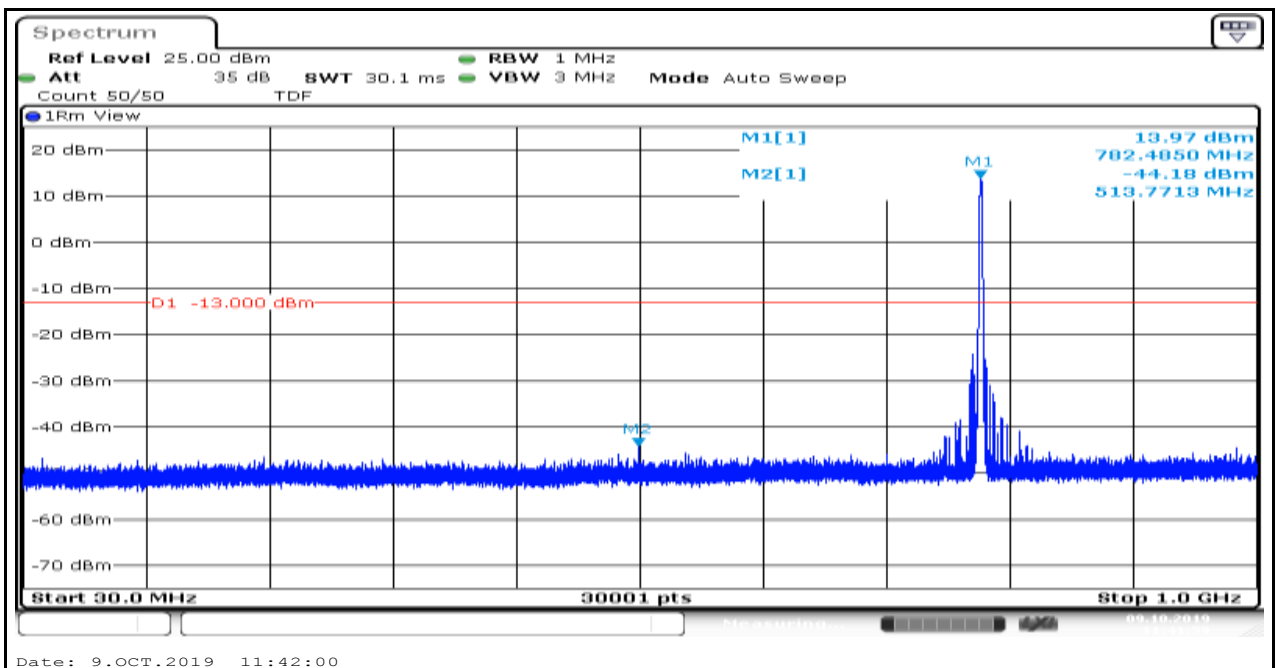


Band13_5MHz_16QAM_23255_6

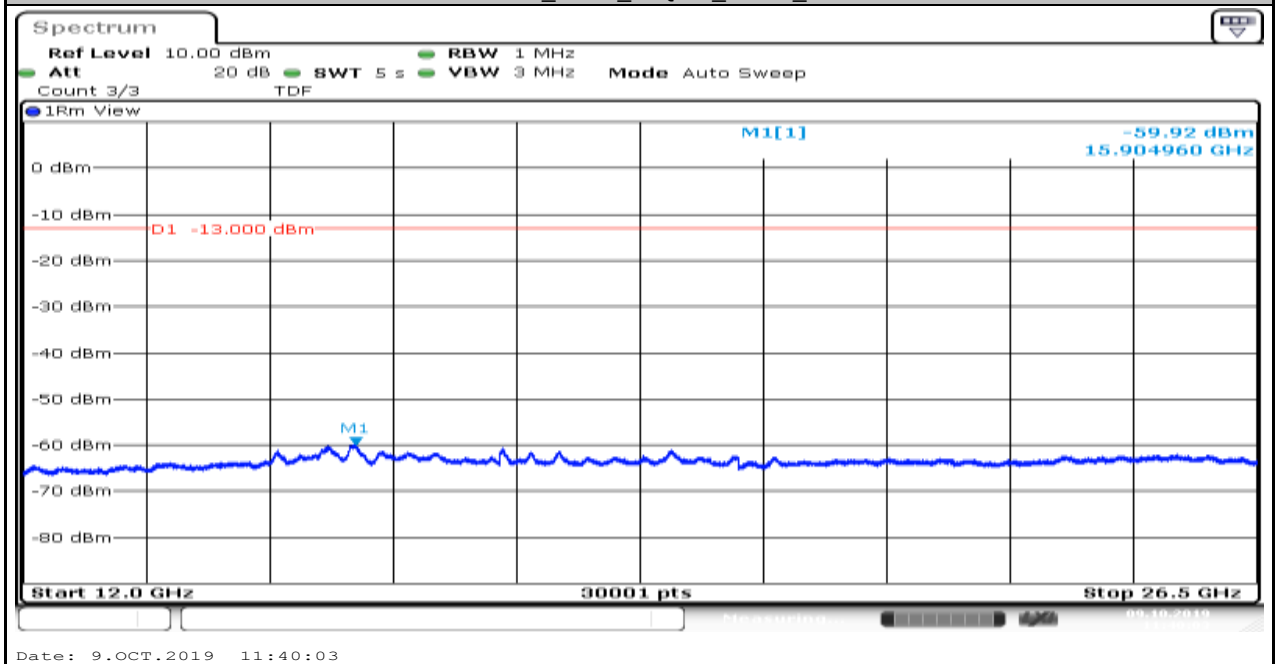


Band13_5MHz_16QAM_23255_6

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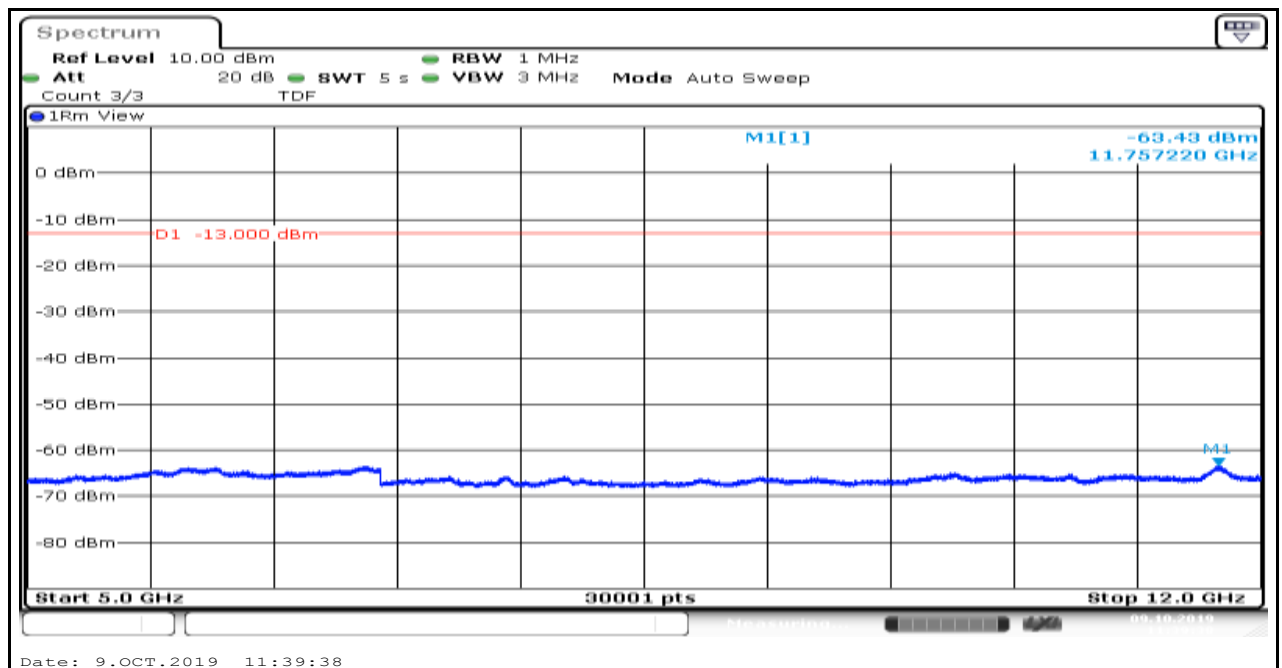


Band13_5MHz_16QAM_23255_1

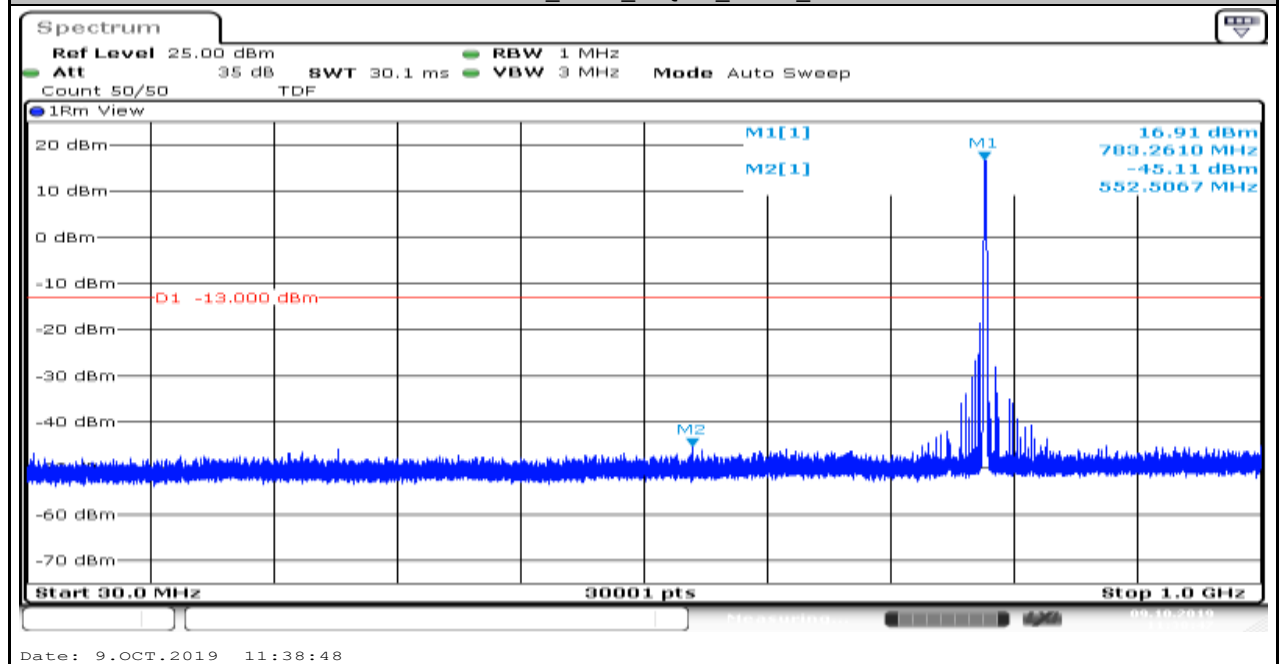


Band13_5MHz_16QAM_23255_1

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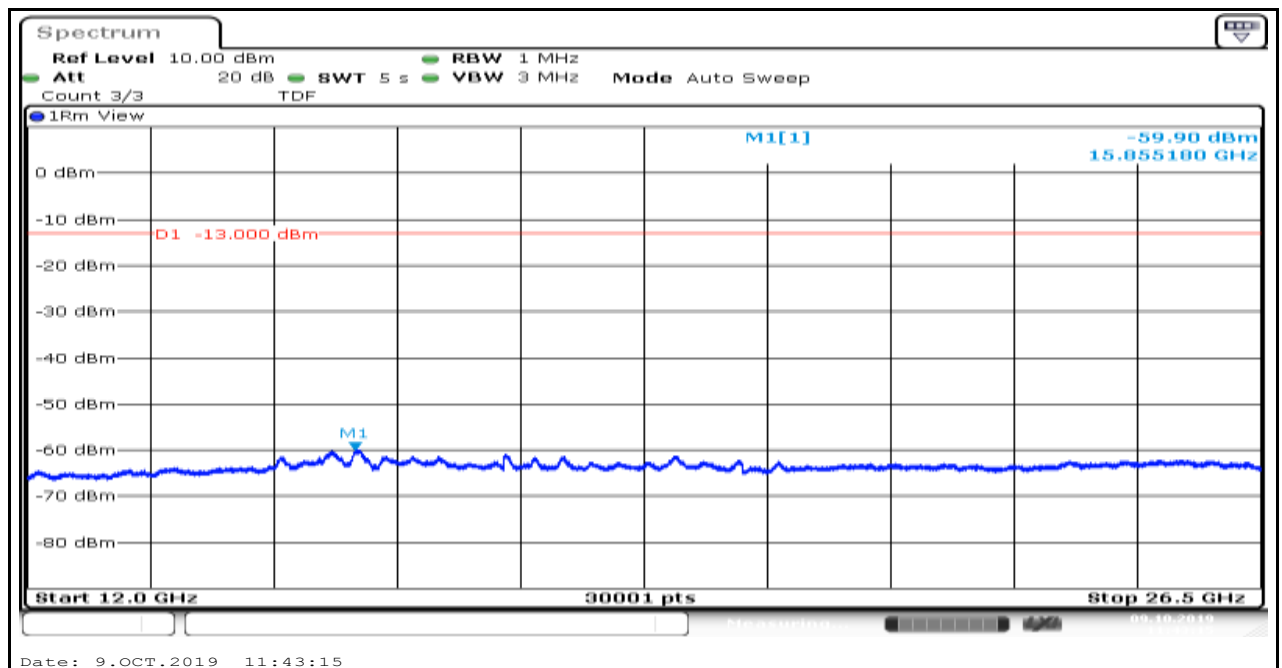


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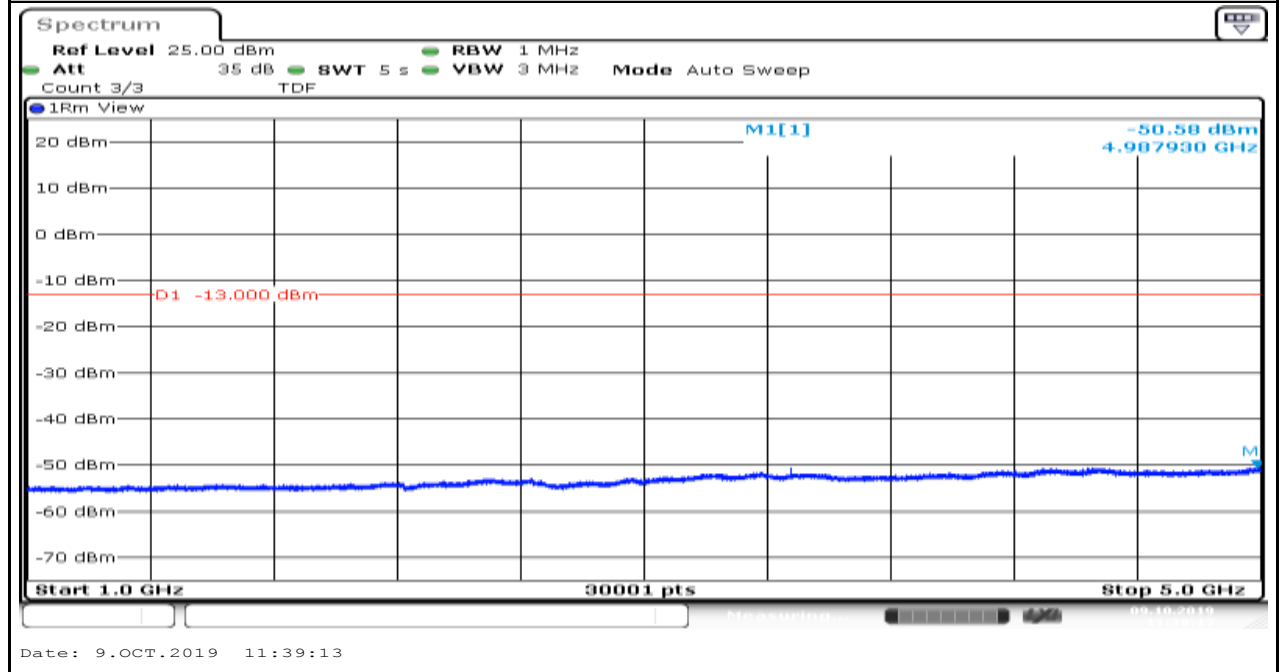


Band13_5MHz_16QAM_23255_6

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Band13_5MHz_16QAM_23255_1



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	-6.75	-0.008632	±2.5	PASS
Band13	5MHz	QPSK	23230	1	0	Low	LV	NT	-6.68	-0.008542	±2.5	PASS
Band13	5MHz	QPSK	23230	1	0	Low	NV	NT	-7.15	-0.009143	±2.5	PASS
Band13	5MHz	16QAM	23230	1	0	Low	HV	NT	-5.38	-0.006880	±2.5	PASS
Band13	5MHz	16QAM	23230	1	0	Low	LV	NT	-7.05	-0.009015	±2.5	PASS
Band13	5MHz	16QAM	23230	1	0	Low	NV	NT	-5.81	-0.007430	±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	50	-5.32	-0.006803	±2.5	PASS
Band13	5MHz	QPSK	23230	1	0	Low	NV	-20	-6.35	-0.008120	±2.5	PASS
Band13	5MHz	QPSK	23230	1	0	Low	NV	-10	-6.64	-0.008491	±2.5	PASS
Band13	5MHz	QPSK	23230	1	0	Low	NV	0	-5.64	-0.007212	±2.5	PASS
Band13	5MHz	QPSK	23230	1	0	Low	NV	10	-6.44	-0.008235	±2.5	PASS
Band13	5MHz	QPSK	23230	1	0	Low	NV	20	-6.97	-0.008913	±2.5	PASS
Band13	5MHz	QPSK	23230	1	0	Low	NV	30	-5.74	-0.007340	±2.5	PASS
Band13	5MHz	QPSK	23230	1	0	Low	NV	-30	-6.21	-0.007941	±2.5	PASS
Band13	5MHz	QPSK	23230	1	0	Low	NV	40	-5.42	-0.006931	±2.5	PASS
Band13	5MHz	16QAM	23230	1	0	Low	NV	50	-3.92	-0.005013	±2.5	PASS
Band13	5MHz	16QAM	23230	1	0	Low	NV	-20	-5.42	-0.006931	±2.5	PASS
Band13	5MHz	16QAM	23230	1	0	Low	NV	-10	-6.15	-0.007864	±2.5	PASS
Band13	5MHz	16QAM	23230	1	0	Low	NV	0	-4.84	-0.006189	±2.5	PASS
Band13	5MHz	16QAM	23230	1	0	Low	NV	10	-6.54	-0.008363	±2.5	PASS
Band13	5MHz	16QAM	23230	1	0	Low	NV	20	-4.43	-0.005665	±2.5	PASS
Band13	5MHz	16QAM	23230	1	0	Low	NV	30	-3.68	-0.004706	±2.5	PASS
Band13	5MHz	16QAM	23230	1	0	Low	NV	40	-5.51	-0.007046	±2.5	PASS
Band13	5MHz	16QAM	23230	1	0	Low	NV	-30	-5.51	-0.007046	±2.5	PASS
Band13	5MHz	QPSK	23230	1	0	Low	NV	85	-7.17	-0.009169	±2.5	PASS
Band13	5MHz	QPSK	23230	1	0	Low	NV	80	-7.57	-0.009680	±2.5	PASS
Band13	5MHz	QPSK	23230	1	0	Low	NV	70	-7.14	-0.009130	±2.5	PASS
Band13	5MHz	QPSK	23230	1	0	Low	NV	60	-8.48	-0.010844	±2.5	PASS
Band13	5MHz	QPSK	23230	1	0	Low	NV	-40	-7.85	-0.010038	±2.5	PASS
Band13	5MHz	16QAM	23230	1	0	Low	NV	85	-5.41	-0.006918	±2.5	PASS
Band13	5MHz	16QAM	23230	1	0	Low	NV	80	-6.24	-0.007980	±2.5	PASS
Band13	5MHz	16QAM	23230	1	0	Low	NV	70	-5.82	-0.007442	±2.5	PASS
Band13	5MHz	16QAM	23230	1	0	Low	NV	60	-6.62	-0.008465	±2.5	PASS
Band13	5MHz	16QAM	23230	1	0	Low	NV	-40	-6.75	-0.008632	±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	6	0	Low	18.26	20.4	0.110	2	PASS
Band25	1.4MHz	QPSK	26047	1	0	Low	20.87	23.01	0.200	2	PASS
Band25	1.4MHz	QPSK	26365	1	0	Low	20.93	23.07	0.203	2	PASS
Band25	1.4MHz	QPSK	26365	6	0	Low	18.56	20.7	0.117	2	PASS
Band25	1.4MHz	QPSK	26683	6	0	Low	18.59	20.73	0.118	2	PASS
Band25	1.4MHz	QPSK	26683	1	5	Low	20.78	22.92	0.196	2	PASS
Band25	1.4MHz	16QAM	26047	1	0	Low	19.38	21.52	0.142	2	PASS
Band25	1.4MHz	16QAM	26047	6	0	Low	18.26	20.4	0.110	2	PASS
Band25	1.4MHz	16QAM	26365	1	0	Low	19.58	21.72	0.149	2	PASS
Band25	1.4MHz	16QAM	26365	6	0	Low	18.56	20.7	0.117	2	PASS
Band25	1.4MHz	16QAM	26683	6	0	Low	18.58	20.72	0.118	2	PASS
Band25	1.4MHz	16QAM	26683	1	5	Low	19.36	21.5	0.141	2	PASS
Band25	3MHz	QPSK	26055	6	0	Low	18.12	20.26	0.106	2	PASS
Band25	3MHz	QPSK	26055	1	0	Low	20.82	22.96	0.198	2	PASS
Band25	3MHz	QPSK	26365	6	0	Low	18.4	20.54	0.113	2	PASS
Band25	3MHz	QPSK	26365	1	0	Low	21.22	23.36	0.217	2	PASS
Band25	3MHz	QPSK	26675	6	0	High	18.37	20.51	0.112	2	PASS
Band25	3MHz	QPSK	26675	1	5	High	20.84	22.98	0.199	2	PASS
Band25	3MHz	16QAM	26055	1	0	Low	19.52	21.66	0.147	2	PASS
Band25	3MHz	16QAM	26055	6	0	Low	18.12	20.26	0.106	2	PASS
Band25	3MHz	16QAM	26365	1	0	Low	19.83	21.97	0.157	2	PASS
Band25	3MHz	16QAM	26365	6	0	Low	18.39	20.53	0.113	2	PASS
Band25	3MHz	16QAM	26675	1	5	High	19.87	22.01	0.159	2	PASS
Band25	3MHz	16QAM	26675	6	0	High	18.48	20.62	0.115	2	PASS
Band25	5MHz	QPSK	26065	1	0	Low	20.88	23.02	0.200	2	PASS
Band25	5MHz	QPSK	26065	6	0	Low	19.07	21.21	0.132	2	PASS
Band25	5MHz	QPSK	26365	1	0	Low	20.84	22.98	0.199	2	PASS
Band25	5MHz	QPSK	26365	6	0	Low	19.39	21.53	0.142	2	PASS
Band25	5MHz	QPSK	26665	3	3	High	20.69	22.83	0.192	2	PASS
Band25	5MHz	QPSK	26665	1	5	High	20.62	22.76	0.189	2	PASS
Band25	5MHz	16QAM	26065	1	0	Low	20.09	22.23	0.167	2	PASS
Band25	5MHz	16QAM	26065	6	0	Low	19.07	21.21	0.132	2	PASS
Band25	5MHz	16QAM	26365	1	0	Low	20.45	22.59	0.182	2	PASS
Band25	5MHz	16QAM	26365	6	0	Low	19.39	21.53	0.142	2	PASS
Band25	5MHz	16QAM	26665	3	3	High	20.47	22.61	0.182	2	PASS
Band25	5MHz	16QAM	26665	1	5	High	20.27	22.41	0.174	2	PASS
Band25	10MHz	QPSK	26090	1	0	Low	20.46	22.6	0.182	2	PASS
Band25	10MHz	QPSK	26090	5	0	Low	20.24	22.38	0.173	2	PASS
Band25	10MHz	QPSK	26365	1	0	Low	20.89	23.03	0.201	2	PASS
Band25	10MHz	QPSK	26365	5	0	Low	20.66	22.8	0.191	2	PASS
Band25	10MHz	QPSK	26640	1	5	High	20.76	22.9	0.195	2	PASS
Band25	10MHz	QPSK	26640	5	1	High	20.67	22.81	0.191	2	PASS
Band25	10MHz	16QAM	26090	1	0	Low	20.12	22.26	0.168	2	PASS
Band25	10MHz	16QAM	26090	5	0	Low	20.06	22.2	0.166	2	PASS
Band25	10MHz	16QAM	26365	5	0	Low	20.59	22.73	0.187	2	PASS
Band25	10MHz	16QAM	26365	1	0	Low	20.49	22.63	0.183	2	PASS
Band25	10MHz	16QAM	26640	5	1	High	20.5	22.64	0.184	2	PASS
Band25	10MHz	16QAM	26640	1	5	High	20.29	22.43	0.175	2	PASS
Band25	15MHz	QPSK	26115	6	0	Low	20.25	22.39	0.173	2	PASS
Band25	15MHz	QPSK	26115	1	0	Low	20.33	22.47	0.177	2	PASS

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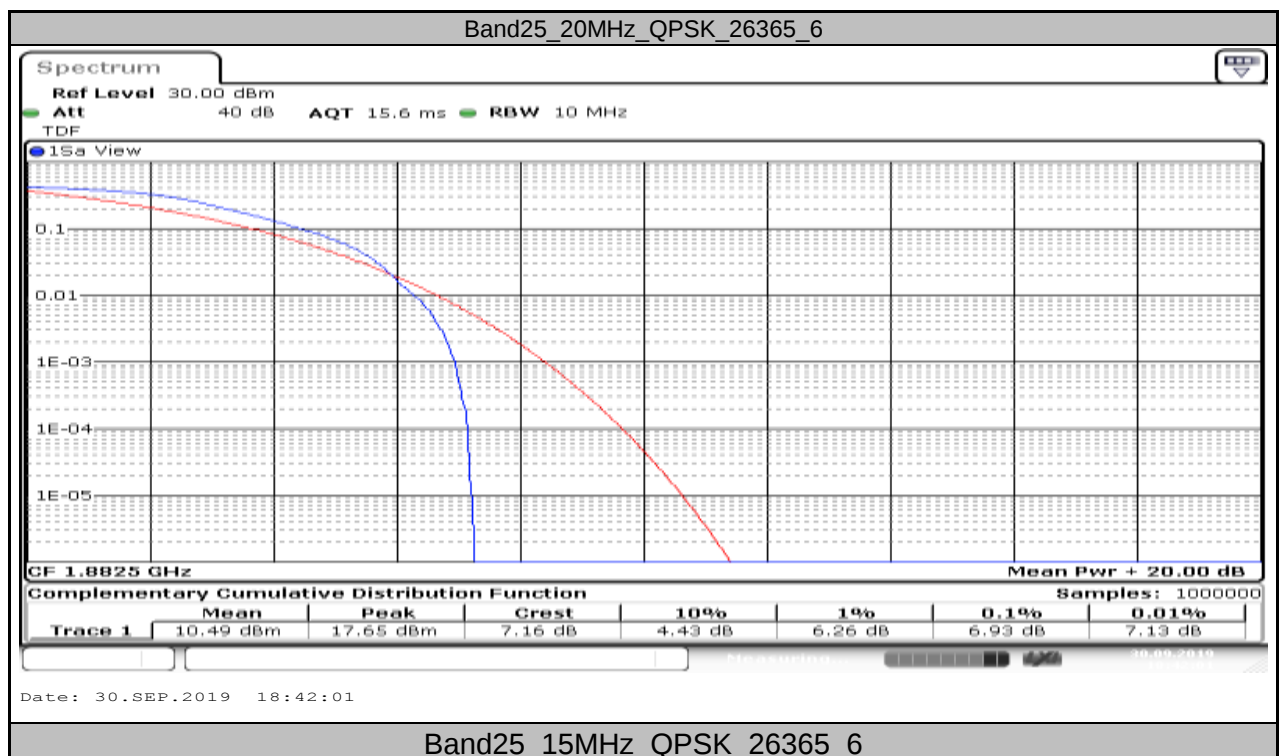
Band25	15MHz	QPSK	26365	6	0	Low	20.76	22.9	0.195	2	PASS
Band25	15MHz	QPSK	26365	1	0	Low	20.95	23.09	0.204	2	PASS
Band25	15MHz	QPSK	26615	1	5	High	20.76	22.9	0.195	2	PASS
Band25	15MHz	QPSK	26615	6	0	High	20.63	22.77	0.189	2	PASS
Band25	15MHz	16QAM	26115	1	0	Low	20.04	22.18	0.165	2	PASS
Band25	15MHz	16QAM	26115	6	0	Low	20.25	22.39	0.173	2	PASS
Band25	15MHz	16QAM	26365	1	0	Low	20.58	22.72	0.187	2	PASS
Band25	15MHz	16QAM	26365	6	0	Low	20.75	22.89	0.195	2	PASS
Band25	15MHz	16QAM	26615	1	5	High	20.27	22.41	0.174	2	PASS
Band25	15MHz	16QAM	26615	6	0	High	20.63	22.77	0.189	2	PASS
Band25	20MHz	QPSK	26140	1	0	Low	20.26	22.4	0.174	2	PASS
Band25	20MHz	QPSK	26140	6	0	Low	20.22	22.36	0.172	2	PASS
Band25	20MHz	QPSK	26365	6	0	Low	20.84	22.98	0.199	2	PASS
Band25	20MHz	QPSK	26365	1	0	Low	20.91	23.05	0.202	2	PASS
Band25	20MHz	QPSK	26590	6	0	High	20.66	22.8	0.191	2	PASS
Band25	20MHz	QPSK	26590	1	5	High	21.08	23.22	0.210	2	PASS
Band25	20MHz	16QAM	26140	1	0	Low	19.99	22.13	0.163	2	PASS
Band25	20MHz	16QAM	26140	6	0	Low	20.21	22.35	0.172	2	PASS
Band25	20MHz	16QAM	26365	6	0	Low	20.84	22.98	0.199	2	PASS
Band25	20MHz	16QAM	26365	1	0	Low	20.49	22.63	0.183	2	PASS
Band25	20MHz	16QAM	26590	1	5	High	20.29	22.43	0.175	2	PASS
Band25	20MHz	16QAM	26590	6	0	High	20.65	22.79	0.190	2	PASS

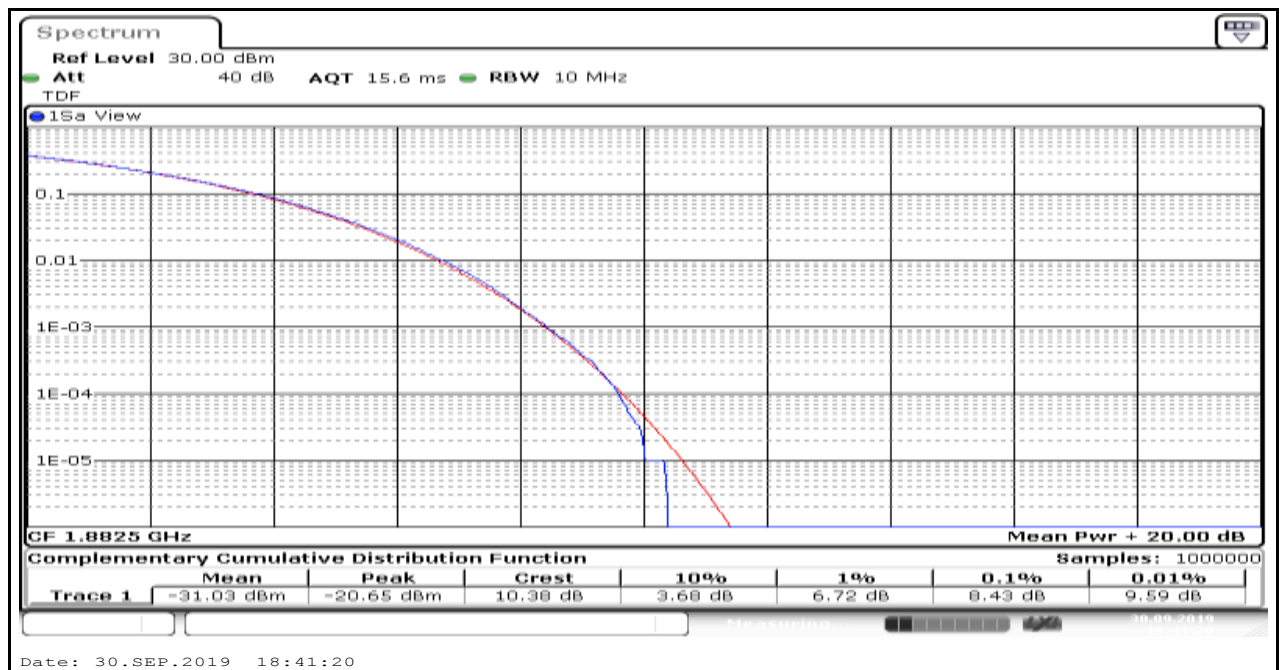
Appendix F.2: Peak-to-Average Ratio (CCDF) for M1

Test Result

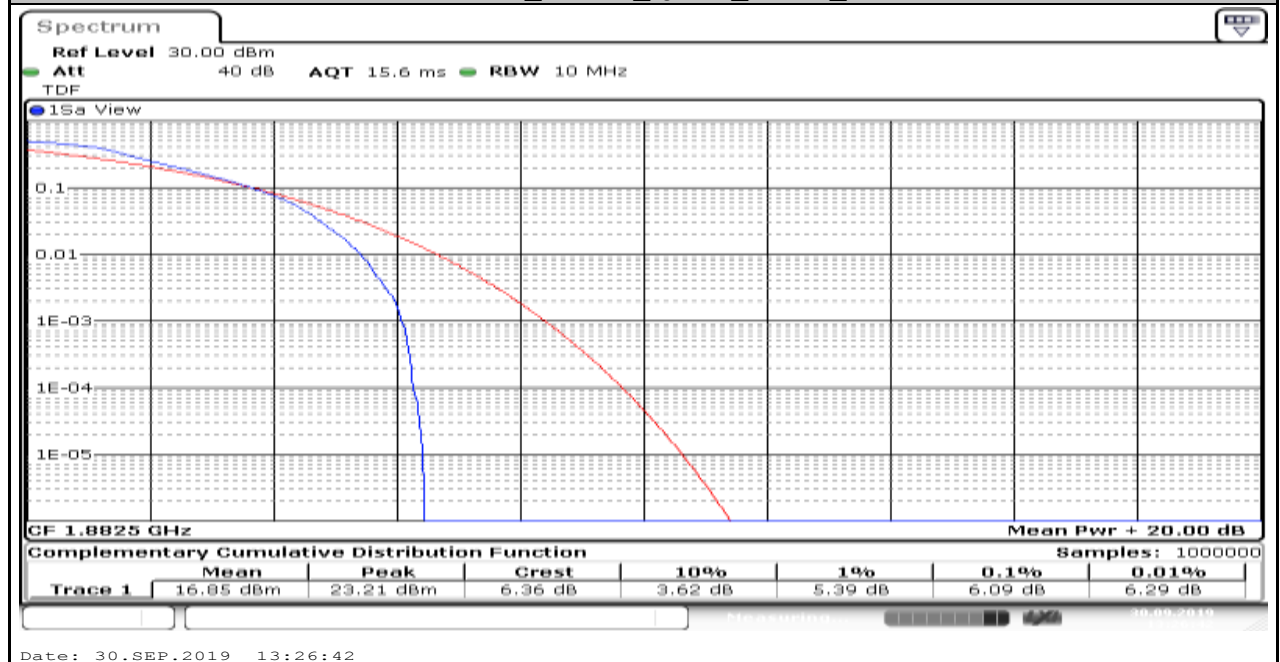
Band	Bandwidth	Modulation	Channel	RB Size	RB Start	NBIndex	Result(dB)	Limit(dB)	Verdict
Band25	20MHz	QPSK	26365	6	0	Low	6.93	<=13	PASS
Band25	15MHz	QPSK	26365	6	0	Low	8.43	<=13	PASS
Band25	10MHz	QPSK	26365	6	0	Low	6.09	<=13	PASS
Band25	5MHz	QPSK	26365	6	0	Low	8.49	<=13	PASS
Band25	3MHz	QPSK	26365	6	0	Low	8.49	<=13	PASS
Band25	1.4MHz	QPSK	26365	6	0	Low	9.25	<=13	PASS
Band25	20MHz	16QAM	26365	6	0	Low	9.39	<=13	PASS
Band25	15MHz	16QAM	26365	6	0	Low	11.13	<=13	PASS
Band25	10MHz	16QAM	26365	6	0	Low	9.28	<=13	PASS
Band25	5MHz	16QAM	26365	6	0	Low	11.22	<=13	PASS
Band25	3MHz	16QAM	26365	6	0	Low	11.88	<=13	PASS
Band25	1.4MHz	16QAM	26365	6	0	Low	9.65	<=13	PASS

Test Graphs

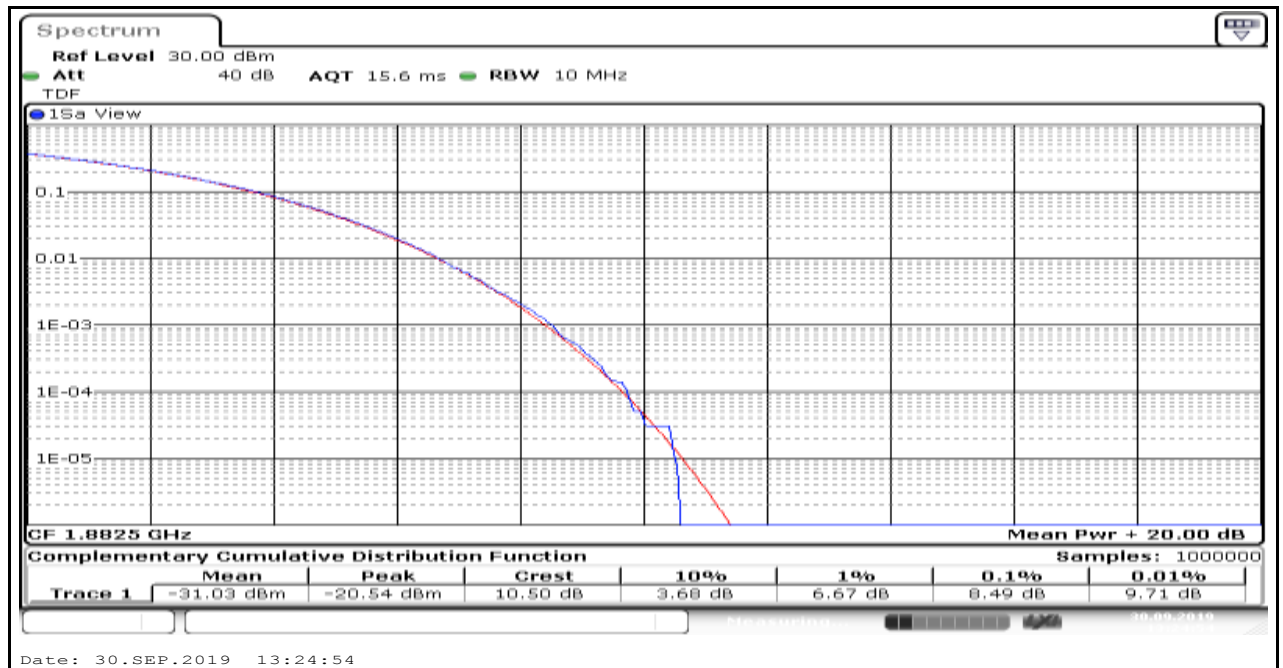




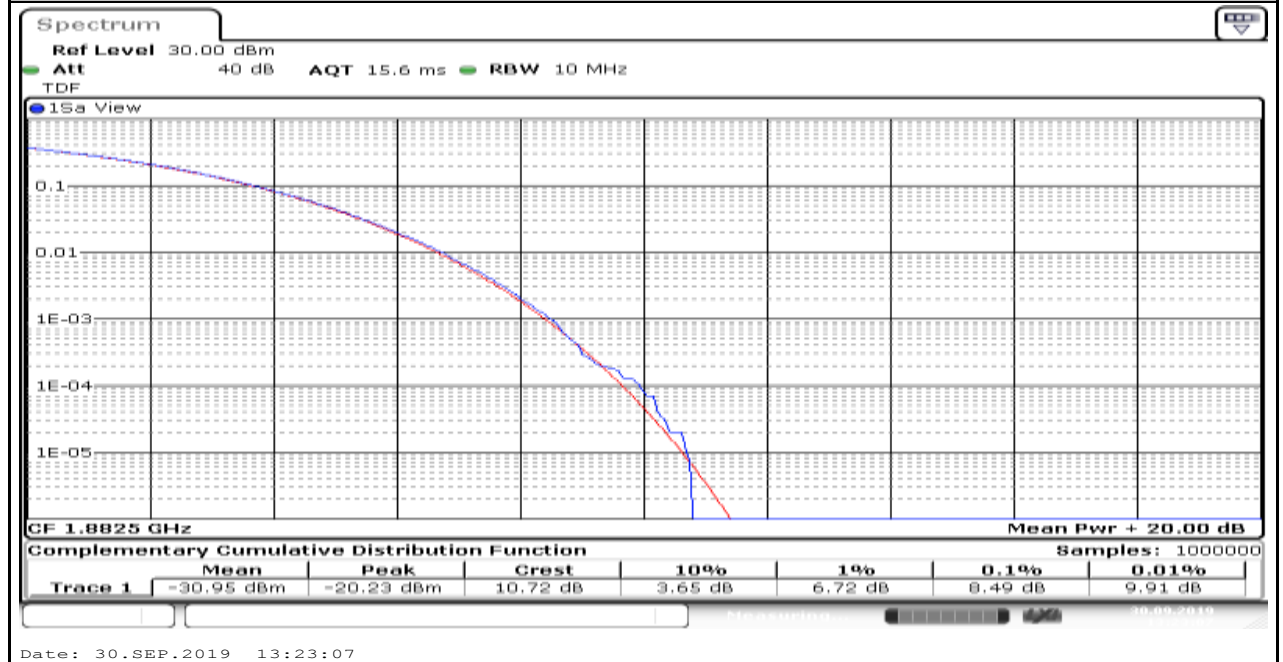
Band25_10MHz_QPSK_26365_6



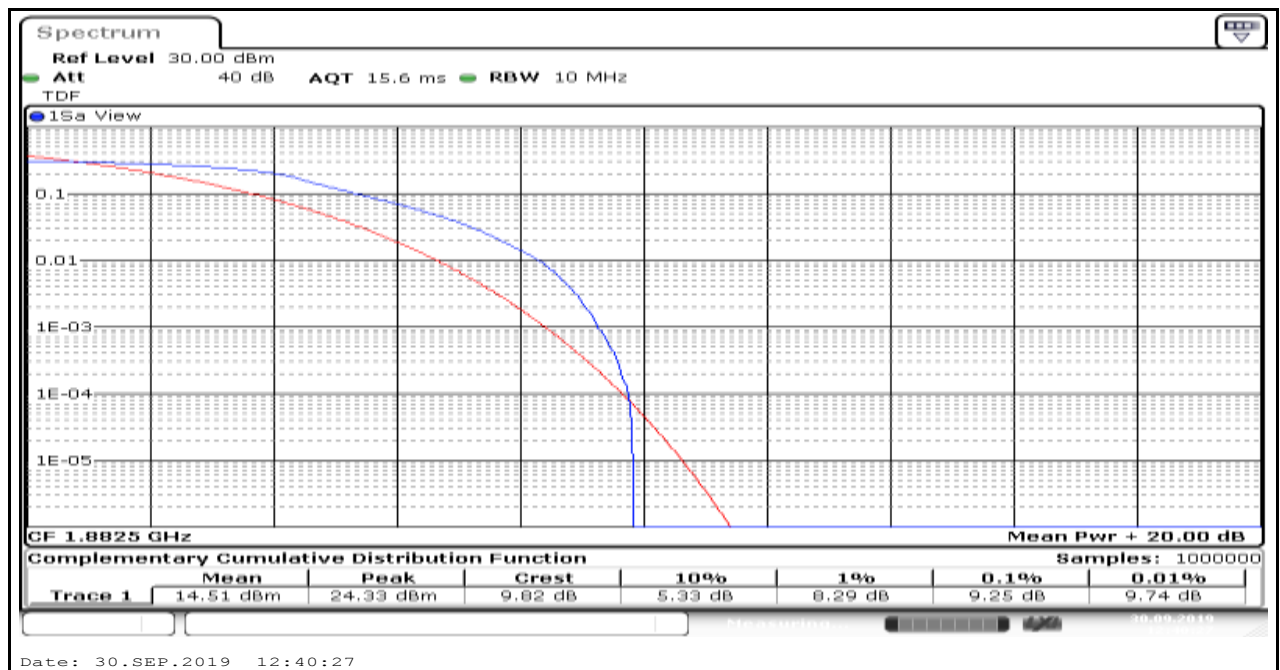
Band25_5MHz_QPSK_26365_6



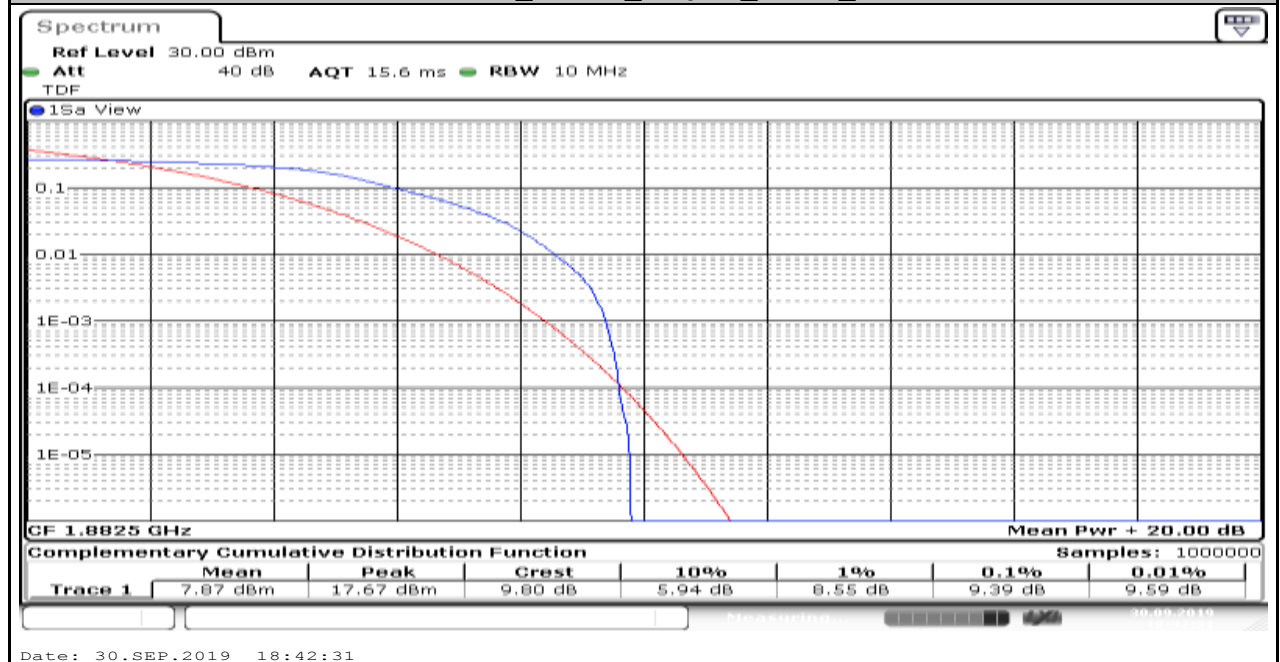
Band25_3MHz_QPSK_26365_6



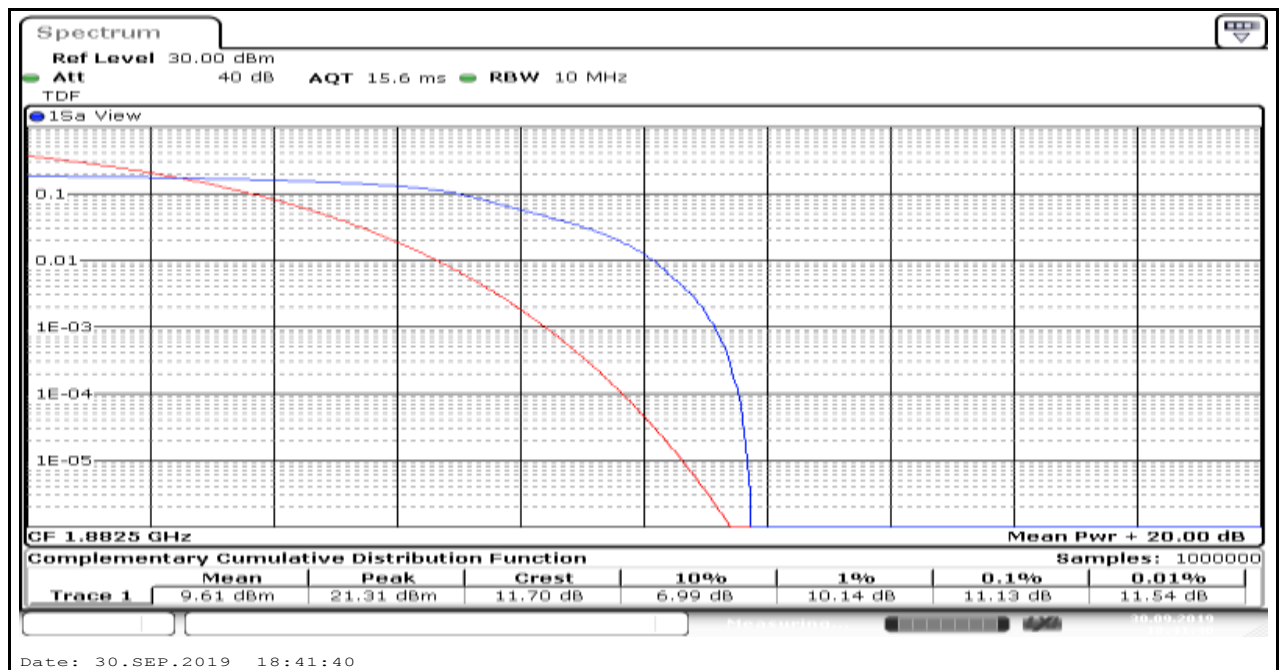
Band25_1.4MHz_QPSK_26365_6



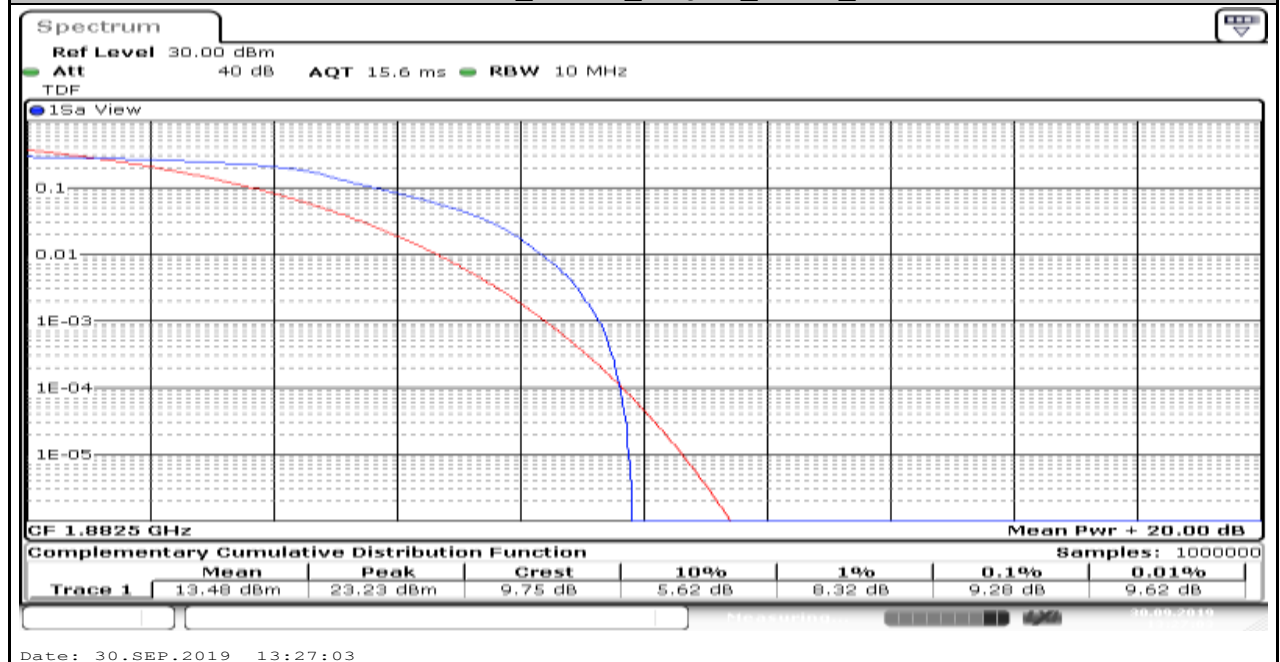
Band25_20MHz_16QAM_26365_6



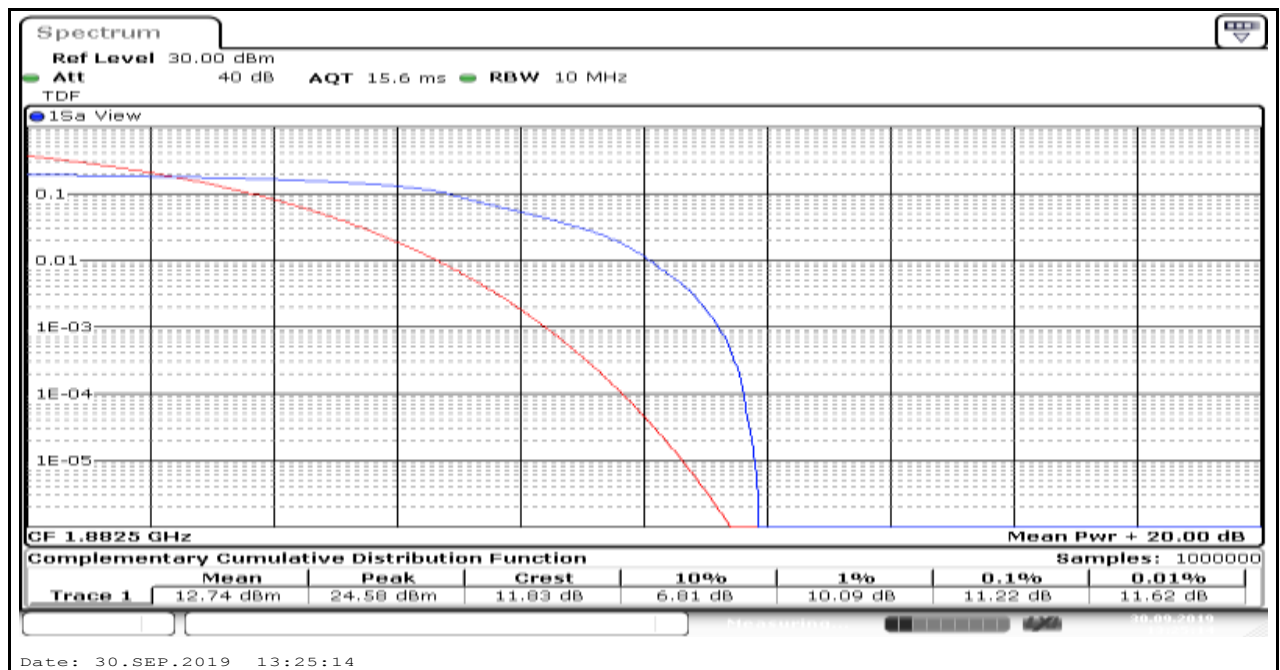
Band25_15MHz_16QAM_26365_6



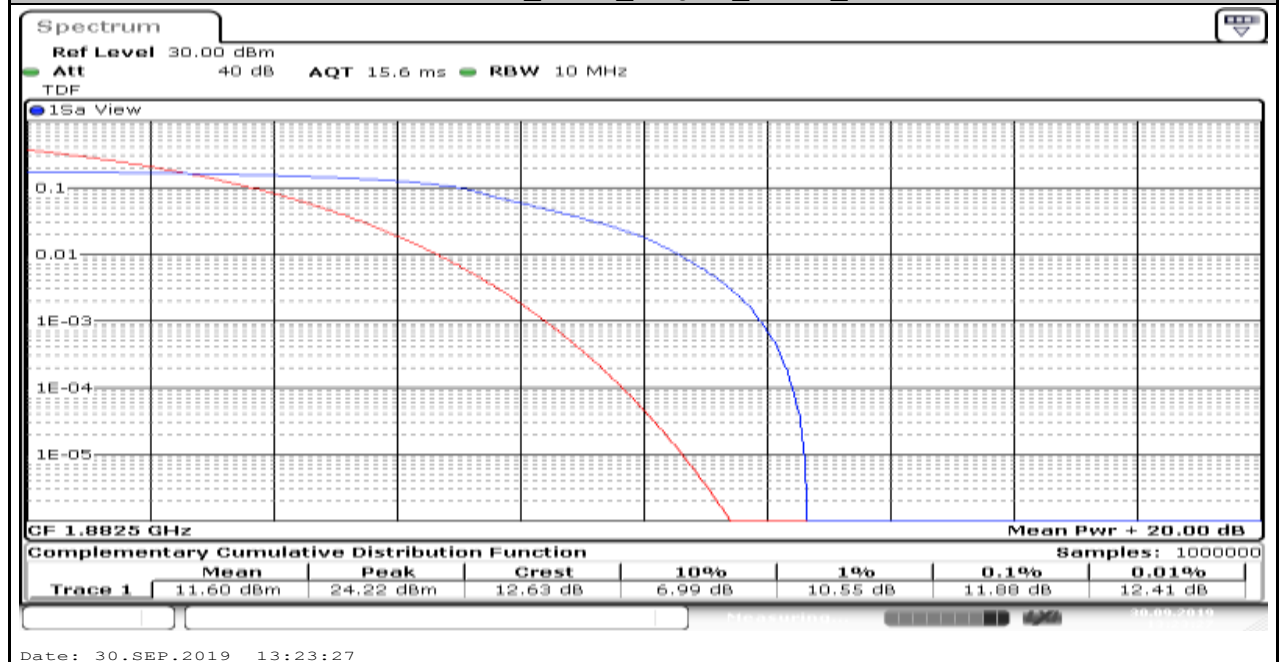
Band25_10MHz_16QAM_26365_6



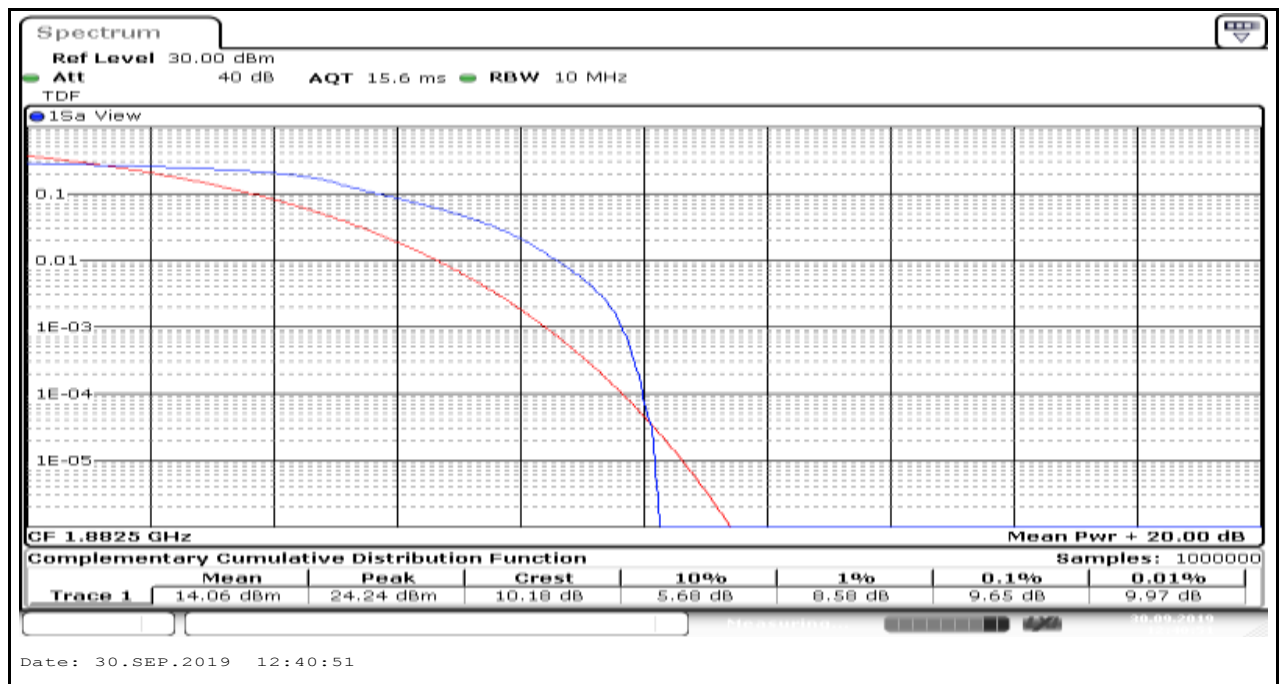
Band25_5MHz_16QAM_26365_6



Band25_3MHz_16QAM_26365_6



Band25_1.4MHz_16QAM_26365_6

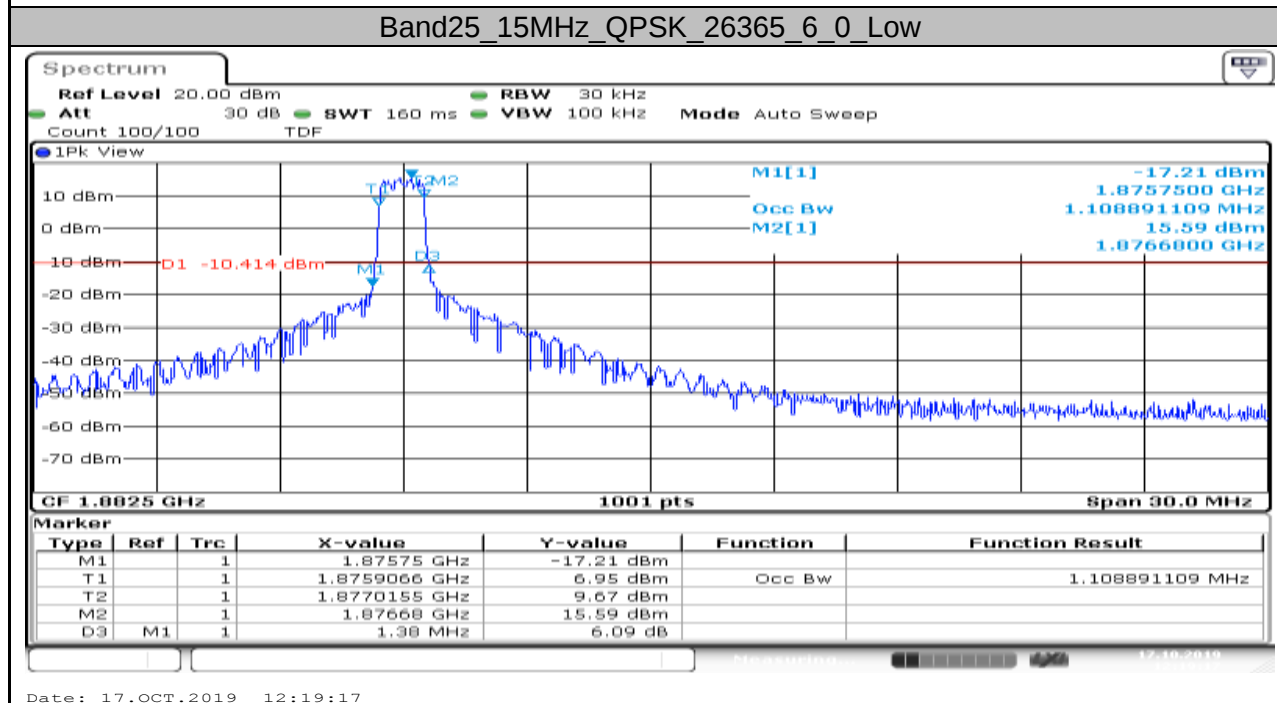
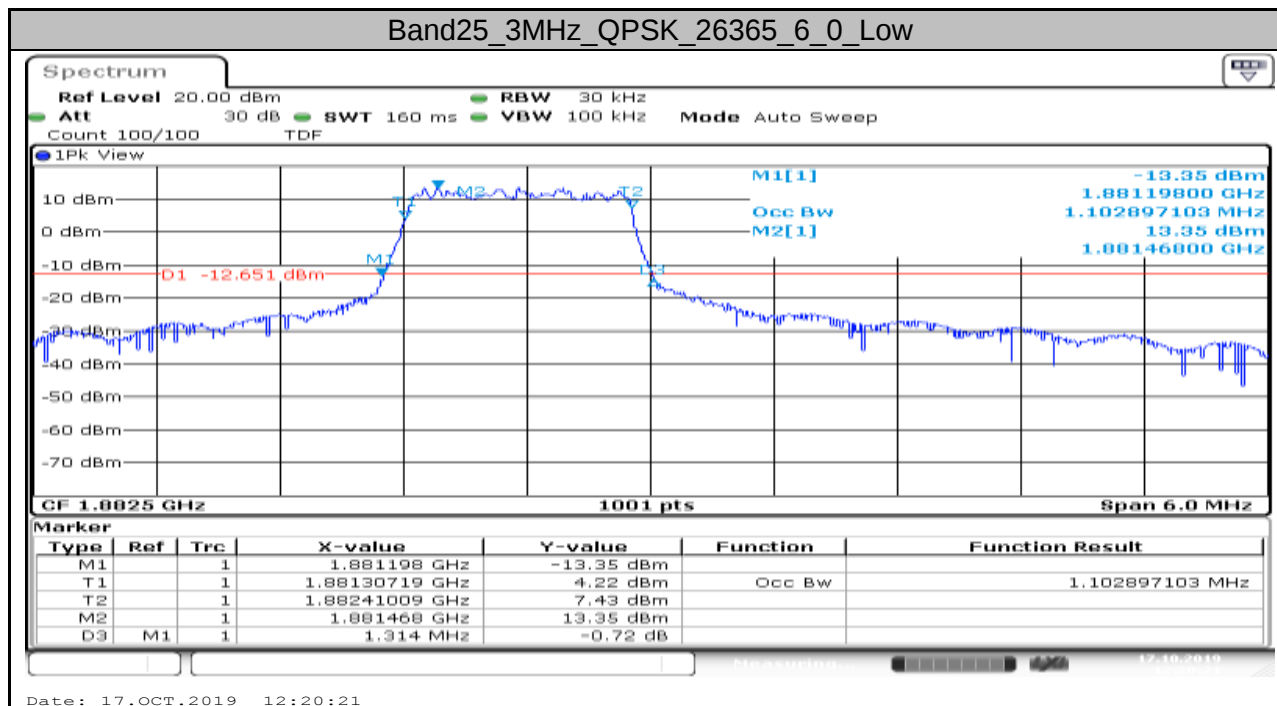


Appendix F.3: 26dB Bandwidth and Occupied Bandwidth for M1

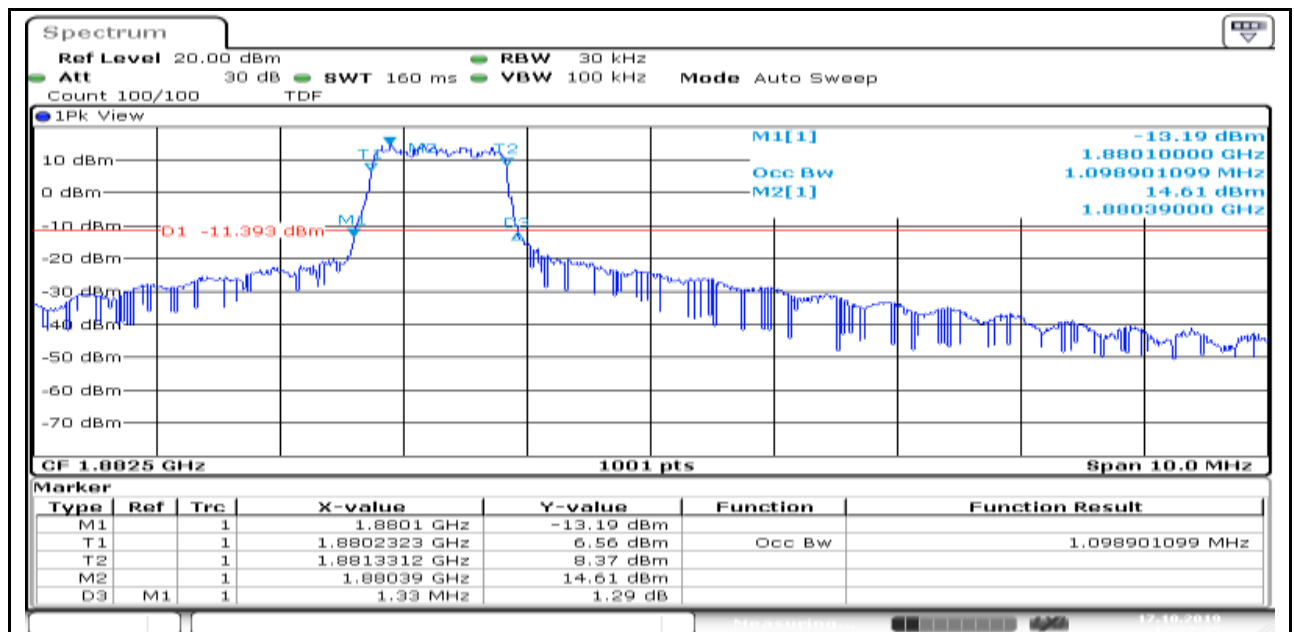
Test Result

Band	Bandwidth	Modulation	Channel	RB Size	RB Start	NB Index	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
Band25	3MHz	QPSK	26365	6	0	Low	1.103	1.314	PASS
Band25	15MHz	QPSK	26365	6	0	Low	1.109	1.380	PASS
Band25	5MHz	QPSK	26365	6	0	Low	1.099	1.330	PASS
Band25	10MHz	QPSK	26365	6	0	Low	1.099	1.320	PASS
Band25	20MHz	QPSK	26365	6	0	Low	1.119	1.400	PASS
Band25	1.4MHz	QPSK	26365	6	0	Low	1.094	1.284	PASS
Band25	3MHz	16QAM	26365	6	0	Low	1.103	1.308	PASS
Band25	15MHz	16QAM	26365	6	0	Low	1.109	1.320	PASS
Band25	5MHz	16QAM	26365	6	0	Low	1.099	1.320	PASS
Band25	10MHz	16QAM	26365	6	0	Low	1.119	1.340	PASS
Band25	20MHz	16QAM	26365	6	0	Low	1.119	1.400	PASS
Band25	1.4MHz	16QAM	26365	6	0	Low	1.103	1.311	PASS

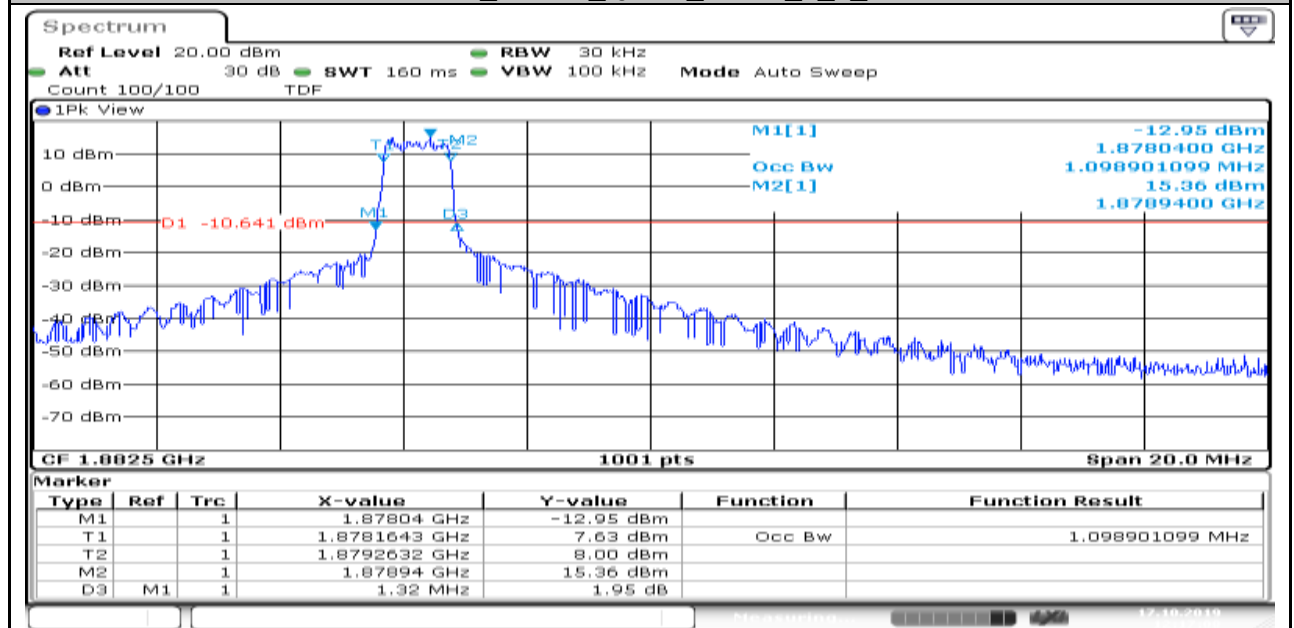
Test Graphs



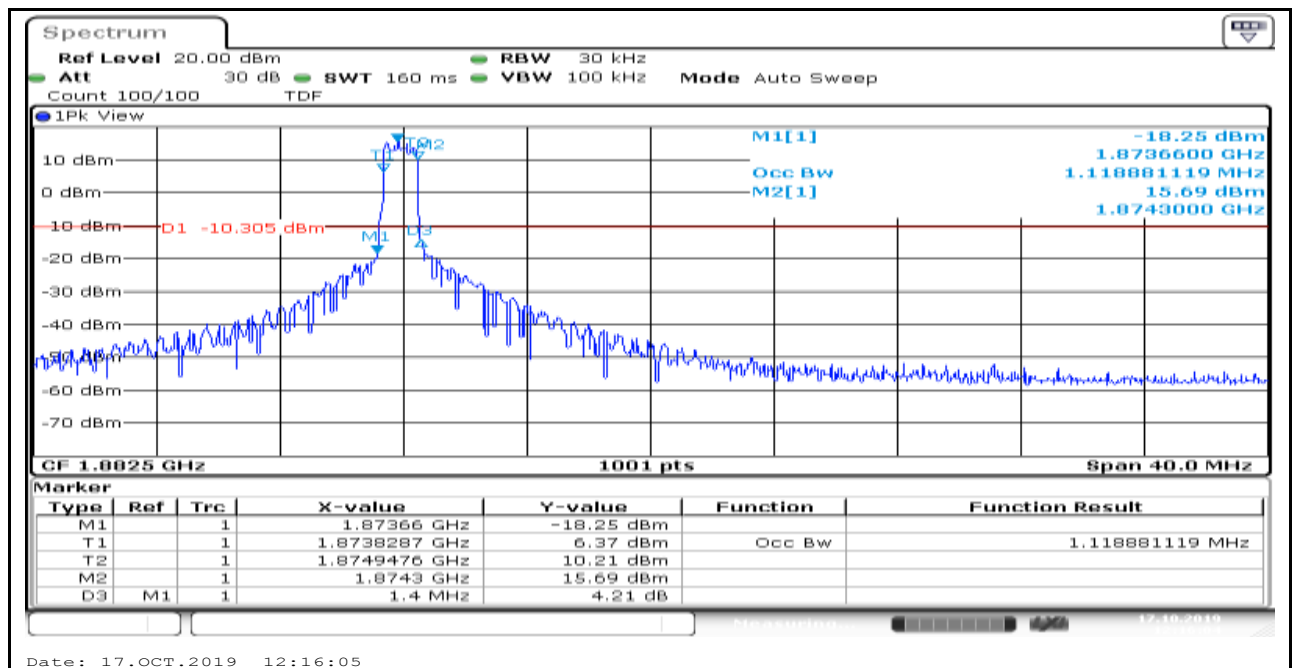
Band25_5MHz_QPSK_26365_6_0_Low



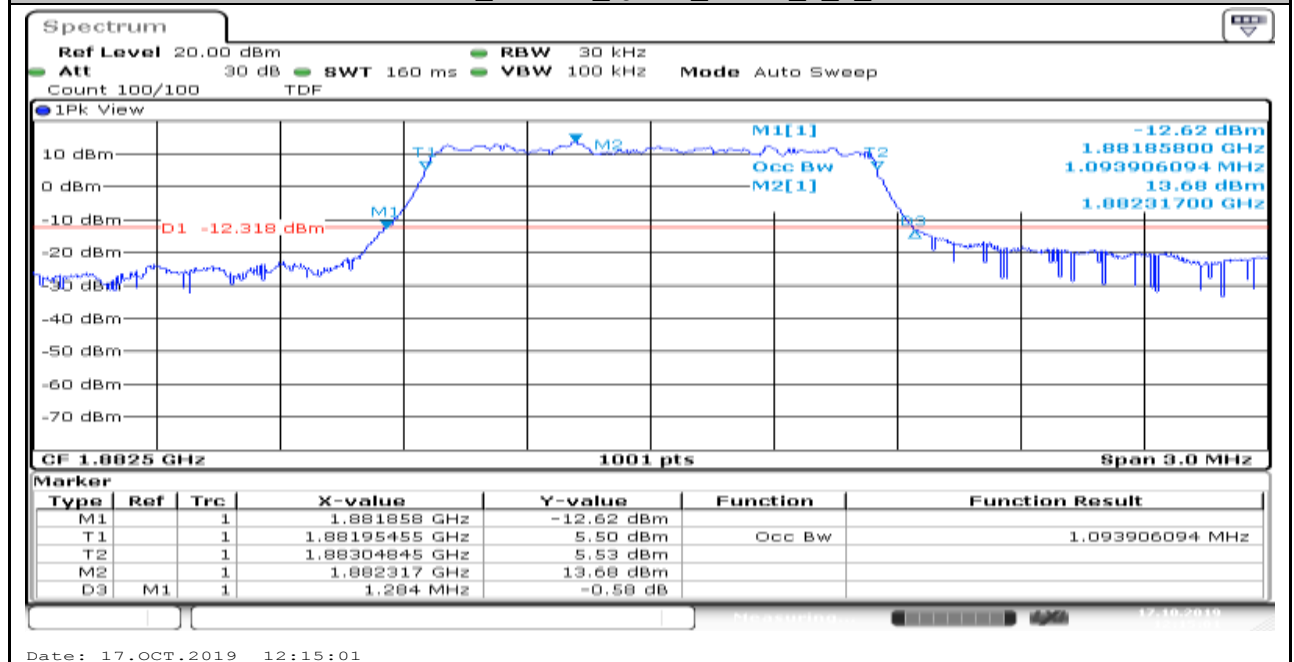
Band25_10MHz_QPSK_26365_6_0_Low



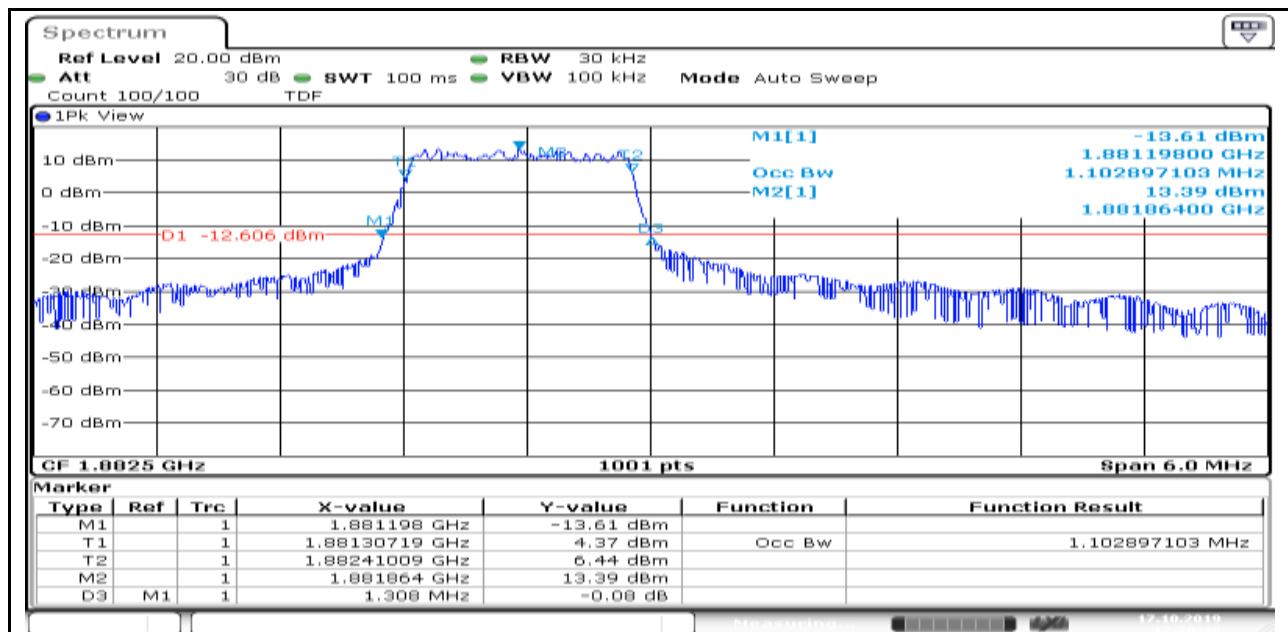
Band25_20MHz_QPSK_26365_6_0_Low



Band25_1.4MHz_QPSK_26365_6_0_Low

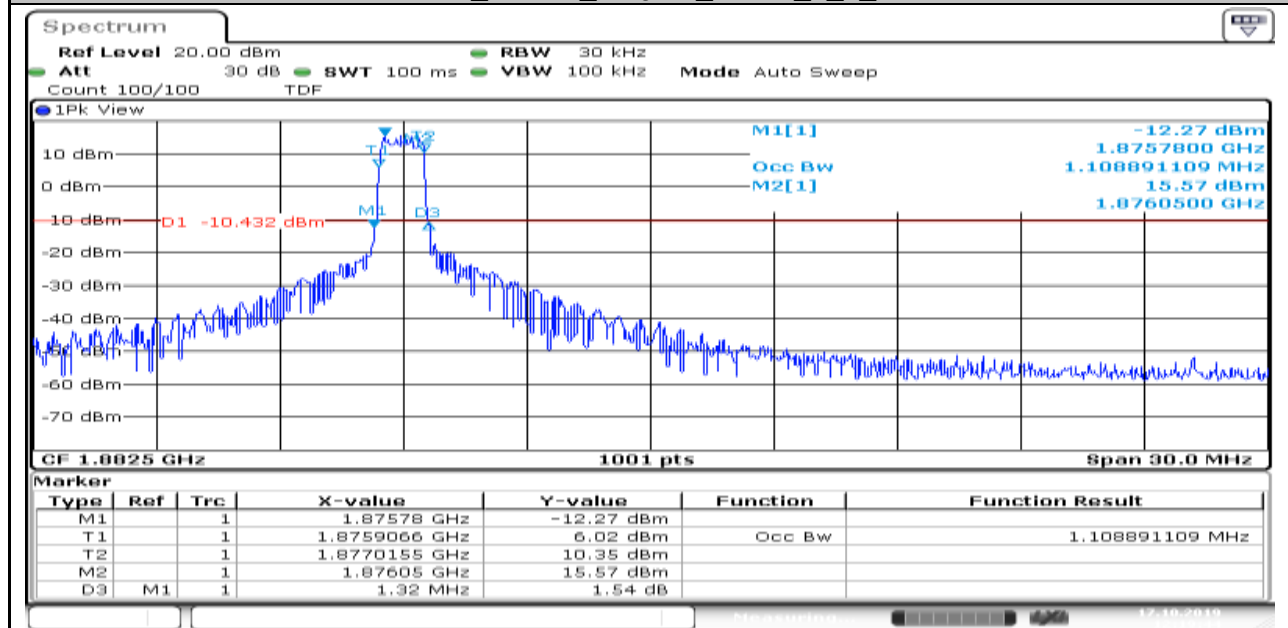


Band25_3MHz_16QAM_26365_6_0_Low



Date: 17.OCT.2019 12:20:48

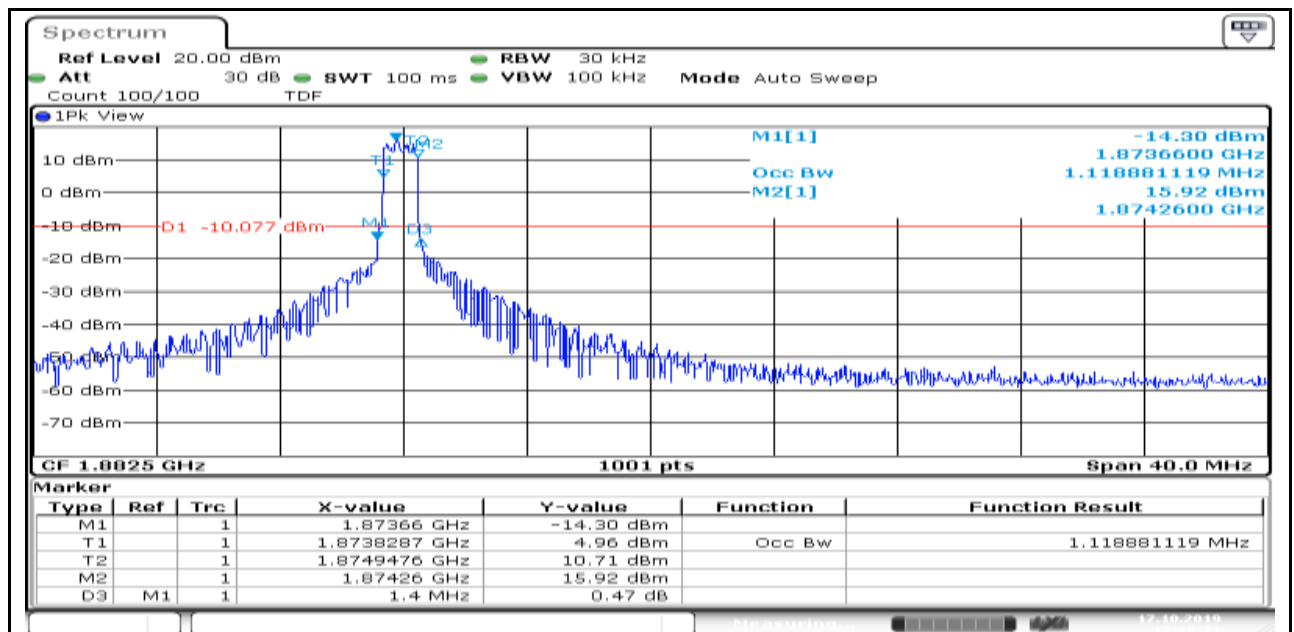
Band25_15MHz_16QAM_26365_6_0_Low



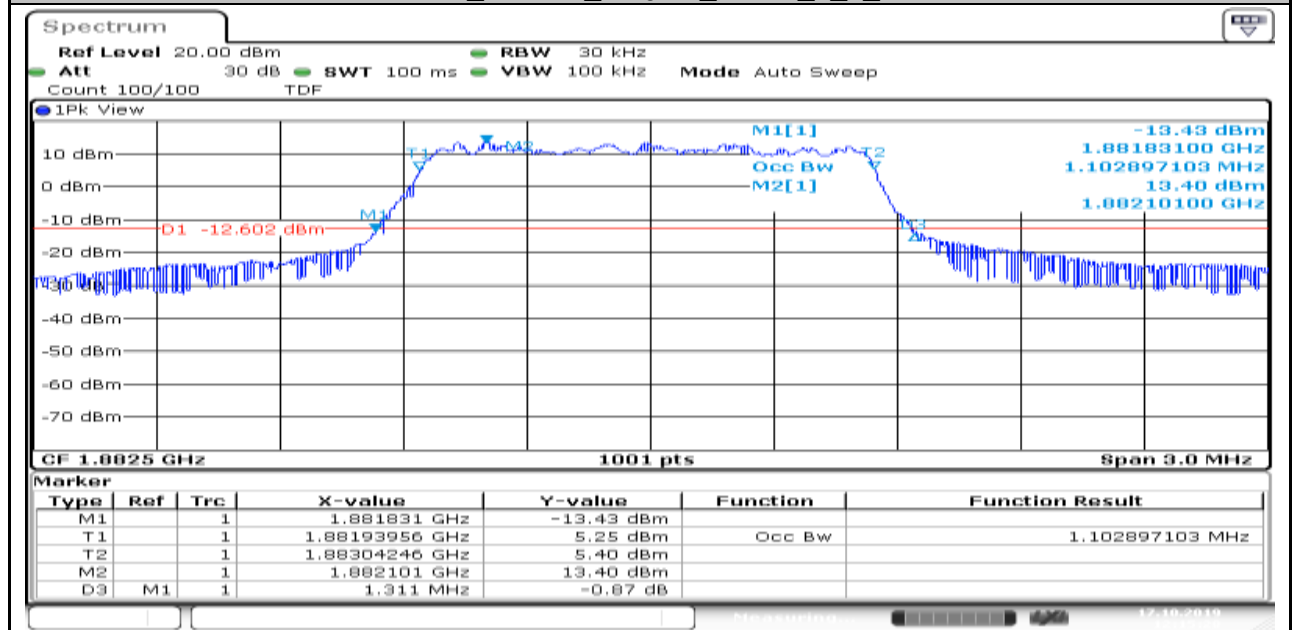
Date: 17.OCT.2019 12:19:44

Band25_5MHz_16QAM_26365_6_0_Low

Band25	20MHz	16QAM	26365	6	0	Low
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Band25_1.4MHz_16QAM_26365_6_0_Low

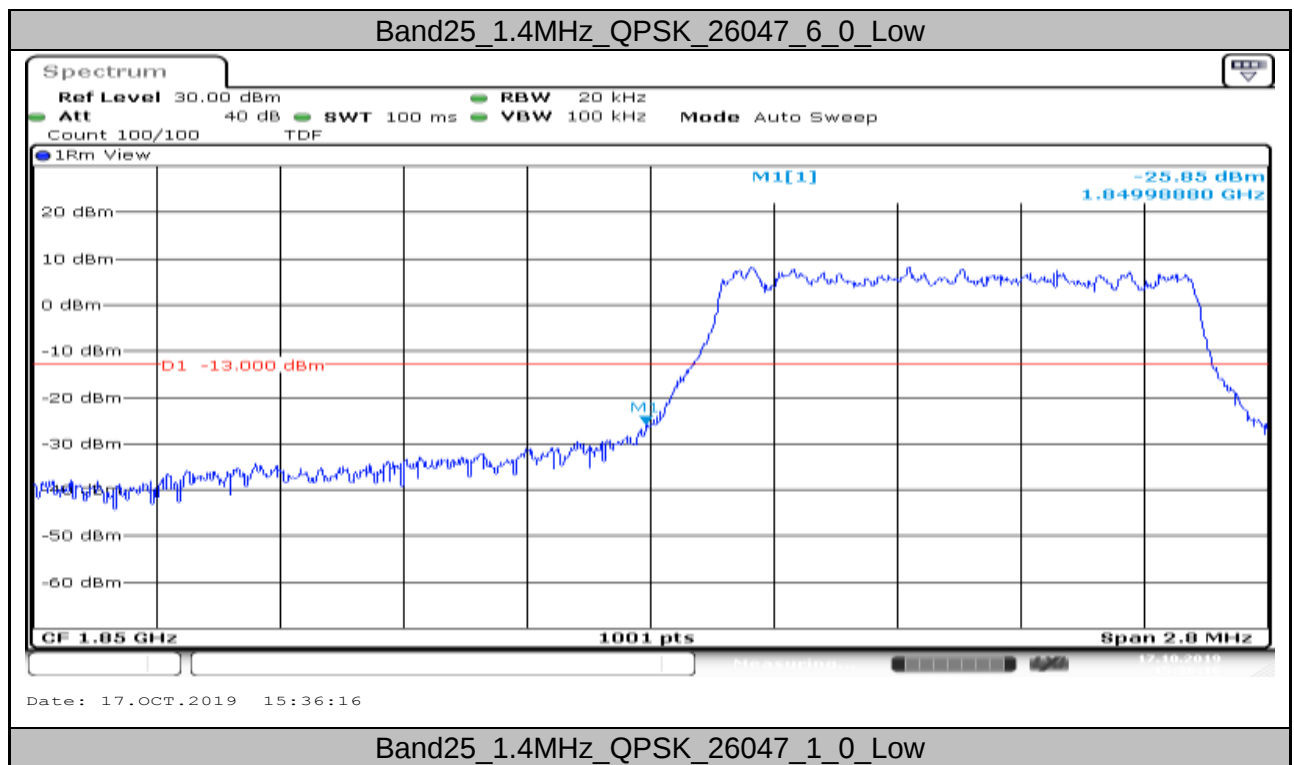


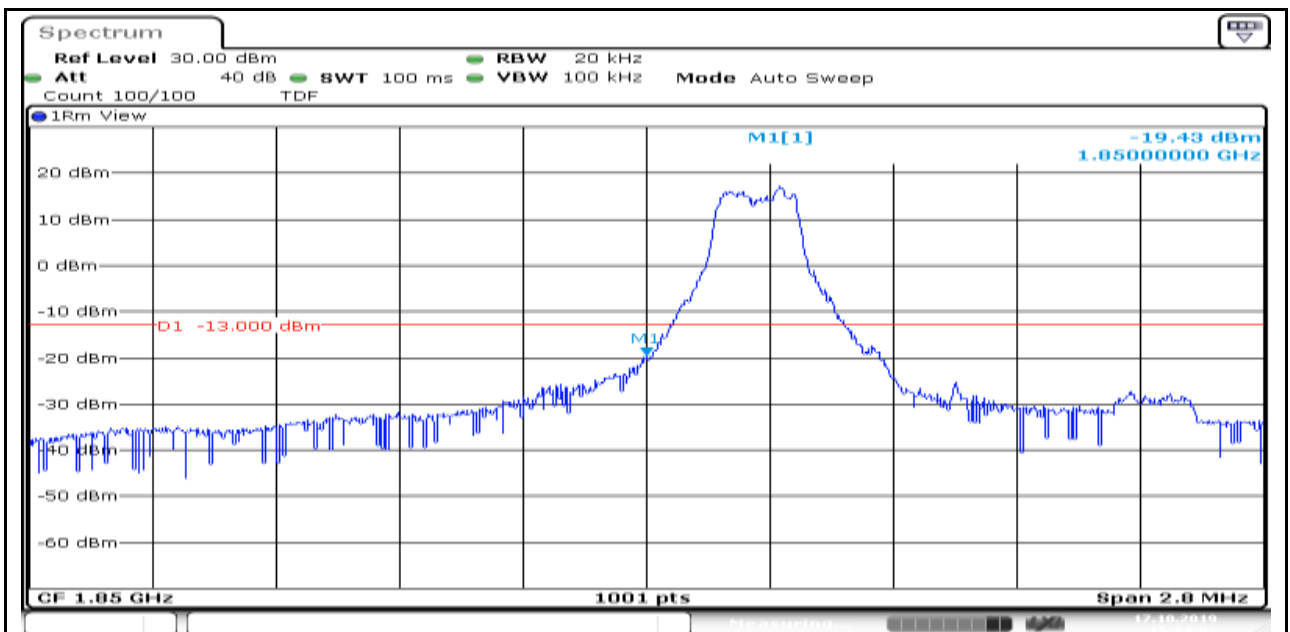
Appendix F.4: Band Edge for M1

Test Result

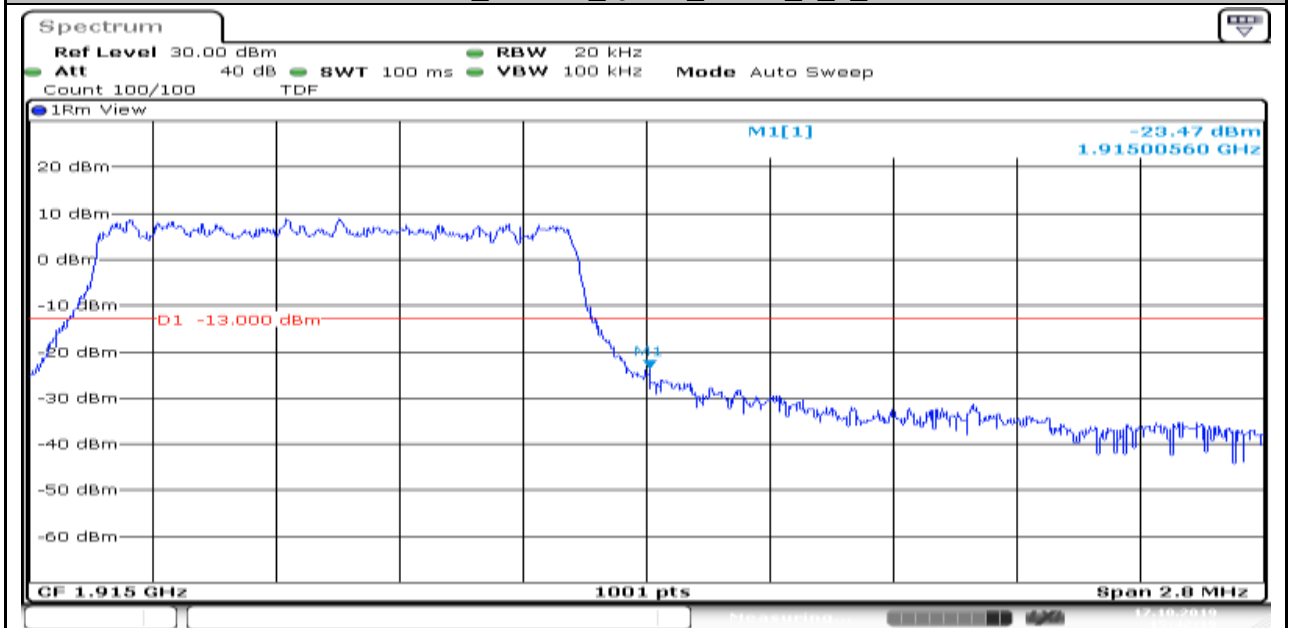
Band	Bandwidth	Modulation	Channel	RB Size	RB Start	NB Index	Result (dBm)	Verdict
Band25	1.4MHz	QPSK	26047	6	0	Low	-25.85	PASS
Band25	1.4MHz	QPSK	26047	1	0	Low	-19.43	PASS
Band25	1.4MHz	QPSK	26683	6	0	Low	-23.47	PASS
Band25	1.4MHz	QPSK	26683	1	5	Low	-17.46	PASS
Band25	1.4MHz	16QAM	26047	6	0	Low	-25.35	PASS
Band25	1.4MHz	16QAM	26047	1	0	Low	-19.79	PASS
Band25	1.4MHz	16QAM	26683	6	0	Low	-24.38	PASS
Band25	1.4MHz	16QAM	26683	1	5	Low	-19.70	PASS

Test Graphs

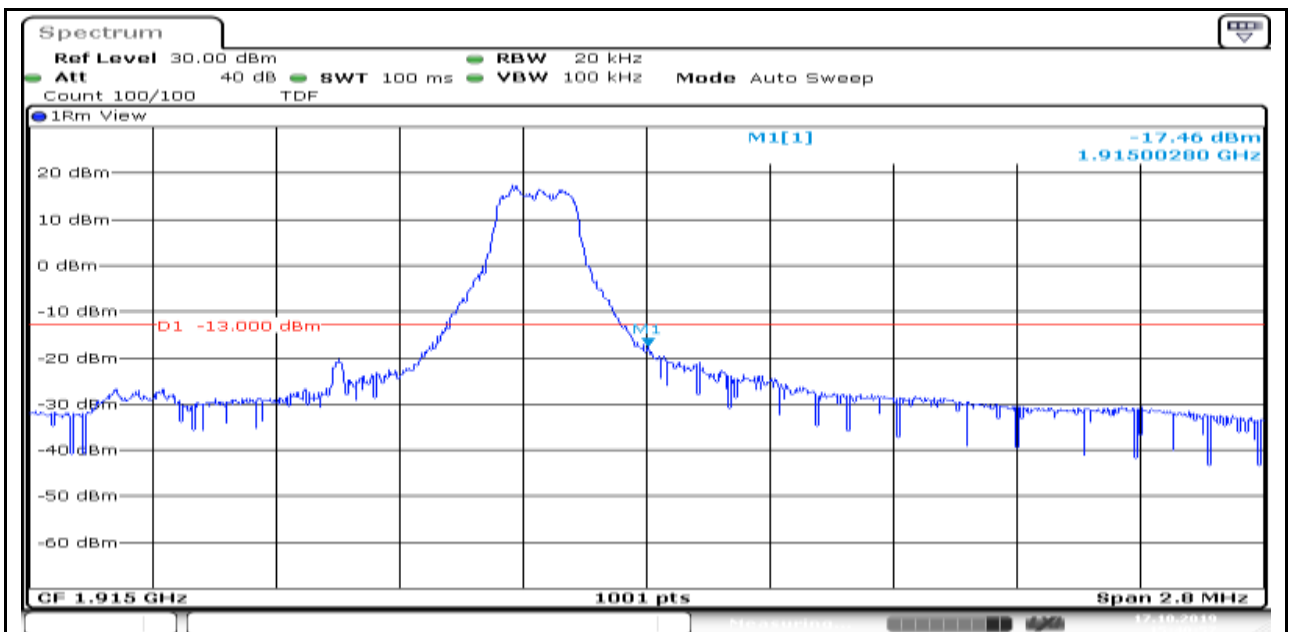




Band25_1.4MHz_QPSK_26683_6_0_Low

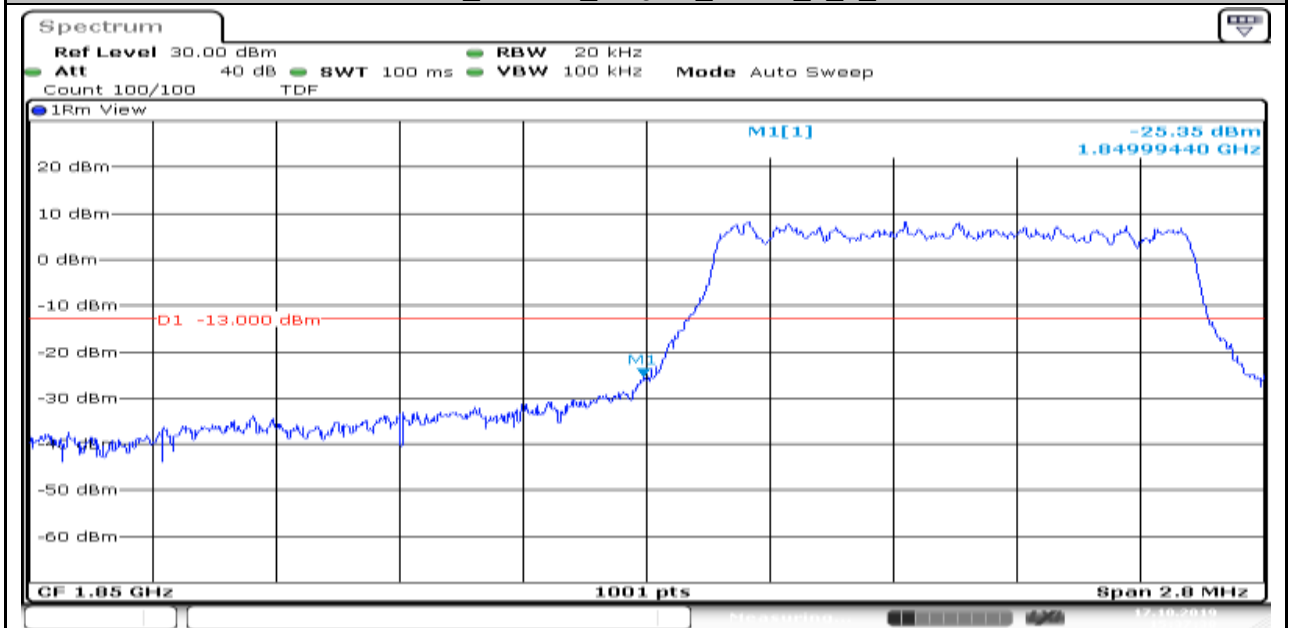


Band25_1.4MHz_QPSK_26683_1_5_Low



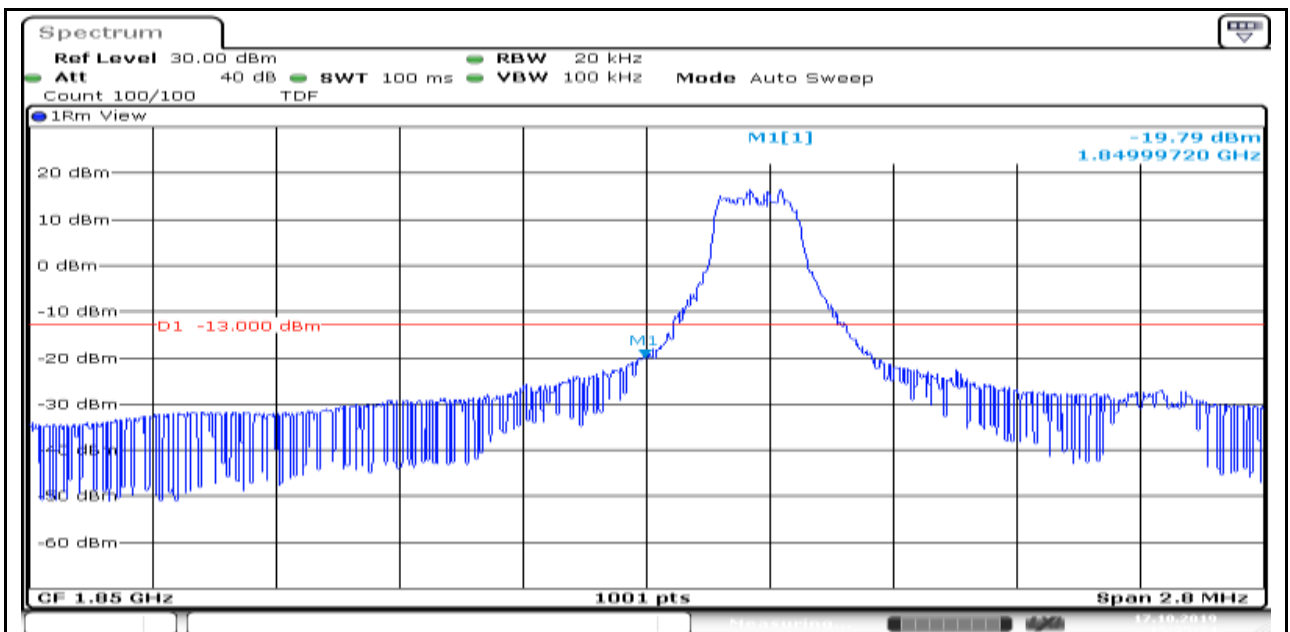
Date: 17.OCT.2019 15:40:58

Band25_1.4MHz_16QAM_26047_6_0_Low



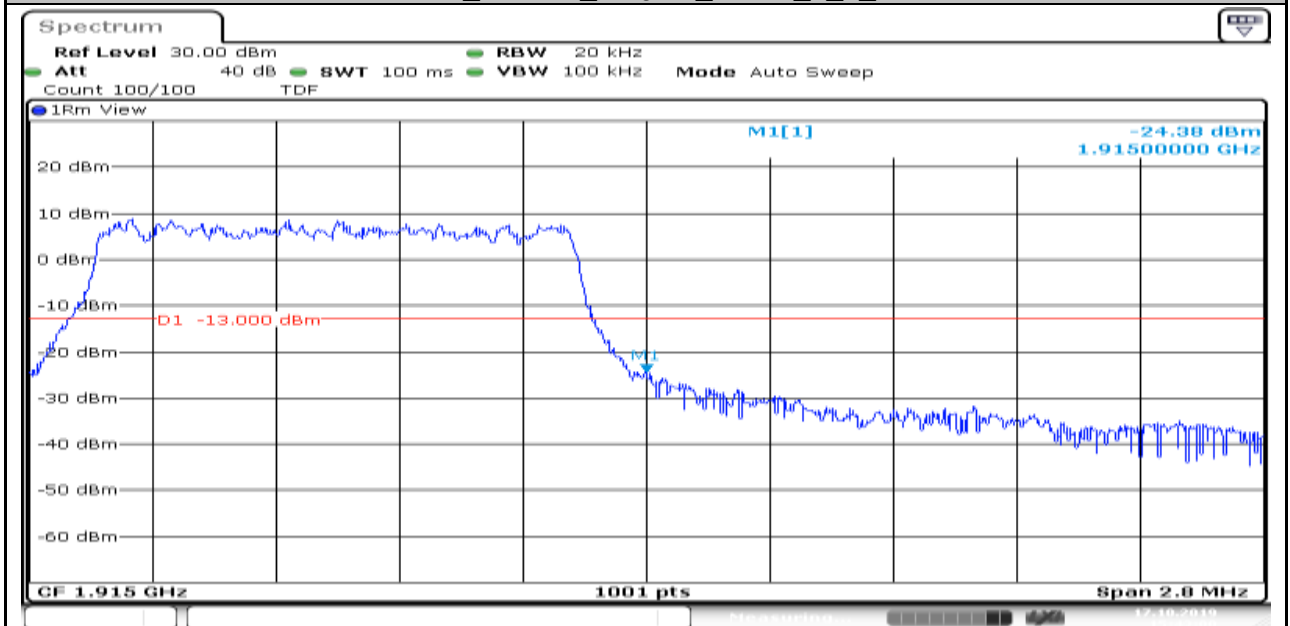
Date: 17.OCT.2019 15:37:38

Band25_1.4MHz_16QAM_26047_1_0_Low



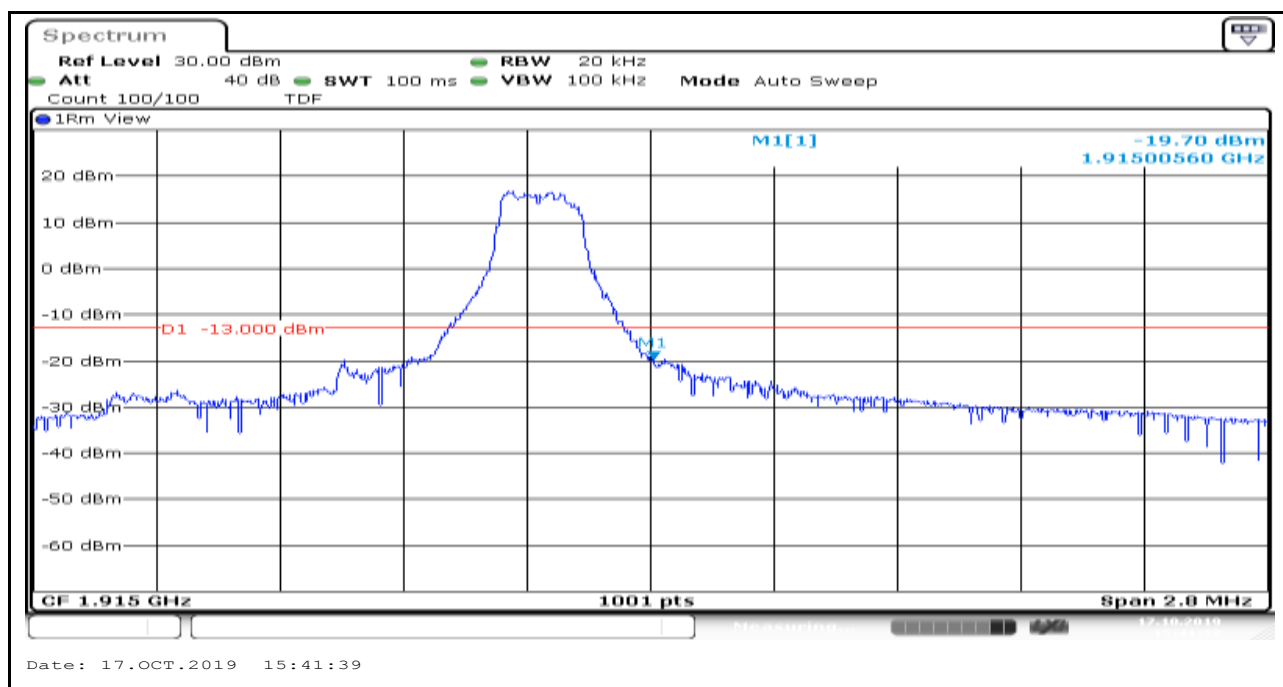
Date: 17.OCT.2019 15:35:35

Band25_1.4MHz_16QAM_26683_6_0_Low



Date: 17.OCT.2019 15:43:01

Band25_1.4MHz_16QAM_26683_1_5_Low



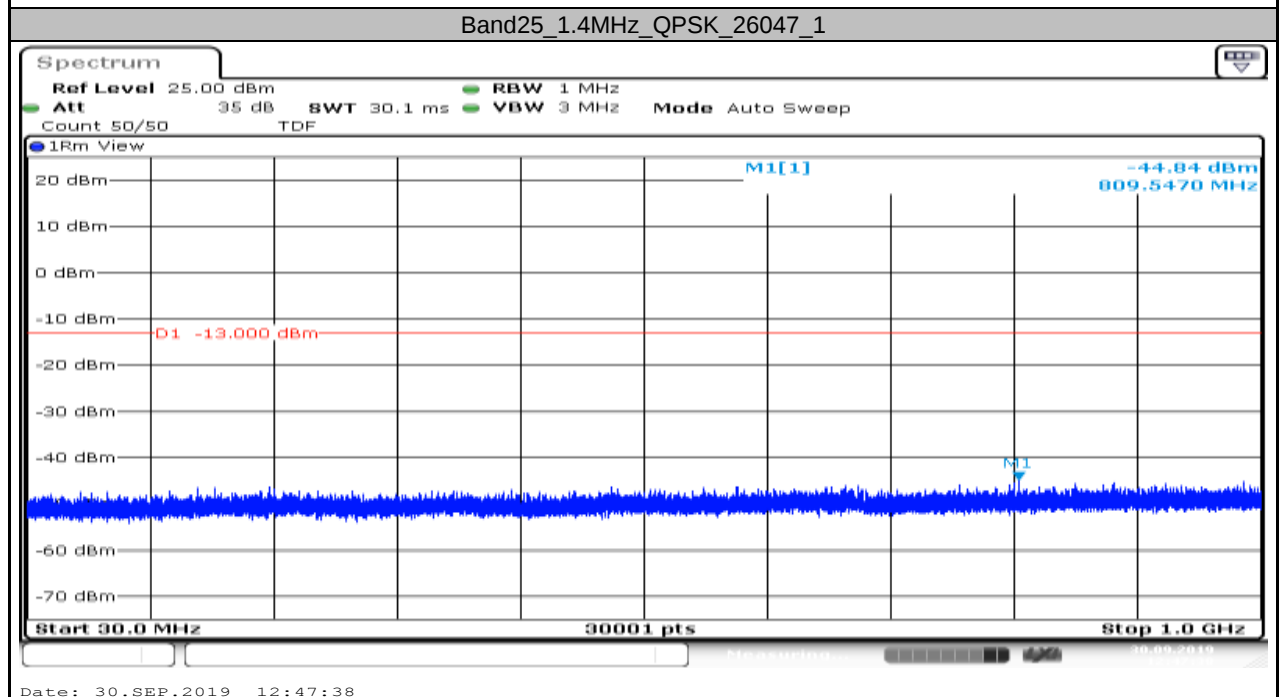
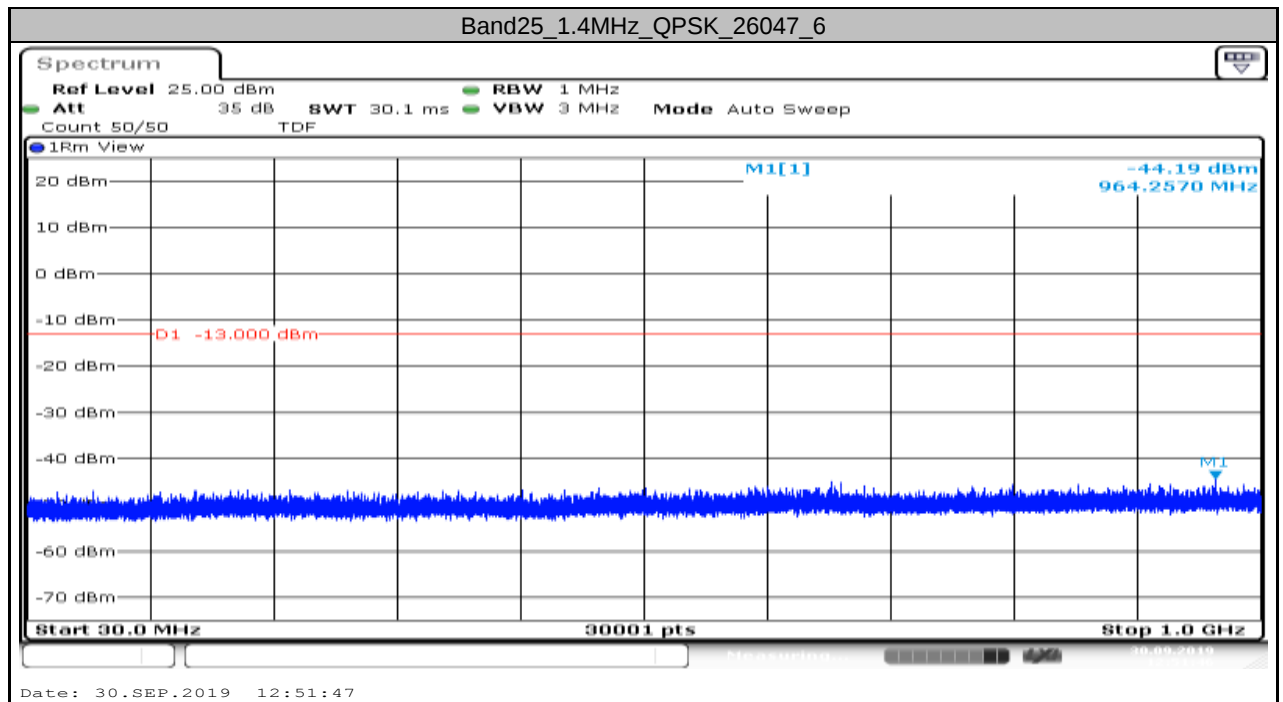
Appendix F.5: Conducted Spurious Emission for M1

Test Result

Band	Bandwidth	Modulation	Channel	RB Size	RB Start	NB Index	Start Freq	Stop Freq	Result (dBm)	Verdict
Band25	1.4MHz	QPSK	26047	6	0	Low	30	1000	-44.19	PASS
Band25	1.4MHz	QPSK	26047	1	0	Low	30	1000	-44.84	PASS
Band25	1.4MHz	QPSK	26047	6	0	Low	12000	26500	-59.66	PASS
Band25	1.4MHz	QPSK	26047	6	0	Low	5000	12000	-56.25	PASS
Band25	1.4MHz	QPSK	26047	6	0	Low	1000	5000	-49.86	PASS
Band25	1.4MHz	QPSK	26047	1	0	Low	12000	26500	-59.69	PASS
Band25	1.4MHz	QPSK	26047	1	0	Low	1000	5000	-47.72	PASS
Band25	1.4MHz	QPSK	26047	1	0	Low	5000	12000	-51.66	PASS
Band25	1.4MHz	QPSK	26365	6	0	Low	12000	26500	-59.6	PASS
Band25	1.4MHz	QPSK	26365	1	0	Low	1000	5000	-46.26	PASS
Band25	1.4MHz	QPSK	26365	1	0	Low	5000	12000	-50.72	PASS
Band25	1.4MHz	QPSK	26365	1	0	Low	12000	26500	-59.56	PASS
Band25	1.4MHz	QPSK	26365	6	0	Low	1000	5000	-50.42	PASS
Band25	1.4MHz	QPSK	26365	1	0	Low	30	1000	-44.92	PASS
Band25	1.4MHz	QPSK	26365	6	0	Low	5000	12000	-55.26	PASS
Band25	1.4MHz	QPSK	26365	6	0	Low	30	1000	-44.45	PASS
Band25	1.4MHz	QPSK	26683	1	5	Low	12000	26500	-59.46	PASS
Band25	1.4MHz	QPSK	26683	6	0	Low	12000	26500	-59.56	PASS
Band25	1.4MHz	QPSK	26683	6	0	Low	5000	12000	-54.95	PASS
Band25	1.4MHz	QPSK	26683	6	0	Low	30	1000	-45.17	PASS
Band25	1.4MHz	QPSK	26683	1	5	Low	1000	5000	-45.52	PASS
Band25	1.4MHz	QPSK	26683	1	5	Low	5000	12000	-50.82	PASS
Band25	1.4MHz	QPSK	26683	1	5	Low	30	1000	-45.12	PASS
Band25	1.4MHz	QPSK	26683	6	0	Low	1000	5000	-49.18	PASS
Band25	1.4MHz	16QAM	26047	1	0	Low	1000	5000	-48.14	PASS
Band25	1.4MHz	16QAM	26047	1	0	Low	5000	12000	-51.69	PASS
Band25	1.4MHz	16QAM	26047	1	0	Low	12000	26500	-59.58	PASS
Band25	1.4MHz	16QAM	26047	6	0	Low	12000	26500	-59.58	PASS
Band25	1.4MHz	16QAM	26047	6	0	Low	5000	12000	-56.74	PASS
Band25	1.4MHz	16QAM	26047	6	0	Low	30	1000	-45.56	PASS
Band25	1.4MHz	16QAM	26047	1	0	Low	30	1000	-44.77	PASS
Band25	1.4MHz	16QAM	26047	6	0	Low	1000	5000	-49.17	PASS
Band25	1.4MHz	16QAM	26365	6	0	Low	12000	26500	-59.64	PASS
Band25	1.4MHz	16QAM	26365	1	0	Low	1000	5000	-49.81	PASS
Band25	1.4MHz	16QAM	26365	1	0	Low	12000	26500	-59.61	PASS
Band25	1.4MHz	16QAM	26365	6	0	Low	30	1000	-45.62	PASS
Band25	1.4MHz	16QAM	26365	6	0	Low	1000	5000	-49.14	PASS
Band25	1.4MHz	16QAM	26365	6	0	Low	5000	12000	-55.39	PASS
Band25	1.4MHz	16QAM	26365	1	0	Low	30	1000	-45.26	PASS
Band25	1.4MHz	16QAM	26365	1	0	Low	5000	12000	-52.58	PASS
Band25	1.4MHz	16QAM	26683	6	0	Low	5000	12000	-54.91	PASS
Band25	1.4MHz	16QAM	26683	6	0	Low	1000	5000	-49.22	PASS
Band25	1.4MHz	16QAM	26683	6	0	Low	30	1000	-45.5	PASS
Band25	1.4MHz	16QAM	26683	1	5	Low	12000	26500	-59.56	PASS
Band25	1.4MHz	16QAM	26683	1	5	Low	5000	12000	-63.27	PASS
Band25	1.4MHz	16QAM	26683	1	5	Low	30	1000	-44.85	PASS

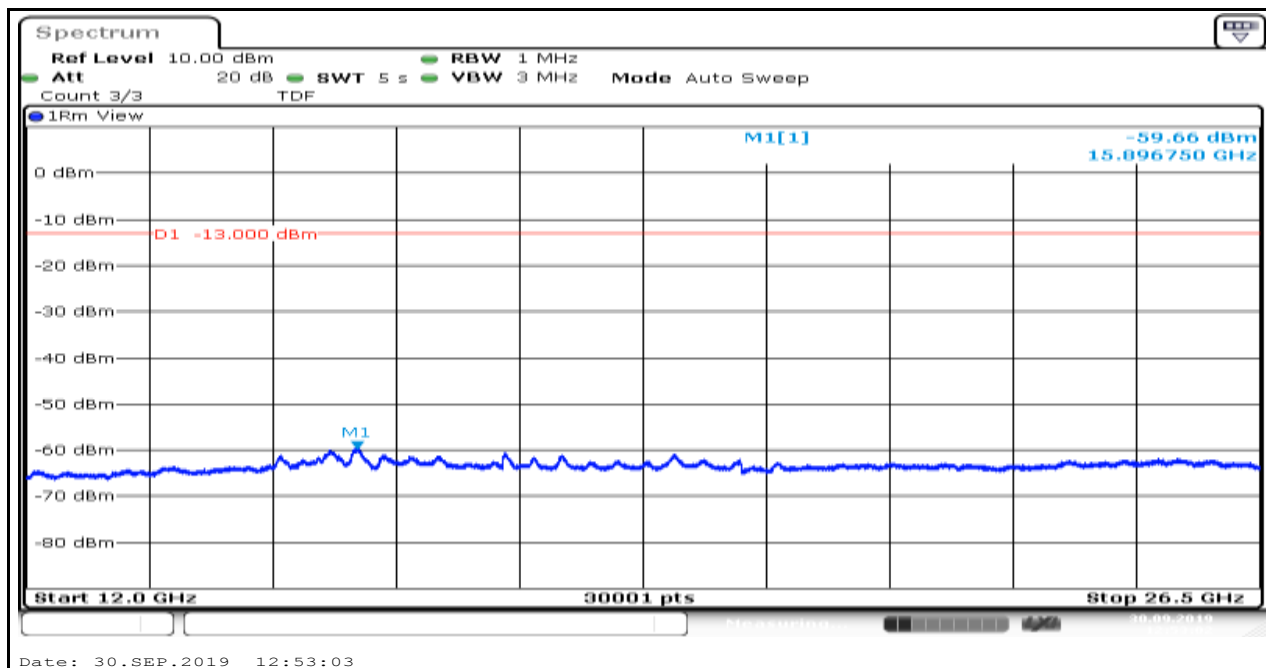
Band25	1.4MHz	16QAM	26683	6	0	Low	12000	26500	-59.6	PASS
Band25	1.4MHz	16QAM	26683	1	5	Low	1000	5000	-46.77	PASS

Test Graphs

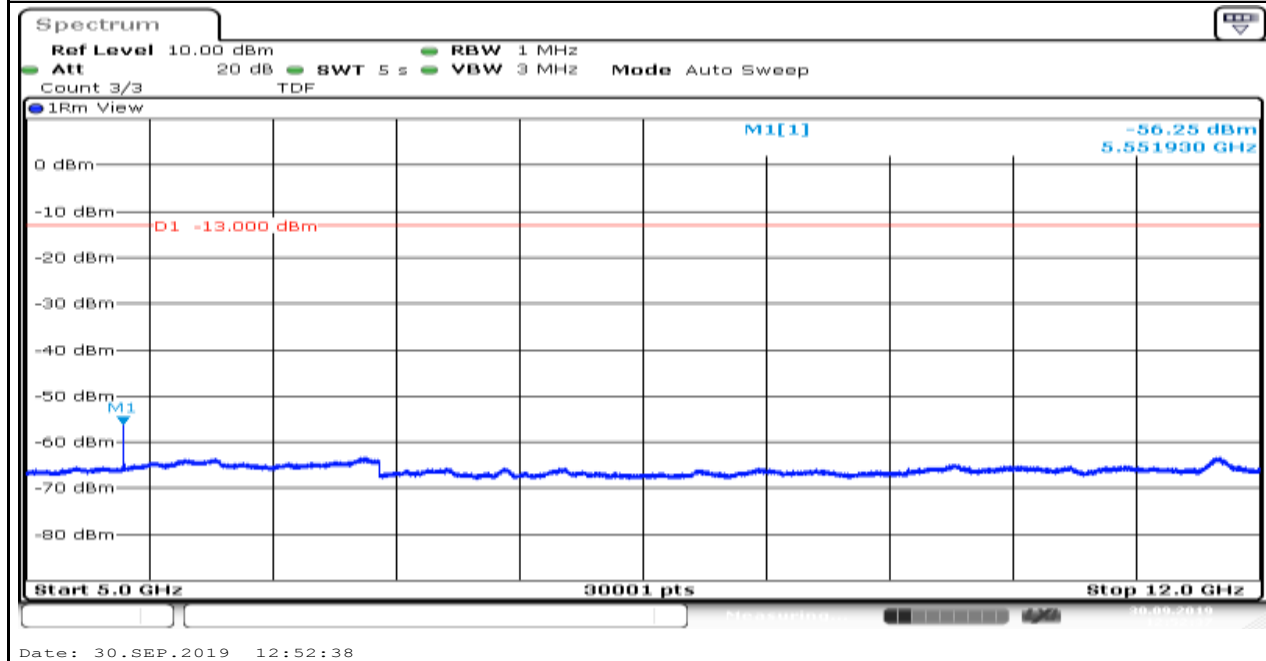


Band25_1.4MHz_QPSK_26047_6

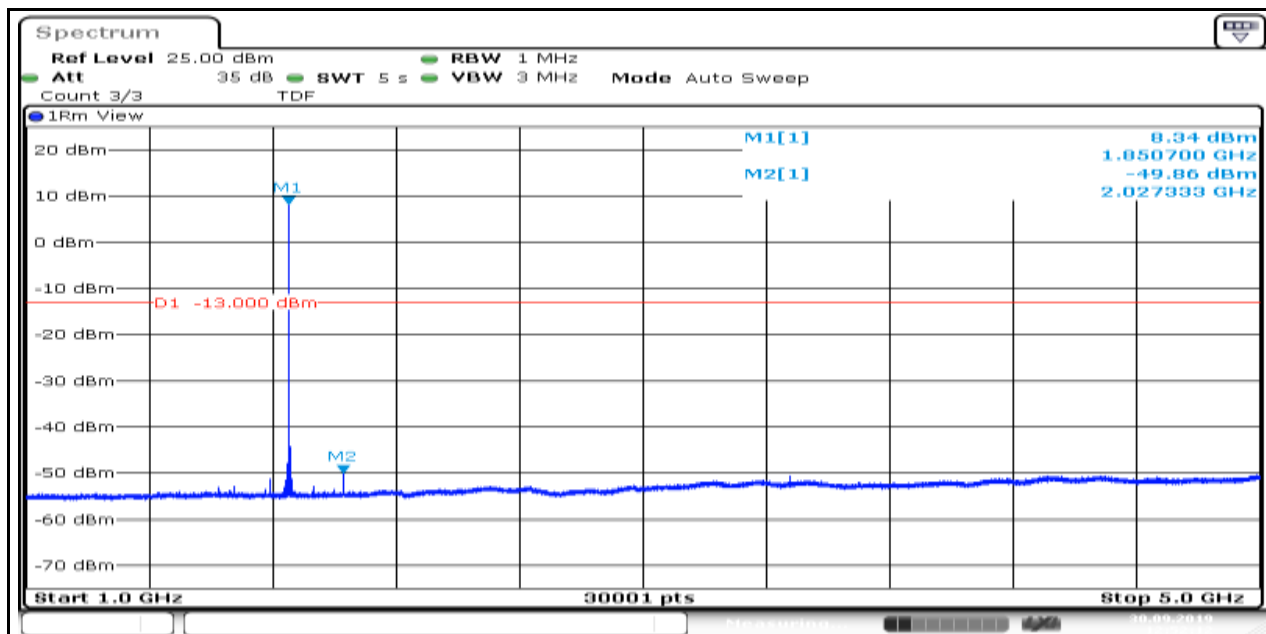
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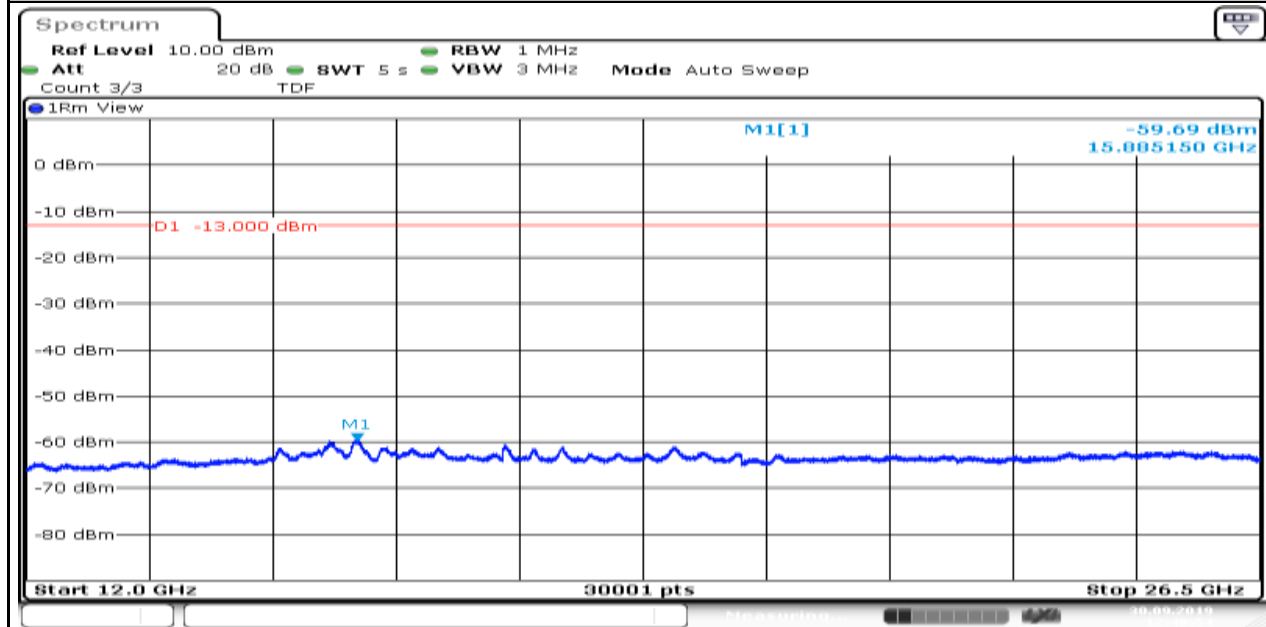
Band25_1.4MHz_QPSK_26047_6



Band25_1.4MHz_QPSK_26047_6

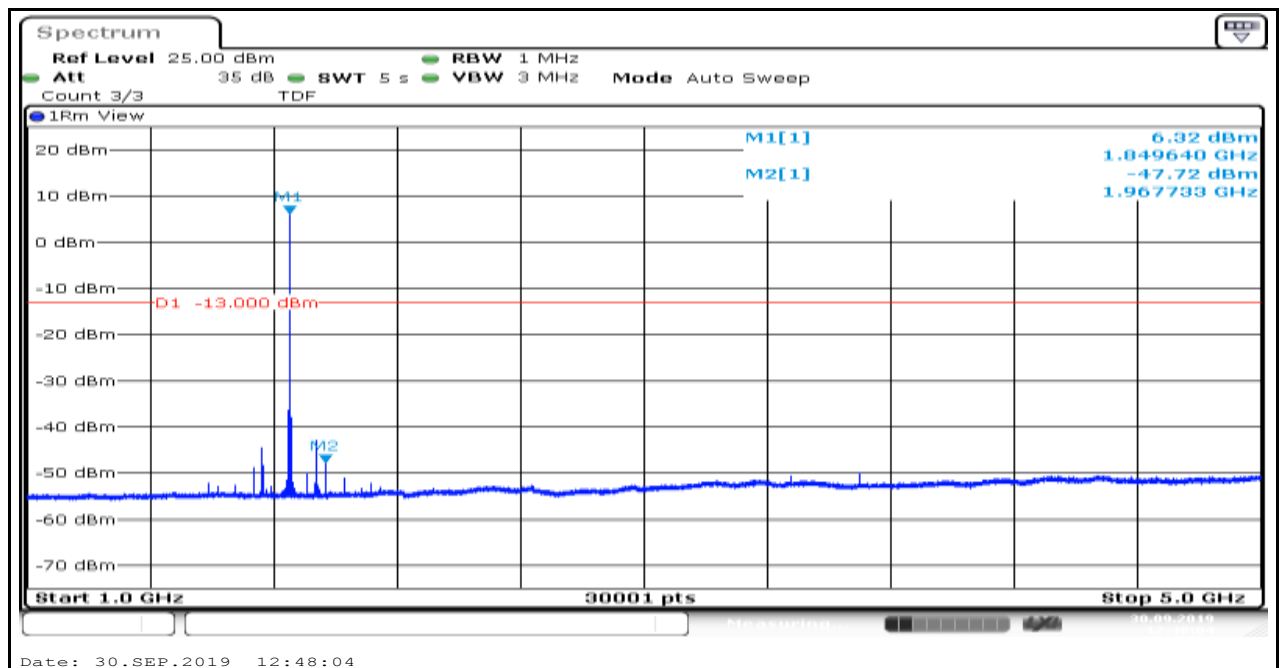


Band25_1.4MHz_QPSK_26047_1

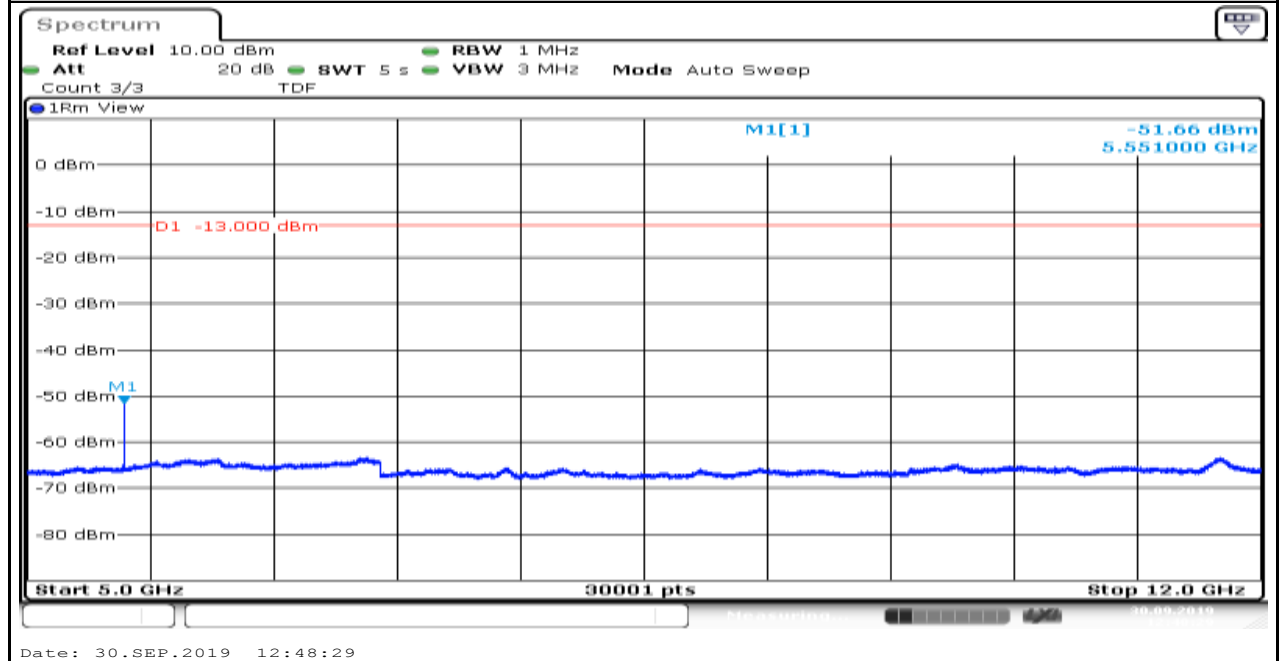


Band25_1.4MHz_QPSK_26047_1

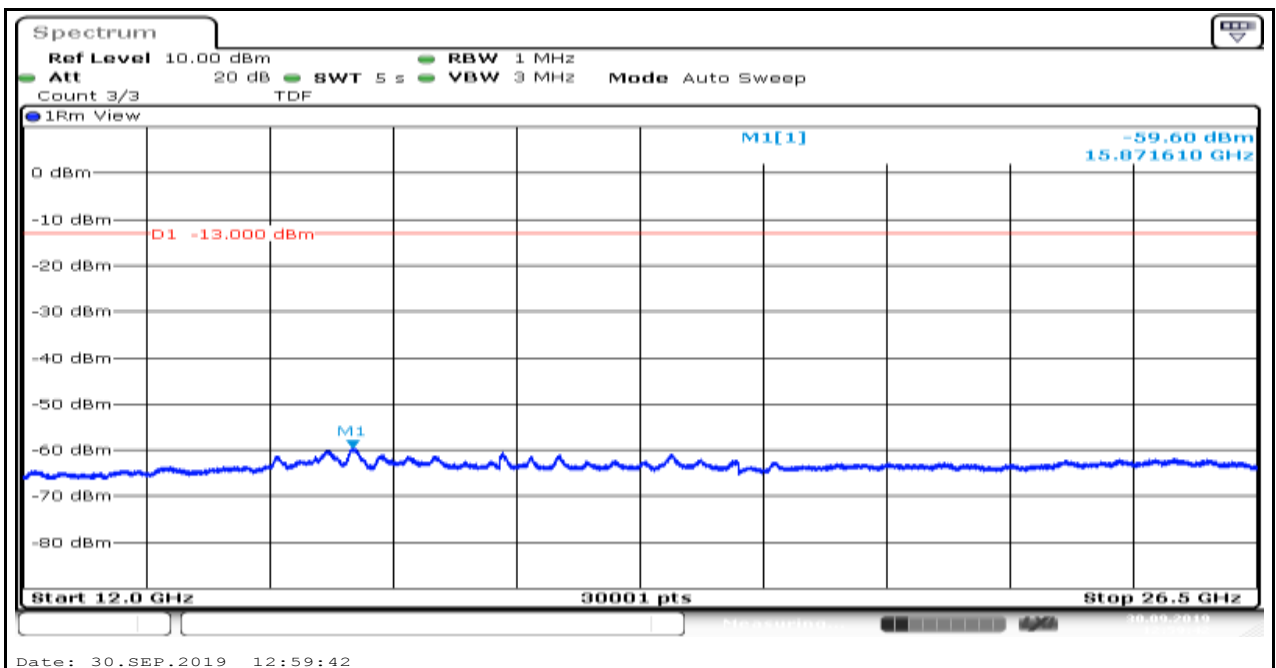
Produkte
Products



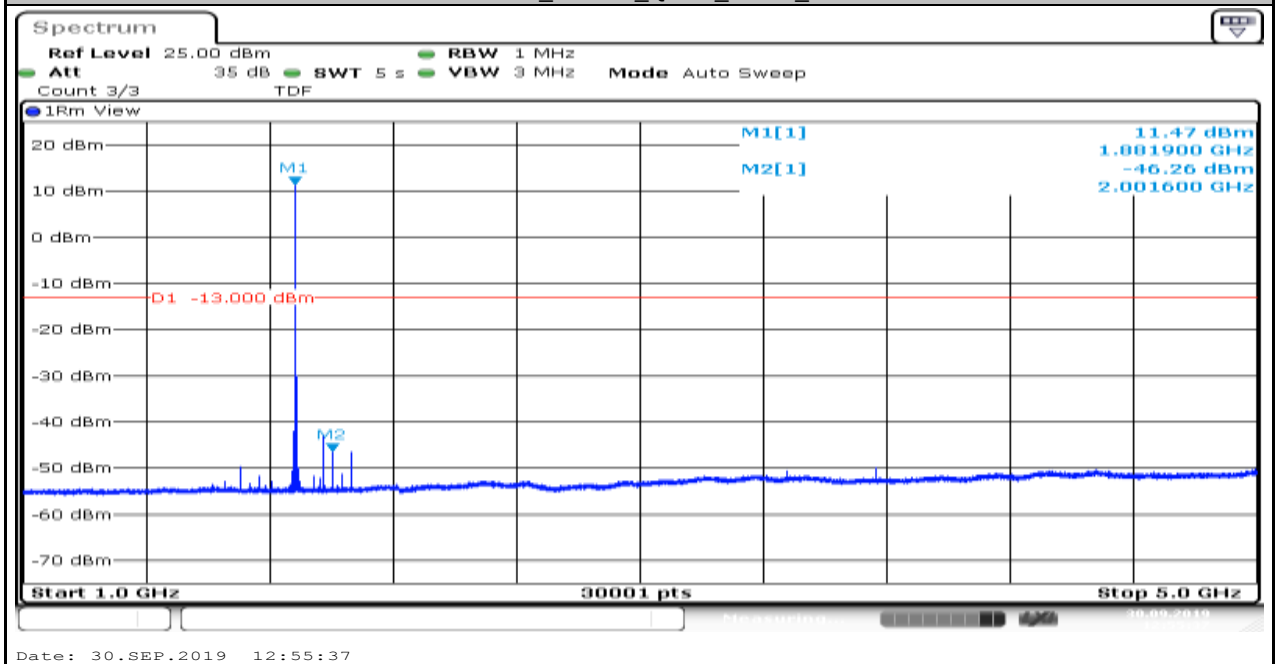
Band25_1.4MHz_QPSK_26047_1



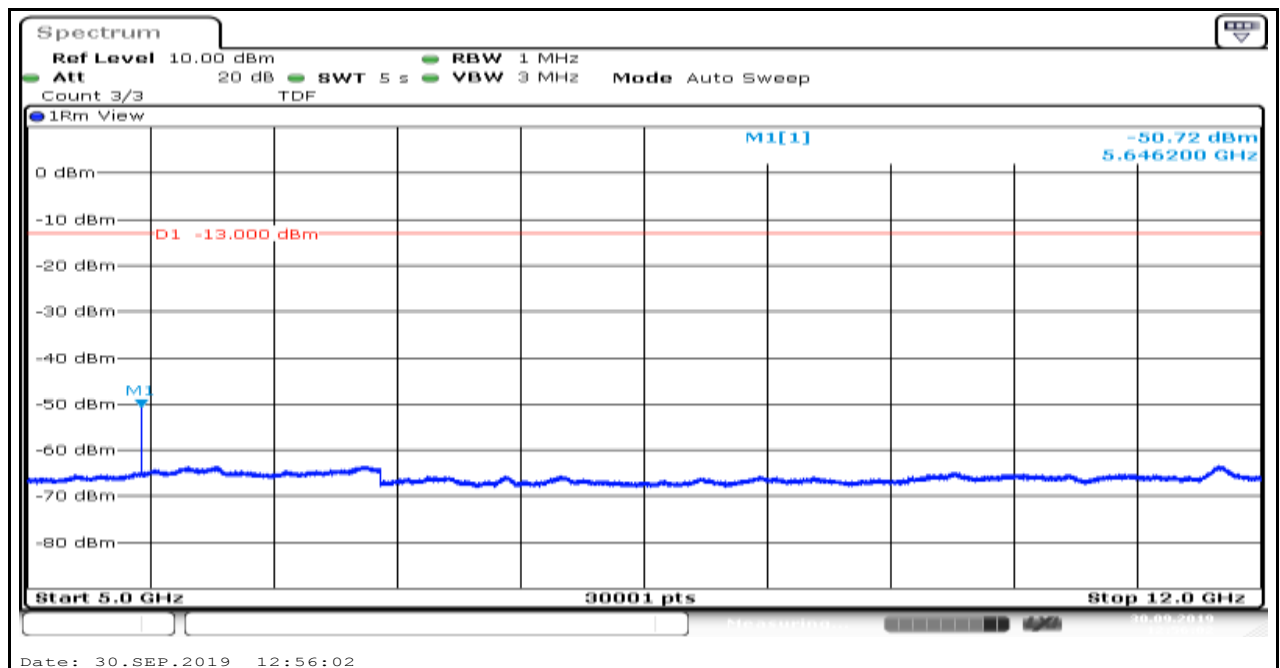
Band25_1.4MHz_QPSK_26365_6



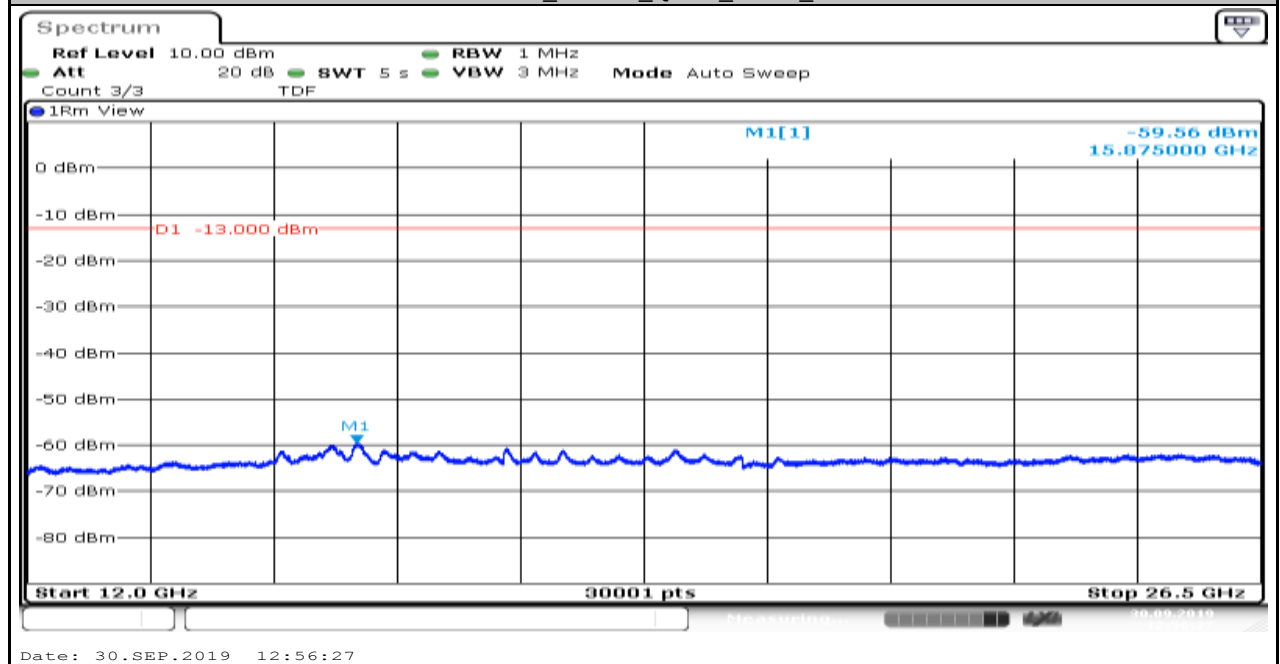
Band25_1.4MHz_QPSK_26365_1



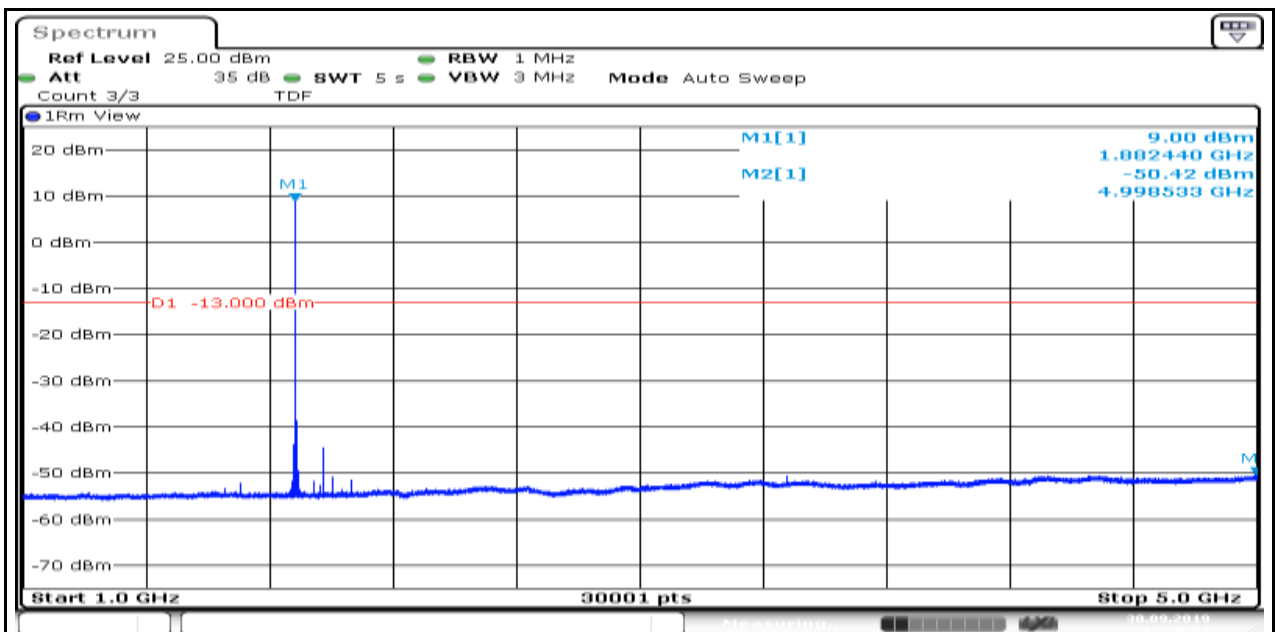
Band25_1.4MHz_QPSK_26365_1



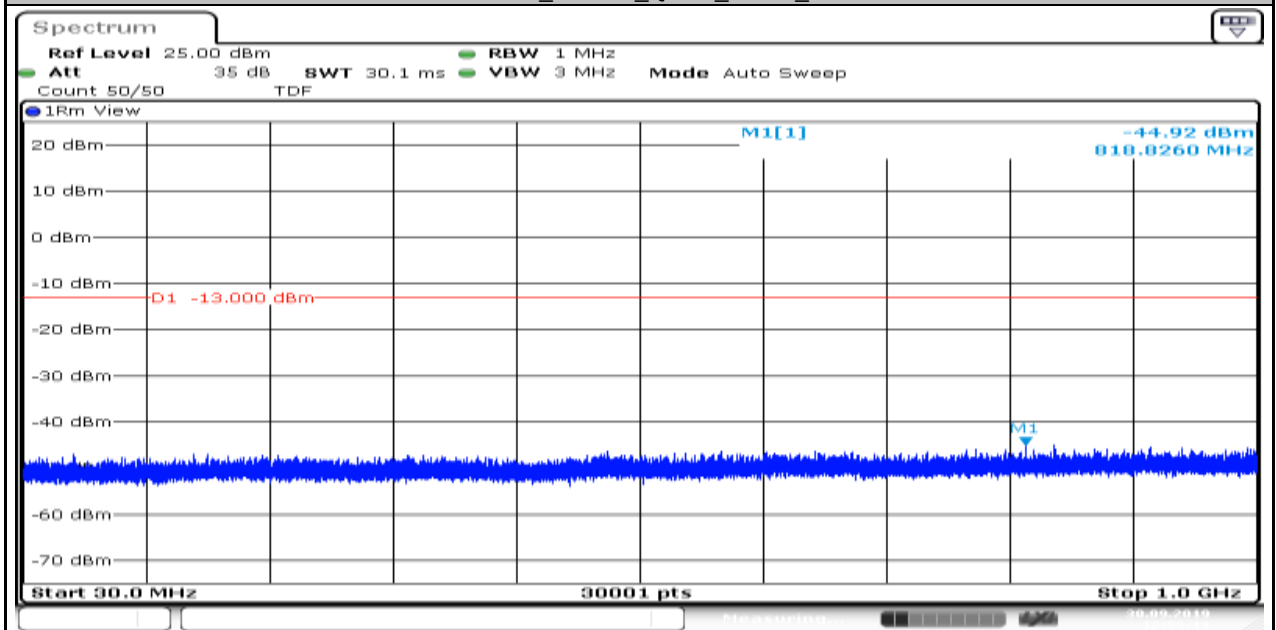
Band25_1.4MHz_QPSK_26365_1



Band25_1.4MHz_QPSK_26365_6

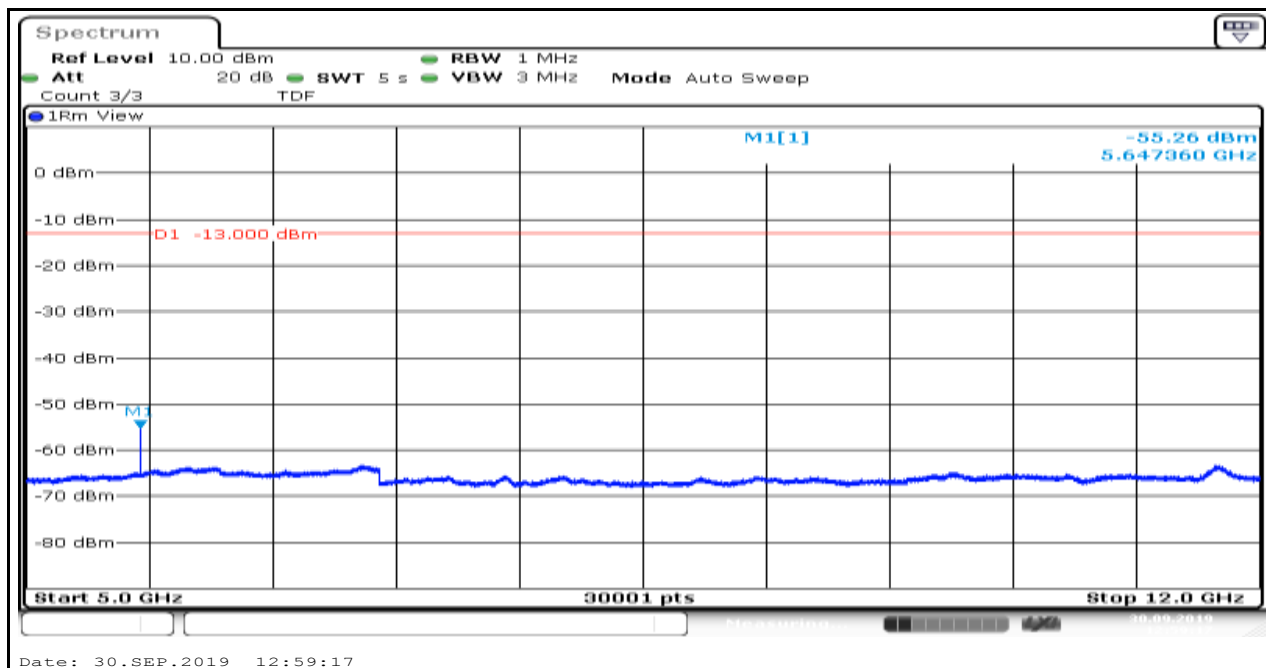


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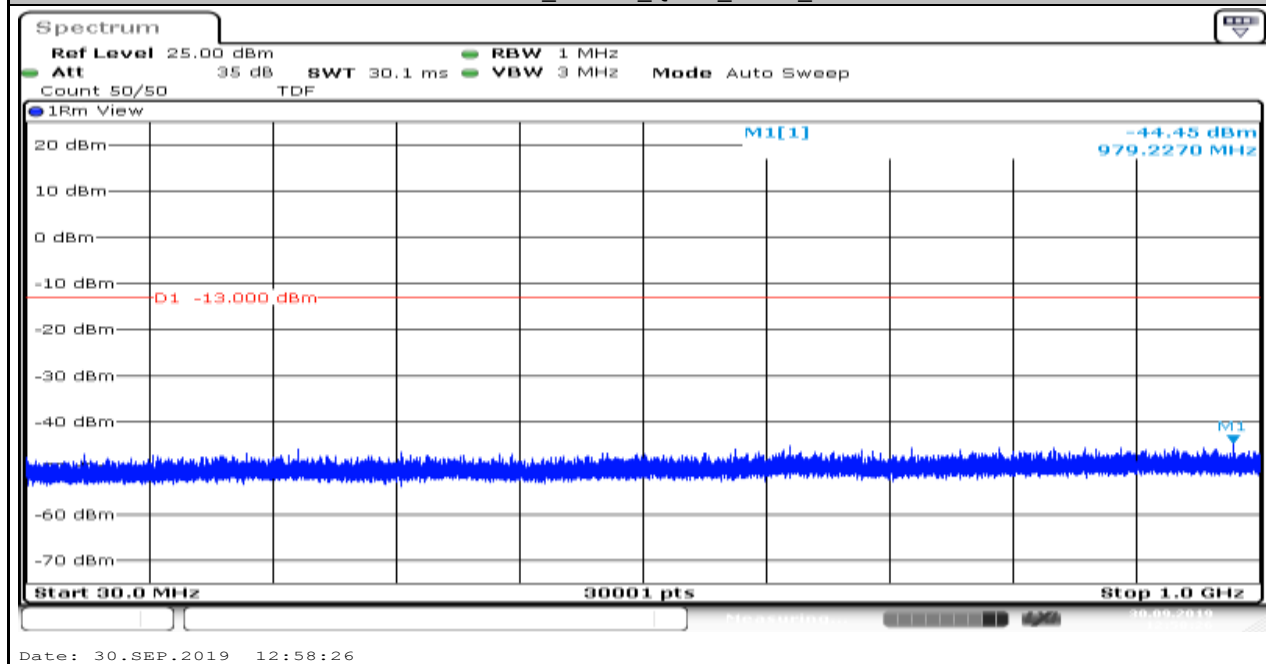


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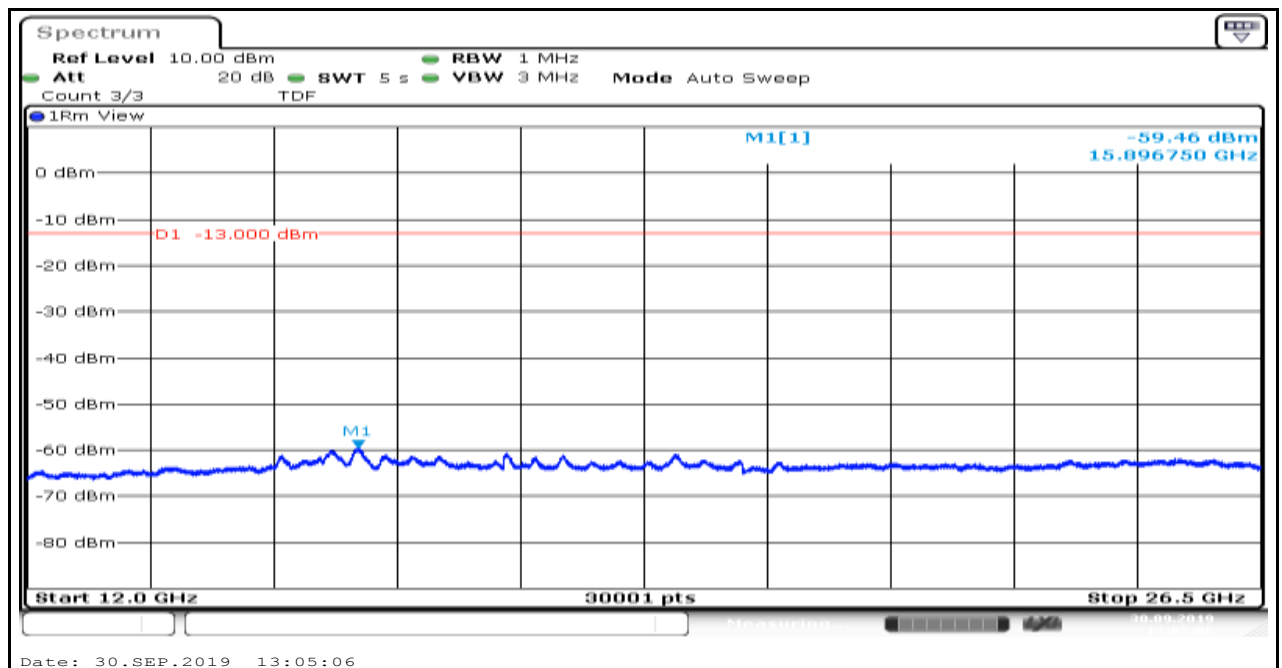
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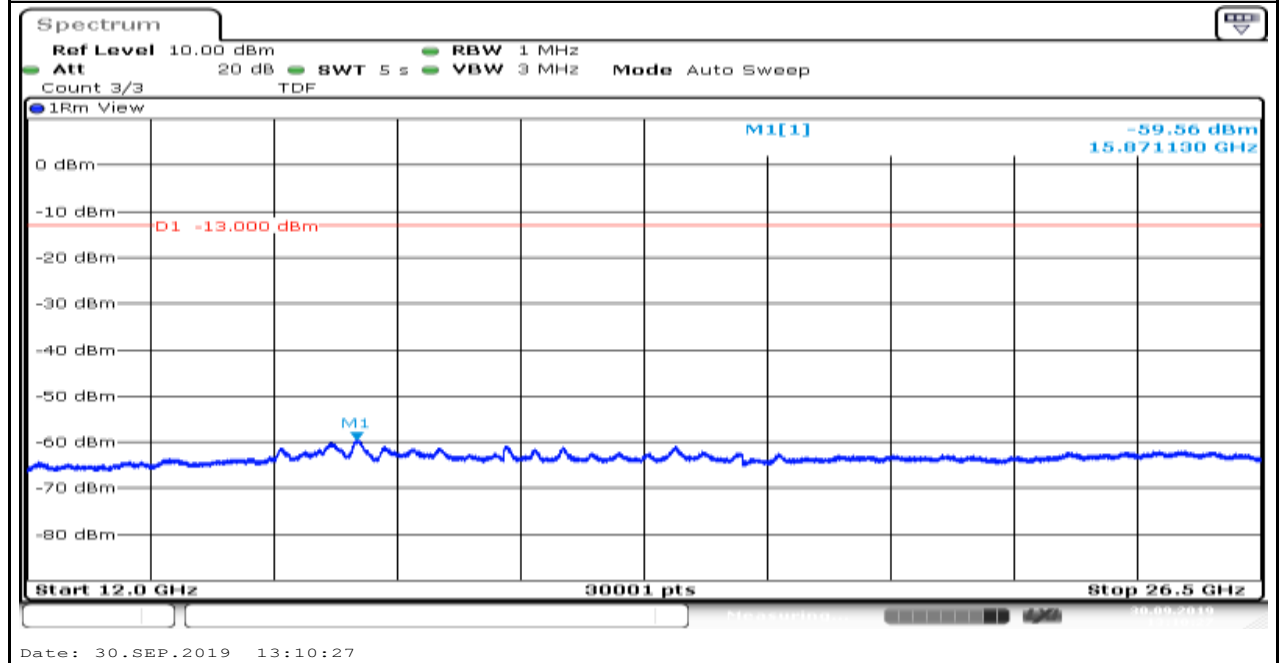
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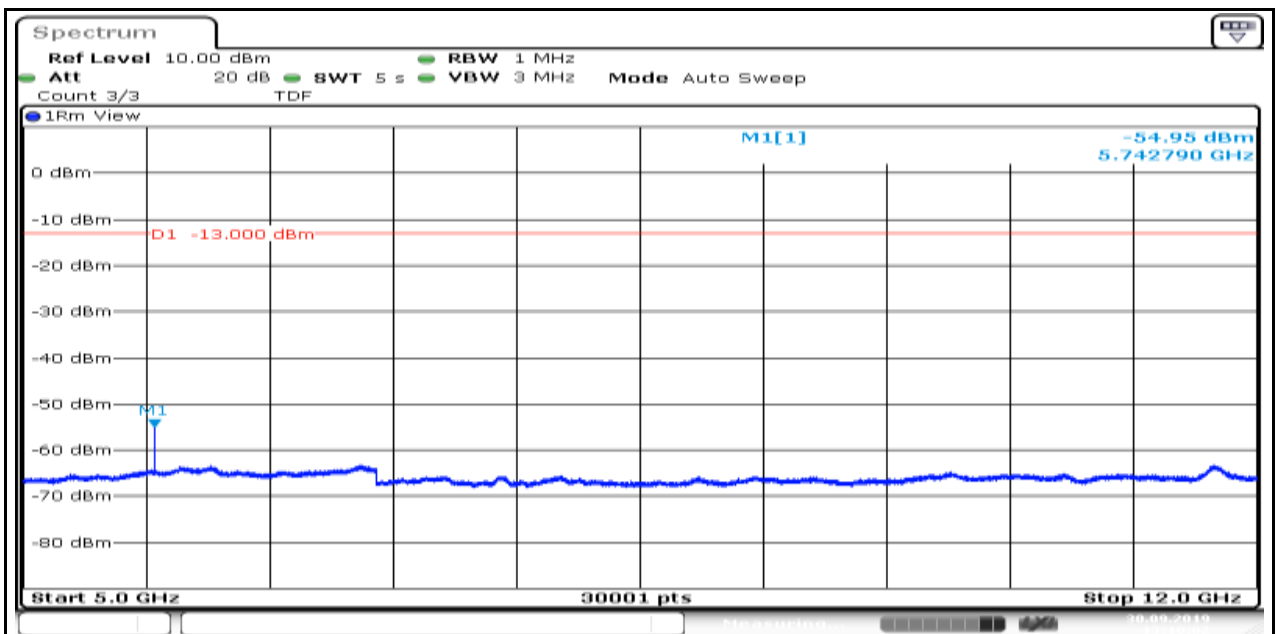
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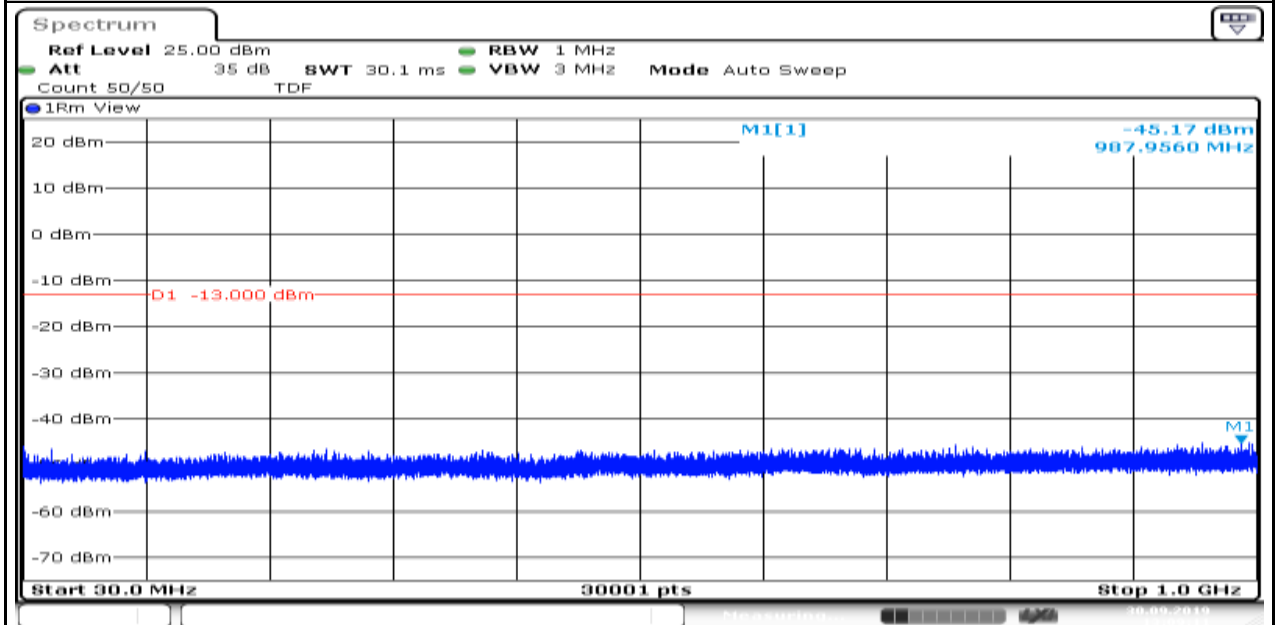
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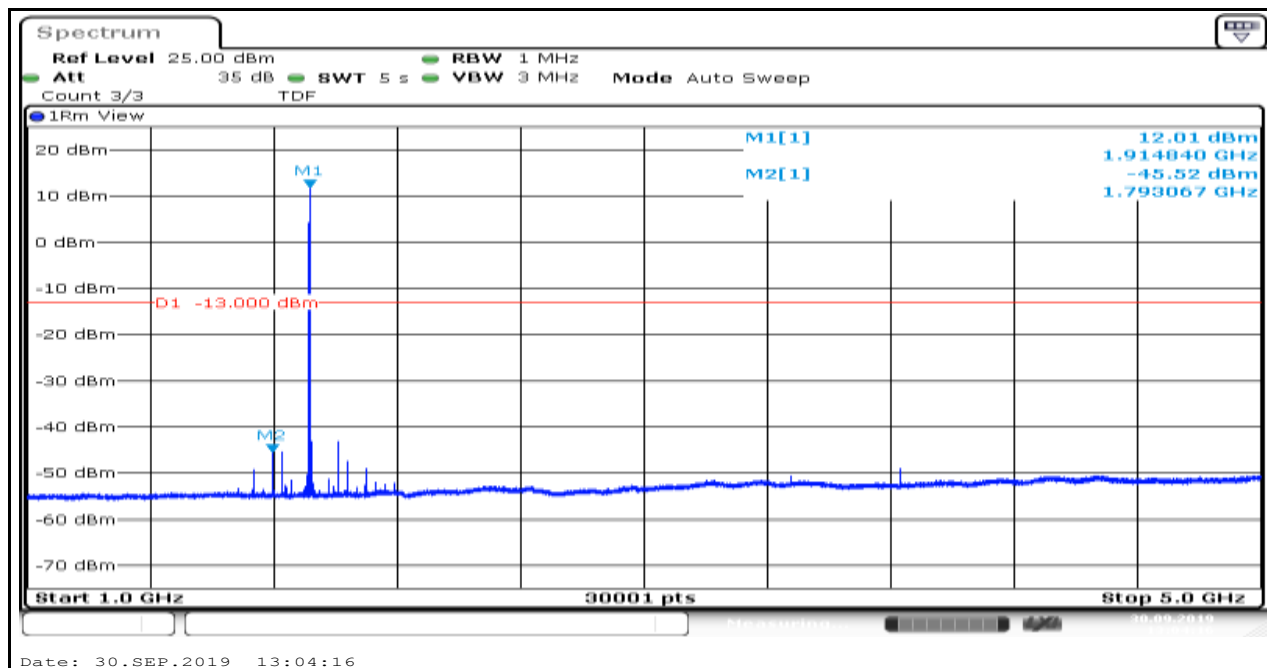


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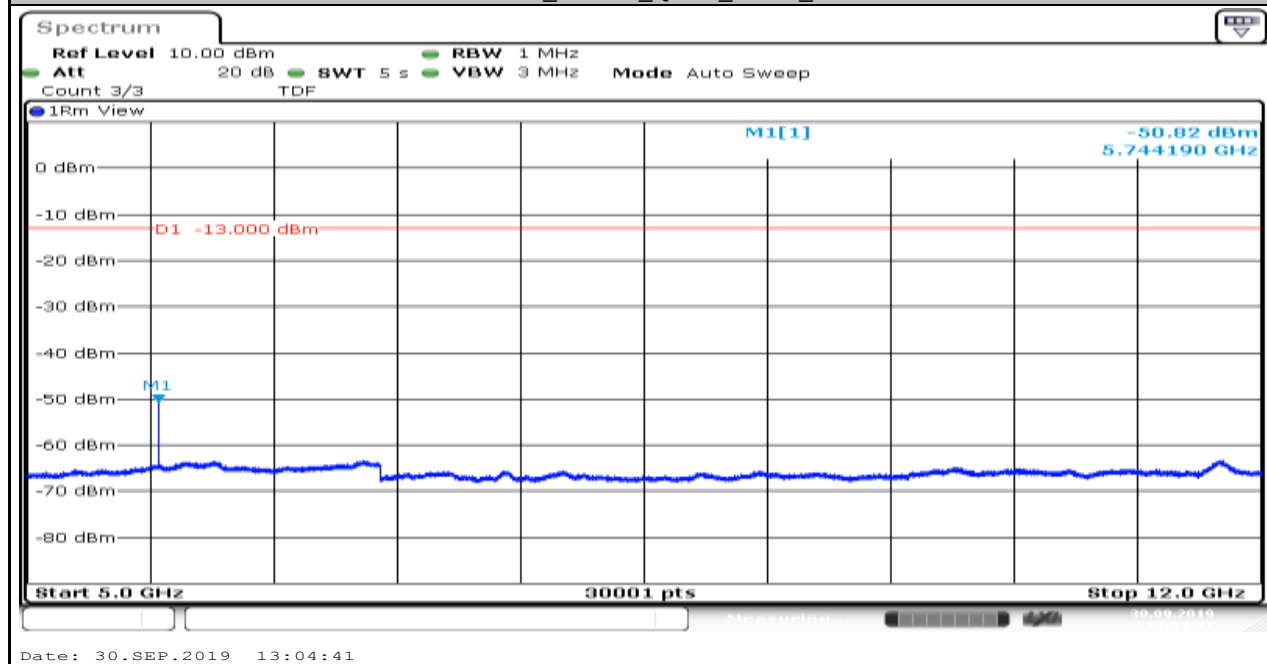


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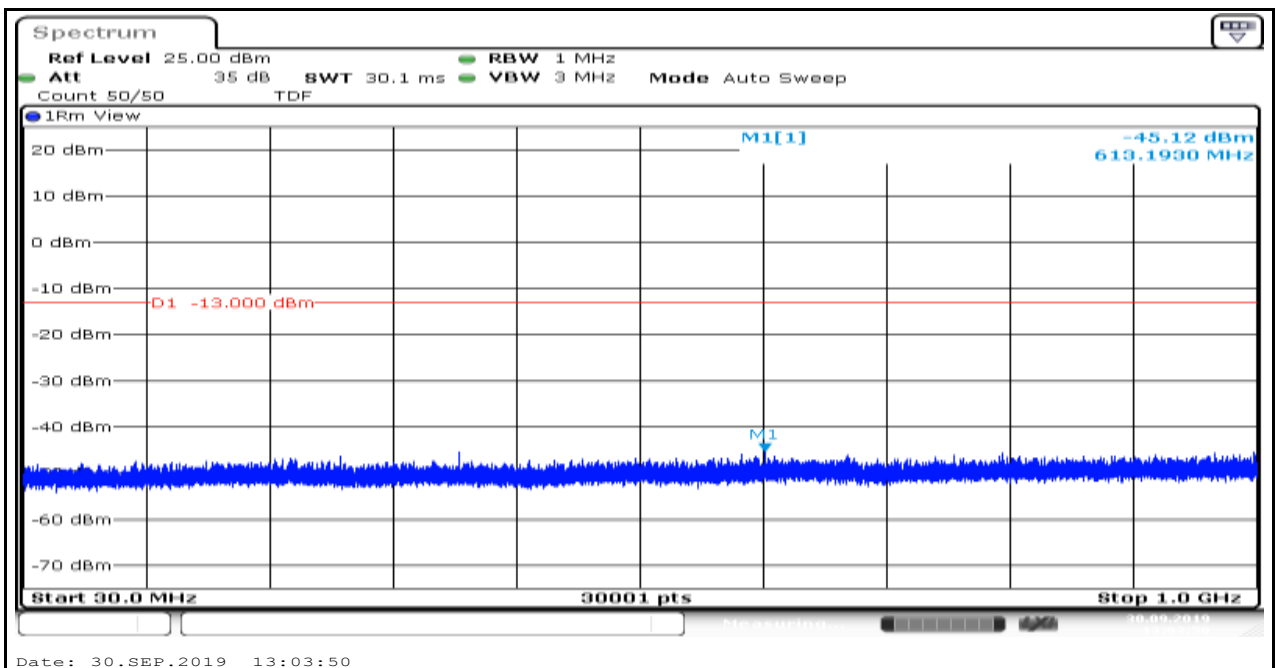
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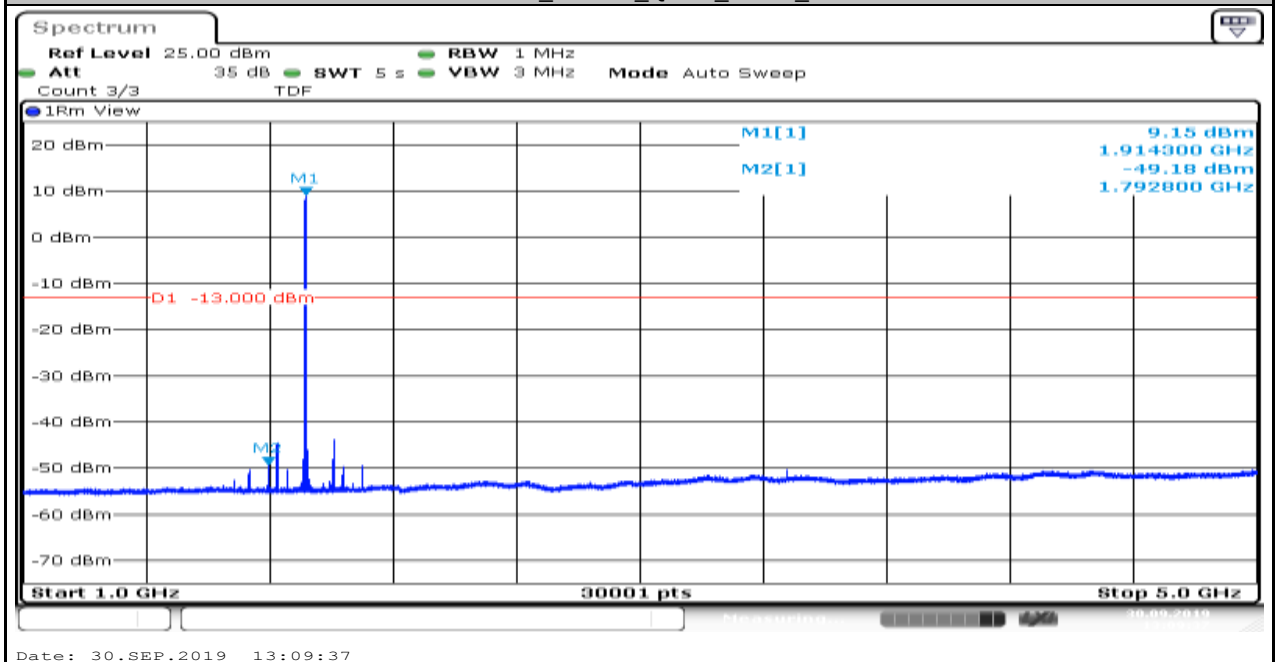
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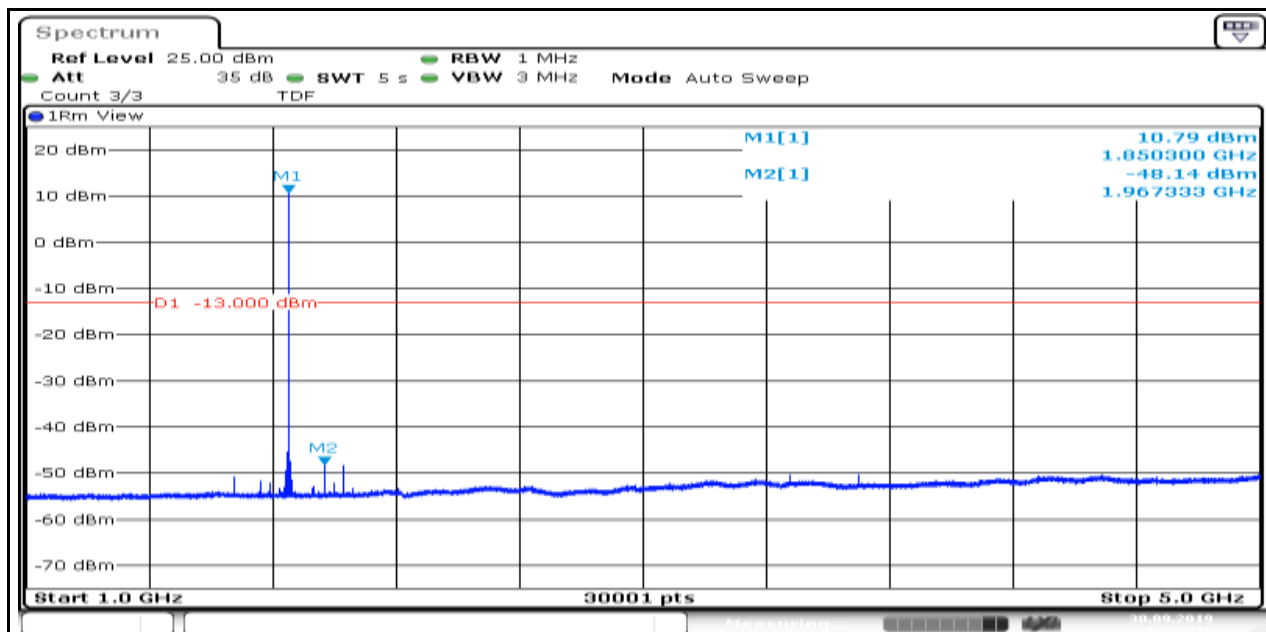


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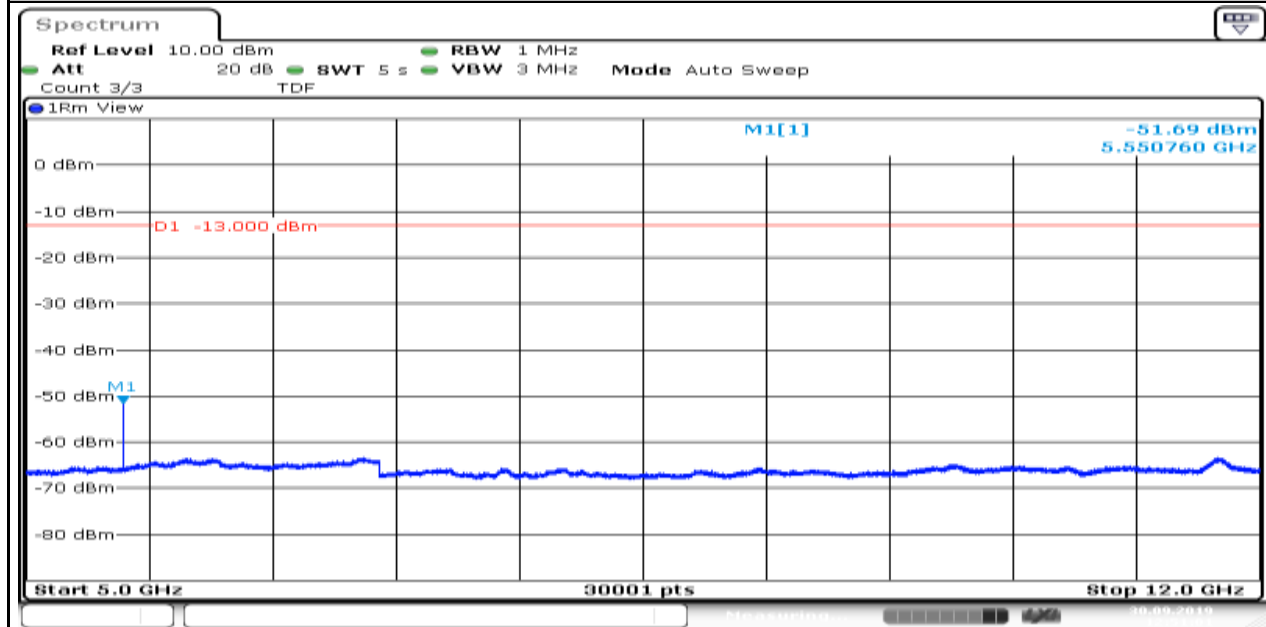


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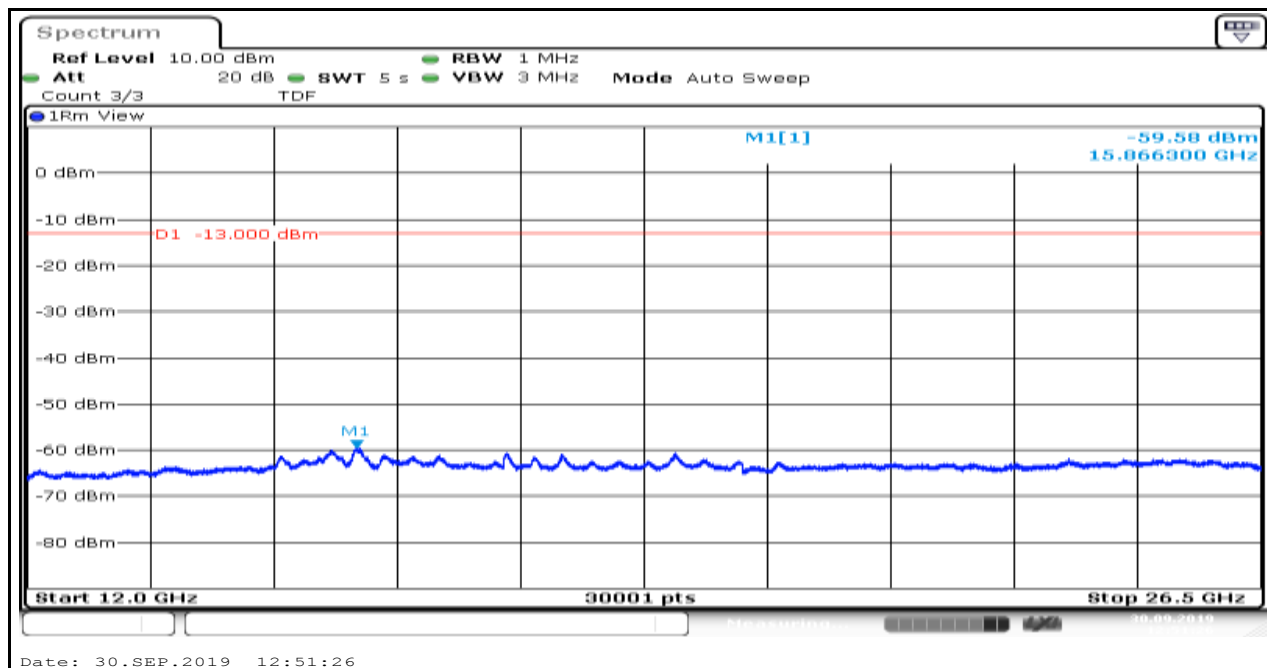
Produkte
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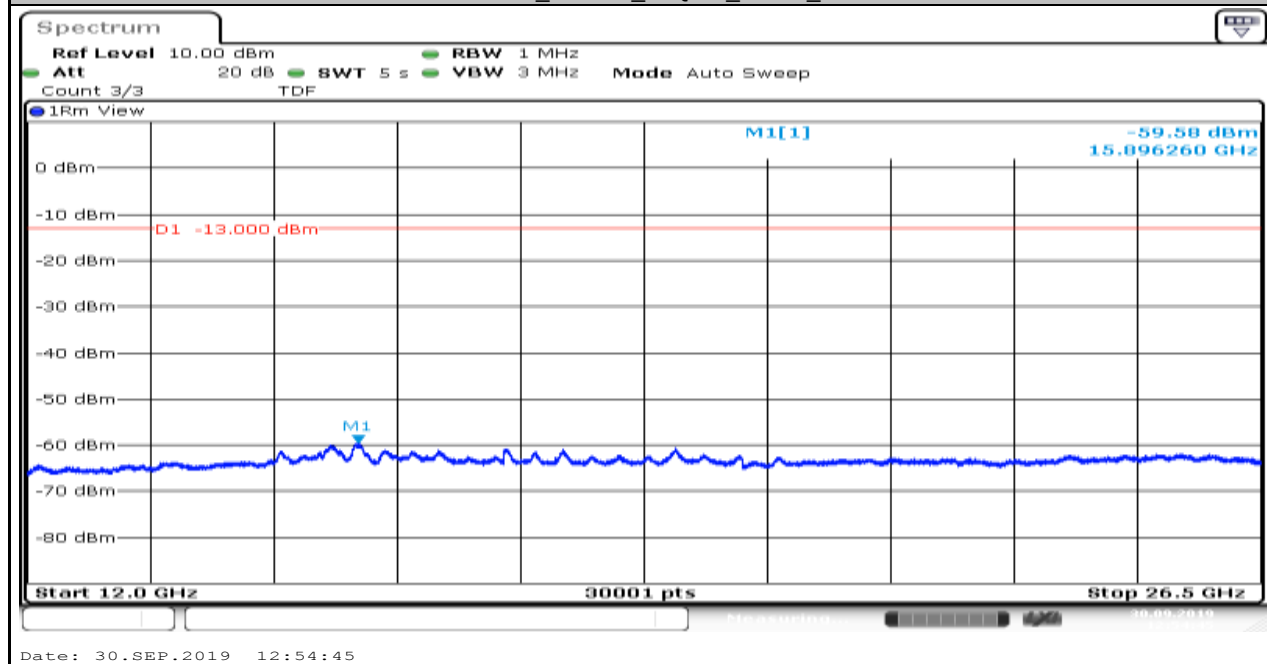
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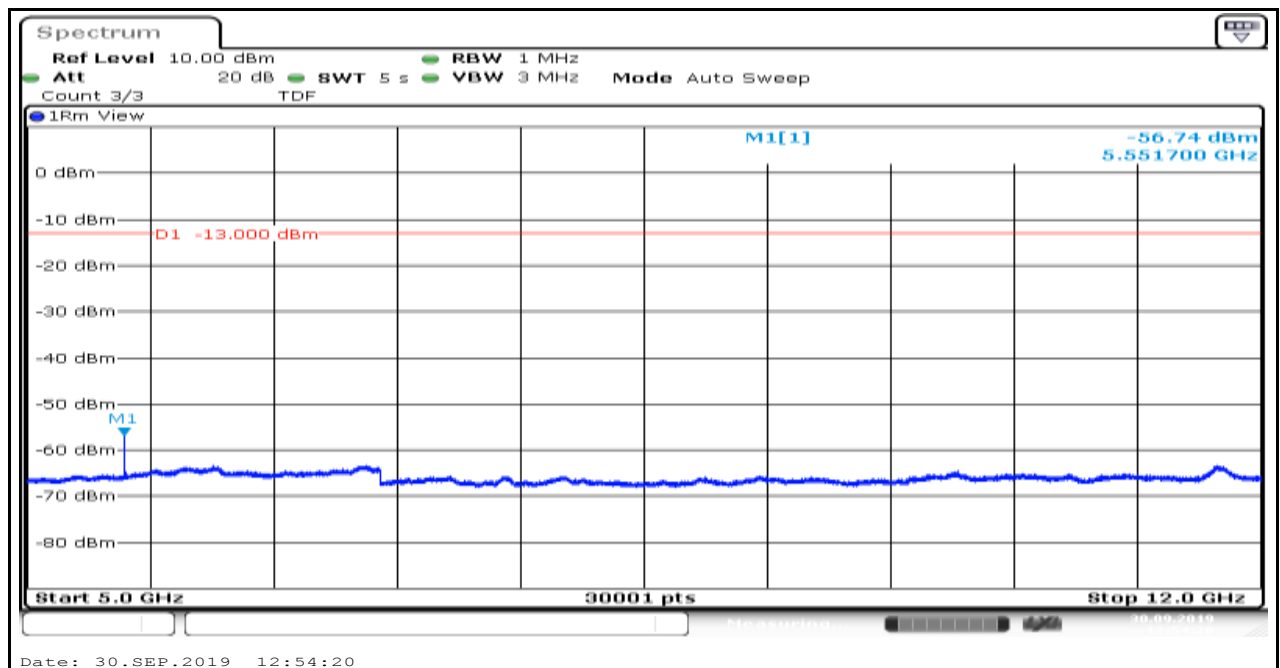
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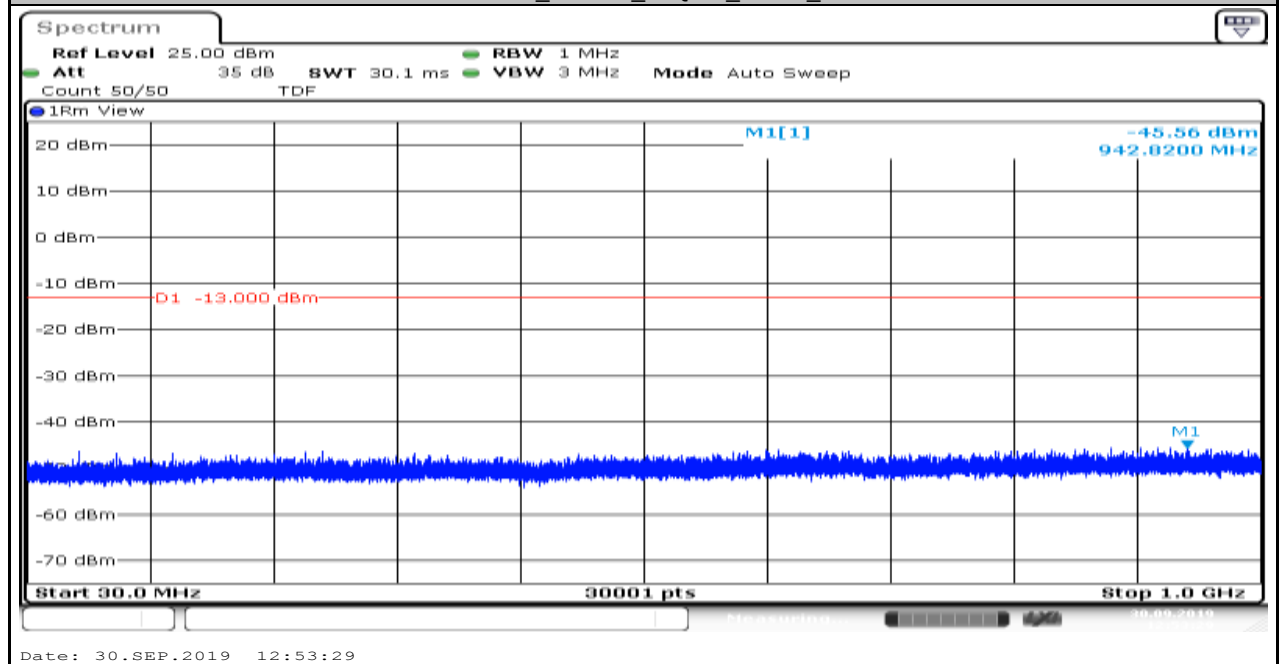
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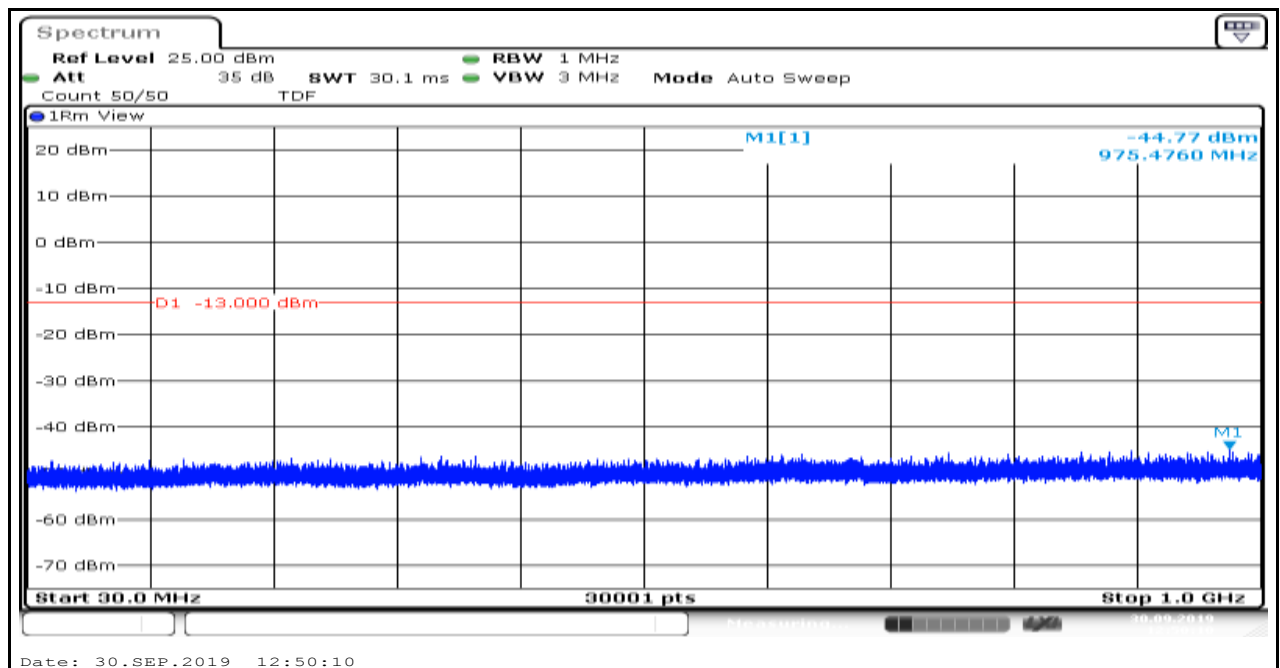


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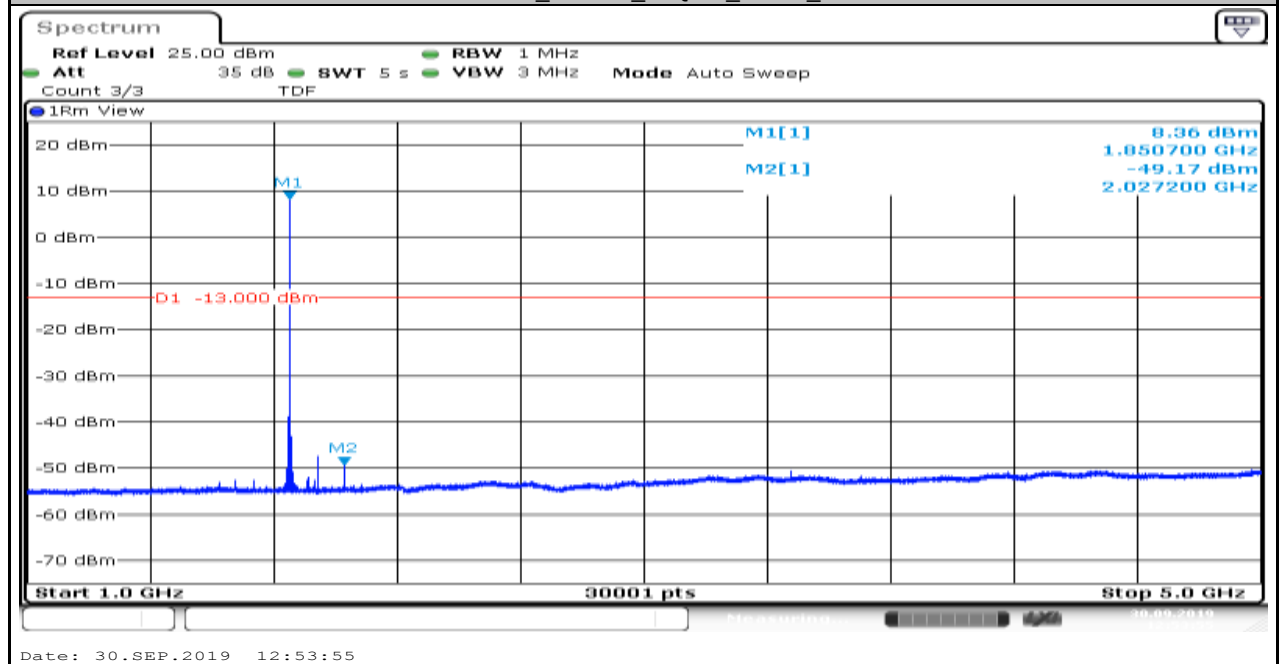


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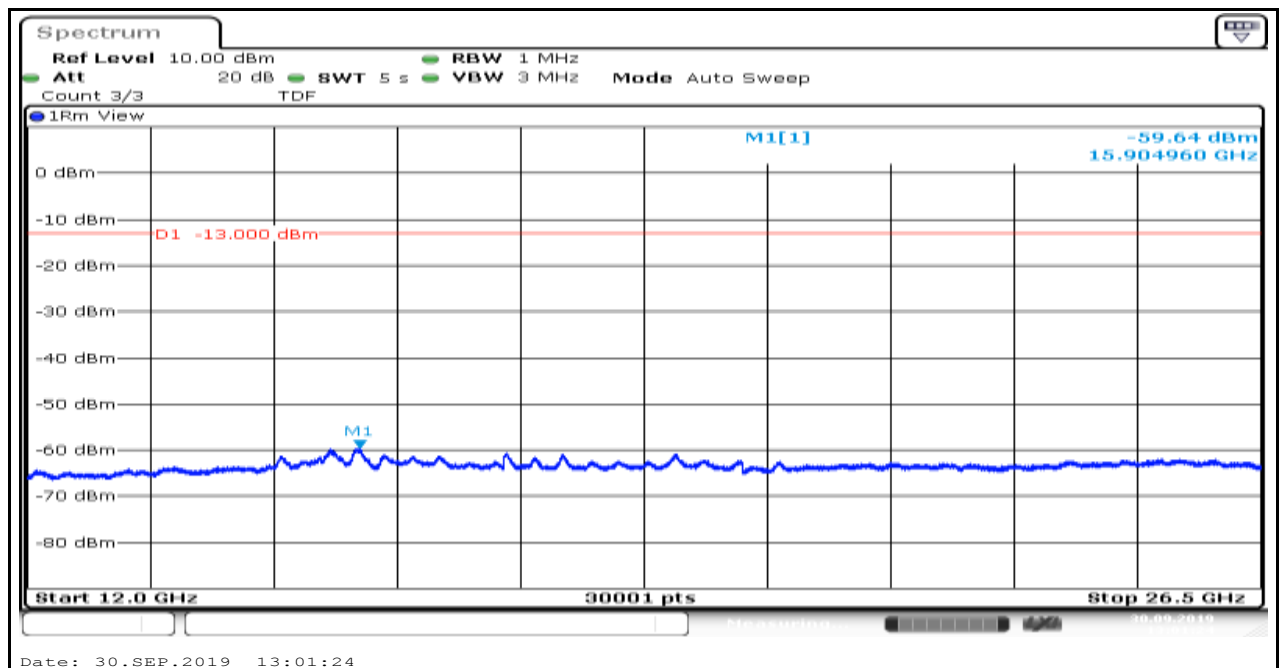
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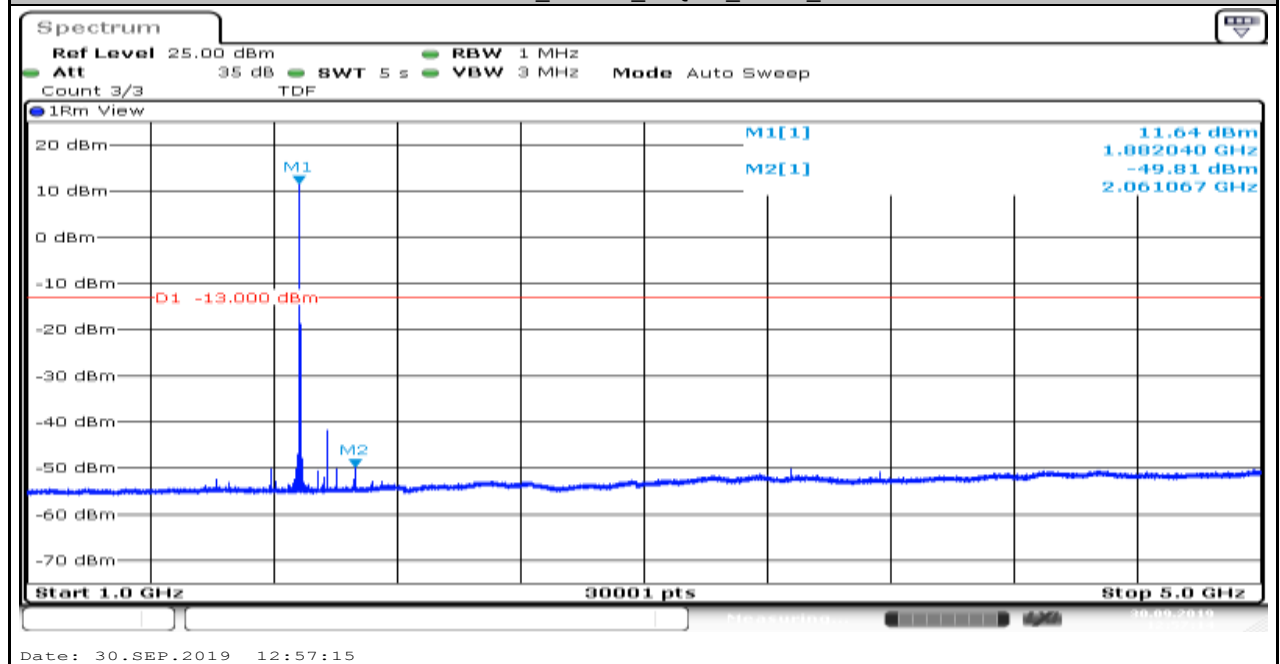
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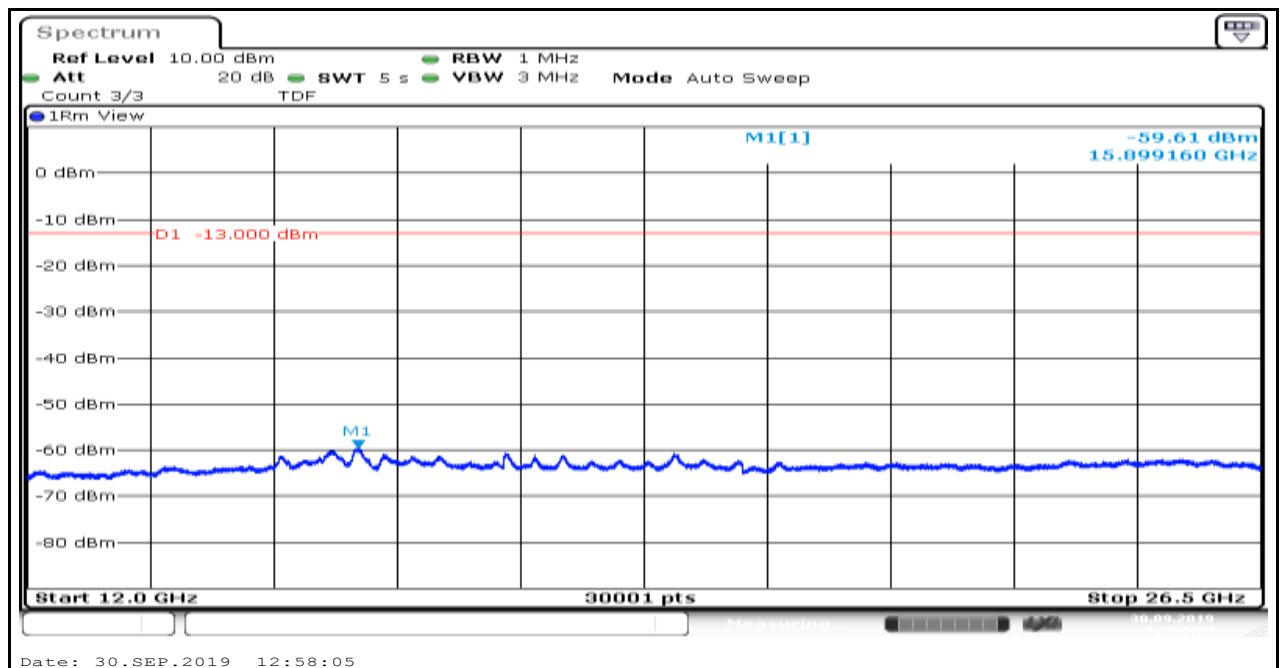
Band25_1.4MHz_16QAM_26365_6



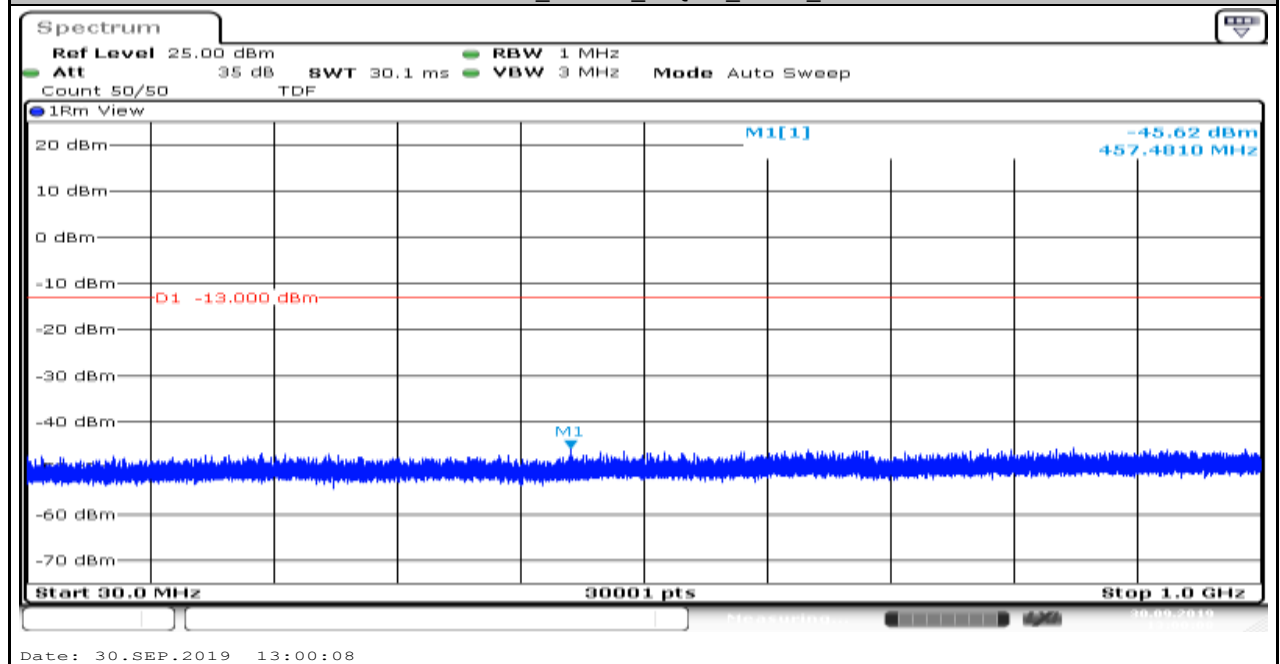
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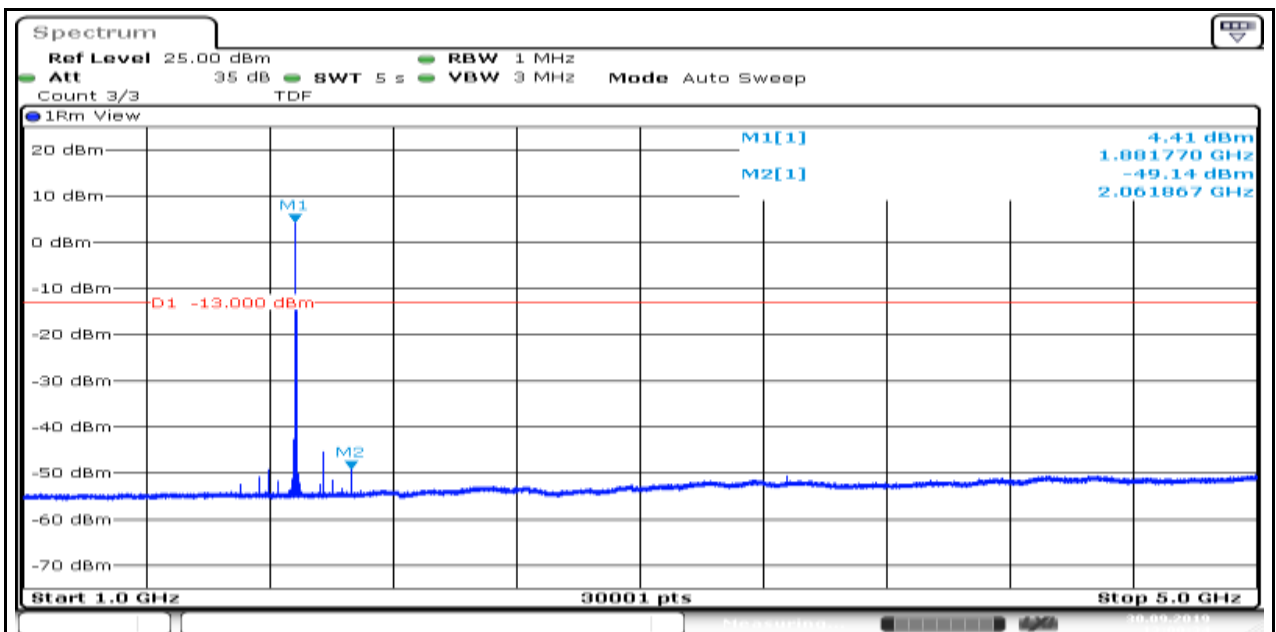
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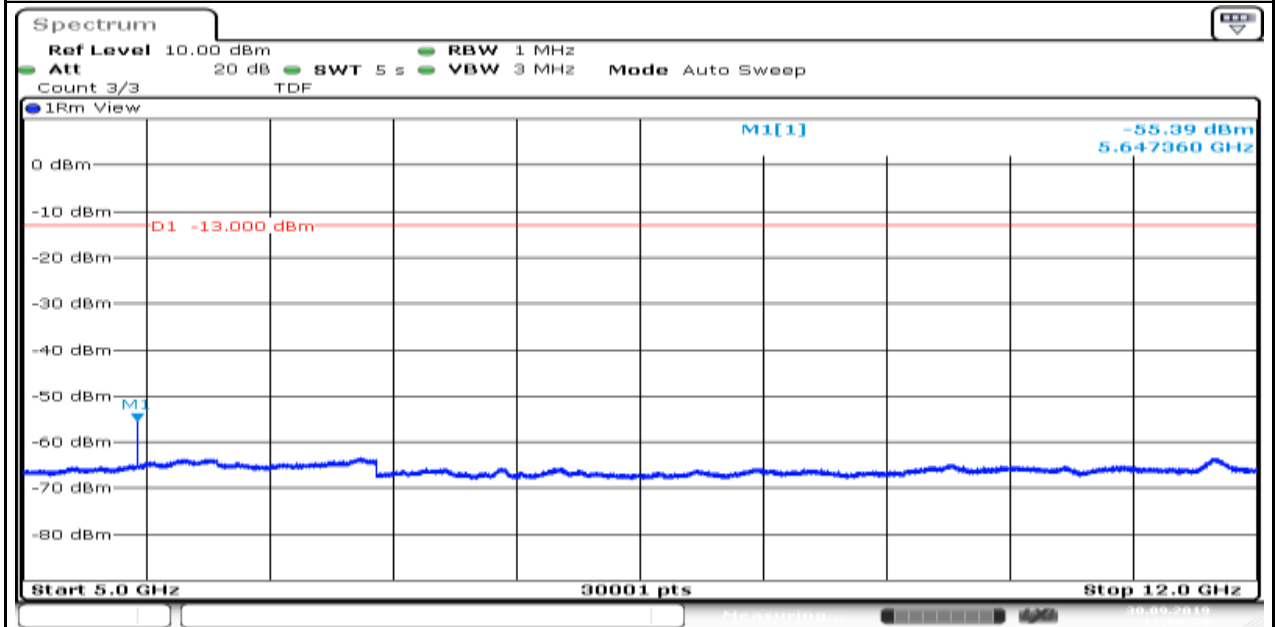
Band25_1.4MHz_16QAM_26365_6



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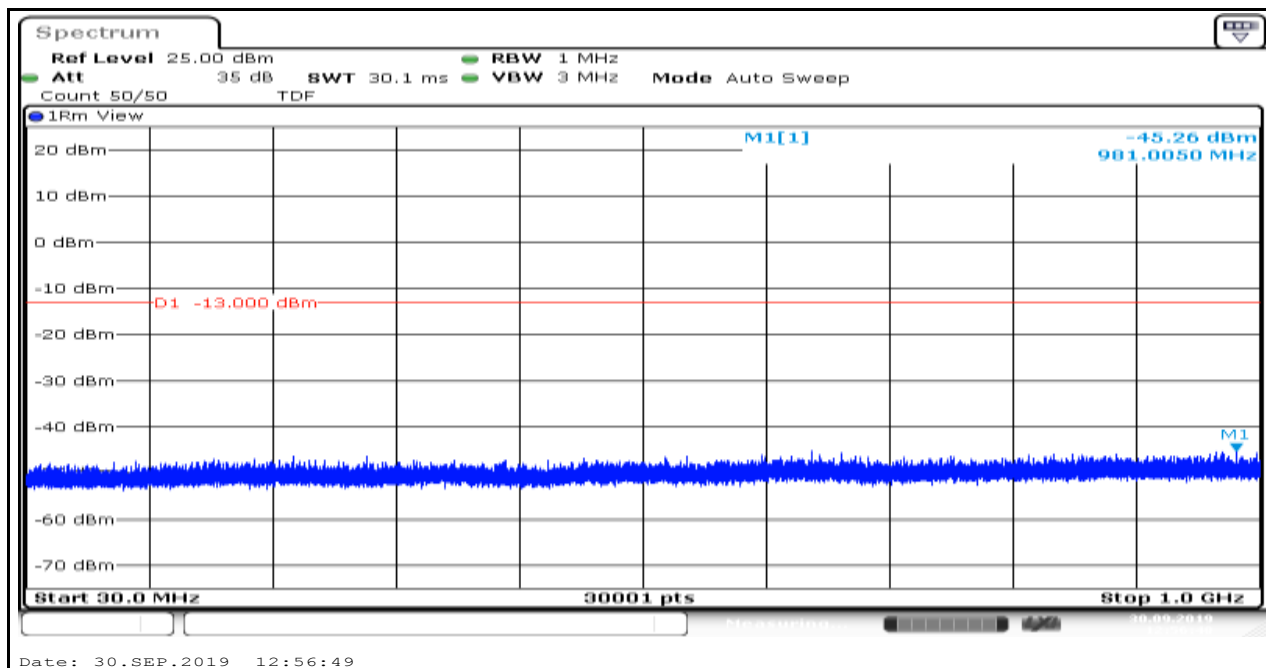


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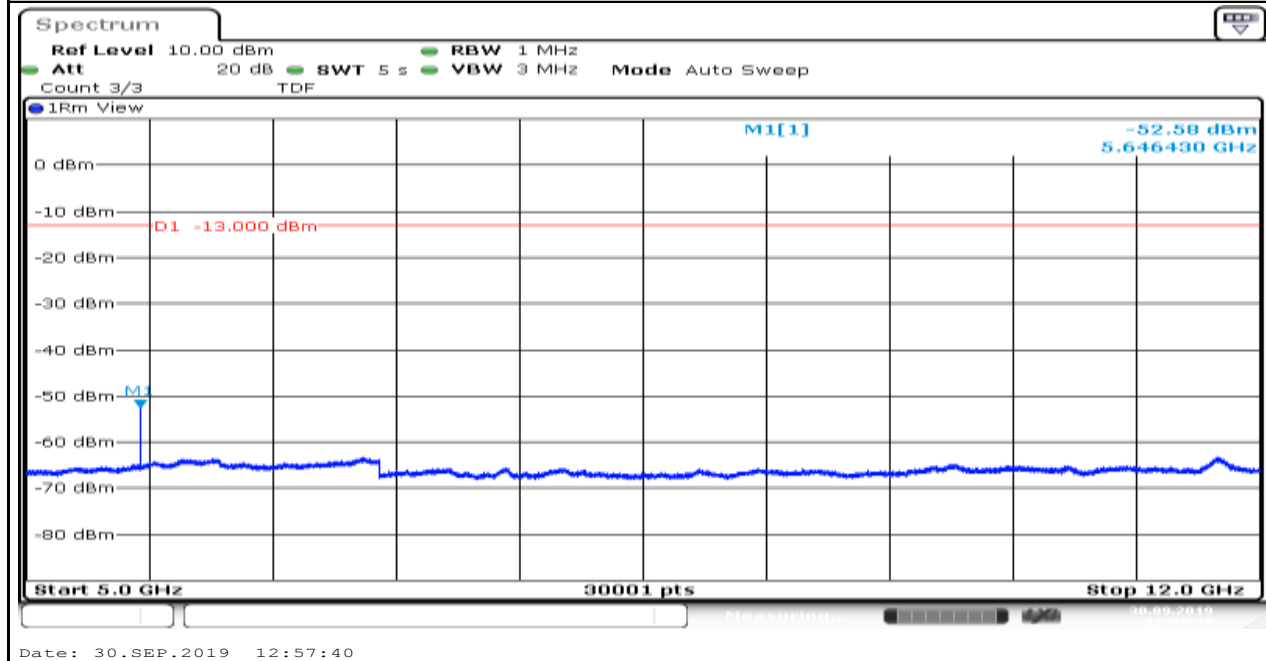


Band25_1.4MHz_16QAM_26365_1

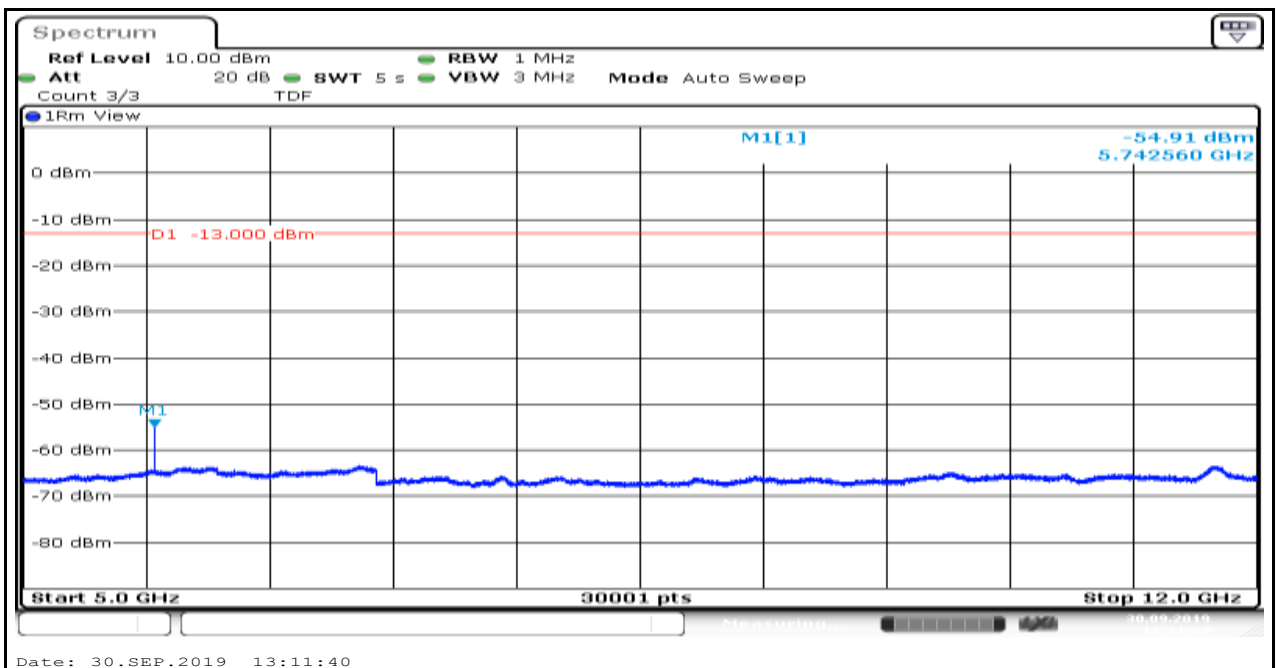
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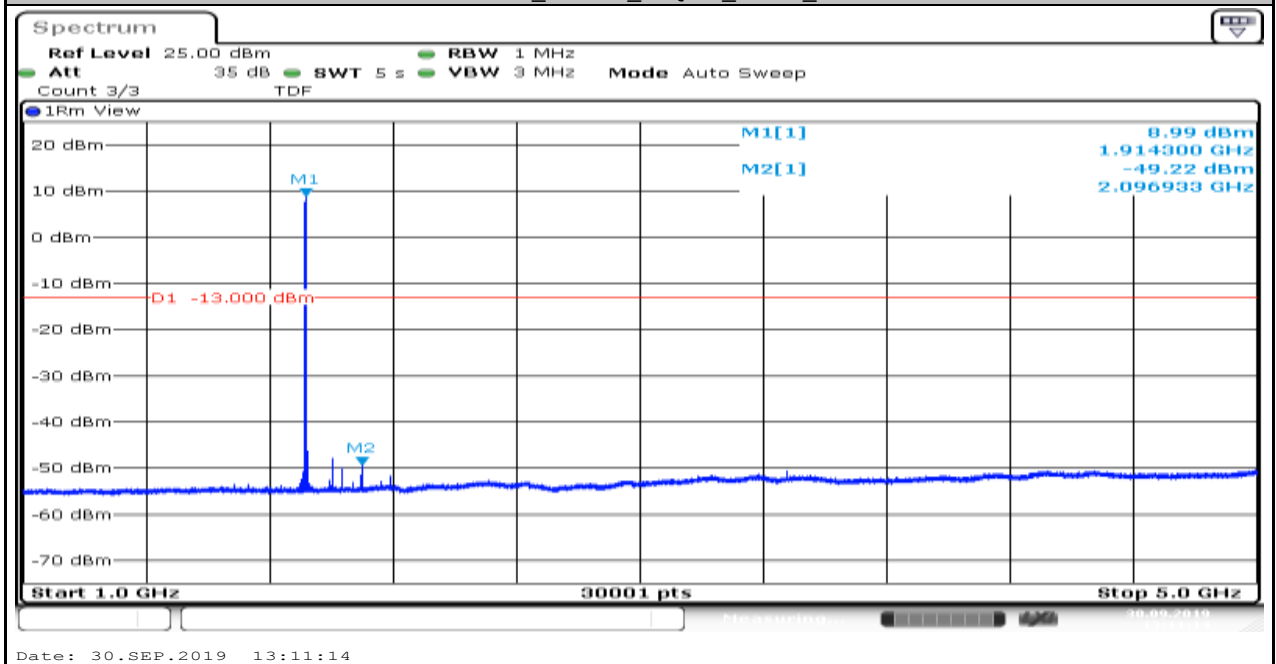
Band25_1.4MHz_16QAM_26365_1



Band25_1.4MHz_16QAM_26683_6

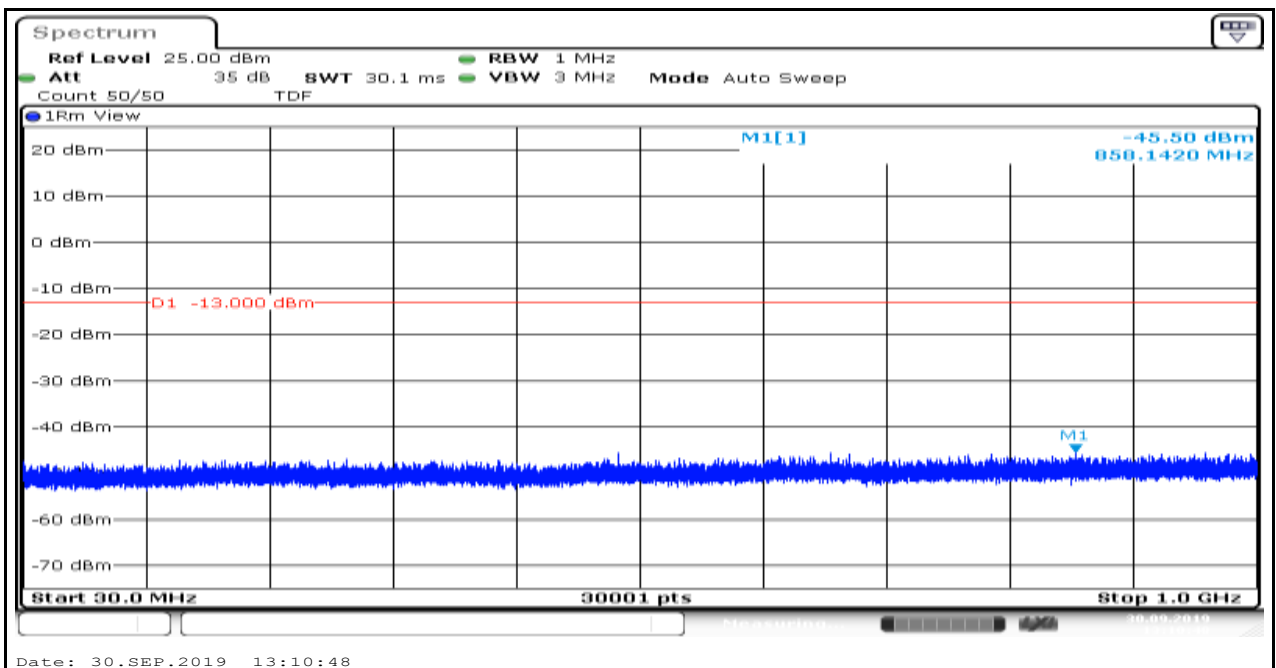


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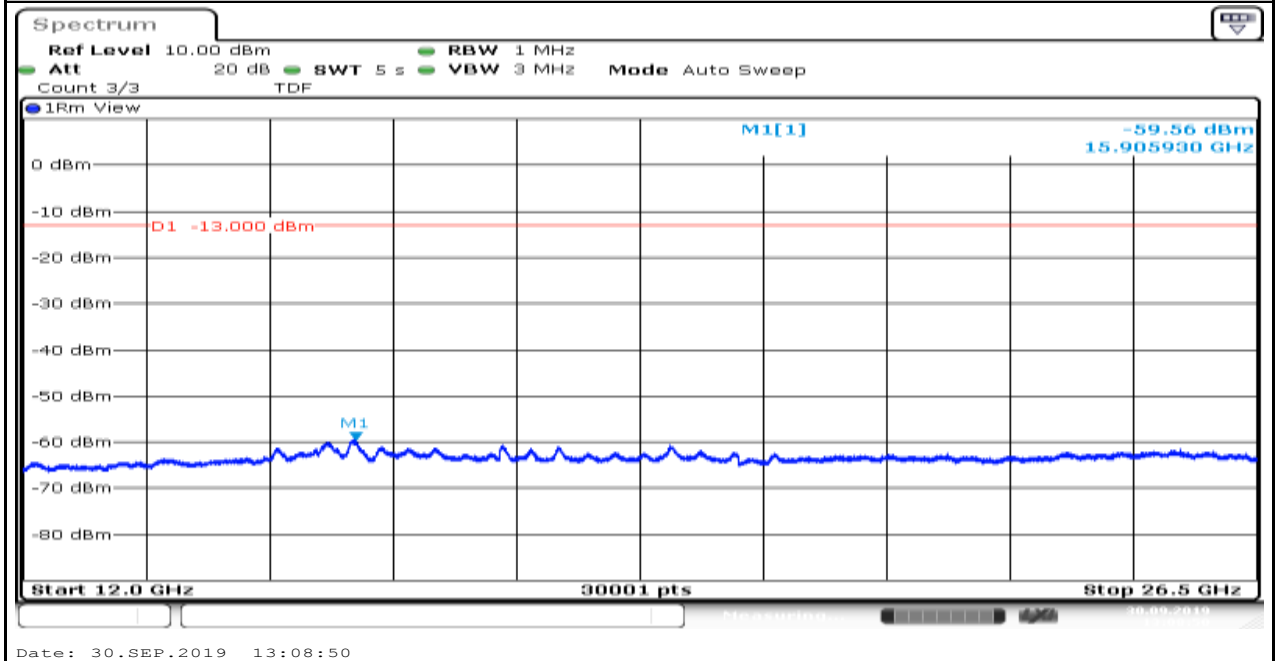


Band25_1.4MHz_16QAM_26683_6

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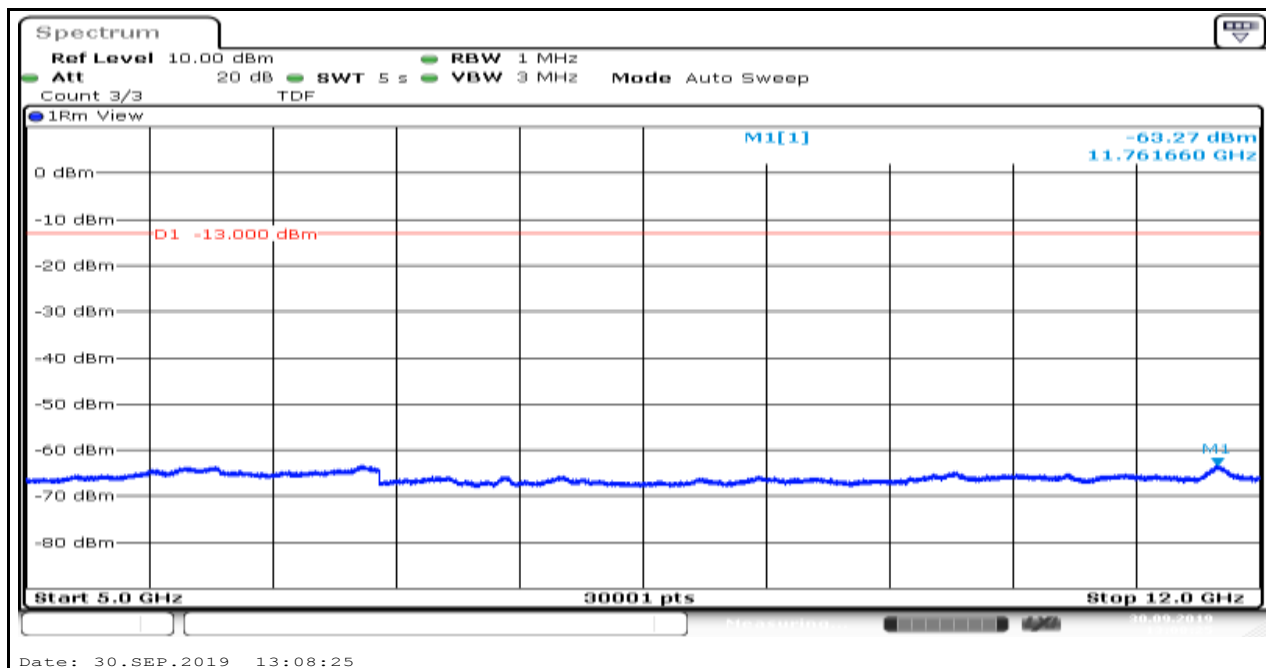


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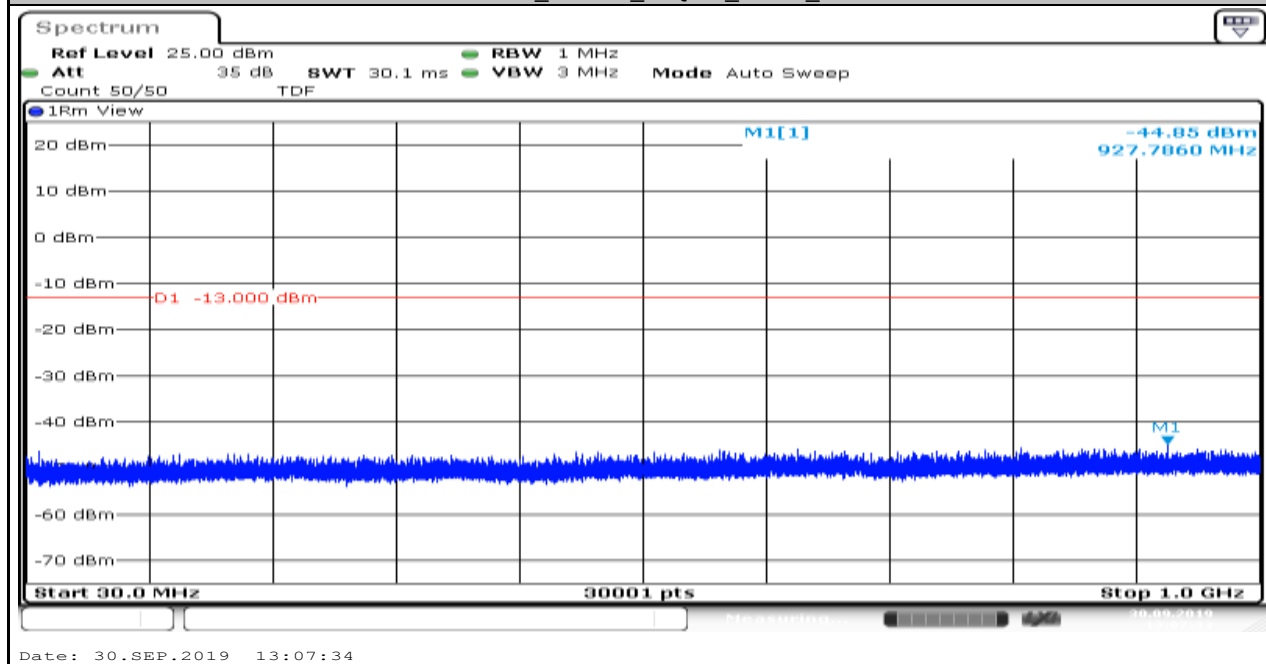


Band25_1.4MHz_16QAM_26683_1

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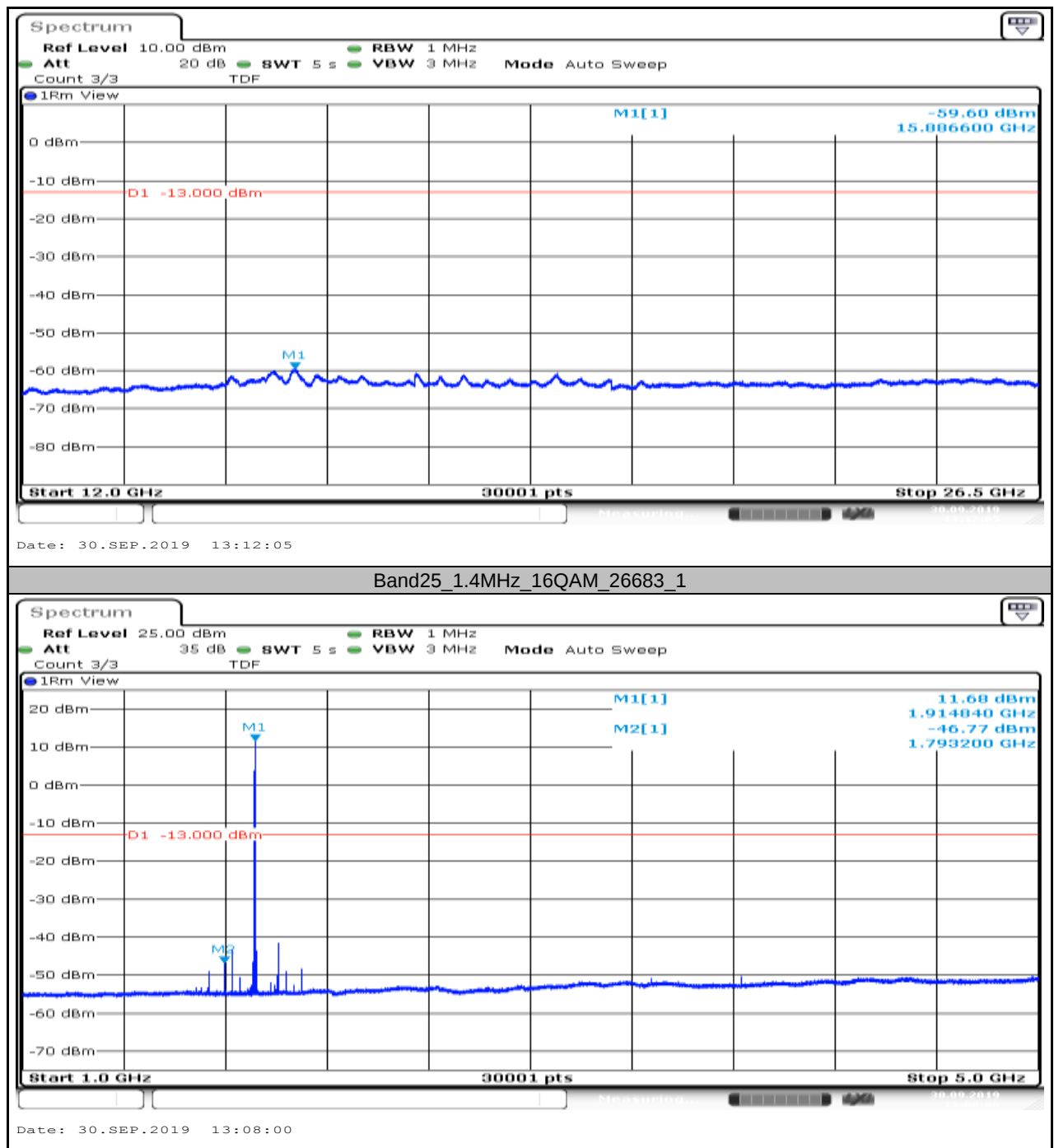


Band25_1.4MHz_16QAM_26683_1



Band25_1.4MHz_16QAM_26683_6

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Appendix F.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
Band25	1.4MHz	QPSK	26365	1	0	Low	HV	NT	-65.88	-0.034996	±2.5	PASS
Band25	1.4MHz	QPSK	26365	1	0	Low	LV	NT	-64.80	-0.034422	±2.5	PASS
Band25	1.4MHz	QPSK	26365	1	0	Low	NV	NT	-62.91	-0.033418	±2.5	PASS
Band25	1.4MHz	16QAM	26365	1	0	Low	HV	NT	-80.61	-0.042821	±2.5	PASS
Band25	1.4MHz	16QAM	26365	1	0	Low	LV	NT	-76.53	-0.040653	±2.5	PASS
Band25	1.4MHz	16QAM	26365	1	0	Low	NV	NT	-82.61	-0.043883	±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
Band25	1.4MHz	QPSK	26365	1	0	Low	NV	50	-69.28	-0.036802	±2.5	PASS
Band25	1.4MHz	QPSK	26365	1	0	Low	NV	-20	-69.88	-0.037121	±2.5	PASS
Band25	1.4MHz	QPSK	26365	1	0	Low	NV	-10	-69.27	-0.036797	±2.5	PASS
Band25	1.4MHz	QPSK	26365	1	0	Low	NV	0	-67.91	-0.036074	±2.5	PASS
Band25	1.4MHz	QPSK	26365	1	0	Low	NV	10	-70.67	-0.037541	±2.5	PASS
Band25	1.4MHz	QPSK	26365	1	0	Low	NV	20	-71.28	-0.037865	±2.5	PASS
Band25	1.4MHz	QPSK	26365	1	0	Low	NV	30	-79.09	-0.042013	±2.5	PASS
Band25	1.4MHz	QPSK	26365	1	0	Low	NV	-30	-68.89	-0.036595	±2.5	PASS
Band25	1.4MHz	QPSK	26365	1	0	Low	NV	40	-70.94	-0.037684	±2.5	PASS
Band25	1.4MHz	16QAM	26365	1	0	Low	NV	50	-81.12	-0.043092	±2.5	PASS
Band25	1.4MHz	16QAM	26365	1	0	Low	NV	-20	-77.86	-0.041360	±2.5	PASS
Band25	1.4MHz	16QAM	26365	1	0	Low	NV	-10	-77.73	-0.041291	±2.5	PASS
Band25	1.4MHz	16QAM	26365	1	0	Low	NV	0	-80.74	-0.042890	±2.5	PASS
Band25	1.4MHz	16QAM	26365	1	0	Low	NV	10	-80.84	-0.042943	±2.5	PASS
Band25	1.4MHz	16QAM	26365	1	0	Low	NV	20	-78.66	-0.041785	±2.5	PASS
Band25	1.4MHz	16QAM	26365	1	0	Low	NV	30	-79.24	-0.042093	±2.5	PASS
Band25	1.4MHz	16QAM	26365	1	0	Low	NV	40	-78.35	-0.041620	±2.5	PASS
Band25	1.4MHz	16QAM	26365	1	0	Low	NV	-30	-77.02	-0.040914	±2.5	PASS
Band25	1.4MHz	QPSK	26365	1	0	Low	NV	85	-30.60	-0.016255	±2.5	PASS
Band25	1.4MHz	QPSK	26365	1	0	Low	NV	80	-29.47	-0.015655	±2.5	PASS
Band25	1.4MHz	QPSK	26365	1	0	Low	NV	70	-28.44	-0.015108	±2.5	PASS
Band25	1.4MHz	QPSK	26365	1	0	Low	NV	60	-28.97	-0.015389	±2.5	PASS
Band25	1.4MHz	QPSK	26365	1	0	Low	NV	-40	-27.18	-0.014438	±2.5	PASS
Band25	1.4MHz	16QAM	26365	1	0	Low	NV	85	-30.16	-0.016021	±2.5	PASS
Band25	1.4MHz	16QAM	26365	1	0	Low	NV	80	-26.95	-0.014316	±2.5	PASS
Band25	1.4MHz	16QAM	26365	1	0	Low	NV	70	-27.59	-0.014656	±2.5	PASS
Band25	1.4MHz	16QAM	26365	1	0	Low	NV	60	-27.88	-0.014810	±2.5	PASS
Band25	1.4MHz	16QAM	26365	1	0	Low	NV	-40	-29.27	-0.015548	±2.5	PASS

Appendix G: Test Results of Band 26 Lower Band for eMTC operation

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