



Appendix B

E-UTRA Band 30



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1 Effective (Isotropic) Radiated Power

1.1. Conducted Power Test Result

Band	Bandwidth	Modulation	Channel	RB Configuration	Conducted Power(dBm)	EIRP (dBm)	Limit (dBm)	Verdict
Band30	5MHz	QPSK	27685	1RB#12	23.93	28.42	23.98	PASS
Band30	5MHz	QPSK	27685	1RB#24	23.88	28.37	23.98	PASS
Band30	5MHz	QPSK	27685	1RB#0	23.01	27.50	23.98	PASS
Band30	5MHz	QPSK	27685	12RB#0	23.07	27.56	23.98	PASS
Band30	5MHz	QPSK	27685	12RB#6	22.99	27.48	23.98	PASS
Band30	5MHz	QPSK	27685	12RB#13	23.14	27.63	23.98	PASS
Band30	5MHz	QPSK	27685	25RB#0	23.10	27.59	23.98	PASS
Band30	5MHz	QPSK	27710	1RB#0	23.94	28.43	23.98	PASS
Band30	5MHz	QPSK	27710	1RB#12	23.87	28.36	23.98	PASS
Band30	5MHz	QPSK	27710	1RB#24	23.07	27.56	23.98	PASS
Band30	5MHz	QPSK	27710	12RB#0	23.03	27.52	23.98	PASS
Band30	5MHz	QPSK	27710	12RB#6	23.01	27.50	23.98	PASS
Band30	5MHz	QPSK	27710	12RB#13	23.19	27.68	23.98	PASS
Band30	5MHz	QPSK	27710	25RB#0	23.01	27.50	23.98	PASS
Band30	5MHz	QPSK	27735	1RB#24	24.03	28.52	23.98	PASS
Band30	5MHz	QPSK	27735	1RB#0	23.95	28.44	23.98	PASS
Band30	5MHz	QPSK	27735	1RB#12	23.02	27.51	23.98	PASS
Band30	5MHz	QPSK	27735	12RB#6	23.11	27.60	23.98	PASS
Band30	5MHz	QPSK	27735	12RB#0	23.08	27.57	23.98	PASS
Band30	5MHz	QPSK	27735	12RB#13	23.10	27.59	23.98	PASS
Band30	5MHz	QPSK	27735	25RB#0	22.92	27.41	23.98	PASS
Band30	5MHz	16QAM	27685	1RB#12	23.26	27.75	23.98	PASS
Band30	5MHz	16QAM	27685	1RB#0	23.00	27.49	23.98	PASS
Band30	5MHz	16QAM	27685	1RB#24	21.97	26.46	23.98	PASS
Band30	5MHz	16QAM	27685	12RB#13	22.00	26.49	23.98	PASS
Band30	5MHz	16QAM	27685	12RB#6	22.00	26.49	23.98	PASS
Band30	5MHz	16QAM	27685	12RB#0	22.03	26.52	23.98	PASS



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Band30	5MHz	16QAM	27685	25RB#0	22.10	26.59	23.98	PASS
Band30	5MHz	16QAM	27710	1RB#0	23.20	27.69	23.98	PASS
Band30	5MHz	16QAM	27710	1RB#12	22.86	27.35	23.98	PASS
Band30	5MHz	16QAM	27710	1RB#24	22.16	26.65	23.98	PASS
Band30	5MHz	16QAM	27710	12RB#0	22.20	26.69	23.98	PASS
Band30	5MHz	16QAM	27710	12RB#6	21.94	26.43	23.98	PASS
Band30	5MHz	16QAM	27710	12RB#13	22.15	26.64	23.98	PASS
Band30	5MHz	16QAM	27710	25RB#0	22.02	26.51	23.98	PASS
Band30	5MHz	16QAM	27735	1RB#0	23.26	27.75	23.98	PASS
Band30	5MHz	16QAM	27735	1RB#12	23.00	27.49	23.98	PASS
Band30	5MHz	16QAM	27735	1RB#24	22.09	26.58	23.98	PASS
Band30	5MHz	16QAM	27735	12RB#13	22.16	26.65	23.98	PASS
Band30	5MHz	16QAM	27735	12RB#0	22.08	26.57	23.98	PASS
Band30	5MHz	16QAM	27735	12RB#6	22.04	26.53	23.98	PASS
Band30	5MHz	16QAM	27735	25RB#0	21.99	26.48	23.98	PASS
Band30	10MHz	QPSK	27710	1RB#49	24.06	28.55	23.98	PASS
Band30	10MHz	QPSK	27710	1RB#24	24.00	28.49	23.98	PASS
Band30	10MHz	QPSK	27710	1RB#0	23.79	28.28	23.98	PASS
Band30	10MHz	QPSK	27710	25RB#0	23.21	27.70	23.98	PASS
Band30	10MHz	QPSK	27710	25RB#12	23.38	27.87	23.98	PASS
Band30	10MHz	QPSK	27710	25RB#25	22.99	27.48	23.98	PASS
Band30	10MHz	QPSK	27710	50RB#0	23.30	27.79	23.98	PASS
Band30	10MHz	16QAM	27710	1RB#49	23.16	27.65	23.98	PASS
Band30	10MHz	16QAM	27710	1RB#0	22.17	26.66	23.98	PASS
Band30	10MHz	16QAM	27710	1RB#24	22.18	26.67	23.98	PASS
Band30	10MHz	16QAM	27710	25RB#0	22.15	26.64	23.98	PASS
Band30	10MHz	16QAM	27710	25RB#12	22.27	26.76	23.98	PASS
Band30	10MHz	16QAM	27710	25RB#25	22.33	26.82	23.98	PASS
Band30	10MHz	16QAM	27710	50RB#0	22.15	26.64	23.98	PASS

Remark:

a: For getting the EIRP (Efficient Isotropic Radiated Power), the following formula should be taken to calculate it,

ERP [dBm] = Conducted Power [dBm] + Gain [dBd]

EIRP [dBm] = Conducted Power [dBm] + Gain [dBi]



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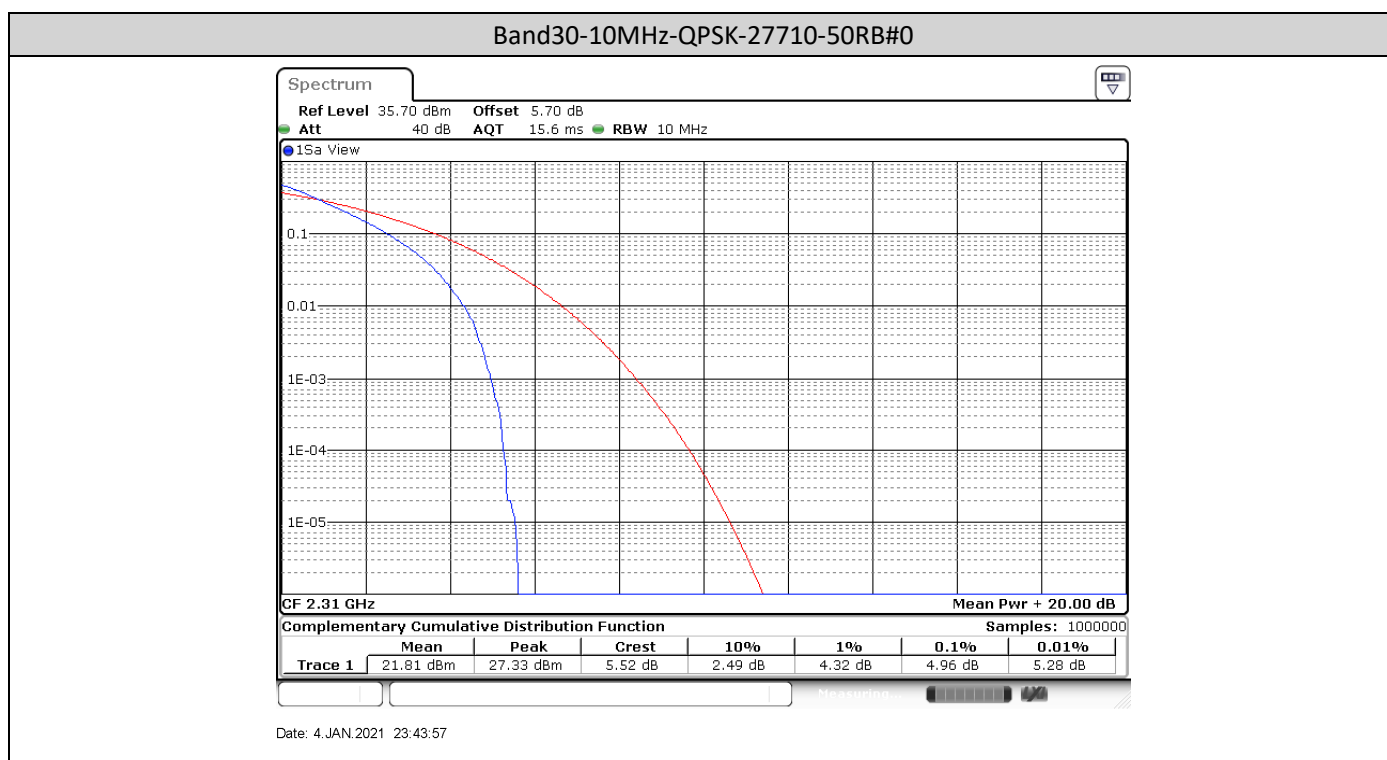


2. Peak-to-Average Ratio (CCDF)

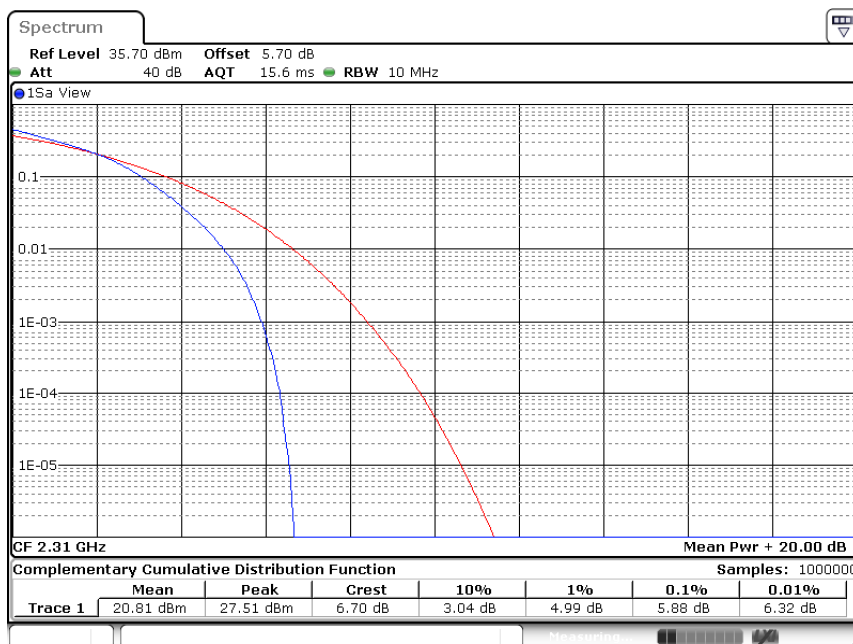
2.1. Test Result

Band	Bandwidth	Modulation	Channel	RB Configuration	Result(dB)	Limit(dB)	Verdict
Band30	10MHz	QPSK	27710	50RB#0	4.96	13	PASS
Band30	10MHz	16QAM	27710	50RB#0	5.88	13	PASS

2.2. Test Plots



Band30-10MHz-16QAM-27710-50RB#0



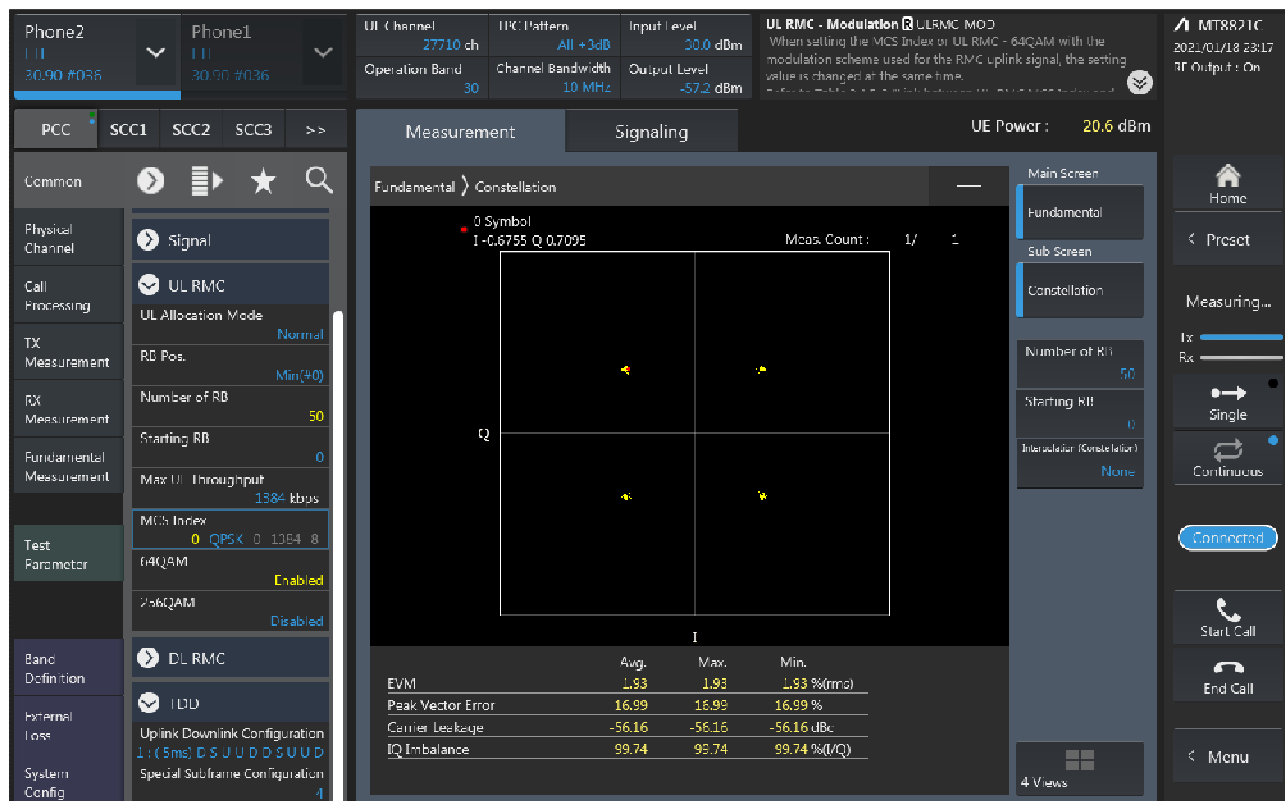
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3. Modulation Characteristics

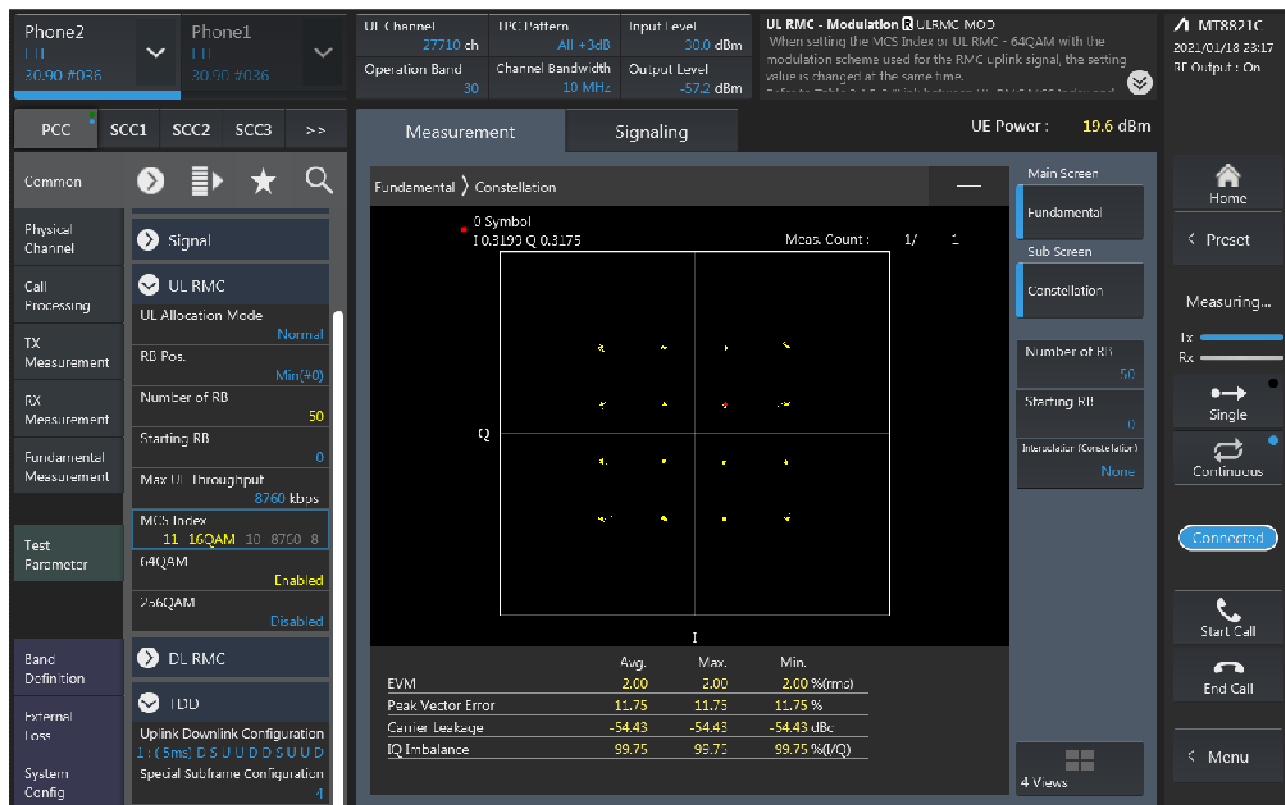
3.1. Test Mode = LTE /TM1 10MHz

3.1.1. Test Channel = MCH



3.2. Test Mode = LTE /TM2 10MHz

3.2.1. Test Channel = MCH



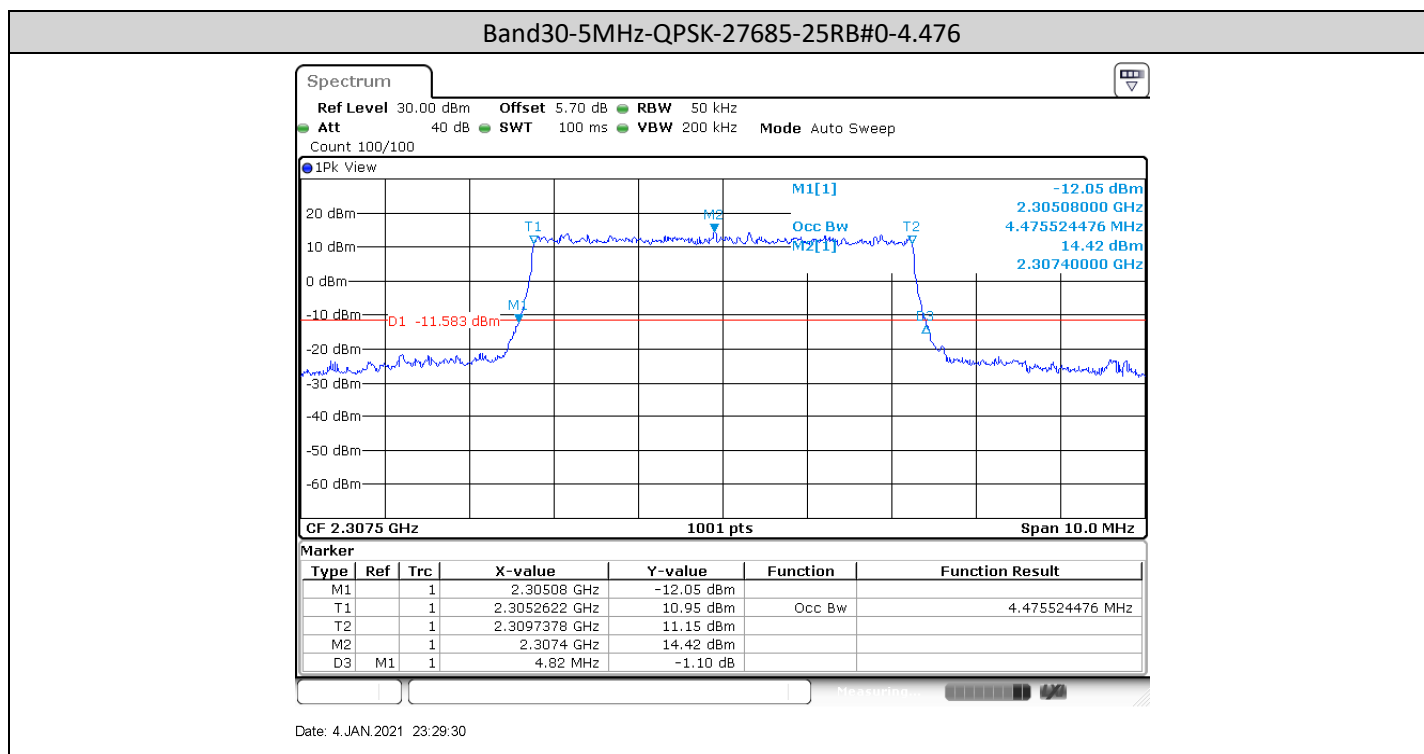


4. 26dB Bandwidth and Occupied Bandwidth

4.1. Test Result

Band	Bandwidth	Modulation	Channel	RB Configuration	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
Band30	5MHz	QPSK	27685	25RB#0	4.476	4.820	PASS
Band30	5MHz	QPSK	27710	25RB#0	4.476	4.830	PASS
Band30	5MHz	QPSK	27735	25RB#0	4.476	4.840	PASS
Band30	5MHz	16QAM	27685	25RB#0	4.476	4.850	PASS
Band30	5MHz	16QAM	27710	25RB#0	4.476	4.850	PASS
Band30	5MHz	16QAM	27735	25RB#0	4.476	4.860	PASS
Band30	10MHz	QPSK	27710	50RB#0	8.951	9.620	PASS
Band30	10MHz	16QAM	27710	50RB#0	8.931	9.620	PASS

4.2. Test Plots



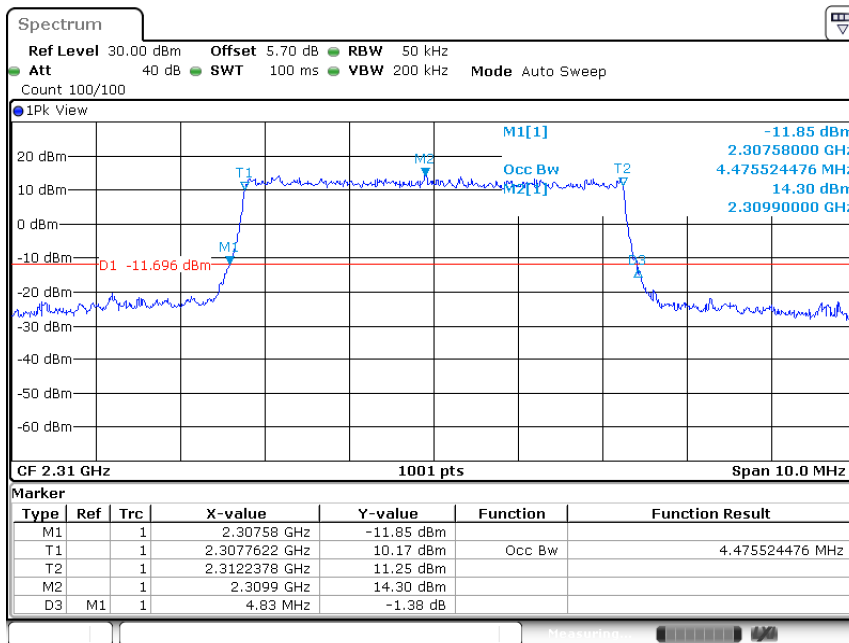
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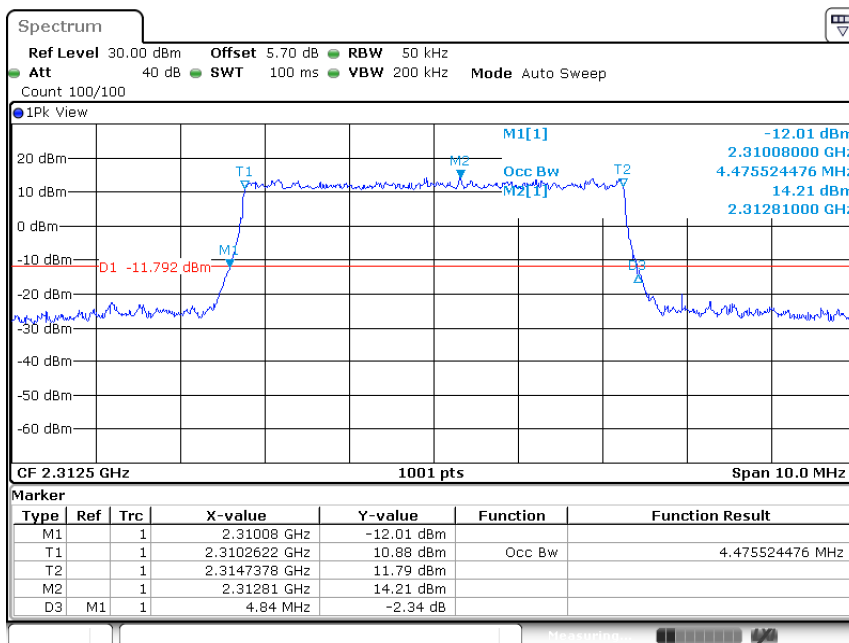


Band30-5MHz-QPSK-27710-25RB#0-4.476



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Band30-5MHz-QPSK-27735-25RB#0-4.476



Date: 4.JAN.2021 23:30:49



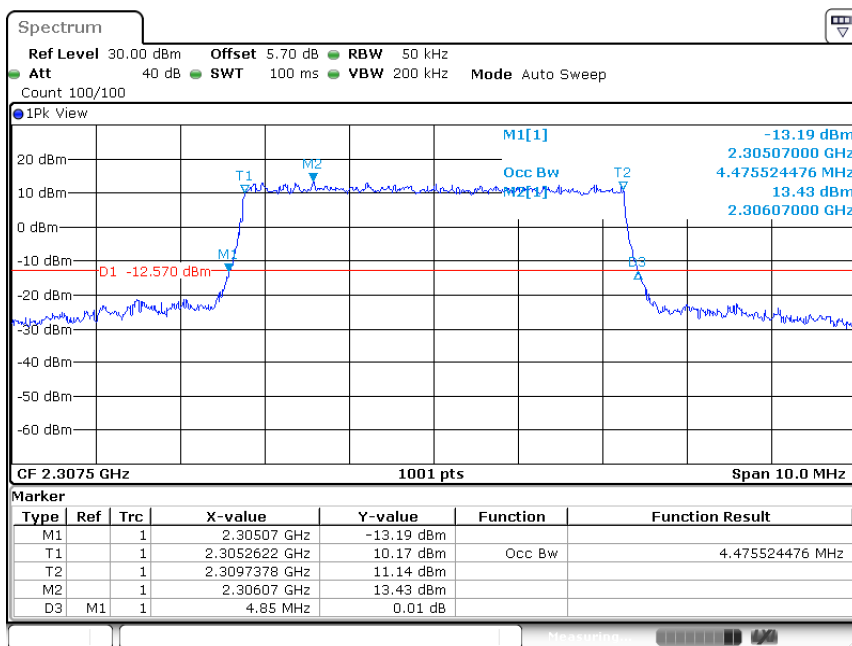
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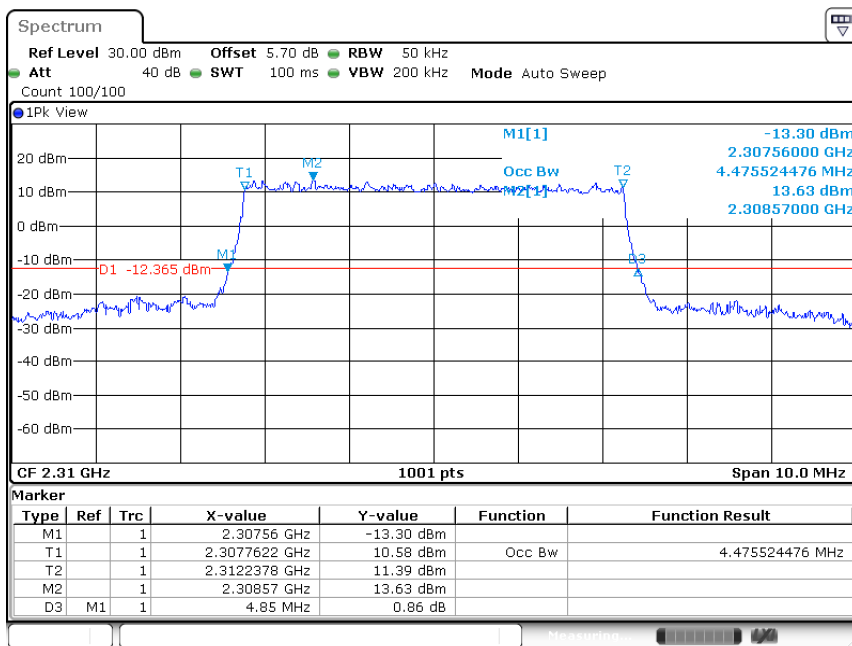
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Band30-5MHz-16QAM-27685-25RB#0-4.476



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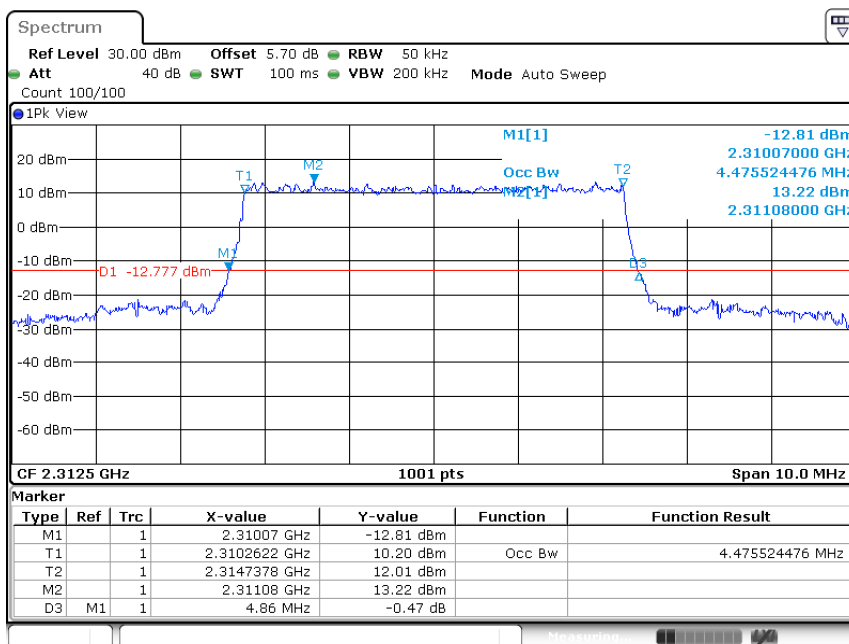


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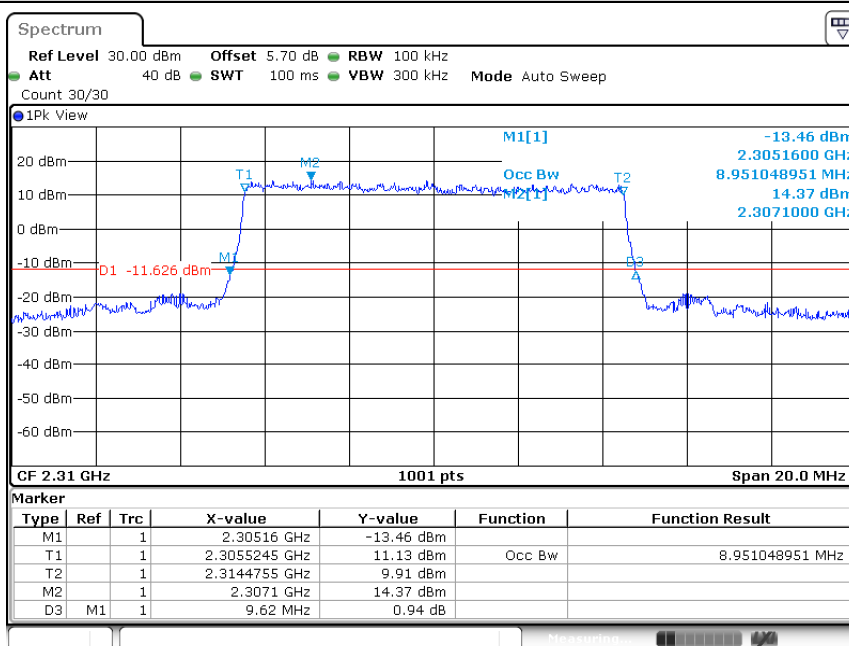


Band30-5MHz-16QAM-27735-25RB#0-4.476



Date: 4.JAN.2021 23:31:09

Band30-10MHz-QPSK-27710-50RB#0-8.951



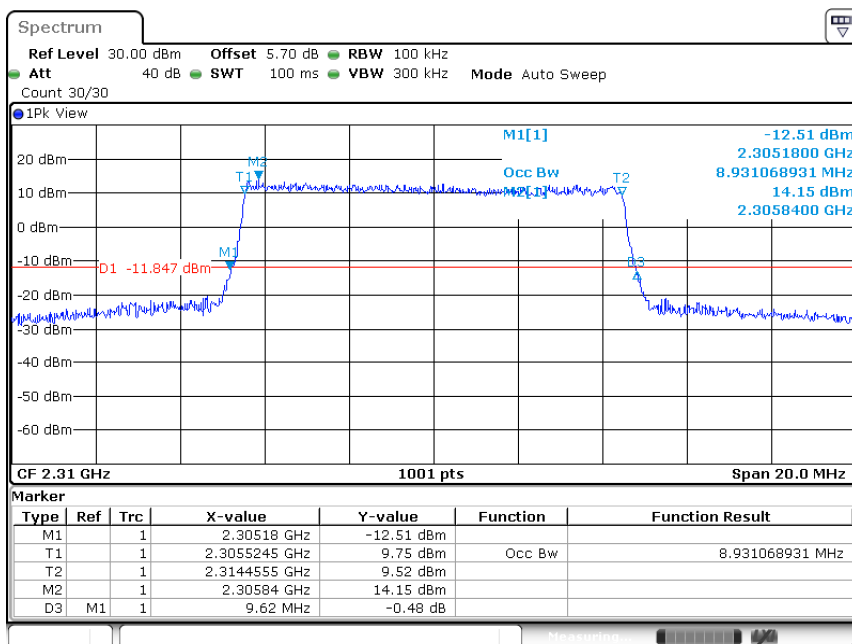
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Band30-10MHz-16QAM-27710-50RB#0-8.931

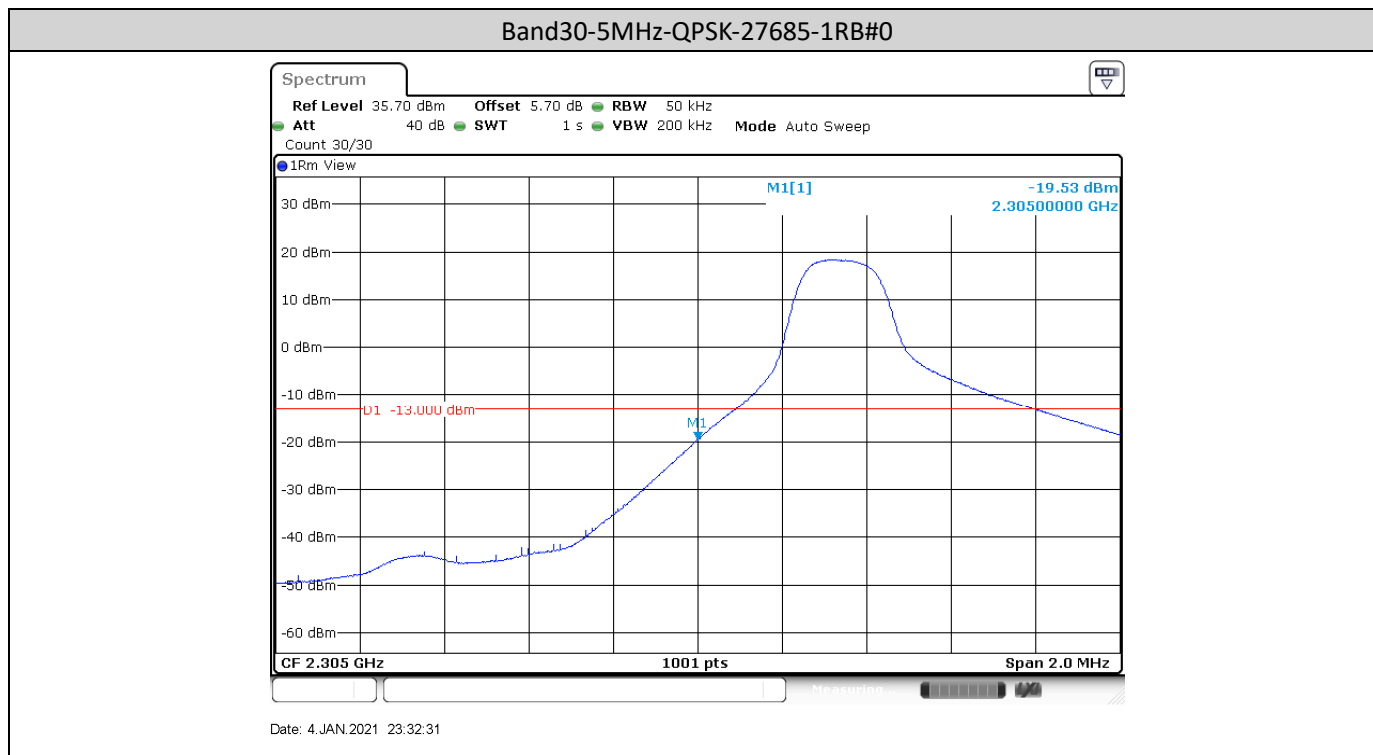


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5. Band Edge Compliance

5.1. Test Plots

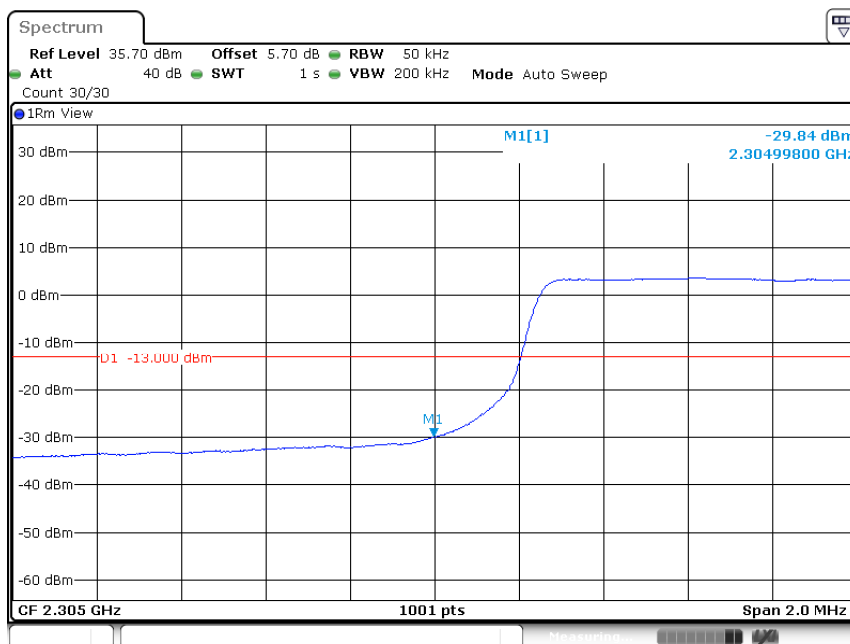


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Band30-5MHz-QPSK-27685-25RB#0



Date: 4.JAN.2021 23:34:04

Band30-5MHz-QPSK-27735-1RB#24



Date: 4.JAN.2021 23:35:41

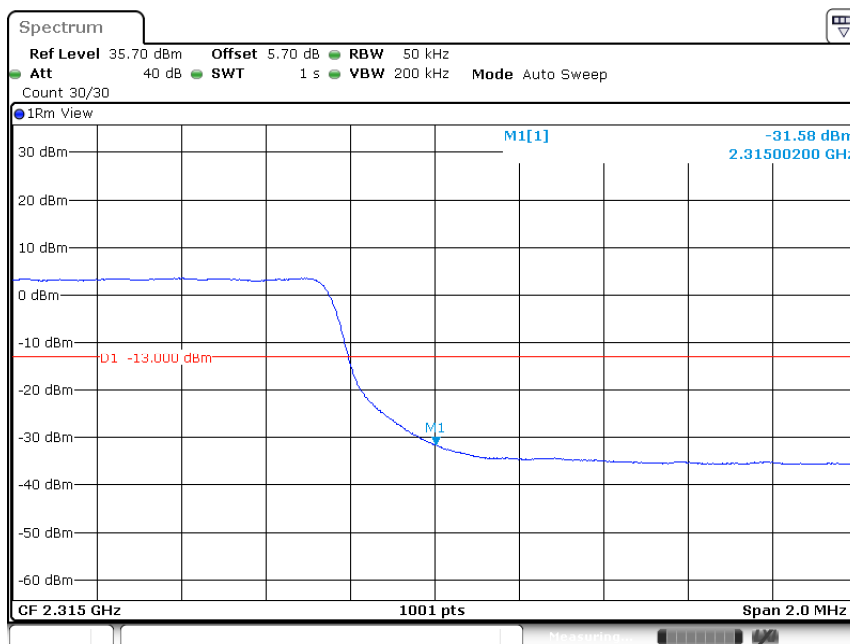


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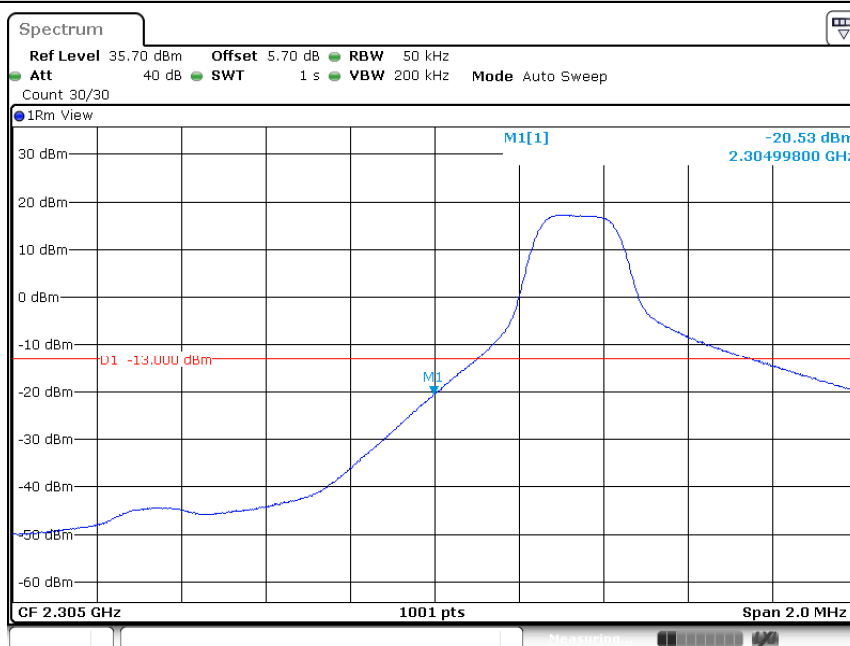


Band30-5MHz-QPSK-27735-25RB#0



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Band30-5MHz-16QAM-27685-1RB#0



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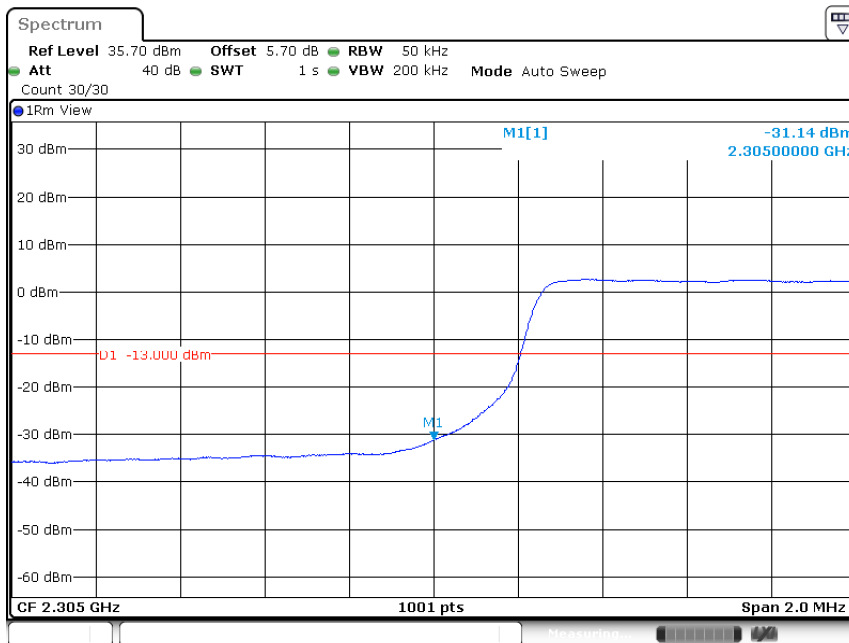
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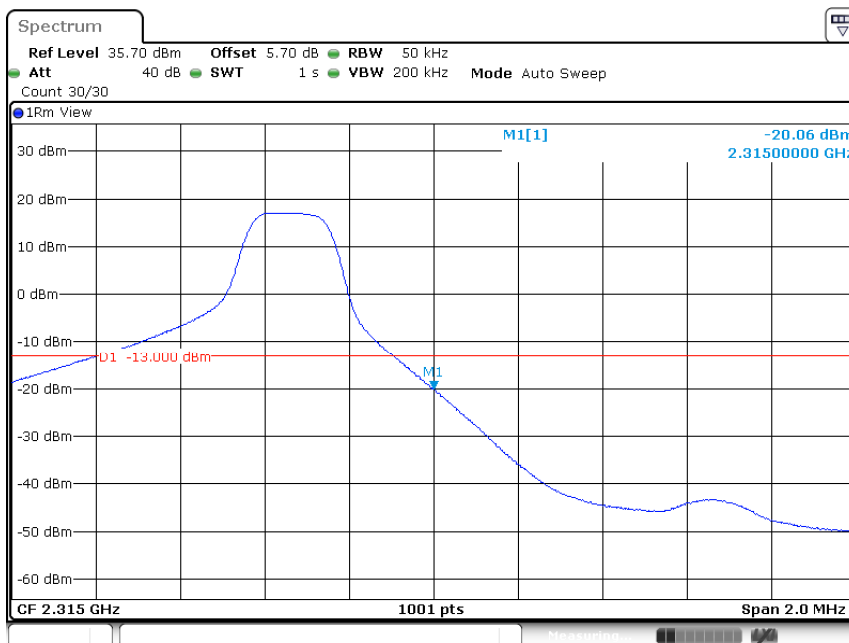


Band30-5MHz-16QAM-27685-25RB#0



Date: 4.JAN.2021 23:34:50

Band30-5MHz-16QAM-27735-1RB#24

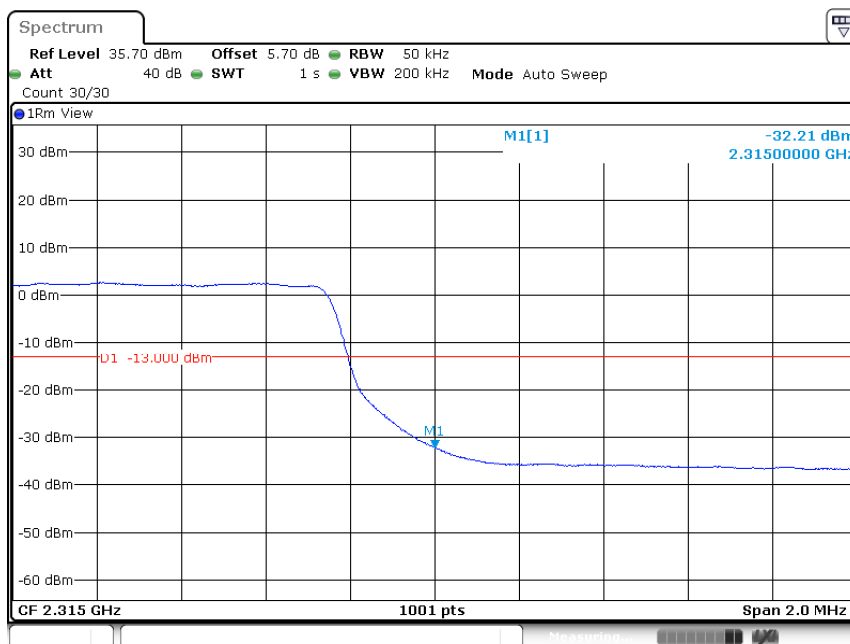


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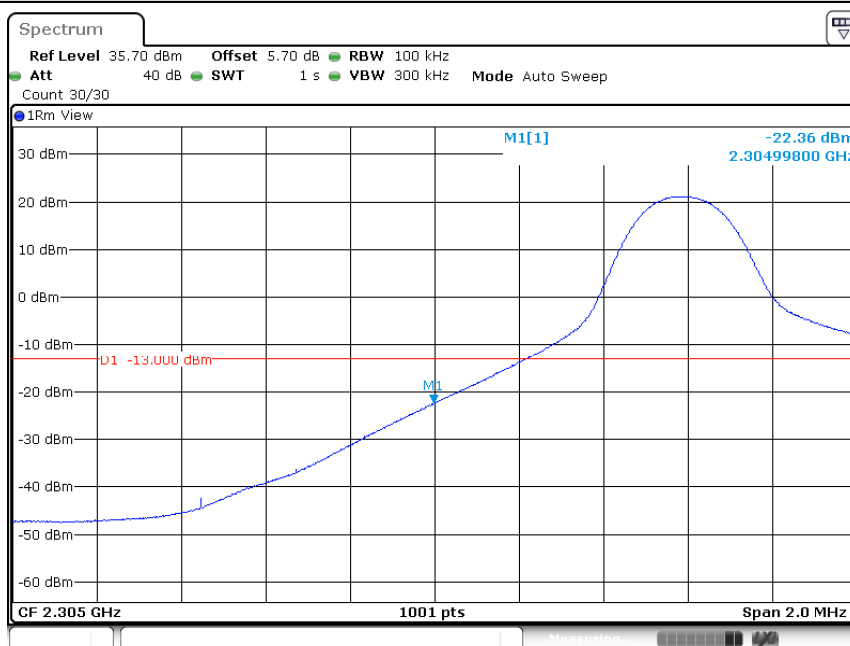


Band30-5MHz-16QAM-27735-25RB#0



Date: 4.JAN.2021 23:38:02

Band30-10MHz-QPSK-27710_Left-1RB#0

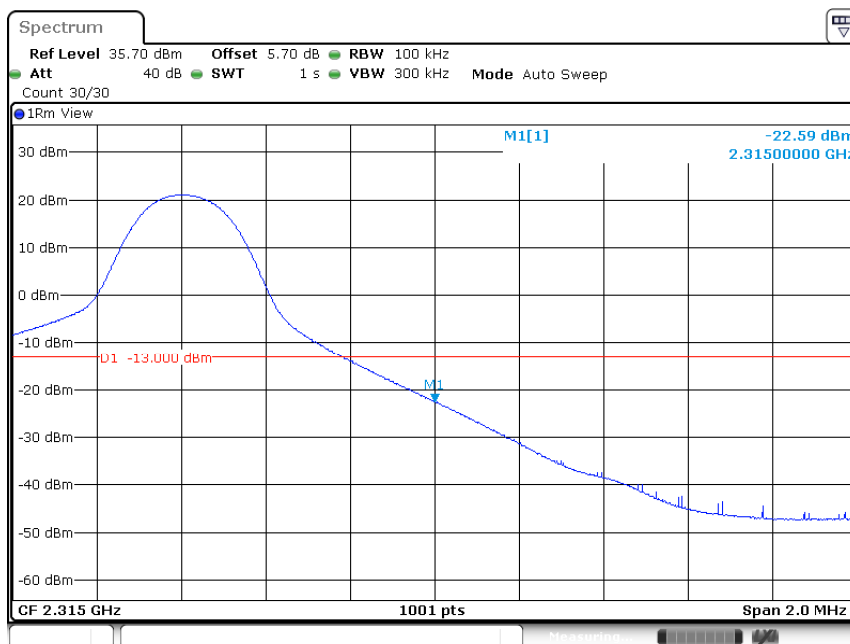


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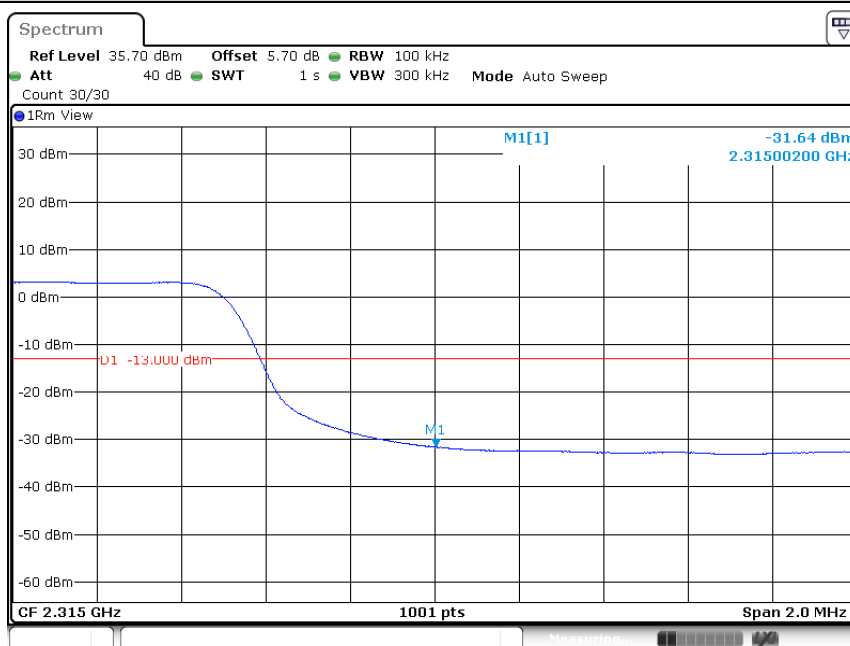


Band30-10MHz-QPSK-27710_Right-1RB#49



Date: 4.JAN.2021 23:40:30

Band30-10MHz-QPSK-27710_Right-50RB#0



Date: 4.JAN.2021 23:42:03



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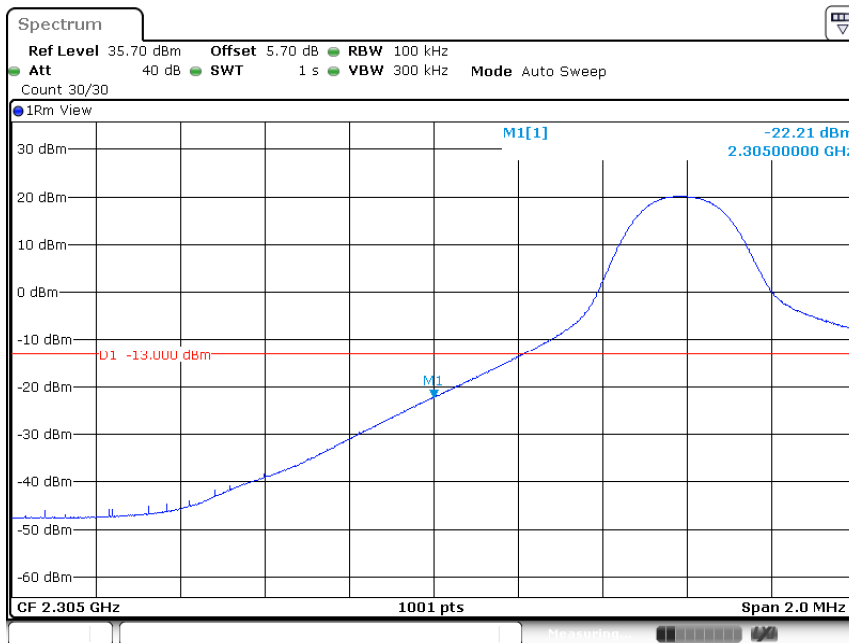
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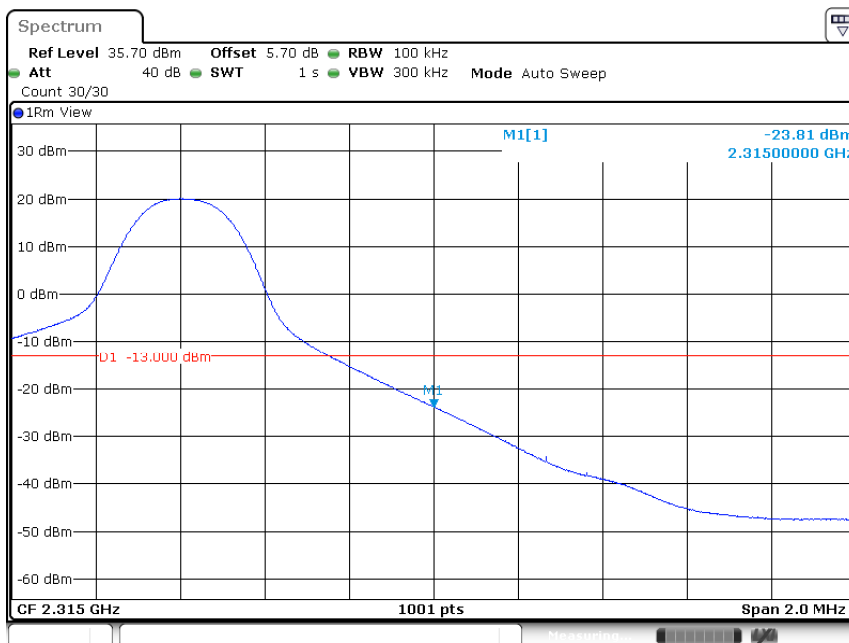


Band30-10MHz-16QAM-27710_Left-1RB#0



Date: 4.JAN.2021 23:39:40

Band30-10MHz-16QAM-27710_Right-1RB#49



Date: 4.JAN.2021 23:41:17



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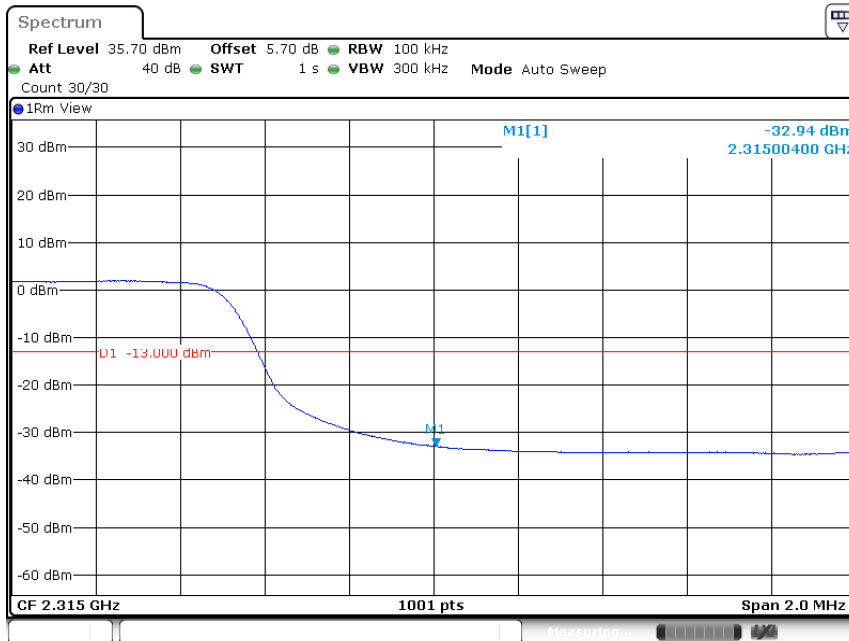
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Band30-10MHz-16QAM-27710_Right-50RB#0



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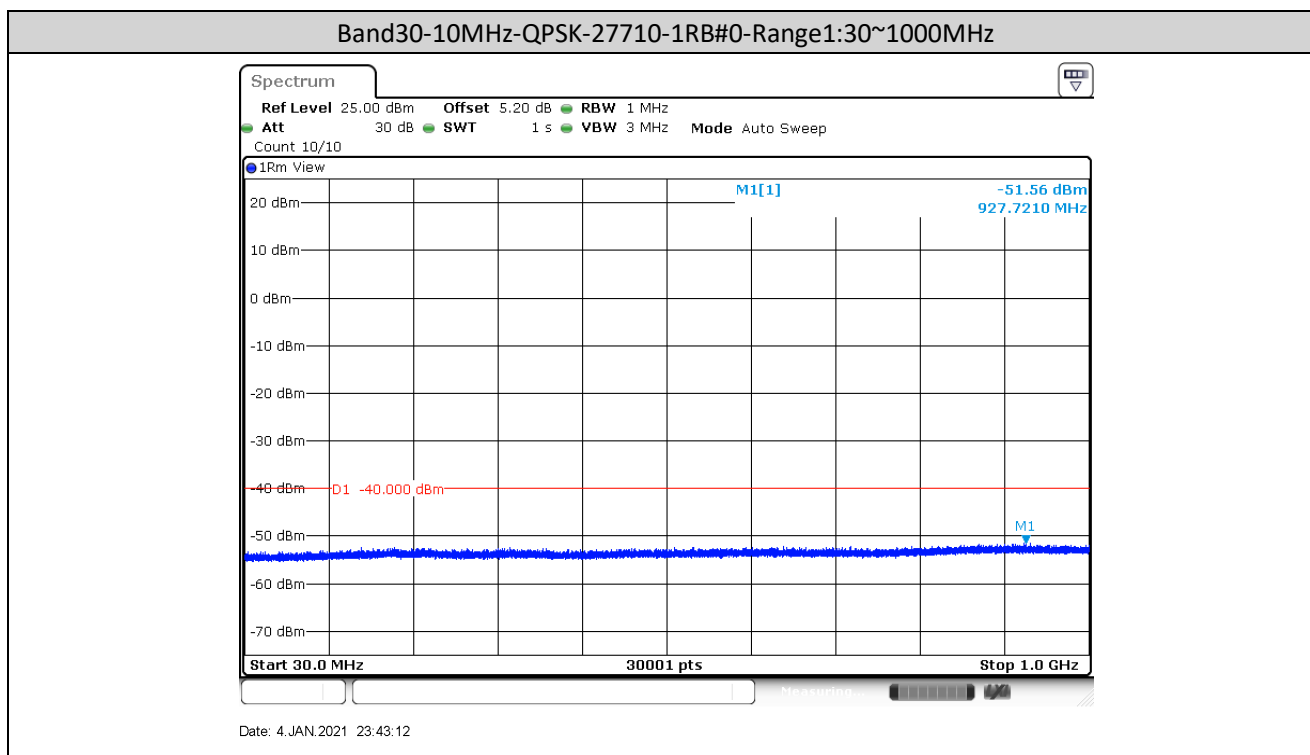
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6. Spurious Emission at Antenna Terminal

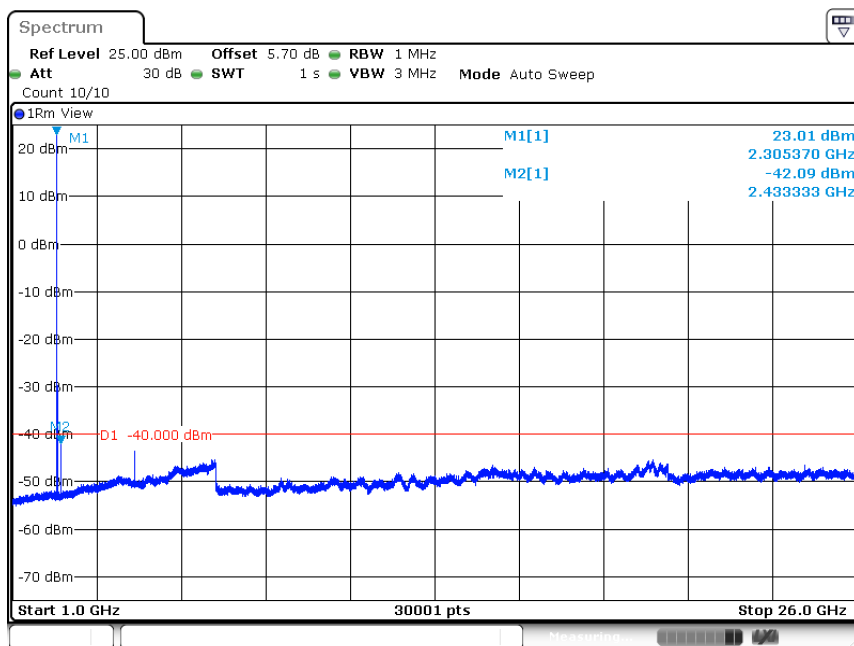
Remark1: For the averaged unwanted emissions measurements, the measurement points in each sweep is greater than twice the Span/RBW in order to ensure bin-to-bin spacing of $< RBW/2$ so that narrowband signals are not lost between frequency bins. As to the present test item, the "Measurement Points = $k * (\text{Span} / RBW)$ " with k between 4 and 5, which results in an acceptable level error of less than 0.5 dB.

Remark2: only the worst case data displayed in this report.

6.1. Test Plots



Band30-10MHz-QPSK-27710-1RB#0-Range2:1000~26000MHz



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7. Field Strength of Spurious Radiation

7.1. Test Band = LTE_30_TM1

7.1.1. Test Channel = Mid Channel

Suspected Data List					
NO.	Freq. [MHz]	Level [dBm]	Limit [dBm]	Margin [dB]	Polarity
1	41.1071	-64.12	-40.00	24.12	Horizontal
2	245.2538	-67.81	-40.00	27.81	Horizontal
3	734.9827	-61.05	-40.00	21.05	Horizontal
4	3499.5167	-60.74	-40.00	20.74	Horizontal
5	6917.1306	-51.21	-40.00	11.21	Horizontal
6	17325.477	-46.72	-40.00	6.72	Horizontal



7.2. Test Band = LTE_30_TM1**7.2.1. Test Channel = Mid Channel**

Suspected Data List					
NO.	Freq. [MHz]	Level [dBm]	Limit [dBm]	Margin [dB]	Polarity
1	82.4796	-59.82	-40.00	19.82	Vertical
2	111.2416	-63.90	-40.00	23.90	Vertical
3	705.7358	-61.78	-40.00	21.78	Vertical
4	6916.6306	-55.86	-40.00	15.86	Vertical
5	14710.890	-47.75	-40.00	7.75	Vertical
6	17996.499	-46.90	-40.00	6.90	Vertical

Remark:

- 1 According to 971168 D01 Power Meas License Digital Systems, The amplitudes of unwanted emissions that are attenuated more than 20 dB below the applicable limit are not required to be reported.
- 2 The disturbance below 30MHz was very low, and the above harmonics were the highest point could be found when testing, so only the worst case data displayed in this report.
- 3 all modulation and all Bandwidth had been tested, but only the worst case data displayed in this report.





8. Frequency Stability

8.1. Frequency Vs Voltage

Band	Bandwidth	Modulation	Channel	RB Configure	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
Band30	10MHz	QPSK	27710	50RB#0	VL	NT	-6.10	-0.002641	±2.5	PASS
Band30	10MHz	QPSK	27710	50RB#0	VN	NT	-15.20	-0.006580	±2.5	PASS
Band30	10MHz	QPSK	27710	50RB#0	VH	NT	-3.20	-0.001385	±2.5	PASS
Band30	10MHz	16QAM	27710	50RB#0	VL	NT	3.00	0.001299	±2.5	PASS
Band30	10MHz	16QAM	27710	50RB#0	VN	NT	-9.70	-0.004199	±2.5	PASS
Band30	10MHz	16QAM	27710	50RB#0	VH	NT	-9.00	-0.003896	±2.5	PASS

8.2. Frequency Vs Temperature

Band	Bandwidth	Modulation	Channel	RB Configure	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
Band30	10MHz	QPSK	27710	50RB#0	NV	-30	-2.90	-0.001255	±2.5	PASS
Band30	10MHz	QPSK	27710	50RB#0	NV	-20	-5.70	-0.002468	±2.5	PASS
Band30	10MHz	QPSK	27710	50RB#0	NV	-10	-8.80	-0.003810	±2.5	PASS
Band30	10MHz	QPSK	27710	50RB#0	NV	0	-7.60	-0.003290	±2.5	PASS
Band30	10MHz	QPSK	27710	50RB#0	NV	10	-12.80	-0.005541	±2.5	PASS
Band30	10MHz	QPSK	27710	50RB#0	NV	20	-0.80	-0.000346	±2.5	PASS
Band30	10MHz	QPSK	27710	50RB#0	NV	30	-9.90	-0.004286	±2.5	PASS
Band30	10MHz	QPSK	27710	50RB#0	NV	40	-1.70	-0.000736	±2.5	PASS
Band30	10MHz	QPSK	27710	50RB#0	NV	50	-19.00	-0.008225	±2.5	PASS
Band30	10MHz	16QAM	27710	50RB#0	NV	-30	-12.70	-0.005498	±2.5	PASS
Band30	10MHz	16QAM	27710	50RB#0	NV	-20	-17.90	-0.007749	±2.5	PASS
Band30	10MHz	16QAM	27710	50RB#0	NV	-10	-15.20	-0.006580	±2.5	PASS
Band30	10MHz	16QAM	27710	50RB#0	NV	0	-10.30	-0.004459	±2.5	PASS
Band30	10MHz	16QAM	27710	50RB#0	NV	10	-3.70	-0.001602	±2.5	PASS
Band30	10MHz	16QAM	27710	50RB#0	NV	20	-11.80	-0.005108	±2.5	PASS
Band30	10MHz	16QAM	27710	50RB#0	NV	30	-15.80	-0.006840	±2.5	PASS
Band30	10MHz	16QAM	27710	50RB#0	NV	40	-12.80	-0.005541	±2.5	PASS
Band30	10MHz	16QAM	27710	50RB#0	NV	50	-15.50	-0.006710	±2.5	PASS



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