Appendix B

WCDMA BAND II & IV & V

CONTENT

1. Effective (Isotropic) Radiated Power Output Data

1.1. Test Result

BAND	Channel	Power(dBm)	EIRP(dBm)	Limit(dBm)	Verdict
Band II	9262	23.20	24.1	33	PASS
Band II	9400	23.27	24.17	33	PASS
Band II	9538	23.40	24.3	33	PASS
Band IV	1312	22.75	24.15	30	PASS
Band IV	1413	22.76	24.16	30	PASS
Band IV	1513	22.80	24.2	30	PASS

BAND	Channel	Power(dBm)	ERP(dBm)	Limit(dBm)	Verdict
Band V	4132	23.13	19.98	38.5	PASS
Band V	4182	23.17	20.02	38.5	PASS
Band V	4233	23.35	20.2	38.5	PASS

Note:
a: For getting the ERP (Efficient Isotropic Radiated Power) in substitution method, the following formula should be taken to calculate it,

EIRP [dBm] = SGP [dBm] – Cable Loss [dB] + Gain [dBi]

ERP [dBm] = SGP [dBm] – Cable Loss [dB] + Gain [dBd]

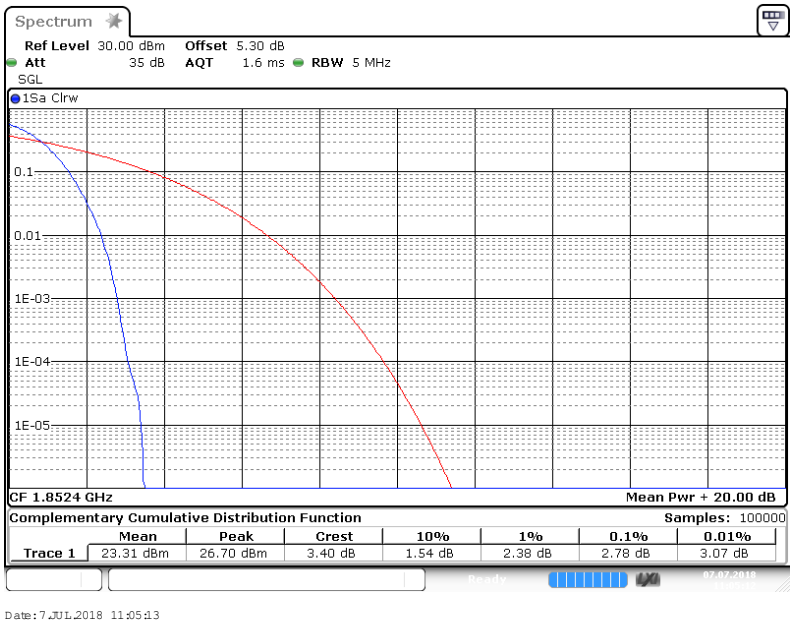
b: SGP=Signal Generator Level

2. Peak-to-Average Ratio

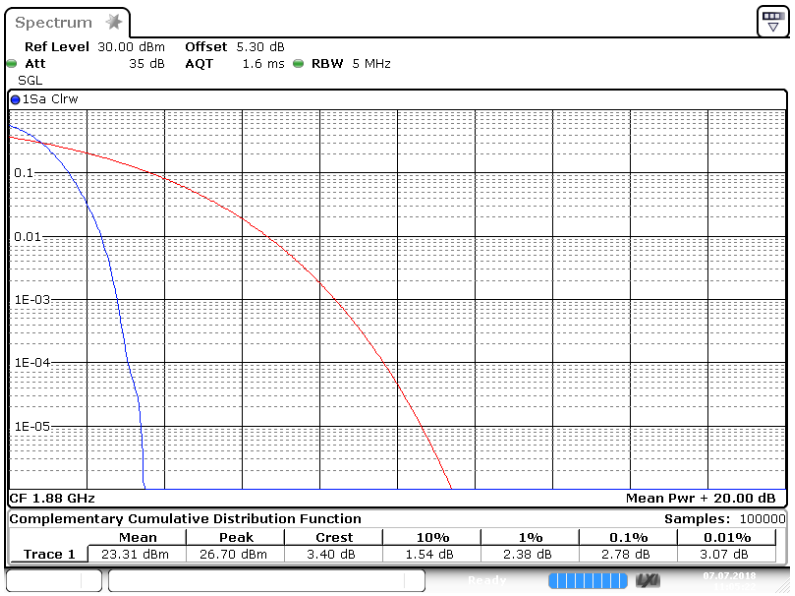
2.1. Test Result

BAND	Channel	Peak-to-Average Ratio(dB)	Limit(dB)	Verdict
Band II	9262	2.78	13	PASS
Band II	9400	2.78	13	PASS
Band II	9538	2.78	13	PASS
Band IV	1312	2.67	13	PASS
Band IV	1413	2.67	13	PASS
Band IV	1513	2.67	13	PASS
Band V	4132	3.28	13	PASS
Band V	4182	3.28	13	PASS
Band V	4233	3.28	13	PASS

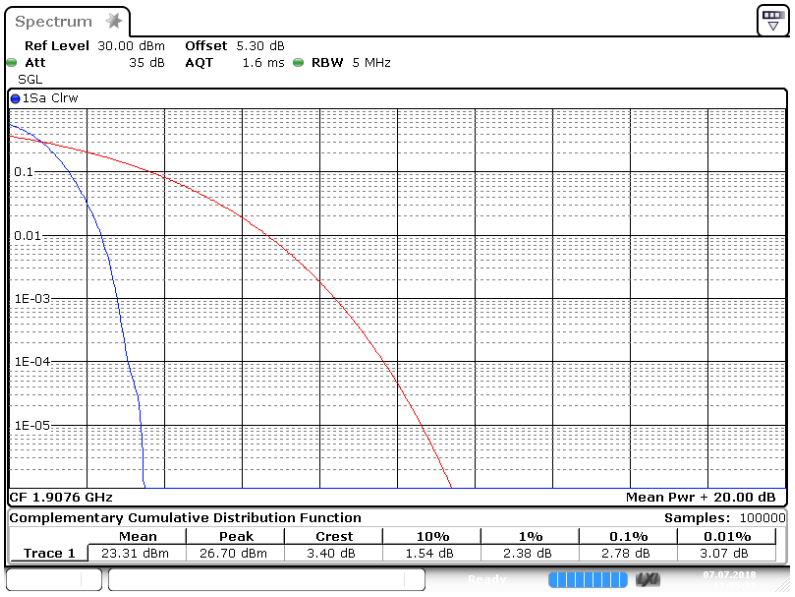
2.2. Test Plots



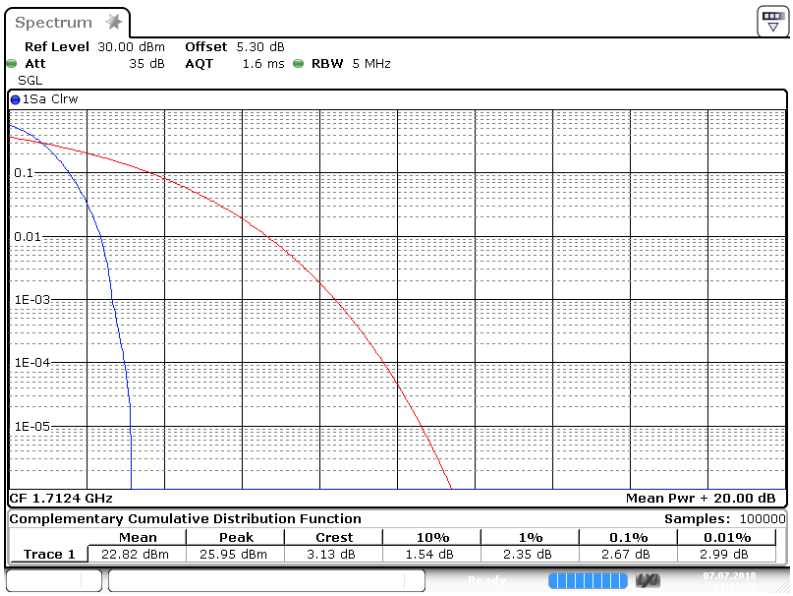
BAND II_9262



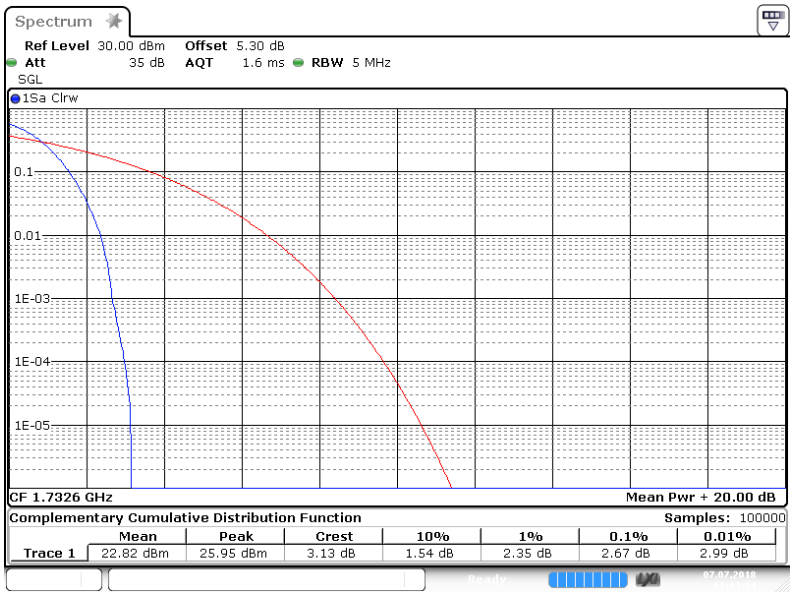
BAND II_9400



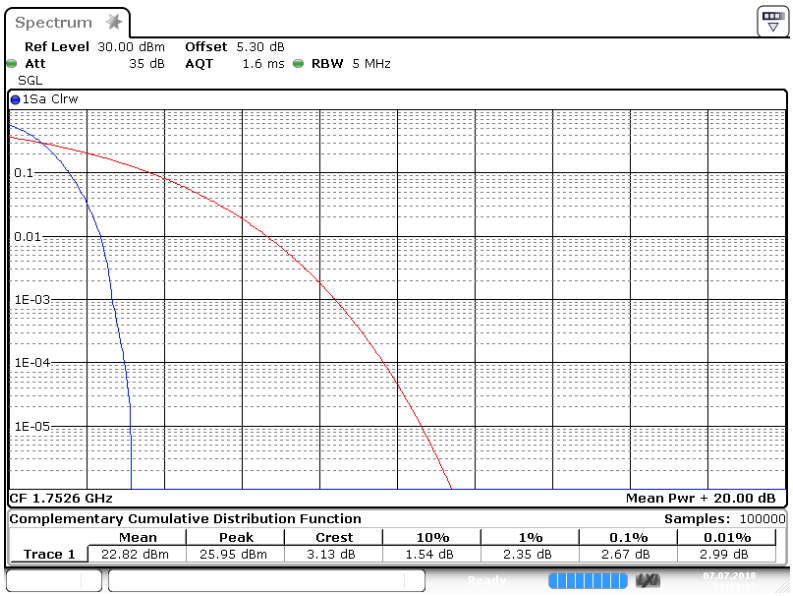
BAND II_9538



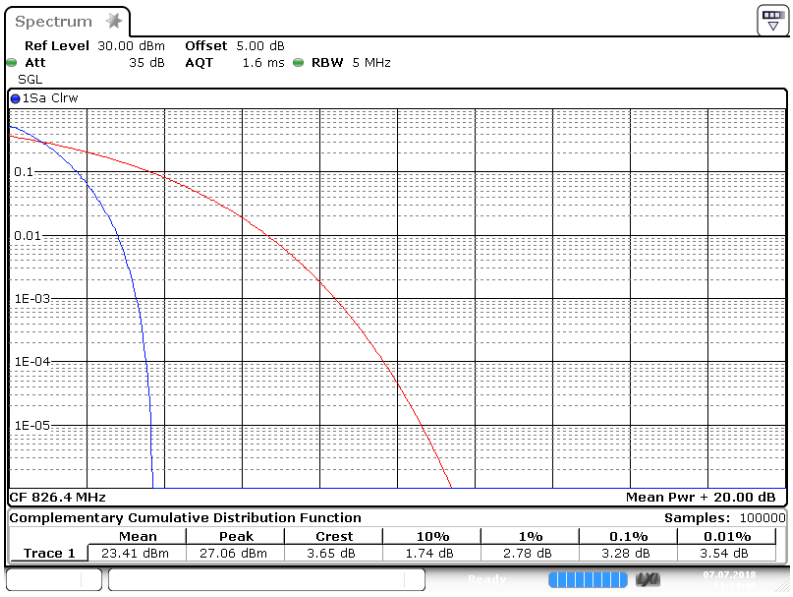
BAND IV_1312



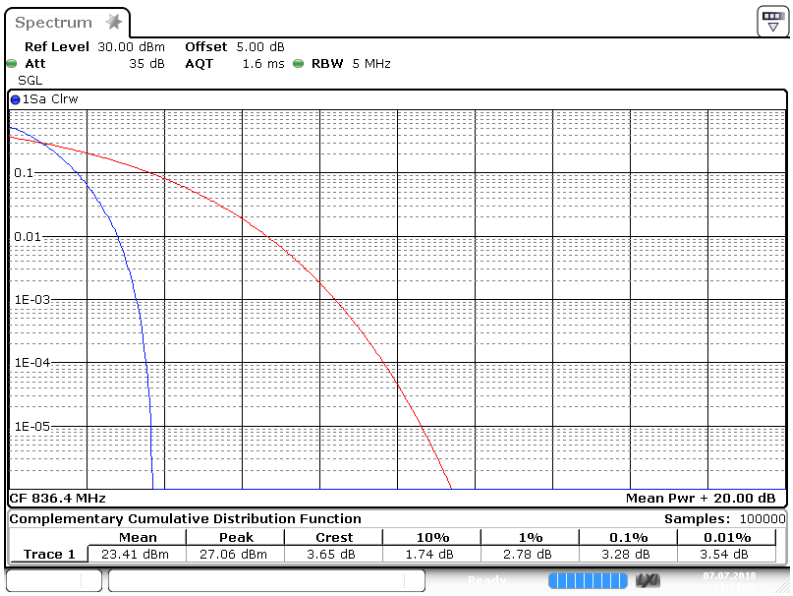
BAND IV_1413



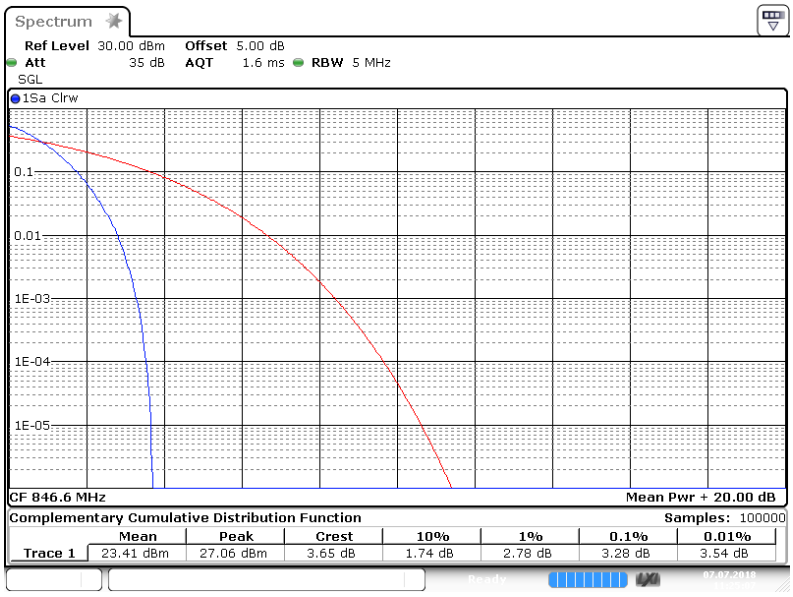
BAND IV_1513



BAND V_4132



BAND V_4182



BAND V_4233

3. Modulation Characteristics

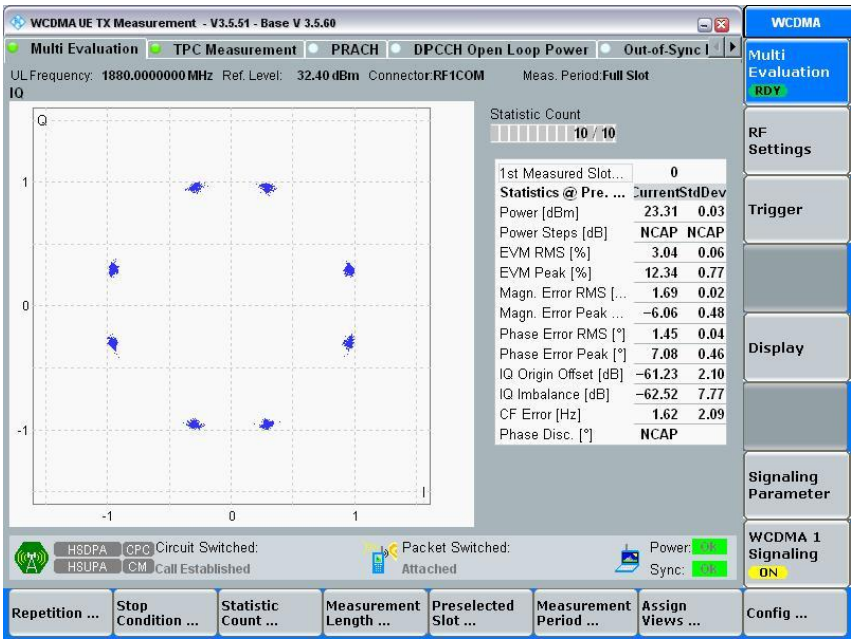
Part I - Test Plots

3.1. For WCDMA

3.1.1. Test BAND = WCDMA BAND II

3.1.1.1. Test Mode = UMTS/TM1

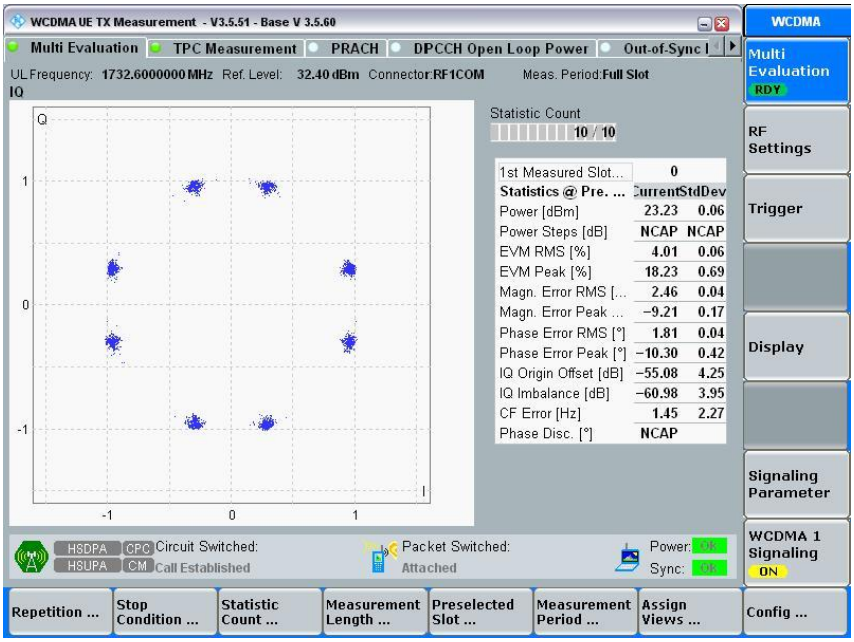
3.1.1.1.1. Test Channel = MCH



3.1.2. Test BAND = WCDMA BAND IV

3.1.2.1. Test Mode = UMTS/TM1

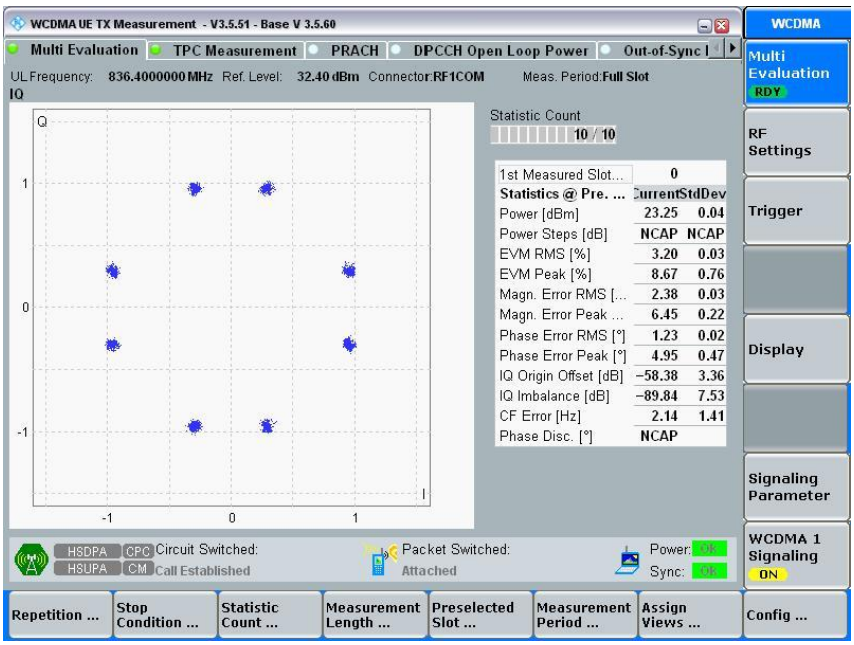
3.1.2.1.1. Test Channel = MCH



3.1.3. Test BAND = WCDMA BAND V

3.1.3.1. Test Mode = UMTS /TM1

3.1.3.1.1. Test Channel = MCH

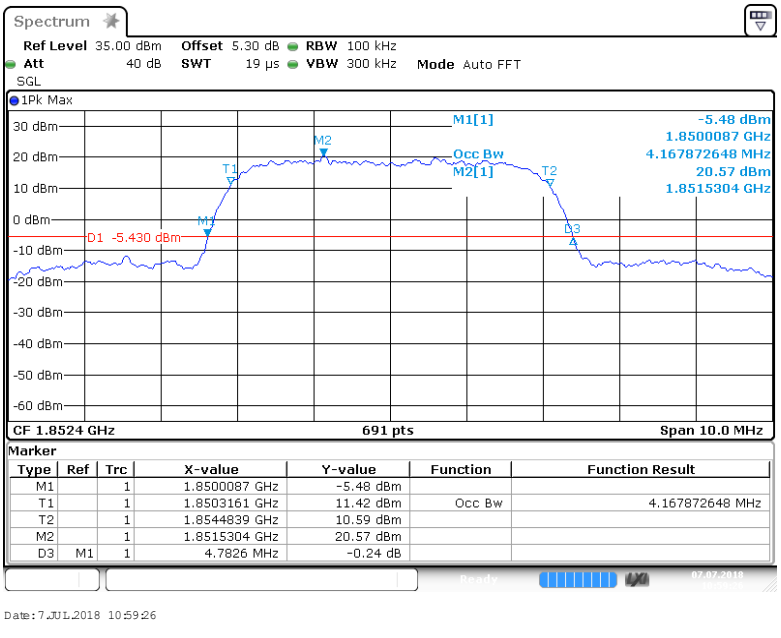


4. 26dB Bandwidth and Occupied Bandwidth

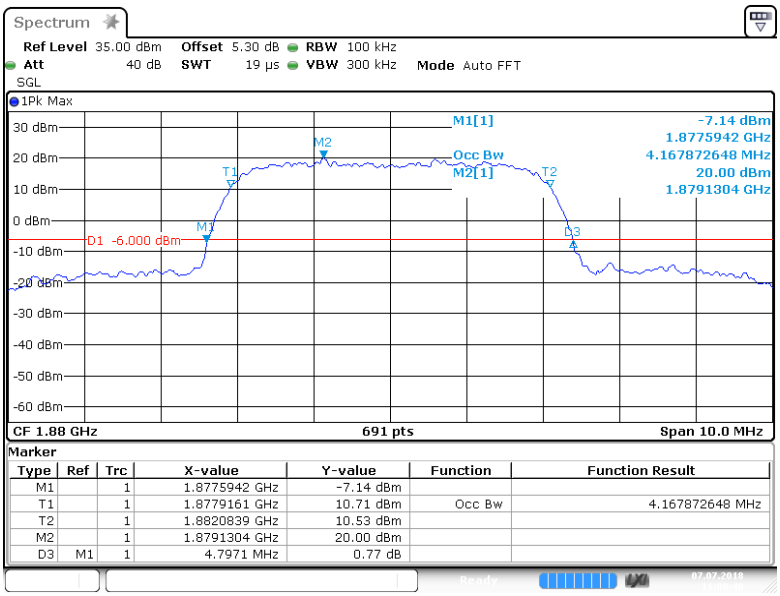
4.1. Test Result

BAND	Channel	Occupied Bandwidth (kHz)	26dB Bandwidth (kHz)	Limit(kHz)	Verdict
Band II	9262	4167.9	4783	---	PASS
Band II	9400	4167.9	4797	---	PASS
Band II	9538	4182.3	4812	---	PASS
Band IV	1312	4167.9	4812	---	PASS
Band IV	1413	4138.9	4754	---	PASS
Band IV	1513	4196.8	4826	---	PASS
Band V	4132	4124.5	4725	---	PASS
Band V	4182	4138.9	4754	---	PASS
Band V	4233	4124.5	4754	---	PASS

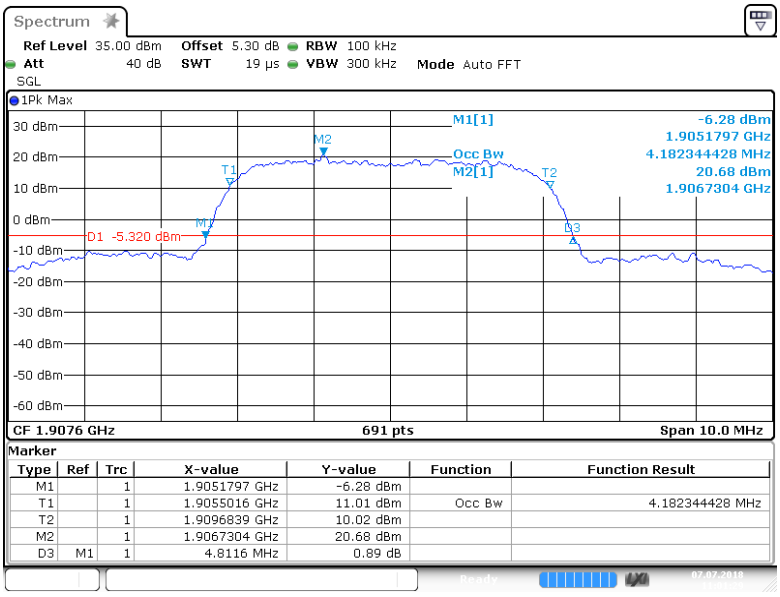
4.2. Test Plots



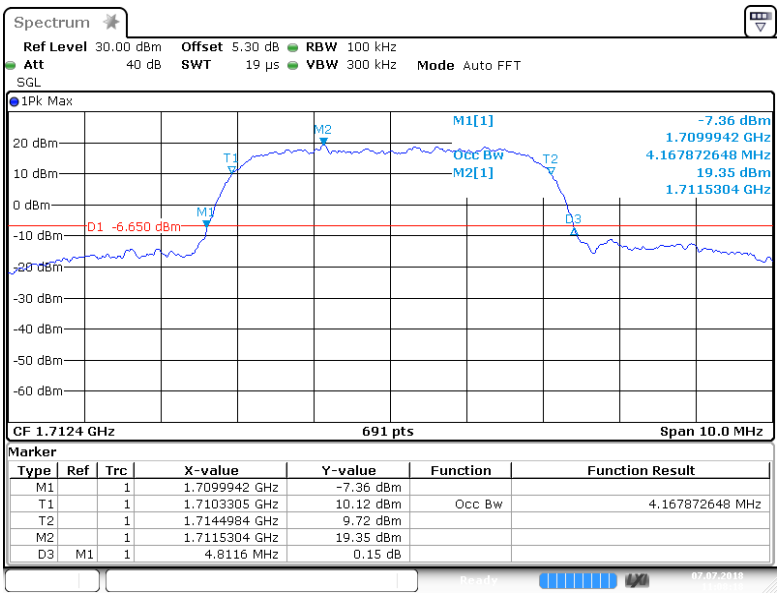
Band II_9262



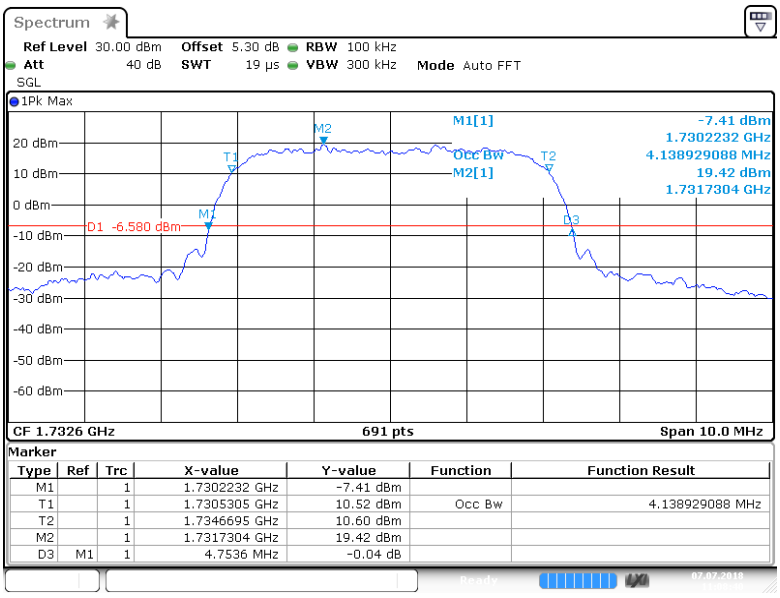
Band II_9400



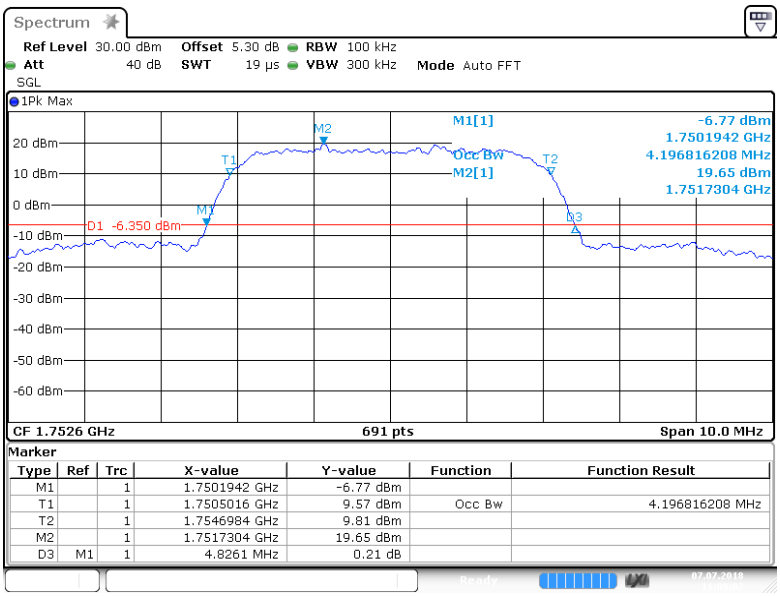
Band II_9538



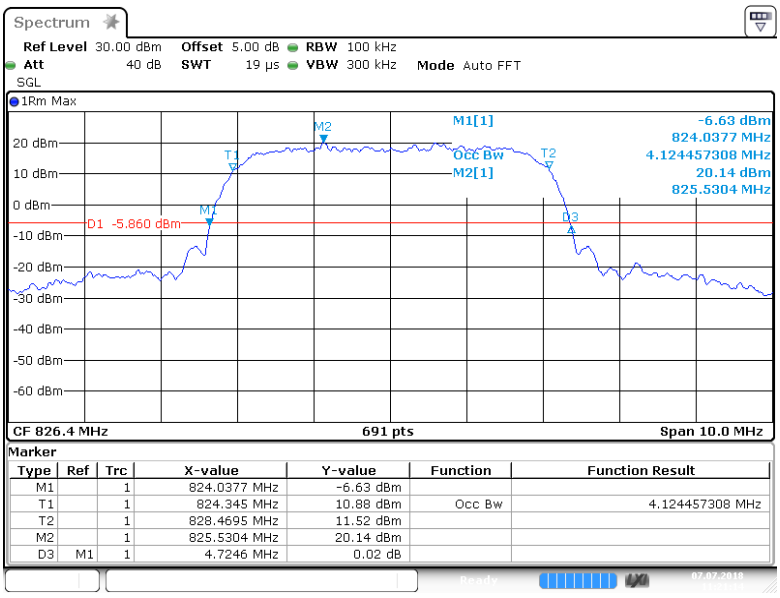
Band IV_1312



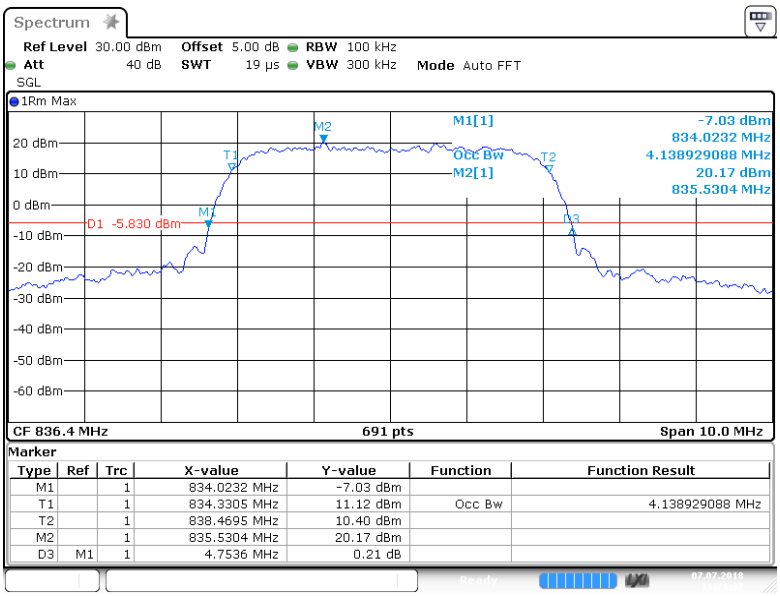
Band IV_1413



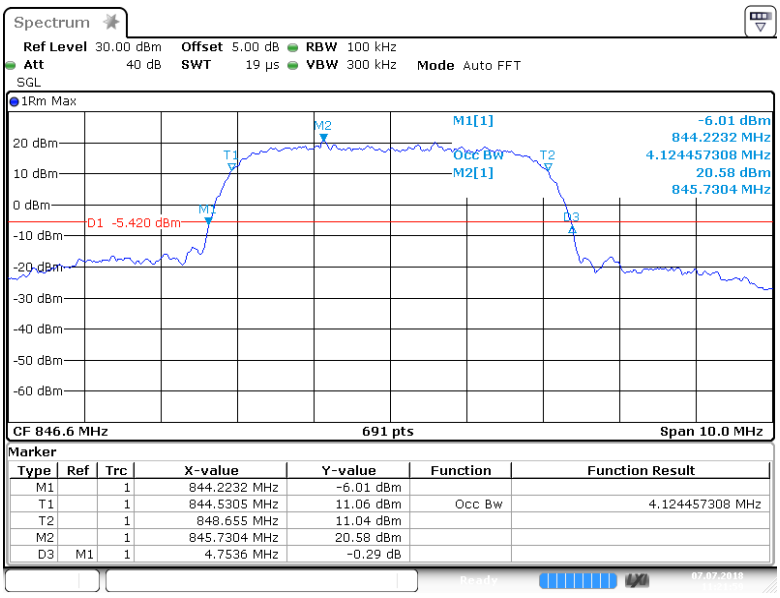
Band IV_1513



Band V_4132



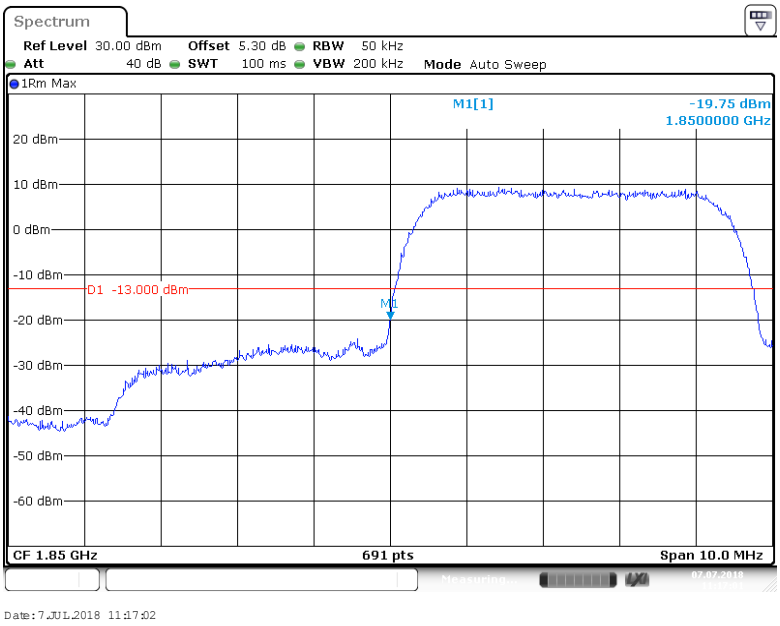
Band V_4182



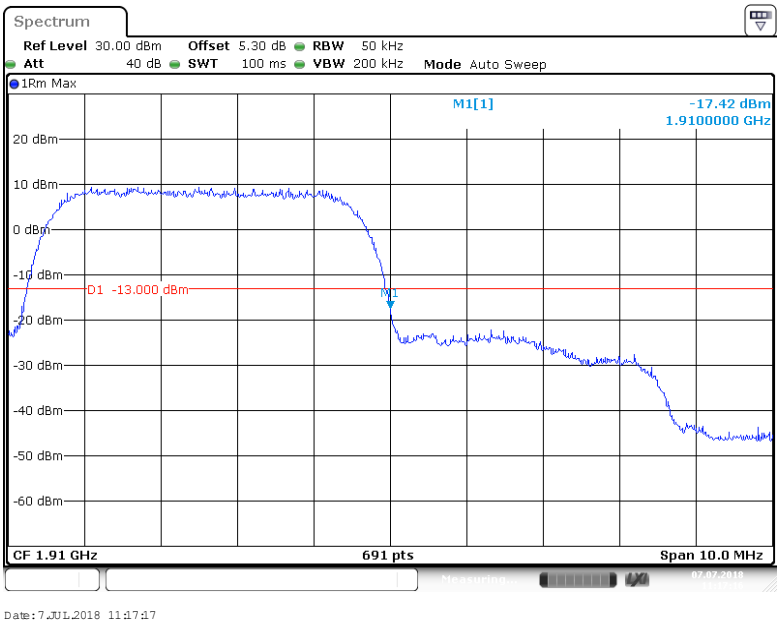
Band V_4233

5. Band Edge Compliance

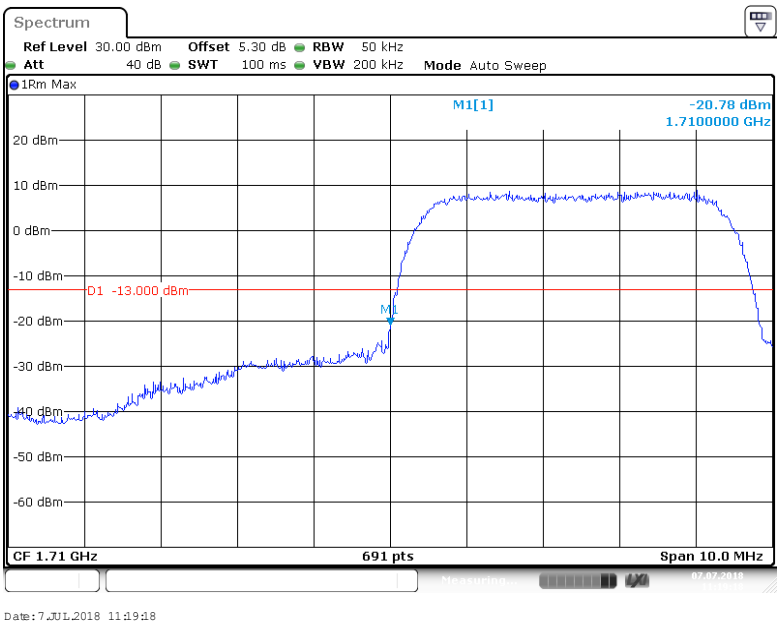
5.1. Test Plots



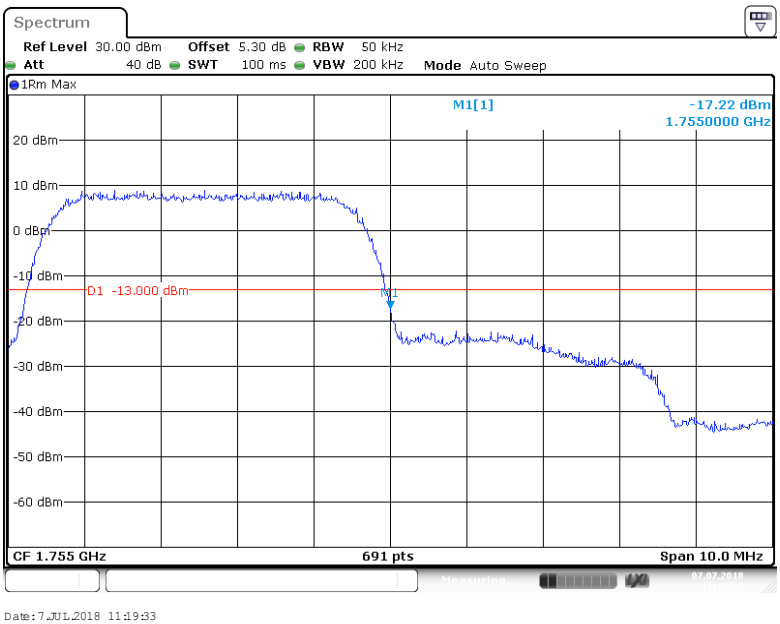
Band II_9262



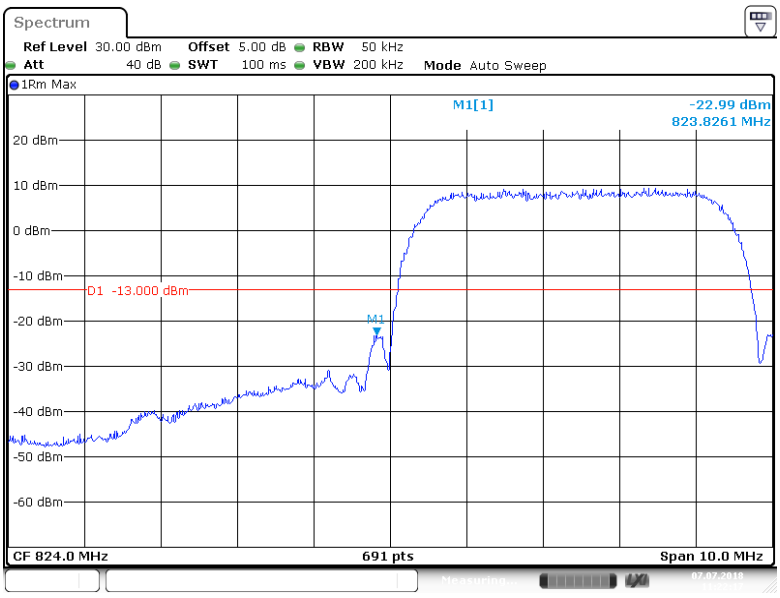
Band II_9538



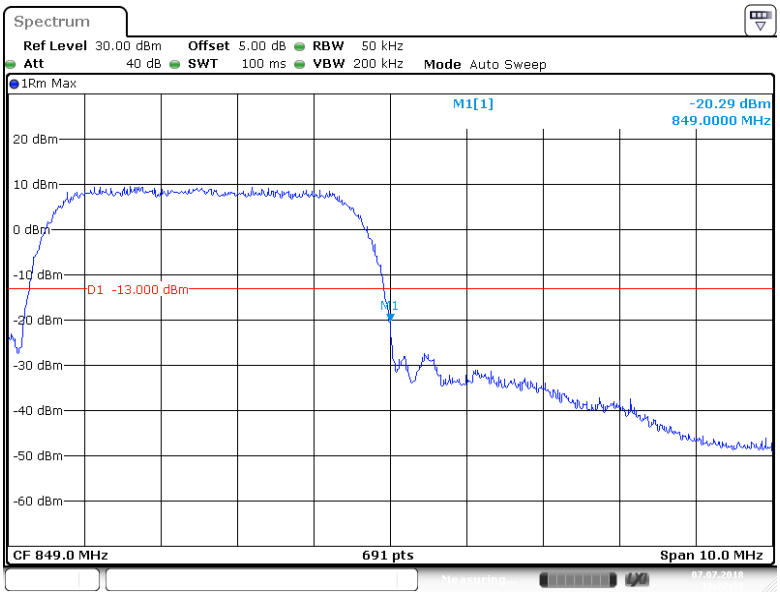
Band IV_1312



Band IV_1513



Band V_4132

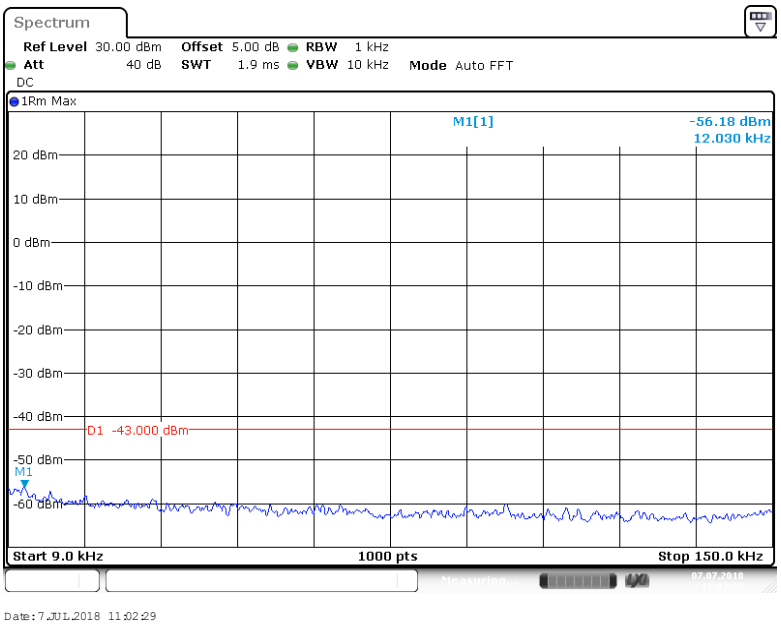


Band V_4233

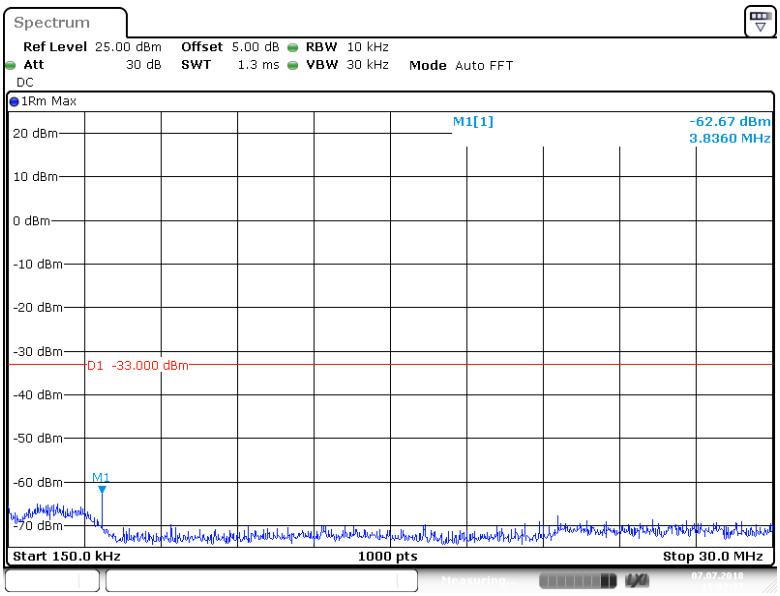
6. Spurious Emission at Antenna Terminal

NOTE: 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 * (Span / RBW)" with k between 4 and 5, which results in an acceptable level error of less than 0.5 dB.

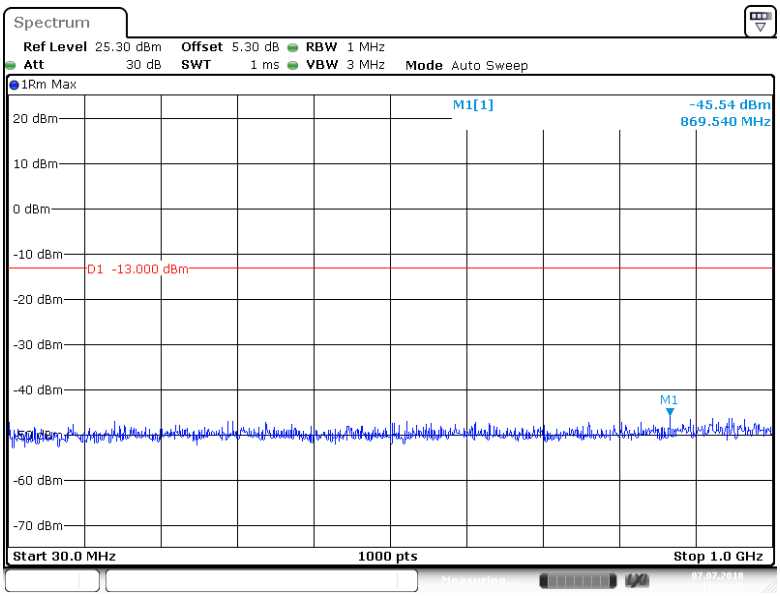
6.1. Test Plots



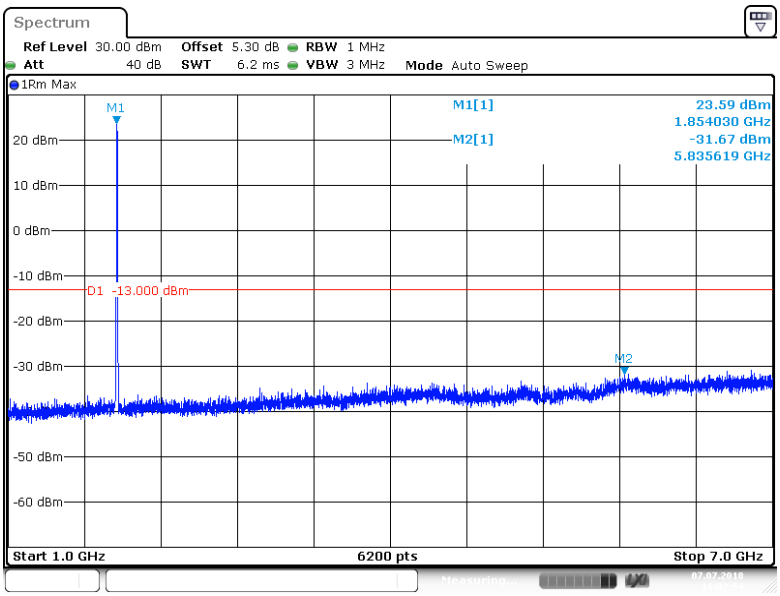
Band II_9262



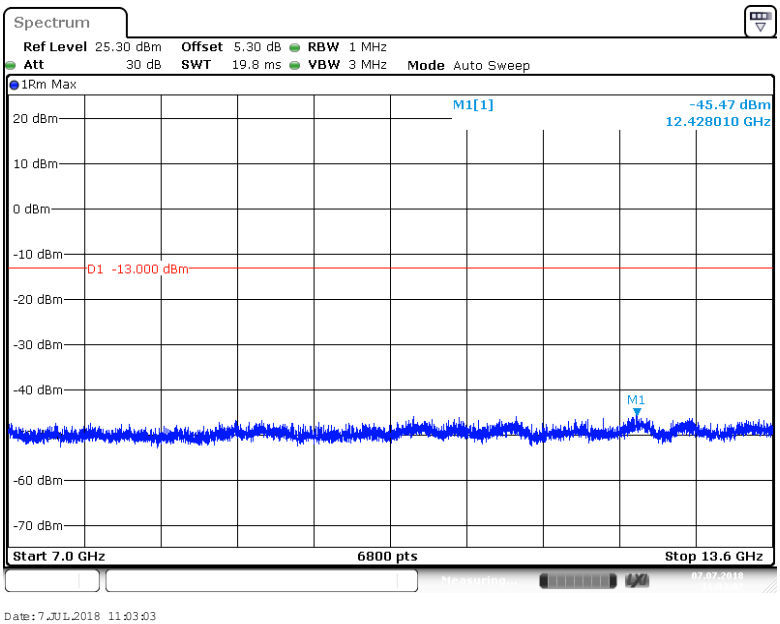
Band II_9262



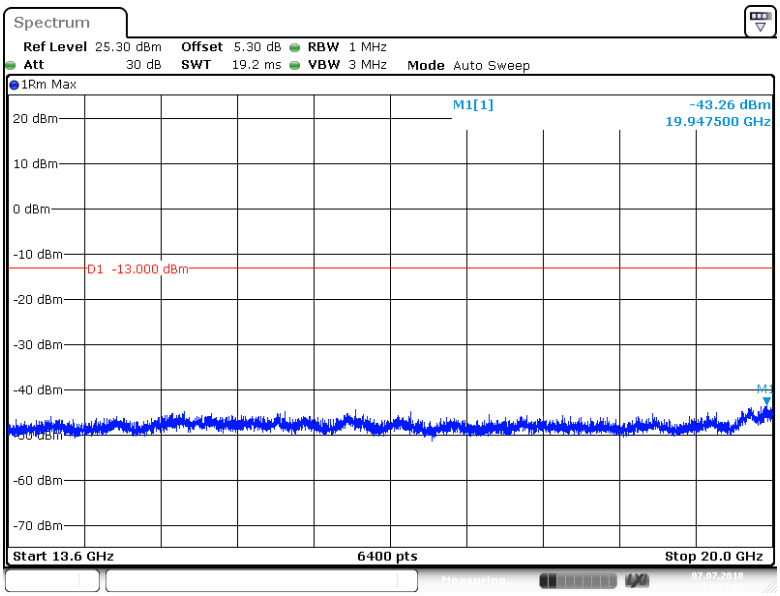
Band II_9262



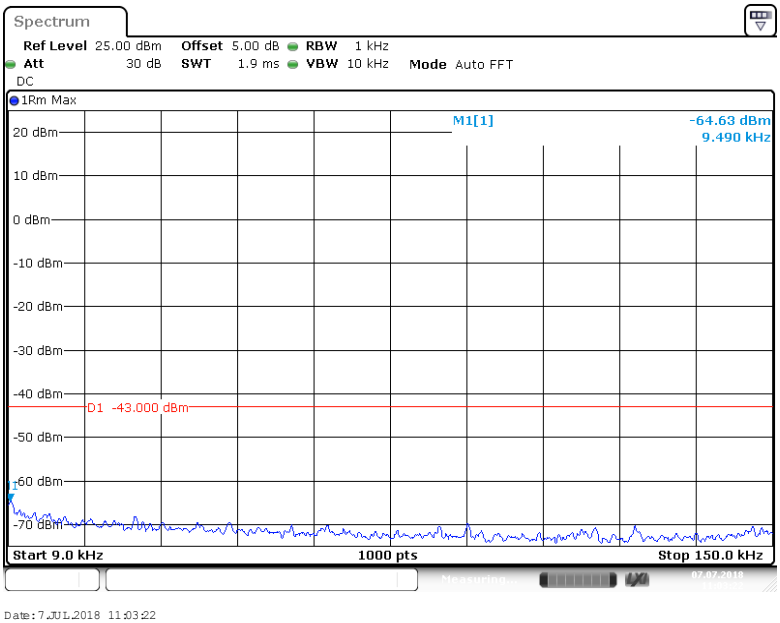
Band II_9262



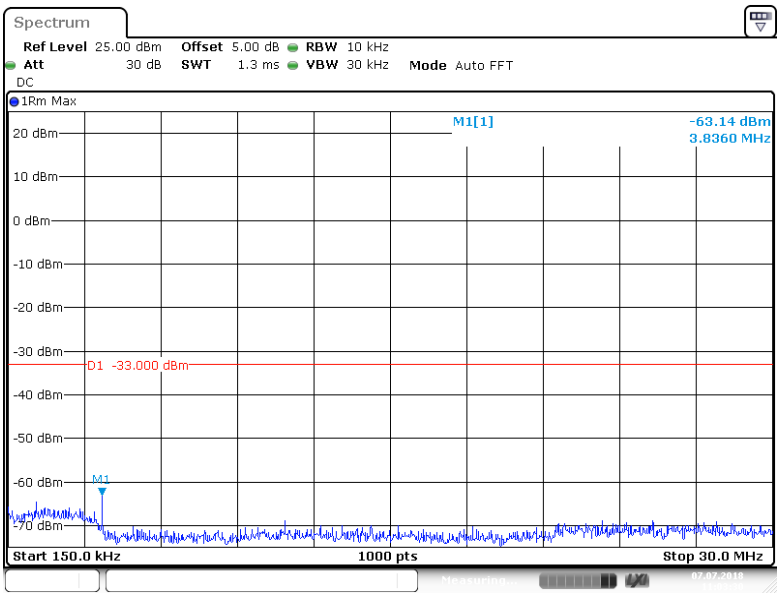
Band II_9262



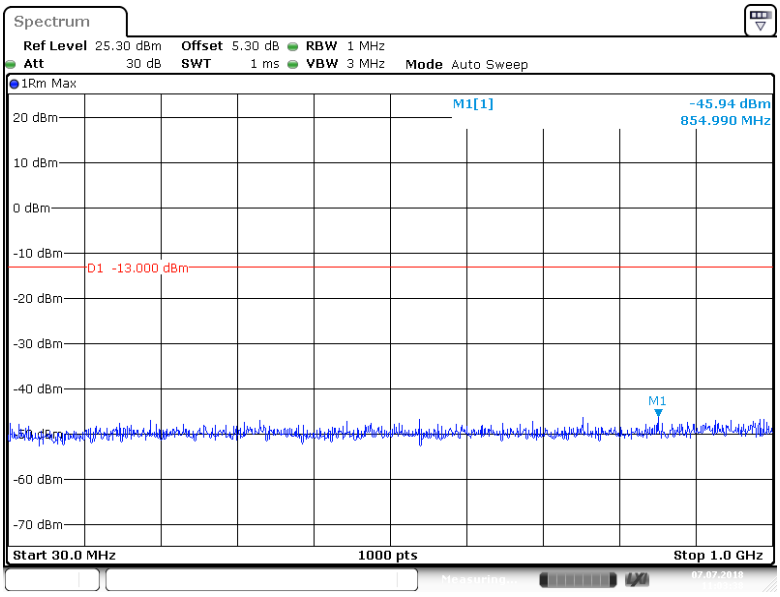
Band II_9262



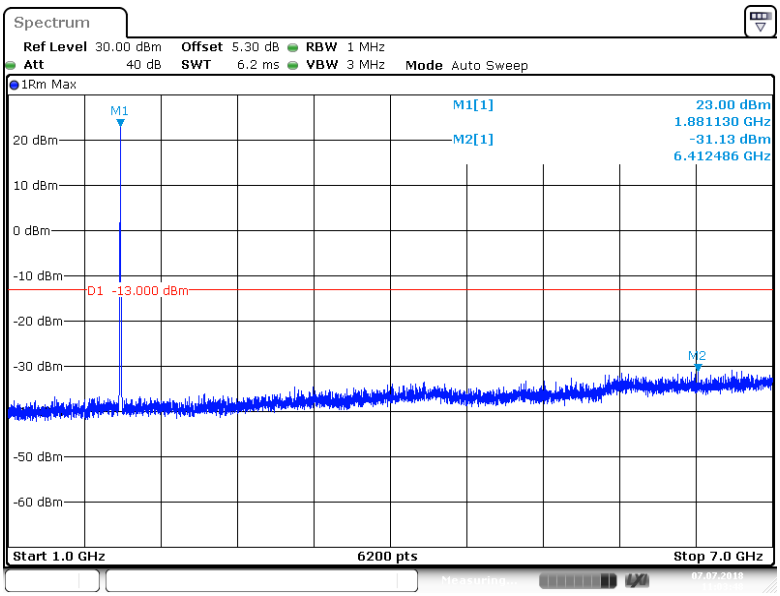
Band II_9400



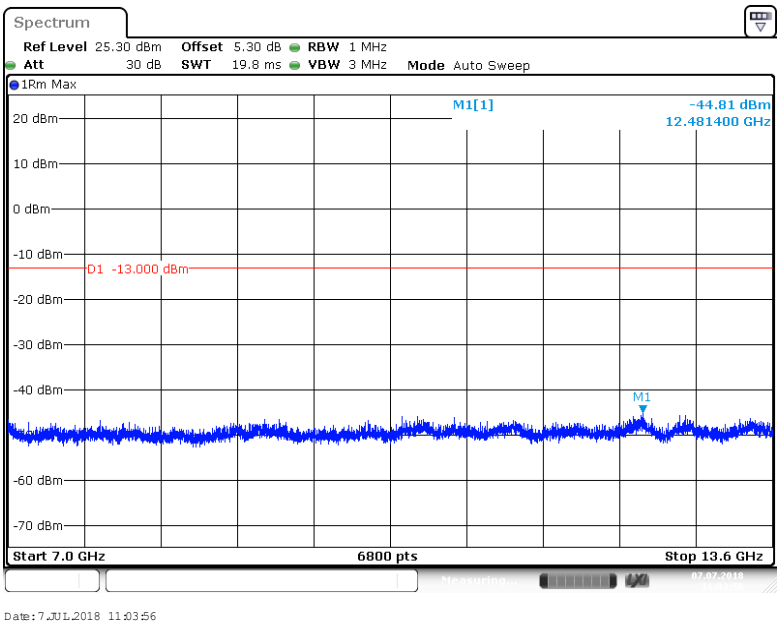
Band II_9400



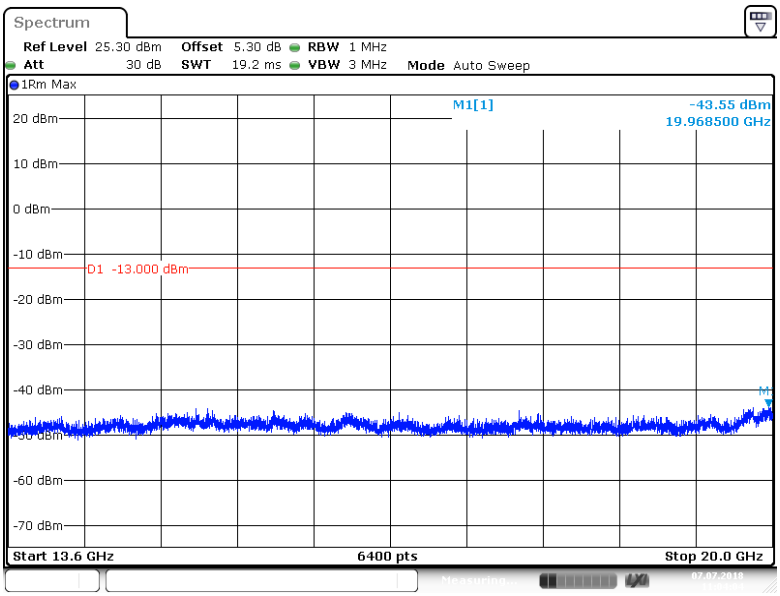
Band II_9400



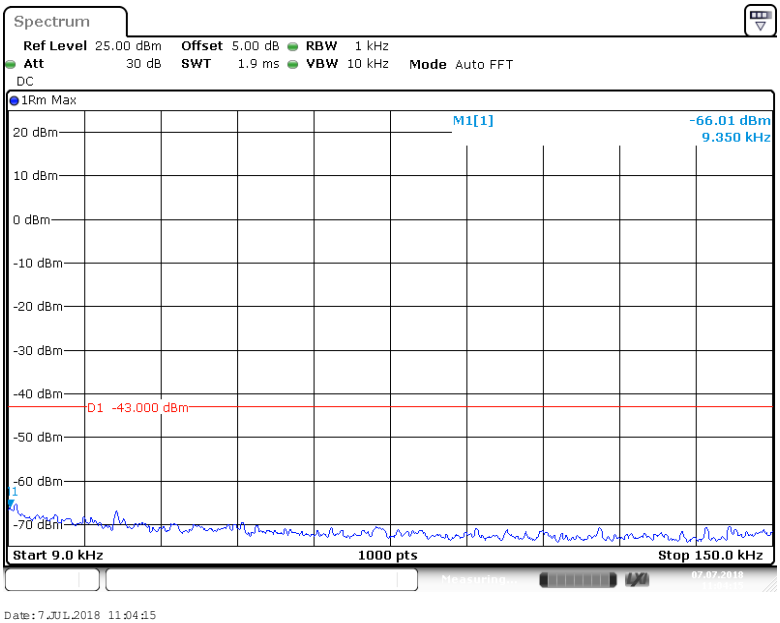
Band II_9400



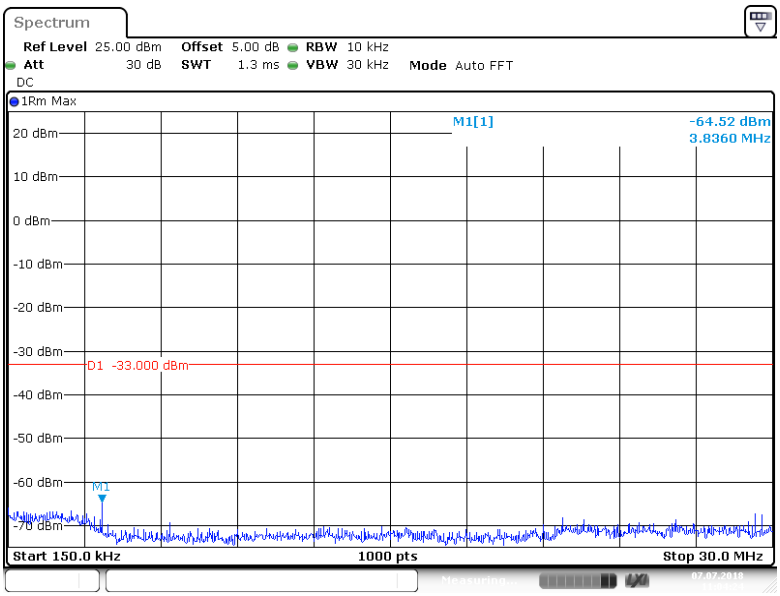
Band II_9400



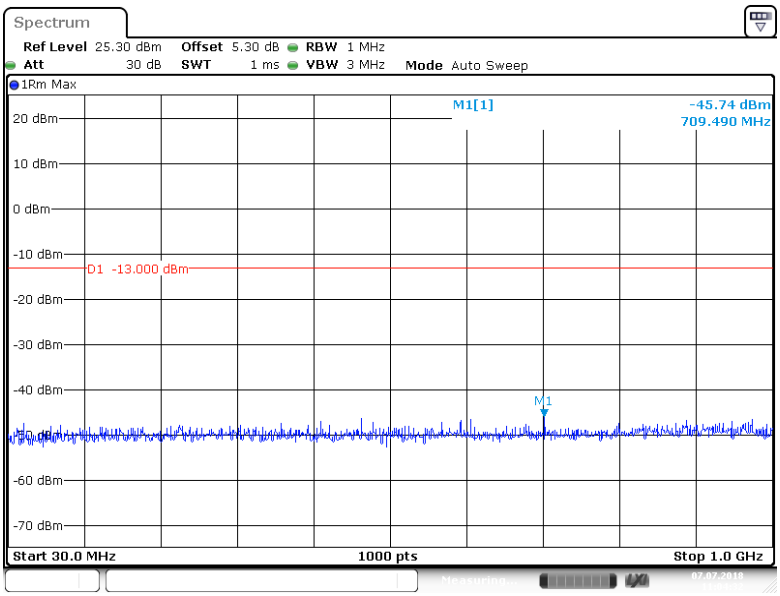
Band II_9400



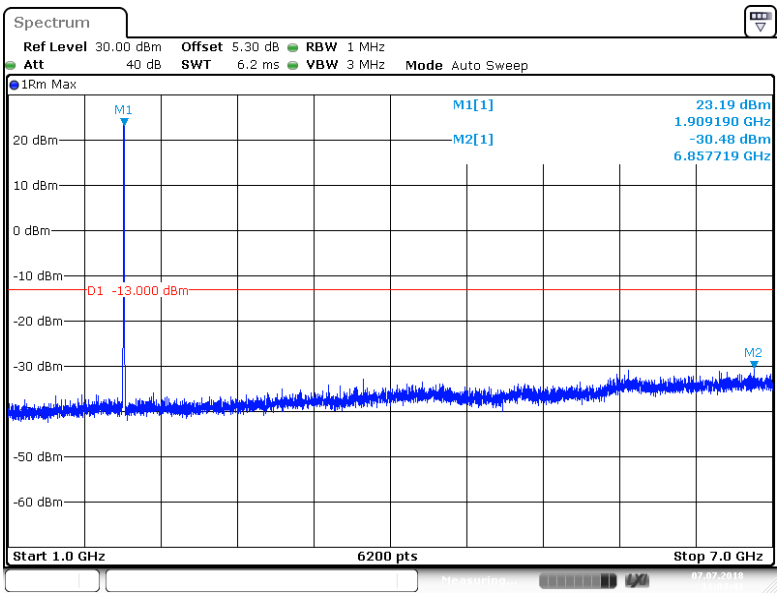
Band II_9538



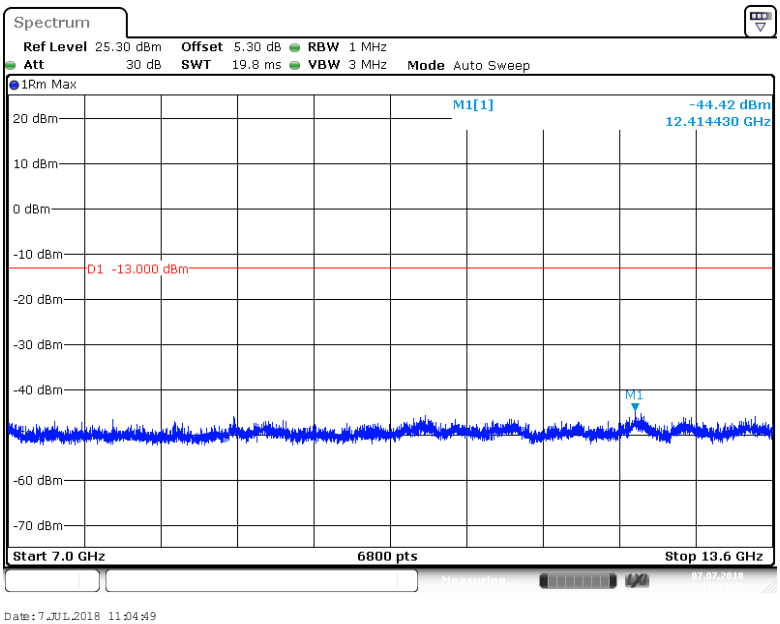
Band II_9538



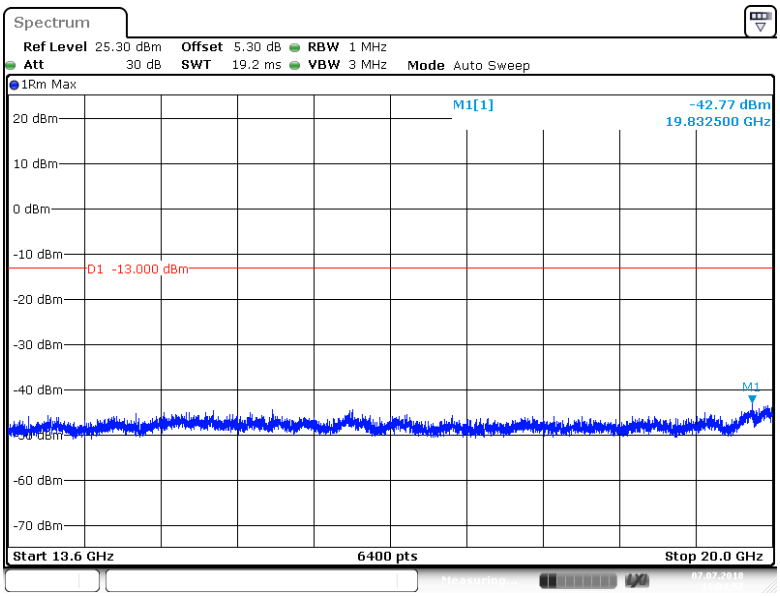
Band II_9538



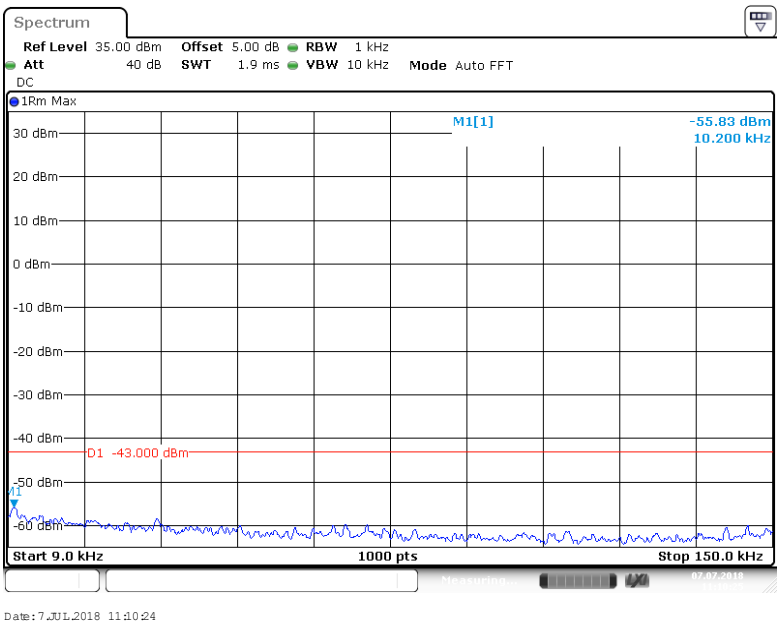
Band II_9538



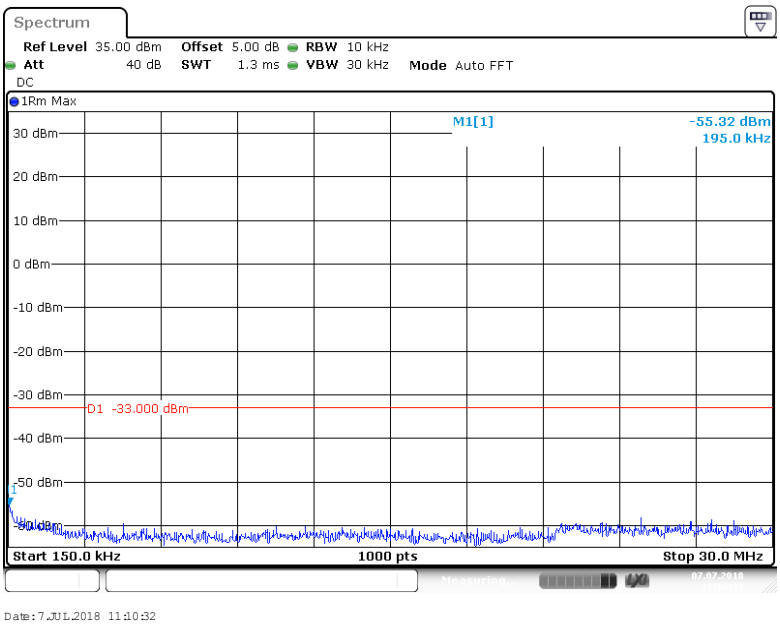
Band II_9538



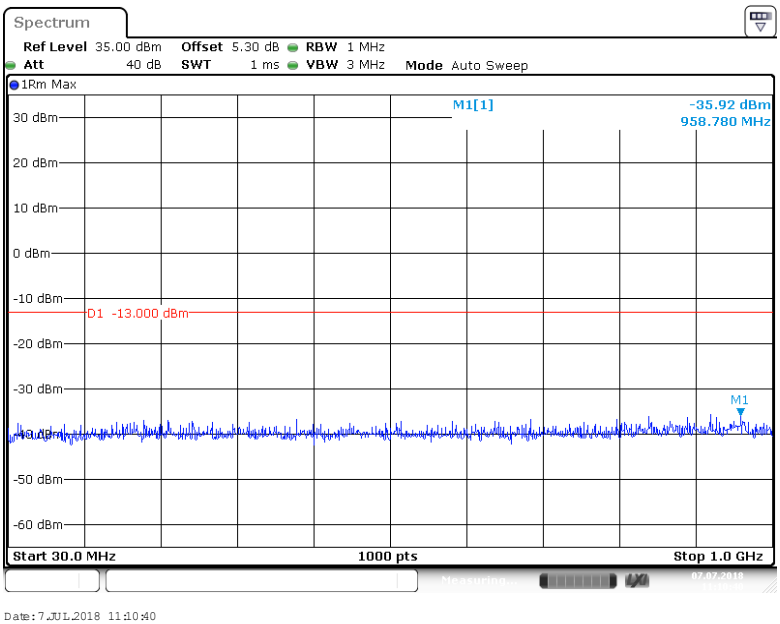
Band II_9538



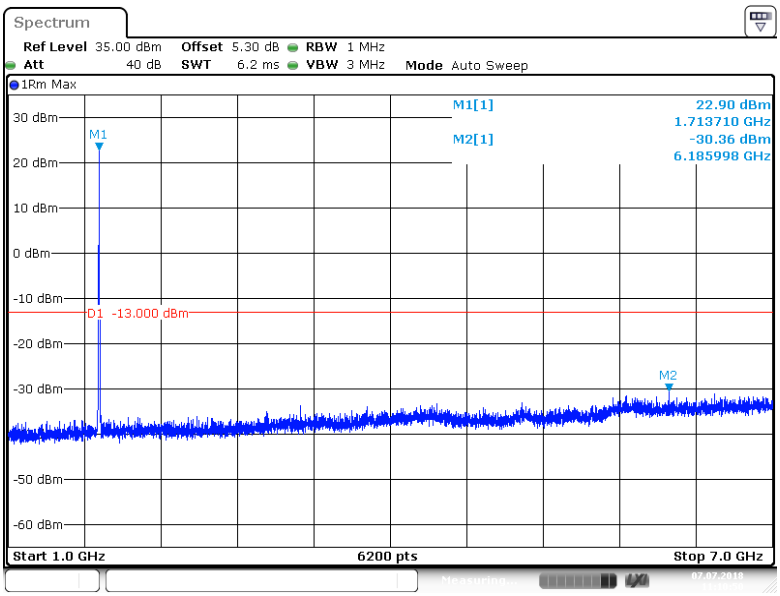
Band IV_1312



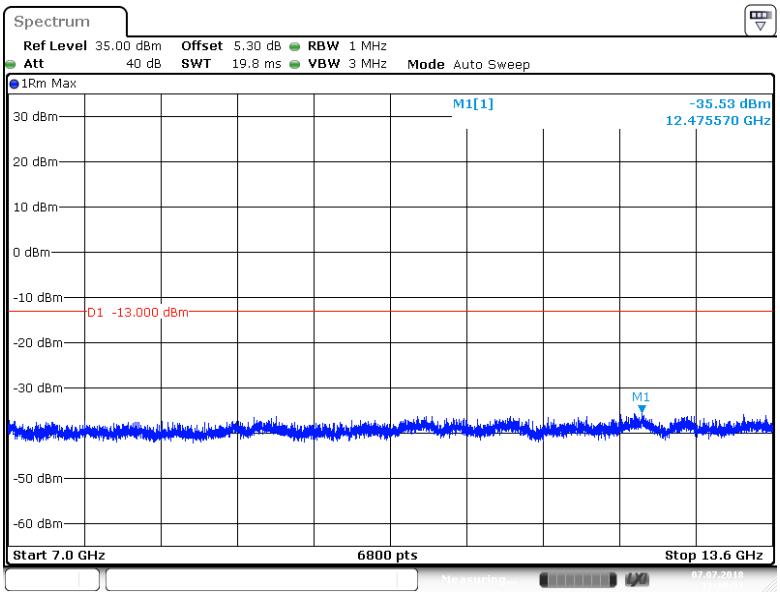
Band IV_1312



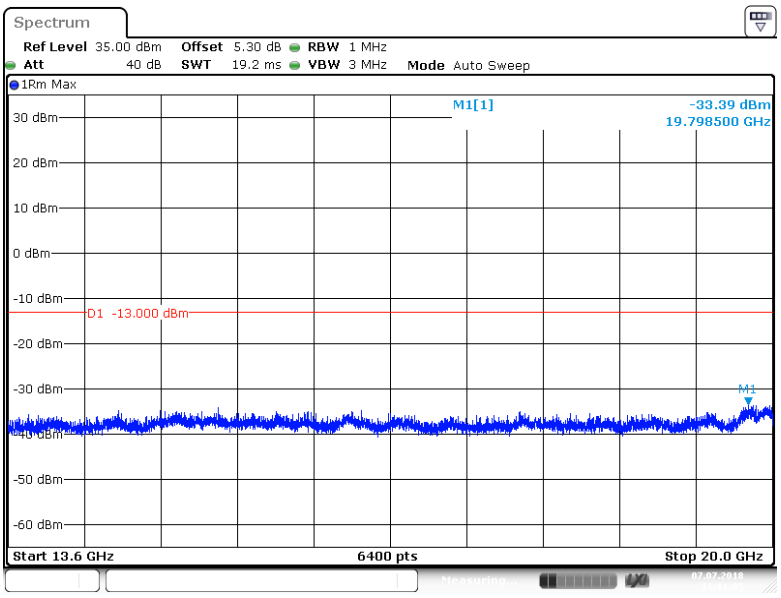
Band IV_1312



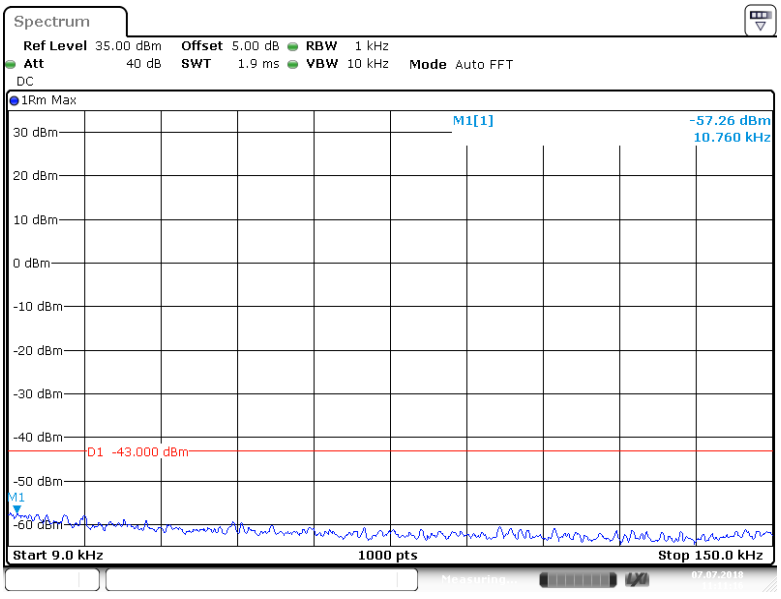
Band IV_1312



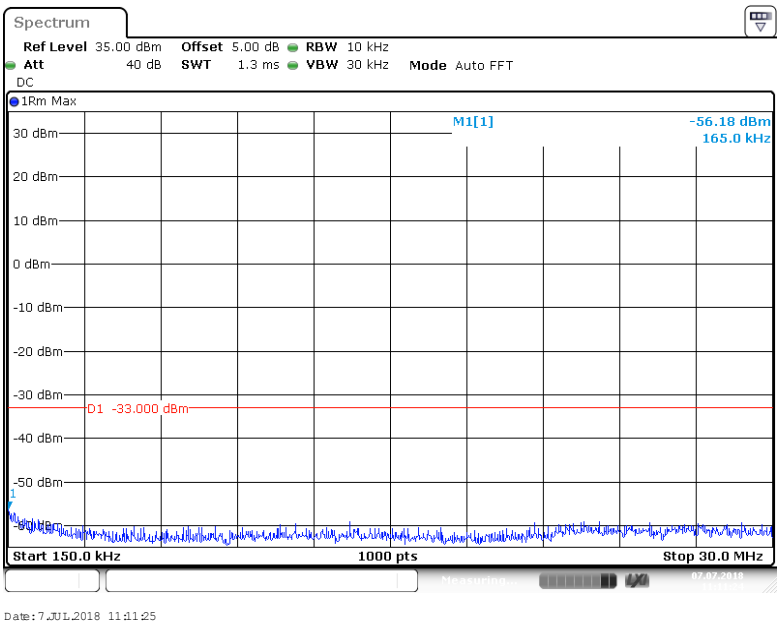
Band IV_1312



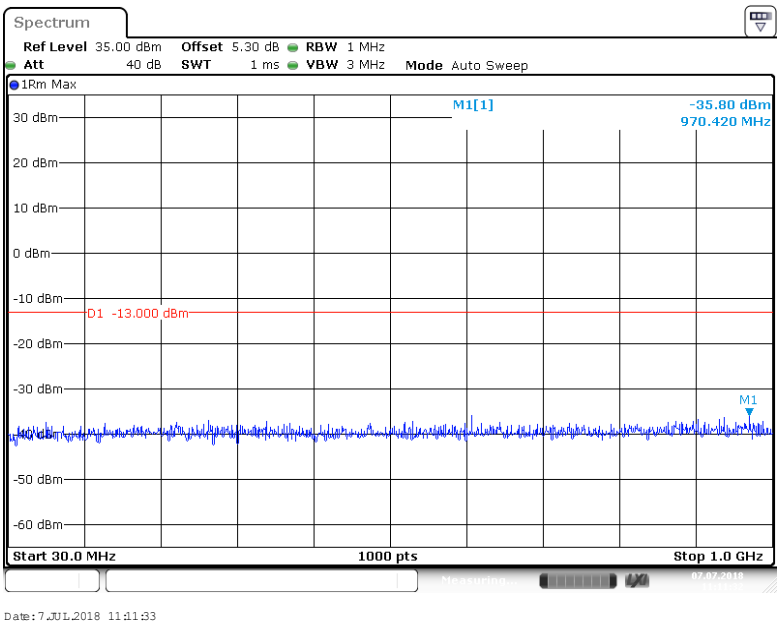
Band IV_1312



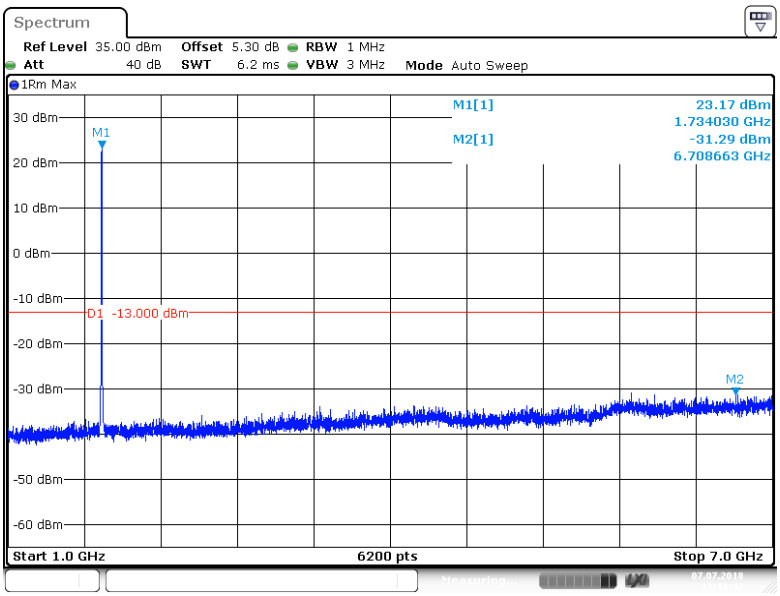
Band IV_1413



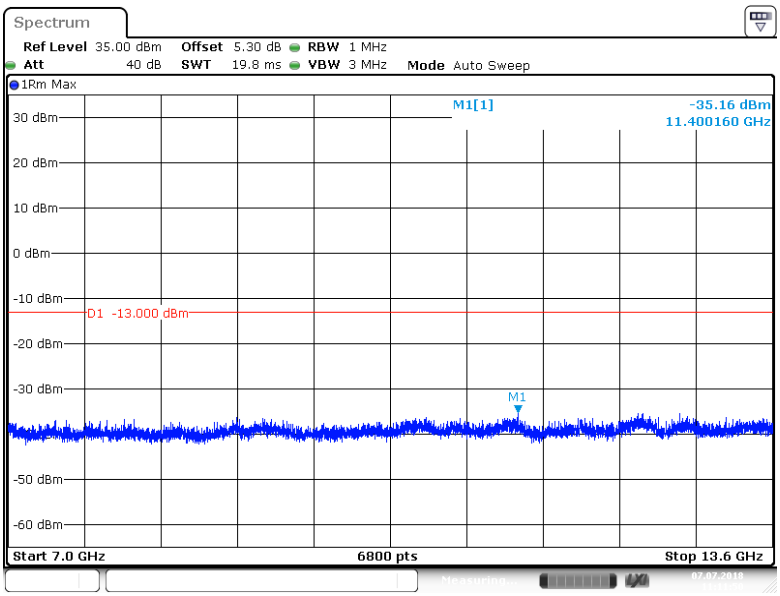
Band IV_1413



Band IV_1413



Band IV_1413



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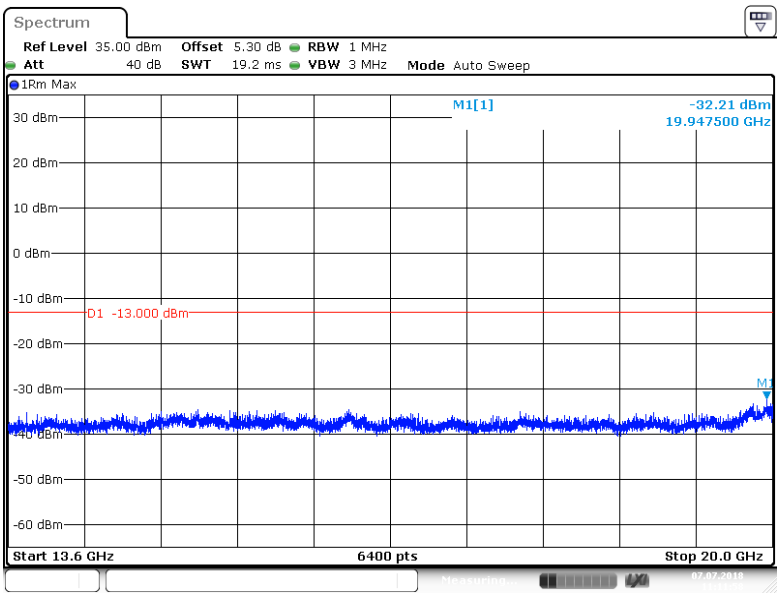
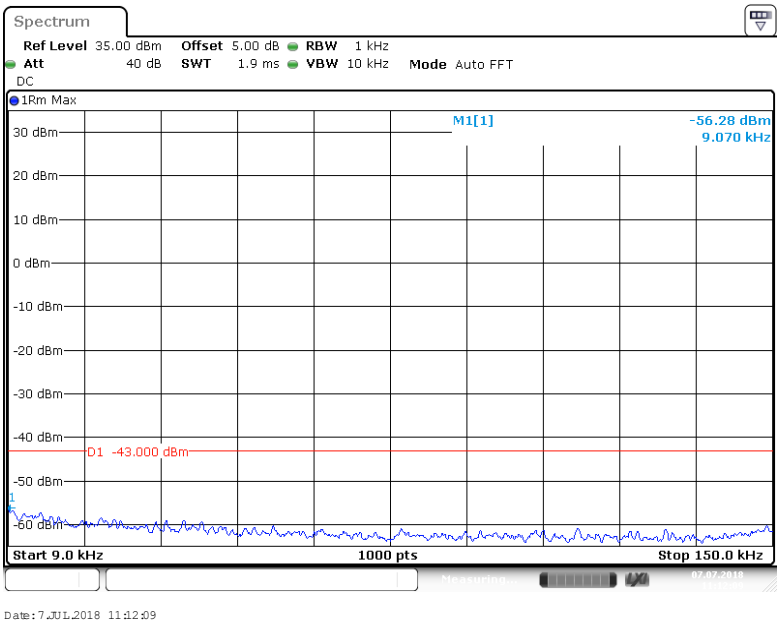
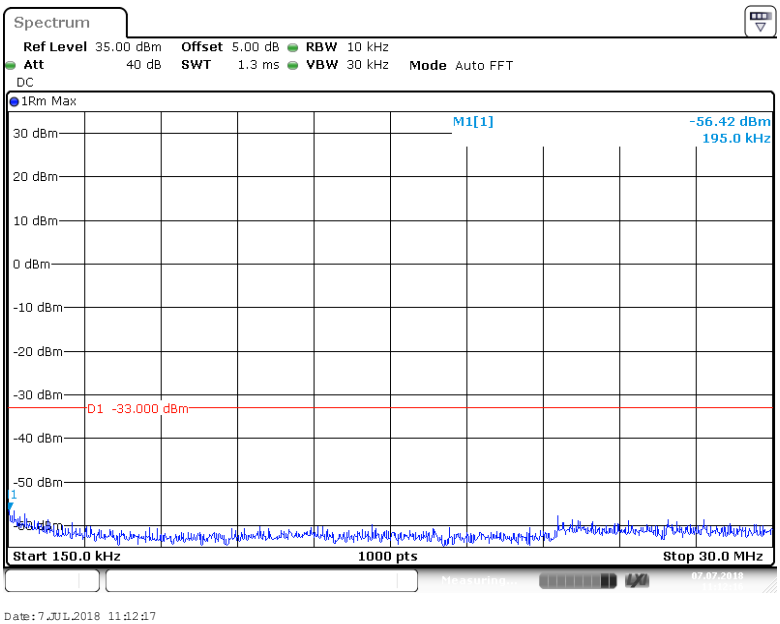


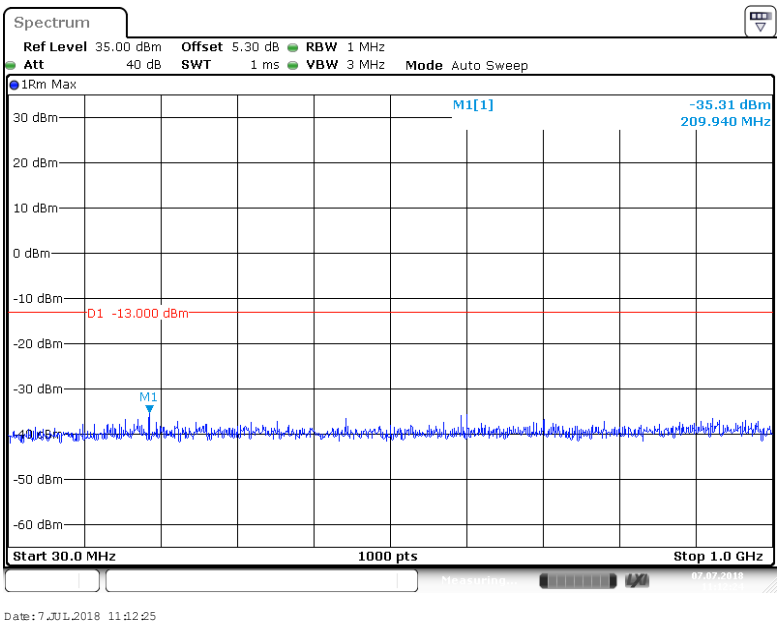
Band IV_1413



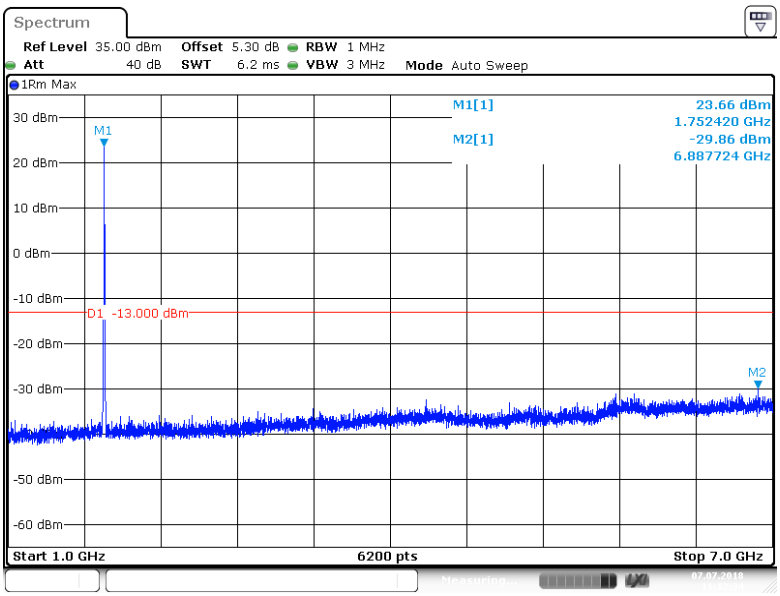
Band IV_1513



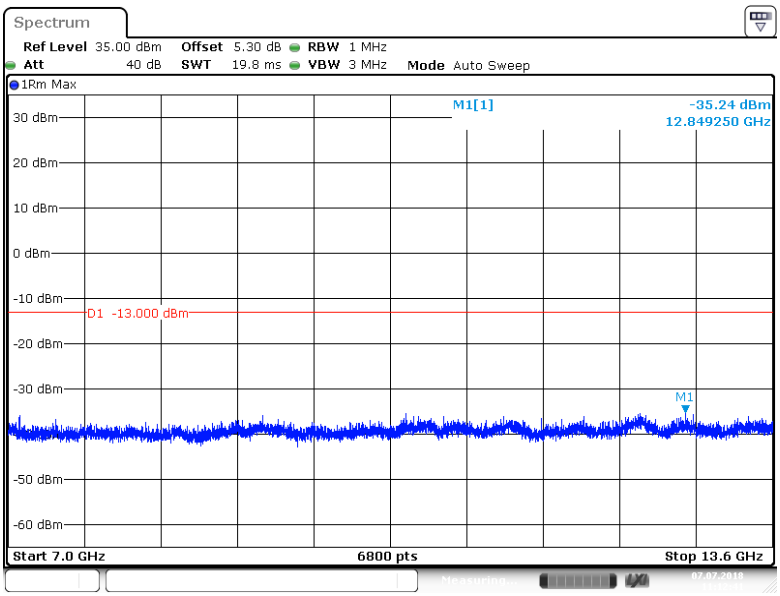
Band IV_1513



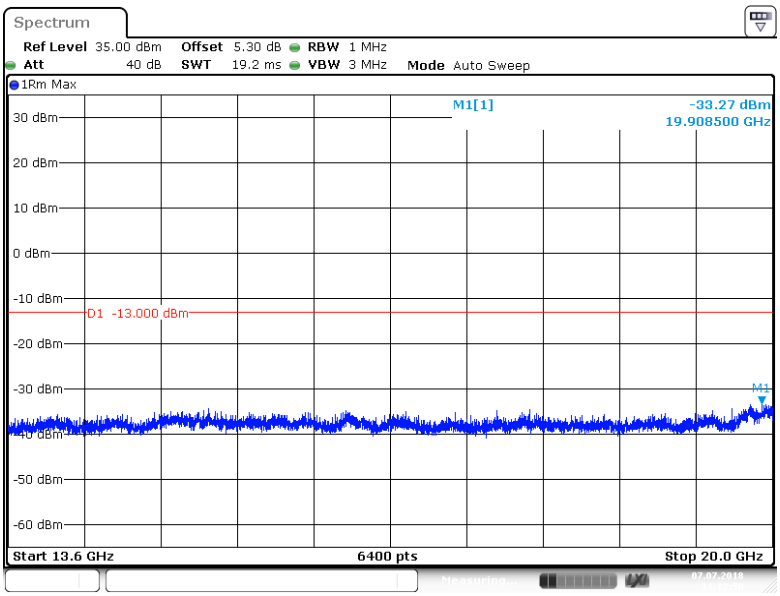
Band IV_1513



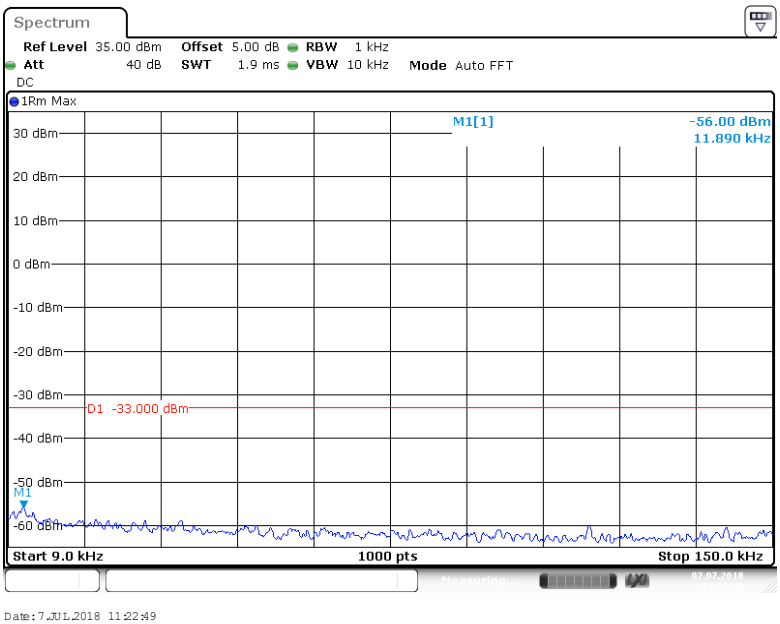
Band IV_1513



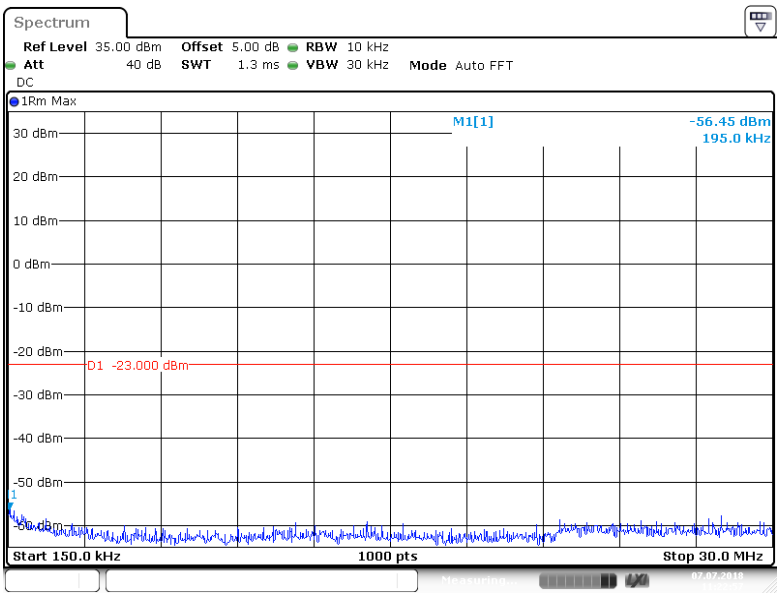
Band IV_1513



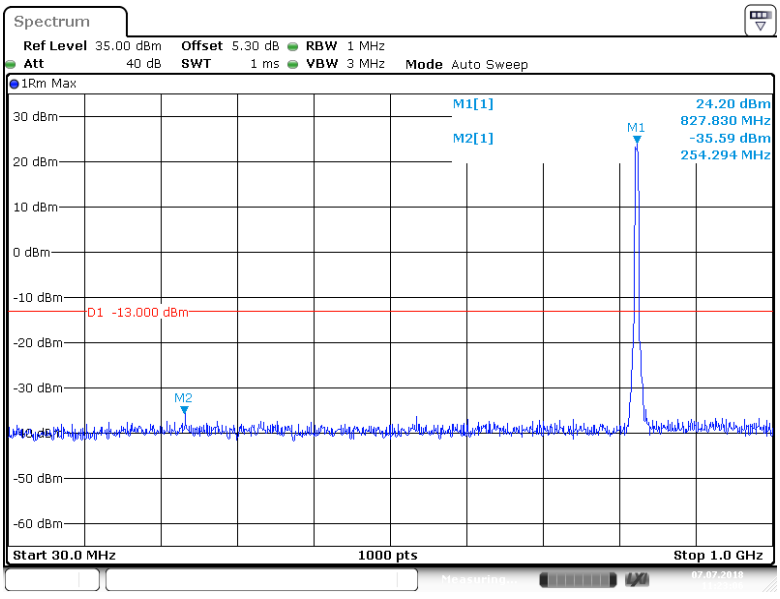
Band IV_1513



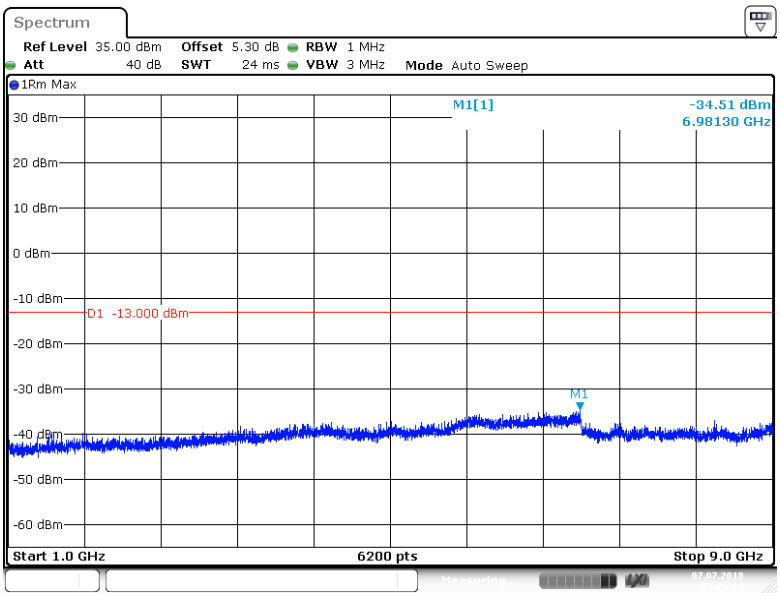
Band V_4132



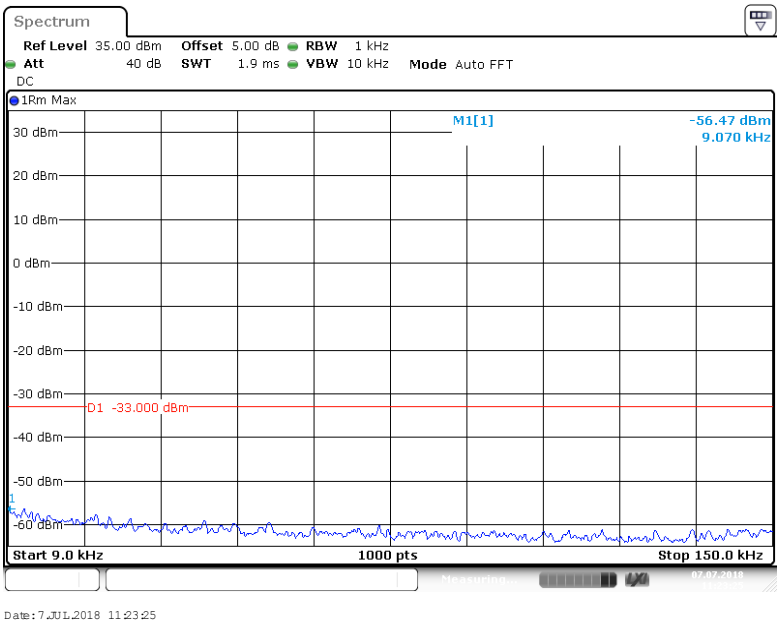
Band V_4132



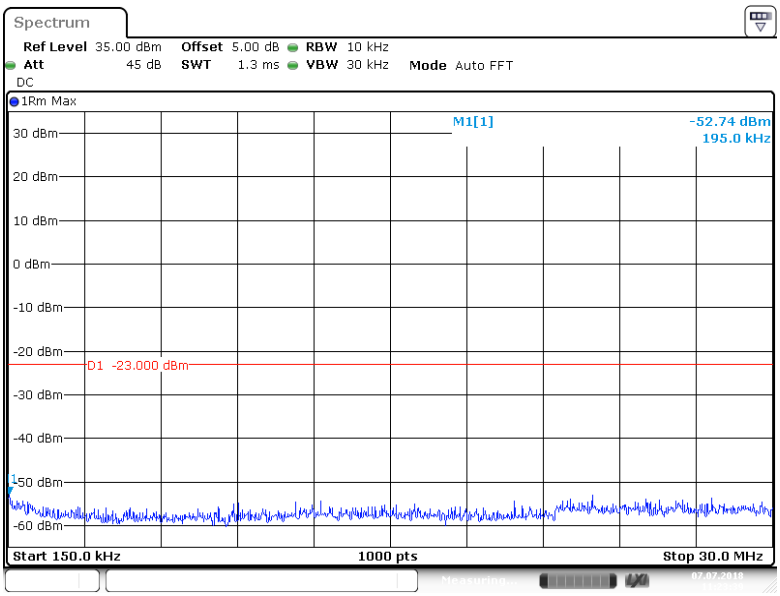
Band V_4132



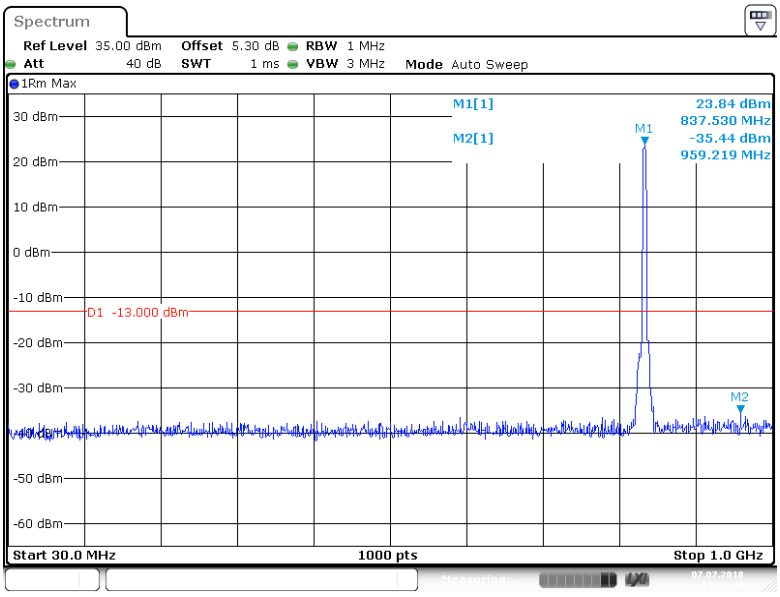
Band V_4132



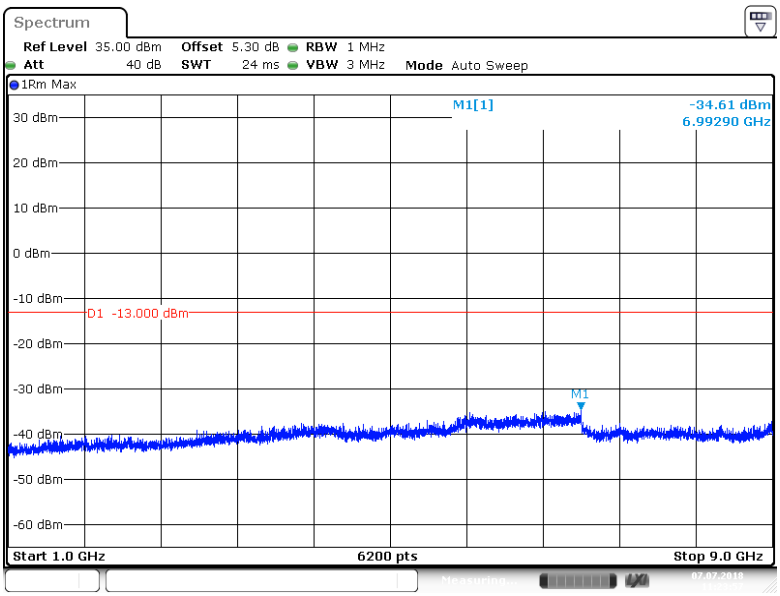
Band V_4182



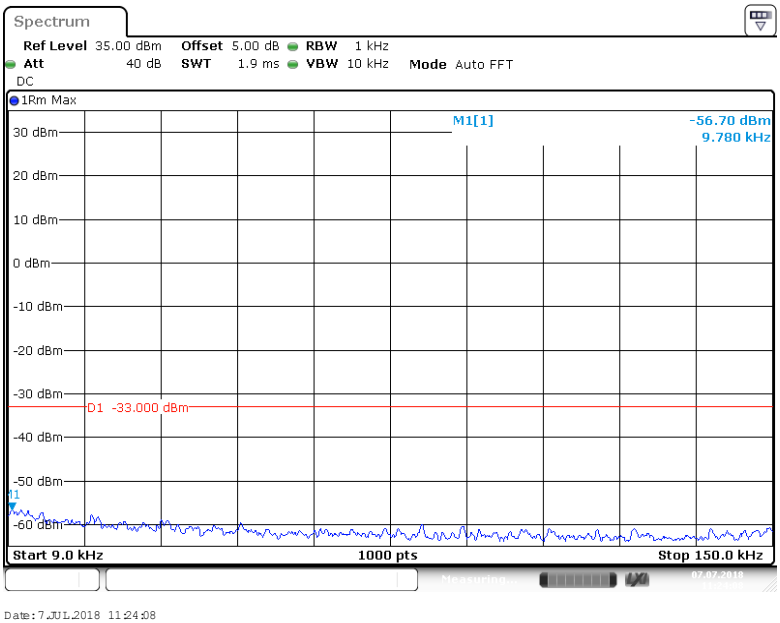
Band V_4182



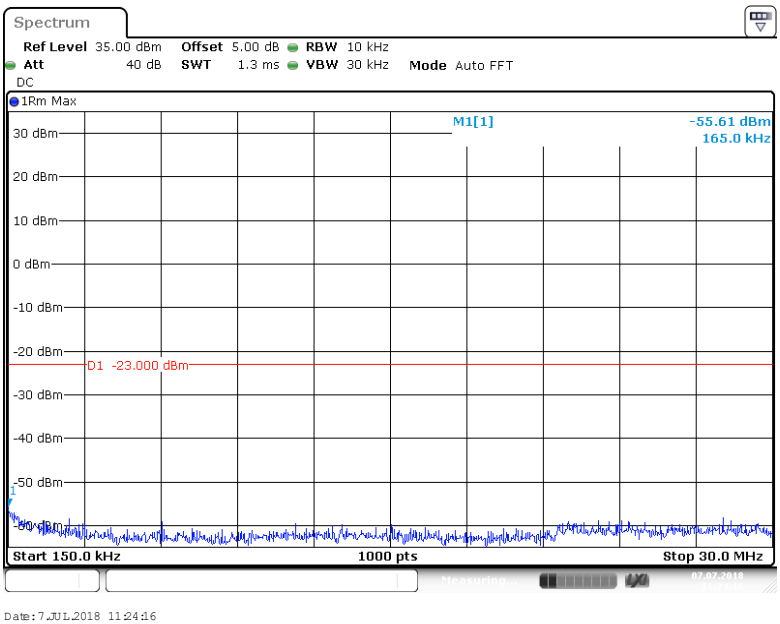
Band V_4182



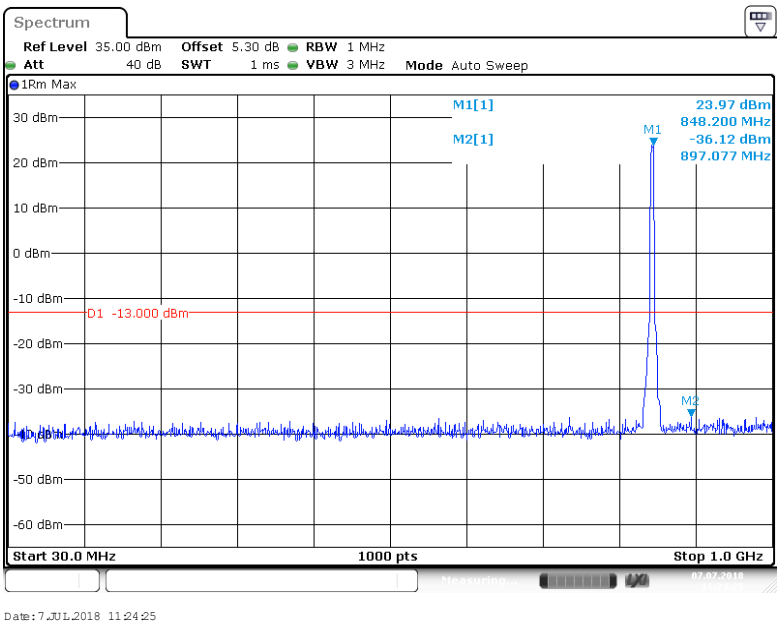
Band V_4182



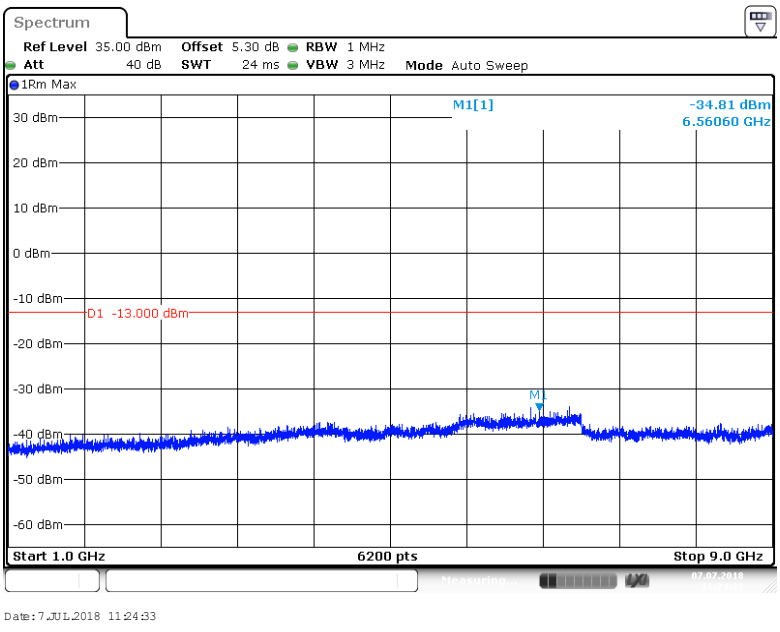
Band V_4233



Band V_4233



Band V_4233



Band V_4233

7. Field Strength of Spurious Radiation

Part I - Test Plots

7.1. For WCDMA

7.1.1. Test Band = WCDMA BAND II

7.1.1.1. Test Mode = UMTS/TM1

7.1.1.1.1. Test Channel = LCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Margin(dB)	Polarization
63.150000	-77.55	-13.00	64.55	Horizontal
144.100000	-90.79	-13.00	77.79	Horizontal
537.587500	-82.36	-13.00	69.36	Horizontal
3706.387500	-63.28	-13.00	50.28	Horizontal
5554.987500	-66.63	-13.00	53.63	Horizontal
7406.512500	-62.47	-13.00	49.47	Horizontal
63.150000	-77.55	-13.00	64.55	Vertical
144.100000	-90.79	-13.00	77.79	Vertical
537.587500	-82.36	-13.00	69.36	Vertical
3706.387500	-63.28	-13.00	50.28	Vertical
5554.987500	-66.63	-13.00	53.63	Vertical
7406.512500	-62.47	-13.00	49.47	Vertical

7.1.1.1.2. Test Channel = MCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Margin(dB)	Polarization
62.450000	-77.69	-13.00	64.69	Horizontal
144.850000	-90.70	-13.00	77.70	Horizontal
537.587500	-82.13	-13.00	69.13	Horizontal
3758.062500	-61.94	-13.00	48.94	Horizontal
5642.737500	-66.64	-13.00	53.64	Horizontal
7515.712500	-65.36	-13.00	52.36	Horizontal

63.600000	-81.06	-13.00	68.06	Vertical
125.000000	-85.26	-13.00	72.26	Vertical
359.600000	-85.31	-13.00	72.31	Vertical
3758.062500	-57.03	-13.00	44.03	Vertical
7517.175000	-63.95	-13.00	50.95	Vertical
10612.312500	-62.73	-13.00	49.73	Vertical

7.1.1.1.3. Test Channel = HCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Margin(dB)	Polarization
62.200000	-78.30	-13.00	65.30	Horizontal
145.600000	-91.33	-13.00	78.33	Horizontal
460.679167	-86.41	-13.00	73.41	Horizontal
3817.050000	-64.48	-13.00	51.48	Horizontal
5725.612500	-65.17	-13.00	52.17	Horizontal
9249.262500	-63.99	-13.00	50.99	Horizontal
64.500000	-82.04	-13.00	69.04	Vertical
125.000000	-85.85	-13.00	72.85	Vertical
330.100000	-86.75	-13.00	73.75	Vertical
3817.050000	-61.54	-13.00	48.54	Vertical
5726.100000	-66.17	-13.00	53.17	Vertical
9239.025000	-64.00	-13.00	51.00	Vertical

7.1.2. Test Band = WCDMA BAND IV

7.1.2.1. Test Mode = UMTS/TM1

7.1.2.1.1. Test Channel = LCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Margin(dB)	Polarization
62.600000	-77.60	-13.00	64.60	Horizontal
274.750000	-87.66	-13.00	74.66	Horizontal
537.587500	-82.98	-13.00	69.98	Horizontal
3423.150000	-52.99	-13.00	39.99	Horizontal

5134.275000	-65.45	-13.00	52.45	Horizontal
6852.712500	-64.95	-13.00	51.95	Horizontal
63.600000	-81.87	-13.00	68.87	Vertical
125.000000	-85.23	-13.00	72.23	Vertical
345.700000	-86.35	-13.00	73.35	Vertical
3423.150000	-52.26	-13.00	39.26	Vertical
5134.275000	-61.95	-13.00	48.95	Vertical
6846.375000	-63.55	-13.00	50.55	Vertical

7.1.2.1.2. Test Channel = MCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Margin(dB)	Polarization
63.150000	-77.62	-13.00	64.62	Horizontal
142.350000	-91.08	-13.00	78.08	Horizontal
537.587500	-81.26	-13.00	68.26	Horizontal
3466.537500	-51.94	-13.00	38.94	Horizontal
5194.725000	-65.65	-13.00	52.65	Horizontal
6934.612500	-64.18	-13.00	51.18	Horizontal
64.250000	-81.90	-13.00	68.90	Vertical
125.000000	-85.66	-13.00	72.66	Vertical
351.300000	-86.36	-13.00	73.36	Vertical
3466.537500	-51.51	-13.00	38.51	Vertical
5194.725000	-61.76	-13.00	48.76	Vertical
6933.150000	-62.95	-13.00	49.95	Vertical

7.1.2.1.3. Test Channel = HCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Margin(dB)	Polarization
63.300000	-78.34	-13.00	65.34	Horizontal
266.450000	-87.66	-13.00	74.66	Horizontal
537.587500	-82.59	-13.00	69.59	Horizontal
3507.000000	-59.40	-13.00	46.40	Horizontal

5261.025000	-66.27	-13.00	53.27	Horizontal
7006.275000	-64.49	-13.00	51.49	Horizontal
64.200000	-82.21	-13.00	69.21	Vertical
125.000000	-85.73	-13.00	72.73	Vertical
338.750000	-86.53	-13.00	73.53	Vertical
3507.000000	-60.09	-13.00	47.09	Vertical
5254.687500	-61.45	-13.00	48.45	Vertical
7007.250000	-63.50	-13.00	50.50	Vertical

7.1.3. Test Band = WCDMA BAND V

7.1.3.1. Test Mode = UMTS/TM1

7.1.3.1.1. Test Channel = LCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Margin(dB)	Polarization
62.300000	-77.85	-13.00	64.85	Horizontal
144.050000	-89.99	-13.00	76.99	Horizontal
422.400000	-83.73	-13.00	70.73	Horizontal
1654.500000	-57.08	-13.00	44.08	Horizontal
2444.000000	-56.46	-13.00	43.46	Horizontal
4136.362500	-56.99	-13.00	43.99	Horizontal
63.450000	-82.39	-13.00	69.39	Vertical
125.000000	-85.57	-13.00	72.57	Vertical
344.250000	-85.99	-13.00	72.99	Vertical
1654.500000	-61.40	-13.00	48.40	Vertical
2613.500000	-53.54	-13.00	40.54	Vertical
4136.362500	-61.06	-13.00	48.06	Vertical

7.1.3.1.2. Test Channel = MCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Margin(dB)	Polarization
63.050000	-78.03	-13.00	65.03	Horizontal
265.850000	-87.98	-13.00	74.98	Horizontal
537.587500	-80.04	-13.00	67.04	Horizontal

1674.500000	-61.76	-13.00	48.76	Horizontal
3342.225000	-68.96	-13.00	55.96	Horizontal
4186.087500	-58.64	-13.00	45.64	Horizontal
64.950000	-81.83	-13.00	68.83	Vertical
125.000000	-85.83	-13.00	72.83	Vertical
1674.500000	-62.57	-13.00	49.57	Vertical
2751.000000	-57.96	-13.00	44.96	Vertical
4186.087500	-62.52	-13.00	49.52	Vertical

7.1.3.1.3. Test Channel = HCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Margin(dB)	Polarization
62.700000	-77.62	-13.00	64.62	Horizontal
143.350000	-90.16	-13.00	77.16	Horizontal
537.587500	-79.84	-13.00	66.84	Horizontal
1691.500000	-58.03	-13.00	45.03	Horizontal
3382.687500	-68.86	-13.00	55.86	Horizontal
4228.012500	-62.87	-13.00	49.87	Horizontal
63.350000	-82.25	-13.00	69.25	Vertical
125.000000	-85.13	-13.00	72.13	Vertical
324.550000	-86.74	-13.00	73.74	Vertical
1691.500000	-59.74	-13.00	46.74	Vertical
2596.500000	-52.05	-13.00	39.05	Vertical
4228.012500	-64.38	-13.00	51.38	Vertical

NOTE:

1) The disturbance above 13GHz and below 30MHz was very low, and the above harmonics were the highest point could be found when testing, so only the above harmonics had been displayed.

2) We have tested all modulation and channels, but only the worst case data was displayed in this report.

8. Frequency Stability

8.1. Frequency Vs Voltage

Voltage							
BAND	Channel	Voltage (Vdc)	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
Band II	9262	VL	TN	4.13	0.002232	2.5	PASS
Band II	9262	VN	TN	6.52	0.003521	2.5	PASS
Band II	9262	VH	TN	6.19	0.003340	2.5	PASS
Band II	9400	VL	TN	-2.35	-0.001252	2.5	PASS
Band II	9400	VN	TN	2.29	0.001217	2.5	PASS
Band II	9400	VH	TN	-0.45	-0.000240	2.5	PASS
Band II	9538	VL	TN	-4.53	-0.002373	2.5	PASS
Band II	9538	VN	TN	-5.06	-0.002655	2.5	PASS
Band II	9538	VH	TN	-4.70	-0.002463	2.5	PASS
Band IV	1312	VL	TN	14.27	0.008333	2.5	PASS
Band IV	1312	VN	TN	12.30	0.007180	2.5	PASS
Band IV	1312	VH	TN	14.50	0.008467	2.5	PASS
Band IV	1413	VL	TN	2.62	0.001511	2.5	PASS
Band IV	1413	VN	TN	1.28	0.000739	2.5	PASS
Band IV	1413	VH	TN	0.38	0.000219	2.5	PASS
Band IV	1513	VL	TN	-13.78	-0.007864	2.5	PASS
Band IV	1513	VN	TN	-14.30	-0.008158	2.5	PASS
Band IV	1513	VH	TN	-14.93	-0.008517	2.5	PASS
Band V	4132	VL	TN	-1.17	-0.001419	2.5	PASS
Band V	4132	VN	TN	0.95	0.001151	2.5	PASS
Band V	4132	VH	TN	3.29	0.003981	2.5	PASS
Band V	4182	VL	TN	-1.21	-0.001445	2.5	PASS
Band V	4182	VN	TN	-2.49	-0.002976	2.5	PASS
Band V	4182	VH	TN	1.77	0.002121	2.5	PASS
Band V	4233	VL	TN	-3.40	-0.004022	2.5	PASS
Band V	4233	VN	TN	-1.99	-0.002349	2.5	PASS
Band V	4233	VH	TN	-4.11	-0.004849	2.5	PASS

8.2. Frequency Vs Temperature

Temperature							
BAND	Channel	Voltage (Vdc)	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
Band II	9262	VN	-30	2.30	0.001243	2.5	PASS
Band II	9262	VN	-20	0.81	0.000436	2.5	PASS
Band II	9262	VN	-10	-0.52	-0.000282	2.5	PASS
Band II	9262	VN	0	-0.28	-0.000151	2.5	PASS
Band II	9262	VN	10	7.13	0.003850	2.5	PASS
Band II	9262	VN	20	3.82	0.002062	2.5	PASS
Band II	9262	VN	30	7.77	0.004197	2.5	PASS
Band II	9262	VN	40	5.86	0.003162	2.5	PASS
Band II	9262	VN	50	8.23	0.004444	2.5	PASS
Band II	9400	VN	-30	-1.07	-0.000571	2.5	PASS
Band II	9400	VN	-20	1.90	0.001012	2.5	PASS
Band II	9400	VN	-10	-3.04	-0.001617	2.5	PASS
Band II	9400	VN	0	-0.57	-0.000301	2.5	PASS
Band II	9400	VN	10	-3.40	-0.001811	2.5	PASS
Band II	9400	VN	20	-0.56	-0.000297	2.5	PASS
Band II	9400	VN	30	0.03	0.000015	2.5	PASS
Band II	9400	VN	40	1.12	0.000597	2.5	PASS
Band II	9400	VN	50	-1.39	-0.000742	2.5	PASS
Band II	9538	VN	-30	-5.50	-0.002883	2.5	PASS
Band II	9538	VN	-20	-5.86	-0.003071	2.5	PASS
Band II	9538	VN	-10	-4.65	-0.002437	2.5	PASS
Band II	9538	VN	0	-4.57	-0.002396	2.5	PASS
Band II	9538	VN	10	-3.24	-0.001699	2.5	PASS
Band II	9538	VN	20	-4.65	-0.002437	2.5	PASS
Band II	9538	VN	30	-4.74	-0.002486	2.5	PASS
Band II	9538	VN	40	-4.64	-0.002433	2.5	PASS
Band II	9538	VN	50	-3.73	-0.001953	2.5	PASS
Band IV	1312	VN	-30	13.78	0.008045	2.5	PASS
Band IV	1312	VN	-20	13.21	0.007715	2.5	PASS
Band IV	1312	VN	-10	14.55	0.008496	2.5	PASS
Band IV	1312	VN	0	14.67	0.008567	2.5	PASS
Band IV	1312	VN	10	13.08	0.007640	2.5	PASS
Band IV	1312	VN	20	14.88	0.008692	2.5	PASS
Band IV	1312	VN	30	15.98	0.009331	2.5	PASS
Band IV	1312	VN	40	15.05	0.008788	2.5	PASS

Band IV	1312	VN	50	15.47	0.009035	2.5	PASS
Band IV	1413	VN	-30	-1.54	-0.000888	2.5	PASS
Band IV	1413	VN	-20	3.45	0.001990	2.5	PASS
Band IV	1413	VN	-10	0.59	0.000339	2.5	PASS
Band IV	1413	VN	0	2.83	0.001631	2.5	PASS
Band IV	1413	VN	10	3.38	0.001949	2.5	PASS
Band IV	1413	VN	20	4.06	0.002345	2.5	PASS
Band IV	1413	VN	30	2.67	0.001540	2.5	PASS
Band IV	1413	VN	40	-1.29	-0.000747	2.5	PASS
Band IV	1413	VN	50	1.85	0.001065	2.5	PASS
Band IV	1513	VN	-30	-12.06	-0.006881	2.5	PASS
Band IV	1513	VN	-20	-12.60	-0.007191	2.5	PASS
Band IV	1513	VN	-10	-13.85	-0.007901	2.5	PASS
Band IV	1513	VN	0	-13.62	-0.007770	2.5	PASS
Band IV	1513	VN	10	-13.63	-0.007775	2.5	PASS
Band IV	1513	VN	20	-13.29	-0.007583	2.5	PASS
Band IV	1513	VN	30	-14.33	-0.008179	2.5	PASS
Band IV	1513	VN	40	-14.84	-0.008468	2.5	PASS
Band IV	1513	VN	50	-15.12	-0.008627	2.5	PASS
Band V	4132	VN	-30	2.62	0.003176	2.5	PASS
Band V	4132	VN	-20	0.15	0.000182	2.5	PASS
Band V	4132	VN	-10	1.10	0.001333	2.5	PASS
Band V	4132	VN	0	2.07	0.002501	2.5	PASS
Band V	4132	VN	10	2.60	0.003150	2.5	PASS
Band V	4132	VN	20	0.43	0.000519	2.5	PASS
Band V	4132	VN	30	2.29	0.002770	2.5	PASS
Band V	4132	VN	40	1.09	0.001316	2.5	PASS
Band V	4132	VN	50	0.28	0.000338	2.5	PASS
Band V	4182	VN	-30	2.11	0.002523	2.5	PASS
Band V	4182	VN	-20	-2.26	-0.002702	2.5	PASS
Band V	4182	VN	-10	-2.34	-0.002796	2.5	PASS
Band V	4182	VN	0	1.28	0.001531	2.5	PASS
Band V	4182	VN	10	-0.51	-0.000607	2.5	PASS
Band V	4182	VN	20	3.13	0.003746	2.5	PASS
Band V	4182	VN	30	-1.59	-0.001898	2.5	PASS
Band V	4182	VN	40	2.37	0.002839	2.5	PASS
Band V	4182	VN	50	0.65	0.000778	2.5	PASS
Band V	4233	VN	-30	-1.47	-0.001740	2.5	PASS
Band V	4233	VN	-20	-1.04	-0.001225	2.5	PASS
Band V	4233	VN	-10	-2.90	-0.003422	2.5	PASS

Band V	4233	VN	0	-3.33	-0.003937	2.5	PASS
Band V	4233	VN	10	-0.30	-0.000355	2.5	PASS
Band V	4233	VN	20	-3.41	-0.004030	2.5	PASS
Band V	4233	VN	30	-3.63	-0.004283	2.5	PASS
Band V	4233	VN	40	-3.18	-0.003751	2.5	PASS
Band V	4233	VN	50	-2.27	-0.002678	2.5	PASS

The End