

7.7 CONDUCTED SPURIOUS EMISSIONS

Limits

The power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) by at least $43 + 10 \log_{10}(P)$ dB. The limit of emission equal to -13dBm

Test Procedures

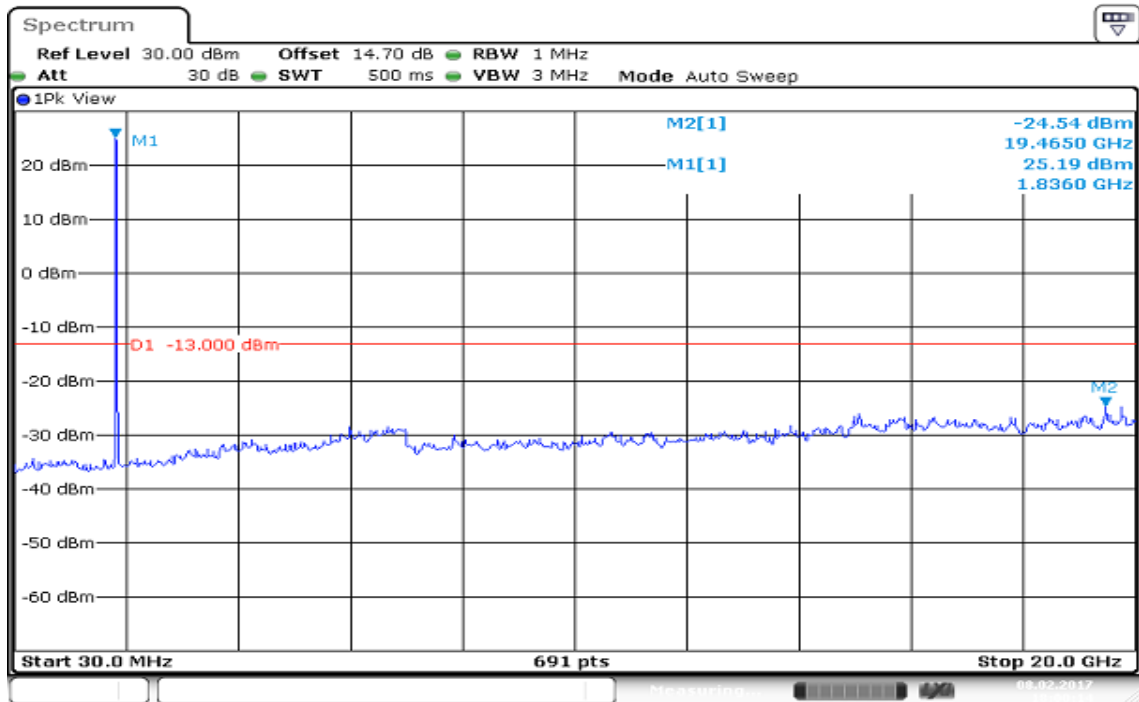
1. According to KDB 971168 D01, section 6.0
2. The EUT was connect to spectrum analyzer and call box.
3. The RF output of EUT was connected to the spectrum analyzer.
4. Set the spectrum analyzer , RBW=1MHz, VBW=3MHz.
5. Record the maximum spurious emission.
6. The fundamental frequency should be excluded against the limit in operating band.

Test Results

LTE Band 2

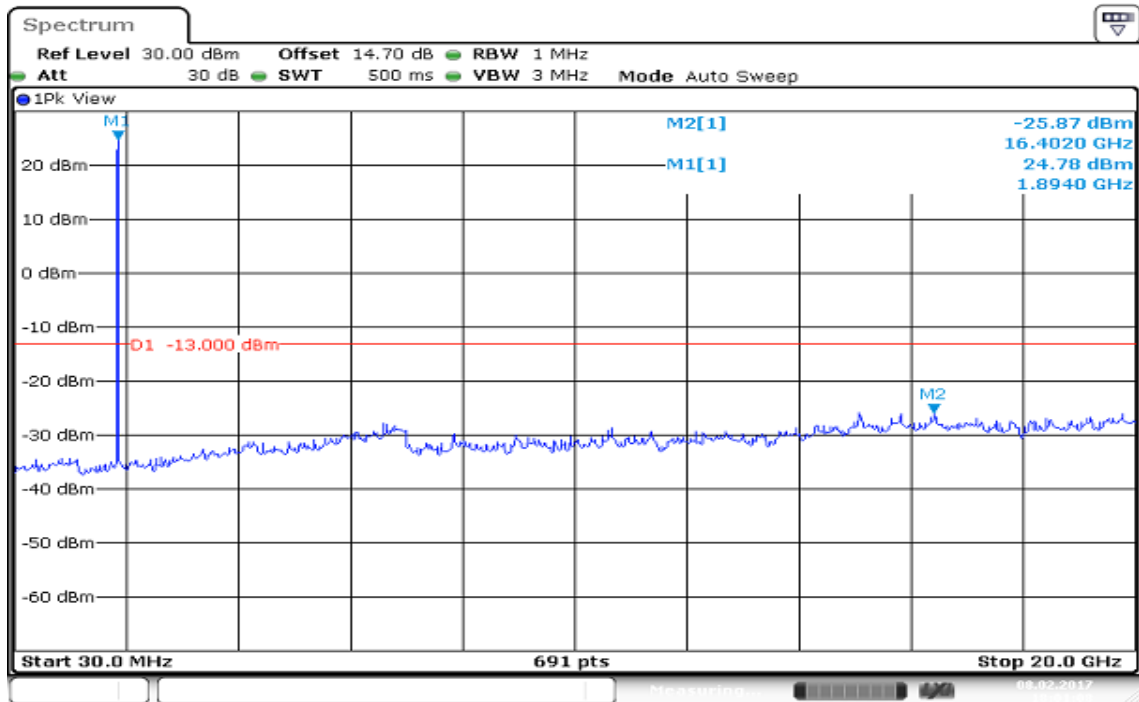
BW: 1.4MHz / QPSK / RB =1, RB Offset = 0

CH Low



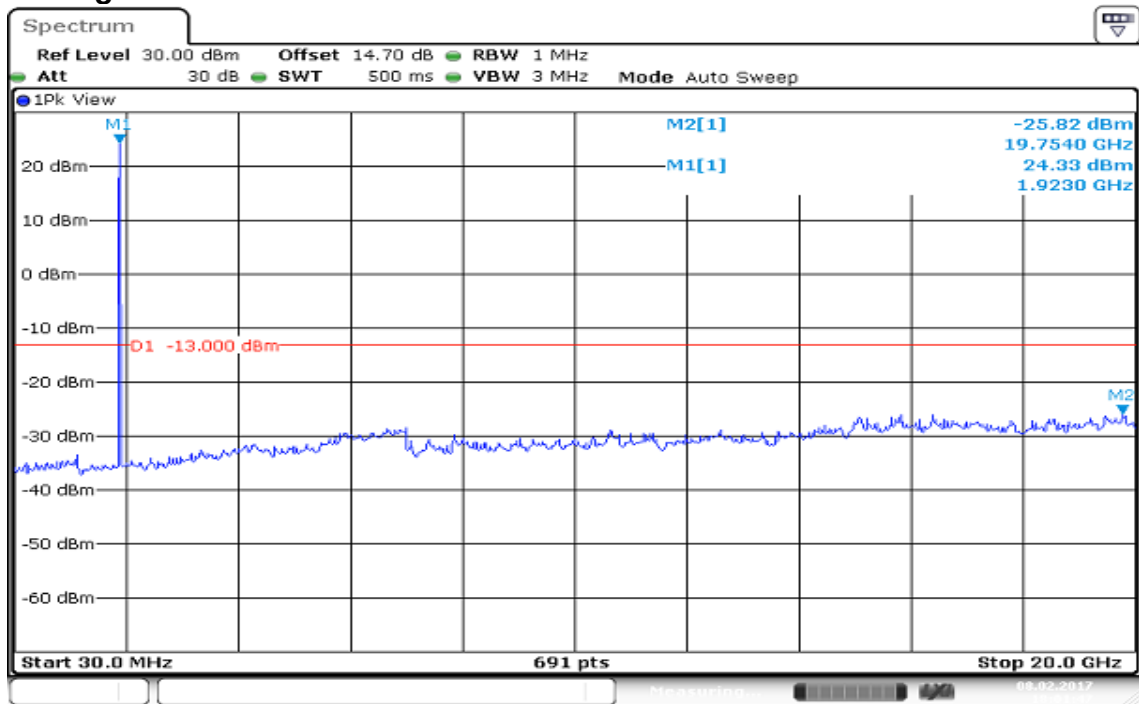
Date: 8.FEB.2017 18:00:14

CH Mid



Date: 8.FEB.2017 18:01:08

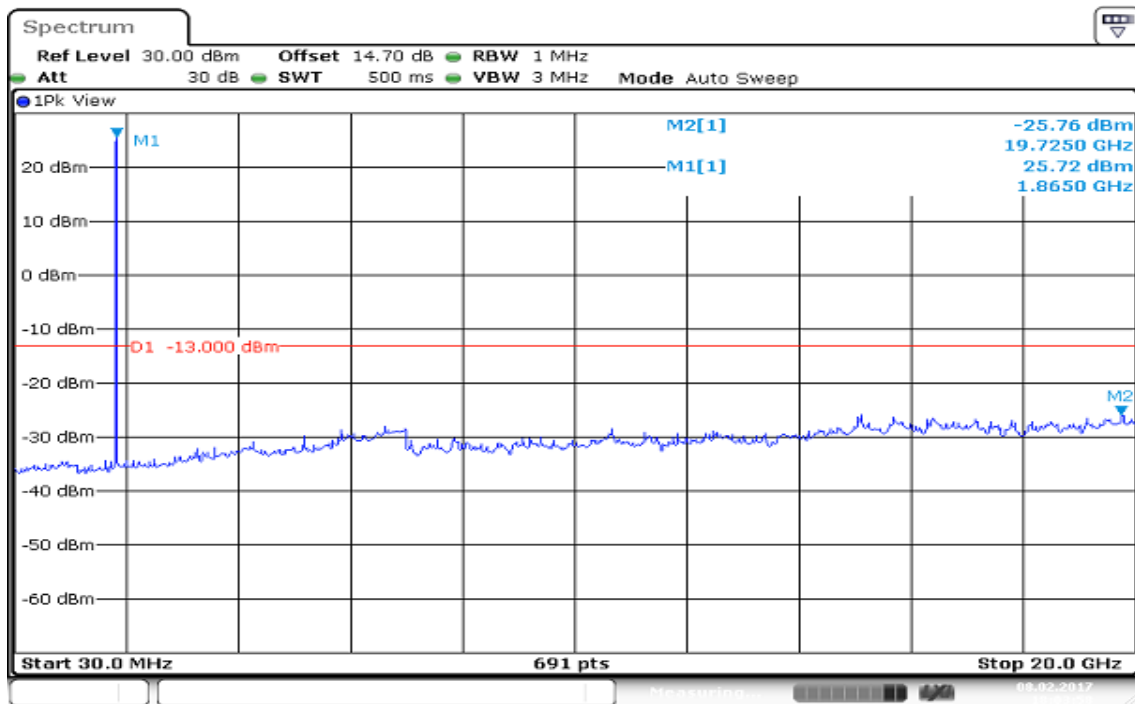
CH High



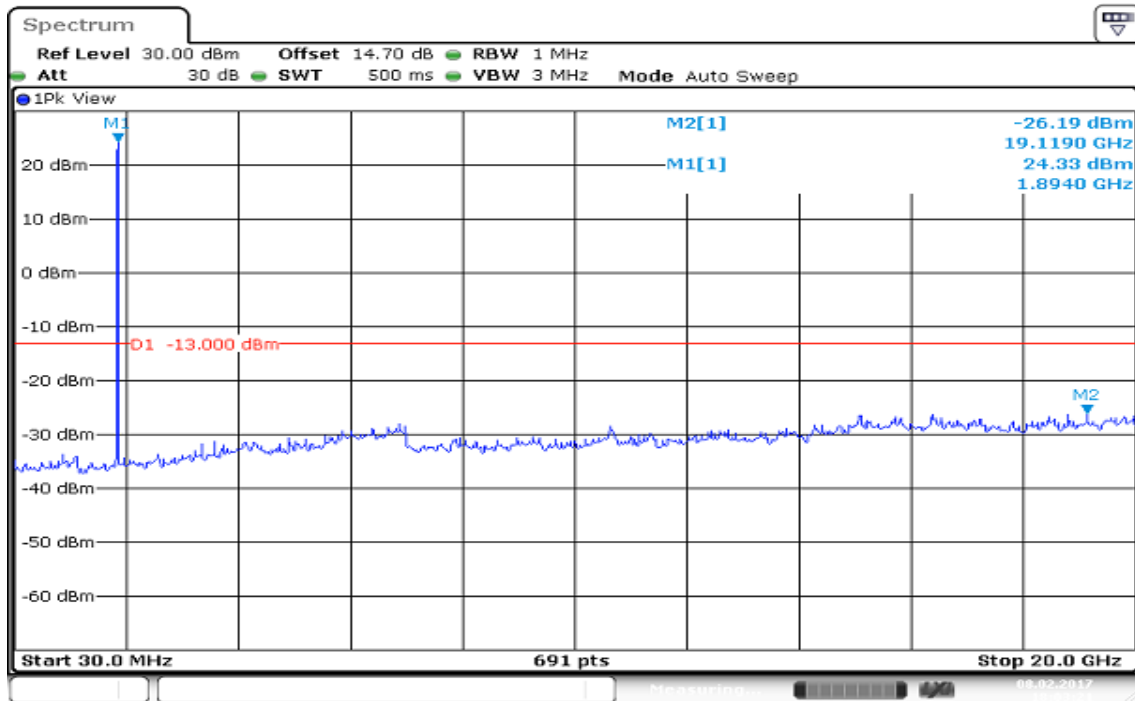
Date: 8.FEB.2017 18:01:48

BW: 1.4MHz / 16QAM / RB =1, RB Offset = 0

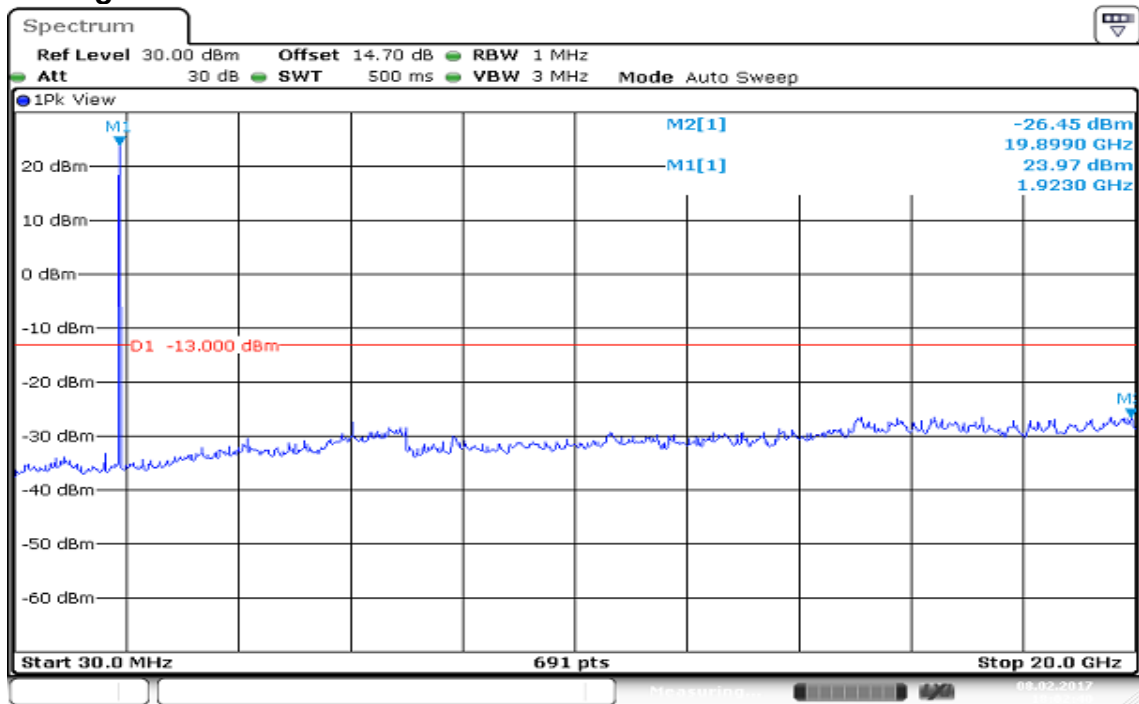
CH Low



CH Mid

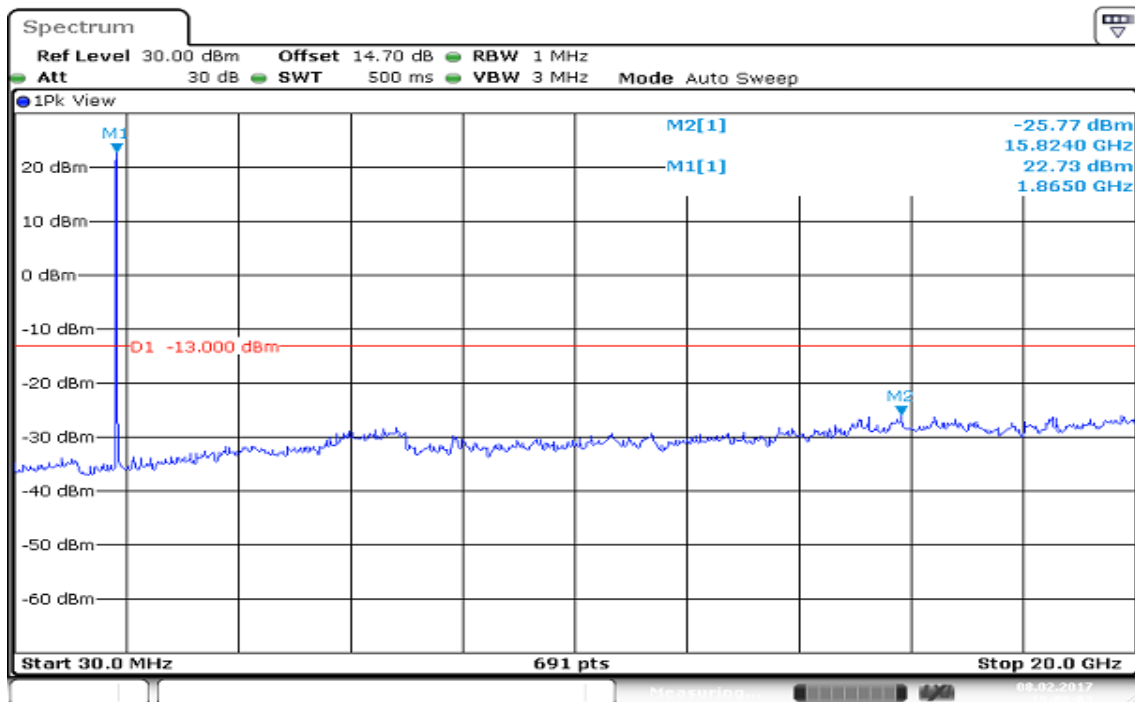


CH High



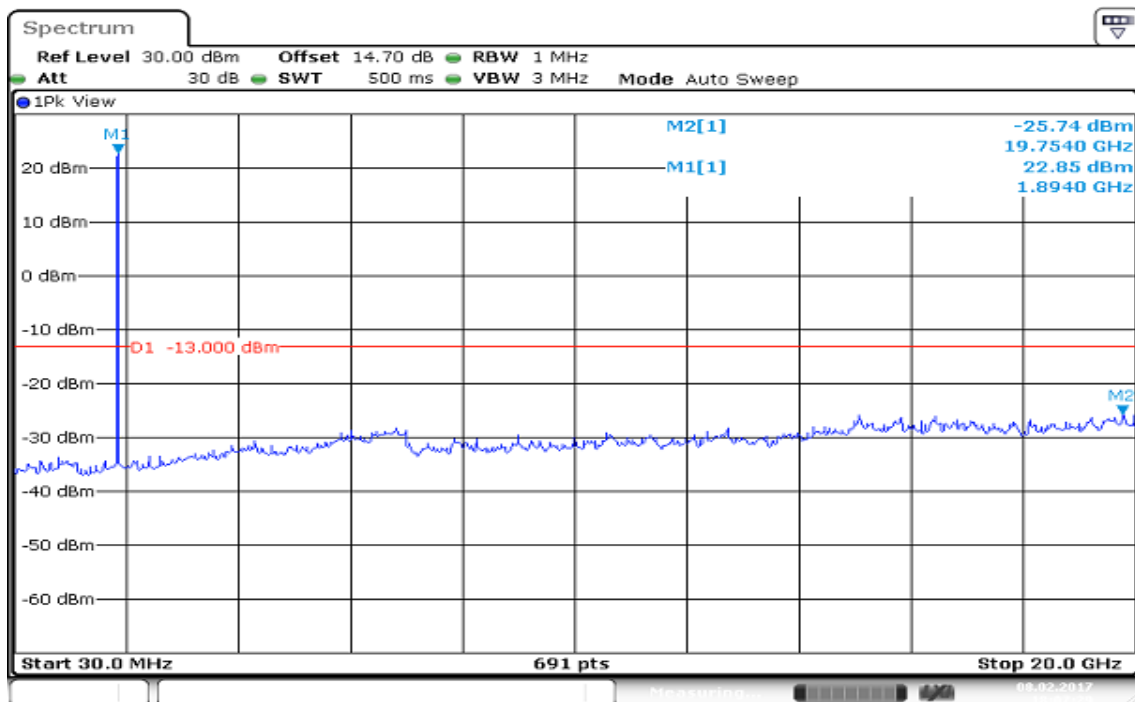
Date: 8.FEB.2017 18:02:40

BW: 3MHz / QPSK / RB =1, RB Offset = 0
CH Low



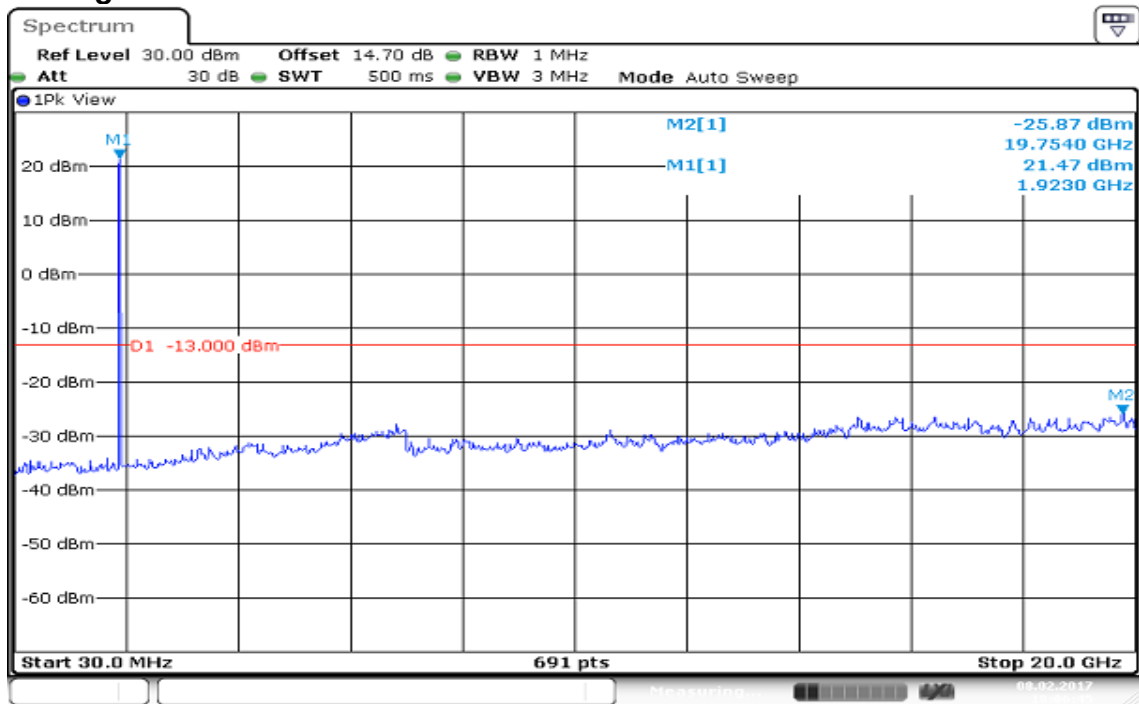
Date: 8.FEB.2017 18:08:04

CH Mid



Date: 8.FEB.2017 18:07:29

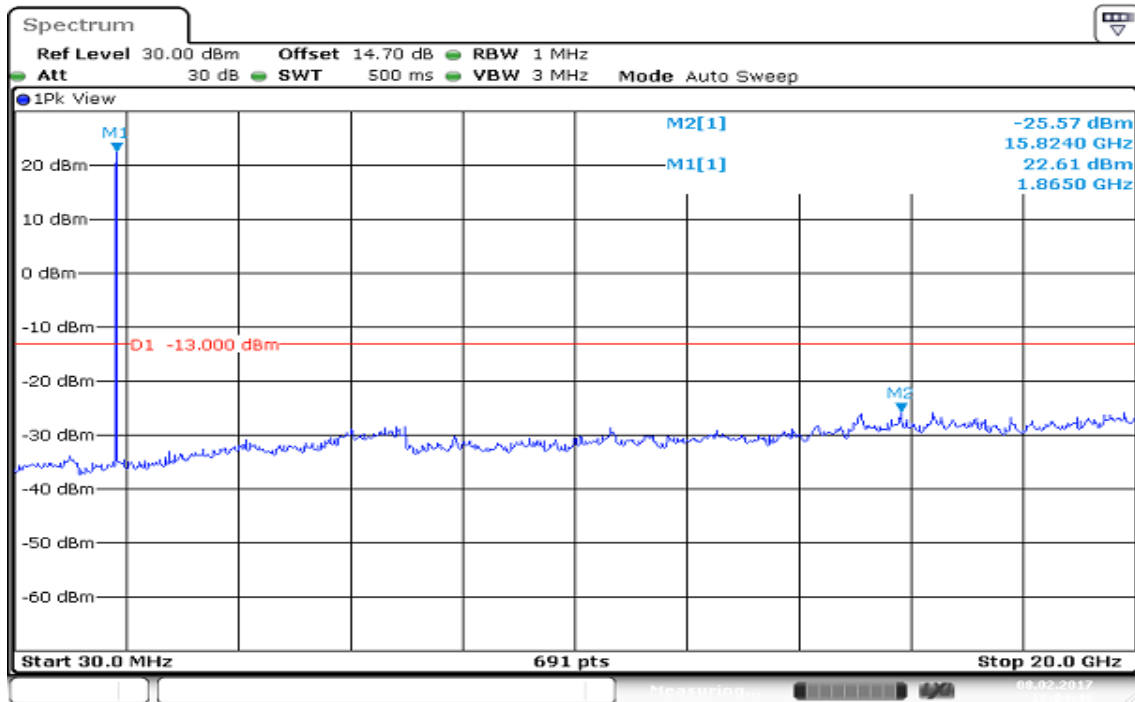
CH High



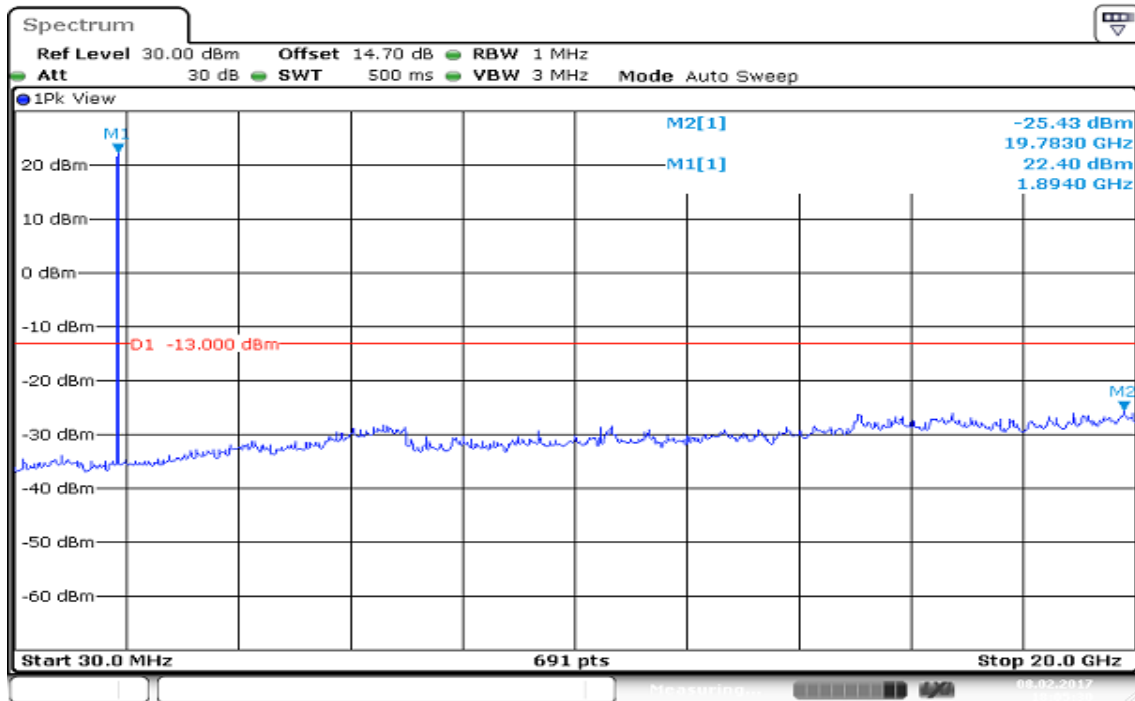
Date: 8.FEB.2017 18:06:45

BW: 3MHz / 16QAM / RB =1, RB Offset = 0

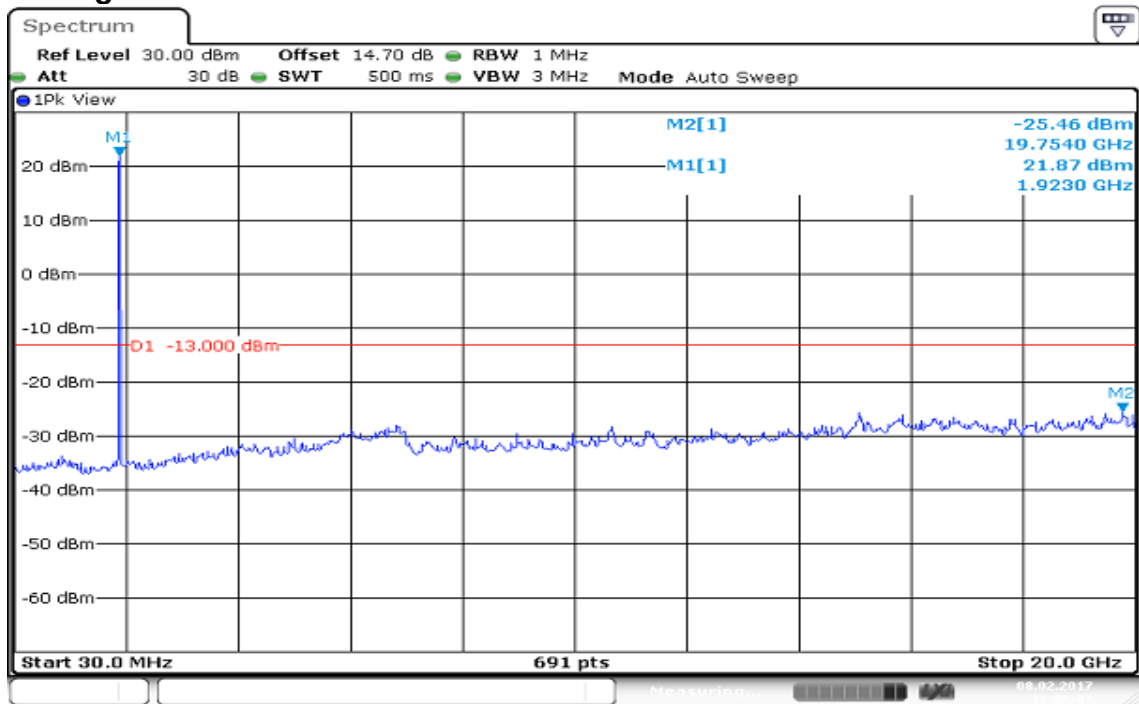
CH Low



CH Mid



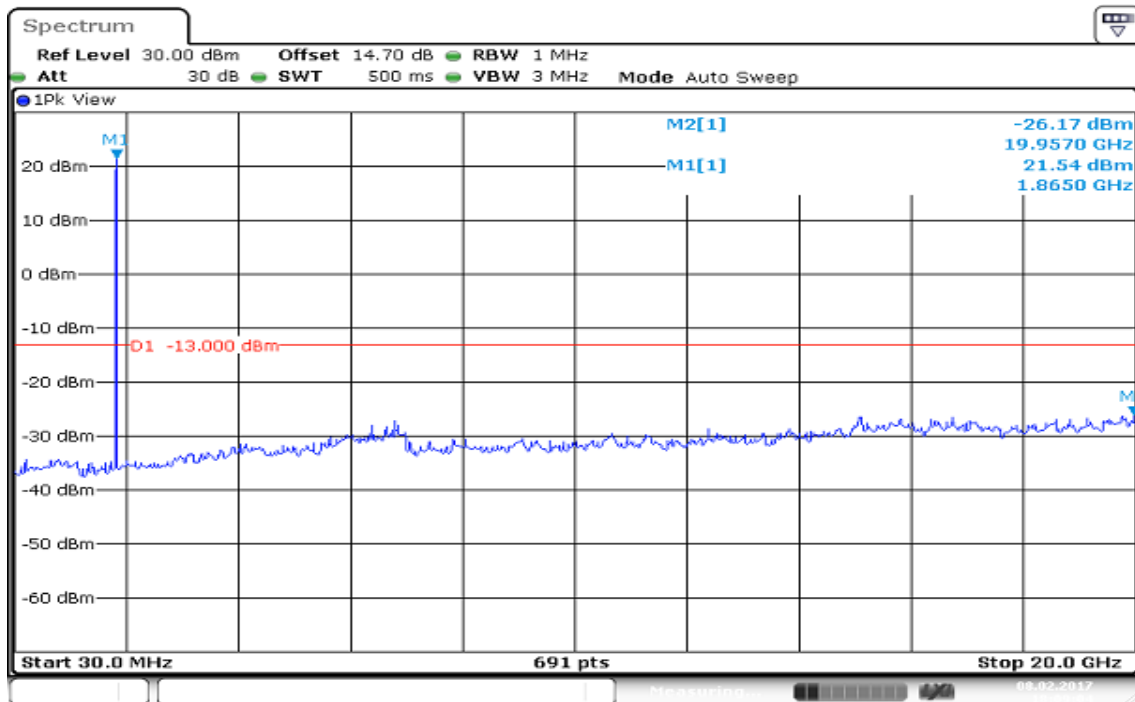
CH High



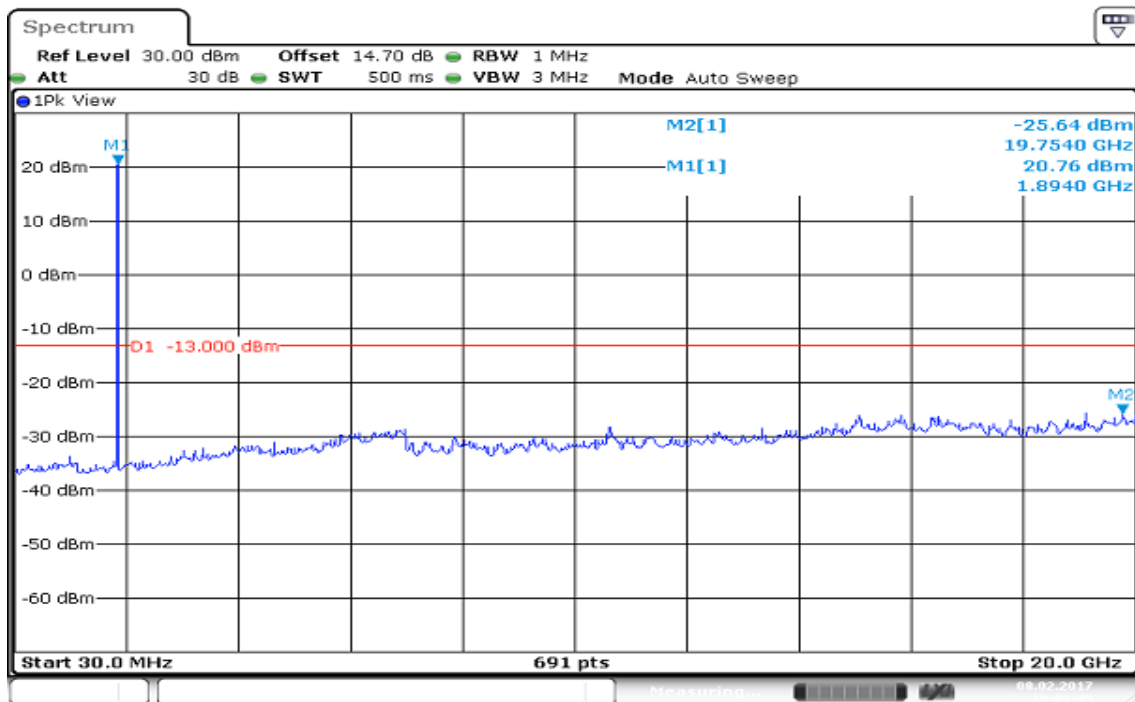
Date: 8.FEB.2017 18:06:07

BW: 5MHz / QPSK / RB =1, RB Offset = 0

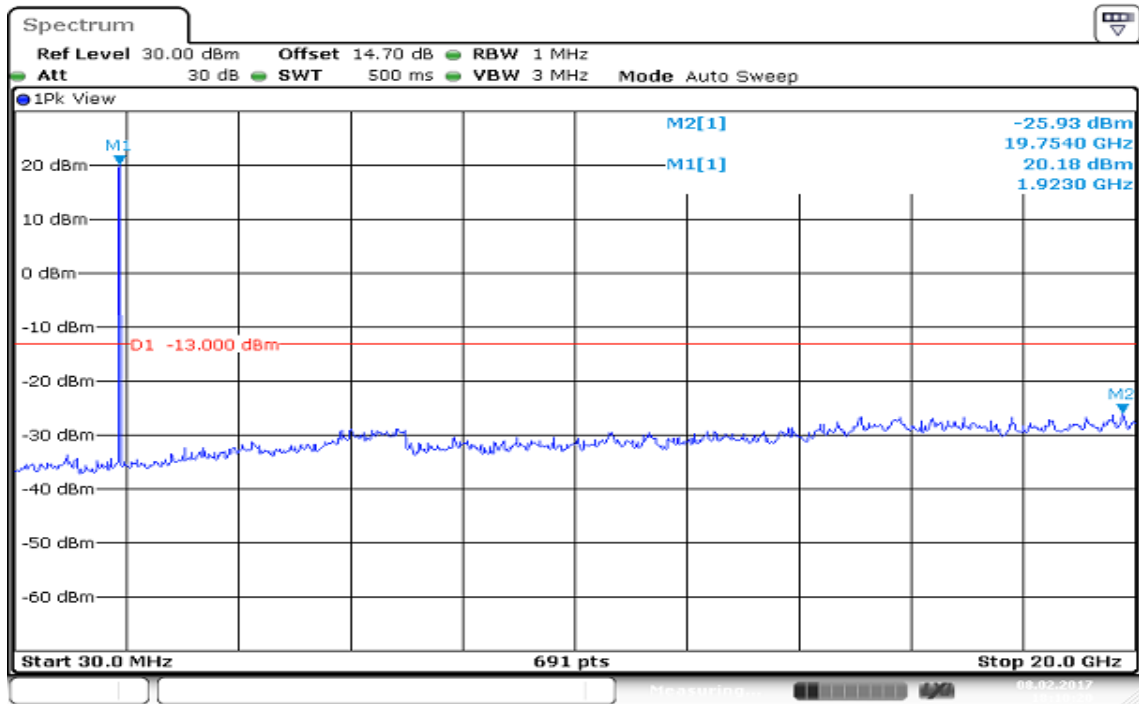
CH Low



CH Mid



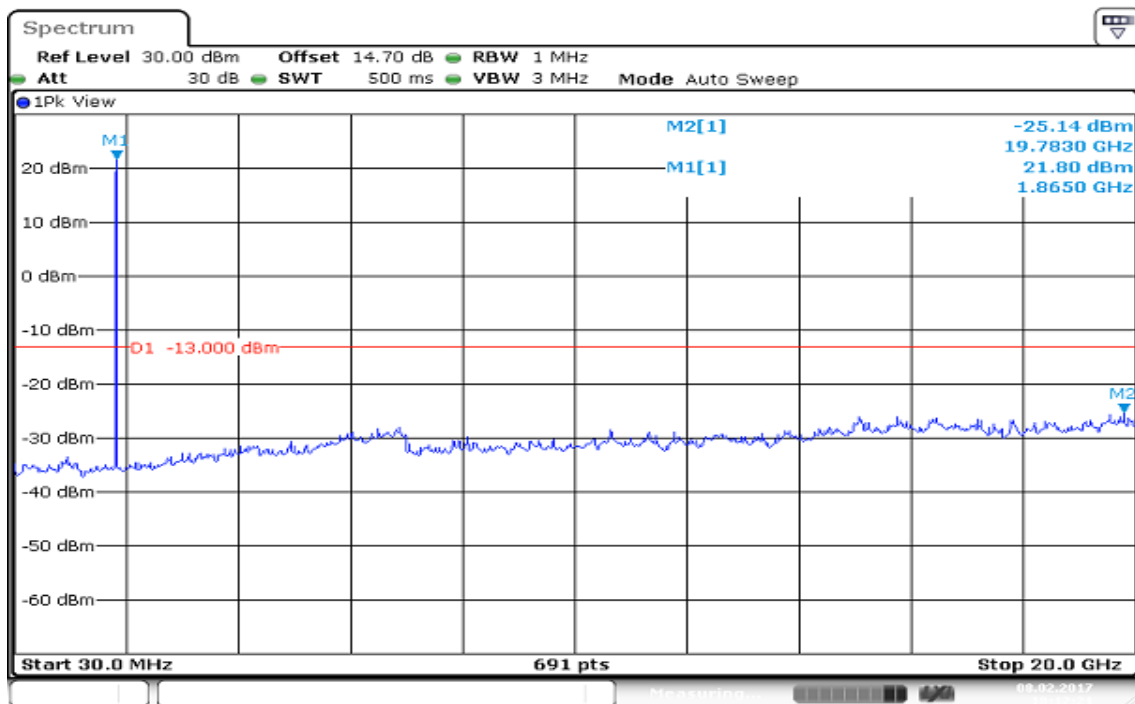
CH High



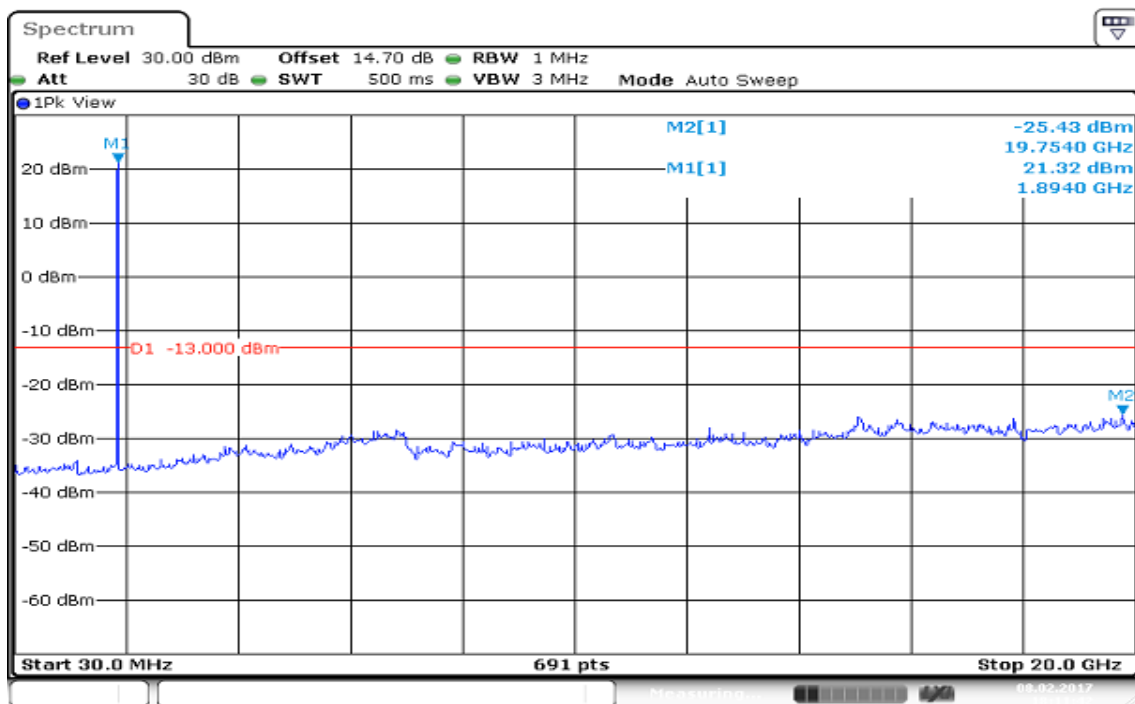
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BW: 5MHz / 16QAM / RB =1, RB Offset = 0

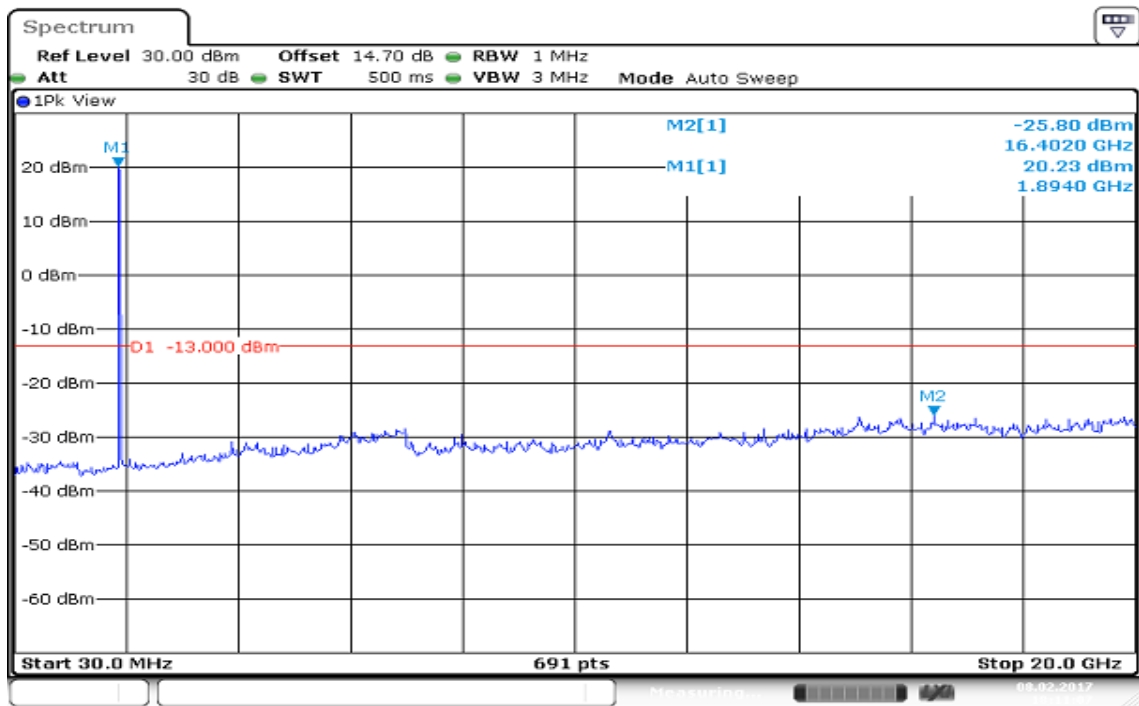
CH Low



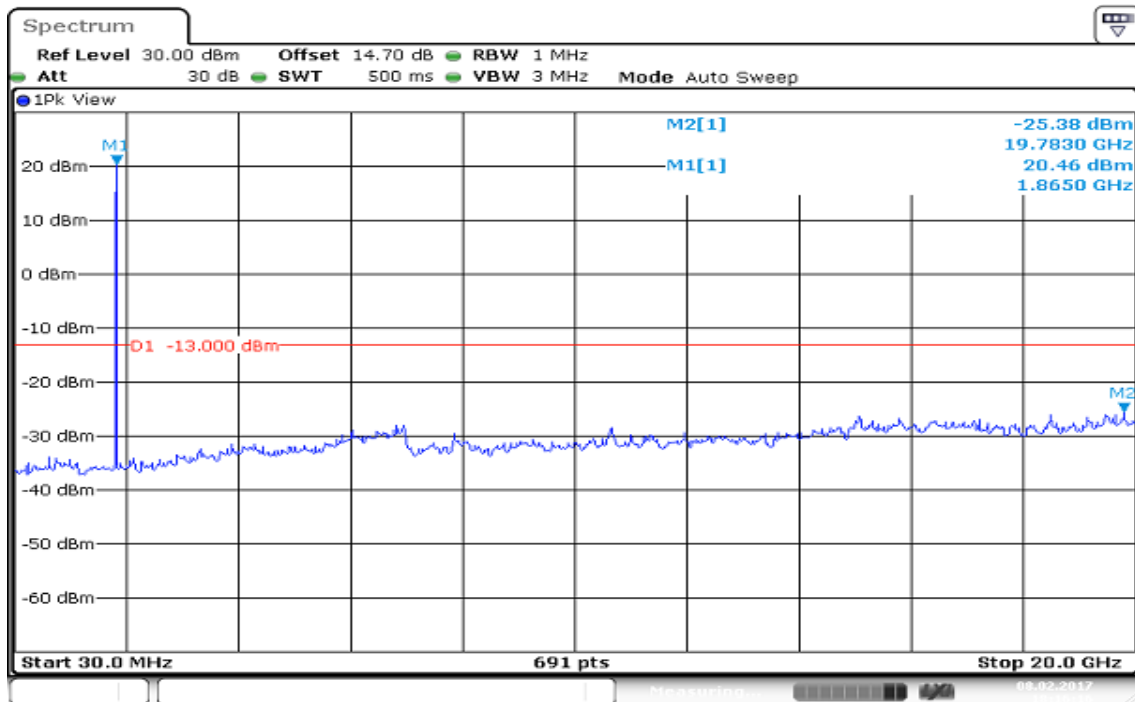
CH Mid



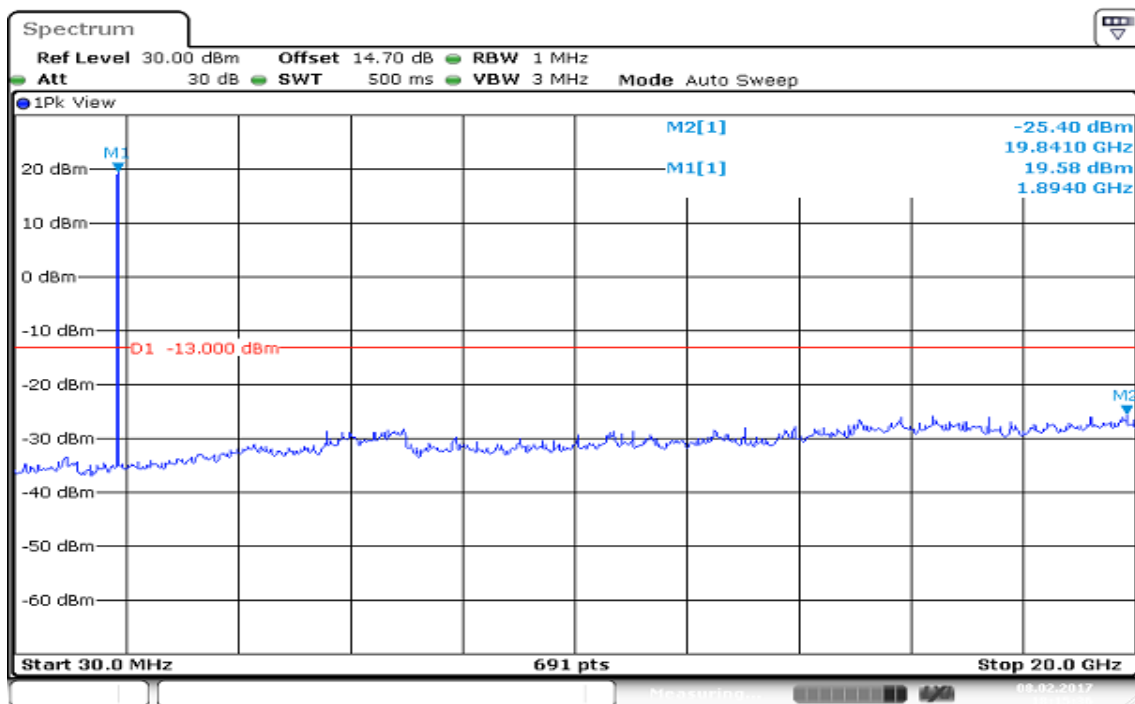
CH High



Date: 8.FEB.2017 18:11:07

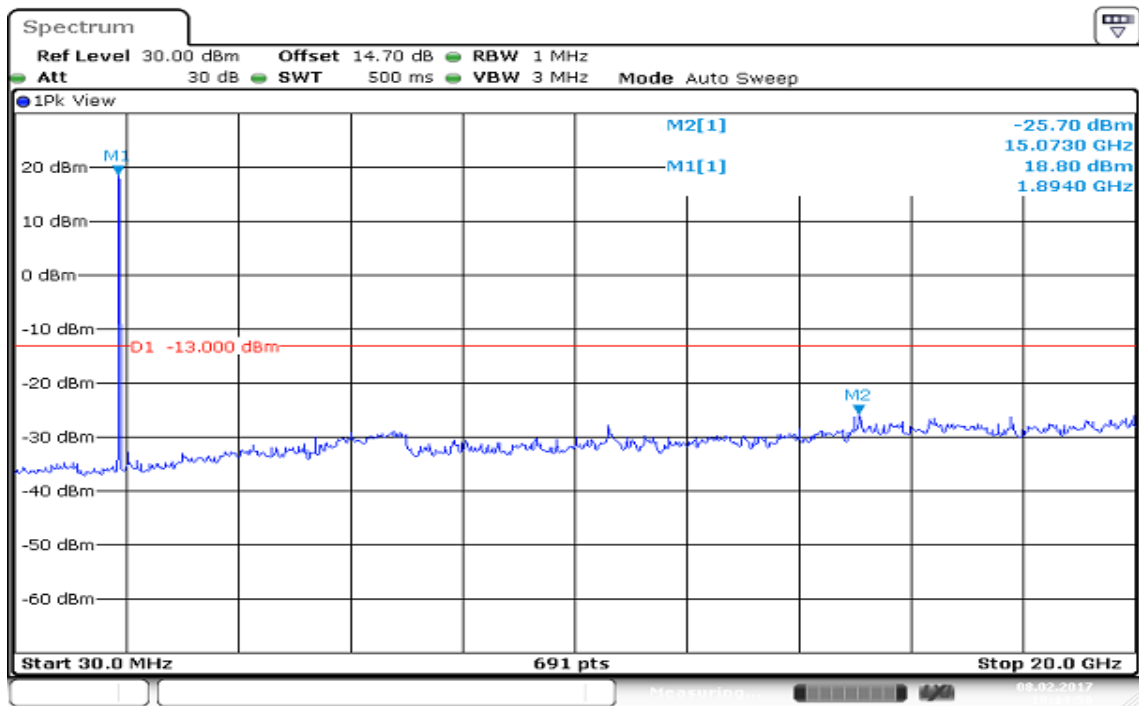
BW: 10MHz / QPSK / RB =1, RB Offset = 0**CH Low**

Date: 8.FEB.2017 18:16:16

CH Mid

Date: 8.FEB.2017 18:15:26

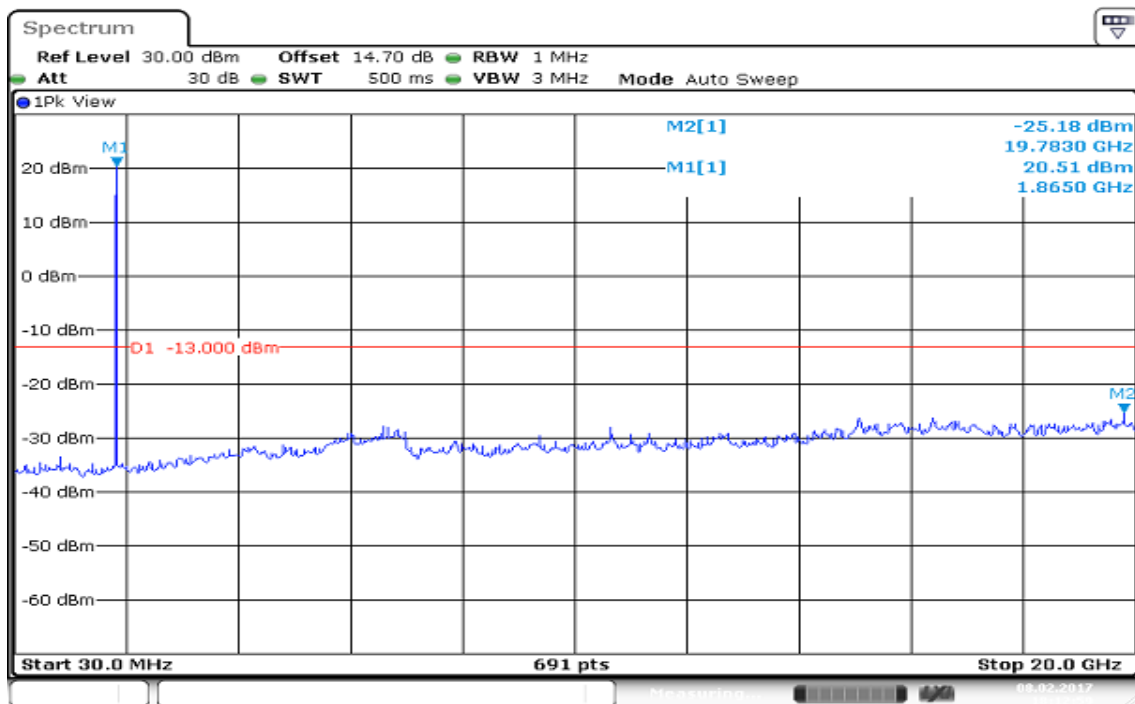
CH High



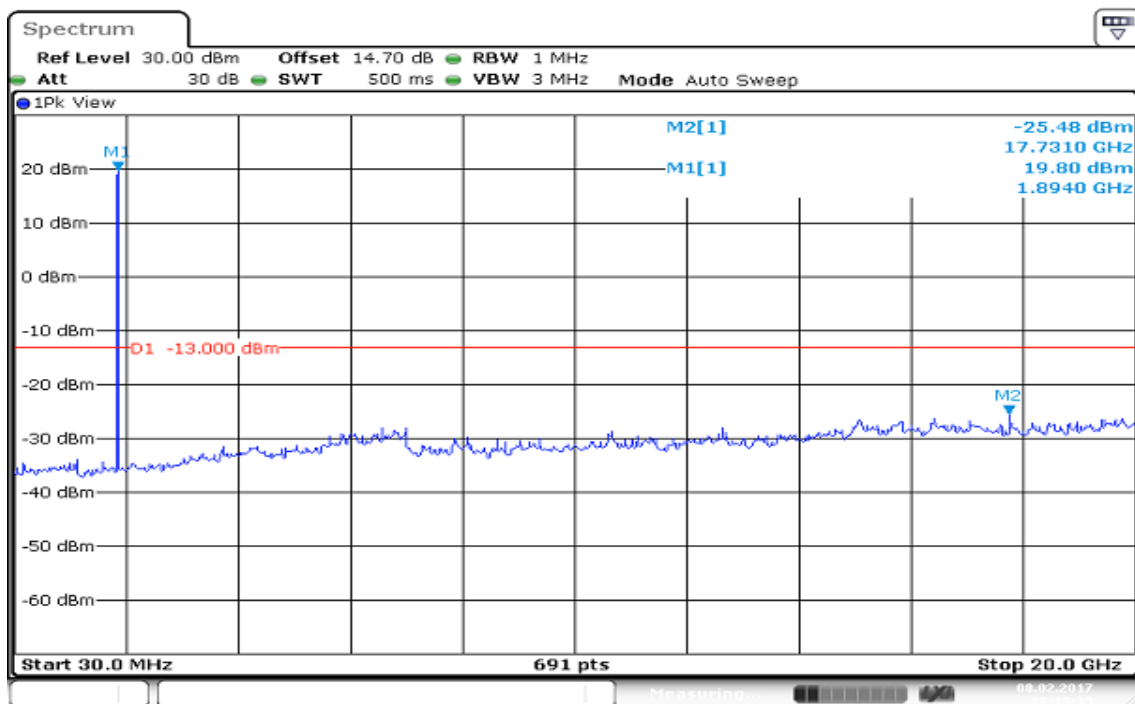
Date: 8.FEB.2017 18:14:56

BW: 10MHz / 16QAM / RB =1, RB Offset = 0

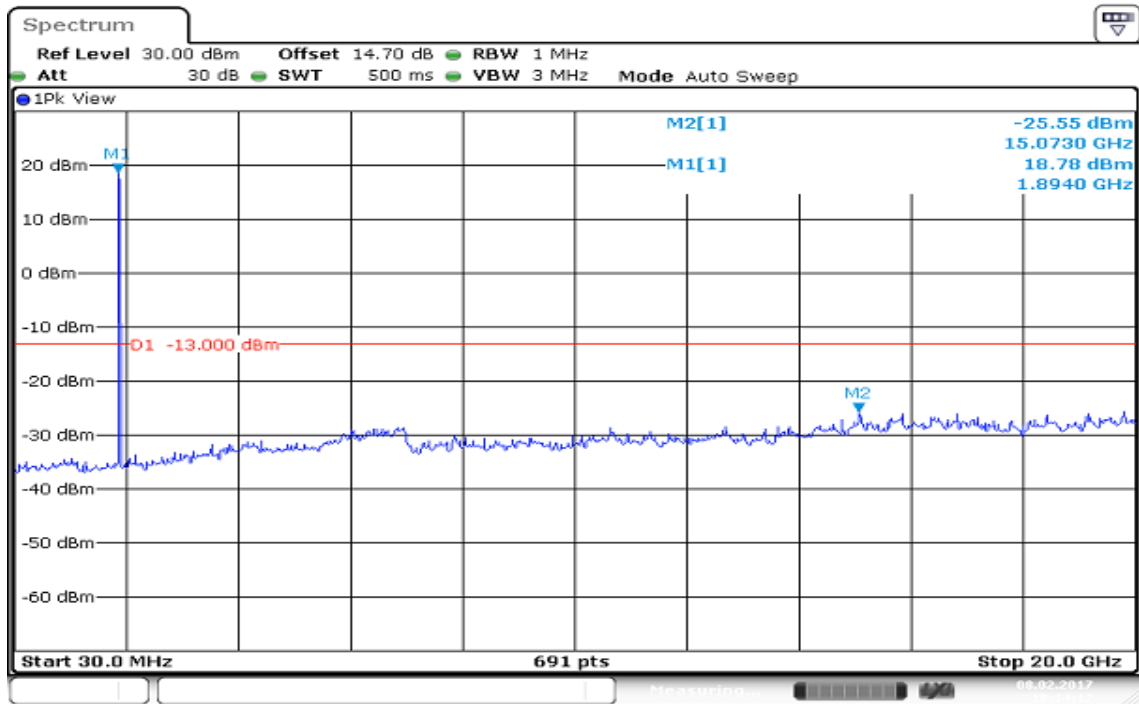
CH Low



CH Mid



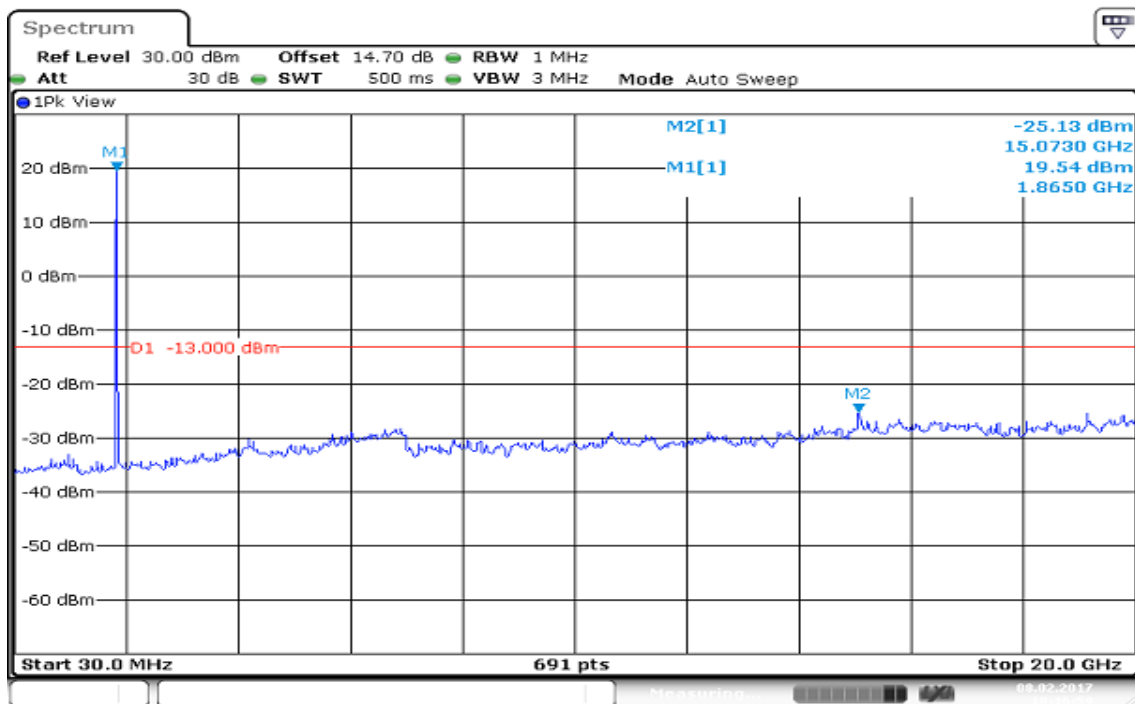
CH High



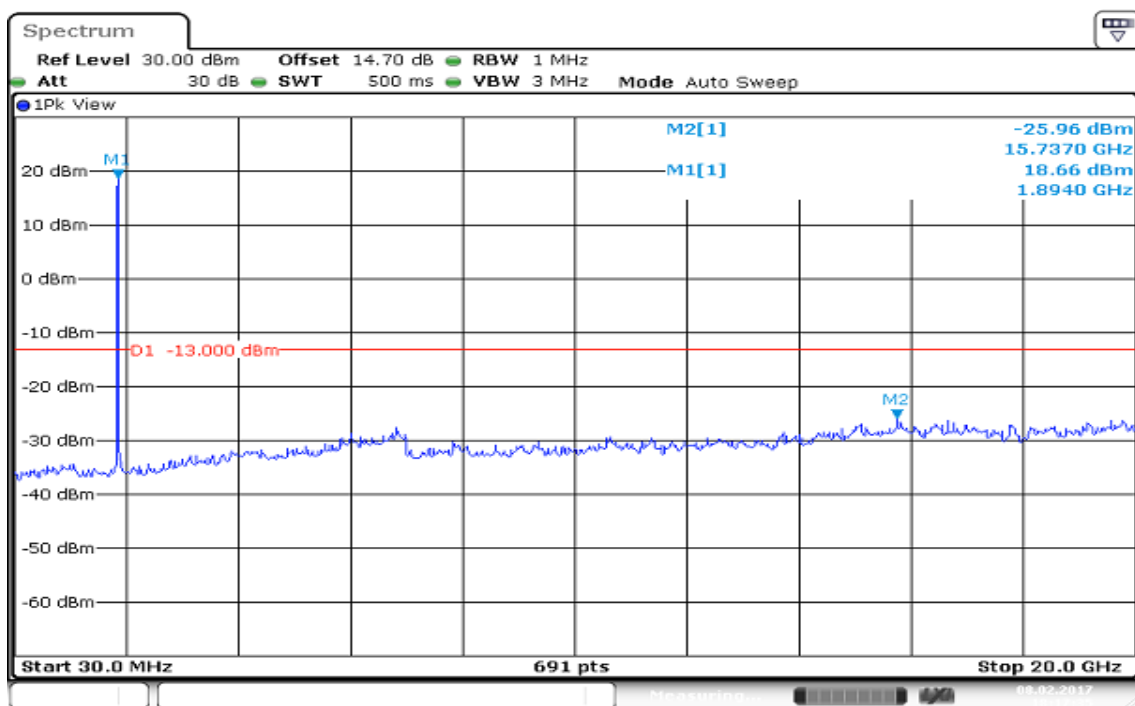
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BW: 15MHz / QPSK / RB =1, RB Offset = 0

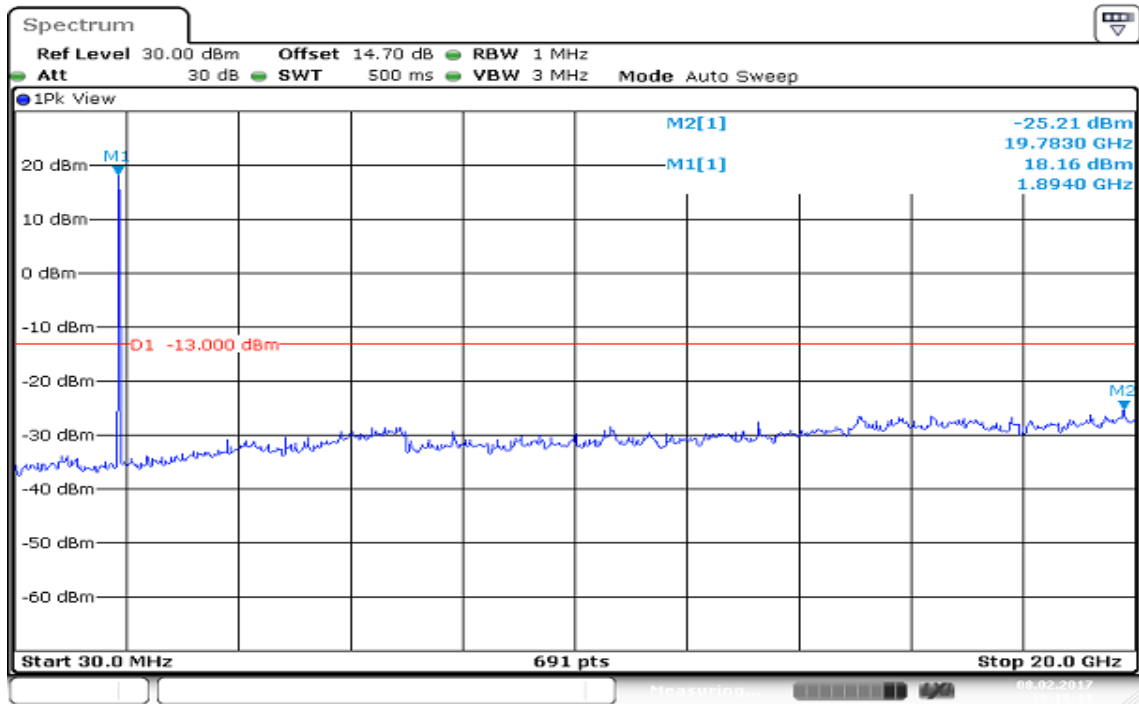
CH Low



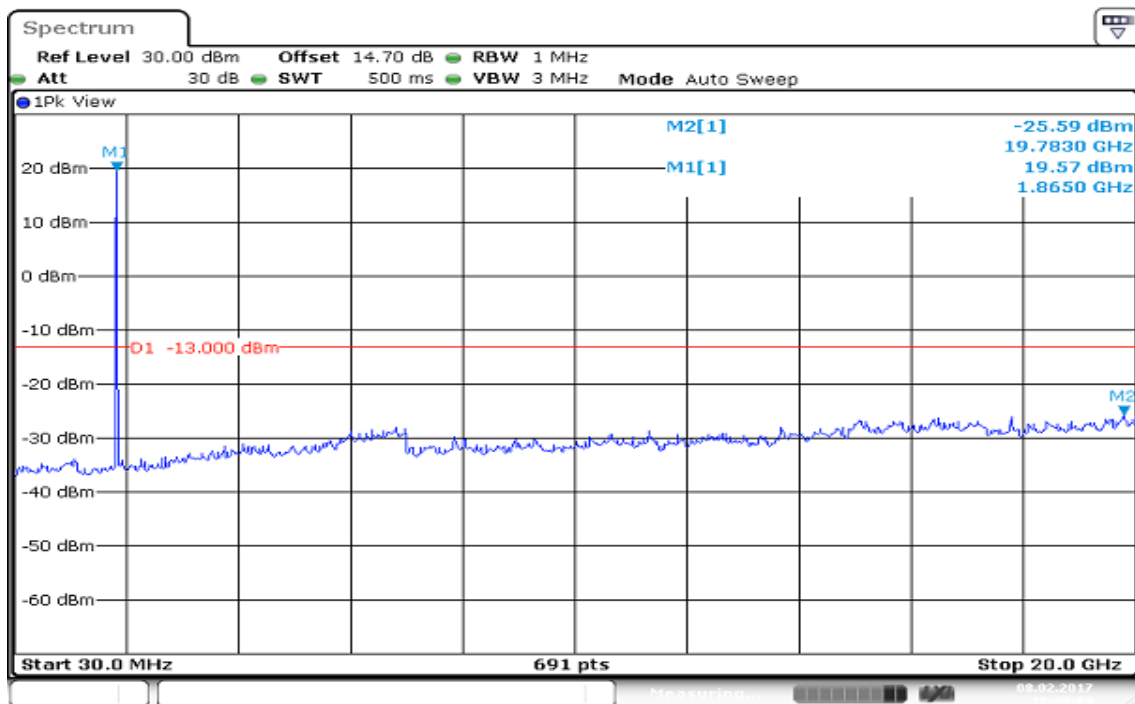
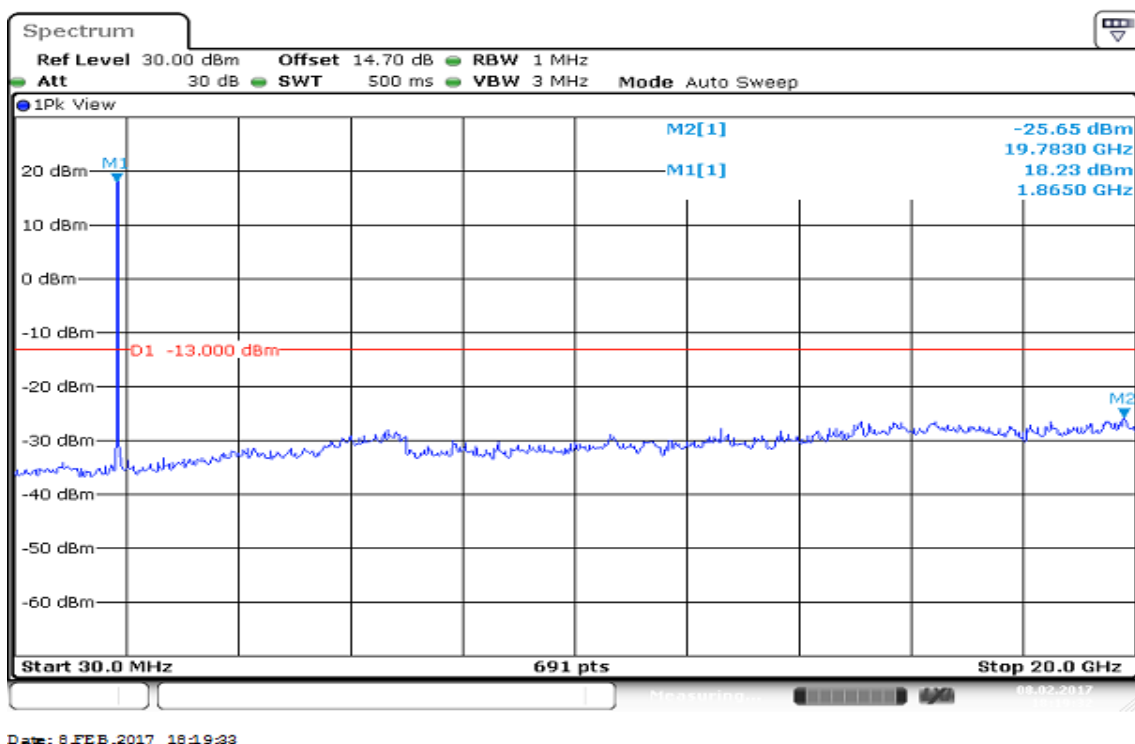
CH Mid



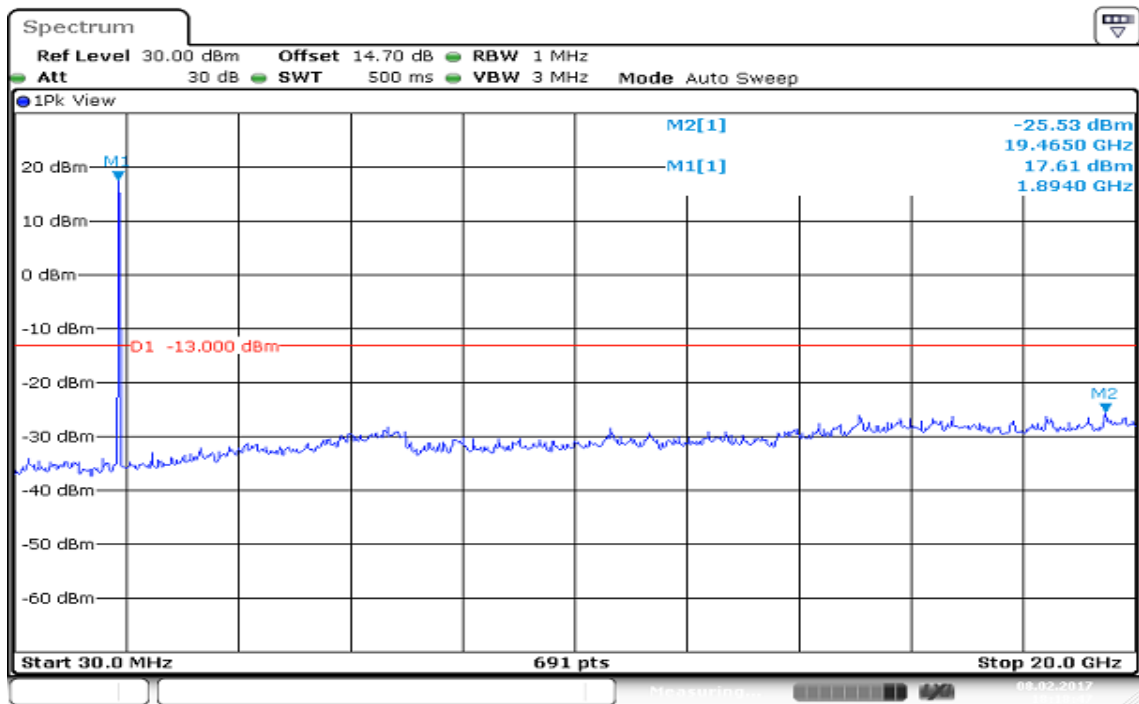
CH High



Date: 8.FEB.2017 18:18:12

BW: 15MHz / 16QAM / RB =1, RB Offset = 0**CH Low****CH Mid**

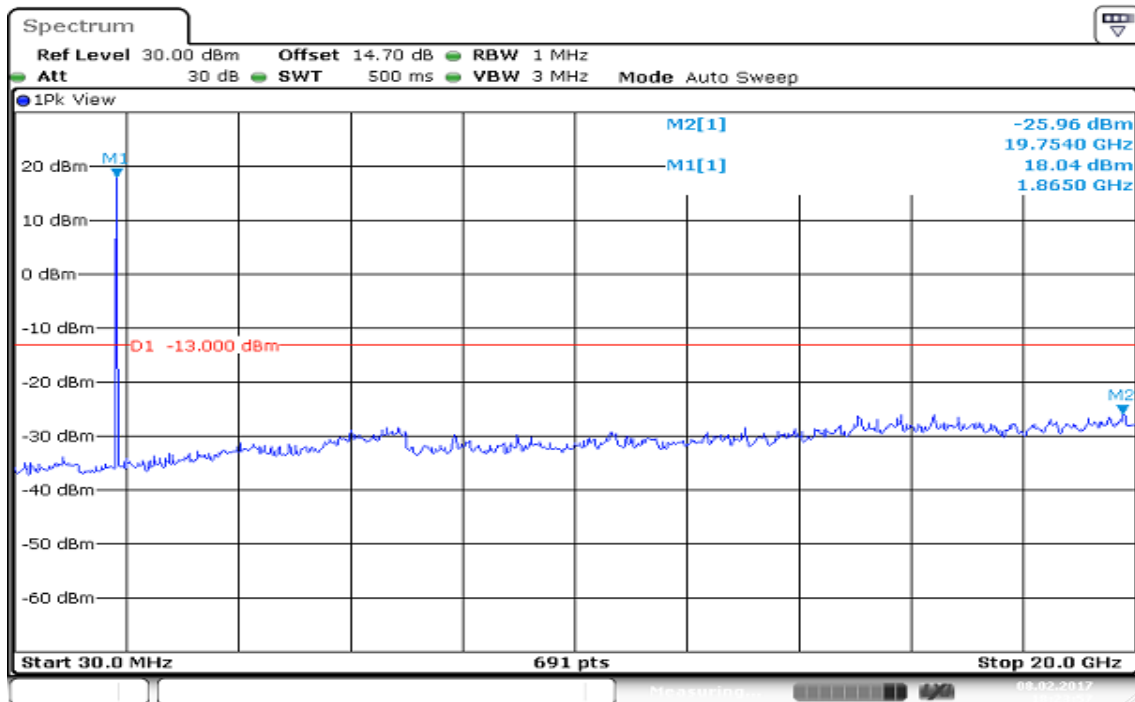
CH High



Date: 8.FEB.2017 18:18:48

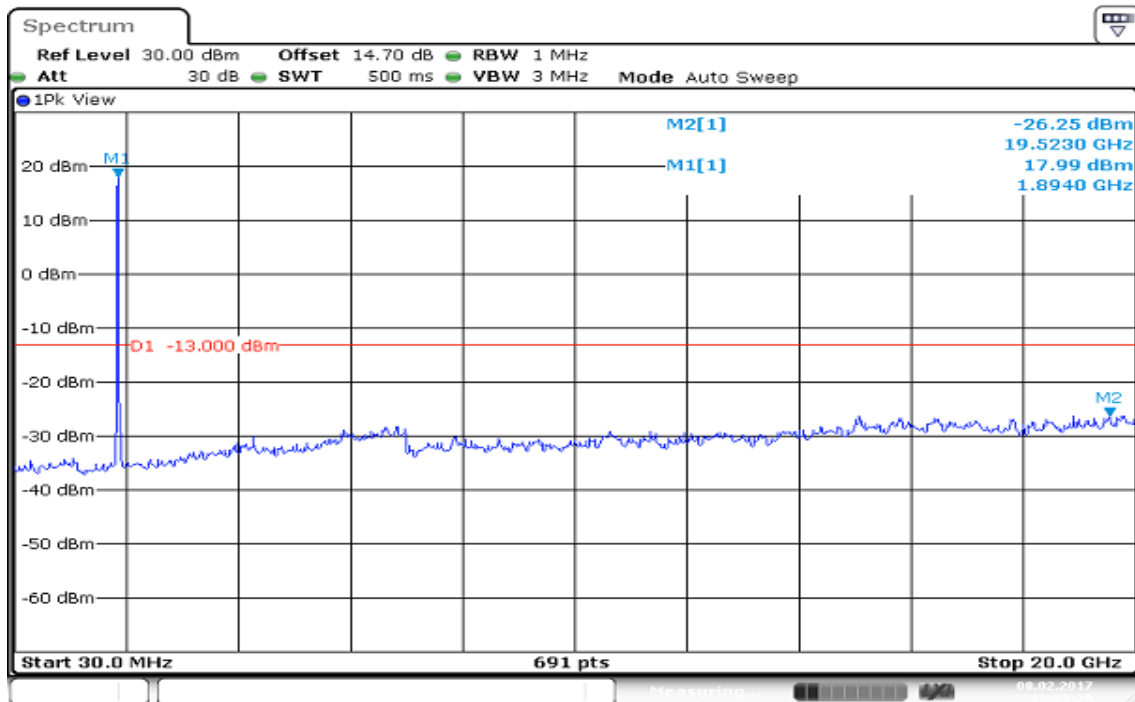
BW: 20MHz / QPSK / RB =1, RB Offset = 0

CH Low



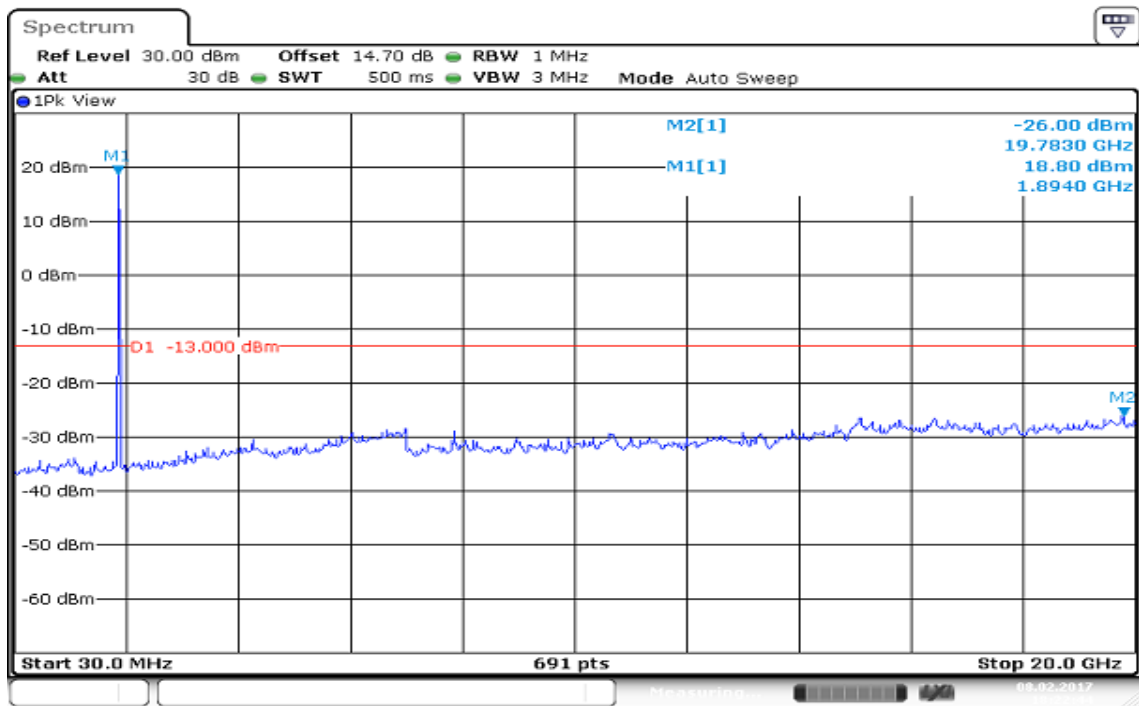
Date: 8.FEB.2017 18:23:57

CH Mid



Date: 8.FEB.2017 18:23:26

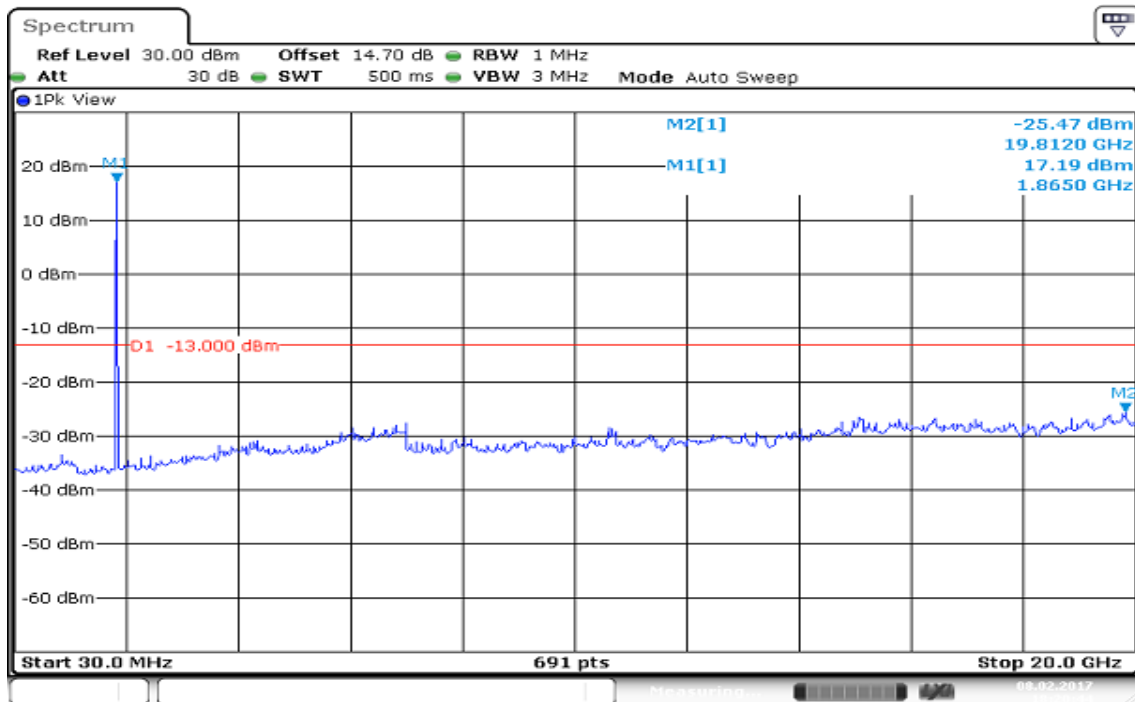
CH High



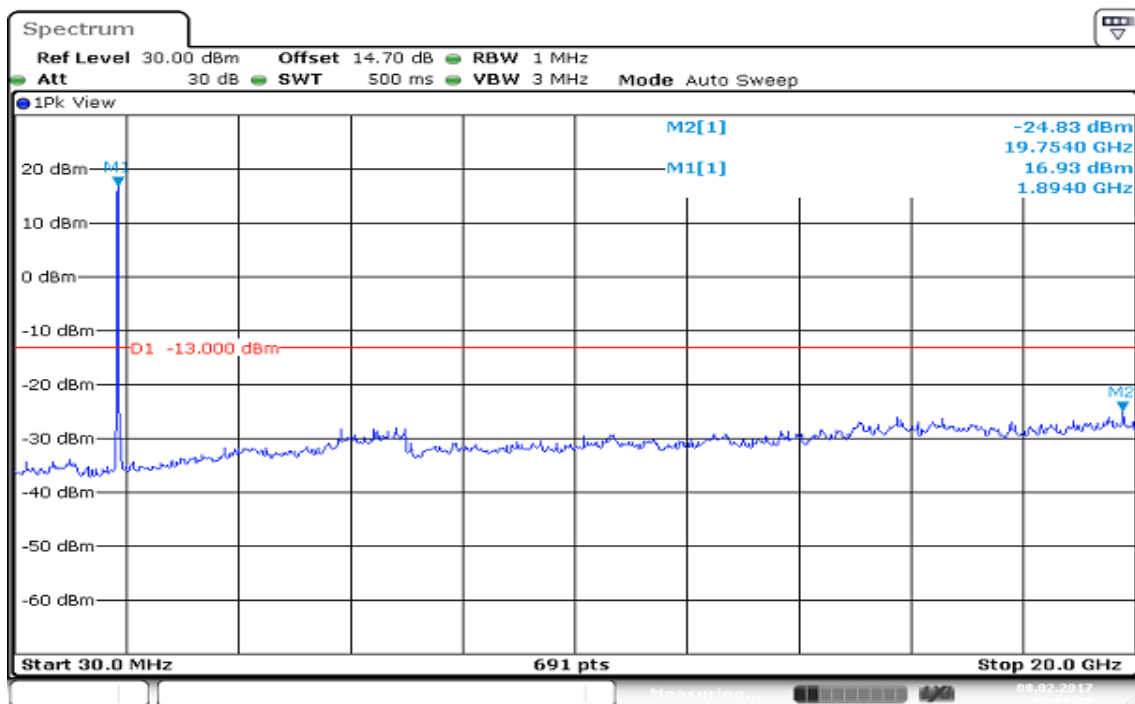
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BW: 20MHz / 16QAM / RB =1, RB Offset = 0

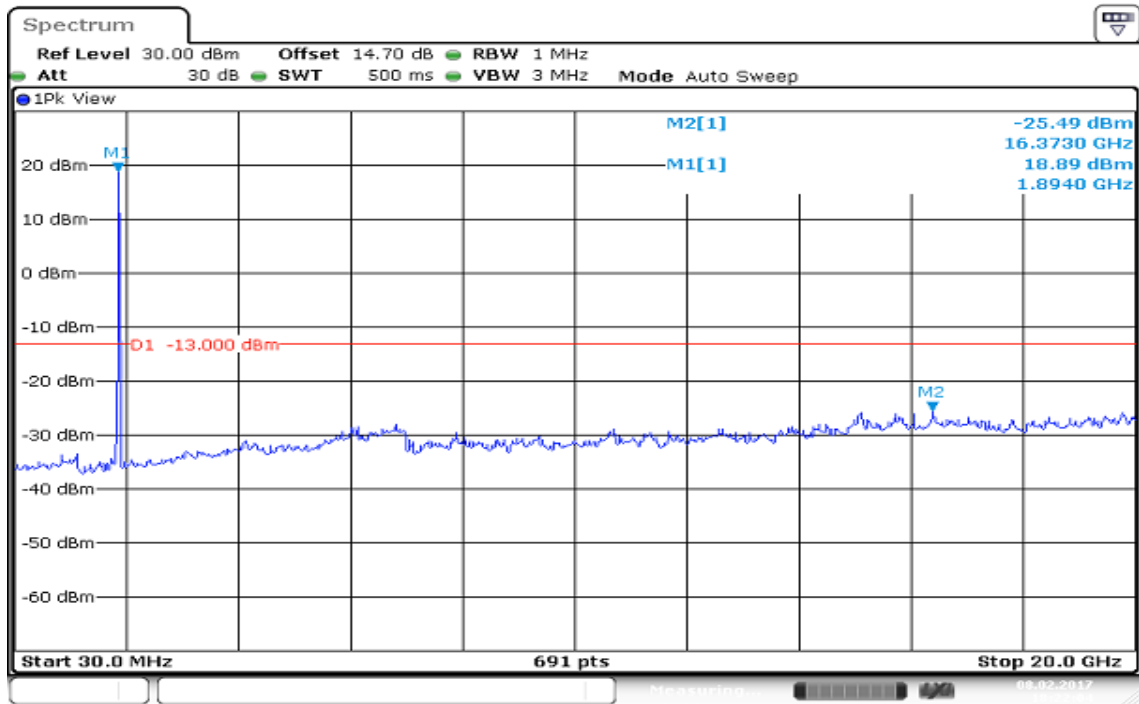
CH Low



CH Mid



CH High

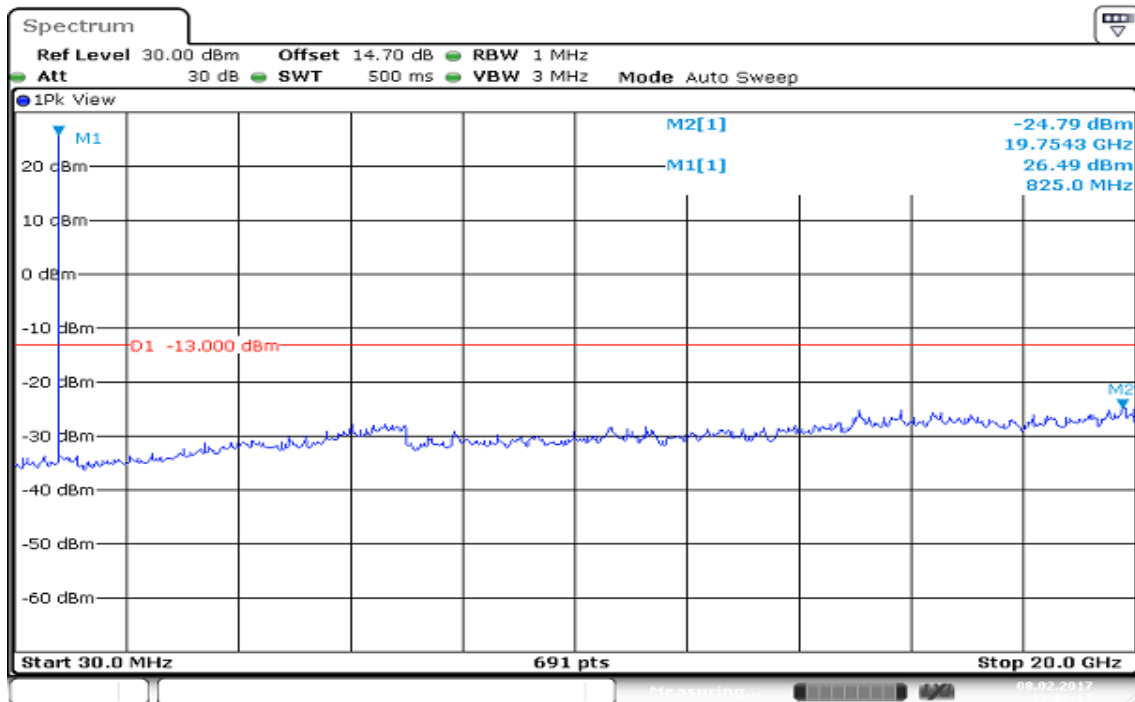


Date: 8.FEB.2017 18:22:04

LTE Band 5

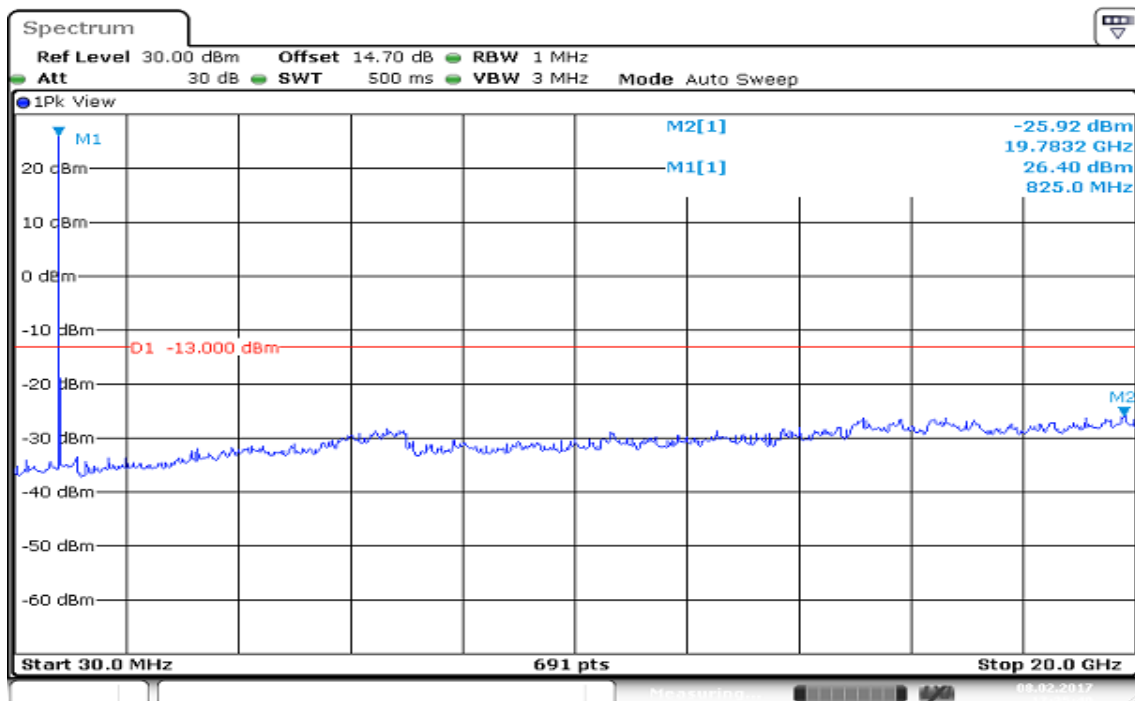
BW: 1.4MHz / QPSK/ RB =1, RB Offset = 0

CH Low



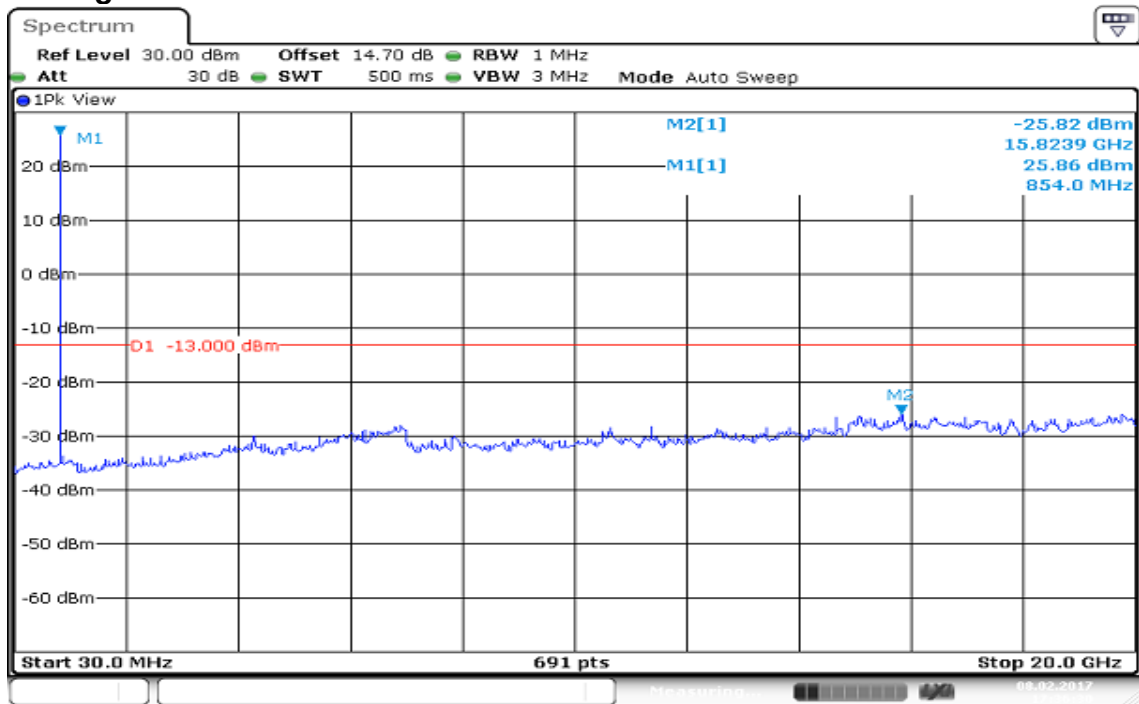
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CH Mid



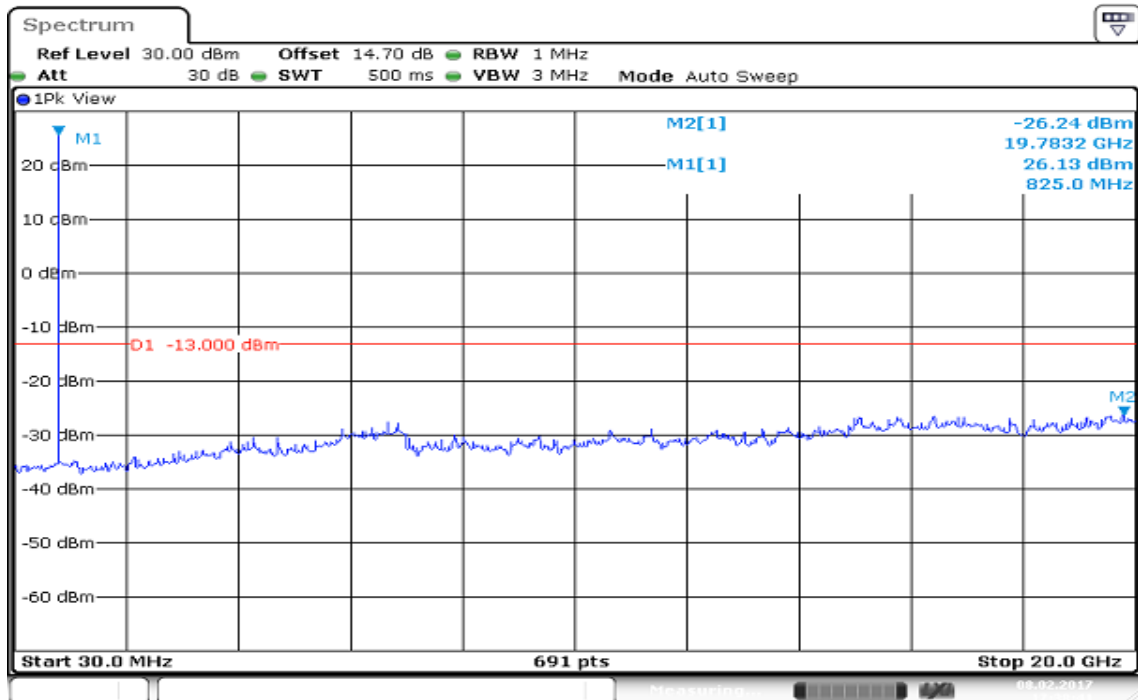
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CH High



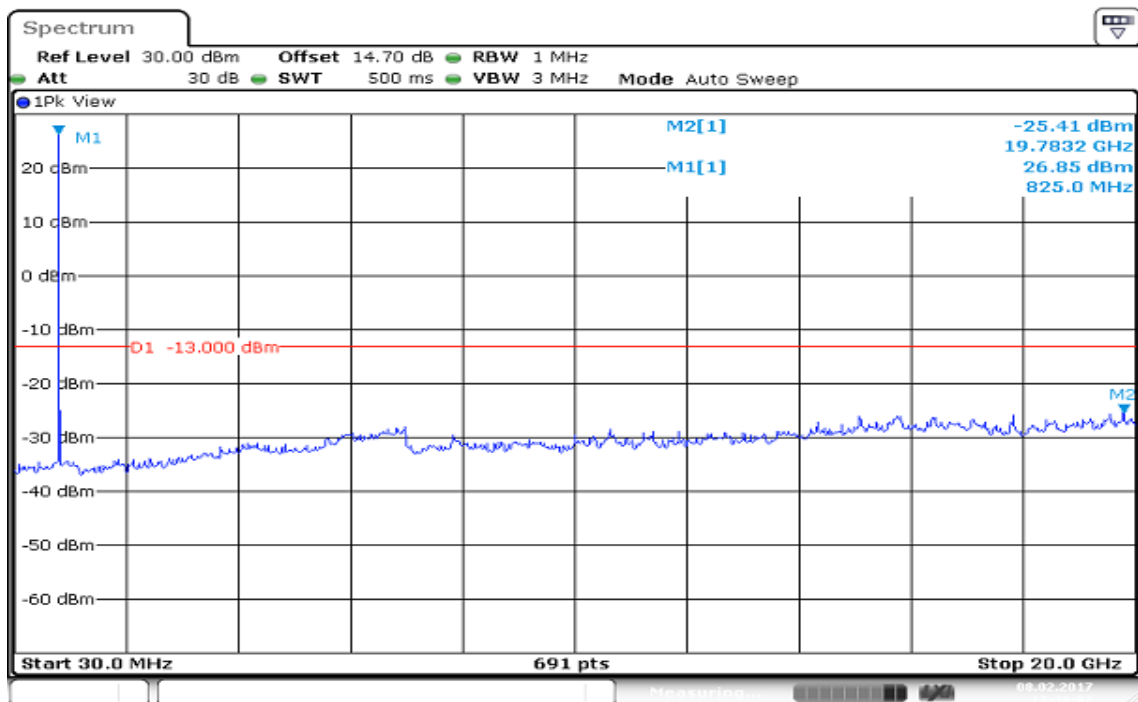
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BW: 1.4MHz / 16QAM/ RB =1, RB Offset = 0
CH Low



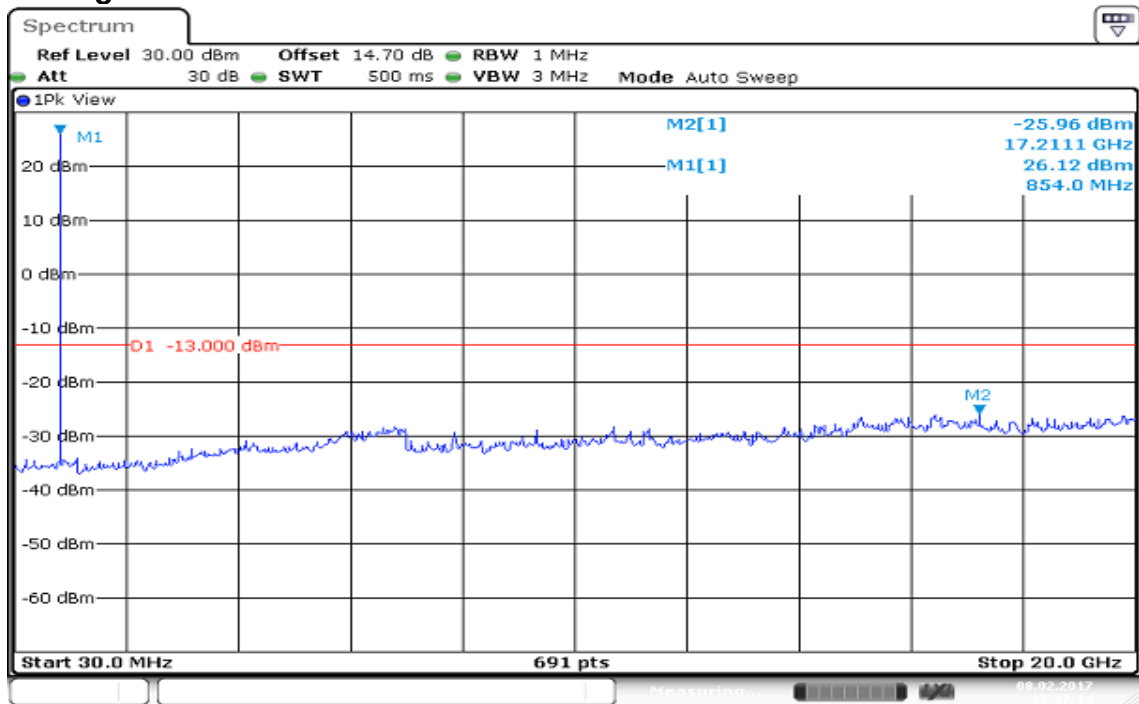
Date: 8.FEB.2017 17:38:42

CH Mid



Date: 8.FEB.2017 17:38:07

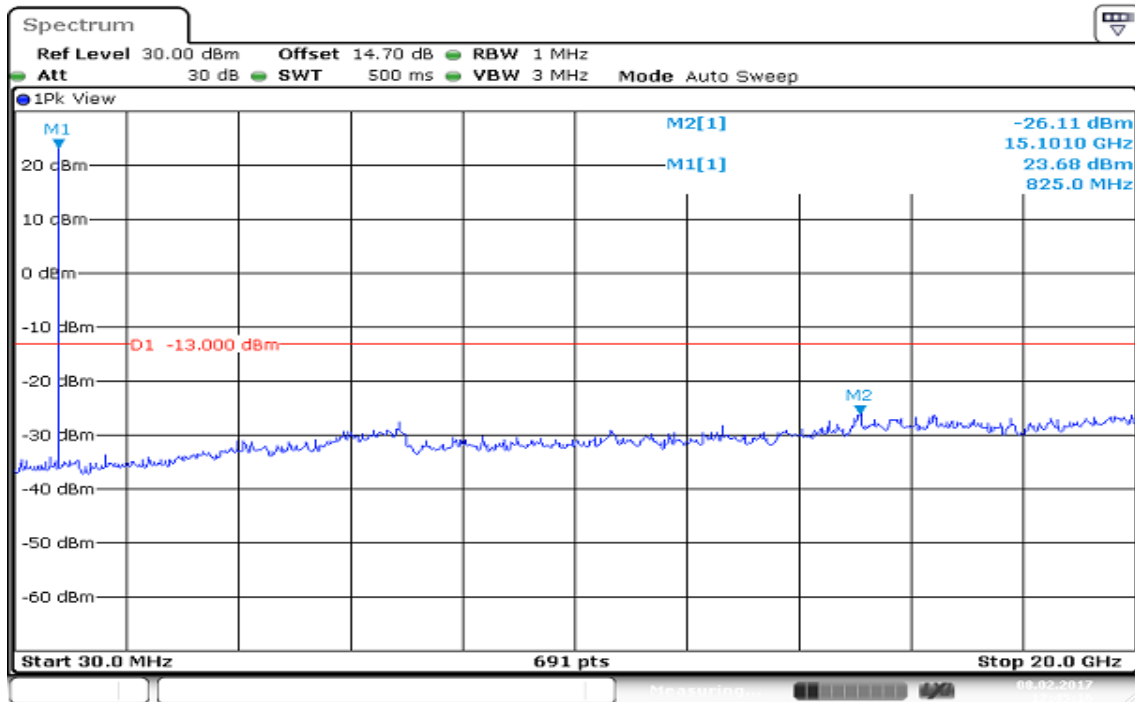
CH High



Date: 8.FEB.2017 17:37:14

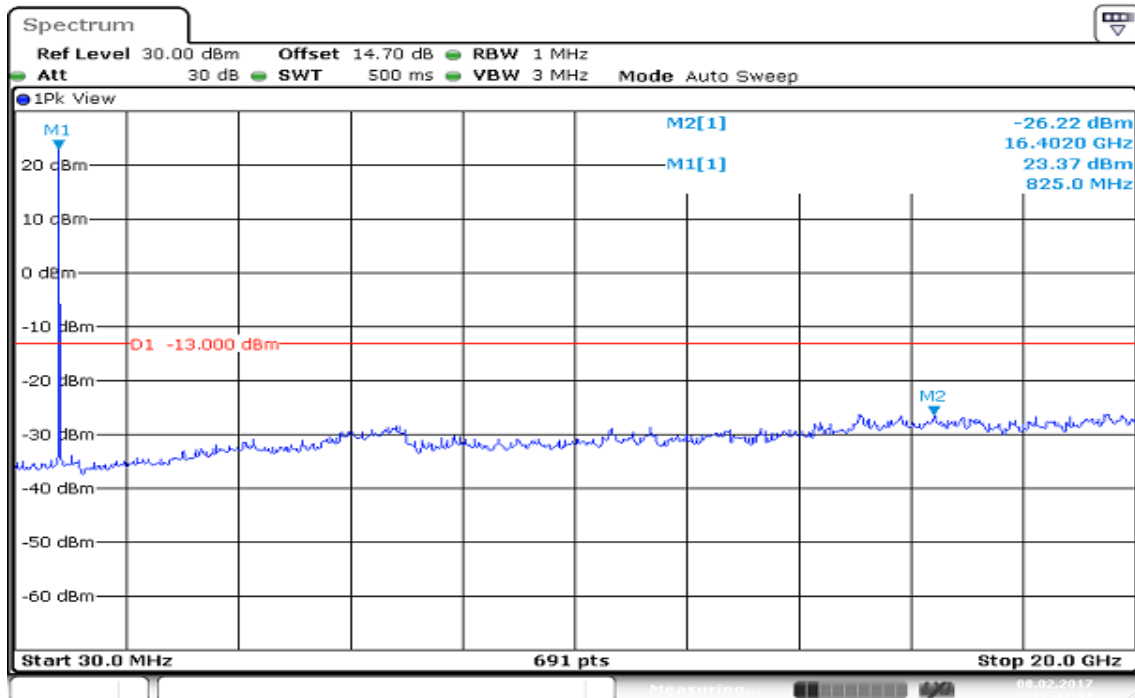
BW: 3MHz / QPSK / RB =1, RB Offset = 0

CH Low



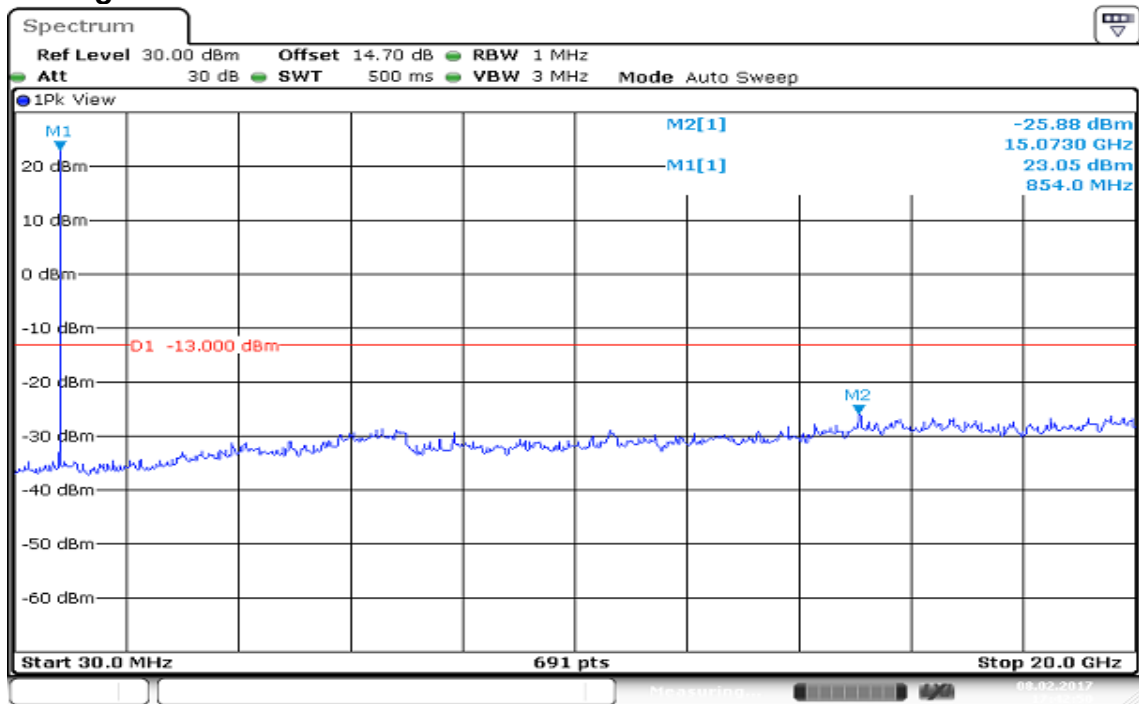
Date: 8.FEB.2017 17:45:16

CH Mid



Date: 8.FEB.2017 17:43:41

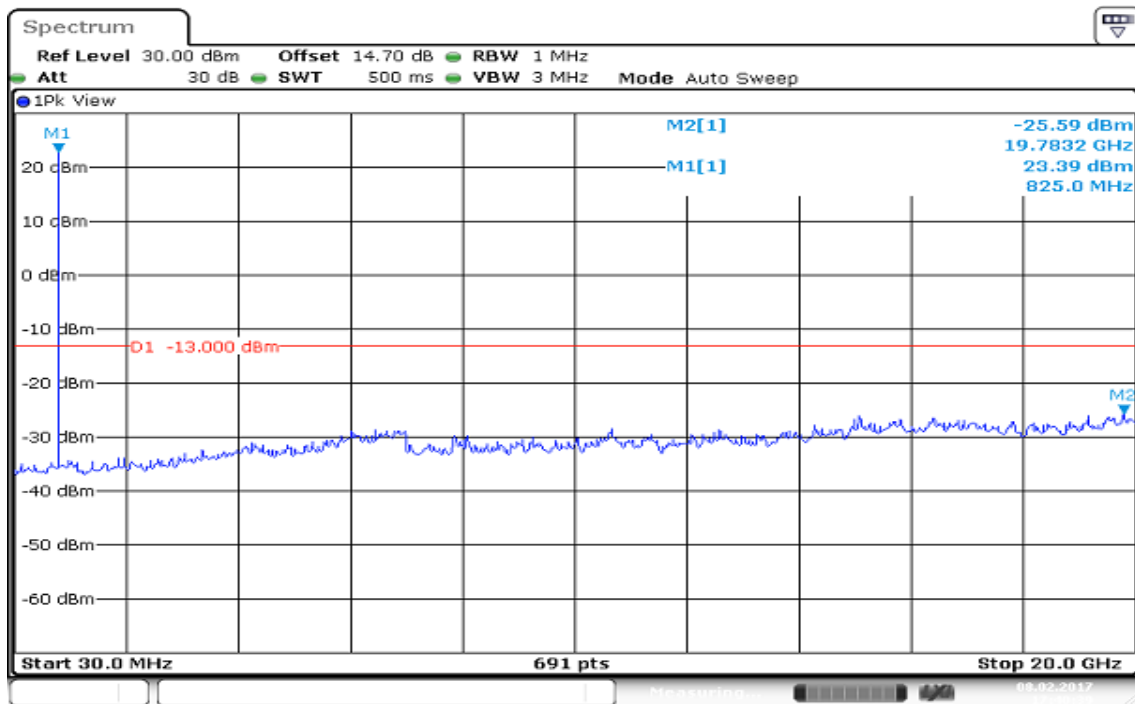
CH High



Date: 8.FEB.2017 17:42:50

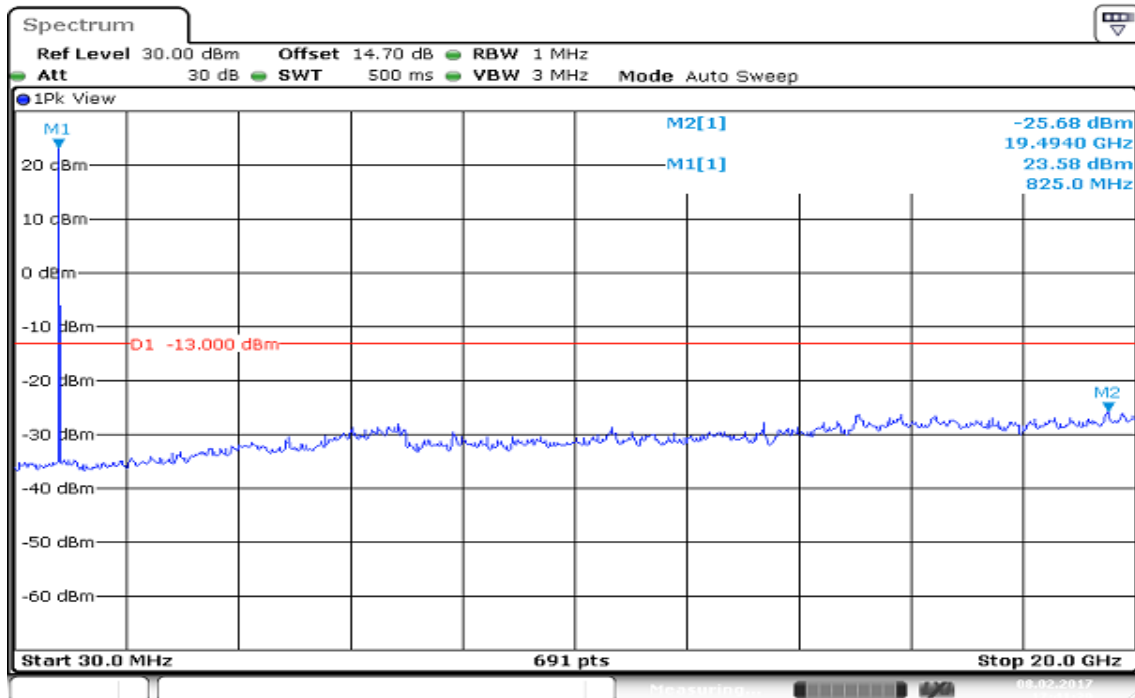
BW: 3MHz / 16QAM / RB =1, RB Offset = 0

CH Low



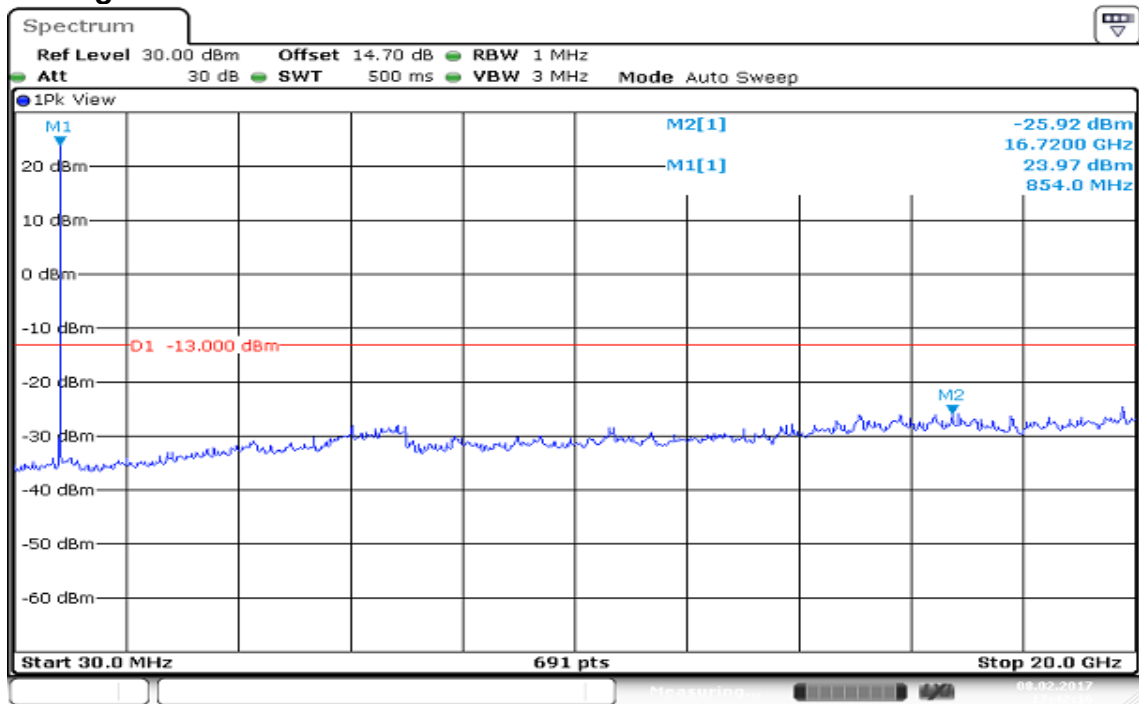
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CH Mid

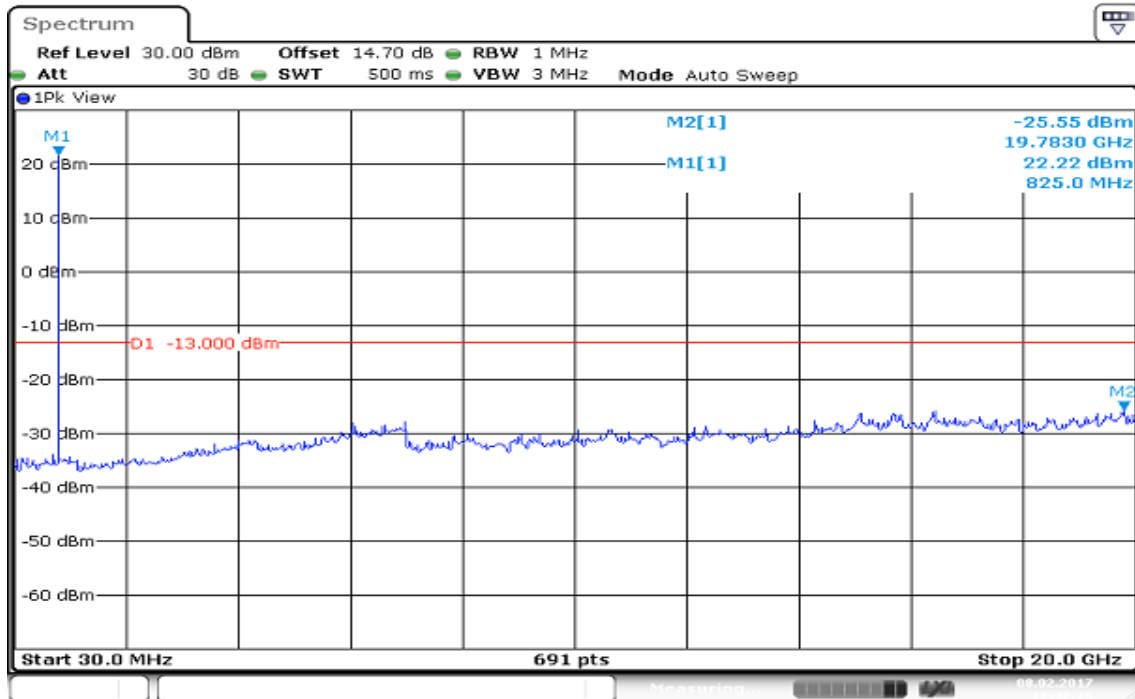


Date: 8.FEB.2017 17:41:29

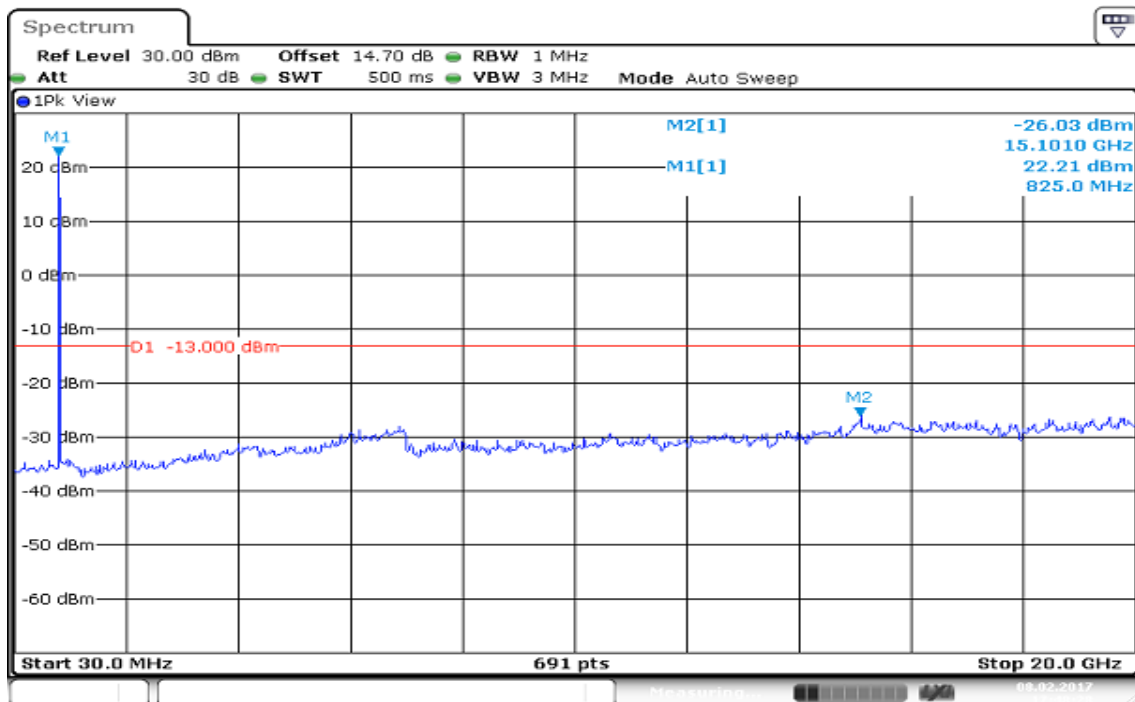
CH High



Date: 8.FEB.2017 17:42:16

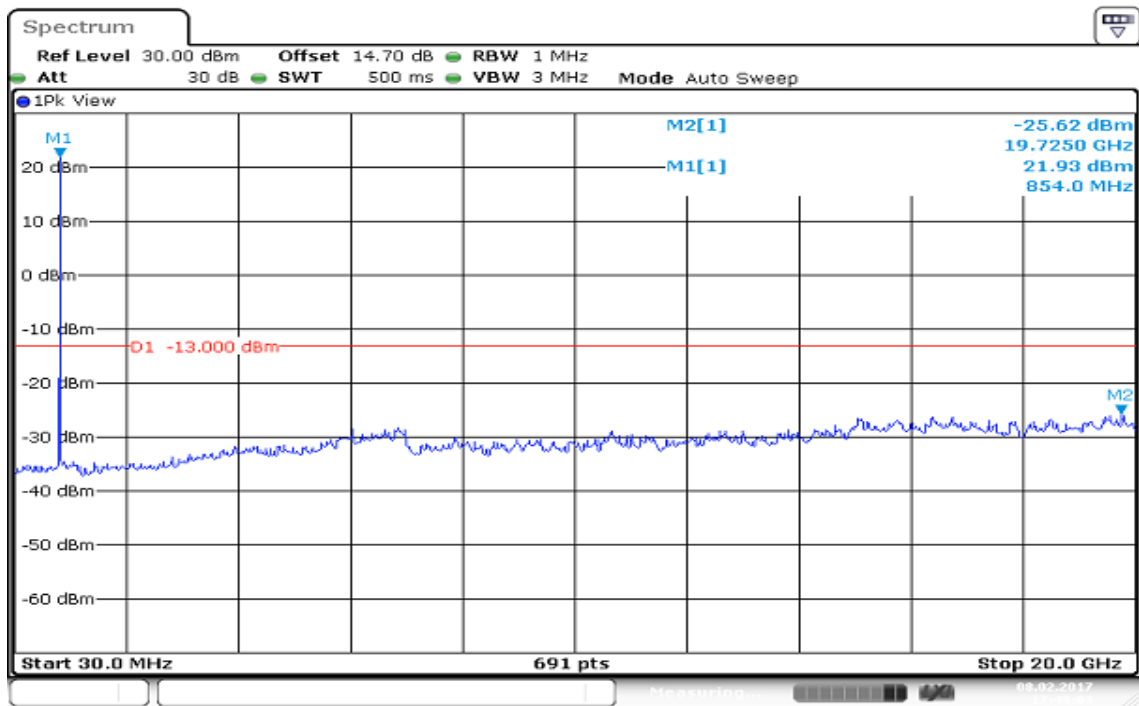
BW: 5MHz / QPSK / RB =1, RB Offset = 0**CH Low**

Date: 8.FEB.2017 17:47:15

CH Mid

Date: 8.FEB.2017 17:48:29

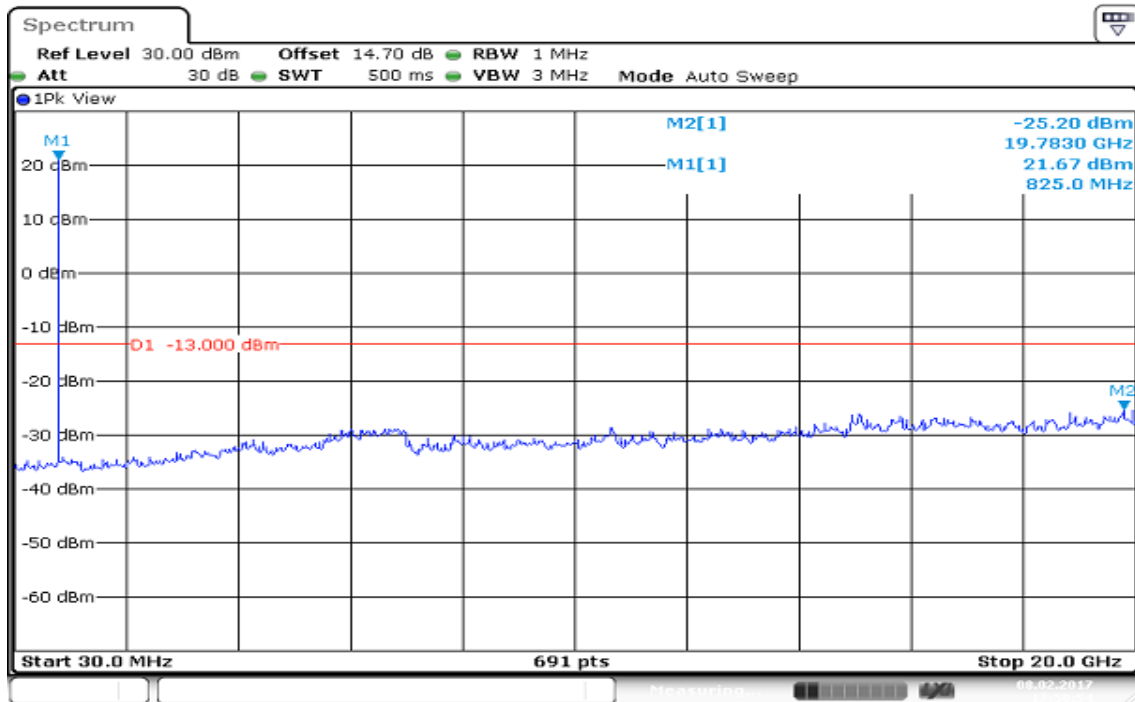
CH High



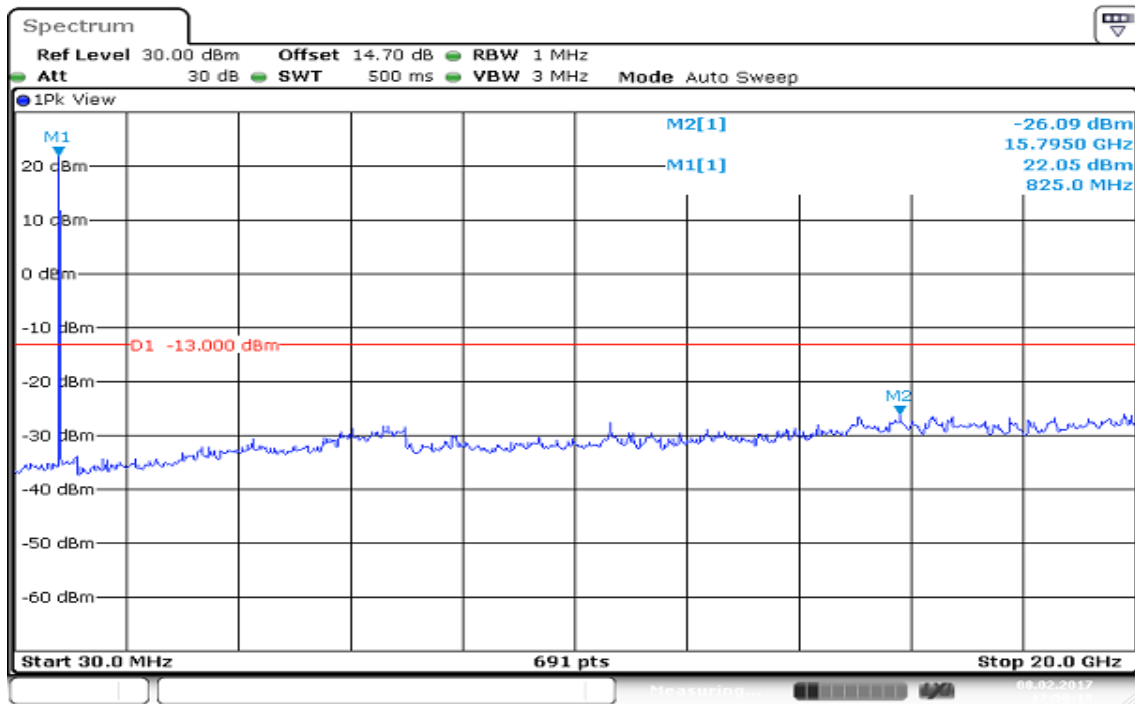
Date: 8.FEB.2017 17:49:03

BW: 5MHz / 16QAM / RB =1, RB Offset = 0

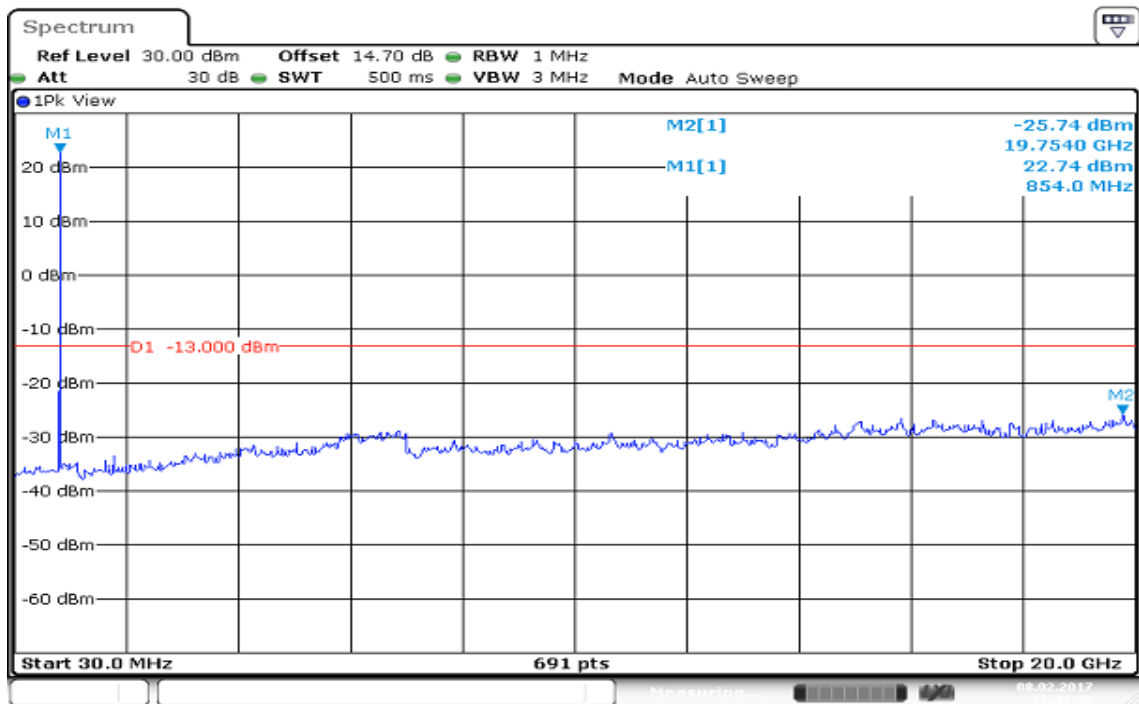
CH Low



CH Mid



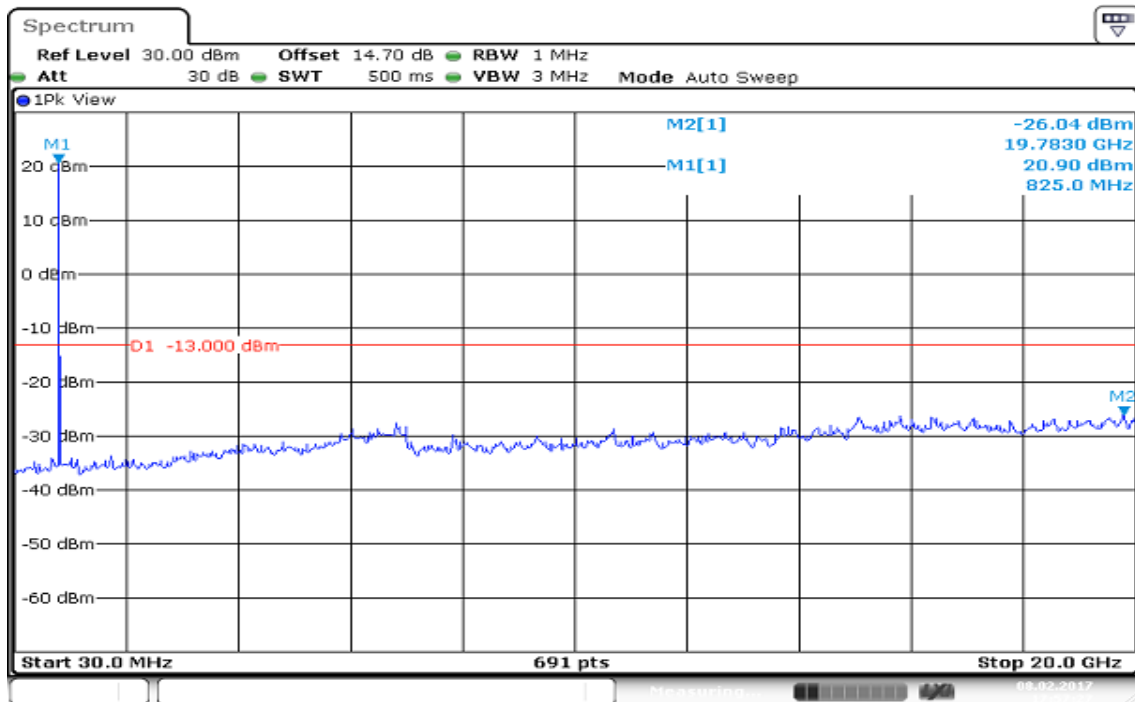
CH High



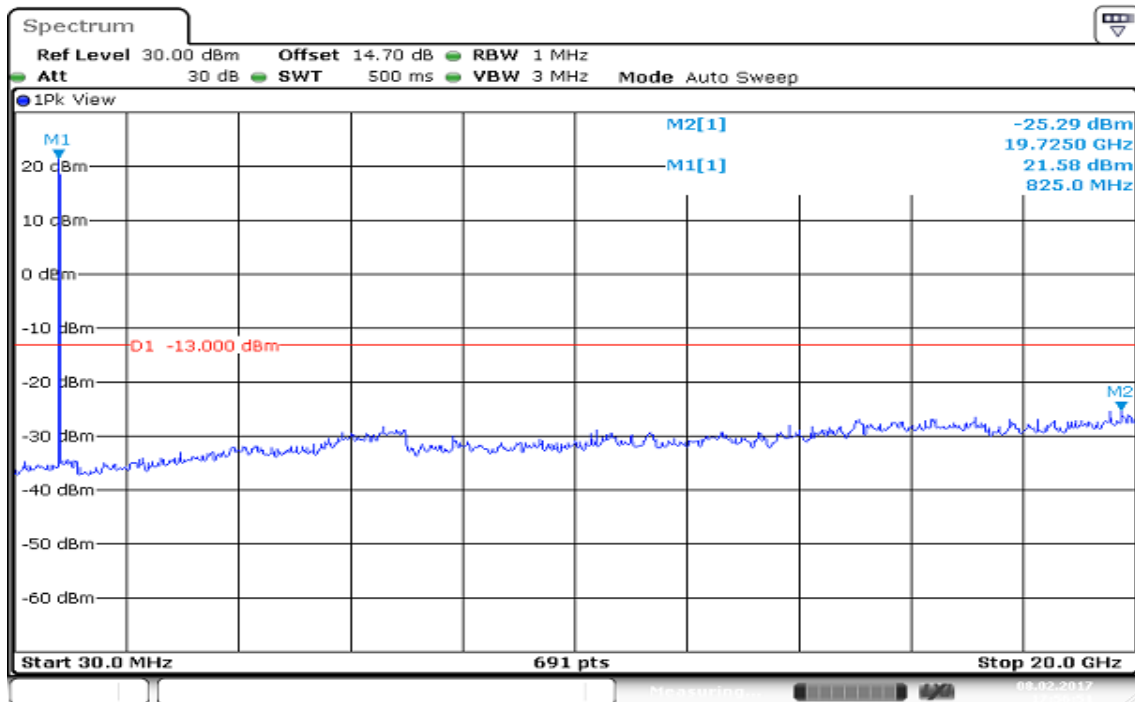
Date: 8.FEB.2017 17:49:28

BW: 10MHz / QPSK / RB =1, RB Offset = 0

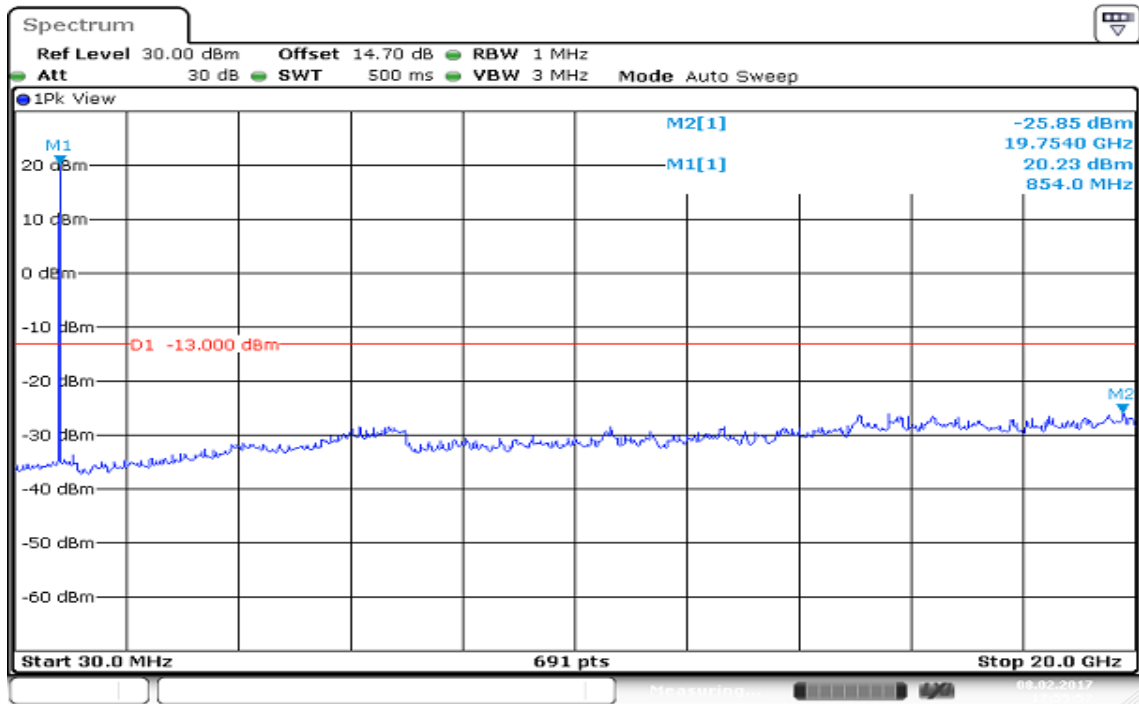
CH Low



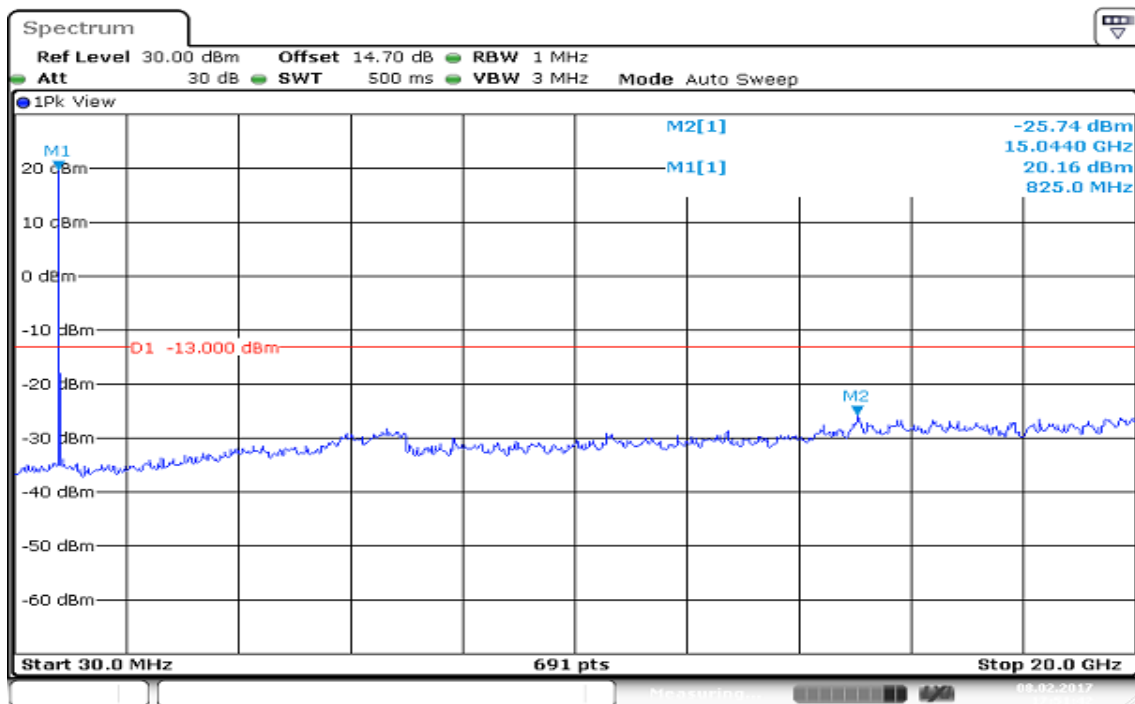
CH Mid



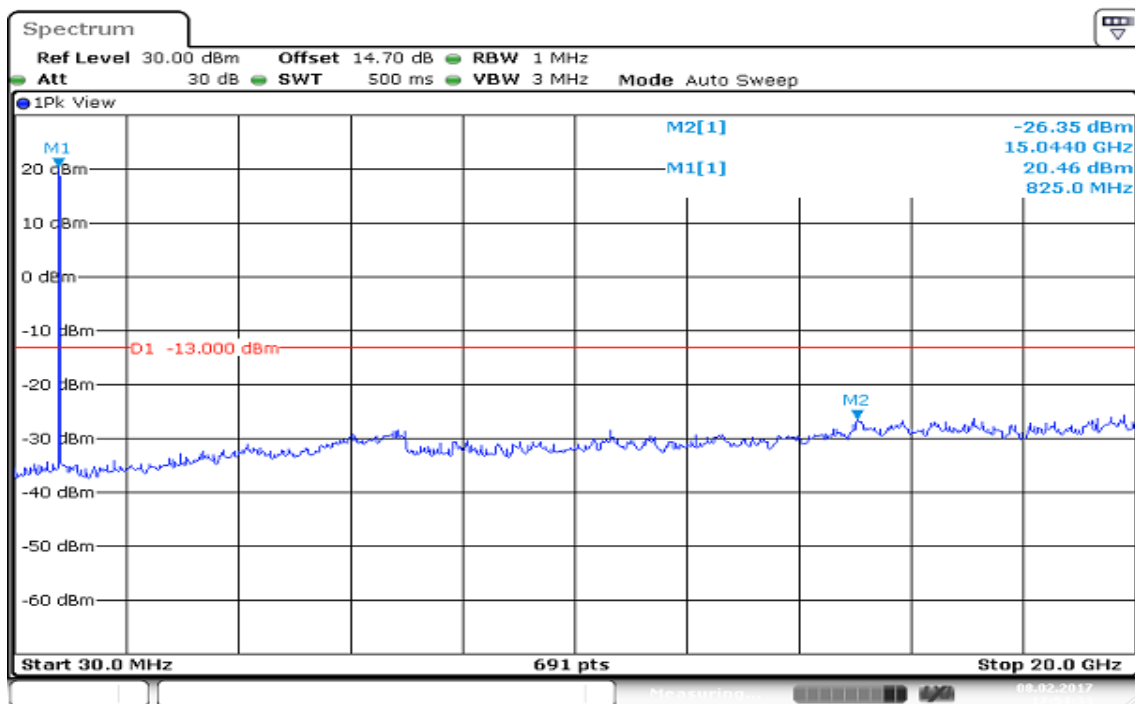
CH High



Date: 8.FEB.2017 17:55:53

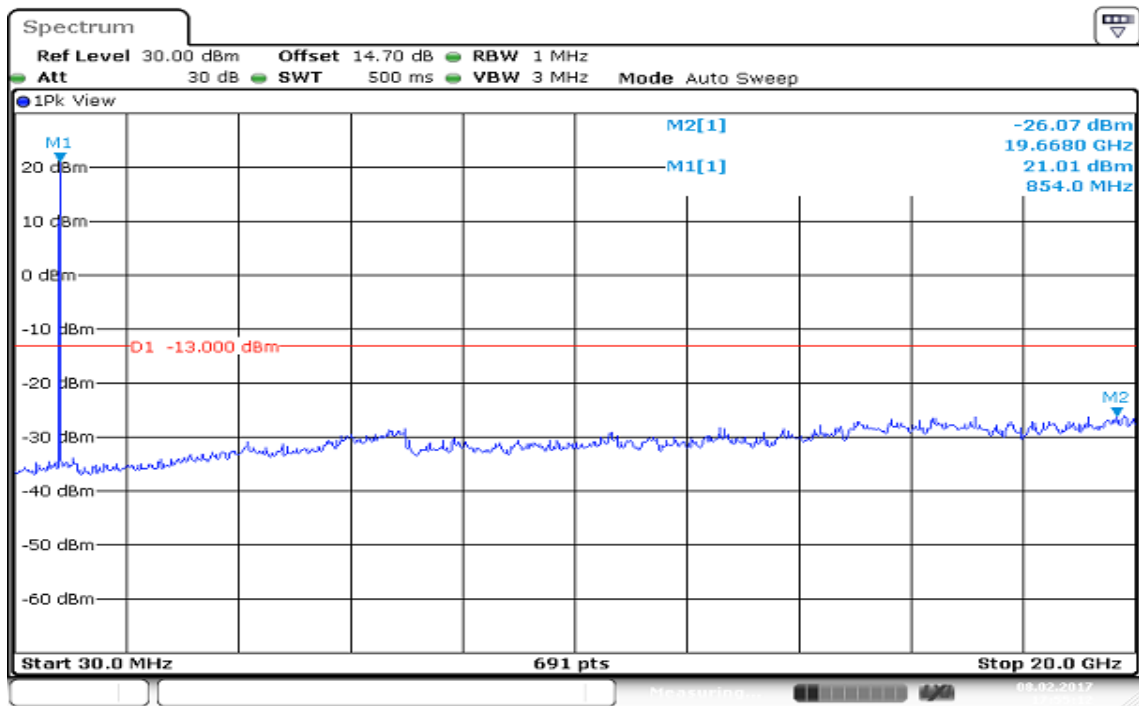
BW: 10MHz / 16QAM / RB =1, RB Offset = 0**CH Low**

Date: 8.FEB.2017 17:51:42

CH Mid

Date: 8.FEB.2017 17:54:34

CH High



Date: 8.FEB.2017 17:55:12

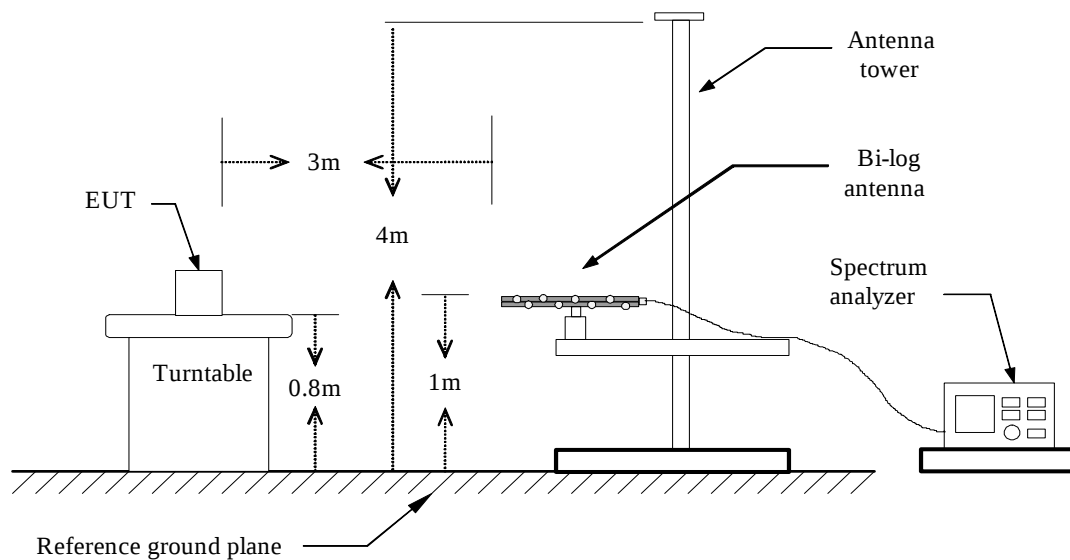
7.8 SPURIOUS RADIATION MEASUREMENT

LIMIT

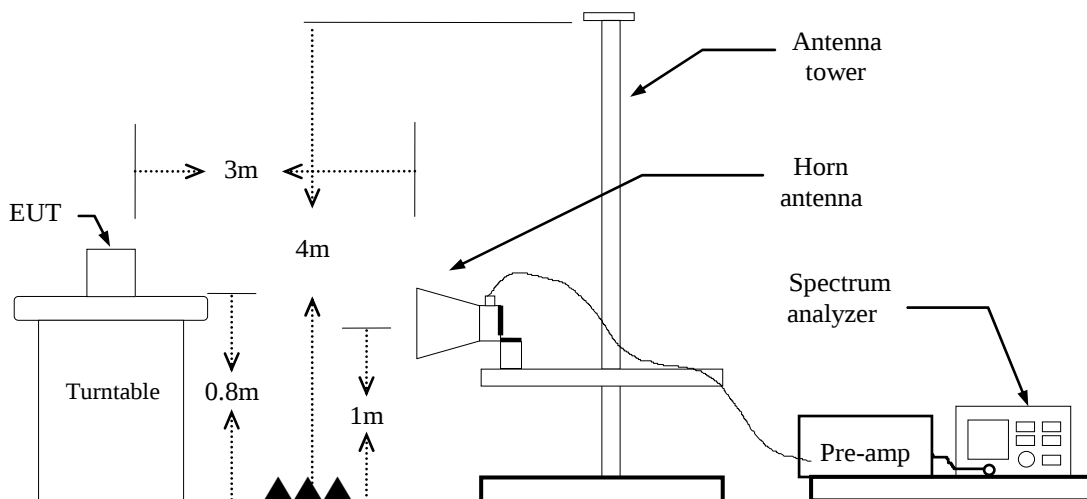
The power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) by at least $43 + 10 \log_{10}(P)$ dB. The limit of emission equal to -13 dBm

Test Configuration

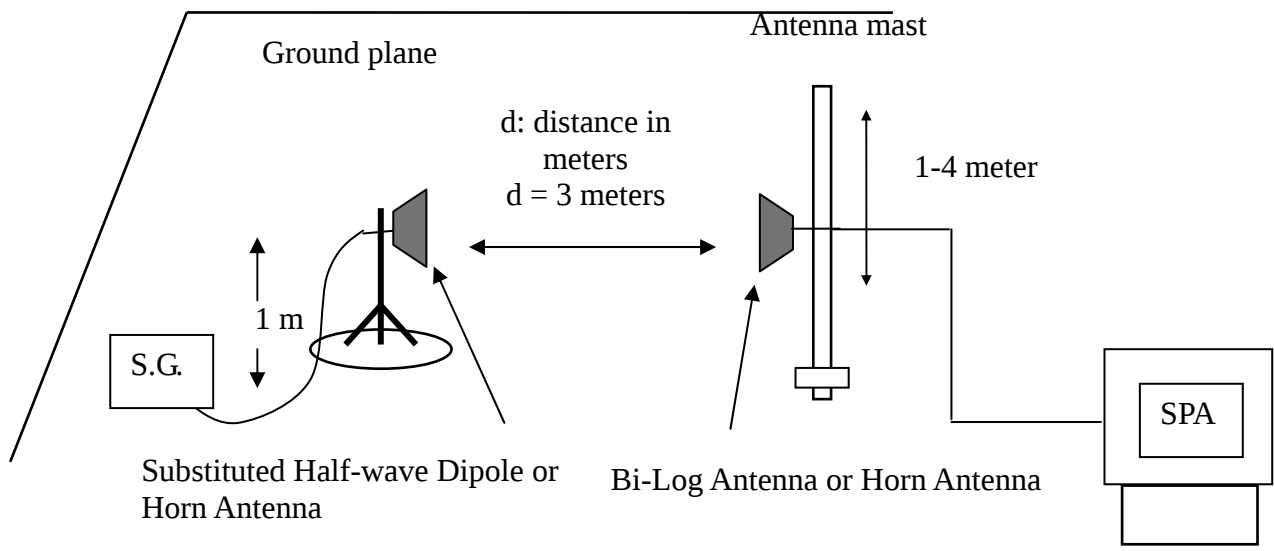
Below 1 GHz



Above 1 GHz



Substituted Method Test Set-up



TEST PROCEDURE

1. According to KDB 971168 D01. Section 5.8 and TIA-603-D:2010 Section 2.2.12.
2. The EUT was placed on a turntable
 - (1) Below 1G : 0.8m
 - (2) Above 1G : 0.8m
 - (3) EUT set 3m from the receiving antenna
 - (4) The table was rotated 360 degrees of the highest spurious emission to determine the position.
3. Set the spectrum analyzer , RBW=1MHz, VBW=3MHz.
4. A horn antenna was driven by a signal generator.
5. Tune the output power of signal generator to the same emission level with EUT maximum spurious emission

$$\text{ERP} = \text{S.G. output (dBm)} + \text{Antenna Gain (dBd)} - \text{Cable (dB)}$$

$$\text{EIRP} = \text{S.G. output (dBm)} + \text{Antenna Gain (dBi)} - \text{Cable (dB)}$$

TEST RESULTS

Refer to the attached tabular data sheets.

Test Results**Below 1GHz****LTE Band 5 / BW: 10MHz / QPSK / RB =1, RB Offset = 0****Operation Mode:** Tx / Mid CH**Test Date:**

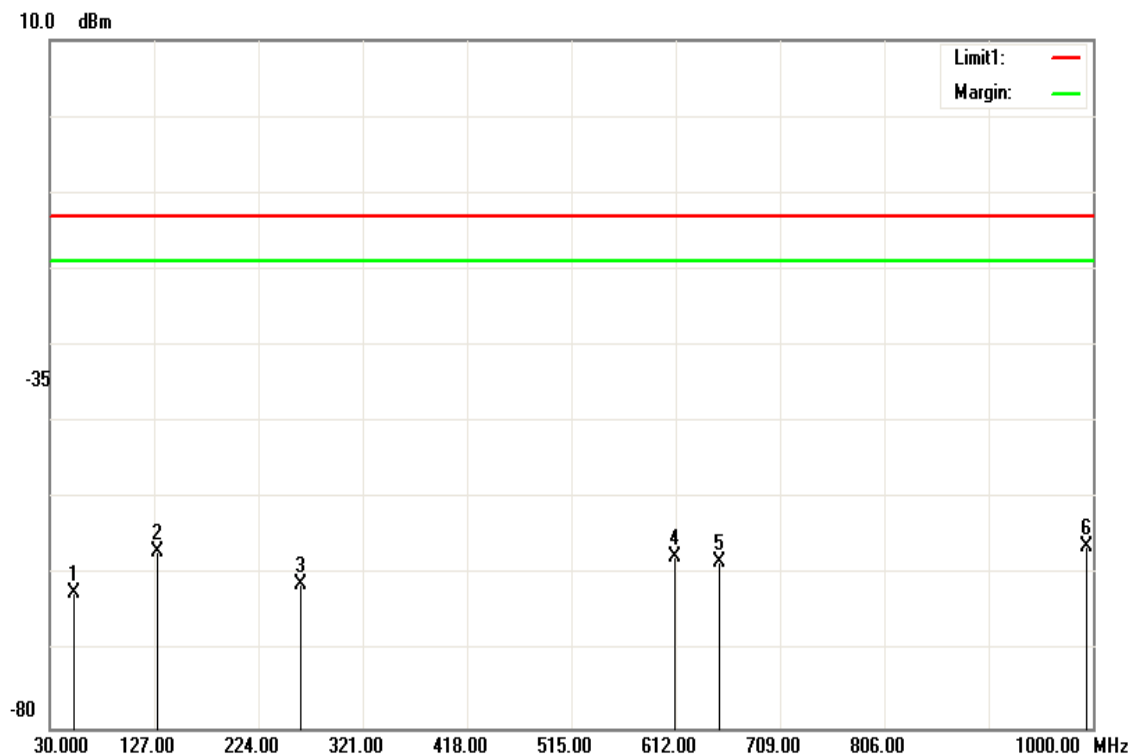
March 9, 2017

Temperature: 22.6°C**Tested by:**

Timmy Wang

Humidity: 57.2% RH**Polarity:**

Ver.



Frequency (MHz)	S.G. (dBm)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
52.3100	-60.37	-2.07	-62.44	-13.00	-49.44	V
129.9100	-57.95	1.05	-56.90	-13.00	-43.90	V
263.7700	-68.58	7.26	-61.32	-13.00	-48.32	V
611.0300	-56.66	-0.95	-57.61	-13.00	-44.61	V
652.7400	-59.69	1.33	-58.36	-13.00	-45.36	V
994.1800	-62.32	5.98	-56.34	-13.00	-43.34	V

Operation Mode: Tx / Mid CH

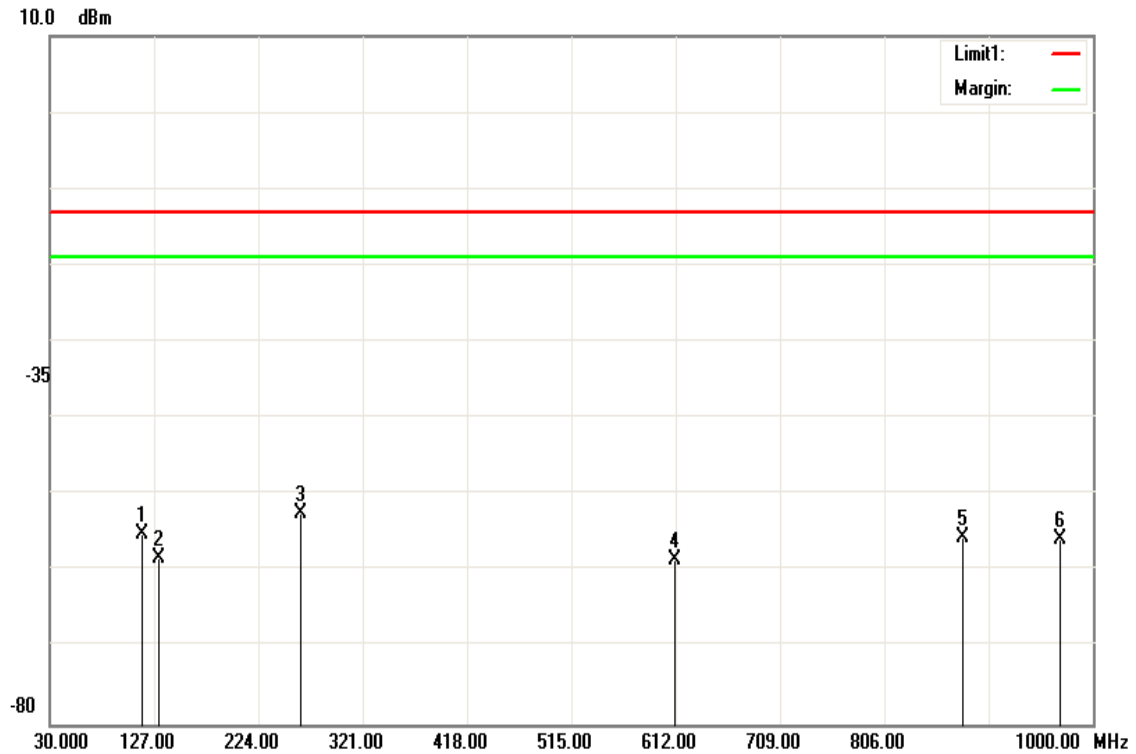
Test Date: March 9, 2017

Temperature: 22.6°C

Tested by: Timmy Wang

Humidity: 57.2% RH

Polarity: Hor.



Frequency (MHz)	S.G. (dBm)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
115.3600	-55.85	0.71	-55.14	-13.00	-42.14	H
130.8800	-59.29	1.06	-58.23	-13.00	-45.23	H
263.7700	-59.79	7.26	-52.53	-13.00	-39.53	H
611.0300	-57.55	-0.95	-58.50	-13.00	-45.50	H
878.7500	-57.02	1.33	-55.69	-13.00	-42.69	H
969.9300	-59.31	3.42	-55.89	-13.00	-42.89	H

LTE Band 5 / BW: 10MHz / 16QAM / RB =1, RB Offset = 0

Operation Mode: Tx / Mid CH

Test Date:

March 9, 2017

Temperature: 22.6°C

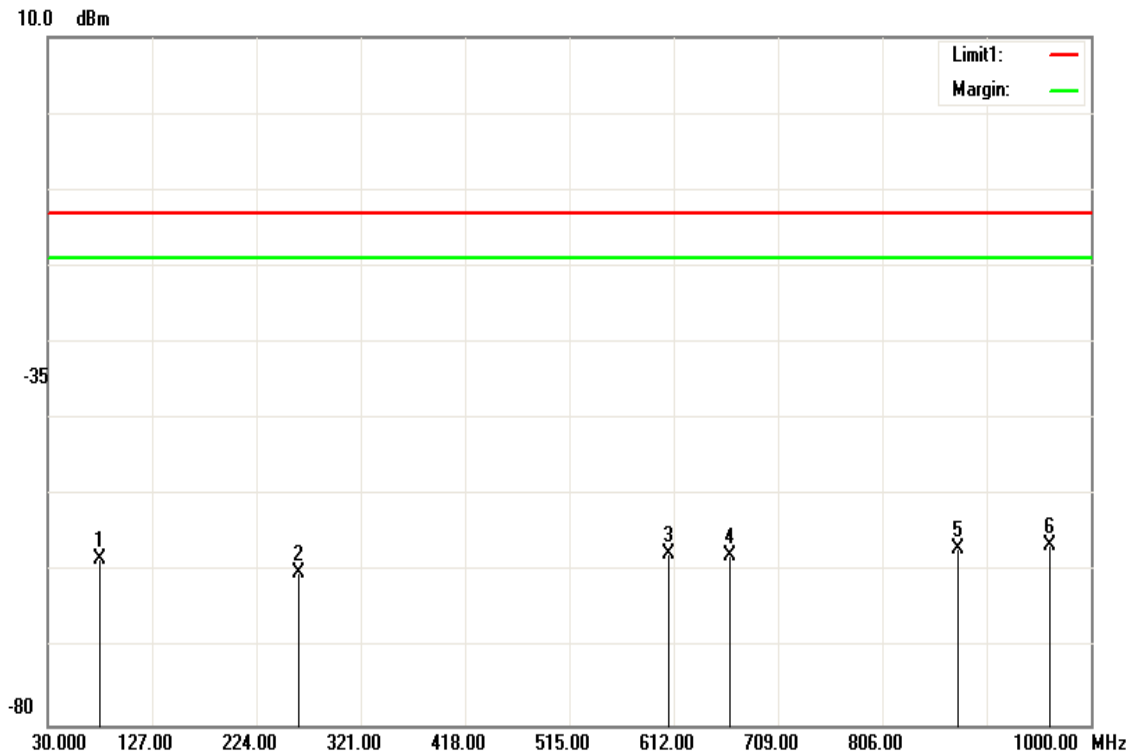
Tested by:

Timmy Wang

Humidity: 57.2% RH

Polarity:

Ver.



Frequency (MHz)	S.G. (dBm)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
78.5000	-58.85	0.53	-58.32	-13.00	-45.32	V
263.7700	-67.35	7.26	-60.09	-13.00	-47.09	V
607.1500	-56.4	-1.17	-57.57	-13.00	-44.57	V
664.3800	-59.37	1.51	-57.86	-13.00	-44.86	V
876.8100	-58.24	1.32	-56.92	-13.00	-43.92	V
962.1700	-59.13	2.6	-56.53	-13.00	-43.53	V

Operation Mode: Tx / Mid CH I

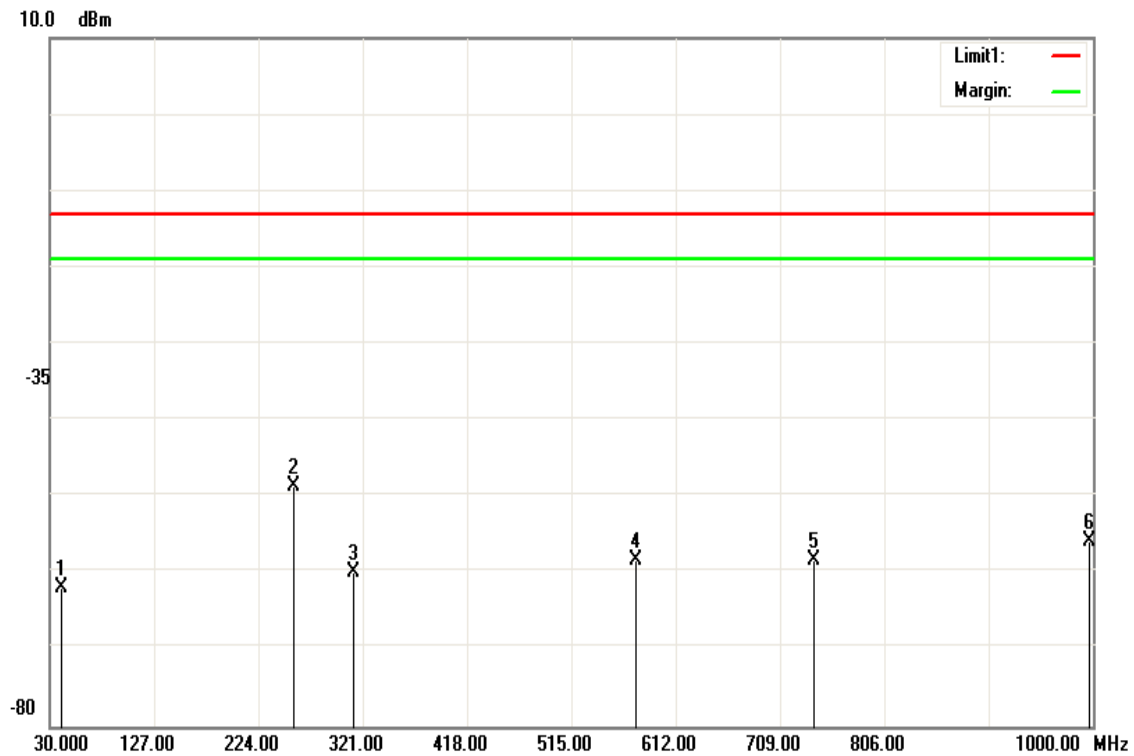
Test Date: March 9, 2017

Temperature: 22.6°C

Tested by: Timmy Wang

Humidity: 57.2% RH

Polarity: Hor.



Frequency (MHz)	S.G. (dBm)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
40.6700	-56.19	-5.71	-61.90	-13.00	-48.90	H
256.9800	-55.99	7.33	-48.66	-13.00	-35.66	H
312.2700	-66.91	6.95	-59.96	-13.00	-46.96	H
575.1400	-60.88	2.61	-58.27	-13.00	-45.27	H
741.0100	-59.93	1.74	-58.19	-13.00	-45.19	H
996.1200	-61.96	6.19	-55.77	-13.00	-42.77	H

LTE Band 2 / BW: 20MHz / QPSK / RB =1, RB Offset = 0**Operation Mode:** Tx / Mid CH**Test Date:**

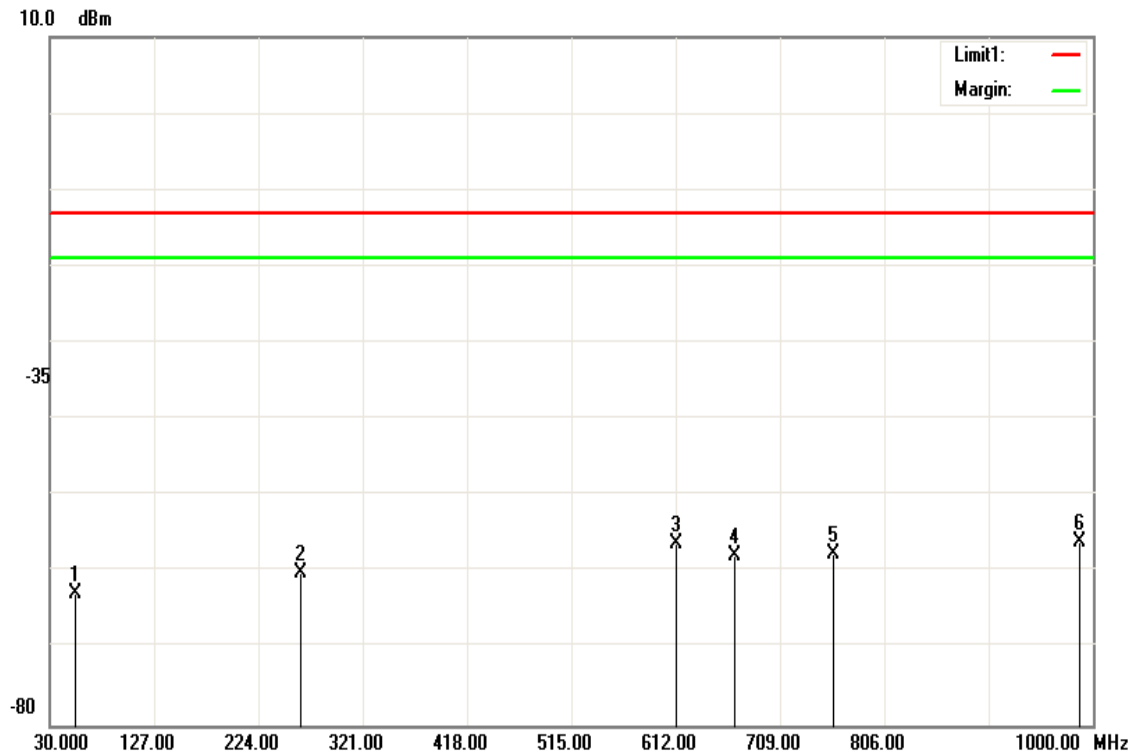
March 9, 2017

Temperature: 22.6°C**Tested by:**

Timmy Wang

Humidity: 57.2% RH**Polarity:**

Ver.



Frequency (MHz)	S.G. (dBm)	Ant. Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
53.2800	-60.78	-1.97	-62.75	-13.00	-49.75	V
263.7700	-67.35	7.26	-60.09	-13.00	-47.09	V
612.9700	-55.43	-0.84	-56.27	-13.00	-43.27	V
667.2900	-59.3	1.55	-57.75	-13.00	-44.75	V
758.4700	-59.33	1.61	-57.72	-13.00	-44.72	V
987.3900	-61.24	5.27	-55.97	-13.00	-42.97	V

Operation Mode: Tx / Mid CH

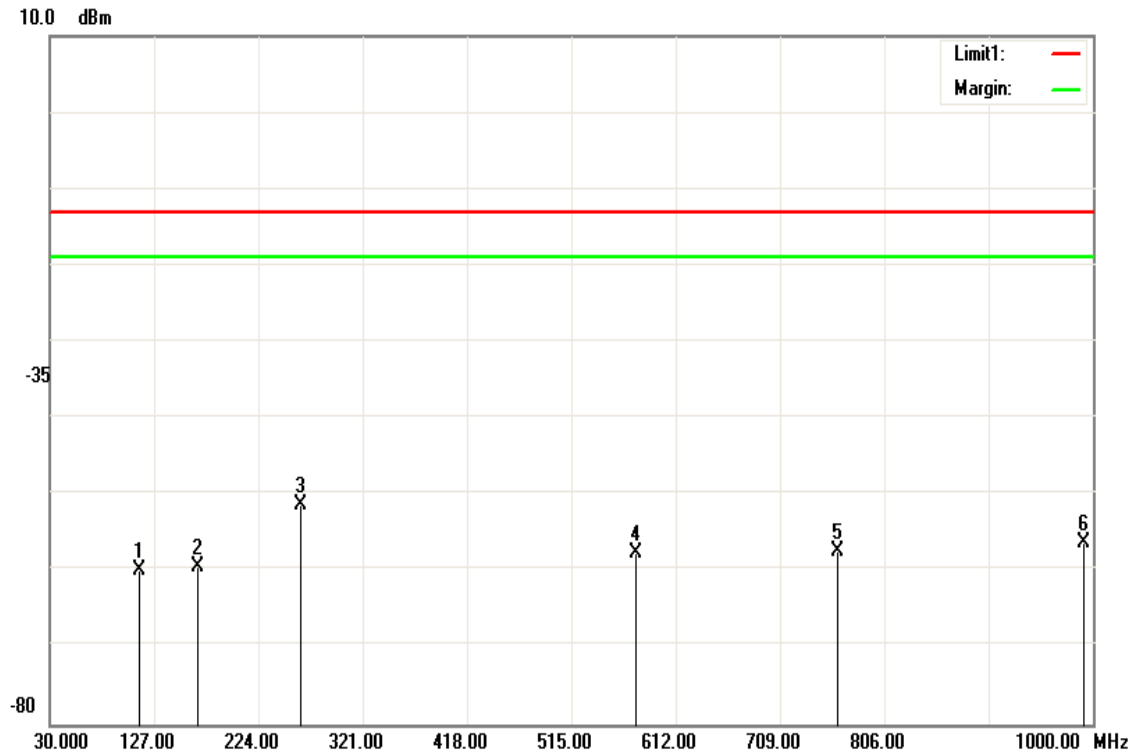
Test Date: March 9, 2017

Temperature: 22.6°C

Tested by: Timmy Wang

Humidity: 57.2% RH

Polarity: Hor.



Frequency (MHz)	S.G. (dBm)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
113.4200	-60.39	0.64	-59.75	-13.00	-46.75	H
167.7400	-60.64	1.22	-59.42	-13.00	-46.42	H
263.7700	-58.57	7.26	-51.31	-13.00	-38.31	H
575.1400	-60.22	2.61	-57.61	-13.00	-44.61	H
762.3500	-59	1.58	-57.42	-13.00	-44.42	H
991.2700	-61.93	5.68	-56.25	-13.00	-43.25	H

LTE Band 2 / BW: 20MHz / 16QAM / RB =1, RB Offset = 0

Operation Mode: Tx / Mid CH

Test Date:

March 9, 2017

Temperature: 22.6°C

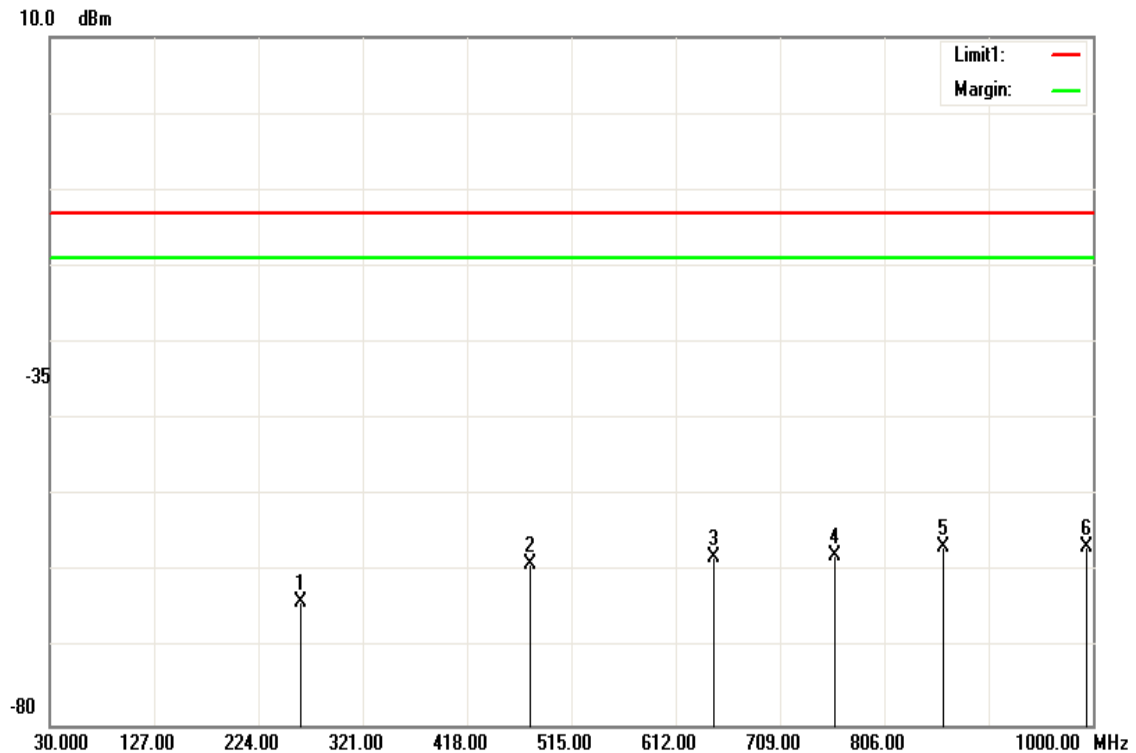
Tested by:

Timmy Wang

Humidity: 57.2% RH

Polarity:

Ver.



Frequency (MHz)	S.G. (dBm)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
263.7700	-71.13	7.26	-63.87	-13.00	-50.87	V
477.1700	-65.93	6.91	-59.02	-13.00	-46.02	V
646.9200	-59.16	1.11	-58.05	-13.00	-45.05	V
759.4400	-59.37	1.6	-57.77	-13.00	-44.77	V
861.2900	-57.85	1.23	-56.62	-13.00	-43.62	V
994.1800	-62.73	5.98	-56.75	-13.00	-43.75	V

Operation Mode: Tx / Mid CH

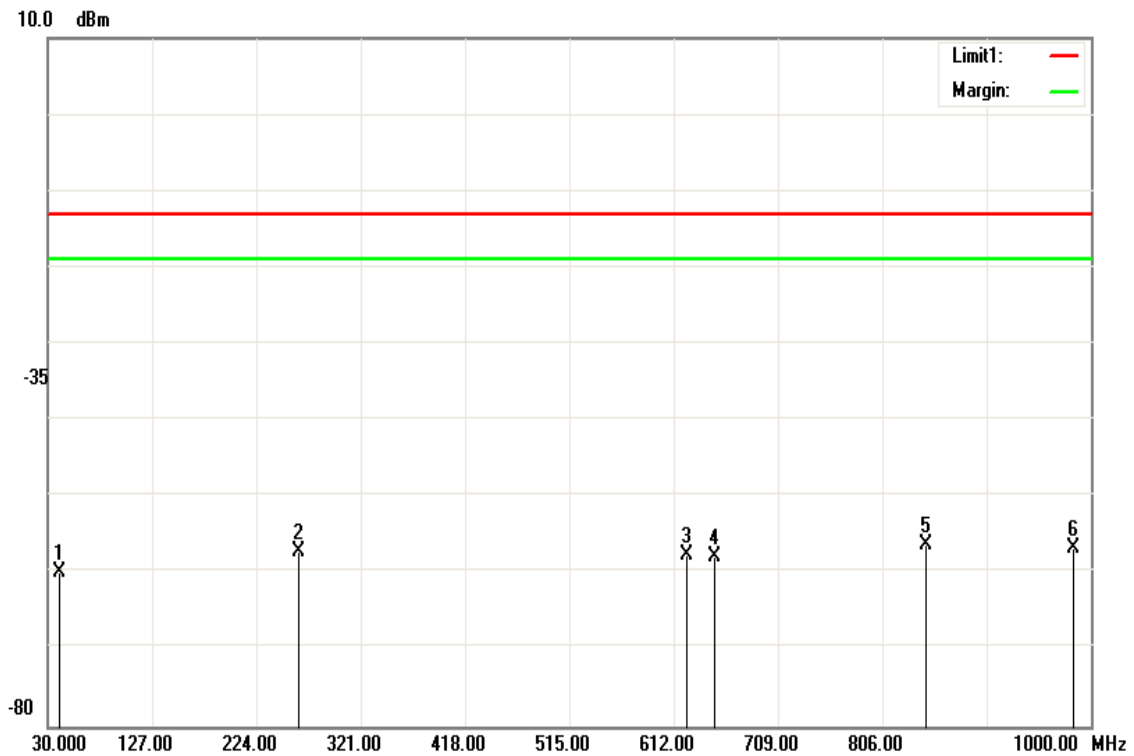
Test Date: March 9, 2017

Temperature: 22.6°C

Tested by: Timmy Wang

Humidity: 57.2% RH

Polarity: Hor.



Frequency (MHz)	S.G. (dBm)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
40.6700	-54.18	-5.71	-59.89	-13.00	-46.89	H
263.7700	-64.53	7.26	-57.27	-13.00	-44.27	H
624.6100	-57.5	-0.17	-57.67	-13.00	-44.67	H
649.8300	-59.04	1.28	-57.76	-13.00	-44.76	H
846.7400	-57.54	1.18	-56.36	-13.00	-43.36	H
983.5100	-61.49	4.86	-56.63	-13.00	-43.63	H

Above 1GHz**LTE Band 5 / BW: 10 MHz / QPSK / RB =1, RB Offset = 0****Operation Mode:** Tx / Low CH**Test Date:**

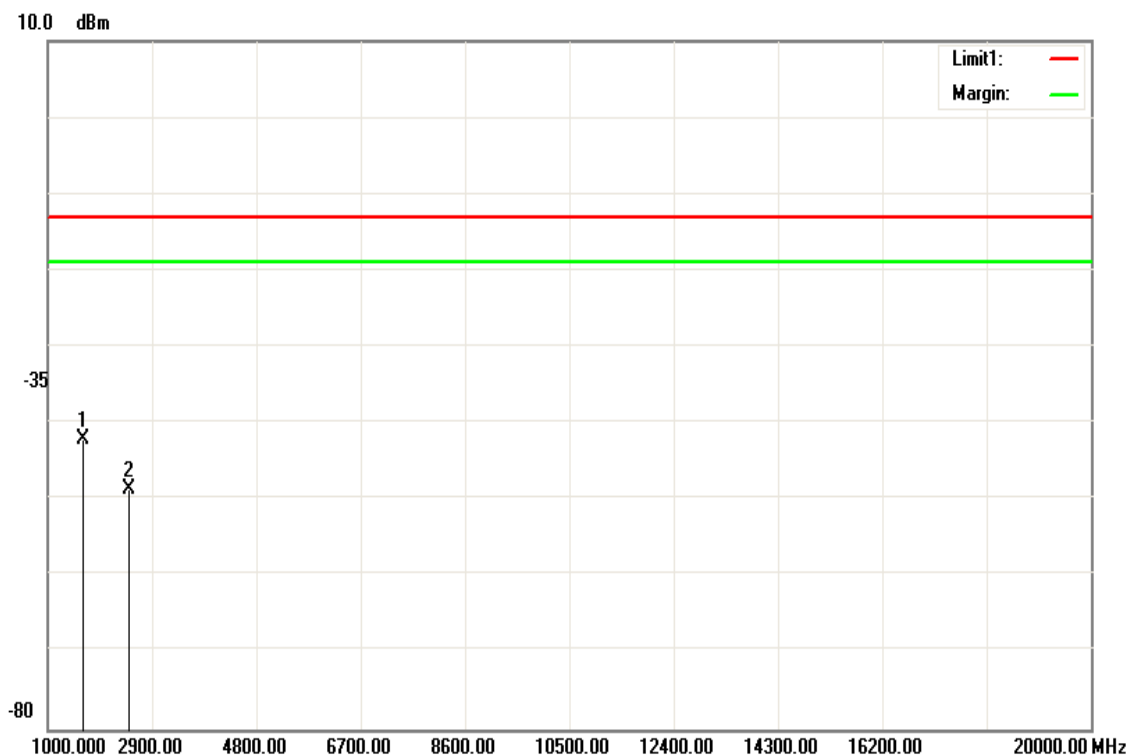
March 9, 2017

Temperature: 22.6°C**Tested by:**

Timmy Wang

Humidity: 57.2% RH**Polarity:**

Ver.



Frequency (MHz)	S.G. (dBm)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
1651.000	-43.53	1.52	-42.01	-13.00	-29.01	V
2473.000	-50.39	1.83	-48.56	-13.00	-35.56	V
N/A						

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

Operation Mode: Tx / Low CH

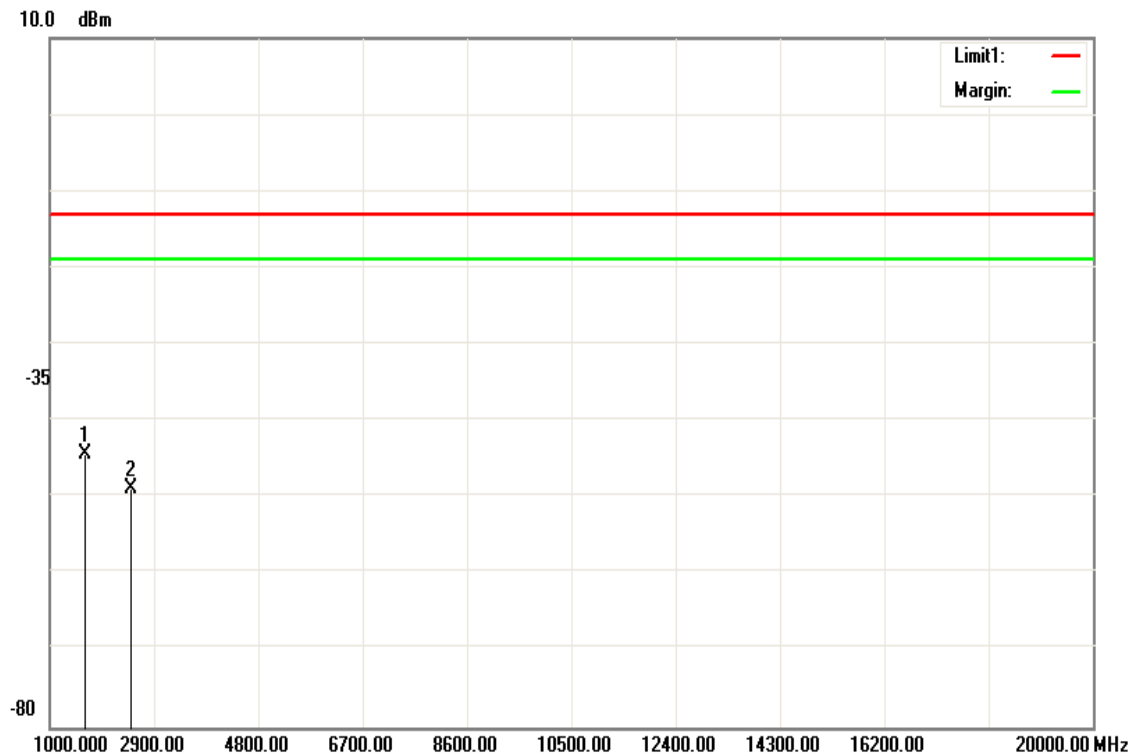
Test Date: March 9, 2017

Temperature: 22.6°C

Tested by: Timmy Wang

Humidity: 57.2% RH

Polarity: Hor.



Frequency (MHz)	S.G. (dBm)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
1651.000	-45.76	1.52	-44.24	-13.00	-31.24	H
2473.000	-50.77	1.83	-48.94	-13.00	-35.94	H
N/A						

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

Operation Mode: Tx / Mid CH

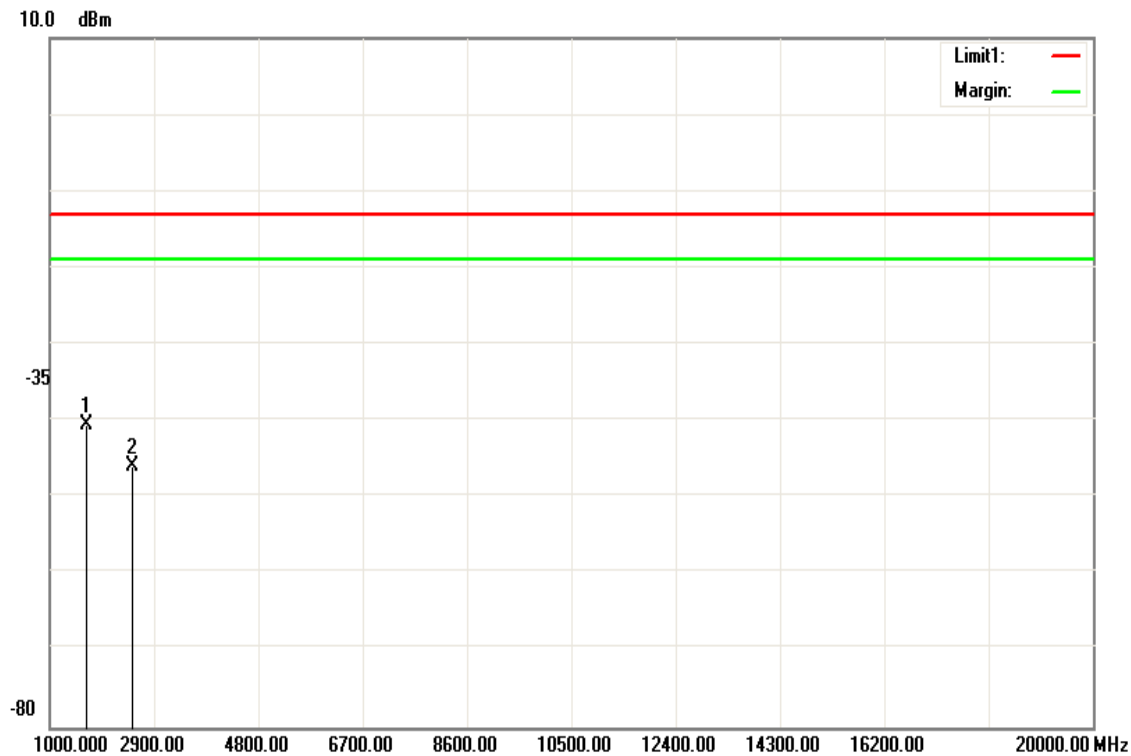
Test Date: March 9, 2017

Temperature: 22.6°C

Tested by: Timmy Wang

Humidity: 57.2% RH

Polarity: Ver.



Frequency (MHz)	S.G. (dBm)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
1665.000	-41.93	1.52	-40.41	-13.00	-27.41	V
2496.000	-47.87	1.85	-46.02	-13.00	-33.02	V
N/A						

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

Operation Mode: Tx / Mid CH

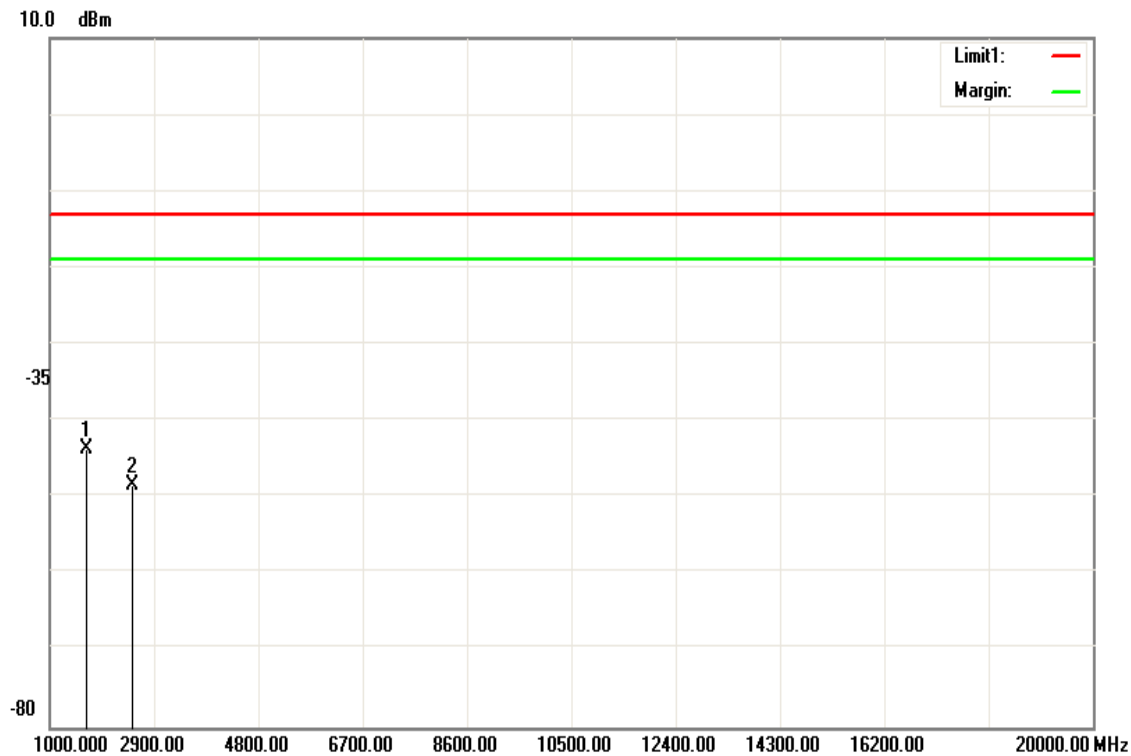
Test Date: March 9, 2017

Temperature: 22.6°C

Tested by: Timmy Wang

Humidity: 57.2% RH

Polarity: Hor.



Frequency (MHz)	S.G. (dBm)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
1665.000	-45.08	1.52	-43.56	-13.00	-30.56	H
2496.000	-50.32	1.85	-48.47	-13.00	-35.47	H
N/A						

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

Operation Mode: Tx / High CH

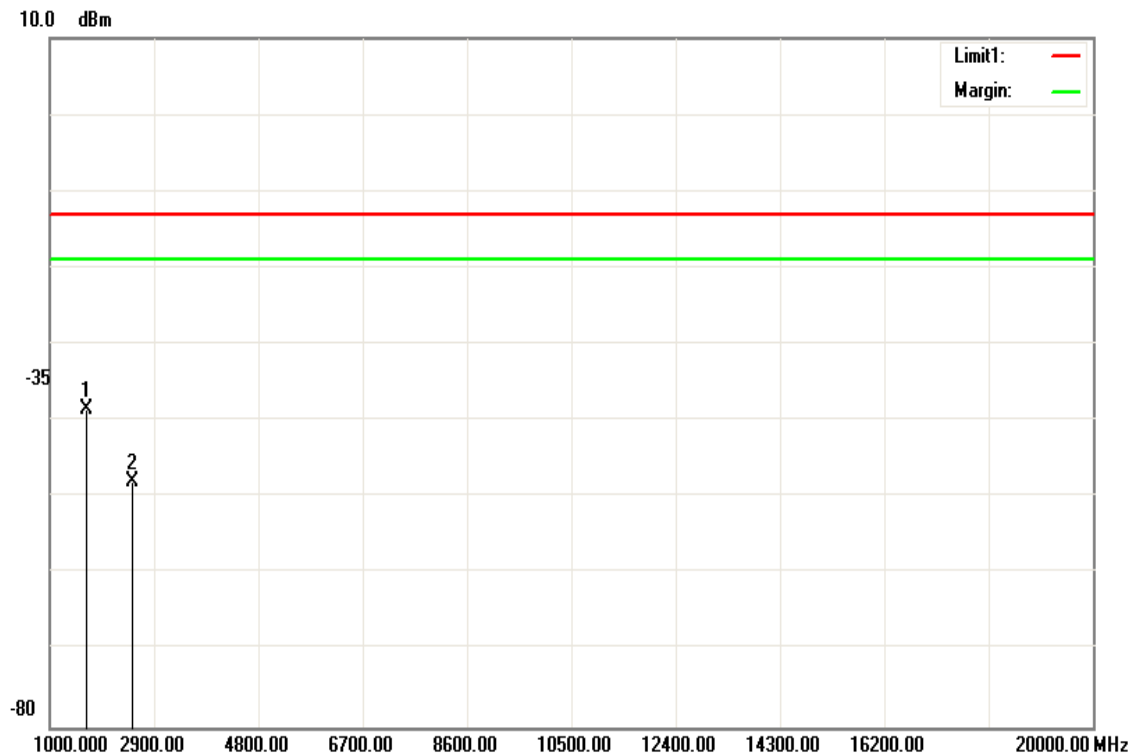
Test Date: March 9, 2017

Temperature: 22.6°C

Tested by: Timmy Wang

Humidity: 57.2% RH

Polarity: Ver.



Frequency (MHz)	S.G. (dBm)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
1679.000	-40.06	1.52	-38.54	-13.00	-25.54	V
2518.000	-50.13	2.19	-47.94	-13.00	-34.94	V
N/A						

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

Operation Mode: Tx / High CH

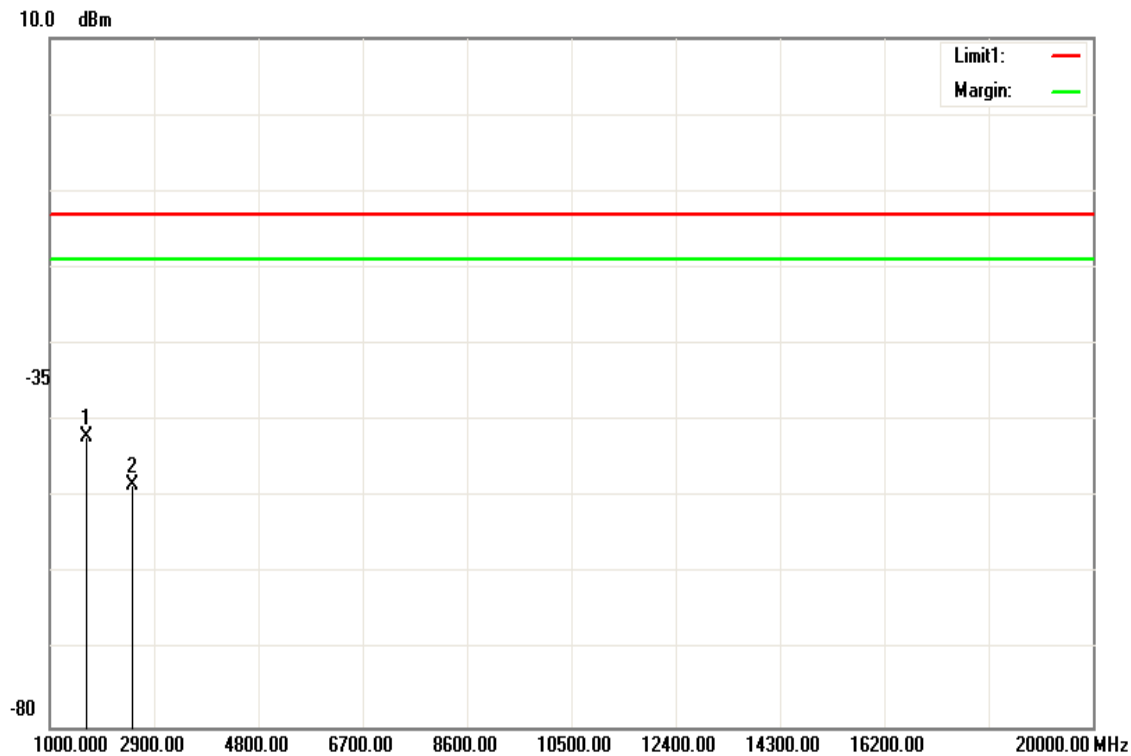
Test Date: March 9, 2017

Temperature: 22.6°C

Tested by: Timmy Wang

Humidity: 57.2% RH

Polarity: Hor.



Frequency (MHz)	S.G. (dBm)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
1679.000	-43.67	1.52	-42.15	-13.00	-29.15	H
2518.000	-50.67	2.19	-48.48	-13.00	-35.48	H
N/A						

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

LTE Band 5 / BW: 10MHz / 16QAM / RB =1, RB Offset = 0**Operation Mode:** Tx / Low CH**Test Date:**

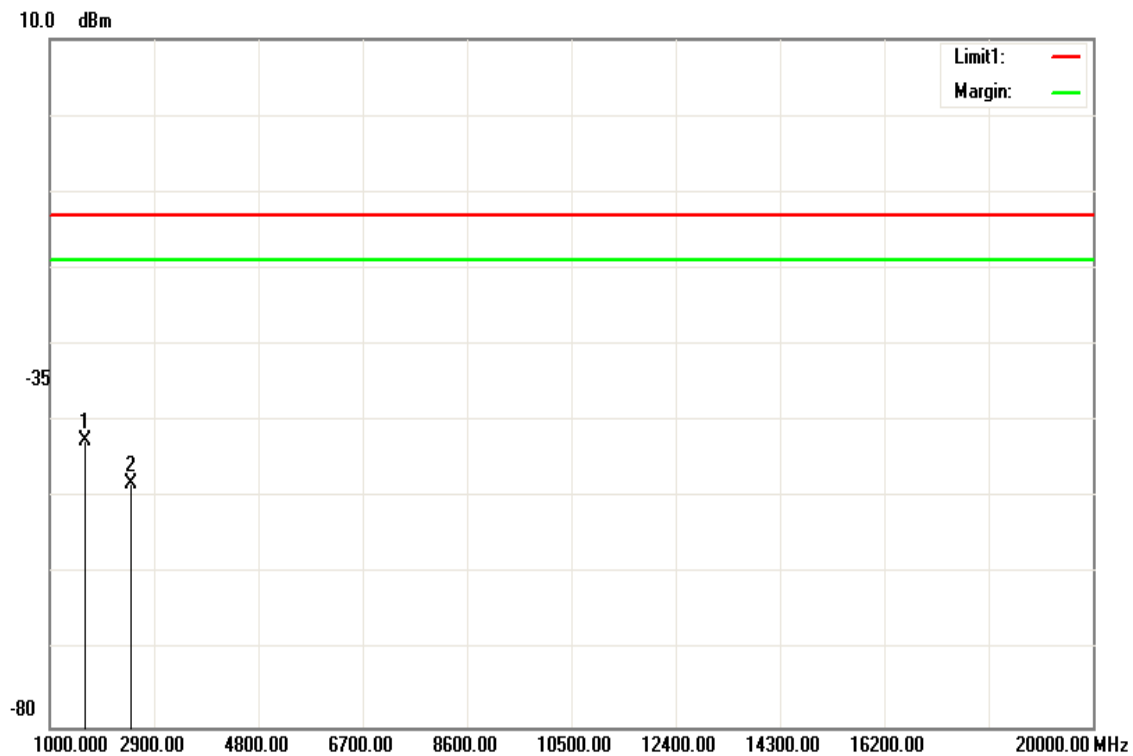
March 9, 2017

Temperature: 22.6°C**Tested by:**

Timmy Wang

Humidity: 57.2% RH**Polarity:**

Ver.



Frequency (MHz)	S.G. (dBm)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
1651.000	-44.02	1.52	-42.50	-13.00	-29.50	V
2473.000	-50.02	1.83	-48.19	-13.00	-35.19	V
N/A						

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

Operation Mode: Tx / Low CH

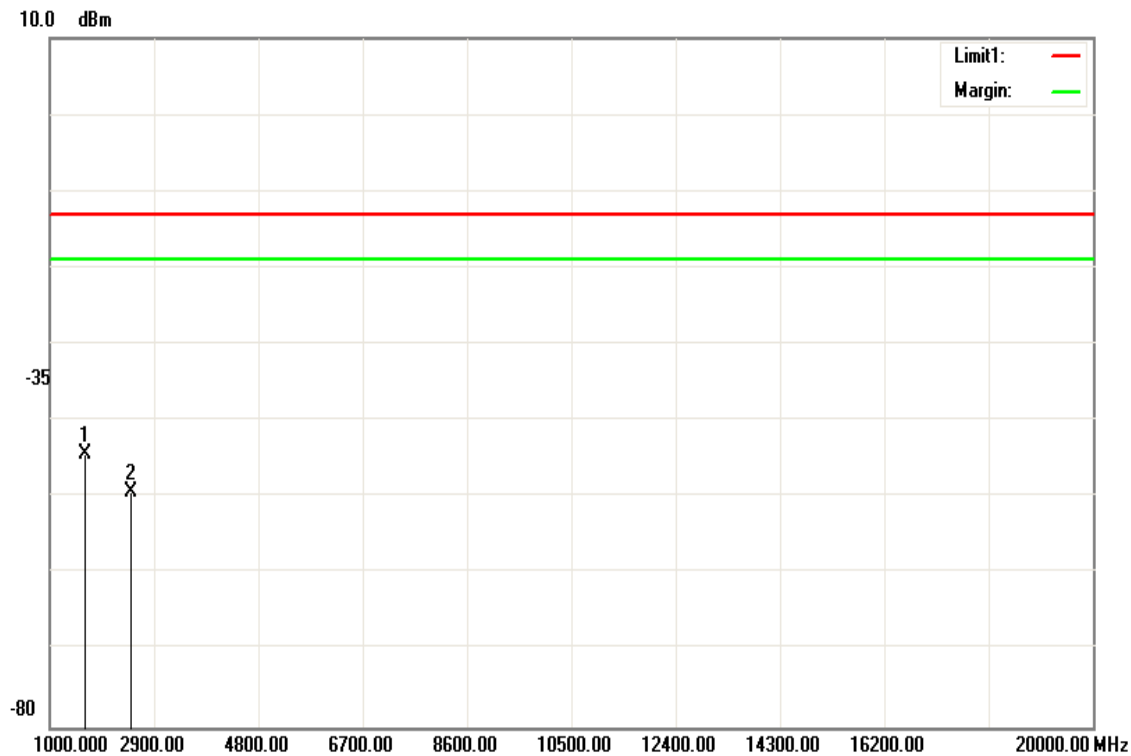
Test Date: March 9, 2017

Temperature: 22.6°C

Tested by: Timmy Wang

Humidity: 57.2% RH

Polarity: Hor.



Frequency (MHz)	S.G. (dBm)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
1651.000	-45.89	1.52	-44.37	-13.00	-31.37	peak
2473.000	-51.09	1.83	-49.26	-13.00	-36.26	peak
N/A						

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

Operation Mode: Tx / Mid CH

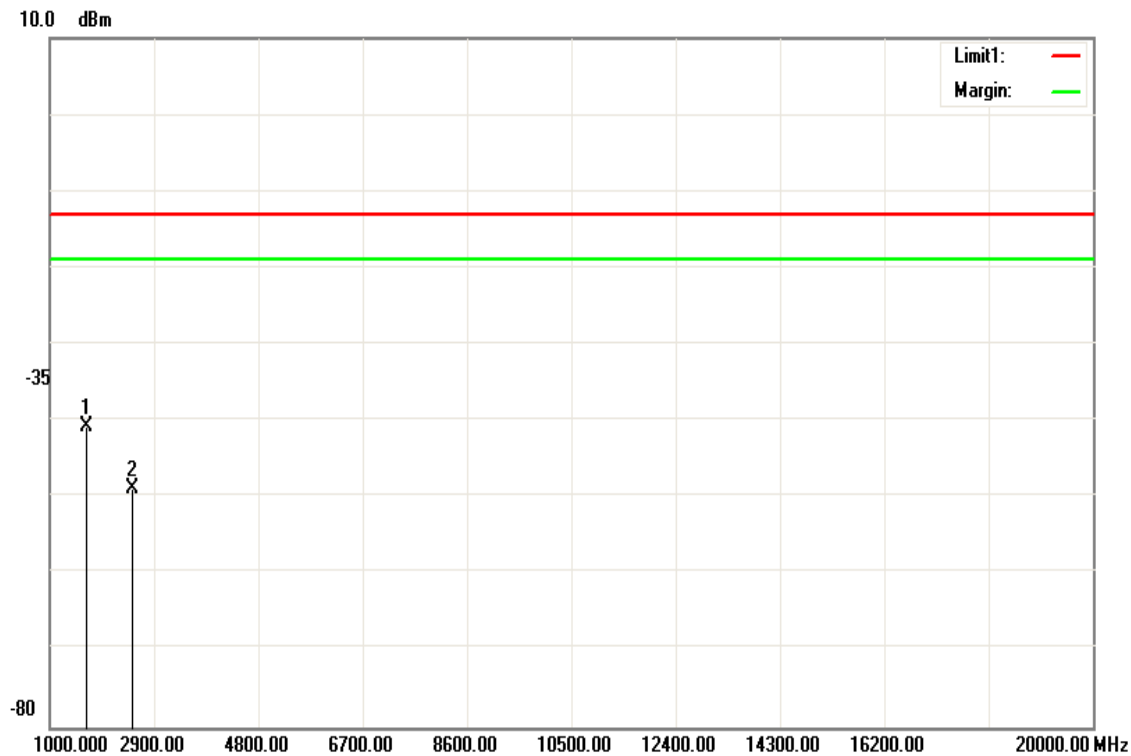
Test Date: March 9, 2017

Temperature: 22.6°C

Tested by: Timmy Wang

Humidity: 57.2% RH

Polarity: Ver.



Frequency (MHz)	S.G. (dBm)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
1664.000	-42.27	1.52	-40.75	-13.00	-27.75	V
2496.000	-50.64	1.85	-48.79	-13.00	-35.79	V
N/A						

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

Operation Mode: Tx / Mid CH

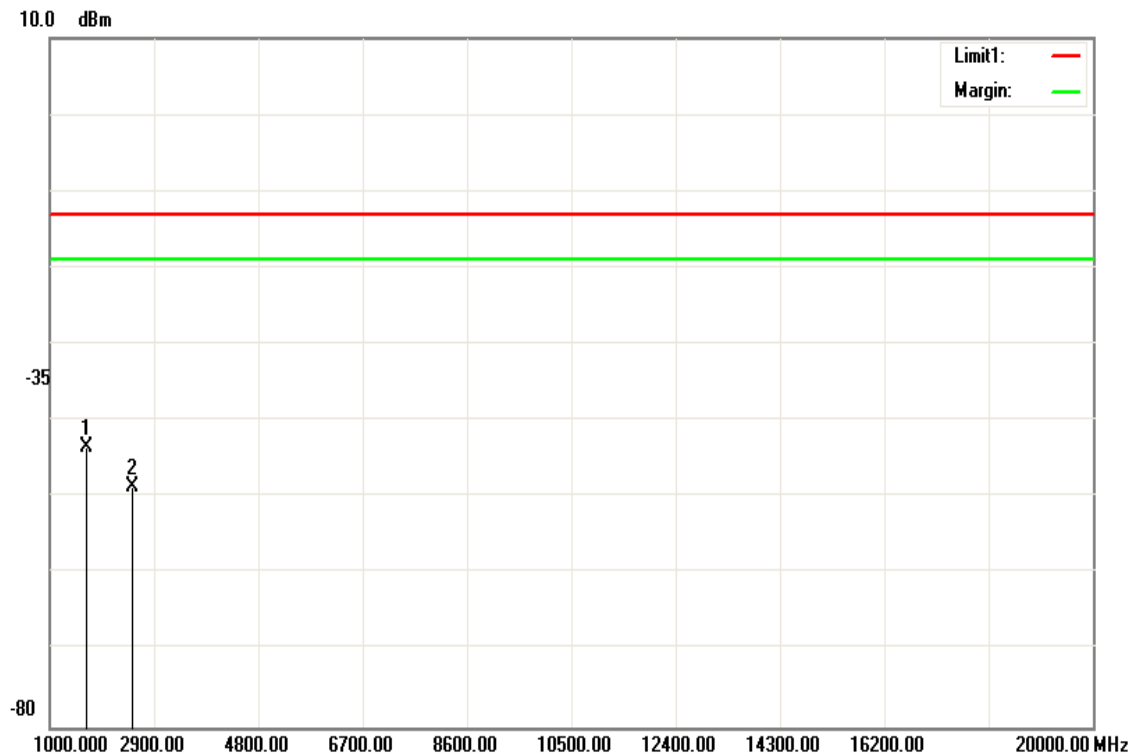
Test Date: March 9, 2017

Temperature: 22.6°C

Tested by: Timmy Wang

Humidity: 57.2% RH

Polarity: Hor.



Frequency (MHz)	S.G. (dBm)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
1664.000	-44.86	1.52	-43.34	-13.00	-30.34	H
2496.000	-50.41	1.85	-48.56	-13.00	-35.56	H
N/A						

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

Operation Mode: Tx / High CH

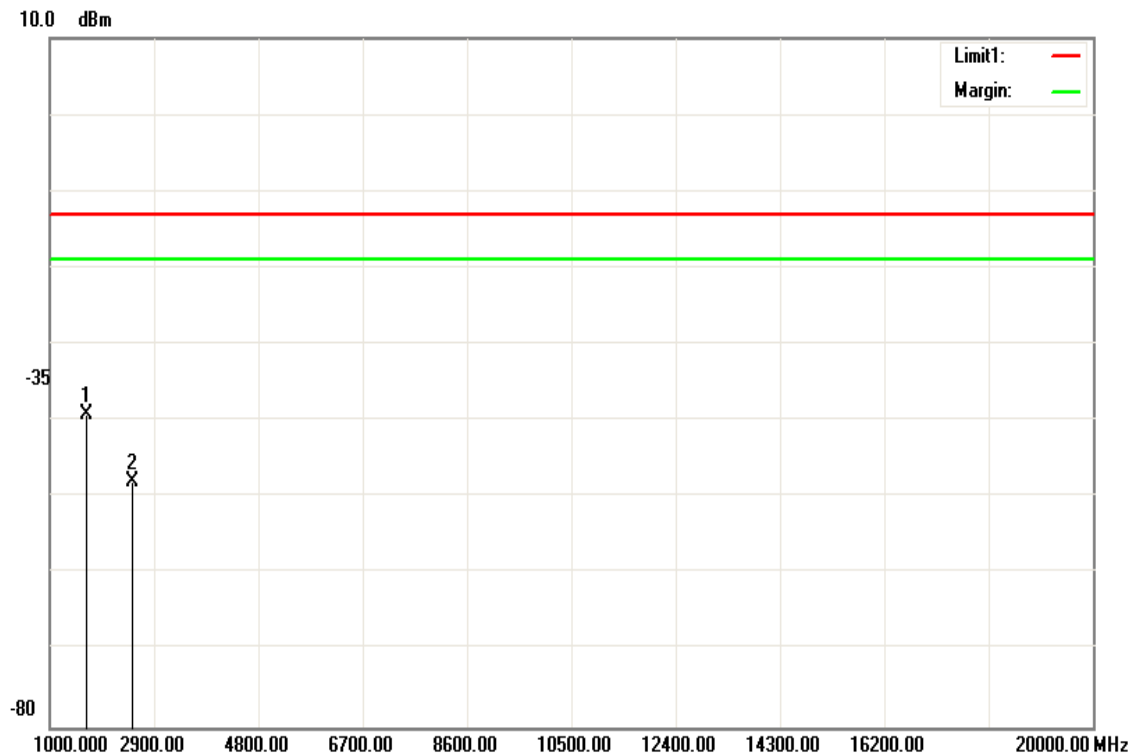
Test Date: March 9, 2017

Temperature: 22.6°C

Tested by: Timmy Wang

Humidity: 57.2% RH

Polarity: Ver.



Frequency (MHz)	S.G. (dBm)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
1679.000	-40.61	1.52	-39.09	-13.00	-26.09	V
2518.000	-50.23	2.19	-48.04	-13.00	-35.04	V
N/A						

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

Operation Mode: Tx / High CH

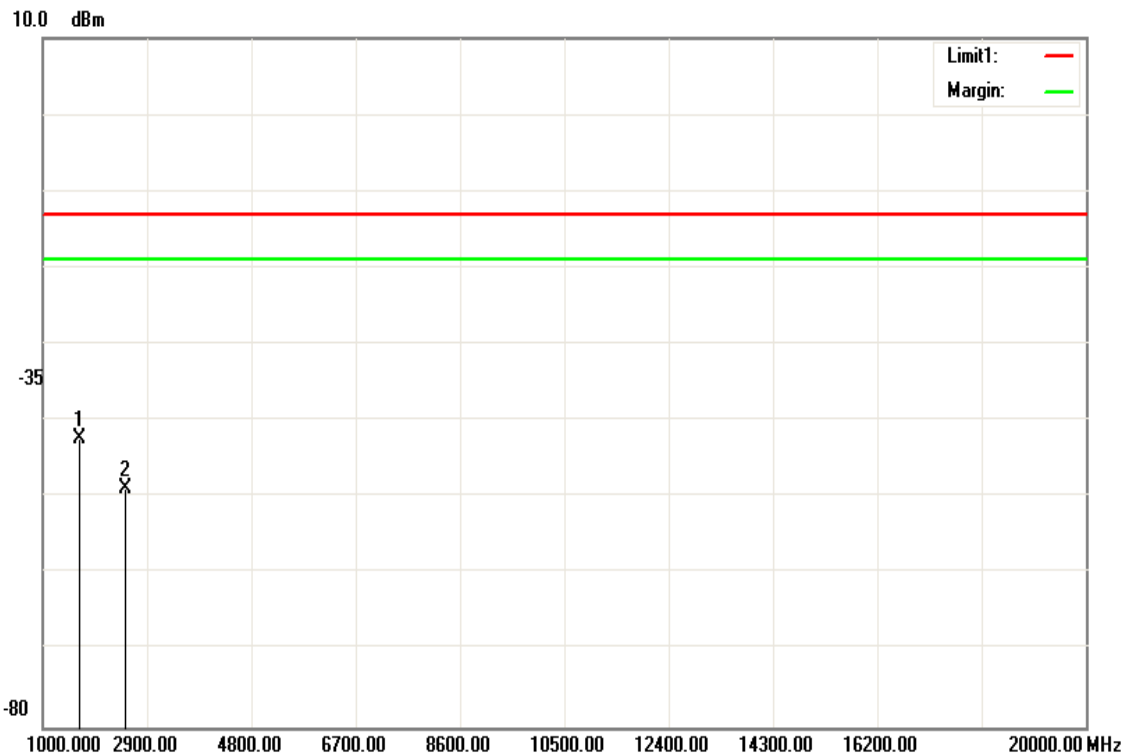
Test Date: March 9, 2017

Temperature: 22.6°C

Tested by: Timmy Wang

Humidity: 57.2% RH

Polarity: Hor.



Frequency (MHz)	S.G. (dBm)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
1679.000	-43.8	1.52	-42.28	-13.00	-29.28	H
2518.000	-51.03	2.19	-48.84	-13.00	-35.84	H
N/A						

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

LTE Band 2 / BW: 20MHz / QPSK RB =1, RB Offset = 0

Operation Mode: Tx / Low CH

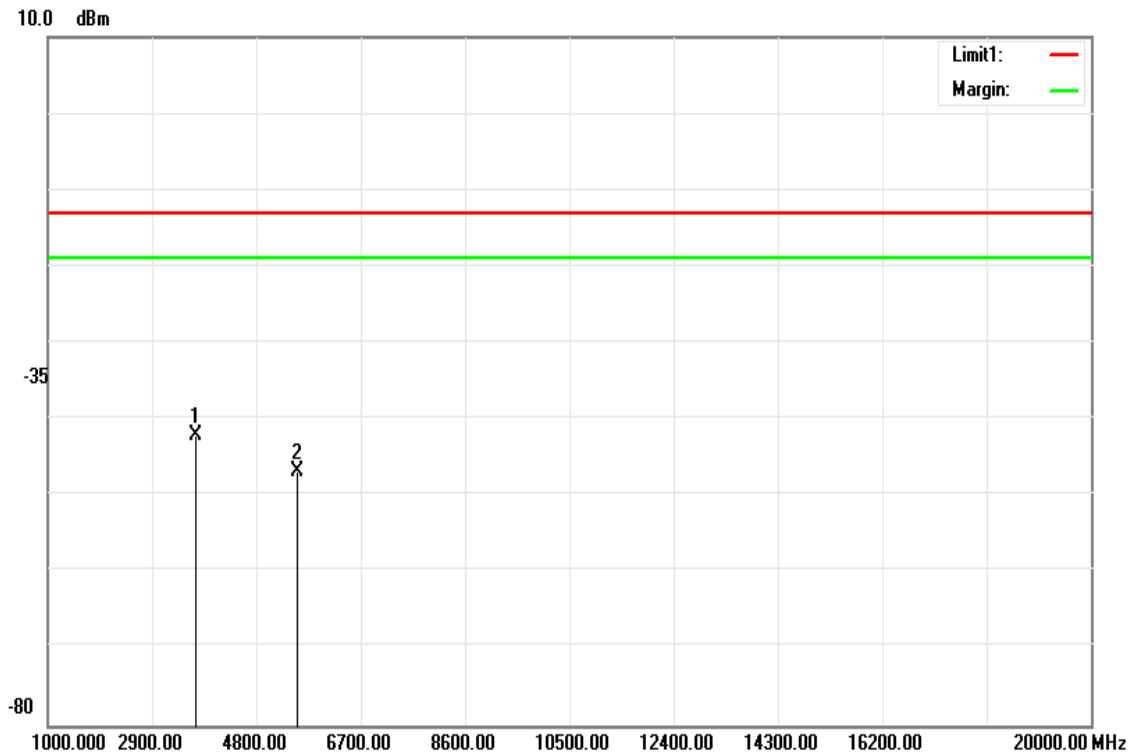
Test Date: March 9, 2017

Temperature: 22.6°C

Tested by: Timmy Wang

Humidity: 57.2% RH

Polarity: Ver.



Frequency (MHz)	S.G. (dBm)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
3702.000	-54.6	12.54	-42.06	-13.00	-29.06	V
5553.000	-59.74	12.88	-46.86	-13.00	-33.86	V
N/A						

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

Operation Mode: Tx / Low CH

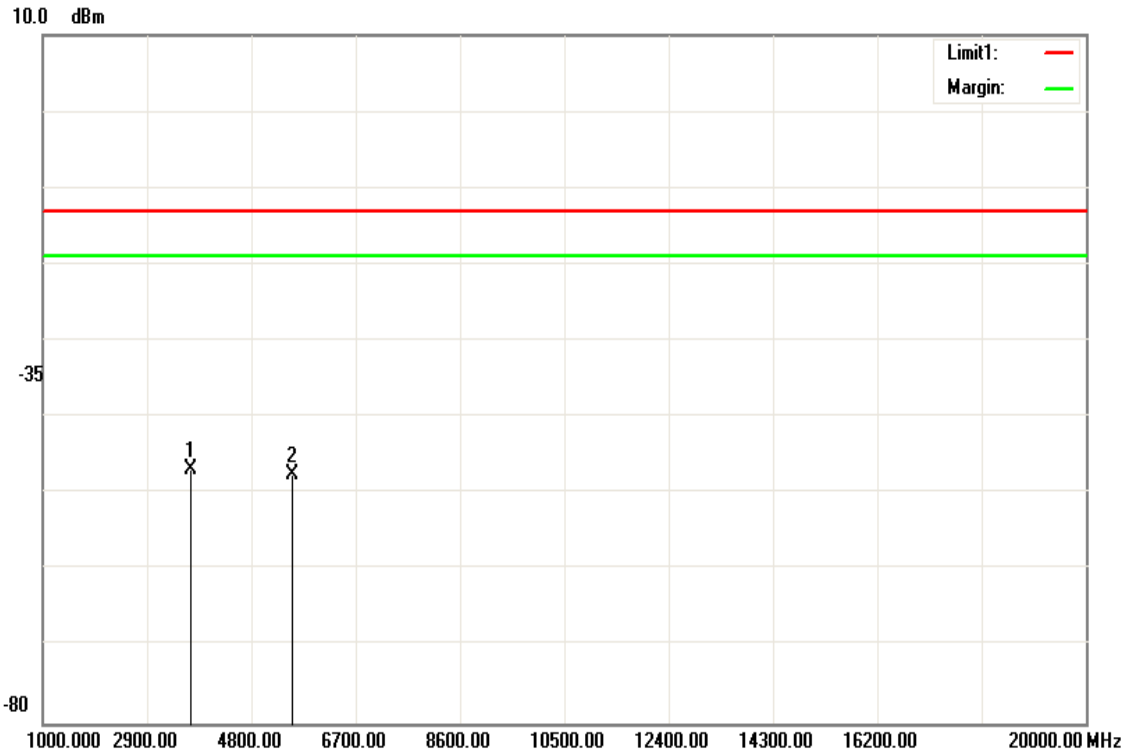
Test Date: March 9, 2017

Temperature: 22.6°C

Tested by: Timmy Wang

Humidity: 57.2% RH

Polarity: Hor.



Frequency (MHz)	S.G. (dBm)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
3702.000	-59.45	12.54	-46.91	-13.00	-33.91	H
5553.000	-60.36	12.88	-47.48	-13.00	-34.48	H
N/A						

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

Operation Mode: Tx / Mid CH

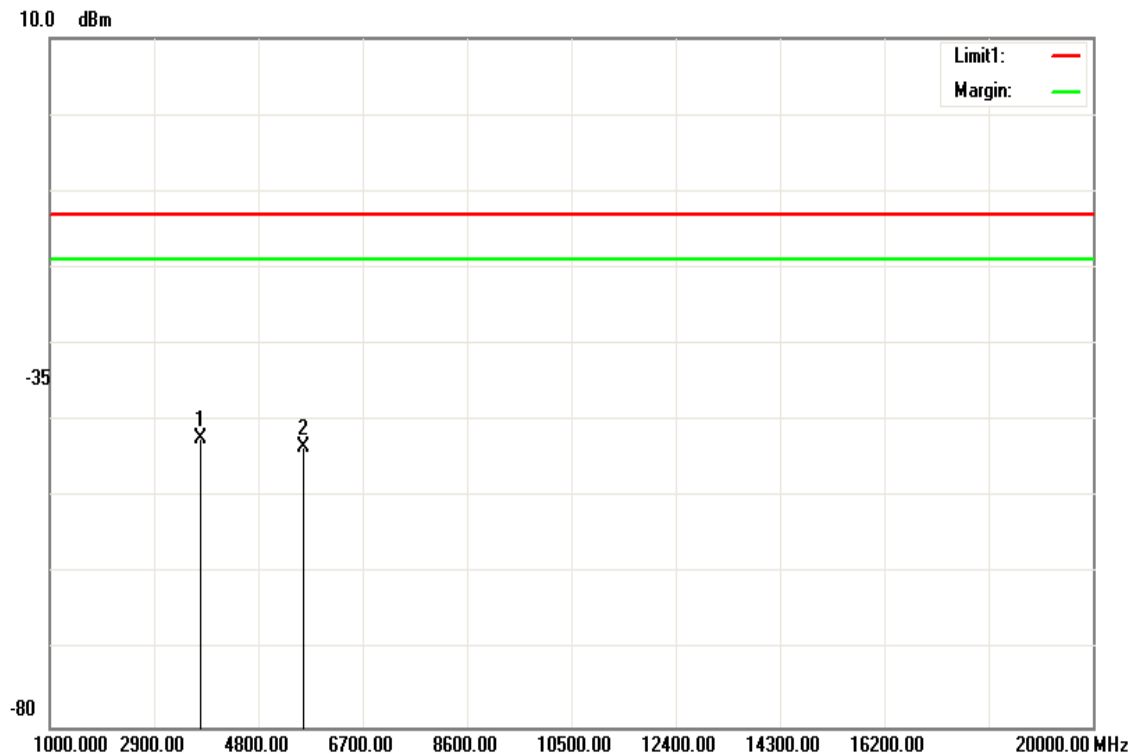
Test Date: March 9, 2017

Temperature: 22.6°C

Tested by: Timmy Wang

Humidity: 57.2% RH

Polarity: Ver.



Frequency (MHz)	S.G. (dBm)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
3744.000	-54.8	12.55	-42.25	-13.00	-29.25	V
5613.000	-56.22	12.85	-43.37	-13.00	-30.37	V
N/A						

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

Operation Mode: Tx / Mid CH

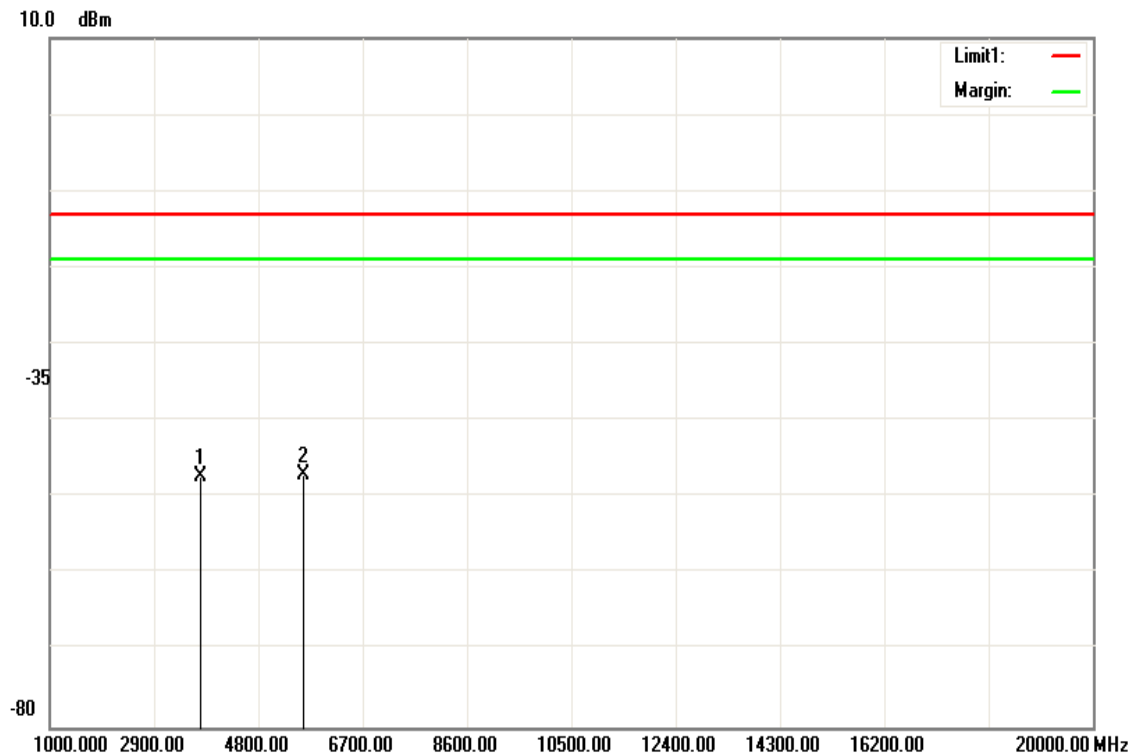
Test Date: March 9, 2017

Temperature: 22.6°C

Tested by: Timmy Wang

Humidity: 57.2% RH

Polarity: Hor.



Frequency (MHz)	S.G. (dBm)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
3744.000	-59.79	12.55	-47.24	-13.00	-34.24	H
5613.000	-59.88	12.85	-47.03	-13.00	-34.03	H
N/A						

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

Operation Mode: Tx / High CH

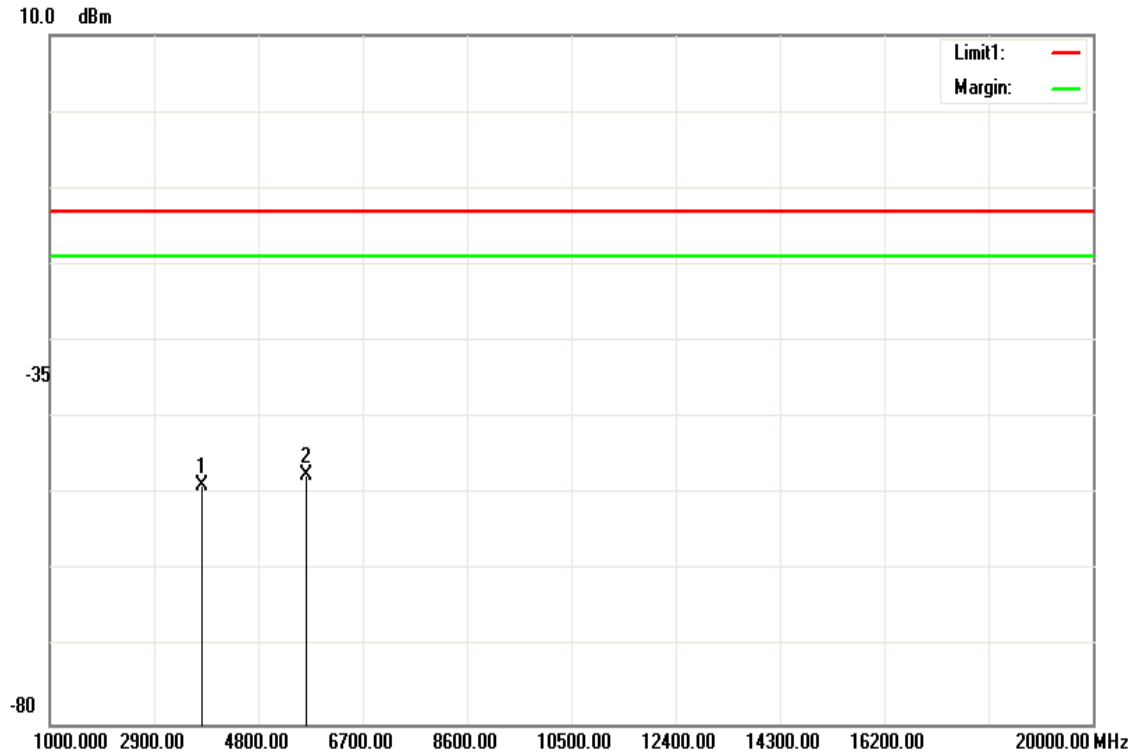
Test Date: March 9, 2017

Temperature: 22.6°C

Tested by: Timmy Wang

Humidity: 57.2% RH

Polarity: Ver.



Frequency (MHz)	S.G. (dBm)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
3782.000	-61.48	12.56	-48.92	-13.00	-35.92	V
5673.000	-60.28	12.83	-47.45	-13.00	-34.45	V
N/A						

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

Operation Mode: Tx / High CH

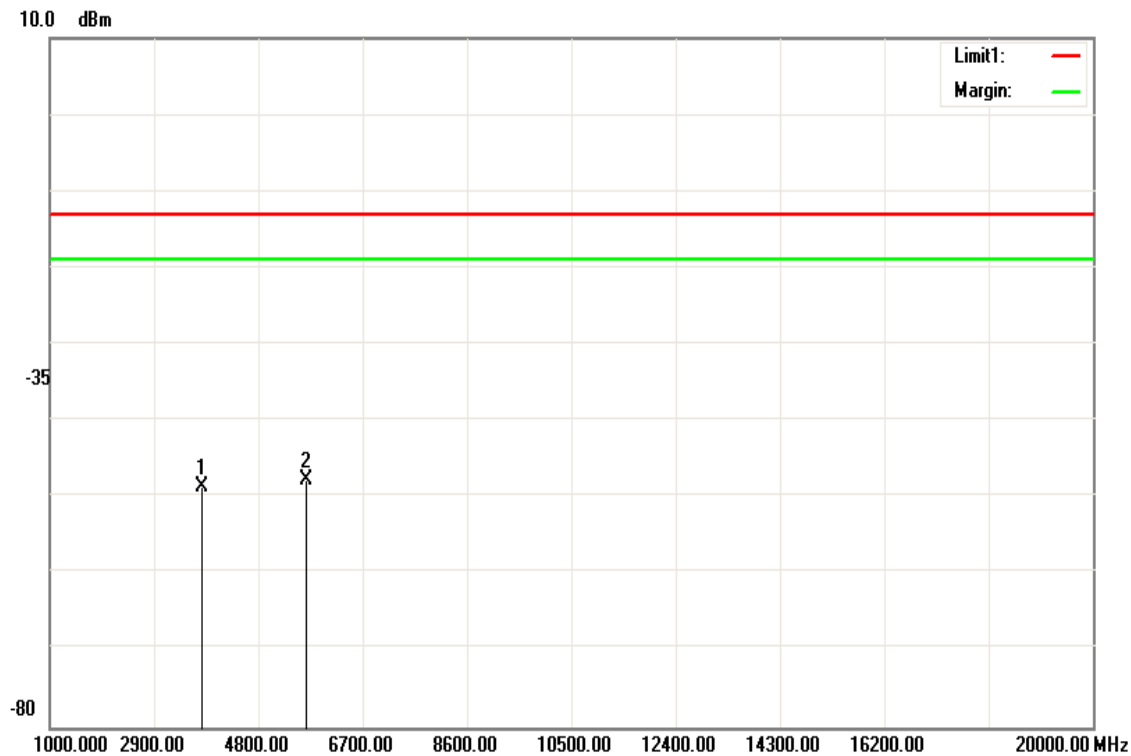
Test Date: March 9, 2017

Temperature: 22.6°C

Tested by: Timmy Wang

Humidity: 57.2% RH

Polarity: Hor.



Frequency (MHz)	S.G. (dBm)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
3782.000	-61.26	12.56	-48.70	-13.00	-35.70	H
5673.000	-60.55	12.83	-47.72	-13.00	-34.72	H
N/A						

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

LTE Band 2 / BW: 20MHz / 16QAM / RB =1, RB Offset = 0

Operation Mode: Tx / Low CH

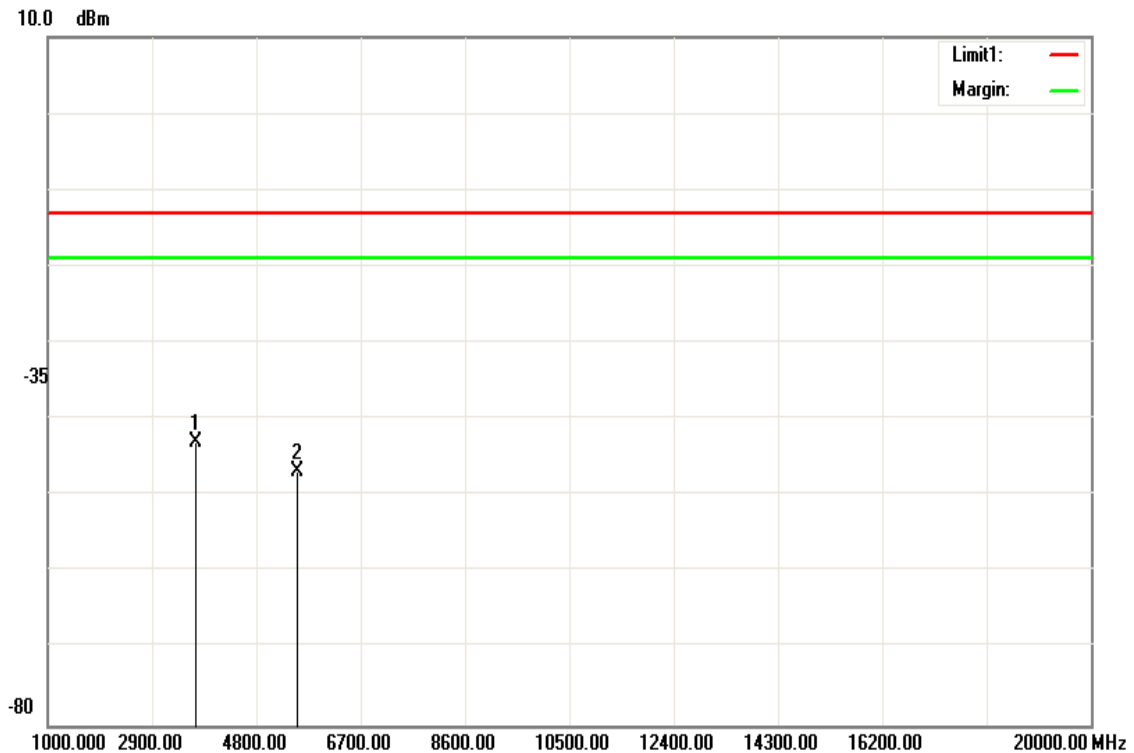
Test Date: March 9, 2017

Temperature: 22.6°C

Tested by: Timmy Wang

Humidity: 57.2% RH

Polarity: Ver.



Frequency (MHz)	S.G. (dBm)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
3702.000	-55.42	12.54	-42.88	-13.00	-29.88	V
5553.000	-59.62	12.88	-46.74	-13.00	-33.74	V
N/A						

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

Operation Mode: Tx / Low CH

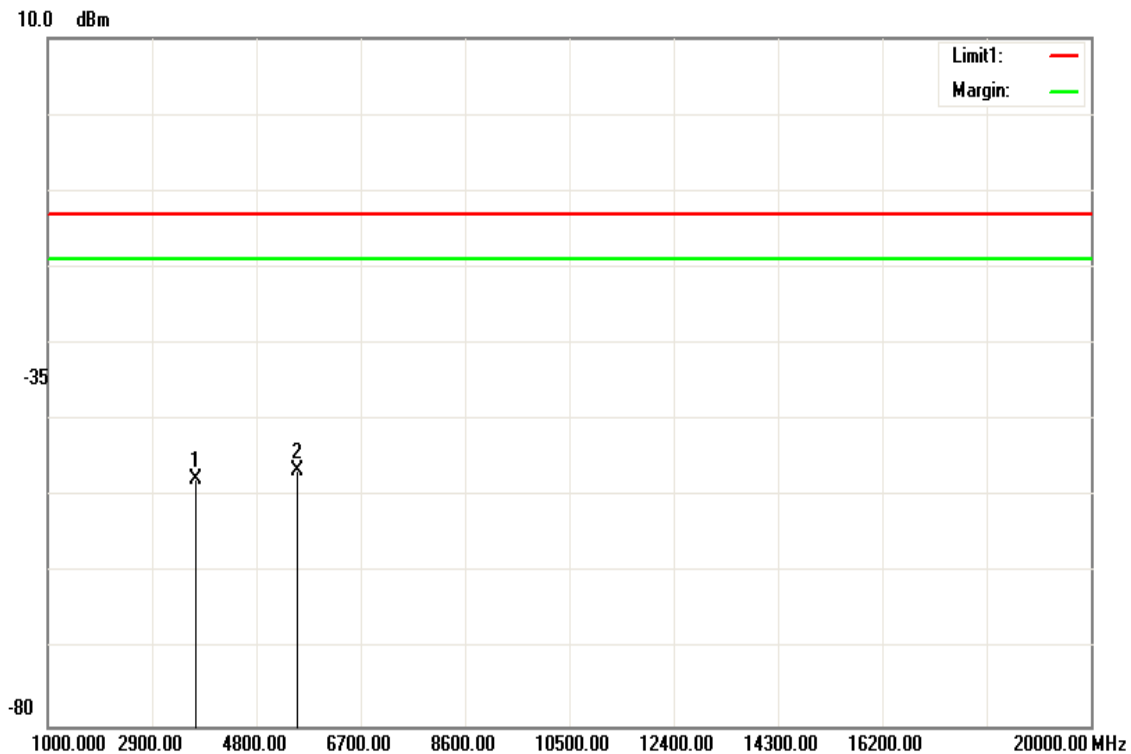
Test Date: March 9, 2017

Temperature: 22.6°C

Tested by: Timmy Wang

Humidity: 57.2% RH

Polarity: Hor.



Frequency (MHz)	S.G. (dBm)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
3702.000	-60.18	12.54	-47.64	-13.00	-34.64	H
5553.000	-59.45	12.88	-46.57	-13.00	-33.57	H
N/A						

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

Operation Mode: Tx / Mid CH

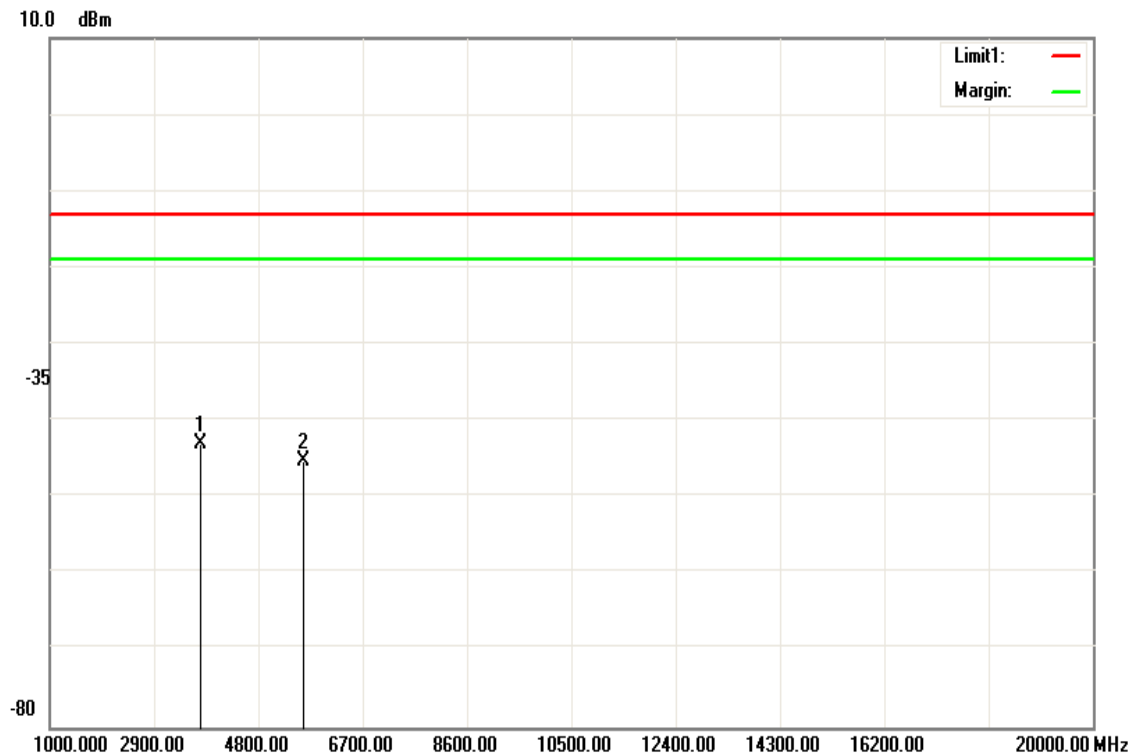
Test Date: March 9, 2017

Temperature: 22.6°C

Tested by: Timmy Wang

Humidity: 57.2% RH

Polarity: Ver.



Frequency (MHz)	S.G. (dBm)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
3742.000	-55.52	12.55	-42.97	-13.00	-29.97	V
5613.000	-57.98	12.85	-45.13	-13.00	-32.13	V
N/A						

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

Operation Mode: Tx / Mid CH

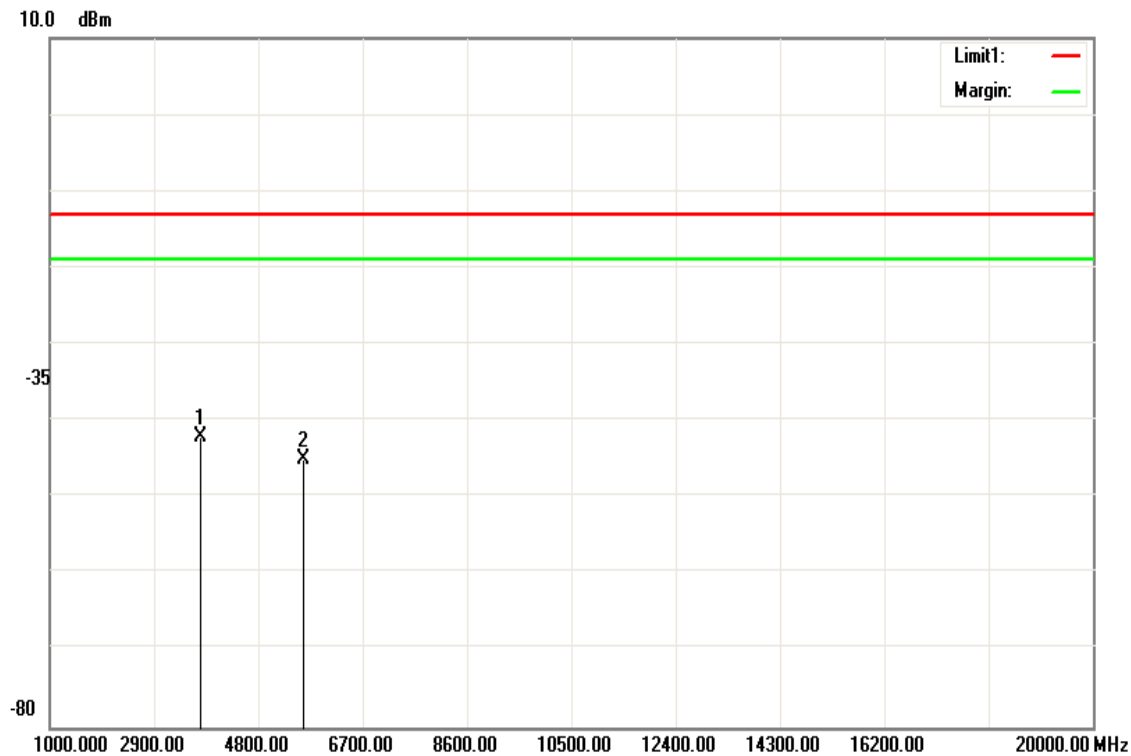
Test Date: March 9, 2017

Temperature: 22.6°C

Tested by: Timmy Wang

Humidity: 57.2% RH

Polarity: Hor.



Frequency (MHz)	S.G. (dBm)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
3744.000	-54.59	12.55	-42.04	-13.00	-29.04	H
5613.000	-57.85	12.85	-45.00	-13.00	-32.00	H
N/A						

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

Operation Mode: Tx / High CH

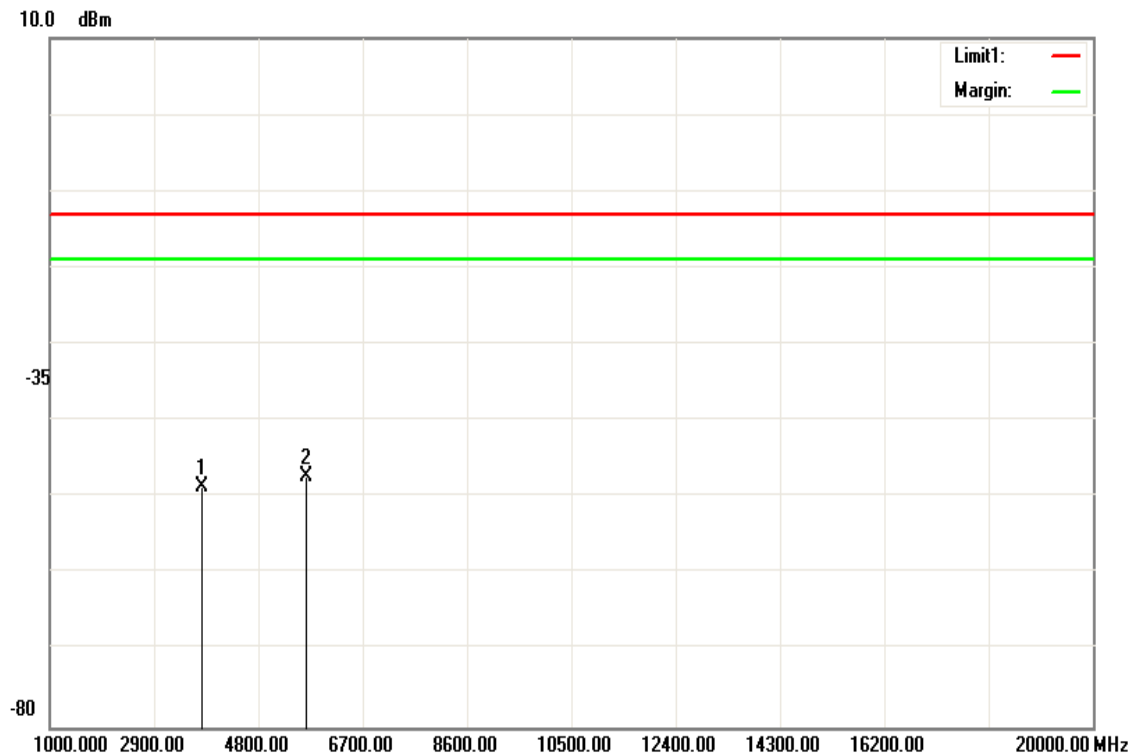
Test Date: March 9, 2017

Temperature: 22.6°C

Tested by: Timmy Wang

Humidity: 57.2% RH

Polarity: Ver.



Frequency (MHz)	S.G. (dBm)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
3782.000	-61.07	12.56	-48.51	-13.00	-35.51	V
5673.000	-60.02	12.83	-47.19	-13.00	-34.19	V
N/A						

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.

Operation Mode: Tx / High CH

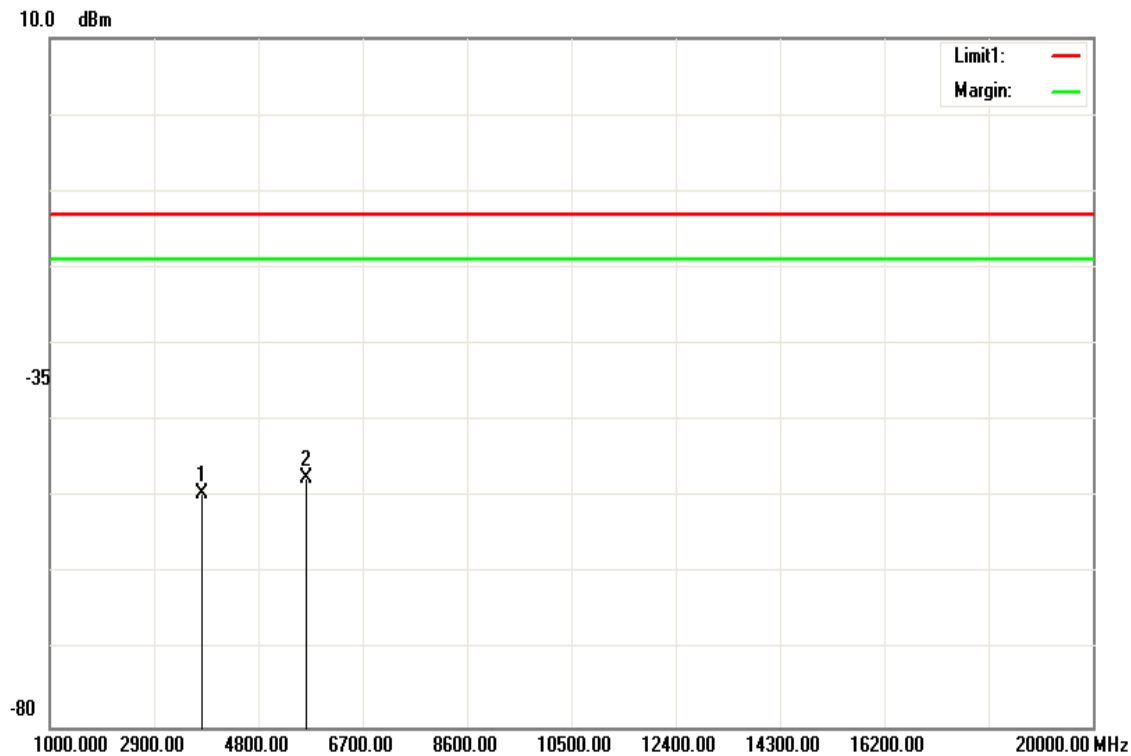
Test Date: March 9, 2017

Temperature: 22.6°C

Tested by: Timmy Wang

Humidity: 57.2% RH

Polarity: Hor.



Frequency (MHz)	S.G. (dBm)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
3782.000	-61.98	12.56	-49.42	-13.00	-36.42	H
5673.000	-60.28	12.83	-47.45	-13.00	-34.45	H
N/A						

Remark:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.