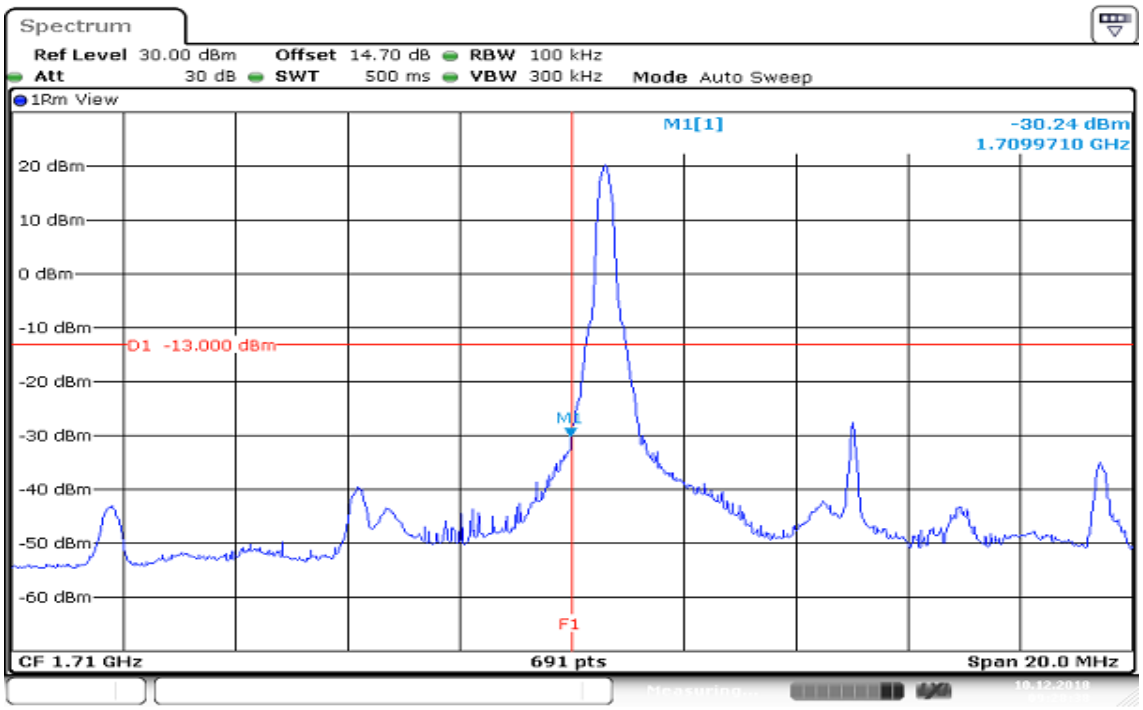
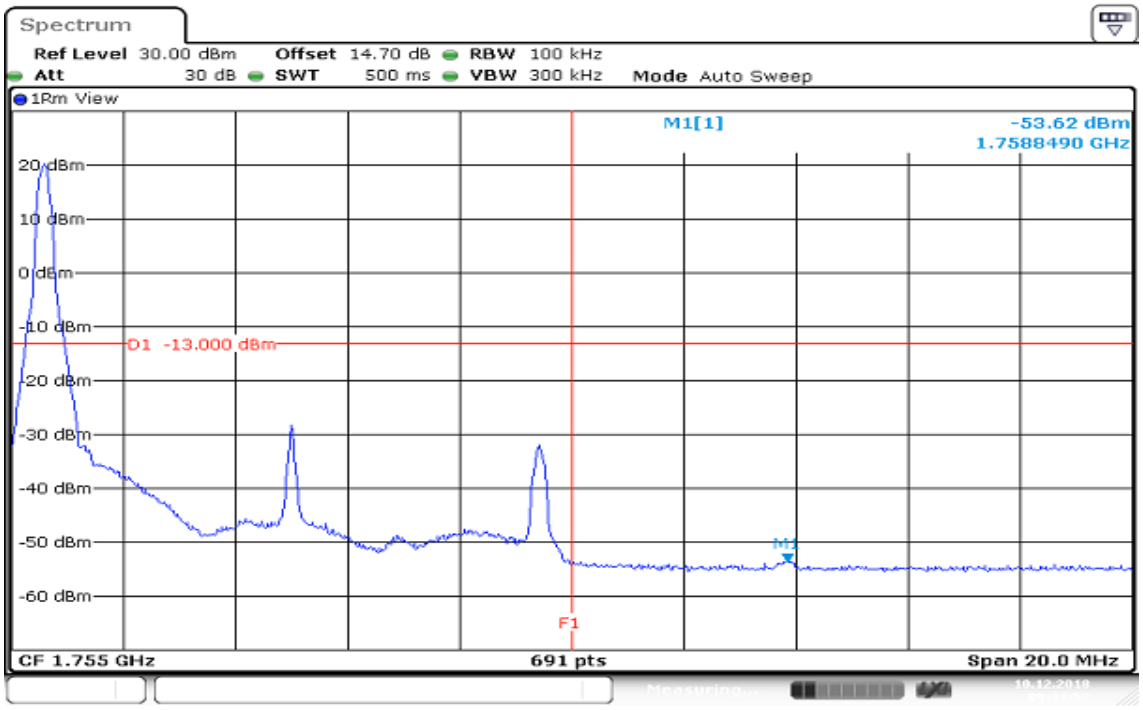
CHANNEL BANDWIDTH: 10MHz / QPSK / 1RB ALLOCATED
LOWER BAND EDGE



Date: 10.DEC.2018 09:28:38

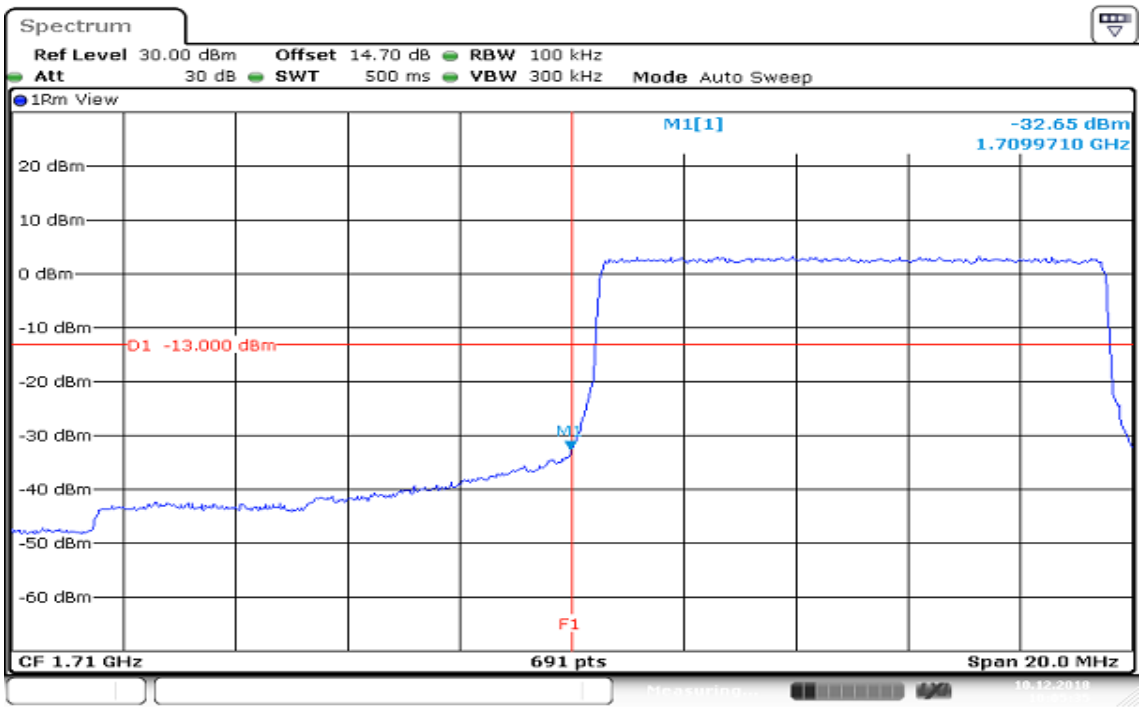
HIGHER BAND EDGE



Date: 10.DEC.2018 09:31:52

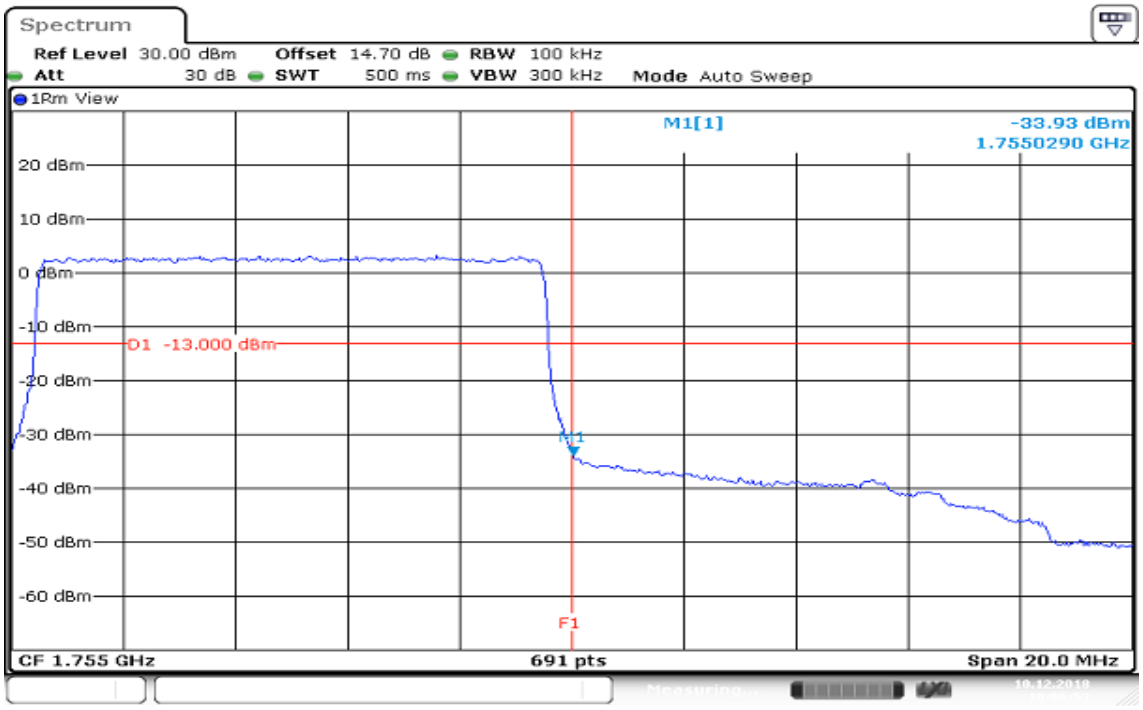
This document cannot be reproduced except in full, without prior written approval of the Company. 本報告未經本公司書面許可，不可部份複製。

CHANNEL BANDWIDTH: 10MHz / QPSK / 100%RB ALLOCATED
LOWER BAND EDGE



Date: 10.DEC.2018 10:05:36

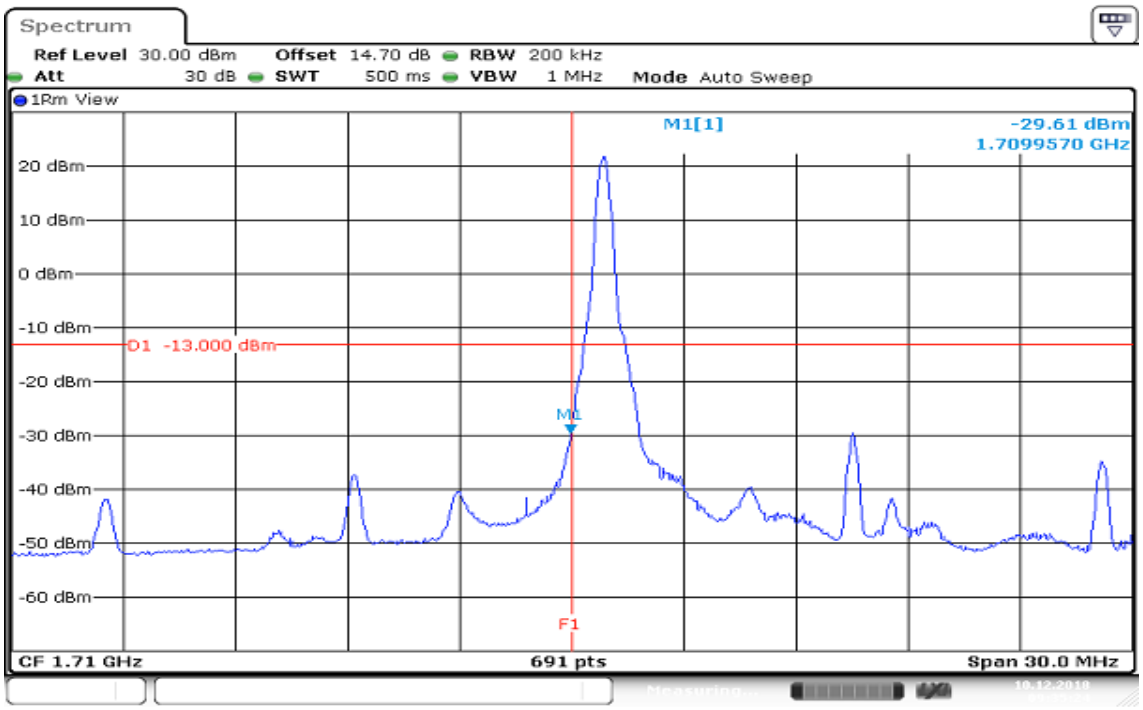
HIGHER BAND EDGE



Date: 10.DEC.2018 10:06:53

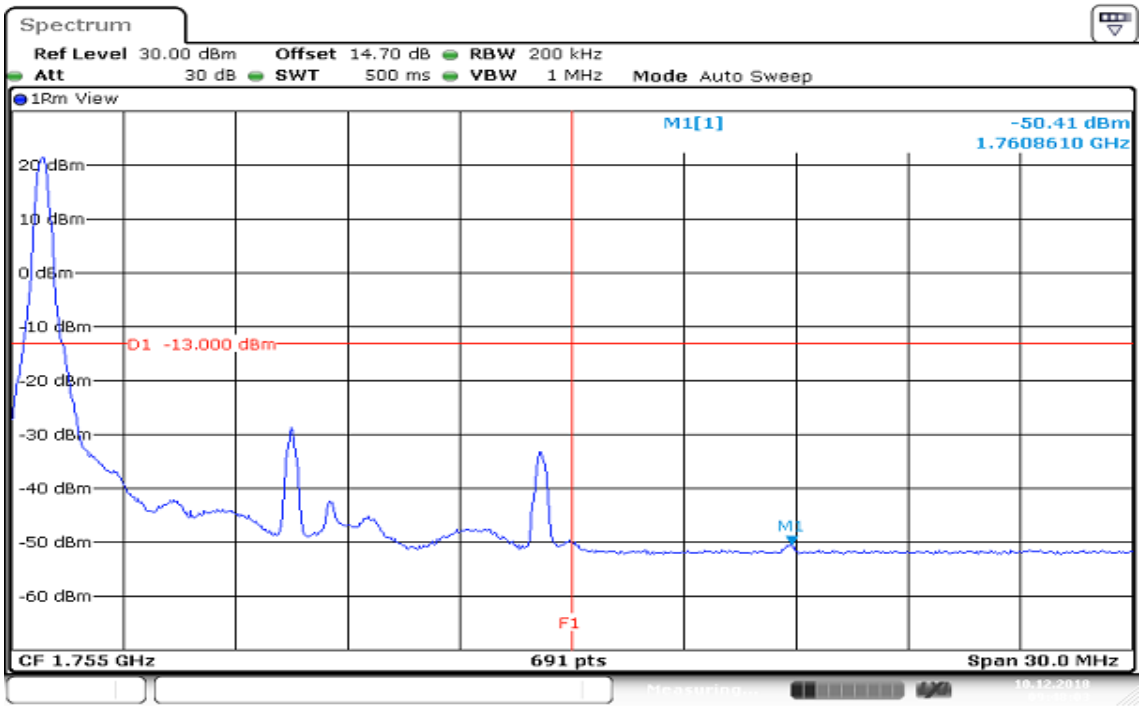
This document cannot be reproduced except in full, without prior written approval of the Company. 本報告未經本公司書面許可，不可部份複製。

CHANNEL BANDWIDTH: 15MHz / QPSK / 1RB ALLOCATED
LOWER BAND EDGE



Date: 10.DEC.2018 09:35:25

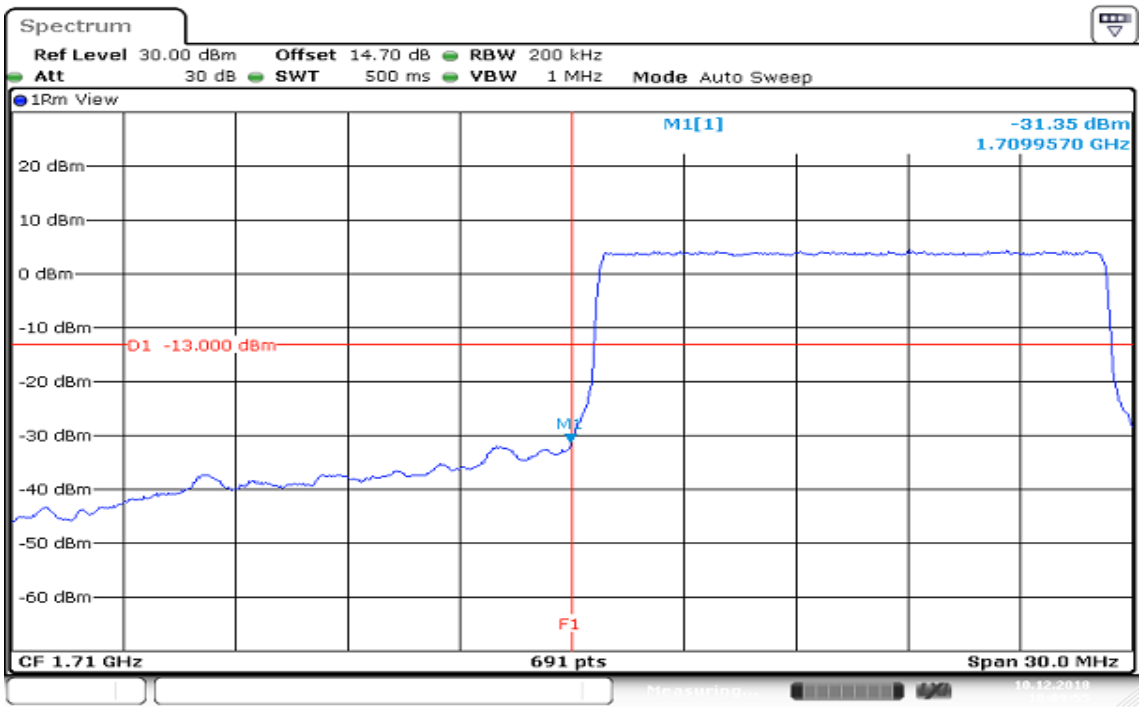
HIGHER BAND EDGE



Date: 10.DEC.2018 09:48:04

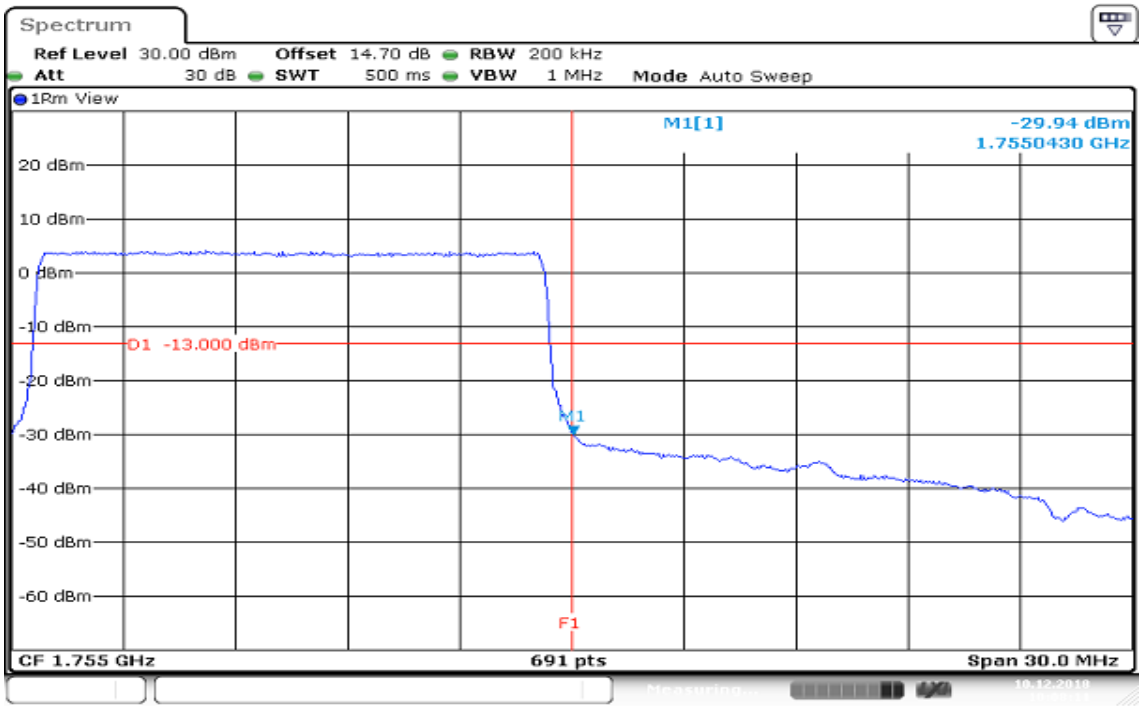
This document cannot be reproduced except in full, without prior written approval of the Company. 本報告未經本公司書面許可，不可部份複製。

CHANNEL BANDWIDTH: 15MHz / QPSK / 100%RB ALLOCATED
LOWER BAND EDGE



Date: 10.DEC.2018 10:09:55

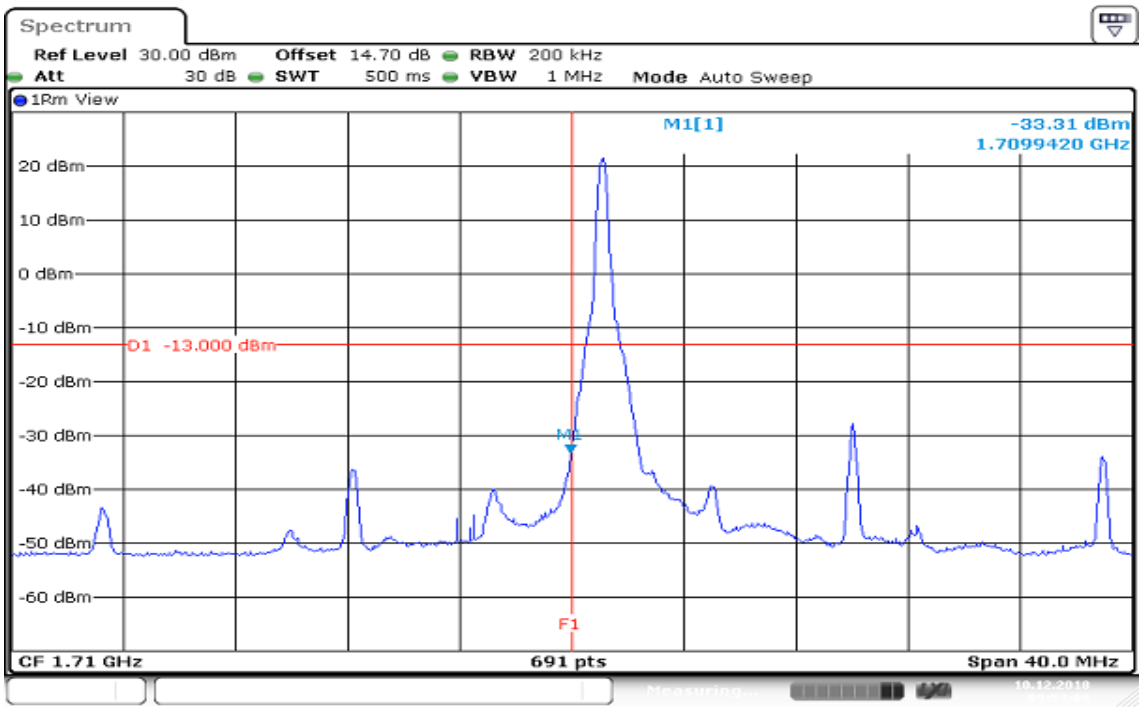
HIGHER BAND EDGE



Date: 10.DEC.2018 10:08:11

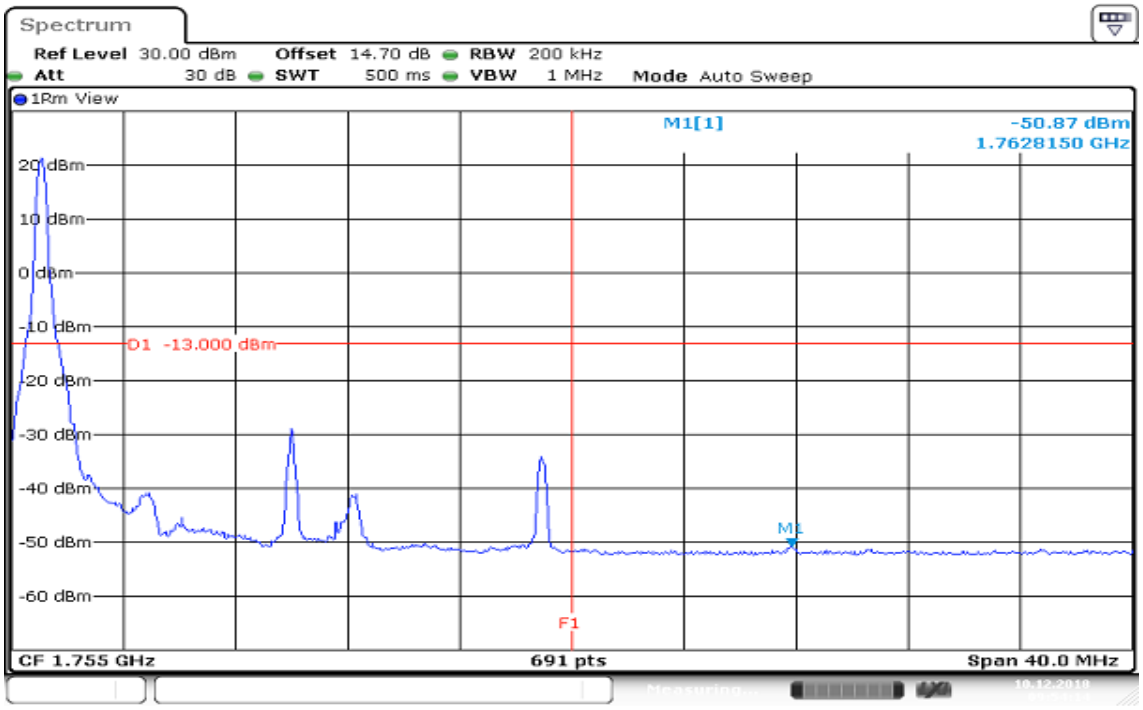
This document cannot be reproduced except in full, without prior written approval of the Company. 本報告未經本公司書面許可，不可部份複製。

CHANNEL BANDWIDTH: 20MHz / QPSK / 1RB ALLOCATED
LOWER BAND EDGE



Date: 10.DEC.2018 09:53:08

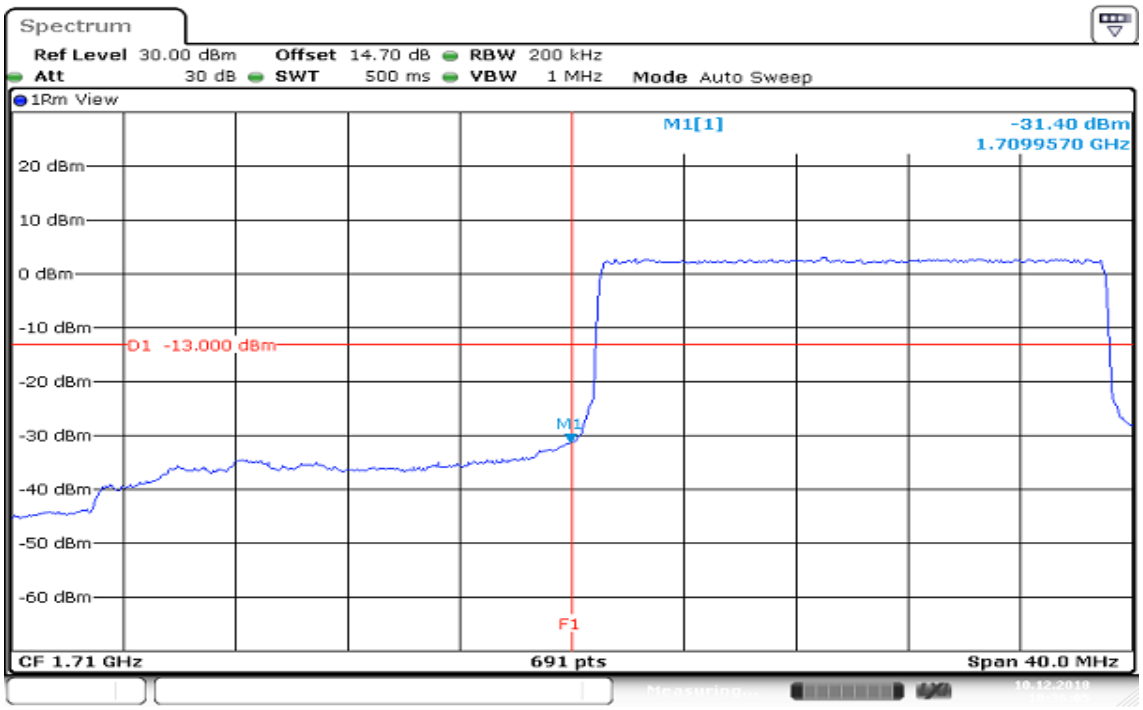
HIGHER BAND EDGE



Date: 10.DEC.2018 09:54:14

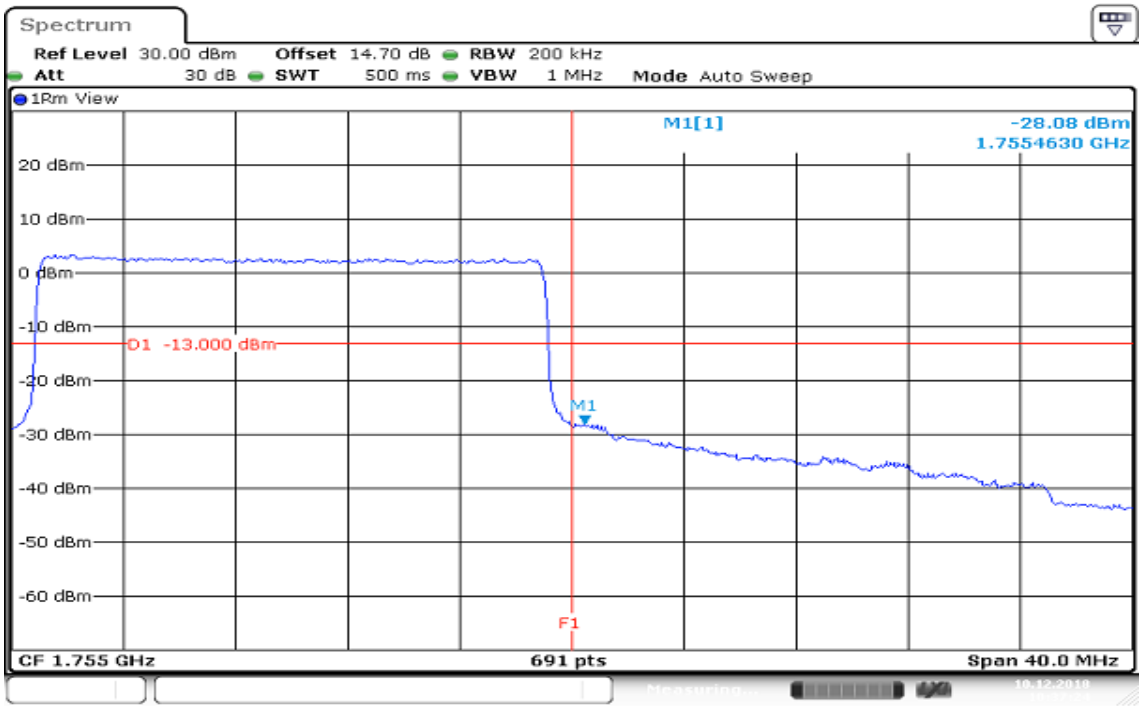
This document cannot be reproduced except in full, without prior written approval of the Company. 本報告未經本公司書面許可，不可部份複製。

CHANNEL BANDWIDTH: 20MHz / QPSK / 100%RB ALLOCATED
LOWER BAND EDGE



Date: 10.DEC.2018 10:36:05

HIGHER BAND EDGE



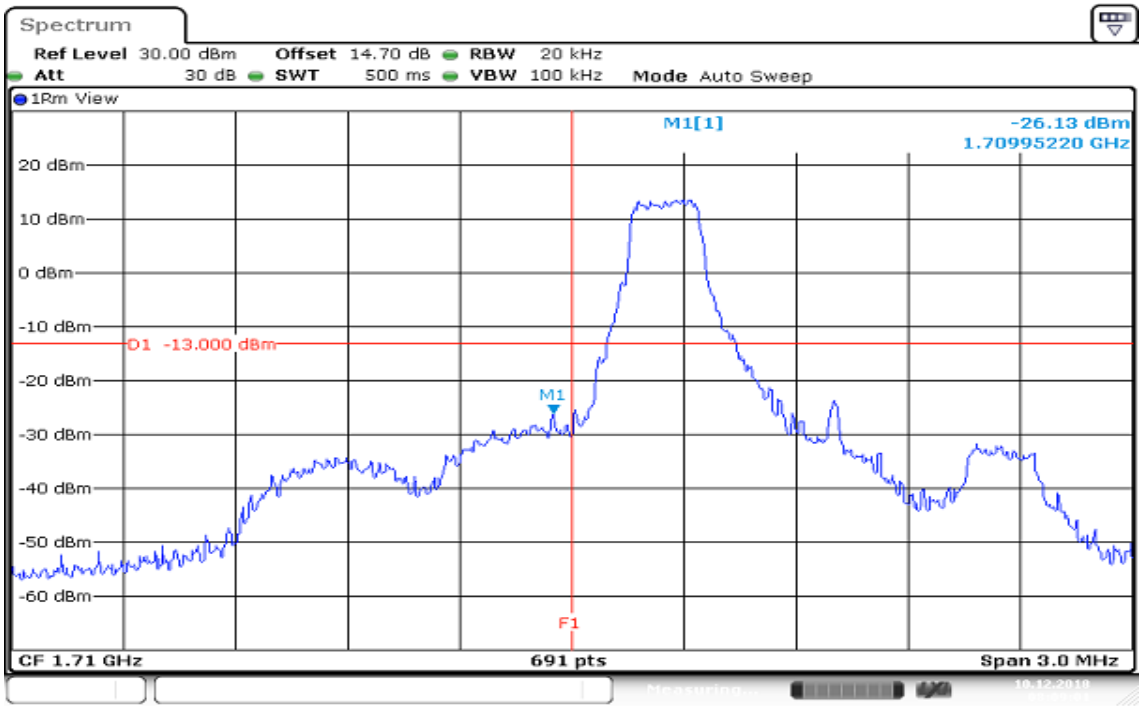
Date: 10.DEC.2018 10:37:25

This document cannot be reproduced except in full, without prior written approval of the Company. 本報告未經本公司書面許可，不可部份複製。

LTE Band 4

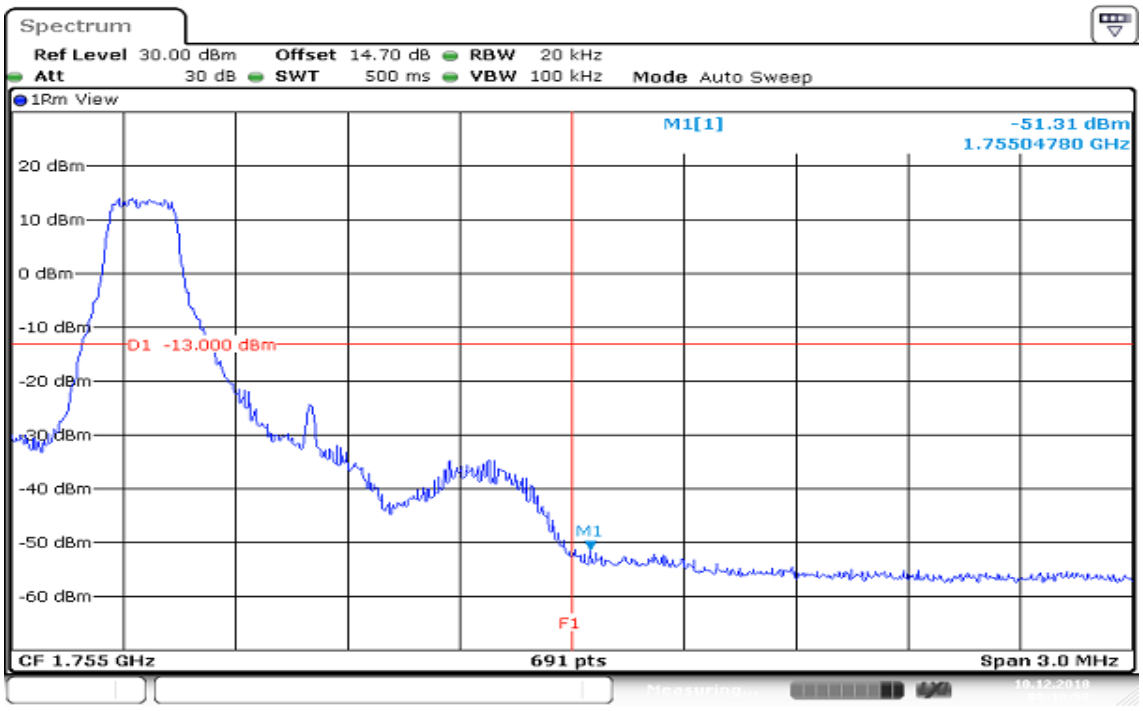
CHANNEL BANDWIDTH: 1.4MHz / 16QAM / 1RB ALLOCATED

LOWER BAND EDGE



Date: 10.DEC.2018 08:09:02

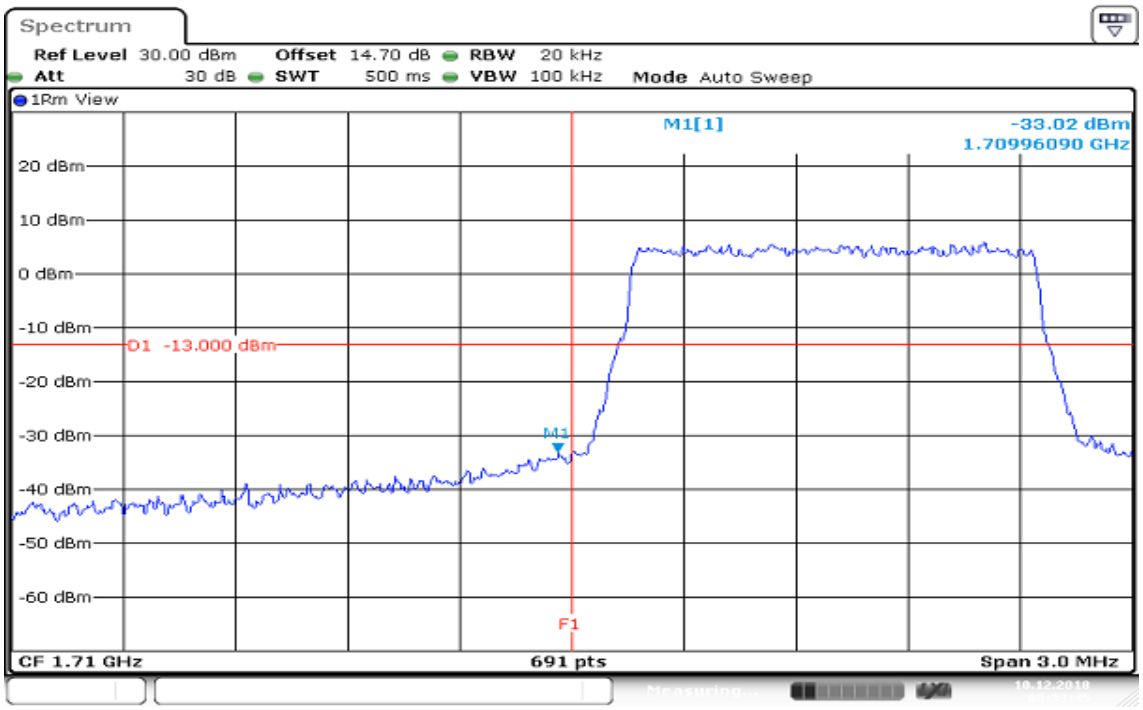
HIGHER BAND EDGE



Date: 10.DEC.2018 08:10:59

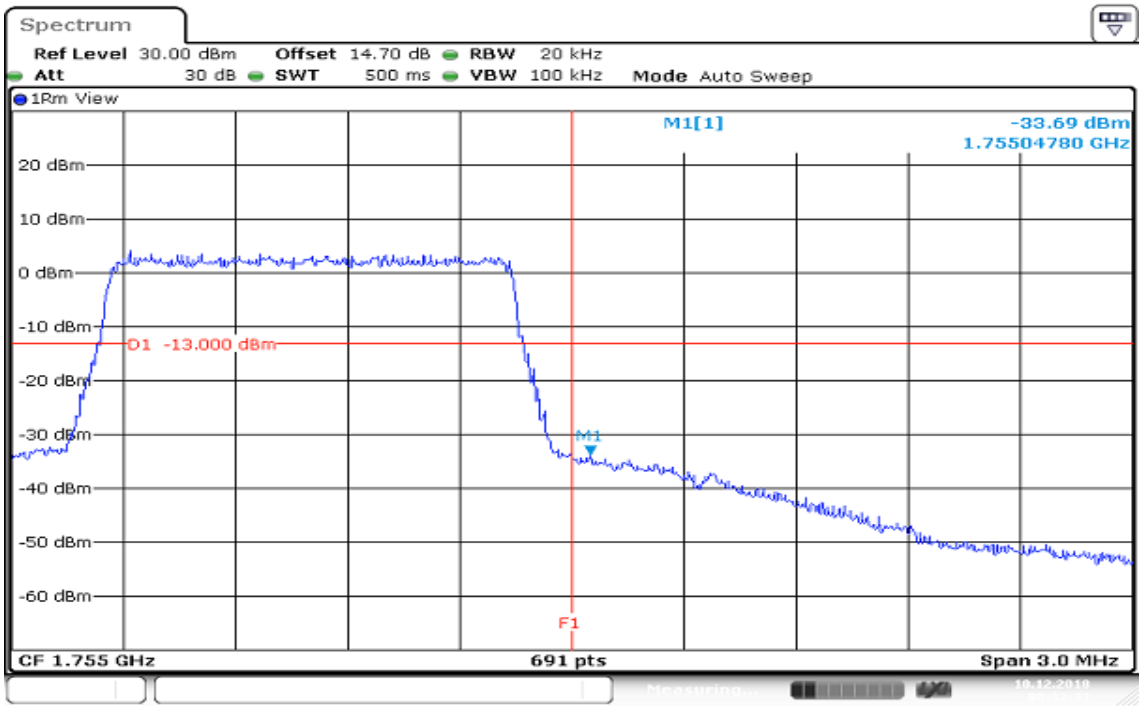
This document cannot be reproduced except in full, without prior written approval of the Company. 本報告未經本公司書面許可，不可部份複製。

CHANNEL BANDWIDTH: 1.4MHz / 16QAM / 100%RB ALLOCATED
LOWER BAND EDGE



Date: 10.DEC.2018 08:33:45

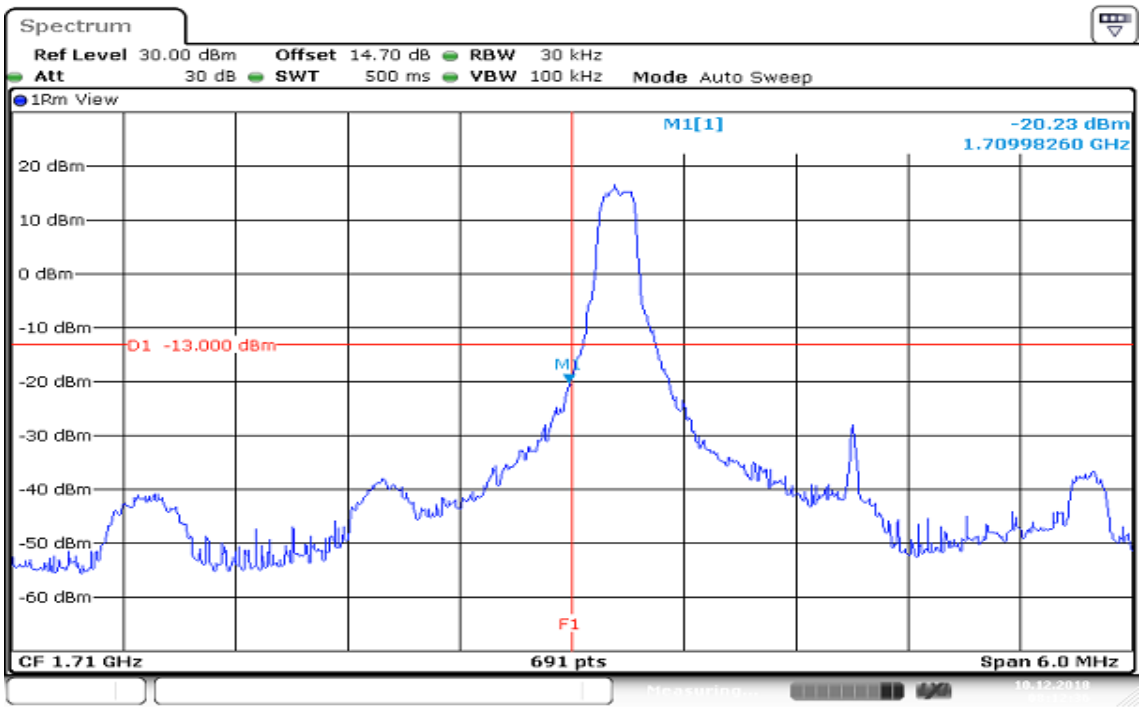
HIGHER BAND EDGE



Date: 10.DEC.2018 08:32:33

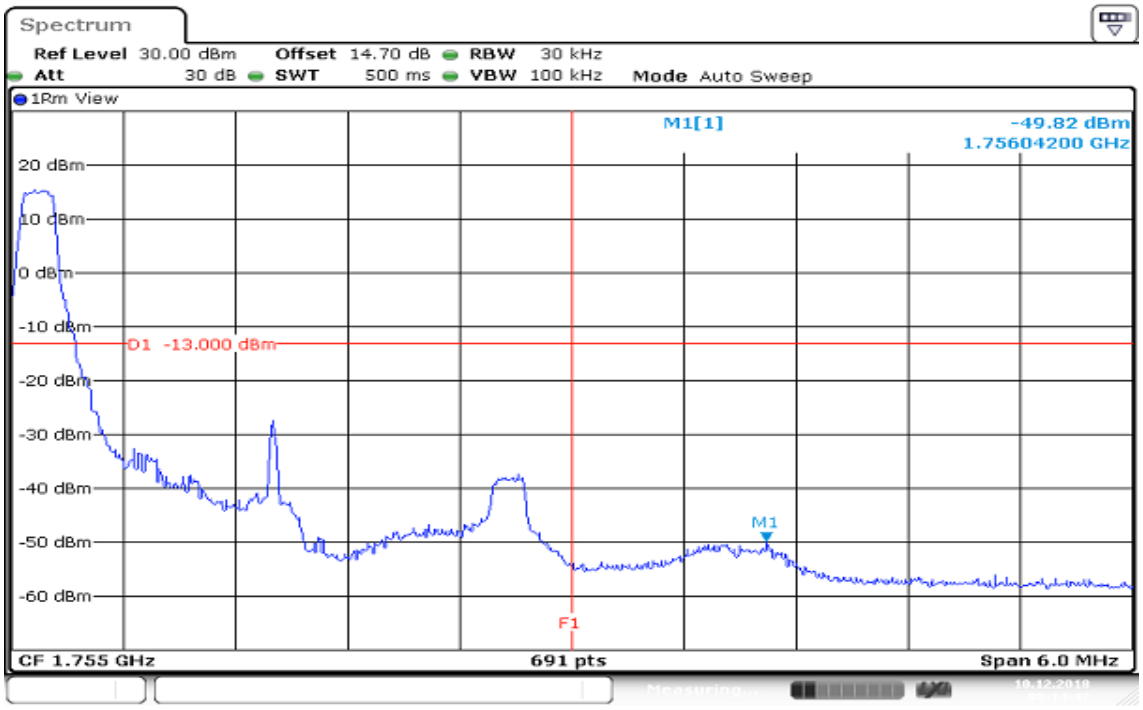
This document cannot be reproduced except in full, without prior written approval of the Company. 本報告未經本公司書面許可，不可部份複製。

CHANNEL BANDWIDTH: 3MHz / 16QAM / 1RB ALLOCATED
LOWER BAND EDGE



Date: 10.DEC.2018 08:12:37

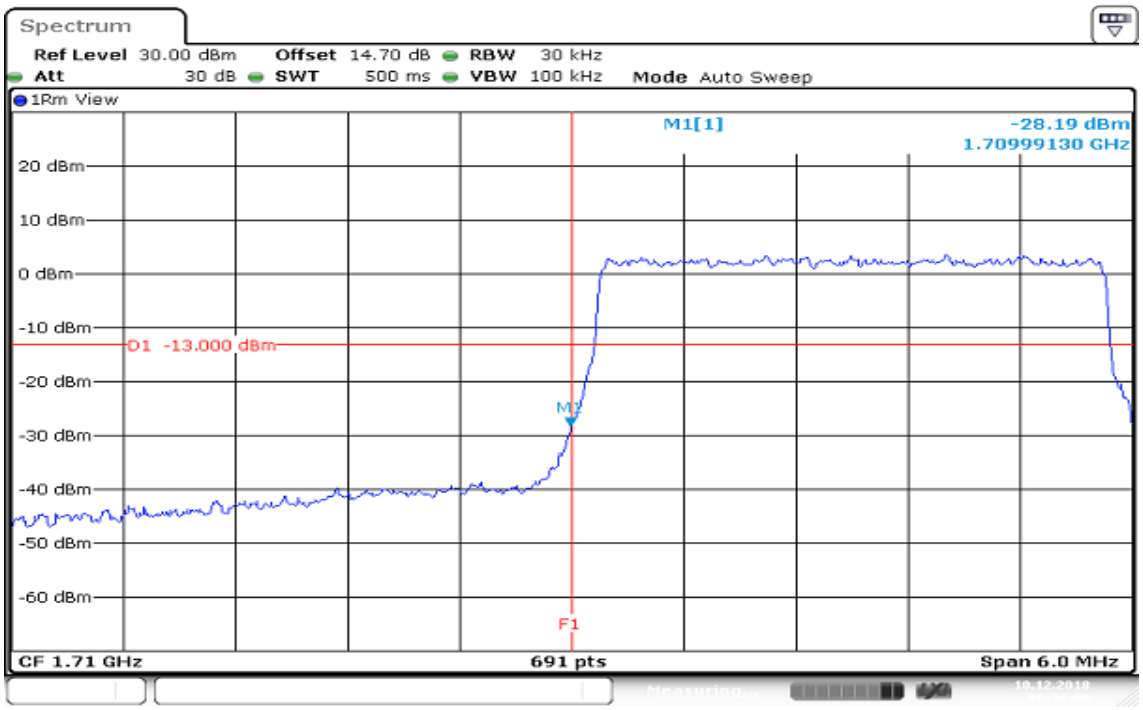
HIGHER BAND EDGE



Date: 10.DEC.2018 08:14:42

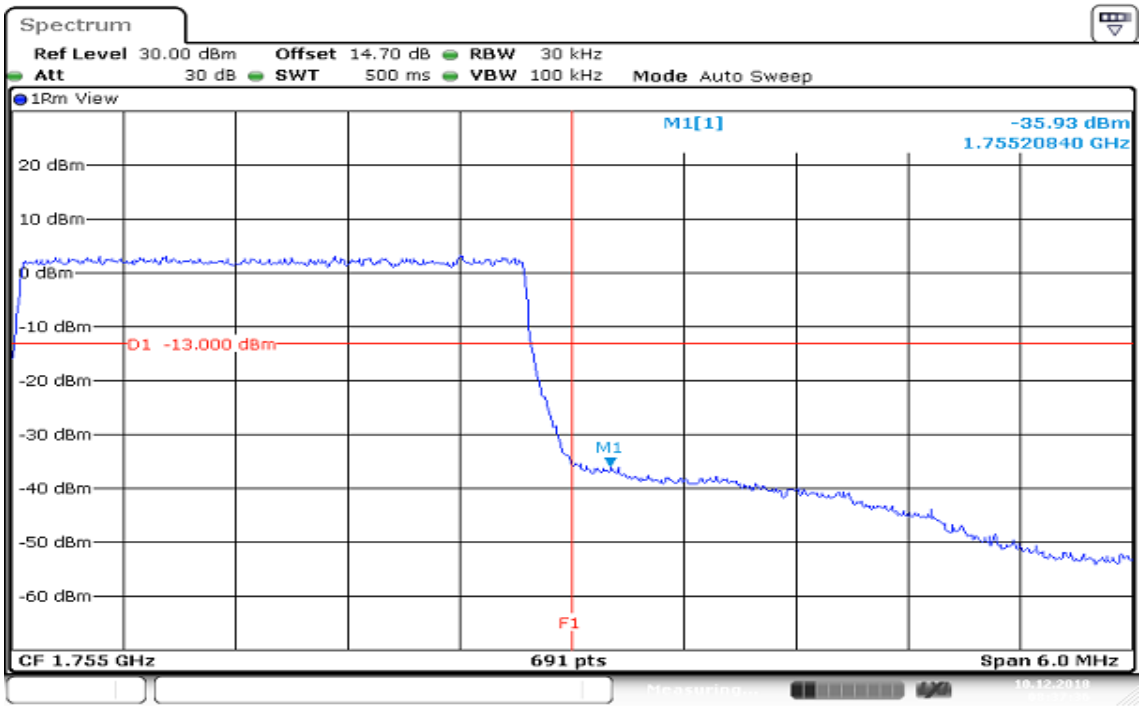
This document cannot be reproduced except in full, without prior written approval of the Company. 本報告未經本公司書面許可，不可部份複製。

CHANNEL BANDWIDTH: 3MHz / 16QAM / 100%RB ALLOCATED
LOWER BAND EDGE



Date: 10.DEC.2018 08:36:01

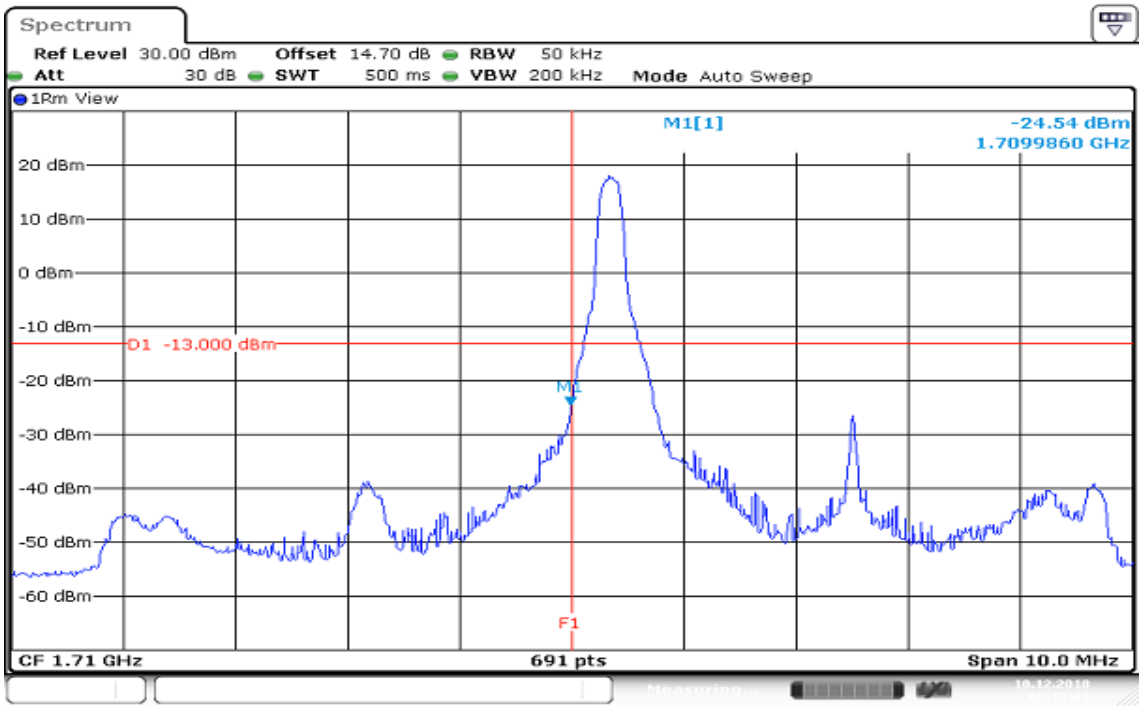
HIGHER BAND EDGE



Date: 10.DEC.2018 08:37:37

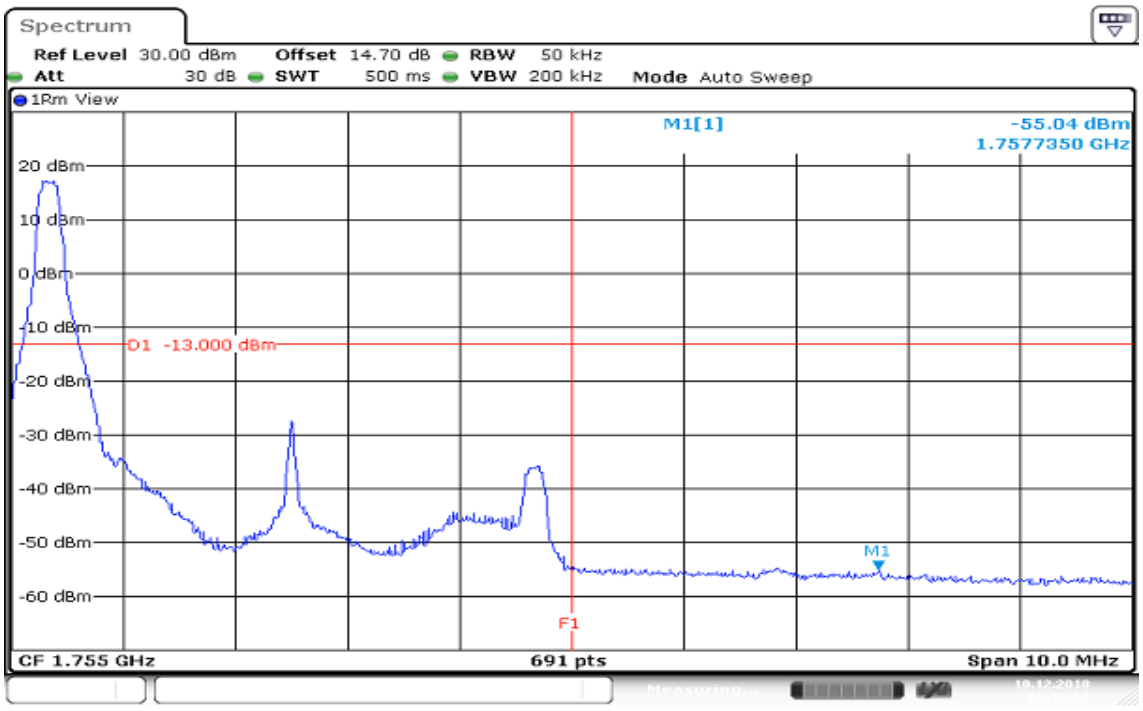
This document cannot be reproduced except in full, without prior written approval of the Company. 本報告未經本公司書面許可，不可部份複製。

CHANNEL BANDWIDTH: 5MHz / 16QAM / 1RB ALLOCATED
LOWER BAND EDGE



Date: 10.DEC.2018 08:19:01

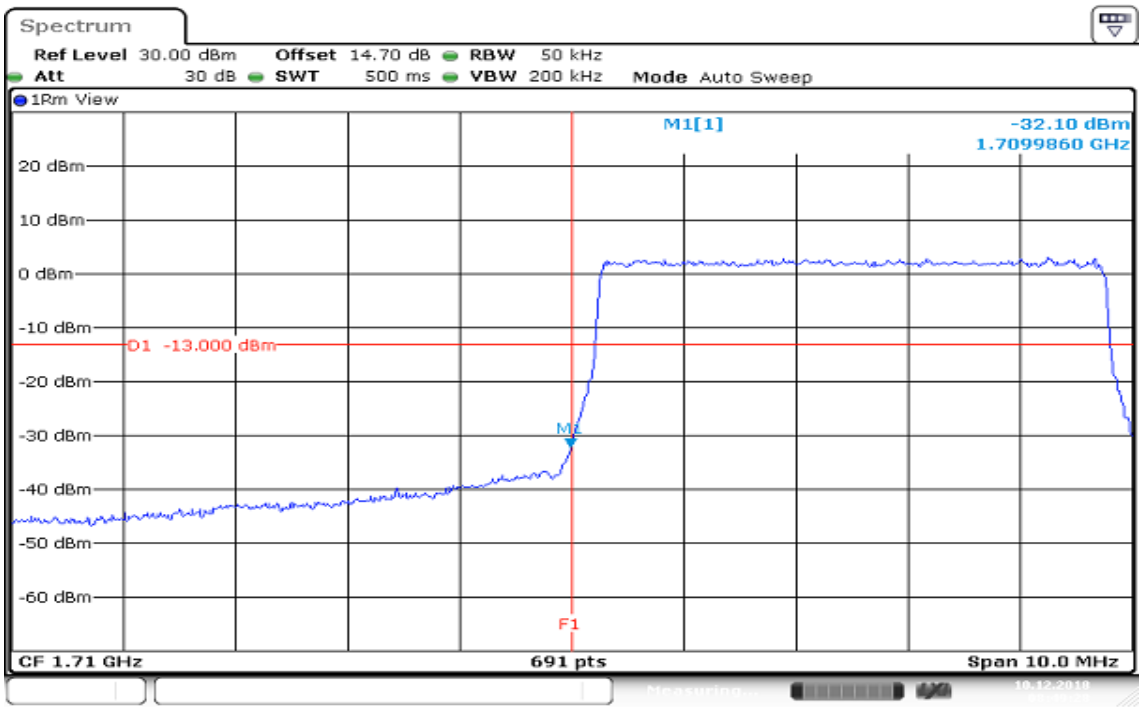
HIGHER BAND EDGE



Date: 10.DEC.2018 08:16:59

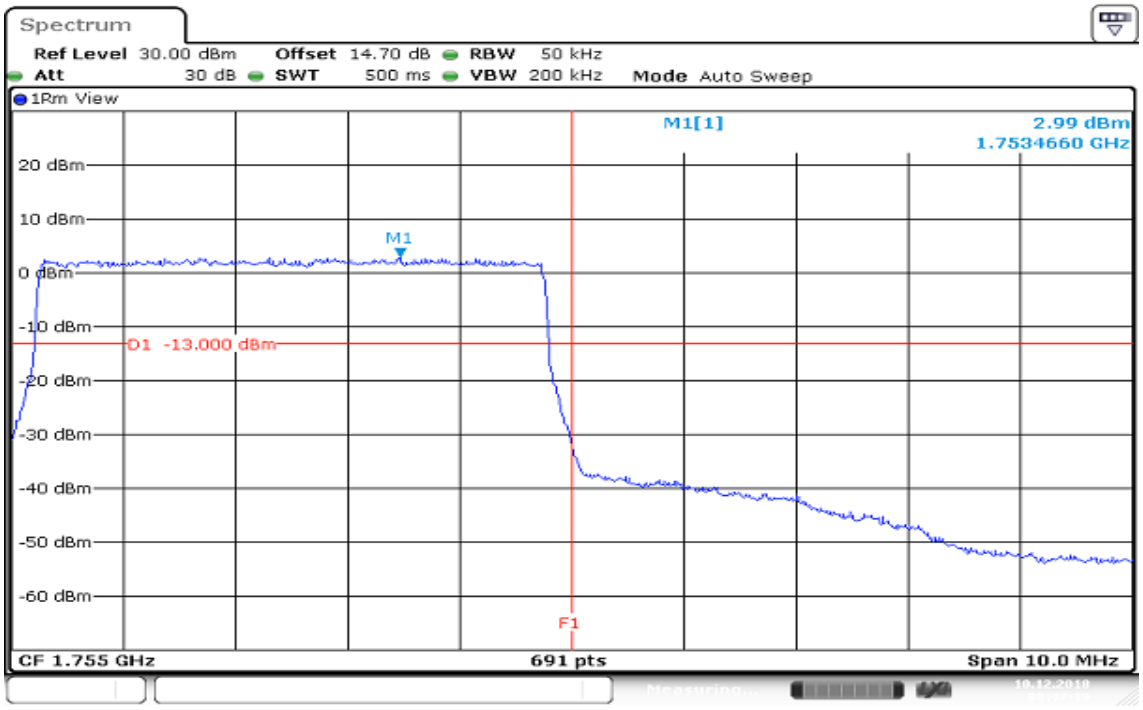
This document cannot be reproduced except in full, without prior written approval of the Company. 本報告未經本公司書面許可，不可部份複製。

CHANNEL BANDWIDTH: 5MHz / 16QAM / 100%RB ALLOCATED
LOWER BAND EDGE



Date: 10.DEC.2018 08:49:29

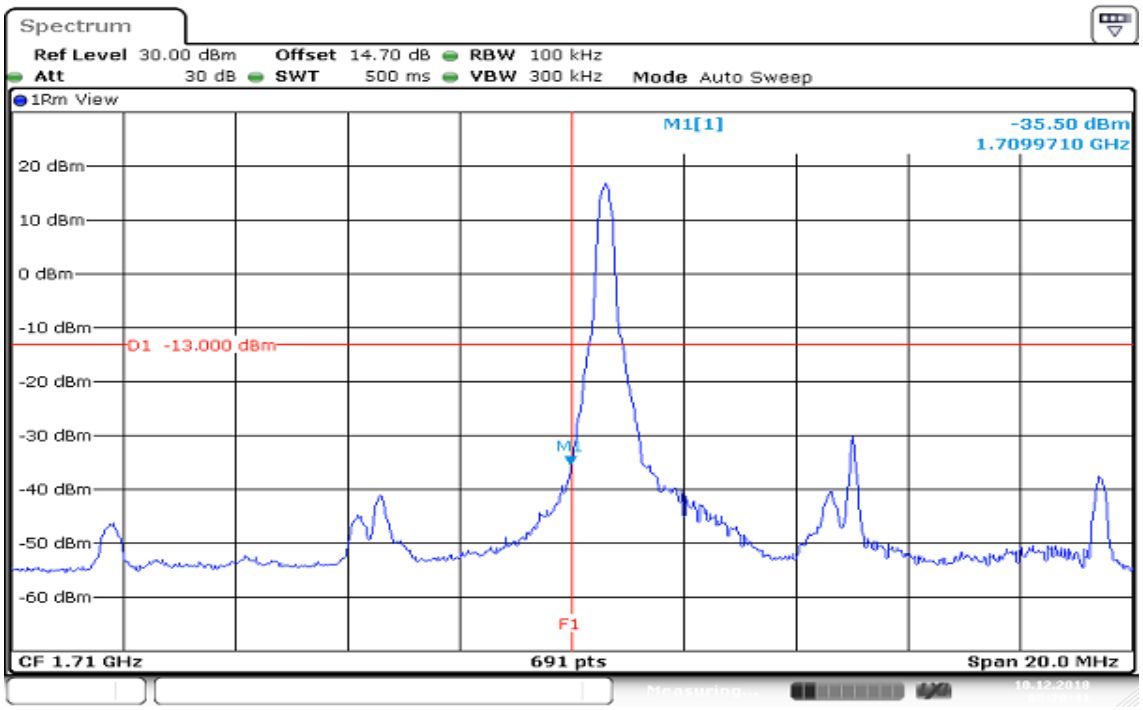
HIGHER BAND EDGE



Date: 10.DEC.2018 08:47:20

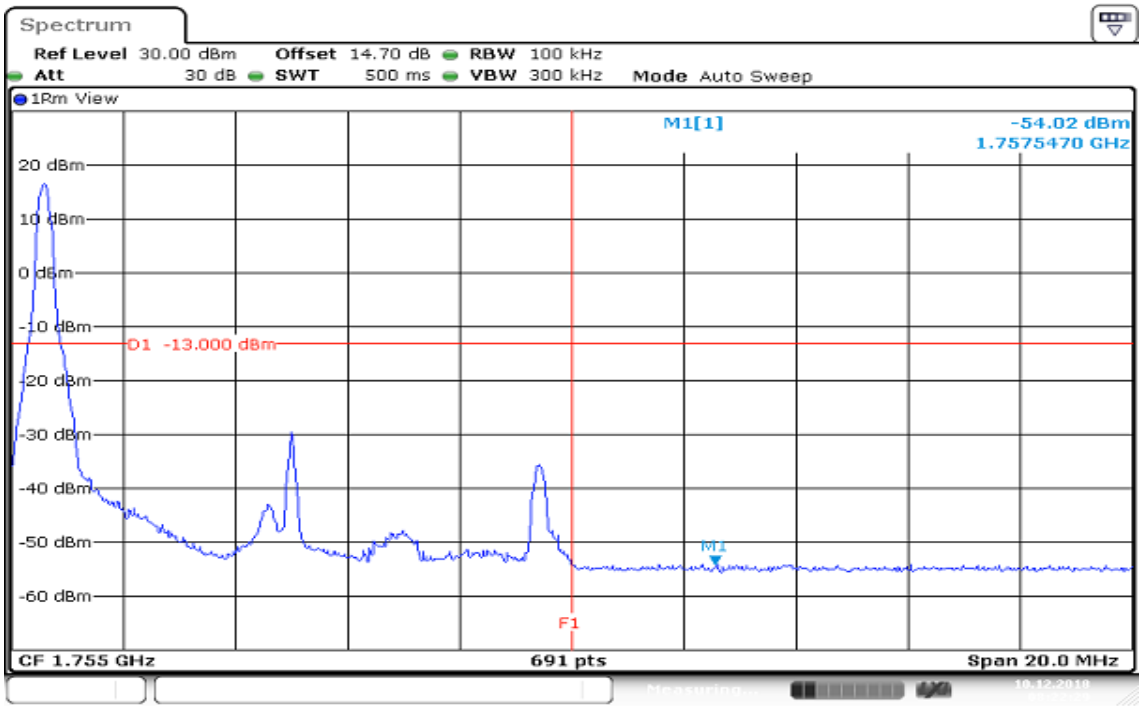
This document cannot be reproduced except in full, without prior written approval of the Company. 本報告未經本公司書面許可，不可部份複製。

CHANNEL BANDWIDTH: 10MHz / 16QAM / 1RB ALLOCATED
LOWER BAND EDGE



Date: 10.DEC.2018 08:20:41

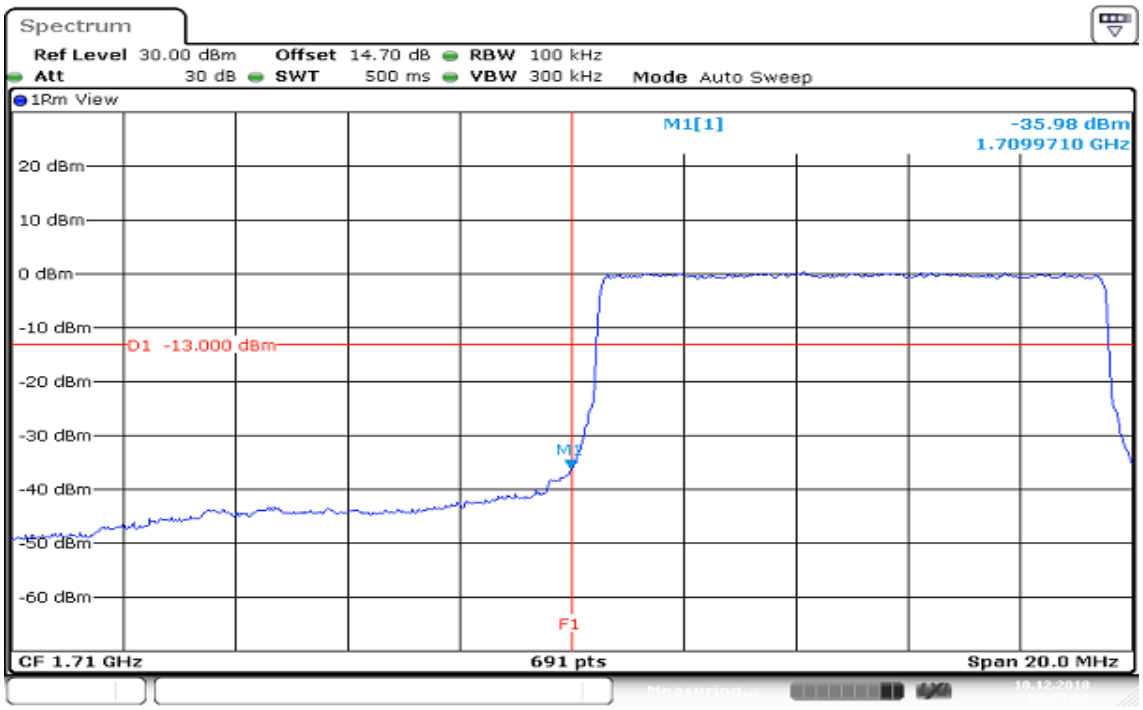
HIGHER BAND EDGE



Date: 10.DEC.2018 08:22:29

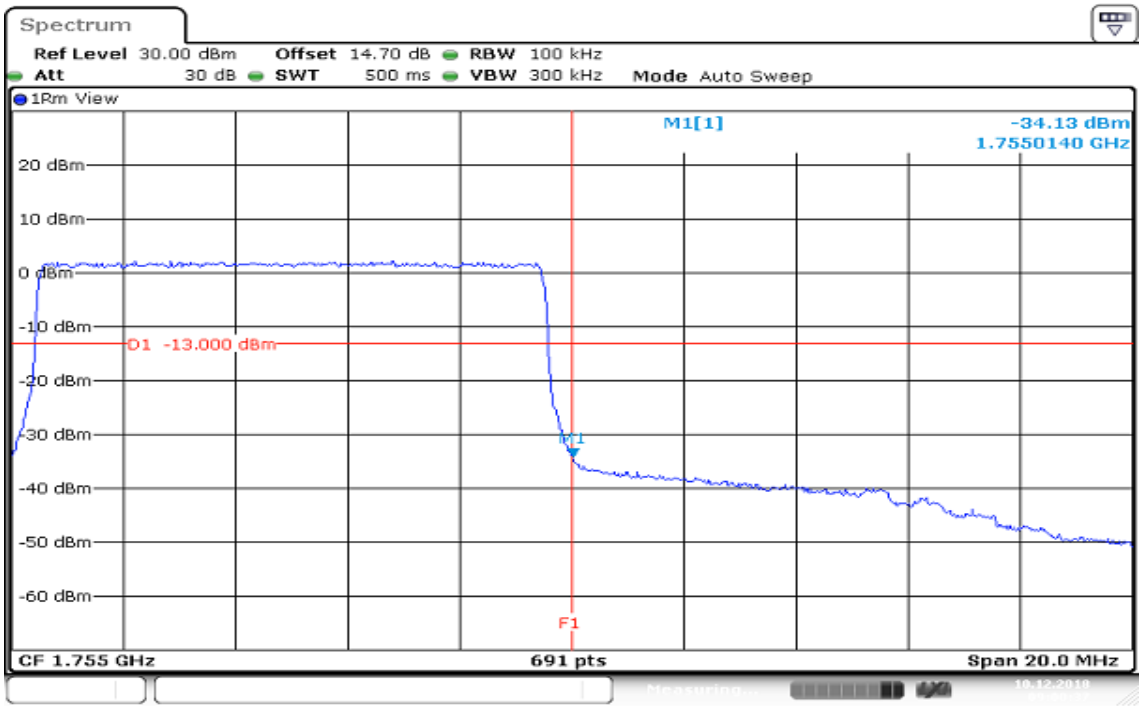
This document cannot be reproduced except in full, without prior written approval of the Company. 本報告未經本公司書面許可，不可部份複製。

CHANNEL BANDWIDTH: 10MHz / 16QAM / 100%RB ALLOCATED
LOWER BAND EDGE



Date: 10.DEC.2018 08:55:09

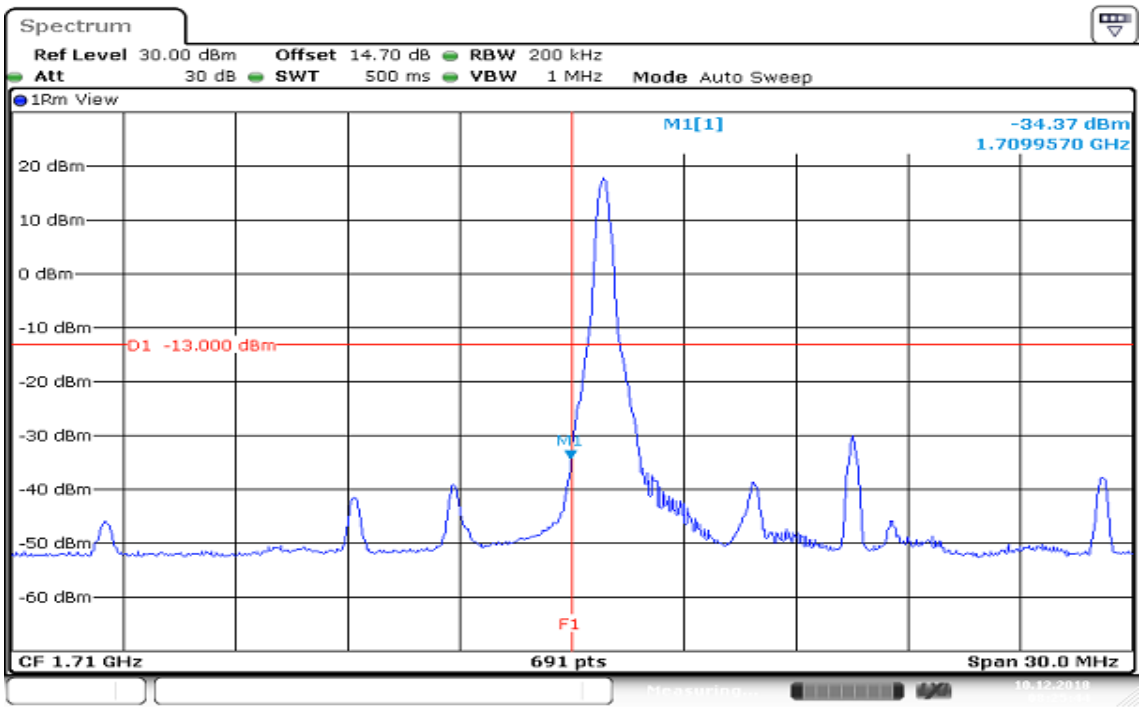
HIGHER BAND EDGE



Date: 10.DEC.2018 09:00:38

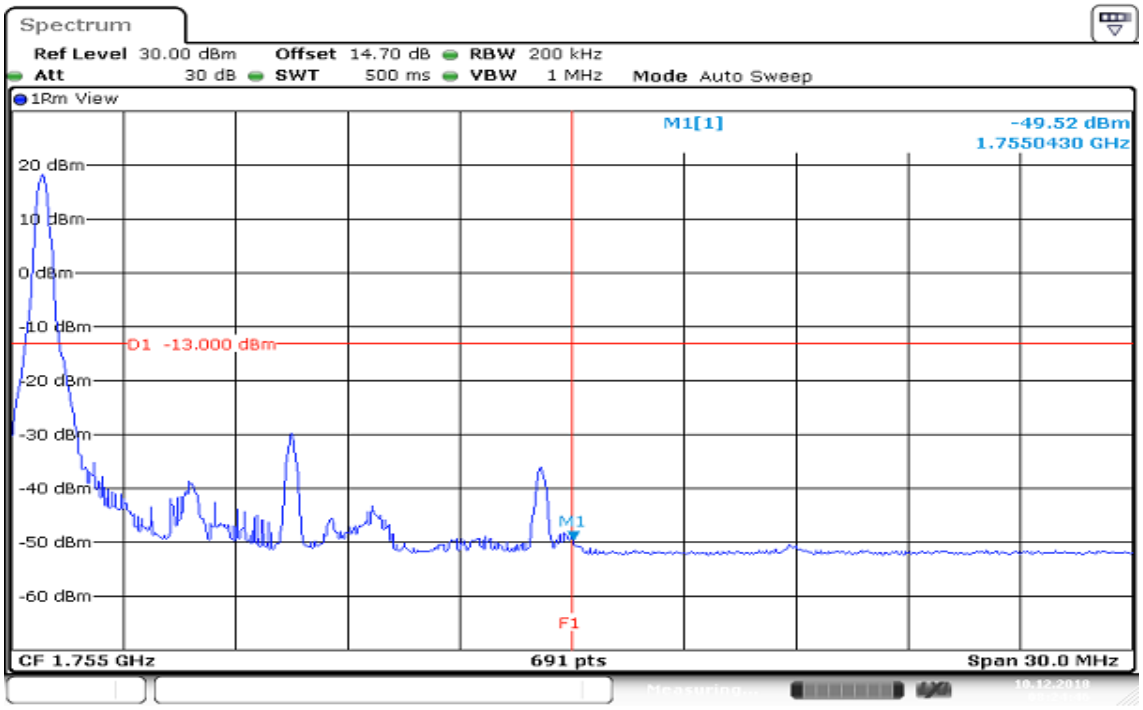
This document cannot be reproduced except in full, without prior written approval of the Company. 本報告未經本公司書面許可，不可部份複製。

CHANNEL BANDWIDTH: 15MHz / 16QAM / 1RB ALLOCATED
LOWER BAND EDGE



Date: 10.DEC.2018 08:25:45

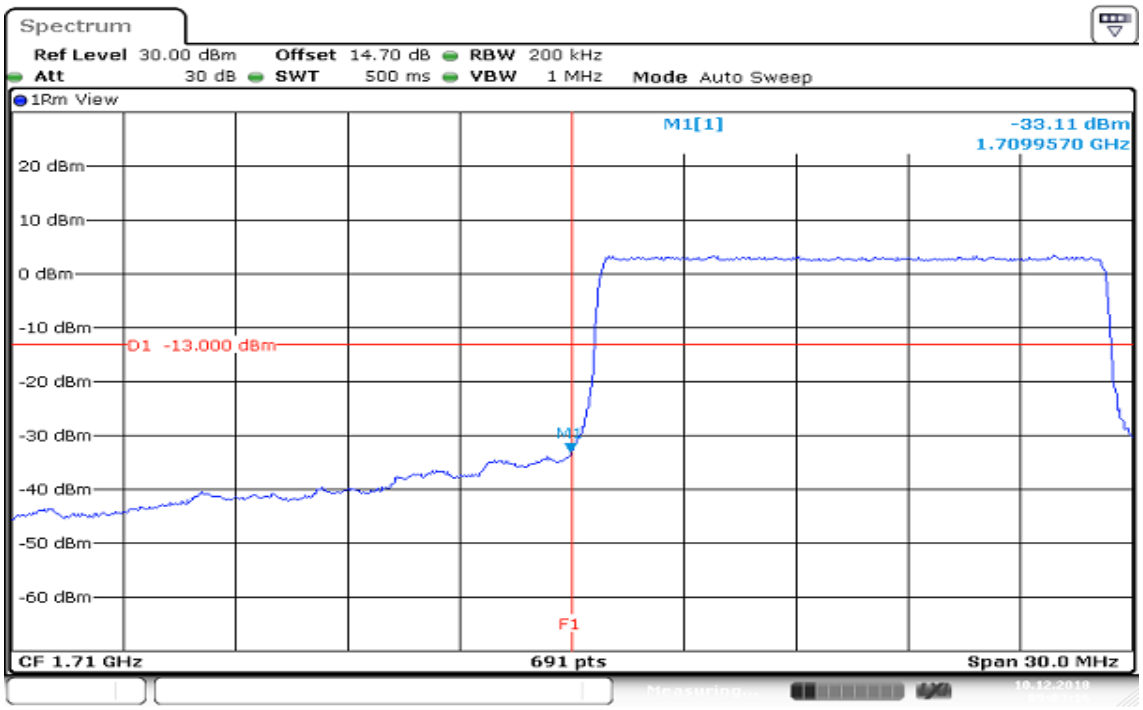
HIGHER BAND EDGE



Date: 10.DEC.2018 08:24:46

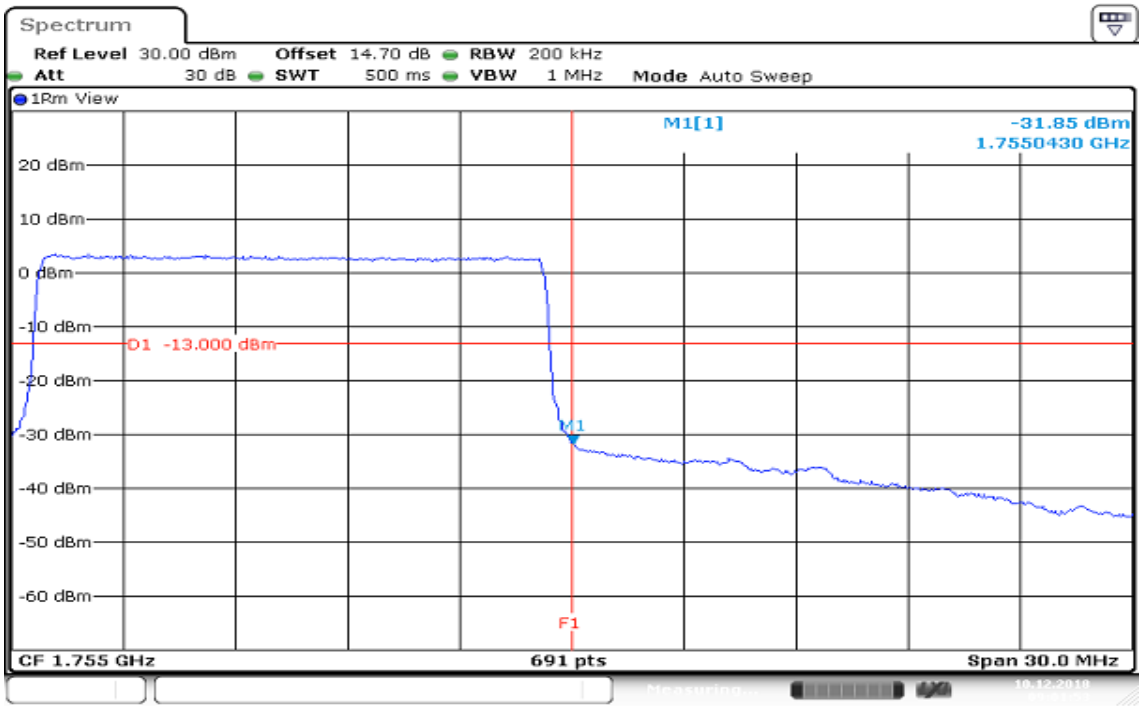
This document cannot be reproduced except in full, without prior written approval of the Company. 本報告未經本公司書面許可，不可部份複製。

CHANNEL BANDWIDTH: 15MHz / 16QAM / 100%RB ALLOCATED
LOWER BAND EDGE



Date: 10.DEC.2018 09:03:17

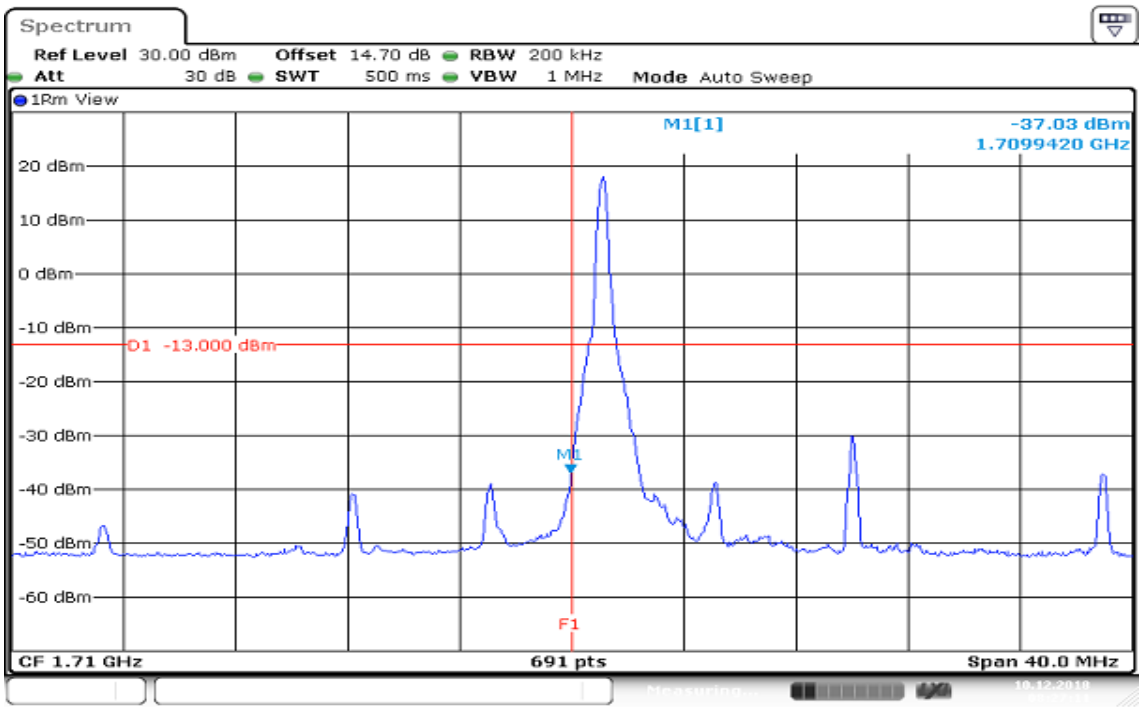
HIGHER BAND EDGE



Date: 10.DEC.2018 09:01:54

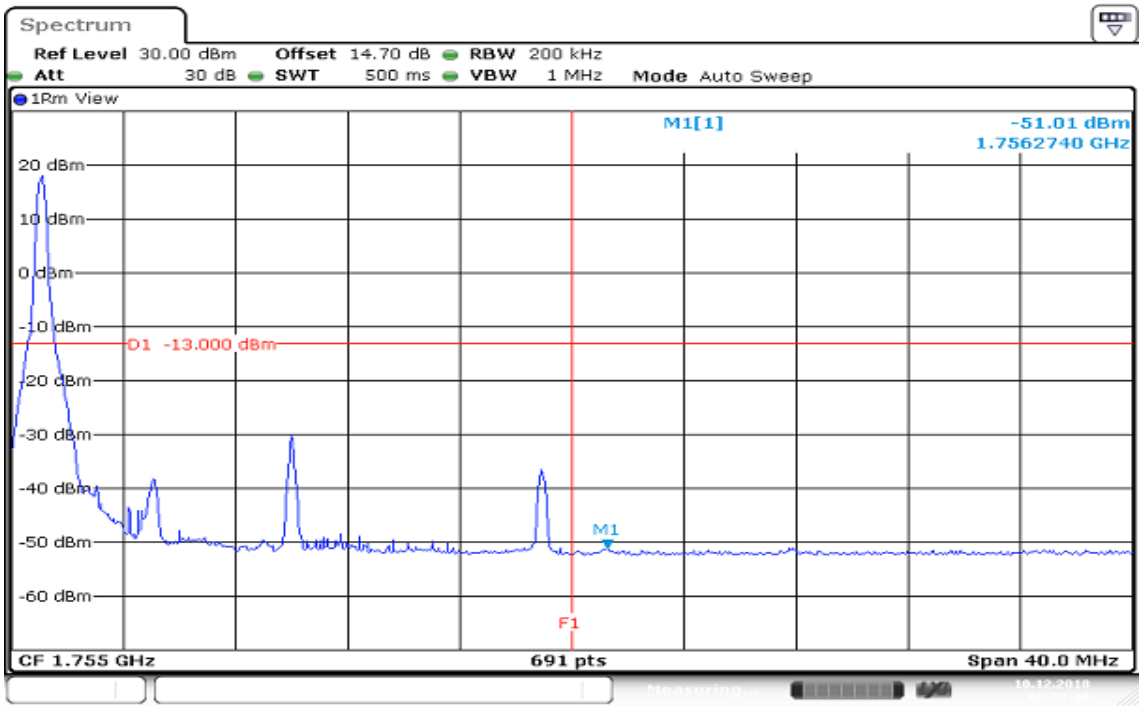
This document cannot be reproduced except in full, without prior written approval of the Company. 本報告未經本公司書面許可，不可部份複製。

CHANNEL BANDWIDTH: 20MHz / 16QAM / 1RB ALLOCATED
LOWER BAND EDGE



Date: 10.DEC.2018 08:27:11

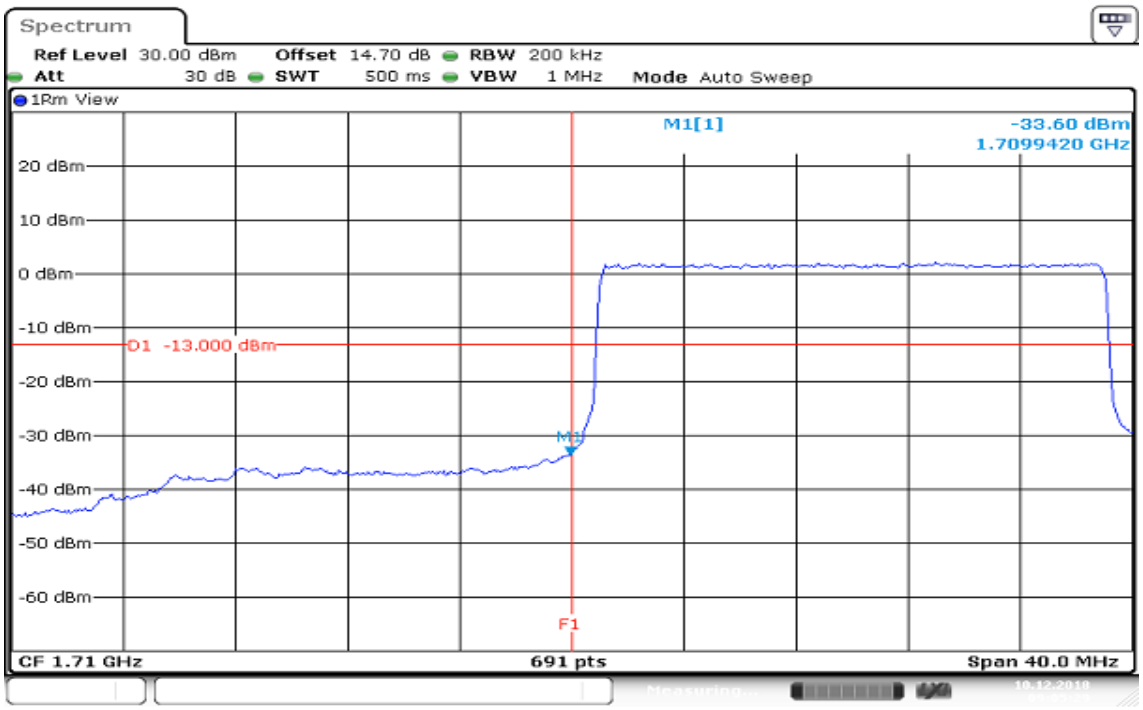
HIGHER BAND EDGE



Date: 10.DEC.2018 08:28:40

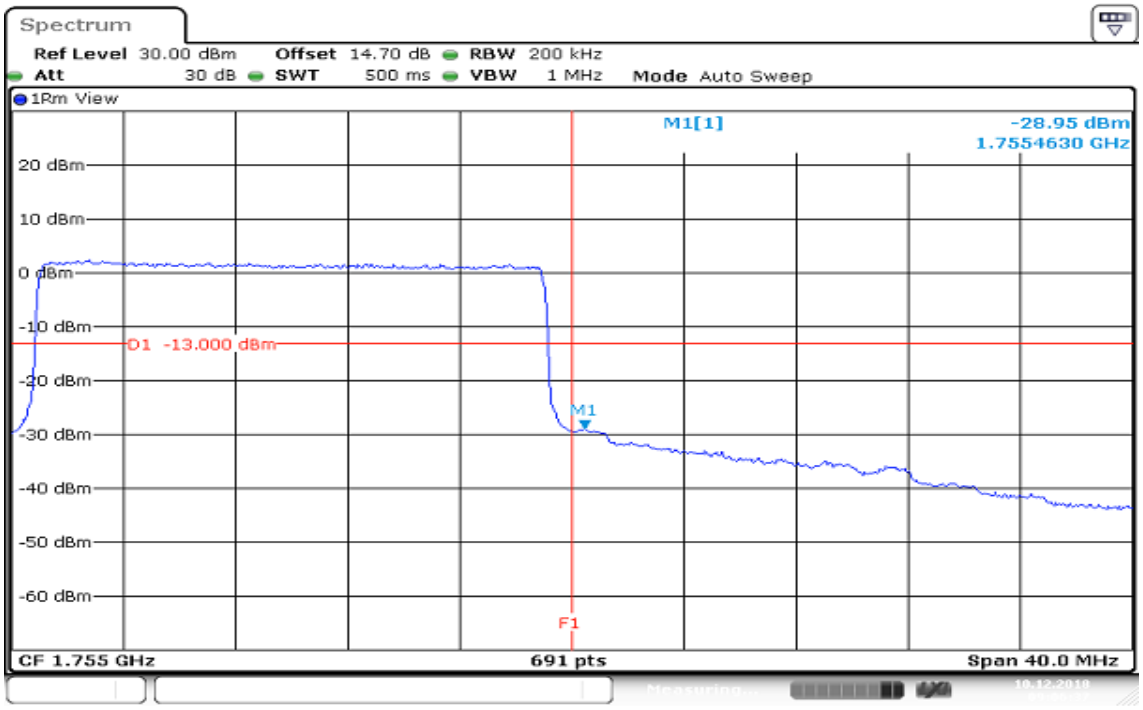
This document cannot be reproduced except in full, without prior written approval of the Company. 本報告未經本公司書面許可，不可部份複製。

CHANNEL BANDWIDTH: 20MHz / 16QAM / 100%RB ALLOCATED
LOWER BAND EDGE



Date: 10.DEC.2018 09:05:30

HIGHER BAND EDGE



Date: 10.DEC.2018 09:06:38

This document cannot be reproduced except in full, without prior written approval of the Company. 本報告未經本公司書面許可，不可部份複製。

8.7 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 log10(P) dB. The limit of emission equal to –13dBm

TEST PROCEDURES

1. The EUT was set up for the maximum peak power with LTE link data modulation. The power was measured with Spectrum Analyzer. All measurements were done at 3 channels (low, middle and high operational frequency range.).
2. The conducted spurious emission used the power splitter via EUT RF power connector between simulation base station and spectrum analyzer.
3. When the spectrum scanned from 30MHz to 3GHz, it shall be connected to the band reject filter attenuated the carried frequency. The spectrum set RB=1MHz, VB=3MHz.
4. When the spectrum scanned from 3GHz to 20GHz, it shall be connected to the high pass filter attenuated the carried frequency. The spectrum set RB=1MHz, VB=3MHz.

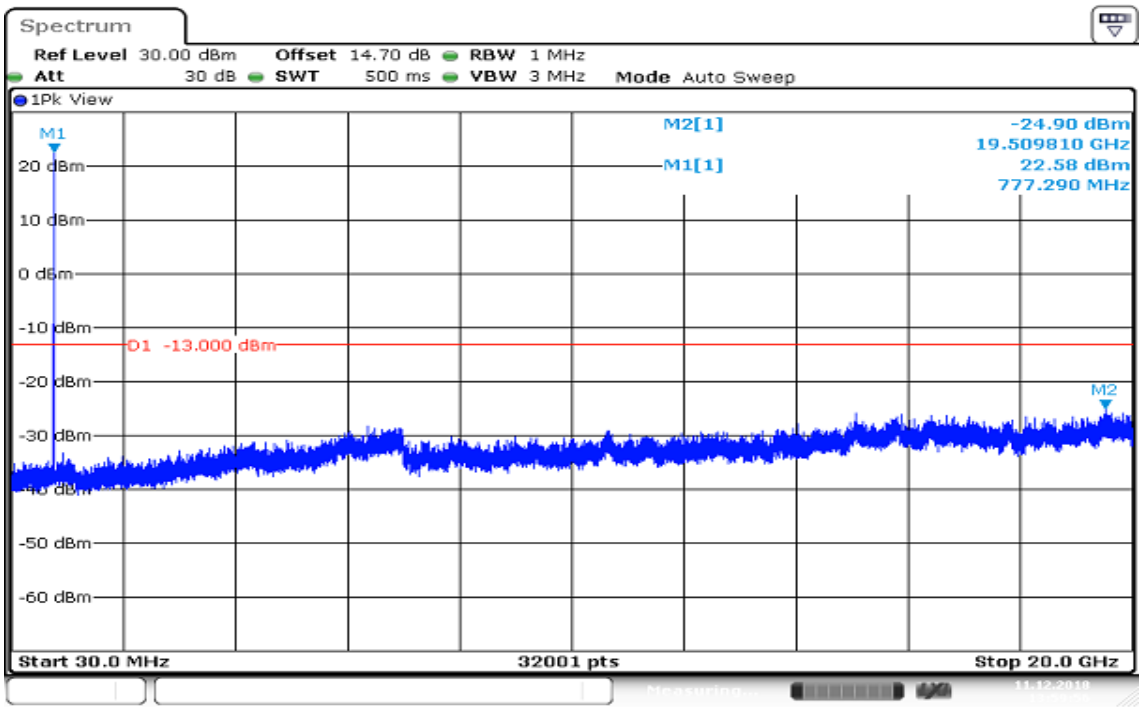
This document cannot be reproduced except in full, without prior written approval of the Company. 本報告未經本公司書面許可，不可部份複製。

TEST RESULTS

LTE Band 13

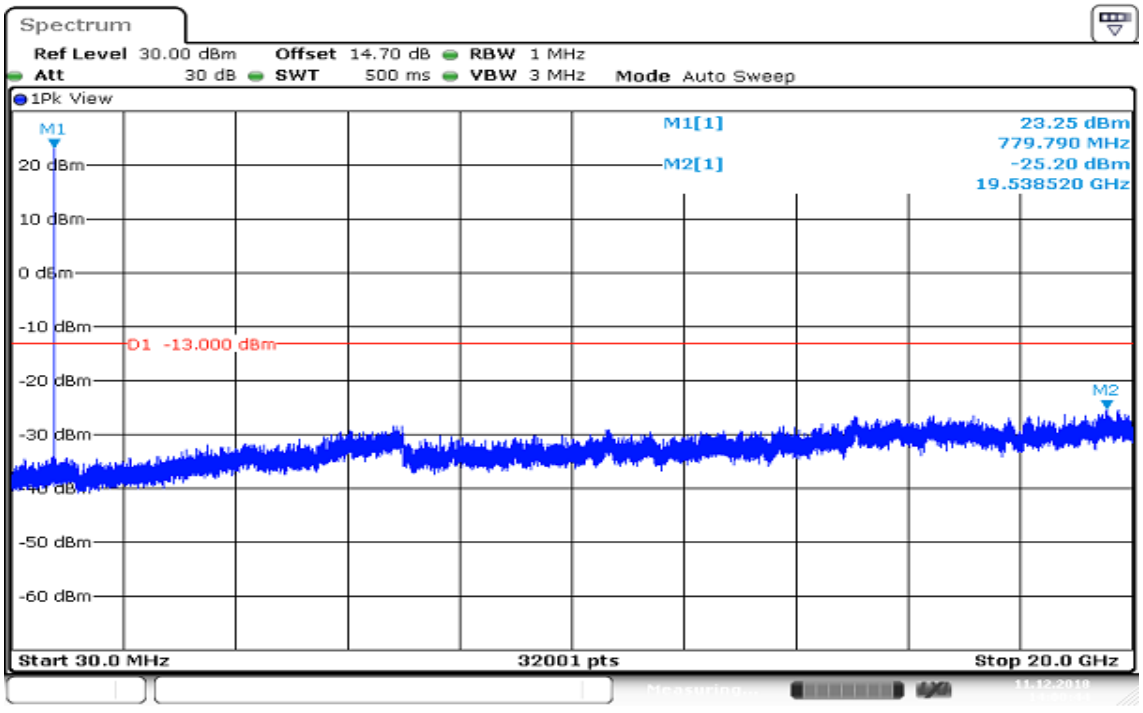
CHANNEL BANDWIDTH: 5MHz / QPSK

CH Low



Date: 11.DEC.2018 13:59:57

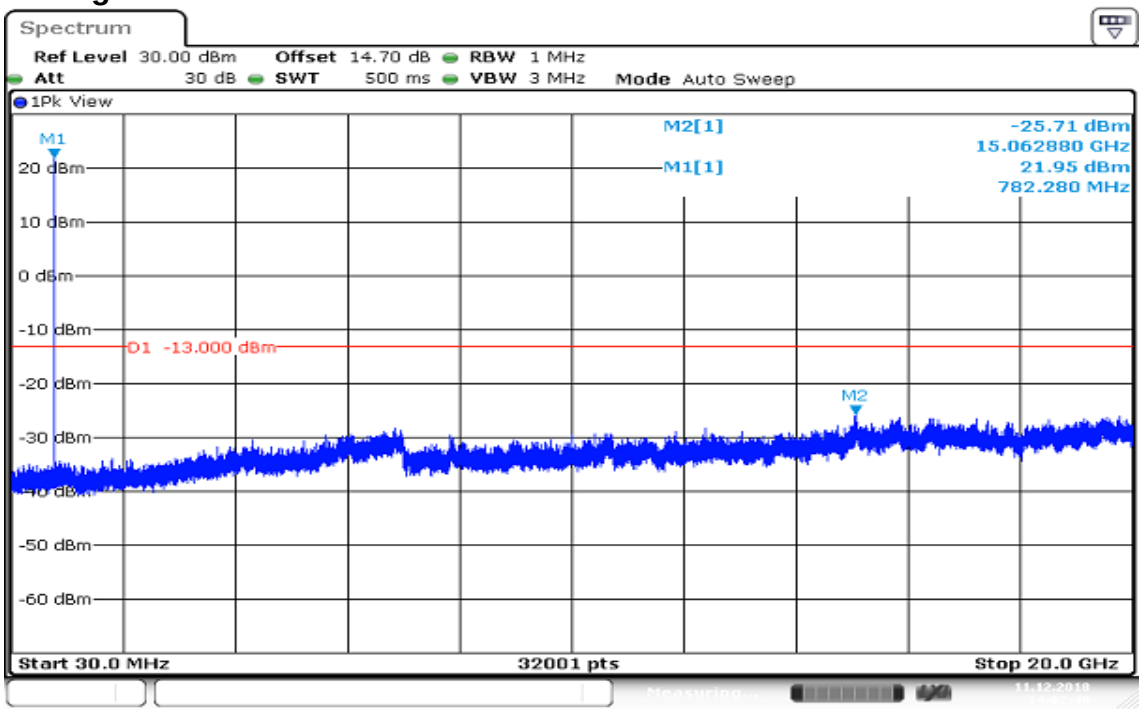
CH Mid



Date: 11.DEC.2018 14:00:45

This document cannot be reproduced except in full, without prior written approval of the Company. 本報告未經本公司書面許可，不可部份複製。

CH High

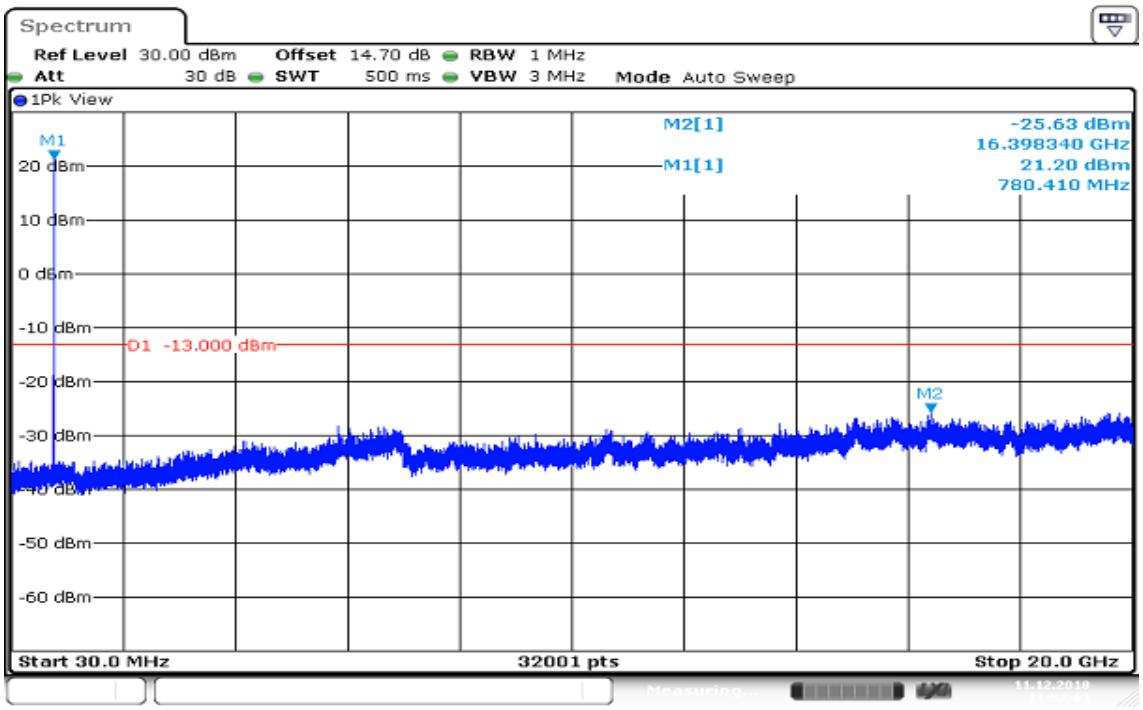


Date: 11.DEC.2018 14:02:40

This document cannot be reproduced except in full, without prior written approval of the Company. 本報告未經本公司書面許可，不可部份複製。

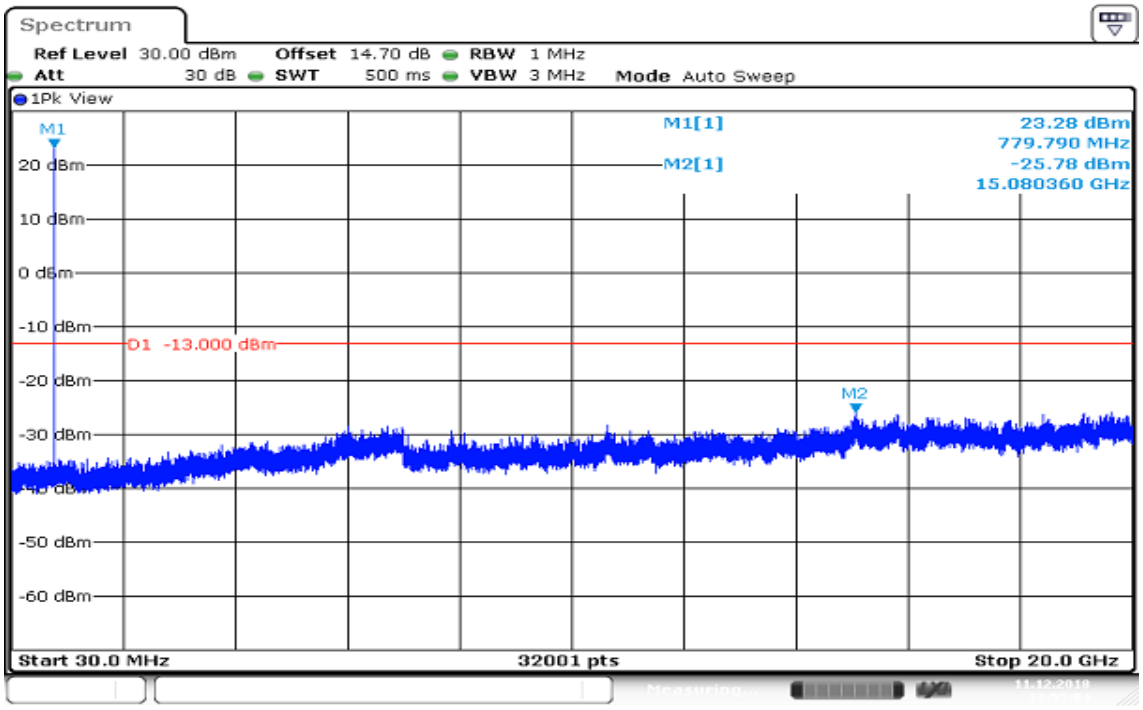
CHANNEL BANDWIDTH: 5MHz / 16QAM

CH Low



Date: 11.DEC.2018 11:57:04

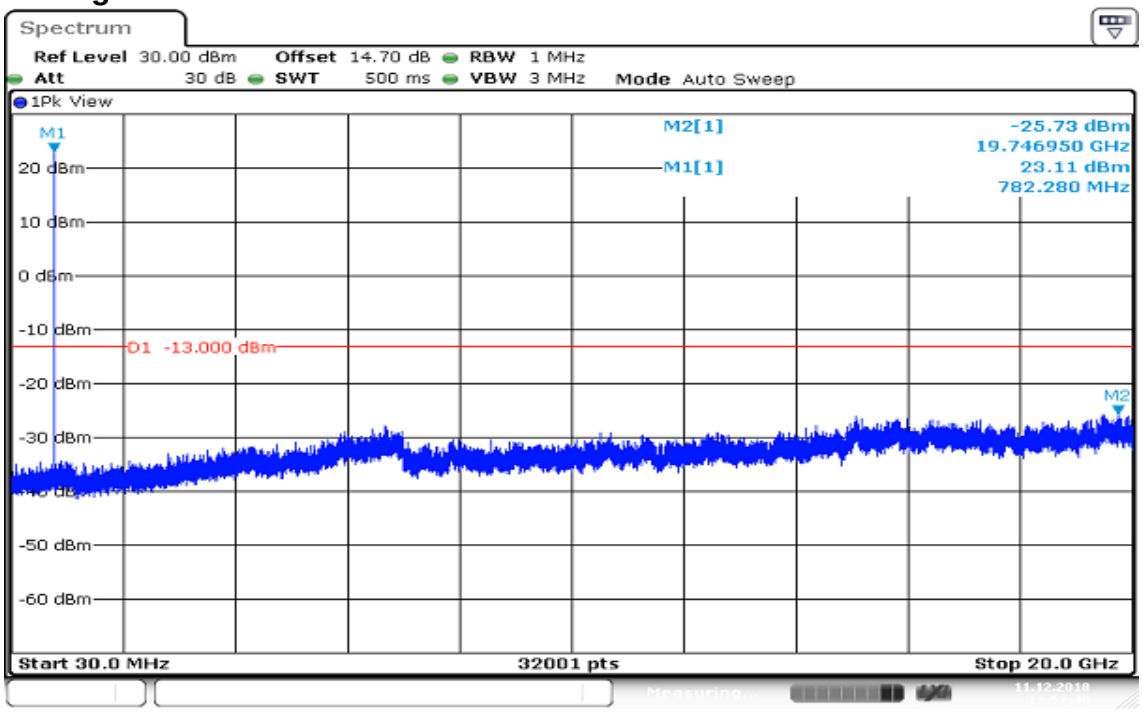
CH Mid



Date: 11.DEC.2018 13:55:04

This document cannot be reproduced except in full, without prior written approval of the Company. 本報告未經本公司書面許可，不可部份複製。

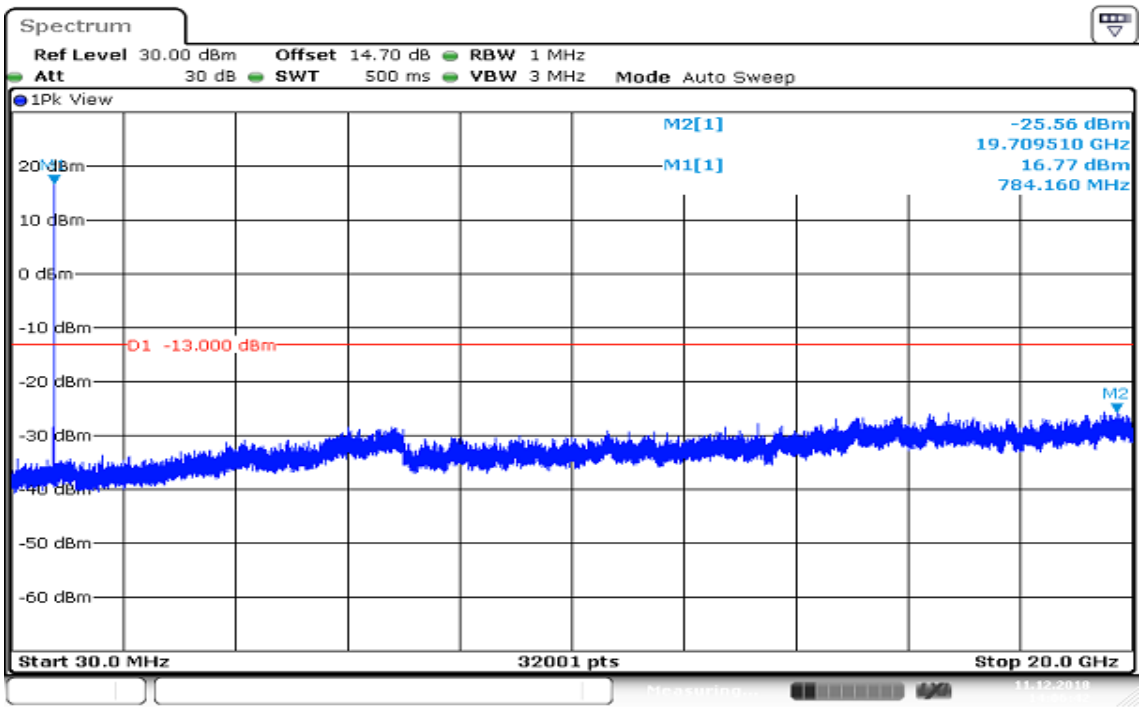
CH High



Date: 11.DEC.2018 13:57:40

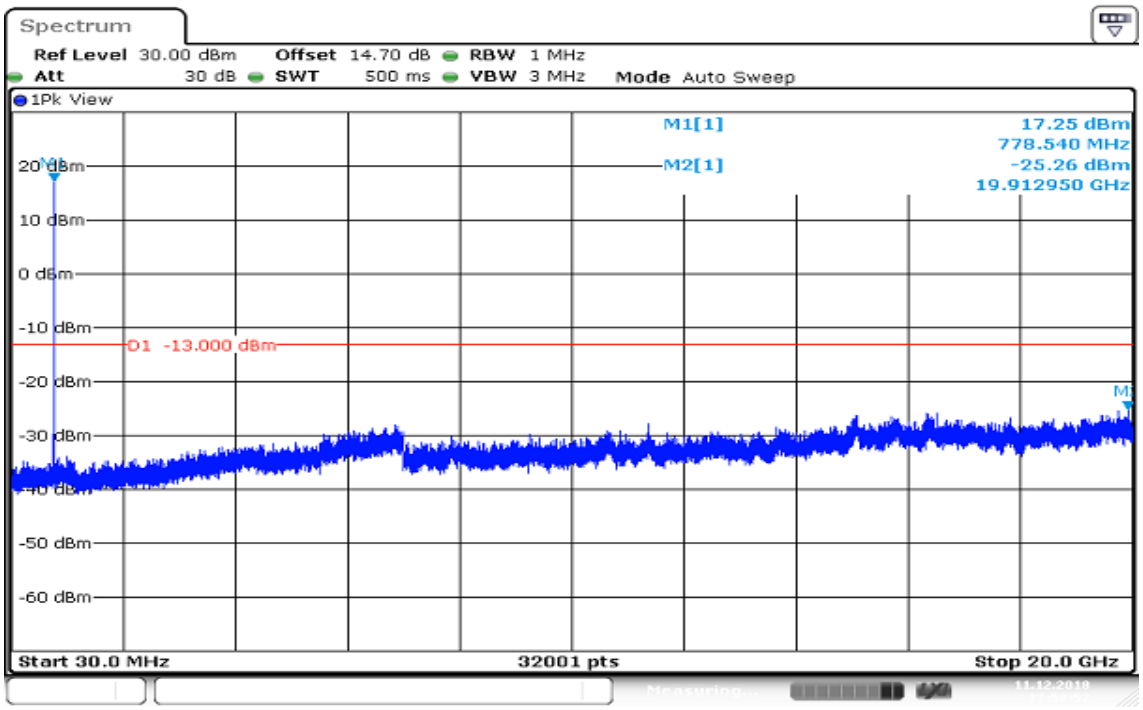
This document cannot be reproduced except in full, without prior written approval of the Company. 本報告未經本公司書面許可，不可部份複製。

CHANNEL BANDWIDTH: 10MHz / QPSK
CH Mid



Date: 11.DEC.2018 14:06:43

CHANNEL BANDWIDTH: 10MHz / 16QAM
CH Mid



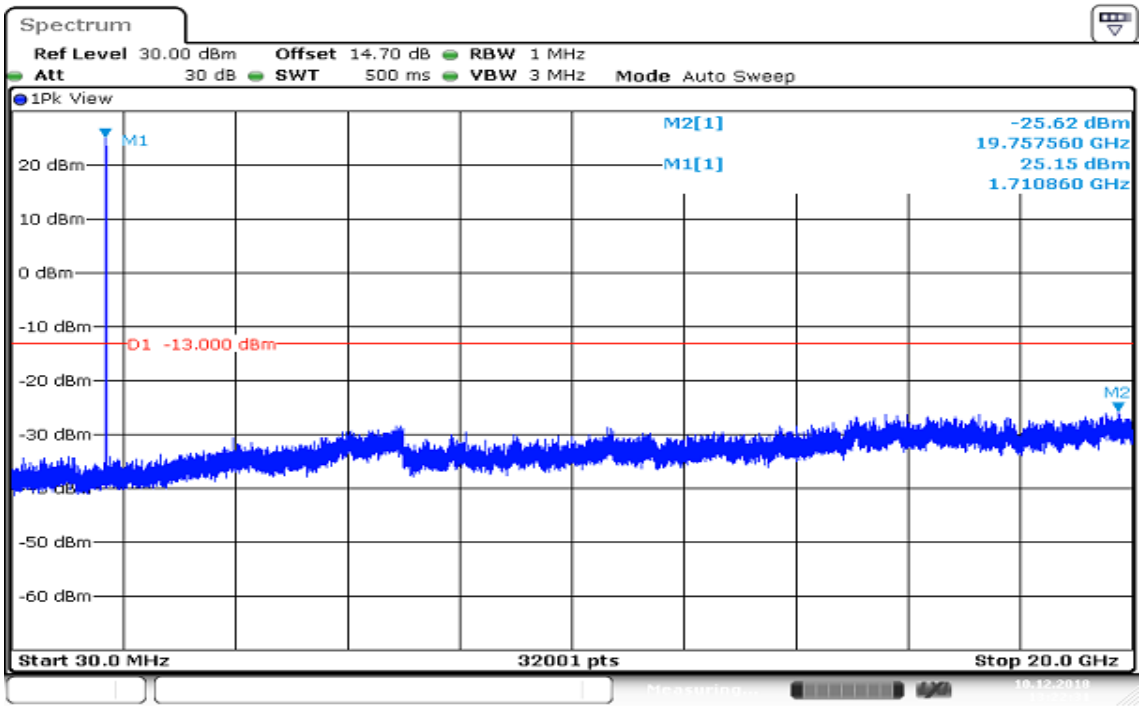
Date: 11.DEC.2018 13:58:52

This document cannot be reproduced except in full, without prior written approval of the Company. 本報告未經本公司書面許可，不可部份複製。

LTE Band 4

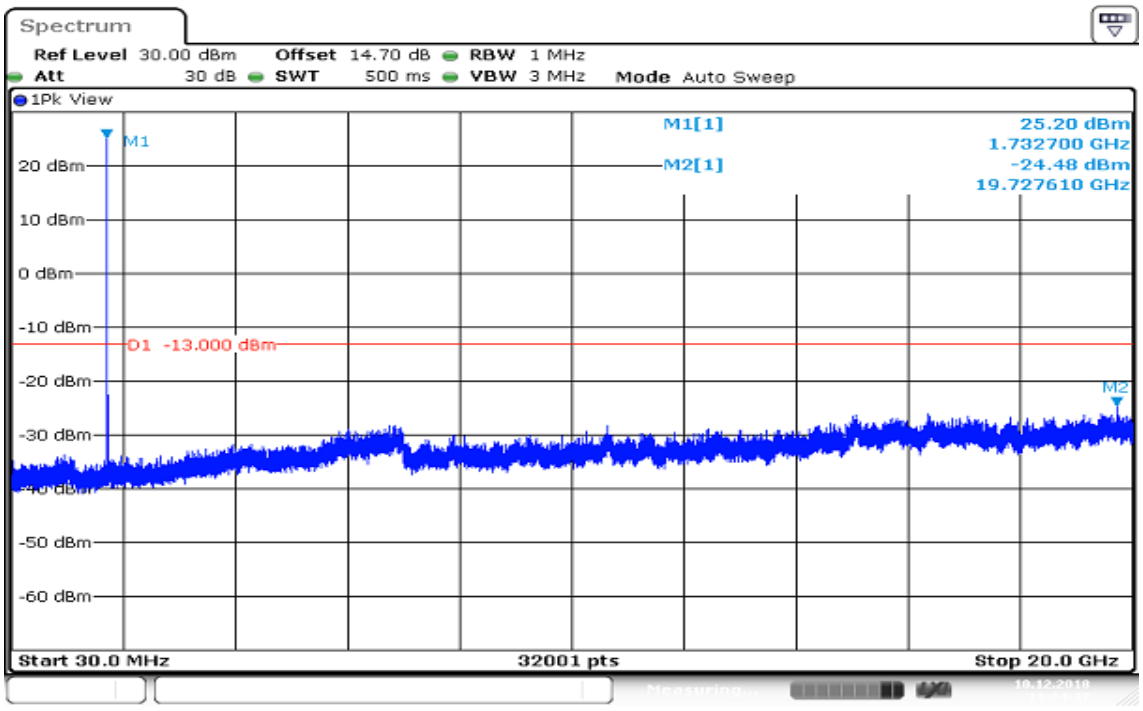
CHANNEL BANDWIDTH: 1.4MHz / QPSK

CH Low



Date: 10.DEC.2018 13:22:31

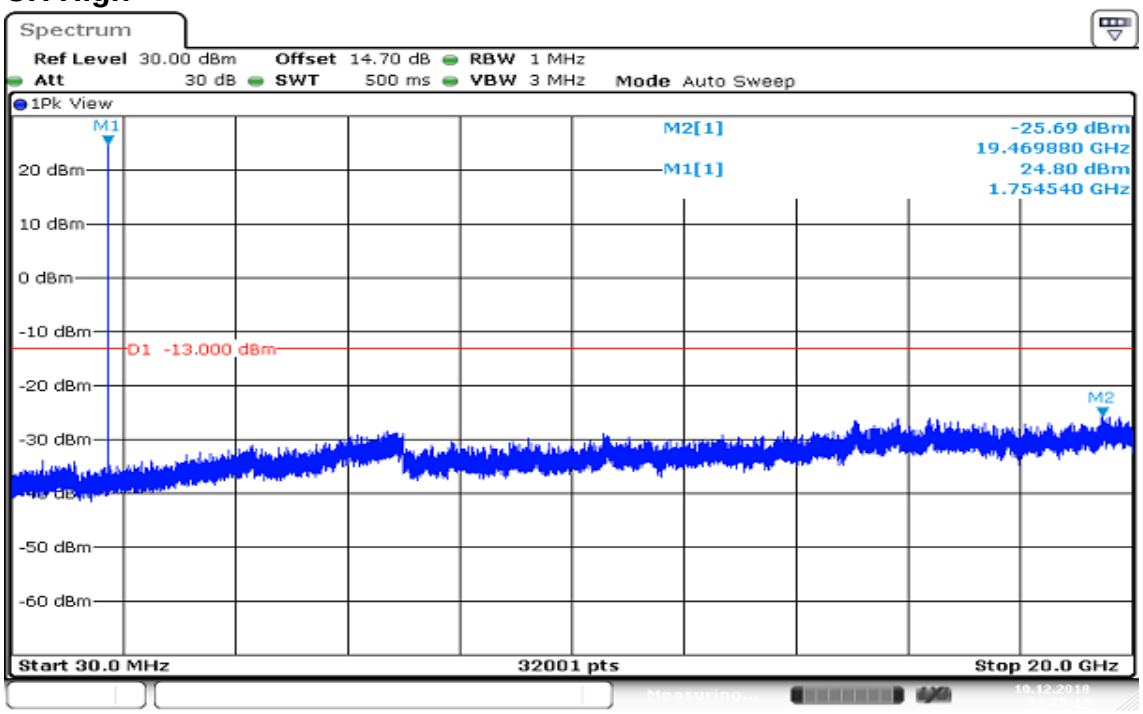
CH Mid



Date: 10.DEC.2018 13:24:37

This document cannot be reproduced except in full, without prior written approval of the Company. 本報告未經本公司書面許可，不可部份複製。

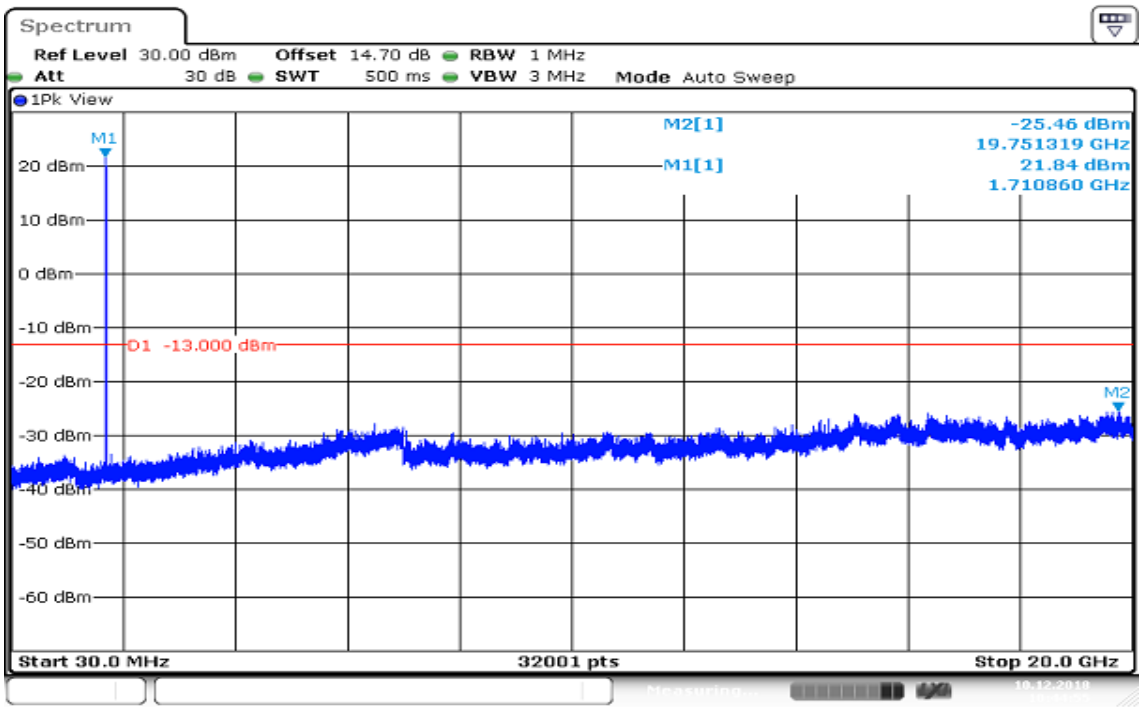
CH High



This document cannot be reproduced except in full, without prior written approval of the Company. 本報告未經本公司書面許可，不可部份複製。

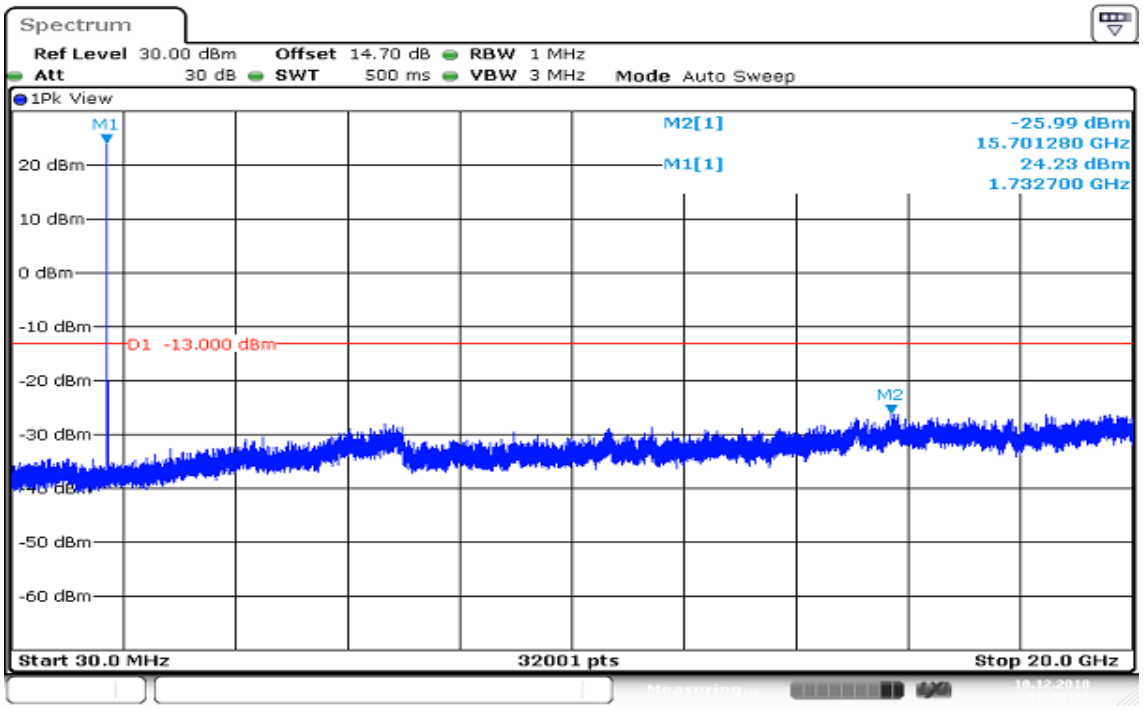
CHANNEL BANDWIDTH: 1.4MHz / 16QAM

CH Low



Date: 10.DEC.2018 10:44:55

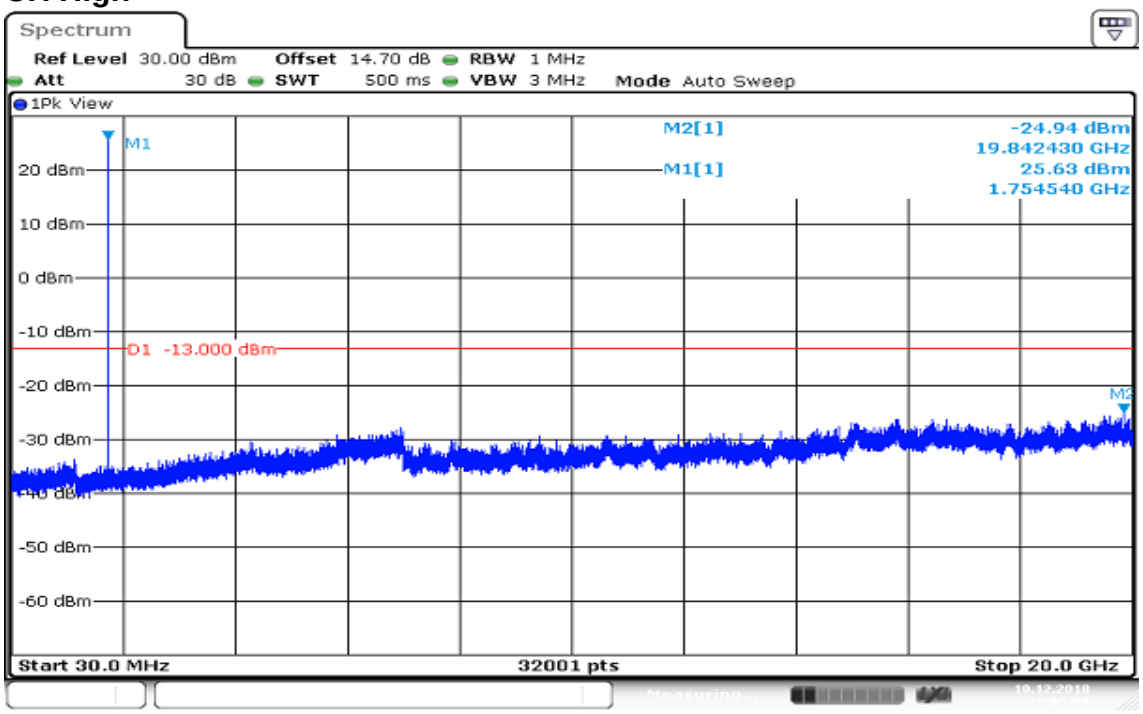
CH Mid



Date: 10.DEC.2018 10:46:33

This document cannot be reproduced except in full, without prior written approval of the Company. 本報告未經本公司書面許可，不可部份複製。

CH High

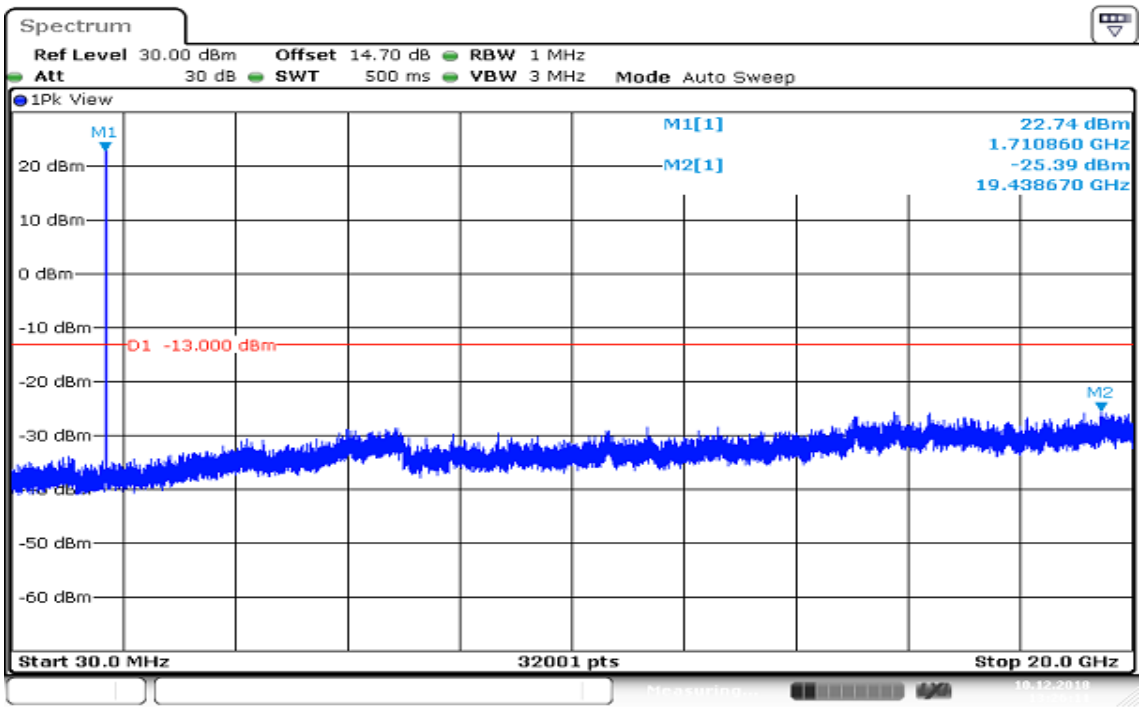


Date: 10.DEC.2018 13:06:00

This document cannot be reproduced except in full, without prior written approval of the Company. 本報告未經本公司書面許可，不可部份複製。

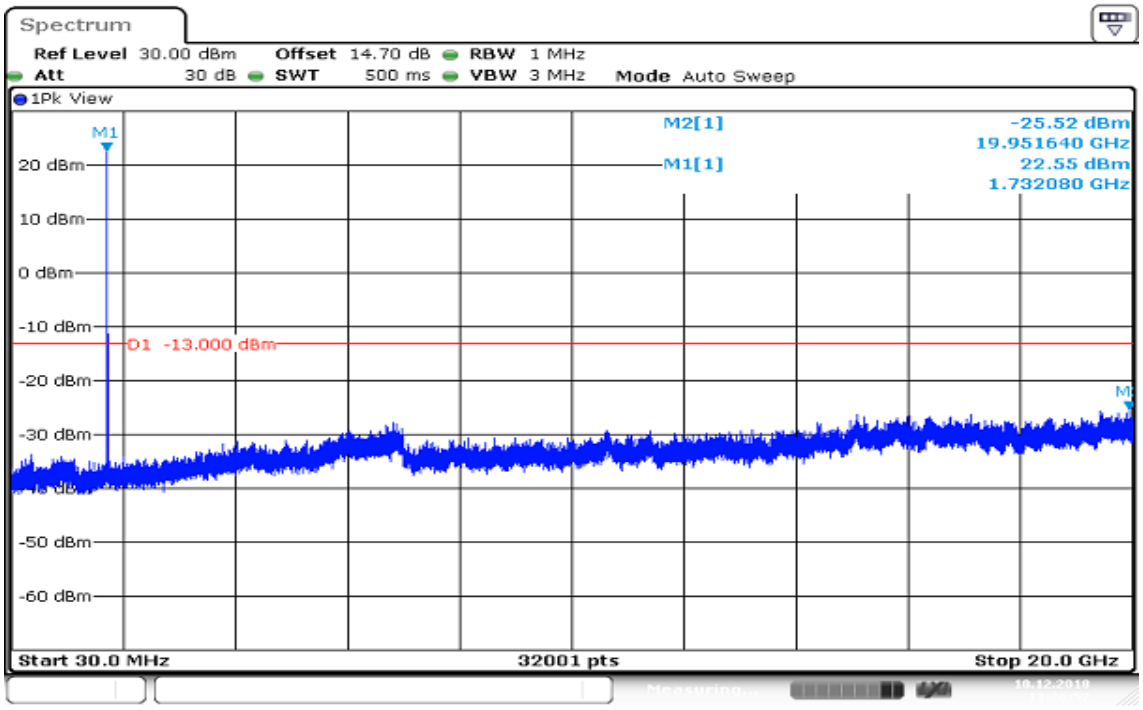
CHANNEL BANDWIDTH: 3MHz / QPSK

CH Low



Date: 10.DEC.2018 13:26:11

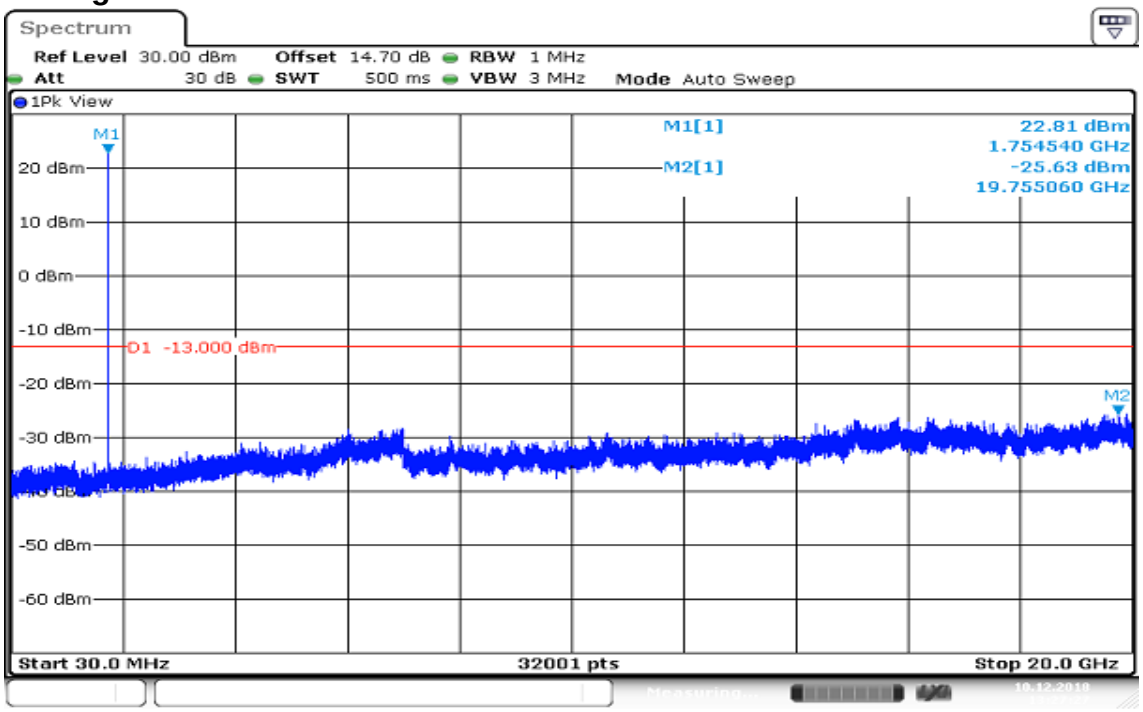
CH Mid



Date: 10.DEC.2018 13:26:52

This document cannot be reproduced except in full, without prior written approval of the Company. 本報告未經本公司書面許可，不可部份複製。

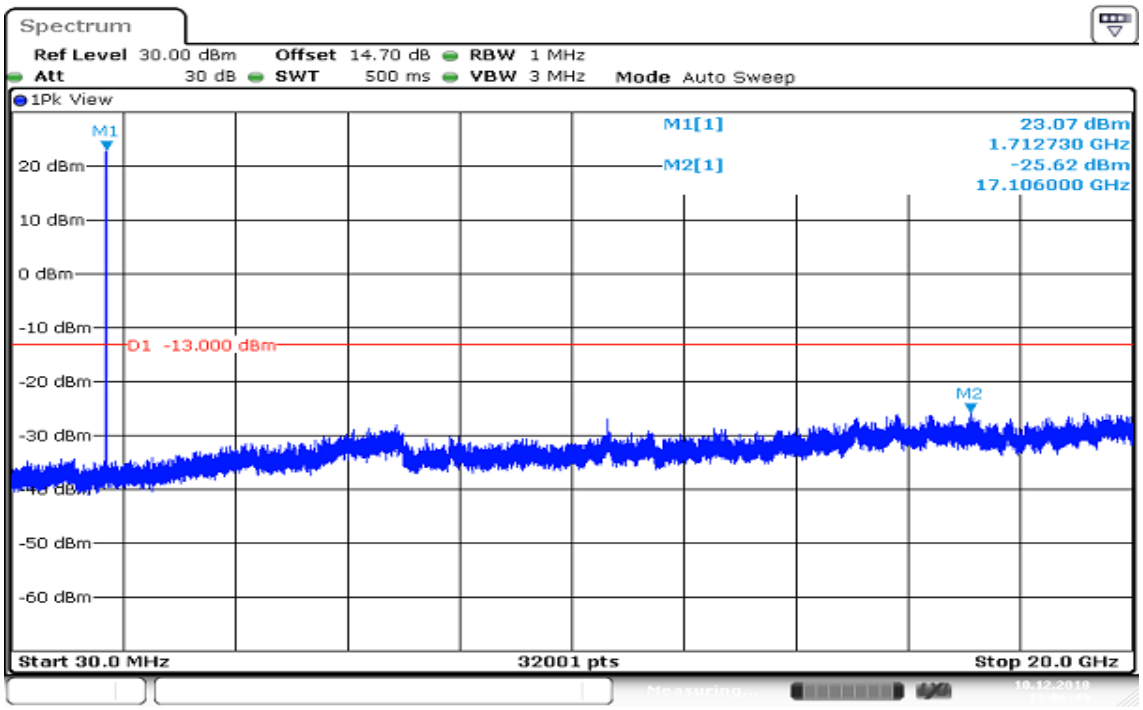
CH High



This document cannot be reproduced except in full, without prior written approval of the Company. 本報告未經本公司書面許可，不可部份複製。

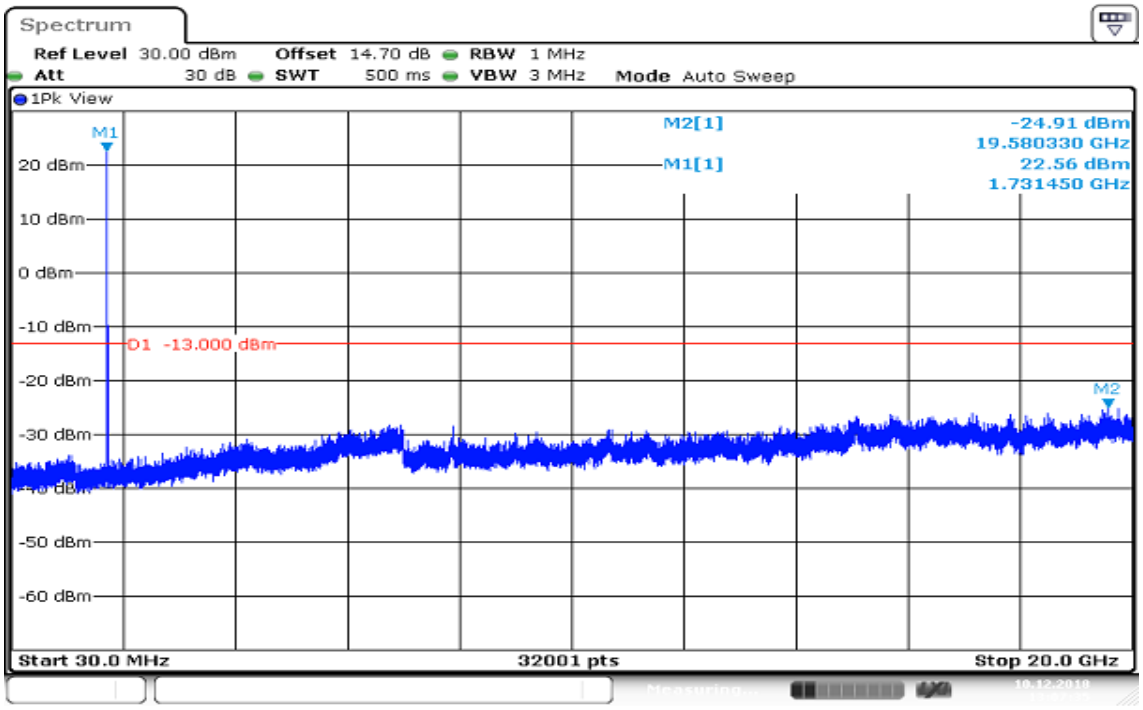
CHANNEL BANDWIDTH: 3MHz / 16QAM

CH Low



Date: 10.DEC.2018 13:06:49

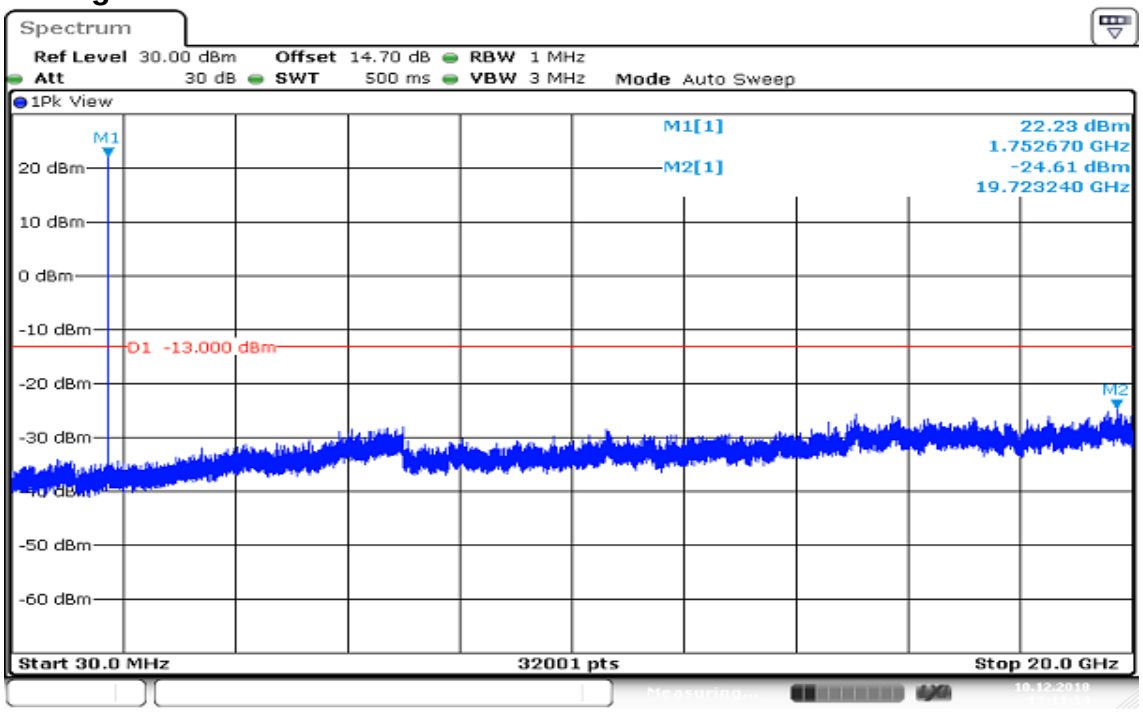
CH Mid



Date: 10.DEC.2018 13:07:36

This document cannot be reproduced except in full, without prior written approval of the Company. 本報告未經本公司書面許可，不可部份複製。

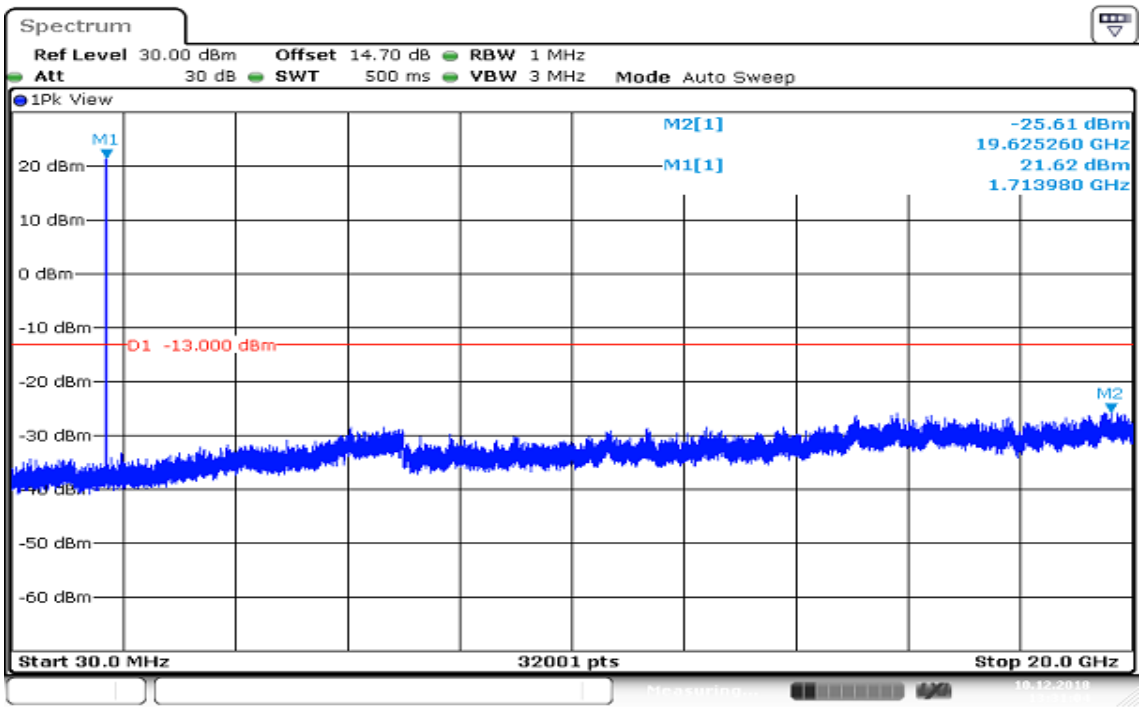
CH High



This document cannot be reproduced except in full, without prior written approval of the Company. 本報告未經本公司書面許可，不可部份複製。

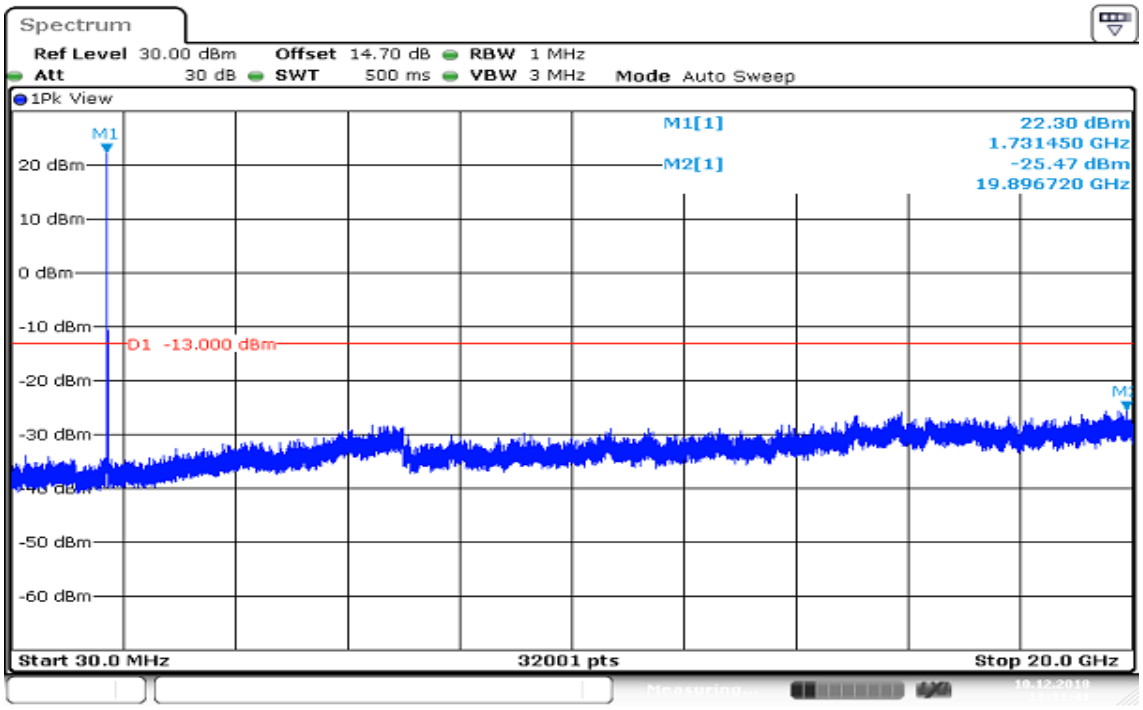
CHANNEL BANDWIDTH: 5MHz / QPSK

CH Low



Date: 10.DEC.2018 13:31:05

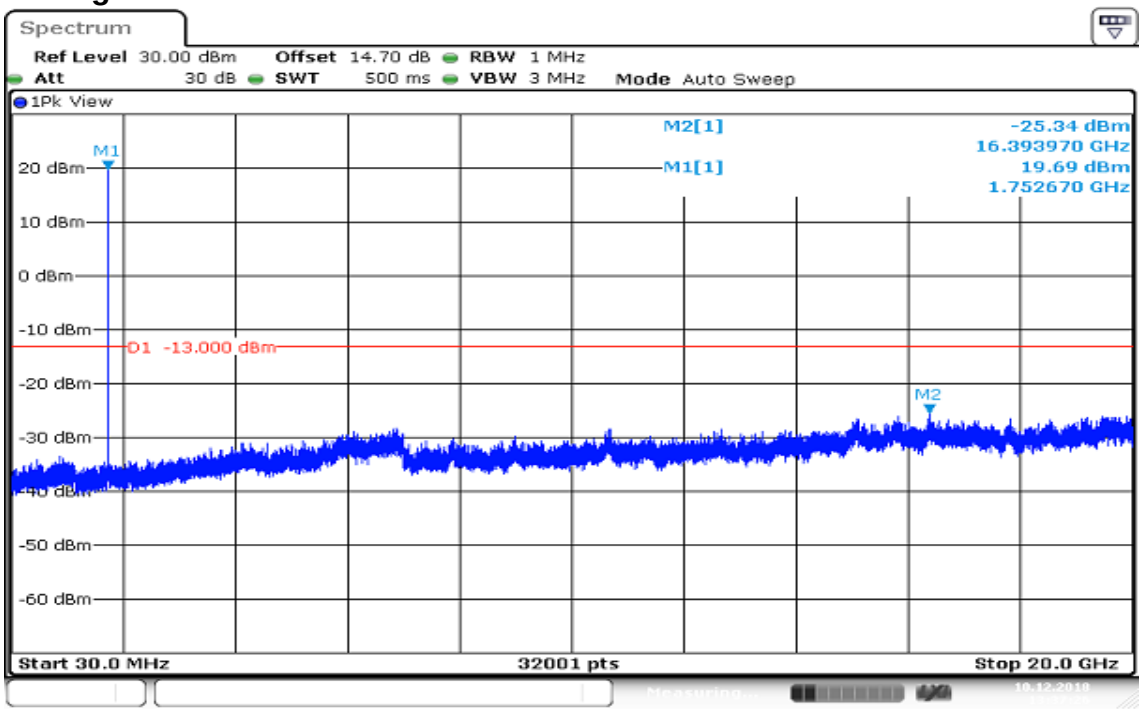
CH Mid



Date: 10.DEC.2018 13:31:41

This document cannot be reproduced except in full, without prior written approval of the Company. 本報告未經本公司書面許可，不可部份複製。

CH High

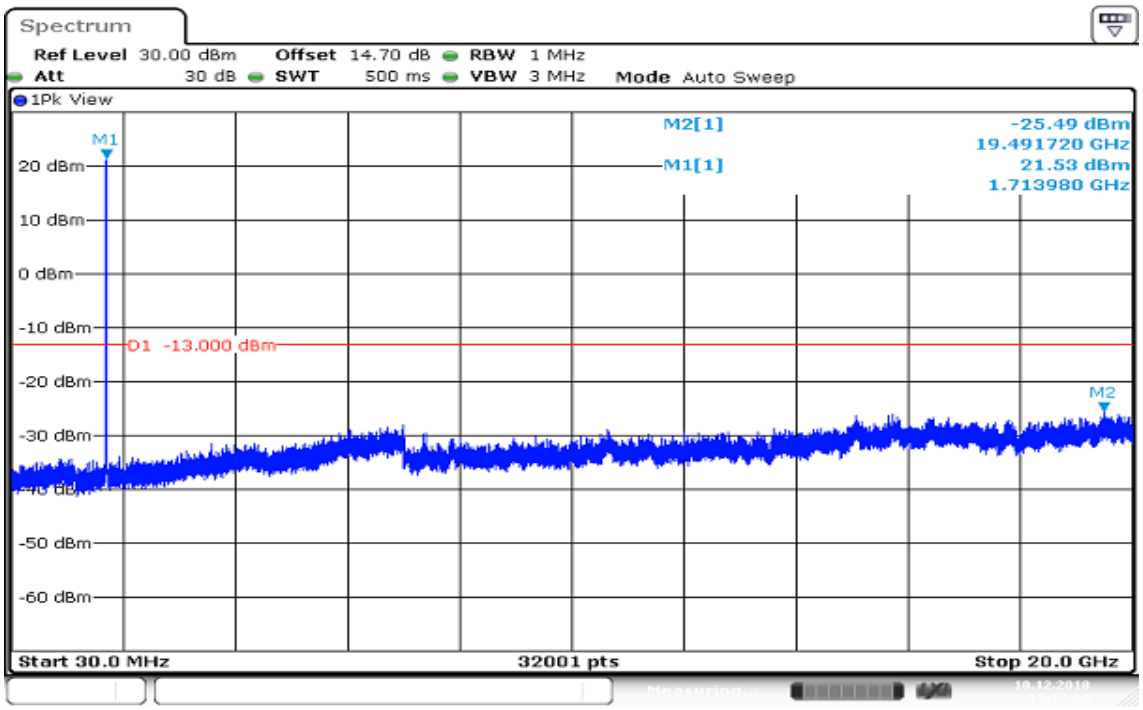


Date: 10.DEC.2018 13:37:26

This document cannot be reproduced except in full, without prior written approval of the Company. 本報告未經本公司書面許可，不可部份複製。

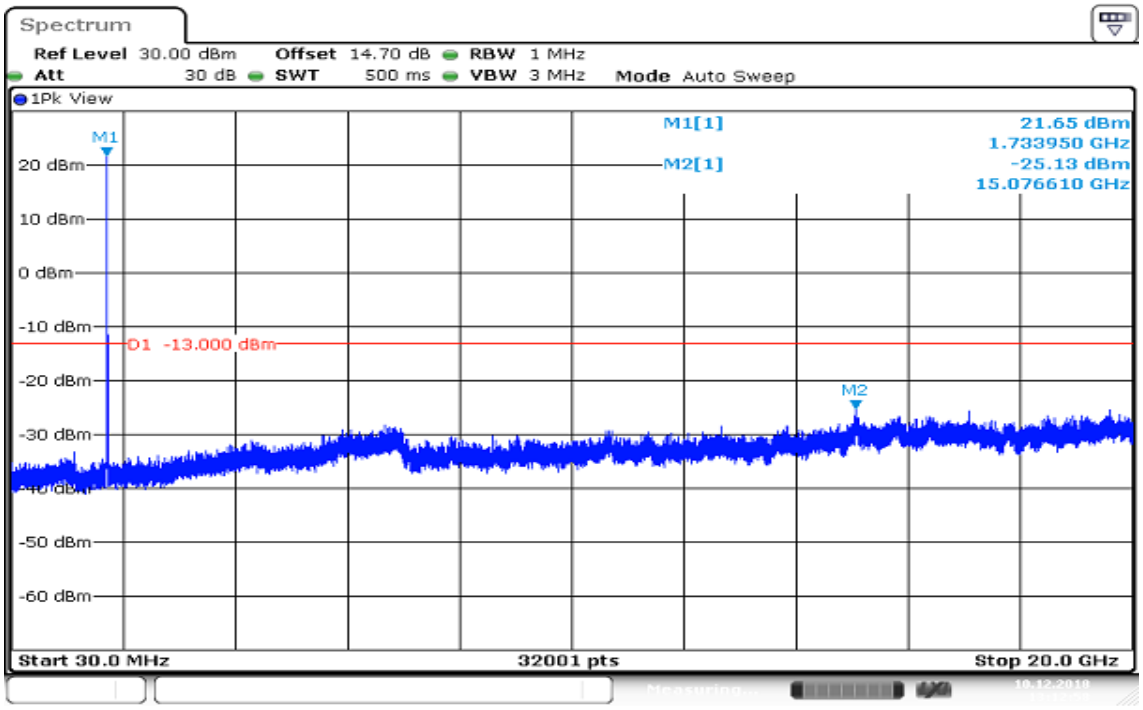
CHANNEL BANDWIDTH: 5MHz / 16QAM

CH Low



Date: 10.DEC.2018 13:12:04

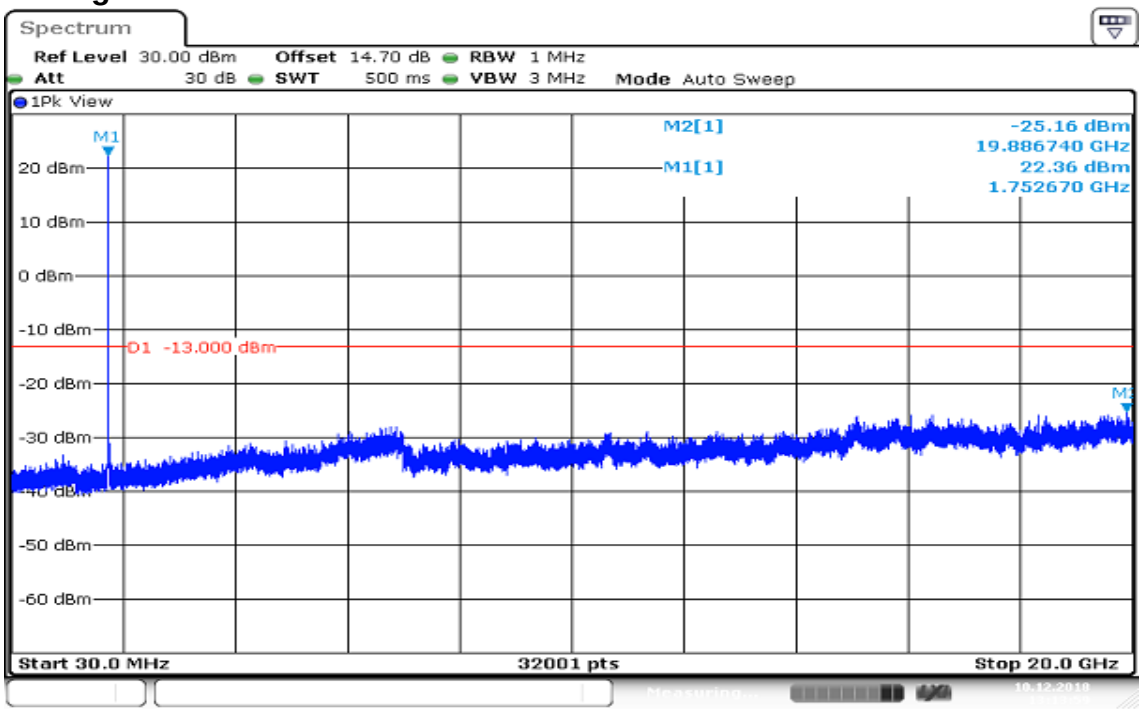
CH Mid



Date: 10.DEC.2018 13:12:59

This document cannot be reproduced except in full, without prior written approval of the Company. 本報告未經本公司書面許可，不可部份複製。

CH High

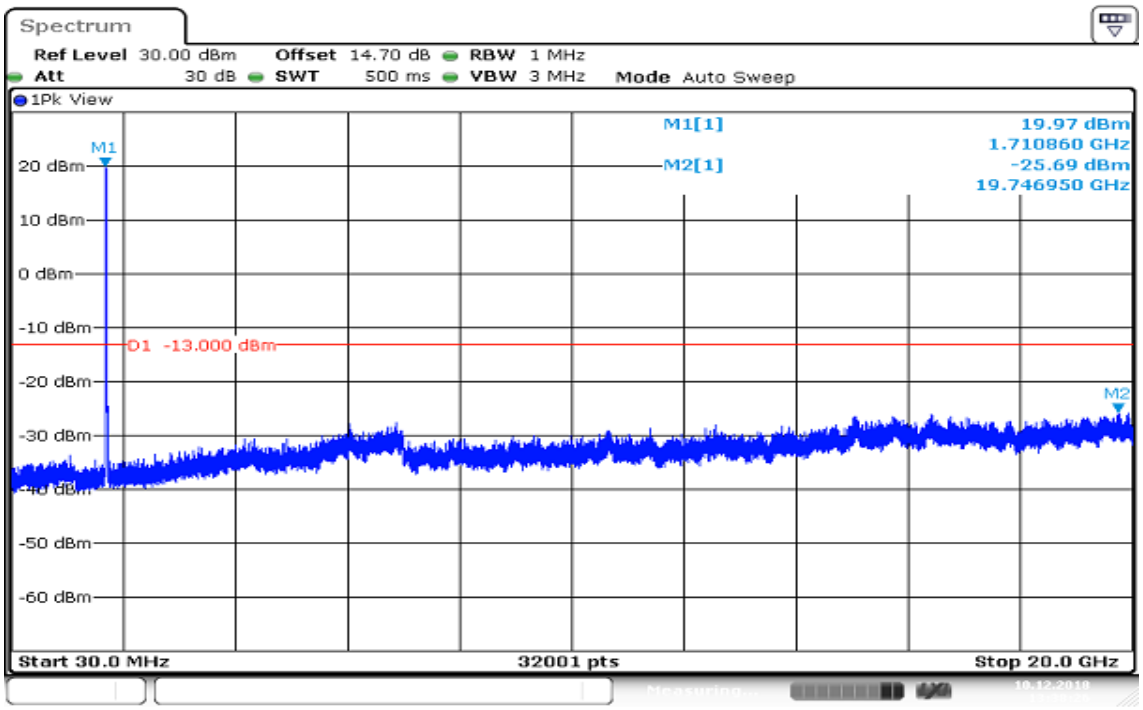


Date: 10.DEC.2018 13:14:00

This document cannot be reproduced except in full, without prior written approval of the Company. 本報告未經本公司書面許可，不可部份複製。

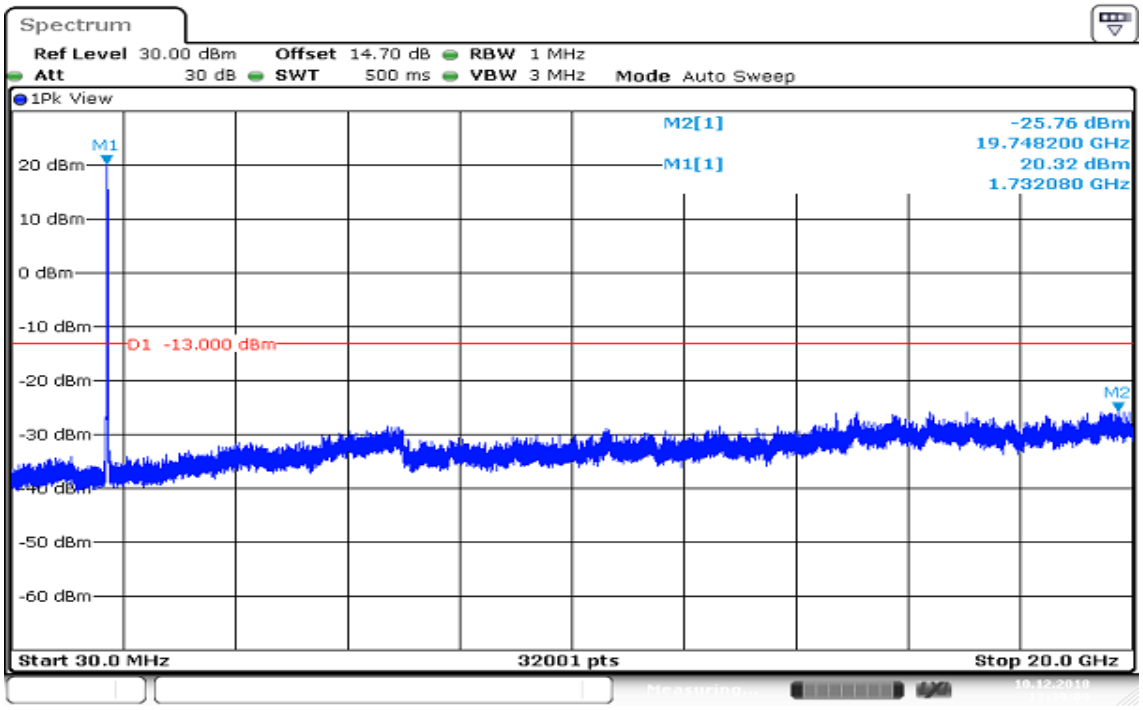
CHANNEL BANDWIDTH: 10MHz / QPSK

CH Low



Date: 10.DEC.2018 13:38:27

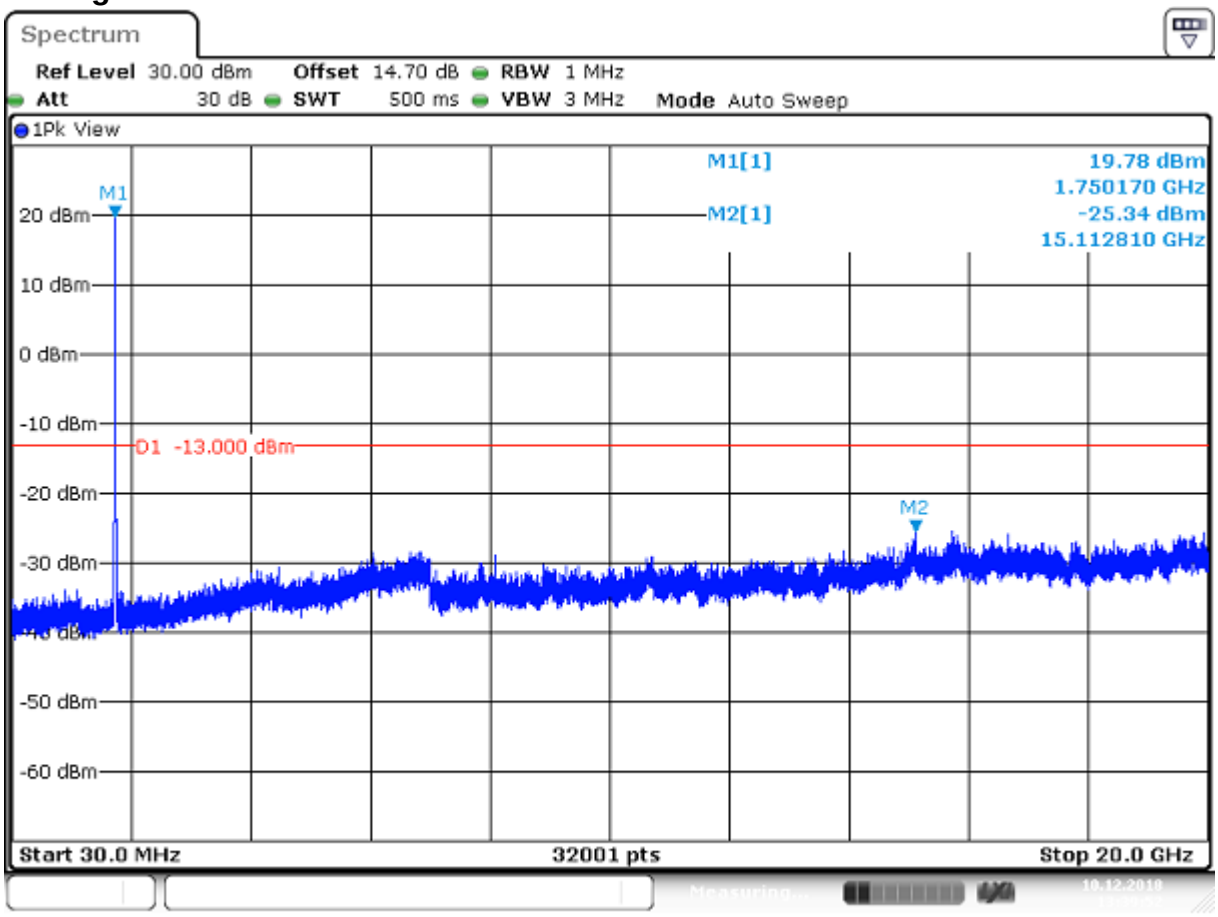
CH Mid



Date: 10.DEC.2018 13:39:09

This document cannot be reproduced except in full, without prior written approval of the Company. 本報告未經本公司書面許可，不可部份複製。

CH High

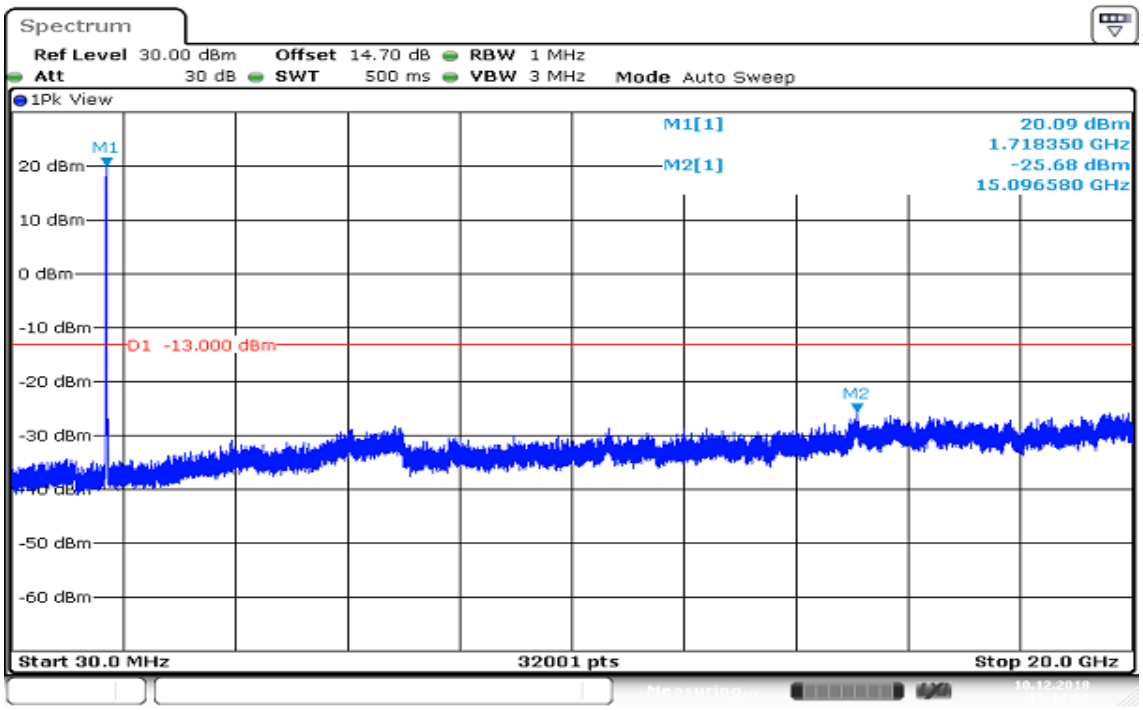


Date: 10.DEC.2018 13:39:52

This document cannot be reproduced except in full, without prior written approval of the Company. 本報告未經本公司書面許可，不可部份複製。

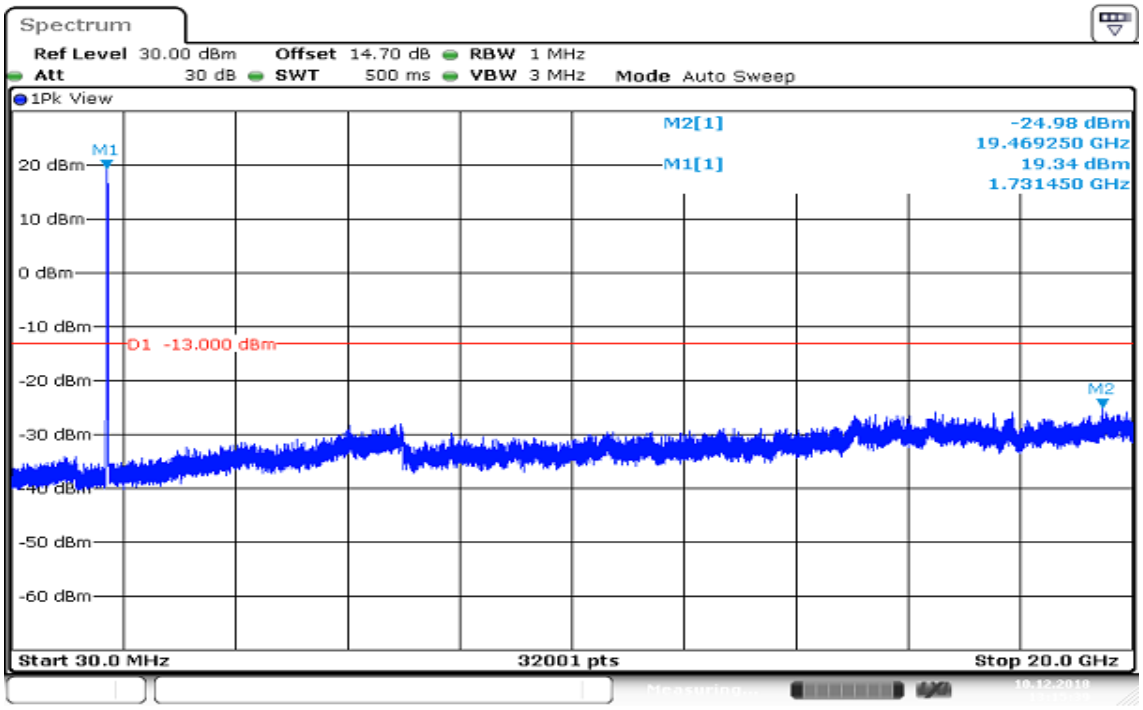
CHANNEL BANDWIDTH: 10MHz / 16QAM

CH Low



Date: 10.DEC.2018 13:14:52

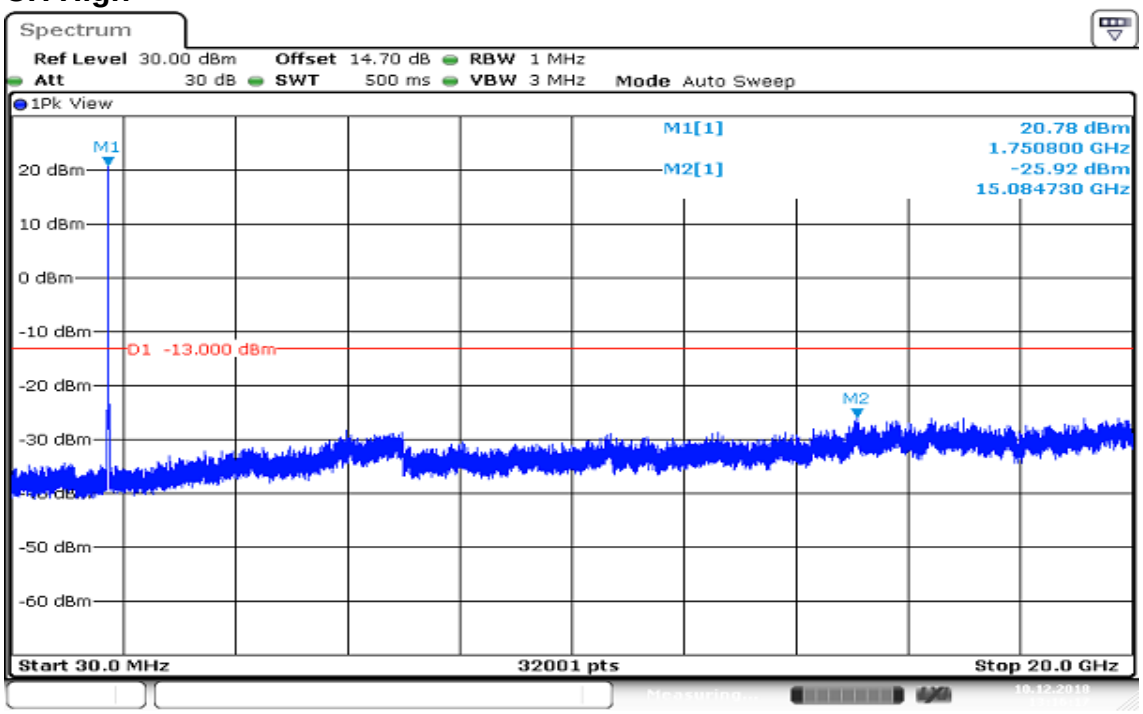
CH Mid



Date: 10.DEC.2018 13:15:40

This document cannot be reproduced except in full, without prior written approval of the Company. 本報告未經本公司書面許可，不可部份複製。

CH High

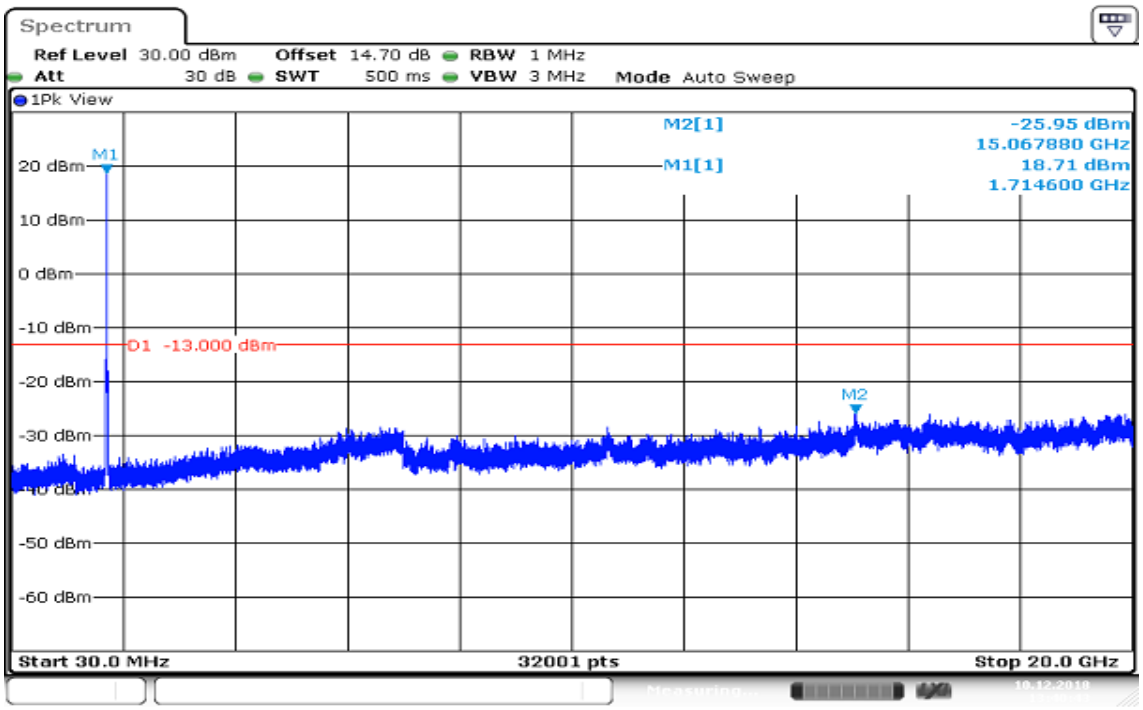


Date: 10.DEC.2018 13:16:18

This document cannot be reproduced except in full, without prior written approval of the Company. 本報告未經本公司書面許可，不可部份複製。

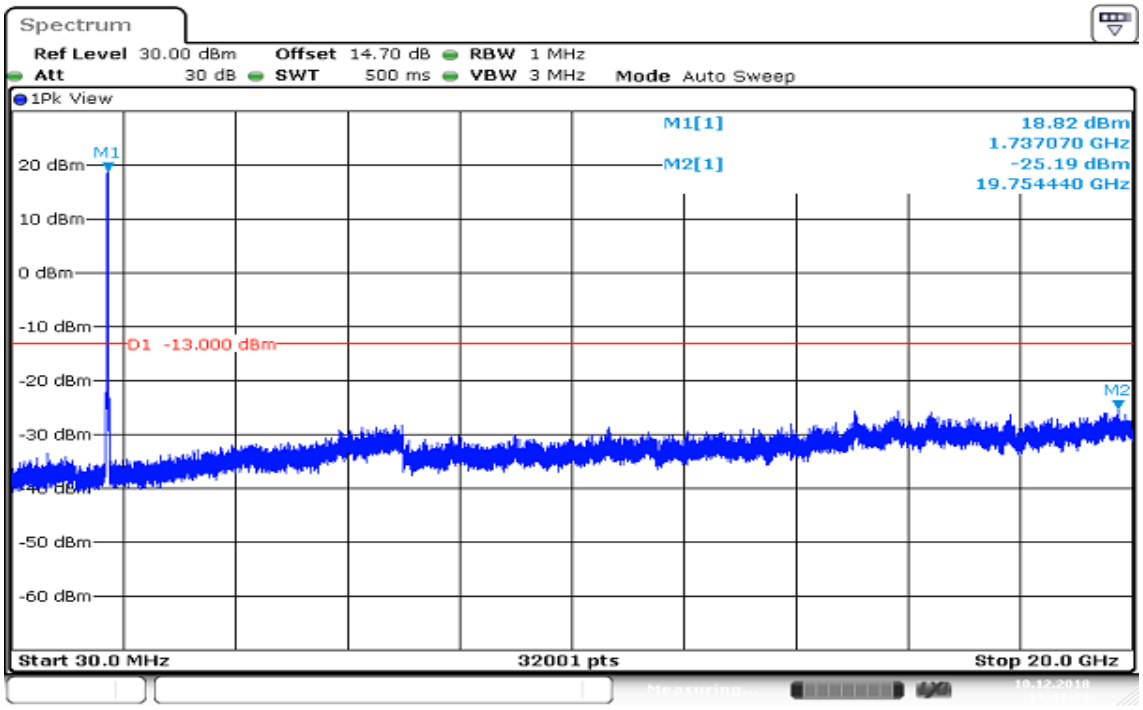
CHANNEL BANDWIDTH: 15MHz / QPSK

CH Low



Date: 10.DEC.2018 13:40:44

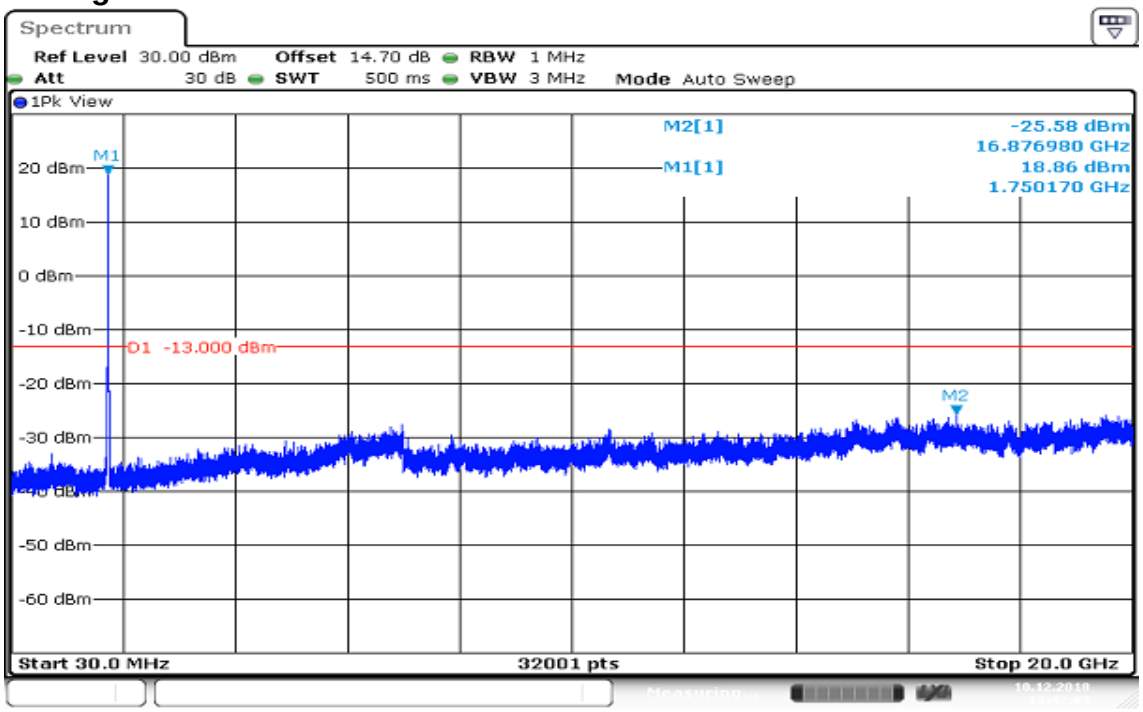
CH Mid



Date: 10.DEC.2018 13:41:23

This document cannot be reproduced except in full, without prior written approval of the Company. 本報告未經本公司書面許可，不可部份複製。

CH High

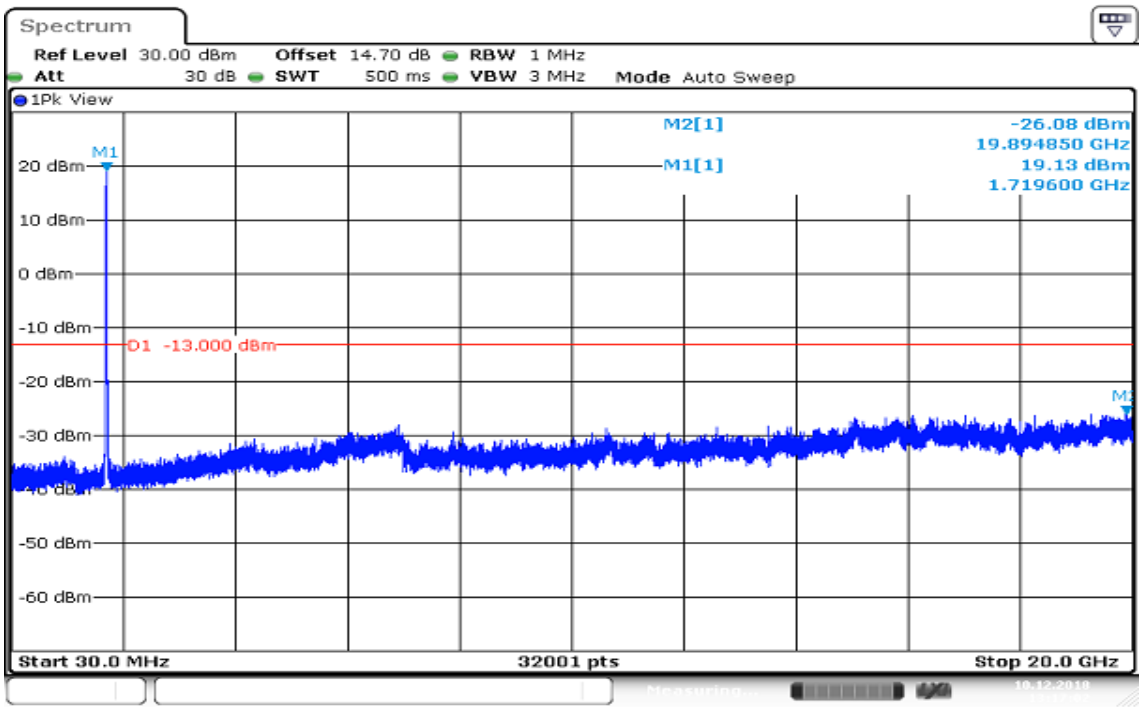


Date: 10.DEC.2018 13:42:03

This document cannot be reproduced except in full, without prior written approval of the Company. 本報告未經本公司書面許可，不可部份複製。

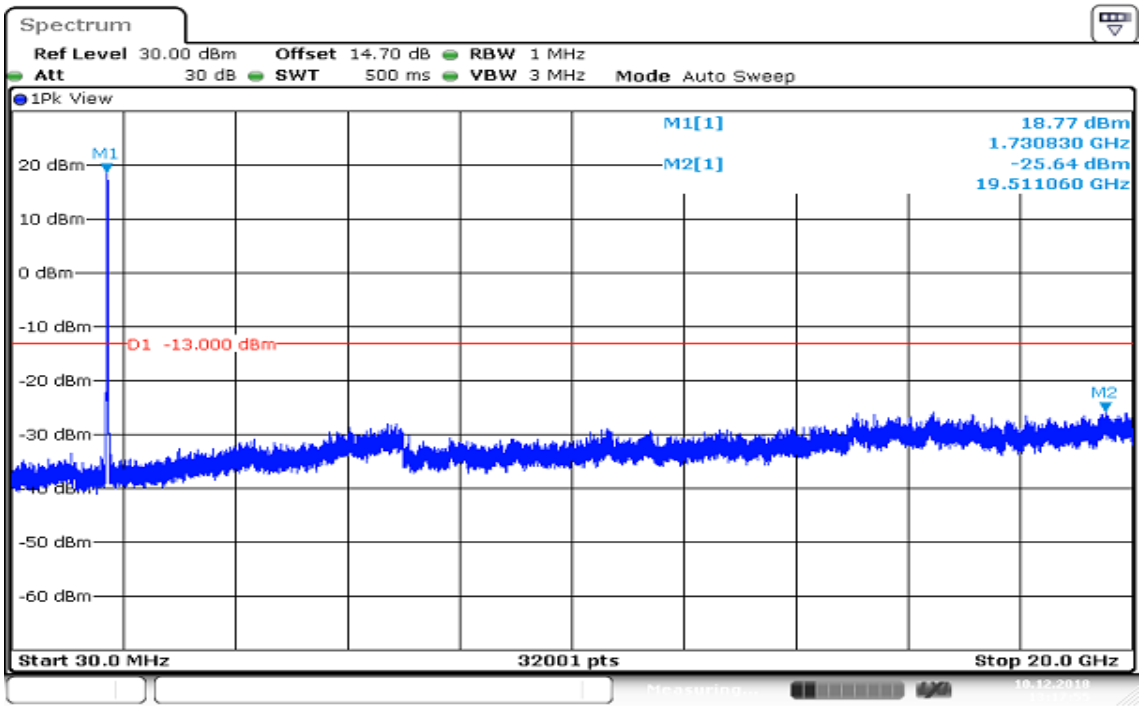
CHANNEL BANDWIDTH: 15MHz / 16QAM

CH Low



Date: 10.DEC.2018 13:17:02

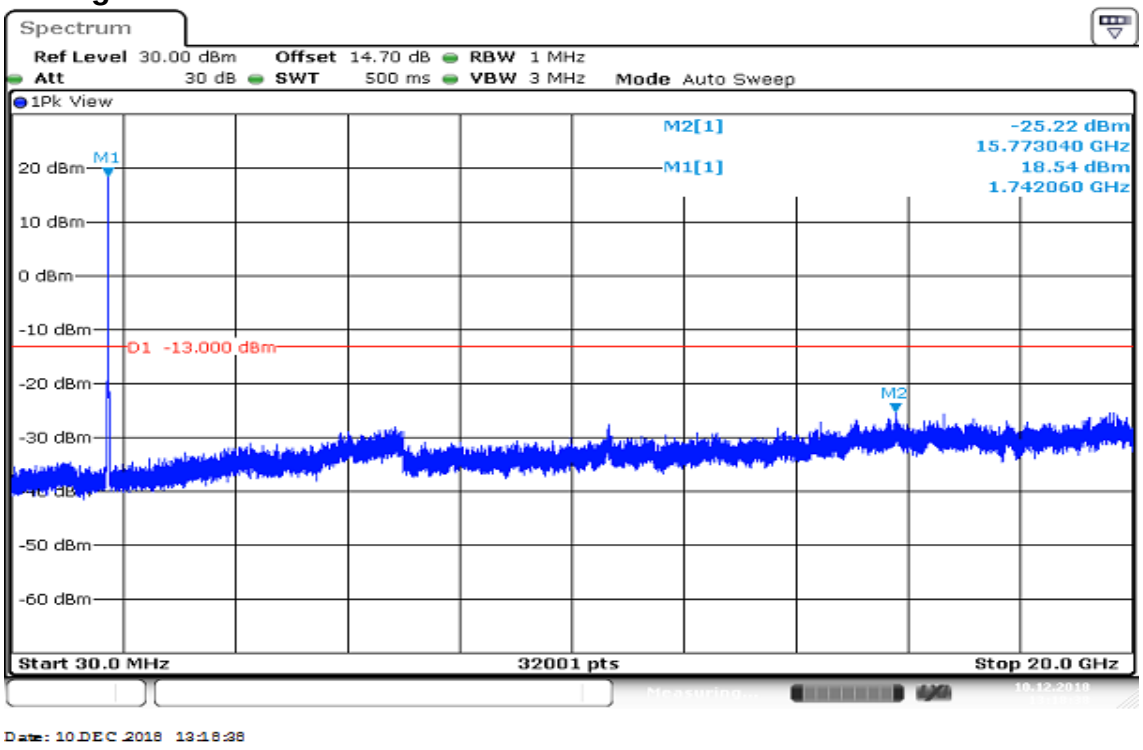
CH Mid



Date: 10.DEC.2018 13:17:56

This document cannot be reproduced except in full, without prior written approval of the Company. 本報告未經本公司書面許可，不可部份複製。

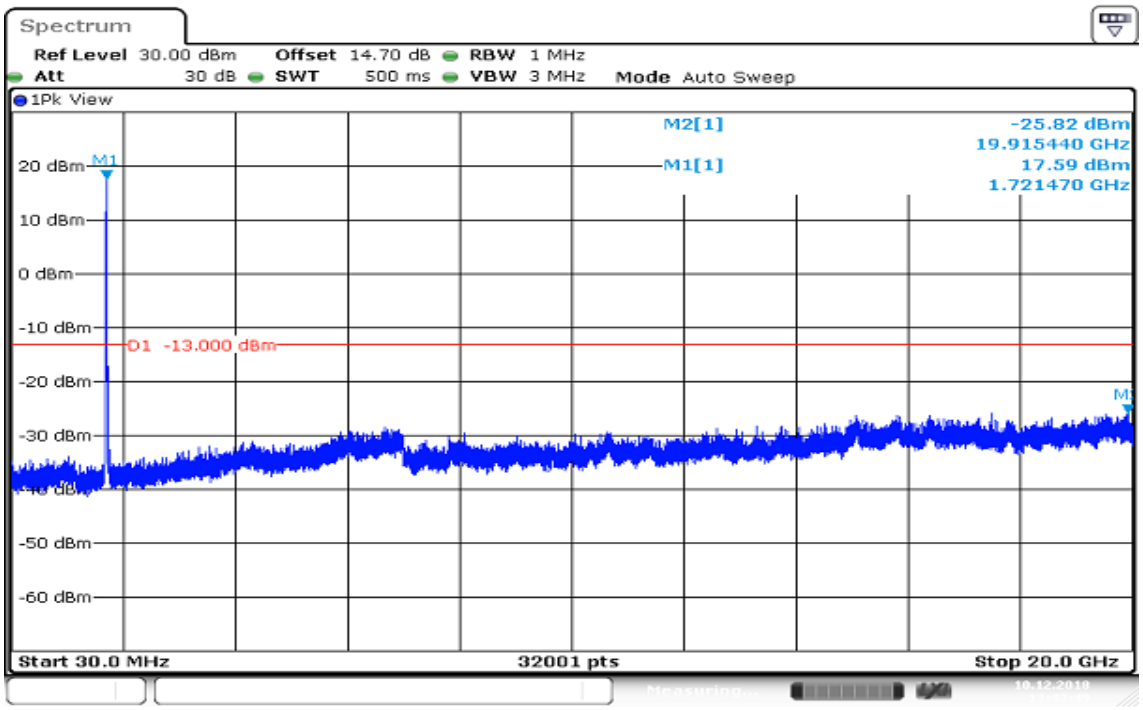
CH High



This document cannot be reproduced except in full, without prior written approval of the Company. 本報告未經本公司書面許可，不可部份複製。

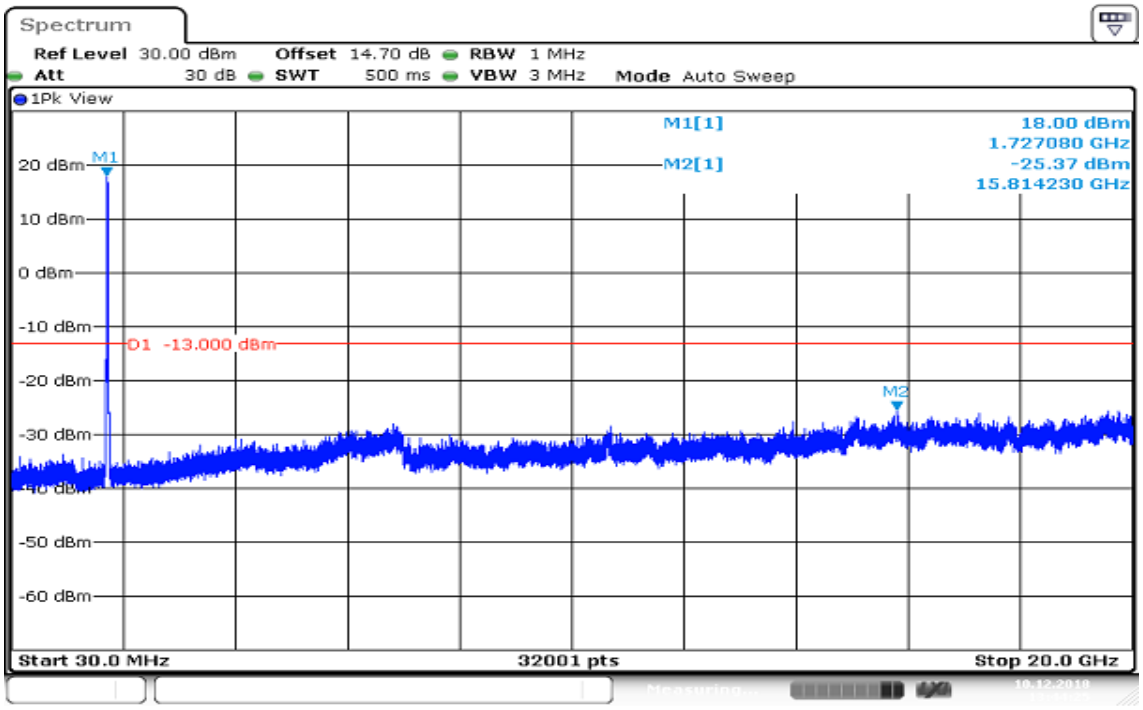
CHANNEL BANDWIDTH: 20MHz / QPSK

CH Low



Date: 10.DEC.2018 13:43:49

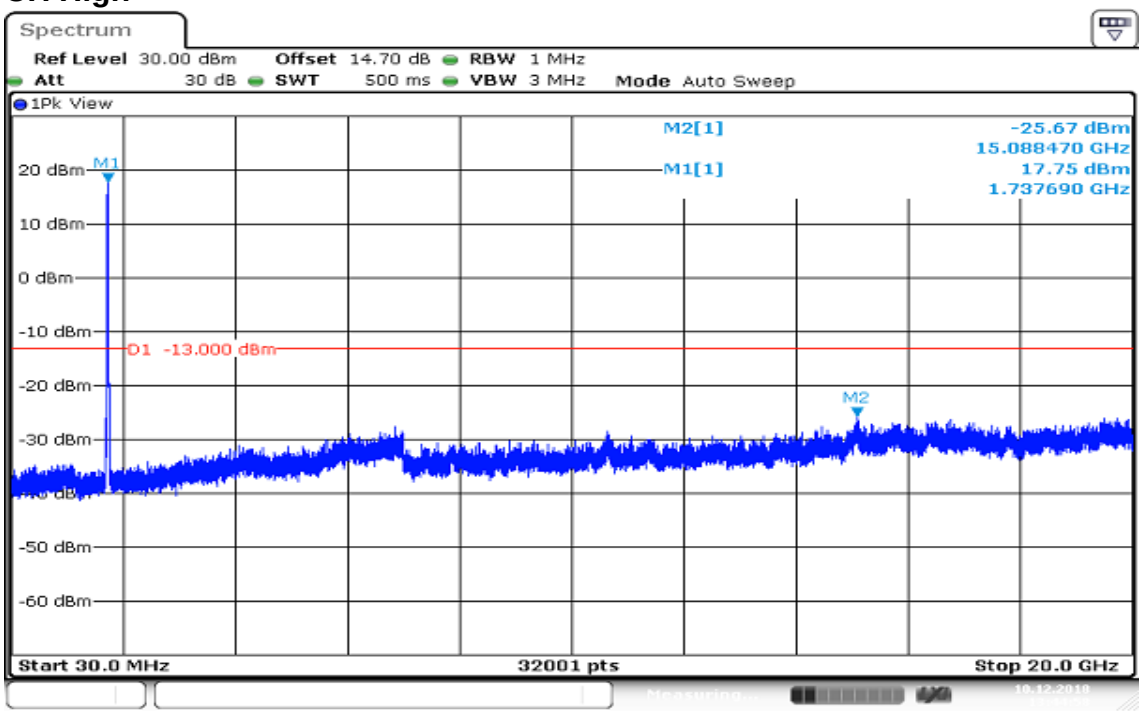
CH Mid



Date: 10.DEC.2018 13:44:26

This document cannot be reproduced except in full, without prior written approval of the Company. 本報告未經本公司書面許可，不可部份複製。

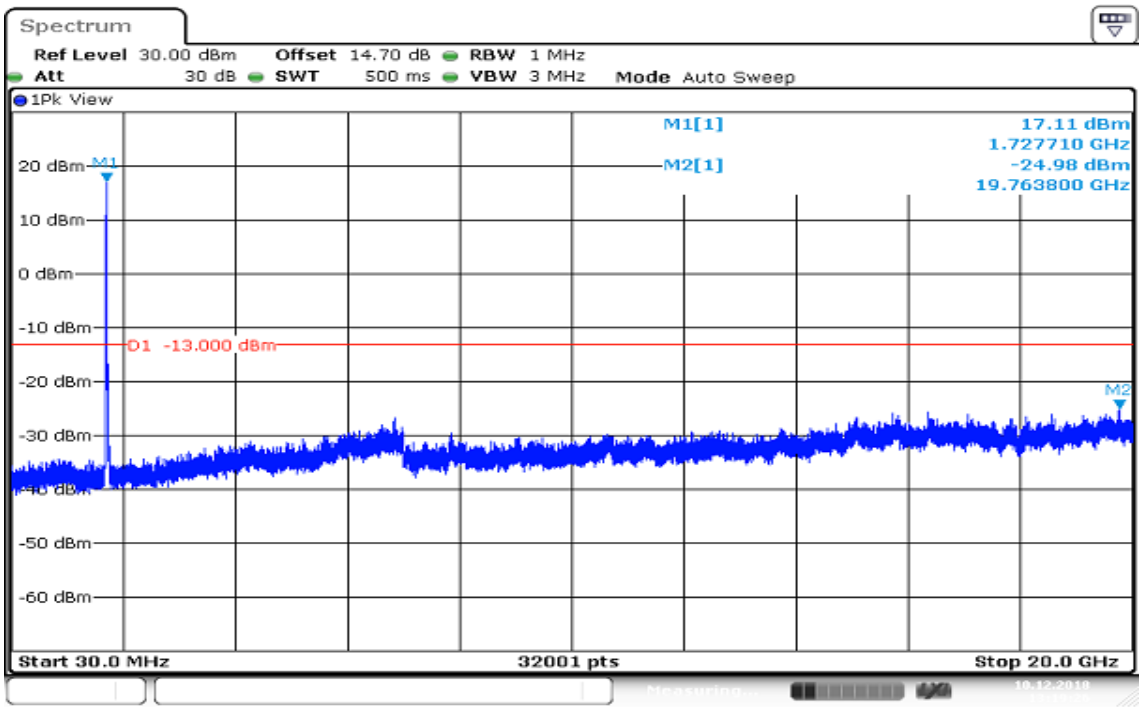
CH High



This document cannot be reproduced except in full, without prior written approval of the Company. 本報告未經本公司書面許可，不可部份複製。

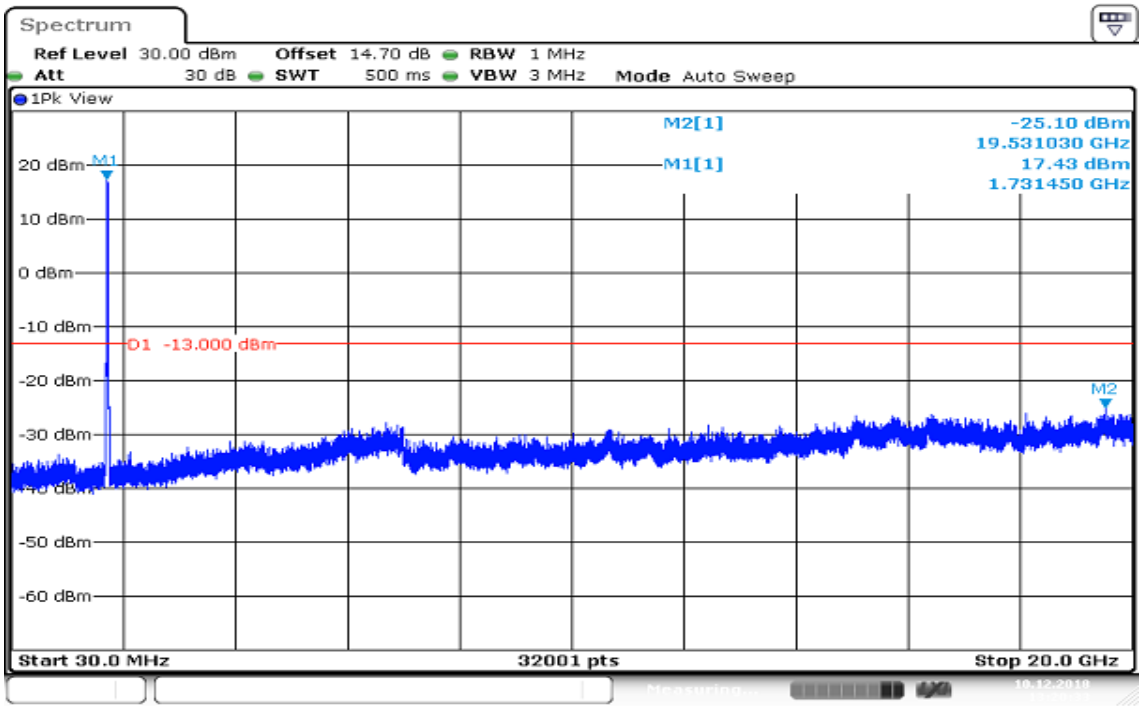
CHANNEL BANDWIDTH: 20MHz / 16QAM

CH Low



Date: 10.DEC.2018 13:19:26

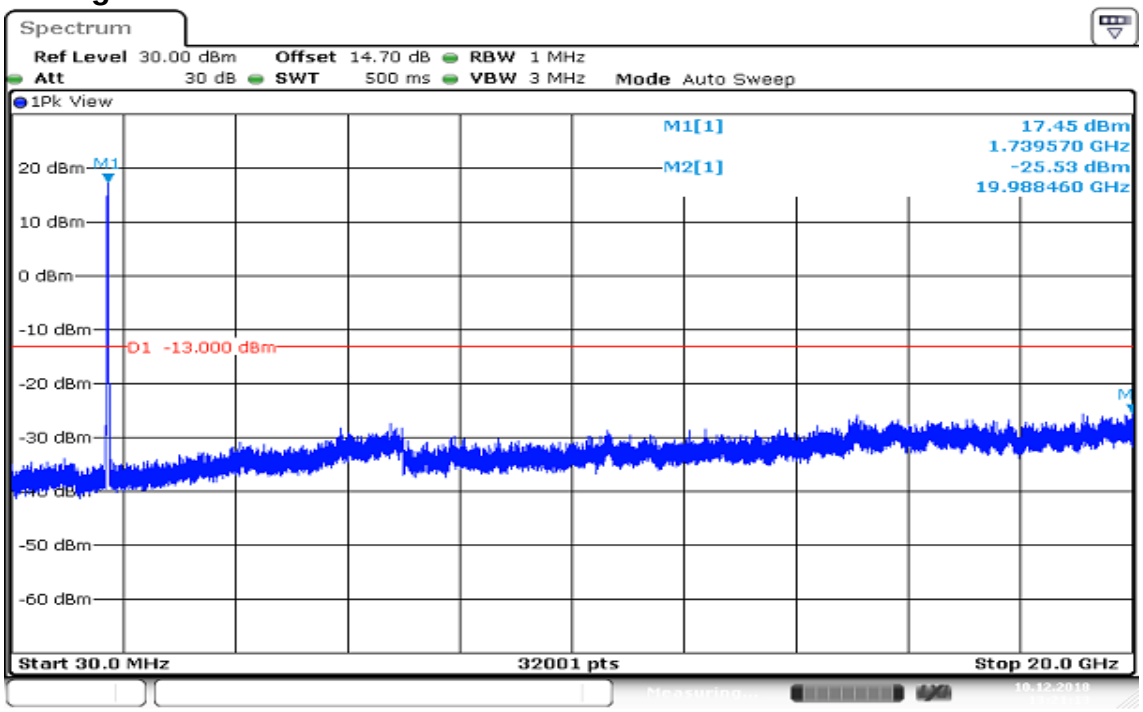
CH Mid



Date: 10.DEC.2018 13:20:33

This document cannot be reproduced except in full, without prior written approval of the Company. 本報告未經本公司書面許可，不可部份複製。

CH High



This document cannot be reproduced except in full, without prior written approval of the Company. 本報告未經本公司書面許可，不可部份複製。

8.8 RADIATED EMISSION MEASUREMENT

LIMITS

FCC §27.53(h), Band 4
General protection levels. Except as otherwise specified below, for operations in the 1710-1755MHz bands, the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) in watts by at least 43 + 10 log10 (P) dB.

FCC §27.53(c)(2), Band 13
For operations in the 600 MHz band and the 698-746MHz band, the power of any emission outside a licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, by at least 43 + 10 log (P) dB. Compliance with this provision is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kilohertz or greater. However, in the 100 kilohertz bands immediately outside and adjacent to a licensee's frequency block, a resolution bandwidth of at least 30 kHz may be employed.

According to RSS-139, Band 4,
General protection levels. Except as otherwise specified below, for operations in the In the first 1.0 MHz bands immediately outside and adjacent to the equipment's smallest operating frequency block,2 which can contain the equipment's occupied bandwidth, the emission power per any 1% of the emission bandwidth shall be attenuated below the transmitter output power P (in dBW) by at least 43 + 10 log10 p (watts) dB
After the first 1.0 MHz outside the equipment's smallest operating frequency block, which can contain the equipment's occupied bandwidth, the emission power in any 1 MHz bandwidth shall be attenuated below the transmitter output power P (in dBW) by at least 43 + 10 log10 p (watts) dB.

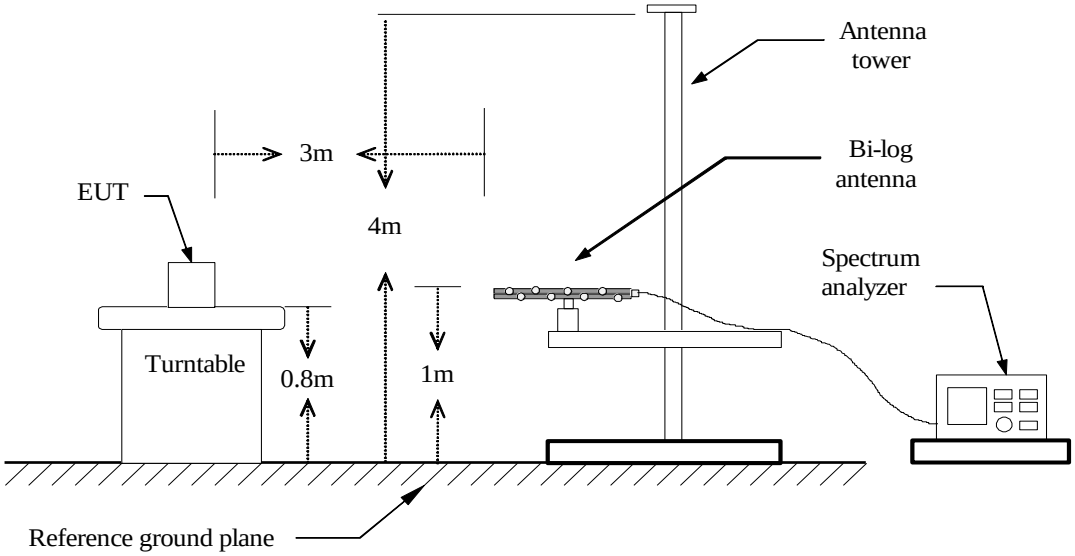
According to RSS-130, Band 13,
The power of any unwanted emissions in any 100 kHz bandwidth on any frequency outside the frequency range(s) within which the equipment is designed to operate shall be attenuated below the transmitter power, P (dBW), by at least 43 + 10 log10 p (watts), dB. However, in the100 kHz band immediately outside the equipment's operating frequency range, a resolution bandwidth of 30 kHz may be employed.

Limit Line: -13dBm

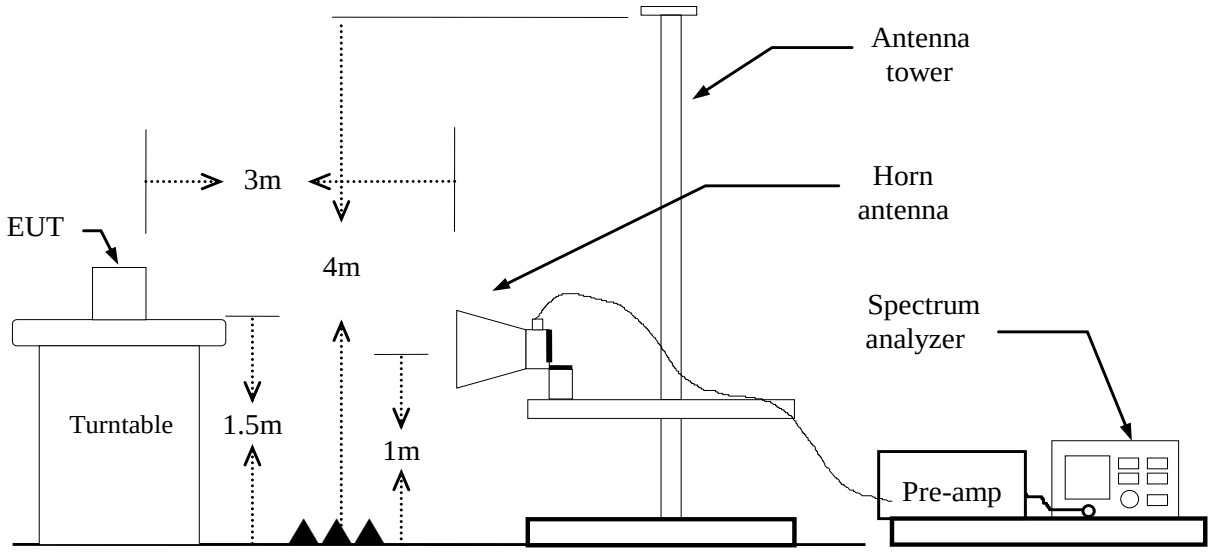
This document cannot be reproduced except in full, without prior written approval of the Company. 本報告未經本公司書面許可，不可部份複製。

Test Configuration

Below 1 GHz

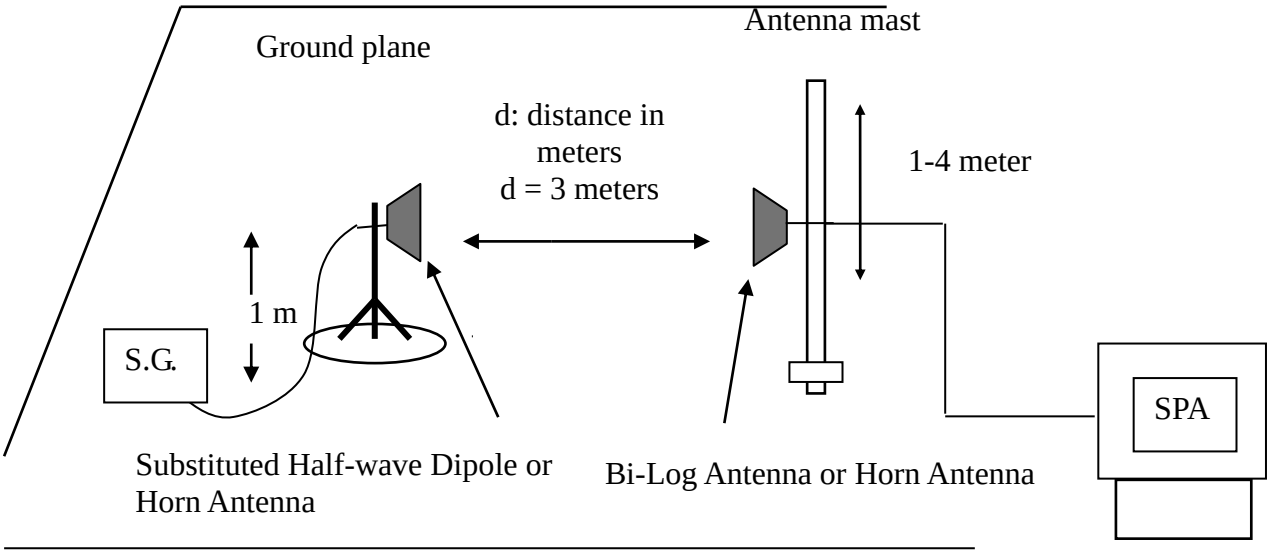


Above 1 GHz



This document cannot be reproduced except in full, without prior written approval of the Company. 本報告未經本公司書面許可，不可部份複製。

Substituted Method Test Set-up



TEST PROCEDURES

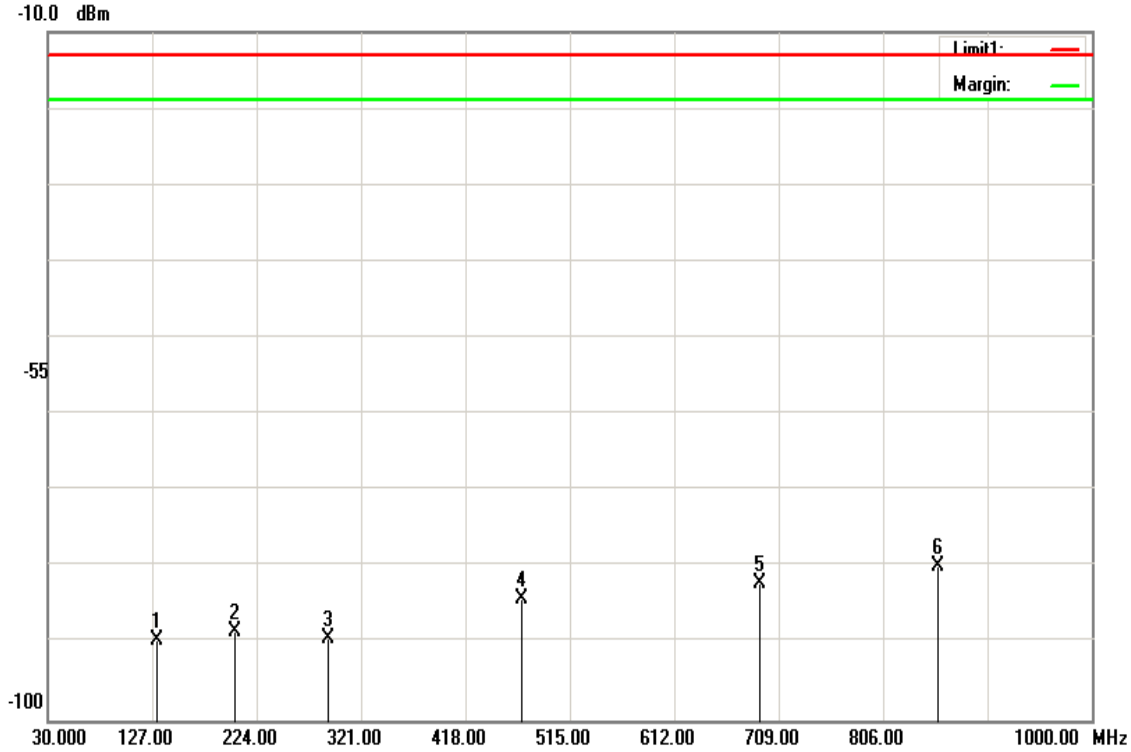
1. According to KDB 971168 D01 Power Meas License Digital Systems and TIA-603-E Section 2.2.12.
2. The EUT was placed on a turntable
   (1) Below 1G : 0.8m
   (2) Above 1G : 0.8m
   (3) EUT set 3m from the receiving antenna
   (4) The table was rotated 360 degrees of the highest spurious emission to 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

ERP = S.G. output (dBm) + Antenna Gain (dBi) – Cable (dB)-2.15
EIRP = S.G. output (dBm) + Antenna Gain (dBi) – Cable (dB)
For test result, the S.G. value is including antenna gain and cable loss.

This document cannot be reproduced except in full, without prior written approval of the Company. 本報告未經本公司書面許可，不可部份複製。

Test Results
Below 1GHz
LTE Band 4 / BW: 20MHz / QPSK / RB =1, RB Offset = 0

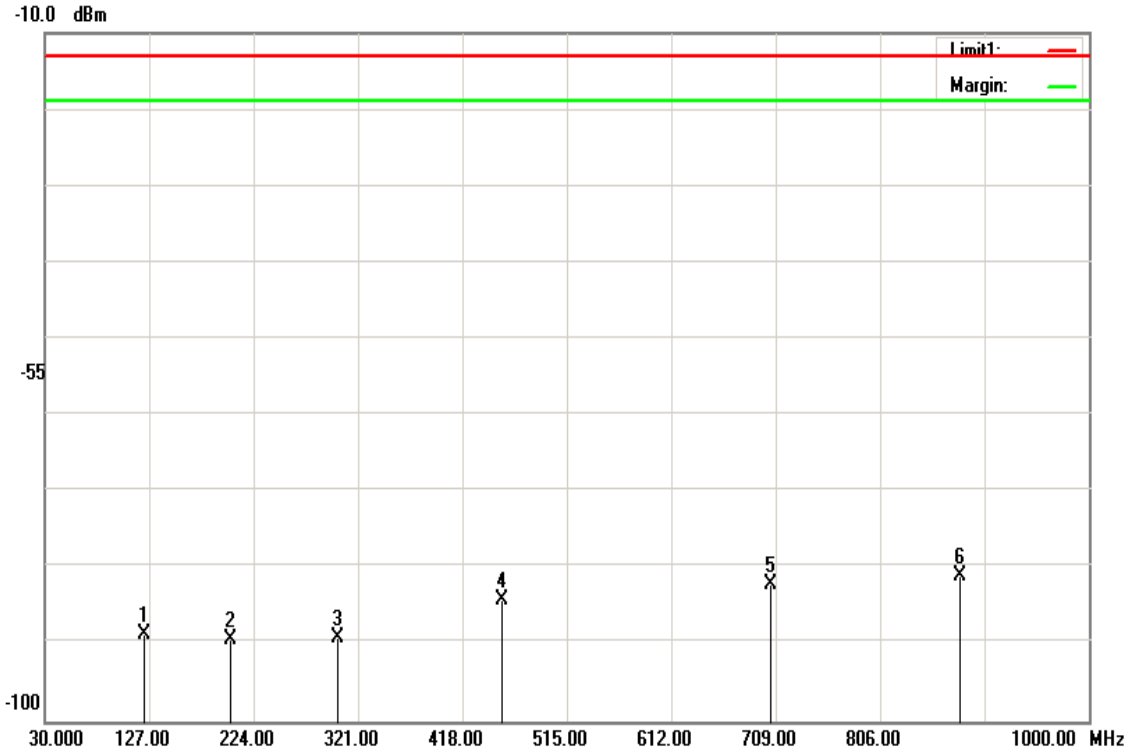
Operation Mode:	Tx / Mid CH	**Test Date:**	December 6, 2018
Temperature:	22℃	**Tested by:**	Jerry Chuang
Humidity:	48% RH	**Polarity:**	Ver.



Frequency (MHz)	S.G. (dBm)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
132.3350	-86.18	1.14	-89.47	-13.00	-76.47	V
203.6300	-84.85	1.41	-88.41	-13.00	-75.41	V
290.9300	-85.48	1.7	-89.33	-13.00	-76.33	V
470.3800	-79.75	2.18	-84.08	-13.00	-71.08	V
691.5400	-77.39	2.66	-82.20	-13.00	-69.20	V
856.9250	-74.76	2.98	-79.89	-13.00	-66.89	V

This document cannot be reproduced except in full, without prior written approval of the Company. 本報告未經本公司書面許可，不可部份複製。

Operation Mode:	Tx / Mid CH	**Test Date:**	December 6, 2018
Temperature:	22℃	**Tested by:**	Jerry Chuang
Humidity:	48% RH	**Polarity:**	Hor.

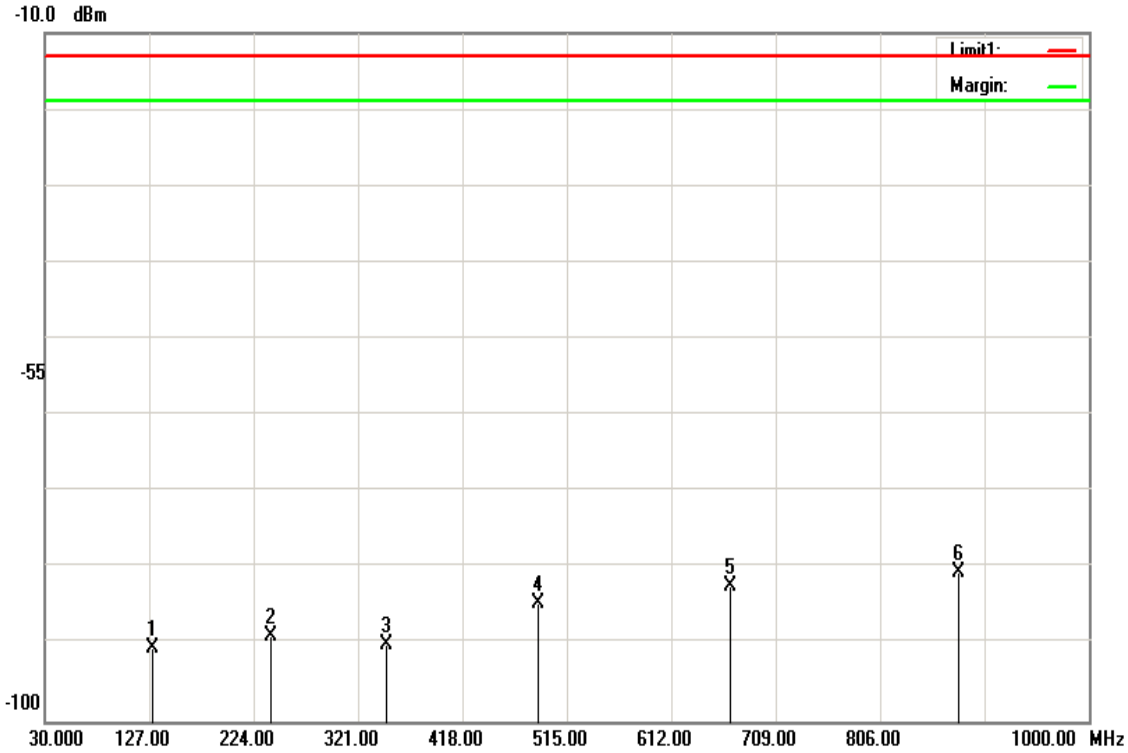


Frequency (MHz)	S.G. (dBm)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
122.1500	-85.46	1.1	-88.71	-13.00	-75.71	H
202.6600	-85.76	1.41	-89.32	-13.00	-76.32	H
302.5700	-85.13	1.74	-89.02	-13.00	-76.02	H
455.3450	-79.8	2.14	-84.09	-13.00	-71.09	H
704.1500	-77.28	2.69	-82.12	-13.00	-69.12	H
880.6900	-75.82	3.03	-81.00	-13.00	-68.00	H

This document cannot be reproduced except in full, without prior written approval of the Company. 本報告未經本公司書面許可，不可部份複製。

LTE Band 4 / BW: 20MHz / 16QAM / RB =1, RB Offset = 0

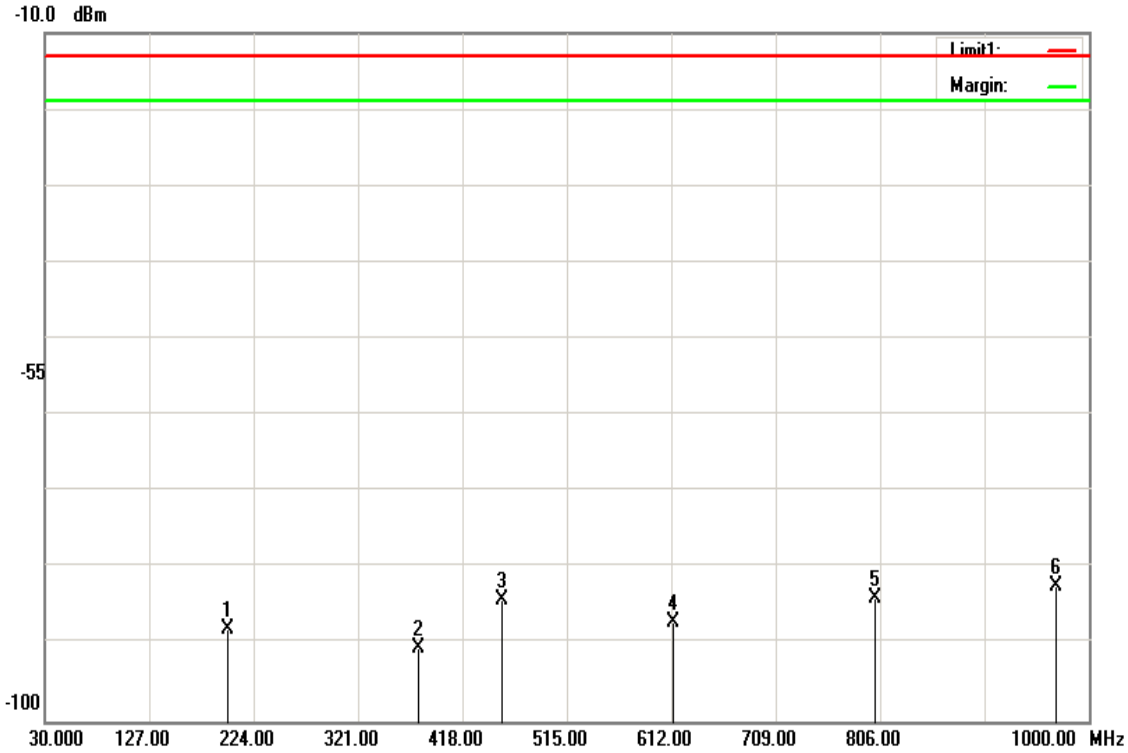
Operation Mode:	Tx / Mid CH	**Test Date:**	December 6, 2018
Temperature:	22℃	**Tested by:**	Jerry Chuang
Humidity:	48% RH	**Polarity:**	Ver.



Frequency (MHz)	S.G. (dBm)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
130.3950	-87.13	1.13	-90.41	-13.00	-77.41	V
239.5200	-85.29	1.53	-88.97	-13.00	-75.97	V
347.1900	-85.91	1.86	-89.92	-13.00	-76.92	V
487.8400	-80.28	2.22	-84.65	-13.00	-71.65	V
667.7750	-77.5	2.61	-82.26	-13.00	-69.26	V
878.7500	-75.26	3.02	-80.43	-13.00	-67.43	V

This document cannot be reproduced except in full, without prior written approval of the Company. 本報告未經本公司書面許可，不可部份複製。

Operation Mode:	Tx / Mid CH	**Test Date:**	December 6, 2018
Temperature:	22℃	**Tested by:**	Jerry Chuang
Humidity:	48% RH	**Polarity:**	Hor.



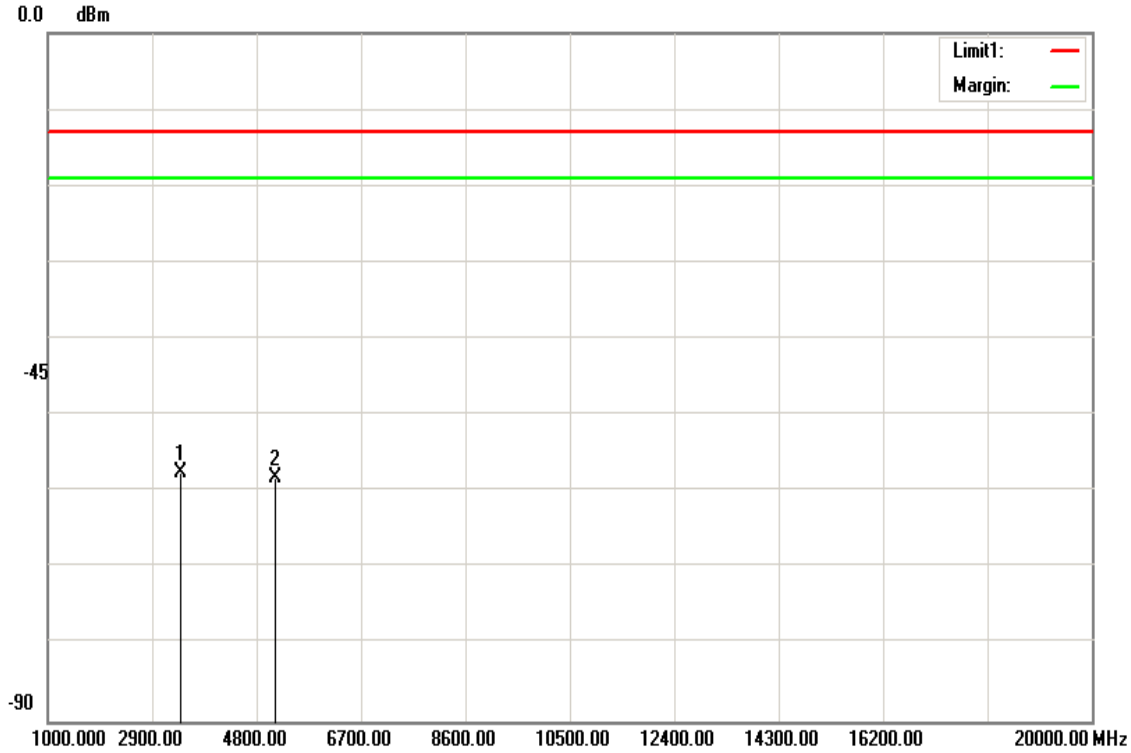
Frequency (MHz)	S.G. (dBm)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
199.7500	-84.49	1.4	-88.04	-13.00	-75.04	H
377.2600	-86.27	1.95	-90.37	-13.00	-77.37	H
454.8600	-79.91	2.14	-84.20	-13.00	-71.20	H
614.4250	-82.45	2.5	-87.10	-13.00	-74.10	H
801.1500	-79	2.87	-84.02	-13.00	-71.02	H
968.9600	-76.99	3.17	-82.31	-13.00	-69.31	H

This document cannot be reproduced except in full, without prior written approval of the Company. 本報告未經本公司書面許可，不可部份複製。

Above 1GHz

LTE Band 4 / BW: 20MHz / QPSK RB =1, RB Offset = 0

Operation Mode:	Tx / Low CH	**Test Date:**	December 7, 2018
Temperature:	22℃	**Tested by:**	Jerry Chuang
Humidity:	48% RH	**Polarity:**	Ver.



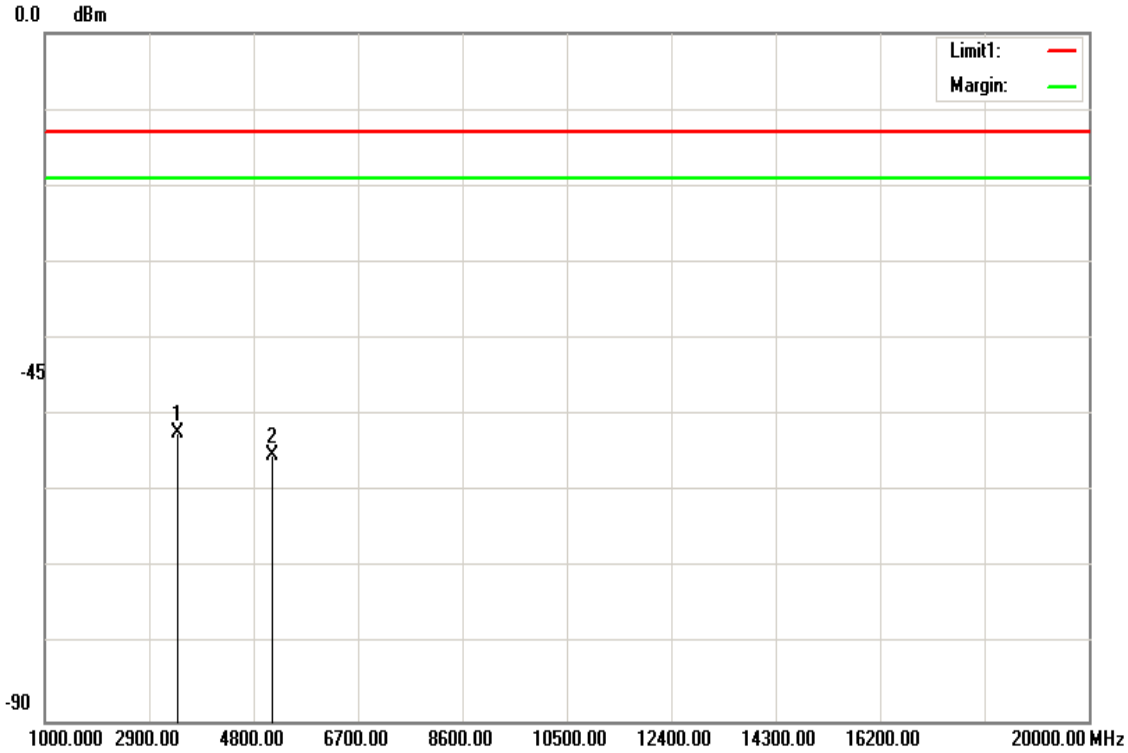
Frequency (MHz)	S.G. (dBm)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
3422.000	-51.24	6.35	-57.59	-13.00	-44.59	V
5133.500	-50.22	7.92	-58.14	-13.00	-45.14	V
N/A						

Remark:

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

This document cannot be reproduced except in full, without prior written approval of the Company. 本報告未經本公司書面許可，不可部份複製。

Operation Mode:	Tx / Low CH	**Test Date:**	December 7, 2018
Temperature:	22℃	**Tested by:**	Jerry Chuang
Humidity:	48% RH	**Polarity:**	Hor.



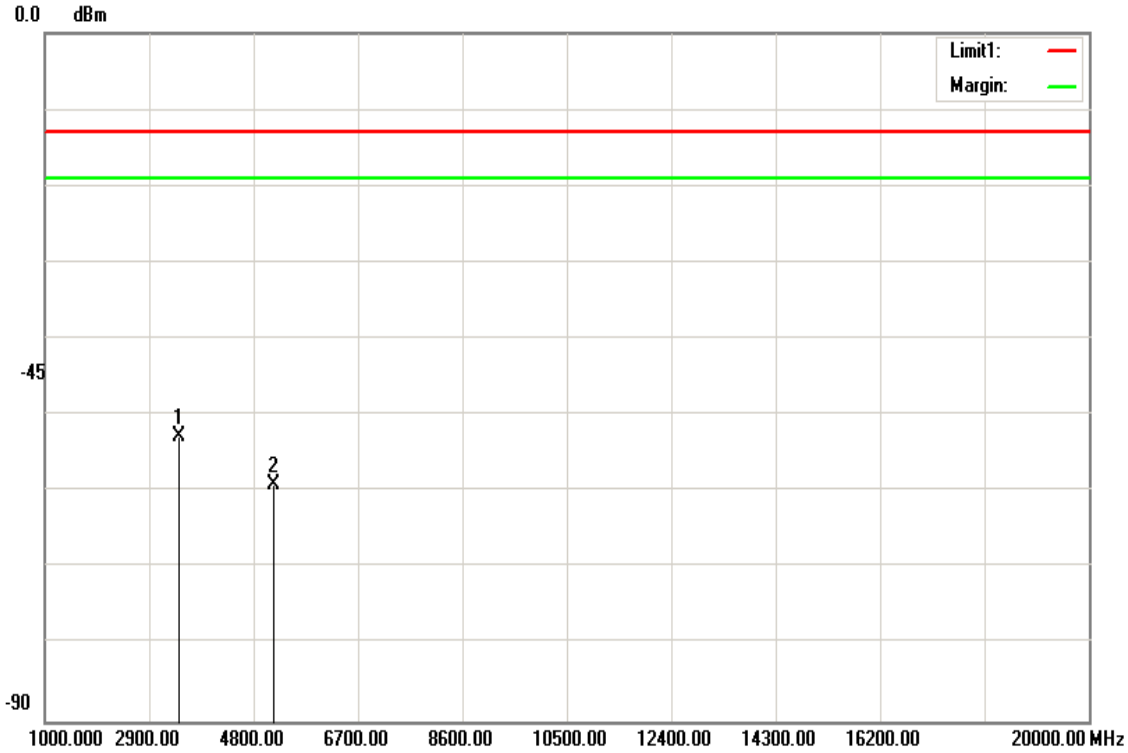
Frequency (MHz)	S.G. (dBm)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
3422.000	-45.95	6.35	-52.30	-13.00	-39.30	H
5133.500	-47.27	7.92	-55.19	-13.00	-42.19	H
N/A						

Remark:

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

This document cannot be reproduced except in full, without prior written approval of the Company. 本報告未經本公司書面許可，不可部份複製。

Operation Mode:	Tx / Mid CH	**Test Date:**	December 7, 2018
Temperature:	22℃	**Tested by:**	Jerry Chuang
Humidity:	48% RH	**Polarity:**	Ver.



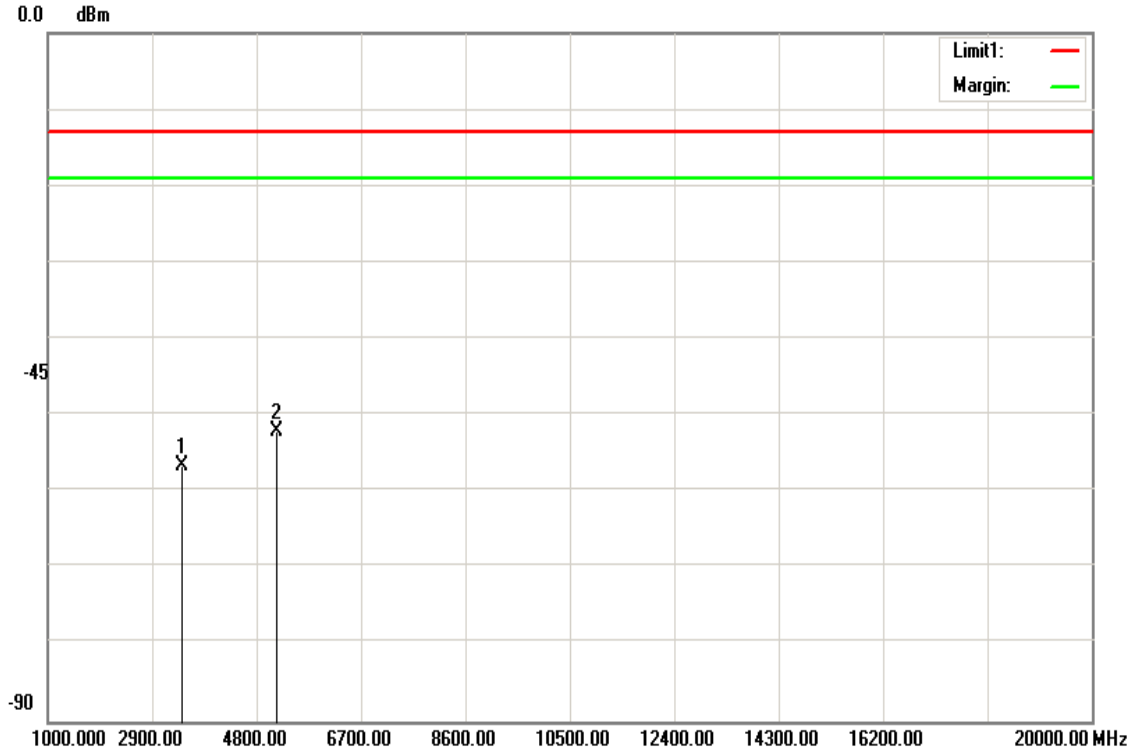
Frequency (MHz)	S.G. (dBm)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
3446.500	-46.45	6.37	-52.82	-13.00	-39.82	V
5172.000	-51.18	7.96	-59.14	-13.00	-46.14	V
N/A						

Remark:

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

This document cannot be reproduced except in full, without prior written approval of the Company. 本報告未經本公司書面許可，不可部份複製。

Operation Mode:	Tx / Mid CH	**Test Date:**	December 7, 2018
Temperature:	22℃	**Tested by:**	Jerry Chuang
Humidity:	48% RH	**Polarity:**	Hor.



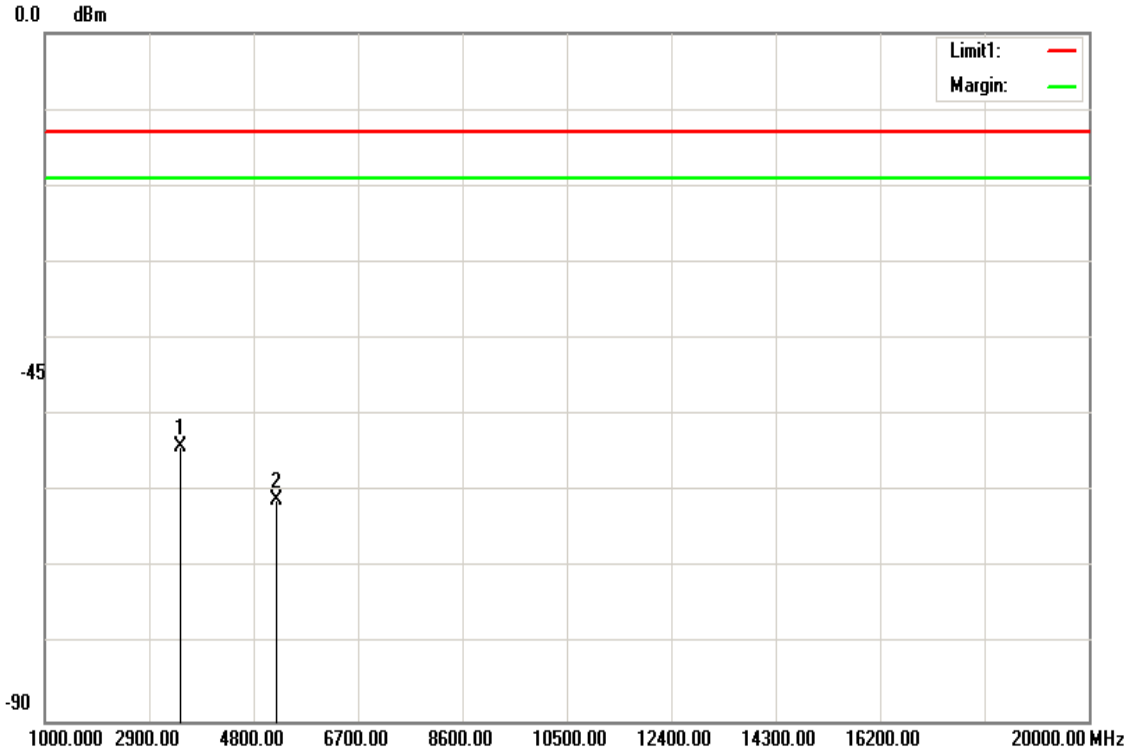
Frequency (MHz)	S.G. (dBm)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
3446.500	-50.24	6.37	-56.61	-13.00	-43.61	H
5172.000	-44.14	7.96	-52.10	-13.00	-39.10	H
N/A						

Remark:

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

This document cannot be reproduced except in full, without prior written approval of the Company. 本報告未經本公司書面許可，不可部份複製。

Operation Mode:	Tx / High CH	**Test Date:**	December 7, 2018
Temperature:	22℃	**Tested by:**	Jerry Chuang
Humidity:	48% RH	**Polarity:**	Ver.



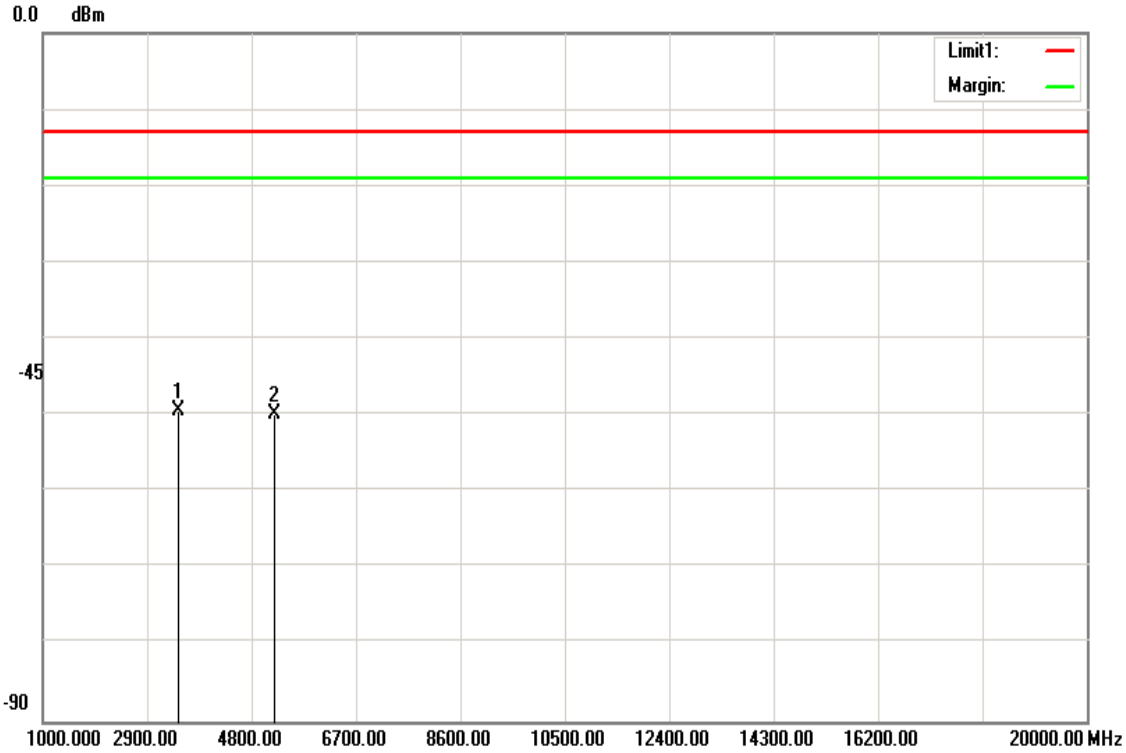
Frequency (MHz)	S.G. (dBm)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
3471.000	-47.62	6.4	-54.02	-13.00	-41.02	V
5207.000	-52.99	7.99	-60.98	-13.00	-47.98	V
N/A						

Remark:

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

This document cannot be reproduced except in full, without prior written approval of the Company. 本報告未經本公司書面許可，不可部份複製。

Operation Mode:	Tx / High CH	**Test Date:**	December 7, 2018
Temperature:	22℃	**Tested by:**	Jerry Chuang
Humidity:	48% RH	**Polarity:**	Hor.



Frequency (MHz)	S.G. (dBm)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
3471.000	-42.99	6.4	-49.39	-13.00	-36.39	H
5207.000	-41.75	7.99	-49.74	-13.00	-36.74	H
N/A						

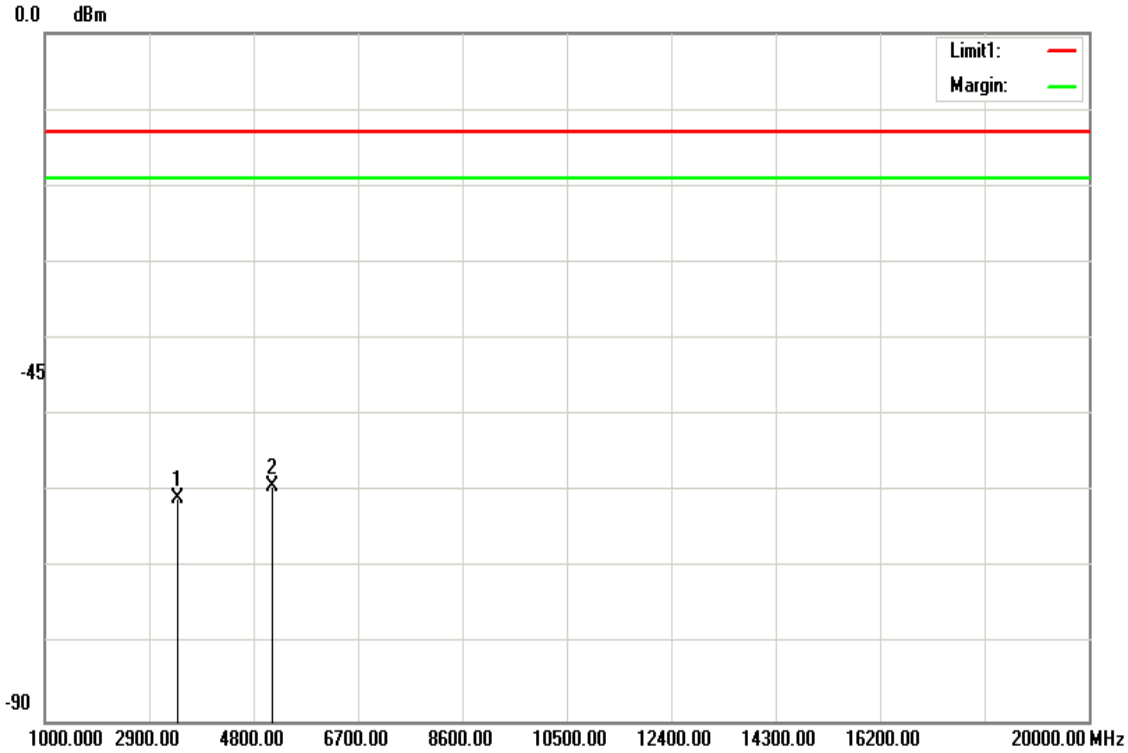
Remark:

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

This document cannot be reproduced except in full, without prior written approval of the Company. 本報告未經本公司書面許可，不可部份複製。

LTE Band 4 / BW: 20MHz / 16QAM / RB =1, RB Offset = 0

Operation Mode:	Tx / Low CH	**Test Date:**	December 7, 2018
Temperature:	22℃	**Tested by:**	Jerry Chuang
Humidity:	48% RH	**Polarity:**	Ver.



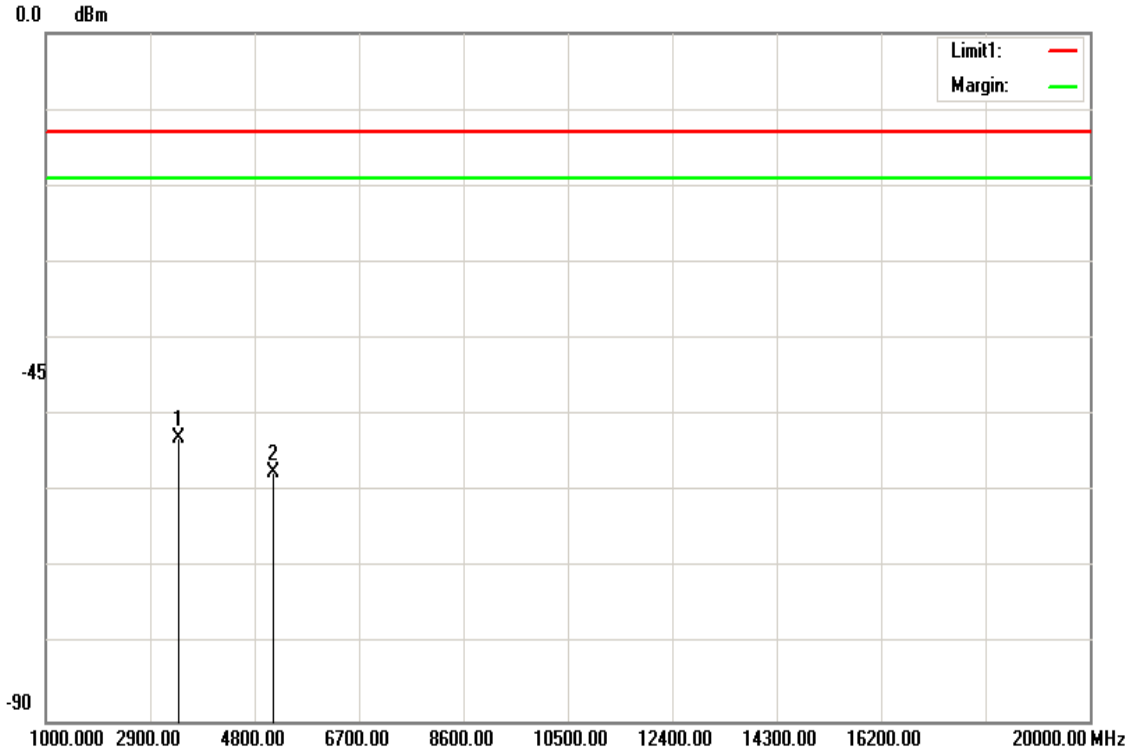
Frequency (MHz)	S.G. (dBm)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
3422.000	-54.43	6.35	-60.78	-13.00	-47.78	V
5133.500	-51.35	7.92	-59.27	-13.00	-46.27	V
N/A						

Remark:

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

This document cannot be reproduced except in full, without prior written approval of the Company. 本報告未經本公司書面許可，不可部份複製。

Operation Mode:	Tx / Low CH	**Test Date:**	December 7, 2018
Temperature:	22℃	**Tested by:**	Jerry Chuang
Humidity:	48% RH	**Polarity:**	Hor.



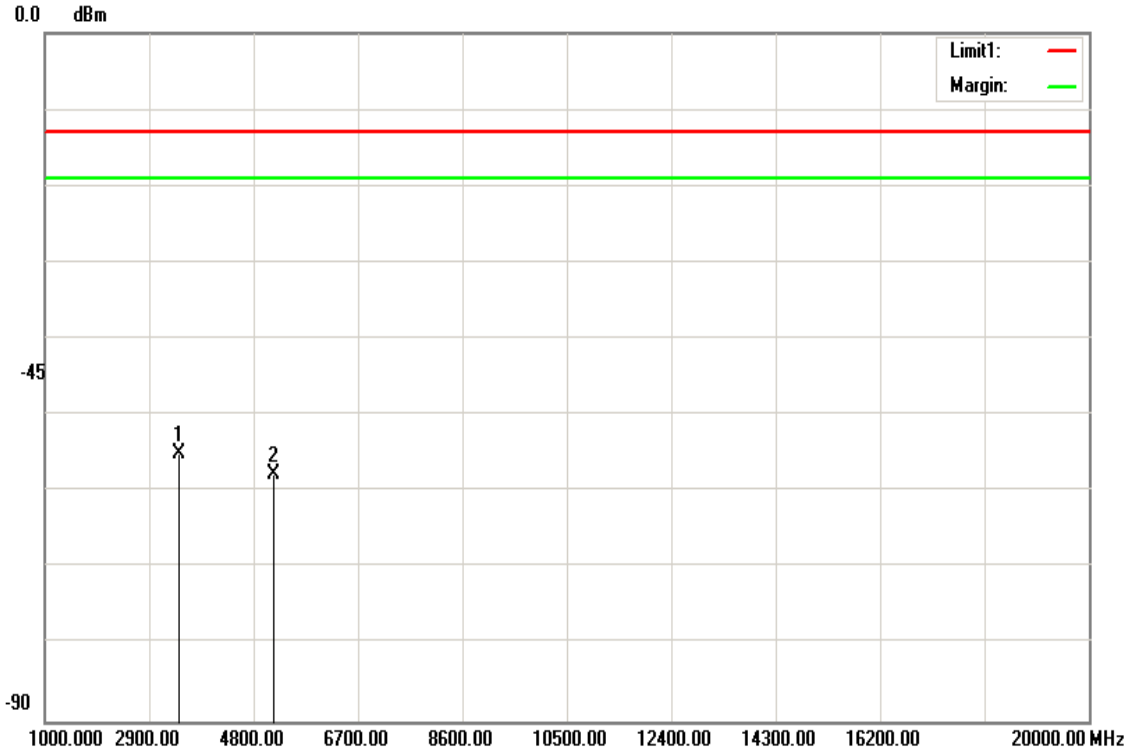
Frequency (MHz)	S.G. (dBm)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
3422.000	-46.54	6.35	-52.89	-13.00	-39.89	H
5133.500	-49.67	7.92	-57.59	-13.00	-44.59	H
N/A						

Remark:

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

This document cannot be reproduced except in full, without prior written approval of the Company. 本報告未經本公司書面許可，不可部份複製。

Operation Mode:	Tx / Mid CH	**Test Date:**	December 7, 2018
Temperature:	22℃	**Tested by:**	Jerry Chuang
Humidity:	48% RH	**Polarity:**	Ver.



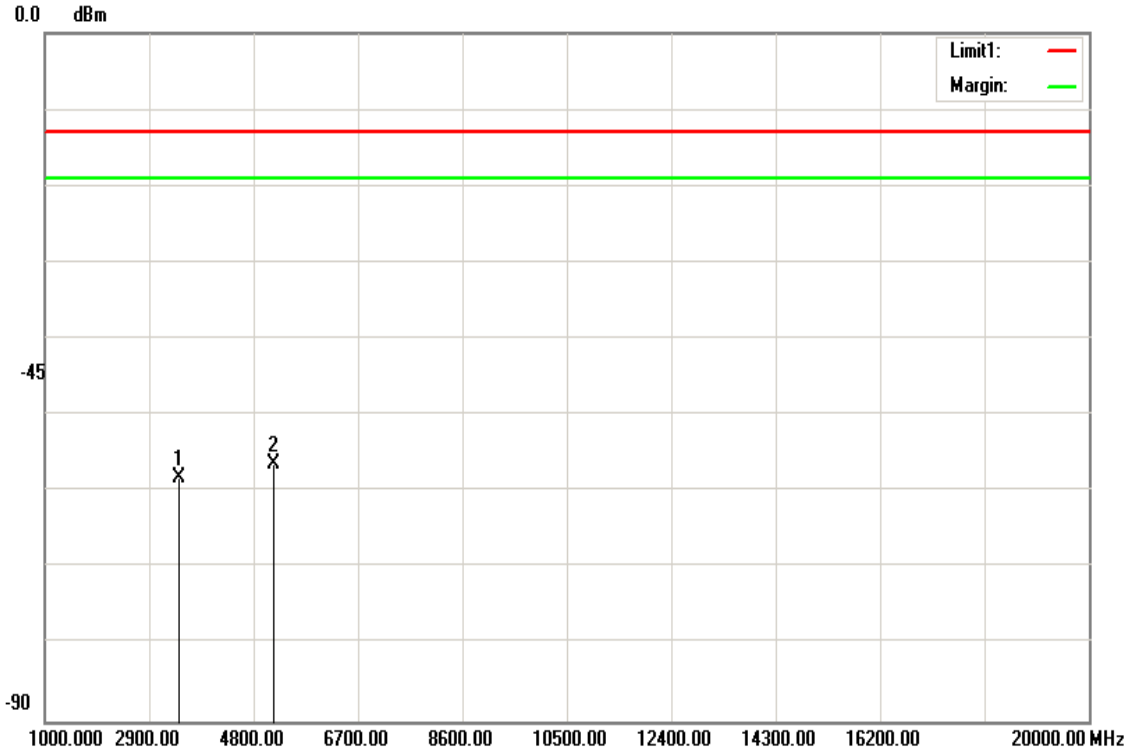
Frequency (MHz)	S.G. (dBm)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
3446.500	-48.73	6.37	-55.10	-13.00	-42.10	V
5172.000	-49.69	7.96	-57.65	-13.00	-44.65	V
N/A						

Remark:

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

This document cannot be reproduced except in full, without prior written approval of the Company. 本報告未經本公司書面許可，不可部份複製。

Operation Mode:	Tx / Mid CH	**Test Date:**	December 7, 2018
Temperature:	22℃	**Tested by:**	Jerry Chuang
Humidity:	48% RH	**Polarity:**	Hor.



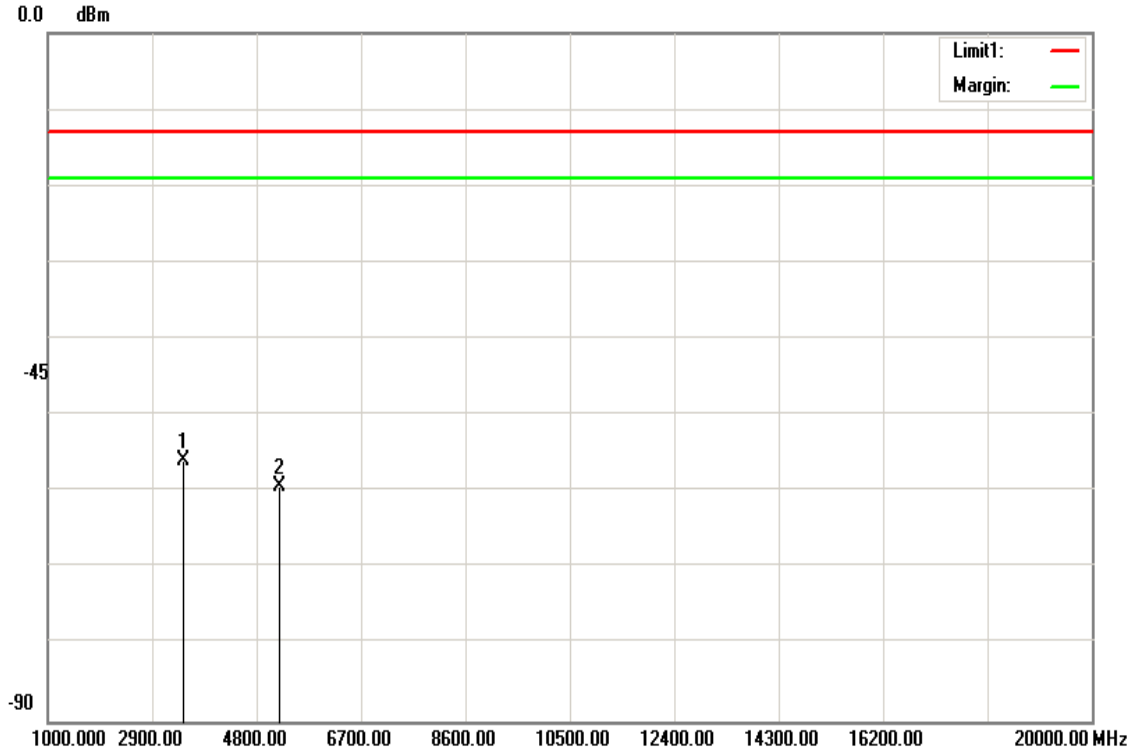
Frequency (MHz)	S.G. (dBm)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
3446.500	-51.88	6.37	-58.25	-13.00	-45.25	H
5172.000	-48.4	7.96	-56.36	-13.00	-43.36	H
N/A						

Remark:

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

This document cannot be reproduced except in full, without prior written approval of the Company. 本報告未經本公司書面許可，不可部份複製。

Operation Mode:	Tx / High CH	**Test Date:**	December 7, 2018
Temperature:	22℃	**Tested by:**	Jerry Chuang
Humidity:	48% RH	**Polarity:**	Ver.



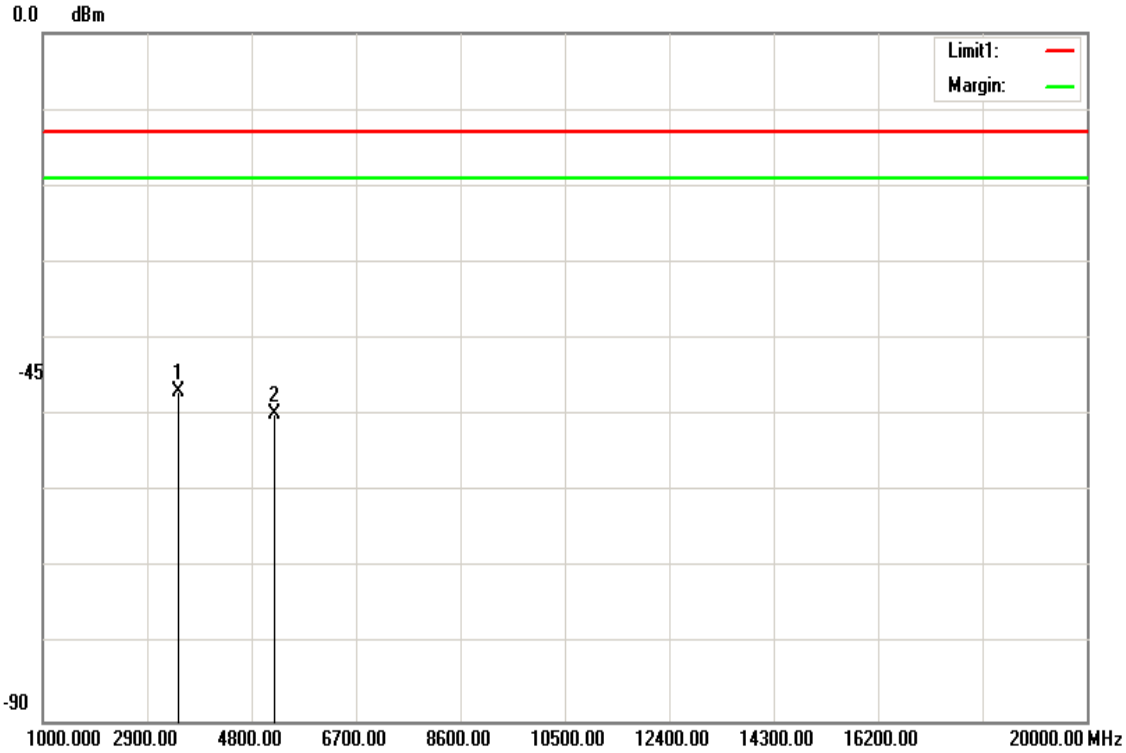
Frequency (MHz)	S.G. (dBm)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
3471.000	-49.56	6.4	-55.96	-13.00	-42.96	V
5207.000	-51.27	7.99	-59.26	-13.00	-46.26	V
N/A						

Remark:

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

This document cannot be reproduced except in full, without prior written approval of the Company. 本報告未經本公司書面許可，不可部份複製。

Operation Mode:	Tx / High CH	**Test Date:**	December 7, 2018
Temperature:	22℃	**Tested by:**	Jerry Chuang
Humidity:	48% RH	**Polarity:**	Hor.



Frequency (MHz)	S.G. (dBm)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
3471.000	-40.53	6.4	-46.93	-13.00	-33.93	H
5207.000	-41.94	7.99	-49.93	-13.00	-36.93	H
N/A						

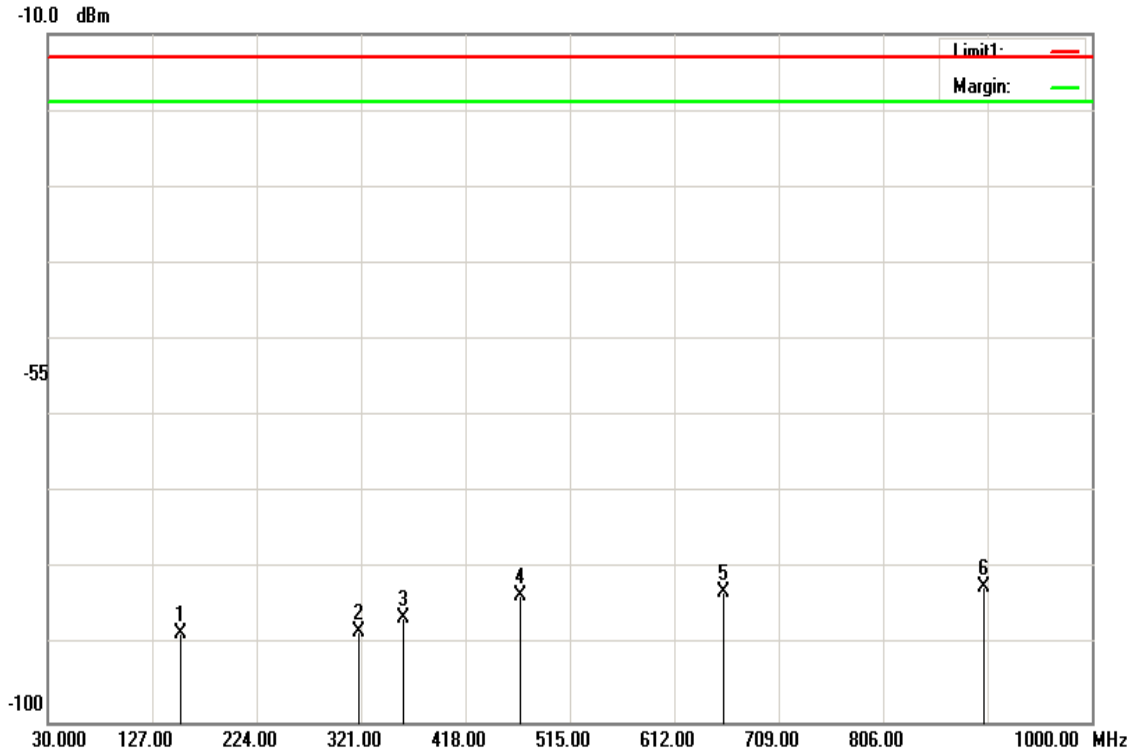
Remark:

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

This document cannot be reproduced except in full, without prior written approval of the Company. 本報告未經本公司書面許可，不可部份複製。

Test Results
Below 1GHz
LTE Band 13 / BW: 10MHz / QPSK / RB =1, RB Offset = 0

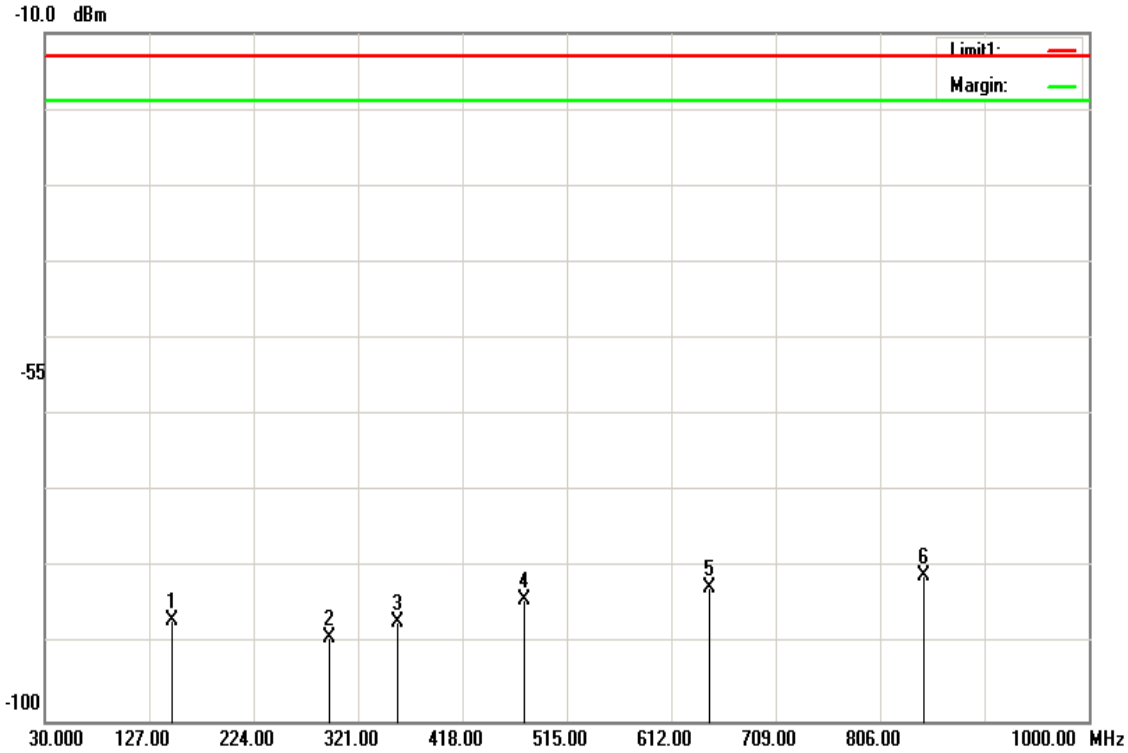
Operation Mode:	Tx / Mid CH	**Test Date:**	December 3, 2018
Temperature:	22℃	**Tested by:**	Jerry Chuang
Humidity:	48% RH	**Polarity:**	Ver.



Frequency (MHz)	S.G. (dBm)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
153.1900	-85.01	1.22	-88.38	-13.00	-75.38	V
319.0600	-84.32	1.78	-88.25	-13.00	-75.25	V
361.2550	-82.38	1.9	-86.43	-13.00	-73.43	V
468.9250	-79.15	2.18	-83.48	-13.00	-70.48	V
658.0750	-78.25	2.59	-82.99	-13.00	-69.99	V
900.0900	-77.08	3.06	-82.29	-13.00	-69.29	V

This document cannot be reproduced except in full, without prior written approval of the Company. 本報告未經本公司書面許可，不可部份複製。

Operation Mode:	Tx / Mid CH	**Test Date:**	December 3, 2018
Temperature:	22℃	**Tested by:**	Jerry Chuang
Humidity:	48% RH	**Polarity:**	Hor.

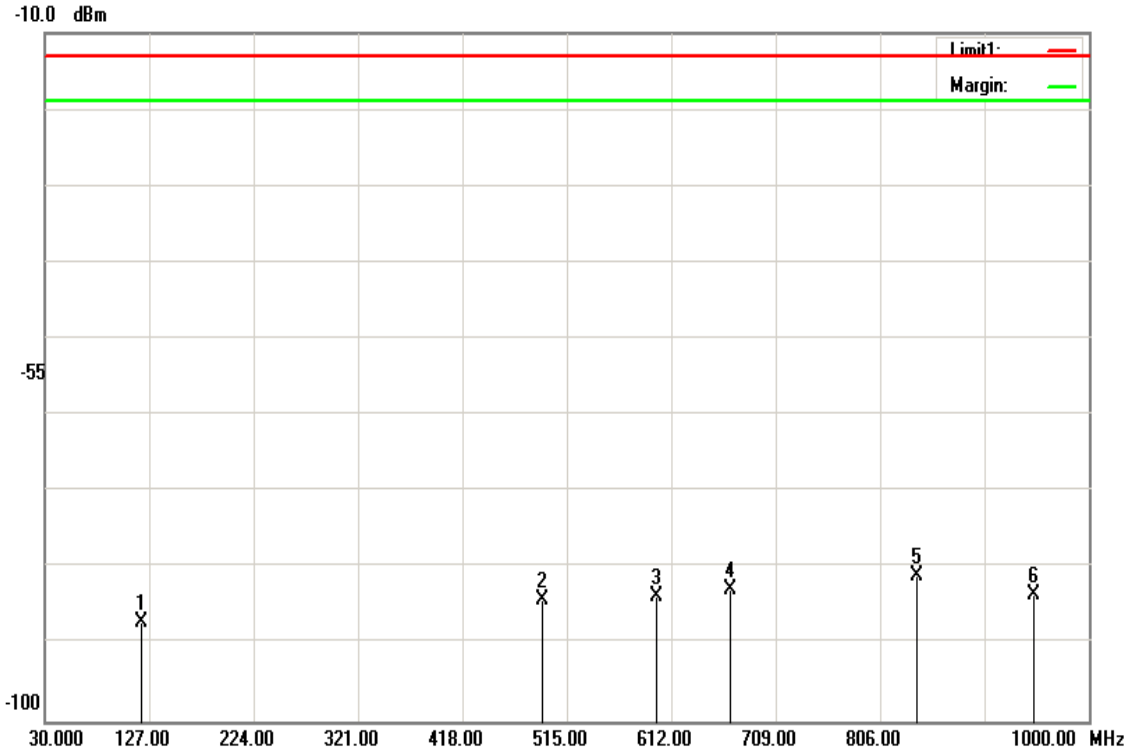


Frequency (MHz)	S.G. (dBm)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
148.3400	-83.54	1.2	-86.89	-13.00	-73.89	H
293.8400	-85.32	1.71	-89.18	-13.00	-76.18	H
357.8600	-83.13	1.89	-87.17	-13.00	-74.17	H
475.7150	-79.85	2.19	-84.19	-13.00	-71.19	H
647.4050	-77.87	2.56	-82.58	-13.00	-69.58	H
847.2250	-75.78	2.96	-80.89	-13.00	-67.89	H

This document cannot be reproduced except in full, without prior written approval of the Company. 本報告未經本公司書面許可，不可部份複製。

LTE Band 13 / BW: 10MHz / 16QAM / RB =1, RB Offset = 0

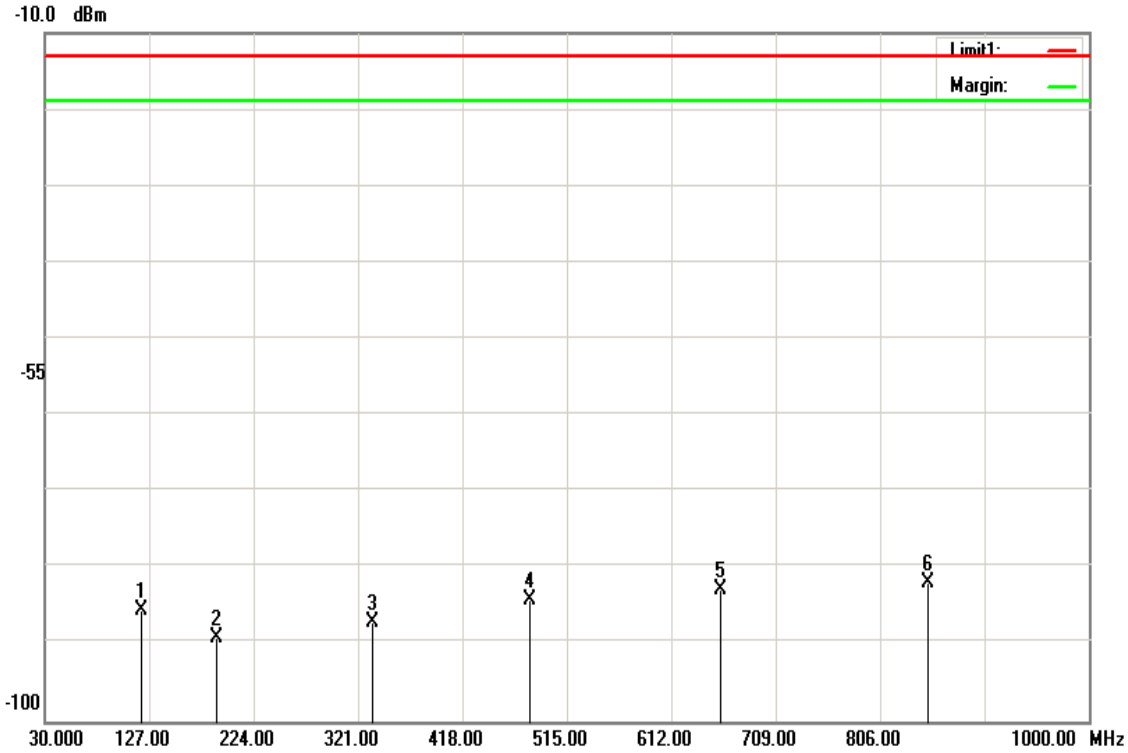
Operation Mode:	Tx / Mid CH	**Test Date:**	December 3, 2018
Temperature:	22℃	**Tested by:**	Jerry Chuang
Humidity:	48% RH	**Polarity:**	Ver.



Frequency (MHz)	S.G. (dBm)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
119.2400	-83.84	1.09	-87.08	-13.00	-74.08	V
493.1750	-79.82	2.23	-84.20	-13.00	-71.20	V
598.4200	-79.14	2.47	-83.76	-13.00	-70.76	V
666.3200	-78.02	2.61	-82.78	-13.00	-69.78	V
839.9500	-75.98	2.95	-81.08	-13.00	-68.08	V
949.0750	-78.12	3.14	-83.41	-13.00	-70.41	V

This document cannot be reproduced except in full, without prior written approval of the Company. 本報告未經本公司書面許可，不可部份複製。

Operation Mode:	Tx / Mid CH	**Test Date:**	December 3, 2018
Temperature:	22℃	**Tested by:**	Jerry Chuang
Humidity:	48% RH	**Polarity:**	Hor.



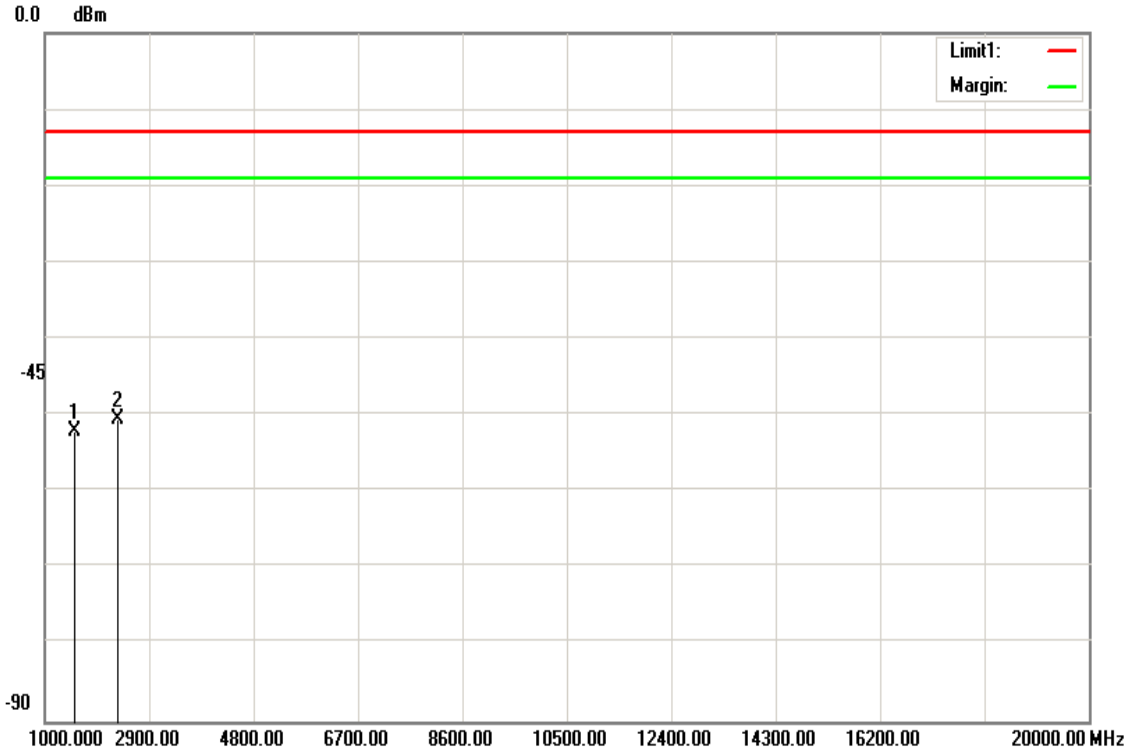
Frequency (MHz)	S.G. (dBm)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
119.7250	-82.21	1.09	-85.45	-13.00	-72.45	H
190.5350	-85.48	1.37	-89.00	-13.00	-76.00	H
335.0650	-83.07	1.83	-87.05	-13.00	-74.05	H
481.0500	-79.82	2.2	-84.17	-13.00	-71.17	H
657.5900	-78.14	2.59	-82.88	-13.00	-69.88	H
851.1050	-76.77	2.97	-81.89	-13.00	-68.89	H

This document cannot be reproduced except in full, without prior written approval of the Company. 本報告未經本公司書面許可，不可部份複製。

Above 1GHz

LTE Band 13 / BW: 10MHz / QPSK RB =1, RB Offset = 0

Operation Mode:	Tx / Mid CH	**Test Date:**	December 7, 2018
Temperature:	22℃	**Tested by:**	Jerry Chuang
Humidity:	48% RH	**Polarity:**	Ver.



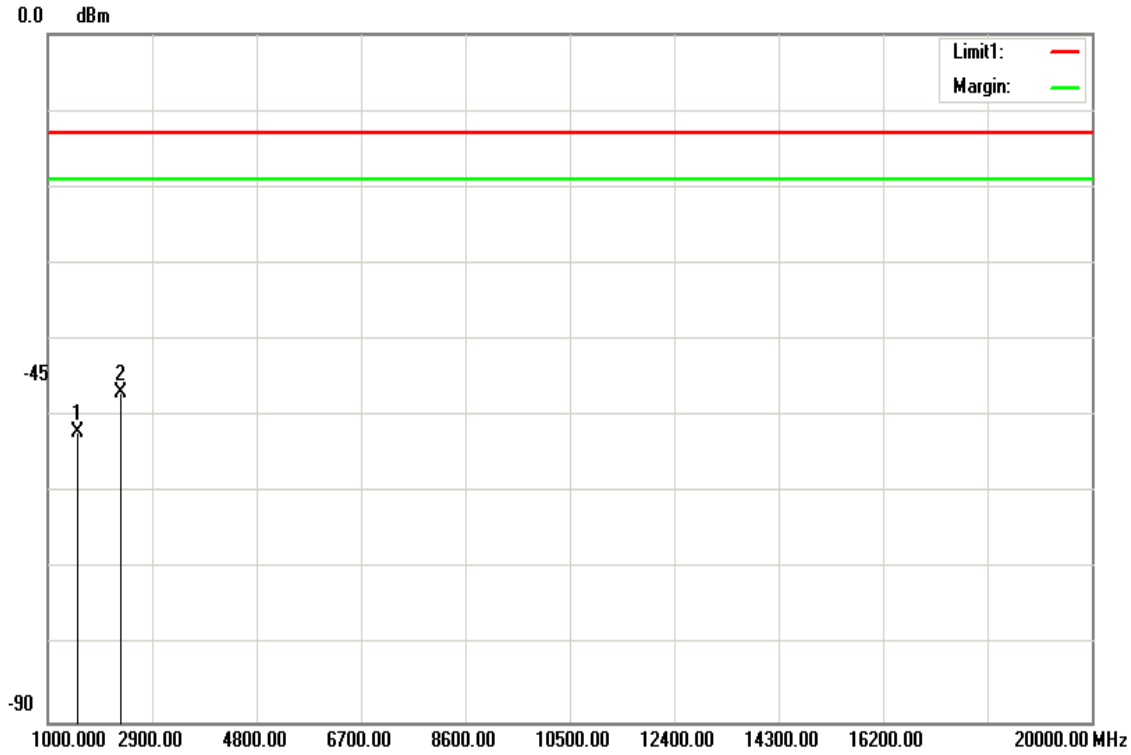
Frequency (MHz)	S.G. (dBm)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
1556.500	-48.04	4.07	-52.11	-13.00	-39.11	V
2333.500	-45.5	5.12	-50.62	-13.00	-37.62	V
N/A						

Remark:

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

This document cannot be reproduced except in full, without prior written approval of the Company. 本報告未經本公司書面許可，不可部份複製。

Operation Mode:	Tx / Mid CH	**Test Date:**	December 7, 2018
Temperature:	22℃	**Tested by:**	Jerry Chuang
Humidity:	48% RH	**Polarity:**	Hor.



Frequency (MHz)	S.G. (dBm)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
1556.500	-48.12	4.07	-52.19	-13.00	-39.19	H
2333.500	-41.72	5.12	-46.84	-13.00	-33.84	H
N/A						

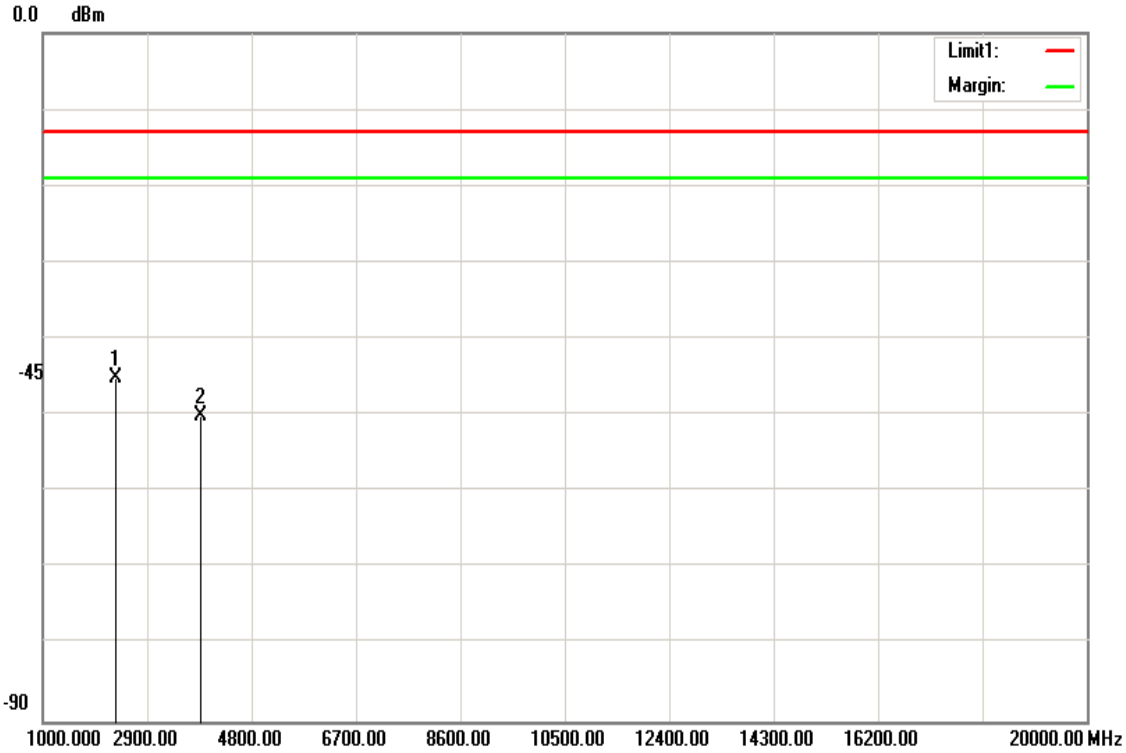
Remark:

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

This document cannot be reproduced except in full, without prior written approval of the Company. 本報告未經本公司書面許可，不可部份複製。

LTE Band 13 / BW: 10MHz / 16QAM RB =1, RB Offset = 0

Operation Mode:	Tx / Mid CH	**Test Date:**	December 7, 2018
Temperature:	22℃	**Tested by:**	Jerry Chuang
Humidity:	48% RH	**Polarity:**	Ver.



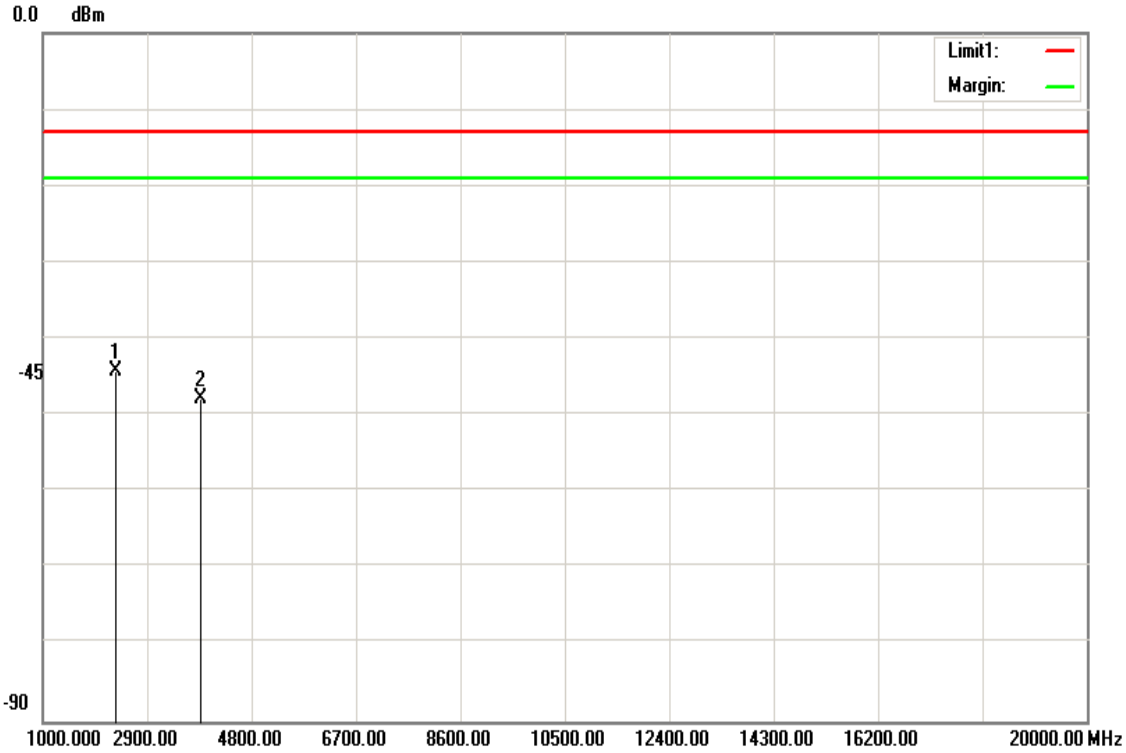
Frequency (MHz)	S.G. (dBm)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
2333.500	-40.1	5.12	-45.22	-13.00	-32.22	V
3887.500	-43.22	6.81	-50.03	-13.00	-37.03	V
N/A						

Remark:

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

This document cannot be reproduced except in full, without prior written approval of the Company. 本報告未經本公司書面許可，不可部份複製。

Operation Mode:	Tx / Mid CH	**Test Date:**	December 7, 2018
Temperature:	22℃	**Tested by:**	Jerry Chuang
Humidity:	48% RH	**Polarity:**	Hor.



Frequency (MHz)	S.G. (dBm)	Ant.Gain (dBi)	Emission level (dBm)	Limit (dBm)	Margin (dB)	Antenna Polarization (V/H)
2333.500	-39.19	5.12	-44.31	-13.00	-31.31	H
3887.500	-41.02	6.81	-47.83	-13.00	-34.83	H
N/A						

Remark:

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

-- End of Test Report --

This document cannot be reproduced except in full, without prior written approval of the Company. 本報告未經本公司書面許可，不可部份複製。