8.5 BAND EDGE MEASUREMENT

LIMIT

Part 27.53c(2) Band 13
On any frequency outside the 776-788 MHz band, the power of any emission shall be attenuated outside the band below the transmitter power (P) by at least 43 + 10 log (P) dB;
Part 27.53(m) (4), Band 4
Specifies that "for BRS and EBS stations. For mobile digital stations, the attenuation factor shall be not less than 40 + 10 log (P) dB on all frequencies between the channel edge and 5 megahertz from the channel edge, 43 + 10 log (P) dB on all frequencies between 5 megahertz and X megahertz from the channel edge, and 55 + 10 log (P) dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(4) of this section. In addition, the attenuation factor shall not be less that 43 + 10 log (P) dB on all frequencies between 2490.5 MHz and 2496 MHz and 55 + 10 log (P) dB at or below 2490.5 MHz. Mobile Satellite Service licensees operating on frequencies below 2495 MHz may also submit a documented interference complaint against BRS licensees operating on channel BRS Channel 1 on the same terms and conditions as adjacent channel BRS or EBS licensees.
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.
According to RSS-139, Band 4
i. In the first 1.0 MHz bands immediately outside and adjacent to the equipment's smallest operating frequency block, 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.
ii. 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.

p is the transmitter power measured in watts and **X** is 6 MHz or the equipment occupied bandwidth, whichever is greater.

TEST PROCEDURES

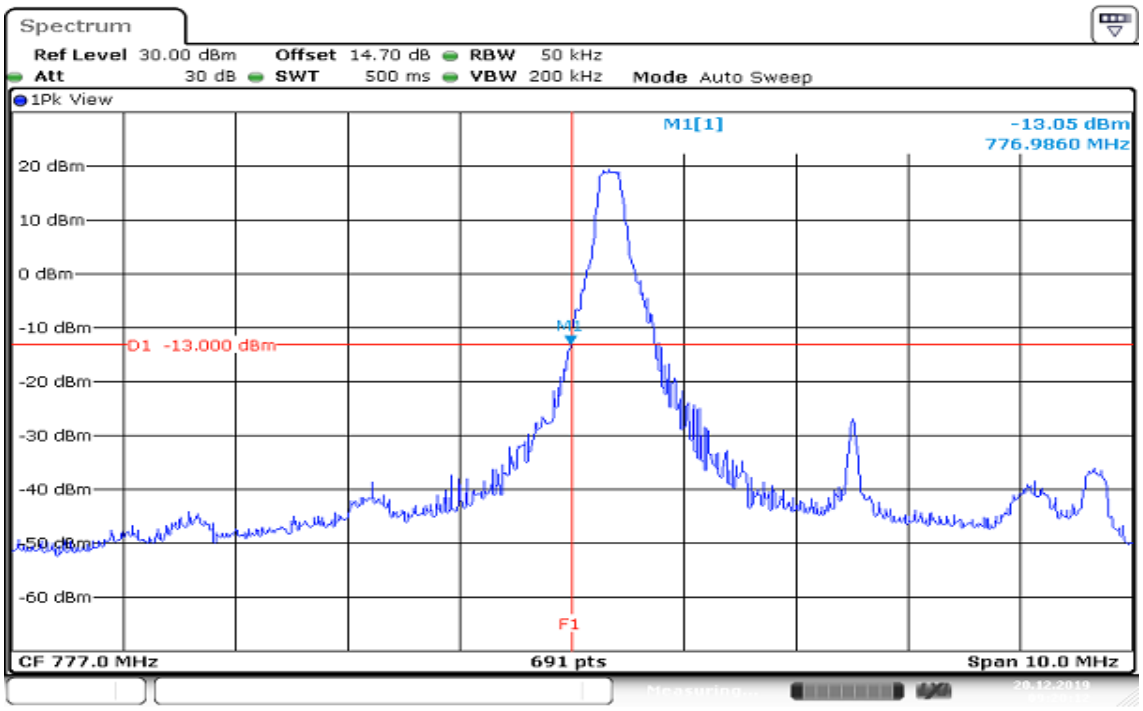
KDB 971168 D01 Power Meas License Digital Systems – Section 6.0
1. RBW ≥ 1% of the emission bandwidth
2. VBW ≥ 3 x RBW
3. Span was set large enough so as to capture all out of emissions near the band edge.

TEST RESULTS:

LTE Band 13

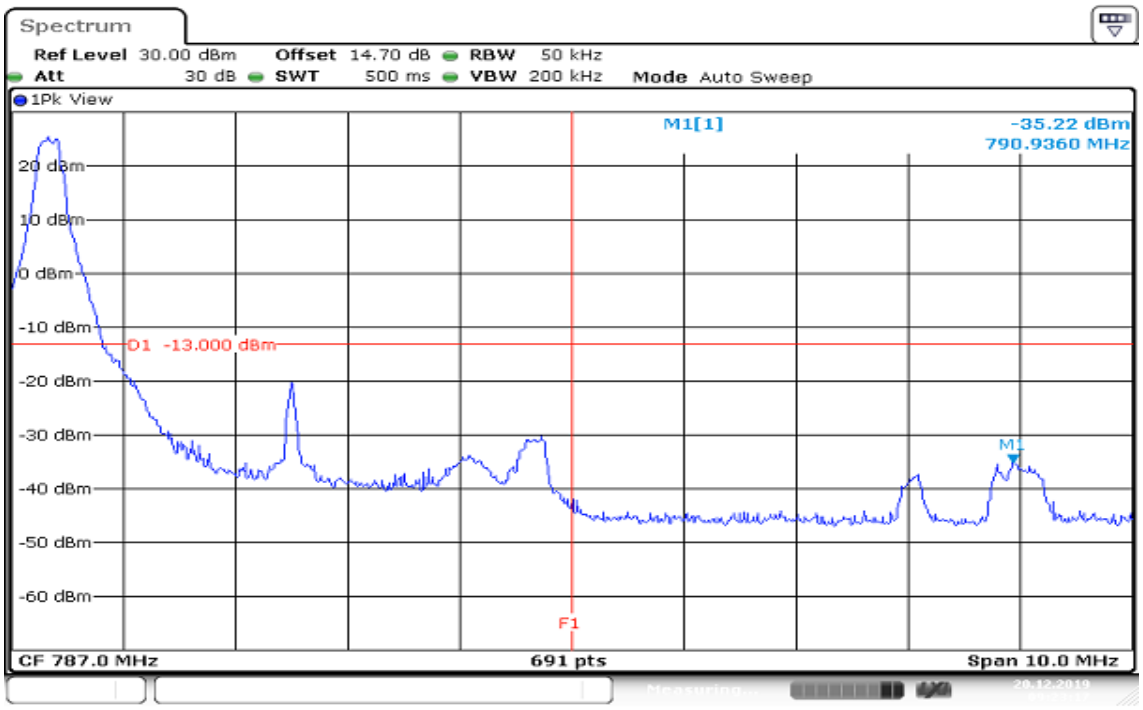
CHANNEL BANDWIDTH: 5MHz / QPSK / 1 RB ALLOCATED

LOWER BAND EDGE



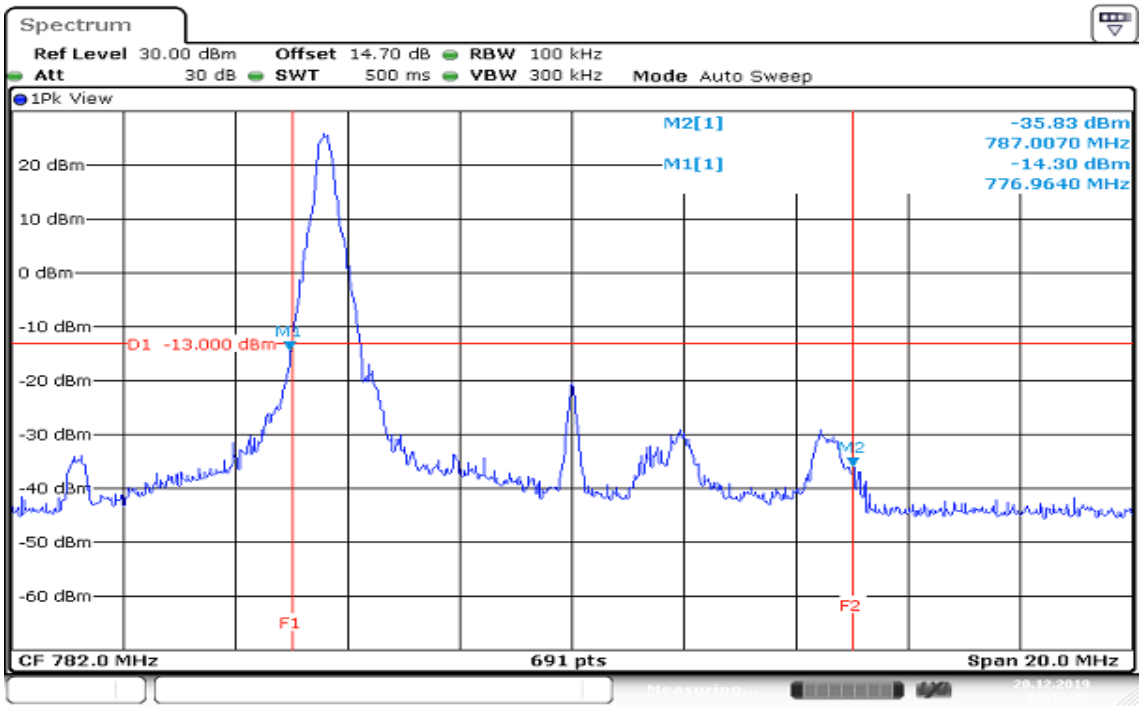
Date: 20.DEC.2019 09:20:12

HIGHER BAND EDGE

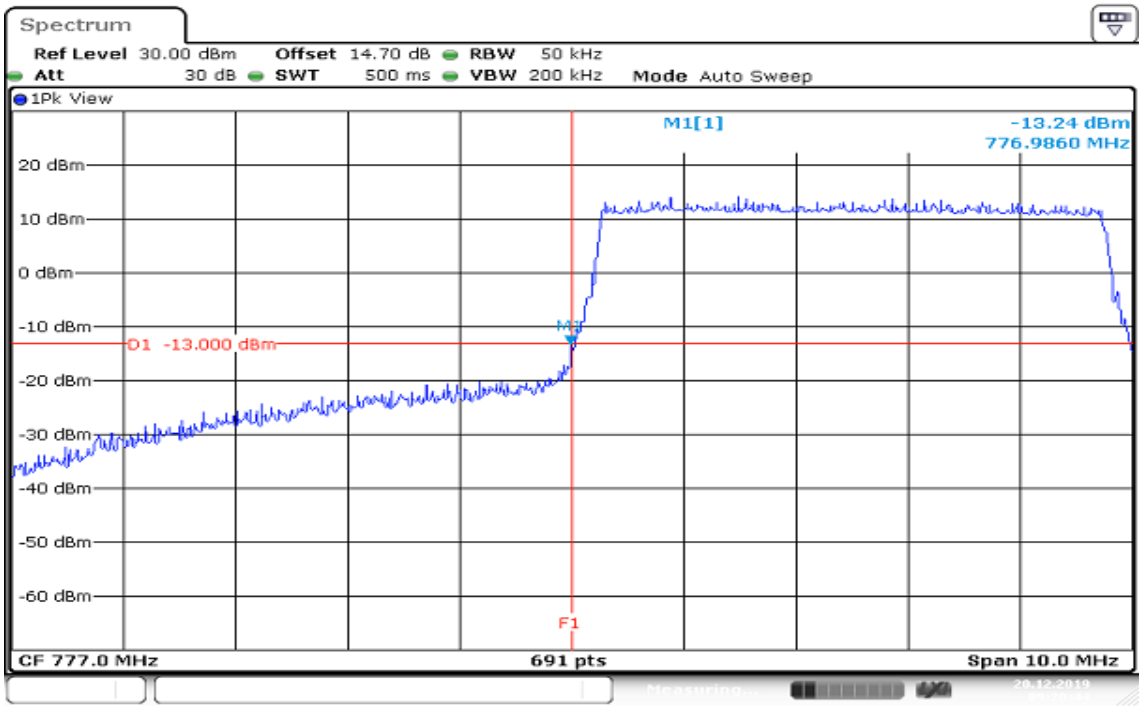


Date: 20.DEC.2019 09:23:17

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

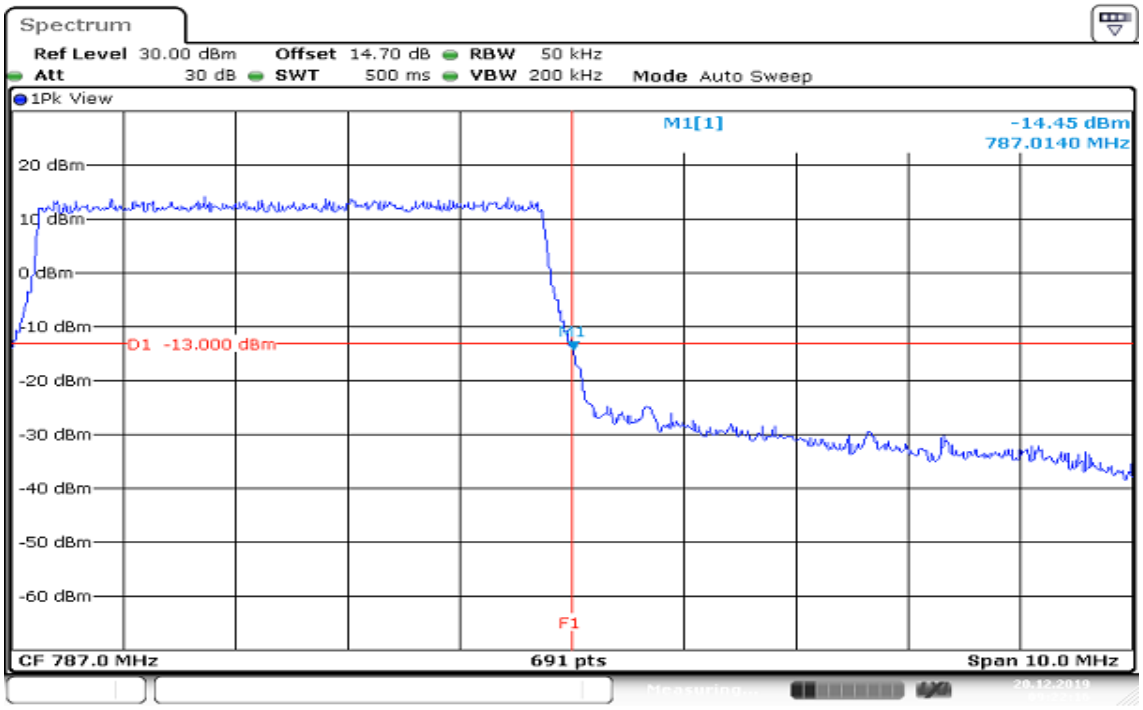


CHANNEL BANDWIDTH: 5MHz / QPSK / FULL RB ALLOCATED
LOWER BAND EDGE



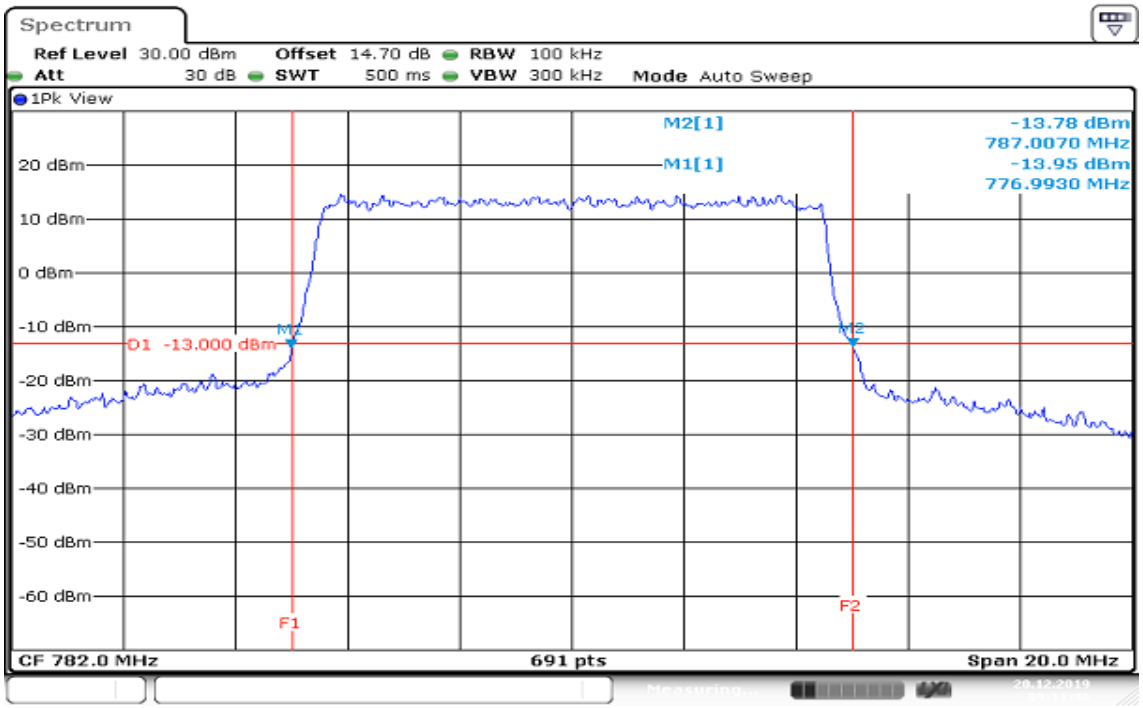
Date: 20.DEC.2019 09:20:44

HIGHER BAND EDGE



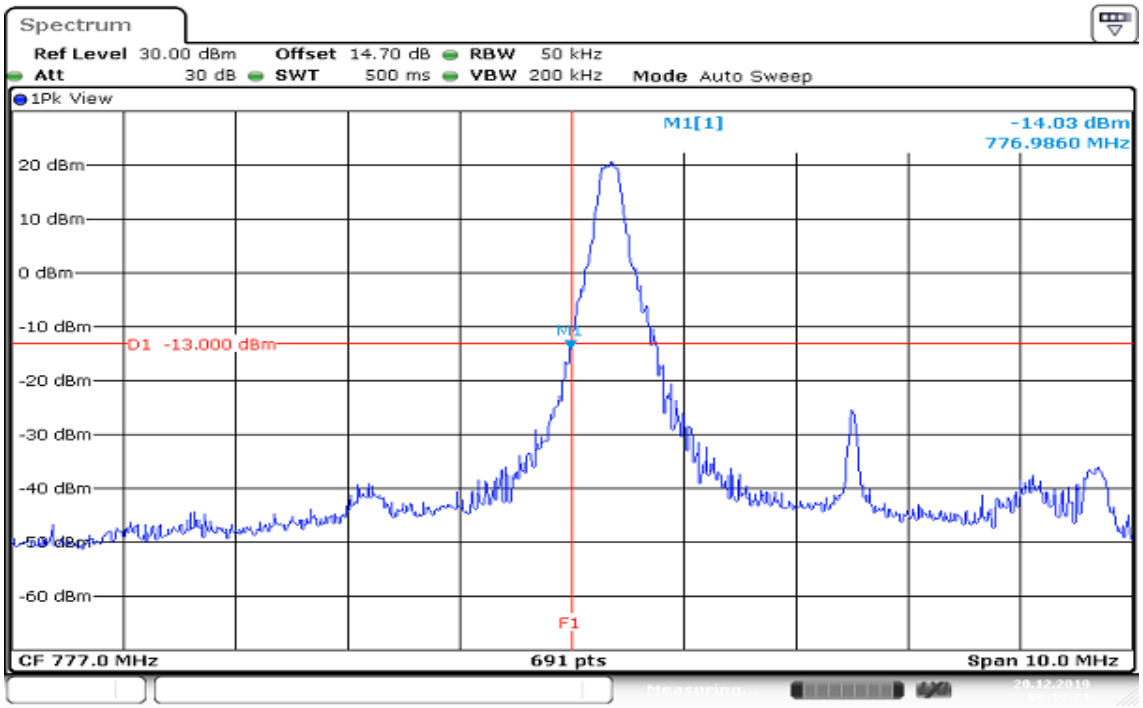
Date: 20.DEC.2019 09:22:16

CHANNEL BANDWIDTH: 10MHz / QPSK / FULL RB ALLOCATED MIDDLE BAND EDGE



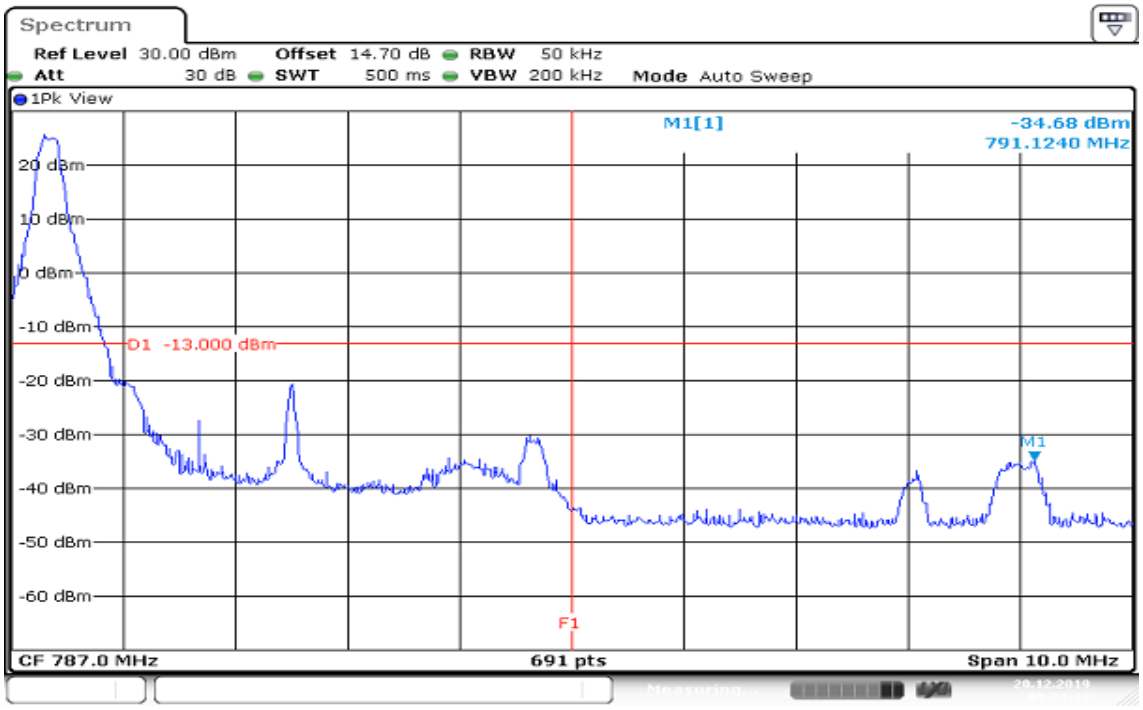
Date: 20.DEC.2019 09:11:46

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



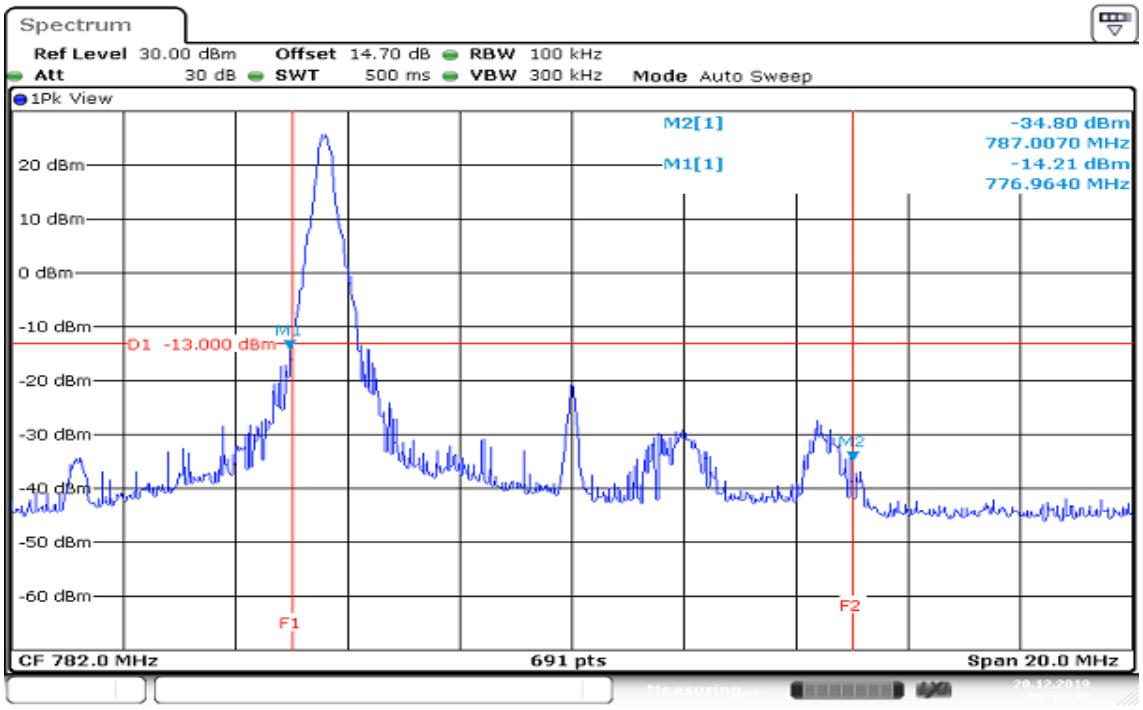
Date: 20.DEC.2019 09:19:21

HIGHER BAND EDGE



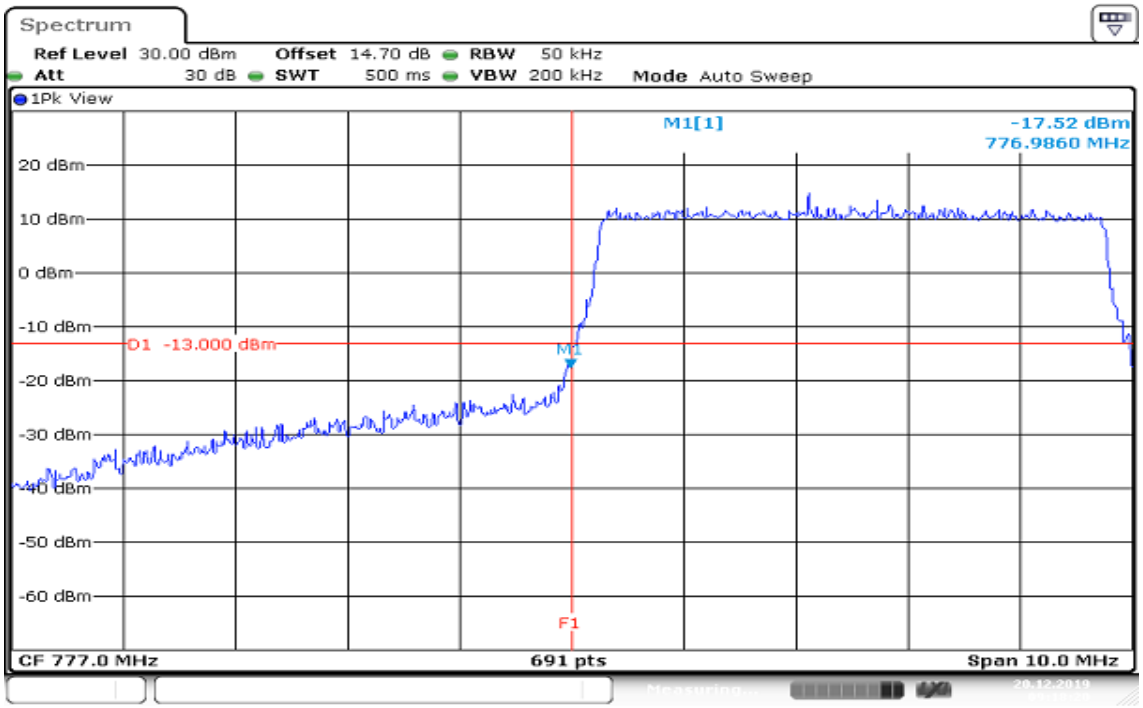
Date: 20.DEC.2019 09:24:13

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



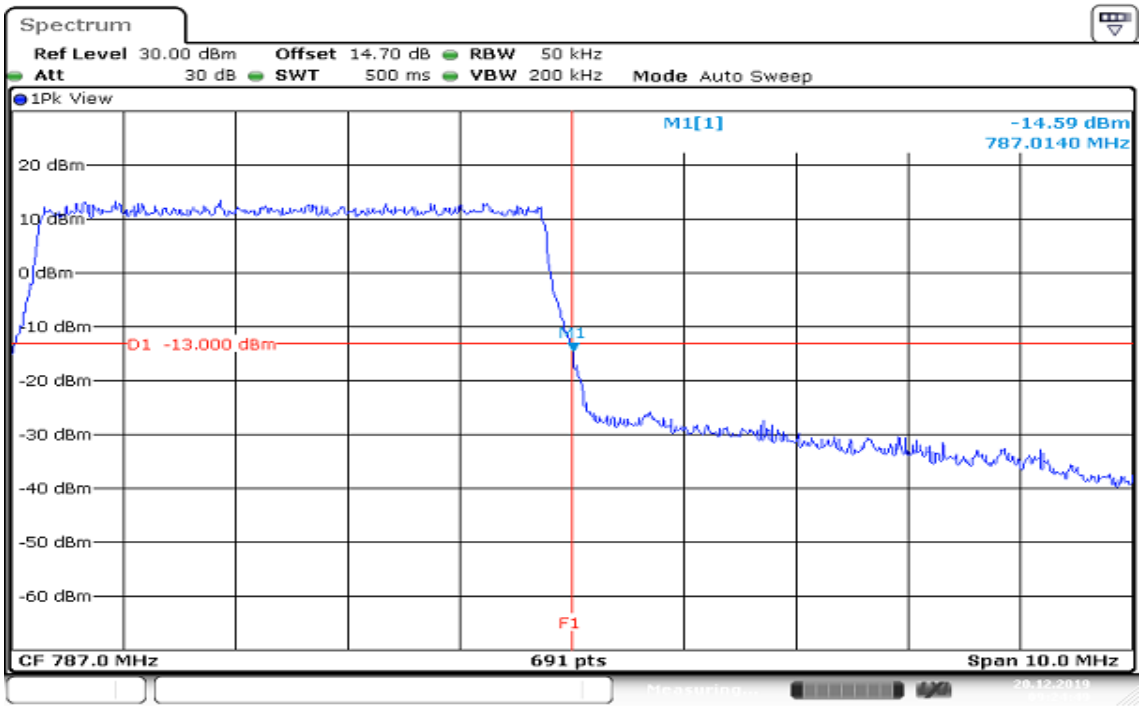
Date: 20.DEC.2019 09:13:47

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



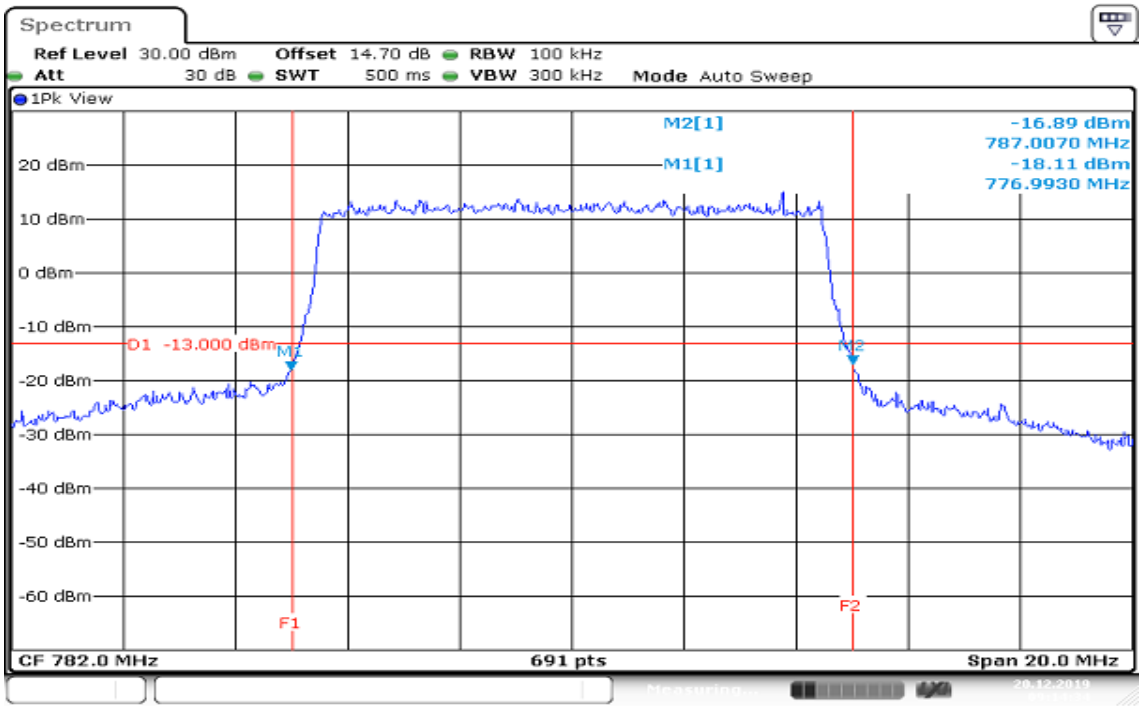
Date: 20.DEC.2019 09:18:20

HIGHER BAND EDGE



Date: 20.DEC.2019 09:24:49

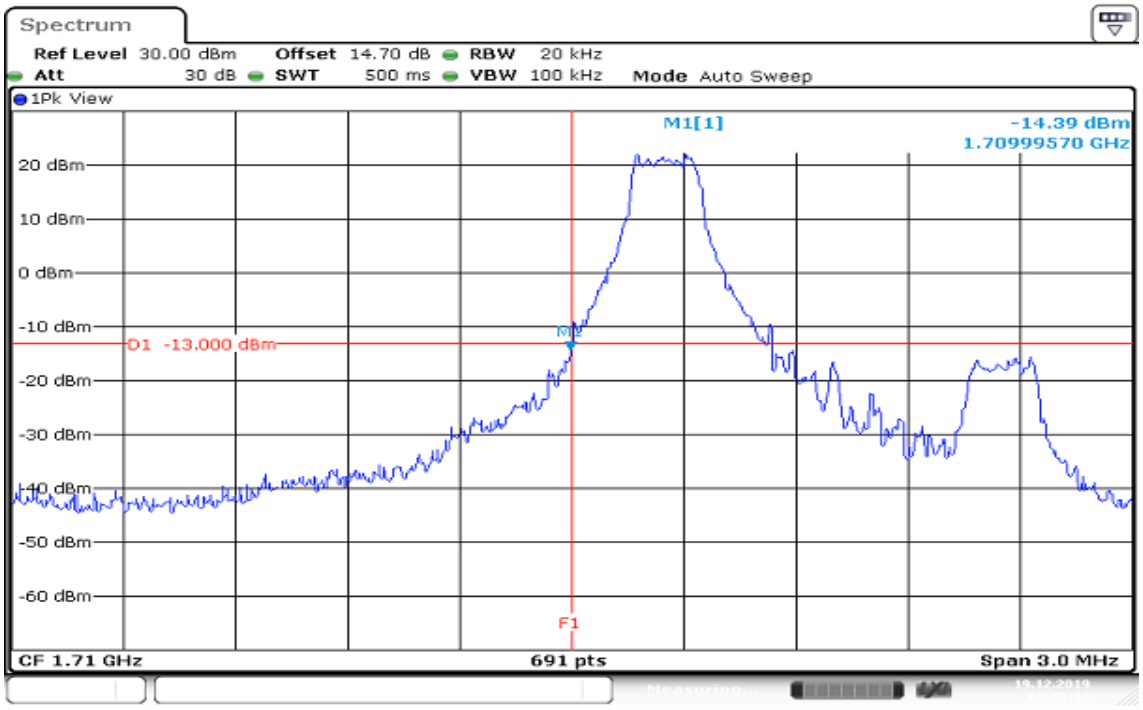
CHANNEL BANDWIDTH: 10MHz / 16QAM / FULLRB ALLOCATED MIDDLE BAND EDGE



LTE Band 4

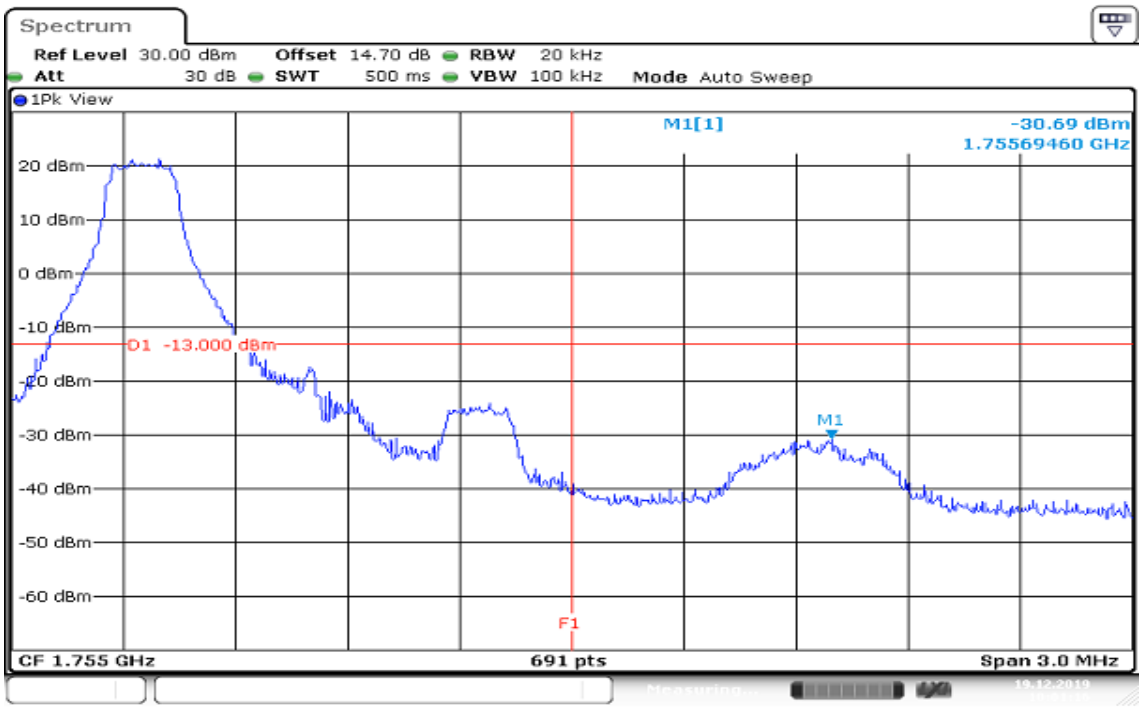
CHANNEL BANDWIDTH: 1.4MHz / QPSK / 1RB ALLOCATION

LOWER BAND EDGE



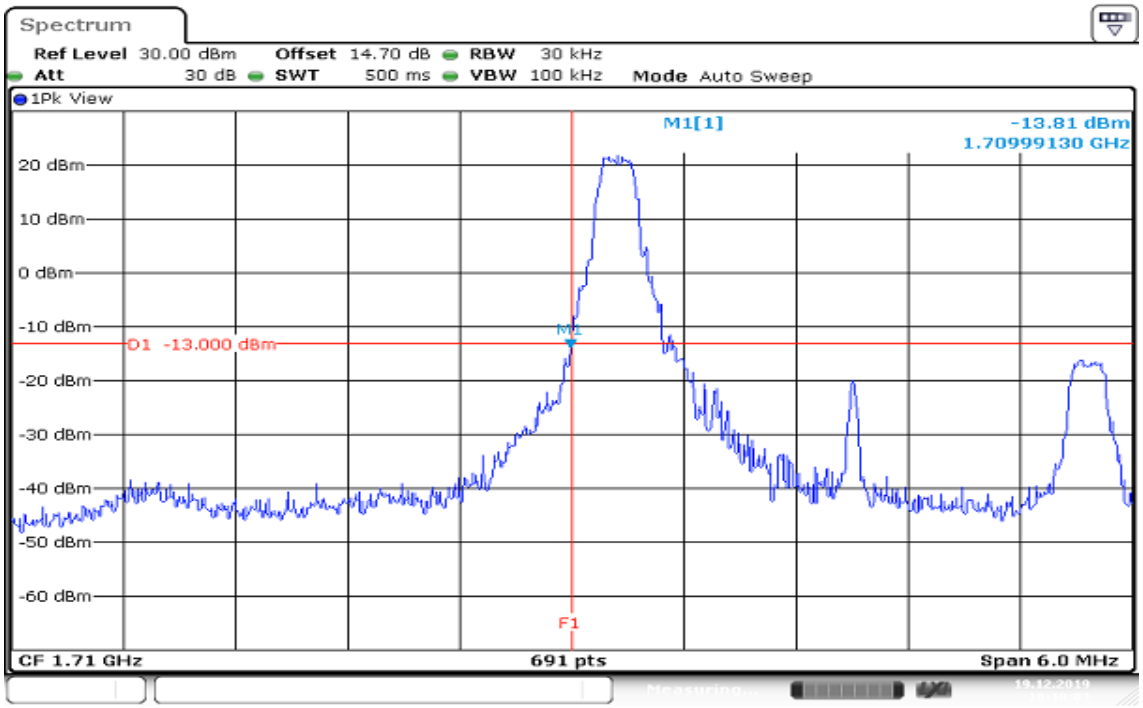
Date: 19.DEC.2019 09:58:14

HIGHER BAND EDGE



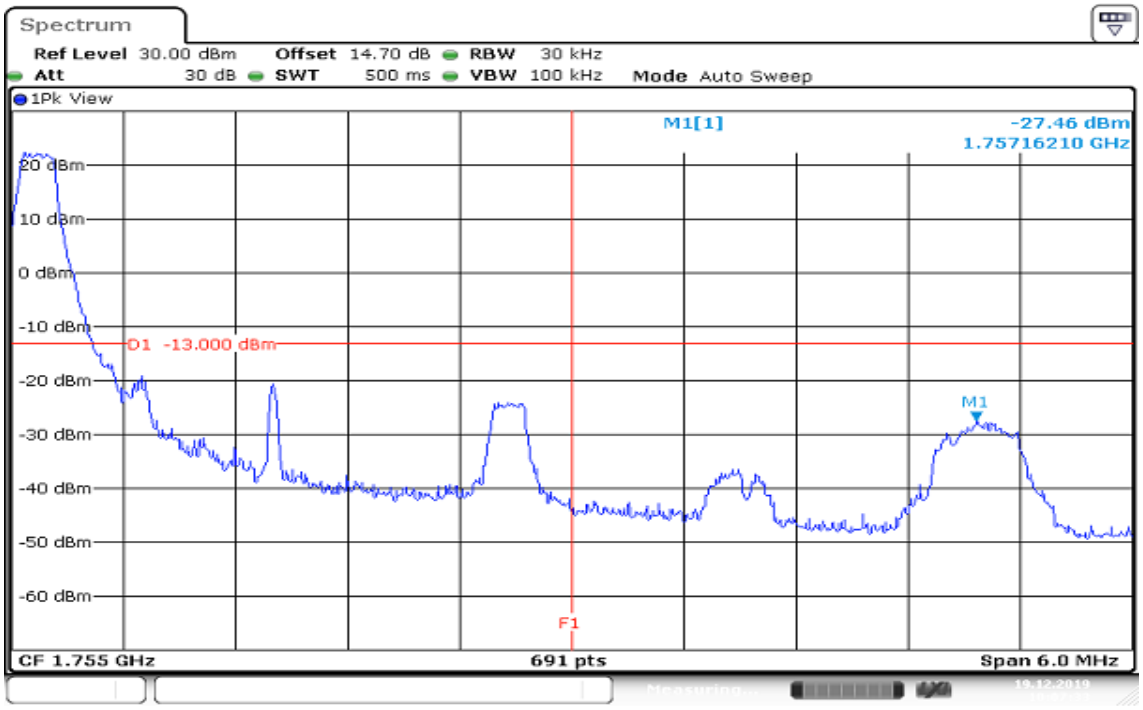
Date: 19.DEC.2019 10:01:16

CHANNEL BANDWIDTH: 3MHz / QPSK / 1RB ALLOCATION
LOWER BAND EDGE



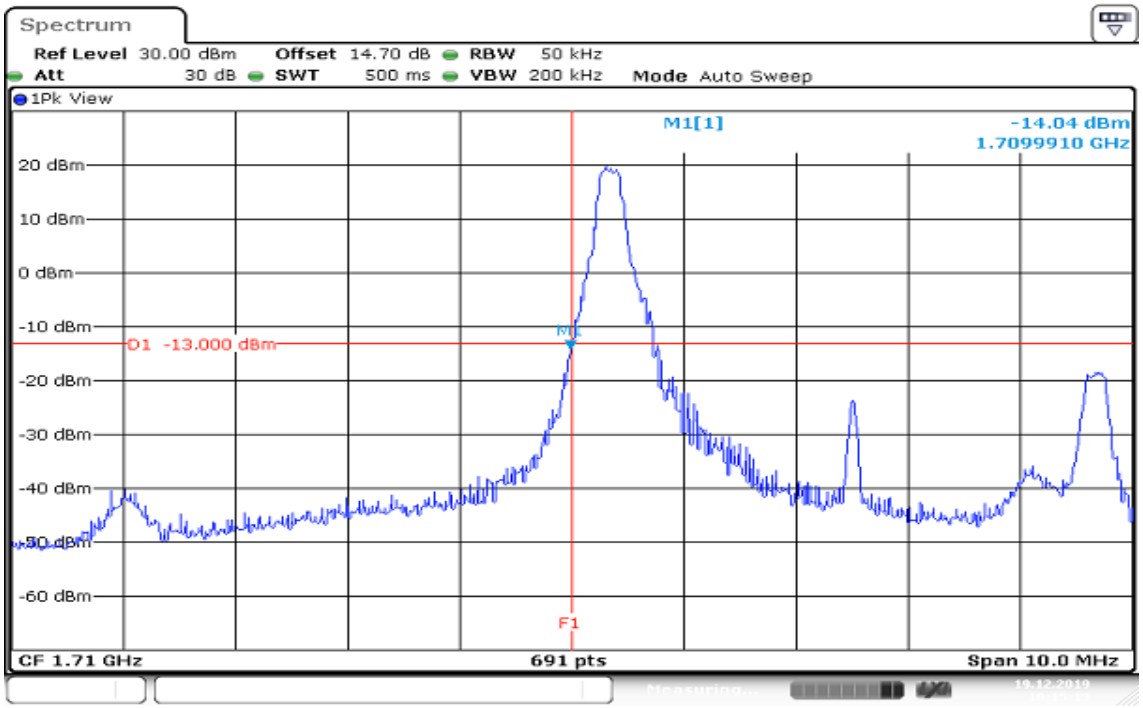
Date: 19.DEC.2019 10:10:03

HIGHER BAND EDGE



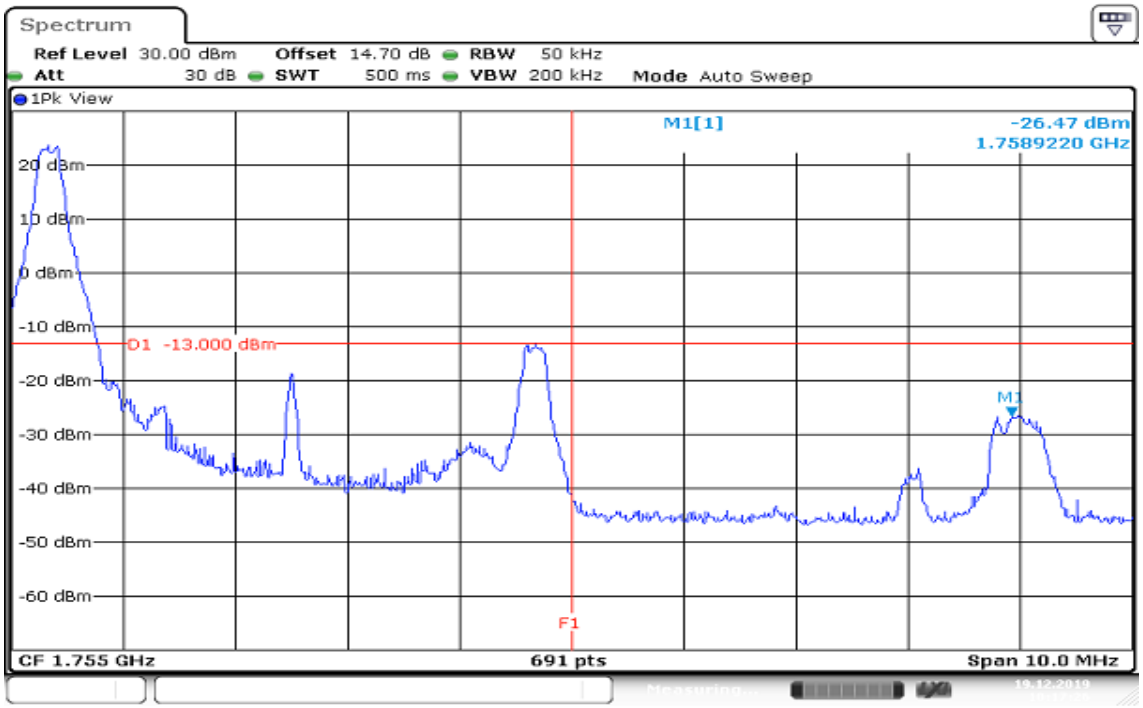
Date: 19.DEC.2019 10:07:33

CHANNEL BANDWIDTH: 5MHz / QPSK / 1RB ALLOCATION
LOWER BAND EDGE



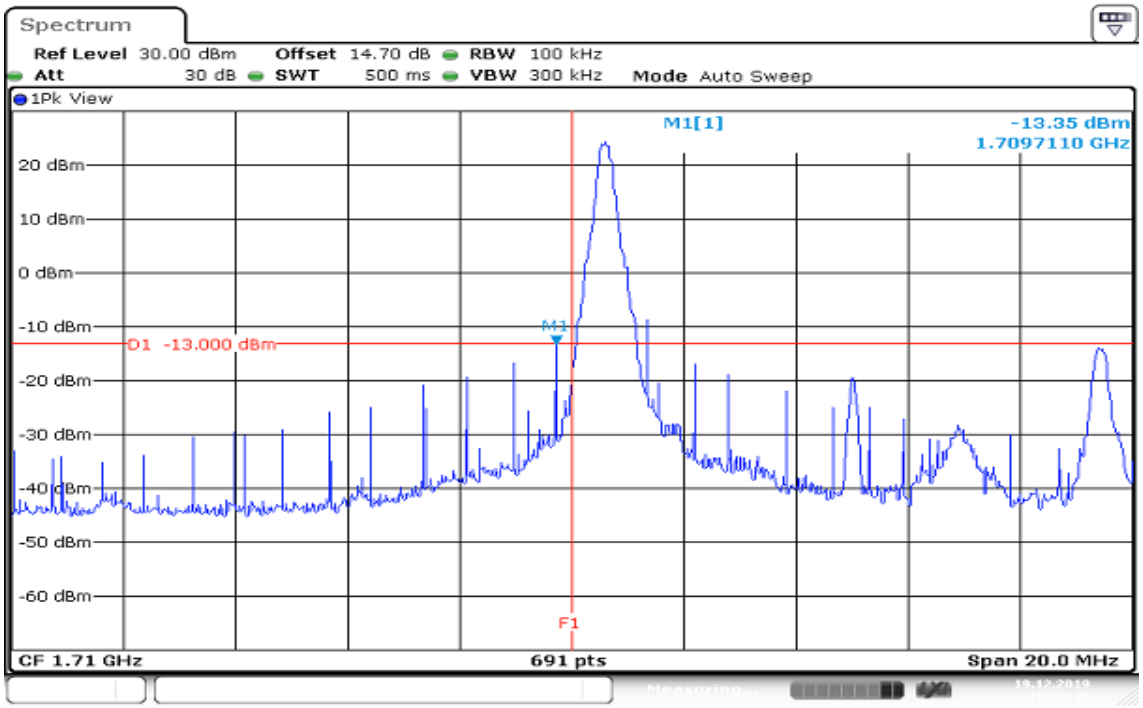
Date: 19.DEC.2019 10:15:13

HIGHER BAND EDGE



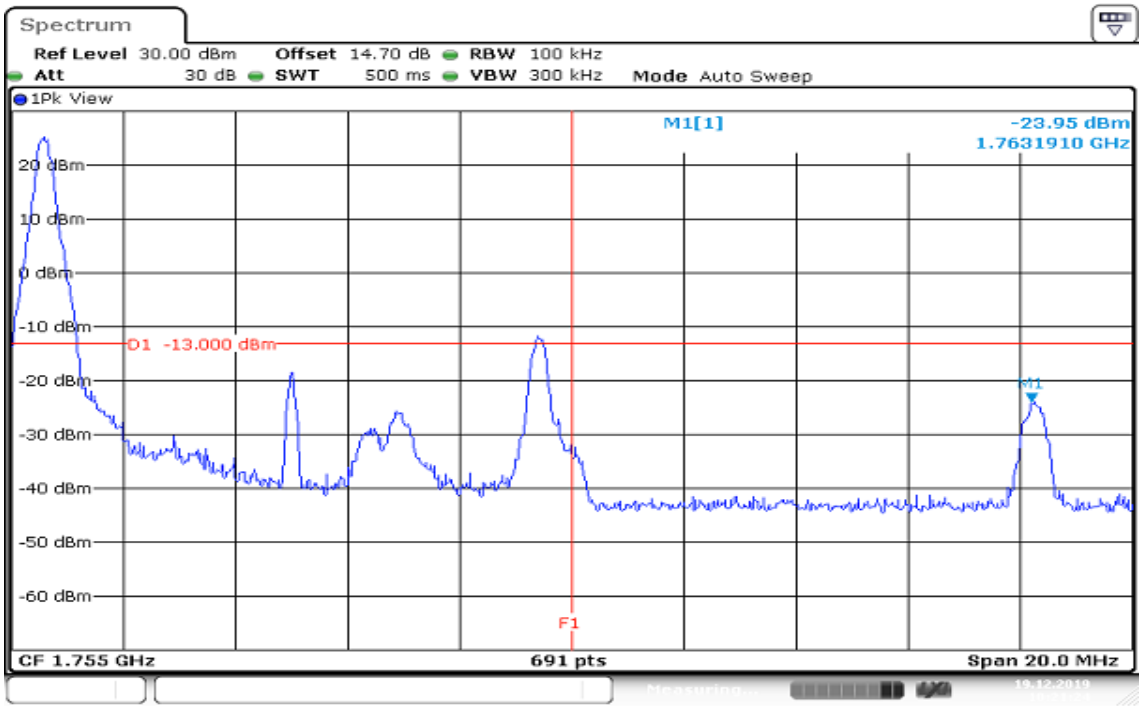
Date: 19.DEC.2019 10:17:27

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



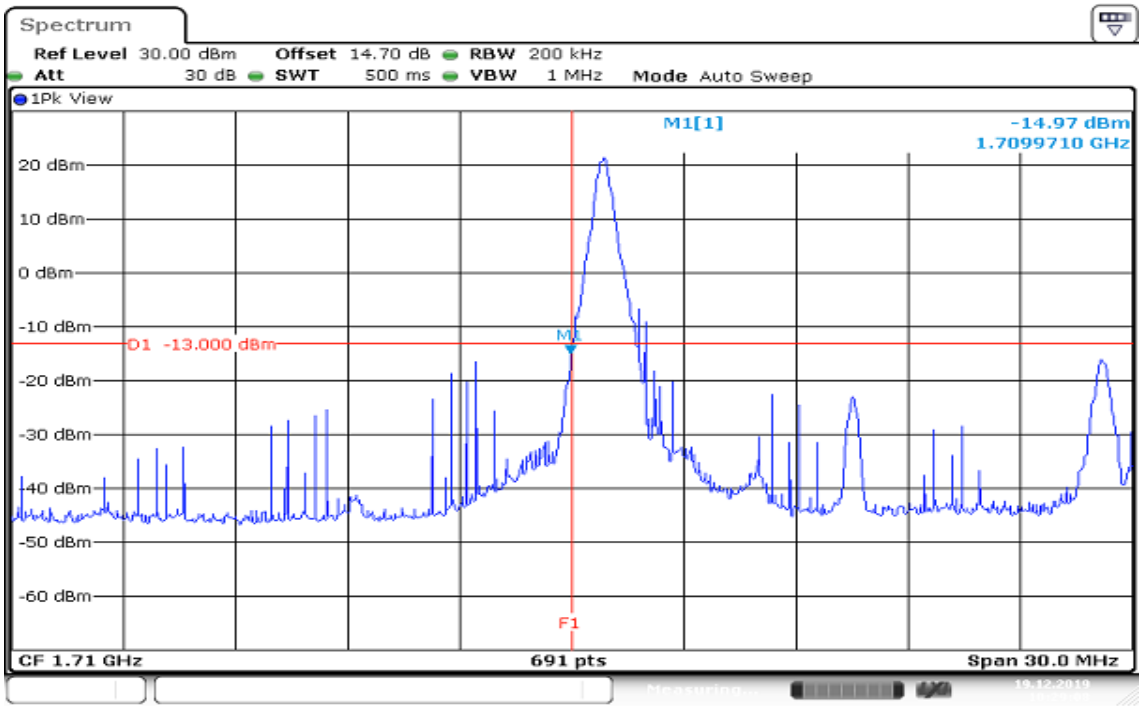
Date: 19.DEC.2019 10:24:16

HIGHER BAND EDGE



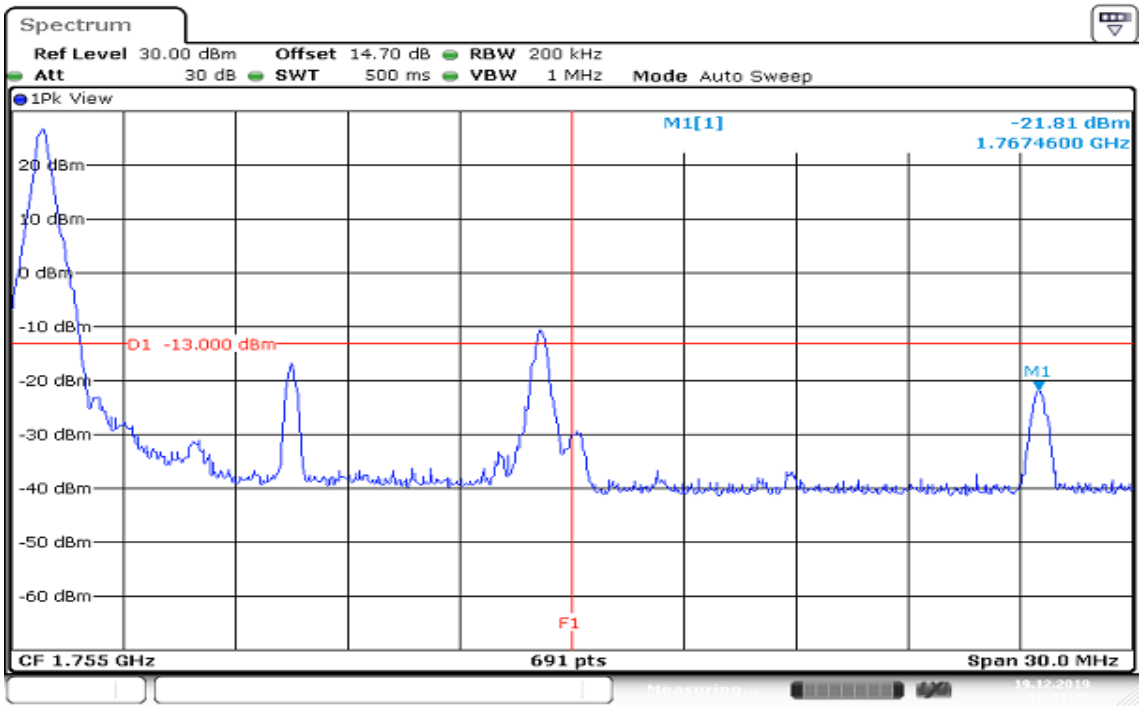
Date: 19.DEC.2019 10:21:24

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



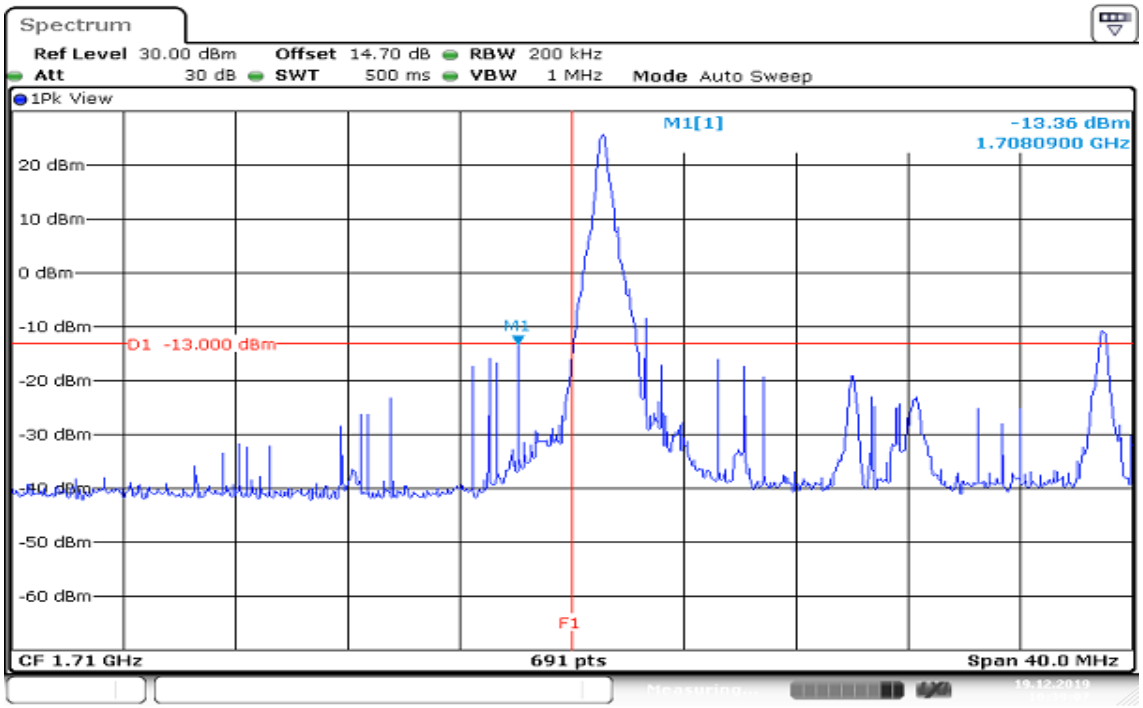
Date: 19.DEC.2019 10:29:09

HIGHER BAND EDGE



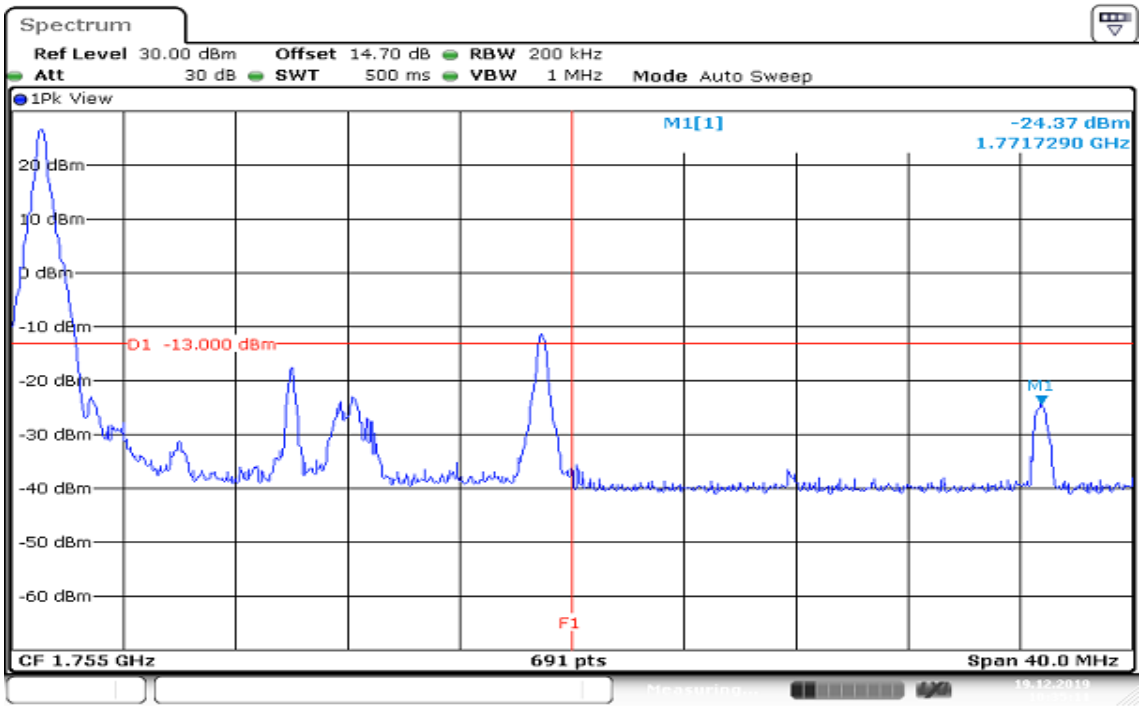
Date: 19.DEC.2019 10:31:26

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



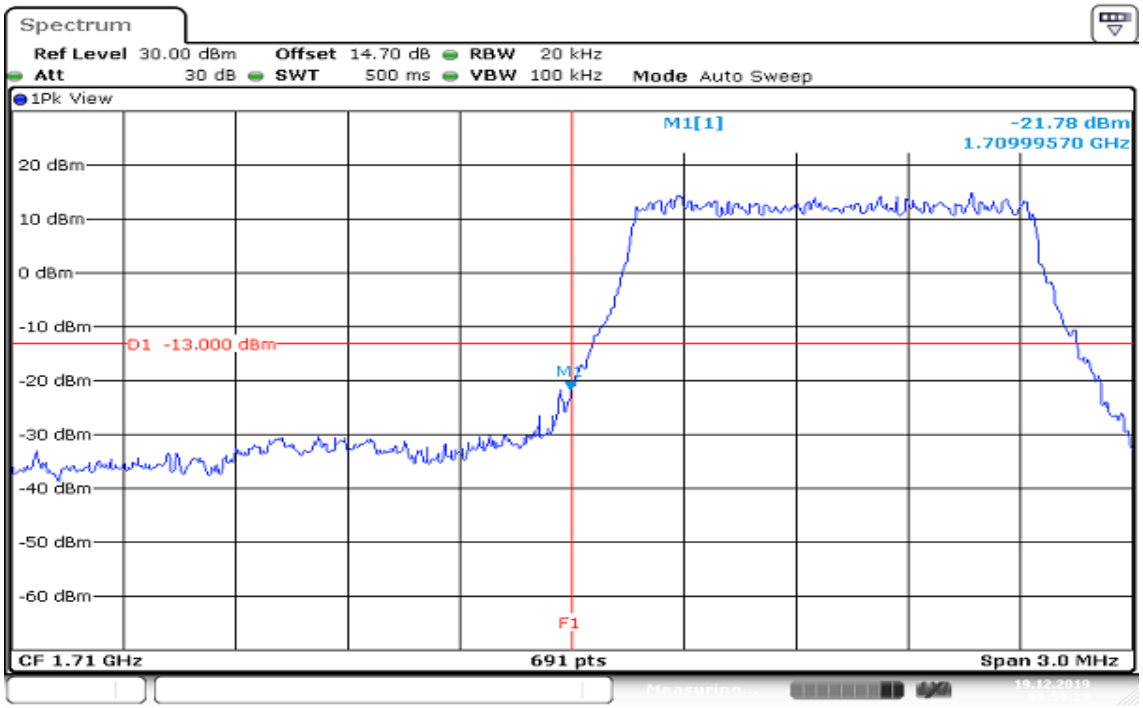
Date: 19.DEC.2019 10:39:08

HIGHER BAND EDGE



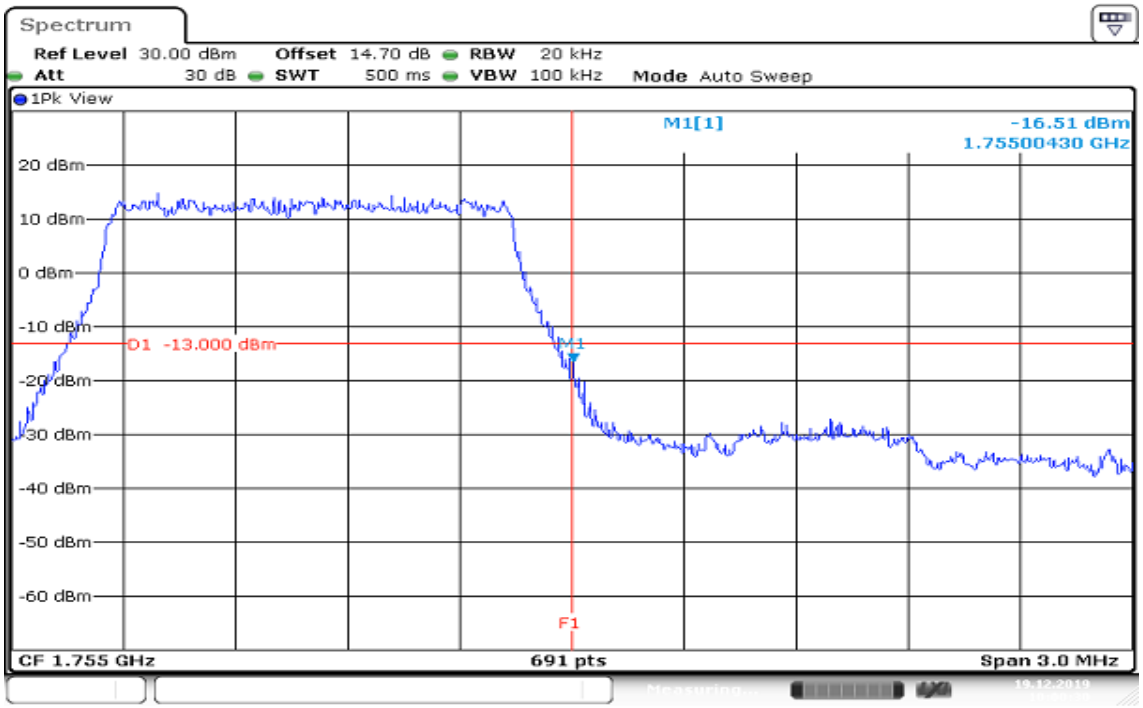
Date: 19.DEC.2019 10:35:12

CHANNEL BANDWIDTH: 1.4MHz / QPSK / FULLRB ALLOCATION
LOWER BAND EDGE



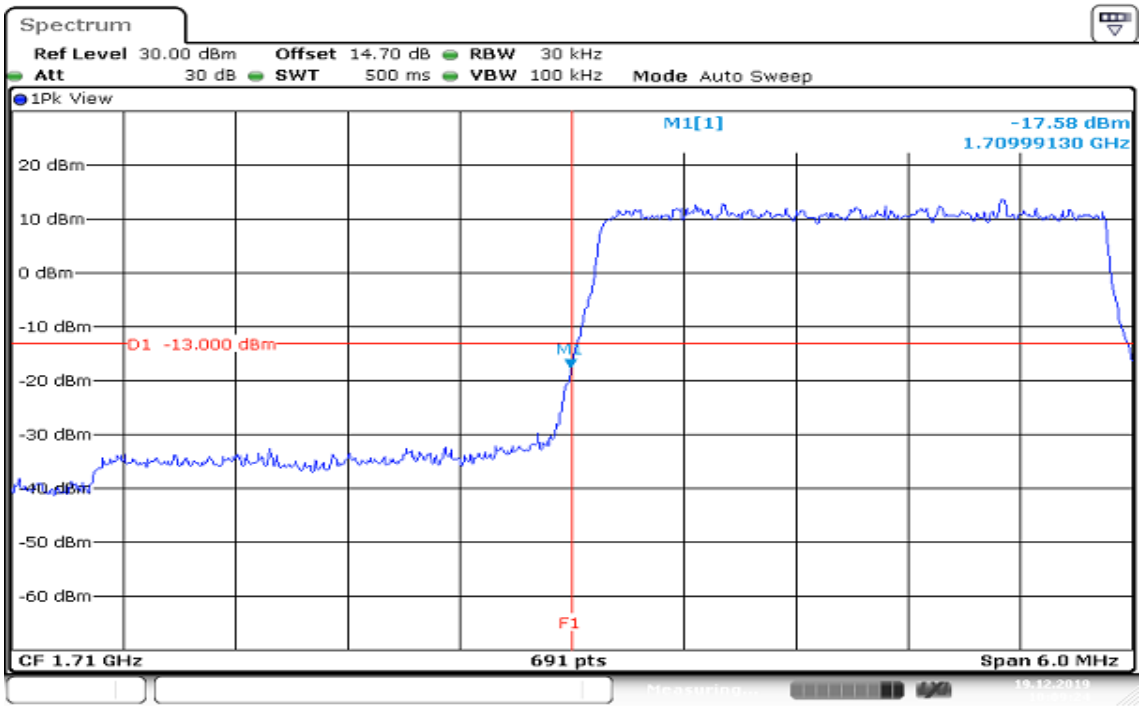
Date: 19.DEC.2019 09:59:23

HIGHER BAND EDGE



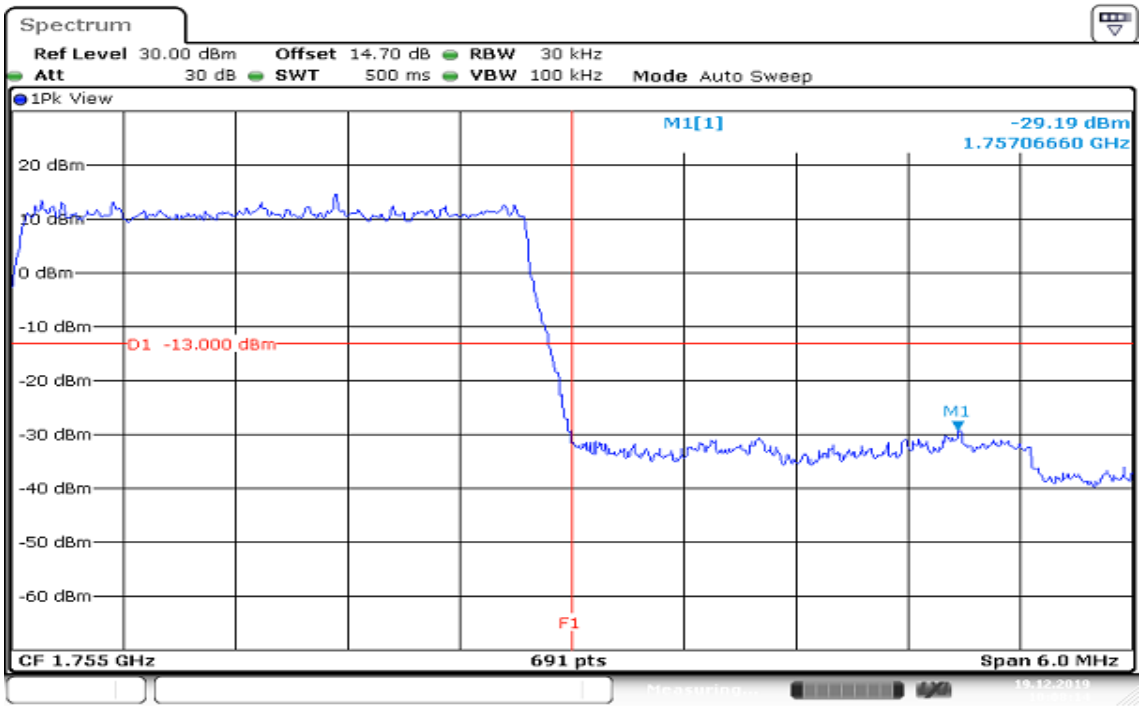
Date: 19.DEC.2019 10:00:30

CHANNEL BANDWIDTH: 3MHz / QPSK / FULLRB ALLOCATION
LOWER BAND EDGE



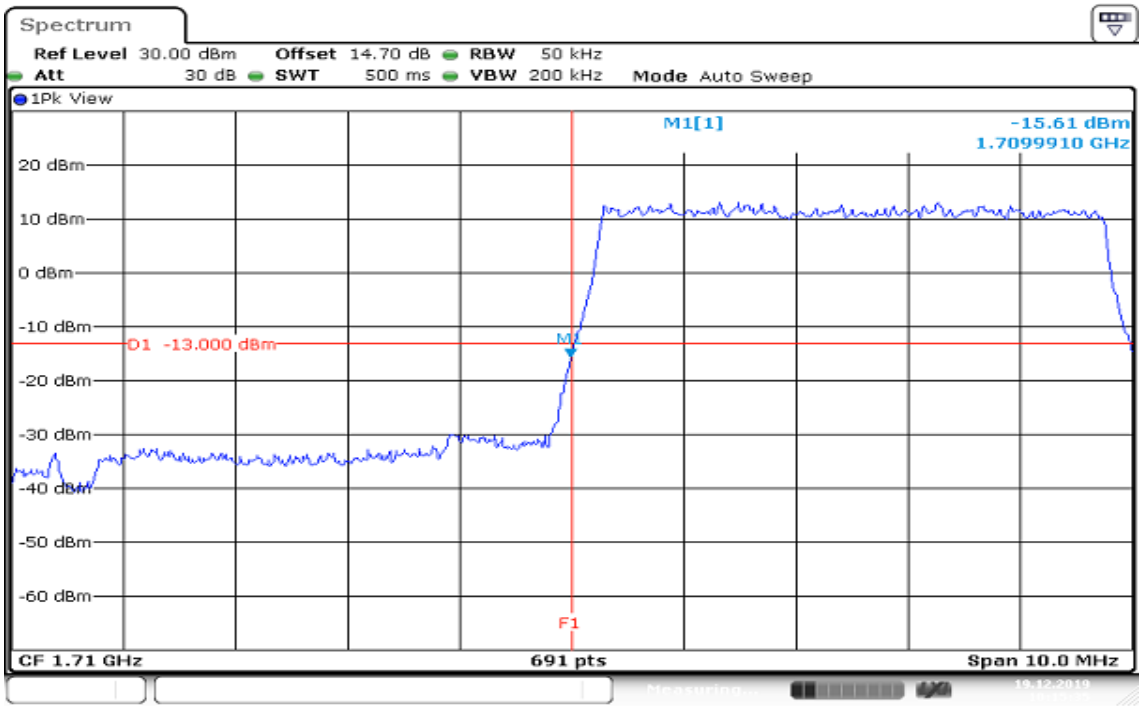
Date: 19.DEC.2019 10:09:25

HIGHER BAND EDGE



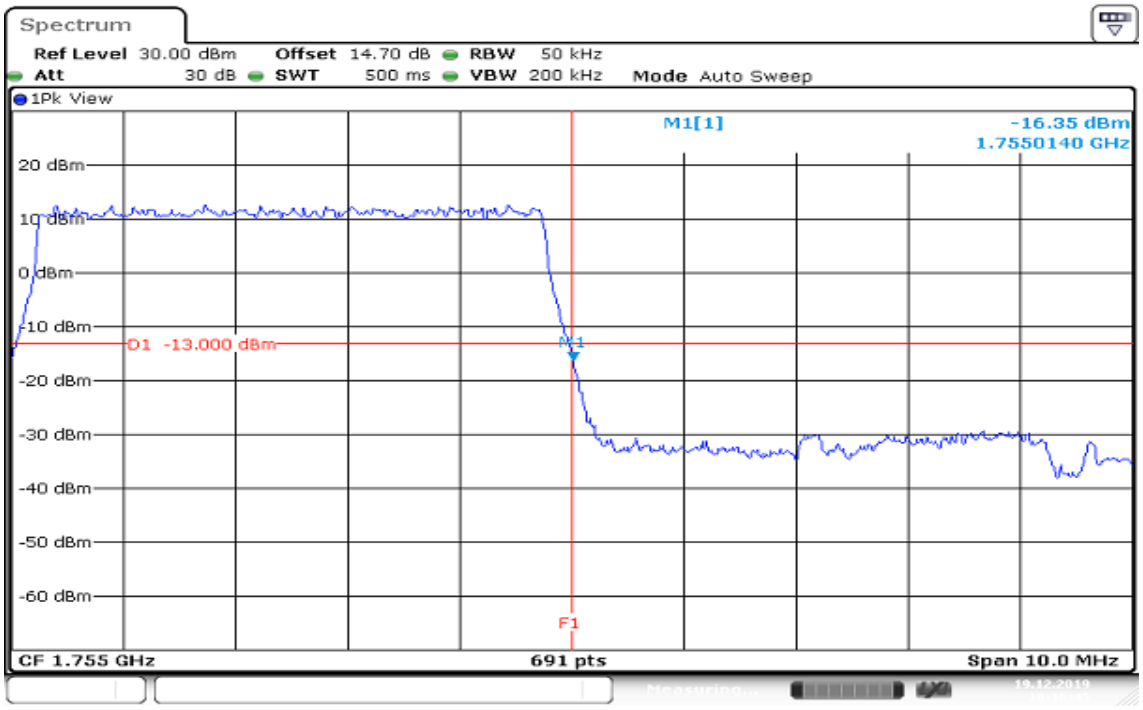
Date: 19.DEC.2019 10:08:15

CHANNEL BANDWIDTH: 5MHz / QPSK / FULLRB ALLOCATION
LOWER BAND EDGE



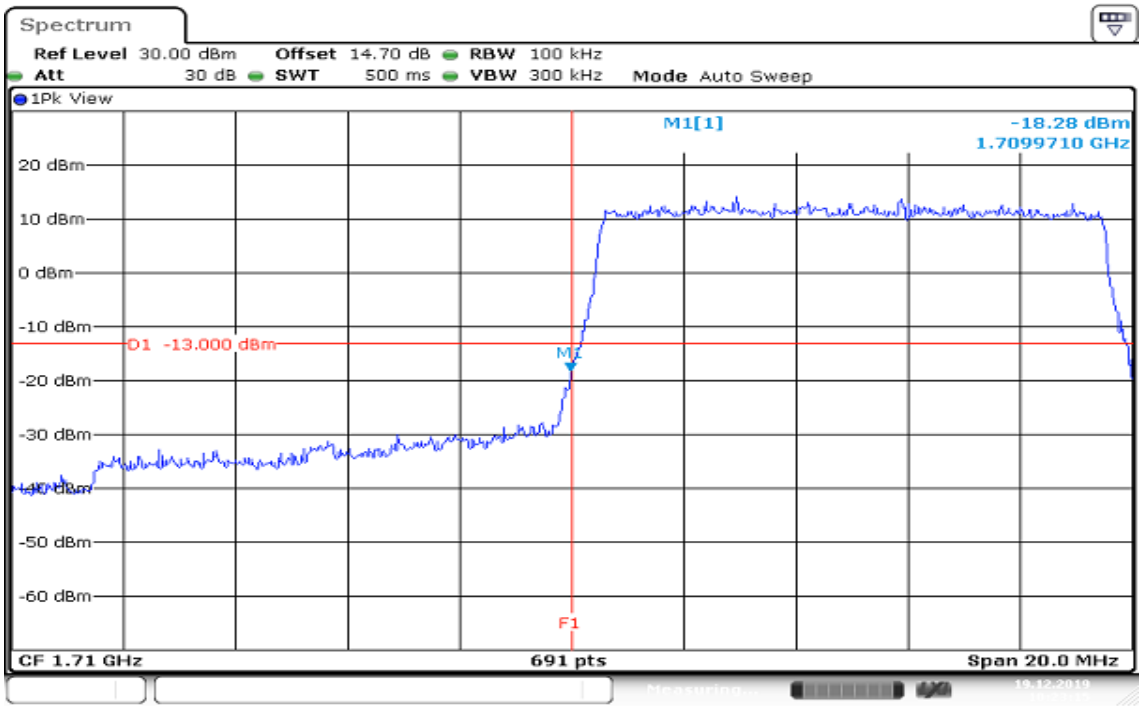
Date: 19.DEC.2019 10:15:35

HIGHER BAND EDGE



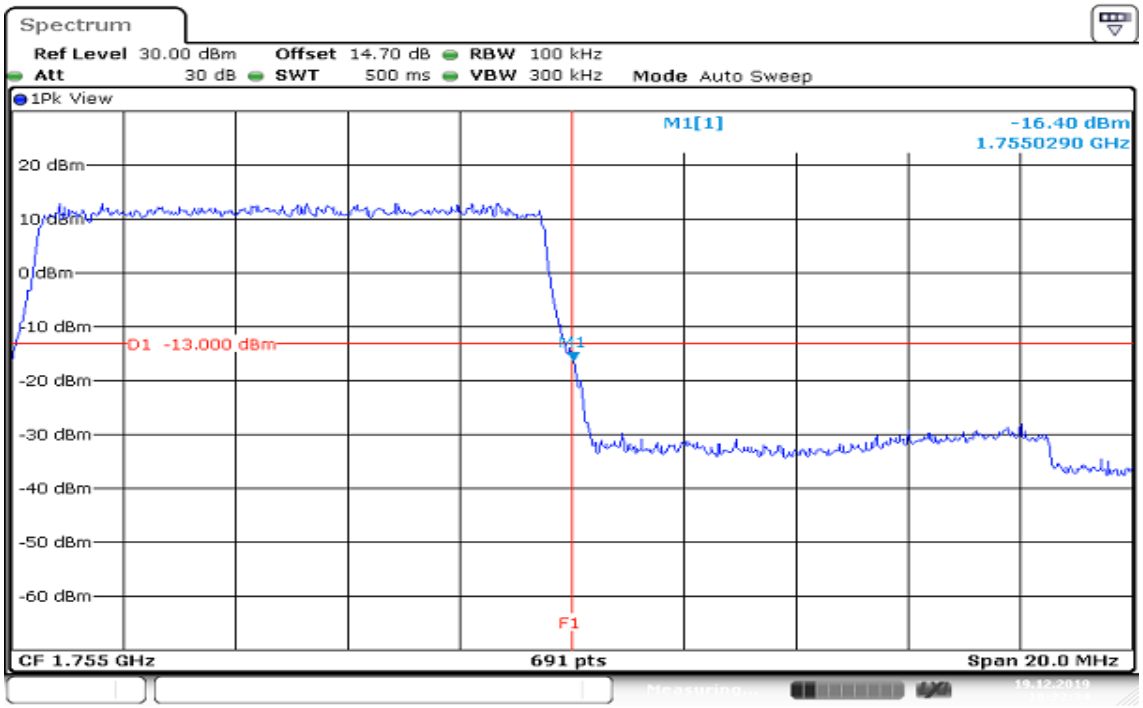
Date: 19.DEC.2019 10:16:45

CHANNEL BANDWIDTH: 10MHz / QPSK / FULLRB ALLOCATION
LOWER BAND EDGE



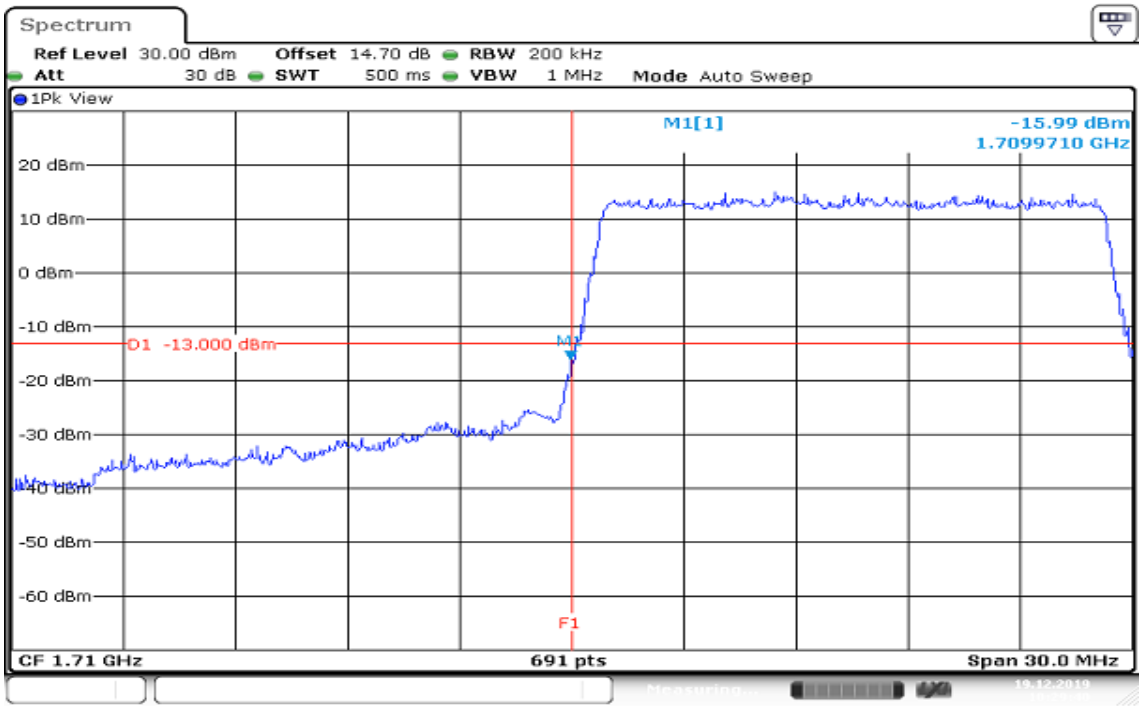
Date: 19.DEC.2019 10:23:16

HIGHER BAND EDGE



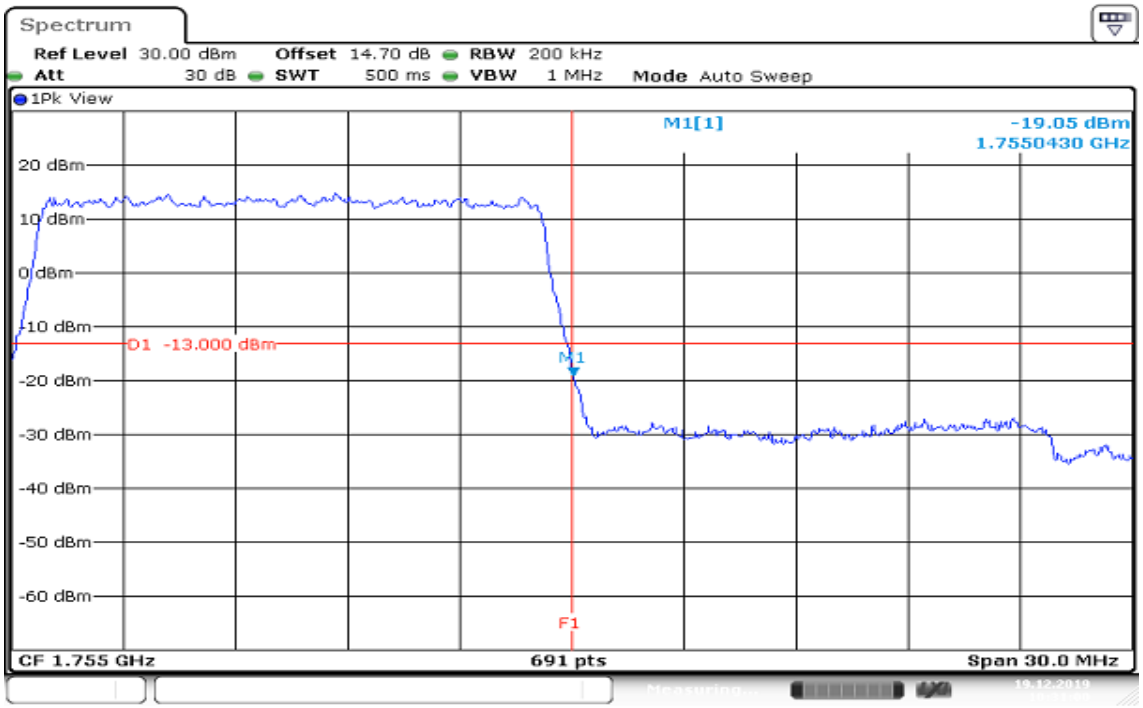
Date: 19.DEC.2019 10:22:35

CHANNEL BANDWIDTH: 15MHz / QPSK / FULLRB ALLOCATION
LOWER BAND EDGE



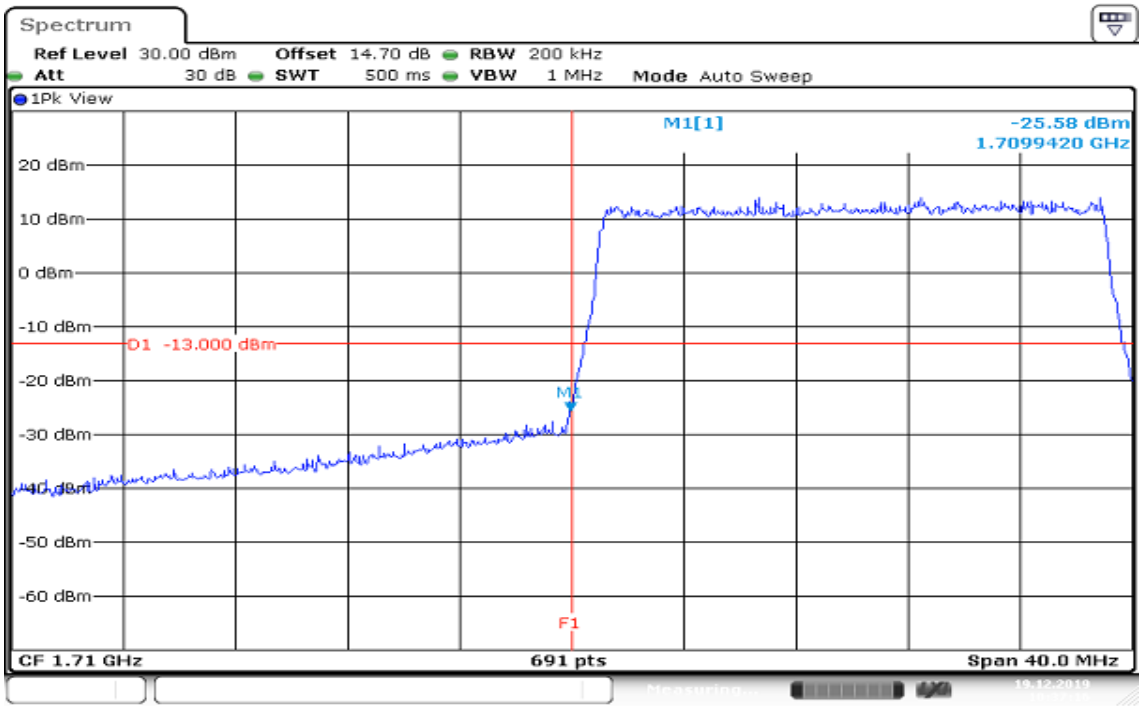
Date: 19.DEC.2019 10:29:40

HIGHER BAND EDGE



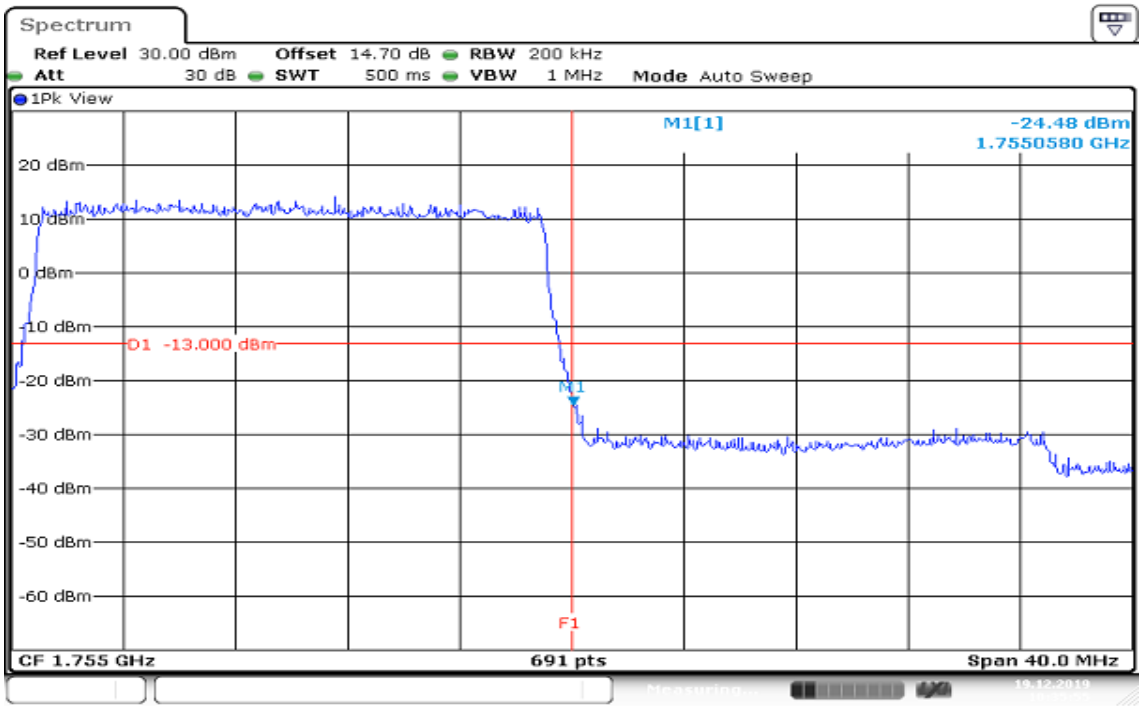
Date: 19.DEC.2019 10:31:01

CHANNEL BANDWIDTH: 20MHz / QPSK / FULLRB ALLOCATION
LOWER BAND EDGE



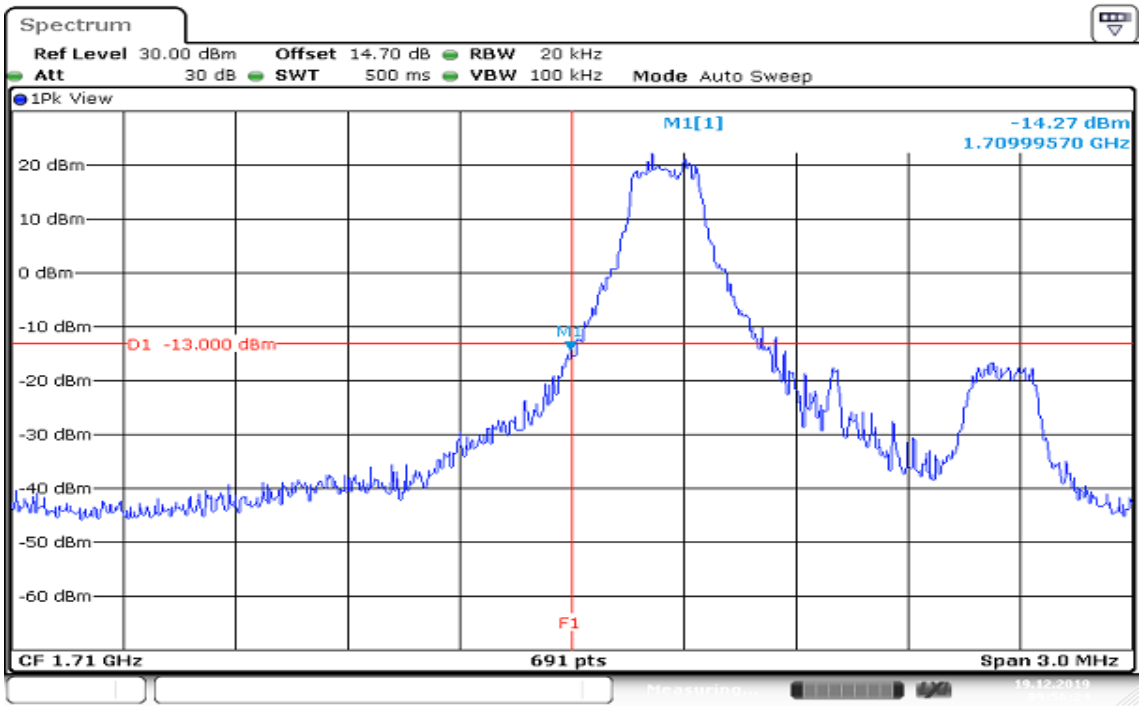
Date: 19.DEC.2019 10:37:17

HIGHER BAND EDGE



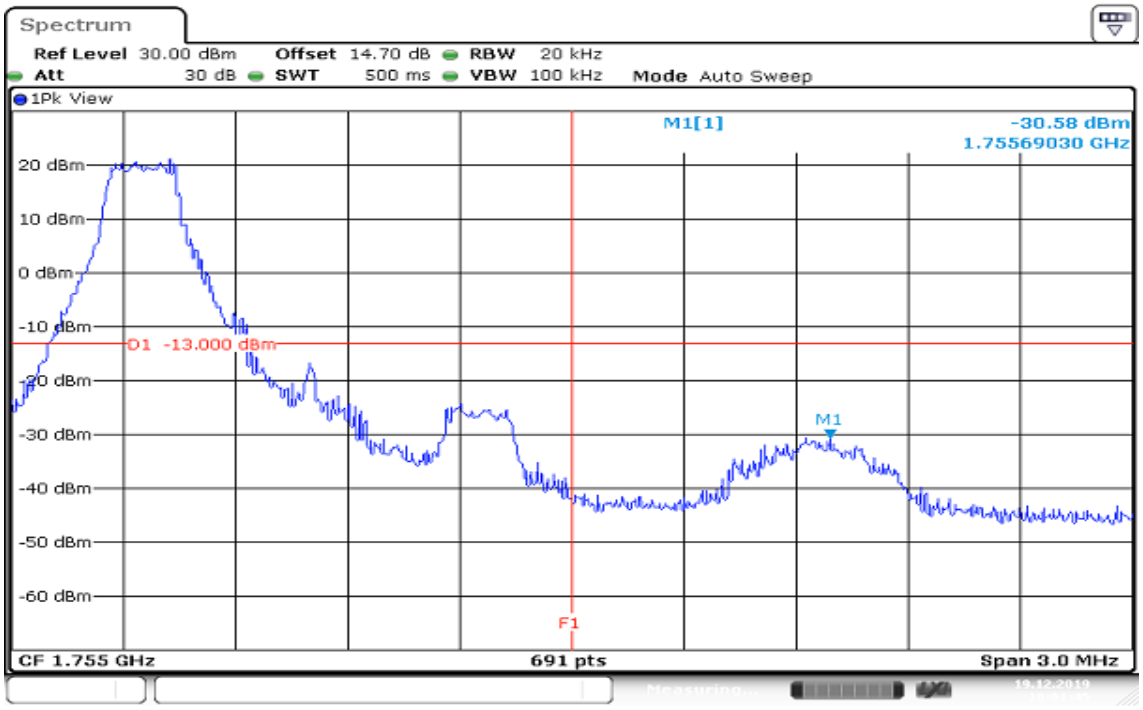
Date: 19.DEC.2019 10:35:55

CHANNEL BANDWIDTH: 1.4MHz / 16QAM/ 1RB ALLOCATION
LOWER BAND EDGE



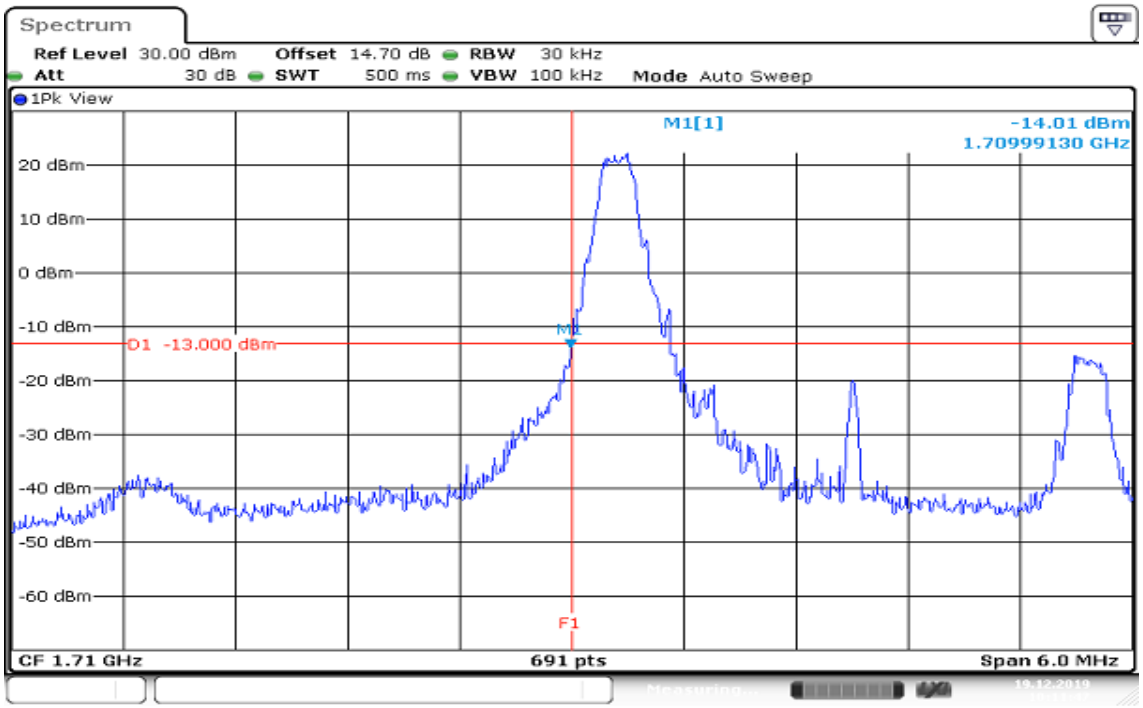
Date: 19.DEC.2019 09:56:25

HIGHER BAND EDGE

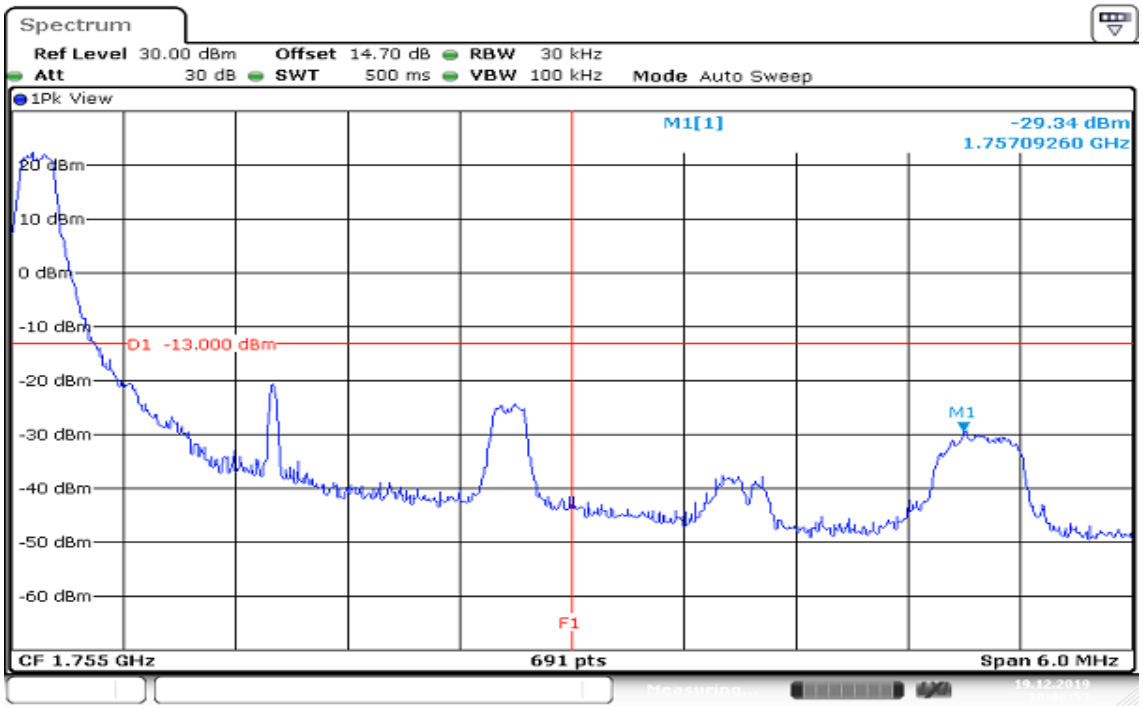


Date: 19.DEC.2019 10:01:46

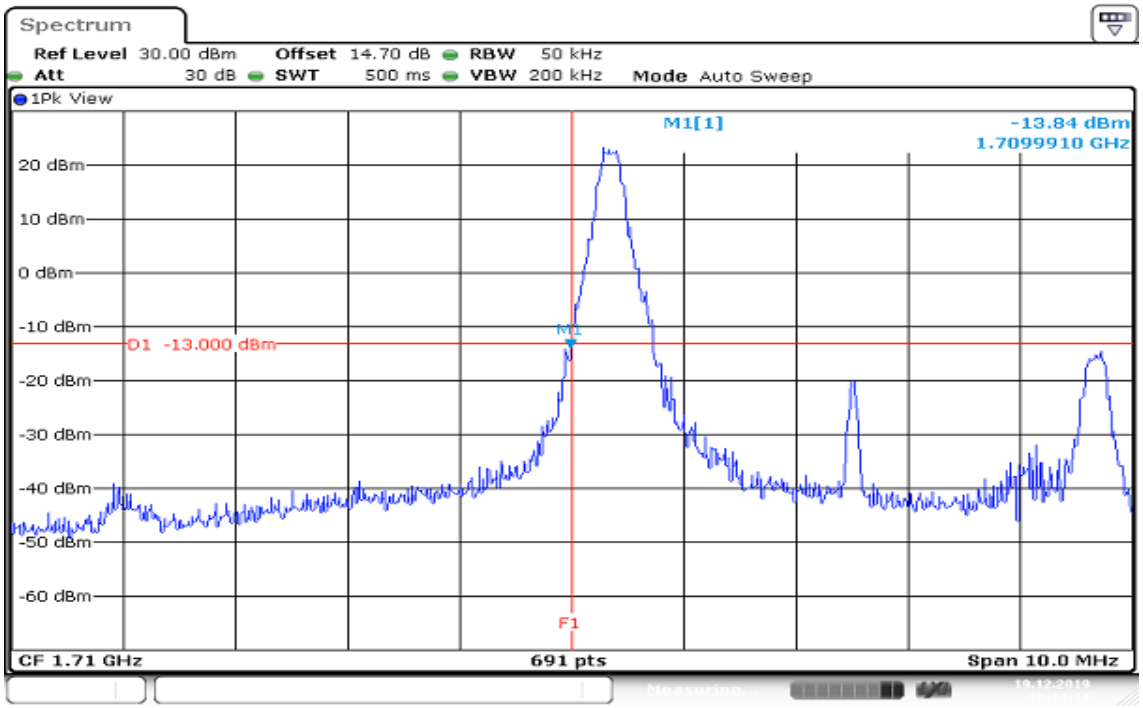
CHANNEL BANDWIDTH: 3MHz / 16QAM/ 1RB ALLOCATION
LOWER BAND EDGE



HIGHER BAND EDGE

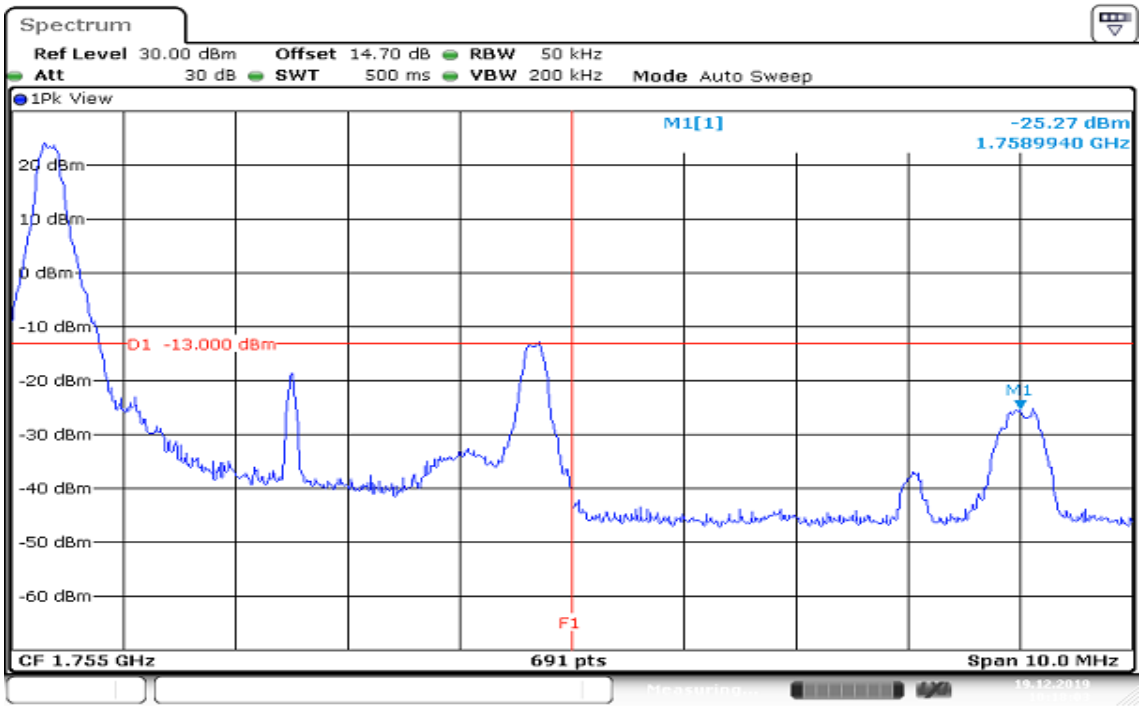


CHANNEL BANDWIDTH: 5MHz / 16QAM/ 1RB ALLOCATION
LOWER BAND EDGE



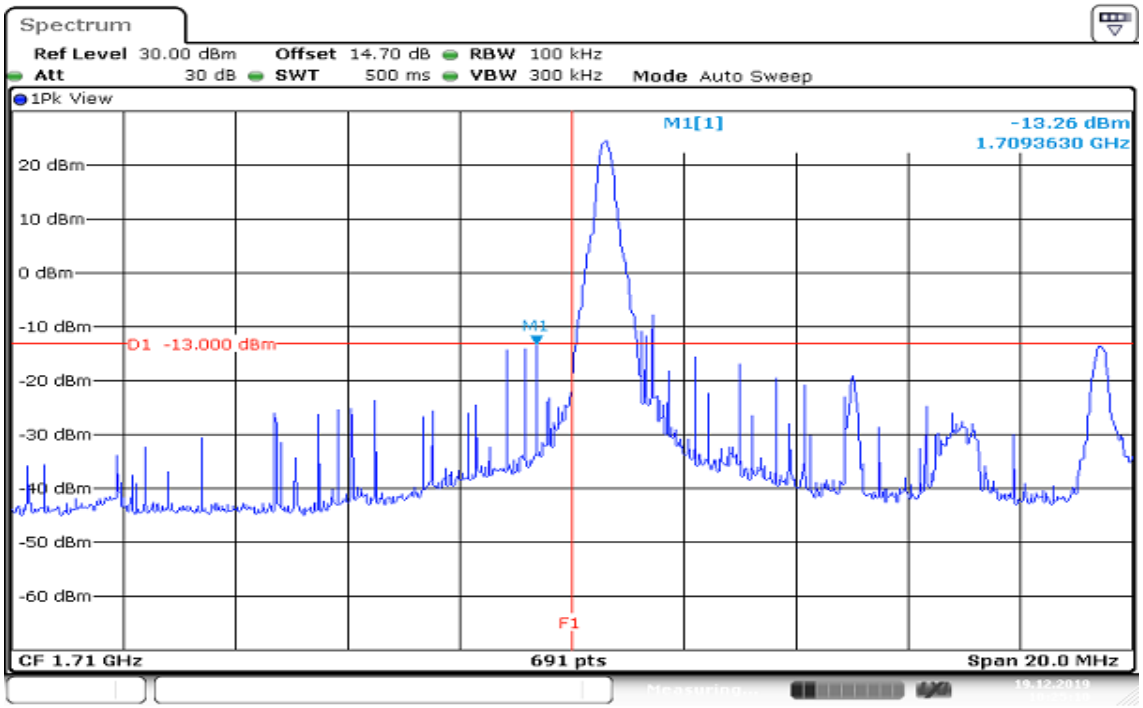
Date: 19.DEC.2019 10:14:11

HIGHER BAND EDGE



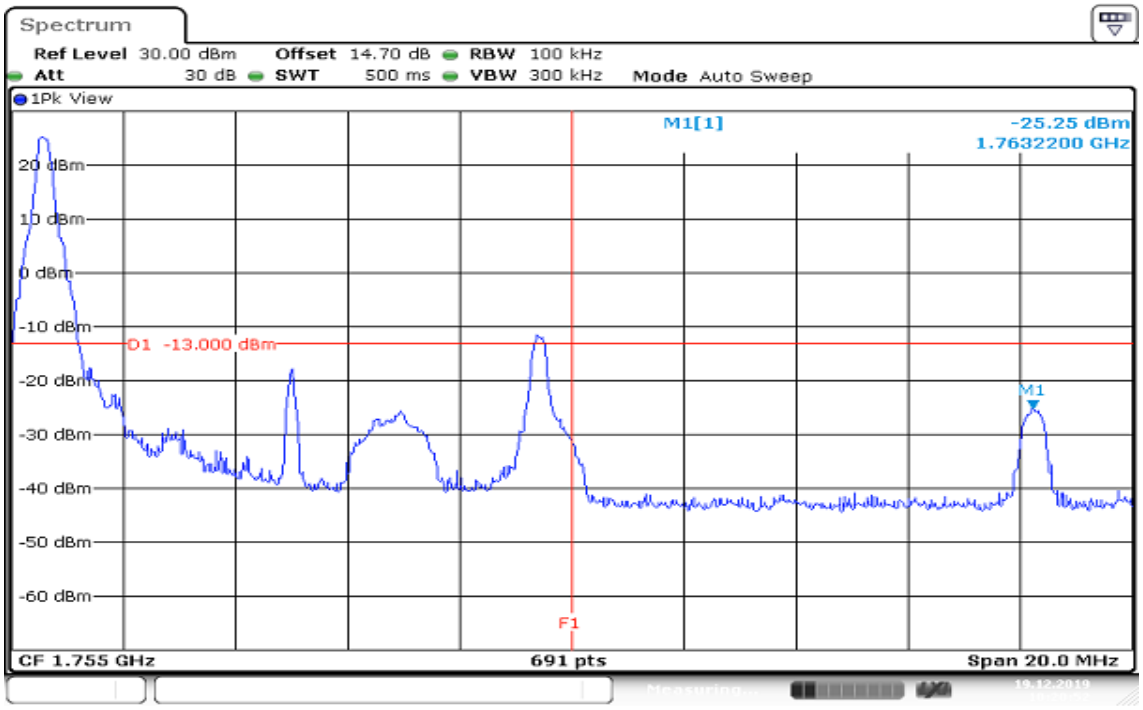
Date: 19.DEC.2019 10:18:04

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



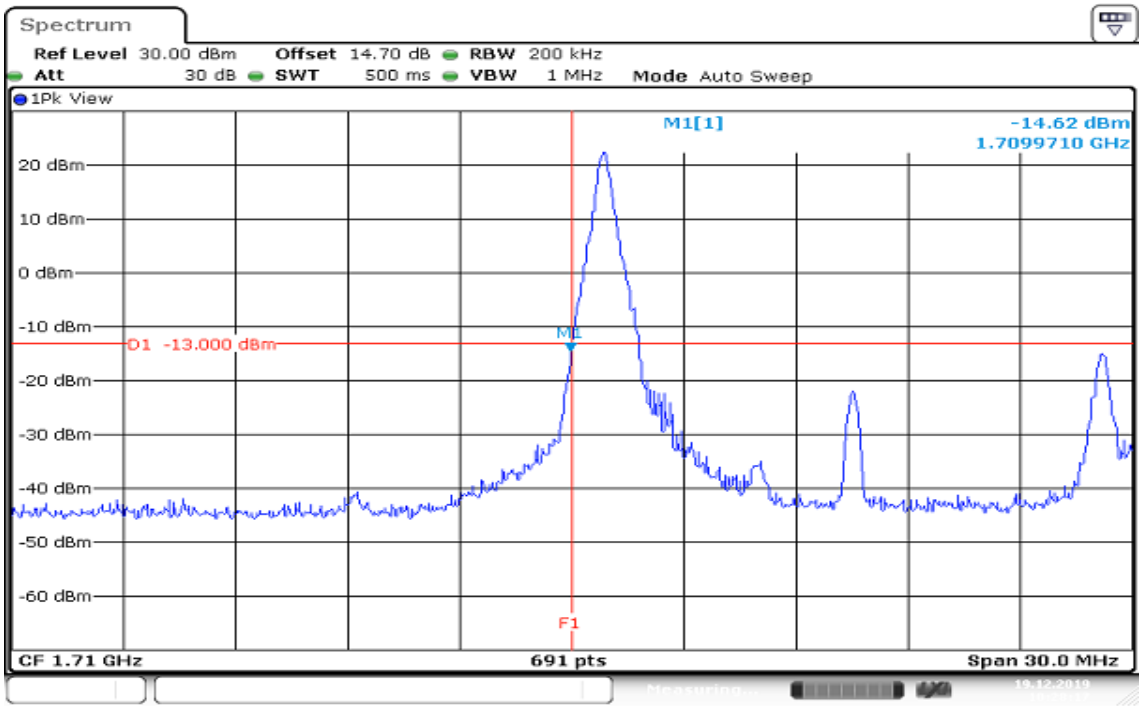
Date: 19.DEC.2019 10:25:10

HIGHER BAND EDGE



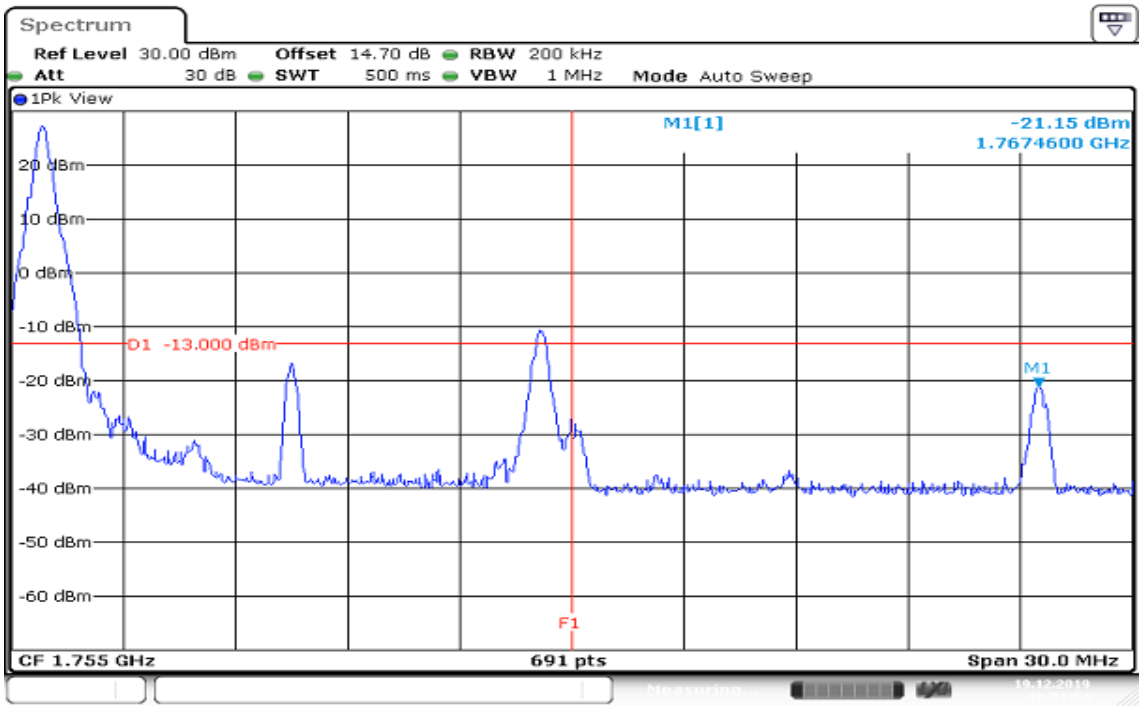
Date: 19.DEC.2019 10:20:53

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



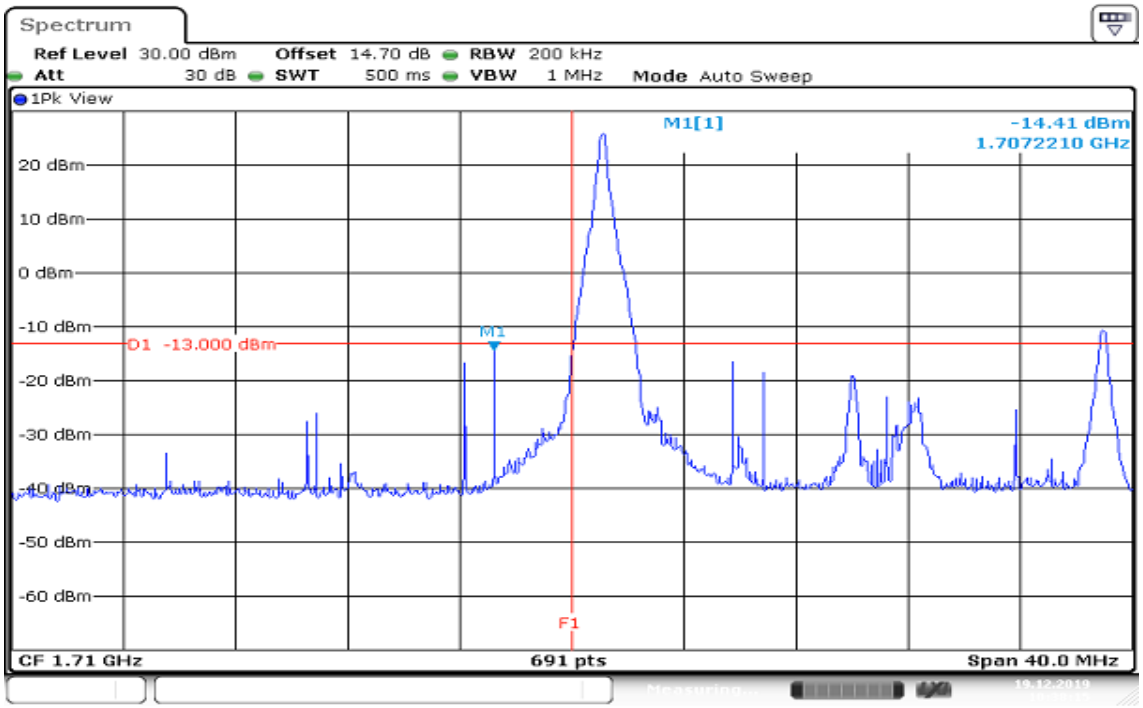
Date: 19.DEC.2019 10:28:17

HIGHER BAND EDGE



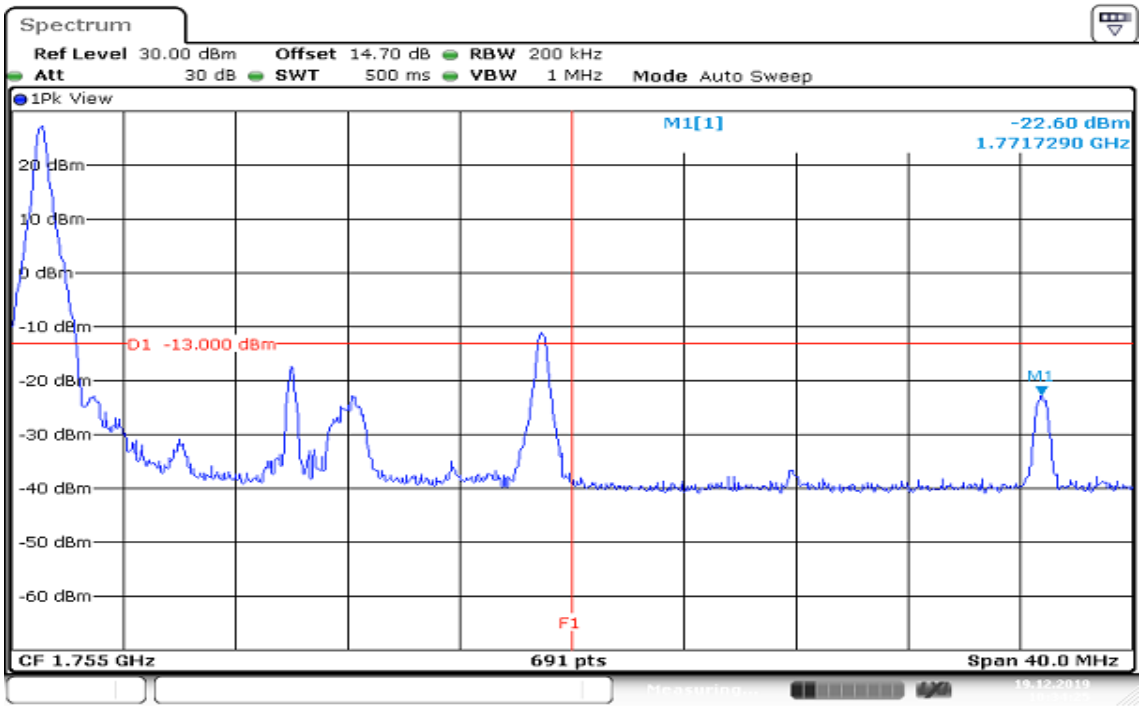
Date: 19.DEC.2019 10:31:54

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



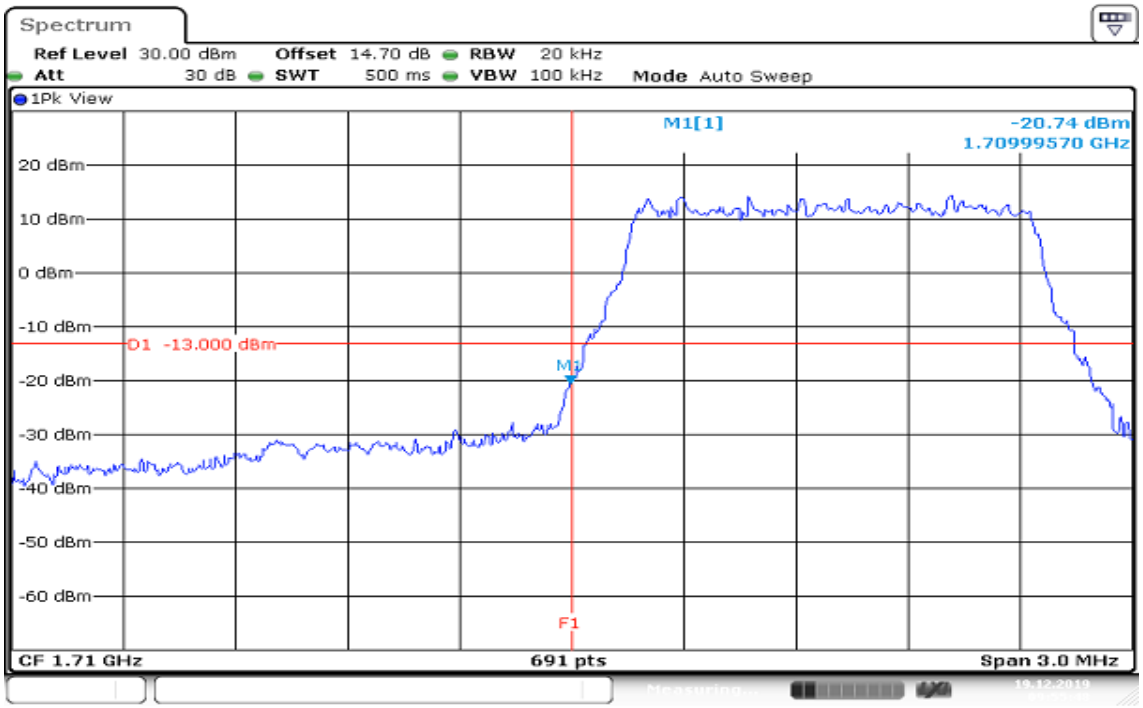
Date: 19.DEC.2019 10:38:16

HIGHER BAND EDGE



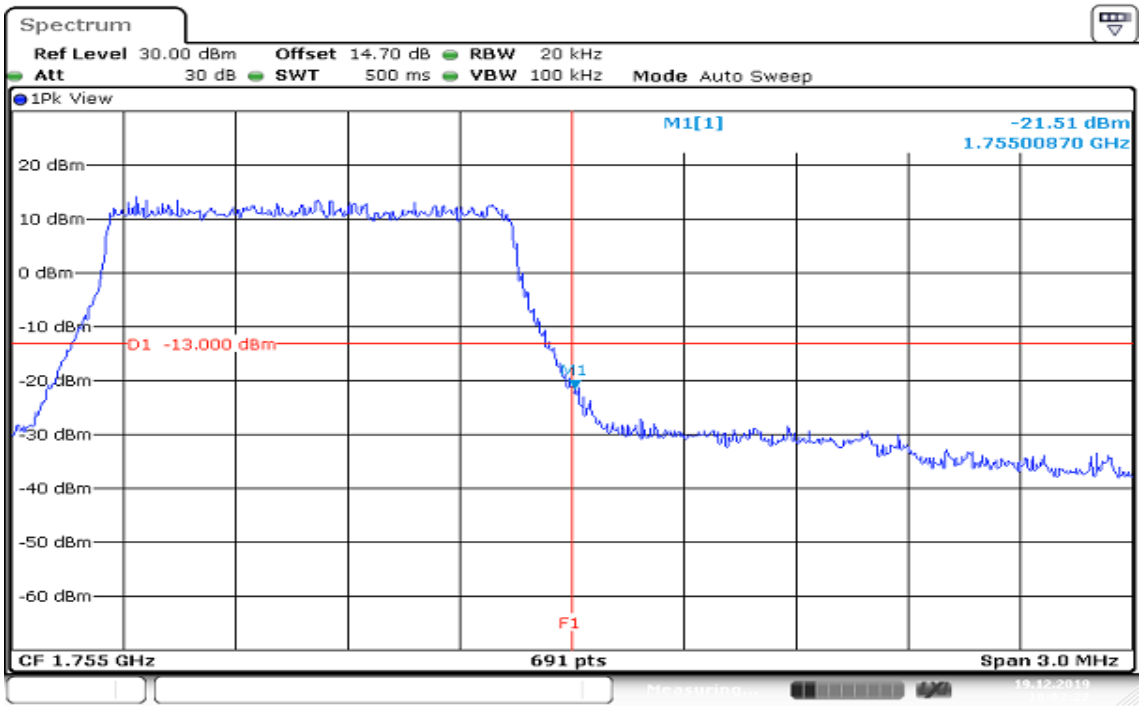
Date: 19.DEC.2019 10:34:26

CHANNEL BANDWIDTH: 1.4MHz / 16QAM/ FULLRB ALLOCATION
LOWER BAND EDGE



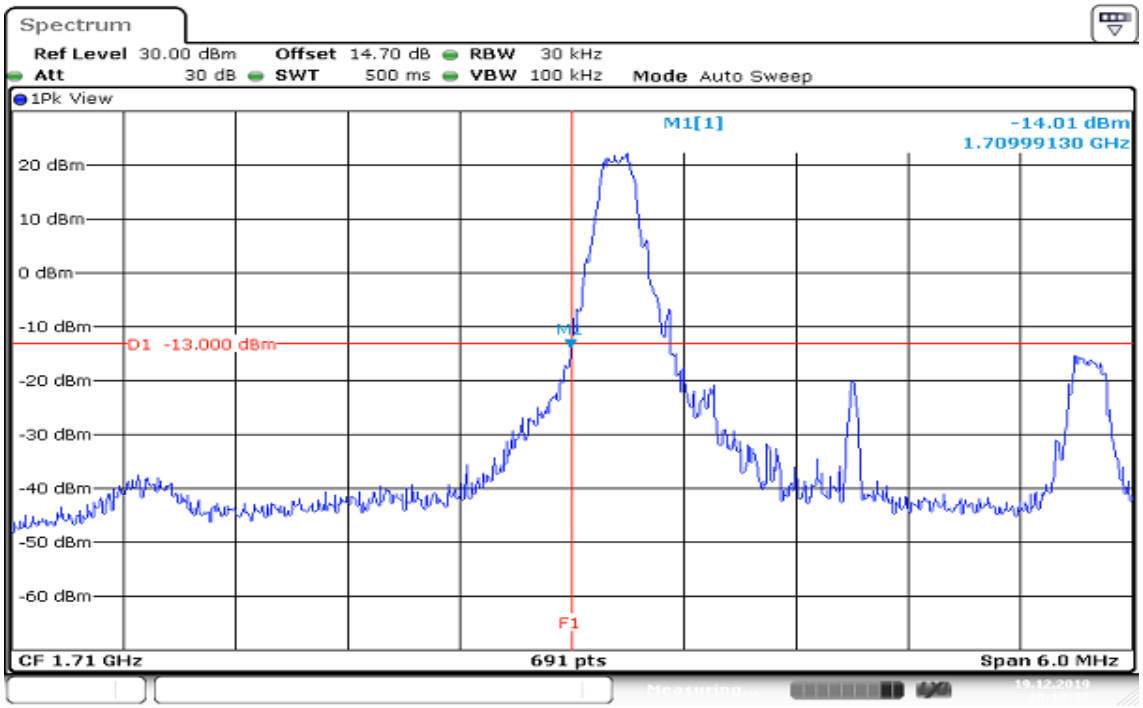
Date: 19.DEC.2019 09:55:49

HIGHER BAND EDGE



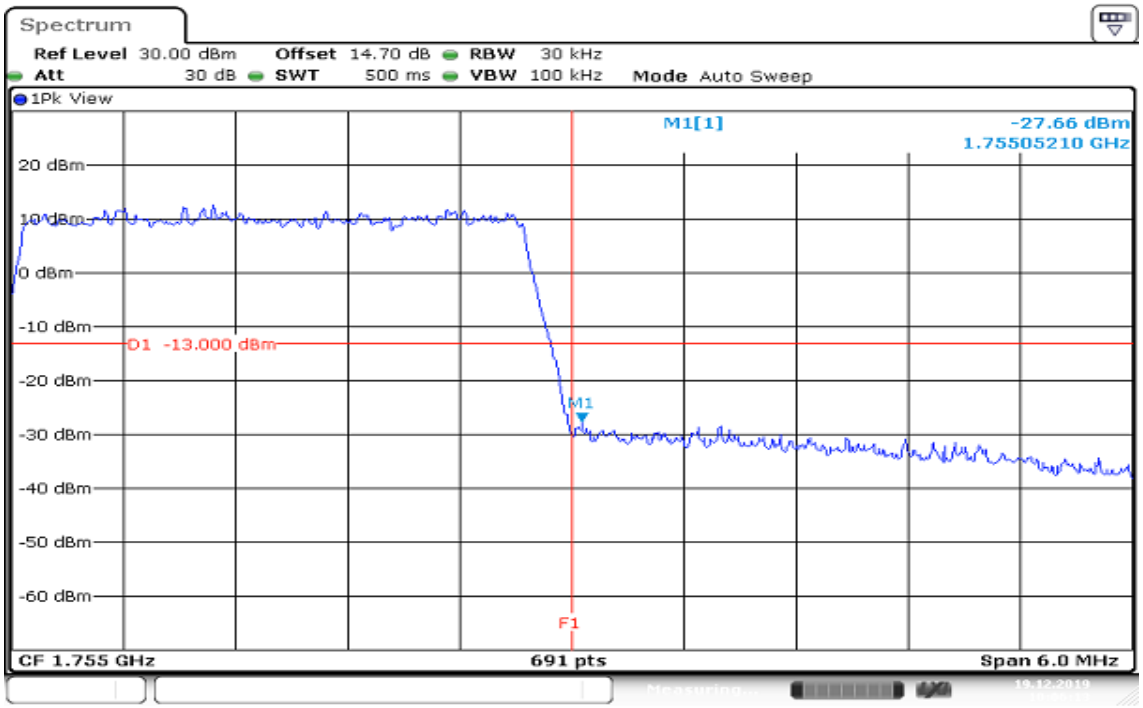
Date: 19.DEC.2019 10:02:23

CHANNEL BANDWIDTH: 3MHz / 16QAM/ FULLRB ALLOCATION
LOWER BAND EDGE



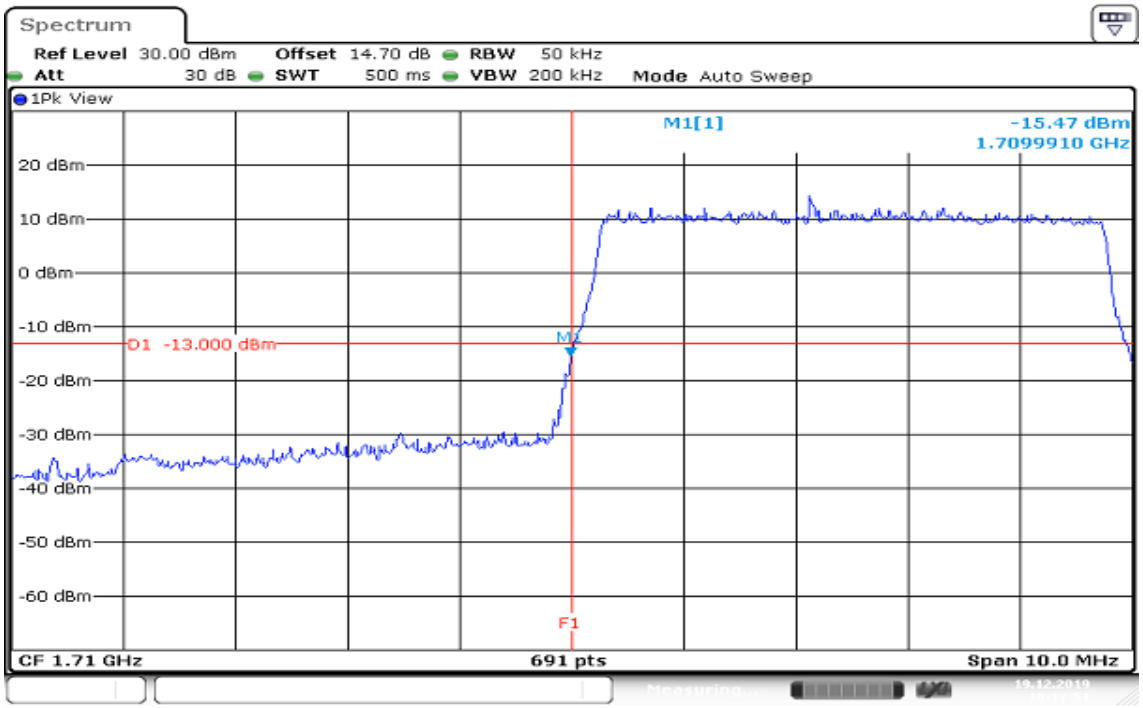
Date: 19.DEC.2019 10:10:38

HIGHER BAND EDGE



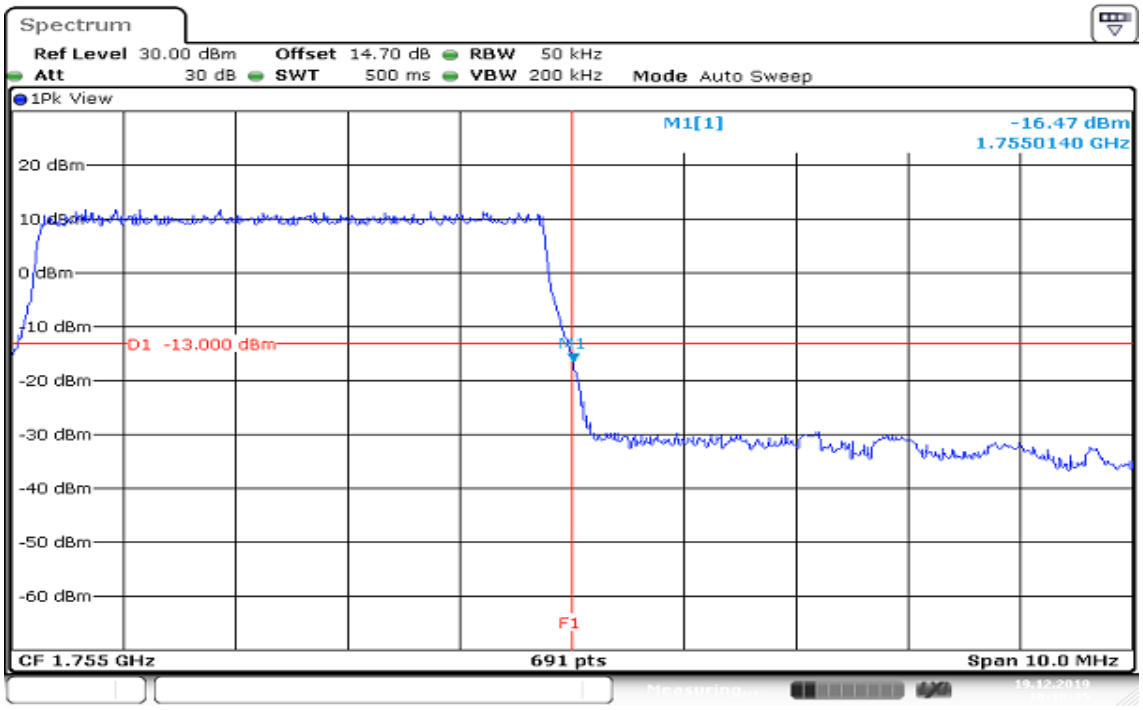
Date: 19.DEC.2019 10:06:13

CHANNEL BANDWIDTH: 5MHz / 16QAM/ FULLRB ALLOCATION
LOWER BAND EDGE



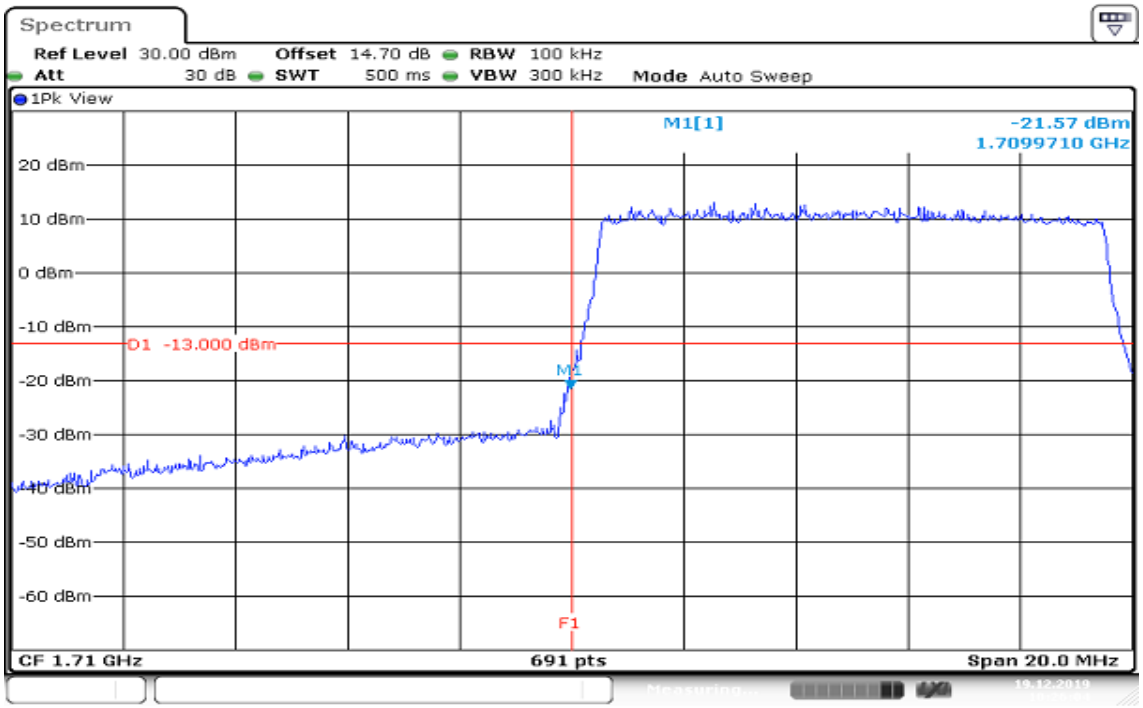
Date: 19.DEC.2019 10:12:51

HIGHER BAND EDGE



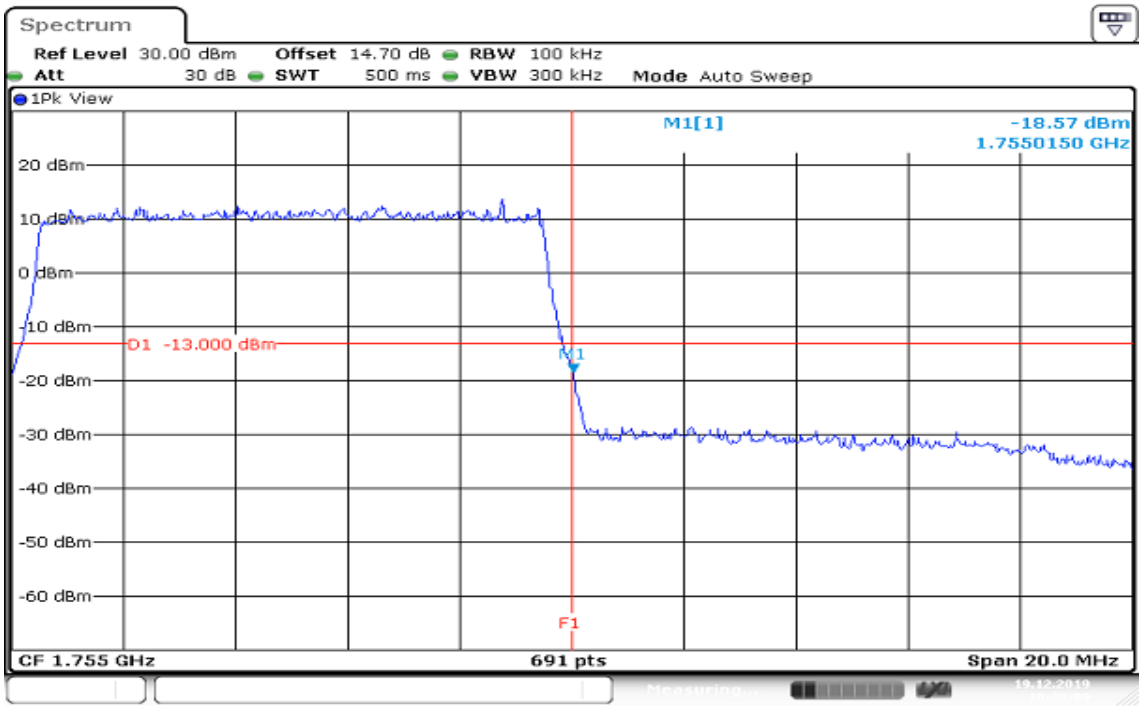
Date: 19.DEC.2019 10:18:35

CHANNEL BANDWIDTH: 10MHz / 16QAM/ FULLRB ALLOCATION
LOWER BAND EDGE



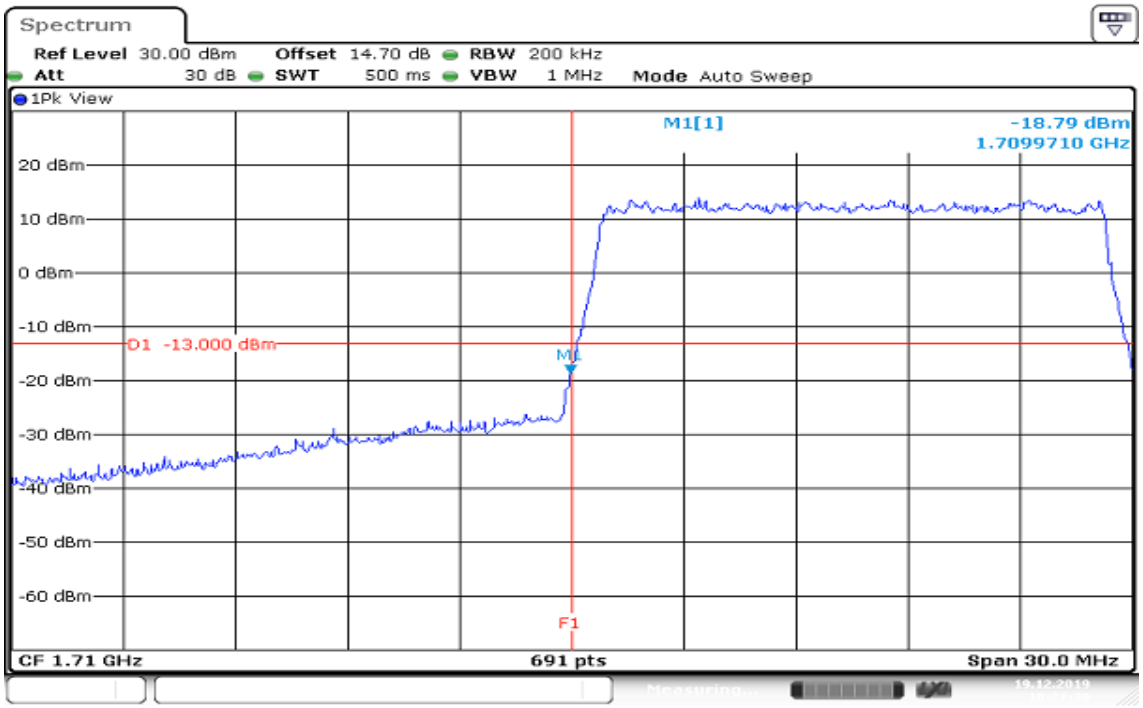
Date: 19.DEC.2019 10:26:05

HIGHER BAND EDGE



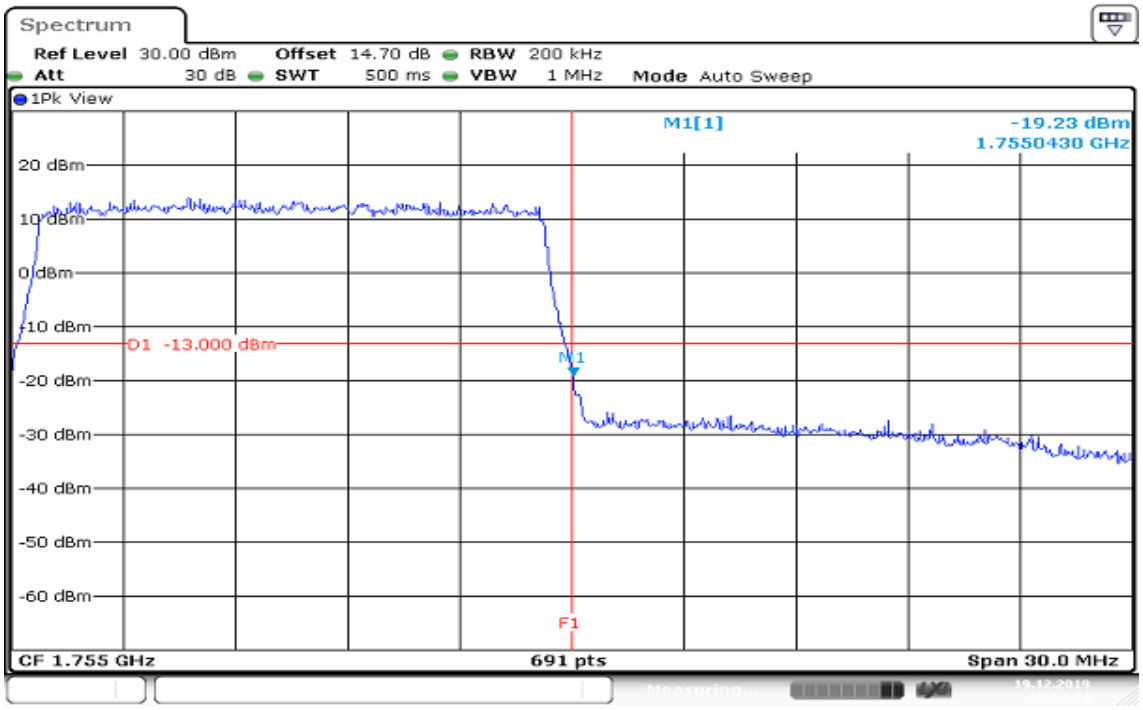
Date: 19.DEC.2019 10:20:10

CHANNEL BANDWIDTH: 15MHz / 16QAM/ FULLRB ALLOCATION
LOWER BAND EDGE



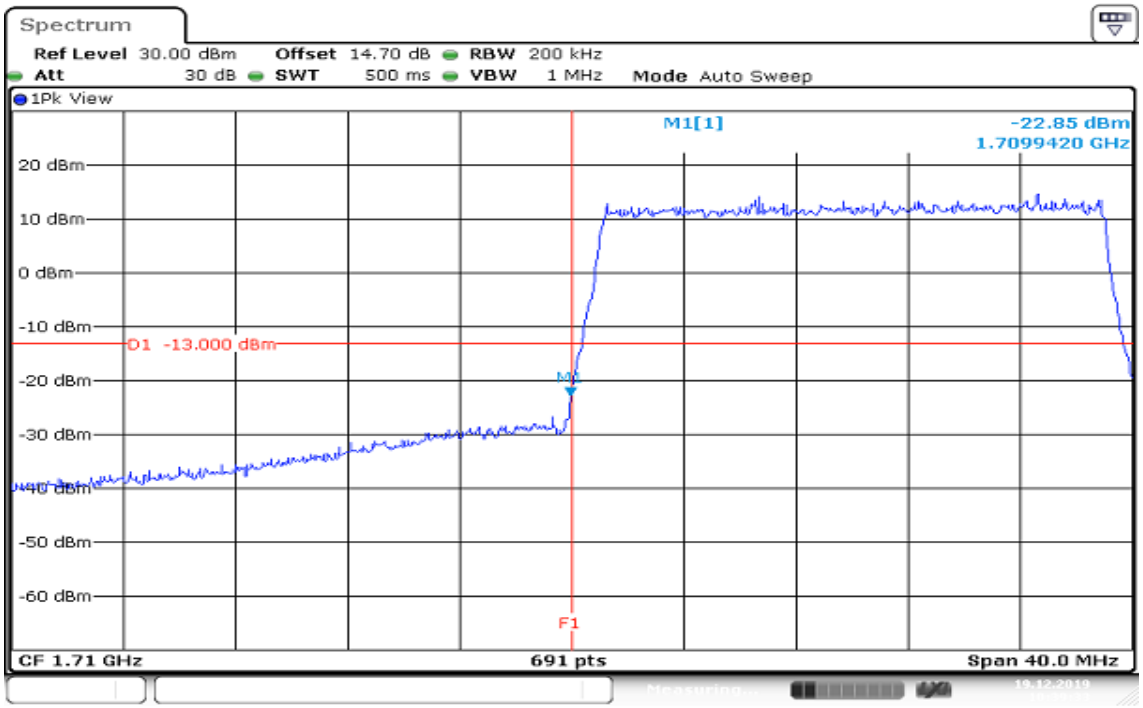
Date: 19.DEC.2019 10:27:31

HIGHER BAND EDGE



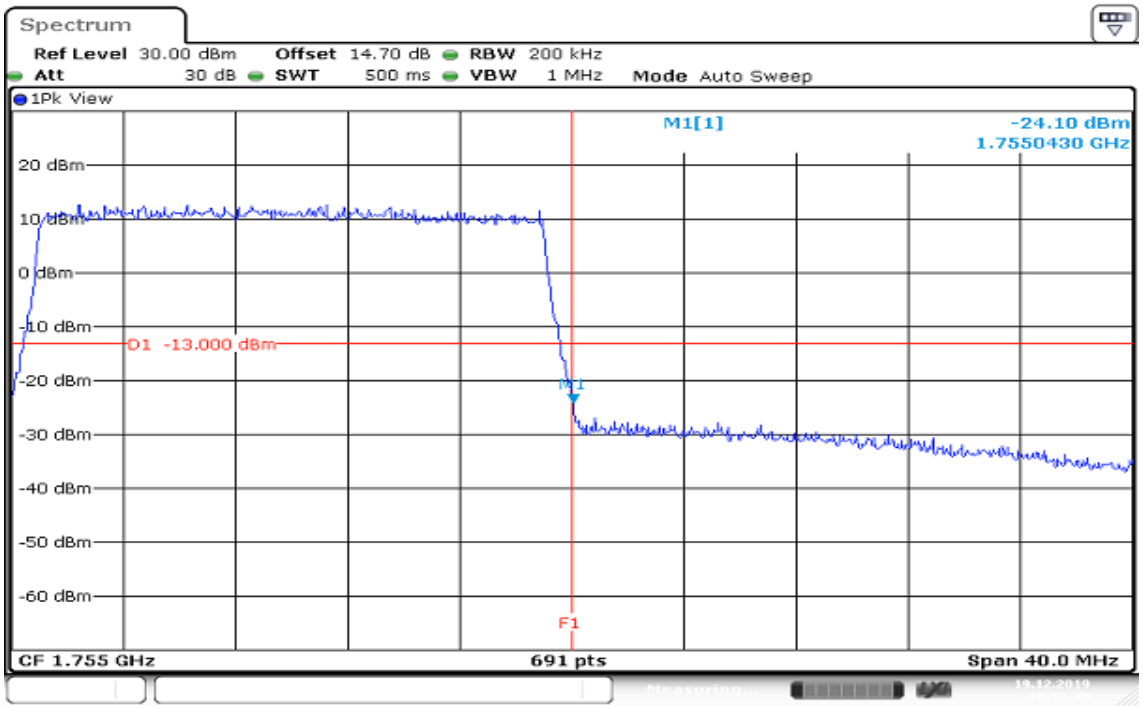
Date: 19.DEC.2019 10:32:25

CHANNEL BANDWIDTH: 20MHz / 16QAM/ FULLRB ALLOCATION
LOWER BAND EDGE



Date: 19.DEC.2019 10:39:33

HIGHER BAND EDGE



Date: 19.DEC.2019 10:33:50

8.6 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

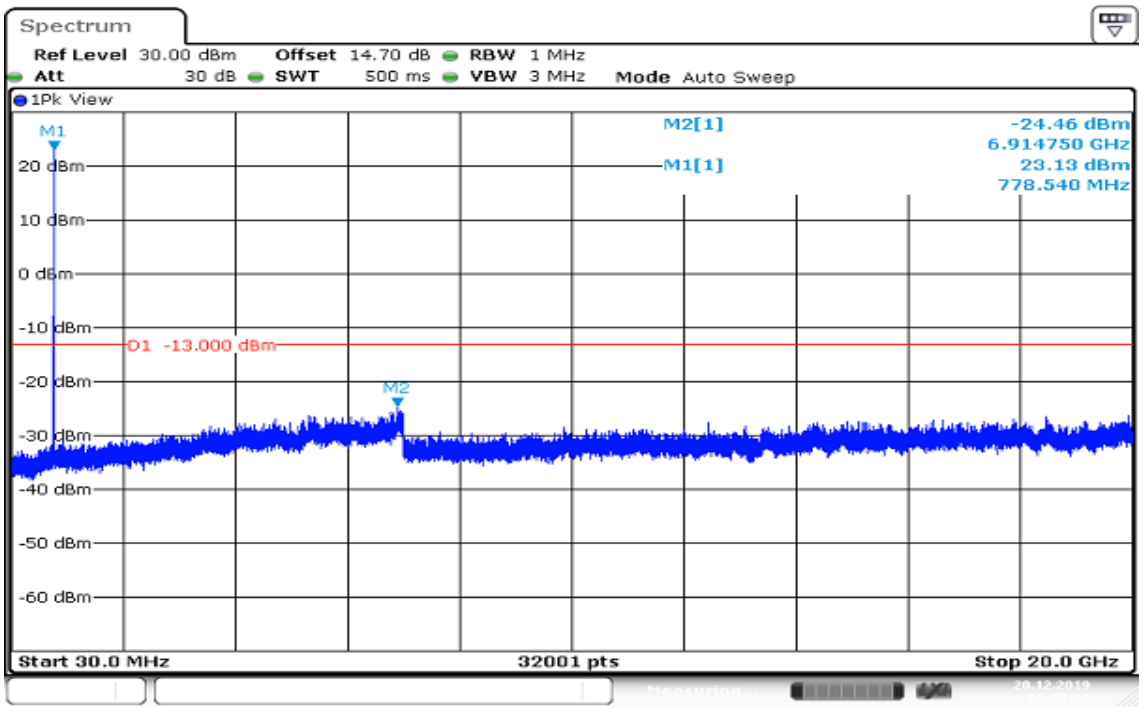
1. According to KDB 971168D01, photograph 6.0
2. The EUT was connect to spectrum analyzer and call box.
3. The RF output of EUT was connected to the spectrum analyzer.
4. Set the spectrum analyzer , RBW=1MHz, VBW=3MHz.
5. Record the maximum spurious emission.
6. The fundamental frequency should be excluded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

TEST RESULTS

LTE Band 13

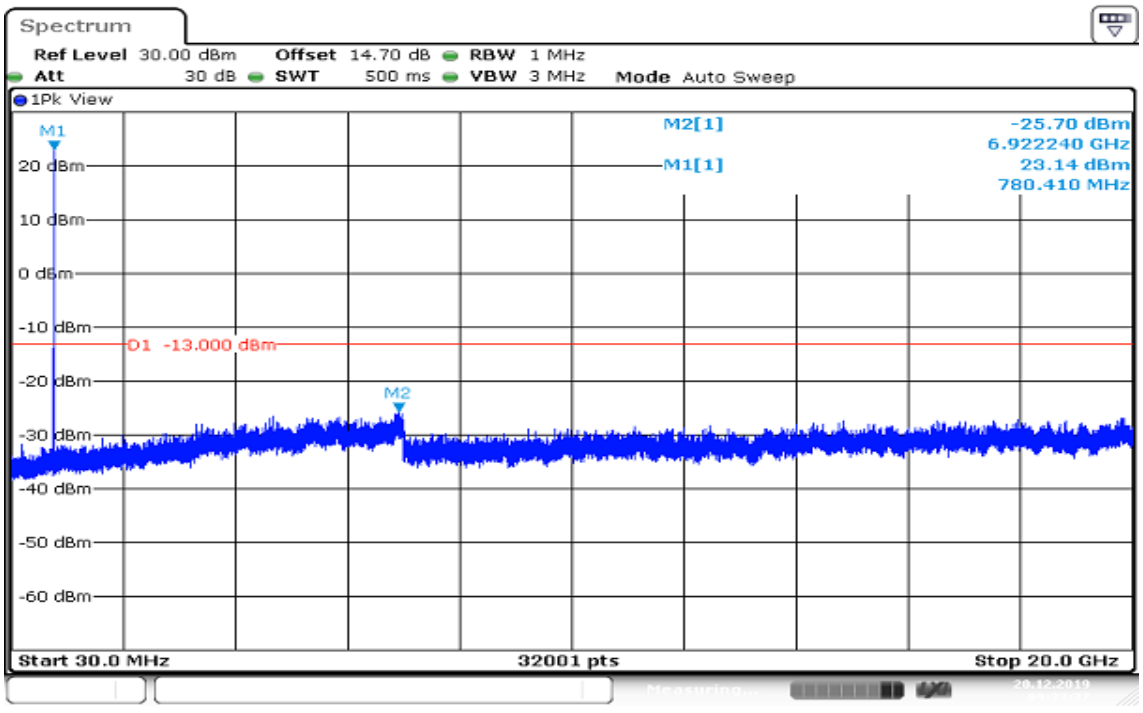
CHANNEL BANDWIDTH: 5MHz / QPSK / 1RB

CH Low



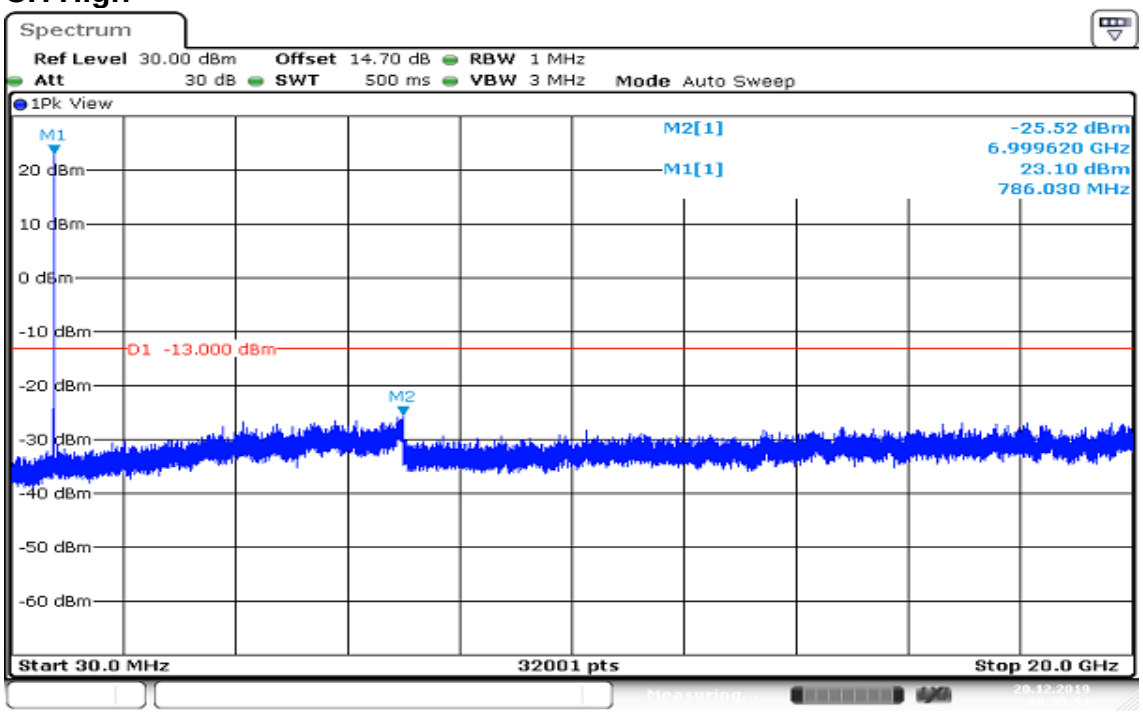
Date: 20.DEC.2019 09:35:27

CH Mid



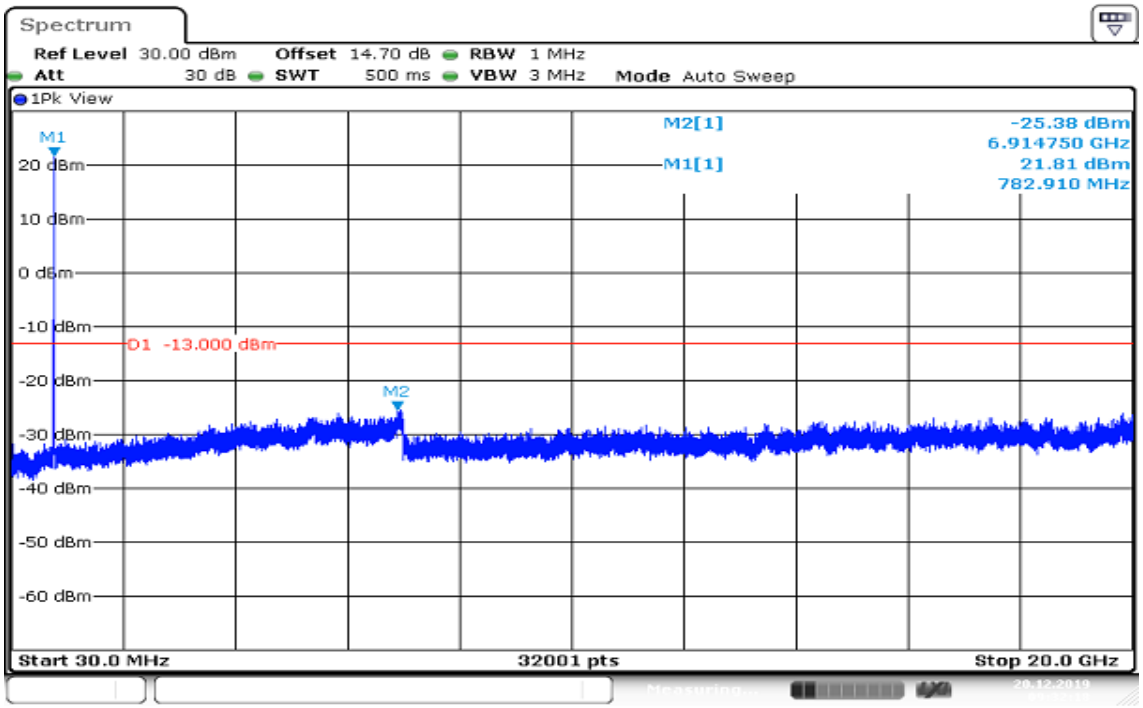
Date: 20.DEC.2019 09:33:37

CH High



Date: 20.DEC.2019 09:35:53

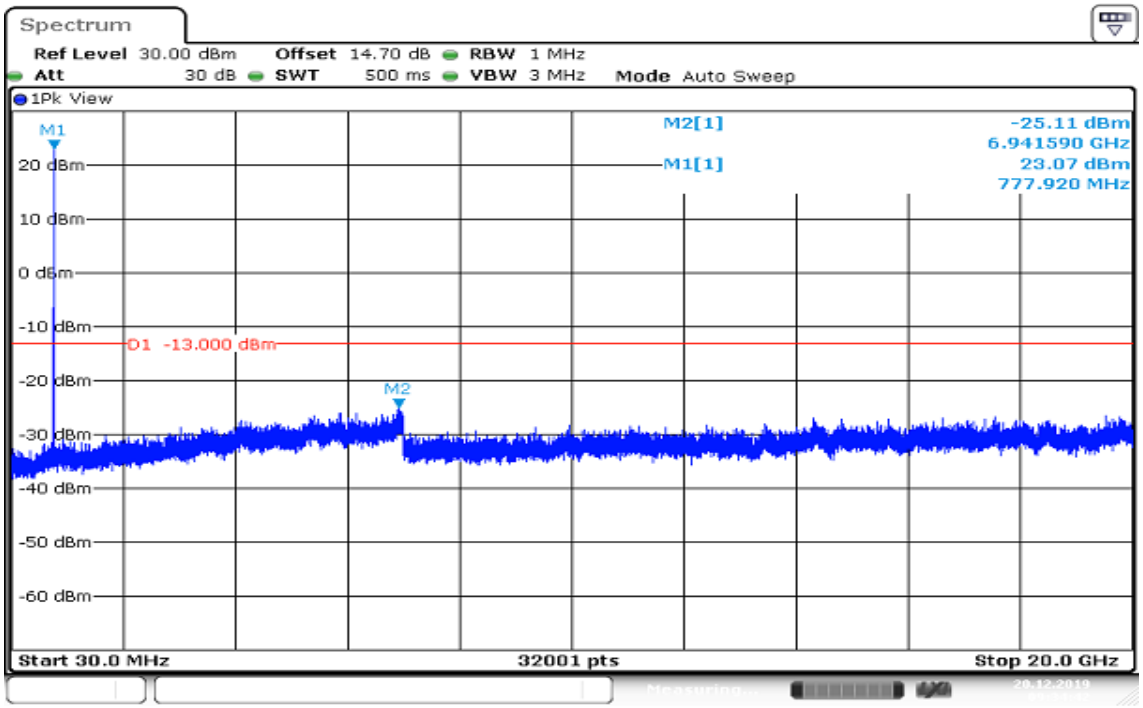
CHANNEL BANDWIDTH: 10MHz / QPSK / 1RB
CH Mid



Date: 20.DEC.2019 09:32:18

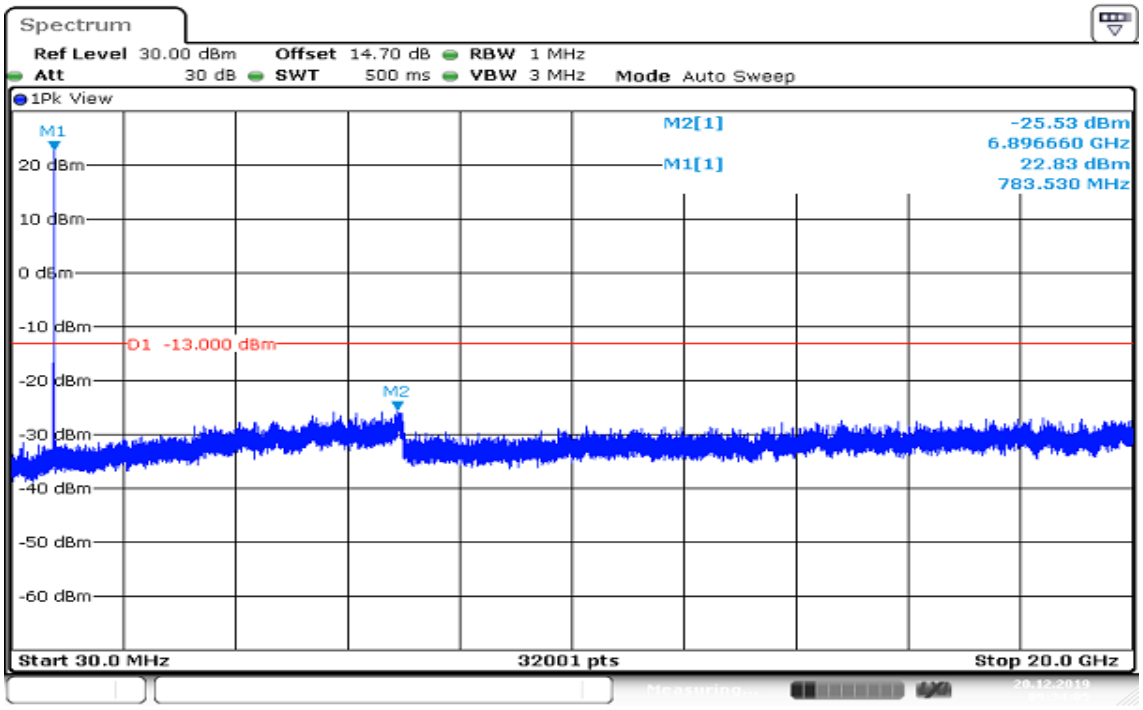
CHANNEL BANDWIDTH: 5MHz / 16QAM / 1RB

CH Low



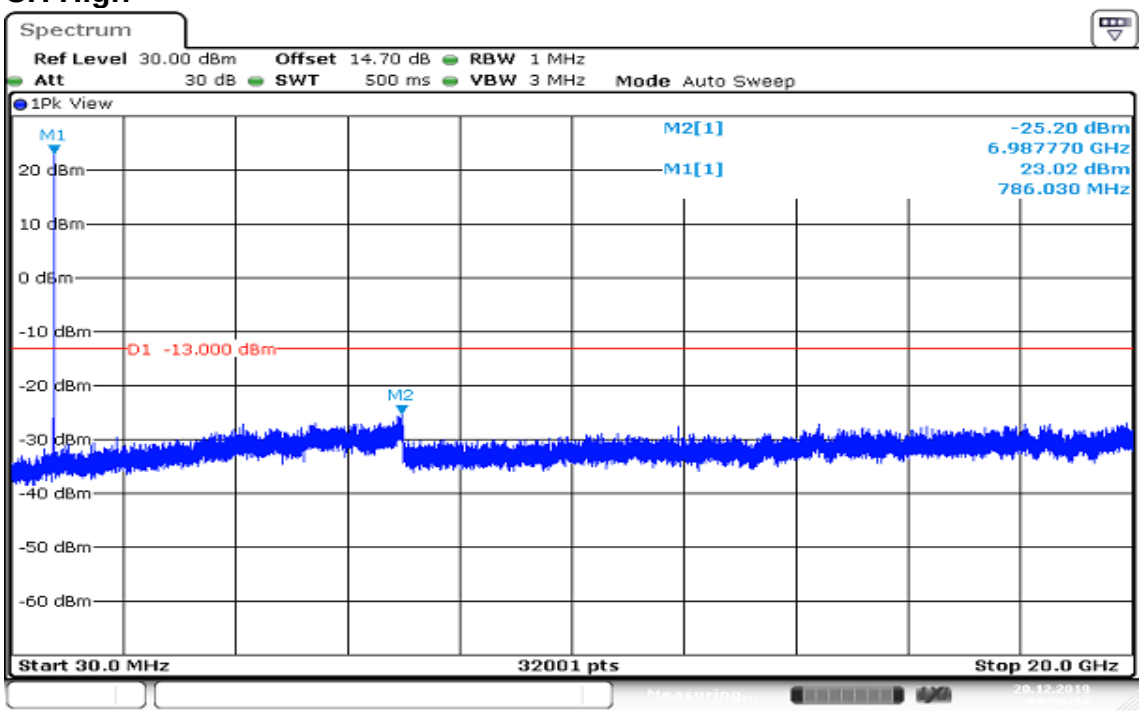
Date: 20.DEC.2019 09:34:42

CH Mid



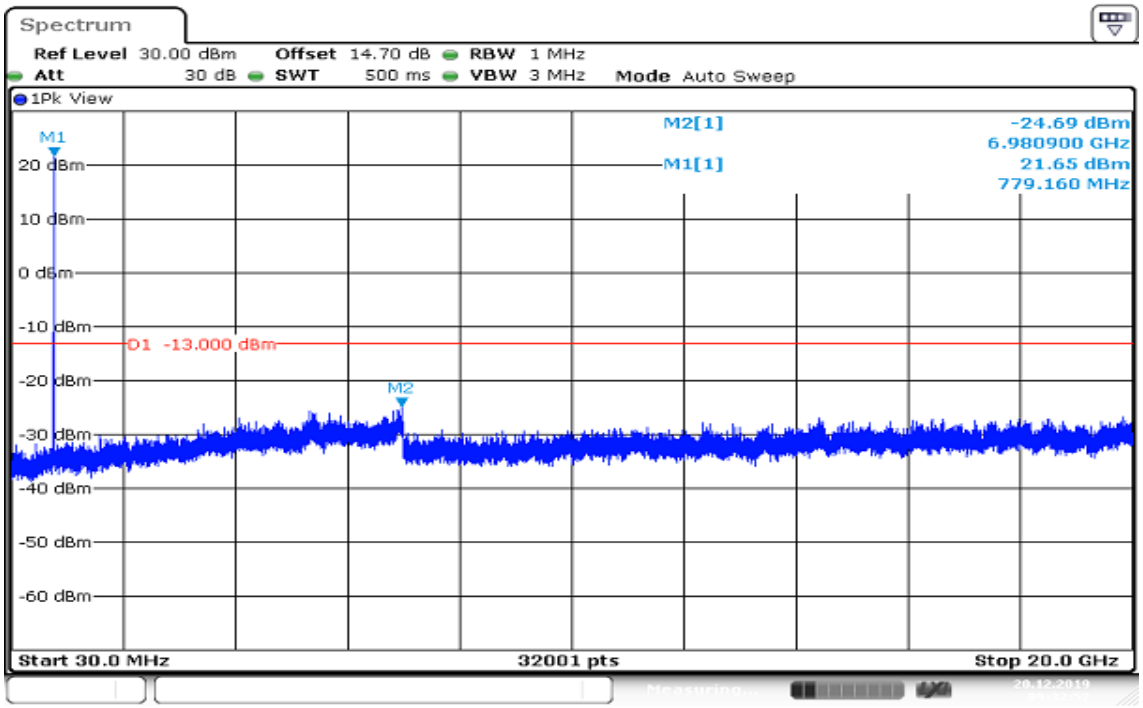
Date: 20.DEC.2019 09:34:05

CH High



Date: 20.DEC.2019 09:36:14

CHANNEL BANDWIDTH: 10MHz / 16QAM / 1RB
CH Mid

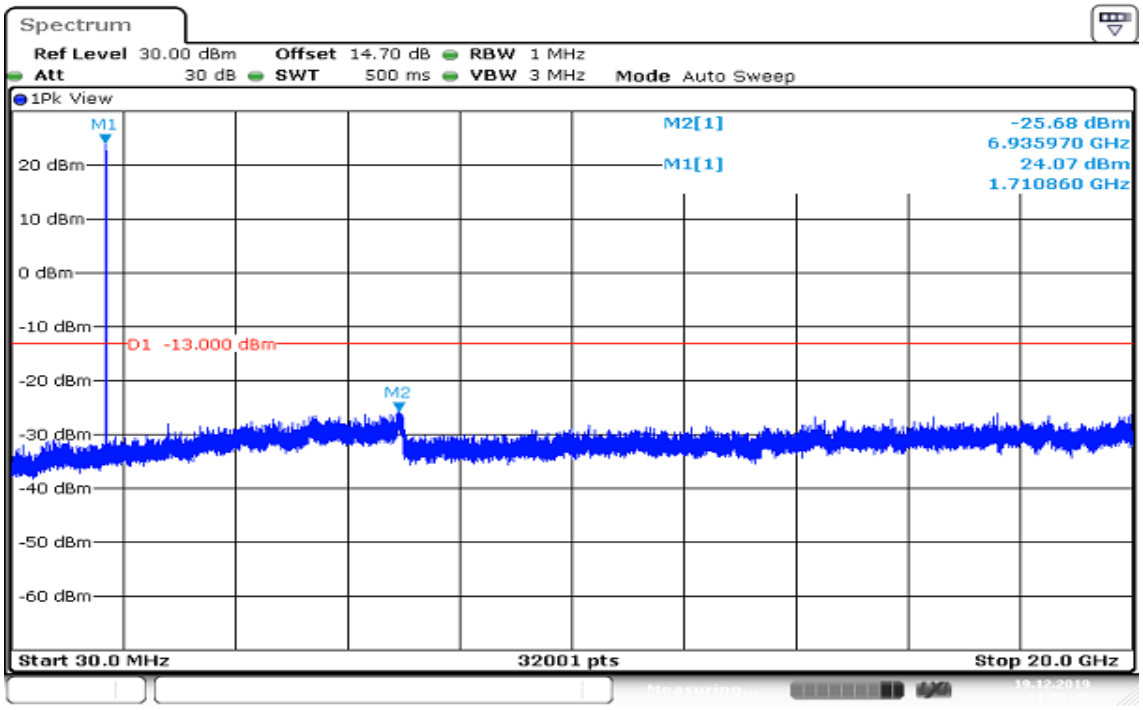


Date: 20.DEC.2019 09:32:52

LTE Band 4

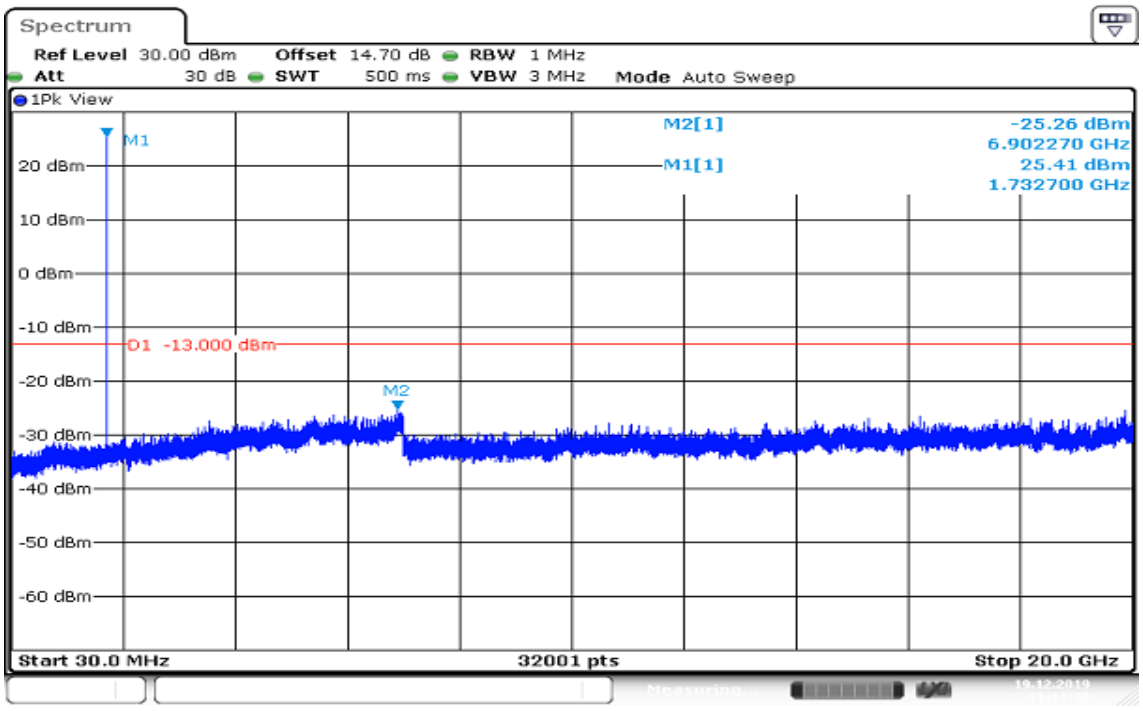
CHANNEL BANDWIDTH: 1.4MHz /QPSK / 1RB

CH Low



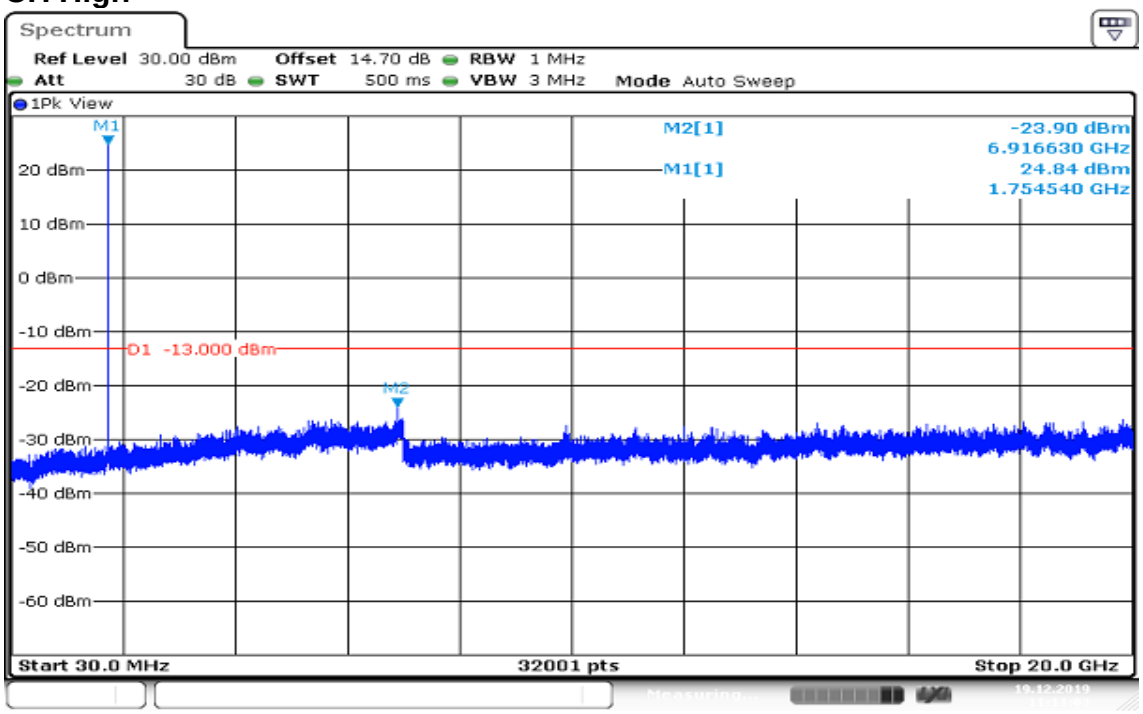
Date: 19.DEC.2019 11:09:40

CH Mid



Date: 19.DEC.2019 11:11:31

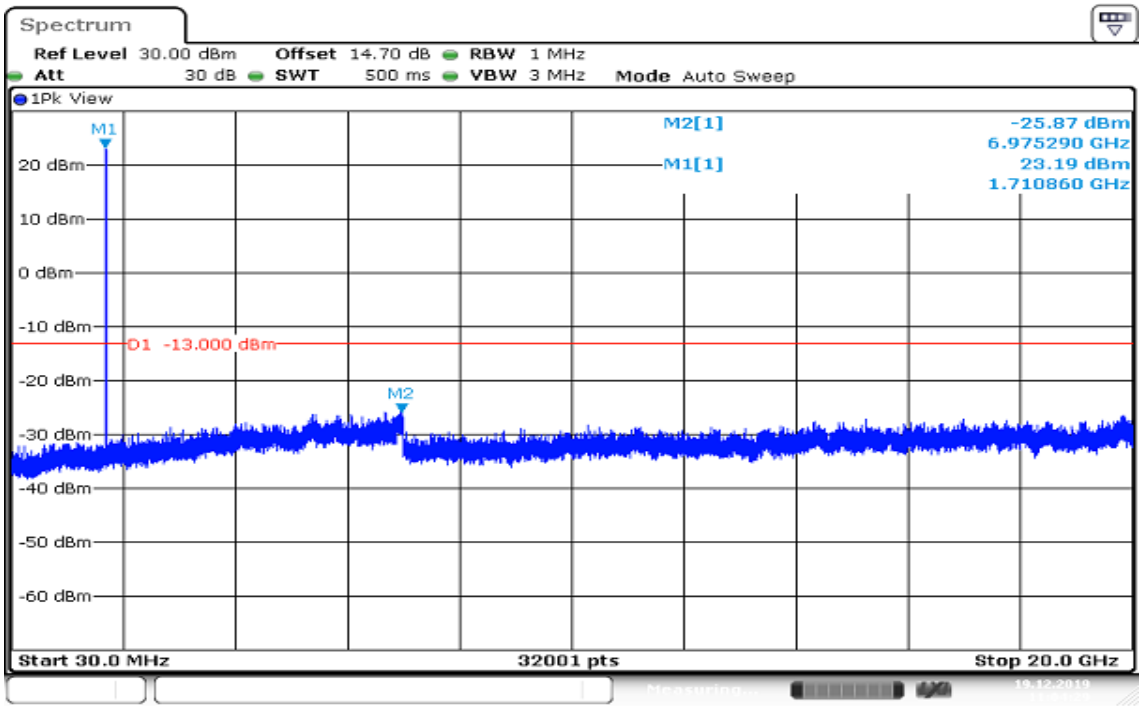
CH High



Date: 19.DEC.2019 11:11:03

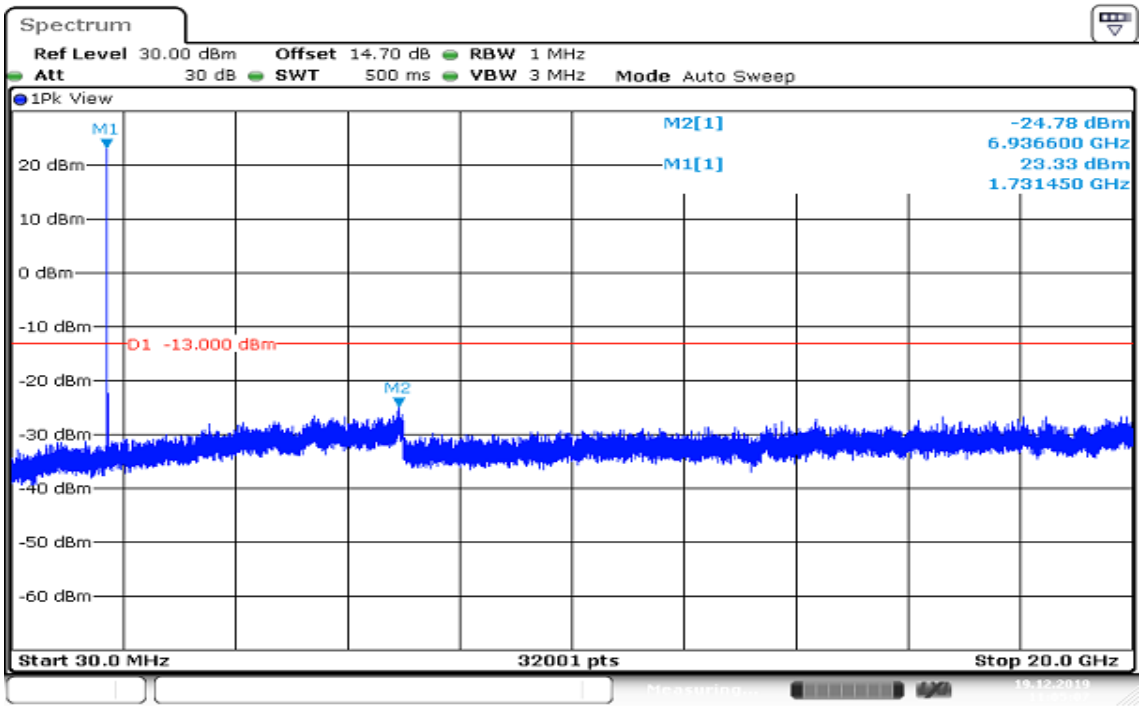
CHANNEL BANDWIDTH: 3MHz /QPSK / 1RB

CH Low



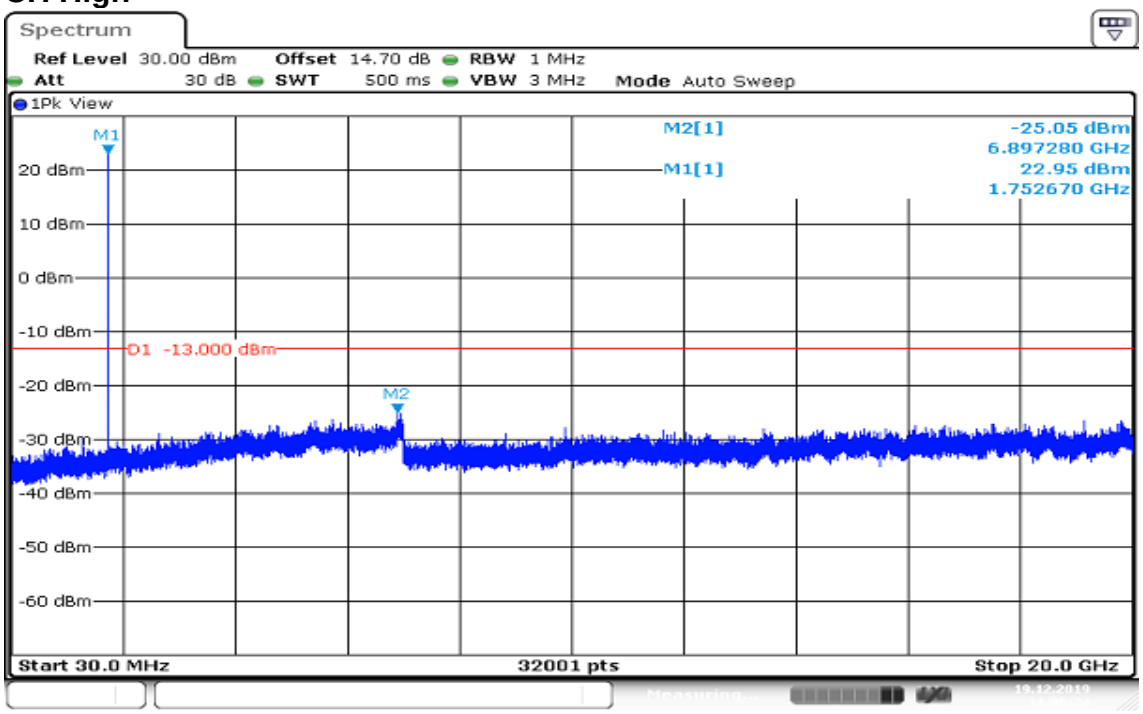
Date: 19.DEC.2019 11:04:30

CH Mid



Date: 19.DEC.2019 11:05:07

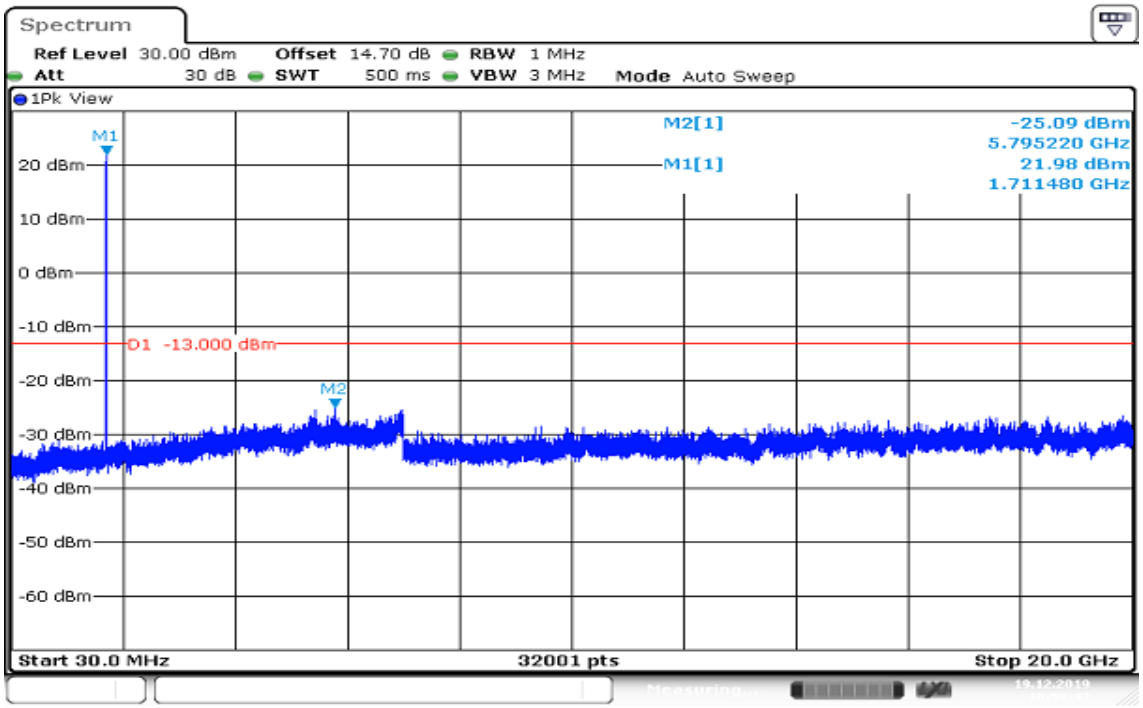
CH High



Date: 19.DEC.2019 11:06:25

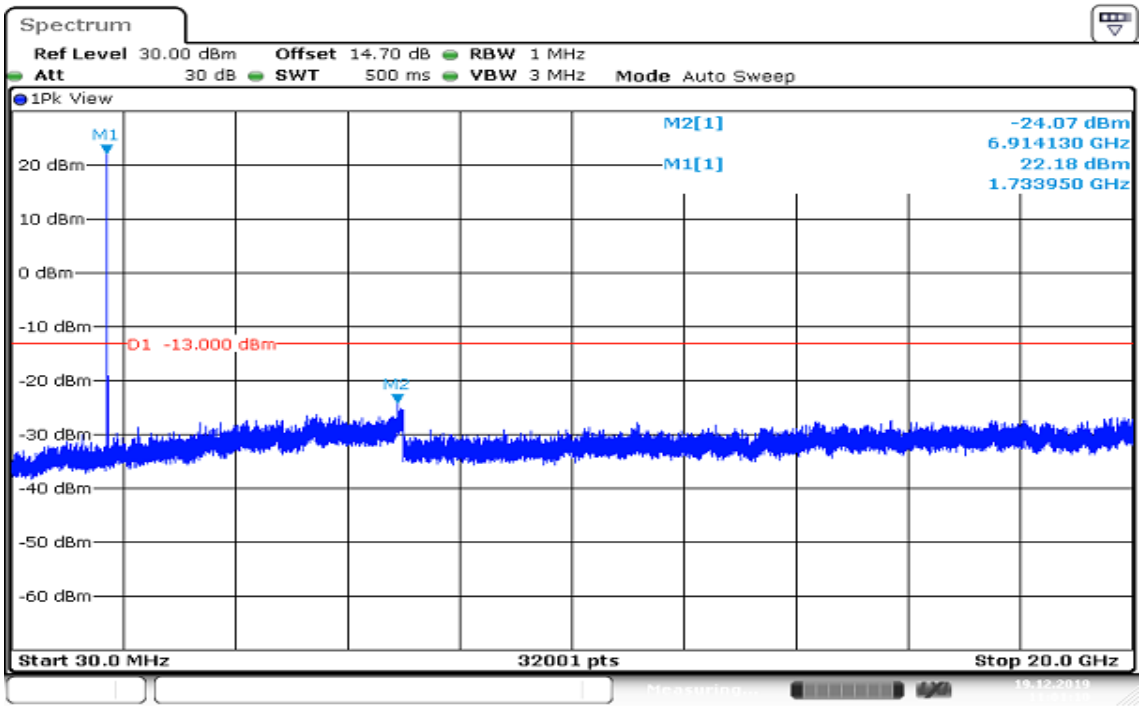
CHANNEL BANDWIDTH: 5MHz /QPSK / 1RB

CH Low



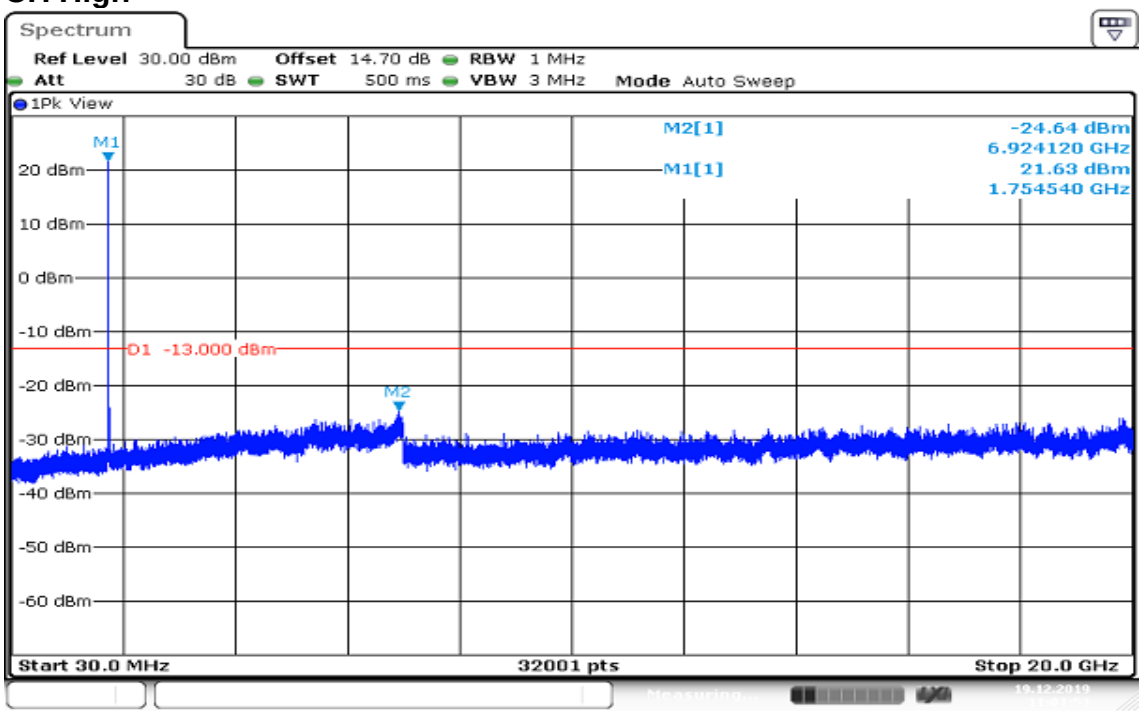
Date: 19.DEC.2019 10:59:43

CH Mid



Date: 19.DEC.2019 11:01:10

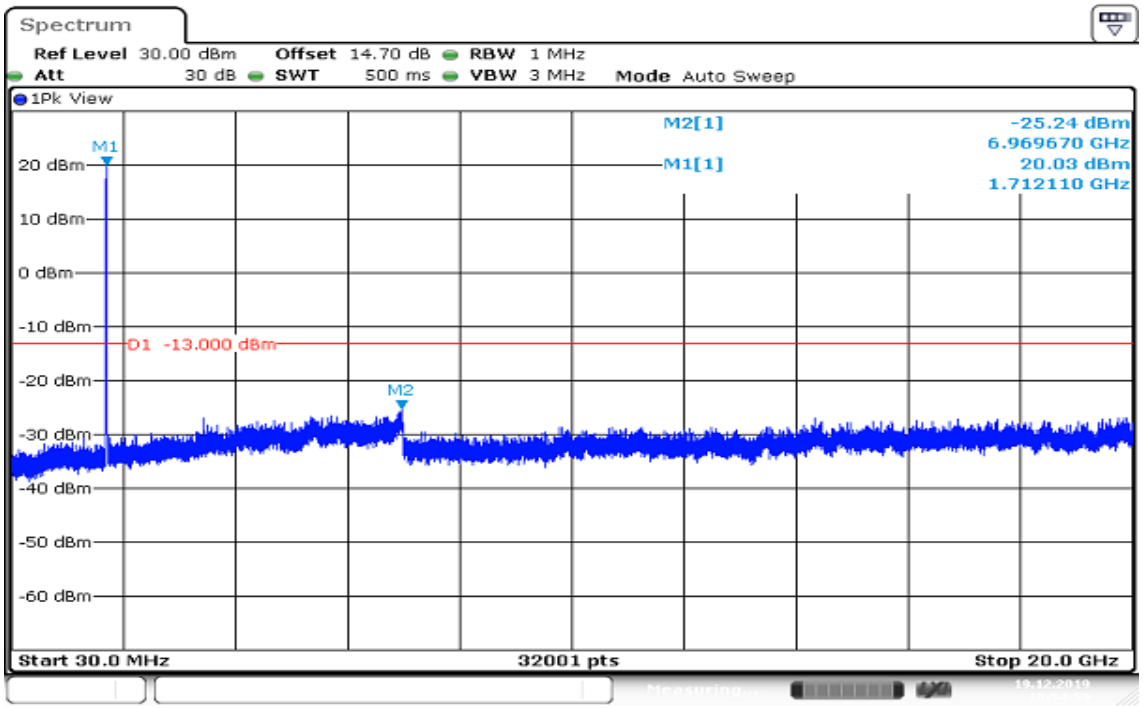
CH High



Date: 19.DEC.2019 11:01:54

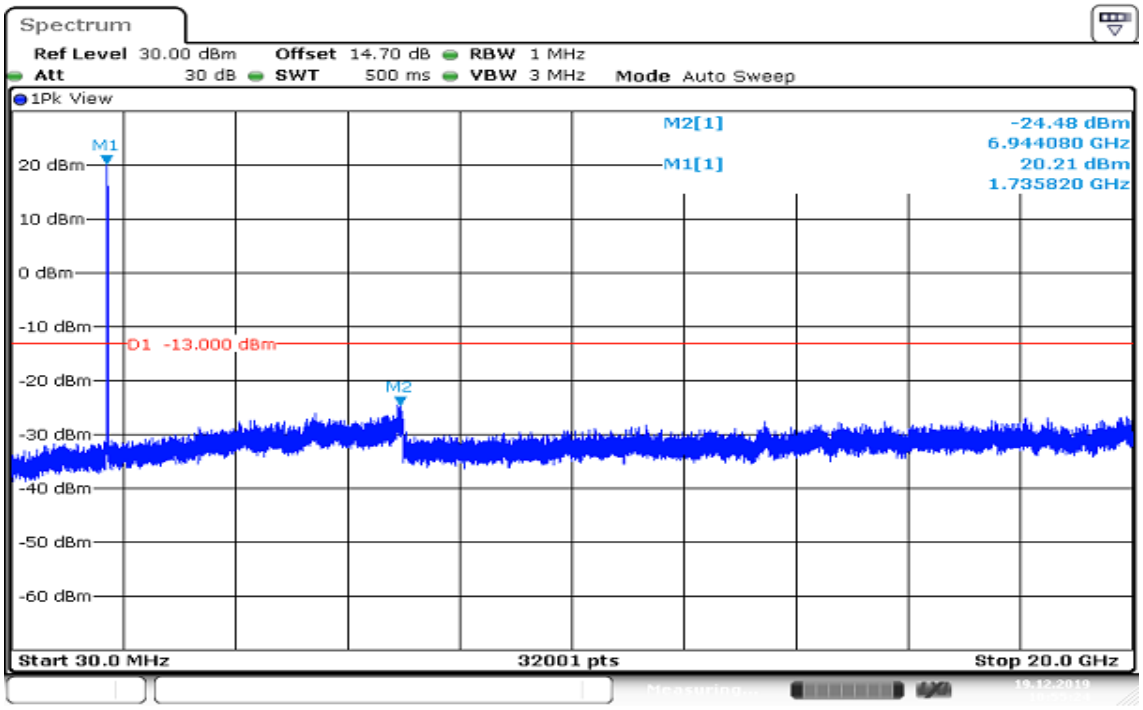
CHANNEL BANDWIDTH: 10MHz /QPSK / 1RB

CH Low



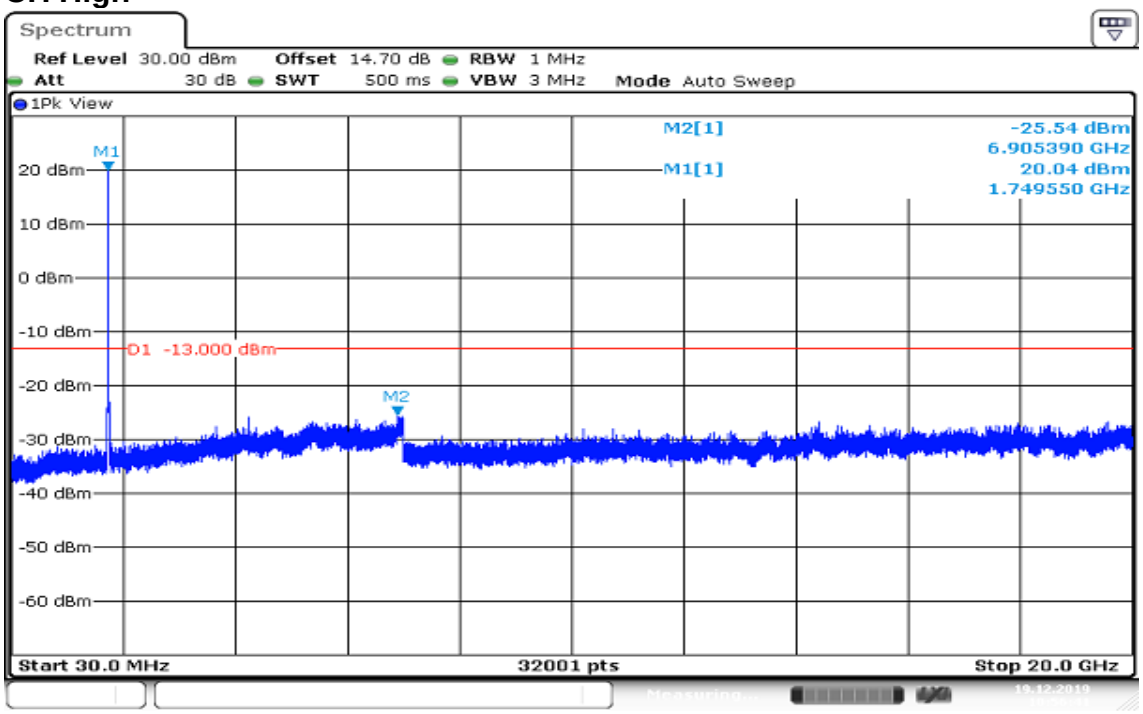
Date: 19.DEC.2019 10:54:59

CH Mid



Date: 19.DEC.2019 10:55:25

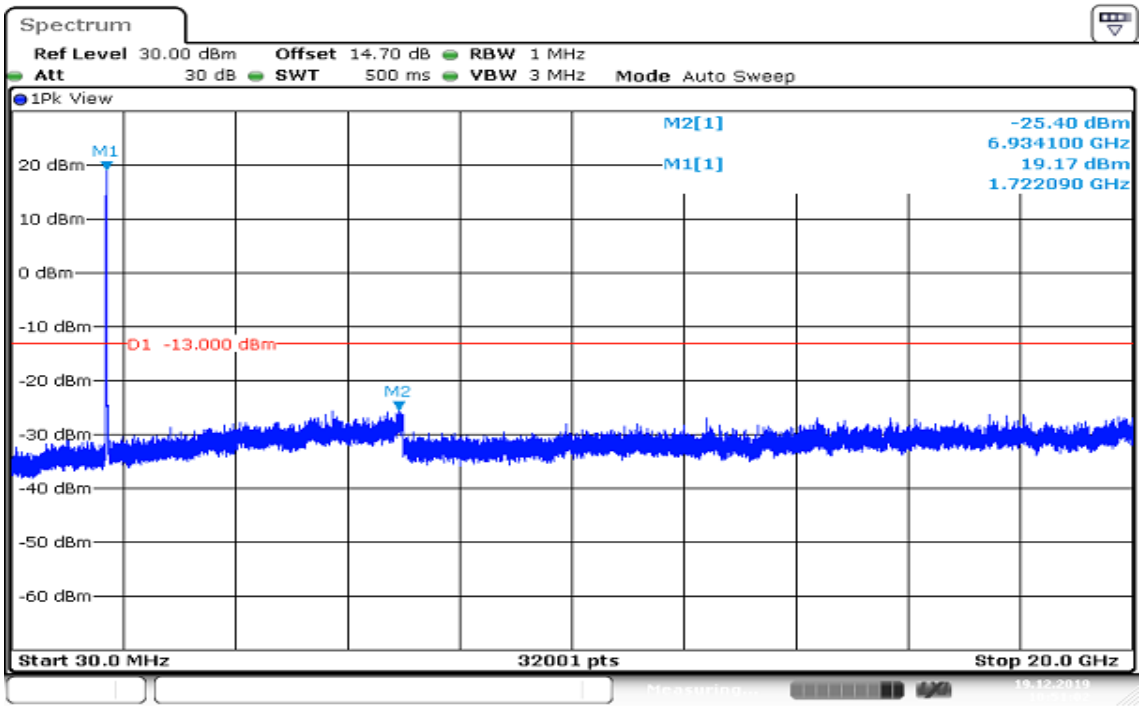
CH High



Date: 19.DEC.2019 10:56:42

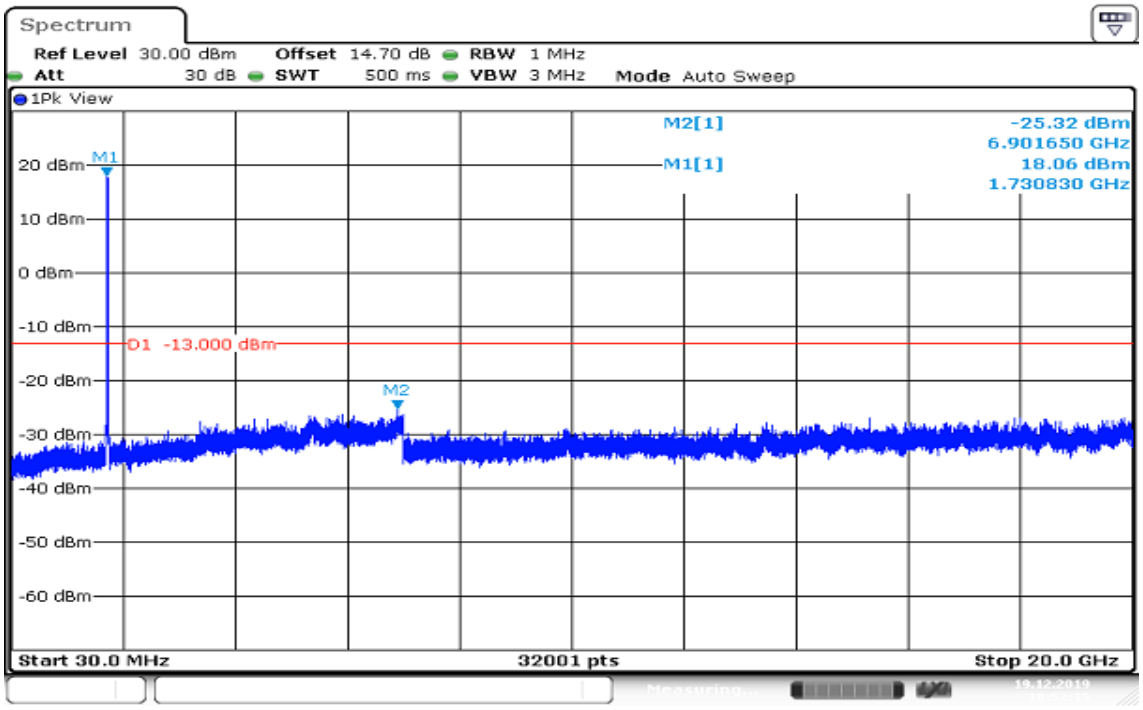
CHANNEL BANDWIDTH: 15MHz /QPSK / 1RB

CH Low



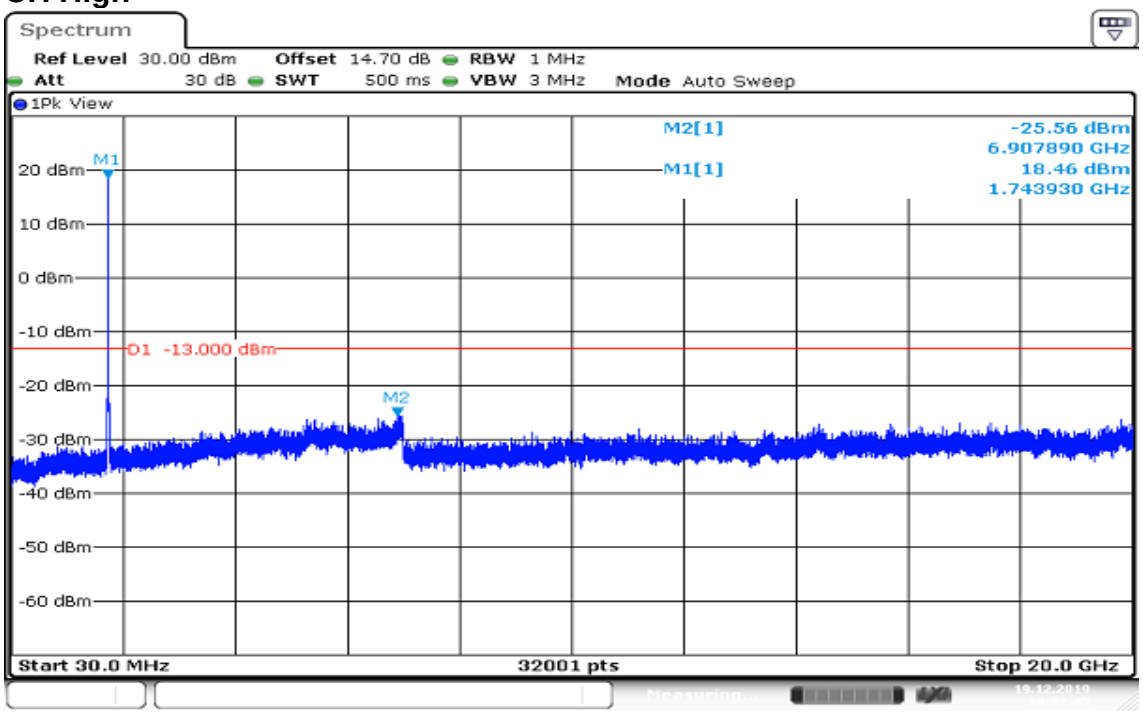
Date: 19.DEC.2019 10:51:02

CH Mid



Date: 19.DEC.2019 10:52:16

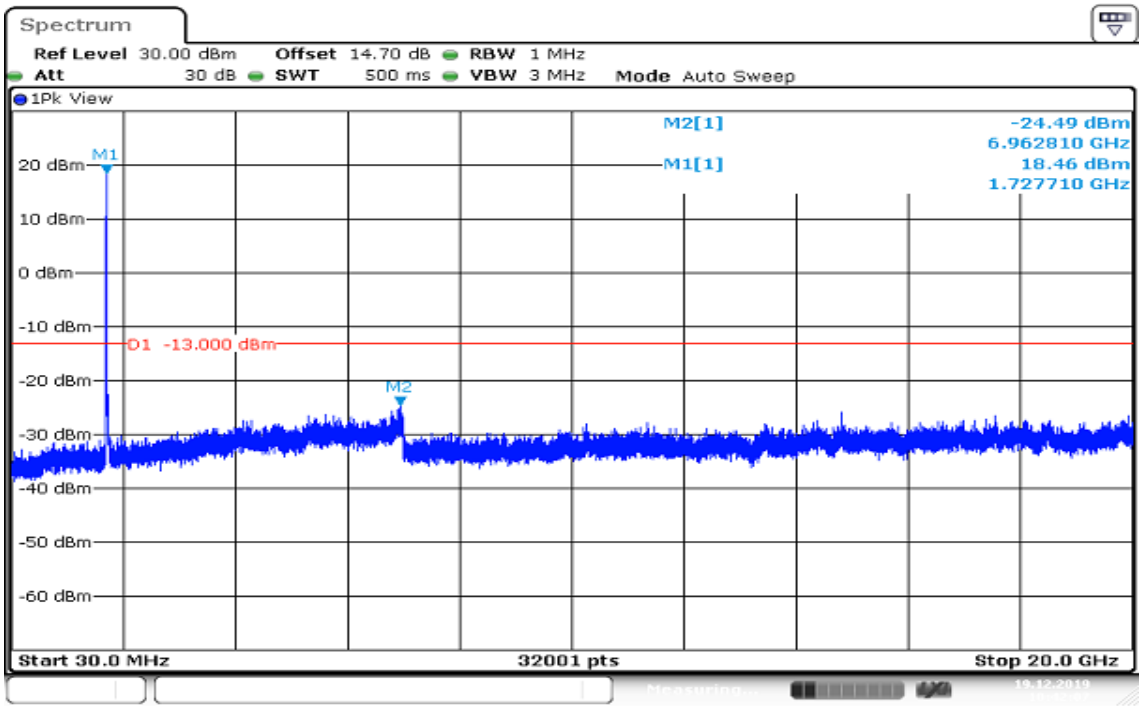
CH High



Date: 19.DEC.2019 10:52:45

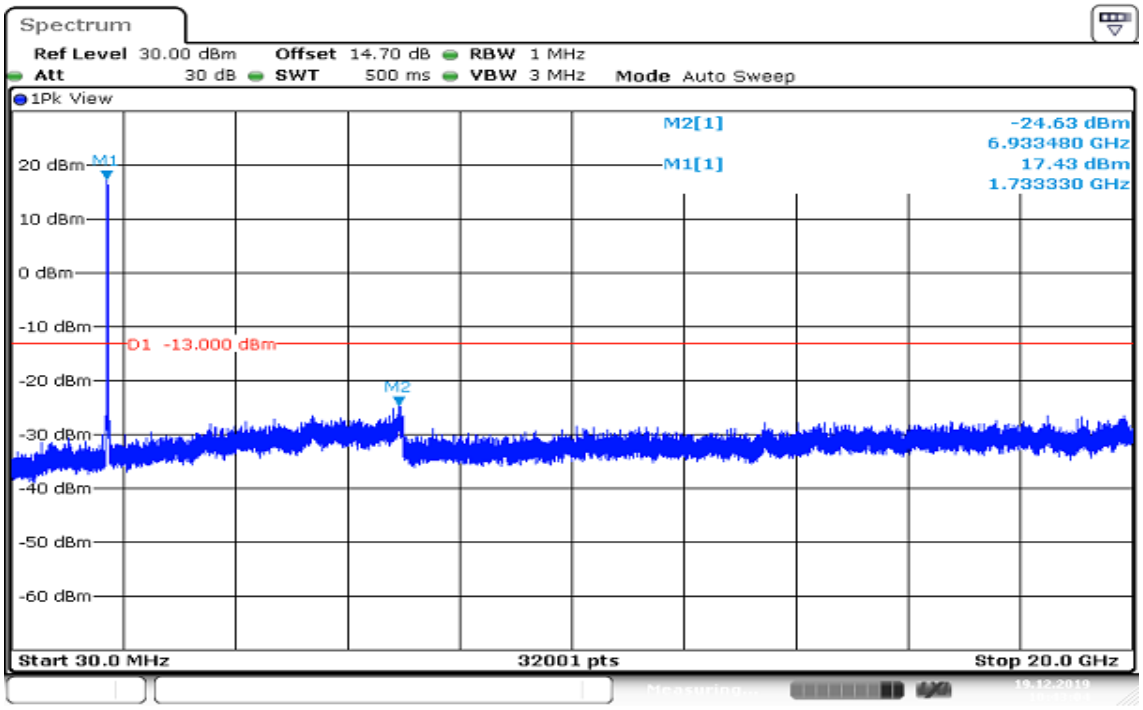
CHANNEL BANDWIDTH: 20MHz /QPSK / 1RB

CH Low



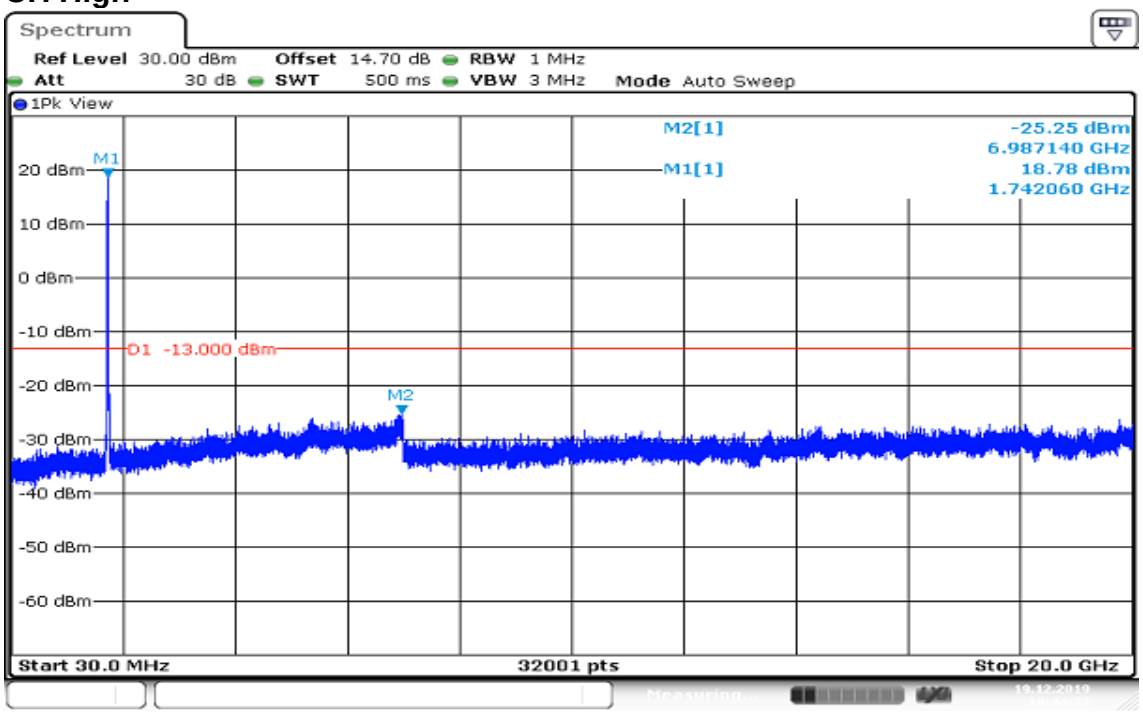
Date: 19.DEC.2019 10:42:07

CH Mid



Date: 19.DEC.2019 10:43:05

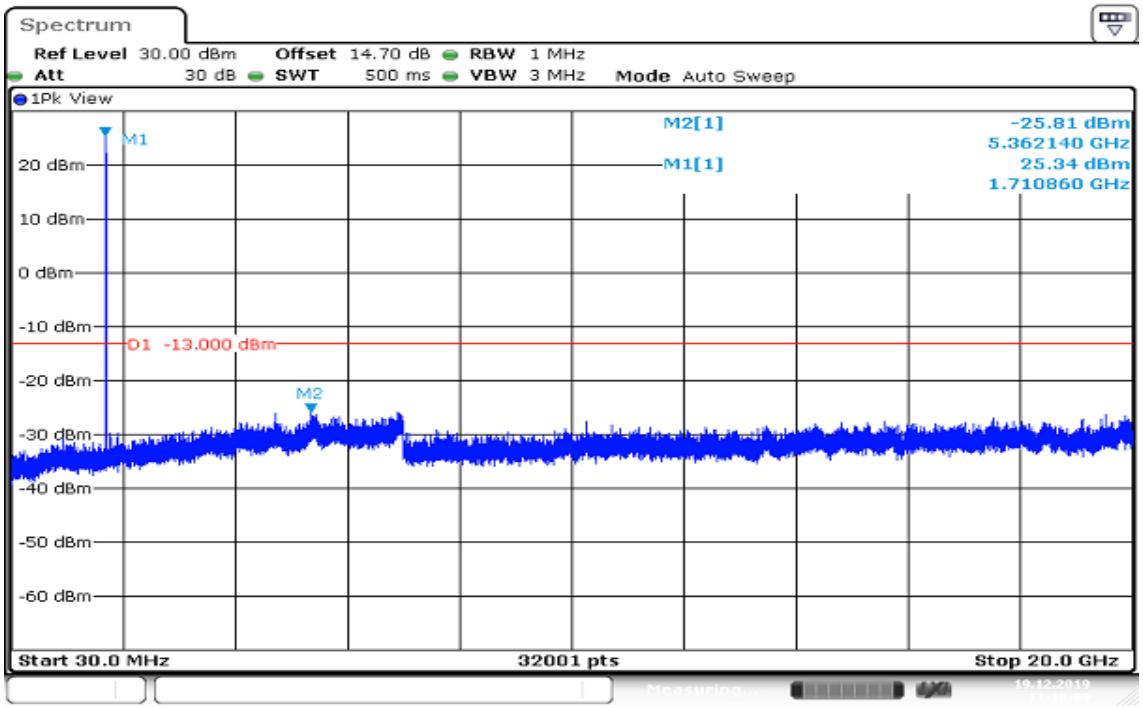
CH High



Date: 19.DEC.2019 10:44:24

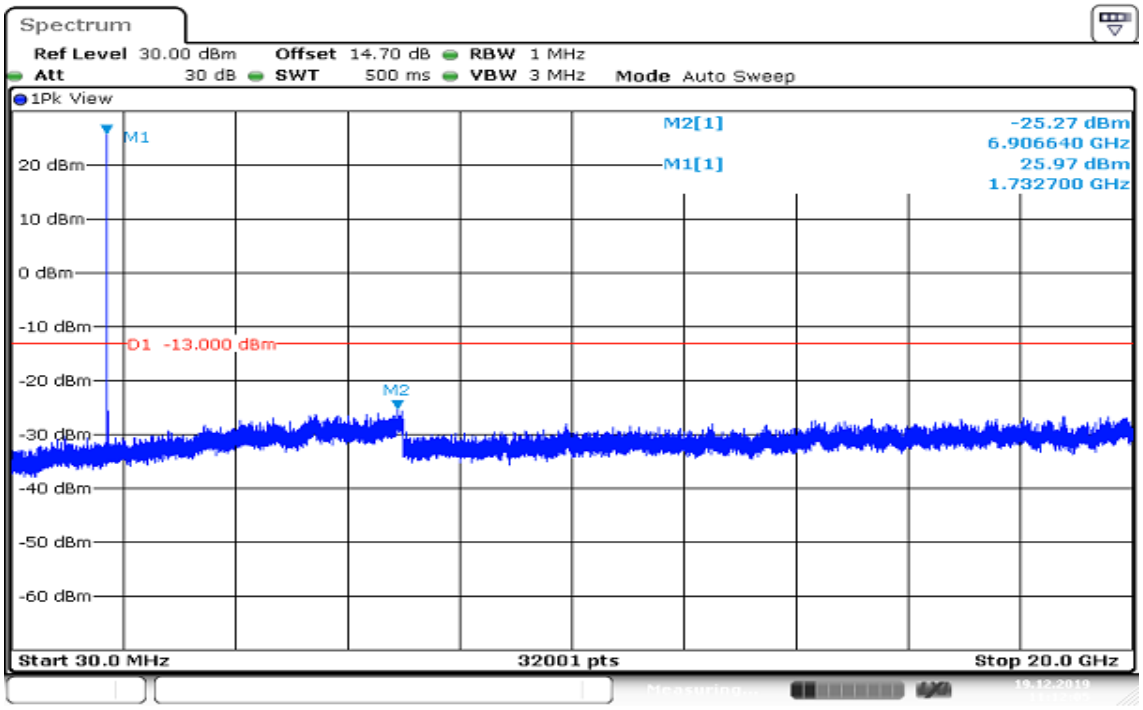
CHANNEL BANDWIDTH: 1.4MHz /16QAM / 1RB

CH Low



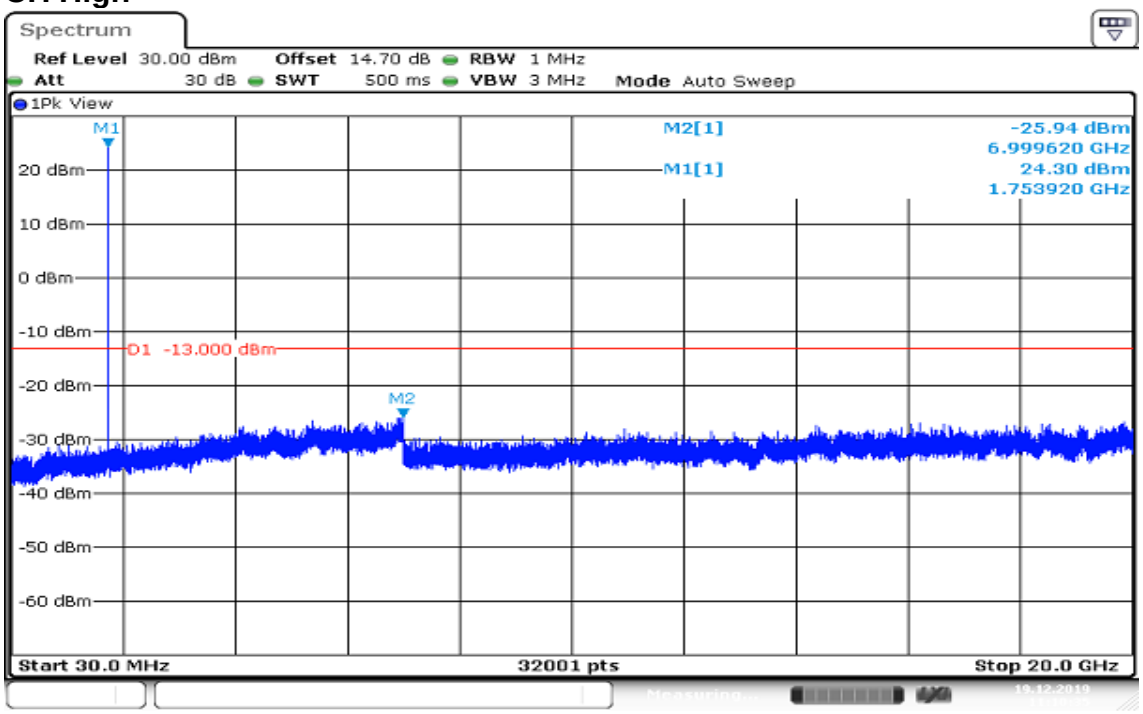
Date: 19.DEC.2019 11:10:09

CH Mid



Date: 19.DEC.2019 11:12:06

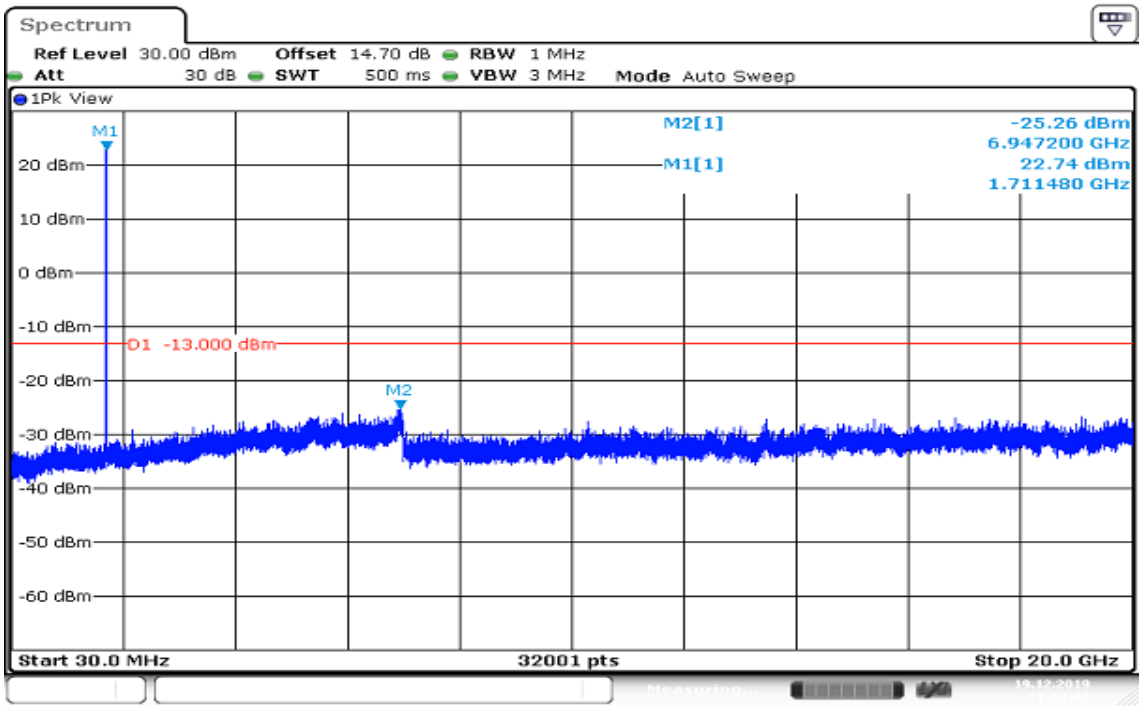
CH High



Date: 19.DEC.2019 11:10:36

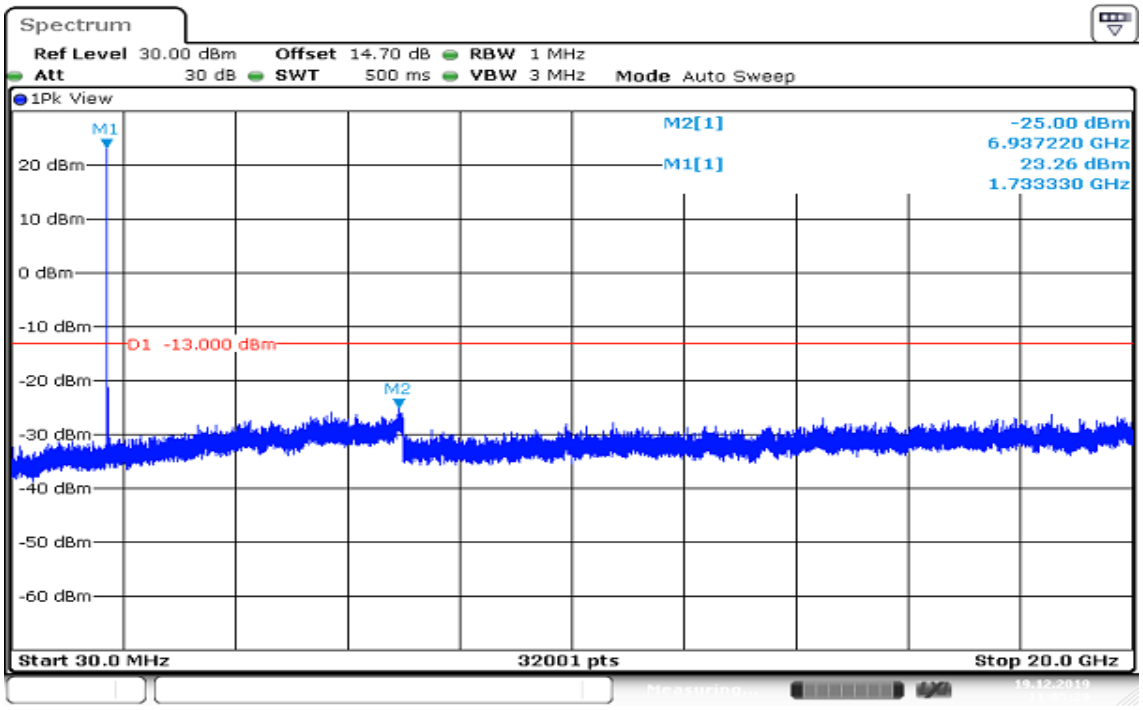
CHANNEL BANDWIDTH: 3MHz /16QAM / 1RB

CH Low



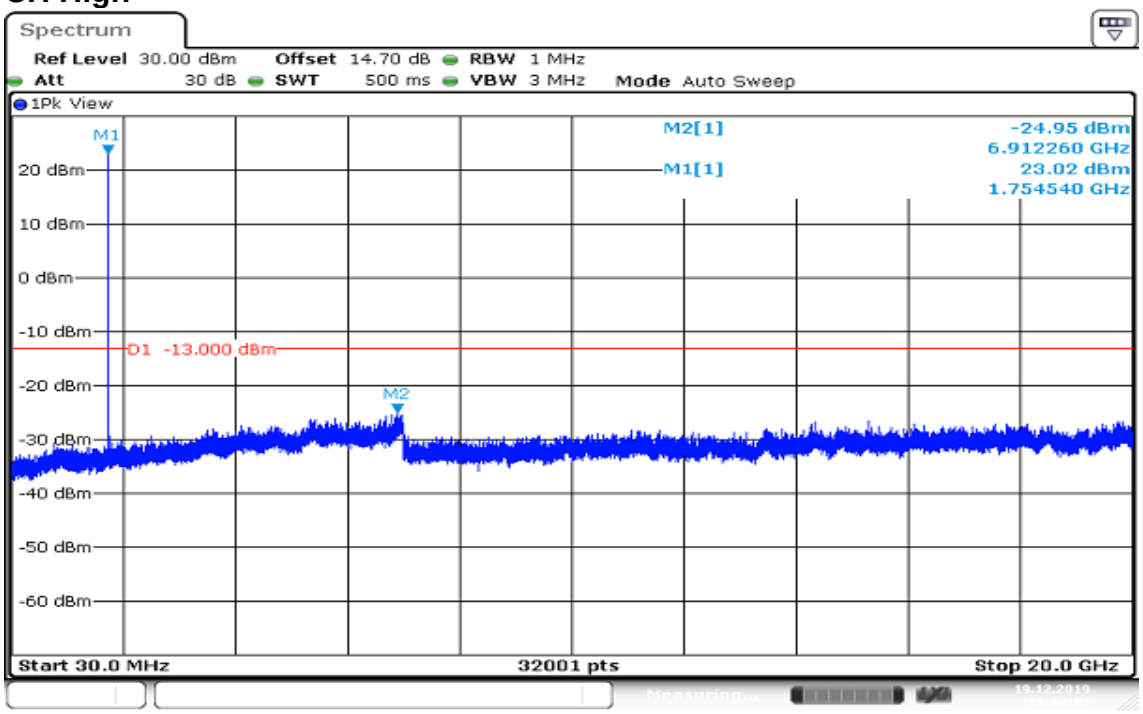
Date: 19.DEC.2019 11:04:05

CH Mid



Date: 19.DEC.2019 11:05:30

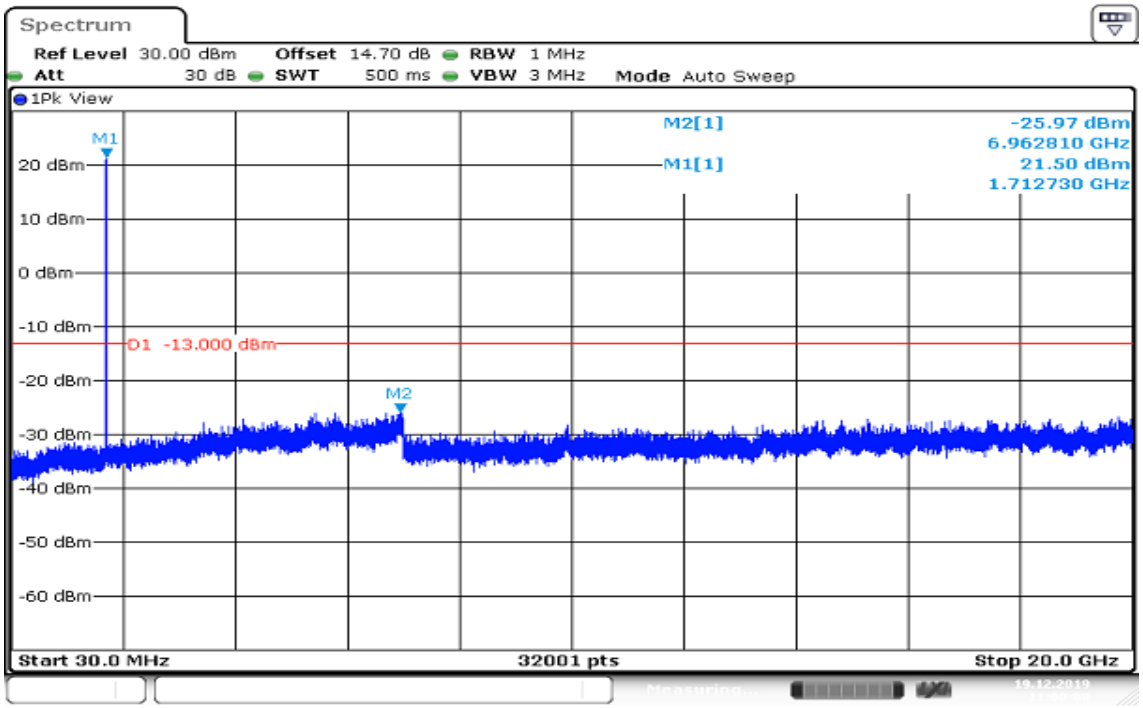
CH High



Date: 19.DEC.2019 11:06:03

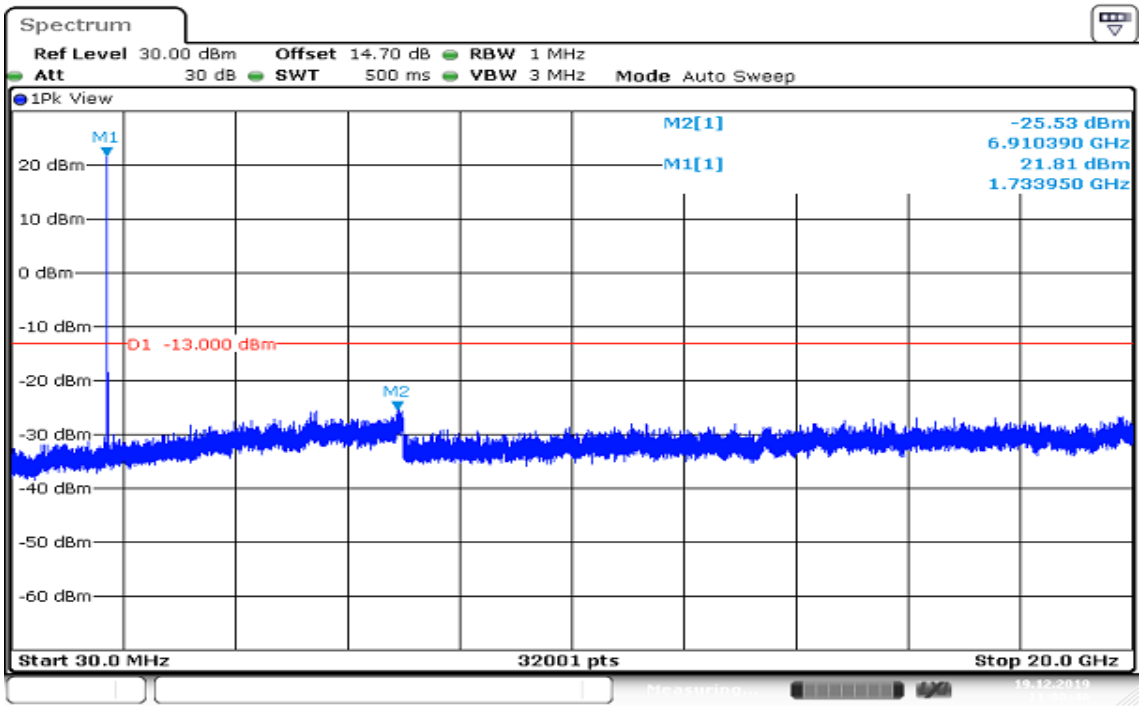
CHANNEL BANDWIDTH:5MHz /16QAM / 1RB

CH Low



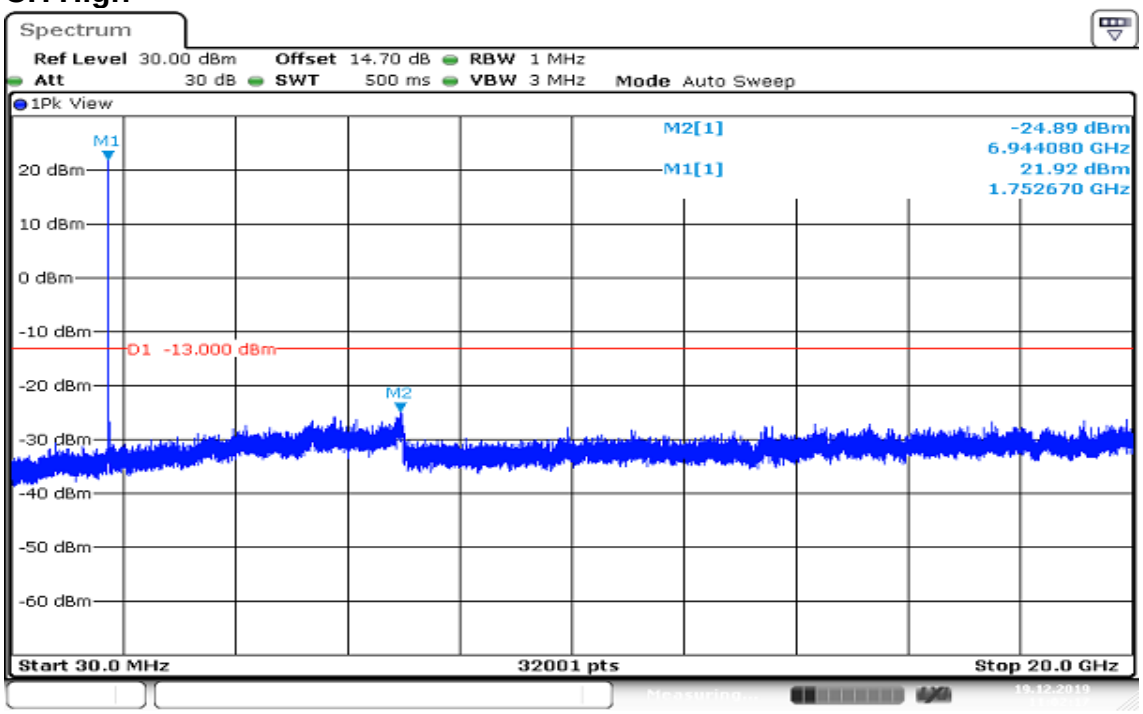
Date: 19.DEC.2019 11:00:08

CH Mid



Date: 19.DEC.2019 11:00:46

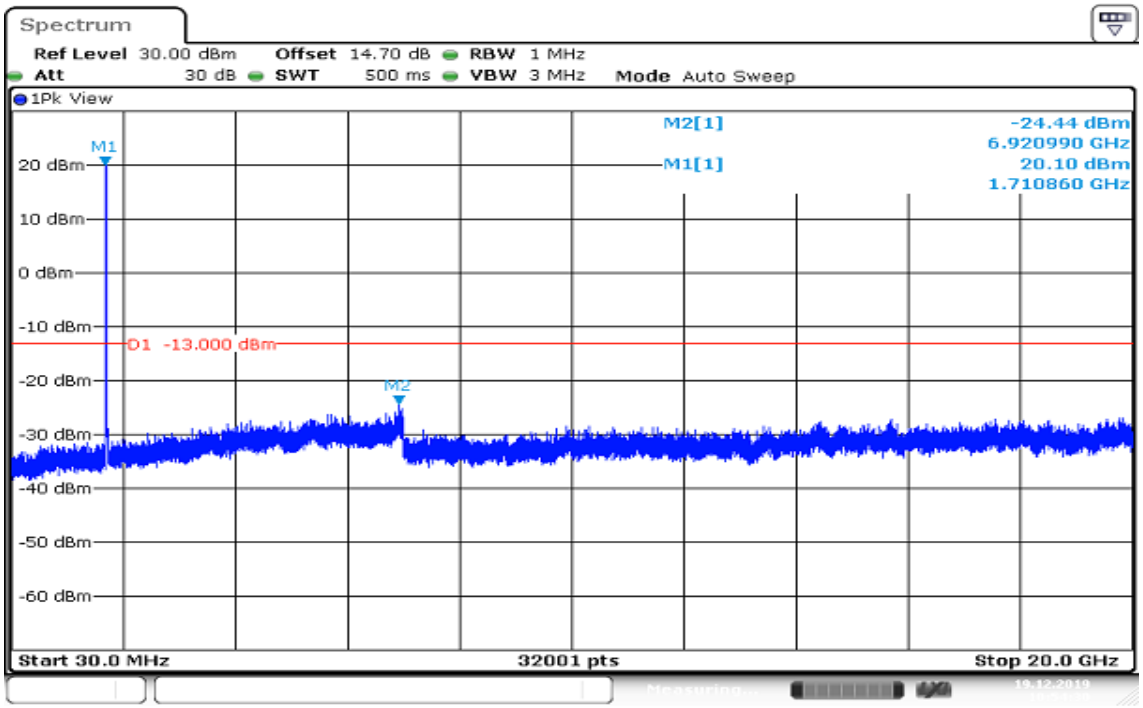
CH High



Date: 19.DEC.2019 11:02:17

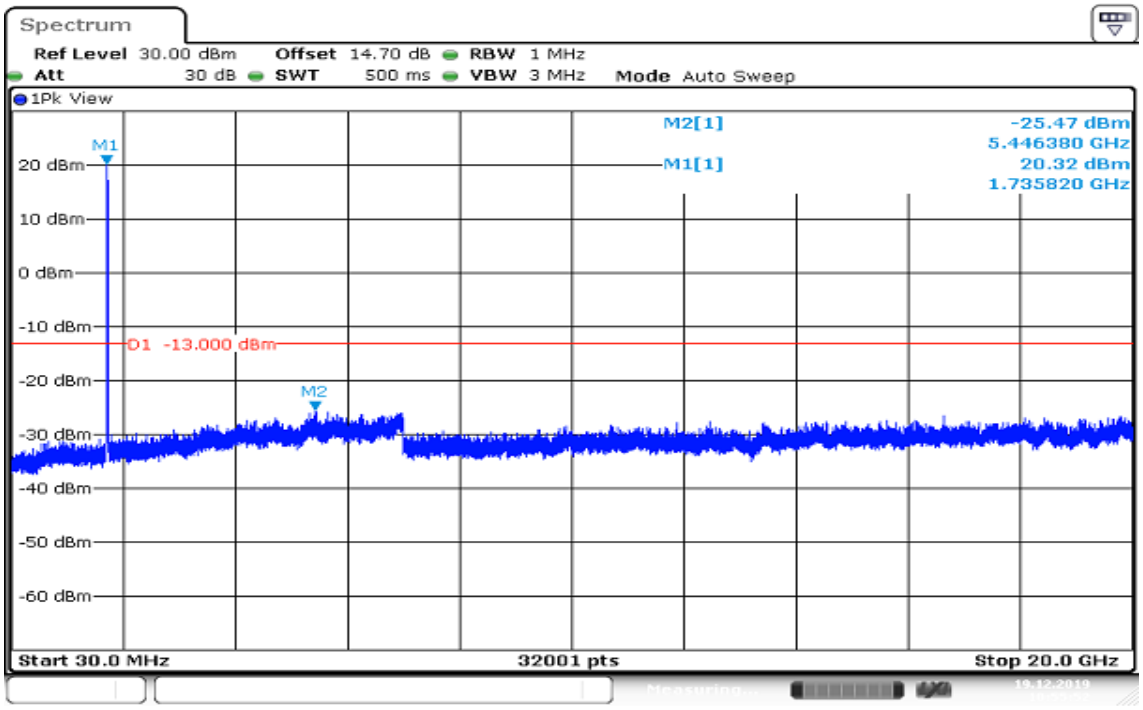
CHANNEL BANDWIDTH:10MHz /16QAM / 1RB

CH Low



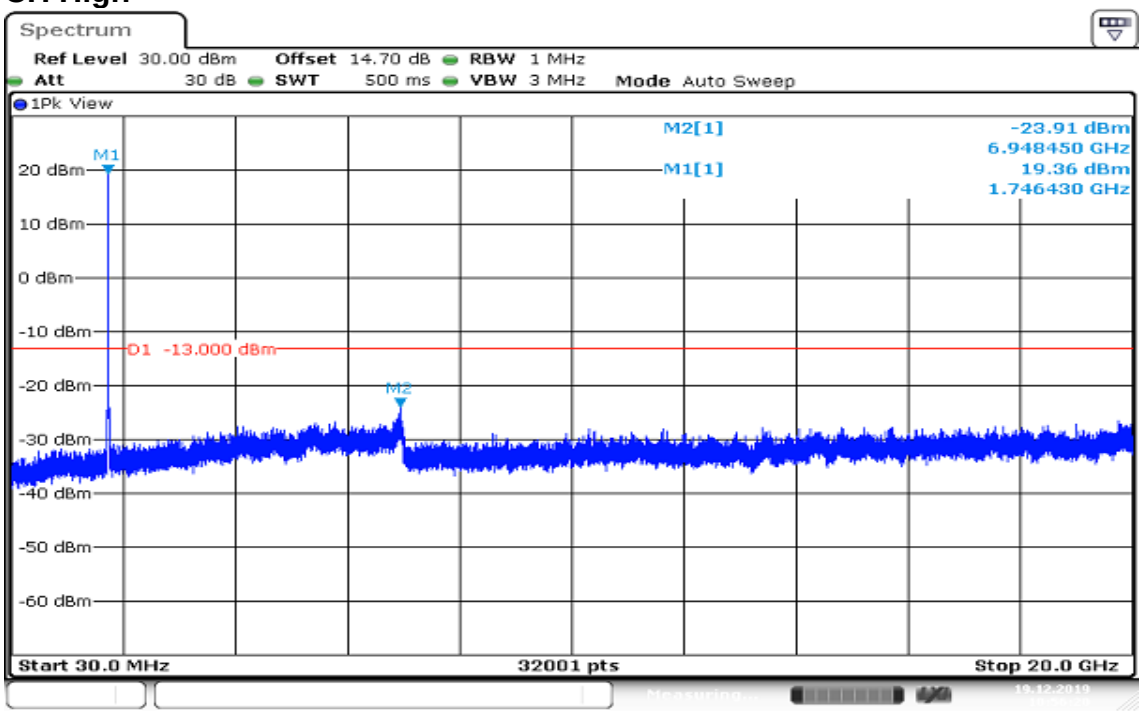
Date: 19.DEC.2019 10:54:31

CH Mid



Date: 19.DEC.2019 10:55:53

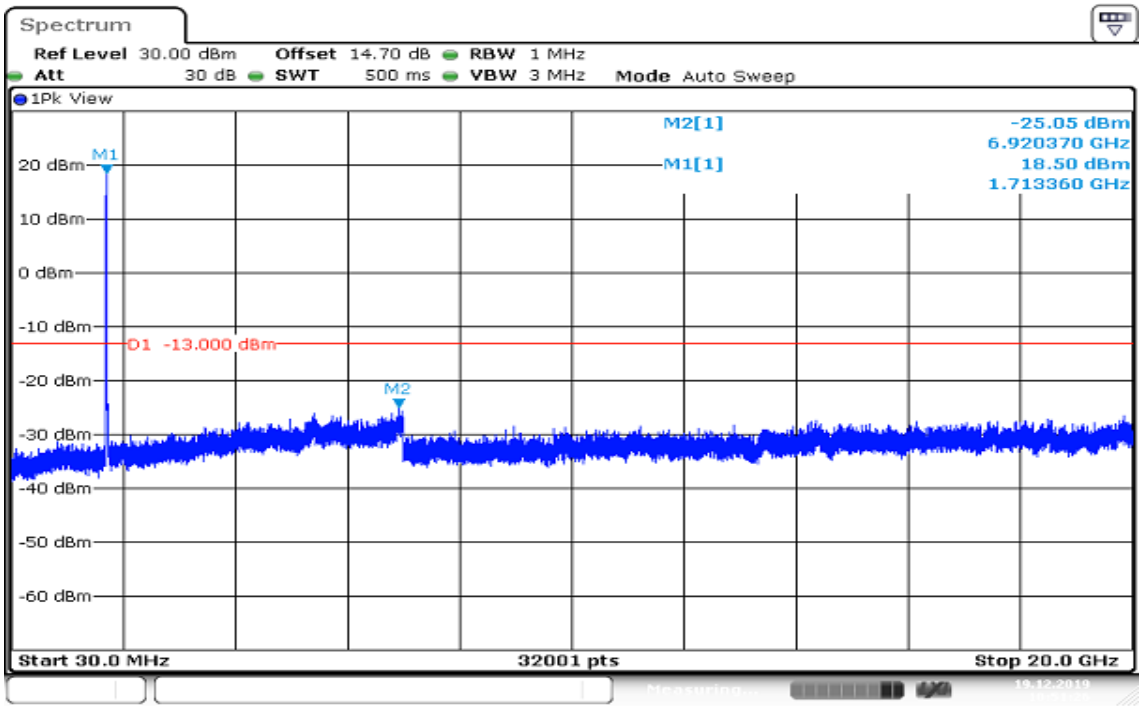
CH High



Date: 19.DEC.2019 10:56:21

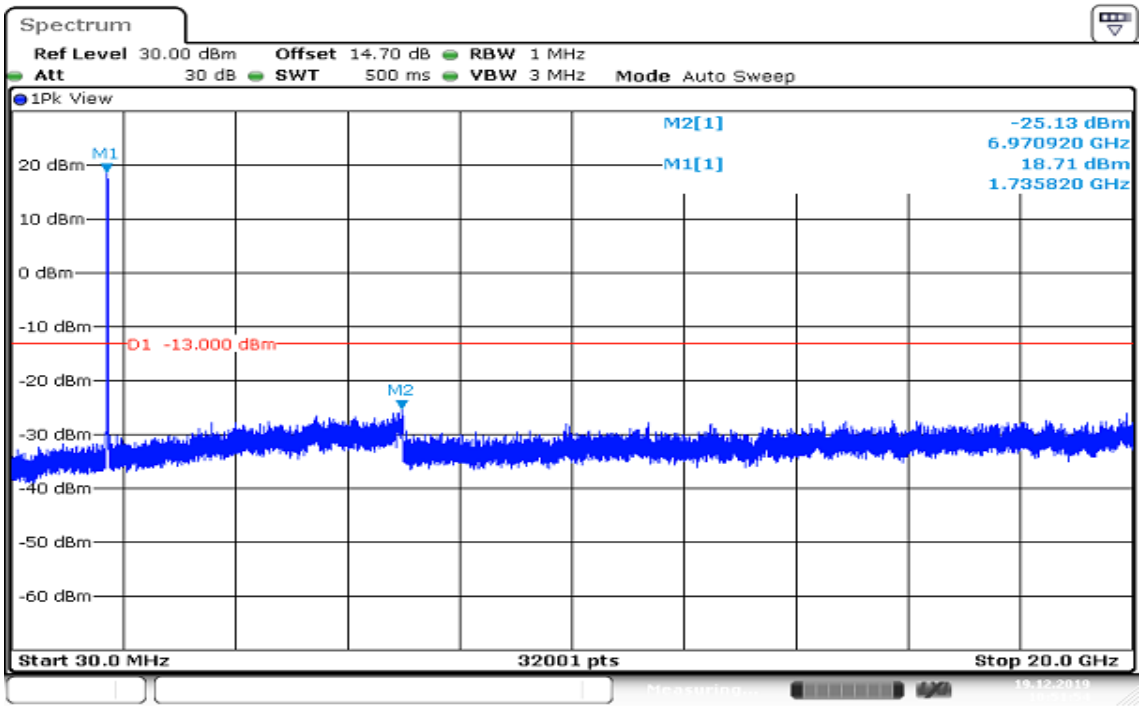
CHANNEL BANDWIDTH:15MHz /16QAM / 1RB

CH Low



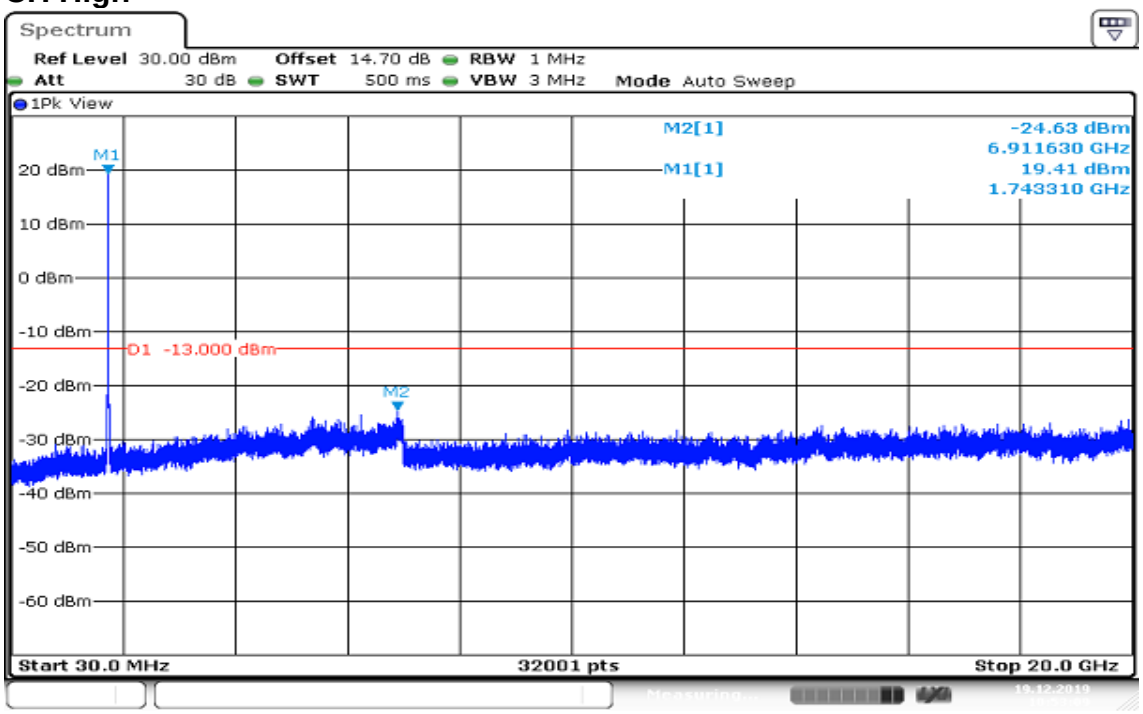
Date: 19.DEC.2019 10:51:26

CH Mid



Date: 19.DEC.2019 10:51:54

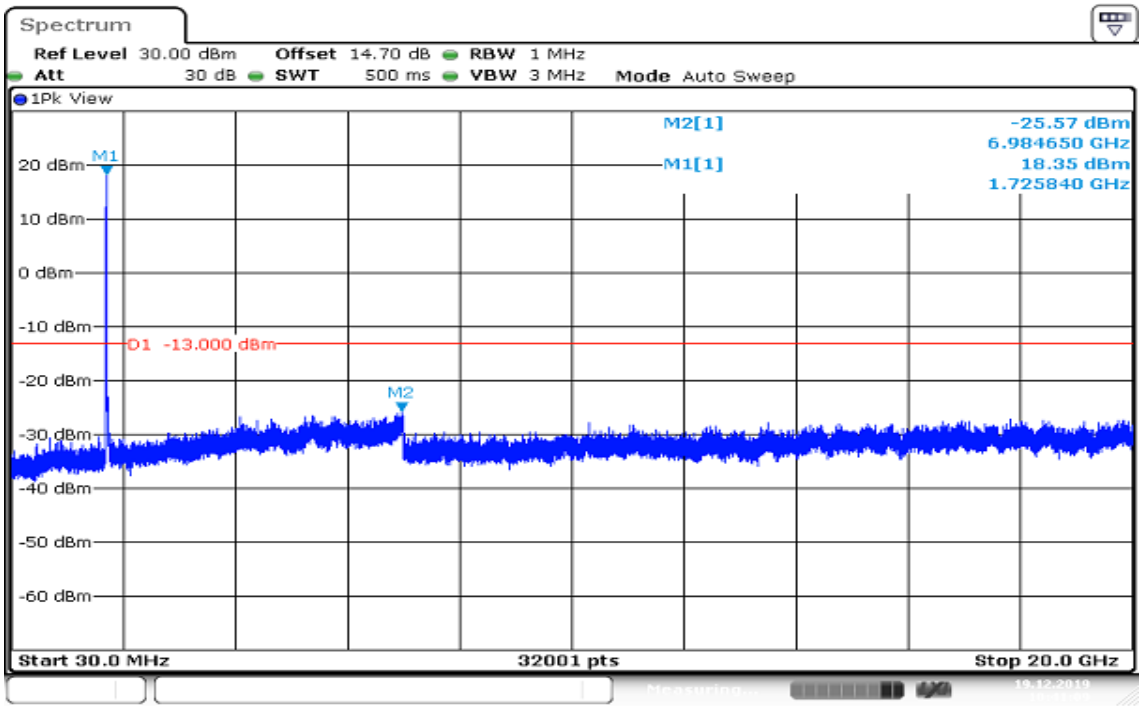
CH High



Date: 19.DEC.2019 10:53:10

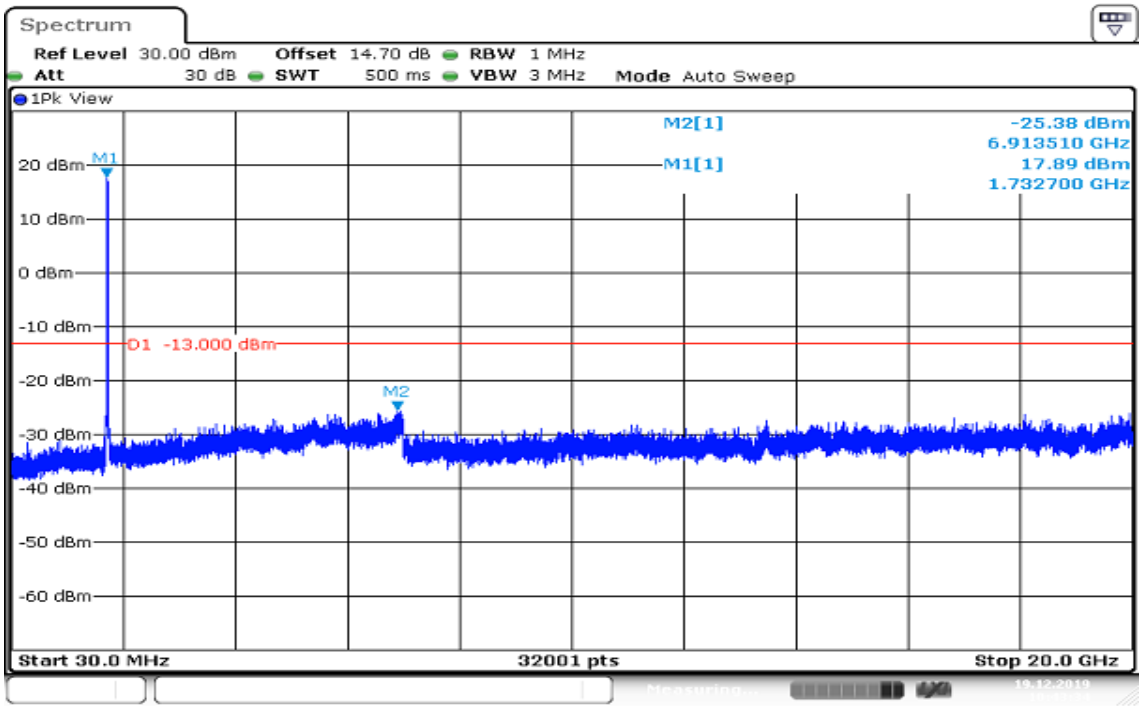
CHANNEL BANDWIDTH:20MHz /16QAM / 1RB

CH Low



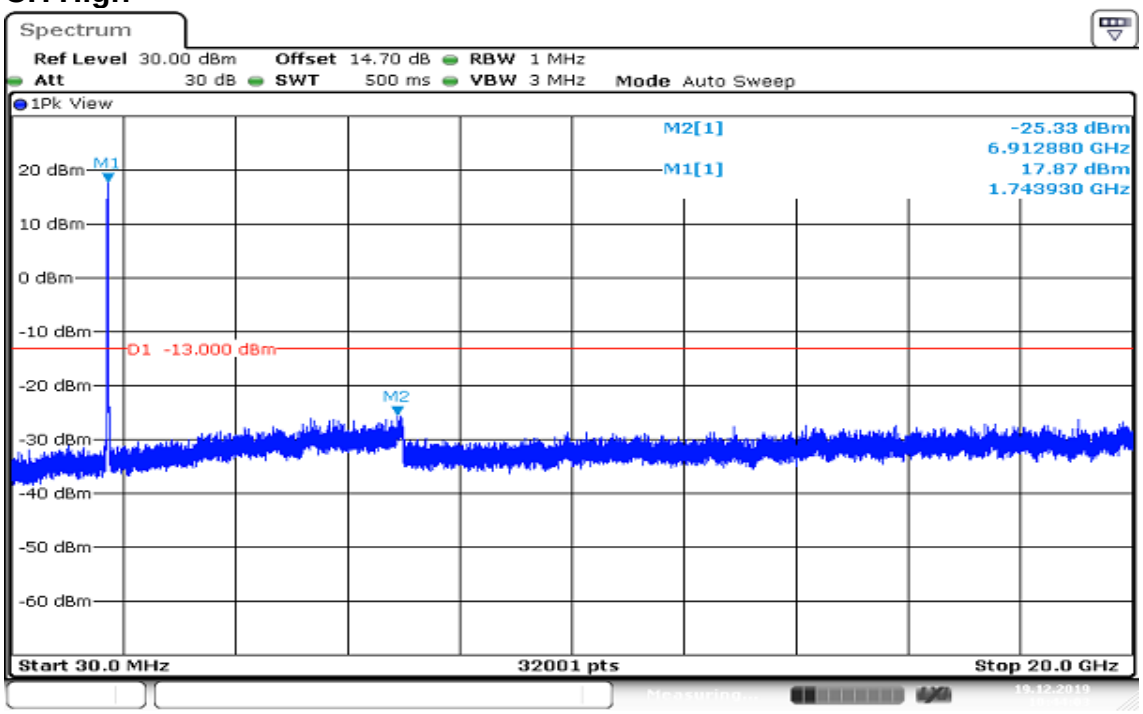
Date: 19.DEC.2019 10:41:10

CH Mid



Date: 19.DEC.2019 10:43:35

CH High



Date: 19.DEC.2019 10:44:03

8.7 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.

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.

Limit Line: -13dBm

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.

According to RSS-139, Band 4

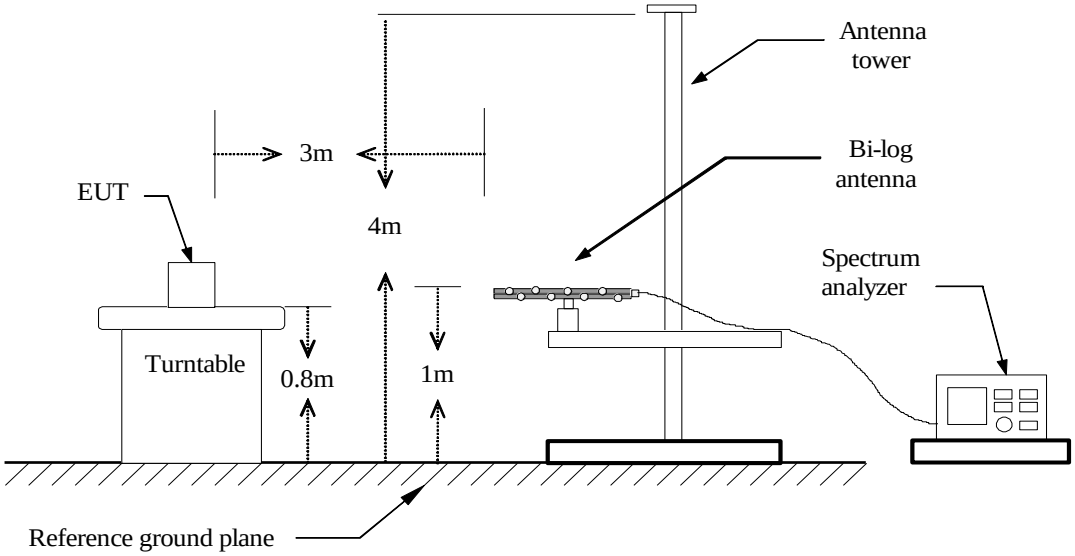
i. In the first 1.0 MHz bands immediately outside and adjacent to the equipment's smallest operating frequency block, which can contain the equipment's occupied bandwidth, the emission power per any 1% of the emission bandwidth shall be attenuated below the transmitter output power P (in dBW) by at least 43 + 10 log10 p (watts) dB.

ii. 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.

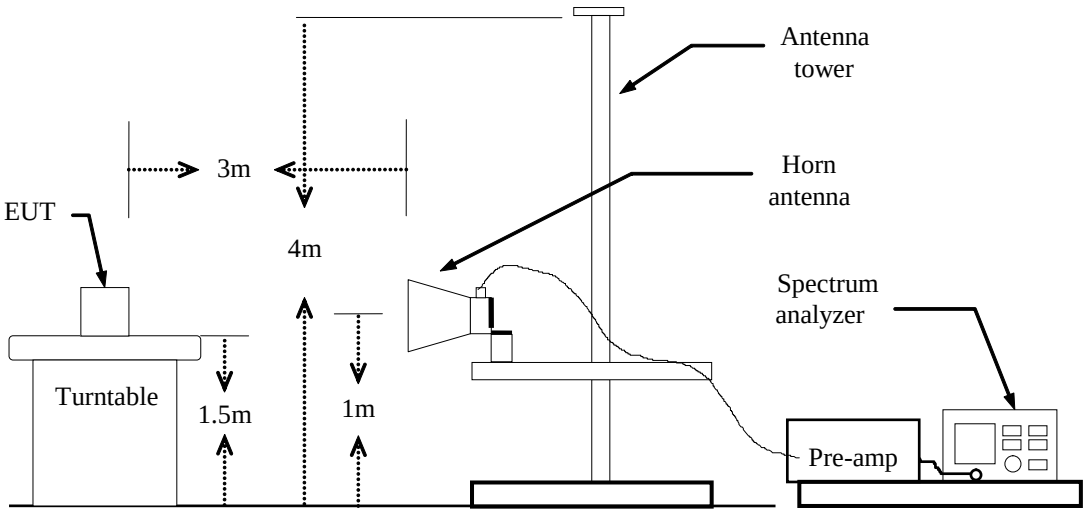
p is the transmitter power measured in watts and **X** is 6 MHz or the equipment occupied bandwidth, whichever is greater.

Test Configuration

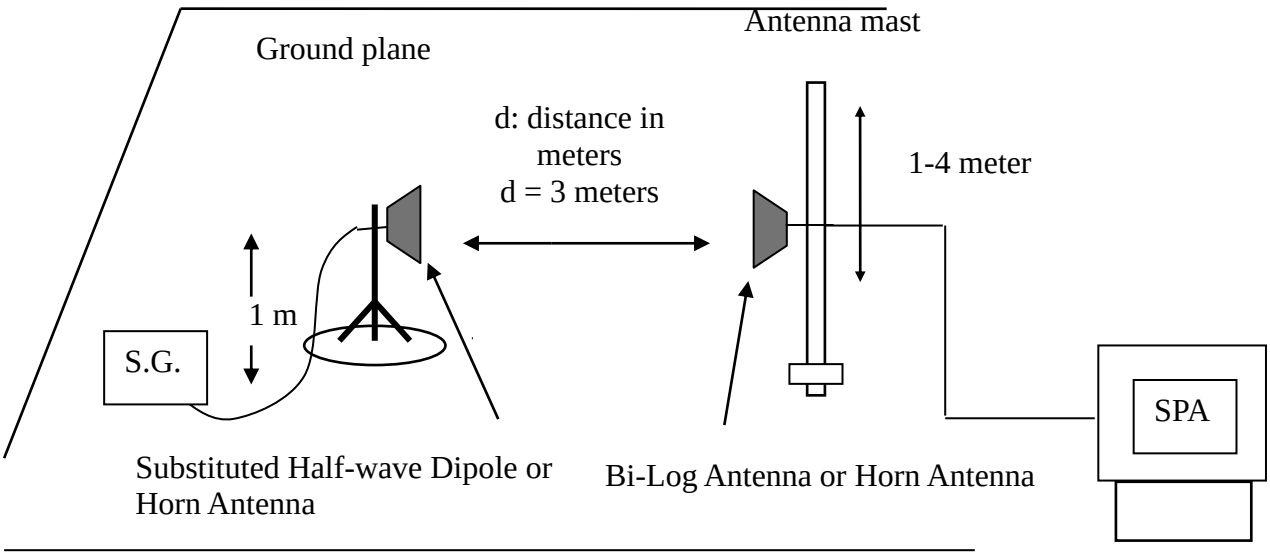
Below 1 GHz



Above 1 GHz



Substituted Method Test Set-up



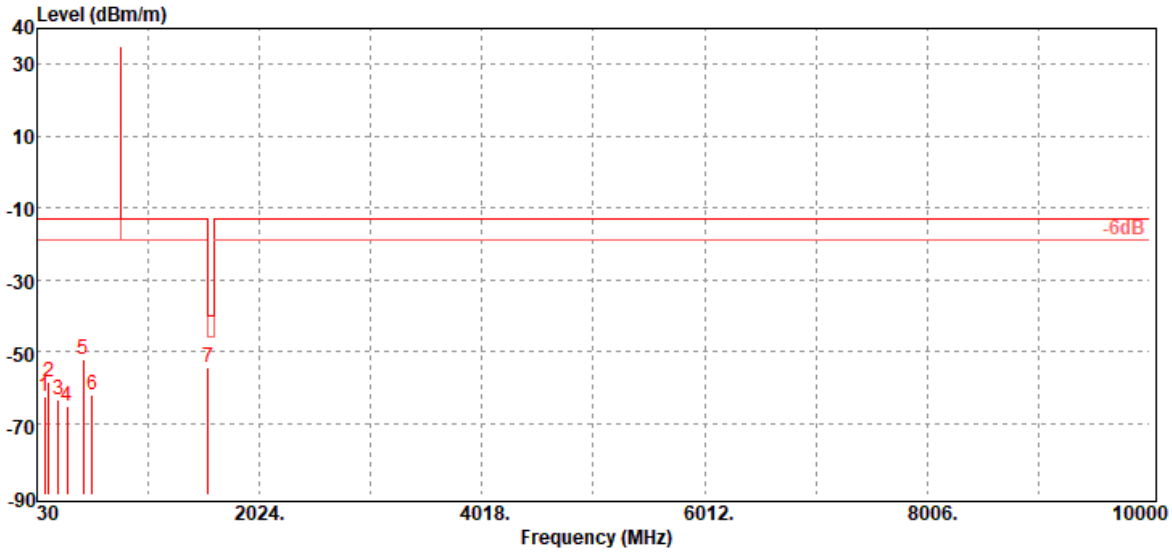
TEST PROCEDURES

1. According to KDB 971168 D01 and TIA-603-E.
2. The EUT was placed on a turntable
   (1) Below 1G : 0.8m
   (2) Above 1G : 1.5m
   (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.

Test Results

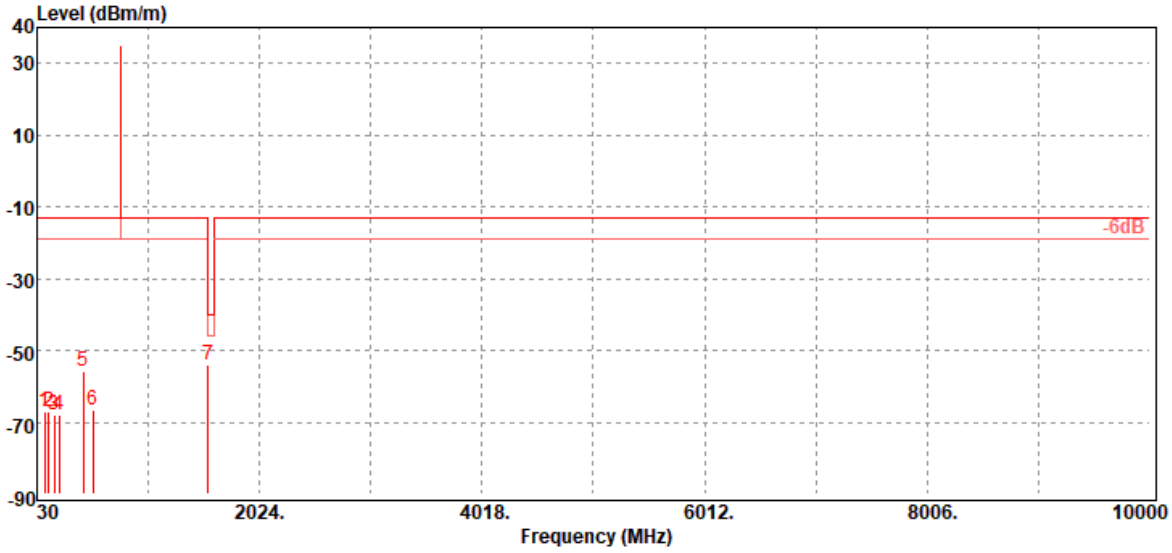
LTE Band 13 / BW: 10MHz / QPSK / RB =1, RB Offset = 0

Operation Mode:	Tx / Low CH	**Test Date:**	January 8, 2020
Temperature:	18.6℃	**Tested by:**	Jerry Chang
Humidity:	59% RH	**Polarity:**	Ver.



Freq. MHz	ERP/EIRP dBm	SG Output Level dBm	Antenna Gain dBd/dBi	Cable Loss dB	Limit dBm	Margin dB	Antenna Polarization (V/H)
97.90	-62.75	-54.05	-7.89	-0.81	-13.00	-49.75	V
133.79	-58.51	-48.04	-9.52	-0.95	-13.00	-45.51	V
224.00	-63.40	-60.25	-1.92	-1.23	-13.00	-50.40	V
299.66	-65.46	-62.02	-2.01	-1.43	-13.00	-52.46	V
447.10	-52.04	-48.19	-2.10	-1.75	-13.00	-39.04	V
527.61	-62.27	-59.05	-1.30	-1.92	-13.00	-49.27	V
1564.00	-54.42	-60.36	9.38	-3.44	-40.00	-14.42	V

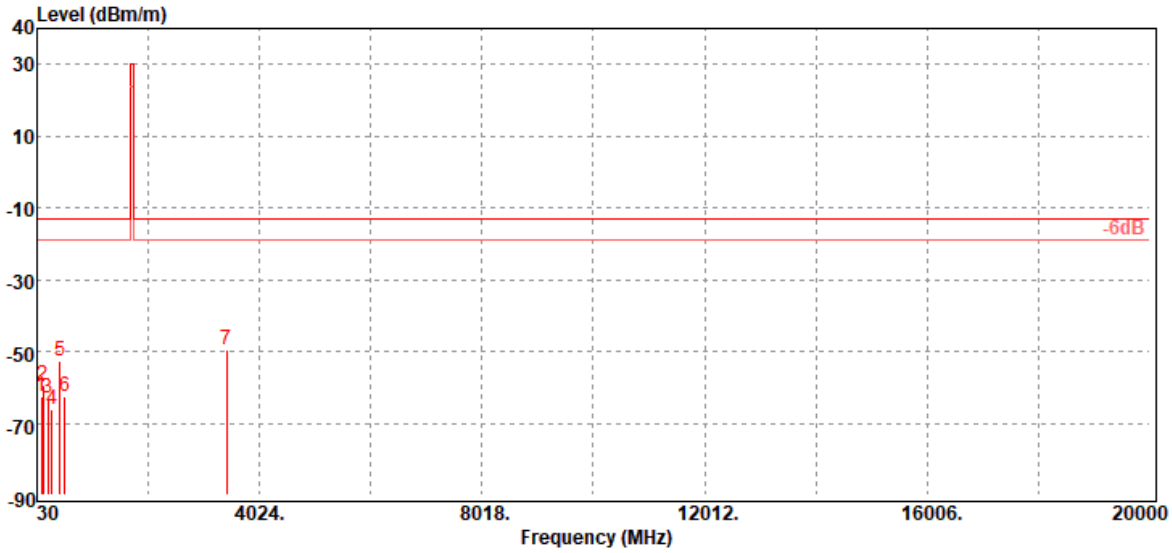
Operation Mode:	Tx / Low CH	**Test Date:**	January 8, 2020
Temperature:	18.6℃	**Tested by:**	Jerry Chang
Humidity:	59% RH	**Polarity:**	Hor.



Freq. MHz	ERP/EIRP dBm	SG Output Level dBm	Antenna Gain dBd/dBi	Cable Loss dB	Limit dBm	Margin dB	Antenna Polarization (V/H)
94.99	-67.15	-59.05	-7.30	-0.80	-13.00	-54.15	H
134.76	-67.18	-56.88	-9.35	-0.95	-13.00	-54.18	H
187.14	-67.78	-62.66	-3.99	-1.13	-13.00	-54.78	H
225.94	-67.80	-64.63	-1.94	-1.23	-13.00	-54.80	H
444.19	-55.65	-51.8	-2.10	-1.75	-13.00	-42.65	H
534.40	-66.56	-63.33	-1.30	-1.93	-13.00	-53.56	H
1564.00	-53.81	-59.75	9.38	-3.44	-40.00	-13.81	H

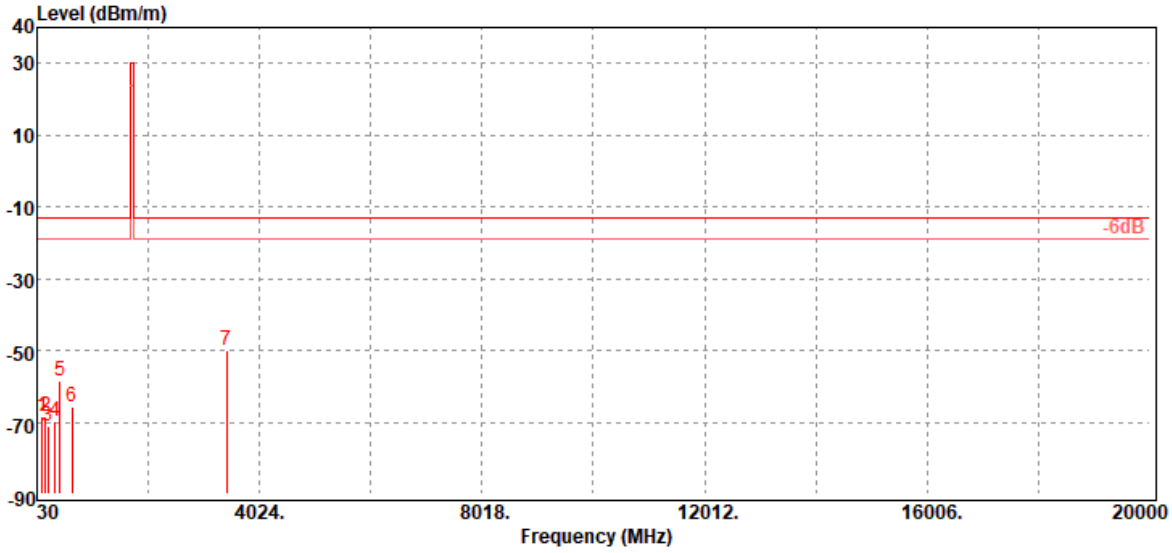
LTE Band 4 / BW: 20MHz / QPSK / RB =1, RB Offset = 0

Operation Mode:	Tx / Low CH	**Test Date:**	January 8, 2020
Temperature:	18.6℃	**Tested by:**	Jerry Chang
Humidity:	59% RH	**Polarity:**	Ver.



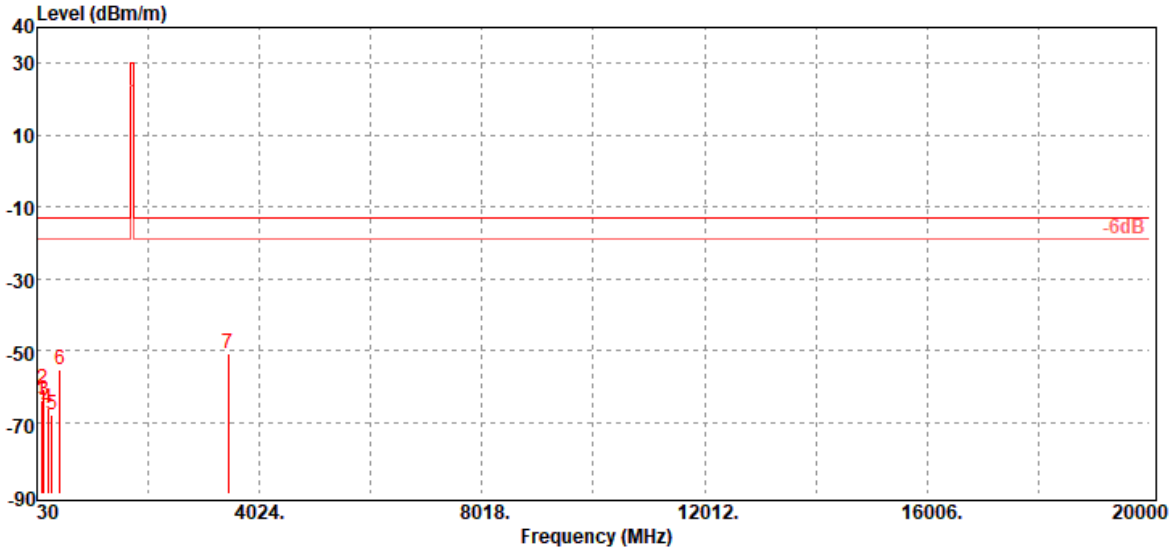
Freq. MHz	Detector Mode PK/QP/AV	Spectrum Reading Level dBµV	Factor dB	Actual FS dBµV/m	Limit @3m dBµV/m	Margin dB	Antenna Polarization (V/H)
105.66	-62.39	-52.18	-9.37	-0.84	-13.00	-49.39	V
131.85	-59.23	-48.48	-9.81	-0.94	-13.00	-46.23	V
225.94	-63.19	-60.02	-1.94	-1.23	-13.00	-50.19	V
299.66	-66.02	-62.58	-2.01	-1.43	-13.00	-53.02	V
444.19	-52.69	-48.84	-2.10	-1.75	-13.00	-39.69	V
527.61	-62.56	-59.34	-1.30	-1.92	-13.00	-49.56	V
3440.00	-49.49	-56.7	12.72	-5.51	-13.00	-36.49	V

Operation Mode:	Tx / Low CH	**Test Date:**	January 8, 2020
Temperature:	18.6℃	**Tested by:**	Jerry Chang
Humidity:	59% RH	**Polarity:**	Hor.



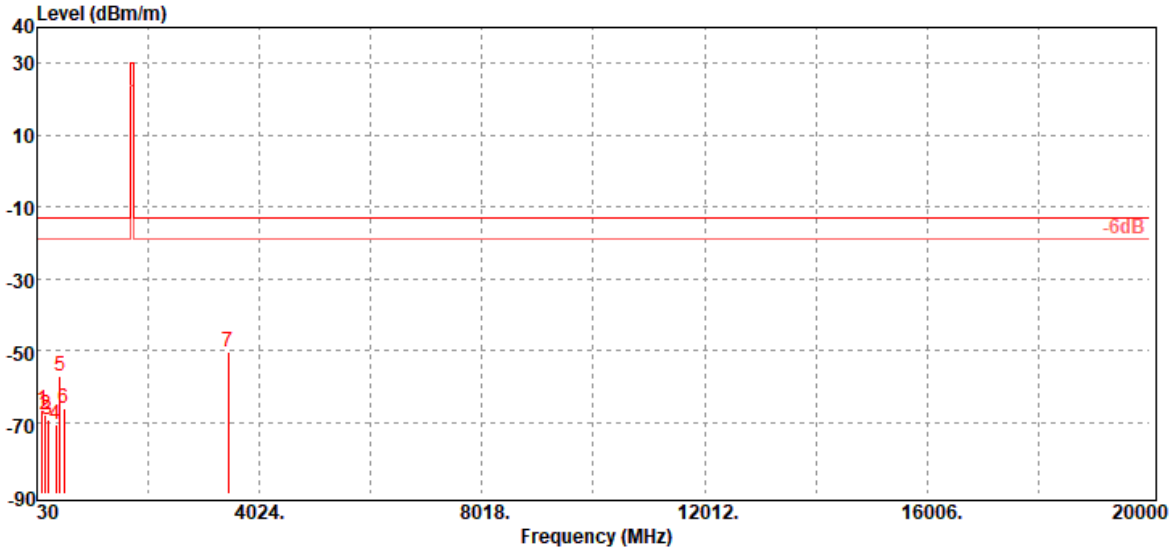
Freq. MHz	Detector Mode PK/QP/AV	Spectrum Reading Level dBµV	Factor dB	Actual FS dBµV/m	Limit @3m dBµV/m	Margin dB	Antenna Polarization (V/H)
124.09	-68.46	-57.05	-10.50	-0.91	-13.00	-55.46	H
185.20	-68.25	-63.05	-4.08	-1.12	-13.00	-55.25	H
225.94	-70.89	-67.72	-1.94	-1.23	-13.00	-57.89	H
356.89	-69.64	-66.53	-1.55	-1.56	-13.00	-56.64	H
442.25	-58.45	-54.61	-2.10	-1.74	-13.00	-45.45	H
660.50	-65.72	-62.14	-1.41	-2.17	-13.00	-52.72	H
3440.00	-50.16	-57.37	12.72	-5.51	-13.00	-37.16	H

Operation Mode:	Tx / Mid CH	**Test Date:**	January 8, 2020
Temperature:	18.6℃	**Tested by:**	Jerry Chang
Humidity:	59% RH	**Polarity:**	Ver.



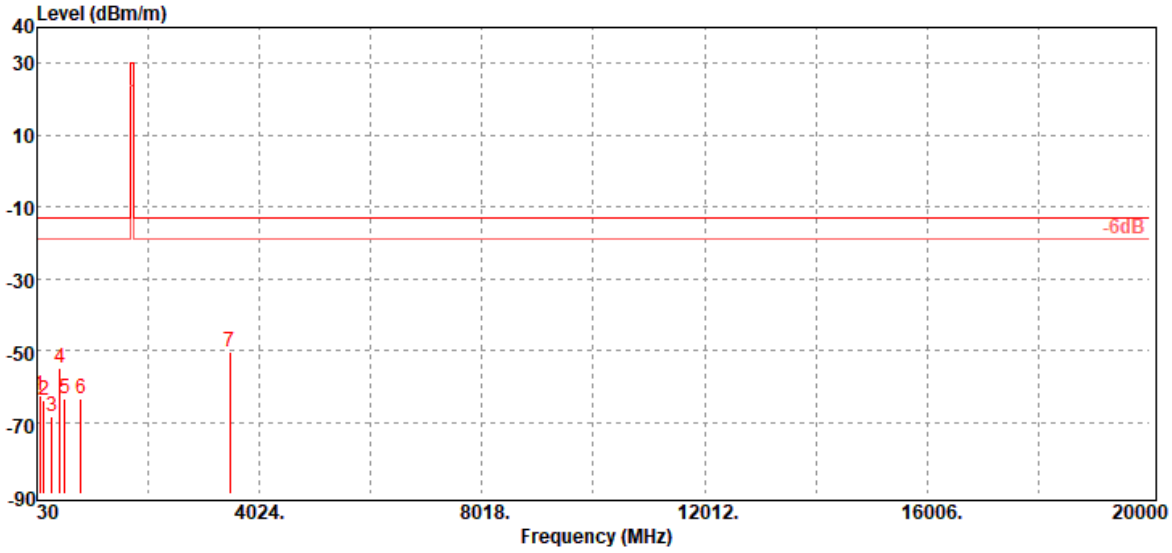
Freq. MHz	Detector Mode PK/QP/AV	Spectrum Reading Level dBµV	Factor dB	Actual FS dBµV/m	Limit @3m dBµV/m	Margin dB	Antenna Polarization (V/H)
105.66	-63.69	-53.48	-9.37	-0.84	-13.00	-50.69	V
134.76	-60.71	-50.41	-9.35	-0.95	-13.00	-47.71	V
159.98	-63.83	-56.59	-6.20	-1.04	-13.00	-50.83	V
225.94	-66.36	-63.19	-1.94	-1.23	-13.00	-53.36	V
299.66	-68.13	-64.69	-2.01	-1.43	-13.00	-55.13	V
447.10	-55.42	-51.57	-2.10	-1.75	-13.00	-42.42	V
3465.00	-50.92	-58.03	12.64	-5.53	-13.00	-37.92	V

Operation Mode:	Tx / Mid CH	**Test Date:**	January 8, 2020
Temperature:	18.6℃	**Tested by:**	Jerry Chang
Humidity:	59% RH	**Polarity:**	Hor.



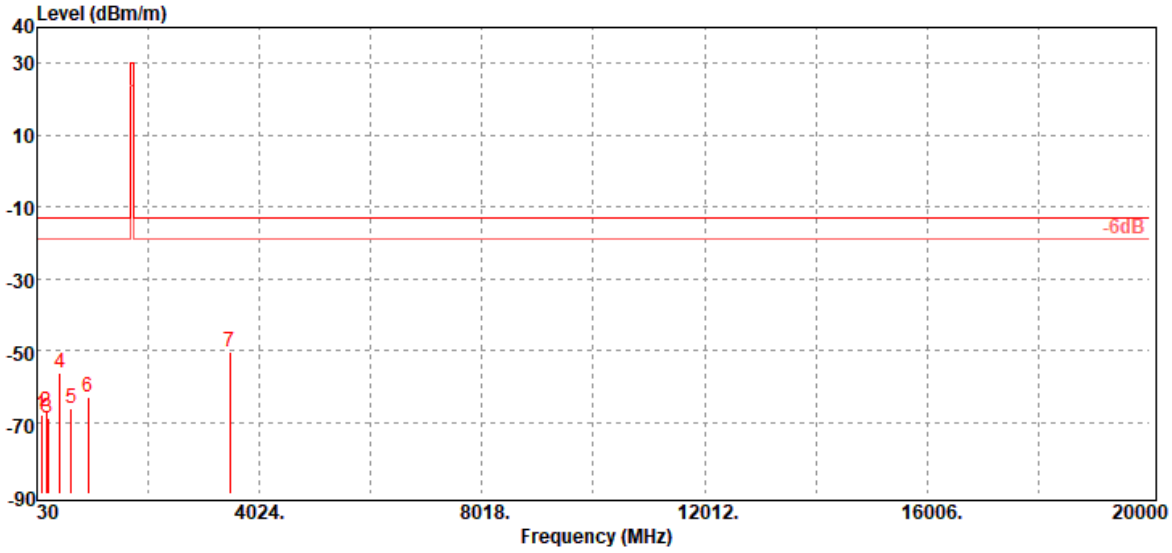
Freq. MHz	Detector Mode PK/QP/AV	Spectrum Reading Level dBµV	Factor dB	Actual FS dBµV/m	Limit @3m dBµV/m	Margin dB	Antenna Polarization (V/H)
124.09	-66.62	-55.21	-10.50	-0.91	-13.00	-53.62	H
188.11	-67.81	-62.78	-3.90	-1.13	-13.00	-54.81	H
225.94	-69.22	-66.05	-1.94	-1.23	-13.00	-56.22	H
364.65	-70.56	-67.18	-1.80	-1.58	-13.00	-57.56	H
447.10	-56.97	-53.12	-2.10	-1.75	-13.00	-43.97	H
517.91	-66.08	-62.74	-1.44	-1.90	-13.00	-53.08	H
3465.00	-50.60	-57.71	12.64	-5.53	-13.00	-37.60	H

Operation Mode:	Tx / High CH	**Test Date:**	January 8, 2020
Temperature:	18.6℃	**Tested by:**	Jerry Chang
Humidity:	59% RH	**Polarity:**	Ver.



Freq. MHz	ERP/EIRP dBm	SG Output Level dBm	Antenna Gain dBd/dBi	Cable Loss dB	Limit dBm	Margin dB	Antenna Polarization (V/H)
86.26	-62.38	-54.07	-7.55	-0.76	-13.00	-49.38	V
159.01	-64.01	-56.57	-6.40	-1.04	-13.00	-51.01	V
299.66	-68.36	-64.92	-2.01	-1.43	-13.00	-55.36	V
447.10	-54.84	-50.99	-2.10	-1.75	-13.00	-41.84	V
524.70	-63.28	-60.06	-1.31	-1.91	-13.00	-50.28	V
817.64	-63.55	-59.64	-1.51	-2.40	-13.00	-50.55	V
3490.00	-50.61	-57.6	12.54	-5.55	-13.00	-37.61	V

Operation Mode:	Tx / High CH	**Test Date:**	January 8, 2020
Temperature:	18.6℃	**Tested by:**	Jerry Chang
Humidity:	59% RH	**Polarity:**	Hor.



Freq. MHz	ERP/EIRP dBm	SG Output Level dBm	Antenna Gain dBd/dBi	Cable Loss dB	Limit dBm	Margin dB	Antenna Polarization (V/H)
105.66	-67.74	-57.53	-9.37	-0.84	-13.00	-54.74	H
190.05	-66.90	-61.77	-4.00	-1.13	-13.00	-53.90	H
225.94	-68.93	-65.76	-1.94	-1.23	-13.00	-55.93	H
447.10	-56.40	-52.55	-2.10	-1.75	-13.00	-43.40	H
644.01	-66.36	-62.6	-1.62	-2.14	-13.00	-53.36	H
943.74	-63.21	-59.37	-1.23	-2.61	-13.00	-50.21	H
3490.00	-50.63	-57.62	12.54	-5.55	-13.00	-37.63	H

- End of Test Report -