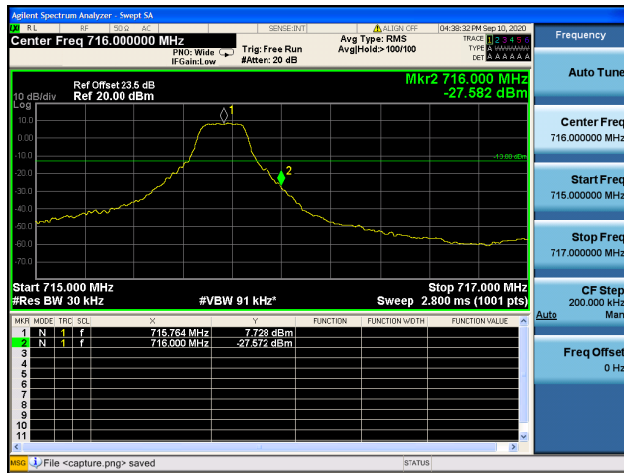
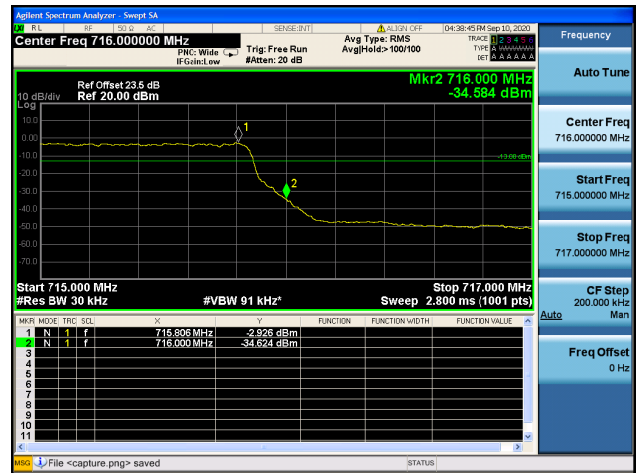
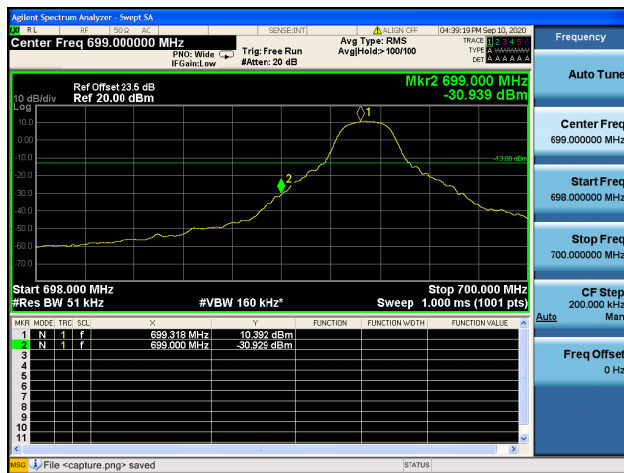
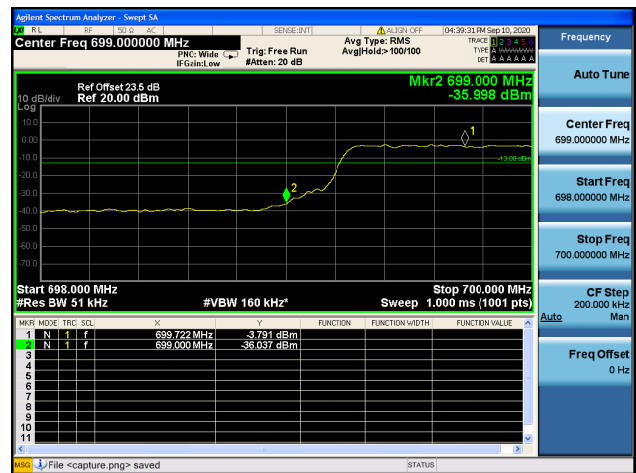
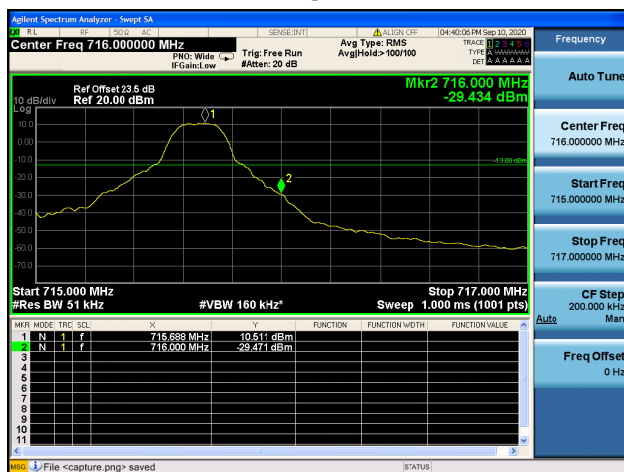
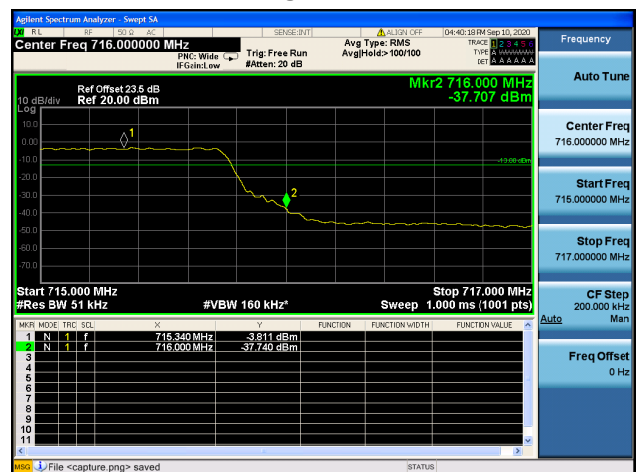


**Band12 / 3MHz / High CH / QPSK / 1 RB****Band12 / 3MHz / High CH / QPSK / FULL RB****Band12 / 5MHz / Low CH / QPSK / 1 RB****Band12 / 5MHz / Low CH / QPSK / FULL RB****Band12 / 5MHz / High CH / QPSK / 1 RB****Band12 / 5MHz / High CH / QPSK / FULL RB**



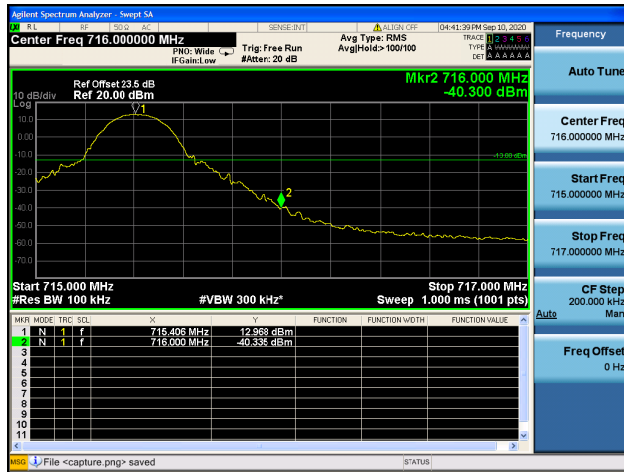
Band12 / 10MHz / Low CH / QPSK / 1 RB



Band12 / 10MHz / Low CH / QPSK / FULL RB



Band12 / 10MHz / High CH / QPSK / 1 RB



Band12 / 10MHz / High CH / QPSK / FULL RB





Band25 / 1.4MHz / Low CH / QPSK / 1 RB



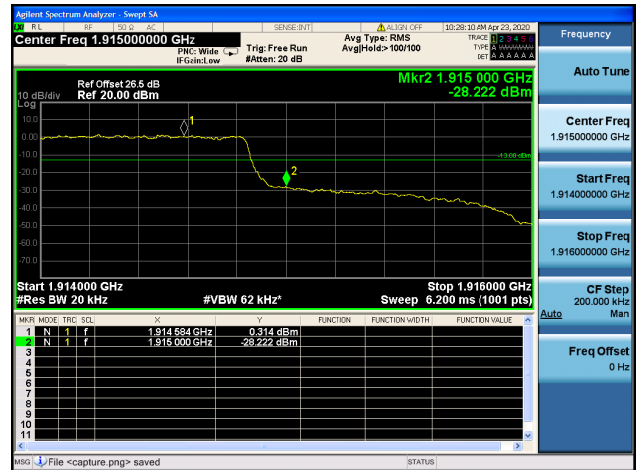
Band25 / 1.4MHz / Low CH / QPSK / FULL RB



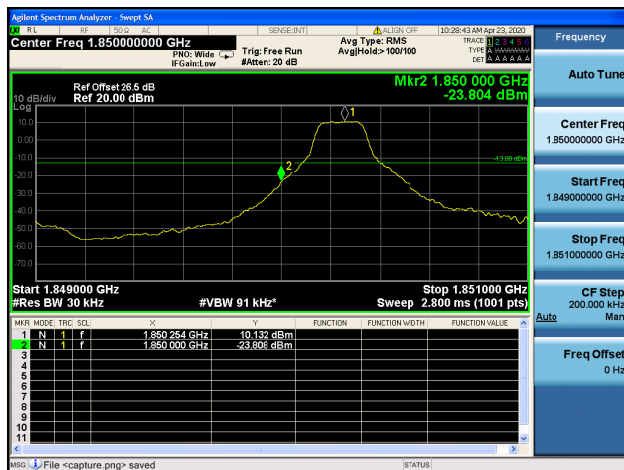
Band25 / 1.4MHz / High CH / QPSK / 1 RB



Band25 / 1.4MHz / High CH / QPSK / FULL RB

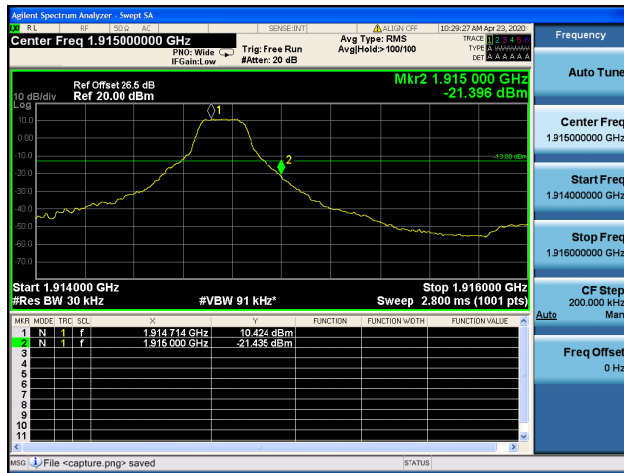
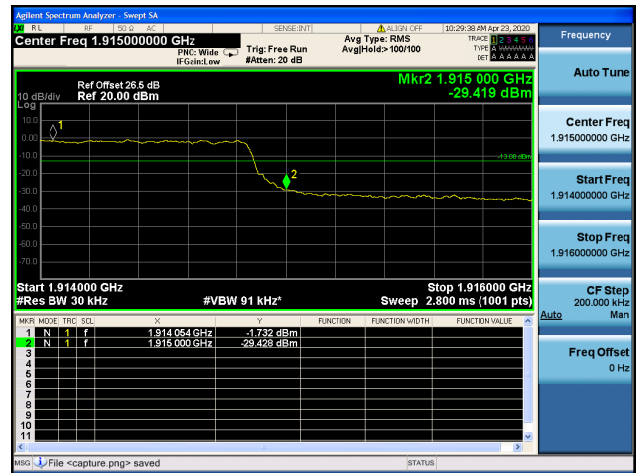
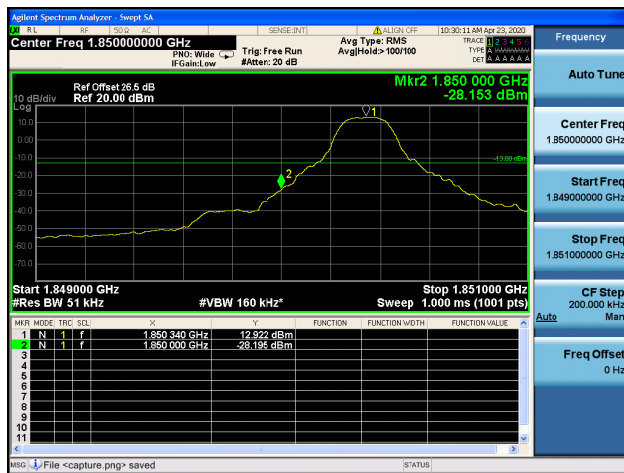
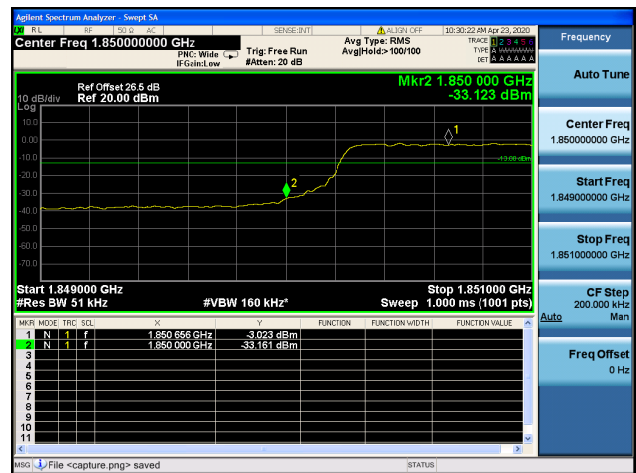
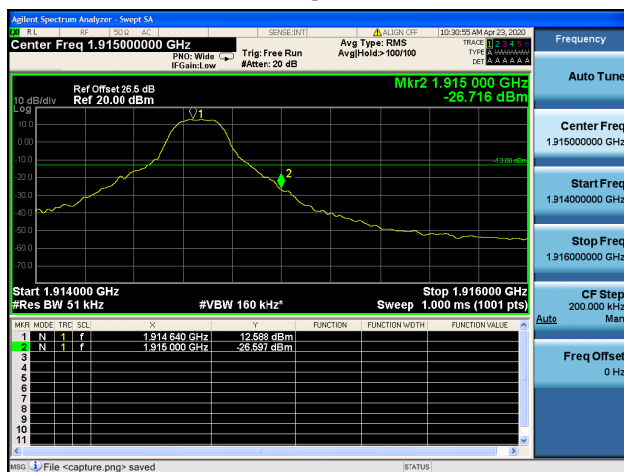
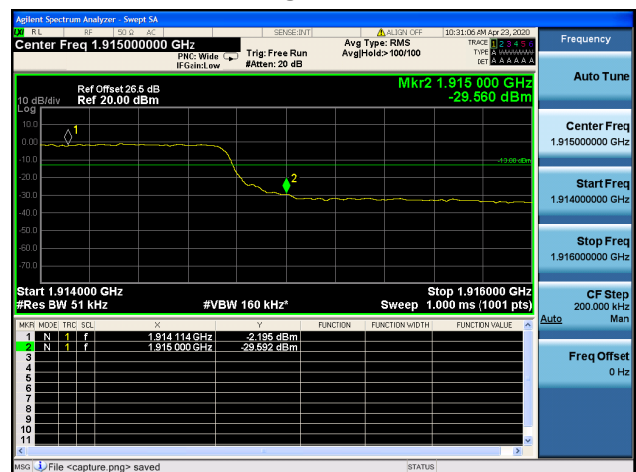


Band25 / 3MHz / Low CH / QPSK / 1 RB



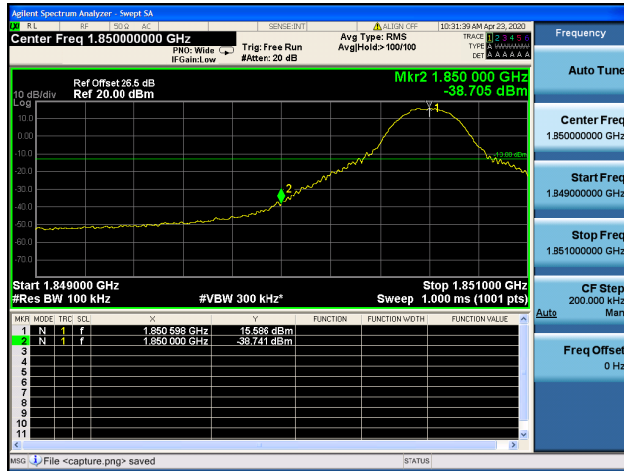
Band25 / 3MHz / Low CH / QPSK / FULL RB



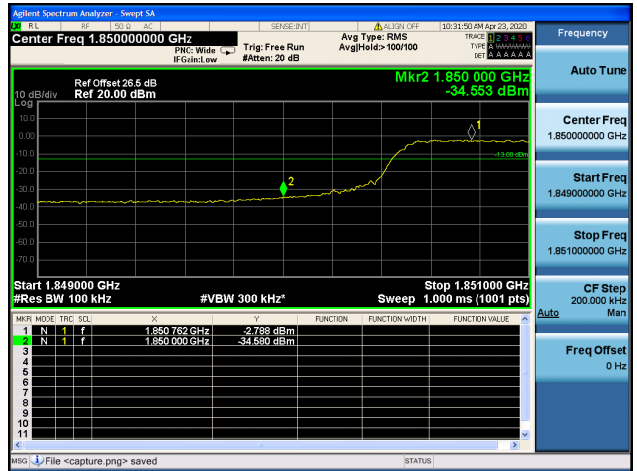
**Band25 / 3MHz / High CH / QPSK / 1 RB****Band25 / 3MHz / High CH / QPSK / FULL RB****Band25 / 5MHz / Low CH / QPSK / 1 RB****Band25 / 5MHz / Low CH / QPSK / FULL RB****Band25 / 5MHz / High CH / QPSK / 1 RB****Band25 / 5MHz / High CH / QPSK / FULL RB**



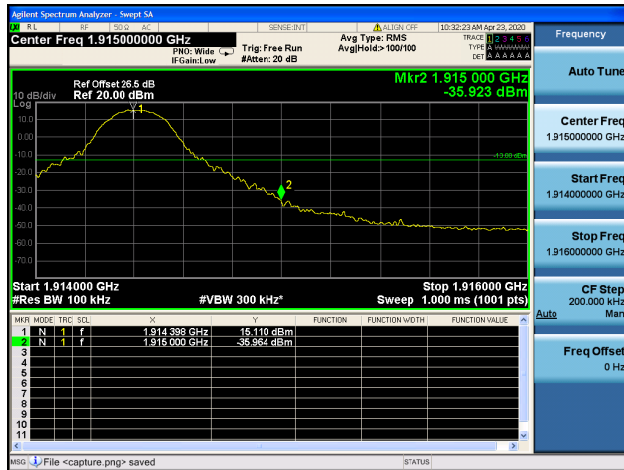
Band25 / 10MHz / Low CH / QPSK / 1 RB



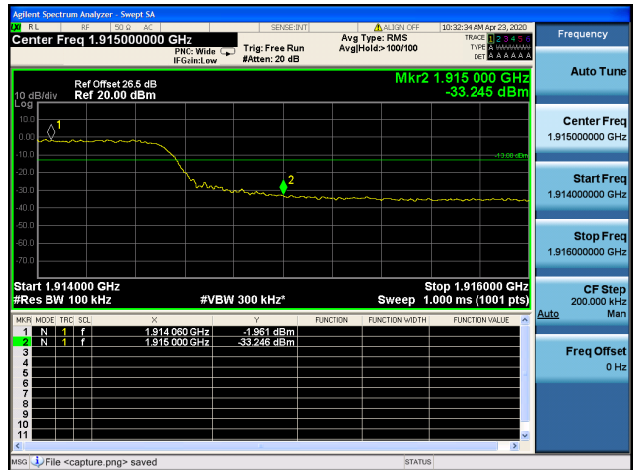
Band25 / 10MHz / Low CH / QPSK / FULL RB



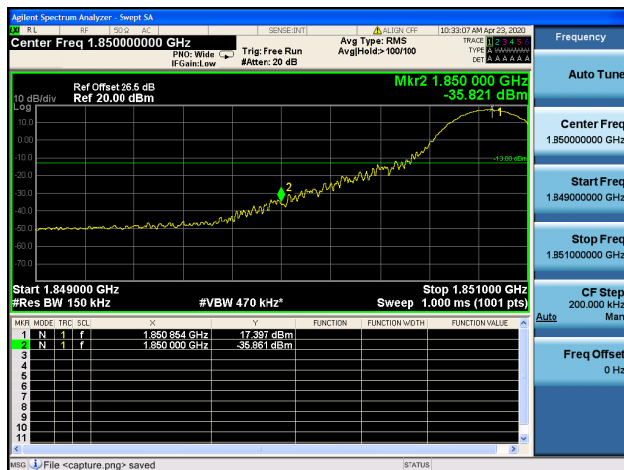
Band25 / 10MHz / High CH / QPSK / 1 RB



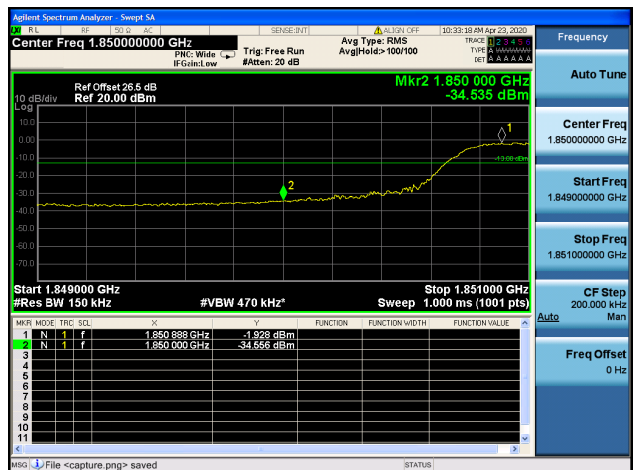
Band25 / 10MHz / High CH / QPSK / FULL RB

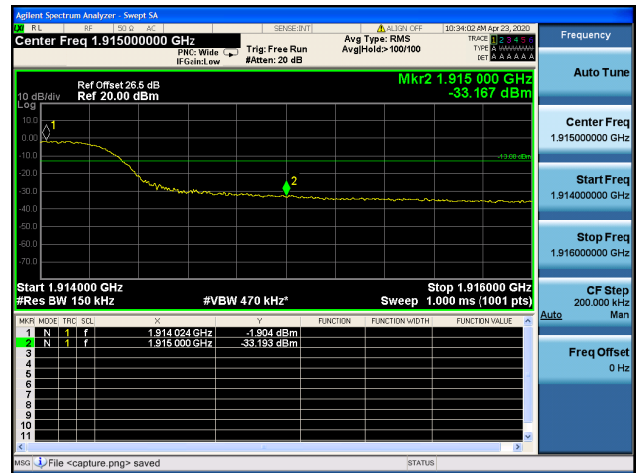
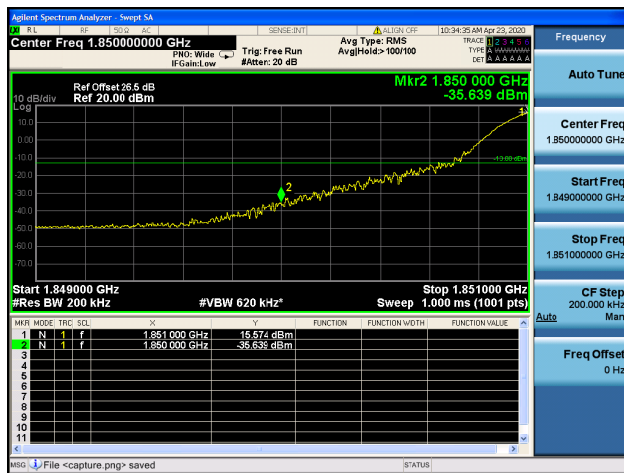
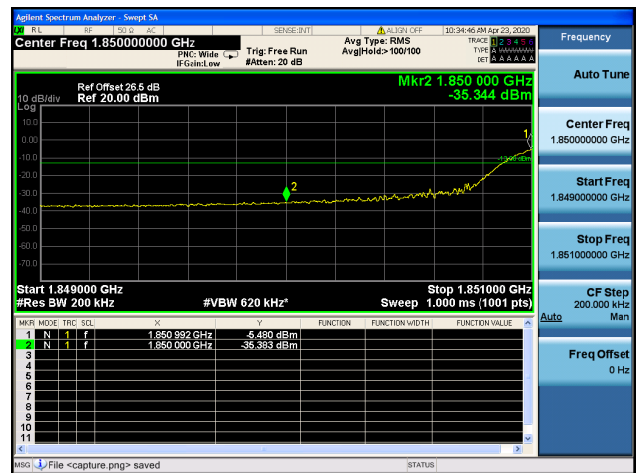
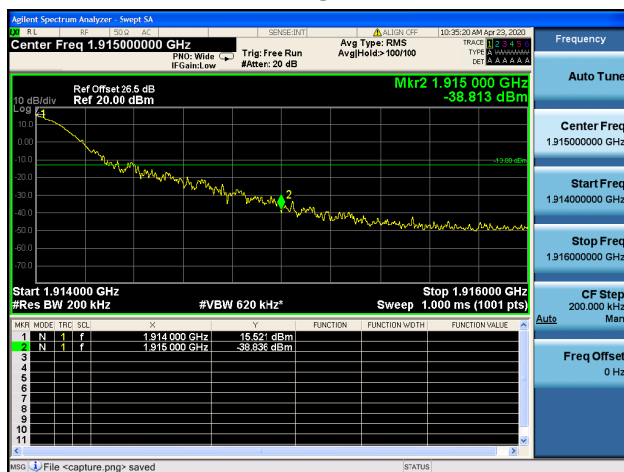
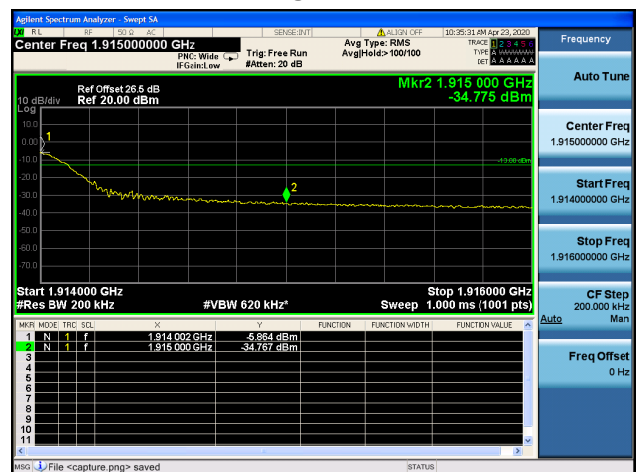


Band25 / 15MHz / Low CH / QPSK / 1 RB



Band25 / 15MHz / Low CH / QPSK / FULL RB



**Band25 / 15MHz / High CH / QPSK / 1 RB****Band25 / 15MHz / High CH / QPSK / FULL RB****Band25 / 20MHz / Low CH / QPSK / 1 RB****Band25 / 20MHz / Low CH / QPSK / FULL RB****Band25 / 20MHz / High CH / QPSK / 1 RB****Band25 / 20MHz / High CH / QPSK / FULL RB**



Channel Bandwidth: 5MHz

Channel Bandwidth: 5MHz

Channel

41565

1RB

Channel

41565

FULL RB

Agilent Spectrum Analyzer - Spurious Emissions

SENSE: RVT

ALIGN OFF

01:11:30 PM Apr 23, 2020

Center Freq: 13.255000000 GHz

Trig: FreeRun

Radio Std: None

PASS

IF Gain: Low

Attenu: 10 dB

Radio Device: BTS

Recall State

From File...

Edit Register Names

Register 1
Last: 3/12/2019
3:54:55 PM

Register 2
(empty)

Register 3
(empty)

Register 4
(empty)

More
1 of 3

Ref Offset: 26.4 dB

Ref: 40.00 dBm

Start: 2.685 GHz

Stop: 2.715 GHz

Spur	Range	Start Freq	Stop Freq	RBW	Frequency	Amplitude	Δ Limit
1	1	2.6850 GHz	2.6900 GHz	1.000 MHz	2.685583333 GHz	23.78 dBm	-6.220 dB
2	2	2.6900 GHz	2.6910 GHz	100.0 MHz	2.690833333 GHz	-21.40 dBm	-11.40 dB
3	3	2.6910 GHz	2.6950 GHz	1.000 MHz	2.693466667 GHz	-44.50 dBm	-34.50 dB
4	4	2.6950 GHz	2.6960 GHz	1.000 MHz	2.695536667 GHz	-32.08 dBm	-19.08 dB
5	5	2.6960 GHz	2.7150 GHz	1.000 MHz	2.696918333 GHz	-50.27 dBm	-25.27 dB

NSO

STATUS

Agilent Spectrum Analyzer - Spurious Emissions

SENSE: RVT

ALIGN OFF

01:11:57 PM Apr 23, 2020

Center Freq: 13.255000000 GHz

Trig: Free Run

Radio Std: None

PASS

IF Gain: Low

Attenu: 10 dB

Radio Device: BTS

Recall State

From File...

Edit Register Names

Register 1
Last: 3/12/2019
3:54:55 PM

Register 2
(empty)

Register 3
(empty)

Register 4
(empty)

More
1 of 3

Ref Offset: 26.4 dB

Ref: 40.00 dBm

Start: 2.685 GHz

Stop: 2.715 GHz

Spur	Range	Start Freq	Stop Freq	RBW	Frequency	Amplitude	Δ Limit
1	1	2.6850 GHz	2.6900 GHz	1.000 MHz	2.685525000 GHz	20.42 dBm	-5.578 dB
2	2	2.6900 GHz	2.6910 GHz	100.0 MHz	2.690883333 GHz	-19.03 dBm	-9.027 dB
3	3	2.6910 GHz	2.6950 GHz	1.000 MHz	2.693006667 GHz	-43.35 dBm	-33.35 dB
4	4	2.6950 GHz	2.6960 GHz	1.000 MHz	2.695113333 GHz	-19.46 dBm	-6.456 dB
5	5	2.6960 GHz	2.7150 GHz	1.000 MHz	2.701573333 GHz	-50.49 dBm	-25.49 dB

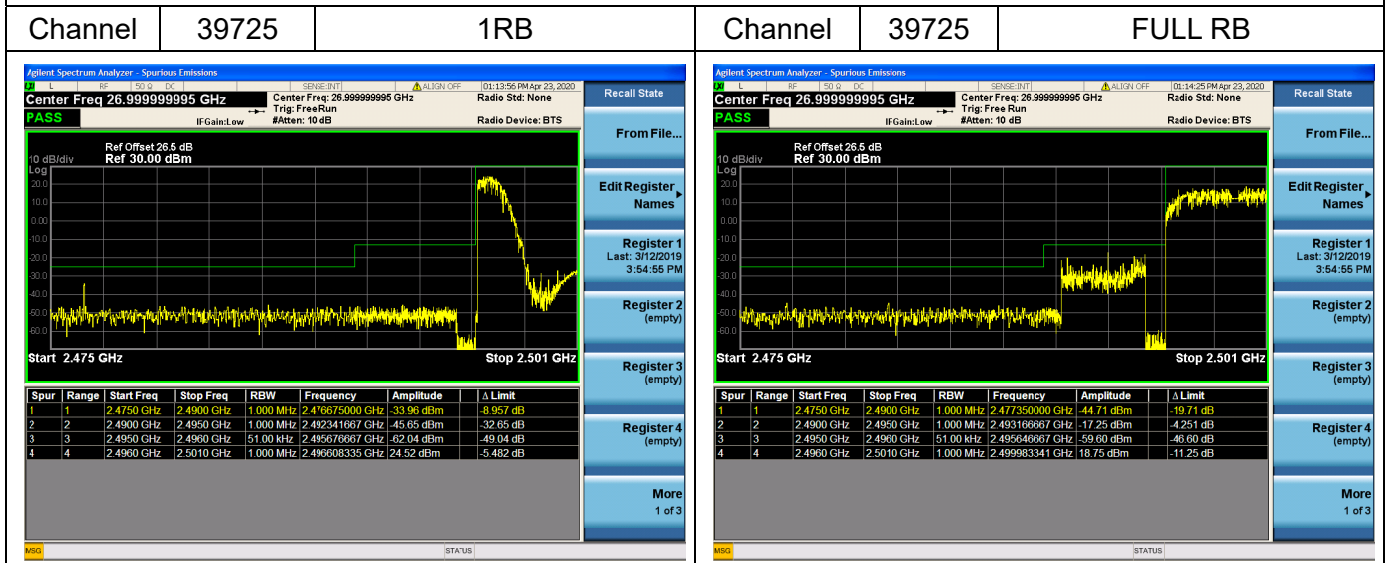
NSO

STATUS

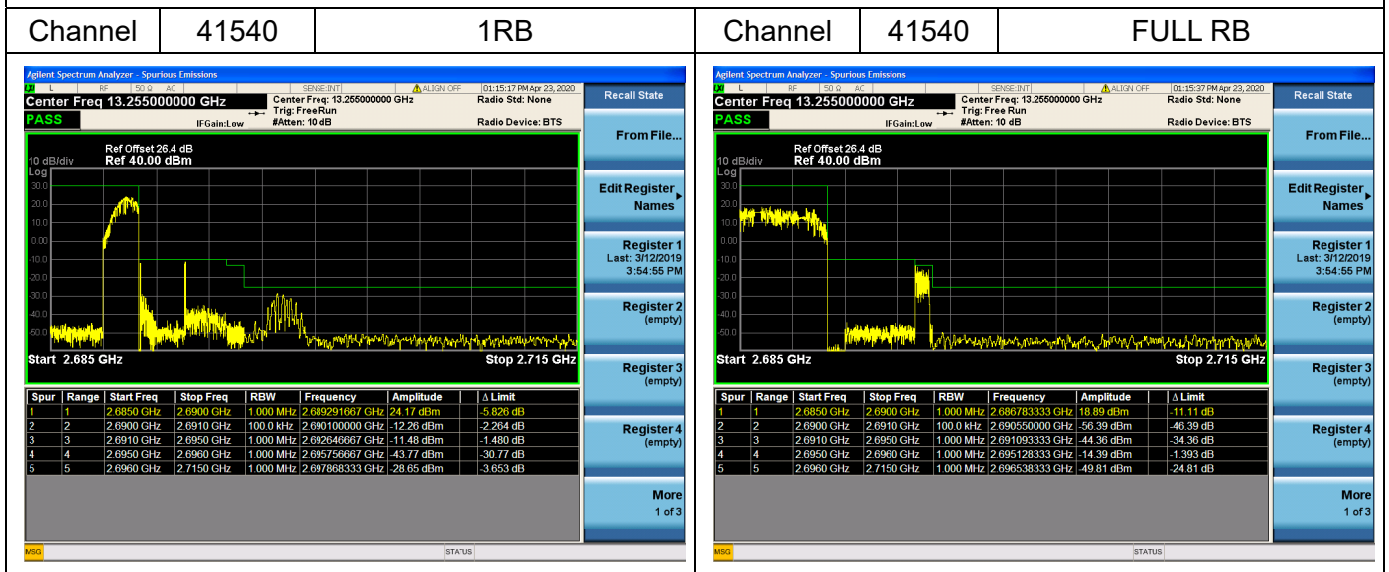


LTE Band 41

Channel Bandwidth: 10MHz



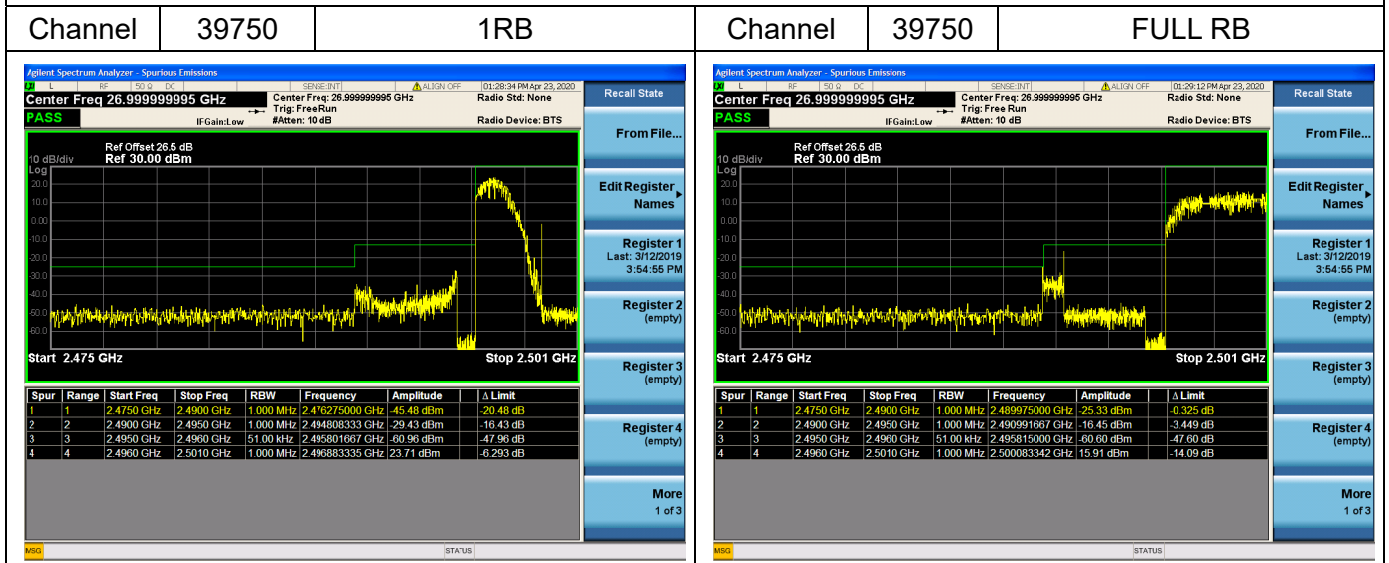
Channel Bandwidth: 10MHz



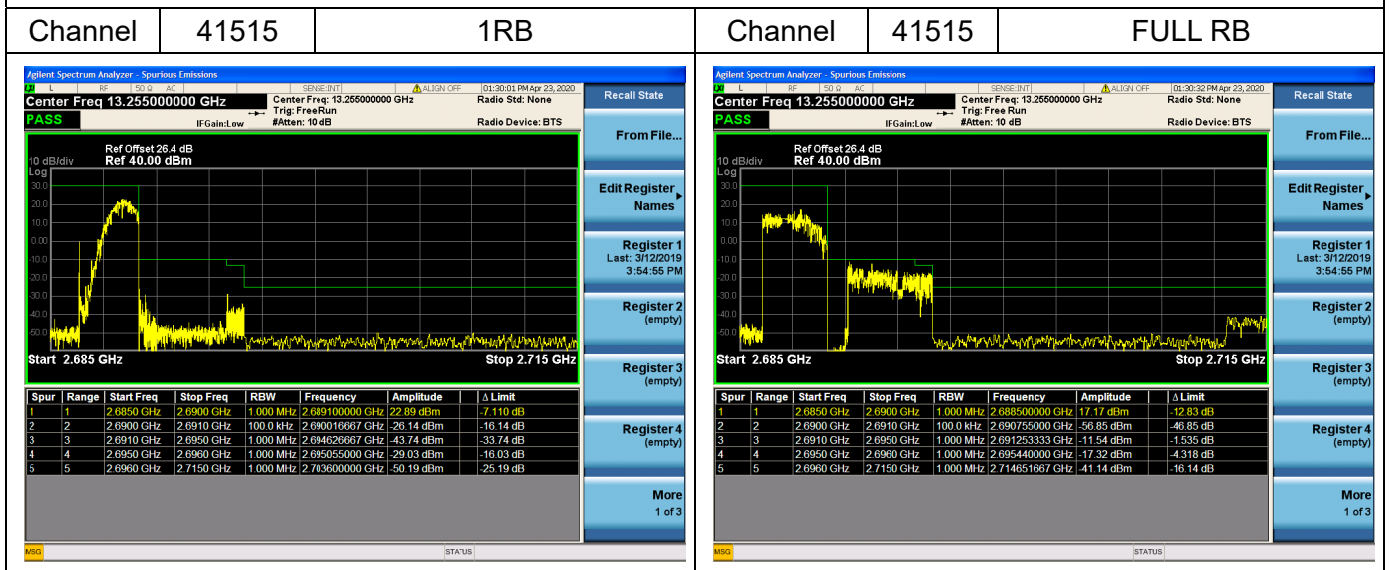


LTE Band 41

Channel Bandwidth: 15MHz



Channel Bandwidth: 15MHz



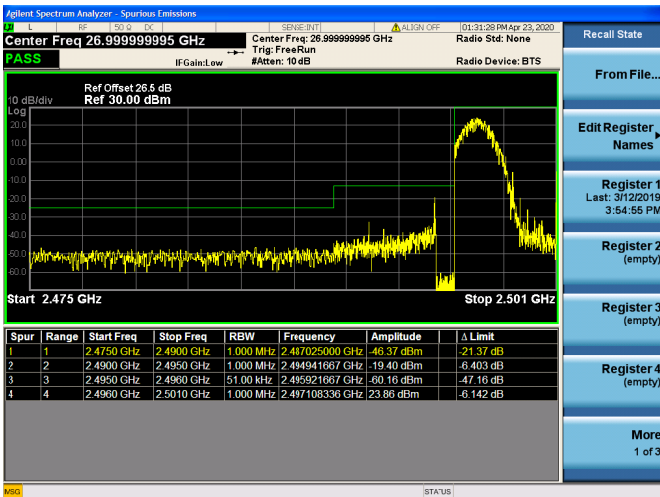


LTE Band 41

Channel Bandwidth: 20MHz

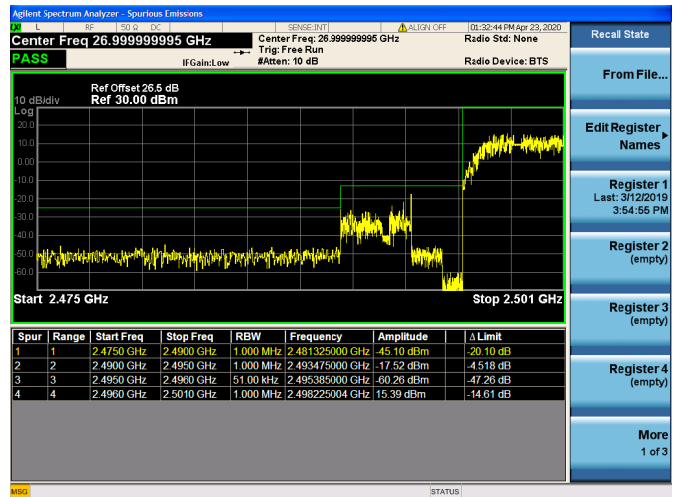
Channel 39750

1RB



Channel 39750

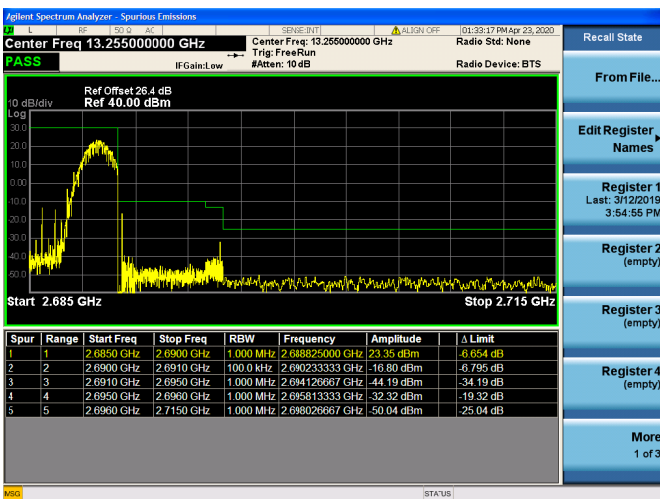
FULL RB



Channel Bandwidth: 20MHz

Channel 41490

1RB



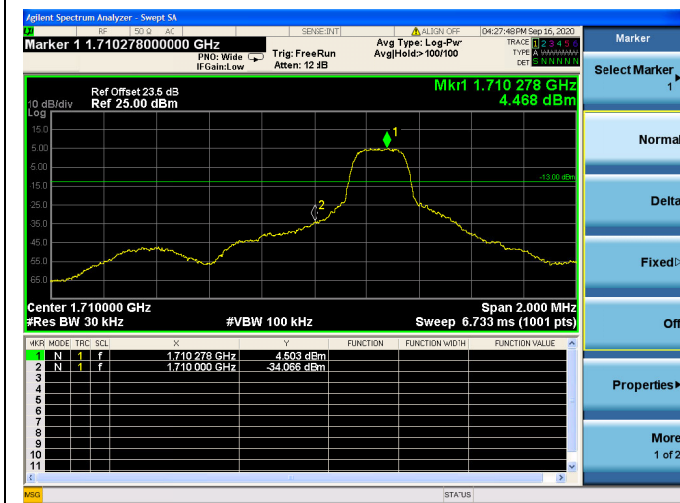
Channel 41490

FULL RB

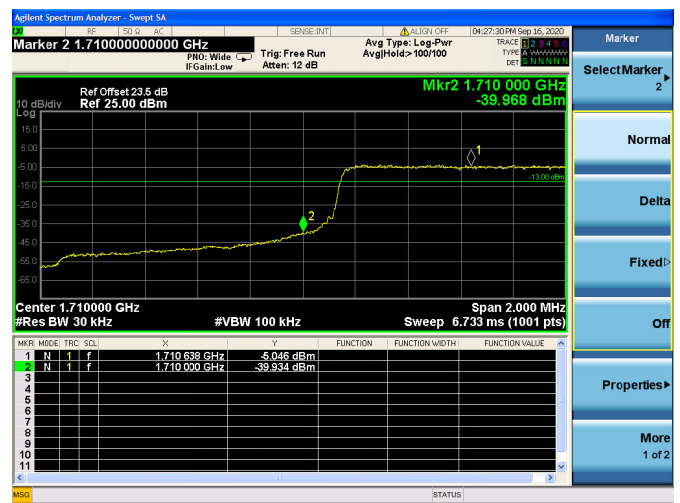




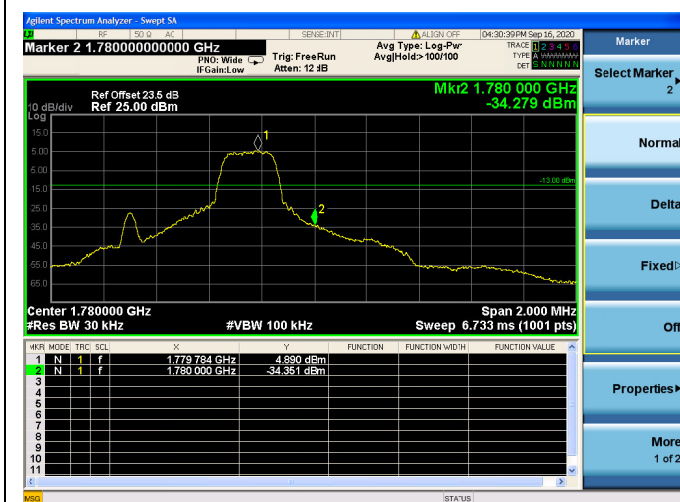
Band66 / 1.4MHz / Low CH / QPSK / 1 RB



Band66 / 1.4MHz / Low CH / QPSK / Full RB



Band66 / 1.4MHz / High CH / QPSK / 1 RB

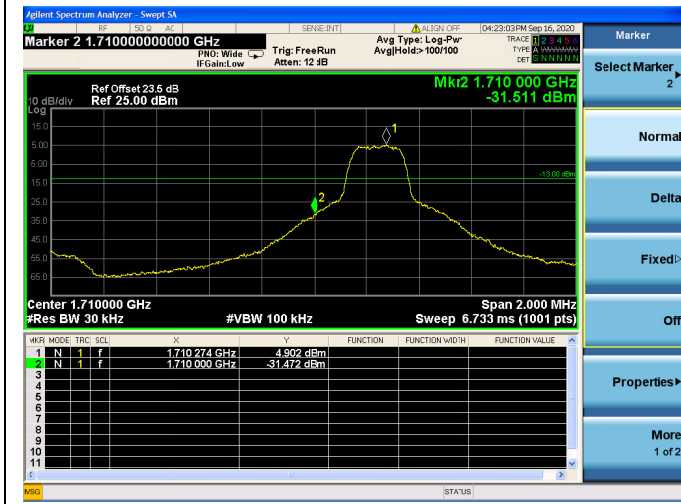


Band66 / 1.4MHz / High CH / QPSK / Full RB

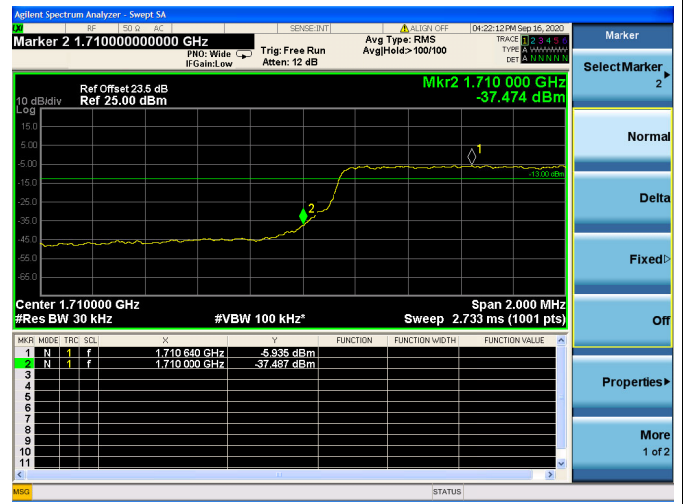




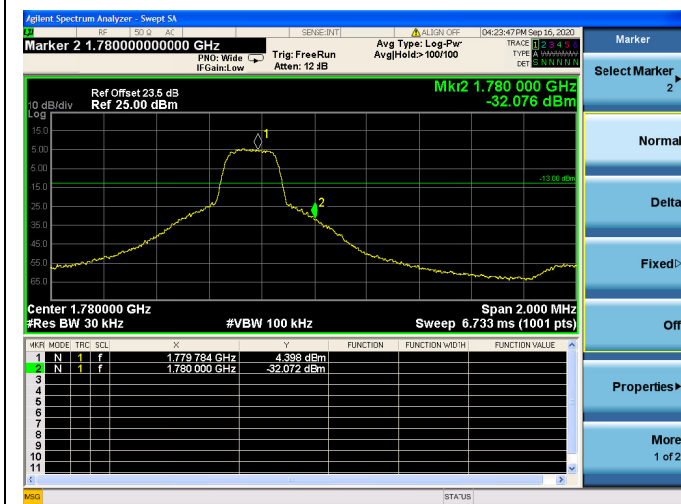
Band66 / 3MHz / Low CH / QPSK / 1 RB



Band66 / 3MHz / Low CH / QPSK / Full RB



Band66 / 3MHz / High CH / QPSK / 1 RB

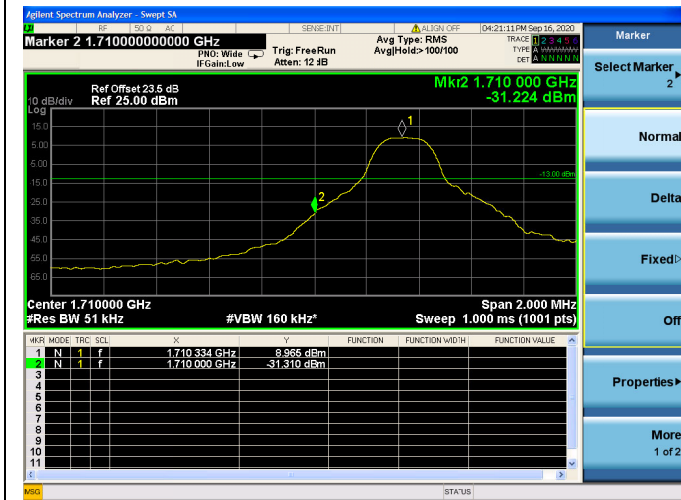


Band66 / 3MHz / High CH / QPSK / Full RB

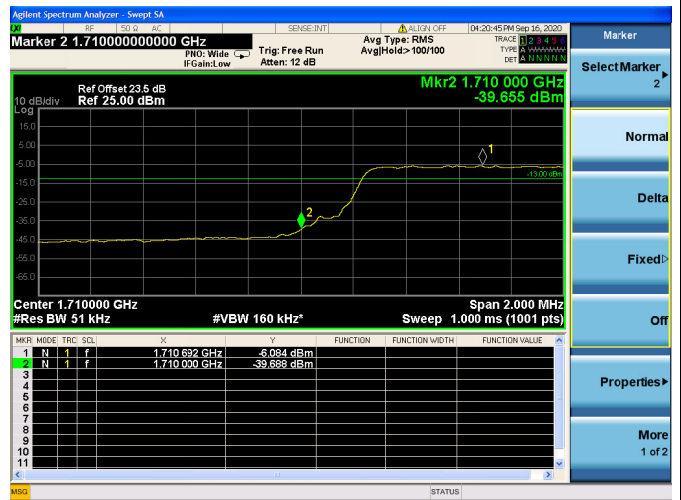




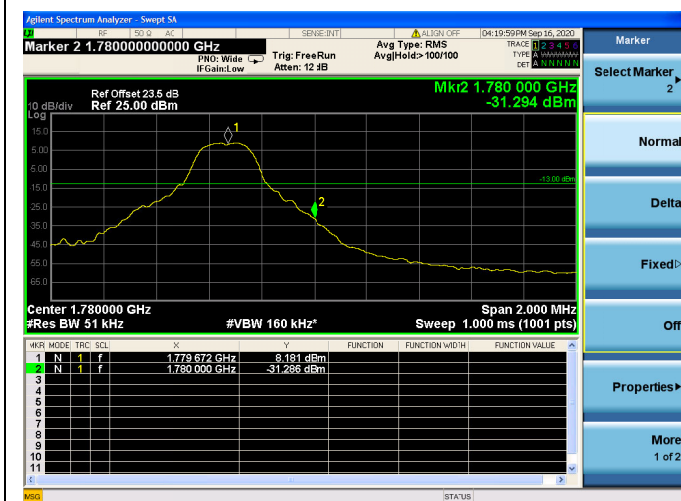
Band66 / 5MHz / Low CH / QPSK / 1 RB



Band66 / 5MHz / Low CH / QPSK / Full RB



Band66 / 5MHz / High CH / QPSK / 1 RB

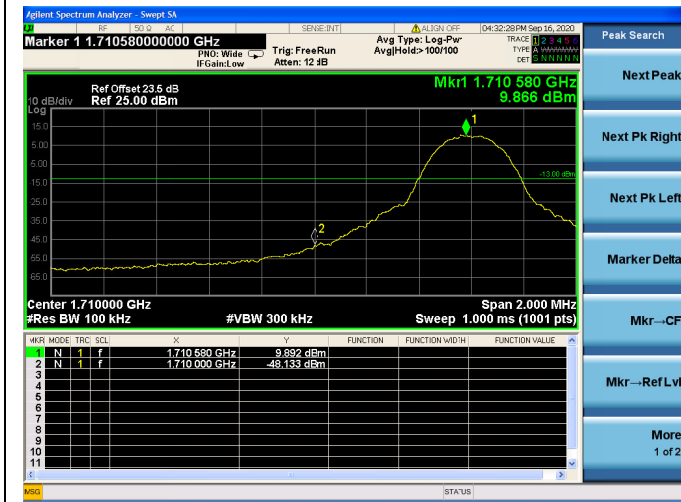


Band66 / 5MHz / High CH / QPSK / Full RB

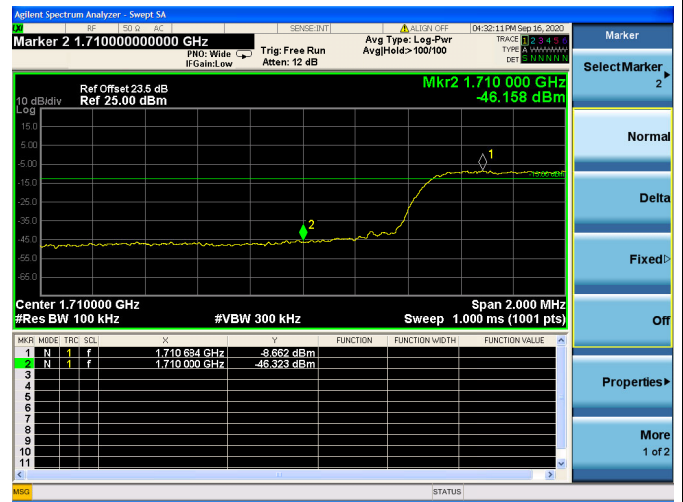




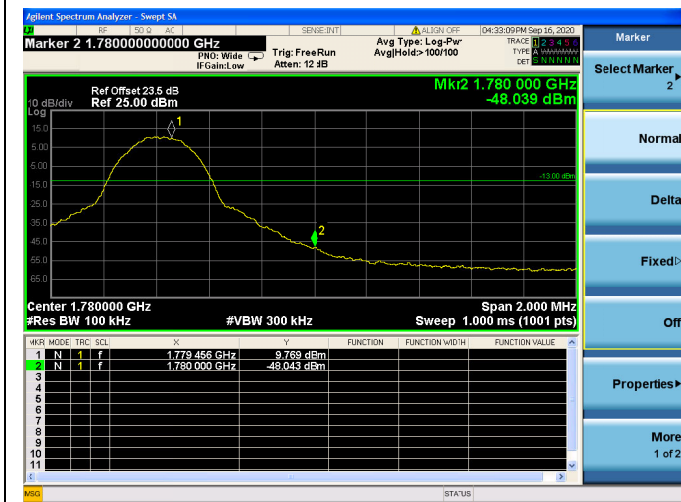
Band66 / 10MHz / Low CH / QPSK / 1 RB



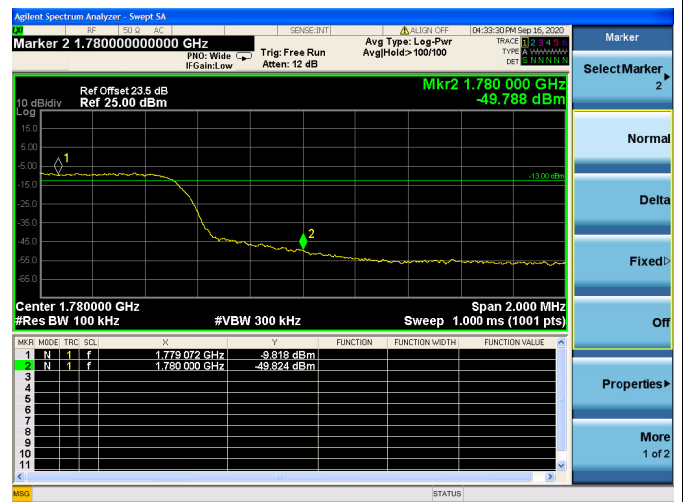
Band66 / 10MHz / Low CH / QPSK / Full RB



Band66 / 10MHz / High CH / QPSK / 1 RB

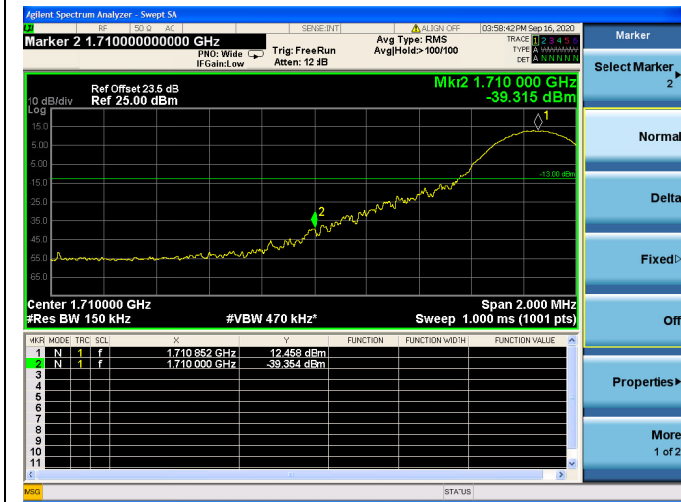


Band66 / 10MHz / High CH / QPSK / Full RB

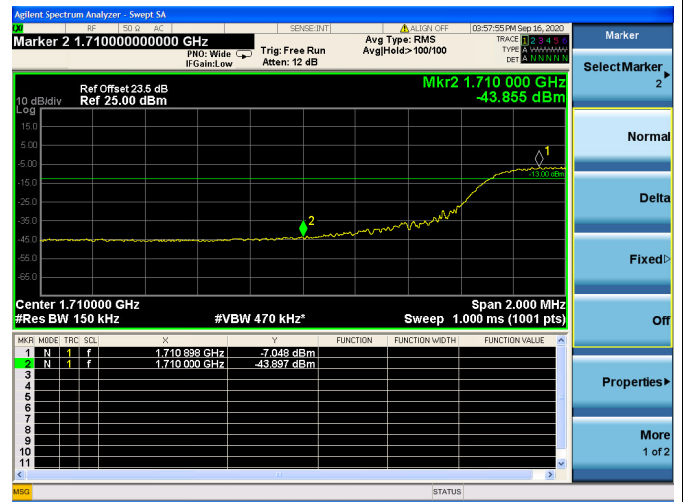




Band66 / 15MHz / Low CH / QPSK / 1 RB



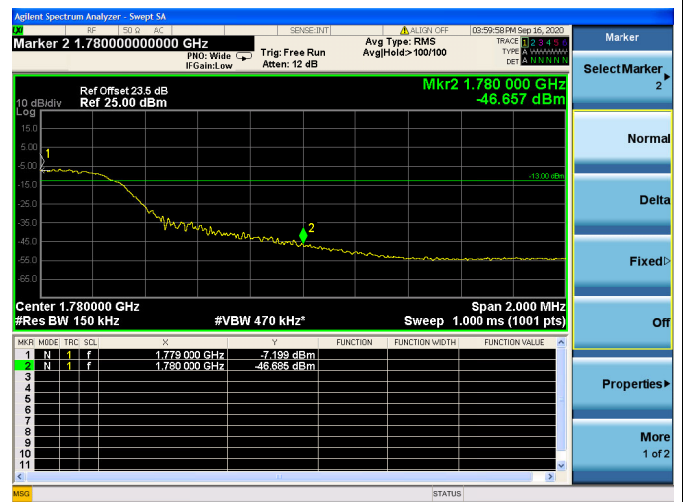
Band66 / 15MHz / Low CH / QPSK / Full RB



Band66 / 15MHz / High CH / QPSK / 1 RB

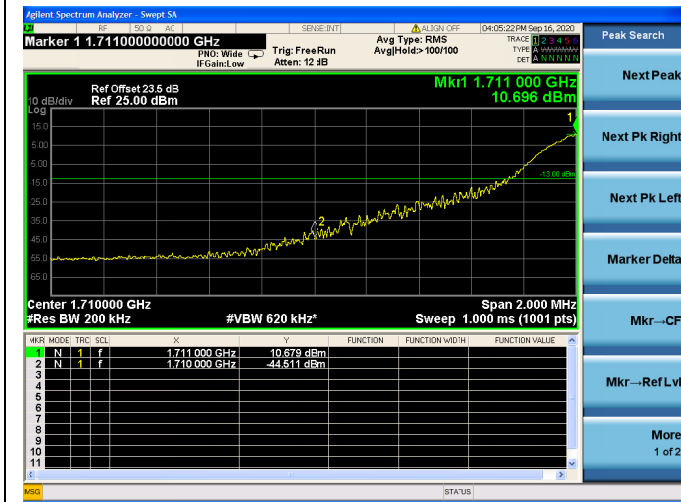


Band66 / 15MHz / High CH / QPSK / Full RB





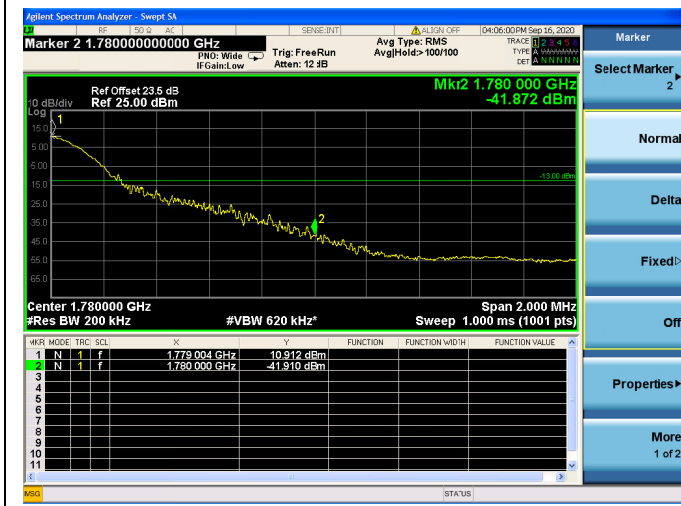
Band66 / 20MHz / Low CH / QPSK / 1 RB



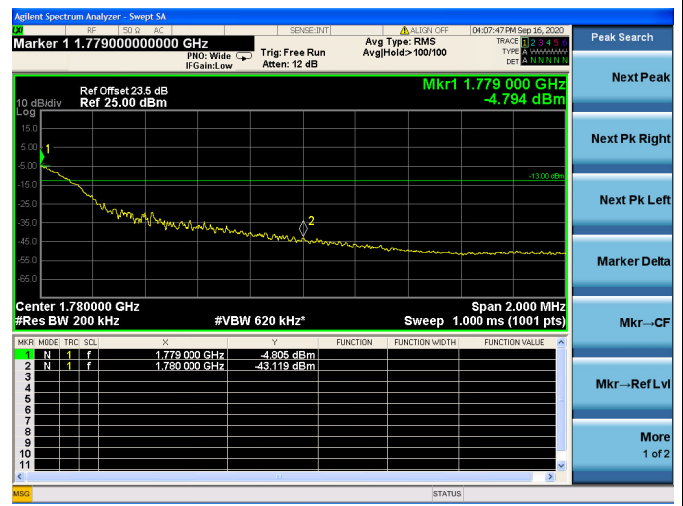
Band66 / 20MHz / Low CH / QPSK / Full RB



Band66 / 20MHz / High CH / QPSK / 1 RB



Band66 / 20MHz / High CH / QPSK / Full RB



2.7. Radiated Spurious Emissions

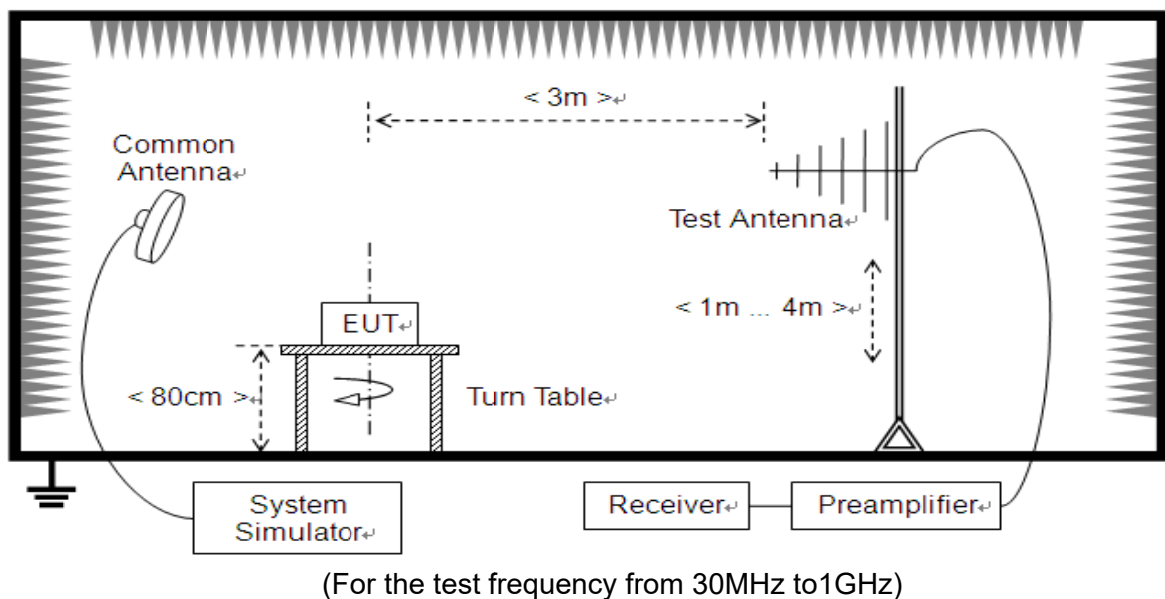
2.7.1. Requirement

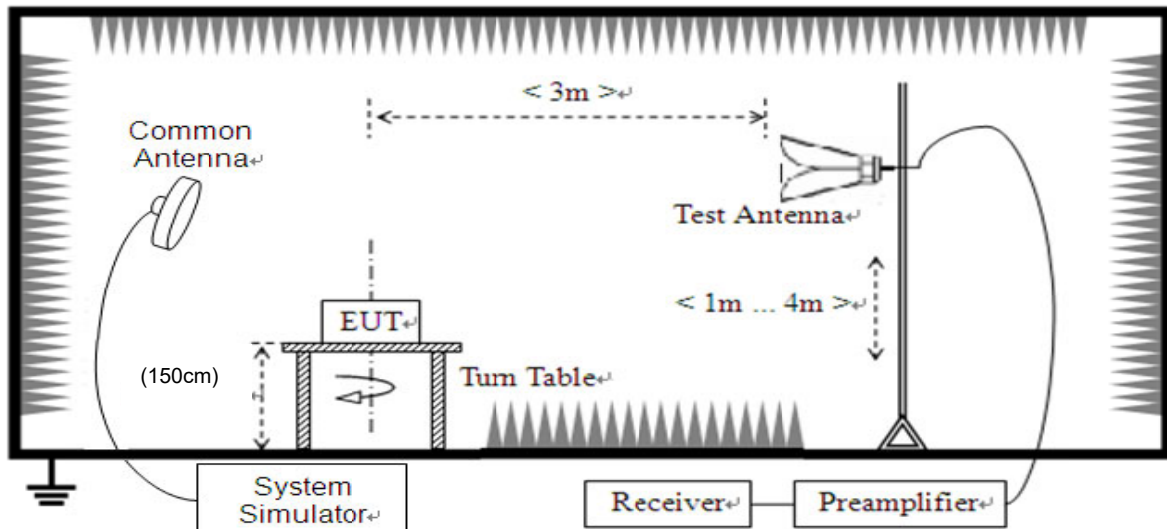
According to FCC section 2.1051, the power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log(P)$ dB. This calculated to be -13dBm.

Additional requirement for LTE Band 41:

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $55 + 10 \log(P)$ dB. This calculated to be -25dBm.

2.7.2. Test Description





(For the test frequency above 1GHz)

The EUT is located in a 3m Full-Anechoic Chamber, the cable loss, air loss and so on of the site as factors are pre-calibrated using the "Substitution" method, and calculated to correct the reading. A call is established between the EUT and the SS via a Common Antenna. The EUT is commanded by the SS to operate at the maximum and minimum output power, and only the test result of the maximum output power was recorded.

In the frequency range above 30MHz, Bi-Log Test Antenna (30MHz to 1GHz) and Horn Test Antenna (above 1GHz) are used. Test Antenna is 3m away from the EUT. Test Antenna height is varied from 1m to 4m above the ground and the Turn Table is actuated to turn from 0° to 360° to determine the maximum value of the radiated power. The emission levels at both horizontal and vertical polarizations should be tested. The Filters consists of Notch Filters and High Pass Filter.

Note: when doing measurements above 1GHz, the EUT has been within the 3dB cone width of the horn antenna during horizontal antenna.

2.7.3. Test procedure

KDB 971168 D01v03 Section 5.8 and ANSI/TIA-603-E-2016.

2.7.4. Test Result

The measurement frequency range is from 30MHz to the 10th harmonic of the fundamental frequency. Test Antenna height is varied from 1m to 4m above the ground, and the Turn Table is actuated to turn from 0° to 360°, both horizontal and vertical polarizations of the Test Antenna are used to find the maximum radiated power. Mid channels on all channel bandwidth verified. Only the worst RB size/offset presented.

The substitution corrections are obtained as described below:

$$A_{\text{SUBST}} = P_{\text{SUBST_TX}} - P_{\text{SUBST_RX}} - L_{\text{SUBST_CABLES}} + G_{\text{SUBST_TX_ANT}}$$

$$A_{\text{TOT}} = L_{\text{CABLES}} + A_{\text{SUBST}}$$

Where A_{SUBST} is the final substitution correction including receive antenna gain.

$P_{\text{SUBST_TX}}$ is signal generator level,

$P_{\text{SUBST_RX}}$ is receiver level,

$L_{\text{SUBST_CABLES}}$ is cable losses including TX cable,

$G_{\text{SUBST_TX_ANT}}$ is substitution antenna gain.

A_{TOT} is total correction factor including cable loss and substitution correction

During the test, the data of A_{TOT} was added in the Test Spectrum Analyze, so Spectrum Analyze reading is the final values which contain the data of A_{TOT} .

Note1: The power of the EUT transmitting frequency should be ignored.

Note2: All Spurious Emission tests were performed in X, Y, Z axis direction. And only the worst axis test condition was recorded in this test report.

Note3: All bandwidth and modulation were considered and evaluated respectively by performing full test for each band, only the worst cases (Max Bandwidth and QPSK mode) were recorded in this test report.