

TEST REPORT

FCC LTE B26(Part90) Test for SM-A276B/DS
Certification

APPLICANT
SAMSUNG Electronics Co., Ltd.

REPORT NO.
HCT-RF-2604-FC046

DATE OF ISSUE
April 27, 2026

Tested by
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TEST REPORT

REPORT NO.

HCT-RF-2604-FC046

DATE OF ISSUE

April 27, 2026

Additional Model

SM-A276B

Applicant

SAMSUNG Electronics Co., Ltd.

129, Samsung-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16677, Rep. of Korea

Product Name

Mobile Phone

Model Name

SM-A276B/DS

Date of Test

March 18, 2026 ~ April 24, 2026

FCC ID

A3LSMA276B

Location of Test

☒ Permanent Testing Lab ☐ On Site Testing

(Address: 74, Seoicheon-ro 578beon-gil, Majang-myeon, Icheon-si, Gyeonggi-do, Republic of Korea)

FCC Classification:

PCS Licensed Transmitter Held to Ear (PCE)

Test Standard Used

FCC Rule Part: § 90, § 22

Test Results

PASS

REVISION HISTORY

The revision history for this test report is shown in table.

Revision No.	Date of Issue	Description
0	April 27, 2026	Initial Release

Notice

Content

The measurements shown in this report were made in accordance with the procedures specified in CFR47 section § 2.947. I assume full responsibility for the accuracy and completeness of these measurements, and for the qualifications of all persons taking them.

HCT CO., LTD. Certifies that no party to this application has subject to a denial of Federal benefits that includes FCC benefits pursuant to section 5301 of the Anti-Drug Abuse Act of 1998, 21 U.S. C.853(a)

The results shown in this test report only apply to the sample(s), as received, provided by the applicant, unless otherwise stated.

The test results have only been applied with the test methods required by the standard(s).

The laboratory is not accredited for the test results marked *.

Information provided by the applicant is marked **.

Test results provided by external providers are marked ***.

When confirmation of authenticity of this test report is required, please contact www.hct.co.kr

The test results in this test report are not associated with the ((KS Q) ISO/IEC 17025) accreditation by KOLAS (Korea Laboratory Accreditation Scheme) / A2LA (American Association for Laboratory Accreditation) that are under the ILAC (International Laboratory Accreditation Cooperation) Mutual Recognition Agreement (MRA).

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MEASUREMENT REPORT

1. GENERAL INFORMATION

Model(s):	SM-A276B/DS
Additional Model(s)	SM-A276B
Tx Frequency:	814.7 MHz – 824.0 MHz (LTE – Band 26 (1.4 MHz)) 815.5 MHz – 824.0 MHz (LTE – Band 26 (3 MHz)) 816.5 MHz – 824.0 MHz (LTE – Band 26 (5 MHz)) 819.0 MHz – 824.0 MHz (LTE – Band 26 (10 MHz)) 821.5 MHz (LTE – Band 26 (15 MHz))
Serial number:	Radiated : R37L300SKNE Conducted : R37L300SGRV
Antenna Information	Please refer to the Antenna Specification document.

1.1 MAXIMUM OUTPUT POWER

Mode (MHz)	Tx Frequency (MHz)	Emission Designator	Modulation	Conducted Output Power	
				Max. Power (W)	Max. Power (dBm)
LTE – Band26 (1.4)	814.7 – 824.0	1M10G7D	QPSK	0.240	23.81
		1M10W7D	16QAM	0.199	22.98
		1M10W7D	64QAM	0.155	21.89
		1M11W7D	256QAM	0.076	18.83
LTE – Band26 (3)	815.5 – 824.0	2M71G7D	QPSK	0.237	23.74
		2M71W7D	16QAM	0.198	22.97
		2M72W7D	64QAM	0.157	21.97
		2M72W7D	256QAM	0.076	18.78
LTE – Band26 (5)	816.5 – 824.0	4M52G7D	QPSK	0.245	23.90
		4M53W7D	16QAM	0.199	22.99
		4M52W7D	64QAM	0.156	21.92
		4M54W7D	256QAM	0.079	18.95
LTE – Band26 (10)	819.0 – 824.0	9M03G7D	QPSK	0.238	23.76
		9M03W7D	16QAM	0.204	23.09
		9M00W7D	64QAM	0.158	21.98
		8M98W7D	256QAM	0.077	18.84
LTE – Band26 (15)	821.5	13M5G7D	QPSK	0.245	23.90
		13M5W7D	16QAM	0.191	22.82
		13M5W7D	64QAM	0.145	21.61
		13M5W7D	256QAM	0.077	18.84

2. INTRODUCTION

2.1. DESCRIPTION OF EUT

Please refer to the [2G3G] Test Report.

2.2. MEASURING INSTRUMENT CALIBRATION

The measuring equipment, which was utilized in performing the tests documented herein, has been calibrated in accordance with the manufacturer's recommendations for utilizing calibration equipment, which is traceable to recognized national standards.

2.3. TEST FACILITY

The Fully-anechoic chamber and conducted measurement facility used to collect the radiated data are located at the 74, Seoicheon-ro 578beon-gil, Majang-myeon, Icheon-si, Gyeonggi-do, Republic of Korea.

Detailed description of test facility was submitted to the Commission and accepted dated February 26, 2026 (Registration Number: KR0032).

2.4. EQUIPMENT

Radiated emissions are measured with one or more of the following types of Linearly polarized antennas: tuned dipole, bi-conical, log periodic, bi-log, and/or ridged waveguide, horn. Spectrum analyzers with pre-selectors and quasi-peak detectors are used to perform radiated measurements.

Conducted emissions are measured with Line Impedance Stabilization Networks and EMI Test Receivers. Calibrated wideband preamplifiers, coaxial cables, and coaxial attenuators are also used for making measurements.

All receiving equipment conforms to ANSI/USEMCSC C63.2-2023, "American National Standard for Specifications of Electromagnetic Interference and Field Strength Measuring Instrumentation in the Frequency Range 9 kHz to 40 GHz".

3. DESCRIPTION OF TESTS

3.1 TEST PROCEDURE

Test Description	Test Procedure Used
Occupied Bandwidth	- KDB 971168 D01 v03r01 – Section 4.3 - ANSI C63.26-2015 – Section 5.4.4
Channel Edge	- KDB 971168 D01 v03r01 – Section 6.0 - ANSI C63.26-2015 – Section 5.7
Spurious and Harmonic Emissions at Antenna Terminal	- KDB 971168 D01 v03r01 – Section 6.0 - ANSI C63.26-2015 – Section 5.7
Conducted Output Power	- KDB 971168 D01 v03r01 - Section 5.2.4 - ANSI C63.26-2015 - Section 5.2.1 & 5.2.4.2
Frequency stability	- ANSI C63.26-2015 – Section 5.6
Radiated Power	- ANSI C63.26-2015 – Section 5.2.4.4 - KDB 971168 D01 v03r01 – Section 5.8
Radiated Spurious and Harmonic Emissions	- ANSI C63.26-2015 – Section 5.5.3 - KDB 971168 D01 v03r01 – Section 5.8

3.2 CONDUCTED OUTPUT POWER

Test Overview

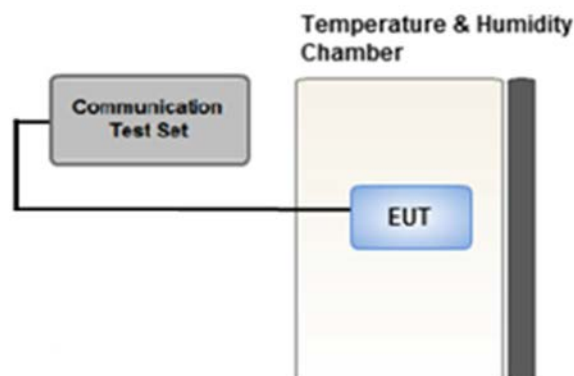
According to ANSI C63.26-2015 Section 5.2.1 when measuring the maximum RF output power from such devices, control over the EUT must be provided either through special test software (provided by manufacturer specifically for compliance testing, but not accessible by an end user) or through use of a base station emulator, communications test set, call box, or similar instrumentation that is capable of establishing a communications link with the EUT to enable control over variable parameters (e.g., output power, OBW, etc.).

In some cases, these instruments also include basic digital spectrum analyzer and/or power meter capabilities that can be utilized to measure the RF output power if the specified detectors and requirements can be realized and the measurement functions have been calibrated.

Test Procedure

1. The RF port of the EUT was connected to the Communication Tester via an RF cable.
2. Conducted average power was measured using a calibrated Radio Communication Tester.

Test setup



3.3 RADIATED POWER

Test Overview

Radiated tests are performed in the Fully-anechoic chamber.

The equipment under test is placed on a non-conductive table 3-meters away from the receive antenna.

Test Settings

1. Radiated power measurements are performed using the signal analyzer's "channel power" measurement capability for signals with continuous operation.
2. RBW = 1 – 5 % of the expected OBW, not to exceed 1 MHz
3. VBW $\geq$ 3 x RBW
4. Span = 1.5 times the OBW
5. No. of sweep points > 2 x span / RBW
6. Detector = RMS
7. Trigger is set to "free run" for signals with continuous operation with the sweep times set to "auto".
8. The integration bandwidth was roughly set equal to the measured OBW of the signal for signals with continuous operation.
9. Trace mode = trace averaging (RMS) over 100 sweeps
10. The trace was allowed to stabilize

Test Note

1. The turntable is rotated through 360 degrees, and the receiving antenna scans in order to determine the level of the maximized emission.
2. A half wave dipole is then substituted in place of the EUT. For emissions above 1 GHz, a horn antenna is substituted in place of the EUT. The substitute antenna is driven by a signal generator and the previously recorded signal was duplicated.

The power is calculated by the following formula;

$$P_d \text{ (dBm)} = P_g \text{ (dBm)} - \text{cable loss (dB)} + \text{antenna gain (dB)}$$

Where: P_d is the dipole equivalent power and P_g is the generator output power into the substitution antenna.

3. The maximum value is calculated by adding the forward power to the calibrated source plus its appropriate gain value.

These steps are repeated with the receiving antenna in both vertical and horizontal polarization. the difference between the gain of the horn and an isotropic antenna are taken into consideration

4. The EUT was tested in three orthogonal planes(X, Y, Z) and in all possible test configurations and positioning.
5. All measurements are performed as RMS average measurements while the EUT is operating at its maximum duty cycle, at maximum power, and at the appropriate frequencies.

3.4 RADIATED SPURIOUS EMISSIONS

Test Overview

Radiated tests are performed in the Fully-anechoic chamber.

Radiated Spurious Emission Measurements at 3 meters by Substitution Method.

Test Settings

1. RBW = 100 kHz for emissions below 1 GHz and 1 MHz for emissions above 1 GHz
2. VBW $\geq 3 \times$ RBW
3. No. of sweep points $> 2 \times$ span / RBW
4. Detector = Peak
5. Trace mode = Max Hold
6. The trace was allowed to stabilize
7. Test channel : Low/ Middle/ High
8. Frequency range : We are performed all frequency to 10th harmonics from 9 kHz.

Test Note

1. Measurements value show only up to 3 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
2. The EUT was tested in three orthogonal planes(X, Y, Z) and in all possible test configurations and positioning. The worst case emissions are reported with the EUT positioning, modulations, RB sizes and offsets, and channel bandwidth configurations shown in the test data
3. For spurious emissions above 1 GHz, a horn antenna is substituted in place of the EUT. The substitute antenna is driven by a signal generator and the previously recorded signal was duplicated. The spurious emissions is calculated by the following formula;

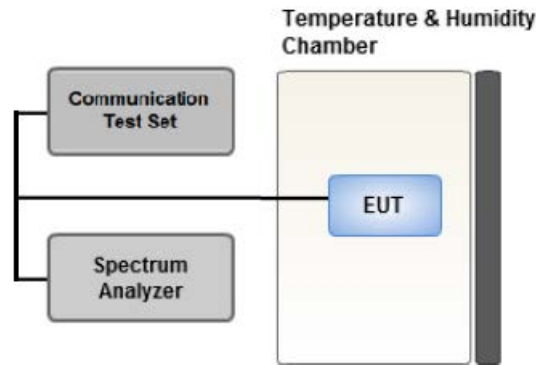
$$\text{Result}_{(\text{dBm})} = P_g_{(\text{dBm})} - \text{cable loss}_{(\text{dB})} + \text{antenna gain}_{(\text{dBi})}$$

Where: P_g is the generator output power into the substitution antenna.

If the fundamental frequency is below 1 GHz, RF output power has been converted to EIRP.

$$\text{EIRP}_{(\text{dBm})} = \text{ERP}_{(\text{dBm})} + 2.15$$

3.5 OCCUPIED BANDWIDTH.



Test setup

The width of a frequency band such that, below the lower and above the upper frequency limits, the mean powers emitted are each equal to a specified percentage 0.5 % of the total mean power of a given emission.

The EUT makes a call to the communication simulator.

The conducted occupied bandwidth used the power splitter via EUT RF power connector between simulation base station and spectrum analyzer.

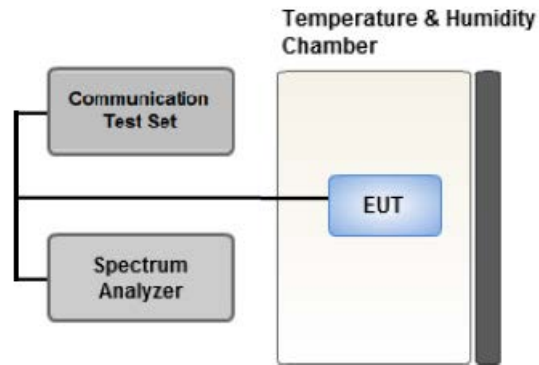
The communication simulator station system controlled a EUT to export maximum output power under transmission mode and specific channel frequency.

Use OBW measurement function of Spectrum analyzer to measure 99 % occupied bandwidth

Test Settings

1. The signal analyzer's automatic bandwidth measurement capability was used to perform the 99 % occupied bandwidth and the 26 dB bandwidth. The bandwidth measurement was not influenced by any intermediate power nulls in the fundamental emission.
2. RBW = 1 – 5 % of the expected OBW
3. VBW $\geq$ 3 x RBW
4. Detector = Peak
5. Trace mode = max hold
6. Sweep = auto couple
7. The trace was allowed to stabilize
8. If necessary, steps 2 – 7 were repeated after changing the RBW such that it would be within 1 – 5 % of the 99 % occupied bandwidth observed in Step 7

3.6 SPURIOUS AND HARMONIC EMISSIONS AT ANTENNA TERMINAL



Test setup

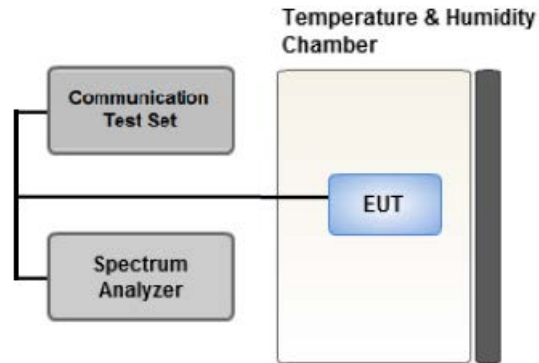
Test Overview

The level of the carrier and the various conducted spurious and harmonic frequencies is measured by means of a calibrated spectrum analyzer. The spectrum is scanned from the lowest frequency generated in the equipment up to a frequency including its 10th harmonic. All out of band emissions are measured with a spectrum analyzer connected to the antenna terminal of the EUT while the EUT is operating at its maximum duty cycle, at maximum power, and at the appropriate frequencies. All data rates were investigated to determine the worst case configuration. All modes of operation were investigated and the worst case configuration results are reported in this section.

Test Settings

1. RBW = 1 MHz
2. VBW $\geq$ 3 MHz
3. Detector = Peak
4. Trace Mode = Max Hold
5. Sweep time = auto
6. Number of points in sweep = 1001

3.7 CHANNEL EDGE



Test setup

Test Overview

All out of band emissions are measured with a spectrum analyzer connected to the antenna terminal of the EUT while the EUT is operating at its maximum duty cycle, at maximum power, and at the appropriate frequencies. All data rates were investigated to determine the worst case configuration. All modes of operation were investigated and the worst case configuration results are reported in this section.

Test Settings

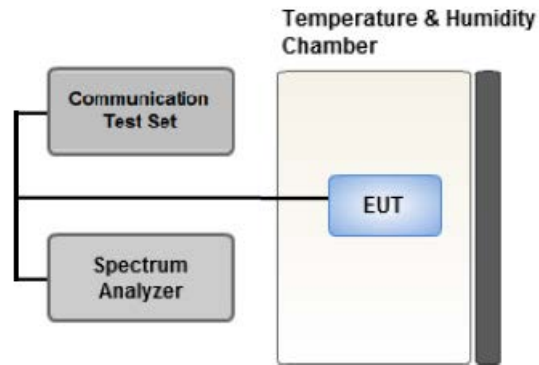
1. Start and stop frequency were set such that the band edge would be placed in the center of the plot
2. Span was set large enough so as to capture all out of band emissions near the band edge
3. RBW :
 - . - EA licensee's frequency block by up to and including 37.5 kHz : 300 Hz
 - .- EA licensee's frequency block greater than 37.5 kHz : 100 kHz
4. VBW > 3 x RBW
5. Detector = RMS
6. Number of sweep points $\geq 2 \times \text{Span/RBW}$
7. Trace mode = trace average
8. Sweep time > (Number of Points) (Symbol Period)
9. The trace was allowed to stabilize

Test Notes

For 90.691(a), RBW=300 Hz for offset less than 37.5 kHz from channel edge and RBW=100 kHz for offsets greater than 37.5 kHz is allowed.

Where Margin < 1 dB the emission level is either corrected by $10 \log(1 \text{ MHz} / \text{RB})$ or the emission is integrated over a 1 MHz bandwidth to determine the final result. When using the integration method the integration window is either centered on the emission or, for emissions at the band edge, centered by an offset of 500 kHz from the block edge so that the integration window is the 1 MHz adjacent to the block edge

3.8 FREQUENCY STABILITY / VARIATION OF AMBIENT TEMPERATURE



Test setup

Test Overview

Frequency stability testing is performed in accordance with the guidelines of ANSI C63.26-2015.

The frequency stability of the transmitter is measured by:

1. Temperature:

The temperature is varied from -30 °C to +50 °C in 10 °C increments using an environmental chamber.

2. Primary Supply Voltage:

- .- Unless otherwise specified, vary primary supply voltage from 85 % to 115 % of the nominal value for other than hand carried battery equipment.
- .- For hand carried, battery powered equipment, reduce the primary ac or dc supply voltage to the battery operating end point, which shall be specified by the manufacturer.

Test Settings

1. The carrier frequency of the transmitter is measured at room temperature (20 °C to provide a reference).
2. The equipment is turned on in a “standby” condition for fifteen minutes before applying power to the transmitter.
Measurement of the carrier frequency of the transmitter is made within one minute after applying power to the transmitter.
3. Frequency measurements are made at 10 °C intervals ranging from -30 °C to +50 °C. A period of at least one half-hour is provided to allow stabilization of the equipment at each temperature level.

3.9 WORST CASE(RADIATED TEST)

- The EUT was tested in three orthogonal planes(X, Y, Z) and in all possible test configurations and positioning.
- All modes of operation were investigated and the worst case configuration results are reported.
Mode : Stand alone, Stand alone + External accessories (Earphone, AC adapter, etc)
Worst case : Stand alone
- All simultaneous transmission scenarios of operation were investigated, and the test results showed no additional significant emissions relative to the least restrictive limit were observed.
Therefore, only the worst case(stand-alone) results were reported.
- In the case of radiated spurious emissions, all bandwidth of operation were investigated and the worst case bandwidth results are reported. (Worst case : 1.4 MHz_1.4 MHz(Straddle))
- The worst case is reported with the EUT positioning, modulations, and paging service configurations shown in the test data.
- Please refer to the table below.
- SM-A276B/DS & additional models were tested and the worst case results are reported.
(Worst case : SM-A276B/DS)

[Worst case]

Test Description	Modulation	RB size	RB offset	Axis
Effective Radiated Power	QPSK, 16QAM, 64QAM, 256QAM	See Section 8.2		X
Radiated Spurious and Harmonic Emissions	QPSK	See Section 8.3		Y

3.10 WORST CASE(CONDUCTED TEST)

- Worst case : Of all modulation, We have tested modulation of the high Conducted Output Power.
 - SM-A276B/DS & additional models were tested and the worst case results are reported.
- (Worst case : SM-A276B/DS)

[Worst case]

Test Description	Modulation	Bandwidth (MHz)	Frequency	RB size	RB offset
Occupied Bandwidth	QPSK, 16QAM, 64QAM, 256QAM	1.4, 3, 5	High	Full RB	0
	QPSK, 16QAM, 64QAM, 256QAM	10, 15	Mid	Full RB	0
Channel Edge	QPSK	1.4	Low	1	0
			High	1	5
		3	Low	1	0
			High	1	14
		5	Low	1	0
			High	1	24
		10	Mid	1	0
				1	49
		15	Mid	1	0
				1	74
		1.4, 3, 5	Low, High	Full RB	0
		10, 15	Mid	Full RB	0
Band Edge (Straddle Channel)	QPSK	1.4	Mid	1	5
		3	Mid	1	14
		5	Mid	1	24
		10	Mid	1	49
		1.4, 3, 5, 10	Mid	Full RB	0
Spurious and Harmonic Emissions at Antenna Terminal	QPSK	1.4, 3, 5	Low, High	1	0
		10, 15	Mid	1	0

4. LIST OF TEST EQUIPMENT

Equipment	Model	Manufacture	Serial No.	Due to Calibration	Calibration Interval
RF Switching System	INPUT1 + 1GHz HPF + LNA	HCT CO., LTD.,	F2L2	12/01/2026	Annual
RF Switching System	INPUT1 + 3GHz HPF + LNA	HCT CO., LTD.,	F2L3	12/01/2026	Annual
RF Switching System	INPUT1 + 7GHz HPF + LNA	HCT CO., LTD.,	F2L5	12/01/2026	Annual
RF Switching System	INPUT3 + 6GHz HPF + LNA	HCT CO., LTD.,	F2L14	12/01/2026	Annual
Broadband LNA	CBL18265035	CERNEX	22966	10/21/2026	Annual
Broadband LNA	CBL26405040	CERNEX	25956	02/09/2027	Annual
POWER SPLITTER	11667B	Hewlett Packard	5001	04/01/2027	Annual
DC POWER SUPPLY	E3632A	Agilent	MY40010147	07/29/2026	Annual
Dipole Antenna	UHAP	Schwarzbeck	01274	03/05/2028	Biennial
Dipole Antenna	UHAP	Schwarzbeck	01288	08/07/2026	Biennial
Chamber	SU-642	ESPEC	93008124	02/04/2027	Annual
Horn Antenna	BBHA 9120D	Schwarzbeck	03197	11/28/2026	Biennial
Horn Antenna	BBHA 9120D	Schwarzbeck	03201	11/28/2026	Biennial
Horn Antenna	BBHA 9170	Schwarzbeck	BBHA9170342	09/20/2026	Biennial
Horn Antenna	BBHA 9170	Schwarzbeck	BBHA9170124	03/23/2027	Biennial
MXA SIGNAL ANALYZER	N9020A	Agilent	MY52090906	04/08/2027	Annual
20dB ATTENUATOR	8493C	HP	15233	12/10/2026	Annual
Signal Analyzer	FSV 40	ROHDE & SCHWARZ	101733	09/17/2026	Annual
Wireless Communications Set	E5515C	Agilent	MY48360800	07/29/2026	Annual
Loop Antenna	FMZB 1513	Schwarzbeck	1513-333	06/23/2027	Biennial
Trilog Broadband Antenna	VULB 9168	Schwarzbeck	00895	08/28/2026	Biennial
Trilog Broadband Antenna	VULB 9168	Schwarzbeck Mess-Elektronik OHG	01135	08/19/2026	Biennial
Radio Communication Test Station	MT8000A	Anritsu	6272613402	08/18/2026	Annual
SIGNAL GENERATOR	SMB100A	ROHDE & SCHWARZ	177633	07/22/2026	Annual
PXA Signal Analyzer	N9030B	Keysight	MY55480167	05/14/2026	Annual
UXM 5G Wireless Test Platform	E7515B	Keysight	MY60101126	01/29/2027	Annual
Automation Software	FCC 2G/3G/4G Conducted	HCT CO., LTD	-	-	-
Automation Software	FCC NR Conducted	HCT CO., LTD	-	-	-
Automation Software	FCC LTE Radiated	HCT CO., LTD	-	-	-
Automation Software	FCC NR Radiated	HCT CO., LTD	-	-	-

Note:

1. Equipment whose calibration due date was updated during the test period was not used between the previous due date and the update. All reported measurements were performed using equipment within valid calibration.
2. Especially, all antenna for measurement is calibrated in accordance with the requirements of ANSI C63.5-2017.

5. MEASUREMENT UNCERTAINTY

The measurement uncertainties shown below were calculated in accordance with the requirements of ANSI C63.4-2014.

All measurement uncertainty values are shown with a coverage factor of $k=2$ to indicate a 95 % level of confidence. The measurement data shown herein meets or exceeds the U_{CISPR} measurement uncertainty values specified in CISPR 16-4-2 and, thus, can be compared directly to specified limits to determine compliance.

Parameter	Expanded Uncertainty ($\pm$ kHz)
Occupied Bandwidth	95 (Confidence level about 95 %, $k=2$)
Frequency stability	28 (Confidence level about 95 %, $k=2$)

Parameter	Expanded Uncertainty ($\pm$ dB)
Block Edge	0.70 (Confidence level about 95 %, $k=2$)
Conducted Spurious Emissions	1.11 (Confidence level about 95 %, $k=2$)
Peak- to- Average Ratio	0.73 (Confidence level about 95 %, $k=2$)
Radiated Power	4.74 (Confidence level about 95 %, $k=2$)
Radiated Disturbance (9 kHz ~ 30 MHz)	4.54 (Confidence level about 95 %, $k=2$)
Radiated Disturbance (30 MHz ~ 1 GHz)	5.74 (Confidence level about 95 %, $k=2$)
Radiated Disturbance (1 GHz ~ 18 GHz)	5.80 (Confidence level about 95 %, $k=2$)
Radiated Disturbance (18 GHz ~ 40 GHz)	5.86 (Confidence level about 95 %, $k=2$)
Radiated Disturbance (Above 40 GHz)	5.44 (Confidence level about 95 %, $k=2$)

6. SUMMARY OF TEST RESULTS

-. The decision rule applies 'simple acceptance'

6.1 Test Condition : Conducted Test

Test Description	FCC Part Section(s)	Test Limit	Test Result
Occupied Bandwidth	§ 2.1049	N/A	PASS
Channel Edge / Spurious and Harmonic Emissions at Antenna Terminal.	§ 2.1051, § 90.691	< 50 + 10log10 (P[Watts]) at Band Edge and for all out-of-band emissions within 37.5 kHz of Block Edge	PASS
Band Edge / Spurious and Harmonic Emissions at Antenna Terminal.	§ 2.1051, § 22.917(a)	< 43 + 10log10 (P[Watts]) at Band Edge and for all out-of-band emissions	PASS
Conducted Output Power	§ 2.1046 § 90.635	< 100 Watts	PASS
Frequency stability / variation of ambient temperature	§ 2.1055, § 90.213 § 22.355	< 2.5 ppm	PASS

6.2 Test Condition : Radiated Test

Test Description	FCC Part Section(s)	Test Limit	Test Result
Effective Radiated Power	§ 22.913(a)(5)	< 7 Watts max. ERP (Only 15 MHz B.W)	PASS
Radiated Spurious and Harmonic Emissions	§ 2.1053, § 90.691 § 22.917(a)	< 43 + 10log10 (P[Watts]) for all out-of band emissions	PASS

7. SAMPLE CALCULATION

7.1 ERP Sample Calculation

Ch./ Freq.		Measured Level (dBm)	Substitute Level (dBm)	Ant. Gain (dBd)	C.L	Pol.	ERP	
channel	Freq.(MHz)						W	dBm
128	824.20	-21.37	38.40	-10.61	0.95	H	0.483	26.84

$$\text{ERP} = \text{Substitute LEVEL(dBm)} + \text{Ant. Gain} - \text{CL(Cable Loss)}$$

- 1) The EUT mounted on a non-conductive turntable is 2.5 meter above test site ground level.
- 2) During the test, the turn table is rotated until the maximum signal is found.
- 3) Record the field strength meter's level.
- 4) Replace the EUT with dipole/Horn antenna that is connected to a calibrated signal generator.
- 5) Increase the signal generator output till the field strength meter's level is equal to the item (3).
- 6) The signal generator output level with Ant. Gain and cable loss are the rating of effective radiated power.

7.2 EIRP Sample Calculation

Ch./ Freq.		Measured Level (dBm)	Substitute Level (dBm)	Ant. Gain (dBi)	C.L	Pol.	EIRP	
channel	Freq.(MHz)						W	dBm
20175	1,732.50	-15.75	18.45	9.90	1.76	H	0.456	26.59

$$\text{EIRP} = \text{Substitute LEVEL(dBm)} + \text{Ant. Gain} - \text{CL(Cable Loss)}$$

- 1) The EUT mounted on a non-conductive turntable is 2.5 meter above test site ground level.
- 2) During the test, the turn table is rotated until the maximum signal is found.
- 3) Record the field strength meter's level.
- 4) Replace the EUT with dipole/Horn antenna that is connected to a calibrated signal generator.
- 5) Increase the signal generator output till the field strength meter's level is equal to the item (3).
- 6) The signal generator output level with Ant. Gain and cable loss are the rating of equivalent isotropic radiated power.

7.3. Emission Designator

GSM Emission Designator

Emission Designator = 249KGXW
GSM BW = 249 kHz
G = Phase Modulation
X = Cases not otherwise covered
W = Combination (Audio/Data)

EDGE Emission Designator

Emission Designator = 249KG7W
GSM BW = 249 kHz
G = Phase Modulation
7 = Quantized/Digital Info
W = Combination (Audio/Data)

WCDMA Emission Designator

Emission Designator = 4M17F9W
WCDMA BW = 4.17 MHz
F = Frequency Modulation
9 = Composite Digital Info
W = Combination (Audio/Data)

QPSK Modulation

Emission Designator = 4M48G7D
LTE BW = 4.48 MHz
G = Phase Modulation
7 = Quantized/Digital Info
D = Data transmission; telemetry; telecommand

QAM Modulation

Emission Designator = 4M48W7D
LTE BW = 4.48 MHz
W = Amplitude/Angle Modulated
7 = Quantized/Digital Info
D = Data transmission; telemetry; telecommand

8. TEST DATA

8.1 CONDUCTED OUTPUT POWER

Band Width (MHz)	Modulation	RB Size	RB Offset	Max. output power(dBm)				Limit (W)
				814.7 MHz		823.3 MHz		
				dBm	W	dBm	W	
1.4	QPSK	1	0	23.69	0.234	23.69	0.234	100
		1	3	23.80	0.240	23.76	0.238	100
		1	5	23.73	0.236	23.71	0.235	100
		3	0	23.73	0.236	23.70	0.234	100
		3	1	23.81	0.240	23.78	0.239	100
		3	3	23.68	0.233	23.64	0.231	100
		6	0	22.15	0.164	22.13	0.163	100
	16QAM	1	0	22.86	0.193	22.84	0.192	100
		1	3	22.98	0.199	22.96	0.198	100
		1	5	22.82	0.191	22.79	0.190	100
		3	0	22.78	0.190	22.75	0.188	100
		3	1	22.76	0.189	22.73	0.187	100
		3	3	22.94	0.197	22.93	0.196	100
		6	0	21.83	0.152	21.82	0.152	100
	64QAM	1	0	21.85	0.153	21.81	0.152	100
		1	3	21.89	0.155	21.86	0.153	100
		1	5	21.79	0.151	21.76	0.150	100
		3	0	21.77	0.150	21.76	0.150	100
		3	1	21.80	0.151	21.77	0.150	100
		3	3	21.80	0.151	21.79	0.151	100
		6	0	20.70	0.117	20.70	0.117	100
	256QAM	1	0	18.81	0.076	18.77	0.075	100
		1	3	18.76	0.075	18.75	0.075	100
		1	5	18.83	0.076	18.79	0.076	100
		3	0	18.78	0.076	18.76	0.075	100
		3	1	18.77	0.075	18.75	0.075	100
		3	3	18.78	0.076	18.77	0.075	100
		6	0	18.76	0.075	18.74	0.075	100

Band Width (MHz)	Modulation	RB Size	RB Offset	Max. output power(dBm)				Limit (W)
				815.5 MHz		822.5 MHz		
				dBm	W	dBm	W	
3	QPSK	1	0	23.74	0.237	23.74	0.237	100
		1	7	23.70	0.234	23.69	0.234	100
		1	14	23.60	0.229	23.58	0.228	100
		8	0	22.80	0.191	22.78	0.190	100
		8	3	22.81	0.191	22.77	0.189	100
		8	7	22.71	0.187	22.68	0.185	100
		15	0	22.75	0.188	22.72	0.187	100
	16QAM	1	0	22.97	0.198	22.95	0.197	100
		1	7	22.97	0.198	22.96	0.198	100
		1	14	22.87	0.194	22.84	0.192	100
		8	0	21.79	0.151	21.78	0.151	100
		8	3	21.84	0.153	21.81	0.152	100
		8	7	21.73	0.149	21.72	0.149	100
		15	0	21.81	0.152	21.78	0.151	100
	64QAM	1	0	21.77	0.150	21.74	0.149	100
		1	7	21.97	0.157	21.97	0.157	100
		1	14	21.90	0.155	21.88	0.154	100
		8	0	20.76	0.119	20.74	0.119	100
		8	3	20.83	0.121	20.81	0.121	100
		8	7	20.75	0.119	20.73	0.118	100
		15	0	20.71	0.118	20.67	0.117	100
	256QAM	1	0	18.77	0.075	18.74	0.075	100
		1	7	18.77	0.075	18.75	0.075	100
		1	14	18.72	0.074	18.72	0.074	100
		8	0	18.71	0.074	18.70	0.074	100
		8	3	18.78	0.076	18.76	0.075	100
		8	7	18.76	0.075	18.73	0.075	100
		15	0	18.78	0.076	18.76	0.075	100

Band Width (MHz)	Modulation	RB Size	RB Offset	Max. output power(dBm)				Limit (W)
				816.5 MHz		821.5 MHz		
				dBm	W	dBm	W	
5	QPSK	1	0	23.78	0.239	23.78	0.239	100
		1	12	23.90	0.245	23.88	0.244	100
		1	24	23.64	0.231	23.64	0.231	100
		12	0	22.74	0.188	22.72	0.187	100
		12	6	22.82	0.191	22.81	0.191	100
		12	11	22.69	0.186	22.67	0.185	100
		25	0	22.68	0.185	22.67	0.185	100
	16QAM	1	0	22.99	0.199	22.96	0.198	100
		1	12	22.99	0.199	22.98	0.199	100
		1	24	22.87	0.194	22.87	0.194	100
		12	0	21.64	0.146	21.62	0.145	100
		12	6	21.74	0.149	21.71	0.148	100
		12	11	21.74	0.149	21.70	0.148	100
		25	0	21.82	0.152	21.81	0.152	100
	64QAM	1	0	21.80	0.151	21.79	0.151	100
		1	12	21.92	0.156	21.89	0.155	100
		1	24	21.69	0.148	21.67	0.147	100
		12	0	20.78	0.120	20.74	0.119	100
		12	6	20.77	0.119	20.76	0.119	100
		12	11	20.74	0.119	20.74	0.119	100
		25	0	20.72	0.118	20.71	0.118	100
	256QAM	1	0	18.70	0.074	18.68	0.074	100
		1	12	18.95	0.079	18.95	0.079	100
		1	24	18.80	0.076	18.78	0.076	100
		12	0	18.66	0.073	18.63	0.073	100
		12	6	18.86	0.077	18.82	0.076	100
		12	11	18.73	0.075	18.72	0.074	100
		25	0	18.70	0.074	18.68	0.074	100

Band Width (MHz)	Modulation	RB Size	RB Offset	Max. output power(dBm)		Limit (W)
				819 MHz		
				dBm	W	
10	QPSK	1	0	23.73	0.236	100
		1	24	23.76	0.238	100
		1	49	23.62	0.230	100
		25	0	22.68	0.185	100
		25	12	22.74	0.188	100
		25	24	22.69	0.186	100
		50	0	22.83	0.192	100
	16QAM	1	0	22.93	0.196	100
		1	24	23.05	0.202	100
		1	49	23.09	0.204	100
		25	0	21.71	0.148	100
		25	12	21.77	0.150	100
		25	24	21.73	0.149	100
		50	0	21.75	0.150	100
	64QAM	1	0	21.98	0.158	100
		1	24	21.80	0.151	100
		1	49	21.73	0.149	100
		25	0	20.70	0.117	100
		25	12	20.81	0.121	100
		25	24	20.77	0.119	100
		50	0	20.78	0.120	100
	256QAM	1	0	18.75	0.075	100
		1	24	18.84	0.077	100
		1	49	18.83	0.076	100
		25	0	18.67	0.074	100
		25	12	18.76	0.075	100
		25	24	18.72	0.074	100
		50	0	18.73	0.075	100

Band Width (MHz)	Modulation	RB Size	RB Offset	Max. output power(dBm)		Limit (W)
				821.5 MHz		
				dBm	W	
15	QPSK	1	0	23.90	0.245	100
		1	36	23.48	0.223	100
		1	74	23.59	0.228	100
		36	0	22.53	0.179	100
		36	18	22.51	0.178	100
		36	39	22.60	0.182	100
		75	0	22.66	0.185	100
	16QAM	1	0	22.70	0.186	100
		1	36	22.82	0.191	100
		1	74	22.56	0.180	100
		36	0	21.58	0.144	100
		36	18	21.49	0.141	100
		36	39	21.55	0.143	100
		75	0	21.55	0.143	100
	64QAM	1	0	21.57	0.144	100
		1	36	21.56	0.143	100
		1	74	21.61	0.145	100
		36	0	20.55	0.114	100
		36	18	20.55	0.114	100
		36	39	20.56	0.114	100
		75	0	20.58	0.114	100
	256QAM	1	0	18.69	0.074	100
		1	36	18.70	0.074	100
		1	74	18.84	0.077	100
		36	0	18.55	0.072	100
		36	18	18.52	0.071	100
		36	39	18.56	0.072	100
		75	0	18.63	0.073	100

8.2 EFFECTIVE RADIATED POWER

Freq (MHz)	Bandwidth	Modulation	Measured	Substitute	Ant.	C.L	Pol	Limit	ERP		RB	
			Level (dBm)	Level (dBm)	Gain (dBd)			W	W	dBm	Size	Offset
814.7	LTE B26 1.4 MHz	QPSK	-31.80	30.25	-10.05	1.44	H	< 100	0.075	18.76	1	3
		16QAM	-32.60	29.45	-10.05	1.44	H		0.063	17.96		
		64QAM	-33.63	28.42	-10.05	1.44	H		0.049	16.93		
		256QAM	-36.68	25.37	-10.05	1.44	H		0.024	13.88		
823.3		QPSK	-31.92	29.69	-9.95	1.44	H		0.068	18.30	1	0
		16QAM	-32.72	28.89	-9.95	1.44	H		0.056	17.50		
		64QAM	-33.82	27.79	-9.95	1.44	H		0.044	16.40		
		256QAM	-36.77	24.84	-9.95	1.44	H		0.022	13.45		

Freq (MHz)	Bandwidth	Modulation	Measured	Substitute	Ant.	C.L	Pol	Limit	ERP		RB	
			Level (dBm)	Level (dBm)	Gain (dBd)				W	W	dBm	Size
815.5	LTE B26 3 MHz	QPSK	-31.86	30.24	-10.05	1.44	H	< 100	0.075	18.75	1	8
		16QAM	-32.64	29.46	-10.05	1.44	H		0.063	17.97		
		64QAM	-33.68	28.42	-10.05	1.44	H		0.049	16.93		
		256QAM	-36.77	25.33	-10.05	1.44	H		0.024	13.84		
822.5		QPSK	-31.86	29.88	-9.95	1.44	H		0.071	18.49	1	0
		16QAM	-32.65	29.09	-9.95	1.44	H		0.059	17.70		
		64QAM	-33.65	28.09	-9.95	1.44	H		0.047	16.70		
		256QAM	-36.85	24.89	-9.95	1.44	H		0.022	13.50		

Freq (MHz)	Bandwidth	Modulation	Measured	Substitute	Ant.	C.L	Pol	Limit	ERP		RB	
			Level (dBm)	Level (dBm)	Gain (dBd)			W	W	dBm	Size	Offset
816.5	LTE B26 5 MHz	QPSK	-31.86	30.19	-10.05	1.44	H	< 100	0.074	18.70	1	24
		16QAM	-32.65	29.40	-10.05	1.44	H		0.062	17.91		
		64QAM	-33.79	28.26	-10.05	1.44	H		0.048	16.77		
		256QAM	-36.73	25.32	-10.05	1.44	H		0.024	13.83		
821.5		QPSK	-31.82	29.94	-9.95	1.44	H		0.072	18.55	1	0
		16QAM	-32.55	29.21	-9.95	1.44	H		0.061	17.82		
		64QAM	-33.52	28.24	-9.95	1.44	H		0.048	16.85		
		256QAM	-36.72	25.04	-9.95	1.44	H		0.023	13.65		

Freq (MHz)	Bandwidth	Modulation	Measured Level (dBm)	Substitute Level (dBm)	Ant. Gain (dBd)	C.L	Pol	Limit	ERP		RB	
								W	W	dBm	Size	Offset
819.0	LTE B26 10 MHz	QPSK	-31.82	30.15	-10.05	1.44	H	< 100	0.073	18.66	1	25
		16QAM	-32.52	29.45	-10.05	1.44	H		0.063	17.96		
		64QAM	-33.61	28.36	-10.05	1.44	H		0.049	16.87		
		256QAM	-36.70	25.27	-10.05	1.44	H		0.024	13.78		

Freq (MHz)	Bandwidth	Modulation	Measured Level (dBm)	Substitute Level (dBm)	Ant. Gain (dBd)	C.L	Pol	Limit	ERP		RB	
								W	W	dBm	Size	Offset
821.5	LTE B26 15 MHz	QPSK	-32.11	29.65	-9.95	1.44	H	< 7.00	0.067	18.26	1	0
		16QAM	-32.95	28.81	-9.95	1.44	H		0.055	17.42		
		64QAM	-34.00	27.76	-9.95	1.44	H		0.043	16.37		
		256QAM	-37.06	24.70	-9.95	1.44	H		0.021	13.31		

Note

1. Limit: None (for reporting purposes only)

8.3 RADIATED SPURIOUS EMISSIONS

MODE:	<u>LTE B26</u>
MODULATION SIGNAL:	<u>1.4 MHz QPSK</u>
DISTANCE:	<u>3 meters</u>
LIMIT:	<u>-13 dBm</u>

Ch	Freq (MHz)	Measured Level (dBm)	Ant. Gain (dBi)	Substitute Level (dBm)	C.L	Pol	Result (dBm)	Size	
								Size	Offset
26697 (814.7)	1 629.40	-51.14	9.23	-65.88	1.98	V	-58.63	1	3
		-51.11		-65.85		H	-58.60		
	2 444.10	-52.62	10.41	-63.88	2.50	V	-55.97		
		-52.11		-63.37		H	-55.46		
	3 258.80	-52.38	10.80	-60.75	2.96	V	-52.91		
		-52.49		-60.86		H	-53.02		
	4 073.50	-53.30	11.55	-59.52	3.27	V	-51.24		
		-52.04		-58.26		H	-49.98		
	4 888.20	-54.26	11.35	-56.22	3.67	V	-48.54		
		-53.87		-55.83		H	-48.15		
26783 (823.3)	1 646.60	-51.04	9.39	-65.94	2.00	V	-58.55	1	0
		-51.56		-66.46		H	-59.07		
	2 469.90	-52.38	10.35	-63.70	2.59	V	-55.94		
		-51.98		-63.30		H	-55.54		
	3 293.20	-52.36	11.06	-60.72	2.95	V	-52.61		
		-52.21		-60.57		H	-52.46		
	4 116.50	-53.06	11.64	-59.31	3.32	V	-50.99		
		-53.65		-59.90		H	-51.58		
	4 939.80	-54.61	11.29	-56.52	3.68	V	-48.91		
		-54.75		-56.66		H	-49.05		

8.4 OCCUPIED BANDWIDTH

Band	Band Width	Frequency (MHz)	Modulation	Resource Block Size	Resource Block Offset	Data (MHz)
LTE B26	1.4 MHz	823.3	QPSK	6	0	1.0975
			16QAM			1.0988
			64QAM			1.1017
			256QAM			1.1082
	3 MHz	822.5	QPSK	15		2.7130
			16QAM			2.7131
			64QAM			2.7158
			256QAM			2.7214
	5 MHz	821.5	QPSK	25		4.5208
			16QAM			4.5327
			64QAM			4.5185
			256QAM			4.5395
	10 MHz	819.0	QPSK	50		9.0315
			16QAM			9.0294
			64QAM			9.0025
			256QAM			8.9779
	15 MHz	821.5	QPSK	75		13.489
			16QAM			13.499
			64QAM			13.471
			256QAM			13.464

8.5 CONDUCTED SPURIOUS EMISSIONS

Band	Band Width (MHz)	Frequency (MHz)	Frequency of Maximum Harmonic (GHz)	Factor (dB)	Measurement Maximum Data (dBm)	Result (dBm)	Limit (dBm)
LTE B26	1.4	814.7	3.6790	27.976	-57.948	-29.972	-13.00
		823.3	3.1606	27.976	-58.319	-30.343	
	3	815.5	6.1516	28.591	-57.782	-29.191	
		822.5	3.6890	27.976	-57.741	-29.765	
	5	816.5	6.1815	28.591	-58.278	-29.687	
		821.5	3.6591	27.976	-58.067	-30.091	
	10	819.0	2.6122	27.976	-57.961	-29.985	
	15	821.5	2.6820	27.976	-57.125	-29.149	

Note:

1. Conducted Spurious Emissions was Tested QPSK Modulation, Resource Block Size 1 and Resource Block Offset 0
2. Result (dBm) = Measurement Maximum Data (dBm) + Factor (dB)
3. Factor (dB) = Cable Loss + Ext. Attenuator + Power Splitter

Frequency Range (GHz)	Factor [dB]
0.03 – 1	25.270
1 – 5	27.976
5 – 10	28.591
10 – 15	29.116
15 – 20	29.489
Above 20(26.5)	30.131

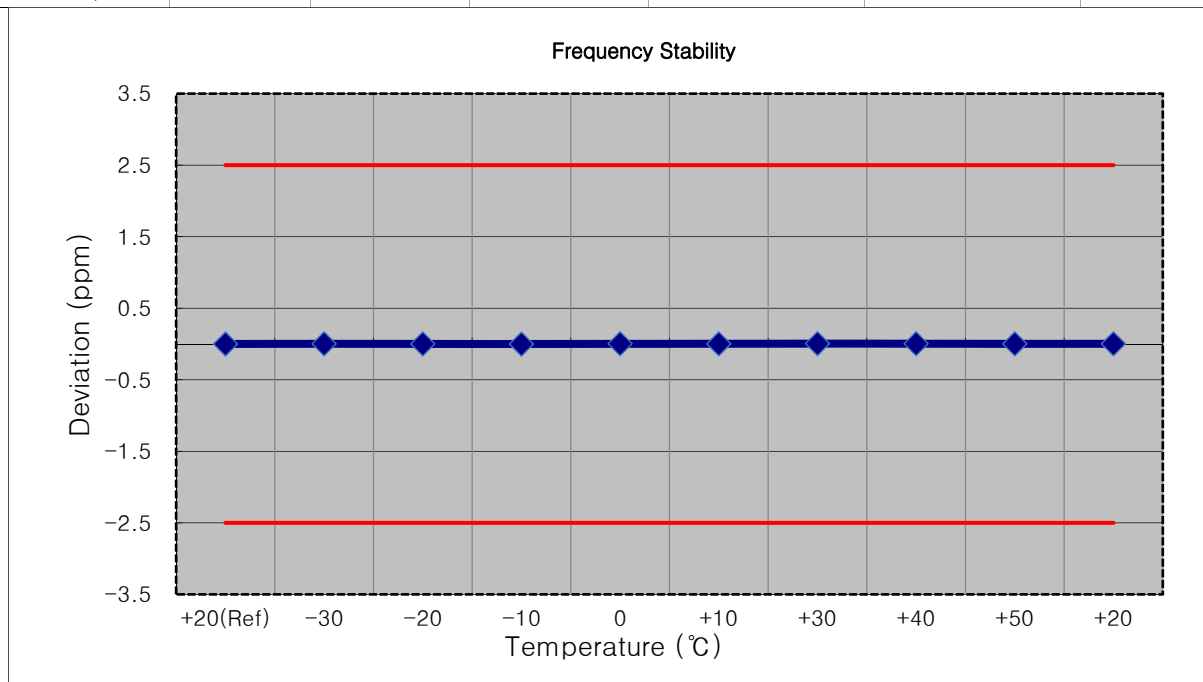
8.6 CHANNEL EDGE

- Plots of the EUT's Band Edge are shown Section 9.3.

8.7 FREQUENCY STABILITY / VARIATION OF AMBIENT TEMPERATURE

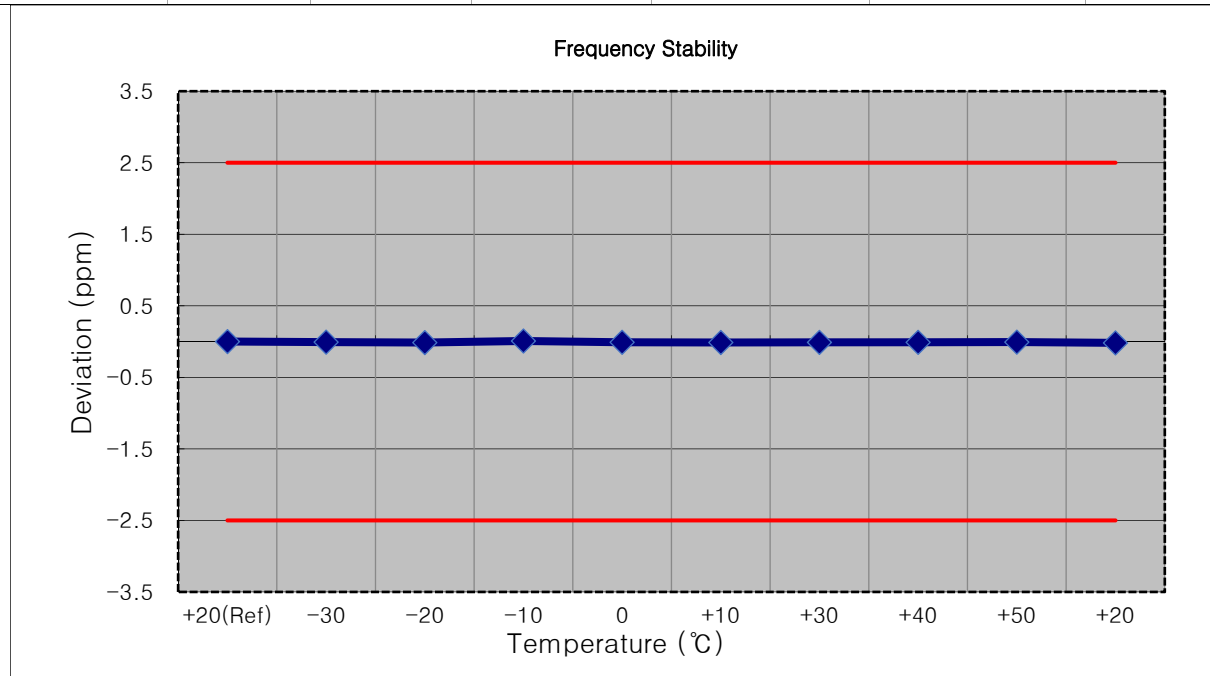
- ▣ MODE: LTE B26
- ▣ OPERATING FREQUENCY: 814,700,000 Hz
- ▣ CHANNEL: 26697(1.4 MHz)
- ▣ REFERENCE VOLTAGE: 3.880 VDC
- ▣ DEVIATION LIMIT: ± 0.000 25 % or 2.5 ppm

Voltage	Power	Temp.	Frequency	Frequency Error	Deviation	ppm
(%)	(VDC)	(°C)	(Hz)	(Hz)	(%)	
100 %	3.880	+20(Ref)	814 700 002	0.0	0.000 000	0.000
100 %		-30	814 700 003	1.8	0.000 000	0.002
100 %		-20	814 700 003	1.3	0.000 000	0.002
100 %		-10	814 700 000	-1.4	0.000 000	-0.002
100 %		0	814 700 004	2.9	0.000 000	0.004
100 %		+10	814 700 004	2.0	0.000 000	0.002
100 %		+30	814 700 006	4.2	0.000 001	0.005
100 %		+40	814 700 004	2.9	0.000 000	0.004
100 %		+50	814 700 003	1.6	0.000 000	0.002
Batt. Endpoint	3.300	+20	814 700 004	2.3	0.000 000	0.003



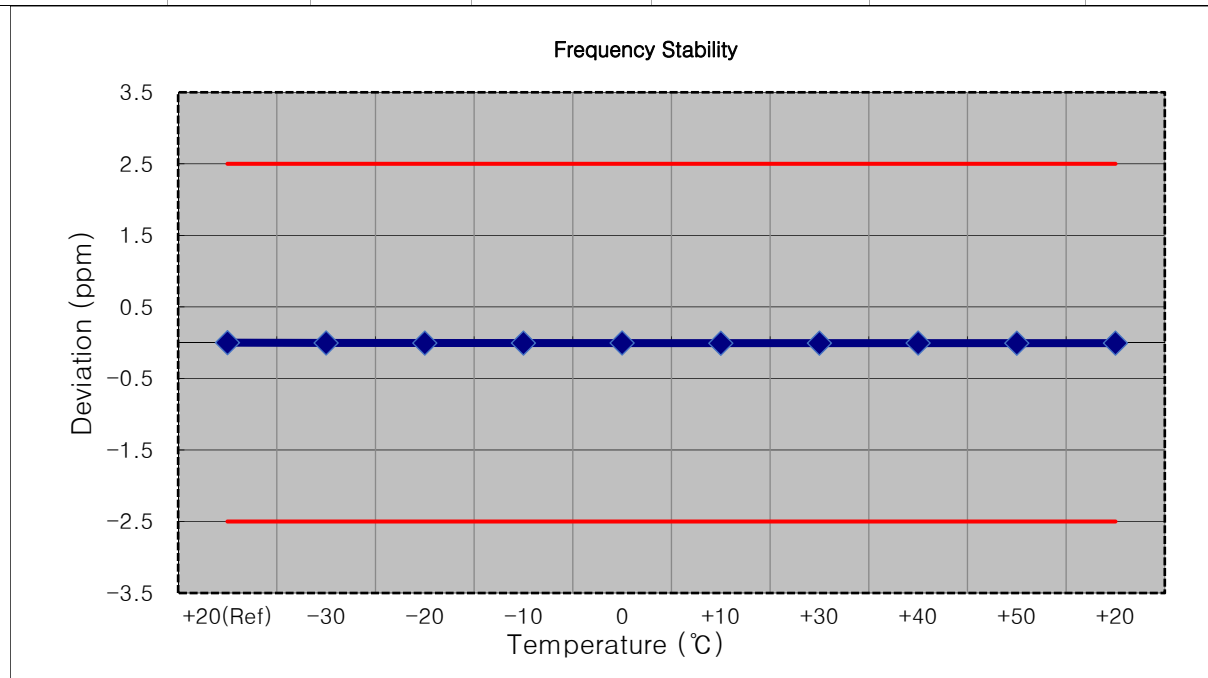
- ▣ MODE: LTE B26
- ▣ OPERATING FREQUENCY: 815,500,000 Hz
- ▣ CHANNEL: 26705(3 MHz)
- ▣ REFERENCE VOLTAGE: 3.880 VDC
- ▣ DEVIATION LIMIT: ± 0.000 25 % or 2.5 ppm

Voltage	Power	Temp.	Frequency	Frequency Error	Deviation	ppm
(%)	(VDC)	(°C)	(Hz)	(Hz)	(%)	
100 %	3.880	+20(Ref)	815 499 993	0.0	0.000 000	0.000
100 %		-30	815 499 987	-6.2	-0.000 001	-0.008
100 %		-20	815 499 982	-11.3	-0.000 001	-0.014
100 %		-10	815 500 000	6.7	0.000 001	0.008
100 %		0	815 499 985	-8.0	-0.000 001	-0.010
100 %		+10	815 499 983	-10.6	-0.000 001	-0.013
100 %		+30	815 499 984	-8.9	-0.000 001	-0.011
100 %		+40	815 499 985	-8.5	-0.000 001	-0.010
100 %		+50	815 499 988	-5.8	-0.000 001	-0.007
Batt. Endpoint	3.300	+20	815 499 978	-14.9	-0.000 002	-0.018



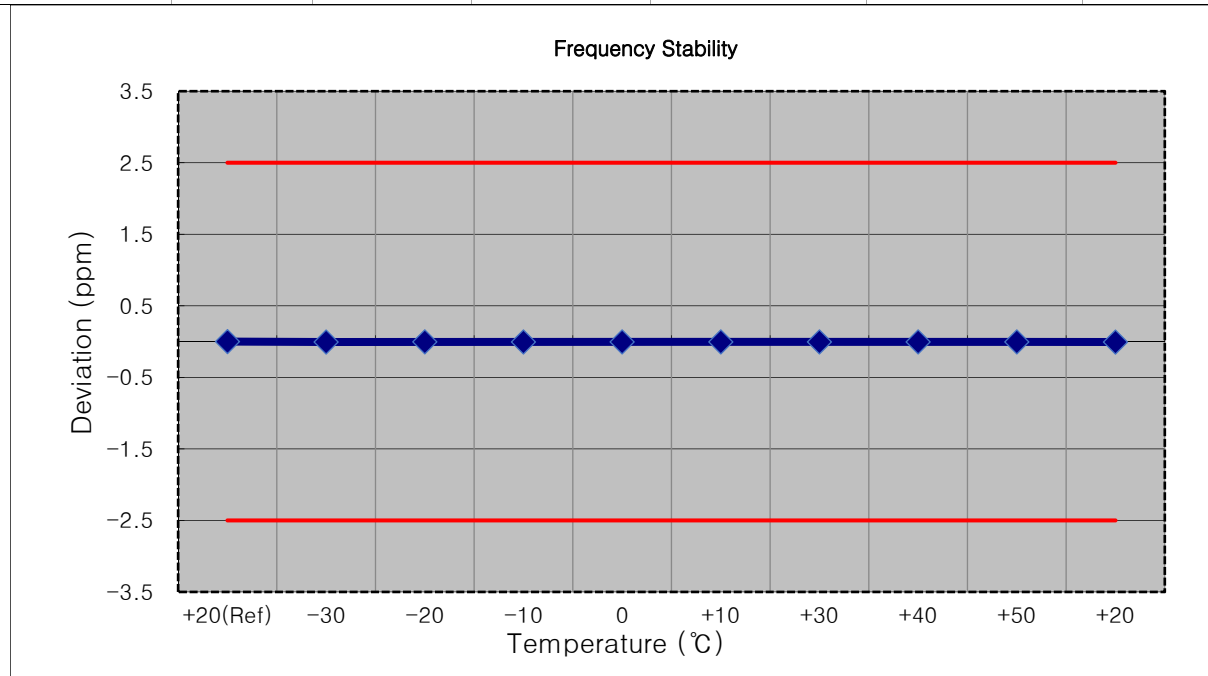
MODE:	<u>LTE B26</u>
OPERATING FREQUENCY:	<u>816,500,000 Hz</u>
CHANNEL:	<u>26715(5 MHz)</u>
REFERENCE VOLTAGE:	<u>3.880 VDC</u>
DEVIATION LIMIT:	<u>± 0.000 25 % or 2.5 ppm</u>

Voltage	Power	Temp.	Frequency	Frequency Error	Deviation	ppm
(%)	(VDC)	(°C)	(Hz)	(Hz)	(%)	
100 %	3.880	+20(Ref)	816 499 996	0.0	0.000 000	0.000
100 %		-30	816 499 993	-3.5	0.000 000	-0.004
100 %		-20	816 499 992	-4.9	-0.000 001	-0.006
100 %		-10	816 499 991	-5.0	-0.000 001	-0.006
100 %		0	816 499 993	-3.5	0.000 000	-0.004
100 %		+10	816 499 989	-7.0	-0.000 001	-0.009
100 %		+30	816 499 991	-5.6	-0.000 001	-0.007
100 %		+40	816 499 992	-4.4	-0.000 001	-0.005
100 %		+50	816 499 990	-6.1	-0.000 001	-0.007
Batt. Endpoint	3.300	+20	816 499 991	-5.8	-0.000 001	-0.007



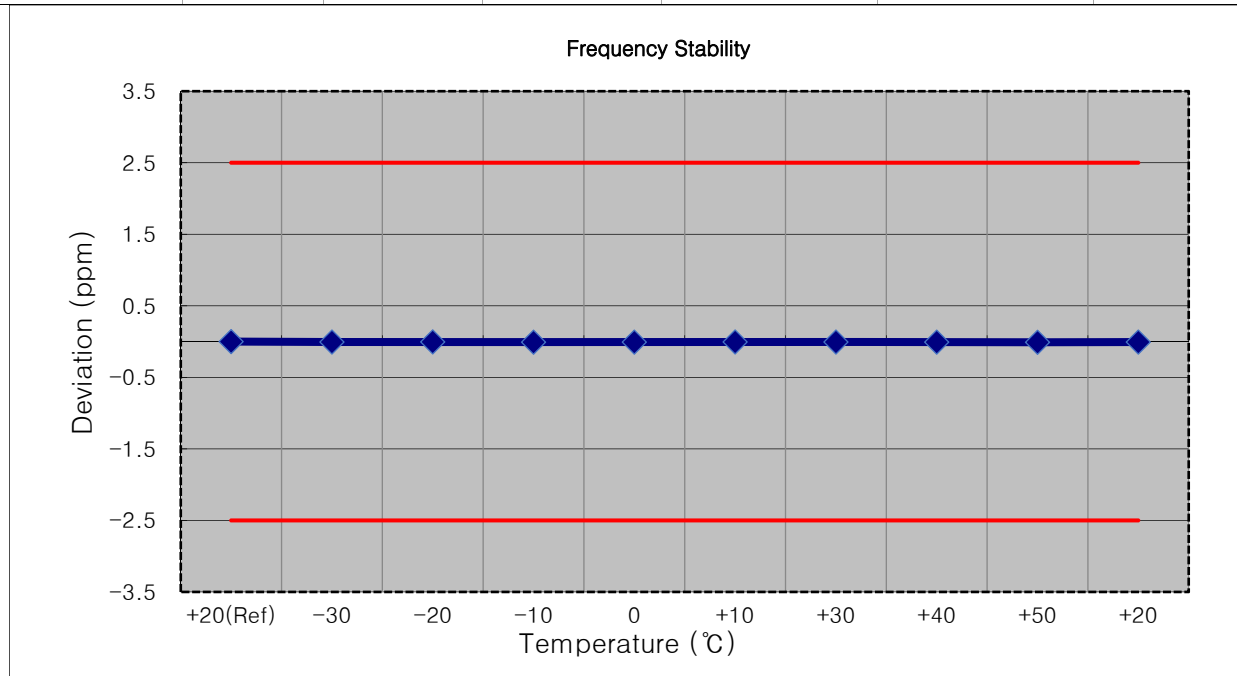
- ▣ MODE: LTE B26
- ▣ OPERATING FREQUENCY: 819,000,000 Hz
- ▣ CHANNEL: 26740(10 MHz)
- ▣ REFERENCE VOLTAGE: 3.880 VDC
- ▣ DEVIATION LIMIT: ± 0.000 25 % or 2.5 ppm

Voltage	Power	Temp.	Frequency	Frequency Error	Deviation	ppm
(%)	(VDC)	(°C)	(Hz)	(Hz)	(%)	
100 %	3.880	+20(Ref)	818 999 995	0.0	0.000 000	0.000
100 %		-30	818 999 990	-4.9	-0.000 001	-0.006
100 %		-20	818 999 992	-3.3	0.000 000	-0.004
100 %		-10	818 999 991	-4.5	-0.000 001	-0.005
100 %		0	818 999 991	-3.9	0.000 000	-0.005
100 %		+10	818 999 992	-3.4	0.000 000	-0.004
100 %		+30	818 999 992	-3.8	0.000 000	-0.005
100 %		+40	818 999 992	-3.8	0.000 000	-0.005
100 %		+50	818 999 992	-3.8	0.000 000	-0.005
Batt. Endpoint	3.300	+20	818 999 990	-5.2	-0.000 001	-0.006



- ▣ MODE: LTE B26
- ▣ OPERATING FREQUENCY: 821,500,000 Hz
- ▣ CHANNEL: 26765(15 MHz)
- ▣ REFERENCE VOLTAGE: 3.880 VDC
- ▣ DEVIATION LIMIT: ± 0.000 25 % or 2.5 ppm

Voltage	Power	Temp.	Frequency	Frequency Error	Deviation	ppm
(%)	(VDC)	(°C)	(Hz)	(Hz)	(%)	
100 %	3.880	+20(Ref)	821 499 996	0.0	0.000 000	0.000
100 %		-30	821 499 991	-5.2	-0.000 001	-0.006
100 %		-20	821 499 992	-3.9	0.000 000	-0.005
100 %		-10	821 499 989	-6.9	-0.000 001	-0.008
100 %		0	821 499 990	-6.0	-0.000 001	-0.007
100 %		+10	821 499 991	-4.5	-0.000 001	-0.005
100 %		+30	821 499 991	-5.0	-0.000 001	-0.006
100 %		+40	821 499 990	-5.9	-0.000 001	-0.007
100 %		+50	821 499 988	-7.7	-0.000 001	-0.009
Batt. Endpoint	3.300	+20	821 499 990	-5.6	-0.000 001	-0.007



8.8 STRADDLE CHANNEL

8.8.1 CONDUCTED OUTPUT POWER

Band Width (MHz)	Modulation	RB Size	RB Offset	Max. output power(dBm)		Limit (W)
				824 MHz		
				dBm	W	
1.4	QPSK	1	0	23.66	0.232	100
		1	3	23.80	0.240	100
		1	5	23.72	0.236	100
		3	0	23.72	0.236	100
		3	1	23.81	0.240	100
		3	3	23.68	0.233	100
		6	0	22.12	0.163	100
	16QAM	1	0	22.85	0.193	100
		1	3	22.95	0.197	100
		1	5	22.79	0.190	100
		3	0	22.76	0.189	100
		3	1	22.74	0.188	100
		3	3	22.93	0.196	100
		6	0	21.83	0.152	100
	64QAM	1	0	21.84	0.153	100
		1	3	21.87	0.154	100
		1	5	21.77	0.150	100
		3	0	21.77	0.150	100
		3	1	21.79	0.151	100
		3	3	21.79	0.151	100
		6	0	20.70	0.117	100
	256QAM	1	0	18.80	0.076	100
		1	3	18.74	0.075	100
		1	5	18.81	0.076	100
		3	0	18.74	0.075	100
		3	1	18.75	0.075	100
		3	3	18.74	0.075	100
		6	0	18.74	0.075	100

Band Width (MHz)	Modulation	RB Size	RB Offset	Max. output power(dBm)		Limit (W)
				824 MHz		
				dBm	W	
3	QPSK	1	0	23.72	0.236	100
		1	7	23.66	0.232	100
		1	14	23.58	0.228	100
		8	0	22.77	0.189	100
		8	3	22.81	0.191	100
		8	7	22.67	0.185	100
		15	0	22.74	0.188	100
	16QAM	1	0	22.94	0.197	100
		1	7	22.93	0.196	100
		1	14	22.84	0.192	100
		8	0	21.78	0.151	100
		8	3	21.82	0.152	100
		8	7	21.72	0.149	100
		15	0	21.78	0.151	100
	64QAM	1	0	21.74	0.149	100
		1	7	21.94	0.156	100
		1	14	21.88	0.154	100
		8	0	20.75	0.119	100
		8	3	20.79	0.120	100
		8	7	20.73	0.118	100
		15	0	20.71	0.118	100
	256QAM	1	0	18.74	0.075	100
		1	7	18.76	0.075	100
		1	14	18.69	0.074	100
		8	0	18.70	0.074	100
		8	3	18.75	0.075	100
		8	7	18.75	0.075	100
		15	0	18.77	0.075	100

Band Width (MHz)	Modulation	RB Size	RB Offset	Max. output power(dBm)		Limit (W)
				824 MHz		
				dBm	W	
5	QPSK	1	0	23.74	0.237	100
		1	12	23.89	0.245	100
		1	24	23.63	0.230	100
		12	0	22.72	0.187	100
		12	6	22.79	0.190	100
		12	11	22.66	0.185	100
		25	0	22.67	0.185	100
	16QAM	1	0	22.95	0.197	100
		1	12	22.95	0.197	100
		1	24	22.84	0.192	100
		12	0	21.62	0.145	100
		12	6	21.70	0.148	100
		12	11	21.71	0.148	100
		25	0	21.80	0.151	100
	64QAM	1	0	21.77	0.150	100
		1	12	21.88	0.154	100
		1	24	21.68	0.147	100
		12	0	20.75	0.119	100
		12	6	20.77	0.119	100
		12	11	20.71	0.118	100
		25	0	20.72	0.118	100
	256QAM	1	0	18.66	0.073	100
		1	12	18.94	0.078	100
		1	24	18.78	0.076	100
		12	0	18.64	0.073	100
		12	6	18.84	0.077	100
		12	11	18.72	0.074	100
		25	0	18.69	0.074	100

Band Width (MHz)	Modulation	RB Size	RB Offset	Max. output power(dBm)		Limit (W)
				824 MHz		
				dBm	W	
10	QPSK	1	0	23.72	0.236	100
		1	24	23.75	0.237	100
		1	49	23.59	0.229	100
		25	0	22.70	0.186	100
		25	12	22.77	0.189	100
		25	24	22.71	0.187	100
		50	0	22.82	0.191	100
	16QAM	1	0	22.92	0.196	100
		1	24	23.04	0.201	100
		1	49	23.09	0.204	100
		25	0	21.70	0.148	100
		25	12	21.78	0.151	100
		25	24	21.75	0.150	100
		50	0	21.74	0.149	100
	64QAM	1	0	21.95	0.157	100
		1	24	21.80	0.151	100
		1	49	21.75	0.150	100
		25	0	20.69	0.117	100
		25	12	20.78	0.120	100
		25	24	20.76	0.119	100
		50	0	20.78	0.120	100
	256QAM	1	0	18.75	0.075	100
		1	24	18.82	0.076	100
		1	49	18.83	0.076	100
		25	0	18.66	0.073	100
		25	12	18.75	0.075	100
		25	24	18.74	0.075	100
		50	0	18.73	0.075	100

8.8.2 EFFECTIVE RADIATED POWER

Freq (MHz)	Bandwidth	Modulation	Measured Level (dBm)	Substitute Level (dBm)	Ant. Gain (dBd)	C.L	Pol	Limit	ERP		RB	
								W	W	dBm	Size	Offset
824.0	LTE B26 1.4 MHz	QPSK	-31.82	29.71	-9.95	1.44	H	< 7.00	0.068	18.32	1	5
		16QAM	-32.70	28.83	-9.95	1.44	H		0.056	17.44		
		64QAM	-33.67	27.86	-9.95	1.44	H		0.044	16.47		
		256QAM	-36.81	24.72	-9.95	1.44	H		0.022	13.33		

Freq (MHz)	Bandwidth	Modulation	Measured Level (dBm)	Substitute Level (dBm)	Ant. Gain (dBd)	C.L	Pol	Limit	ERP		RB	
								W	W	dBm	Size	Offset
824.0	LTE B26 3 MHz	QPSK	-31.91	29.62	-9.95	1.44	H	< 7.00	0.067	18.23	1	8
		16QAM	-32.69	28.84	-9.95	1.44	H		0.056	17.45		
		64QAM	-33.73	27.80	-9.95	1.44	H		0.044	16.41		
		256QAM	-36.80	24.73	-9.95	1.44	H		0.022	13.34		

Freq (MHz)	Bandwidth	Modulation	Measured Level (dBm)	Substitute Level (dBm)	Ant. Gain (dBd)	C.L	Pol	Limit	ERP		RB	
								W	W	dBm	Size	Offset
824.0	LTE B26 5 MHz	QPSK	-31.86	29.67	-9.95	1.44	H	< 7.00	0.067	18.28	1	0
		16QAM	-32.66	28.87	-9.95	1.44	H		0.056	17.48		
		64QAM	-33.68	27.85	-9.95	1.44	H		0.044	16.46		
		256QAM	-36.85	24.68	-9.95	1.44	H		0.021	13.29		

Freq (MHz)	Bandwidth	Modulation	Measured Level (dBm)	Substitute Level (dBm)	Ant. Gain (dBd)	C.L	Pol	Limit	ERP		RB	
								W	W	dBm	Size	Offset
824.0	LTE B26 10 MHz	QPSK	-31.85	29.68	-9.95	1.44	H	< 7.00	0.067	18.29	1	0
		16QAM	-32.54	28.99	-9.95	1.44	H		0.058	17.60		
		64QAM	-33.67	27.86	-9.95	1.44	H		0.044	16.47		
		256QAM	-36.69	24.84	-9.95	1.44	H		0.022	13.45		

8.8.3 RADIATED SPURIOUS EMISSIONS

MODE:	<u>LTE B26(Straddle)</u>
MODULATION SIGNAL:	<u>10 MHz QPSK</u>
DISTANCE:	<u>3 meters</u>
LIMIT:	<u>-13 dBm</u>

Ch	Freq (MHz)	Measured Level (dBm)	Ant. Gain (dBi)	Substitute Level (dBm)	C.L	Pol	Result (dBm)	RB	
								Size	Offset
26790 (824.0)	1 648.00	-50.92	9.44	-65.82	2.02	V	-58.40	1	5
		-50.71		-65.61		H	-58.19		
	2 472.00	-52.90	10.35	-64.22	2.59	V	-56.46		
		-52.42		-63.74		H	-55.98		
	3 296.00	-52.97	11.06	-61.33	2.95	V	-53.22		
		-52.73		-61.09		H	-52.98		
	4 120.00	-53.19	11.65	-59.47	3.31	V	-51.13		
		-53.11		-59.39		H	-51.05		
	4 944.00	-55.34	11.28	-57.18	3.68	V	-49.58		
		-54.65		-56.49		H	-48.89		

8.8.4 CONDUCTED SPURIOUS EMISSIONS

Band	Band Width (MHz)	Frequency (MHz)	Frequency of Maximum Harmonic (GHz)	Factor (dB)	Measurement Maximum Data (dBm)	Result (dBm)	Limit (dBm)
LTE B26	1.4	824.0	3.6990	27.976	-57.626	-29.650	-13.00
	3		3.7189	27.976	-58.084	-30.108	
	5		2.8216	27.976	-57.718	-29.742	
	10		3.6790	27.976	-58.190	-30.214	

Note:

1. Conducted Spurious Emissions was Tested QPSK Modulation, Resource Block Size 1 and Resource Block Offset 0
2. Result (dBm) = Measurement Maximum Data (dBm) + Factor (dB)
3. Factor (dB) = Cable Loss + Attenuator + Power Splitter

Frequency Range (GHz)	Factor [dB]
0.03 – 1	25.270
1 – 5	27.976
5 – 10	28.591
10 – 15	29.116
15 – 20	29.489
Above 20(26.5)	30.131

8.8.5 CHANNEL EDGE(Part90)

- Test Channel : 26790(824.0MHz)
- Plots of the EUT's Band Edge are shown Section 10.2.

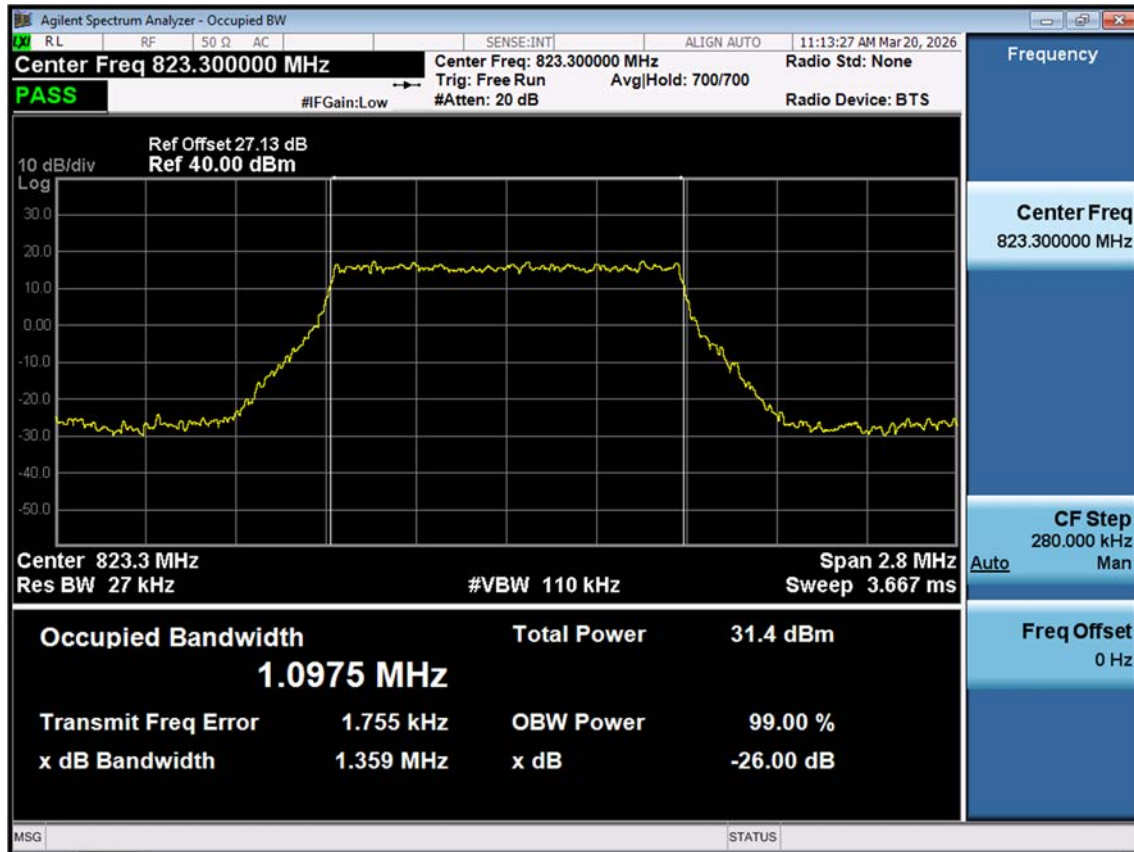
8.8.6 BAND EDGE(Part22)

- Test Channel : 26790(824.0 MHz)
- Plots of the EUT's Band Edge are shown Section 10.3.

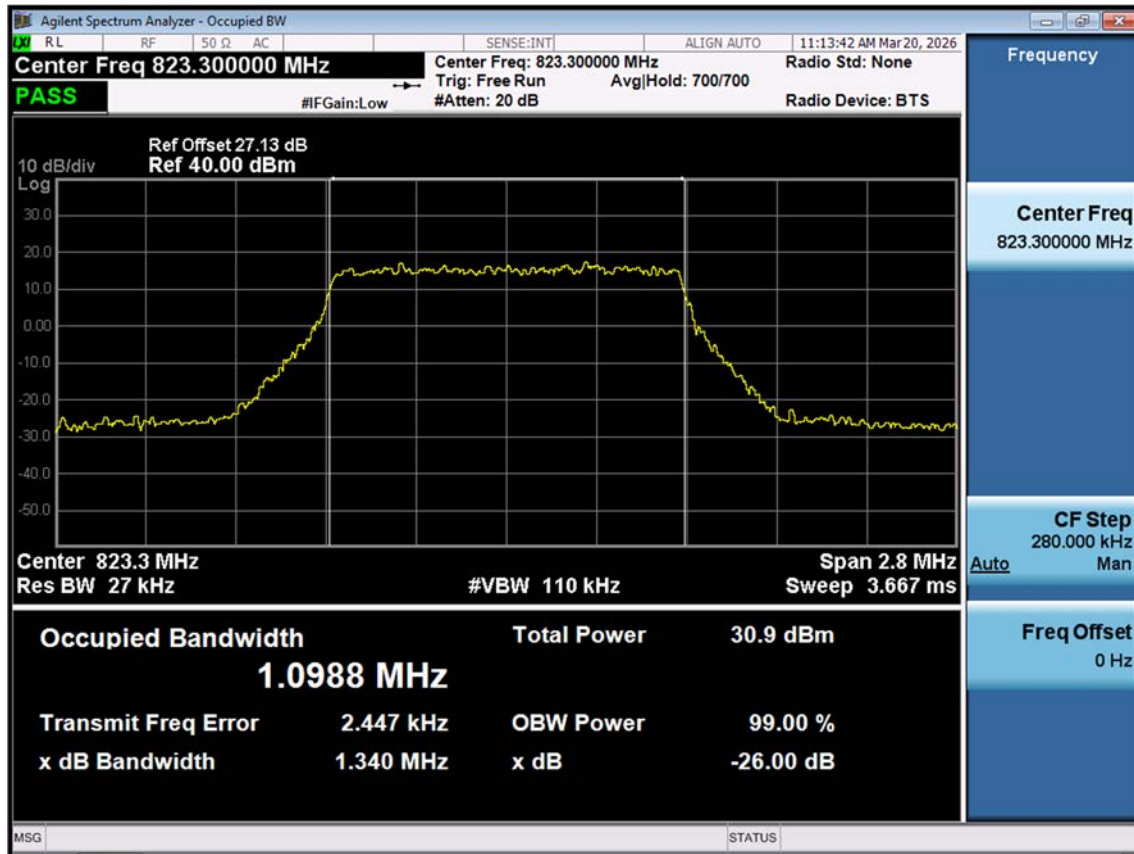
9. TEST PLOTS

9.1 OCCUPIED BANDWIDTH

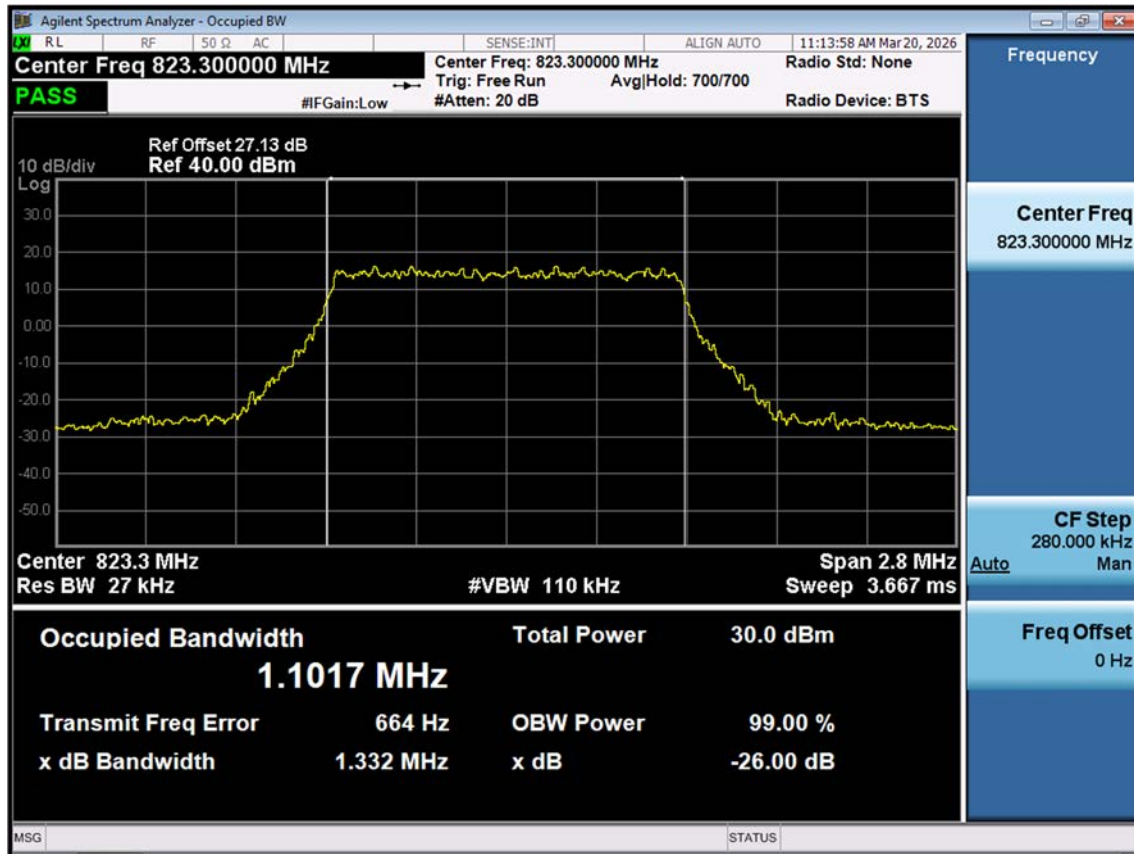
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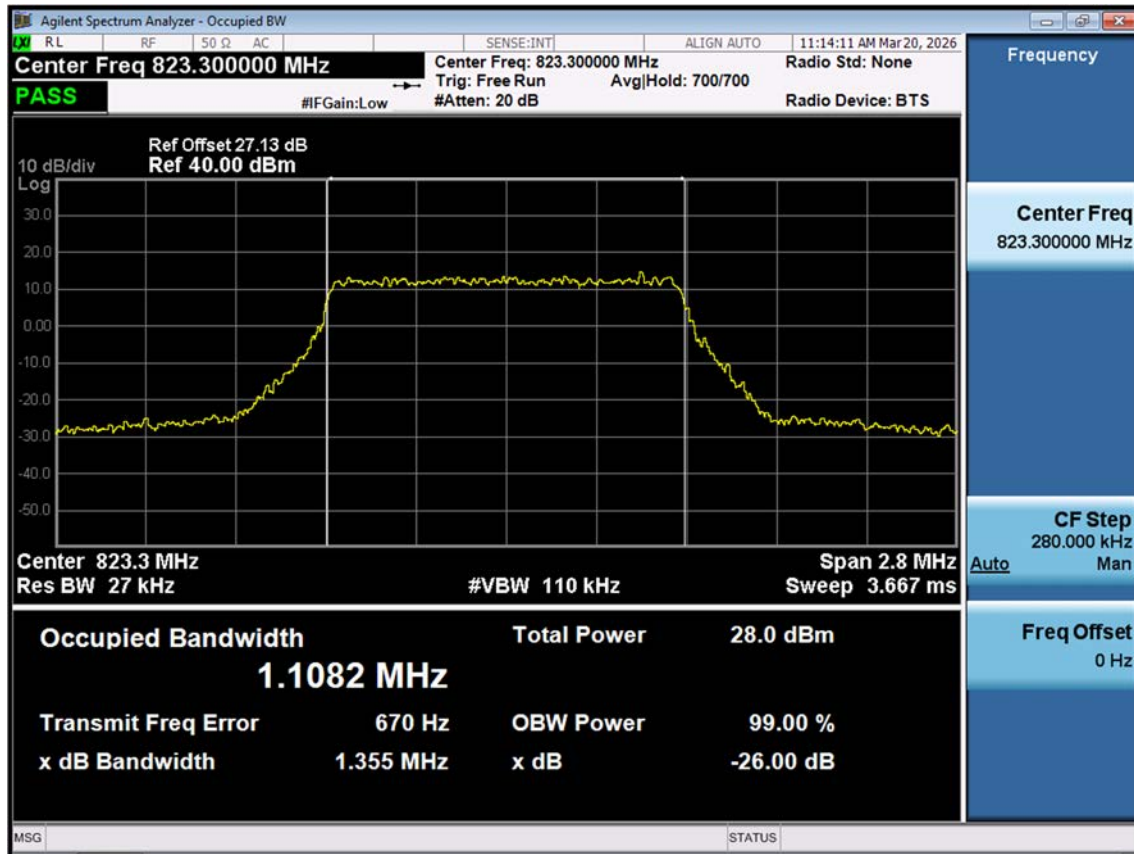
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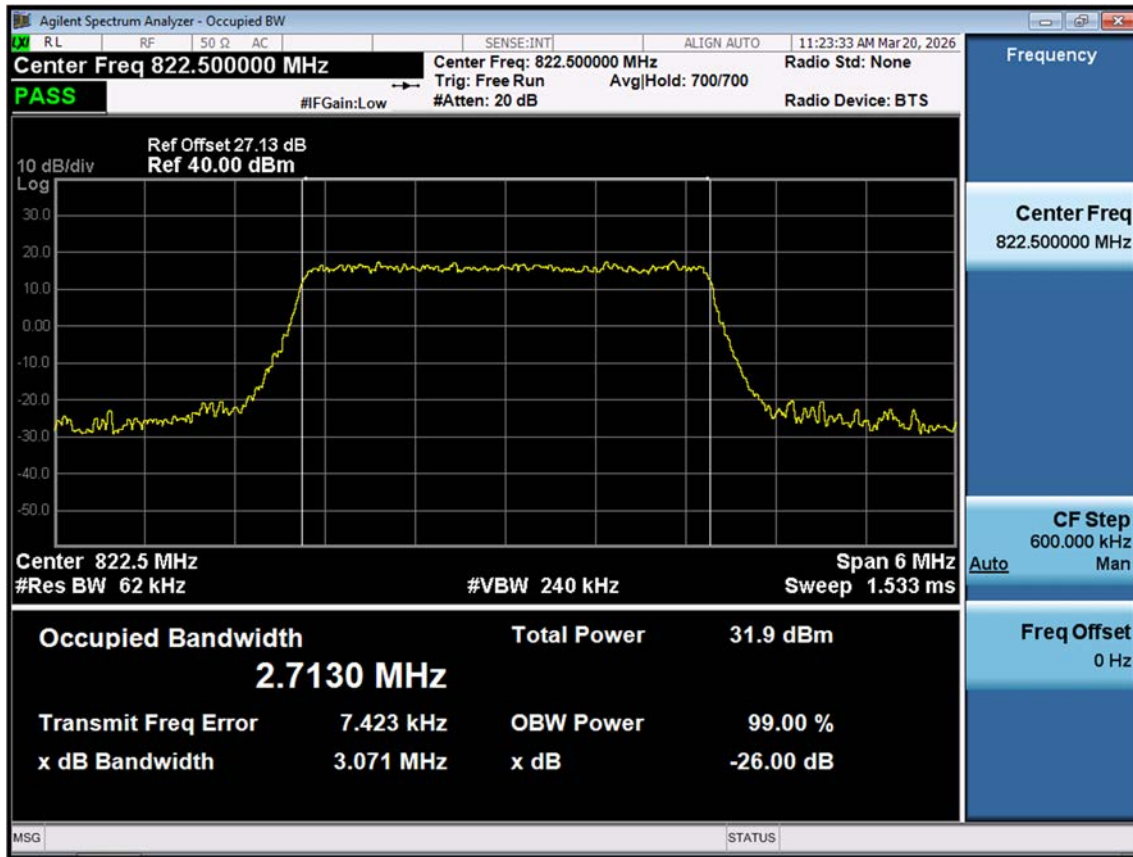
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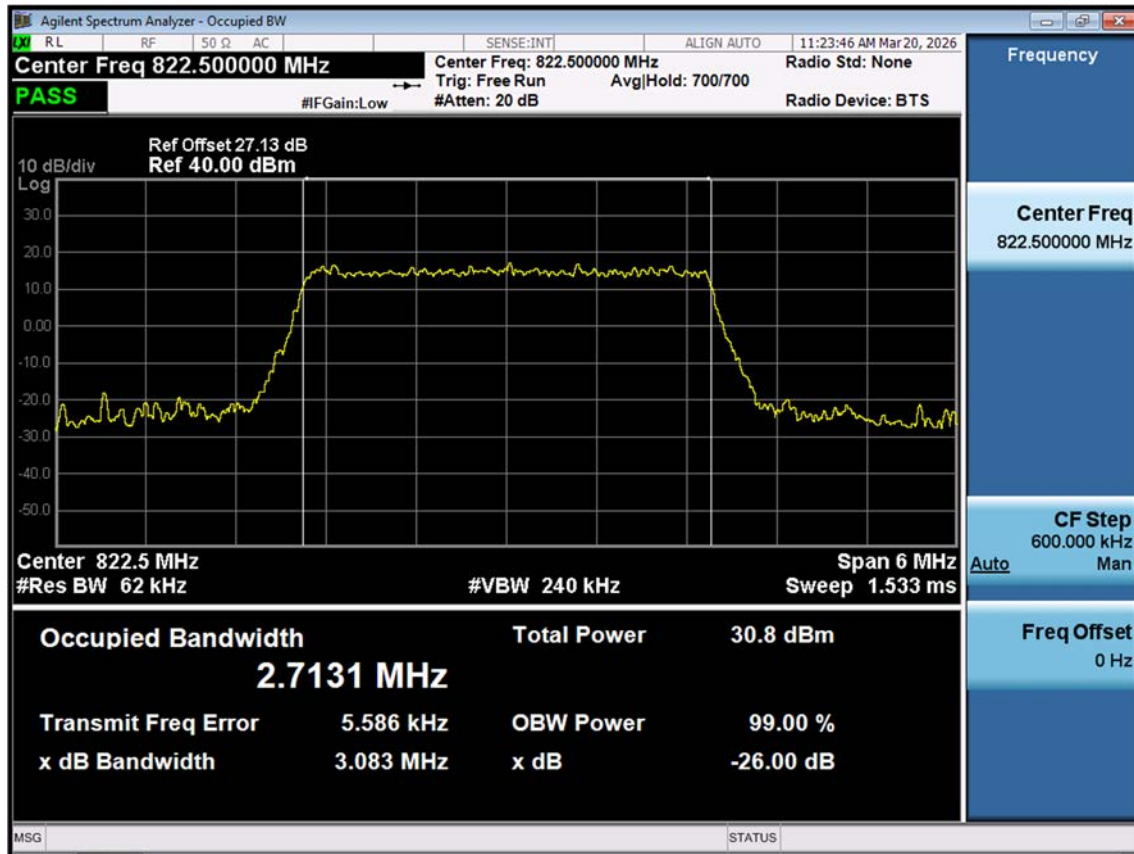
LTE B26_1.4 M_OBW_Mid_256QAM_FullRB



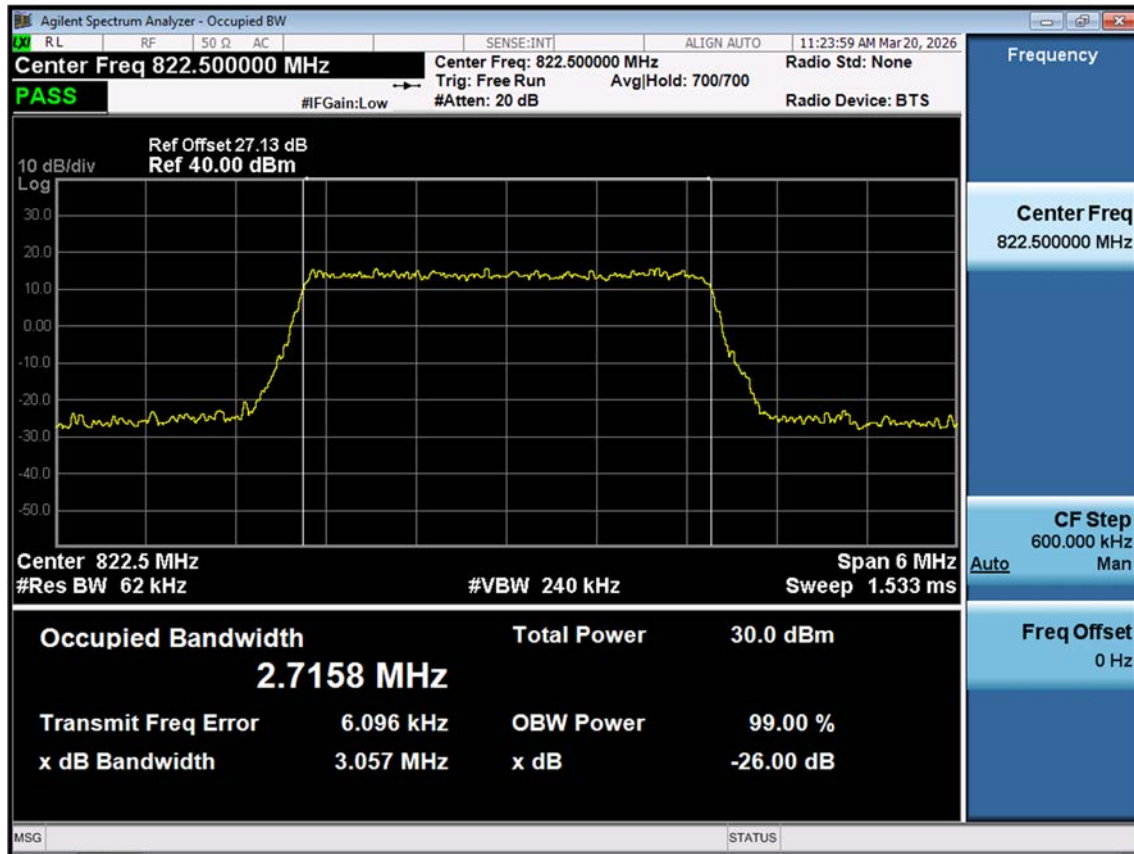
LTE B26_3 M_OBW_Mid_QPSK_FullRB



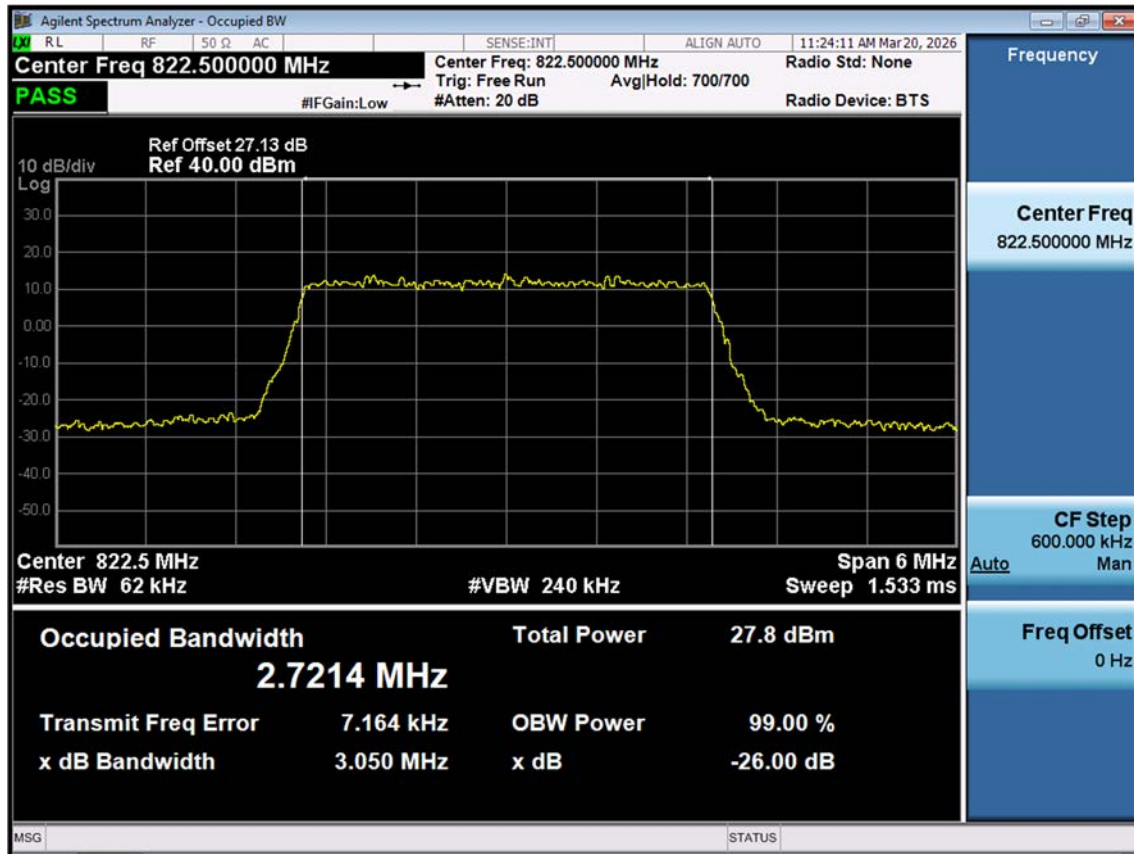
LTE B26_3 M_OBW_Mid_16QAM_FullRB



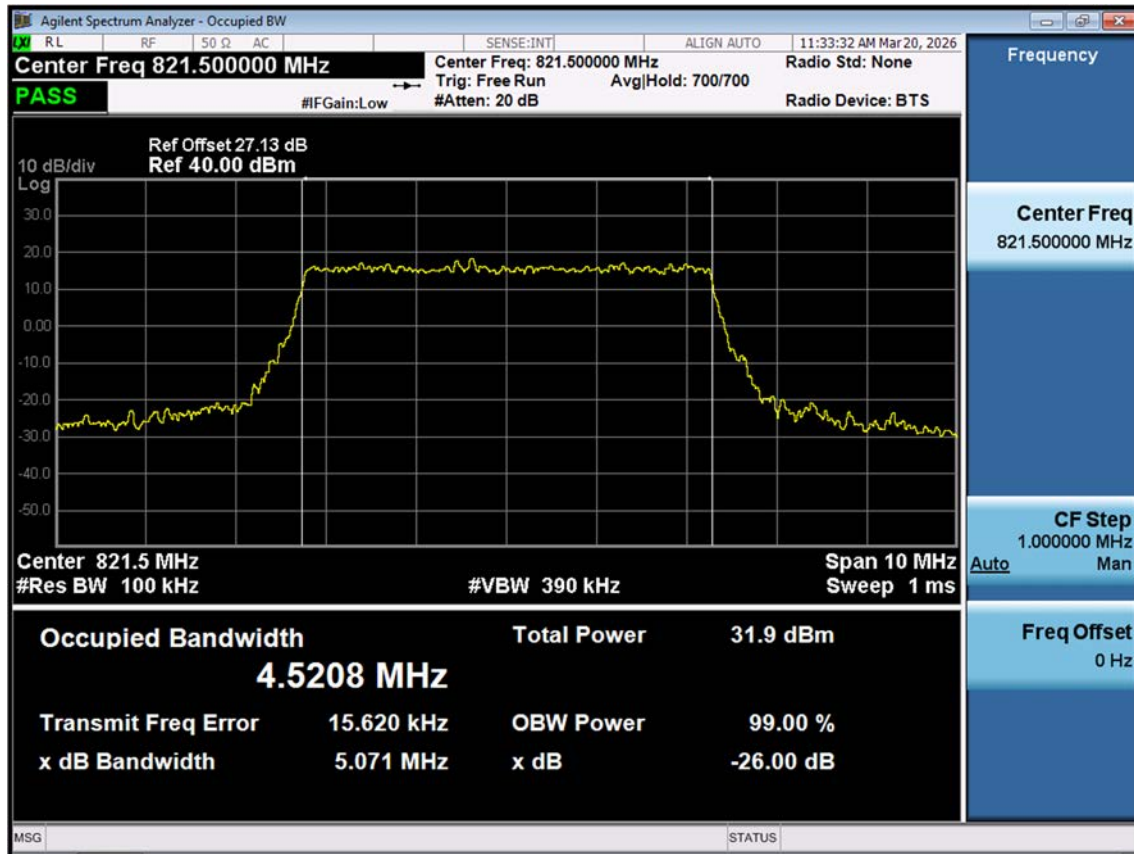
LTE B26_3 M_OBW_Mid_64QAM_FullRB



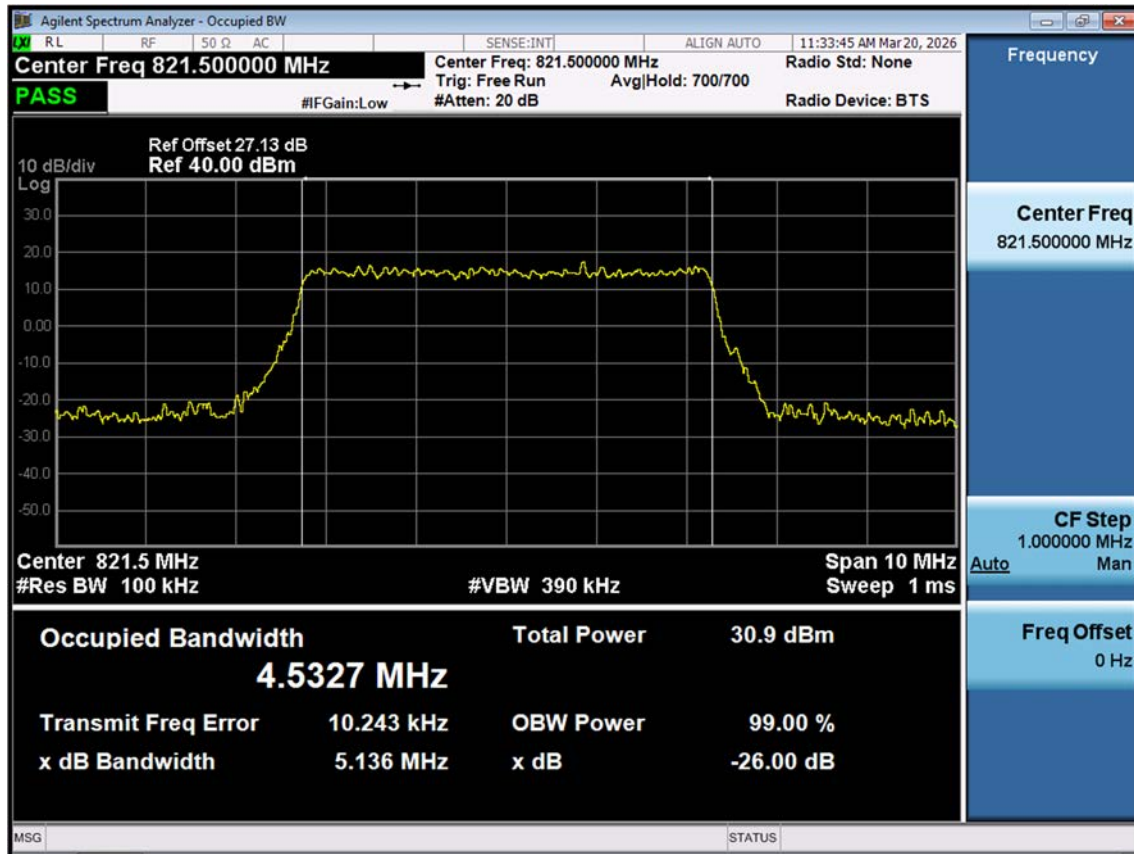
LTE B26_3 M_OBW_Mid_256QAM_FullRB



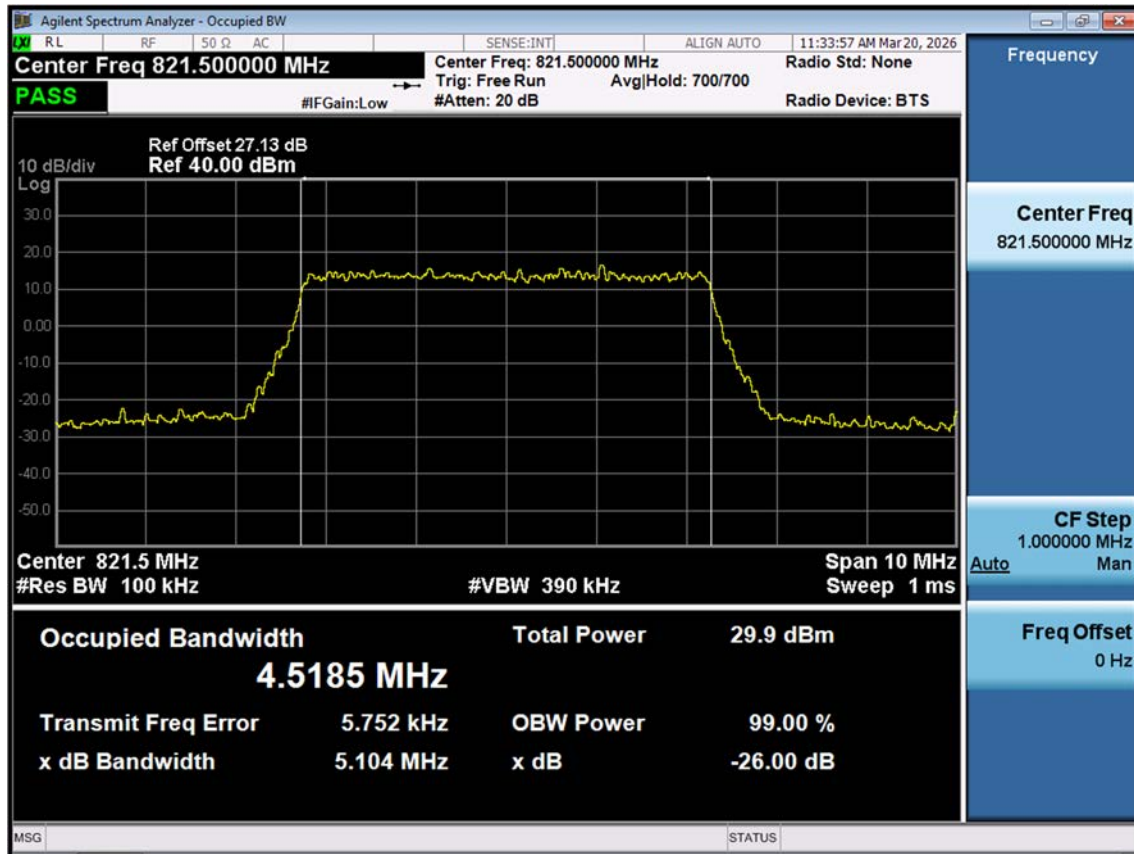
LTE B26_5 M_OBW_Mid_QPSK_FullRB



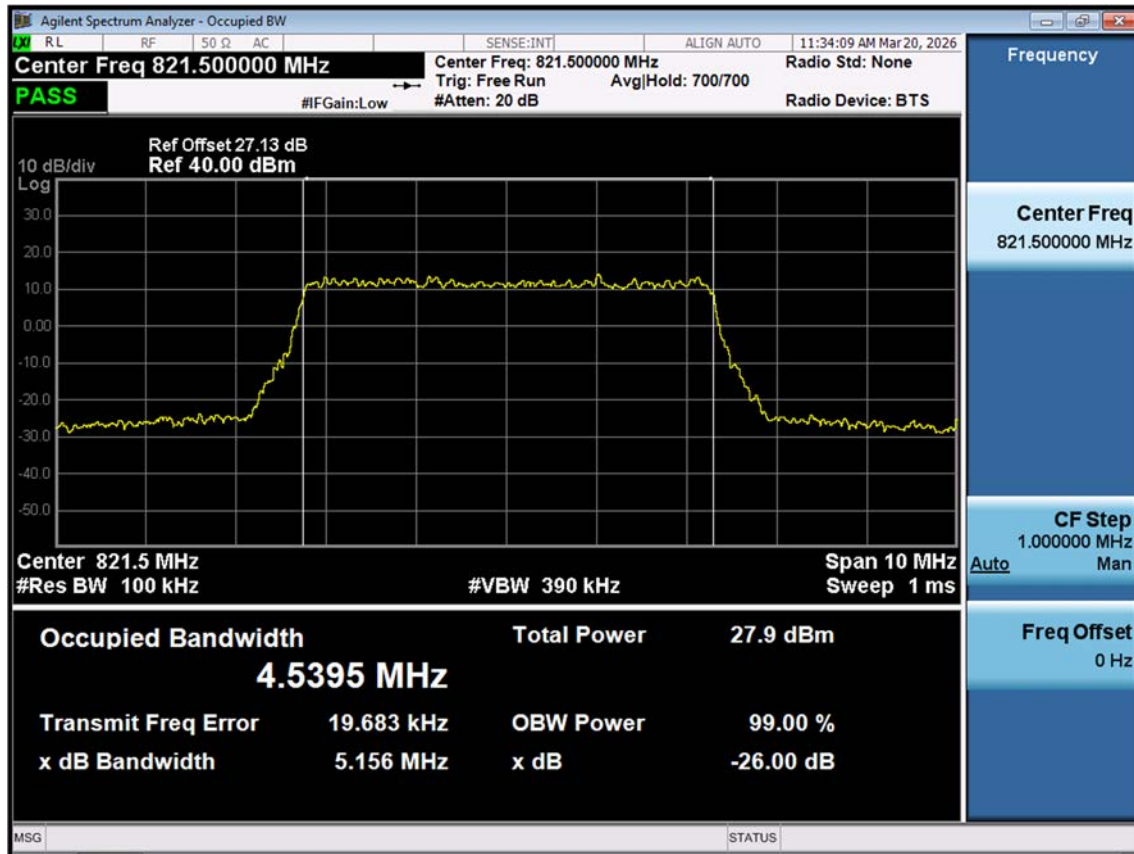
LTE B26_5 M_OBW_Mid_16QAM_FullRB



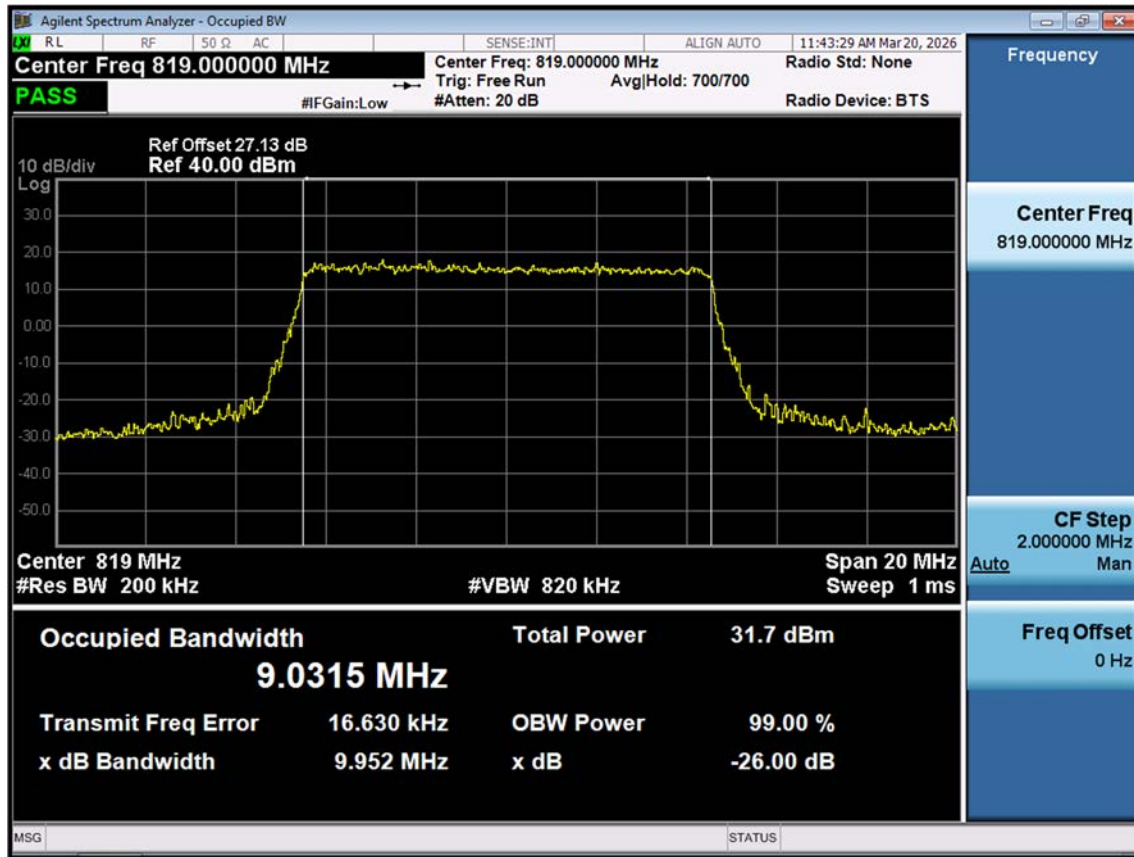
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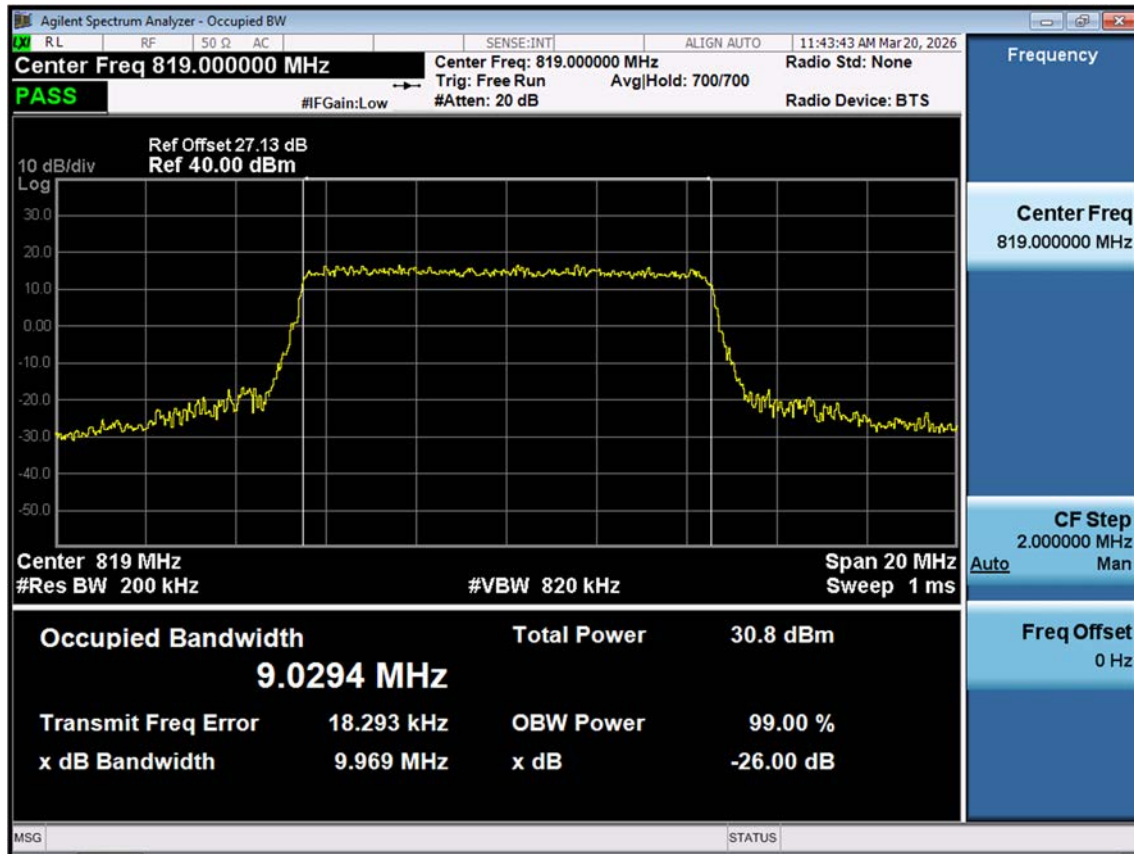
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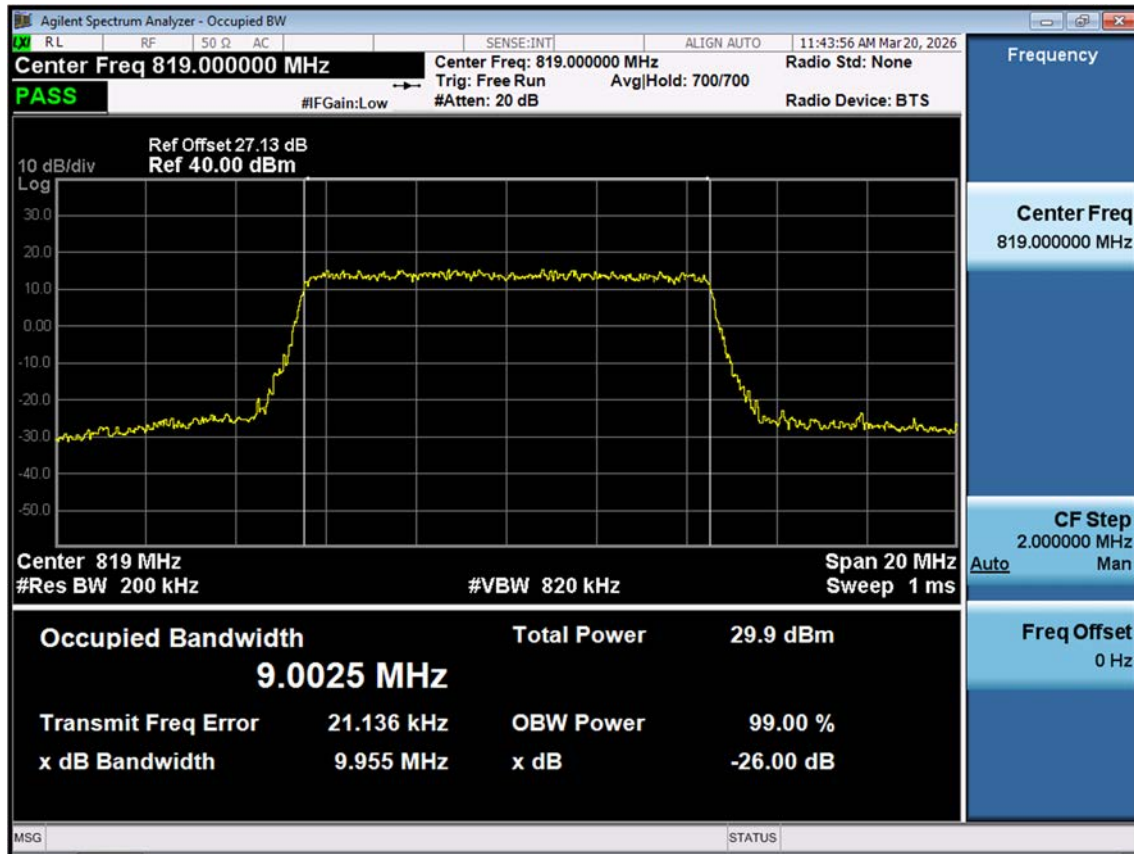
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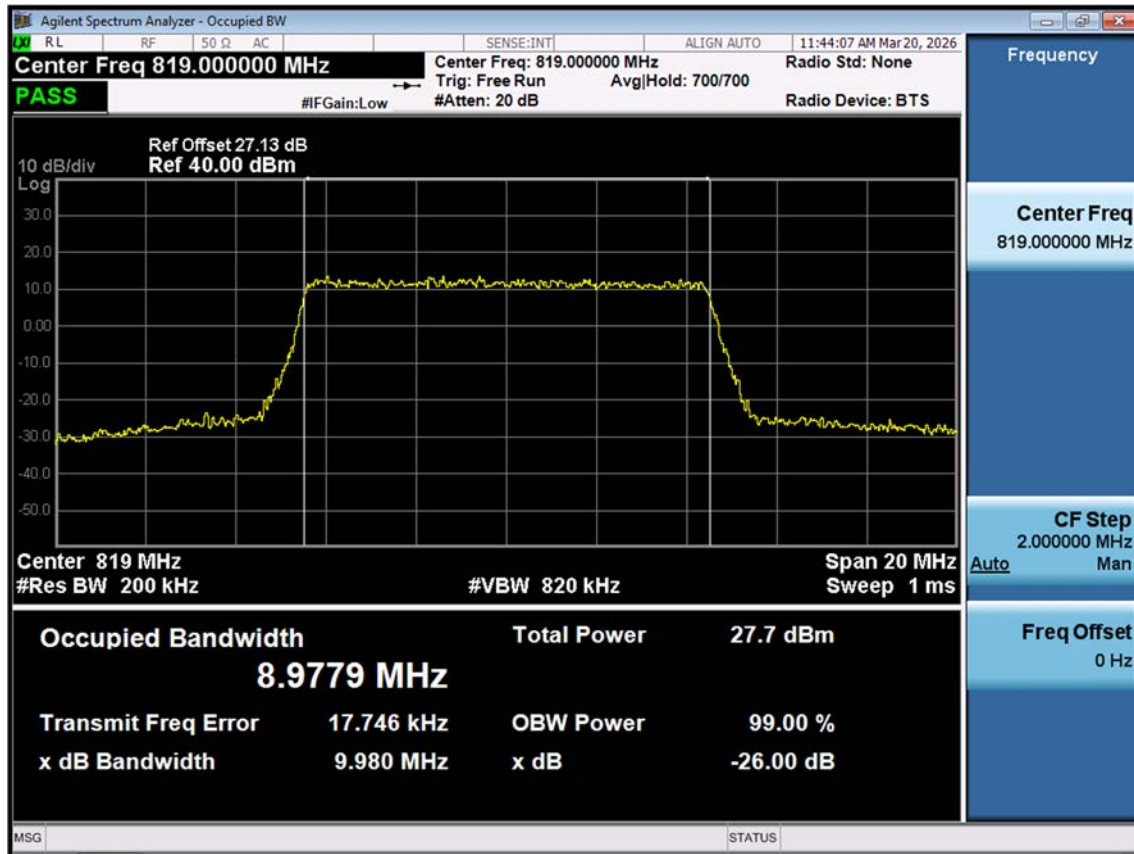
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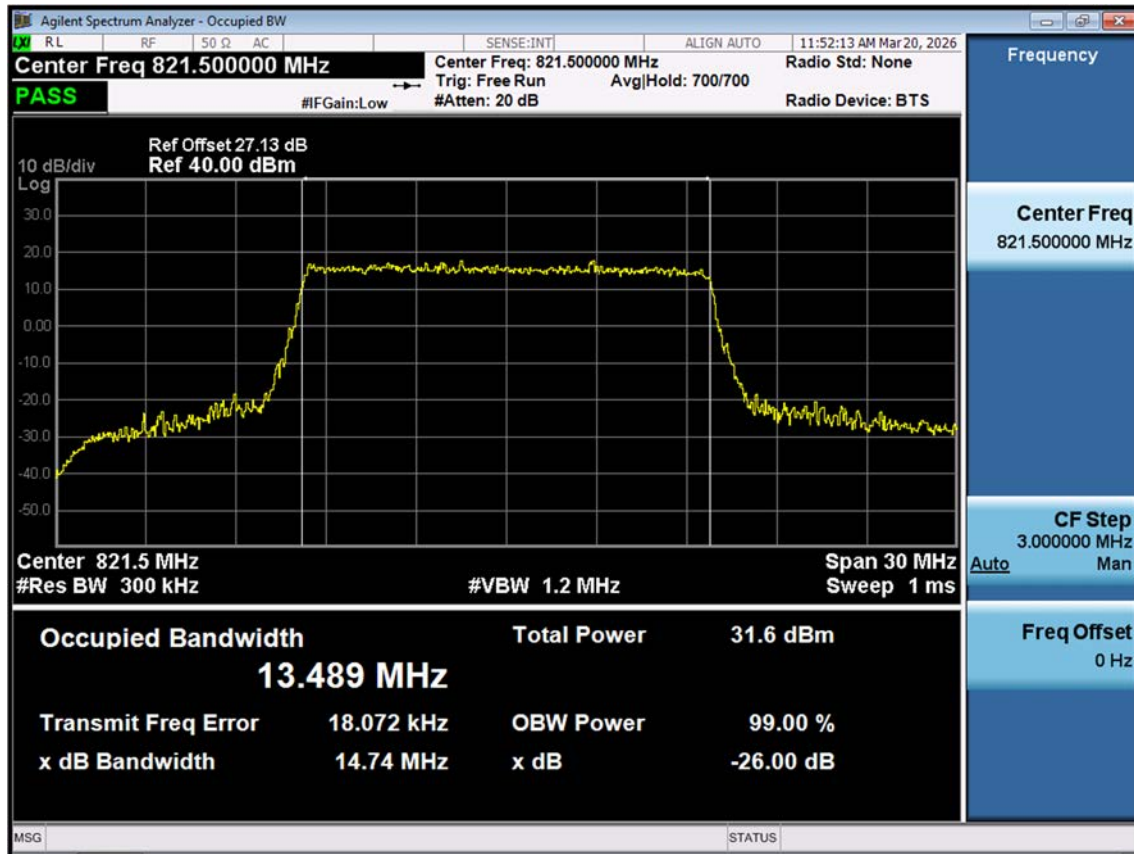
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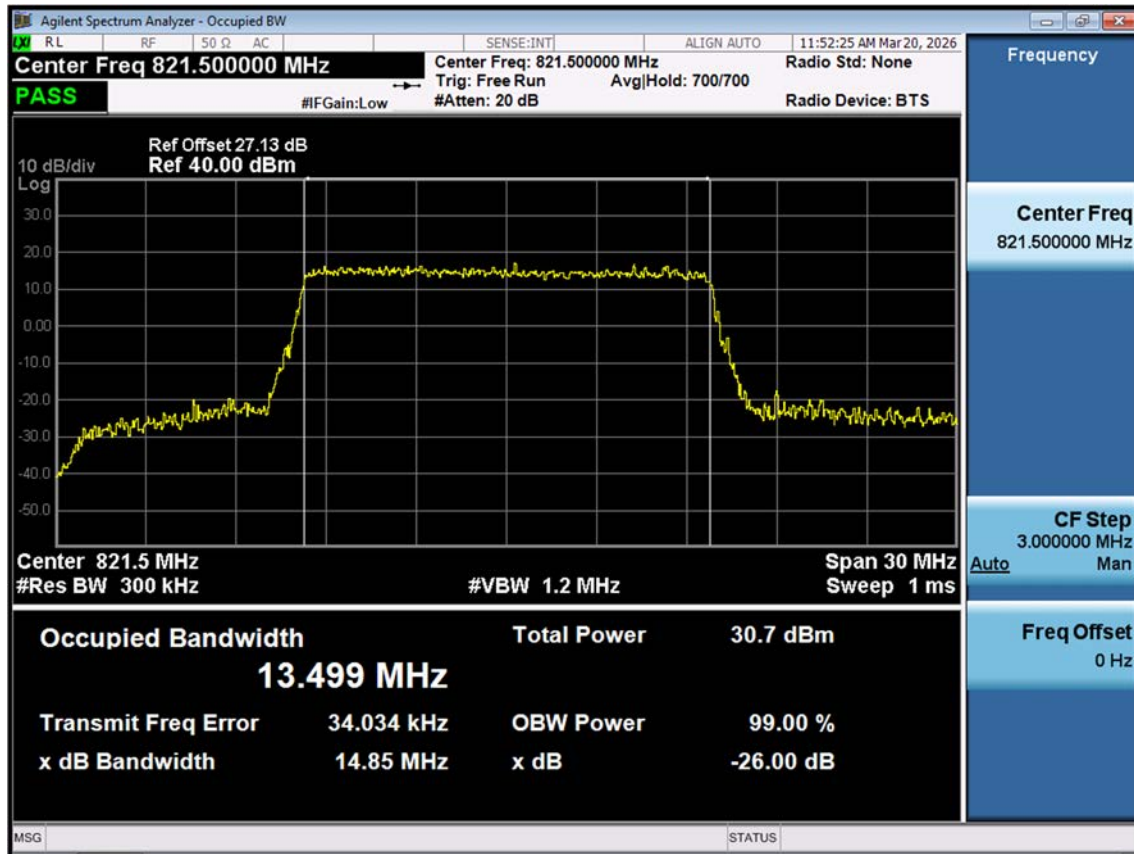
LTE B26_10 M_OBW_Mid_256QAM_FullRB



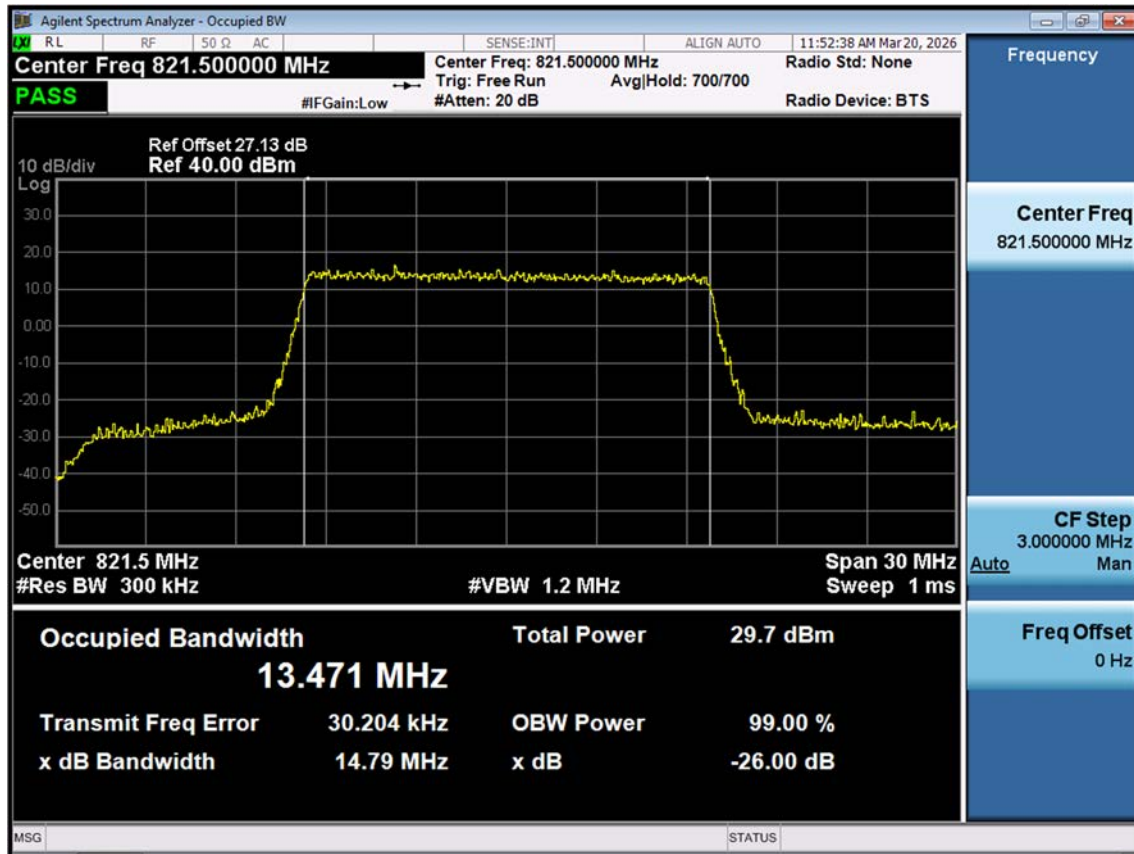
LTE B26_15 M_OBW_Mid_QPSK_FullRB



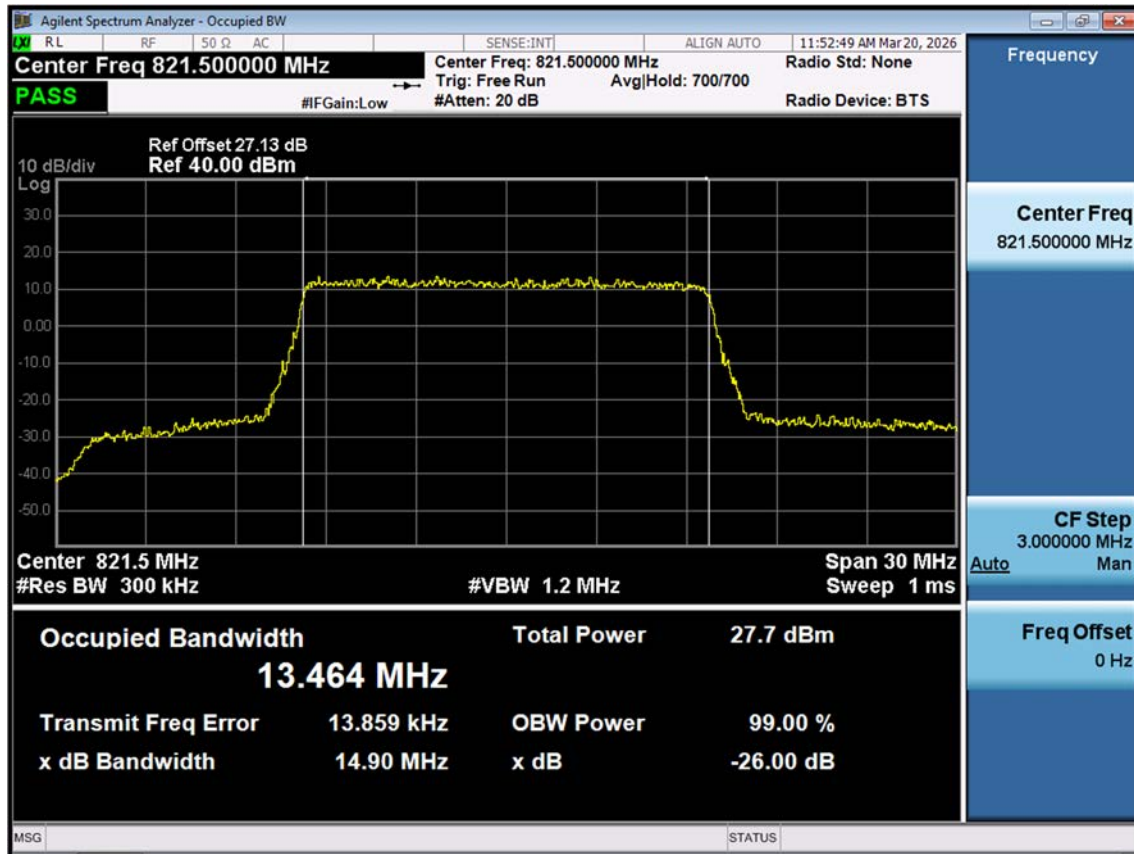
LTE B26_15 M_OBW_Mid_16QAM_FullRB



LTE B26_15 M_OBW_Mid_64QAM_FullRB

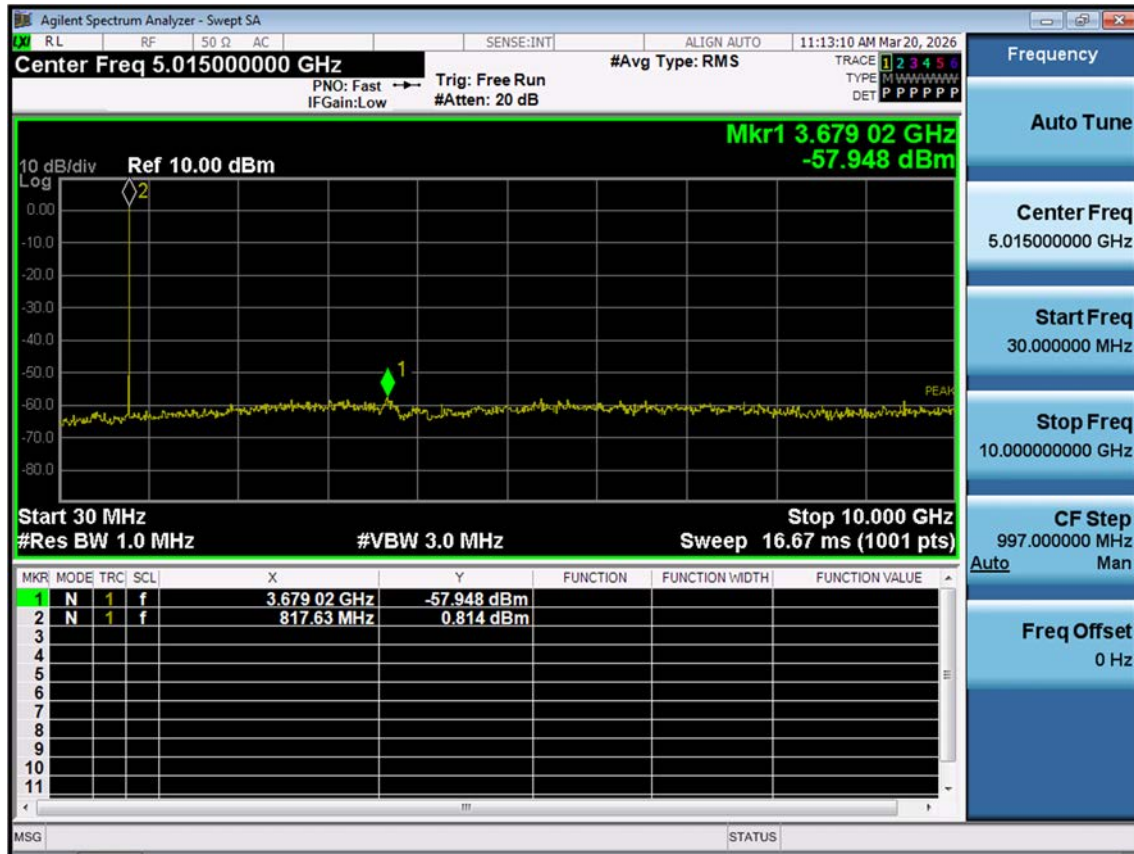


LTE B26_15 M_OBW_Mid_256QAM_FullRB

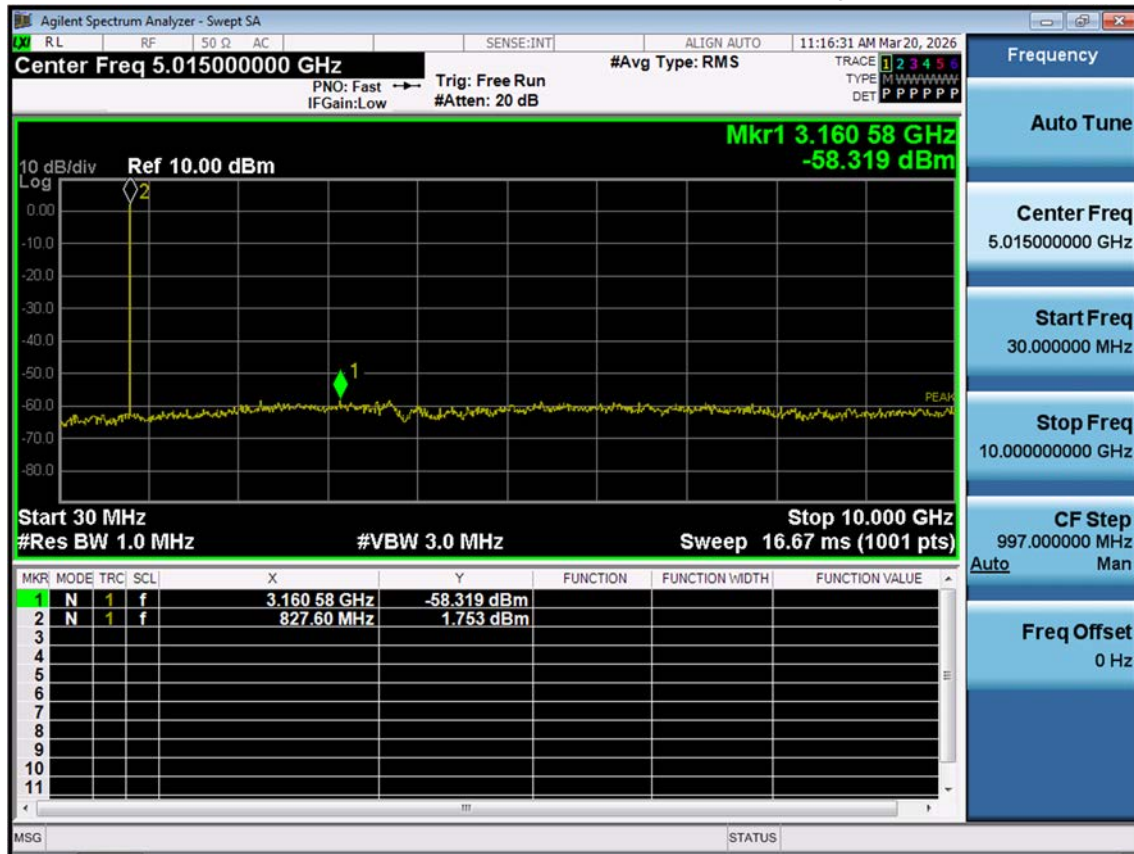


9.2 CONDUCTED SPURIOUS EMISSIONS

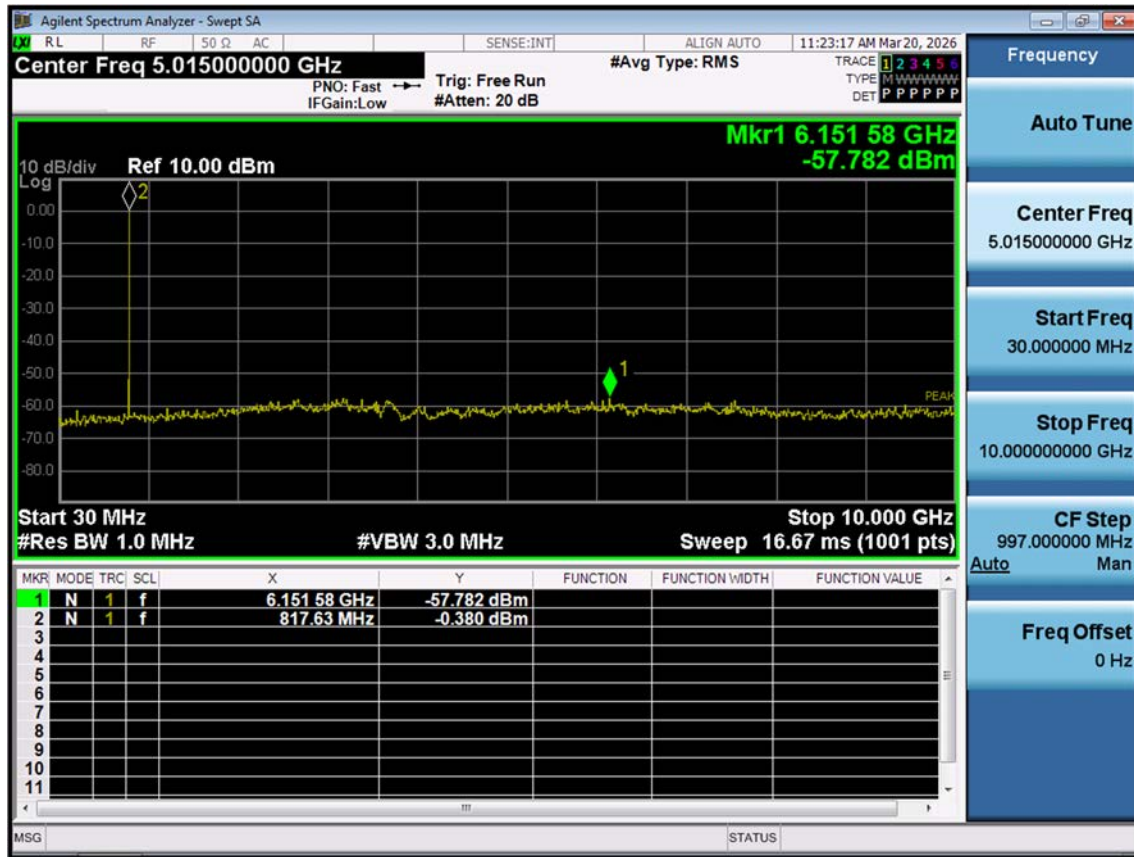
LTE B26_1.4 M_Conducted Spurious Emissions(30 M-10 G)_Low_QPSK_1RB



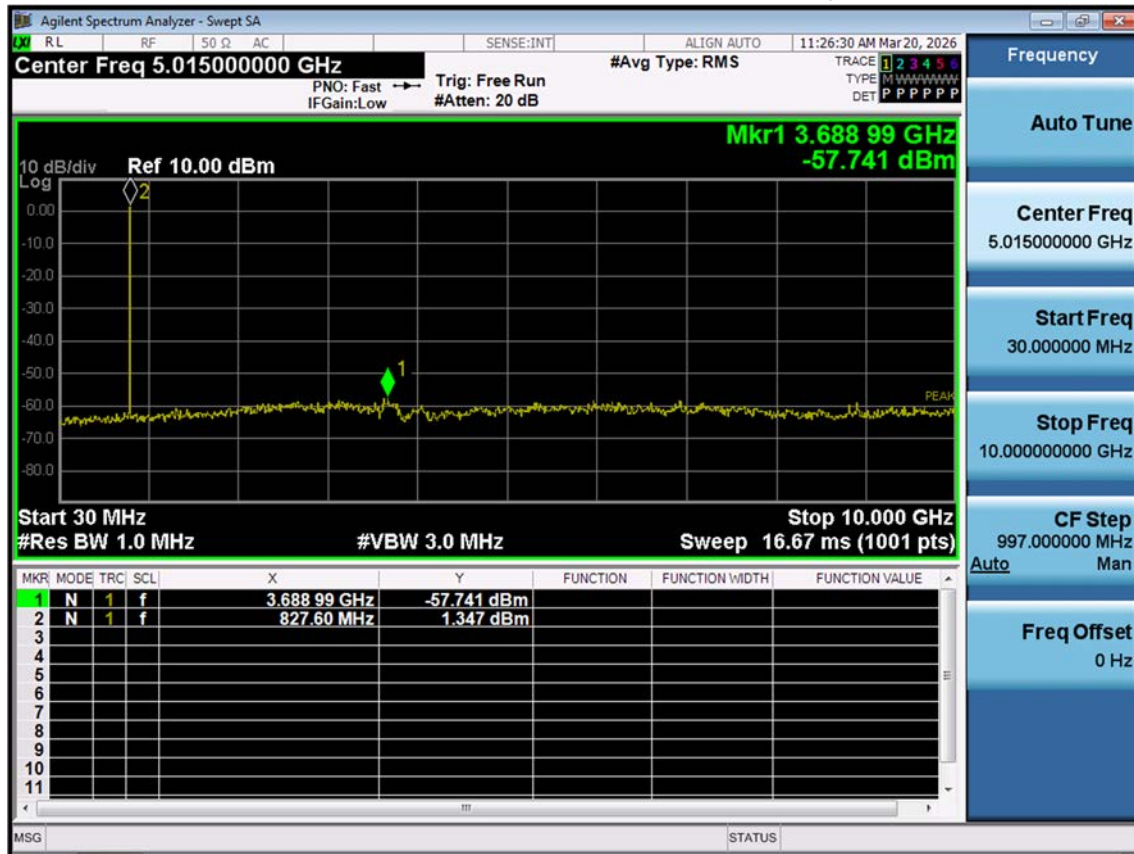
LTE B26_1.4 M_Conducted Spurious Emissions(30 M-10 G)_High_QPSK_1RB



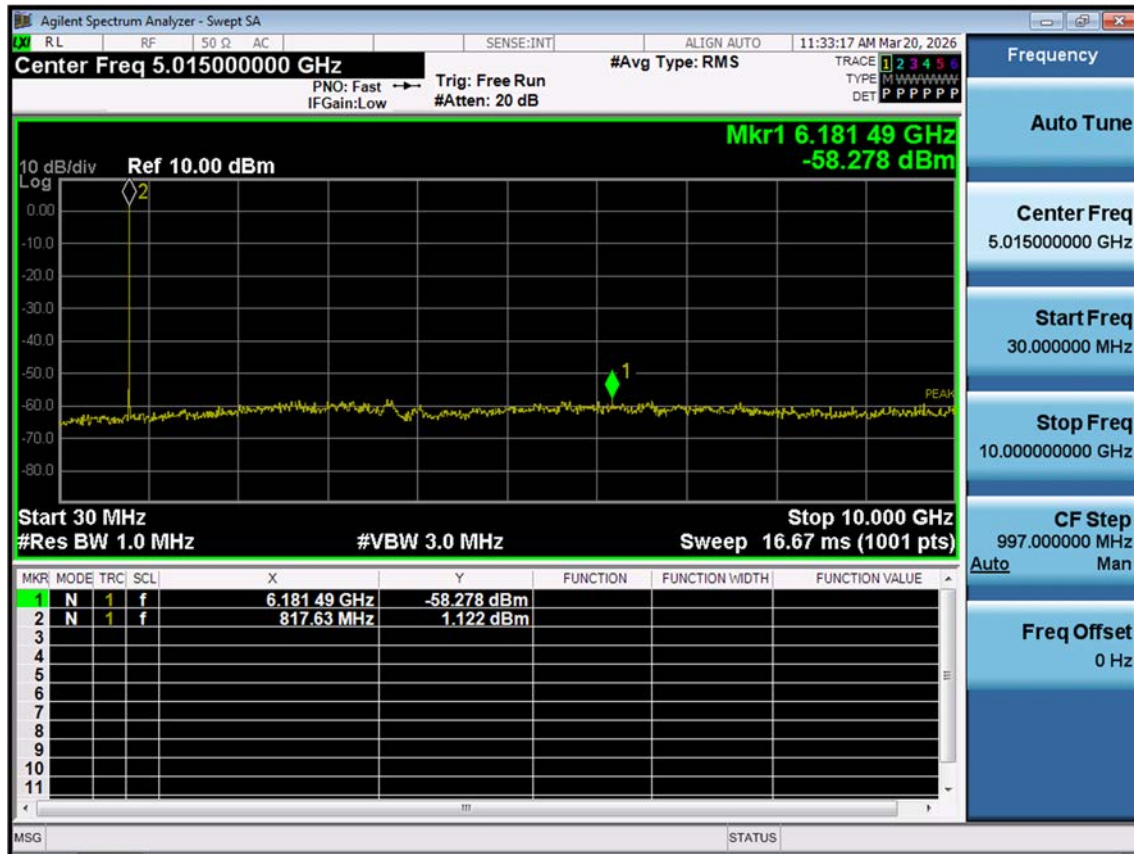
LTE B26_3 M_Conducted Spurious Emissions(30 M-10 G)_Low_QPSK_1RB



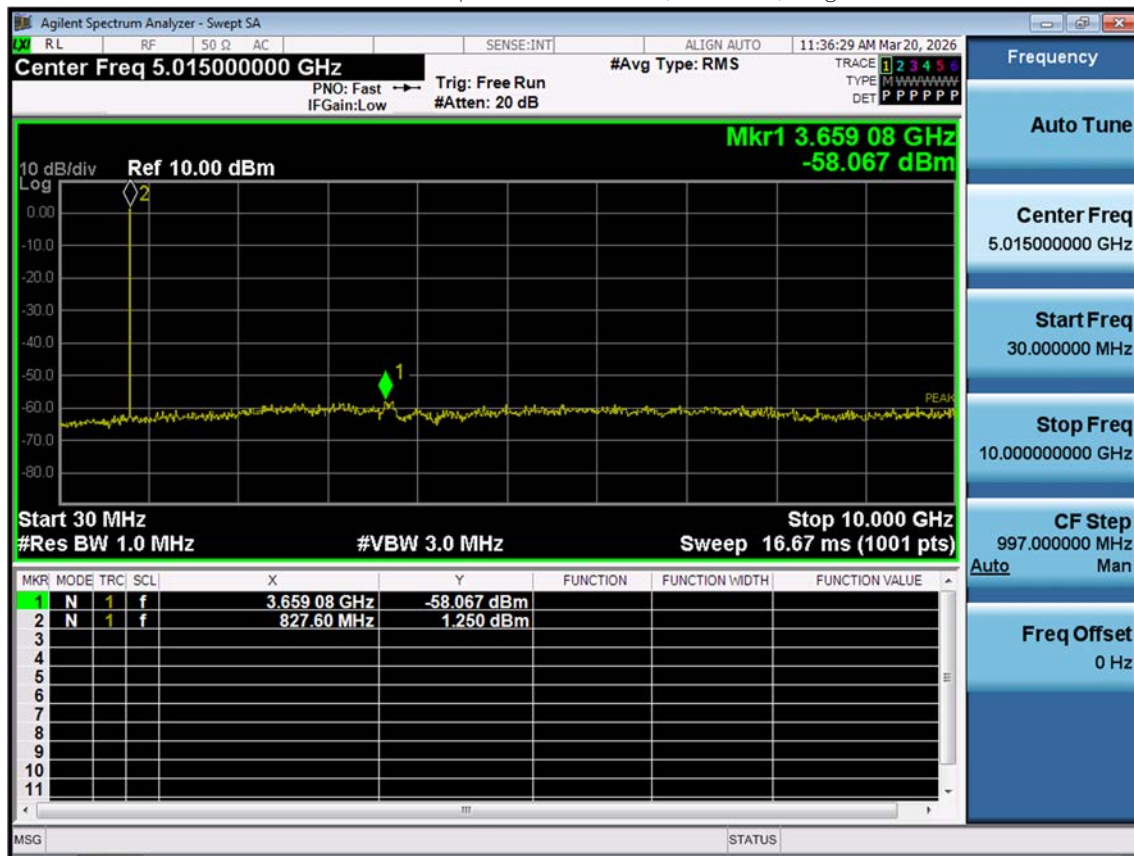
LTE B26_3 M_Conducted Spurious Emissions(30 M-10 G)_High_QPSK_1RB



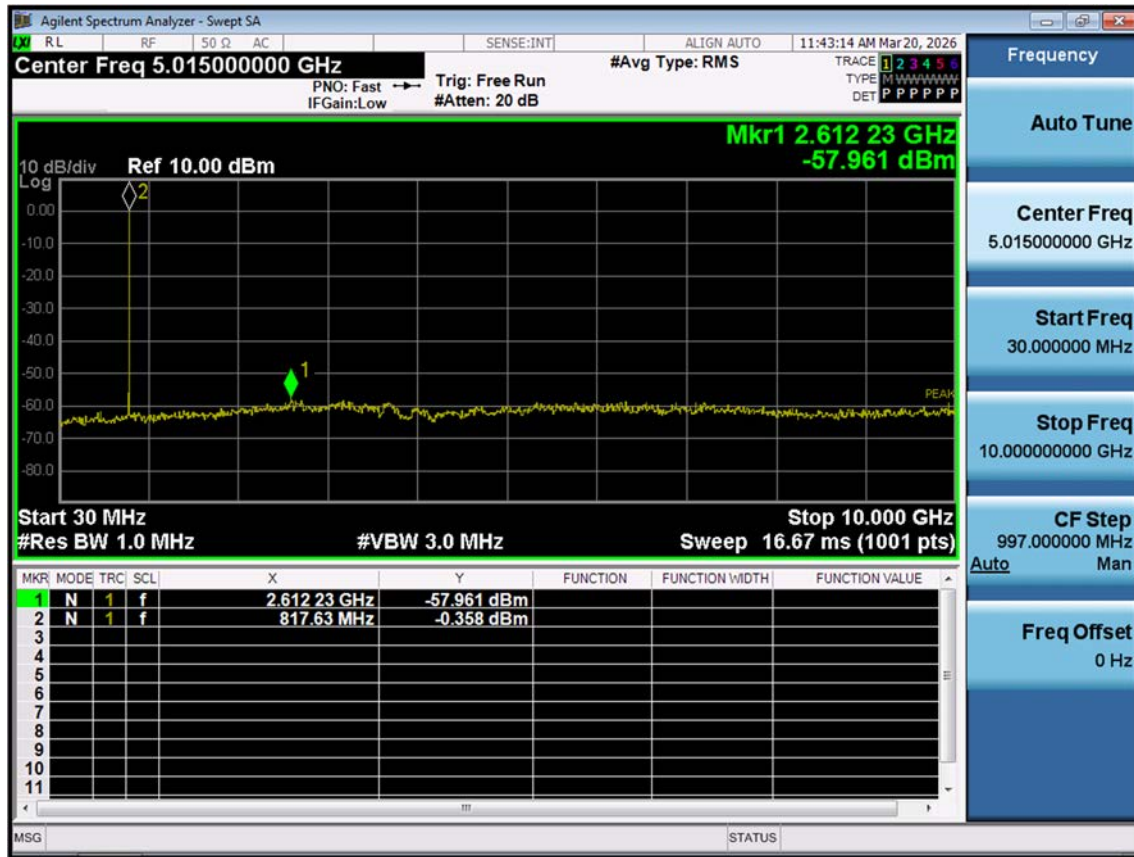
LTE B26_5 M_Conducted Spurious Emissions(30 M-10 G)_Low_QPSK_1RB



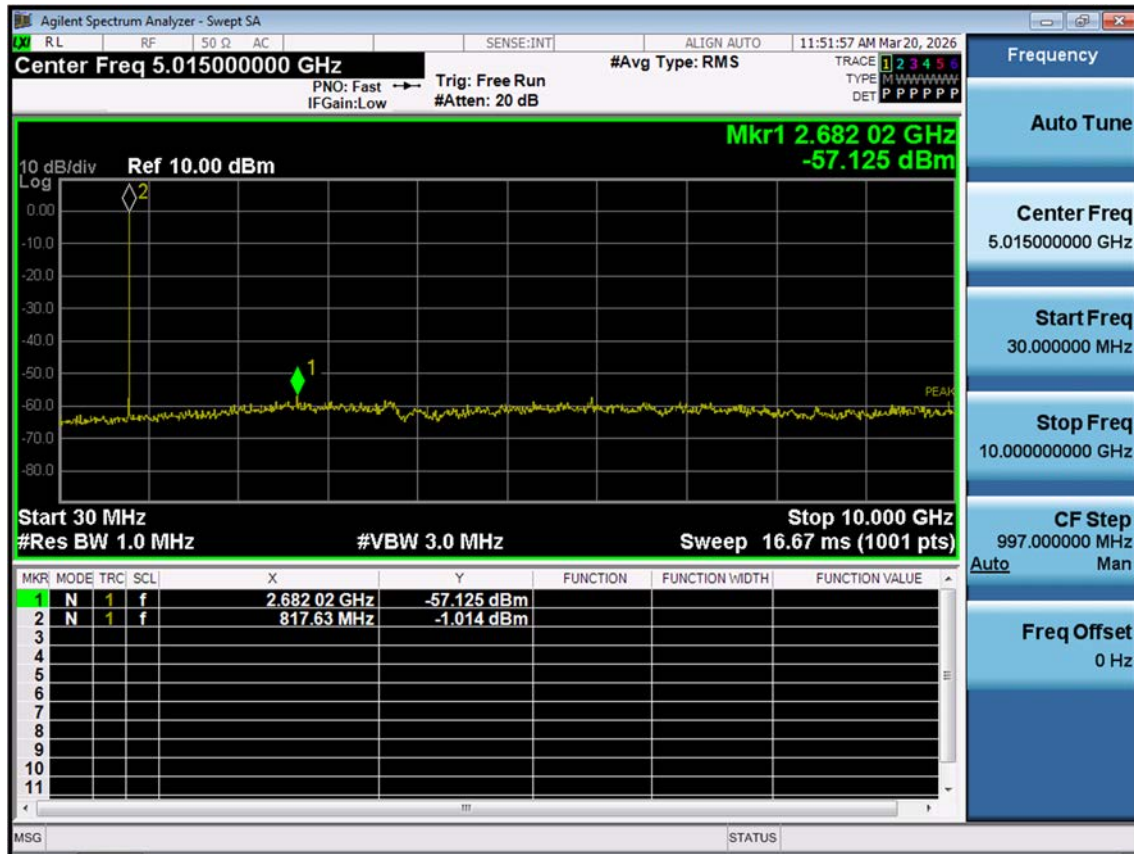
LTE B26_5 M_Conducted Spurious Emissions(30 M-10 G)_High_QPSK_1RB



LTE B26_10 M_Conducted Spurious Emissions(30 M-10 G)_Low_QPSK_1RB



LTE B26_15 M_Conducted Spurious Emissions(30 M-10 G)_Low_QPSK_1RB

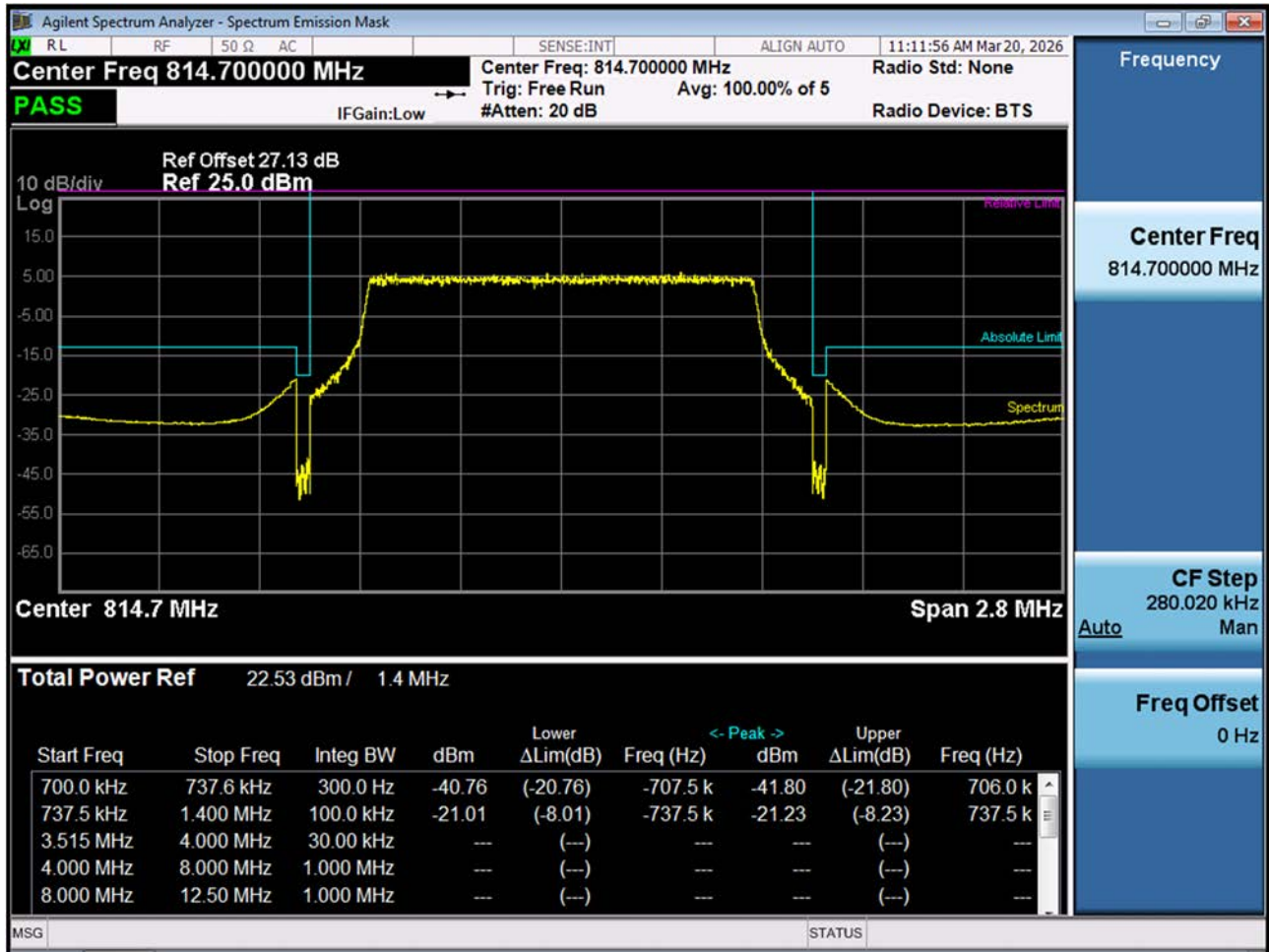


9.3 CHANNEL EDGE

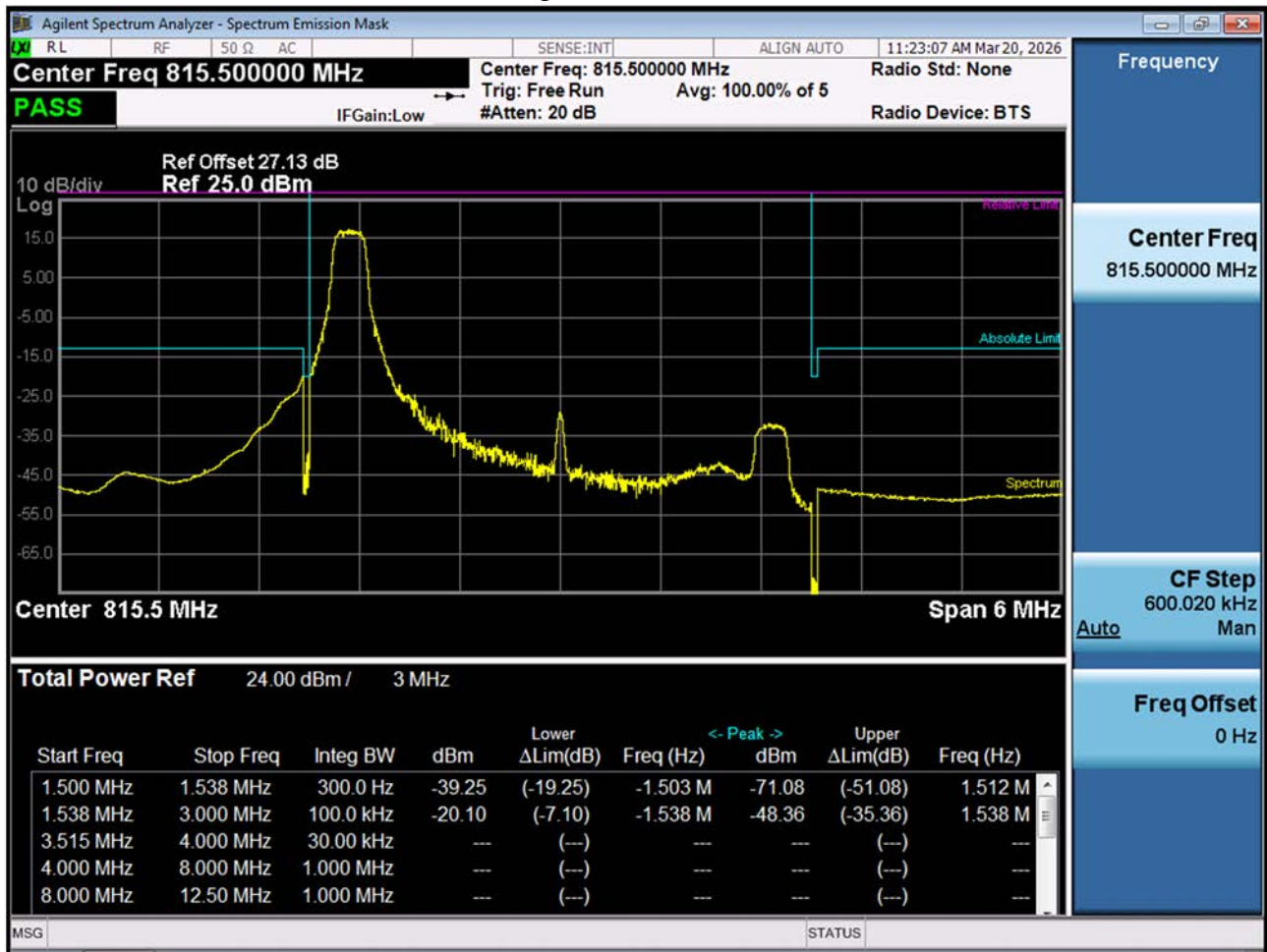
LTE B26_ Lower Channel Edge Plot (1.4 M BW Ch.26697 QPSK RB 1, Offset 0)



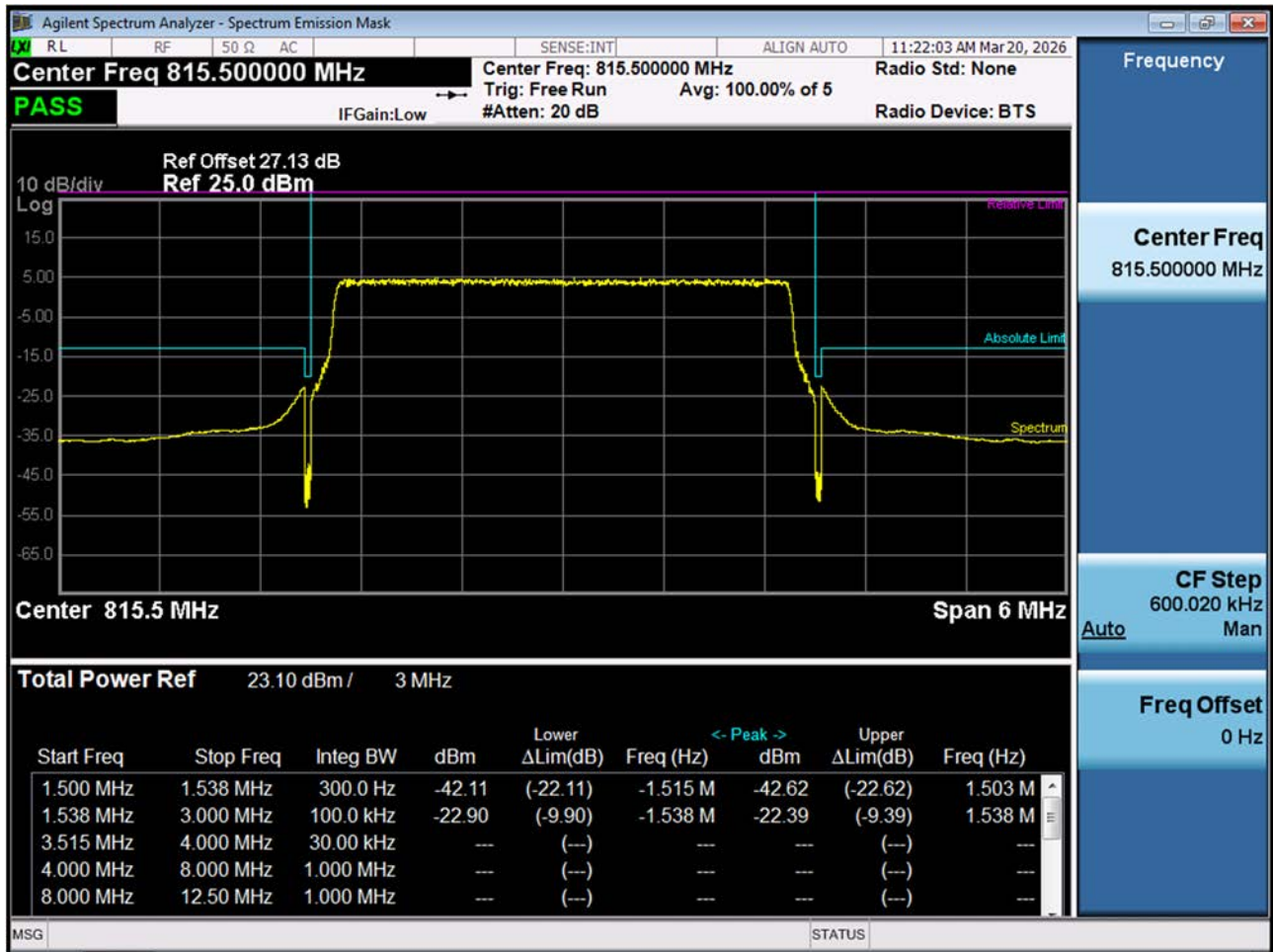
LTE B26_ Lower Channel Edge Plot (1.4 M BW Ch.26697 QPSK_RB6_Offset 0)



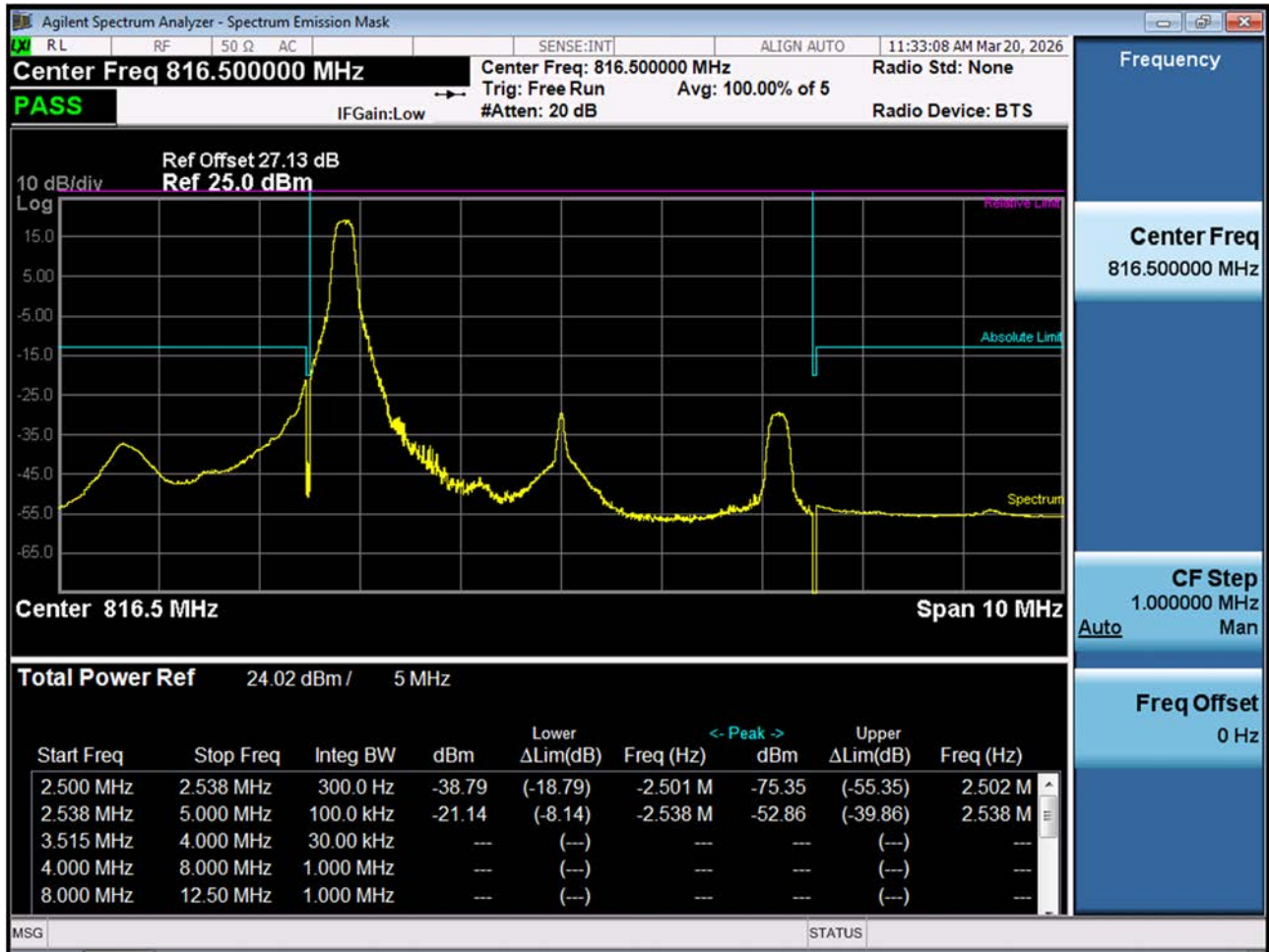
LTE B26_ Lower Channel Edge Plot (3 M BW Ch.26705 QPSK RB 1, Offset 0)



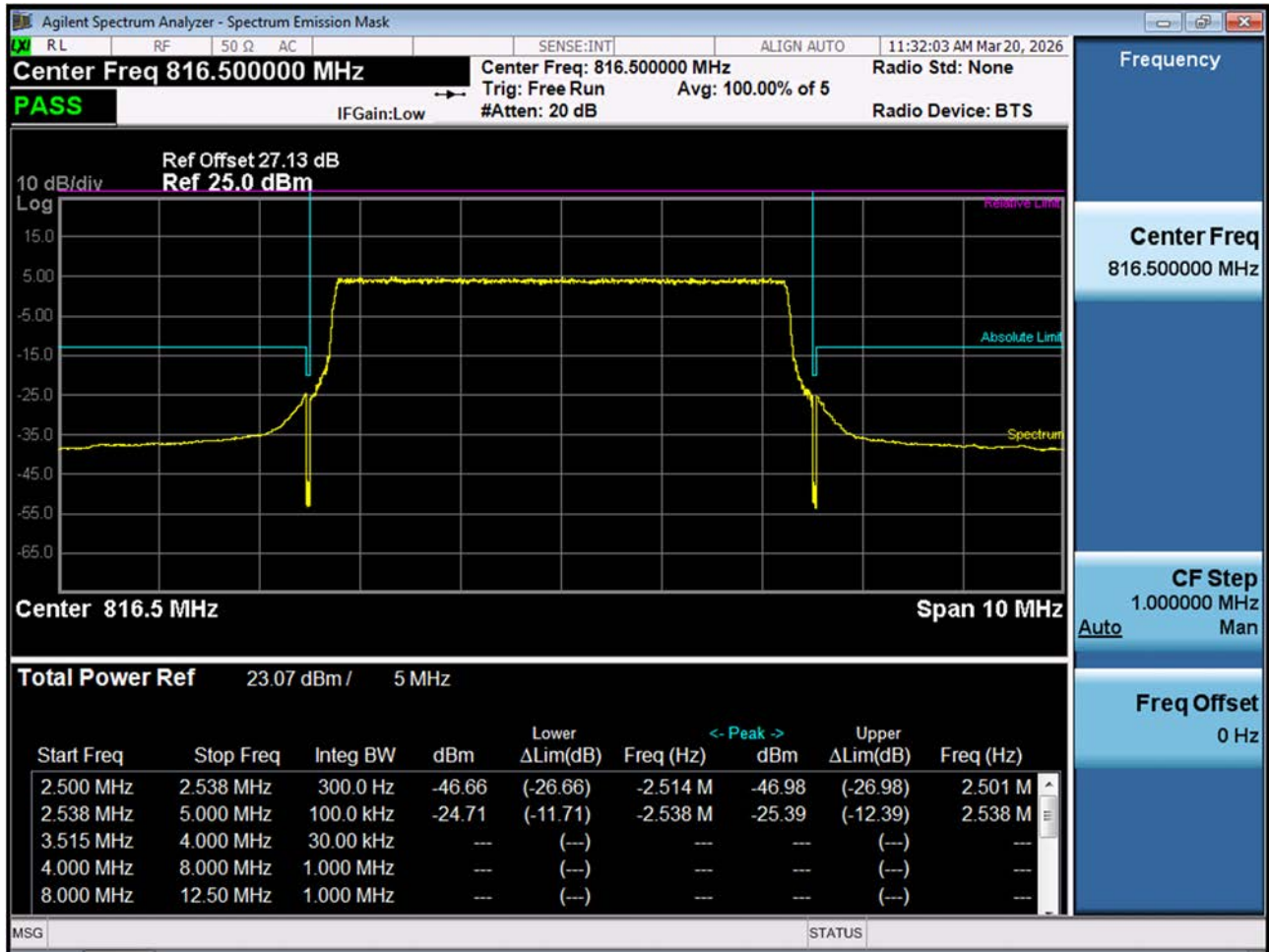
LTE B26_ Lower Channel Edge Plot (3 M BW Ch.26705 QPSK_RB15_Offset 0)



LTE B26_ Lower Channel Edge Plot (5 M BW Ch.26715 QPSK RB 1, Offset 0)



LTE B26_ Lower Channel Edge Plot (5 M BW Ch.26715 QPSK_RB25_Offset 0)



LTE B26_ Low Channel Edge Plot (10 M BW Ch.26740 QPSK RB 1, Offset 0)



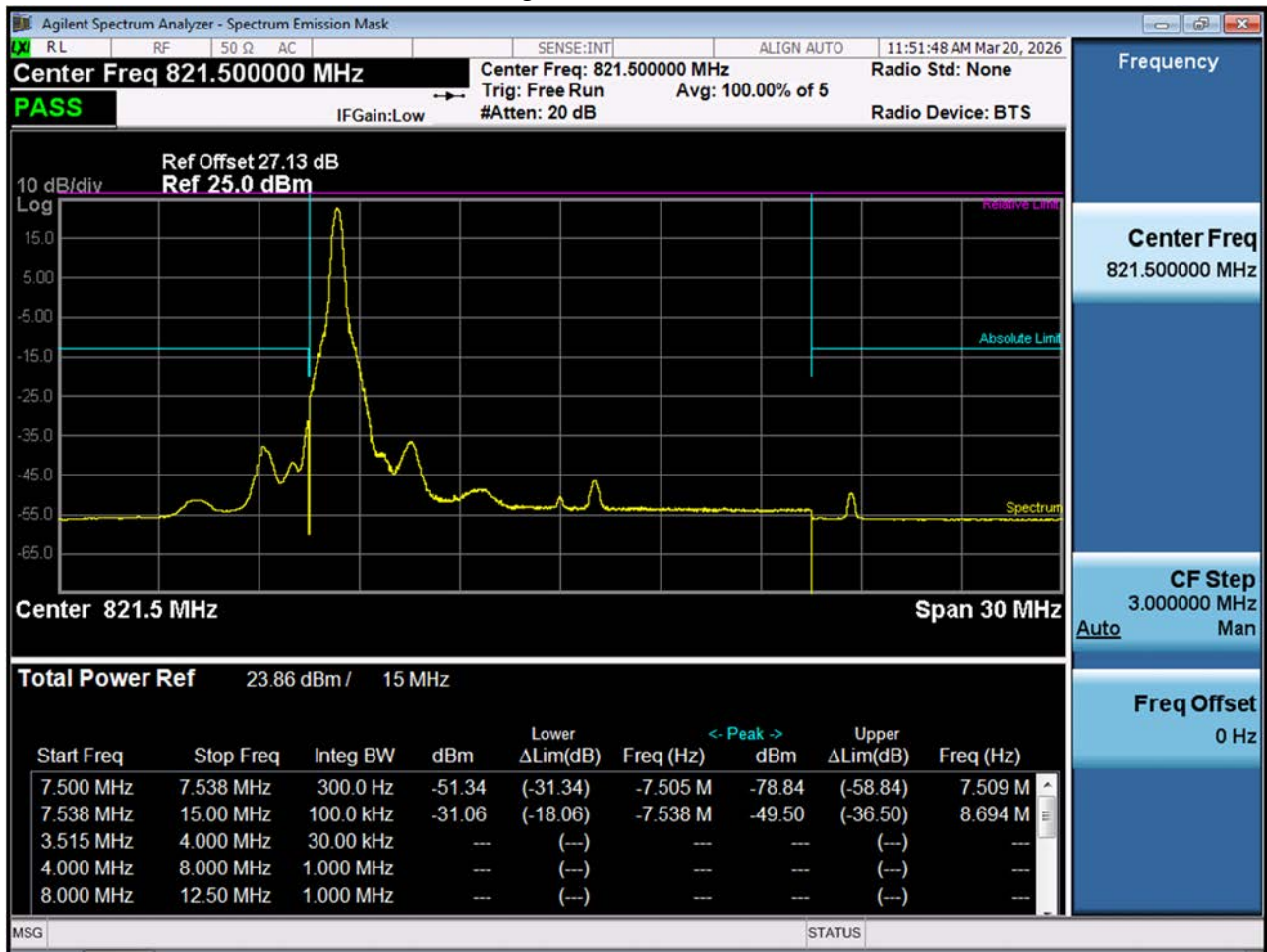
LTE B26_ Low Channel Edge Plot (10 M BW Ch.26740 QPSK_RB50_Offset 0)



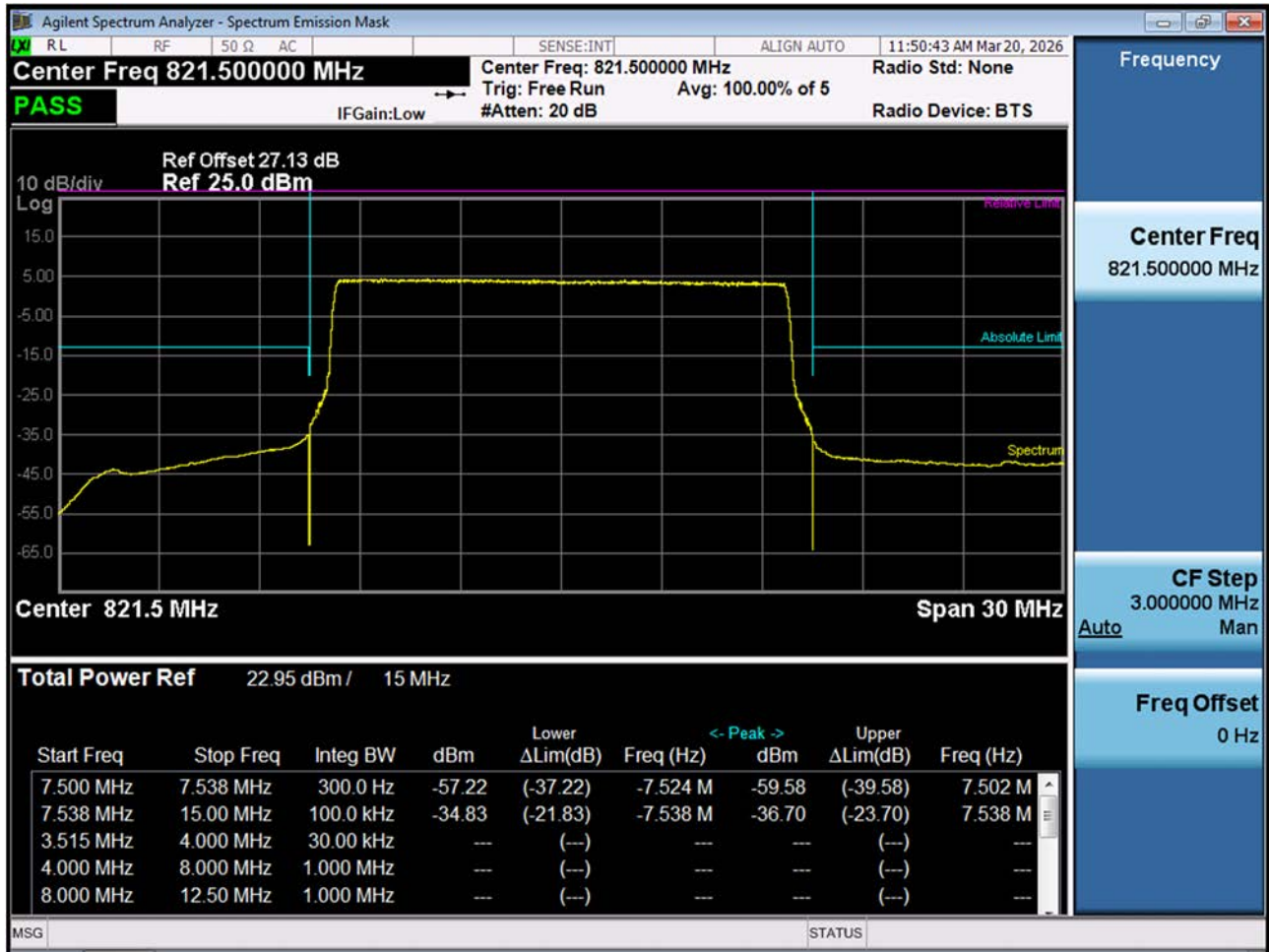
LTE B26_ Mid Channel Edge Plot (10 M BW Ch. 26740 QPSK_RB1_Offset 49)



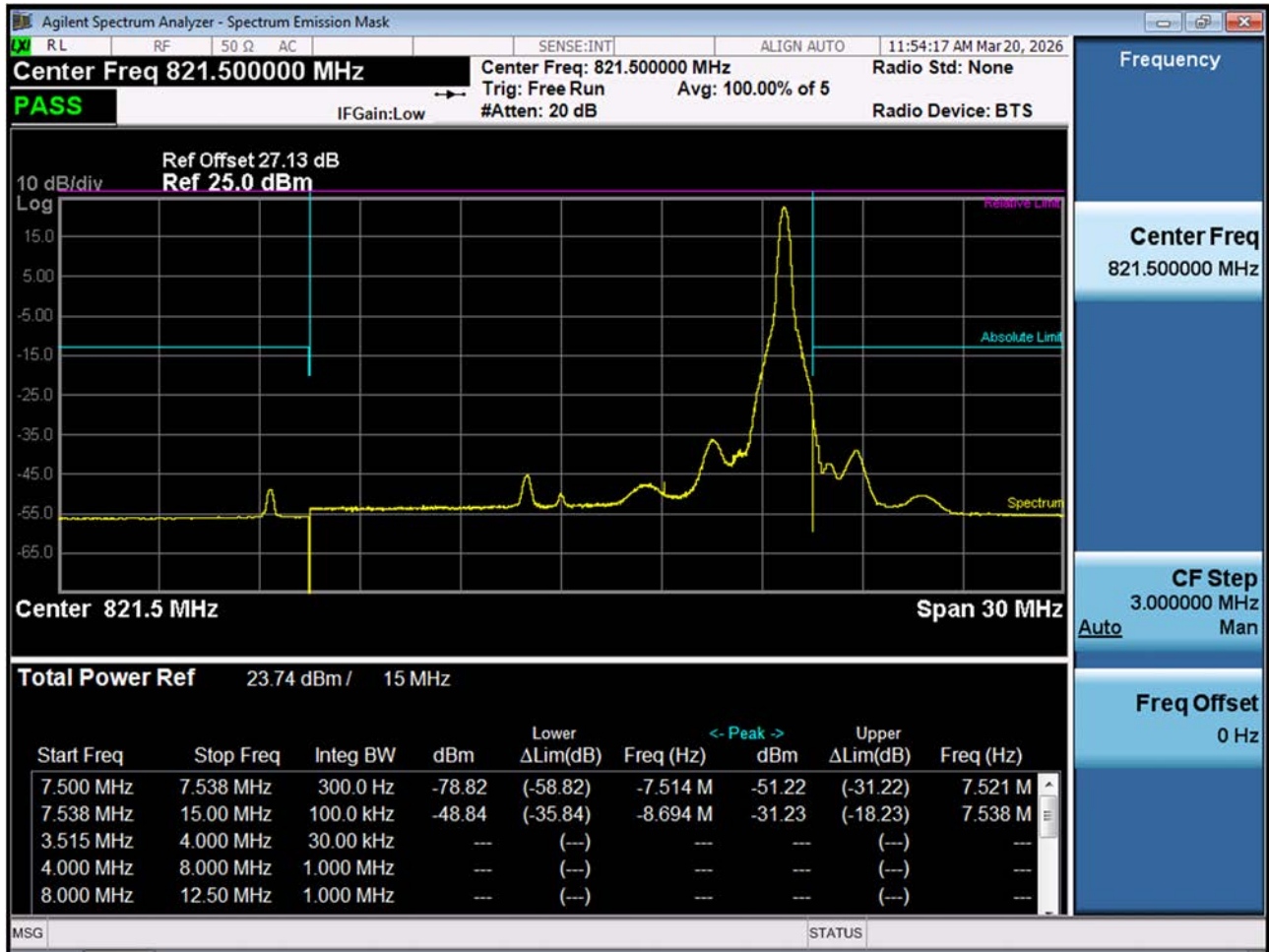
LTE B26_ Low Channel Edge Plot (15 M BW Ch.26765 QPSK RB 1, Offset 0)



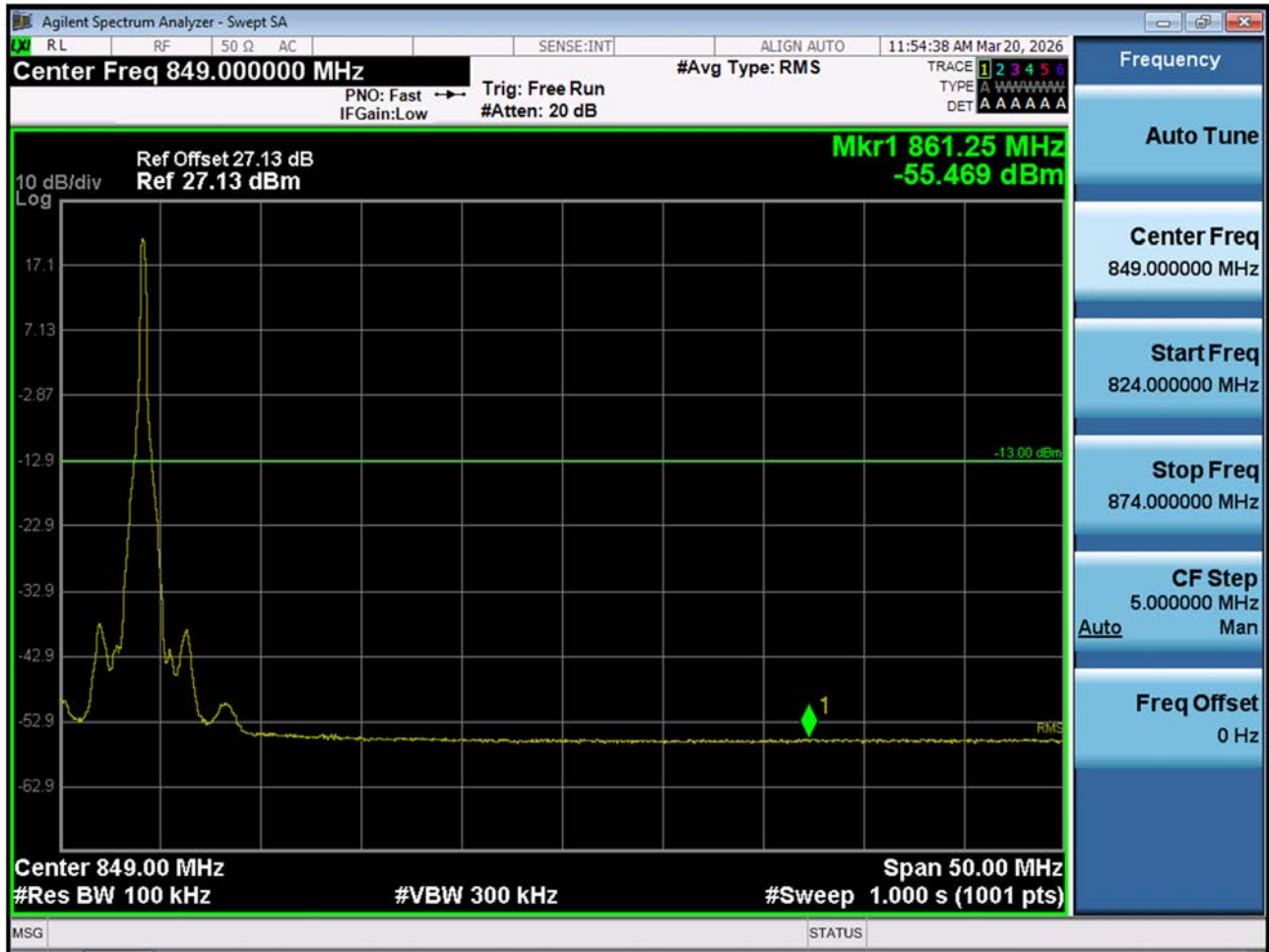
LTE B26_ Low Channel Edge Plot (15 M BW Ch.26765 QPSK RB 75, Offset0)



LTE B26_Mid Channel Edge Plot (15 M BW Ch.26765 QPSK_RB1_Offset 74)



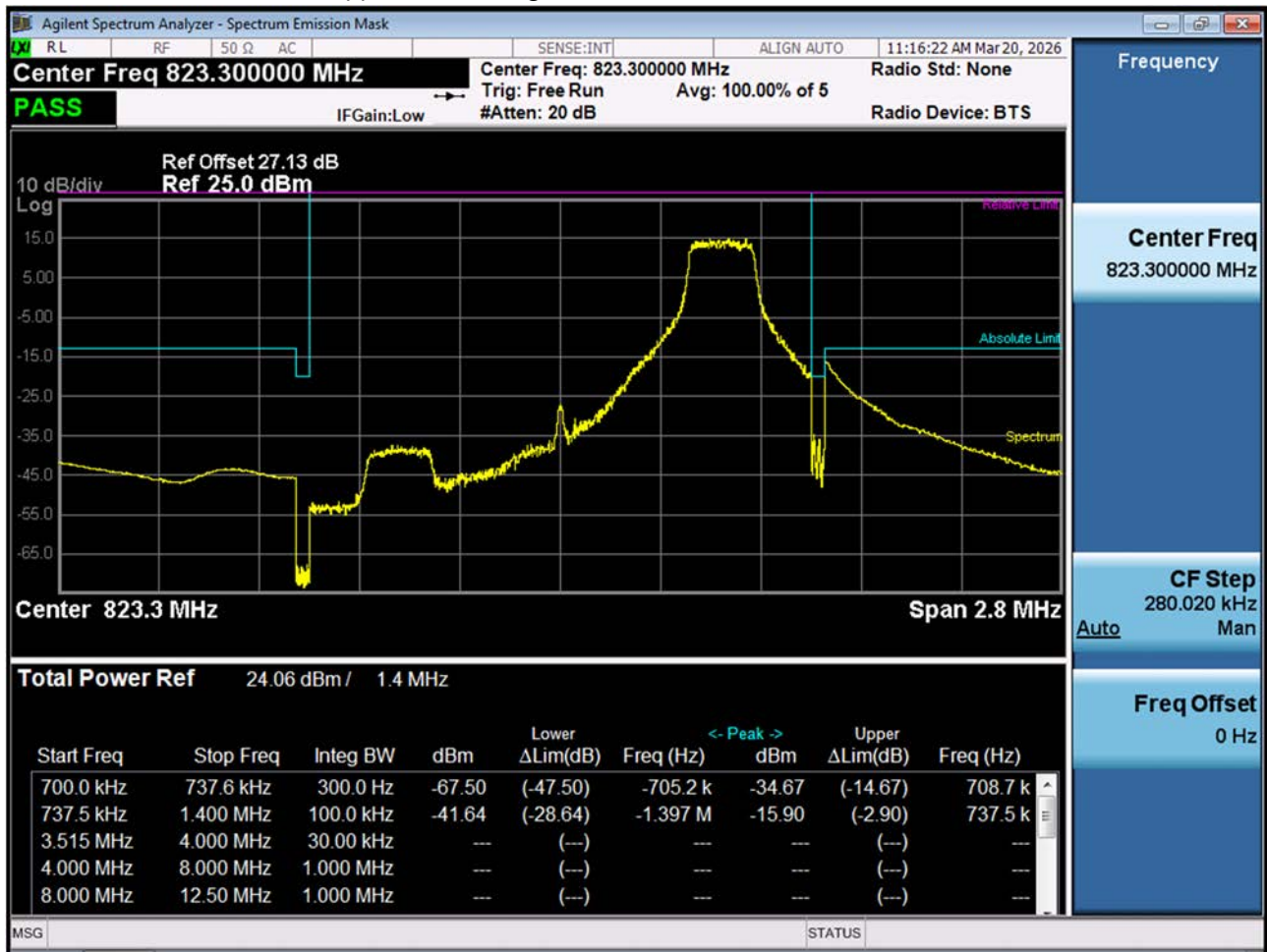
LTE B26_ Mid Band Edge Plot (15 M BW Ch.26765 QPSK RB 1, Offset74)



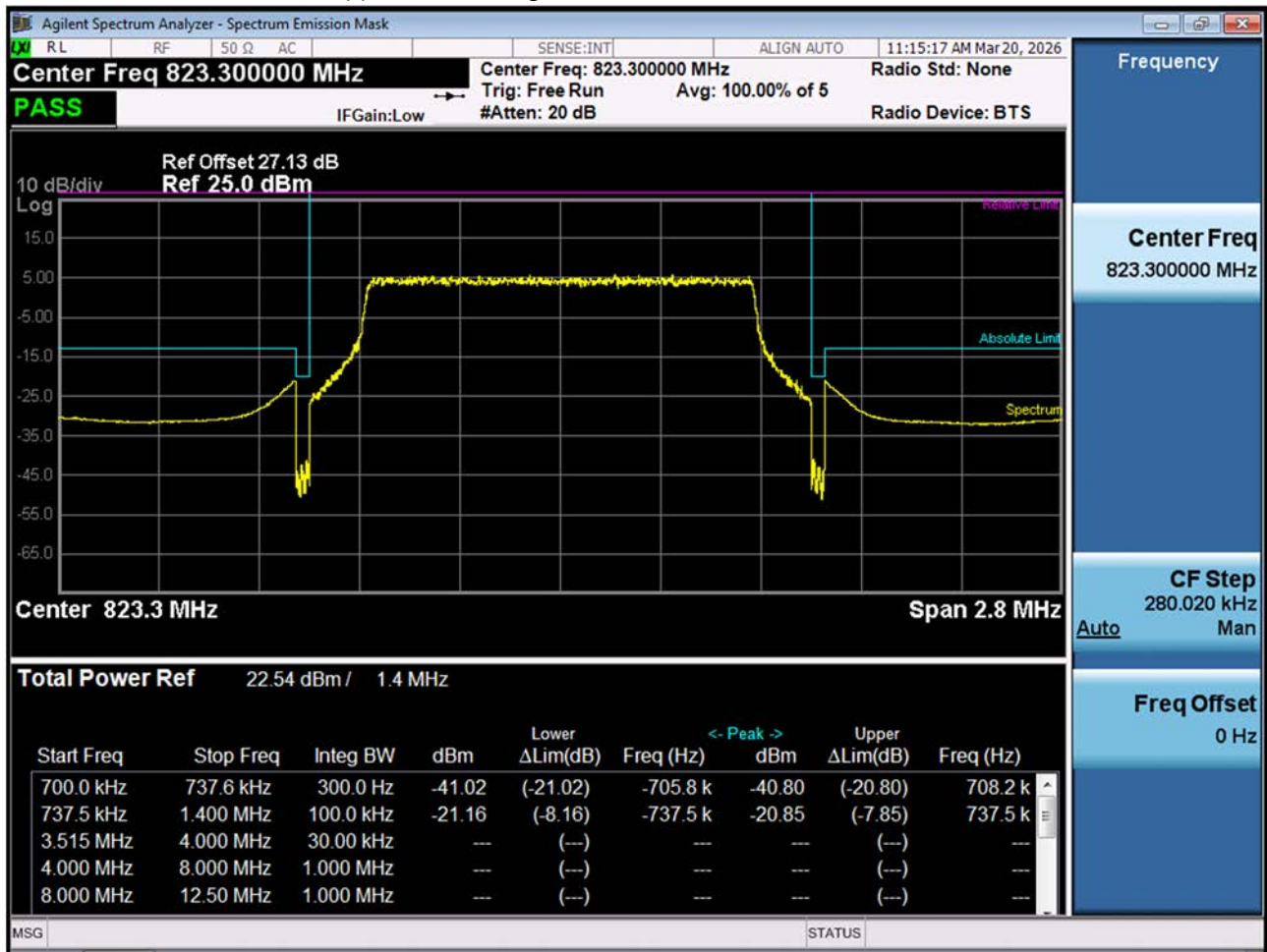
LTE B26_ Mid Band Edge Plot (15 M BW Ch.26765 QPSK_RB75_Offset 0)



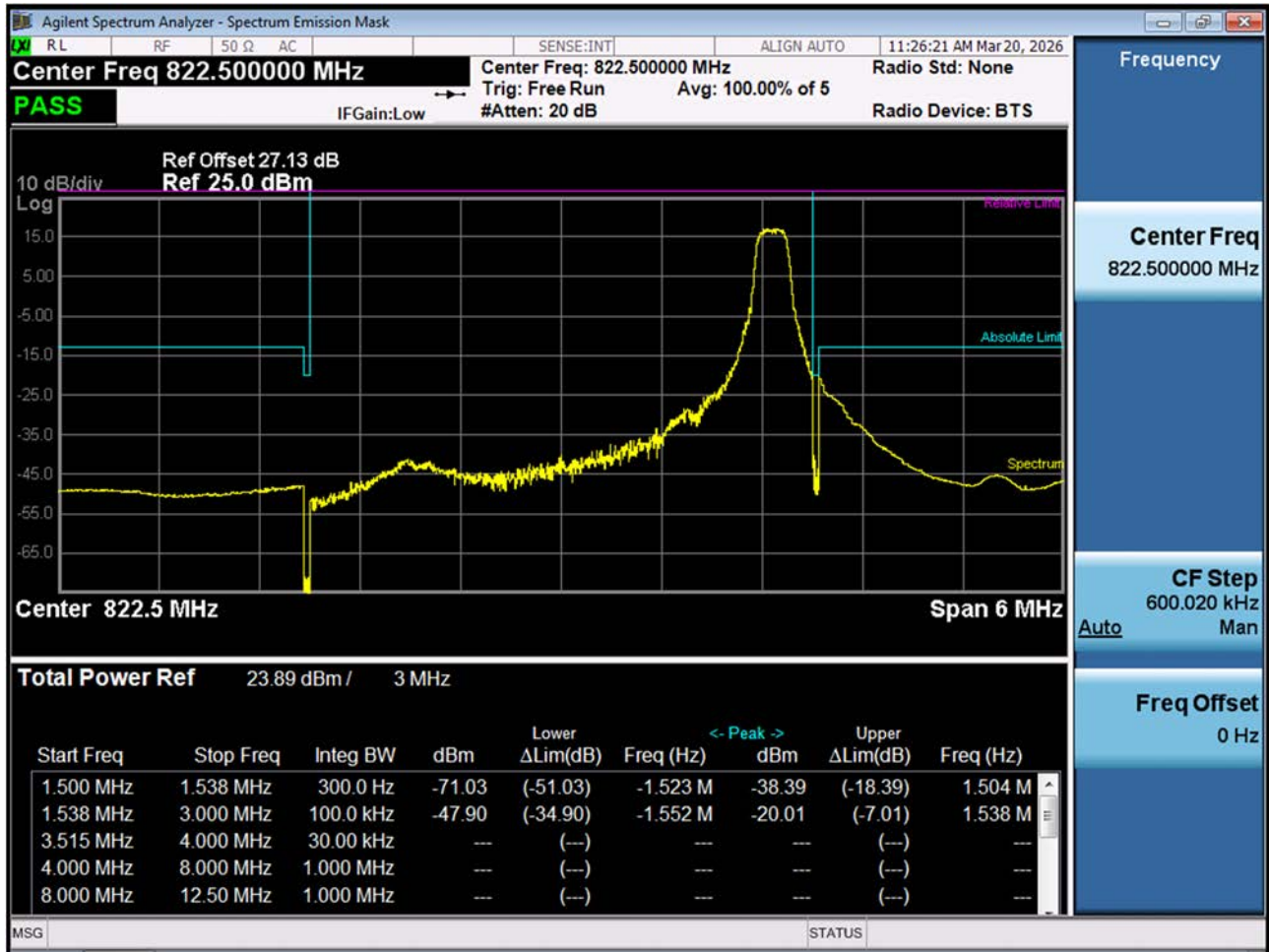
LTE B26_ Upper Channel Edge Plot (1.4 M BW Ch.26783 QPSK_RB1_Offset 5)



LTE B26_ Upper Channel Edge Plot (1.4 M BW Ch.26783 QPSK_RB6_Offset 0)



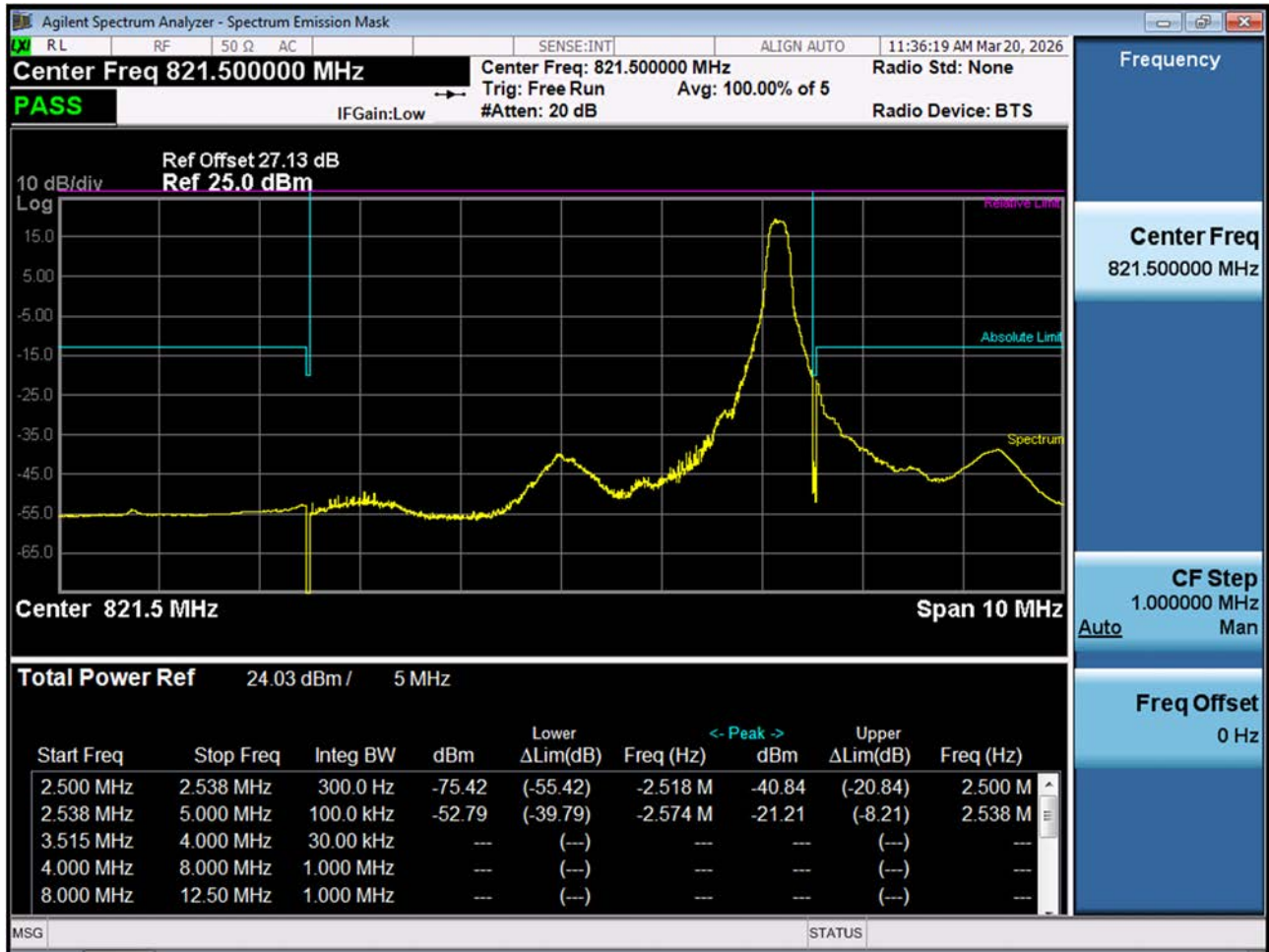
LTE B26_ Upper Channel Edge Plot (3 M BW Ch.26775 QPSK_RB1_Offset 14)



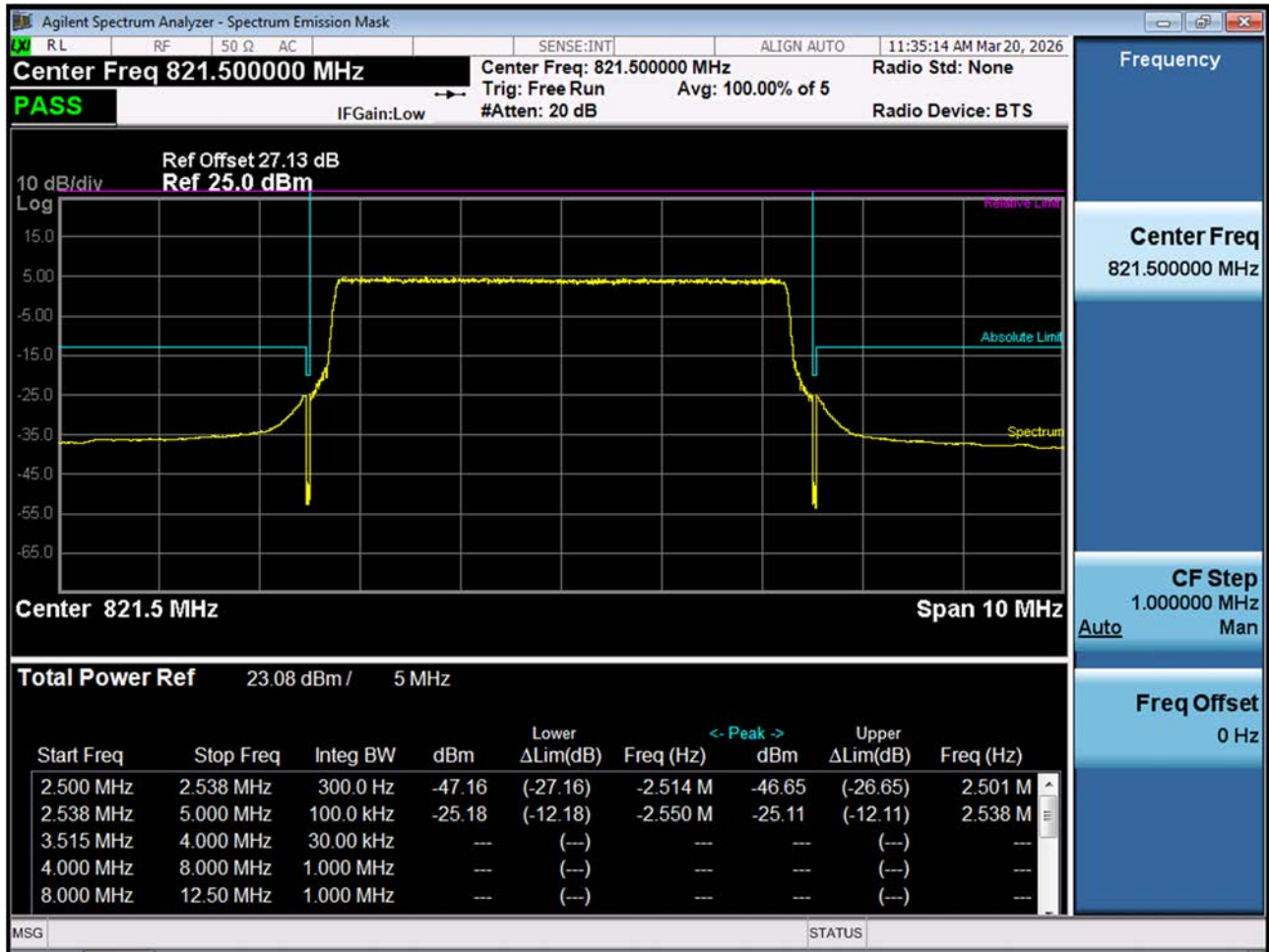
LTE B26_ Upper Channel Edge Plot (3 M BW Ch.26775 QPSK_RB15_Offset 0)



LTE B26_ Upper Channel Edge Plot (5 M BW Ch.26765 QPSK_RB1_Offset 24)



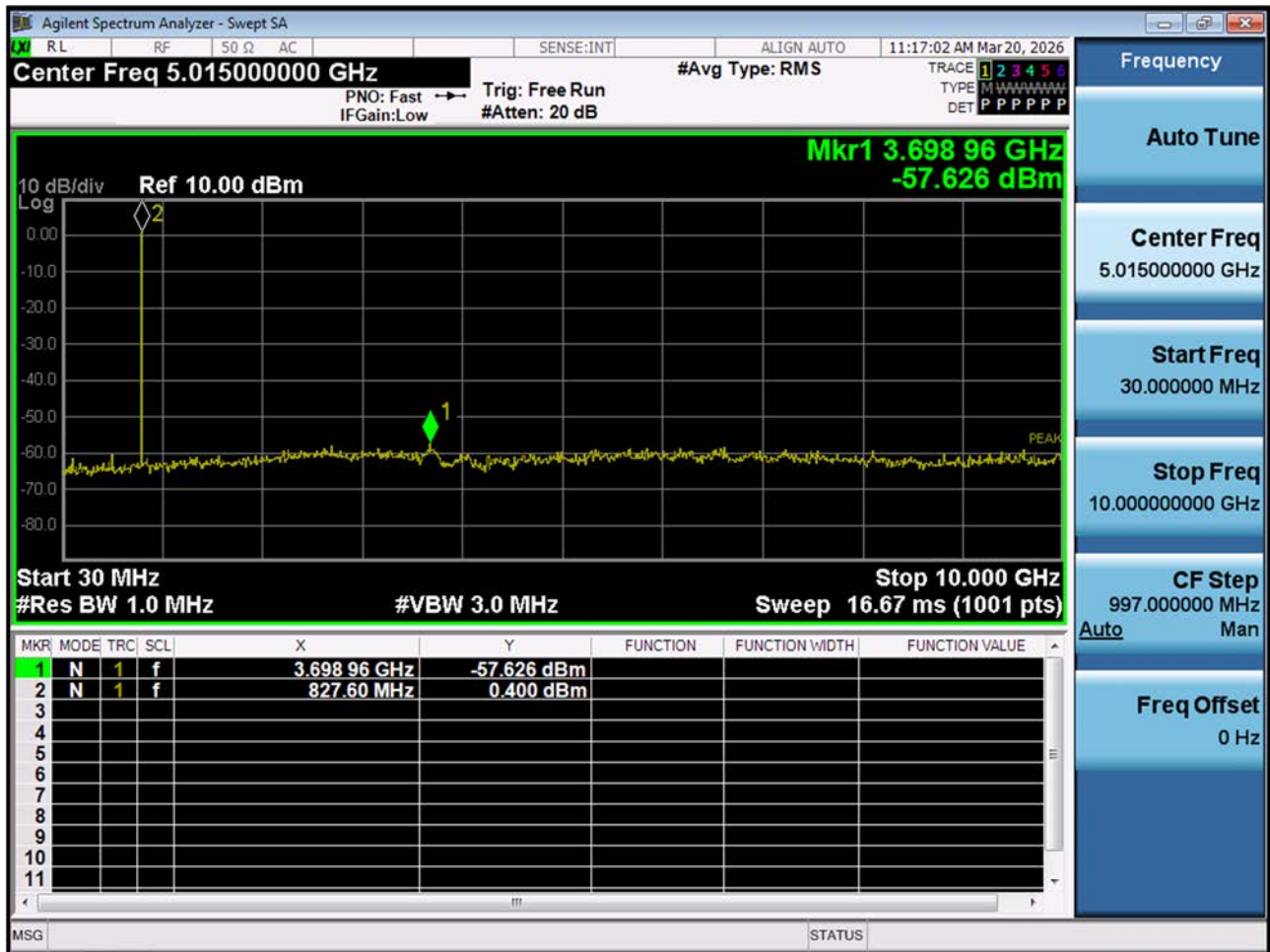
LTE B26_ Upper Channel Edge Plot (5 M BW Ch.26765 QPSK_RB25_Offset 0)



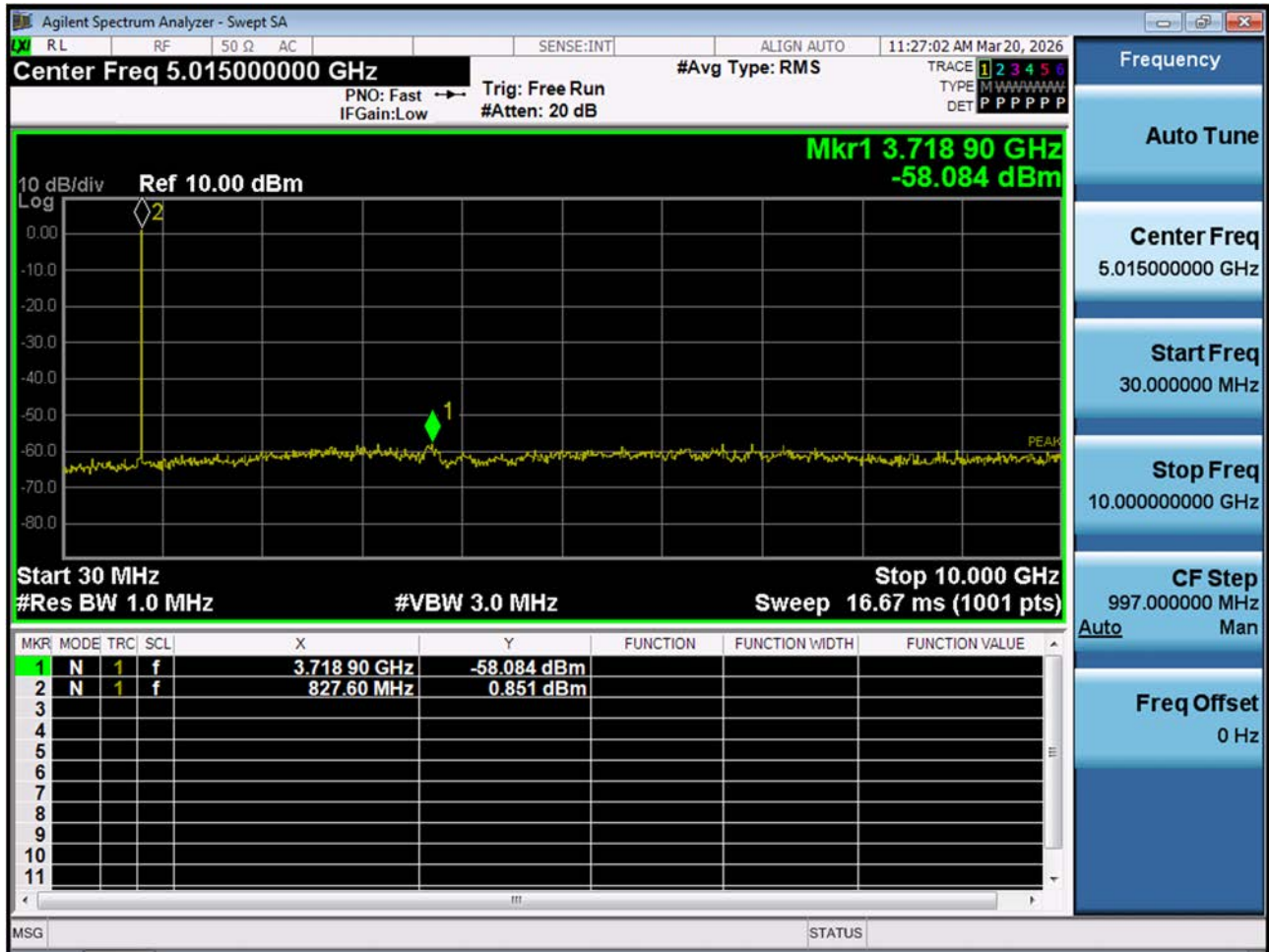
10. TEST PLOTS(STRADDLE CHANNEL)

10.1 CONDUCTED SPURIOUS EMISSIONS

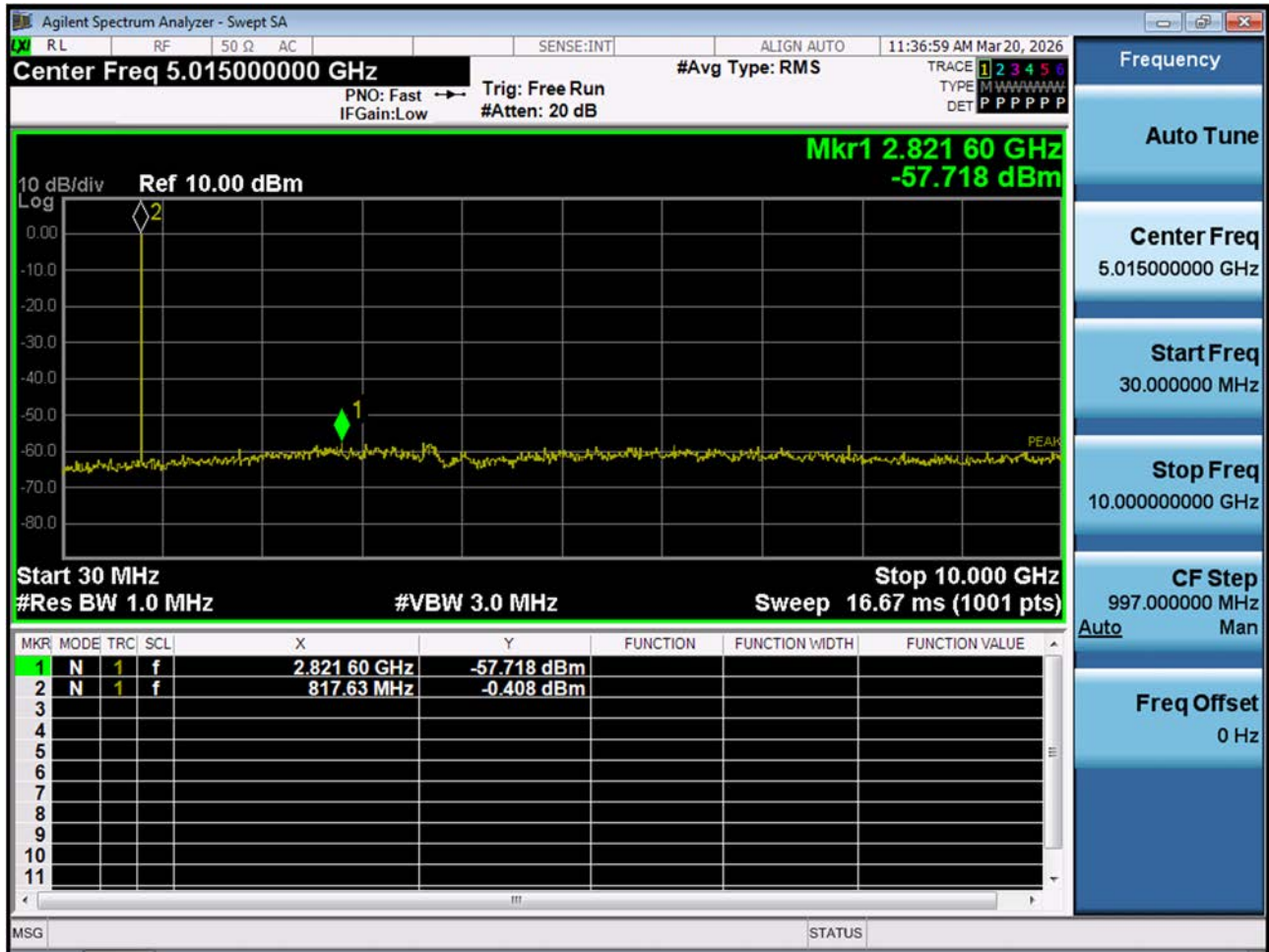
LTE B26_ Conducted Spurious Emissions (1.4 MHz_QPSK_RB 1_0)



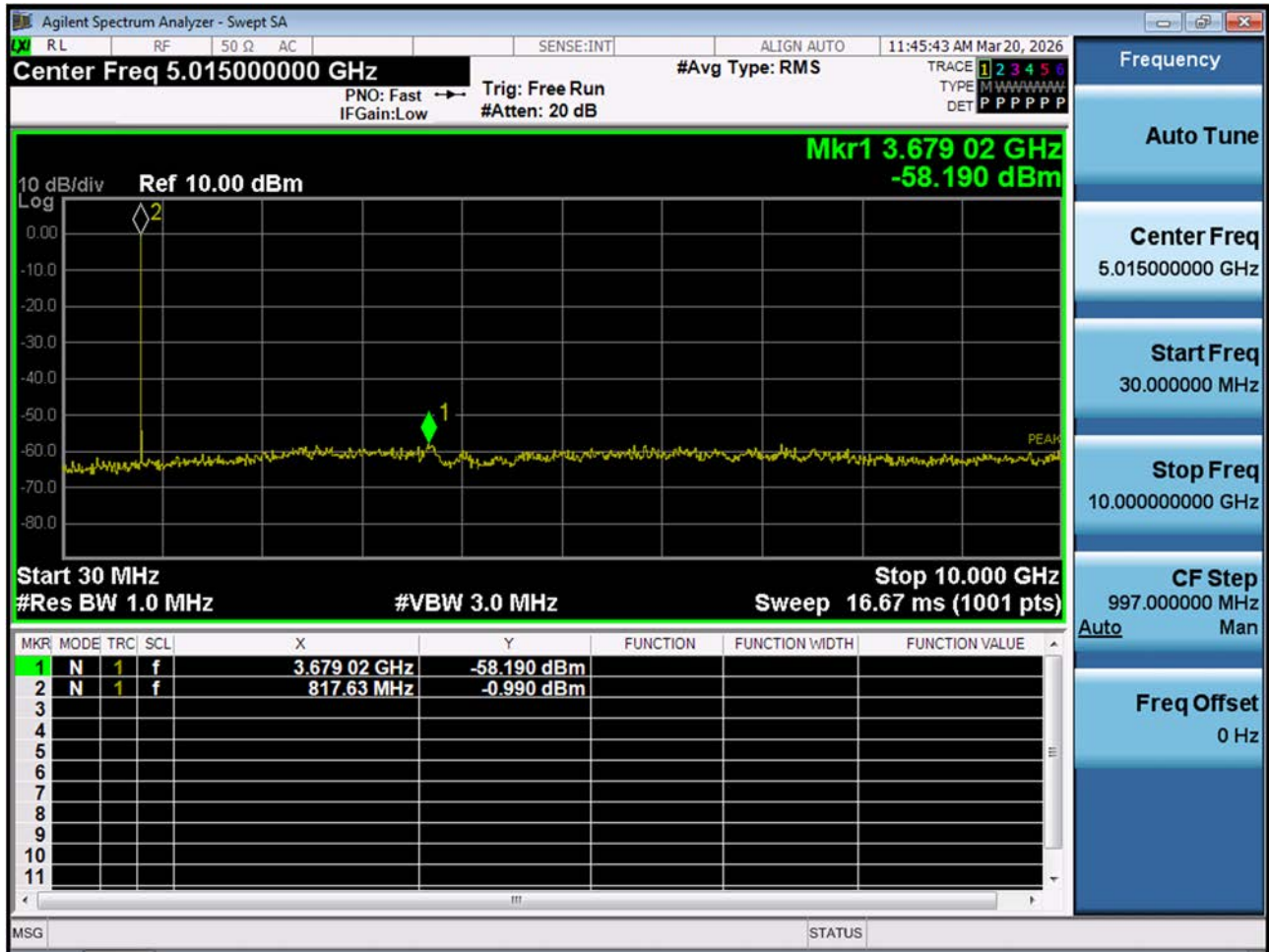
LTE B26_ Conducted Spurious Emissions (3 MHz_QPSK_RB 1_0)



LTE B26_ Conducted Spurious Emissions (5 MHz_QPSK_RB 1_0)



LTE B26_ Conducted Spurious Emissions (10 MHz_QPSK_RB 1_0)



10.2 CHANNEL EDGE(Part90)

LTE B26_Channel Edge (1.4 MHz_QPSK_RB 1_0)



LTE B26_Channel Edge (1.4 MHz_QPSK_RB 1_5)

