FCC RF Test Report

APPLICANT	:	**Motorola Mobility LLC**
EQUIPMENT	:	**Mobile Cellular Phone**
BRAND NAME	:	**Motorola**
MODEL NAME	:	**XT2213-1, XT2213DL, XT2213-2, XT2213-3**
FCC ID	:	**IHDT56AA3**
STANDARD	:	**47 CFR Part 2, 90(R)**
CLASSIFICATION	:	**PCS Licensed Transmitter Held to Ear (PCE)**
TEST DATE(S)	:	**Jan. 13, 2022 ~ Jan. 20, 2022**

We, Sporton International Inc. (Kunshan)., would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.26 and shown compliance with the applicable technical standards.

This report contains data that were produced under subcontract by Sporton International Inc. (ShenZhen).

The test results in this report apply exclusively to the tested model / sample. Without written approval of Sporton International Inc. (Kunshan)., the test report shall not be reproduced except in full.

Jason Jia

Reviewed by: Jason Jia / Supervisor

Alex Wang

Approved by: Alex Wang / Manager

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ACCREDITED Cert #5145.02

Sporton International Inc. (Kunshan)
No. 1098, Pengxi North Road, Kunshan Economic Development Zone Jiangsu Province 215300 People's Republic of China

TABLE OF CONTENTS

REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FG1D1722L	Rev. 01	Initial issue of report	Feb. 08, 2022

SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
3.2	§2.1046	Conducted Output Power	—	Reporting only	-
	§90.542 (a)(7)	Effective Radiated Power	ERP < 3Watt	PASS	-
3.3	-	Peak-to-Average Ratio	—	Reporting only	-
3.4	§2.1049	Occupied Bandwidth	—	Reporting only	-
3.5	§2.1053 §90.543 (e)(2)(3)	Conducted Band Edge Measurement	Refer standard	PASS	-
3.6	§2.1051 §90.210(n)	Emission Mask	Mask B	PASS	-
3.7	§2.1053 §90.543 (e)(3)	Conducted Spurious Emission	< $43+10\log_{10}(P[Watts])$	PASS	-
3.8	§2.1055 §90.539 (e)	Frequency Stability Temperature & Voltage	< ±1.25 ppm	PASS	-
4.4	§2.1053 §90.543 (e)(3) §90.543 (f)	Radiated Spurious Emission	< $43+10\log_{10}(P[Watts])$	PASS	Under limit 16.55 dB at 1576.00 MHz

Declaration of Conformity:
The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.
Comments and Explanations:
The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.

1 General Description

1.1 Applicant

Motorola Mobility LLC
222 W,Merchandise Mart Plaza, Chicago IL 60654 USA

1.2 Manufacturer

Motorola Mobility LLC
222 W,Merchandise Mart Plaza, Chicago IL 60654 USA

1.3 Feature of Equipment Under Test

Product Feature	
Equipment	Mobile Cellular Phone
Brand Name	Motorola
Model Name	XT2213-1, XT2213DL, XT2213-2, XT2213-3
FCC ID	IHDT56AA3
Tx Frequency	5G NR n14 : 788 MHz ~ 798 MHz
Rx Frequency	5G NR n14 : 758 MHz ~ 768 MHz
Bandwidth	5MHz / 10MHz
Antenna Gain	-3.0 dBi
Type of Modulation	DFT-s-OFDM (PI/2 BPSK / QPSK / 16QAM / 64QAM / 256QAM) CP-OFDM (QPSK / 16QAM / 64QAM / 256QAM)
IMEI Code	Conducted : 353739480009600 Radiation : 353739480012232
HW Version	DVT2
SW Version	S1SA32.27
EUT Stage	Identical Prototype

Remark:

1. The four models XT2213-1, XT2213DL, XT2213-2 and XT2213-3 are only for market differentiation, all the others are the same.
2. 5G NR n14 only support SA mode.

1.4 Maximum ERP and Emission Designator

5G NR n14		PI/2 BPSK/QPSK		16QAM/64QAM/256QAM	
BW (MHz)	Frequency Range (MHz)	Maximum ERP(W)	Emission Designator (99%OBW)	Maximum ERP(W)	Emission Designator (99%OBW)
5	**790.5~795.5**	0.0612	4M47G7D	0.0500	4M49W7D
10	**793**	0.0586	9M27G7D	0.0485	9M29W7D

1.5 Testing Site

Sporton International Inc. (Kunshan) is accredited to ISO/IEC 17025:2017 by American Association for Laboratory Accreditation with Certificate Number 5145.02.

Test Firm	Sporton International Inc. (Kunshan)		
Test Site Location	No. 1098, Pengxi North Road, Kunshan Economic Development Zone Jiangsu Province 215300 People's Republic of China TEL : +86-512-57900158 FAX : +86-512-57900958		
Test Site No.	**Sporton Site No.**	**FCC Designation No.**	**FCC Test Firm Registration No.**
	03CH04-KS	CN1257	314309

Sporton International Inc. (Shenzhen) is accredited to ISO/IEC 17025:2017 by American Association for Laboratory Accreditation with Certificate Number 5145.01.

Test Firm	Sporton International Inc. (Shenzhen)		
Test Site Location	1/F, 2/F, Bldg 5, Shiling Industrial Zone, Xinwei Village, Xili, Nanshan, Shenzhen, 518055 People's Republic of China TEL: +86-755-86379589 FAX: +86-755-86379595		
Test Site No.	**Sporton Site No.**	**FCC Designation No.**	**FCC Test Firm Registration No.**
	TH01-SZ	CN1256	421272

Test data subcontracted: conducted test case in section 3.2~3.8 of this report.

1.6 Test Software

Item	**Site**	**Manufacturer**	**Name**	**Version**
1.	03CH04-KS	AUDIX	E3	6.2009-8-24a

1.7 Applied Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- 47 CFR Part 2, Part 90(R)
- ANSI C63.26
- KDB 971168 D01 Power Meas License Digital Systems v03r01
- KDB 412172 D01 Determining ERP and EIRP v01r01

Remark:

1. All test items were verified and recorded according to the standards and without any deviation during the test.
2. This EUT has also been tested and complied with the requirements of FCC Part 15, Subpart B, recorded in a separate test report.

1.8 Specification of Accessory

Specification of Accessory				
AC Adapter 1	**Brand Name**	Motorola(Salcomp)	**Model Name**	MC-101
AC Adapter 2	**Brand Name**	Motorola(AOHAI)	**Model Name**	MC-101
AC Adapter 3	**Brand Name**	Motorola(Chenyang)	**Model Name**	MC-101
Battery 1	**Brand Name**	Motorola(SCUD)	**Model Name**	JK50
Battery 2	**Brand Name**	Motorola(ATL)	**Model Name**	JK50
USB Cable 1	**Brand Name**	Motorola(Saibao)	**Model Name**	SC18D22297
USB Cable 2	**Brand Name**	Motorola(Cabletech)	**Model Name**	SC18D22298
USB Cable 3	**Brand Name**	Motorola(Luxshare)	**Model Name**	SC18D22299

2 Test Configuration of Equipment Under Test

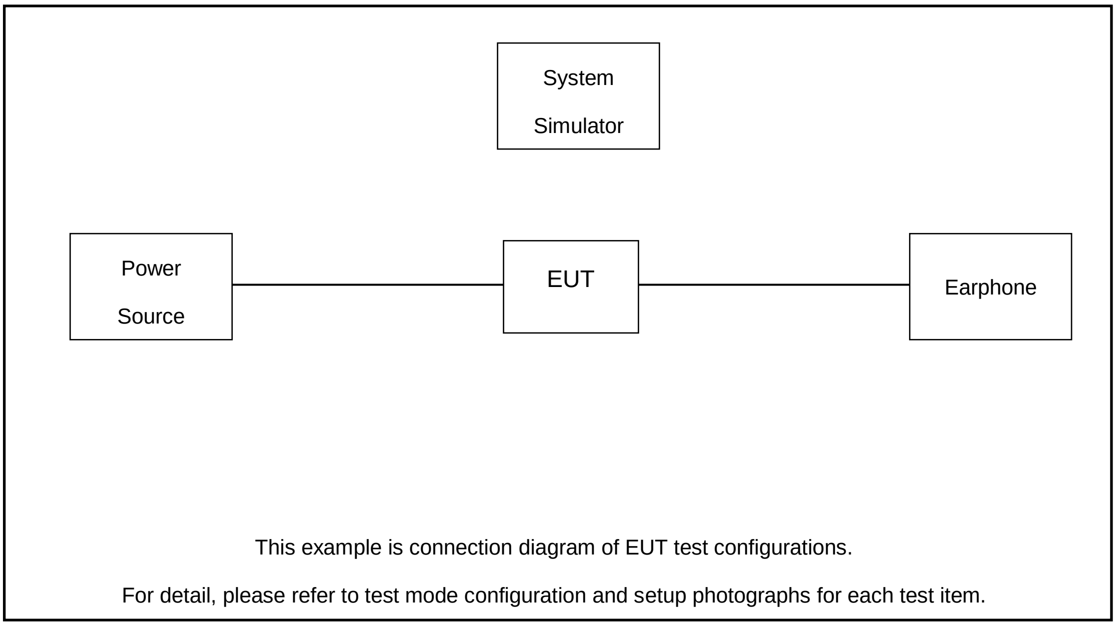
2.1 Test Mode

Antenna port conducted and radiated test items listed below are performed according to KDB 971168 D01 Power Meas License Digital Systems v03r01 with maximum output power.

Radiated measurements are performed by rotating the EUT in three different orthogonal test planes to find the maximum emission(Y plane).

Conducted Test Cases	Band	Bandwidth (MHz)						Modulation					RB #			Test Channel		
		1.4	3	5	10	15	20	PI/2 BPSK	QPSK	16QAM	64QAM	256QAM	1	Half	Full	L	M	H
Max. Output Power	n14	-	-	v		-	-	v	v	v	v	v	v	v	v	v	v	v
	n14	-	-		v	-	-	v	v	v	v	v	v		v		v	
Peak-to-Average Ratio	n14	-	-		v	-	-	v	v				v		v		v	
26dB and 99% Bandwidth	n14	-	-	v	v	-	-	v	v	v	v	v			v		v	
Conducted Band Edge	n14	-	-	v		-	-	v	v				v		v	v		v
	n14	-	-		v	-	-	v	v				v		v		v	
Emission Mask	n14	-	-	v		-	-	v	v				v		v	v	v	v
	n14	-	-		v	-	-	v	v				v		v		v	
Conducted Spurious Emission	n14	-	-	v		-	-	v	v				v			v	v	v
	n14	-	-		v	-	-	v	v				v				v	
Frequency Stability	n14	-	-		v	-	-		v						v		v	
E.R.P	n14	-	-	v		-	-	v	v	v	v	v	v		v	v	v	v
	n14	-	-		v	-	-	v	v	v	v	v	v		v		v	
Radiated Spurious Emission	n14	**Worst Case**															v	
Note	1. The mark "v " means that this configuration is chosen for testing 2. The mark "-" means that this bandwidth is not supported. 3. The device is investigated from 30MHz to 10 times of fundamental signal for radiated spurious emission test under different RB size/offset and modulations in exploratory test. Subsequently, only the worst case emissions are reported.																	

2.2 Connection Diagram of Test System



2.3 Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model No.	FCC ID	Data Cable	Power Cord
1.	Base Station	Anritsu	MT8821C	N/A	N/A	Unshielded,1.8m
2.	Base Station	Anritsu	MT8000A	N/A	N/A	Unshielded,1.8m
3.	Earphone	N/A	N/A	N/A	N/A	N/A

2.4 Measurement Results Explanation Example

For all conducted test items:

The offset level is set in the spectrum analyzer to compensate the RF cable loss between EUT conducted output port and spectrum analyzer. With the offset compensation, the spectrum analyzer reading level is exactly the EUT RF output level.

The spectrum analyzer offset is derived from RF cable loss.

Offset = RF cable loss.

Following shows an offset computation example with cable loss 4.0 dB.

Example :

Offset(dB) = RF cable loss(dB).

= 4.0 (dB)

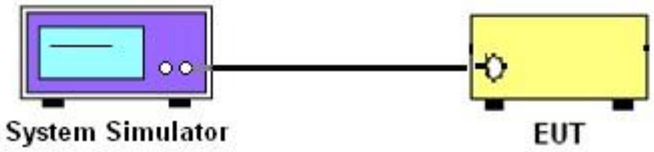
3 Conducted Test Items

3.1 Measuring Instruments

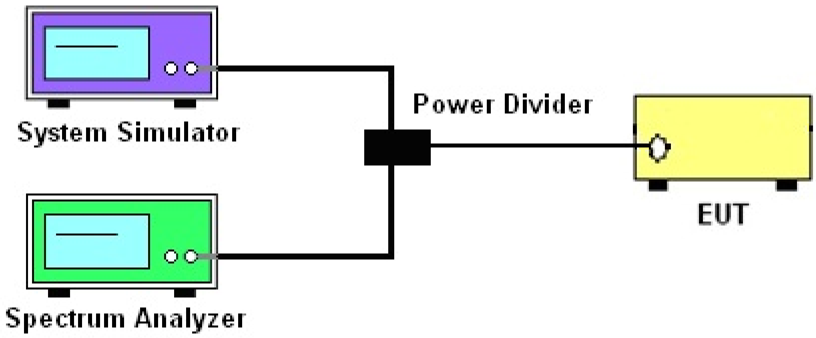
See list of measuring instruments of this test report.

3.1.1 Test Setup

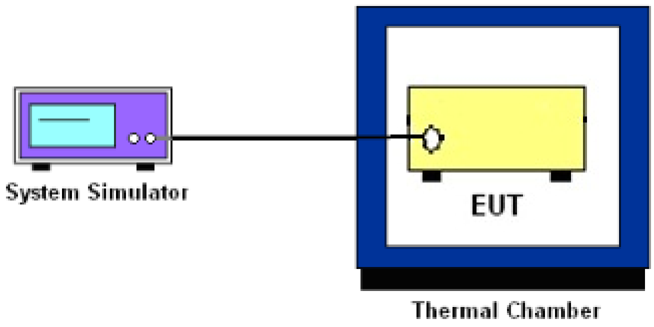
3.1.2 Conducted Output Power



3.1.3 Peak-to-Average Ratio, Occupied Bandwidth, Conducted Band-Edge, Emission Mask, and Conducted Spurious Emission



3.1.4 Frequency Stability



3.1.5 Test Result of Conducted Test

Please refer to Appendix A.

3.2 Conducted Output Power and ERP

3.2.1 Description of the Conducted Output Power Measurement and ERP

A base station simulator was used to establish communication with the EUT. Its parameters were set to transmit the maximum power on the EUT. The measured power in the radio frequency on the transmitter output terminals shall be reported.

The ERP of mobile transmitters must not exceed 3 Watts for LTE Band 14.

According to KDB 412172 D01 Power Approach,

EIRP = $P_T + G_T – L_C$, ERP = EIRP -2.15, where

P_T = transmitter output power in dBm

G_T = gain of the transmitting antenna in dBi

L_C = signal attenuation in the connecting cable between the transmitter and antenna in dB

3.2.2 Test Procedures

1. The testing follows ANSI C63.26 Section 5.2
2. The transmitter output port was connected to the system simulator.
3. Set EUT at maximum power through the system simulator.
4. Select lowest, middle, and highest channels for each band and different modulation.
5. Measure and record the power level from the system simulator.

3.3 Peak-to-Average Ratio

3.3.1 Description of the PAR Measurement

Power Complementary Cumulative Distribution Function (CCDF) curves provide a means for characterizing the power peaks of a digitally modulated signal on a statistical basis. A CCDF curve depicts the probability of the peak signal amplitude exceeding the average power level. Most contemporary measurement instrumentation include the capability to produce CCDF curves for an input signal provided that the instrument’s resolution bandwidth can be set wide enough to accommodate the entire input signal bandwidth. In measuring transmissions in this band using an average power technique, the peak-to-average ratio (PAR) of the transmission may not exceed 13 dB.

3.3.2 Test Procedures

1. The EUT was connected to spectrum and system simulator via a power divider.
2. Set the CCDF (Complementary Cumulative Distribution Function) option in spectrum analyzer.
3. The highest RF powers were measured and recorded the maximum PAPR level associated with a probability of 0.1 %.
4. Record the deviation as Peak to Average Ratio.

3.4 Occupied Bandwidth

3.4.1 Description of Occupied Bandwidth Measurement

The occupied bandwidth is 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 transmitted power.

The 26 dB emission bandwidth is defined as the frequency range between two points, one above and one below the carrier frequency, at which the spectral density of the emission is attenuated 26 dB below the maximum in-band spectral density of the modulated signal. Spectral density (power per unit bandwidth) is to be measured with a detector of resolution bandwidth equal to approximately 1.0% of the emission bandwidth.

3.4.2 Test Procedures

1. The testing follows ANSI C63.26 Section 5.4
2. The EUT was connected to spectrum analyzer and system simulator via a power divider.
3. The spectrum analyzer center frequency is set to the nominal EUT channel center frequency. The span range for the spectrum analyzer shall be between two and five times the anticipated OBW.
4. The nominal resolution bandwidth (RBW) shall be in the range of 1 to 5 % of the anticipated OBW, and the VBW shall be at least 3 times the RBW.
5. Set the detection mode to peak, and the trace mode to max hold.
6. Determine the reference value: Set the EUT to transmit a modulated signal. Allow the trace to stabilize. Set the spectrum analyzer marker to the highest level of the displayed trace. (this is the reference value)
7. Determine the "-26 dB down amplitude" as equal to (Reference Value – X).
8. Place two markers, one at the lowest and the other at the highest frequency of the envelope of the spectral display such that each marker is at or slightly below the "–X dB down amplitude" determined in step 6. If a marker is below this "-X dB down amplitude" value it shall be placed as close as possible to this value. The OBW is the positive frequency difference between the two markers.
9. Use the 99 % power bandwidth function of the spectrum analyzer and report the measured bandwidth.

3.5 Conducted Band Edge Measurement

3.5.1 Description of Conducted Band Edge Measurement

For operations in the 758-768 MHz and the 788-798 MHz bands

(1) On all frequencies between 769-775 MHz and 799-805 MHz, by a factor not less than 76 + 10 log (P) dB in a 6.25 kHz band segment, for base and fixed stations.

(2) On all frequencies between 769-775 MHz and 799-805 MHz, by a factor not less than 65 + 10 log (P) dB in a 6.25 kHz band segment, for mobile and portable stations.

(3) On any frequency between 775-788 MHz, above 805 MHz, and below 758 MHz, by at least 43 + 10 log (P) dB.

3.5.2 Test Procedures

1. The testing follows ANSI C63.26 section 5.7
2. The EUT was connected to spectrum analyzer and system simulator via a power divider.
3. The band edges of low and high channels for the highest RF powers were measured.
4. Set spectrum analyzer with RMS detector.
5. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
6. Checked that all the results comply with the emission limit line.

   Example:

   The limit line is derived from 43 + 10log(P)dB below the transmitter power P(Watts)

   = P(W)- [43 + 10log(P)] (dB)

   = [30 + 10log(P)] (dBm) - [43 + 10log(P)] (dB) = -13dBm.

Remark: For between 769-775 MHz,799-805 MHz,769-775 MHz and 799-805 MHz using RBW=6.8kHz, the test result is stricter than the test method of setting RBW=6.25kHz.

3.6 Emission Mask

3.6.1 Description of Emission Mask

<Emission Mask B>.

For transmitters that are equipped with an audio low-pass filter, the power of any emission must be attenuated below the unmodulated carrier power (P) as follows:

(1) On any frequency removed from the assigned frequency by more than 50 percent, but not more than 100 percent of the authorized bandwidth: At least 25 dB.

(2) On any frequency removed from the assigned frequency by more than 100 percent, but not more than 250 percent of the authorized bandwidth: At least 35 dB.

(3) On any frequency removed from the assigned frequency by more than 250 percent of the authorized bandwidth: At least 43 + 10 log (P) dB.

3.6.2 Test Procedures

1. The testing follows ANSI C63.26 section 5.7
2. The EUT was connected to spectrum analyzer and system simulator via a power divider.
3. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
4. Make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 3MHz.
5. Set spectrum analyzer with RMS detector.
6. Taking the record of maximum spurious emission.
7. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
8. The limit line is derived from 43 + 10log(P)dB below the transmitter power P(Watts)
   = P(W)- [43 + 10log(P)] (dB)
   = [30 + 10log(P)] (dBm) - [43 + 10log(P)] (dB)
   = -13dBm.

3.7 Conducted Spurious Emission Measurement

3.7.1 Description of Conducted Spurious Emission Measurement

The power of any emission outside of the authorized operating frequency ranges must be lower than the transmitter power (P) by a factor of at least 43 + 10 log (P) dB.

It is measured by means of a calibrated spectrum analyzer and scanned from 30MHz up to a frequency including its 10th harmonic.

3.7.2 Test Procedures

1. The testing follows ANSI C63.26 section 5.7
2. The EUT was connected to spectrum analyzer and base station via power divider.
3. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
4. The middle channel for the highest RF power within the transmitting frequency was measured.
5. The conducted spurious emission for the whole frequency range was taken.
6. Make the measurement with the spectrum analyzer's, for under 1GHz RBW = 100kHz, VBW = 300kHz and for above 1GHz RBW = 1MHz, VBW = 3MHz, taking the record of maximum spurious emission.
7. Set spectrum analyzer with RMS detector.
8. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
9. The limit line is derived from 43 + 10log(P)dB below the transmitter power P(Watts)

   = P(W)- [43 + 10log(P)] (dB)

   = [30 + 10log(P)] (dBm) - [43 + 10log(P)] (dB)

   = -13dBm.

3.8 Frequency Stability Measurement

3.8.1 Description of Frequency Stability Measurement

The frequency stability shall be measured by variation of ambient temperature and variation of primary supply voltage to ensure that the fundamental emission stays within the authorized frequency block. The frequency stability of the transmitter shall be maintained within ±1.25 ppm of the center frequency.

3.8.2 Test Procedures for Temperature Variation

1. The testing follows ANSI C63.26 section 5.6.4
2. The EUT was set up in the thermal chamber and connected with the system simulator.
3. With power OFF, the temperature was decreased to -30°C and the EUT was stabilized before testing. Power was applied and the maximum change in frequency was recorded within one minute.
4. With power OFF, the temperature was raised in 10°C step up to 50°C. The EUT was stabilized at each step for at least half an hour. Power was applied and the maximum frequency change was recorded within one minute.

3.8.3 Test Procedures for Voltage Variation

1. The testing follows ANSI C63.26 section 5.6.5.
2. The EUT was placed in a temperature chamber at 20±5°C and connected with the system simulator.
3. The power supply voltage to the EUT was varied from 85% to 115% of the nominal value for other than hand carried battery equipment.
4. 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.
5. The variation in frequency was measured for the worst case.

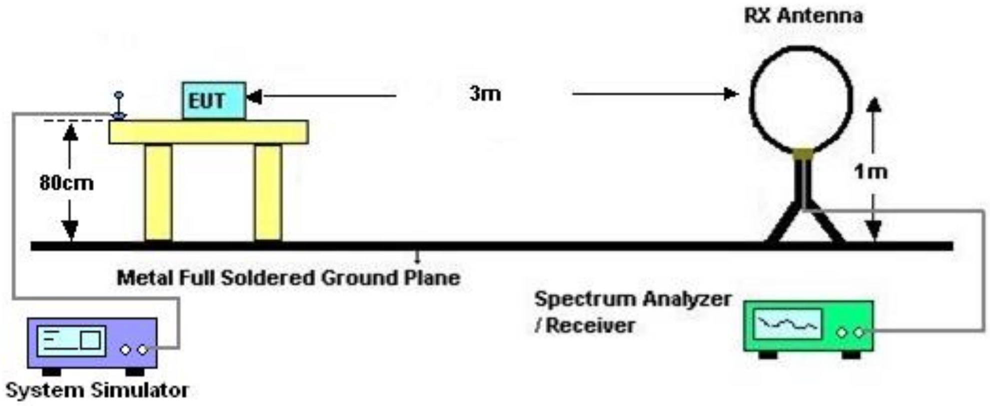
4 Radiated Test Items

4.1 Measuring Instruments

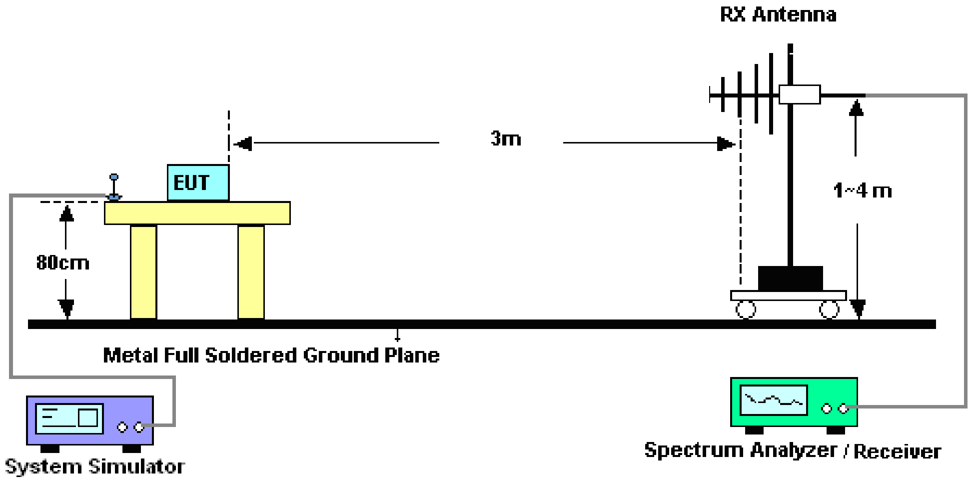
See list of measuring instruments of this test report.

4.2 Test Setup

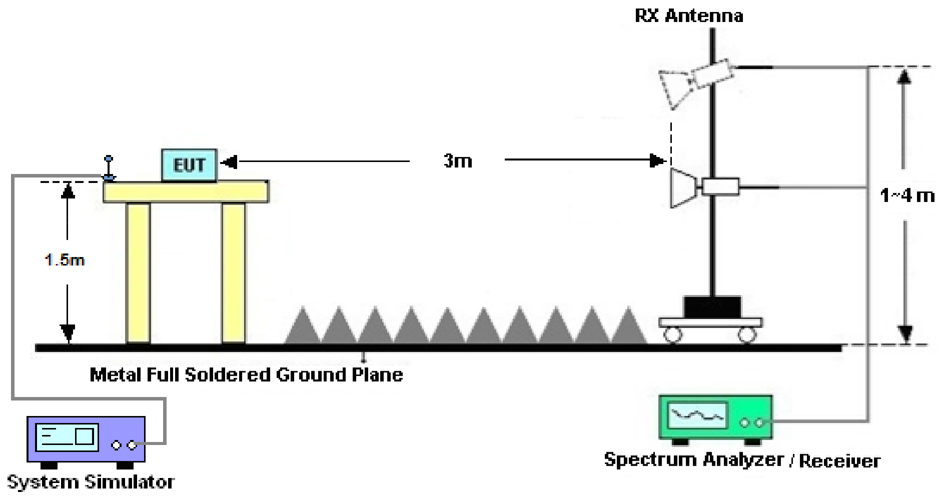
4.2.1 For radiated test below 30MHz



4.2.2 For radiated test from 30MHz to 1GHz



4.2.3 For radiated test above 1GHz



4.3 Test Result of Radiated Test

The low frequency, which started from 9 kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line was not reported.

Please refer to Appendix B.

4.4 Radiated Spurious Emission Measurement

4.4.1 Description of Radiated Spurious Emission

The radiated spurious emission was measured by substitution method according to ANSI C63.26. The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitter power (P) by a factor of at least 43 + 10 log (P) dB.

For operations in the 758-775 MHz and 788-805 MHz bands, all emissions including harmonics in the band 1559–1610 MHz shall be limited to -70 dBW/MHz equivalent isotropically radiated power (EIRP) for wideband signals, and -80 dBW EIRP for discrete emissions of less than 700 Hz bandwidth. For the purpose of equipment authorization, a transmitter shall be tested with an antenna that is representative of the type that will be used with the equipment in normal operation.

4.4.2 Test Procedures

1. The testing follows ANSI C63.26 Section 5.5
2. The EUT was placed on a turntable with 0.8 meter height for frequency below 1GHz and 1.5 meter height for frequency above 1GHz respectively above ground.
3. The EUT was set 3 meters from the receiving antenna mounted on the antenna tower.
4. The table was rotated 360 degrees to determine the position of the highest spurious emission.
5. The height of the receiving antenna is varied between 1m to 4m to search the maximum spurious emission for both horizontal and vertical polarizations.
6. During the measurement, the system simulator parameters were set to force the EUT transmitting at maximum output power.
7. Make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 3MHz, taking the record of maximum spurious emission.
8. A horn antenna was substituted in place of the EUT and was driven by a signal generator.
9. Tune the output power of signal generator to the same emission level with EUT maximum spurious emission.
10. EIRP (dBm) = S.G. Power – Tx Cable Loss + Tx Antenna Gain
11. ERP (dBm) = EIRP - 2.15
12. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
    The limit line is derived from 43 + 10log(P)dB below the transmitter power P(Watts)
    = P(W)- [43 + 10log(P)] (dB)
    = [30 + 10log(P)] (dBm) - [43 + 10log(P)] (dB)
    = -13dBm.

5 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Spectrum Analyzer	R&S	FSV40	101078	10Hz~40GHz	Apr. 08, 2021	Jan. 13, 2022~ Jan. 18, 2022	Apr. 07, 2022	Conducted (TH01-SZ)
DC Power Supply	TTI	PL330P	290070	Max 32V，3A	Oct. 25, 2021	Jan. 13, 2022~ Jan. 18, 2022	Oct. 24, 2022	Conducted (TH01-SZ)
Power Divider	TOJOIN	PS-2SM-04 265	60.06.020.007 7	0.4GHz~26.5GHz	Dec. 25, 2021	Jan. 13, 2022~ Jan. 18, 2022	Dec. 24, 2022	Conducted (TH01-SZ)
Thermal Chamber	Ten Billion Hongzhangroup	LP-150U	H2014081803	-40~+150°C	Jul. 14, 2021	Jan. 13, 2022~ Jan. 18, 2022	Jul. 13, 2022	Conducted (TH01-SZ)
EXA Spectrum Analyzer	Keysight	N9010A	MY55150244	10Hz-44G,MAX 30dB	Apr. 13, 2021	Jan. 20, 2022	Apr. 12, 2022	Radiation (03CH04-KS)
Loop Antenna	R&S	HFH2-Z2	100321	9kHz~30MHz	Oct. 30, 2021	Jan. 20, 2022	Oct. 29, 2022	Radiation (03CH04-KS)
Bilog Antenna	TeseQ	CBL6111D	49922	30MHz-1GHz	May 30, 2021	Jan. 20, 2022	May 29, 2022	Radiation (03CH04-KS)
Horn Antenna	Schwarzbeck	BBHA9120D	1356	1GHz~18GHz	Apr. 18, 2021	Jan. 20, 2022	Apr. 17, 2022	Radiation (03CH04-KS)
SHF-EHF Horn	Com-power	AH-840	101070	18GHz~40GHz	Jan. 05, 2022	Jan. 20, 2022	Jan. 04, 2023	Radiation (03CH04-KS)
Amplifier	SONOMA	310N	187289	9KHz-1GHz	Jan. 05, 2022	Jan. 20, 2022	Jan. 04, 2023	Radiation (03CH04-KS)
Amplifier	MITEQ	EM18G40G GA	060728	18~40GHz	Jan. 05, 2022	Jan. 20, 2022	Jan. 04, 2023	Radiation (03CH04-KS)
high gain Amplifier	MITEQ	AMF-7D-00 101800-30-1 0P	2025788	1Ghz-18Ghz	Jul. 30, 2021	Jan. 20, 2022	Jul. 29, 2022	Radiation (03CH04-KS)
Amplifier	Keysight	83017A	MY57280106	500MHz~26.5GHz	Oct. 13, 2021	Jan. 20, 2022	Oct. 12, 2022	Radiation (03CH04-KS)
AC Power Source	Chroma	61601	F104090004	N/A	NCR	Jan. 20, 2022	NCR	Radiation (03CH04-KS)
Turn Table	ChamPro	EM 1000-T	060762-T	0~360 degree	NCR	Jan. 20, 2022	NCR	Radiation (03CH04-KS)
Antenna Mast	ChamPro	EM 1000-A	060762-A	1 m~4 m	NCR	Jan. 20, 2022	NCR	Radiation (03CH04-KS)

NCR: No Calibration Required

6 Uncertainty of Evaluation

The measurement uncertainties shown below were calculated in accordance with the requirements of ANSI 63.26-2015. All the measurement uncertainty value were shown with a coverage K=2 to indicate 95% level of confidence. The measurement data show herein meets or exceeds the CISPR measurement uncertainty values specified in CISPR 16-4-2 and can be compared directly to specified limit to determine compliance.

Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**3.3dB**

Uncertainty of Radiated Emission Measurement (1 GHz ~ 40 GHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**2.8dB**

Appendix A. Test Results of Conducted Test

Test Engineer :	Jung Guo	**Temperature :**	24~26℃
		Relative Humidity :	50~53%

Software Version: 22.02.011101

FR1 N14

Transmitter Conducted Output Power And ERP, (G_T - L_C)=-3.0dB

NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	Conducted Power(dBm)	ERP(dBm)	ERP(W)
14	15	5	152100	790.5	DFT-s-OFDM PI/2 BPSK	12@6	22.85	17.7	0.0589
14	15	5	152100	790.5	DFT-s-OFDM PI/2 BPSK	1@1	22.85	17.7	0.0589
14	15	5	152100	790.5	DFT-s-OFDM PI/2 BPSK	1@23	22.81	17.66	0.0583
14	15	5	152100	790.5	DFT-s-OFDM QPSK	12@6	22.83	17.68	0.0586
14	15	5	152100	790.5	DFT-s-OFDM QPSK	1@1	23.02	17.87	0.0612
14	15	5	152100	790.5	DFT-s-OFDM QPSK	1@23	22.94	17.79	0.0601
14	15	5	152100	790.5	DFT-s-OFDM 16 QAM	12@6	21.87	16.72	0.0470
14	15	5	152100	790.5	DFT-s-OFDM 16 QAM	1@1	22.12	16.97	0.0498
14	15	5	152100	790.5	DFT-s-OFDM 16 QAM	1@23	22.09	16.94	0.0494
14	15	5	152100	790.5	DFT-s-OFDM 64 QAM	12@6	20.36	15.21	0.0332
14	15	5	152100	790.5	DFT-s-OFDM 64 QAM	1@1	20.13	14.98	0.0315
14	15	5	152100	790.5	DFT-s-OFDM 64 QAM	1@23	20.06	14.91	0.0310
14	15	5	152100	790.5	DFT-s-OFDM 256 QAM	12@6	18.39	13.24	0.0211
14	15	5	152100	790.5	DFT-s-OFDM 256 QAM	1@1	18.53	13.38	0.0218
14	15	5	152100	790.5	DFT-s-OFDM 256 QAM	1@23	18.39	13.24	0.0211
14	15	5	152100	790.5	CP-OFDM QPSK	13@6	21.37	16.22	0.0419
14	15	5	152100	790.5	CP-OFDM QPSK	1@1	21.41	16.26	0.0423
13	15	5	152100	790.5	CP-OFDM QPSK	1@23	21.29	16.14	0.0411
14	15	5	152600	793	DFT-s-OFDM PI/2 BPSK	12@6	22.81	17.66	0.0583
14	15	5	152600	793	DFT-s-OFDM PI/2 BPSK	1@1	22.76	17.61	0.0577
14	15	5	152600	793	DFT-s-OFDM PI/2 BPSK	1@23	22.74	17.59	0.0574
14	15	5	152600	793	DFT-s-OFDM QPSK	12@6	22.81	17.66	0.0583
14	15	5	152600	793	DFT-s-OFDM QPSK	1@1	22.93	17.78	0.0600
14	15	5	152600	793	DFT-s-OFDM QPSK	1@23	22.82	17.67	0.0585
14	15	5	152600	793	DFT-s-OFDM 16 QAM	12@6	21.86	16.71	0.0469
14	15	5	152600	793	DFT-s-OFDM 16 QAM	1@1	22.14	16.99	0.0500
14	15	5	152600	793	DFT-s-OFDM 16 QAM	1@23	22.03	16.88	0.0488
14	15	5	152600	793	DFT-s-OFDM	12@6	20.33	15.18	0.0330

					64 QAM				
14	15	5	152600	793	DFT-s-OFDM 64 QAM	1@1	20.04	14.89	0.0308
14	15	5	152600	793	DFT-s-OFDM 64 QAM	1@23	19.92	14.77	0.0300
14	15	5	152600	793	DFT-s-OFDM 256 QAM	12@6	18.34	13.19	0.0208
14	15	5	152600	793	DFT-s-OFDM 256 QAM	1@1	18.49	13.34	0.0216
14	15	5	152600	793	DFT-s-OFDM 256 QAM	1@23	18.32	13.17	0.0207
14	15	5	152600	793	CP-OFDM QPSK	13@6	21.37	16.22	0.0419
14	15	5	152600	793	CP-OFDM QPSK	1@1	21.35	16.2	0.0417
14	15	5	152600	793	CP-OFDM QPSK	1@23	21.26	16.11	0.0408
14	15	5	153100	795.5	DFT-s-OFDM PI/2 BPSK	12@6	22.8	17.65	0.0582
14	15	5	153100	795.5	DFT-s-OFDM PI/2 BPSK	1@1	22.79	17.64	0.0581
14	15	5	153100	795.5	DFT-s-OFDM PI/2 BPSK	1@23	22.73	17.58	0.0573
14	15	5	153100	795.5	DFT-s-OFDM QPSK	12@6	22.81	17.66	0.0583
14	15	5	153100	795.5	DFT-s-OFDM QPSK	1@1	22.9	17.75	0.0596
14	15	5	153100	795.5	DFT-s-OFDM QPSK	1@23	22.79	17.64	0.0581
14	15	5	153100	795.5	DFT-s-OFDM 16 QAM	12@6	21.81	16.66	0.0463
14	15	5	153100	795.5	DFT-s-OFDM 16 QAM	1@1	22.04	16.89	0.0489
14	15	5	153100	795.5	DFT-s-OFDM 16 QAM	1@23	21.95	16.8	0.0479
14	15	5	153100	795.5	DFT-s-OFDM 64 QAM	12@6	20.29	15.14	0.0327
14	15	5	153100	795.5	DFT-s-OFDM 64 QAM	1@1	20	14.85	0.0305
14	15	5	153100	795.5	DFT-s-OFDM 64 QAM	1@23	19.81	14.66	0.0292
14	15	5	153100	795.5	DFT-s-OFDM 256 QAM	12@6	18.32	13.17	0.0207
14	15	5	153100	795.5	DFT-s-OFDM 256 QAM	1@1	18.45	13.3	0.0214
14	15	5	153100	795.5	DFT-s-OFDM 256 QAM	1@23	18.36	13.21	0.0209
14	15	5	153100	795.5	CP-OFDM QPSK	13@6	21.31	16.16	0.0413
14	15	5	153100	795.5	CP-OFDM QPSK	1@1	21.34	16.19	0.0416
14	15	5	153100	795.5	CP-OFDM QPSK	1@23	21.23	16.08	0.0406
14	15	10	152600	793	DFT-s-OFDM PI/2 BPSK	25@12	22.7	17.55	0.0569
14	15	10	152600	793	DFT-s-OFDM PI/2 BPSK	1@1	22.67	17.52	0.0565
14	15	10	152600	793	DFT-s-OFDM PI/2 BPSK	1@50	22.56	17.41	0.0551
14	15	10	152600	793	DFT-s-OFDM QPSK	25@12	22.74	17.59	0.0574
14	15	10	152600	793	DFT-s-OFDM QPSK	1@1	22.83	17.68	0.0586
14	15	10	152600	793	DFT-s-OFDM QPSK	1@50	22.62	17.47	0.0558
14	15	10	152600	793	DFT-s-OFDM 16 QAM	25@12	21.79	16.64	0.0461

14	15	10	152600	793	DFT-s-OFDM 16 QAM	1@1	22.01	16.86	0.0485
14	15	10	152600	793	DFT-s-OFDM 16 QAM	1@50	21.82	16.67	0.0465
14	15	10	152600	793	DFT-s-OFDM 64 QAM	25@12	20.24	15.09	0.0323
14	15	10	152600	793	DFT-s-OFDM 64 QAM	1@1	19.91	14.76	0.0299
14	15	10	152600	793	DFT-s-OFDM 64 QAM	1@50	19.78	14.63	0.0290
14	15	10	152600	793	DFT-s-OFDM 256 QAM	25@12	18.16	13.01	0.0200
14	15	10	152600	793	DFT-s-OFDM 256 QAM	1@1	18.31	13.16	0.0207
14	15	10	152600	793	DFT-s-OFDM 256 QAM	1@50	18.12	12.97	0.0198
14	15	10	152600	793	CP-OFDM QPSK	26@13	21.11	15.96	0.0394
14	15	10	152600	793	CP-OFDM QPSK	1@1	21.22	16.07	0.0405
14	15	10	152600	793	CP-OFDM QPSK	1@50	21.1	15.95	0.0394

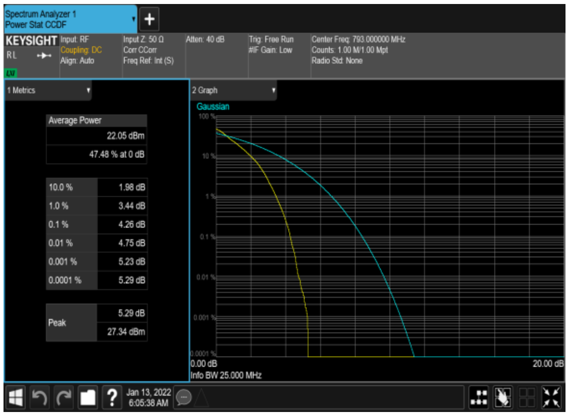
Frequency Stability

NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	Deviation (ppm)	Verdict	Environment
14	15	10	152600	793.0	DFT-s-OFDM QPSK	50@0	0.0318	**PASS**	NV
14	15	10	152600	793.0	DFT-s-OFDM QPSK	50@0	0.0226	**PASS**	LV
14	15	10	152600	793.0	DFT-s-OFDM QPSK	50@0	0.0599	**PASS**	HV
14	15	10	152600	793.0	DFT-s-OFDM QPSK	50@0	0.0594	**PASS**	-30℃
14	15	10	152600	793.0	DFT-s-OFDM QPSK	50@0	0.0432	**PASS**	-20℃
14	15	10	152600	793.0	DFT-s-OFDM QPSK	50@0	0.0015	**PASS**	-10℃
14	15	10	152600	793.0	DFT-s-OFDM QPSK	50@0	0.0165	**PASS**	0℃
14	15	10	152600	793.0	DFT-s-OFDM QPSK	50@0	0.0202	**PASS**	10℃
14	15	10	152600	793.0	DFT-s-OFDM QPSK	50@0	0.0028	**PASS**	20℃
14	15	10	152600	793.0	DFT-s-OFDM QPSK	50@0	0.0179	**PASS**	30℃
14	15	10	152600	793.0	DFT-s-OFDM QPSK	50@0	0.0285	**PASS**	40℃
14	15	10	152600	793.0	DFT-s-OFDM QPSK	50@0	0.0102	**PASS**	50℃

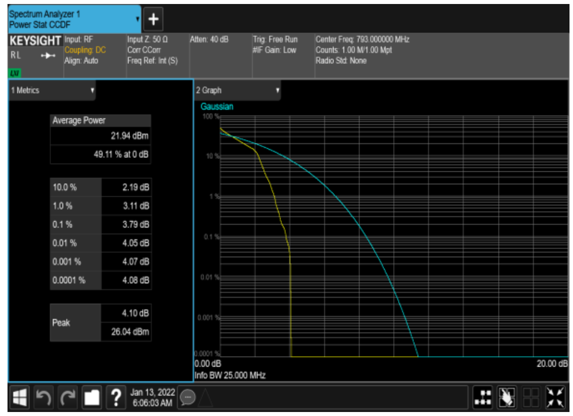
Peak to Average Radio

NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	Result (dB)	Limit (dB)	Verdict
14	15	10	152600	793.0	DFT-s-OFDM PI/2 BPSK	50@0	4.26	13	**PASS**
14	15	10	152600	793.0	DFT-s-OFDM PI/2 BPSK	1@0	3.79	13	**PASS**
14	15	10	152600	793.0	DFT-s-OFDM QPSK	50@0	5.21	13	**PASS**
14	15	10	152600	793.0	DFT-s-OFDM QPSK	1@0	4.79	13	**PASS**

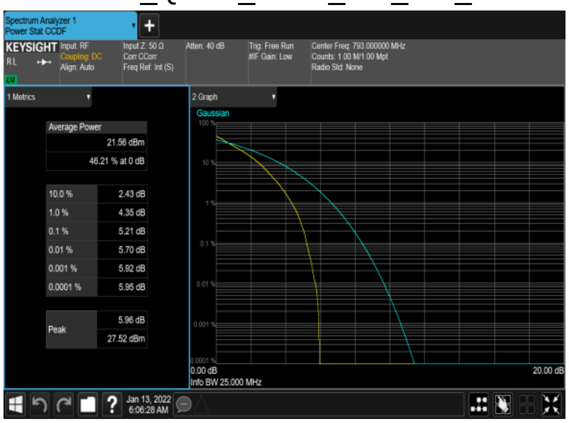
N14(10M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_Mid_CH



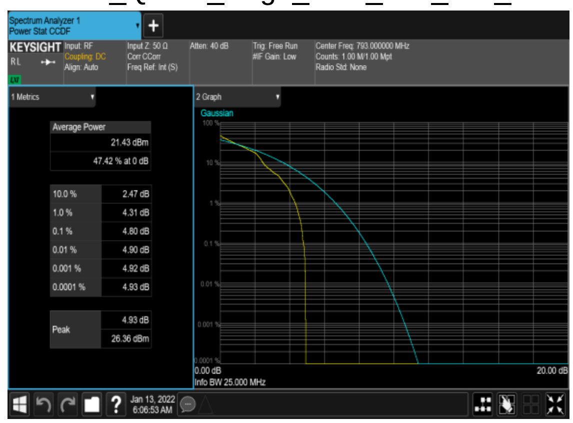
N14(10M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_Left_Mid_CH



N14(10M)_DFT-s-OFDM_QPSK_Outer_Full_Mid_CH



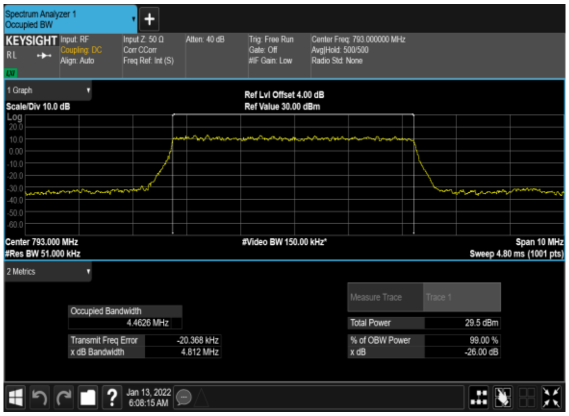
N14(10M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Mid_CH



Occupied Bandwidth

NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	OBW (MHz)	26dB OBW (MHz)
14	15	5	152600	793.0	DFT-s-OFDM PI/2 BPSK	25@0	4.4626	4.812
14	15	5	152600	793.0	DFT-s-OFDM QPSK	25@0	4.4571	4.805
14	15	5	152600	793.0	CP-OFDM QPSK	25@0	4.4651	4.817
14	15	5	152600	793.0	CP-OFDM 16 QAM	25@0	4.4649	4.863
14	15	5	152600	793.0	CP-OFDM 64 QAM	25@0	4.4687	4.841
14	15	5	152600	793.0	CP-OFDM 256 QAM	25@0	4.4929	4.891
14	15	10	152600	793.0	DFT-s-OFDM PI/2 BPSK	50@0	8.8821	9.451
14	15	10	152600	793.0	DFT-s-OFDM QPSK	50@0	8.9033	9.467
14	15	10	152600	793.0	CP-OFDM QPSK	52@0	9.2706	9.806
14	15	10	152600	793.0	CP-OFDM 16 QAM	52@0	9.2757	9.795
14	15	10	152600	793.0	CP-OFDM 64 QAM	52@0	9.2877	9.846
14	15	10	152600	793.0	CP-OFDM 256 QAM	52@0	9.2624	9.824

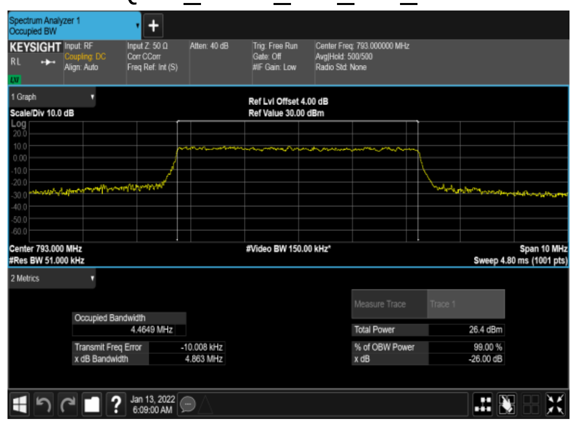
N14(5M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_Mid_CH



N14(5M)_DFT-s-OFDM_QPSK_Outer_Full_Mid_CH

N14(5M)_CP-OFDM_QPSK_Outer_Full_Mid_CH

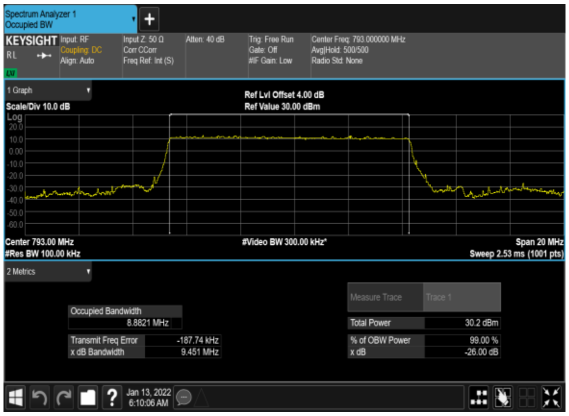
N14(5M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH



N14(5M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH

N14(5M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH

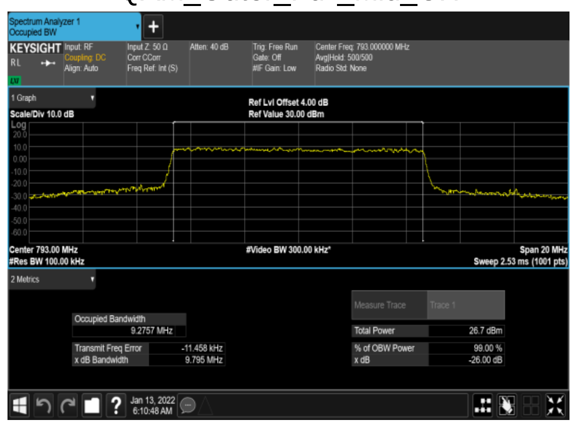
N14(10M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_Mid_CH



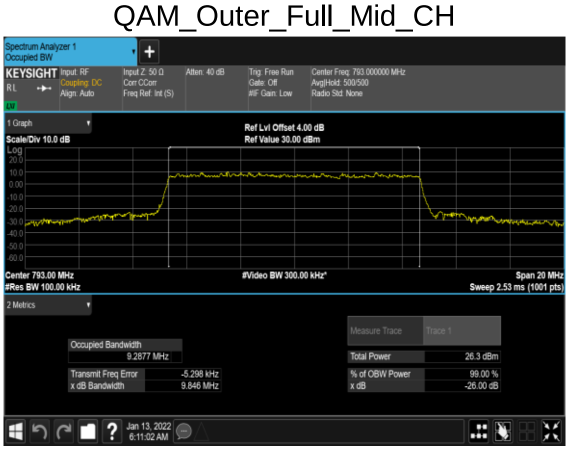
N14(10M)_DFT-s-OFDM_QPSK_Outer_Full_Mid_CH

N14(10M)_CP-OFDM_QPSK_Outer_Full_Mid_CH

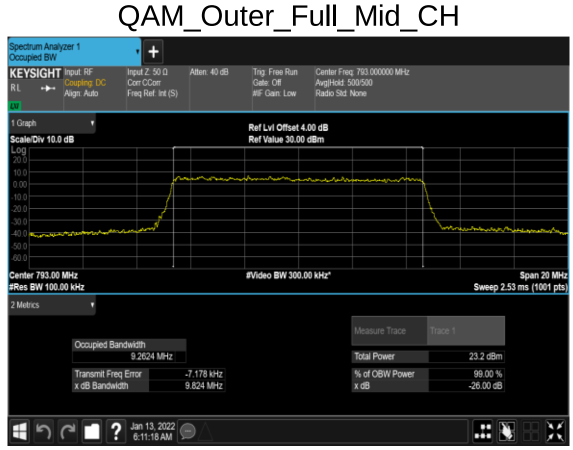
N14(10M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH



N14(10M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH



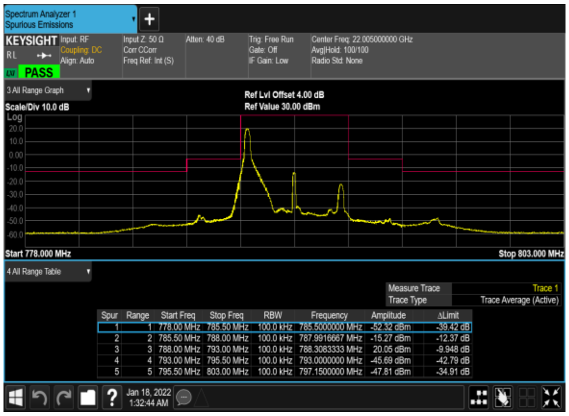
N14(10M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH



Emission Mask

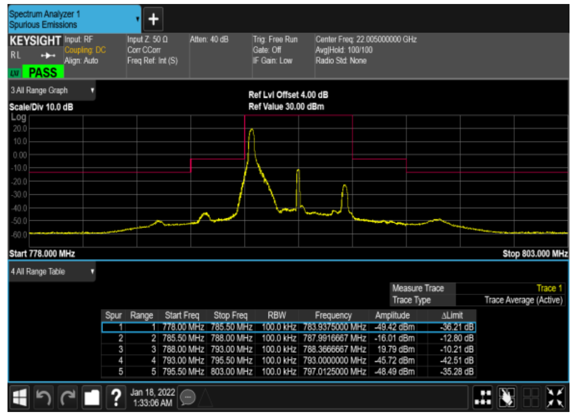
NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	Limit (dBm/MHz)	Verdict
14	15	5	152100	790.5	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
14	15	5	152100	790.5	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
14	15	5	152100	790.5	DFT-s-OFDM BPSK	1@24	see graph	**PASS**
14	15	5	152100	790.5	DFT-s-OFDM QPSK	1@24	see graph	**PASS**
14	15	5	152100	790.5	DFT-s-OFDM BPSK	25@0	see graph	**PASS**
14	15	5	152100	790.5	DFT-s-OFDM QPSK	25@0	see graph	**PASS**
14	15	5	152600	793.0	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
14	15	5	152600	793.0	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
14	15	5	152600	793.0	DFT-s-OFDM BPSK	1@24	see graph	**PASS**
14	15	5	152600	793.0	DFT-s-OFDM QPSK	1@24	see graph	**PASS**
14	15	5	152600	793.0	DFT-s-OFDM BPSK	25@0	see graph	**PASS**
14	15	5	152600	793.0	DFT-s-OFDM QPSK	25@0	see graph	**PASS**
14	15	5	153100	795.5	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
14	15	5	153100	795.5	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
14	15	5	153100	795.5	DFT-s-OFDM BPSK	1@24	see graph	**PASS**
14	15	5	153100	795.5	DFT-s-OFDM QPSK	1@24	see graph	**PASS**
14	15	5	153100	795.5	DFT-s-OFDM BPSK	25@0	see graph	**PASS**
14	15	5	153100	795.5	DFT-s-OFDM QPSK	25@0	see graph	**PASS**
14	15	10	152600	793.0	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
14	15	10	152600	793.0	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
14	15	10	152600	793.0	DFT-s-OFDM BPSK	1@51	see graph	**PASS**
14	15	10	152600	793.0	DFT-s-OFDM QPSK	1@51	see graph	**PASS**
14	15	10	152600	793.0	DFT-s-OFDM BPSK	50@0	see graph	**PASS**
14	15	10	152600	793.0	DFT-s-OFDM QPSK	50@0	see graph	**PASS**

N14(5M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Low_CH



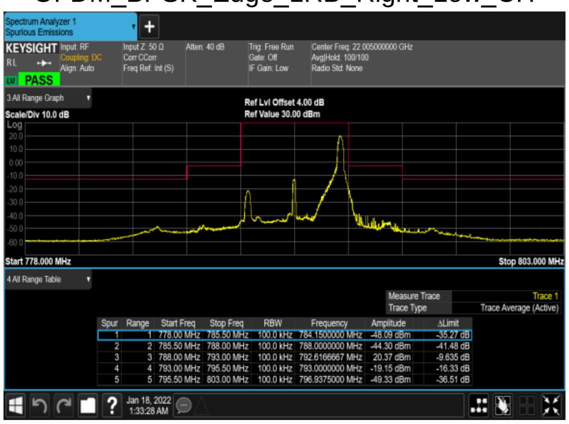
Spur	Range	Start Freq	Stop Freq	RBW	Frequency	Amplitude	ΔLimit
1	1	778.00 MHz	785.50 MHz	100.0 kHz	785.5000000 MHz	-52.32 dBm	-39.42 dB
2	2	785.50 MHz	788.00 MHz	100.0 kHz	787.9916667 MHz	-15.27 dBm	-12.37 dB
3	3	788.00 MHz	793.00 MHz	100.0 kHz	788.3083333 MHz	20.05 dBm	-9.948 dB
4	4	793.00 MHz	795.50 MHz	100.0 kHz	793.0000000 MHz	-45.69 dBm	-42.79 dB
5	5	795.50 MHz	803.00 MHz	100.0 kHz	797.1500000 MHz	-47.81 dBm	-34.91 dB

N14(5M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Low_CH



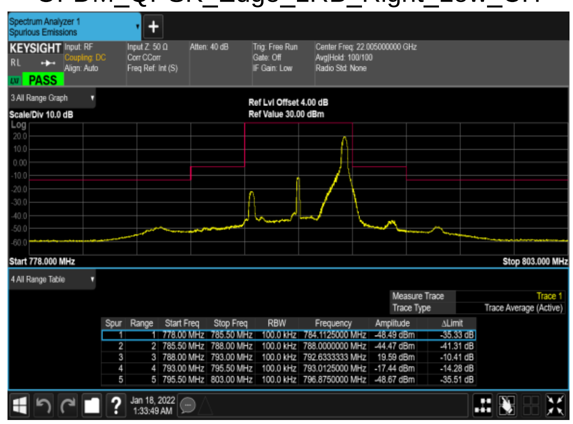
Spur	Range	Start Freq	Stop Freq	RBW	Frequency	Amplitude	ΔLimit
1	1	778.00 MHz	785.50 MHz	100.0 kHz	783.9375000 MHz	-49.42 dBm	-36.21 dB
2	2	785.50 MHz	788.00 MHz	100.0 kHz	787.9916667 MHz	-16.01 dBm	-12.80 dB
3	3	788.00 MHz	793.00 MHz	100.0 kHz	788.3666667 MHz	19.79 dBm	-10.21 dB
4	4	793.00 MHz	795.50 MHz	100.0 kHz	793.0000000 MHz	-45.72 dBm	-42.51 dB
5	5	795.50 MHz	803.00 MHz	100.0 kHz	797.0125000 MHz	-48.49 dBm	-35.28 dB

N14(5M)_DFT-s-OFDM_BPSK_Edge_1RB_Right_Low_CH



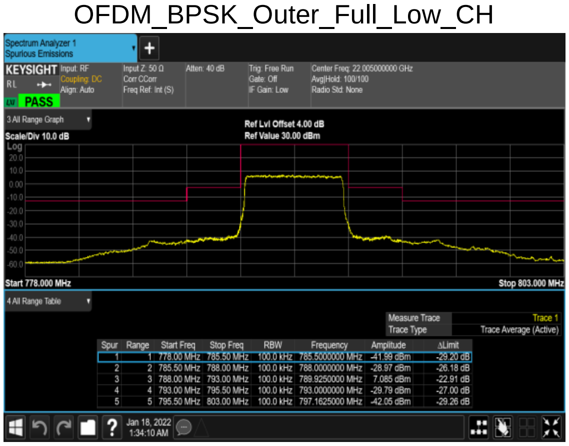
Spur	Range	Start Freq	Stop Freq	RBW	Frequency	Amplitude	ΔLimit
1	1	778.00 MHz	785.50 MHz	100.0 kHz	784.1500000 MHz	-48.09 dBm	-35.27 dB
2	2	785.50 MHz	788.00 MHz	100.0 kHz	788.0000000 MHz	-44.30 dBm	-41.48 dB
3	3	788.00 MHz	793.00 MHz	100.0 kHz	792.6166667 MHz	20.37 dBm	-9.635 dB
4	4	793.00 MHz	795.50 MHz	100.0 kHz	793.0000000 MHz	-19.15 dBm	-16.33 dB
5	5	795.50 MHz	803.00 MHz	100.0 kHz	796.9375000 MHz	-49.33 dBm	-36.51 dB

N14(5M)_DFT-s-OFDM_QPSK_Edge_1RB_Right_Low_CH



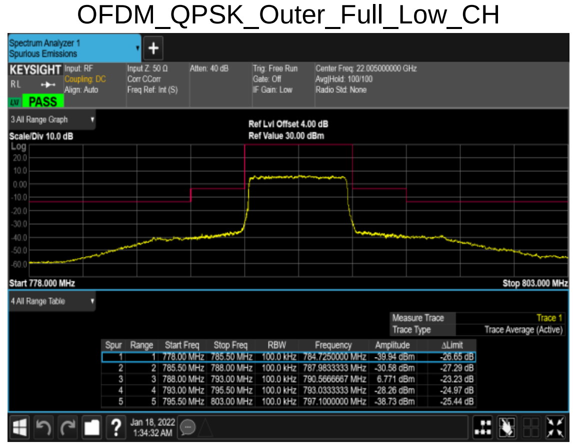
Spur	Range	Start Freq	Stop Freq	RBW	Frequency	Amplitude	ΔLimit
1	1	778.00 MHz	785.50 MHz	100.0 kHz	784.1125000 MHz	-48.49 dBm	-35.33 dB
2	2	785.50 MHz	788.00 MHz	100.0 kHz	788.0000000 MHz	-44.47 dBm	-41.31 dB
3	3	788.00 MHz	793.00 MHz	100.0 kHz	792.6333333 MHz	19.59 dBm	-10.41 dB
4	4	793.00 MHz	795.50 MHz	100.0 kHz	793.0125000 MHz	-17.44 dBm	-14.28 dB
5	5	795.50 MHz	803.00 MHz	100.0 kHz	796.8750000 MHz	-48.67 dBm	-35.51 dB

N14(5M)_DFT-s-OFDM_BPSK_Outer_Full_Low_CH



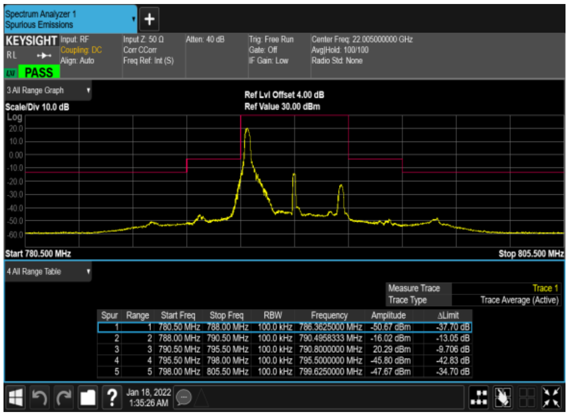
Spur	Range	Start Freq	Stop Freq	RBW	Frequency	Amplitude	ΔLimit
1	1	778.00 MHz	785.50 MHz	100.0 kHz	785.5000000 MHz	-41.99 dBm	-29.20 dB
2	2	785.50 MHz	788.00 MHz	100.0 kHz	788.0000000 MHz	-28.97 dBm	-26.18 dB
3	3	788.00 MHz	793.00 MHz	100.0 kHz	789.9250000 MHz	7.085 dBm	-22.91 dB
4	4	793.00 MHz	795.50 MHz	100.0 kHz	793.0000000 MHz	-29.79 dBm	-27.00 dB
5	5	795.50 MHz	803.00 MHz	100.0 kHz	797.1625000 MHz	-42.05 dBm	-29.26 dB

N14(5M)_DFT-s-OFDM_QPSK_Outer_Full_Low_CH

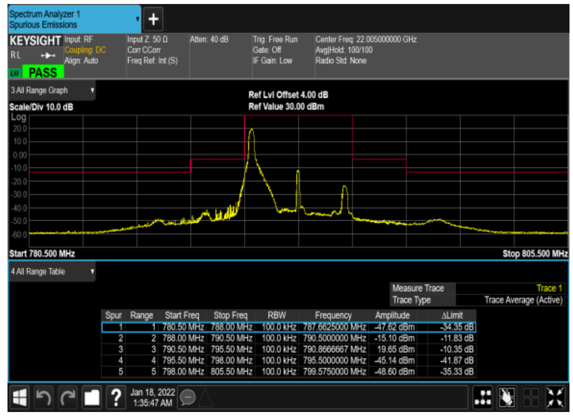


Spur	Range	Start Freq	Stop Freq	RBW	Frequency	Amplitude	ΔLimit
1	1	778.00 MHz	785.50 MHz	100.0 kHz	784.7250000 MHz	-39.94 dBm	-26.65 dB
2	2	785.50 MHz	788.00 MHz	100.0 kHz	787.9833333 MHz	-30.58 dBm	-27.29 dB
3	3	788.00 MHz	793.00 MHz	100.0 kHz	790.5666667 MHz	6.771 dBm	-23.23 dB
4	4	793.00 MHz	795.50 MHz	100.0 kHz	793.0333333 MHz	-28.26 dBm	-24.97 dB
5	5	795.50 MHz	803.00 MHz	100.0 kHz	797.1000000 MHz	-38.73 dBm	-25.44 dB

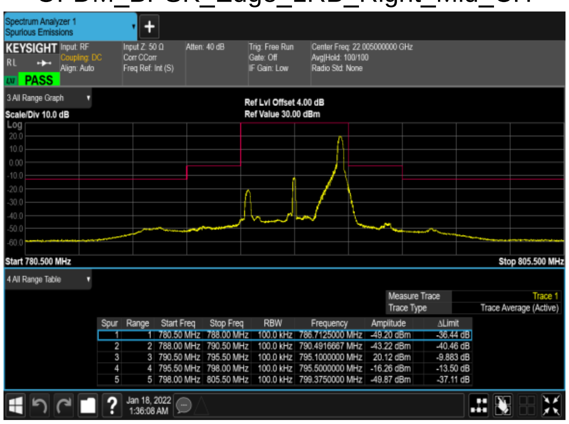
N14(5M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Mid_CH



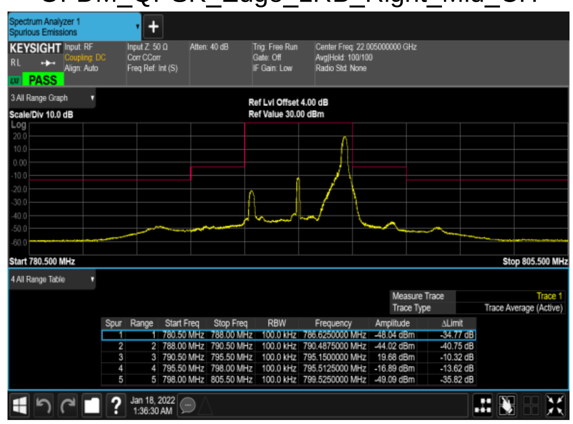
N14(5M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Mid_CH



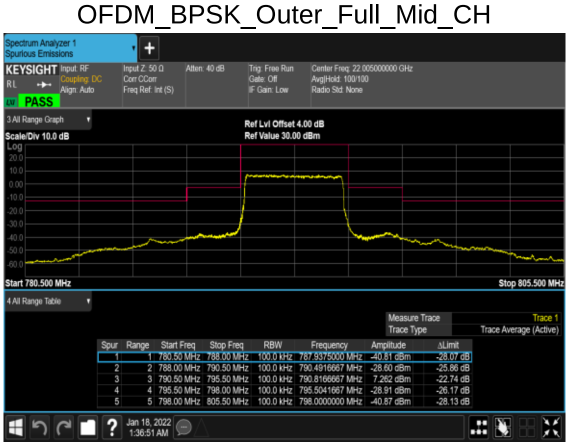
N14(5M)_DFT-s-OFDM_BPSK_Edge_1RB_Right_Mid_CH



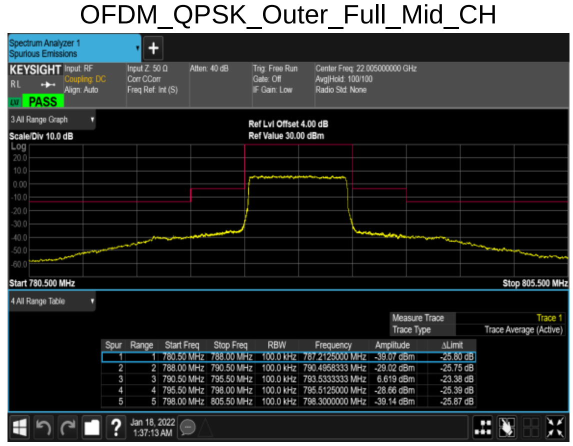
N14(5M)_DFT-s-OFDM_QPSK_Edge_1RB_Right_Mid_CH



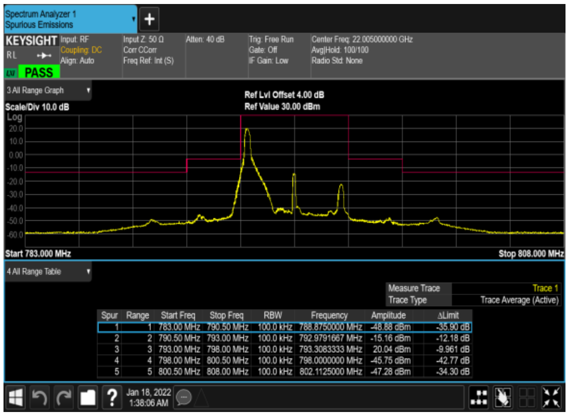
N14(5M)_DFT-s-OFDM_BPSK_Outer_Full_Mid_CH



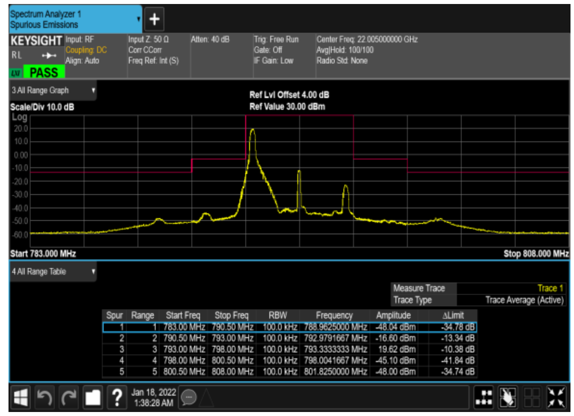
N14(5M)_DFT-s-OFDM_QPSK_Outer_Full_Mid_CH



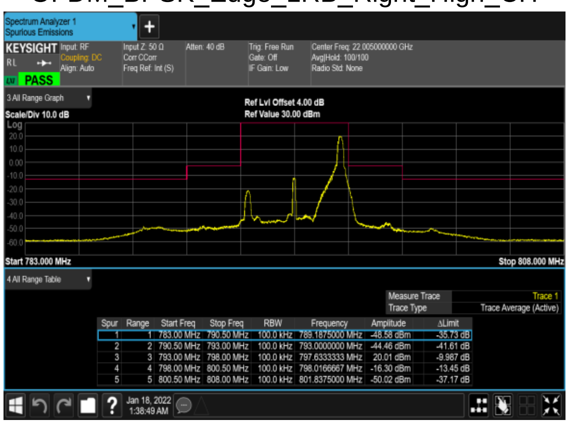
N14(5M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_High_CH



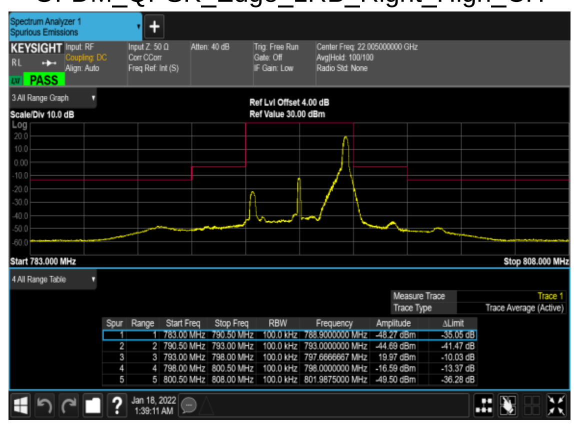
N14(5M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_High_CH



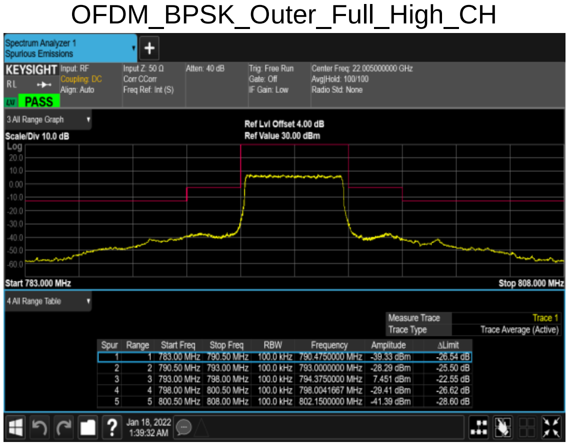
N14(5M)_DFT-s-OFDM_BPSK_Edge_1RB_Right_High_CH



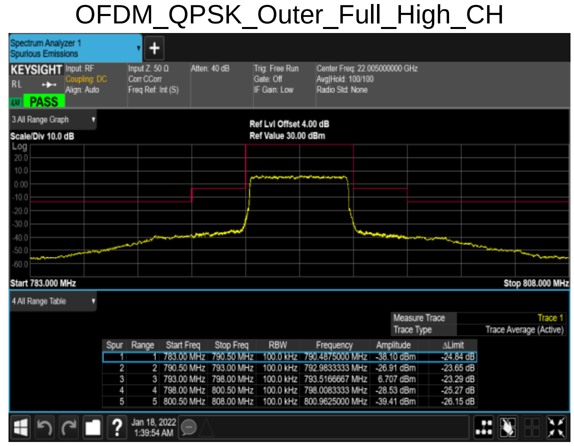
N14(5M)_DFT-s-OFDM_QPSK_Edge_1RB_Right_High_CH



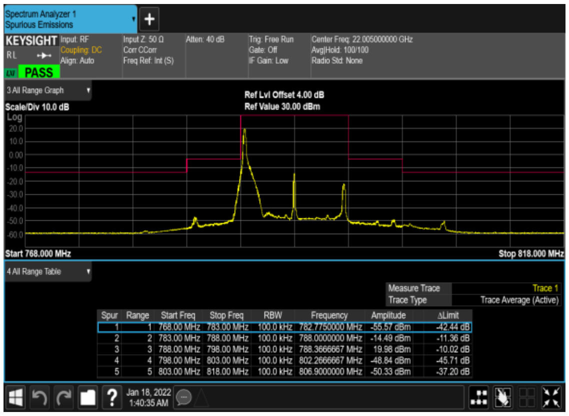
N14(5M)_DFT-s-OFDM_BPSK_Outer_Full_High_CH



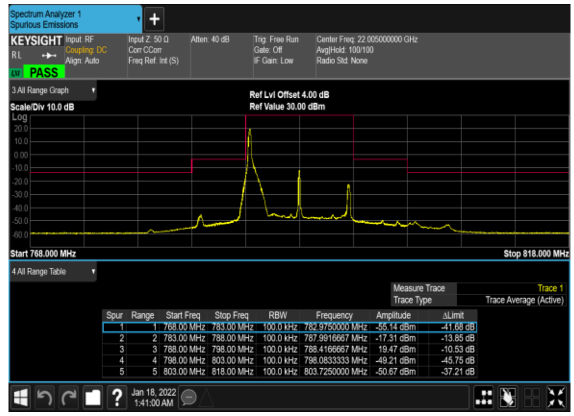
N14(5M)_DFT-s-OFDM_QPSK_Outer_Full_High_CH



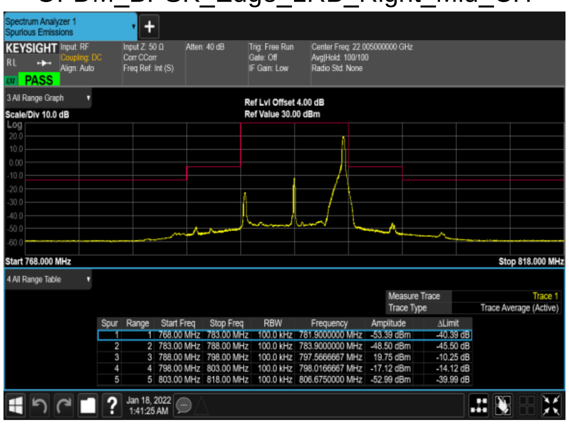
N14(10M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Mid_CH



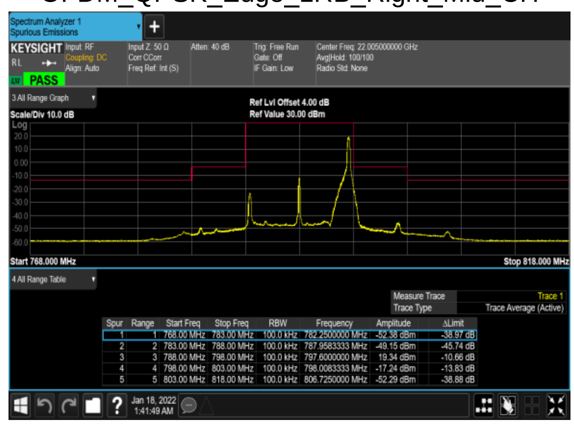
N14(10M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Mid_CH



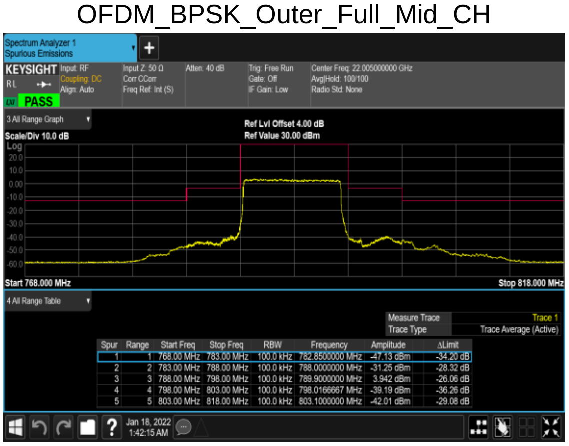
N14(10M)_DFT-s-OFDM_BPSK_Edge_1RB_Right_Mid_CH



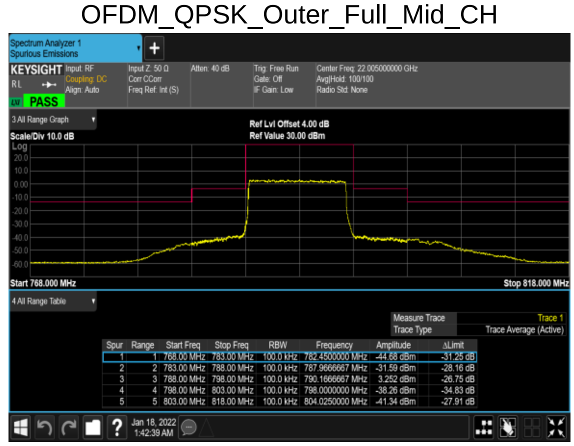
N14(10M)_DFT-s-OFDM_QPSK_Edge_1RB_Right_Mid_CH



N14(10M)_DFT-s-OFDM_BPSK_Outer_Full_Mid_CH



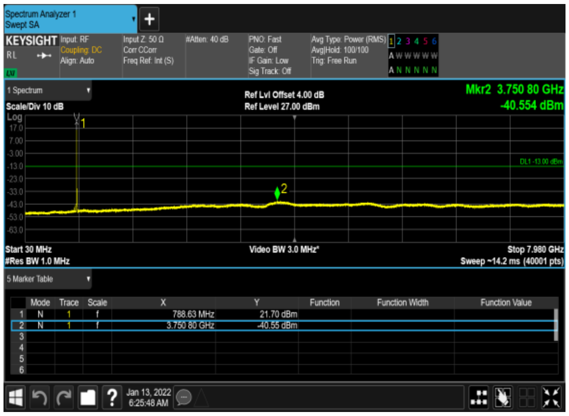
N14(10M)_DFT-s-OFDM_QPSK_Outer_Full_Mid_CH



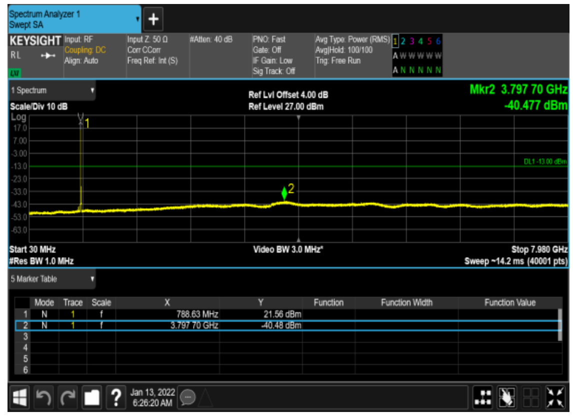
Conducted Spurious Emissions

NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	Result	Verdict
14	15	5	152100	790.5	DFT-s-OFDM BPSK	1@0	see graph	**---**
14	15	5	152100	790.5	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
14	15	5	152100	790.5	DFT-s-OFDM QPSK	1@0	see graph	**---**
14	15	5	152100	790.5	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
14	15	5	152600	793.0	DFT-s-OFDM BPSK	1@0	see graph	**---**
14	15	5	152600	793.0	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
14	15	5	152600	793.0	DFT-s-OFDM QPSK	1@0	see graph	**---**
14	15	5	152600	793.0	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
14	15	5	153100	795.5	DFT-s-OFDM BPSK	1@0	see graph	**---**
14	15	5	153100	795.5	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
14	15	5	153100	795.5	DFT-s-OFDM QPSK	1@0	see graph	**---**
14	15	5	153100	795.5	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
14	15	10	152600	793.0	DFT-s-OFDM BPSK	1@0	see graph	**---**
14	15	10	152600	793.0	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
14	15	10	152600	793.0	DFT-s-OFDM QPSK	1@0	see graph	**---**
14	15	10	152600	793.0	DFT-s-OFDM QPSK	1@0	see graph	**PASS**

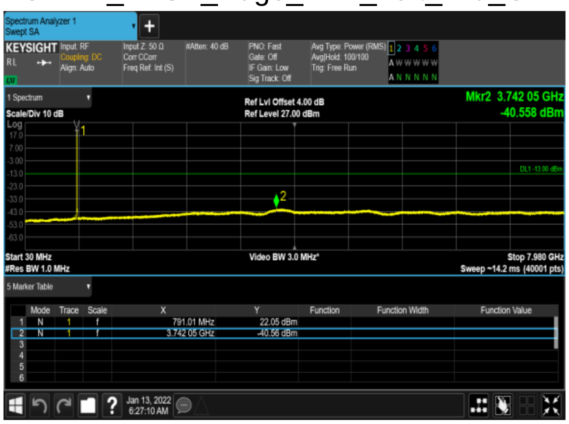
N14(5M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Low_CH



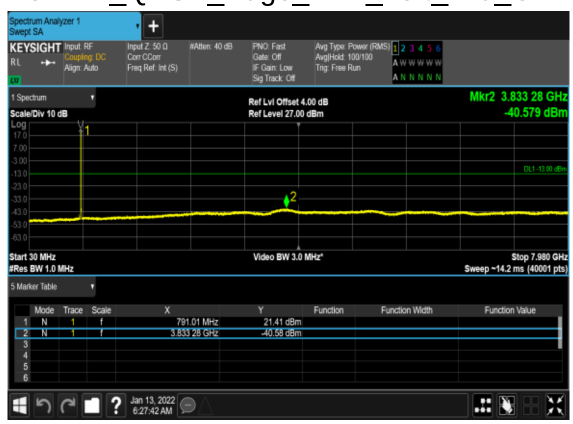
N14(5M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Low_CH



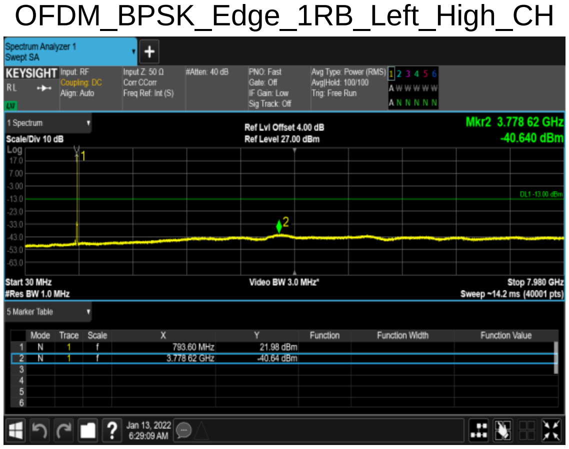
N14(5M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Mid_CH



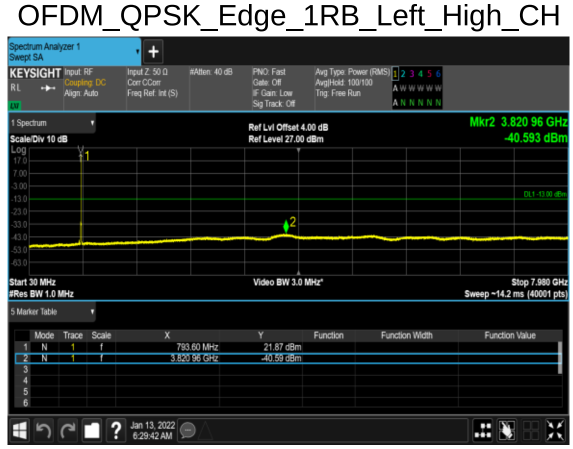
N14(5M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Mid_CH



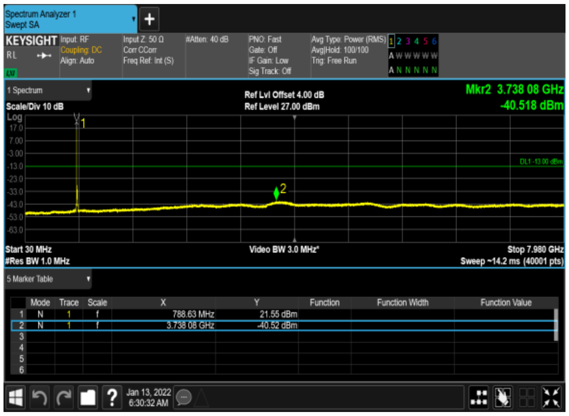
N14(5M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_High_CH



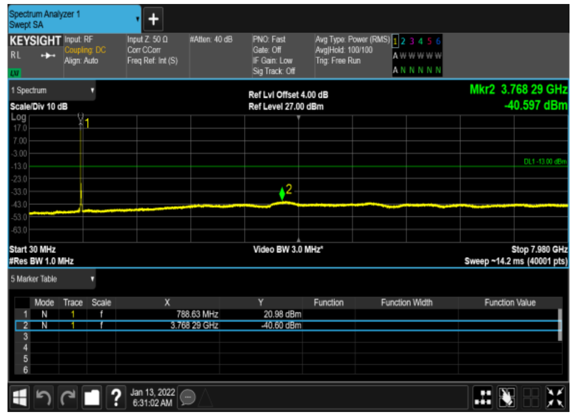
N14(5M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_High_CH



N14(10M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Mid_CH



N14(10M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Mid_CH



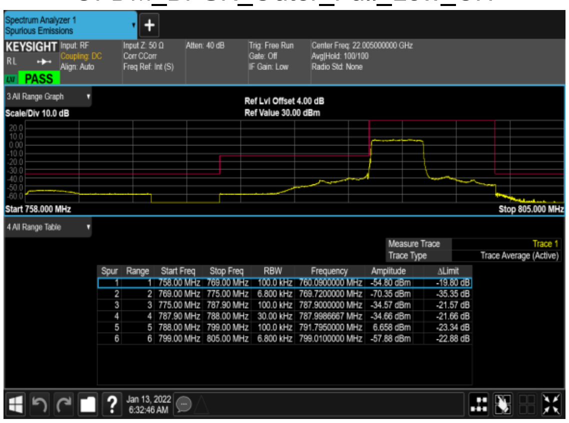
Conducted Band Edge

NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	Result	Verdict
14	15	5	152100	790.5	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
14	15	5	152100	790.5	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
14	15	5	152100	790.5	DFT-s-OFDM BPSK	25@0	see graph	**PASS**
14	15	5	152100	790.5	DFT-s-OFDM QPSK	25@0	see graph	**PASS**
14	15	5	153100	795.5	DFT-s-OFDM BPSK	1@24	see graph	**PASS**
14	15	5	153100	795.5	DFT-s-OFDM QPSK	1@24	see graph	**PASS**
14	15	5	153100	795.5	DFT-s-OFDM BPSK	25@0	see graph	**PASS**
14	15	5	153100	795.5	DFT-s-OFDM QPSK	25@0	see graph	**PASS**
14	15	10	152600	793.0	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
14	15	10	152600	793.0	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
14	15	10	152600	793.0	DFT-s-OFDM BPSK	1@51	see graph	**PASS**
14	15	10	152600	793.0	DFT-s-OFDM QPSK	1@51	see graph	**PASS**
14	15	10	152600	793.0	DFT-s-OFDM BPSK	50@0	see graph	**PASS**
14	15	10	152600	793.0	DFT-s-OFDM QPSK	50@0	see graph	**PASS**

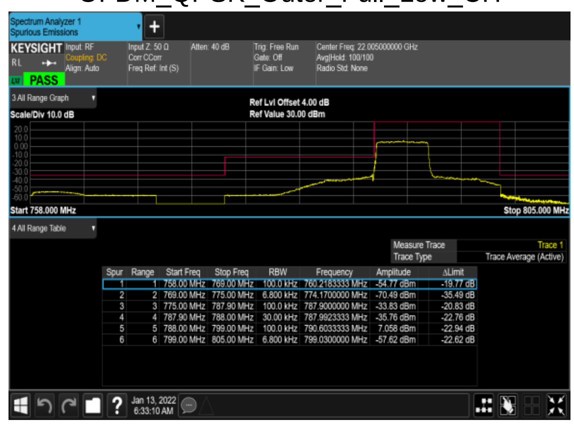
N14(5M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Low_CH

N14(5M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Low_CH

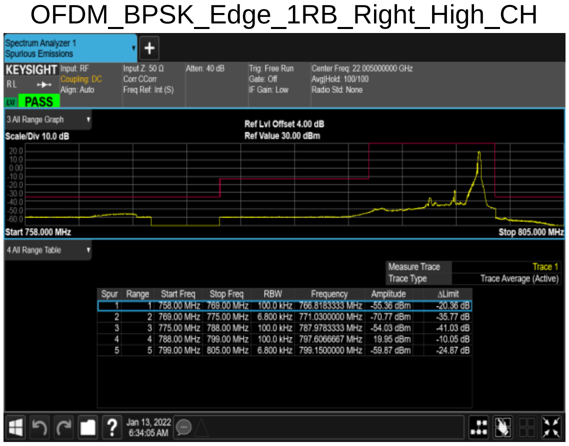
N14(5M)_DFT-s-OFDM_BPSK_Outer_Full_Low_CH



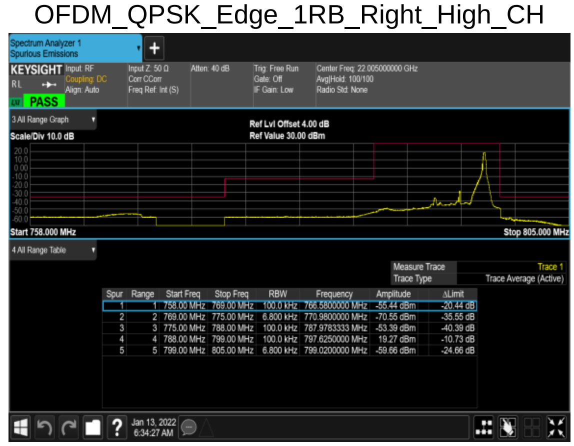
N14(5M)_DFT-s-OFDM_QPSK_Outer_Full_Low_CH



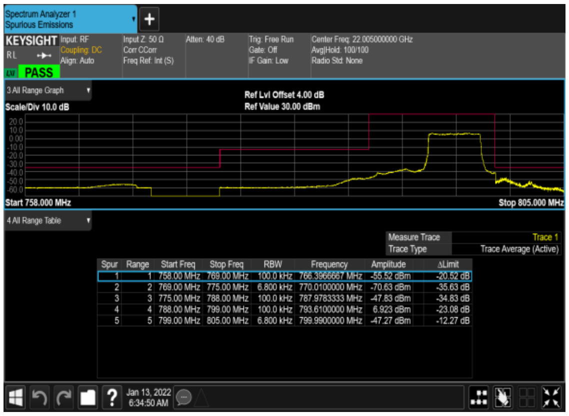
N14(5M)_DFT-s-OFDM_BPSK_Edge_1RB_Right_High_CH



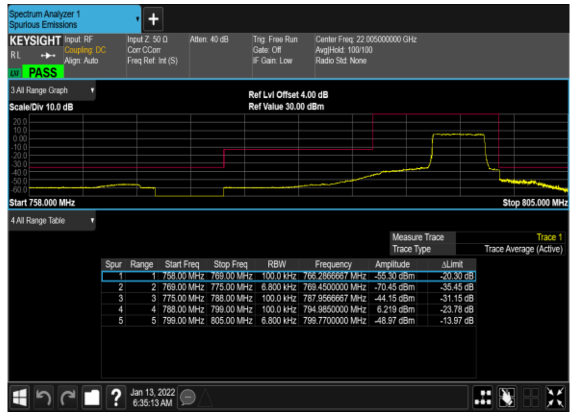
N14(5M)_DFT-s-OFDM_QPSK_Edge_1RB_Right_High_CH



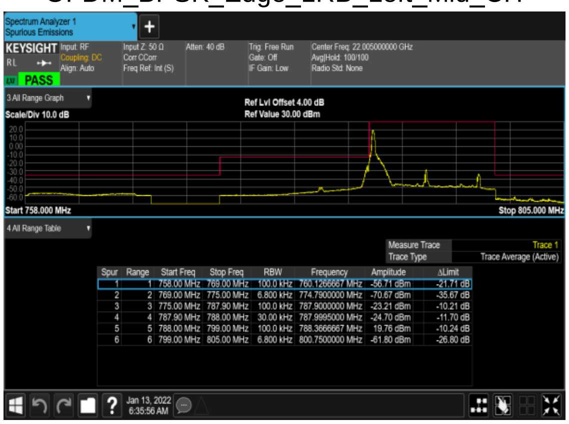
N14(5M)_DFT-s-OFDM_BPSK_Outer_Full_High_CH



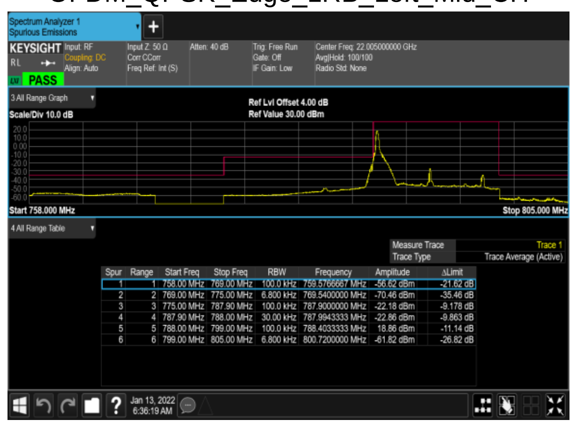
N14(5M)_DFT-s-OFDM_QPSK_Outer_Full_High_CH



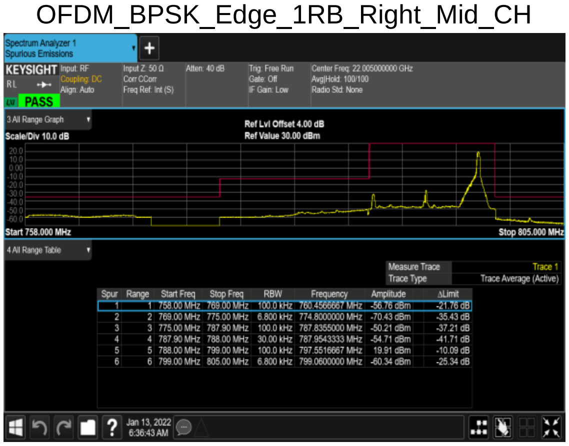
N14(10M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Mid_CH



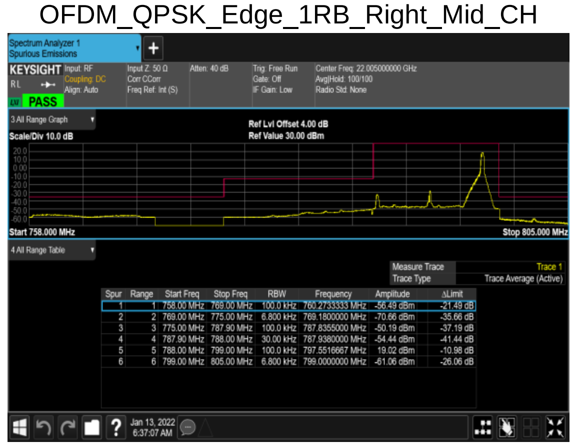
N14(10M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Mid_CH



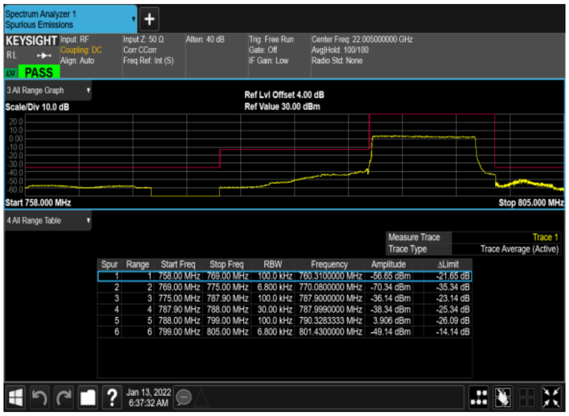
N14(10M)_DFT-s-OFDM_BPSK_Edge_1RB_Right_Mid_CH



N14(10M)_DFT-s-OFDM_QPSK_Edge_1RB_Right_Mid_CH



N14(10M)_DFT-s-OFDM_BPSK_Outer_Full_Mid_CH



N14(10M)_DFT-s-OFDM_QPSK_Outer_Full_Mid_CH

Appendix B. Test Results of Radiated Test

Field Strength of Spurious Radiated

Test Engineer :	Levi Zhuo	Temperature :	22~23℃
		Relative Humidity :	41~42%

5G NR n14 SA/ 5MHz / QPSK								
Channel	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Middle	1576	-60.27	-42.15	-18.12	-62.90	1.09	5.87	H
	2368	-58.47	-13	-45.47	-60.87	1.37	5.92	H
	3152	-55.91	-13	-42.91	-59.80	1.64	7.68	H
	1576	-58.70	-42.15	-16.55	-61.33	1.09	5.87	V
	2368	-57.22	-13	-44.22	-59.62	1.37	5.92	V
	3152	-56.85	-13	-43.85	-60.74	1.64	7.68	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

—— THE END ——