

FCC RF Test Report

APPLICANT : Lenovo (Shanghai) Electronics Technology Co., Ltd.
EQUIPMENT : Portable Tablet Computer
BRAND NAME : Lenovo
MODEL NAME : TB360ZJK
FCC ID : O57TB360ZJK
STANDARD : 47 CFR Part 2, Part 27 Subpart Q
CLASSIFICATION : Licensed Non-Broadcast Station Transmitter (TNB)
TEST DATE(S) : Jul. 01, 2023 ~ Jul. 04, 2023

We, Sporton International Inc. (Kunshan), would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.26-2015 and shown compliance with the applicable technical standards.

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

Approved by: Jason Jia



Sporton International Inc. (Kunshan)

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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FG362005E	Rev. 01	Initial issue of report	Jul. 19, 2023

SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
3.4	§2.1046	Conducted Output Power	—	Report Only	-
3.5	§27.50 (k)(4)	Peak-to-Average Ratio	<13dB	PASS	
3.6	§27.50 (k)(3)	EIRP	EIRP < 1W (30dBm)	PASS	-
3.7	§2.1049	Occupied Bandwidth	—	Report Only	-
3.8	§2.1051 §27.53 (n)(2)	Conducted Band Edge Measurement	-13dBm/MHz	PASS	-
3.9	§2.1051 §27.53 (n)(2)	Conducted Spurious Emission	-13dBm/MHz	PASS	-
3.10	§2.1055 §27.54	Frequency Stability Temperature & Voltage	Within the band	PASS	-
4.4	§2.1053 §27.53 (n)(2)	Radiated Spurious Emission	-13dBm/MHz	PASS	Under limit 29.14 dB at 6900.000 MHz

Conformity Assessment Condition:

- The test results (PASS/FAIL) with all measurement uncertainty excluded are presented against the regulation limits or in accordance with the requirements stipulated by the applicant/manufacture who shall bear all the risks of non-compliance that may potentially occur if measurement uncertainty is taken into account.
- The measurement uncertainty please refer to each test result in the section "Measurement Uncertainty"

Disclaimer:

The product specifications of the EUT presented in the test report that may affect the test assessments are declared by the manufacturer who shall take full responsibility for the authenticity.

1 General Description

1.1 Applicant

Lenovo (Shanghai) Electronics Technology Co., Ltd.

Section 304-305, Building No. 4, # 222, Meiyue Road, China (Shanghai) Pilot Free Trade Zone

1.2 Manufacturer

Lenovo PC HK Limited

23/F, Lincoln House, Taikoo Place 979 King's Road, Quarry Bay, Hong Kong, China

1.3 Product Feature of Equipment Under Test

Product Feature	
Equipment	Portable Tablet Computer
Brand Name	Lenovo
Model Name	TB360ZJK
FCC ID	O57TB360ZJK
IMEI Code	Conducted: 869917060004897 Radiation: 869917060004491
HW Version	Lenovo Tablet TB360ZJK
SW Version	TB360ZJK_RF01_230610
EUT Stage	Identical Prototype

1.4 Product Specification of Equipment Under Test

Product Feature	
Tx/Rx Frequency	5G NR n77: 3450 MHz ~ 3550 MHz 5G NR n78: 3450 MHz ~ 3550 MHz
Bandwidth	n77/ n78: 20MHz/40MHz/100MHz
SCS	30kHz
Antenna Type	PIFA Antenna
Antenna Gain	<Ant. 3>: n77: 0.32 dBi n78: 0.32 dBi <Ant. 4>: n77: 0.09 dBi n78: 0.09 dBi <Ant. 7>: n77: 0.13 dBi n78: 0.13 dBi <Ant. 11>: n77: -2.11 dBi n78: -2.11 dBi
Type of Modulation	CP-OFDM: QPSK / 16QAM / 64QAM / 256QAM

	DFT-s-OFDM: PI/2 BPSK / QPSK / 16QAM / 64QAM / 256QAM
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Remark:

1. The device supports n77/n78(1T4R) SRS resources on Ant.3/4/7/11, only the worst test data of Antenna 3 is showed in the report.
2. 5G NR n77/n78 support SA mode and NSA mode, The whole testing has assessed SA mode for n77 by referring to the higher conducted power for conducted test items..
3. All the supported EN-DC combinations are verified conducted power, only the EN-DC combination with highest power are shown in the report.
4. The EN-DC mode combination could be referred to the product spec.

1.5 Modification of EUT

No modifications are made to the EUT during all test items.

1.6 Maximum EIRP and Emission Designator

5G NR n77		PI/2 BPSK / QPSK		16QAM/64QAM/256QAM	
BW (MHz)	Frequency Range (MHz)	Maximum EIRP(W)	Emission Designator (99%OBW)	Maximum EIRP(W)	Emission Designator (99%OBW)
100	3500.01	0.2649	97M5G7D	0.1919	97M4W7D

5G NR n78		PI/2 BPSK / QPSK		16QAM/64QAM/256QAM	
BW (MHz)	Frequency Range (MHz)	Maximum EIRP(W)	Emission Designator (99%OBW)	Maximum EIRP(W)	Emission Designator (99%OBW)
100	3500.01	0.2600	97M5G7D	0.1959	97M4W7D

Note:

1. G NR Band n77 overlaps the entire frequency range of Band n78, and n77 power > n78 power, therefore the conducted test results of n77 provided in this report cover n78.
2. All modulations have been tested, and only the worst test results of PSK & QAM are shown in the report.

1.7 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 TH01-KS	CN1257	314309

1.8 Test Software

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

1.9 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 27 Subpart Q
- ♦ ANSI C63.26-2015
- ♦ FCC KDB 971168 Power Meas License Digital Systems D01 v03r01
- ♦ FCC 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.

2 Test Configuration of Equipment Under Test

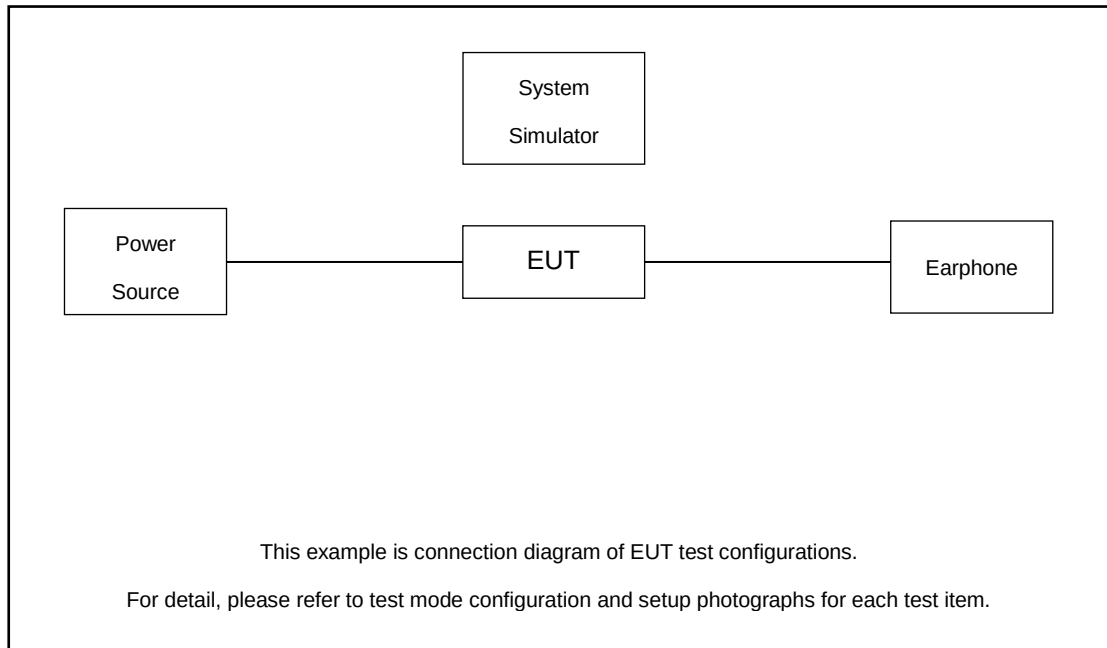
2.1 Test Mode

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.

For radiated measurement, pre-scanned in three orthogonal panels, X, Y, Z. The worst cases were recorded in this report(Y Plane).

Test Items	5G NR	Bandwidth (MHz)									Modulation					RB #		Test Channel			
		20	30	40	50	60	70	80	90	100	PI/2 BPSK	QPSK	16QAM	64QAM	256 QAM	1	Full	L	M	H	
Max. Output Power	n77	v	-	v		-	-	-	-	v	v	v	v	v	v	v	v	v	v	v	
	n78	v	-	v	-	-	-	-	-	v	v	v	v	v	v	v	v	v	v	v	
Peak-to-Average Ratio	n77		-			-	-	-	-	v	v	v				v	v	v	v	v	
26dB and 99% Bandwidth	n77	v	-	v		-	-	-	-	v	v	v	v	v	v		v		v		
Conducted Band Edge	n77	v	-	v	-	-	-	-	-	v	v	v				v	v	v		v	
Conducted Spurious Emission	n77	v	-	v	-	-	-	-	-	v	v	v				v		v	v	v	
Frequency Stability	n77	v	-		-	-	-	-	-			v					v		v		
E.I.R.P	n77	v	-	v	-	-	-	-	-	v	v	v	v	v	v	v	v	v	v	v	
	n78	v	-	v	-	-	-	-	-	v	v	v	v	v	v	v	v	v	v	v	
Radiated Spurious Emission	n77	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. 4. Based on engineering evaluation, only the worst modulations test results are shown in the report. 5. Frequency Stability : Normal Voltage = 3.86V ; Low Voltage =3.60V. ; High Voltage =4.43V																				

2.2 Connection Diagram of Test System



The EUT has been configuration operated in a manner tended to maximize its emission characteristics in a typical application.

2.3 Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model No.	FCC ID	Data Cable	Power Cord
1.	Power Supply	GWINSTEK	PSS-2002	N/A	N/A	Unshielded, 1.8 m
2.	LTE Base Station	Anritsu	MT8820/8821	N/A	N/A	Unshielded, 1.8 m
3.	NR Base Station	Anritsu	MT8000A	N/A	N/A	Unshielded, 1.8 m
4.	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 and attenuator factor 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 and attenuator factor.

Offset = RF cable loss + attenuator factor.

Following shows an offset computation example with cable loss 6.5 dB and 20dB attenuator.

Example :

Offset(dB) = RF cable loss(dB) + attenuator factor(dB).

$$= 6.5 + 20 = 26.5 \text{ (dB)}$$

2.5 Frequency List of Low/Middle/High Channels

5G n77/n78 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
100	Channel	-	633334	-
	Frequency	-	3500.01	-
40	Channel	631334	633334	635332
	Frequency	3470.01	3500.01	3529.98
20	Channel	630668	633334	636000
	Frequency	3460.02	3500.01	3540

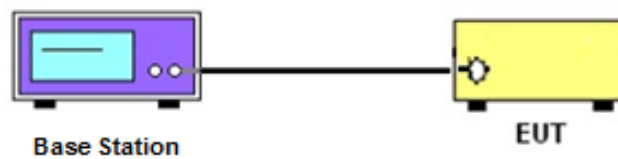
3 Conducted Test Items

3.1 Measuring Instruments

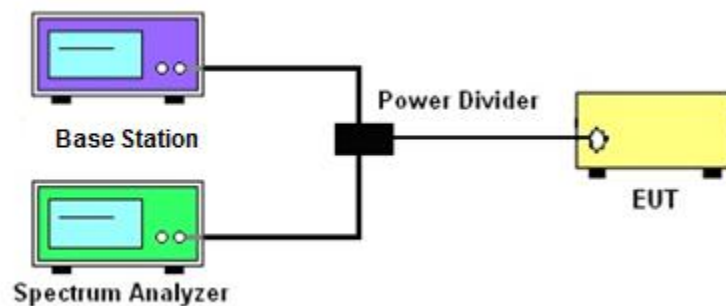
See list of measuring instruments of this test report.

3.2 Test Setup

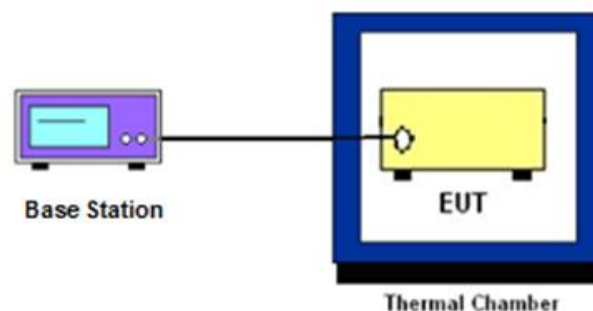
3.2.1 Conducted Output Power



3.2.2 Peak-to-Average Ratio, Occupied / 26dB Bandwidth, Band-Edge and Conducted Spurious Emission



3.2.3 Frequency Stability



3.3 Test Result of Conducted Test

Please refer to Appendix A.

3.4 Conducted Output Power Measurement

3.4.1 Description of the Conducted Output Power Measurement

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.

3.4.2 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.

3.5 Peak-to-Average Ratio

3.5.1 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.

3.5.2 Test Procedures

1. The testing follows ANSI C63.26 Section 5.2.3.4 (CCDF).
2. The EUT was connected to spectrum and system simulator via a power divider.
3. Set the CCDF (Complementary Cumulative Distribution Function) option in spectrum analyzer.
4. The highest RF powers were measured and recorded the maximum PAPR level associated with a probability of 0.1 %.
5. Record the deviation as Peak to Average Ratio.

3.6 EIRP

3.6.1 Description of EIRP Limit

§ 27.50 (k)(3)

Mobile devices are limited to 1Watt (30 dBm) EIRP. Mobile devices operating in these bands must employ a means for limiting power to the minimum necessary for successful communications

3.6.2 Test Procedures

1. According to KDB 412172 D01 Power Approach,
2. $EIRP = P_T + G_T - L_C$, $ERP = EIRP - 2.15$, 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

3.7 Occupied Bandwidth

3.7.1 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.

3.7.2 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.

3.8 Conducted Band Edge Measurement

3.8.1 Description of Conducted Band Edge Measurement

§ 27.53 (n)(2)

For mobile operations in the 3450-3550 MHz band, the conducted power of any emission outside the licensee's authorized bandwidth shall not exceed -13 dBm/MHz.

Compliance with this paragraph is based on the use of measurement instrumentation employing a resolution bandwidth of 1 megahertz or greater. However, in the 1 megahertz bands immediately outside and adjacent to the licensee's frequency block, a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed, but limited to a maximum of 200 kHz. In the bands between 1 and 5 MHz removed from the licensee's frequency block, the minimum resolution bandwidth for the measurement shall be 500 kHz.

3.8.2 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 RBW $\geq 1\%$ EBW but limited to a maximum of 200 kHz in the 1MHz band immediately outside and adjacent to the band edge.
5. Beyond the 1 MHz and 5 MHz removed from the band edge, set RBW ≥ 500 KHz.
6. Beyond the 5 MHz removed from the band edge, set RBW = 1MHz.
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. Checked that all the results comply with the emission limit line.

3.9 Conducted Spurious Emission Measurement

3.9.1 Description of Conducted Spurious Emission Measurement

The power of any emission outside of the authorized operating frequency ranges shall not exceed -13 dBm/MHz.

It is measured by means of a calibrated spectrum analyzer and scanned from 9 kHz up to a frequency including its 10th harmonic.

3.9.2 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. 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 RBW = 1MHz, VBW = 3MHz.
7. Set spectrum analyzer with RMS detector.
8. Taking the record of maximum spurious emission.
9. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
10. Checked that all the results comply with the emission limit line.

3.10 Frequency Stability Measurement

3.10.1 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.

3.10.2 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.

3.10.3 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.

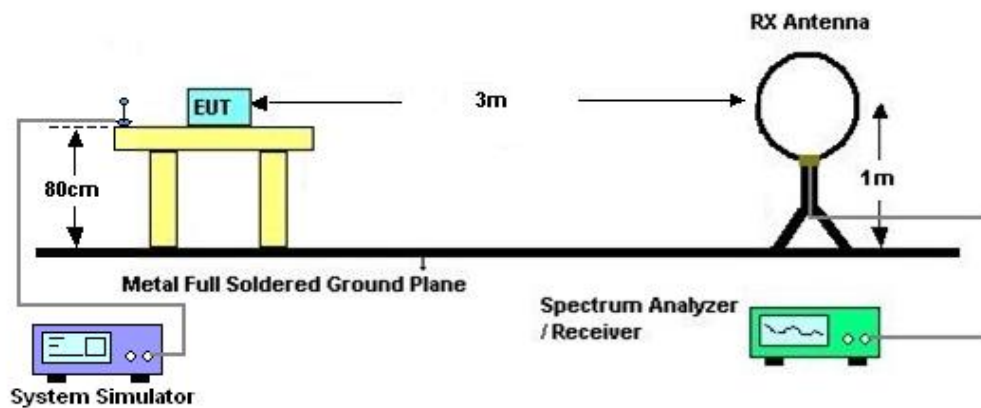
4 Radiated Test Items

4.1 Measuring Instruments

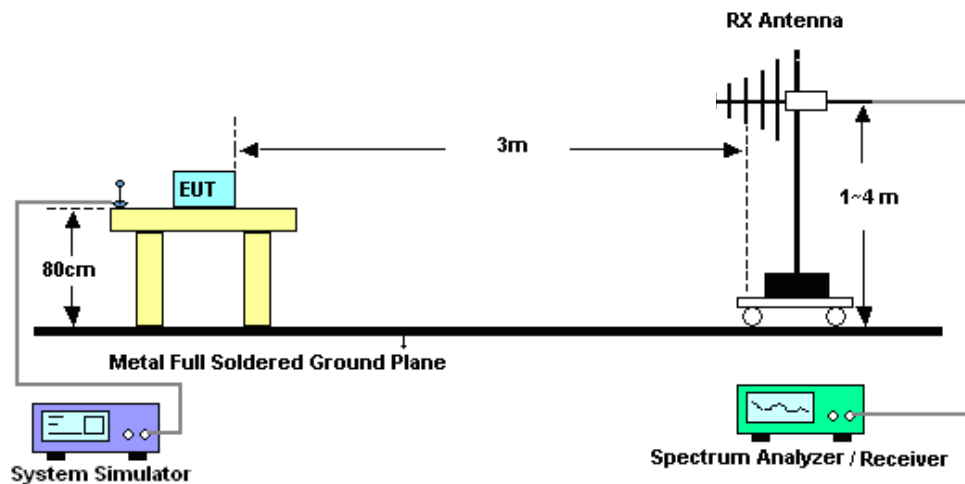
See list of measuring instruments of this test report.

4.2 Test Setup

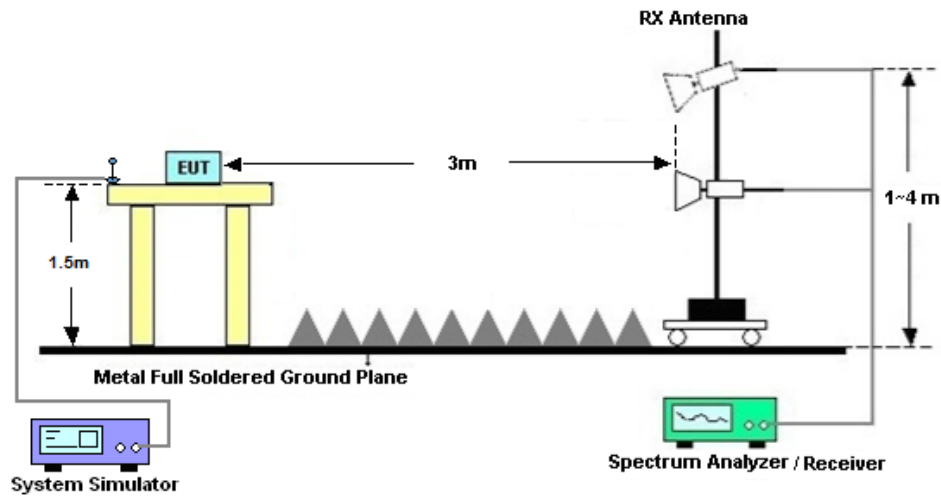
4.2.1 For radiated test below 30MHz



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 shall not exceed -13 dBm/MHz.

The spectrum is scanned from 30 MHz up to a frequency including its 10th harmonic.

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.
$$\text{EIRP (dBm)} = \text{S.G. Power} - \text{Tx Cable Loss} + \text{Tx Antenna Gain}$$
$$\text{ERP (dBm)} = \text{EIRP} - 2.15$$
10. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.

5 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Spectrum Analyzer	R&S	FSV40	101040	10Hz~40GHz	Oct. 12, 2022	Jul. 01, 2023	Oct. 11, 2023	Conducted (TH01-KS)
Power divider	STI	STI08-0055	-	0.5~40GHz	NCR	Jul. 01, 2023	NCR	Conducted (TH01-KS)
Temperature & humidity chamber	Hongzhan	LP-150U	H2014011440	-40~+150°C 20%~95%RH	Jul. 15, 2022	Jul. 01, 2023	Jul. 14, 2023	Conducted (TH01-KS)
EXA Spectrum Analyzer	Keysight	N9010B	MY57471079	10Hz~44G, MAX 30dB	Oct. 12, 2022	Jul. 04, 2023	Oct. 11, 2023	Radiation (03CH04-KS)
Loop Antenna	R&S	HFH2-Z2	100321	9kHz~30MHz	Oct. 16, 2022	Jul. 04, 2023	Oct. 15, 2023	Radiation (03CH04-KS)
Bilog Antenna	TeseQ	CBL6111D	49922	30MHz~1GHz	Apr. 09, 2023	Jul. 04, 2023	Apr. 08, 2024	Radiation (03CH04-KS)
Horn Antenna	Schwarzbeck	BBHA9120D	1284	1GHz~18GHz	Jan. 04, 2023	Jul. 04, 2023	Jan. 03, 2024	Radiation (03CH04-KS)
SHF-EHF Horn	Com-power	AH-840	101070	18GHz~40GHz	Jan. 04, 2023	Jul. 04, 2023	Jan. 03, 2024	Radiation (03CH04-KS)
Amplifier	SONOMA	310N	187289	9KHz~1GHz	Jan. 04, 2023	Jul. 04, 2023	Jan. 03, 2024	Radiation (03CH04-KS)
Amplifier	MITEQ	EM18G40G GA	060728	18~40GHz	Jan. 04, 2023	Jul. 04, 2023	Jan. 03, 2024	Radiation (03CH04-KS)
high gain Amplifier	EM	EM01G18G A	060840	1Ghz~18Ghz	Oct. 12, 2022	Jul. 04, 2023	Oct. 11, 2023	Radiation (03CH04-KS)
Amplifier	Agilent	8449B	3008A02370	1Ghz~18Ghz	Oct. 12, 2022	Jul. 04, 2023	Oct. 11, 2023	Radiation (03CH04-KS)
AC Power Source	Chroma	61601	F104090004	N/A	NCR	Jul. 04, 2023	NCR	Radiation (03CH04-KS)
Turn Table	ChamPro	EM 1000-T	060762-T	0~360 degree	NCR	Jul. 04, 2023	NCR	Radiation (03CH04-KS)
Antenna Mast	ChamPro	EM 1000-A	060762-A	1 m~4 m	NCR	Jul. 04, 2023	NCR	Radiation (03CH04-KS)

NCR: No Calibration Required

6 Measurement Uncertainty

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 Conducted Measurement

Test Item	Uncertainty
Conducted Power	±0.46 dB
Conducted Emissions	±2.26 dB
Occupied Channel Bandwidth	±0.1 %

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

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	3.82dB
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Uncertainty of Radiated Emission Measurement (1 GHz ~ 18 GHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	3.56dB
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Uncertainty of Radiated Emission Measurement (18 GHz ~ 40 GHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	3.54dB
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----- THE END -----



Appendix A. Test Results of Conducted Test

Test Engineer :	Simle Wang	Temperature :	22~23°C
		Relative Humidity :	40~42%

FR1 n77(Ant3)

Transmitter Conducted Output Power And EIRP, (G_T-L_C)=0.32dB

NR Band	SCS	BandWidth	Arfcn	Freq (MHz)	Modulation	RB	Conducted Power(dBm)	EIRP (dBm)	EIRP (W)
77	30	20	630668	3460.02	DFT-s-OFDM PI/2 BPSK	1@1	23.55	23.87	0.2438
77	30	20	630668	3460.02	DFT-s-OFDM QPSK	1@1	23.66	23.98	0.2500
77	30	20	630668	3460.02	DFT-s-OFDM 16 QAM	1@1	22.66	22.98	0.1986
77	30	20	633334	3500.01	DFT-s-OFDM PI/2 BPSK	1@1	23.56	23.88	0.2443
77	30	20	633334	3500.01	DFT-s-OFDM QPSK	1@1	23.67	23.99	0.2506
77	30	20	633334	3500.01	DFT-s-OFDM 16 QAM	1@1	22.67	22.99	0.1991
77	30	20	636000	3540	DFT-s-OFDM PI/2 BPSK	1@1	23.77	24.09	0.2564
77	30	20	636000	3540	DFT-s-OFDM QPSK	1@1	23.89	24.21	0.2636
77	30	20	636000	3540	DFT-s-OFDM 16 QAM	1@1	22.89	23.21	0.2094
77	30	40	631334	3470.01	DFT-s-OFDM PI/2 BPSK	1@1	23.65	23.97	0.2495
77	30	40	631334	3470.01	DFT-s-OFDM QPSK	1@1	23.7	24.02	0.2523
77	30	40	631334	3470.01	DFT-s-OFDM 16 QAM	1@1	22.77	23.09	0.2037
77	30	40	633334	3500.01	DFT-s-OFDM PI/2 BPSK	1@1	23.8	24.12	0.2582
77	30	40	633334	3500.01	DFT-s-OFDM QPSK	1@1	23.85	24.17	0.2612
77	30	40	633334	3500.01	DFT-s-OFDM 16 QAM	1@1	22.98	23.3	0.2138
77	30	40	635332	3529.98	DFT-s-OFDM PI/2 BPSK	1@1	23.88	24.2	0.2630
77	30	40	635332	3529.98	DFT-s-OFDM QPSK	1@1	23.93	24.25	0.2661
77	30	40	635332	3529.98	DFT-s-OFDM 16 QAM	1@1	23.17	23.49	0.2234
77	30	100	633334	3500.01	DFT-s-OFDM PI/2 BPSK	135@67	23.91	24.23	0.2649
77	30	100	633334	3500.01	DFT-s-OFDM PI/2 BPSK	1@1	23.74	24.06	0.2547
77	30	100	633334	3500.01	DFT-s-OFDM PI/2 BPSK	1@271	23.61	23.93	0.2472
77	30	100	633334	3500.01	DFT-s-OFDM QPSK	135@67	23.45	23.77	0.2382
77	30	100	633334	3500.01	DFT-s-OFDM QPSK	1@1	23.5	23.82	0.2410
77	30	100	633334	3500.01	DFT-s-OFDM QPSK	1@271	23.35	23.67	0.2328
77	30	100	633334	3500.01	DFT-s-OFDM 16 QAM	135@67	22.48	22.8	0.1905
77	30	100	633334	3500.01	DFT-s-OFDM 16 QAM	1@1	22.51	22.83	0.1919
77	30	100	633334	3500.01	DFT-s-OFDM 16 QAM	1@271	22.46	22.78	0.1897
77	30	100	633334	3500.01	DFT-s-OFDM 64 QAM	135@67	20.94	21.26	0.1337
77	30	100	633334	3500.01	DFT-s-OFDM 64 QAM	1@1	20.72	21.04	0.1271
77	30	100	633334	3500.01	DFT-s-OFDM 64 QAM	1@271	20.69	21.01	0.1262
77	30	100	633334	3500.01	DFT-s-OFDM 256 QAM	135@67	18.96	19.28	0.0847
77	30	100	633334	3500.01	DFT-s-OFDM 256 QAM	1@1	18.76	19.08	0.0809
77	30	100	633334	3500.01	DFT-s-OFDM 256 QAM	1@271	18.68	19	0.0794
77	30	100	633334	3500.01	CP-OFDM QPSK	137@68	21.95	22.27	0.1687
77	30	100	633334	3500.01	CP-OFDM QPSK	1@1	21.77	22.09	0.1618
77	30	100	633334	3500.01	CP-OFDM QPSK	1@271	21.83	22.15	0.1641

Frequency Stability

NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	Deviation (ppm)	Verdict	Environment
77	30	20	633334	3500.01	DFT-s-OFDM QPSK	50@0	0.0016	PASS	NV
77	30	20	633334	3500.01	DFT-s-OFDM QPSK	50@0	0.0009	PASS	LV
77	30	20	633334	3500.01	DFT-s-OFDM QPSK	50@0	0.0023	PASS	HV
77	30	20	633334	3500.01	DFT-s-OFDM QPSK	50@0	-0.0015	PASS	-30℃
77	30	20	633334	3500.01	DFT-s-OFDM QPSK	50@0	0.0029	PASS	-20℃
77	30	20	633334	3500.01	DFT-s-OFDM QPSK	50@0	0.0019	PASS	-10℃
77	30	20	633334	3500.01	DFT-s-OFDM QPSK	50@0	0.0013	PASS	0℃
77	30	20	633334	3500.01	DFT-s-OFDM QPSK	50@0	0.0026	PASS	10℃
77	30	20	633334	3500.01	DFT-s-OFDM QPSK	50@0	-0.0028	PASS	20℃
77	30	20	633334	3500.01	DFT-s-OFDM QPSK	50@0	0.0032	PASS	30℃
77	30	20	633334	3500.01	DFT-s-OFDM QPSK	50@0	0.0012	PASS	40℃
77	30	20	633334	3500.01	DFT-s-OFDM QPSK	50@0	0.0021	PASS	50℃

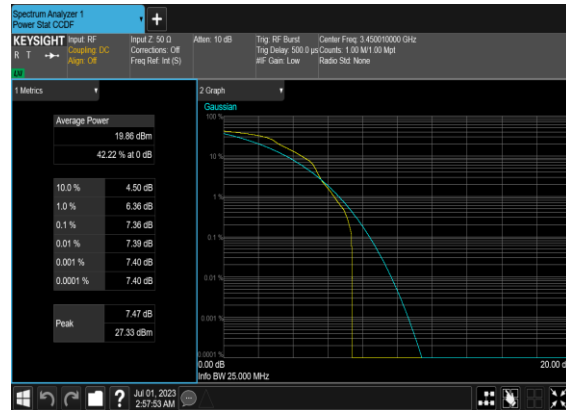
Peak to Average Ratio

NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	Result (dB)	Limit (dB)	Verdict
77	30	100	633334	3500.01	DFT-s-OFDM PI/2 BPSK	270@0	10.12	13	PASS
77	30	100	633334	3500.01	DFT-s-OFDM PI/2 BPSK	1@0	7.36	13	PASS
77	30	100	633334	3500.01	DFT-s-OFDM QPSK	270@0	10.4	13	PASS
77	30	100	633334	3500.01	DFT-s-OFDM QPSK	1@0	7.93	13	PASS

N77(100M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_Mid_CH



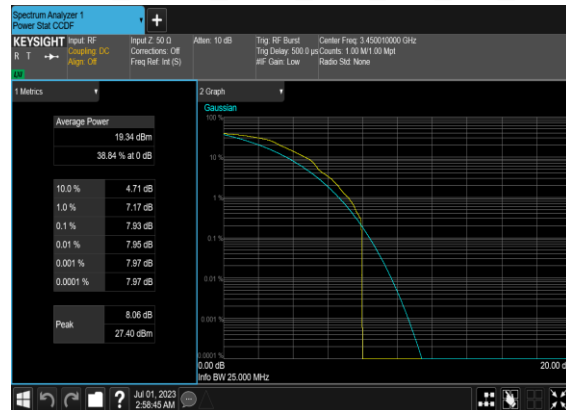
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N77(100M)_DFT-s-OFDM_QPSK_Outer_Full_Mid_CH



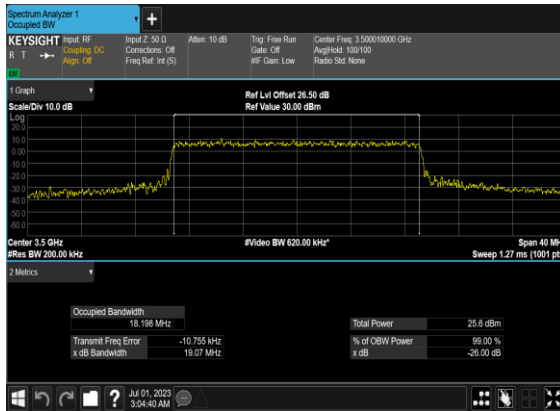
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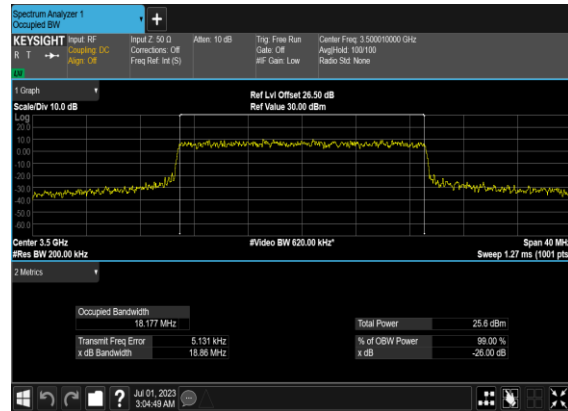
Occupied Bandwidth

NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	OBW (MHz)	26dB BW (MHz)
77	30	20	633334	3500.01	CP-OFDM QPSK	51@0	18.198	19.07
77	30	20	633334	3500.01	CP-OFDM 16 QAM	51@0	18.177	18.86
77	30	20	633334	3500.01	CP-OFDM 64 QAM	51@0	18.144	18.92
77	30	20	633334	3500.01	CP-OFDM 256 QAM	51@0	18.214	19.28
77	30	40	633334	3500.01	CP-OFDM QPSK	106@0	37.82	39.35
77	30	40	633334	3500.01	CP-OFDM 16 QAM	106@0	37.873	39.09
77	30	40	633334	3500.01	CP-OFDM 64 QAM	106@0	37.816	39.1
77	30	40	633334	3500.01	CP-OFDM 256 QAM	106@0	37.718	39.34
77	30	100	633334	3500.01	CP-OFDM QPSK	273@0	97.473	100.4
77	30	100	633334	3500.01	CP-OFDM 16 QAM	273@0	97.302	100.4
77	30	100	633334	3500.01	CP-OFDM 64 QAM	273@0	97.396	100.5
77	30	100	633334	3500.01	CP-OFDM 256 QAM	273@0	97.43	100.4

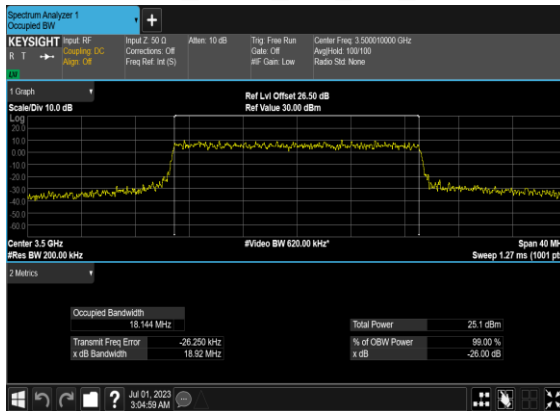
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OFDM_QPSK_Outer_Full_Mid_CH



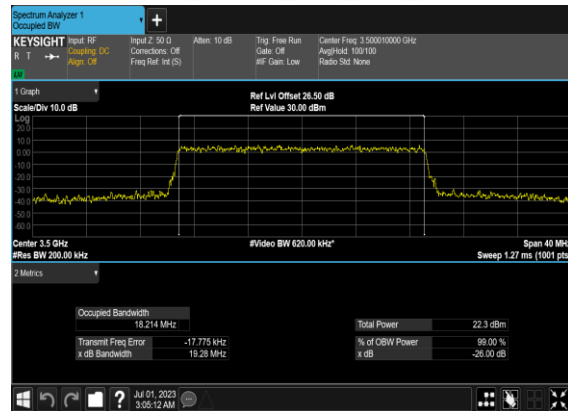
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QAM_Outer_Full_Mid_CH



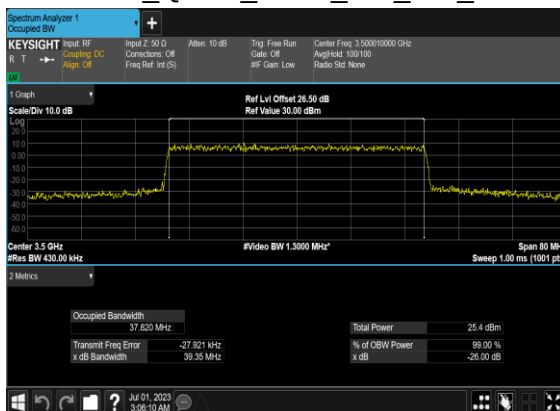
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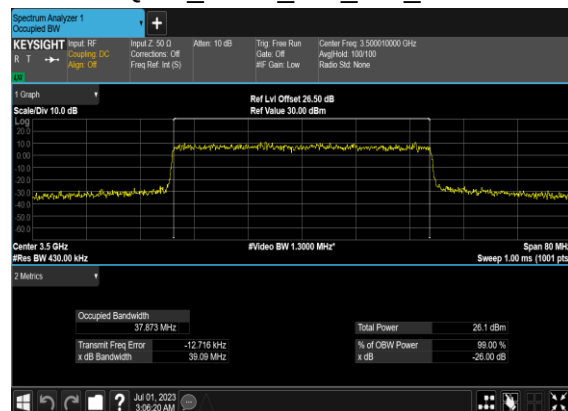
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QAM_Outer_Full_Mid_CH



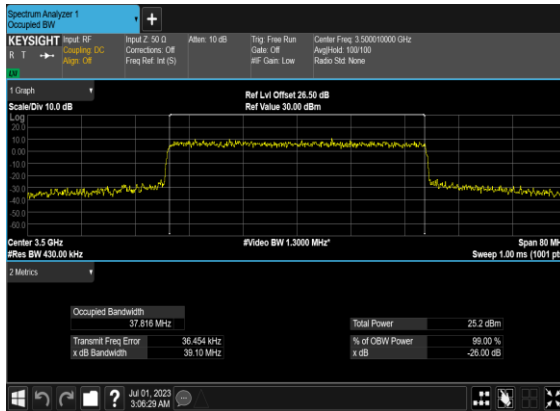
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OFDM_QPSK_Outer_Full_Mid_CH



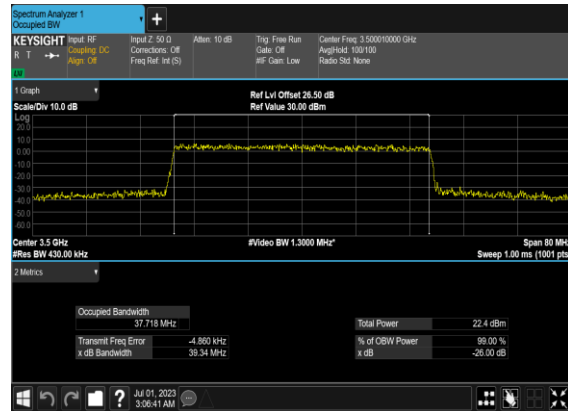
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QAM_Outer_Full_Mid_CH



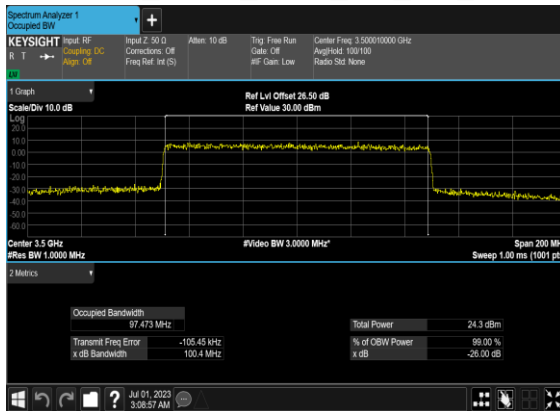
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QAM_Outer_Full_Mid_CH



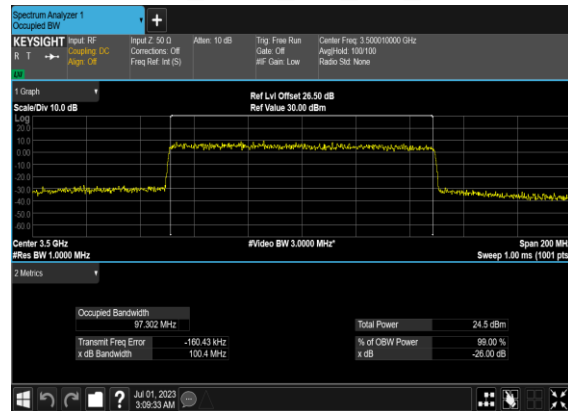
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QAM_Outer_Full_Mid_CH



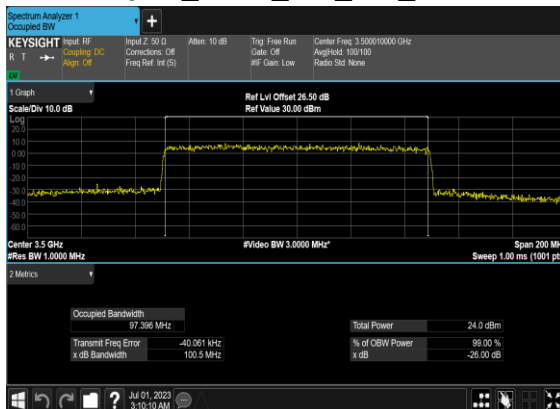
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OFDM_QPSK_Outer_Full_Mid_CH



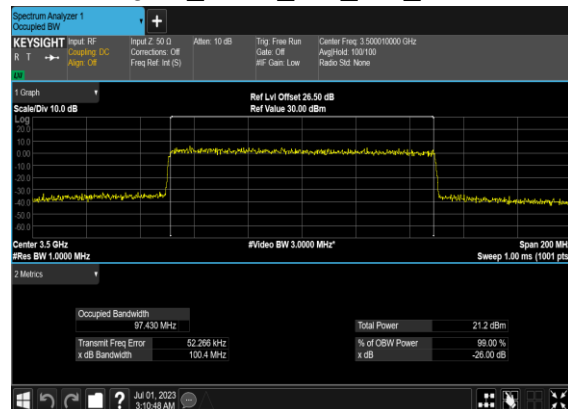
N77(100M)_CP-OFDM_16
QAM_Outer_Full_Mid_CH



N77(100M)_CP-OFDM_64
QAM_Outer_Full_Mid_CH



N77(100M)_CP-OFDM_256
QAM_Outer_Full_Mid_CH

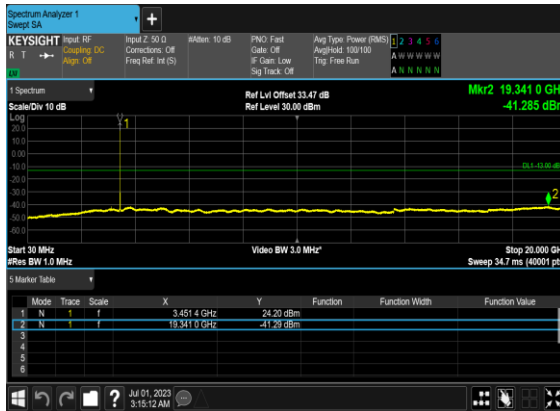


Conducted Spurious Emissions

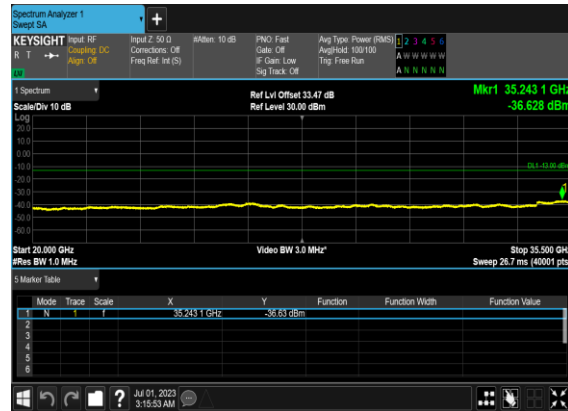
NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	Result	Verdict
77	30	20	630668	3460.02	DFT-s-OFDM BPSK	1@0	see graph	---
77	30	20	630668	3460.02	DFT-s-OFDM BPSK	1@0	see graph	PASS
77	30	20	630668	3460.02	DFT-s-OFDM BPSK	1@0	see graph	PASS
77	30	20	630668	3460.02	DFT-s-OFDM QPSK	1@0	see graph	---
77	30	20	630668	3460.02	DFT-s-OFDM QPSK	1@0	see graph	PASS
77	30	20	630668	3460.02	DFT-s-OFDM QPSK	1@0	see graph	PASS
77	30	20	633334	3500.01	DFT-s-OFDM BPSK	1@0	see graph	---
77	30	20	633334	3500.01	DFT-s-OFDM BPSK	1@0	see graph	PASS
77	30	20	633334	3500.01	DFT-s-OFDM BPSK	1@0	see graph	PASS
77	30	20	633334	3500.01	DFT-s-OFDM QPSK	1@0	see graph	---
77	30	20	633334	3500.01	DFT-s-OFDM QPSK	1@0	see graph	PASS
77	30	20	633334	3500.01	DFT-s-OFDM QPSK	1@0	see graph	PASS
77	30	20	636000	3540.0	DFT-s-OFDM BPSK	1@0	see graph	---
77	30	20	636000	3540.0	DFT-s-OFDM BPSK	1@0	see graph	PASS
77	30	20	636000	3540.0	DFT-s-OFDM BPSK	1@0	see graph	PASS
77	30	20	636000	3540.0	DFT-s-OFDM QPSK	1@0	see graph	---
77	30	20	636000	3540.0	DFT-s-OFDM QPSK	1@0	see graph	PASS
77	30	20	636000	3540.0	DFT-s-OFDM QPSK	1@0	see graph	PASS
77	30	40	631334	3470.01	DFT-s-OFDM BPSK	1@0	see graph	---
77	30	40	631334	3470.01	DFT-s-OFDM BPSK	1@0	see graph	PASS
77	30	40	631334	3470.01	DFT-s-OFDM BPSK	1@0	see graph	PASS
77	30	40	631334	3470.01	DFT-s-OFDM QPSK	1@0	see graph	---
77	30	40	631334	3470.01	DFT-s-OFDM QPSK	1@0	see graph	PASS

77	30	40	631334	3470.01	DFT-s-OFDM QPSK	1@0	see graph	PASS
77	30	40	633334	3470.01	DFT-s-OFDM BPSK	1@0	see graph	---
77	30	40	633334	3470.01	DFT-s-OFDM BPSK	1@0	see graph	PASS
77	30	40	633334	3470.01	DFT-s-OFDM BPSK	1@0	see graph	PASS
77	30	40	633334	3500.01	DFT-s-OFDM QPSK	1@0	see graph	---
77	30	40	633334	3500.01	DFT-s-OFDM QPSK	1@0	see graph	PASS
77	30	40	633334	3500.01	DFT-s-OFDM QPSK	1@0	see graph	PASS
77	30	40	635332	3529.98	DFT-s-OFDM BPSK	1@0	see graph	---
77	30	40	635332	3529.98	DFT-s-OFDM BPSK	1@0	see graph	PASS
77	30	40	635332	3529.98	DFT-s-OFDM BPSK	1@0	see graph	PASS
77	30	40	635332	3529.98	DFT-s-OFDM QPSK	1@0	see graph	---
77	30	40	635332	3529.98	DFT-s-OFDM QPSK	1@0	see graph	PASS
77	30	40	635332	3529.98	DFT-s-OFDM QPSK	1@0	see graph	PASS
77	30	100	633334	3500.01	DFT-s-OFDM BPSK	1@0	see graph	---
77	30	100	633334	3500.01	DFT-s-OFDM BPSK	1@0	see graph	PASS
77	30	100	633334	3500.01	DFT-s-OFDM BPSK	1@0	see graph	PASS
77	30	100	633334	3500.01	DFT-s-OFDM QPSK	1@0	see graph	---
77	30	100	633334	3500.01	DFT-s-OFDM QPSK	1@0	see graph	PASS
77	30	100	633334	3500.01	DFT-s-OFDM QPSK	1@0	see graph	PASS

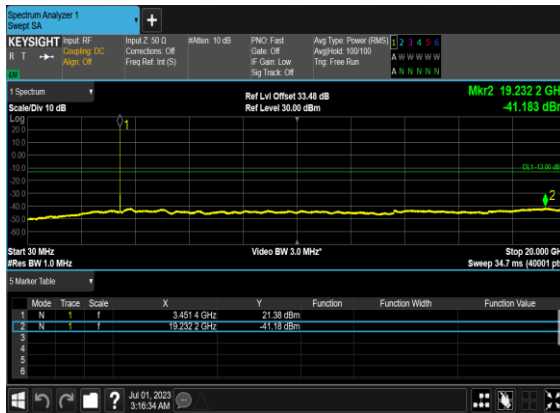
N77(20M)_DFT-s- OFDM_BPSK_Edge_1RB_Left_Low_CH



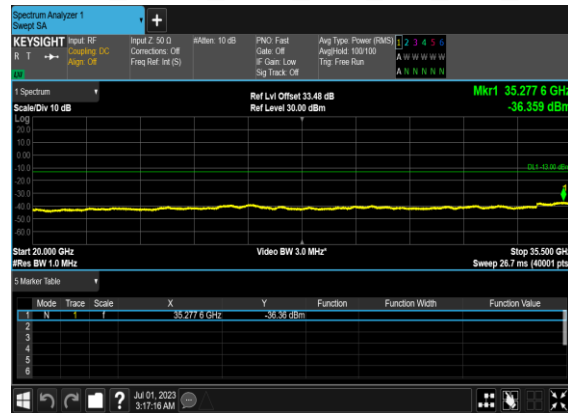
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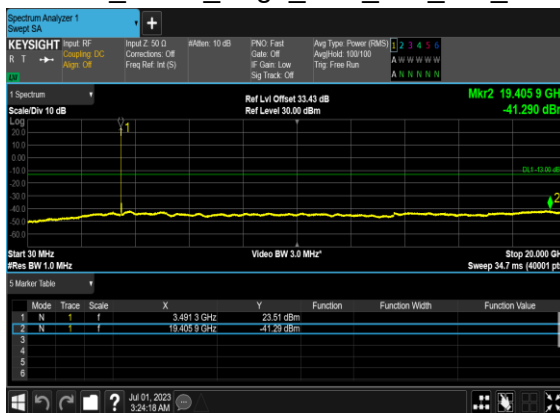
N77(20M)_DFT-s- OFDM_QPSK_Edge_1RB_Left_Low_CH



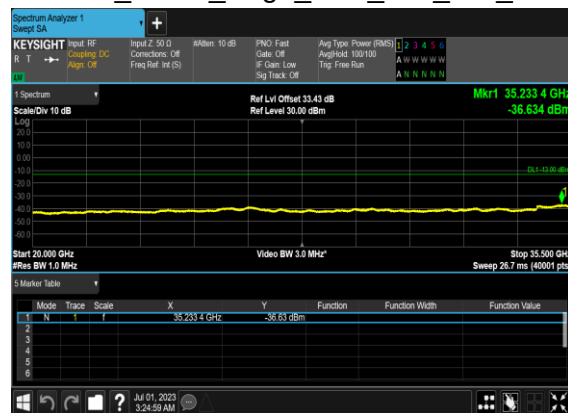
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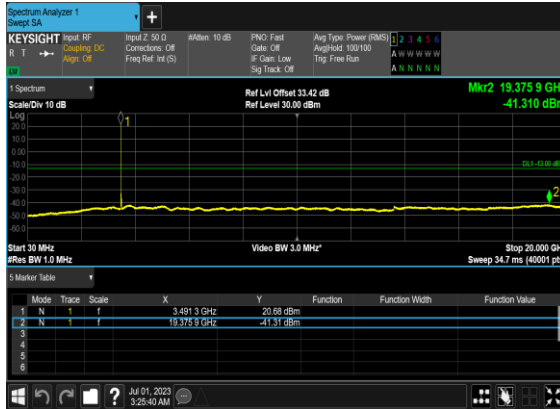
N77(20M)_DFT-s- OFDM_BPSK_Edge_1RB_Left_Mid_CH



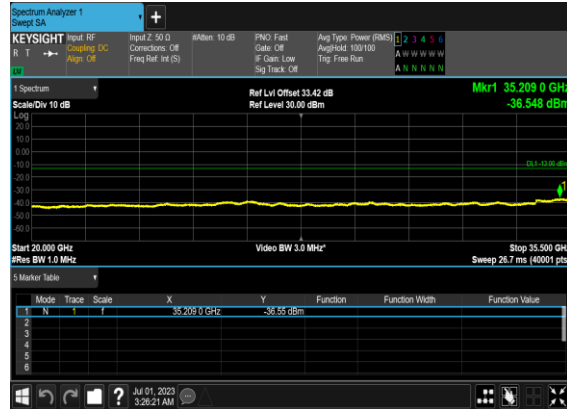
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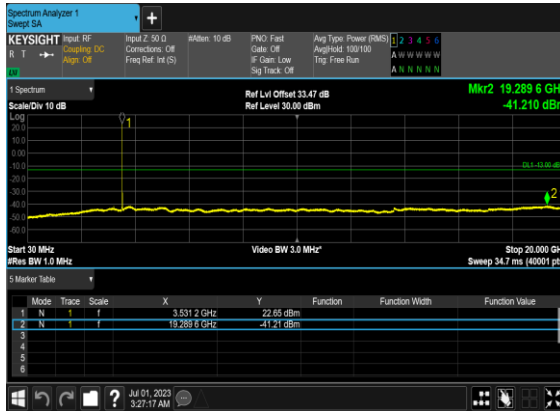
N77(20M)_DFT-s- OFDM_QPSK_Edge_1RB_Left_Mid_CH



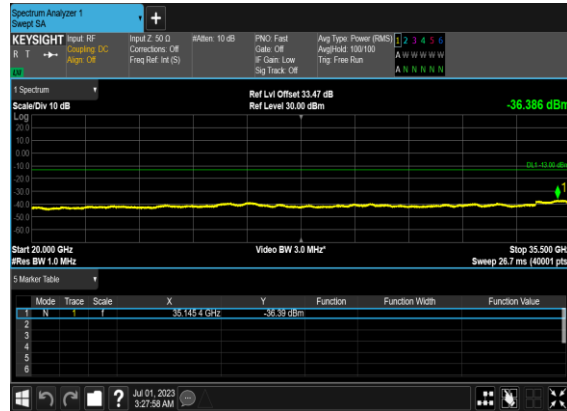
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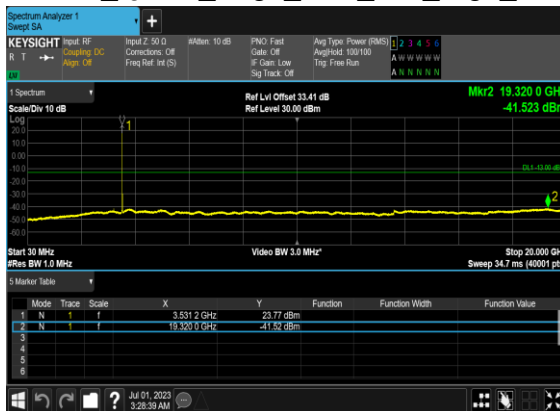
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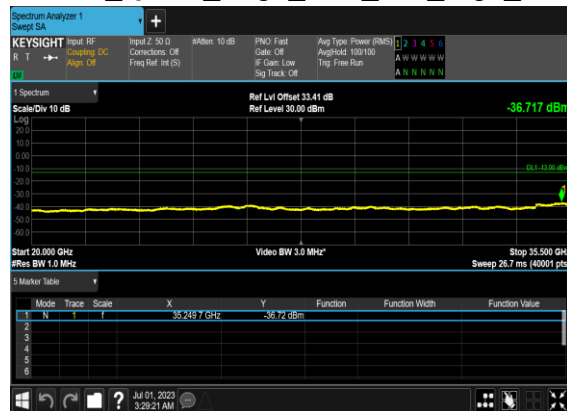
N77(20M)_DFT-s- OFDM_BPSK_Edge_1RB_Left_High_CH



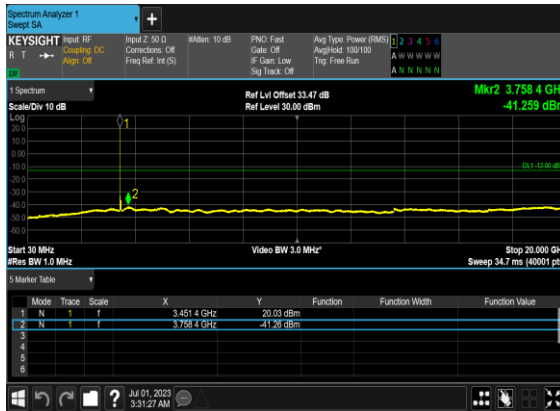
N77(20M)_DFT-s- OFDM_QPSK_Edge_1RB_Left_High_CH



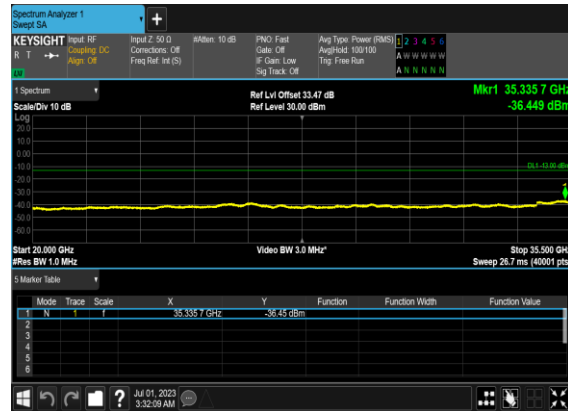
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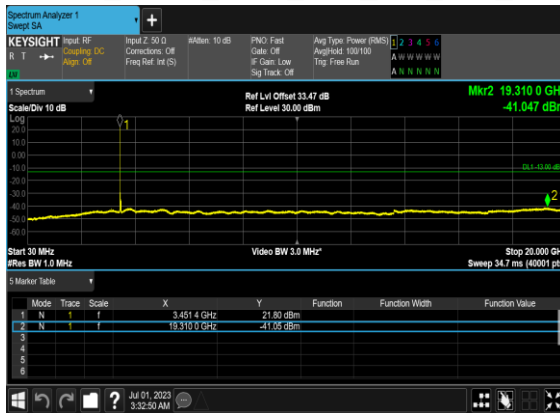
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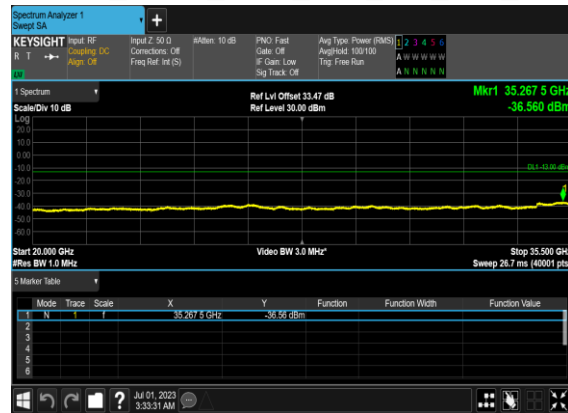
N77(40M)_DFT-s- OFDM_BPSK_Edge_1RB_Left_Low_CH



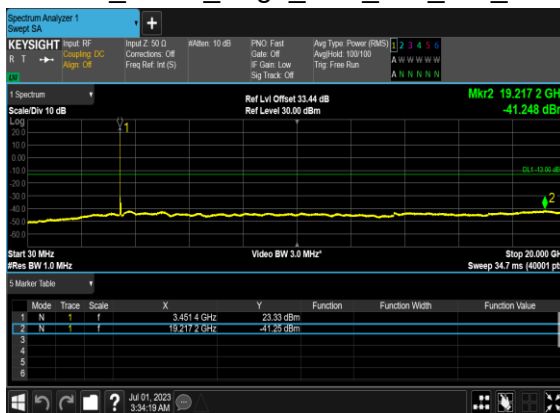
N77(40M)_DFT-s- OFDM_QPSK_Edge_1RB_Left_Low_CH



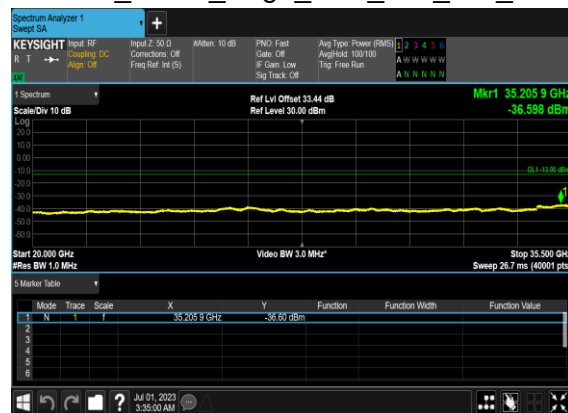
N77(40M)_DFT-s- OFDM_QPSK_Edge_1RB_Left_Low_CH



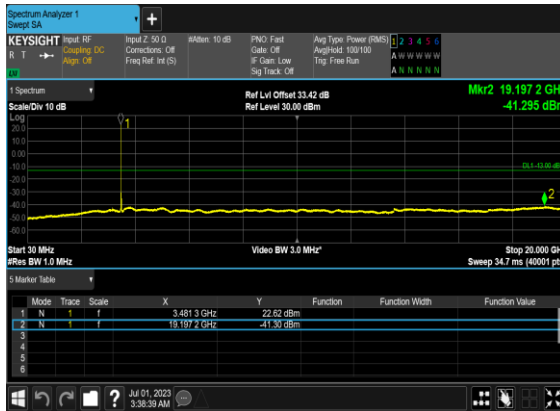
N77(40M)_DFT-s- OFDM_BPSK_Edge_1RB_Left_Mid_CH



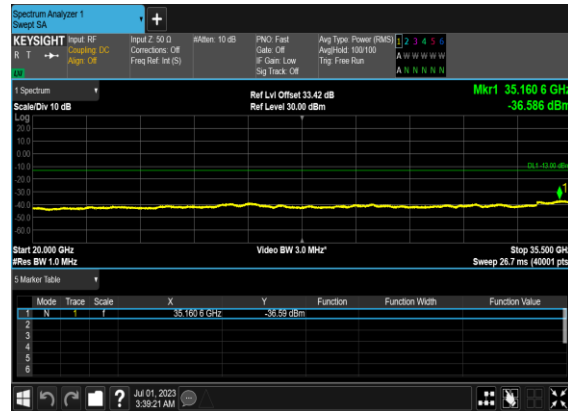
N77(40M)_DFT-s- OFDM_BPSK_Edge_1RB_Left_Mid_CH



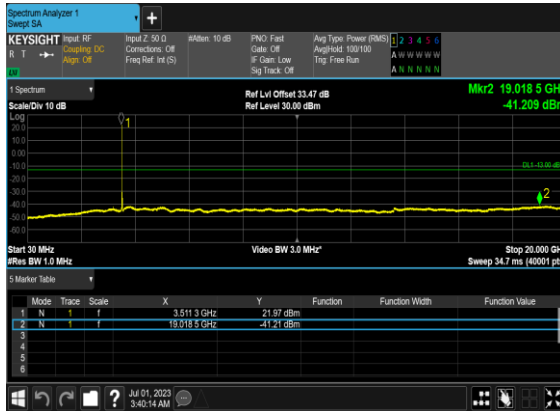
N77(40M)_DFT-s- OFDM_QPSK_Edge_1RB_Left_Mid_CH



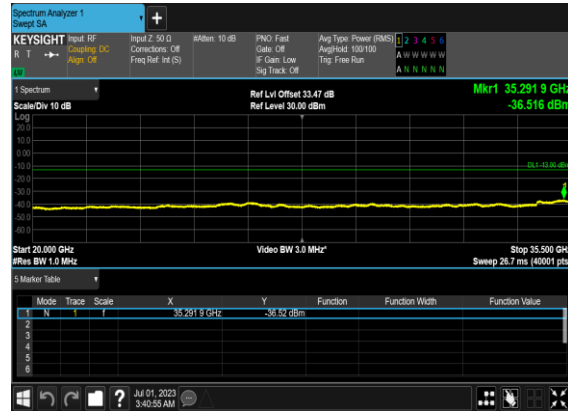
N77(40M)_DFT-s- OFDM_QPSK_Edge_1RB_Left_Mid_CH



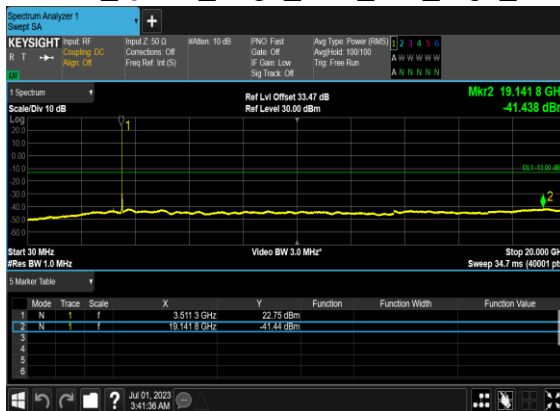
N77(40M)_DFT-s- OFDM_BPSK_Edge_1RB_Left_High_CH



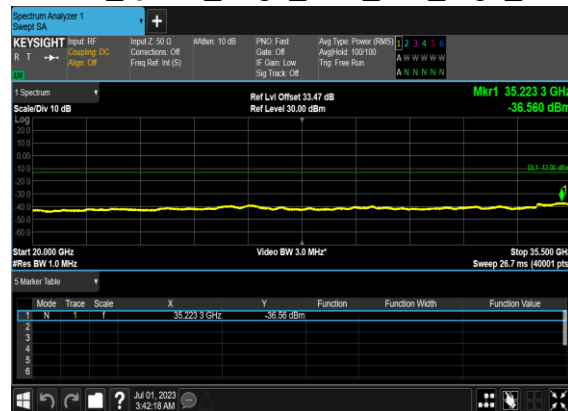
N77(40M)_DFT-s- OFDM_BPSK_Edge_1RB_Left_High_CH



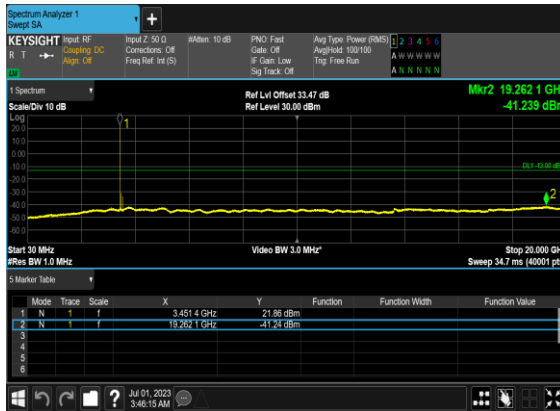
N77(40M)_DFT-s- OFDM_QPSK_Edge_1RB_Left_High_CH



N77(40M)_DFT-s- OFDM_QPSK_Edge_1RB_Left_High_CH



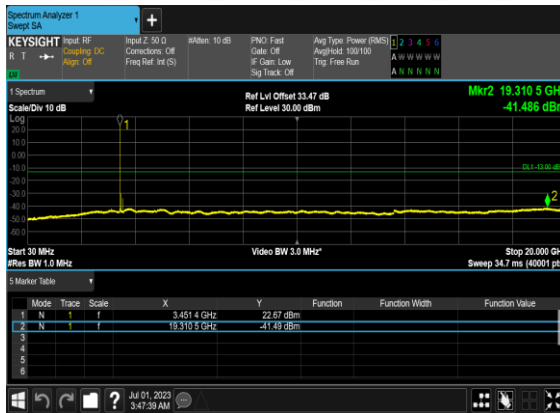
N77(100M)_DFT-s- OFDM_BPSK_Edge_1RB_Left_Mid_CH



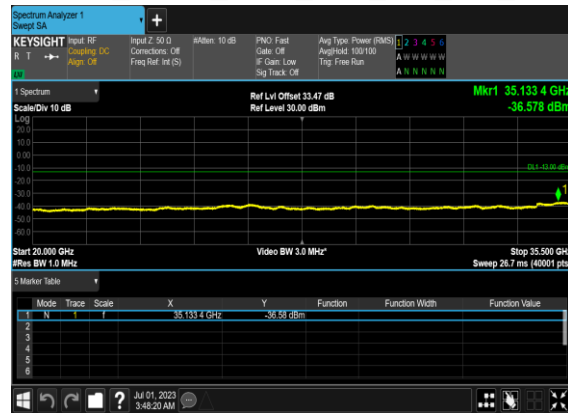
N77(100M)_DFT-s- OFDM_BPSK_Edge_1RB_Left_Mid_CH



N77(100M)_DFT-s- OFDM_QPSK_Edge_1RB_Left_Mid_CH



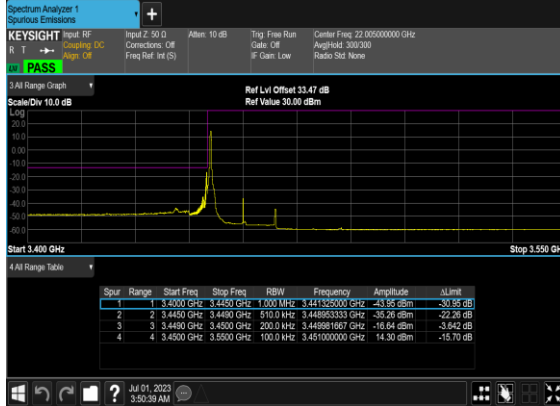
N77(100M)_DFT-s- OFDM_QPSK_Edge_1RB_Left_Mid_CH



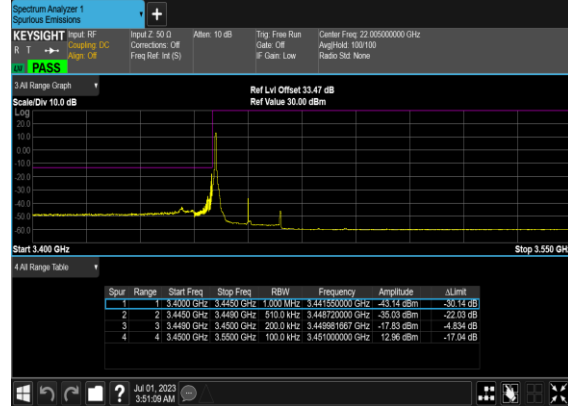
Conducted Band Edge

NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	Result	Verdict
77	30	20	630668	3460.02	DFT-s-OFDM BPSK	1@0	see graph	PASS
77	30	20	630668	3460.02	DFT-s-OFDM QPSK	1@0	see graph	PASS
77	30	20	630668	3460.02	DFT-s-OFDM BPSK	50@0	see graph	PASS
77	30	20	630668	3460.02	DFT-s-OFDM QPSK	50@0	see graph	PASS
77	30	20	636000	3540.0	DFT-s-OFDM BPSK	1@50	see graph	PASS
77	30	20	636000	3540.0	DFT-s-OFDM QPSK	1@50	see graph	PASS
77	30	20	636000	3540.0	DFT-s-OFDM BPSK	50@0	see graph	PASS
77	30	20	636000	3540.0	DFT-s-OFDM QPSK	50@0	see graph	PASS
77	30	40	631334	3470.01	DFT-s-OFDM BPSK	1@0	see graph	PASS
77	30	40	631334	3470.01	DFT-s-OFDM QPSK	1@0	see graph	PASS
77	30	40	631334	3470.01	DFT-s-OFDM BPSK	100@0	see graph	PASS
77	30	40	631334	3470.01	DFT-s-OFDM QPSK	100@0	see graph	PASS
77	30	40	635332	3529.98	DFT-s-OFDM BPSK	1@105	see graph	PASS
77	30	40	635332	3529.98	DFT-s-OFDM QPSK	1@105	see graph	PASS
77	30	40	635332	3529.98	DFT-s-OFDM BPSK	100@0	see graph	PASS
77	30	40	635332	3529.98	DFT-s-OFDM QPSK	100@0	see graph	PASS
77	30	100	633334	3500.01	DFT-s-OFDM BPSK	1@0	see graph	PASS
77	30	100	633334	3500.01	DFT-s-OFDM QPSK	1@0	see graph	PASS
77	30	100	633334	3500.01	DFT-s-OFDM BPSK	1@272	see graph	PASS
77	30	100	633334	3500.01	DFT-s-OFDM QPSK	1@272	see graph	PASS
77	30	100	633334	3500.01	DFT-s-OFDM BPSK	270@0	see graph	PASS
77	30	100	633334	3500.01	DFT-s-OFDM QPSK	270@0	see graph	PASS

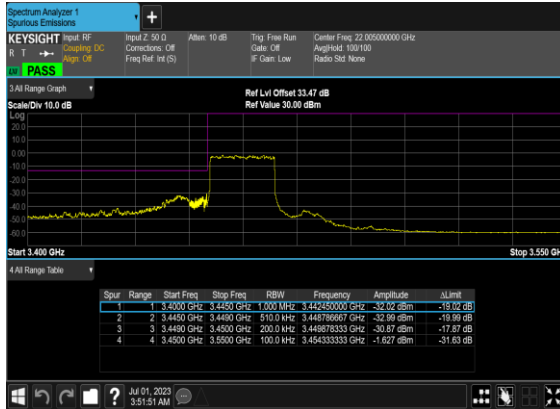
N77(20M)_DFT-s-
OFDM_BPSK_Edge_1RB_Left_Low_CH



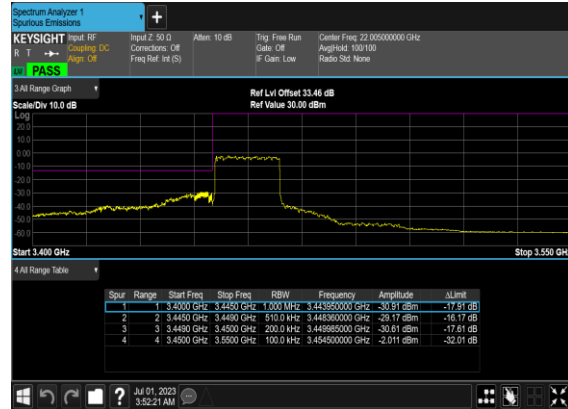
N77(20M)_DFT-s-
OFDM_QPSK_Edge_1RB_Left_Low_CH



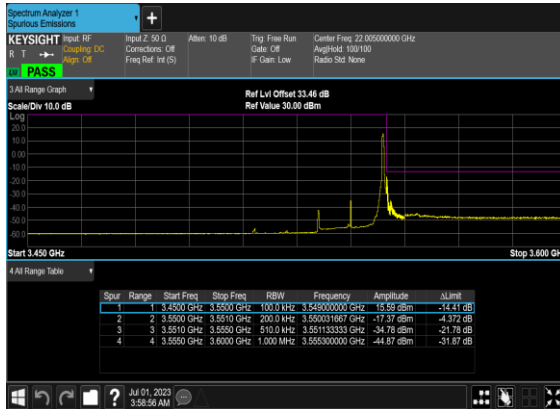
N77(20M)_DFT-s-
OFDM_BPSK_Outer_Full_Low_CH



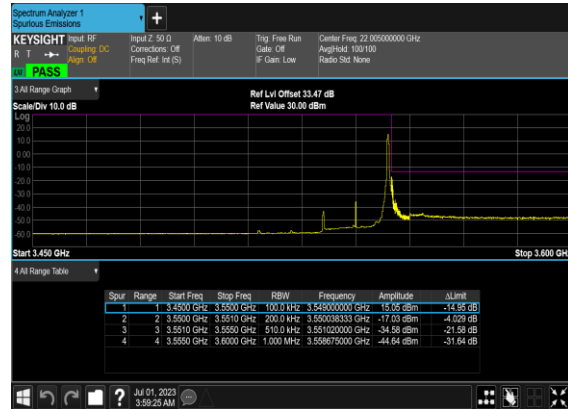
N77(20M)_DFT-s-
OFDM_QPSK_Outer_Full_Low_CH



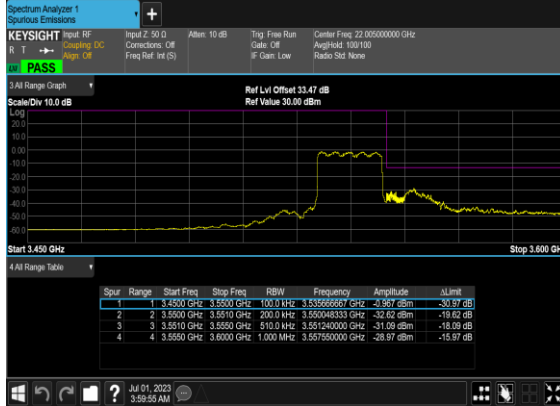
N77(20M)_DFT-s-
OFDM_BPSK_Edge_1RB_Right_High_CH



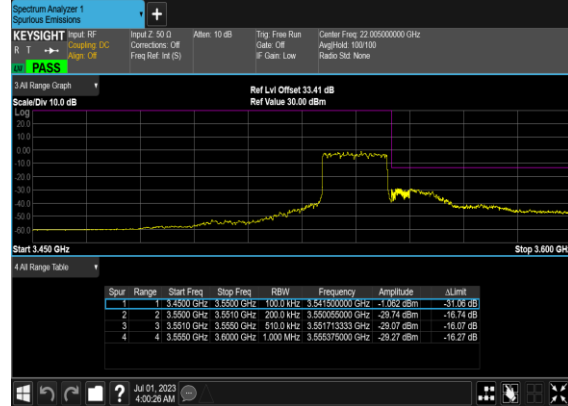
N77(20M)_DFT-s-
OFDM_QPSK_Edge_1RB_Right_High_CH



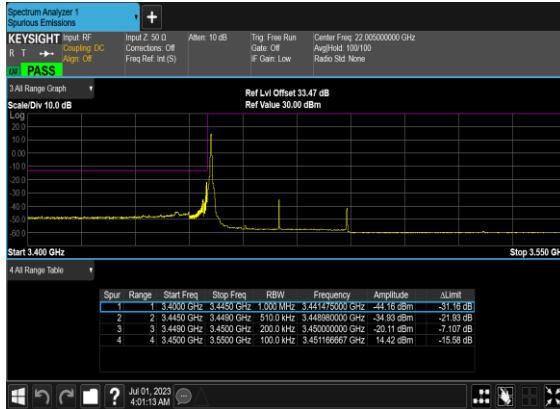
N77(20M)_DFT-s-OFDM_BPSK_Outer_Full_High_CH



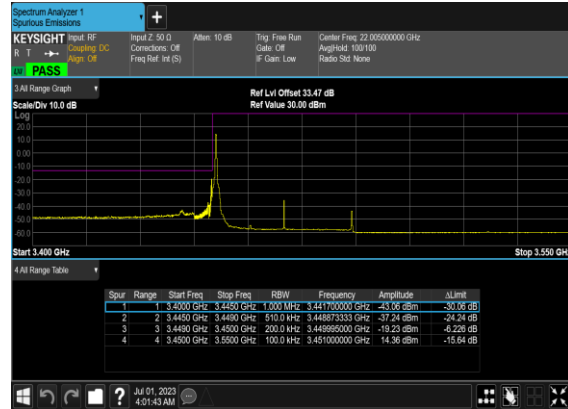
N77(20M)_DFT-s-OFDM_QPSK_Outer_Full_High_CH



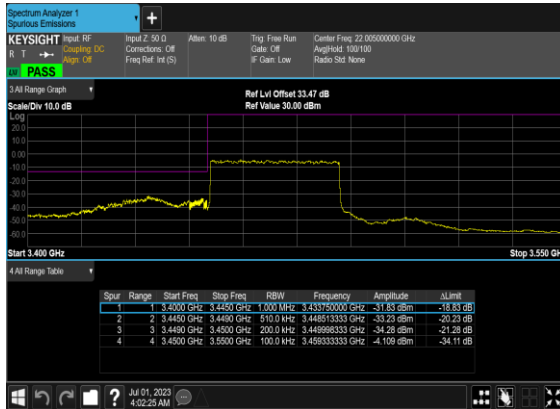
N77(40M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Low_CH



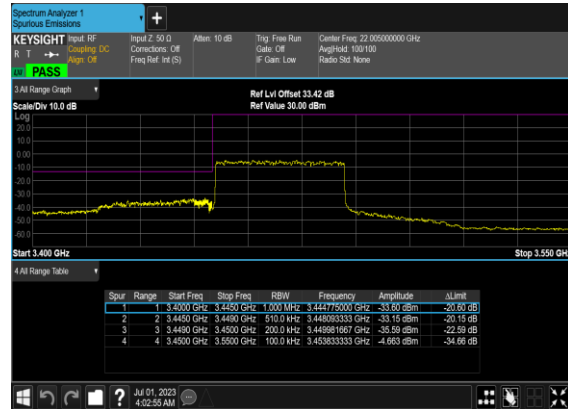
N77(40M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Low_CH



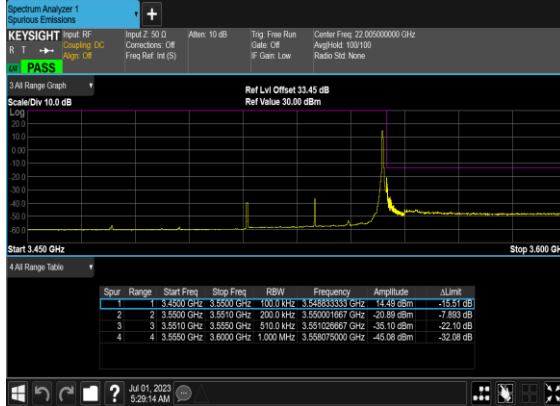
N77(40M)_DFT-s-OFDM_BPSK_Outer_Full_Low_CH



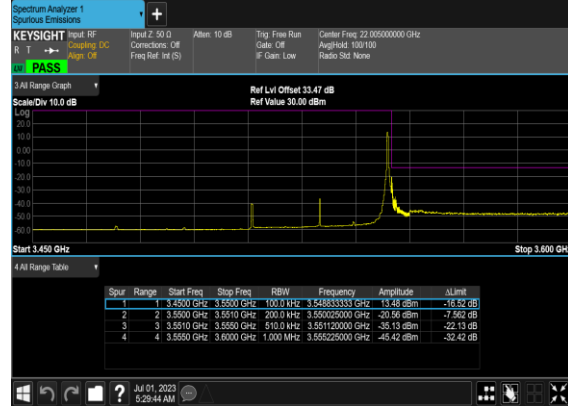
N77(40M)_DFT-s-OFDM_QPSK_Outer_Full_Low_CH



N77(40M)_DFT-s-OFDM_BPSK_Edge_1RB_Right_High_CH



N77(40M)_DFT-s-OFDM_QPSK_Edge_1RB_Right_High_CH



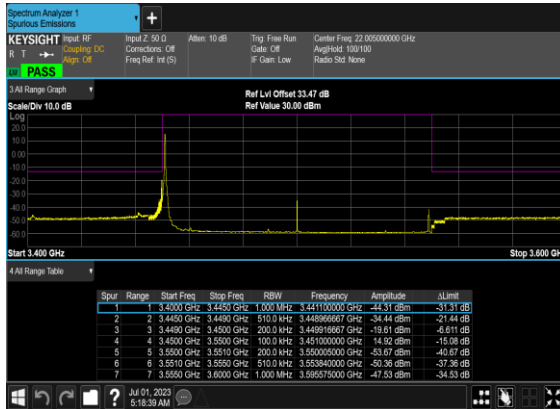
N77(40M)_DFT-s-OFDM_BPSK_Outer_Full_High_CH



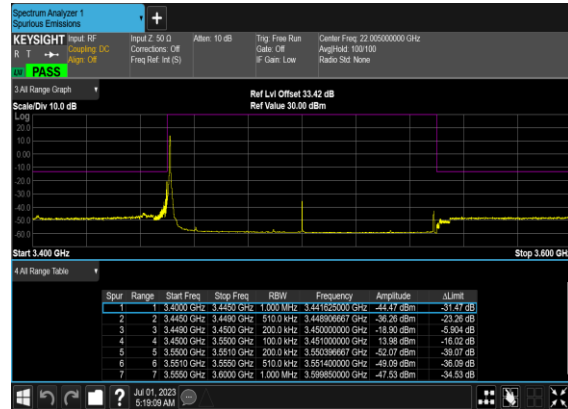
N77(40M)_DFT-s-OFDM_QPSK_Outer_Full_High_CH



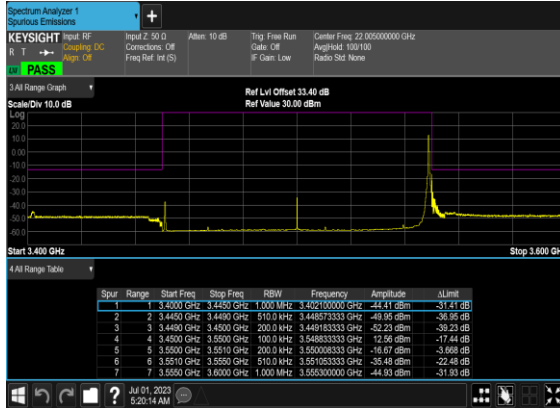
N77(100M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Mid_CH



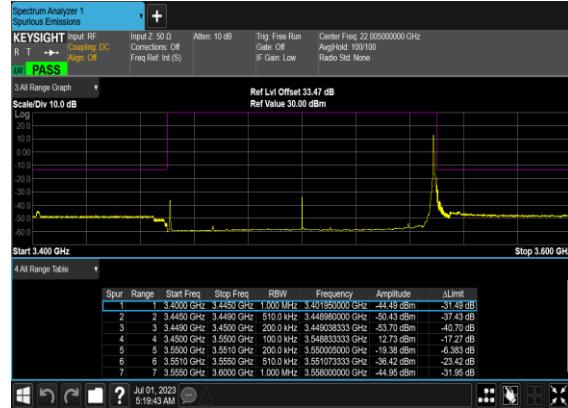
N77(100M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Mid_CH



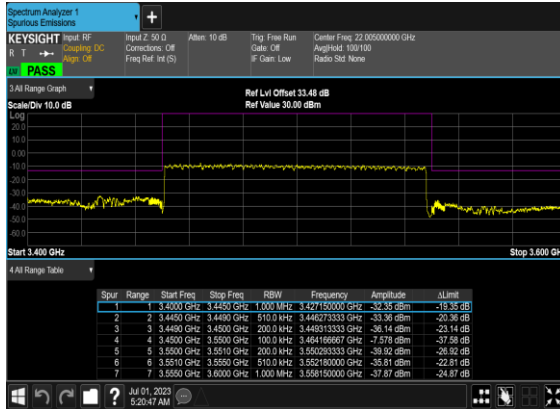
N77(100M)_DFT-s- OFDM_QPSK_Edge_1RB_Right_Mid_CH



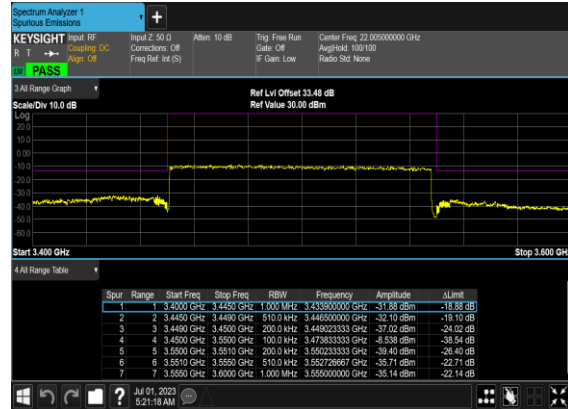
N77(100M)_DFT-s- OFDM_BPSK_Edge_1RB_Right_Mid_CH



N77(100M)_DFT-s- OFDM_BPSK_Outer_Full_Mid_CH



N77(100M)_DFT-s- OFDM_QPSK_Outer_Full_Mid_CH



FR1 n78(Ant3)

Transmitter Conducted Output Power And EIRP, (G_T-L_C)=0.32dB

NR Band	SCS	BandWidth	Arfcn	Freq (MHz)	Modulation	RB	Conducted Power(dBm)	EIRP (dBm)	EIRP (W)
78	30	20	630668	3460.02	DFT-s-OFDM PI/2 BPSK	1@1	23.7	24.02	0.2523
78	30	20	630668	3460.02	DFT-s-OFDM QPSK	1@1	23.74	24.06	0.2547
78	30	20	630668	3460.02	DFT-s-OFDM 16 QAM	1@1	22.81	23.13	0.2056
78	30	20	633334	3500.01	DFT-s-OFDM PI/2 BPSK	1@1	23.67	23.99	0.2506
78	30	20	633334	3500.01	DFT-s-OFDM QPSK	1@1	23.7	24.02	0.2523
78	30	20	633334	3500.01	DFT-s-OFDM 16 QAM	1@1	22.82	23.14	0.2061
78	30	20	636000	3540	DFT-s-OFDM PI/2 BPSK	1@1	23.67	23.99	0.2506
78	30	20	636000	3540	DFT-s-OFDM QPSK	1@1	23.82	24.14	0.2594
78	30	20	636000	3540	DFT-s-OFDM 16 QAM	1@1	22.77	23.09	0.2037
78	30	40	631334	3470.01	DFT-s-OFDM PI/2 BPSK	1@1	23.77	24.09	0.2564
78	30	40	631334	3470.01	DFT-s-OFDM QPSK	1@1	23.78	24.1	0.2570
78	30	40	631334	3470.01	DFT-s-OFDM 16 QAM	1@1	22.8	23.12	0.2051
78	30	40	633334	3500.01	DFT-s-OFDM PI/2 BPSK	1@1	23.77	24.09	0.2564
78	30	40	633334	3500.01	DFT-s-OFDM QPSK	1@1	23.78	24.1	0.2570
78	30	40	633334	3500.01	DFT-s-OFDM 16 QAM	1@1	23.03	23.35	0.2163
78	30	40	635332	3529.98	DFT-s-OFDM PI/2 BPSK	1@1	23.82	24.14	0.2594
78	30	40	635332	3529.98	DFT-s-OFDM QPSK	1@1	23.8	24.12	0.2582
78	30	40	635332	3529.98	DFT-s-OFDM 16 QAM	1@1	23.24	23.56	0.2270
78	30	100	633334	3500.01	DFT-s-OFDM PI/2 BPSK	135@67	23.03	23.35	0.2163
78	30	100	633334	3500.01	DFT-s-OFDM PI/2 BPSK	1@1	23.83	24.15	0.2600
78	30	100	633334	3500.01	DFT-s-OFDM PI/2 BPSK	1@271	23.41	23.73	0.2360
78	30	100	633334	3500.01	DFT-s-OFDM QPSK	135@67	23.59	23.91	0.2460
78	30	100	633334	3500.01	DFT-s-OFDM QPSK	1@1	23.52	23.84	0.2421
78	30	100	633334	3500.01	DFT-s-OFDM QPSK	1@271	23.38	23.7	0.2344
78	30	100	633334	3500.01	DFT-s-OFDM 16 QAM	135@67	22.6	22.92	0.1959
78	30	100	633334	3500.01	DFT-s-OFDM 16 QAM	1@1	22.56	22.88	0.1941
78	30	100	633334	3500.01	DFT-s-OFDM 16 QAM	1@271	22.39	22.71	0.1866
78	30	100	633334	3500.01	DFT-s-OFDM 64 QAM	135@67	21.06	21.38	0.1374
78	30	100	633334	3500.01	DFT-s-OFDM 64 QAM	1@1	20.85	21.17	0.1309
78	30	100	633334	3500.01	DFT-s-OFDM 64 QAM	1@271	20.63	20.95	0.1245
78	30	100	633334	3500.01	DFT-s-OFDM 256 QAM	135@67	19.07	19.39	0.0869
78	30	100	633334	3500.01	DFT-s-OFDM 256 QAM	1@1	18.8	19.12	0.0817
78	30	100	633334	3500.01	DFT-s-OFDM 256 QAM	1@271	18.68	19	0.0794
78	30	100	633334	3500.01	CP-OFDM QPSK	137@68	22.01	22.33	0.1710
78	30	100	633334	3500.01	CP-OFDM QPSK	1@1	22.01	22.33	0.1710
78	30	100	633334	3500.01	CP-OFDM QPSK	1@271	21.83	22.15	0.1641

Appendix B. Test Results of Radiated Test

Radiated Spurious Emission

Test Engineer :	Chris Chen	Temperature :	23~25°C
		Relative Humidity :	41~42%

Pre-scanned harmonic for the different antenna combinations, we choose the worst antenna mode to perform final test and record in the report.

SA n77 / NR 100MHz / QPSK / ANT3(NR)								
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	6900	-42.14	-13	-29.14	-52.35	3.03	13.24	H
	10368	-50.87	-13	-37.87	-60.32	3.56	13.01	H
	13824	-44.93	-13	-31.93	-54.45	3.92	13.44	H
	6900	-51.14	-13	-38.14	-61.35	3.03	13.24	V
	10368	-50.97	-13	-37.97	-60.42	3.56	13.01	V
	13824	-45.56	-13	-32.56	-55.08	3.92	13.44	V

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

EN-DC 41A n77A / LTE 10MHz + NR 100MHz / QPSK / ANT2 (LTE) & ANT3(NR)								
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	6912	-63.89	-13	-50.89	-74.10	3.03	13.24	H
	10368	-61.62	-13	-48.62	-71.07	3.56	13.01	H
	13824	-59.78	-13	-46.78	-69.30	3.92	13.44	H
	6912	-63.82	-13	-50.82	-74.03	3.03	13.24	V
	10368	-61.68	-13	-48.68	-71.13	3.56	13.01	V
	13824	-60.39	-13	-47.39	-69.91	3.92	13.44	V

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