FCC RF Test Report

APPLICANT	**: Xiaomi Communications Co., Ltd.**
EQUIPMENT	**: Mobile Phone**
BRAND NAME	**: XIAOMI**
MODEL NAME	**: 2107113SG**
FCC ID	**: 2AFZZ113SG**
STANDARD	**: 47 CFR Part 2, 27(O)**
CLASSIFICATION	**: PCS Licensed Transmitter Held to Ear (PCE)**
TEST DATE(S)	**: Jun. 17, 2021 ~ Jul. 05, 2021**

We, Sporton International (Kunshan) Inc., 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 (Kunshan) Inc., the test report shall not be reproduced except in full.

Reviewed by: Jason Jia / Supervisor

Approved by: Alex Wang / Manager

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

Sporton International (Kunshan) Inc.
TEL : 86-755-8637-9589
FAX : 86-755-8637-9595
FCC ID : 2AFZZ113SG

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Report Template No.: BU5-FGLTE Version 2.0

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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FG151502E	Rev. 01	Initial issue of report	Jul. 16, 2021

Sporton International (Kunshan) Inc.
TEL : 86-755-8637-9589
FAX : 86-755-8637-9595
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SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
3.4	§2.1046	Conducted Output Power	Reporting Only	PASS	-
	§27.50(j)(3)	Equivalent Isotropic Radiated Power (5G NR n77, n78)	EIRP < 1Watt		
3.5	§27.50(j)(4)	Peak-to-Average Ratio	<13 dB	PASS	-
3.6	§2.1049	Occupied Bandwidth	Reporting Only	PASS	-
3.7	§2.1051 §27.53(l)(2)	Conducted Band Edge Measurement (5G NR n77, n78)	$< 43+10\log10(P[Watts])$	PASS	-
3.8	§2.1051 §27.53(l)(2)	Conducted Spurious Emission (5G NR n77, n78)	$< 43+10\log10(P[Watts])$	PASS	-
3.9	§2.1055 §27.54	Frequency Stability Temperature & Voltage	Within Authorized Band	PASS	-
4.4	§2.1053 §27.53(l)(2)	Radiated Spurious Emission (5G NR n77, n78)	$< 43+10\log_{10}(P[Watts])$	PASS	Under limit 31.38 dB at 11376.000 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

Xiaomi Communications Co., Ltd.

#019, 9th Floor, Building 6, 33 Xi'erqi Middle Road, Haidian District, Beijing, China, 100085

1.2   Manufacturer

Xiaomi Communications Co., Ltd.

#019, 9th Floor, Building 6, 33 Xi'erqi Middle Road, Haidian District, Beijing, China, 100085

1.3   Product Feature of Equipment Under Test

Product Feature	
Equipment	Mobile Phone
Brand Name	XIAOMI
Model Name	2107113SG
FCC ID	2AFZZ113SG
EUT supports Radios application	GSM/WCDMA/LTE/5G NR WLAN 2.4GHz 802.11b/g/n/ax HT20/HT40/HE20/HE40 WLAN 5GHz 802.11a/n HT20/HT40 WLAN 5GHz 802.11ac VHT20/VHT40/VHT80/VHT160 WLAN 5GHz 802.11ax HE20/HE40/HE80/HE160 Bluetooth BR / EDR / LE NFC and GNSS
IMEI Code	Conducted: 868253050049325/868253050049300 Radiation: 868253050047485/868253050047493
HW Version	P2
SW Version	MIUI12.5
EUT Stage	Identical Prototype

1.4   Product Specification of Equipment Under Test

Standards-related Product Specification	
Tx Frequency	5G NR n77: 3700 MHz ~ 3980 MHz 5G NR n78: 3700 MHz ~ 3800 MHz
Rx Frequency	5G NR n77: 3700 MHz ~ 3980 MHz 5G NR n78: 3700 MHz ~ 3800 MHz
SCS	n77, n78: 30kHz
Bandwidth	n77/n78: 20MHz / 30MHz / 40MHz / 50MHz / 60MHz / 70MHz / 80MHz / 90MHz / 100MHz
Maximum Output Power to Antenna	**<Ant.6>:** 5G NR n77 : 24.89 dBm 5G NR n78 : 25.50 dBm **<Ant.11>:** 5G NR n77 : 24.31 dBm

	5G NR n78 : 25.66 dBm **<Ant.12>:** 5G NR n77 : 25.68 dBm 5G NR n78 : 25.65 dBm **<Ant.13>:** 5G NR n77 : 25.91 dBm 5G NR n78 : 25.88 dBm
Antenna Gain	**Ant. 6:** 5G NR n77: -2.8 dBi 5G NR n78: -1.2 dBi **Ant. 11:** 5G NR n77: -2.65 dBi 5G NR n78: -3.02 dBi **Ant. 12:** 5G NR n77: 1.95 dBi 5G NR n78: 1.95 dBi **Ant. 13:** 5G NR n77: 0.1 dBi 5G NR n78: 0.1 dBi
Type of Modulation	CP-OFDM: QPSK / 16QAM / 64QAM / 256QAM DFT-s-OFDM: PI/2 BPSK / QPSK / 16QAM / 64QAM / 256QAM

Remark:

1. The maximum ERP/EIRP is calculated from max output power and max antenna gain, only the maximum ERP/EIRP is shown in the report.
2. 5G NR n78 support HPUE for SA mode.
3. The device supports SA and NSA mode for 5G NR n77/n78. According to the maximum power, perform all test for conducted items of SA mode, and NSA mode verify the worst of SA mode, only record the SA conducted test data in the report.
4. For EN-DC mode and SA mode, the different modes match with different antenna combination. Pre-scanned harmonic for RSE testing, we choice worse case of antenna combination to full test.
5. The EN-DC mode combination could be referred to the product spec.
6. For modulation of CP-OFDM and DFT-s-OFDM, the maximum power of CP-OFDM is lower than DFT-s-OFDM modulation, therefore, we chose higher power (DFT-s-OFDM modulation) to perform all tests and show in the report.

1.5 Modification of EUT

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

1.6 Maximum ERP/EIRP Power 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	3750.00 ~ 3930.00	0.5794	97M6G7D	0.5534	97M6W7D
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	3750.00	0.5754	97M6G7D	0.4539	97M6W7D

Note:

1. 5G NR Band n77 overlaps the entire frequency range of Band n78. Therefore, the test results provided in this report covers Band n77 as well as Band n78.

2. Based on engineering evaluation, only the maximum bandwidth and the worst modulation test results are shown in the report.

1.7 Testing Location

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

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

Test Firm	Sporton International (Shenzhen) Inc.		
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

Sporton International (Kunshan) Inc.
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1.8 Test Software

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

1.9 Applicable Standards

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

- 47 CFR Part 2, 27
- ANSI C63.26-2015
- FCC KDB 971168 D01 Power Meas License Digital Systems v03r01
- FCC KDB 412172 D01 Determining ERP and EIRP v01r01

Remark:

All test items were verified and recorded according to the standards and without any deviation during the test.

2　Test Configuration of Equipment Under Test

2.1　Test Mode

Antenna port conducted and radiated test items 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 (Y plane) were recorded in this report.

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.

Orthogonal Planes of EUT	X Plane	Y Plane	Z Plane

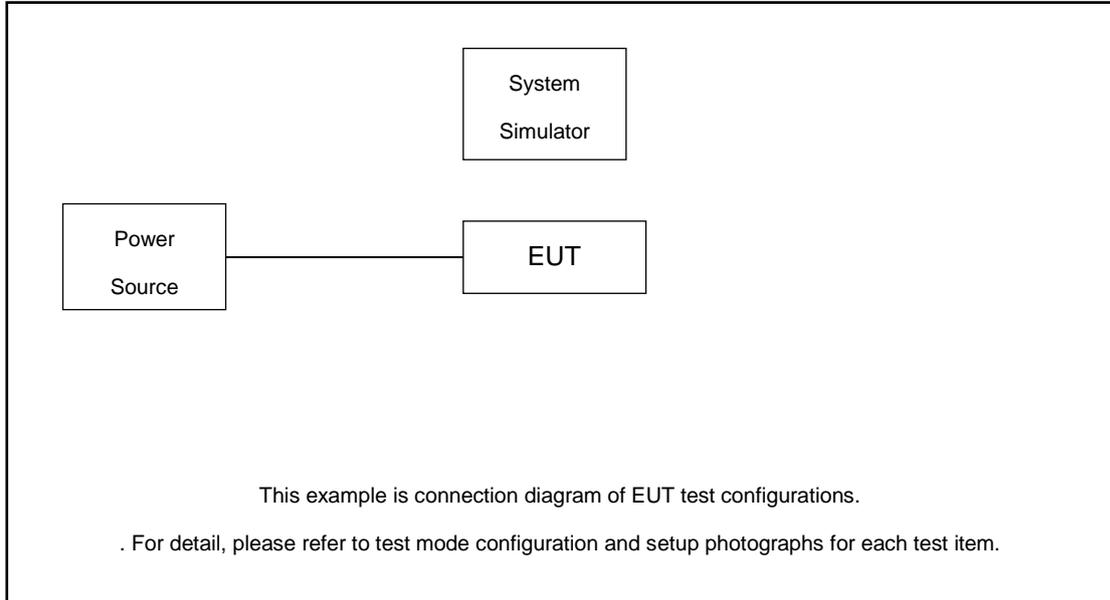| Test Items	5G NR	Bandwidth (MHz)					Modulation					RB #		Test Channel		
		20	30-50	60	70-90	100	PI/2 BPSK	QPSK	16QAM	64QAM	256QAM	1	Full	L	M	H
Max. Output Power	n77	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v
	n78	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v
Peak-to-Average Ratio	n77	v					v	v				v	v	v	v	v
26dB and 99% Bandwidth	n77	v	v	v	v	v	v	v	v	v	v		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.R.P / E.I.R.P	n77	v	v	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	v	v
Radiated Spurious Emission	n77	Worst Case													v	
	n78	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. For modulation of CP-OFDM and DFT-s-OFDM , the maximum power of CP-OFDM is lower than DFT-s-OFDM modulation, therefore, we chose higher power (DFT-s-OFDM modulation) to perform all tests and show in the report.															

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	5. Based on engineering evaluation, only the worst modulations test results are shown in the report.

2.2 Connection Diagram of Test System

This example is connection diagram of EUT test configurations.

. For detail, please refer to test mode configuration and setup photographs for each test item.

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	MT8821C	N/A	N/A	Unshielded, 1.8 m
3.	NR Base Station	Anritsu	MT8000A	N/A	N/A	Unshielded, 1.8 m

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 1.77 dB and 10dB attenuator.

Example :

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

$$= 1.77 + 10 = 11.77 \text{ (dB)}$$

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2.5 Frequency List of Low/Middle/High Channels

5G NR n77 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
100	Channel	650000	656000	662000
	Frequency	3750.00	3840.00	3930.00
90	Channel	649668	656000	662332
	Frequency	3745.02	3840.00	3934.98
80	Channel	649334	656000	662666
	Frequency	3740.01	3840.00	3939.99
70	Channel	649000	656000	663000
	Frequency	3735.00	3840.00	3945.00
60	Channel	648668	656000	663332
	Frequency	3730.02	3840.00	3949.98
50	Channel	648334	656000	663666
	Frequency	3725.01	3840.00	3954.99
40	Channel	648000	656000	664000
	Frequency	3720.00	3840.00	3960.00
30	Channel	647668	656000	664332
	Frequency	3715.02	3840.00	3964.98
20	Channel	647334	656000	664666
	Frequency	3710.01	3840.00	3969.99

| 5G NR n78 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
100	Channel		650000	
	Frequency		3750.00	
90	Channel	649668	650000	650332
	Frequency	3745.02	3750.00	3754.98
80	Channel	649334	650000	650666
	Frequency	3740.01	3750.00	3759.99
70	Channel	649000	650000	651000
	Frequency	3735.00	3750.00	3765.00
60	Channel	648668	650000	651332
	Frequency	3730.02	3750.00	3769.98
50	Channel	648334	650000	651666
	Frequency	3725.01	3750.00	3774.99
40	Channel	648000	650000	652000
	Frequency	3720.00	3750.00	3780.00
30	Channel	647668	650000	652332
	Frequency	3715.02	3750.00	3784.98
20	Channel	647334	650000	652666
	Frequency	3710.01	3750.00	3789.99

3   Conducted Test Items
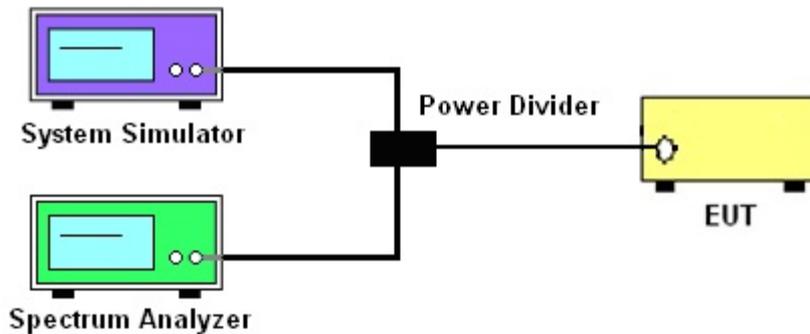
3.1 Measuring Instruments

See list of measuring instruments of this test report.
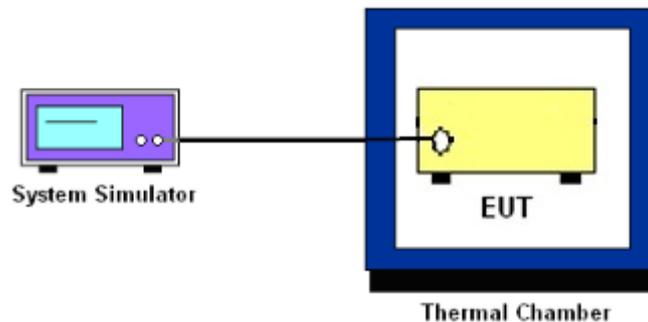
3.2 Test Setup

3.2.1   Conducted Output Power
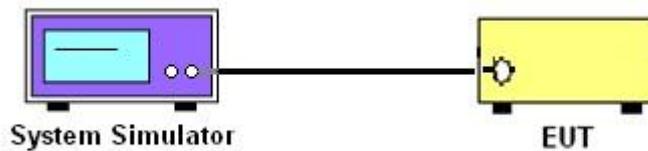
3.2.2   Peak-to-Average Ratio, Occupied Bandwidth ,Conducted Band-Edge and Conducted Spurious Emission

3.2.3   Frequency Stability

3.3 Test Result of Conducted Test

Please refer to Appendix A.

3.4 Conducted Output Power and EIRP

3.4.1 Description of the Conducted Output Power Measurement and EIRP Measurement

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

The EIRP of mobile transmitters must not exceed 1 Watts for 5G NR n77, n78.

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

3.4.2 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 Occupied Bandwidth

3.6.1   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.

3.6.2   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.

3.7 Conducted Band Edge

3.7.1   Description of Conducted Band Edge Measurement

27.53(l)(2)

For mobile operations in the 3700-3980 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, the minimum resolution bandwidth for the measurement shall be either one percent of the emission bandwidth of the fundamental emission of the transmitter or 350 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.

3.7.2   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 >= 1% EBW in the 1MHz band immediately outside and adjacent to the band edge.
5.   Beyond the 1 MHz band from the band edge, RBW=1MHz was used.
6.   Set spectrum analyzer with RMS detector.
7.   The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
8.   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.

3.8 Conducted Spurious Emission

3.8.1 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 30 MHz up to a frequency including its 10th harmonic.

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 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. 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.

3.9 Frequency Stability

3.9.1 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 ±0.00025% (±2.5ppm) of the center frequency.

3.9.2 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.

3.9.3 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.

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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
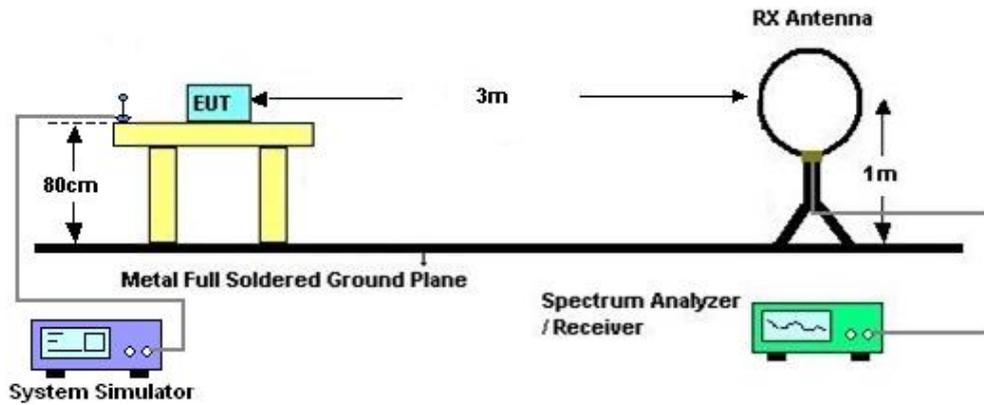
4.2.2   For radiated test from 30MHz to 1GHz
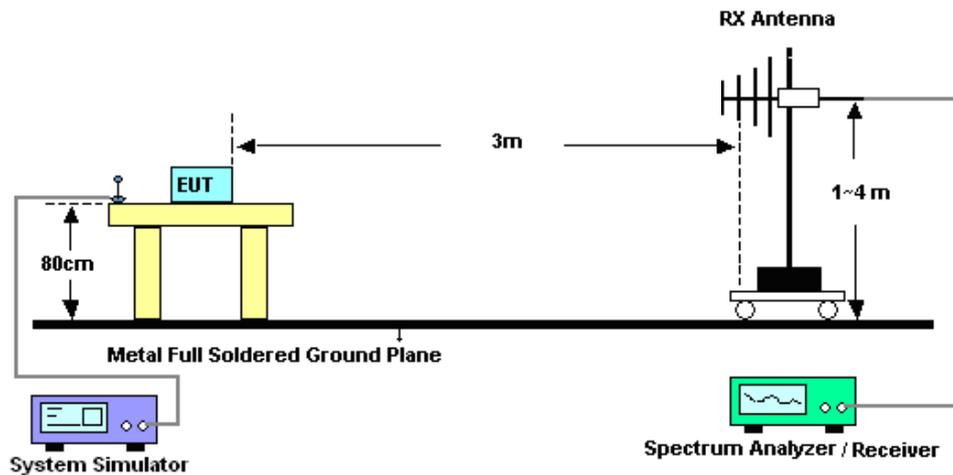
4.2.3   For radiated test above 1GHz
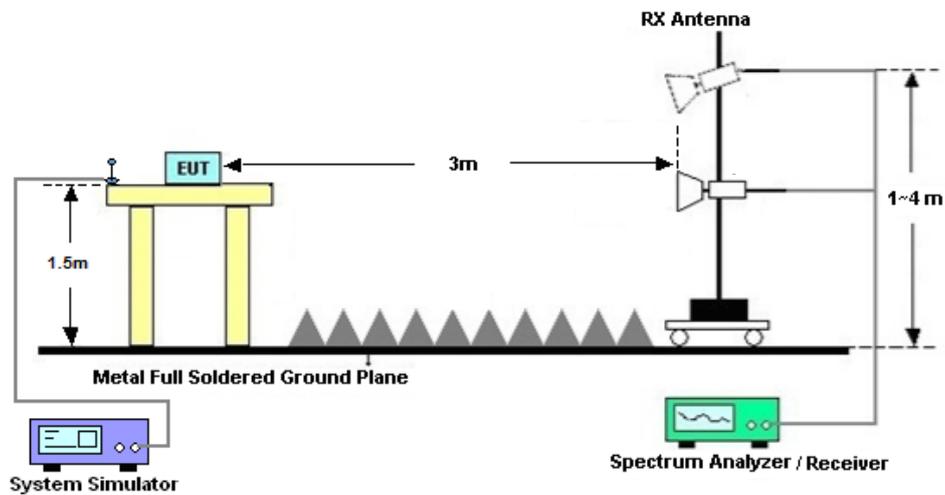
4.3 Test Result of Radiated Test

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

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.

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.
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.

Sporton International (Kunshan) Inc.
TEL : 86-755-8637-9589
FAX : 86-755-8637-9595
FCC ID : 2AFZZ113SG

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5   List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
EXA Signal Analyzer	KEYSIGHT	N9010B	MY60240803	10Hz~44GHz	Apr. 03, 2021	Jun. 17, 2021~ Jul. 05, 2021	Apr. 02, 2022	Conducted (TH01-SZ)
Power divider	STI	STI08-0055	-	0.5~40GHz	Aug. 27, 2020	Jun. 17, 2021~ Jul. 05, 2021	Aug. 26, 2021	Conducted (TH01-KS)
Thermal Chamber	Ten Billion Hongzhangroup	LP-150U	H2014081803	-40~+150°C	Jul. 22, 2020	Jun. 17, 2021~ Jul. 05, 2021	Jul. 21, 2021	Conducted (TH01-SZ)
EXA Spectrum Analyzer	Keysight	N9010A	MY55150244	10Hz-44G,MAX 30dB	Apr. 13, 2021	Jun. 21, 2021	Apr. 12, 2022	Radiation (03CH04-KS)
Loop Antenna	R&S	HFH2-Z2	100321	9kHz~30MHz	Nov. 01, 2020	Jun. 21, 2021	Oct. 31, 2021	Radiation (03CH04-KS)
Bilog Antenna	TeseQ	CBL6111D	49922	30MHz-1GHz	Jun. 07, 2021	Jun. 21, 2021	Jun. 06, 2022	Radiation (03CH04-KS)
Horn Antenna	Schwarzbeck	BBHA9120D	1356	1GHz~18GHz	Apr. 18, 2021	Jun. 21, 2021	Apr. 17, 2022	Radiation (03CH04-KS)
SHF-EHF Horn	Com-power	AH-840	101115	18GHz~40GHz	Jan. 06, 2021	Jun. 21, 2021	Jan. 05, 2022	Radiation (03CH04-KS)
Amplifier	SONOMA	310N	187289	9KHz-1GHz	Jan. 06, 2021	Jun. 21, 2021	Jan. 05, 2022	Radiation (03CH04-KS)
Amplifier	MITEQ	EM18G40GGA	060728	18~40GHz	Jan. 07, 2021	Jun. 21, 2021	Jan. 06, 2022	Radiation (03CH04-KS)
high gain Amplifier	MITEQ	AMF-7D-00101800-30-10P	2025788	1Ghz-18Ghz	Jan. 06, 2021	Jun. 21, 2021	Jan. 05, 2022	Radiation (03CH04-KS)
Amplifier	Keysight	83017A	MY57280106	500MHz~26.5GHz	Oct. 14, 2020	Jun. 21, 2021	Oct. 13, 2021	Radiation (03CH04-KS)
AC Power Source	Chroma	61601	F104090004	N/A	NCR	Jun. 21, 2021	NCR	Radiation (03CH04-KS)
Turn Table	ChamPro	EM 1000-T	060762-T	0~360 degree	NCR	Jun. 21, 2021	NCR	Radiation (03CH04-KS)
Antenna Mast	ChamPro	EM 1000-A	060762-A	1 m~4 m	NCR	Jun. 21, 2021	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 ~ 18 GHz)

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

Uncertainty of Radiated Emission Measurement (18 GHz ~ 40 GHz)

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

----------- THE END -----------

Appendix A. Test Results of Conducted Test

Conducted Output Power(Average power and EIRP)

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Transmitter Conducted Output Power And ERP/EIRP, $(G_T - L_C)$=0.1dB

NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	Conducted Power(dBm)	EIRP (dBm)	EIRP (W)
77	30	20	647334	3710.01	DFT-s-OFDM PI/2 BPSK	25@12	24.4	24.5	0.2818
77	30	20	647334	3710.01	DFT-s-OFDM PI/2 BPSK	1@1	24.46	24.56	0.2858
77	30	20	647334	3710.01	DFT-s-OFDM PI/2 BPSK	1@49	24.29	24.39	0.2748
77	30	20	647334	3710.01	DFT-s-OFDM QPSK	25@12	24.3	24.4	0.2754
77	30	20	647334	3710.01	DFT-s-OFDM QPSK	1@1	24.47	24.57	0.2864
77	30	20	647334	3710.01	DFT-s-OFDM QPSK	1@49	24.31	24.41	0.2761
77	30	20	647334	3710.01	DFT-s-OFDM 16 QAM	25@12	23.3	23.4	0.2188
77	30	20	647334	3710.01	DFT-s-OFDM 16 QAM	1@1	23.26	23.36	0.2168
77	30	20	647334	3710.01	DFT-s-OFDM 16 QAM	1@49	23.2	23.3	0.2138
77	30	20	647334	3710.01	DFT-s-OFDM 64 QAM	25@12	21.91	22.01	0.1589
77	30	20	647334	3710.01	DFT-s-OFDM 64 QAM	1@1	21.52	21.62	0.1452
77	30	20	647334	3710.01	DFT-s-OFDM 64 QAM	1@49	21.64	21.74	0.1493
77	30	20	647334	3710.01	DFT-s-OFDM 256 QAM	25@12	19.83	19.93	0.0984
77	30	20	647334	3710.01	DFT-s-OFDM 256 QAM	1@1	19.9	20	0.1
77	30	20	647334	3710.01	DFT-s-OFDM 256 QAM	1@49	19.83	19.93	0.0984
77	30	20	647334	3710.01	CP-OFDM QPSK	25@121	21.35	21.45	0.1396
77	30	20	647334	3710.01	CP-OFDM QPSK	1@1	22.96	23.06	0.2023
77	30	20	647334	3710.01	CP-OFDM QPSK	1@49	22.83	22.93	0.1963
77	30	20	656000	3840	DFT-s-OFDM PI/2 BPSK	25@12	24.43	24.53	0.2838
77	30	20	656000	3840	DFT-s-OFDM PI/2	1@1	24.39	24.49	0.2812

					BPSK				
77	30	20	656000	3840	DFT-s-OFDM PI/2 BPSK	1@49	24.49	24.59	0.2877
77	30	20	656000	3840	DFT-s-OFDM QPSK	25@12	24.39	24.49	0.2812
77	30	20	656000	3840	DFT-s-OFDM QPSK	1@1	24.49	24.59	0.2877
77	30	20	656000	3840	DFT-s-OFDM QPSK	1@49	24.61	24.71	0.2958
77	30	20	656000	3840	DFT-s-OFDM 16 QAM	25@12	23.48	23.58	0.228
77	30	20	656000	3840	DFT-s-OFDM 16 QAM	1@1	23.19	23.29	0.2133
77	30	20	656000	3840	DFT-s-OFDM 16 QAM	1@49	23.57	23.67	0.2328
77	30	20	656000	3840	DFT-s-OFDM 64 QAM	25@12	21.97	22.07	0.1611
77	30	20	656000	3840	DFT-s-OFDM 64 QAM	1@1	22.11	22.21	0.1663
77	30	20	656000	3840	DFT-s-OFDM 64 QAM	1@49	22.09	22.19	0.1656
77	30	20	656000	3840	DFT-s-OFDM 256 QAM	25@12	19.98	20.08	0.1019
77	30	20	656000	3840	DFT-s-OFDM 256 QAM	1@1	20.2	20.3	0.1072
77	30	20	656000	3840	DFT-s-OFDM 256 QAM	1@49	20.2	20.3	0.1072
77	30	20	656000	3840	CP-OFDM QPSK	25@121	21.46	21.56	0.1432
77	30	20	656000	3840	CP-OFDM QPSK	1@1	22.94	23.04	0.2014
77	30	20	656000	3840	CP-OFDM QPSK	1@49	23.01	23.11	0.2046
77	30	20	664666	3969.99	DFT-s-OFDM PI/2 BPSK	25@12	24.88	24.98	0.3148
77	30	20	664666	3969.99	DFT-s-OFDM PI/2 BPSK	1@1	25.07	25.17	0.3289
77	30	20	664666	3969.99	DFT-s-OFDM PI/2 BPSK	1@49	24.8	24.9	0.309
77	30	20	664666	3969.99	DFT-s-OFDM QPSK	25@12	24.7	24.8	0.302
77	30	20	664666	3969.99	DFT-s-OFDM QPSK	1@1	25.4	25.5	0.3548
77	30	20	664666	3969.99	DFT-s-OFDM QPSK	1@49	25.02	25.12	0.3251
77	30	20	664666	3969.99	DFT-s-OFDM 16 QAM	25@12	23.96	24.06	0.2547

77	30	20	664666	3969.99	DFT-s-OFDM 16 QAM	1@1	24.05	24.15	0.26
77	30	20	664666	3969.99	DFT-s-OFDM 16 QAM	1@49	24.03	24.13	0.2588
77	30	20	664666	3969.99	DFT-s-OFDM 64 QAM	25@12	22.37	22.47	0.1766
77	30	20	664666	3969.99	DFT-s-OFDM 64 QAM	1@1	22.56	22.66	0.1845
77	30	20	664666	3969.99	DFT-s-OFDM 64 QAM	1@49	22.33	22.43	0.175
77	30	20	664666	3969.99	DFT-s-OFDM 256 QAM	25@12	20.54	20.64	0.1159
77	30	20	664666	3969.99	DFT-s-OFDM 256 QAM	1@1	20.44	20.54	0.1132
77	30	20	664666	3969.99	DFT-s-OFDM 256 QAM	1@49	20.24	20.34	0.1081
77	30	20	664666	3969.99	CP-OFDM QPSK	25@121	21.92	22.02	0.1592
77	30	20	664666	3969.99	CP-OFDM QPSK	1@1	23.79	23.89	0.2449
77	30	20	664666	3969.99	CP-OFDM QPSK	1@49	23.55	23.65	0.2317
77	30	30	647668	3715.02	DFT-s-OFDM PI/2 BPSK	36@18	24.5	24.6	0.2884
77	30	30	647668	3715.02	DFT-s-OFDM PI/2 BPSK	1@1	24.31	24.41	0.2761
77	30	30	647668	3715.02	DFT-s-OFDM PI/2 BPSK	1@76	24.63	24.73	0.2972
77	30	30	647668	3715.02	DFT-s-OFDM QPSK	36@18	24.41	24.51	0.2825
77	30	30	647668	3715.02	DFT-s-OFDM QPSK	1@1	24.4	24.5	0.2818
77	30	30	647668	3715.02	DFT-s-OFDM QPSK	1@76	24.66	24.76	0.2992
77	30	30	647668	3715.02	DFT-s-OFDM 16 QAM	36@18	23.51	23.61	0.2296
77	30	30	647668	3715.02	DFT-s-OFDM 16 QAM	1@1	23.33	23.43	0.2203
77	30	30	647668	3715.02	DFT-s-OFDM 16 QAM	1@76	23.78	23.88	0.2443
77	30	30	647668	3715.02	DFT-s-OFDM 64 QAM	36@18	22.05	22.15	0.1641
77	30	30	647668	3715.02	DFT-s-OFDM 64 QAM	1@1	21.97	22.07	0.1611
77	30	30	647668	3715.02	DFT-s-OFDM 64 QAM	1@76	22.05	22.15	0.1641
77	30	30	647668	3715.02	DFT-s-OFDM 256 QAM	36@18	19.94	20.04	0.1009

77	30	30	647668	3715.02	DFT-s-OFDM 256 QAM	1@1	19.91	20.01	0.1002
77	30	30	647668	3715.02	DFT-s-OFDM 256 QAM	1@76	20.09	20.19	0.1045
77	30	30	647668	3715.02	CP-OFDM QPSK	39@19	22.97	23.07	0.2028
77	30	30	647668	3715.02	CP-OFDM QPSK	1@1	22.95	23.05	0.2018
77	30	30	647668	3715.02	CP-OFDM QPSK	1@76	23.21	23.31	0.2143
77	30	30	656000	3840	DFT-s-OFDM PI/2 BPSK	36@18	24.57	24.67	0.2931
77	30	30	656000	3840	DFT-s-OFDM PI/2 BPSK	1@1	24.65	24.75	0.2985
77	30	30	656000	3840	DFT-s-OFDM PI/2 BPSK	1@76	24.82	24.92	0.3105
77	30	30	656000	3840	DFT-s-OFDM QPSK	36@18	24.55	24.65	0.2917
77	30	30	656000	3840	DFT-s-OFDM QPSK	1@1	24.66	24.76	0.2992
77	30	30	656000	3840	DFT-s-OFDM QPSK	1@76	24.78	24.88	0.3076
77	30	30	656000	3840	DFT-s-OFDM 16 QAM	36@18	23.63	23.73	0.236
77	30	30	656000	3840	DFT-s-OFDM 16 QAM	1@1	23.96	24.06	0.2547
77	30	30	656000	3840	DFT-s-OFDM 16 QAM	1@76	24.04	24.14	0.2594
77	30	30	656000	3840	DFT-s-OFDM 64 QAM	36@18	22.18	22.28	0.169
77	30	30	656000	3840	DFT-s-OFDM 64 QAM	1@1	21.79	21.89	0.1545
77	30	30	656000	3840	DFT-s-OFDM 64 QAM	1@76	21.84	21.94	0.1563
77	30	30	656000	3840	DFT-s-OFDM 256 QAM	36@18	20.12	20.22	0.1052
77	30	30	656000	3840	DFT-s-OFDM 256 QAM	1@1	20.33	20.43	0.1104
77	30	30	656000	3840	DFT-s-OFDM 256 QAM	1@76	20.25	20.35	0.1084
77	30	30	656000	3840	CP-OFDM QPSK	39@19	23.13	23.23	0.2104
77	30	30	656000	3840	CP-OFDM QPSK	1@1	23.27	23.37	0.2173
77	30	30	656000	3840	CP-OFDM QPSK	1@76	23.35	23.45	0.2213
77	30	30	664332	3964.98	DFT-s-OFDM PI/2 BPSK	36@18	24.65	24.75	0.2985

77	30	30	664332	3964.98	DFT-s-OFDM PI/2 BPSK	1@1	24.89	24.99	0.3155
77	30	30	664332	3964.98	DFT-s-OFDM PI/2 BPSK	1@76	24.78	24.88	0.3076
77	30	30	664332	3964.98	DFT-s-OFDM QPSK	36@18	24.71	24.81	0.3027
77	30	30	664332	3964.98	DFT-s-OFDM QPSK	1@1	24.75	24.85	0.3055
77	30	30	664332	3964.98	DFT-s-OFDM QPSK	1@76	24.82	24.92	0.3105
77	30	30	664332	3964.98	DFT-s-OFDM 16 QAM	36@18	23.66	23.76	0.2377
77	30	30	664332	3964.98	DFT-s-OFDM 16 QAM	1@1	23.93	24.03	0.2529
77	30	30	664332	3964.98	DFT-s-OFDM 16 QAM	1@76	24	24.1	0.257
77	30	30	664332	3964.98	DFT-s-OFDM 64 QAM	36@18	22.26	22.36	0.1722
77	30	30	664332	3964.98	DFT-s-OFDM 64 QAM	1@1	22.41	22.51	0.1782
77	30	30	664332	3964.98	DFT-s-OFDM 64 QAM	1@76	22.5	22.6	0.182
77	30	30	664332	3964.98	DFT-s-OFDM 256 QAM	36@18	20.07	20.17	0.104
77	30	30	664332	3964.98	DFT-s-OFDM 256 QAM	1@1	20.27	20.37	0.1089
77	30	30	664332	3964.98	DFT-s-OFDM 256 QAM	1@76	20.46	20.56	0.1138
77	30	30	664332	3964.98	CP-OFDM QPSK	39@19	23.29	23.39	0.2183
77	30	30	664332	3964.98	CP-OFDM QPSK	1@1	23.62	23.72	0.2355
77	30	30	664332	3964.98	CP-OFDM QPSK	1@76	23.53	23.63	0.2307
77	30	40	648000	3720	DFT-s-OFDM PI/2 BPSK	50@25	24.77	24.87	0.3069
77	30	40	648000	3720	DFT-s-OFDM PI/2 BPSK	1@1	24.81	24.91	0.3097
77	30	40	648000	3720	DFT-s-OFDM PI/2 BPSK	1@104	25	25.1	0.3236
77	30	40	648000	3720	DFT-s-OFDM QPSK	50@25	24.65	24.75	0.2985
77	30	40	648000	3720	DFT-s-OFDM QPSK	1@1	24.72	24.82	0.3034
77	30	40	648000	3720	DFT-s-OFDM QPSK	1@104	24.86	24.96	0.3133
77	30	40	648000	3720	DFT-s-OFDM 16 QAM	50@25	23.67	23.77	0.2382

77	30	40	648000	3720	DFT-s-OFDM 16 QAM	1@1	24	24.1	0.257
77	30	40	648000	3720	DFT-s-OFDM 16 QAM	1@104	24.17	24.27	0.2673
77	30	40	648000	3720	DFT-s-OFDM 64 QAM	50@25	22.37	22.47	0.1766
77	30	40	648000	3720	DFT-s-OFDM 64 QAM	1@1	22.25	22.35	0.1718
77	30	40	648000	3720	DFT-s-OFDM 64 QAM	1@104	22.51	22.61	0.1824
77	30	40	648000	3720	DFT-s-OFDM 256 QAM	50@25	20.4	20.5	0.1122
77	30	40	648000	3720	DFT-s-OFDM 256 QAM	1@1	20.47	20.57	0.114
77	30	40	648000	3720	DFT-s-OFDM 256 QAM	1@104	20.45	20.55	0.1135
77	30	40	648000	3720	CP-OFDM QPSK	53@26	23.3	23.4	0.2188
77	30	40	648000	3720	CP-OFDM QPSK	1@1	23.31	23.41	0.2193
77	30	40	648000	3720	CP-OFDM QPSK	1@104	23.63	23.73	0.236
77	30	40	656000	3840	DFT-s-OFDM PI/2 BPSK	50@25	24.62	24.72	0.2965
77	30	40	656000	3840	DFT-s-OFDM PI/2 BPSK	1@1	24.89	24.99	0.3155
77	30	40	656000	3840	DFT-s-OFDM PI/2 BPSK	1@104	24.84	24.94	0.3119
77	30	40	656000	3840	DFT-s-OFDM QPSK	50@25	24.6	24.7	0.2951
77	30	40	656000	3840	DFT-s-OFDM QPSK	1@1	24.95	25.05	0.3199
77	30	40	656000	3840	DFT-s-OFDM QPSK	1@104	24.66	24.76	0.2992
77	30	40	656000	3840	DFT-s-OFDM 16 QAM	50@25	23.59	23.69	0.2339
77	30	40	656000	3840	DFT-s-OFDM 16 QAM	1@1	24.01	24.11	0.2576
77	30	40	656000	3840	DFT-s-OFDM 16 QAM	1@104	23.88	23.98	0.25
77	30	40	656000	3840	DFT-s-OFDM 64 QAM	50@25	22.13	22.23	0.1671
77	30	40	656000	3840	DFT-s-OFDM 64 QAM	1@1	22.39	22.49	0.1774
77	30	40	656000	3840	DFT-s-OFDM 64 QAM	1@104	21.91	22.01	0.1589
77	30	40	656000	3840	DFT-s-OFDM 256 QAM	50@25	20.15	20.25	0.1059

77	30	40	656000	3840	DFT-s-OFDM 256 QAM	1@1	20.38	20.48	0.1117
77	30	40	656000	3840	DFT-s-OFDM 256 QAM	1@104	20.4	20.5	0.1122
77	30	40	656000	3840	CP-OFDM QPSK	53@26	23.16	23.26	0.2118
77	30	40	656000	3840	CP-OFDM QPSK	1@1	23.49	23.59	0.2286
77	30	40	656000	3840	CP-OFDM QPSK	1@104	23.45	23.55	0.2265
77	30	40	664000	3960	DFT-s-OFDM PI/2 BPSK	50@25	24.68	24.78	0.3006
77	30	40	664000	3960	DFT-s-OFDM PI/2 BPSK	1@1	24.9	25	0.3162
77	30	40	664000	3960	DFT-s-OFDM PI/2 BPSK	1@104	25.01	25.11	0.3243
77	30	40	664000	3960	DFT-s-OFDM QPSK	50@25	24.74	24.84	0.3048
77	30	40	664000	3960	DFT-s-OFDM QPSK	1@1	24.86	24.96	0.3133
77	30	40	664000	3960	DFT-s-OFDM QPSK	1@104	24.89	24.99	0.3155
77	30	40	664000	3960	DFT-s-OFDM 16 QAM	50@25	23.66	23.76	0.2377
77	30	40	664000	3960	DFT-s-OFDM 16 QAM	1@1	23.98	24.08	0.2559
77	30	40	664000	3960	DFT-s-OFDM 16 QAM	1@104	24.04	24.14	0.2594
77	30	40	664000	3960	DFT-s-OFDM 64 QAM	50@25	22.32	22.42	0.1746
77	30	40	664000	3960	DFT-s-OFDM 64 QAM	1@1	22.23	22.33	0.171
77	30	40	664000	3960	DFT-s-OFDM 64 QAM	1@104	22.4	22.5	0.1778
77	30	40	664000	3960	DFT-s-OFDM 256 QAM	50@25	20.35	20.45	0.1109
77	30	40	664000	3960	DFT-s-OFDM 256 QAM	1@1	20.29	20.39	0.1094
77	30	40	664000	3960	DFT-s-OFDM 256 QAM	1@104	20.36	20.46	0.1112
77	30	40	664000	3960	CP-OFDM QPSK	53@26	23.24	23.34	0.2158
77	30	40	664000	3960	CP-OFDM QPSK	1@1	23.41	23.51	0.2244
77	30	40	664000	3960	CP-OFDM QPSK	1@104	23.42	23.52	0.2249
77	30	50	648334	3725.01	DFT-s-OFDM PI/2 BPSK	64@32	24.54	24.64	0.2911

77	30	50	648334	3725.01	DFT-s-OFDM PI/2 BPSK	1@1	24.16	24.26	0.2667
77	30	50	648334	3725.01	DFT-s-OFDM PI/2 BPSK	1@131	24.45	24.55	0.2851
77	30	50	648334	3725.01	DFT-s-OFDM QPSK	64@32	24.21	24.31	0.2698
77	30	50	648334	3725.01	DFT-s-OFDM QPSK	1@1	24.05	24.15	0.26
77	30	50	648334	3725.01	DFT-s-OFDM QPSK	1@131	24.36	24.46	0.2793
77	30	50	648334	3725.01	DFT-s-OFDM 16 QAM	64@32	23.48	23.58	0.228
77	30	50	648334	3725.01	DFT-s-OFDM 16 QAM	1@1	23.27	23.37	0.2173
77	30	50	648334	3725.01	DFT-s-OFDM 16 QAM	1@131	23.52	23.62	0.2301
77	30	50	648334	3725.01	DFT-s-OFDM 64 QAM	64@32	22.08	22.18	0.1652
77	30	50	648334	3725.01	DFT-s-OFDM 64 QAM	1@1	21.61	21.71	0.1483
77	30	50	648334	3725.01	DFT-s-OFDM 64 QAM	1@131	21.94	22.04	0.16
77	30	50	648334	3725.01	DFT-s-OFDM 256 QAM	64@32	19.98	20.08	0.1019
77	30	50	648334	3725.01	DFT-s-OFDM 256 QAM	1@1	20.08	20.18	0.1042
77	30	50	648334	3725.01	DFT-s-OFDM 256 QAM	1@131	19.67	19.77	0.0948
77	30	50	648334	3725.01	CP-OFDM QPSK	67@33	23	23.1	0.2042
77	30	50	648334	3725.01	CP-OFDM QPSK	1@1	22.88	22.98	0.1986
77	30	50	648334	3725.01	CP-OFDM QPSK	1@131	22.99	23.09	0.2037
77	30	50	656000	3840	DFT-s-OFDM PI/2 BPSK	64@32	24.58	24.68	0.2938
77	30	50	656000	3840	DFT-s-OFDM PI/2 BPSK	1@1	24.58	24.68	0.2938
77	30	50	656000	3840	DFT-s-OFDM PI/2 BPSK	1@131	24.67	24.77	0.2999
77	30	50	656000	3840	DFT-s-OFDM QPSK	64@32	24.49	24.59	0.2877
77	30	50	656000	3840	DFT-s-OFDM QPSK	1@1	24.7	24.8	0.302
77	30	50	656000	3840	DFT-s-OFDM QPSK	1@131	24.61	24.71	0.2958
77	30	50	656000	3840	DFT-s-OFDM 16 QAM	64@32	23.64	23.74	0.2366

77	30	50	656000	3840	DFT-s-OFDM 16 QAM	1@1	23.63	23.73	0.236
77	30	50	656000	3840	DFT-s-OFDM 16 QAM	1@131	23.87	23.97	0.2495
77	30	50	656000	3840	DFT-s-OFDM 64 QAM	64@32	22.1	22.2	0.166
77	30	50	656000	3840	DFT-s-OFDM 64 QAM	1@1	22.09	22.19	0.1656
77	30	50	656000	3840	DFT-s-OFDM 64 QAM	1@131	22.45	22.55	0.1799
77	30	50	656000	3840	DFT-s-OFDM 256 QAM	64@32	20.53	20.63	0.1156
77	30	50	656000	3840	DFT-s-OFDM 256 QAM	1@1	20.2	20.3	0.1072
77	30	50	656000	3840	DFT-s-OFDM 256 QAM	1@131	20.18	20.28	0.1067
77	30	50	656000	3840	CP-OFDM QPSK	67@33	23.12	23.22	0.2099
77	30	50	656000	3840	CP-OFDM QPSK	1@1	23.22	23.32	0.2148
77	30	50	656000	3840	CP-OFDM QPSK	1@131	23.37	23.47	0.2223
77	30	50	663666	3954.99	DFT-s-OFDM PI/2 BPSK	64@32	24.73	24.83	0.3041
77	30	50	663666	3954.99	DFT-s-OFDM PI/2 BPSK	1@1	24.63	24.73	0.2972
77	30	50	663666	3954.99	DFT-s-OFDM PI/2 BPSK	1@131	24.74	24.84	0.3048
77	30	50	663666	3954.99	DFT-s-OFDM QPSK	64@32	24.58	24.68	0.2938
77	30	50	663666	3954.99	DFT-s-OFDM QPSK	1@1	24.74	24.84	0.3048
77	30	50	663666	3954.99	DFT-s-OFDM QPSK	1@131	24.76	24.86	0.3062
77	30	50	663666	3954.99	DFT-s-OFDM 16 QAM	64@32	23.73	23.83	0.2415
77	30	50	663666	3954.99	DFT-s-OFDM 16 QAM	1@1	23.87	23.97	0.2495
77	30	50	663666	3954.99	DFT-s-OFDM 16 QAM	1@131	23.79	23.89	0.2449
77	30	50	663666	3954.99	DFT-s-OFDM 64 QAM	64@32	21.87	21.97	0.1574
77	30	50	663666	3954.99	DFT-s-OFDM 64 QAM	1@1	22.28	22.38	0.173
77	30	50	663666	3954.99	DFT-s-OFDM 64 QAM	1@131	22.23	22.33	0.171
77	30	50	663666	3954.99	DFT-s-OFDM 256 QAM	64@32	20.22	20.32	0.1076

77	30	50	663666	3954.99	DFT-s-OFDM 256 QAM	1@1	20.4	20.5	0.1122
77	30	50	663666	3954.99	DFT-s-OFDM 256 QAM	1@131	20.11	20.21	0.105
77	30	50	663666	3954.99	CP-OFDM QPSK	67@33	21.24	21.34	0.1361
77	30	50	663666	3954.99	CP-OFDM QPSK	1@1	23.11	23.21	0.2094
77	30	50	663666	3954.99	CP-OFDM QPSK	1@131	23.23	23.33	0.2153
77	30	60	648668	3954.99	DFT-s-OFDM PI/2 BPSK	81@40	24.14	24.24	0.2655
77	30	60	648668	3954.99	DFT-s-OFDM PI/2 BPSK	1@1	24.8	24.9	0.309
77	30	60	648668	3954.99	DFT-s-OFDM PI/2 BPSK	1@160	24.63	24.73	0.2972
77	30	60	648668	3730.02	DFT-s-OFDM QPSK	81@40	24.45	24.55	0.2851
77	30	60	648668	3730.02	DFT-s-OFDM QPSK	1@1	24.18	24.28	0.2679
77	30	60	648668	3730.02	DFT-s-OFDM QPSK	1@160	24.37	24.47	0.2799
77	30	60	648668	3730.02	DFT-s-OFDM 16 QAM	81@40	23.55	23.65	0.2317
77	30	60	648668	3730.02	DFT-s-OFDM 16 QAM	1@1	23.32	23.42	0.2198
77	30	60	648668	3730.02	DFT-s-OFDM 16 QAM	1@160	23.49	23.59	0.2286
77	30	60	648668	3730.02	DFT-s-OFDM 64 QAM	81@40	22.05	22.15	0.1641
77	30	60	648668	3730.02	DFT-s-OFDM 64 QAM	1@1	21.68	21.78	0.1507
77	30	60	648668	3730.02	DFT-s-OFDM 64 QAM	1@160	21.88	21.98	0.1578
77	30	60	648668	3730.02	DFT-s-OFDM 256 QAM	81@40	20.12	20.22	0.1052
77	30	60	648668	3730.02	DFT-s-OFDM 256 QAM	1@1	19.7	19.8	0.0955
77	30	60	648668	3730.02	DFT-s-OFDM 256 QAM	1@160	19.86	19.96	0.0991
77	30	60	648668	3730.02	CP-OFDM QPSK	81@40	23.05	23.15	0.2065
77	30	60	648668	3730.02	CP-OFDM QPSK	1@1	22.9	23	0.1995
77	30	60	648668	3730.02	CP-OFDM QPSK	1@160	23.01	23.11	0.2046
77	30	60	656000	3840	DFT-s-OFDM PI/2 BPSK	81@40	24.59	24.69	0.2944

77	30	60	656000	3840	DFT-s-OFDM PI/2 BPSK	1@1	24.65	24.75	0.2985
77	30	60	656000	3840	DFT-s-OFDM PI/2 BPSK	1@160	24.78	24.88	0.3076
77	30	60	656000	3840	DFT-s-OFDM QPSK	81@40	24.58	24.68	0.2938
77	30	60	656000	3840	DFT-s-OFDM QPSK	1@1	24.87	24.97	0.3141
77	30	60	656000	3840	DFT-s-OFDM QPSK	1@160	24.7	24.8	0.302
77	30	60	656000	3840	DFT-s-OFDM 16 QAM	81@40	23.68	23.78	0.2388
77	30	60	656000	3840	DFT-s-OFDM 16 QAM	1@1	23.78	23.88	0.2443
77	30	60	656000	3840	DFT-s-OFDM 16 QAM	1@160	23.77	23.87	0.2438
77	30	60	656000	3840	DFT-s-OFDM 64 QAM	81@40	22.19	22.29	0.1694
77	30	60	656000	3840	DFT-s-OFDM 64 QAM	1@1	22.36	22.46	0.1762
77	30	60	656000	3840	DFT-s-OFDM 64 QAM	1@160	21.79	21.89	0.1545
77	30	60	656000	3840	DFT-s-OFDM 256 QAM	81@40	20.24	20.34	0.1081
77	30	60	656000	3840	DFT-s-OFDM 256 QAM	1@1	20.38	20.48	0.1117
77	30	60	656000	3840	DFT-s-OFDM 256 QAM	1@160	20.26	20.36	0.1086
77	30	60	656000	3840	CP-OFDM QPSK	81@40	24.01	24.11	0.2576
77	30	60	656000	3840	CP-OFDM QPSK	1@1	23.27	23.37	0.2173
77	30	60	656000	3840	CP-OFDM QPSK	1@160	23.86	23.96	0.2489
77	30	60	663332	3949.98	DFT-s-OFDM PI/2 BPSK	81@40	24.58	24.68	0.2938
77	30	60	663332	3949.98	DFT-s-OFDM PI/2 BPSK	1@1	24.49	24.59	0.2877
77	30	60	663332	3949.98	DFT-s-OFDM PI/2 BPSK	1@160	24.59	24.69	0.2944
77	30	60	663332	3949.98	DFT-s-OFDM QPSK	81@40	24.56	24.66	0.2924
77	30	60	663332	3949.98	DFT-s-OFDM QPSK	1@1	24.58	24.68	0.2938
77	30	60	663332	3949.98	DFT-s-OFDM QPSK	1@160	24.61	24.71	0.2958
77	30	60	663332	3949.98	DFT-s-OFDM 16 QAM	81@40	23.73	23.83	0.2415

77	30	60	663332	3949.98	DFT-s-OFDM 16 QAM	1@1	24.13	24.23	0.2649
77	30	60	663332	3949.98	DFT-s-OFDM 16 QAM	1@160	24.06	24.16	0.2606
77	30	60	663332	3949.98	DFT-s-OFDM 64 QAM	81@40	22.67	22.77	0.1892
77	30	60	663332	3949.98	DFT-s-OFDM 64 QAM	1@1	21.6	21.7	0.1479
77	30	60	663332	3949.98	DFT-s-OFDM 64 QAM	1@160	22.57	22.67	0.1849
77	30	60	663332	3949.98	DFT-s-OFDM 256 QAM	81@40	20.25	20.35	0.1084
77	30	60	663332	3949.98	DFT-s-OFDM 256 QAM	1@1	20.18	20.28	0.1067
77	30	60	663332	3949.98	DFT-s-OFDM 256 QAM	1@160	20.12	20.22	0.1052
77	30	60	663332	3949.98	CP-OFDM QPSK	81@40	23.11	23.21	0.2094
77	30	60	663332	3949.98	CP-OFDM QPSK	1@1	23.03	23.13	0.2056
77	30	60	663332	3949.98	CP-OFDM QPSK	1@160	23.1	23.2	0.2089
77	30	70	649000	3949.98	DFT-s-OFDM PI/2 BPSK	90@45	24.45	24.55	0.2851
77	30	70	649000	3949.98	DFT-s-OFDM PI/2 BPSK	1@1	24.4	24.5	0.2818
77	30	70	649000	3949.98	DFT-s-OFDM PI/2 BPSK	1@187	24.5	24.6	0.2884
77	30	70	649000	3735	DFT-s-OFDM QPSK	90@45	24.52	24.62	0.2897
77	30	70	649000	3735	DFT-s-OFDM QPSK	1@1	24.28	24.38	0.2742
77	30	70	649000	3735	DFT-s-OFDM QPSK	1@187	24.32	24.42	0.2767
77	30	70	649000	3735	DFT-s-OFDM 16 QAM	90@45	23.56	23.66	0.2323
77	30	70	649000	3735	DFT-s-OFDM 16 QAM	1@1	23.37	23.47	0.2223
77	30	70	649000	3735	DFT-s-OFDM 16 QAM	1@187	23.53	23.63	0.2307
77	30	70	649000	3735	DFT-s-OFDM 64 QAM	90@45	22.08	22.18	0.1652
77	30	70	649000	3735	DFT-s-OFDM 64 QAM	1@1	21.83	21.93	0.156
77	30	70	649000	3735	DFT-s-OFDM 64 QAM	1@187	21.89	21.99	0.1581
77	30	70	649000	3735	DFT-s-OFDM 256 QAM	90@45	20.16	20.26	0.1062

77	30	70	649000	3735	DFT-s-OFDM 256 QAM	1@1	19.8	19.9	0.0977
77	30	70	649000	3735	DFT-s-OFDM 256 QAM	1@187	19.57	19.67	0.0927
77	30	70	649000	3735	CP-OFDM QPSK	95@47	23.06	23.16	0.207
77	30	70	649000	3735	CP-OFDM QPSK	1@1	22.68	22.78	0.1897
77	30	70	649000	3735	CP-OFDM QPSK	1@187	23.01	23.11	0.2046
77	30	70	656000	3840	DFT-s-OFDM PI/2 BPSK	90@45	24.62	24.72	0.2965
77	30	70	656000	3840	DFT-s-OFDM PI/2 BPSK	1@1	24.79	24.89	0.3083
77	30	70	656000	3840	DFT-s-OFDM PI/2 BPSK	1@187	24.69	24.79	0.3013
77	30	70	656000	3840	DFT-s-OFDM QPSK	90@45	24.57	24.67	0.2931
77	30	70	656000	3840	DFT-s-OFDM QPSK	1@1	24.94	25.04	0.3192
77	30	70	656000	3840	DFT-s-OFDM QPSK	1@187	24.7	24.8	0.302
77	30	70	656000	3840	DFT-s-OFDM 16 QAM	90@45	23.64	23.74	0.2366
77	30	70	656000	3840	DFT-s-OFDM 16 QAM	1@1	23.93	24.03	0.2529
77	30	70	656000	3840	DFT-s-OFDM 16 QAM	1@187	23.8	23.9	0.2455
77	30	70	656000	3840	DFT-s-OFDM 64 QAM	90@45	22.24	22.34	0.1714
77	30	70	656000	3840	DFT-s-OFDM 64 QAM	1@1	22.58	22.68	0.1854
77	30	70	656000	3840	DFT-s-OFDM 64 QAM	1@187	22.51	22.61	0.1824
77	30	70	656000	3840	DFT-s-OFDM 256 QAM	90@45	20.27	20.37	0.1089
77	30	70	656000	3840	DFT-s-OFDM 256 QAM	1@1	20.35	20.45	0.1109
77	30	70	656000	3840	DFT-s-OFDM 256 QAM	1@187	20.21	20.31	0.1074
77	30	70	656000	3840	CP-OFDM QPSK	95@47	23.12	23.22	0.2099
77	30	70	656000	3840	CP-OFDM QPSK	1@1	23.59	23.69	0.2339
77	30	70	656000	3840	CP-OFDM QPSK	1@187	23.59	23.69	0.2339
77	30	70	663000	3945	DFT-s-OFDM PI/2 BPSK	90@45	24.69	24.79	0.3013

77	30	70	663000	3945	DFT-s-OFDM PI/2 BPSK	1@1	24.64	24.74	0.2979
77	30	70	663000	3945	DFT-s-OFDM PI/2 BPSK	1@187	24.7	24.8	0.302
77	30	70	663000	3945	DFT-s-OFDM QPSK	90@45	24.58	24.68	0.2938
77	30	70	663000	3945	DFT-s-OFDM QPSK	1@1	24.69	24.79	0.3013
77	30	70	663000	3945	DFT-s-OFDM QPSK	1@187	24.59	24.69	0.2944
77	30	70	663000	3945	DFT-s-OFDM 16 QAM	90@45	23.68	23.78	0.2388
77	30	70	663000	3945	DFT-s-OFDM 16 QAM	1@1	24.16	24.26	0.2667
77	30	70	663000	3945	DFT-s-OFDM 16 QAM	1@187	23.84	23.94	0.2477
77	30	70	663000	3945	DFT-s-OFDM 64 QAM	90@45	22.31	22.41	0.1742
77	30	70	663000	3945	DFT-s-OFDM 64 QAM	1@1	21.87	21.97	0.1574
77	30	70	663000	3945	DFT-s-OFDM 64 QAM	1@187	22.1	22.2	0.166
77	30	70	663000	3945	DFT-s-OFDM 256 QAM	90@45	20.27	20.37	0.1089
77	30	70	663000	3945	DFT-s-OFDM 256 QAM	1@1	20.12	20.22	0.1052
77	30	70	663000	3945	DFT-s-OFDM 256 QAM	1@187	20.25	20.35	0.1084
77	30	70	663000	3945	CP-OFDM QPSK	95@47	23.19	23.29	0.2133
77	30	70	663000	3945	CP-OFDM QPSK	1@1	23.26	23.36	0.2168
77	30	70	663000	3945	CP-OFDM QPSK	1@187	23.37	23.47	0.2223
77	30	80	649334	3740.01	DFT-s-OFDM PI/2 BPSK	108@54	24.44	24.54	0.2844
77	30	80	649334	3740.01	DFT-s-OFDM PI/2 BPSK	1@1	24.22	24.32	0.2704
77	30	80	649334	3740.01	DFT-s-OFDM PI/2 BPSK	1@215	24.48	24.58	0.2871
77	30	80	649334	3740.01	DFT-s-OFDM QPSK	108@54	24.47	24.57	0.2864
77	30	80	649334	3740.01	DFT-s-OFDM QPSK	1@1	24.22	24.32	0.2704
77	30	80	649334	3740.01	DFT-s-OFDM QPSK	1@215	24.46	24.56	0.2858
77	30	80	649334	3740.01	DFT-s-OFDM 16 QAM	108@54	23.54	23.64	0.2312

77	30	80	649334	3740.01	DFT-s-OFDM 16 QAM	1@1	23.38	23.48	0.2228
77	30	80	649334	3740.01	DFT-s-OFDM 16 QAM	1@215	23.72	23.82	0.241
77	30	80	649334	3740.01	DFT-s-OFDM 64 QAM	108@54	22.06	22.16	0.1644
77	30	80	649334	3740.01	DFT-s-OFDM 64 QAM	1@1	21.82	21.92	0.1556
77	30	80	649334	3740.01	DFT-s-OFDM 64 QAM	1@215	21.94	22.04	0.16
77	30	80	649334	3740.01	DFT-s-OFDM 256 QAM	108@54	20.14	20.24	0.1057
77	30	80	649334	3740.01	DFT-s-OFDM 256 QAM	1@1	19.81	19.91	0.0979
77	30	80	649334	3740.01	DFT-s-OFDM 256 QAM	1@215	20.07	20.17	0.104
77	30	80	649334	3740.01	CP-OFDM QPSK	109@54	22.97	23.07	0.2028
77	30	80	649334	3740.01	CP-OFDM QPSK	1@1	22.81	22.91	0.1954
77	30	80	649334	3740.01	CP-OFDM QPSK	1@215	23.01	23.11	0.2046
77	30	80	656000	3840	DFT-s-OFDM PI/2 BPSK	108@54	24.71	24.81	0.3027
77	30	80	656000	3840	DFT-s-OFDM PI/2 BPSK	1@1	24.91	25.01	0.317
77	30	80	656000	3840	DFT-s-OFDM PI/2 BPSK	1@215	24.74	24.84	0.3048
77	30	80	656000	3840	DFT-s-OFDM QPSK	108@54	24.62	24.72	0.2965
77	30	80	656000	3840	DFT-s-OFDM QPSK	1@1	24.92	25.02	0.3177
77	30	80	656000	3840	DFT-s-OFDM QPSK	1@215	24.68	24.78	0.3006
77	30	80	656000	3840	DFT-s-OFDM 16 QAM	108@54	23.73	23.83	0.2415
77	30	80	656000	3840	DFT-s-OFDM 16 QAM	1@1	24.01	24.11	0.2576
77	30	80	656000	3840	DFT-s-OFDM 16 QAM	1@215	23.95	24.05	0.2541
77	30	80	656000	3840	DFT-s-OFDM 64 QAM	108@54	22.25	22.35	0.1718
77	30	80	656000	3840	DFT-s-OFDM 64 QAM	1@1	22.07	22.17	0.1648
77	30	80	656000	3840	DFT-s-OFDM 64 QAM	1@215	22.61	22.71	0.1866
77	30	80	656000	3840	DFT-s-OFDM 256 QAM	108@54	19.76	19.86	0.0968

77	30	80	656000	3840	DFT-s-OFDM 256 QAM	1@1	20.6	20.7	0.1175
77	30	80	656000	3840	DFT-s-OFDM 256 QAM	1@215	20.36	20.46	0.1112
77	30	80	656000	3840	CP-OFDM QPSK	109@54	23.1	23.2	0.2089
77	30	80	656000	3840	CP-OFDM QPSK	1@1	23.66	23.76	0.2377
77	30	80	656000	3840	CP-OFDM QPSK	1@215	23.45	23.55	0.2265
77	30	80	662666	3939.99	DFT-s-OFDM PI/2 BPSK	108@54	24.69	24.79	0.3013
77	30	80	662666	3939.99	DFT-s-OFDM PI/2 BPSK	1@1	24.71	24.81	0.3027
77	30	80	662666	3939.99	DFT-s-OFDM PI/2 BPSK	1@215	24.63	24.73	0.2972
77	30	80	662666	3939.99	DFT-s-OFDM QPSK	108@54	24.62	24.72	0.2965
77	30	80	662666	3939.99	DFT-s-OFDM QPSK	1@1	24.89	24.99	0.3155
77	30	80	662666	3939.99	DFT-s-OFDM QPSK	1@215	24.61	24.71	0.2958
77	30	80	662666	3939.99	DFT-s-OFDM 16 QAM	108@54	23.79	23.89	0.2449
77	30	80	662666	3939.99	DFT-s-OFDM 16 QAM	1@1	23.95	24.05	0.2541
77	30	80	662666	3939.99	DFT-s-OFDM 16 QAM	1@215	23.71	23.81	0.2404
77	30	80	662666	3939.99	DFT-s-OFDM 64 QAM	108@54	22.4	22.5	0.1778
77	30	80	662666	3939.99	DFT-s-OFDM 64 QAM	1@1	22.46	22.56	0.1803
77	30	80	662666	3939.99	DFT-s-OFDM 64 QAM	1@215	22.69	22.79	0.1901
77	30	80	662666	3939.99	DFT-s-OFDM 256 QAM	108@54	20.39	20.49	0.1119
77	30	80	662666	3939.99	DFT-s-OFDM 256 QAM	1@1	20.31	20.41	0.1099
77	30	80	662666	3939.99	DFT-s-OFDM 256 QAM	1@215	20.26	20.36	0.1086
77	30	80	662666	3939.99	CP-OFDM QPSK	109@54	23.15	23.25	0.2113
77	30	80	662666	3939.99	CP-OFDM QPSK	1@1	23.18	23.28	0.2128
77	30	80	662666	3939.99	CP-OFDM QPSK	1@215	23.01	23.11	0.2046
77	30	90	649668	3745.02	DFT-s-OFDM PI/2 BPSK	120@60	24.48	24.58	0.2871

77	30	90	649668	3745.02	DFT-s-OFDM PI/2 BPSK	1@1	24.26	24.36	0.2729
77	30	90	649668	3745.02	DFT-s-OFDM PI/2 BPSK	1@243	24.58	24.68	0.2938
77	30	90	649668	3745.02	DFT-s-OFDM QPSK	120@60	24.41	24.51	0.2825
77	30	90	649668	3745.02	DFT-s-OFDM QPSK	1@1	24.4	24.5	0.2818
77	30	90	649668	3745.02	DFT-s-OFDM QPSK	1@243	24.65	24.75	0.2985
77	30	90	649668	3745.02	DFT-s-OFDM 16 QAM	120@60	23.5	23.6	0.2291
77	30	90	649668	3745.02	DFT-s-OFDM 16 QAM	1@1	23.5	23.6	0.2291
77	30	90	649668	3745.02	DFT-s-OFDM 16 QAM	1@243	23.75	23.85	0.2427
77	30	90	649668	3745.02	DFT-s-OFDM 64 QAM	120@60	22.05	22.15	0.1641
77	30	90	649668	3745.02	DFT-s-OFDM 64 QAM	1@1	22	22.1	0.1622
77	30	90	649668	3745.02	DFT-s-OFDM 64 QAM	1@243	22.42	22.52	0.1786
77	30	90	649668	3745.02	DFT-s-OFDM 256 QAM	120@60	20.13	20.23	0.1054
77	30	90	649668	3745.02	DFT-s-OFDM 256 QAM	1@1	19.93	20.03	0.1007
77	30	90	649668	3745.02	DFT-s-OFDM 256 QAM	1@243	20.29	20.39	0.1094
77	30	90	649668	3745.02	CP-OFDM QPSK	123@61	22.89	22.99	0.1991
77	30	90	649668	3745.02	CP-OFDM QPSK	1@1	22.7	22.8	0.1905
77	30	90	649668	3745.02	CP-OFDM QPSK	1@243	23.19	23.29	0.2133
77	30	90	656000	3745.02	DFT-s-OFDM PI/2 BPSK	120@60	24.34	24.44	0.278
77	30	90	656000	3745.02	DFT-s-OFDM PI/2 BPSK	1@1	24.22	24.32	0.2704
77	30	90	656000	3745.02	DFT-s-OFDM PI/2 BPSK	1@243	24.56	24.66	0.2924
77	30	90	656000	3840	DFT-s-OFDM QPSK	120@60	24.64	24.74	0.2979
77	30	90	656000	3840	DFT-s-OFDM QPSK	1@1	24.85	24.95	0.3126
77	30	90	656000	3840	DFT-s-OFDM QPSK	1@243	24.73	24.83	0.3041
77	30	90	656000	3840	DFT-s-OFDM 16 QAM	120@60	23.76	23.86	0.2432

77	30	90	656000	3840	DFT-s-OFDM 16 QAM	1@1	24.06	24.16	0.2606
77	30	90	656000	3840	DFT-s-OFDM 16 QAM	1@243	24.01	24.11	0.2576
77	30	90	656000	3840	DFT-s-OFDM 64 QAM	120@60	22.22	22.32	0.1706
77	30	90	656000	3840	DFT-s-OFDM 64 QAM	1@1	22.77	22.87	0.1936
77	30	90	656000	3840	DFT-s-OFDM 64 QAM	1@243	22.33	22.43	0.175
77	30	90	656000	3840	DFT-s-OFDM 256 QAM	120@60	20.29	20.39	0.1094
77	30	90	656000	3840	DFT-s-OFDM 256 QAM	1@1	20.6	20.7	0.1175
77	30	90	656000	3840	DFT-s-OFDM 256 QAM	1@243	20.48	20.58	0.1143
77	30	90	656000	3840	CP-OFDM QPSK	123@61	23.09	23.19	0.2084
77	30	90	656000	3840	CP-OFDM QPSK	1@1	23.64	23.74	0.2366
77	30	90	656000	3840	CP-OFDM QPSK	1@243	23.29	23.39	0.2183
77	30	90	662332	3934.98	DFT-s-OFDM PI/2 BPSK	120@60	24.58	24.68	0.2938
77	30	90	662332	3934.98	DFT-s-OFDM PI/2 BPSK	1@1	24.73	24.83	0.3041
77	30	90	662332	3934.98	DFT-s-OFDM PI/2 BPSK	1@243	24.7	24.8	0.302
77	30	90	662332	3934.98	DFT-s-OFDM QPSK	120@60	24.59	24.69	0.2944
77	30	90	662332	3934.98	DFT-s-OFDM QPSK	1@1	24.75	24.85	0.3055
77	30	90	662332	3934.98	DFT-s-OFDM QPSK	1@243	24.54	24.64	0.2911
77	30	90	662332	3934.98	DFT-s-OFDM 16 QAM	120@60	23.72	23.82	0.241
77	30	90	662332	3934.98	DFT-s-OFDM 16 QAM	1@1	23.97	24.07	0.2553
77	30	90	662332	3934.98	DFT-s-OFDM 16 QAM	1@243	23.87	23.97	0.2495
77	30	90	662332	3934.98	DFT-s-OFDM 64 QAM	120@60	22.19	22.29	0.1694
77	30	90	662332	3934.98	DFT-s-OFDM 64 QAM	1@1	22.31	22.41	0.1742
77	30	90	662332	3934.98	DFT-s-OFDM 64 QAM	1@243	22.17	22.27	0.1687
77	30	90	662332	3934.98	DFT-s-OFDM 256 QAM	120@60	20.26	20.36	0.1086

77	30	90	662332	3934.98	DFT-s-OFDM 256 QAM	1@1	20.37	20.47	0.1114
77	30	90	662332	3934.98	DFT-s-OFDM 256 QAM	1@243	20.49	20.59	0.1146
77	30	90	662332	3934.98	CP-OFDM QPSK	123@61	23.07	23.17	0.2075
77	30	90	662332	3934.98	CP-OFDM QPSK	1@1	23.51	23.61	0.2296
77	30	90	662332	3934.98	CP-OFDM QPSK	1@243	23.29	23.39	0.2183
77	30	100	650000	3750	DFT-s-OFDM PI/2 BPSK	135@67	24.28	24.38	0.2742
77	30	100	650000	3750	DFT-s-OFDM PI/2 BPSK	1@1	24.73	24.83	0.3041
77	30	100	650000	3750	DFT-s-OFDM PI/2 BPSK	1@271	24.73	24.83	0.3041
77	30	100	650000	3750	DFT-s-OFDM QPSK	135@67	24.4	24.5	0.2818
77	30	100	650000	3750	DFT-s-OFDM QPSK	1@1	24.25	24.35	0.2723
77	30	100	650000	3750	DFT-s-OFDM QPSK	1@271	24.67	24.77	0.2999
77	30	100	650000	3750	DFT-s-OFDM 16 QAM	135@67	23.44	23.54	0.2259
77	30	100	650000	3750	DFT-s-OFDM 16 QAM	1@1	23.41	23.51	0.2244
77	30	100	650000	3750	DFT-s-OFDM 16 QAM	1@271	23.93	24.03	0.2529
77	30	100	650000	3750	DFT-s-OFDM 64 QAM	135@67	22.08	22.18	0.1652
77	30	100	650000	3750	DFT-s-OFDM 64 QAM	1@1	21.87	21.97	0.1574
77	30	100	650000	3750	DFT-s-OFDM 64 QAM	1@271	22.26	22.36	0.1722
77	30	100	650000	3750	DFT-s-OFDM 256 QAM	135@67	20.04	20.14	0.1033
77	30	100	650000	3750	DFT-s-OFDM 256 QAM	1@1	19.72	19.82	0.0959
77	30	100	650000	3750	DFT-s-OFDM 256 QAM	1@271	20.39	20.49	0.1119
77	30	100	650000	3750	CP-OFDM QPSK	137@68	20.16	20.26	0.1062
77	30	100	650000	3750	CP-OFDM QPSK	1@1	22.79	22.89	0.1945
77	30	100	650000	3750	CP-OFDM QPSK	1@271	23.18	23.28	0.2128
77	30	100	656000	3840	DFT-s-OFDM PI/2 BPSK	135@67	24.7	24.8	0.302

77	30	100	656000	3840	DFT-s-OFDM PI/2 BPSK	1@1	24.8	24.9	0.309
77	30	100	656000	3840	DFT-s-OFDM PI/2 BPSK	1@271	25.91	26.01	0.399
77	30	100	656000	3840	DFT-s-OFDM QPSK	135@67	24.67	24.77	0.2999
77	30	100	656000	3840	DFT-s-OFDM QPSK	1@1	24.88	24.98	0.3148
77	30	100	656000	3840	DFT-s-OFDM QPSK	1@271	24.92	25.02	0.3177
77	30	100	656000	3840	DFT-s-OFDM 16 QAM	135@67	23.77	23.87	0.2438
77	30	100	656000	3840	DFT-s-OFDM 16 QAM	1@1	24.11	24.21	0.2636
77	30	100	656000	3840	DFT-s-OFDM 16 QAM	1@271	23.99	24.09	0.2564
77	30	100	656000	3840	DFT-s-OFDM 64 QAM	135@67	22.32	22.42	0.1746
77	30	100	656000	3840	DFT-s-OFDM 64 QAM	1@1	22.72	22.82	0.1914
77	30	100	656000	3840	DFT-s-OFDM 64 QAM	1@271	22.51	22.61	0.1824
77	30	100	656000	3840	DFT-s-OFDM 256 QAM	135@67	20.3	20.4	0.1096
77	30	100	656000	3840	DFT-s-OFDM 256 QAM	1@1	20.48	20.58	0.1143
77	30	100	656000	3840	DFT-s-OFDM 256 QAM	1@271	20.51	20.61	0.1151
77	30	100	656000	3840	CP-OFDM QPSK	137@68	23.23	23.33	0.2153
77	30	100	656000	3840	CP-OFDM QPSK	1@1	23.43	23.53	0.2254
77	30	100	656000	3840	CP-OFDM QPSK	1@271	23.54	23.64	0.2312
77	30	100	662000	3930	DFT-s-OFDM PI/2 BPSK	135@67	24.52	24.62	0.2897
77	30	100	662000	3930	DFT-s-OFDM PI/2 BPSK	1@1	24.32	24.42	0.2767
77	30	100	662000	3930	DFT-s-OFDM PI/2 BPSK	1@271	24.78	24.88	0.3076
77	30	100	662000	3930	DFT-s-OFDM QPSK	135@67	24.48	24.58	0.2871
77	30	100	662000	3930	DFT-s-OFDM QPSK	1@1	24.32	24.42	0.2767
77	30	100	662000	3930	DFT-s-OFDM QPSK	1@271	24.87	24.97	0.3141
77	30	100	662000	3930	DFT-s-OFDM 16 QAM	135@67	23.44	23.54	0.2259

NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	Conducted Power(dBm)	EIRP (dBm)	EIRP (W)
77	30	100	662000	3930	DFT-s-OFDM 16 QAM	1@1	23.43	23.53	0.2254
77	30	100	662000	3930	DFT-s-OFDM 16 QAM	1@271	23.95	24.05	0.2541
77	30	100	662000	3930	DFT-s-OFDM 64 QAM	135@67	22.14	22.24	0.1675
77	30	100	662000	3930	DFT-s-OFDM 64 QAM	1@1	22.17	22.27	0.1687
77	30	100	662000	3930	DFT-s-OFDM 64 QAM	1@271	22.64	22.74	0.1879
77	30	100	662000	3930	DFT-s-OFDM 256 QAM	135@67	20.06	20.16	0.1038
77	30	100	662000	3930	DFT-s-OFDM 256 QAM	1@1	19.95	20.05	0.1012
77	30	100	662000	3930	DFT-s-OFDM 256 QAM	1@271	20.32	20.42	0.1102
77	30	100	662000	3930	CP-OFDM QPSK	137@68	23.01	23.11	0.2046
77	30	100	662000	3930	CP-OFDM QPSK	1@1	23.07	23.17	0.2075
77	30	100	662000	3930	CP-OFDM QPSK	1@271	23.5	23.6	0.2291

<Ant. 12>

Transmitter Conducted Output Power And ERP/EIRP, $(G_T - L_C)$=1.95dB

NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	Conducted Power(dBm)	EIRP (dBm)	EIRP (W)
77	30	100	650000	3750	DFT-s-OFDM PI/2 BPSK	135@67	25.45	27.4	0.5495
77	30	100	650000	3750	DFT-s-OFDM PI/2 BPSK	1@1	25.42	27.37	0.5458
77	30	100	650000	3750	DFT-s-OFDM PI/2 BPSK	1@271	25.51	27.46	0.5572
77	30	100	650000	3750	DFT-s-OFDM QPSK	135@67	25.23	27.18	0.5224
77	30	100	650000	3750	DFT-s-OFDM QPSK	1@1	25.03	26.98	0.4989
77	30	100	650000	3750	DFT-s-OFDM QPSK	1@271	25.37	27.32	0.5395
77	30	100	650000	3750	DFT-s-OFDM 16 QAM	135@67	24.79	26.74	0.4721
77	30	100	650000	3750	DFT-s-OFDM 16 QAM	1@1	24.5	26.45	0.4416
77	30	100	650000	3750	DFT-s-OFDM 16 QAM	1@271	25.18	27.13	0.5164
77	30	100	650000	3750	DFT-s-OFDM 64 QAM	135@67	23.4	25.35	0.3428

77	30	100	650000	3750	DFT-s-OFDM 64 QAM	1@1	23.09	25.04	0.3192
77	30	100	650000	3750	DFT-s-OFDM 64 QAM	1@271	23.88	25.83	0.3828
77	30	100	650000	3750	DFT-s-OFDM 256 QAM	135@67	21.36	23.31	0.2143
77	30	100	650000	3750	DFT-s-OFDM 256 QAM	1@1	21.26	23.21	0.2094
77	30	100	650000	3750	DFT-s-OFDM 256 QAM	1@271	21.72	23.67	0.2328
77	30	100	650000	3750	CP-OFDM QPSK	137@68	24.33	26.28	0.4246
77	30	100	650000	3750	CP-OFDM QPSK	1@1	24.03	25.98	0.3963
77	30	100	650000	3750	CP-OFDM QPSK	1@271	24.79	26.74	0.4721
77	30	100	656000	3840	DFT-s-OFDM PI/2 BPSK	135@67	25.67	27.62	0.5781
77	30	100	656000	3840	DFT-s-OFDM PI/2 BPSK	1@1	25.25	27.2	0.5248
77	30	100	656000	3840	DFT-s-OFDM PI/2 BPSK	1@271	25.63	27.58	0.5728
77	30	100	656000	3840	DFT-s-OFDM QPSK	135@67	25.64	27.59	0.5741
77	30	100	656000	3840	DFT-s-OFDM QPSK	1@1	25.36	27.31	0.5383
77	30	100	656000	3840	DFT-s-OFDM QPSK	1@271	25.68	27.63	0.5794
77	30	100	656000	3840	DFT-s-OFDM 16 QAM	135@67	25.32	27.27	0.5333
77	30	100	656000	3840	DFT-s-OFDM 16 QAM	1@1	25.09	27.04	0.5058
77	30	100	656000	3840	DFT-s-OFDM 16 QAM	1@271	25.48	27.43	0.5534
77	30	100	656000	3840	DFT-s-OFDM 64 QAM	135@67	23.9	25.85	0.3846
77	30	100	656000	3840	DFT-s-OFDM 64 QAM	1@1	23.83	25.78	0.3784
77	30	100	656000	3840	DFT-s-OFDM 64 QAM	1@271	24.17	26.12	0.4093
77	30	100	656000	3840	DFT-s-OFDM 256 QAM	135@67	21.97	23.92	0.2466
77	30	100	656000	3840	DFT-s-OFDM 256 QAM	1@1	21.78	23.73	0.2360
77	30	100	656000	3840	DFT-s-OFDM 256 QAM	1@271	22.13	24.08	0.2559
77	30	100	656000	3840	CP-OFDM QPSK	137@68	24.88	26.83	0.4819

77	30	100	656000	3840	CP-OFDM QPSK	1@1	24.49	26.44	0.4406
77	30	100	656000	3840	CP-OFDM QPSK	1@271	25.04	26.99	0.5000
77	30	100	662000	3930	DFT-s-OFDM PI/2 BPSK	135@67	25.54	27.49	0.5610
77	30	100	662000	3930	DFT-s-OFDM PI/2 BPSK	1@1	25.65	27.6	0.5754
77	30	100	662000	3930	DFT-s-OFDM PI/2 BPSK	1@271	25.46	27.41	0.5508
77	30	100	662000	3930	DFT-s-OFDM QPSK	135@67	25.23	27.18	0.5224
77	30	100	662000	3930	DFT-s-OFDM QPSK	1@1	25.64	27.59	0.5741
77	30	100	662000	3930	DFT-s-OFDM QPSK	1@271	25.44	27.39	0.5483
77	30	100	662000	3930	DFT-s-OFDM 16 QAM	135@67	25.27	27.22	0.5272
77	30	100	662000	3930	DFT-s-OFDM 16 QAM	1@1	25.13	27.08	0.5105
77	30	100	662000	3930	DFT-s-OFDM 16 QAM	1@271	24.98	26.93	0.4932
77	30	100	662000	3930	DFT-s-OFDM 64 QAM	135@67	23.86	25.81	0.3811
77	30	100	662000	3930	DFT-s-OFDM 64 QAM	1@1	24.21	26.16	0.4130
77	30	100	662000	3930	DFT-s-OFDM 64 QAM	1@271	23.9	25.85	0.3846
77	30	100	662000	3930	DFT-s-OFDM 256 QAM	135@67	21.9	23.85	0.2427
77	30	100	662000	3930	DFT-s-OFDM 256 QAM	1@1	22.09	24.04	0.2535
77	30	100	662000	3930	DFT-s-OFDM 256 QAM	1@271	22.03	23.98	0.2500
77	30	100	662000	3930	CP-OFDM QPSK	137@68	24.82	26.77	0.4753
77	30	100	662000	3930	CP-OFDM QPSK	1@1	24.93	26.88	0.4875
77	30	100	662000	3930	CP-OFDM QPSK	1@271	24.9	26.85	0.4842

Frequency Stability

NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	Deviation (ppm)	Verdict	Environment
77	30	20	656000	3840.0	DFT-s-OFDM QPSK	50@0	-0.00626	PASS	NV
77	30	20	656000	3840.0	DFT-s-OFDM QPSK	50@0	-0.00896	PASS	LV
77	30	20	656000	3840.0	DFT-s-OFDM QPSK	50@0	-0.00486	PASS	HV
77	30	20	656000	3840.0	DFT-s-OFDM QPSK	50@0	-0.00861	PASS	-30℃
77	30	20	656000	3840.0	DFT-s-OFDM QPSK	50@0	-0.00476	PASS	-20℃
77	30	20	656000	3840.0	DFT-s-OFDM QPSK	50@0	-0.00805	PASS	-10℃
77	30	20	656000	3840.0	DFT-s-OFDM QPSK	50@0	-0.00789	PASS	0℃
77	30	20	656000	3840.0	DFT-s-OFDM QPSK	50@0	-0.00565	PASS	10℃
77	30	20	656000	3840.0	DFT-s-OFDM QPSK	50@0	-0.00451	PASS	20℃
77	30	20	656000	3840.0	DFT-s-OFDM QPSK	50@0	-0.00571	PASS	30℃
77	30	20	656000	3840.0	DFT-s-OFDM QPSK	50@0	-0.00542	PASS	40℃
77	30	20	656000	3840.0	DFT-s-OFDM QPSK	50@0	-0.00593	PASS	50℃

Peak to Average Radio

NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	Result (dB)	Limit (dB)	Verdict
77	30	20	647334	3710.01	DFT-s-OFDM PI/2 BPSK	50@0	6.92	13	PASS
77	30	20	647334	3710.01	DFT-s-OFDM PI/2 BPSK	1@0	6.7	13	PASS
77	30	20	647334	3710.01	DFT-s-OFDM QPSK	50@0	7.65	13	PASS
77	30	20	647334	3710.01	DFT-s-OFDM QPSK	1@0	6.59	13	PASS
77	30	20	656000	3840.0	DFT-s-OFDM PI/2 BPSK	50@0	6.76	13	PASS
77	30	20	656000	3840.0	DFT-s-OFDM PI/2 BPSK	1@0	6.54	13	PASS
77	30	20	656000	3840.0	DFT-s-OFDM QPSK	50@0	7.45	13	PASS
77	30	20	656000	3840.0	DFT-s-OFDM QPSK	1@0	6.75	13	PASS
77	30	20	664666	3969.99	DFT-s-OFDM PI/2 BPSK	50@0	6.89	13	PASS
77	30	20	664666	3969.99	DFT-s-OFDM PI/2 BPSK	1@0	7.3	13	PASS
77	30	20	664666	3969.99	DFT-s-OFDM QPSK	50@0	7.7	13	PASS
77	30	20	664666	3969.99	DFT-s-OFDM QPSK	1@0	6.61	13	PASS

N77(20M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_Low_CH

N77(20M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_Left_Low_CH

N77(20M)_DFT-s-OFDM_QPSK_Outer_Full_Low_CH
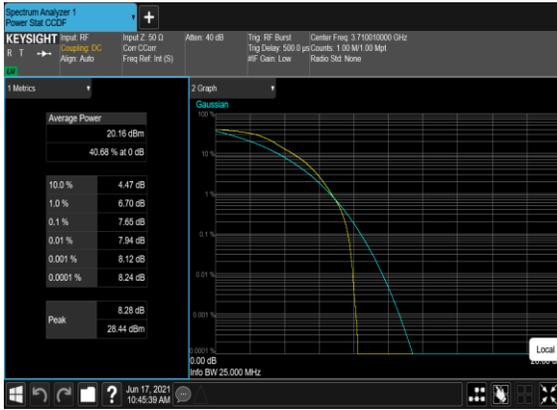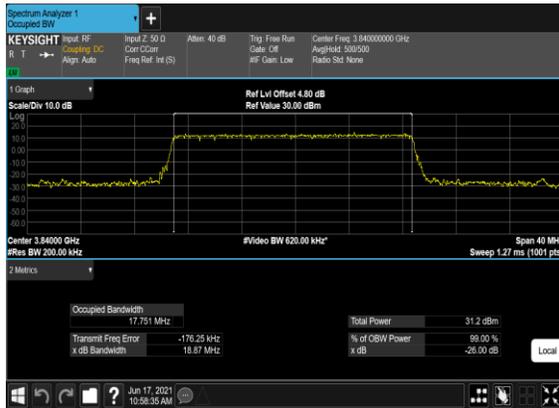

N77(20M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Low_CH

N77(20M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_Mid_CH

N77(20M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_Left_Mid_CH

N77(20M)_DFT-s-OFDM_QPSK_Outer_Full_Mid_CH
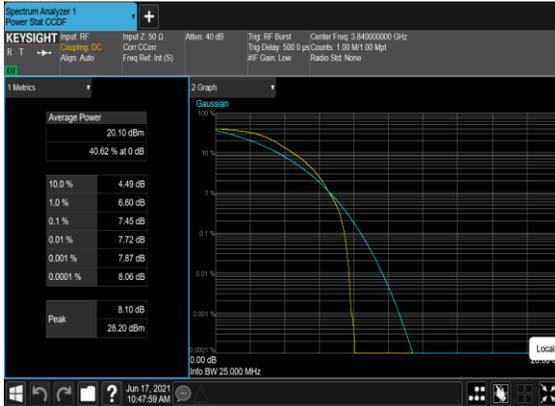
N77(20M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Mid_CH
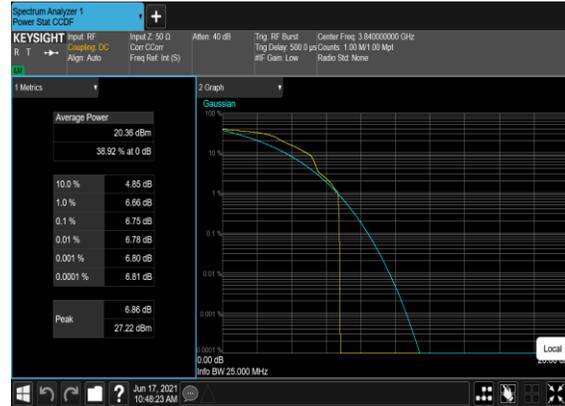
N77(20M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_High_CH

N77(20M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_Left_High_CH

N77(20M)_DFT-s-OFDM_QPSK_Outer_Full_High_CH

N77(20M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_High_CH

Occupied Bandwidth

NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	OBW (MHz)	26dB OBW (MHz)
77	30	20	656000	3840.0	DFT-s-OFDM PI/2 BPSK	50@0	17.751	18.87
77	30	20	656000	3840.0	DFT-s-OFDM QPSK	50@0	17.792	18.82
77	30	20	656000	3840.0	CP-OFDM QPSK	51@0	18.214	19.42
77	30	20	656000	3840.0	CP-OFDM 16 QAM	51@0	18.202	19.41
77	30	20	656000	3840.0	CP-OFDM 64 QAM	51@0	18.229	19.5
77	30	20	656000	3840.0	CP-OFDM 256 QAM	51@0	18.17	19.4
77	30	30	656000	3840.0	DFT-s-OFDM PI/2 BPSK	75@0	26.735	28.12
77	30	30	656000	3840.0	DFT-s-OFDM QPSK	75@0	26.742	28.18
77	30	30	656000	3840.0	CP-OFDM QPSK	78@0	27.888	29.02
77	30	30	656000	3840.0	CP-OFDM 16 QAM	78@0	27.881	29.09
77	30	30	656000	3840.0	CP-OFDM 64 QAM	78@0	27.799	29.08
77	30	30	656000	3840.0	CP-OFDM 256 QAM	78@0	27.846	29.33
77	30	40	656000	3840.0	DFT-s-OFDM PI/2 BPSK	100@0	35.674	37.26
77	30	40	656000	3840.0	DFT-s-OFDM QPSK	100@0	35.679	37.09
77	30	40	656000	3840.0	CP-OFDM QPSK	106@0	37.788	39.38
77	30	40	656000	3840.0	CP-OFDM 16 QAM	106@0	37.782	39.46
77	30	40	656000	3840.0	CP-OFDM 64 QAM	106@0	37.819	39.38
77	30	40	656000	3840.0	CP-OFDM 256 QAM	106@0	37.877	39.41
77	30	50	656000	3840.0	DFT-s-OFDM PI/2 BPSK	128@0	45.779	47.67
77	30	50	656000	3840.0	DFT-s-OFDM QPSK	128@0	45.752	47.32
77	30	50	656000	3840.0	CP-OFDM QPSK	133@0	47.554	49.37
77	30	50	656000	3840.0	CP-OFDM 16 QAM	133@0	47.542	49.34
77	30	50	656000	3840.0	CP-OFDM 64 QAM	133@0	47.462	49.14
77	30	50	656000	3840.0	CP-OFDM 256 QAM	133@0	47.499	49.11

77	30	60	656000	3840.0	DFT-s-OFDM PI/2 BPSK	162@0	57.803	59.79
77	30	60	656000	3840.0	DFT-s-OFDM QPSK	162@0	57.982	59.77
77	30	60	656000	3840.0	CP-OFDM QPSK	162@0	57.939	60.06
77	30	60	656000	3840.0	CP-OFDM 16 QAM	162@0	57.865	59.87
77	30	60	656000	3840.0	CP-OFDM 64 QAM	162@0	57.83	59.81
77	30	60	656000	3840.0	CP-OFDM 256 QAM	162@0	57.825	59.92
77	30	70	656000	3840.0	DFT-s-OFDM PI/2 BPSK	180@0	64.35	66.44
77	30	70	656000	3840.0	DFT-s-OFDM QPSK	180@0	64.362	66.34
77	30	70	656000	3840.0	CP-OFDM QPSK	189@0	67.427	69.76
77	30	70	656000	3840.0	CP-OFDM 16 QAM	189@0	67.522	69.73
77	30	70	656000	3840.0	CP-OFDM 64 QAM	189@0	67.448	69.62
77	30	70	656000	3840.0	CP-OFDM 256 QAM	189@0	67.372	69.81
77	30	80	656000	3840.0	DFT-s-OFDM PI/2 BPSK	216@0	77.181	79.6
77	30	80	656000	3840.0	DFT-s-OFDM QPSK	216@0	77.124	79.79
77	30	80	656000	3840.0	CP-OFDM QPSK	217@0	77.408	80.04
77	30	80	656000	3840.0	CP-OFDM 16 QAM	217@0	77.478	80.05
77	30	80	656000	3840.0	CP-OFDM 64 QAM	217@0	77.537	79.94
77	30	80	656000	3840.0	CP-OFDM 256 QAM	217@0	77.564	80.08
77	30	90	656000	3840.0	DFT-s-OFDM PI/2 BPSK	240@0	85.787	88.56
77	30	90	656000	3840.0	DFT-s-OFDM QPSK	240@0	85.67	88.59
77	30	90	656000	3840.0	CP-OFDM QPSK	245@0	87.406	90.31
77	30	90	656000	3840.0	CP-OFDM 16 QAM	245@0	87.403	90.32
77	30	90	656000	3840.0	CP-OFDM 64 QAM	245@0	87.445	90.32
77	30	90	656000	3840.0	CP-OFDM 256 QAM	245@0	87.515	90.29
77	30	100	656000	3840.0	DFT-s-OFDM PI/2 BPSK	270@0	96.529	99.53
77	30	100	656000	3840.0	DFT-s-OFDM	270@0	96.37	99.45

					QPSK			
77	30	100	656000	3840.0	CP-OFDM QPSK	273@0	97.616	100.6
77	30	100	656000	3840.0	CP-OFDM 16 QAM	273@0	97.437	100.5
77	30	100	656000	3840.0	CP-OFDM 64 QAM	273@0	97.56	100.6
77	30	100	656000	3840.0	CP-OFDM 256 QAM	273@0	97.435	100.6

N77(20M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_Mid_CH
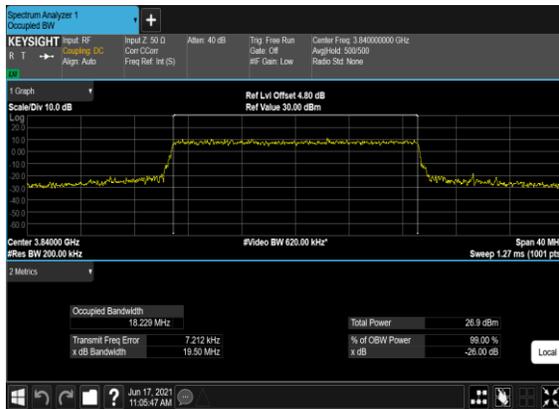

N77(20M)_DFT-s-OFDM_QPSK_Outer_Full_Mid_CH
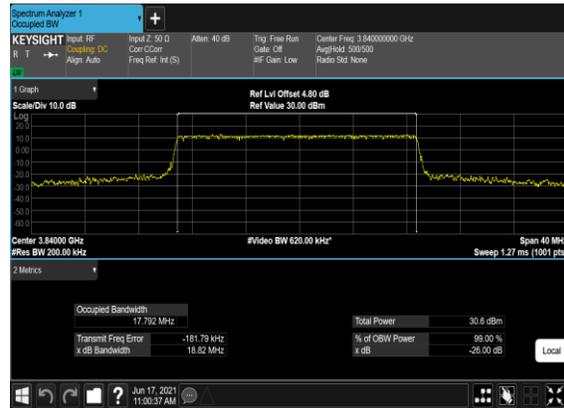
N77(20M)_CP-OFDM_QPSK_Outer_Full_Mid_CH
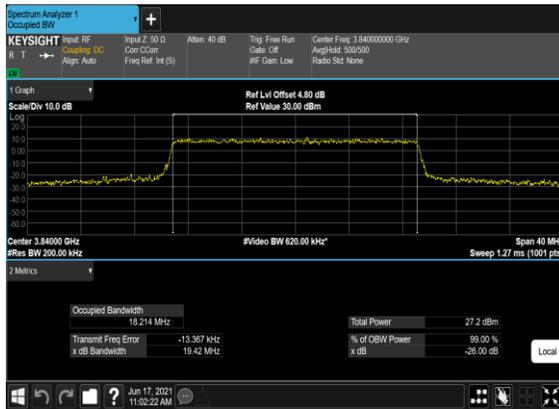
N77(20M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH

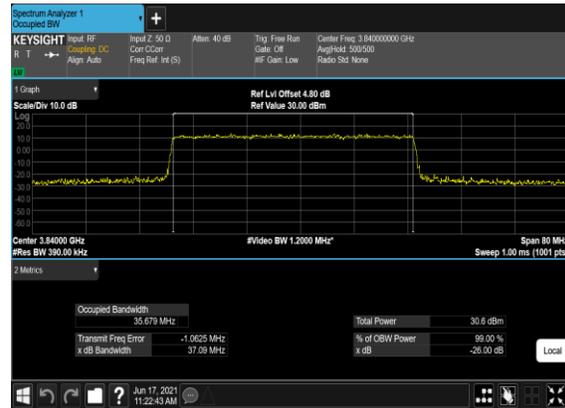## N77(20M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH

N77(20M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH
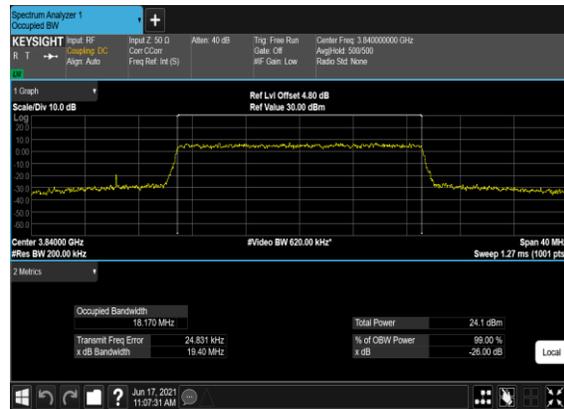
N77(30M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_Mid_CH
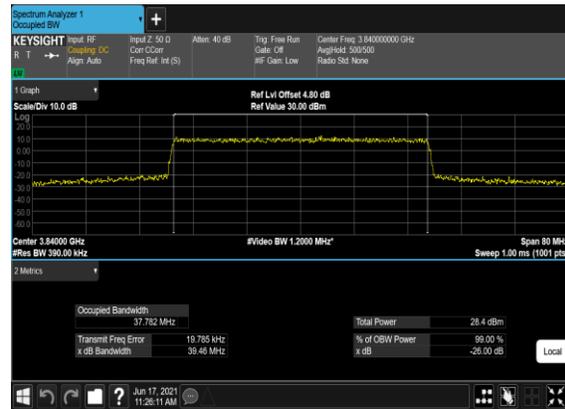

N77(30M)_DFT-s-OFDM_QPSK_Outer_Full_Mid_CH

N77(30M)_CP-OFDM_QPSK_Outer_Full_Mid_CH

N77(30M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH

N77(30M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH
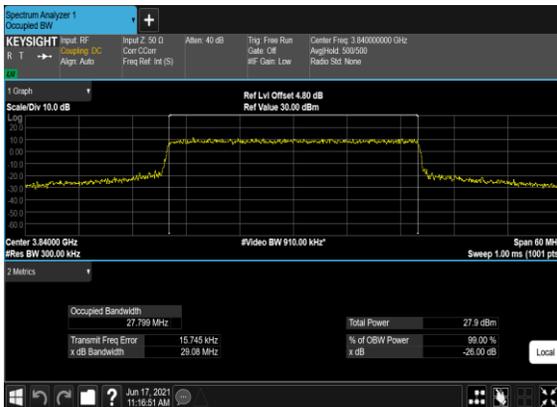
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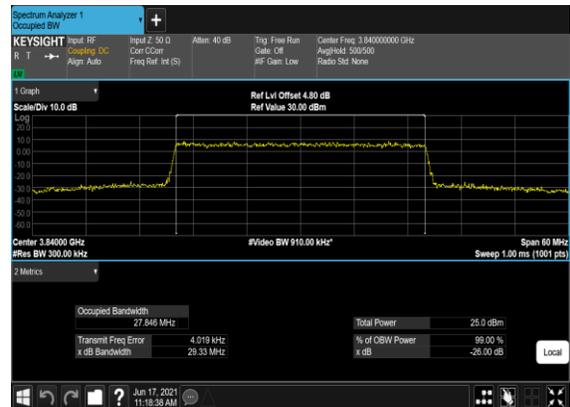
N77(40M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_Mid_CH

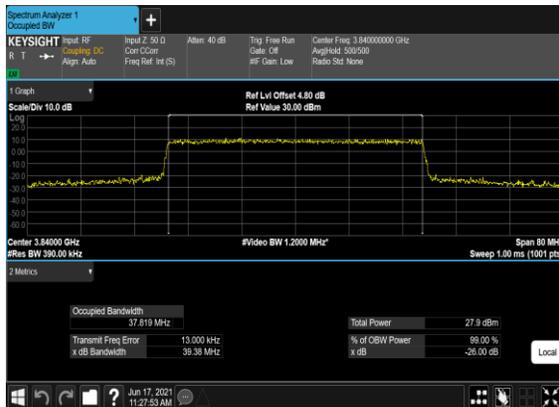## N77(40M)_DFT-s-OFDM_QPSK_Outer_Full_Mid_CH

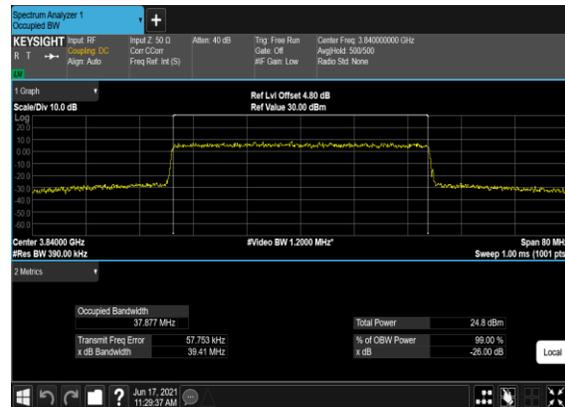## N77(40M)_CP-OFDM_QPSK_Outer_Full_Mid_CH

N77(40M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH
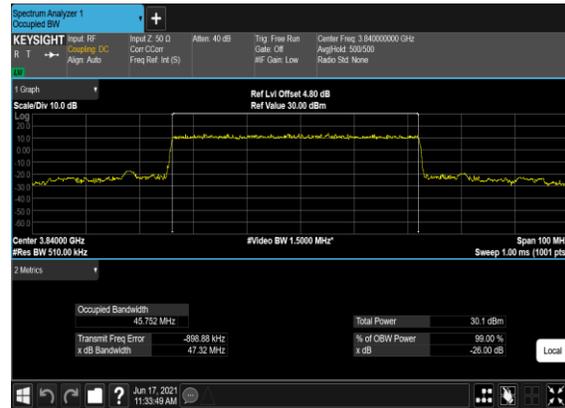

N77(40M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH

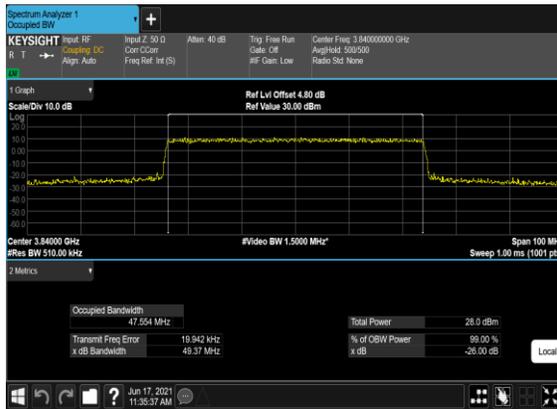## N77(40M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH

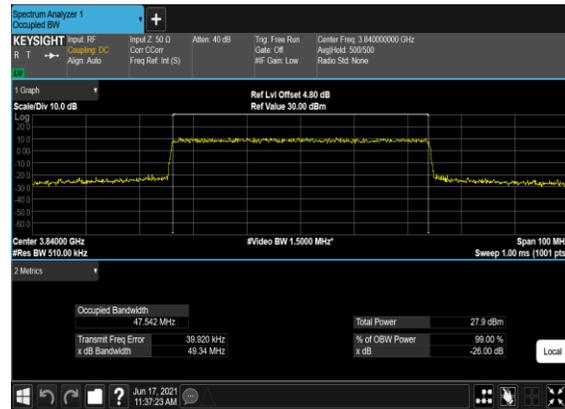## N77(50M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_Mid_CH

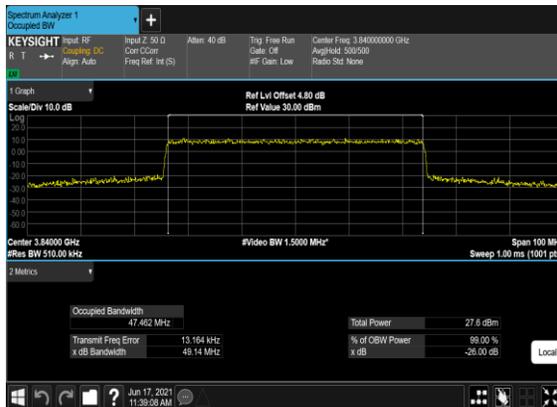## N77(50M)_DFT-s-OFDM_QPSK_Outer_Full_Mid_CH

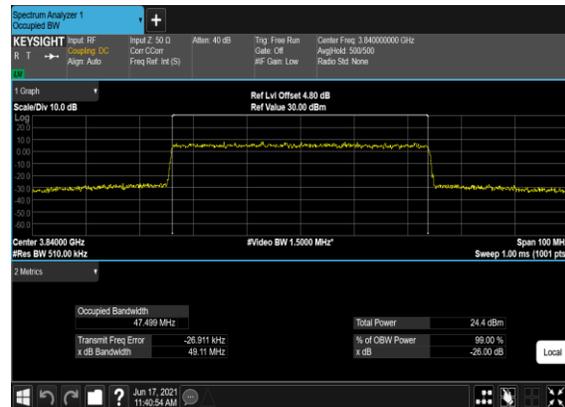## N77(50M)_CP-OFDM_QPSK_Outer_Full_Mid_CH
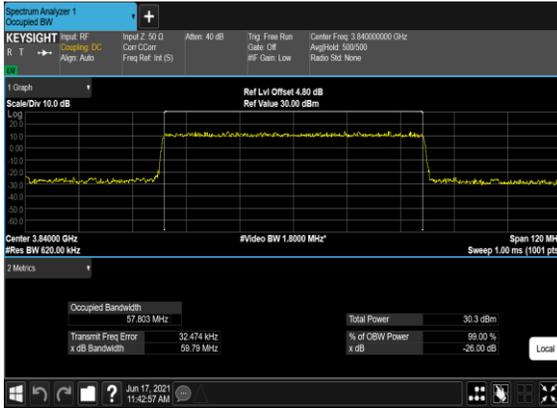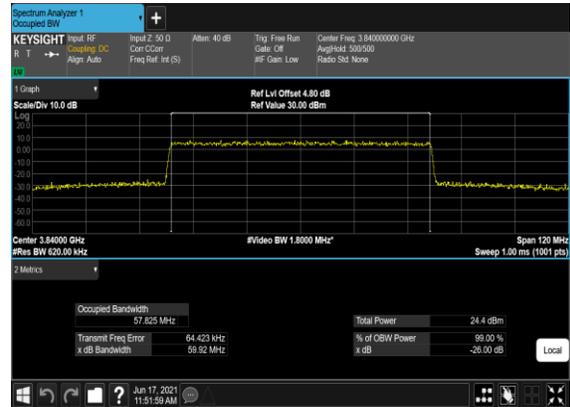

N77(50M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH

N77(50M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH

N77(50M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH

N77(60M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_Mid_CH

Spectrum Analyzer 1
Occupied BW

KEYSIGHT Input: RF Input Z: 50 Ω Atten: 40 dB Trig: Free Run Center Freq: 3.840000000 GHz
R T Coupling: DC Corr CCorr Gate: Off AvgHold: 500/500
Align: Auto Freq Ref: Int (S) #IF Gain: Low Radio Std: None

1 Graph
Scale/Div 10.0 dB Ref Lvl Offset 4.80 dB
Log Ref Value 30.00 dBm

Center 3.84000 GHz #Video BW 1.8000 MHz* Span 120 MHz
#Res BW 620.00 kHz Sweep 1.00 ms (1001 pts)

2 Metrics

Occupied Bandwidth
57.803 MHz Total Power 30.3 dBm
Transmit Freq Error 32.474 kHz % of OBW Power 99.00 %
x dB Bandwidth 59.79 MHz x dB -26.00 dB

Jun 17, 2021 11:42:57 AM

N77(60M)_DFT-s-OFDM_QPSK_Outer_Full_Mid_CH

Spectrum Analyzer 1
Occupied BW

KEYSIGHT Input: RF Input Z: 50 Ω Atten: 40 dB Trig: Free Run Center Freq: 3.840000000 GHz
R T Coupling: DC Corr CCorr Gate: Off AvgHold: 500/500
Align: Auto Freq Ref: Int (S) #IF Gain: Low Radio Std: None

1 Graph
Scale/Div 10.0 dB Ref Lvl Offset 4.80 dB
Log Ref Value 30.00 dBm

Center 3.84000 GHz #Video BW 1.8000 MHz* Span 120 MHz
#Res BW 620.00 kHz Sweep 1.00 ms (1001 pts)

2 Metrics

Occupied Bandwidth
57.982 MHz Total Power 29.6 dBm
Transmit Freq Error 51.370 kHz % of OBW Power 99.00 %
x dB Bandwidth 59.77 MHz x dB -26.00 dB

Jun 17, 2021 11:44:58 AM

N77(60M)_CP-OFDM_QPSK_Outer_Full_Mid_CH

Spectrum Analyzer 1
Occupied BW

KEYSIGHT Input: RF Input Z: 50 Ω Atten: 40 dB Trig: Free Run Center Freq: 3.840000000 GHz
R T Coupling: DC Corr CCorr Gate: Off AvgHold: 500/500
Align: Auto Freq Ref: Int (S) #IF Gain: Low Radio Std: None

1 Graph
Scale/Div 10.0 dB Ref Lvl Offset 4.80 dB
Log Ref Value 30.00 dBm

Center 3.84000 GHz #Video BW 1.8000 MHz* Span 120 MHz
#Res BW 620.00 kHz Sweep 1.00 ms (1001 pts)

2 Metrics

Occupied Bandwidth
57.939 MHz Total Power 27.8 dBm
Transmit Freq Error 14.544 kHz % of OBW Power 99.00 %
x dB Bandwidth 60.06 MHz x dB -26.00 dB

Jun 17, 2021 11:46:44 AM

N77(60M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH

Spectrum Analyzer 1
Occupied BW

KEYSIGHT Input: RF Input Z: 50 Ω Atten: 40 dB Trig: Free Run Center Freq: 3.840000000 GHz
R T Coupling: DC Corr CCorr Gate: Off AvgHold: 500/500
Align: Auto Freq Ref: Int (S) #IF Gain: Low Radio Std: None

1 Graph
Scale/Div 10.0 dB Ref Lvl Offset 4.80 dB
Log Ref Value 30.00 dBm

Center 3.84000 GHz #Video BW 1.8000 MHz* Span 120 MHz
#Res BW 620.00 kHz Sweep 1.00 ms (1001 pts)

2 Metrics

Occupied Bandwidth
57.865 MHz Total Power 27.9 dBm
Transmit Freq Error 24.335 kHz % of OBW Power 99.00 %
x dB Bandwidth 59.87 MHz x dB -26.00 dB

Jun 17, 2021 11:48:26 AM

N77(60M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH

Spectrum Analyzer 1
Occupied BW

KEYSIGHT Input: RF Input Z: 50 Ω Atten: 40 dB Trig: Free Run Center Freq: 3.840000000 GHz
R T Coupling: DC Corr CCorr Gate: Off AvgHold: 500/500
Align: Auto Freq Ref: Int (S) #IF Gain: Low Radio Std: None

1 Graph
Scale/Div 10.0 dB Ref Lvl Offset 4.80 dB
Log Ref Value 30.00 dBm

Center 3.84000 GHz #Video BW 1.8000 MHz* Span 120 MHz
#Res BW 620.00 kHz Sweep 1.00 ms (1001 pts)

2 Metrics

Occupied Bandwidth
57.830 MHz Total Power 27.4 dBm
Transmit Freq Error 13.856 kHz % of OBW Power 99.00 %
x dB Bandwidth 59.81 MHz x dB -26.00 dB

Jun 17, 2021 11:50:10 AM

N77(60M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH

Spectrum Analyzer 1
Occupied BW

KEYSIGHT Input: RF Input Z: 50 Ω Atten: 40 dB Trig: Free Run Center Freq: 3.840000000 GHz
R T Coupling: DC Corr CCorr Gate: Off AvgHold: 500/500
Align: Auto Freq Ref: Int (S) #IF Gain: Low Radio Std: None

1 Graph
Scale/Div 10.0 dB Ref Lvl Offset 4.80 dB
Log Ref Value 30.00 dBm

Center 3.84000 GHz #Video BW 1.8000 MHz* Span 120 MHz
#Res BW 620.00 kHz Sweep 1.00 ms (1001 pts)

2 Metrics

Occupied Bandwidth
57.625 MHz Total Power 24.4 dBm
Transmit Freq Error 64.423 kHz % of OBW Power 99.00 %
x dB Bandwidth 59.92 MHz x dB -26.00 dB

Jun 17, 2021 11:51:59 AM

N77(70M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_Mid_CH

N77(70M)_DFT-s-OFDM_QPSK_Outer_Full_Mid_CH

N77(70M)_CP-OFDM_QPSK_Outer_Full_Mid_CH

N77(70M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH

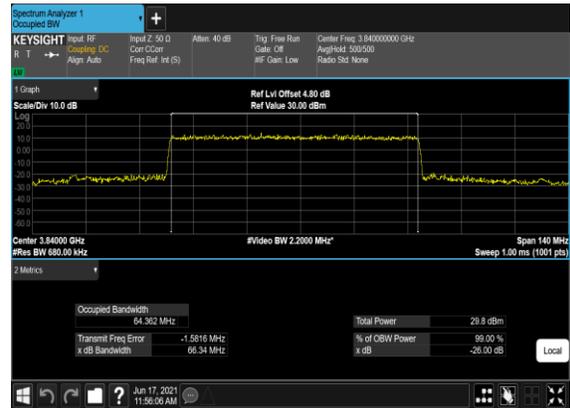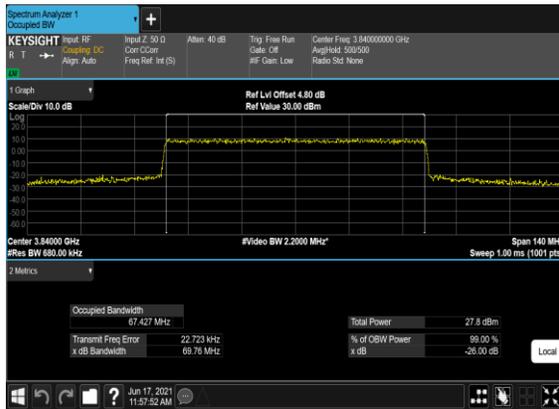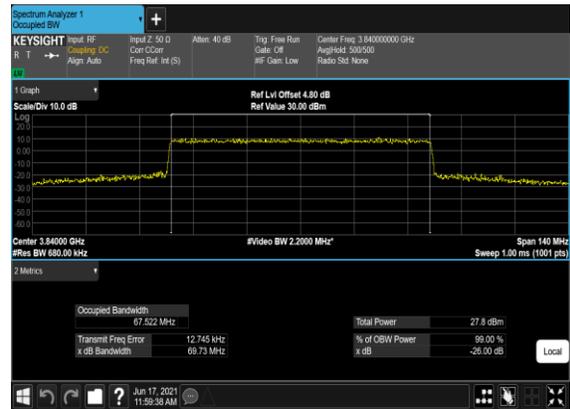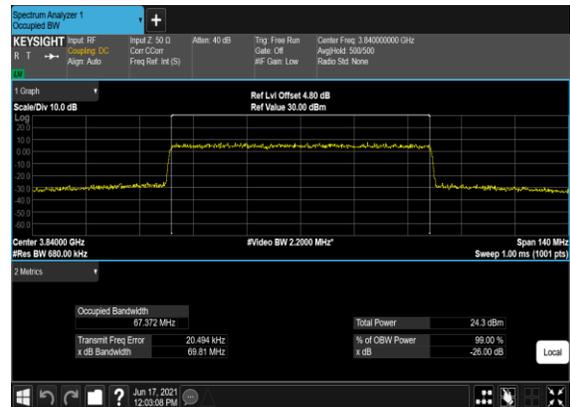## N77(70M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH

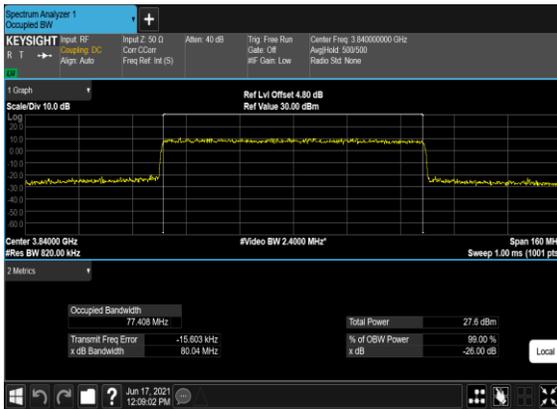## N77(70M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH

N77(80M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_Mid_CH
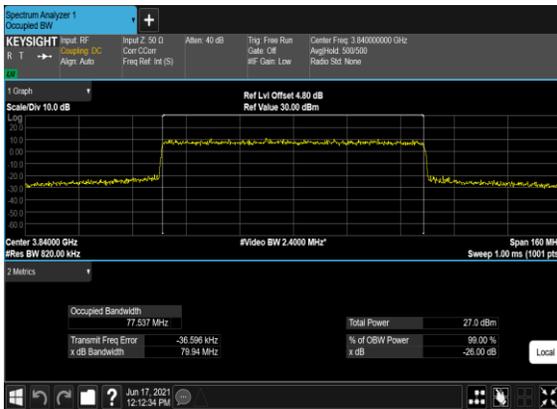

N77(80M)_DFT-s-OFDM_QPSK_Outer_Full_Mid_CH

N77(80M)_CP-OFDM_QPSK_Outer_Full_Mid_CH

N77(80M)_CP-OFDM_16QAM_Outer_Full_Mid_CH

N77(80M)_CP-OFDM_64QAM_Outer_Full_Mid_CH

N77(80M)_CP-OFDM_256QAM_Outer_Full_Mid_CH

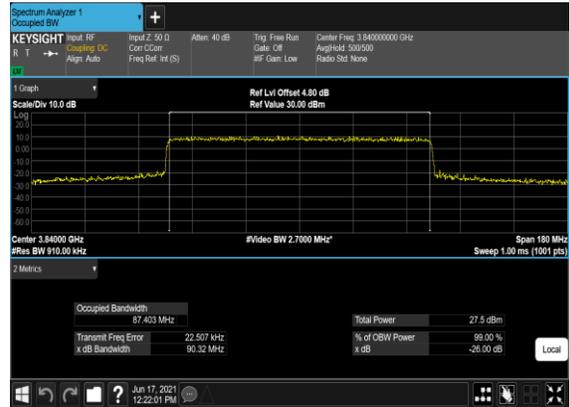## N77(90M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_Mid_CH

N77(90M)_DFT-s-OFDM_QPSK_Outer_Full_Mid_CH

N77(90M)_CP-OFDM_QPSK_Outer_Full_Mid_CH

N77(90M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH

N77(90M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH

N77(90M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH