FCC RF Test Report

APPLICANT	:	**Motorola Mobility LLC**
EQUIPMENT	:	**Mobile Cellular Phone**
BRAND NAME	:	**Motorola**
MODEL NAME	:	**XT2169-1**
FCC ID	:	**IHDT56ZW3**
STANDARD	:	**47 CFR Part 2, 22, 27**
CLASSIFICATION	:	**PCS Licensed Transmitter Held to Ear (PCE)**
TEST DATE(S)	:	**Sep. 09, 2021 ~ Sep. 16, 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.

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

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

ACCREDITED
Cert #5145.02

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

TABLE OF CONTENTS

REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FG181701E	Rev. 01	Initial issue of report	Sep. 24, 2021

SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
3.4	§2.1046	Conducted Output Power	Reporting Only	PASS	-
	§22.913(a)(5)	Effective Radiated Power (5G NR n5)	ERP < 7 Watt		
	§27.50(h)(2)	Equivalent Isotropic Radiated Power (5G NR n7)	EIRP < 2Watt		
	§27.50(d)(4)	Equivalent Isotropic Radiated Power (5G NR n66)	EIRP < 1Watt		
	§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 §22.917(a) §27.53(h) §27.53(l)(2)	Conducted Band Edge Measurement (5G NR n5) (5G NR n66) (5G NR n77, n78)	< 43+10log10(P[Watts])	PASS	-
	§27.53(m)(4)	Conducted Band Edge Measurement (5G NR n7)	§27.53(m)(4)		
3.8	§2.1051 §22.917(a) §27.53(h) §27.53(l)(2)	Conducted Spurious Emission (5G NR n5) (5G NR n66) (5G NR n77, n78)	< 43+10log10(P[Watts])	PASS	-
	§2.1051 §27.53(m)(4)	Conducted Spurious Emission (5G NR n7)	< 55+10log$_{10}$(P[Watts])		
3.9	§2.1055 §22.355	Frequency Stability Temperature & Voltage	< 2.5 ppm for Part 22	PASS	-
	§27.54		Within Authorized Band		
4.4	§2.1053 §22.917(a) §27.53(h) §27.53(l)(2)	Radiated Spurious Emission (5G NR n5) (5G NR n66) (5G NR n77, n78)	< 43+10log$_{10}$(P[Watts])	PASS	Under limit 25.73 dB at 5052.000 MHz
	§2.1053 §27.53(m)(4)	Radiated Spurious Emission (5G NR n7)	< 55+10log$_{10}$(P[Watts])		

Declaration of Conformity:

The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.

Comments and Explanations:

The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.

1 General Description

1.1 Applicant

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

1.2 Manufacturer

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

1.3 Product Feature of Equipment Under Test

Product Feature	
Equipment	Mobile Cellular Phone
Brand Name	Motorola
Model Name	XT2169-1
FCC ID	IHDT56ZW3
IMEI Code	Conducted : 350662070020055/350662070020063 Radiation : 350662070021939
HW Version	DVT2
SW Version	RRUB31.Q3-46
EUT Stage	Identical Prototype

Remark: Only 5G NR bands are tested in this report, all the other RF bands are tested in the other reports separately.

1.4 Product Specification of Equipment Under Test

Standards-related Product Specification	
Tx Frequency	5G NR n5 : 824 MHz ~ 849 MHz 5G NR n7 : 2500 MHz ~ 2570 MHz 5G NR n66 : 1710 MHz ~ 1780 MHz 5G NR n77: 3700 MHz ~ 3980 MHz 5G NR n78: 3700 MHz ~ 3800 MHz
Rx Frequency	5G NR n5 : 869 MHz ~ 894 MHz 5G NR n7 : 2620 MHz ~ 2690 MHz 5G NR n66 : 2110 MHz~ 2200 MHz 5G NR n77: 3700 MHz ~ 3980 MHz 5G NR n78: 3700 MHz ~ 3800 MHz
SCS	n5, n7, n66: 15kHz n77, n78: 30kHz
Bandwidth	n5: 5MHz / 10MHz / 15MHz / 20MHz n7: 5MHz / 10MHz / 15MHz / 20MHz / 25MHz / 30MHz / 40MHz / 50MHz n66: 5MHz / 10MHz / 15MHz / 20MHz / 30MHz / 40MHz n77/n78: 20MHz / 30MHz / 40MHz / 50MHz / 60MHz / 70MHz / 80MHz / 90MHz / 100MHz
Antenna Gain	5G NR n5: -2.8 dBi 5G NR n7: -1.2 dBi 5G NR n66: -1.3 dBi 5G NR n77: 0.2 dBi 5G NR n78: 0.2 dBi
Type of Modulation	CP-OFDM: QPSK / 16QAM / 64QAM / 256QAM DFT-s-OFDM: PI/2 BPSK / QPSK / 16QAM / 64QAM / 256QAM

Remark:

1. 5G NR bands supports NSA mode only. For NSA mode of all 5G NR, we only show the combination of the maximum power among all NSA combinations in the report.
2. 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.
3. The EN-DC combination declared by the manufacturer is as follows:

EN-DC Combination	EN-DC Combination	EN-DC Combination
DC_4A_n78A	DC_41A_n77A	DC_5A_n66A
DC_5A_n78A	DC_7A_n5A	DC_7A_n66A
DC_7A_n78A	DC_66A_n5A	DC_12A_n66A
DC_38A_n78A	DC_5A_n7A	-
DC_41A_n78A	DC_66A_n7A	-
DC_66A_n78A	-	-

4. The device supports for two PAs for 5G NR n7.

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 n5 (EN DC_7A-n5A)		PI/2 BPSK / QPSK		16QAM / 64QAM / 256QAM	
BW (MHz)	Frequency Range (MHz)	Maximum ERP(W)	Emission Designator (99%OBW)	Maximum ERP(W)	Emission Designator (99%OBW)
5	826.5 ~ 846.5	0.0908	4M47G7D	0.0733	4M49W7D
10	829.0 ~ 844.0	0.0879	9M26G7D	0.0705	9M27W7D
15	831.5 ~ 841.5	0.0897	14M1G7D	0.0710	14M1W7D
20	834.0 ~ 839.0	0.0916	18M8G7D	0.0710	18M9W7D

5G NR n7 (EN DC_5A-n7A) for PA 1		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)
5	2502.5 ~ 2567.5	0.1416	4M47G7D	0.1143	4M49W7D
10	2505.0 ~ 2565.0	0.1432	9M28G7D	0.1143	9M29W7D
15	2507.5 ~ 2562.5	0.1387	14M1G7D	0.1107	14M1W7D
20	2510.0 ~ 2560.0	0.1387	18M9G7D	0.1114	19M0W7D
25	2512.5 ~ 2557.5	0.1442	23M7G7D	0.1138	23M7W7D
30	2515.0 ~ 2555.0	0.1452	28M6G7D	0.1148	28M6W7D
40	2520.0 ~ 2550.0	0.1449	38M6G7D	0.1143	38M5W7D
50	2525.0 ~ 2545.0	0.1455	48M3G7D	0.1127	48M2W7D

5G NR n7 (EN DC_66A-n7A) for PA 2		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)
5	2502.5 ~ 2567.5	0.1384	4M47G7D	0.1138	4M49W7D
10	2505.0 ~ 2565.0	0.1377	9M28G7D	0.1114	9M29W7D
15	2507.5 ~ 2562.5	0.1371	14M1G7D	0.1337	14M1W7D
20	2510.0 ~ 2560.0	0.1380	18M9G7D	0.1107	19M0W7D
25	2512.5 ~ 2557.5	0.1352	23M7G7D	0.1089	23M8W7D
30	2515.0 ~ 2555.0	0.1355	28M6G7D	0.1114	28M6W7D
40	2520.0 ~ 2550.0	0.1358	38M7G7D	0.1130	38M6W7D
50	2525.0 ~ 2545.0	0.1334	48M2G7D	0.1067	48M3W7D

5G NR n66 (EN DC_5A-n66A)		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)
5	1712.5 ~ 1777.5	0.1888	4M48G7D	0.1208	4M48W7D
10	1715.0 ~ 1775.0	0.1936	9M27G7D	0.1247	9M29W7D
15	1717.5 ~ 1772.5	0.1954	14M1G7D	0.1274	14M1W7D
20	1720.0 ~ 1770.0	0.1954	18M9G7D	0.1245	18M9W7D
30	1725.0 ~ 1765.0	0.1972	28M4G7D	0.1219	28M5W7D
40	1730.0 ~ 1760.0	0.2037	38M5G7D	0.1211	38M3W7D

5G NR n77 (EN DC_41A-n77A)		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)
20	3710.01 ~ 3969.99	0.1982	18M2G7D	0.1563	18M2W7D
30	3715.02 ~ 3964.98	0.1982	27M8G7D	0.1567	27M9W7D
40	3720.00 ~ 3960.00	0.2046	37M8G7D	0.1560	37M9W7D
50	3725.01 ~ 3954.99	0.1968	47M5G7D	0.1528	47M5W7D
60	3730.02 ~ 3949.98	0.1910	57M9G7D	0.1528	57M7W7D
70	3735.00 ~ 3945.00	0.1936	67M5G7D	0.1489	67M4W7D
80	3740.01 ~ 3939.99	0.1862	77M4G7D	0.1493	77M5W7D
90	3745.02 ~ 3934.98	0.1871	87M4G7D	0.1493	87M5W7D
100	3750.00 ~ 3930.00	0.1884	97M4G7D	0.1472	97M5W7D

5G NR n78 (EN DC_5A-n78A)		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)
20	3710.01 ~ 3789.99	0.1932	18M2G7D	0.1991	18M2W7D
30	3715.02 ~ 3784.98	0.1963	27M8G7D	0.1923	27M9W7D
40	3720.00 ~ 3780.00	0.1986	37M8G7D	0.1968	37M9W7D
50	3725.01 ~ 3774.99	0.1879	47M5G7D	0.1862	47M5W7D
60	3730.02 ~ 3769.98	0.1875	57M9G7D	0.1811	57M7W7D
70	3735.00 ~ 3765.00	0.1854	67M5G7D	0.1841	67M4W7D
80	3740.01 ~ 3759.99	0.1841	77M4G7D	0.1828	77M5W7D
90	3745.02 ~ 3754.98	0.1820	87M4G7D	0.1816	87M5W7D
100	3750.00	0.1845	97M4G7D	0.1791	97M5W7D

Note:

1. 5G NR Band n77 overlaps the entire frequency range of Band n78. Therefore, the conducted test results provided in this report covers Band n77 as well as Band n78.
2. All modulations have been tested, only the worst test results of PSK & QAM are shown in the report .

1.7 Specification of Accessory

Specification of Accessory				
AC Adapter 1(US)	**Brand Name**	Motorola (Salcomp)	**Model Name**	MC-331
AC Adapter 1(EU)	**Brand Name**	Motorola (Salcomp)	**Model Name**	MC-332
AC Adapter 1(UK)	**Brand Name**	Motorola (Salcomp)	**Model Name**	MC-333
AC Adapter 1(AU)	**Brand Name**	Motorola (Salcomp)	**Model Name**	MC-335
AC Adapter 1(AR)	**Brand Name**	Motorola (Salcomp)	**Model Name**	MC-336
AC Adapter 1(BR)	**Brand Name**	Motorola (Salcomp)	**Model Name**	MC-337
AC Adapter 1(PRC)	**Brand Name**	Motorola (Salcomp)	**Model Name**	MC-338
AC Adapter 1(Chile)	**Brand Name**	Motorola (Salcomp)	**Model Name**	MC-339
AC Adapter 2(IN)	**Brand Name**	Motorola (Salcomp)	**Model Name**	MC-334
AC Adapter 3(US)	**Brand Name**	Motorola (Chenyang)	**Model Name**	MC-331
AC Adapter 3(EU)	**Brand Name**	Motorola (Chenyang)	**Model Name**	MC-332
AC Adapter 3(AU)	**Brand Name**	Motorola (Chenyang)	**Model Name**	MC-335
AC Adapter 3(AR)	**Brand Name**	Motorola (Chenyang)	**Model Name**	MC-336
AC Adapter 3(BR)	**Brand Name**	Motorola (Chenyang)	**Model Name**	MC-337
AC Adapter 4(US)	**Brand Name**	Motorola (Acbel)	**Model Name**	MC-331
AC Adapter 4(EU)	**Brand Name**	Motorola (Acbel)	**Model Name**	MC-332
AC Adapter 4(UK)	**Brand Name**	Motorola (Acbel)	**Model Name**	MC-333
Battery 1	**Brand Name**	Motorola (ATL)	**Model Name**	NG50
Battery 2	**Brand Name**	Motorola (Sunwoda)	**Model Name**	NG50
Earphone 1	**Brand Name**	Motorola (Lyand)	**Model Name**	MH191(SH38C81577)
Earphone 2	**Brand Name**	Motorola(LCHSE)	**Model Name**	MH191(SH38C81576)
USB Cable 1	**Brand Name**	Motorola (Saibao)	**Model Name**	SC18D22297
USB Cable 2	**Brand Name**	Motorola (Cabletech)	**Model Name**	SC18D22298
USB Cable 3	**Brand Name**	Motorola (Luxshare)	**Model Name**	SC18D22299

1.8 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

Test data subcontracted: conducted test items in section 3.4 ~ 3.9 of this report.

1.9 Test Software

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

1.10 Applicable Standards

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

- 47 CFR Part 2, 22, 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.

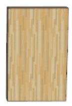
2 Test Configuration of Equipment Under Test

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
			

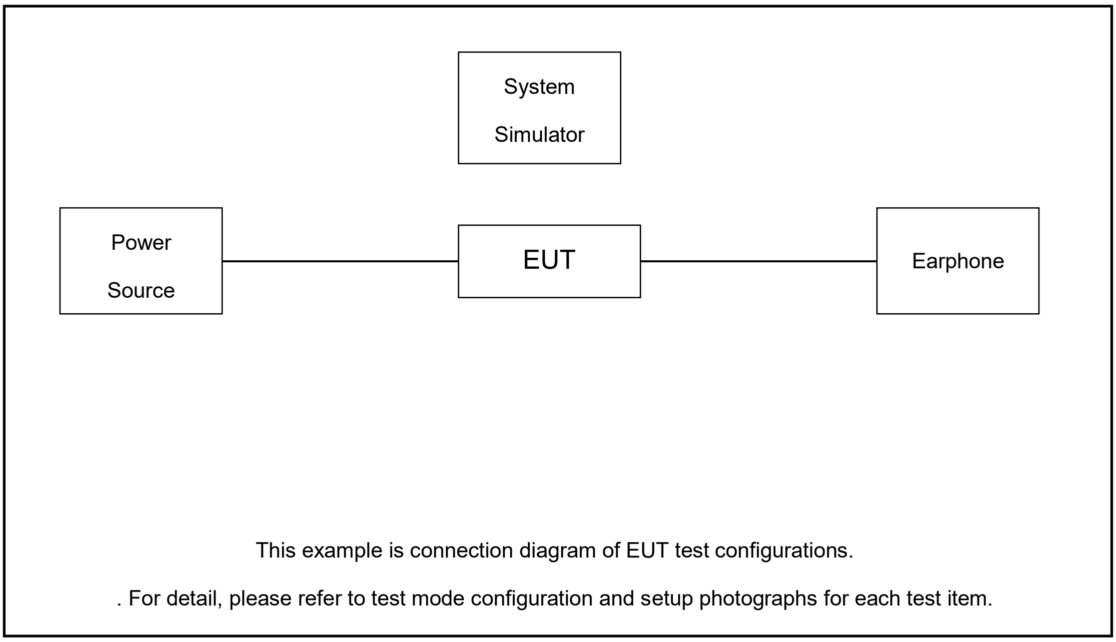
Test Cases	Band	Bandwidth (MHz)	Modulation	RB #	Test Channel
		eg. 5M, 10M, 15M, 20M	eg. QPSK, 16QAM, 64QAM	1RB, Partial RB, Full RB	L/M/H
Max. Output Power	5G n5	5M, 10M, 15M, 20M	PI/2 BPSK, QPSK, 16QAM, 64QAM, 256QAM	1RB, Partial RB, Full RB	L, M, H
	5G n7	5M, 10M, 15M, 20M, 25M, 30M, 40M, 50M	PI/2 BPSK, QPSK, 16QAM, 64QAM, 256QAM	1RB, Partial RB, Full RB	L, M, H
	5G n66	5M, 10M, 15M, 20M, 30M, 40M	PI/2 BPSK, QPSK, 16QAM, 64QAM, 256QAM	1RB, Partial RB, Full RB	L, M, H
	5G n77/n78	20M, 30M, 40M, 50M, 60M, 70M, 80M, 90M, 100M	PI/2 BPSK, QPSK, 16QAM, 64QAM, 256QAM	1RB, Partial RB, Full RB	L, M, H
Peak-to-Average Ratio	5G n5	20M	PI/2 BPSK, QPSK	1RB, Full RB	L, M, H
	5G n7	20M	PI/2 BPSK, QPSK	1RB, Full RB	L, M, H
	5G n66	20M	PI/2 BPSK, QPSK	1RB, Full RB	L, M, H
	5G n77	20M	PI/2 BPSK, QPSK	1RB, Full RB	L, M, H
E.I.R.P	5G n5	5M, 10M, 15M, 20M	PI/2 BPSK, QPSK, 16QAM, 64QAM, 256QAM	1RB, Partial RB, Full RB	L, M, H
	5G n7	5M, 10M, 15M, 20M, 25M, 30M, 40M, 50M	PI/2 BPSK, QPSK, 16QAM, 64QAM, 256QAM	1RB, Partial RB, Full RB	L, M, H
	5G n66	5M, 10M, 15M, 20M, 30M, 40M	PI/2 BPSK, QPSK, 16QAM, 64QAM, 256QAM	1RB, Partial RB, Full RB	L, M, H
	5G n77/n78	20M, 30M, 40M, 50M, 60M, 70M, 80M, 90M, 100M	PI/2 BPSK, QPSK, 16QAM, 64QAM, 256QAM	1RB, Partial RB, Full RB	L, M, H

Test Cases	Band	Bandwidth (MHz)	Modulation	RB #	Test Channel
		eg. 5M, 10M, 15M, 20M	eg. QPSK, 16QAM, 64QAM	1RB, Partial RB, Full RB	L/M/H
26dB and 99% Bandwidth	5G n5	5M, 10M, 15M, 20M	PI/2 BPSK, QPSK, 16QAM, 64QAM, 256QAM	Full RB	M
	5G n7	5M, 10M, 15M, 20M, 25M, 30M, 40M, 50M	PI/2 BPSK, QPSK, 16QAM, 64QAM, 256QAM	Full RB	M
	5G n66	5M, 10M, 15M, 20M, 30M, 40M	PI/2 BPSK, QPSK, 16QAM, 64QAM, 256QAM	Full RB	M
	5G n77	20M, 30M, 40M, 50M, 60M, 70M, 80M, 90M, 100M	PI/2 BPSK, QPSK, 16QAM, 64QAM, 256QAM	Full RB	M
Conducted Band Edge	5G n5	5M, 10M, 20M	PI/2 BPSK, QPSK	1RB, Full RB	L, H
	5G n7	5M, 20M, 50M	PI/2 BPSK, QPSK	1RB, Full RB	L, H
	5G n66	5M, 20M, 40M	PI/2 BPSK, QPSK	1RB, Full RB	L, H
	5G n77	20M, 60M, 100M	PI/2 BPSK, QPSK	1RB, Full RB	L, H
Conducted Spurious Emission	5G n5	5M, 10M, 20M	PI/2 BPSK, QPSK	1RB	L, M, H
	5G n7	5M, 20M, 50M	PI/2 BPSK, QPSK	1RB	L, M, H
	5G n66	5M, 20M, 40M	PI/2 BPSK, QPSK	1RB	L, M, H
	5G n77	20M, 60M, 100M	PI/2 BPSK, QPSK	1RB	L, M, H
Frequency Stability	5G n5	20M	QPSK	Full RB	M
	5G n7	20M	QPSK	Full RB	M
	5G n66	20M	QPSK	Full RB	M
	5G n77	20M	QPSK	Full RB	M
Radiated Spurious Emission	5G n5	Worst case from maximum power			M
	5G n7	Worst case from maximum power			M
	5G n66	Worst case from maximum power			M
	5G n77	Worst case from maximum power			M

Note:

1. The device is investigated from 30MHz to 10 times of fundamental signal for radiated spurious emission test under different RB size/offset and modulations in exploratory test. Subsequently, only the worst case emissions are reported.
2. Based on engineering evaluation, only the worst modulations test results are shown in the report.

2.2 Connection Diagram of Test System



2.3 Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model No.	FCC ID	Data Cable	Power Cord
1.	DC Power Supply	GW	GPS-3030D	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 1.7 dB and 10dB attenuator.

Example :

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

= 1.7 + 10 = 11.7 (dB)

2.5 Frequency List of Low/Middle/High Channels

5G NR n5 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
20	Channel	175800	176300	176800
	Frequency	834	836.5	839
15	Channel	175300	176300	177300
	Frequency	831.5	836.5	841.5
10	Channel	174800	176300	177800
	Frequency	829	836.5	844
5	Channel	174300	176300	178300
	Frequency	826.5	836.5	846.5

5G NR n7 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
50	Channel	529000	531000	533000
	Frequency	2525	2535	2545
40	Channel	528000	531000	534000
	Frequency	2520	2535	2550
30	Channel	527000	531000	535000
	Frequency	2515	2535	2555
25	Channel	526500	531000	535500
	Frequency	2512.5	2535	2557.5
20	Channel	526000	531000	536000
	Frequency	2510	2535	2560
15	Channel	525500	531000	536500
	Frequency	2507.5	2535	2562.5
10	Channel	525000	531000	537000
	Frequency	2505	2535	2565
5	Channel	524500	531000	537500
	Frequency	2502.5	2535	2567.5

5G NR n66 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
40	Channel	426000	429000	432000
	Frequency	1730	1745	1760
30	Channel	425000	429000	433000
	Frequency	1725	1745	1765
20	Channel	424000	429000	434000
	Frequency	1720	1745	1770
15	Channel	423500	429000	434500
	Frequency	1717.5	1745	1772.5
10	Channel	423000	429000	435000
	Frequency	1715	1745	1775
5	Channel	422500	429000	435500
	Frequency	1712.5	1745	1777.5

5G NR n77 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
100	Channel	650000	656000	662000
	Frequency	3750	3840	3930
90	Channel	649668	656000	662332
	Frequency	3745.02	3840	3934.98
80	Channel	649334	656000	662666
	Frequency	3740.01	3840	3939.99
70	Channel	649000	656000	663000
	Frequency	3735	3840	3945
60	Channel	648668	656000	663332
	Frequency	3730.02	3840	3949.98
50	Channel	648334	656000	663666
	Frequency	3725.01	3840	3954.99
40	Channel	648000	656000	664000
	Frequency	3720	3840	3960
30	Channel	647668	656000	664332
	Frequency	3715.02	3840	3964.98
20	Channel	647334	656000	664666
	Frequency	3710.01	3840	3969.99

5G NR n78 Channel and Frequency List				
BW [MHz]	**Channel/Frequency(MHz)**	**Lowest**	**Middle**	**Highest**
100	Channel		650000	
	Frequency		3750	
90	Channel	649668	650000	650332
	Frequency	3745.02	3750	3754.98
80	Channel	649334	650000	650666
	Frequency	3740.01	3750	3759.99
70	Channel	649000	650000	651000
	Frequency	3735	3750	3765
60	Channel	648668	650000	651332
	Frequency	3730.02	3750	3769.98
50	Channel	648334	650000	651666
	Frequency	3725.01	3750	3774.99
40	Channel	648000	650000	652000
	Frequency	3720	3750	3780
30	Channel	647668	650000	652332
	Frequency	3715.02	3750	3784.98
20	Channel	647334	650000	652666
	Frequency	3710.01	3750	3789.99

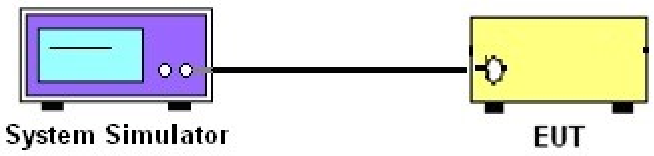
3 Conducted Test Items

3.1 Measuring Instruments

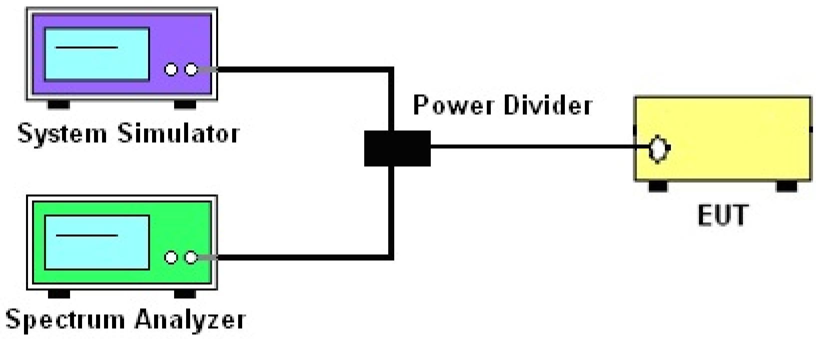
See list of measuring instruments of this test report.

3.2 Test Setup

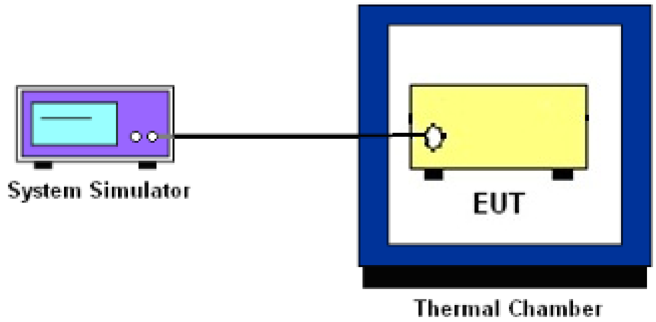
3.2.1 Conducted Output Power



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 ERP/EIRP

3.4.1 Description of the Conducted Output Power Measurement and ERP/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 ERP of mobile transmitters must not exceed 7 Watts for 5G NR n5.

The EIRP of mobile transmitters must not exceed 2 Watts for 5G NR n7.

The EIRP of mobile transmitters must not exceed 1 Watts for 5G NR n66, 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

22.917(a)

For operations in the 824 – 849 MHz band, the FCC limit is 43 + $10\log_{10}$(P[Watts]) dB below the transmitter power P(Watts) in a 100kHz bandwidth. However, in the 1MHz 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.

27.53 (h)

For operations in the 1710 – 1755 MHz band, the FCC limit is 43 + $10\log_{10}$(P[Watts]) dB below the transmitter power P(Watts) in a 1 MHz bandwidth. However, in the 1MHz 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.

27.53(m)(4)

For mobile digital stations, the attenuation factor shall be not less than 40 + 10 log (P) dB on all frequencies between the channel edge and 5 megahertz from the channel edge, 43 + 10 log (P) dB on all frequencies between 5 megahertz and X megahertz from the channel edge, and 55 + 10 log (P) dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section. In addition, the attenuation factor shall not be less that 43 + 10 log (P) dB on all frequencies between 2490.5 MHz and 2496 MHz and 55 + 10 log (P) dB at or below 2490.5 MHz. Mobile Satellite Service licensees operating on frequencies below 2495 MHz may also submit a documented interference complaint against BRS licensees operating on channel BRS Channel 1 on the same terms and conditions as adjacent channel BRS or EBS licensees.

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.
9. For 5G NR n7, the other 40 dB, and 55 dB have additionally applied same calculation above.

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.

For 5G NR n7:

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 55 + 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 10^{th} 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.
11. For 5G NR n7
    The limit line is derived from 55 + 10log(P)dB below the transmitter power P(Watts)
    = P(W)- [55+ 10log(P)] (dB)
    = [30+ 10log(P)] (dBm) - [55+ 10log(P)] (dB)
    = -25dBm.

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.

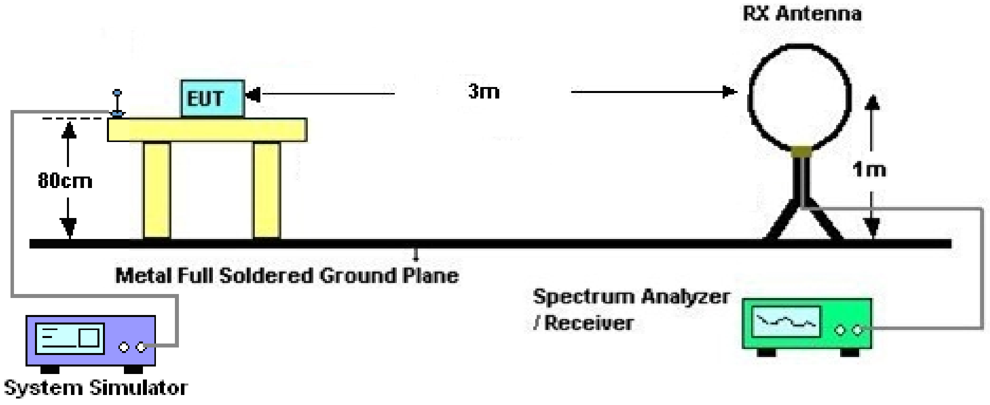
4 Radiated Test Items

4.1 Measuring Instruments

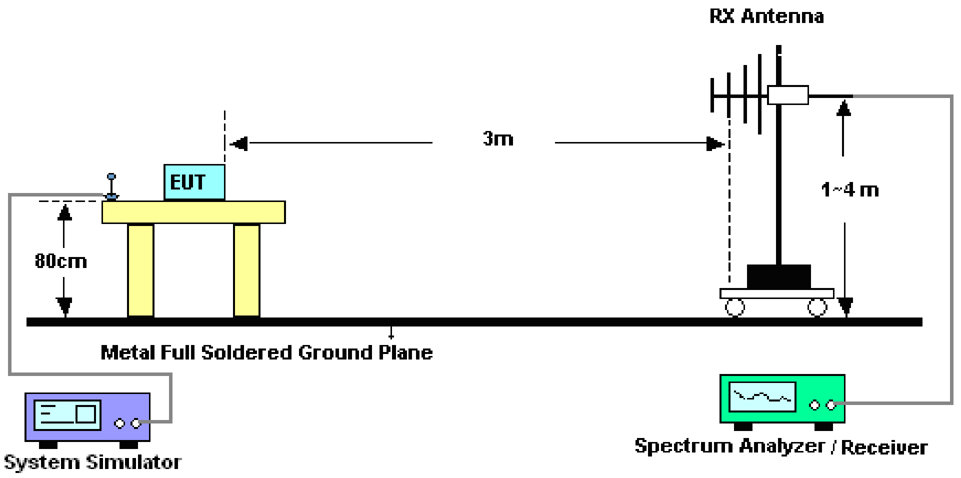
See list of measuring instruments of this test report.

4.2 Test Setup

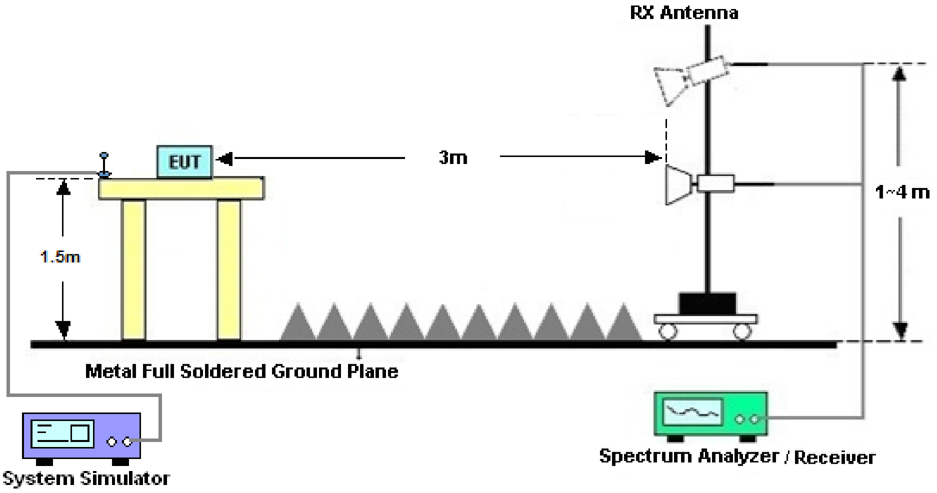
4.2.1 For radiated test below 30MHz



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.

For 5G NR n7

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 55 + 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.
13. For 5G NR n7:
    The limit line is derived from 55 + 10log(P)dB below the transmitter power P(Watts)The limit line is derived from 55 + 10log(P)dB below the transmitter power P(Watts)

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	Sep. 09, 2021~ Sep. 16, 2021	Apr. 02, 2022	Conducted (TH01-SZ)
Power Divider	TOJOIN	PS-2SM-04 265	60.06.020.007 7	0.4GHz~26.5GHz	Dec. 26, 2020	Sep. 09, 2021~ Sep. 16, 2021	Dec. 25, 2021	Conducted (TH01-SZ)
Thermal Chamber	Ten Billion Hongzhangroup	LP-150U	H2014081803	-40~+150°C	Jul. 14, 2021	Sep. 09, 2021~ Sep. 16, 2021	Jul. 13, 2022	Conducted (TH01-SZ)
EXA Spectrum Analyzer	Keysight	N9010A	MY55150244	10Hz-44G,MAX 30dB	Apr. 13, 2021	Sep. 09, 2021	Apr. 12, 2022	Radiation (03CH04-KS)
Loop Antenna	R&S	HFH2-Z2	100321	9kHz~30MHz	Nov. 01, 2020	Sep. 09, 2021	Oct. 31, 2021	Radiation (03CH04-KS)
Bilog Antenna	TeseQ	CBL6111D	49922	30MHz-1GHz	Jun. 07, 2021	Sep. 09, 2021	Jun. 06, 2022	Radiation (03CH04-KS)
Double Ridge Horn Antenna	ETS-Lindgren	3117	75957	1GHz~18GHz	Nov. 01, 2020	Sep. 09, 2021	Oct. 31, 2021	Radiation (03CH04-KS)
SHF-EHF Horn	Com-power	AH-840	101115	18GHz~40GHz	Jan. 06, 2021	Sep. 09, 2021	Jan. 05, 2022	Radiation (03CH04-KS)
Amplifier	SONOMA	310N	187289	9KHz-1GHz	Jan. 06, 2021	Sep. 09, 2021	Jan. 05, 2022	Radiation (03CH04-KS)
Amplifier	MITEQ	EM18G40G GA	060728	18~40GHz	Jan. 07, 2021	Sep. 09, 2021	Jan. 06, 2022	Radiation (03CH04-KS)
high gain Amplifier	MITEQ	AMF-7D-00 101800-30-1 0P	2025788	1Ghz-18Ghz	Jan. 06, 2021	Sep. 09, 2021	Jan. 05, 2022	Radiation (03CH04-KS)
Amplifier	Keysight	83017A	MY57280106	500MHz~26.5GHz	Oct. 14, 2020	Sep. 09, 2021	Oct. 13, 2021	Radiation (03CH04-KS)
AC Power Source	Chroma	61601	F104090004	N/A	NCR	Sep. 09, 2021	NCR	Radiation (03CH04-KS)
Turn Table	ChamPro	EM 1000-T	060762-T	0~360 degree	NCR	Sep. 09, 2021	NCR	Radiation (03CH04-KS)
Antenna Mast	ChamPro	EM 1000-A	060762-A	1 m~4 m	NCR	Sep. 09, 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

Software Version: 21.02.090902

FR1 N5

LTE Band: 7, LTE BW: 20M, LTE ARFCN: Mid

Transmitter Conducted Output Power And ERP/EIRP, $(G_T - L_C)$=-2.8dB

NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	Conducted Power(dBm)	ERP(dBm)	ERP(W)
5	15	5	174300	826.5	DFT-s-OFDM PI/2 BPSK	12@6	24.44	19.49	0.0889
5	15	5	174300	826.5	DFT-s-OFDM PI/2 BPSK	1@1	24.53	19.58	0.0908
5	15	5	174300	826.5	DFT-s-OFDM PI/2 BPSK	1@23	24.45	19.5	0.0891
5	15	5	174300	826.5	DFT-s-OFDM QPSK	12@6	24.26	19.31	0.0853
5	15	5	174300	826.5	DFT-s-OFDM QPSK	1@1	24.39	19.44	0.0879
5	15	5	174300	826.5	DFT-s-OFDM QPSK	1@23	24.38	19.43	0.0877
5	15	5	174300	826.5	DFT-s-OFDM 16 QAM	12@6	23.21	18.26	0.0670
5	15	5	174300	826.5	DFT-s-OFDM 16 QAM	1@1	23.6	18.65	0.0733
5	15	5	174300	826.5	DFT-s-OFDM 16 QAM	1@23	23.44	18.49	0.0706
5	15	5	174300	826.5	DFT-s-OFDM 64 QAM	12@6	21.2	16.25	0.0422
5	15	5	174300	826.5	DFT-s-OFDM 64 QAM	1@1	20.83	15.88	0.0387
5	15	5	174300	826.5	DFT-s-OFDM 64 QAM	1@23	20.79	15.84	0.0384
5	15	5	174300	826.5	DFT-s-OFDM 256 QAM	12@6	18.81	13.86	0.0243
5	15	5	174300	826.5	DFT-s-OFDM 256 QAM	1@1	18.4	13.45	0.0221
5	15	5	174300	826.5	DFT-s-OFDM 256 QAM	1@23	18.33	13.38	0.0218
5	15	5	174300	826.5	CP-OFDM QPSK	13@6	21.77	16.82	0.0481
5	15	5	174300	826.5	CP-OFDM QPSK	1@1	21.99	17.04	0.0506
5	15	5	174300	826.5	CP-OFDM QPSK	1@23	21.84	16.89	0.0489

5	15	5	176300	836.5	DFT-s-OFDM PI/2 BPSK	12@6	24.32	19.37	0.0865
5	15	5	176300	836.5	DFT-s-OFDM PI/2 BPSK	1@1	24.39	19.44	0.0879
5	15	5	176300	836.5	DFT-s-OFDM PI/2 BPSK	1@23	24.38	19.43	0.0877
5	15	5	176300	836.5	DFT-s-OFDM QPSK	12@6	24.23	19.28	0.0847
5	15	5	176300	836.5	DFT-s-OFDM QPSK	1@1	24.34	19.39	0.0869
5	15	5	176300	836.5	DFT-s-OFDM QPSK	1@23	24.38	19.43	0.0877
5	15	5	176300	836.5	DFT-s-OFDM 16 QAM	12@6	23.43	18.48	0.0705
5	15	5	176300	836.5	DFT-s-OFDM 16 QAM	1@1	23.06	18.11	0.0647
5	15	5	176300	836.5	DFT-s-OFDM 16 QAM	1@23	23.29	18.34	0.0682
5	15	5	176300	836.5	DFT-s-OFDM 64 QAM	12@6	21.12	16.17	0.0414
5	15	5	176300	836.5	DFT-s-OFDM 64 QAM	1@1	21.24	16.29	0.0426
5	15	5	176300	836.5	DFT-s-OFDM 64 QAM	1@23	21.09	16.14	0.0411
5	15	5	176300	836.5	DFT-s-OFDM 256 QAM	12@6	18.88	13.93	0.0247
5	15	5	176300	836.5	DFT-s-OFDM 256 QAM	1@1	18.26	13.31	0.0214
5	15	5	176300	836.5	DFT-s-OFDM 256 QAM	1@23	18.32	13.37	0.0217
5	15	5	176300	836.5	CP-OFDM QPSK	13@6	21.8	16.85	0.0484
5	15	5	176300	836.5	CP-OFDM QPSK	1@1	21.81	16.86	0.0485
5	15	5	176300	836.5	CP-OFDM QPSK	1@23	21.89	16.94	0.0494
5	15	5	178300	846.5	DFT-s-OFDM PI/2 BPSK	12@6	24.12	19.17	0.0826
5	15	5	178300	846.5	DFT-s-OFDM PI/2 BPSK	1@1	24.34	19.39	0.0869
5	15	5	178300	846.5	DFT-s-OFDM PI/2 BPSK	1@23	24.22	19.27	0.0845
5	15	5	178300	846.5	DFT-s-OFDM QPSK	12@6	24.19	19.24	0.0839
5	15	5	178300	846.5	DFT-s-OFDM QPSK	1@1	24.28	19.33	0.0857
5	15	5	178300	846.5	DFT-s-OFDM QPSK	1@23	24.21	19.26	0.0843

5	15	5	178300	846.5	DFT-s-OFDM 16 QAM	12@6	22.81	17.86	0.0611
5	15	5	178300	846.5	DFT-s-OFDM 16 QAM	1@1	23.18	18.23	0.0665
5	15	5	178300	846.5	DFT-s-OFDM 16 QAM	1@23	23.12	18.17	0.0656
5	15	5	178300	846.5	DFT-s-OFDM 64 QAM	12@6	20.72	15.77	0.0378
5	15	5	178300	846.5	DFT-s-OFDM 64 QAM	1@1	20.87	15.92	0.0391
5	15	5	178300	846.5	DFT-s-OFDM 64 QAM	1@23	20.31	15.36	0.0344
5	15	5	178300	846.5	DFT-s-OFDM 256 QAM	12@6	19.32	14.37	0.0274
5	15	5	178300	846.5	DFT-s-OFDM 256 QAM	1@1	18.94	13.99	0.0251
5	15	5	178300	846.5	DFT-s-OFDM 256 QAM	1@23	18.17	13.22	0.0210
5	15	5	178300	846.5	CP-OFDM QPSK	13@6	21.6	16.65	0.0462
5	15	5	178300	846.5	CP-OFDM QPSK	1@1	21.79	16.84	0.0483
5	15	5	178300	846.5	CP-OFDM QPSK	1@23	21.73	16.78	0.0476
5	15	10	174800	829	DFT-s-OFDM PI/2 BPSK	25@12	24.39	19.44	0.0879
5	15	10	174800	829	DFT-s-OFDM PI/2 BPSK	1@1	24.35	19.4	0.0871
5	15	10	174800	829	DFT-s-OFDM PI/2 BPSK	1@50	24.34	19.39	0.0869
5	15	10	174800	829	DFT-s-OFDM QPSK	25@12	24.37	19.42	0.0875
5	15	10	174800	829	DFT-s-OFDM QPSK	1@1	24.32	19.37	0.0865
5	15	10	174800	829	DFT-s-OFDM QPSK	1@50	24.3	19.35	0.0861
5	15	10	174800	829	DFT-s-OFDM 16 QAM	25@12	23.39	18.44	0.0698
5	15	10	174800	829	DFT-s-OFDM 16 QAM	1@1	23.05	18.1	0.0646
5	15	10	174800	829	DFT-s-OFDM 16 QAM	1@50	22.98	18.03	0.0635
5	15	10	174800	829	DFT-s-OFDM 64 QAM	25@12	21.14	16.19	0.0416
5	15	10	174800	829	DFT-s-OFDM 64 QAM	1@1	21.26	16.31	0.0428
5	15	10	174800	829	DFT-s-OFDM 64 QAM	1@50	21.16	16.21	0.0418

5	15	10	174800	829	DFT-s-OFDM 256 QAM	25@12	18.8	13.85	0.0243
5	15	10	174800	829	DFT-s-OFDM 256 QAM	1@1	18.4	13.45	0.0221
5	15	10	174800	829	DFT-s-OFDM 256 QAM	1@50	18.26	13.31	0.0214
5	15	10	174800	829	CP-OFDM QPSK	26@13	21.79	16.84	0.0483
5	15	10	174800	829	CP-OFDM QPSK	1@1	21.88	16.93	0.0493
5	15	10	174800	829	CP-OFDM QPSK	1@50	21.81	16.86	0.0485
5	15	10	176300	836.5	DFT-s-OFDM PI/2 BPSK	25@12	24.36	19.41	0.0873
5	15	10	176300	836.5	DFT-s-OFDM PI/2 BPSK	1@1	24.24	19.29	0.0849
5	15	10	176300	836.5	DFT-s-OFDM PI/2 BPSK	1@50	24.28	19.33	0.0857
5	15	10	176300	836.5	DFT-s-OFDM QPSK	25@12	24.36	19.41	0.0873
5	15	10	176300	836.5	DFT-s-OFDM QPSK	1@1	24.28	19.33	0.0857
5	15	10	176300	836.5	DFT-s-OFDM QPSK	1@50	24.38	19.43	0.0877
5	15	10	176300	836.5	DFT-s-OFDM 16 QAM	25@12	23.43	18.48	0.0705
5	15	10	176300	836.5	DFT-s-OFDM 16 QAM	1@1	23.01	18.06	0.0640
5	15	10	176300	836.5	DFT-s-OFDM 16 QAM	1@50	23.3	18.35	0.0684
5	15	10	176300	836.5	DFT-s-OFDM 64 QAM	25@12	21.06	16.11	0.0408
5	15	10	176300	836.5	DFT-s-OFDM 64 QAM	1@1	20.83	15.88	0.0387
5	15	10	176300	836.5	DFT-s-OFDM 64 QAM	1@50	21.04	16.09	0.0406
5	15	10	176300	836.5	DFT-s-OFDM 256 QAM	25@12	18.83	13.88	0.0244
5	15	10	176300	836.5	DFT-s-OFDM 256 QAM	1@1	18.34	13.39	0.0218
5	15	10	176300	836.5	DFT-s-OFDM 256 QAM	1@50	17.62	12.67	0.0185
5	15	10	176300	836.5	CP-OFDM QPSK	26@13	21.84	16.89	0.0489
5	15	10	176300	836.5	CP-OFDM QPSK	1@1	21.84	16.89	0.0489
5	15	10	176300	836.5	CP-OFDM QPSK	1@50	21.87	16.92	0.0492
5	15	10	177800	844	DFT-s-OFDM PI/2 BPSK	25@12	24.29	19.34	0.0859

5	15	10	177800	844	DFT-s-OFDM PI/2 BPSK	1@1	24.32	19.37	0.0865
5	15	10	177800	844	DFT-s-OFDM PI/2 BPSK	1@50	24.16	19.21	0.0834
5	15	10	177800	844	DFT-s-OFDM QPSK	25@12	24.25	19.3	0.0851
5	15	10	177800	844	DFT-s-OFDM QPSK	1@1	24.26	19.31	0.0853
5	15	10	177800	844	DFT-s-OFDM QPSK	1@50	24.22	19.27	0.0845
5	15	10	177800	844	DFT-s-OFDM 16 QAM	25@12	23.31	18.36	0.0685
5	15	10	177800	844	DFT-s-OFDM 16 QAM	1@1	23.27	18.32	0.0679
5	15	10	177800	844	DFT-s-OFDM 16 QAM	1@50	23.16	18.21	0.0662
5	15	10	177800	844	DFT-s-OFDM 64 QAM	25@12	20.78	15.83	0.0383
5	15	10	177800	844	DFT-s-OFDM 64 QAM	1@1	20.98	16.03	0.0401
5	15	10	177800	844	DFT-s-OFDM 64 QAM	1@50	21.51	16.56	0.0453
5	15	10	177800	844	DFT-s-OFDM 256 QAM	25@12	18.13	13.18	0.0208
5	15	10	177800	844	DFT-s-OFDM 256 QAM	1@1	18.24	13.29	0.0213
5	15	10	177800	844	DFT-s-OFDM 256 QAM	1@50	18.11	13.16	0.0207
5	15	10	177800	844	CP-OFDM QPSK	26@13	21.75	16.8	0.0479
5	15	10	177800	844	CP-OFDM QPSK	1@1	21.82	16.87	0.0486
5	15	10	177800	844	CP-OFDM QPSK	1@50	21.7	16.75	0.0473
5	15	15	175300	831.5	DFT-s-OFDM PI/2 BPSK	36@18	24.32	19.37	0.0865
5	15	15	175300	831.5	DFT-s-OFDM PI/2 BPSK	1@1	24.33	19.38	0.0867
5	15	15	175300	831.5	DFT-s-OFDM PI/2 BPSK	1@77	24.31	19.36	0.0863
5	15	15	175300	831.5	DFT-s-OFDM QPSK	36@18	24.39	19.44	0.0879
5	15	15	175300	831.5	DFT-s-OFDM QPSK	1@1	24.48	19.53	0.0897
5	15	15	175300	831.5	DFT-s-OFDM QPSK	1@77	24.4	19.45	0.0881
5	15	15	175300	831.5	DFT-s-OFDM 16 QAM	36@18	23.46	18.51	0.0710

5	15	15	175300	831.5	DFT-s-OFDM 16 QAM	1@1	23.34	18.39	0.0690
5	15	15	175300	831.5	DFT-s-OFDM 16 QAM	1@77	23.33	18.38	0.0689
5	15	15	175300	831.5	DFT-s-OFDM 64 QAM	36@18	21	16.05	0.0403
5	15	15	175300	831.5	DFT-s-OFDM 64 QAM	1@1	21.13	16.18	0.0415
5	15	15	175300	831.5	DFT-s-OFDM 64 QAM	1@77	21.07	16.12	0.0409
5	15	15	175300	831.5	DFT-s-OFDM 256 QAM	36@18	18.84	13.89	0.0245
5	15	15	175300	831.5	DFT-s-OFDM 256 QAM	1@1	18.48	13.53	0.0225
5	15	15	175300	831.5	DFT-s-OFDM 256 QAM	1@77	19.07	14.12	0.0258
5	15	15	175300	831.5	CP-OFDM QPSK	39@19	21.83	16.88	0.0488
5	15	15	175300	831.5	CP-OFDM QPSK	1@1	22.06	17.11	0.0514
5	15	15	175300	831.5	CP-OFDM QPSK	1@77	21.78	16.83	0.0482
5	15	15	176300	836.5	DFT-s-OFDM PI/2 BPSK	36@18	24.26	19.31	0.0853
5	15	15	176300	836.5	DFT-s-OFDM PI/2 BPSK	1@1	24.25	19.3	0.0851
5	15	15	176300	836.5	DFT-s-OFDM PI/2 BPSK	1@77	24.29	19.34	0.0859
5	15	15	176300	836.5	DFT-s-OFDM QPSK	36@18	24.34	19.39	0.0869
5	15	15	176300	836.5	DFT-s-OFDM QPSK	1@1	24.45	19.5	0.0891
5	15	15	176300	836.5	DFT-s-OFDM QPSK	1@77	24.35	19.4	0.0871
5	15	15	176300	836.5	DFT-s-OFDM 16 QAM	36@18	23.37	18.42	0.0695
5	15	15	176300	836.5	DFT-s-OFDM 16 QAM	1@1	23.24	18.29	0.0675
5	15	15	176300	836.5	DFT-s-OFDM 16 QAM	1@77	23.24	18.29	0.0675
5	15	15	176300	836.5	DFT-s-OFDM 64 QAM	36@18	20.94	15.99	0.0397
5	15	15	176300	836.5	DFT-s-OFDM 64 QAM	1@1	20.76	15.81	0.0381
5	15	15	176300	836.5	DFT-s-OFDM 64 QAM	1@77	21.08	16.13	0.0410
5	15	15	176300	836.5	DFT-s-OFDM 256 QAM	36@18	18.79	13.84	0.0242

5	15	15	176300	836.5	DFT-s-OFDM 256 QAM	1@1	18.22	13.27	0.0212
5	15	15	176300	836.5	DFT-s-OFDM 256 QAM	1@77	19.03	14.08	0.0256
5	15	15	176300	836.5	CP-OFDM QPSK	39@19	21.56	16.61	0.0458
5	15	15	176300	836.5	CP-OFDM QPSK	1@1	21.88	16.93	0.0493
5	15	15	176300	836.5	CP-OFDM QPSK	1@77	21.78	16.83	0.0482
5	15	15	177300	841.5	DFT-s-OFDM PI/2 BPSK	36@18	24.3	19.35	0.0861
5	15	15	177300	841.5	DFT-s-OFDM PI/2 BPSK	1@1	24.24	19.29	0.0849
5	15	15	177300	841.5	DFT-s-OFDM PI/2 BPSK	1@77	24.15	19.2	0.0832
5	15	15	177300	841.5	DFT-s-OFDM QPSK	36@18	24.38	19.43	0.0877
5	15	15	177300	841.5	DFT-s-OFDM QPSK	1@1	24.35	19.4	0.0871
5	15	15	177300	841.5	DFT-s-OFDM QPSK	1@77	24.22	19.27	0.0845
5	15	15	177300	841.5	DFT-s-OFDM 16 QAM	36@18	23.41	18.46	0.0701
5	15	15	177300	841.5	DFT-s-OFDM 16 QAM	1@1	23.21	18.26	0.0670
5	15	15	177300	841.5	DFT-s-OFDM 16 QAM	1@77	23.15	18.2	0.0661
5	15	15	177300	841.5	DFT-s-OFDM 64 QAM	36@18	20.91	15.96	0.0394
5	15	15	177300	841.5	DFT-s-OFDM 64 QAM	1@1	21.27	16.32	0.0429
5	15	15	177300	841.5	DFT-s-OFDM 64 QAM	1@77	20.34	15.39	0.0346
5	15	15	177300	841.5	DFT-s-OFDM 256 QAM	36@18	18.86	13.91	0.0246
5	15	15	177300	841.5	DFT-s-OFDM 256 QAM	1@1	18.31	13.36	0.0217
5	15	15	177300	841.5	DFT-s-OFDM 256 QAM	1@77	18.29	13.34	0.0216
5	15	15	177300	841.5	CP-OFDM QPSK	39@19	21.86	16.91	0.0491
5	15	15	177300	841.5	CP-OFDM QPSK	1@1	21.94	16.99	0.0500
5	15	15	177300	841.5	CP-OFDM QPSK	1@77	21.75	16.8	0.0479
5	15	20	175800	834	DFT-s-OFDM PI/2 BPSK	50@25	24.57	19.62	0.0916
5	15	20	175800	834	DFT-s-OFDM PI/2 BPSK	1@1	24.35	19.4	0.0871

5	15	20	175800	834	DFT-s-OFDM PI/2 BPSK	1@104	24.22	19.27	0.0845
5	15	20	175800	834	DFT-s-OFDM QPSK	50@25	24.35	19.4	0.0871
5	15	20	175800	834	DFT-s-OFDM QPSK	1@1	24.48	19.53	0.0897
5	15	20	175800	834	DFT-s-OFDM QPSK	1@104	24.36	19.41	0.0873
5	15	20	175800	834	DFT-s-OFDM 16 QAM	50@25	23.4	18.45	0.0700
5	15	20	175800	834	DFT-s-OFDM 16 QAM	1@1	23.35	18.4	0.0692
5	15	20	175800	834	DFT-s-OFDM 16 QAM	1@104	23.24	18.29	0.0675
5	15	20	175800	834	DFT-s-OFDM 64 QAM	50@25	20.92	15.97	0.0395
5	15	20	175800	834	DFT-s-OFDM 64 QAM	1@1	21.13	16.18	0.0415
5	15	20	175800	834	DFT-s-OFDM 64 QAM	1@104	20.98	16.03	0.0401
5	15	20	175800	834	DFT-s-OFDM 256 QAM	50@25	18.86	13.91	0.0246
5	15	20	175800	834	DFT-s-OFDM 256 QAM	1@1	17.74	12.79	0.0190
5	15	20	175800	834	DFT-s-OFDM 256 QAM	1@104	18.43	13.48	0.0223
5	15	20	175800	834	CP-OFDM QPSK	53@26	21.84	16.89	0.0489
5	15	20	175800	834	CP-OFDM QPSK	1@1	21.95	17	0.0501
5	15	20	175800	834	CP-OFDM QPSK	1@104	21.85	16.9	0.0490
5	15	20	176300	836.5	DFT-s-OFDM PI/2 BPSK	50@25	24.39	19.44	0.0879
5	15	20	176300	836.5	DFT-s-OFDM PI/2 BPSK	1@1	24.35	19.4	0.0871
5	15	20	176300	836.5	DFT-s-OFDM PI/2 BPSK	1@104	24.17	19.22	0.0836
5	15	20	176300	836.5	DFT-s-OFDM QPSK	50@25	24.37	19.42	0.0875
5	15	20	176300	836.5	DFT-s-OFDM QPSK	1@1	24.47	19.52	0.0895
5	15	20	176300	836.5	DFT-s-OFDM QPSK	1@104	24.31	19.36	0.0863
5	15	20	176300	836.5	DFT-s-OFDM 16 QAM	50@25	23.39	18.44	0.0698
5	15	20	176300	836.5	DFT-s-OFDM 16 QAM	1@1	23.35	18.4	0.0692

5	15	20	176300	836.5	DFT-s-OFDM 16 QAM	1@104	23.18	18.23	0.0665
5	15	20	176300	836.5	DFT-s-OFDM 64 QAM	50@25	20.98	16.03	0.0401
5	15	20	176300	836.5	DFT-s-OFDM 64 QAM	1@1	21.21	16.26	0.0423
5	15	20	176300	836.5	DFT-s-OFDM 64 QAM	1@104	20.94	15.99	0.0397
5	15	20	176300	836.5	DFT-s-OFDM 256 QAM	50@25	18.82	13.87	0.0244
5	15	20	176300	836.5	DFT-s-OFDM 256 QAM	1@1	17.69	12.74	0.0188
5	15	20	176300	836.5	DFT-s-OFDM 256 QAM	1@104	18.37	13.42	0.0220
5	15	20	176300	836.5	CP-OFDM QPSK	53@26	21.88	16.93	0.0493
5	15	20	176300	836.5	CP-OFDM QPSK	1@1	21.87	16.92	0.0492
5	15	20	176300	836.5	CP-OFDM QPSK	1@104	21.81	16.86	0.0485
5	15	20	176800	839	DFT-s-OFDM PI/2 BPSK	50@25	24.42	19.47	0.0885
5	15	20	176800	839	DFT-s-OFDM PI/2 BPSK	1@1	24.31	19.36	0.0863
5	15	20	176800	839	DFT-s-OFDM PI/2 BPSK	1@104	24.18	19.23	0.0838
5	15	20	176800	839	DFT-s-OFDM QPSK	50@25	24.44	19.49	0.0889
5	15	20	176800	839	DFT-s-OFDM QPSK	1@1	24.42	19.47	0.0885
5	15	20	176800	839	DFT-s-OFDM QPSK	1@104	24.25	19.3	0.0851
5	15	20	176800	839	DFT-s-OFDM 16 QAM	50@25	23.46	18.51	0.0710
5	15	20	176800	839	DFT-s-OFDM 16 QAM	1@1	23.21	18.26	0.0670
5	15	20	176800	839	DFT-s-OFDM 16 QAM	1@104	23.2	18.25	0.0668
5	15	20	176800	839	DFT-s-OFDM 64 QAM	50@25	20.97	16.02	0.0400
5	15	20	176800	839	DFT-s-OFDM 64 QAM	1@1	21.08	16.13	0.0410
5	15	20	176800	839	DFT-s-OFDM 64 QAM	1@104	21.47	16.52	0.0449
5	15	20	176800	839	DFT-s-OFDM 256 QAM	50@25	18.94	13.99	0.0251
5	15	20	176800	839	DFT-s-OFDM 256 QAM	1@1	18.95	14	0.0251

5	15	20	176800	839	DFT-s-OFDM 256 QAM	1@104	18.35	13.4	0.0219
5	15	20	176800	839	CP-OFDM QPSK	53@26	21.97	17.02	0.0504
5	15	20	176800	839	CP-OFDM QPSK	1@1	22.06	17.11	0.0514
5	15	20	176800	839	CP-OFDM QPSK	1@104	21.66	16.71	0.0469

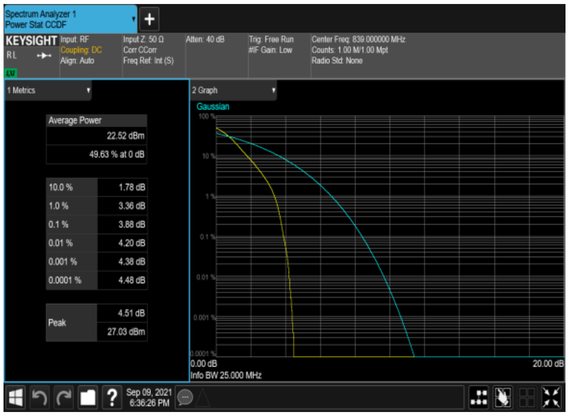
Frequency Stability

NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	Deviation (ppm)	Verdict	Environment
5	15	20	176300	836.5	DFT-s-OFDM QPSK	100@0	-0.00112	**PASS**	NV
5	15	20	176300	836.5	DFT-s-OFDM QPSK	100@0	-0.00153	**PASS**	LV
5	15	20	176300	836.5	DFT-s-OFDM QPSK	100@0	-0.00246	**PASS**	HV
5	15	20	176300	836.5	DFT-s-OFDM QPSK	100@0	-0.00223	**PASS**	-30℃
5	15	20	176300	836.5	DFT-s-OFDM QPSK	100@0	-0.00115	**PASS**	-20℃
5	15	20	176300	836.5	DFT-s-OFDM QPSK	100@0	-0.00453	**PASS**	-10℃
5	15	20	176300	836.5	DFT-s-OFDM QPSK	100@0	-0.00235	**PASS**	0℃
5	15	20	176300	836.5	DFT-s-OFDM QPSK	100@0	-0.00682	**PASS**	10℃
5	15	20	176300	836.5	DFT-s-OFDM QPSK	100@0	-0.00514	**PASS**	20℃
5	15	20	176300	836.5	DFT-s-OFDM QPSK	100@0	-0.00151	**PASS**	30℃
5	15	20	176300	836.5	DFT-s-OFDM QPSK	100@0	-0.00253	**PASS**	40℃
5	15	20	176300	836.5	DFT-s-OFDM QPSK	100@0	-0.00142	**PASS**	50℃

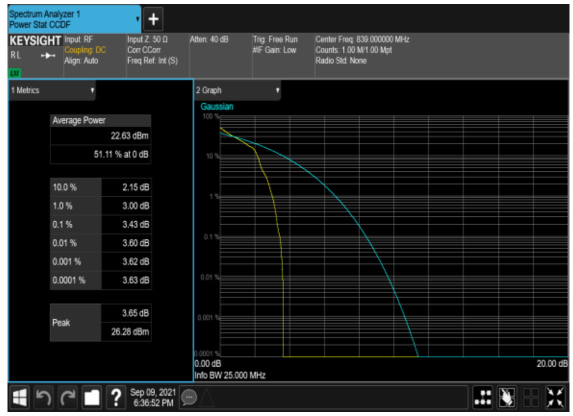
Peak to Average Radio

NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	Result (dB)	Limit (dB)	Verdict
5	15	20	176800	839.0	DFT-s-OFDM PI/2 BPSK	100@0	3.88	13	**PASS**
5	15	20	176800	839.0	DFT-s-OFDM PI/2 BPSK	1@0	3.43	13	**PASS**
5	15	20	176800	839.0	DFT-s-OFDM PI/2 BPSK	1@105	3.39	13	**PASS**
5	15	20	176800	839.0	DFT-s-OFDM QPSK	100@0	5.17	13	**PASS**
5	15	20	176800	839.0	DFT-s-OFDM QPSK	1@0	5.1	13	**PASS**
5	15	20	176800	839.0	DFT-s-OFDM QPSK	1@105	4.94	13	**PASS**
5	15	20	176300	836.5	DFT-s-OFDM PI/2 BPSK	100@0	3.84	13	**PASS**
5	15	20	176300	836.5	DFT-s-OFDM PI/2 BPSK	1@0	3.49	13	**PASS**
5	15	20	176300	836.5	DFT-s-OFDM PI/2 BPSK	1@105	3.44	13	**PASS**
5	15	20	176300	836.5	DFT-s-OFDM QPSK	100@0	5.13	13	**PASS**
5	15	20	176300	836.5	DFT-s-OFDM QPSK	1@0	5.21	13	**PASS**
5	15	20	176300	836.5	DFT-s-OFDM QPSK	1@105	5.08	13	**PASS**
5	15	20	175800	834.0	DFT-s-OFDM PI/2 BPSK	100@0	3.84	13	**PASS**
5	15	20	175800	834.0	DFT-s-OFDM PI/2 BPSK	1@0	3.5	13	**PASS**
5	15	20	175800	834.0	DFT-s-OFDM PI/2 BPSK	1@105	3.48	13	**PASS**
5	15	20	175800	834.0	DFT-s-OFDM QPSK	100@0	5.14	13	**PASS**
5	15	20	175800	834.0	DFT-s-OFDM QPSK	1@0	5.2	13	**PASS**
5	15	20	175800	834.0	DFT-s-OFDM QPSK	1@105	5.23	13	**PASS**

B7_N5(20M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_High_CH

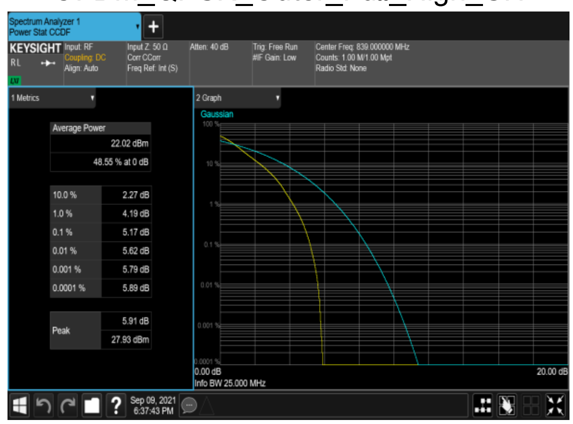


B7_N5(20M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_Left_High_CH

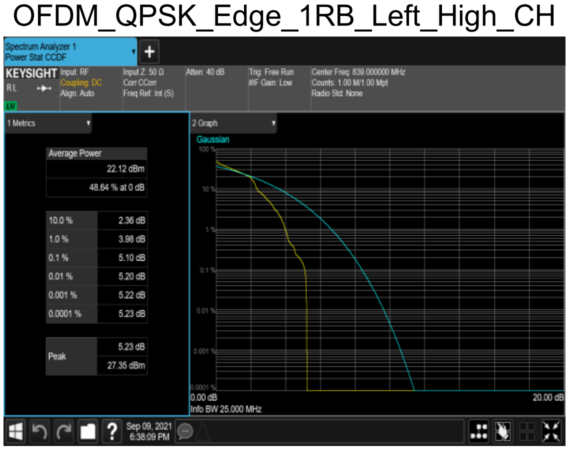


B7_N5(20M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_Right_High_CH

B7_N5(20M)_DFT-s-OFDM_QPSK_Outer_Full_High_CH

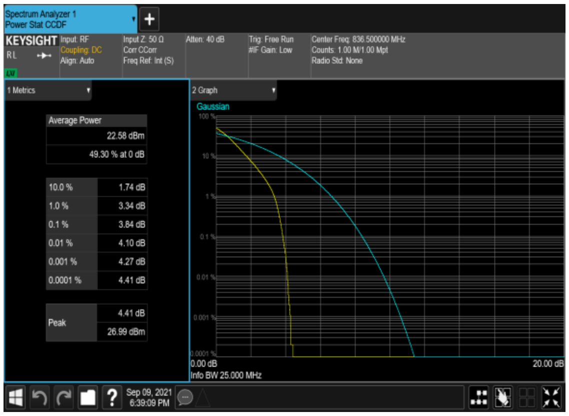


B7_N5(20M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_High_CH

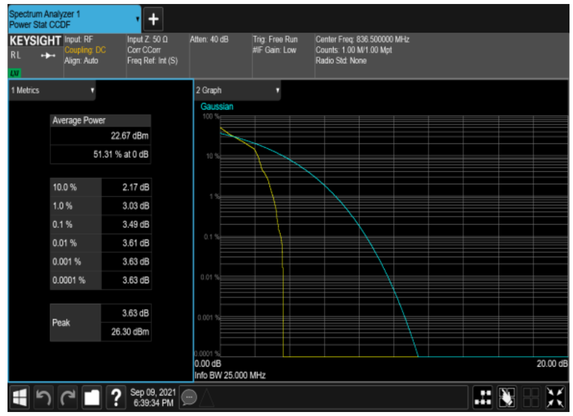


B7_N5(20M)_DFT-s-OFDM_QPSK_Edge_1RB_Right_High_CH

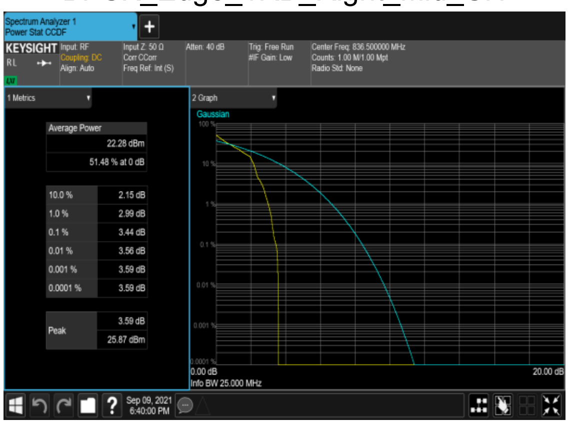
B7_N5(20M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_Mid_CH



B7_N5(20M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_Left_Mid_CH

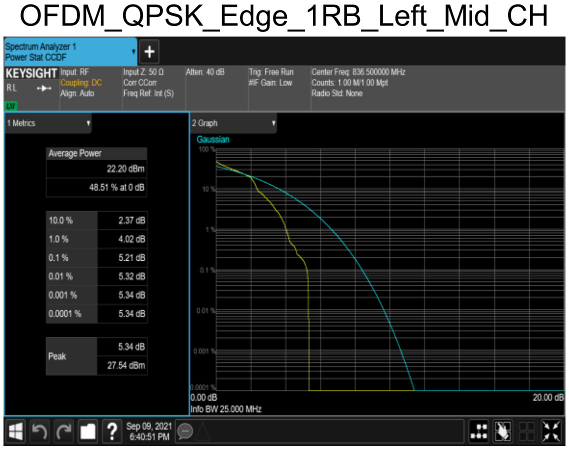


B7_N5(20M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_Right_Mid_CH

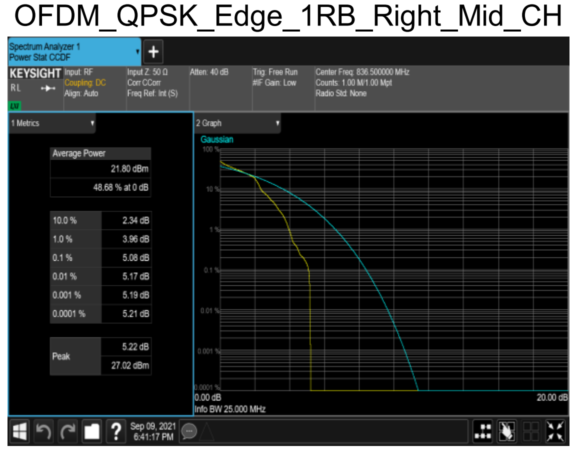


B7_N5(20M)_DFT-s-OFDM_QPSK_Outer_Full_Mid_CH

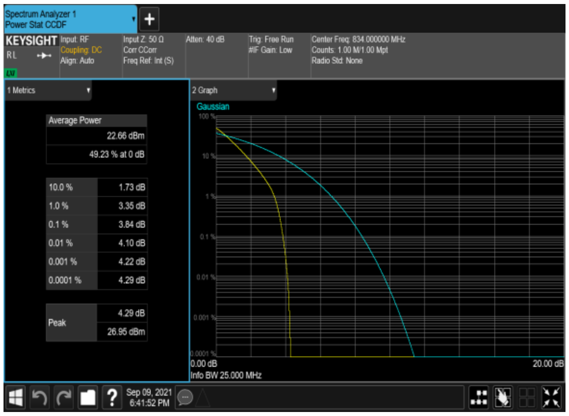
B7_N5(20M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Mid_CH



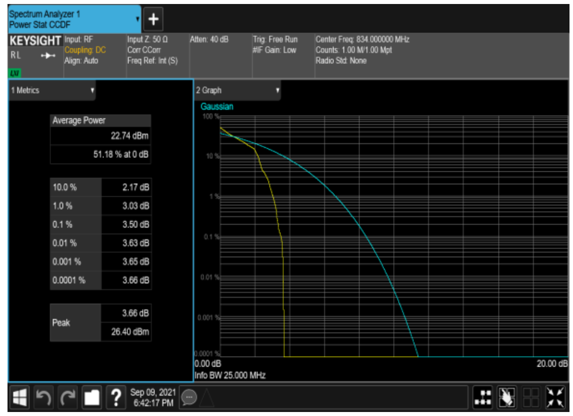
B7_N5(20M)_DFT-s-OFDM_QPSK_Edge_1RB_Right_Mid_CH



B7_N5(20M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_Low_CH

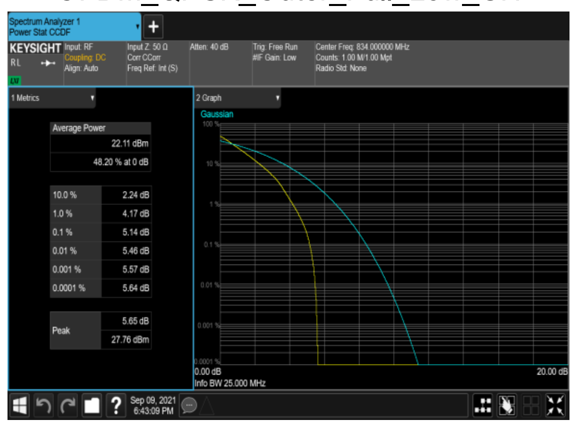


B7_N5(20M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_Left_Low_CH

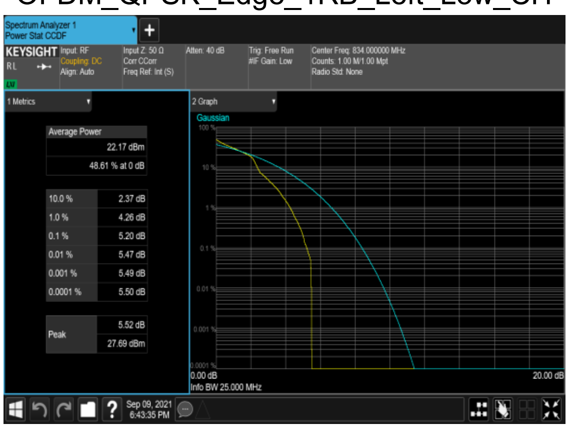


B7_N5(20M)_DFT-s-OFDM_PI_2-BPSK_Edge_1RB_Right_Low_CH

B7_N5(20M)_DFT-s-OFDM_QPSK_Outer_Full_Low_CH



B7_N5(20M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Low_CH



B7_N5(20M)_DFT-s-OFDM_QPSK_Edge_1RB_Right_Low_CH

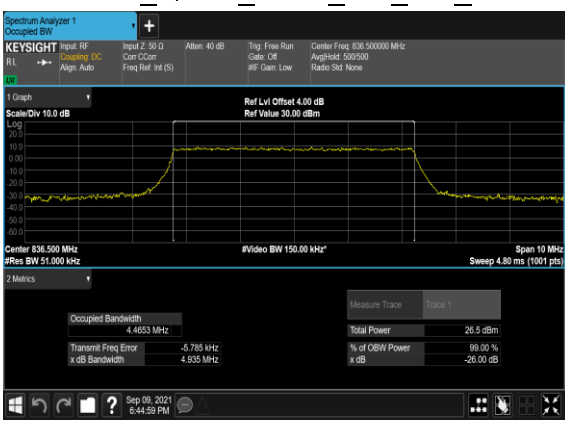
Occupied Bandwidth

NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	OBW (MHz)	26dB OBW (MHz)
5	15	5	176300	836.5	DFT-s-OFDM PI/2 BPSK	25@0	4.4583	4.824
5	15	5	176300	836.5	DFT-s-OFDM QPSK	25@0	4.4657	4.831
5	15	5	176300	836.5	CP-OFDM QPSK	25@0	4.4653	4.935
5	15	5	176300	836.5	CP-OFDM 16 QAM	25@0	4.4866	4.96
5	15	5	176300	836.5	CP-OFDM 64 QAM	25@0	4.4762	4.978
5	15	5	176300	836.5	CP-OFDM 256 QAM	25@0	4.4657	4.924
5	15	10	176300	836.5	DFT-s-OFDM PI/2 BPSK	50@0	8.8787	9.391
5	15	10	176300	836.5	DFT-s-OFDM QPSK	50@0	8.9007	9.555
5	15	10	176300	836.5	CP-OFDM QPSK	52@0	9.2578	9.895
5	15	10	176300	836.5	CP-OFDM 16 QAM	52@0	9.2478	9.866
5	15	10	176300	836.5	CP-OFDM 64 QAM	52@0	9.2577	9.812
5	15	10	176300	836.5	CP-OFDM 256 QAM	52@0	9.2725	9.87
5	15	15	176300	836.5	DFT-s-OFDM PI/2 BPSK	75@0	13.36	14.09
5	15	15	176300	836.5	DFT-s-OFDM QPSK	75@0	13.363	14.1
5	15	15	176300	836.5	CP-OFDM QPSK	79@0	14.076	14.82
5	15	15	176300	836.5	CP-OFDM 16 QAM	79@0	14.102	14.87
5	15	15	176300	836.5	CP-OFDM 64 QAM	79@0	14.103	14.84
5	15	15	176300	836.5	CP-OFDM 256 QAM	79@0	14.052	14.81
5	15	20	176300	836.5	DFT-s-OFDM PI/2 BPSK	100@0	17.829	18.66
5	15	20	176300	836.5	DFT-s-OFDM QPSK	100@0	17.825	18.69
5	15	20	176300	836.5	CP-OFDM QPSK	106@0	18.843	19.81
5	15	20	176300	836.5	CP-OFDM 16 QAM	106@0	18.895	19.78
5	15	20	176300	836.5	CP-OFDM 64 QAM	106@0	18.887	19.77
5	15	20	176300	836.5	CP-OFDM 256 QAM	106@0	18.928	19.74

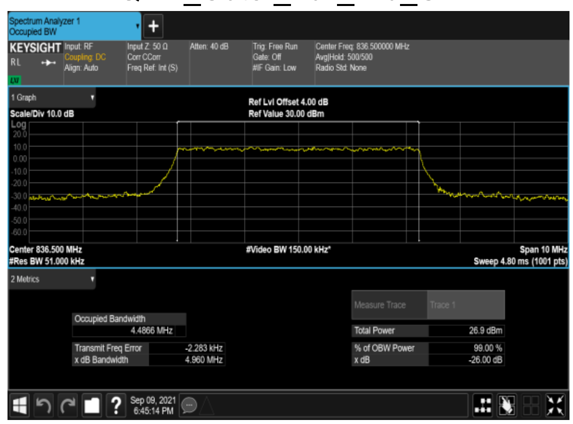
B7_N5(5M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_Mid_CH

B7_N5(5M)_DFT-s-OFDM_QPSK_Outer_Full_Mid_CH

B7_N5(5M)_CP-OFDM_QPSK_Outer_Full_Mid_CH



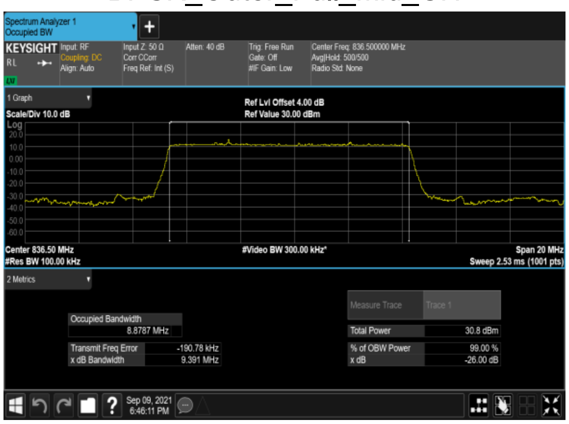
B7_N5(5M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH



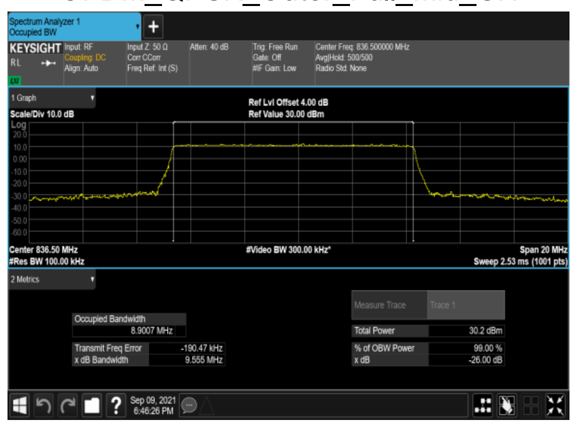
B7_N5(5M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH

B7_N5(5M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH

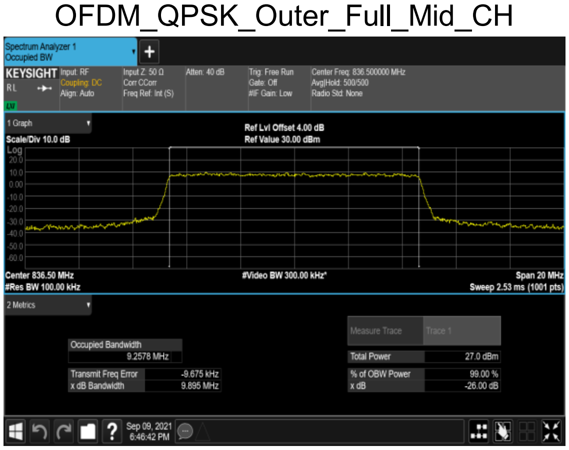
B7_N5(10M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_Mid_CH



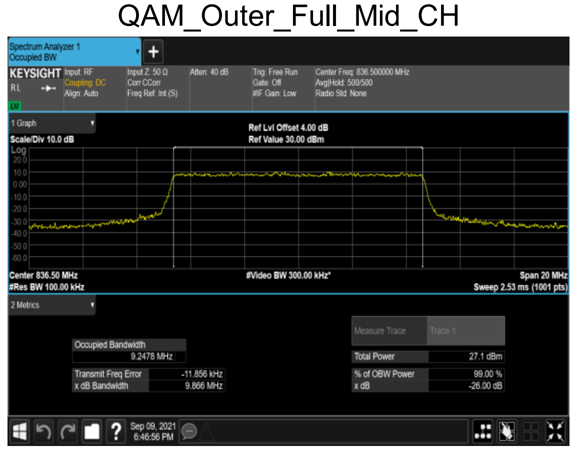
B7_N5(10M)_DFT-s-OFDM_QPSK_Outer_Full_Mid_CH



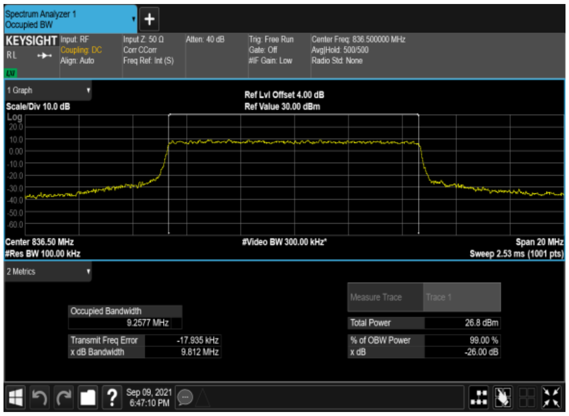
B7_N5(10M)_CP-OFDM_QPSK_Outer_Full_Mid_CH



B7_N5(10M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH

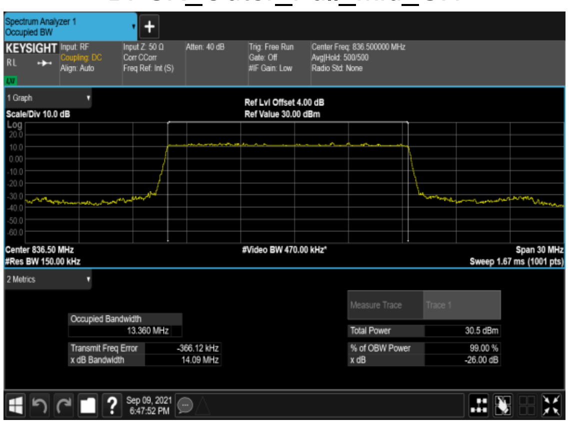


B7_N5(10M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH

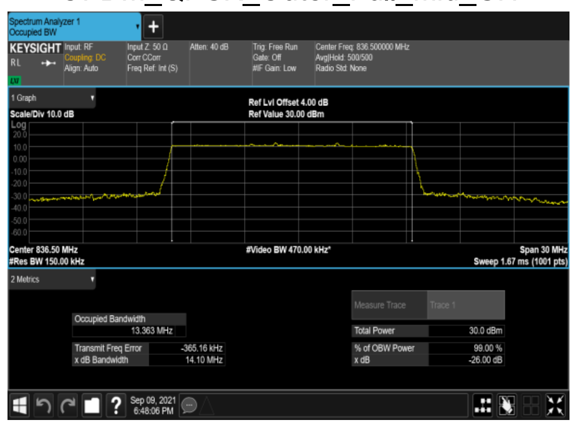


B7_N5(10M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH

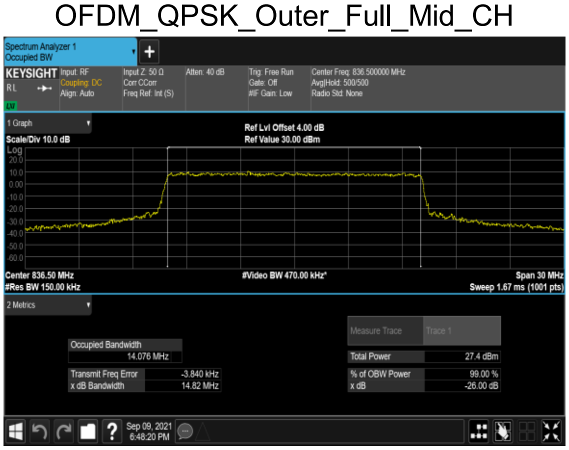
B7_N5(15M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_Mid_CH



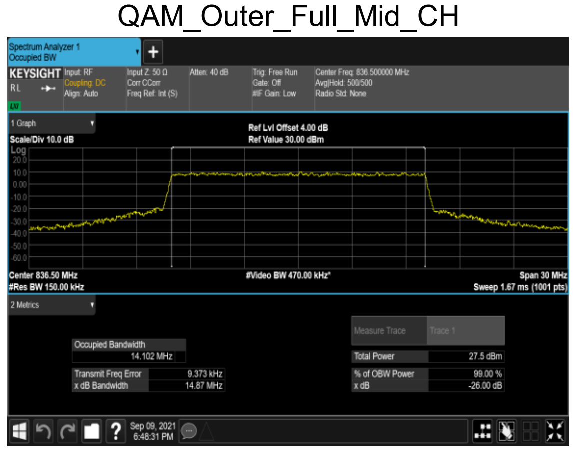
B7_N5(15M)_DFT-s-OFDM_QPSK_Outer_Full_Mid_CH



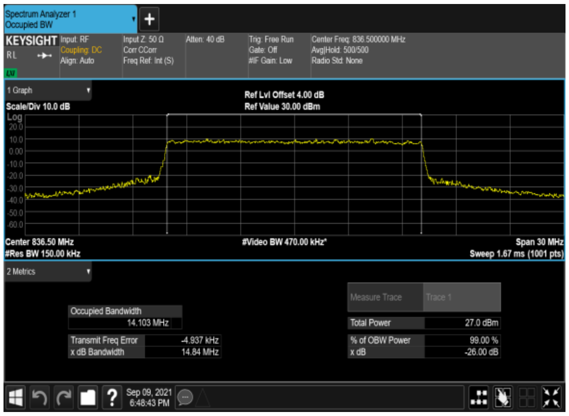
B7_N5(15M)_CP-OFDM_QPSK_Outer_Full_Mid_CH



B7_N5(15M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH

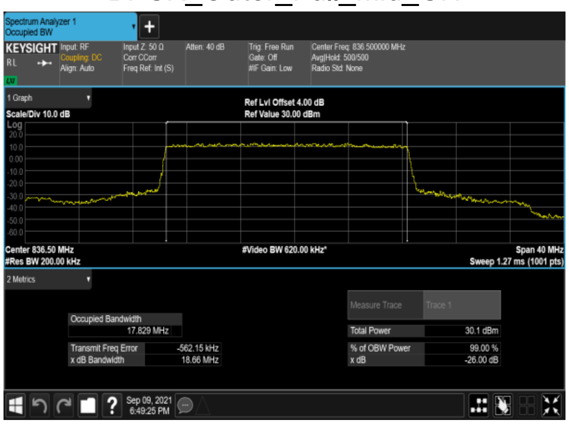


B7_N5(15M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH

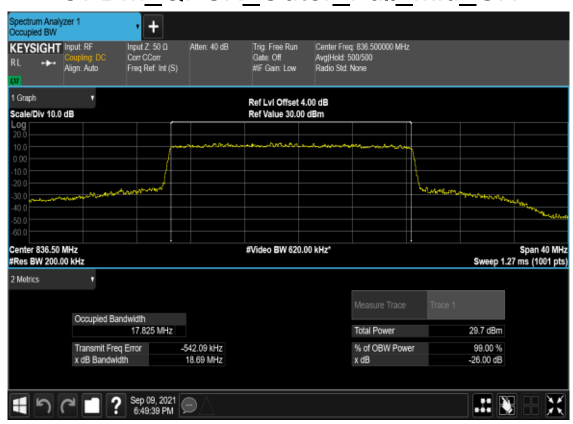


B7_N5(15M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH

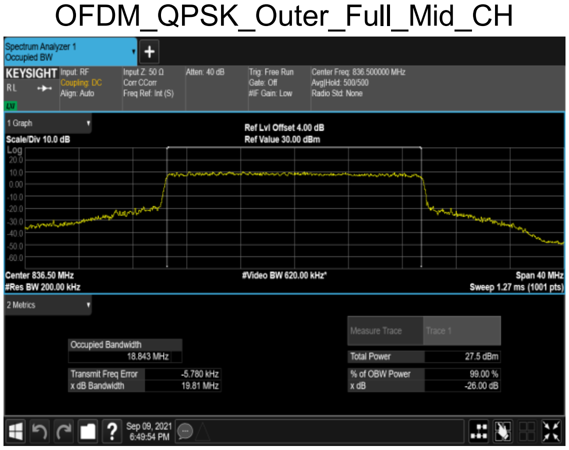
B7_N5(20M)_DFT-s-OFDM_PI_2-BPSK_Outer_Full_Mid_CH



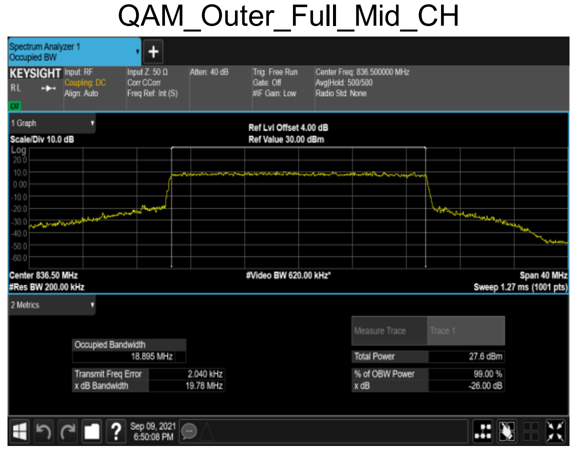
B7_N5(20M)_DFT-s-OFDM_QPSK_Outer_Full_Mid_CH



B7_N5(20M)_CP-OFDM_QPSK_Outer_Full_Mid_CH



B7_N5(20M)_CP-OFDM_16 QAM_Outer_Full_Mid_CH



B7_N5(20M)_CP-OFDM_64 QAM_Outer_Full_Mid_CH

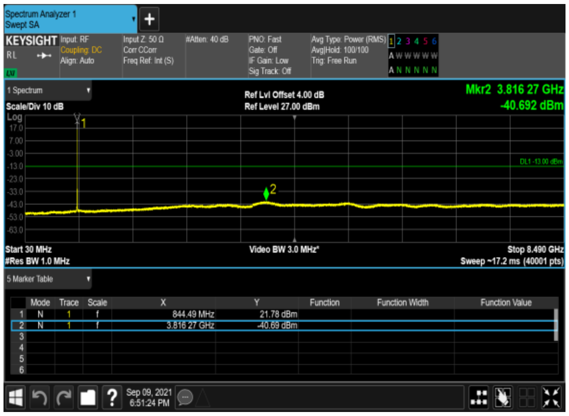
B7_N5(20M)_CP-OFDM_256 QAM_Outer_Full_Mid_CH

Conducted Spurious Emissions

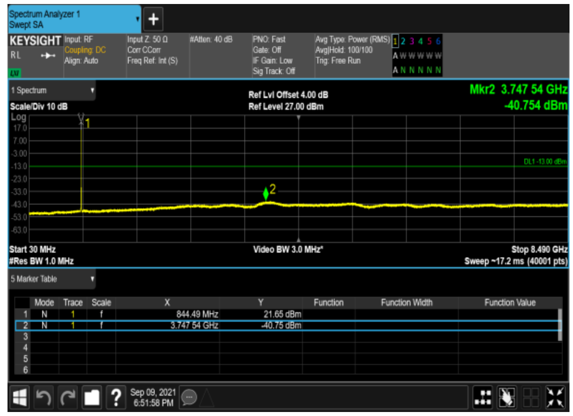
NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	Result	Verdict
5	15	5	178300	846.5	DFT-s-OFDM BPSK	1@0	see graph	---
5	15	5	178300	846.5	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
5	15	5	178300	846.5	DFT-s-OFDM QPSK	1@0	see graph	---
5	15	5	178300	846.5	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
5	15	5	176300	836.5	DFT-s-OFDM BPSK	1@0	see graph	---
5	15	5	176300	836.5	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
5	15	5	176300	836.5	DFT-s-OFDM QPSK	1@0	see graph	---
5	15	5	176300	836.5	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
5	15	5	174300	826.5	DFT-s-OFDM BPSK	1@0	see graph	---
5	15	5	174300	826.5	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
5	15	5	174300	826.5	DFT-s-OFDM QPSK	1@0	see graph	---
5	15	5	174300	826.5	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
5	15	10	177800	844.0	DFT-s-OFDM BPSK	1@0	see graph	---

5	15	10	177800	844.0	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
5	15	10	177800	844.0	DFT-s-OFDM QPSK	1@0	see graph	---
5	15	10	177800	844.0	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
5	15	10	176300	836.5	DFT-s-OFDM BPSK	1@0	see graph	---
5	15	10	176300	836.5	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
5	15	10	176300	836.5	DFT-s-OFDM QPSK	1@0	see graph	---
5	15	10	176300	836.5	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
5	15	10	174800	829.0	DFT-s-OFDM BPSK	1@0	see graph	---
5	15	10	174800	829.0	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
5	15	10	174800	829.0	DFT-s-OFDM QPSK	1@0	see graph	---
5	15	10	174800	829.0	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
5	15	20	176800	839.0	DFT-s-OFDM BPSK	1@0	see graph	---
5	15	20	176800	839.0	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
5	15	20	176800	839.0	DFT-s-OFDM QPSK	1@0	see graph	---
5	15	20	176800	839.0	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
5	15	20	176300	836.5	DFT-s-OFDM BPSK	1@0	see graph	---
5	15	20	176300	836.5	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
5	15	20	176300	836.5	DFT-s-OFDM QPSK	1@0	see graph	---
5	15	20	176300	836.5	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
5	15	20	175800	834.0	DFT-s-OFDM BPSK	1@0	see graph	---
5	15	20	175800	834.0	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
5	15	20	175800	834.0	DFT-s-OFDM QPSK	1@0	see graph	---
5	15	20	175800	834.0	DFT-s-OFDM QPSK	1@0	see graph	**PASS**

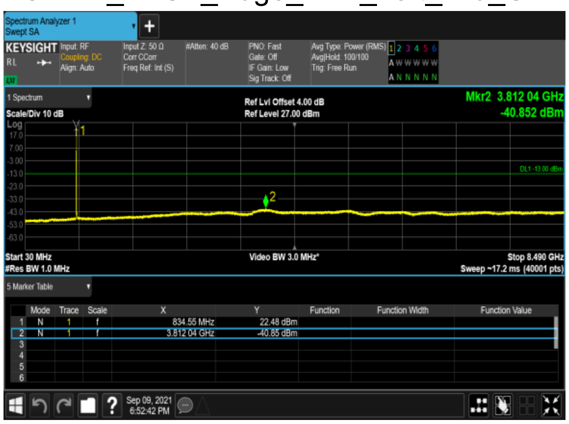
B7_N5(5M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_High_CH



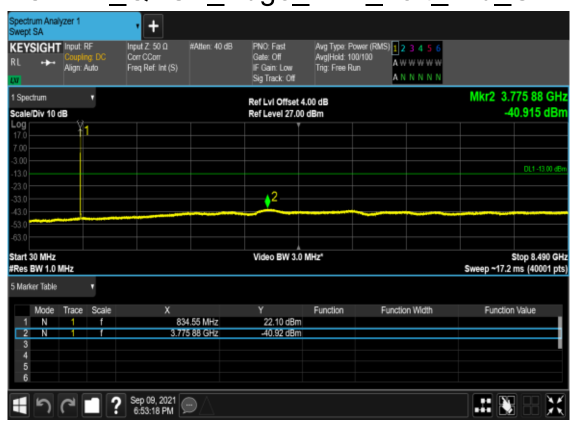
B7_N5(5M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_High_CH



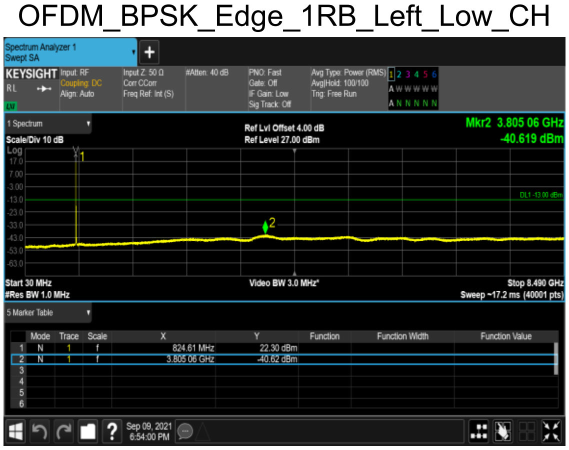
B7_N5(5M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Mid_CH



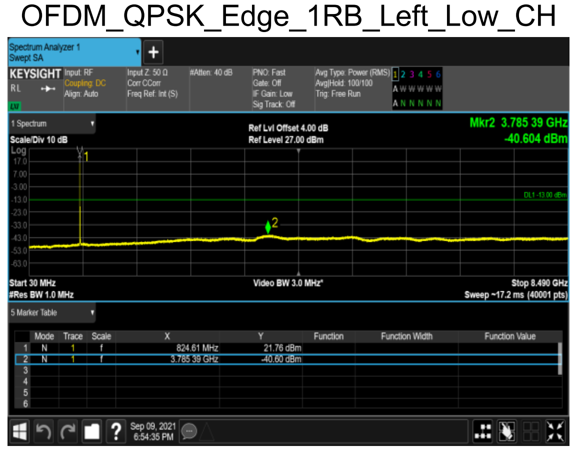
B7_N5(5M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Mid_CH



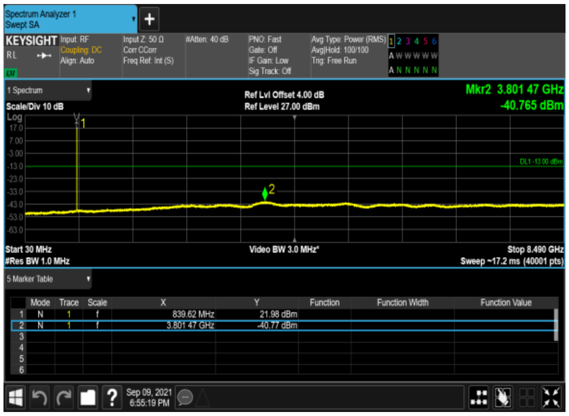
B7_N5(5M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Low_CH



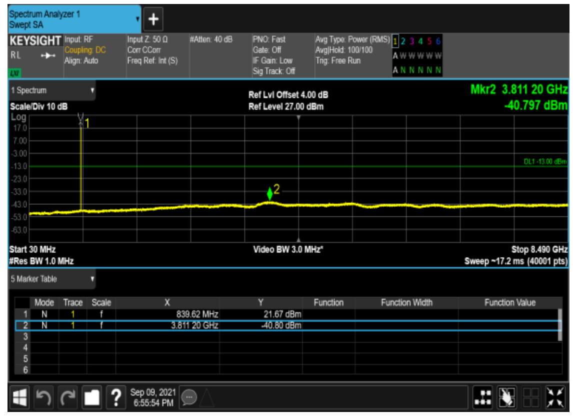
B7_N5(5M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Low_CH



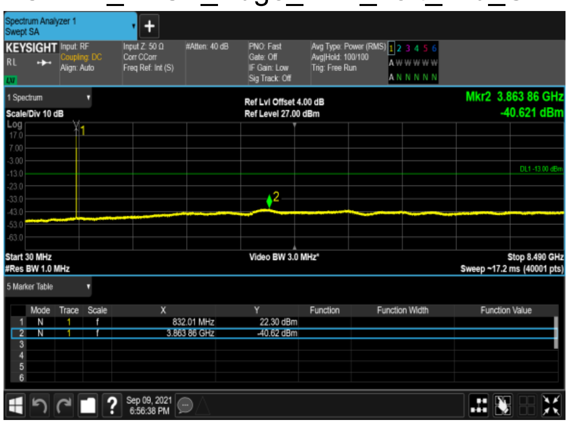
B7_N5(10M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_High_CH



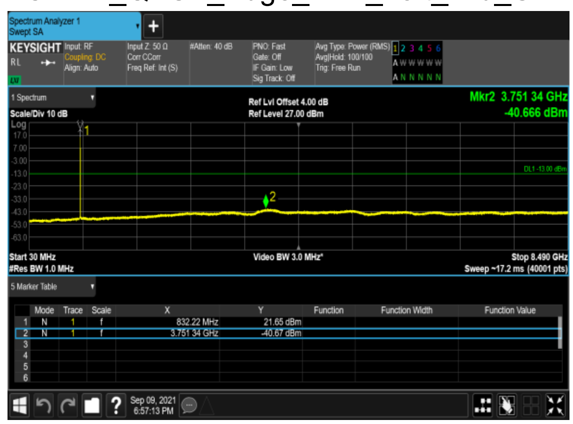
B7_N5(10M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_High_CH



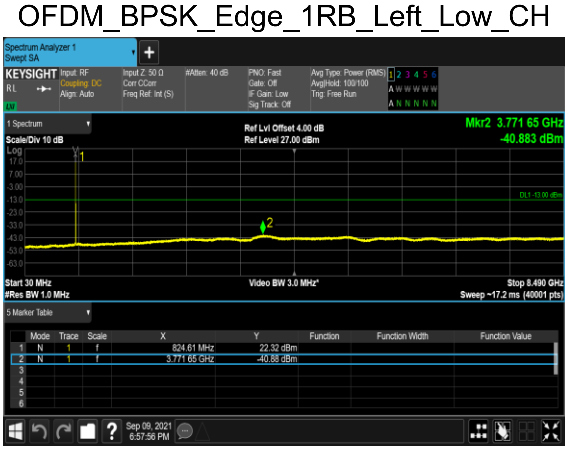
B7_N5(10M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Mid_CH



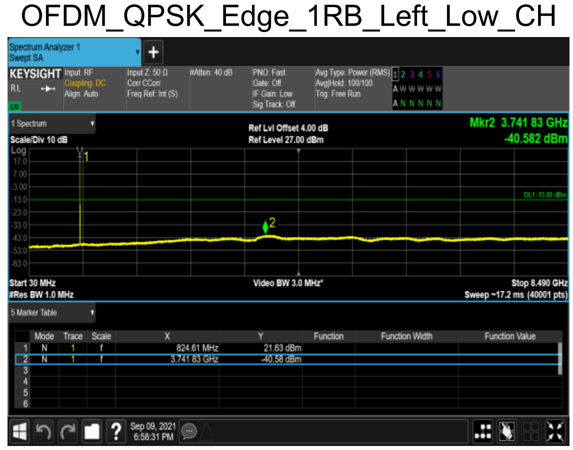
B7_N5(10M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Mid_CH



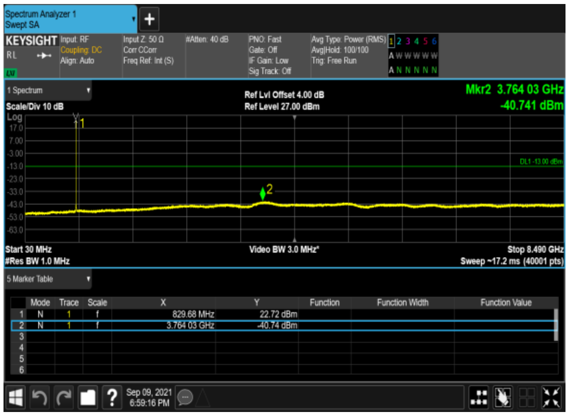
B7_N5(10M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Low_CH



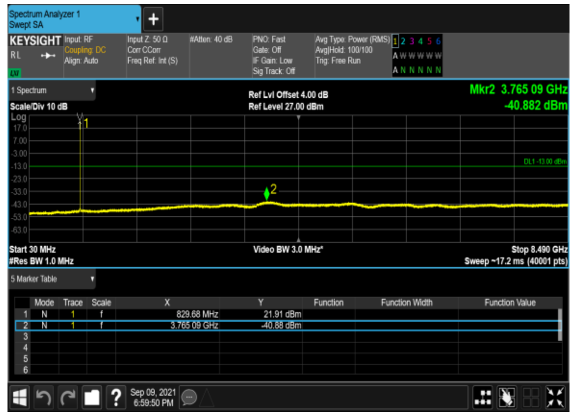
B7_N5(10M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Low_CH



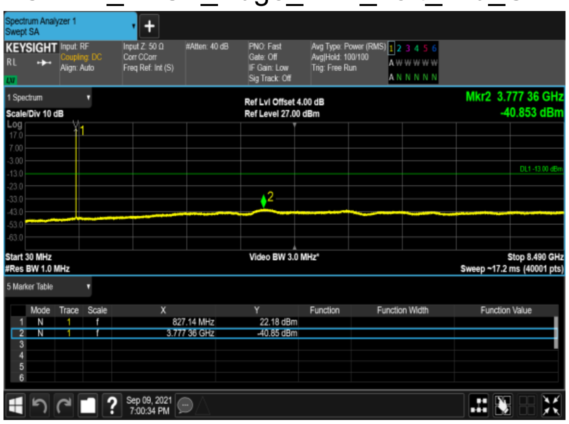
B7_N5(20M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_High_CH



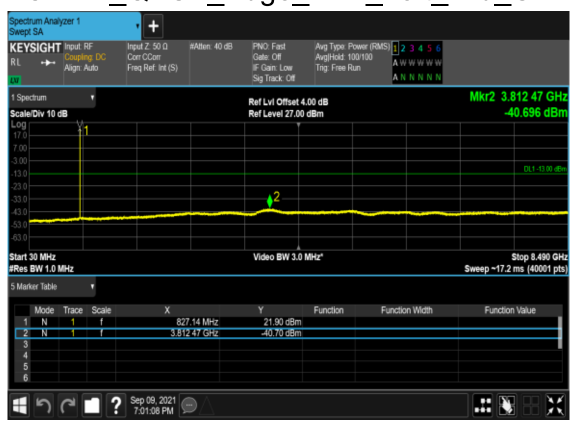
B7_N5(20M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_High_CH



B7_N5(20M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Mid_CH

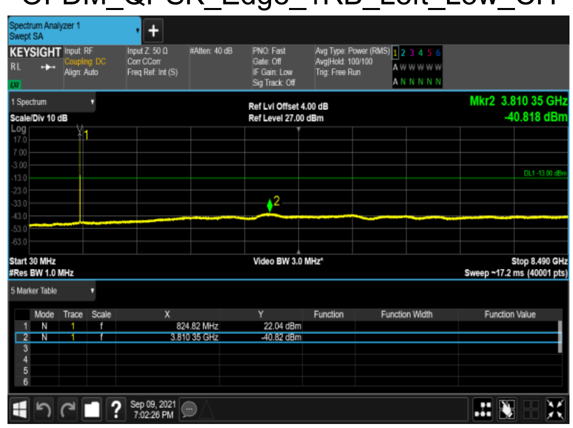


B7_N5(20M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Mid_CH



B7_N5(20M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Low_CH

B7_N5(20M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Low_CH



Conducted Band Edge

NR Band	SCS (kHz)	Bandwidth (MHz)	Arfcn	Freq (MHz)	Modulation	RB	Result	Verdict
5	15	5	174300	826.5	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
5	15	5	174300	826.5	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
5	15	5	174300	826.5	DFT-s-OFDM BPSK	25@0	see graph	**PASS**
5	15	5	174300	826.5	DFT-s-OFDM QPSK	25@0	see graph	**PASS**
5	15	5	178300	846.5	DFT-s-OFDM BPSK	1@24	see graph	**PASS**
5	15	5	178300	846.5	DFT-s-OFDM QPSK	1@24	see graph	**PASS**
5	15	5	178300	846.5	DFT-s-OFDM BPSK	25@0	see graph	**PASS**
5	15	5	178300	846.5	DFT-s-OFDM QPSK	25@0	see graph	**PASS**
5	15	10	174800	829.0	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
5	15	10	174800	829.0	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
5	15	10	174800	829.0	DFT-s-OFDM BPSK	50@0	see graph	**PASS**
5	15	10	174800	829.0	DFT-s-OFDM QPSK	50@0	see graph	**PASS**
5	15	10	177800	844.0	DFT-s-OFDM BPSK	1@51	see graph	**PASS**
5	15	10	177800	844.0	DFT-s-OFDM QPSK	1@51	see graph	**PASS**
5	15	10	177800	844.0	DFT-s-OFDM BPSK	50@0	see graph	**PASS**
5	15	10	177800	844.0	DFT-s-OFDM QPSK	50@0	see graph	**PASS**
5	15	20	175800	834.0	DFT-s-OFDM BPSK	1@0	see graph	**PASS**
5	15	20	175800	834.0	DFT-s-OFDM QPSK	1@0	see graph	**PASS**
5	15	20	175800	834.0	DFT-s-OFDM BPSK	100@0	see graph	**PASS**
5	15	20	175800	834.0	DFT-s-OFDM QPSK	100@0	see graph	**PASS**
5	15	20	176800	839.0	DFT-s-OFDM BPSK	1@105	see graph	**PASS**
5	15	20	176800	839.0	DFT-s-OFDM QPSK	1@105	see graph	**PASS**

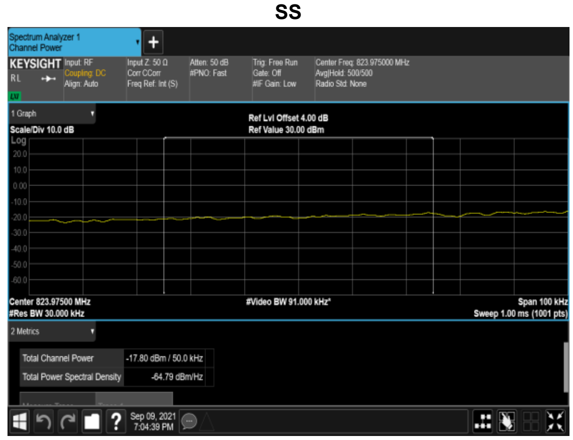
5	15	20	176800	839.0	DFT-s-OFDM BPSK	100@0	see graph	**PASS**
5	15	20	176800	839.0	DFT-s-OFDM QPSK	100@0	see graph	**PASS**

B7_N5(5M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Low_CH

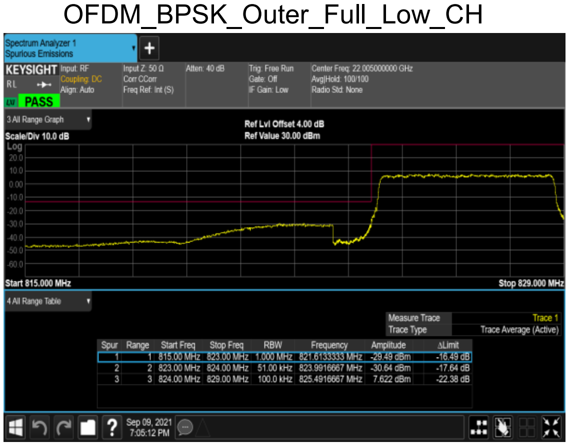
B7_N5(5M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Low_CH_CHP_PASS

B7_N5(5M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Low_CH

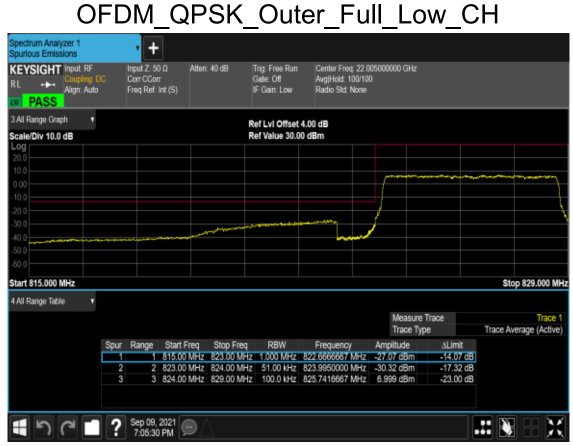
B7_N5(5M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Low_CH_CHP_PASS



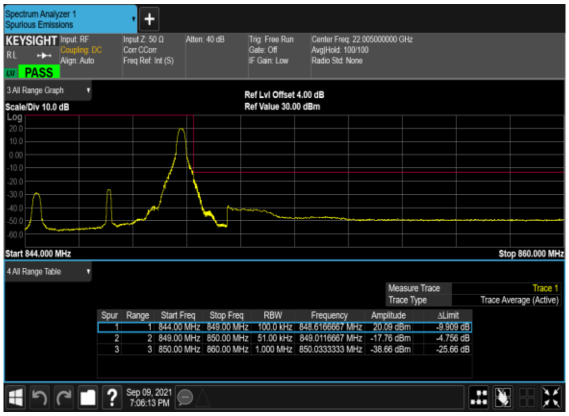
B7_N5(5M)_DFT-s-OFDM_BPSK_Outer_Full_Low_CH



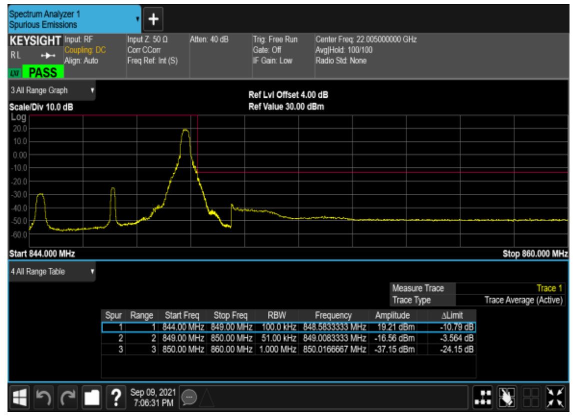
B7_N5(5M)_DFT-s-OFDM_QPSK_Outer_Full_Low_CH



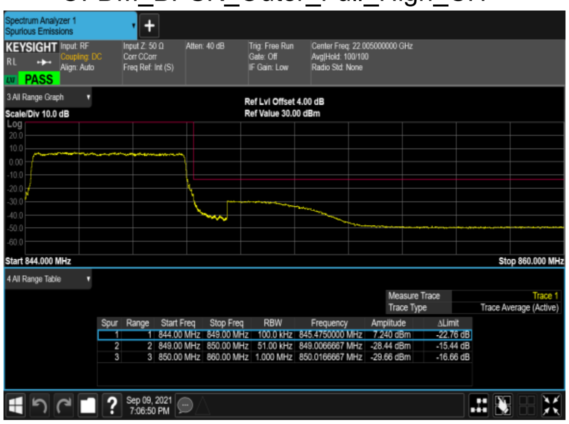
B7_N5(5M)_DFT-s-OFDM_BPSK_Edge_1RB_Right_High_CH



B7_N5(5M)_DFT-s-OFDM_QPSK_Edge_1RB_Right_High_CH

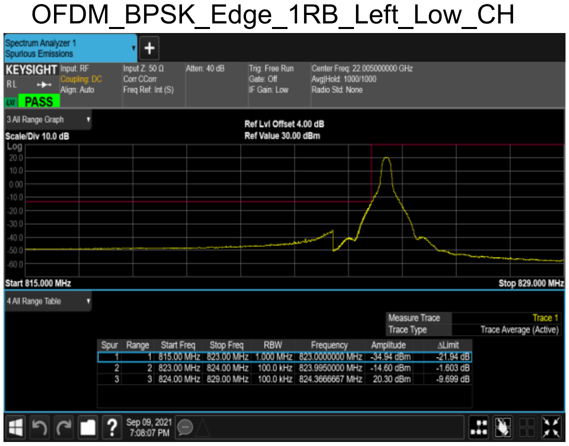


B7_N5(5M)_DFT-s-OFDM_BPSK_Outer_Full_High_CH



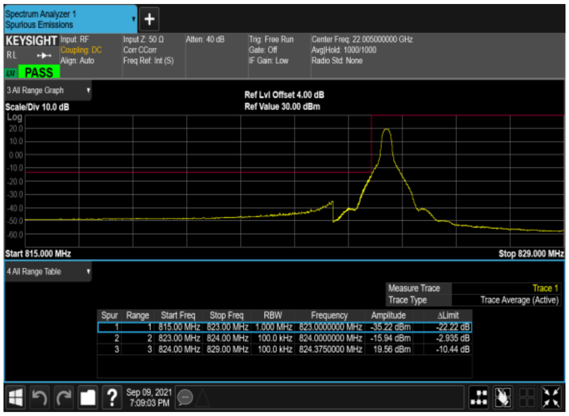
B7_N5(5M)_DFT-s-OFDM_QPSK_Outer_Full_High_CH

B7_N5(10M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Low_CH



B7_N5(10M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Low_CH**CHP_PASS**

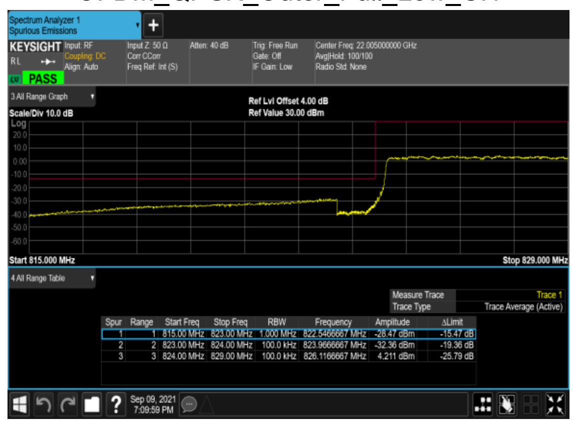
B7_N5(10M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Low_CH



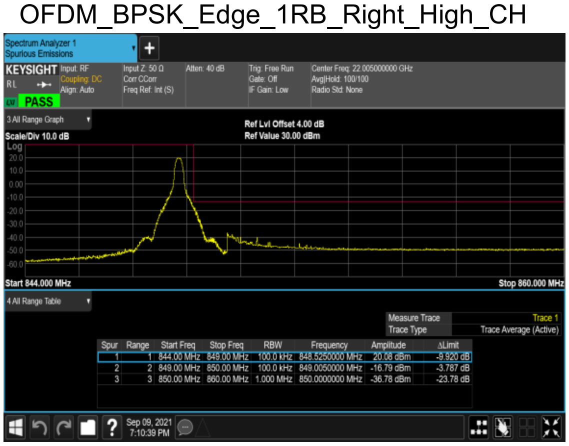
B7_N5(10M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Low_CH_CHP_PASS

B7_N5(10M)_DFT-s-OFDM_BPSK_Outer_Full_Low_CH

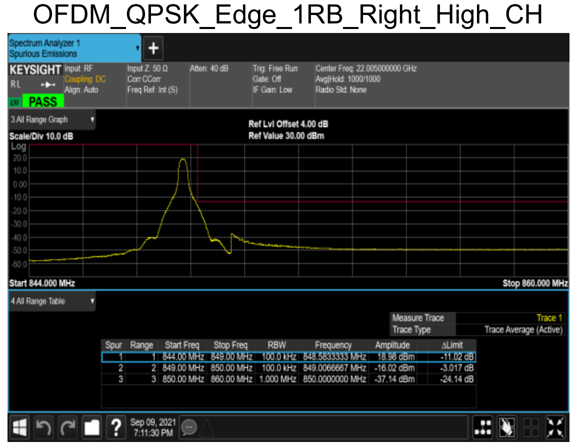
B7_N5(10M)_DFT-s-OFDM_QPSK_Outer_Full_Low_CH



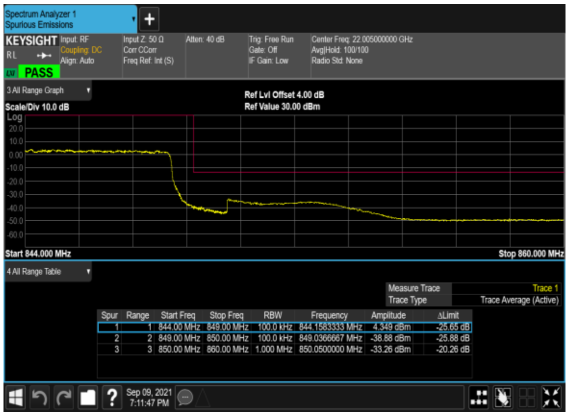
B7_N5(10M)_DFT-s-OFDM_BPSK_Edge_1RB_Right_High_CH



B7_N5(10M)_DFT-s-OFDM_QPSK_Edge_1RB_Right_High_CH

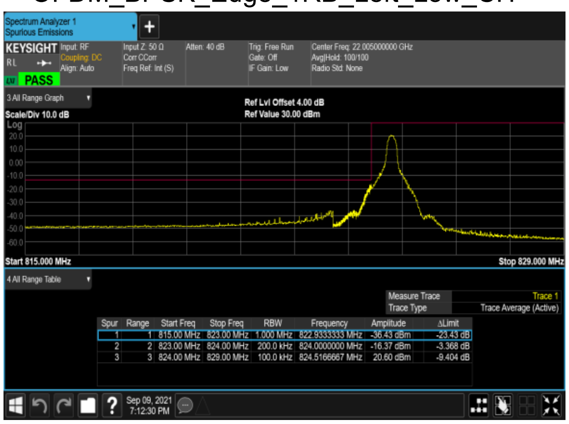


B7_N5(10M)_DFT-s-OFDM_BPSK_Outer_Full_High_CH

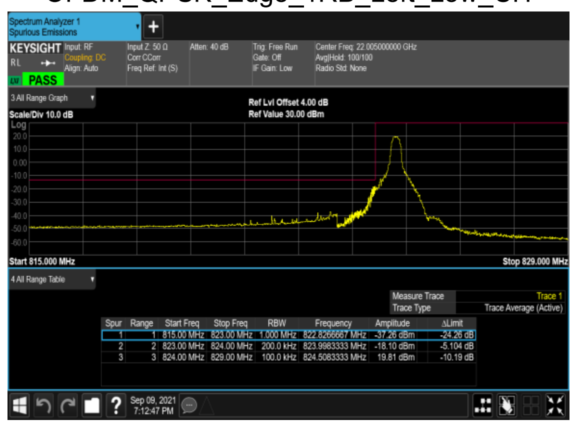


B7_N5(10M)_DFT-s-OFDM_QPSK_Outer_Full_High_CH

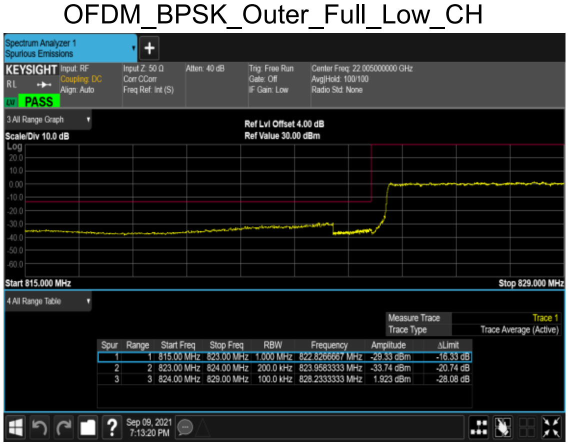
B7_N5(20M)_DFT-s-OFDM_BPSK_Edge_1RB_Left_Low_CH



B7_N5(20M)_DFT-s-OFDM_QPSK_Edge_1RB_Left_Low_CH



B7_N5(20M)_DFT-s-OFDM_BPSK_Outer_Full_Low_CH



B7_N5(20M)_DFT-s-OFDM_QPSK_Outer_Full_Low_CH