



TEST REPORT

No. I19Z60510-WMD01

for

Ericsson AB (1900MHz) Radio 4455 B2/B25 B66A KRC 161 823/1

Remote Radio Unit

FCC ID: TA8AKRC161823-1

IC: 287AB-AS1618231

In accordance with FCC CFR 47 Part 24 and

ISED RSS-133: Issue 6 Amendment

Issued Date: 2019-06-28



Note:

The test results in this test report relate only to the devices specified in this report. This report shall not be reproduced except in full without the written approval of CTTL.

The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the U.S. Government.

Test Laboratory:

CTTL, Telecommunication Technology Labs, CAICT

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REPORT HISTORY

Report Number	Revision	Description	Issue Date
I19Z60510-WMD01	Rev.0	1 st edition	2019-06-28



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1. Test Laboratory

1.1. Introduction & Accreditation

Telecommunication Technology Labs, CAICT is an ISO/IEC 17025:2005 accredited test laboratory under NATIONAL VOLUNTARY LABORATORY ACCREDITATION PROGRAM (NVLAP) with lab code 600118-0, and is also an FCC accredited test laboratory (CN5017), and ISED accredited test laboratory (CN0066). The detail accreditation scope can be found on NVLAP website.

1.2. Testing Location

Location 1: CTTL(huayuan North Road)

Address: No. 52, Huayuan North Road, Haidian District, Beijing,
P. R. China 100191

Location 2: CTTL(Shouxiang)

Address: No. 51 Shouxiang Science Building, Xueyuan Road,
Haidian District, Beijing, P. R. China 100191

1.3. Project date

Testing Start Date: 2019-05-14

Testing End Date: 2019-06-28

1.4. Signature



Dong Yuan
(Prepared this test report)



Zhou Yu
(Reviewed this test report)



Liu Baodian
(Approved this test report)



2. Client Information

2.1. Applicant Information

Company Name: Ericsson (China) Communications Company Ltd.
Address /Post: Ericsson Tower, Lize East Street, Chaoyang District, Beijing 100102,
P.R.China
Contact: Hua Yang
Email: Hua.yang@ericsson.com
Telephone: +86 10 8476 7133

2.2. Manufacturer Information

Company Name: Ericsson AB
Address /Post: Isafjordsgatan 10, 164 80 Stockholm
Sweden
Contact: /
Email: /
Telephone: /



3. Equipment Under Test (EUT)

3.1. About EUT

Description	Remote Radio Unit
Product Name	Radio 4455 B2/B25 B66A
Product Number	KRC 161 823/1
FCC ID	TA8AKRC161823-1
IC	287AB-AS1618231
HVIN	AS1618231
Integrated Antenna	N/A
Output power	Maximum 46.02 dBm (40W) per port for multi band. Maximum 44.77 dBm (30W) per port for single band.
Power source	100-250V AC
Serial Number	D828949066
Hardware Version	R1A
Software Version	PIS: CXP 901 7316%7_R78HF
Frequency range	B2: Rx: 1850-1910 MHz, Tx: 1930-1990 MHz B25: Rx: 1850-1915 MHz, Tx: 1930-1995 MHz B66A: RX: 1710-1780 MHz, TX: 2110-2180 MHz (LTE) RX: 1710-1755 MHz, TX: 2110-2155 MHz (WCDMA)
TX/RX configuration	4 TX / 4 RX
Maximum RF bandwidth (IBW)	20 MHz: NB-IoT Standalone 60 MHz: WCDMA and LTE (B2) 65 MHz: WCDMA and LTE (B25) 70 MHz: LTE (B66A) 45 MHz: WCDMA (B66A)
Total number of supported carriers per port	Maximum 6 carriers per port for all configuration (maximum 2 carriers for NB-IoT stand alone).
Supported modulations	WCDMA: QPSK, 16QAM, 64QAM LTE: QPSK, 16QAM, 64QAM, 256QAM NB-IoT: QPSK
Date of receipt	2019-05-14

3.2. General Description

The Equipment Under Test (EUT) is an Ericsson Antenna Integrated Radio Unit working in the public mobile service 1900MHz band and wireless communications services 2100MHz which provides communication connections to network in WCDMA / LTE / NB-IoT modes and MSR modes. The Radio 4455 B2/B25 B66A KRC 161 823/1 operates from a 120V AC supply.

The EUT includes 4 TX/RX ports and it can be configured to transmit in MIMO mode for WCDMA and LTE carriers, and MIMO mode was used for measurements as the worst configuration. The complete testing was performed with the EUT transmitting at maximum RF power unless otherwise stated.

The Equipment Under Test (EUT) is shown in the photograph below. A full technical description can be found in the Manufacturer's documentation.



Equipment Under Test



3.3. Configuration Description

The following settings were used to representative for all traffic scenarios when settings with different modulations, channel bandwidths, number for carriers and RF configurations have been tested to find the worst case setting. The settings below were used for all measurements unless otherwise noted:

WCDMA

Configuration	Carrier	Carrier Frequency Configuration (MHz)		
		Bottom	Middle	Top
WCDMA-1C	1 Carrier	1932.4	1962.4	1992.6
WCDMA-2C	2 Carriers	-	1932.4+1992.6	-
WCDMA-3C	3 Carriers	-	1932.4+1937.4+1992.6	-
WCDMA-6C	6 Carriers	-	1932.4+1937.4+1942.4+1982.6+1987.6+1992.6	-
WCDMA-1C-BE	1 Carrier	1932.4	N/A	1992.6
WCDMA-2C-BE	2 Carriers	1932.4+1937.4	N/A	1987.6+1992.6



LTE

Configuration	Carrier	Carrier Bandwidth	Carrier Frequency Configuration (MHz)		
			Bottom	Middle	Top
LTE-MIMO-1C	1 Carrier	5MHz	1932.5	1962.5	1992.5
		10MHz	1935.0	1962.5	1990.0
		15MHz	1937.5	1962.5	1987.5
		20MHz	1940.0	1962.5	1985.0
LTE-MIMO-2C	2 Carriers	5MHz	-	1932.5+1992.5	-
		10MHz	-	1935.0+1990.0	-
		15MHz	-	1937.5+1987.5	-
		20MHz	-	1940.0+1985.0	-
LTE-MIMO-3C	3 Carriers	5MHz	-	1932.5+1937.5+1992.5	-
		10MHz	-	1935.0+1945.0+1990.0	-
		15MHz	-	1937.5+1952.5+1987.5	-
		20MHz	-	1940.0+1960.0+1985.0	-
LTE-MIMO-4C	4 Carriers	15MHz	-	1937.5+1952.5+1972.5+1987.5	-
LTE-MIMO-6C	6 Carriers	5MHz	-	1932.5+1937.5+1942.5+1982.5+1987.5+1992.5	-
		10MHz	-	1935.0+1945.0+1955.0+1970.0+1980.0+1990.0	-
LTE-MIMO-1C-BE	1 Carrier	5MHz	1932.5	N/A	1992.5
		10MHz	1935.0	N/A	1990.0
		15MHz	1937.5	N/A	1987.5
		20MHz	1940.0	N/A	1985.0
LTE-MIMO-2C-BE	2 Carriers	5MHz	1932.5+1937.5	N/A	1987.5+1992.5
		10MHz	1935.0+1945.0	N/A	1980.0+1990.0
		15MHz	1937.5+1952.5	N/A	1972.5+1987.5
		20MHz	1940.0+1960.0	N/A	1965.0+1985.0



NB-IoT

Configuration	Carrier	Carrier Bandwidth (MHz)	Carrier Frequency Configuration (MHz)		
			Bottom	Middle	Top
NB-IoT-InBand-1C	1 Carrier	5MHz	1932.5	1962.5	1992.5
		10MHz	1935.0	1962.5	1990.0
		15MHz	1937.5	1962.5	1987.5
		20MHz	1940.0	1962.5	1985.0

Configuration	Carrier	Carrier Bandwidth (MHz)	Carrier Frequency Configuration (MHz)		
			Bottom	Middle	Top
NB-IoT-GuardBand-1C	1 Carrier	10MHz	1935.0	1962.5	1990.0
		15MHz	1937.5	1962.5	1987.5
		20MHz	1940.0	1962.5	1985.0

Configuration	Carrier	Carrier Frequency Configuration (MHz)		
		Bottom	Middle	Top
NB-IoT-Standalone-1C	1 Carrier	1930.3	1962.5	1994.8
NB-IoT-Standalone-2C	2 Carrier	1930.3+1949.8	1952.7+1972.3	1975.2+1994.8
NB-IoT-Standalone-1C-BE	1 Carrier	1930.3	N/A	1994.8
NB-IoT-Standalone-2C-BE	2 Carrier	1930.3+1931.9	N/A	1993.2+1994.8

WCDMA+LTE

Configuration	Carrier	LTE Carrier Bandwidth	Carrier Frequency Configuration (MHz)		
			Bottom	Middle	Top
WCDMA+LTE-MIMO-MC-1	1W+1L	5MHz	-	(W)1932.4+(L)1992.5	-
		10MHz	-	(W)1932.4+(L)1990.0	-
		15MHz	-	(W)1932.4+(L)1987.5	-
		20MHz	-	(W)1932.4+(L)1985.0	-
WCDMA+LTE-MIMO-MC-2	2W+1L	5MHz	-	(W)1932.4+1937.4+(L)1992.5	-
		10MHz	-	(W)1932.4+1937.4+(L)1990	-
		15MHz	-	(W)1932.4+1937.4+(L)1987.5	-
		20MHz	-	(W)1932.4+1937.4+(L)1985	-
WCDMA+LTE-MIMO-MC-3	3W+3L	5MHz	-	(W)1932.4+(W)1937.4+(W)1942.4+(L)1982.5+1987.5+1992.5	-
		10MHz	-	(W)1932.4+(W)1937.4+(W)1942.4+(L)1970+(L)1980+(L)1990	-
		15MHz	-	(W)1932.4+(W)1937.4+(W)1942.4+(L)1957.5+(L)1972.5+(L)1987.5	-
WCDMA+LTE-MIMO-MC-4	3W+2L	20MHz	-	(W)1932.4+(W)1937.4+(W)1942.4+(L)1965+(L)1985	-
WCDMA+LTE-MIMO-MC-2-BE	1W+1L	5MHz	(W)1932.4+(L)1937.5	N/A	(L)1987.5+(W)1992.6
		10MHz	(W)1932.4+(L)1940.0	N/A	(L)1985.0+(W)1992.6
		15MHz	(W)1932.4+(L)1942.5	N/A	(L)1982.5+(W)1992.6
		20MHz	(W)1932.4+(L)1945.0	N/A	(L)1980.0+(W)1992.6
WCDMA+LTE-MIMO-MC-3-BE	2W+1L	5MHz	(W)1932.4+1937.4+(L)1942.5	N/A	(L)1982.5+(W)1987.6+1992.6
		10MHz	(W)1932.4+1937.4+(L)1945.0	N/A	(L)1980.0+(W)1987.6+1992.6
		15MHz	(W)1932.4+1937.4+(L)1947.5	N/A	(L)1977.5+(W)1987.6+1992.6
		20MHz	(W)1932.4+1937.4+(L)1950.0	N/A	(L)1975.0+(W)1987.6+1992.6



WCDMA+NB-IoT

Configuration	Carrier	Carrier Frequency Configuration (MHz)		
		Bottom	Middle	Top
WCDMA+NB-IoT-MC-1	1W+1SA	-	(NB)1930.3+(W)1992.6	-
WCDMA+NB-IoT-MC-2	1W+2SA	(NB)1930.3+(W)1940+(NB)1949.8	(NB)1952.7+(W)1962.4+(NB)1972.3	(NB)1975.2+(W)1985+(NB)1994.8
WCDMA+NB-IoT-MC-3	3W+2SA	(NB)1930.3+(W)1935+1940+1945+(NB)1949.8	(NB)1952.7+(W)1957.4+1962.4+1967.4+(NB)1972.3	(NB)1975.2+(W)1980+1985+1990+(NB)1994.8
WCDMA+NB-IoT-MC-4	4W+2SA	-	(NB)1930.3+1935.8+(W)1977.6+1982.6+1987.6+1992.6	-
WCDMA+NB-IoT-MC-3-BE	1W+1SA	(NB)1930.3+(W)1933	N/A	(W)1992.2+(NB)1994.8
WCDMA+NB-IoT-MC-4-BE	1W+2SA	(NB)1930.3+1931.9+(W)1934.6	N/A	(W)1990.6+(NB)1993.2+1994.8

LTE+NB-IoT

Configuration	Carrier	LTE Carrier Bandwidth	Carrier Frequency Configuration (MHz)		
			Bottom	Middle	Top
LTE+NB-IoT-MC-1	1L+1SA	5MHz	-	(NB)1930.3+(L)1992.5	-
		10MHz	-	(NB)1930.3+(L)1990.0	-
		15MHz	-	(NB)1930.3+(L)1987.5	-
		20MHz	-	(NB)1930.3+(L)1985.0	-
LTE+NB-IoT-MC-2	1L+2SA	5MHz	(NB)1930.3+(L)1940+(NB)1949.8	(NB)1952.7+(L)1962.5+(NB)1972.3	(NB)1975.2+(L)1985+(NB)1994.8
		10MHz	(NB)1930.3+(L)1940+(NB)1949.8	(NB)1952.7+(L)1962.5+(NB)1972.3	(NB)1975.2+(L)1985+(NB)1994.8
		15MHz	(NB)1930.3+(L)1940+(NB)1949.8	(NB)1952.7+(L)1962.5+(NB)1972.3	(NB)1975.2+(L)1985+(NB)1994.8
		20MHz	-	(NB)1930.3+1935.8+(L)1985	-
LTE+NB-IoT-MC-3	3L+2SA	5MHz	(NB)1930.3+(L)1935+1940+1945+(NB)1949.8	(NB)1952.7+(L)1957.5+1962.5+1967.5+(NB)1972.3	(NB)1975.2+(L)1980+1985+1990+(NB)1994.8
LTE+NB-IoT-MC-4	4L+2SA	10MHz	-	(NB)1930.3+1935.8+(L)1960+1970+1980+1990	-
		15MHz	-	(NB)1930.3+1935.8+(L)1942.5+1957.5+1972.5+1987.5	-
LTE+NB-IoT-MC-5	3L+2SA	20MHz	-	(NB)1930.3+1930.9+(L)1945+1965+1985	-
LTE+NB-IoT-MC-3-BE	1L+1SA	5MHz	(NB)1930.3+(L)1933.0	N/A	(L)1992.1+(NB)1994.8
		10MHz	(NB)1930.3+(L)1935.5	N/A	(L)1989.6+(NB)1994.8
		15MHz	(NB)1930.3+(L)1938	N/A	(L)1987.1+(NB)1994.8
		20MHz	(NB)1930.3+(L)1940.5	N/A	(L)1984.6+(NB)1994.8
LTE+NB-IoT-MC-4-BE	1L+2SA	5MHz	(NB)1930.3+1931.9+(L)1934.6	N/A	(L)1990.5+(NB)1993.2+1994.8
		10MHz	(NB)1930.3+1931.9+(L)1937.1	N/A	(L)1988+(NB)1993.2+1994.8
		15MHz	(NB)1930.3+1931.9+(L)1939.6	N/A	(L)1985.5+(NB)1993.2+1994.8
		20MHz	(NB)1930.3+1931.9+(L)1942.1	N/A	(L)1983+(NB)1993.2+1994.8

WCDMA+LTE+NB-IoT

Configuration	Carrier	LTE Carrier Bandwidth	Carrier Frequency Configuration (MHz)		
			Bottom	Middle	Top
WCDMA+LTE+N B-IoT-MC-1	1W+1L +1SA	5MHz	-	(NB)1930.3+(W)1962.4+(L)1992.5	-
		10MHz	-	(NB)1930.3+(W)1962.4+(L)1990	-
		15MHz	-	(NB)1930.3+(W)1962.4+(L)1987.5	-
		20MHz	-	(NB)1930.3+(W)1962.4+(L)1985	-
WCDMA+LTE+N B-IoT-MC-2	1W+1L +2SA	5MHz	(NB)1930.3+(W)1937.4+(L)1942.5+(NB)1949.8	(NB)1952.7+(W)1960+(L)1965+(NB)1972.3	(NB)1975.2+(W)1982.4+(L)1987.5+(NB)1994.8
		10MHz	(NB)1930.3+(W)1935+(L)1942.5+(NB)1949.8	(NB)1952.7+(W)1957.4+(L)1965+(NB)1972.3	(NB)1975.2+(W)1980+(L)1987.5+(NB)1994.8
		15MHz	-	(NB)1930.3+1935.8+(W)1962.4+(L)1987.5	-
		20MHz	-	(NB)1930.3+1935.8+(W)1962.4+(L)1985	-
WCDMA+LTE+N B-IoT-MC-3	2W+2L +2SA	5MHz	-	(NB)1930.3+1935.8+(W)1960+1965+(L)1987.5+1992.5	-
		10MHz	-	(NB)1930.3+1935.8+(W)1960+1965+(L)1980+1990	-
		15MHz	-	(NB)1930.3+1935.8+(W)1960+1965+(L)1972.5+1987.5	-
		20MHz	-	(NB)1930.3+1935.8+(W)1947.4+1952.4+(L)1965+1985	-



Configuration	Carrier	LTE Carrier Bandwidth	Carrier Frequency Configuration (MHz)		
			Bottom	Middle	Top
WCDMA+LTE+N B-IoT-MC-3-BE	1W+1L +1SA	5MHz	(NB)1930.3+(W)1933+(L) 1938	N/A	(L)1987.1+(W)1992.2+(N B)1994.8
		10MHz	(NB)1930.3+(W)1933+(L) 1940.5	N/A	(L)1984.6+(W)1992.2+(N B)1994.8
		15MHz	(NB)1930.3+(W)1933+(L) 1943	N/A	(L)1982.1+(W)1992.2+(N B)1994.8
		20MHz	(NB)1930.3+(W)1933+(L) 1945.5	N/A	(L)1979.6+(W)1992.2+(N B)1994.8
WCDMA+LTE+N B-IoT-MC-5-BE	1W+1L +2SA	5MHz	(NB)1930.3+1931.9+(W) 1934.6+(L)1939.6	N/A	(L)1985.5+(W)1990.6+(N B)1993.2+1994.8
		10MHz	(NB)1930.3+1931.9+(W) 1934.6+(L)1942.1	N/A	(L)1983+(W)1990.6+(NB) 1993.2+1994.8
		15MHz	(NB)1930.3+1931.9+(W) 1934.6+(L)1944.6	N/A	(L)1980.5+(W)1990.6+(N B)1993.2+1994.8
		20MHz	(NB)1930.3+1931.9+(W) 1934.6+(L)1947.1	N/A	(L)1978+(W)1990.6+(NB) 1993.2+1994.8

N/A – Not Applicable

4. Reference Documents

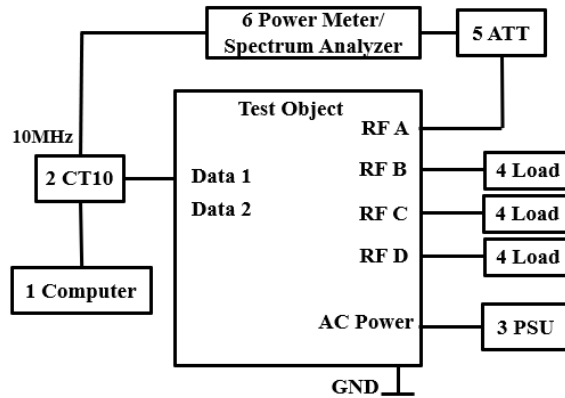
4.1. Reference Documents for testing

The following documents listed in this section are referred for testing.

Reference	Title	Version
FCC Part 24	PERSONAL COMMUNICATIONS SERVICES	10-1-18 Edition
FCC Part 2	FREQUENCY ALLOCATIONS AND RADIO TREATY MATTERS; GENERAL RULES AND REGULATIONS	10-1-18 Edition
ANSI/TIA-603-E	Land Mobile FM or PM Communications Equipment Measurement and Performance Standards	2016
ANSI C63.4	Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 KHz to 40 GHz	2014
ANSI 63.26	IEEE/ANSI Standard for Compliance Testing of Transmitters Used in Licensed Radio Services	2015
TIA 102.CAAA-E	Project 25 Digital C4FM/CQPSK Transceiver Measurement Methods	2016
KDB 971168 D01	MEASUREMENT GUIDANCE FOR CERTIFICATION OF LICENSED DIGITAL TRANSMITTERS	v03r01
KDB 662911 D01	Emissions Testing of Transmitters with Multiple Outputs in the Same Band	v02r01
RSS-GEN	General Requirements for Compliance of Radio Apparatus	Issue 5
RSS 133	2 GHz Personal Communications Services	Issue 6 amendment

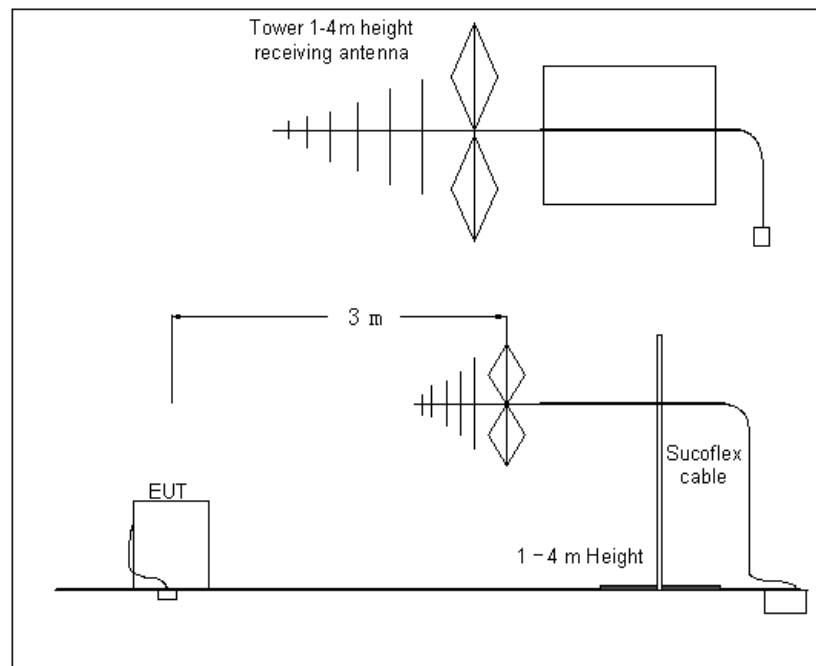
5. TEST SETUP

Test Setup, Conducted Measurement:



No.	Auxilliary Equipment	Model Type	Version
1	Computer	HP EliteBook 8540w	-
2	CT10	LPC 102 487/1	R1C
3	Power supply unit	-	-
4	Load	TF150	-
5	40dB Attenuator	Aeroflex / Weinschel	-

Test Setup, Radiated Measurement:



6. LABORATORY ENVIRONMENT

Control room / conducted chamber did not exceed following limits along the EMC testing:

Temperature	Min. = 15 °C, Max. = 35 °C
Relative humidity	Min. =20 %, Max. = 80 %
Shielding effectiveness	> 110 dB
Electrical insulation	>2 MΩ
Ground system resistance	< 0.5 Ω

Semi-anechoic chamber (10 meters×6.7 meters×6.15 meters) did not exceed following limits along the EMC testing:

Temperature	Min. = 15 °C, Max. = 30 °C
Relative humidity	Min. = 35 %, Max. = 60 %
Shielding effectiveness	> 100 dB
Electrical insulation	>2 MΩ
Ground system resistance	< 0.5 Ω
Normalised site attenuation (NSA)	<±3.5 dB, 3 m distance
Site voltage standing-wave ratio (S_{VSWR})	Between 0 and 6 dB, from 1GHz to 18GHz
Uniformity of field strength	Between 0 and 6 dB, from 80 to 3000 MHz



7. SUMMARY OF TEST RESULTS

Items	Test Name	Clause in FCC rules	Clause in ISED rules	Verdict
1	Maximum Output Power and Peak-to-Average Power Ratio	24.232(a),(d), 2.1046	RSS-133 6.4	Pass
2	Equivalent Isotropically Radiated Power (EIRP)	-	-	N/A ¹
3	Occupied Bandwidth	24.238(b), 2.1049(h)	RSS-Gen 6.7	Pass
4	Spurious Emissions at Band Edge	24.238(b), 2.1051	RSS-133 6.5	Pass
5	Conducted Spurious Emission	24.238(a), 2.1051	RSS-133 6.5	Pass
6	Radiated Spurious Emission	24.238(a), 2.1053	RSS-133 6.5	Pass
7	Frequency Stability	24.235, 2.1055	RSS-133 6.3	Pass
8	Receiver Spurious Emission	-	-	N/A

N/A¹ - Not Applicable, due to no integrated antenna

N/A – Not Applicable



8. Test Equipments Utilized

NO.	Description	TYPE	series number	MANUFACTURE	CAL DUE DATE
1	Power Supply	AFV-P-2500	F118060012	Preen	2020-02-22
2	40dB Attenuator	66-40-33	CD4019	Aeroflex / Weinschel	-
3	40dB Attenuator	TSG150R-4-40N11	1511040001	Nanjing Jiexi Technologies	-
4	Spectrum Analyzer	N9030	MY57142378	Keysight	2020-02-02
9	EMI Antenna	3115	00167250	ETS-LINDGREN	2020-05-21
10	EMI Antenna	3116	2661	ETS-LINDGREN	2020-07-27
11	EMI Antenna	VULB 9163	9163-514	SCHWARZBECK	2021-01-03
12	Test Receiver	ESU26	100376	Rohde & Schwarz	2019-11-27
13	Climate Chamber	KTHG-415TBS	7353K	QINGSHENG	2020-01-14

9. MEASUREMENT UNCERTAINTY

For a 95% confidence level, the measurement uncertainties for defined systems are:

Test Discipline	Measurement Uncertainty
Conducted Maximum Peak Output Power	0.5dB
Occupied Bandwidth	1.1Hz
Conducted Spurious Emissions	2.3dB
Band Edge	2.3dB
Radiated Spurious Emissions	5.4dB
Frequency Stability	$<\pm 1 \times 10^{-7}$



ANNEX A: MEASUREMENT RESULTS

A.1 Maximum Output Power and Peak-to-Average Power Ratio

A.1.1 Reference

FCC CFR 47 Part 2, Clause 2.1046
FCC CFR 47 Part 24, Clause 24.232 (a) (d)
RSS-133, Clause 6.4

A.1.2 Method of Measurements

During the process of testing, the EUT was configured to transmit on maximum power and proper modulation. In case of the EUT was configured to MIMO mode, since the EUT transmits on all antennas simultaneously in the same frequency range, using the Measure-and-Sum approach, the output power at all antennas were tested, and the total output power were then summed mathematically in linear power units according to FCC KDB 662911 D01.

A peak to average ratio measurement is performed at the conducted ports of the EUT for single carrier for single RAT mode. The spectrum analyzers Complementary Cumulative Distribution Function (CCDF) was used and 0.1% probability value recorded.

A.1.3 Limit

Output Power:

(EIRP) 1640 W or 62.15 dBm for emission bandwidth \leq 1MHz
1640 W/MHz or 62.15 dBm/MHz for emission bandwidth $>$ 1MHz

Peak to Average Ratio: 13 dB

A.1.4 Measurement result

Configuration WCDMA-1C

Maximum Output Power 44.8dBm per port

Antenna	Modulation	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR(db)
A	QPSK	44.39	37.38	6.29	44.84	37.71	6.27	44.79	37.79	6.31
B	QPSK	44.42	37.53	6.29	45.05	38.00	6.25	44.93	38.03	6.37
C	QPSK	44.24	37.36	6.33	44.70	37.75	6.27	44.70	37.71	6.30
D	QPSK	44.24	37.45	6.34	44.85	37.87	6.27	44.86	37.91	6.31
Total		50.34	43.45	-	50.88	43.85	-	50.84	43.88	-

Antenna	Modulation	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR(db)
A	16QAM	44.44	37.34	6.30	44.82	37.72	6.25	44.80	37.76	6.27
B	16QAM	44.47	37.47	6.29	45.03	37.95	6.22	45.02	38.02	6.32
C	16QAM	44.32	37.41	6.29	44.66	37.72	6.24	44.77	37.73	6.29
D	16QAM	44.36	37.37	6.27	44.78	37.88	6.23	44.90	37.92	6.27
Total		50.42	43.42	-	50.85	43.84	-	50.89	43.88	-

Antenna	Modulation	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR(db)
A	64QAM	44.49	37.40	6.29	44.82	37.72	6.24	44.82	37.64	6.28
B	64QAM	44.50	37.47	6.29	45.03	37.97	6.23	45.01	38.00	6.33
C	64QAM	44.33	37.26	6.29	44.67	37.69	6.22	44.71	37.69	6.28
D	64QAM	44.32	37.35	6.26	44.80	37.84	6.22	44.89	37.92	6.27
Total		50.43	43.39	-	50.85	43.83	-	50.88	43.84	-



Configuration WCDMA-2C

Maximum Output Power 44.8dBm per port

Antenna	Modulation	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR(db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR(db)
A	64QAM	-	-	-	44.17	-	-	-	-	-
B	64QAM	-	-	-	44.32	-	-	-	-	-
C	64QAM	-	-	-	44.08	-	-	-	-	-
D	64QAM	-	-	-	44.11	-	-	-	-	-
Total		-	-	-	50.19	-	-	-	-	-

Configuration WCDMA-6C

Maximum Output Power 44.8dBm per port

Antenna	Modulation	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR(db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR(db)
A	64QAM	-	-	-	44.34	-	-	-	-	-
B	64QAM	-	-	-	44.56	-	-	-	-	-
C	64QAM	-	-	-	44.25	-	-	-	-	-
D	64QAM	-	-	-	44.29	-	-	-	-	-
Total		-	-	-	50.38	-	-	-	-	-

Configuration LTE-MIMO-1C

Maximum Output Power 44.8dBm per port

Antenna	Modulation/ Carrier Bandwidth (MHz)	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	QPSK/5.0	44.50	37.45	7.30	44.86	37.86	7.53	44.83	37.72	7.34
B		44.56	37.50	7.32	45.03	37.92	7.55	45.00	37.98	7.44
C		44.37	37.31	7.31	44.70	37.65	7.55	44.68	37.70	7.34
D		44.34	37.36	7.30	44.82	37.83	7.54	44.81	37.90	7.32
Total		50.46	43.43	-	50.87	43.84	-	50.85	43.85	-



Antenna	Modulation/ Carrier Bandwidth (MHz)	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	16QAM/5.0	-	-	-	44.81	37.72	7.53	-	-	-
B		-	-	-	44.98	37.81	7.55	-	-	-
C		-	-	-	44.73	37.65	7.54	-	-	-
D		-	-	-	44.84	37.85	7.53	-	-	-
Total		-	-	-	50.86	43.78	-	-	-	-

Antenna	Modulation/ Carrier Bandwidth (MHz)	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	64QAM/5.0	-	-	-	44.82	37.79	7.53	-	-	-
B		-	-	-	44.98	37.88	7.54	-	-	-
C		-	-	-	44.58	37.67	7.54	-	-	-
D		-	-	-	44.84	37.85	7.54	-	-	-
Total		-	-	-	50.83	43.82	-	-	-	-

Antenna	Modulation/ Carrier Bandwidth (MHz)	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	256QAM /5.0	-	-	-	44.79	37.74	7.56	-	-	-
B		-	-	-	44.97	37.87	7.57	-	-	-
C		-	-	-	44.67	37.68	7.54	-	-	-
D		-	-	-	44.82	37.88	7.52	-	-	-
Total		-	-	-	50.83	43.81	-	-	-	-

Maximum Output Power 44.8dBm per port

Antenna	Modulation/ Carrier Bandwidth (MHz)	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	QPSK/ 10.0	44.71	34.67	7.35	44.82	34.77	7.55	44.86	34.74	7.38
B		44.78	34.70	7.34	45.01	34.97	7.53	45.03	34.96	7.48
C		44.62	34.54	7.35	44.69	34.67	7.54	44.77	34.71	7.38
D		44.56	34.48	7.34	44.79	34.79	7.53	44.91	34.82	7.38
Total		50.69	40.62	-	50.85	40.82	-	50.91	40.83	-



Antenna	Modulation/ Carrier Bandwidth (MHz)	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	16QAM/ 10.0	-	-	-	44.82	34.74	7.54	-	-	-
B		-	-	-	45.00	34.96	7.54	-	-	-
C		-	-	-	44.72	34.69	7.54	-	-	-
D		-	-	-	44.81	34.82	7.52	-	-	-
Total		-	-	-	50.86	40.82	-	-	-	-

Antenna	Modulation/ Carrier Bandwidth (MHz)	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	64QAM/ 10.0	-	-	-	44.80	34.72	7.54	-	-	-
B		-	-	-	44.98	34.90	7.53	-	-	-
C		-	-	-	44.68	34.70	7.55	-	-	-
D		-	-	-	44.76	34.83	7.53	-	-	-
Total		-	-	-	50.83	40.81	-	-	-	-

Antenna	Modulation/ Carrier Bandwidth (MHz)	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	256QAM /10.0	-	-	-	44.78	34.84	7.54	-	-	-
B		-	-	-	44.97	34.96	7.54	-	-	-
C		-	-	-	44.67	34.66	7.56	-	-	-
D		-	-	-	44.76	34.76	7.54	-	-	-
Total		-	-	-	50.82	40.83	-	-	-	-

Maximum Output Power 44.8dBm per port

Antenna	Modulation/ Carrier Bandwidth (MHz)	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	QPSK/ 15.0	44.78	32.99	7.40	44.80	32.99	7.55	44.84	33.01	7.46
B		44.94	33.07	7.41	45.00	33.20	7.53	45.03	33.18	7.54
C		44.65	32.89	7.39	44.69	33.37	7.55	44.74	31.67	7.45
D		44.72	32.87	7.41	44.78	33.46	7.52	45.00	31.94	7.43
Total		50.79	38.98	-	50.84	39.28	-	50.92	38.52	-



Antenna	Modulation/ Carrier Bandwidth (MHz)	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	16QAM/ 15.0	-	-	-	44.80	33.03	7.55	-	-	-
B		-	-	-	45.00	33.15	7.54	-	-	-
C		-	-	-	44.71	32.91	7.54	-	-	-
D		-	-	-	44.81	33.04	7.51	-	-	-
Total		-	-	-	50.85	39.05	-	-	-	-

Antenna	Modulation/ Carrier Bandwidth (MHz)	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	64QAM/ 15.0	-	-	-	44.81	32.92	7.56	-	-	-
B		-	-	-	45.03	33.20	7.54	-	-	-
C		-	-	-	44.71	32.97	7.56	-	-	-
D		-	-	-	44.81	33.04	7.52	-	-	-
Total		-	-	-	50.86	39.05	-	-	-	-

Antenna	Modulation/ Carrier Bandwidth (MHz)	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	256QAM /15.0	-	-	-	44.83	32.95	7.56	-	-	-
B		-	-	-	45.03	33.22	7.54	-	-	-
C		-	-	-	44.72	32.95	7.55	-	-	-
D		-	-	-	44.80	33.05	7.54	-	-	-
Total		-	-	-	50.87	39.06	-	-	-	-

Maximum Output Power 44.8dBm per port

Antenna	Modulation/ Carrier Bandwidth (MHz)	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	QPSK/ 20.0	44.83	31.74	7.48	44.84	31.72	7.55	44.88	31.72	7.47
B		45.06	31.96	7.46	45.06	32.01	7.53	45.08	32.04	7.58
C		44.80	31.74	7.47	44.73	31.75	7.53	44.72	31.74	7.49
D		44.79	31.70	7.46	44.82	31.82	7.50	44.87	31.92	7.44
Total		50.89	37.81	-	50.88	37.85	-	50.91	37.88	-



Antenna	Modulation/ Carrier Bandwidth (MHz)	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	16QAM/ 20.0	-	-	-	44.83	31.70	7.53	-	-	-
B		-	-	-	45.03	32.00	7.53	-	-	-
C		-	-	-	44.72	31.72	7.53	-	-	-
D		-	-	-	44.82	31.82	7.51	-	-	-
Total		-	-	-	50.87	37.83	-	-	-	-

Antenna	Modulation/ Carrier Bandwidth (MHz)	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	64QAM/ 20.0	-	-	-	44.80	31.71	7.55	-	-	-
B		-	-	-	45.03	32.02	7.53	-	-	-
C		-	-	-	44.70	31.72	7.54	-	-	-
D		-	-	-	44.78	31.80	7.51	-	-	-
Total		-	-	-	50.85	37.83	-	-	-	-

Antenna	Modulation/ Carrier Bandwidth (MHz)	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	256QAM /20.0	-	-	-	44.81	31.72	7.56	-	-	-
B		-	-	-	45.01	32.01	7.54	-	-	-
C		-	-	-	44.69	31.71	7.54	-	-	-
D		-	-	-	44.77	31.77	7.51	-	-	-
Total		-	-	-	50.84	37.82	-	-	-	-

Configuration LTE-MIMO-2C

Maximum Output Power 44.8dBm per port

Antenna	Modulation/ Carrier Bandwidth (MHz)	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	QPSK/5.0	-	-	-	44.39	-	-	-	-	-
B		-	-	-	44.57	-	-	-	-	-
C		-	-	-	44.26	-	-	-	-	-
D		-	-	-	44.33	-	-	-	-	-
Total		-	-	-	50.41	-	-	-	-	-



Antenna	Modulation/ Carrier Bandwidth (MHz)	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	16QAM/5.0	-	-	-	44.38	-	-	-	-	-
B		-	-	-	44.57	-	-	-	-	-
C		-	-	-	44.28	-	-	-	-	-
D		-	-	-	44.33	-	-	-	-	-
Total		-	-	-	50.41	-	-	-	-	-

Antenna	Modulation/ Carrier Bandwidth (MHz)	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	64QAM/5.0	-	-	-	44.38	-	-	-	-	-
B		-	-	-	44.54	-	-	-	-	-
C		-	-	-	44.29	-	-	-	-	-
D		-	-	-	44.33	-	-	-	-	-
Total		-	-	-	50.41	-	-	-	-	-

Antenna	Modulation/ Carrier Bandwidth (MHz)	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	256QAM /5.0	-	-	-	44.35	-	-	-	-	-
B		-	-	-	44.52	-	-	-	-	-
C		-	-	-	44.25	-	-	-	-	-
D		-	-	-	44.31	-	-	-	-	-
Total		-	-	-	50.38	-	-	-	-	-

Maximum Output Power 44.8dBm per port

Antenna	Modulation/ Carrier Bandwidth (MHz)	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	QPSK/ 10.0	-	-	-	44.50	-	-	-	-	-
B		-	-	-	44.69	-	-	-	-	-
C		-	-	-	44.41	-	-	-	-	-
D		-	-	-	44.45	-	-	-	-	-
Total		-	-	-	50.53	-	-	-	-	-



Antenna	Modulation/ Carrier Bandwidth (MHz)	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	16QAM/ 10.0	-	-	-	44.50	-	-	-	-	-
B		-	-	-	44.71	-	-	-	-	-
C		-	-	-	44.46	-	-	-	-	-
D		-	-	-	44.49	-	-	-	-	-
Total		-	-	-	50.56	-	-	-	-	-

Antenna	Modulation/ Carrier Bandwidth (MHz)	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	64QAM/ 10.0	-	-	-	44.48	-	-	-	-	-
B		-	-	-	44.70	-	-	-	-	-
C		-	-	-	44.41	-	-	-	-	-
D		-	-	-	44.46	-	-	-	-	-
Total		-	-	-	50.53	-	-	-	-	-

Antenna	Modulation/ Carrier Bandwidth (MHz)	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	256QAM /10.0	-	-	-	44.49	-	-	-	-	-
B		-	-	-	44.69	-	-	-	-	-
C		-	-	-	44.43	-	-	-	-	-
D		-	-	-	44.46	-	-	-	-	-
Total		-	-	-	50.54	-	-	-	-	-



Maximum Output Power 44.8dBm per port

Antenna	Modulation/ Carrier Bandwidth (MHz)	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	QPSK/ 15.0	-	-	-	44.58	-	-	-	-	-
B		-	-	-	44.81	-	-	-	-	-
C		-	-	-	44.49	-	-	-	-	-
D		-	-	-	44.52	-	-	-	-	-
Total		-	-	-	50.62	-	-	-	-	-

Antenna	Modulation/ Carrier Bandwidth (MHz)	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	16QAM/ 15.0	-	-	-	44.57	-	-	-	-	-
B		-	-	-	44.79	-	-	-	-	-
C		-	-	-	44.47	-	-	-	-	-
D		-	-	-	44.49	-	-	-	-	-
Total		-	-	-	50.60	-	-	-	-	-

Antenna	Modulation/ Carrier Bandwidth (MHz)	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	64QAM/ 15.0	-	-	-	44.55	-	-	-	-	-
B		-	-	-	44.79	-	-	-	-	-
C		-	-	-	44.48	-	-	-	-	-
D		-	-	-	44.49	-	-	-	-	-
Total		-	-	-	50.60	-	-	-	-	-

Antenna	Modulation/ Carrier Bandwidth (MHz)	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	256QAM /15.0	-	-	-	44.55	-	-	-	-	-
B		-	-	-	44.78	-	-	-	-	-
C		-	-	-	44.46	-	-	-	-	-
D		-	-	-	44.48	-	-	-	-	-
Total		-	-	-	50.59	-	-	-	-	-



Maximum Output Power 44.8dBm per port

Antenna	Modulation/ Carrier Bandwidth (MHz)	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	QPSK/ 20.0	-	-	-	44.61	-	-	-	-	-
B		-	-	-	44.87	-	-	-	-	-
C		-	-	-	44.54	-	-	-	-	-
D		-	-	-	44.55	-	-	-	-	-
Total		-	-	-	50.67	-	-	-	-	-

Antenna	Modulation/ Carrier Bandwidth (MHz)	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	16QAM/ 20.0	-	-	-	44.61	-	-	-	-	-
B		-	-	-	44.86	-	-	-	-	-
C		-	-	-	44.54	-	-	-	-	-
D		-	-	-	44.55	-	-	-	-	-
Total		-	-	-	50.66	-	-	-	-	-

Antenna	Modulation/ Carrier Bandwidth (MHz)	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	64QAM/ 20.0	-	-	-	44.60	-	-	-	-	-
B		-	-	-	44.86	-	-	-	-	-
C		-	-	-	44.56	-	-	-	-	-
D		-	-	-	44.55	-	-	-	-	-
Total		-	-	-	50.66	-	-	-	-	-

Antenna	Modulation/ Carrier Bandwidth (MHz)	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	256QAM /20.0	-	-	-	44.60	-	-	-	-	-
B		-	-	-	44.87	-	-	-	-	-
C		-	-	-	44.54	-	-	-	-	-
D		-	-	-	44.52	-	-	-	-	-
Total		-	-	-	50.66	-	-	-	-	-



Configuration LTE-MIMO-6C

Maximum Output Power 44.8dBm per port

Antenna	Modulation/ Carrier Bandwidth (MHz)	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	QPSK/5.0	-	-	-	44.12	-	-	-	-	-
B		-	-	-	44.35	-	-	-	-	-
C		-	-	-	43.97	-	-	-	-	-
D		-	-	-	44.04	-	-	-	-	-
Total		-	-	-	50.14	-	-	-	-	-

Antenna	Modulation/ Carrier Bandwidth (MHz)	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	16QAM/5.0	-	-	-	44.06	-	-	-	-	-
B		-	-	-	44.28	-	-	-	-	-
C		-	-	-	43.93	-	-	-	-	-
D		-	-	-	43.99	-	-	-	-	-
Total		-	-	-	50.09	-	-	-	-	-

Antenna	Modulation/ Carrier Bandwidth (MHz)	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	64QAM/5.0	-	-	-	44.08	-	-	-	-	-
B		-	-	-	44.30	-	-	-	-	-
C		-	-	-	43.96	-	-	-	-	-
D		-	-	-	44.01	-	-	-	-	-
Total		-	-	-	50.11	-	-	-	-	-

Antenna	Modulation/ Carrier Bandwidth (MHz)	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	256QAM /5.0	-	-	-	44.06	-	-	-	-	-
B		-	-	-	44.28	-	-	-	-	-
C		-	-	-	43.97	-	-	-	-	-
D		-	-	-	44.05	-	-	-	-	-
Total		-	-	-	50.11	-	-	-	-	-



Maximum Output Power 44.8dBm per port

Antenna	Modulation/ Carrier Bandwidth (MHz)	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	QPSK/ 10.0	-	-	-	44.60	-	-	-	-	-
B		-	-	-	44.84	-	-	-	-	-
C		-	-	-	44.50	-	-	-	-	-
D		-	-	-	44.55	-	-	-	-	-
Total		-	-	-	50.65	-	-	-	-	-

Antenna	Modulation/ Carrier Bandwidth (MHz)	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	16QAM/ 10.0	-	-	-	44.55	-	-	-	-	-
B		-	-	-	44.78	-	-	-	-	-
C		-	-	-	44.48	-	-	-	-	-
D		-	-	-	44.53	-	-	-	-	-
Total		-	-	-	50.61	-	-	-	-	-

Antenna	Modulation/ Carrier Bandwidth (MHz)	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	64QAM/ 10.0	-	-	-	44.62	-	-	-	-	-
B		-	-	-	44.87	-	-	-	-	-
C		-	-	-	44.51	-	-	-	-	-
D		-	-	-	44.58	-	-	-	-	-
Total		-	-	-	50.67	-	-	-	-	-

Antenna	Modulation/ Carrier Bandwidth (MHz)	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	256QAM /10.0	-	-	-	44.59	-	-	-	-	-
B		-	-	-	44.82	-	-	-	-	-
C		-	-	-	44.47	-	-	-	-	-
D		-	-	-	44.54	-	-	-	-	-
Total		-	-	-	50.63	-	-	-	-	-



Configuration LTE-MIMO-4C

Maximum Output Power 44.8dBm per port

Antenna	Modulation/ Carrier Bandwidth (MHz)	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	QPSK/ 15.0	-	-	-	44.61	-	-	-	-	-
B		-	-	-	44.84	-	-	-	-	-
C		-	-	-	44.53	-	-	-	-	-
D		-	-	-	44.58	-	-	-	-	-
Total		-	-	-	50.66	-	-	-	-	-

Antenna	Modulation/ Carrier Bandwidth (MHz)	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	16QAM/ 15.0	-	-	-	44.59	-	-	-	-	-
B		-	-	-	44.81	-	-	-	-	-
C		-	-	-	44.50	-	-	-	-	-
D		-	-	-	44.54	-	-	-	-	-
Total		-	-	-	50.63	-	-	-	-	-

Antenna	Modulation/ Carrier Bandwidth (MHz)	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	64QAM/ 15.0	-	-	-	44.58	-	-	-	-	-
B		-	-	-	44.81	-	-	-	-	-
C		-	-	-	44.50	-	-	-	-	-
D		-	-	-	44.53	-	-	-	-	-
Total		-	-	-	50.63	-	-	-	-	-

Antenna	Modulation/ Carrier Bandwidth (MHz)	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	256QAM /15.0	-	-	-	44.60	-	-	-	-	-
B		-	-	-	44.82	-	-	-	-	-
C		-	-	-	44.52	-	-	-	-	-
D		-	-	-	44.54	-	-	-	-	-
Total		-	-	-	50.64	-	-	-	-	-



Configuration NB-IoT-InBand-1C

Maximum Output Power 44.8dBm per port

Antenna	Modulation/ Carrier Bandwidth (MHz)	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
B	QPSK/5.0	44.36	37.35	7.31	44.80	37.82	7.54	44.80	37.74	7.44
	QPSK/10.0	44.57	34.53	7.35	44.79	34.80	7.53	44.73	34.75	7.48
	QPSK/15.0	44.63	32.86	7.38	44.75	33.05	7.54	44.70	32.92	7.55
	QPSK/20.0	44.73	31.74	7.47	44.75	31.78	7.54	44.73	31.76	7.57

Configuration NB-IoT-GuardBand-1C

Maximum Output Power 44.8dBm per port

Antenna	Modulation/ Carrier Bandwidth (MHz)	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
B	QPSK/10.0	44.58	34.55	7.45	44.70	34.68	7.63	44.74	34.67	7.57
	QPSK/15.0	44.68	32.92	7.46	44.72	32.96	7.60	44.73	32.97	7.59
	QPSK/20.0	44.78	31.73	7.53	44.73	31.68	7.61	44.71	31.65	7.64

Configuration NB-IoT-StandAlone-1C

Maximum Output Power 43.0dBm per port

Antenna	Modulation/ Carrier Bandwidth (KHz)	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
B	QPSK/ 250.0	42.58	-	4.65	42.50	-	4.63	42.50	-	4.65

Configuration NB-IoT-StandAlone-2C

Maximum Output Power 44.8dBm per port

Antenna	Modulation/ Carrier Bandwidth (KHz)	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
B	QPSK/ 250.0	44.06	-	-	44.35	-	-	44.32	-	-



Configuration WCDMA+LTE-MIMO-MC-1 (1WCDMA +1LTE)
Maximum Output Power 44.8dBm per port

Antenna	WCDMA Mod./ LTE Mod. Bandwidth (MHz)	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	64QAM/ QPSK 5.0	-	-	-	43.83	-	-	-	-	-
B	64QAM/ QPSK 5.0	-	-	-	43.93	-	-	-	-	-
C	64QAM/ QPSK 5.0	-	-	-	43.67	-	-	-	-	-
D	64QAM/ QPSK 5.0	-	-	-	43.79	-	-	-	-	-
Total		-	-	-	49.83	-	-	-	-	-

Antenna	WCDMA Mod./ LTE Mod. Bandwidth (MHz)	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	64QAM/ QPSK 10	-	-	-	43.89	-	-	-	-	-
B	64QAM/ QPSK 10	-	-	-	44.01	-	-	-	-	-
C	64QAM/ QPSK 10	-	-	-	43.73	-	-	-	-	-
D	64QAM/ QPSK 10	-	-	-	43.87	-	-	-	-	-
Total		-	-	-	49.90	-	-	-	-	-



Antenna	WCDMA Mod./ LTE Mod. Bandwidth (MHz)	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	64QAM/ QPSK 15	-	-	-	43.89	-	-	-	-	-
B	64QAM/ QPSK 15	-	-	-	44.02	-	-	-	-	-
C	64QAM/ QPSK 15	-	-	-	43.74	-	-	-	-	-
D	64QAM/ QPSK 15	-	-	-	43.85	-	-	-	-	-
Total		-	-	-	49.90	-	-	-	-	-

Antenna	WCDMA Mod./ LTE Mod. Bandwidth (MHz)	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	64QAM/ QPSK 20	-	-	-	43.92	-	-	-	-	-
B	64QAM/ QPSK 20	-	-	-	44.07	-	-	-	-	-
C	64QAM/ QPSK 20	-	-	-	43.76	-	-	-	-	-
D	64QAM/ QPSK 20	-	-	-	43.90	-	-	-	-	-
Total		-	-	-	49.93	-	-	-	-	-



Configuration WCDMA+LTE-MIMO-MC-3 (3WCDMA+3LTE)

Maximum Output Power 44.8dBm per port

Antenna	WCDMA Mod./ LTE Mod. Bandwidth (MHz)	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	64QAM/ QPSK 5.0	-	-	-	44.02	-	-	-	-	-
B	64QAM/ QPSK 5.0	-	-	-	44.20	-	-	-	-	-
C	64QAM/ QPSK 5.0	-	-	-	43.87	-	-	-	-	-
D	64QAM/ QPSK 5.0	-	-	-	43.98	-	-	-	-	-
Total		-	-	-	50.04	-	-	-	-	-

Antenna	WCDMA Mod./ LTE Mod. Bandwidth (MHz)	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	64QAM/ QPSK 10	-	-	-	44.05	-	-	-	-	-
B	64QAM/ QPSK 10	-	-	-	44.25	-	-	-	-	-
C	64QAM/ QPSK 10	-	-	-	43.95	-	-	-	-	-
D	64QAM/ QPSK 10	-	-	-	44.05	-	-	-	-	-
Total		-	-	-	50.10	-	-	-	-	-



Antenna	WCDMA Mod./ LTE Mod. Bandwidth (MHz)	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	64QAM/ QPSK 15	-	-	-	44.10	-	-	-	-	-
B	64QAM/ QPSK 15	-	-	-	44.30	-	-	-	-	-
C	64QAM/ QPSK 15	-	-	-	43.91	-	-	-	-	-
D	64QAM/ QPSK 15	-	-	-	43.98	-	-	-	-	-
Total		-	-	-	50.10	-	-	-	-	-

Configuration WCDMA+LTE-MIMO-MC-4 (2WCDMA+3LTE)

Maximum Output Power 44.8dBm per port

Antenna	WCDMA Mod./ LTE Mod. Bandwidth (MHz)	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	64QAM/ QPSK 20.0	-	-	-	44.03	-	-	-	-	-
B	64QAM/ QPSK 20.0	-	-	-	44.20	-	-	-	-	-
C	64QAM/ QPSK 20.0	-	-	-	43.91	-	-	-	-	-
D	64QAM/ QPSK 20.0	-	-	-	43.82	-	-	-	-	-
Total		-	-	-	50.01	-	-	-	-	-



Configuration WCDMA+NB-IoT-MC-1 (1WCDMA+1SA)

Maximum Output Power 44.8dBm per port

Antenna	WCDMA Mod./SA Mod.	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	64QAM/ QPSK	-	-	-	43.83	-	-	-	-	-
B	64QAM/ QPSK		-	-	44.00	-	-	-	-	-
C	64QAM/ QPSK		-	-	43.74	-	-	-	-	-
D	64QAM/ QPSK		-	-	43.82	-	-	-	-	-
Total		-	-	-	49.87	-	-	-	-	-

Configuration WCDMA+NB-IoT-MC-3 (3WCDMA+2SA)

Maximum Output Power 44.8dBm per port

Antenna	WCDMA Mod./SA Mod.	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	64QAM/ QPSK	43.62	-	-	44.02	-	-	43.78	-	-
B	64QAM/ QPSK	43.79	-	-	44.21	-	-	44.07	-	-
C	64QAM/ QPSK	43.50	-	-	43.83	-	-	43.67	-	-
D	64QAM/ QPSK	43.52	-	-	43.93	-	-	43.84	-	-
Total		49.63	-	-	50.02	-	-	49.86	-	-



Configuration WCDMA+NB-IoT-MC-4 (4WCDMA+2SA)
Maximum Output Power 44.8dBm per port

Antenna	WCDMA Mod./SA Mod.	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	64QAM/ QPSK	-	-	-	43.96	-	-	-	-	-
B	64QAM/ QPSK	-	-	-	44.15	-	-	-	-	-
C	64QAM/ QPSK	-	-	-	43.85	-	-	-	-	-
D	64QAM/ QPSK	-	-	-	43.93	-	-	-	-	-
Total		-	-	-	49.99	-	-	-	-	-

Configuration LTE+NB-IoT-MC-1 (1LTE+1SA)
Maximum Output Power 44.8dBm per port

Antenna	LTE Mod. Bandwidth (MHz)/ SA Mod.	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	QPSK 5.0/ QPSK	-	-	-	43.95	-	-	-	-	-
B	QPSK 5.0/ QPSK	-	-	-	44.15	-	-	-	-	-
C	QPSK 5.0/ QPSK	-	-	-	43.85	-	-	-	-	-
D	QPSK 5.0/ QPSK	-	-	-	43.88	-	-	-	-	-
Total		-	-	-	49.98	-	-	-	-	-



Antenna	LTE Mod. Bandwidth (MHz)/ SA Mod.	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	QPSK 10.0/ QPSK	-	-	-	43.94	-	-	-	-	-
B	QPSK 10.0/ QPSK	-	-	-	44.14	-	-	-	-	-
C	QPSK 10.0/ QPSK	-	-	-	43.72	-	-	-	-	-
D	QPSK 10.0/ QPSK	-	-	-	43.87	-	-	-	-	-
Total		-	-	-	49.94	-	-	-	-	-

Antenna	LTE Mod. Bandwidth (MHz)/ SA Mod.	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	QPSK 15.0/ QPSK	-	-	-	43.94	-	-	-	-	-
B	QPSK 15.0/ QPSK	-	-	-	44.10	-	-	-	-	-
C	QPSK 15.0/ QPSK	-	-	-	43.76	-	-	-	-	-
D	QPSK 15.0/ QPSK	-	-	-	43.95	-	-	-	-	-
Total		-	-	-	49.96	-	-	-	-	-

Antenna	LTE Mod. Bandwidth (MHz)/ SA Mod.	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	QPSK 20.0/ QPSK	-	-	-	44.04	-	-	-	-	-
B	QPSK 20.0/ QPSK	-	-	-	44.24	-	-	-	-	-
C	QPSK 20.0/ QPSK	-	-	-	43.87	-	-	-	-	-
D	QPSK 20.0/ QPSK	-	-	-	43.94	-	-	-	-	-
Total		-	-	-	50.05	-	-	-	-	-



Configuration LTE+NB-IoT-MC-3 (3LTE+2SA)

Maximum Output Power 44.8dBm per port

Antenna	LTE Mod. Bandwidth (MHz)/ SA Mod.	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	QPSK 5.0/ QPSK	44.52	-	-	44.56	-	-	44.55	-	-
B	QPSK 5.0/ QPSK	44.70	-	-	44.77	-	-	44.74	-	-
C	QPSK 5.0/ QPSK	44.42	-	-	44.43	-	-	42.89	-	-
D	QPSK 5.0/ QPSK	44.38	-	-	44.57	-	-	43.06	-	-
Total		50.53	-	-	50.60	-	-	49.91	-	-

Configuration LTE+NB-IoT-MC-4 (4LTE+2SA)

Maximum Output Power 44.8dBm per port

Antenna	LTE Mod. Bandwidth (MHz)/ SA Mod.	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	QPSK 10.0/ QPSK	-	-	-	44.52	-	-	-	-	-
B	QPSK 10.0/ QPSK	-	-	-	44.75	-	-	-	-	-
C	QPSK 10.0/ QPSK	-	-	-	44.39	-	-	-	-	-
D	QPSK 10.0/ QPSK	-	-	-	44.48	-	-	-	-	-
Total		-	-	-	50.56	-	-	-	-	-



Antenna	LTE Mod. Bandwidth (MHz)/ SA Mod.	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	QPSK 15.0/ QPSK	-	-	-	44.59	-	-	-	-	-
B	QPSK 15.0/ QPSK	-	-	-	44.76	-	-	-	-	-
C	QPSK 15.0/ QPSK	-	-	-	44.50	-	-	-	-	-
D	QPSK 15.0/ QPSK	-	-	-	44.52	-	-	-	-	-
Total		-	-	-	50.61	-	-	-	-	-

Configuration LTE+NB-IoT-MC-5 (3LTE+2SA)

Maximum Output Power 44.8dBm per port

Antenna	LTE Mod. Bandwidth (MHz)/ SA Mod.	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	QPSK 20.0/ QPSK	-	-	-	44.44	-	-	-	-	-
B	QPSK 20.0/ QPSK	-	-	-	44.63	-	-	-	-	-
C	QPSK 20.0/ QPSK	-	-	-	44.35	-	-	-	-	-
D	QPSK 20.0/ QPSK	-	-	-	44.39	-	-	-	-	-
Total		-	-	-	50.47	-	-	-	-	-



Configuration WCDMA+LTE+NB-IoT -MC-1(1WCDMA+1LTE+1SA)
Maximum Output Power 44.8dBm per port

Antenna	WCDMA Mod./ LTE Mod. Bandwidth (MHz)/ SA Mod.	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	64QAM/ QPSK 5.0/ QPSK	-	-	-	43.77	-	-	-	-	-
B	64QAM/ QPSK 5.0/ QPSK	-	-	-	43.94	-	-	-	-	-
C	64QAM/ QPSK 5.0/ QPSK	-	-	-	43.70	-	-	-	-	-
D	64QAM/ QPSK 5.0/ QPSK	-	-	-	43.77	-	-	-	-	-
Total		-	-	-	49.82	-	-	-	-	-

Antenna	WCDMA Mod./ LTE Mod. Bandwidth (MHz)/ SA Mod.	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	64QAM/ QPSK 10.0/ QPSK	-	-	-	43.80	-	-	-	-	-
B	64QAM/ QPSK 10.0/ QPSK	-	-	-	43.97	-	-	-	-	-
C	64QAM/ QPSK 10.0/ QPSK	-	-	-	43.69	-	-	-	-	-
D	64QAM/ QPSK 10.0/ QPSK	-	-	-	43.78	-	-	-	-	-
Total		-	-	-	49.83	-	-	-	-	-



Antenna	WCDMA Mod./ LTE Mod. Bandwidth (MHz)/ SA Mod.	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	64QAM/ QPSK 15.0/ QPSK	-	-	-	43.80	-	-	-	-	-
B	64QAM/ QPSK 15.0/ QPSK	-	-	-	43.96	-	-	-	-	-
C	64QAM/ QPSK 15.0/ QPSK	-	-	-	43.65	-	-	-	-	-
D	64QAM/ QPSK 15.0/ QPSK	-	-	-	43.78	-	-	-	-	-
Total		-	-	-	49.82	-	-	-	-	-

Antenna	WCDMA Mod./ LTE Mod. Bandwidth (MHz)/ SA Mod.	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	64QAM/ QPSK 20.0/ QPSK	-	-	-	43.85	-	-	-	-	-
B	64QAM/ QPSK 20.0/ QPSK	-	-	-	44.02	-	-	-	-	-
C	64QAM/ QPSK 20.0/ QPSK	-	-	-	43.69	-	-	-	-	-
D	64QAM/ QPSK 20.0/ QPSK	-	-	-	43.80	-	-	-	-	-
Total		-	-	-	49.86	-	-	-	-	-



Configuration WCDMA+LTE+NB-IoT-MC-3(2WCDMA+2LTE+2SA)
Maximum Output Power 44.8dBm per port

Antenna	WCDMA Mod./ LTE Mod. Bandwidth (MHz)/ SA Mod.	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	64QAM/ QPSK 5.0/ QPSK	-	-	-	43.78	-	-	-	-	-
B	64QAM/ QPSK 5.0/ QPSK	-	-	-	43.96	-	-	-	-	-
C	64QAM/ QPSK 5.0/ QPSK	-	-	-	43.62	-	-	-	-	-
D	64QAM/ QPSK 5.0/ QPSK	-	-	-	43.72	-	-	-	-	-
Total		-	-	-	49.79	-	-	-	-	-

Antenna	WCDMA Mod./ LTE Mod. Bandwidth (MHz)/ SA Mod.	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	64QAM/ QPSK 10.0/ QPSK	-	-	-	43.77	-	-	-	-	-
B	64QAM/ QPSK 10.0/ QPSK	-	-	-	43.97	-	-	-	-	-
C	64QAM/ QPSK 10.0/ QPSK	-	-	-	43.63	-	-	-	-	-
D	64QAM/ QPSK 10.0/ QPSK	-	-	-	43.74	-	-	-	-	-
Total		-	-	-	49.80	-	-	-	-	-



Antenna	WCDMA Mod./ LTE Mod. Bandwidth (MHz)/ SA Mod.	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	64QAM/ QPSK 15.0/ QPSK	-	-	-	43.77	-	-	-	-	-
B	64QAM/ QPSK 15.0/ QPSK	-	-	-	43.97	-	-	-	-	-
C	64QAM/ QPSK 15.0/ QPSK	-	-	-	43.60	-	-	-	-	-
D	64QAM/ QPSK 15.0/ QPSK	-	-	-	43.62	-	-	-	-	-
Total		-	-	-	49.76	-	-	-	-	-

Antenna	WCDMA Mod./ LTE Mod. Bandwidth (MHz)/ SA Mod.	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	64QAM/ QPSK 20.0/ QPSK	-	-	-	43.78	-	-	-	-	-
B	64QAM/ QPSK 20.0/ QPSK	-	-	-	43.96	-	-	-	-	-
C	64QAM/ QPSK 20.0/ QPSK	-	-	-	43.62	-	-	-	-	-
D	64QAM/ QPSK 20.0/ QPSK	-	-	-	43.65	-	-	-	-	-
Total		-	-	-	49.78	-	-	-	-	-



NOTE:

The DUT is tested without antenna. ERP/EIRP compliance is addressed at the time of licensing, as required by the responsible FCC/ISED Bureau(s). Licensee's are required to take into account maximum allowed antenna gain used in combination with above power settings to prevent the radiated output power to exceed the limits.



A.2 Occupied Bandwidth

A.2.1 Reference

FCC CFR 47 Part 2, Clause 2.1049(h)
FCC CFR 47 Part 24, Clause 24.238 (b)
RSS-GEN, Clause 6.7

A.2.2 Method of Measurements

The EUT was set to transmit at maximum power and testing was carried out on bottom, middle and top channels. Using the Occupied Bandwidth measurement function in the spectrum analyser, the 26dB bandwidth was measured in accordance with FCC KDB 971168 D01 Clause 4.2. In addition, measurements of 99% occupied bandwidths were made in accordance with RSS-GEN Clause 6.7.

The measurement method is from KDB 971168 4.2:

- a) The spectrum analyzer center frequency is set to the nominal EUT channel center frequency. The frequency span for the spectrum analyzer shall be set wide enough to capture all modulation products including the emission skirts (i.e., two to five times the OBW).
- b) The nominal IF filter bandwidth (3 dB 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.
- c) Set the reference level of the instrument as required to keep the signal from exceeding the maximum input mixer level for linear operation. In general, the peak of the spectral envelope must be at least $10\log(\text{OBW} / \text{RBW})$ below the reference level.
- d) Set the detection mode to peak, and the trace mode to max hold.
- e) Use the 99 % power bandwidth function of the spectrum analyzer and report the measured bandwidth.

A.2.3 Measurement result

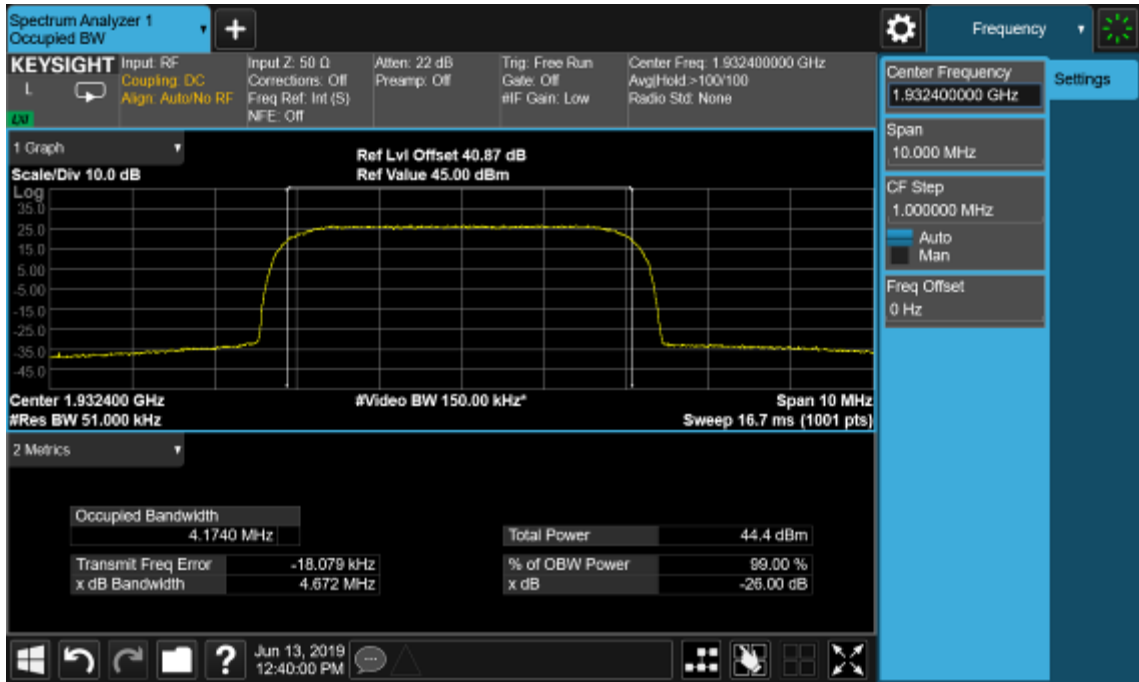
Configuration WCDMA-1C
-26dBc Occupied Bandwidth

Modulation/ Bandwidth	Occupied Bandwidth (MHz)		
	Channel position B	Channel position M	Channel position T
64QAM/3.8MHz	3.750	3.750	3.749
QPSK/5.0MHz	4.672	4.666	4.662
16QAM/5.0MHz	4.661	4.663	4.660
64QAM/5.0MHz	4.663	4.664	4.664

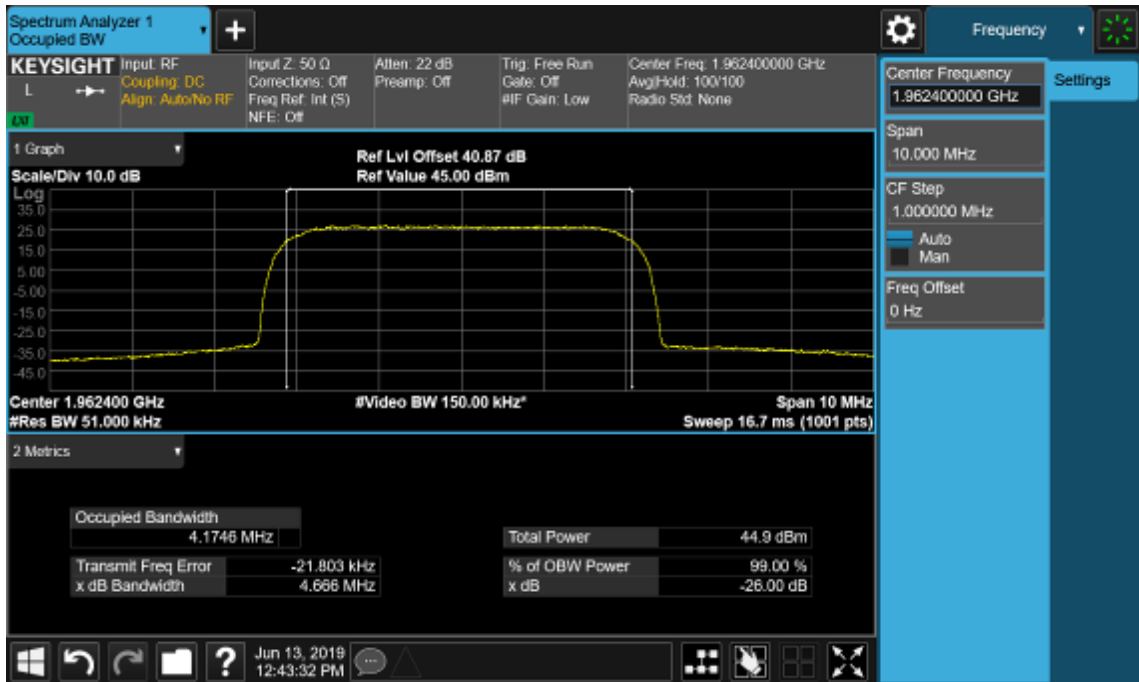
99% Occupied Bandwidth

Modulation/ Bandwidth	Occupied Bandwidth (MHz)		
	Channel position B	Channel position M	Channel position B
64QAM/3.8MHz	3.5696	3.5724	3.5708
QPSK/5.0MHz	4.1740	4.1746	4.1713
16QAM/5.0MHz	4.1742	4.1696	4.1617
64QAM/5.0MHz	4.1700	4.1721	4.1679

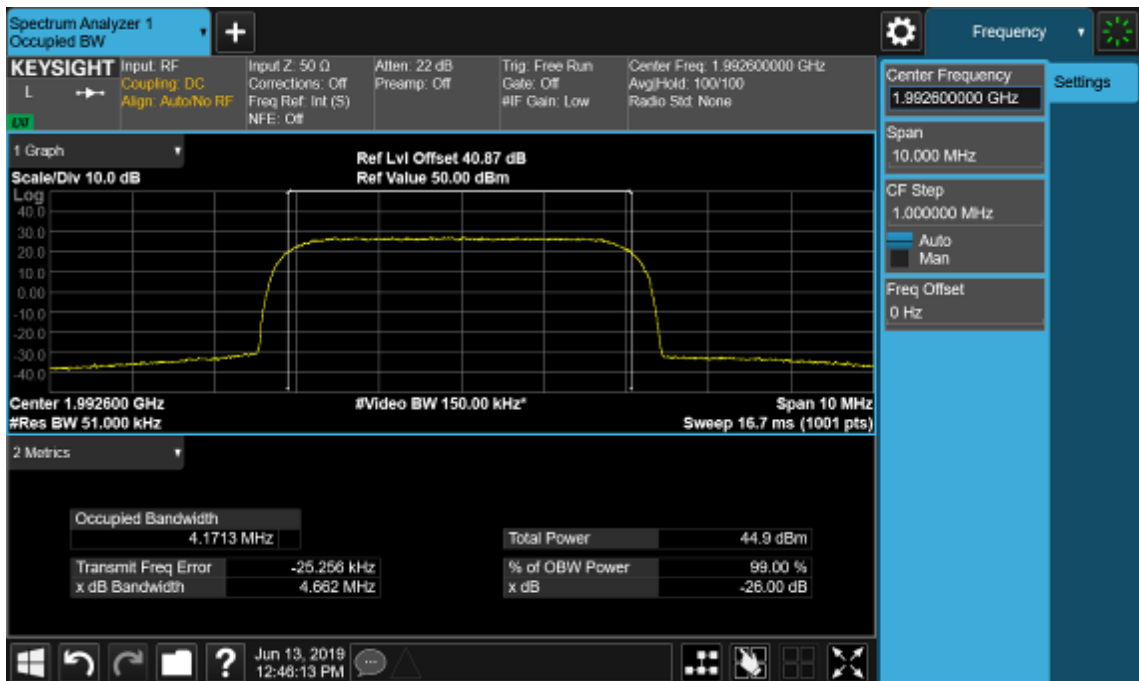
Port B, QPSK/5.0MHz Channel Position B



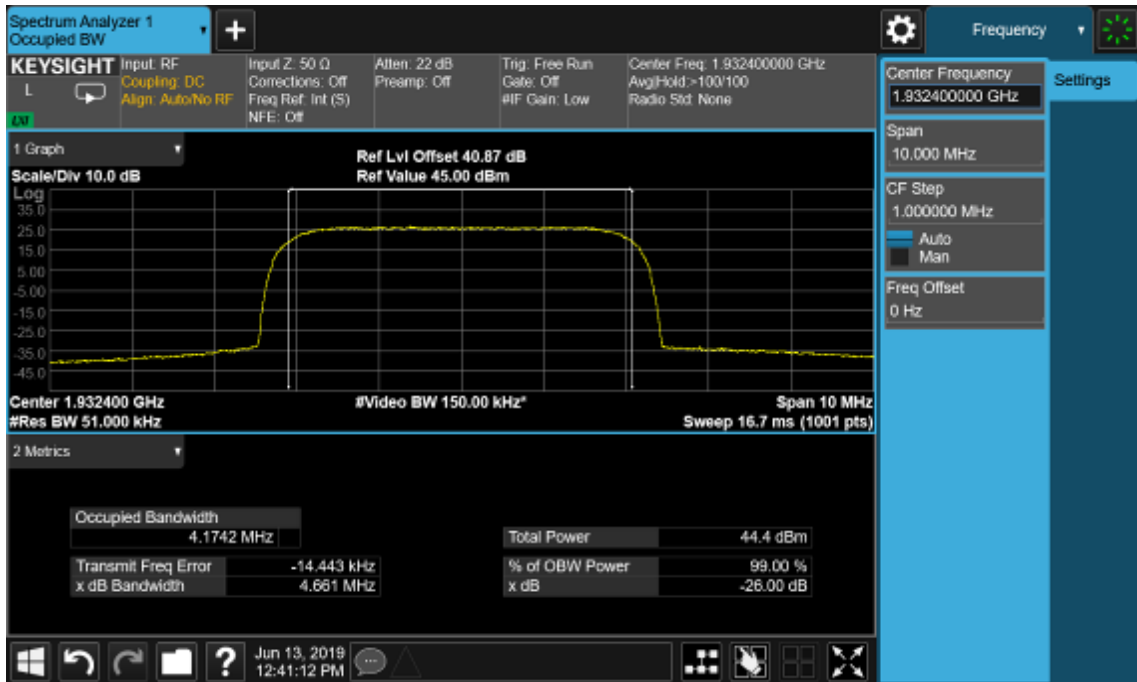
Port B, QPSK/5.0MHz Channel Position M



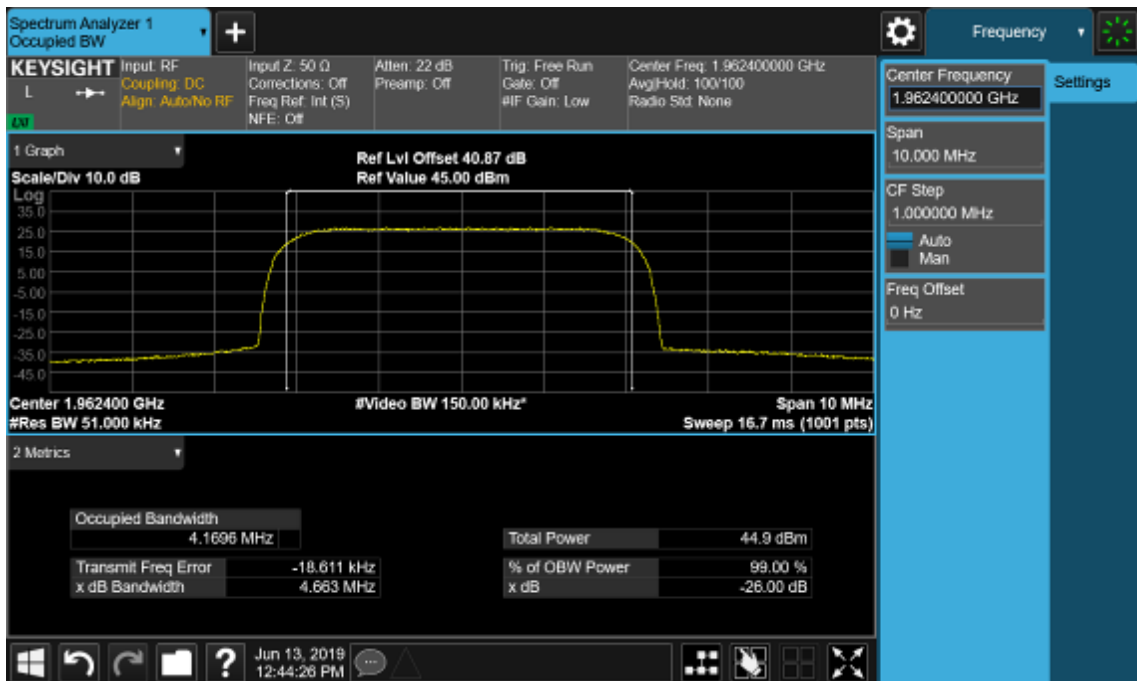
Port B, QPSK/5.0MHz Channel Position T



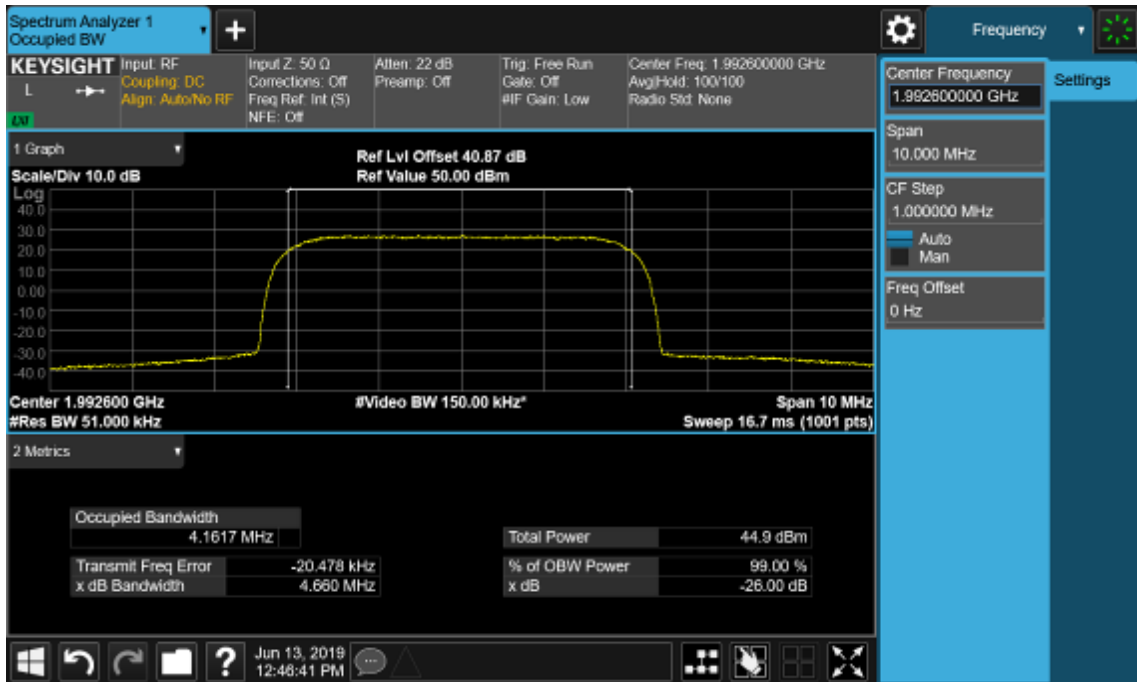
Port B, 16QAM/5.0MHz Channel Position B



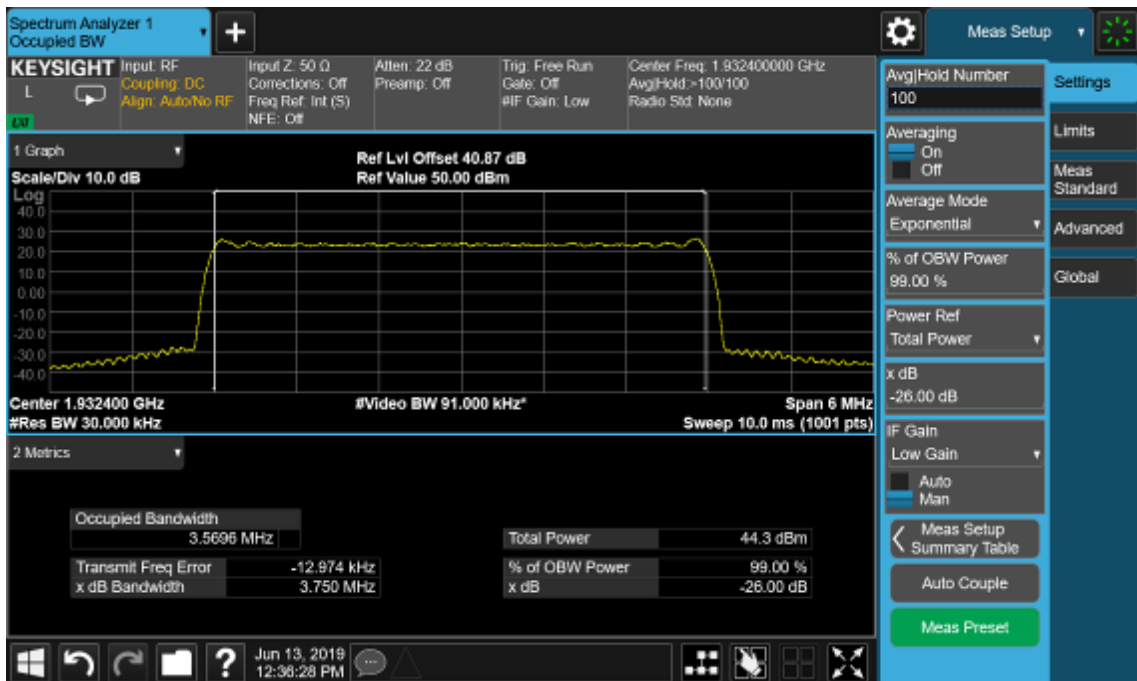
Port B, 16QAM/5.0MHz Channel Position M



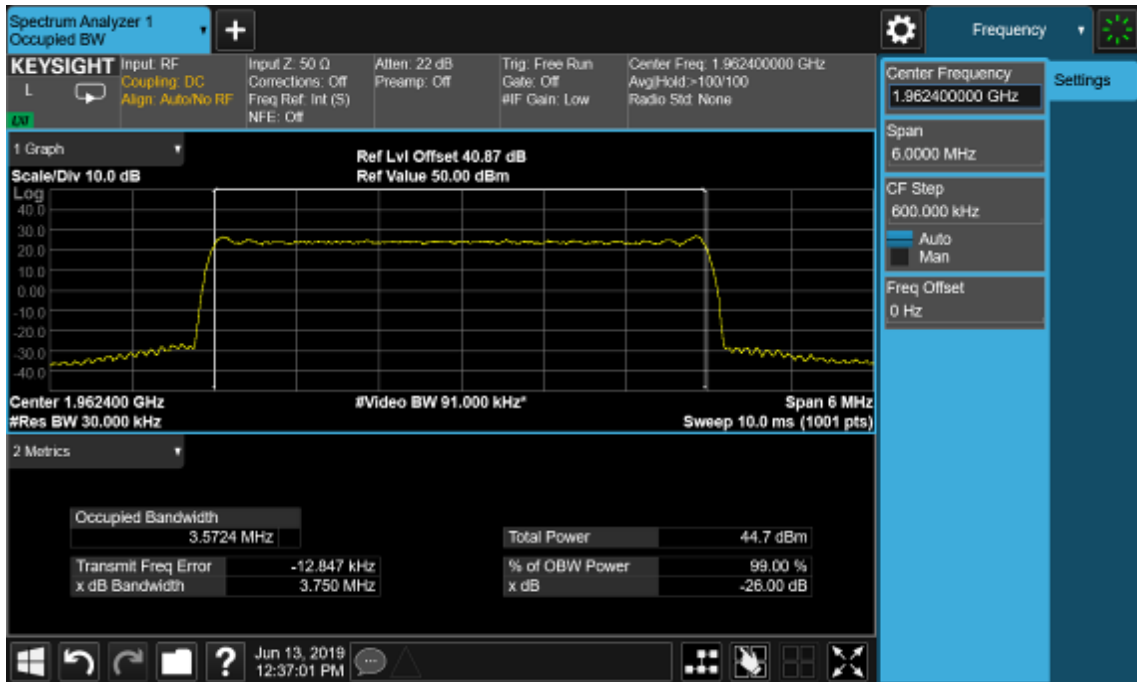
Port B, 16QAM/5.0MHz Channel Position T



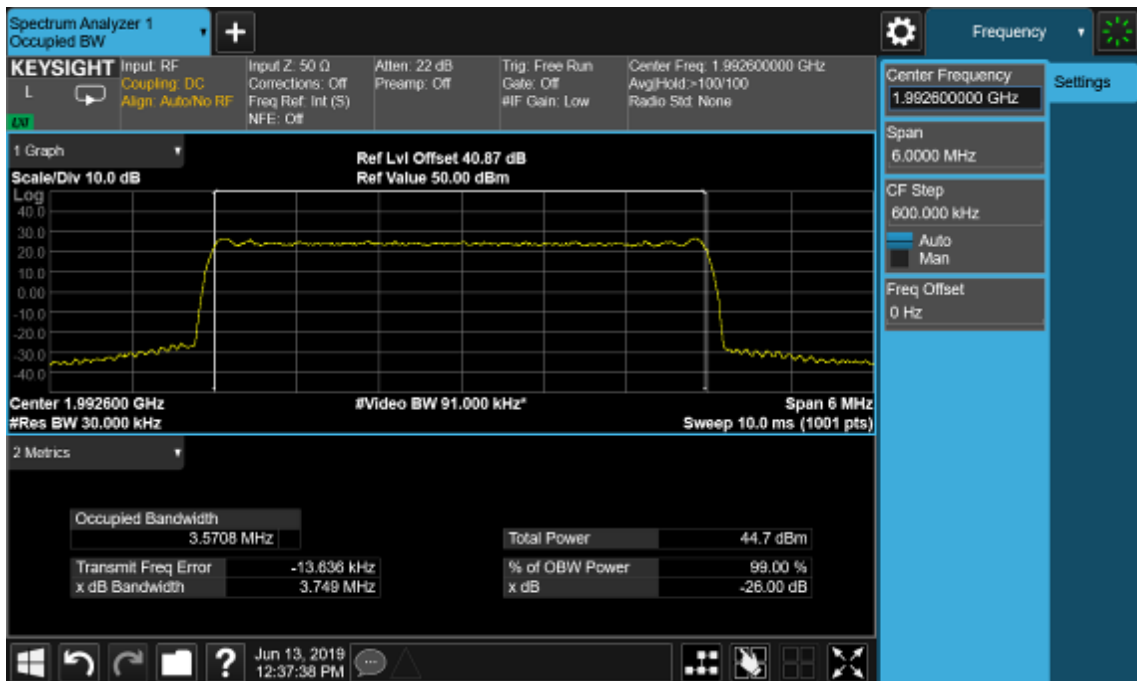
Port B, 64QAM/3.8MHz Channel Position B



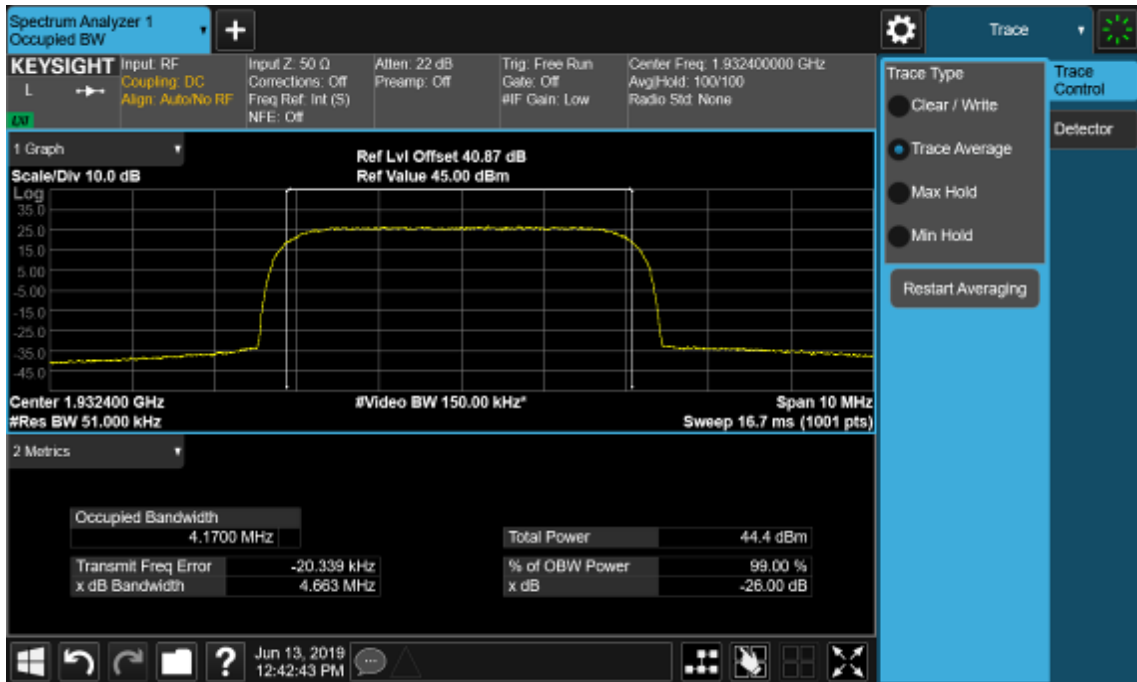
Port B, 64QAM/3.8MHz Channel Position M



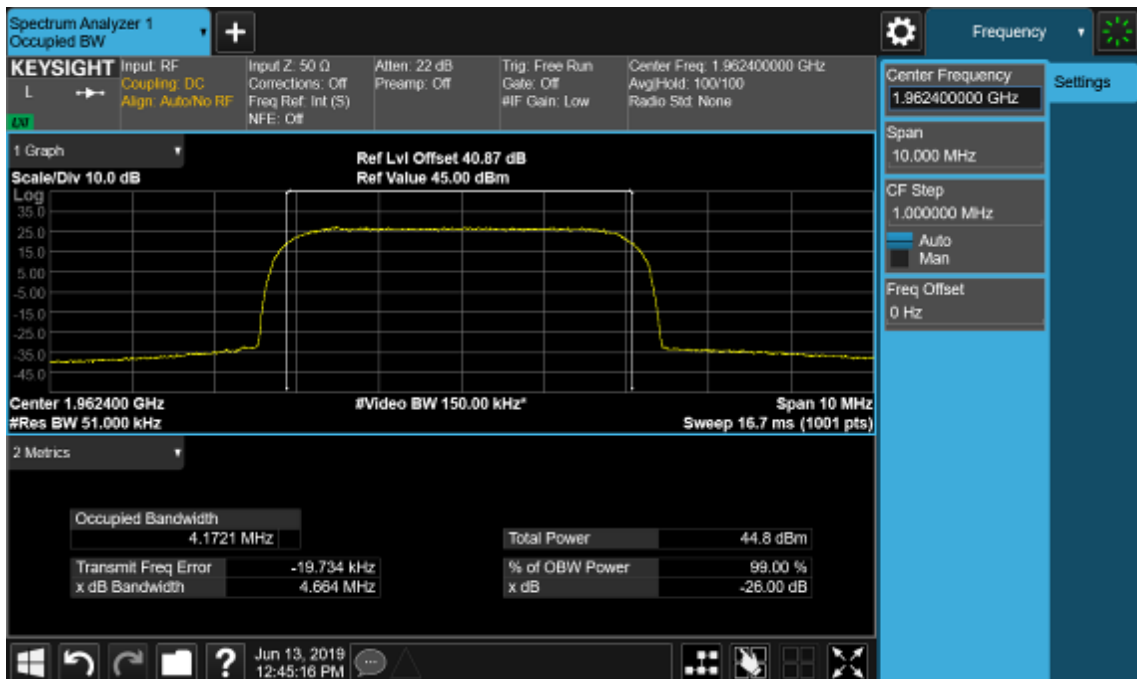
Port B, 64QAM/3.8MHz Channel Position T



Port B, 64QAM/5.0MHz Channel Position B

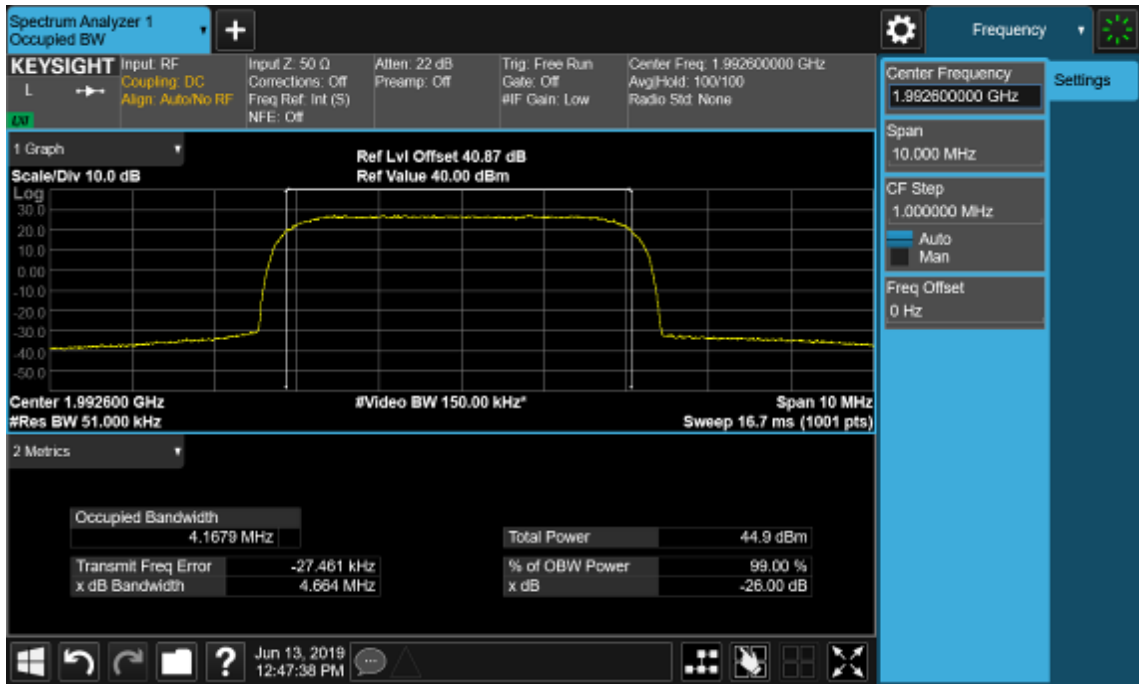


Port B, 64QAM/5.0MHz Channel Position M





Port B, 64QAM/5.0MHz Channel Position T





Configuration LTE-MIMO-1C
-26dBc Occupied Bandwidth

Modulation/ Bandwidth	Occupied Bandwidth (MHz)		
	Channel position B	Channel position M	Channel position T
QPSK/ 5.0MHz	4.724	4.740	4.732
QPSK/ 10.0MHz	9.393	9.403	9.344
QPSK/ 15.0MHz	13.97	14.04	14.02
QPSK/ 20.0MHz	18.56	18.61	18.62

-26dBc Occupied Bandwidth

Bandwidth	Occupied Bandwidth (MHz)		
	Modulation 16QAM/ Channel position M	Modulation 64QAM/ Channel position M	Modulation 256QAM/ Channel position M
5.0MHz	4.709	4.731	4.718
10.0MHz	9.303	9.376	9.422
15.0MHz	13.95	13.98	13.99
20.0MHz	18.56	18.57	18.61

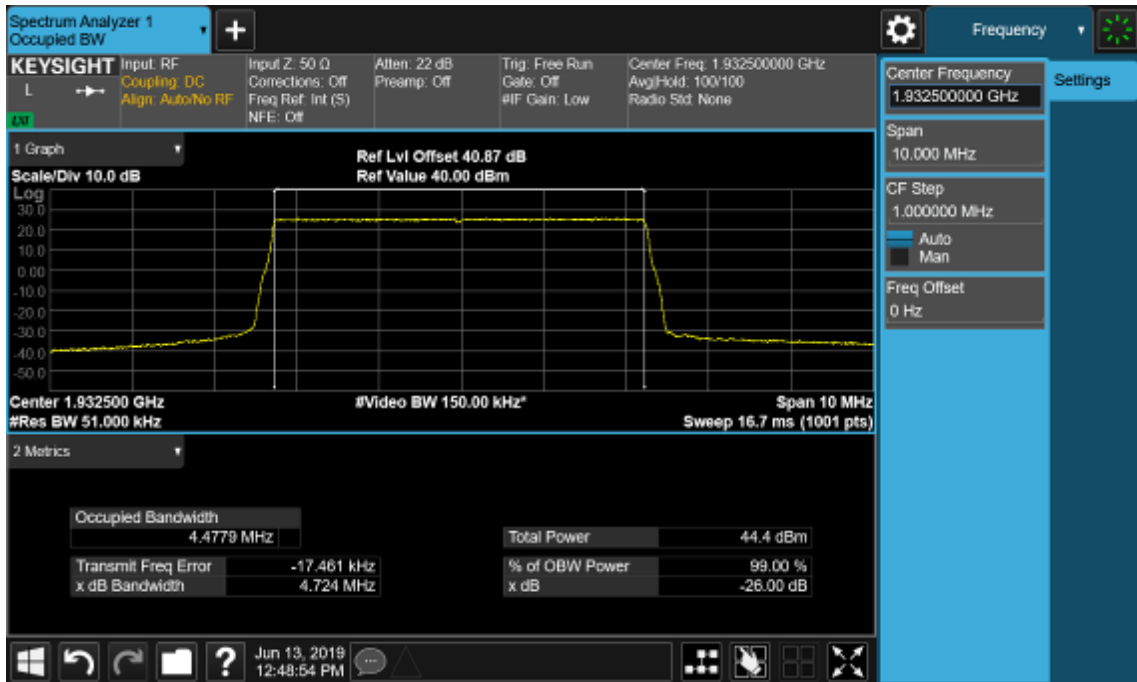
99% Occupied Bandwidth

Modulation/ Bandwidth	Occupied Bandwidth (MHz)		
	Channel position B	Channel position M	Channel position T
QPSK/ 5.0MHz	4.4779	4.4775	4.4771
QPSK/ 10.0MHz	8.9356	8.9386	8.9432
QPSK/ 15.0MHz	13.401	13.402	13.389
QPSK/ 20.0MHz	17.843	17.855	17.861

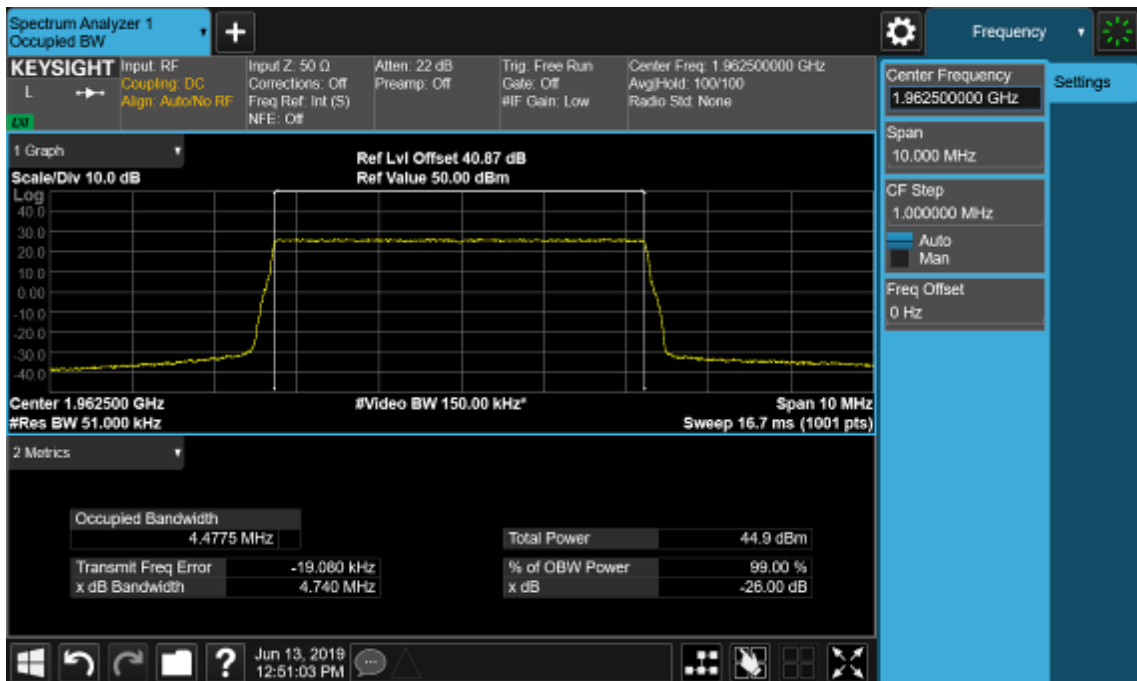
99% Occupied Bandwidth

Bandwidth	Occupied Bandwidth (MHz)		
	Modulation 16QAM/ Channel position M	Modulation 64QAM/ Channel position M	Modulation 256QAM/ Channel position M
5.0MHz	4.4634	4.4799	4.4765
10.0MHz	8.9424	8.9399	8.9430
15.0MHz	13.398	13.397	13.400
20.0MHz	17.825	17.854	17.867

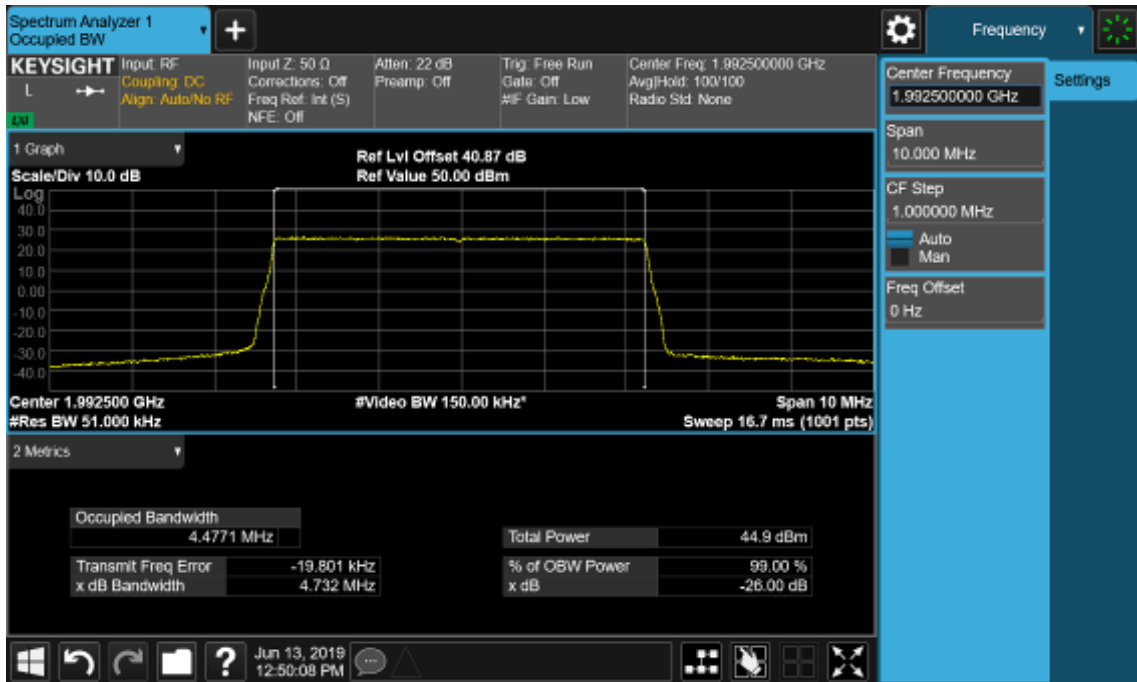
Port B, QPSK/5.0MHz Channel Position B



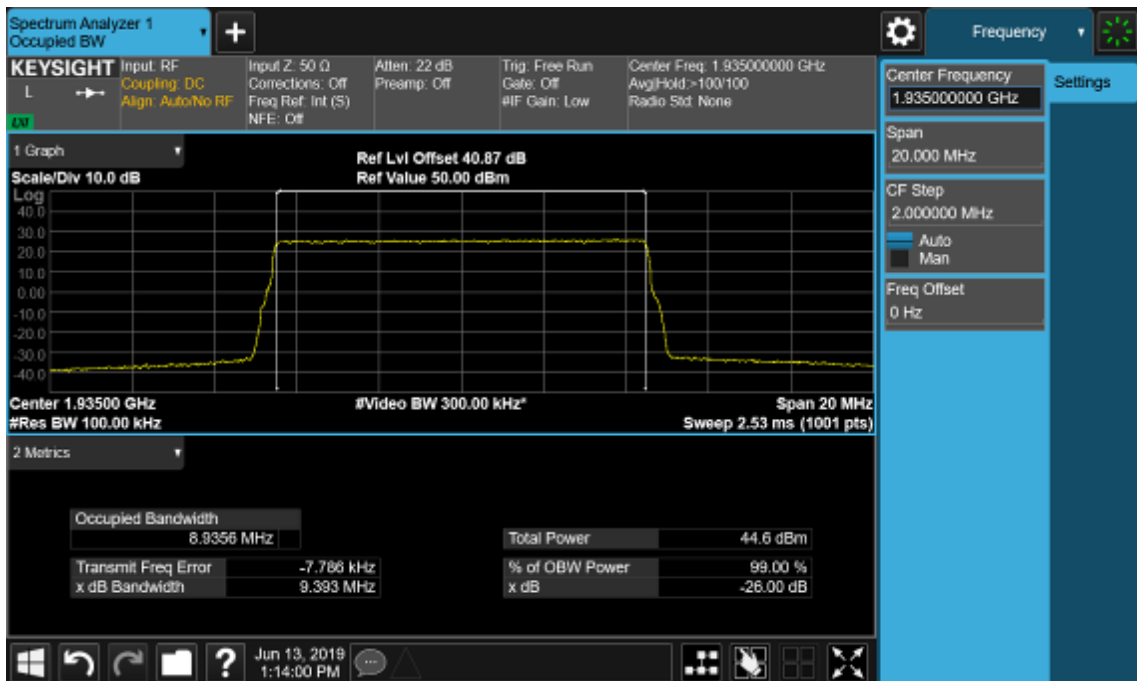
Port B, QPSK/5.0MHz Channel Position M



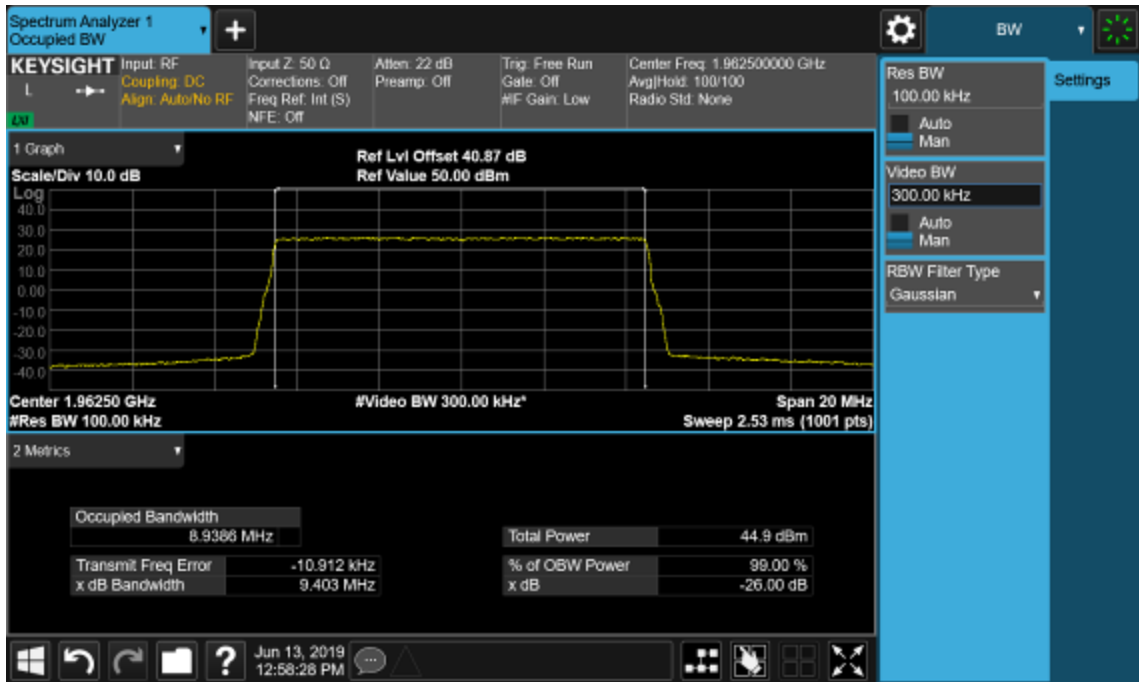
Port B, QPSK/5.0MHz Channel Position T



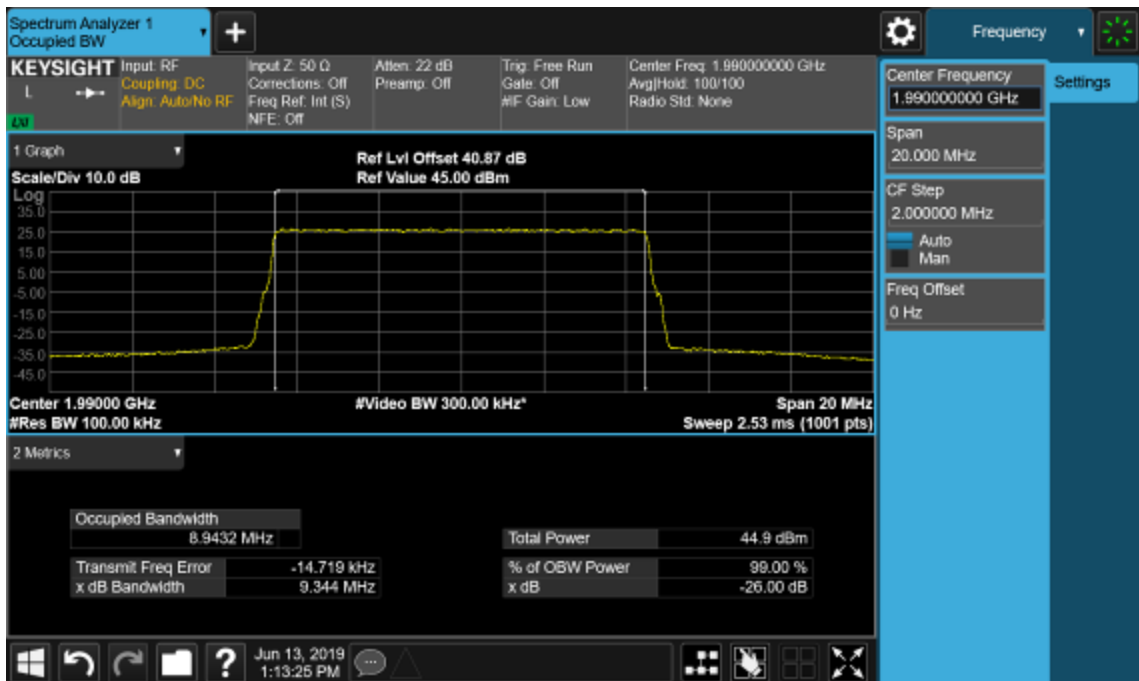
Port B, QPSK/10.0MHz Channel Position B



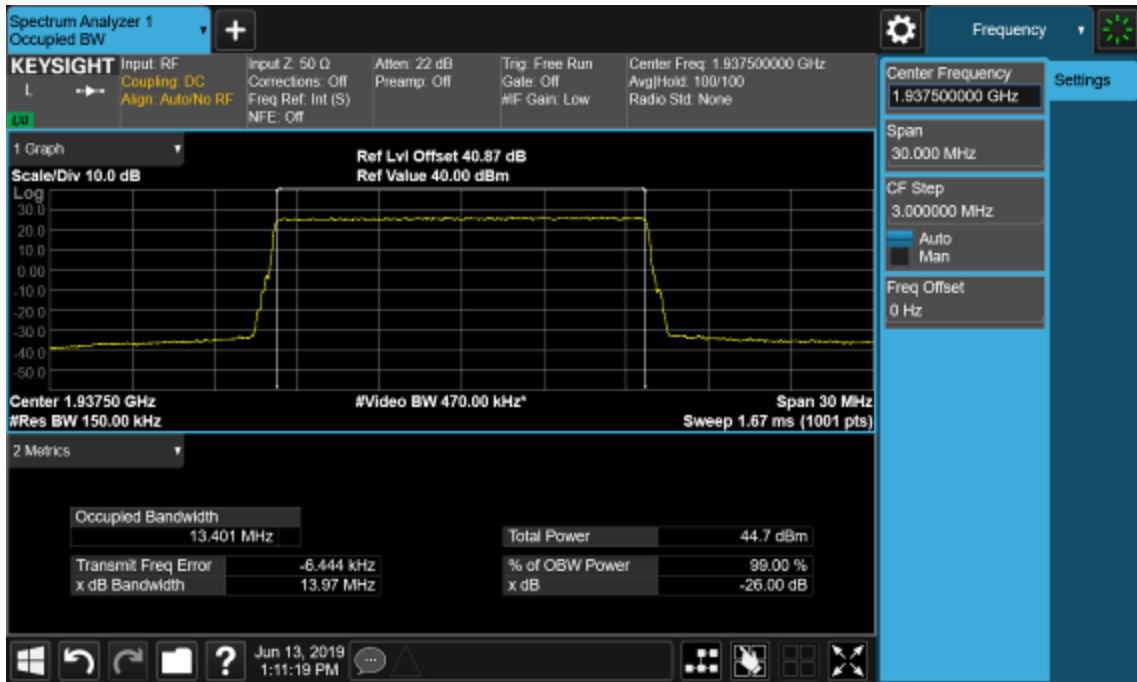
Port B, QPSK/10.0MHz Channel Position M



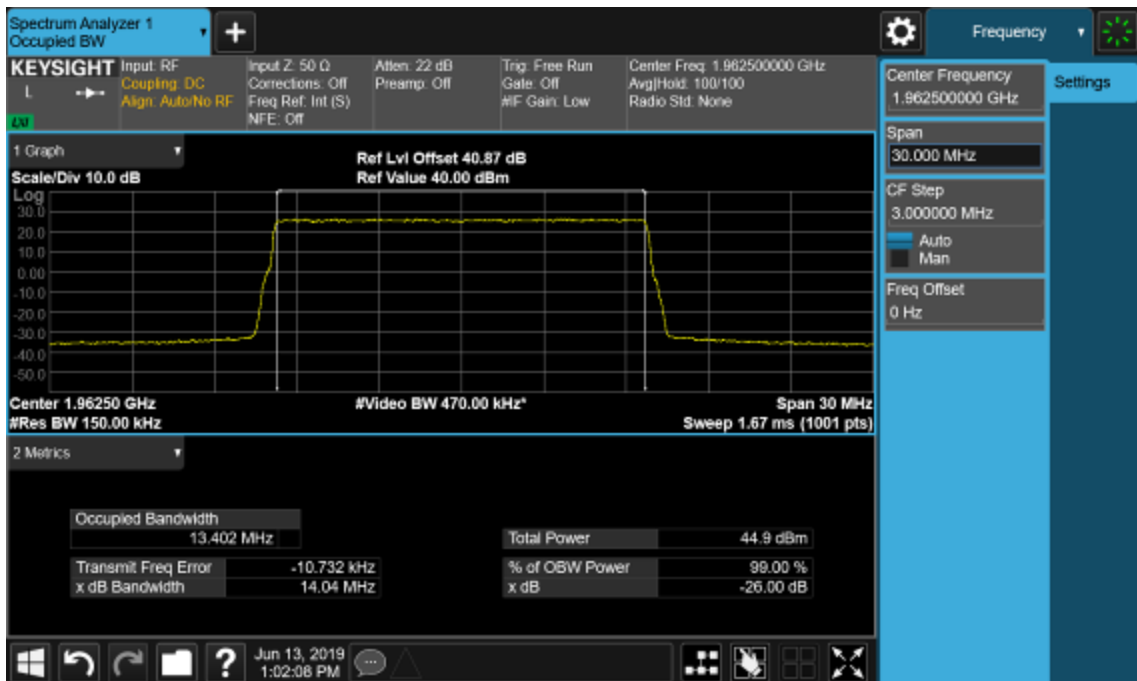
Port B, QPSK/10.0MHz Channel Position T



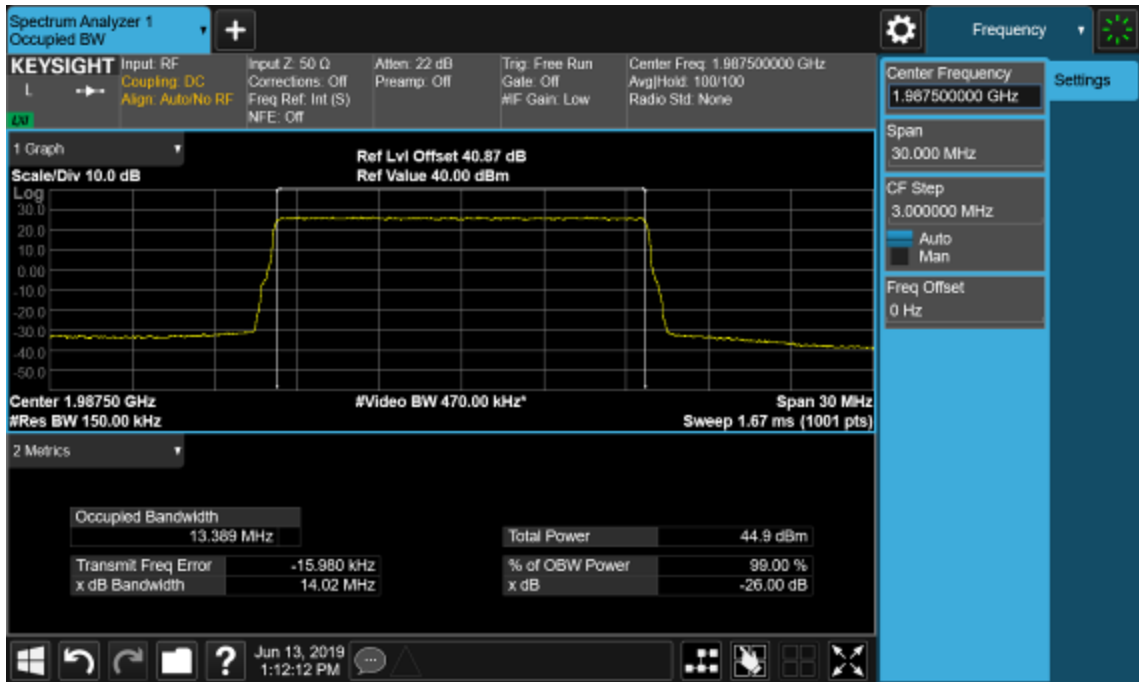
Port B, QPSK/15.0MHz Channel Position B



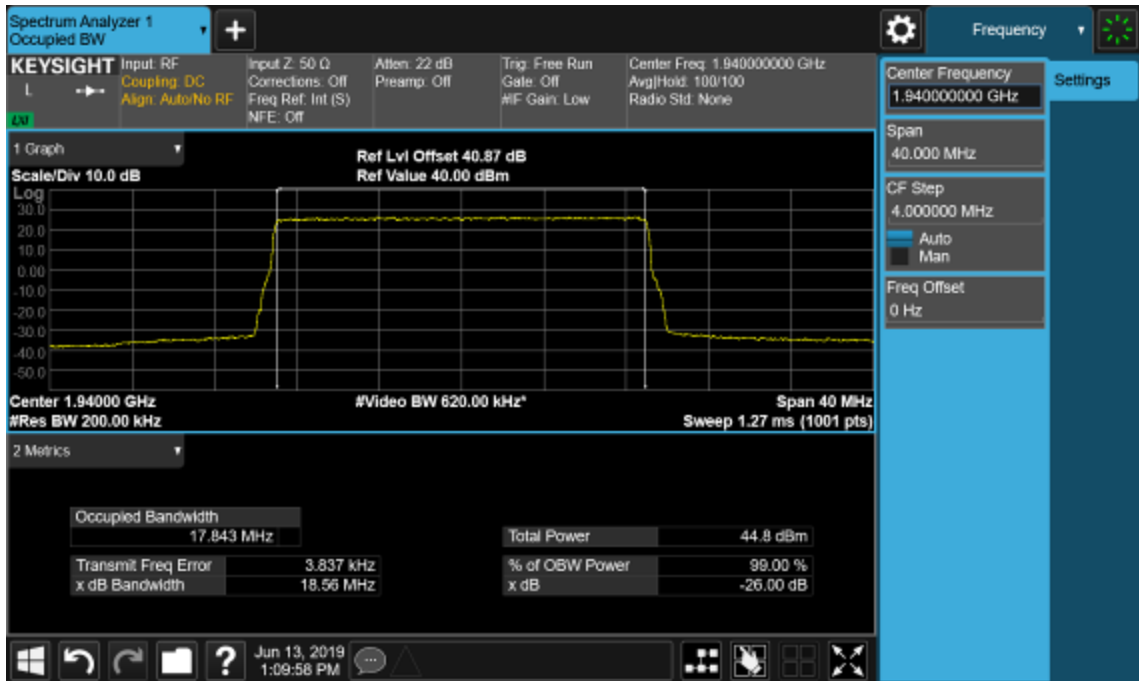
Port B, QPSK/15.0MHz Channel Position M



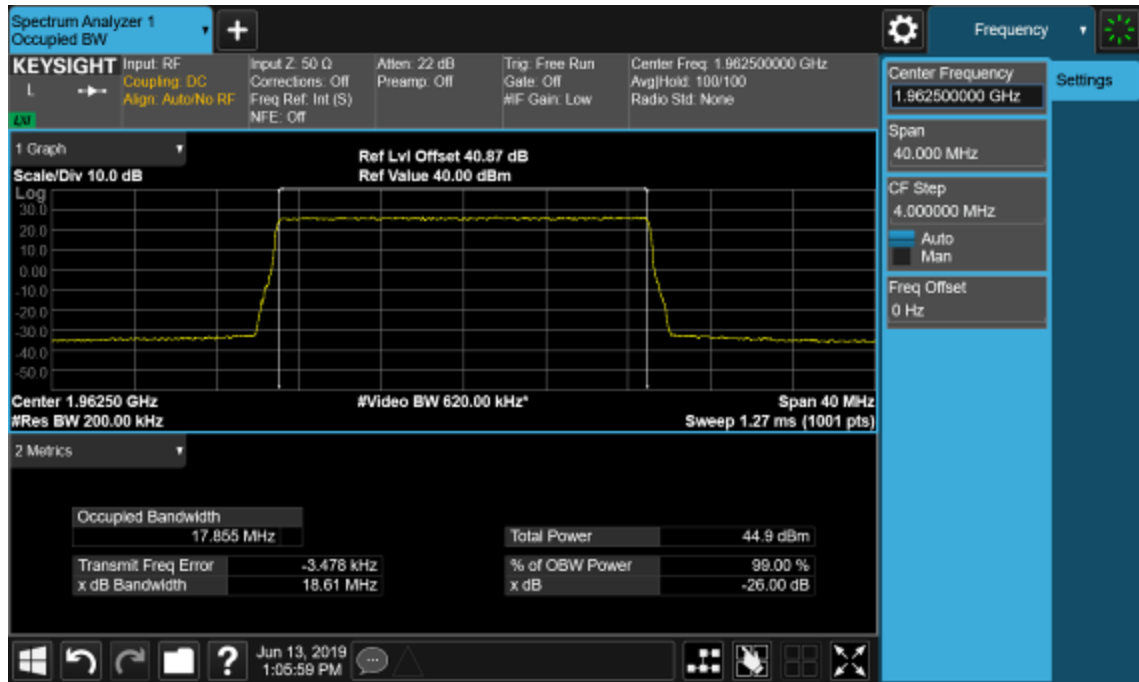
Port B, QPSK/15.0MHz Channel Position T



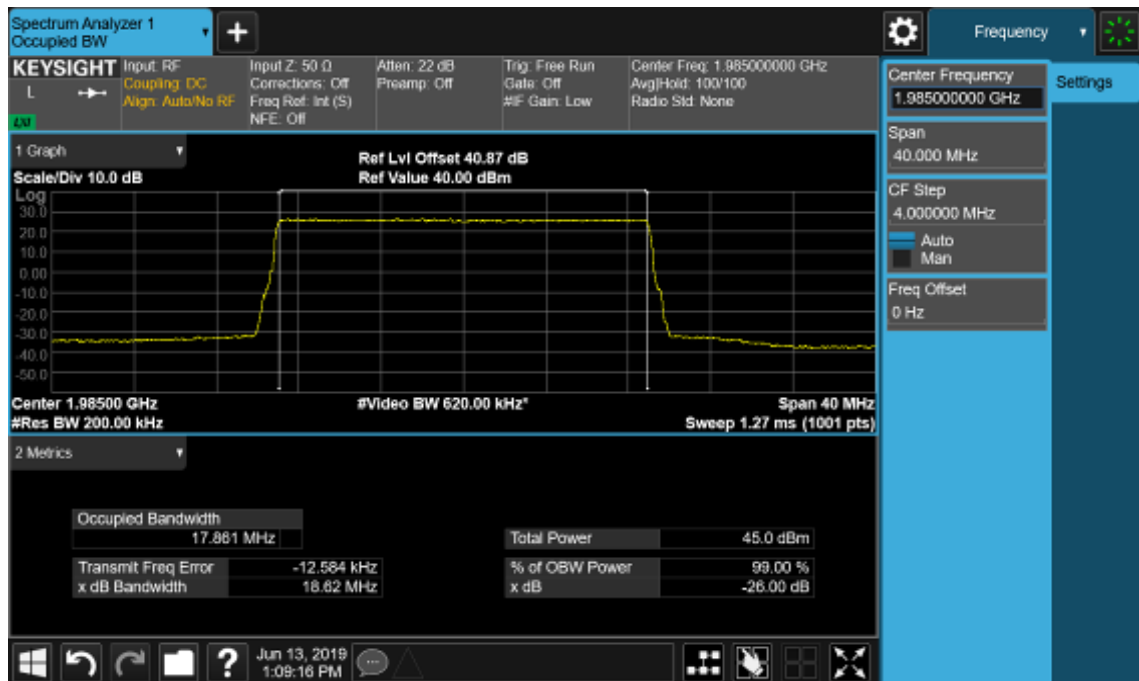
Port B, QPSK/20.0MHz Channel Position B



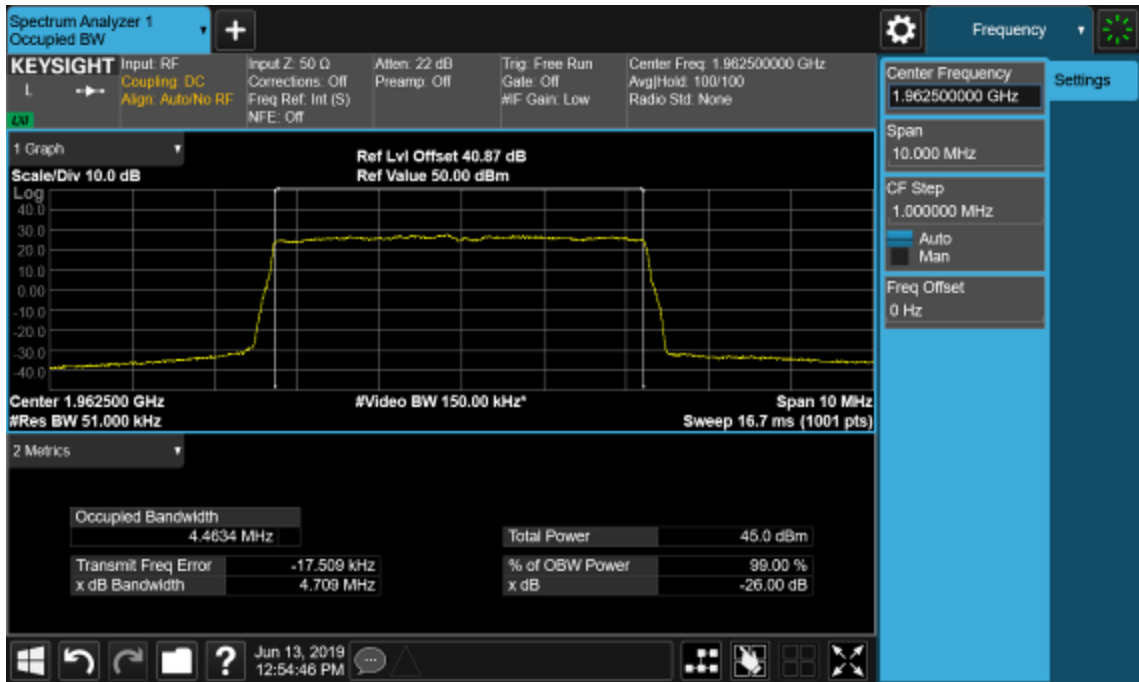
Port B, QPSK/20.0MHz Channel Position M



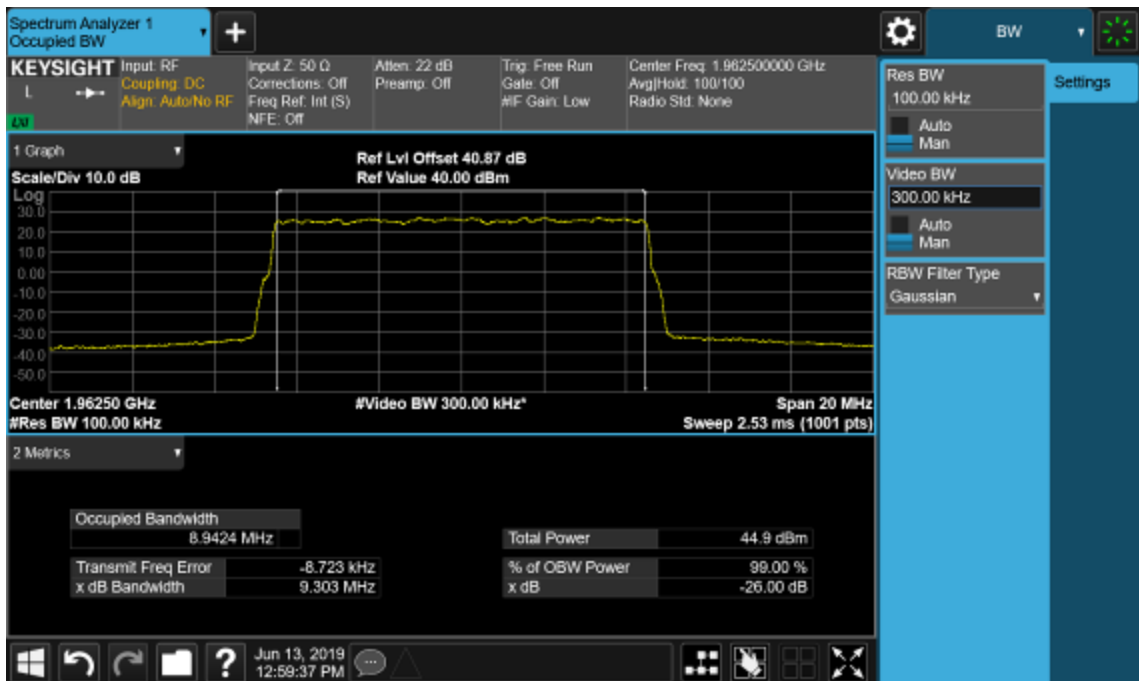
Port B, QPSK/20.0MHz Channel Position T



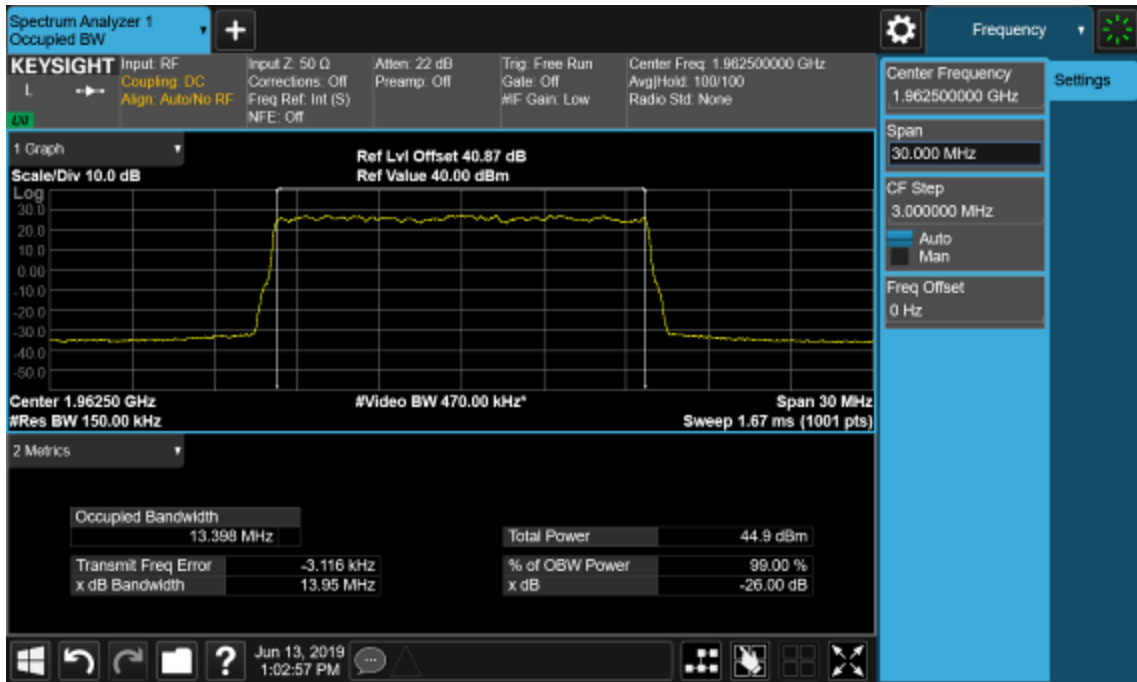
Port B, 16QAM/5.0MHz Channel Position M



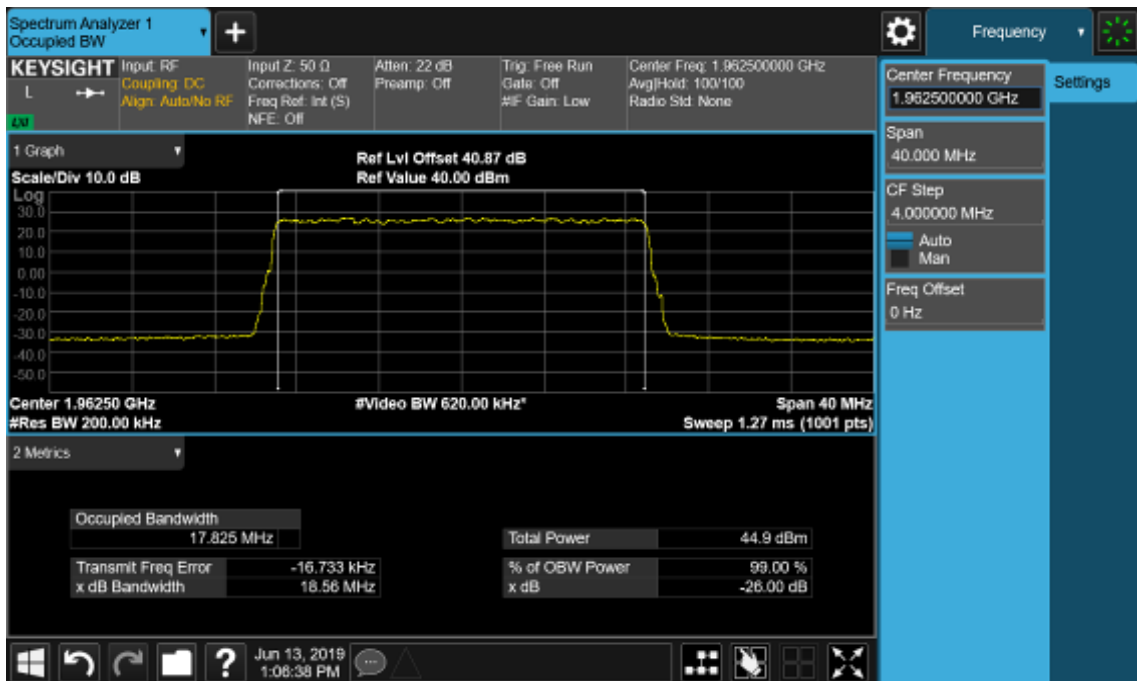
Port B, 16QAM/10.0MHz Channel Position M



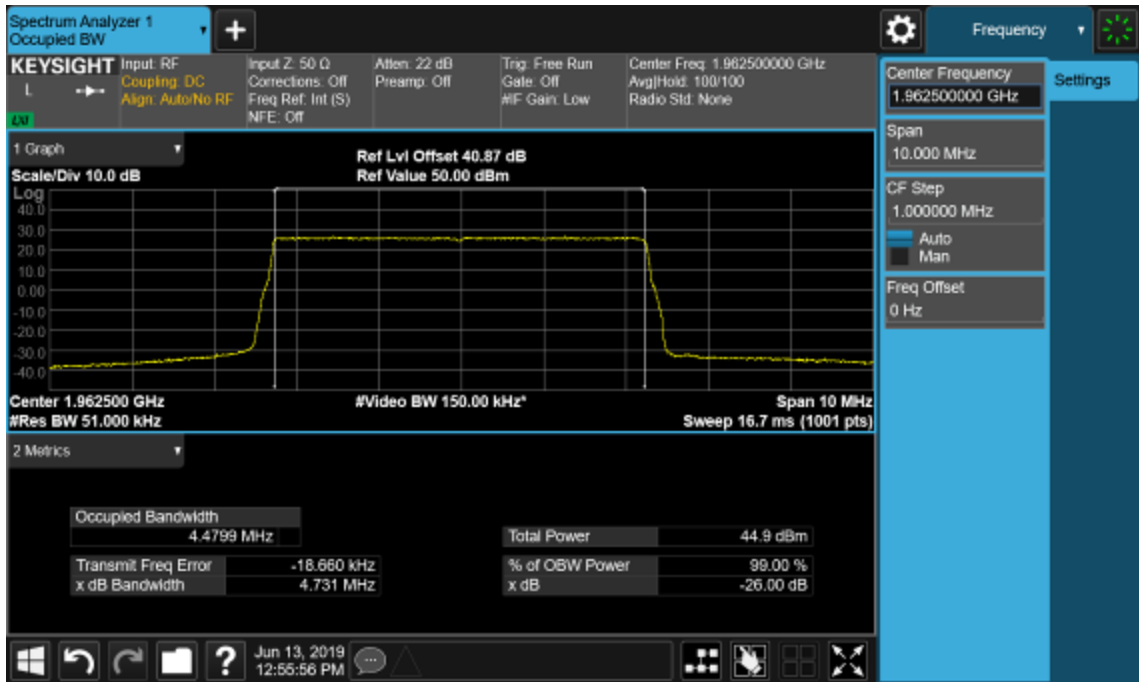
Port B, 16QAM/15.0MHz Channel Position M



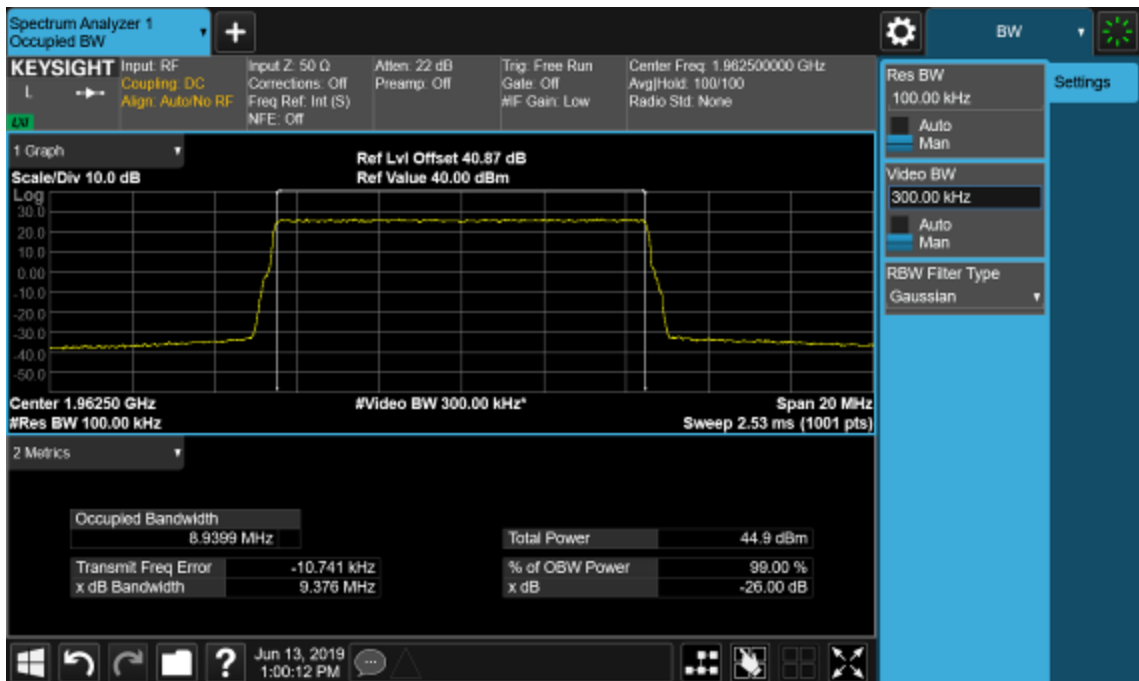
Port B, 16QAM/20.0MHz Channel Position M



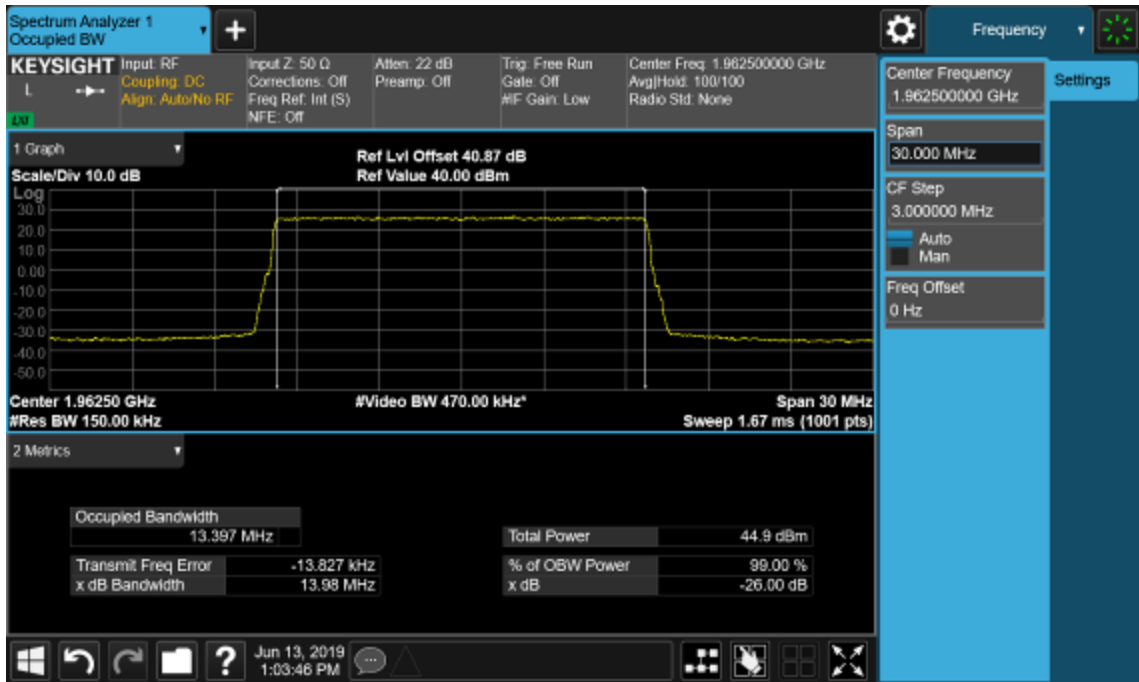
Port B, 64QAM/5.0MHz Channel Position M



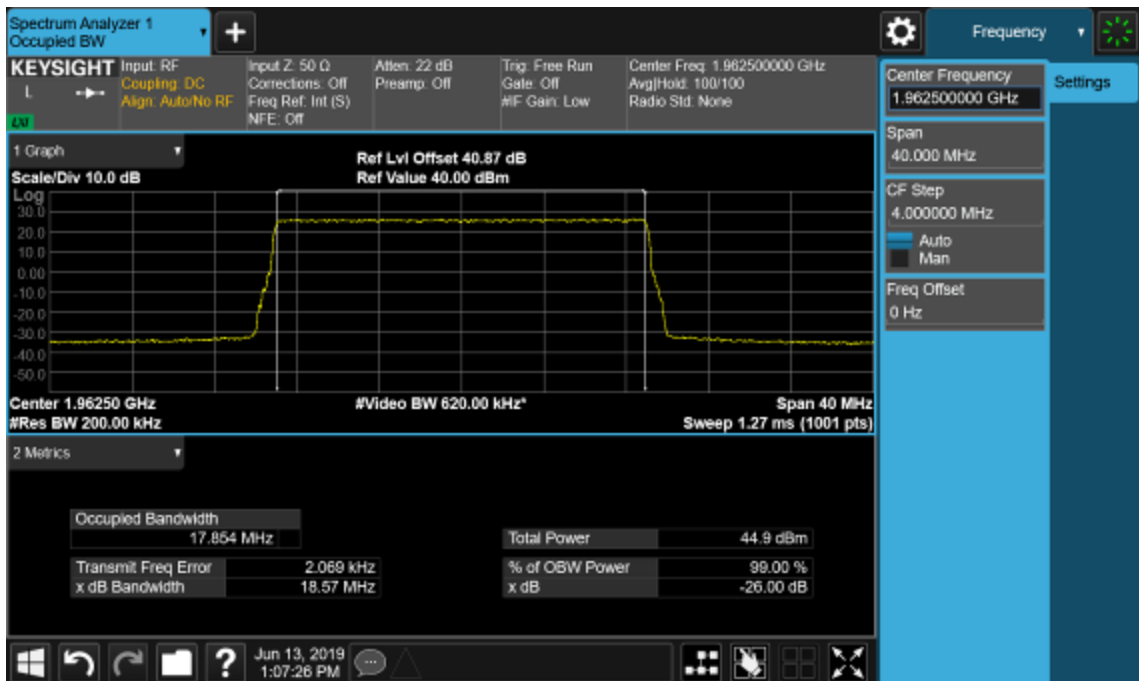
Port B, 64QAM/10.0MHz Channel Position M



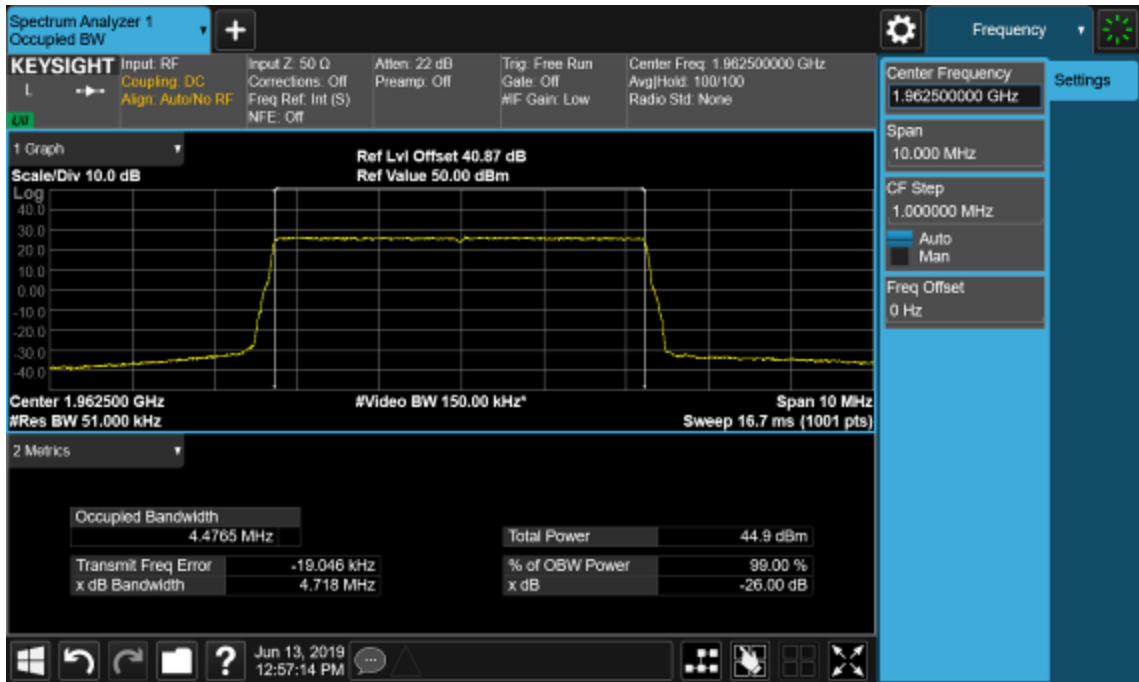
Port B, 64QAM/15.0MHz Channel Position M



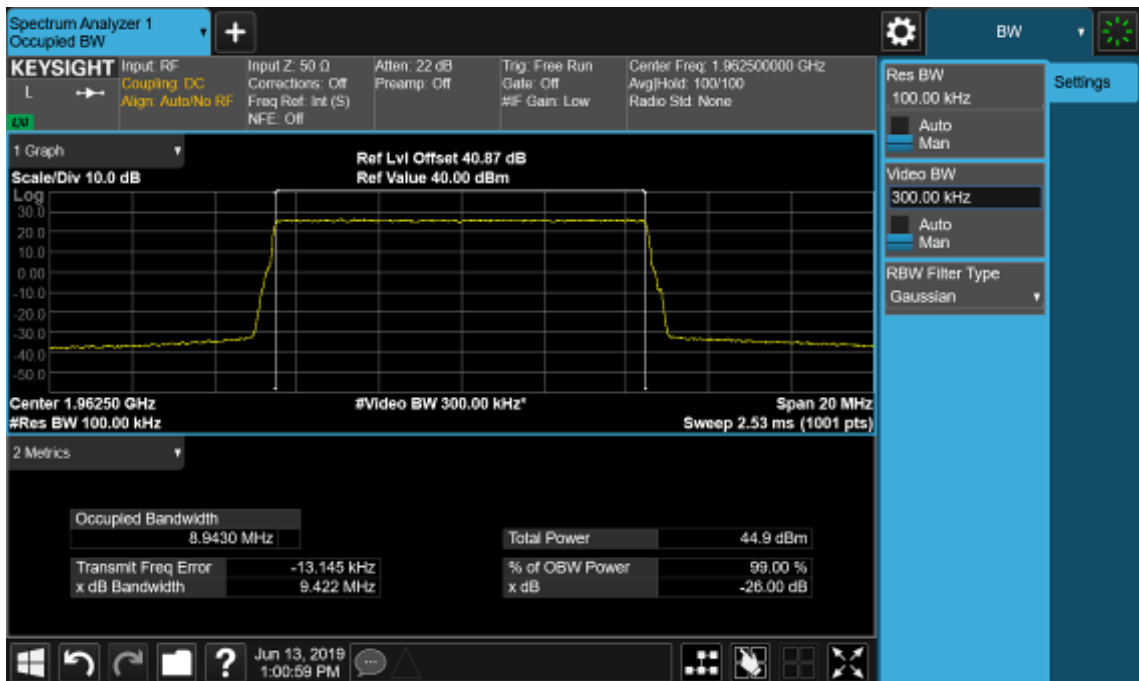
Port B, 64QAM/20.0MHz Channel Position M



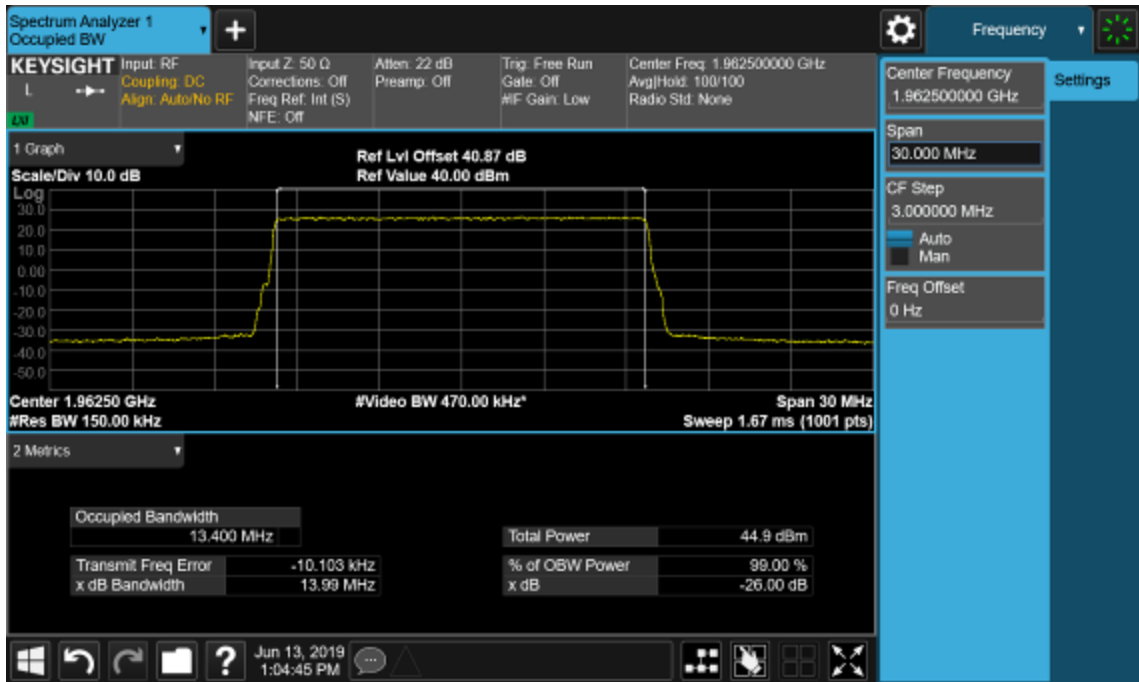
Port B, 256QAM/5.0MHz Channel Position M



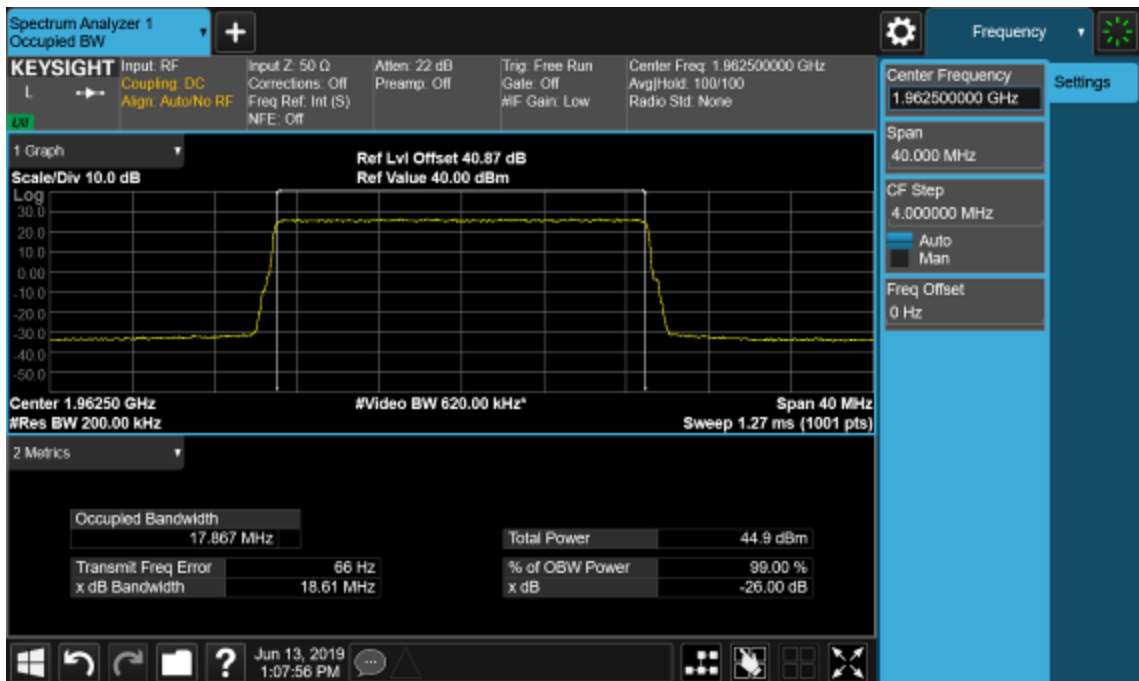
Port B, 256QAM/10.0MHz Channel Position M



Port B, 256QAM/15.0MHz Channel Position M



Port B, 256QAM/20.0MHz Channel Position M



Configuration NB-IoT-Standalone-1C
-26dBc Occupied Bandwidth

Modulation	Occupied Bandwidth (KHz)		
	Channel position B	Channel position M	Channel position T
QPSK	269.2	269.2	269.1

99% Occupied Bandwidth

Modulation	Occupied Bandwidth (KHz)		
	Channel position B	Channel position M	Channel position B
QPSK	193.10	193.96	192.61

Port B, QPSK Channel Position B



Port B, QPSK Channel Position M



Port B, QPSK Channel Position T



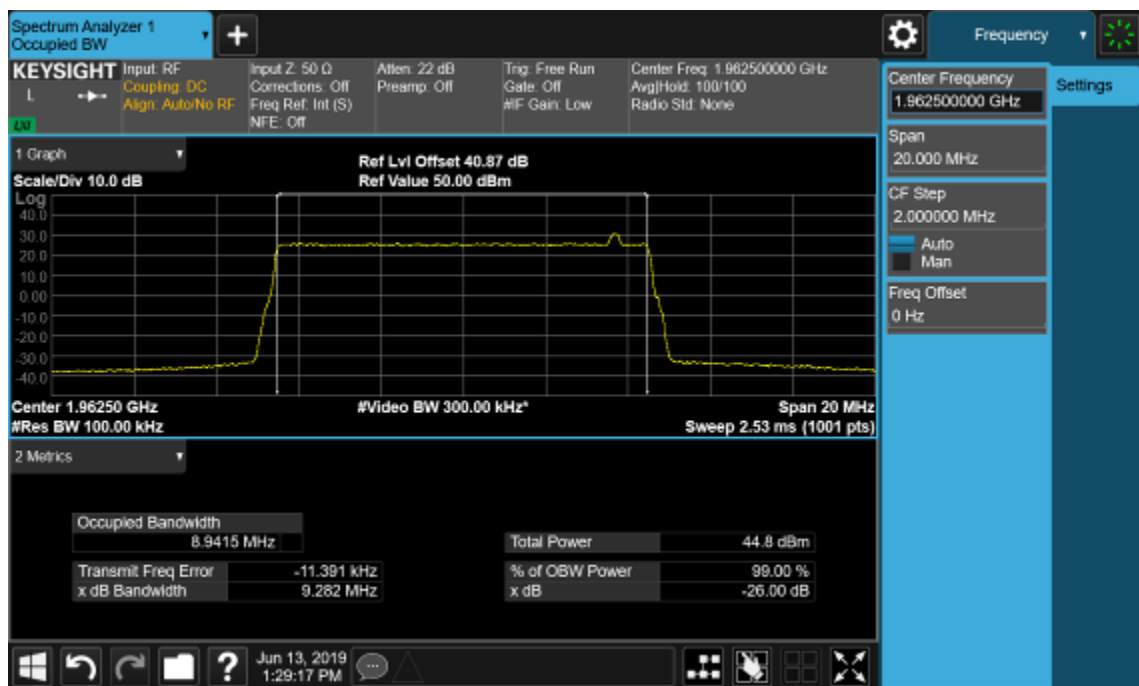
Configuration NB-IoT-InBand-1C
-26dBc Occupied Bandwidth

Modulation	Occupied Bandwidth (MHz)		
	Channel position B	Channel position M	Channel position T
QPSK	-	9.282	-

99% Occupied Bandwidth

Modulation	Occupied Bandwidth (MHz)		
	Channel position B	Channel position M	Channel position B
QPSK	-	8.9415	-

Port B, QPSK/10.0MHz Channel Position M



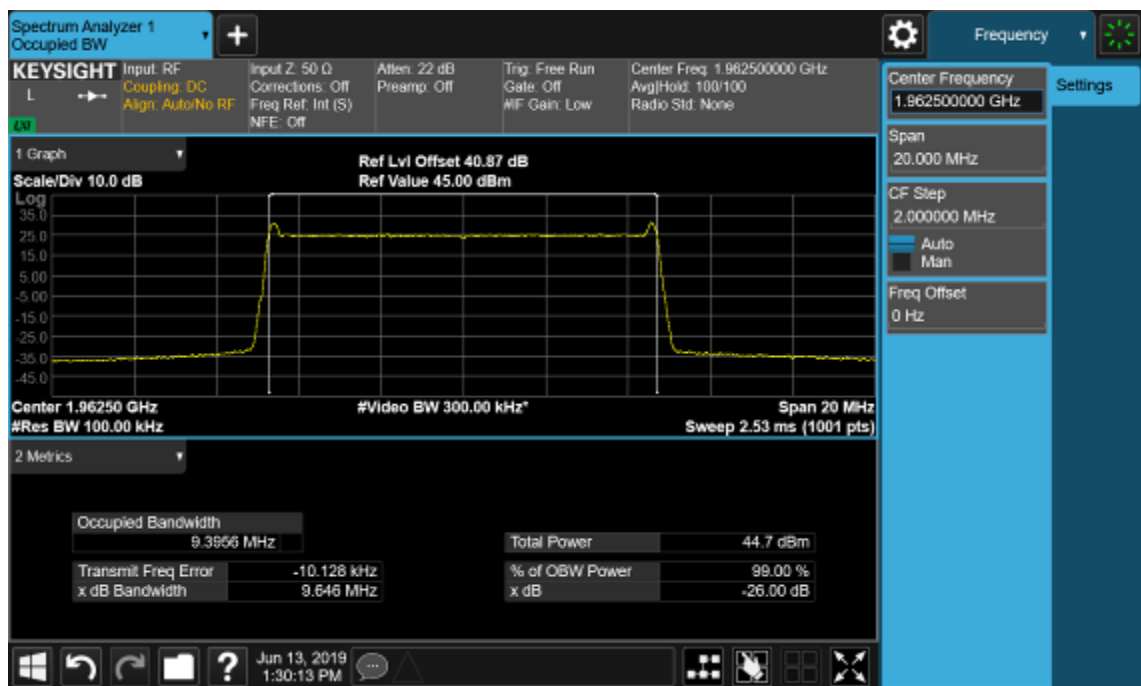
Configuration NB-IoT-GuardBand-1C
-26dBc Occupied Bandwidth

Modulation	Occupied Bandwidth (MHz)		
	Channel position B	Channel position M	Channel position T
QPSK	-	9.646	-

99% Occupied Bandwidth

Modulation	Occupied Bandwidth (MHz)		
	Channel position B	Channel position M	Channel position B
QPSK	-	9.3956	-

Port B, QPSK/10.0MHz Channel Position M





A.3 Spurious Emissions at Band Edge

A.3.1 Reference

FCC CFR 47 Part 2, Clause 2.1051
FCC CFR 47 Part 24, Clause 24.238 (b)
RSS-133, Clause 6.5

A.3.2 Method of measurement

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10\log(P)$ dB.

For MIMO mode configurations, the limit was adjusted with a correction of -6.02dB [$10\log 4$] by using the Measure and Add $10\log(N)$ dB technique according to FCC KDB 662911 D01 Multiple Transmitter Output accounting for simultaneous transmission from antenna ports RF A,B,C and D.

According to FCC rules, in the 1 MHz bands immediately outside and adjacent to the frequency block, a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed and a RBW of 1MHz for measurements of emissions > 1MHz away from the band edges. The limit was adjusted with -13.01dB [$10\log(50/1000)$] to compensate for the reduce measurement bandwidth 50KHz for emission more than 1MHz away from the band edges. For MIMO mode, the limit of -32.03dBm was used for emission more than 1MHz away from the band edges. For Non-MIMO mode, the limit of -26.01dBm was used for emission more than 1MHz away from the band edges. Spectrum analyser detector was set as RMS.

A.3.3 Measurement limit

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10\log(P)$ dB.

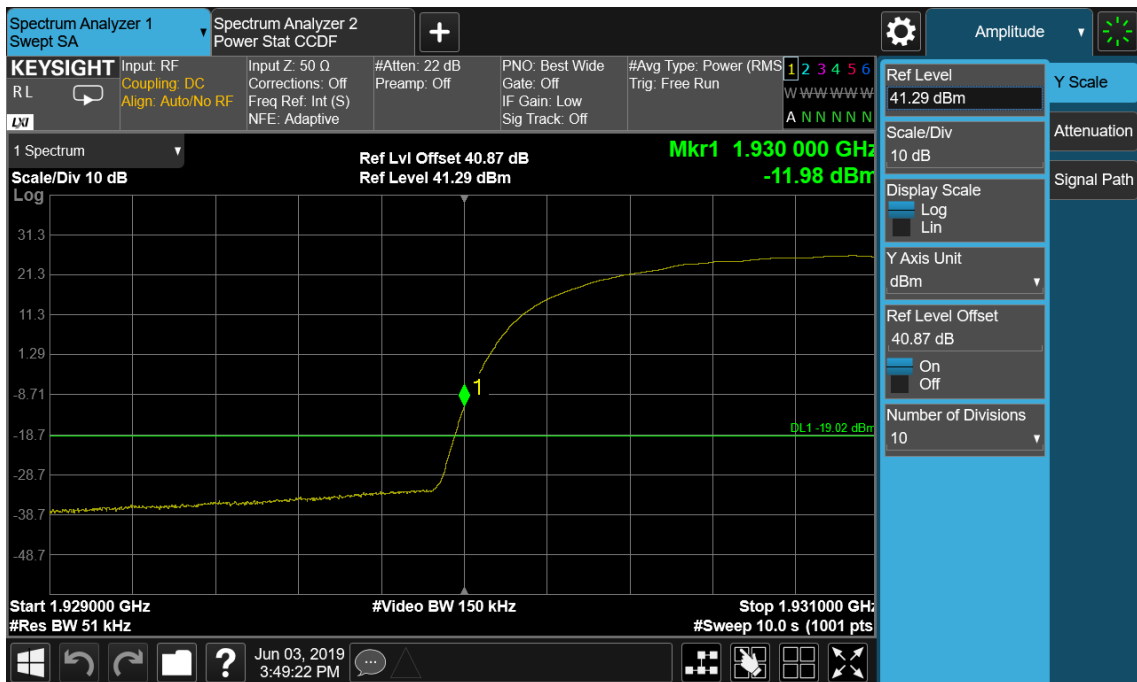


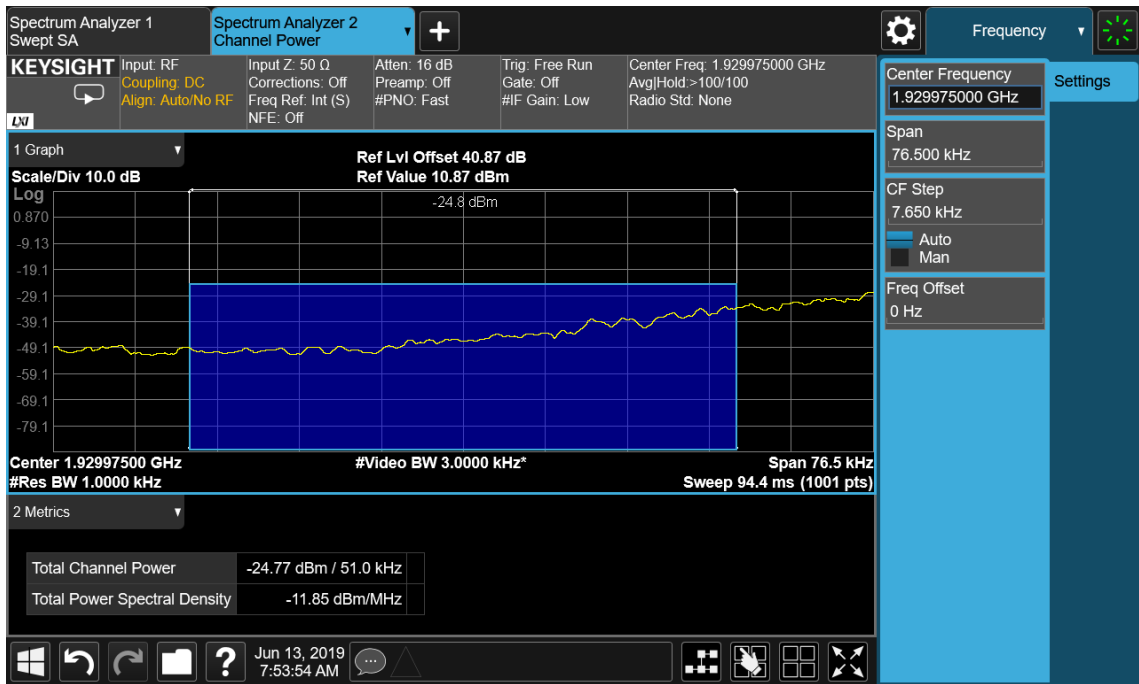
A.3.4 Measurement result

Configuration WCDMA-1C-BE, 64QAM

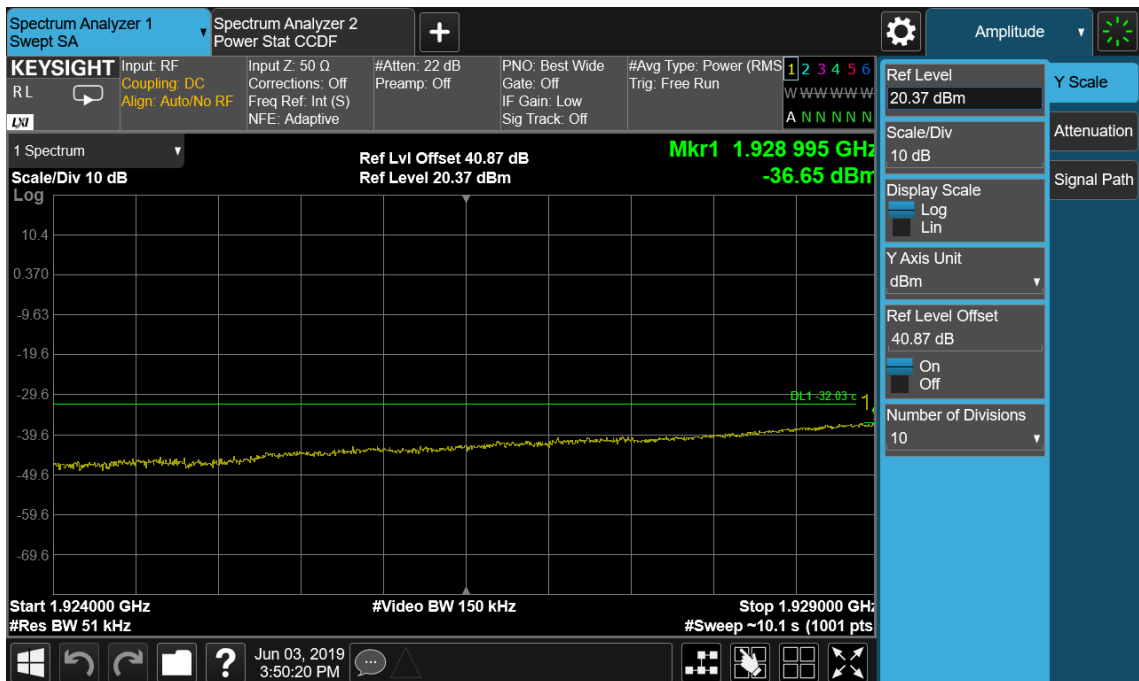
Modulation	Band Edge Frequency	Channel Bandwidth	RBW (KHz)	Limit (dBm)
64QAM	Channel Position B 1930.0MHz	5.0MHz	51	-19.02
	Channel Position T 1995.0MHz	5.0MHz	51	-19.02

Port B , Channel Position B, 64QAM



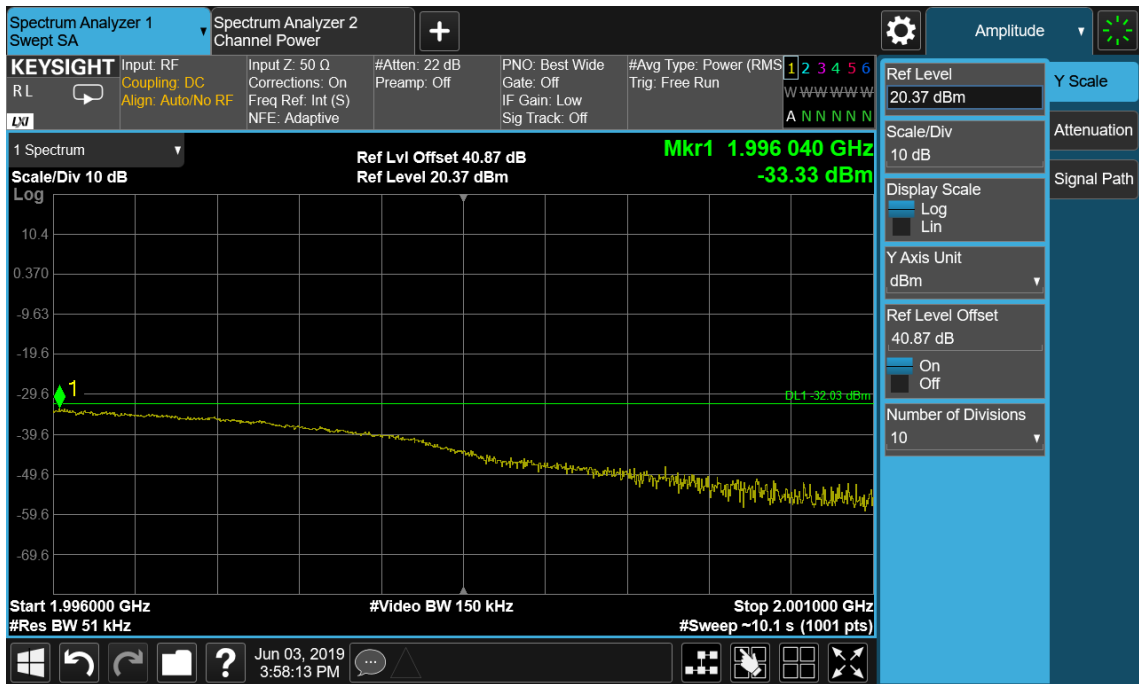
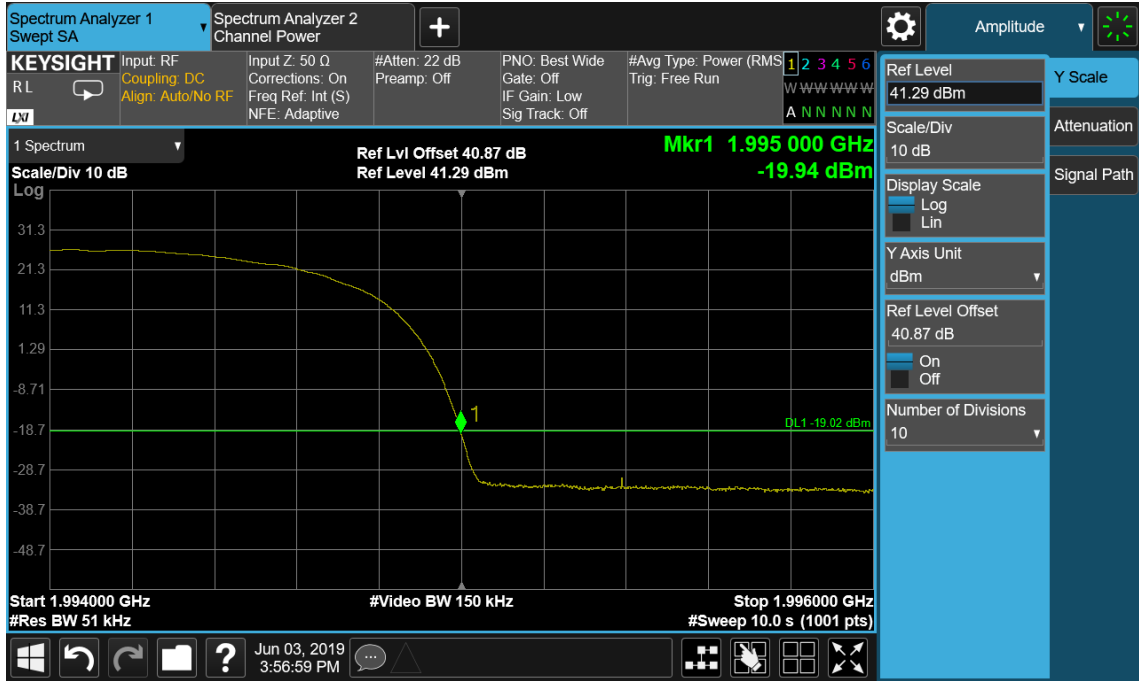


The channel power of 51KHz for 1929.975MHz is -24.77dBm, which is within the limit of -19.02dBm.





Port B, Channel Position T, 64QAM

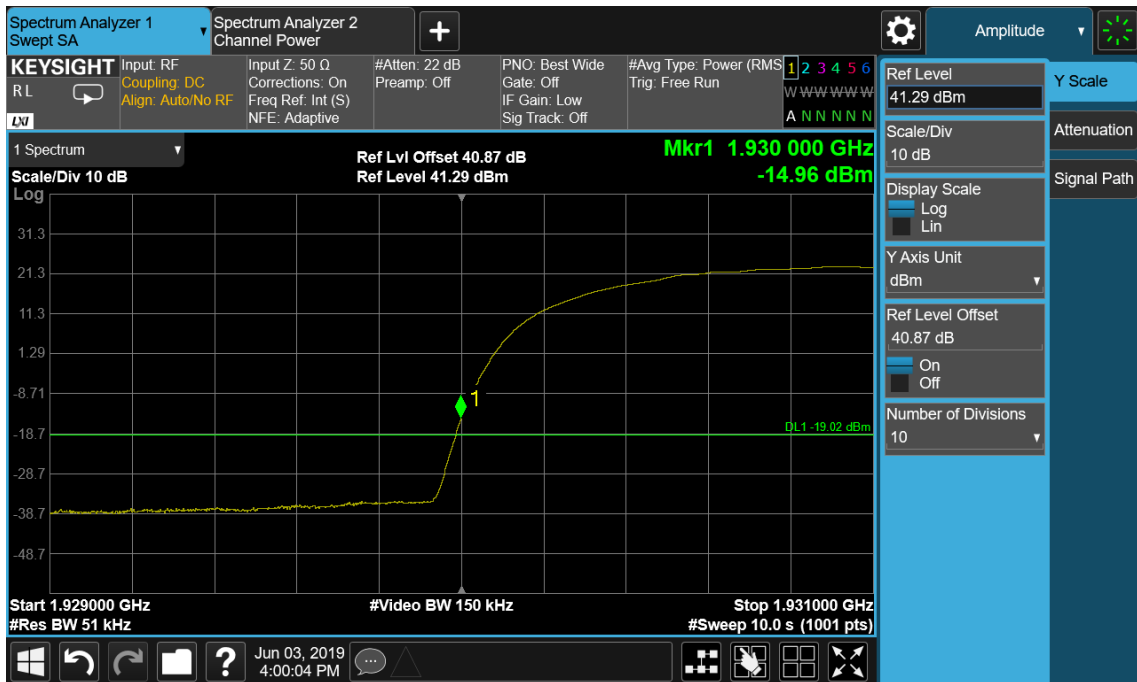


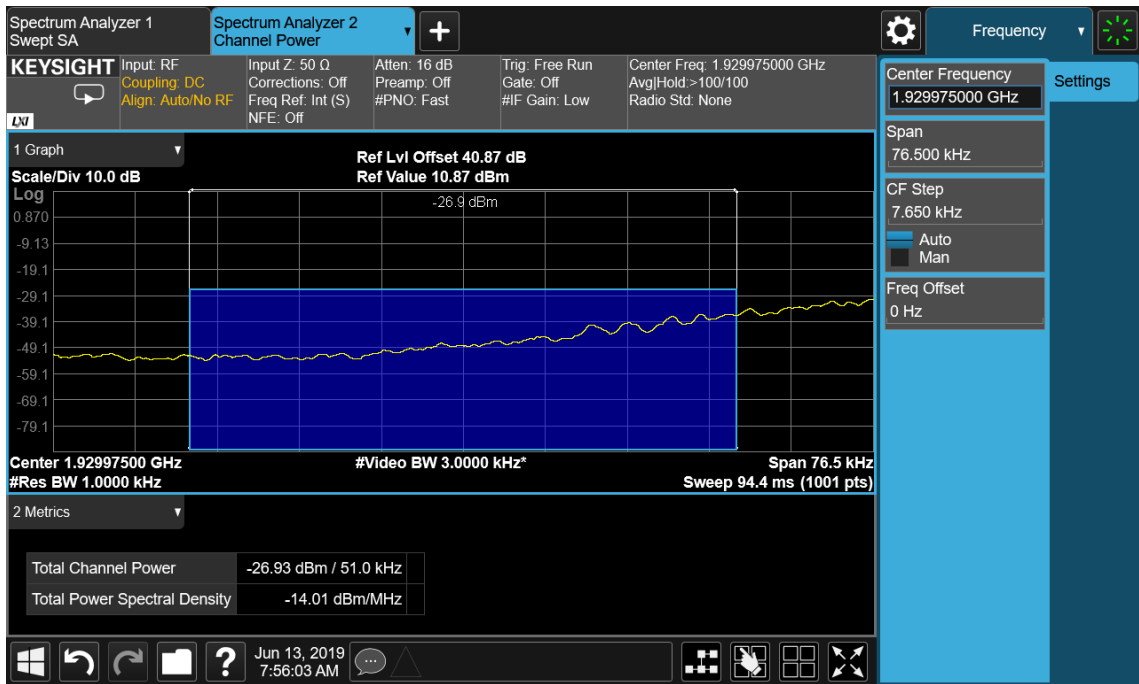


Configuration WCDMA-2C-BE, 64QAM

Modulation	Band Edge Frequency	Channel Bandwidth	RBW (KHz)	Limit (dBm)
64QAM	Channel Position B 1930.0MHz	5.0MHz	51	-19.02
	Channel Position T 1995.0MHz	5.0MHz	51	-19.02

Port B , Channel Position B, 64QAM





The channel power of 51KHz for 1929.975MHz is -26.93dBm, which is within the limit of -19.02dBm.

