



# TEST REPORT

No. I18Z60089-WMD01

for

**Ericsson AB (1900MHz) Radio 4415 B2 B25 KRC 161 636/3**

**Remote Radio Unit**

**FCC ID: TA8FKRC161636**

**IC: 287AB-FS161636**

**In accordance with FCC CFR 47 Part 24 and**

**ISED RSS-133: Issue 6**

**Issued Date: 2018-03-07**



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**Test Laboratory:**

**ISED(IC) accredited test site number: 12389B-1**

CTTL, Telecommunication Technology Labs, CAICT

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

Tel: +86(0)10-62304633-2512, Fax: +86(0)10-62304633-2504

Email: [ctl\\_terminals@caict.ac.cn](mailto:ctl_terminals@caict.ac.cn), website: [www.caict.ac.cn](http://www.caict.ac.cn)

## **REPORT HISTORY**

<b>Report Number</b>	<b>Revision</b>	<b>Description</b>	<b>Issue Date</b>
I18Z60089-WMD01	Rev.0	1 <sup>st</sup> edition	2018-03-07

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## **1. Test Laboratory**

### **1.1. Testing Location**

Location 1: CTTL(Kangding Road)

Address: No. 18, Kangding Road, Yizhuang, Beijing,  
P. R. China 100176

Location 2: CTTL(Shouxiang)

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

### **1.2. Project date**

Testing Start Date: 2018-01-22

Testing End Date: 2018-03-07

### **1.3. Signature**



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Shen Yi

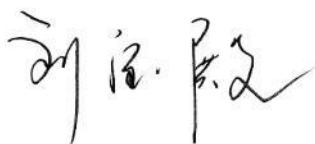
(Prepared this test report)



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Zhou Yu

(Reviewed this test report)



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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: Weiqun Chen  
Email: [Weiqun.chen@ericsson.com](mailto:Weiqun.chen@ericsson.com)  
Telephone: +86 10 8476 7227

### **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 4415 B2 B25
Product Number	KRC 161 636/3
FCC ID	TA8FKRC161636
IC	287AB-FS161636
Antenna	N/A
Output power	Maximum 46.0dBm (40W) per port
Power source	-48V DC
Serial Number	D826904717
Hardware Version	R5B
Software Version	PIS:CXP9017316%7_R70DA
Frequency range	B2: Rx: 1850-1910 MHz, Tx: 1930-1990 MHz B25: Rx: 1850-1915 MHz, Tx: 1930-1995 MHz
TX/RX configuration	4 TX / 4 RX
Maximum RF bandwidth (IBW)	GSM SR: 20MHz WCDMA SR: 65MHz LTE SR: 65 MHz for LTE BW>3 MHz, 20 MHz for LTE BW≤3 MHz GSM+WCDMA Mix Mode: 60MHz WCDMA+LTE Mix Mode: 65 MHz for LTE BW>3 MHz, 20 MHz for LTE carriers BW≤3 MHz GSM+LTE Mix Mode: 60 MHz for LTE BW>3 MHz, 20 MHz for LTE carriers BW≤3 MHz NB+GSM: 20MHz NB+WCDMA: 65MHz NB+LTE: 65 MHz for LTE BW>3 MHz, 20 MHz for LTE BW≤3 MHz NB+GSM+WCDMA: 60MHz, But clearance of NB and GSM shall be no larger than 20MHz NB+GSM+LTE: 60 MHz for LTE BW>3 MHz, 20 MHz for LTE carriers BW≤3 MHz, But clearance of NB and GSM shall be no larger than 20MHz NB+WCDMA+LTE: 65MHz
Total number of supported carriers per port	Maximum 6 carriers per port for all configuration except GSM single RAT maximum 4 carriers per port.
Supported modulations	GSM:GMSK,8PSK,AQPSK WCDMA: QPSK, 16QAM, 64QAM LTE: QPSK, 16QAM, 64QAM, 256QAM NB-IOT: QPSK
Date of receipt	2018-01-22

### 3.2. General Description

The Equipment Under Test (EUT) is an Ericsson Remote Radio Unit working in the public mobile service 1900MHz band which provides communication connections to 1900MHz network in GSM / WCDMA / LTE / NB-IoT modes and MSR modes. The Radio 4415 B2 B25 KRC 161 636/3 operates from a -48V DC supply.

The EUT includes 4 TX/RX ports and it can be configured to transmit in MIMO mode for 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 be representative for all traffic scenarios when settings with different modulations, channel bandwidths, number of carriers and RF configurations have been tested to find the worst case setting. The settings below were used for all measurements unless otherwise noted:

#### GSM

Configuration	Carrier	Carrier Frequency Configuration (MHz)		
		Bottom	Middle	Top
GSM-1C	1 Carrier	1930.4	1960.0	1989.6
GSM-2C	2 Carriers	1930.4 + 1950.0	1950.2 + 1969.8	1970.0 + 1989.6
GSM-4C	4 Carriers	1930.4 + 1936.8 + 1943.2 + 1950.0	1950.2+1956.6+1963.4 +1969.8	1970.0 + 1976.4 + 1982.4 + 1989.6
GSM-1C-BE	1 Carriers	1930.4	N/A	1989.6
GSM-2C-BE	2 Carriers	1930.4 + 1932.0	N/A	1988.0 + 1989.6
GSM-3C-BE	3 Carriers	1930.4 + 1932.0 + 1933.6	N/A	1986.4 + 1988.0 + 1989.6

#### WCDMA

Configuration	Carrier	Carrier Frequency Configuration (MHz)		
		Bottom	Middle	Top
WCDMA-1C	1 Carrier	1932.4	1962.6	1992.6
WCDMA-2C	2 Carriers	-	1932.4 + 1992.6	-
WCDMA-6C	6 Carriers	-	1932.4 + 1937.4 + 1942.4 + 1992.6 + 1987.6 + 1982.6	-
WCDMA-1C-BE	1 Carriers	1932.4	N/A	1992.6
WCDMA-2C-BE	2 Carriers	1932.4 + 1937.4	N/A	1992.6 + 1987.6

#### LTE

Configuration	Carrier	Carrier Bandwidth	Carrier Frequency Configuration (MHz)		
			Bottom	Middle	Top
LTE-MIMO-1C	1 Carrier	1.4MHz	1930.7	1962.5	1994.3
		3MHz	1931.5	1962.5	1993.5
		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

Configuration	Carrier	Carrier Bandwidth	Carrier Frequency Configuration (MHz)		
			Bottom	Middle	Top
LTE-MIMO-2C	2 Carriers	1.4MHz	1930.7 + 1949.3	1953.2 + 1971.8	1975.7 + 1994.3
		3MHz	1931.5 + 1948.5	1954.0 + 1971.0	1976.5 + 1993.5
		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	1.4MHz	1930.7 + 1932.1 + 1949.3	1953.2 + 1954.6 + 1971.8	1975.7 + 1977.1 + 1994.3
		3MHz	1931.5 + 1934.5 + 1948.5	1954.0 + 1957.0 + 1971.0	1976.5 + 1979.5 + 1993.5
		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	1.4MHz	1930.7 + 1932.1 + 1933.5 + 1949.3 + 1947.9 + 1946.5	1953.2 + 1954.6 + 1956 + 1969 + 1970.4 + 1971.8	1975.7 + 1977.1 + 1978.5 + 1991.5 + 1992.9 + 1994.3
		3MHz	1931.5 + 1934.5 + 1937.5 + 1948.5 + 1945.5 + 1942.5	1954.0 + 1957.0 + 1960.0 + 1965.0 + 1968.0 + 1971.0	1976.5 + 1979.5 + 1982.5 + 1987.5 + 1990.5 + 1993.5
		5MHz	-	1932.5 + 1937.5 + 1942.5 + 1992.5 + 1987.5 + 1982.5	-
		10MHz	-	1935 + 1945 + 1955 + 1990 + 1980 + 1970	-
LTE-MIMO-2C-BE	2 Carriers	1.4MHz	1930.7 + 1932.1	N/A	1992.9 + 1994.3
		3MHz	1931.5 + 1934.5	N/A	1990.5 + 1993.5
		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	1985.0 + 1965.0

### 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 Frequency Configuration (MHz)		
		Bottom	Middle	Top
NB-IOT-Standalone-1C	1 Carrier	1930.3	1962.5	1994.8

### WCDMA+LTE

Configuration	Carrier	LTE Carrier Bandwidth	Carrier Frequency Configuration (MHz)		
			Bottom	Middle	Top
WCDMA+LTE-M C-1	1W+1L	1.4MHz	-	(W)1932.4 + (L)1994.3	-
		3MHz	-	(W)1932.4 + (L)1993.5	-
		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-M C-2	3W+3L	1.4MHz	-	(W)1932.4 + (W)1937.4 + (W)1942.4 + (L)1991.5 + 1992.9 + 1994.3	-
		3MHz	-	(W)1932.4 + (W)1937.4 + (W)1942.4 + (L)1987.5 + (L)1990.5 + (L)1993.5	-
		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-M C-3	3W+2L	20MHz	-	(W)1932.4 + (W)1937.4 + (W)1942.4 + (L)1965 + (L)1985	-
WCDMA+LTE-M C-4	2W+1L	1.4MHz	-	(W)1932.4 + (W)1937.4 + (L)1994.3	-

### WCDMA+LTE

Configuration	Carrier	LTE Carrier Bandwidth	Carrier Frequency Configuration (MHz)		
			Bottom	Middle	Top
WCDMA+LTE-MI MO-MC-2-BE	1W+1L	1.4MHz	(L)1930.7 + (W)1934.0	N/A	(W)1991.0 + (L)1994.3
		3MHz	(L)1931.5 + (W)1935.6	N/A	(W)1989.4 + (L)1993.5
		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-MI MO-MC-4-BE	2W+1L	1.4MHz	(L)1930.7 + (W)1934.0 + (W)1939.0	N/A	(W)1986.0 + (W)1991.0 + (L)1994.3
		3MHz	(L)1931.5 + (W)1935.6 + (W)1940.6	N/A	(W)1984.4 + (W)1989.4 + (L)1993.5
		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

### GSM+WCDMA

Configuration	Carrier	Carrier Frequency Configuration (MHz)		
		Bottom	Middle	Top
GSM+WCDMA-M C-1	1G+1W	-	(G)1930.4+(W)1987.6	-
GSM+WCDMA-M C-2	4G+2W	-	(G)1930.4+(G)1932.2+(G) 1934.0+(G)1935.8+(W)19 82.6+(W)1987.6	-
GSM+WCDMA-M C-3	2G+1W	-	(G)1930.4+(G)1932.2+(W) 1987.6	-
GSM+WCDMA-M C-3-BE	1G+1W	(G)1930.4 + (W)1933.0	N/A	(W)1987.0 + (G)1989.6
GSM+WCDMA-M C-4-BE	2G+1W	(G)1930.4 + (G)1932.0 + (W)1934.8	N/A	(W)1985.2 + (G)1988.0 + (G)1989.6

## GSM+LTE

Configuration	Carrier	LTE Carrier Bandwidth	Carrier Frequency Configuration (MHz)		
			Bottom	Middle	Top
GSM+LTE-MIMO -MC-1	1G+1L	1.4MHz	(G)1930.4+(L)1949.3	(G)1950.2+(L)1969.3	(G)1975.2+(L)1989.3
		3MHz	(G)1930.4+(L)1948.5	(G)1950.2+(L)1968.5	(G)1975.2+(L)1988.5
		5MHz	-	(G)1930.4+(L)1987.5	-
		10MHz	-	(G)1930.4+(L)1985	-
		15MHz	-	(G)1930.4+(L)1982.5	-
		20MHz	-	(G)1930.4+(L)1980	-
GSM+LTE-MIMO -MC-2	2G+1L	1.4MHz	(G)1930.4+(G)1935.8+(L) 1949.3	(G)1950.2+(G)1955.8+(L) 1969.3	(G)1970.2+(G)1975.8+(L) 1989.3
		3MHz	(G)1930.4+(G)1935.8+(L) 1948.5	(G)1950.2+(G)1955.8+(L) 1968.5	(G)1970.2+(G)1975.8+(L) 1988.5
		5MHz	-	(G)1930.4+(G)1935.8+(L) 1987.5	-
		10MHz	-	(G)1930.4+(G)1935.8+(L) 1985	-
		15MHz	-	(G)1930.4+(G)1935.8+(L) 1982.5	-
		20MHz	-	(G)1930.4+(G)1935.8+(L) 1980	-
GSM+LTE-MIMO -MC-3	4G+2L	1.4MHz	(G)1930.4 + (G)1931+ (L)1939.3 + (L)1940.7 + (G)1949.4 + (G)1950	(G)1950.2 + (G)1950.8+ (L)1959.3 + (L)1960.7 + (G)1969.2 + (G)1969.8	(G)1970.2 + (G)1970.8+ (L)1979.3 + (L)1980.7 + (G)1989 + (G)1989.6
		3MHz	(G)1930.4 + (G)1931+ (L)1938.5 + (L)1941.5 + (G)1949.4 + (G)1950	(G)1950.2 + (G)1950.8+ (L)1958.5 + (L)1961.5 + (G)1969.2 + (G)1969.8	(G)1970.2 + (G)1970.8+ (L)1978.5 + (L)1981.5 + (G)1989 + (G)1989.6
		5MHz	-	(G)1930.4 + (G)1932.2+ (G)1934 + (G)1935.8 + (L)1982.5 + (L)1987.5	-
		10MHz	-	(G)1930.4 + (G)1932.2+ (G)1934 + (G)1935.8 + (L)1975 + (L)1985	-
		15MHz	-	(G)1930.4 + (G)1932.2+ (G)1934 + (G)1935.8 + (L)1967.5 + (L)1982.5	-
		20MHz	-	(G)1930.4 + (G)1932.2+ (G)1934 + (G)1935.8 + (L)1960 + (L)1980	-

## GSM+LTE

Configuration	Carrier	LTE Carrier Bandwidth	Carrier Frequency Configuration (MHz)		
			Bottom	Middle	Top
GSM+LTE-MIMO -MC-3-BE	1G+1L	1.4MHz	(G)1930.4 + (LTE)1931.2	N/A	(LTE)1988.8 + (G)1989.6
		5MHz	(G)1930.4 + (LTE)1933.0	N/A	(LTE)1987.0 + (G)1989.6
		20MHz	(G)1930.4 + (LTE)1940.5	N/A	(LTE)1979.5 + (G)1989.6
GSM+LTE-MIMO -MC-4-BE	2G+1L	1.4MHz	(G)1930.4 + (G)1932.0 + (L)1932.9	N/A	(L)1987.1 + (G)1988.0 + (G)1989.6
		3MHz	(G)1930.4 + (G)1932.0 + (L)1933.7	N/A	(L)1986.3 + (G)1988.0 + (G)1989.6
		5MHz	(G)1930.4 + (G)1932.0 + (L)1934.7	N/A	(L)1985.3 + (G)1988.0 + (G)1989.6
		20MHz	(G)1930.4 + (G)1932.0 + (L)1942.2	N/A	(L)1977.8 + (G)1988.0 + (G)1989.6

## NB-IOT+GSM

Configuration	Carrier	Carrier Frequency Configuration (MHz)		
		Bottom	Middle	Top
NB-IOT+GSM-M C-1	1NB+1 G	(G)1930.4+(NB)1949.8	(G)1950.2+(NB)1969.8	(G)1970.2+(NB)1989.8
NB-IOT+GSM-M C-2	1NB+3 G	(G)1930.4+1932.2+1934+ (NB)1949.8	(G)1950.2+1952+1953.8+ (NB)1969.8	(G)1970.2+1971+1971.8+ (NB)1989.8
NB-IOT+GSM-M C-3	1NB+2 G	(G)1930.4+1932.2+(NB)1 949.8	(G)1950.2+1952+1953.8+ (NB)1969.8	(G)1970.2+1971+(NB)198 9.8
NB-IOT+GSM-M C-3-BE	1NB+1 G	(NB)1930.3 + (G)1930.6	N/A	(G)1989.4 + (NB)1989.8
NB-IOT+GSM-M C-4-BE	1NB+2 G	(NB)1930.3 + (G)1930.6 + (G)1932.2	N/A	(G)1987.8 + (G)1989.4 + (NB)1989.8

### NB-IOT+WCDMA

Configuration	Carrier	Carrier Frequency Configuration (MHz)		
		Bottom	Middle	Top
NB-IOT+WCDMA -MC-1	1NB+1 W	-	(NB)1930.3+(W)1992.6	-
NB-IOT+WCDMA -MC-2	1NB+5 W	-	(NB)1930.3+(W)1955+197 60+1965+1970+1992.6	-
NB-IOT+WCDMA -MC-3	1NB+2 W	-	(NB)1930.3+(W)1970+199 2.6	-
NB-IOT+WCDMA -MC-3-BE	1NB+1 W	(NB)1930.3 + (W)1933	N/A	(W)1992.2 + (NB)1994.8
NB-IOT+WCDMA -MC-4-BE	1NB+2 W	(NB)1930.3 + (W)1933 + 1938	N/A	(W)1987.2 + 1992.2 + (NB)1994.8

### NB-IOT+LTE

Configuration	Carrier	LTE Carrier Bandwidth	Carrier Frequency Configuration (MHz)		
			Bottom	Middle	Top
NB-IOT+LTE-MI MO-MC-1	1NB+1	1.4MHz	(NB)1930.3+(L)1949.3	(NB)1952.7+(L)1971.8	(NB)1975.2+(L)1994.3
		3MHz	(NB)1930.3+(L)1948.5	(NB)1952.7+(L)1971.0	(NB)1975.2+(L)1993.5
		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	-
NB-IOT+LTE-MI MO-MC-2	1NB+5L	1.4MHz	(NB)1930.3+(L)1937.9+19 39.3+1940.7+1942.1+194 9.3	(NB)1952.7+(L)1960.4+19 61.8+1963.2+1964.6+197 1.8	(NB)1975.2+(L)1982.9+19 84.3+1985.7+1987.1+ 1994.3
		3MHz	(NB)1930.3+(L)1935.5+19 38.5+1941.5+1944.5+194 8.5	(NB)1952.7+(L)1958+196 1+1964+1967+1971	(NB)1975.2+(L)1980.5+19 83.5+1986.5+1989.5+ 1993.5
		5MHz	-	(NB)1930.3+(L)1955+197 60+1965+1970+ 1992.5	-
NB-IOT+LTE-MI MO-MC-5	1NB+2L	15MHz	-	(NB)1930.3+(L)1962.5+19 87.5	-
NB-IOT+LTE-MI MO-MC-3-BE	1NB+1L	1.4MHz	(NB)1930.3 + (L)1931.2	N/A	(L)1993.9 + (NB)1994.8
		3MHz	(NB)1930.3 + (L)1932.0	N/A	(L)1993.1 + (NB)1994.8
		5MHz	(NB)1930.3 + (L)1933.0	N/A	(L)1992.1 + (NB)1994.8
NB-IOT+LTE-MI MO-MC-4-BE	1NB+2L	1.4MHz	(NB)1930.3 + (L)1931.2 + 1932.6	N/A	(L)1992.5 + 1993.9 + (NB)1994.8
		3MHz	(NB)1930.3 + (L)1932.0 + 1935.0	N/A	(L)1990.1 + 1993.1 + (NB)1994.8
		5MHz	(NB)1930.3 + (L)1933.0 + 1938.0	N/A	(L)1987.1 + 1992.1 + (NB)1994.8

#### NB-IOT+GSM+WCDMA

Configuration	Carrier	Carrier Frequency Configuration (MHz)		
		Bottom	Middle	Top
NB-IOT+GSM+W CDMA-MC-1	1NB+1 G+1W	(G)1930.4+(W)1940+(NB) 1949.8	(G)1950.2+(W)1960+(NB) 1969.8	(G)1970.2+(W)1980+(NB) 1989.8
NB-IOT+GSM+W CDMA-MC-2	1NB+1 G+3W	(G)1930.4+(W)1935+1940 +1945+(NB)1949.8	(G)1950.2+(W)1955+1960 +1965+(NB)1969.8	(G)1970.2+(W)1975+1980 +1985+(NB)1989.8
NB-IOT+GSM+W CDMA-MC-3	1NB+2 G+1W	(G)1930.4+1932.2+(W)19 40+(NB)1949.8	(G)1950.2+1952.2+(W)19 60+(NB)1969.8	(G)1970.2+1972.2+(W)19 80+(NB)1989.8
NB-IOT+GSM+W CDMA-MC-3-BE	1NB+1 G+1W	(NB)1930.3 + (G)1930.6 + (W)1933.2	N/A	(W)1987.0+(G)1989.6+(N B)1989.8
NB-IOT+GSM+W CDMA-MC-4-BE	1NB+2 G+1W	(NB)1930.3 + (G)1930.6 + 1932.2 + (W)1934.8	N/A	(W)1985.4+(G)1988.0+19 89.6+(NB)1989.8

#### NB-IOT+GSM+LTE

Configuration	Carrier	LTE Carrier Bandwidth	Carrier Frequency Configuration (MHz)		
			Bottom	Middle	Top
NB-IOT+GSM+LT E-MIMO-MC-1	1NB+1	1.4MHz	(G)1930.4+(L)1940+(NB)1 949.8	(G)1950.2+(L)1960+(NB)1 969.8	(G)1970.2+(L)1980+(NB)1 989.8
	G+1L	5MHz	(G)1930.4+(L)1940+(NB)1 949.8	(G)1950.2+(L)1960+(NB)1 969.8	(G)1970.2+(L)1980+(NB)1 989.8
NB-IOT+GSM+LT E-MIMO-MC-2	1NB+1	1.4MHz	(G)1930.4+(L)1938.6+194 0+1941.4+(NB)1949.8	(G)1950.2+(L)1958.4+196 0+1961.4+(NB)1969.8	(G)1970.2+(L)1978.6+198 0+1981.4+(NB)1989.8
	G+3L	5MHz	(G)1930.4+(L)1935+1940 +1945+(NB)1949.8	(G)1950.2+(L)1955+1960 +1965+(NB)1969.8	(G)1970.2+(L)1975+1980 +1985+(NB)1989.8
NB-IOT+GSM+LT E-MIMO-MC-3	1NB+2 G+1L	5MHz	(G)1930.4+1932.2+(L)194 0+(NB)1949.8	(G)1950.2+1952.2+(L)196 0+(NB)1969.8	(G)1970.2+1972.2+(L)198 0+(NB)1989.8
NB-IOT+GSM+LT E-MIMO-MC-3-B E	1NB+1	1.4MHz	(NB)1930.3 + (G)1930.6 + (L)1931.4	N/A	(L)1988.6 + (G)1989.4 + (NB)1989.8
	G+1L	5MHz	(NB)1930.3 + (G)1930.6 + (L)1933.2	N/A	(L)1986.8 + (G)1989.4 + (NB)1989.8
NB-IOT+GSM+LT E-MIMO-MC-4-B E	1NB+2	1.4MHz	(NB)1930.3 + (G)1930.6 + 1932.2 + (L)1933	N/A	(L)1987.0 + (G)1987.8 + 1989.4 + (NB)1989.8
	G+1L	5MHz	(NB)1930.3 + (G)1930.6 + 1932.2 + (L)1934.8	N/A	(L)1985.2 + (G)1987.8 + 1989.4 + (NB)1989.8

NB-IOT+WCDMA+LTE

Configuration	Carrier	LTE Carrier Bandwidth	Carrier Frequency Configuration (MHz)		
			Bottom	Middle	Top
NB-IOT+WCDMA +LTE-MIMO-MC- 1	1NB+1	1.4MHz	(NB)1930.3+(W)1940+(L) 1949.3	(NB)1952.7+(W)1962.4+( L)1971.8	(NB)1975.2+(W)1985+(L) 1994.3
	W+1L	5MHz	-	(NB)1930.3+(W)1962.4+( L)1992.5	-
NB-IOT+WCDMA +LTE-MIMO-MC- 2	1NB+3 W+2L	5MHz	-	(NB)1930.2+(W)1952.4+1 957.4+1962.4+(L)1967.4+ 1992.5	-
NB-IOT+WCDMA +LTE-MIMO-MC- 3	1NB+2 W+1L	5MHz	-	(NB)1930.3+(W)1960+196 5+(L)1992.5	-
NB-IOT+WCDMA +LTE-MIMO-MC- 3-BE	1NB+1	1.4MHz	(NB)1930.3 + (L)1931.2 + (W)1934.4	N/A	(W)1990.6 + (L)1993.9 + (NB)1994.8
	W+1L	5MHz	(NB)1930.3 + (L)1933.0 + (W)1938.0	N/A	(W)1987.1 + (L)1992.1 + (NB)1994.8
NB-IOT+WCDMA +LTE-MIMO-MC- 4-BE	1NB+2	1.4MHz	(NB)1930.3 + (L)1931.2 + 1932.6 + 1934.0 + (W)1937.2 + 1942.2	N/A	(W)1982.8 + 1987.8 + (L)1991.1 + 1992.5 + 1993.9 + (NB)1994.8
	W+3L	5MHz	(NB)1930.3 + (L)1933.0 + 1938.0 + 1943.0 + (W)1948.0 + 1953.0	N/A	(W)1972.0 + 1977.0 + (L)1982.1 + 1987.1 + 1992.1 + (NB)1994.8



## 4. Reference Documents

### 4.1. Reference Documents for testing

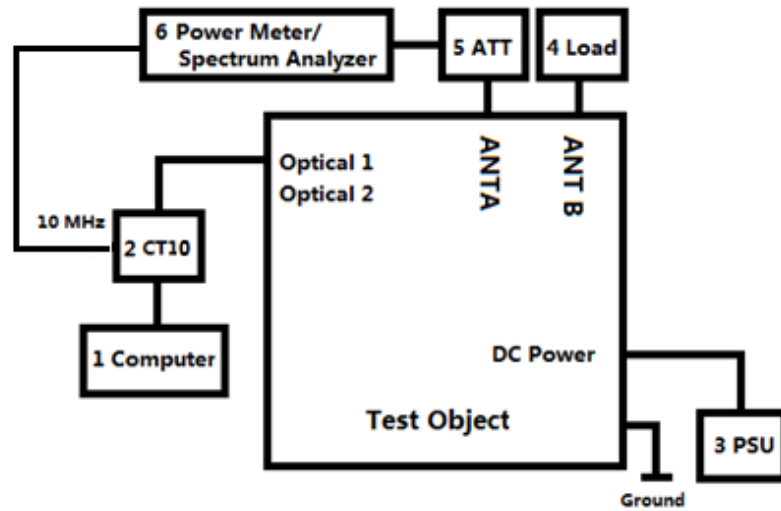
The following documents listed in this section are referred for testing.

Reference	Title	Version
FCC Part 24	PERSONAL COMMUNICATIONS SERVICES	10-1-16 Edition
FCC Part 2	FREQUENCY ALLOCATIONS AND RADIO TREATY MATTERS; GENERAL RULES AND REGULATIONS	10-1-16 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
KDB 971168 D01	MEASUREMENT GUIDANCE FOR CERTIFICATION OF LICENSED DIGITAL TRANSMITTERS	v03
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 4 2014
RSS 133	2 GHz Personal Communications Services	Issue 6 2018 amendment

Note: RSS 133 Issue 6 2018 amendment is not in the scope of ISO 17025 accreditation by NVLAP.

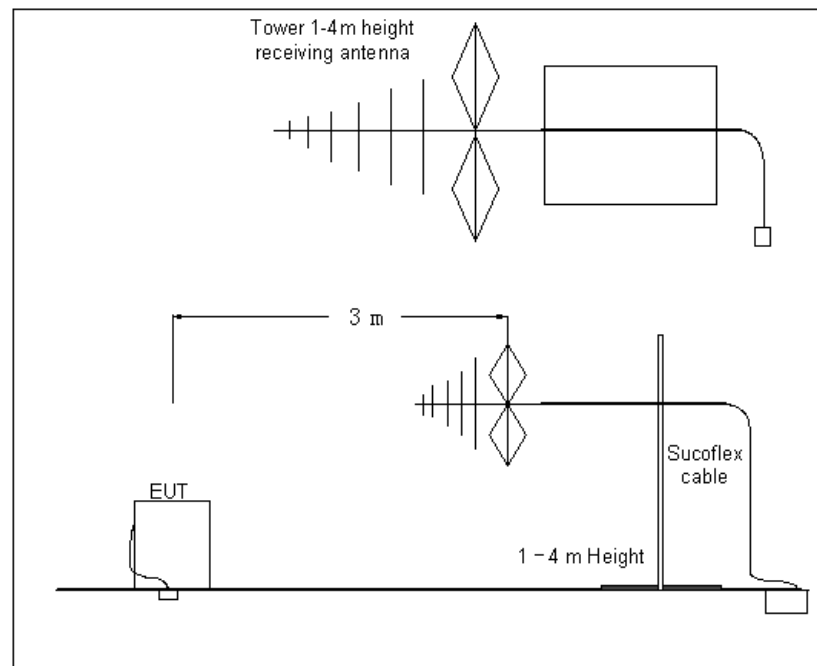
## 5. TEST SETUP

Test Setup, Conducted Measurement:



No.	Auxilliary Equipment	Model Type	Version
1	Computer	HP EliteBook 8540w	-
2	CT10	LPC 102 487/1	R1C
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 1 GHz to 18 GHz
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 IC 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 <sup>1</sup>
3	Occupied Bandwidth	24.238(b), 2.1049(h)	RSS-133 6.6	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/A<sup>1</sup> - 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	AC Power Supply	PCR2000M	PJ000583	Kikusui	2019-02-24
2	Load	TF150	11081907	Shanghai Huaxiang	-
3	40dB Attenuator	66-40-33	CD4019	Aeroflex / Weinschel	-
4	40dB Attenuator	TSG150R-4-40N11	1511040001	Nanjing Jiexi Technologies	-
5	Spectrum Analyzer	N9030	MY54490239	Keysight	2018-08-02
6	Power Sensor	NRP-Z91	103104	Rohde & Schwarz	2019-01-18
7	Power Sensor	NRP-Z21	102432	Rohde & Schwarz	2018-08-04
8	Power Meter	NRP2	105423-GL	Rohde & Schwarz	2018-08-15
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	2018-12-27
13	Climate Chamber	GPS-4	0010-003512	ESPEC	2018-05-23

## 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:

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

1640 W/MHz or 62.15 dBm/MHz for emission bandwidth > 1MHz

IC: base station transmitters operating in the band 1930-1995 MHz shall not have output power exceeding 100 watts

Peak to Average Ratio: 13 dB

#### A.1.4 Measurement result

##### Configuration GSM-1C

Maximum Output Power 43.0dBm 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)
B	GMSK	43.03	-	0.25	43.04	-	0.24	43.16	-	0.24
	8PSK	42.93	-	3.38	42.95	-	3.40	42.99	-	3.40
	AQPSK	43.06	-	3.58	43.10	-	3.54	43.22	-	3.53

##### Configuration GSM-2C

Maximum Output Power 46.0dBm 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)
B	GMSK	44.51	-	-	44.72	-	-	44.65	-	-
	8PSK	43.56	-	-	43.79	-	-	43.69	-	-
	AQPSK	43.98	-	-	44.08	-	-	44.05	-	-

##### Configuration GSM-4C

Maximum Output Power 46.0dBm 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)
B	GMSK	44.26	-	-	44.66	-	-	44.71	-	-
	8PSK	42.18	-	-	42.79	-	-	42.60	-	-
	AQPSK	42.50	-	-	43.02	-	-	42.96	-	-

##### Configuration WCDMA-1C

Maximum Output Power 46.0dBm 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)
B	QPSK	45.96	38.97	6.32	46.38	39.12	6.27	45.98	39.00	6.32



### Configuration WCDMA-2C

Maximum Output Power 46.0dBm 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)
B	QPSK	-	-	-	45.45	-	-	-	-	-

### Configuration WCDMA-6C

Maximum Output Power 46.0dBm 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)
B	QPSK	-	-	-	45.69	-	-	-	-	-

### Configuration WCDMA-1C

Maximum Output Power 46.0dBm 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)
B	16QAM	46.05	38.98	6.28	46.46	39.37	6.24	46.05	39.02	6.28

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)
B	64QAM	46.06	39.10	6.29	46.51	39.34	6.23	46.09	38.91	6.28

### Configuration WCDMA-2C

Maximum Output Power 46.0dBm 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)
B	16QAM	-	-	-	45.58	-	-	-	-	-

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)
B	64QAM	-	-	-	45.57	-	-	-	-	-

### Configuration WCDMA-6C

Maximum Output Power 46.0dBm 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)
B	16QAM	-	-	-	45.81	-	-	-	-	-

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)
B	64QAM	-	-	-	45.77	-	-	-	-	-

Configuration LTE-MIMO-1C

Maximum Output Power 43.0dBm per port

Antenna	Modulation/ Carrier	Output Power / Peak to Average Ratio (PAR)								
	Bandwidth  (MHz)	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/1.4	42.94	-	-	43.02	41.73	8.34	42.97	-	-
B		43.35	-	-	43.48	41.96	8.26	43.40	-	-
C		42.70	-	-	42.95	41.69	8.35	42.81	-	-
D		42.58	-	-	42.66	41.75	8.28	42.56	-	-
Total		48.92	-	-	49.06	47.80	-	48.97	-	-

Antenna	Modulation/ Carrier	Output Power / Peak to Average Ratio (PAR)								
	Bandwidth  (MHz)	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/1.4	-	-	-	42.99	-	-	-	-	-
B		-	-	-	43.49	-	-	-	-	-
C		-	-	-	43.00	-	-	-	-	-
D		-	-	-	42.73	-	-	-	-	-
Total		-	-	-	49.08	-	-	-	-	-

Antenna	Modulation/ Carrier	Output Power / Peak to Average Ratio (PAR)								
	Bandwidth  (MHz)	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/1.4	-	-	-	43.05	-	-	-	-	-
B		-	-	-	43.51	-	-	-	-	-
C		-	-	-	42.99	-	-	-	-	-
D		-	-	-	42.74	-	-	-	-	-
Total		-	-	-	49.10	-	-	-	-	-

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  /1.4	-	-	-	43.02	-	-	-	-	-
B		-	-	-	43.48	-	-	-	-	-
C		-	-	-	42.90	-	-	-	-	-
D		-	-	-	42.74	-	-	-	-	-
Total		-	-	-	49.06	-	-	-	-	-

Maximum Output Power 43.0dBm 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/3.0	43.00	-	-	43.09	38.45	8.38	43.07	-	-
B		43.40	-	-	43.48	38.55	8.20	43.48	-	-
C		42.76	-	-	42.96	38.47	8.36	42.87	-	-
D		42.59	-	-	42.70	38.52	8.38	42.61	-	-
Total		48.97	-	-	49.09	44.52	-	49.04	-	-

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/3.0	-	-	-	43.07	-	-	-	-	-
B		-	-	-	43.51	-	-	-	-	-
C		-	-	-	42.97	-	-	-	-	-
D		-	-	-	42.72	-	-	-	-	-
Total		-	-	-	49.10	-	-	-	-	-

Antenna	Modulation/ Carrier	Output Power / Peak to Average Ratio (PAR)								
	Bandwidth  (MHz)	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/3.0	-	-	-	43.09	-	-	-	-	-
B		-	-	-	43.50	-	-	-	-	-
C		-	-	-	42.98	-	-	-	-	-
D		-	-	-	42.74	-	-	-	-	-
Total		-	-	-	49.11	-	-	-	-	-

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  /3.0	-	-	-	43.04	-	-	-	-	-
B		-	-	-	43.47	-	-	-	-	-
C		-	-	-	42.93	-	-	-	-	-
D		-	-	-	42.66	-	-	-	-	-
Total		-	-	-	49.06	-	-	-	-	-

Maximum Output Power 46.0dBm 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	45.69	-	-	46.06	39.36	7.26	45.73	-	-
B		46.06	-	-	46.46	39.42	7.27	46.11	-	-
C		45.49	-	-	45.97	39.19	7.26	45.61	-	-
D		45.34	-	-	45.69	39.26	7.26	45.32	-	-
Total		51.67	-	-	52.07	45.33	-	51.72	-	-

Antenna	Modulation/ Carrier Bandwidth  (MHz)	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER	POWER	PAR	POWER	POWER	PAR	POWER	POWER	PAR
		(dBm)	(dBm/MHz)	(db)	(dBm)	(dBm/MHz)	(db)	(dBm)	(dBm/MHz)	(db)
A	16QAM/5.0	-	-	-	46.05	-	-	-	-	-
B		-	-	-	46.45	-	-	-	-	-
C		-	-	-	45.99	-	-	-	-	-
D		-	-	-	45.72	-	-	-	-	-
Total		-	-	-	52.08	-	-	-	-	-

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	-	-	-	46.06	-	-	-	-	-
B		-	-	-	46.44	-	-	-	-	-
C		-	-	-	46.00	-	-	-	-	-
D		-	-	-	45.73	-	-	-	-	-
Total		-	-	-	52.09	-	-	-	-	-

Antenna	Modulation/  Carrier  Bandwidth  (MHz)	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER	POWER	PAR	POWER	POWER	PAR	POWER	POWER	PAR
		(dBm)	(dBm/MHz)	(db)	(dBm)	(dBm/MHz)	(db)	(dBm)	(dBm/MHz)	(db)
A	256QAM  /5.0	-	-	-	45.98	-	-	-	-	-
B		-	-	-	46.40	-	-	-	-	-
C		-	-	-	45.94	-	-	-	-	-
D		-	-	-	45.67	-	-	-	-	-
Total		-	-	-	52.03	-	-	-	-	-

Maximum Output Power 46.0dBm 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	45.91	-	-	46.15	36.15	7.27	45.94	-	-
B		46.29	-	-	46.53	36.34	7.28	46.32	-	-
C		45.77	-	-	46.07	36.23	7.27	45.82	-	-
D		45.59	-	-	45.81	36.24	7.26	45.55	-	-
Total		51.92	-	-	52.17	42.26	-	51.94	-	-

Antenna	Modulation/ Carrier Bandwidth  (MHz)	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER	POWER	PAR	POWER	POWER	PAR	POWER	POWER	PAR
		(dBm)	(dBm/MHz)	(db)	(dBm)	(dBm/MHz)	(db)	(dBm)	(dBm/MHz)	(db)
A	16QAM/  10.0	-	-	-	46.11	-	-	-	-	-
B		-	-	-	46.53	-	-	-	-	-
C		-	-	-	46.06	-	-	-	-	-
D		-	-	-	45.79	-	-	-	-	-
Total		-	-	-	52.15	-	-	-	-	-

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	-	-	-	46.08	-	-	-	-	-
B		-	-	-	46.49	-	-	-	-	-
C		-	-	-	46.03	-	-	-	-	-
D		-	-	-	45.75	-	-	-	-	-
Total		-	-	-	52.12	-	-	-	-	-

Antenna	Modulation/ Carrier Bandwidth  (MHz)	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER	POWER	PAR	POWER	POWER	PAR	POWER	POWER	PAR
		(dBm)	(dBm/MHz)	(db)	(dBm)	(dBm/MHz)	(db)	(dBm)	(dBm/MHz)	(db)
A	256QAM  /10.0	-	-	-	46.06	-	-	-	-	-
B		-	-	-	46.48	-	-	-	-	-
C		-	-	-	45.97	-	-	-	-	-
D		-	-	-	45.74	-	-	-	-	-
Total		-	-	-	52.09	-	-	-	-	-

Maximum Output Power 46.0dBm 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	46.10	-	-	46.16	34.45	7.28	46.08	-	-
B		46.46	-	-	46.56	34.55	7.30	46.47	-	-
C		45.95	-	-	46.07	34.47	7.28	46.00	-	-
D		45.77	-	-	45.84	34.53	7.27	45.74	-	-
Total		52.10	-	-	52.19	40.52	-	52.10	-	-

Antenna	Modulation/ Carrier Bandwidth  (MHz)	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER	POWER	PAR	POWER	POWER	PAR	POWER	POWER	PAR
		(dBm)	(dBm/MHz)	(db)	(dBm)	(dBm/MHz)	(db)	(dBm)	(dBm/MHz)	(db)
A	16QAM/  15.0	-	-	-	46.11	-	-	-	-	-
B		-	-	-	46.49	-	-	-	-	-
C		-	-	-	46.07	-	-	-	-	-
D		-	-	-	45.80	-	-	-	-	-
Total		-	-	-	52.15	-	-	-	-	-

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	-	-	-	46.12	-	-	-	-	-
B		-	-	-	46.52	-	-	-	-	-
C		-	-	-	46.01	-	-	-	-	-
D		-	-	-	45.73	-	-	-	-	-
Total		-	-	-	52.12	-	-	-	-	-

Antenna	Modulation/ Carrier Bandwidth  (MHz)	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER	POWER	PAR	POWER	POWER	PAR	POWER	POWER	PAR
		(dBm)	(dBm/MHz)	(db)	(dBm)	(dBm/MHz)	(db)	(dBm)	(dBm/MHz)	(db)
A	256QAM  /15.0	-	-	-	46.10	-	-	-	-	-
B		-	-	-	46.51	-	-	-	-	-
C		-	-	-	46.02	-	-	-	-	-
D		-	-	-	45.74	-	-	-	-	-
Total		-	-	-	52.12	-	-	-	-	-

Maximum Output Power 46.0dBm 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	46.11	-	-	46.15	33.27	7.29	46.13	-	-
B		46.49	-	-	46.54	33.20	7.28	46.53	-	-
C		45.97	-	-	46.06	33.23	7.29	46.05	-	-
D		45.78	-	-	45.83	33.29	7.28	45.76	-	-
Total		52.12	-	-	52.17	39.27	-	52.15	-	-

Antenna	Modulation/ Carrier Bandwidth  (MHz)	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER	POWER	PAR	POWER	POWER	PAR	POWER	POWER	PAR
		(dBm)	(dBm/MHz)	(db)	(dBm)	(dBm/MHz)	(db)	(dBm)	(dBm/MHz)	(db)
A	16QAM/  20.0	-	-	-	46.14	-	-	-	-	-
B		-	-	-	46.53	-	-	-	-	-
C		-	-	-	46.08	-	-	-	-	-
D		-	-	-	45.82	-	-	-	-	-
Total		-	-	-	52.17	-	-	-	-	-

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	-	-	-	46.08	-	-	-	-	-
B		-	-	-	46.50	-	-	-	-	-
C		-	-	-	46.01	-	-	-	-	-
D		-	-	-	45.75	-	-	-	-	-
Total		-	-	-	52.11	-	-	-	-	-

Antenna	Modulation/ Carrier Bandwidth  (MHz)	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER	POWER	PAR	POWER	POWER	PAR	POWER	POWER	PAR
		(dBm)	(dBm/MHz)	(db)	(dBm)	(dBm/MHz)	(db)	(dBm)	(dBm/MHz)	(db)
A	256QAM  /20.0	-	-	-	46.11	-	-	-	-	-
B		-	-	-	46.51	-	-	-	-	-
C		-	-	-	46.04	-	-	-	-	-
D		-	-	-	45.79	-	-	-	-	-
Total		-	-	-	52.14	-	-	-	-	-



Configuration LTE-MIMO-2C

Maximum Output Power 46.0dBm 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/1.4	45.56	-	-	45.75	-	-	45.70	-	-
B		45.93	-	-	46.08	-	-	46.04	-	-
C		45.56	-	-	45.73	-	-	45.68	-	-
D		45.38	-	-	45.50	-	-	45.42	-	-
Total		51.63	-	-	51.79	-	-	51.74	-	-

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/  1.4	-	-	-	45.68	-	-	-	-	-
B		-	-	-	46.03	-	-	-	-	-
C		-	-	-	45.73	-	-	-	-	-
D		-	-	-	45.50	-	-	-	-	-
Total		-	-	-	51.76	-	-	-	-	-

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/  1.4	-	-	-	45.70	-	-	-	-	-
B		-	-	-	46.09	-	-	-	-	-
C		-	-	-	45.73	-	-	-	-	-
D		-	-	-	45.51	-	-	-	-	-
Total		-	-	-	51.78	-	-	-	-	-

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	256QAM  /1.4	-	-	-	45.73	-	-	-	-	-
B		-	-	-	46.10	-	-	-	-	-
C		-	-	-	45.74	-	-	-	-	-
D		-	-	-	45.58	-	-	-	-	-
Total		-	-	-	51.81	-	-	-	-	-

Maximum Output Power 46.0dBm 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/3.0	45.75	-	-	45.80	-	-	45.76	-	-
B		46.08	-	-	46.14	-	-	46.08	-	-
C		45.66	-	-	45.87	-	-	45.72	-	-
D		45.45	-	-	45.62	-	-	45.44	-	-
Total		51.76	-	-	51.88	-	-	51.78	-	-

Antenna	Modulation/ Carrier	Output Power / Peak to Average Ratio (PAR)								
	Bandwidth  (MHz)	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/3.0	-	-	-	45.81	-	-	-	-	-
B		-	-	-	46.15	-	-	-	-	-
C		-	-	-	45.86	-	-	-	-	-
D		-	-	-	45.61	-	-	-	-	-
Total		-	-	-	51.88	-	-	-	-	-

Antenna	Modulation/ Carrier	Output Power / Peak to Average Ratio (PAR)								
	Bandwidth  (MHz)	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/3.0	-	-	-	45.80	-	-	-	-	-
B		-	-	-	46.15	-	-	-	-	-
C		-	-	-	45.81	-	-	-	-	-
D		-	-	-	45.54	-	-	-	-	-
Total		-	-	-	51.85	-	-	-	-	-

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	256QAM  /3.0	-	-	-	45.81	-	-	-	-	-
B		-	-	-	46.17	-	-	-	-	-
C		-	-	-	45.83	-	-	-	-	-
D		-	-	-	45.59	-	-	-	-	-
Total		-	-	-	51.88	-	-	-	-	-

Maximum Output Power 46.0dBm 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	-	-	-	45.35	-	-	-	-	-
B		-	-	-	45.73	-	-	-	-	-
C		-	-	-	45.41	-	-	-	-	-
D		-	-	-	45.19	-	-	-	-	-
Total		-	-	-	51.45	-	-	-	-	-

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	-	-	-	45.40	-	-	-	-	-
B		-	-	-	45.77	-	-	-	-	-
C		-	-	-	45.36	-	-	-	-	-
D		-	-	-	45.12	-	-	-	-	-
Total		-	-	-	51.44	-	-	-	-	-

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	-	-	-	45.35	-	-	-	-	-
B		-	-	-	45.73	-	-	-	-	-
C		-	-	-	45.32	-	-	-	-	-
D		-	-	-	45.11	-	-	-	-	-
Total		-	-	-	51.40	-	-	-	-	-

Antenna	Modulation/ Carrier Bandwidth  (MHz)	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER	POWER	PAR	POWER	POWER	PAR	POWER	POWER	PAR
		(dBm)	(dBm/MHz)	(db)	(dBm)	(dBm/MHz)	(db)	(dBm)	(dBm/MHz)	(db)
A	256QAM  /5.0	-	-	-	45.36	-	-	-	-	-
B		-	-	-	45.76	-	-	-	-	-
C		-	-	-	45.38	-	-	-	-	-
D		-	-	-	45.18	-	-	-	-	-
Total		-	-	-	51.45	-	-	-	-	-

Maximum Output Power 46.0dBm 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	-	-	-	45.50	-	-	-	-	-
B		-	-	-	45.86	-	-	-	-	-
C		-	-	-	45.54	-	-	-	-	-
D		-	-	-	45.32	-	-	-	-	-
Total		-	-	-	51.58	-	-	-	-	-

Antenna	Modulation/ Carrier Bandwidth  (MHz)	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER	POWER	PAR	POWER	POWER	PAR	POWER	POWER	PAR
		(dBm)	(dBm/MHz)	(db)	(dBm)	(dBm/MHz)	(db)	(dBm)	(dBm/MHz)	(db)
A	16QAM/  10.0	-	-	-	45.50	-	-	-	-	-
B		-	-	-	45.86	-	-	-	-	-
C		-	-	-	45.53	-	-	-	-	-
D		-	-	-	45.35	-	-	-	-	-
Total		-	-	-	51.58	-	-	-	-	-

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	-	-	-	45.41	-	-	-	-	-
B		-	-	-	45.82	-	-	-	-	-
C		-	-	-	45.41	-	-	-	-	-
D		-	-	-	45,18	-	-	-	-	-
Total		-	-	-	51.48	-	-	-	-	-

Antenna	Modulation/ Carrier Bandwidth  (MHz)	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER	POWER	PAR	POWER	POWER	PAR	POWER	POWER	PAR
		(dBm)	(dBm/MHz)	(db)	(dBm)	(dBm/MHz)	(db)	(dBm)	(dBm/MHz)	(db)
A	256QAM  /10.0	-	-	-	45.53	-	-	-	-	-
B		-	-	-	45.90	-	-	-	-	-
C		-	-	-	45.52	-	-	-	-	-
D		-	-	-	45.31	-	-	-	-	-
Total		-	-	-	51.59	-	-	-	-	-

Maximum Output Power 46.0dBm 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	-	-	-	45.57	-	-	-	-	-
B		-	-	-	45.92	-	-	-	-	-
C		-	-	-	45.63	-	-	-	-	-
D		-	-	-	45.40	-	-	-	-	-
Total		-	-	-	51.65	-	-	-	-	-

Antenna	Modulation/ Carrier Bandwidth  (MHz)	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER	POWER	PAR	POWER	POWER	PAR	POWER	POWER	PAR
		(dBm)	(dBm/MHz)	(db)	(dBm)	(dBm/MHz)	(db)	(dBm)	(dBm/MHz)	(db)
A	16QAM/  15.0	-	-	-	45.58	-	-	-	-	-
B		-	-	-	45.93	-	-	-	-	-
C		-	-	-	45.62	-	-	-	-	-
D		-	-	-	45.39	-	-	-	-	-
Total		-	-	-	51.65	-	-	-	-	-

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	64QAM/  15.0	-	-	-	45.54	-	-	-	-	-
B		-	-	-	45.94	-	-	-	-	-
C		-	-	-	45.58	-	-	-	-	-
D		-	-	-	45.34	-	-	-	-	-
Total		-	-	-	51.63	-	-	-	-	-

Antenna	Modulation/ Carrier Bandwidth  (MHz)	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER	POWER	PAR	POWER	POWER	PAR	POWER	POWER	PAR
		(dBm)	(dBm/MHz)	(db)	(dBm)	(dBm/MHz)	(db)	(dBm)	(dBm/MHz)	(db)
A	256QAM  /15.0	-	-	-	45.59	-	-	-	-	-
B		-	-	-	45.97	-	-	-	-	-
C		-	-	-	45.59	-	-	-	-	-
D		-	-	-	45.38	-	-	-	-	-
Total		-	-	-	51.66	-	-	-	-	-

Maximum Output Power 46.0dBm 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	-	-	-	45.66	-	-	-	-	-
B		-	-	-	46.01	-	-	-	-	-
C		-	-	-	45.66	-	-	-	-	-
D		-	-	-	45.42	-	-	-	-	-
Total		-	-	-	51.71	-	-	-	-	-

Antenna	Modulation/ Carrier Bandwidth  (MHz)	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER	POWER	PAR	POWER	POWER	PAR	POWER	POWER	PAR
		(dBm)	(dBm/MHz)	(db)	(dBm)	(dBm/MHz)	(db)	(dBm)	(dBm/MHz)	(db)
A	16QAM/  20.0	-	-	-	45.68	-	-	-	-	-
B		-	-	-	46.01	-	-	-	-	-
C		-	-	-	45.66	-	-	-	-	-
D		-	-	-	45.42	-	-	-	-	-
Total		-	-	-	51.72	-	-	-	-	-

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	-	-	-	45.65	-	-	-	-	-
B		-	-	-	46.04	-	-	-	-	-
C		-	-	-	45.67	-	-	-	-	-
D		-	-	-	45.42	-	-	-	-	-
Total		-	-	-	51.72	-	-	-	-	-

Antenna	Modulation/ Carrier Bandwidth  (MHz)	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER	POWER	PAR	POWER	POWER	PAR	POWER	POWER	PAR
		(dBm)	(dBm/MHz)	(db)	(dBm)	(dBm/MHz)	(db)	(dBm)	(dBm/MHz)	(db)
A	256QAM  /20.0	-	-	-	45.64	-	-	-	-	-
B		-	-	-	46.04	-	-	-	-	-
C		-	-	-	45.65	-	-	-	-	-
D		-	-	-	45.42	-	-	-	-	-
Total		-	-	-	51.71	-	-	-	-	-

Configuration LTE-MIMO-6C

Maximum Output Power 46.0dBm per port

Antenna	Modulation/ Carrier	Output Power / Peak to Average Ratio (PAR)								
	Bandwidth  (MHz)	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/1.4	45.61	-	-	45.69	-	-	45.61	-	-
B		46.00	-	-	46.07	-	-	46.00	-	-
C		45.56	-	-	45.70	-	-	45.55	-	-
D		45.38	-	-	45.44	-	-	45.27	-	-
Total		51.66	-	-	51.75	-	-	51.64	-	-

Antenna	Modulation/ Carrier	Output Power / Peak to Average Ratio (PAR)								
	Bandwidth  (MHz)	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/  1.4	-	-	-	45.69	-	-	-	-	-
B		-	-	-	45.97	-	-	-	-	-
C		-	-	-	45.68	-	-	-	-	-
D		-	-	-	45.41	-	-	-	-	-
Total		-	-	-	51.71	-	-	-	-	-

Antenna	Modulation/ Carrier	Output Power / Peak to Average Ratio (PAR)								
	Bandwidth  (MHz)	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/  1.4	-	-	-	45.71	-	-	-	-	-
B		-	-	-	46.12	-	-	-	-	-
C		-	-	-	45.70	-	-	-	-	-
D		-	-	-	45.44	-	-	-	-	-
Total		-	-	-	51.77	-	-	-	-	-

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  /1.4	-	-	-	45.67	-	-	-	-	-
B		-	-	-	46.08	-	-	-	-	-
C		-	-	-	45.64	-	-	-	-	-
D		-	-	-	45.35	-	-	-	-	-
Total		-	-	-	51.71	-	-	-	-	-

Maximum Output Power 46.0dBm per port

Antenna	Modulation/ Carrier	Output Power / Peak to Average Ratio (PAR)								
	Bandwidth  (MHz)	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/3.0	45.85	-	-	45.92	-	-	45.87	-	-
B		46.24	-	-	46.31	-	-	46.26	-	-
C		45.78	-	-	45.86	-	-	45.82	-	-
D		45.57	-	-	45.57	-	-	45.53	-	-
Total		51.89	-	-	51.94	-	-	51.90	-	-

Antenna	Modulation/ Carrier	Output Power / Peak to Average Ratio (PAR)								
	Bandwidth  (MHz)	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/3.0	-	-	-	45.92	-	-	-	-	-
B		-	-	-	46.21	-	-	-	-	-
C		-	-	-	45.84	-	-	-	-	-
D		-	-	-	45.56	-	-	-	-	-
Total		-	-	-	51.91	-	-	-	-	-

Antenna	Modulation/ Carrier	Output Power / Peak to Average Ratio (PAR)								
	Bandwidth  (MHz)	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/3.0	-	-	-	46.03	-	-	-	-	-
B		-	-	-	46.42	-	-	-	-	-
C		-	-	-	46.03	-	-	-	-	-
D		-	-	-	45.71	-	-	-	-	-
Total		-	-	-	52.08	-	-	-	-	-

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  /3.0	-	-	-	45.88	-	-	-	-	-
B		-	-	-	46.30	-	-	-	-	-
C		-	-	-	45.90	-	-	-	-	-
D		-	-	-	45.57	-	-	-	-	-
Total		-	-	-	51.94	-	-	-	-	-



Maximum Output Power 46.0dBm 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	-	-	-	45.10	-	-	-	-	-
B		-	-	-	45.51	-	-	-	-	-
C		-	-	-	45.03	-	-	-	-	-
D		-	-	-	44.75	-	-	-	-	-
Total		-	-	-	51.13	-	-	-	-	-

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	-	-	-	45.18	-	-	-	-	-
B		-	-	-	45.51	-	-	-	-	-
C		-	-	-	45.18	-	-	-	-	-
D		-	-	-	44.78	-	-	-	-	-
Total		-	-	-	51.19	-	-	-	-	-

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	-	-	-	45.13	-	-	-	-	-
B		-	-	-	45.54	-	-	-	-	-
C		-	-	-	45.01	-	-	-	-	-
D		-	-	-	44.68	-	-	-	-	-
Total		-	-	-	51.12	-	-	-	-	-

Antenna	Modulation/ Carrier Bandwidth  (MHz)	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER	POWER	PAR	POWER	POWER	PAR	POWER	POWER	PAR
		(dBm)	(dBm/MHz)	(db)	(dBm)	(dBm/MHz)	(db)	(dBm)	(dBm/MHz)	(db)
A	256QAM  /5.0	-	-	-	45.09	-	-	-	-	-
B		-	-	-	45.52	-	-	-	-	-
C		-	-	-	45.09	-	-	-	-	-
D		-	-	-	44.82	-	-	-	-	-
Total		-	-	-	51.16	-	-	-	-	-

Maximum Output Power 46.0dBm 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	-	-	-	45.60	-	-	-	-	-
B		-	-	-	46.01	-	-	-	-	-
C		-	-	-	45.61	-	-	-	-	-
D		-	-	-	45.33	-	-	-	-	-
Total		-	-	-	51.66	-	-	-	-	-

Antenna	Modulation/ Carrier Bandwidth  (MHz)	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER	POWER	PAR	POWER	POWER	PAR	POWER	POWER	PAR
		(dBm)	(dBm/MHz)	(db)	(dBm)	(dBm/MHz)	(db)	(dBm)	(dBm/MHz)	(db)
A	16QAM/  10.0	-	-	-	45.72	-	-	-	-	-
B		-	-	-	46.06	-	-	-	-	-
C		-	-	-	45.69	-	-	-	-	-
D		-	-	-	45.33	-	-	-	-	-
Total		-	-	-	51.73	-	-	-	-	-

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	-	-	-	45.65	-	-	-	-	-
B		-	-	-	46.05	-	-	-	-	-
C		-	-	-	45.67	-	-	-	-	-
D		-	-	-	45.36	-	-	-	-	-
Total		-	-	-	51.71	-	-	-	-	-

Antenna	Modulation/ Carrier Bandwidth  (MHz)	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER	POWER	PAR	POWER	POWER	PAR	POWER	POWER	PAR
		(dBm)	(dBm/MHz)	(db)	(dBm)	(dBm/MHz)	(db)	(dBm)	(dBm/MHz)	(db)
A	256QAM  /10.0	-	-	-	45.64	-	-	-	-	-
B		-	-	-	46.04	-	-	-	-	-
C		-	-	-	45.58	-	-	-	-	-
D		-	-	-	45.30	-	-	-	-	-
Total		-	-	-	51.67	-	-	-	-	-

### Configuration LTE-MIMO-4C

Maximum Output Power 46.0dBm 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	-	-	-	45.61	-	-	-	-	-
B		-	-	-	46.00	-	-	-	-	-
C		-	-	-	45.62	-	-	-	-	-
D		-	-	-	45.35	-	-	-	-	-
Total		-	-	-	51.67	-	-	-	-	-

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/ 15.0	-	-	-	45.67	-	-	-	-	-
B		-	-	-	46.07	-	-	-	-	-
C		-	-	-	45.70	-	-	-	-	-
D		-	-	-	45.36	-	-	-	-	-
Total		-	-	-	51.73	-	-	-	-	-

Antenna	Modulation/ Carrier Bandwidth  (MHz)	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER	POWER	PAR	POWER	POWER	PAR	POWER	POWER	PAR
		(dBm)	(dBm/MHz)	(db)	(dBm)	(dBm/MHz)	(db)	(dBm)	(dBm/MHz)	(db)
A	64QAM/  15.0	-	-	-	45.74	-	-	-	-	-
B		-	-	-	46.13	-	-	-	-	-
C		-	-	-	45.73	-	-	-	-	-
D		-	-	-	45.44	-	-	-	-	-
Total		-	-	-	51.79	-	-	-	-	-

Antenna	Modulation/ Carrier Bandwidth  (MHz)	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER	POWER	PAR	POWER	POWER	PAR	POWER	POWER	PAR
		(dBm)	(dBm/MHz)	(db)	(dBm)	(dBm/MHz)	(db)	(dBm)	(dBm/MHz)	(db)
A	256QAM  /15.0	-	-	-	45.66	-	-	-	-	-
B		-	-	-	46.04	-	-	-	-	-
C		-	-	-	45.61	-	-	-	-	-
D		-	-	-	45.32	-	-	-	-	-
Total		-	-	-	51.69	-	-	-	-	-

Configuration LTE-MIMO-3C

Maximum Output Power 46.0dBm 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	-	-	-	45.59	-	-	-	-	-
B		-	-	-	46.00	-	-	-	-	-
C		-	-	-	45.59	-	-	-	-	-
D		-	-	-	45.36	-	-	-	-	-
Total		-	-	-	51.66	-	-	-	-	-

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/  20.0	-	-	-	45.68	-	-	-	-	-
B		-	-	-	46.07	-	-	-	-	-
C		-	-	-	45.70	-	-	-	-	-
D		-	-	-	45.37	-	-	-	-	-
Total		-	-	-	51.73	-	-	-	-	-

Antenna	Modulation/ Carrier Bandwidth  (MHz)	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER	POWER	PAR	POWER	POWER	PAR	POWER	POWER	PAR
		(dBm)	(dBm/MHz)	(db)	(dBm)	(dBm/MHz)	(db)	(dBm)	(dBm/MHz)	(db)
A	64QAM/  20.0	-	-	-	45.66	-	-	-	-	-
B		-	-	-	46.06	-	-	-	-	-
C		-	-	-	45.65	-	-	-	-	-
D		-	-	-	45.38	-	-	-	-	-
Total		-	-	-	51.74	-	-	-	-	-

Antenna	Modulation/ Carrier Bandwidth  (MHz)	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER	POWER	PAR	POWER	POWER	PAR	POWER	POWER	PAR
		(dBm)	(dBm/MHz)	(db)	(dBm)	(dBm/MHz)	(db)	(dBm)	(dBm/MHz)	(db)
A	256QAM  /20.0	-	-	-	45.61	-	-	-	-	-
B		-	-	-	46.03	-	-	-	-	-
C		-	-	-	45.62	-	-	-	-	-
D		-	-	-	45.36	-	-	-	-	-
Total		-	-	-	51.68	-	-	-	-	-

### Configuration NB-IOT-InBand-1C

Maximum Output Power 46.0dBm per port

Antenna	Modulation/ Carrier Bandwidth  (MHz)	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER	POWER	PAR	POWER	POWER	PAR	POWER	POWER	PAR
		(dBm)	(dBm/MHz)	(db)	(dBm)	(dBm/MHz)	(db)	(dBm)	(dBm/MHz)	(db)
A	QPSK/5.0	45.55	-	-	45.95	39.12	7.28	45.66	-	-
B		45.91	-	-	46.17	39.21	7.28	46.05	-	-
C		45.35	-	-	45.87	39.16	7.28	45.68	-	-
D		45.20	-	-	45.57	39.23	7.26	45.19	-	-
Total		51.53	-	-	51.92	45.20	-	51.68	-	-

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	-	-	-	45.99	33.15	7.29	-	-	-
B		-	-	-	46.37	33.20	7.29	-	-	-
C		-	-	-	45.88	33.18	7.29	-	-	-
D		-	-	-	45.61	33.24	7.28	-	-	-
Total		-	-	-	51.99	39.21	-	-	-	-

### 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	42.92	-	4.59	42.98	-	4.56	43.00	-	4.61

Configuration WCDMA+LTE-MIMO-MC-1

1WCDMA QPSK +1LTE QPSK

Maximum Output Power 46.0dBm 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)
B	QPSK/ QPSK 1.4	-	-	-	45.42	-	-	-	-	-
	QPSK/ QPSK 3.0	-	-	-	45.48	-	-	-	-	-
	QPSK/ QPSK 5.0	-	-	-	45.16	-	-	-	-	-
	QPSK/ QPSK 10	-	-	-	45.17	-	-	-	-	-
	QPSK/ QPSK 15	-	-	-	45.20	-	-	-	-	-
	QPSK/ QPSK 20	-	-	-	45.23	-	-	-	-	-

1WCDMA 16QAM +1LTE QPSK

Maximum Output Power 46.0dBm 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)
B	16QAM/ QPSK 1.4	-	-	-	45.42	-	-	-	-	-
	16QAM/ QPSK 3.0	-	-	-	45.45	-	-	-	-	-
	16QAM/ QPSK 5.0	-	-	-	45.15	-	-	-	-	-
	16QAM/ QPSK 10	-	-	-	45.21	-	-	-	-	-
	16QAM/ QPSK 15	-	-	-	45.26	-	-	-	-	-
	16QAM/ QPSK 20	-	-	-	45.24	-	-	-	-	-



Configuration WCDMA+LTE-MIMO-MC-2  
3WCDMA QPSK +3LTE QPSK  
Maximum Output Power 46.0dBm 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)
B	QPSK/ QPSK 1.4	-	-	-	45.24	-	-	-	-	-
	QPSK/ QPSK 3.0	-	-	-	45.32	-	-	-	-	-
	QPSK/ QPSK 5.0	-	-	-	45.28	-	-	-	-	-
	QPSK/ QPSK 10.0	-	-	-	45.43	-	-	-	-	-
	QPSK/ QPSK 15.0	-	-	-	45.46	-	-	-	-	-

3WCDMA 16QAM +3LTE QPSK  
Maximum Output Power 46.0dBm 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)
B	16QAM/ QPSK 1.4	-	-	-	45.15	-	-	-	-	-
	16QAM/ QPSK 3.0	-	-	-	45.31	-	-	-	-	-
	16QAM/ QPSK 5.0	-	-	-	45.33	-	-	-	-	-
	16QAM/ QPSK 10.0	-	-	-	45.37	-	-	-	-	-
	16QAM/ QPSK 15.0	-	-	-	45.45	-	-	-	-	-

Configuration WCDMA+LTE-MIMO-MC-3  
3WCDMA QPSK +2LTE QPSK  
Maximum Output Power 46.0dBm 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)
B	QPSK/ QPSK 20.0	-	-	-	45.40	-	-	-	-	-

3WCDMA 16QAM +2LTE QPSK  
Maximum Output Power 46.0dBm 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)
B	16QAM/ QPSK 20.0	-	-	-	45.40	-	-	-	-	-

Configuration GSM+WCDMA-MC-1 (1GSM +1WCDMA)  
Maximum Output Power 46.0dBm per port

Antenna	GSM Mod./ WCDMA 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)
B	GMSK/ QPSK	-	-	-	45.85	-	-	-	-	-
	GMSK/ 16QAM	-	-	-	45.88	-	-	-	-	-

Configuration GSM+WCDMA-MC-2 (4GSM +2WCDMA)  
Maximum Output Power 46.0dBm per port

Antenna	GSM Mod./ WCDMA 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)
B	GMSK/ QPSK	-	-	-	45.89	-	-	-	-	-
	GMSK/ 16QAM	-	-	-	45.95	-	-	-	-	-



Configuration GSM+LTE-MIMO-MC-1 (1GSM +1LTE)

Maximum Output Power 46.0dBm per port

Antenna	GSM 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)
B	GMSK/ QPSK 1.4	46.09	-	-	46.23	-	-	46.21	-	-
	GMSK/ QPSK 3.0	45.65	-	-	45.77	-	-	45.74	-	-
	GMSK/ QPSK 5.0	-	-	-	45.64	-	-	-	-	-
	GMSK/ QPSK 10	-	-	-	45.62	-	-	-	-	-
	GMSK/ QPSK 15	-	-	-	45.58	-	-	-	-	-
	GMSK/ QPSK 20	-	-	-	45.66	-	-	-	-	-

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

Maximum Output Power 46.0dBm per port

Antenna	GSM 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)
B	GMSK/ QPSK 1.4	45.22	-	-	45.34	-	-	45.29	-	-
	GMSK/ QPSK 3.0	45.81	-	-	45.91	-	-	45.84	-	-
	GMSK/ QPSK 5.0	-	-	-	45.02	-	-	-	-	-
	GMSK/ QPSK 10	-	-	-	45.53	-	-	-	-	-
	GMSK/ QPSK 15	-	-	-	45.65	-	-	-	-	-
	GMSK/ QPSK 20	-	-	-	45.94	-	-	-	-	-

Configuration GSM+LTE-MIMO-MC-2 (2GSM +1LTE)

Maximum Output Power 46.0dBm per port

Antenna	GSM 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)
B	GMSK/ QPSK 1.4	45.76	-	-	45.86	-	-	45.80	-	-

Configuration NB-IOT+GSM-MC-1 (1NB +1GSM)

Maximum Output Power 46.0dBm per port

Antenna	NB Mod./ GSM 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)
B	QPSK/ GMSK	46.06	-	-	46.19	-	-	46.15	-	-

Configuration NB-IOT+GSM-MC-2 (1NB +3GSM)

Maximum Output Power 46.0dBm per port

Antenna	NB Mod./ GSM 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)
B	QPSK/ GMSK	45.68	-	-	45.95	-	-	46.00	-	-

Configuration NB-IOT+WCDMA-MC-1 (1NB +1WCDMA)

Maximum Output Power 46.0dBm per port

Antenna	NB Mod./ WCDMA 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)
B	QPSK/ QPSK	-	-	-	44.89	-	-	-	-	-
	QPSK/ 16QAM	-	-	-	44.90	-	-	-	-	-

Configuration NB-IOT+WCDMA-MC-2 (1NB +5WCDMA)

Maximum Output Power 46.0dBm per port

Antenna	NB Mod./ WCDMA 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)
B	QPSK/ QPSK	-	-	-	45.32	-	-	-	-	-
	QPSK/ 16QAM	-	-	-	45.30	-	-	-	-	-

Configuration NB-IOT+LTE-MIMO-MC-1 (1NB +1LTE)

Maximum Output Power 46.0dBm per port

Antenna	NB 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)
B	QPSK/ QPSK 1.4	46.11	-	-	46.27	-	-	46.18	-	-
	QPSK/ QPSK 3.0	46.22	-	-	46.28	-	-	46.22	-	-
	QPSK/ QPSK 5.0	-	-	-	45.42	-	-	-	-	-
	QPSK/ QPSK 10	-	-	-	45.45	-	-	-	-	-
	QPSK/ QPSK 15	-	-	-	45.45	-	-	-	-	-
	QPSK/ QPSK 20	-	-	-	45.77	-	-	-	-	-

Configuration NB-IOT+LTE-MIMO-MC-2 (1NB +5LTE)

Maximum Output Power 46.0dBm per port

Antenna	NB 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)
B	QPSK/ QPSK 1.4	45.47	-	-	45.50	-	-	45.46	-	-
	QPSK/ QPSK 3.0	45.50	-	-	45.53	-	-	45.49	-	-
	QPSK/ QPSK 5.0	-	-	-	45.75	-	-	-	-	-

Configuration NB-IOT+LTE-MC-5 (1NB +2LTE)

Maximum Output Power 46.0dBm per port

Antenna	NB 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)
B	QPSK/ QPSK 15	-	-	-	45.67	-	-	-	-	-

Configuration NB-IOT+GSM+WCDMA-MC-1 (1NB +1GSM +1WCDMA)

Maximum Output Power 46.0dBm per port

Antenna	NB Mod./ GSM Mod./ WCDMA 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)
B	QPSK/ GMSK/ 16QAM	45.28	-	-	45.29	-	-	45.28	-	-

Configuration NB-IOT+ GSM+WCDMA-MC-2 (1NB +1GSM +3WCDMA)

Maximum Output Power 46.0dBm per port

Antenna	NB Mod./ GSM Mod./ WCDMA 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)
B	QPSK/ GMSK/ 16QAM	45.42	-	-	45.47	-	-	45.41	-	-

Configuration NB-IOT+GSM+LTE-MIMO-MC-1 (1NB +1GSM +1LTE)

Maximum Output Power 46.0dBm per port

Antenna	NB Mod./ GSM 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)
B	QPSK/ GMSK/ QPSK 1.4	45.66	-	-	45.80	-	-	45.80	-	-
	QPSK/ GMSK/ QPSK 5.0	45.53	-	-	45.57	-	-	45.53	-	-

Configuration NB-IOT+GSM+LTE-MC-2 (1NB +1GSM +3LTE)

Maximum Output Power 46.0dBm per port

Antenna	NB Mod./ GSM 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)
B	QPSK/ GMSK/ QPSK 1.4	45.97	-	-	46.03	-	-	46.03	-	-
	QPSK/ GMSK/ QPSK 5.0	46.16	-	-	46.23	-	-	46.22	-	-

Configuration NB-IOT+WCDMA+LTE-MC-1 (1NB +1WCDMA +1LTE)

Maximum Output Power 46.0dBm per port

Antenna	NB Mod./ 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)
B	QPSK/ 16 QAM/ QPSK 1.4	45.72	-	-	45.79	-	-	45.80	-	-
	QPSK/ 16 QAM/ QPSK 5.0	-	-	-	44.84	-	-	-	-	-

Configuration NB-IOT+WCDMA+LTE-MC-2 (1NB +3WCDMA +2LTE)

Maximum Output Power 46.0dBm per port

Antenna	NB Mod./ 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)
B	QPSK/ 16 QAM/ QPSK 1.4	45.45	-	-	45.44	-	-	45.37	-	-
	QPSK/ 16 QAM/ QPSK 5.0	-	-	-	45.21	-	-	-	-	-



**NOTE:**

The DUT is tested without antenna. ERP/EIRP compliance is addressed at the time of licensing, as required by the responsible FCC/IC 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 6.6

### **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 6.6.

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 GSM-1C

-26dBc Occupied Bandwidth

Modulation	Occupied Bandwidth (KHz)		
	Channel position B	Channel position M	Channel position T
GMSK	318.30	320.60	318.40
8PSK	314.10	311.80	313.40
AQPSK	318.40	315.00	320.00

99% Occupied Bandwidth

Modulation	Occupied Bandwidth (KHz)		
	Channel position B	Channel position M	Channel position B
GMSK	242.87	245.27	244.23
8PSK	244.59	245.28	245.48
AQPSK	241.64	241.68	242.07

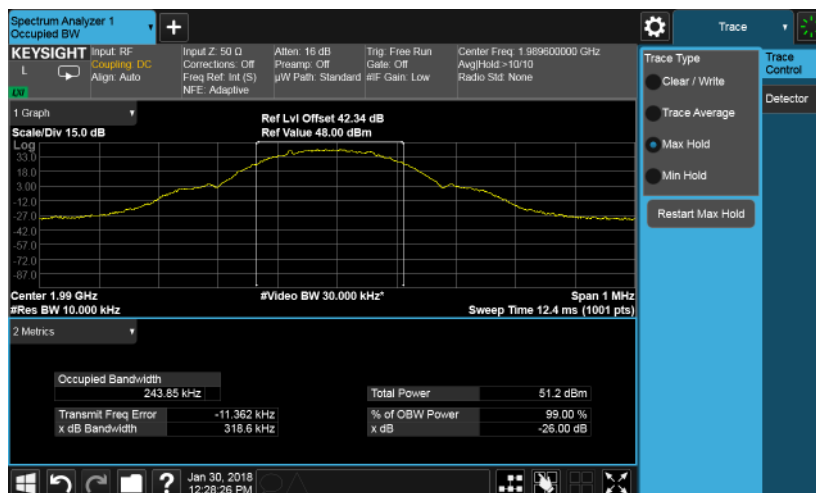
### Port B, GMSK Channel Position B



### Port B, GMSK Channel Position M

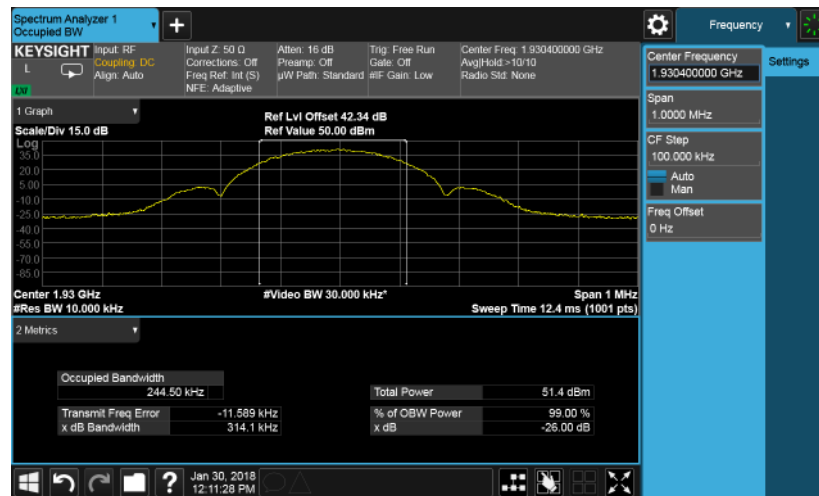


### Port B, GMSK Channel Position T

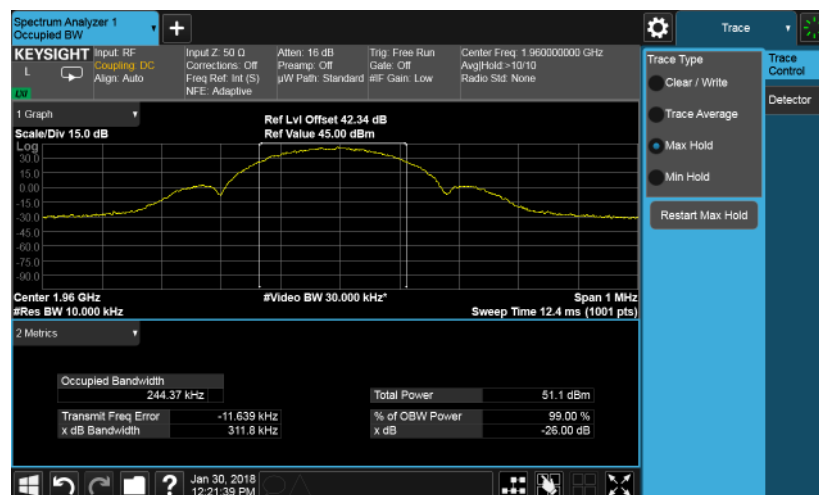




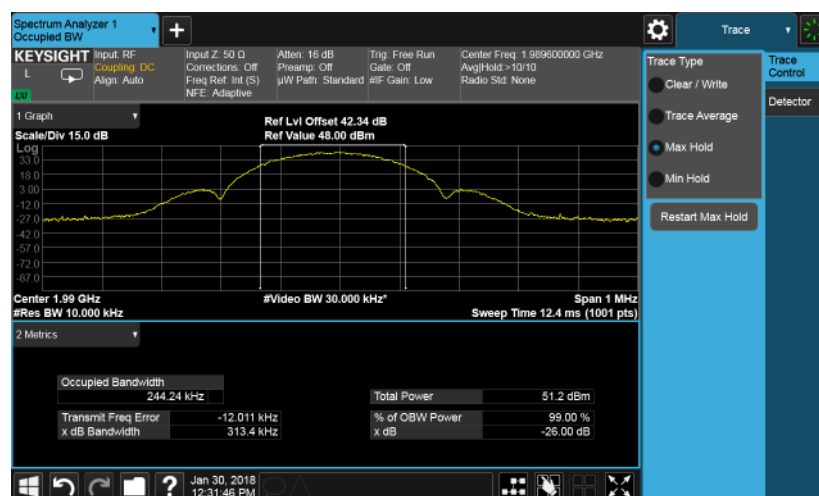
### Port B, 8PSK Channel Position B



### Port B, 8PSK Channel Position M



### Port B, 8PSK Channel Position T



### Port B, AQPSK Channel Position M



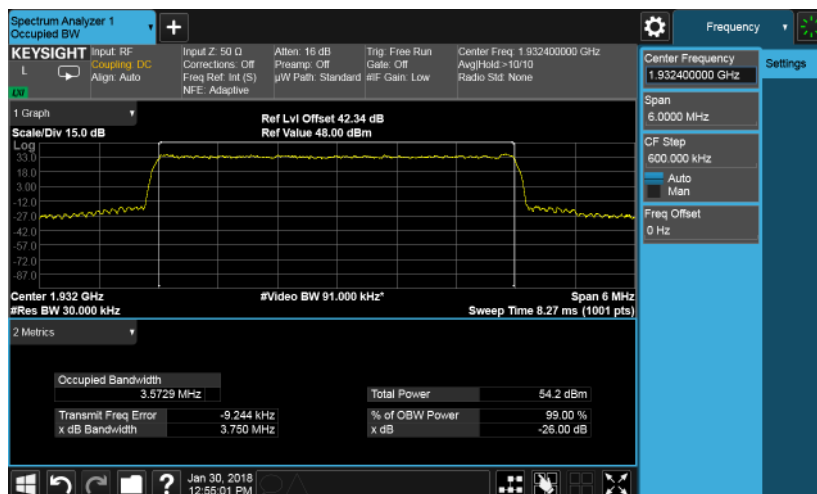
### Configuration WCDMA-1C -26dBc Occupied Bandwidth

Antenna	Modulation / Bandwidth	Occupied Bandwidth (MHz)		
		Channel Position B	Channel Position M	Channel Position T
B	QPSK/5.0 MHz	4.65	4.66	4.66
	QPSK/3.8 MHz	3.75	3.75	3.75

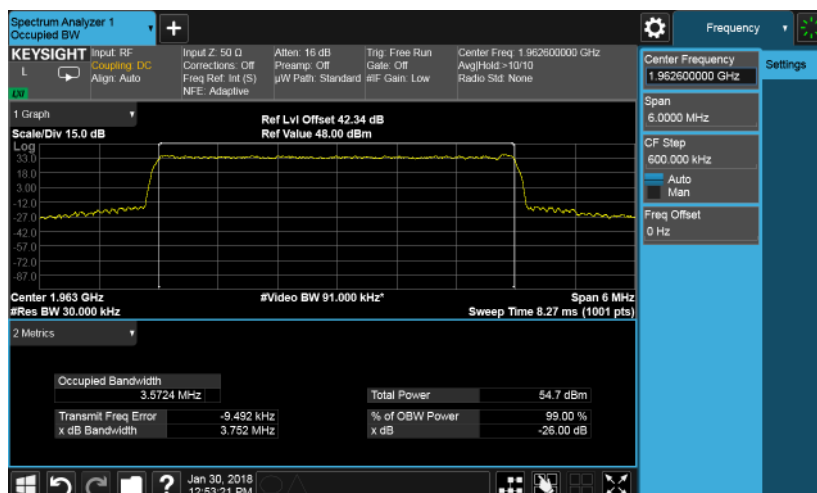
### 99% Occupied Bandwidth

Antenna	Modulation / Bandwidth	Occupied Bandwidth (MHz)		
		Channel Position B	Channel Position M	Channel Position T
B	QPSK/5.0 MHz	4.16	4.16	4.17
	QPSK/3.8 MHz	3.58	3.57	3.57

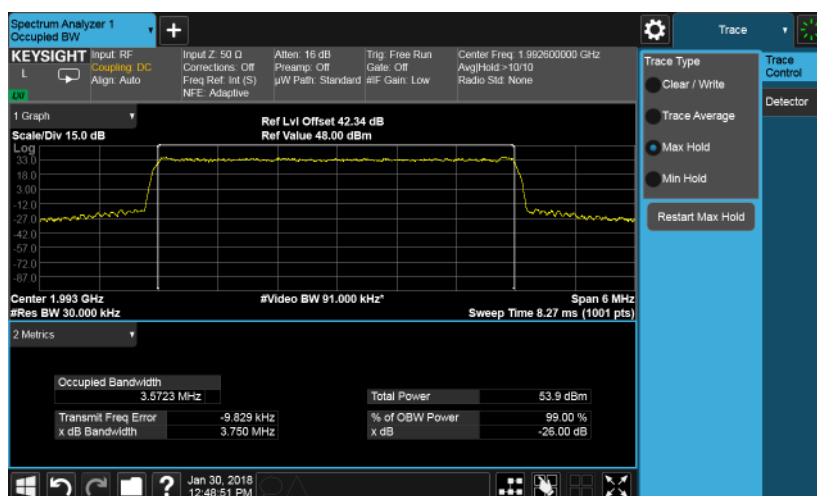
Port B, QPSK/3.8 MHz Channel Position B



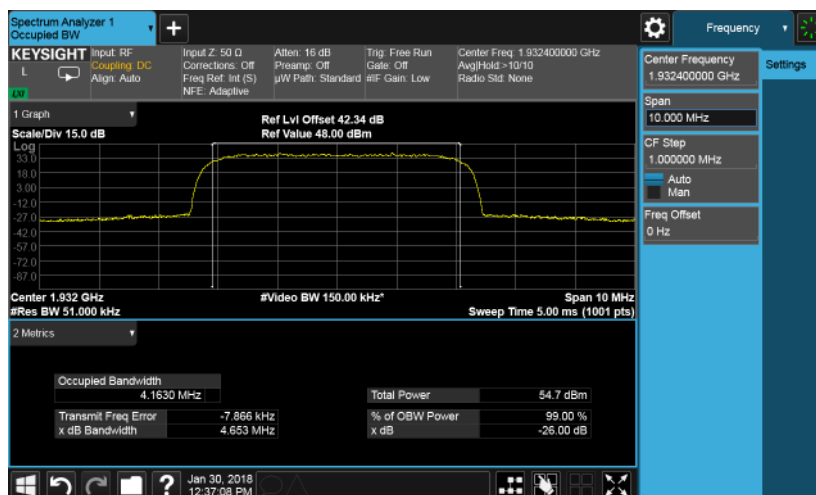
Port B, QPSK/3.8 MHz Channel Position M



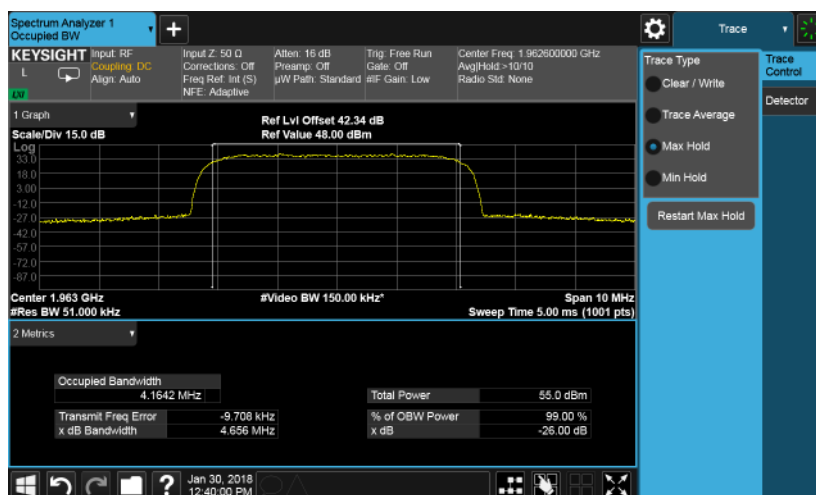
Port B, QPSK/3.8 MHz Channel Position T



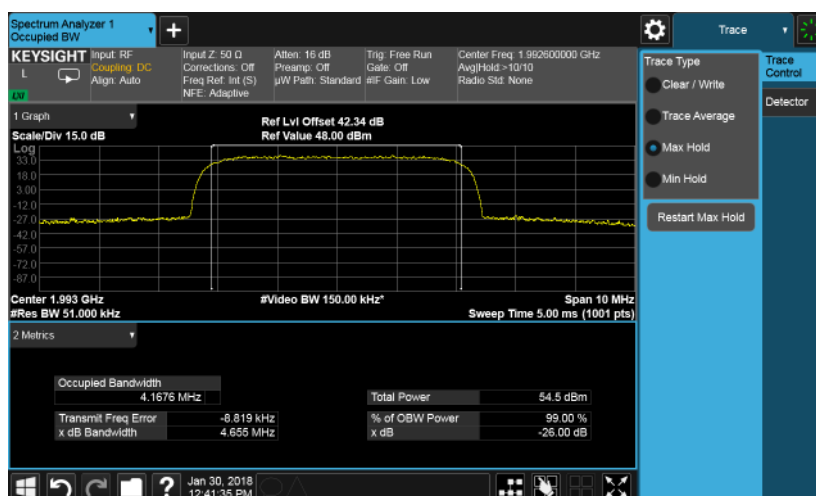
Port B, QPSK/5.0 MHz Channel Position B



Port B, QPSK/5.0 MHz Channel Position M



Port B, QPSK/5.0 MHz Channel Position T



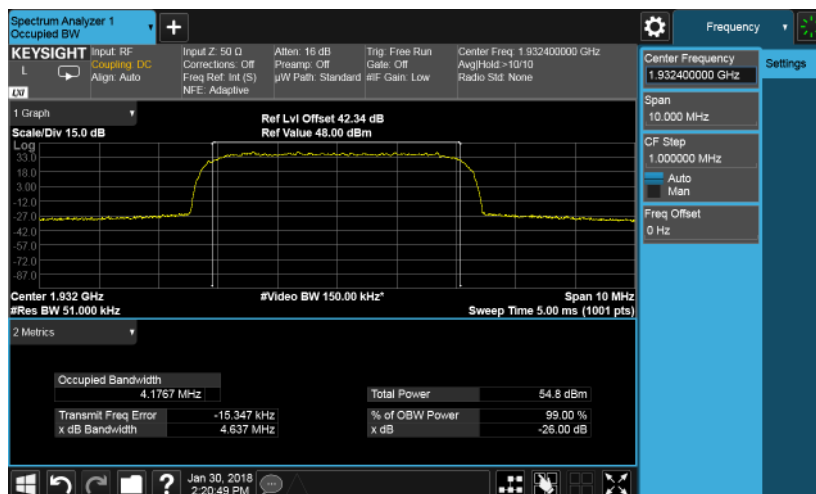
Configuration WCDMA-1C  
-26dBc Occupied Bandwidth

Antenna	Modulation / Bandwidth	Occupied Bandwidth (MHz)		
		Channel Position B	Channel Position M	Channel Position T
B	16QAM/ 5.0 MHz	4.64	4.64	4.64
	64QAM/ 5.0 MHz	4.66	4.66	4.65

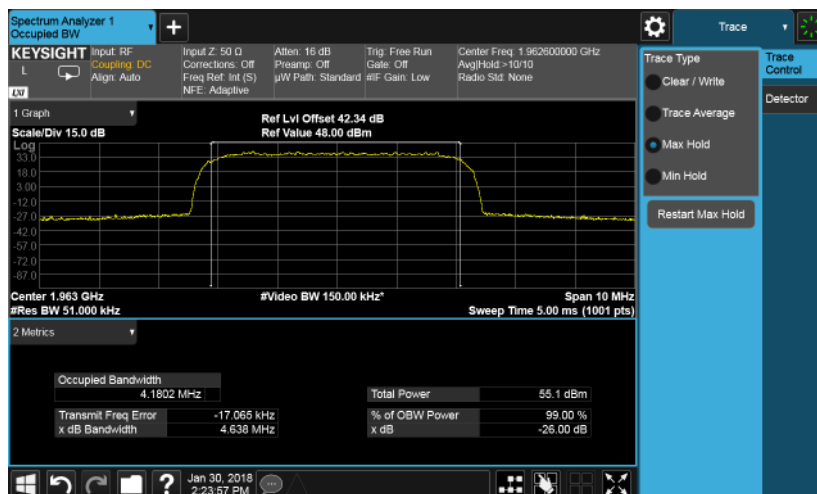
99% Occupied Bandwidth

Antenna	Modulation / Bandwidth	Occupied Bandwidth (MHz)		
		Channel Position B	Channel Position M	Channel Position T
B	16QAM/ 5.0 MHz	4.18	4.18	4.18
	64QAM/ 5.0 MHz	4.15	4.15	4.15

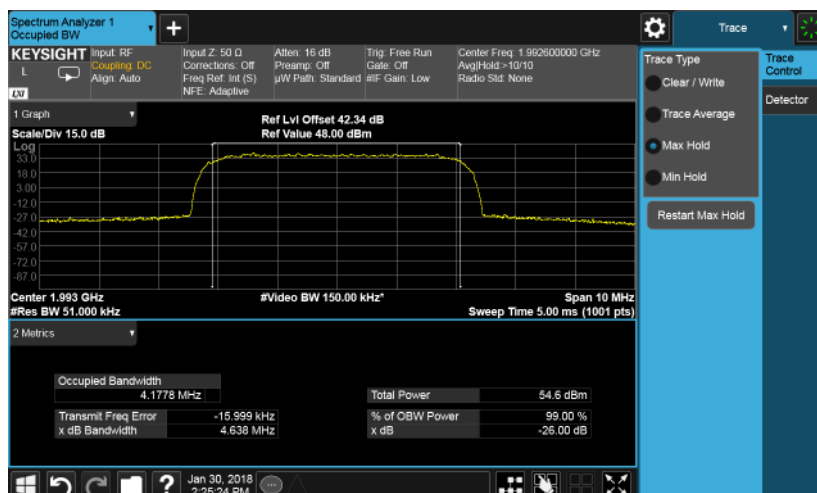
Port B, 16QAM/5.0 MHz Channel Position B



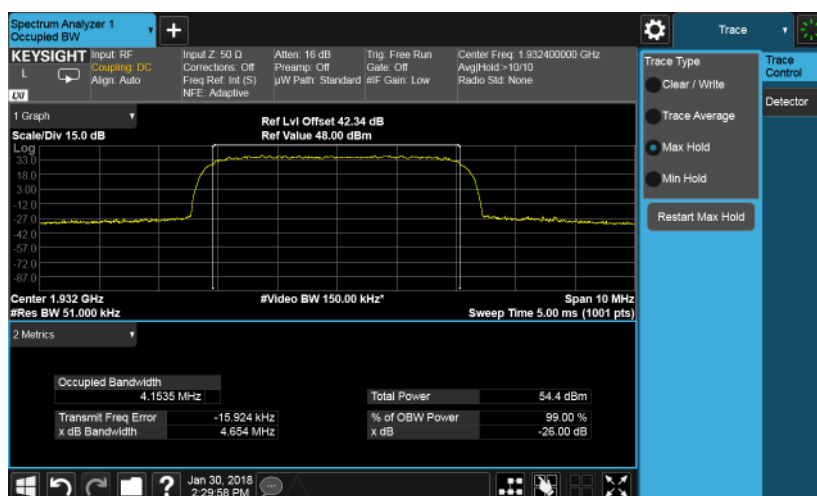
Port B, 16QAM/5.0 MHz Channel Position M



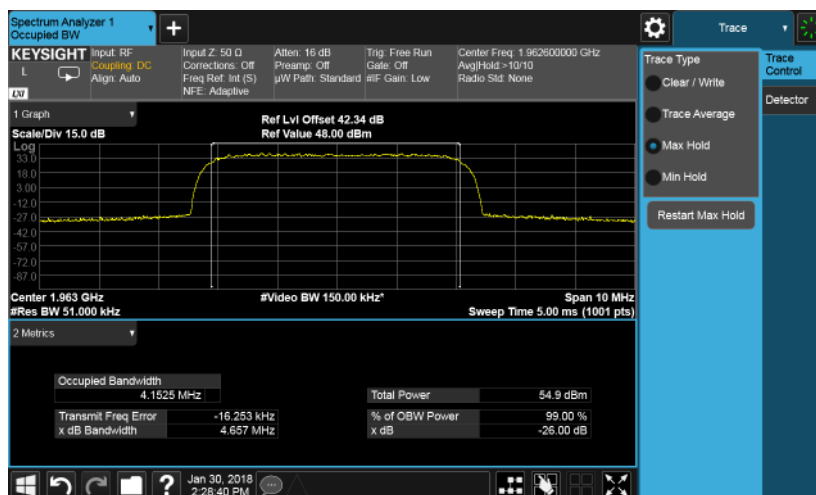
Port B, 16QAM/5.0 MHz Channel Position T



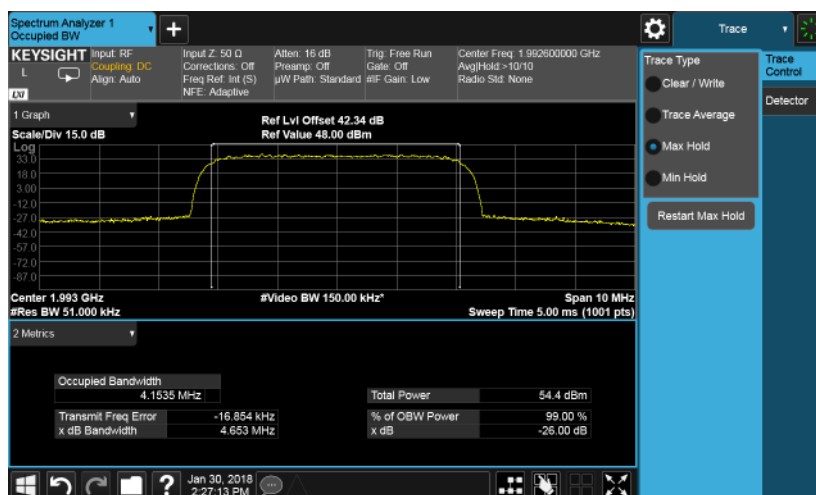
Port B, 64QAM/5.0 MHz Channel Position B



Port B, 64QAM/5.0 MHz Channel Position M



Port B, 64QAM/5.0 MHz Channel Position T



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

Antenna	Modulation / Bandwidth	Occupied Bandwidth (MHz)		
		Channel Position B	Channel Position M	Channel Position T
B	QPSK/ 1.4 MHz	1.24	1.28	1.27
	QPSK/ 3.0 MHz	2.90	2.90	2.88
	QPSK/ 5.0 MHz	4.81	4.80	4.80
	QPSK/ 10.0 MHz	9.62	9.63	9.61
	QPSK/ 15.0 MHz	14.42	14.42	14.40
	QPSK/ 20.0 MHz	19.23	19.21	19.19

-26dBc Occupied Bandwidth

Antenna	Bandwidth	Occupied Bandwidth (MHz)		
		Modulation 16QAM/ Channel Position M	Modulation 64QAM/ Channel Position M	Modulation 256QAM/ Channel Position M
B	1.4 MHz	1.26	1.24	1.24
	3.0 MHz	2.89	2.90	2.90
	5.0 MHz	4.80	4.82	4.80
	10.0 MHz	9.63	9.65	9.60
	15.0 MHz	14.35	14.42	14.41
	20.0 MHz	19.16	19.17	19.22



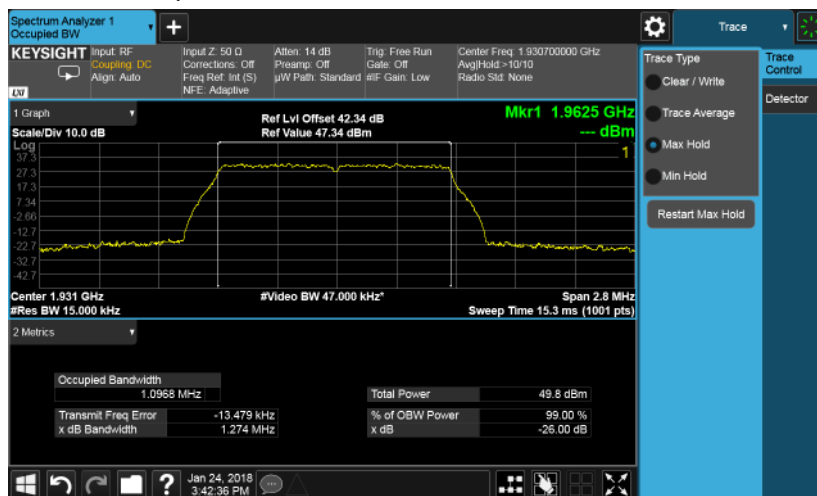
99% Occupied Bandwidth

Antenna	Modulation / Bandwidth	Occupied Bandwidth (MHz)		
		Channel Position B	Channel Position M	Channel Position T
B	QPSK/ 1.4 MHz	1.09	1.10	1.10
	QPSK/ 3.0 MHz	2.69	2.69	2.69
	QPSK/ 5.0 MHz	4.48	4.48	4.48
	QPSK/ 10.0 MHz	8.95	8.95	8.96
	QPSK/ 15.0 MHz	13.43	13.42	13.42
	QPSK/ 20.0 MHz	17.87	17.89	17.88

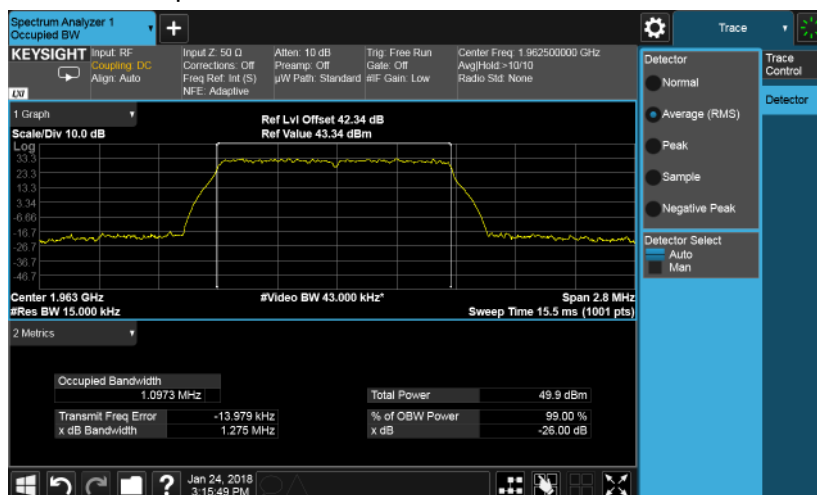
99% Occupied Bandwidth

Antenna	Bandwidth	Occupied Bandwidth (MHz)		
		Modulation 16QAM/ Channel Position M	Modulation 64QAM/ Channel Position M	Modulation 256QAM/ Channel Position M
B	1.4 MHz	1.09	1.09	1.09
	3.0 MHz	2.69	2.69	2.69
	5.0 MHz	4.48	4.49	4.48
	10.0 MHz	8.96	8.97	8.95
	15.0 MHz	13.43	13.42	13.43
	20.0 MHz	17.91	17.90	17.87

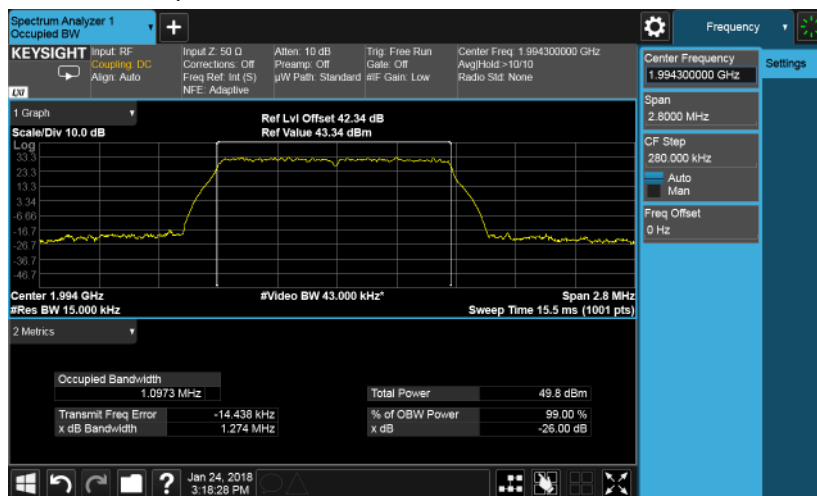
Port B, QPSK 1.4M Channel position B



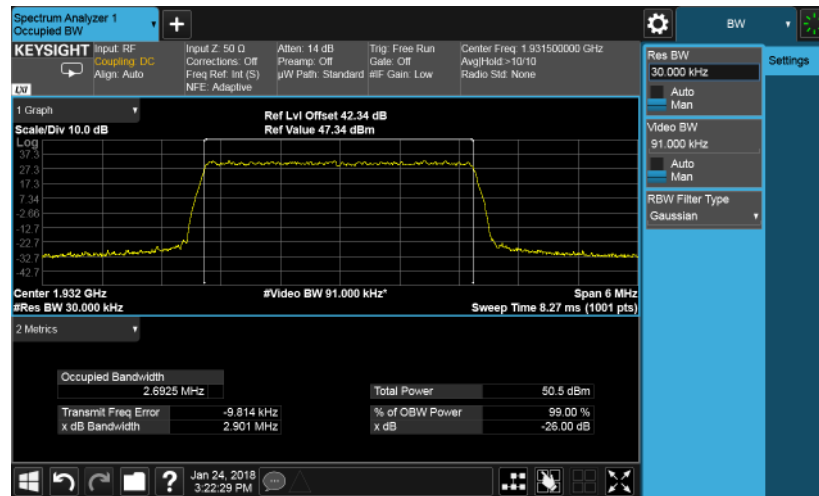
Port B, QPSK 1.4M Channel position M



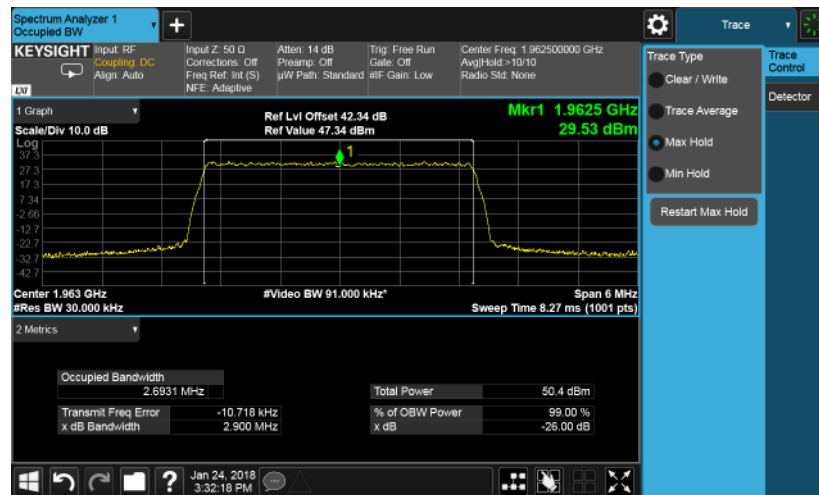
Port B, QPSK 1.4M Channel position T



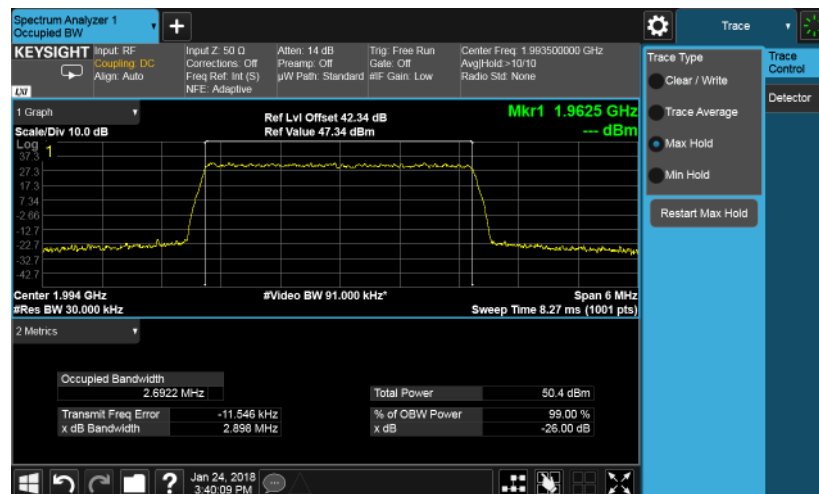
Port B, QPSK 3.0M Channel position B



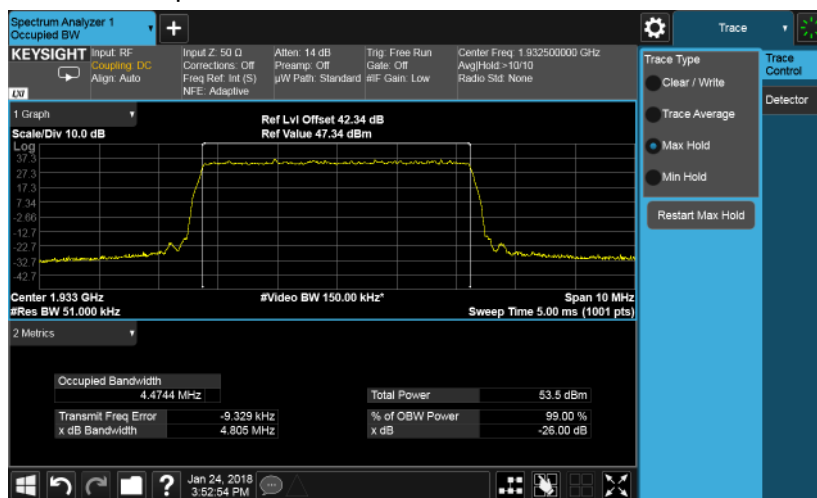
Port B, QPSK 3.0M Channel position M



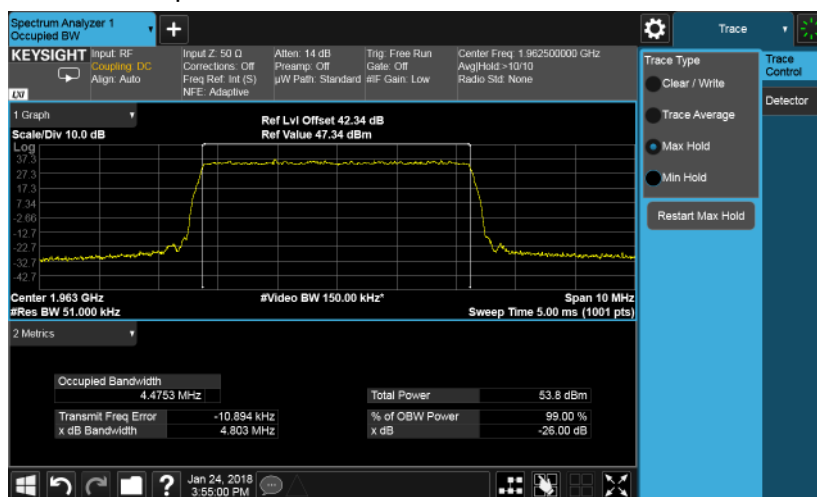
Port B, QPSK 3.0M Channel position T



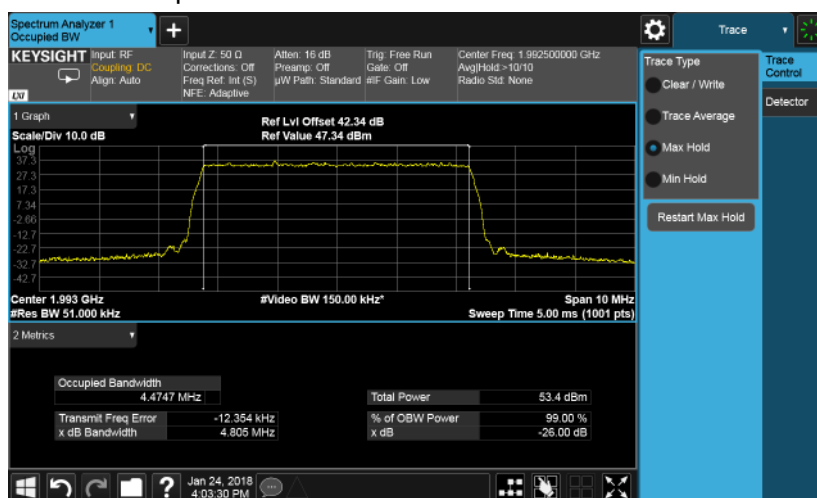
Port B, QPSK 5.0M Channel position B



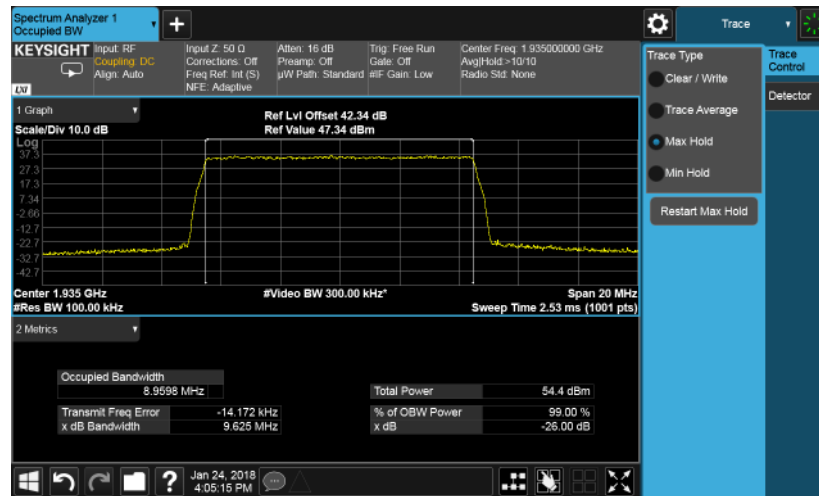
Port B, QPSK 5.0M Channel position M



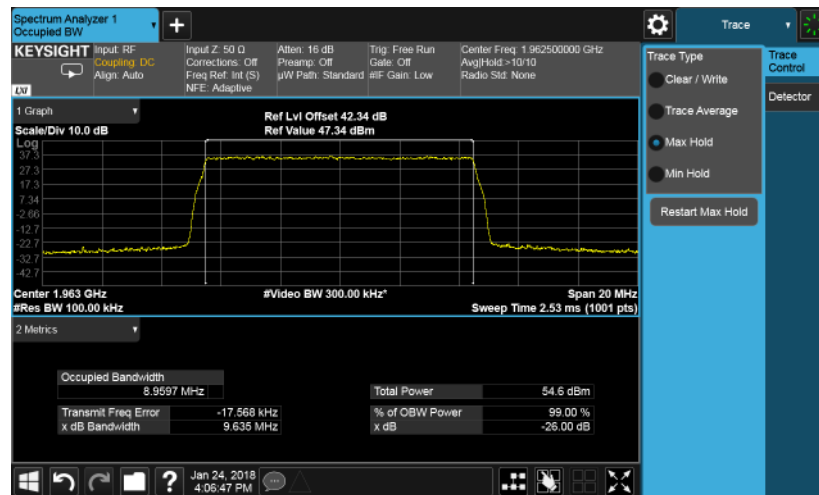
Port B, QPSK 5.0M Channel position T



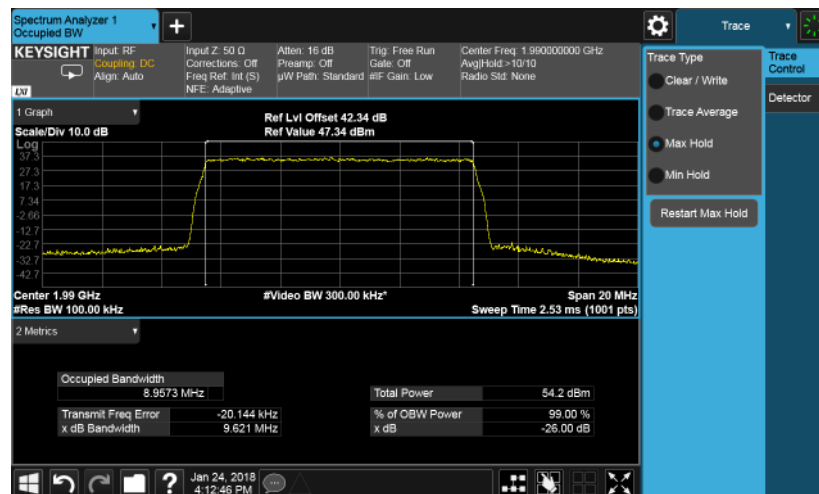
Port B, QPSK 10.0M Channel position B



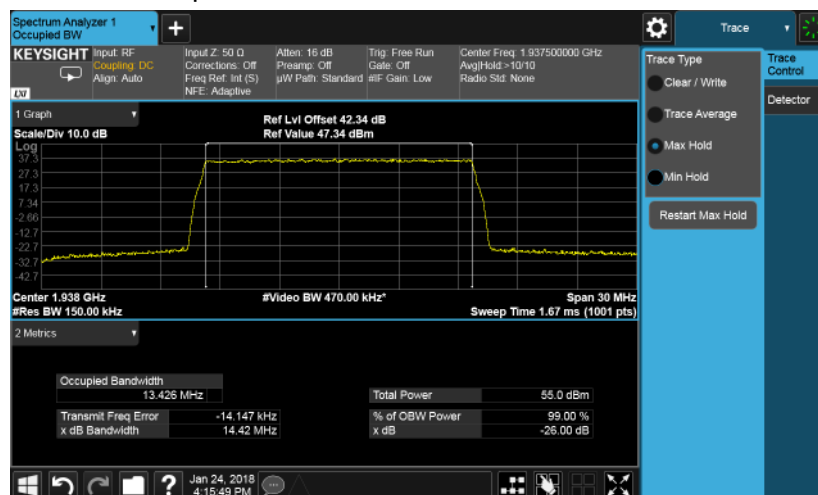
Port B, QPSK 10.0M Channel position M



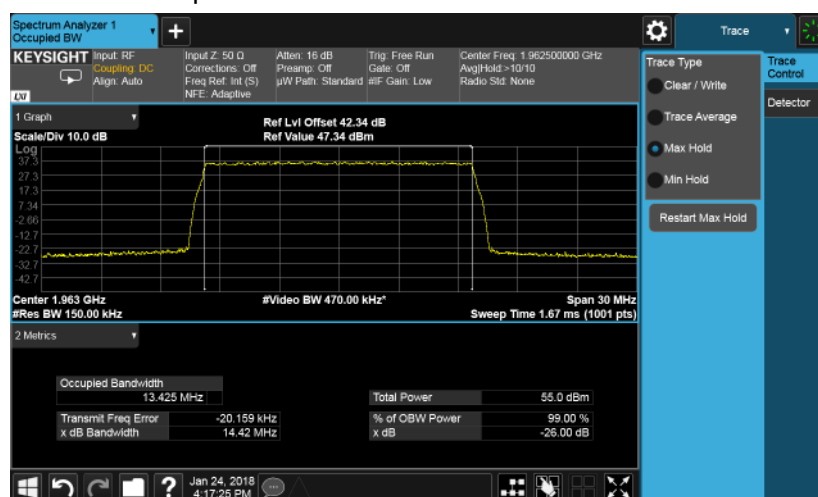
Port B, QPSK 10.0M Channel position T



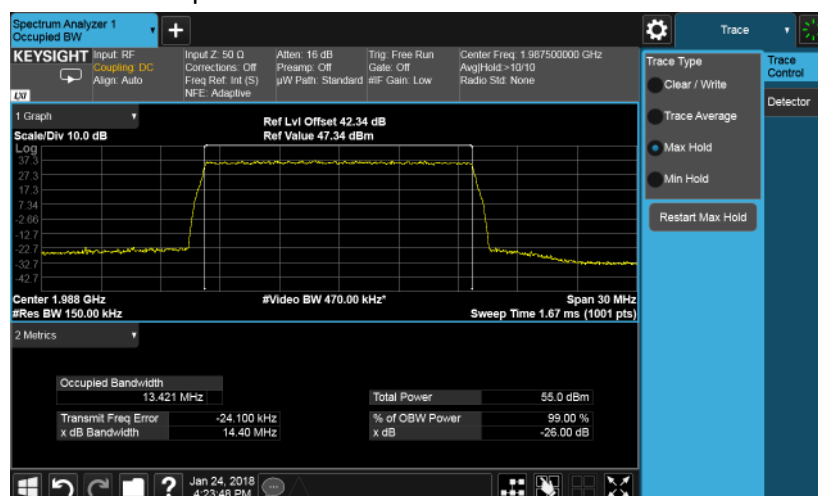
Port B, QPSK 15.0M Channel position B



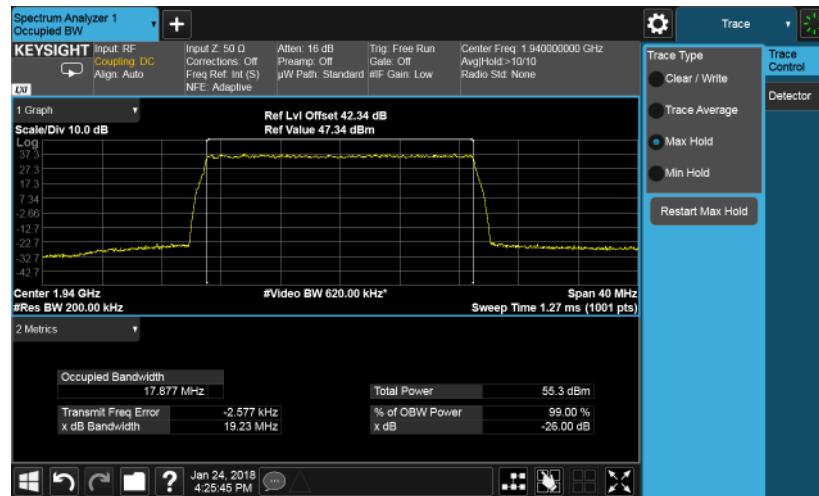
Port B, QPSK 15.0M Channel position M



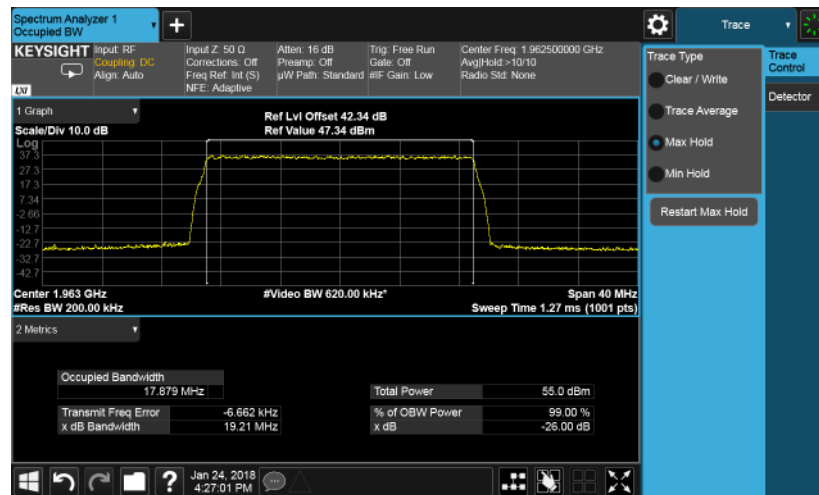
Port B, QPSK 15.0M Channel position T



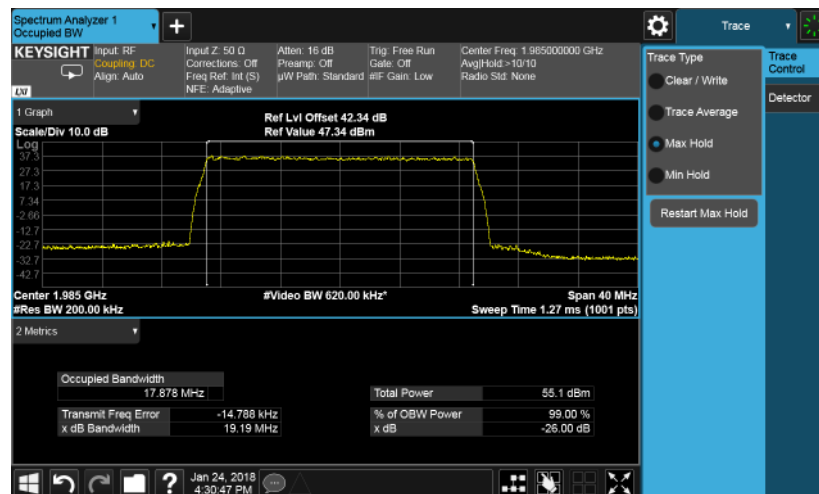
Port B, QPSK 20.0M Channel position B



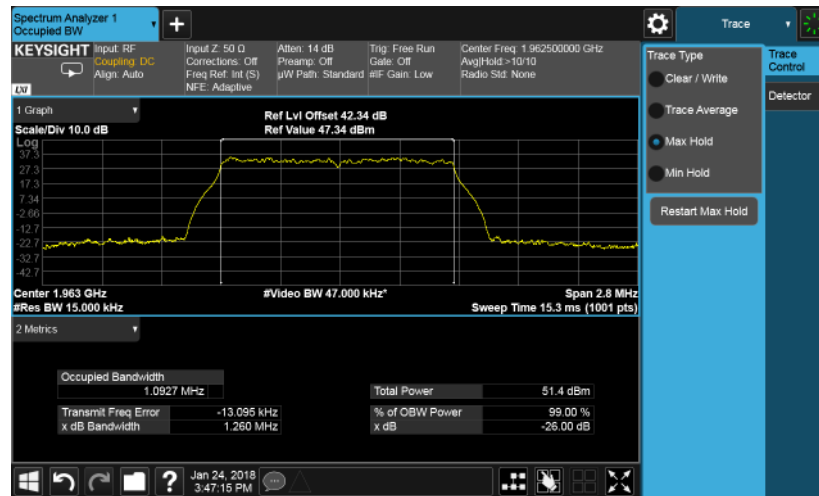
Port B, QPSK 20.0M Channel position M



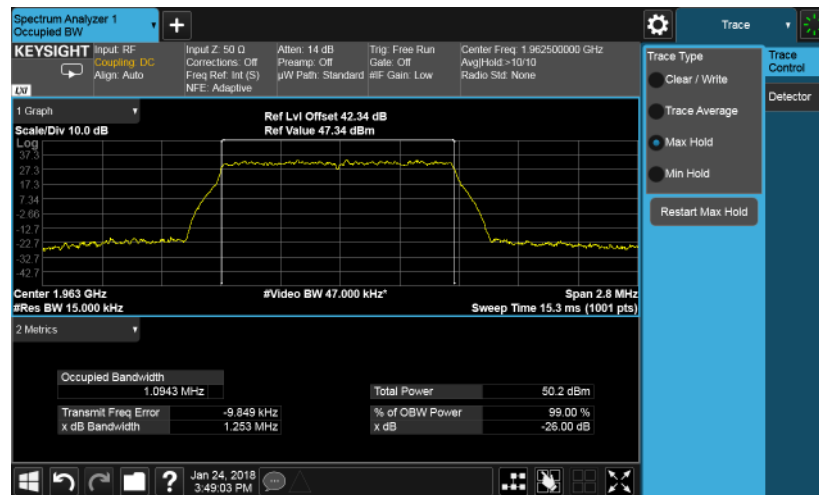
Port B, QPSK 20.0M Channel position T



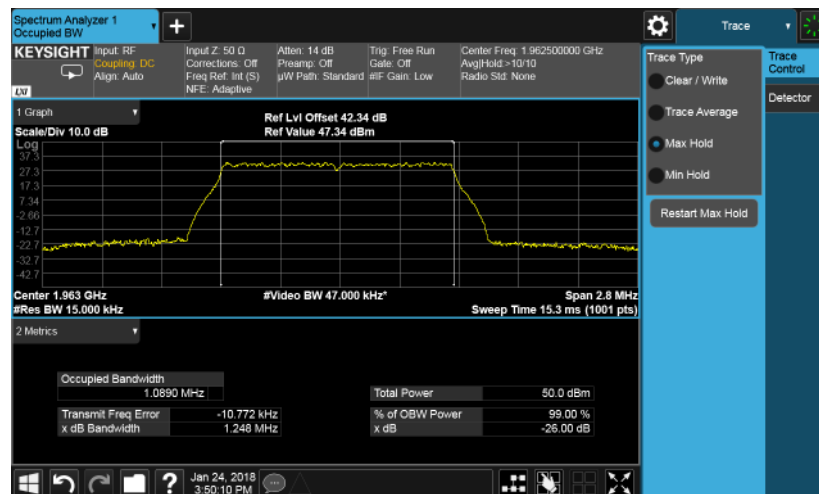
Port B, 16QAM 1.4M Channel Position M



Port B, 64QAM 1.4M Channel Position M

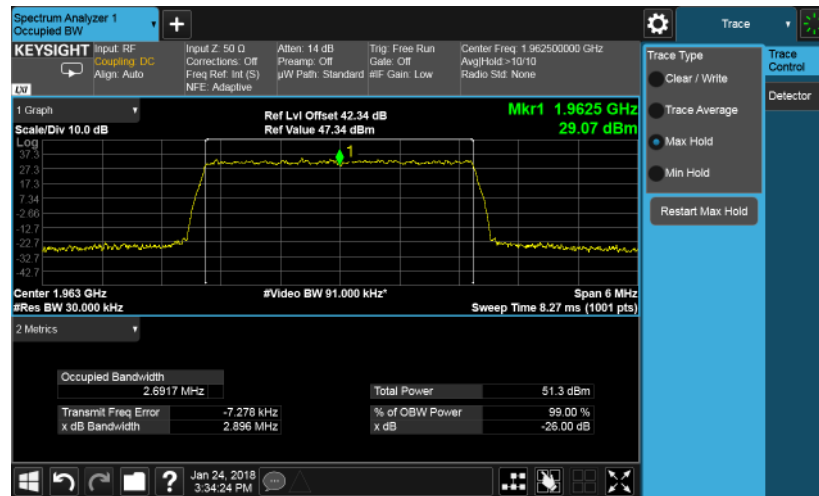


Port B, 256QAM 1.4M Channel Position M

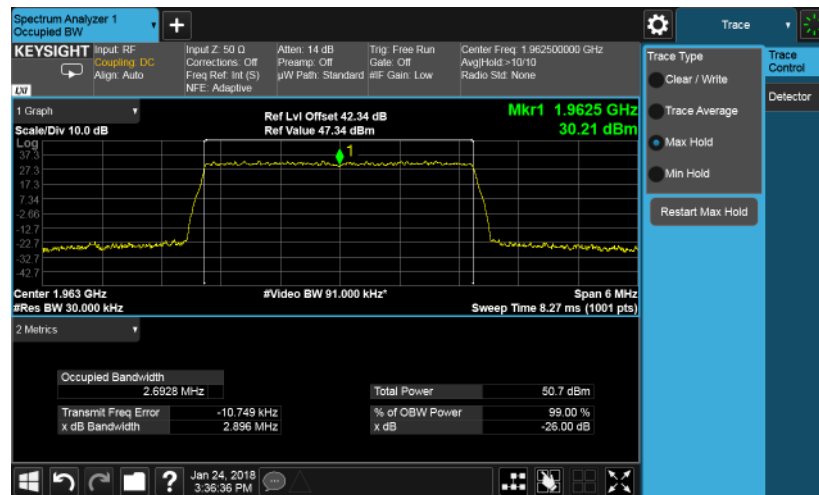




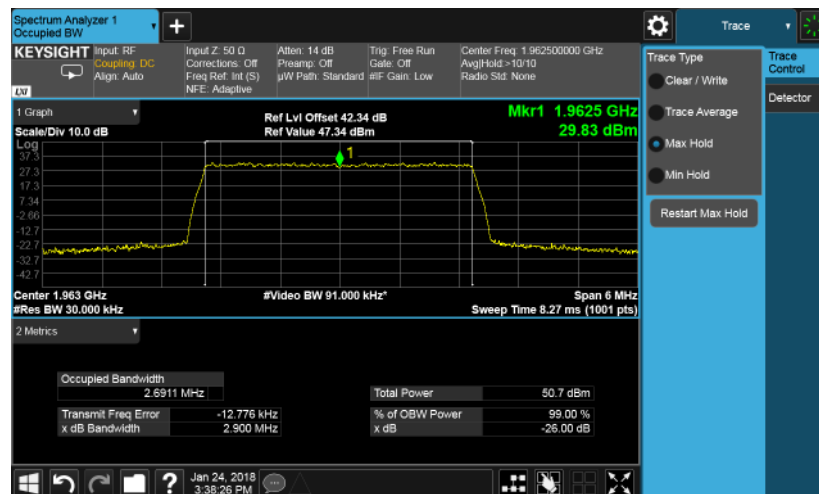
Port B, 16QAM 3.0M Channel Position M



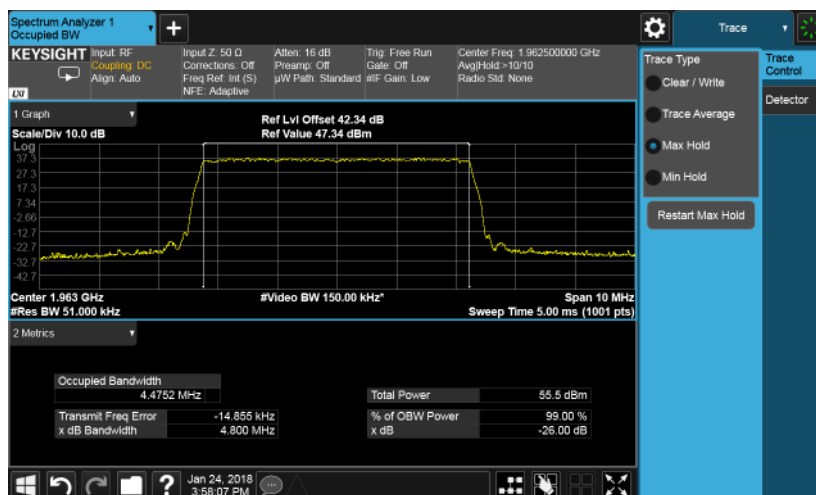
Port B, 64QAM 3.0M Channel Position M



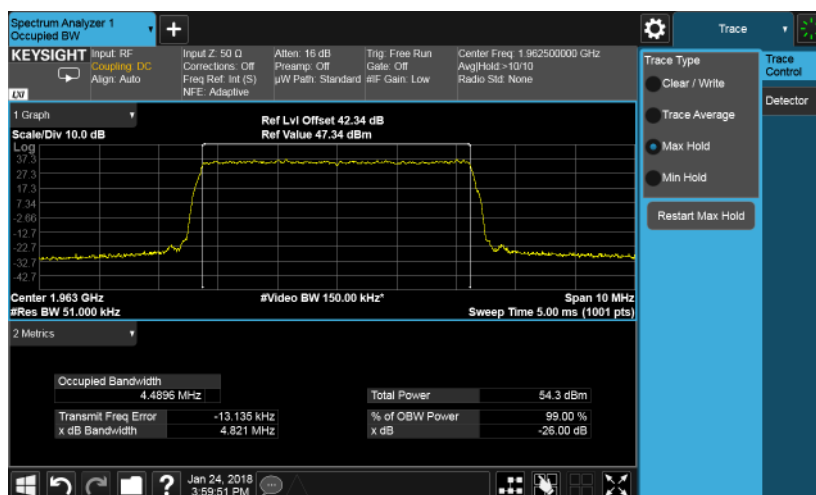
Port B, 256QAM 3.0M Channel Position M



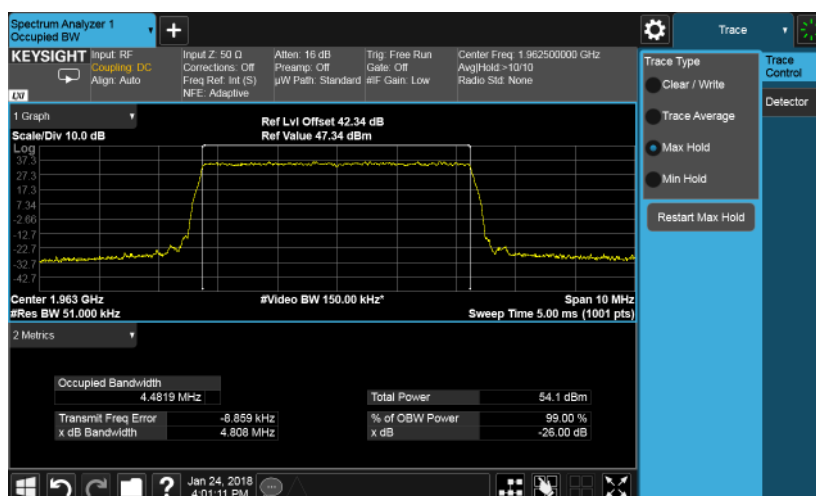
Port B, 16QAM 5.0M Channel Position M



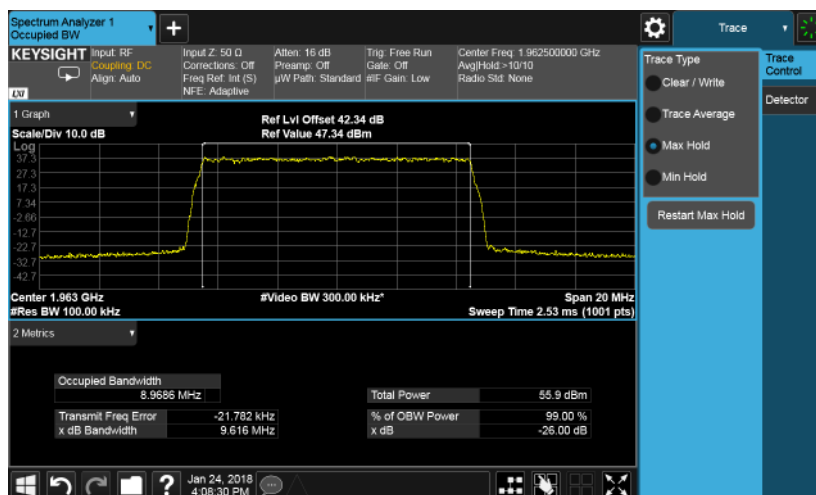
Port B, 64QAM 5.0M Channel Position M



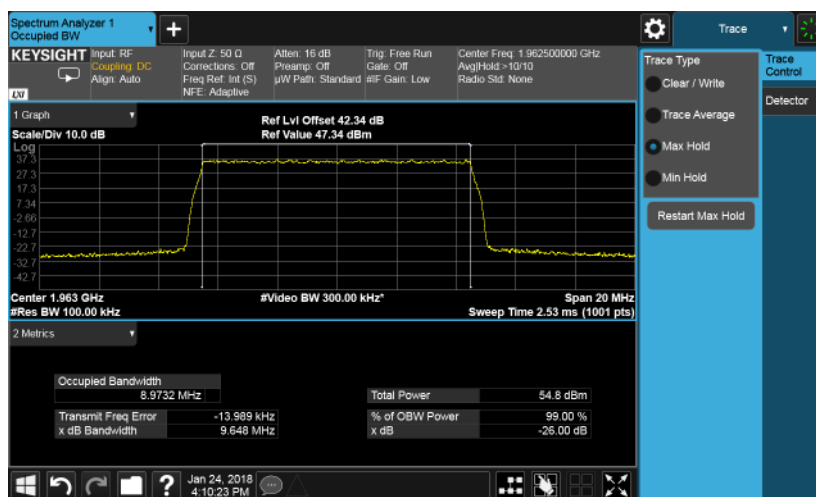
Port B, 256QAM 5.0M Channel Position M



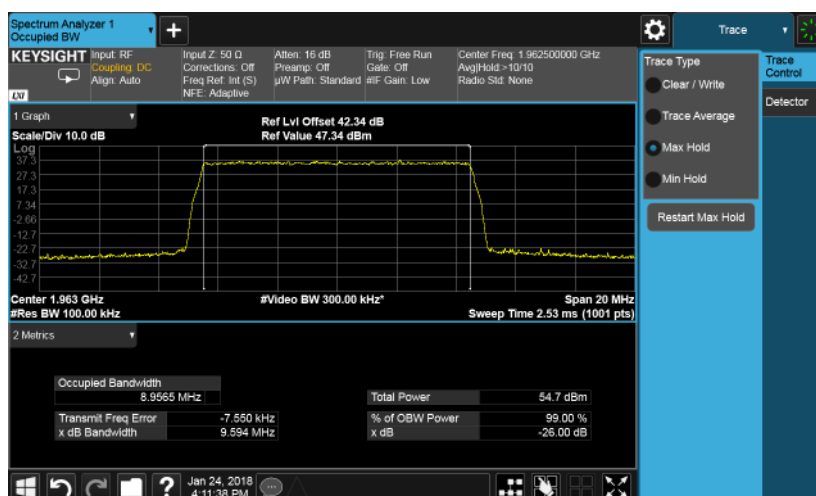
Port B, 16QAM 10.0M Channel Position M



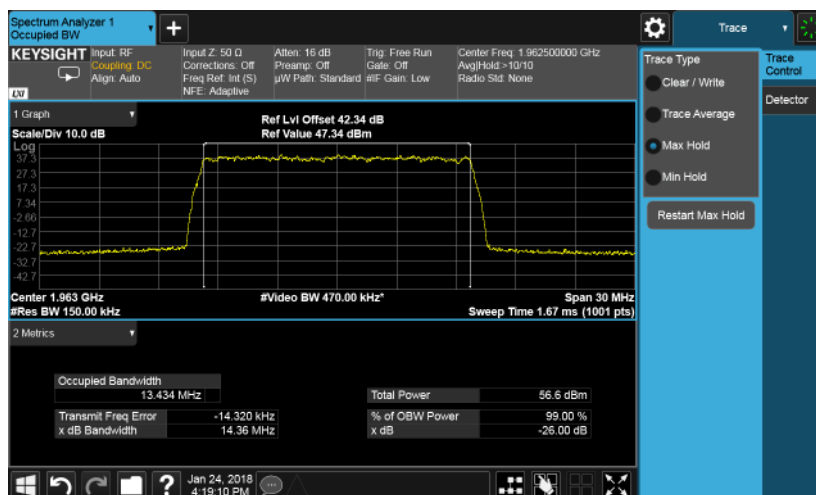
Port B, 64QAM 10.0M Channel Position M



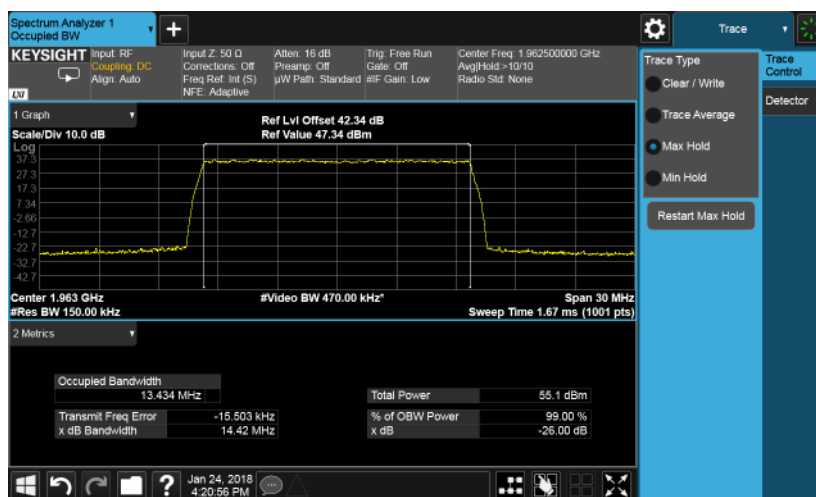
Port B, 256QAM 10.0M Channel Position M



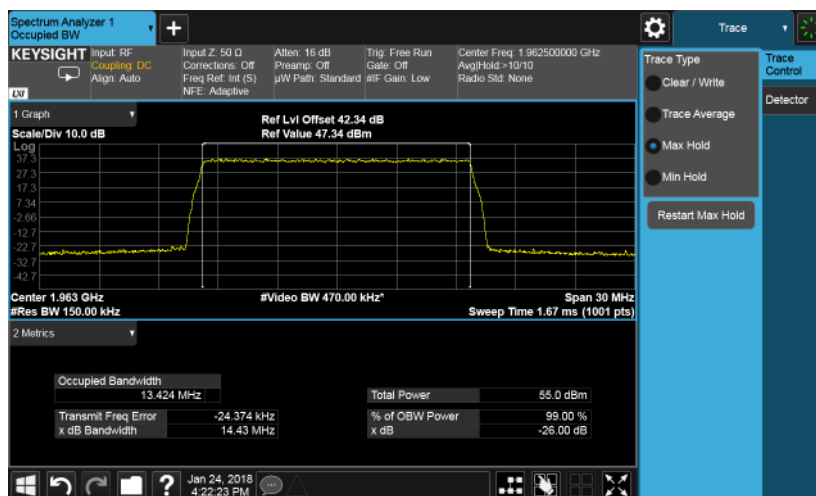
Port B, 16QAM 15.0M Channel Position M



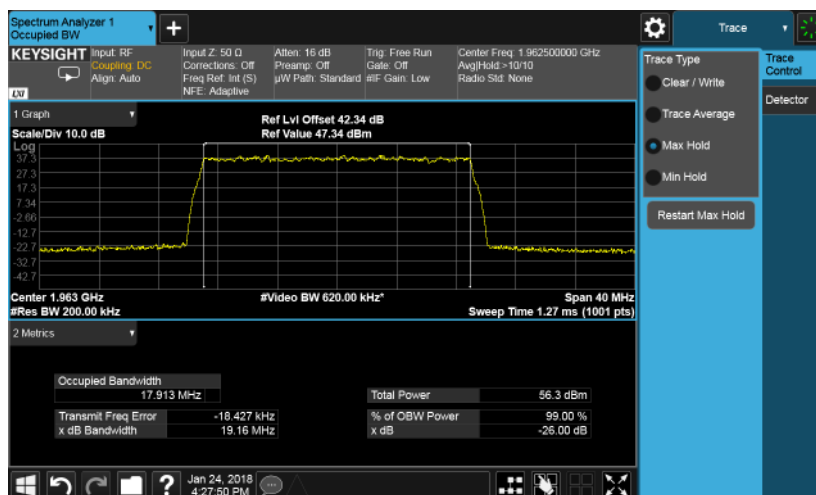
Port B, 64QAM 15.0M Channel Position M



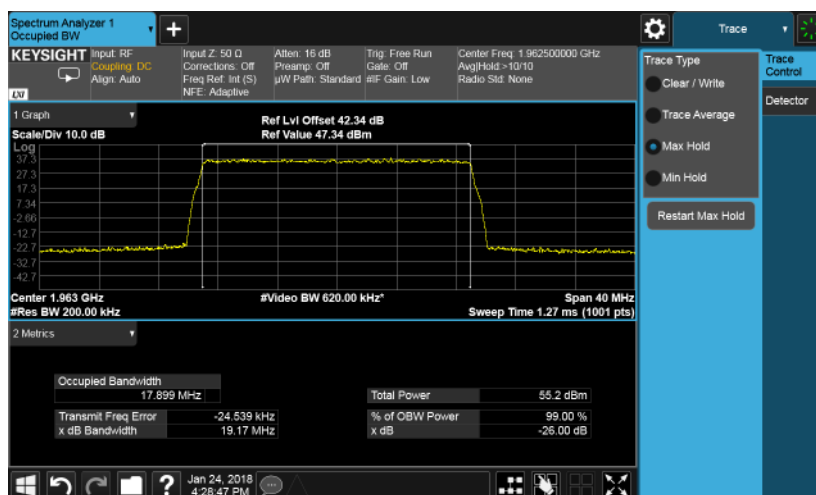
Port B, 256QAM 15.0M Channel Position M



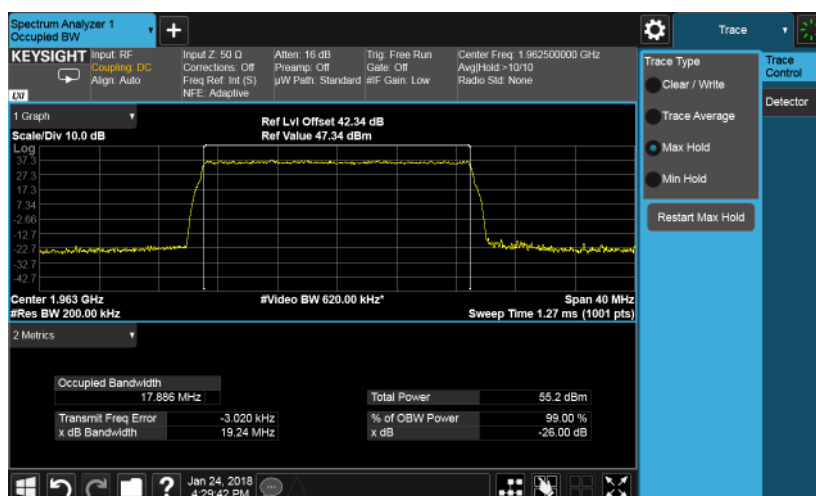
Port B, 16QAM 20.0M Channel Position M



Port B, 64QAM 20.0M Channel Position M



Port B, 256QAM 20.0M Channel Position M



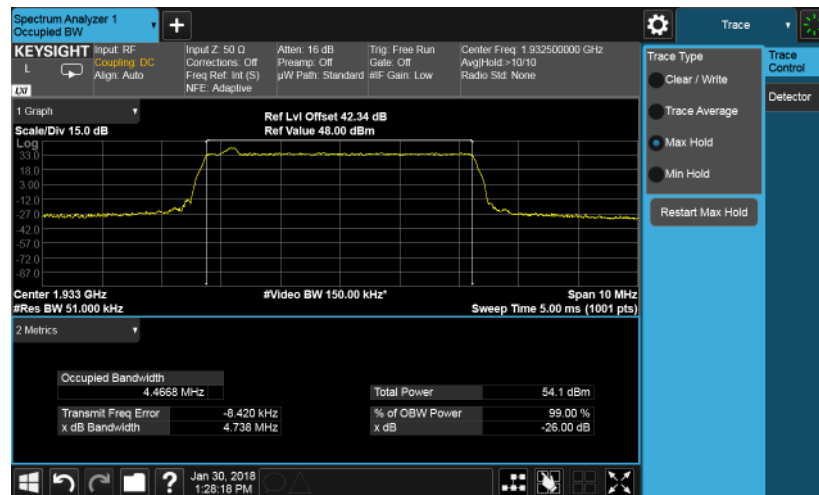
Configuration NB-IOT-InBand-1C  
-26dBc Occupied Bandwidth

Antenna	Modulation / Bandwidth	Occupied Bandwidth (MHz)		
		Channel Position B	Channel Position M	Channel Position T
B	QPSK/ 5.0 MHz	4.73	4.73	4.72
	QPSK/ 20.0 MHz	19.07	18.99	19.06

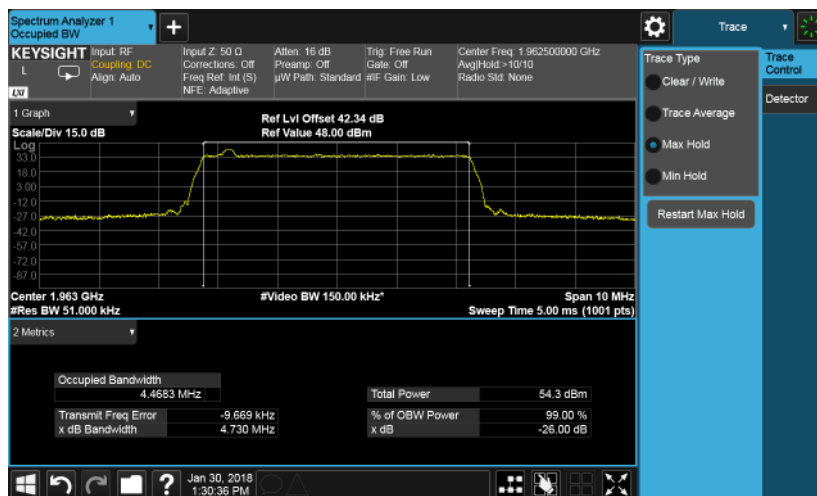
99% Occupied Bandwidth

Antenna	Modulation / Bandwidth	Occupied Bandwidth (MHz)		
		Channel Position B	Channel Position M	Channel Position T
B	QPSK/ 5.0 MHz	4.47	4.47	4.47
	QPSK/ 20.0 MHz	17.88	17.88	17.86

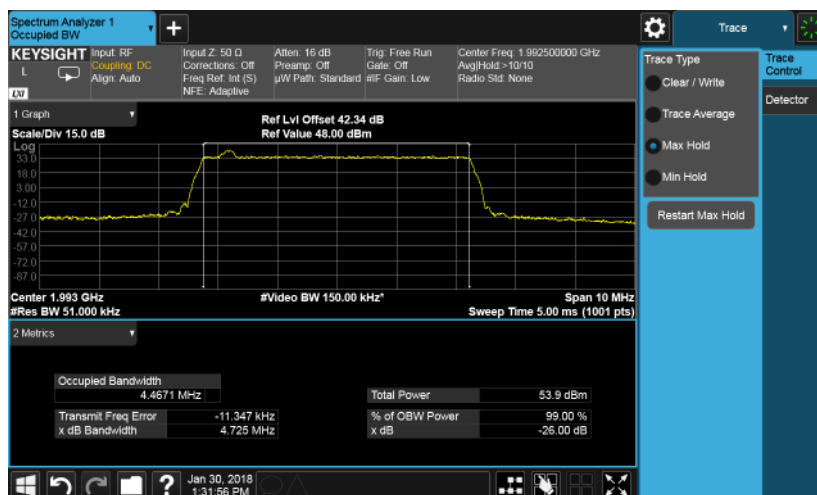
Port B, QPSK 5.0M Channel Position B



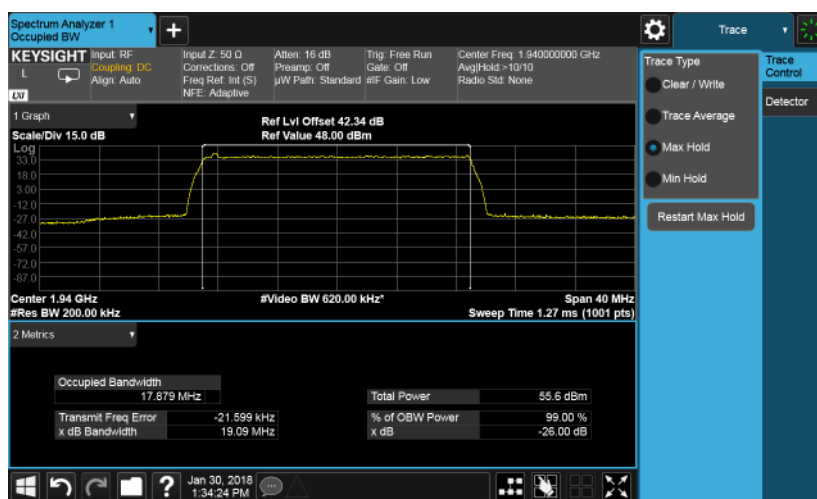
### Port B, QPSK 5.0M Channel Position M



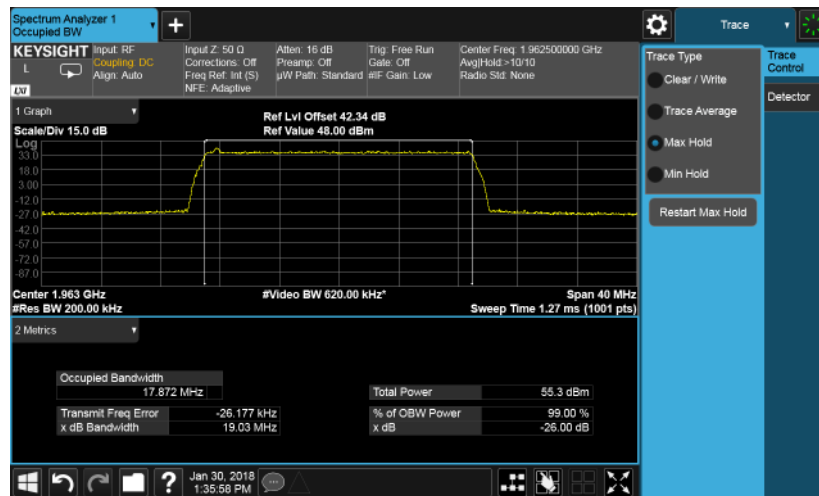
### Port B, QPSK 5.0M Channel Position T



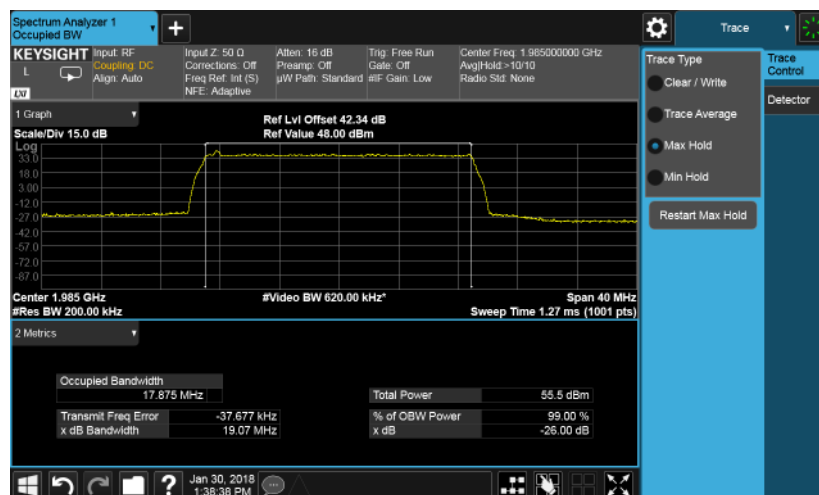
### Port B, QPSK 20.0M Channel Position B



Port B, QPSK 20.0M Channel Position M



Port B, QPSK 20.0M Channel Position T



Configuration NB-IOT-StandAlone-1C  
-26dBc Occupied Bandwidth

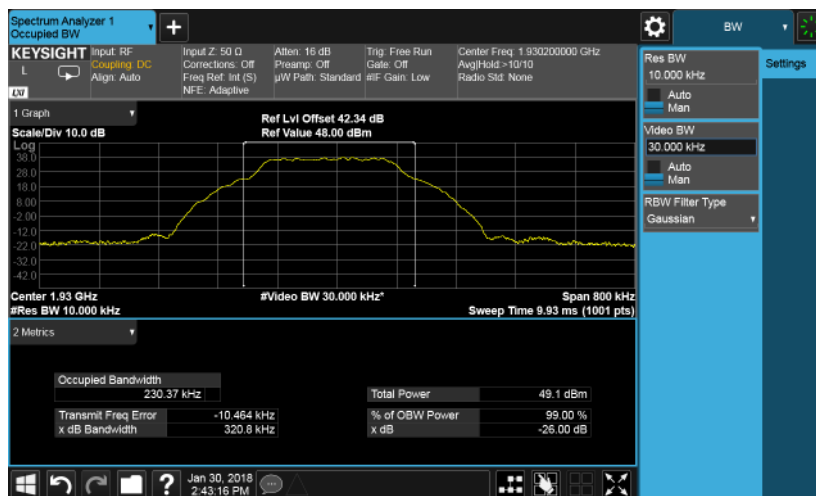
Antenna	Modulation	Occupied Bandwidth (KHz)		
		Channel Position B	Channel Position M	Channel Position T
B	QPSK	320.80	320.60	320.00

99% Occupied Bandwidth

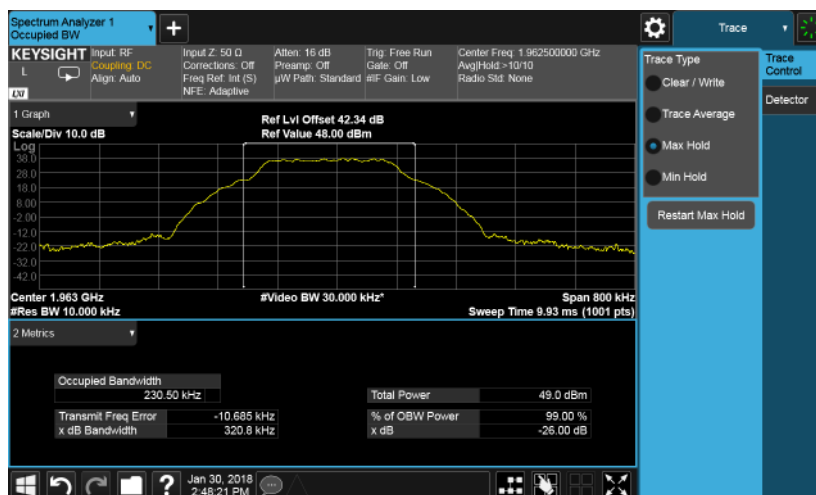
Antenna	Modulation	Occupied Bandwidth (KHz)		
		Channel Position B	Channel Position M	Channel Position T
B	QPSK	230.16	230.41	230.04



Port B, QPSK Channel Position B



Port B, QPSK Channel Position M



Port B, QPSK Channel Position T

