



TEST REPORT

No.I18Z61350-WMD01

for

**Ericsson AB (1900MHz) Radio 4415 B2 B25 KRC 161 636/1 and 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:2018-09-12



Note:

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Test Laboratory:

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

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REPORT HISTORY

| Report Number | Revision | Description | Issue Date |
|----------------------|-----------------|-------------------------|-------------------|
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1. Test Laboratory

1.1. Testing Location

Location 1:CTTL(Kangding Road) 12389B-1

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. China100191

1.2. Project data

Testing Start Date: 2018-08-27

Testing End Date: 2018-09-12

1.3. Signature



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2. Client Information

2.1. Applicant Information

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2.2. Manufacturer Information

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3. Equipment Under Test (EUT)

3.1. About EUT

| | |
|---|---|
| Description | Remote Radio Unit |
| Product Name | Radio 4415 B2 B25 |
| Product Number | KRC 161 636/1, KRC 161 636/3 (with NEBS cover) |
| FCC ID | TA8FKRC161636 |
| IC | 287AB-FS161636 |
| HVIN | FKRC1616361, FKRC1616363 |
| Antenna | N/A |
| Output power | Maximum 46.0dBm (40W) per port |
| Power source | -48V DC |
| Serial Number | D827923982 |
| Hardware Version | R5F |
| Software Version | CXP9017316%7_R73AT |
| 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 NB-IoT standalone: 20MHz 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 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 for all except GSM single RAT and NB-IoT Standalone per port. GSM SR: Maximum 4 carriers NB-IoT Standalone: Maximum 2 carriers |
| Supported modulations | GSM:GMSK,8PSK,AQPSK WCDMA: QPSK, 16QAM, 64QAM LTE: QPSK, 16QAM, 64QAM, 256QAM NB-IoT: QPSK |
| Date of receipt | 2018-08-27 |

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 161 636/1 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 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:

NB-IoT

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

| Configuration | Carrier | Carrier Frequency Configuration (MHz) | | |
|-----------------------------|-----------|---------------------------------------|---------------|---------------|
| | | Bottom | Middle | Top |
| NB-IoT-Standalone-1 C | 1 Carrier | 1930.3 | 1962.5 | 1994.8 |
| NB-IoT-Standalone-2 C | 2 Carrier | 1930.3+1949.8 | 1952.7+1962.3 | 1975.2+1994.8 |
| NB-IoT-Standalone-2 C-BE | 2 Carrier | 1930.3+1931.9 | N/A | 1993.2+1994.8 |

NB-IoT+GSM

| Configuration | Carrier | Carrier Frequency Configuration (MHz) | | |
|------------------------|---------|--|--|--|
| | | Bottom | Middle | Top |
| NB-IoT+GSM-MC-2 | 2SA+1G | (G)1930.4 + (NB)1949.2 + 1949.8 | (G)1950.2+(NB)1969.2+196 9.8 | (G)1970.2+(NB)1989.2+198 9.8 |
| NB-IoT+GSM-MC-3 | 2SA+2G | (G)1930.4 + 1931 + (NB)194 9.2 + 1949.8 | (G)1950.2+1950.8+(NB)196 9.2+1969.8 | (G)1970.2+1970.8+(NB)198 9.2+1989.8 |
| NB-IoT+GSM-MC-2- BE | 2SA+1G | (NB)1930.3+1931.9+(G)193 3.6 | N/A | (G)1986.6+(NB)1988.2+198 9.8 |

| Configuration | Carrier | LTE Carrier Bandwidth | Carrier Frequency Configuration (MHz) | | |
|---------------------------|---------|-----------------------|---------------------------------------|------------------------------------|-------------------------------|
| | | | Bottom | Middle | Top |
| NB-IoT-GB+GS M-MC-1 | 1GB+1G | 10MHz | - | (G)1930.4+(GB)1985 | - |
| NB-IoT-GB+GS M-MC-2 | 1GB+2G | 10MHz | - | (G)1930.4+1931+(GB)1985 | - |
| NB-IoT-GB+GS M-MC-3 | 1GB+3G | 10MHz | - | (G)1930.4+1931+1931.6+(G B)1985 | - |
| NB-IoT-GB+GS M-MC-1-BE | 1GB+1G | 10MHz | (GB)1935+(G)1940.2 | N/A | (G)1979.8+(GB)1985 |
| NB-IoT-GB+GS M-MC-2-BE | 1GB+2G | 10MHz | (GB)1935+(G)1940.2+1 941.8 | N/A | (G)1978.2+1979.8+(GB)1 985 |

NB-IoT +WCDMA

| Configuration | Carrier | Carrier Frequency Configuration (MHz) | | |
|--------------------------|------------|---|--|---|
| | | Bottom | Middle | Top |
| NB-IoT+WCDMA- MC-2 | 2SA+1 W | (NB)1930.3+(W)1940+(NB)194 9.8 | (NB)1952.7+(W)1962.4+(NB)19 72.3 | (NB)1975.2+(W)1985+(NB)199 4.8 |
| NB-IoT+WCDMA- MC-3 | 2SA+3 W | (NB)1930.3+(W)1935+1940+19 45+(NB)1949.8 | (NB)1952.7+(W)1957.4+1962.4 +1967.4+(NB)1972.3 | (NB)1975.2+(W)1980+1985+19 90+(NB)1994.8 |
| NB-IoT+WCDMA- MC-4 | 2SA+4 W | - | (NB)1930.3+1930.9+(W)1977.6 +1982.6+1987.6+1992.6 | - |
| NB-IoT+WCDMA- MC-2-BE | 2SA+1 W | (NB)1930.3+1931.9+(W)1934.6 | N/A | (W)1990.6+(NB)1993.2+1994.8 |

| Configuration | Carrier | LTE Carrier Bandwidth | Carrier Frequency Configuration (MHz) | | |
|-----------------------------|---------|-----------------------|---------------------------------------|--|-------------------------------|
| | | | Bottom | Middle | Top |
| NB-IoT-GB+WC DMA-MC-1 | 1GB+1W | 10MHz | - | (W)1932.4 + (GB)1990.0 | - |
| NB-IoT-GB+WC DMA-MC-2 | 1GB+2W | 10MHz | - | (W)1932.4+1982.6+(GB)199 0.0 | - |
| NB-IoT-GB+WC DMA-MC-3 | 1GB+5W | 10MHz | - | (W)1932.4+1967.6+1972.6+ 1977.6+1982.6+(GB)1990.0 | - |
| NB-IoT-GB+WC DMA-MC-1-BE | 1GB+1W | 10MHz | (GB)1935+(W)1942.4 | N/A | (W)1982.6+(GB)1990 |
| NB-IoT-GB+WC DMA-MC-2-BE | 1GB+2W | 10MHz | (GB)1935+(W)1942.4+1 947.4 | N/A | (W)1977.6+1982.6+(GB) 1990 |

NB-IoT+ LTE

| Configuration | Carrier | LTE Carrier Bandwidth | Carrier Frequency Configuration (MHz) | | |
|-----------------------------|---------|-----------------------|---|---|---|
| | | | Bottom | Middle | Top |
| NB-IoT+LTE-MIM O-MC-2 | 2SA+1L | 1.4MHz | (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 |
| | | 3MHz | (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 |
| | | 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 + (NB)1930.9 + (L)1985 | - |
| NB-IoT+LTE-MIM O-MC-3 | 2SA+4L | 1.4MHz | (NB)1930.3+(L)1937.9+19 39.3+1940.7+1942.1+ (NB)1949.8 | (NB)1952.7+(L)1960.4+19 61.8+1963.2+1964.6+ (NB)1972.3 | (NB)1975.2+(L)1982.9+19 84.3+1985.7+1987.1+ (NB)1994.8 |
| | | 3MHz | (NB)1930.3+(L)1935.5+19 38.5+1941.5+1944.5 + (NB)1949.8 | (NB)1952.7+(L)1958+196 1+1964+1967+(NB)1972. 3 | (NB)1975.2+(L)1980.5+19 83.5+1986.5+1989.5 + (NB)1994.8 |
| | | 5MHz | - | (NB)1930.3+(NB)1930.9+(L)1977.5+1982.5+1987.5 +1992.5 | - |
| | | 10MHz | - | (NB)1930.3+(NB)1930.9+(L)1960+1970+1980+1990 | - |
| | | 15MHz | - | (NB)1930.3+(NB)1930.9 + (L)1942.5+1957.5+1972.5 +1987.5 | - |
| | 2SA+3L | 20MHz | - | (NB)1930.3 + (NB)1930.9 + (L)1945+1965+1985 | - |
| NB-IoT+LTE-MIM O-MC-2-BE | 2SA+1L | 1.4MHz | (NB)1930.3+1931.9+(L)19 32.8 | N/A | (L)1992.3+(NB)1993.2+19 94.8 |
| | | 3MHz | (NB)1930.3+1931.9+(L)19 33.6 | N/A | (L)1991.5+(NB)1993.2+19 94.8 |
| | | 5MHz | (NB)1930.3+1931.9+(L)19 34.6 | N/A | (L)1990.5+(NB)1993.2+19 94.8 |
| | | 10MHz | (NB)1930.3+1931.9+(L)19 37.1 | N/A | (L)1988+(NB)1993.2+199 4.8 |
| | | 15MHz | (NB)1930.3+1931.9+(L)19 39.6 | N/A | (L)1985.5+(NB)1993.2+19 94.8 |
| | | 20MHz | (NB)1930.3+1931.9+(L)19 42.1 | N/A | (L)1983+(NB)1993.2+199 4.8 |



| Configuration | Carrier | LTE Carrier Bandwidth | Carrier Frequency Configuration (MHz) | | |
|----------------------------|---------|-----------------------|---------------------------------------|--|-----------------------|
| | | | Bottom | Middle | Top |
| NB-IoT-GB+LTE-MIMO-MC-1 | 1GB+1L | 10MHz | - | (GB)1935.0 + (L)1990.0 | - |
| NB-IoT-GB+LTE-MIMO-MC-2 | 1GB+2L | 10MHz | - | (GB)1935.0+(L)1980+1990.0 | - |
| NB-IoT-GB+LTE-MIMO-MC-3 | 1GB+5L | 10MHz | - | (GB)1935.0+(L)1950+1960+1970+1980+1990.0 | - |
| NB-IoT-GB+LTE-MIMO-MC-1-BE | 1GB+1L | 10MHz | (GB)1935+(L)1945 | N/A | (L)1980+(GB)1990 |
| NB-IoT-GB+LTE-MIMO-MC-2-BE | 1GB+2L | 10MHz | (GB)1935+(L)1945+1955 | N/A | (L)1970+1980+(GB)1990 |

NB-IoT+ GSM+WCDMA

| Configuration | Carrier | Carrier Frequency Configuration (MHz) | | |
|--------------------------|-----------|---|---|---|
| | | Bottom | Middle | Top |
| NB-IoT+GSM+WCDMA-MC-2 | 2SA+1G+1W | (G)1930.4+(W)1940+(NB)1949.2+1949.8 | (G)1950.2+(W)1960+(NB)1969.2+1969.8 | (G)1970.2+(W)1980+(NB)1989.2+1989.8 |
| NB-IoT+GSM+WCDMA-MC-3 | 2SA+2G+2W | (G)1930.4+1931+(W)1937.4+1942.4+(NB)1949.2+1949.8 | (G)1950.2+1950.8+(W)1957.4+1962.4+(NB)1969.2+1969.8 | (G)1970.2+1970.8+(W)1977.4+1982.4+(NB)1989.2+1989.8 |
| NB-IoT+GSM+WCDMA-MC-2-BE | 2SA+1G+1W | (NB)1930.3+1931.9+(G)1933.6+(W)1936.2 | N/A | (W)1984+(G)1986.6+(NB)1988.2+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-2 | 2SA+1G +1L | 1.4MHz | (G)1930.4+(L)1940+(NB)1 949.2+1949.8 | (G)1950.2+(L)1960+(NB)19 69.2+1969.8 | (G)1970.2+(L)1980+(NB)1 989.2+1989.8 |
| | | 3MHz | (G)1930.4+(L)1940+(NB)1 949.2+1949.8 | (G)1950.2+(L)1960+(NB)19 69.2+1969.8 | (G)1970.2+(L)1980+(NB)1 989.2+1989.8 |
| | | 5MHz | (G)1930.4+(L)1940+(NB)1 949.2+1949.8 | (G)1950.2+(L)1960+(NB)19 69.2+1969.8 | (G)1970.2+(L)1980+(NB)1 989.2+1989.8 |
| | | 10MHz | (G)1930.4+(L)1940+(NB)1 949.2+1949.8 | (G)1950.2+(L)1960+(NB)19 69.2+1969.8 | (G)1970.2+(L)1980+(NB)1 989.2+1989.8 |
| | | 15MHz | (G)1930.4+(L)1940+(NB)1 949.2+1949.8 | (G)1950.2+(L)1960+(NB)19 69.2+1969.8 | (G)1970.2+(L)1980+(NB)1 989.2+1989.8 |
| | | 20MHz | (G)1930.4+(L)1940+(NB)1 949.2+1949.8 | (G)1950.2+(L)1960+(NB)19 69.2+1969.8 | (G)1970.2+(L)1980+(NB)1 989.2+1989.8 |
| NB-IoT+GSM+LT E-MIMO-MC-3 | 2SA+2G +2L | 1.4MHz | (G)1930.4+1931+(L)1939. 3+1940.7+(NB)1949.2+19 49.8 | (G)1950.2+1950.8+(L)1959. 3+1960.7+(NB)1969.2+196 9.8 | (G)1970.2+1970.8+(L)197 9.3+1980.7+(NB)1989.2+ 1989.8 |
| | | 3MHz | (G)1930.4+1931+(L)1938. 5+1941.5+(NB)1949.2+19 49.8 | (G)1950.2+1950.8+(L)1958. 5+1961.5+(NB)1969.2+196 9.8 | (G)1970.2+1970.8+(L)197 8.5+1981.5+(NB)1989.2+ 1989.8 |
| | | 5MHz | (G)1930.4+1931+(L)1937. 5+1942.5+(NB)1949.2+19 49.8 | (G)1950.2+1950.8+(L)1957. 5+1962.5+(NB)1969.2+196 9.8 | (G)1970.2+1970.8+(L)197 7.5+1982.5+(NB)1989.2+ 1989.8 |
| | | 10MHz | - | (G)1930.4+1931+(NB)1931. 6+1932.2+(L)1975+1985 | - |
| | | 15MHz | - | (G)1930.4+1931+(NB)1931. 6+1932.2+(L)1967.5+1982. 5 | - |
| | | 20MHz | - | (G)1930.4+1931+(NB)1931. 6+1932.2+(L)1960+1980 | - |
| NB-IoT+GSM+LT E-MIMO-MC-2-B E | 2SA+1G +1L | 1.4MHz | (NB)1930.3+1931.9+(G)1 933.6+(L)1934.5 | N/A | (L)1985.7+(G)1986.6+(NB)1988.2+1989.8 |
| | | 3MHz | (NB)1930.3+1931.9+(G)1 933.6+(L)1935.3 | N/A | (L)1984.9+(G)1986.6+(NB)1988.2+1989.8 |
| | | 5MHz | (NB)1930.3+1931.9+(G)1 933.6+(L)1936.3 | N/A | (L)1983.9+(G)1986.6+(NB)1988.2+1989.8 |
| | | 10MHz | (NB)1930.3+1931.9+(G)1 933.6+(L)1938.8 | N/A | (L)1981.4+(G)1986.6+(NB)1988.2+1989.8 |
| | | 15MHz | (NB)1930.3+1931.9+(G)1 933.6+(L)1941.3 | N/A | (L)1978.9+(G)1986.6+(NB)1988.2+1989.8 |
| | | 20MHz | (NB)1930.3+1931.9+(G)1 933.6+(L)1943.8 | N/A | (L)1976.4+(G)1986.6+(NB)1988.2+1989.8 |



| Configuration | Carrier | LTE Carrier Bandwidth | Carrier Frequency Configuration (MHz) | | |
|--|---------------|-----------------------|---------------------------------------|---|------------------------------|
| | | | Bottom | Middle | Top |
| NB-IoT-GB+GS M+LTE-MIMO-M C-1 | 1GB+1G +1L | 10MHz | - | (G)1930.4+(L)1975+(GB)1985 | - |
| NB-IoT-GB+GS M+LTE-MIMO-M C-2 | 1GB+4G +1L | 10MHz | - | (G)1930.4+1931+1931.6+1932.2+(L)1975+(GB)1985 | - |
| NB-IoT-GB+GS M+LTE-MIMO-M C-1-BE | 1GB+1G +1L | 10MHz | (GB)1935+(G)1940.2+(L)1945.4 | N/A | (L)1974.6+(G)1979.8+(GB)1985 |

NB-IoT+WCDMA+LTE

| Configuration | Carrier | LTE Carrier Bandwidth | Carrier Frequency Configuration (MHz) | | |
|---------------------------------------|---------------|-----------------------|---|---|---|
| | | | Bottom | Middle | Top |
| NB-IoT+WCDMA +LTE-MIMO-MC- 2 | 2SA+1 W+1L | 1.4MHz | (NB)1930.3+(W)1937.4+(L) 1940.7+(NB)1949.8 | (NB)1952.7+(W)1960+(L) 1963.2+(NB)1972.3 | (NB)1975.2+(W)1982.6+(L)1985.7+(NB)1994.8 |
| | | 3MHz | (NB)1930.3+(W)1937.4+(L) 1941.5+(NB)1949.8 | (NB)1952.7+(W)1960+(L) 1964+(NB)1972.3 | (NB)1975.2+(W)1982.6+(L)1986.5+(NB)1994.8 |
| | | 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)1982.6+(L)1987.5+(NB)1994.8 |
| | | 10MHz | (NB)1930.3+(W)1937.4+(L) 1945+(NB)1949.8 | (NB)1952.7+(W)1960+(L) 1967.5+(NB)1972.3 | (NB)1975.2+(W)1982.6+(L)1990+(NB)1994.8 |
| | | 15MHz | - | (NB)1930.3+1930.9+(W)1 962.4+(L)1987.5 | - |
| | | 20MHz | - | (NB)1930.3+1930.9+(W)1 962.4+(L)1985 | - |
| NB-IoT+WCDMA +LTE-MIMO-MC- 3 | 2SA+2 W+2L | 1.4MHz | (NB)1930.3+(W)1935+1940 +(L)1943.2+1944.6+(NB)19 49.8 | (NB)1952.7+(W)1957.5+1 962.5+(L)1965.7+1967.1+ (NB)1972.3 | (NB)1975.2+(W)1980+198 5+(L)1988.2+1989.6+(NB) 1994.8 |
| | | 3MHz | (NB)1930.3+(W)1935+1940 +(L)1944+1947+(NB)1949. 8 | (NB)1952.7+(W)1957.5+1 962.5+(L)1966.5+1969.5+ (NB)1972.3 | (NB)1975.2+(W)1980+198 5+(L)1989+1992+(NB)199 4.8 |
| | | 5MHz | - | (NB)1930.3+1930.9+(W)1 960+1965+(L)1987.5+199 2.5 | - |
| | | 10MHz | - | (NB)1930.3+1930.9+(W)1 960+1965+(L)1980+1990 | - |
| | | 15MHz | - | (NB)1930.3+1930.9+(W)1 960+1965+(L)1972.5+198 7.5 | - |
| | | 20MHz | - | (NB)1930.3+1930.9+(W)1 947.4+1952.4+(L)1965+1 985 | - |
| NB-IoT+WCDMA +LTE-MIMO-MC- 2-BE | 2SA+1 W+1L | 1.4MHz | (NB)1930.3+1931.9+(L)193 2.8+(W)1936 | N/A | (W)1989.2+(L)1992.3+(N B)1993.2+1994.8 |
| | | 3MHz | (NB)1930.3+1931.9+(L)193 3.6+(W)1937.6 | N/A | (W)1987.6+(L)1991.5+(N B)1993.2+1994.8 |
| | | 5MHz | (NB)1930.3+1931.9+(W)19 34.6+(L)1939.6 | N/A | (L)1985.5+(W)1990.6+(N B)1993.2+1994.8 |
| | | 10MHz | (NB)1930.3+1931.9+(W)19 34.6+(L)1942.1 | N/A | (L)1983+(W)1990.6+(NB) 1993.2+1994.8 |
| | | 15MHz | (NB)1930.3+1931.9+(W)19 34.6+(L)1944.6 | N/A | (L)1980.5+(W)1990.6+(N B)1993.2+1994.8 |
| | | 20MHz | (NB)1930.3+1931.9+(W)19 34.6+(L)1947.1 | N/A | (L)1978+(W)1990.6+(NB) 1993.2+1994.8 |

4. Reference Documents

4.1. Reference Documents for testing

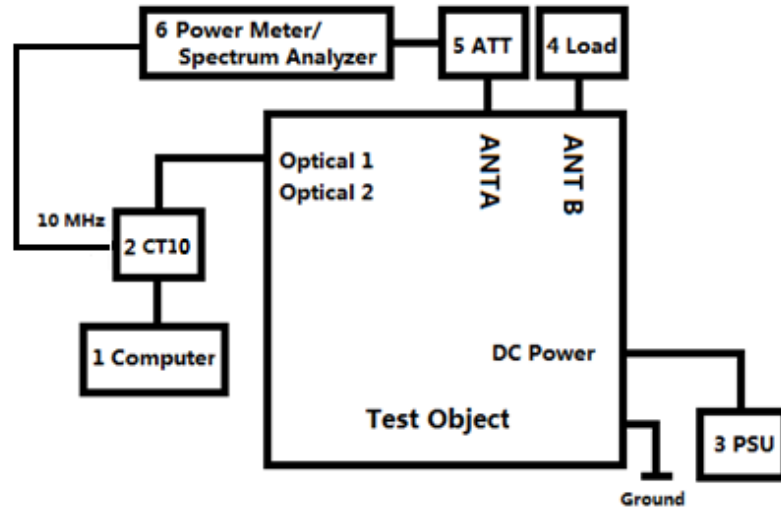
The following documents listed in this section are referred for testing.

| Reference | Title | Version |
|-----------------|--|---------------------------|
| FCC Part 24 | PERSONAL COMMUNICATIONSSERVICES | 10-1-17 Edition |
| FCC Part 2 | FREQUENCY ALLOCATIONS AND RADIO TREATY MATTERS; GENERAL RULES AND REGULATIONS | 10-1-17 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 | v03 |
| KDB 662911 D01 | Emissions Testing of Transmitters with Multiple Outputs in the Same Band | v02r01 |
| RSS-GEN Issue 4 | General Requirements for Compliance of Radio Apparatus | 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.

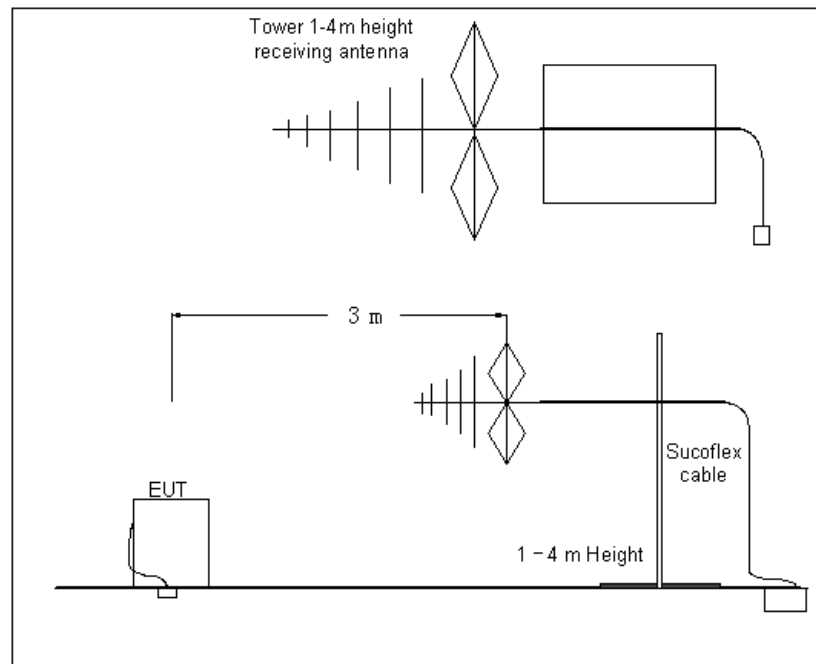
5. TEST SETUP

Test Setup, Conducted Measurement:



| No. | Auxiliary Equipment | Model Type | Version |
|-----|---------------------|----------------------|---------|
| 1 | Computer | HP EliteBook 8540w | - |
| 2 | CT10 | LPC 102 487/1 | R1C |
| 3 | Power supply unit | PCR2000M | - |
| 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 X6.7 meters X6.15 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

The Equipment Under Test (EUT) is a class II permissive change based on Radio 4415 B2 B25 KRC 161 636/3 (FCC ID: TA8FKRC161636, IC: 287AB-FS161636, granted on 2018-03-19), the initial test report number is I18Z60089-WMD01, according to the declaration of changes provided by the applicant and FCC KDB publication 178919 D01, only partial tests were performed on this device.

For detail differences between two models please refer the Declaration of Changes document.

| 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-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/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 | 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 | 2019-07-31 |
| 6 | Power Sensor | NRP-Z91 | 103104 | Rohde & Schwarz | 2019-01-18 |
| 7 | Power Sensor | NRP-Z21 | 102432 | Rohde & Schwarz | 2019-07-31 |
| 8 | Power Meter | NRVD | 102040 | Rohde & Schwarz | 2019-05-03 |
| 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 | 2018-11-27 |
| 13 | Climate Chamber | KTHG-415TBS | 7353K | QINGSHENG | 2018-12-16 |

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 NB-IoT-GuardBand-1C

Maximum Output Power 46.02dBm 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 | 45.65 | 35.47 | 7.50 | 45.86 | 35.62 | 7.44 | 45.52 | 35.22 | 7.48 |
| B | | 45.63 | 35.72 | 7.50 | 45.90 | 36.02 | 7.44 | 45.57 | 35.55 | 7.50 |
| C | | 45.61 | 35.41 | 7.51 | 45.80 | 35.64 | 7.43 | 45.37 | 35.21 | 7.48 |
| D | | 45.61 | 35.64 | 7.50 | 45.88 | 35.75 | 7.44 | 45.51 | 35.34 | 7.48 |
| Total | | 51.65 | 41.58 | - | 51.88 | 41.78 | - | 51.51 | 41.35 | - |

| 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 | 45.77 | 34.02 | 7.48 | 46.01 | 34.08 | 7.41 | 45.64 | 33.87 | 7.51 |
| B | | 45.79 | 34.22 | 7.48 | 46.11 | 34.28 | 7.41 | 45.82 | 33.94 | 7.50 |
| C | | 45.70 | 33.81 | 7.48 | 45.79 | 34.03 | 7.41 | 45.47 | 33.65 | 7.50 |
| D | | 45.73 | 34.02 | 7.49 | 45.91 | 34.14 | 7.41 | 45.62 | 33.84 | 7.51 |
| Total | | 51.77 | 40.04 | - | 51.98 | 40.15 | - | 51.66 | 39.85 | - |

| 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 | QPSK/20.0 | 46.01 | 32.93 | 7.48 | 46.07 | 33.02 | 7.31 | 45.88 | 32.74 | 7.44 |
| B | | 46.13 | 33.10 | 7.48 | 46.26 | 33.24 | 7.31 | 46.04 | 32.93 | 7.45 |
| C | | 45.80 | 32.89 | 7.46 | 45.94 | 32.95 | 7.31 | 45.57 | 32.57 | 7.44 |
| D | | 45.90 | 32.98 | 7.47 | 46.10 | 33.02 | 7.31 | 45.79 | 32.67 | 7.45 |
| Total | | 51.98 | 39.00 | - | 52.11 | 39.08 | - | 51.84 | 38.75 | - |

Configuration NB-IoT-StandAlone-2C

Maximum Output Power 46.02dBm 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 | 45.66 | - | - | 45.93 | - | - | 45.36 | - | - |

Configuration NB-IoT+GSM-MC-2(2SA+1GSM)

Maximum Output Power 46.02dBm 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 | 45.75 | - | - | 45.83 | - | - | 45.70 | - | - |

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

Maximum Output Power 46.02dBm 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 | 45.44 | - | - | 45.64 | - | - | 45.40 | - | - |

Configuration NB-IoT-GB+GSM-MC-1(1GB+1GSM)

Maximum Output Power 46.02dBm per port

| Antenna | GB 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 | QPSK10.0/ GMSK | - | - | - | 45.38 | - | - | - | - | - |

Configuration NB-IoT-GB+GSM-MC-2(1GB+2GSM)

Maximum Output Power 46.02dBm per port

| Antenna | GB 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 | QPSK10.0/ GMSK | - | - | - | 45.16 | - | - | - | - | - |



Configuration NB-IoT-GB+GSM-MC-3(1GB+3GSM)
Maximum Output Power 46.02dBm per port

| Antenna | GB 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 | QPSK10.0/ GMSK | - | - | - | 45.02 | - | - | - | - | - |

Configuration NB-IoT+WCDMA-MC-2 (2SA+1WCDMA)
Maximum Output Power 46.02dBm 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 | 44.79 | - | - | 45.05 | - | - | 44.68 | - | - |
| | QPSK/ 16QAM | 44.78 | - | - | 45.03 | - | - | 44.67 | - | - |

Configuration NB-IoT+WCDMA-MC-3 (2SA+3WCDMA)
Maximum Output Power 46.02dBm 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 | 45.04 | - | - | 45.17 | - | - | 44.84 | - | - |
| | QPSK/ 16QAM | 45.01 | - | - | 45.16 | - | - | 44.83 | - | - |

Configuration NB-IoT+WCDMA-MC-4 (2SA+4WCDMA)
Maximum Output Power 46.02dBm 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 | - | - | - | 44.91 | - | - | - | - | - |
| | QPSK/ 16QAM | - | - | - | 44.87 | - | - | - | - | - |



Configuration NB-IoT-GB+WCDMA-MC-1 (1GB+1WCDMA)
Maximum Output Power 46.02dBm per port

| Antenna | GB 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 | QPSK10.0/ QPSK | - | - | - | 44.95 | - | - | - | - | - |
| | QPSK10.0/ 16QAM | - | - | - | 44.93 | - | - | - | - | - |

Configuration NB-IoT-GB+WCDMA-MC-2 (1GB+2WCDMA)
Maximum Output Power 46.02dBm per port

| Antenna | GB 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 | QPSK10.0/ QPSK | - | - | - | 44.95 | - | - | - | - | - |
| | QPSK10.0/ 16QAM | - | - | - | 44.92 | - | - | - | - | - |

Configuration NB-IoT-GB+WCDMA-MC-3 (1GB+5WCDMA)
Maximum Output Power 46.02dBm per port

| Antenna | GB 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 | QPSK10.0/ QPSK | - | - | - | 44.97 | - | - | - | - | - |
| | QPSK10.0/ 16QAM | - | - | - | 45.00 | - | - | - | - | - |

Configuration NB-IoT+LTE-MIMO-MC-2 (2SA+1LTE)
Maximum Output Power 46.02dBm 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 | 45.33 | - | - | 45.55 | - | - | 45.20 | - | - |
| | QPSK/ QPSK 3.0 | 45.35 | - | - | 45.55 | - | - | 45.21 | - | - |
| | QPSK/ QPSK 5.0 | 45.44 | - | - | 45.62 | - | - | 45.28 | - | - |
| | QPSK/ QPSK 10 | 45.36 | - | - | 45.53 | - | - | 45.17 | - | - |
| | QPSK/ QPSK 15 | 45.52 | - | - | 45.68 | - | - | 45.27 | - | - |
| | QPSK/ QPSK 20 | - | - | - | 45.45 | - | - | - | - | - |

Configuration NB-IoT+LTE-MIMO-MC-3 (2SA+4LTE)
Maximum Output Power 46.02dBm 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 | 45.39 | - | - | 45.60 | - | - | 45.25 | - | - |
| | QPSK/ QPSK 3.0 | 45.67 | - | - | 45.97 | - | - | 45.65 | - | - |
| | QPSK/ QPSK 5.0 | - | - | - | 45.03 | - | - | - | - | - |
| | QPSK/ QPSK 10 | - | - | - | 45.48 | - | - | - | - | - |
| | QPSK/ QPSK 15 | - | - | - | 45.72 | - | - | - | - | - |



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

Maximum Output Power 46.02dBm 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 20.0 | - | - | - | 45.80 | - | - | - | - | - |

Configuration NB-IoT-GB+LTE-MIMO-MC-1 (1GB+1LTE)

Maximum Output Power 46.02dBm per port

| Antenna | GB 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 | QPSK10.0/ QPSK 10.0 | - | - | - | 45.41 | - | - | - | - | - |

Configuration NB-IoT-GB+LTE-MIMO-MC-2 (1GB+2LTE)

Maximum Output Power 46.02dBm per port

| Antenna | GB 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 | QPSK10.0/ QPSK 10.0 | - | - | - | 45.51 | - | - | - | - | - |

Configuration NB-IoT-GB+LTE-MIMO-MC-3 (1GB+5LTE)

Maximum Output Power 46.02dBm per port

| Antenna | GB 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 | QPSK10.0/ QPSK 10.0 | - | - | - | 45.56 | - | - | - | - | - |



Configuration NB-IoT+GSM+WCDMA-MC-2(2SA+1GSM+1WCDMA)
Maximum Output Power 46.02dBm 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/ QPSK | 45.64 | - | - | 45.83 | - | - | 45.64 | - | - |

Configuration NB-IoT+GSM+WCDMA-MC-3(2SA+2GSM+2WCDMA)
Maximum Output Power 46.02dBm 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/ QPSK | 45.78 | - | - | 45.98 | - | - | 45.64 | - | - |



Configuration NB-IoT+GSM+LTE-MIMO-MC-2(2SA+1GSM+1LTE)
Maximum Output Power 46.02dBm 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 | 45.36 | - | - | 45.51 | - | - | 45.28 | - | - |
| | QPSK/ GMSK/ QPSK 3.0 | 45.39 | - | - | 45.52 | - | - | 45.32 | - | - |
| | QPSK/ GMSK/ QPSK 5.0 | 45.53 | - | - | 45.64 | - | - | 45.38 | - | - |
| | QPSK/ GMSK/ QPSK 10.0 | 45.39 | - | - | 45.52 | - | - | 45.28 | - | - |
| | QPSK/ GMSK/ QPSK 15.0 | 45.28 | - | - | 45.40 | - | - | 45.11 | - | - |
| | QPSK/ GMSK/ QPSK 20.0 | 45.16 | - | - | 45.37 | - | - | 45.22 | - | - |



Configuration NB-IoT+GSM+LTE-MIMO-MC-3(2SA+2GSM+2LTE)
Maximum Output Power 46.02dBm 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 | 45.38 | - | - | 45.65 | - | - | 45.36 | - | - |
| | QPSK/ GMSK/ QPSK 3.0 | 45.44 | - | - | 45.56 | - | - | 45.32 | - | - |
| | QPSK/ GMSK/ QPSK 5.0 | 45.69 | - | - | 45.82 | - | - | 45.60 | - | - |
| | QPSK/ GMSK/ QPSK 10.0 | - | - | - | 45.17 | - | - | - | - | - |
| | QPSK/ GMSK/ QPSK 15.0 | - | - | - | 45.35 | - | - | - | - | - |
| | QPSK/ GMSK/ QPSK 20.0 | - | - | - | 45.32 | - | - | - | - | - |

Configuration NB-IoT-GB+GSM+LTE-MIMO-MC-1(1GB+1GSM+1LTE)
Maximum Output Power 46.02dBm per port

| Antenna | GB 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 | QPSK10.0/ GMSK/ QPSK 10.0 | - | - | - | 45.31 | - | - | - | - | - |



Configuration NB-IoT-GB+GSM+LTE-MIMO-MC-2(1GB+4GSM+1LTE)
Maximum Output Power 46.02dBm per port

| Antenna | GB 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 | QPSK10.0/ GMSK/ QPSK 10.0 | - | - | - | 45.32 | - | - | - | - | - |

Configuration NB-IoT+ WCDMA+LTE- MIMO-MC-2(2SA+1WCDMA+1LTE)
Maximum Output Power 46.02dBm 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/ QPSK/ QPSK 1.4 | 45.29 | - | - | 45.46 | - | - | 45.12 | - | - |
| | QPSK/ QPSK/ QPSK 3.0 | 45.44 | - | - | 45.61 | - | - | 45.26 | - | - |
| | QPSK/ QPSK/ QPSK 5.0 | 44.85 | - | - | 45.01 | - | - | 44.65 | - | - |
| | QPSK/ QPSK/ QPSK 10.0 | 44.80 | - | - | 44.96 | - | - | 44.56 | - | - |
| | QPSK/ QPSK/ QPSK 15.0 | - | - | - | 44.67 | - | - | - | - | - |
| | QPSK/ QPSK/ QPSK 20.0 | - | - | - | 44.76 | - | - | - | - | - |



Configuration NB-IoT+ WCDMA+LTE- MIMO-MC-3(2SA+2WCDMA+2LTE)
Maximum Output Power 46.02dBm 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/ QPSK/ QPSK 1.4 | 45.42 | - | - | 45.57 | - | - | 45.17 | - | - |
| | QPSK/ QPSK/ QPSK 3.0 | 45.74 | - | - | 45.90 | - | - | 45.50 | - | - |
| | QPSK/ QPSK/ QPSK 5.0 | - | - | - | 44.67 | - | - | - | - | - |
| | QPSK/ QPSK/ QPSK 10.0 | - | - | - | 44.71 | - | - | - | - | - |
| | QPSK/ QPSK/ QPSK 15.0 | - | - | - | 44.72 | - | - | - | - | - |
| | QPSK/ QPSK/ QPSK 20.0 | - | - | - | 44.73 | - | - | - | - | - |

NOTE:

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

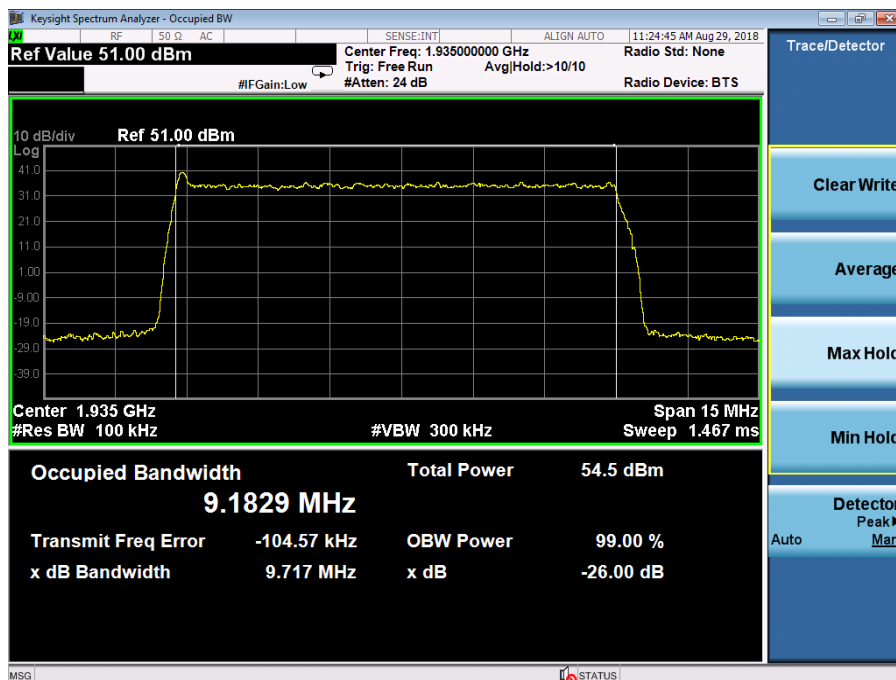
Configuration NB-IoT-GuardBand-1C
-26dBc Occupied Bandwidth

| Antenna | Modulation / Bandwidth | Occupied Bandwidth (MHz) | | |
|---------|------------------------|--------------------------|--------------------|--------------------|
| | | Channel Position B | Channel Position M | Channel Position T |
| B | QPSK/ 10.0 MHz | 9.72 | 9.70 | 9.70 |
| | QPSK/ 15.0 MHz | 14.51 | 14.51 | 14.54 |
| | QPSK/ 20.0 MHz | 19.30 | 19.28 | 19.36 |

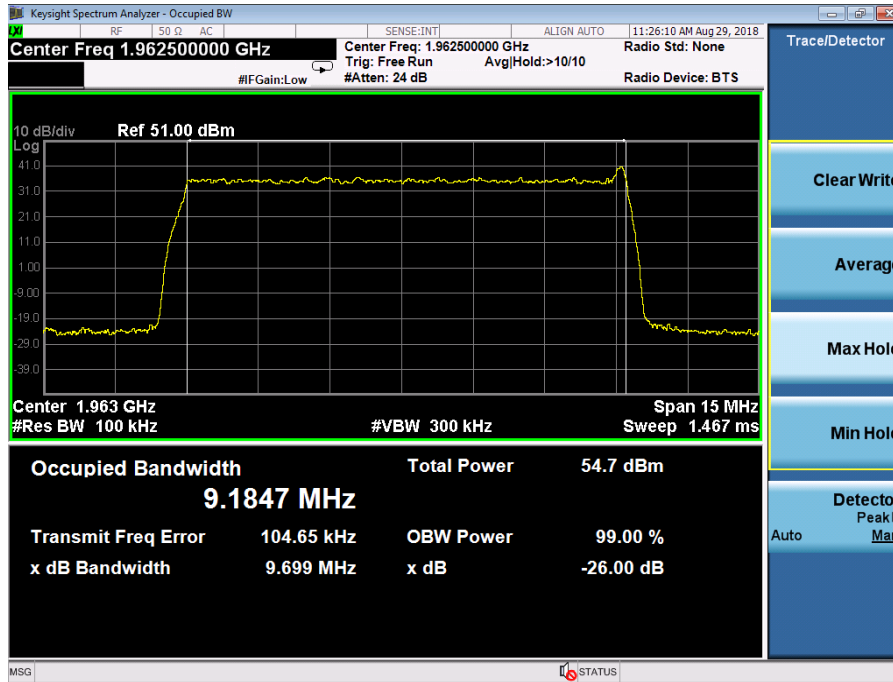
99% Occupied Bandwidth

| Antenna | Modulation / Bandwidth | Occupied Bandwidth (MHz) | | |
|---------|------------------------|--------------------------|--------------------|--------------------|
| | | Channel Position B | Channel Position M | Channel Position T |
| B | QPSK/ 10.0 MHz | 9.183 | 9.185 | 9.184 |
| | QPSK/ 15.0 MHz | 13.717 | 13.719 | 13.728 |
| | QPSK/ 20.0 MHz | 18.161 | 18.162 | 18.188 |

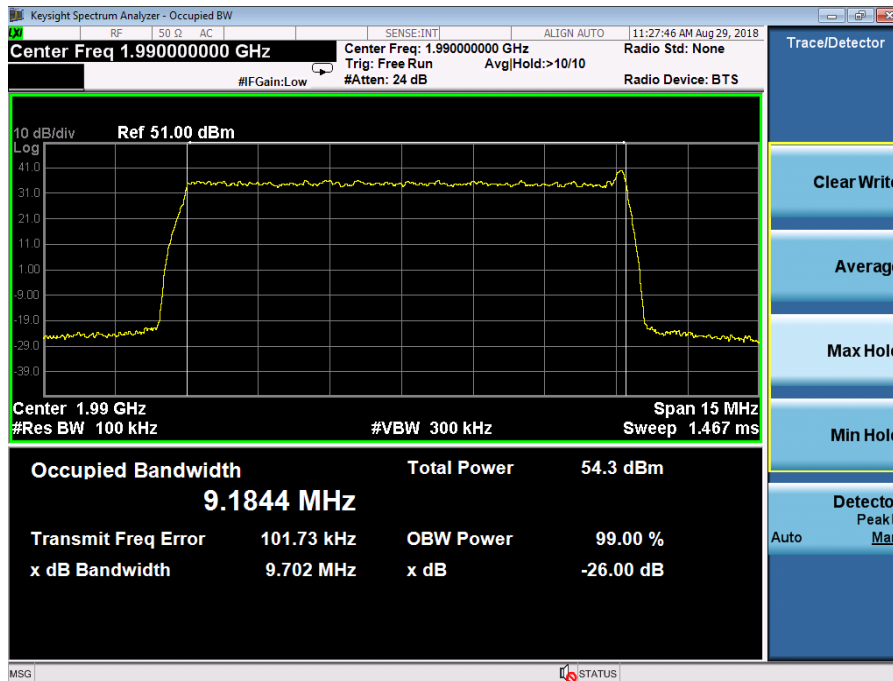
Port B, QPSK 10.0M Channel position B



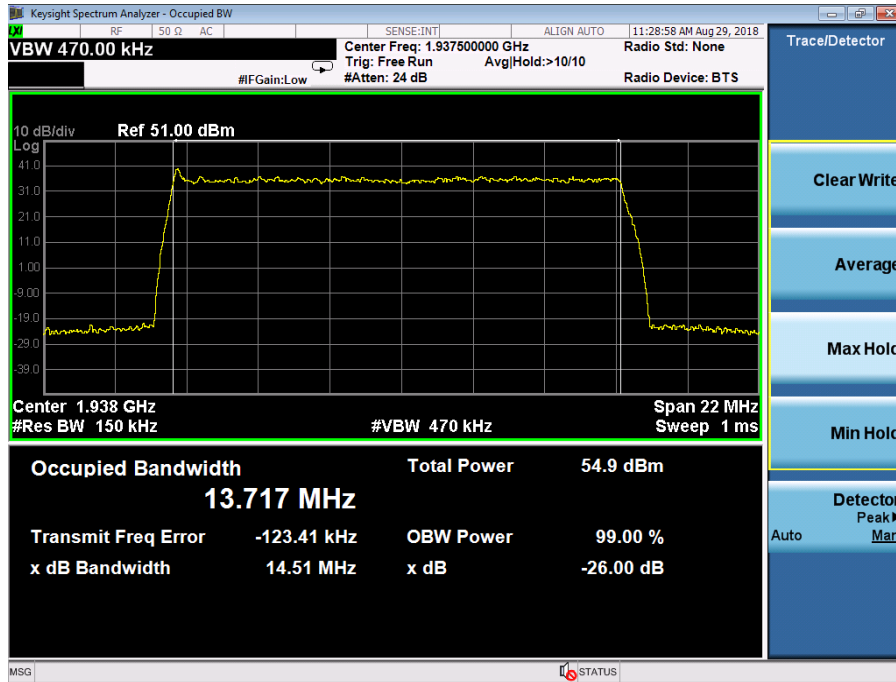
Port B, QPSK 10.0M Channel position M



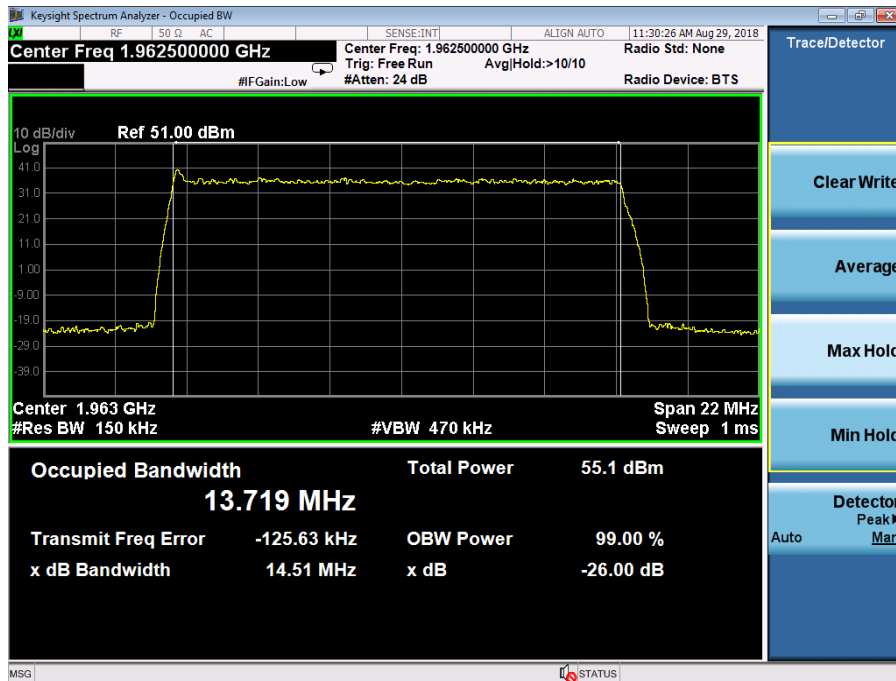
Port B, QPSK 10.0M Channel position T



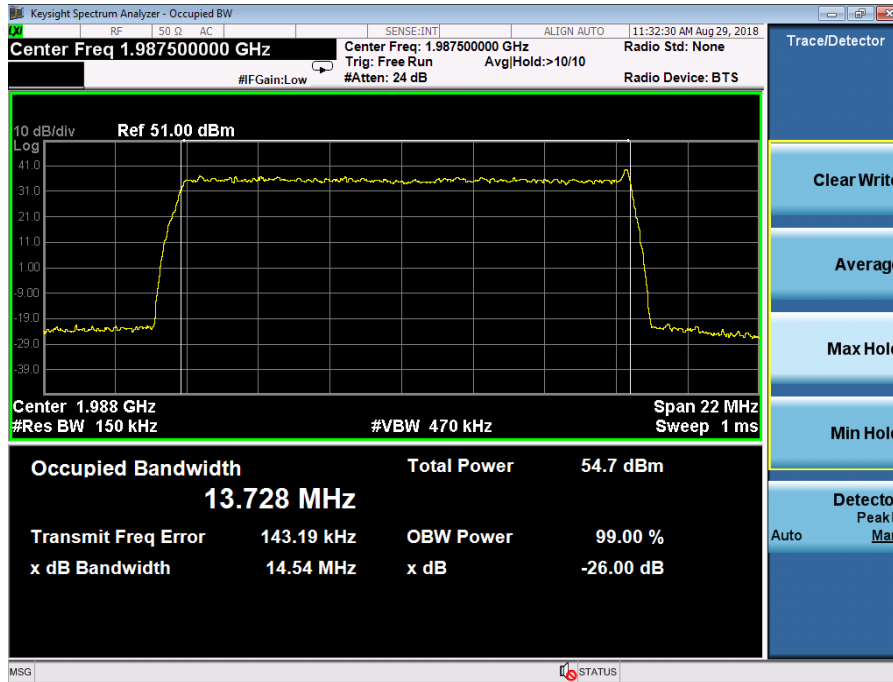
Port B, QPSK 15.0M Channel position B



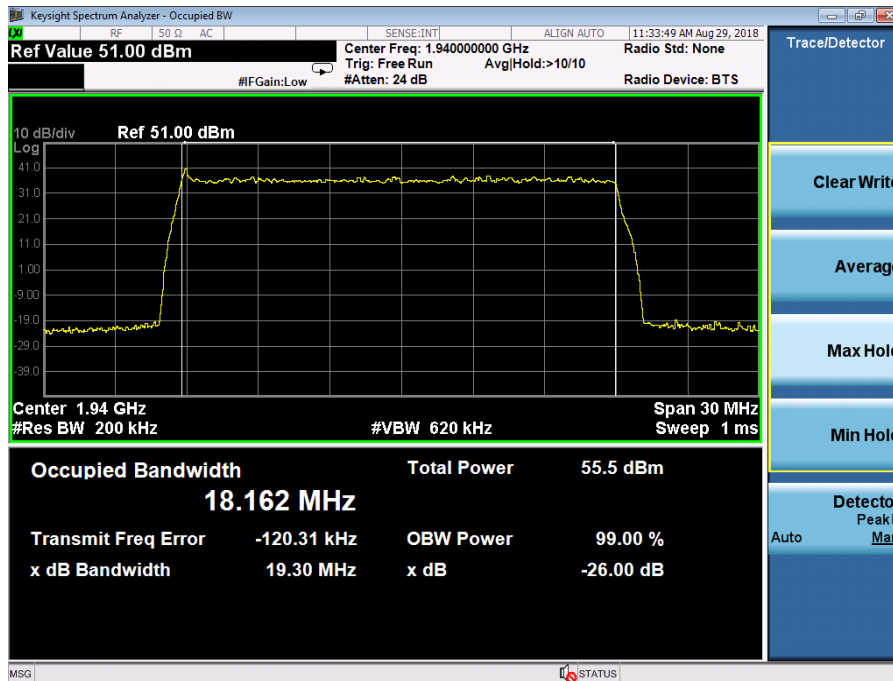
Port B, QPSK 15.0M Channel position M



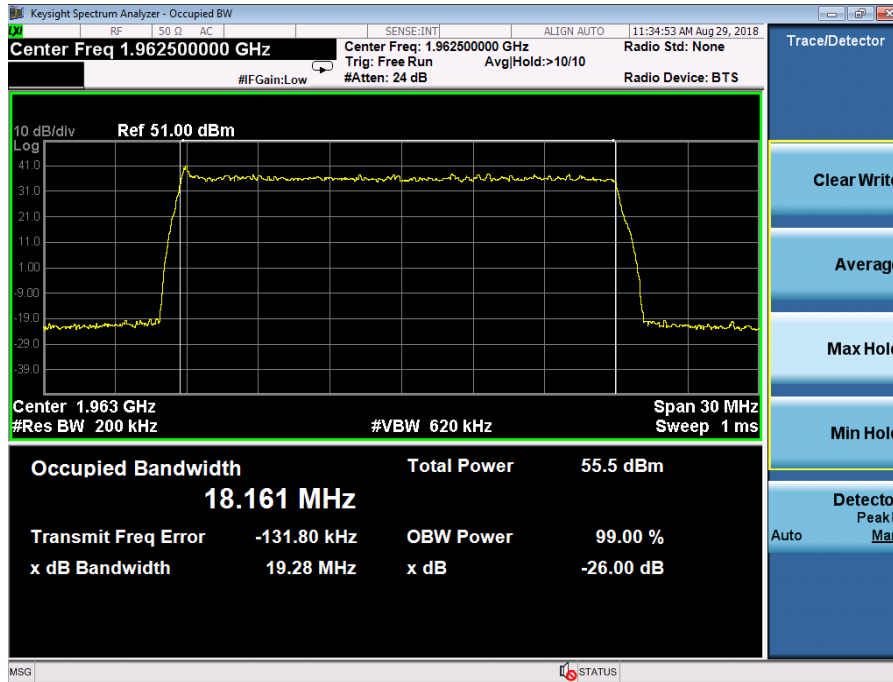
Port B, QPSK 15.0M Channel position T



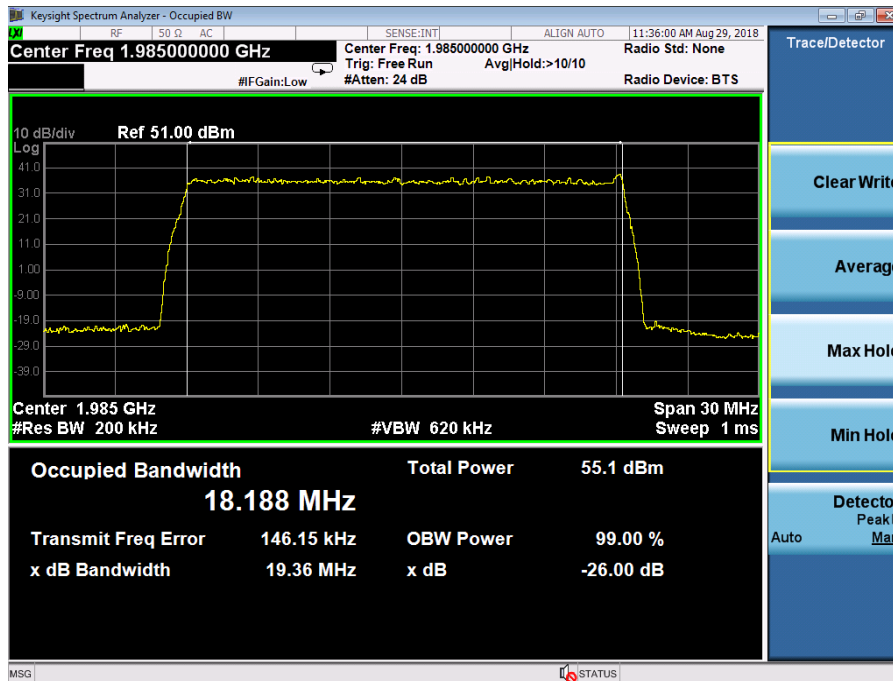
Port B, QPSK 20.0M Channel position B



Port B, QPSK 20.0M Channel position M



Port B, QPSK 20.0M Channel position T



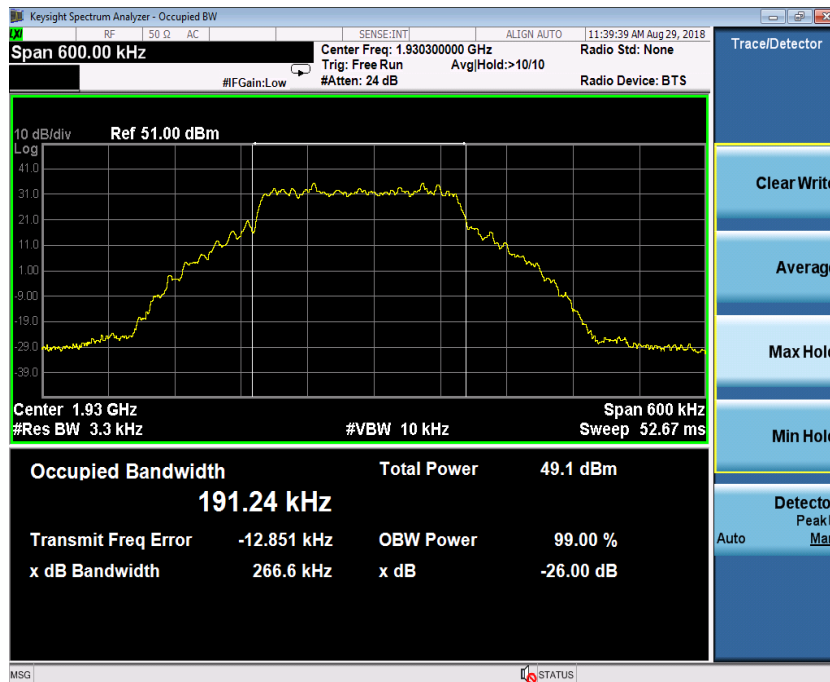
Configuration NB-IoT-StandAlone-1C
-26dBc Occupied Bandwidth

| Antenna | Modulation | Occupied Bandwidth (KHz) | | |
|---------|------------|--------------------------|--------------------|--------------------|
| | | Channel Position B | Channel Position M | Channel Position T |
| B | QPSK | 266.6 | 266.6 | 266.3 |

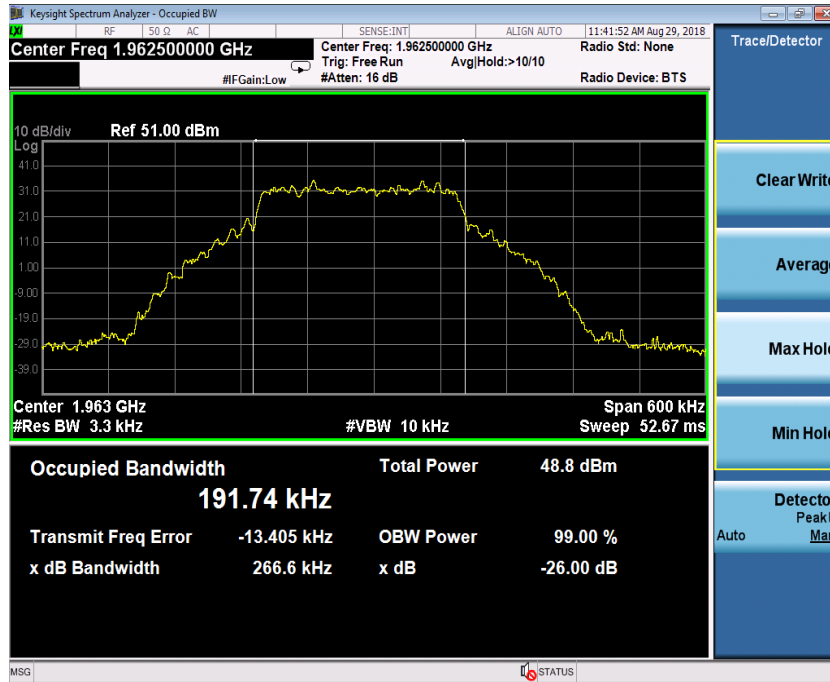
99% Occupied Bandwidth

| Antenna | Modulation | Occupied Bandwidth (KHz) | | |
|---------|------------|--------------------------|--------------------|--------------------|
| | | Channel Position B | Channel Position M | Channel Position T |
| B | QPSK | 191.24 | 191.74 | 191.90 |

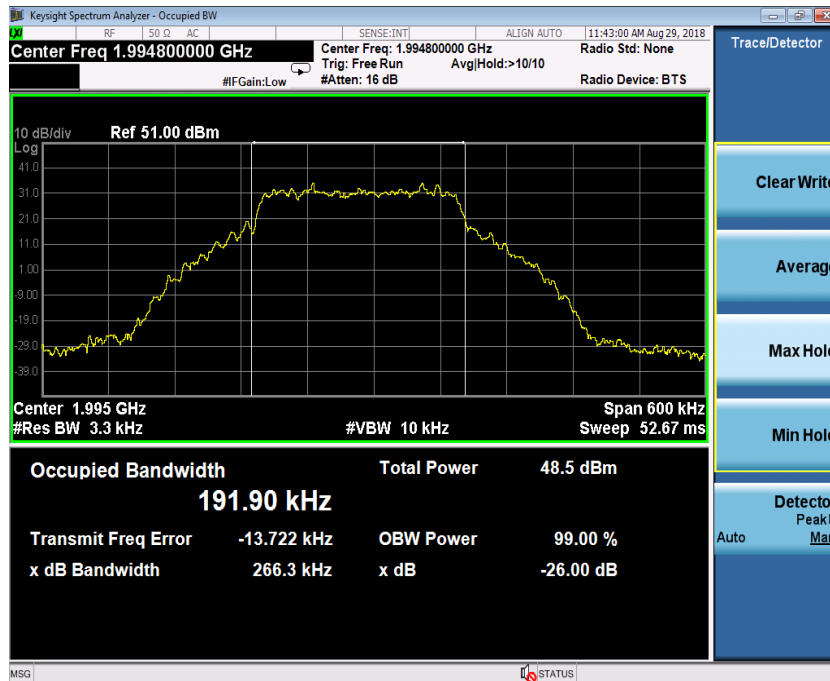
Port B, QPSK Channel Position B



Port B, QPSK Channel Position M



Port B, QPSK Channel Position T





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 [10Log4] by using the Measure and Add 10Log(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. Spectrum analyzer detector was set as RMS.

The limit was adjusted with -13.01dB [10Log(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.

A.3.3 Measurement limit

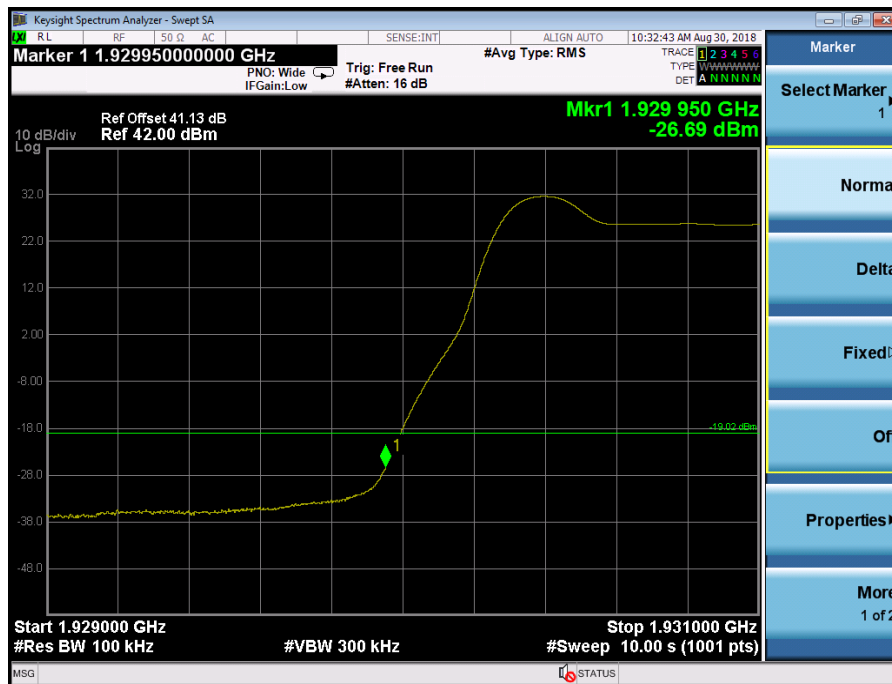
The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10\log(P)$ dB.

A.3.4 Measurement result

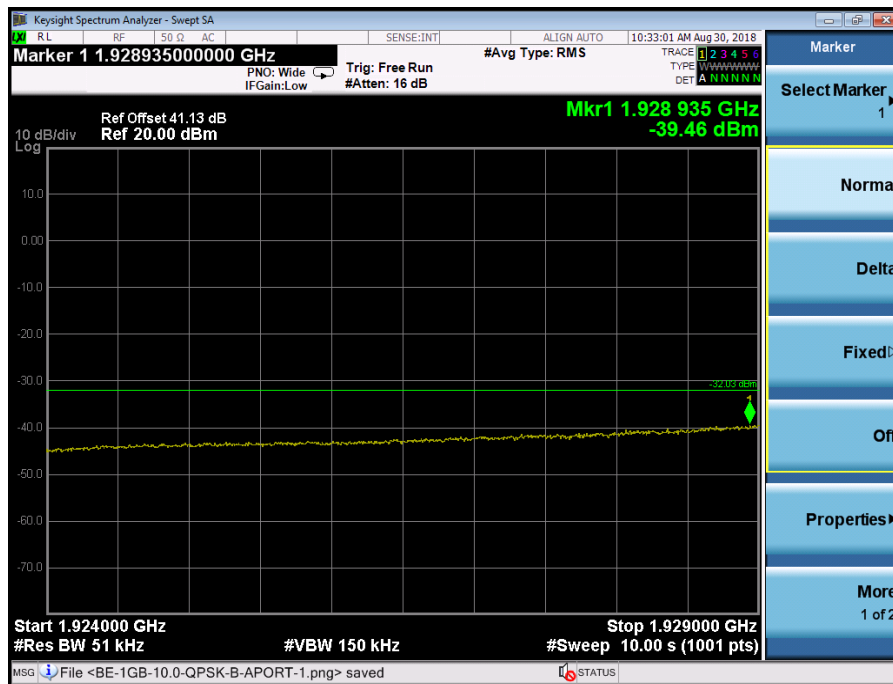
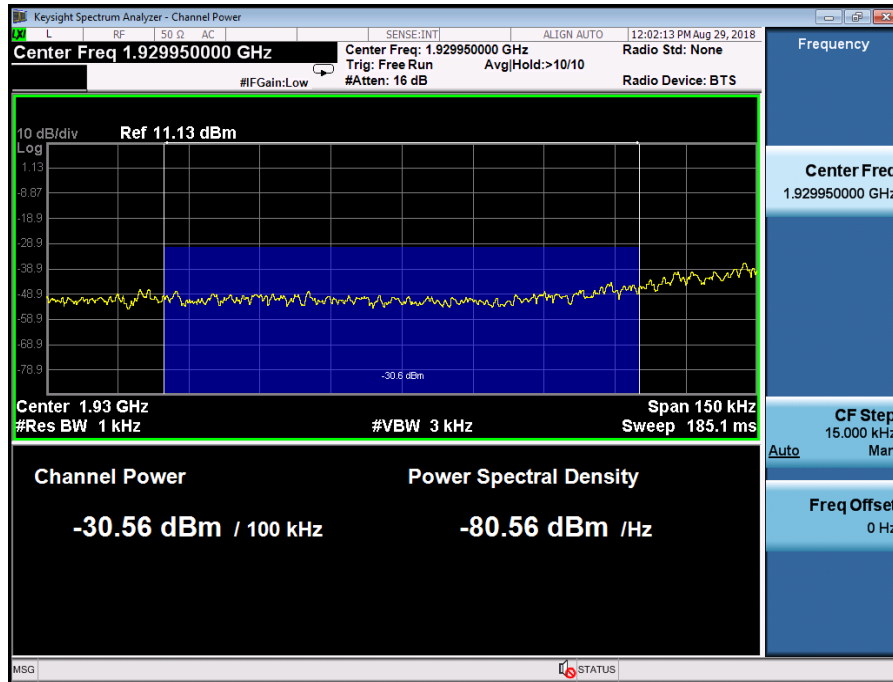
Configuration NB-IoT-GuardBand-1C, QPSK

| Band Edge Frequency | Channel Bandwidth | RBW(KHz) | Limit(dBm) |
|---------------------------------|-------------------|----------|------------|
| Channel Position B 1930.0MHz | 10.0 MHz | 100 | -19.02 |
| | 15.0 MHz | 150 | -19.02 |
| | 20.0 MHz | 200 | -19.02 |
| Channel Position T 1995.0MHz | 10.0 MHz | 100 | -19.02 |
| | 15.0 MHz | 150 | -19.02 |
| | 20.0 MHz | 200 | -19.02 |

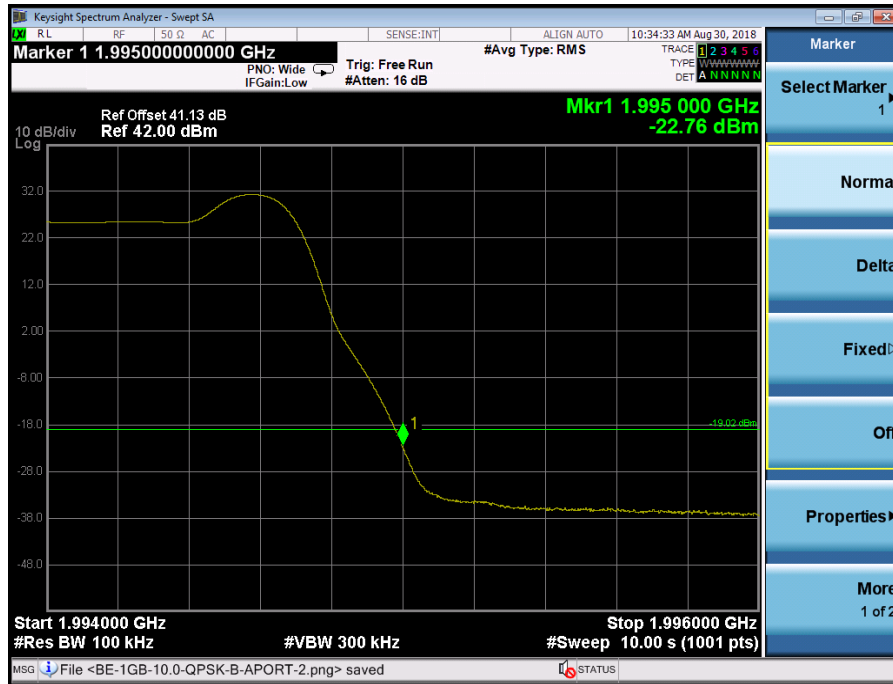
Port B, Channel Position B, 10.0MHz



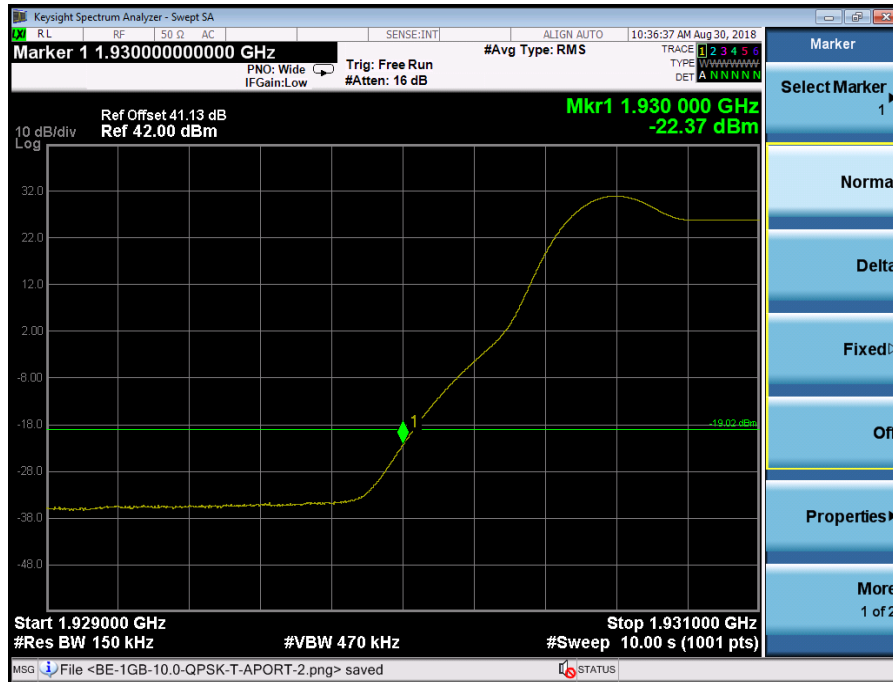
The channel power of 100kHz for 1929.950MHz is -30.56dBm, which is within the limit of -19.02dBm



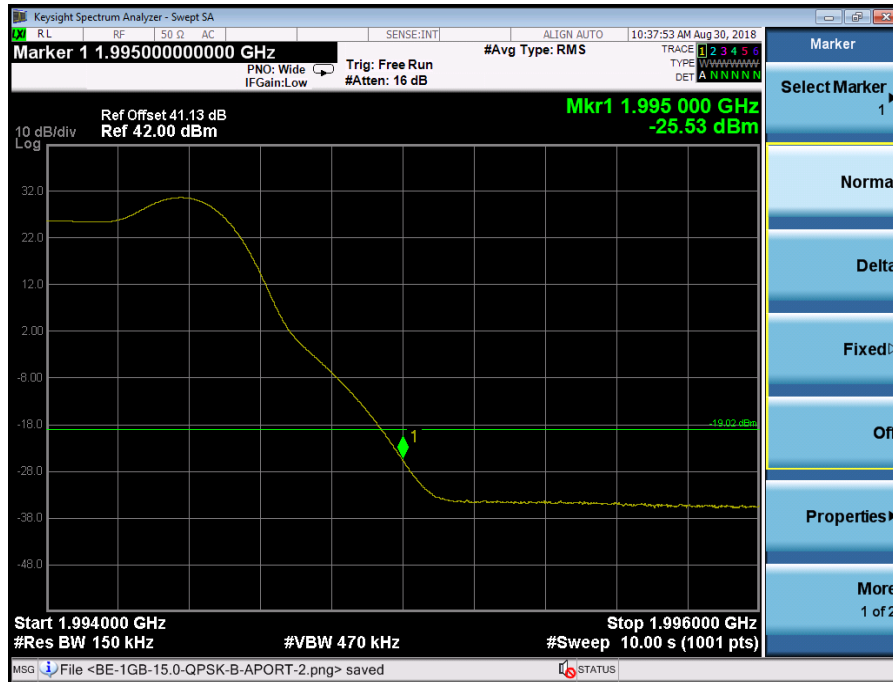
Port B, Channel Position T, 10.0MHz



Port B, Channel Position B, 15.0MHz



Port B, Channel Position T, 15.0MHz



Port B, Channel Position B, 20.0MHz



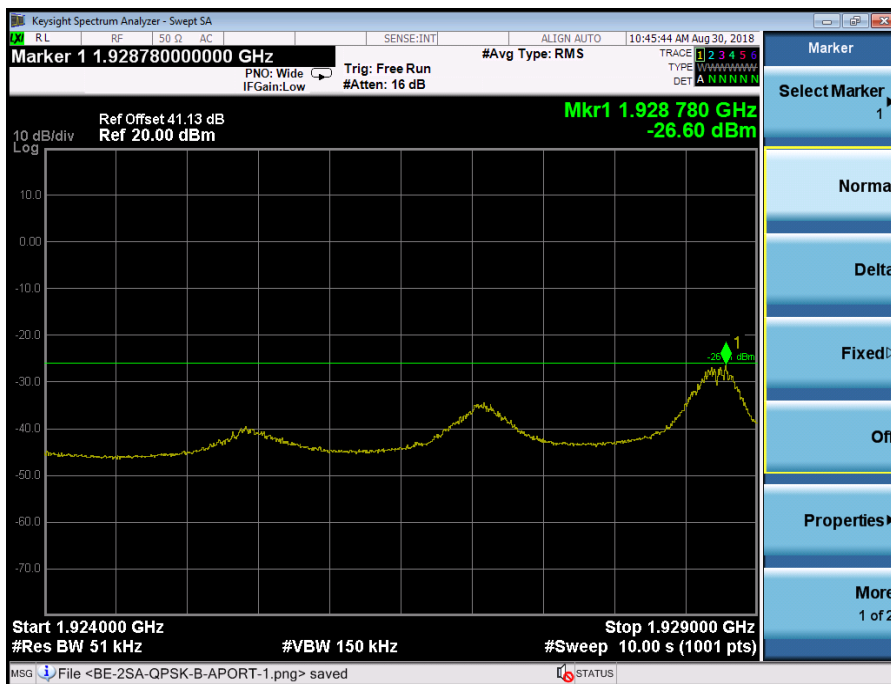
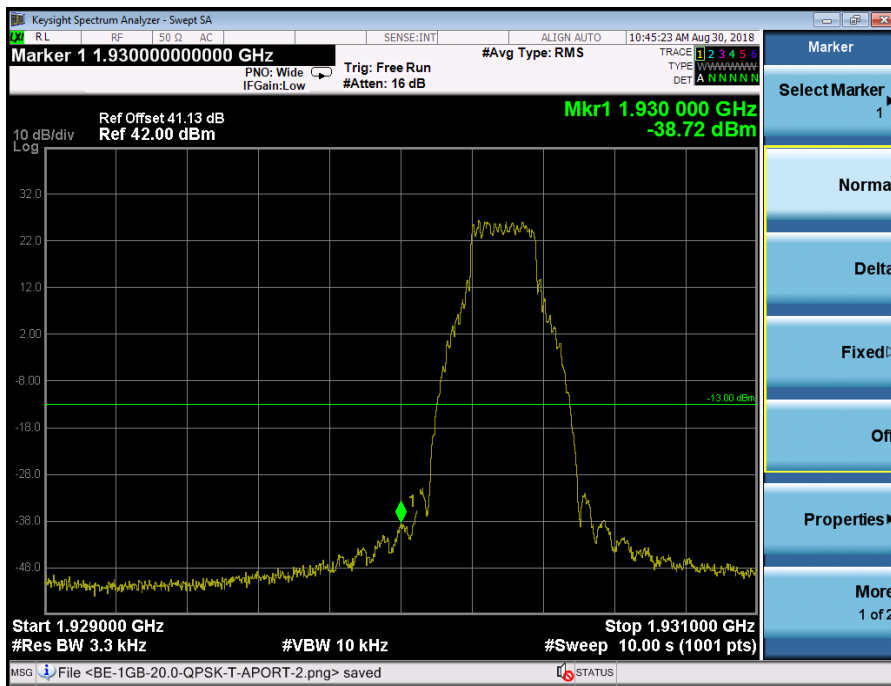
Port B, Channel Position T, 20.0MHz



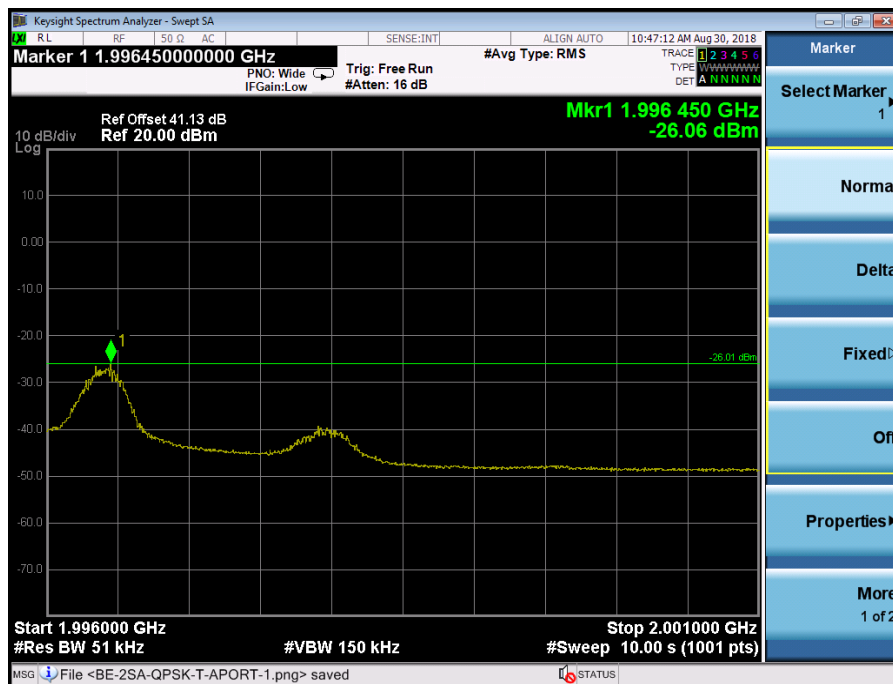
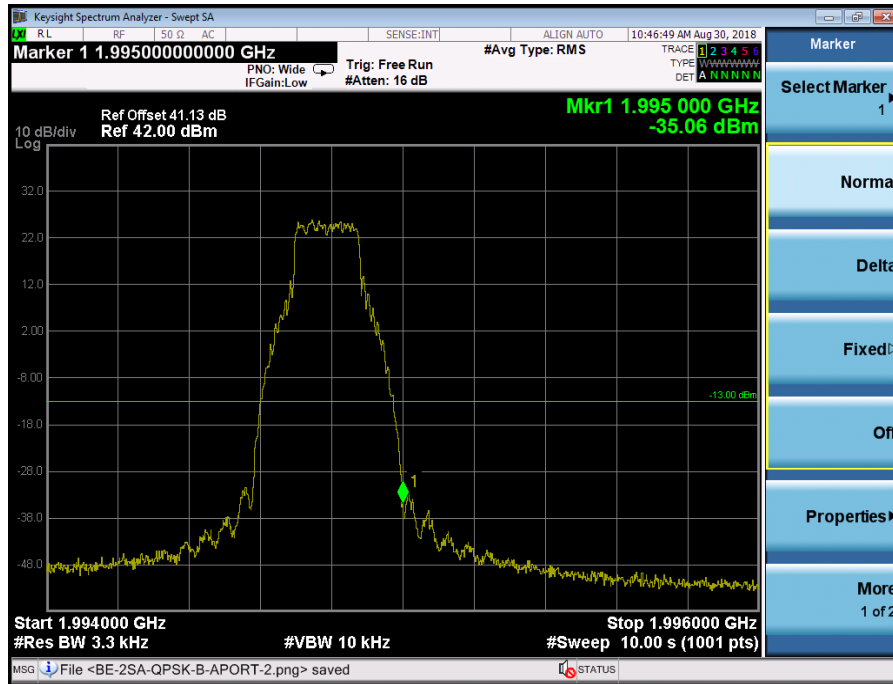
Configuration NB-IoT-StandAlone-2C, QPSK

| Band Edge Frequency | Channel Bandwidth | RBW (KHz) | Limit (dBm) |
|---------------------------------|-------------------|-----------|-------------|
| Channel Position B 1930.0MHz | 250KHz | 3.3 | -13.00 |
| Channel Position T 1995.0MHz | 250KHz | 3.3 | -13.00 |

Port B, Channel Position B



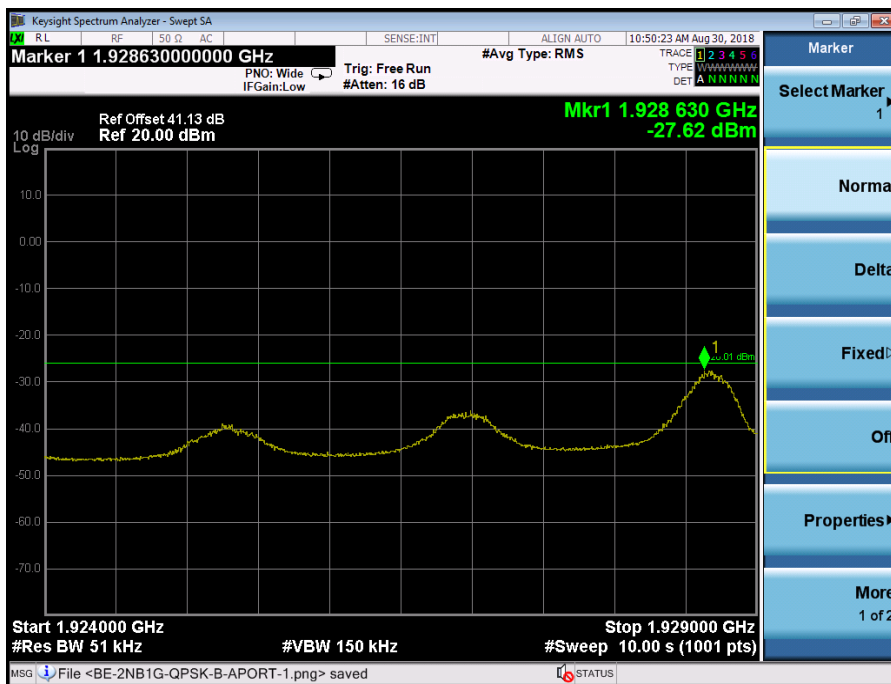
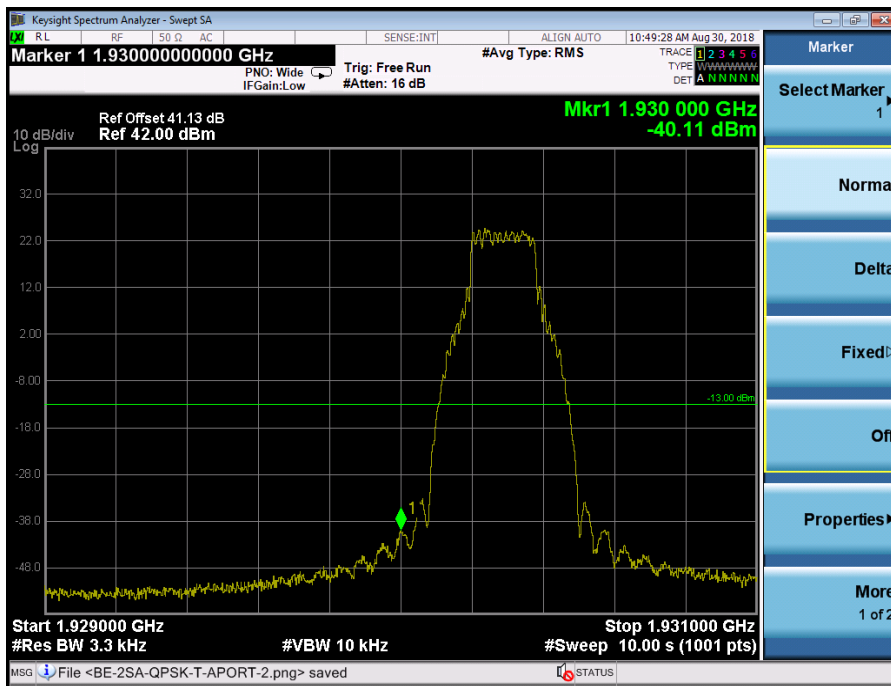
Port B, Channel Position T



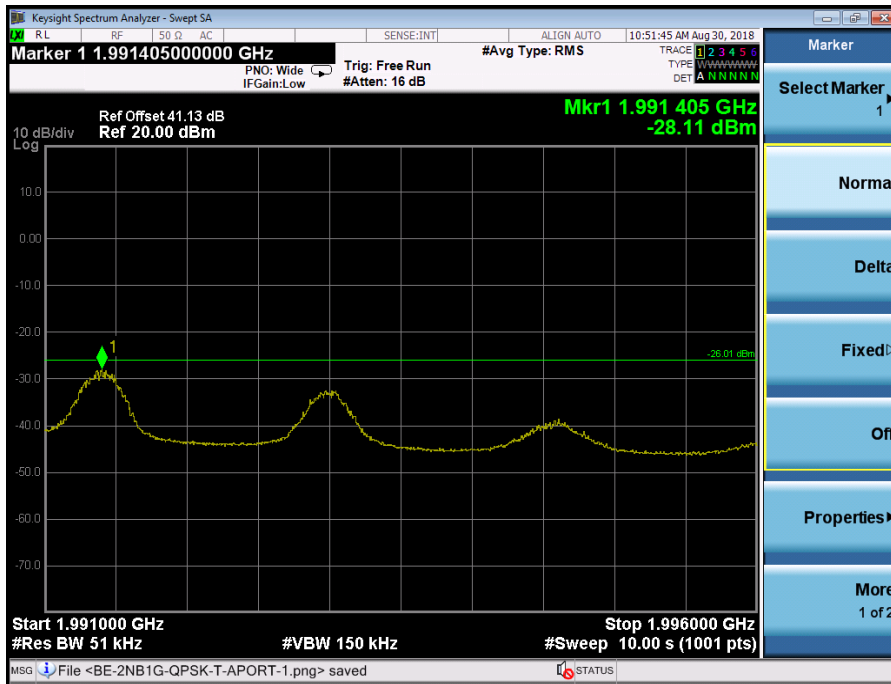
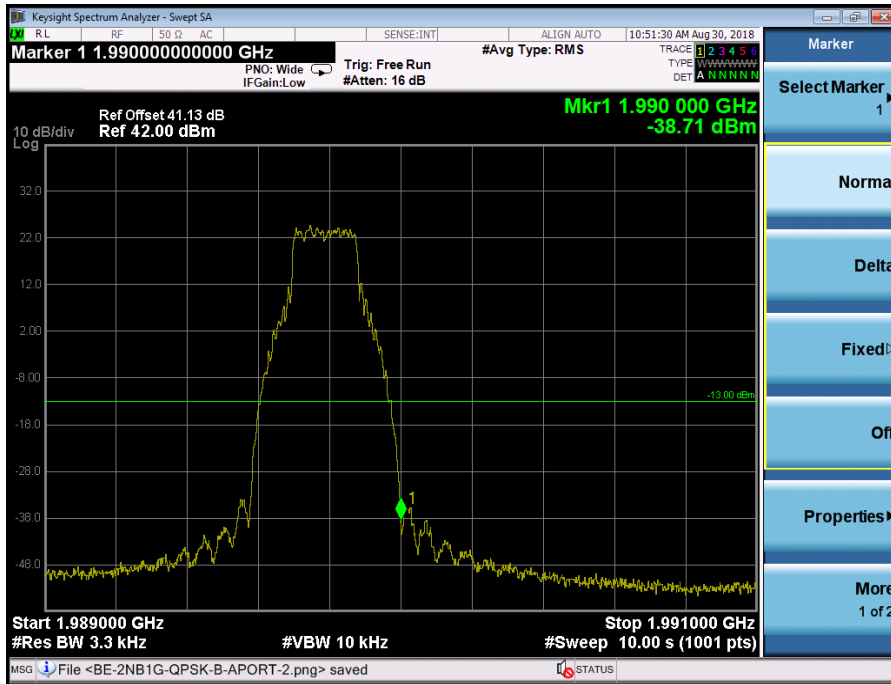
Configuration NB-IoT+GSM-MC-2-BE, (2SA, QPSK +1GSM, GMSK)

| Band Edge Frequency | Channel Bandwidth | RBW (KHz) | Limit (dBm) |
|---------------------------------|-------------------------|-----------|-------------|
| Channel Position B 1930.0MHz | (SA) 250KHz, (G) 250KHz | 3.3 | -13.00 |
| Channel Position T 1990.0MHz | (SA) 250KHz, (G) 250KHz | 3.3 | -13.00 |

Port B, Channel Position B



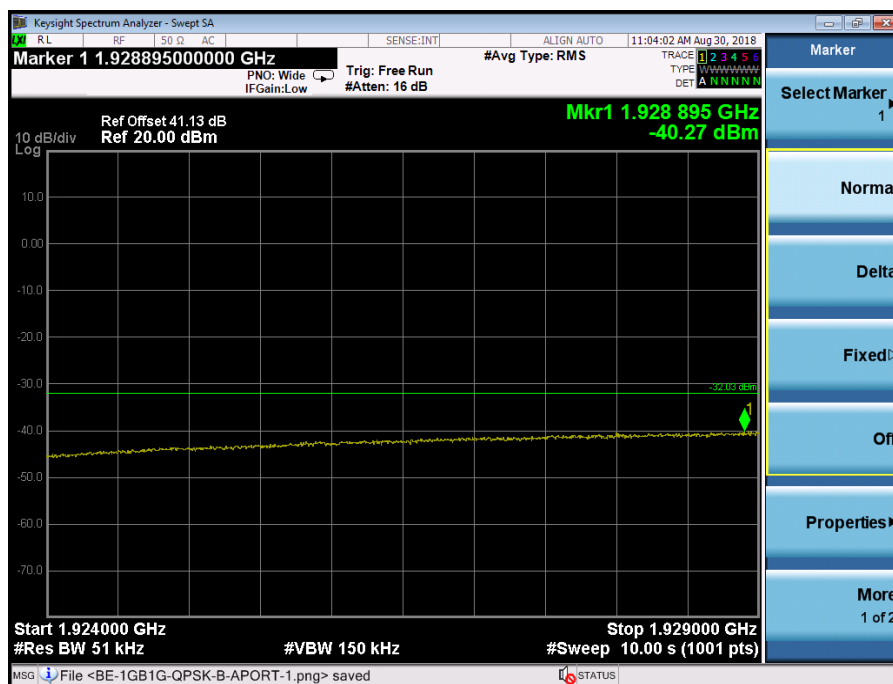
Port B, Channel Position T



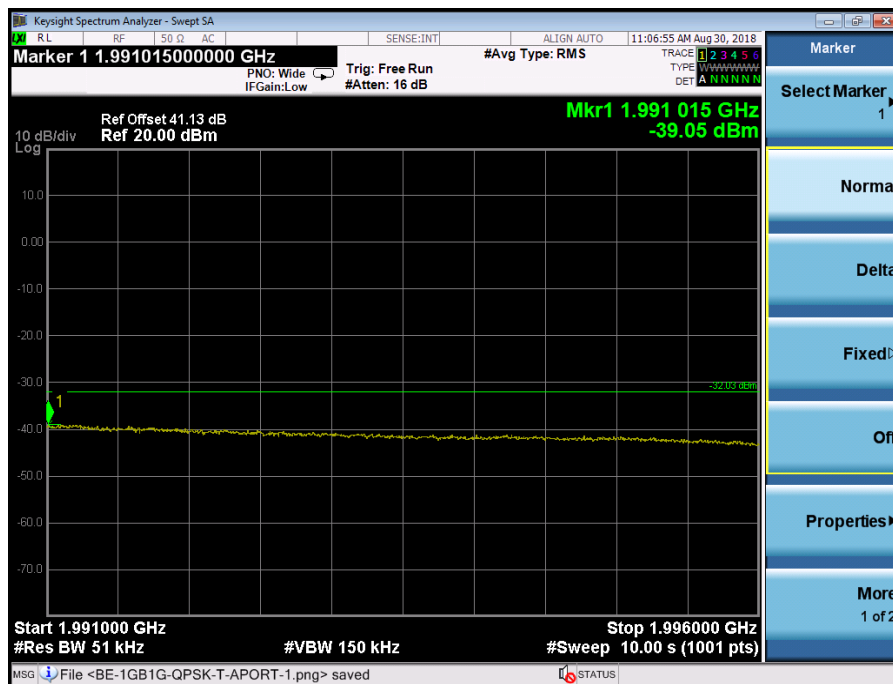
Configuration NB-IoT-GB+GSM-MC-1-BE, (1GB, QPSK +1GSM, GMSK)

| Band Edge Frequency | Channel Bandwidth | RBW (KHz) | Limit (dBm) |
|---------------------------------|--------------------------|-----------|-------------|
| Channel Position B 1930.0MHz | (GB) 10.0MHz, (G) 250KHz | 3.3 | -19.02 |
| Channel Position T 1990.0MHz | (GB) 10.0MHz, (G) 250KHz | 3.3 | -19.02 |

Port B, Channel Position B



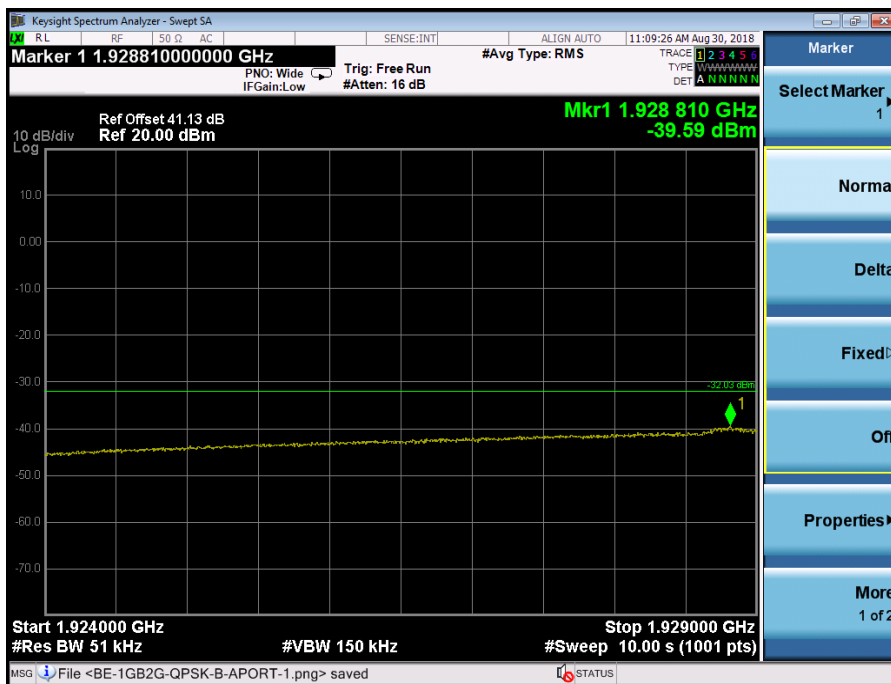
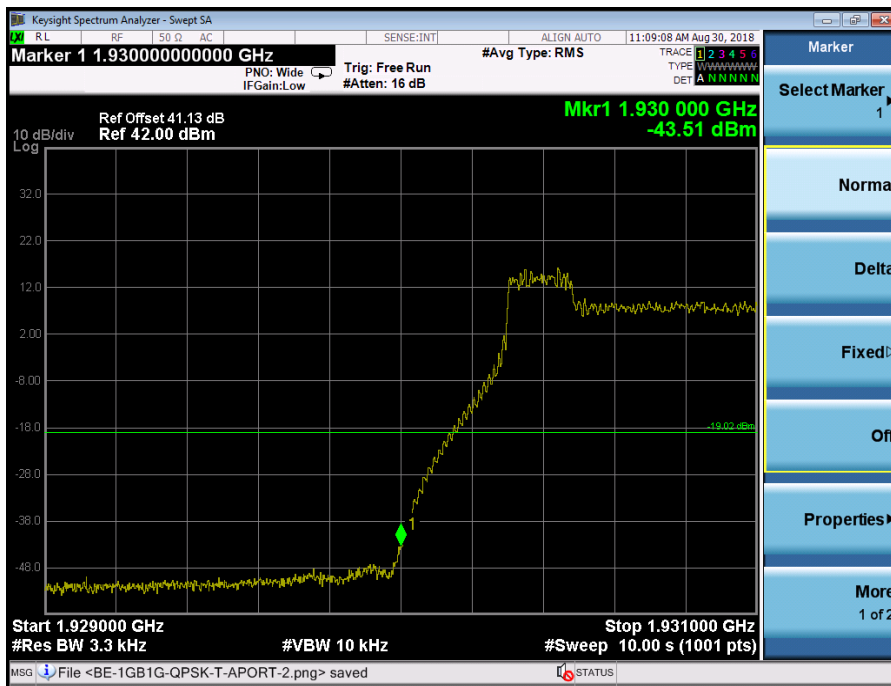
Port B, Channel Position T



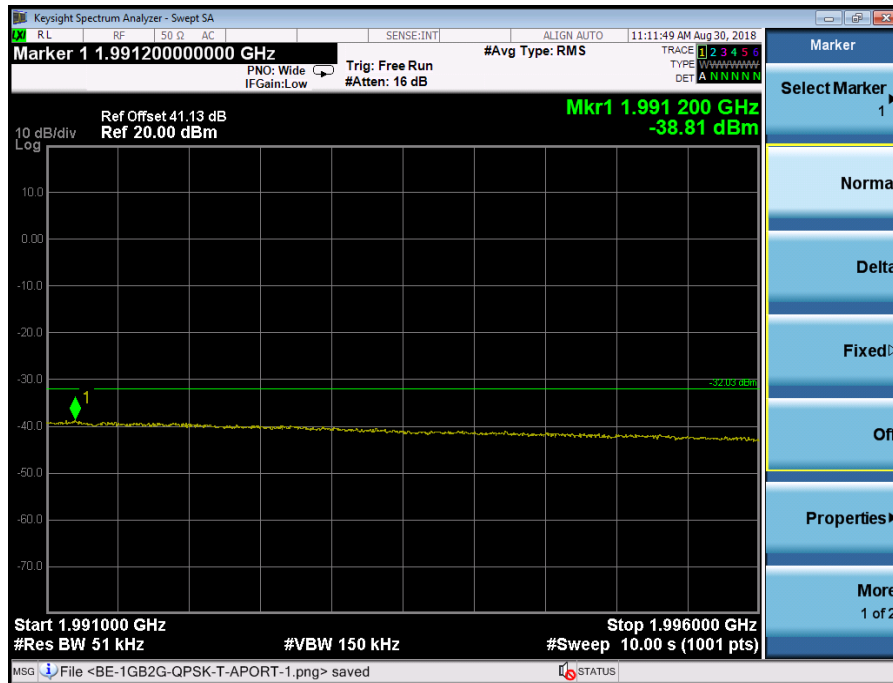
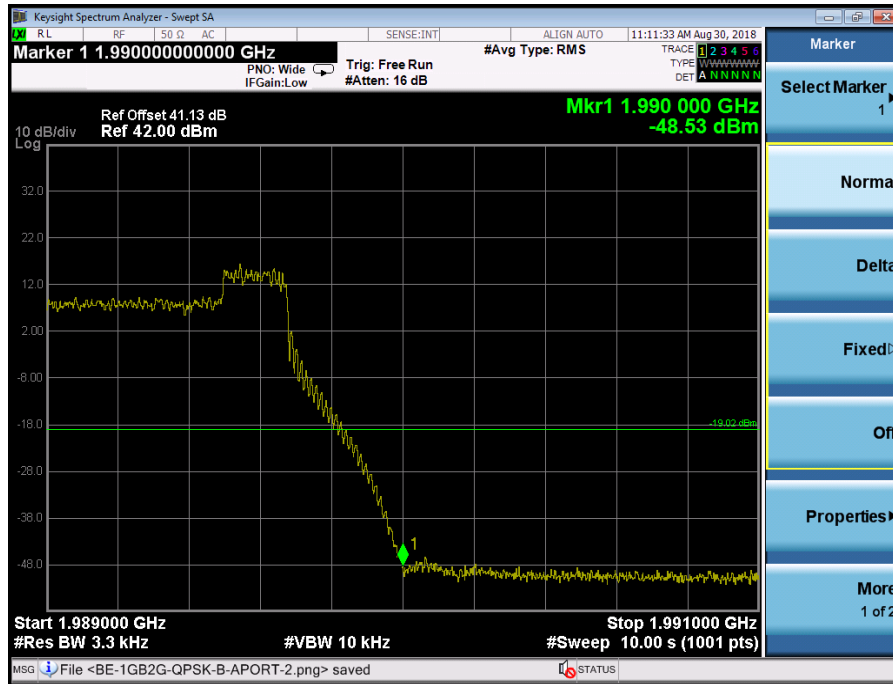
Configuration NB-IoT-GB+GSM-MC-2-BE, (1GB, QPSK +2GSM, GMSK)

| Band Edge Frequency | Channel Bandwidth | RBW (KHz) | Limit (dBm) |
|---------------------------------|--------------------------|-----------|-------------|
| Channel Position B 1930.0MHz | (GB) 10.0MHz, (G) 250KHz | 3.3 | -19.02 |
| Channel Position T 1990.0MHz | (GB) 10.0MHz, (G) 250KHz | 3.3 | -19.02 |

Port B, Channel Position B



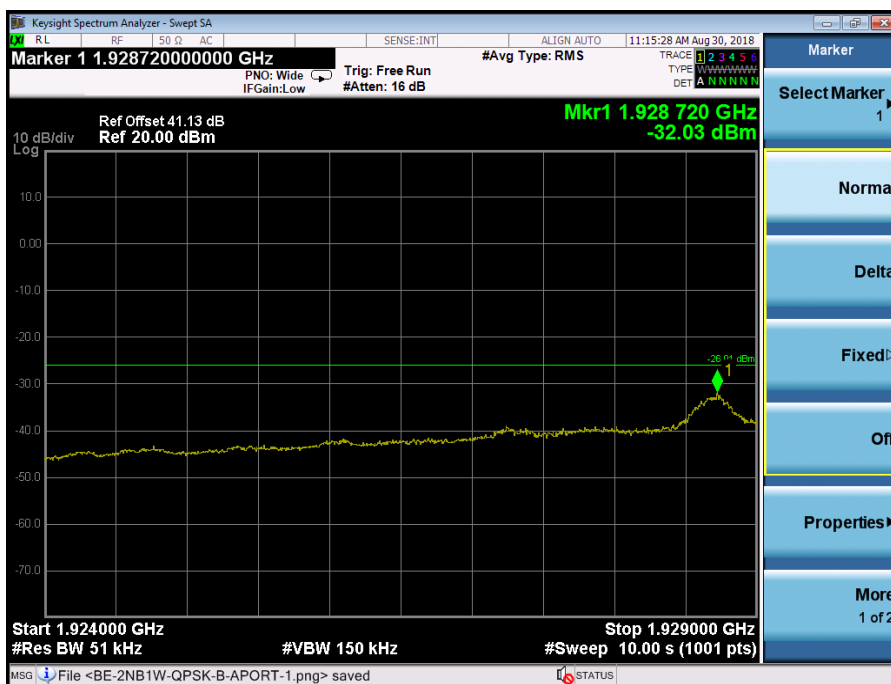
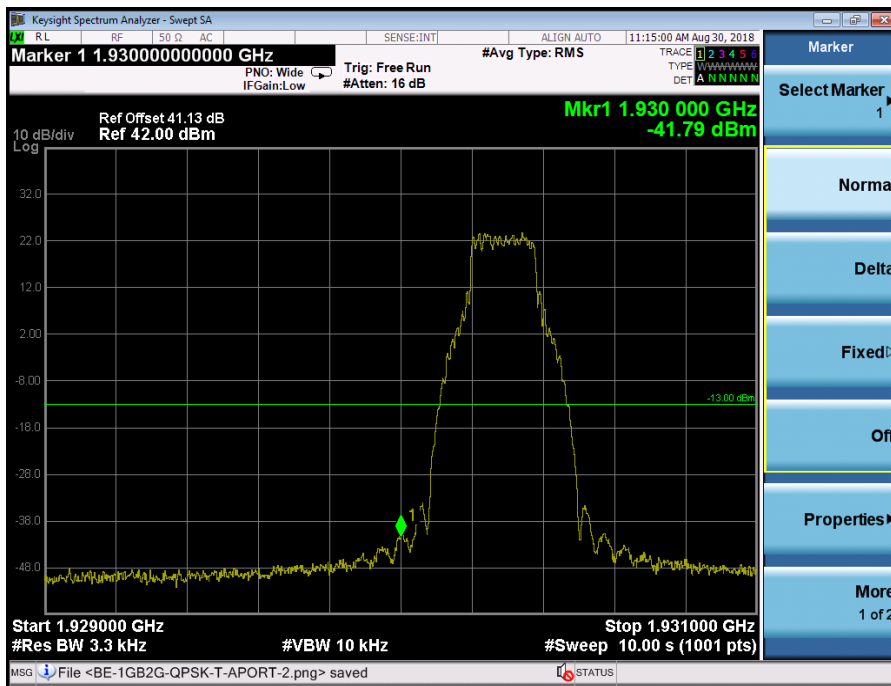
Port B, Channel Position T



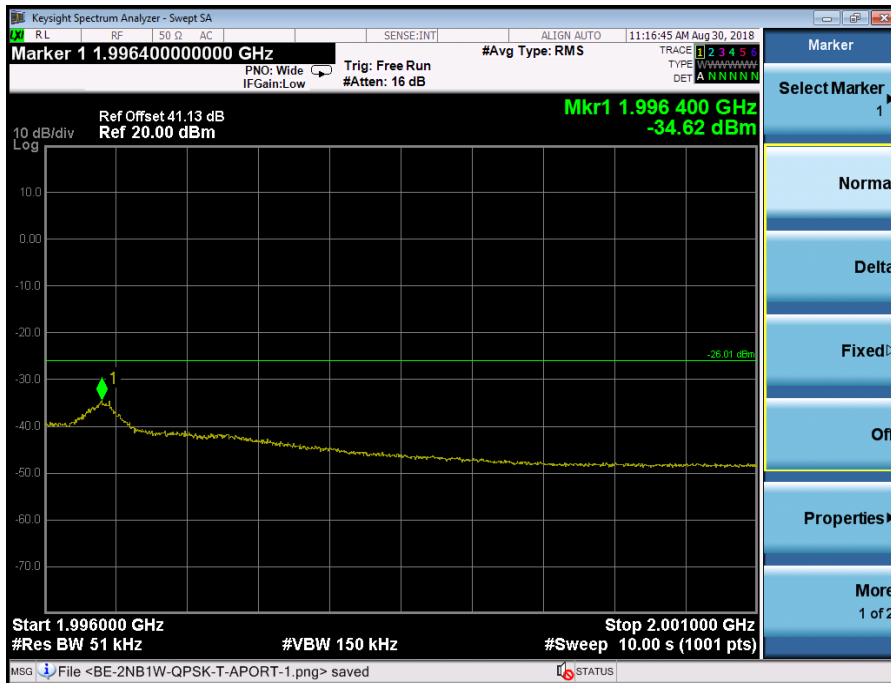
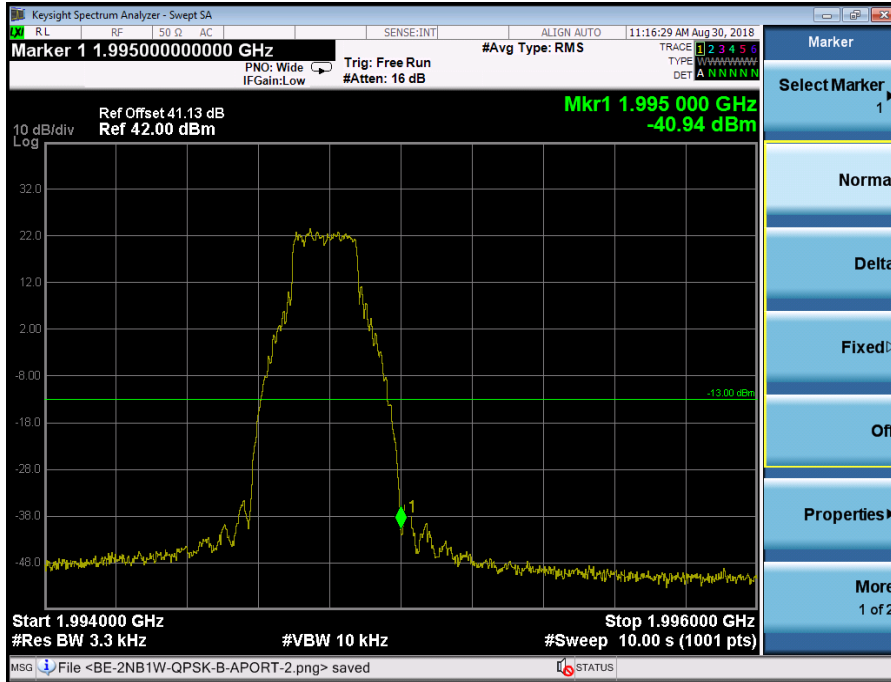
Configuration NB-IoT+WCDMA-MC-2-BE, (2SA, QPSK +1WCDMA, QPSK)

| Band Edge Frequency | Channel Bandwidth | RBW (KHz) | Limit (dBm) |
|---------------------------------|-------------------------|-----------|-------------|
| Channel Position B 1930.0MHz | (SA) 250KHz, (W) 5.0MHz | 3.3 | -13.00 |
| Channel Position T 1995.0MHz | (SA) 250KHz, (W) 5.0MHz | 3.3 | -13.00 |

Port B, Channel Position B



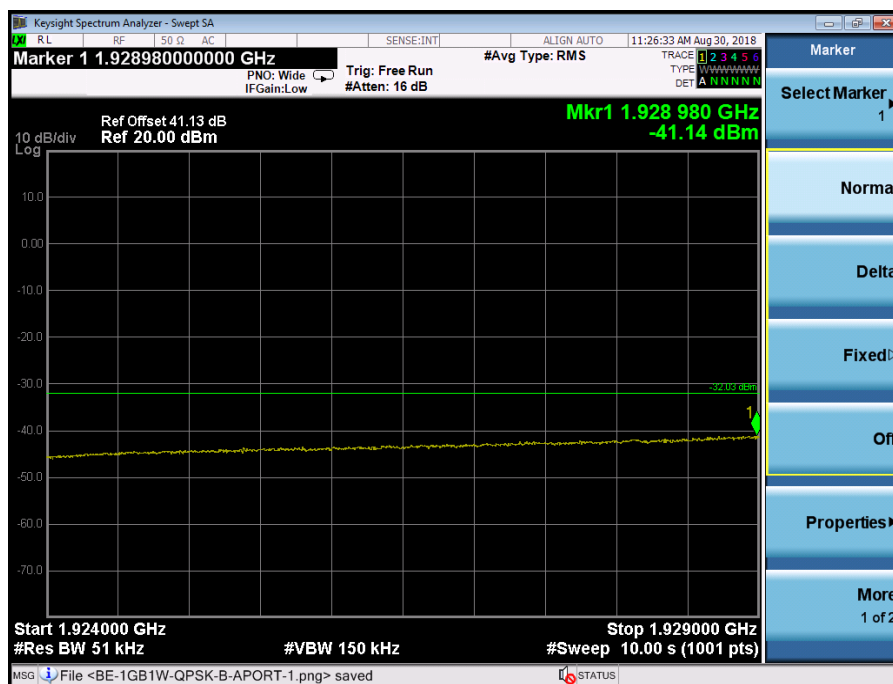
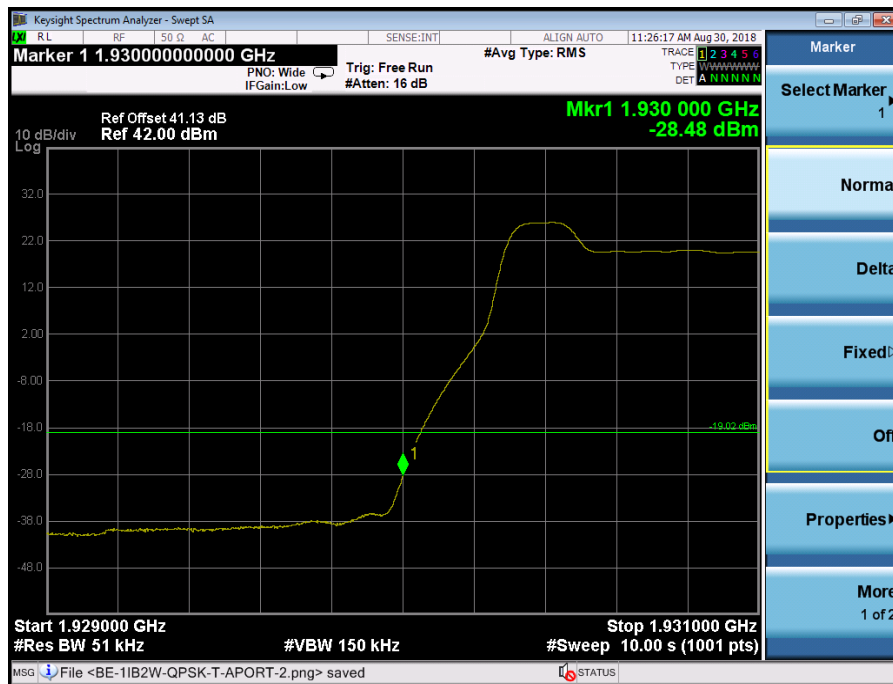
Port B, Channel Position T



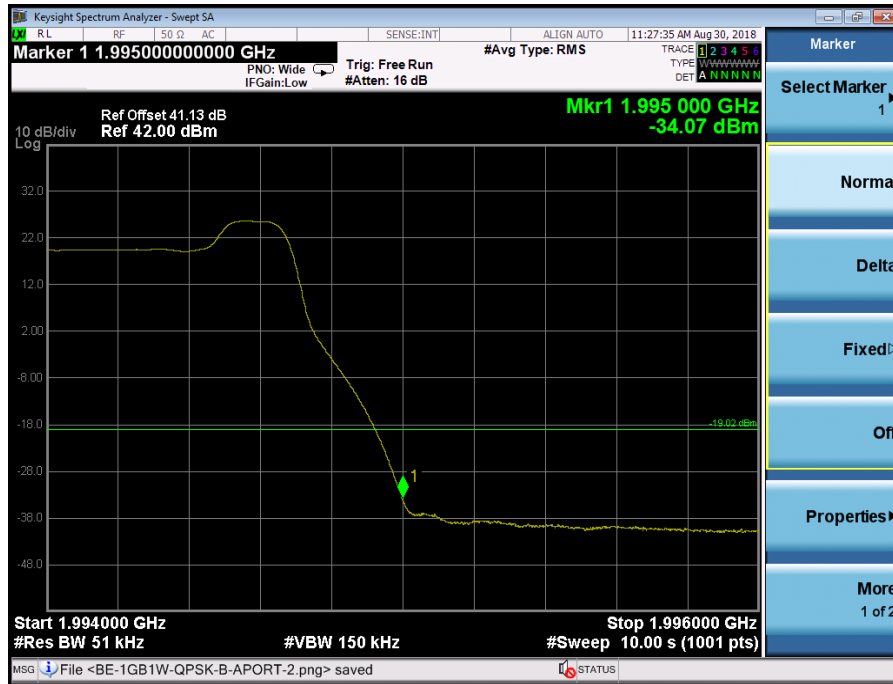
Configuration NB-IoT-GB+WCDMA-MC-1-BE, (1GB, QPSK +1WCDMA, QPSK)

| Band Edge Frequency | Channel Bandwidth | RBW (KHz) | Limit (dBm) |
|---------------------------------|--------------------------|-----------|-------------|
| Channel Position B 1930.0MHz | (GB) 10.0MHz, (W) 5.0MHz | 51 | -19.02 |
| Channel Position T 1995.0MHz | (GB) 10.0MHz, (W) 5.0MHz | 51 | -19.02 |

Port B, Channel Position B



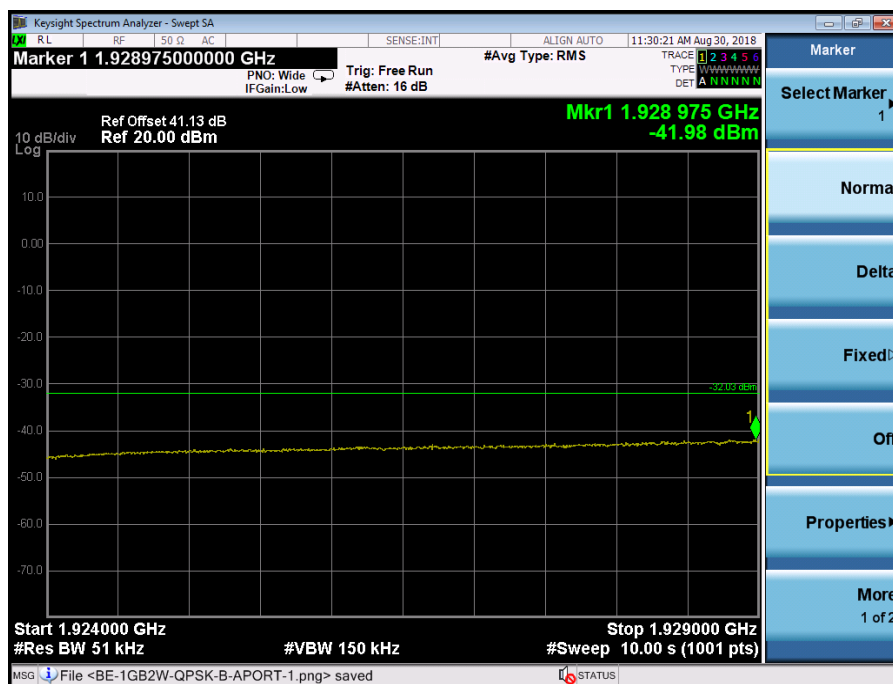
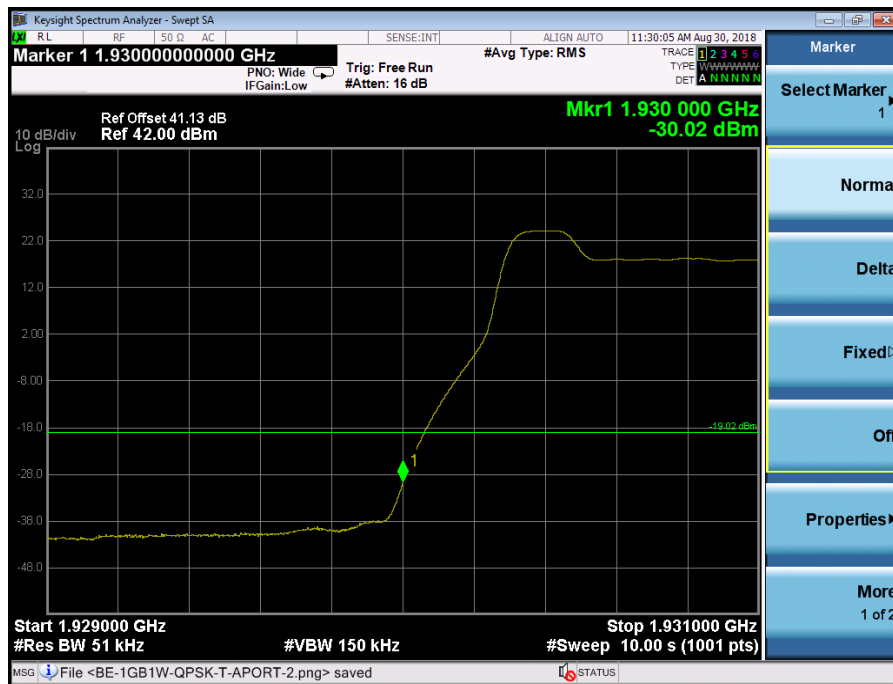
Port B, Channel Position T



Configuration NB-IoT-GB+WCDMA-MC-2-BE, (1GB, QPSK +2WCDMA, QPSK)

| Band Edge Frequency | Channel Bandwidth | RBW (KHz) | Limit (dBm) |
|---------------------------------|-------------------------|-----------|-------------|
| Channel Position B 1930.0MHz | (GB)10.0MHz, (W) 5.0MHz | 51 | -19.02 |
| Channel Position T 1995.0MHz | (GB)10.0MHz, (W) 5.0MHz | 51 | -19.02 |

Port B, Channel Position B



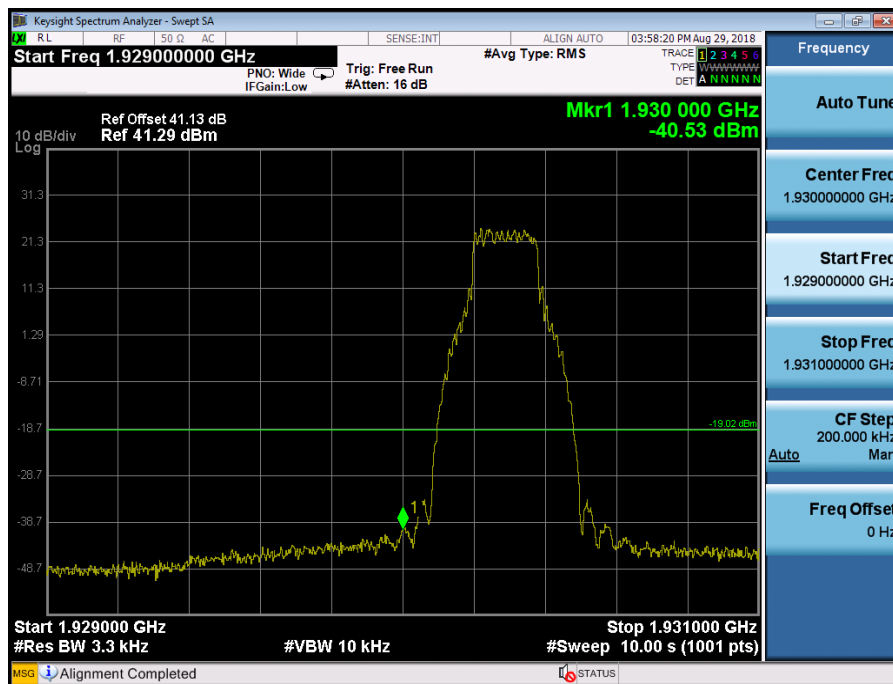
Port B, Channel Position T



Configuration NB-IoT+LTE-MIMO-MC-2-BE, (2SA, QPSK +1LTE, QPSK)

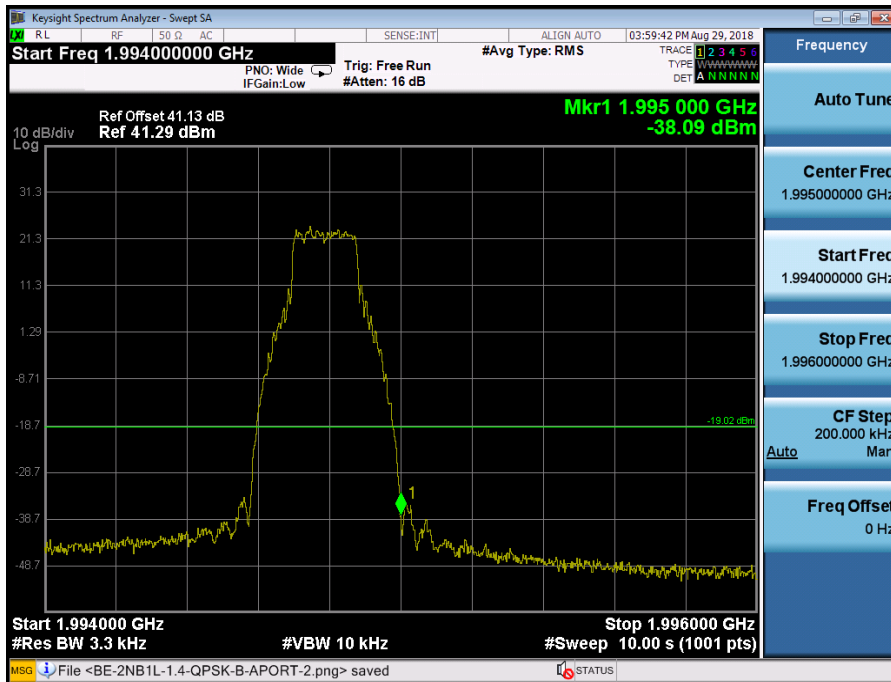
| Band Edge Frequency | Channel Bandwidth | RBW (KHz) | Limit (dBm) |
|---------------------------------|--------------------------|-----------|-------------|
| Channel Position B 1930.0MHz | (SA) 250KHz, (L) 1.4MHz | 3.3 | -19.02 |
| | (SA) 250KHz, (L) 3.0MHz | 3.3 | -19.02 |
| | (SA) 250KHz, (L) 5.0MHz | 3.3 | -19.02 |
| | (SA) 250KHz, (L) 10.0MHz | 3.3 | -19.02 |
| | (SA) 250KHz, (L) 15.0MHz | 3.3 | -19.02 |
| | (SA) 250KHz, (L) 20.0MHz | 3.3 | -19.02 |
| Channel Position T 1995.0MHz | (SA) 250KHz, (L) 1.4MHz | 3.3 | -19.02 |
| | (SA) 250KHz, (L) 3.0MHz | 3.3 | -19.02 |
| | (SA) 250KHz, (L) 5.0MHz | 3.3 | -19.02 |
| | (SA) 250KHz, (L) 10.0MHz | 3.3 | -19.02 |
| | (SA) 250KHz, (L) 15.0MHz | 3.3 | -19.02 |
| | (SA) 250KHz, (L) 20.0MHz | 3.3 | -19.02 |

Port B, Channel Position B, LTE 1.4MHz



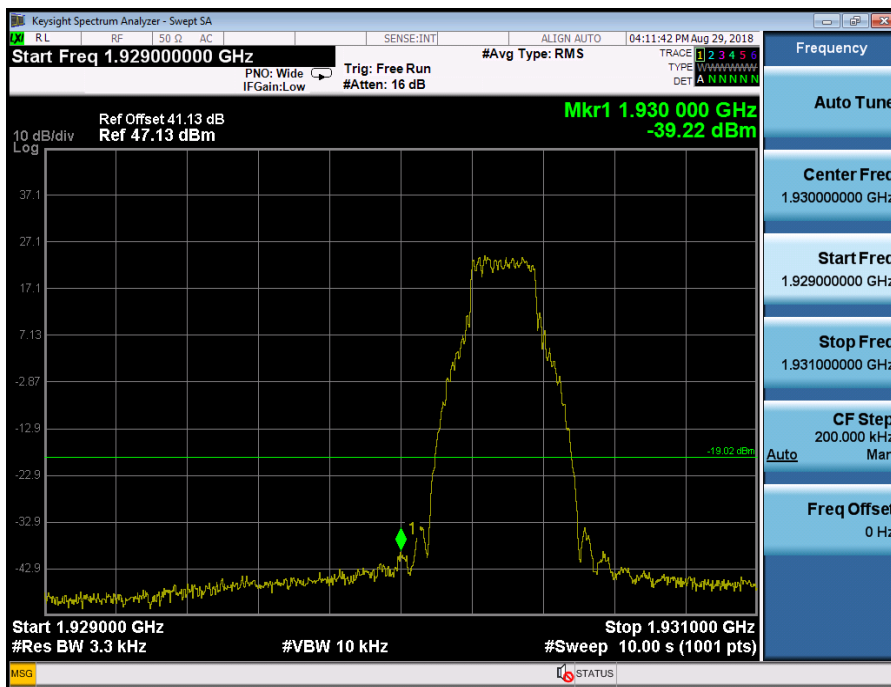


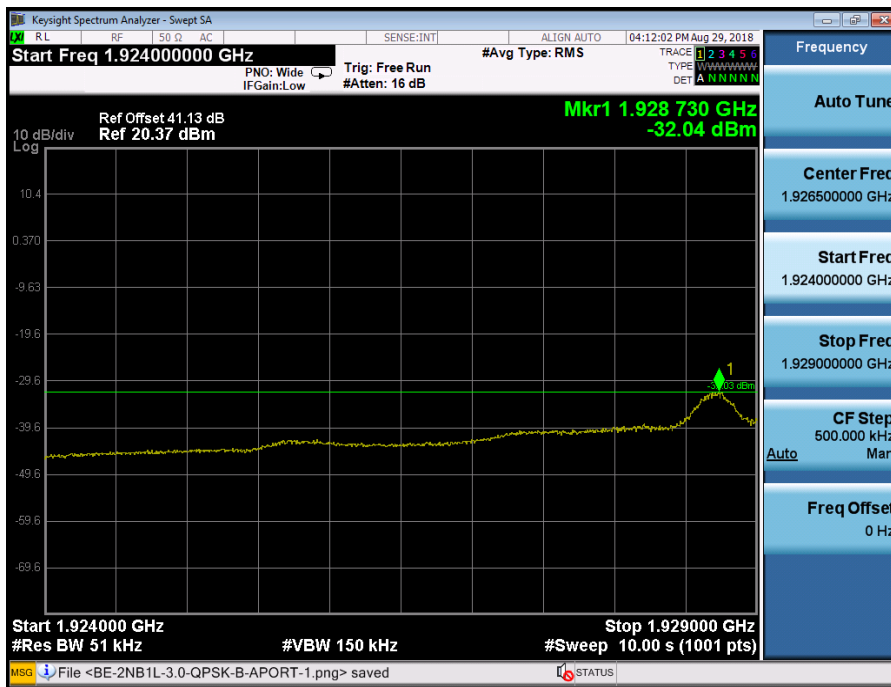
Port B, Channel Position T, LTE 1.4MHz



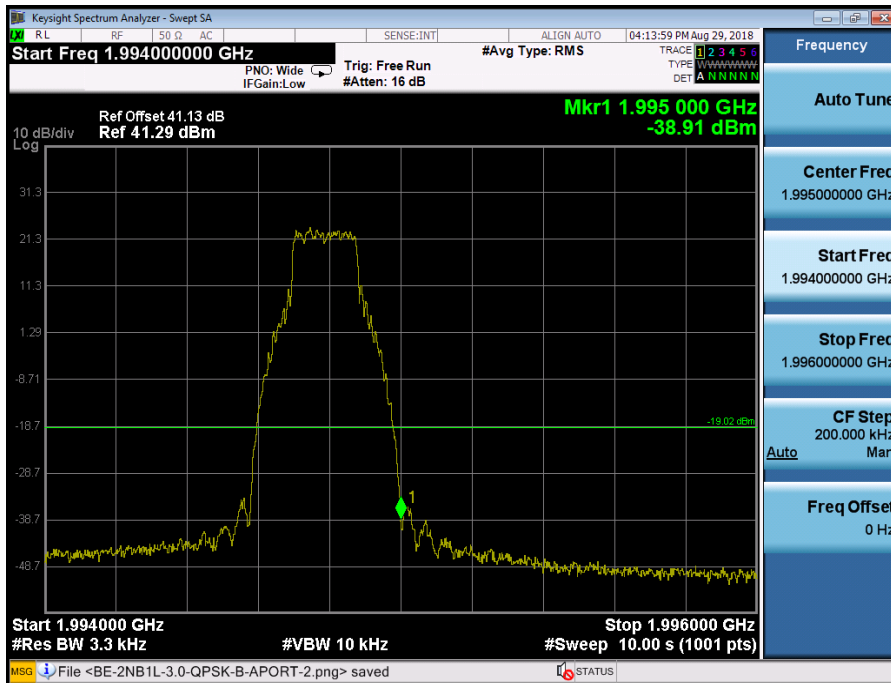


Port B, Channel Position B, LTE 3.0MHz



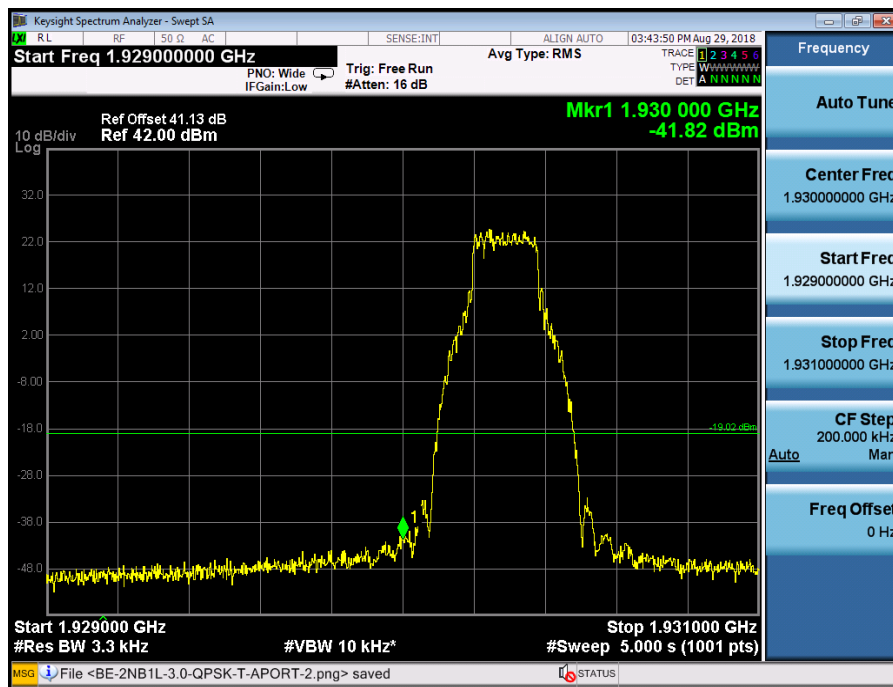


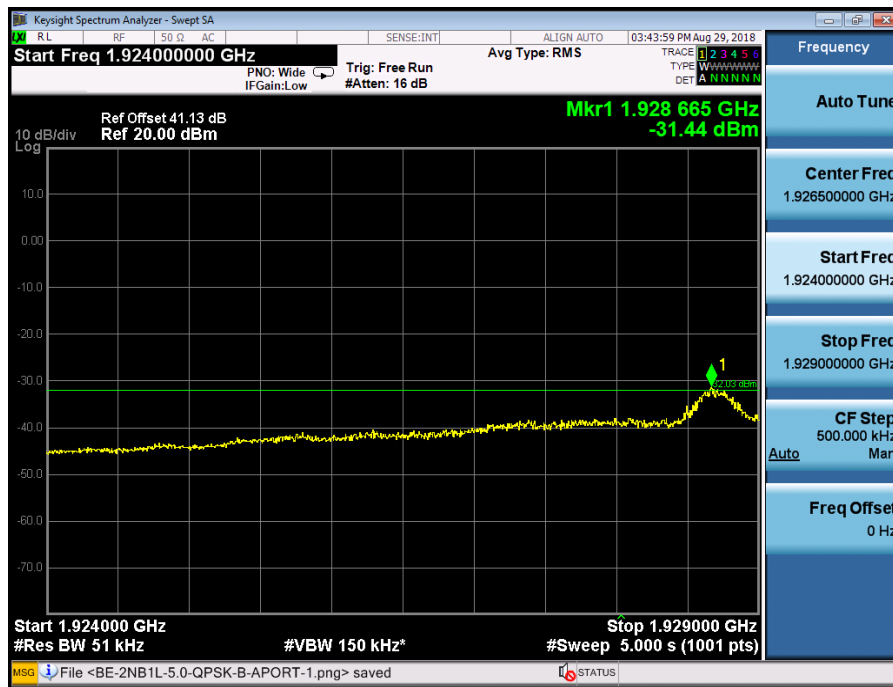
Port B, Channel Position T, LTE 3.0MHz



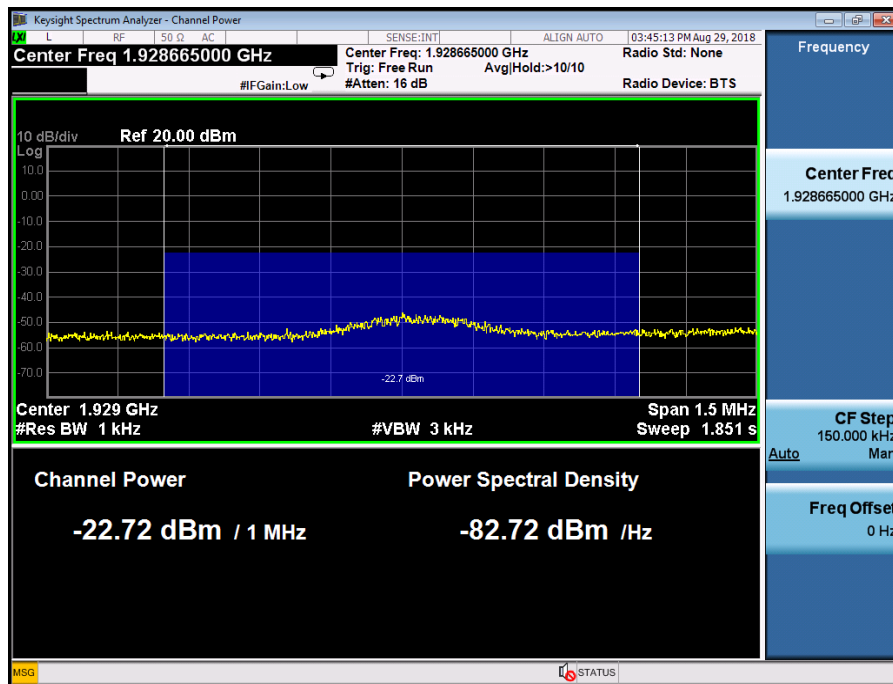


Port B, Channel Position B, LTE 5.0MHz





The channel power of 1MHz for 1928.665MHz is -22.72dBm, which is within the limit of -19.02dBm



Port B, Channel Position T, LTE 5.0MHz

