



TEST REPORT

No. I19Z60509-WMD01

for

Ericsson AB (1900MHz) AIR 4455 B2/B25 B66A KRD 901 145/1

Remote Radio Unit

FCC ID: TA8AKRD901145-1

IC: 287AB-AS9011451

In accordance with FCC CFR 47 Part 24 and

ISED RSS-133: Issue 6 Amendment

Issued Date: 2019-06-28



Note:

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REPORT HISTORY

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I19Z60509-WMD01	Rev.0	1 st edition	2019-06-28

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1. Test Laboratory

1.1. Introduction & Accreditation

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

1.2. Testing Location

Location 1: CTTL(huayuan North Road)

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

Location 2: CTTL(Shouxiang)

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

1.3. Project date

Testing Start Date: 2019-05-14

Testing End Date: 2019-06-28

1.4. Signature



Dong Yuan
(Prepared this test report)



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(Reviewed this test report)



Liu Baodian
(Approved this test report)



2. Client Information

2.1. Applicant Information

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2.2. Manufacturer Information

Company Name: Ericsson AB
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3. Equipment Under Test (EUT)

3.1. About EUT

Description	Remote Radio Unit
Product Name	AIR 4455 B2/B25 B66A
Product Number	KRD 901 145/1
FCC ID	TA8AKRD901145-1
IC	287AB-AS9011451
HVIN	AS9011451
Integrated Antenna	KRE 105 289/1
Antenna Gain	B2/B25: 14.3dBi, B66: 14.2dBi
Output power	Maximum 46.02 dBm (40W) per port for multi band. Maximum 44.77 dBm (30W) per port for single band.
Power source	100-250V AC
Serial Number	D828845385
Hardware Version	R1A
Software Version	PIS: CXP 901 7316%7_R78HF
Frequency range	B2: Rx: 1850-1910 MHz, Tx: 1930-1990 MHz B25: Rx: 1850-1915 MHz, Tx: 1930-1995 MHz B66A: RX: 1710-1780 MHz, TX: 2110-2180 MHz (LTE) RX: 1710-1755 MHz, TX: 2110-2155 MHz (WCDMA)
TX/RX configuration	4 TX / 4 RX
Maximum RF bandwidth (IBW)	20 MHz: GSM (B2) and NB-IoT Standalone 60 MHz: B2 65 MHz: B25 70 MHz: B66A(LTE) 45 MHz: B66A(WCDMA)
Total number of supported carriers per port	Maximum 6 carriers per port for all configuration (maximum 4 carriers for GSM, maximum 2 carriers for NB-IoT stand alone).
Supported modulations	GSM: GMSK, AQPSK, 8PSK WCDMA: QPSK, 16QAM, 64QAM LTE: QPSK, 16QAM, 64QAM, 256QAM NB-IoT: QPSK
Date of receipt	2019-05-14

3.2. General Description

The Equipment Under Test (EUT) is an Ericsson Antenna Integrated Radio Unit working in the public mobile service 1900MHz band and wireless communications services 2100MHz which provides communication connections to network in GSM / WCDMA / LTE / NB-IoT modes and MSR modes. The AIR 4455 B2/B25 B66A KRD 901 145/1 operates from a 120V AC supply.

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

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



Equipment Under Test

3.3. Configuration Description

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

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+1949.8	1950.2+1969.8	1970.2+1989.6
GSM-4C	4 Carriers	1930.4+1931+1949.2+ 1949.8	1950.2+1950.8+1969. 2+1969.8	1970.2+1970.8+1989+ 1989.6
GSM-1C-BE	1 Carrier	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

GSM+WCDMA

Configuration	Carrier	Carrier Frequency Configuration (MHz)		
		Bottom	Middle	Top
GSM+WCDMA-MC-1	1G+1W	-	(G)1930.4+(W)1987.6	-
GSM+WCDMA-MC-2	2G+1W	-	(G)1930.4+1935.8+(W))1987.6	-
GSM+WCDMA-MC-3	4G+2W	-	(G)1930.4+(G)1932.2 +(G)1934.0+(G)1935. 8+(W)1982.6+(W)198 7.6	-
GSM+WCDMA-MC-3- BE	1G+1W	(G)1930.4+(W)1933.0	N/A	(W)1987.0+(G)1989.6
GSM+WCDMA-MC-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	Carrier Bandwidth	Carrier Frequency Configuration (MHz)		
			Bottom	Middle	Top
GSM+LTE-MIMO-MC-1	1G+1L	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	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	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-MIMO-MC-4	4G+2L	5MHz	(G)1930.4+(L)1933+ G)1935.8+ (G)1944.2+(L)1947+ G)1949.8	(G)1950.2+(W)1953+ G)1955.8+ (G)1964.2+(W)1967+ G)1969.8	(G)1970.4+(W)1973+ G)1975.8+ (G)1984.2+(W)1987+ G)1989.8
GSM+LTE-MIMO-MC-3-BE	1G+1L	5MHz	(G)1930.4+(LTE)1933. 1	N/A	(LTE)1986.9+(G)1989. 6
		10MHz	(G)1930.4+(LTE)1935. 6	N/A	(LTE)1984.4+(G)1989. 6
		15MHz	(G)1930.4+(LTE)1938. 1	N/A	(LTE)1981.9+(G)1989. 6
		20MHz	(G)1930.4+(LTE)1940. 6	N/A	(LTE)1979.4+(G)1989. 6

Configuration	Carrier	Carrier Bandwidth	Carrier Frequency Configuration (MHz)		
			Bottom	Middle	Top
GSM+LTE-MIMO-MC-4-BE	2G+1L	5MHz	(G)1930.4+(G)1932.0 +(L)1934.7	N/A	(L)1985.3+(G)1988.0+ (G)1989.6
		10MHz	(G)1930.4+(G)1932.0 +(L)1937.2	N/A	(L)1982.8+(G)1988.0+ (G)1989.6
		15MHz	(G)1930.4+(G)1932.0 +(L)1939.7	N/A	(L)1980.3+(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

GSM+NB-IoT

Configuration	Carrier	Carrier Frequency Configuration (MHz)		
		Bottom	Middle	Top
GSM+NB-IoT-MC-1	1G+1SA	(G)1930.4+(NB)1949.8	(G)1950.2+(NB)1969.8	(G)1970.2+(NB)1989.8
GSM+NB-IoT-MC-2	2G+1SA	(G)1930.4+1931+(NB)1949 .8	(G)1950.2+1950.8+(NB)19 69.8	(G)1970.2+1970.8+(NB)19 89.8
GSM+NB-IoT-MC-3	3G+1SA	(G)1930.4+1931+1931.6+(NB)1949.8	(G)1950.2+1950.8+1951.4 +(NB)1969.8	(G)1970.2+1970.8+1971.4 +(NB)1989.8
GSM+NB-IoT-MC-4	1G+2SA	(G)1930.4+(NB)1949.2+19 49.8	(G)1950.2+(NB)1969.2+19 69.8	(G)1970.2+(NB)1989.2+19 89.8
GSM+NB-IoT-MC-6	2G+2SA	(G)1930.4+1931+(NB)1949 .2+1949.8	(G)1950.2+1950.8+(NB)19 69.2+1969.8	(G)1970.2+1970.8+(NB)19 89.2+1989.8
GSM+NB-IoT-MC-1-BE	1G+1SA	(NB)1930.3+(G)1932	N/A	(G)1988.2+(NB)1989.8
GSM+NB-IoT-MC-2-BE	2G+1SA	(NB)1930.3+(G)1932+(G)1 933.6	N/A	(G)1986.6+(G)1988.2+(NB) 1989.8
GSM+NB-IoT-MC-3-BE	1G+2SA	(NB)1930.3+1931.9+(G)19 33.6	N/A	(G)1986.6+(NB)1988.2+19 89.8

GSM+WCDMA+NB-IoT

Configuration	Carrier	Carrier Frequency Configuration (MHz)		
		Bottom	Middle	Top
GSM+WCDMA+NB-IoT-MC-1	1G+1W+1SA	(G)1930.4+(W)1940+(NB)1949.8	(G)1950.2+(W)1960+(NB)1969.8	(G)1970.2+(W)1980+(NB)1989.8
GSM+WCDMA+NB-IoT-MC-2	1G+2W+1SA	(G)1930.4+(W)1937.4+1942.4+(NB)1949.8	(G)1950.2+(W)1957.4+1962.4+(NB)1969.8	(G)1970.2+(W)1977.4+1982.4+(NB)1989.8
GSM+WCDMA+NB-IoT-MC-3	2G+2W+2SA	(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
GSM+WCDMA+NB-IoT-MC-3-BE	1G+1W+1SA	(NB)1930.3+(G)1932+(W)1934.6	N/A	(W)1985.6+(G)1988.2+(NB)1989.8
GSM+WCDMA+NB-IoT-MC-4-BE	1G+1W+2SA	(NB)1930.3+1931.9+(G)1933.6+(W)1936.2	N/A	(W)1984+(G)1986.6+(NB)1988.2+1989.8
GSM+WCDMA+NB-IoT-MC-5-BE	2G+1W+1SA	(NB)1930.3+(G)1932+1933.6+(W)1936.2	N/A	(W)1984+(G)1986.6+1988.2+(NB)1989.8

GSM+LTE+NB-IoT

Configuration	Carrier	LTE Carrier Bandwidth	Carrier Frequency Configuration (MHz)		
			Bottom	Middle	Top
GSM+LTE+NB-IoT-MIMO-MC-1	1G+1L+1SA	5MHz	(G)1930.4+(L)1940+(NB)1949.8	(G)1950.2+(L)1960+(NB)1969.8	(G)1970.2+(L)1980+(NB)1989.8
		10MHz	(G)1930.4+(L)1940+(NB)1949.8	(G)1950.2+(L)1960+(NB)1969.8	(G)1970.2+(L)1980+(NB)1989.8
		15MHz	(G)1930.4+(L)1940+(NB)1949.8	(G)1950.2+(L)1960+(NB)1969.8	(G)1970.2+(L)1980+(NB)1989.8
		20MHz	-	(G)1930.4+(NB)1935.8+(L)1980	-
GSM+LTE+NB-IoT-MIMO-MC-2	1G+2L+1SA	5MHz	(G)1930.4+(L)1937.5+1942.5+(NB)1949.8	(G)1950.2+(L)1957.5+1962.5+(NB)1969.8	(G)1970.2+(L)1977.5+1982.5+(NB)1989.8
GSM+LTE+NB-IoT-MIMO-MC-3	2G+1L+2SA	10MHz	(G)1930.4+1931+(L)1940+(NB)1949.2+1949.8	(G)1950.2+1950.8+(L)1960+(NB)1969.2+1969.8	(G)1970.2+1970.8+(L)1980+(NB)1989.2+1989.8
		15MHz	(G)1930.4+1931+(L)1940+(NB)1949.2+1949.8	(G)1950.2+1950.8+(L)1960+(NB)1969.2+1969.8	(G)1970.2+1970.8+(L)1980+(NB)1989.2+1989.8
GSM+LTE+NB-IoT-MIMO-MC-4	1G+2L+1SA	10MHz	-	(G)1930.4+(NB)1935.8+(L)1975+1985	-
		15MHz	-	(G)1930.4+(NB)1935.8+(L)1967.5+1982.5	-
		20MHz	-	(G)1930.4+(NB)1935.8+(L)1960+1980	-
GSM+LTE+NB-IoT-MIMO-MC-5	2G+2L+2SA	5MHz	(G)1930.4+1931+(L)1937.5+1942.5+(NB)1949.2+1949.8	(G)1950.2+1950.8+(L)1957.5+1962.5+(NB)1969.2+1969.8	(G)1970.2+1970.8+(L)1977.5+1982.5+(NB)1989.2+1989.8
		10MHz	-	(G)1930.2+1930.8+(NB)1931.4+1932+(L)1975+1985	-
		15MHz	-	(G)1930.2+1930.8+(NB)1931.4+1932+(L)1967.5+1982.5	-
		20MHz	-	(G)1930.2+1930.8+(NB)1931.4+1932+(L)1960+1980	-
GSM+LTE+NB-IoT-MIMO-MC-3-BE	1G+1L+1SA	5MHz	(NB)1930.3+(G)1932+(L)1934.7	N/A	(L)1985.5+(G)1988.2+(NB)1989.8
		10MHz	(NB)1930.3+(G)1932+(L)1937.2	N/A	(L)1983+(G)1988.2+(NB)1989.8
		15MHz	(NB)1930.3+(G)1932+(L)1939.7	N/A	(L)1980.5+(G)1988.2+(NB)1989.8
		20MHz	(NB)1930.3+(G)1932+(L)1942.2	N/A	(L)1978+(G)1988.2+(NB)1989.8

Configuration	Carrier	LTE Carrier Bandwidth	Carrier Frequency Configuration (MHz)		
			Bottom	Middle	Top
GSM+LTE+NB-IoT-MIMO-MC-4-BE	2G+1L+1SA	5MHz	(NB)1930.3+(G)1932+19 33.6+(L)1936.3	N/A	(L)1983.9+(G)1986.6+19 88.2+(NB)1989.8
		10MHz	(NB)1930.3+(G)1932+19 33.6+(L)1938.8	N/A	(L)1981.4+(G)1986.6+19 88.2+(NB)1989.8
		15MHz	(NB)1930.3+(G)1932+19 33.6+(L)1941.3	N/A	(L)1978.9+(G)1986.6+19 88.2+(NB)1989.8
		20MHz	(NB)1930.3+(G)1932+19 33.6+(L)1943.8	N/A	(L)1976.4+(G)1986.6+19 88.2+(NB)1989.8
GSM+LTE+NB-IoT-MIMO-MC-5-BE	1G+1L+2SA	5MHz	(NB)1930.3+1931.9+(G)1 933.6+(L)1936.3	N/A	(L)1983.9+(G)1986.6+(N B)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+(N B)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+(N B)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+(N B)1988.2+1989.8

WCDMA

Configuration	Carrier	Carrier Frequency Configuration (MHz)		
		Bottom	Middle	Top
WCDMA-1C	1 Carrier	1932.4	1962.4	1992.6
WCDMA-2C	2 Carriers	-	1932.4+1992.6	-
WCDMA-3C	3 Carriers	-	1932.4+1937.4+1992. 6	-
WCDMA-6C	6 Carriers	-	1932.4+1937.4+1942. 4+1982.6+1987.6+199 2.6	-
WCDMA-1C-BE	1 Carrier	1932.4	N/A	1992.6
WCDMA-2C-BE	2 Carriers	1932.4+1937.4	N/A	1987.6+1992.6

LTE

Configuration	Carrier	Carrier Bandwidth	Carrier Frequency Configuration (MHz)		
			Bottom	Middle	Top
LTE-MIMO-1C	1 Carrier	5MHz	1932.5	1962.5	1992.5
		10MHz	1935.0	1962.5	1990.0
		15MHz	1937.5	1962.5	1987.5
		20MHz	1940.0	1962.5	1985.0
LTE-MIMO-2C	2 Carriers	5MHz	-	1932.5+1992.5	-
		10MHz	-	1935.0+1990.0	-
		15MHz	-	1937.5+1987.5	-
		20MHz	-	1940.0+1985.0	-
LTE-MIMO-3C	3 Carriers	5MHz	-	1932.5+1937.5+1992.5	-
		10MHz	-	1935.0+1945.0+1990.0	-
		15MHz	-	1937.5+1952.5+1987.5	-
		20MHz	-	1940.0+1960.0+1985.0	-
LTE-MIMO-4C	4 Carriers	15MHz	-	1937.5+1952.5+1972.5+1987.5	-
LTE-MIMO-6C	6 Carriers	5MHz	-	1932.5+1937.5+1942.5+1982.5+1987.5+1990.0	-
		10MHz	-	1935+1945+1955+1970+1980+1990	-
LTE-MIMO-1C-BE	1 Carrier	5MHz	1932.5	N/A	1992.5
		10MHz	1935.0	N/A	1990.0
		15MHz	1937.5	N/A	1987.5
		20MHz	1940.0	N/A	1985.0
LTE-MIMO-2C-BE	2 Carriers	5MHz	1932.5+1937.5	N/A	1987.5+1992.5
		10MHz	1935.0+1945.0	N/A	1980.0+1990.0
		15MHz	1937.5+1952.5	N/A	1972.5+1987.5
		20MHz	1940.0+1960.0	N/A	1965.0+1985.0

NB-IoT

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

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

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

WCDMA+LTE

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



WCDMA+NB-IoT

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

LTE+NB-IoT

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

WCDMA+LTE+NB-IoT

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

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

N/A – Not Applicable

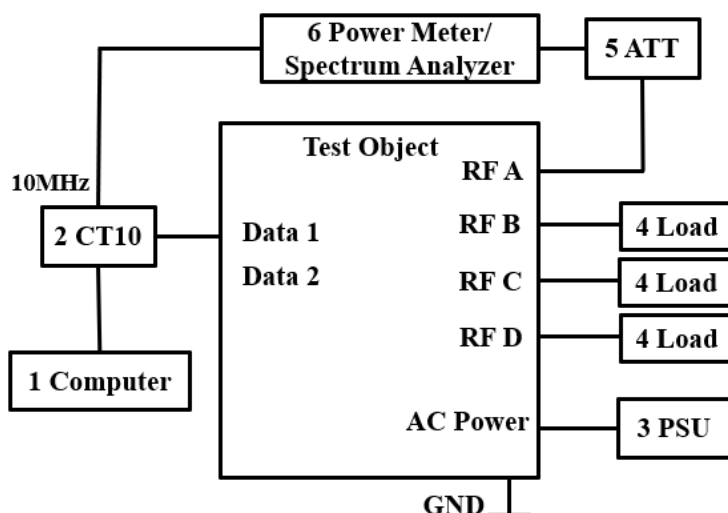
4. Reference Documents

4.1. Reference Documents for testing

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

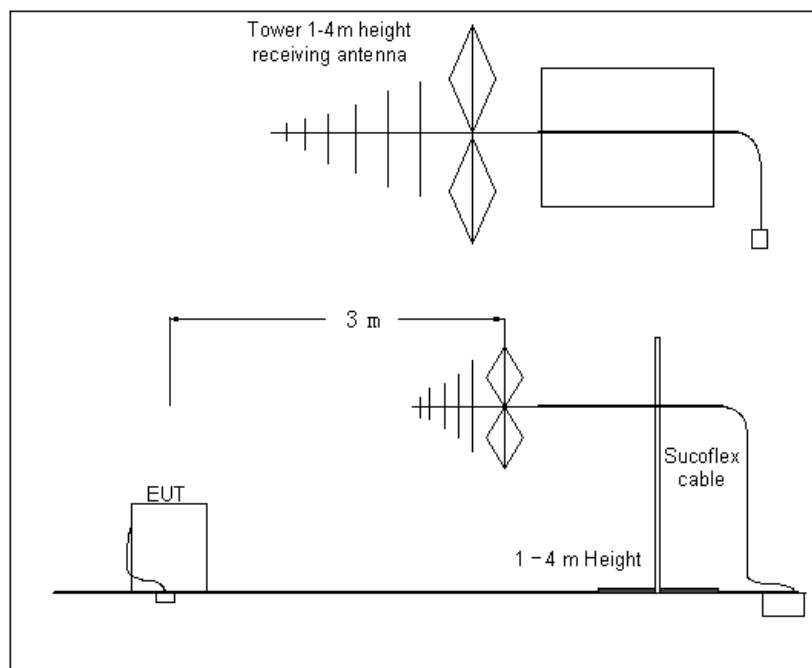
Reference	Title	Version
FCC Part 24	PERSONAL COMMUNICATIONS SERVICES	10-1-18 Edition
FCC Part 2	FREQUENCY ALLOCATIONS AND RADIO TREATY MATTERS; GENERAL RULES AND REGULATIONS	10-1-18 Edition
ANSI/TIA-603-E	Land Mobile FM or PM Communications Equipment Measurement and Performance Standards	2016
ANSI C63.4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

Test Setup, Conducted Measurement:



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

Test Setup, Radiated Measurement:



6. LABORATORY ENVIRONMENT

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

Temperature	Min. = 15 °C, Max. = 35 °C
Relative humidity	Min. = 20 %, Max. = 80 %
Shielding effectiveness	> 110 dB
Electrical insulation	> 2 M Ω
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 M Ω
Ground system resistance	< 0.5 Ω
Normalised site attenuation (NSA)	< ± 3.5 dB, 3 m distance
Site voltage standing-wave ratio (S_{VSWR})	Between 0 and 6 dB, from 1GHz to 18GHz
Uniformity of field strength	Between 0 and 6 dB, from 80 to 3000 MHz



7. SUMMARY OF TEST RESULTS

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

N/A – Not Applicable

Pass¹ – Re-use test data

7.1. Explanation of re-use of test data

The Equipment Under Test (EUT) AIR 4455 B2/B25 B66A has the same RF design as product of Radio 4455 B2/B25 B66A (FCC ID: TA8AKRC161823-1) except AIR 4455 B2/B25 B66A has the integrated antenna according to the declaration provided by the applicant. Spot check measurements were performed on this device and the spot check test results are consistent with basic model. Configurations with GSM are tested, other results are derived from test report I19Z60510-WMD01.

8. Test Equipments Utilized

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

9. MEASUREMENT UNCERTAINTY

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

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

ANNEX A: MEASUREMENT RESULTS

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

A.1.1 Reference

FCC CFR 47 Part 2, Clause 2.1046

FCC CFR 47 Part 24, Clause 24.232 (a) (d)

RSS-133, Clause 6.4

A.1.2 Method of Measurements

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

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

A.1.3 Limit

Output Power:

(EIRP) 1640 W(62.15dBm) or 3280W(65.16dBm) for emission bandwidth $\leq$ 1MHz

1640 W/MHz(62.15dBm/MHz) or 3280W/MHz(65.16dBm/MHz) for emission bandwidth > 1MHz

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)
A	GMSK	43.13	-	0.23	43.07	-	0.23	43.07	-	0.23
B	GMSK	42.77	-	0.22	42.92	-	0.22	42.92	-	0.22
C	GMSK	42.79	-	0.22	42.80	-	0.22	42.80	-	0.22
D	GMSK	42.87	-	0.22	42.96	-	0.22	42.95	-	0.22
Total		48.91	-	-	48.96	-	-	48.96	-	-
Total Power+14.3 dBi		63.21	-	-	63.26	-	-	63.26	-	-



Antenna	Modulation	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	8PSK	42.96	-	3.42	42.96	-	3.41	42.89	-	3.42
B	8PSK	42.64	-	3.40	42.77	-	3.40	42.66	-	3.41
C	8PSK	42.62	-	3.38	42.71	-	3.36	42.70	-	3.37
D	8PSK	42.76	-	3.37	42.85	-	3.37	42.84	-	3.36
Total		48.77	-	-	48.84	-	-	48.79	-	-
Total Power+14.3 dBi		63.07	-	-	63.14	-	-	63.09	-	-

Antenna	Modulation	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	AQPSK	43.05	-	3.55	43.11	-	3.57	42.94	-	3.55
B	AQPSK	42.83	-	3.54	42.86	-	3.55	42.82	-	3.54
C	AQPSK	42.82	-	3.53	42.85	-	3.54	42.81	-	3.53
D	AQPSK	42.94	-	3.52	42.98	-	3.53	42.98	-	3.51
Total		48.93	-	-	48.97	-	-	48.91	-	-
Total Power+14.3 dBi		63.23	-	-	63.27	-	-	63.21	-	-

Configuration GSM-2C

Maximum Output Power 44.8dBm per port

Antenna	Modulation	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	GMSK	43.38	42.39	-	43.54	42.72	-	43.47	42.50	-
B	GMSK	43.28	42.27	-	43.48	42.49	-	43.45	42.43	-
C	GMSK	43.35	42.31	-	43.48	42.39	-	43.21	42.19	-
D	GMSK	43.35	42.34	-	43.72	42.52	-	43.46	42.37	-
Total		49.36	48.35	-	49.58	48.55	-	49.42	48.39	-
Total Power+14.3 dBi		63.66	62.65	-	63.88	62.85	-	63.72	62.69	-

Antenna	Modulation	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	8PSK	42.41	41.40	-	42.78	41.72	-	42.51	41.51	-
B	8PSK	42.32	41.26	-	42.53	41.56	-	42.49	41.40	-
C	8PSK	42.37	41.35	-	42.49	41.42	-	42.30	41.28	-
D	8PSK	42.39	41.39	-	42.69	41.60	-	42.42	41.49	-
Total		48.39	47.37	-	48.64	47.60	-	48.45	47.44	-
Total Power+14.3 dBi		62.69	61.67	-	62.94	61.9	-	62.75	61.74	-

Antenna	Modulation	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	AQPSK	42.77	41.82	-	43.05	42.03	-	43.01	41.98	-
B	AQPSK	42.62	41.59	-	42.98	41.97	-	42.85	41.85	-
C	AQPSK	42.73	41.69	-	42.81	41.88	-	42.69	41.65	-
D	AQPSK	42.76	41.78	-	43.02	42.01	-	42.89	41.78	-
Total		48.74	47.74	-	48.99	47.99	-	48.88	47.84	-
Total Power+14.3 dBi		63.04	62.04	-	63.29	62.29	-	63.18	62.14	-

Configuration GSM-4C

Maximum Output Power 44.8dBm per port

Antenna	Modulation	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	GMSK	43.15	-	-	43.58	-	-	43.40	-	-
B	GMSK	43.04	-	-	43.47	-	-	43.37	-	-
C	GMSK	42.98	-	-	43.43	-	-	43.29	-	-
D	GMSK	43.08	-	-	43.51	-	-	43.40	-	-
Total		49.08	-	-	49.52	-	-	49.39	-	-
Total Power+14.3 dBi		63.38	-	-	63.82	-	-	63.69	-	-

Antenna	Modulation	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	8PSK	41.13	-	-	41.48	-	-	41.39	-	-
B	8PSK	41.04	-	-	41.45	-	-	41.39	-	-
C	8PSK	40.99	-	-	41.38	-	-	41.35	-	-
D	8PSK	41.08	-	-	41.47	-	-	41.35	-	-
Total		47.08	-	-	47.47	-	-	47.39	-	-
Total Power+14.3 dBi		61.38	-	-	61.77	-	-	61.69	-	-

Antenna	Modulation	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	AQPSK	41.46	-	-	41.82	-	-	41.71	-	-
B	AQPSK	41.40	-	-	41.79	-	-	41.68	-	-
C	AQPSK	41.36	-	-	41.78	-	-	41.68	-	-
D	AQPSK	41.41	-	-	41.82	-	-	41.70	-	-
Total		47.43	-	-	47.82	-	-	47.71	-	-
Total Power+14.3 dBi		61.73	-	-	62.12	-	-	62.01	-	-

Configuration WCDMA-1C

Maximum Output Power 44.8dBm per port

Antenna	Modulation	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	QPSK	44.39	37.38	6.29	44.84	37.71	6.27	44.79	37.79	6.31
B	QPSK	44.42	37.53	6.29	45.05	38.00	6.25	44.93	38.03	6.37
C	QPSK	44.24	37.36	6.33	44.70	37.75	6.27	44.70	37.71	6.30
D	QPSK	44.24	37.45	6.34	44.85	37.87	6.27	44.86	37.91	6.31
Total		50.34	43.45	-	50.88	43.85	-	50.84	43.88	-
Total Power+14.3 dBi		64.64	57.75	-	65.18	58.15	-	65.14	58.18	-

Antenna	Modulation	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	16QAM	44.44	37.34	6.30	44.82	37.72	6.25	44.80	37.76	6.27
B	16QAM	44.47	37.47	6.29	45.03	37.95	6.22	45.02	38.02	6.32
C	16QAM	44.32	37.41	6.29	44.66	37.72	6.24	44.77	37.73	6.29
D	16QAM	44.36	37.37	6.27	44.78	37.88	6.23	44.90	37.92	6.27
Total		50.42	43.42	-	50.85	43.84	-	50.89	43.88	-
Total Power+14.3 dBi		64.72	57.72	-	65.15	58.14	-	65.19	58.18	-

Antenna	Modulation	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	64QAM	44.49	37.40	6.29	44.82	37.72	6.24	44.82	37.64	6.28
B	64QAM	44.50	37.47	6.29	45.03	37.97	6.23	45.01	38.00	6.33
C	64QAM	44.33	37.26	6.29	44.67	37.69	6.22	44.71	37.69	6.28
D	64QAM	44.32	37.35	6.26	44.80	37.84	6.22	44.89	37.92	6.27
Total		50.43	43.39	-	50.85	43.83	-	50.88	43.84	-
Total Power+14.3 dBi		64.73	57.69	-	65.15	58.13	-	65.18	58.14	-

Configuration WCDMA-2C

Maximum Output Power 44.8dBm per port

Antenna	Modulation	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	64QAM	-	-	-	44.17	-	-	-	-	-
B	64QAM	-	-	-	44.32	-	-	-	-	-
C	64QAM	-	-	-	44.08	-	-	-	-	-
D	64QAM	-	-	-	44.11	-	-	-	-	-
Total		-	-	-	50.19	-	-	-	-	-
Total Power+14.3 dBi		-	-	-	64.49	-	-	-	-	-

Configuration WCDMA-6C

Maximum Output Power 44.8dBm per port

Antenna	Modulation	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR(db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR(db)
A	64QAM	-	-	-	44.34	-	-	-	-	-
B	64QAM	-	-	-	44.56	-	-	-	-	-
C	64QAM	-	-	-	44.25	-	-	-	-	-
D	64QAM	-	-	-	44.29	-	-	-	-	-
Total		-	-	-	50.38	-	-	-	-	-
Total Power+14.3 dBi		-	-	-	64.68	-	-	-	-	-

Configuration LTE-MIMO-1C

Maximum Output Power 44.8dBm per port

Antenna	Modulation/ Carrier Bandwidth (MHz)	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
	A	QPSK/5.0	44.50	37.45	7.30	44.86	37.86	7.53	44.83	37.72
B	44.56		37.50	7.32	45.03	37.92	7.55	45.00	37.98	7.44
C	44.37		37.31	7.31	44.70	37.65	7.55	44.68	37.70	7.34
D	44.34		37.36	7.30	44.82	37.83	7.54	44.81	37.90	7.32
Total		50.46	43.43	-	50.87	43.84	-	50.85	43.85	-
Total Power+14.3 dBi		64.76	57.73	-	65.17	58.14	-	65.15	58.15	-

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	16QAM/5.0	-	-	-	44.81	37.72	7.53	-	-	-
B		-	-	-	44.98	37.81	7.55	-	-	-
C		-	-	-	44.73	37.65	7.54	-	-	-
D		-	-	-	44.84	37.85	7.53	-	-	-
Total		-	-	-	50.86	43.78	-	-	-	-
Total Power+14.3 dBi		-	-	-	65.16	58.08	-	-	-	-



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	-	-	-	44.82	37.79	7.53	-	-	-
B		-	-	-	44.98	37.88	7.54	-	-	-
C		-	-	-	44.58	37.67	7.54	-	-	-
D		-	-	-	44.84	37.85	7.54	-	-	-
Total		-	-	-	50.83	43.82	-	-	-	-
Total Power+14.3 dBi		-	-	-	65.13	58.12	-	-	-	-

Antenna	Modulation/ Carrier Bandwidth (MHz)	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
	A	256QAM /5.0	-	-	-	44.79	37.74	7.56	-	-
B	-		-	-	44.97	37.87	7.57	-	-	-
C	-		-	-	44.67	37.68	7.54	-	-	-
D	-		-	-	44.82	37.88	7.52	-	-	-
Total		-	-	-	50.83	43.81	-	-	-	-
Total Power+14.3 dBi		-	-	-	65.13	58.11	-	-	-	-

Maximum Output Power 44.8dBm per port

Antenna	Modulation/ Carrier Bandwidth (MHz)	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	QPSK/ 10.0	44.71	34.67	7.35	44.82	34.77	7.55	44.86	34.74	7.38
B		44.78	34.70	7.34	45.01	34.97	7.53	45.03	34.96	7.48
C		44.62	34.54	7.35	44.69	34.67	7.54	44.77	34.71	7.38
D		44.56	34.48	7.34	44.79	34.79	7.53	44.91	34.82	7.38
Total		50.69	40.62	-	50.85	40.82	-	50.91	40.83	-
Total Power+14.3 dBi		64.99	54.92	-	65.15	55.12	-	65.21	55.13	-

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/ 10.0	-	-	-	44.82	34.74	7.54	-	-	-
B		-	-	-	45.00	34.96	7.54	-	-	-
C		-	-	-	44.72	34.69	7.54	-	-	-
D		-	-	-	44.81	34.82	7.52	-	-	-
Total		-	-	-	50.86	40.82	-	-	-	-
Total Power+14.3 dBi		-	-	-	65.16	55.12	-	-	-	-



Antenna	Modulation/ Carrier Bandwidth (MHz)	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	64QAM/ 10.0	-	-	-	44.80	34.72	7.54	-	-	-
B		-	-	-	44.98	34.90	7.53	-	-	-
C		-	-	-	44.68	34.70	7.55	-	-	-
D		-	-	-	44.76	34.83	7.53	-	-	-
Total		-	-	-	50.83	40.81	-	-	-	-
Total Power+14.3 dBi		-	-	-	65.13	55.11	-	-	-	-

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 /10.0	-	-	-	44.78	34.84	7.54	-	-	-
B		-	-	-	44.97	34.96	7.54	-	-	-
C		-	-	-	44.67	34.66	7.56	-	-	-
D		-	-	-	44.76	34.76	7.54	-	-	-
Total		-	-	-	50.82	40.83	-	-	-	-
Total Power+14.3 dBi		-	-	-	65.12	55.13	-	-	-	-

Maximum Output Power 44.8dBm per port

Antenna	Modulation/ Carrier Bandwidth (MHz)	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	QPSK/ 15.0	44.78	32.99	7.40	44.80	32.99	7.55	44.84	33.01	7.46
B		44.94	33.07	7.41	45.00	33.20	7.53	45.03	33.18	7.54
C		44.65	32.89	7.39	44.69	33.37	7.55	44.74	31.67	7.45
D		44.72	32.87	7.41	44.78	33.46	7.52	45.00	31.94	7.43
Total		50.79	38.98	-	50.84	39.28	-	50.92	38.52	-
Total Power+14.3 dBi		65.09	53.28	-	65.14	53.58	-	65.22	52.82	-

Antenna	Modulation/ Carrier Bandwidth (MHz)	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	16QAM/ 15.0	-	-	-	44.80	33.03	7.55	-	-	-
B		-	-	-	45.00	33.15	7.54	-	-	-
C		-	-	-	44.71	32.91	7.54	-	-	-
D		-	-	-	44.81	33.04	7.51	-	-	-
Total		-	-	-	50.85	39.05	-	-	-	-
Total Power+14.3 dBi		-	-	-	65.15	53.35	-	-	-	-



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	64QAM/ 15.0	-	-	-	44.81	32.92	7.56	-	-	-
B		-	-	-	45.03	33.20	7.54	-	-	-
C		-	-	-	44.71	32.97	7.56	-	-	-
D		-	-	-	44.81	33.04	7.52	-	-	-
Total		-	-	-	50.86	39.05	-	-	-	-
Total Power+14.3 dBi		-	-	-	65.16	53.35	-	-	-	-

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	256QAM /15.0	-	-	-	44.83	32.95	7.56	-	-	-
B		-	-	-	45.03	33.22	7.54	-	-	-
C		-	-	-	44.72	32.95	7.55	-	-	-
D		-	-	-	44.80	33.05	7.54	-	-	-
Total		-	-	-	50.87	39.06	-	-	-	-
Total Power+14.3 dBi		-	-	-	65.17	53.36	-	-	-	-

Maximum Output Power 44.8dBm per port

Antenna	Modulation/ Carrier Bandwidth (MHz)	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	QPSK/ 20.0	44.83	31.74	7.48	44.84	31.72	7.55	44.88	31.72	7.47
B		45.06	31.96	7.46	45.06	32.01	7.53	45.08	32.04	7.58
C		44.80	31.74	7.47	44.73	31.75	7.53	44.72	31.74	7.49
D		44.79	31.70	7.46	44.82	31.82	7.50	44.87	31.92	7.44
Total		50.89	37.81	-	50.88	37.85	-	50.91	37.88	-
Total Power+14.3 dBi		65.19	52.11	-	65.18	52.15	-	65.21	52.18	-

Antenna	Modulation/ Carrier Bandwidth (MHz)	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	16QAM/ 20.0	-	-	-	44.83	31.70	7.53	-	-	-
B		-	-	-	45.03	32.00	7.53	-	-	-
C		-	-	-	44.72	31.72	7.53	-	-	-
D		-	-	-	44.82	31.82	7.51	-	-	-
Total		-	-	-	50.87	37.83	-	-	-	-
Total Power+14.3 dBi		-	-	-	65.17	52.13	-	-	-	-

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	64QAM/ 20.0	-	-	-	44.80	31.71	7.55	-	-	-
B		-	-	-	45.03	32.02	7.53	-	-	-
C		-	-	-	44.70	31.72	7.54	-	-	-
D		-	-	-	44.78	31.80	7.51	-	-	-
Total		-	-	-	50.85	37.83	-	-	-	-
Total Power+14.3 dBi		-	-	-	65.15	52.13	-	-	-	-

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	-	-	-	44.81	31.72	7.56	-	-	-
B		-	-	-	45.01	32.01	7.54	-	-	-
C		-	-	-	44.69	31.71	7.54	-	-	-
D		-	-	-	44.77	31.77	7.51	-	-	-
Total		-	-	-	50.84	37.82	-	-	-	-
Total Power+14.3 dBi		-	-	-	65.14	52.12	-	-	-	-

Configuration LTE-MIMO-2C

Maximum Output Power 44.8dBm per port

Antenna	Modulation/ Carrier Bandwidth (MHz)	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	QPSK/5.0	-	-	-	44.39	-	-	-	-	-
B		-	-	-	44.57	-	-	-	-	-
C		-	-	-	44.26	-	-	-	-	-
D		-	-	-	44.33	-	-	-	-	-
Total		-	-	-	50.41	-	-	-	-	-
Total Power+14.3 dBi		-	-	-	64.71	-	-	-	-	-



Antenna	Modulation/ Carrier Bandwidth (MHz)	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	16QAM/5.0	-	-	-	44.38	-	-	-	-	-
B		-	-	-	44.57	-	-	-	-	-
C		-	-	-	44.28	-	-	-	-	-
D		-	-	-	44.33	-	-	-	-	-
Total		-	-	-	50.41	-	-	-	-	-
Total Power+14.3 dBi		-	-	-	64.71	-	-	-	-	-

Antenna	Modulation/ Carrier Bandwidth (MHz)	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	64QAM/5.0	-	-		44.38	-	-	-	-	-
B		-	-	-	44.54	-	-	-	-	-
C		-	-	-	44.29	-	-	-	-	-
D		-	-	-	44.33	-	-	-	-	-
Total		-	-	-	50.41	-	-	-	-	-
Total Power+14.3 dBi		-	-	-	64.71	-	-	-	-	-

Antenna	Modulation/ Carrier Bandwidth (MHz)	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	256QAM /5.0	-	-	-	44.35	-	-	-	-	-
B		-	-	-	44.52	-	-	-	-	-
C		-	-	-	44.25	-	-	-	-	-
D		-	-	-	44.31	-	-	-	-	-
Total		-	-	-	50.38	-	-	-	-	-
Total Power+14.3 dBi		-	-	-	64.68	-	-	-	-	-

Maximum Output Power 44.8dBm per port

Antenna	Modulation/ Carrier Bandwidth (MHz)	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	QPSK/ 10.0	-	-	-	44.50	-	-	-	-	-
B		-	-	-	44.69	-	-	-	-	-
C		-	-	-	44.41	-	-	-	-	-
D		-	-	-	44.45	-	-	-	-	-
Total		-	-	-	50.53	-	-	-	-	-
Total Power+14.3 dBi		-	-	-	64.83	-	-	-	-	-



Antenna	Modulation/ Carrier Bandwidth (MHz)	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	16QAM/ 10.0	-	-	-	44.50	-	-	-	-	-
B		-	-	-	44.71	-	-	-	-	-
C		-	-	-	44.46	-	-	-	-	-
D		-	-	-	44.49	-	-	-	-	-
Total		-	-	-	50.56	-	-	-	-	-
Total Power+14.3 dBi		-	-	-	64.86	-	-	-	-	-

Antenna	Modulation/ Carrier Bandwidth (MHz)	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
	A	64QAM/ 10.0	-	-	-	44.48	-	-	-	-
B	-		-	-	44.70	-	-	-	-	-
C	-		-	-	44.41	-	-	-	-	-
D	-		-	-	44.46	-	-	-	-	-
Total		-	-	-	50.53	-	-	-	-	-
Total Power+14.3 dBi		-	-	-	64.83	-	-	-	-	-

Antenna	Modulation/ Carrier Bandwidth (MHz)	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	256QAM /10.0	-	-	-	44.49	-	-	-	-	-
B		-	-	-	44.69	-	-	-	-	-
C		-	-	-	44.43	-	-	-	-	-
D		-	-	-	44.46	-	-	-	-	-
Total		-	-	-	50.54	-	-	-	-	-
Total Power+14.3 dBi		-	-	-	64.84	-	-	-	-	-



Maximum Output Power 44.8dBm per port

Antenna	Modulation/ Carrier Bandwidth (MHz)	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	QPSK/ 15.0	-	-	-	44.58	-	-	-	-	-
B		-	-	-	44.81	-	-	-	-	-
C		-	-	-	44.49	-	-	-	-	-
D		-	-	-	44.52	-	-	-	-	-
Total		-	-	-	50.62	-	-	-	-	-
Total Power+14.3 dBi		-	-	-	64.92	-	-	-	-	-

Antenna	Modulation/ Carrier	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
	Bandwidth (MHz)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	16QAM/ 15.0	-	-	-	44.57	-	-	-	-	-
B		-	-	-	44.79	-	-	-	-	-
C		-	-	-	44.47	-	-	-	-	-
D		-	-	-	44.49	-	-	-	-	-
Total		-	-	-	50.60	-	-	-	-	-
Total Power+14.3 dBi		-	-	-	64.9	-	-	-	-	-

Antenna	Modulation/ Carrier Bandwidth (MHz)	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	64QAM/ 15.0	-	-	-	44.55	-	-	-	-	-
B		-	-	-	44.79	-	-	-	-	-
C		-	-	-	44.48	-	-	-	-	-
D		-	-	-	44.49	-	-	-	-	-
Total		-	-	-	50.60	-	-	-	-	-
Total Power+14.3 dBi		-	-	-	64.9	-	-	-	-	-



Antenna	Modulation/ Carrier Bandwidth (MHz)	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	256QAM /15.0	-	-	-	44.55	-	-	-	-	-
B		-	-	-	44.78	-	-	-	-	-
C		-	-	-	44.46	-	-	-	-	-
D		-	-	-	44.48	-	-	-	-	-
Total		-	-	-	50.59	-	-	-	-	-
Total Power+14.3 dBi		-	-	-	64.89	-	-	-	-	-

Maximum Output Power 44.8dBm per port

Antenna	Modulation/ Carrier Bandwidth (MHz)	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	QPSK/ 20.0	-	-	-	44.61	-	-	-	-	-
B		-	-	-	44.87	-	-	-	-	-
C		-	-	-	44.54	-	-	-	-	-
D		-	-	-	44.55	-	-	-	-	-
Total		-	-	-	50.67	-	-	-	-	-
Total Power+14.3 dBi		-	-	-	64.97	-	-	-	-	-

Antenna	Modulation/ Carrier Bandwidth (MHz)	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	16QAM/ 20.0	-	-	-	44.61	-	-	-	-	-
B		-	-	-	44.86	-	-	-	-	-
C		-	-	-	44.54	-	-	-	-	-
D		-	-	-	44.55	-	-	-	-	-
Total		-	-	-	50.66	-	-	-	-	-
Total Power+14.3 dBi		-	-	-	64.96	-	-	-	-	-

Antenna	Modulation/ Carrier Bandwidth (MHz)	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	64QAM/ 20.0	-	-	-	44.60	-	-	-	-	-
B		-	-	-	44.86	-	-	-	-	-
C		-	-	-	44.56	-	-	-	-	-
D		-	-	-	44.55	-	-	-	-	-
Total		-	-	-	50.66	-	-	-	-	-
Total Power+14.3 dBi		-	-	-	64.96	-	-	-	-	-

Antenna	Modulation/ Carrier Bandwidth (MHz)	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
	A	256QAM /20.0	-	-	-	44.60	-	-	-	-
B	-		-	-	44.87	-	-	-	-	-
C	-		-	-	44.54	-	-	-	-	-
D	-		-	-	44.52	-	-	-	-	-
Total		-	-	-	50.66	-	-	-	-	-
Total Power+14.3 dBi		-	-	-	64.96	-	-	-	-	-

Configuration LTE-MIMO-6C

Maximum Output Power 44.8dBm per port

Antenna	Modulation/ Carrier Bandwidth (MHz)	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	QPSK/5.0	-	-	-	44.12	-	-	-	-	-
B		-	-	-	44.35	-	-	-	-	-
C		-	-	-	43.97	-	-	-	-	-
D		-	-	-	44.04	-	-	-	-	-
Total		-	-	-	50.14	-	-	-	-	-
Total Power+14.3 dBi		-	-	-	64.44	-	-	-	-	-



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	16QAM/5.0	-	-	-	44.06	-	-	-	-	-
B		-	-	-	44.28	-	-	-	-	-
C		-	-	-	43.93	-	-	-	-	-
D		-	-	-	43.99	-	-	-	-	-
Total		-	-	-	50.09	-	-	-	-	-
Total Power+14.3 dBi		-	-	-	64.39	-	-	-	-	-

Antenna	Modulation/ Carrier Bandwidth (MHz)	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	64QAM/5.0	-	-	-	44.08	-	-	-	-	-
B		-	-	-	44.30	-	-	-	-	-
C		-	-	-	43.96	-	-	-	-	-
D		-	-	-	44.01	-	-	-	-	-
Total		-	-	-	50.11	-	-	-	-	-
Total Power+14.3 dBi		-	-	-	64.41	-	-	-	-	-

Antenna	Modulation/ Carrier Bandwidth (MHz)	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	256QAM /5.0	-	-	-	44.06	-	-	-	-	-
B		-	-	-	44.28	-	-	-	-	-
C		-	-	-	43.97	-	-	-	-	-
D		-	-	-	44.05	-	-	-	-	-
Total		-	-	-	50.11	-	-	-	-	-
Total Power+14.3 dBi		-	-	-	64.41	-	-	-	-	-

Maximum Output Power 44.8dBm per port

Antenna	Modulation/ Carrier Bandwidth (MHz)	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	QPSK/ 10.0	-	-	-	44.60	-	-	-	-	-
B		-	-	-	44.84	-	-	-	-	-
C		-	-	-	44.50	-	-	-	-	-
D		-	-	-	44.55	-	-	-	-	-
Total		-	-	-	50.65	-	-	-	-	-
Total Power+14.3 dBi		-	-	-	64.95	-	-	-	-	-

Antenna	Modulation/ Carrier Bandwidth (MHz)	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	16QAM/ 10.0	-	-	-	44.55	-	-	-	-	-
B		-	-	-	44.78	-	-	-	-	-
C		-	-	-	44.48	-	-	-	-	-
D		-	-	-	44.53	-	-	-	-	-
Total		-	-	-	50.61	-	-	-	-	-
Total Power+14.3 dBi		-	-	-	64.91	-	-	-	-	-

Antenna	Modulation/ Carrier Bandwidth (MHz)	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	64QAM/ 10.0	-	-	-	44.62	-	-	-	-	-
B		-	-	-	44.87	-	-	-	-	-
C		-	-	-	44.51	-	-	-	-	-
D		-	-	-	44.58	-	-	-	-	-
Total		-	-	-	50.67	-	-	-	-	-
Total Power+14.3 dBi		-	-	-	64.97	-	-	-	-	-

Antenna	Modulation/ Carrier Bandwidth (MHz)	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	256QAM /10.0	-	-	-	44.59	-	-	-	-	-
B		-	-	-	44.82	-	-	-	-	-
C		-	-	-	44.47	-	-	-	-	-
D		-	-	-	44.54	-	-	-	-	-
Total		-	-	-	50.63	-	-	-	-	-
Total Power+14.3 dBi		-	-	-	64.93	-	-	-	-	-

Configuration LTE-MIMO-4C

Maximum Output Power 44.8dBm per port

Antenna	Modulation/ Carrier Bandwidth (MHz)	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	QPSK/ 15.0	-	-	-	44.61	-	-	-	-	-
B		-	-	-	44.84	-	-	-	-	-
C		-	-	-	44.53	-	-	-	-	-
D		-	-	-	44.58	-	-	-	-	-
Total		-	-	-	50.66	-	-	-	-	-
Total Power+14.3 dBi		-	-	-	64.96	-	-	-	-	-

Antenna	Modulation/ Carrier Bandwidth (MHz)	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	16QAM/ 15.0	-	-	-	44.59	-	-	-	-	-
B		-	-	-	44.81	-	-	-	-	-
C		-	-	-	44.50	-	-	-	-	-
D		-	-	-	44.54	-	-	-	-	-
Total		-	-	-	50.63	-	-	-	-	-
Total Power+14.3 dBi		-	-	-	64.93	-	-	-	-	-

Antenna	Modulation/ Carrier Bandwidth (MHz)	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	64QAM/ 15.0	-	-	-	44.58	-	-	-	-	-
B		-	-	-	44.81	-	-	-	-	-
C		-	-	-	44.50	-	-	-	-	-
D		-	-	-	44.53	-	-	-	-	-
Total		-	-	-	50.63	-	-	-	-	-
Total Power+14.3 dBi		-	-	-	64.93	-	-	-	-	-

Antenna	Modulation/ Carrier Bandwidth (MHz)	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	256QAM /15.0	-	-	-	44.60	-	-	-	-	-
B		-	-	-	44.82	-	-	-	-	-
C		-	-	-	44.52	-	-	-	-	-
D		-	-	-	44.54	-	-	-	-	-
Total		-	-	-	50.64	-	-	-	-	-
Total Power+14.3 dBi		-	-	-	64.94	-	-	-	-	-

Configuration NB-IoT-InBand-1C

Maximum Output Power 44.8dBm per port

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

Configuration NB-IoT-GuardBand-1C

Maximum Output Power 44.8dBm per port

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

Configuration NB-IoT-StandAlone-1C

Maximum Output Power 43.0dBm per port

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

Configuration NB-IoT-StandAlone-2C

Maximum Output Power 44.8dBm per port

Antenna	Modulation/ Carrier	Output Power / Peak to Average Ratio (PAR)								
	Bandwidth (KHz)	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)
B	QPSK/ 250.0	44.06	-	-	44.35	-	-	44.32	-	-

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

Maximum Output Power 44.8dBm per port

Antenna	GSM Mod./ WCDMA Mod.	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	GMSK/ 64QAM	-	-	-	44.73	-	-	-	-	-
B	GMSK/ 64QAM	-	-	-	44.48	-	-	-	-	-
C	GMSK/ 64QAM	-	-	-	44.41	-	-	-	-	-
D	GMSK/ 64QAM	-	-	-	44.54	-	-	-	-	-
Total		-	-	-	50.56	-	-	-	-	-
Total Power+14.3 dBi		-	-	-	64.86	-	-	-	-	-

Configuration GSM+WCDMA-MC-3 (4GSM+2WCDMA)

Maximum Output Power 44.8dBm per port

Antenna	GSM Mod./ WCDMA Mod.	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	GMSK/ 64QAM	-	-	-	44.79	-	-	-	-	-
B	GMSK/ 64QAM	-	-	-	44.41	-	-	-	-	-
C	GMSK/ 64QAM	-	-	-	44.40	-	-	-	-	-
D	GMSK/ 64QAM	-	-	-	44.54	-	-	-	-	-
Total		-	-	-	50.56	-	-	-	-	-
Total Power+14.3 dBi		-	-	-	64.86	-	-	-	-	-

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

Maximum Output Power 44.8dBm 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)
A	GMSK/ QPSK 5.0	-	-	-	44.45	-	-	-	-	-
B	GMSK/ QPSK 5.0	-	-	-	44.16	-	-	-	-	-
C	GMSK/ QPSK 5.0	-	-	-	44.23	-	-	-	-	-
D	GMSK/ QPSK 5.0	-	-	-	44.41	-	-	-	-	-
Total		-	-	-	50.33	-	-	-	-	-
Total Power+14.3 dBi		-	-	-	64.63	-	-	-	-	-

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)
A	GMSK/ QPSK 10	-	-	-	44.44	-	-	-	-	-
B	GMSK/ QPSK 10	-	-	-	44.20	-	-	-	-	-
C	GMSK/ QPSK 10	-	-	-	44.19	-	-	-	-	-
D	GMSK/ QPSK 10	-	-	-	44.34	-	-	-	-	-
Total		-	-	-	50.31	-	-	-	-	-
Total Power+14.3 dBi		-	-	-	64.61	-	-	-	-	-



Antenna	GSM Mod./ LTE Mod.	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	GMSK/ QPSK 15	-	-	-	44.50	-	-	-	-	-
B	GMSK/ QPSK 15	-	-	-	44.23	-	-	-	-	-
C	GMSK/ QPSK 15	-	-	-	44.24	-	-	-	-	-
D	GMSK/ QPSK 15	-	-	-	44.34	-	-	-	-	-
Total		-	-	-	50.35	-	-	-	-	-
Total Power+14.3 dBi		-	-	-	64.65	-	-	-	-	-

Antenna	GSM Mod./ LTE Mod.	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	GMSK/ QPSK 20	-	-	-	44.59	-	-	-	-	-
B	GMSK/ QPSK 20	-	-	-	44.28	-	-	-	-	-
C	GMSK/ QPSK 20	-	-	-	44.30	-	-	-	-	-
D	GMSK/ QPSK 20	-	-	-	44.42	-	-	-	-	-
Total		-	-	-	50.42	-	-	-	-	-
Total Power+14.3 dBi		-	-	-	64.72	-	-	-	-	-

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

Maximum Output Power 44.8dBm 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)
A	GMSK/ QPSK 5.0	-	-	-	43.49	-	-	-	-	-
B	GMSK/ QPSK 5.0	-	-	-	43.15	-	-	-	-	-
C	GMSK/ QPSK 5.0	-	-	-	43.20	-	-	-	-	-
D	GMSK/ QPSK 5.0	-	-	-	43.34	-	-	-	-	-
Total		-	-	-	49.32	-	-	-	-	-
Total Power+14.3 dBi		-	-	-	63.62	-	-	-	-	-

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)
A	GMSK/ QPSK 10	-	-	-	43.96	-	-	-	-	-
B	GMSK/ QPSK 10	-	-	-	43.62	-	-	-	-	-
C	GMSK/ QPSK 10	-	-	-	43.63	-	-	-	-	-
D	GMSK/ QPSK 10	-	-	-	43.74	-	-	-	-	-
Total		-	-	-	49.76	-	-	-	-	-
Total Power+14.3 dBi		-	-	-	64.06	-	-	-	-	-

Antenna	GSM Mod./ LTE Mod.	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	GMSK/ QPSK 15	-	-	-	44.27	-	-	-	-	-
B	GMSK/ QPSK 15	-	-	-	43.93	-	-	-	-	-
C	GMSK/ QPSK 15	-	-	-	43.98	-	-	-	-	-
D	GMSK/ QPSK 15	-	-	-	44.01	-	-	-	-	-
Total		-	-	-	50.07	-	-	-	-	-
Total Power+14.3 dBi		-	-	-	64.37	-	-	-	-	-

Antenna	GSM Mod./ LTE Mod.	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	GMSK/ QPSK 20	-	-	-	44.43	-	-	-	-	-
B	GMSK/ QPSK 20	-	-	-	44.11	-	-	-	-	-
C	GMSK/ QPSK 20	-	-	-	44.13	-	-	-	-	-
D	GMSK/ QPSK 20	-	-	-	44.21	-	-	-	-	-
Total		-	-	-	50.24	-	-	-	-	-
Total Power+14.3 dBi		-	-	-	64.54	-	-	-	-	-

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

Maximum Output Power 44.8dBm 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)
A	GMSK/ QPSK 5.0	-	-	-	43.80	-	-	-	-	-
B	GMSK/ QPSK 5.0	-	-	-	43.47	-	-	-	-	-
C	GMSK/ QPSK 5.0	-	-	-	43.50	-	-	-	-	-
D	GMSK/ QPSK 5.0	-	-	-	43.62	-	-	-	-	-
Total		-	-	-	49.62	-	-	-	-	-
Total Power+14.3 dBi		-	-	-	63.92	-	-	-	-	-

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)
A	GMSK/ QPSK 10	-	-	-	44.31	-	-	-	-	-
B	GMSK/ QPSK 10	-	-	-	43.93	-	-	-	-	-
C	GMSK/ QPSK 10	-	-	-	43.98	-	-	-	-	-
D	GMSK/ QPSK 10	-	-	-	44.07	-	-	-	-	-
Total		-	-	-	50.10	-	-	-	-	-
Total Power+14.3 dBi		-	-	-	64.4	-	-	-	-	-

Antenna	GSM Mod./ LTE Mod.	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	GMSK/ QPSK 15	-	-	-	44.42	-	-	-	-	-
B	GMSK/ QPSK 15	-	-	-	44.06	-	-	-	-	-
C	GMSK/ QPSK 15	-	-	-	44.08	-	-	-	-	-
D	GMSK/ QPSK 15	-	-	-	44.19	-	-	-	-	-
Total		-	-	-	50.21	-	-	-	-	-
Total Power+14.3 dBi		-	-	-	64.51	-	-	-	-	-

Antenna	GSM Mod./ LTE Mod.	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	GMSK/ QPSK 20	-	-	-	44.69	-	-	-	-	-
B	GMSK/ QPSK 20	-	-	-	44.40	-	-	-	-	-
C	GMSK/ QPSK 20	-	-	-	44.42	-	-	-	-	-
D	GMSK/ QPSK 20	-	-	-	44.51	-	-	-	-	-
Total		-	-	-	50.53	-	-	-	-	-
Total Power+14.3 dBi		-	-	-	64.83	-	-	-	-	-

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

Maximum Output Power 44.8dBm 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)
A	GMSK/ QPSK 5.0	44.80	-	-	44.83	-	-	44.84	-	-
B	GMSK/ QPSK 5.0	44.43	-	-	44.54	-	-	44.62	-	-
C	GMSK/ QPSK 5.0	44.52	-	-	44.56	-	-	44.60	-	-
D	GMSK/ QPSK 5.0	44.59	-	-	44.60	-	-	44.69	-	-
Total		50.61	-	-	50.65	-	-	50.71	-	-
Total Power+14.3 dBi		64.91	-	-	64.95	-	-	65.01	-	-

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

Maximum Output Power 44.8dBm per port

Antenna	GSM Mod./ NB Mod./	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	GMSK/ QPSK	44.49	-	-	44.63	-	-	44.61	-	-

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

Maximum Output Power 44.8dBm per port

Antenna	GSM Mod./ NB Mod.	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	GMSK/ QPSK	44.37	-	-	44.66	-	-	44.65	-	-

Configuration GSM+NB-IoT-MC-3 (3GSM+1SA)

Maximum Output Power 44.8dBm per port

Antenna	GSM Mod./ NB Mod.	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	GMSK/ QPSK	44.06	-	-	44.60	-	-	44.60	-	-

Configuration GSM+NB-IoT-MC-6 (2GSM+2SA)

Maximum Output Power 44.8dBm per port

Antenna	GSM Mod./ NB Mod.	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	GMSK/ QPSK	44.11	-	-	44.47	-	-	44.41	-	-

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

Maximum Output Power 44.8dBm per port

Antenna	GSM Mod./ WCDMA Mod./ NB Mod./	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	GMSK/ 64QAM/ QPSK	43.76	-	-	44.13	-	-	44.04	-	-
B	GMSK/ 64QAM/ QPSK	43.40	-	-	43.85	-	-	43.77	-	-
C	GMSK/ 64QAM/ QPSK	43.49	-	-	43.90	-	-	43.79	-	-
D	GMSK/ 64QAM/ QPSK	43.55	-	-	43.95	-	-	43.93	-	-
Total		49.57	-	-	49.98	-	-	49.90	-	-
Total Power+14.3 dBi		63.87	-	-	64.28	-	-	64.2	-	-

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

Maximum Output Power 44.8dBm per port

Antenna	GSM Mod./	Output Power / Peak to Average Ratio (PAR)								
	WCDMA	Channel position B			Channel position M			Channel position T		
	Mod./ NB Mod.	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	GMSK/ 64QAM/ QPSK	43.90	-	-	43.92	-	-	43.94	-	-
B	GMSK/ 64QAM/ QPSK	43.56	-	-	43.68	-	-	43.70	-	-
C	GMSK/ 64QAM/ QPSK	43.68	-	-	43.72	-	-	43.72	-	-
D	GMSK/ 64QAM/ QPSK	43.70	-	-	43.81	-	-	43.82	-	-
Total		49.73	-	-	49.80	-	-	49.82	-	-
Total Power+14.3 dBi		64.03	-	-	64.1	-	-	64.12	-	-

Configuration GSM+LTE+NB-IoT-MIMO-MC-1(1GSM+1LTE+1SA)

Maximum Output Power 44.8dBm per port

Antenna	GSM Mod./	Output Power / Peak to Average Ratio (PAR)								
	LTE Mod.	Channel position B			Channel position M			Channel position T		
	Bandwidth (MHz)/ NB Mod.	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	GMSK/ QPSK 5.0 QPSK	44.09	-	-	44.54	-	-	44.47	-	-
B	GMSK/ QPSK 5.0 QPSK	43.72	-	-	44.27	-	-	44.24	-	-
C	GMSK/ QPSK 5.0 QPSK	43.84	-	-	44.22	-	-	44.14	-	-
D	GMSK/ QPSK 5.0 QPSK	43.85	-	-	44.26	-	-	44.30	-	-
Total		49.90	-	-	50.34	-	-	50.31	-	-
Total Power+14.3 dBi		64.2	-	-	64.64	-	-	64.61	-	-

Antenna	GSM Mod./	Output Power / Peak to Average Ratio (PAR)								
	LTE Mod.	Channel position B			Channel position M			Channel position T		
	Bandwidth	POWER	POWER	PAR	POWER	POWER	PAR	POWER	POWER	PAR
	(MHz)/ NB Mod.									
A	GMSK/									
	QPSK 10.0									
B	GMSK/									
	QPSK 10.0									
C	GMSK/									
	QPSK 10.0									
D	GMSK/									
	QPSK 10.0									
Total		50.45	-	-	50.60	-	-	50.63	-	-
Total Power+14.3 dBi		64.75	-	-	64.9	-	-	64.93	-	-

Antenna	GSM Mod./	Output Power / Peak to Average Ratio (PAR)								
	LTE Mod.	Channel position B			Channel position M			Channel position T		
	Bandwidth	POWER	POWER	PAR	POWER	POWER	PAR	POWER	POWER	PAR
	(MHz)/ NB Mod.									
A	GMSK/									
	QPSK 15.0									
B	GMSK/									
	QPSK 15.0									
C	GMSK/									
	QPSK 15.0									
D	GMSK/									
	QPSK 15.0									
Total		50.17	-	-	50.56	-	-	50.57	-	-
Total Power+14.3 dBi		64.47	-	-	64.86	-	-	64.87	-	-

Antenna	GSM Mod./ LTE Mod. Bandwidth (MHz)/ NB Mod.	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	GMSK/ QPSK 20.0 QPSK	-	-	-	44.19	-	-	-	-	-
B	GMSK/ QPSK 20.0 QPSK	-	-	-	43.85	-	-	-	-	-
C	GMSK/ QPSK 20.0 QPSK	-	-	-	43.95	-	-	-	-	-
D	GMSK/ QPSK 20.0 QPSK	-	-	-	43.99	-	-	-	-	-
Total		-	-	-	50.02	-	-	-	-	-
Total Power+14.3 dBi		-	-	-	64.32	-	-	-	-	-

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

Maximum Output Power 44.8dBm per port

Antenna	GSM Mod./ LTE Mod. Bandwidth (MHz)/ NB Mod./	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	GMSK/ QPSK 5.0 QPSK	44.68	-	-	44.78	-	-	44.76	-	-
B	GMSK/ QPSK 5.0 QPSK	44.32	-	-	44.54	-	-	44.51	-	-
C	GMSK/ QPSK 5.0 QPSK	44.44	-	-	44.60	-	-	44.52	-	-
D	GMSK/ QPSK 5.0 QPSK	44.38	-	-	44.56	-	-	44.60	-	-
Total		50.48	-	-	50.64	-	-	50.62	-	-
Total Power+14.3 dBi		64.78	-	-	64.94	-	-	64.92	-	-

Antenna	GSM Mod./ LTE Mod. Bandwidth (MHz)/ NB Mod./	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	GMSK/ QPSK 10.0 QPSK	-	-	-	44.09	-	-	-	-	-
B	GMSK/ QPSK 10.0 QPSK	-	-	-	43.79	-	-	-	-	-
C	GMSK/ QPSK 10.0 QPSK	-	-	-	43.80	-	-	-	-	-
D	GMSK/ QPSK 10.0 QPSK	-	-	-	43.88	-	-	-	-	-
Total		-	-	-	49.91	-	-	-	-	-
Total Power+14.3 dBi		-	-	-	64.21	-	-	-	-	-

Antenna	GSM Mod./ LTE Mod. Bandwidth (MHz)/ NB Mod./	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	GMSK/ QPSK 15.0 QPSK	-	-	-	44.47	-	-	-	-	-
B	GMSK/ QPSK 15.0 QPSK	-	-	-	44.09	-	-	-	-	-
C	GMSK/ QPSK 15.0 QPSK	-	-	-	44.18	-	-	-	-	-
D	GMSK/ QPSK 15.0 QPSK	-	-	-	44.23	-	-	-	-	-
Total		-	-	-	50.27	-	-	-	-	-
Total Power+14.3 dBi		-	-	-	64.57	-	-	-	-	-



Antenna	GSM Mod./	Output Power / Peak to Average Ratio (PAR)								
	LTE Mod.	Channel position B			Channel position M			Channel position T		
	Bandwidth	POWER	POWER	PAR	POWER	POWER	PAR	POWER	POWER	PAR
	(MHz)/ NB Mod./	(dBm)	(dBm/MHz)	(db)	(dBm)	(dBm/MHz)	(db)	(dBm)	(dBm/MHz)	(db)
A	GMSK/ QPSK 20.0 QPSK	-	-	-	44.42	-	-	-	-	-
B	GMSK/ QPSK 20.0 QPSK	-	-	-	44.02	-	-	-	-	-
C	GMSK/ QPSK 20.0 QPSK	-	-	-	44.11	-	-	-	-	-
D	GMSK/ QPSK 20.0 QPSK	-	-	-	44.14	-	-	-	-	-
Total		-	-	-	50.20	-	-	-	-	-
Total Power+14.3 dBi		-	-	-	64.5	-	-	-	-	-

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

Maximum Output Power 44.8dBm per port

Antenna	WCDMA	Output Power / Peak to Average Ratio (PAR)								
	Mod./	Channel position B			Channel position M			Channel position T		
	LTE Mod.	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
	Bandwidth (MHz)									
A	64QAM/ QPSK 5.0	-	-	-	43.83	-	-	-	-	-
B	64QAM/ QPSK 5.0	-	-	-	43.93	-	-	-	-	-
C	64QAM/ QPSK 5.0	-	-	-	43.67	-	-	-	-	-
D	64QAM/ QPSK 5.0	-	-	-	43.79	-	-	-	-	-
Total		-	-	-	49.83	-	-	-	-	-
Total Power+14.3 dBi		-	-	-	64.13	-	-	-	-	-



Antenna	WCDMA Mod./ LTE Mod. Bandwidth (MHz)	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	64QAM/ QPSK 10	-	-	-	43.89	-	-	-	-	-
B	64QAM/ QPSK 10	-	-	-	44.01	-	-	-	-	-
C	64QAM/ QPSK 10	-	-	-	43.73	-	-	-	-	-
D	64QAM/ QPSK 10	-	-	-	43.87	-	-	-	-	-
Total		-	-	-	49.90	-	-	-	-	-
Total Power+14.3 dBi		-	-	-	64.2	-	-	-	-	-

Antenna	WCDMA Mod./ LTE Mod. Bandwidth (MHz)	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	64QAM/ QPSK 15	-	-	-	43.89	-	-	-	-	-
B	64QAM/ QPSK 15	-	-	-	44.02	-	-	-	-	-
C	64QAM/ QPSK 15	-	-	-	43.74	-	-	-	-	-
D	64QAM/ QPSK 15	-	-	-	43.85	-	-	-	-	-
Total		-	-	-	49.90	-	-	-	-	-
Total Power+14.3 dBi		-	-	-	64.2	-	-	-	-	-

Antenna	WCDMA Mod./ LTE Mod. Bandwidth (MHz)	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	64QAM/ QPSK 20	-	-	-	43.92	-	-	-	-	-
B	64QAM/ QPSK 20	-	-	-	44.07	-	-	-	-	-
C	64QAM/ QPSK 20	-	-	-	43.76	-	-	-	-	-
D	64QAM/ QPSK 20	-	-	-	43.90	-	-	-	-	-
Total		-	-	-	49.93	-	-	-	-	-
Total Power+14.3 dBi		-	-	-	64.23	-	-	-	-	-

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

Maximum Output Power 44.8dBm per port

Antenna	WCDMA Mod./ LTE Mod. Bandwidth (MHz)	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	64QAM/ QPSK 5.0	-	-	-	44.02	-	-	-	-	-
B	64QAM/ QPSK 5.0	-	-	-	44.20	-	-	-	-	-
C	64QAM/ QPSK 5.0	-	-	-	43.87	-	-	-	-	-
D	64QAM/ QPSK 5.0	-	-	-	43.98	-	-	-	-	-
Total		-	-	-	50.04	-	-	-	-	-
Total Power+14.3 dBi		-	-	-	64.34	-	-	-	-	-



Antenna	WCDMA	Output Power / Peak to Average Ratio (PAR)								
	Mod./	Channel position B			Channel position M			Channel position T		
	LTE Mod.	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
	Bandwidth (MHz)									
A	64QAM/ QPSK 10	-	-	-	44.05	-	-	-	-	-
B	64QAM/ QPSK 10	-	-	-	44.25	-	-	-	-	-
C	64QAM/ QPSK 10	-	-	-	43.95	-	-	-	-	-
D	64QAM/ QPSK 10	-	-	-	44.05	-	-	-	-	-
Total		-	-	-	50.10	-	-	-	-	-
Total Power+14.3 dBi		-	-	-	64.4	-	-	-	-	-

Antenna	WCDMA	Output Power / Peak to Average Ratio (PAR)								
	Mod./	Channel position B			Channel position M			Channel position T		
	LTE Mod.	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
	Bandwidth (MHz)									
A	64QAM/ QPSK 15	-	-	-	44.10	-	-	-	-	-
B	64QAM/ QPSK 15	-	-	-	44.30	-	-	-	-	-
C	64QAM/ QPSK 15	-	-	-	43.91	-	-	-	-	-
D	64QAM/ QPSK 15	-	-	-	43.98	-	-	-	-	-
Total		-	-	-	50.10	-	-	-	-	-
Total Power+14.3 dBi		-	-	-	64.4	-	-	-	-	-

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

Maximum Output Power 44.8dBm per port

Antenna	WCDMA Mod./ LTE Mod. Bandwidth (MHz)	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	64QAM/ QPSK 20.0	-	-	-	44.03	-	-	-	-	-
B	64QAM/ QPSK 20.0	-	-	-	44.20	-	-	-	-	-
C	64QAM/ QPSK 20.0	-	-	-	43.91	-	-	-	-	-
D	64QAM/ QPSK 20.0	-	-	-	43.82	-	-	-	-	-
Total		-	-	-	50.01	-	-	-	-	-
Total Power+14.3 dBi		-	-	-	64.31	-	-	-	-	-

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

Maximum Output Power 44.8dBm per port

Antenna	WCDMA Mod./SA Mod.	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	64QAM/ QPSK	-	-	-	43.83	-	-	-	-	-
B	64QAM/ QPSK	-	-	-	44.00	-	-	-	-	-
C	64QAM/ QPSK	-	-	-	43.74	-	-	-	-	-
D	64QAM/ QPSK	-	-	-	43.82	-	-	-	-	-
Total		-	-	-	49.87	-	-	-	-	-
Total Power+14.3 dBi		-	-	-	64.17	-	-	-	-	-

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

Maximum Output Power 44.8dBm per port

Antenna	WCDMA Mod./SA Mod.	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	64QAM/ QPSK	43.62	-	-	44.02	-	-	43.78	-	-
B	64QAM/ QPSK	43.79	-	-	44.21	-	-	44.07	-	-
C	64QAM/ QPSK	43.50	-	-	43.83	-	-	43.67	-	-
D	64QAM/ QPSK	43.52	-	-	43.93	-	-	43.84	-	-
Total		49.63	-	-	50.02	-	-	49.86	-	-
Total Power+14.3 dBi		63.93	-	-	64.32	-	-	64.16	-	-

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

Maximum Output Power 44.8dBm per port

Antenna	WCDMA Mod./SA Mod.	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	64QAM/ QPSK	-	-	-	43.96	-	-	-	-	-
B	64QAM/ QPSK	-	-	-	44.15	-	-	-	-	-
C	64QAM/ QPSK	-	-	-	43.85	-	-	-	-	-
D	64QAM/ QPSK	-	-	-	43.93	-	-	-	-	-
Total		-	-	-	49.99	-	-	-	-	-
Total Power+14.3 dBi		-	-	-	64.29	-	-	-	-	-



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

Maximum Output Power 44.8dBm per port

Antenna	LTE Mod. Bandwidth (MHz)/ SA Mod.	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	QPSK 5.0/ QPSK	-	-	-	43.95	-	-	-	-	-
B	QPSK 5.0/ QPSK	-	-	-	44.15	-	-	-	-	-
C	QPSK 5.0/ QPSK	-	-	-	43.85	-	-	-	-	-
D	QPSK 5.0/ QPSK	-	-	-	43.88	-	-	-	-	-
Total		-	-	-	49.98	-	-	-	-	-
Total Power+14.3 dBi		-	-	-	64.28	-	-	-	-	-

Antenna	LTE Mod. Bandwidth (MHz)/ SA Mod.	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	QPSK 10.0/ QPSK	-	-	-	43.94	-	-	-	-	-
B	QPSK 10.0/ QPSK	-	-	-	44.14	-	-	-	-	-
C	QPSK 10.0/ QPSK	-	-	-	43.72	-	-	-	-	-
D	QPSK 10.0/ QPSK	-	-	-	43.87	-	-	-	-	-
Total		-	-	-	49.94	-	-	-	-	-
Total Power+14.3 dBi		-	-	-	64.24	-	-	-	-	-



Antenna	LTE Mod. Bandwidth (MHz)/ SA Mod.	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	QPSK 15.0/ QPSK	-	-	-	43.94	-	-	-	-	-
B	QPSK 15.0/ QPSK	-	-	-	44.10	-	-	-	-	-
C	QPSK 15.0/ QPSK	-	-	-	43.76	-	-	-	-	-
D	QPSK 15.0/ QPSK	-	-	-	43.95	-	-	-	-	-
Total		-	-	-	49.96	-	-	-	-	-
Total Power+14.3 dBi		-	-	-	64.26	-	-	-	-	-

Antenna	LTE Mod. Bandwidth (MHz)/ SA Mod.	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	QPSK 20.0/ QPSK	-	-	-	44.04	-	-	-	-	-
B	QPSK 20.0/ QPSK	-	-	-	44.24	-	-	-	-	-
C	QPSK 20.0/ QPSK	-	-	-	43.87	-	-	-	-	-
D	QPSK 20.0/ QPSK	-	-	-	43.94	-	-	-	-	-
Total		-	-	-	50.05	-	-	-	-	-
Total Power+14.3 dBi		-	-	-	64.35	-	-	-	-	-

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

Maximum Output Power 44.8dBm per port

Antenna	LTE Mod. Bandwidth (MHz)/ SA Mod.	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	QPSK 5.0/ QPSK	44.52	-	-	44.56	-	-	44.55	-	-
B	QPSK 5.0/ QPSK	44.70	-	-	44.77	-	-	44.74	-	-
C	QPSK 5.0/ QPSK	44.42	-	-	44.43	-	-	42.89	-	-
D	QPSK 5.0/ QPSK	44.38	-	-	44.57	-	-	43.06	-	-
Total		50.53	-	-	50.60	-	-	49.91	-	-
Total Power+14.3 dBi		64.83	-	-	64.9	-	-	64.21	-	-

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

Maximum Output Power 44.8dBm per port

Antenna	LTE Mod. Bandwidth (MHz)/ SA Mod.	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	QPSK 10.0/ QPSK	-	-	-	44.52	-	-	-	-	-
B	QPSK 10.0/ QPSK	-	-	-	44.75	-	-	-	-	-
C	QPSK 10.0/ QPSK	-	-	-	44.39	-	-	-	-	-
D	QPSK 10.0/ QPSK	-	-	-	44.48	-	-	-	-	-
Total		-	-	-	50.56	-	-	-	-	-
Total Power+14.3 dBi		-	-	-	64.86	-	-	-	-	-



Antenna	LTE Mod. Bandwidth (MHz)/ SA Mod.	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	QPSK 15.0/ QPSK	-	-	-	44.59	-	-	-	-	-
B	QPSK 15.0/ QPSK	-	-	-	44.76	-	-	-	-	-
C	QPSK 15.0/ QPSK	-	-	-	44.50	-	-	-	-	-
D	QPSK 15.0/ QPSK	-	-	-	44.52	-	-	-	-	-
Total		-	-	-	50.61	-	-	-	-	-
Total Power+14.3 dBi		-	-	-	64.91	-	-	-	-	-

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

Maximum Output Power 44.8dBm per port

Antenna	LTE Mod. Bandwidth (MHz)/ SA Mod.	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	QPSK 20.0/ QPSK	-	-	-	44.44	-	-	-	-	-
B	QPSK 20.0/ QPSK	-	-	-	44.63	-	-	-	-	-
C	QPSK 20.0/ QPSK	-	-	-	44.35	-	-	-	-	-
D	QPSK 20.0/ QPSK	-	-	-	44.39	-	-	-	-	-
Total		-	-	-	50.47	-	-	-	-	-
Total Power+14.3 dBi		-	-	-	64.77	-	-	-	-	-



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

Maximum Output Power 44.8dBm per port

Antenna	WCDMA	Output Power / Peak to Average Ratio (PAR)								
	Mod/.	Channel position B			Channel position M			Channel position T		
	LTE Mod.	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
	BW (MHz)/ SA Mod.									
A	64QAM/ QPSK 5.0/ QPSK	-	-	-	43.77	-	-	-	-	-
B	64QAM/ QPSK 5.0/ QPSK	-	-	-	43.94	-	-	-	-	-
C	64QAM/ QPSK 5.0/ QPSK	-	-	-	43.70	-	-	-	-	-
D	64QAM/ QPSK 5.0/ QPSK	-	-	-	43.77	-	-	-	-	-
Total		-	-	-	49.82	-	-	-	-	-
Total Power+14.3 dBi		-	-	-	64.12	-	-	-	-	-

Antenna	WCDMA	Output Power / Peak to Average Ratio (PAR)								
	Mod/.	Channel position B			Channel position M			Channel position T		
	LTE Mod.	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
	BW (MHz)/ SA Mod.									
A	64QAM/ QPSK 10.0/ QPSK	-	-	-	43.80	-	-	-	-	-
B	64QAM/ QPSK 10.0/ QPSK	-	-	-	43.97	-	-	-	-	-
C	64QAM/ QPSK 10.0/ QPSK	-	-	-	43.69	-	-	-	-	-
D	64QAM/ QPSK 10.0/ QPSK	-	-	-	43.78	-	-	-	-	-
Total		-	-	-	49.83	-	-	-	-	-
Total Power+14.3 dBi		-	-	-	64.13	-	-	-	-	-



Antenna	WCDMA	Output Power / Peak to Average Ratio (PAR)								
	Mod./	Channel position B			Channel position M			Channel position T		
	LTE Mod.	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
	BW (MHz)/ SA Mod.									
A	64QAM/ QPSK 15.0/ QPSK	-	-	-	43.80	-	-	-	-	-
B	64QAM/ QPSK 15.0/ QPSK	-	-	-	43.96	-	-	-	-	-
C	64QAM/ QPSK 15.0/ QPSK	-	-	-	43.65	-	-	-	-	-
D	64QAM/ QPSK 15.0/ QPSK	-	-	-	43.78	-	-	-	-	-
Total		-	-	-	49.82	-	-	-	-	-
Total Power+14.3 dBi		-	-	-	64.12	-	-	-	-	-

Antenna	WCDMA	Output Power / Peak to Average Ratio (PAR)								
	Mod./	Channel position B			Channel position M			Channel position T		
	LTE Mod.	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
	BW (MHz)/ SA Mod.									
A	64QAM/ QPSK 20.0/ QPSK	-	-	-	43.85	-	-	-	-	-
B	64QAM/ QPSK 20.0/ QPSK	-	-	-	44.02	-	-	-	-	-
C	64QAM/ QPSK 20.0/ QPSK	-	-	-	43.69	-	-	-	-	-
D	64QAM/ QPSK 20.0/ QPSK	-	-	-	43.80	-	-	-	-	-
Total		-	-	-	49.86	-	-	-	-	-
Total Power+14.3 dBi		-	-	-	64.16	-	-	-	-	-

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

Maximum Output Power 44.8dBm per port

Antenna	WCDMA	Output Power / Peak to Average Ratio (PAR)								
	Mod./	Channel position B			Channel position M			Channel position T		
	LTE Mod.	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
	BW (MHz)/ SA Mod.									
A	64QAM/ QPSK 5.0/ QPSK	-	-	-	43.78	-	-	-	-	-
B	64QAM/ QPSK 5.0/ QPSK	-	-	-	43.96	-	-	-	-	-
C	64QAM/ QPSK 5.0/ QPSK	-	-	-	43.62	-	-	-	-	-
D	64QAM/ QPSK 5.0/ QPSK	-	-	-	43.72	-	-	-	-	-
Total		-	-	-	49.79	-	-	-	-	-
Total Power+14.3 dBi		-	-	-	64.09	-	-	-	-	-

Antenna	WCDMA	Output Power / Peak to Average Ratio (PAR)								
	Mod./	Channel position B			Channel position M			Channel position T		
	LTE Mod.	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
	BW (MHz)/ SA Mod.									
A	64QAM/ QPSK 10.0/ QPSK	-	-	-	43.77	-	-	-	-	-
B	64QAM/ QPSK 10.0/ QPSK	-	-	-	43.97	-	-	-	-	-
C	64QAM/ QPSK 10.0/ QPSK	-	-	-	43.63	-	-	-	-	-
D	64QAM/ QPSK 10.0/ QPSK	-	-	-	43.74	-	-	-	-	-
Total		-	-	-	49.80	-	-	-	-	-
Total Power+14.3 dBi		-	-	-	64.1	-	-	-	-	-

Antenna	WCDMA Mod./ LTE Mod. BW (MHz)/ SA Mod.	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	64QAM/ QPSK 15.0/ QPSK	-	-	-	43.77	-	-	-	-	-
B	64QAM/ QPSK 15.0/ QPSK	-	-	-	43.97	-	-	-	-	-
C	64QAM/ QPSK 15.0/ QPSK	-	-	-	43.60	-	-	-	-	-
D	64QAM/ QPSK 15.0/ QPSK	-	-	-	43.62	-	-	-	-	-
Total		-	-	-	49.76	-	-	-	-	-
Total Power+14.3 dBi		-	-	-	64.06	-	-	-	-	-

Antenna	WCDMA Mod./ LTE Mod. BW (MHz)/ SA Mod.	Output Power / Peak to Average Ratio (PAR)								
		Channel position B			Channel position M			Channel position T		
		POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)	POWER (dBm)	POWER (dBm/MHz)	PAR (db)
A	64QAM/ QPSK 20.0/ QPSK	-	-	-	43.78	-	-	-	-	-
B	64QAM/ QPSK 20.0/ QPSK	-	-	-	43.96	-	-	-	-	-
C	64QAM/ QPSK 20.0/ QPSK	-	-	-	43.62	-	-	-	-	-
D	64QAM/ QPSK 20.0/ QPSK	-	-	-	43.65	-	-	-	-	-
Total		-	-	-	49.78	-	-	-	-	-
Total Power+14.3 dBi		-	-	-	64.08	-	-	-	-	-

NOTE:

The DUT is tested without antenna. ERP/EIRP compliance is addressed at the time of licensing and is based on the geographic area, operational bandwidth and mode of the operation in combination with antenna and propagation gains. Licensees are required to consider all necessary operational parameters to maintain compliance with EIRP limits.

A.2 Occupied Bandwidth

A.2.1 Reference

FCC CFR 47 Part 2, Clause 2.1049(h)

FCC CFR 47 Part 24, Clause 24.238 (b)

RSS-GEN, Clause 6.7

A.2.2 Method of Measurements

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

The measurement method is from KDB 971168 4.2:

- a) The spectrum analyzer center frequency is set to the nominal EUT channel center frequency. The frequency span for the spectrum analyzer shall be set wide enough to capture all modulation products including the emission skirts (i.e., two to five times the OBW).
- b) The nominal IF filter bandwidth (3 dB RBW) shall be in the range of 1 to 5 % of the anticipated OBW, and the VBW shall be at least 3 times the RBW.
- c) Set the reference level of the instrument as required to keep the signal from exceeding the maximum input mixer level for linear operation. In general, the peak of the spectral envelope must be at least $10\log(\text{OBW} / \text{RBW})$ below the reference level.
- d) Set the detection mode to peak, and the trace mode to max hold.
- e) Use the 99 % power bandwidth function of the spectrum analyzer and report the measured bandwidth.

A.2.3 Measurement result

Configuration GSM-1C

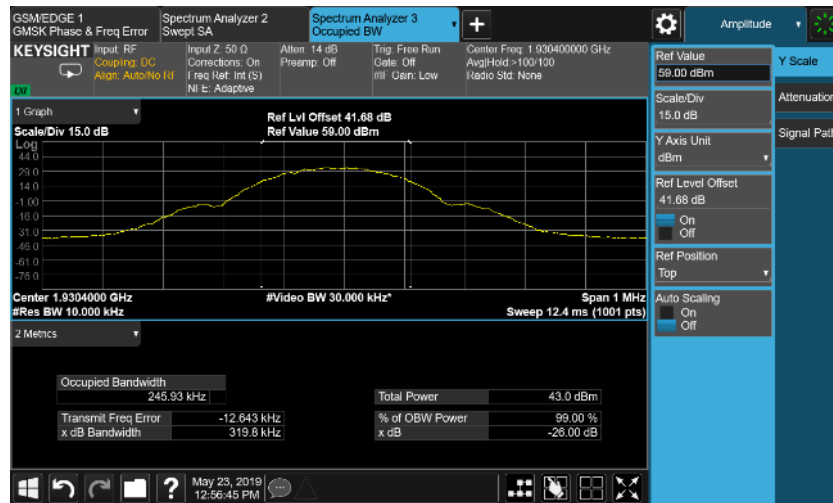
-26dBc Occupied Bandwidth

Modulation	Occupied Bandwidth (KHz)		
	Channel position B	Channel position M	Channel position T
GMSK	319.8	319.6	319.1
8PSK	315.1	316.4	318.0
AQPSK	318.6	320.4	316.0

99% Occupied Bandwidth

Modulation	Occupied Bandwidth (KHz)		
	Channel position B	Channel position M	Channel position B
GMSK	245.93	245.78	246.07
8PSK	244.18	245.35	244.24
AQPSK	241.52	242.32	241.83

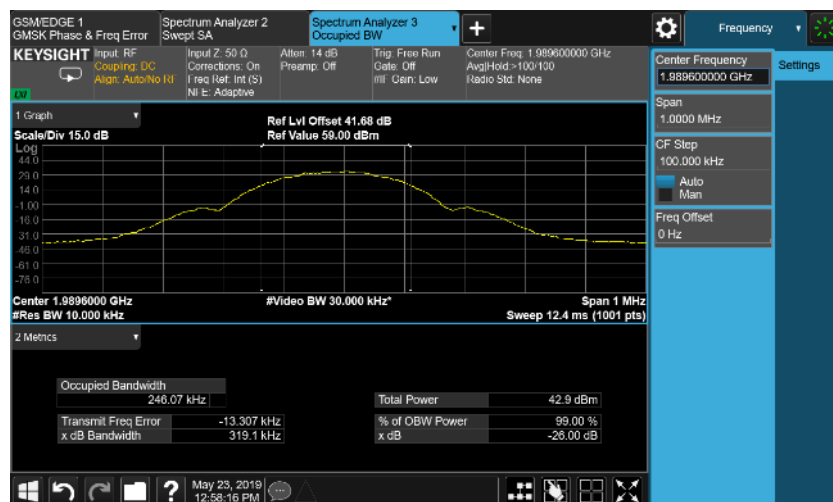
Port A, GMSK Channel Position B



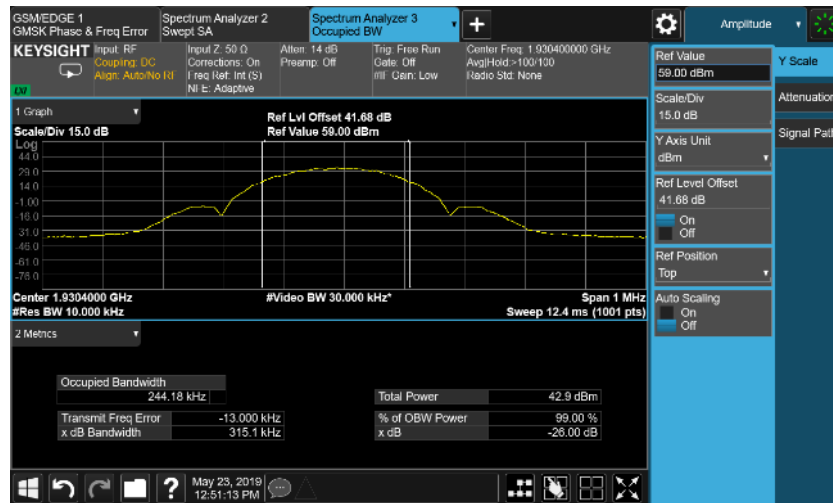
Port A, GMSK Channel Position M



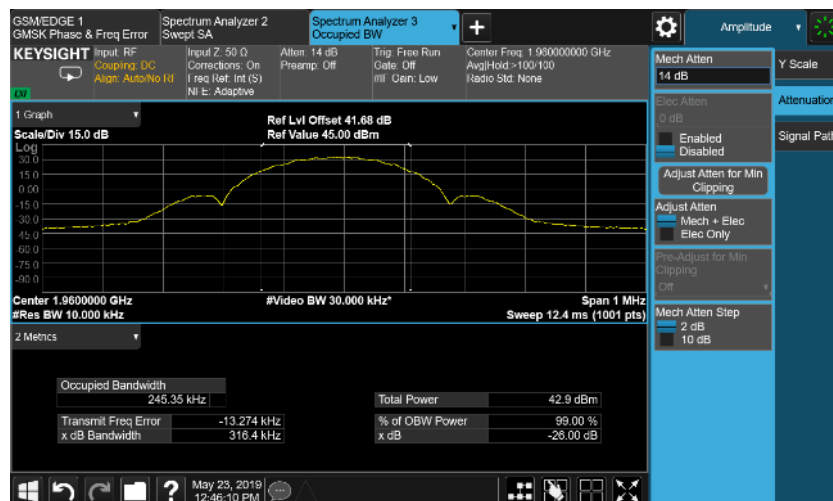
Port A, GMSK Channel Position T



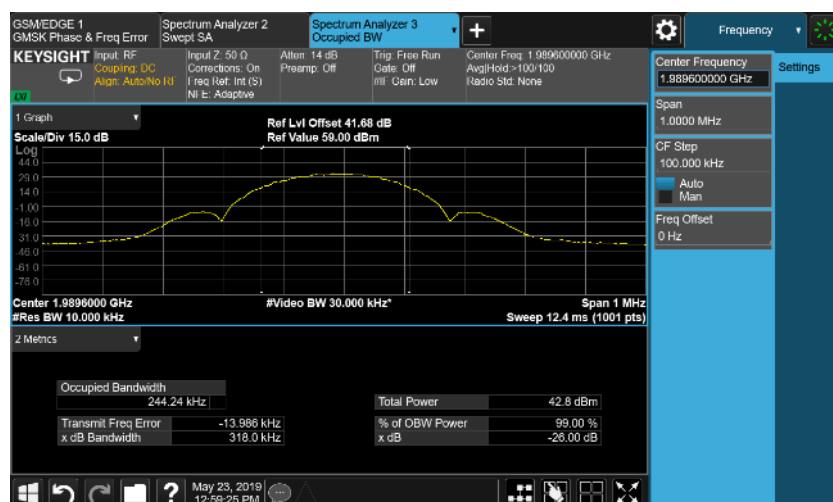
Port A, 8PSK Channel Position B



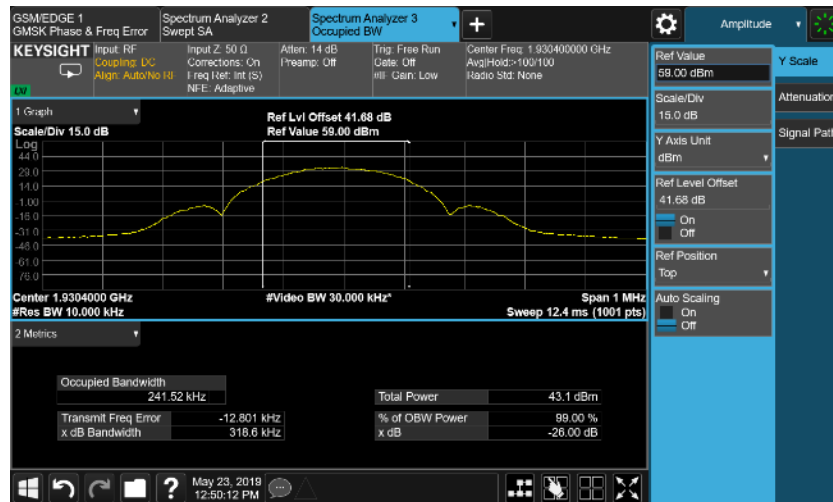
Port A, 8PSK Channel Position M



Port A, 8PSK Channel Position T



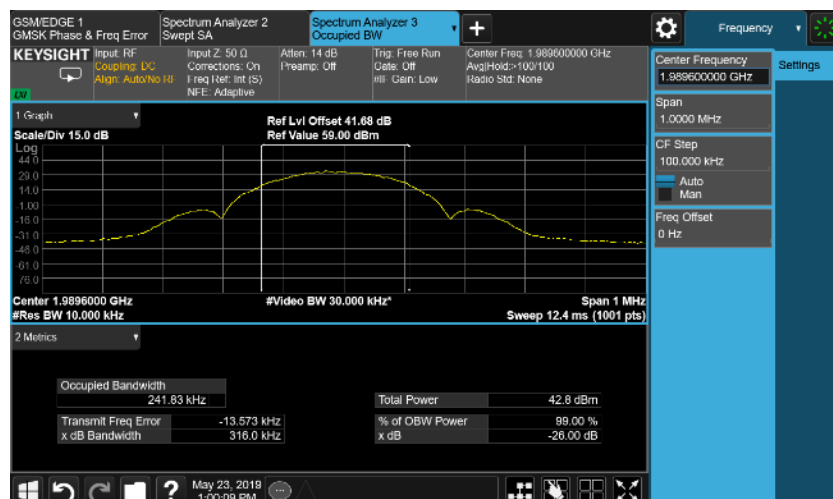
Port A, AQPSK Channel Position B



Port A, AQPSK Channel Position M



Port A, AQPSK Channel Position T



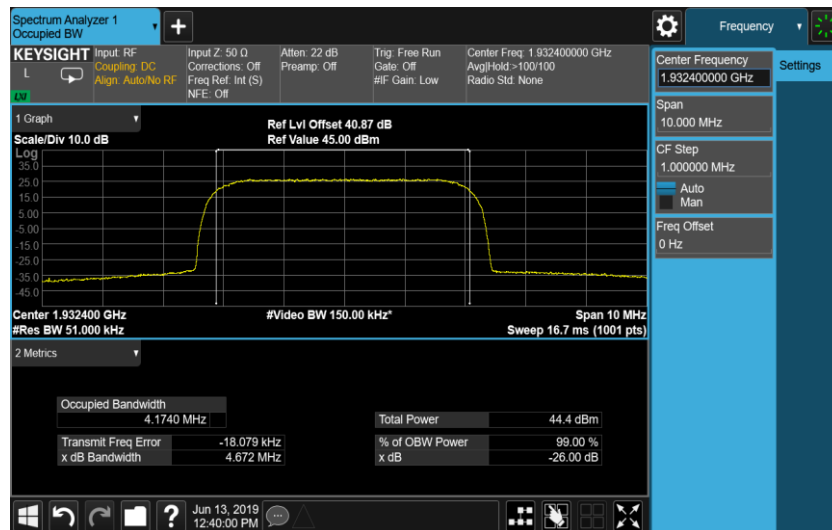
Configuration WCDMA-1C
-26dBc Occupied Bandwidth

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

99% Occupied Bandwidth

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

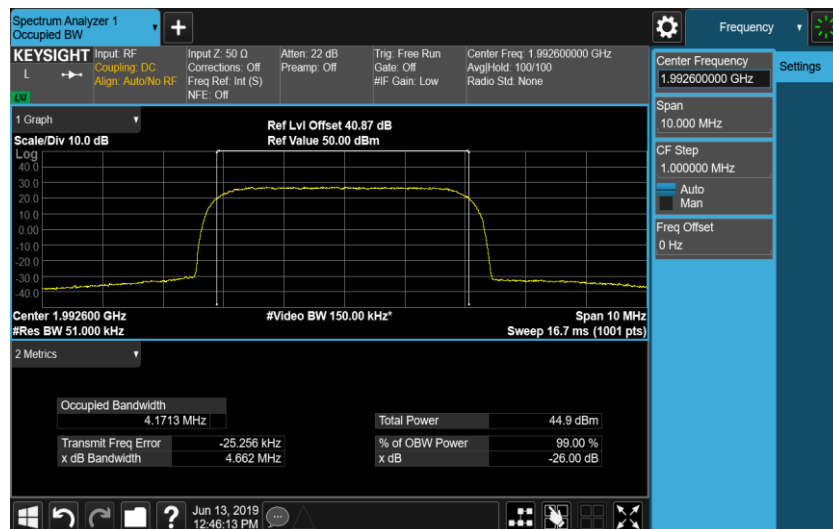
Port B, QPSK/5.0MHz Channel Position B



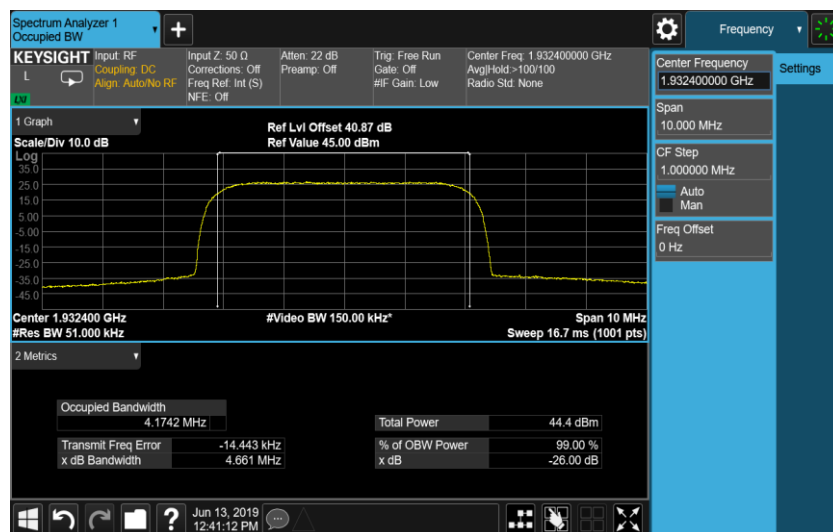
Port B, QPSK/5.0MHz Channel Position M



Port B, QPSK/5.0MHz Channel Position T



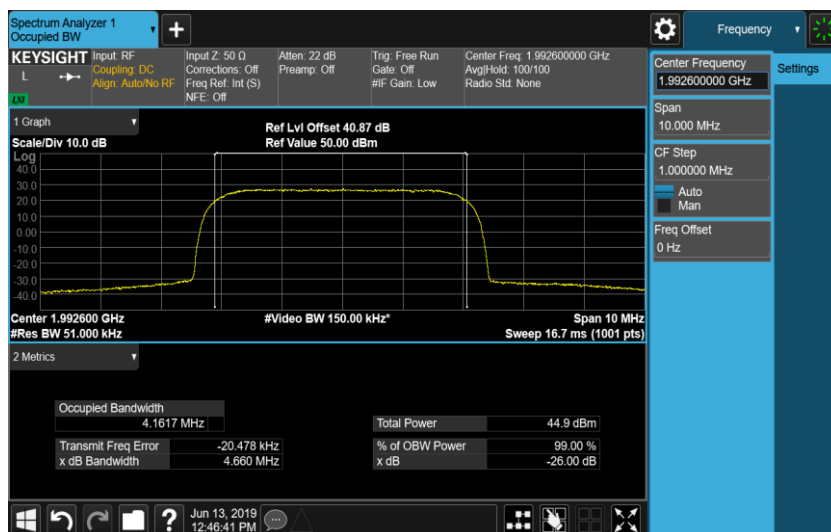
Port B, 16QAM/5.0MHz Channel Position B



Port B, 16QAM/5.0MHz Channel Position M



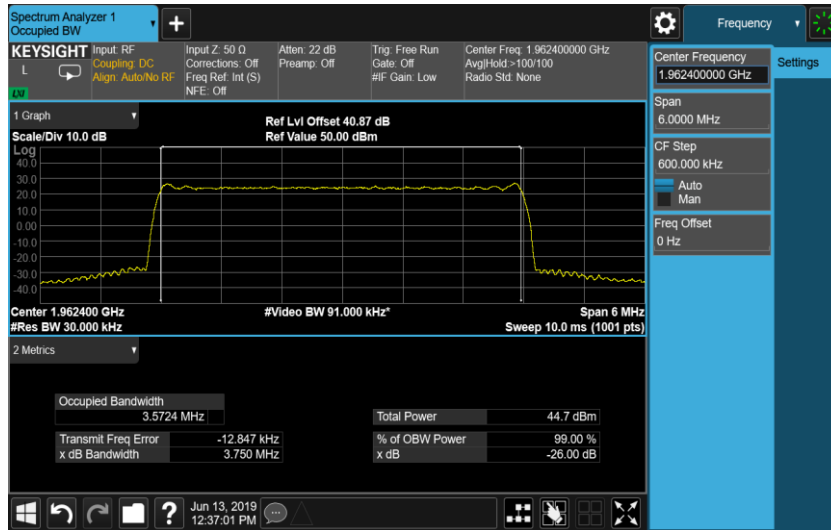
Port B, 16QAM/5.0MHz Channel Position T



Port B, 64QAM/3.8MHz Channel Position B



Port B, 64QAM/3.8MHz Channel Position M



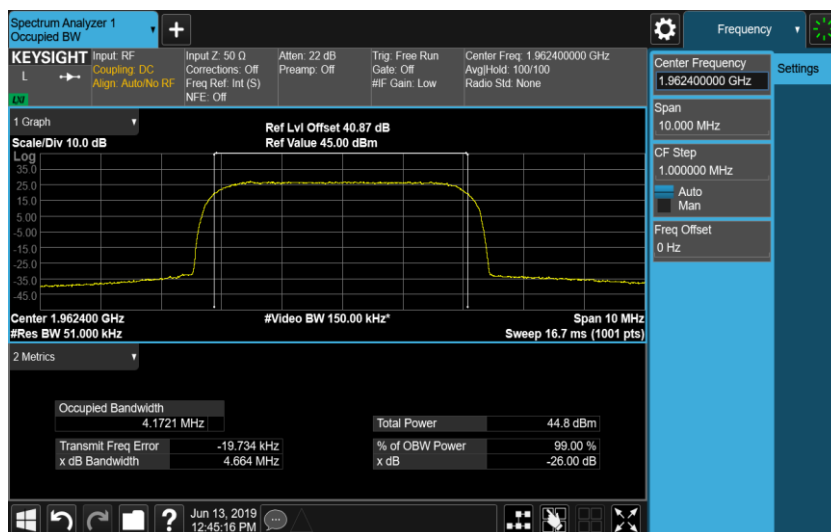
Port B, 64QAM/3.8MHz Channel Position T



Port B, 64QAM/5.0MHz Channel Position B



Port B, 64QAM/5.0MHz Channel Position M



Port B, 64QAM/5.0MHz Channel Position T

