TEST REPORT

APPLICANT	:	POCKETALK CORPORATION
PRODUCT NAME	:	POCKETALK S2 Plus
MODEL NAME	:	PTS2P
BRAND NAME	:	POCKETALK
FCC ID	:	2BGXA-PTS2P
STANDARD(S)	:	47 CFR Part 2 47 CFR Part 22 Subpart H 47 CFR Part 24 Subpart E 47 CFR Part 27 Subpart L
RECEIPT DATE	:	2024-05-29
TEST DATE	:	2024-06-04 to 2024-07-19
ISSUE DATE	:	2024-08-06

Edited by: Peng Mi (Rapporteur)

Approved by: Shen Junsheng (Supervisor)

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Change History		
Version	Date	Reason for change
1.0	2024-08-06	First edition

1. Technical Information

Note: Provide by applicant.

1.1. Applicant and Manufacturer Information

Applicant:	POCKETALK CORPORATION
Applicant Address:	4F Hamamatsucho PREX, 2-2-12 Shiba, Minato-ku, Tokyo 105-0014, Japan
Manufacturer:	JENESIS (SHEN ZHEN) CO., LTD.
Manufacturer Address:	6th Floor, Building A, No.2 Luozhu Industrial Avenue, Luozhu Community, Shiyan Street, Bao'an District, Shenzhen City, Guangdong Province.

1.2. Equipment Under Test (EUT) Description

Product Name:	POCKETALK S2 Plus	
Sample No.:	7#	
Hardware Version:	V1.0	
Software Version:	V1.0.5	
Modulation Type:	WCDMA Mode with QPSK Modulation HSDPA/DC- HSDPA Mode with QPSK Modulation HSUPA Mode with QPSK Modulation HSPA+ Mode with 16QAM Modulation	
Operating Frequency Range:	WCDMA Band V	Tx: 824MHz-849MHz
		Rx: 869MHz-894MHz
	WCDMA Band II	Tx: 1850MHz-1910MHz
		Rx: 1930MHz-1990MHz
Antenna Type:	PIFA Internal Antenna	
Antenna Gain:	WCDMA Band V:	1.34dBi
	WCDMA Band II:	2.04dBi

Accessory Information:	Battery	
	Brand Name:	N/A
	Model No.:	PT305070
	Serial No.:	N/A
	Capacity:	1550mAh
	Rated Voltage:	3.8V
	Charge Limit:	4.35V
	Manufacturer:	Guangdong Pow-Tech New Power Co., Ltd.
	AC Adapter 1	
	Brand Name:	FLYPOWER
	Model No.:	PS06CA050K1000UU
	Serial No.:	N/A
	Rated Output:	5V⎓1A
	Rated Input:	100-240V～50/60Hz, 0.25A
	Manufacturer:	Shenzhen Flypower Technology Co., Ltd.
	AC Adapter 2	
	Brand Name:	FLYPOWER
	Model No.:	PS06CA050K1000JU
	Serial No.:	N/A
	Rated Output:	5V⎓1A
	Rated Input:	100-240V～50/60Hz, 0.25A
	Manufacturer:	Shenzhen Flypower Technology Co., Ltd.
	USB Cable	
	Model No.:	N/A
	Manufacturer:	Guangdong Pow-Tech New Power Co., Ltd.

Note 1: The transmitter (Tx) frequency arrangement of the WCDMA Band V used by the EUT can be represented with the formula F(n)=826.4+0.2*(n-4132), 4132<=n<=4233; the lowest, middle and highest channel numbers (ARFCHs) used and tested in this report are separately 4132 (826.4MHz), 4182(836.4MHz) and 4233 (846.6MHz).

Note 2: The transmitter (Tx) frequency arrangement of the WCDMA Band II used by the EUT can be represented with the formula F(n)=1852.4+0.2*(n-9262), 9262<=n<=9538; the lowest, middle and highest channel numbers (ARFCHs) used and tested in this report are separately 9262 (1852.4MHz), 9400 (1880MHz) and 9538 (1907.6MHz).

Note 3: All test modes and data rates were considered and evaluated respectively by performing full test. Test modes are chosen to be reported as the worst case below:

WCDMA mode for WCDMA band V;

WCDMA mode for WCDMA band II;

Note 4: For a more detailed description, please refer to Specification or User's Manual supplied by

the applicant and/or manufacturer.

1.3. Maximum E.R.P./E.I.R.P. and Emission Designator

Test Mode	Maximum E.R.P./E.I.R.P. (W)	Emission Designator
WCDMA Band V	0.170	4M17F9W
WCDMA Band II	0.240	4M18F9W

1.4. Test Standards and Results

The objective of the report is to perform testing according to 47 CFR Part 2, Part 22, Part 24 and Part 27 for the EUT FCC ID Certification:

No.	Identity	Document Title
1	47 CFR Part 2 (10-1-12 Edition)	Frequency Allocations and Radio Treaty Matters; General Rules and Regulations
2	47 CFR Part 22 (10-1-12 Edition)	Public Mobile Services
3	47 CFR Part 24 (10-1-12 Edition)	Personal Communications Services
4	47 CFR Part 27 (10-1-12 Edition)	Miscellaneous Wireless Communications Services

Test detailed items/section required by FCC rules and results are as below:

No.	Section	Description	Test Date	Test Engineer	Result	Method determination/ Remark
1	2.1046	Conducted RF Output Power	Jun. 17, 2024	Yu Xiaoming	PASS	No deviation
2	24.232(d)	Peak -Average Ratio	Jul. 19, 2024	Gan Jing	PASS	No deviation
3	2.1049	Occupied Bandwidth	Jul. 19, 2024	Gan Jing	PASS	No deviation
4	2.1055, 22.355, 24.235, 27.54	Frequency Stability	Jul. 22, 2024	Gan Jing	PASS	No deviation
5	2.1051, 22.917(a), 24.238(a), 27.53(h)	Conducted Out of Band Emissions	Jul. 19, 2024	Gan Jing	PASS	No deviation
6	2.1051, 22.917(a), 24.238(a), 27.53(h)	Band Edge	Jul. 19, 2024	Gan Jing	PASS	No deviation
7	22.913(a), 24.232(c) 27.50(d)	Transmitter Radiated Power (EIPR/E.R.P.)	Jun. 17, 2024	Gan Jing	PASS	No deviation
8	2.1053, 22.917(a),	Radiated Out of Band	Jun. 09, 2024 to	Li Hanbin	PASS	No deviation

	24.238(a), 27.53(h)	Emissions	Jul. 18, 2024			

Note 1: The tests were performed according to the method of measurements prescribed in KDB971168 D01 v03r01 and ANSI/TIA-603-E-2016.
Note 2: Additions to, deviation, or exclusions from the method shall be judged in the "method determination" column of add, deviate or exclude from the specific method shall be explained in the "Remark" of the above table.
Note 3: When the test result is a critical value, we will use the measurement uncertainty give the judgment result based on the 95% confidence intervals.

1.5. Environmental Conditions

During the measurement, the environmental conditions were within the listed ranges:

Temperature (°C):	15-35
Relative Humidity (%):	30-60
Atmospheric Pressure (kPa):	86-106

2. 47 CFR Part 2, Part 22H, 24E&27L Requirements

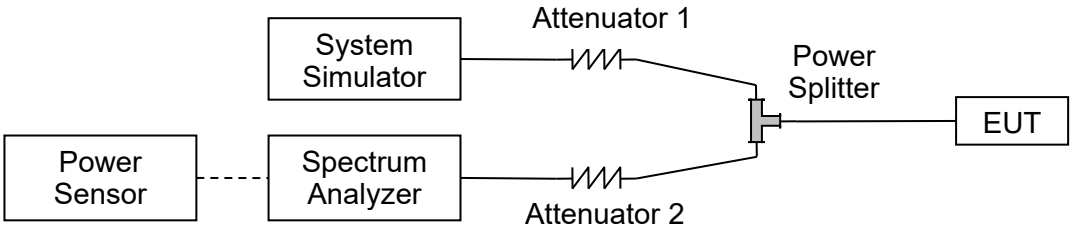
2.1. Conducted RF Output Power

2.1.1. Requirement

According to FCC section 2.1046(a), for transmitters other than single sideband, independent sideband and controlled carrier radiotelephone, power output shall be measured at the RF output terminals when the transmitter is adjusted in accordance with the tune-up procedure to give the values of current and voltage on the circuit elements specified in FCC section 2.1033(c)(8).

2.1.2. Test Description

Test Setup:



The EUT is coupled to the Spectrum Analyzer (SA) and the System Simulator (SS) with Attenuators through the Power Splitter; the RF load attached to the EUT antenna terminal is 50Ohm; the path loss as the factor is calibrated to correct the reading. The EUT is commanded by the SS to operate at the maximum output power i.e. Power Control Level (PCL) = 5 and Power Class = 4. A call is established between the EUT and the SS.

2.1.3.Test Results

WCDMA Band V	Average Power (dBm)		
TX Channel	**4132**	**4182**	**4233**
Frequency (MHz)	**826.4**	**836.4**	**846.6**
RMC 12.2Kbps	23.04	23.11	23.07
HSDPA Subtest-1	21.78	21.82	21.95
HSDPA Subtest-2	21.81	21.81	21.89
HSDPA Subtest-3	21.31	21.27	21.30
HSDPA Subtest-4	21.27	21.28	21.29
DC-HSDPA Subtest-1	21.93	21.91	21.88
DC-HSDPA Subtest-2	21.82	21.92	21.94
DC-HSDPA Subtest-3	21.31	21.33	21.48
DC-HSDPA Subtest-4	21.34	21.34	21.53
HSUPA Subtest-1	21.20	21.32	21.40
HSUPA Subtest-2	21.71	21.87	21.95
HSUPA Subtest-3	20.78	20.91	20.97
HSUPA Subtest-4	21.78	21.83	21.96
HSUPA Subtest-5	20.79	20.85	20.98
HSPA+ (16QAM) Subtest-1	20.82	20.79	20.86

WCDMA Band II	Average Power (dBm)		
TX Channel	**9262**	**9400**	**9538**
Frequency (MHz)	**1852.4**	**1880.0**	**1907.6**
RMC 12.2Kbps	21.76	21.70	21.72
HSDPA Subtest-1	20.55	20.39	20.47
HSDPA Subtest-2	20.54	20.39	20.43
HSDPA Subtest-3	20.05	19.89	20.01
HSDPA Subtest-4	20.02	19.90	19.95
DC-HSDPA Subtest-1	20.56	20.52	20.43
DC-HSDPA Subtest-2	20.55	20.41	20.46
DC-HSDPA Subtest-3	20.09	19.78	19.92
DC-HSDPA Subtest-4	19.97	19.77	19.84
HSUPA Subtest-1	20.45	20.20	20.28
HSUPA Subtest-2	20.45	20.20	20.31
HSUPA Subtest-3	19.52	19.25	19.35
HSUPA Subtest-4	20.50	20.23	20.29
HSUPA Subtest-5	19.37	19.18	19.32
HSPA+ (16QAM) Subtest-1	19.49	19.31	19.44

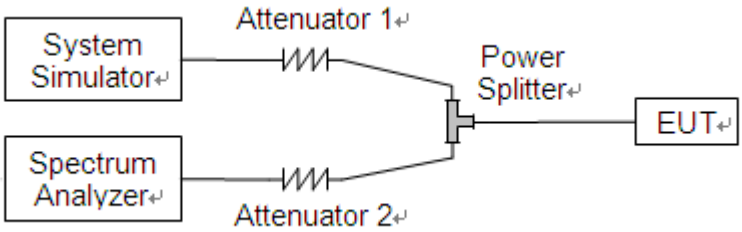
2.2. Peak to Average Ratio

2.2.1.Requirement

According to FCC 24.232(d) and 27.50(d), the peak-to-average ratio (PAR) of the transmission may not exceed 13 dB.

2.2.2.Test Description

Test Setup:



The EUT is coupled to the Spectrum Analyzer (SA) and the System Simulator (SS) with Attenuators through the Power Splitter; the RF load attached to the EUT antenna terminal is 50Ohm; the path loss as the factor is calibrated to correct the reading. The EUT is commanded by the SS to operate at the maximum output power i.e. Power Control Level (PCL) = 5 and Power Class = 4. A call is established between the EUT and the SS.

2.2.3.Test procedure

1 .For GSM/EDGE operating mode:

a. Set RBW=1MHz, VBW=3MHz, peak detector in spectrum analyzer.
b. Set EUT in maximum output power, and triggered the bust signal.
c. Measured respectively the peak level and mean level, and the deviation was recorded as Peak to Average ratio.

2. For UMTS operating mode:

a. Set the CCDF (Complementary Cumulative Distribution Function) option in spectrum analyzer.
b. The highest RF powers were measured and recorded the maximum PAPR level associated with a probability of 0.1%.

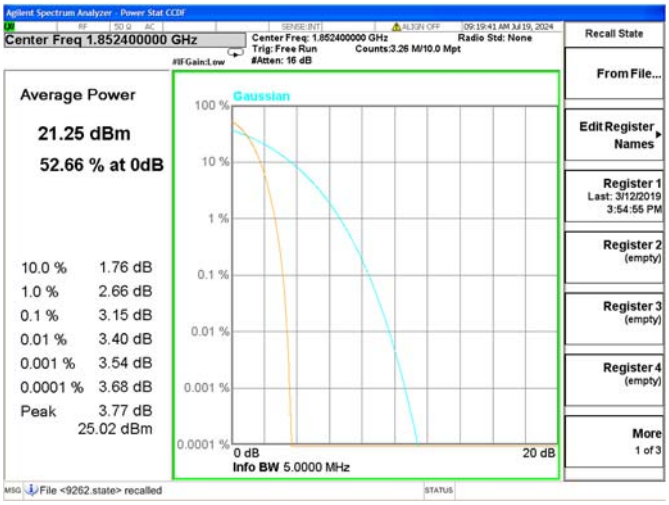
2.2.4.Test Result

The lowest, middle and highest channels are selected to perform testing to verify the conducted RF output peak power of the Module.

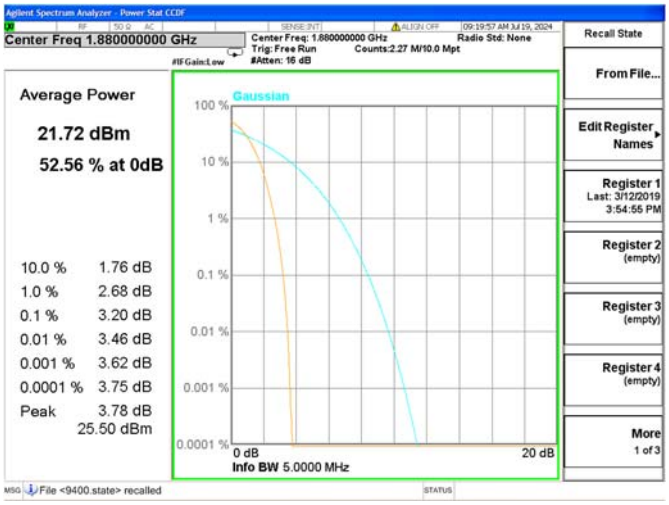
A. Test Verdict:

WCDMA Band II					
Mode	**Channel**	**Frequency (MHz)**	**Peak to Average ratio (dB)**	**Limit (dB)**	**Verdict**
WCDMA	9262	1852.4	3.15	13	PASS
	9400	1880.0	3.20		PASS
	9538	1907.6	3.18		PASS

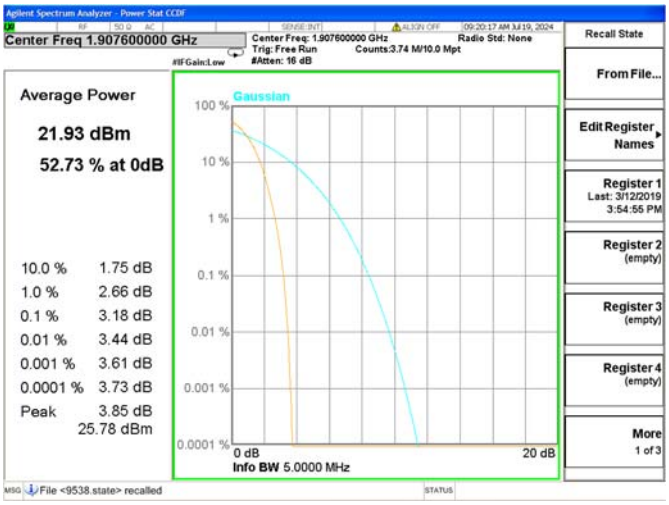
WCDMA Band II, CH9262, 1852.4MHz



WCDMA Band II, CH9400, 1880.0MHz



WCDMA Band II, CH9538, 1907.6MHz



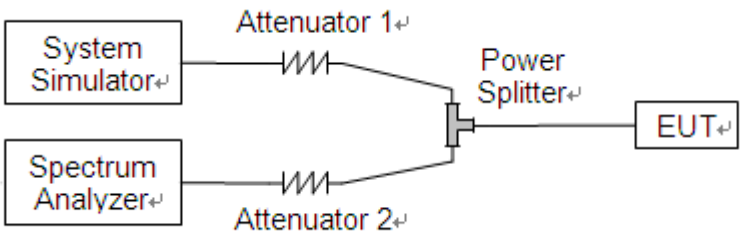
2.3. Occupied Bandwidth

2.3.1.Requirement

According to FCC section 2.1049, the occupied bandwidth is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers radiated are each equal to 0.5 percent of the total mean power radiated by a given emission. Occupied bandwidth is also known as the 99% emission bandwidth.

2.3.2.Test Description

Test Setup:



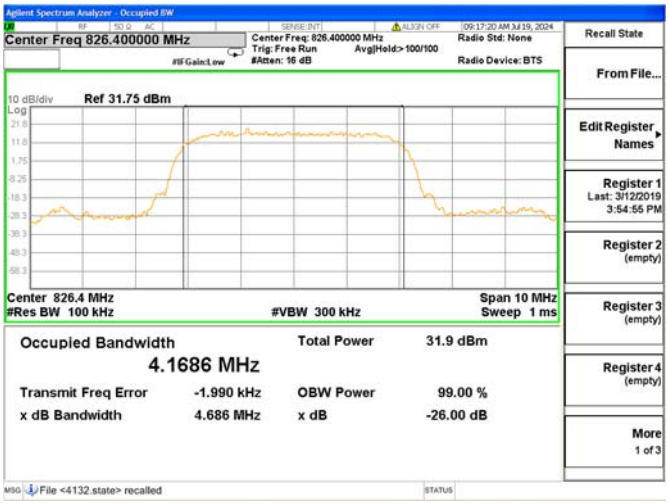
The EUT is coupled to the Spectrum Analyzer (SA) and the System Simulator (SS) with Attenuators through the Power Splitter; the RF load attached to the EUT antenna terminal is 50Ohm; the path loss as the factor is calibrated to correct the reading. The EUT is commanded by the SS to operate at the maximum output power i.e. Power Control Level (PCL) = 5 and Power Class = 4. A call is established between the EUT and the SS.

2.3.3.Test Result

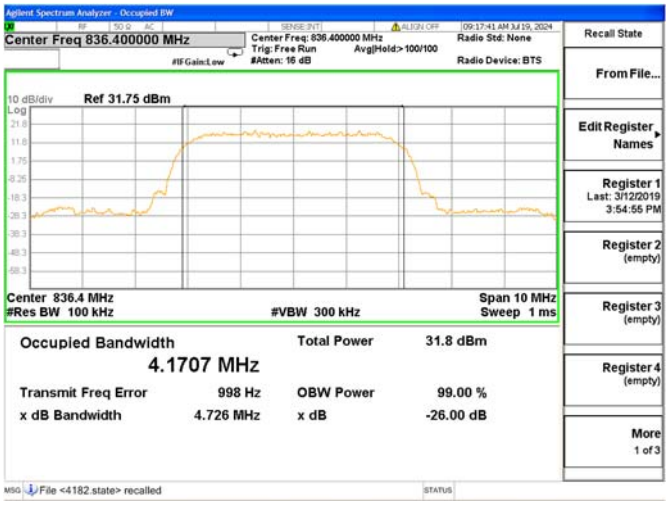
WCDMA Band V				
Mode	**Channel**	**Frequency (MHz)**	**99% Occupied Bandwidth (MHz)**	**26dB Bandwidth (MHz)**
WCDMA	4132	826.4	4.17	4.69
	4182	836.4	4.17	4.73
	4233	846.6	4.17	4.69

WCDMA Band II				
Mode	**Channel**	**Frequency (MHz)**	**99% Occupied Bandwidth (MHz)**	**26dB Bandwidth (MHz)**
WCDMA	9262	1852.4	4.17	4.72
	9400	1880.0	4.18	4.70
	9538	1907.6	4.18	4.73

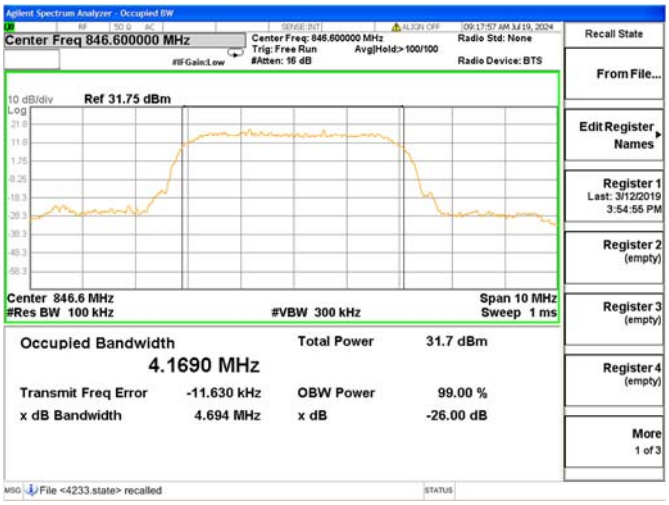
WCDMA Band V, CH4132, 826.4MHz



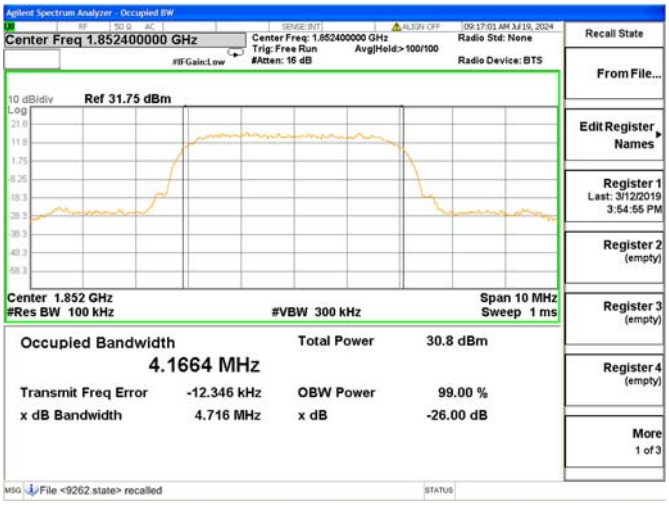
WCDMA Band V, CH4182, 836.4MHz



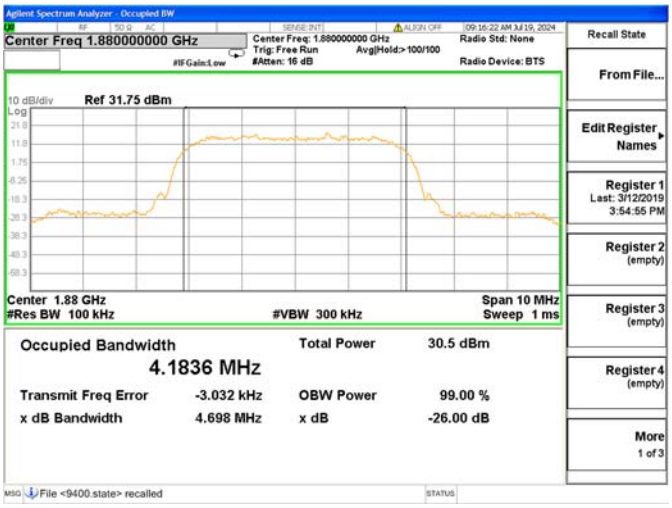
WCDMA Band V, CH4233, 846.6MHz



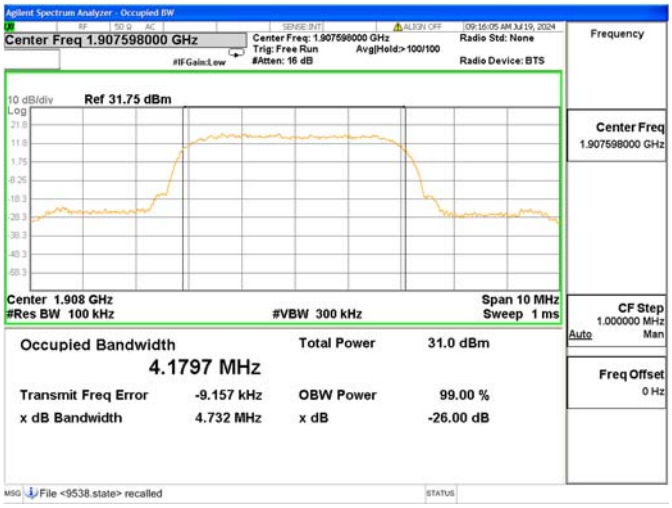
WCDMA Band II, CH9262, 1852.4MHz



WCDMA Band II, CH9400, 1880.0MHz



WCDMA Band II, CH9538, 1907.6MHz



2.4. Frequency Stability

2.4.1.Requirement

According to FCC section 22.355, 24.235 and 27.54 the frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block. According to FCC section 2.1055, the test conditions are:

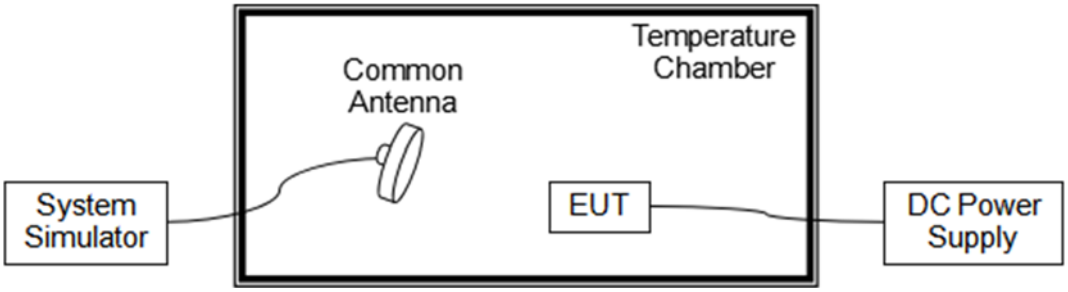
(a) The temperature is varied from -30°C to +50°C at intervals of not more than 10°C.

(b) For hand carried battery powered equipment, the primary supply voltage is reduced to the battery operating end point which shall be specified by the manufacture. The supply voltage shall be measured at the input to the cable normally provided with the equipment, or at the power supply terminals if cables are not normally provided.

Note: The operating temperature of EUT is from 0°C to 40°C, which are specified by the applicant.

2.4.2.Test Description

Test Setup:



The EUT, which is powered by the DC Power Supply directly, is located in the Temperature Chamber. The EUT is commanded by the System Simulator (SS) to operate at the maximum output power i.e. Power Control Level (PCL) = 5 and Power Class = 4. A call is established between the EUT and the SS via a Common Antenna.

2.4.3.Test Result

The nominal, highest and lowest extreme voltages are separately 3.80V, 4.35V and 3.00V, which are specified by the applicant; the normal temperature here used is 20°C.

WCDMA Band V, CH4182, 836.4MHz Limit =±2.5ppm					
Voltage (%)	**Power (VDC)**	**Temp (°C)**	**Fre. Dev. (Hz)**	**Deviation (ppm)**	**Result**
Normal	3.80	+20(Ref)	14	0.017	PASS
Normal		0	22	**0.026**	
Normal		+10	21	0.025	
Normal		+20	-5	-0.006	
Normal		+30	13	0.016	
Normal		+40	-2	-0.002	
High	4.35	+20	16	0.019	
BATT.ENDPOINT	3.00	+20	19	0.023	

WCDMA Band II, CH9400, 1880.0MHz Limit =Within Authorized Band					
Voltage (%)	**Power (VDC)**	**Temp (°C)**	**Fre. Dev. (Hz)**	**Deviation (ppm)**	**Result**
Normal	3.80	+20(Ref)	20	**0.011**	PASS
Normal		0	20	**0.011**	
Normal		+10	19	0.010	
Normal		+20	18	0.010	
Normal		+30	9	0.005	
Normal		+40	13	0.007	
High	4.35	+20	19	0.010	
BATT.ENDPOINT	3.00	+20	18	0.010	

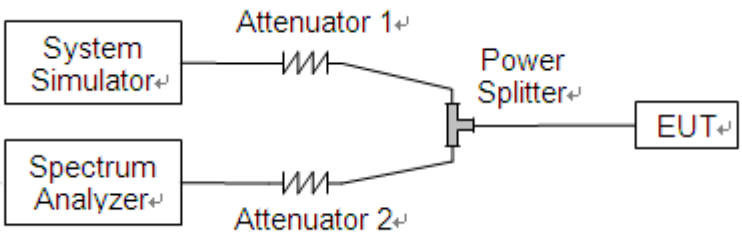
2.5. Conducted Out of Band Emissions

2.5.1. Requirement

According to FCC section 22.917(a), 24.238(a) and 27.53(h) 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. This calculated to be -13dBm. The measurement frequency range is from 30MHz to the 10th harmonic of the fundamental frequency.

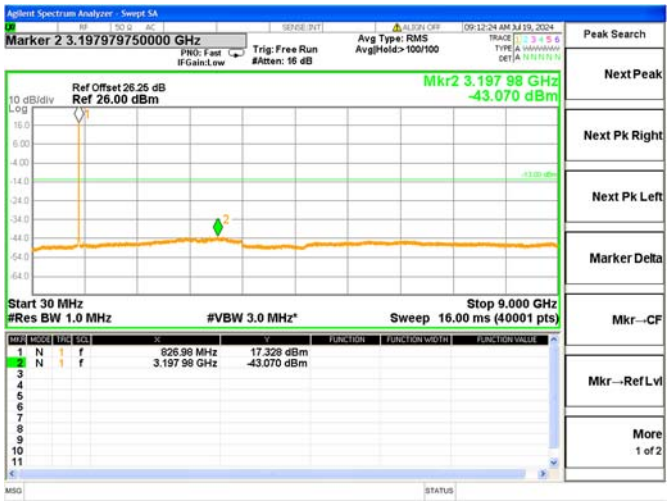
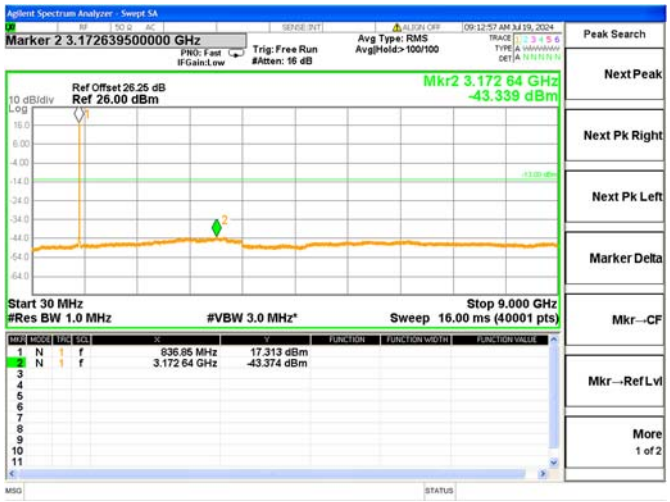
2.5.2. Test Description

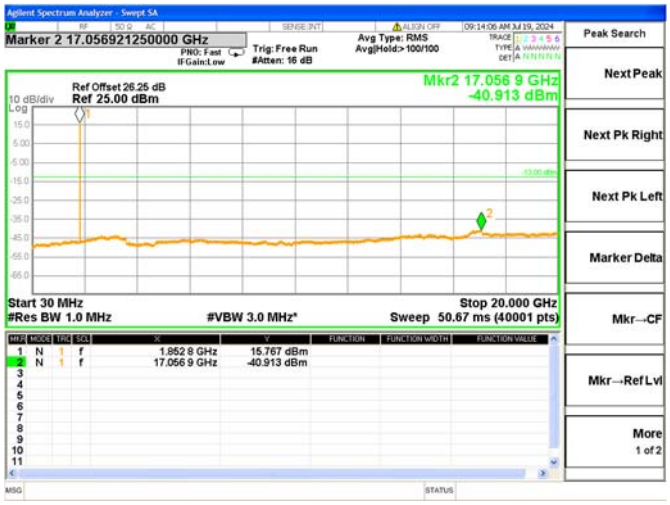
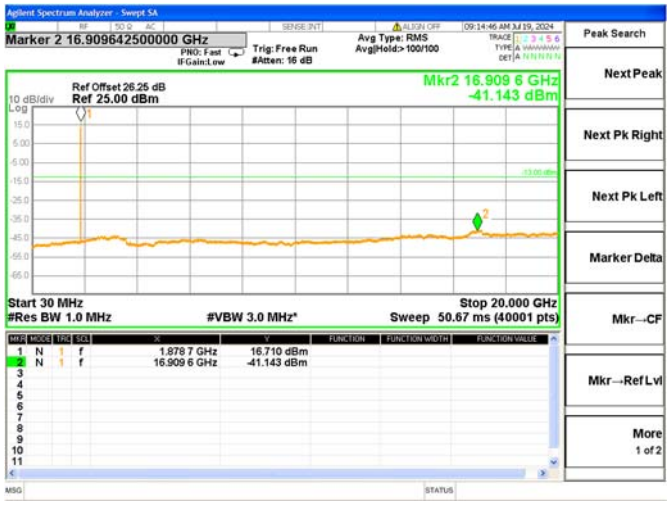
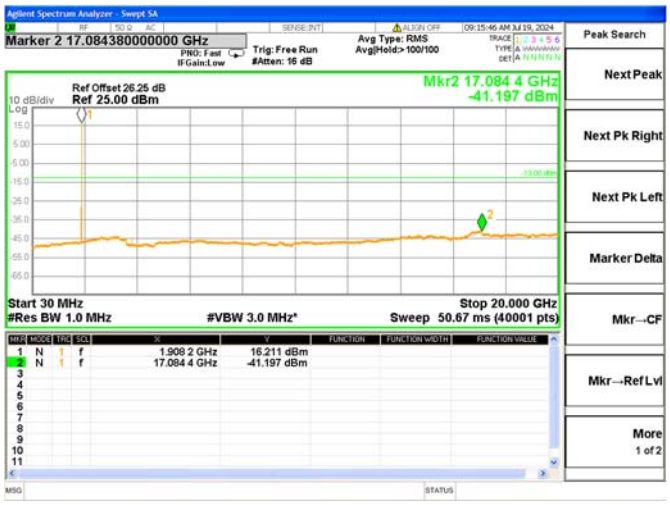
Test Setup:



The EUT is coupled to the Spectrum Analyzer (SA) and the System Simulator (SS) with Attenuators through the Power Splitter; the RF load attached to the EUT antenna terminal is 50Ohm; the path loss as the factor is calibrated to correct the reading. The EUT is commanded by the SS to operate at the maximum output power i.e. Power Control Level (PCL) = 5 and Power Class = 4. A call is established between the EUT and the SS.

2.5.3.Test Result

WCDMA Band V, CH4132, 826.4MHz	WCDMA Band V, CH4182, 836.4MHz
	
WCDMA Band V, CH4233, 846.6MHz	

WCDMA Band II, CH9262, 1852.4MHz	WCDMA Band II, CH9400, 1880.0MHz
	
WCDMA Band II, CH9538, 1907.6MHz	
	

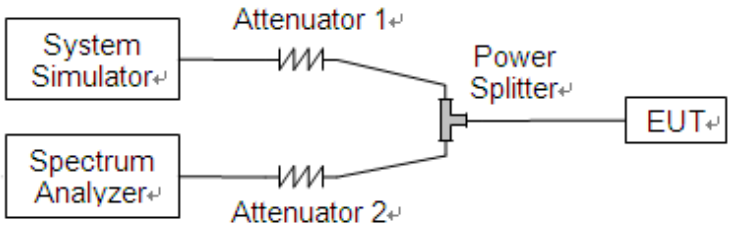
2.6. Band Edge

2.6.1.Requirement

According to FCC section 22.917(a), 24.238(a) and 27.53(h) 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.

2.6.2.Test Description

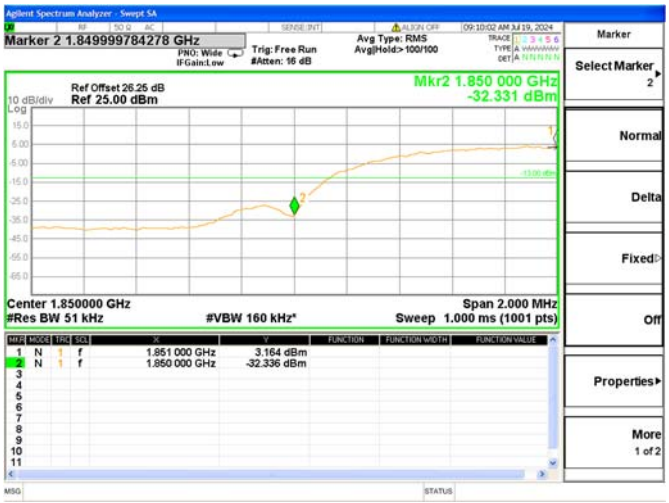
Test Setup:



The EUT is coupled to the Spectrum Analyzer (SA) and the System Simulator (SS) with Attenuators through the Power Splitter; the RF load attached to the EUT antenna terminal is 50Ohm; the path loss as the factor is calibrated to correct the reading. The EUT is commanded by the SS to operate at the maximum output power i.e. Power Control Level (PCL) = 5 and Power Class = 4. A call is established between the EUT and the SS.

2.6.3.Test Result

The lowest and highest channels are tested to verify the band edge emissions.

WCDMA Band V, CH4132, 826.4MHz	WCDMA Band V, CH4233, 846.6MHz
WCDMA Band II, CH9262, 1852.4MHz	**WCDMA Band II, CH9538, 1907.6MHz**
	

2.7. Determining E.R.P. and/or E.I.R.P. from conducted RF output power measurements

2.7.1. Requirement

According to FCC section 22.913, the Effective Radiated Power (E.R.P.) of mobile transmitters and auxiliary test transmitters must not exceed 7 Watts.
According to FCC section 24.232, the broadband PCS mobile station is limited to 2 Watts e.i.r.p. peak power.
According to FCC section 27.50, mobile, and portable (hand-held) stations is limited to 1 Watts e.i.r.p. peak power.

2.7.2. Test Description

The test setups refer to section 2.1.3
A call is established between the EUT and the SS via a Common Antenna. The EUT is commanded by the SS to operate at the maximum and minimum output power (i.e. GSM850MHz band Power Control Level (PCL) = 5/19 and Power Class = 4, GSM1900MHz band Power Control Level (PCL) = 0/15 and Power Class = 1), and only the test result of the maximum output power was recorded. Please refer to section 2.1.3 of this report.
The relevant equation for determining the maximum E.R.P. or E.I.R.P. from the measured RF output power is given in Equation (1) as follows:
E.R.P. or E.I.R.P. = $P_{Meas} + G_T$
Where:
E.R.P. or E.I.R.P. effective radiated power or equivalent isotropically radiated power, respectively (expressed in the same units as P_{Meas}, e.g., dBm or dBW)
P_{Meas} measured transmitter output power or PSD, in dBm or dBW
G_T gain of the transmitting antenna, in dBd (E.R.P.) or dBi (E.I.R.P.)
For devices utilizing multiple antennas, see ANSI C63.25-2015 6.4 for guidance with respect to determining the effective array transmit antenna gain term to be used in the above equation.
The following equations demonstrate the mathematical relationship between E.R.P. and E.I.R.P.:
a) E.R.P. = E.I.R.P. − 2.15, where E.R.P. and E.I.R.P. are expressed in consistent units.
b) E.I.R.P. = E.R.P. + 2.15, where E.R.P. and E.I.R.P. are expressed in consistent units.

2.7.3.Test Result

WCDMA Band V							
Band	Channel	Frequency (MHz)	Measured E.R.P.		Limit		Verdict
			dBm	W	dBm	W	
WCDMA	4132	826.4	22.23	0.167	38.5	7	PASS
	4182	836.4	22.30	0.170			PASS
	4233	846.6	22.26	0.168			PASS
HSDPA	4132	826.4	21.00	0.126	38.5	7	PASS
	4182	836.4	21.01	0.126			PASS
	4233	846.6	21.14	0.130			PASS
DC-HSDPA	4132	826.4	21.12	0.129	38.5	7	PASS
	4182	836.4	21.11	0.129			PASS
	4233	846.6	21.13	0.130			PASS
HSUPA	4132	826.4	20.97	0.125	38.5	7	PASS
	4182	836.4	21.06	0.128			PASS
	4233	846.6	21.15	0.130			PASS
HSPA+	4132	826.4	20.01	0.100	38.5	7	PASS
	4182	836.4	19.98	0.100			PASS
	4233	846.6	20.05	0.101			PASS
Note 1: For the HSDPA and HSUPA mode, all the subtests were tested and just the worst data were recorded in this report.							

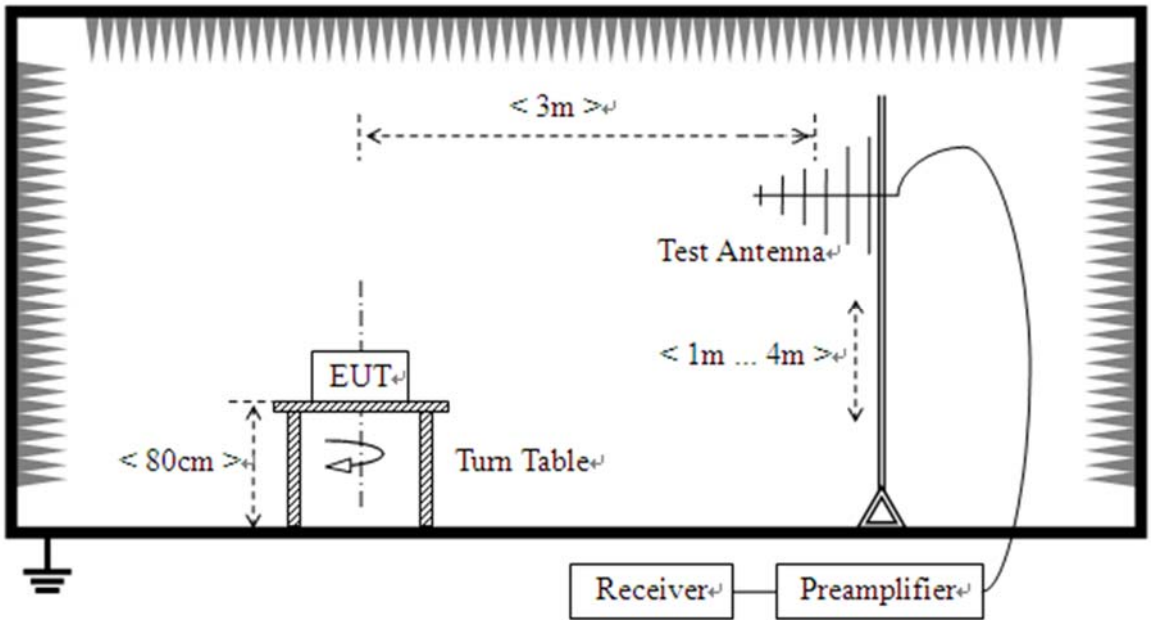
WCDMA Band II							
Band	Channel	Frequency (MHz)	Measured E.I.R.P.		Limit		Verdict
			dBm	W	dBm	W	
WCDMA	9262	1852.4	23.80	0.240	33	2	PASS
	9400	1880.0	23.74	0.237			PASS
	9538	1907.6	23.76	0.238			PASS
HSDPA	9262	1852.4	22.59	0.182	33	2	PASS
	9400	1880.0	22.43	0.175			PASS
	9538	1907.6	22.51	0.178			PASS
DC-HSDPA	9262	1852.4	22.60	0.182	33	2	PASS
	9400	1880.0	22.56	0.180			PASS
	9538	1907.6	22.50	0.178			PASS
HSUPA	9262	1852.4	22.54	0.179	33	2	PASS
	9400	1880.0	22.27	0.169			PASS
	9538	1907.6	22.35	0.172			PASS
HSPA+	9262	1852.4	21.53	0.142	33	2	PASS
	9400	1880.0	21.35	0.136			PASS
	9538	1907.6	21.48	0.141			PASS
Note 1: For the HSDPA and HSUPA mode, all the subtests were tested and just the worst data were recorded in this report.							

2.8. Radiated Out of Band Emissions

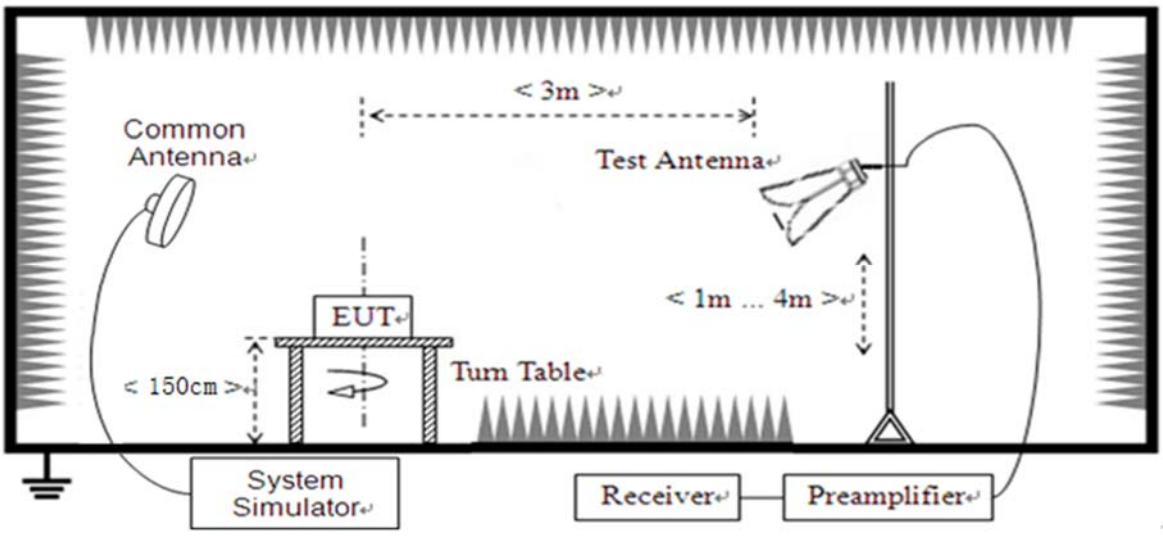
2.8.1.Requirement

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. This calculated to be -13dBm. The measurement frequency range is from 30MHz to the 10th harmonic of the fundamental frequency.

2.8.2.Test Description



(For the test frequency from 30MHz to1GHz)



(For the test frequency above 1GHz)

The EUT is located in a 3m Full-Anechoic Chamber, the cable loss, air loss and so on of the site as factors are pre-calibrated using the "Substitution" method, and calculated to correct the reading.
A call is established between the EUT and the SS via a Common Antenna. The EUT is commanded by the SS to operate at the maximum and minimum output power and only the test result of the maximum output power was recorded.
In the frequency range above 30MHz, Bi-Log Test Antenna (30MHz to 1GHz) and Horn Test Antenna (above 1GHz) are used. Test Antenna is 3m away from the EUT. Test Antenna height is varied from 1m to 4m above the ground and the Turn Table is actuated to turn from 0° to 360°to determine the maximum value of the radiated power. The emission levels at both horizontal and vertical polarizations should be tested. The Filters consists of Notch Filters and High Pass Filter.
Note: When doing measurements above 1GHz, the EUT has been within the 3dB cone width of the horn antenna during horizontal antenna.

2.8.3.Test Procedure

For measurements below 1 GHz the resolution bandwidth is set to 100 kHz for peak detection measurements.

For measurements above 1GHz the resolution bandwidth is set to 1MHz, the video band width is set to 3MHz for peak measurements.

2.8.4.Test Result

The measurement frequency range is from 30MHz to the 10th harmonic of the fundamental frequency. The Turn Table is actuated to turn from 0° to 360°, and both horizontal and vertical polarizations of the Test Antenna are used to find the maximum radiated power. The lowest, middle and highest channels are tested to verify the out of band emissions.

The substitution corrections are obtained as described below:

$A_{SUBST} = P_{SUBST_TX} - P_{SUBST_RX} - L_{SUBST_CABLES} + G_{SUBST_TX_ANT}$

$A_{TOT} = L_{CABLES} + A_{SUBST}$

Where A_{SUBST} is the final substitution correction including receive antenna gain.

P_{SUBST_TX} is signal generator level,

P_{SUBST_RX} is receiver level,

L_{SUBST_CABLES} is cable losses including TX cable,

$G_{SUBST_TX_ANT}$ is substitution antenna gain.

A_{TOT} is total correction factor including cable loss and substitution correction

During the test, the data of A_{TOT} was added in the test spectrum analyze, so spectrum analyze reading is the final values which contain the data of A_{TOT}.

Note1: The power of the EUT transmitting frequency should be ignored.

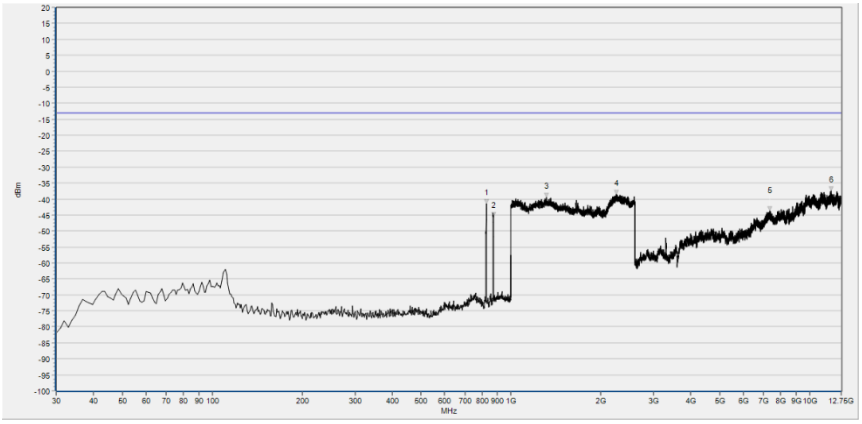
Note2: All test mode and condition mentioned were considered and evaluated respectively by performing full test, only the worst data were recorded and reported.

Note3: All spurious emission tests were performed in X, Y, Z axis direction. And only the worst axis test condition was recorded in this test report.

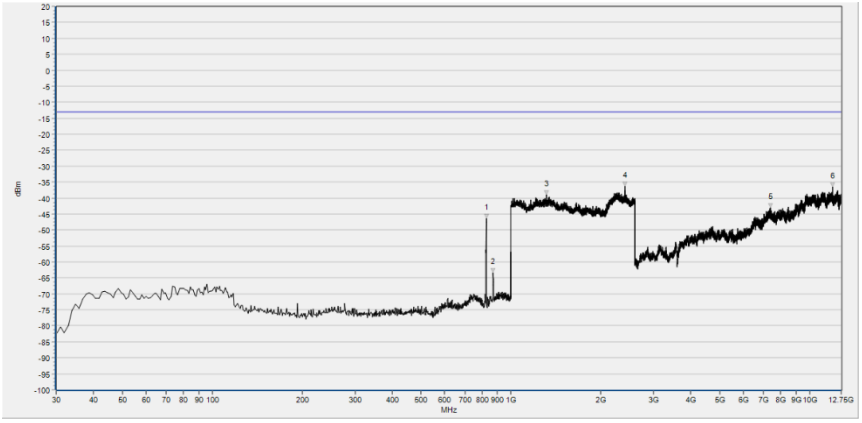
Note4: N/A means the frequency is the basic frequency or the base station frequency, they are no need to verdict.

Note5: The amplitude of emissions(18GHz to 10th harmonics) which are attenuated more than 20 dB below the limit are not be reported.

WCDMA Band V(WCDMA), Low Channel

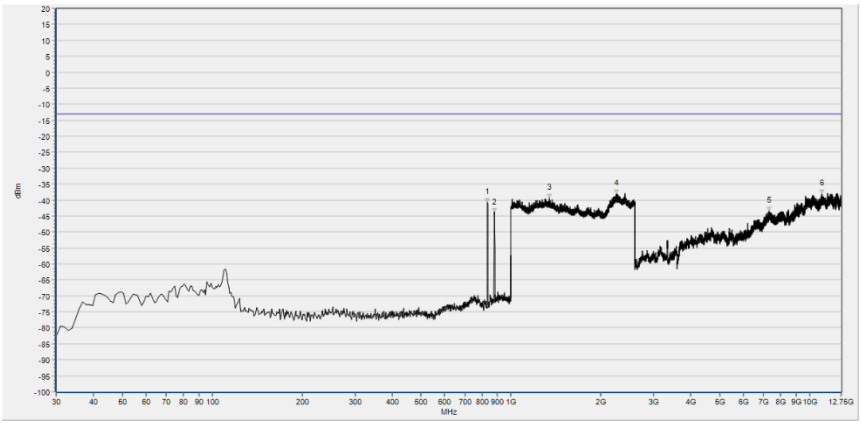


No.	Fre.(MHz)	PK (dBm)	Limit (dBm)	Antenna	Verdict
1	828.310	-41.53	-13.00	Horizontal	N/A
2	872.930	-45.47	-13.00	Horizontal	N/A
3	1313.725	-39.39	-13.00	Horizontal	PASS
4	2251.060	-38.62	-13.00	Horizontal	PASS
5	7363.984	-43.70	-13.00	Horizontal	PASS
6	11784.652	-37.38	-13.00	Horizontal	PASS

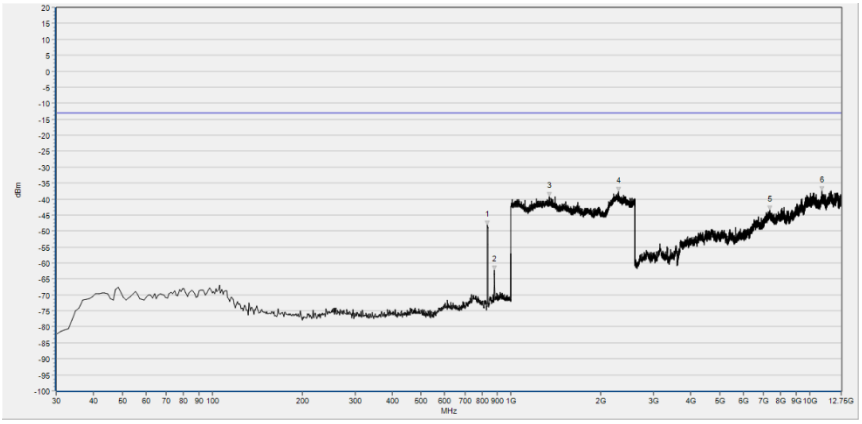


No.	Fre.(MHz)	PK (dBm)	Limit (dBm)	Antenna	Verdict
1	827.340	-46.39	-13.00	Vertical	N/A
2	870.020	-63.42	-13.00	Vertical	N/A
3	1313.725	-39.10	-13.00	Vertical	PASS
4	2402.161	-36.23	-13.00	Vertical	PASS
5	7408.283	-43.10	-13.00	Vertical	PASS
6	11908.320	-36.64	-13.00	Vertical	PASS

WCDMA Band V(WCDMA), Mid Channel

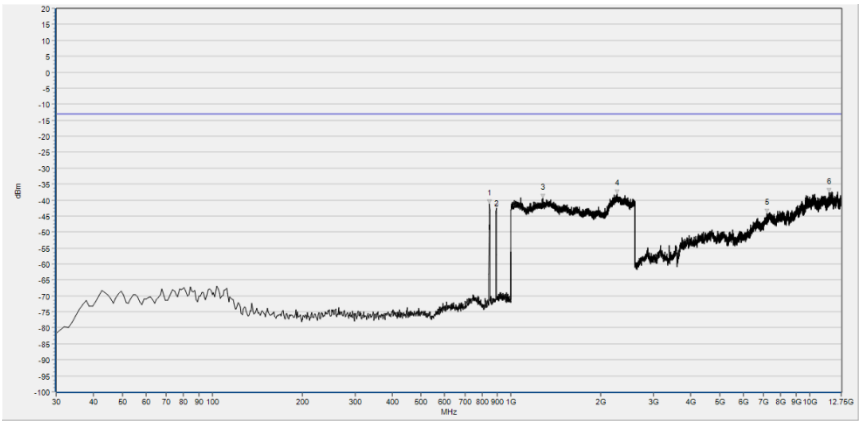


No.	Fre.(MHz)	PK (dBm)	Limit (dBm)	Antenna	Verdict
1	834.130	-40.82	-13.00	Horizontal	N/A
2	878.750	-43.98	-13.00	Horizontal	N/A
3	1343.177	-39.39	-13.00	Horizontal	PASS
4	2250.420	-38.16	-13.00	Horizontal	PASS
5	7332.606	-43.50	-13.00	Horizontal	PASS
6	10989.116	-38.14	-13.00	Horizontal	PASS

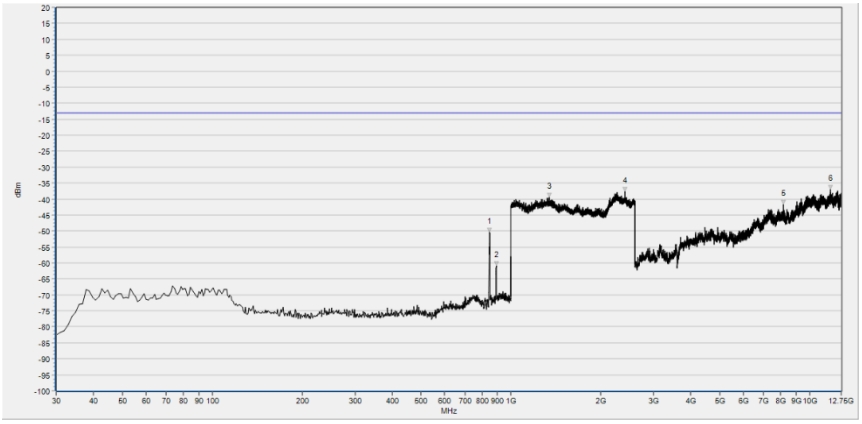


No.	Fre.(MHz)	PK (dBm)	Limit (dBm)	Antenna	Verdict
1	833.160	-48.09	-13.00	Vertical	N/A
2	880.690	-62.30	-13.00	Vertical	N/A
3	1341.897	-39.28	-13.00	Vertical	PASS
4	2288.836	-37.74	-13.00	Vertical	PASS
5	7358.447	-43.54	-13.00	Vertical	PASS
6	11003.883	-37.51	-13.00	Vertical	PASS

WCDMA Band V(WCDMA), High Channel

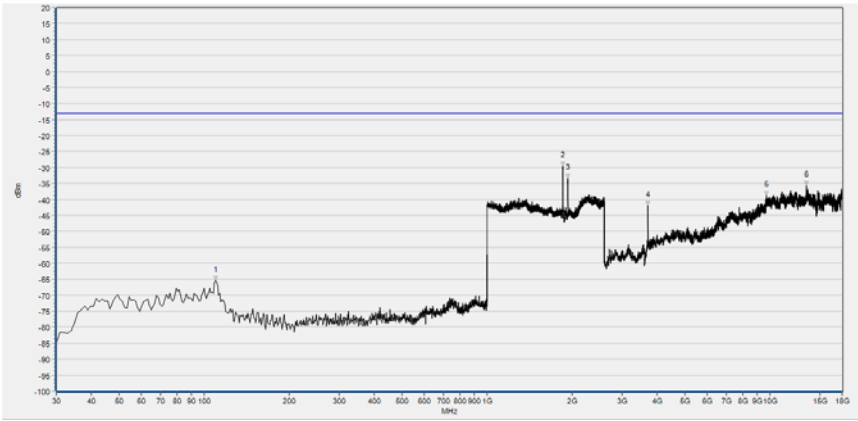


No.	Fre.(MHz)	PK (dBm)	Limit (dBm)	Antenna	Verdict
1	847.710	-41.24	-13.00	Horizontal	N/A
2	892.330	-42.47	-13.00	Horizontal	N/A
3	1275.950	-39.43	-13.00	Horizontal	PASS
4	2262.585	-38.11	-13.00	Horizontal	PASS
5	7183.097	-44.07	-13.00	Horizontal	PASS
6	11590.844	-37.66	-13.00	Horizontal	PASS

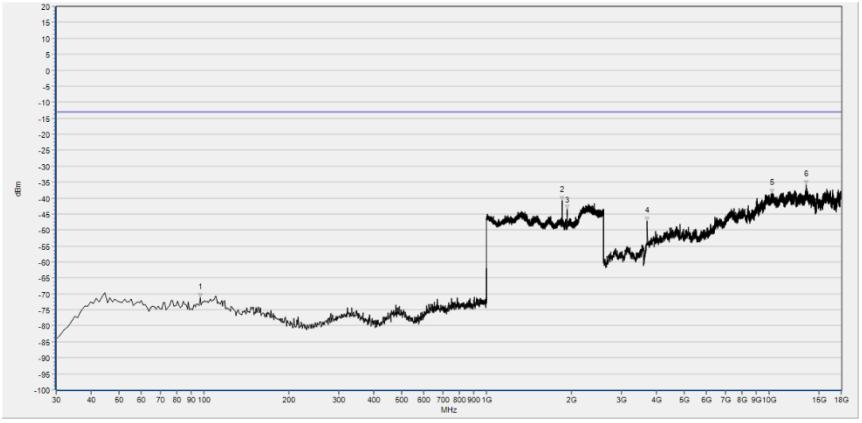


No.	Fre.(MHz)	PK (dBm)	Limit (dBm)	Antenna	Verdict
1	847.710	-50.47	-13.00	Vertical	N/A
2	893.300	-60.81	-13.00	Vertical	N/A
3	1341.897	-39.34	-13.00	Vertical	PASS
4	2402.161	-37.76	-13.00	Vertical	PASS
5	8144.754	-41.65	-13.00	Vertical	PASS
6	11740.353	-36.92	-13.00	Vertical	PASS

WCDMA Band II(WCDMA), Low Channel

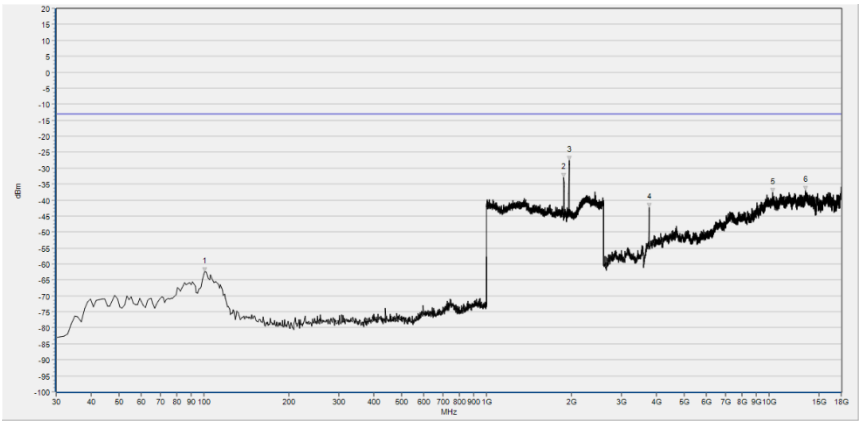


No.	Fre.(MHz)	PK (dBm)	Limit (dBm)	Antenna	Verdict
1	109.540	-65.39	-13.00	Horizontal	PASS
2	1850.900	-29.58	-13.00	Horizontal	N/A
3	1933.493	-33.49	-13.00	Horizontal	N/A
4	3703.401	-41.96	-13.00	Horizontal	PASS
5	9696.490	-38.86	-13.00	Horizontal	PASS
6	13493.981	-35.70	-13.00	Horizontal	PASS

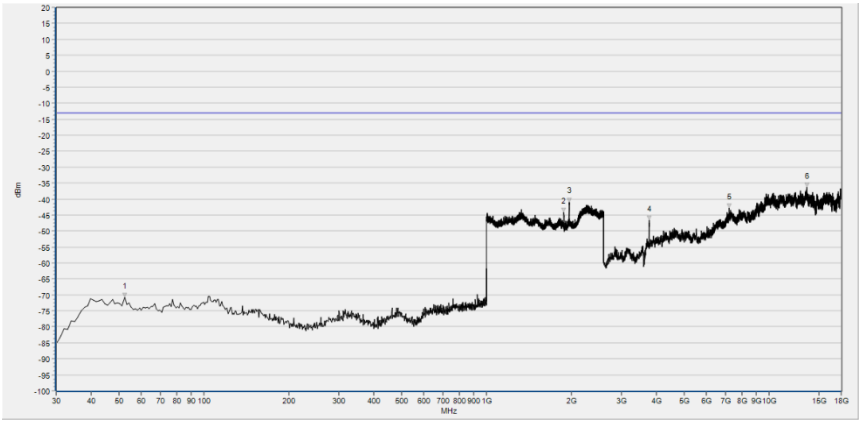


No.	Fre.(MHz)	PK (dBm)	Limit (dBm)	Antenna	Verdict
1	96.930	-71.14	-13.00	Vertical	PASS
2	1851.541	-40.75	-13.00	Vertical	N/A
3	1932.213	-43.51	-13.00	Vertical	N/A
4	3706.201	-47.20	-13.00	Vertical	PASS
5	10231.388	-38.65	-13.00	Vertical	PASS
6	13561.193	-35.88	-13.00	Vertical	PASS

WCDMA Band II(WCDMA), Mid Channel

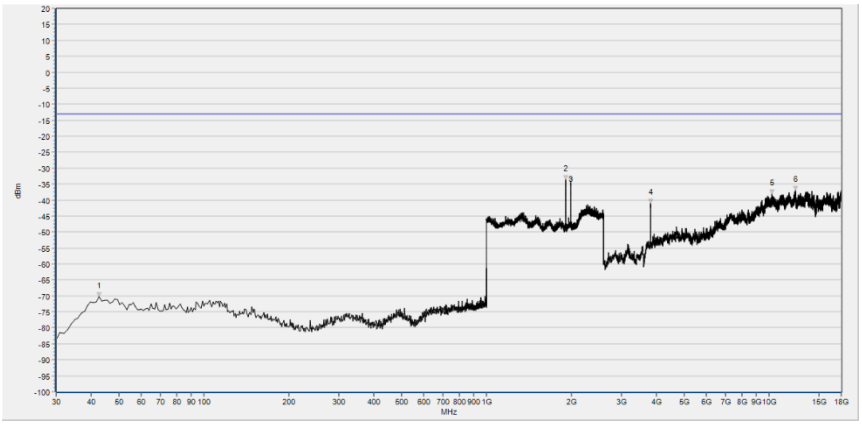


No.	Fre.(MHz)	PK (dBm)	Limit (dBm)	Antenna	Verdict
1	100.810	-62.44	-13.00	Horizontal	PASS
2	1878.431	-32.98	-13.00	Horizontal	N/A
3	1959.744	-27.49	-13.00	Horizontal	N/A
4	3759.411	-42.35	-13.00	Horizontal	PASS
5	10276.196	-37.71	-13.00	Horizontal	PASS
6	13488.380	-37.07	-13.00	Horizontal	PASS

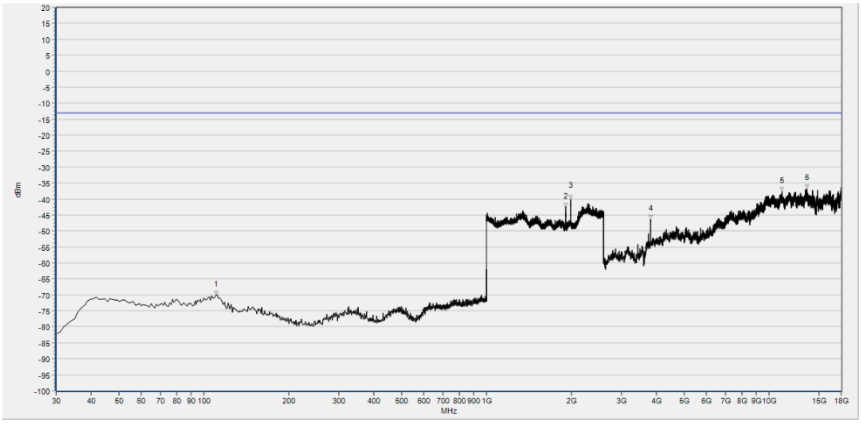


No.	Fre.(MHz)	PK (dBm)	Limit (dBm)	Antenna	Verdict
1	52.310	-70.62	-13.00	Vertical	PASS
2	1878.431	-44.16	-13.00	Vertical	N/A
3	1961.665	-41.06	-13.00	Vertical	N/A
4	3756.610	-46.55	-13.00	Vertical	PASS
5	7234.843	-42.82	-13.00	Vertical	PASS
6	13591.999	-36.36	-13.00	Vertical	PASS

WCDMA Band II(WCDMA), High Channel



No.	Fre.(MHz)	PK (dBm)	Limit (dBm)	Antenna	Verdict
1	42.610	-70.18	-13.00	Horizontal	PASS
2	1908.523	-33.54	-13.00	Horizontal	N/A
3	1987.915	-34.30	-13.00	Horizontal	N/A
4	3812.620	-41.00	-13.00	Horizontal	PASS
5	10220.185	-38.05	-13.00	Horizontal	PASS
6	12387.780	-37.04	-13.00	Horizontal	PASS



No.	Fre.(MHz)	PK (dBm)	Limit (dBm)	Antenna	Verdict
1	110.510	-70.04	-13.00	Vertical	PASS
2	1907.883	-42.51	-13.00	Vertical	N/A
3	1987.275	-40.02	-13.00	Vertical	N/A
4	3818.221	-46.38	-13.00	Vertical	PASS
5	11119.149	-37.70	-13.00	Vertical	PASS
6	13591.999	-36.71	-13.00	Vertical	PASS

Annex A Test Uncertainty

Where relevant, the following measurement uncertainty levels have been estimated for test performed on the EUT as specified in CISPR 16-1-2:

Test Items	Uncertainty
Output Power	±2.22dB
Bandwidth	±5%
Conducted Spurious Emission	±2.77dB
Radiated Emission	±2.95dB

This uncertainty represent an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2

Annex B Testing Laboratory Information

1. Identification of the Responsible Testing Laboratory

Laboratory Name:	Shenzhen Morlab Communications Technology Co., Ltd.
Laboratory Address:	FL.3, Building A, FeiYang Science Park, No.8 LongChang Road, Block 67, BaoAn District, ShenZhen, GuangDong Province, P. R. China
Telephone:	+86 755 36698555
Facsimile:	+86 755 36698525

2. Identification of the Responsible Testing Location

Name:	Shenzhen Morlab Communications Technology Co., Ltd.
Address:	FL.3, Building A, FeiYang Science Park, No.8 LongChang Road, Block 67, BaoAn District, ShenZhen, GuangDong Province, P. R. China

3. Facilities and Accreditations

All measurement facilities used to collect the measurement data are located at FL.3, Building A, FeiYang Science Park, Block 67, BaoAn District, Shenzhen, 518101 P. R. China. The test site is constructed in conformance with the requirements of ANSI C63.10-2013 and CISPR Publication 22; the FCC designation number is CN1192, the test firm registration number is 226174.

4. Test Equipment Utilized

4.1 Conducted Test Equipment

Equipment Name	Serial No.	Type	Manufacturer	Cal. Date	Due Date
EXA Signal Analyzer	MY51511149	N9020A	Agilent	2023.06.21	2024.06.20
				2024.06.19	2025.06.18
Communication Test Station	6200995016	MT8820C	Anritsu	2023.09.19	2024.09.18
Temperature Chamber	S02217710100089002	KMT-36LF 1A0	KOMEG	2023.09.19	2024.09.18

4.2 List of Software Used

Description	Manufacturer	Software Version
MORLAB EMCR	MORLAB	V1.2

4.3 Radiated Test Equipment

Equipment Name	Serial No.	Type	Manufacturer	Cal. Date	Due Date
System Simulator	152038	CMW500	R&S	2023.10.17	2024.10.16
Receiver	MY56060145	N9020A	Agilent	2024.05.30	2025.05.29
Test Antenna - Bi-Log	9163-519	VULB 9163	Schwarzbeck	2023.07.01	2024.06.30
				2024.06.22	2025.06.21
Test Antenna - Horn	9120D-963	BBHA 9120D	Schwarzbeck	2023.07.01	2024.06.30
				2024.06.22	2025.06.21
RF Coaxial Cable (DC-18GHz)	MRE001	PE330	Pasternack	2024.05.30	2025.05.29
RF Coaxial Cable (DC-18GHz)	MRE002	CLU18	Pasternack	2024.05.30	2025.05.29
RF Coaxial Cable (DC-18GHz)	MRE003	CLU18	Pasternack	2024.05.30	2025.05.29
RF Coaxial Cable (DC-40GHz)	22290045	QA360-40-K K-0.5	Qualwave	N/A	N/A
RF Coaxial Cable (DC-40GHz)	22290046	QA360-40-K KF-2	Qualwave	N/A	N/A
Preamplifier (10MHz-6GHz)	46732	S10M100L38 02	LUCIX CORP.	2024.05.30	2025.05.29
Preamplifier (2GHz-18GHz)	61171/61172	S020180L32 03	LUCIX CORP.	2024.05.30	2025.05.29
Preamplifier (18GHz-40GHz)	DS77209	DCLNA0118-40C-S	Decentest	2024.05.30	2025.05.29
Notch Filter	N/A	WRCGV-W Band V	Wainwright	N/A	N/A
Notch Filter	N/A	WRCGV-W Band II	Wainwright	N/A	N/A
Anechoic Chamber	N/A	9m*6m*6m	CRT	2022.05.10	2025.05.09

END OF REPORT