



# FCC RADIO TEST REPORT

**FCC ID** : QYLEM9190F  
**Equipment** : WWAN Module  
**Brand Name** : Getac  
**Model Name** : EM9190  
**Applicant** : Getac Technology Corporation.  
5F., Building A, No. 209, Sec. 1, Nangang Rd.,  
Nangang Dist., Taipei City 11568, Taiwan, R.O.C.  
**Standard** : FCC 47 CFR Part 2, 22(H), 24(E), 27(L)

The product was received on Aug. 26, 2021 and testing was started from Sep. 17, 2021 and completed on Oct. 15, 2021. We, Sporton International Inc. EMC & Wireless Communications Laboratory, would like to declare that the tested sample has been evaluated in accordance with the test procedures given in ANSI / TIA-603-E and has been in compliance with the applicable technical standards.

The test results in this partial report apply exclusively to the tested model / sample. Without written approval of Sporton International Inc. EMC & Wireless Communications Laboratory, the test report shall not be reproduced except in full.

Approved by: Louis Wu

**Sportun International Inc. EMC & Wireless Communications Laboratory**

No. 52, Huaya 1st Rd., Guishan Dist., Taoyuan City 333, Taiwan (R.O.C.)



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## History of this test report



## Summary of Test Result

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
3.2	§2.1046	Conducted Output Power	Pass	-
	§22.913 (a)(5)	Effective Radiated Power (WCDMA Band V)		
	§24.232 (c)	Equivalent Isotropic Radiated Power (WCDMA Band II)		
	§27.50 (d)(4)	Equivalent Isotropic Radiated Power (WCDMA Band IV)		
-	§24.232 (d)	Peak-to-Average Ratio	-	See Note
-	§2.1049 §22.917 (b) §24.238 (b) §27.53 (g)	Occupied Bandwidth (WCDMA Band V) (WCDMA Band II) (WCDMA Band IV)	-	See Note
-	§2.1051 §22.917 (a) §24.238 (a) §27.53 (g)	Band Edge Measurement (WCDMA Band V) (WCDMA Band II) (WCDMA Band IV)	-	See Note
-	§2.1051 §22.917 (a) §24.238 (a) §27.53 (g)	Conducted Emission (WCDMA Band V) (WCDMA Band II) (WCDMA Band IV)	-	See Note
-	§2.1055 §22.355 §24.235 §27.54	Frequency Stability Temperature & Voltage	-	See Note
4.4	§2.1053 §22.917 (a) §24.238 (a) §27.53 (h)	Field Strength of Spurious Radiation (WCDMA Band V) (WCDMA Band II) (WCDMA Band IV)	Pass	-
<b>Note:</b> The module (Model: EM9190) makes no difference after verifying output power, this report reuses test data from the module report.				

### Declaration of Conformity:

The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.

### Comments and Explanations:

The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.

Reviewed by: Yun Huang

Report Producer: Cindy Liu



## 1 General Description

### 1.1 Product Feature of Equipment Under Test

WCDMA/LTE/5G NR, and GNSS.

Product Specification subjective to this standard	
<b>Sample 1</b>	EUT with Host 1
<b>Sample 2</b>	EUT with Host 2
<b>Antenna Type</b>	WWAN <Main>: PIFA Antenna <Aux.>: PIFA Antenna GPS/Glonass/BDS/Galileo : PATCH Antenna
<b>Antenna Gain</b>	Cellular Band <Main>: -0.21 dBi <Aux.>: -2.26 dBi PCS Band <Main>: 0.41 dBi <Aux.>: 0.04 dBi AWS Band: -0.19 dBi

**Remark:** The above EUT's information was declared by manufacturer. Please refer to Comments and Explanations in report summary.

The product was installed into Tablet PC (Brand Name: Getac, Model Name: F110, F110G6, F110-Ex, F110-631) during test, and the host information was recorded in the following table.

Host Information		
SKU	SKU A	SKU B
<b>CPU</b>	i5-1135G7 (Non Vpro)	i7-1165G7 (Vpro)
<b>DDR</b>	Kingston DDR4-3200 32GB	Kingston DDR4-3200 32GB
<b>SSD</b>	512GB	1TB
<b>PANEL</b>	Full HD AUO	Full HD AUO
<b>DIGITIZER</b>	N/A	EMRright Digitizer
<b>OPTION BAY</b>	2D Barcode Reader	RS232 + LAN
<b>Expansion Bay</b>	Smart Card	Smart Card
<b>Right side option</b>	NXP RFID(PN7462)	Finger Print
<b>WLAN/BT</b>	Intel AX201	Intel AX201
<b>WWAN(4G)</b>	EM9190	EM9190
<b>GPS/GNS</b>	EM9190	EM9190
<b>Rear 8M Camera</b>	Support	Support
<b>Webcam FHD</b>	Not Support	Not Support
<b>IR Webcam</b>	Support	Support
<b>USB3.2 Gen2 x 1 Type-A</b>	Support	Support
<b>Type-C (thunder bolt)</b>	Support	Support
<b>Audio/MIC</b>	Support	Support



## 1.2 Modification of EUT

No modifications are made to the EUT during all test items.

## 1.3 Testing Location

<b>Test Site</b>	Sporton International Inc. EMC & Wireless Communications Laboratory
<b>Test Site Location</b>	No.52, Huaya 1st Rd., Guishan Dist., Taoyuan City 333, Taiwan (R.O.C.) TEL: +886-3-327-3456 FAX: +886-3-328-4978
<b>Test Site No.</b>	<b>Sporton Site No.</b>
	TH03-HY
<b>Test Engineer</b>	Oscar Chi
<b>Temperature</b>	23~24°C
<b>Relative Humidity</b>	50~51%
<b>Test Site</b>	Sporton International Inc. Wensan Laboratory
<b>Test Site Location</b>	No.58, Aly. 75, Ln. 564, Wenhua 3rd, Rd., Guishan Dist., Taoyuan City 333010, Taiwan (R.O.C.) TEL: +886-3-327-0868 FAX: +886-3-327-0855
<b>Test Site No.</b>	<b>Sporton Site No.</b>
	03CH15-HY (TAF Code: 3786)
<b>Test Engineer</b>	Leo Li, Mancy Chou and Bigshow Wang
<b>Temperature</b>	22.5~24.5°C
<b>Relative Humidity</b>	45~55%
<b>Remark</b>	The Radiated Spurious Emission test item subcontracted to Sporton International Inc. Wensan Laboratory.

**Note:** The test site complies with ANSI C63.4 2014 requirement.

FCC Designation No.: TW1190 and TW3786



## 1.4 Applicable Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- ♦ ANSI C63.26-2015
- ♦ ANSI / TIA-603-E
- ♦ FCC 47 CFR Part 2, 22(H), 24(E), 27(L)
- ♦ FCC KDB 971168 D01 Power Meas. License Digital Systems v03r01
- ♦ FCC KDB 412172 D01 Determining ERP and EIRP v01r01
- ♦ FCC KDB 414788 D01 Radiated Test Site v01r01

**Remark:**

1. All test items were verified and recorded according to the standards and without any deviation during the test.
2. This EUT has also been tested and complied with the requirements of FCC Part 15, Subpart B, recorded in a separate test report.
3. The TAF code is not including all the FCC KDB listed without accreditation.



## 2 Test Configuration of Equipment Under Test

### 2.1 Test Mode

Antenna port conducted and radiated test items were performed according to KDB 971168 D01 Power Meas. License Digital Systems v03r01 with maximum output power.

For radiated measurement, the measured emission level of the EUT was maximized by rotating the EUT on a turntable, adjusting the orientation of the EUT and EUT antenna in three orthogonal axis (X: flat, Y: portrait, Z: landscape), and adjusting the measurement antenna orientation, following C63.26 exploratory test procedures and find X Plane as worst plane.

Radiated emissions were investigated as following frequency range:

1. 30 MHz to 9000 MHz for WCDMA Band V
2. 30 MHz to 18000 MHz for WCDMA Band IV
3. 30 MHz to 19100 MHz for WCDMA Band II

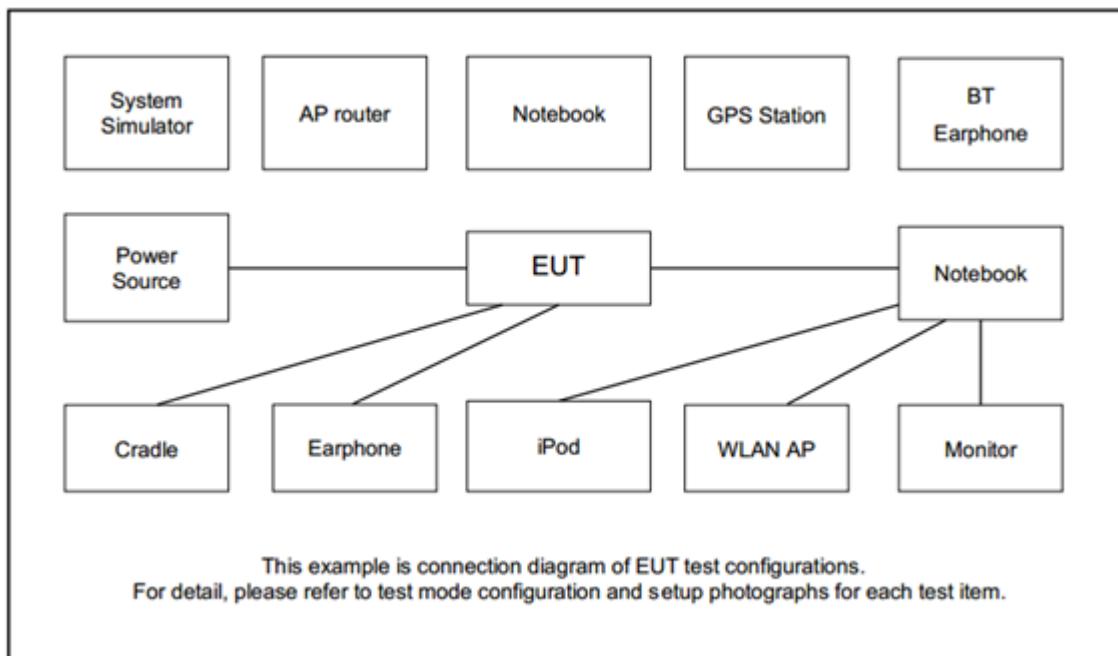
All modes, data rates and positions were investigated.

Test modes are chosen to be reported as the worst case configuration below:

Test Modes	
Band	Radiated TCs
WCDMA Band V	■ RMC 12.2Kbps Link
WCDMA Band II	■ RMC 12.2Kbps Link
WCDMA Band IV	■ RMC 12.2Kbps Link

**Remark:** All the radiated test cases were performed with Adapter 1 and Sample 2.

## 2.2 Connection Diagram of Test System



## 2.3 Support Unit used in test configuration

Item	Equipment	Brand Name	Model No.	FCC ID	Data Cable	Power Cord
1.	System Simulator	Anritsu	8820C	N/A	N/A	Unshielded, 1.8 m
2.	iPod Earphone	Apple	N/A	Verification	Unshielded, 1.0 m	N/A

## 2.4 Frequency List of Low/Middle/High Channels

Frequency List					
Band		Channel/Frequency(MHz)	Lowest	Middle	Highest
WCDMA Band V		Channel	4132	4182	4233
		Frequency	826.4	836.4	846.6
WCDMA Band II		Channel	9262	9400	9538
		Frequency	1852.4	1880.0	1907.6
WCDMA Band IV		Channel	1312	1413	1513
		Frequency	1712.4	1732.6	1752.6

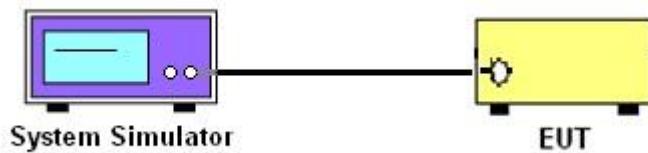
### 3 Conducted Test Result

#### 3.1 Measuring Instruments

See list of measuring instruments of this test report.

##### 3.1.1 Test Setup

##### 3.1.2 Conducted Output Power



##### 3.1.3 Test Result of Conducted Test

Please refer to Appendix A.



## 3.2 Conducted Output Power and ERP/EIRP

### 3.2.1 Description of the Conducted Output Power and ERP/EIRP

A system simulator was used to establish communication with the EUT. Its parameters were set to enforce EUT transmitting at the maximum power. The measured power in the radio frequency on the transmitter output terminals shall be reported.

The ERP of mobile transmitters must not exceed 7 Watts for WCDMA Band V

The EIRP of mobile transmitters must not exceed 2 Watts for WCDMA Band II

The EIRP of mobile transmitters must not exceed 1 Watts for WCDMA Band IV

According to KDB 412172 D01 Power Approach,

$EIRP = P_T + G_T - L_c$ ,  $ERP = EIRP - 2.15$ , where

$P_T$  = transmitter output power in dBm

$G_T$  = gain of the transmitting antenna in dBi

$L_c$  = signal attenuation in the connecting cable between the transmitter and antenna in dB

### 3.2.2 Test Procedures

1. The transmitter output port was connected to the system simulator.
2. Set EUT at maximum power through system simulator.
3. Select the lowest, middle, and the highest channels for each band and different modulation.
4. Measure the maximum burst average power for GSM and maximum average power for other modulation signal.

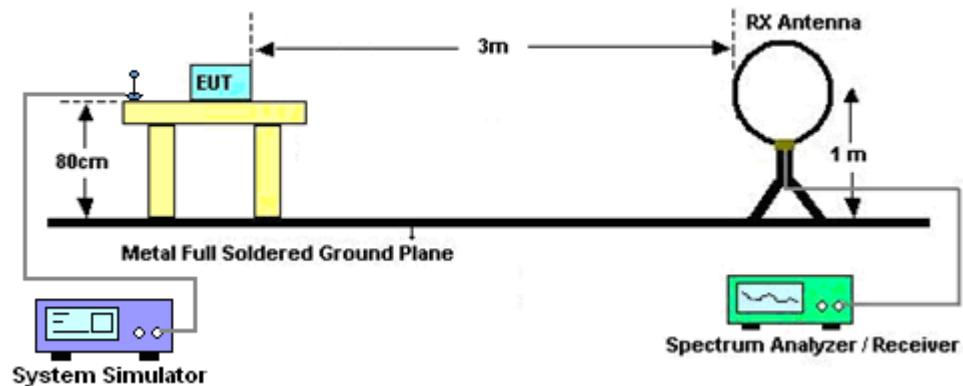
## 4 Radiated Test Items

### 4.1 Measuring Instruments

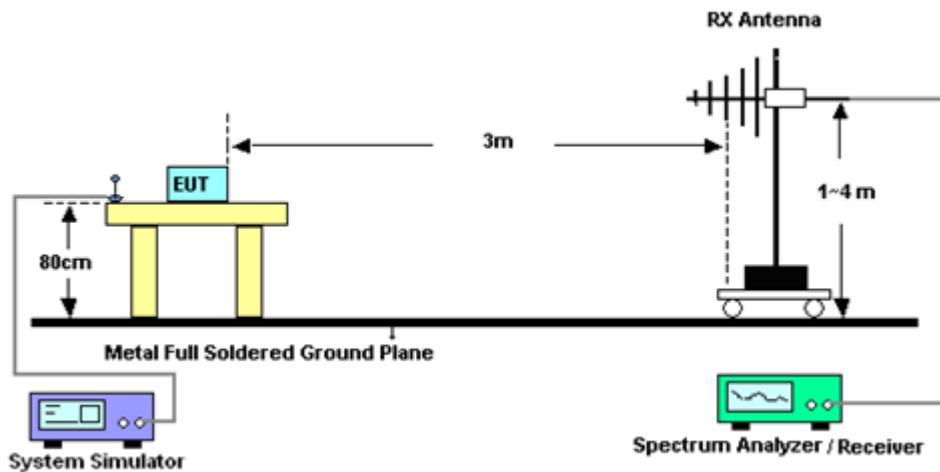
See list of measuring instruments of this test report.

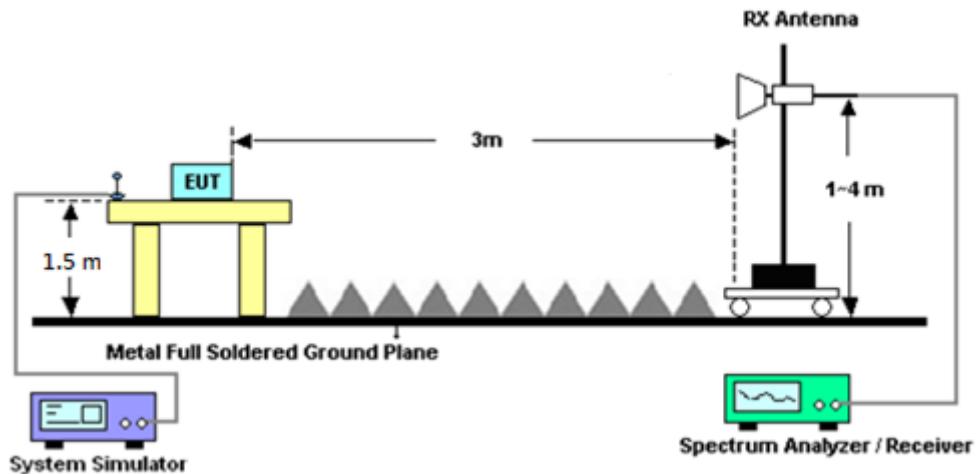
### 4.2 Test Setup

For radiated test below 30MHz



For radiated test from 30MHz to 1GHz



**For radiated test above 1GHz**

### 4.3 Test Result of Radiated Test

Please refer to Appendix B.

**Note:**

The low frequency, which started from 9 kHz to 30 MHz, was pre-scanned and the result which was 20 dB lower than the limit line was not reported.

There is adequate comparison measurement of both open-field test site and alternative test site - semi-Anechoic chamber according to 414788 D01 Radiated Test Site v01r01, and the result came out very similar.



## 4.4 Field Strength of Spurious Radiation Measurement

### 4.4.1 Description of Field Strength of Spurious Radiated Measurement

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitter power (P) by a factor of at least  $43 + 10 \log (P)$  dB. The spectrum is scanned from 30 MHz up to a frequency including its 10th harmonic.

### 4.4.2 Test Procedures

The testing follows FCC KDB 971168 D01 v03r01 Section 7 and ANSI / TIA-603-E Section 2.2.12.

1. The EUT was placed on a rotatable wooden table 0.8 meters for frequency below 1 GHz and 1.5 meter for frequency above 1 GHz above the ground.
2. The EUT was set 3 meters from the receiving antenna, which was mounted on the antenna tower.
3. The table was rotated 360 degrees to determine the position of the highest spurious emission.
4. The height of the receiving antenna is varied between one meter and four meters to search for the maximum spurious emission for both horizontal and vertical polarizations.
5. Make the measurement with the spectrum analyzer's RBW = 1 MHz, VBW = 3 MHz, taking record of maximum spurious emission.
6. A horn antenna was substituted in place of the EUT and was driven by a signal generator.
7. Tune the output power of signal generator to the same emission level with EUT maximum spurious emission.
8. Take the record of output power at antenna port.
9. Repeat step 7 to step 8 for another polarization.
10.  $EIRP \text{ (dBm)} = S.G. \text{ Power} - Tx \text{ Cable Loss} + Tx \text{ Antenna Gain}$
11.  $ERP \text{ (dBm)} = EIRP - 2.15$
12. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
13. The limit line is derived from  $43 + 10\log(P)$  dB below the transmitter power P(Watts)



## 5 List of Measuring Equipment

Instrument	Brand Name	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Loop Antenna	Rohde & Schwarz	HFH2-Z2	100315	9 kHz~30 MHz	Jan. 04, 2021	Sep. 17, 2021 ~ Sep. 20, 2021	Jan. 03, 2022	Radiation (03CH15-HY)
Bilog Antenna	TESEQ	CBL 6111D & 00800N1D01N-06	37059 & 01	30MHz-1GHz	Oct. 11, 2020	Sep. 17, 2021 ~ Sep. 20, 2021	Oct. 10, 2021	Radiation (03CH15-HY)
Bilog Antenna	TESEQ	CBL6111D&00800N1D01N-06	41912&05	30MHz to 1GHz	Feb. 08, 2021	Sep. 17, 2021 ~ Sep. 20, 2021	Feb. 07, 2022	Radiation (03CH15-HY)
Amplifier	SONOMA	310N	363440	9kHz~1GHz	Dec. 28, 2020	Sep. 17, 2021 ~ Sep. 20, 2021	Dec. 27, 2021	Radiation (03CH15-HY)
Horn Antenna	SCHWARZB ECK	BBHA 9120 D	9120D-01620	1-18GHz	Nov. 03, 2020	Sep. 17, 2021 ~ Sep. 20, 2021	Nov. 02, 2021	Radiation (03CH15-HY)
Horn Antenna	SCHWARZB ECK	BBHA 9120 D	9120D-1326	1GHz~18GHz	Nov. 03, 2020	Sep. 17, 2021 ~ Sep. 20, 2021	Nov. 02, 2021	Radiation (03CH15-HY)
SHF-EHF Horn Antenna	SCHWARZB ECK	BBHA 9170	BBHA9170251	18GHz- 40GHz	Dec. 02, 2020	Sep. 17, 2021 ~ Sep. 20, 2021	Dec. 01, 2021	Radiation (03CH15-HY)
Preamplifier	Jet-Power	JPA0118-55-303	1710001800 055006	1GHz~18GHz	May 06, 2021	Sep. 17, 2021 ~ Sep. 20, 2021	May 05, 2022	Radiation (03CH15-HY)
Preamplifier	Keysight	83017A	MY53270195	1GHz~26.5GHz	Aug. 19, 2021	Sep. 17, 2021 ~ Sep. 20, 2021	Aug. 18, 2022	Radiation (03CH15-HY)
Preamplifier	EMEC	EM18G40G	060715	18GHz~40GHz	Dec. 11, 2020	Sep. 17, 2021 ~ Sep. 20, 2021	Dec. 10, 2021	Radiation (03CH15-HY)
Spectrum Analyzer	Keysight	N9038A	MY54130085	20MHz~8.4GHz	Nov. 02, 2020	Sep. 17, 2021 ~ Sep. 20, 2021	Nov. 01, 2021	Radiation (03CH15-HY)
Spectrum Analyzer	Keysight	N9010A	MY54200485	10Hz~44GHz	Mar. 05, 2021	Sep. 17, 2021 ~ Sep. 20, 2021	Mar. 04, 2022	Radiation (03CH15-HY)
Antenna Mast	ChainTek	MBS-520-1	N/A	1m~4m	N/A	Sep. 17, 2021 ~ Sep. 20, 2021	N/A	Radiation (03CH15-HY)
Turn Table	ChainTek	T-200-S-1	N/A	0~360 Degree	N/A	Sep. 17, 2021 ~ Sep. 20, 2021	N/A	Radiation (03CH15-HY)
Software	Audix	E3 6.2009-8-24(k5)	RK-000451	N/A	N/A	Sep. 17, 2021 ~ Sep. 20, 2021	N/A	Radiation (03CH15-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104, 102E	MY36980/4, MY9838/4PE ,508405/2E	30MHz~18G	Nov. 16, 2020	Sep. 17, 2021 ~ Sep. 20, 2021	Nov. 15, 2021	Radiation (03CH15-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	505134/2	30MHz-40GHz	Feb. 22, 2021	Sep. 17, 2021 ~ Sep. 20, 2021	Feb. 21, 2022	Radiation (03CH15-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	800740/2	30MHz-40GHz	Feb. 22, 2021	Sep. 17, 2021 ~ Sep. 20, 2021	Feb. 21, 2022	Radiation (03CH15-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104	MY9837/4PE	9kHz~30MHz	Mar. 11, 2021	Sep. 17, 2021 ~ Sep. 20, 2021	Mar. 10, 2022	Radiation (03CH15-HY)
Filter	Wainwright	WLK4-1000-1530 -8000-40SS	SN12	1.53GHz Low Pass Filter	Sep. 14, 2021	Sep. 17, 2021 ~ Sep. 20, 2021	Sep. 13, 2022	Radiation (03CH15-HY)
Filter	Wainwright	WHKX12-935-10 00-15000-40ST	SN1	1GHz High Pass Filter	Apr. 29, 2021	Sep. 17, 2021 ~ Sep. 20, 2021	Apr. 28, 2022	Radiation (03CH15-HY)
Filter	Wainwright	WHKX12-2700-3 000-18000-60ST	SN4	3GHz High Pass Filter	Sep. 15, 2021	Sep. 17, 2021 ~ Sep. 20, 2021	Sep. 14, 2022	Radiation (03CH15-HY)
Signal Generator	Anritsu	MG3694C	163401	0.1Hz~40GHz	Jan. 31, 2021	Sep. 17, 2021 ~ Sep. 20, 2021	Jan. 30, 2022	Radiation (03CH15-HY)
Base Station (Measure)	Rohde & Schwarz	CMU200	117995	GSM / GPRS / WCDMA / CDMA	Jul. 13, 2021	Oct. 15, 2021	Jul. 12, 2022	Conducted (TH03-HY)



## 6 Uncertainty of Evaluation

### Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	2.98 dB
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### Uncertainty of Radiated Emission Measurement (1 GHz ~ 18 GHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	3.31 dB
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### Uncertainty of Radiated Emission Measurement (18 GHz ~ 40 GHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	3.91 dB
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## Appendix A. Test Results of Conducted Test

### Conducted Output Power(Average power) & ERP / EIRP

WCDMA Band V Maximum Average Power [dBm] (GT - LC = -0.21 dB)					
Channel	4132	4182	4233	ERP (dBm)	ERP (W)
Frequency	826.4	836.4	846.6		
RMC 12.2K	23.43	23.23	23.00	21.07	0.1279
HSDPA Subtest-1	22.42	22.23	21.84		
HSDPA Subtest-2	22.42	22.23	22.00		
HSDPA Subtest-3	21.91	21.75	21.50		
HSDPA Subtest-4	21.89	21.73	21.49		
HSUPA Subtest-1	21.70	21.64	21.51		
HSUPA Subtest-2	20.32	20.13	19.88		
HSUPA Subtest-3	20.80	20.68	20.50		
HSUPA Subtest-4	20.44	20.15	19.89		
HSUPA Subtest-5	22.44	22.23	22.00		
Limit	ERP < 7W			Result	Pass

WCDMA Band II Maximum Average Power [dBm] (GT - LC = 0.41 dB)					
Channel	9262	9400	9538	EIRP (dBm)	EIRP (W)
Frequency	1852.4	1880	1907.6		
RMC 12.2K	22.98	23.01	22.80	23.42	0.2198
HSDPA Subtest-1	22.00	22.03	21.81		
HSDPA Subtest-2	22.02	22.02	21.83		
HSDPA Subtest-3	21.51	21.53	21.34		
HSDPA Subtest-4	21.49	21.52	21.34		
HSUPA Subtest-1	21.57	21.61	21.56		
HSUPA Subtest-2	20.02	20.01	19.87		
HSUPA Subtest-3	20.87	20.89	20.80		
HSUPA Subtest-4	20.03	20.05	19.86		
HSUPA Subtest-5	22.04	22.03	21.87		
Limit	EIRP < 2W			Result	Pass

WCDMA Band VI Maximum Average Power [dBm] (GT - LC = -0.19 dB)					
Channel	1312	1413	1513	EIRP (dBm)	EIRP (W)
Frequency	1712.4	1732.6	1752.6		
RMC 12.2K	23.00	22.78	22.83	22.81	0.1910
HSDPA Subtest-1	22.01	21.79	21.81		
HSDPA Subtest-2	22.01	21.79	21.82		
HSDPA Subtest-3	21.53	21.28	21.31		
HSDPA Subtest-4	21.53	21.29	21.34		
HSUPA Subtest-1	21.71	21.51	21.53		
HSUPA Subtest-2	19.77	19.54	19.75		
HSUPA Subtest-3	20.67	20.52	20.58		
HSUPA Subtest-4	19.79	19.57	19.88		
HSUPA Subtest-5	22.04	21.82	21.88		
Limit	EIRP < 1W			Result	Pass



## Appendix B. Test Results of Radiated Test

### WCDMA 850

WCDMA 850									
Channel	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Lowest	1656	-54.38	-13	-41.38	-66.5	-59.73	1.84	9.34	H
	2480	-55.93	-13	-42.93	-72.59	-62.21	2.25	10.68	H
	3305	-60.15	-13	-47.15	-78.84	-67.71	2.63	12.34	H
									H
									H
	1648	-61.32	-13	-48.32	-73.84	-66.62	1.83	9.28	V
	2472	-53.98	-13	-40.98	-70.82	-60.21	2.25	10.63	V
	3305	-59.87	-13	-46.87	-78.96	-67.43	2.63	12.34	V
									V
									V
Middle	1672	-64.11	-13	-51.11	-76.35	-69.54	1.85	9.43	H
	2504	-58.29	-13	-45.29	-75.08	-64.68	2.26	10.80	H
	3345	-60.71	-13	-47.71	-79.29	-68.57	2.65	12.66	H
									H
									H
	1672	-62.05	-13	-49.05	-7476	-67.48	1.85	9.43	V
	2504	-58.48	-13	-45.48	-75.34	-64.87	2.26	10.80	V
	3345	-60.29	-13	-47.29	-79.26	-68.15	2.65	12.66	V
									V
									V
Highest	1696	-64.00	-13	-51.00	-76.43	-69.57	1.86	9.58	H
	2536	-56.93	-13	-43.93	-73.61	-63.30	2.28	10.80	H
	3386	-61.25	-13	-48.25	-79.72	-69.06	2.67	12.63	H
									H
									H
	1696	-53.86	-13	-40.86	-66.77	-59.43	1.86	9.58	V
	2536	-57.33	-13	-44.33	-74.27	-63.70	2.28	10.80	V
	3386	-60.99	-13	-47.99	-79.83	-68.80	2.67	12.63	V
									V
									V

**Remark:** Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

**WCDMA 1700**

WCDMA 1700									
Channel	Frequency ( MHz )	EIRP ( dBm )	Limit ( dBm )	Over Limit ( dB )	SPA Reading (dBm)	S.G. Power ( dBm )	TX Cable loss ( dB )	TX Antenna Gain (dBi)	Polarization (H/V)
Lowest	3424	-59.70	-13	-46.70	-79.21	-69.62	2.68	12.60	H
	5142	-47.49	-13	-34.49	-71.92	-56.64	3.32	12.47	H
	6849	-51.50	-13	-38.50	-79.73	-60.04	3.86	12.40	H
									H
									H
	3424	-59.31	-13	-46.31	-79.19	-69.23	2.68	12.60	V
	5142	-44.34	-13	-31.34	-69.32	-53.49	3.32	12.47	V
	6849	-50.85	-13	-37.85	-79.43	-59.39	3.86	12.40	V
									V
									V
Middle	3469	-55.99	-13	-42.99	-75.85	-65.81	2.71	12.52	H
	5198	-56.09	-13	-43.09	-80.7	-65.54	3.34	12.79	H
	6930	-50.31	-13	-37.31	-78.83	-58.42	3.89	12.00	H
									H
									H
	3469	-59.14	-13	-46.14	-79.37	-68.96	2.71	12.52	V
	5198	-46.22	-13	-33.22	-71.33	-55.67	3.34	12.79	V
	6930	-50.70	-13	-37.70	-79.31	-58.81	3.89	12.00	V
									V
									V
Highest	3505.2	-44.19	-13	-31.19	-64.31	-53.85	2.72	12.38	H
	5257.8	-35.42	-13	-22.42	-59.99	-45.29	3.36	13.23	H
	7010.4	-50.22	-13	-37.22	-79	-58.15	3.91	11.84	H
									H
									H
	3505.2	-45.23	-13	-32.23	-65.72	-54.89	2.72	12.38	V
	5555	-33.36	-13	-20.36	-58.32	-43.29	3.46	13.39	V
	7010.4	-50.16	-13	-37.16	-78.83	-58.09	3.91	11.84	V
									V
									V

**Remark:** Spurious emissions within 30-1000MHz were found more than 20dB below limit line.

**WCDMA 1900**

WCDMA 1900									
Channel	Frequency ( MHz )	EIRP ( dBm )	Limit ( dBm )	Over Limit ( dB )	SPA Reading (dBm)	S.G. Power ( dBm )	TX Cable loss ( dB )	TX Antenna Gain (dBi)	Polarization (H/V)
Lowest	3707	-56.35	-13	-43.35	-77.2	-65.99	2.77	12.41	H
	5562	-41.44	-13	-28.44	-66.33	-51.35	3.46	13.38	H
	7409	-50.22	-13	-37.22	-79.83	-57.40	3.98	11.16	H
									H
									H
	3707	-48.59	-13	-35.59	-69.84	-58.23	2.77	12.41	V
	5562	-41.45	-13	-28.45	-66.44	-51.36	3.46	13.38	V
	7409	-49.82	-13	-36.82	-79.89	-57.00	3.98	11.16	V
									V
									V
Middle	3763	-53.00	-13	-40.00	-74.09	-62.69	2.78	12.47	H
	5646	-42.74	-13	-29.74	-67.77	-52.74	3.49	13.48	H
	7520	-49.84	-13	-36.84	-79.32	-57.03	4.01	11.20	H
									H
									H
	3763	-47.26	-13	-34.26	-68.74	-56.95	2.78	12.47	V
	5646	-36.18	-13	-23.18	-61.44	-46.18	3.49	13.48	V
	7520	-49.91	-13	-36.91	-79.78	-57.10	4.01	11.20	V
									V
									V
Highest	3819	-56.97	-13	-43.97	-78.22	-66.54	2.80	12.36	H
	5723	-37.73	-13	-24.73	-63.23	-47.63	3.50	13.40	H
	7630	-50.53	-13	-37.53	-79.61	-57.94	4.05	11.46	H
									H
									H
	3819	-46.03	-13	-33.03	-67.67	-55.60	2.80	12.36	V
	5723	-37.79	-13	-24.79	-63.52	-47.69	3.50	13.40	V
	7630	-49.90	-13	-36.90	-79.52	-57.31	4.05	11.46	V
									V
									V

**Remark:** Spurious emissions within 30-1000MHz were found more than 20dB below limit line.