



# FCC RADIO TEST REPORT

**FCC ID** : ACJFZS1A20A  
**Equipment** : Radio module  
**Brand Name** : Panasonic  
**Model Name** : WW18A  
**Marketing Name** : WW18A  
**Applicant** : Panasonic Corporation of North America  
Two Riverfront Plaza, 9th Floor, Newark, NJ  
07102-5490  
**Manufacturer** : Panasonic Mobile Communications Co., Ltd.  
600 Saedo-cho, Tsuzuki-ku, Yokohama-city,  
Kanagawa 224-8539, Japan  
**Standard** : FCC 47 CFR Part 2, and 90(S)

The product was received on Dec. 08, 2020 and testing was started from Dec. 11, 2020 and completed on Dec. 17, 2020. 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 variant 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.

*Louis Wu*

Approved by: Louis Wu

**SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory**

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



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## History of this test report

Report No.	Version	Description	Issued Date
FG0D1135-01D	01	Initial issue of report	Dec. 28, 2020
FG0D1135-01D	02	1. Revise Accessories Information for Host 2. Revise Antenna gain 3. Update Conducted power and ERP	Jan. 07, 2021
FG0D1135-01D	03	Add remark in section 2.1	Jan. 13, 2021

## Summary of Test Result

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
3.2	§2.1046 §90.635	Conducted Output Power and Effective Radiated Power	Pass	-
-	-	Peak-to-Average Ratio	Not Required	-
-	§2.1049 §90.209	Occupied Bandwidth and 26dB Bandwidth	Not Required	-
-	§2.1051 §90.691	Emission masks – In-band emissions	Not Required	-
-	§2.1051 §90.691	Emission masks – Out of band emissions	Not Required	-
-	§2.1055 §90.213	Frequency Stability for Temperature & Voltage	Not Required	-
3.3	§2.1053 §90.691	Field Strength of Spurious Radiation	Pass	Under limit 23.02 dB at 2457.000 MHz

**Note:**

1. Not required means after assessing, test items are not necessary to carry out.
2. This is a variant report by adding External antenna for Vehicle dock. All the test cases were performed on original report which can be referred to Sporton Report Number FG0D1135D. Based on the original report, the test cases were verified.

**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: Wii Chang**

**Report Producer: Tina Chuang**

# 1 General Description

## 1.1 Feature of Equipment Under Test

WCDMA, LTE and GNSS.

Product Specification subjective to this standard	
Host 1	FZ-S1
Host 2	FZ-S1 with 2nd USB
Host 3	FZ-S1 with BCR Landscape and 2nd USB
Host 4	FZ-S1 with BCR Portrait
Host 5	FZ-S1 with BCR Landscape
Integrated the Host	Equipment Name: Tablet Computer Brand Name: Panasonic Model Name: FZ-S1 Marketing Name: FZ-S1 FCC ID: ACJFZS1A
Antenna Type for Host	WWAN: Loop Antenna / External Antenna GNSS : PIFA Antenna / External Antenna
Antenna Gain for Host	<Loop Antenna> LTE Band 26: 1.06 dBi <External Antenna> LTE Band 26: -0.05 dBi

### Remark:

1. The above EUT's information was declared by manufacturer. Please refer to Comments and Explanations in report summary.
2. The device (Model: FZ-S1) has two SKU (w connector for Vehicle dock and w/o connector), all test items were performed with SKU (w connector for Vehicle dock).

Accessories Information for Host		
AC Adapter	Brand Name	Panasonic
	Model Name	FZ-AAE184EM
Standard Battery	Brand Name	Panasonic
	Model Name	FZ-VZSUT10U
Extend Battery	Brand Name	Panasonic
	Model Name	FZ-VZSUT11U
Dual pass Antenna (External Antenna for Vehicle dock)	Brand Name	Airgain
	Model Name	AP-PAN-MMF-C-Q-BL
Vehicle dock	Brand Name	Gamber-Johnson LLC
	Model Name	7160-1314-02

## 1.2 Modification of EUT

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

### 1.3 Testing Site

<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, Taiwan (R.O.C.) TEL: +886-3-327-3456 FAX: +886-3-328-4978
<b>Test Site No.</b>	<b>Sporton Site No.</b> TH05-HY
<b>Test Engineer</b>	George Chen
<b>Temperature</b>	21~25°C
<b>Relative Humidity</b>	51~54%

<b>Test Site</b>	SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory
<b>Test Site Location</b>	No.58, Aly. 75, Ln. 564, Wenhua 3rd, Rd., Guishan Dist., Taoyuan City, 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
<b>Test Engineer</b>	Leo Lee, Mancy Chou, Bigshow Wang
<b>Temperature</b>	22.7~23.2°C
<b>Relative Humidity</b>	49~53%

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

FCC Designation No.: TW1190 and TW0007



## 1.4 Applied Standards

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

- ♦ FCC 47 CFR Part 2, 90
- ♦ ANSI / TIA-603-E
- ♦ ANSI C63.26-2015
- ♦ 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
- ♦ Interim Guidance for Equipment Authorization of Devices with Channel Bandwidths Combined Across Two Contiguous Service Rule Allocations OET/Lab/EACB, June 6, 2013

**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

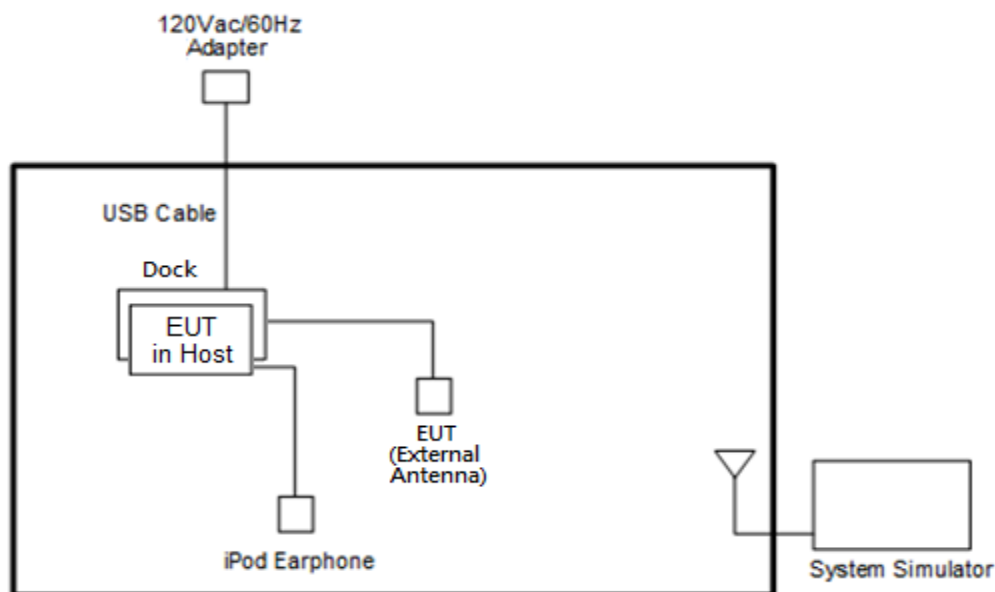
During all testing, EUT is in link mode with base station emulator at maximum power level.

For radiated measurement, pre-scanned in two Ant. degrees (0 or 90). The worst cases (Degree 90) were recorded in this report.

Frequency range investigated for radiated emission is 30 MHz to 9000 MHz.

Conducted Test Cases	Band	Bandwidth (MHz)						Modulation			RB #			Test Channel		
		1.4	3	5	10	15	20	QPSK	16QAM	64QAM	1	Half	Full	L	M	H
Max. Output Power	26	V	V	V	V	V	-	V	V	V	V	V	V	V	V	V
E.R.P.	26					V	-	V	V	V	V			V		
Radiated Spurious Emission	26	Worst Case												V	V	V
Remark	1. The mark “v ” means that this configuration is chosen for testing 2. The mark “-” means that this bandwidth is not supported. 3. LTE Band26 transmit frequency for part22 rule is 824MHz-849MHz, for part90 rule is 814MHz-824MHz. ERP over 15MHz bandwidth complies the ERP limit line of part22 rule, therefore ERP of the partial frequency spectrum which falls within part 22 also complies. 4. All the radiated test cases were performed with Host 1, External Antenna and Standard Battery 5. Output power has been confirmed to be within the tune up range and any +/-1dBm deviation from the original reported may be considered as measurement uncertainty.															

### 2.2 Connection Diagram of Test System







## 2.3 Support Unit used in test configuration and system

Item	Equipment	Brand Name	Model No.	FCC ID	Data Cable	Power Cord
1.	System Simulator	Anritsu	MT8820C	N/A	N/A	Unshielded, 1.8 m
2.	iPod Earphone	Apple	N/A	Verification	Unshielded, 1.0 m	N/A
3.	Type-C USB Cable	LUXSHARE PRECISION LIMITED	L2UU3001-CS-R	N/A	Unshielded, 1.0 m	N/A

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

LTE Band 26 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
15	Channel	26765	-	-
	Frequency	821.5	-	-
10	Channel	-	26740	-
	Frequency	-	819	-
5	Channel	26715	26740	26765
	Frequency	816.5	819	821.5
3	Channel	26705	26740	26775
	Frequency	815.5	819	822.5
1.4	Channel	26697	26740	26783
	Frequency	814.7	819	823.3

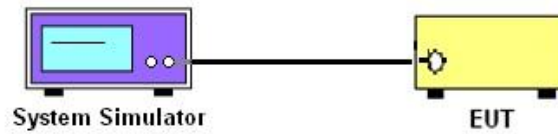
### 3 Conducted Test Items

#### 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 Measurement and ERP Measurement

### 3.2.1 Description of the Conducted Output Power Measurement and ERP Measurement

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 LTE Band 26.

According to KDB 412172 D01 Power Approach,

$EIRP = P_T + G_T - L_C$ , 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 lowest, middle, and highest channels for each band and different modulation.
4. Measure and record the power level from the system simulator.

### 3.3 Field Strength of Spurious Radiation Measurement

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

The radiated spurious emission was measured by substitution method according to ANSI / TIA-603-E. The power of any emission FCC Part 90.691 on any frequency removed from the assigned frequency by more than 250 percent of the authorized bandwidth at least  $43 + 10 \log (P)$  dB. The spectrum is scanned from 30 MHz up to a frequency including its 10th harmonic.

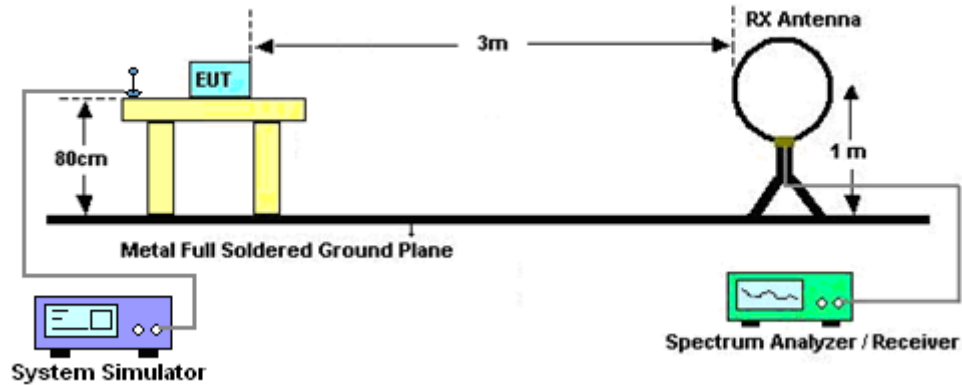
The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitter power (P) by a factor of at least  $43 + 10 \log_{10}(P[\text{Watts}])$  dB. The spectrum is scanned from 30 MHz up to a frequency including its 10th harmonic.

#### 3.3.2 Test Procedures

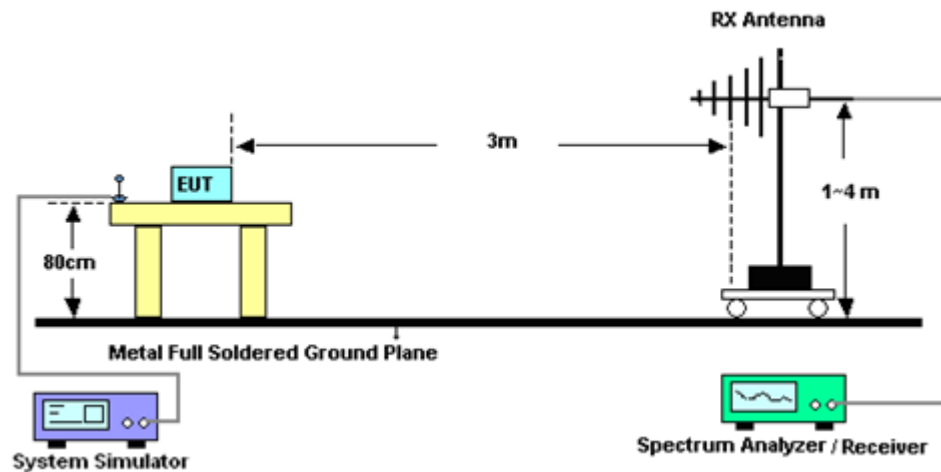
1. The EUT was placed on a turntable with 0.8 meter for frequency below 1GHz and 1.5 meter for frequency above 1GHz respectively above ground.
2. The EUT was set 3 meters from the receiving antenna, which was mounted on the antenna tower.
3. The table was rotated 360 degrees to determine the position of the highest spurious emission.
4. The height of the receiving antenna is varied between one meter and four meters to search the maximum spurious emission for both horizontal and vertical polarizations.
5. For testing below 1GHz, make the measurement with the spectrum analyzer's RBW = 100 kHz, VBW = 3MHz, Sweep = 500ms, Taking the record of maximum spurious emission.
6. For testing above 1GHz, make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 3MHz, Sweep = 500ms, Taking the record of maximum spurious emission.
7. A horn antenna was substituted in place of the EUT and was driven by a signal generator.
8. Tune the output power of signal generator to the same emission level with EUT maximum spurious emission.
9. Taking the record of output power at antenna port.
10. Repeat step 7 to step 8 for another polarization.
11.  $\text{EIRP (dBm)} = \text{S.G. Power} - \text{Tx Cable Loss} + \text{Tx Antenna Gain}$
12.  $\text{ERP (dBm)} = \text{EIRP} - 2.15$
13. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
14. The limit line is derived from  $43 + 10 \log(P)$  dB below the transmitter power P(Watts)

### 3.3.3 Test Setup

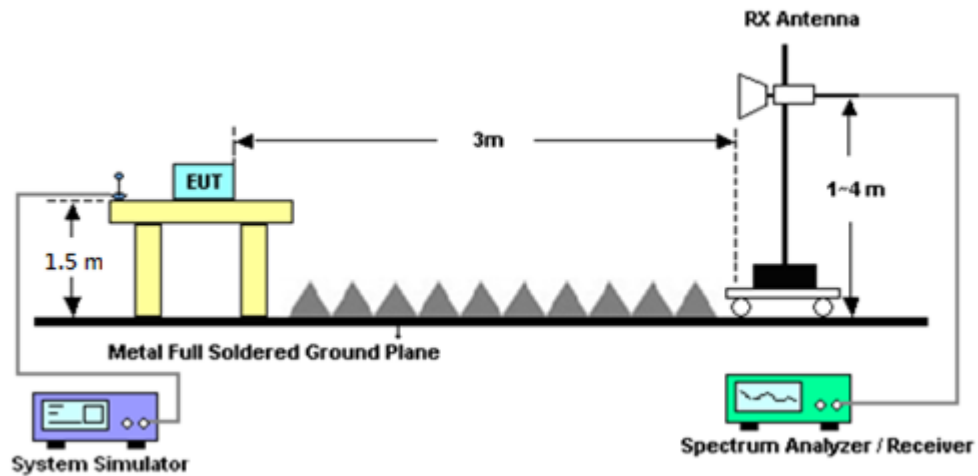
For radiated test below 30MHz



For radiated test from 30MHz to 1GHz



For radiated test above 1GHz



### 3.3.4 Test Result of Field Strength of Spurious Radiated

Please refer to Appendix B.

**Note:**

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

There is a comparison data 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 List of Measuring Equipment

Instrument	Brand Name	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
LTE Base Station	Anritsu	MT8821C	6262116725	-	Sep. 09, 2020	Dec. 16, 2020	Sep. 08, 2021	Conducted (TH05-HY)
Bilog Antenna	TESEQ	CBL 6111D & 00800N1D01N-06	37059 & 01	30MHz~1GHz	Oct. 11, 2020	Dec. 11, 2020~Dec. 17, 2020	Oct. 10, 2021	Radiation (03CH15-HY)
Bilog Antenna	TESEQ	CBL6111D&00800N1D01N-06	41912&05	30MHz to 1GHz	Feb. 09, 2020	Dec. 11, 2020~Dec. 17, 2020	Feb. 08, 2021	Radiation (03CH15-HY)
Amplifier	SONOMA	310N	363440	9kHz~1GHz	Dec. 27, 2019	Dec. 11, 2020~Dec. 17, 2020	Dec. 26, 2020	Radiation (03CH15-HY)
Horn Antenna	SCHWARZBECK	BBHA 9120 D	9120D-02114	1-18GHz	Aug. 04, 2020	Dec. 11, 2020~Dec. 17, 2020	Aug. 03, 2021	Radiation (03CH15-HY)
Horn Antenna	SCHWARZBECK	BBHA 9120 D	9120D-1326	1GHz~18GHz	Nov. 03, 2020	Dec. 11, 2020~Dec. 17, 2020	Nov. 02, 2021	Radiation (03CH15-HY)
Preamplifier	Jet-Power	JPA0118-55-303	1710001800055006	1GHz~18GHz	May 07, 2020	Dec. 11, 2020~Dec. 17, 2020	May 06, 2021	Radiation (03CH15-HY)
Preamplifier	Keysight	83017A	MY53270195	1GHz~26.5GHz	Aug. 21, 2020	Dec. 11, 2020~Dec. 17, 2020	Aug. 20, 2021	Radiation (03CH15-HY)
Spectrum Analyzer	Keysight	N9010A	MY54200485	10Hz~44GHz	Feb. 10, 2020	Dec. 11, 2020~Dec. 17, 2020	Feb. 09, 2021	Radiation (03CH15-HY)
Spectrum Analyzer	Agilent	E4446A	MY50180136	3Hz~44GHz	May 04, 2020	Dec. 11, 2020~Dec. 17, 2020	May 03, 2021	Radiation (03CH15-HY)
Antenna Mast	ChainTek	MBS-520-1	N/A	1m~4m	N/A	Dec. 11, 2020~Dec. 17, 2020	N/A	Radiation (03CH15-HY)
Turn Table	ChainTek	T-200-S-1	N/A	0~360 Degree	N/A	Dec. 11, 2020~Dec. 17, 2020	N/A	Radiation (03CH15-HY)
Software	Audix	E3 6.2009-8-24(k5)	RK-000451	N/A	N/A	Dec. 11, 2020~Dec. 17, 2020	N/A	Radiation (03CH15-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104, 102E	MY36980/4, MY9838/4PE, 508405/2E	30MHz~18G	Nov. 16, 2020	Dec. 11, 2020~Dec. 17, 2020	Nov. 15, 2021	Radiation (03CH15-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	505134/2	30MHz-40GHz	Feb. 25, 2020	Dec. 11, 2020~Dec. 17, 2020	Feb. 24, 2021	Radiation (03CH15-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	800740/2	30MHz-40GHz	Feb. 25, 2020	Dec. 11, 2020~Dec. 17, 2020	Feb. 24, 2021	Radiation (03CH15-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104	MY9837/4PE	9kHz~30MHz	Mar. 12, 2020	Dec. 11, 2020~Dec. 17, 2020	Mar. 11, 2021	Radiation (03CH15-HY)
Filter	Wainwright	WLK4-1000-1530-8000-40SS	SN4	1.53G Low Pass	Jul. 03, 2020	Dec. 11, 2020~Dec. 17, 2020	Jul. 02, 2021	Radiation (03CH15-HY)
Filter	Wainwright	WHKX12-1080-1200-15000-60ST	SN5	1.2GHz High Pass Filter	Jul. 01, 2020	Dec. 11, 2020~Dec. 17, 2020	Jun. 30, 2021	Radiation (03CH15-HY)
Filter	Wainwright	WHKX12-2700-3000-18000-60ST	SN4	3GHz High Pass Filter	Sep. 16, 2020	Dec. 11, 2020~Dec. 17, 2020	Sep. 15, 2021	Radiation (03CH15-HY)
Signal Generator	Anritsu	MG3694C	163401	0.1Hz~40GHz	Feb. 15, 2020	Dec. 11, 2020~Dec. 17, 2020	Feb. 14, 2021	Radiation (03CH15-HY)

## 5 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
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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
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## Appendix A. Test Results of Conducted Test

### Conducted Output Power(Average power)

LTE Band 26 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
15	1	0	QPSK	<b>22.97</b>	-	-
15	1	37		22.91	-	-
15	1	74		22.82	-	-
15	36	0		22.00	-	-
15	36	20		21.93	-	-
15	36	39		21.87	-	-
15	75	0		21.91	-	-
15	1	0	16-QAM	22.18	-	-
15	1	37		22.22	-	-
15	1	74		22.16	-	-
15	36	0		21.02	-	-
15	36	20		20.99	-	-
15	36	39		20.82	-	-
15	75	0		20.91	-	-
15	1	0	64-QAM	21.18	-	-
15	1	37		21.19	-	-
15	1	74		20.98	-	-
15	36	0		20.02	-	-
15	36	20		19.97	-	-
15	36	39		19.90	-	-
15	75	0		19.92	-	-
10	1	0	QPSK	-	22.86	-
10	1	25		-	22.89	-
10	1	49		-	22.82	-
10	25	0		-	21.82	-
10	25	12		-	21.88	-
10	25	25		-	21.86	-
10	50	0		-	21.87	-
10	1	0	16-QAM	-	22.12	-
10	1	25		-	22.21	-
10	1	49		-	21.94	-
10	25	0		-	20.83	-
10	25	12		-	20.96	-
10	25	25		-	20.83	-
10	50	0		-	20.90	-
10	1	0	64-QAM	-	21.06	-
10	1	25		-	21.11	-
10	1	49		-	20.95	-
10	25	0		-	19.83	-
10	25	12		-	19.93	-
10	25	25		-	19.85	-
10	50	0		-	19.91	-



LTE Band 26 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	22.82	22.90	22.85
5	1	12		22.73	22.81	22.68
5	1	24		22.80	22.73	22.70
5	12	0		21.78	21.85	21.81
5	12	7		21.84	21.83	21.76
5	12	13		21.81	21.78	21.75
5	25	0		21.85	21.81	21.80
5	1	0	16-QAM	22.05	21.98	22.01
5	1	12		22.05	22.10	21.92
5	1	24		22.07	22.03	22.07
5	12	0		20.84	20.88	20.82
5	12	7		20.86	20.89	20.79
5	12	13		20.87	20.78	20.75
5	25	0		20.83	20.85	20.81
5	1	0	64-QAM	21.14	21.01	20.95
5	1	12		21.22	20.99	21.01
5	1	24		20.97	21.02	20.92
5	12	0		19.83	19.89	19.74
5	12	7		19.91	19.82	19.79
5	12	13		19.88	19.78	19.84
5	25	0		19.86	19.77	19.80
3	1	0	QPSK	22.89	22.89	22.72
3	1	8		22.94	22.94	22.76
3	1	14		22.93	22.82	22.59
3	8	0		21.83	21.82	21.76
3	8	4		21.86	21.85	21.72
3	8	7		21.90	21.78	21.68
3	15	0		21.77	21.82	21.69
3	1	0	16-QAM	22.04	22.04	21.92
3	1	8		22.25	22.20	22.03
3	1	14		22.14	21.96	21.97
3	8	0		20.89	20.85	20.83
3	8	4		20.90	20.92	20.78
3	8	7		20.97	20.79	20.77
3	15	0		20.89	20.80	20.73
3	1	0	64-QAM	21.11	21.00	20.90
3	1	8		21.20	21.08	21.02
3	1	14		21.06	20.82	20.82
3	8	0		19.90	19.86	19.79
3	8	4		19.82	19.83	19.79
3	8	7		19.97	19.76	19.77
3	15	0		19.80	19.80	19.71



LTE Band 26 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
1.4	1	0	QPSK	22.77	22.72	22.59
1.4	1	3		22.80	22.72	22.72
1.4	1	5		22.75	22.68	22.55
1.4	3	0		22.83	22.80	22.66
1.4	3	1		22.84	22.80	22.72
1.4	3	3		22.86	22.81	22.69
1.4	6	0		21.75	21.71	21.65
1.4	1	0	16-QAM	22.07	21.99	21.86
1.4	1	3		22.17	21.88	21.86
1.4	1	5		22.05	21.88	21.94
1.4	3	0		21.83	21.75	21.68
1.4	3	1		21.81	21.82	21.73
1.4	3	3		21.86	21.81	21.64
1.4	6	0		20.85	20.80	20.69
1.4	1	0	64-QAM	21.07	21.04	20.86
1.4	1	3		21.04	21.13	20.97
1.4	1	5		21.03	20.85	20.82
1.4	3	0		20.92	20.80	20.69
1.4	3	1		20.95	20.92	20.82
1.4	3	3		20.90	20.86	20.78
1.4	6	0		19.74	19.66	19.70

**Appendix B. Test Results of ERP and Radiated Test****ERP****<Reporting Only>**

LTE Band 26 / 15MHz (Channel 26765) (GT - LC = -0.05 dB)							
Channel	Mode	RB		Conducted		ERP	
		Size	Offset	Power (dBm)	Power (Watts)	ERP(dBm)	ERP(W)
Lowest	QPSK	1	0	22.97	0.1982	20.77	0.1194
Middle		-	-	-	-	-	-
Highest		-	-	-	-	-	-
Lowest	16QAM	1	37	22.22	0.1667	20.02	0.1005
Middle		-	-	-	-	-	-
Highest		-	-	-	-	-	-
Lowest	64QAM	1	37	21.19	0.1315	18.99	0.0793
Middle		-	-	-	-	-	-
Highest		-	-	-	-	-	-
Limit	ERP < 7W			Result		PASS	

**Radiated Spurious Emission****LTE Band 26**

LTE Band 26 / 5MHz / QPSK									
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	1632	-52.42	-13	-39.42	-64.27	-57.60	1.82	9.16	H
	2448	-37.21	-13	-24.21	-53.6	-43.32	2.24	10.49	H
	3266	-46.85	-13	-33.85	-65.63	-54.26	2.61	12.16	H
									H
									H
	1632	-51.54	-13	-38.54	-63.85	-56.72	1.82	9.16	V
	2448	-37.24	-13	-24.24	-54.02	-43.35	2.24	10.49	V
	3266	-46.62	-13	-33.62	-65.81	-54.03	2.61	12.16	V
									V
									V
Middle	1638	-52.34	-13	-39.34	-64.23	-57.57	1.83	9.20	H
	2457	-36.02	-13	-23.02	-52.47	-42.17	2.24	10.54	H
	3276	-47.60	-13	-34.60	-66.35	-55.04	2.61	12.20	H
									H
									H
	1638	-52.52	-13	-39.52	-64.88	-57.75	1.83	9.20	V
	2457	-37.05	-13	-24.05	-53.84	-43.20	2.24	10.54	V
	3276	-46.86	-13	-33.86	-66.02	-54.30	2.61	12.20	V
									V
									V



Highest	1643	-52.30	-13	-39.30	-64.23	-57.56	1.83	9.24	H
	2464	-37.87	-13	-24.87	-54.38	-44.06	2.24	10.58	H
	3286	-47.10	-13	-34.10	-65.82	-54.58	2.62	12.24	H
									H
									H
	1643	-52.16	-13	-39.16	-64.55	-57.42	1.83	9.24	V
	2464	-36.64	-13	-23.64	-53.43	-42.83	2.24	10.58	V
	3286	-47.82	-13	-34.82	-66.96	-55.30	2.62	12.24	V
									V
									V

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



LTE Band 26 / 10MHz / QPSK									
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)
Middle	1648	-52.75	-13	-39.75	-64.7	-58.05	1.83	9.28	H
	2472	-37.42	-13	-24.42	-54	-43.65	2.25	10.63	H
	3293	-48.25	-13	-35.25	-66.96	-55.75	2.62	12.27	H
									H
									H
	1648	-51.57	-13	-38.57	-64	-56.87	1.83	9.28	V
	2472	-36.97	-13	-23.97	-53.78	-43.20	2.25	10.63	V
	3293	-47.68	-13	-34.68	-66.8	-55.18	2.62	12.27	V
									V
									V

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



LTE Band 26 / 15MHz / QPSK									
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	1643	-52.61	-13	-39.61	-64.54	-57.87	1.83	9.24	H
	2464	-36.63	-13	-23.63	-53.14	-42.82	2.24	10.58	H
	3286	-47.93	-13	-34.93	-66.65	-55.41	2.62	12.24	H
									H
									H
	1643	-52.29	-13	-39.29	-64.65	-57.55	1.83	9.24	V
	2464	-37.28	-13	-24.28	-57.07	-43.47	2.24	10.58	V
	3286	-47.11	-13	-34.11	-66.25	-54.59	2.62	12.24	V
									V
									V

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