FCC Test Report
(Part 90 Subpart S)

Report No.:	RF171206E01D-3
FCC ID:	O9YJKS6
Test Model:	JKS6A
Serial Model:	JKS6B, JKS6C, JKS6D, ATS100-YZ-S, ATS100-Y-S, ATS100-Z-S, ATS100-S
Received Date:	Feb. 18, 2019
Test Date:	Feb. 27 ~ Mar. 18, 2019
Issued Date:	Mar. 26, 2019
Applicant:	Spireon Inc.
Address:	9724 Kingstone Pike, suite 800, Knoxville, Tennessee, USA, 37922
Issued By:	Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch
Lab Address:	No. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan (R.O.C.)
Test Location:	No. 19, Hwa Ya 2nd Rd., Wen Hwa Vil., Kwei Shan Dist., Taoyuan City 33383, TAIWAN (R.O.C.)
FCC Registration / Designation Number:	788550 / TW0003

This report is for your exclusive use. Any copying or replication of this report to or for any other person or entity, or use of our name or trademark, is permitted only with our prior written permission. This report sets forth our findings solely with respect to the test samples identified herein. The results set forth in this report are not indicative or representative of the quality or characteristics of the lot from which a test sample was taken or any similar or identical product specifically and expressly noted. Our report includes all of the tests requested by you and the results thereof based upon the information that you provided to us. You have 60 days from date of issuance of this report to notify us of any material error or omission caused by our negligence, provided, however, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents. Unless specific mention, the uncertainty of measurement has been explicitly taken into account to declare the compliance or non-compliance to the specification.
The report must not be used by the client to claim product certification, approval, or endorsement by TAF or any government agencies

Table of Contents

Release Control Record **3**

1 Certificate of Conformity **4**

2 Summary of Test Results **5**

2.1 Measurement Uncertainty 5
2.2 Test Site and Instruments 6

3 General Information **7**

3.1 General Description of EUT 7
3.2 Configuration of System under Test 9
3.2.1 Description of Support Units 9
3.3 Test Mode Applicability and Tested Channel Detail 10
3.4 EUT Operating Conditions 11
3.5 General Description of Applied Standards 11

4 Test Types and Results **12**

4.1 Output Power Measurement 12
4.1.1 Limits of Output Power Measurement 12
4.1.2 Test Procedures 12
4.1.3 Test Setup 13
4.1.4 Test Results 14
4.2 Frequency Stability Measurement 21
4.2.1 Limits of Frequency Stability Measurement 21
4.2.2 Test Procedure 21
4.2.3 Test Setup 21
4.2.4 Test Results 21
4.3 Occupied Bandwidth Measurement 22
4.3.1 Test Procedure 22
4.3.2 Test Setup 22
4.3.3 Test Result 22
4.4 Emission Mask Measurement 23
4.4.1 Limits of Emission Mask Measurement 23
4.4.2 Test Setup 23
4.4.3 Test Procedures 23
4.4.4 Test Results 23
4.5 Conducted Spurious Emissions 24
4.5.1 Limits of Conducted Spurious Emissions Measurement 24
4.5.2 Test Setup 24
4.5.3 Test Procedure 24
4.5.4 Test Results 24
4.6 Radiated Emission Measurement 25
4.6.1 Limits of Radiated Emission Measurement 25
4.6.2 Test Procedure 25
4.6.3 Deviation from Test Standard 25
4.6.4 Test Setup 26
4.6.5 Test Results 27

5 Pictures of Test Arrangements **37**

Appendix – Information of the Testing Laboratories **38**

Release Control Record

Issue No.	Description	Date Issued
RF171206E01D-3	Original release	Mar. 26, 2019

1 Certificate of Conformity

Product: GPS Tracker

Brand: Spireon

Test Model: JKS6A

Serial Model: JKS6B, JKS6C, JKS6D, ATS100-YZ-S, ATS100-Y-S, ATS100-Z-S, ATS100-S

Sample Status: Engineering sample

Applicant: Spireon Inc.

Test Date: Feb. 27 ~ Mar. 18, 2019

Standards: FCC Part 90, Subpart S
FCC Part 2

The above equipment has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's RF characteristics under the conditions specified in this report.

Prepared by : _____ , **Date:** Mar. 26, 2019
Polly Chien / Specialist

Approved by : _____ , **Date:** Mar. 26, 2019
Bruce Chen / Project Engineer

2 Summary of Test Results

Applied Standard: FCC Part 90 & Part 2			
FCC Clause	Test Item	Result	Remarks
2.1046 90.635(b)	Maximum Peak Output Power Limit: max. 100 watts e.r.p peak power	Pass	Meet the requirement of limit.
2.1055 90.213	Frequency Stability	Pass	Meet the requirement of limit. (Note 1)
2.1049 90.209	Occupied Bandwidth	Pass	Meet the requirement of limit. (Note 1)
2.1051 90.691	Emission Masks	Pass	Meet the requirement of limit. (Note 1)
2.1051 90.691	Conducted Spurious Emissions	Pass	Meet the requirement of limit. (Note 1)
2.1053 90.691	Radiated Spurious Emissions	Pass	Meet the requirement of limit. Minimum passing margin is -39.5dB at 100.81MHz.

Note:

1. According to on KDB 996369 D02 Module Q and A v01 of Q1 requirements, test results relevant test reports from an original module filing (Brand: Wistron NeWeb Corporation, Model: M14Q2SG, FCC ID: NKRM14Q2SG).
2. Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

2.1 Measurement Uncertainty

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

Measurement	Frequency	Expanded Uncertainty (k=2) (±)
Radiated Emissions up to 1 GHz	9kHz ~ 30MHz	3.04 dB
	30MHz ~ 200MHz	3.59 dB
	200MHz ~1000MHz	3.60 dB
Radiated Emissions above 1 GHz	1GHz ~ 18GHz	2.29 dB
	18GHz ~ 40GHz	2.29 dB

2.2 Test Site and Instruments

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
Test Receiver KEYSIGHT	N9038A	MY55420137	Apr. 11, 2018	Apr. 10, 2019
Spectrum Analyzer ROHDE & SCHWARZ	FSP40	100269	May 29, 2018	May 28, 2019
BILOG Antenna SCHWARZBECK	VULB9168	9168-160	Nov. 21, 2018	Nov. 20, 2019
HORN Antenna SCHWARZBECK	BBHA 9120 D	9120D-1169	Nov. 25, 2018	Nov. 24, 2019
HORN Antenna SCHWARZBECK	BBHA 9170	BBHA9170241	Nov. 25, 2018	Nov. 24, 2019
Loop Antenna TESEQ	HLA 6121	45745	Jun. 14, 2018	Jun. 13, 2019
Preamplifier Agilent (Below 1GHz)	8447D	2944A10638	Aug. 08, 2018	Aug. 07, 2019
Preamplifier Agilent (Above 1GHz)	8449B	3008A02367	Feb. 19, 2019	Feb. 18, 2020
RF signal cable HUBER+SUHNER&EMCI	SUCOFLEX 104 & EMC104-SM-SM8000	CABLE-CH9-02 (248780+171006)	Jan. 19, 2019	Jan. 18, 2020
RF signal cable HUBER+SUHNER	SUCOFLEX 104	CABLE-CH9-(250795/4)	Aug. 08, 2018	Aug. 07, 2019
RF signal cable Woken	8D-FB	Cable-CH9-01	Jul. 31, 2018	Jul. 30, 2019
Software BV ADT	ADT_Radiated_ V7.6.15.9.5	NA	NA	NA
Antenna Tower EMCO	2070/2080	512.835.4684	NA	NA
Turn Table EMCO	2087-2.03	NA	NA	NA
Antenna Tower &Turn BV ADT	AT100	AT93021705	NA	NA
Turn Table BV ADT	TT100	TT93021705	NA	NA
Turn Table Controller BV ADT	SC100	SC93021705	NA	NA
Boresight Antenna Fixture	FBA-01	FBA-SIP01	NA	NA
Pre-amplifier (18GHz-40GHz) EMC	EMC184045B	980175	Nov. 14, 2018	Nov. 13, 2019
WIT Standard Temperature And Humidity Chamber	TH-4S-C	W981030	Jun. 04, 2018	Jun. 03, 2019
JFW 20dB attenuation	50HF-020-SMA	NA	NA	NA

Note:
1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in HwaYa Chamber 9.
3. The FCC Designation Number is TW0003. The number will be varied with the Lab location and scope as attached.
4. The IC Site Registration No. is 7450F-9.

3 General Information

3.1 General Description of EUT

Product	GPS Tracker		
Brand	Spireon		
Test Model	JKS6A		
Serial Model	JKS6B, JKS6C, JKS6D, ATS100-YZ-S, ATS100-Y-S, ATS100-Z-S, ATS100-S		
Model Difference	Refer to note for more details		
Sample Status	Engineering sample		
Power Supply Rating	3.7 Vdc (Battery) 12 Vdc (Adapter)		
Modulation Type	LTE: QPSK, 16QAM		
Operating Frequency	LTE Band 26 (Channel Bandwidth 1.4MHz)	814.7~823.3MHz	
	LTE Band 26 (Channel Bandwidth 3MHz)	815.5~822.5MHz	
	LTE Band 26 (Channel Bandwidth 5MHz)	816.5~821.5MHz	
	LTE Band 26 (Channel Bandwidth 10MHz)	819.0MHz	
Max. EIRP Power		QPSK	16QAM
	LTE Band 26 (Channel Bandwidth 1.4MHz)	263.027mW (24.2dBm)	218.776mW (23.4dBm)
	LTE Band 26 (Channel Bandwidth 3MHz)	263.027mW (24.2dBm)	204.174mW (23.1dBm)
	LTE Band 26 (Channel Bandwidth 5MHz)	257.040mW (24.1dBm)	218.776mW (23.4dBm)
	LTE Band 26 (Channel Bandwidth 10MHz)	257.040mW (24.1dBm)	218.776mW (23.4dBm)
Antenna Type	Refer to Note as below		
Antenna Connector	Refer to Note as below		
Accessory Device	Refer to Note as below		
Cable Supplied	NA		

Note:

1. All models are listed as below. Model JKS6A is the representative for final test.

Brand	Model	Different
Spireon	ATS100-YZ-S	w/ battery, w/ buzzer
	JKS6A	
	ATS100-Y-S	w/ battery, w/o buzzer
	JKS6B	
	ATS100-Z-S	w/o battery, w/ buzzer
	JKS6C	
	ATS100-S	w/o battery, w/o buzzer
	JKS6D	

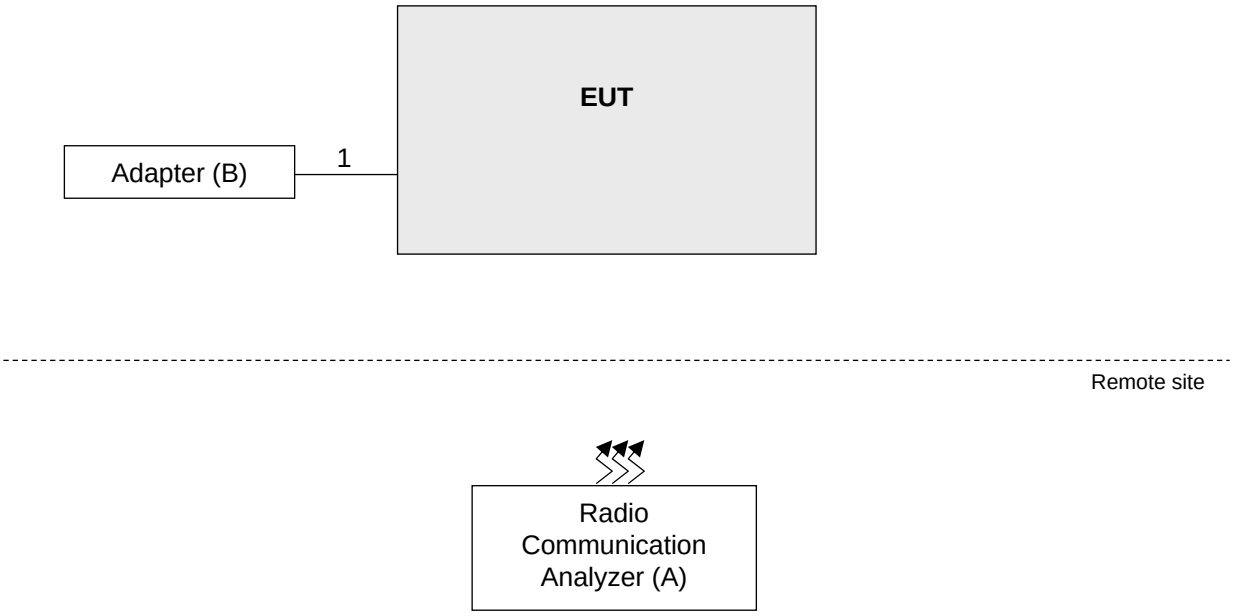
2. The EUT uses following adapter. (For support unit only)

Brand	Chanel Well Technology
Model	CAP012121 US
Input Power	100-240Vac, 47-63Hz, 0.35A
Output Power	12Vdc, 1A
Power Line	2.15m cable without core attached on adapter

3. The following antennas were provided to the EUT.

Ant. No.	Type	Connector	Gain (dBi)
			LTE B26
1	PIFA	NA	1.4

3.2 Configuration of System under Test



3.2.1 Description of Support Units

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A.	Radio Communication Analyzer	Anritsu	MT8860C	1702001	NA	-
B.	Adapter	Chanel Well Technology	CAP012121 US	NA	NA	Provided by manufacturer

Note:

1. All power cords of the above support units are non-shielded (1.8m).
2. Item A acted as a communication partner to transfer data.

ID	Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1.	Power cable	1	2.15	-	0	Provided by manufacturer Attached on adapter

3.3 Test Mode Applicability and Tested Channel Detail

Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates, XYZ axis and antenna ports. The worst case was found when positioned on X-plane. Following channel(s) was (were) selected for the final test as listed below.

LTE Band 26

EUT Configure Mode	Test item	Available channel	Tested channel	Channel Bandwidth	Modulation	Mode
-	ERP	26697 to 26783	26697 (814.7MHz), 26740 (819.0MHz), 26783 (823.3MHz)	1.4MHz	QPSK / 16QAM	1 RB / 0 RB Offset
		26705 to 26775	26705 (815.5MHz), 26740 (819.0MHz), 26775 (822.5MHz)	3MHz	QPSK / 16QAM	1 RB / 0 RB Offset
		26715 to 26765	26715 (816.5MHz), 26740 (819.0MHz), 26765 (821.5MHz)	5MHz	QPSK / 16QAM	1 RB / 0 RB Offset
		26740	26740 (819.0MHz)	10MHz	QPSK / 16QAM	1 RB / 0 RB Offset
-	Frequency Stability	Refer to note 1				
-	Occupied Bandwidth					
-	Emission Masks					
-	Conducted Emission					
-	Radiated Emission Below 1GHz	26697 to 26783	26697 (814.7MHz)	1.4MHz	QPSK	1 RB / 0 RB Offset
		26715 to 26765	26715 (816.5MHz)	5MHz	QPSK	1 RB / 0 RB Offset
		26740	26740 (819.0MHz)	10MHz	QPSK	1 RB / 0 RB Offset
-	Radiated Emission Above 1GHz	26697 to 26783	26697 (814.7MHz), 26740 (819.0MHz), 26783 (823.3MHz)	1.4MHz	QPSK	1 RB / 0 RB Offset
		26715 to 26765	26715 (816.5MHz), 26740 (819.0MHz), 26765 (821.5MHz)	5MHz	QPSK	1 RB / 0 RB Offset
		26740	26740 (819.0MHz)	10MHz	QPSK	1 RB / 0 RB Offset

Note:
1. According to on KDB 996369 D02 Module Q and A v01 of Q1 requirements, test results relevant test reports from an original module filing (Brand: Wistron NeWeb Corporation, Model: M14Q2SG, FCC ID: NKRM14Q2SG).
2. For radiated emission above 1GHz, according to 3GPP 36.521 Section 6.6.3.1.4, choose the lowest, 5MHz & highest channel bandwidth for final test.
3. For radiated emission below 1GHz, low, mid and high channels were pre-tested in chamber. Low channel was the worst case for all final tests.
4. The conducted output power for QPSK and 16QAM, measured value of QPSK is higher than 16QAM mode. Therefore, only ERP, Modulation Characteristics, Emission Bandwidth and Peak to average ratio had been tested under QPSK and 16QAM modes, the other test items were performed under QPSK mode only.

Test Condition:

Test Item	Environmental Conditions	Input Power	Tested By
ERP	22deg. C, 66%RH	120Vac, 60Hz	Han Wu
Frequency Stability	Refer to note		
Occupied Bandwidth			
Emission Mask			
Conducted Emission			
Radiated Emission	22deg. C, 66%RH 24deg. C, 68%RH	120Vac, 60Hz	Han Wu, Greg Lin

Note: According to on KDB 996369 D02 Module Q and A v01 of Q1 requirements, test results relevant test reports from an original module filing (Brand: Wistron NeWeb Corporation, Model: M14Q2SG, FCC ID: NKRM14Q2SG).

3.4 EUT Operating Conditions

The EUT makes a call to the communication simulator. The communication simulator station system controlled a EUT to export maximum output power under transmission mode and specific channel frequency

3.5 General Description of Applied Standards

The EUT is a RF Product. According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

FCC 47 CFR Part 2

FCC 47 CFR Part 90

KDB 971168 D01 Power Meas License Digital Systems v03r01

KDB 971168 D02 Misc Rev Approv License Devices v02r01

ANSI/TIA/EIA-603-E 2016

ANSI 63.26-2015

All test items have been performed and recorded as per the above standards.

4 Test Types and Results

4.1 Output Power Measurement

4.1.1 Limits of Output Power Measurement

The radiated peak output power shall be according to the specific rule Part 90.635 that “Mobile station are limited to 100 watts e.r.p”.

4.1.2 Test Procedures

EIRP / ERP Measurement:

a. All measurements were done at low, middle and high operational frequency range. RWB is 1MHz and VBW is 3MHz.

b. Substitution method is used for E.I.R.P measurement. In the semi-anechoic chamber, EUT placed on the 0.8m(below or equal 1GHz) and/or 1.5m(above 1GHz) height of Turn Table, rotated the table around 360 degrees to search the maximum radiation power and receiver antenna shall be rotated vertical and horizontal polarization and moved height from 1m to 4m to find the maximum polar radiated power. The “Read Value” is the spectrum reading the maximum power value.

c. The substitution horn antenna is substituted for EUT at the same position and signals generator export the CW signal to the substitution antenna via a TX cable. Rotated the Turn Table and moved receiving antenna to find the maximum radiation power. Adjust output power level of S.G to get a Value of spectrum reading equal to “Read Value“ of step b. Record the power level of S.G

d. EIRP = Output power level of S.G – TX cable loss + Antenna gain of substitution horn.E.R.P power can be calculated form E.I.R.P power by subtracting the gain of dipole, E.R.P power = E.I.R.P power - 2.15dBi.

Where:

$ERP/EIRP = P_{Meas} + G_T - L_C$

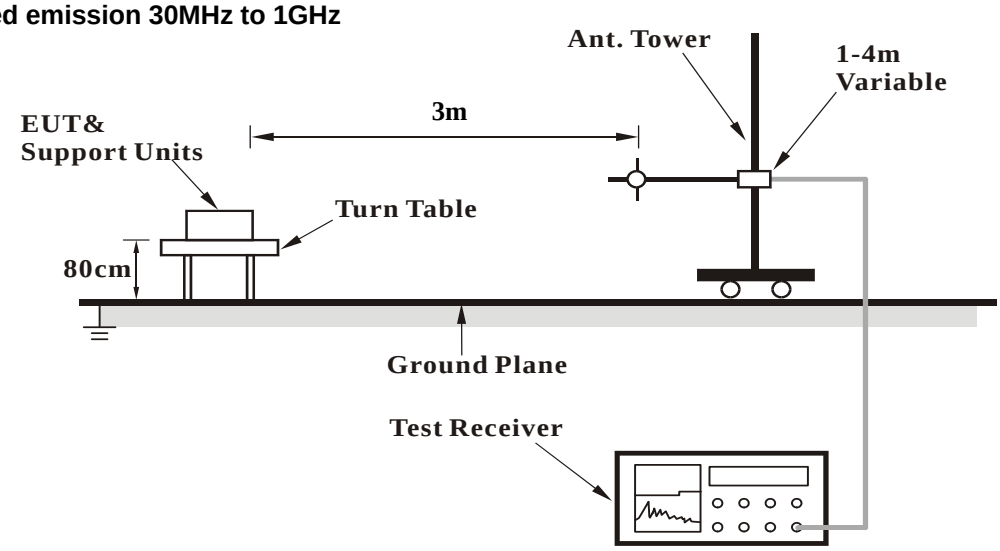
P_{Meas} : Measure transmitter output power.
G_T : Gain of the transmitting antenna.
L_C : signal attenuation in the connecting cable between the transmitter and antenna.

Conducted Power Measurement:
Please refer to module (Brand: Wistron NeWeb Corporation, Model: M14Q2SG, FCC ID: NKRM14Q2SG) Report.

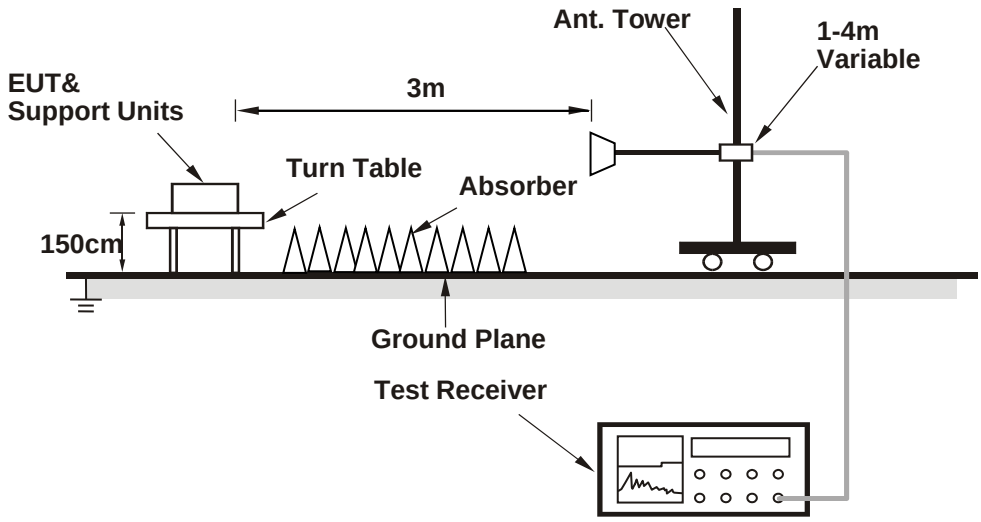
4.1.3 Test Setup

EIRP / ERP Measurement:

For radiated emission 30MHz to 1GHz



For radiated emission above 1GHz



For the actual test configuration, please refer to the attached file (Test Setup Photo).

Conducted Power Measurement:

Please refer to module (Brand: Wistron NeWeb Corporation, Model: M14Q2SG, FCC ID: NKRM14Q2SG) Report.

4.1.4 Test Results

Conducted Output Power (dBm)

Test results relevant test reports from an original module filing (Brand: Wistron NeWeb Corporation, Model: M14Q2SG, FCC ID: NKRM14Q2SG**),** for more details (statement and explanations) please refer to declaration letter**.**

ERP Power

Modulation Type: QPSK

LTE Band 26, Channel Bandwidth 1.4MHz

MODE		TX channel 26697					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	814.70	-6.6	20.3	3.9	**24.2**	50.0	-25.8
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	814.70	-10.4	17.5	3.9	21.4	50.0	-28.6

MODE		TX channel 26740					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	819.00	-6.9	20.3	3.9	**24.2**	50.0	-25.8
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	819.00	-10.6	17.5	3.9	21.4	50.0	-28.6

MODE		TX channel 26783					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	823.30	-7.8	19.8	3.9	23.7	50.0	-26.3
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	823.30	-10.6	17.7	3.9	21.6	50.0	-28.4

Note: ERP (dBm) = S.G Power Value (dBm) + Correction Factor (dB).

LTE Band 26, Channel Bandwidth 3MHz

MODE		TX channel 26705					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	815.50	-6.7	20.3	3.9	**24.2**	50.0	-25.8
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	815.50	-10.2	17.6	3.9	21.5	50.0	-28.5

MODE		TX channel 26740					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	819.00	-7.3	19.9	3.9	23.8	50.0	-26.2
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	819.00	-10.3	17.8	3.9	21.7	50.0	-28.3

MODE		TX channel 26775					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	822.50	-7.2	20.3	3.9	**24.2**	50.0	-25.8
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	822.50	-10.5	17.7	3.9	21.6	50.0	-28.4

Note: ERP (dBm) = S.G Power Value (dBm) + Correction Factor (dB).

LTE Band 26, Channel Bandwidth 5MHz

MODE		TX channel 26715					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	816.50	-7.2	19.8	3.9	23.7	50.0	-26.3
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	816.50	-10.6	17.4	3.9	21.3	50.0	-28.7

MODE		TX channel 26740					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	819.00	-7.4	19.8	3.9	23.7	50.0	-26.3
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	819.00	-10.2	17.9	3.9	21.8	50.0	-28.2

MODE		TX channel 26765					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	821.50	-7.1	20.2	3.9	**24.1**	50.0	-25.9
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	821.50	-10.5	17.7	3.9	21.6	50.0	-28.4

Note: ERP (dBm) = S.G Power Value (dBm) + Correction Factor (dB).

LTE Band 26, Channel Bandwidth 10MHz

MODE		TX channel 26740					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	819.00	-7.0	20.2	3.9	**24.1**	50.0	-25.9
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	819.00	-10.5	17.6	3.9	21.5	50.0	-28.5

Note: ERP (dBm) = S.G Power Value (dBm) + Correction Factor (dB).

Modulation Type: 16QAM

LTE Band 26, Channel Bandwidth 1.4MHz

MODE		TX channel 26697					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	814.70	-7.6	19.3	3.9	23.2	50.0	-26.8
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	814.70	-11.1	16.7	3.9	20.6	50.0	-29.4

MODE		TX channel 26740					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	819.00	-7.7	19.5	3.9	**23.4**	50.0	-26.6
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	819.00	-11.5	16.6	3.9	20.5	50.0	-29.5

MODE		TX channel 26783					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	823.30	-8.9	18.7	3.9	22.6	50.0	-27.4
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	823.30	-11.9	16.5	3.9	20.4	50.0	-29.6

Note: ERP (dBm) = S.G Power Value (dBm) + Correction Factor (dB).

LTE Band 26, Channel Bandwidth 3MHz

MODE		TX channel 26705					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	815.50	-7.8	19.2	3.9	**23.1**	50.0	-26.9
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	815.50	-11.2	16.6	3.9	20.5	50.0	-29.5

MODE		TX channel 26740					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	819.00	-8.1	19.1	3.9	23.0	50.0	-27.0
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	819.00	-11.5	16.6	3.9	20.5	50.0	-29.5

MODE		TX channel 26775					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	822.50	-8.2	19.2	3.9	**23.1**	50.0	-26.9
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	822.50	-11.6	16.6	3.9	20.5	50.0	-29.5

Note: ERP (dBm) = S.G Power Value (dBm) + Correction Factor (dB).

LTE Band 26, Channel Bandwidth 5MHz

MODE		TX channel 26715					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	816.50	-8.4	18.6	3.9	22.5	50.0	-27.5
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	816.50	-11.5	16.5	3.9	20.4	50.0	-29.6

MODE		TX channel 26740					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	819.00	-8.2	19.0	3.9	22.9	50.0	-27.1
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	819.00	-11.1	17.0	3.9	20.9	50.0	-29.1

MODE		TX channel 26765					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	821.50	-7.9	19.5	3.9	**23.4**	50.0	-26.6
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	821.50	-11.5	16.7	3.9	20.6	50.0	-29.4

Note: ERP (dBm) = S.G Power Value (dBm) + Correction Factor (dB).

LTE Band 26, Channel Bandwidth 10MHz

MODE		TX channel 26740					
Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	819.00	-7.7	19.5	3.9	**23.4**	50.0	-26.6
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	819.00	-11.5	16.6	3.9	20.5	50.0	-29.5

Note: ERP (dBm) = S.G Power Value (dBm) + Correction Factor (dB).

4.2 Frequency Stability Measurement

4.2.1 Limits of Frequency Stability Measurement

1.5 ppm is for base and fixed station. 2.5 ppm is for mobile station.

4.2.2 Test Procedure

Please refer to module (Brand: Wistron NeWeb Corporation, Model: M14Q2SG, FCC ID: NKRM14Q2SG) Report.

4.2.3 Test Setup

Please refer to module (Brand: Wistron NeWeb Corporation, Model: M14Q2SG, FCC ID: NKRM14Q2SG) Report.

4.2.4 Test Results

Test results relevant test reports from an original module filing (Brand: Wistron NeWeb Corporation, Model: M14Q2SG, FCC ID: NKRM14Q2SG**),** for more details (statement and explanations) please refer to declaration letter**.**

4.3 Occupied Bandwidth Measurement

4.3.1 Test Procedure

Please refer to module (Brand: Wistron NeWeb Corporation, Model: M14Q2SG, FCC ID: NKRM14Q2SG) Report.

4.3.2 Test Setup

Please refer to module (Brand: Wistron NeWeb Corporation, Model: M14Q2SG, FCC ID: NKRM14Q2SG) Report.

4.3.3 Test Result

Test results relevant test reports from an original module filing (Brand: Wistron NeWeb Corporation, Model: M14Q2SG, FCC ID: NKRM14Q2SG**),** for more details (statement and explanations) please refer to declaration letter**.**

4.4 Emission Mask Measurement

4.4.1 Limits of Emission Mask Measurement

According to FCC part 90.691 shall be tested the emission mask. For any frequency removed from the EA licensee's frequency block by up to and including 37.5 kHz, the power of any emission shall be attenuated below the transmitter power (P) in watts by at least 116 Log_{10}(f/6.1) decibels or 50 + 10Log_{10}(P) decibels or 80 decibels, whichever is the lesser attenuation, where f is the frequency removed from the center of the outer channel in the block in kilohertz and where f is greater than 12.5 kHz.
For any frequency removed from the EA licensee's frequency block greater than 37.5 kHz, the power of any emission shall be attenuated below the transmitter power (P) in watts by at least 43 + 10Log_{10}(P) decibels or 80 decibels, whichever is the lesser attenuation, where f is the frequency removed from the center of the outer channel in the block in kilohertz and where f is greater than 37.5 kHz.

Refer KDB 971168 D02 Misc Rev Approv License Devices v02r01
For § 90.691(a), RBW=300 Hz for offset less than 37.5 kHz from channel edge and RBW=100 kHz for offsets greater than 37.5 kHz is allowed.

4.4.2 Test Setup

Please refer to module (Brand: Wistron NeWeb Corporation, Model: M14Q2SG, FCC ID: NKRM14Q2SG) Report.

4.4.3 Test Procedures

Please refer to module (Brand: Wistron NeWeb Corporation, Model: M14Q2SG, FCC ID: NKRM14Q2SG) Report.

4.4.4 Test Results

Test results relevant test reports from an original module filing (Brand: Wistron NeWeb Corporation, Model: M14Q2SG, FCC ID: NKRM14Q2SG**),** for more details (statement and explanations) please refer to declaration letter**.**

4.5 Conducted Spurious Emissions

4.5.1 Limits of Conducted Spurious Emissions Measurement

The power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) by at least 43 +10 log10(P) dB. The limit of emission equal to –13dBm.

4.5.2 Test Setup

Please refer to module (Brand: Wistron NeWeb Corporation, Model: M14Q2SG, FCC ID: NKRM14Q2SG) Report.

4.5.3 Test Procedure

Please refer to module (Brand: Wistron NeWeb Corporation, Model: M14Q2SG, FCC ID: NKRM14Q2SG) Report.

4.5.4 Test Results

Test results relevant test reports from an original module filing (Brand: Wistron NeWeb Corporation, Model: M14Q2SG, FCC ID: NKRM14Q2SG**),** for more details (statement and explanations) please refer to declaration letter**.**

4.6 Radiated Emission Measurement

4.6.1 Limits of Radiated Emission Measurement

The power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) by at least 43 +10 log10(P) dB. The limit of emission equal to –13dBm.

4.6.2 Test Procedure

a. Substitution method is used for E.I.R.P measurement. In the semi-anechoic chamber, EUT placed on the 0.8m height of Turn Table, rotated the table around 360 degrees to search the maximum radiation power and receiver antenna shall be rotated vertical and horizontal polarization and moved height from 1m to 4m to find the maximum polar radiated power. The “Read Value” is the spectrum reading the maximum power value.
b. The substitution horn antenna is substituted for EUT at the same position and signals generator export the CW signal to the substitution antenna via a TX cable. Rotated the Turn Table and moved receiving antenna to find the maximum radiation power. Adjust output power level of S.G to get a Value of spectrum reading equal to “Read Value” of step a. Record the power level of S.G
c. EIRP = Output power level of S.G – TX cable loss + Antenna gain of substitution horn.
d. E.R.P power can be calculated form E.I.R.P power by subtracting the gain of dipole, E.R.P power = E.I.R.P power - 2.15dBi.

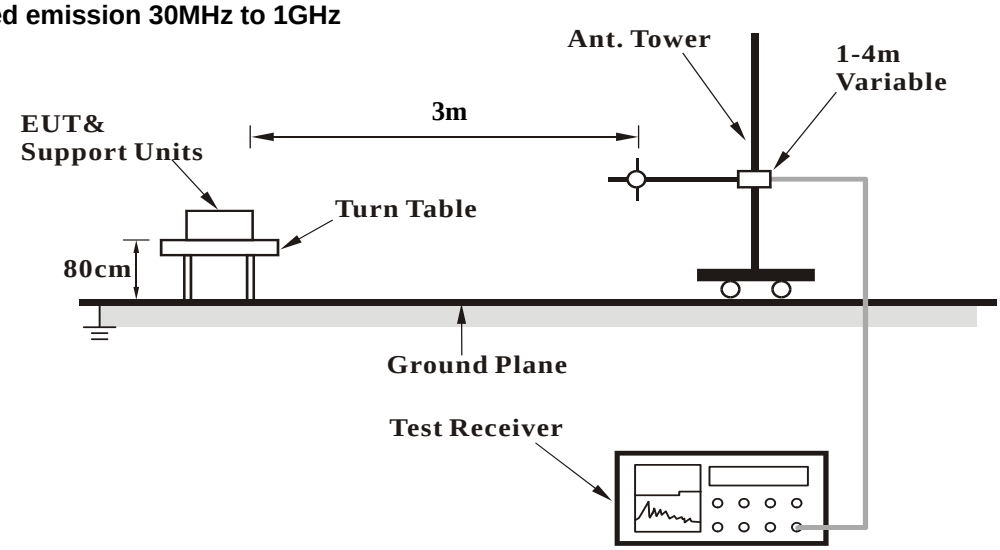
NOTE: The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 1MHz/3MHz.

4.6.3 Deviation from Test Standard

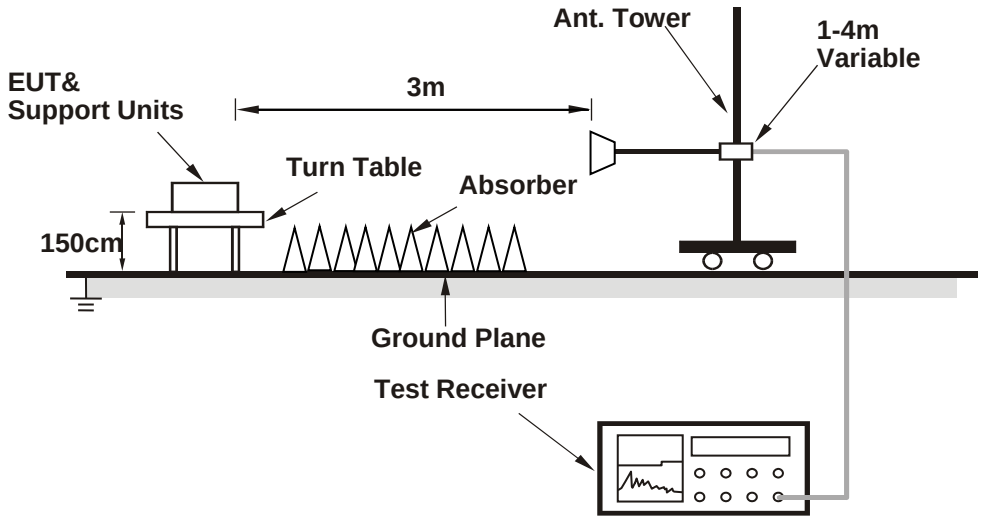
No deviation.

4.6.4 Test Setup

For radiated emission 30MHz to 1GHz



For radiated emission above 1GHz



For the actual test configuration, please refer to the attached file (Test Setup Photo).

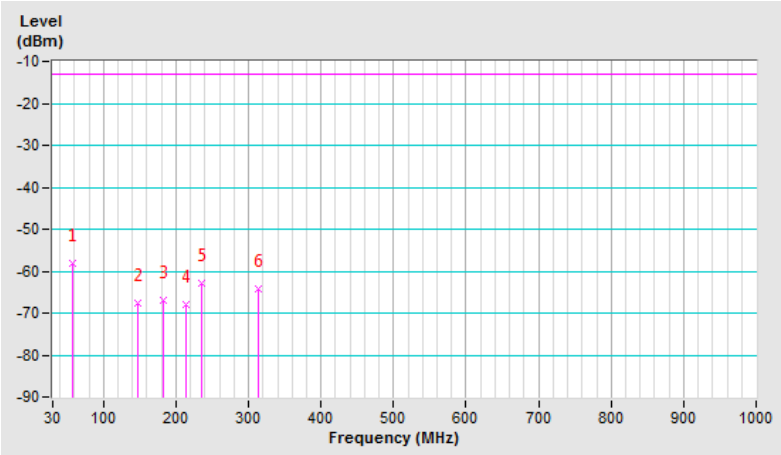
4.6.5 Test Results

Below 1GHz
LTE Band 26, Channel Bandwidth 1.4MHz

Mode	TX channel 26697 (814.7MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	22deg. C, 66%RH	Input Power	120Vac, 60Hz
Tested By	Han Wu		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	58.13	-51.8	-53.8	-4.2	-58.0	-13.0	-45.0
2	147.37	-60.8	-64.8	-2.9	-67.7	-13.0	-54.7
3	182.29	-56.6	-64.1	-3.0	-67.1	-13.0	-54.1
4	213.33	-57.5	-66.0	-2.0	-68.0	-13.0	-55.0
5	235.64	-53.5	-61.4	-1.5	-62.9	-13.0	-49.9
6	313.24	-58.0	-68.3	4.0	-64.3	-13.0	-51.3

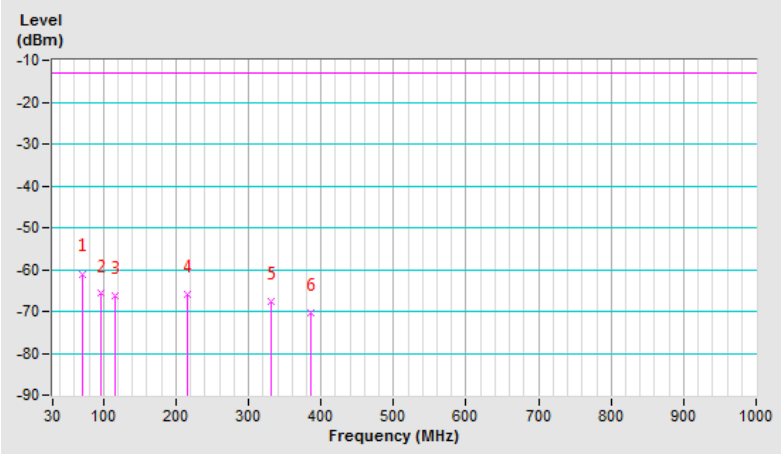
Remarks:
1. ERP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).



Mode	TX channel 26697 (814.7MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	22deg. C, 66%RH	Input Power	120Vac, 60Hz
Tested By	Han Wu		

Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	70.74	-52.6	-60.6	-0.4	-61.0	-13.0	-48.0
2	95.96	-55.6	-64.6	-1.2	-65.8	-13.0	-52.8
3	116.33	-57.1	-63.4	-3.0	-66.4	-13.0	-53.4
4	216.24	-60.0	-64.0	-2.0	-66.0	-13.0	-53.0
5	331.67	-64.8	-71.5	4.0	-67.5	-13.0	-54.5
6	385.99	-67.5	-73.7	3.5	-70.2	-13.0	-57.2

Remarks:
1. ERP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).

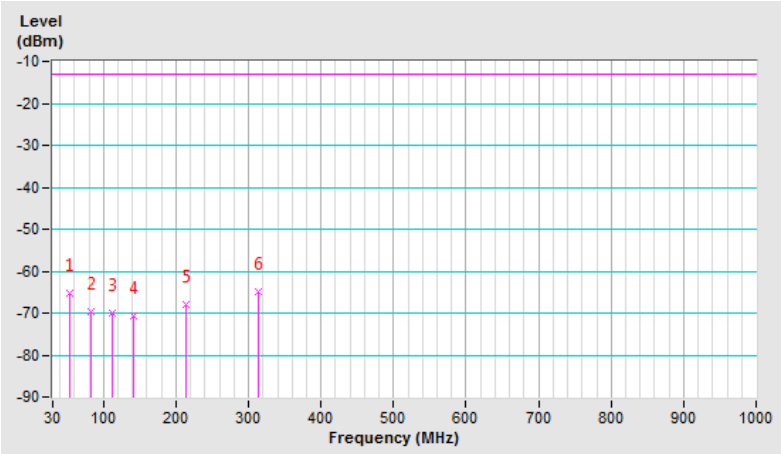


LTE Band 26, Channel Bandwidth 5MHz

Mode	TX channel 26715 (816.5MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	22deg. C, 66%RH	Input Power	120Vac, 60Hz
Tested By	Han Wu		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	53.28	-61.4	-59.1	-6.2	-65.3	-13.0	-52.3
2	82.38	-62.0	-69.9	0.4	-69.5	-13.0	-56.5
3	112.45	-60.2	-67.5	-2.5	-70.0	-13.0	-57.0
4	141.55	-63.2	-67.8	-3.0	-70.8	-13.0	-57.8
5	214.30	-57.2	-65.8	-2.0	-67.8	-13.0	-54.8
6	313.24	-58.5	-68.8	4.0	-64.8	-13.0	-51.8

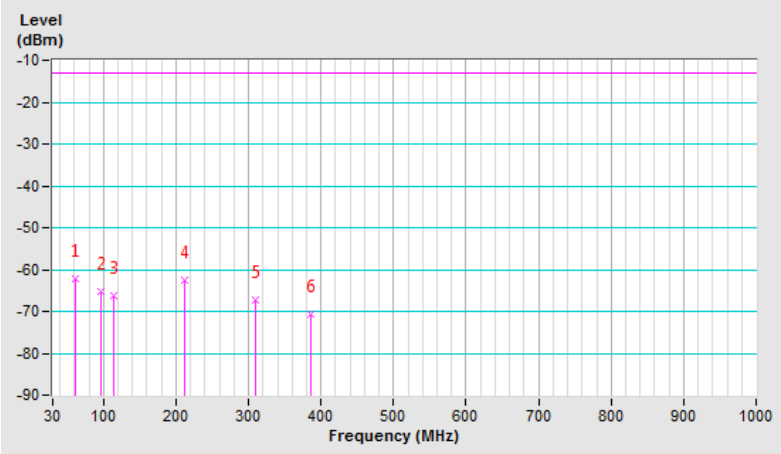
Remarks:
1. ERP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).



Mode	TX channel 26715 (816.5MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	22deg. C, 66%RH	Input Power	120Vac, 60Hz
Tested By	Han Wu		

Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	62.01	-53.2	-59.2	-3.0	-62.2	-13.0	-49.2
2	95.96	-54.9	-63.9	-1.2	-65.1	-13.0	-52.1
3	114.39	-57.0	-63.6	-2.8	-66.4	-13.0	-53.4
4	211.39	-57.1	-60.5	-2.1	-62.6	-13.0	-49.6
5	310.33	-65.0	-71.1	3.9	-67.2	-13.0	-54.2
6	385.02	-68.0	-74.1	3.5	-70.6	-13.0	-57.6

Remarks:
1. ERP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).

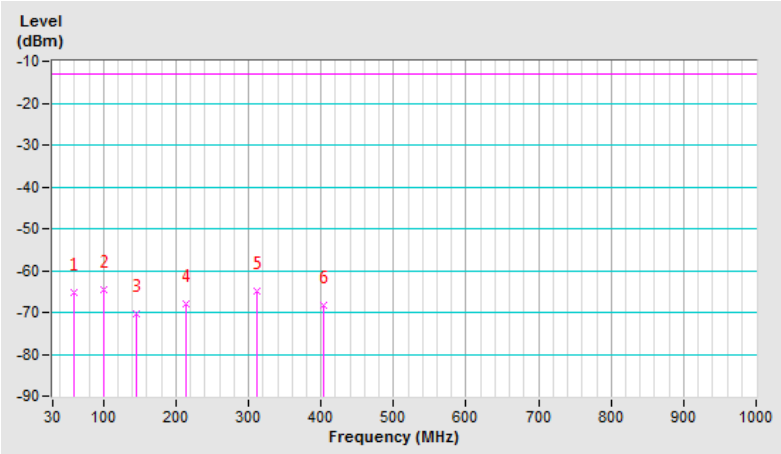


LTE Band 26, Channel Bandwidth 10MHz

Mode	TX channel 26740 (819.0MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	22deg. C, 66%RH	Input Power	120Vac, 60Hz
Tested By	Han Wu		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	59.10	-58.6	-61.5	-3.8	-65.3	-13.0	-52.3
2	99.84	-54.2	-63.2	-1.5	-64.7	-13.0	-51.7
3	145.43	-63.4	-67.3	-3.1	-70.4	-13.0	-57.4
4	214.30	-57.5	-66.1	-2.0	-68.1	-13.0	-55.1
5	312.27	-58.7	-68.9	4.0	-64.9	-13.0	-51.9
6	403.45	-65.5	-71.5	3.3	-68.2	-13.0	-55.2

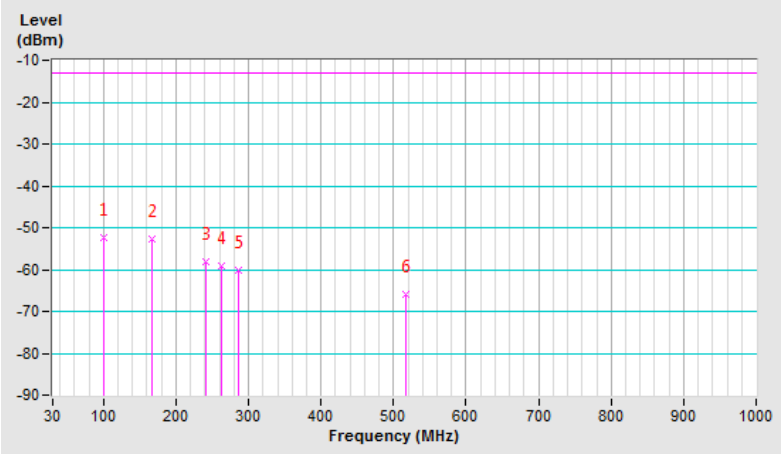
Remarks:
1. ERP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).



Mode	TX channel 26740 (819.0MHz)	Frequency Range	Below 1000 MHz
Environmental Conditions	22deg. C, 66%RH	Input Power	120Vac, 60Hz
Tested By	Han Wu		

Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	**100.81**	**-42.0**	**-50.9**	**-1.6**	**-52.5**	**-13.0**	**-39.5**
2	166.77	-47.2	-49.7	-2.9	-52.6	-13.0	-39.6
3	240.49	-54.2	-56.6	-1.5	-58.1	-13.0	-45.1
4	262.80	-58.1	-57.7	-1.6	-59.3	-13.0	-46.3
5	286.08	-60.1	-58.5	-1.7	-60.2	-13.0	-47.2
6	517.91	-63.9	-69.6	3.8	-65.8	-13.0	-52.8

Remarks:
1. ERP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).



Above 1GHz
LTE Band 26, Channel Bandwidth 1.4MHz

Mode	TX channel 26697 (814.7MHz)	Frequency Range	1GHz~10GHz
Environmental Conditions	24deg. C, 68%RH	Input Power	120Vac, 60Hz
Tested By	Greg Lin		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1629.40	-62.1	-54.3	1.0	-53.3	-13.0	-40.3
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1629.40	-64.8	-57.5	1.0	-56.5	-13.0	-43.5

Remarks:
1. ERP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).

Mode	TX channel 26740 (819.0MHz)	Frequency Range	1GHz~10GHz
Environmental Conditions	24deg. C, 68%RH	Input Power	120Vac, 60Hz
Tested By	Greg Lin		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1638.00	-62.5	-54.7	1.0	-53.7	-13.0	-40.7
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1638.00	-65.0	-57.8	1.0	-56.8	-13.0	-43.8

Remarks:
1. ERP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).

Mode	TX channel 26783 (823.3MHz)	Frequency Range	1GHz~10GHz
Environmental Conditions	24deg. C, 68%RH	Input Power	120Vac, 60Hz
Tested By	Greg Lin		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1646.60	-62.2	-54.5	0.9	-53.6	-13.0	-40.6
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1646.60	-65.2	-57.9	0.9	-57.0	-13.0	-44.0

Remarks:
1. ERP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).

LTE Band 26, Channel Bandwidth 5MHz

Mode	TX channel 26715 (816.5MHz)	Frequency Range	1GHz~10GHz
Environmental Conditions	24deg. C, 68%RH	Input Power	120Vac, 60Hz
Tested By	Greg Lin		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1633.00	-62.9	-55.0	1.0	-54.0	-13.0	-41.0
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1633.00	-65.5	-58.2	1.0	-57.2	-13.0	-44.2

Remarks:
1. ERP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).

Mode	TX channel 26740 (819MHz)	Frequency Range	1GHz~10GHz
Environmental Conditions	24deg. C, 68%RH	Input Power	120Vac, 60Hz
Tested By	Greg Lin		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1638.00	-62.8	-55.0	1.0	-54.0	-13.0	-41.0
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1638.00	-65.2	-58.0	1.0	-57.0	-13.0	-44.0

Remarks:
1. ERP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).

Mode	TX channel 26765 (821.5MHz)	Frequency Range	1GHz~10GHz
Environmental Conditions	24deg. C, 68%RH	Input Power	120Vac, 60Hz
Tested By	Greg Lin		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1643.00	-62.5	-54.8	1.0	-53.8	-13.0	-40.8
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1643.00	-64.8	-57.5	1.0	-56.5	-13.0	-43.5

Remarks:
1. ERP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).

LTE Band 26, Channel Bandwidth 10MHz

Mode	TX channel 26740 (819.0MHz)	Frequency Range	1GHz~10GHz
Environmental Conditions	24deg. C, 68%RH	Input Power	120Vac, 60Hz
Tested By	Greg Lin		

Antenna Polarity & Test Distance: Horizontal at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1638.00	-62.1	-54.4	1.0	-53.4	-13.0	-40.4
Antenna Polarity & Test Distance: Vertical at 3 M							
No.	Freq. (MHz)	Reading (dBm)	S.G Power Value (dBm)	Correction Factor (dB)	ERP (dBm)	Limit (dBm)	Margin (dB)
1	1638.00	-65.2	-58.0	1.0	-57.0	-13.0	-44.0

Remarks:
1. ERP (dBm) = S.G Value (dBm) + Correction Factor (dB).
2. Correction Factor (dB) = Substitution Antenna Gain (dB) + Cable Loss (dB).

5 Pictures of Test Arrangements

Please refer to the attached file (Test Setup Photo).

Appendix – Information of the Testing Laboratories

We, Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch, were founded in 1988 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are FCC recognized accredited test firms and accredited and approved according to ISO/IEC 17025.

If you have any comments, please feel free to contact us at the following:

Lin Kou EMC/RF Lab
Tel: 886-2-26052180
Fax: 886-2-26051924

Hsin Chu EMC/RF/Telecom Lab
Tel: 886-3-6668565
Fax: 886-3-6668323

Hwa Ya EMC/RF/Safety Lab
Tel: 886-3-3183232
Fax: 886-3-3270892

Email: service.adt@tw.bureauveritas.com
Web Site: www.bureauveritas-adt.com

The address and road map of all our labs can be found in our web site also.

--- END ---