



RF Test Report

Applicant : Reliance Communications LLC
Product Type : GSM/CDMA/WCDMA/LTE mobile phone
Trade Name : Orbic
Model Number : RC555L
Test Specification : FCC 47 CFR PART 22H
FCC 47 CFR PART 24E
FCC 47 CFR PART 27L
FCC 47 CFR PART 90S
ANSI/TIA-603-D 2010
Receive Date : Sep. 07, 2017
Test Period : Sep. 21 ~ Sep. 29, 2017
Issue Date : Sep. 29, 2017

Issue by

A Test Lab Techno Corp.
No. 140-1, Changan Street, Bade District,
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Taiwan Accreditation Foundation accreditation number: 1330

Test Firm MRA designation number: TW0010

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Revision History

Rev.	Issue Date	Revisions	Revised By
00	Sep. 29, 2017	Initial Issue	Nina Lin



Verification of Compliance

Issued Date: Sep. 29, 2017

Applicant : Reliance Communications LLC
Product Type : GSM/CDMA/WCDMA/LTE mobile phone
Trade Name : Orbic
Model Number : RC555L
FCC ID : 2ABGH-RC555L
EUT Rated Voltage : DC 5V, 2A or DC 9V, 2A
Test Voltage : 120 Vac / 60 Hz
Applicable Standard : FCC 47 CFR PART 22H
FCC 47 CFR PART 24E
FCC 47 CFR PART 27L
FCC 47 CFR PART 90S
ANSI/TIA-603-D 2010

Test Result : Complied

Performing Lab. : A Test Lab Techno Corp.

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Taiwan Accreditation Foundation accreditation number: 1330
<http://www.atl-lab.com.tw/e-index.htm>

A Test Lab Techno Corp. tested the above equipment in accordance with the requirements set forth in the above standards. All indications of Pass/Fail in this report are opinions expressed by A Test Lab Techno Corp. based on interpretations and/or observations of test results. Measurement Uncertainties were not taken into account and are published for informational purposes only. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

Approved By :

Fly Lu

(Manager)

(Fly Lu)

Reviewed By :

Eric Ou Yang

(Testing Engineer)

(Eric Ou Yang)

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1 General Information

1.1. EUT Description

Applicant	Reliance Communications LLC 555 Wireless Blvd, Hauppauge, New York, 11788, United States			
Manufacturer	Unimaxcomm Room 602, Building-B, Shenzhen Software Park T3, Hi-Tech Park South, Nan Shan District, Shenzhen, China			
Product Type	GSM/CDMA/WCDMA/LTE mobile phone			
Trade Name	Orbic			
Model Number	RC555L			
FCC ID	2ABGH-RC555L			
IMEI No.	358924080001802			
Mode	Band	UL Frequency (MHz)	DL Frequency (MHz)	Modulation
WCDMA	II	1852.4 ~ 1907.6	1932.4 ~ 1987.6	QPSK
	V	826.4 ~ 846.6	871.4 ~ 891.6	QPSK
	IV	1712.4 ~ 1752.6	2112.4 ~ 2152.6	QPSK
CDMA 1xRTT/ CDMA 1xEVDO	Band	UL Frequency (MHz)	DL Frequency (MHz)	Modulation
	850 (BC 0)	824.70 ~ 848.31	869.70 ~ 893.31	QPSK
	1900 (BC 1)	1851.25 ~ 1908.75	1931.25 ~ 1988.75	QPSK
	Sec. 800 (BC 10)	817.25 ~ 822.75	862.25 ~ 867.75	QPSK
Channel Control	Auto			
Antenna information	Type	Max. Gain (dBi)		
	LDS Antenna	WCDMA Band II		1
		WCDMA Band V		-1
		WCDMA Band IV		0.5
		CDMA BC 0		-1
		CDMA BC 1		1
		CDMA BC 10		-1
Operate Temp. Range	-10 ~ 40 °C			

Frequency Band	E.R.P. /E.I.R.P. (W)	
WCDMA Band II	0.096	(E.I.R.P.)
WCDMA Band V	0.070	(E.I.R.P.)
WCDMA Band IV	0.070	(E.R.P.)
CDMA BC 0	0.078	(E.R.P.)
CDMA BC 1	0.067	(E.I.R.P.)
CDMA BC 10	0.067	(E.R.P.)

1.2. Mode of Operation

ATL has verified the construction and function in typical operation. All the test modes were carried out with the EUT in normal operation, which was shown in this test report and defined as:

Test Mode
Mode 1: WCDMA Band II Link Mode
Mode 2: WCDMA Band V Link Mode
Mode 3: WCDMA Band IV Link Mode
Mode 4: CDMA 850 (BC 0) Link Mode
Mode 5: CDMA 1900 (BC 1) Link Mode
Mode 6: CDMA Sec. 800 (BC 10) Link Mode
Mode 7: 1xEVDO 850 (BC 0) Link Mode
Mode 8: 1xEVDO 1900 (BC 1) Link Mode
Mode 9: 1xEVDO Sec. 800 (BC 10) Link Mode

Note: Regards to the frequency band operation: the lowest, middle and highest frequency of channel were selected to perform the test, then shown on this report.

By preliminary testing and verifying three axis (X, Y and Z) position of EUT transmitted status, it was found that "X axis" position was the worst, then the final test was executed the worst condition and test data were recorded in this report.

Tested System Details

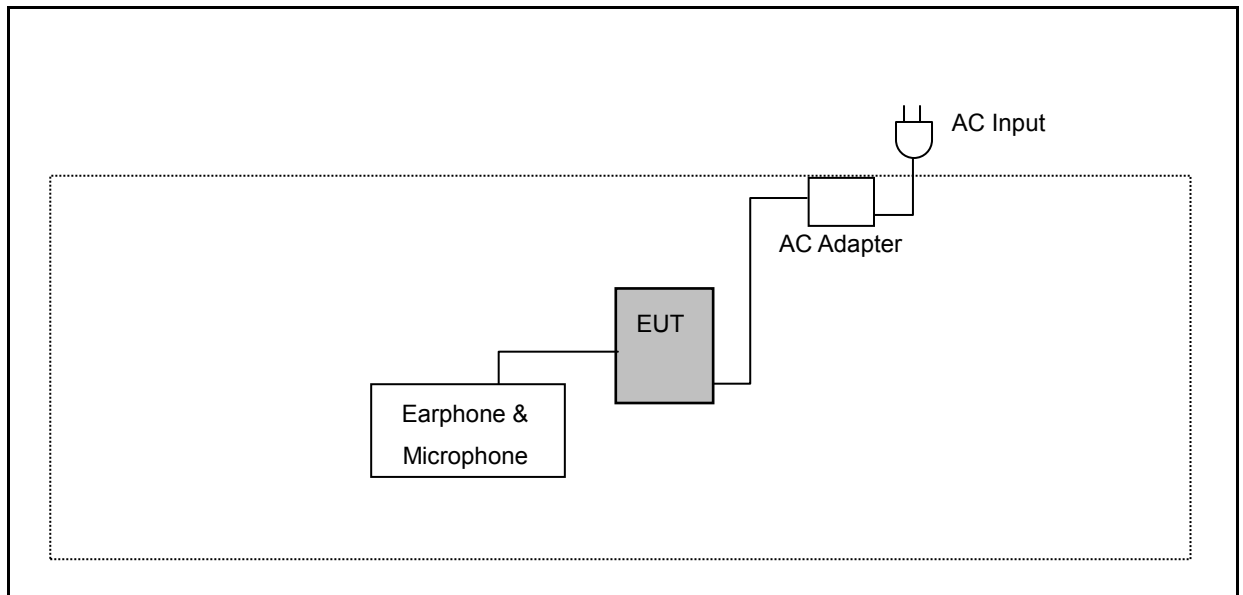
The types for all equipments, plus descriptions of all cables used in the tested system (including inserted cards) are:

	Product	Manufacturer	Model Number	Serial Number	Power Cord
1.	Universal Radio Communication Tester	R & S	CMU200	112387	NA

1.3. EUT Exercise Software

1	Setup the EUT and Base Station (CMU200) as shown on 1.4.
2	Turn on the power of all equipment.

1.4. Configuration of Test System Details





1.5. Test Instruments

For Spurious Radiation

Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Cal. Cycle
RF Pre-selector	Agilent	N9039A	MY46520256	04/24/2017	1 year
Spectrum Analyzer	Agilent	E4446A	MY46180578	04/24/2017	1 year
Pre Amplifier	Agilent	8449B	3008A02237	10/11/2016	1 year
Pre Amplifier	Agilent	8447D	2944A11119	01/12/2017	1 year
Pre Amplifier (26.5~40GHz)	EMCI	EMC2654045	980028	08/29/2017	1 year
Pre Amplifier (1~26.5GHz)	EMCI	EMC012645SE	980289	01/16/2017	1 year
Broadband Antenna	Schwarzbeck	VULB9168	416	10/13/2016	1 year
Horn Antenna (1~18GHz)	SCHWARZBECK MESS-ELEKTRONIK	BBHA9120D	9120D-550	06/20/2017	1 year
Horn Antenna (18~40GHz)	ETS	3116	00086467	09/11/2017	1 year
Microwave Cable	EMCI	EMC102-KM-KM- 14000	151001	02/20/2017	1 year
Microwave Cable	EMCI	EMC-104-SM-SM- -14000	140202	02/20/2017	1 year
Microwave Cable	EMCI	EMC104-SM-SM- 600	140301	02/20/2017	1 year
Signal Generator	Agilent	E8257D	MY44320425	03/02/2017	1 year
Test Site	ATL	TE01	888001	08/29/2017	1 year

Note: N.C.R. = No Calibration Request.

1.6. Test Site Environment

Items	Required (IEC 60068-1)	Actual
Temperature (°C)	15-35	26
Humidity (%RH)	25-75	60
Barometric pressure (mbar)	860-1060	950

1.7. Summary of Test Result

FCC Rule	Description	Result
§2.1046 §90.635	Conducted Output Power	N/A (Note)
§22.913(a)(2)	Effective Radiated Power	Pass
§24.232(c) §27.50(d)(4)	Equivalent Isotropic Radiated Power	Pass
§24.232(d) §27.50 KDB 971168 D01 (5.7.1)	Peak to average ratio	N/A (Note)
§2.1049 §22.917(a) §24.238(a) §27.53(g) §90.691	Emission Bandwidth & Occupied Bandwidth	N/A (Note)
§2.1051 §22.917(a) §24.238(a) §27.53(h) §90.691	Band Edge Measurement	N/A (Note)
§2.1051 §22.917(a) §24.238(a) §27.53(h) §90.691	Conducted Spurious Emission	N/A (Note)
§2.1053 §22.917(a) §24.238(a) §27.53(h) §90.691	Field Strength of Spurious Radiation	Pass
§2.1055 §22.355 §24.235 §27.54 §90.213	Frequency Stability for Temperature & Voltage	N/A (Note)

Note : Refer report number : I17Z61374-WMD02 / I17Z61374-WMD04 / I17Z61374-WMD05

2 Measurement Procedure

2.1. Effective Radiated Power / Equivalent Isotropic Radiated Power Test

■ Limit

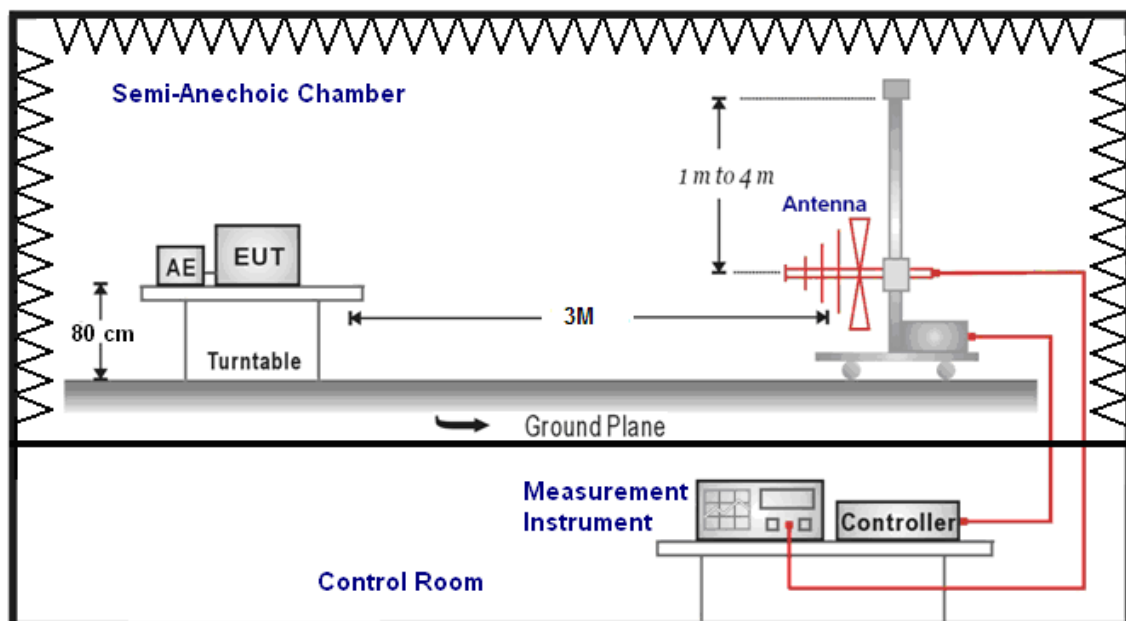
For FCC Part 22.913(a)(2): The E.R.P. of mobile transmitters and auxiliary test transmitters must not exceed 7 Watts.

For FCC Part 24.232(c): The E.I.R.P. of mobile transmitters and auxiliary test transmitters must not exceed 2 Watts.

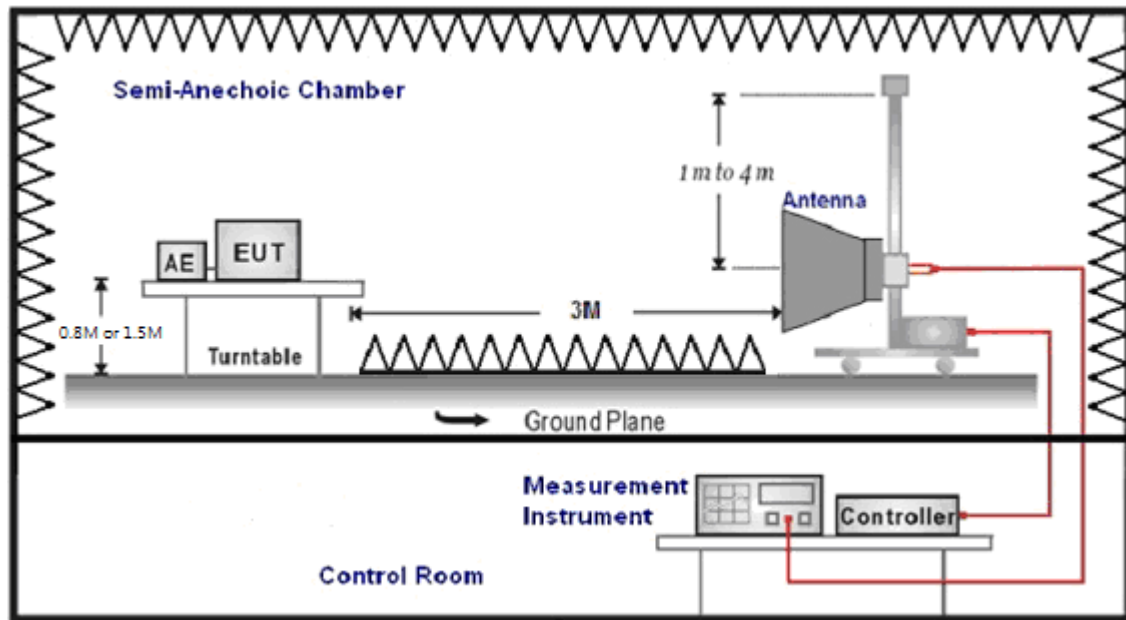
For FCC Part 90.635(b): ERP maximum power is 100 watts for mobile stations.

■ Setup

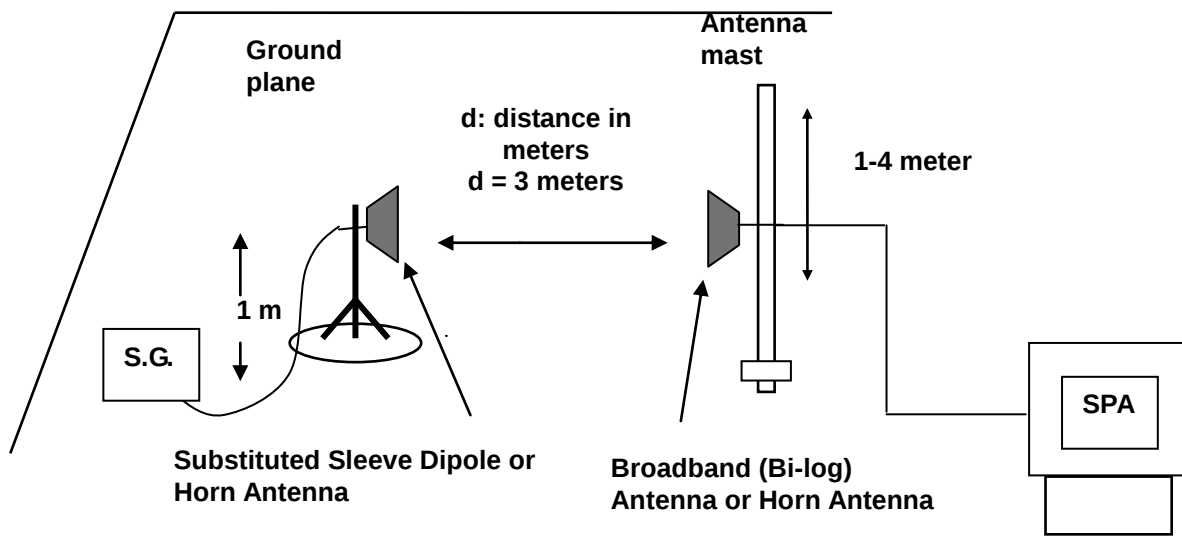
Below 1 GHz



Above 1 GHz



For Substituted Method Test Set-UP



■ Test Procedure

For FCC

- a. The EUT was set up for the maximum power with wwan link data modulation. The power was measured with Spectrum Analyzer. All measurements were done at 3 channels (low, middle and high operational frequency range).
- b. E.I.R.P power 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.
- c. The substitution antenna (Note:1 & 2) 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.
- d. $E.I.R.P. = \text{Output power level of S.G} - \text{TX cable loss} + \text{Antenna gain of substitution horn}$
- e. $E.R.P. = E.I.R.P. - 2.15 \text{ dB}$

Note: 1. Below 1 GHz Substituted Method Test : Sleeve dipole antenna to Bi-Log Antenna

2. Above 1 GHz Substituted Method Test : Horn antenna to Horn Antenna

■ Uncertainty

The measurement uncertainty is defined as for Field Strength of Spurious Radiation measurement is $\pm 3.072 \text{ dB}$.

2.2. Field Strength of Spurious Radiation Test

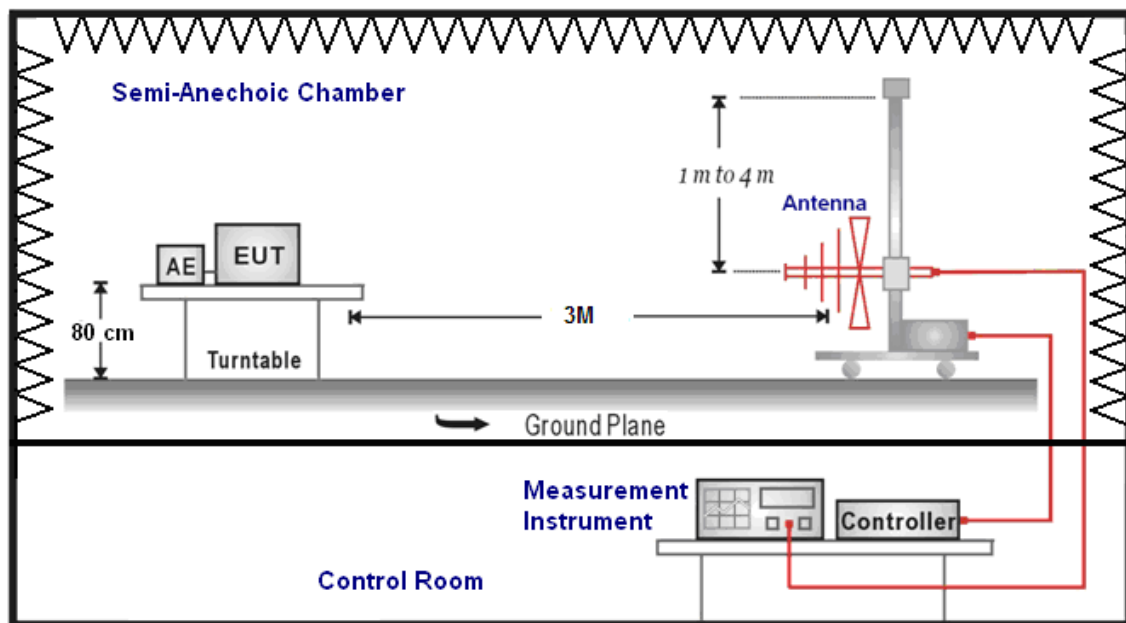
■ Limit

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.

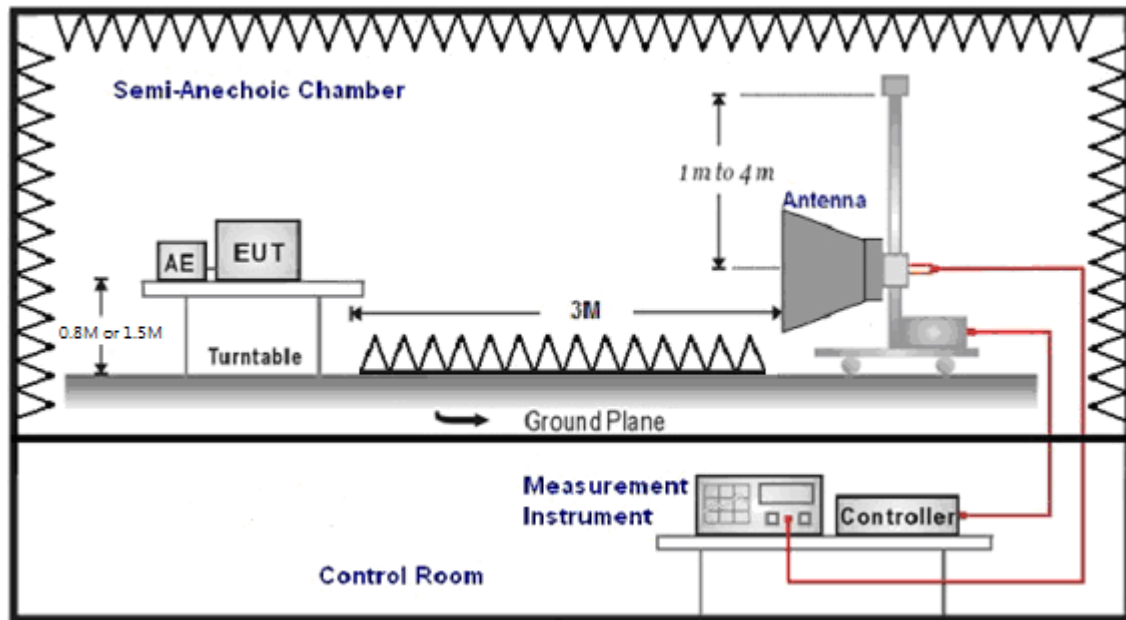
It is measured by means of a calibrated spectrum analyzer and scanned from 30 MHz up to a frequency including its 10th harmonic.

■ Setup

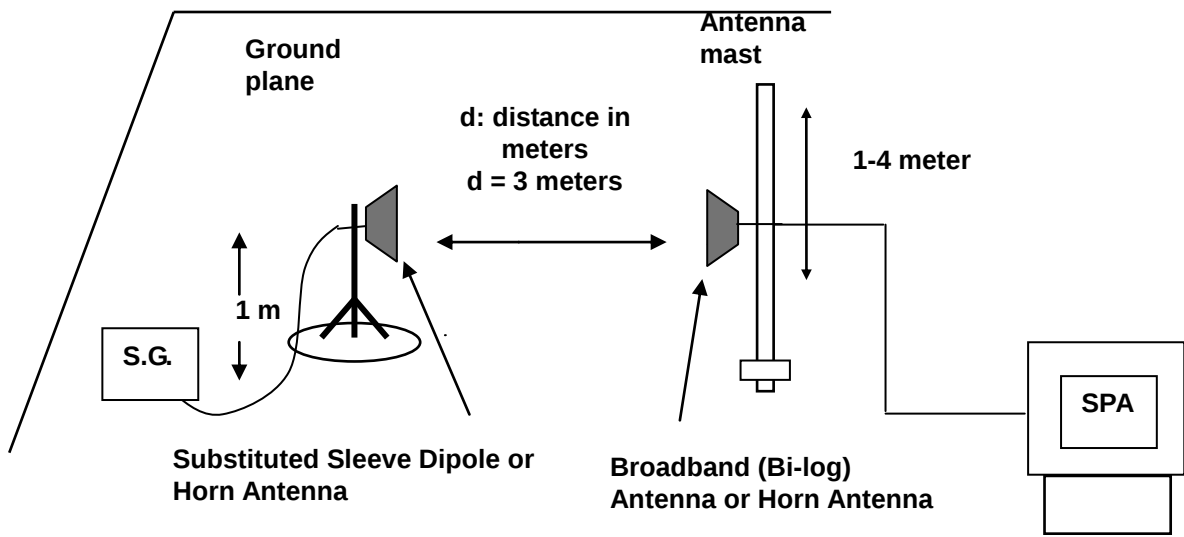
Below 1GHz



Above 1GHz



For Substituted Method Test Set-UP



■ Test Procedure

For FCC

- a. The EUT was set up for the maximum power with wwan link data modulation. The power was measured with Spectrum Analyzer. All measurements were done at 3 channels (low, middle and high operational frequency range).
- b. E.I.R.P power 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.
- c. The substitution antenna (Note:1 & 2) 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.
- d. E.I.R.P. = Output power level of S.G - TX cable loss + Antenna gain of substitution horn
- e. E.R.P. = E.I.R.P.- 2.15 dB

Note: 1. Below 1 GHz Substituted Method Test : Sleeve dipole antenna to Bi-Log Antenna

2. Above 1 GHz Substituted Method Test : Horn antenna to Horn Antenna

■ Uncertainty

The measurement uncertainty is defined as for Field Strength of Spurious Radiation measurement is ± 3.072 dB.

3 Test Results

Appendix A: Effective Radiated Power

Band 2								
Band	Modulation	Frequency (MHz)	Ant. Polar.	Read Level (dBm)	Correction Factor (dBm)	E.I.R.P.		Limit (W)
						(dBm)	(W)	
WCDMA	QPSK	1852.4	H	27.25	-10.67	16.58	0.045	< 2
			V	30.20	-10.66	19.54	0.090	< 2
		1880.0	H	28.18	-10.25	17.93	0.062	< 2
			V	30.07	-10.25	19.82	0.096	< 2
		1907.6	H	29.59	-9.82	19.77	0.095	< 2
			V	29.59	-9.82	19.77	0.095	< 2

Band 5								
Band	Modulation	Frequency (MHz)	Ant. Polar.	Read Level (dBm)	Correction Factor (dBm)	E.R.P.		Limit (W)
						(dBm)	(W)	
WCDMA	QPSK	826.4	H	15.53	-0.04	15.49	0.035	< 7
			V	17.98	-0.04	17.94	0.062	< 7
		836.6	H	16.08	0.04	16.12	0.041	< 7
			V	18.42	0.04	18.46	0.070	< 7
		846.6	H	14.99	0.04	15.03	0.032	< 7
			V	17.93	0.04	17.97	0.063	< 7

Band 4								
Band	Modulation	Frequency (MHz)	Ant. Polar.	Read Level (dBm)	Correction Factor (dBm)	E.R.P.		Limit (W)
						(dBm)	(W)	
WCDMA	QPSK	1712.4	H	27.82	-12.56	15.26	0.035	< 1
			V	30.53	-12.56	17.97	0.062	< 1
		1732.6	H	26.83	-12.29	14.54	0.041	< 1
			V	30.69	-12.27	18.42	0.070	< 1
		1752.6	H	25.07	-12.01	13.06	0.032	< 1
			V	30.40	-12.02	18.38	0.063	< 1



BC 0								
Band	Modulation	Frequency (MHz)	Ant. Polar.	Read Level (dBm)	Correction Factor (dBm)	E.I.R.P.		Limit (W)
						(dBm)	(W)	
CDMA 1xRTT	QPSK	824.7	H	17.15	-0.09	17.06	0.051	< 7
			V	18.43	-0.09	18.34	0.068	< 7
		836.5	H	16.25	0.04	16.29	0.043	< 7
			V	18.87	0.04	18.91	0.078	< 7
		848.3	H	16.05	0.04	16.09	0.041	< 7
			V	18.21	0.04	18.25	0.067	< 7
CDMA EVDO		824.7	H	18.07	-0.09	17.98	0.063	< 7
			V	18.07	-0.09	17.98	0.063	< 7
		836.5	H	15.37	0.04	15.41	0.035	< 7
			V	17.44	0.04	17.48	0.056	< 7
		848.3	H	15.73	0.04	15.77	0.038	< 7
			V	17.99	0.04	18.03	0.064	< 7

BC 1								
Band	Modulation	Frequency (MHz)	Ant. Polar.	Read Level (dBm)	Correction Factor (dBm)	E.R.P.		Limit (W)
						(dBm)	(W)	
CDMA 1xRTT	QPSK	1908.8	H	26.67	-9.79	16.88	0.049	< 2
			V	28.03	-9.79	18.24	0.067	< 2
		1851.3	H	27.06	-10.69	16.37	0.043	< 2
			V	28.28	-10.69	17.59	0.057	< 2
		1880.0	H	26.27	-10.24	16.03	0.040	< 2
			V	28.08	-10.24	17.84	0.061	< 2
CDMA EVDO		1908.8	H	25.96	-9.79	16.17	0.041	< 2
			V	27.68	-9.79	17.89	0.062	< 2
		1851.3	H	26.17	-10.69	15.48	0.035	< 2
			V	28.01	-10.69	17.32	0.054	< 2
		1880.0	H	27.27	-10.24	17.03	0.050	< 2
			V	28.33	-10.24	18.09	0.064	< 2

BC 10								
Band	Modulation	Frequency (MHz)	Ant. Polar.	Read Level (dBm)	Correction Factor (dBm)	E.R.P.		Limit (W)
						(dBm)	(W)	
CDMA 1xRTT	QPSK	817.3	H	16.11	-0.22	15.89	0.039	< 100
			V	18.46	-0.22	18.24	0.067	< 100
		820.0	H	16.11	-0.17	15.94	0.039	< 100
			V	17.50	-0.17	17.33	0.054	< 100
		822.8	H	15.60	-0.12	15.48	0.035	< 100
			V	17.35	-0.12	17.23	0.053	< 100
CDMA EVDO		817.3	H	17.33	-0.22	17.11	0.051	< 100
			V	18.14	-0.22	17.92	0.062	< 100
		820.0	H	15.81	-0.17	15.64	0.037	< 100
			V	16.66	-0.17	16.49	0.045	< 100
		822.8	H	15.21	-0.12	15.09	0.032	< 100
			V	17.00	-0.12	16.88	0.049	< 100

**Appendix B: Field Strength of Spurious Radiation**

Standard:	FCC Part 22H/24E/27/90	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	1852.4MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 1	Date:	09/21/2017
Ant.Polar.:	Horizontal		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	3704.800	-52.12	-6.10	-58.22	-13.00	-45.22	peak

Standard:	FCC Part 22H/24E/27/90	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	1852.4MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 1	Date:	09/21/2017
Ant.Polar.:	Vertical		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	3704.800	-51.34	-6.10	-57.44	-13.00	-44.44	peak



Standard:	FCC Part 22H/24E/27/90	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	1880MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 1	Date:	09/21/2017
Ant.Polar.:	Horizontal		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	3760.000	-51.54	-5.87	-57.41	-13.00	-44.41	peak

Standard:	FCC Part 22H/24E/27/90	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	1880MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 1	Date:	09/21/2017
Ant.Polar.:	Vertical		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	3760.000	-52.16	-5.87	-58.03	-13.00	-45.03	peak



Standard:	FCC Part 22H/24E/27/90	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	1907.6MHz	Temp.(°C)/Hum. (%RH):	26(°C)/60%RH
Mode:	Mode 1	Date:	09/21/2017
Ant.Polar.:	Horizontal		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	3815.200	-51.42	-5.82	-57.24	-13.00	-44.24	peak

Standard:	FCC Part 22H/24E/27/90	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	1907.6MHz	Temp.(°C)/Hum. (%RH):	26(°C)/60%RH
Mode:	Mode 1	Date:	09/21/2017
Ant.Polar.:	Vertical		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	3815.200	-51.14	-5.82	-56.96	-13.00	-43.96	peak



Standard:	FCC Part 22H/24E/27/90	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	826.4MHz	Temp.(°C)/Hum. (%RH):	26(°C)/60%RH
Mode:	Mode 2	Date:	09/21/2017
Ant.Polar.:	Horizontal		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	1652.800	-38.91	-13.37	-52.28	-13.00	-39.28	peak

Standard:	FCC Part 22H/24E/27/90	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	826.4MHz	Temp.(°C)/Hum. (%RH):	26(°C)/60%RH
Mode:	Mode 2	Date:	09/21/2017
Ant.Polar.:	Vertical		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	1652.800	-40.72	-13.37	-54.09	-13.00	-41.09	peak



Standard:	FCC Part 22H/24E/27/90	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	836.6MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 2	Date:	09/21/2017
Ant.Polar.:	Horizontal		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	1673.200	-40.92	-13.10	-54.02	-13.00	-41.02	peak

Standard:	FCC Part 22H/24E/27/90	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	836.6MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 2	Date:	09/21/2017
Ant.Polar.:	Vertical		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	1673.200	-43.05	-13.10	-56.15	-13.00	-43.15	peak



Standard:	FCC Part 22H/24E/27/90	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	846.6MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 2	Date:	09/21/2017
Ant.Polar.:	Horizontal		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	1693.200	-41.38	-12.83	-54.21	-13.00	-41.21	peak

Standard:	FCC Part 22H/24E/27/90	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	846.6MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 2	Date:	09/21/2017
Ant.Polar.:	Vertical		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	1693.200	-43.07	-12.83	-55.90	-13.00	-42.90	peak



Standard:	FCC Part 22H/24E/27/90	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	1712.4MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 3	Date:	09/21/2017
Ant.Polar.:	Horizontal		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	3424.800	-48.88	-7.31	-56.19	-13.00	-43.19	peak

Standard:	FCC Part 22H/24E/27/90	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	1712.4MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 3	Date:	09/21/2017
Ant.Polar.:	Vertical		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	3424.800	-49.26	-7.31	-56.57	-13.00	-43.57	peak



Standard:	FCC Part 22H/24E/27/90	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	1732.6MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 3	Date:	09/21/2017
Ant.Polar.:	Horizontal		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	3465.200	-48.57	-7.18	-55.75	-13.00	-42.75	peak

Standard:	FCC Part 22H/24E/27/90	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	1732.6MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 3	Date:	09/21/2017
Ant.Polar.:	Vertical		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	3465.200	-48.98	-7.18	-56.16	-13.00	-43.16	peak



Standard:	FCC Part 22H/24E/27/90	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	1752.6MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 3	Date:	09/21/2017
Ant.Polar.:	Horizontal		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	3505.200	-48.95	-7.04	-55.99	-13.00	-42.99	peak

Standard:	FCC Part 22H/24E/27/90	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	1752.6MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 3	Date:	09/21/2017
Ant.Polar.:	Vertical		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	3505.200	-49.20	-7.04	-56.24	-13.00	-43.24	peak



Standard:	FCC Part 22H/24E/27/90	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	824.7MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 4	Date:	09/25/2017
Ant.Polar.:	Horizontal		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	1649.400	-34.95	-13.42	-48.37	-13.00	-35.37	peak

Standard:	FCC Part 22H/24E/27/90	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	824.7MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 4	Date:	09/22/2017
Ant.Polar.:	Vertical		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	1649.400	-33.64	-13.42	-47.06	-13.00	-34.06	peak



Standard:	FCC Part 22H/24E/27/90	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	836.52MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 4	Date:	09/25/2017
Ant.Polar.:	Horizontal		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	1673.040	-36.13	-13.10	-49.23	-13.00	-36.23	peak

Standard:	FCC Part 22H/24E/27/90	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	836.52MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 4	Date:	09/25/2017
Ant.Polar.:	Vertical		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	1673.040	-34.91	-13.10	-48.01	-13.00	-35.01	peak



Standard:	FCC Part 22H/24E/27/90	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	848.31MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 4	Date:	09/25/2017
Ant.Polar.:	Horizontal		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	1696.620	-37.42	-12.77	-50.19	-13.00	-37.19	peak

Standard:	FCC Part 22H/24E/27/90	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	848.31MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 4	Date:	09/25/2017
Ant.Polar.:	Vertical		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	1696.620	-36.26	-12.77	-49.03	-13.00	-36.03	peak



Standard:	FCC Part 22H/24E/27/90	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	1908.75MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 5	Date:	09/25/2017
Ant.Polar.:	Horizontal		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	3817.500	-42.89	-5.82	-48.71	-13.00	-35.71	peak

Standard:	FCC Part 22H/24E/27/90	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	1908.75MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 5	Date:	09/25/2017
Ant.Polar.:	Vertical		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	3817.500	-44.25	-5.82	-50.07	-13.00	-37.07	peak



Standard:	FCC Part 22H/24E/27/90	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	1851.25MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 5	Date:	09/25/2017
Ant.Polar.:	Horizontal		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	3702.500	-42.67	-6.12	-48.79	-13.00	-35.79	peak

Standard:	FCC Part 22H/24E/27/90	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	1851.25MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 5	Date:	09/25/2017
Ant.Polar.:	Vertical		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	3702.500	-40.26	-6.12	-46.38	-13.00	-33.38	peak



Standard:	FCC Part 22H/24E/27/90	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	1880MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 5	Date:	09/25/2017
Ant.Polar.:	Horizontal		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	3760.000	-45.40	-5.87	-51.27	-13.00	-38.27	peak

Standard:	FCC Part 22H/24E/27/90	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	1880MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 5	Date:	09/25/2017
Ant.Polar.:	Vertical		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	3760.000	-44.29	-5.87	-50.16	-13.00	-37.16	peak



Standard:	FCC Part 22H/24E/27/90	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	817.25MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 6	Date:	09/25/2017
Ant.Polar.:	Horizontal		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	1634.500	-32.55	-13.62	-46.17	-13.00	-33.17	peak

Standard:	FCC Part 22H/24E/27/90	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	817.25MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 6	Date:	09/25/2017
Ant.Polar.:	Vertical		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	1634.500	-35.76	-13.62	-49.38	-13.00	-36.38	peak



Standard:	FCC Part 22H/24E/27/90	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	820MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 6	Date:	09/25/2017
Ant.Polar.:	Horizontal		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	1640.000	-36.57	-13.55	-50.12	-13.00	-37.12	peak

Standard:	FCC Part 22H/24E/27/90	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	820MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 6	Date:	09/25/2017
Ant.Polar.:	Vertical		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	1640.000	-34.82	-13.55	-48.37	-13.00	-35.37	peak



Standard:	FCC Part 22H/24E/27/90	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	822.75MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 6	Date:	09/25/2017
Ant.Polar.:	Horizontal		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	1645.500	-37.81	-13.46	-51.27	-13.00	-38.27	peak

Standard:	FCC Part 22H/24E/27/90	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	822.75MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 6	Date:	09/25/2017
Ant.Polar.:	Vertical		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	1645.500	-35.51	-13.46	-48.97	-13.00	-35.97	peak



Standard:	FCC Part 22H/24E/27/90	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	824.7MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 7	Date:	09/29/2017
Ant.Polar.:	Horizontal		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	1649.400	-31.89	-13.42	-45.31	-13.00	-32.31	peak

Standard:	FCC Part 22H/24E/27/90	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	824.7MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 7	Date:	09/29/2017
Ant.Polar.:	Vertical		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	1649.400	-31.36	-13.42	-44.78	-13.00	-31.78	peak



Standard:	FCC Part 22H/24E/27/90	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	836.52MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 7	Date:	09/29/2017
Ant.Polar.:	Horizontal		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	1673.040	-36.23	-13.10	-49.33	-13.00	-36.33	peak

Standard:	FCC Part 22H/24E/27/90	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	836.52MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 7	Date:	09/29/2017
Ant.Polar.:	Vertical		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	1673.040	-34.93	-13.10	-48.03	-13.00	-35.03	peak



Standard:	FCC Part 22H/24E/27/90	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	848.31MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 7	Date:	09/29/2017
Ant.Polar.:	Horizontal		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	1696.620	-37.31	-12.77	-50.08	-13.00	-37.08	peak

Standard:	FCC Part 22H/24E/27/90	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	848.31MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 7	Date:	09/29/2017
Ant.Polar.:	Vertical		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	1696.620	-36.58	-12.77	-49.35	-13.00	-36.35	peak



Standard:	FCC Part 22H/24E/27/90	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	1908.75MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 8	Date:	09/29/2017
Ant.Polar.:	Horizontal		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	3817.500	-35.86	-5.82	-41.68	-13.00	-28.68	peak

Standard:	FCC Part 22H/24E/27/90	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	1908.75MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 8	Date:	09/29/2017
Ant.Polar.:	Vertical		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	3817.500	-36.46	-5.82	-42.28	-13.00	-29.28	peak



Standard:	FCC Part 22H/24E/27/90	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	1851.25MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 8	Date:	09/29/2017
Ant.Polar.:	Horizontal		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	3702.500	-40.86	-6.12	-46.98	-13.00	-33.98	peak

Standard:	FCC Part 22H/24E/27/90	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	1851.25MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 8	Date:	09/29/2017
Ant.Polar.:	Vertical		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	3702.500	-41.26	-6.12	-47.38	-13.00	-34.38	peak



Standard:	FCC Part 22H/24E/27/90	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	1880MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 8	Date:	09/29/2017
Ant.Polar.:	Horizontal		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	3760.000	-41.82	-5.87	-47.69	-13.00	-34.69	peak

Standard:	FCC Part 22H/24E/27/90	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	1880MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 8	Date:	09/29/2017
Ant.Polar.:	Vertical		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	3760.000	-39.52	-5.87	-45.39	-13.00	-32.39	peak



Standard:	FCC Part 22H/24E/27/90	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	817.25MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 9	Date:	09/29/2017
Ant.Polar.:	Horizontal		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	1634.500	-29.83	-13.62	-43.45	-13.00	-30.45	peak

Standard:	FCC Part 22H/24E/27/90	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	817.25MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 9	Date:	09/29/2017
Ant.Polar.:	Vertical		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	1634.500	-27.13	-13.62	-40.75	-13.00	-27.75	peak



Standard:	FCC Part 22H/24E/27/90	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	820MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 9	Date:	09/29/2017
Ant.Polar.:	Horizontal		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	1640.000	-27.16	-13.55	-40.71	-13.00	-27.71	peak

Standard:	FCC Part 22H/24E/27/90	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	820MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 9	Date:	09/29/2017
Ant.Polar.:	Vertical		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	1640.000	-29.58	-13.55	-43.13	-13.00	-30.13	peak



Standard:	FCC Part 22H/24E/27/90	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	822.75MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 9	Date:	09/29/2017
Ant.Polar.:	Horizontal		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	1645.500	-25.16	-13.46	-38.62	-13.00	-25.62	peak

Standard:	FCC Part 22H/24E/27/90	Test Distance:	3m
Test item:	Harmonic	Power:	AC 120V/60Hz
Frequency:	822.75MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60%RH
Mode:	Mode 9	Date:	09/29/2017
Ant.Polar.:	Vertical		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	1645.500	-22.40	-13.46	-35.86	-13.00	-22.86	peak