

## RF Test Report

Issued Date: Aug. 31, 2018

Applicant : Netgear Incorporated  
Product Type : Netgear Mobile Hotspot  
Trade Name : NETGEAR  
Model Number : AC797S  
FCC ID : PY318300421  
EUT Rated Voltage : DC 5.0 V, 1.0 A  
Test Voltage : DC 3.5 V / DC 3.8 V / DC 4.35 V  
AC 120 V, 60 Hz  
Receive Date : Jul. 30, 2018  
Test Period : Aug. 16 ~ Aug. 28, 2018  
Applicable Standard : FCC 47 CFR PART 90R  
ANSI/TIA-603-E 2016  
Test Result : Complied

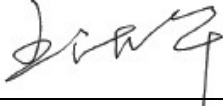
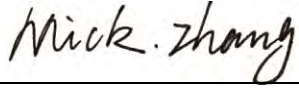
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Approved By :   
(Manager) (Hai Wang)  
Reviewed By :   
(Testing Engineer) (Mick Zhang)



### **Revision History**

Rev.	Issue Date	Revisions	Revised By
00	Aug. 31, 2018	Initial Issue	Nina Lin

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# 1 General Information

## 1.1. EUT Description

Applicant	Netgear Incorporated 350 East Plumeria Drive, San Jose, California, United States 95134		
Manufacturer	Netgear Inc. Suite 168 - 10760 Shellbridge Way, Richmond, BC Canada V6X 3H1		
Product Type	Netgear Mobile Hotspot		
Trade Name	NETGEAR		
Model Number	AC797S		
FCC ID	PY318300421		
IMEI No.	01525300000651		
Operate Band	Frequency Range (MHz)	Modulation	Channel Bandwidth
LTE Band 14	UL: 788 ~ 798	QPSK, 16QAM	5MHz, 10MHz
	DL: 758 ~ 768	QPSK, 16QAM	
Type of Antenna	Internal IFA Antenna		
Antenna Gain	LTE Band 14	-0.05 dBi	
Operate Temp. Range	0 ~ 55 °C		

Band	Channel Bandwidth	Modulation	Max. RF Output Power	E.R.P. /E.I.R.P.
			(W)	(W)
LTE Band14	5MHz	QPSK	0.199	0.197
LTE Band14	5MHz	16QAM	0.172	0.139
LTE Band14	10MHz	QPSK	0.200	0.190
LTE Band14	10MHz	16QAM	0.167	0.129

Band	Channel Bandwidth	Modulation	Emission Designator Occupied Bandwidth (MHz)	
LTE Band14	5MHz	QPSK	4.4713	4M47G7D
LTE Band14	5MHz	16QAM	4.4809	4M48W7D
LTE Band14	10MHz	QPSK	8.9190	8M92G7D
LTE Band14	10MHz	16QAM	8.9332	8M93W7D



## 1.2. Mode of Operation

Three channels had been tested for each channel bandwidth.

LTE Band 14				
Channel Bandwidth	5MHz		10MHz	
	Channel	Frequency (MHz)	Channel	Frequency (MHz)
Low CH	23305	790.5	---	---
Middle CH	23330	793	23330	793
High CH	23255	795.5	---	---

During all testing, EUT is in link mode with base station emulator at maximum power level. The spurious emission measurements were carried out in semi-anechoic chamber with 3-meter test range, and EUT is rotated on three test planes to find out the worst emission.

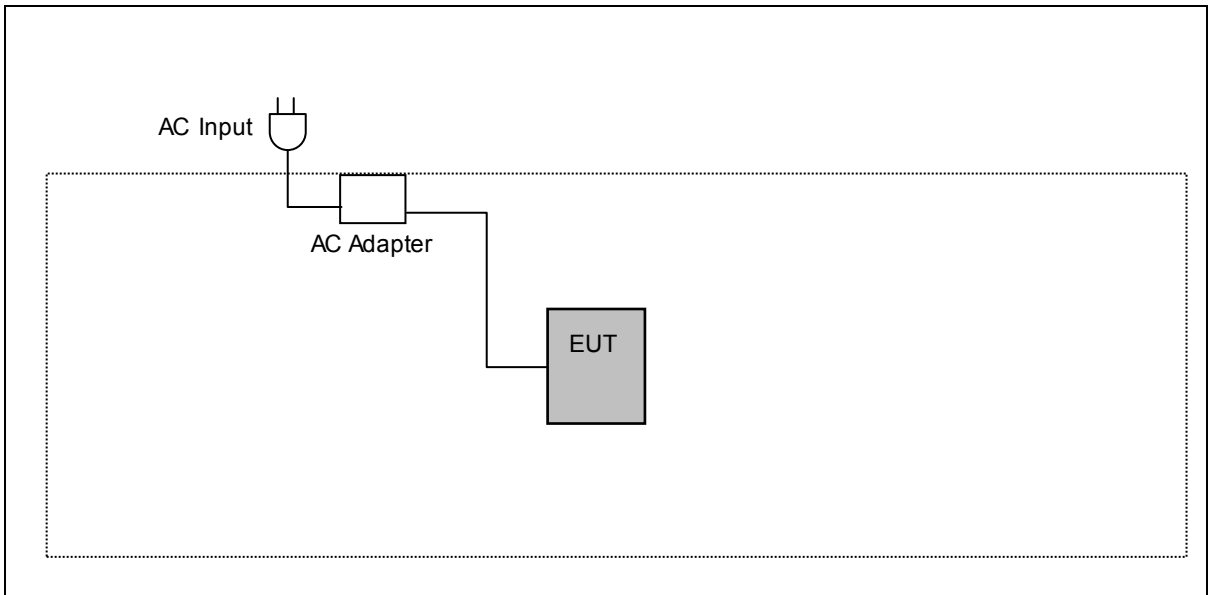
Frequency range investigated for radiated emission: 30 MHz to 26.5 GHz.

Band	Channel Bandwidth	Test Modes	
LTE Band 14	5 MHz	<input type="checkbox"/> LTE(RB Size 1, RB Offset 0) Link <input type="checkbox"/> LTE(RB Size 1, RB Offset 12) Link <input checked="" type="checkbox"/> LTE(RB Size 1, RB Offset 24) Link <input type="checkbox"/> LTE(RB Size 12, RB Offset 0) Link <input type="checkbox"/> LTE(RB Size 12, RB Offset 6) Link <input type="checkbox"/> LTE(RB Size 12, RB Offset 13) Link <input type="checkbox"/> LTE(RB Size 25, RB Offset 0) Link	QPSK
	10 MHz	<input checked="" type="checkbox"/> LTE(RB Size 1, RB Offset 0) Link <input type="checkbox"/> LTE(RB Size 1, RB Offset 24) Link <input type="checkbox"/> LTE(RB Size 1, RB Offset 49) Link <input type="checkbox"/> LTE(RB Size 25, RB Offset 0) Link <input type="checkbox"/> LTE(RB Size 25, RB Offset 12) Link <input type="checkbox"/> LTE(RB Size 25, RB Offset 25) Link <input type="checkbox"/> LTE(RB Size 50, RB Offset 0) Link	QPSK

## 1.3. EUT Test Step

1	Setup the EUT shown on "Configuration of Test System Details".
2	Turn on the power of all equipment.
3	EUT run test program test.

### 1.4. Configuration of Test System Details



Devices Description					
	Product	Manufacturer	Model Number	Serial Number	Power Cord
(1)	---	---	---	---	---



## 1.5. Test Instruments

For Conducted

Test Period: Aug. 16 ~ Aug. 24, 2018

Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Cal. Cycle
Temperature & Humidity Chamber	TAICHY	MHU-225LA	980729	04/16/2018	1 year
Power Supply	KEITHLEY	2303	4045290	02/08/2018	1 year
Divider	Warison	WDIV-210.5-26.5S 20	WR222AM2B1	02/27/2018	1 year
EXA Spectrum Analyzer	Agilent	N9010A	MY48030518	11/20/2018	1 year
Radio Communication Analyzer	Anritsu	MT8820C	6201342039	12/10/2017	1 year

For Spurious Radiation

Test Period: Aug. 25 ~ Aug. 28, 2018

Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Cal. Cycle
Preamplifier (10 kHz~3 GHz)	EMCI	EMC001330	980300	09/19/2017	1 year
Preamplifier (0.1 GHz~26.5 GHz)	EMCI	EMC012645SE	980318	09/19/2017	1 year
Bilog Antenna (30MHz~1.4GHz)	Schwarzbeck	VULB 9168	672	11/15/2017	1 year
Horn Antenna (1GHz~18GHz)	ETS	3117	00204949	11/16/2017	1 year
Receiver (3Hz~26.5GHz)	Keysight	N9038A	MY51210179	09/19/2017	1 year
Spectrum Analyzer (3Hz~43GHz)	Keysight	N9030A	MY55410268	09/19/2017	1 year
Cable (30MHz~1GHz)	EMCI	N/A	1066LFC	09/19/2017	1 year
Cable (1GHz~18GHz)	EMCI	N/A	160719	09/19/2017	1 year
Cable (1GHz~18GHz)	EMCI	N/A	160324	09/19/2017	1 year
Cable (1GHz~18GHz)	EMCI	N/A	160322	09/19/2017	1 year
Loop Antenna	EMCI	LPA600	272	02/07/2018	1 year
Test Site	OuHeng	MFAC3M	RE-026	03/15/2018	1 year



## 1.6. Test Site Environment

Items	Required (IEC 68-1)	Actual
Temperature (°C)	15-35	26
Humidity (%RH)	25-75	60
Barometric pressure (mbar)	860-1060	950

Test Setting Condition		
L.V.	Low Voltage	DC 3.5 V
N.V.	Normal Voltage	DC 3.8 V
H.V.	High Voltage	DC 4.35 V
L.T.	Low Temperature	0 °C
N.T.	Normal Temperature	+25 °C
H.T.	High Temperature	+55 °C

## 1.7. Summary of Test Result

FCC Rule	Description	Result
§2.1046	Conducted Output Average Power	Pass
§90.542	Equivalent Isotropic Radiated Power / Equivalent Radiated Power	Pass
§2.1055	Frequency Stability	Pass
§2.1049	Emission Bandwidth & Occupied Bandwidth	Pass
KDB 971168	Peak to average ratio	Pass
§2.1051 §90.543	Band Edge	Pass
§2.1051 §90.543	Conducted Spurious Emissions	Pass
§2.1053 §90.543	Radiated Spurious Emissions	Pass



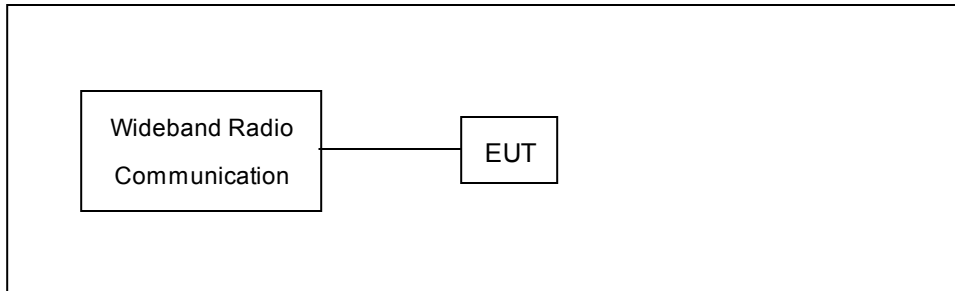
## 2 Measurement Procedure

### 2.1. Conducted Output Average Power Test

- **Limit**

N/A

- **Test Setup**



- **Test Procedure**

- The EUT was set up for the maximum power with simulator.
- Set the EUT to transmit under low, middle and high channel and record the power level shown on simulator.

- **Uncertainty**

The measurement uncertainty is defined as for Conducted Power measurement is 1.2 dB.

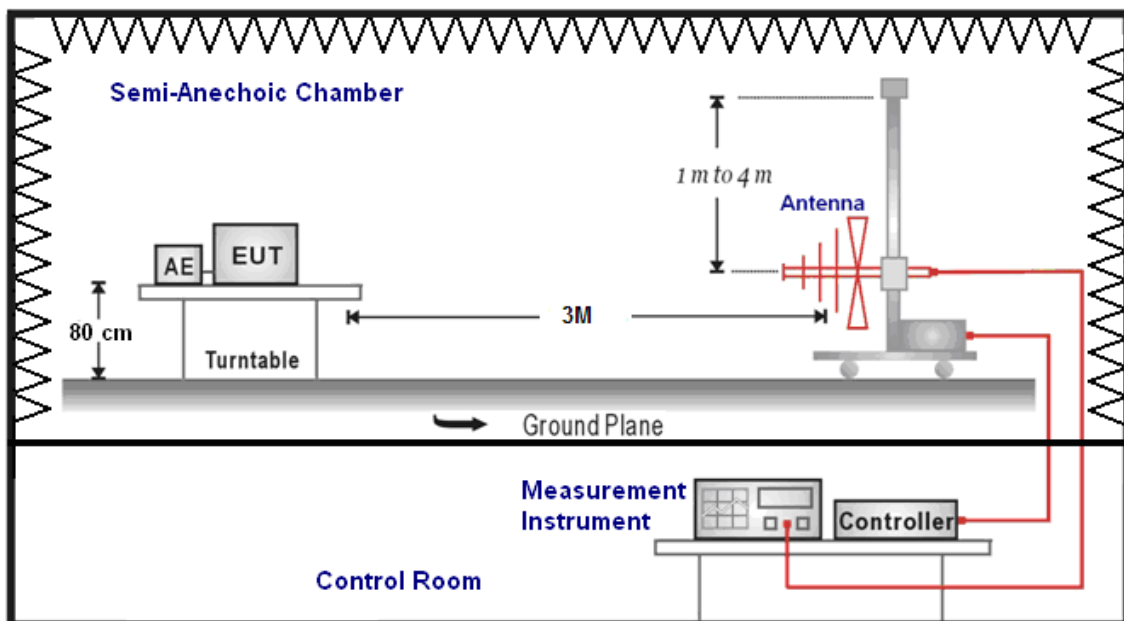
## 2.2. Effective Radiated Power / Equivalent Isotropic Radiated Power Test

### ■ Limit

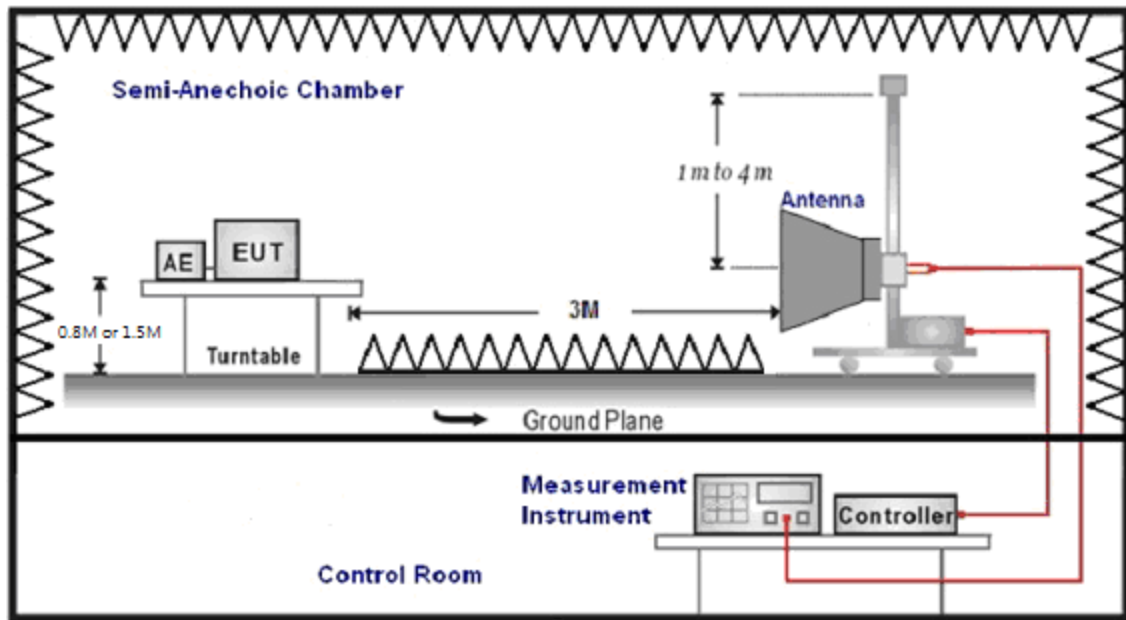
For FCC Part 90.542(7): Portable stations (hand-held devices) transmitting in the 758-768 MHz band and the 788-798 MHz band are limited to 3 watts ERP.

### ■ Test Setup

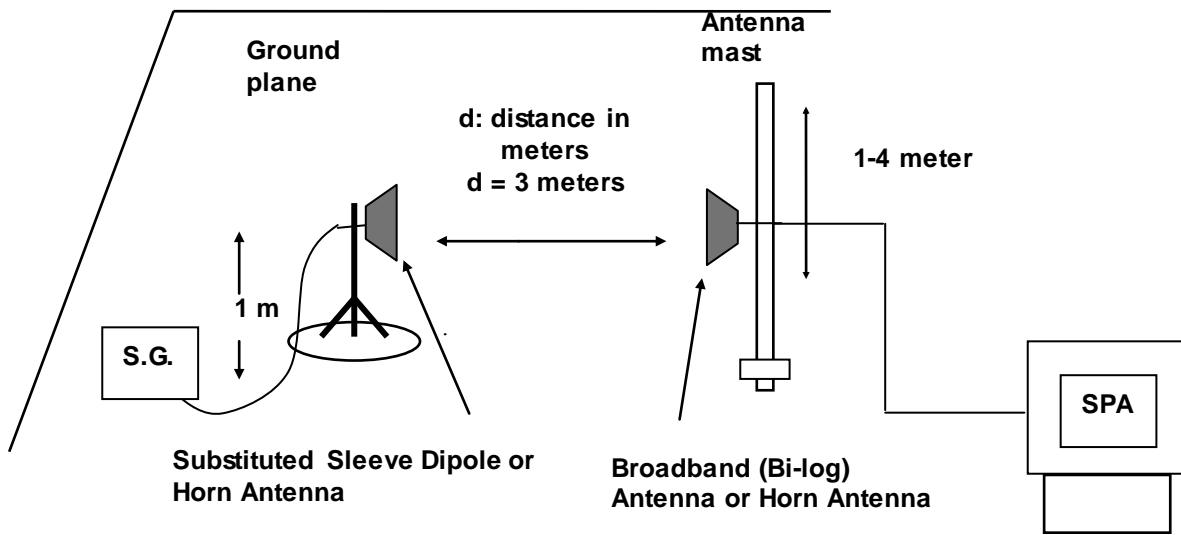
Below 1 GHz



Above 1 GHz



For Substituted Method Test Set-UP





■ **Test Procedure**

- 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 0.8 m 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 4 m 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**

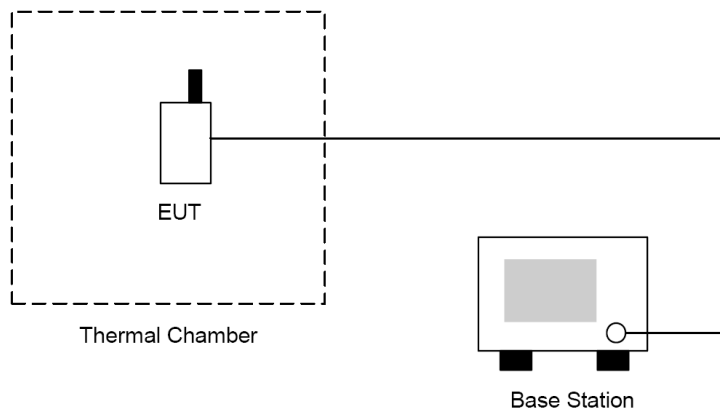
The measurement uncertainty is defined as for Field Strength of Spurious Radiation measurement is  $\pm 3.072 \text{ dB}$ .

## 2.3. Frequency Stability Test

### ■ Limit

According to the FCC rule shall be tested the frequency stability. The rule is defined that” The frequency stability shall be sufficient to ensure that the fundamental emissions stay within the authorized bands of operation. The test extreme voltage is according to the 2.1055(d)(1) Vary primary supply voltage from 85 to 115 percent of the nominal value for other than hand carried battery equipment and the extreme temperature rule is comply with the 2.1055(a)(1) -30 °C ~ 50 °C.

### ■ Setup



### ■ Test Procedure

1. The EUT and test equipment were set up as shown on the following section.
2. With all power removed, the temperature was decreased to -30 °C and permitted to stabilize for three hours. Power was applied and the maximum change in frequency was noted within one minute.
3. With power OFF, the temperature was raised in 10 °C steps. The sample was permitted to stabilize at each step for at least one-half hour. Power was applied and the maximum frequency change was noted within one minute.
4. The EUT was placed in a temperature chamber at  $25 \pm 5$  °C and connected as the following section.
5. The power supply voltage to the EUT was varied from BEP to 115 % of the nominal value measured at the input to the EUT.
6. The temperature tests were performed for the worst case.
7. Test data was recorded.

### ■ Uncertainty

The measurement uncertainty is defined as for Frequency Stability measurement is  $\pm 10$  Hz.

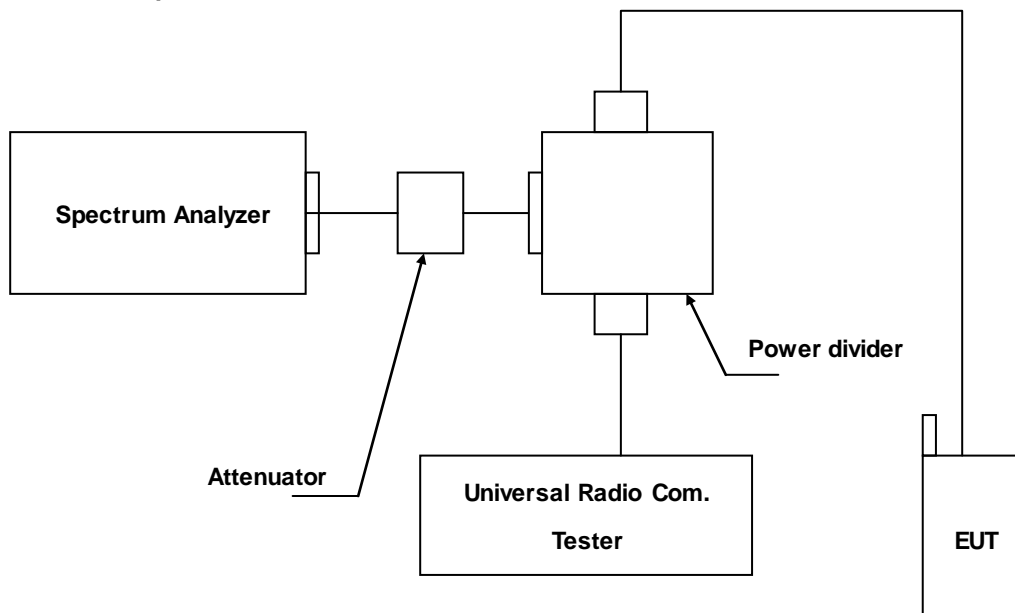
## 2.4. Emission Bandwidth & Occupied Bandwidth Test

### ■ Limit

The width of a frequency band such that, below the lower and above the upper frequency limits, the mean powers emitted are each equal to a specified percentage 0.5 % of the total mean power of a given emission.

The emission bandwidth is defined as the width of the signal between two points, located at the 2 sides of the carrier frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

### ■ Setup



### ■ Test Procedure

- The EUT makes a phone call to the communication simulator. The power was measured with Spectrum Analyzer. All measurements were done at 3 channels. (low, middle and high operational frequency range.)
- The conducted occupied bandwidth used the power splitter via EUT RF power connector between simulation base station and spectrum analyzer.
- The communication simulator station system controlled a EUT to export maximum output power under transmission mode and specific channel frequency. Use OBW measurement function of Spectrum analyzer to measure 99 % occupied bandwidth.

### ■ Uncertainty

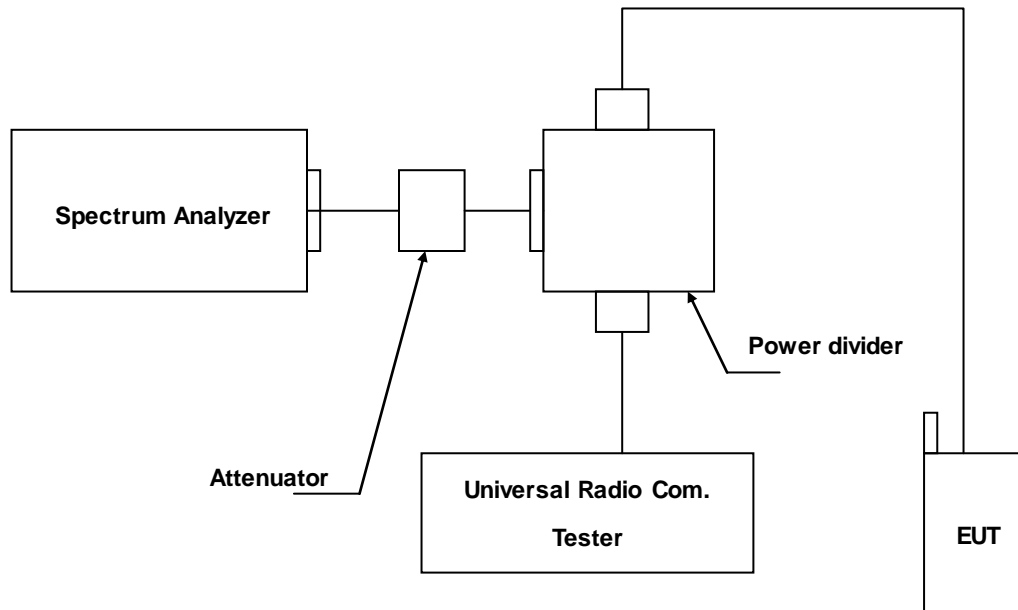
The measurement uncertainty is defined as  $\pm 10$  Hz

## 2.5. Peak to Average Ratio Test

### ■ Limit

In measuring transmissions in this band using an average power technique, the peak to -average ratio (PAR) of the transmission maynot exceed 13 dB.

### ■ Setup



### ■ Test Procedure

- Set resolution/measurement bandwidth signal's occupied bandwidth;
- Set the number of counts to a value that stabilizes the measured CCDF curve;
- Record the maximum PAPR level associated with a probability of 0.1 %.

### ■ Uncertainty

The measurement uncertainty is defined as for Conducted Power measurement is 1.2 dB.

## 2.6. Band Edge Test

### ■ Limit

The Band Edge Limit:

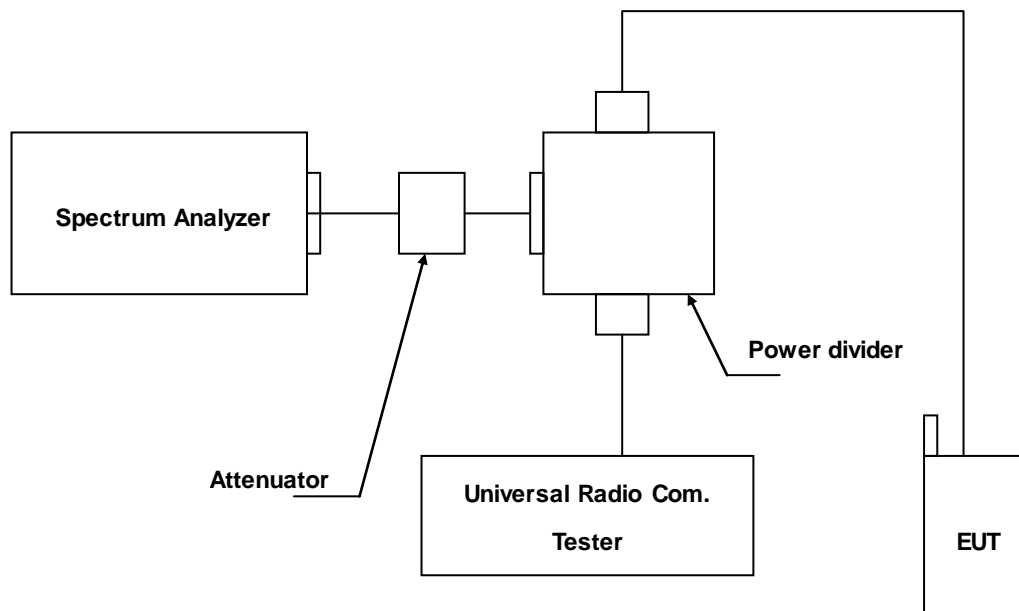
§90.543 (e)(2)

On all frequencies between 769-775 MHz and 799-805 MHz, by a factor not less than  $65 + 10 \log (P)$  dB in a 6.25 kHz band segment, for mobile and portable stations.

§90.543 (e)(3)

On all frequencies between 775-788 MHz, above 805 MHz, and below 758 MHz, by at least  $43 + 10 \log (P)$  dB.

### ■ Setup



### ■ Test Procedure

- The EUT was set up for the maximum peak power with WWAN link data modulation. The power was measured with Spectrum Analyzer. All measurements were done at 2 channels (low and high operational frequency range.)
- The band edge measurement used the power splitter via EUT RF power connector between simulation base station and spectrum analyzer. This splitter loss and cable loss are the worst loss in the transmitted path track.
- The center frequency of spectrum is the band edge frequency and span is 10 MHz. RB of the resolution bandwidth of at least one percent of the emission bandwidth.
- Record the max trace plot into the test report.

### ■ Uncertainty

The measurement uncertainty is defined as for Conducted Power measurement is 1.2 dB.



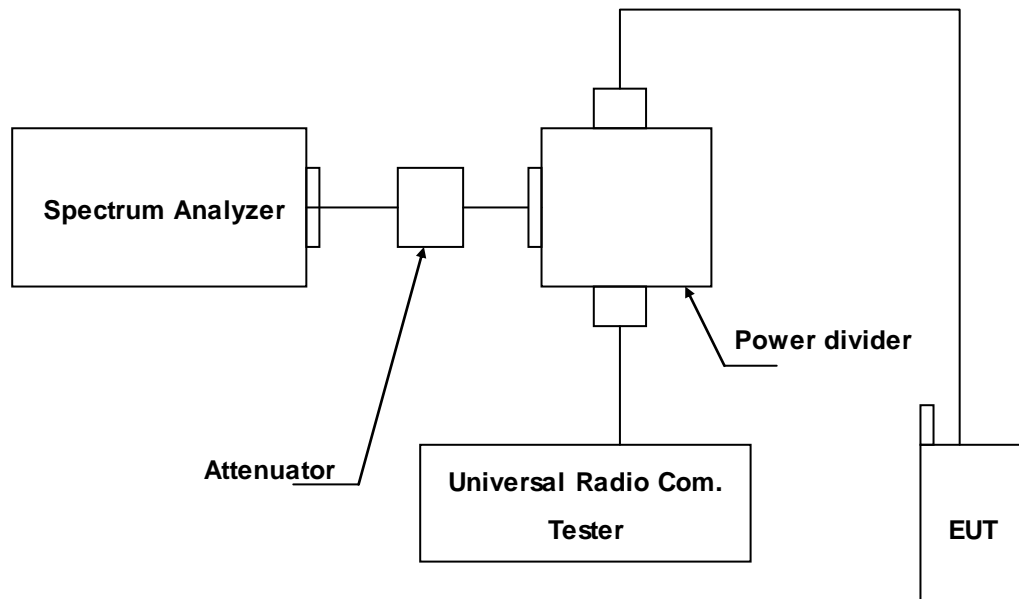
## 2.7. Conducted Spurious Emission Test

### ■ Limit

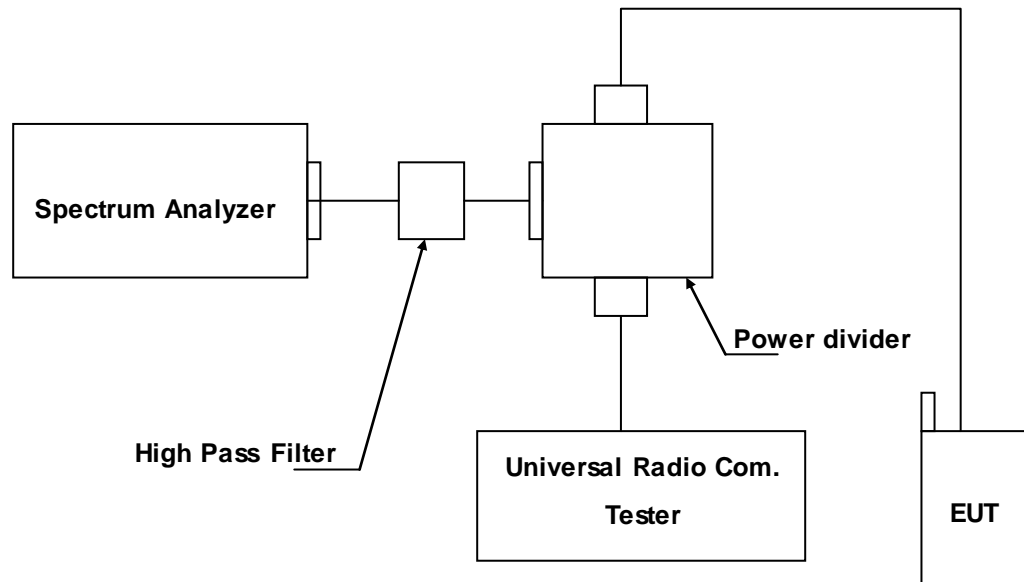
The power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) by at least  $43 + 10 \log_{10}(P)$  dB. The limit of emission equal to -13 dBm

### ■ Setup

Below 2.8 GHz



Above 2.8 GHz



#### ■ Test Procedure

- The EUT was set up for the maximum peak 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.).
- The conducted spurious emission used the power splitter via EUT RF power connector between simulation base station and spectrum analyzer.
- When the spectrum scanned from 10 MHz to 2.5 GHz (Band 7 and Band 41: scanned from 10 MHz to 4 GHz), it shall be connected to the band reject filter attenuated the carried frequency. The spectrum set RB=1 MHz, VB=1 MHz.
- When the spectrum scanned from 2.5 GHz to 10<sup>th</sup> harmonic (Band 7 and Band 41: scanned from 4 GHz to 10<sup>th</sup> harmonic). The spectrum set RB=1 MHz, VB=1 MHz.

#### ■ Uncertainty

The measurement uncertainty is evaluated as  $\pm 2.24$  dB.

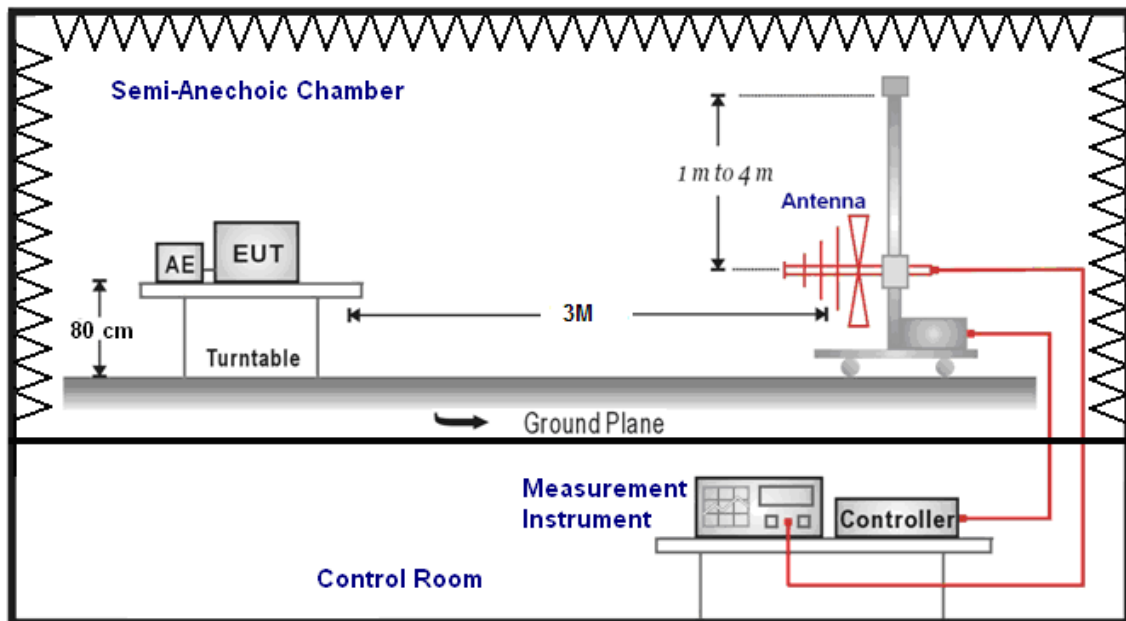
## 2.8. Radiated Emission Test

### ■ Limit

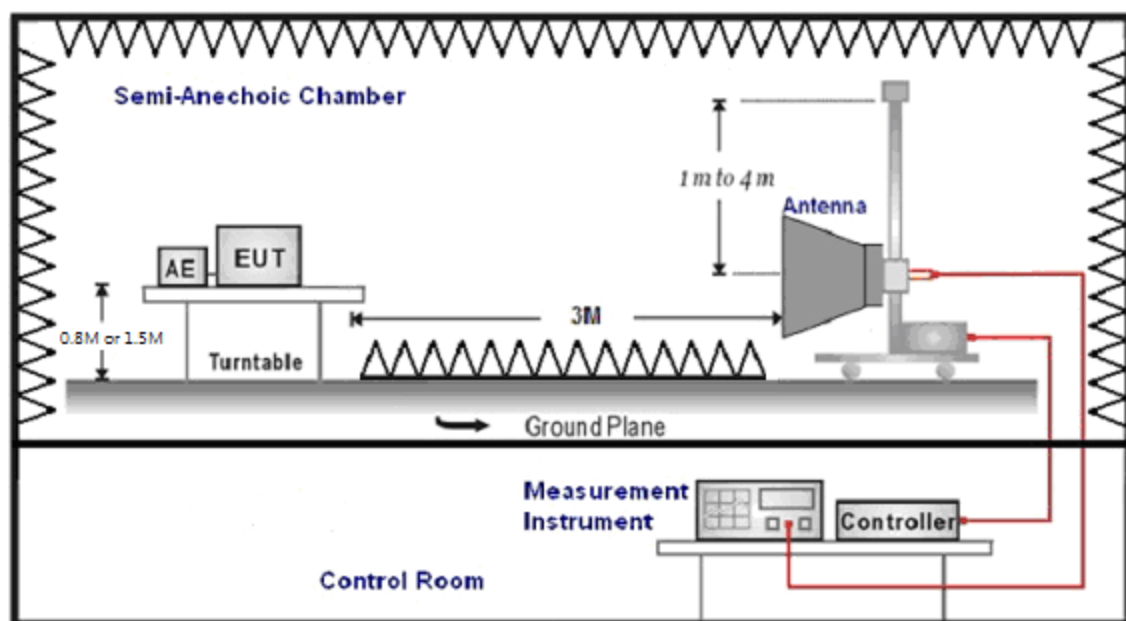
The power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) by at least  $43 + 10 \log_{10}(P)$  dB. The limit of emission equal to -13 dBm

### ■ Setup

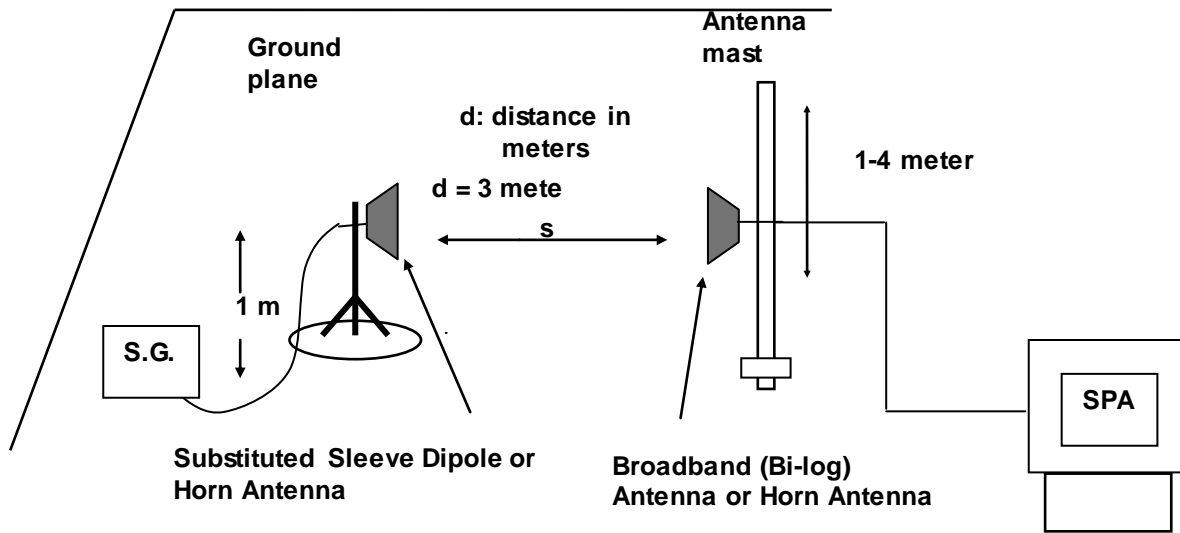
Below 1 GHz



Above 1 GHz



For Substituted Method Test Set-UP



#### ■ Test Procedure

- 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. Radiation Emission measurement. In the semi-anechoic chamber, EUT placed on the 0.8 m 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 1 m to 4 m 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 Antenn

#### ■ Uncertainty

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



### 3 Test Results

#### Conducted Output Average Power

Band	Channel Bandwidth	Modulation	Channel	Frequency (MHz)	RB Configuration		Average Power	
					Size	Offset	(dBm)	(W)
LTE Band14	5MHz	QPSK	23305	790.5	1	0	22.86	0.193
					1	12	22.92	0.196
					1	24	<b>22.99</b>	<b>0.199</b>
					12	0	22.11	0.163
					12	6	22.07	0.161
					12	13	22.10	0.162
			25	0	22.18	0.165		
			23330	793.0	1	0	22.95	0.197
			1		12	22.88	0.194	
			1		24	22.87	0.194	
			12		0	22.09	0.162	
			12		6	22.02	0.159	
			12		13	21.98	0.158	
			25	0	22.02	0.159		
			23355	795.5	1	0	22.93	0.196
			1		12	22.96	0.198	
			1		24	22.94	0.197	
			12		0	22.11	0.163	
		12	6		22.19	0.166		
		12	13		22.11	0.163		
		25	0	22.05	0.160			
		16QAM	23305	790.5	1	0	22.33	0.171
					1	12	22.22	0.167
					1	24	22.27	0.169
					12	0	21.18	0.131
					12	6	21.14	0.130
					12	13	21.16	0.131
			25	0	21.17	0.131		
			23330	793.0	1	0	22.27	0.169
			1		12	22.17	0.165	
			1		24	22.11	0.163	
			12		0	21.16	0.131	
			12		6	21.09	0.129	
			12		13	20.97	0.125	
			25	0	21.00	0.126		
			23355	795.5	1	0	<b>22.35</b>	<b>0.172</b>
1	12		22.24		0.167			
1	24		22.16		0.164			
12	0		21.11		0.129			
12	6	21.22	0.132					
12	11	21.12	0.129					
25	0	21.07	0.128					



Band	Channel Bandwidth	Modulation	Channel	Frequency (MHz)	RB Configuration		Average Power	
					Size	Offset	(dBm)	(W)
LTE Band14	10MHz	QPSK	23330	793	1	0	<b>23.01</b>	<b>0.200</b>
					1	24	22.92	0.196
					1	49	22.79	0.190
					25	0	21.99	0.158
					25	12	22.06	0.161
					25	25	21.96	0.157
					50	0	22.05	0.160
		16QAM	23330	793	1	0	<b>22.24</b>	<b>0.167</b>
					1	24	22.15	0.164
					1	49	22.03	0.160
					25	0	20.99	0.126
					25	12	21.02	0.126
					25	25	20.88	0.122
					50	0	21.04	0.127



**Effective Radiated Power / Equivalent Isotropic Radiated Power**

Band 14								
Channel Bandwidth	Modulation	Frequency (MHz)	Ant. Polar.	Read Level (dBm)	Correction Factor (dBm)	E.R.P.		Limit (W)
						(dBm)	(W)	
5M	QPSK	790.5	H	12.57	10.37	<b>22.94</b>	<b>0.197</b>	≤ 3
			V	10.13	10.37	20.50	0.112	≤ 3
		793.0	H	12.14	10.40	22.54	0.179	≤ 3
			V	9.94	10.39	20.33	0.108	≤ 3
		795.5	H	12.32	10.44	22.76	0.189	≤ 3
			V	10.48	10.44	20.92	0.124	≤ 3
	16QAM	790.5	H	11.06	10.36	<b>21.42</b>	<b>0.139</b>	≤ 3
			V	9.05	10.37	19.42	0.087	≤ 3
		793.0	H	10.46	10.40	20.86	0.122	≤ 3
			V	8.83	10.41	19.24	0.084	≤ 3
		795.5	H	10.39	10.44	20.83	0.121	≤ 3
			V	8.28	10.44	18.72	0.074	≤ 3
10M	QPSK	793.0	H	12.40	10.38	<b>22.78</b>	<b>0.190</b>	≤ 3
			V	10.32	10.38	20.70	0.117	≤ 3
	16QAM		H	10.71	10.38	<b>21.09</b>	<b>0.129</b>	≤ 3
			V	8.86	10.37	19.23	0.084	≤ 3



## Radiated Emission

Standard:	Part 90R	Test Distance:	3 m
Test item:	Harmonic	Power:	AC 120 V/60 Hz
Frequency:	790.5 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	4 G_BAND 14_5 M_QPSK_CH23305		
Ant.Polar.:	Horizontal		
Description:	AC Adapter : AD2083329 (30 MHz~1 GHz)		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	58.1300	-67.89	-3.25	-71.14	-13.00	-58.14	QP
2	93.0500	-64.91	-6.45	-71.36	-13.00	-58.36	QP
3	175.5000	-72.51	-3.41	-75.92	-13.00	-62.92	QP
4	308.3900	-68.31	-2.32	-70.63	-13.00	-57.63	QP
5	676.0200	-75.76	2.92	-72.84	-13.00	-59.84	QP
6	940.8300	-75.12	6.44	-68.68	-13.00	-55.68	QP

Standard:	Part 90R	Test Distance:	3 m
Test item:	Harmonic	Power:	AC 120 V/60 Hz
Frequency:	790.5 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	4 G_BAND 14_5 M_QPSK_CH23305		
Ant.Polar.:	Vertical		
Description:	AC Adapter : AD2083329 (30 MHz~1 GHz)		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	67.8300	-65.12	-4.90	-70.02	-13.00	-57.02	QP
2	93.0500	-61.43	-6.45	-67.88	-13.00	-54.88	QP
3	160.9500	-73.46	-1.77	-75.23	-13.00	-62.23	QP
4	325.8500	-69.99	-2.03	-72.02	-13.00	-59.02	QP
5	646.9200	-75.34	2.51	-72.83	-13.00	-59.83	QP
6	746.8300	-76.80	3.91	-72.89	-13.00	-59.89	QP





Standard:	Part 90R	Test Distance:	3 m
Test item:	Harmonic	Power:	AC 120 V/60 Hz
Frequency:	790.5 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	4 G_BAND 14_5 M_QPSK_CH23305		
Ant.Polar.:	Horizontal		
Description:	ACAdapter : 2ACS005B (30 MHz~1 GHz)		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	125.0600	-72.48	-3.47	-75.95	-13.00	-62.95	QP
2	200.7200	-68.27	-5.73	-74.00	-13.00	-61.00	QP
3	250.1900	-69.04	-3.87	-72.91	-13.00	-59.91	QP
4	287.0500	-73.81	-2.80	-76.61	-13.00	-63.61	QP
5	473.2900	-75.76	-0.24	-76.00	-13.00	-63.00	QP
6	772.0500	-75.67	4.24	-71.43	-13.00	-58.43	QP

Standard:	Part 90R	Test Distance:	3 m
Test item:	Harmonic	Power:	AC 120 V/60 Hz
Frequency:	790.5 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	4 G_BAND 14_5 M_QPSK_CH23305		
Ant.Polar.:	Vertical		
Description:	ACAdapter : 2ACS005B (30 MHz~1 GHz)		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	77.5300	-62.14	-6.47	-68.61	-13.00	-55.61	QP
2	175.5000	-73.50	-3.41	-76.91	-13.00	-63.91	QP
3	250.1900	-72.99	-3.87	-76.86	-13.00	-63.86	QP
4	351.0700	-71.24	-1.82	-73.06	-13.00	-60.06	QP
5	602.3000	-75.47	1.71	-73.76	-13.00	-60.76	QP
6	966.0500	-80.22	6.64	-73.58	-13.00	-60.58	QP



Standard:	Part 90R	Test Distance:	3 m
Test item:	Harmonic	Power:	AC 120 V/60 Hz
Frequency:	790.5 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	4 G_BAND 14_5 M_QPSK_CH23305		
Ant.Polar.:	Horizontal		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	1581.000	-70.82	7.35	-63.47	-13.00	-50.47	peak

Standard:	Part 90R	Test Distance:	3 m
Test item:	Harmonic	Power:	AC 120 V/60 Hz
Frequency:	790.5 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	4 G_BAND 14_5 M_QPSK_CH23305		
Ant.Polar.:	Vertical		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	1581.000	-71.49	7.35	-64.14	-13.00	-51.14	peak



Standard:	Part 90R	Test Distance:	3 m
Test item:	Harmonic	Power:	AC 120 V/60 Hz
Frequency:	793 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	4 G_BAND 14_5 M_QPSK_CH23330		
Ant.Polar.:	Horizontal		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	1586.000	-69.58	7.36	-62.22	-13.00	-49.22	peak

Standard:	Part 90R	Test Distance:	3 m
Test item:	Harmonic	Power:	AC 120 V/60 Hz
Frequency:	793 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	4 G_BAND 14_5 M_QPSK_CH23330		
Ant.Polar.:	Vertical		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	1586.000	-70.56	7.36	-63.20	-13.00	-50.20	peak



Standard:	Part 90R	Test Distance:	3 m
Test item:	Harmonic	Power:	AC 120 V/60 Hz
Frequency:	795.5 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	4 G_BAND 14_5 M_QPSK_CH23355		
Ant.Polar.:	Horizontal		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	1591.000	-71.57	7.39	-64.18	-13.00	-51.18	peak

Standard:	Part 90R	Test Distance:	3 m
Test item:	Harmonic	Power:	AC 120 V/60 Hz
Frequency:	795.5 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	4 G_BAND 14_5 M_QPSK_CH23355		
Ant.Polar.:	Vertical		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	1591.000	-71.81	7.39	-64.42	-13.00	-51.42	peak



Standard:	Part 90R	Test Distance:	3 m
Test item:	Harmonic	Power:	AC 120 V/60 Hz
Frequency:	790.5 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	4 G_BAND 14_5 M-16QAM_CH23305		
Ant.Polar.:	Horizontal		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	1581.000	-70.75	7.35	-63.40	-13.00	-50.40	peak

Standard:	Part 90R	Test Distance:	3 m
Test item:	Harmonic	Power:	AC 120 V/60 Hz
Frequency:	790.5 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	4 G_BAND 14_5 M-16QAM_CH23305		
Ant.Polar.:	Vertical		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	1581.000	-71.72	7.35	-64.37	-13.00	-51.37	peak



Standard:	Part 90R	Test Distance:	3 m
Test item:	Harmonic	Power:	AC 120 V/60 Hz
Frequency:	793 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	4 G_BAND 14_5 M-16QAM_CH23330		
Ant.Polar.:	Horizontal		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	1586.000	-71.26	7.36	-63.90	-13.00	-50.90	peak

Standard:	Part 90R	Test Distance:	3 m
Test item:	Harmonic	Power:	AC 120 V/60 Hz
Frequency:	793 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	4 G_BAND 14_5 M-16QAM_CH23330		
Ant.Polar.:	Vertical		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	1586.000	-71.88	7.36	-64.52	-13.00	-51.52	peak



Standard:	Part 90R	Test Distance:	3 m
Test item:	Harmonic	Power:	AC 120 V/60 Hz
Frequency:	795.5 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	4 G_BAND 14_5 M-16QAM_CH23355		
Ant.Polar.:	Horizontal		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	1591.000	-72.58	7.39	-65.19	-13.00	-52.19	peak

Standard:	Part 90R	Test Distance:	3 m
Test item:	Harmonic	Power:	AC 120 V/60 Hz
Frequency:	795.5 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	4 G_BAND 14_5 M-16QAM_CH23355		
Ant.Polar.:	Vertical		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	1591.000	-70.02	7.39	-62.63	-13.00	-49.63	peak



Standard:	Part 90R	Test Distance:	3 m
Test item:	Harmonic	Power:	AC 120 V/60 Hz
Frequency:	793 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	4 G_BAND 14_10M_QPSK_CH23330		
Ant.Polar.:	Horizontal		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	1586.000	-72.70	7.36	-65.34	-13.00	-52.34	peak

Standard:	Part 90R	Test Distance:	3 m
Test item:	Harmonic	Power:	AC 120 V/60 Hz
Frequency:	793 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	4 G_BAND 14_10M_QPSK_CH23330		
Ant.Polar.:	Vertical		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	1586.000	-69.63	7.36	-62.27	-13.00	-49.27	peak





Standard:	Part 90R	Test Distance:	3 m
Test item:	Harmonic	Power:	AC 120 V/60 Hz
Frequency:	793 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	4 G_BAND 14_10M-16QAM_CH23330		
Ant.Polar.:	Horizontal		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	1586.000	-74.05	7.36	-66.69	-13.00	-53.69	peak

Standard:	Part 90R	Test Distance:	3 m
Test item:	Harmonic	Power:	AC 120 V/60 Hz
Frequency:	793 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	4 G_BAND 14_10M-16QAM_CH23330		
Ant.Polar.:	Vertical		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	1586.000	-72.94	7.36	-65.58	-13.00	-52.58	peak



Standard:	FCC Part 90R	Test Distance:	3 m
Test item:	Harmonic	Power:	AC 120 V/60 Hz
Frequency:	790.5 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	4 G_BAND 14_5 M_QPSK_CH23305		
Ant.Polar.:	Horizontal		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	1581.695	-67.83	6.95	-60.88	-40.00	-20.88	peak

Standard:	FCC Part 90R	Test Distance:	3 m
Test item:	Harmonic	Power:	AC 120 V/60 Hz
Frequency:	790.5 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	4 G_BAND 14_5 M_QPSK_CH23305		
Ant.Polar.:	Vertical		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	1591.487	-69.41	7.00	-62.41	-40.00	-22.41	peak



Standard:	FCC Part 90R	Test Distance:	3 m
Test item:	Harmonic	Power:	AC 120 V/60 Hz
Frequency:	793 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	4 G_BAND 14_5 M_QPSK_CH23330		
Ant.Polar.:	Horizontal		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	1580.879	-70.81	6.94	-63.87	-40.00	-23.87	peak

Standard:	FCC Part 90R	Test Distance:	3 m
Test item:	Harmonic	Power:	AC 120 V/60 Hz
Frequency:	793 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	4 G_BAND 14_5 M_QPSK_CH23330		
Ant.Polar.:	Vertical		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	1579.655	-69.78	6.95	-62.83	-40.00	-22.83	peak



Standard:	FCC Part 90R	Test Distance:	3 m
Test item:	Harmonic	Power:	AC 120 V/60 Hz
Frequency:	795.5 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	4 G_BAND 14_5 M_QPSK_CH23355		
Ant.Polar.:	Horizontal		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	1579.808	-65.58	6.94	-58.64	-40.00	-18.64	peak

Standard:	FCC Part 90R	Test Distance:	3 m
Test item:	Harmonic	Power:	AC 120 V/60 Hz
Frequency:	795.5 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	4 G_BAND 14_5 M_QPSK_CH23355		
Ant.Polar.:	Vertical		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	1602.758	-66.27	7.03	-59.24	-40.00	-19.24	peak



Standard:	FCC Part 90R	Test Distance:	3 m
Test item:	Harmonic	Power:	AC 120 V/60 Hz
Frequency:	793 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	4 G_BAND 14_5 M-16QAM_CH23330		
Ant.Polar.:	Horizontal		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	1561.703	-66.50	6.88	-59.62	-40.00	-19.62	peak

Standard:	FCC Part 90R	Test Distance:	3 m
Test item:	Harmonic	Power:	AC 120 V/60 Hz
Frequency:	793 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	4 G_BAND 14_5 M-16QAM_CH23330		
Ant.Polar.:	Vertical		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	1577.513	-66.74	6.94	-59.80	-40.00	-19.80	peak



Standard:	FCC Part 90R	Test Distance:	3 m
Test item:	Harmonic	Power:	AC 120 V/60 Hz
Frequency:	793 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	4 G_BAND 14_10 M_QPSK_CH23330		
Ant.Polar.:	Horizontal		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	1592.354	-65.97	6.99	-58.98	-40.00	-18.98	peak

Standard:	FCC Part 90R	Test Distance:	3 m
Test item:	Harmonic	Power:	AC 120 V/60 Hz
Frequency:	793 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	4 G_BAND 14_10 M_QPSK_CH23330		
Ant.Polar.:	Vertical		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	1571.393	-65.35	6.91	-58.44	-40.00	-18.44	peak



Standard:	FCC Part 90R	Test Distance:	3 m
Test item:	Harmonic	Power:	AC 120 V/60 Hz
Frequency:	793 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	4 G_BAND 14_10 M-16QAM_CH23330		
Ant.Polar.:	Horizontal		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	1586.234	-66.59	6.97	-59.62	-40.00	-19.62	peak

Standard:	FCC Part 90R	Test Distance:	3 m
Test item:	Harmonic	Power:	AC 120 V/60 Hz
Frequency:	793 MHz	Temp.(°C)/Hum.(%RH):	26(°C)/60 %RH
Mode:	4 G_BAND 14_10 M-16QAM_CH23330		
Ant.Polar.:	Vertical		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	1575.116	-66.09	6.93	-59.16	-40.00	-19.16	peak



## **Appendix : Frequency Stability/ Emission Bandwidth & Occupied Bandwidth/ Peak to Average Ratio/ Band Edge/ Conducted Spurious Emission**

The equipment passed the requirement of this clause, the detail results refer to "Test Results\_Band14.