

RF Test Report

Applicant : Mako Networks
Product Type : 11ax 2x2 WiFi AP with LTE connectivity
Trade Name : Mako Networks
Model Number : 5600, 5600-5G
Applicable Standard : FCC 47 CFR PART 22H
FCC 47 CFR PART 24E
FCC 47 CFR PART 27
FCC 47 CFR PART 90
ANSI C63.26 2015
Received Date : May 17, 2021
Test Period : Jun. 03 ~ Jul. 30, 2021
Issued Date : Aug. 20, 2021

Issued by

A Test Lab Techno Corp.
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Taiwan Accreditation Foundation accreditation number: 1330

Frequency Range : 9 kHz to 40 GHz

Test Firm MRA designation number: TW0010

Note:

- 1.The test results are valid only for samples provided by customers and under the test conditions described in this report.
- 2.This report shall not be reproduced except in full, without the written approval of A Test Lab Technology Corporation.
- 3.The relevant information is provided by customers in this test report. According to the correctness, appropriateness or completeness of the information provided by the customer, if there is any doubt or error in the information which affects the validity of the test results, the laboratory does not take the responsibility.



Revision History

Rev.	Issued Date	Revisions	Revised By
00	Aug. 20, 2021	Initial Issue	Tobey Cheng

Verification of Compliance

Applicant : Mako Networks
Product Type : 11ax 2x2 WiFi AP with LTE connectivity
Trade Name : Mako Networks
Model Number : 5600, 5600-5G
FCC ID : 2AVQL-5600
EUT Rated Voltage : DC 12 V, 5 A / DC 54 V, 1.11 A
Test Voltage : 120 Vac / 60 Hz
Applicable Standard : FCC 47 CFR PART 22H
FCC 47 CFR PART 24E
FCC 47 CFR PART 27
FCC 47 CFR PART 90
ANSI C63.26 2015

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. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

Approved By : Ken Yang
(Manager) (Ken Yang)

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1 General Information

1.1. EUT Description

Applicant	Mako Networks 1355 N. McLean Blvd, Elgin, Illinois 60123, United States		
Manufacturer	Mako Networks 1355 N. McLean Blvd, Elgin, Illinois 60123, United States		
Product Type	11ax 2x2 WiFi AP with LTE connectivity		
Trade Name	Mako Networks		
Model Number	5600, 5600-5G		
Difference description of model number	All models are electrically identical, different model names are for marketing purpose.		
FCC ID	2AVQL-5600		
Operate Band	Frequency Range (MHz)	Modulation	Channel Bandwidth
LTE Band 2	UL: 1850 ~ 1910	QPSK, 16QAM	1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 15 MHz, 20 MHz
	DL: 1930 ~ 1990	QPSK, 16QAM	
LTE Band 4	UL: 1710 ~ 1755	QPSK, 16QAM	1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 15 MHz, 20 MHz
	DL: 2110 ~ 2155	QPSK, 16QAM	
LTE Band 5	UL: 824 ~ 849	QPSK, 16QAM	1.4 MHz, 3 MHz, 5 MHz, 10 MHz
	DL: 869 ~ 894	QPSK, 16QAM	
LTE Band 7	UL: 2500 ~ 2570	QPSK, 16QAM	5 MHz, 10 MHz, 15 MHz, 20 MHz
	DL: 2620 ~ 2690	QPSK, 16QAM	
LTE Band 12	UL: 699 ~ 716	QPSK, 16QAM	1.4 MHz, 3 MHz, 5 MHz, 10 MHz
	DL: 728 ~ 746	QPSK, 16QAM	
LTE Band 13	UL: 777 ~ 787	QPSK, 16QAM	5 MHz, 10 MHz
	DL: 746 ~ 756	QPSK, 16QAM	
LTE Band 14	UL: 788 ~ 798	QPSK, 16QAM	5 MHz, 10 MHz
	DL: 758 ~ 768	QPSK, 16QAM	
LTE Band 17	UL: 704 ~ 716	QPSK, 16QAM	5 MHz, 10 MHz
	DL: 734 ~ 746	QPSK, 16QAM	
LTE Band 25	UL: 1850 ~ 1915	QPSK, 16QAM	1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 15 MHz, 20 MHz
	DL: 1930 ~ 1995	QPSK, 16QAM	
LTE Band 26(Part 22)	UL: 824 ~ 849	QPSK, 16QAM	1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 15 MHz
	DL: 869 ~ 894	QPSK, 16QAM	
LTE Band 26(Part 90)	UL: 814.7 ~ 823.3	QPSK, 16QAM	1.4 MHz, 3 MHz, 5 MHz, 10 MHz
	DL: 859.7 ~ 868.3	QPSK, 16QAM	
LTE Band 30	UL: 2305 ~ 2315	QPSK, 16QAM	5 MHz, 10 MHz
	DL: 2350 ~ 2360	QPSK, 16QAM	

Operate Band	Frequency Range (MHz)	Modulation	Channel Bandwidth
LTE Band 38	UL/DL: 2570 ~ 2620	QPSK, 16QAM	5 MHz, 10 MHz, 15 MHz, 20 MHz
LTE Band 41	UL/DL: 2496 ~ 2690	QPSK, 16QAM	5 MHz, 10 MHz, 15 MHz, 20 MHz
LTE Band 48	UL/DL: 2496 ~ 2690	QPSK, 16QAM	5 MHz, 10 MHz, 15 MHz, 20 MHz
LTE Band 66	UL: 1710 ~ 1780	QPSK, 16QAM	1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 15 MHz, 20 MHz
	DL: 2110 ~ 2200	QPSK, 16QAM	
LTE Band 71	UL: 633 ~ 698	QPSK, 16QAM	5 MHz, 10 MHz, 15 MHz, 20 MHz
	DL: 617 ~ 652	QPSK, 16QAM	
Operate Temp. Range	0 ~ 40 °C		

Antenna list:

LTE Band	Trade Name: Grand-Tek			
	Type: Dipole Antenna			
	ANT-0	ANT-1	ANT-2	ANT-3
	Model Number: 7102A0482000	Model Number: 7102A0483000	Model Number: 7102A0484000	Model Number: 7102A0488000
	Max. Gain (dBi)			
LTE Band 2	-0.4	---	---	---
LTE Band 4	-1.5	---	---	---
LTE Band 5	---	-1	---	---
LTE Band 7	-0.9	---	---	---
LTE Band 12	---	-0.3	---	---
LTE Band 13	---	-0.2	---	---
LTE Band 14	---	-0.2	---	---
LTE Band 17	---	-0.3	---	---
LTE Band 25	-0.4	---	---	---
LTE Band 26	---	-0.2	---	---
LTE Band 30	-4.4	---	---	---
LTE Band 38	0.7	---	---	---
LTE Band 41	0.7	---	---	---
LTE Band 48	---	---	-7	---
LTE Band 66	-1.5	---	---	---
LTE Band 71	---	-0.3	---	---

1.2. Mode of Operation

In the test report use EUT model: 5600-5G to operate testing.

Three channels had been tested for each channel bandwidth.

LTE Band 2						
Channel Bandwidth	1.4 MHz		3 MHz		5 MHz	
	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
Low CH	18607	1850.7	18615	1851.5	18625	1852.5
Middle CH	18900	1880.0	18900	1880.0	18900	1880.0
High CH	19193	1909.3	19185	1908.5	19175	1907.5
Channel Bandwidth	10 MHz		15 MHz		20 MHz	
	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
Low CH	18650	1855.0	18675	1857.5	18700	1860.0
Middle CH	18900	1880.0	18900	1880.0	18900	1880.0
High CH	19150	1905.0	19125	1902.5	19100	1900.0

LTE Band 4						
Channel Bandwidth	1.4 MHz		3 MHz		5 MHz	
	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
Low CH	19957	1710.7	19965	1711.5	19975	1712.5
Middle CH	20175	1732.5	20175	1732.5	20175	1732.5
High CH	20393	1754.3	20385	1753.5	20375	1752.5
Channel Bandwidth	10 MHz		15 MHz		20 MHz	
	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
Low CH	20000	1715.0	20025	1717.5	20050	1720.0
Middle CH	20175	1732.5	20175	1732.5	20175	1732.5
High CH	20350	1750.0	20325	1747.5	20300	1745.0

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.

LTE Band 5				
Channel Bandwidth	1.4 MHz		3 MHz	
	Channel	Frequency (MHz)	Channel	Frequency (MHz)
Low CH	20407	824.7	20415	825.5
Middle CH	20525	836.5	20525	836.5
High CH	20643	848.3	20635	847.5
Channel Bandwidth	5 MHz		10 MHz	
	Channel	Frequency (MHz)	Channel	Frequency (MHz)
Low CH	20425	826.5	20450	829.0
Middle CH	20525	836.5	20525	836.5
High CH	20625	846.5	20600	844.0

LTE Band 7				
Channel Bandwidth	5 MHz		10 MHz	
	Channel	Frequency (MHz)	Channel	Frequency (MHz)
Low CH	20775	2502.5	20800	2505.0
Middle CH	21100	2535.0	21100	2535.0
High CH	21425	2567.5	21400	2565.0
Channel Bandwidth	15 MHz		20 MHz	
	Channel	Frequency (MHz)	Channel	Frequency (MHz)
Low CH	20825	2507.5	20850	2510.0
Middle CH	21100	2535.0	21100	2535.0
High CH	21375	2562.5	21350	2560.0

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.

LTE Band 12				
Channel Bandwidth	1.4 MHz		3 MHz	
	Channel	Frequency (MHz)	Channel	Frequency (MHz)
Low CH	23017	699.7	23025	700.5
Middle CH	23095	707.5	23095	707.5
High CH	23173	715.3	23165	714.5
Channel Bandwidth	5 MHz		10 MHz	
	Channel	Frequency (MHz)	Channel	Frequency (MHz)
Low CH	23035	701.5	23060	704.0
Middle CH	23095	707.5	23095	707.5
High CH	23155	713.5	23130	711.0

LTE Band 13				
Channel Bandwidth	5 MHz		10 MHz	
	Channel	Frequency (MHz)	Channel	Frequency (MHz)
Low CH	23205	779.5	---	---
Middle CH	23230	782.0	23230	782.0
High CH	23255	784.5	---	---

LTE Band 14				
Channel Bandwidth	5 MHz		10 MHz	
	Channel	Frequency (MHz)	Channel	Frequency (MHz)
Low CH	23305	790.5	---	---
Middle CH	23330	793	23330	793
High CH	23355	795.5	---	---

LTE Band 17				
Channel Bandwidth	5 MHz		10 MHz	
	Channel	Frequency (MHz)	Channel	Frequency (MHz)
Low CH	23755	706.5	23780	709.0
Middle CH	23790	710.0	23790	710.0
High CH	23825	713.5	23800	711.0

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.

LTE Band 25						
Channel Bandwidth	1.4 MHz		3 MHz		5 MHz	
	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
Low CH	26047	1850.7	26055	1851.5	26065	1852.5
Middle CH	26365	1882.5	26365	1882.5	26365	1882.5
High CH	26683	1914.3	26675	1913.5	26665	1912.5
Channel Bandwidth	10 MHz		15 MHz		20 MHz	
	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
Low CH	26090	1855	26115	1857.5	26140	1860
Middle CH	26365	1882.5	26365	1882.5	26365	1882.5
High CH	26640	1910	26615	1907.5	26590	1905

LTE Band 26 (Part 22)						
Channel Bandwidth	1.4 MHz		3 MHz		5 MHz	
	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
Low CH	26797	824.7	26805	825.5	26815	826.5
Middle CH	26915	836.5	26915	836.5	26915	836.5
High CH	27003	848.3	27025	847.5	27015	846.5
Channel Bandwidth	10 MHz		15 MHz		NA	
	Channel	Frequency (MHz)	Channel	Frequency (MHz)	NA	NA
Low CH	26840	829.0	26865	831.5	NA	NA
Middle CH	26915	836.5	26915	836.5	NA	NA
High CH	26990	844.0	26965	841.5	NA	NA

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.

LTE Band 26 (Part 90)				
Channel Bandwidth	1.4 MHz		3 MHz	
	Channel	Frequency (MHz)	Channel	Frequency (MHz)
Low CH	26697	814.7	26705	815.5
Middle CH	26740	819.0	26740	819.0
High CH	26783	823.3	26775	822.5
Channel Bandwidth	5 MHz		10 MHz	
	Channel	Frequency (MHz)	Channel	Frequency (MHz)
Low CH	26715	816.5	26740	819.0
Middle CH	26740	819.0		
High CH	26765	821.5		

LTE Band 30				
Channel Bandwidth	5 MHz		10 MHz	
	Channel	Frequency (MHz)	Channel	Frequency (MHz)
Low CH	27685	2307.5	---	---
Middle CH	27710	2310.0	27710	2310.0
High CH	27735	2312.5	---	---

LTE Band 38				
Channel Bandwidth	5 MHz		10 MHz	
	Channel	Frequency (MHz)	Channel	Frequency (MHz)
Low CH	37775	2572.5	37800	2575.0
Middle CH	38000	2595.0	38000	2595.0
High CH	38225	2617.5	38200	2615.0
Channel Bandwidth	15 MHz		20 MHz	
	Channel	Frequency (MHz)	Channel	Frequency (MHz)
Low CH	37825	2577.5	37850	2580.0
Middle CH	38000	2595.0	38000	2595.0
High CH	38175	2612.5	38150	2610.0

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.

LTE Band 41				
Channel Bandwidth	5 MHz		10 MHz	
	Channel	Frequency (MHz)	Channel	Frequency (MHz)
Low CH	39675	2498.5	39700	2501.0
Middle CH	40620	2593.0	40620	2593.0
High CH	41565	2687.5	41540	2685.0
Channel Bandwidth	15 MHz		20 MHz	
	Channel	Frequency (MHz)	Channel	Frequency (MHz)
Low CH	39725	2503.5	39750	2506.0
Middle CH	40620	2593.0	40620	2593.0
High CH	41515	2682.5	41490	2680.0

LTE Band 48				
Channel Bandwidth	5 MHz		10 MHz	
	Channel	Frequency (MHz)	Channel	Frequency (MHz)
Low CH	55265	3552.5	55290	3555
Middle CH	55990	3625	55990	3625
High CH	56715	3697.5	56690	3695
Channel Bandwidth	15 MHz		20 MHz	
	Channel	Frequency (MHz)	Channel	Frequency (MHz)
Low CH	55315	3557.5	55340	3560
Middle CH	55990	3625	55990	3625
High CH	56665	3692.5	56640	3690

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.

LTE Band 66						
Channel Bandwidth	1.4 MHz		3 MHz		5 MHz	
	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
Low CH	131979	1710.7	131987	1711.5	131997	1712.5
Middle CH	132322	1745.0	132322	1745.0	132322	1745.0
High CH	132665	1779.3	132657	1778.5	132647	1777.5
Channel Bandwidth	10 MHz		15 MHz		20 MHz	
	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
Low CH	132022	1715.0	132047	1717.5	132072	1720.0
Middle CH	132322	1745.0	132322	1745.0	132322	1745.0
High CH	132622	1775.0	132597	1772.5	132572	1770.0

LTE Band 71				
Channel Bandwidth	5 MHz		10 MHz	
	Channel	Frequency (MHz)	Channel	Frequency (MHz)
Low CH	133147	665.5	133172	668
Middle CH	133297	680.5	133297	680.5
High CH	133447	695.5	133422	693
Channel Bandwidth	15 MHz		20 MHz	
	Channel	Frequency (MHz)	Channel	Frequency (MHz)
Low CH	133197	670.5	133222	673
Middle CH	133297	680.5	133297	680.5
High CH	133397	690.5	133372	688

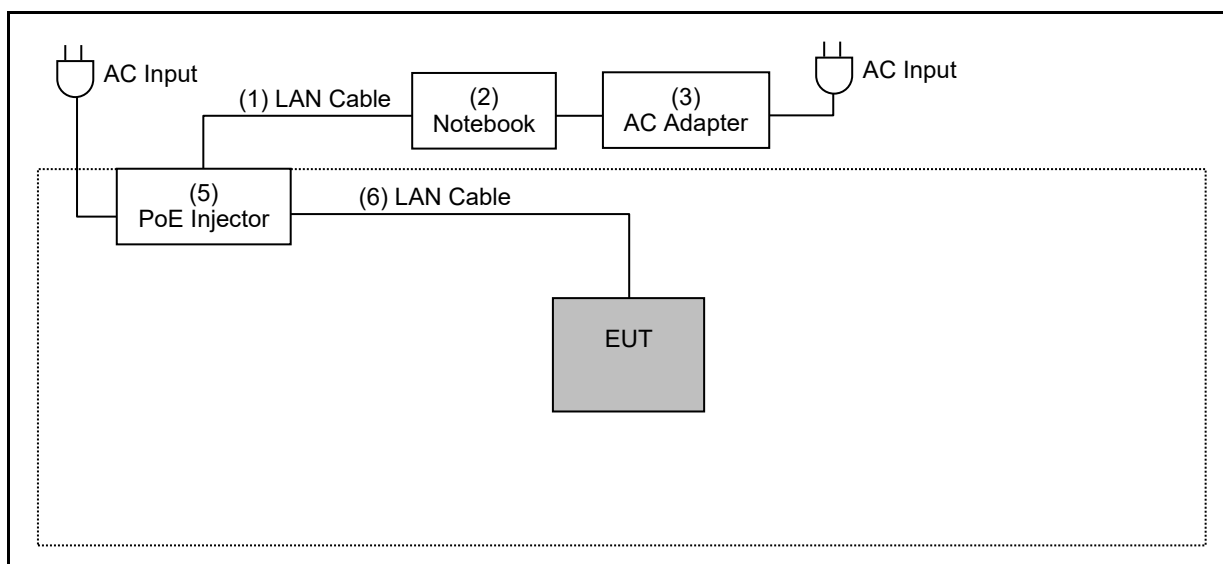
Note: Regards to the frequency band operation: the lowest, middle and highest frequency of channel were selected to perform the test, then shown on this report.

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.

Measurement Software			
No.	Description	Software	Version
1	Radiated Emission	EZ EMC	1.1.4.4

1.4. Configuration of Test System Details



Devices Description					
	Product	Manufacturer	Model Number	Serial Number	Power Cord
(1)	LAN Cable	Tatung	CAT5E	---	---
(2)	Notebook	acer	N19C1	---	---
(3)	AC Adapter	acer	A18-045N2A	---	---
(4)	AC Adapter	Sunny	SYS1649-6012-T2	---	---
(5)	PoE Injector	EnGenius	PNA60BGS-54	---	---
(6)	LAN Cable	Tatung	CAT5E	---	---

Note : The device used (4) AC Adapter and (5) PoE Injector to evaluation, (5) PoE Injector is worst case to perform testing.

1.5. Test Instruments

For Radiated Emissions

Test Period: Jun. 03 ~ Jul. 30, 2021

Testing Engineer: Marc Yeh, Pink Li, Ida Chuang

Equipment	Manufacturer	Model Number	Serial Number	Cal. Date	Cal. Period
UXM 5G Wireless Test Platform	Keysight	E7515B	MY59321574	12/04/2019	2 year
Spectrum Analyzer (2 Hz~50 GHz)	Keysight	N9030B	MY57143537	04/19/2021	1 year
Pre Amplifier (1~26.5 GHz)	Titan	T0912E01263025A1F	002	07/23/2020 07/26/2021	1 year
Pre Amplifier (1~26.5 GHz)	Agilent	8449B	3008A02237	10/21/2020	1 year
Horn Antenna (1~18 GHz)	SCHWARZBECK MESS-ELEKTRONIK	BBHA9120D	02207	06/30/2020 07/09/2021	1 year
Horn Antenna (18~40 GHz)	SCHWARZBECK MESS-ELEKTRONIK	BBHA9170	9170-320	08/17/2020	1 year
Loop Antenna	COM-POWER CORPORATION	AL-130	121014	04/06/2021	1 year
Coaxial Cable	Titan	T0710AT327A10A100	J11005	08/13/2020	1 year
Coaxial Cable	Titan	T0710AT327A10A900	J11004	08/13/2020	1 year

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

1.6. Test Site Environment

Items	Required (IEC 68-1)	Actual
Temperature (°C)	15-35	20-30
Humidity (%RH)	25-75	45-75

1.7. Measurement Uncertainty

Parameter	Uncertainty
Radiated Emission	5.1 dB



1.8. Summary of Test Result

FCC Rule	Description	Result
§2.1046	Conducted Output Average Power	N/A (Note 1)
§22.913 §24.232 §27.50 §90.635	Equivalent Isotropic Radiated Power / Equivalent Radiated Power	N/A (Note 1)
§2.1055 §22.355 §24.235 §27.54	Frequency Stability	N/A (Note 1)
§2.1049	Emission Bandwidth & Occupied Bandwidth	N/A (Note 1)
§24.232 §27.50	Peak to average ratio	N/A (Note 1)
§2.1051 §22.917 §24.238 §27.53	Band Edge	N/A (Note 1)
§2.1051 §22.917 §24.238 §27.53	Conducted Spurious Emissions	N/A (Note 1)
§2.1053 §22.917 §24.238 §27.53 §90.691	Radiated Spurious Emissions	Pass (Note 2)

Note 1 : C2PC No need for verification, test results could be referred to RF module RM502Q-AE report (2010RSU005-U2 & 2010RSU005-U3 & 2010RSU005-U4).

Note 2 : Only verify the worst channel Spurious Radiation.

Decision Rule

- ☒ Uncertainty is not included.
- ☐ Uncertainty is included.

2 Measurement Procedure

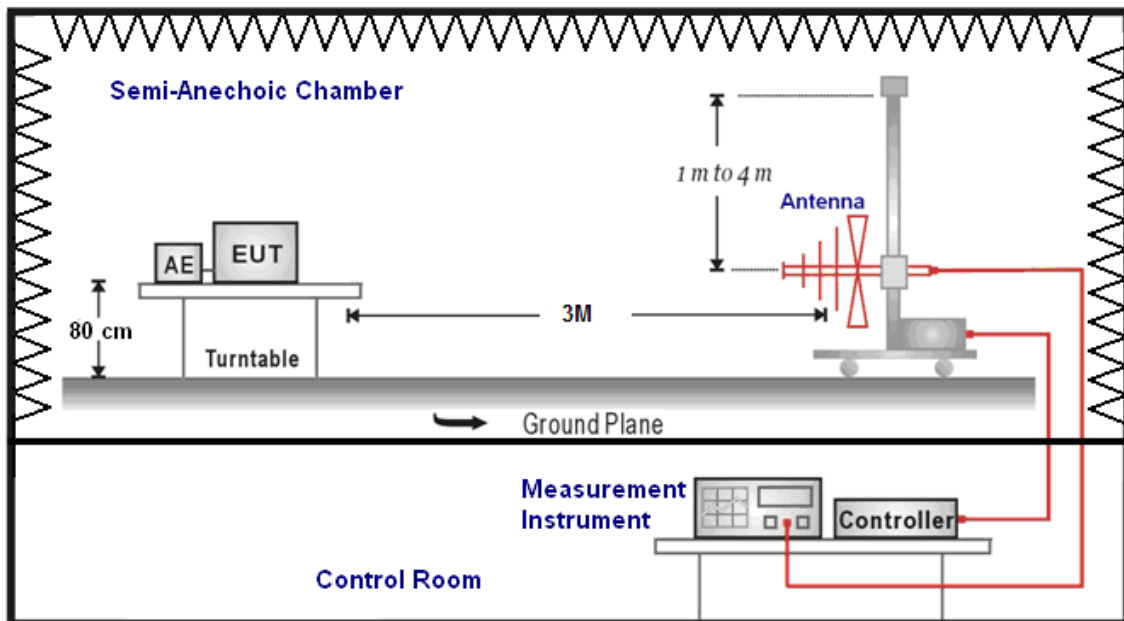
2.1. Radiated Emission Test

■ Limit

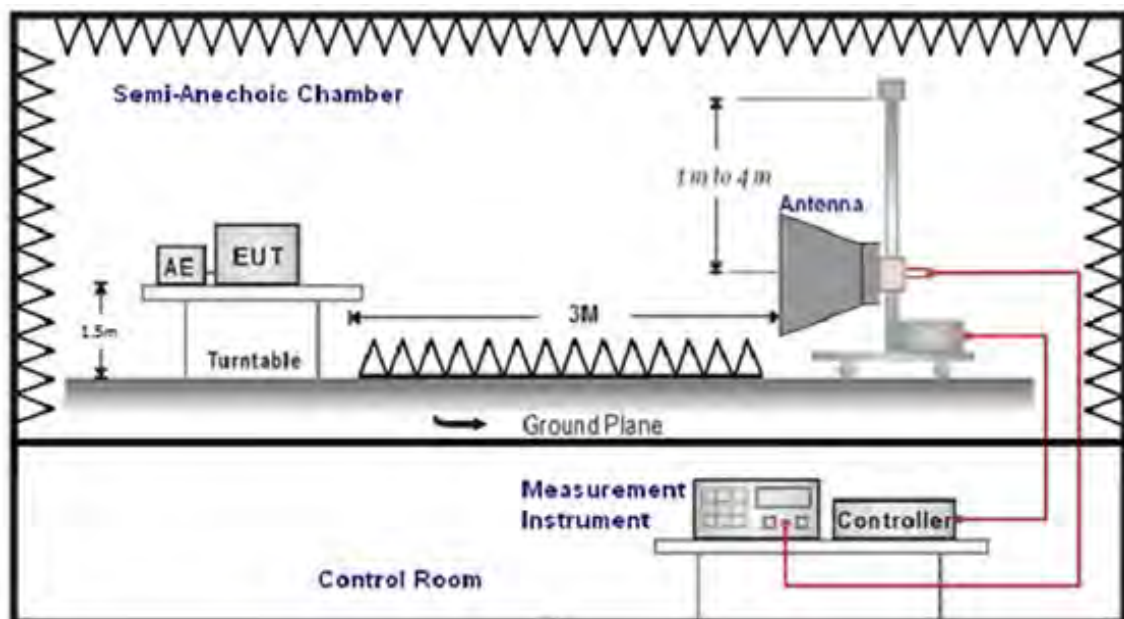
The power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) by at least $43 + 10 \log_{10}(P)$ dB. The limit of emission equal to -13 dBm

■ Setup

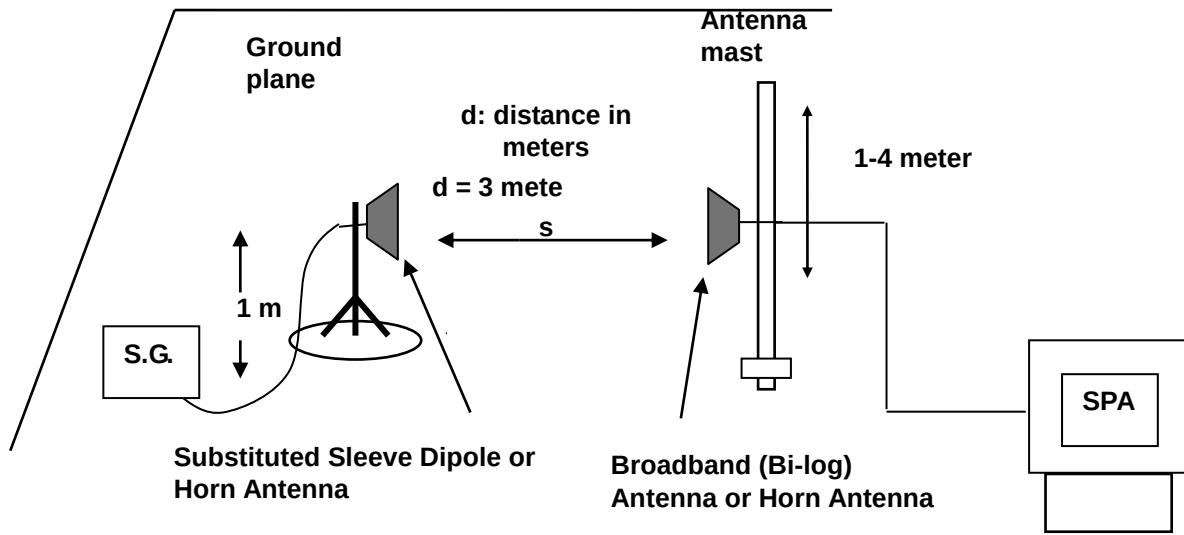
Below 1 GHz



Above 1 GHz



For Substituted Method Test Set-UP



■ Test Procedure

- 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).
- Radiation Emission measurement. In the semi-anechoic chamber, EUT placed on the 0.8 m (1.5 m for above 1 GHz) 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.
- 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.
- $E.I.R.P. = \text{Output power level of S.G} - \text{TX cable loss} + \text{Antenna gain of substitution horn}$
- $E.R.P. = E.I.R.P. - 2.15 \text{ dB}$
- Measurement range 9 kHz - 10 th Harmonic

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

3 Test Results

Appendix A: Radiated Emission

Standard:	FCC Part 22H/24E/27/90	Test Distance:	3 m
Test item:	Harmonic		
Mode:	Simultaneous Transmitting		
Ant.Polar.:	Horizontal		
Description:	LTE B2 + WLAN 2.4 GHz + 5 GHz		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	2766.000	41.23	-6.20	35.03	82.30	-47.27	peak
2	4859.000	39.70	-1.16	38.54	82.30	-43.76	peak
3	7239.000	36.79	5.86	42.65	82.30	-39.65	peak

Standard:	FCC Part 22H/24E/27/90	Test Distance:	3 m
Test item:	Harmonic		
Mode:	Simultaneous Transmitting		
Ant.Polar.:	Vertical		
Description:	LTE B2 + WLAN 2.4 GHz + 5 GHz		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	2745.000	42.37	-6.27	36.10	82.30	-46.20	peak
2	4689.000	40.59	-1.63	38.96	82.30	-43.34	peak
3	7545.000	37.78	6.85	44.63	82.30	-37.67	peak



Standard:	FCC Part 22H/24E/27/90	Test Distance:	3 m
Test item:	Harmonic		
Mode:	Simultaneous Transmitting		
Ant.Polar.:	Horizontal		
Description:	LTE B7 + WLAN 2.4 GHz + 5 GHz		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	2737.000	42.76	-6.31	36.45	70.30	-33.85	peak
2	4723.000	41.01	-1.53	39.48	70.30	-30.82	peak
3	7324.000	36.82	6.16	42.98	70.30	-27.32	peak

Standard:	FCC Part 22H/24E/27/90	Test Distance:	3 m
Test item:	Harmonic		
Mode:	Simultaneous Transmitting		
Ant.Polar.:	Vertical		
Description:	LTE B7 + WLAN 2.4 GHz + 5 GHz		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	2711.000	42.06	-6.42	35.64	70.30	-34.66	peak
2	4774.000	40.10	-1.40	38.70	70.30	-31.60	peak
3	7409.000	37.43	6.46	43.89	70.30	-26.41	peak



Standard:	FCC Part 22H/24E/27/90	Test Distance:	3 m
Test item:	Harmonic		
Mode:	Simultaneous Transmitting		
Ant.Polar.:	Horizontal		
Description:	LTE B14 + WLAN 2.4 GHz + 5 GHz		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	2708.000	42.03	-6.43	35.60	82.30	-46.70	peak
2	4774.000	40.13	-1.40	38.73	82.30	-43.57	peak
3	7441.000	36.32	6.56	42.88	82.30	-39.42	peak

Standard:	FCC Part 22H/24E/27/90	Test Distance:	3 m
Test item:	Harmonic		
Mode:	Simultaneous Transmitting		
Ant.Polar.:	Vertical		
Description:	LTE B14 + WLAN 2.4 GHz + 5 GHz		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	2751.000	42.70	-6.25	36.45	82.30	-45.85	peak
2	4689.000	40.50	-1.63	38.87	82.30	-43.43	peak
3	7528.000	37.45	6.81	44.26	82.30	-38.04	peak



Standard:	FCC Part 22H/24E/27/90	Test Distance:	3 m
Test item:	Harmonic		
Mode:	Simultaneous Transmitting		
Ant.Polar.:	Horizontal		
Description:	LTE B17 + WLAN 2.4 GHz + 5 GHz		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	2719.000	41.41	-6.39	35.02	82.30	-47.28	peak
2	4757.000	39.71	-1.44	38.27	82.30	-44.03	peak
3	7284.000	37.07	6.02	43.09	82.30	-39.21	peak

Standard:	FCC Part 22H/24E/27/90	Test Distance:	3 m
Test item:	Harmonic		
Mode:	Simultaneous Transmitting		
Ant.Polar.:	Vertical		
Description:	LTE B17 + WLAN 2.4 GHz + 5 GHz		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	2751.000	41.41	-6.25	35.16	82.30	-47.14	peak
2	4689.000	40.39	-1.63	38.76	82.30	-43.54	peak
3	7511.000	36.16	6.79	42.95	82.30	-39.35	peak



Standard:	FCC Part 22H/24E/27/90	Test Distance:	3 m
Test item:	Harmonic		
Mode:	Simultaneous Transmitting		
Ant.Polar.:	Horizontal		
Description:	LTE B26 + WLAN 2.4 GHz + 5 GHz		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	2766.000	41.82	-6.20	35.62	82.30	-46.68	peak
2	4723.000	39.51	-1.53	37.98	82.30	-44.32	peak
3	7414.000	37.11	6.47	43.58	82.30	-38.72	peak

Standard:	FCC Part 22H/24E/27/90	Test Distance:	3 m
Test item:	Harmonic		
Mode:	Simultaneous Transmitting		
Ant.Polar.:	Vertical		
Description:	LTE B26 + WLAN 2.4 GHz + 5 GHz		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	2734.000	41.60	-6.31	35.29	82.30	-47.01	peak
2	4672.000	42.03	-1.67	40.36	82.30	-41.94	peak
3	7494.000	37.40	6.75	44.15	82.30	-38.15	peak



Standard:	FCC Part 22H/24E/27/90	Test Distance:	3 m
Test item:	Harmonic		
Mode:	Simultaneous Transmitting		
Ant.Polar.:	Horizontal		
Description:	LTE B30 + WLAN 2.4 GHz + 5 GHz		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	2760.000	41.80	-6.21	35.59	55.30	-19.71	peak
2	4774.000	39.93	-1.40	38.53	55.30	-16.77	peak
3	7341.000	37.75	6.22	43.97	55.30	-11.33	peak

Standard:	FCC Part 22H/24E/27/90	Test Distance:	3 m
Test item:	Harmonic		
Mode:	Simultaneous Transmitting		
Ant.Polar.:	Vertical		
Description:	LTE B30 + WLAN 2.4 GHz + 5 GHz		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	2722.000	42.60	-6.37	36.23	55.30	-19.07	peak
2	4706.000	40.57	-1.58	38.99	55.30	-16.31	peak
3	7392.000	37.59	6.40	43.99	55.30	-11.31	peak



Standard:	FCC Part 22H/24E/27/90	Test Distance:	3 m
Test item:	Harmonic		
Mode:	Simultaneous Transmitting		
Ant.Polar.:	Horizontal		
Description:	LTE B38/B41 + WLAN 2.4 GHz + 5 GHz		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	2791.000	41.43	-6.09	35.34	70.30	-34.96	peak
2	4774.000	40.48	-1.40	39.08	70.30	-31.22	peak
3	7188.000	37.65	5.69	43.34	70.30	-26.96	peak

Standard:	FCC Part 22H/24E/27/90	Test Distance:	3 m
Test item:	Harmonic		
Mode:	Simultaneous Transmitting		
Ant.Polar.:	Vertical		
Description:	LTE B38/B41 + WLAN 2.4 GHz + 5 GHz		

No.	Frequency (MHz)	Reading (dBm)	Correct Factor (dB)	Result (dBm)	Limit (dBm)	Margin (dB)	Remark
1	2734.000	42.36	-6.31	36.05	70.30	-34.25	peak
2	4706.000	40.52	-1.58	38.94	70.30	-31.36	peak
3	7392.000	37.38	6.40	43.78	70.30	-26.52	peak

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