

SUCR240600021205 Report No.:

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# TEST REPORT

**Application No.:** SUCR2406000212MO

Applicant: Asiatelco Technologies Co.

**Address of Applicant:** #68 HuaTuo Road, Building-8, Zhangjiang Hi-Tech Park, Pudong,

Shanghai 201204, China

Manufacturer: Asiatelco Technologies Co.

Address of Manufacturer: #68 HuaTuo Road, Building-8, Zhangjiang Hi-Tech Park, Pudong,

Shanghai 201204, China

**EUT Description:** 4G/5G Wi-Fi Router

**RE600** 

RE600-V

RE600-A Model No.:

RE600-D

**RE610** 

Trade Mark: ATEL

FCC ID: XYO-RE600

Standard(s): FCC 47 CFR Part 15, Subpart B

Date of Receipt: June 20, 2024

Date of Test: July 18, 2024 to July 19, 2024

Date of Issue: July 24, 2024

Pass\* Test Result:

Nature Shen

In the configuration tested, the EUT complied with the standards specified above.

Prepared by: Nature Shen/ Project

Manager

Approved by: Well Wei/ Wireless **Laboratory Manager** 

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Report Template No./Rev: SUWI-TRF-RF(FCC)004/v01



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### Version

	Revision Record			
Version	Chapter	Date	Modifier	Remark
01		July 24, 2024		Original

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### **Test Summary**

Emission Part				
Item	Standard	Method	Requirement	Result
Conducted Emissions at Mains Terminals (150kHz-30MHz)	FCC 47 CFR Part 15, Subpart B	ANSI C63.4:2014	Class B	Pass
Radiated Emissions (30MHz-1GHz)	FCC 47 CFR Part 15, Subpart B	ANSI C63.4:2014	Class B	Pass
Radiated Emissions (above 1GHz)	FCC 47 CFR Part 15, Subpart B	ANSI C63.4:2014	Class B	Pass

Internal Source	Upper Frequency
Below 1.705MHz	30MHz
1.705MHz to 108MHz	1GHz
108MHz to 500MHz	2GHz
500MHz to 1GHz	5GHz
Above 1GHz	5th harmonic of the highest frequency or 40GHz, whichever is lower

Remark: Model name: RE600, RE600-V, RE600-A, RE600-D, RE610

All the hardware of product are all the same, just different brand and model for different market. The RF parameters are the same.

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### **General Information**

EUT Description:	4G/5G Wi-Fi Router				
	RE600				
	RE600-V				
Model No.:	RE600-A				
	RE600-D				
	RE610				
Trade Mark:	ATEL				
Hardware Version:	P2				
Software Version:	CPE5_RE600_00_v1.0	).2			
IMEI:	862424050282210				
	Band	Tx	Rx		
	UMTS Band II	1850 to 1910 MHz	1930 to 1990 MHz		
	UMTS Band IV	1710 to 1755 MHz	2110 to 2155 MHz		
	UMTS Band V	824 to 849 MHz	869 to 894 MHz		
	LTE Band 2	1850 to 1910 MHz	1930 to 1990 MHz		
	LTE Band 4	1710 to 1755 MHz	2110 to 2155 MHz		
	LTE Band 5	824 to 849 MHz	869 to 894 MHz		
	LTE Band 7	2500 to 2570 MHz	2620 to 2690 MHz		
	LTE Band 12	699 to 716 MHz	729 to 746 MHz		
Frequency Bands:	LTE Band 13	777 to 787 MHz	746 to 756 MHz		
	LTE Band 14	788 to 798 MHz	758 to 768 MHz		
	LTE Band 17	704 to 716 MHz	734 to 746 MHz		
	LTE Band 25	1850 to 1915MHz	1930 to 1995 MHz		
	LTE Band 26 (814 to 824 MHz)	814 to 824MHz	859 to 869 MHz		
	LTE Band 26 (824 to 849 MHz)	824 to 849 MHz	869 to 894 MHz		
	LTE Band 30	2305 to 2315 MHz	2350 to 2360 MHz		
	LTE Band 41	2496 to 2690MHz	2496 to 2690MHz		
	LTE Band 48	3550 to 3700 MHz	3550 to 3700 MHz		

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	LTE Band 66	1710 to 1780 MHz	2110 to 2200 MHz
	LTE Band 71	663 to 698 MHz	617 to 652 MHz
	NR Band n2	1850 to 1910 MHz	1930 to 1990 MHz
	NR Band n5	824 to 849 MHz	869 to 894 MHz
	NR Band n7	2500 to 2570 MHz	2620 to 2690 MHz
	NR Band n12	699 to 716 MHz	729 to 746 MHz
	NR Band n14	788 to 798 MHz	758 to 768 MHz
	NR Band n25	1850 to 1915MHz	1930 to 1995 MHz
	NR Band n30	2305 to 2315 MHz	2350 to 2360 MHz
	NR Band n41	2496 to 2690 MHz	2496 to 2690 MHz
	NR Band n66	1710 to 1780 MHz	2110 to 2200 MHz
	NR Band n71	663 to 698 MHz	617 to 652 MHz
	NR Band n77	3700 to 3980 MHz	3700 to 3980 MHz
	INK Danu n//	3450 to 3550 MHz	3450 to 3550 MHz
	NR Band n78	3700 to 3800 MHz	3700 to 3800 MHz
		3450 to 3550 MHz	3450 to 3550 MHz

LTE CA:

LTE UL CA\_41C; LTE UL CA\_2A-12A; LTE UL CA\_12A-66A;

ENDC:

DC\_41A-n41A; DC\_2A\_n71A; DC\_12A\_n2A; DC\_12A\_n66A; DC\_66A\_n71A;

DC\_2A\_n41A; DC\_12A\_n25A; DC\_66A\_n41A

NR UL CA:

CA\_n41A-n71A; CA\_n25A-n71A; CA\_n25A-n41A; CA\_n66A-n41A;

CA n66A-n71A.

Wi-Fi 2.4G	2412 to 2462 MHz	2412 to 2462 MHz
Wi-Fi 5G	5150 to 5250 MHz	5150 to 5250 MHz
WI-FI 5G	5725 to 5850 MHz	5725 to 5850 MHz

#### Remark:

As above information is provided and confirmed by the applicant. SGS is not liable to the accuracy, suitability, reliability or/and integrity of the information.

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### 2.1 Description of Support Units

Equipment	Manufacturer	Model No.	Inventory No.
Telephone landline	CHINO	HCD6238(20)P/TSDL8910	N/A
Computer	Lenovo	T14	SUWI-03-33-04

#### 2.2 Test Location

All tests were performed at:

Company:	SGS-CSTC Standards Technical Services (Suzhou) Co., Ltd.
Address:	South of No. 6 Plant, No. 1, Runsheng Road, Suzhou Industrial Park, Suzhou Area, China (Jiangsu) Pilot Free Trade Zone
Post code:	215000
Test engineer:	King-p Li

### 2.3 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

#### A2LA (Certificate No. 6336.01)

SGS-CSTC STANDARDS TECHNICAL SERVICES (SUZHOU) CO., LTD. is accredited by the American Association for Laboratory Accreditation(A2LA). Certificate No. 6336.01.

#### Innovation, Science and Economic Development Canada

SGS-CSTC STANDARDS TECHNICAL SERVICES (SUZHOU) CO., LTD. has been recognized by ISED as an accredited testing laboratory.

CAB identifier: CN0120.

IC#: 27594.

• FCC -Designation Number: CN1312

SGS-CSTC STANDARDS TECHNICAL SERVICES (SUZHOU) CO., LTD. has been recognized as an accredited testing laboratory.

Designation Number: CN1312.

Test Firm Registration Number: 717327

#### 2.4 Deviation from Standards

None

#### 2.5 Abnormalities from Standard Conditions

None

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### **Emission Test Results**

### 3.1 Conducted Emissions at Mains Terminals (150kHz-30MHz)

Test Requirement:	47 CFR Part 15, Subpart B		
Test Method:	ANSI C63.4:2014		
Frequency Range:	150kHz to 30MHz		
Receiver Setup:	RBW = 9kHz, VBW = 30kHz		
	Frequency Range (MHz)	Limit(dBµV)	
		Quasi-peak	average
	0.15M-0.5MHz	66 ~ 56*	56 ~ 46*
Limit:	0.5M-5MHz	56	46
	5M-30MHz	60	50
	*Decreases with the logarithm of the frequency		
	Detector: Peak for pre-scan (9)	Hz resolution bandwidth	) 0.15M to 30MHz

#### 2.1.1 E.U.T. Operation

### Operating Environment:

Temperature:	22~23°C
Humidity:	44~46%RH
Atmospheric Pressure:	101.0 kPa
	a: (adapter input)+LAN 1 Connected with computer+LAN 2 Connected with compute+2.4GWLAN(Idle)+Telephone landline+WCDMA Band 5(RX) Low
	b: (adapter input)+LAN 1 Connected with computer+LAN 2 Connected with compute+5G Band 1 WLAN(Idle)+Telephone landline+LTE Band 5(RX) Mid
	c: (adapter input)+LAN 1 Connected with computer+LAN 2 Connected with compute+5G Band 4 WLAN(Idle)+Telephone landline+LTE Band 12(RX) Hight
Pretest these modes to	d: (adapter input)+LAN 1 Connected with computer+LAN 2 Connected with compute+2.4GWLAN(Idle)+Telephone landline+LTE Band 13(RX) Low
find the worst case:	e: (adapter input)+LAN 1 Connected with computer+LAN 2 Connected with compute+5G Band 1 WLAN(Idle)+Telephone landline+LTE Band 14(RX) Mid
	f: (adapter input)+LAN 1 Connected with computer+LAN 2 Connected with compute+5G Band 4 WLAN(Idle)+Telephone landline+LTE Band 17(RX) Hight
	g: (adapter input)+LAN 1 Connected with computer+LAN 2 Connected with
	compute+2.4GWLAN(Idle)+Telephone landline+LTE Band 26 (RX) Low
	h: (adapter input)+LAN 1 Connected with computer+LAN 2 Connected with compute+5G Band 1 WLAN(Idle)+Telephone landline+LTE Band 71 (RX) Mid

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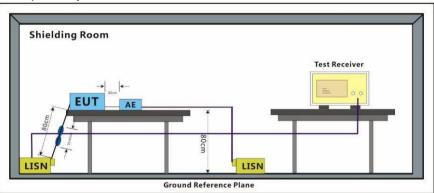
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	i: (adapter input)+LAN 1 Connected with computer+LAN 2 Connected with compute+5G Band 4 WLAN(Idle)+Telephone landline+SA Band 5 (RX) Hight j: (adapter input)+LAN 1 Connected with computer+LAN 2 Connected with compute+2.4G WLAN(Idle)+Telephone landline+SA Band 12 (RX) Low k: (adapter input)+LAN 1 Connected with computer+LAN 2 Connected with compute+5G Band 1 WLAN(Idle)+Telephone landline+SA Band 14 (RX) Mid I:(adapter input)+LAN 1 Connected with computer+LAN 2 Connected with
	compute+5G Band 4WLAN(Idle)+Telephone landline+SA Band 71 (RX) Hight
The worst case for final test:	h: (adapter input)+LAN 1 Connected with computer+LAN 2 Connected with compute+5G Band 1 WLAN(Idle)+Telephone landline+LTE Band 71 (RX) Mid

#### 2.1.2 Test Setup Procedures

- 1. The EUT was placed 0.4 meter from the conducting wall of the shielding room was kept at least 80 centimeters from any other grounded conducting surface.
- 2. Connect EUT to the power mains through a line impedance stabilization network (LISN).
- 3. All the support units are connecting to the other LISN.
- 4. The LISN provides 50 ohm coupling impedance for the measuring instrument.
- 5. The FCC states that a 50 ohm, 50 microhenry LISN should be used.
- 6. Both sides of AC line were checked for maximum conducted interference.
- 7. The frequency range from 150 kHz to 30 MHz was searched.
- 8. Set the test-receiver system to Peak Detect Function and specified bandwidth (IF Bandwidth = 9kHz) with Maximum Hold Mode. Then measurement is also conducted by Average Detector and Quasi-Peak Detector Function respectively.



#### 2.1.3 Measurement Data

An initial pre-scan was performed with peak detector. Quasi-Peak or Average measurement were performed at the frequencies with maximized peak emission were detected.

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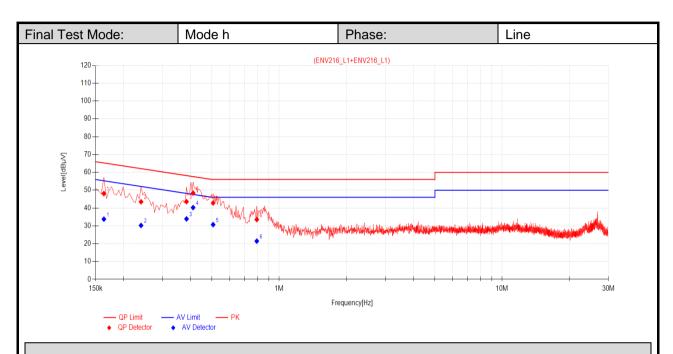
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Data	List										
NO.	Frequency [MHz]	Factor [dB]	QP Reading [dBµV]	QP Value [dBµV]	QP Limit [dBµV]	QP Margin [dB]	AV Reading [dBµV]	AV Value [dBµV]	AV Limit [dBµV]	AV Margin [dB]	Verdict
1	0.1635	11.06	37.06	48.12	65.28	17.16	22.71	33.77	55.28	21.51	PASS
2	0.2400	10.92	32.58	43.50	62.10	18.60	19.32	30.24	52.10	21.86	PASS
3	0.3840	10.75	32.83	43.58	58.19	14.61	23.16	33.91	48.19	14.28	PASS
4	0.4110	10.75	37.64	48.39	57.63	9.24	29.51	40.26	47.63	7.37	PASS
5	0.5055	10.72	32.10	42.82	56.00	13.18	19.98	30.70	46.00	15.30	PASS
6	0.7935	10.75	22.78	33.53	56.00	22.47	10.70	21.45	46.00	24.55	PASS
_	_										

#### Remark:

- 1. The following Quasi-Peak and Average measurements were performed on the EUT:
- 2. Value =Reading[dBµV] + Factor(Lisn factor[dB] + cable loss[dB]).
- 3. Margin = Limit[dBµV] Value[dBµV]

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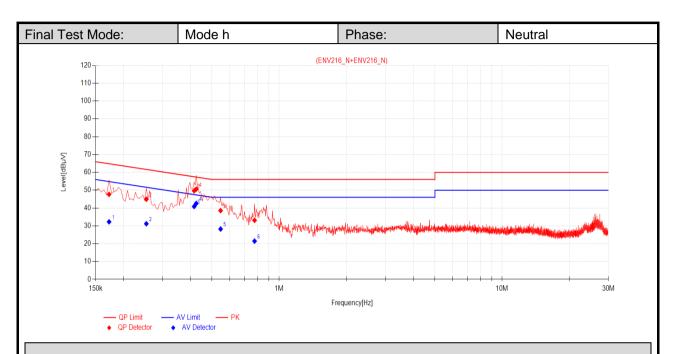
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Data	List										
NO.	Frequency [MHz]	Factor [dB]	QP Reading [dBµV]	QP Value [dBµV]	QP Limit [dBµV]	QP Margin [dB]	AV Reading [dBµV]	AV Value [dBµV]	AV Limit [dBµV]	AV Margin [dB]	Verdict
1	0.1725	10.97	36.70	47.67	64.84	17.17	21.29	32.26	54.84	22.58	PASS
2	0.2535	10.81	34.12	44.93	61.64	16.71	20.38	31.19	51.64	20.45	PASS
3	0.4155	10.68	38.99	49.67	57.54	7.87	30.19	40.87	47.54	6.67	PASS
4	0.4245	10.67	39.93	50.60	57.36	6.76	31.91	42.58	47.36	4.78	PASS
5	0.5460	10.66	27.89	38.55	56.00	17.45	17.55	28.21	46.00	17.79	PASS
6	0.7755	10.66	22.45	33.11	56.00	22.89	10.79	21.45	46.00	24.55	PASS
_	_										

#### Remark:

- 1. The following Quasi-Peak and Average measurements were performed on the EUT:
- 2. Value =Reading[dBµV] + Factor(Lisn factor[dB] + cable loss[dB]).
- 3. Margin = Limit[dBµV] Value[dBµV]

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### 3.2 Radiated Emissions (30MHz-1GHz)

,							
Test Requirement:	47 CFR Part 15, Subpart B	47 CFR Part 15, Subpart B					
Test Method:	ANSI C63.4:2014						
Frequency Range:	30MHz to 1GHz						
Measurement Distance:	3m						
	Frequency Range (MHz)	Limit(dBµV/m)	Detector				
	30MHz -88MHz	40.0	Quasi-peak				
Limit:	88MHz-216MHz	43.5	Quasi-peak				
	216MHz-960MHz	46.0	Quasi-peak				
	960MHz-1000MHz	54.0	Quasi-peak				
Detector:	Peak for pre-scan (120kHz res	solution bandwidth) 30M	to1000MHz				

#### 3.2.1 E.U.T. Operation

3.2.1 E.U.T. Operation	
Temperature:	22~23°C
Humidity:	44~46%RH
Atmospheric Pressure:	101.0 kPa
	a: (adapter input)+LAN 1 Connected with computer+LAN 2 Connected with compute+2.4GWLAN(Idle)+Telephone landline+WCDMA Band 5(RX) Low
	b: (adapter input)+LAN 1 Connected with computer+LAN 2 Connected with compute+5G Band 1 WLAN(Idle)+Telephone landline+LTE Band 5(RX) Mid
	c: (adapter input)+LAN 1 Connected with computer+LAN 2 Connected with compute+5G Band 4 WLAN(Idle)+Telephone landline+LTE Band 12(RX) Hight
	d: (adapter input)+LAN 1 Connected with computer+LAN 2 Connected with compute+2.4GWLAN(Idle)+Telephone landline+LTE Band 13(RX) Low
	e: (adapter input)+LAN 1 Connected with computer+LAN 2 Connected with compute+5G Band 1 WLAN(Idle)+Telephone landline+LTE Band 14(RX) Mid
Pretest these modes to find the worst case:	f: (adapter input)+LAN 1 Connected with computer+LAN 2 Connected with compute+5G Band 4 WLAN(Idle)+Telephone landline+LTE Band 17(RX) Hight
	g: (adapter input)+LAN 1 Connected with computer+LAN 2 Connected with
	compute+2.4GWLAN(Idle)+Telephone landline+LTE Band 26 (RX) Low
	h: (adapter input)+LAN 1 Connected with computer+LAN 2 Connected with compute+5G Band 1 WLAN(Idle)+Telephone landline+LTE Band 71 (RX) Mid
	i: (adapter input)+LAN 1 Connected with computer+LAN 2 Connected with compute+5G Band 4 WLAN(Idle)+Telephone landline+SA Band 5 (RX) Hight
	j: (adapter input)+LAN 1 Connected with computer+LAN 2 Connected with
	compute+2.4G WLAN(Idle)+Telephone landline+SA Band 12 (RX) Low
	k: (adapter input)+LAN 1 Connected with computer+LAN 2 Connected with compute+5G Band 1 WLAN(Idle)+Telephone landline+SA Band 14 (RX) Mid

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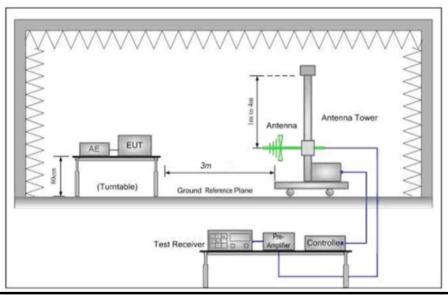
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	I:(adapter input)+LAN 1 Connected with computer+LAN 2 Connected with compute+5G Band 4WLAN(Idle)+Telephone landline+SA Band 71 (RX) Hight
The worst case for final test:	e: (adapter input)+LAN 1 Connected with computer+LAN 2 Connected with compute+5G Band 1 WLAN(Idle)+Telephone landline+LTE Band 14(RX) Mid

#### 3.2.2 Test Setup Procedures

- 1. The EUT was placed in a semi Anechoic Chamber as show below
- 2. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
- 3. The table was rotated 360 degrees to determine the position of the highest radiation.
- 4. The antenna height is adjusted between 1 to 4 meters above ground to find the maximum value of the field strength for both horizontal polarization and vertical polarization of the antenna.
- 5. For each suspected emission, the EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading.
- 6. Set the test-receiver system to Peak Detect Function with specified bandwidth with Maximum Hold Mode, and the trace was allowed to stabilize.
- 7. If the emission level of the EUT in peak mode was 6 dB lower than the limit specified, peak values of EUT will be reported. Otherwise, the emission will be repeated by using the quasi-peak method and reported.



### 3.2.3 Measurement Data

An initial pre-scan was performed in the chamber using the spectrum analyser in peak detection mode. Quasi-peak measurements were conducted based on the peak sweep graph. The EUT was measured by BiConiLog antenna with 2 orthogonal polarities.

The three polarities of X,Y,Z were measured by EUT, but only the worst data had been displayed.

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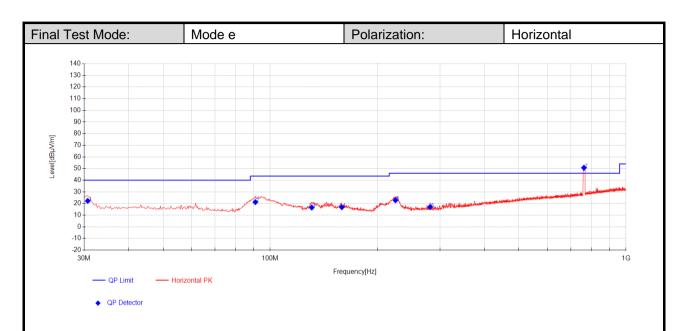
Attention: To check the authenticity of testing / inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN.Doccheck@sgs.com

Report Template No./Rev: SUWI-TRF-RF(FCC)004/v01



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Data Li	Data List										
NO.	Frequency [MHz]	Reading [dBµV]	AF [dB/m]	Factor [dB]	QP Value [dBµV/m]	QP Limit [dBµV/m]	QP Margin [dB]	Polarity			
1	30.7275	38.24	18.02	-34.01	22.25	40.00	17.75	Horizontal			
2	90.8675	40.28	14.51	-33.56	21.23	43.50	22.27	Horizontal			
3	130.88	32.05	17.81	-33.29	16.57	43.50	26.93	Horizontal			
4	159.01	31.43	18.50	-33.08	16.85	43.50	26.65	Horizontal			
5	224.97	38.96	16.40	-32.55	22.80	46.00	23.20	Horizontal			
6	281.4725	32.28	17.02	-32.28	17.02	46.00	28.98	Horizontal			
7	761.865	52.93	27.72	-29.91	50.74	-	-	Horizontal			

#### Remark:

- 1. The Quasi-Peak measurements were performed on the EUT.
- 2. Value = Reading + AF + Factor:

AF = Antenna Factor(dB/m)

Factor = Cable Factor(dB) - Preamplifier (dB)

Margin = Limit[dB $\mu$ V/m] –Value[dB $\mu$ V/m]

Note: #7 30M-1G is system simulator signal which can be ignored.

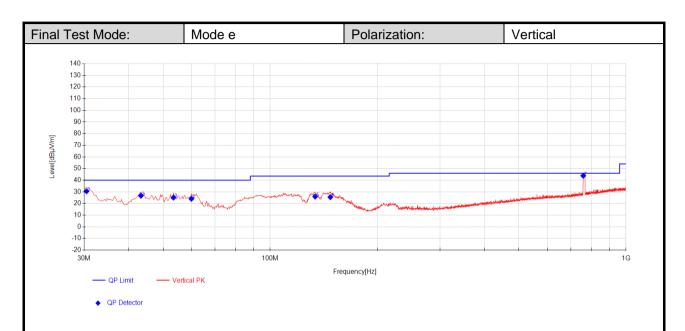
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Data Li	st							
NO.	Frequency [MHz]	Reading [dBµV]	AF [dB/m]	Factor [dB]	QP Value [dBµV/m]	QP Limit [dBµV/m]	QP Margin [dB]	Polarity
1	30.485	46.58	17.98	-34.01	30.55	40.00	9.45	Vertical
2	43.3375	41.32	19.37	-33.99	26.70	40.00	13.30	Vertical
3	53.5225	40.28	18.79	-33.94	25.14	40.00	14.86	Vertical
4	60.07	39.35	18.59	-33.86	24.08	40.00	15.92	Vertical
5	133.79	41.24	18.00	-33.27	25.97	43.50	17.53	Vertical
6	147.6125	40.28	18.44	-33.20	25.52	43.50	17.98	Vertical
7	758.2275	46.18	27.64	-29.93	43.89	-	-	Vertical

#### Remark:

- 1. The Quasi-Peak measurements were performed on the EUT.
- 2. Value = Reading + AF + Factor:

AF = Antenna Factor(dB/m)

Factor = Cable Factor(dB) - Preamplifier (dB)

Margin = Limit[dB $\mu$ V/m] –Value[dB $\mu$ V/m]

Note: #7 30M-1G is system simulator signal which can be ignored.

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### 3.3 Radiated Emissions (above 1GHz)

Test Requirement:	47 CFR Part 15, Subpa	47 CFR Part 15, Subpart B						
Test Method:	ANSI C63.4:2014							
Frequency Range:	Above 1GHz							
Measurement Distance:	3m	3m						
	Frequency (MHz)	Limit (dBµV/m)	Detector					
Limit:	Above 4CH-	74	Peak					
	Above 1GHz 54 Average							
Detector:		Peak for pre-scan (1000kHz resolution bandwidth) 5th harmonic of the highest frequency or 40GHz, whichever is lower.						

#### 3.3.1 E.U.T. Operation

Temperature:	22~23°C
Humidity:	44~46%RH
Atmospheric Pressure:	101.0 kPa
	a: (adapter input)+LAN 1 Connected with computer+LAN 2 Connected with compute+2.4GWLAN(Idle)+Telephone landline+WCDMA Band 5(RX) Low
	b: (adapter input)+LAN 1 Connected with computer+LAN 2 Connected with compute+5G Band 1 WLAN(Idle)+Telephone landline+LTE Band 5(RX) Mid
	c: (adapter input)+LAN 1 Connected with computer+LAN 2 Connected with compute+5G Band 4 WLAN(Idle)+Telephone landline+LTE Band 12(RX) Hight
	d: (adapter input)+LAN 1 Connected with computer+LAN 2 Connected with compute+2.4GWLAN(Idle)+Telephone landline+LTE Band 13(RX) Low
	e: (adapter input)+LAN 1 Connected with computer+LAN 2 Connected with compute+5G Band 1 WLAN(Idle)+Telephone landline+LTE Band 14(RX) Mid
Pretest these modes to find the worst case:	f: (adapter input)+LAN 1 Connected with computer+LAN 2 Connected with compute+5G Band 4 WLAN(Idle)+Telephone landline+LTE Band 17(RX) Hight
	g: (adapter input)+LAN 1 Connected with computer+LAN 2 Connected with
	compute+2.4GWLAN(Idle)+Telephone landline+LTE Band 26 (RX) Low
	h: (adapter input)+LAN 1 Connected with computer+LAN 2 Connected with compute+5G Band 1 WLAN(Idle)+Telephone landline+LTE Band 71 (RX) Mid
	i: (adapter input)+LAN 1 Connected with computer+LAN 2 Connected with compute+5G Band 4 WLAN(Idle)+Telephone landline+SA Band 5 (RX) Hight
	j: (adapter input)+LAN 1 Connected with computer+LAN 2 Connected with
	compute+2.4G WLAN(Idle)+Telephone landline+SA Band 12 (RX) Low

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	k: (adapter input)+LAN 1 Connected with computer+LAN 2 Connected with compute+5G Band 1 WLAN(Idle)+Telephone landline+SA Band 14 (RX) Mid
	l:(adapter input)+LAN 1 Connected with computer+LAN 2 Connected with compute+5G Band 4WLAN(Idle)+Telephone landline+SA Band 71 (RX) Hight
The worst case for final test:	e: (adapter input)+LAN 1 Connected with computer+LAN 2 Connected with compute+5G Band 1 WLAN(Idle)+Telephone landline+LTE Band 14(RX) Mid

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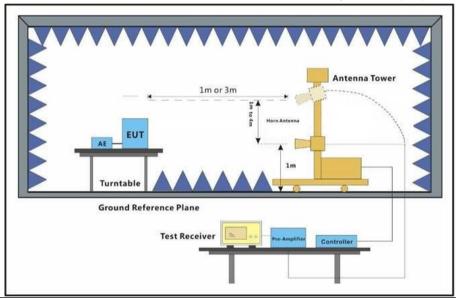


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#### 3.3.2 Test Setup Procedures

- 1. The EUT was placed in a full Anechoic Chamber as show below
- 2. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
- 3. The table was rotated 360 degrees to determine the position of the highest radiation (Distance from antenna to EUT is 1m for measurements >18GHz).
- 4. The antenna height is adjusted between 1 to 4 meters above ground to find the maximum value of the field strength for both horizontal polarization and vertical polarization of the antenna.
- 5. For each suspected emission, the EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading.
- 6. Set the test-receiver system to Peak and AV Detect Function with specified bandwidth with Maximum Hold Mode, and the trace was allowed to stabilize.
- 7. At a measurement distance of 1 meter the limit line was increased by 20\*LOG(3/1) = 9.54 dB.



#### 3.3.3 **Measurement Data**

An initial pre-scan was performed in the chamber using the spectrum analyser in peak detection mode. Average measurements were conducted based on the peak sweep graph. The EUT was measured by Horn antenna with 2 orthogonal polarities.

The three polarities of X, Y, Z were measured by EUT, but only the worst data had been displayed. Scan from 5th harmonic of the highest frequency or 40GHz, whichever is lower, the disturbance above 18GHz was very low. The points marked on below plots are the highest emissions could be found when testing, so only below points had been displayed.

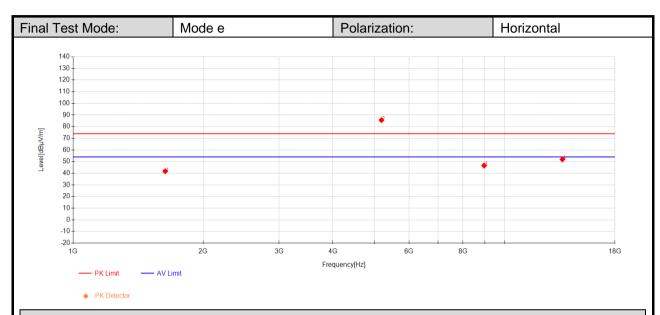
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Data Li	ist							
NO.	Frequency [MHz]	Reading [dBµV]	AF [dB/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Polarity
1	1634.7917	40.57	24.60	-23.43	41.74	74.00	32.26	Horizontal
2	5179.0833	66.59	33.16	-14.16	85.59	•	-	Horizontal
3	8953.6071	43.80	37.58	-34.79	46.59	74.00	27.41	Horizontal
4	13593.4464	39.71	40.02	-27.77	51.95	74.00	22.05	Horizontal

#### Remark:

- 1. The Peak and Average measurements were performed on the EUT.
- 2. Level = Reading Level + AF + Factor:

AF = Antenna Factor(dB/m)

Factor = Cable Factor(dB) - Preamplifier gain(dB)

Margin =  $Limit[dB\mu V/m] - Level[dB\mu V/m]$ 

Note: #2 1G-18G is RF signal which come from Wi-Fi access point used to connect the EUT, and which can be ignored.

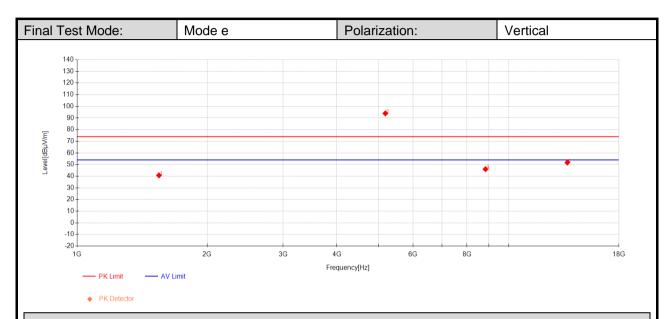
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Data Lis	st							
NO.	Frequency [MHz]	Reading [dBµV]	AF [dB/m]	Factor [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Polarity
1	1547.7083	39.73	24.73	-23.71	40.75	74.00	33.25	Vertical
2	5177.25	74.95	33.16	-14.18	93.94	•	•	Vertical
3	8831.2143	43.51	37.52	-34.95	46.07	74.00	27.93	Vertical
4	13662.8571	40.34	40.06	-28.63	51.77	74.00	22.23	Vertical

#### Remark:

- 1. The Peak and Average measurements were performed on the EUT.
- 2. Level = Reading Level + AF + Factor:

AF = Antenna Factor(dB/m)

Factor = Cable Factor(dB) - Preamplifier gain(dB)

Margin = Limit[dB $\mu$ V/m] – Level[dB $\mu$ V/m]

Note: #2 1G-18G is RF signal which come from Wi-Fi access point used to connect the EUT, and which can be ignored.

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### 4 Equipment List

CE Test System								
Equipment	Manufacturer	Model No.	Inventory No.	Cal Date (yyyy/mm/dd)	Cal Due Date (yyyy/mm/dd)			
Test receiver	ROHDE&SCHWARZ	ESR7	SUWI-01-10-01	2024/02/01	2025/01/31			
Temperature and humidity meter	MingGao	TH101B	SUWI-01-01-06	2024/02/04	2025/02/03			
Artificial network	ROHDE&SCHWARZ	ENV216	SUWI-01-19-03	2024/02/04	2025/02/03			
Artificial network	ROHDE&SCHWARZ	ENV216	SUWI-01-19-04	2024/02/04	2025/02/03			
Measurement Software	Tonscend	JS32-CE V4.0.0.2	SUWI-02-09-05	NCR	NCR			
Wideband Radio Communication Tester	Anritsu	MT8821C	SUWI-01-26-03	2023/11/21	2024/11/20			

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RE Test System							
Equipment	Manufacturer	Model No.	Inventory No.	Cal Date (yyyy/mm/dd)	Cal Due Date (yyyy/mm/dd)		
Semi-Anechoic Chamber	Brilliant-emc	N/A	SUWI-04-02-01	2023/06/03	2026/06/02		
Temperature and humidity meter	MingGao	TH101B	SUWI-01-01-05	2024/02/18	2025/02/17		
Signal Analyzer	KEYSIGHT	N9020A	SUWI-01-02-07	2023/11/21	2024/11/20		
Test receiver	ROHDE&SCHWARZ	ESR7	SUWI-01-10-01	2024/02/01	2025/01/31		
Receiving antenna	SCHWRZBECK MESS- ELEKTRONIK	VULB 9163	SUWI-01-11-01	2023/05/13	2025/05/12		
Receiving antenna	SCHWRZBECK MESS- ELEKTRONIK	BBHA 9120D	SUWI-01-11-02	2023/05/13	2025/05/12		
Amplifier	Tonscend	TAP9K3G40	SUWI-01-14-01	2024/02/04	2025/02/03		
Amplifier	Tonscend	TAP01018050	SUWI-01-14-02	2024/02/04	2025/02/03		
Wideband Radio Communication Tester	Anritsu	MT8821C	SUWI-01-26-03	2023/11/21	2024/11/20		
Measurement Software	Tonscend	JS32-RE 4.0.0.0	SUWI-02-09-04	NCR	NCR		

Remark: NCR=No Calibration Requirement.

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### 5 Measurement Uncertainty

No.	Item	Measurement Uncertainty		
1	Conduction Emission	± 2.90dB (150kHz to 30MHz)		
2		± 4.8dB (30M -1GHz)		
	Radiated Emission	± 4.8dB (1GHz to 18GHz)		
		± 4.80dB (Above 18GHz)		

#### Remark:

The Ulab (lab Uncertainty) is less than Ucispi/ETSI (CISPR/ETSI Uncertainty), so the test results

- compliance is deemed to occur if no measured disturbance level exceeds the disturbance limit;
- non-compliance is deemed to occur if any measured disturbance level exceeds the disturbance limit.

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### **Photographs**

### 6.1 Test Setup

Refer to Appendix A.3 15B Setup Photos.

---End of Report---

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