

Report No.: XEWA2310000070RG04
 Rev.: 01
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TEST REPORT

Application No.: XEWA2310000070RG
Applicant: Quectel Wireless Solutions Co., Ltd.
Address of Applicant: Building 5, Shanghai Business Park Phase III (Area B), No.1016 Tianlin Road, Minhang District, Shanghai, China 200233
Manufacturer: Quectel Wireless Solutions Co., Ltd.
Address of Manufacturer: Building 5, Shanghai Business Park Phase III (Area B), No.1016 Tianlin Road, Minhang District, Shanghai, China 200233
EUT Description: Wi-Fi & Bluetooth Module
Model No.: AF66T
Trade Mark: Quectel
FCC ID: XMR202309AF66T
Standards: FCC 47 CFR Part 2, Subpart J
 FCC 47 CFR Part 15, Subpart E
Date of Receipt: 2023/09/26
Date of Test: 2023/10/11 to 2023/10/25
Date of Issue: 2023/11/13

Test Result :	PASS *
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* In the configuration tested, the EUT detailed in this report complied with the standards specified above.

Authorized Signature:



Peter Tan
 Regulatory Technical Manager



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1 Version

Revision Record				
Version	Chapter	Date	Modifier	Remark
01		2023/11/13		Original

Prepared By	 <hr/> (Leah Chen) / Test Engineer
Checked By	 <hr/> (Andy Yao) / Reviewer



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2 Test Summary

Test Item	Band ^[1]	FCC rules No.	Test Requirements	Test Result	Result
Antenna Requirement	--	15.203/15.407(a)	--	Clause 4.1	PASS
26dB Emission Bandwidth	Band I	15.407(a)(1)	No limit.	Clause 4.5	For Report Purpose
	Band II-A	15.407(a)(2)			
	Band II-C	15.407(a)(2)			
6dB Emission Bandwidth	Band III	15.407(e)	≥ 500 kHz.	Clause 4.6	PASS
99% Occupied Bandwidth	Band I	KDB 789033 D02§ D	No limit.	Clause 4.7	For Report Purpose
	Band II-A				
	Band II-C				
	Band III				
Duty Cycle	Band I	--	No limit.	Clause 4.3	For Report Purpose
	Band II-A				
	Band II-C				
	Band III				
Maximum Conducted Output Power	Band I	15.407(a)(ii)	<1W	Clause 4.4	PASS
	Band II-A	15.407(a)(2)	<MIN{250mW, 11dBm+10*lg(EBW)}		
	Band II-C				
	Band III	15.407(a)(3)	< 1W		
Maximum Power Spectral Density	Band I	15.407(a)(ii)	< 17dBm/MHz	Clause 4.8	PASS
	Band II-A	15.407(a)(2)	<11dBm/MHz		
	Band II-C				
	Band III	15.407(a)(3)	<30dBm/500KHz		
Radiated Spurious Emissions	Band I	15.407(b) 15.205/15.209	F<1GHz: §15.209 limit (QP). F≥1GHz & out-restricted: <-27dBm/MHz PK e.i.r.p. (exl. 5.15-5.35 GHz). F≥1GHz & in-restricted: §15.209 limit (AV&PK).	Clause 4.9	PASS
	Band II-A	15.407(b) 15.205/15.209	F<1GHz: §15.209 limit (QP). F≥1GHz & out-restricted: <-27dBm/MHz PK e.i.r.p. (exl. 5.25-		PASS



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			5.35 GHz). F≥1GHz & in-restricted: §15.209 limit (AV&PK).		
	Band II-C	15.407(b) 15.205/15.209	F<1GHz: §15.209 limit (QP). F≥1GHz & out-restricted: <-27dBm/MHz PK e.i.r.p. (exl. 5.47-5.725 GHz). F≥1GHz & in-restricted: §15.209 limit (AV&PK).		PASS
	Band III	15.407(b) 15.205/15.209	F<1GHz: §15.209 limit (QP) F≥1GHz & out-restricted:(PK) All emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge. F≥1GHz & in-restricted: §15.209 limit (AV&PK).		PASS
Restricted bands around fundamental frequency	Band I Band II-A Band II-C Band III	15.407(b) 15.205/15.209	---	Clause 4.10	PASS
AC Power Line Conducted Emissions	Band I Band II-A Band II-C Band III	15.207	---	Clause 4.2	PASS
Frequency Stability	Band I Band II-A Band II-C Band III	15.407(g)	Manufacturers of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified in the users manual	N/A	N/A
<p>Note 1: Band I: 5150-5250MHz</p>					



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Band II-A: 5250-5350MHz
Band II-C: 5470-5725MHz
Band III: 5725-5850MHz



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3 General Information

3.1 Details of Client

Applicant:	Quectel Wireless Solutions Co., Ltd.
Address of Applicant:	Building 5, Shanghai Business Park Phase III (Area B), No.1016 Tianlin Road, Minhang District, Shanghai, China 200233
Manufacturer:	Quectel Wireless Solutions Co., Ltd.
Address of Manufacturer:	Building 5, Shanghai Business Park Phase III (Area B), No.1016 Tianlin Road, Minhang District, Shanghai, China 200233

3.2 Test Location

Company:	SGS-CSTC Standards Technical Services (Xi'an) Co., Ltd.
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Post code:	710086
Test engineer:	Qiang Zhang, Ken Liu

3.3 Test Facility

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

<p>•A2LA (Certificate No. 4854.01) SGS-CSTC Standards Technical Services (Xi'an) Co., Ltd. is accredited by the American Association for Laboratory Accreditation(A2LA). Certificate No. 4854.01.</p> <p>• Innovation, Science and Economic Development Canada SGS-CSTC Standards Technical Services (Xi'an) Co., Ltd. has been recognized by ISED as an accredited testing laboratory. CAB identifier: CN0095. IC#: 25613.</p> <p>• FCC –Designation Number: CN1337 SGS-CSTC Standards Technical Services (Xi'an) Co., Ltd. has been recognized as an accredited testing laboratory. Designation Number: CN1337. Test Firm Registration Number: 917410</p>



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3.4 General Description of EUT

EUT Description:	Wi-Fi & Bluetooth Module	
Model No.:	AF66T	
Trade Mark:	Quectel	
Hardware Version:	R1.0	
Software Version:	NA	
Power Supply:	DC 12V	
SN:	RF Conducted	D1C23G416000834
	RSE & AC power line	D1C23G416000499
WLAN Mode Supported:	802.11a:	20 MHz channel bandwidth
	802.11n:	20 MHz / 40 MHz channel bandwidth
	802.11ac:	20 MHz / 40 MHz / 80 MHz channel bandwidth
	802.11ax:	20 MHz / 40 MHz / 80 MHz channel bandwidth
Operation Frequency:	5150MHz to 5250MHz 5250MHz to 5350MHz 5470MHz to 5725MHz 5725MHz to 5850MHz	
Modulation Type:	802.11a:	OFDM (BPSK, QPSK, 16QAM, 64QAM)
	802.11n:	OFDM (BPSK, QPSK, 16QAM, 64QAM)
	802.11ac:	OFDM (BPSK, QPSK, 16QAM, 64QAM, 256QAM)
	802.11ax:	OFDM/OFDMA (BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM)
Channel Spacing:	20MHz:	802.11a/n(HT20)/ac(VHT20)/ax(HE20)
	40MHz:	802.11n(HT40)/ac(VHT40)/ax(HE40)
	80MHz:	802.11ac(VHT80)/ax(HE80)
Antenna Type:	Dipole Antenna	
Antenna Gain:	5150MHz to 5250MHz: 1.14dBi(Ant0); 1.14dBi(Ant1); 5250MHz to 5350MHz: 1.00dBi(Ant0); 1.00dBi(Ant1); 5470MHz to 5725MHz: 0.60dBi(Ant0); 0.60dBi(Ant1); 5725MHz to 5850MHz: 0.95dBi(Ant0); 0.95dBi(Ant1);	
	Note: The antenna gain are derived from the gain information report provided by the manufacturer.	
Smart System:	<input checked="" type="checkbox"/> SISO	802.11a/n/ac/ax
	<input checked="" type="checkbox"/> MIMO	802.11n/ac/ax:2Tx & 2Rx



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	<input checked="" type="checkbox"/> Diversity	CDD:802.11a: 2Tx & 2Rx
TPC Function:	<input checked="" type="checkbox"/> Support, <input type="checkbox"/> Not Support	
Use Conditions:	Indoor	
RF Cable:	1.5dB	
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.		

Remark: In FCC 15.31, for each band in which the device can be operated with the device operating at the number of frequencies in each band specified in the following table, and the selected channel to perform the test as below:		
Frequency range over which device operates	Number of Measurement Frequencies Required	Location of Measurement Frequency in Band of Operation
1 MHz or less	1	centre
1 MHz to 10 MHz	2	1 near high end, 1 near low end
Greater than 10 MHz	3	1 near high end, 1 near centre

For UNII Band I:		
Mode	Channel	Frequency(MHz)
IEEE 802.11a/n/ac/ax 20MHz	The Lowest channel	5180
	The Middle channel	5200
	The Highest channel	5240
IEEE 802.11n/ac/ax 40MHz	The Lowest channel	5190
	The Highest channel	5230
IEEE 802.11ac/ax 80MHz	The Middle channel	5210

For UNII Band II-A:		
Mode	Channel	Frequency(MHz)
IEEE 802.11a/n/ac/ax 20MHz	The Lowest channel	5260
	The Middle channel	5280
	The Highest channel	5320
IEEE 802.11n/ac/ax 40MHz	The Lowest channel	5270
	The Highest channel	5310
IEEE 802.11ac/ax 80MHz	The Middle channel	5290



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For UNII Band II-C:		
Mode	Channel	Frequency(MHz)
IEEE 802.11a/n/ac/ax 20MHz	The Lowest channel	5500
	The Middle channel	5580
	The Highest channel	5700
IEEE 802.11n/ac/ax 40MHz	The Lowest channel	5510
	The Middle channel	5550
	The Highest channel	5670
IEEE 802.11ac/ax 80MHz	The Middle channel	5530

For UNII Band III:		
Mode	Channel	Frequency(MHz)
IEEE 802.11a/n/ac/ax 20MHz	The Lowest channel	5745
	The Middle channel	5785
	The Highest channel	5825
IEEE 802.11n/ac/ax 40MHz	The Lowest channel	5755
	The Highest channel	5795
IEEE 802.11ac/ax 80MHz	The Middle channel	5775



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Frequency Band	Channel	Freq.(MHz)	Channel	Freq.(MHz)
Straddle Channel	144 ^[1]	5720	142 ^[2]	5710
	138 ^[3]	5690		
TDWR Channel	120 ^[1]	5600	124 ^[1]	5620
	128 ^[1]	5640	118 ^[2]	5590
	126 ^[2]	5630	122 ^[3]	5610

Note:

1. The above Frequency and Channel were 802.11a, 802.11n HT20, 802.11ac VHT20 and 802.11ax HE20.
2. The above Frequency and Channel were 802.11n HT40, 802.11ac VHT40 and 802.11ax HE40.
3. The above Frequency and Channel were 802.11ac VHT80 and 802.11ax HE80.

Remark:

1. 802.11ax support OFDMA full RU tone and partial RU tone, both full RU and partial RU-left (for low CH) and partial RU-right (for high CH) test output power, the full RU power > partial RU, therefore the full RU perform full test to cover partial RU except for PSD/ Duty cycle/BE.



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3.5 Test Environment and Mode

Environment Parameter	96~101 kPa Selected Values During Tests	
Relative Humidity	40-60 % RH Ambient	
Value	Temperature(°C)	Voltage(V)
NTNV	22~25	3.85
Remark: NV: Normal Voltage NT: Normal Temperature		

3.6 Description of Support Units

Description	Manufacturer	Model No.
Mother board	Quectel	N/A
Adapter	Quectel	N/A
Test Antenna	Quectel	YE0038AA
Remark: All above the information of table are provided by client.		

3.7 Worst-case configuration and mode

Low data rate was used to test on antenna port conducted tests and radiated spurious emissions since it has the highest maximum power. Following are the worst-case data rates set for test:

Modulation Type	SISO - Data Rate	CDD/MIMO - Data Rate
802.11a	6 Mbps	12 Mbps
802.11n (HT 20)	MCS0 (6.5 Mbps)	MCS0 (13 Mbps)
802.11n (HT 40)	MCS0 (13.5 Mbps)	MCS0 (27 Mbps)
802.11ac (VHT 20)	MCS0 (6.5 Mbps)	MCS0 (13 Mbps)
802.11ac (VHT 40)	MCS0 (13.5 Mbps)	MCS0 (27 Mbps)
802.11ac (VHT 80)	MCS0 (29.3 Mbps)	MCS0 (58.5 Mbps)
802.11ax (HE 20)	MCS0 (8 Mbps)	MCS0 (16 Mbps)
802.11ax (HE 40)	MCS0 (16 Mbps)	MCS0 (32 Mbps)
802.11ax (HE 80)	MCS0 (34 Mbps)	MCS0 (68 Mbps)



4 Test results and Measurement Data

4.1 Antenna Requirement

Standard requirement:	47 CFR Part 15 Section 15.203
<p>The antenna is Dipole Antenna and no consideration of replacement. The best case gain of the antenna is 5150MHz to 5250MHz: 1.14dBi(Ant0); 1.14dBi(Ant1);* 5250MHz to 5350MHz: 1.00dBi(Ant0); 1.00dBi(Ant1);* 5470MHz to 5725MHz: 0.60dBi(Ant0); 0.60dBi(Ant1);* 5725MHz to 5850MHz: 0.95dBi(Ant0); 0.95dBi(Ant1);*</p> <p><i>*Note:</i> <i>The antenna gain are derived from the gain information report provided by the manufacturer.</i></p> <p><i>Remark:</i> <i>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.</i></p>	



Cyclic Delay Diversity (CDD) System:

FCC KDB 662911 D01 Multiple Transmitter Output v02r01

If all antennas have the same gain, G_{ANT} , Directional gain = G_{ANT} + Array Gain, where Array Gain is as follows.

- For power spectral density (PSD) measurements on all devices,
 Array Gain = $10 \log(N_{ANT}/N_{SS}=1)$ dB.
- For power measurements on IEEE 802.11 devices:
 Array Gain = 0 dB (i.e., no array gain) for $N_{ANT} \leq 4$;

Directional gain may be calculated by using the formulas applicable to equal gain antennas with G_{ANT} set equal to the gain of the antenna having the highest gain.

The Power and PSD limit should be modified if the directional gain of eut is over 6dbi.

The EUT supports CDD System.

All antennas have the same gain:

Operation Frequency	ANT Gain0 (dBi)	ANT Gain1 (dBi)	Directional gain For Power (dBi)	Directional gain For PSD (dBi)	Power Limit Reduction (dBm)	PSD Limit Reduction (dBm)
5150MHz to 5250MHz	1.14	1.14	1.14	4.15	0	0
5250MHz to 5350MHz	1.00	1.00	1.00	4.01	0	0
5470MHz to 5725MHz	0.60	0.60	0.60	3.61	0	0
5725MHz to 5850MHz	0.95	0.95	0.95	3.96	0	0

5150MHz to 5250MHz:

Power Limit Reduction = Directional gain – 6dBi, (Directional gain < 6dBi) =0

PSD Limit Reduction = Directional gain – 6dBi, (Directional gain < 6dBi) =0

5250MHz to 5350MHz:

Power Limit Reduction = Directional gain – 6dBi, (Directional gain < 6dBi) =0

PSD Limit Reduction = Directional gain – 6dBi, (Directional gain < 6dBi) =0

5470MHz to 5725MHz:

Power Limit Reduction = Directional gain – 6dBi, (Directional gain < 6dBi) =0

PSD Limit Reduction = Directional gain – 6dBi, (Directional gain < 6dBi) =0

5725MHz to 5850MHz:

Power Limit Reduction = Directional gain – 6dBi, (Directional gain < 6dBi) =0

PSD Limit Reduction = Directional gain – 6dBi, (Directional gain < 6dBi) =0



4.2 AC Power Line Conducted Emissions

Test Requirement:	47 CFR Part 15 Section 15.207		
Test Method:	ANSI C63.10-2020 Section 6.2		
Test Frequency Range:	150kHz to 30MHz		
Receiver Setup:	RBW = 9kHz, VBW = 30kHz		
Limit:	Frequency range (MHz)	Limit (dBuV)	
		Quasi-peak	Average
	0.15-0.5	66 to 56*	56 to 46*
	0.5-5	56	46
	5-30	60	50
* Decreases with the logarithm of the frequency.			
Test Procedure:	<ol style="list-style-type: none"> 1) The mains terminal disturbance voltage test was conducted in a shielded room. 2) The EUT was connected to AC power source through a LISN 1 (Line Impedance Stabilization Network) which provides a 50Ω/50μH + 5Ω linear impedance. The power cables of all other units of the EUT were connected to a second LISN 2, which was bonded to the ground reference plane in the same way as the LISN 1 for the unit being measured. A multiple socket outlet strip was used to connect multiple power cables to a single LISN provided the rating of the LISN was not exceeded. 3) The tabletop EUT was placed upon a non-metallic table 0.8m above the ground reference plane. And for floor-standing arrangement, the EUT was placed on the horizontal ground reference plane, 4) The test was performed with a vertical ground reference plane. The rear of the EUT shall be 0.4 m from the vertical ground reference plane. The vertical ground reference plane was bonded to the horizontal ground reference plane. The LISN 1 was placed 0.8 m from the boundary of the unit under test and bonded to a ground reference plane for LISNs mounted on top of the ground reference plane. This distance was between the closest points of the LISN 1 and the EUT. All other units of the EUT and associated equipment was at least 0.8 m from the LISN 2. 5) In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.10-2020 on conducted measurement. 		



<p>Test Setup:</p>	
<p>Exploratory Test Mode:</p>	<p>Transmitting with all kind of modulations, data rates at lowest, middle and highest channel.</p>
<p>Final Test Mode:</p>	<p>Refer to section 3.7 for details. Only the worst case is recorded in the report.</p>
<p>Instruments Used:</p>	<p>Refer to section 6 for details.</p>
<p>Test Results:</p>	<p>Pass</p>



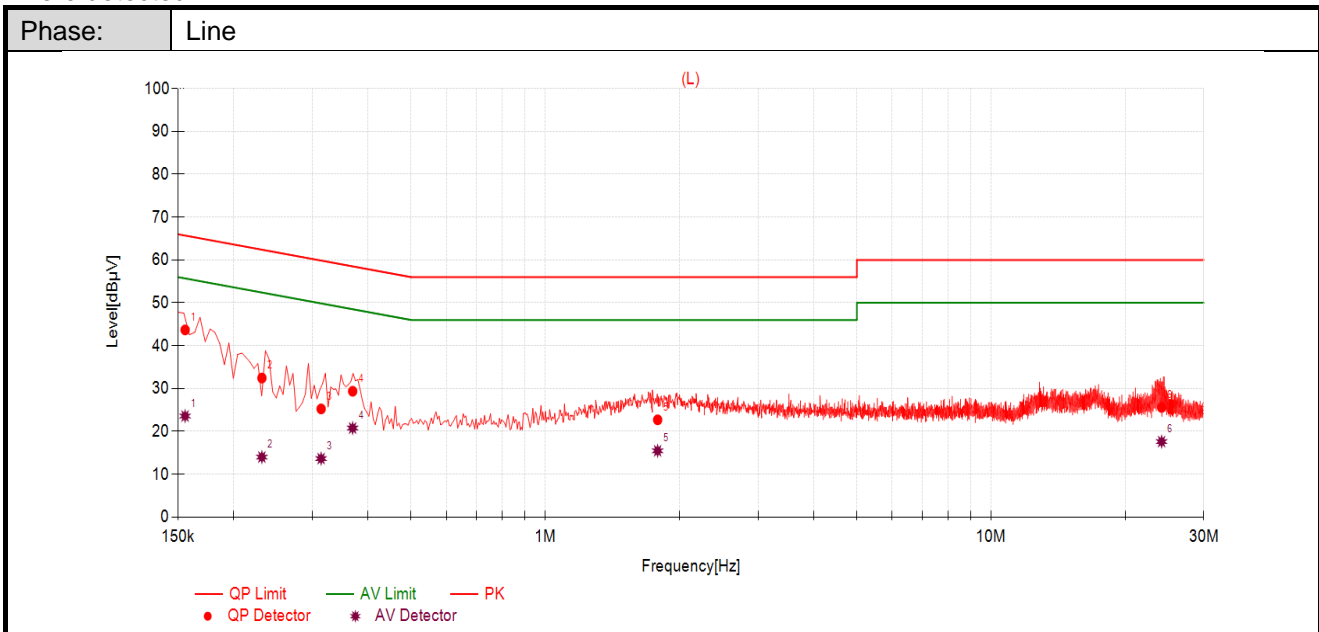
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Measurement Data

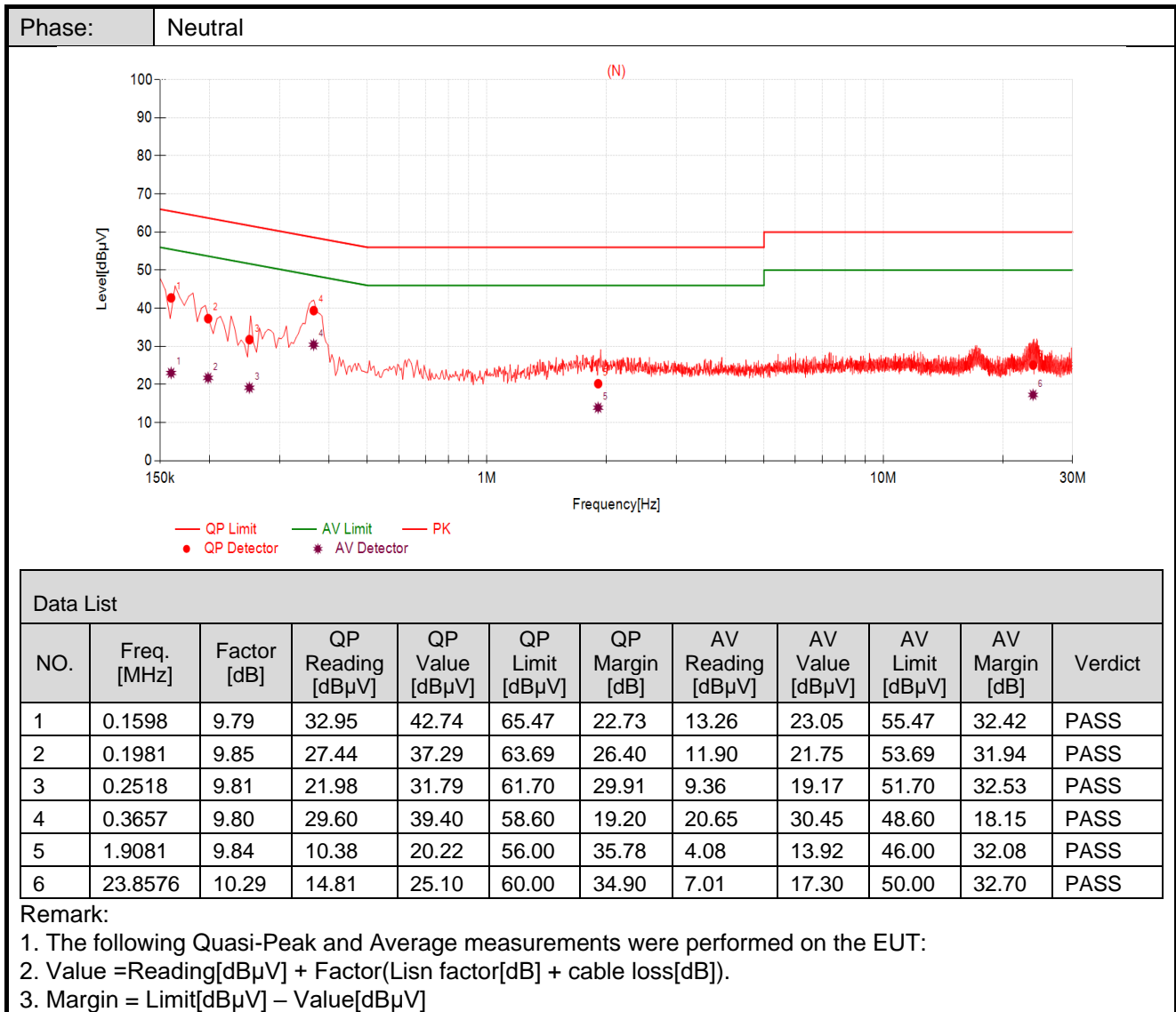
An initial pre-scan was performed on the live and neutral lines with peak detector. Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission were detected.



Data List											
NO.	Freq. [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	0.1555	9.86	33.83	43.69	65.70	22.01	13.72	23.58	55.70	32.12	PASS
2	0.2312	9.86	22.60	32.46	62.41	29.95	4.15	14.01	52.41	38.40	PASS
3	0.3140	9.90	15.36	25.26	59.87	34.61	3.76	13.66	49.87	36.21	PASS
4	0.3695	9.87	19.50	29.37	58.51	29.14	10.91	20.78	48.51	27.73	PASS
5	1.7861	9.84	12.87	22.71	56.00	33.29	5.63	15.47	46.00	30.53	PASS
6	24.1338	10.26	15.34	25.60	60.00	34.40	7.36	17.62	50.00	32.38	PASS

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





4.3 Duty Cycle

Test Requirement:	ANSI C63.10-2020 Section 12.2
Test Method:	ANSI C63.10-2020 Section 12.2
Test Setup:	
Instruments Used:	Refer to section 6 for details
Exploratory Test Mode:	Transmitting with all kind of modulations, data rates
Final Test Mode:	Refer to section 3.7 for details.
Limit:	No restriction limits
Test Results:	For report purpose
The detailed test data see: Appendix	

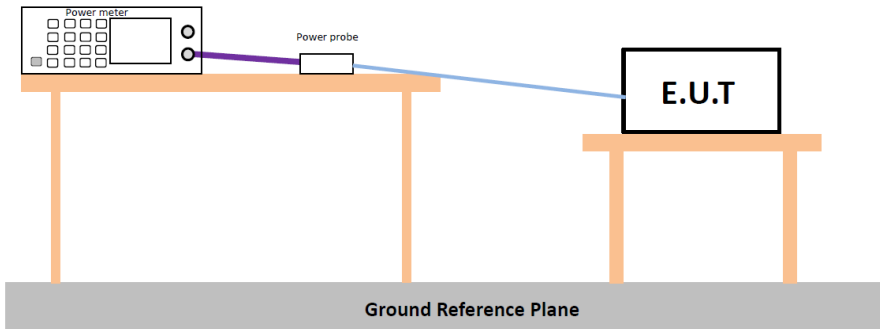


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4.4 Conducted Output Power

Test Requirement:	47 CFR Part 15 Section 15.407(a)	
Test Method:	ANSI C63.10-2020 Section 12.4.3.2	
Test Setup:	 <p>* Test with power meter (Detector function: Average) Method PM-G is measurement using a gated RF average power meter. Measurements may be performed using a wideband gated RF power meter provided that the gate parameters are adjusted such that the power is measured only when the EUT is transmitting at its maximum power control level. Because the measurement is made only during the ON time of the transmitter, no duty cycle correction factor is required.</p>	
Test Instruments:	Refer to section 6 for details.	
Exploratory Test Mode:	Transmitting with all kind of modulations, data rates	
Final Test Mode:	Refer to section 3.7 for details.	
Limit:	Frequency Band	Limit
	5150-5250MHz	Not exceed 1W(30dBm)
	5250-5350MHz	The lesser of 250mW(23.98dBm) or 11+ 10logB
	5470-5725MHz	The lesser of 250mW(23.98dBm) or 11+ 10logB
	5725-5850MHz	Not exceed 1W(30dBm)
	*Where B is the 26dB emission bandwidth in MHz	
Test Results:	Pass	
The detailed test data see: Appendix		



4.5 26dB Emission Bandwidth

Test Requirement:	47 CFR Part 15 Section 15.407(a), KDB 789033 D02& C
Test Method:	ANSI C63.10-2020 Section 12.5.2
Test Setup:	
Instruments Used:	Refer to section 6 for details.
Exploratory Test Mode:	Transmitting with all kind of modulations, data rates
Final Test Mode:	Refer to section 3.7 for details.
Limit:	No restriction limits
Test Results:	For Report Purpose
The detailed test data see: Appendix	



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4.6 6dB Emission Bandwidth

Test Requirement:	47 CFR Part 15 Section 15.407(e)	
Test Method:	ANSI C63.10-2020 Section 12.5.1	
Test Setup:		
Test Instruments:	Refer to section 6 for details.	
Exploratory Test Mode:	Transmitting with all kind of modulations, data rates	
Final Test Mode:	Refer to section 3.7 for details.	
Limit:	Frequency Band	Limit
	5725-5850MHz	At least 500kHz
Test Results:	Pass	
The detailed test data see: Appendix		



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4.7 99% Occupied Bandwidth

Test Requirement:	KDB 789033 D02§ D
Test Method:	ANSI C63.10-2020 Section 12.5.3
Test Setup:	
Instruments Used:	Refer to section 6 for details.
Exploratory Test Mode:	Transmitting with all kind of modulations, data rates
Final Test Mode:	Refer to section 3.7 for details.
Limit:	No restriction limits
Test Results:	For Report Purpose
The detailed test data see: Appendix	



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4.8 Power Spectral Density

Test Requirement:	47 CFR Part 15 Section 15.407(a)	
Test Method:	ANSI C63.10-2020 Section 12.6 KDB 789033 D02 v02r01, Section F.	
Test Setup:		
Instruments Used:	Refer to section 6 for details.	
Exploratory Test Mode:	Transmitting with all kind of modulations, data rates	
Final Test Mode:	Refer to section 3.7 for details.	
Limit:	Frequency Band	Limit
	5150-5250MHz	The power spectral density less than 17dBm/1MHz
	5250-5350MHz	The power spectral density less than 11dBm/1MHz
	5470-5725MHz	The power spectral density less than 11dBm/1MHz
	5725-5850MHz	The power spectral density less than <30dBm/500KHz
Test Results:	Pass	
The detailed test data see: Appendix		



4.9 Radiated Spurious Emissions

Test Requirement:	47 CFR Part 15 Section 15.205/15.209/15.407(b)
Test Method:	ANSI C63.10-2020 Section 6.4 / 6.5 / 6.6
Test Site:	Measurement Distance: 3m or 10m (Semi-Anechoic Chamber)
Test frequency:	9kHz ~ 40GHz(or 10 Harmonic)

Test Setup:

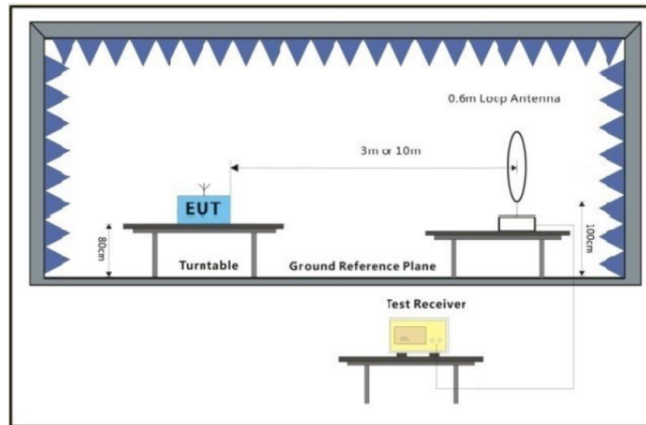


Figure 1. 9kHz to 30MHz

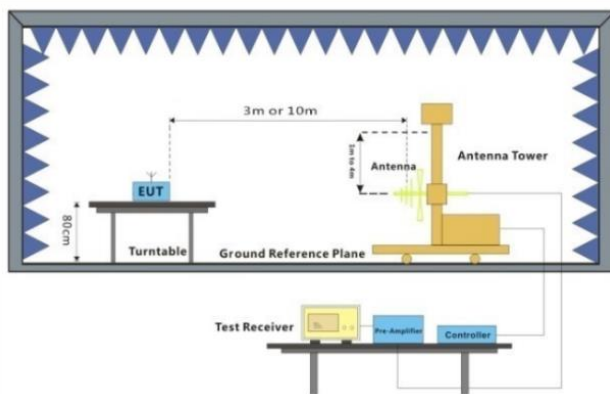


Figure 1. 30MHz to 1GHz

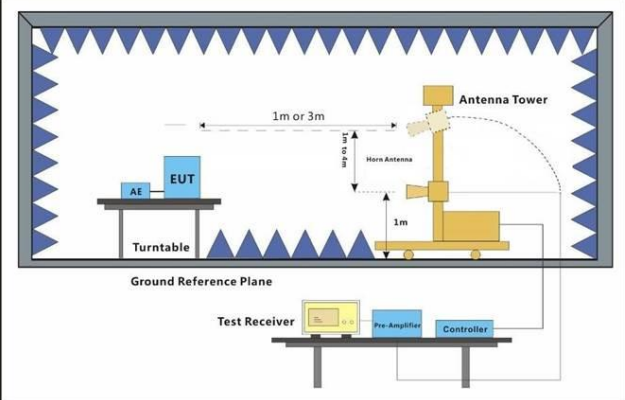


Figure 2. Above 1 GHz

Test Procedure:	<ol style="list-style-type: none"> For below 1GHz test, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 or 10 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation. For above 1GHz test, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation. (Distance from antenna to EUT is 1m for measurements >18GHz). The EUT was set 3 or 10 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
-----------------	--



	<p>d. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.</p> <p>e. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.</p> <p>f. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.</p> <p>g. Test the EUT in the outermost channels.</p> <p>h. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is worse case.</p> <p>i. Repeat above procedures until all frequencies measured was complete.</p> <p>j. The low frequency, which started from 9 kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line was not reported</p> <p>k. The disturbance above 18GHz was very low, and the harmonics were the highest point could be found when testing, so only the harmonics had been displayed.</p> <p>l. At a measurement distance of 1 meter the limit line was increased by $20 \cdot \text{LOG}(3/1) = 9.54 \text{ dB}$.</p>
<p>Test Configuration:</p>	<p>Measurements below 30MHz</p> <ul style="list-style-type: none"> • RBW = 10 kHz • VBW = 30 kHz • Detector = Peak & Average & Quasi-peak • Trace mode = max hold <p>Measurements Below 1000MHz</p> <ul style="list-style-type: none"> • RBW = 120 kHz • VBW = 300 kHz • Detector = Quasi-peak • Trace mode = max hold <p>Peak Measurements Above 1000 MHz</p> <ul style="list-style-type: none"> • RBW = 1 MHz • VBW $\geq 3 \text{ MHz}$ • Detector = Peak • Sweep time = auto • Trace mode = max hold <p>Average Measurements Above 1000MHz</p> <ul style="list-style-type: none"> • RBW = 1 MHz • VBW = 10Hz, when duty cycle is no less than 98 percent. • VBW $\geq 1/T$, when duty cycle is less than 98 percent where T is the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.
<p>Exploratory Test Mode:</p>	<p>Transmitting with all kind of modulations, data rates.</p>





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Final Test Mode:	Refer to section 3.7 for details. For below 1GHz part, through pre-scan all channels, but only the worst case is recorded in the report.
Instruments Used:	Refer to section 6 for details.
Test Results:	Pass
The detailed test data see: Appendix	



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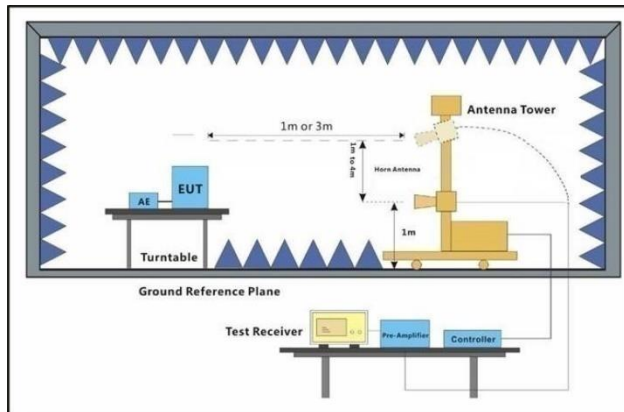
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4.10 Restricted bands around fundamental frequency

Test Requirement:	47 CFR Part 15 Section 15.205/15.209/15.407(b)		
Test Method:	ANSI C63.10-2020 Section 12.7		
Test Site:	Measurement Distance: 3m (Semi-Anechoic Chamber)		
Limit:	Frequency	Limit (dBuV/m)	Remark
	30MHz-88MHz	40.0	Quasi-peak
	88MHz-216MHz	43.5	Quasi-peak
	216MHz-960MHz	46.0	Quasi-peak
	960MHz-1GHz	54.0	Quasi-peak
	Above 1GHz	54.0	Average Value
		74.0	Peak Value

Test Setup:



Test Procedure:

- The EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- Place a marker at the end of the restricted band closest to the transmit frequency to show compliance. Also measure any emissions in the restricted bands. Save the spectrum analyzer plot. Repeat for each power and



	<p>modulation for lowest and highest channel</p> <p>g. Test the EUT in the outermost channels.</p> <p>h. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, And found the X axis positioning which it is worse case.</p> <p>i. Repeat above procedures until all frequencies measured was complete.</p>
Test Configuration:	<p>Measurements Below 1000MHz</p> <ul style="list-style-type: none"> • RBW = 120 kHz • VBW = 300 kHz • Detector = Quasi-peak • Trace mode = max hold <p>Peak Measurements Above 1000 MHz</p> <ul style="list-style-type: none"> • RBW = 1 MHz • VBW ≥ 3 MHz • Detector = Peak • Sweep time = auto • Trace mode = max hold <p>Average Measurements Above 1000MHz</p> <ul style="list-style-type: none"> • RBW = 1 MHz • VBW = 10Hz, when duty cycle is no less than 98 percent. • VBW ≥ 1/T, when duty cycle is less than 98 percent where T is the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.
Exploratory Test Mode:	Transmitting with all kind of modulations, data rates.
Final Test Mode:	Refer to section 3.7 for details.
Instruments Used:	Refer to section 6 for details.
Test Results:	Pass
The detailed test data see: Appendix	



5 Measurement Uncertainty (95% confidence levels, k=2)

No.	Item	Measurement Uncertainty
1	Radio Frequency	$\pm 7.25 \times 10^{-8}$ GHz
2	Duty cycle	$\pm 0.37\%$
3	Occupied Bandwidth	$\pm 0.2\%$
4	RF conducted power	± 0.21 dB
5	RF power density	± 2.84 dB
6	Conducted Spurious emissions	± 0.75 dB
7	Conduction Emission	± 3.0 dB (150kHz to 30MHz)
8	Radiated Emission	± 4.6 dB (9kHz to 30MHz)
		± 4.9 dB (30MHz to 1GHz)
		± 4.9 dB (1GHz to 6GHz)
		± 4.7 dB (6GHz to 18GHz)
		± 5.26 dB (Above 18GHz)

Remark:

The U_{lab} (lab Uncertainty) is less than $U_{CISPR/ETSI}$ (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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6 Equipment List

RF Test System					
Test Equipment	Manufacturer	Model No.	Inventory No.	Cal. date (yyyy/mm/dd)	Cal.Due date (yyyy/mm/dd)
MXA signal analyzer	Agilent	N9020A	XAW01-06-07	2023/02/16	2024/02/15
MXG vector signal Generator	Agilent	N5182B	XAW01-07-16	2023/02/16	2024/02/15
Measurement Software	Tonscend	JS1120-3 (3.2.18)	XAW02-14-01	NCR	NCR
RF control unit	Tonscend	JS0806-2	XAW03-37-01	NCR	NCR
Power Meter	Anritsu	ML2495A	XAW01-25-03	2023/08/30	2024/08/29
Power Supply	Agilent	66311B	XAW01-17-01	2023/02/16	2024/02/15
Temperature and humidity meter	MingGao	T809	XAW01-01-16	2023/09/04	2024/09/03

CE Test System					
Test Equipment	Manufacturer	Model No.	Inventory No.	Cal. date (yyyy/mm/dd)	Cal.Due date (yyyy/mm/dd)
Shielding Room	Brilliant-emc	N/A	XAW04-03-01	N/A	N/A
Test receiver	ROHDE&SCHWARZ	ESR	XAW01-08-01	2023/08/30	2024/08/29
Artificial network	ROHDE&SCHWARZ	ENV216	XAW01-04-01	2023/06/30	2024/06/29
Temperature and humidity meter	MingGao	TH101B	XAW01-01-02	2023/08/30	2024/08/29
Measurement Software	Tonscend	TS+ V4.0.0.0	XAW02-07-01	NCR	NCR
Radio communication analyzer	ROHDE&SCHWARZ	CMW 500	XAW01-03-02	2023/02/16	2024/02/15
Artificial network	ROHDE&SCHWARZ	ENV216	XAW01-04-02	2023/06/30	2024/06/29



RSE Test System					
Test Equipment	Manufacturer	Model No.	Inventory No.	Cal. date (yyyy/mm/d)	Cal.Due date (yyyy/mm/d)
Semi-Anechoic Chamber	Brilliant-emc	N/A	XAW03-35-01	2021/09/09	2024/09/08
MXA signal analyzer	Keysight	N9020A	XAW01-06-01	2023/02/16	2024/02/15
Spectrum Analyzer	ROHDE &SCHWARZ	FSV3044	XAW01-13-05	2023/05/15	2024/05/14
Test receiver	ROHDE &SCHWARZ	ESR	XAW01-08-01	2023/08/30	2024/08/29
Receiving antenna (30MHz-3GHz)	Schwarzbeck	VULB 9163	XAW01-09-01	2022/07/28	2024/07/27
Receiving antenna(1GHz~18GHz)	Schwarzbeck	BBHA 9120D	XAW01-09-02	2022/07/28	2024/07/27
Receiving antenna (15GHz~40GHz)	Schwarzbeck	BBHA 9170	XAW01-09-03	2022/07/23	2024/07/22
Directional antenna rack controller	Max-Full	MF-7802BS	XAW03-03-01	NCR	NCR
High-speed antenna rack controller	Max-Full	MF-7802	XAW03-04-01	NCR	NCR
Filter bank	Tonscend	JS0806-F	XAW03-05-01	NCR	NCR
Filter bank	Tonscend	JS0806s	XAW03-05-02	NCR	NCR
Amplifier	Tonscend	TAP9K3G32	XAW01-41-01	2023/05/15	2024/05/14
Amplifier	Tonscend	TAP01018048	XAW01-41-02	2023/08/30	2024/08/29
Amplifier	Tonscend	TAP18040048	XAW01-41-03	2023/08/30	2024/08/29
Amplifier	Shanghai Steed	YX28980930	XAW01-41-06	2023/08/30	2024/08/29
Temperature and humidity meter	MingGao	TH101B	XAW01-01-02	2023/09/04	2024/09/03
Radio communication analyzer	ROHDE&SCHWARZ	CMW 500	XAW01-03-02	2023/02/16	2024/02/15
Measurement Software	Tonscend	TS+ V4.0.0.0	XAW02-05-01	NCR	NCR
Loop Antenna	Schwarzbeck	FMZB 1519B	XAW01-48-02	2022/05/26	2024/05/25



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7 Photographs - Setup Photos

Refer to Appendix A.2 WLAN Setup Photos.



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Appendix



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**26dB Emission Bandwidth
 Test Result**

TestMode	Antenna	Frequency[MHz]	26dB EBW [MHz]	FL[MHz]	FH[MHz]	Verdict
11a-CDD	Ant0	5180	18.560	5170.720	5189.280	For Report Purpose
	Ant1	5180	18.640	5170.680	5189.320	
	Ant0	5200	18.640	5190.640	5209.280	
	Ant1	5200	19.400	5190.040	5209.440	
	Ant0	5240	18.560	5230.720	5249.280	
	Ant1	5240	18.800	5230.560	5249.360	
	Ant0	5260	18.680	5250.840	5269.520	
	Ant1	5260	18.760	5250.800	5269.560	
	Ant0	5280	18.400	5270.800	5289.200	
	Ant1	5280	18.920	5270.520	5289.440	
	Ant0	5320	18.720	5310.480	5329.200	
	Ant1	5320	19.200	5310.120	5329.320	
	Ant0	5500	18.520	5490.720	5509.240	
	Ant1	5500	18.600	5490.880	5509.480	
	Ant0	5580	18.960	5570.440	5589.400	
	Ant1	5580	18.760	5570.640	5589.400	
	Ant0	5700	18.680	5690.600	5709.280	
	Ant1	5700	18.760	5690.680	5709.440	
	Ant0	5720	18.840	5710.480	5729.320	
	Ant1	5720	19.040	5710.480	5729.520	
	Ant0	5720 UNII-2C	14.52	5710.480	5725	
	Ant1	5720 UNII-2C	14.52	5710.480	5725	
	Ant0	5720 UNII-3	4.32	5725	5729.320	
	Ant1	5720 UNII-3	4.52	5725	5729.520	
	Ant0	5745	18.560	5735.720	5754.280	
	Ant1	5745	18.560	5735.680	5754.240	
	Ant0	5785	18.600	5775.680	5794.280	
	Ant1	5785	19.480	5775.120	5794.600	
Ant0	5825	18.600	5815.880	5834.480		
Ant1	5825	18.840	5815.760	5834.600		
11n20MIMO	Ant0	5180	19.800	5170.120	5189.920	
	Ant1	5180	20.120	5170.040	5190.160	
	Ant0	5200	19.880	5190.120	5210.000	
	Ant1	5200	19.880	5190.120	5210.000	
	Ant0	5240	19.960	5230.000	5249.960	
	Ant1	5240	20.080	5229.880	5249.960	
	Ant0	5260	19.880	5250.200	5270.080	
	Ant1	5260	19.800	5250.160	5269.960	
	Ant0	5280	20.160	5269.760	5289.920	
	Ant1	5280	19.840	5270.000	5289.840	
	Ant0	5320	19.760	5310.160	5329.920	
	Ant1	5320	19.720	5310.120	5329.840	
	Ant0	5500	19.840	5490.120	5509.960	
	Ant1	5500	19.720	5490.320	5510.040	
	Ant0	5580	19.880	5570.000	5589.880	
	Ant1	5580	19.960	5569.920	5589.880	
	Ant0	5700	19.560	5690.120	5709.680	
	Ant1	5700	20.120	5689.960	5710.080	



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	Ant0	5720	20.240	5710.040	5730.280
	Ant1	5720	20.120	5710.080	5730.200
	Ant0	5720 UNII-2C	14.96	5710.040	5725
	Ant1	5720 UNII-2C	14.92	5710.080	5725
	Ant0	5720 UNII-3	5.28	5725	5730.280
	Ant1	5720 UNII-3	5.2	5725	5730.200
	Ant0	5745	19.600	5735.080	5754.680
	Ant1	5745	19.720	5735.200	5754.920
	Ant0	5785	19.760	5775.160	5794.920
	Ant1	5785	19.880	5775.120	5795.000
	Ant0	5825	19.760	5815.160	5834.920
	Ant1	5825	19.920	5814.960	5834.880
11n40MIMO	Ant0	5190	39.600	5169.920	5209.520
	Ant1	5190	39.440	5170.320	5209.760
	Ant0	5230	39.200	5210.240	5249.440
	Ant1	5230	39.280	5210.480	5249.760
	Ant0	5270	39.200	5250.480	5289.680
	Ant1	5270	39.280	5250.400	5289.680
	Ant0	5310	39.280	5290.320	5329.600
	Ant1	5310	38.880	5290.720	5329.600
	Ant0	5510	39.520	5490.240	5529.760
	Ant1	5510	39.040	5490.560	5529.600
	Ant0	5550	39.600	5530.000	5569.600
	Ant1	5550	39.680	5530.160	5569.840
	Ant0	5670	39.760	5649.920	5689.680
	Ant1	5670	39.520	5650.320	5689.840
	Ant0	5710	39.360	5690.320	5729.680
	Ant1	5710	39.200	5690.400	5729.600
	Ant0	5710 UNII-2C	34.68	5690.320	5725
	Ant1	5710 UNII-2C	34.6	5690.400	5725
	Ant0	5710 UNII-3	4.68	5725	5729.680
	Ant1	5710 UNII-3	4.6	5725	5729.600
11ac20MIMO	Ant0	5755	39.520	5735.160	5774.680
	Ant1	5755	39.360	5735.240	5774.600
	Ant0	5795	38.880	5775.560	5814.440
	Ant1	5795	39.040	5775.400	5814.440
	Ant0	5180	20.360	5169.760	5190.120
	Ant1	5180	20.080	5169.880	5189.960
	Ant0	5200	20.400	5189.720	5210.120
	Ant1	5200	20.240	5190.040	5210.280
	Ant0	5240	20.160	5229.760	5249.920
	Ant1	5240	19.880	5230.040	5249.920
	Ant0	5260	19.720	5250.120	5269.840
	Ant1	5260	19.920	5250.040	5269.960
	Ant0	5280	19.840	5270.040	5289.880
	Ant1	5280	19.720	5270.080	5289.800
	Ant0	5320	19.920	5310.040	5329.960
	Ant1	5320	20.000	5310.040	5330.040
	Ant0	5500	19.760	5490.120	5509.880
	Ant1	5500	20.040	5490.040	5510.080
	Ant0	5580	20.000	5570.000	5590.000
	Ant1	5580	20.160	5570.000	5590.160
Ant0	5700	19.840	5690.080	5709.920	



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	Ant1	5700	19.920	5690.080	5710.000
	Ant0	5720	19.880	5710.320	5730.200
	Ant1	5720	20.160	5710.000	5730.160
	Ant0	5720 UNII-2C	14.68	5710.320	5725
	Ant1	5720 UNII-2C	15	5710.000	5725
	Ant0	5720 UNII-3	5.2	5725	5730.200
	Ant1	5720 UNII-3	5.16	5725	5730.160
	Ant0	5745	19.600	5735.160	5754.760
	Ant1	5745	19.840	5734.960	5754.800
	Ant0	5785	19.520	5775.200	5794.720
	Ant1	5785	19.680	5775.200	5794.880
	Ant0	5825	19.760	5815.240	5835.000
	Ant1	5825	19.600	5815.240	5834.840
11ac40MIMO	Ant0	5190	39.360	5170.160	5209.520
	Ant1	5190	39.120	5170.400	5209.520
	Ant0	5230	39.200	5210.320	5249.520
	Ant1	5230	39.200	5210.320	5249.520
	Ant0	5270	39.360	5250.320	5289.680
	Ant1	5270	38.880	5250.640	5289.520
	Ant0	5310	38.880	5290.640	5329.520
	Ant1	5310	39.120	5290.480	5329.600
	Ant0	5510	38.960	5490.480	5529.440
	Ant1	5510	38.880	5490.640	5529.520
	Ant0	5550	39.440	5530.240	5569.680
	Ant1	5550	38.720	5530.640	5569.360
	Ant0	5670	40.160	5649.760	5689.920
	Ant1	5670	39.360	5650.240	5689.600
	Ant0	5710	39.440	5690.240	5729.680
	Ant1	5710	39.120	5690.400	5729.520
	Ant0	5710 UNII-2C	34.76	5690.240	5725
	Ant1	5710 UNII-2C	34.6	5690.400	5725
	Ant0	5710 UNII-3	4.68	5725	5729.680
	Ant1	5710 UNII-3	4.52	5725	5729.520
Ant0	5755	39.600	5735.080	5774.680	
Ant1	5755	39.520	5735.240	5774.760	
Ant0	5795	38.960	5775.320	5814.280	
Ant1	5795	38.880	5775.560	5814.440	
11ac80MIMO	Ant0	5210	81.120	5169.360	5250.480
	Ant1	5210	81.440	5169.360	5250.800
	Ant0	5290	81.920	5248.880	5330.800
	Ant1	5290	80.960	5249.840	5330.800
	Ant0	5530	81.280	5489.520	5570.800
	Ant1	5530	80.960	5489.680	5570.640
	Ant0	5610	81.760	5569.040	5650.800
	Ant1	5610	81.920	5569.520	5651.440
	Ant0	5690	81.760	5649.040	5730.800
	Ant1	5690	81.120	5649.200	5730.320
	Ant0	5690 UNII-2C	75.96	5649.040	5725
	Ant1	5690 UNII-2C	75.8	5649.200	5725
	Ant0	5690 UNII-3	5.8	5725	5730.800
	Ant1	5690 UNII-3	5.32	5725	5730.320
	Ant0	5775	81.280	5734.360	5815.640
Ant1	5775	80.960	5734.520	5815.480	



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Wireless Laboratory

1/F, Unit D, Building 1, Kanghong Orange Science Park, No.137, Keyuan 3rd Road, Fengdong New Town, Xi'an, Shaanxi, China 710086
中国·西安·沣东新城科源三路137号康鸿橙方科技园1号楼D单元1层 邮编: 710086

t (86-29) 6282 7885 www.sgs.com.cn
t (86-29) 6282 7885 sgs.china@sgs.com

11ax20MIMO	Ant0	5180	20.560	5169.800	5190.360
	Ant1	5180	20.400	5169.840	5190.240
	Ant0	5200	20.680	5189.640	5210.320
	Ant1	5200	20.640	5189.720	5210.360
	Ant0	5240	20.480	5229.800	5250.280
	Ant1	5240	20.960	5229.440	5250.400
	Ant0	5260	20.800	5249.720	5270.520
	Ant1	5260	20.920	5249.760	5270.680
	Ant0	5280	21.120	5269.680	5290.800
	Ant1	5280	20.560	5269.680	5290.240
	Ant0	5320	20.920	5309.600	5330.520
	Ant1	5320	21.160	5309.600	5330.760
	Ant0	5500	20.640	5489.600	5510.240
	Ant1	5500	20.640	5489.760	5510.400
	Ant0	5580	20.760	5569.600	5590.360
	Ant1	5580	20.560	5569.840	5590.400
	Ant0	5700	20.520	5689.640	5710.160
	Ant1	5700	20.240	5689.800	5710.040
	Ant0	5720	20.720	5709.760	5730.480
	Ant1	5720	20.960	5709.560	5730.520
	Ant0	5720 UNII-2C	15.24	5709.760	5725
	Ant1	5720 UNII-2C	15.44	5709.560	5725
	Ant0	5720 UNII-3	5.48	5725	5730.480
	Ant1	5720 UNII-3	5.52	5725	5730.520
	Ant0	5745	20.560	5734.680	5755.240
	Ant1	5745	20.640	5734.600	5755.240
	Ant0	5785	20.600	5774.640	5795.240
	Ant1	5785	20.560	5774.680	5795.240
Ant0	5825	20.640	5814.880	5835.520	
Ant1	5825	20.800	5814.600	5835.400	
11ax40MIMO	Ant0	5190	40.480	5169.520	5210.000
	Ant1	5190	39.920	5170.000	5209.920
	Ant0	5230	40.080	5209.920	5250.000
	Ant1	5230	40.400	5209.840	5250.240
	Ant0	5270	40.160	5250.080	5290.240
	Ant1	5270	39.680	5250.240	5289.920
	Ant0	5310	40.240	5289.840	5330.080
	Ant1	5310	40.240	5290.000	5330.240
	Ant0	5510	39.920	5489.920	5529.840
	Ant1	5510	39.840	5490.160	5530.000
	Ant0	5550	40.160	5529.840	5570.000
	Ant1	5550	40.080	5529.920	5570.000
	Ant0	5670	40.320	5649.920	5690.240
	Ant1	5670	40.400	5649.840	5690.240
	Ant0	5710	40.480	5689.840	5730.320
	Ant1	5710	39.920	5690.080	5730.000
	Ant0	5710 UNII-2C	35.16	5689.840	5725
	Ant1	5710 UNII-2C	34.92	5690.080	5725
	Ant0	5710 UNII-3	5.32	5725	5730.320
	Ant1	5710 UNII-3	5	5725	5730.000
	Ant0	5755	40.080	5734.920	5775.000
	Ant1	5755	40.080	5735.080	5775.160
	Ant0	5795	40.400	5774.760	5815.160



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 中国·西安·沣东新城科源三路137号康鸿橙方科技园1号楼D单元1层 邮编: 710086 t (86-29) 6282 7885 sgs.china@sgs.com

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11ax80MIMO	Ant1	5795	39.920	5775.000	5814.920
	Ant0	5210	82.080	5169.040	5251.120
	Ant1	5210	82.240	5168.880	5251.120
	Ant0	5290	81.440	5249.040	5330.480
	Ant1	5290	82.240	5248.880	5331.120
	Ant0	5530	81.120	5489.520	5570.640
	Ant1	5530	81.120	5489.520	5570.640
	Ant0	5610	81.120	5569.200	5650.320
	Ant1	5610	82.560	5569.040	5651.600
	Ant0	5690	81.760	5648.880	5730.640
	Ant1	5690	82.560	5648.720	5731.280
	Ant0	5690 UNII-2C	76.12	5648.880	5725
	Ant1	5690 UNII-2C	76.28	5648.720	5725
	Ant0	5690 UNII-3	5.64	5725	5730.640
	Ant1	5690 UNII-3	6.28	5725	5731.280
	Ant0	5775	82.080	5733.720	5815.800
	Ant1	5775	81.600	5734.040	5815.640



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Test Graphs



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11a-CDD Ant0 5580



11a-CDD Ant1 5580

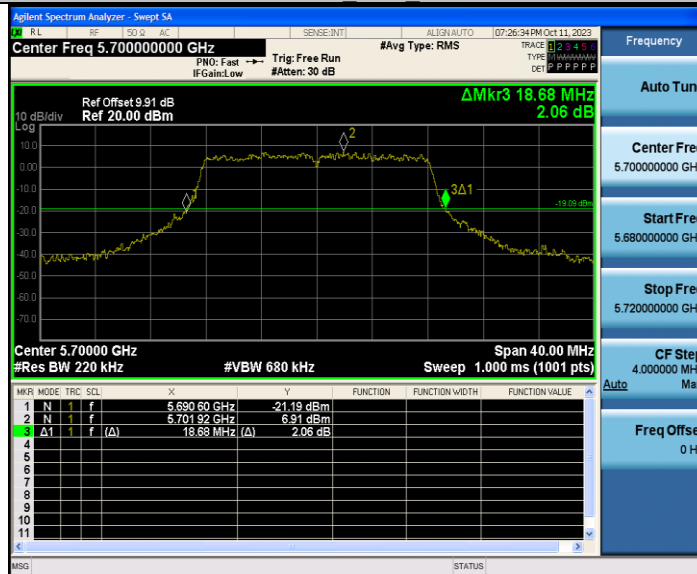


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