



RF TEST REPORT

Applicant	Emerson White-Rodgers
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FCC ID 2A4JN-ST76

Product Sensi Touch 2

Brand Sensi

Model 1F96U-42WFB; 1F96U-42WF; ST76; ST76W; ST76U;

ST76WU; 1F96U-42WFBC; 1F96U-42WFC; ST76C;

ST76WC

Report No. R2112A1148-R3V1

Issue Date March 17, 2022

TA Technology (Shanghai) Co., Ltd. tested the above equipment in accordance with the requirements in **FCC CFR47 Part 15E (2020)**. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

Keng loo

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Version	Revision description	Issue Date		
Rev.0	Initial issue of report.	March 3, 2022		
Rev.1	Update information in Page 10.	March 17, 2022		
Note: This revised report (Report No. R2112A1148-R3V1) supersedes and replaces				
the previously issued report (Report No. R2112A1148-R3). Please discard or destroy				
the previously issued report and dispose of it accordingly.				

Number	Test Case	Clause in FCC rules	Verdict		
1	Average output power	15.407(a)	PASS		
2	Occupied bandwidth	15.407(e)	PASS		
3	Frequency stability	15.407(g)	PASS		
4	Power spectral density	15.407(a)	PASS		
5	Unwanted Emissions	15.407(b)	PASS		
6	Conducted Emissions	15.207	PASS		
Date of Testing: December 20, 2022~ January 26, 2022					
Date of Sample Received: December 17, 2021					
Note: PASS: The EUT complies with the essential requirements in the standard.					
FAIL: The EUT does not comply with the essential requirements in the standard.					
All indications of Pass/Fail in this report are opinions expressed by TA Technology (Shanghai)					
Co., Ltd. based on interpretations and/or observations of test results. Measurement					
Uncertainties were not taken into account and are published for informational purposes only.					

Summary of measurement results



1. Test Laboratory

1.1. Notes of the test report

This report shall not be reproduced in full or partial, without the written approval of **TA technology** (**shanghai**) **co., Ltd.** The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. Measurement Uncertainties were not taken into account and are published for informational purposes only. This report is written to support regulatory compliance of the applicable standards stated above.

1.2. Test facility

FCC (Designation number: CN1179, Test Firm Registration Number: 446626)

TA Technology (Shanghai) Co., Ltd. has been listed on the US Federal Communications Commission list of test facilities recognized to perform electromagnetic emissions measurements.

A2LA (Certificate Number: 3857.01)

TA Technology (Shanghai) Co., Ltd. has been listed by American Association for Laboratory Accreditation to perform electromagnetic emission measurement.

1.3. Testing Location

Company:	TA Technology (Shanghai) Co., Ltd.
Address:	No.145, Jintang Rd, Tangzhen Industry Park, Pudong
City:	Shanghai
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2. General Description of Equipment under Test

2.1. Applicant and Manufacturer Information

Applicant	Emerson White-Rodgers		
Applicant address	8100 West Florissant Ave St. Louis/United States of America		
Manufacturer	Emerson White-Rodgers		
Manufacturer address	8100 West Florissant Ave St. Louis/United States of America		

2.2. General information

EUT Description				
1F96U-42WFB; 1F96U-42WF; ST76; ST76W; ST				
Model	ST76WU; 1F96U-42WFBC; 1F96U-42WFC; ST76C;			
	ST76WC			
Lab internal SN	R2112A1148/S01			
Hardware Version	0059-5337 REV.E			
Software Version	0170-1581v02_03			
Power Supply	External power supply			
Antenna Type	PCB Antenna			
	UNII-1	3.87 dBi		
Antonno Coin	UNII-2A	3.50 dBi		
Antenna Gam	UNII-2C	1.62 dBi		
	UNII-3	1.40 dBi		
Directional Gain	NA			
	U-NII-1: 5150MHz-5250MHz			
Operating Frequency Range(s)	U-NII-2A: 5250MHz -5350MHz			
Operating r requency range(s)	U-NII-2C: 5470MHz-5600MHz, 5650MHz-5725MHz			
	U-NII-3: 5725MHz -5850MHz			
Modulation Type	802.11a/n (HT20) : OFD	Μ		
Max. Conducted Power	11.46 dBm			
Testing temperature range:	-20 ° C to 50° C			
Operating temperature range:	0 ° C to 40° C			
Operating voltage range:	20 V to 30 V			
State DC voltage: 24 V				

Note: 1. The EUT is sent from the applicant to TA and the information of the EUT is declared by the applicant.

2. This device support automatically discontinue transmission, while the device is not transmitting any information, the device can automatically discontinue transmission and become standby mode for power saving. The device can detect the controlling signal of ACK message transmitting from remote device and verify whether it shall resend or discontinue transmission.

3. The main test model is ST76 in this report.



Model Difference Table					
Model Number Description Color Channel Instruc					
1F96U-42WFB	Sensi Touch 2	Black	Pro	English	
1F96U-42WF	Sensi Touch 2	White	Pro	English	
ST76	Sensi Touch 2	Black	Retail	English	
ST76W	Sensi Touch 2	White	Retail	English	
ST76U	Sensi Touch 2	Black	Utility	English	
ST76WU	Sensi Touch 2	White	Utility	English	
1F96U-42WFBC Sensi Tou		Black	Pro	French / English	
1F96U-42WFC Sensi Touch 2		White	Pro	French / English	
ST76C	Sensi Touch 2	Black	Retail	French / English	
ST76WC Sensi Touch 2 White Retail French / English					
Note: The customer declares that the models have the same PCB assembly, the only difference is color,					
package and sale channels.					



3. Applied Standards

According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

Test standards:

FCC CFR47 Part 15E (2020) Unlicensed National Information Infrastructure Devices

ANSI C63.10 (2013)

Reference standard:

KDB 789033 D02 General UNII Test Procedures New Rules v02r01

4. Test Configuration

Test Mode

The EUT has been associated with peripherals and configuration operated in a manner tended to maximize its emission characteristics in a typical application.

The radiated emission was measured in the following position: EUT stand-up position (Z axis), lie-down position (X, Y axis). The worst emission was found in stand-up position (Z axis) and the worst case was recorded.

In order to find the worst case condition, Pre-tests are needed at the presence of different data rate. Preliminary tests have been done on all the configuration for confirming worst case. Data rate below means worst-case rate of each test item.

Worst-case data rates are shown as following table.

Mode	Data Rate
802.11a	6 Mbps
802.11n HT20	MCS0



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Wireless Technology and Frequency Range

Wireless	Technology	Bandwidth	Channel	Frequency	
			36	5180MHz	
			40	5200MHz	
	U-INII-1	20 MHZ	44	5220MHz	
			48	5240MHz	
			52	5260MHz	
		20 MH-	56	5280MHz	
	U-MII-ZA		60	5300MHz	
			64	5320MHz	
			100	5500MHz	
			104	5520MHz	
	U-NII-2C	20 MHz	108	5540MHz	
VVI-F1			112	5560MHz	
			116	5580MHz	
			132	5660MHz	
			136	5680MHz	
			140	5700MHz	
			144	5720MHz	
			149	5745MHz	
			153	5765MHz	
	U-NII-3	20 MHz	157	5785MHz	
			161	5805MHz	
			165	5825MHz	
Does this device support TPC Function? □Yes ⊠No					
Does this device support TDWR Band? □Yes ⊠No					





5. Test Case Results

5.1. Occupied Bandwidth

Ambient condition

Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

Method of Measurement

The EUT was connected to the spectrum analyzer through an external attenuator (20dB) and a known loss cable.

For U-NII-1/U-NII-2A/U-NII-2C, set RBW \approx 1% OCB kHz, VBW \geq 3 × RBW, measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 26 dB relative to the maximum level measured in the fundamental emission.

For U-NII-3, Set RBW = 100 kHz, VBW \geq 3 × RBW, measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

Note: The automatic bandwidth measurement capability of a spectrum analyzer or EMI receiver may be employed if it implements the functionality described above.

Use the 99 % power bandwidth function of the instrument

Test Setup



Limits

Rule FCC Part §15.407(e)

Within the 5.725-5.85 GHz band, the minimum 6 dB bandwidth of U-NII devices shall be at least 500 kHz.

Measurement Uncertainty

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor k = 2, U = 936 Hz.



Test Results:

U-NII-1

Mode	Carrier frequency (MHz)	99% bandwidth (MHz)	Minimum 26 dB bandwidth (MHz)	Conclusion
	5180	16.657	27.22	PASS
802.11a	5200	16.658	25.68	PASS
	5240	16.675	26.88	PASS
802.11n HT20	5180	17.775	29.45	PASS
	5200	17.808	28.22	PASS
	5240	17.818	29.99	PASS

U-NII-2A

Mode	Carrier frequency	99% bandwidth	Minimum 26 dB	Conclusion
	(MHz)	(MHz)	(MHz)	
	5260	16.613	20.99	PASS
802.11a	5300	16.607	21.02	PASS
	5320	16.613	20.92	PASS
000.44m	5260	17.737	26.32	PASS
802.11n	5300	17.748	25.12	PASS
11120	5320	17.755	24.82	PASS

U-NII-2C

	Carrier	99%	Minimum 26 dB	
Mode	frequency	bandwidth	bandwidth	Conclusion
	(MHz)	(MHz)	(MHz)	
	5500	16.564	20.58	PASS
PASS	5580	16.659	23.24	PASS
PASS	5700	16.700	26.31	PASS
	5720	16.699	27.17	PASS
	5500	17.737	22.23	PASS
802.11n	5580	17.808	29.83	PASS
HT20	5700	17.849	29.95	PASS
	5720	17.857	29.98	PASS



U-NII-3

Mode	Carrier frequency (MHz)	99% bandwidth (MHz)	Minimum 6 dB bandwidth (MHz)	Limit (kHz)	Conclusion
	5745	16.601	16.49	500	PASS
802.11a	5785	16.600	16.50	500	PASS
	5825	16.601	16.52	500	PASS
000.44.	5745	17.729	17.75	500	PASS
802.11n	5785	17.471	17.17	500	PASS
11120	5825	17.462	17.25	500	PASS















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99% bandwidth





Minimum 6 dB bandwidth





5.2. Average Power Output

Ambient condition

Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

Methods of Measurement

During the process of the testing, The EUT was connected to the average power meter through an external attenuator and a known loss cable. The EUT is max power transmission with proper modulation. We use Maximum average Conducted Output Power Level Method in KDB789033 for this test

Test Setup



Limits

Rule FCC Part 15.407(a)(1)(2)(3)

(1) For the band 5.15-5.25 GHz.

(i) For an outdoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. The maximum e.i.r.p. at any elevation angle above 30 degrees as measured from the horizon must not exceed 125 mW (21 dBm).

(ii) For an indoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. (iii) For fixed point-to-point access points operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. Fixed point-to-point U-NII devices may employ antennas with directional gain up to 23 dBi without any corresponding reduction in the maximum conducted output power or maximum power spectral density. For fixed point-to-point transmitters that employ a directional antenna gain greater than 23 dBi, a 1 dB reduction in maximum conducted output power and maximum power spectral density is

required for each 1 dB of antenna gain in excess of 23 dBi. Fixed, point-to-point operations exclude

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(iv) For client devices in the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

(2) For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in megahertz. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. (3)For the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum power and the maximum power spectral density shall be reduced output power and the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

Measurement Uncertainty

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor k = 2, U = 0.44 dB.



Test Results

Mode	T _{on} (ms)	T _(on+off) (ms)	Duty cycle	Duty cycle correction Factor(dB)	
802.11a	1.00	1.00	1.00	0.00	
802.11n HT20	1.00	1.00	1.00	0.00	
Note: when Duty cycle \geq 0.98, Duty cycle correction Factor not required.					

Te	est Mode	Channel/Frequency (MHz)	B=26 dB bandwidth (MHz)	Limit 11 dBm + 10 log B (dBm)	Final Limit(dBm)
		100/5500	20.99	24.22>24	24
	802.11a	116/5580	21.02	24.23>24	24
		140/5700	20.92	24.21>24	24
U-NII-ZA	0-NII-2A 802.11n HT20	144/5720	26.32	25.20>24	24
		100/5500	25.12	25.00>24	24
		116/5580	24.82	24.95>24	24
		140/5700	20.58	24.13>24	24
	902 110	144/5720	23.24	24.66>24	24
	0U2.11a	100/5500	26.31	25.20>24	24
		116/5580	27.17	25.34>24	24
U-INII-2C		140/5700	22.23	24.47>24	24
	802.11n	144/5720	29.83	25.75>24	24
	HT20	100/5500	29.95	25.76>24	24
		116/5580	29.98	25.77>24	24
Note: 250m	W=24dBm	-			

Note: Average Power with duty factor = Average Power Measured +Duty cycle correction factor **U-NII-1**

Test Mode	Channel/ Frequency (MHz)	Average Power Measured (dBm)	Average Power with duty factor (dBm)	Limit (dBm)	Conclusion	
	36/5180	10.72	10.72	24	PASS	
802.11a	40/5200	10.46	10.46	24	PASS	
	48/5240	10.73	10.73	24	PASS	
000.44=	36/5180	11.05	11.05	24	PASS	
802.11n HT20	40/5200	11.36	11.36	24	PASS	
	48/5240	11.46	11.46	24	PASS	
Note: Average Power with duty factor = Average Power Measured +Duty cycle correction factor						

U-NII-2A

Test Mode	Channel/ Frequency (MHz)	Average Power Measured (dBm)	Average Power with duty factor (dBm)	Limit (dBm)	Conclusion
	52/5260	8.02	8.02	24	PASS
802.11a	60/5300	8.48	8.48	24	PASS
	64/5320	8.72	8.72	24	PASS
000.44=	52/5260	8.99	8.99	24	PASS
802.11n HT20	60/5300	9.35	9.35	24	PASS
	64/5320	9.54	9.54	24	PASS
Note: Average Power with duty factor = Average Power Measured +Duty cycle correction factor					



U-NII-2C

Test Mode	Channel/ Frequency (MHz)	Average Power Measured (dBm)	Average Power with duty factor (dBm)	Limit (dBm)	Conclusion
	100/5500	5.58	5.58	24	PASS
802.11a	116/5580	7.59	7.59	24	PASS
	140/5700	8.05	8.05	24	PASS
	144/5720	7.90	7.90	24	PASS
	100/5500	5.86	5.86	24	PASS
802.11n	116/5580	8.59	8.59	24	PASS
HT20	140/5700	9.40	9.40	24	PASS
	144/5720	9.93	9.93	24	PASS
Note: Average Power wit	h duty factor = Av	erage Power M	easured +Duty	cycle corr	ection factor

U-NII-3

Test Mode	Channel/ Frequency (MHz)	Average Power Measured (dBm)	Average Power with duty factor (dBm)	Limit (dBm)	Conclusion	
	149/5745	0.40	0.40	30	PASS	
802.11a	157/5785	3.57	3.57	30	PASS	
!	165/5825	3.60	3.60	30	PASS	
902.11	149/5745	1.20	1.20	30	PASS	
802.11n HT20	157/5785	5.05	5.05	30	PASS	
	165/5825	4.83	4.83	30	PASS	
Note: Average Power with duty factor = Average Power Measured +Duty cycle correction factor						



5.3. Frequency Stability

Ambient condition

Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

Method of Measurement

1. Frequency stability with respect to ambient temperature

a) Supply the EUT with a nominal ac voltage or install a new or fully charged battery in the EUT. If possible, a dummy load shall be connected to the EUT because an antenna near the metallic walls of an environmental test chamber could affect the output frequency of the EUT. If the EUT is equipped with a permanently attached, adjustable-length antenna, then the EUT shall be placed in the center of the chamber with the antenna adjusted to the shortest length possible. Turn ON the EUT and tune it to one of the number of frequencies shown in 5.6.

b) Couple the unlicensed wireless device output to the measuring instrument by connecting an antenna to the measuring instrument with a suitable length of coaxial cable and placing the measuring antenna near the EUT (e.g., 15 cm away), or by connecting a dummy load to the measuring instrument, through an attenuator if necessary.

c) Adjust the location of the measurement antenna and the controls on the measurement instrument to obtain a suitable signal level (i.e., a level that will not overload the measurement instrument but is strong enough to allow measurement of the operating or fundamental frequency of the EUT).

d) Turn the EUT OFF and place it inside the environmental temperature chamber. For devices that have oscillator heaters, energize only the heater circuit.

e) Set the temperature control on the chamber to the highest specified in the regulatory requirements for the type of device and allow the oscillator heater and the chamber temperature to stabilize.

f) While maintaining a constant temperature inside the environmental chamber, turn the EUT ON and record the operating frequency at startup, and at 2 minutes, 5 minutes, and 10 minutes after the EUT is energized. Four measurements in total are made.

g) Measure the frequency at each of frequencies specified in 5.6.

h) Switch OFF the EUT but do not switch OFF the oscillator heater.

i) Lower the chamber temperature by not more that 10°C, and allow the temperature inside the chamber to stabilize.

j) Repeat step f) through step i) down to the lowest specified temperature.

2. Frequency stability when varying supply voltage

Unless otherwise specified, these tests shall be made at ambient room temperature (+15°C to +25 °C). An antenna shall be connected to the antenna output terminals of the EUT if possible. If the EUT is equipped with or uses an adjustable-length antenna, then it shall be fully extended.

a) Supply the EUT with nominal voltage or install a new or fully charged battery in the EUT. Turn ON the EUT and couple its output to a frequency counter or other frequency-measuring instrument.



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b) Tune the EUT to one of the number of frequencies required in 5.6. Adjust the location of the measurement antenna and the controls on the measurement instrument to obtain a suitable signal level (i.e., a level that will not overload the measurement instrument but is strong enough to allow measurement of the operating or fundamental frequency of the EUT).

c) Measure the frequency at each of the frequencies specified in 5.6.

d) Repeat the above procedure at 85% and 115% of the nominal supply voltage.

Limit

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.

Measurement Uncertainty

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor k = 2, U = 936Hz



	т (U-NII-1 Te	est Results				
Voltage			5200MHz					
(*)	(0)	1min	2min	5min	10min			
24.00	-20	5200.007222	5199.998416	5199.995784	5199.990801			
24.00	-10	5200.005989	5199.994839	5199.987078	5199.986979			
24.00	0	5200.000423	5199.987631	5199.984705	5199.977629			
24.00	10	5199.990533	5199.985081	5199.981394	5199.973820			
24.00	20	5199.983885	5199.980288	5199.974085	5199.973767			
24.00	30	5199.975824	5199.973745	5199.973587	5199.966135			
24.00	40	5199.967387	5199.970499	5199.964986	5199.960875			
24.00	50	5199.960608	5199.963061	5199.963147	5199.953454			
20.00	20	5199.956039	5199.958151	5199.959432	5199.953167			
30.00	20	5199.953827	5199.953812	5199.953553	5199.943551			
Ма	x. ΔMHz	-0.046173	-0.046188	-0.046447	-0.056449			
	PPM	-8.879507	-8.882326	-8.932024	-10.855602			

	T		U-NII-2A Test Results						
			5300MHz						
(•)	(0)	1min	2min	5min	10min				
24.00	-20	5299.997199	5299.992984	5299.988067	5299.981261				
24.00	-10	5299.995072	5299.983853	5299.980297	5299.972369				
24.00	0	5299.987800	5299.974497	5299.976184	5299.971565				
24.00	10	5299.984536	5299.967257	5299.975425	5299.967729				
24.00	20	5299.977756	5299.959837	5299.973718	5299.966591				
24.00	30	5299.976282	5299.956268	5299.968131	5299.962009				
24.00	40	5299.973666	5299.955827	5299.960030	5299.958553				
24.00	50	5299.970818	5299.952994	5299.954494	5299.953969				
20.00	20	5299.970086	5299.946656	5299.947555	5299.946361				
30.00	20	5299.965445	5299.936906	5299.939208	5299.937745				
Max. ΔMHz		-0.034555	-0.063094	-0.060792	-0.062255				
PPM		-6.519879	-11.904479	-11.470283	-11.746301				



Voltage (V)	Tamananatuma		U-NII-2C Test Results					
	(°C)	5580MHz						
	(0)	1min	2min	5min	10min			
24.00	-20	5579.997094	5579.995340	5579.995270	5579.989264			
24.00	-10	5579.992693	5579.992009	5579.985664	5579.988474			
24.00	0	5579.988173	5579.989611	5579.983289	5579.980450			
24.00	10	5579.985532	5579.980193	5579.976679	5579.976892			
24.00	20	5579.983588	5579.977667	5579.970908	5579.971104			
24.00	30	5579.978826	5579.968577	5579.969387	5579.961435			
24.00	40	5579.977361	5579.964984	5579.963589	5579.954218			
24.00	50	5579.973483	5579.959258	5579.958986	5579.945846			
20.00	20	5579.963989	5579.953435	5579.956715	5579.941700			
30.00	20	5579.955884	5579.953012	5579.950224	5579.933995			
Max. ΔMHz		-0.044116	-0.046988	-0.049776	-0.066005			
PPM		-7.906050	-8.420745	-8.920496	-11.828866			

			U-NII-3 Test Results					
		5785MHz						
(•)		1min	2min	5min	10min			
24.00	-20	5784.998433	5784.988632	5784.981860	5784.980567			
24.00	-10	5784.992710	5784.985271	5784.973682	5784.979102			
24.00	0	5784.992025	5784.984844	5784.964366	5784.976139			
24.00	10	5784.988257	5784.982307	5784.962905	5784.974059			
24.00	20	5784.982695	5784.972546	5784.958455	5784.970629			
24.00	30	5784.977965	5784.969856	5784.949404	5784.966890			
24.00	40	5784.968524	5784.960659	5784.944242	5784.957871			
24.00	50	5784.960189	5784.957803	5784.938713	5784.950962			
20.00	20	5784.954447	5784.952138	5784.930753	5784.942405			
30.00	20	5784.944686	5784.947739	5784.921917	5784.937315			
Ма	x. ΔMHz	-0.055314	-0.052261	-0.078083	-0.062685			
PPM		-9.561615	-9.033828	-13.497450	-10.835794			



5.4. Power Spectral Density

Ambient condition

Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

Method of Measurement

The EUT was connected to the spectrum analyzer through an external attenuator (20dB) and a known loss cable.

Set RBW = 1MHz, VBW =3MHz for the band 5.150-5.250GHz, 5.250-5.350GHz, 5.470-5.725GHz. Set RBW = 470kHz, VBW =1.5MHz for the band 5.725-5.850GHz

The conducted PSD is measured at each antenna port. The measured results at the various antenna ports are then summed mathematically.

Test setup



Limits

Rule FCC Part 15.407(a)(1)/ Part 15.407(a)(2) / Part 15.407(a)(3)

For an indoor access point operating in the band 5.15-5.25 GHz, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

For client devices in the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. For the band 5.725-5.85 GHz, the maximum power spectral density shall not exceed 30 dBm in any 500kHz band. If transmittingantennas of directional gain greater than 6 dBi are used, both the maximum conducted output power spectral density shall not exceed 30 dBm in any 500kHz band. If transmittingantennas of directional gain greater than 6 dBi are used, both the



amount in dB that the directional gain of the antenna exceeds 6 dBi.

Frequency Bands/MHz	Limits
5150-5250	11dBm/MHz
5.25-5.35 GHz and 5.47-5.725 GHz	11dBm/MHz
5725-5850	30dBm/500kHz

Measurement Uncertainty

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor k = 2, U = 0.75dB.



Test Results:

Note: Power Spectral Density =Read Value+Duty cycle correction factor

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Mode	Channel Number	Read Value (dBm /MHz)	Power Spectral Density (dBm /MHz)	Limit (dBm /MHz)	Conclusion
	36	0.27	0.27	11	PASS
802.11a	40	0.01	0.01	11	PASS
	48	0.65	0.65	11	PASS
	36	0.47	0.47	11	PASS
802.11n HT20	40	0.57	0.57	11	PASS
11120	48	0.87	0.87	11	PASS

U-NII-2A

Mode	Channel Number	Read Value (dBm /MHz)	Power Spectral Density (dBm /MHz)	Limit (dBm /MHz)	Conclusion
	52	-1.90	-1.90	11	PASS
802.11a	60	-1.86	-1.86	11	PASS
	64	-1.55	-1.55	11	PASS
	52	-1.64	-1.64	11	PASS
802.11n HT20	60	-1.28	-1.28	11	PASS
	64	-1.13	-1.13	11	PASS

U-NII-2C

Mode	Channel Number	Read Value (dBm /MHz)	Power Spectral Density (dBm /MHz)	Limit (dBm /MHz)	Conclusion
	100	-4.71	-4.71	11	PASS
902 112	116	-2.38	-2.38	11	PASS
002.11a	140	-2.31	-2.31	11	PASS
	144	-2.24	-2.24	11	PASS
	100	-4.61	-4.61	11	PASS
802.11n	116	-1.41	-1.41	11	PASS
HT20	140	-1.16	-1.16	11	PASS
	144	-0.94	-0.94	11	PASS



U-NII-3

Mode	Channel Number	Read Value (dBm/470kHz)	Power Spectral Density (dBm/500kHz)	Limit (dBm/500kHz)	Conclusion	
	149	-11.92	-11.65	30	PASS	
802.11a	157	-9.79	-9.52	30	PASS	
	165	-9.70	-9.43	30	PASS	
	149	-12.12	-11.85	30	PASS	
802.11n HT20	157	-8.64	-8.37	30	PASS	
	165	-8.76	-8.49	30	PASS	
Note:PSD=Read Value+Duty cycle+10*LOG(500/470) correction factor						


























5.5. Unwanted Emission

Ambient condition

Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

Method of Measurement

The test set-up was made in accordance to the general provisions of ANSI C63.10. The Equipment Under Test (EUT) was set up on a non-conductive table in the semi-anechoic chamber. The test was performed at the distance of 3 m between the EUT and the receiving antenna. The radiated emissions measurements were made in a typical installation configuration.

Sweep the whole frequency band range from 9kHz to the 10th harmonic of the carrier, and the emissions less than 20 dB below the permissible value are reported.

During the test, the height of receive antenna shall be moved from 1 to 4 meters, and the antenna shall be performed under horizontal and vertical polarization. The turntable shall be rotated from 0 to 360 degrees for detecting the maximum of radiated spurious signal level. The measurements shall be repeated with orthogonal polarization of the test antenna. The data of cable loss and antenna factor has been calibrated in full testing frequency range before the testing.

Set the spectrum analyzer in the following:

9kHz~150 kHz

RBW=200Hz, VBW=1kHz/ Sweep=AUTO

150 kHz~30MHz

RBW=9KHz, VBW=30KHz,/ Sweep=AUTO

Below 1GHz

RBW=100kHz / VBW=300kHz / Sweep=AUTO

a) Peak emission levels are measured by setting the instrument as follows:

Above 1GHz

PEAK: RBW=1MHz VBW=3MHz/ Sweep=AUTO

b) Average emission levels are measured by setting the instrument as follows:

Above 1GHz

AVERAGE: RBW=1MHz / VBW=3MHz / Sweep=AUTO

c) Detector: The measurements employing a CISPR guasi-peak detector except for the frequency bands 9-90 kHz, 110-490 kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector.

d) Averaging type = power (i.e., rms) (As an alternative, the detector and averaging type may be set for linear voltage averaging. Some instruments require linear display mode to use linear voltage averaging. Log or dB averaging shall not be used.)

e) Sweep time = auto.

f) Perform a trace average of at least 100 traces if the transmission is continuous. If the transmission is not continuous, then the number of traces shall be increased by a factor of 1 / D, where D is the duty cycle. For example, with 50% duty cycle, at least 200 traces shall be averaged. (If a specific



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emission is demonstrated to be continuous—i.e., 100% duty cycle—then rather than turning ON and OFF with the transmit cycle, at least 100 traces shall be averaged.)

g) If tests are performed with the EUT transmitting at a duty cycle less than 98%, then a correction factor shall be added to the measurement results prior to comparing with the emission limit, to compute the emission level that would have been measured had the test been performed at 100% duty cycle. The correction factor is computed as follows:

1) If power averaging (rms) mode was used in the preceding step e), then the correction factor is [10 log (1 / D)], where D is the duty cycle. For example, if the transmit duty cycle was 50%, then 3 dB shall be added to the measured emission levels.

2) If linear voltage averaging mode was used in the preceding step e), then the correction factor is [20 log (1 / D)], where D is the duty cycle. For example, if the transmit duty cycle was 50%, then 6 dB shall be added to the measured emission levels.

3) If a specific emission is demonstrated to be continuous (100% duty cycle) rather than turning ON and OFF with the transmit cycle, then no duty cycle correction is required for that emission.

Reduce the video bandwidth until no significant variations in the displayed signal are observed in subsequent traces, provided the video bandwidth is no less than 1 Hz. For regulatory requirements that specify averaging only over the transmit duration (e.g., digital transmission system [DTS] and Unlicensed National Information Infrastructure [U-NII]), the video bandwidth shall be greater than [1 / (minimum transmitter on time)] and no less than 1 Hz.

The field strength of spurious emission was measured in the following position: EUT stand-up position (Z axis), lie-down position (X, Y axis). The worst emission was found in stand-up position (Z axis) and the loop antenna is vertical, others antenna are vertical and horizontal.

The test is in transmitting mode.









Above 1GHz



Note: Area side:2.4mX3.6m



- (1) For transmitters operating in the 5725-5850 MHz band: 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.
- (2) For transmitters operating in the 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz(68.2dBµV/m).
- (3) For transmitters operating in the 5.25-5.35 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz(68.2dBµV/m).
- (4) For transmitters operating in the 5.47-5.725 GHz band: All emissions outside of the 5.47-5.725 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz(68.2dBµV/m).

Note: the following formula is used to convert the EIRP to field strength

- $1 = E[dB\mu V/m] = E[RP[dBm] 20 \log(d[meters]) + 104.77)$, where E = field strength and
- d = distance at which field strength limit is specified in the rules;
- $2 E[dB\mu V/m] = EIRP[dBm] + 95.2$, for d = 3 meters
- (5) Unwanted spurious emissions fallen in restricted bands per FCC Part15.205 shall comply with the general field strength limits set forth in § 15.209 as below table.

Frequency of emission (MHz)	Field strength(uV/m)	Field strength(dBuV/m)		
0.009–0.490	2400/F(kHz)	1		
0.490–1.705	24000/F(kHz)	1		
1.705–30.0	30	1		
30-88	100	40		
88-216	150	43.5		
216-960	200	46		
Above960	500	54		



MHz	MHz	MHz	GHz
0.090 - 0.110	16.42 - 16.423	399.9 - 410	4.5 - 5.15
¹ 0.495 - 0.505	16.69475 - 16.69525	608 - 614	5.35 - 5.46
2.1735 - 2.1905	16.80425 - 16.80475	960 - 1240	7.25 - 7.75
4.125 - 4.128	25.5 - 25.67	1300 - 1427	8.025 - 8.5
4.17725 - 4.17775	37.5 - 38.25	1435 - 1626.5	9.0 - 9.2
4.20725 - 4.20775	73 - 74.6	1645.5 - 1646.5	9.3 - 9.5
6.215 - 6.218	74.8 - 75.2	1660 - 1710	10.6 - 12.7
6.26775 - 6.26825	108 - 121.94	1718.8 - 1722.2	13.25 - 13.4
6.31175 - 6.31225	123 - 138	2200 - 2300	14.47 - 14.5
8.291 - 8.294	149.9 - 150.05	2310 - 2390	15.35 - 16.2
8.362 - 8.366	156.52475 - 156.52525	2483.5 - 2500	17.7 - 21.4
8.37625 - 8.38675	156.7 - 156.9	2690 - 2900	22.01 - 23.12
8.41425 - 8.41475	162.0125 - 167.17	3260 - 3267	23.6 - 24.0
12.29 - 12.293	167.72 - 173.2	3332 - 3339	31.2 - 31.8
12.51975 - 12.52025	240 - 285	3345.8 - 3358	36.43 - 36.5
12.57675 - 12.57725	322 - 335.4	3600 - 4400	(2)
13.36 - 13.41			

Measurement Uncertainty

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor k = 1.96.

Frequency	Uncertainty				
9KHz-30MHz	3.55 dB				
30MHz-200MHz	4.17 dB				
200MHz-1GHz	4.84 dB				
1-18GHz	4.35 dB				
18-26.5GHz	5.90 dB				
26.5GHz~40GHz	5.92 dB				



Test Results:

A font (Level in dB \mathfrak{m}/m) in the test plot =(level in dB μ V/m)

A font (Level in dB μ V/) in the test plot =(level in dB μ V/m)

The signal beyond the limit is carrier.

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U-NII-2C





U-NII-3





Result of RE

Test result

Sweep the whole frequency band through the range from 9kHz to the 10th harmonic of the carrier, the Emissions in the frequency band 9kHz-30MHz and 26.5GHz-40GHz are more than 20dB below the limit are not reported.

A font (Level in dB \mathfrak{m}/m)in the test plot =(level in dB μ V/m) A font (Level in dB μ V/) in the test plot =(level in dB μ V/m)

During the test, the Radiates Emission from 30MHz to 1GHz was performed in all modes with all channels, 802.11a, Channel 100 are selected as the worst condition. The test data of the worst-case condition was recorded in this report.

Continuous TX mode:



Radiates Emission from 9KHz to 90KHz

FCC RE 90K-110KHz QP



Radiates Emission from 90KHz to 110KHz



FCC RE 110K-490KHz AV



Radiates Emission from 110KHz to 490KHz



FCC RE 490K-30MHz QP

Radiates Emission from 490KHz to 30MHz

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Radiates Emission from 30MHz to 1GHz

Frequency (MHz)	Quasi-Peak (dBuV/m)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)	Margin (dB)	Limit (dBuV/m)
41.847500	24.01	115.0	V	0.0	14	15.99	40.00
53.567500	25.46	100.0	V	0.0	13	14.54	40.00
122.108750	30.30	125.0	V	160.0	11	13.20	43.50
158.080000	33.59	100.0	V	294.0	9	9.91	43.50
327.708750	33.78	100.0	Н	122.0	16	12.22	46.00
491.598750	36.59	190.0	Н	112.0	19	9.41	46.00

Remark: 1. Correction Factor = Antenna factor+ Insertion loss(cable loss+amplifier gain) 2. Margin = Limit – Quasi-Peak RF Test Report 802.11a CH36







Radiates Emission from 8GHz to 18GHz



Frequency (MHz)	Peak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Polari zation	Azimuth (deg)	Correct Factor (dB)
1065.800000		36.84	54.00	17.16	100.0	V	174.0	-9
1261.800000	47.95		68.20	20.25	100.0	V	2.0	-8
1397.600000		40.02	54.00	13.98	100.0	Н	292.0	-7
1474.600000		41.44	54.00	12.56	200.0	V	0.0	-7
1639.333333	51.57		68.20	16.63	200.0	V	350.0	-6
2139.600000	50.06		68.20	18.14	200.0	V	1.0	-4
2231.766667		40.46	54.00	13.54	200.0	V	240.0	-4
2538.366667	52.05		68.20	16.15	100.0	V	0.0	-4
2736.000000		41.86	54.00	12.14	100.0	V	120.0	-4
3522.566667	51.69		68.20	16.51	100.0	Н	61.0	-3
3862.300000		42.87	54.00	11.13	100.0	V	329.0	-2
6907.066667	60.09		68.20	8.11	100.0	н	15.0	7





Note: The signal beyond the limit is carrier. Radiates Emission from 1GHz to 8GHz



Radiates Emission from 8GHz to 18GHz



Frequency (MHz)	Peak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Polari zation	Azimuth (deg)	Correct Factor (dB)
1016.566667		42.20	54.00	11.80	200.0	Н	1.0	-10
1189.700000		37.23	54.00	16.77	200.0	V	185.0	-9
1295.633333	47.94		68.20	20.26	200.0	V	199.0	-8
1474.833333		41.44	54.00	12.56	100.0	Н	294.0	-7
1638.866667	51.53		68.20	16.67	200.0	V	2.0	-6
2672.300000	51.58		68.20	16.62	200.0	V	0.0	-3
2711.733333		42.05	54.00	11.95	200.0	Н	178.0	-4
3323.066667	52.62		68.20	15.58	200.0	Н	110.0	-3
3800.233333		43.34	54.00	10.66	200.0	Н	358.0	-2
5424.000000		45.39	54.00	8.61	100.0	V	359.0	3
5620.700000	55.60		68.20	12.60	200.0	V	79.0	3
6933.666667	59.41		68.20	8.79	100.0	Н	94.0	7









Radiates Emission from 8GHz to 18GHz



Frequency (MHz)	Peak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Polari zation	Azimuth (deg)	Correct Factor (dB)
1016.566667		40.12	54.00	13.88	200.0	Н	53.0	-10
1192.966667		37.62	54.00	16.38	200.0	Н	353.0	-9
1274.866667	48.30		68.20	19.90	100.0	Н	359.0	-8
1474.600000		41.18	54.00	12.82	200.0	V	16.0	-7
1637.700000	51.35		68.20	16.85	200.0	V	2.0	-6
2162.466667	50.52		68.20	17.68	200.0	Н	358.0	-4
2223.133333		41.04	54.00	12.96	200.0	V	308.0	-4
2495.433333		42.00	54.00	12.00	100.0	Н	1.0	-4
2625.866667	51.35		68.20	16.85	100.0	V	357.0	-4
3250.966667	51.90		68.20	16.30	200.0	V	0.0	-3
3992.033333		43.16	54.00	10.84	100.0	V	146.0	-1
5635.633333	55.32		68.20	12.88	200.0	Н	293.0	3









Radiates Emission from 8GHz to 18GHz



Frequency (MHz)	Peak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Polari zation	Azimuth (deg)	Correct Factor (dB)
1016.800000		39.43	54.00	14.57	100.0	Н	75.0	-10
1211.633333		37.28	54.00	16.72	200.0	V	36.0	-9
1259.466667	47.77		68.20	20.43	100.0	V	177.0	-8
1474.600000		41.58	54.00	12.42	100.0	V	332.0	-7
1638.866667	51.78		68.20	16.42	200.0	V	6.0	-6
2113.933333	51.70		68.20	16.50	100.0	Н	335.0	-4
2754.200000		42.51	54.00	11.49	100.0	V	0.0	-4
3495.966667	52.08		68.20	16.12	200.0	V	144.0	-3
3998.800000		43.02	54.00	10.98	100.0	н	16.0	-1
5366.600000		45.58	54.00	8.42	200.0	Н	234.0	3
5545.566667	55.58		68.20	12.62	100.0	Н	4.0	3
7013.933333	58.84		68.20	9.36	100.0	н	6.0	7





Note: The signal beyond the limit is carrier. Radiates Emission from 1GHz to 8GHz



Radiates Emission from 8GHz to 18GHz



Frequency (MHz)	Peak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Polari zation	Azimuth (deg)	Correct Factor (dB)
1016.100000		41.36	54.00	12.64	100.0	Н	56.0	-10
1199.500000		36.57	54.00	17.43	100.0	V	188.0	-9
1262.733333	48.02		68.20	20.18	200.0	V	350.0	-8
1474.833333		42.01	54.00	11.99	100.0	V	259.0	-7
1638.166667	52.19		68.20	16.01	200.0	V	1.0	-6
2614.666667	51.84		68.20	16.36	100.0	V	0.0	-4
2815.333333		41.81	54.00	12.19	100.0	Н	56.0	-3
3503.900000	52.25		68.20	15.95	200.0	Н	358.0	-3
3962.400000		43.41	54.00	10.59	100.0	Н	108.0	-1
5081.000000		46.04	54.00	7.96	200.0	V	41.0	2
5620.466667	55.31		68.20	12.89	200.0	V	336.0	3
7771.800000	58.86		68.20	9.34	100.0	V	53.0	7





Note: The signal beyond the limit is carrier. Radiates Emission from 1GHz to 8GHz



Radiates Emission from 8GHz to 18GHz



Frequency (MHz)	Peak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Polari zation	Azimuth (deg)	Correct Factor (dB)
1077.233333		36.28	54.00	17.72	200.0	V	78.0	-9
1261.100000	46.83		68.20	21.37	100.0	V	354.0	-8
1496.066667		38.45	54.00	15.55	100.0	V	158.0	-7
1638.400000	53.11		68.20	15.09	200.0	V	10.0	-6
2123.500000	50.45		68.20	17.75	100.0	V	215.0	-4
2211.466667		40.37	54.00	13.63	200.0	V	4.0	-4
2763.533333		40.81	54.00	13.19	200.0	V	39.0	-4
3019.500000	51.21		68.20	16.99	100.0	Н	225.0	-3
3676.100000		41.87	54.00	12.13	200.0	V	0.0	-2
4447.500000	53.51		68.20	14.69	200.0	Н	0.0	0
4637.433333		44.17	54.00	9.83	200.0	Н	285.0	1
6686.100000	56.78		68.20	11.42	200.0	V	265.0	6





Note: The signal beyond the limit is carrier. Radiates Emission from 1GHz to 8GHz



Radiates Emission from 8GHz to 18GHz



Frequency (MHz)	Peak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Polari zation	Azimuth (deg)	Correct Factor (dB)
1016.566667		42.08	54.00	11.92	200.0	Н	42.0	-10
1200.433333		37.68	54.00	16.32	200.0	V	106.0	-9
1259.233333	47.74		68.20	20.46	100.0	V	186.0	-8
1474.600000		40.76	54.00	13.24	100.0	V	213.0	-7
1638.866667	51.54		68.20	16.66	200.0	V	350.0	-6
2098.300000	50.05		68.20	18.15	100.0	Н	50.0	-4
2540.233333	51.85		68.20	16.35	200.0	Н	356.0	-4
2822.333333		41.99	54.00	12.01	100.0	V	353.0	-3
3004.100000	52.29		68.20	15.91	200.0	Н	56.0	-3
3904.300000		43.03	54.00	10.97	100.0	Н	89.0	-2
7333.366667		53.31	54.00	0.69	100.0	Н	0.0	7
7972.933333	58.42		68.20	9.78	200.0	Н	256.0	8





Note: The signal beyond the limit is carrier. Radiates Emission from 1GHz to 8GHz



Radiates Emission from 8GHz to 18GHz



Frequency (MHz)	Peak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Polari zation	Azimuth (deg)	Correct Factor (dB)
1016.566667		41.45	54.00	12.55	100.0	Н	0.0	-10
1295.866667	48.49		68.20	19.71	200.0	Н	269.0	-8
1474.833333		41.76	54.00	12.24	200.0	V	308.0	-7
1638.633333	51.69		68.20	16.51	100.0	V	25.0	-6
2511.300000	52.59		68.20	15.61	100.0	Н	6.0	-4
2728.533333		42.04	54.00	11.96	100.0	V	217.0	-4
2967.233333	51.63		68.20	16.57	100.0	Н	171.0	-3
3805.133333		43.15	54.00	10.85	200.0	V	134.0	-2
4990.466667		45.45	54.00	8.55	100.0	V	297.0	2
5312.000000	55.09		68.20	13.11	100.0	V	270.0	2
7440.233333		52.11	54.00	1.89	100.0	Н	10.0	7
7818.933333	58.46		68.20	9.74	100.0	V	244.0	7









Radiates Emission from 8GHz to 18GHz



Frequency (MHz)	Peak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Polari zation	Azimuth (deg)	Correct Factor (dB)
1016.333333		41.72	54.00	12.28	100.0	Н	6.0	-10
1267.400000	48.05		68.20	20.15	100.0	V	299.0	-8
1474.833333		41.11	54.00	12.89	200.0	Н	283.0	-7
1638.633333	51.27		68.20	16.93	200.0	V	213.0	-6
2609.533333	52.15		68.20	16.05	200.0	Н	219.0	-4
2811.833333		42.01	54.00	11.99	100.0	Н	306.0	-3
2971.666667	52.17		68.20	16.03	200.0	Н	309.0	-3
3997.633333		43.26	54.00	10.74	200.0	V	226.0	-1
5270.700000	55.32		68.20	12.88	200.0	Н	245.0	2
5369.633333		45.53	54.00	8.47	100.0	Н	4.0	3
7736.566667		48.60	54.00	5.40	100.0	V	359.0	7
7807.500000	58.74		68.20	9.46	200.0	Н	271.0	7









Radiates Emission from 8GHz to 18GHz



Frequency (MHz)	Peak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Polari zation	Azimuth (deg)	Correct Factor (dB)
1016.333333		41.69	54.00	12.31	100.0	Н	36.0	-10
1295.166667	48.07		68.20	20.13	200.0	Н	108.0	-8
1474.600000		43.60	54.00	10.40	200.0	V	306.0	-7
1638.400000	51.21		68.20	16.99	200.0	V	50.0	-6
2563.100000	51.97		68.20	16.23	100.0	Н	128.0	-4
2700.533333		42.10	54.00	11.90	200.0	Н	10.0	-4
2914.033333	52.41		68.20	15.79	200.0	Н	122.0	-3
3712.733333		43.15	54.00	10.85	200.0	V	4.0	-2
5308.033333	55.08		68.20	13.12	100.0	Н	0.0	2
5392.266667		45.72	54.00	8.28	200.0	V	16.0	3
7737.733333		49.17	54.00	4.83	200.0	V	6.0	7
7791.400000	58.63		68.20	9.57	200.0	V	237.0	7





Note: The signal beyond the limit is carrier. Radiates Emission from 1GHz to 8GHz



Radiates Emission from 8GHz to 18GHz



Frequency (MHz)	Peak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Polari zation	Azimuth (deg)	Correct Factor (dB)
1016.800000		41.74	54.00	12.26	200.0	Н	28.0	-10
1277.200000	47.82		68.20	20.38	100.0	Н	358.0	-8
1474.833333		41.33	54.00	12.67	100.0	V	279.0	-7
1638.400000	51.60		68.20	16.60	200.0	V	10.0	-6
2327.666667		42.06	54.00	11.94	200.0	Н	252.0	-4
2442.700000	52.23		68.20	15.97	200.0	Н	4.0	-4
3368.100000	52.37		68.20	15.83	100.0	V	0.0	-3
3905.466667		43.20	54.00	10.80	100.0	V	240.0	-2
5092.200000		45.59	54.00	8.41	100.0	Н	308.0	2
5305.233333	55.73		68.20	12.47	200.0	Н	53.0	2
7735.400000		48.54	54.00	5.46	100.0	Н	342.0	7
7793.500000	58.97		68.20	9.23	100.0	Н	269.0	7

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Note: The signal beyond the limit is carrier. Radiates Emission from 1GHz to 8GHz



Radiates Emission from 8GHz to 18GHz


Frequency (MHz)	Peak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Polari zation	Azimuth (deg)	Correct Factor (dB)
1016.566667		42.06	54.00	11.94	100.0	Н	53.0	-10
1299.133333	48.87		68.20	19.33	100.0	V	234.0	-8
1474.833333		41.01	54.00	12.99	200.0	V	332.0	-7
1637.933333	51.83		68.20	16.37	200.0	V	353.0	-6
2453.433333	53.38		68.20	14.82	200.0	V	348.0	-4
2755.366667		42.25	54.00	11.75	100.0	Н	187.0	-4
3575.766667	52.36		68.20	15.84	200.0	V	280.0	-3
3896.600000		42.99	54.00	11.01	200.0	V	292.0	-2
5266.966667	55.87		68.20	12.33	200.0	V	341.0	2
5373.366667		45.60	54.00	8.40	200.0	Н	234.0	3
7372.100000		48.69	54.00	5.31	100.0	Н	358.0	7
7763.633333	58.97		68.20	9.23	200.0	V	356.0	7





Note: The signal beyond the limit is carrier. Radiates Emission from 1GHz to 8GHz



Radiates Emission from 8GHz to 18GHz



Frequency (MHz)	Peak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Polari zation	Azimuth (deg)	Correct Factor (dB)
1016.566667		41.37	54.00	12.63	200.0	Н	2.0	-10
1270.433333	47.76		68.20	20.44	100.0	Н	0.0	-8
1474.366667		41.67	54.00	12.33	100.0	V	265.0	-7
1638.400000	51.71		68.20	16.49	200.0	V	266.0	-6
2512.000000	51.72		68.20	16.48	100.0	Н	290.0	-4
2722.700000		41.88	54.00	12.12	200.0	Н	50.0	-4
2901.433333	52.65		68.20	15.55	200.0	Н	10.0	-3
3998.566667		43.37	54.00	10.63	100.0	V	0.0	-1
5314.800000	56.02		68.20	12.18	200.0	V	358.0	2
5385.733333		45.86	54.00	8.14	200.0	Н	37.0	3
7732.366667		48.71	54.00	5.29	200.0	V	51.0	7
7772.500000	59.18		68.20	9.02	200.0	V	331.0	7





Note: The signal beyond the limit is carrier. Radiates Emission from 1GHz to 8GHz



Radiates Emission from 8GHz to 18GHz



Frequency (MHz)	Peak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Polari zation	Azimuth (deg)	Correct Factor (dB)
1016.566667		41.30	54.00	12.70	100.0	Н	81.0	-10
1259.466667	48.36		68.20	19.84	100.0	Н	124.0	-8
1474.600000		41.78	54.00	12.22	200.0	V	213.0	-7
1638.400000	51.67		68.20	16.53	100.0	V	349.0	-6
2466.966667	52.35		68.20	15.85	200.0	Н	14.0	-4
2799.466667		42.22	54.00	11.78	100.0	Н	0.0	-3
3499.466667	52.40		68.20	15.80	100.0	Н	94.0	-3
3997.166667		43.53	54.00	10.47	100.0	V	24.0	-1
4477.133333	53.53		68.20	14.67	100.0	Н	188.0	0
4941.933333		45.36	54.00	8.64	100.0	V	358.0	2
7734.933333		48.78	54.00	5.22	200.0	Н	359.0	7
7773.433333	58.94		68.20	9.26	200.0	Н	355.0	7





Note: The signal beyond the limit is carrier. Radiates Emission from 1GHz to 8GHz



Radiates Emission from 8GHz to 18GHz



Frequency (MHz)	Peak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Polari zation	Azimuth (deg)	Correct Factor (dB)
1016.100000		40.44	54.00	13.56	100.0	Н	7.0	-10
1247.800000	48.52		68.20	19.68	200.0	V	20.0	-8
1474.366667		41.54	54.00	12.46	200.0	V	151.0	-7
1637.700000	51.46		68.20	16.74	200.0	V	204.0	-6
2496.833333		41.99	54.00	12.01	100.0	Н	163.0	-4
2613.033333	51.77		68.20	16.43	100.0	Н	288.0	-4
3558.033333	52.30		68.20	15.90	200.0	Н	108.0	-3
3998.800000		43.88	54.00	10.12	200.0	Н	343.0	-1
4484.366667	54.57		68.20	13.63	200.0	Н	122.0	0
5004.700000		44.69	54.00	9.31	100.0	V	176.0	2
7735.866667		48.99	54.00	5.01	200.0	V	0.0	7
7889.633333	59.34		68.20	8.86	100.0	V	109.0	7





Note: The signal beyond the limit is carrier. Radiates Emission from 1GHz to 8GHz



Radiates Emission from 8GHz to 18GHz



Frequency (MHz)	Peak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Polari zation	Azimuth (deg)	Correct Factor (dB)
1283.266667	48.66		68.20	19.54	100.0	V	339.0	-8
1311.033333		39.89	54.00	14.11	100.0	V	221.0	-8
1474.833333		42.86	54.00	11.14	100.0	Н	291.0	-7
1638.400000	52.18		68.20	16.02	200.0	V	9.0	-6
2458.333333	51.91		68.20	16.29	100.0	V	289.0	-4
2712.666667		42.06	54.00	11.94	100.0	V	221.0	-4
3588.133333	52.09		68.20	16.11	100.0	V	168.0	-3
3999.733333		43.21	54.00	10.79	100.0	Н	45.0	-1
4465.700000	53.95		68.20	14.25	100.0	V	81.0	0
4985.100000		45.40	54.00	8.60	200.0	V	102.0	2
6986.400000	58.96		68.20	9.24	100.0	Н	99.0	7
7720.700000		48.67	54.00	5.33	200.0	V	0.0	7





Note: The signal beyond the limit is carrier. Radiates Emission from 1GHz to 8GHz



Radiates Emission from 8GHz to 18GHz



Frequency (MHz)	Peak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Polari zation	Azimuth (deg)	Correct Factor (dB)
1016.333333		40.70	54.00	13.30	100.0	Н	0.0	-10
1277.200000	47.93		68.20	20.27	100.0	Н	165.0	-8
1474.833333		42.07	54.00	11.93	200.0	V	263.0	-7
1639.100000	51.10		68.20	17.10	200.0	V	6.0	-6
2610.000000	51.82		68.20	16.38	200.0	V	263.0	-4
2764.466667		42.02	54.00	11.98	200.0	Н	82.0	-4
3326.800000	52.23		68.20	15.97	200.0	V	115.0	-3
3836.400000		42.97	54.00	11.03	200.0	Н	276.0	-2
4469.666667	53.07		68.20	15.13	100.0	V	39.0	0
5065.133333		45.61	54.00	8.39	100.0	V	355.0	2
7725.133333		48.47	54.00	5.53	100.0	V	352.0	7
7780.433333	58.95		68.20	9.25	200.0	V	49.0	7









Radiates Emission from 8GHz to 18GHz



Frequency (MHz)	Peak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Polari zation	Azimuth (deg)	Correct Factor (dB)
1254.800000	48.01		68.20	20.19	200.0	V	5.0	-8
1310.566667		39.77	54.00	14.23	200.0	V	13.0	-8
1474.833333		43.33	54.00	10.67	200.0	V	260.0	-7
1638.633333	52.15		68.20	16.05	200.0	V	3.0	-6
2287.300000		42.07	54.00	11.93	100.0	V	246.0	-4
2479.333333	51.76		68.20	16.44	100.0	V	359.0	-4
3506.933333	51.79		68.20	16.41	200.0	Н	0.0	-3
3963.333333		43.09	54.00	10.91	100.0	V	353.0	-1
4467.566667	53.62		68.20	14.58	100.0	Н	291.0	0
4972.033333		45.65	54.00	8.35	200.0	V	0.0	2
7643.233333		48.44	54.00	5.56	100.0	V	330.0	7
7899.666667	58.74		68.20	9.46	200.0	Н	111.0	7









Radiates Emission from 8GHz to 18GHz



Frequency (MHz)	Peak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Polari zation	Azimuth (deg)	Correct Factor (dB)
1016.333333		41.94	54.00	12.06	200.0	Н	10.0	-10
1283.733333	48.21		68.20	19.99	100.0	Н	123.0	-8
1474.366667		42.44	54.00	11.56	200.0	Н	287.0	-7
1638.166667	52.03		68.20	16.17	200.0	Н	248.0	-6
2564.966667	52.18		68.20	16.02	200.0	V	42.0	-4
2735.766667		42.01	54.00	11.99	100.0	V	285.0	-4
3061.733333	52.22		68.20	15.98	100.0	V	53.0	-3
3995.066667		43.04	54.00	10.96	200.0	V	220.0	-1
4470.133333	53.05		68.20	15.15	200.0	Н	287.0	0
4969.000000		45.36	54.00	8.64	100.0	V	176.0	2
7727.233333		48.54	54.00	5.46	100.0	V	176.0	7
7758.033333	58.51		68.20	9.69	200.0	V	56.0	7







Note: The signal beyond the limit is carrier. Radiates Emission from 1GHz to 8GHz



Radiates Emission from 8GHz to 18GHz



Frequency (MHz)	Peak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Polari zation	Azimuth (deg)	Correct Factor (dB)
1016.800000		40.66	54.00	13.34	200.0	Н	10.0	-10
1257.833333	49.50		68.20	18.70	100.0	Н	261.0	-8
1474.833333		42.23	54.00	11.77	100.0	V	260.0	-7
1638.400000	51.63		68.20	16.57	200.0	V	2.0	-6
2298.033333		41.89	54.00	12.11	200.0	V	246.0	-4
2509.433333	51.53		68.20	16.67	200.0	Н	122.0	-4
3574.133333	52.29		68.20	15.91	200.0	V	1.0	-3
3987.600000		43.16	54.00	10.84	200.0	V	136.0	-1
5173.400000	55.15		68.20	13.05	200.0	V	30.0	2
5374.533333		45.75	54.00	8.25	100.0	Н	335.0	3
7333.133333		51.65	54.00	2.35	100.0	Н	7.0	7
7766.200000	58.82		68.20	9.38	100.0	V	0.0	7









Radiates Emission from 8GHz to 18GHz



Frequency (MHz)	Peak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Polari zation	Azimuth (deg)	Correct Factor (dB)
1016.566667		41.59	54.00	12.41	100.0	Н	66.0	-10
1299.600000	47.57		68.20	20.63	100.0	V	348.0	-8
1474.600000		41.04	54.00	12.96	100.0	V	305.0	-7
1638.400000	52.29		68.20	15.91	200.0	V	264.0	-6
2464.866667	51.94		68.20	16.26	200.0	V	0.0	-4
2716.166667		41.93	54.00	12.07	200.0	V	26.0	-4
3210.366667	52.06		68.20	16.14	200.0	Н	350.0	-3
3999.966667		43.23	54.00	10.77	100.0	Н	2.0	-1
5278.400000	55.26		68.20	12.94	100.0	V	0.0	2
5368.466667		45.61	54.00	8.39	100.0	V	202.0	3
7440.233333		52.72	54.00	1.28	100.0	Н	7.0	7
7988.333333	58.97		68.20	9.23	200.0	Н	258.0	8









Radiates Emission from 8GHz to 18GHz



Frequency (MHz)	Peak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Polari zation	Azimuth (deg)	Correct Factor (dB)
1143.27		49.11	54.00	4.89	100.0	V	24.00	-9
1270.20	46.74		68.20	21.46	100.0	V	24.00	-8
1474.60		42.78	54.00	11.22	100.0	Н	294.00	-7
1638.87	51.27		68.20	16.93	200.0	Н	94.00	-6
2642.90	49.82		68.20	18.38	200.0	V	2.00	-4
2824.20		40.32	54.00	13.68	200.0	V	359.00	-3
3568.77	50.41		68.20	17.79	200.0	Н	329.00	-3
3923.90		41.82	54.00	12.18	200.0	Н	206.00	-2
5272.57	54.22		68.20	13.98	100.0	V	0.00	2
5424.23		44.59	54.00	9.41	200.0	V	171.00	3
7741.70		48.17	54.00	5.83	200.0	V	49.00	7
7843.43	58.26		68.20	9.94	200.0	V	76.00	7

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Note: The signal beyond the limit is carrier. Radiates Emission from 1GHz to 8GHz



Radiates Emission from 8GHz to 18GHz



Frequency (MHz)	Peak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Polari zation	Azimuth (deg)	Correct Factor (dB)
1016.333333		41.07	54.00	12.93	100.0	Н	49.0	-10
1292.366667	47.73		68.20	20.47	100.0	V	348.0	-8
1474.600000		41.36	54.00	12.64	100.0	Н	294.0	-7
1638.633333	51.94		68.20	16.26	100.0	V	348.0	-6
2422.400000	51.74		68.20	16.46	100.0	V	186.0	-4
2490.766667		42.04	54.00	11.96	100.0	V	304.0	-4
3593.733333	52.19		68.20	16.01	200.0	V	79.0	-3
3984.800000		42.86	54.00	11.14	100.0	V	330.0	-1
5196.033333	55.71		68.20	12.49	100.0	Н	36.0	2
5378.500000		45.65	54.00	8.35	200.0	Н	241.0	3
7363.700000		48.73	54.00	5.27	100.0	V	340.0	7
7752.200000	58.47		68.20	9.73	200.0	V	307.0	7





Note: The signal beyond the limit is carrier. Radiates Emission from 1GHz to 8GHz



Radiates Emission from 8GHz to 18GHz



Frequency (MHz)	Peak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Polari zation	Azimuth (deg)	Correct Factor (dB)
1016.566667		41.63	54.00	12.37	200.0	Н	0.0	-10
1274.400000	48.12		68.20	20.08	100.0	Н	0.0	-8
1474.833333		42.73	54.00	11.27	200.0	Н	292.0	-7
1638.866667	51.37		68.20	16.83	200.0	V	267.0	-6
2122.566667	51.72		68.20	16.48	100.0	Н	251.0	-4
2712.900000		41.89	54.00	12.11	200.0	Н	322.0	-4
3344.766667	52.16		68.20	16.04	200.0	Н	99.0	-3
3926.700000		43.04	54.00	10.96	200.0	Н	138.0	-2
5267.900000	55.55		68.20	12.65	200.0	V	306.0	2
5364.733333		45.97	54.00	8.03	200.0	Н	210.0	3
7372.100000		48.33	54.00	5.67	100.0	Н	328.0	7
7765.266667	58.52		68.20	9.68	200.0	V	0.0	7







Note: The signal beyond the limit is carrier. Radiates Emission from 1GHz to 8GHz



Radiates Emission from 8GHz to 18GHz



Frequency (MHz)	Peak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Polari zation	Azimuth (deg)	Correct Factor (dB)
1016.100000		41.26	54.00	12.74	200.0	Н	4.0	-10
1252.000000	47.67		68.20	20.53	200.0	V	240.0	-8
1474.833333		41.10	54.00	12.90	200.0	Н	291.0	-7
1638.866667	51.75		68.20	16.45	200.0	V	0.0	-6
2467.433333	51.79		68.20	16.41	200.0	V	340.0	-4
2780.800000		41.68	54.00	12.32	200.0	V	347.0	-4
3256.333333	52.02		68.20	16.18	200.0	Н	166.0	-3
3961.466667		42.93	54.00	11.07	100.0	Н	358.0	-1
5359.133333		45.89	54.00	8.11	100.0	Н	0.0	3
5632.600000	55.88		68.20	12.32	100.0	V	194.0	3
7719.533333		48.76	54.00	5.24	100.0	V	140.0	7
7922.300000	59.15		68.20	9.05	100.0	V	207.0	7

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Note: The signal beyond the limit is carrier. Radiates Emission from 1GHz to 8GHz



Radiates Emission from 8GHz to 18GHz



Frequency (MHz)	Peak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Polari zation	Azimuth (deg)	Correct Factor (dB)
1016.566667		41.62	54.00	12.38	200.0	Н	28.0	-10
1277.666667	47.56		68.20	20.64	200.0	Н	54.0	-8
1474.833333		41.95	54.00	12.05	200.0	V	258.0	-7
1638.866667	51.77		68.20	16.43	200.0	V	0.0	-6
2549.100000	52.73		68.20	15.47	100.0	V	350.0	-4
2690.733333		42.13	54.00	11.87	100.0	V	0.0	-4
2954.166667	52.06		68.20	16.14	200.0	V	134.0	-3
3996.233333		43.45	54.00	10.55	200.0	V	108.0	-1
4969.000000		45.54	54.00	8.46	200.0	V	205.0	2
5637.033333	55.46		68.20	12.74	100.0	Н	122.0	3
7730.500000		48.84	54.00	5.16	100.0	Н	163.0	7
7898.500000	58.46		68.20	9.74	100.0	Н	0.0	7



During the test, the Radiates Emission from 18GHz to 40GHz was performed in all modes with all channels, 802.11a, Channel 100 are selected as the worst condition. The test data of the worst-case condition was recorded in this report.



Radiates Emission from 18GHz to 26.5GHz



Radiates Emission from 26.5GHz to 40GHz



Frequency (MHz)	Peak (dBuV/m)	Average (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Polari zation	Azimuth (deg)	Correct Factor (dB)
19037.85	49.50		74.00	24.50	100.0	V	57.00	-1
19054.57		39.54	54.00	14.46	100.0	Н	0.00	-1
19421.48		39.59	54.00	14.41	100.0	V	349.00	-1
19449.25	49.18		74.00	24.82	100.0	Н	356.00	-1
20523.37		39.48	54.00	14.52	100.0	V	293.00	0
21117.80	48.70		74.00	25.30	100.0	V	340.00	0
22047.42		39.09	54.00	14.91	100.0	V	48.00	1
22727.98	48.42		74.00	25.58	200.0	Н	268.00	2
24648.13		39.88	54.00	14.12	100.0	Н	104.00	3
24822.67	49.21		74.00	24.79	200.0	V	244.00	3
25366.38		39.99	54.00	14.01	100.0	V	228.00	3
25402.65	49.96		74.00	24.04	100.0	V	358.00	3



5.6. Conducted Emission

Ambient condition

Temperature	Relative humidity	Pressure		
23°C ~25°C	45%~50%	101.5kPa		

Methods of Measurement

The EUT IS placed on a non-metallic table of 80cm height above the horizontal metal reference ground plane. During the test, the EUT was operating in its typical mode. The test method is according to ANSI C63.10.Connect the AC power line of the EUT to the LISN Use EMI receiver to detect the average and Quasi-peak value. RBW is set to 9kHz, VBW is set to 30kHz The measurement result should include both L line and N line.

The test is in transmitting mode.

Test Setup



Note: AC Power source is used to change the voltage 110V/60Hz.

Limits

Frequency	Conducted Limits(dBµV)						
(MHz)	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.							

Measurement Uncertainty

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor k = 1.96, U= 2.69 dB.





Test Results:

Following plots, Blue trace uses the peak detection and Green trace uses the average detection. During the test, the Conducted Emission was performed in all modes with all channels, 802.11a, Channel 100 are selected as the worst condition. The test data of the worst-case condition was recorded in this report.



Frequency (MHz)	QuasiPeak (dBµV)	Average (dBμV)	Limit (dBµV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Filter	Corr. (dB)
0.17	37.55		64.95	27.40	70.0	9.000	L1	ON	21
0.36		13.19	48.69	35.50	70.0	9.000	L1	ON	21
0.45	13.86		56.81	42.95	70.0	9.000	L1	ON	20
0.50		12.43	46.00	33.57	70.0	9.000	L1	ON	20
2.10		14.01	46.00	31.99	70.0	9.000	L1	ON	20
2.11	17.20		56.00	38.80	70.0	9.000	L1	ON	20
4.21		16.19	46.00	29.81	70.0	9.000	L1	ON	19
4.21	16.70		56.00	39.30	70.0	9.000	L1	ON	19
11.57	38.95		60.00	21.05	70.0	9.000	L1	ON	20
11.57		22.51	50.00	27.49	70.0	9.000	L1	ON	20
12.62	35.62		60.00	24.38	70.0	9.000	L1	ON	20
12.62		22.65	50.00	27.35	70.0	9.000	L1	ON	20

Remark: Correct factor=cable loss + LISN factor

L line Conducted Emission from 150 KHz to 30 MHz

RF Test Report



Frequency (MHz)	QuasiPeak (dBµV)	Average (dBμV)	Limit (dBµV)	Margin (dB)	Meas. Time (ms)	Bandwidth (kHz)	Line	Filter	Corr. (dB)
0.18	40.11		64.52	24.41	70.0	9.000	Ν	ON	21
0.36		13.64	48.80	35.16	70.0	9.000	Ν	ON	21
0.37	18.58		58.49	39.91	70.0	9.000	Ν	ON	21
0.51		12.97	46.00	33.03	70.0	9.000	Ν	ON	20
2.10		13.93	46.00	32.07	70.0	9.000	Ν	ON	20
2.10	17.54		56.00	38.46	70.0	9.000	Ν	ON	20
4.21	18.34		56.00	37.66	70.0	9.000	Ν	ON	19
4.21		15.29	46.00	30.71	70.0	9.000	Ν	ON	19
11.57	36.45		60.00	23.55	70.0	9.000	Ν	ON	20
11.57		22.42	50.00	27.58	70.0	9.000	Ν	ON	20
12.62		18.44	50.00	31.56	70.0	9.000	Ν	ON	20
12.62	33.97		60.00	26.03	70.0	9.000	Ν	ON	20

Remark: Correct factor=cable loss + LISN factor

N line Conducted Emission from 150 KHz to 30 MHz



6. Main Test Instruments

Name	Manufacturer	Туре	Serial Number	Calibration Date	Expiration Date
Spectrum Analyzer	R&S	FSV40	100816	2021-05-15	2022-05-14
Thermostat	ESPEC	SU-242	93000506	2021-12-12	2022-12-11
EMI Test Receiver	R&S	ESCI7	100936	2021-12-12	2022-12-11
Loop Antenna	SCHWARZBECK	FMZB1519	1519-047	2020-04-02	2023-04-01
TRILOG Broadband Antenna	SCHWARZBECK	VULB 9163	391	2019-12-16	2022-12-15
Horn Antenna	R&S	HF907	102723	2020-08-11	2023-08-10
Horn Antenna	ETS-Lindgren	3160-09	00102643	2021-10-10	2024-10-09
Horn Antenna	STEATITE	QSH-SL-26 -40-K-15	16779	2019-12-24	2022-12-23
EMI Test Receiver	R&S	ESR	101667	2021-05-16	2022-05-15
LISN	R&S	ENV216	102191	2020-12-13	2022-12-12
Spectrum Analyzer	KEYSIGHT	N9020A	MY54420163	2021-12-12	2022-12-11
Power Sensor	R&S	NRP18S	101955	2021-05-15	2022-05-14
DC power supply	GWINSTEK	GPS-3030 D	GEP882653	2021-05-15	2022-05-14
Software	R&S	EMC32	10.35.10	1	/

******END OF REPORT ******



ANNEX A: The EUT Appearance

The EUT Appearance are submitted separately.


ANNEX B: Test Setup Photos

The Test Setup Photos are submitted separately.