

FCC Test Report

Report No: FCS202008045W02

Issued for

Shenzhen Mediafly Technology CO.,LTD

1F A bldg ,weixing Tech-park 268-3 Baoshi Road Shuitian community Shiyan St Shenzhen China

Product Name:	Tablet PC		
Brand Name:	haovm		
Model Name:	P10		
Series Model:	P8 P101		
FCC ID:	2ASQ8-P10		
Issued By: Flux Compliance Service Laboratory Add: Room 105 Floor Bao hao Technology Building 1 NO.15 Gong ye West Road Hi-Tech Industrial, Song shan lake Dongguan Tel: 769-27280901 Fax:769-27280901 http://www.FCS-lab.com			



TEST RESULT CERTIFICATION

Applicant's Name:	Shenzhen Mediafly Technology CO.,LTD
Address	1F A bldg ,weixing Tech-park 268-3 Baoshi Road Shuitian community Shiyan St Shenzhen China
Manufacture's Name:	Shenzhen Mediafly Technology CO.,LTD
Address	1F A bldg ,weixing Tech-park 268-3 Baoshi Road Shuitian community Shiyan St Shenzhen China
Product Description	
Product Name:	Tablet PC
Model Name:	P10
Model Name: Series Model:	P10 P8 P101

ANSI C63.10-2013 Test Procedure...... KDB 789033 D02 General UNII Test procedures New Rules 02 KDB558074 D01 Meas Guidance v05

This device described above has been tested by Flux Compliance Service Laboratory, the test results show that the equipment under test (EUT) is in compliance with the FCC requirements. And it is applicable only to the tested sample identified in the report.

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Date of Test

Date (s) of performance of tests : 01 Sep. 2020 to 17 Sep. 2020

Date of Issue: 17 Sep. 2020

Test Result Pass

Tested by

Scott shen :

(Scott Shen)

Dukelin

Reviewed by

(Duke Qian)

Approved by

(Kait Chen)

Flux Compliance Service Laboratory

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Revision History

Rev.	Issue Date	Report NO.	Effect Page	Contents
00	17 Sep. 2020 FCS202008045W03		ALL	Initial Issue

 Flux Compliance Service Laboratory

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1. SUMMARY OF TEST RESULTS

Test procedures according to the technical standards:

Standard Section	Test Item	Judgment	Remark
FCC 15.407 (e)	6/26db Bandwidth and 99% Bandwidth	PASS	
FCC 15.407 (a)	Maximum Conducted Output Power	PASS	
FCC 15.407 (a)	Power Spectral Density	PASS	
FCC 15.407 (g)	Frequency Stability Measurement	PASS	
FCC 15.407 (a)	Emissions in restricted frequency	PASS	
FCC 15.209	Emissions in restricted frequency		
FCC 15.205	Danus		
FCC 15.407 (a)			
FCC 15.209	Band Edge Compliance	PASS	
FCC 15.205			
FCC 15.207	Power Line Conducted Emission	PASS	
FCC 15.203	Antenna requirement	PASS	



1.1 TEST FACTORY

Company Name:	Flux Compliance Service Laboratory		
Address:	Room 105 Floor Bao hao Technology Building 1 NO.15 Gong ye West Road Hi-Tech Industrial, Song shan lake Dongguan		
Telephone:	+86-769-27280901		
Fax:	+86-769-27280901		
FCC Test Firm Registration Number: 514908 Designation number: CN0127 A2LA accreditation number: 5545.01			

1.2 MEASUREMENT UNCERTAINTY

The reported uncertainty of measurement $y \pm U$, where expended uncertainty U is based on a standard uncertainty multiplied by a coverage factor of k=2, providing a level of confidence of approximately 95 %.

No.	Item	Uncertainty
1	RF output power, conducted	±0.71dB
2	Unwanted Emissions, conducted	±2.988 dB
3	Conducted Emission (9KHz-150KHz)	±4.13 dB
4	Conducted Emission (150KHz-30MHz)	±4.74 dB
5	All emissions,radiated(<1G) 30MHz-1000MHz	±5.2 dB
6	All emissions, radiated 1GHz -18GHz	±4.66 dB
7	All emissions, radiated 18GHz -40GHz	±4.31 dB



2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF THE EUT

Product Name	Tablet PC
Trade Name	haovm
Model Name	P10
Series Model	P8 P101
Model Difference	The difference between the test sample and other models are that the color is different, and all circurts are the same.
Channel List	Please refer to the Note 2.2.
Operation frequency	IEEE 802.11a/n/ac(HT20): U-NII-1 5150MHz ~5250MHZ U-NII-3 5725MHZ-5850 MHz
Number of channel	5150MHz ~5250MHZ (7CH) 5725MHZ-5850 MHz (8CH)
Modulation:	OFDM
Power supply	DC 5V by adapter
Hardware version number	V1.0
Software version number	V1.0
Sample type	Protable equipment
Connecting I/O Port(s)	Please refer to the User's Manual

Note:

1. For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.





2.

U-NII-1 (5.15-5.25GHz)						
channel Frequency(MHz) channel Frequency(MHz)						
36	5180	38	5190			
40	5200	42	5210			
44	5220	46	5230			
48	5240					

U-NII-3 (5.725-5.85GHz)					
channel Frequency(MHz) channel Frequency(MHz)					
149	5745	151	5755		
153	5765	155	5775		
157	5785	159	5795		
161	5805	165	5825		

3. Table for Filed Antenna

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)	NOTE
1	meidifei	T253A-20M B-200	PIFA antenna	N/A	1.0B dBi	Antenna



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2.2 BLOCK DIGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED

During testing channel & power controlling software provided by the customer was used to control the operating channel as well as the output power level. The RF output power selection is for the setting of RF output power expected by the customer and is going to be fixed on the firmware of the final end product.

Block diagram of EUT configuration for test



Test software: the QA tool-D

The test softeware was used to control EUT work in continuous TX mode, and select test channel, Wireless mode as below table

For 802.11a/n/ac(HT20) U-NII-1

channel	Frequency(MHz)	channel	Frequency(MHz)
36	5180	40	5200
48	5240		

U-NII-3

channel	Frequency(MHz)	channel	Frequency(MHz)
149	5745	157	5785
165	5825		

For 802.11n/ac(HT40)

5							
	channel	channel Frequency(MHz)		Frequency(MHz)			
	38	5190	46	5230			

U-NII-3

channel	Frequency(MHz)	channel	Frequency(MHz)	
151	5755	159	5795	



For 802.11ac(HT80)

U-NII-1

channel	Frequency(MHz)	channel	Frequency(MHz)
42	52 <mark>1</mark> 0		

U-NII-3

channel	Frequency(MHz)	channel	Frequency(MHz)
155	5775		

2.3 DESCRIPTION OF NECESSARY ACCESSORIES AND SUPPORT UNITS

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Necessary accessories

Item	Equipment	Mfr/Brand	Model/Type No.	Serial No.	Note
1	Adapter	HWCS	HWCSV3	NA	This adapter only test for this report.

Support units

ltem	Equipment	Mfr/Brand	Model/Type No.	Serial No.	Note

Note:

- (1) The support equipment was authorized by Declaration of Confirmation.
- (2) For detachable type I/O cable should be specified the length in cm in $\[$ Length $\]$ column.
- (3) "YES" is means "shielded" "with core"; "NO" is means "unshielded" "without core".



2.4 EQUIPMENTS LIST

Radiation Test equipment

Kind of Equipment	Manufacturer	Type No.	Company No.	Last calibration	Calibrated until
EMI Test Receiver	R&S	ESRP 3	FCS-E001	2019.10.09	2020.10.10
Signal Analyzer	R&S	FSV40-N	FCS-E012	2019.10.09	2020.10.10
Active loop Antenna	ZHINAN	ZN30900C	FCS-E013	2019.10.09	2020.10.10
Bilog Antenna	SCHWARZBECK	VULB 9168	FCS-E002	2019.10.26	2020.10.25
Horn Antenna	SCHWARZBECK	BBHA 9120D	FCS-E003	2019.10.03	2020.10.02
SHF-EHF Horn Antenna (18G-40GHz)	A-INFO	LB-180400-KF	FCS-E018	2019.10.09	2020.10.10
Pre-Amplifier(0.1M-3G Hz)	EMCI	EM330N	FCS-E004	2019.05.31	2020.05.30
Pre-Amplifier (1G-18GHz)	N/A	TSAMP-0518SE	FCS-E014	2019.10.03	2020.10.02
Pre-Amplifier (18G-40GHz)	TERA-MW	TRLA-0400	FCS-E019	2019.10.08	2020.10.07
Temperature & Humidity	HTC-1	victor	FCS-E005	2019.10.03	2020.10.02

Conduction Test equipment

Kind of Equipment	Manufacturer	Type No.	Company No.	Last calibration	Calibrated until
EMI Test Receiver	R&S	ESPI	FCS-E020	2019.10.03	2020.10.02
LISN	R&S	ENV216	FCS-E007	2019.10.03	2020.10.02
LISN	ETS	3810/2NM	FCS-E009	2019.10.15	2020.10.14
Temperature & Humidity	HTC-1	victor	FCS-E008	2019.10.03	2020.10.02

RF Connected Test

Kind of Equipment	Manufacturer	Type No.	Company No.	Last calibration	Calibrated until
MXA SIGNAL Analyzer	Keysight	N9020A	FCS-E015	2019.10.02	2020.10.01
Spectrum Analyzer	Agilent	E4447A	MY50180039	2019.11.08	2020.11.07
Spectrum Analyzer	R&S	FSV-40	101499	2019.10.10	2020.10.09

- 3. 26dB Bandwidth, 6dB Bandwidth and 99% Bandwidth
- 3.1 Limit

FCC Part15, Subpart E				
Test Item	Limit	Frequency Range (MHz)		
	26 dB Bandwidth	5150-5250		
Bandwidth	26 dB Bandwidth	5250-5350		
		For FCC:5470-5725		
	26 dB Bandwidth	For IC:5470-5600		
		5650-5725		
	Minimum 500kHz 6dB Bandwidth	5725-5850		

3.2 Test Procedure

(1) Connect EUT's antenna output to spectrum analyzer by RF cable.

Center Frequency	The centre frequency of the channel under test
Detector	Peak
RBW	For 6dB Bandwidth: RBW=100kHz For 26dB Bandwidth: approximately 1% of the emission bandwidth.
VBW	For 6dB Bandwidth: VBW=300kHz For 26dB Bandwidth: >3RBW
Trace	Max hold
Sweep	Auto couple

(2) Allow the trace to stabilize, 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 26dB and 6dB relative to the maximum level measured in the fundamental emission.

3.3 Test setup





3.4 Test results

	Operation	26 di	Bandwidth	(MHz)	99% Bandwidth (MHz)		
Band	mode	Low	Middle	High	Low	Middle	High
U-NII-1	802.11a	21.23	21.08	21.08	16.561	16.557	16.559
	802.11n(HT20)	21.30	21.55	21.38	17.813	17.817	17.758
	802.11n(HT40)	39.55	/	39.36	36.336	/	36.366
	802.11ac(HT20)	21.37	21.40	21.39	17.835	17.812	17.831
	802.11ac(HT40)	40.34	/	39.49	36.521	1	36.507
	802.11ac(HT80)	80.98	/	/	75.731	1	/

_ .	Operation	6 dB Bandwidth (MHz)					
Band	mode	Low	Middle	High			
U-NII-3	802.11a	16.47	16.50	16.49			
	802.11n(HT20)	16.30	15.89	15.09			
	802.11n(HT40)	36.01	1	35.70			
	802.11ac(HT20)	16.30	16.90	15.30			
	802.11ac(HT40)	36.29	/	35.72			
	802.11ac(HT80)	75.04	/	/			

3.5 Original Test Data

(Prototype - Limited Sale Allowed Center Freq: 5.180000000 GHz Trig: Free Run Avg|Hold:>10/10 #Atten: 30 dB Center Freq 5.180000000 GHz Radio Std: None Radio Device: BTS #IFGain:Low Ref Offset 0.5 dB Ref 15.50 dBm Span 30 MHz Sweep 1 ms Center 5.18 GHz #Res BW 220 kHz #VBW 680 kHz Occupied Bandwidth Total Power 17.4 dBm 16.561 MHz Transmit Freq Error 110.43 kHz **OBW Power** 99.00 % x dB Bandwidth 21.23 MHz x dB -26.00 dB Query INTERRUPTED STATUS

U-NII-1 11a Low CH 5180MHZ

U-NII-1 11a Middle CH 5200MHZ





U-NII-1 11a High CH 5240MHZ



U-NII-1 11n(HT20) Low CH 5180MHZ





🗊 Agilent Spectrum Analyze	r - Occupied BW		(Prototype - Lim	ted Sale Allowed)		
LA RE SI	DQ AC	SENSE:INT	ALIGNAUTO			
Center Freg 5.200	0000000 GHz	Center Fre	q: 5.200000000 GHz		Radio Std: No	one
		Trig: Free	Run Avg Ho	ld:>10/10		
	#IFGa	in:Low #Atten: 30	dB		Radio Device	: BTS
, i i i i i i i i i i i i i i i i i i i						
Ref Offs	set 0.5 dB					
10 dB/div Ref 20	.50 dBm					
Log						
10.5						
10.0						
0.500		where is as and the back party	1			
	ALL	the section of the section of the section	A CONTRACT OF A CONTRACT OF A CONTRACT	And the Charles of South States	4	
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					"كور	
-23.5					No.	Add to a so
39 5 may want and					ų ·	ALMAN AND
-49.6						
-59.5						
-69.6						
Cepter 5.2 GHz					Sna	an 30 MHz
WDoo BWL 220 kHz		#1/=	W 600 KH-			
#Res BW 220 KHZ		#VE	SW D8U KHZ		50	eep 1 ms
Occupied Ban	dwidth	Total P	ower 17.3	dBm		
	17.817 N	Hz				
Transmit Freg E	rror 124.42	kHz OBW P	ower 99	.00 %		
x dB Bandwidth	21.55	MHz xdB	-26.	00 dB		
	DTED		STATUS			
Guery INTERROP	100		514105			

U-NII-1 11n(HT20) Middle CH 5200MHZ

U-NII-1 11n(HT20)High CH 5240MHZ





🗊 Agilent Spectrum Analyzer - Occup	ied BW	(rototype - Limited Sale Allowed)	
00 RL RF 500 AC Center Freq 5.1900000	00 GHz #IFGain:Low	SENSE:INT Center Freq: 5.19000 Trig: Free Run #Atten: 30 dB	ALIGNALTO 0000 GHz Avg Hold:>10/10	Radio Std: None Radio Device: BTS
Ref Offset 0.5 d 10 dB/div Ref 20.50 dE	B Im			
10.5 0.500	forge transferration and the group of the gr	Solonanal manage	toni-productional specific terminations	444
-19.50		ц/ 		
-29.5 -39.5				harmon property
-49.6				
Center 5.19 GHz				Span 60 MHz
#Res BW 430 KHZ		#VBW 1.31	#HZ	Sweep 1 ms
Occupied Bandwid	^{ith} 6.336 MHz	Total Power	17.4 dBm	
Transmit Freq Error	134.22 kHz	OBW Power	99.00 %	
x dB Bandwidth	39.55 MHz	x dB	-26.00 dB	
MSG 🔀 Query INTERRUPTED			STATUS	

U-NII-1 11n(HT40) Low CH 5180MHZ

U-NII-1 11n(HT40) Middle CH 5200MHZ





💷 Agilent Spect	rum Analyzer - Occupier	i BW		(Prototype - Limited Sale Allowed)	
Center Fre	RF 500 AC) GHz #IFGain:Low	SENSE:INT Center Freq: 6.2300 Trig: Free Run #Atten: 30 dB	ALIGNAUTO D00000 GHz Avg[Hold:>10/10	Radio Std: None Radio Device: BTS
10 dB/div	Ref Offset 0.5 dB Ref 20.50 dBn	1			
10.5					
1.500	, I.A.	way water a straig an all loge	minimum phases	and all the mail of the selection of a second	100 I
-9.50					N.
-29.5	1 Alle And				h anno marine
-39.5	yLwYYNII WMLAP				an en des Ades
-49.6					
-59.5					
23.5					
Center 5.2 #Res BW 4	3 GHZ 30 kHz		#VBW 1.3	MHz	Span 60 MHz Sweep 1 ms
Occupi	ed Bandwidt	h	Total Power	17.4 dBm	
	36	366 MHz			
Transmi	it Freq Error	139.48 kHz	OBW Power	99.00 %	
x dB Ba	ndwidth	39.36 MHz	x dB	-26.00 dB	
MSG 🔀 Query I	INTERRUPTED			STATUS	

U-NII-1 11n(HT40)High CH 5240MHZ

U-NII-1 ac(HT20) Low CH 5180MHZ





DAgilent Spectrum Analyzer - Occupied	BW	(P	rototype - Limited Sale Allowed)	
Center Freq 5.200000000	GHz #IFGain:Low	SENSE:INT Center Freq: 5.20000 Trig: Free Run #Atten: 30 dB	ALIGNAUTO DOOD GHz Avg Hold:>10/10	Radio Std: None Radio Device: BTS
Ref Offset 0.5 dB 10 dB/div Ref 20.50 dBm				
10.5				
1.500	when an	an war and a second	marine	~
-19.5				N. Long Hurry
29.5				War de
-39.5 ALAMAN CLAR				All de la galancia a la gal
-59.6				
-69.5				
Center 5.2 GHz #Res BW 220 kHz		#VBW 6801	kHz	Span 30 MHz Sweep 1 ms
Occupied Bandwidth	ı	Total Power	15.8 dBm	
17	.812 MHz			
Transmit Freq Error	85.527 kHz	OBW Power	99.00 %	
x dB Bandwidth	21.40 MHz	x dB	-26.00 dB	
MSG 🕄 Query INTERRUPTED			STATUS	

U-NII-1 ac(HT20) Middle CH 5200MHZ

U-NII-1 ac(HT20)High CH 5240MHZ







U-NII-1 ac(HT40) Low CH 5190MHZ

U-NII-1 ac(HT40) High CH 5230MHZ





🗊 Agilent Spectrum Analyzer - Occupied BV	1		(Prototype - Limited Sale Allowed)	
LXI RE SDQ AC		SENSE:INT	ALIGNAUTO	
Center Freq 5.210000000 G	Hz	Center Freq: 5.2100	00000 GHz	Radio Std: None
	#IEGain:Low	#Atten: 30 dB	Arginola. Iono	Radio Device: BTS
	in ouncon			
Ref Offset 0.5 dB 10 dB/div Ref 20.50 dBm				
Log				
10.5				
0.600				
a 50	North-S- AND V N. Hallowand M. M. M.	a Maranaleway particular	where we have a construction of the produced of the second	with
-18.0				
-29.5				
-39.5 and to have a little date of the				"h
-40.5				"War positive Will write
43.0				
-59.6				
-59.5				
Center 5.21 GHz #Res BW 820 kHz		#VBW 2.7	MHz	Span 120 MHz Sweep 1 ms
Occupied Bandwidth		Total Power	14.4 dBm	
	704 MIL-			
/5./	31 WHZ			
Transmit Freq Error	234.61 kHz	OBW Power	99.00 %	
x dB Bandwidth	80.98 MHz	x dB	-26.00 dB	
			STATUS	

U-NII-1 ac(HT80) Low CH 5210MHZ

U-NII-3 11a Low CH 5745MHZ









U-NII-3 11a High CH 5825MHZ





🗊 Agilent Spectrum Analyzer - Occupied BW			(Prototype - Limited Sale Allowed)	
KA RE RE SD & AC		SENSE:INT	ALIGNAUTO	
Center Freq 5.745000000 GHz		Center Freq: 5.745	000000 GHz	Radio Std: None
	#IEGain:Low	#Atten: 30 dB	Avginola.2 lono	Radio Device: BTS
	All Callicow			
Ref Offset 0.5 dB 10 dB/div Ref 20.50 dBm				
Log				
10.5				
1600				
.9.50 Marrie 1	4 road run wh	and the second second	and an and a star and a star and a star	4
		r i i i i i i i i i i i i i i i i i i i		A I
-19.0				JU. W.
-29.5				- ⁻ ~
39.5				West A.
Add and a full and				an per property in a
-49.5				
-59.5				
50.6				
Center 5.745 GHz				Span 30 MHz
#Res BW 220 kHz		#VBW 68	0 kHz	Sweep 1 ms
Occupied Bandwidth		Total Power	13.0 dBm	
17.80	4 MHz			
17.80				
Transmit Freq Error 13	4.92 kHz	OBW Power	99.00 %	
x dB Bandwidth 2	1.26 MHz	x dB	-26.00 dB	
			STATUS	

U-NII-3 11n(HT 20) Low CH 5745MHZ

U-NII-3 11n(HT 20) Middle CH 5785MHZ







U-NII-3 11n(HT 20) High CH 5825MHZ

U-NII-3 11n(HT 40) Low CH 5755MHZ







U-NII-3 11n(HT 40) High CH 5795MHZ

U-NII-3 ac(HT20) Low CH 5745MHZ







U-NII-3 ac(HT20) Middle CH 5785MHZ

U-NII-3 ac(HT20) High CH 5825MHZ







U-NII-3 ac(HT40) Low CH 5755MHZ

U-NII-3 ac(HT40) High CH 5795MHZ











6dB Bandwith test result



U-NII-3 11a Low CH 5745MHZ

U-NII-3 11a Middle CH 5785MHZ





U-NII-3 11a High CH 5825MHZ



U-NII-3 11n(HT20) Low CH 5745MHZ





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📁 Keysight Spectrum Analyzer - Occupied BW				
		SENSE:INT	ALIGN OFF	Dadio Std: None
Center Freq 5.78500000	GHZ	Trig: Free Run	Avg Hold:>10/10	Radio atd. None
	#IFGain:Low	#Atten: 30 dB		Radio Device: BTS
10 dB/div Ref 20.50 dBm				
Log				
10.5				
0.500				
-9.50	when have been have a for	www.websong prevenuent	moundmenters	~
-19.5		Ψ		
-23 5				have been and
-335 - NANAWAN WANT				the work of the second second
19.5				- C (2)-M
-69.5				
-63.5				
Center 5 785 GHz				Spap 30 MHz
#Res BW 100 kHz		#VBW 300 ki	Hz	Sweep 3.733 ms
Occupied Bandwidt	h	Total Power	12.6 dBm	
17	636 MH7			
	.000 10112			
Transmit Freq Error	-16.084 kHz	OBW Power	99.00 %	
v dB Bandwidth	15 80 MHz	x dB	-6.00 dB	
X dB Balldwidth	13.03 MILZ	X UD	-0.00 00	
MSG			STATUS 🐼 Align Now.	All required

U-NII-3 11n(HT20) High CH 5825MHZ





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U-NII-3 11n(HT40) High CH 5795MHZ





🎉 Keysight Spect	trum Analyzer - Occupied BW				- 8 <mark>- 2</mark>		
Center Fre	RF 50Ω AC eq 5.745000000	GHz	SENSE:INT Center Freq: 5.7450000 Trig: Free Run	ALIGN OFF 000 GHz Avg Hold:>10/10	Radio Std: None		
		#IFGain:Low	#Atten: 30 dB		Radio Device: BTS		
10 dB/div	Ref 20.50 dBm						
10.5							
0.500							
-9.60		para tapato	where I wanter and	monor have been and	~		
-19.5	فكسودن				Mrs.		
-295 -295	war had a				and a hard have		
AND AND A					1 Part Mark		
595							
-69.5							
Center 5.745 GHz #Res BW 100 kHz			#VBW 300 kHz		Span 30 MHz Sweep 3.733 ms		
Occupied Bandwidth			Total Power	12.4 dBm			
17.664 MHz							
Transmit Freq Error -2.		-2.800 kHz	OBW Power 99.00				
x dB Bandwidth		16.90 MHz	x dB	-6.00 dB			
мsg Status SAlign Now, All required							

U-NII-3 11ac(HT20) Low CH 5745MHZ

U-NII-3 11ac(HT20) Middle CH 5785MHZ





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U-NII-3 11ac(HT20)	High CH 5	5825MHZ
--------------------	-----------	---------

M Keysight Spectrum Analyzer - Occupied B	W			
K RF 50 Ω AC	0 GHz	SENSE:INT A Center Freq: 5.8250000	ALIGN OFF	Radio Std: None
	#IECaind out	Trig: Free Run #Atten: 30 dB	Avg Hold:>10/10	Radio Device: BTS
	#IFGalh:Low	wetten. oo de		Radio Dence: DTS
10 JDJJU Dof 20 50 dB				
10.5				
1.500				
-9.50	ר איז איז איין איז	winder new low	ويحمدها ويحويهما والمرويين المعاد والمحافظ	Y
-19.5				h.,
-295 adaban Volume				man alow Multime is
-39.5				- Marth Ale
-49.5				
-69.5				
-69.5				
Center 5.825 GHz				Span 30 MHz
#Res BW 100 kHz		#VBW 300 kHz		Sweep 3.733 ms
Occupied Randwid	th	Total Power	13.7 dBm	
A				
1	7.665 MHZ			
Transmit Freg Error -15.976 k		OBW Power	99.00 %	
x dB Bandwidth	15.30 MHz	x dB	-6.00 dB	
			-0100 48	
MSG			STATUS 🔀 Align Now.	All required

U-NII-3 11ac(HT40) Low CH 5755MHZ






U-NII-3 11ac(HT40) High CH 5795MHZ

U-NII-3 11ac(HT80) Low CH 5775MHZ





4 CONDUCTED OUTPUT POWER

4.1 limit

FCC Part15, Subpart E/ RSS-247				
Test Item	Limit Frequency Ran (MHz)			
Conducted Output Power	For FCC client devices: 250mW (24dBm)	5150-5250		
	For RSS: e.i.r.p. power: not exceed 200 mW(23dBm) or 10 + 10 log10 B			
	250mW (24dBm) or 11 + 10 log10 B	5250-5350		
	250mW (24dBm) or 11 + 10 log10 B	For FCC:5470-5725 For IC:5470-5600 5650-5725		
	1 Watt (30dBm)	5725-5850		
Note: For ISED: B	3=99% bandwidth.			

4.2 test procedure

- a. Connect each EUT's antenna output to power meter by RF cable and attenuator
- b. Get each antenna port's output power of EUT.

4.3 TEST SETUP





4.4 test results

Band	Operation mode	Conducted Output Power (dBm)			
Band		Low	Middle	High	
	802.11a	17.75	18.11	18.51	
	802.11n(HT20)	16.31	16.99	16.81	
	802.11n(HT40)	16.65	/	17.18	
U-NII-1	802.11ac(HT20)	15.95	16.17	15.85	
	802.11ac(HT40)	14.69	/	13.97	
	802.11ac(HT80)	14.30	/	/	
	802.11a	15.59	14.51	15.94	
	802.11n(HT20)	13.57	12.73	13.57	
11 NIL 2	802.11n(HT40)	13.17	/	13.86	
U-NII-3	802.11ac(HT20)	12.46	13.37	13.59	
	802.11ac(HT40)	10.32	/	10.94	
	802.11ac(HT80)	10.50	/	/	



5. POWER SPECTRAL DENSITY

5.1 LIMIT

FCC Part15, Subpart E/ RSS-247				
Test Item	Limit Frequency Range (MHz)			
Power Spectral Density	For FCC: Other than Mobile and portable:17dBm/MHz Mobile and portable:11dBm/MHz	5150-5250		
	For RSS eirp:10dBm/MHz			
	11dBm/MHz	5250-5350		
	11dBm/MHz	For FCC:5470-5725 For IC:5470-5600 5650-5725		
	30dBm/500kHz	5725-5850		

5.2 TEST PROCEDURE

The transmitter output was connected to a spectrum analyzer. Power density was measured by spectrum analyzer with 1MHz RBW and 3MHz VBW.

Connect the UUT to the spectrum analyser and use the following settings:

5725MHz-5850MHz

Center Frequency	The centre frequency of the channel under test
Detector	RMS
RBW	500kHz
VBW	≥3 × RBW
Span	Encompass the entire emissions bandwidth (EBW) of the signal
Trace	Max hold
Sweep time	Auto

Note:

1. For UNII-3, according to KDB publication 789033 D02 General UNII Test Procedures New Rules v01, section II.F.5., it is acceptable to set RBW at 1MHz and VBW at 3MHz if the spectrum analyzer does not have 500kHz RBW.

2. The value measured with RBW=1MHz is to be added with 10log(500kHz/1MHz) which is - 3dB. For example, if the measured value is +10dBm using RBW=1MHz (that is +10dBm/MHz), then the converted value will be +7dBm/500kHz.

Allow trace to fully stabilize and use the peak marker function to determine the maximum amplitude level within the RBW.



5.3 TEST SETUP



5.4 TEST RESULTS

Pand	Operation mode	Power Spectral Density (dBm/MHz)		
Band	Operation mode	Low	Middle	High
	802.11a	8.352	8.970	9.449
U-NII-1	802.11n(HT20)	7.247	8.185	7.687
	802.11n(HT40)	5.212	/	5.673
	802.11ac(HT20)	6.814	7.083	7.317
	802.11ac(HT40)	2.960	/	2.590
	802.11ac(HT80)	-0.037	/	/
	Limit		≤11.00dBm/MHz	

Pand	Operation mode	Power Spectral Density (dBm/MHz)		
Ballu	Operation mode	Low	Middle	High
	802.11a	5.476	5.550	6.217
U-NII-3	802.11n(HT20)	4.276	4.111	4.670
	802.11n(HT40)	2.555	/	2.129
	802.11ac(HT20)	3.929	3.574	4.600
	802.11ac(HT40)	-1.742	/	-0.663
	802.11ac(HT80)	-4.221	1	/
	Limit		≤11.00dBm/MHz	

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5.5 original test data

(Prototype - Limited Sale Allowed) m Analyzer - Swept SA 5.181800000000 GHz Avg Type: Log-Pwr Avg Hold:>100/100 Marker PNO: Fast Trig: Free Run IFGain:Low #Atten: 30 dB Mkr1 5.181 80 GHz 8.352 dBm Ref Offset 0.5 dB Ref 20.50 dBm 1 Dun Marada Center 5.18000 GHz #Res BW 1.0 MHz Span 30.00 MHz Sweep 1.00 ms (1001 pts)

U-NII-1 802.11a Low CH

U-NII-1 802.11a Middle CH

#VBW 3.0 MHz

Query INTERRUPTED





U-NII-1 802.11a High CH



U-NII-1 802.11n(HT20) Low CH





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U-NII-1 802.11n(HT20) Middle CH

U-NII-1 802.11n(HT20) High CH





a RL Avg Type: Log-Pwr Avg|Hold>100/100 Marker 1 5.197920000000 GHz TRACE TYPE DET PNO: Fast Trig: Free Run IFGain:Low #Atten: 30 dB Mkr1 5.197 92 GH: 5.212 dBn Ref Offset 0.5 dB Ref 20.50 dBm i0 dB/div ٥ NH-M\MM unal. La Wala Landa und which the YANA YA anter for the former Center 5.19000 GHz #Res BW 1.0 MHz Span 60.00 MHz #Sweep 1.00 ms (1001 pts) #VBW 3.0 MHz STATUS

U-NII-1 802.11n(HT40) Low CH

U-NII-1 802.11n(HT40) High CH















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U-NII-1 802.11ac(HT40) Low CH







U-NII-1 802.11ac(HT40) High CH

U-NII-1 802.11ac(HT80) Low CH









U-NII-3 802.11a Middle CH









U-NII-3 802.11n(HT20) Low CH





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U-NII-3 802.11n(HT20) Middle CH

U-NII-3 802.11n(HT20) High CH









U-NII-3 802.11n(HT40) Low CH

U-NII-3 802.11n(HT40) High CH





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U-NII-3 802.11ac(HT20) Middle CH





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U-NII-3 802.11ac(HT20) High CH

U-NII-3 802.11ac(HT40) Low CH





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U-NII-3 802.11ac(HT40) High CH

U-NII-3 802.11ac(H840) Low CH





6. FREQUENCY STABILITY MEASUREMENT

6.1 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 user's manual

6.2 TEST PROCEDURE

- (1) To ensure emission at the band edge is maintained within the authorized band, those values shall be measured by radiation emissions at upper and lower frequency points, and finally compensated by frequency deviation as procedures below.
- (2) The EUT was operated at the maximum output power, and connected to the spectrum analyzer, which is set to maximum hold function and peak detector. The peak value of the power envelope was measured and noted. The upper and lower frequency points were respectively measured relatively 10dB lower than the measured peak value.
- (3) The frequency deviation was calculated by adding the upper frequency point and the lower frequency point divided by two. Those detailed values of frequency deviation are provided in table below.

6.3 TEST SETUP





6.4 TEST RESULTS

U-NII-1 Test Frequency:5180MHz				
Temperature (℃)	Power Supply (Frequency Error (Hz)	Frequency Error (ppm)	Limit (ppm)
50		/	/	/
45		1807	2.1599	20
30		1800	2.1516	20
20	5V	1806	2.1587	20
10		1800	2.1516	20
0		1803	2.1552	20
-10		1800	2. <mark>1</mark> 516	20
-15		1809	2.1623	20
-30		/	/	/
20	4.5V	1810	2.1635	20
20	5.5V	1798	2.1492	20

U-NII-3 Test Frequency:5785MHz				
Temperature (℃)	Power Supply (DC)	Frequency Error (Hz)	Frequency Error (ppm)	Limit (ppm)
50		/	/	/
45		1919	2.2938	20
30		1911	2.2842	20
20		1915	2.2890	20
10	5V	1923	2.2986	20
0		1907	2.2795	20
-10		1908	2.2807	20
-15		1914	2.2878	20
-30		/	/	/
20	4.5V	1918	2.2926	20
20	5.5V	1906	2.2783	20

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 Fax:769-27280901

 http://www.FCS-lab.com



7. Band edge

7.1 LIMIT

For transmitters operating in the 5.15-5.25 GHz and 5.725-5.85G band: all emissions outside of the 5.15-5.35 GHz band shall not exceed an EIRP of -27 dBm/MHz.

-27 dBm/MHz Limit=95.2+EIRP[dBm]=95.2-27=68.2 dBµV/m

7.2 TEST PROCEDURE

(1) EUT height should be 0.8m for below 1GHz at a semi anechoic chamber while EUT height should be 1.5m for above 1GHz at full chamber or semi anechoic chamber ground with absorbers

(2) Test antenna was located 3m from the EUT on an adjustable mast, and the antenna used as below table.

Test frequency range	Test antenna used	Test distance
9kHz-30MHz	Active Loop antenna	3m
30MHz-1GHz	Trilog Broadband Antenna	3m
1GHz-18GHz	Double Ridged Horn Antenna(1GHz-18GHz)	3m
18GHz-40GHz	Horn Antenna(18GHz-40GHz)	1m

According ANSI C63.10:2013 clause 6.4.4.2 and 6,5.3, for measurements below 30 MHz, the loop antenna was positioned with its plane vertical from the EUT and rotated about its vertical axis for maximum response at each azimuth position around the EUT. And the loop antenna also be positioned with its plane horizontal at the specified distance from the EUT. The center of the loop is 1 m above the ground. for measurement above 30MHz, the Trilog Broadband Antenna or Horn Antenna was located 3m from EUT, Measurements were made with the antenna positioned in both the horizontal and vertical planes of Polarization, and the measurement antenna was varied from 1 m to 4 m. in height above the reference ground plane to obtain the maximum signal strength.

(4) Below pre-scan procedure was first performed in order to find prominent frequency spectrum radiated emissions from 9kHz to 40GHz:

(a) Scanning the peak frequency spectrum with the antenna specified in step (3), and the EUT was rotated 360 degree, the antenna height was varied from 1m to 4m (Except loop antenna, it's fixed 1m above ground.)



(b) Change work frequency or channel of device if practicable.

(c) Change modulation type of device if practicable.

(d) Change power supply range from 85% to 115% of the rated supply voltage

(e) Rotated EUT though three orthogonal axes to determine the attitude of EUT arrangement produces highest emissions.

Spectrum frequency from 9kHz to 40GHz (tenth harmonic of fundamental frequency) was investigated, and no any obvious emission were detected from 9kHz to 30MHz and 18GHz to 40GHz, so below final test was performed with frequency range from 30MHz to 18GHz.

(6) The emissions from 9kHz to 1GHz were measured based on CISPR QP detector except for the frequency bands 9-90kHz, 110-490kHz, for emissions from 9kHz-90kHz,110kHz-490kHz and above 1GHz were measured based on average detector, for emissions above 1GHz, peak emissions also be measured and need comply with Peak limit

(7) The emissions from 9kHz to 1GHz, QP or average values were measured with EMI receiver with below RBW

Frequency band	RBW
9kHz-150kHz	200Hz
150kHz-30MHz	9kHz
30MHz-1GHz	120kHz

(8) For emissions above 1GHz, both Peak and Average level were measured with Spectrum Analyzer, and the RBW is set at 1MHz, VBW is set at 3MHz, Peak detector for Peak measure, RMS detector for AV value

7.3 TEST SETUP



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7.5 TEST RESULTS

7.5 Original test data



U-NII-1 802.11a left side

U-NII-1 802.11a Righ side



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U-NII-3 802.11a left side



U-NII-3 802.11a right side





U-NII-1 802.11n(HT20) left side

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U-NII-1 802.11n(HT20) Right side





U-NII-3 802.11n(HT20) left side



U-NII-3 802.11n(HT20) Right side





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U-NII-1 802.11n(HT40) left side



U-NII-1 802.11n(HT40) Right side





U-NII-3 802.11n(HT40) left side

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U-NII-3 802.11n(HT40) Right side





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U-NII-1 802.11ac(HT20) left side



U-NII-1 802.11ac(HT20) Right side





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U-NII-3 802.11ac(HT20) left side



U-NII-3 802.11ac(HT20) Right side





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U-NII-1 802.11ac(HT40) left side



U-NII-1 802.11ac(HT40) Right side





U-NII-3 802.11ac(HT40) left side

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U-NII-3 802.11ac(HT40) Right side





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U-NII-1 802.11ac(HT80) left side



U-NII-1 802.11ac(HT80) Right side



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U-NII-3 802.11ac(HT80) Right side





8. Duty Cycle

8.1 TEST REQUIREMENT47 CFR Part 15C 15.407 and 789033 D02 General UNII TestProcedures New Rules v02r01(December 14, 2017), Section (B)ANSI C63.10: 2013

8.2 TEST PROCEDURE

(1) Connect EUT's antenna output to spectrum analyzer by RF cable.

7.3 TEST SETUP




8.4 TEST RESULTS

802.11a mode						
channel	On time(ms)	Period(ms)	Duty Cycle(%)			
36	100	100	100			
52	100	100	100			
149	100	100	100			
	802.11n(H	T20) mode				
channel	On time(ms)	Period(ms)	Duty Cycle(%)			
36	100	100	100			
52	100	100	100			
149	100	100	100			
	802.11n(H	T40) mode				
channel	On time(ms)	Period(ms)	Duty Cycle(%)			
38	100	100	100			
54	100	100	100			
151	100	100	100			
	802.11ac(H	T20) mode				
channel	On time(ms)	Period(ms)	Duty Cycle(%)			
36	100	100	100			
52	100	100	100			
149	100	100	100			
	802.11ac(F	IT40) mode				
channel	On time(ms)	Period(ms)	Duty Cycle(%)			
38	100	100	100			
54	100	100	100			
151	100	100	100			
	802.11ac(H	T80) mode				
channel	On time(ms)	Period(ms)	Duty Cycle(%)			
42	100	100	100			
58	100	100	100			
155	100	100	100			

9 RADIATED EMISSION MEASUREMENT

9.1 RADIATED EMISSION LIMITS

In any 100 kHz bandwidth outside the operating frequency band. In case the emission fall within the Restricted band specified on Part15.205(a)&209(a) limit in the table and according to ANSI C63.10-2013 below has to be followed

LIMITS OF RADIATED EMISSION MEASUREMENT (0.009MHz - 1000MHz)

Frequencies	Field Strength	Measurement Distance
(MHz)	(micorvolts/meter)	(meters)
0.009~0.490	2400/F(KHz)	300
0.490~1.705	24000/F(KHz)	30
1.705~30.0	30	30
30~88	100	3
88~216	150	3
216~960	200	3
Above 960	500	3

For Radiated Emission

Spectrum Parameter	Setting		
Attenuation	Auto		
Detector	Peak/AV		
Start Frequency	1000 MHz(Peak/AV)		
Stop Frequency	10th carrier hamonic(Peak/AV)		
RB / VB (emission in restricted			
band)	PR = IWIDZ / IWIDZ, AV = IWIDZ / IU DZ		



9.2 TEST PROCEDURE

- a. The measuring distance of at 3 m shall be used for measurements at frequency 0.009MHz up to 1GHz,and above 1GHz.
- b. The EUT was placed on the top of a rotating table 0.8 meters (above 1GHz is 1.5 m) above the ground at a 3 meter anechoic chamber test site. The table was rotated 360 degrees to determine the position of the highest radiation.
- c. The height of the equipment shall be 0.8 m(above 1GHz is 1.5 m); the height of the test antenna shall vary between 1 m to 4 m. horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. The initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then QuasiPeak detector mode re-measured.
- e. If the Peak Mode measured value compliance with and lower than Quasi Peak Mode Limit, the EUT shall be deemed to meet QP Limits and then no additional QP Mode measurement performed.
- f. For the actual test configuration, please refer to the related Item –EUT Test Photos. Note:

Both horizontal and vertical antenna polarities were tested

and performed pretest to three orthogonal axis. The worst case emissions were reported



9.3 TESTSETUP

(A) Radiated Emission Test-Up Frequency Below 30MHz



(B) Radiated Emission Test-Up Frequency 30MHz~1GHz





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9.4. TEST RESULTS

(9KHz-30MHz)

Temperature:	22.7℃	Relative Humidity:	61%
Test Voltage:	DC 5V	Test Mode:	/

Frequency	Measurement results dBµV @3m	Detector PK/QP	Correct factor dB/m	Extrapolatio n factor dB	Measurement results (calculated) dBµV/m @30m	Limits dBµV/m @30m	Margin dB
(MHz)	Measurement results	Detector	Correct factor	Extrapolatio n factor	Measurement results (calculated)	Limits	Margin
		U	-NII-1:802.1	1a 5180MHz			
6.021	25.34	QP	21.84	40.00	7.18	29.54	-22.36
15.730	25.36	QP	21.35	40.00	6.71	29.54	-22.83
25.680	25.18	QP	20.67	40.00	5.85	29.54	-23.69
		1-U	NII-1:802.11	n20 5180MHz			
6.021	25.30	QP	21.84	40.00	7.14	29.54	-22.40
15.730	25.12	QP	21.35	40.00	6.47	29.54	-23.07
25.680	25.34	QP	20.67	40.00	6.01	29.54	-23.53
		U-N	II-1:802.11a	c 20 5180MHz			
6.021	25.52	QP	21.84	40.00	7.36	29.54	-22.18
15.730	24.85	QP	21.35	40.00	6.20	29.54	-23.34
25.680	25.16	QP	20.67	40.00	5.83	29.54	-23.71
		1-U	NII-1:802.11	n40 5190MHz			
6.021	25.63	QP	21.84	40.00	7.47	29.54	-22.07
15.730	24.87	QP	21.35	40.00	6.22	29.54	-23.32
25.680	24.96	QP	20.67	40.00	5.63	29.54	-23.91
		U-N	III-1:802.11a	ac40 5190MHz			
6.021	25.61	QP	21.84	40.00	7.45	29.54	- <mark>22.0</mark> 9
15.730	25.20	QP	21.35	40.00	6.55	29.54	-22.99
25.680	24.97	QP	20.67	40.00	5.64	29.54	-23.90
		U-N	III-1:802.11a	ac80 5210MHz	1		
6.021	25.10	QP	21.84	40.00	6.94	29.54	-22.60
15.730	24.52	QP	21.35	40.00	5.87	29.54	-23.67
25.680	24.65	QP	20.67	40.00	5.32	29.54	-24.22



Ī					7		
Frequency	Measurement results dBµV @3m	Detector PK/QP	Correct factor dB/m	Extrapolatio n factor dB	Measurement results (calculated) dBµV/m @30m	Limits dBµV/m @30m	Margin dB
(MHz)	Measurement results	Detector	Correct factor	Extrapolatio n factor	Measurement results (calculated)	Limits	Margin
		U	-NII-3 802.1	1a 5745MHz			
6.021	24.57	QP	21.84	40.00	6.41	29.54	-23.13
15.730	25.15	QP	21.35	40.00	6.50	29.54	-23.04
25.680	25.69	QP	20.67	40.00	6.36	29.54	-23.18
		1-U	NII-3 802.11	n20 5745MHz			
6.021	24.58	QP	21.84	40.00	6.42	29.54	-23.12
15.730	25.43	QP	21.35	40.00	6.78	29.54	-22.76
25.680	24.25	QP	20.67	40.00	4.92	29.54	-24.62
		U-	NII-3 802.11	lac 5745MHz			
6.021	24.17	QP	21.84	40.00	6.01	29.54	-23.53
15.730	25.34	QP	21.35	40.00	6.69	29.54	-22.85
25.680	24.38	QP	20.67	40.00	5.05	29.54	-24.49
		1-U	NII-3 802.11	n40 5755MHz			
6.021	24.50	QP	21.84	40.00	6.34	29.54	-23.20
15.730	24.64	QP	21.35	40.00	5.99	29.54	-23.55
25.680	24.36	QP	20.67	40.00	5.03	29.54	-24.51
		U-N	III-3 802.11a	ac40 5755MHz			
6.021	25.28	QP	21.84	40.00	7.12	29.54	-22.42
15.730	24.37	QP	21.35	40.00	5.72	29.54	-23.82
25.680	24.19	QP	20.67	40.00	4.86	29.54	-24.68
,		U-N	III-3 802.11a	ac80 5775MHz			
6.021	25.13	QP	21.84	40.00	6.97	29.54	-22.57
15.730	24.57	QP	21.35	40.00	5.92	29.54	-23.62
25.680	25.16	QP	20.67	40.00	5.83	29.54	-23.71

Note:

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The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

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Froquency	Receiver		Turn	RX Antenna		Corrected	Corrocted	15.407/209/205	
riequency	Reading	Delector	Angle	Height	Polar	Factor	Amplitude	Limit	Margin
(MHz)	(dBµV)	(PK/QP/Ave)	Degree	(m)	(H/V)	(dB)	(dBµV/m)	(dBµV/m)	(dB)
		802	2.11a U-N	II-1 Low	Channe	I 5180MHz			
223.45	39.99	QP	242	1.2	н	-11.62	28.37	46.00	-17.63
223.45	35.21	QP	57	1.3	v	-11.62	23.59	46.00	-22.41
4500.37	49.00	РК	109	1.8	н	-2.03	46.97	74.00	-27.03
4500.37	45.66	Ave	109	1.8	н	-2.03	43.63	54.00	-10.37
10360.00	41.87	PK	359	1.3	н	5.33	47.20	74.00	-26.80
10360.00	36.00	Ave	359	1.3	н	5.33	41.33	54.00	-12.67
		802.	11a U-NII	-1 Middle	channe	el 5200MHz			
223.45	40.79	QP	286	1.2	н	-11.62	29.17	46.00	-16.83
223.45	34.59	QP	164	1.2	v	-11.62	22.97	46.00	-23.03
4531.52	50.05	PK	246	1.8	н	-1.94	48.11	74.00	-25.89
4531.52	44.98	Ave	246	1.8	н	-1.94	43.04	54.00	-10.96
10400.00	42.05	PK	110	1.6	Н	5.21	47.26	74.00	-26.74
10400.00	36.17	Ave	110	1.6	Н	5.21	41.38	54.00	-12.62
		802	.11a U-NI	I-1 High	channel	5240MHz			
223.45	39.33	QP	308	1.5	н	-11.62	27.71	46.00	-18.29
223.45	35.16	QP	48	1.8	v	-11.62	23.54	46.00	-22.46
4502.74	49.98	PK	298	1.7	Н	-2.24	47.74	74.00	-26.26
4502.74	43.84	Ave	298	1.7	Н	-2.24	41.60	54.00	-12.40
10480.00	42.03	PK	118	1.4	Н	5.14	47.17	74.00	-26.83
10480.00	35.42	Ave	118	1.4	н	5.14	40.56	54.00	-13.44

(30MHz~40GHz) Restricted band and Spurious emission Requirements



F	Receiver	Detector	Turn	RX An	tenna	Corrected	Generated	FCC I 15.407/2	Part 09/205
Frequency	Reading	Detector	Angle	Height	Polar	Factor	Amplitude	Limit	Margin
(MHz)	(dBµV)	(PK/QP/Ave)	Degree	(m)	(H/V)	(dB)	(dBµV/m)	(dBµV/m)	(dB)
		802	.11a U-NI	I-3 Low (Channel	5745MHz			
223.45	39.11	QP	339	1.4	Н	-11.62	27.49	46.00	-18.51
223.45	33.84	QP	97	2.0	v	-11.62	22.22	46.00	-23.78
4504.10	49.22	PK	114	1.3	н	-2.06	47.16	74.00	-26.84
4504.10	44.02	Ave	114	1.3	Н	-2.06	41.96	54.00	-12.04
11490.00	43.05	PK	327	1.5	н	5.93	48.98	74.00	-25.02
11490.00	37.22	Ave	327	1.5	н	5.93	43.15	54.00	-10.85
		802.	11a U-NII	-3 Middle	channe	l 5785MHz			
223.45	37.86	QP	197	1.2	Н	-11.62	26.24	46.00	-19.76
223.45	33.33	QP	359	1.1	v	-11.62	21.71	46.00	-24.29
4505.68	49.64	PK	301	1.1	н	-2.03	47.61	74.00	-26.39
4505.68	44.19	Ave	301	1.1	н	-2.03	42.16	54.00	-11.84
11570.00	42.39	PK	67	1.2	н	5.81	48.20	74.00	-25.80
11570.00	37.03	Ave	67	1.2	Н	5.81	42.84	54.00	-11.16
		802	.11a U-NI	I-3 High	channel	5825MHz			
223.45	36.43	QP	134	1.3	н	-11.62	24.81	46.00	-21.19
223.45	33.58	QP	238	1.1	v	-11.62	21.96	46.00	-24.04
4506.47	49.90	PK	27	1.2	н	-1.84	48.06	74.00	-25.94
4506.47	45.26	Ave	27	1.2	Н	-1.84	43.42	54.00	-10.58
11650.00	40.65	PK	188	1.5	Н	5.84	46.49	74.00	-27.51
11650.00	36.39	Ave	188	1.5	н	5.84	42.23	54.00	-11.77

Note:

All model are tested. Only show worst data on report.

10 CONDUCTED EMISSION TEST

10.1.1 POWER LINE CONDUCTED EMISSION LIMITS

Operating frequency band. In case the emission fall within the restricted band specified on Part 207(a) limit in the table below has to be followed.



	Conducted Emissionlimit (dBuV)			
FREQUENCT (MINZ)	Quasi-peak	Average		
0.15 -0.5	66 - 56 *	56 - 46 *		
0.50 -5.0	56.00	46.00		
5.0 -30.0	60.00	50.00		

Note:

(1) The tighter limit applies at the band edges.

(2) The limit of " * " marked band means the limitation decreases linearly with the logarithm of the frequency in the range.

The following table is the setting of the receiver

Receiver Parameters	Setting
Attenuation	10 dB
Start Frequency	0.15 MHz
Stop Frequency	30 MHz
IF Bandwidth	9 kHz



10.2 TEST PROCEDURE

- a. The EUT was 0.8 meters from the horizontal ground plane and 0.4 meters from the vertical ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipments powered from additional LISN(s). The LISN provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.
- b. Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.
- c. I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
- d. LISN at least 80 cm from nearest part of EUT chassis.
- e. For the actual test configuration, please refer to the related Item -EUT Test Photos.

10.3 TEST SETUP



Note: 1.Support units were connected to second LISN. 2.Both of LISNs (AMN) are 80 cm from EUT and at least 80 from other units and other metal planes

10.4 TEST RESULT

Temperature:	22.1 ℃	Relative Humidity:	56%
Test Voltage:	120V/60HZ	Phase:	L/N
Test Mode:	ON		

Flux Compliance Service Laboratory Room 105 Floor Bao hao Technology Building 1 NO.15 Gong ye West Road Hi-Tech Industrial, Song shan lake Dongguan Tel: 769-27280901 Fax:769-27280901 http://www.FCS-lab.com



L-line



MEASUREMENT RESULT:

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	ΡE
0.285000 0.685000 1.245000 2.640000 5.450000	40.10 32.50 31.70 29.80 18.90	10.6 10.8 10.9 11.0 11.2	60.7 56 56 56 60	20.6 23.5 24.3 26.2 41.1	QP QP QP QP QP	L1 L1 L1 L1 L1	GND GND GND GND GND
30.000000	29.80	11.5	60	30.2	QP	Ll	GND

MEASUREMENT RESULT:

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.290000	37.10	10.6	50.5	13.4	AV	Ll	GND
0.685000	30.00	10.8	46	16.0	AV	Ll	GND
1.240000	23.00	10.9	46	23.0	AV	Ll	GND
3.300000	23.60	11.1	46	22.4	AV	L1	GND
5.180000	13.70	11.2	50	36.3	AV	Ll	GND
30.000000	25.60	11.5	50	24.4	AV	Ll	GND

N-line



MEASUREMENT RESULT:

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.765000	31.00	10.8	56	25.0	QP	N	GND
1.160000	34.00	10.9	56	22.0	QP	N	GND
1.675000	32.70	10.9	56	23.3	QP	N	GND
2,800000	32.20	11.0	56	23.8	QP	N	GND
5.210000	20.20	11.2	60	39.8	QP	N	GND
30.000000	33.30	11.5	60	26.7	QP	N	GND

MEASUREMENT RESULT:

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line	PE
0.645000	29.80	10.8	48	16.2	AV	N	GND
1.120000	18.80	10.9	46	27.2	AV	N	GND
1.675000	22.80	10.9	46	23.2	AV	N	GND
3.360000	22.50	11.1	46	23.5	AV	N	GND
5.410000	16.50	11.2	50	33.5	AV	N	GND
30.000000	24.60	11.5	50	25.4	AV	N	GND



11. ANTENNA REQUIREMENT

11.1 STANDARD REQUIREMENT

For intentional device, according to FCC 47 CFR Section 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. And according to FCC 47 CFR Section 15.247 (b), if transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

11.2 RESULT

The antennas used for this product are PIFA antenna and other than that furnished by the responsible party shall be used with the device, the maximum peak gain of the transmit antenna is 1.5.dBi.

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