

FCC Test Report

Report No.: AGC09264210101FE05

FCC ID : 2ARPE-SAC

APPLICATION PURPOSE : Original Equipment

PRODUCT DESIGNATION: Smart Ambiance Lamp With Alarm Clock

BRAND NAME : N/A

MODEL NAME : SAC, SAC-001, SAC-002, SAC-003, SAC-004

APPLICANT : Shenzhen Juku Intelligent Technology Co., Ltd.

DATE OF ISSUE : Jan. 27, 2021

STANDARD(S)

TEST PROCEDURE(S)

: FCC Part 15.247

REPORT VERSION: V1.0

Attestation of Global Compliance (Shenzhen) Co., Ltd



Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the "Bedicated Postuo/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written authorization of AGE. The test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15days after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc~cert.com.



Page 2 of 93

EPORT REVISE RECORD

Report Version	Revise Time	Issued Date	Valid Version	Notes	
V1.0	1	Jan. 27, 2021	Valid	Initial Release	

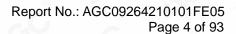
Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the Bedicated Festing/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the writter appropriate of the test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day after the issued of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.



TABLE OF CONTENTS

1. VERIFICATION OF CONFORMITY	5
2. GENERAL INFORMATION	6
2.1. PRODUCT DESCRIPTION	6
2.2. TABLE OF CARRIER FREQUENCYS	
2.3. IEEE 802.11N MODULATION SCHEME	7
2.4. RELATED SUBMITTAL(S) / GRANT (S)	7
2.5. TEST METHODOLOGY	
2.6. SPECIAL ACCESSORIES	7
2.7. EQUIPMENT MODIFICATIONS	7
2.8. ANTENNA REQUIREMENT	8
3. MEASUREMENT UNCERTAINTY	g
4. DESCRIPTION OF TEST MODES	10
5. SYSTEM TEST CONFIGURATION	11
5.1. CONFIGURATION OF EUT SYSTEM	11
5.2. EQUIPMENT USED IN EUT SYSTEM	11
5.3. SUMMARY OF TEST RESULTS	11
6. TEST FACILITY	12
7. OUTPUT POWER	13
7.1. MEASUREMENT PROCEDURE	13
7.2. TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION)	
7.3. LIMITS AND MEASUREMENT RESULT	14
8. 6 DB BANDWIDTH	
8. 6 DB BANDWIDTH	16
8.1. MEASUREMENT PROCEDURE	16
8.2. TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION)	
8.3. LIMITS AND MEASUREMENT RESULTS	
9. CONDUCTED SPURIOUS EMISSION	25

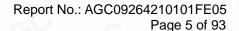
Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the specificated restriction. Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the writter authorization of AGC. The test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day after the issuence of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.





9.1. MEASUREMENT PROCEDURE	25
9.2. TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION)	25
9.3. MEASUREMENT EQUIPMENT USEDJN	25
9.4. LIMITS AND MEASUREMENT RESULT	25
10. MAXIMUM CONDUCTED OUTPUT POWER SPECTRAL DENSITY	42
10.1 MEASUREMENT PROCEDURE	42
10.2 TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION)	
10.3 MEASUREMENT EQUIPMENT USED	
10.4 LIMITS AND MEASUREMENT RESULT	42
11. RADIATED EMISSION	50
11.1. MEASUREMENT PROCEDURE	50
11.2. TEST SETUP	51
11.3. LIMITS AND MEASUREMENT RESULT	52
11.4. TEST RESULT	52
12. BAND EDGE EMISSION	
12.1. MEASUREMENT PROCEDURE	58
12.2. TEST SET-UP	58
12.3. TEST RESULT	59
13. FCC LINE CONDUCTED EMISSION TEST	75
13.1. LIMITS OF LINE CONDUCTED EMISSION TEST	
13.2. BLOCK DIAGRAM OF LINE CONDUCTED EMISSION TEST	
13.3. PRELIMINARY PROCEDURE OF LINE CONDUCTED EMISSION TEST	
13.4. FINAL PROCEDURE OF LINE CONDUCTED EMISSION TEST	
13.5. TEST RESULT OF LINE CONDUCTED EMISSION TEST	
APPENDIX A: PHOTOGRAPHS OF TEST SETUP	79
ADDENDIY B. DHOTOGDADHS OF FIIT	91

Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the Bedicated Pesting/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the writter authorization of AGC. The test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc~cert.com.





1. VERIFICATION OF CONFORMITY

Shenzhen Juku Intelligent Technology Co., Ltd.
303, Building 12, Jinshun Industrial Zone, No.20, Huancheng South Road, Ma'antang Community, Bantian Street, Longgang District, Shenzhen, China
Shenzhen Juku Intelligent Technology Co., Ltd.
303, Building 12, Jinshun Industrial Zone, No.20, Huancheng South Road, Ma'antang Community, Bantian Street, Longgang District, Shenzhen, China
Shenzhen Juku Intelligent Technology Co., Ltd.
303, Building 12, Jinshun Industrial Zone, No.20, Huancheng South Road, Ma'antang Community, Bantian Street, Longgang District, Shenzhen, China
Smart Ambiance Lamp With Alarm Clock
N/A
SAC
SAC-001, SAC-002, SAC-003, SAC-004
All the series models are the same as the test model except for the model names.
Jan. 15, 2021 to Jan. 27, 2021
No any deviation from the test method
Normal
Pass
AGCRT-US-BGN/RF

We hereby certify that:

The above equipment was tested by Attestation of Global Compliance (Shenzhen) Co., Ltd. The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C63.10 (2013) and the energy emitted by the sample EUT tested as described in this report is in compliance with radiated emission limits of FCC Rules Part 15.247.

Prepared By	keur chong	
No. Vo	Kelly Cheng (Project Engineer)	Jan. 27, 2021
Reviewed By	Max Zhang	100 LG
· · · · · · ·	Max Zhang (Reviewer)	Jan. 27, 2021
Approved By	Formerties	
	Forrest Lei (Authorized Officer)	Jan. 27, 2021

Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the Bedicated Pesting/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written appropriation of AGE. The test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.



Page 6 of 93

2. GENERAL INFORMATION

2.1. PRODUCT DESCRIPTION

The EUT is designed as "Smart Ambiance Lamp With Alarm Clock". It is designed by way of utilizing the DSSS and OFDM technology to achieve the system operation.

A major technical description of EUT is described as following

Operation Frequency	2.412 GHz~2.462GHz
Operation Frequency	
Output Power(Average)	IEEE 802.11b:15.64dBm; IEEE 802.11g:12.92dBm;
Output i ower(Average)	IEEE 802.11n(20):12.88dBm; IEEE 802.11n(40):13.50dBm
Output Power(Peak)	IEEE 802.11b:18.52dBm; IEEE 802.11g:20.83dBm;
Output Power(Peak)	IEEE 802.11n(20):20.49dBm; IEEE 802.11n(40):20.78dBm
Modulation	DSSS(DBPSK/DQPSK/CCK);OFDM(BPSK/QPSK/16-QAM/64-QAM)
Number of channels	11
Hardware Version	V4.0
Software Version	V2.0
Antenna Designation	PCB antenna (Comply with requirements of the FCC part 15.203)
Antenna Gain	1dBi
Power Supply	AC 120V, 60Hz

2.2. TABLE OF CARRIER FREQUENCYS

Frequency Band	Channel Number	Frequency
CO C	. 1	2412 MHZ
	2	2417 MHZ
	3	2422 MHZ
20 20 T	4	2427 MHZ
	5	2432 MHZ
2400~2483.5MHZ	6	2437 MHZ
30 -0	7	2442 MHZ
®	8	2447 MHZ
	9	2452 MHZ
10° 20	10	2457 MHZ
	11	2462 MHZ

Note: For 20MHZ bandwidth system use Channel 1 to Channel 11. For 40MHZ bandwidth system use Channel 3 to Channel 9

Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the Bedicated Post of Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written authorization of AGC. The test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15days after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.



Page 7 of 93

2.3. IEEE 802.11N MODULATION SCHEME

MCS Index	Nss	Modulation	R	NBPSC	NBPSC NCB		NDBPS		rate(I	ata Mbps) nsGl
					20MHz	40MHz	20MHz	40MHz	20MHz	40MHz
0	1	BPSK	1/2	1	52	108	26	54	6.5	13.5
1	1	QPSK	1/2	2	104	216	52	108	13.0	27.0
2	1	QPSK	3/4	2	104	216	78	162	19.5	40.5
3	1	16-QAM	1/2	4	208	432	104	216	26.0	54.0
4	1	16-QAM	3/4	4	208	432	156	324	39.0	81.0
5	1	64-QAM	2/3	6	312	648	208	432	52.0	108.0
6	1	64-QAM	3/4	6	312	648	234	489	58.5	121.5
7	1	64-QAM	5/6	6	312	648	260	540	65.0	135.0

Symbol	Explanation
NSS	Number of spatial streams
R	Code rate
NBPSC	Number of coded bits per single carrier
NCBPS	Number of coded bits per symbol
NDBPS	Number of data bits per symbol
GI	Guard interval

2.4. RELATED SUBMITTAL(S) / GRANT (S)

This submittal(s) (test report) is intended for **FCC ID: 2ARPE-SAC** filing to comply with the FCC Part 15 requirements.

2.5. TEST METHODOLOGY

KDB 558074 D01 15.247 Meas Guidance v05: Guidance for compliance measurements on Digital transmission system, frequency hopping spread spectrum system, and hybrid system devices operating under section 15.247 of the FCC rules

ANSI C63.10:2013: American National Standard for Testing Unlicensed Wireless Devices

2.6. SPECIAL ACCESSORIES

Refer to section 5.2.

2.7. EQUIPMENT MODIFICATIONS

Not available for this EUT intended for grant.

Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the Bedicated Pestud/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written authorization of AGC. The test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15days after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.



Page 8 of 93

2.8. ANTENNA REQUIREMENT

This intentional radiator is designed with a permanently attached antenna of an antenna to ensure that no antenna other than that furnished by the responsible party shall be used with the device. For more information of the antenna, please refer to the APPENDIX B: PHOTOGRAPHS OF EUT.

Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the Bedicated Pesting/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the writter application of AGC. The test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day after the issuence of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.



Page 9 of 93

3. MEASUREMENT UNCERTAINTY

Test	Measurement Uncertainty	Notes
Transmitter power conducted	±0.57 dB	(1)
Transmitter power Radiated	±2.20 dB	(1)
Conducted spurious emission 9KHz-40 GHz	±2.20 dB	(1)
Occupied Bandwidth	±0.01ppm	(1)
Radiated Emission 30~1000MHz	±4.10dB	(1)
Radiated Emission Above 1GHz	±4.32dB	(1)
Conducted Disturbance0.15~30MHz	±3.20dB	(1)

Note: This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the Bedicated Restriction Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written application of AGC, the test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc=cert.com.



Page 10 of 93

4. DESCRIPTION OF TEST MODES

NO.	TEST MODE DESCRIPTION		
1	Low channel TX(2412/2422MHz)		
2	Middle channel TX(2437MHz)		
3	High channel TX(2452/2462MHz)		

Note:

Transmit by 802.11b with Date rate (1/2/5.5/11)

Transmit by 802.11g with Date rate (6/9/12/18/24/36/48/54)

Transmit by 802.11n (20MHz) with Date rate (6.5/13/19.5/26/39/52/58.5/65)

Transmit by 802.11n (40MHz) with Date rate (13.5/27/40.5/54/81/108/121.5/135)

Note:

- 1. The EUT has been set to operate continuously on the lowest, middle and highest operation frequency Individually, and the eut is operating at its maximum duty cycle>or equal 98%
- 2. All modes under which configure applicable have been tested and the worst mode test data recording in the test report, if no other mode data.
- 3. The test software is the Realtek MP Tool apk which can set the EUT into the individual test modes.

Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the Bedicated Factorian (Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written authorization of ACC whe test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc=cert.com.

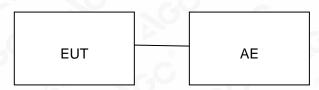


Page 11 of 93

5. SYSTEM TEST CONFIGURATION

5.1. CONFIGURATION OF EUT SYSTEM

Configure:



5.2. EQUIPMENT USED IN EUT SYSTEM

Item	Equipment	Model No.	ID or Specification	Remark
1	Smart Ambiance Lamp With Alarm Clock	SAC	2ARPE-SAC	EUT
2	Adapter	SR-A5B1202000U	Input : AC100-240V~50/60Hz 0.75A Output: 12V, 2000mA	EUT

5.3. SUMMARY OF TEST RESULTS

FCC RULES	DESCRIPTION OF TEST	RESULT
§15.247	Output Power	Compliant
§15.247	6 dB Bandwidth	Compliant
§15.247	Conducted Spurious Emission	Compliant
§15.247	Maximum Conducted Output Power Spectral Density	Compliant
§15.209	Radiated Emission	Compliant
§15.247	Band Edges	Compliant
§15.207	Line Conduction Emission	Compliant

Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the Bedicated Pesting/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the writter authorization of AGC. The test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.



Page 12 of 93

6. TEST FACILITY

Test Site	Attestation of Global Compliance (Shenzhen) Co., Ltd			
Location	1-2/F, Building 19, Junfeng Industrial Park, Chongqing Road, Heping Community, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China			
Designation Number	CN1259			
FCC Test Firm Registration Number	975832			
A2LA Cert. No.	5054.02			
Description	Attestation of Global Compliance(Shenzhen) Co., Ltd is accredited by A2LA			

TEST EQUIPMENT OF CONDUCTED EMISSION TEST

Equipment	Manufacturer	Model	S/N	Cal. Date	Cal. Due
TEST RECEIVER	R&S	ESPI	101206	May 15, 2020	May 14, 2021
LISN	R&S	ESH2-Z5	100086	Jul. 03,2020	Jul. 02, 2021
Test software	R&S	ES-K1(Ver.V1.71)	N/A	N/A	N/A

TEST EQUIPMENT OF RADIATED EMISSION TEST

Equipment	Manufacturer	Model	S/N	Cal. Date	Cal. Due
TEST RECEIVER	R&S	ESCI	10096	May 15, 2020	May 14, 2021
EXA Signal Analyzer	Aglient	N9010A	MY53470504	Dec. 07, 2020	Dec. 06, 2021
Power Sensor	Aglient	U2021XA	MY54110007	Jun. 08, 2020	Jun. 07, 2021
2.4GHz Fliter	Micro-tronics	087	N/A	Mar. 23, 2020	Mar. 22, 2022
Attenuator	Weinachel Corp	58-30-33	N/A	Sep. 03, 2020	Sep. 02, 2022
Horn antenna	SCHWARZBECK	BBHA 9170	#768	Sep.21, 2019	Sep. 20, 2021
Active loop antenna (9K-30MHz)	ZHINAN	ZN30900C	00034609	May. 17, 2019	May. 16, 2021
Double-Ridged Waveguide Horn	ETS LINDGREN	3117	00034609	May. 17, 2019	May. 16, 2021
Broadband Preamplifier	ETS LINDGREN	3117PA	00225134	Sep. 03, 2020	Sep. 02, 2022
ANTENNA	SCHWARZBECK	VULB9168	D69250	Sep. 20, 2019	Sep. 19, 2021
Test software	Tonscend	JS32-RE (Ver.2.5)	N/A	N/A	N/A
Test software	FARA	EZ-EMC (Ver RA-03A)	N/A	N/A	N/A

Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the specificated restriction. Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written authorization of AGC. The test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.



Page 13 of 93

7. OUTPUT POWER

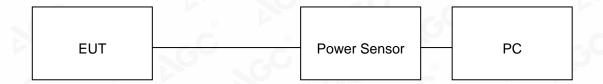
7.1. MEASUREMENT PROCEDURE

For average power test:

- 1. Connect EUT RF output port to power sensor through an RF attenuator.
- 2. Connect the power sensor to the PC.
- 3. Set the EUT Work on the top, the middle and the bottom operation frequency individually.
- 4. Record the maximum power from the software.

Note: The EUT was tested according to ANSI C63.10 (2013) for compliance to FCC 47CFR 15.247 requirements.

7.2. TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION)



Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the Bedicated Fest no/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written authorization of AGC, the test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day after the issuence of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc~cert.com.



Page 14 of 93

7.3. LIMITS AND MEASUREMENT RESULT

TEST ITEM	OUTPUT POWER
TEST MODE	802.11b with data rate 1

Frequency (GHz)	Average Power (dBm)	Peak Power (dBm)	Applicable Limits (dBm)	Pass or Fail
2.412	15.64	18.52	30	Pass
2.437	14.48	17.39	30	Pass
2.462	14.64	17.48	30	Pass

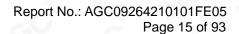
TEST ITEM	OUTPUT POWER
TEST MODE	802.11g with data rate 6

Frequency (GHz)	Average Power (dBm)	Peak Power (dBm)	Applicable Limits (dBm)	Pass or Fail
2.412	12.91	20.78	30	Pass
2.437	12.92	20.83	30	Pass
2.462	12.87	20.79	30	Pass

TEST ITEM	OUTPUT POWER	10	100	
TEST MODE	802.11n 20 with data rate 6.5	0		

_	uency 6Hz)	Average Power (dBm)	Peak Power (dBm)	Applicable Limits (dBm)	Pass or Fail
2.	412	12.79	20.36	30	Pass
2.	437	12.88	20.42	30	Pass
2.	462	12.88	20.49	30	Pass

Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the Bedicated Pesting/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the writter authorization of AGC. The test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.

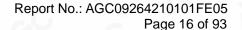




TEST ITEM	OUTPUT POWER	C	8	(0)	
TEST MODE	802.11n 40 with data rate 13.5		GO.	c ₃ C	

Frequency (GHz)	Average Power (dBm)	Peak Power (dBm)	Applicable Limits (dBm)	Pass or Fail
2.422	13.50	20.78	30	Pass
2.437	12.99	20.31	30	Pass
2.452	13.02	20.33	30	Pass

Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the Bedicated Festing/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the writter appropriate the test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day after the issued of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.





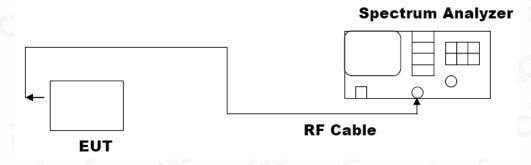
8. 6 DB BANDWIDTH

8.1. MEASUREMENT PROCEDURE

- 1. Connect EUT RF output port to the Spectrum Analyzer through an RF attenuator
- 2. Set the EUT Work on the top, the middle and the bottom operation frequency individually.
- 3. Set SPA Centre Frequency = Operation Frequency, RBW= 100 KHz, VBW ≫ × RBW.
- 4. Set SPA Trace 1 Max hold, then View.

Note: The EUT was tested according to ANSI C63.10 (2013) for compliance to FCC 47CFR 15.247 requirements.

8.2. TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION)



Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the Bedicated Pesting/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written authorization of AGC. The test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc~cert.com.



Page 17 of 93

8.3. LIMITS AND MEASUREMENT RESULTS

TEST ITEM	6DB BANDWIDTH	-6	0	
TEST MODE	802.11b with data rate 11	10	GO	

LIMITS AND MEASUREMENT RESULT				
A collection is a few		Applicable Limits		
Applicable Limits	Test Dat	a (MHz)	Criteria	
	Low Channel	9.080	PASS	
>500KHZ	Middle Channel	9.067	PASS	
	High Channel	9.073	PASS	

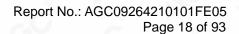
TEST ITEM	6DB BANDWIDTH	0		
TEST MODE	802.11g with data rate 54	SOU	r.C	©

LIMITS AND MEASUREMENT RESULT				
Annii salata Linnii s		Applicable Limits		
Applicable Limits	Test Data	(MHz)	Criteria	
>500KHZ	Low Channel	16.32	PASS	
	Middle Channel	16.32	PASS	
	High Channel	16.32	PASS	

TEST ITEM	6DB BANDWIDTH	NO	_ GC
TEST MODE	802.11n 20 with data rate 65		

LIMITS AND MEASUREMENT RESULT					
A	Applicable Limits				
Applicable Limits	Test Dat	a (MHz)	Criteria		
>500KHZ	Low Channel	16.79	PASS		
	Middle Channel	16.90	PASS		
	High Channel	16.79	PASS		

Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the specificated resting/inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the writter pathorization of AGC, the test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.





TEST ITEM	6DB BANDWIDTH	C	©	(8)	
TEST MODE	802.11n 40 with data rate 135		G _C	C ₁ C	

LIMITS AND MEASUREMENT RESULT						
		Applicable Limits				
Applicable Limits	Test Date	a (MHz)	Criteria			
0 100	Low Channel	35.78	PASS			
>500KHZ	Middle Channel	35.77	PASS			
	High Channel	35.77	PASS			

Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the Bedicated Festing/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written authorization of AGC within 15day after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.



802.11b TEST RESULT TEST PLOT OF BANDWIDTH FOR LOW CHANNEL



TEST PLOT OF BANDWIDTH FOR MIDDLE CHANNEL



Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the Dedicated Festivo/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written authorization of AGC the test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.



TEST PLOT OF BANDWIDTH FOR HIGH CHANNEL



802.11g TEST RESULTTEST PLOT OF BANDWIDTH FOR LOW CHANNEL



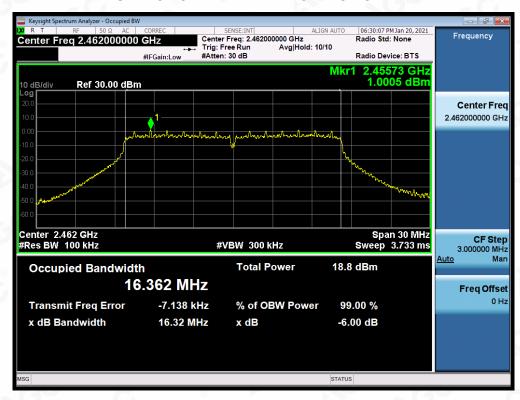
Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the Dedicated Festivo/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written authorization of AGC the test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.



TEST PLOT OF BANDWIDTH FOR MIDDLE CHANNEL



TEST PLOT OF BANDWIDTH FOR HIGH CHANNEL



Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the Bedicated Festivo/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written portorization of AGC the test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.



802.11n (20) TEST RESULT TEST PLOT OF BANDWIDTH FOR LOW CHANNEL



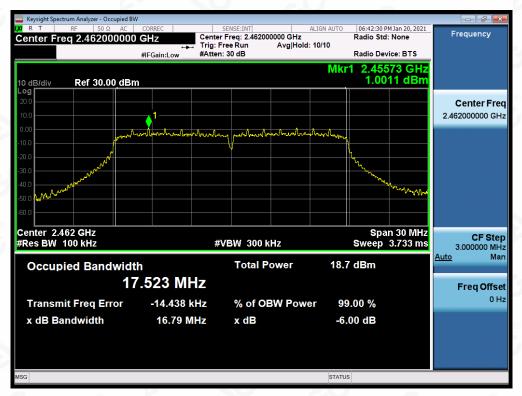
TEST PLOT OF BANDWIDTH FOR MIDDLE CHANNEL



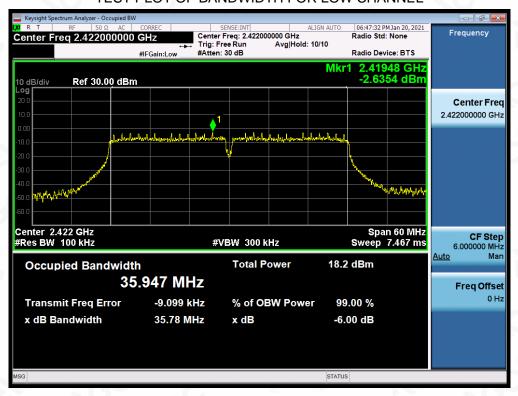
Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the Dedicated Festivo/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written authorization of AGC the test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.



TEST PLOT OF BANDWIDTH FOR HIGH CHANNEL



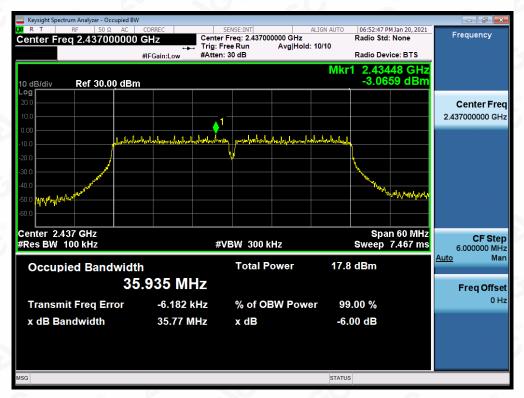
802.11n (40) TEST RESULT
TEST PLOT OF BANDWIDTH FOR LOW CHANNEL



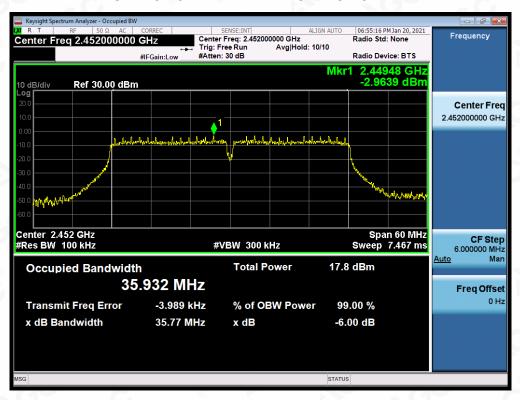
Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the "Bedicated Pesting/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written each orization of AGC. The test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.



TEST PLOT OF BANDWIDTH FOR MIDDLE CHANNEL



TEST PLOT OF BANDWIDTH FOR HIGH CHANNEL



Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the Bedicated Festivo/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written portorization of AGC the test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.



Page 25 of 93

9. CONDUCTED SPURIOUS EMISSION

9.1. MEASUREMENT PROCEDURE

- 1. Connect EUT RF output port to the Spectrum Analyzer through an RF attenuator
- 2, Set the EUT Work on the top, the middle and the bottom operation frequency individually.
- 3. Set SPA Trace 1 Max hold, then View.

Note: The EUT was tested according to ANSI C63.10 (2013) for compliance to FCC 47CFR 15.247 requirements. Owing to satisfy the requirements of the number of measurement points, we set the RBW=1MHz, VBW>RBW, scan up through 10th harmonic, and consider the tested results as the worst case, if the tested results conform to the requirement, we can deem that the real tested results(set the RBW=100KHz, VBW>RBW) are conform to the requirement.

9.2. TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION)

The same as described in section 8.2.

9.3. MEASUREMENT EQUIPMENT USEDJN

The same as described in section 6.

9.4. LIMITS AND MEASUREMENT RESULT

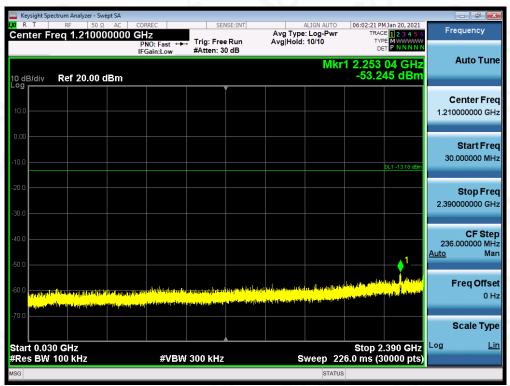
LIMITS AND MEASUREMENT RESULT					
Amplicable Limite	Measurement Result				
Applicable Limits	Test Data	Criteria			
In any 100 KHz Bandwidth Outside the frequency band in which the spread spectrum	At least -20dBc than the limit Specified on the BOTTOM Channel	PASS			
intentional radiator is operating, the radio frequency power that is produce by the intentional radiator shall be at least 20 dB below that in 100KHz bandwidth within the band that contains the highest level of the desired power. In addition, radiation emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in§15.209(a))	At least -20dBc than the limit Specified on the TOP Channel	PASS			

Note: The limits reference level is according to the test plot of -6dB bandwidth.

Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the Bedicated Pest of Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written authorization of AGC. The test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15days after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.



TEST PLOT OF OUT OF BAND EMISSIONS WITH THE WORST CASE OF 802.11b FOR MODULATION IN LOW CHANNEL





Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the Dedicated Pestho/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written authorization of AGC, the test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.

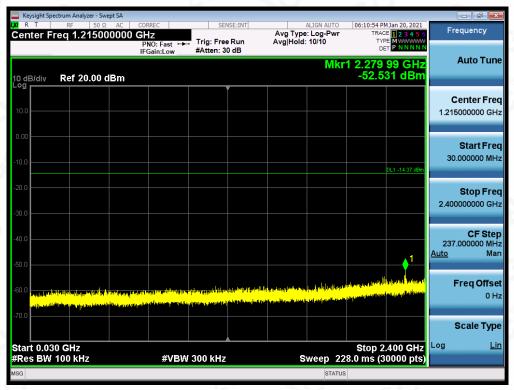




Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the Bedicated restriction. Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the writter pathorization of AGC within 15day after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.



TEST PLOT OF OUT OF BAND EMISSIONS THE WORST CASE OF 802.11b FOR MODULATION IN MIDDLE CHANNEL

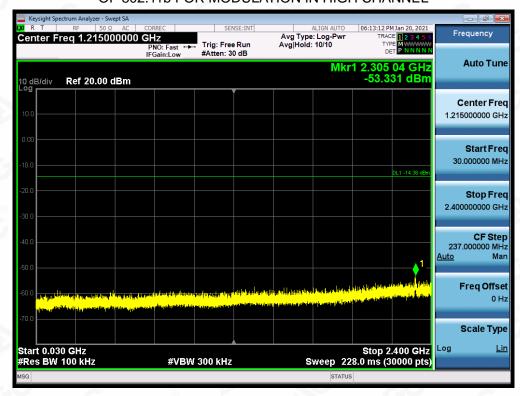




Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the Dedicated Festing/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written authorization of AGC the test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.



TEST PLOT OF OUT OF BAND EMISSIONS THE WORST CASE OF 802.11b FOR MODULATION IN HIGH CHANNEL





Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the Dedicated Festing/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written authorization of AGC the test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.



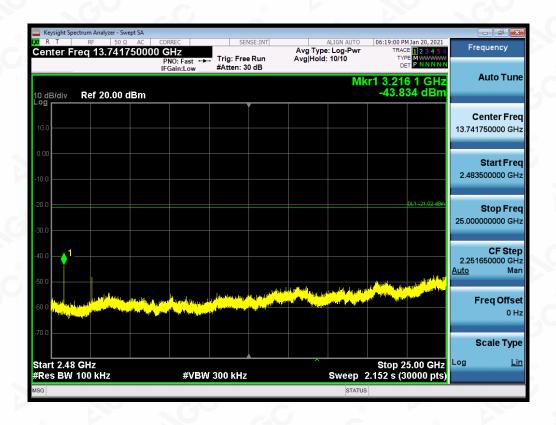
TEST PLOT OF OUT OF BAND EMISSIONS WITH THE WORST CASE OF 802.11g FOR MODULATION IN LOW CHANNEL





Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the coefficient of permitted without the written per

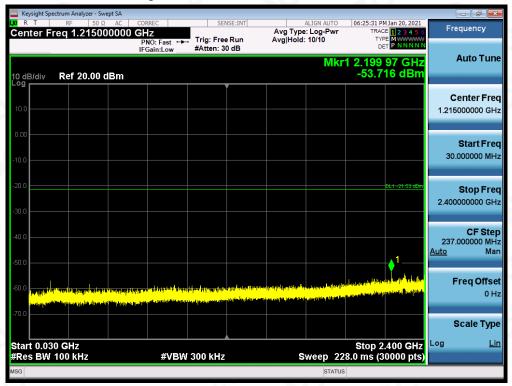




Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the Bedicated restriction. Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the writter pathorization of AGC within 15day after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.



TEST PLOT OF OUT OF BAND EMISSIONS THE WORST CASE OF 802.11g FOR MODULATION IN MIDDLE CHANNEL

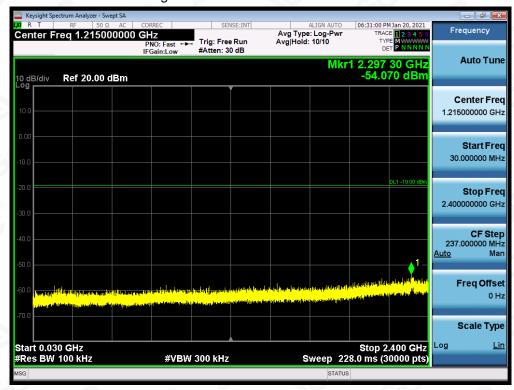




Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the Dedicated Festivo/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written authorization of AGC the test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.



TEST PLOT OF OUT OF BAND EMISSIONS THE WORST CASE OF 802.11g FOR MODULATION IN HIGH CHANNEL



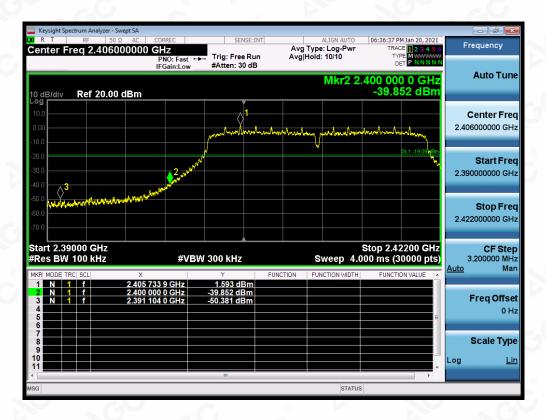


Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the Dedicated Festing/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written authorization of AGC the test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.



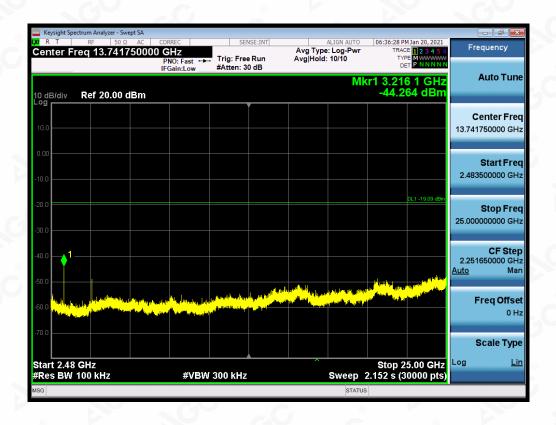
TEST PLOT OF OUT OF BAND EMISSIONS WITH THE WORST CASE OF 802.11n20 FOR MODULATION IN LOW CHANNEL





Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the Dedicated Pestho/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written authorization of AGC, the test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.

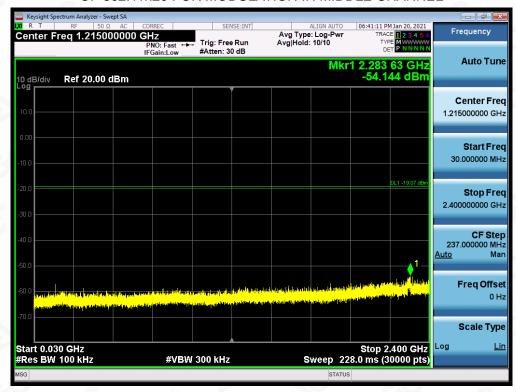




Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the Bedicated restriction. Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the writter pathorization of AGC within 15day after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.



TEST PLOT OF OUT OF BAND EMISSIONS THE WORST CASE OF 802.11n20 FOR MODULATION IN MIDDLE CHANNEL

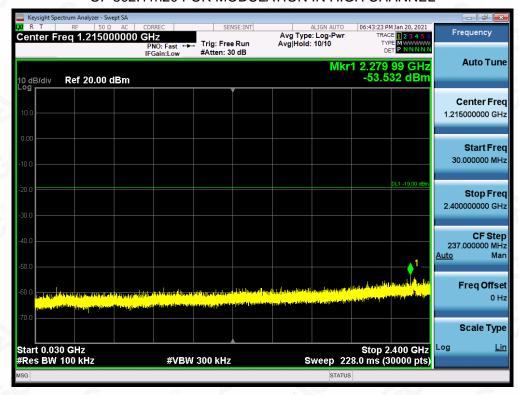




Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the Dedicated Festing/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written authorization of AGC the test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.



TEST PLOT OF OUT OF BAND EMISSIONS THE WORST CASE OF 802.11n20 FOR MODULATION IN HIGH CHANNEL

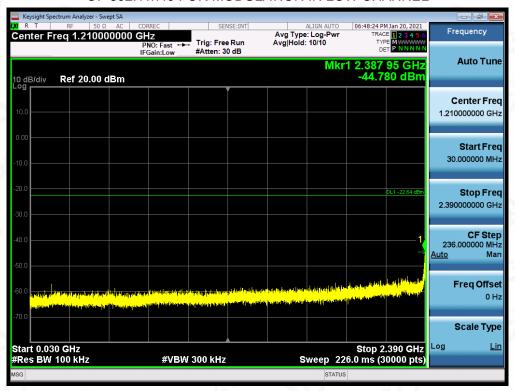


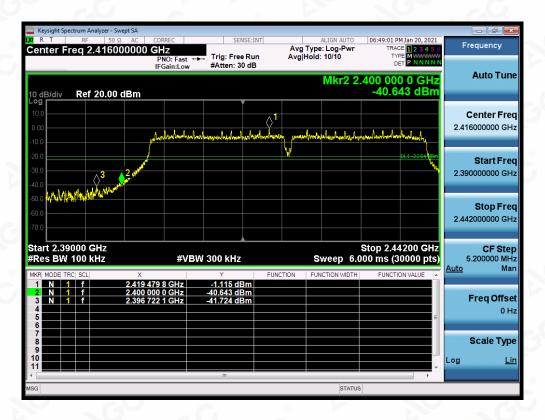


Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the Dedicated Festing/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written authorization of AGC the test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.



TEST PLOT OF OUT OF BAND EMISSIONS WITH THE WORST CASE OF 802.11n40 FOR MODULATION IN LOW CHANNEL





Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the Dedicated Pestho/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written portion of AGC within 15day after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.

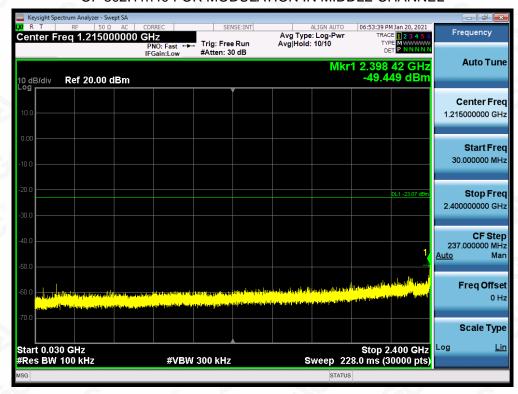




Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the Bedicated restriction. Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the writter pathorization of AGC within 15day after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.



TEST PLOT OF OUT OF BAND EMISSIONS THE WORST CASE OF 802.11n40 FOR MODULATION IN MIDDLE CHANNEL

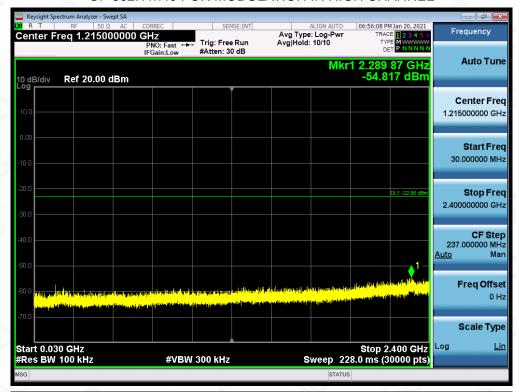




Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the Dedicated Festing/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written authorization of AGC the test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.



TEST PLOT OF OUT OF BAND EMISSIONS THE WORST CASE OF 802.11n40 FOR MODULATION IN HIGH CHANNEL





Note: Emissions from 2483.5-2500MHz which fall in the restricted bands had been considered with the radiated

emission limits specified.

Compliance Pest Any report having not been signed by authorized approver, or having been altered without authorization, or maying not been signed by authorization of AGC. The test results stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written authorization of AGC. The test results are the invalid to AGC within 15day Cafter the issuance of the test report. The test results Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.

Attestation of Global Compliance(Shenzhen)Co., Ltd

Attestation of Global Compliance(Shenzhen)Std & Tech Co., Ltd

E-mail: agc@agc-cert.com Web: http://cn.agc-cert.com/



Page 42 of 93

10. MAXIMUM CONDUCTED OUTPUT POWER SPECTRAL DENSITY

10.1 MEASUREMENT PROCEDURE

- (1). Connect EUT RF output port to the Spectrum Analyzer through an RF attenuator
- (2). Set the EUT Work on the top, the middle and the bottom operation frequency individually.
- (3). Set SPA Trace 1 Max hold, then View.

Note: The method of PKPSD in the ANSI C63.10 (2013) item 11.10 was used in this testing.

10.2 TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION)

Refer To Section 8.2.

10.3 MEASUREMENT EQUIPMENT USED

Refer To Section 6.

10.4 LIMITS AND MEASUREMENT RESULT

TEST ITEM	POWER SPECTRAL DENSITY
TEST MODE	802.11b with data rate 1

Channel No.	Power density (dBm/20kHz)	Power density (dBm/3kHz)	Limit (dBm/3kHz)	Result
Low Channel	0.748	-7.49	8	Pass
Middle Channel	-0.177	-8.42	8	Pass
High Channel	-0.042	-8.28	8	Pass

TEST ITEM	POWER SPECTRAL DENSITY			S
TEST MODE	802.11g with data rate 6	C ₁ C	8	(3)

Channel No.	Power density (dBm/20kHz)	Power density (dBm/3kHz)	Limit (dBm/3kHz)	Result
Low Channel	-4.999	-13.24	8	Pass
Middle Channel	-4.923	-13.16	8	Pass
High Channel	-4.853	-13.09	8	Pass

Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the Bedicated Pestud/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written authorization of AGC. The test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15days after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.



Page 43 of 93

TEST ITEM	POWER SPECTRAL DENSITY	8		10
TEST MODE	802.11n 20 with data rate 6.5	G _C	-C	0

Channel No.	Power density (dBm/20kHz)	Power density (dBm/3kHz)	Limit (dBm/3kHz)	Result
Low Channel	-4.453	-12.69	8	Pass
Middle Channel	-4.334	-12.57	8	Pass
High Channel	-4.251	-12.49	8	Pass

TEST ITEM	POWER SPECTRAL DENSITY	
TEST MODE	802.11n 40 with data rate 13.5	

Channel No.	Power density (dBm/20kHz)	Power density (dBm/3kHz)	Limit (dBm/3kHz)	Result
Low Channel	-6.794	-15.03	8	Pass
Middle Channel	-7.123	-15.36	8	Pass
High Channel	-7.113	-15.35	8	Pass

Note: PSD Standard Measurement = Test Measurement -10Log (20KHz / 3KHz)

Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the Bedicated Pesting/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the writter authorization of AGC. The test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.



802.11b TEST RESULT TEST PLOT OF SPECTRAL DENSITY FOR LOW CHANNEL



TEST PLOT OF SPECTRAL DENSITY FOR MIDDLE CHANNEL



Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the Dedicated Festivo/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written authorization of AGC the test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.



TEST PLOT OF SPECTRAL DENSITY FOR HIGH CHANNEL



802.11g TEST RESULT
TEST PLOT OF SPECTRAL DENSITY FOR LOW CHANNEL



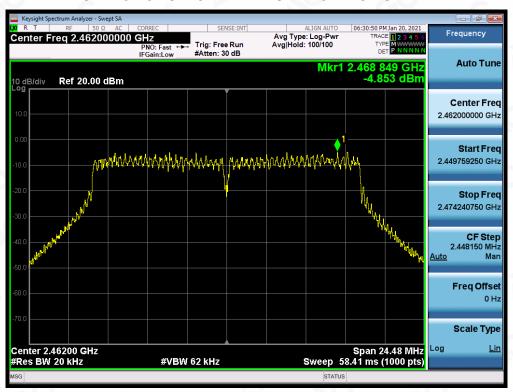
Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the Dedicated Festivo/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written authorization of AGC the test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.



TEST PLOT OF SPECTRAL DENSITY FOR MIDDLE CHANNEL



TEST PLOT OF SPECTRAL DENSITY FOR HIGH CHANNEL



Any report having not been signed by authorized approver, or having been altered without authorization, or having not been stamped by the Dedicated Festivo/Inspection Stamp" is deemed to be invalid. Copying or excerpting portion of, or altering the content of the report is not permitted without the written authorization of AGC he test results presented in the report apply only to the tested sample. Any objections to report issued by AGC should be submitted to AGC within 15day after the issuance of the test report. Further enquiry of validity or verification of the test report should be addressed to AGC by agc@agc-cert.com.