FCC Test Report

Report No: FCS202404276W04

Issued for

Applicant:	Zhengzhou Chongfenghao International Trade Co. , Ltd.
Address:	Room B17, No. 9-3, Liudong Road, Zhengzhou (Jinshui) , Henan Pilot Free Trade Zone
Product Name:	Wireless CarPlay Adapter
Brand Name:	N/A
Model Name:	WL01-C-Black
Series Model:	WL01-C-White, WL01-C-Sierra Blue, WL01-C-Purple, WL01-C-Gun, WL01-C-Titanium, WL01-C-Navy, YYYY1-Black, YYYY1-Gunmetal Gray, YKCAA-Black, YKCAA-Blue, L-PP01-Black, L-PP01-Rose Gold, MYC-C-Black, MYC-C-Titanium, TK-XTT-Black, TK-XTT-Navy, CXX-00-Black, CXX-00-Gunmetal Gray
FCC ID:	2BF5Y-WL01-C

Issued By: Flux Compliance Service Laboratory
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Tel: 769-27280901 Fax:769-27280901 http://www.fcs-lab.com

TEST RESULT CERTIFICATION

Applicant's Name .....: Zhengzhou Chongfenghao International Trade Co. , Ltd.

Address.....: Room B17, No. 9-3, Liudong Road, Zhengzhou (Jinshui) , Henan Pilot Free Trade Zone

Manufacture's Name .....: Zhengzhou Chongfenghao International Trade Co. , Ltd.

Address.....: Room B17, No. 9-3, Liudong Road, Zhengzhou (Jinshui) , Henan Pilot Free Trade Zone

Product Description

Product Name .....: Wireless CarPlay Adapter

Brand Name .....: N/A

Model Name.....: WL01-C-Black

Series Model .....: WL01-C-White, WL01-C-Sierra Blue, WL01-C-Purple, WL01-C-Gun, WL01-C-Titanium, WL01-C-Navy, YYYY1-Black, YYYY1-Gunmetal Gray, YKCAA-Black, YKCAA-Blue, L-PP01-Black, L-PP01-Rose Gold, MYC-C-Black, MYC-C-Titanium, TK-XTT-Black, TK-XTT-Navy, CXX-00-Black, CXX-00-Gunmetal Gray

Test Standards .....: CFR 47 FCC Part15E section 15.407

ANSI C63.10-2013

Test Procedure.....: KDB 789033 D02 General UNII Test Procedures New Rules v02r01

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 : Apr 26, 2024 ~ May 09, 2024

Date of Issue..... : May 09, 2024

Test Result ..... : Pass

Tested by : Scott Shen

(Scott Shen)

Reviewed by : Duke Qian

(Duke Qian)

Approved by : Jack Wang

(Jack Wang)

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Revision History

Rev.	Issue Date	Report NO.	Effect Page	Contents
00	May 09, 2024	FCS202404276W04	N/A	N/A

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) FCC 15.209 FCC 15.205	Emissions in restricted frequency bands	PASS	
FCC 15.407 (a) FCC 15.209 FCC 15.205	Band Edge Compliance	PASS	
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 ±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) 9KHz-30MHz	±5.2 dB
6	All emissions,radiated(<1G) 30MHz-1000MHz	±5.2 dB
7	All emissions,radiated 1GHz -18GHz	±4.66 dB
8	All emissions,radiated 18GHz -40GHz	±4.31 dB
9	Occupied bandwidth	4(%)
10	PSD	±1.73dB

2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF THE EUT

Product Name	Wireless CarPlay Adapter
Trade Name	N/A
Model Name	WL01-C-Black
Series Model	WL01-C-White, WL01-C-Sierra Blue, WL01-C-Purple, WL01-C-Gun, WL01-C-Titanium, WL01-C-Navy, YYYY1-Black, YYYY1-Gunmetal Gray, YKCAA-Black, YKCAA-Blue, L-PP01-Black, L-PP01-Rose Gold, MYC-C-Black, MYC-C-Titanium, TK-XTT-Black, TK-XTT-Navy, CXX-00-Black, CXX-00-Gunmetal Gray
Model Difference	The above product with same circuit, PCB layout, electrical parts, materials and wiring structures, Appearance shape, the materials of decorative accessories is same, the only difference is the model name and colour.
Channel List	Please refer to the Note 2.
Operation frequency	IEEE 802.11a/n/ac(HT20)/n(HT40)/ac(HT40)/ac(HT80): U-NII-1 5180MHz ~5240MHZ U-NII-3 5745MHZ-5825 MHz
Number of channel	5150MHz ~5250MHZ 5725MHZ-5850 MHz
Antenna Type	FPC Antenna
Antenna Gain (dBi)	5.2G:2.53,5.8G:3.67
Modulation:	OFDM
Power supply	DC 5V
Battery	N/A
Hardware version number	V1.0
Software version number	V1.0
Sample type	mobile device
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

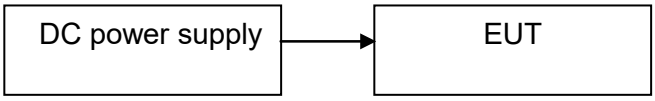
Table for Filed Antenna

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)	NOTE
1	N/A	N/A	FPC antenna	N/A	5.2G:2.53 5.8G:3.67	5G Antenna

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
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)
U-NII-1

channel	Frequency(MHz)	channel	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	5210		

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	XIOAMI	MDY-11-EB	N/A	this adapter is for testing only in repor

Support units

Item	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	2023.08.29	2024.08.28
Signal Analyzer	R&S	FSV40-N	FCS-E012	2023.08.29	2024.08.28
Active loop Antenna	ZHINAN	ZN30900C	FCS-E013	2023.08.29	2024.08.28
Bilog Antenna	SCHWARZBECK	VULB 9168	FCS-E002	2023.08.29	2024.08.28
Horn Antenna	SCHWARZBECK	BBHA 9120D	FCS-E003	2023.08.29	2024.08.28
SHF-EHF Horn Antenna (18G-40GHz)	A-INFO	LB-180400-KF	FCS-E018	2023.08.29	2024.08.28
Pre-Amplifier(0.1M-3G Hz)	EMCI	EM330N	FCS-E004	2023.08.29	2024.08.28
Pre-Amplifier (1G-18GHz)	N/A	TSAMP-0518SE	FCS-E014	2023.08.29	2024.08.28
Pre-Amplifier (18G-40GHz)	TERA-MW	TRLA-0400	FCS-E019	2023.08.29	2024.08.28
Temperature & Humidity	HTC-1	victor	FCS-E005	2023.08.29	2024.08.28

Conduction Test equipment

Kind of Equipment	Manufacturer	Type No.	Company No.	Last calibration	Calibrated until
EMI Test Receiver	R&S	ESCI	FCS-E020	2023.08.29	2024.08.28
LISN	R&S	ENV216	FCS-E007	2023.08.29	2024.08.28
LISN	ETS	3810/2NM	FCS-E009	2023.08.29	2024.08.28
Temperature & Humidity	HTC-1	victor	FCS-E008	2023.08.29	2024.08.28

RF Connected Test

Kind of Equipment	Manufacturer	Type No.	Company No.	Last calibration	Calibrated until
MXA SIGNAL Analyzer	Keysight	N9020A	FCS-E015	2023.08.29	2024.08.28
Spectrum Analyzer	Agilent	E4447A	MY50180039	2023.08.29	2024.08.28
Spectrum Analyzer	R&S	FSV-40	101499	2023.08.29	2024.08.28

3. 26dB Bandwidth, 6dB Bandwidth and 99% Bandwidth

3.1 Limit

FCC Part15, Subpart E		
Test Item	Limit	Frequency Range (MHz)
Bandwidth	26 dB Bandwidth	5150-5250
	26 dB Bandwidth	5250-5350
	26 dB Bandwidth	For FCC:5470-5725 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 3.3 Test setup

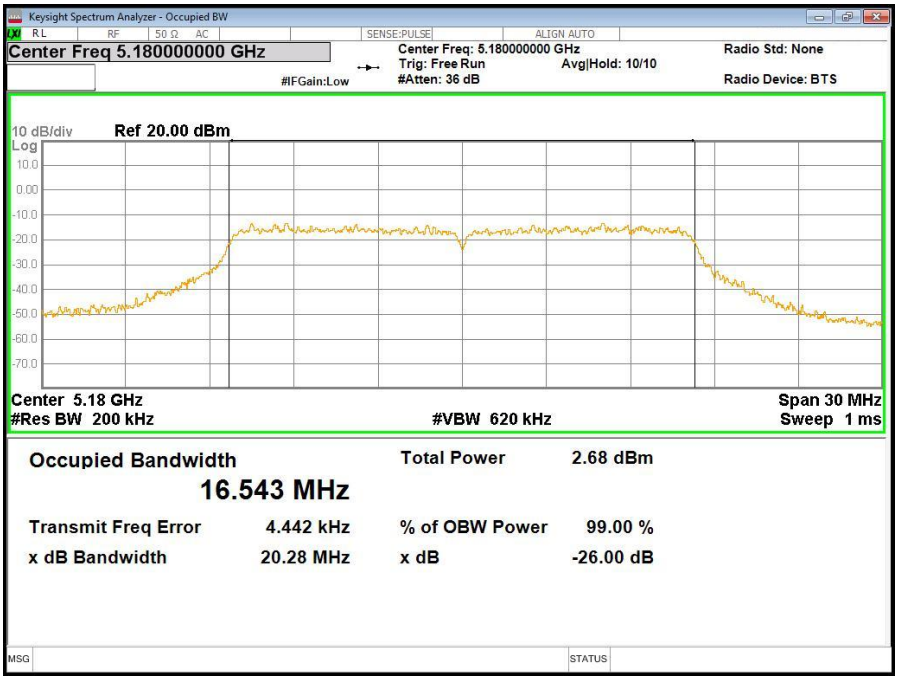
3.4 Test results

Band	Operation mode	26 dB Bandwidth (MHz)			99% Bandwidth (MHz)		
		Low	Middle	High	Low	Middle	High
U-NII-1	802.11a	20.28	20.71	20.63	16.543	16.552	16.546
	802.11n(HT20)	20.35	20.50	20.37	17.613	17.605	17.624
	802.11n(HT40)	43.50	/	50.48	36.263	/	36.334
	802.11ac(HT20)	20.51	20.49	20.29	17.607	17.611	17.646
	802.11ac(HT40)	43.16	/	50.69	36.256	/	36.339
	802.11ac(HT80)	81.77	/	/	75.884	/	/

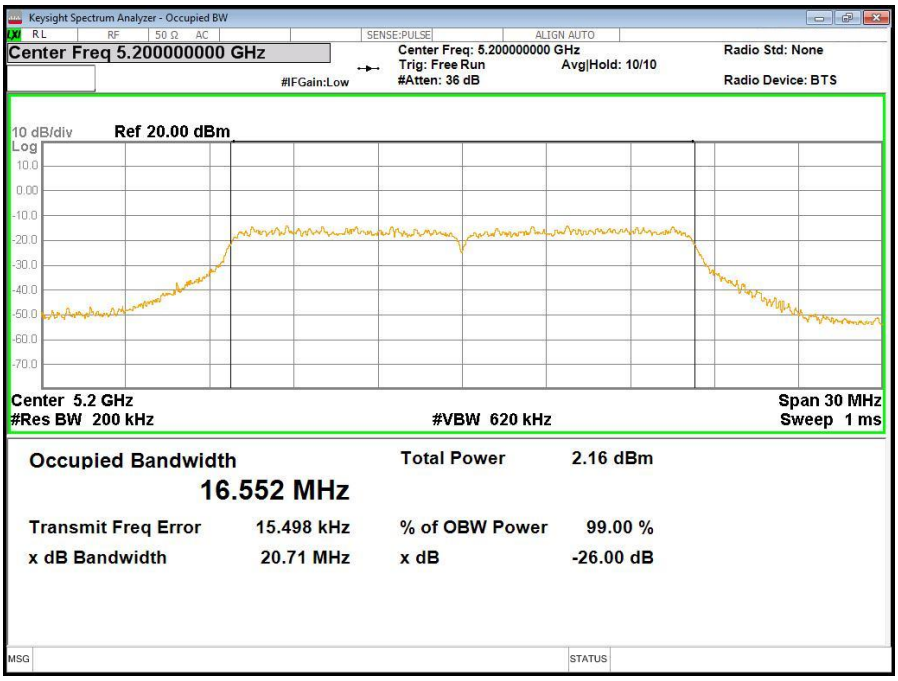
Band	Operation mode	6 dB Bandwidth (MHz)			99% Bandwidth (MHz)		
		Low	Middle	High	Low	Middle	High
U-NII-3	802.11a	17.01	17.26	17..51	16.532	16.568	16.606
	802.11n(HT20)	17.00	17.05	17.17	17.653	17.674	17.730
	802.11n(HT40)	35.60	/	35.63	36.241	/	36.289
	802.11ac(HT20)	17.35	17.05	16.96	16.550	16.558	16.629
	802.11ac(HT40)	35.61	/	35.75	36.239	/	36.260
	802.11ac(HT80)	75.38	/	/	75.638	/	/

3.4 Original Test Data

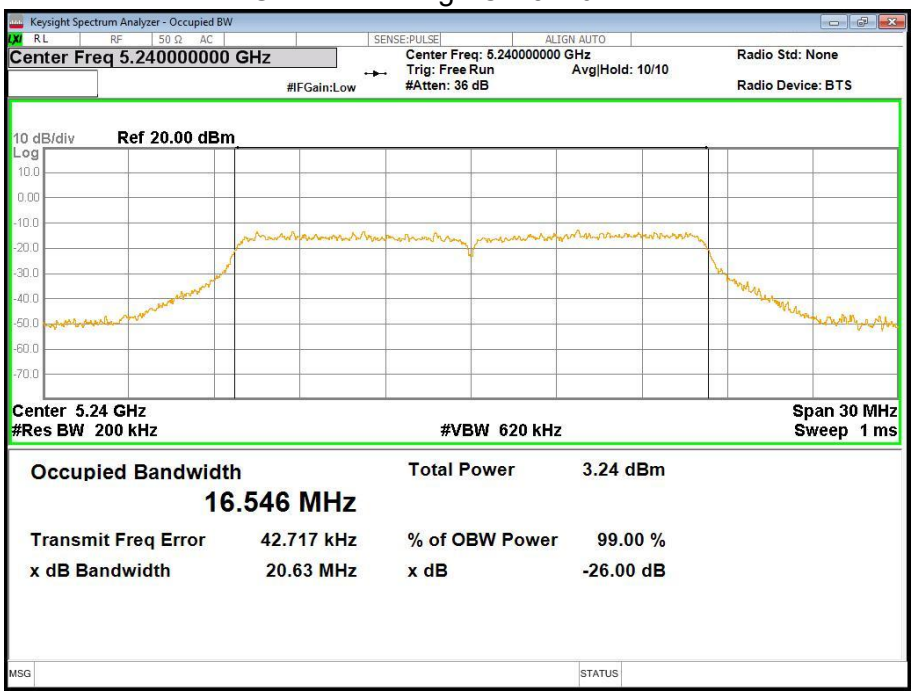
U-NII-1 11a Low CH 5180MHZ



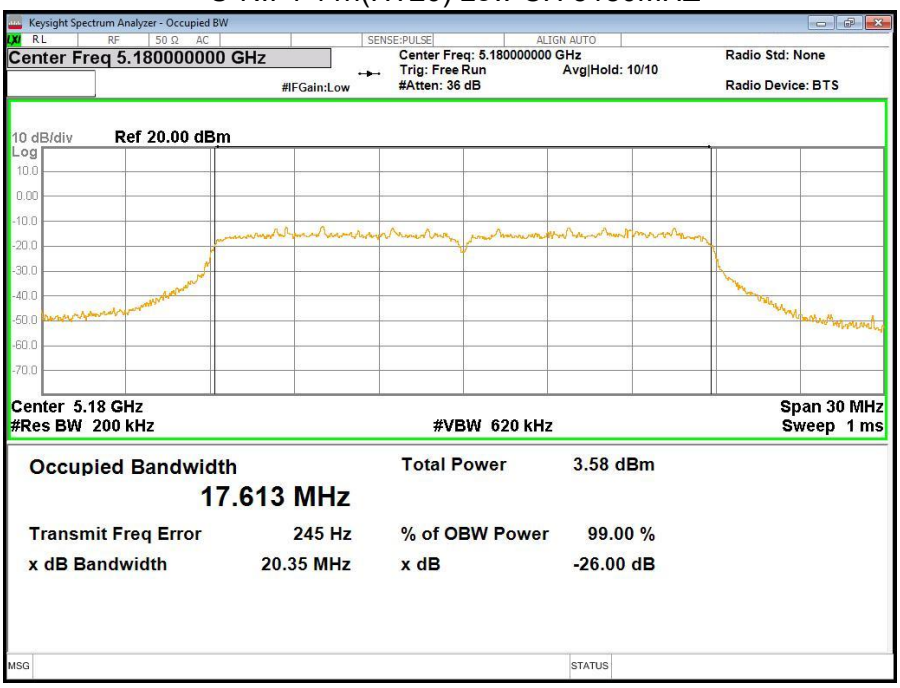
U-NII-1 11a Middle CH 5200MHZ



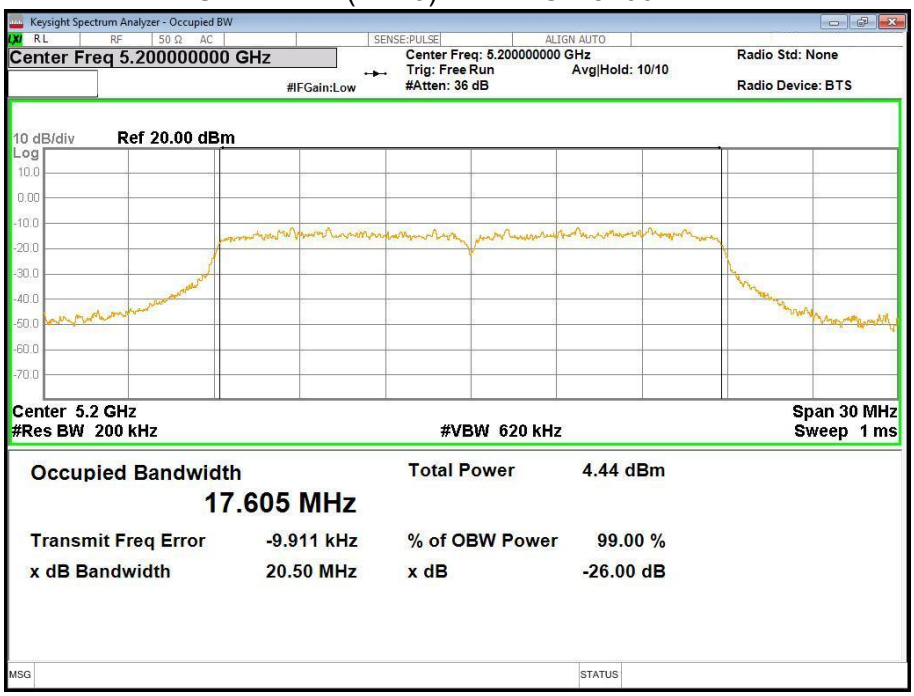
U-NII-1 11a High CH 5240MHZ



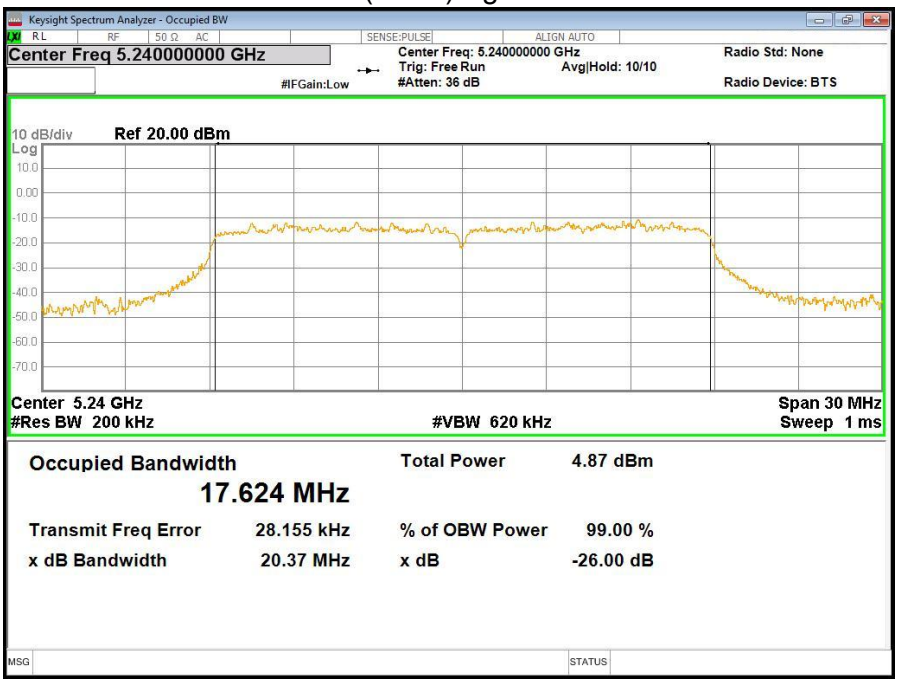
U-NII-1 11n(HT20) Low CH 5180MHZ



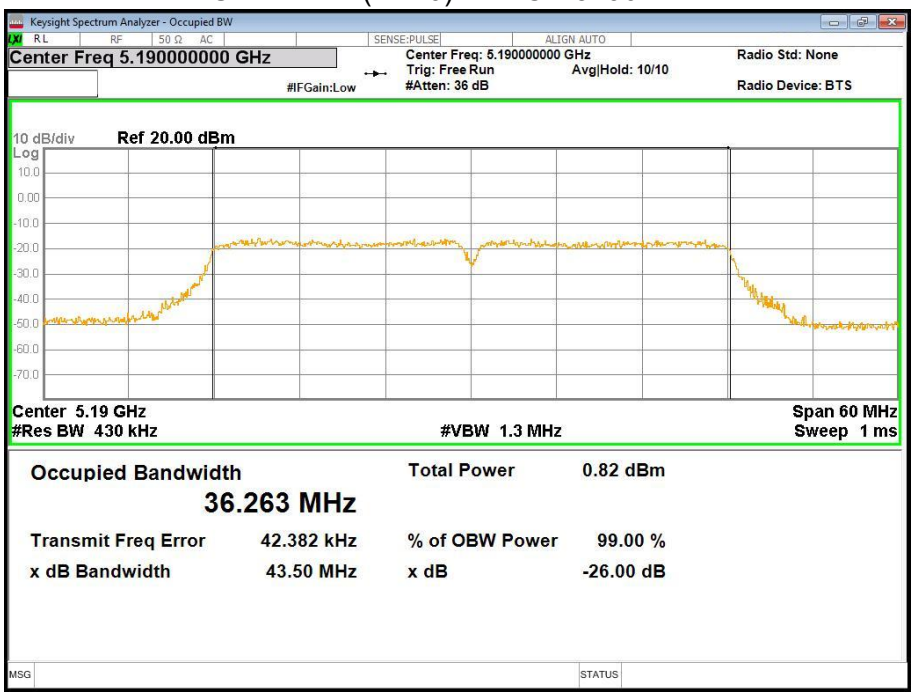
U-NII-1 11n(HT20) Middle CH 5200MHZ



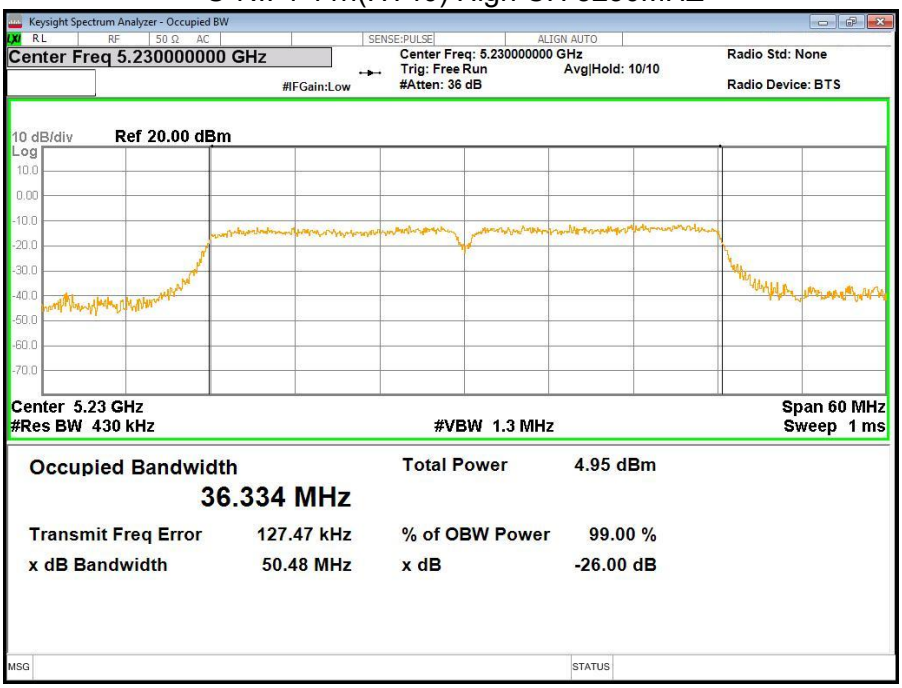
U-NII-1 11n(HT20)High CH 5240MHZ



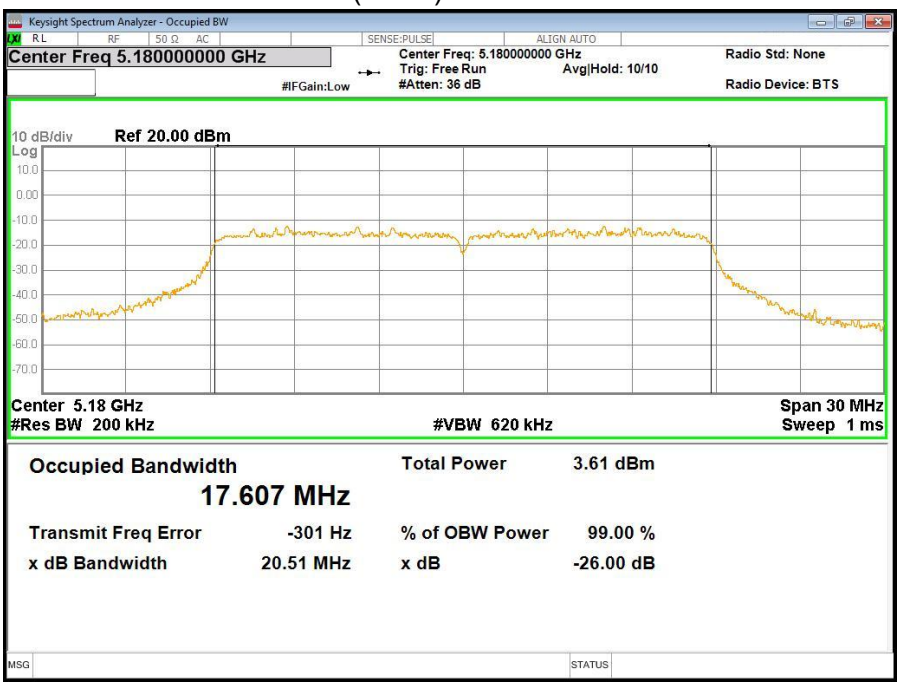
U-NII-1 11n(HT40) Low CH 5190MHZ



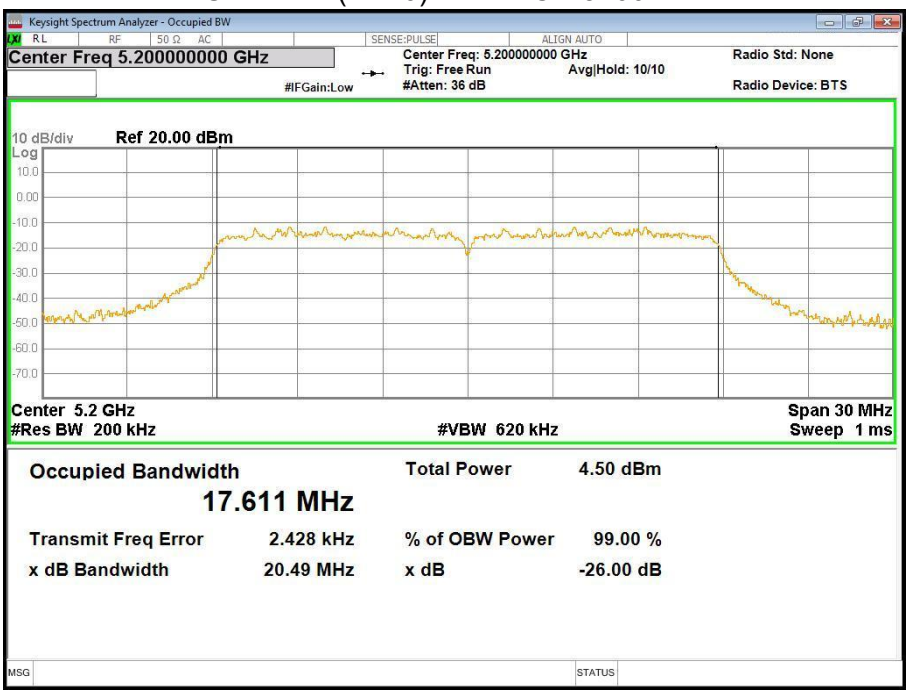
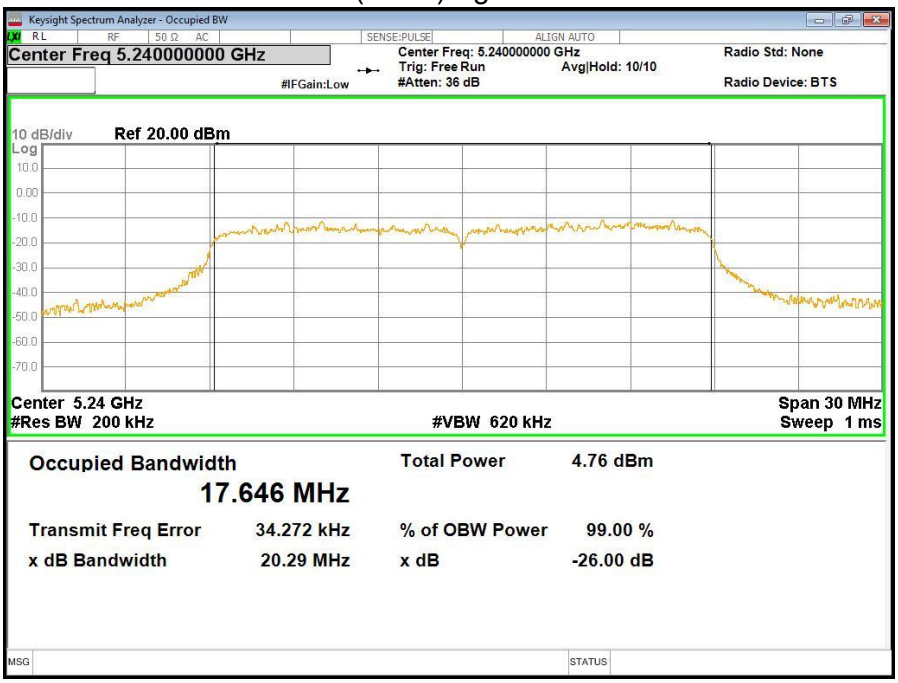
U-NII-1 11n(HT40) High CH 5230MHZ



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



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



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