

## **RF Test Report**

## For

Applicant Name: Address: EUT Name: Brand Name: Model Number: Xwireless LLC 11565 Old Georgetown Road, Rockville, MD, USA Mobile Phone Vortex HD55 Pro

## **Issued By**

Company Name:	<b>BTF Testing Lab (Shenzhen) Co., Ltd.</b> F101, 201 and 301, Building 1, Block 2, Tantou Industrial Park,
Address:	Tantou Community, Songgang Street, Bao'an District, Shenzhen, China

Report Number: Test Standards: BTF240419R00904 47 CFR Part 15E

Test Conclusion: FCC ID: Test Date: Date of Issue: Pass 2ADLJ-HD55PRO 2024-04-20 to 2024-05-08 2024-05-09

Prepared By:

Date:

Approved By:

Date:

hris Shen Chris Liu / Project Engine 2024-05-09 512 Ryan.CJ / EMC Manager

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2024-05-09

Page 1 of 123

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Revision History		
Version	Issue Date	Revisions Content
R_V0	2024-05-09	Original

Note: Once the revision has been made, then previous versions reports are invalid.

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## **Table of Contents**

1	INTR	ODUCTION	5
	1.1	Identification of Testing Laboratory	5
	1.2	Identification of the Responsible Testing Location	
	1.3	Announcement	
2		DUCT INFORMATION	
	2.1	Application Information	
	2.2 2.3	Manufacturer Information Factory Information	
	2.3	General Description of Equipment under Test (EUT)	6
	2.5	Technical Information	6
3	SUM	MARY OF TEST RESULTS	7
	3.1	Test Standards	7
	3.2	Uncertainty of Test	
	3.3	Summary of Test Result	7
4	TEST	CONFIGURATION	8
	4.1	Test Equipment List	
	4.2	Test Auxiliary Equipment	
	4.3	Test Modes	
5	EVAL	UATION RESULTS (EVALUATION)	
	5.1	Antenna requirement	
6	RAD	O SPECTRUM MATTER TEST RESULTS (RF)	15
	6.1	Conducted Emission at AC power line	15
		6.1.1 E.U.T. Operation:	
		6.1.2 Test Setup Diagram:	
	6.2	6.1.3 Test Data:	
	0.2	Duty Cycle         6.2.1       E.U.T. Operation:	
		6.2.1 E.O.T. Operation	
	6.3	Maximum conducted output power	
		6.3.1 E.U.T. Operation:	
		6.3.2 Test Data:	
	6.4	Power spectral density	
		6.4.1 E.U.T. Operation:	
		6.4.2 Test Data:	
	6.5	Emission bandwidth and occupied bandwidth	
		6.5.1 E.U.T. Operation:	
	6.6	Band edge emissions (Radiated)	
	0.0	6.6.1 E.U.T. Operation:	
		6.6.2 Test Setup Diagram:	
		6.6.3 Test Data:	
	6.7	Undesirable emission limits (below 1GHz)	
		6.7.1 E.U.T. Operation:	
		<ul><li>6.7.2 Test Setup Diagram:</li><li>6.7.3 Test Data:</li></ul>	
	6.8	Undesirable emission limits (above 1GHz)	
	0.0	6.8.1 E.U.T. Operation:	

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#### Test Report Number: BTF240419R00904

	6.8.2 Test Data:	37
7	TEST SETUP PHOTOS	39
8	EUT CONSTRUCTIONAL DETAILS (EUT PHOTOS)	41
APP	PENDIX	42

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## 1 Introduction

## 1.1 Identification of Testing Laboratory

Company Name:	BTF Testing Lab (Shenzhen) Co., Ltd.
Address:	F101, 201 and 301, Building 1, Block 2, Tantou Industrial Park, Tantou Community, Songgang Street, Bao'an District, Shenzhen, China
Phone Number:	+86-0755-23146130
Fax Number:	+86-0755-23146130

## 1.2 Identification of the Responsible Testing Location

Company Name:	BTF Testing Lab (Shenzhen) Co., Ltd.
Address:	F101, 201 and 301, Building 1, Block 2, Tantou Industrial Park, Tantou Community, Songgang Street, Bao'an District, Shenzhen, China
Phone Number:	+86-0755-23146130
Fax Number:	+86-0755-23146130
FCC Registration Number:	518915
Designation Number:	CN1330

## 1.3 Announcement

(1) The test report reference to the report template version v0.

(2) The test report is invalid if not marked with the signatures of the persons responsible for preparing, reviewing and approving the test report.

(3) The test report is invalid if there is any evidence and/or falsification.

(4) This document may not be altered or revised in any way unless done so by BTF and all revisions are duly noted in the revisions section.

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## 2 **Product Information**

## 2.1 Application Information

Company Name:	Xwireless LLC		
Address:	11565 Old Georgetown Road, Rockville, MD, USA		
2.2 Manufacturer Information			
Company Name:	Xwireless LLC		
Address:	11565 Old Georgetown Road, Rockville, MD, USA		
2.3 Factory Informa	tion		
Company Name:	ZTECH COMMNICATION(SZ) CO LTD		

## Address: FL 7 BLOCK D BAO'AN ZHIGU INNOVATION PARK YIN'TIAN ROAD NO.4 XI'XIANG STR' BAO'AN DISTRICT SZ CHINA

## 2.4 General Description of Equipment under Test (EUT)

EUT Name:	Mobile Phone
Test Model Number:	HD55 Pro
Hardware Version:	N/A
Software Version:	N/A

## 2.5 Technical Information

Power Supply:	DC 3.8V form battery
Power Adaptor:	Input:100-240V 50/60Hz 0.15A Output:5.0V==1.0A
Operation Frequency Range	U-NII Band 1: 5.18~5.24 GHz U-NII Band 3: 5.745~5.825 GHz
Frequency Block	U-NII Band 1: 5.15~5.25 GHz U-NII Band 3: 5.725~5.85 GHz
Channel Bandwidth	802.11a: 20 MHz 802.11n: 20 MHz, 40 MHz 802.11ac: 20 MHz, 40 MHz, 80 MHz
Antenna Type:	FPC Antenna
Antenna Gain:	1.11dBi

Note:

#: The antenna gain provided by the applicant, and the laboratory will not be responsible for the accumulated calculation results which covers the information provided by the applicant.

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## 3 Summary of Test Results

## 3.1 Test Standards

The tests were performed according to following standards:

47 CFR Part 15E: Unlicensed National Information Infrastructure Devices

## 3.2 Uncertainty of Test

Item	Measurement Uncertainty
Conducted Emission (150 kHz-30 MHz)	±2.64dB
Occupied Bandwidth	±69kHz
Transmitter Power, Conducted	±0.87dB
Power Spectral Density	±0.69dB
Conducted Spurious Emissions	±0.95dB
Radiated Spurious Emissions (above 1GHz)	1-6GHz: ±3.94dB
	6-18GHz: ±4.16dB
Radiated Spurious Emissions (30M - 1GHz)	±4.12dB

The following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

## 3.3 Summary of Test Result

Item	Standard	Requirement	Result
Antenna requirement	47 CFR Part 15E	Part 15.203	Pass
Conducted Emission at AC power line	47 CFR Part 15E	47 CFR Part 15.207(a)	Pass
Maximum conducted output power	47 CFR Part 15E	47 CFR Part 15.407(a)(1)(i) 47 CFR Part 15.407(a)(1)(ii) 47 CFR Part 15.407(a)(1)(iii) 47 CFR Part 15.407(a)(1)(iv) 47 CFR Part 15.407(a)(2) 47 CFR Part 15.407(a)(3)(i)	Pass
Power spectral density	47 CFR Part 15E	47 CFR Part 15.407(a)(1)(i) 47 CFR Part 15.407(a)(1)(ii) 47 CFR Part 15.407(a)(1)(iii) 47 CFR Part 15.407(a)(1)(iv) 47 CFR Part 15.407(a)(2) 47 CFR Part 15.407(a)(3)(i)	Pass
Emission bandwidth and occupied bandwidth	47 CFR Part 15E	U-NII 1, U-NII 2A, U-NII 2C: No limits, only for report use. 47 CFR Part 15.407(e)	Pass
Channel Availability Check Time	47 CFR Part 15E	47 CFR Part 15.407(h)(2)(ii)	Pass
U-NII Detection Bandwidth	47 CFR Part 15E	47 CFR Part 15.407(h)(2)	Pass
Statistical Performance Check	47 CFR Part 15E	KDB 935210 D02, Clause 5.1 Table 2	Pass
Channel Move Time, Channel Closing Transmission Time	47 CFR Part 15E	47 CFR Part 15.407(h)(2)(iii)	Pass
Non-Occupancy Period Test	47 CFR Part 15E	47 CFR Part 15.407(h)(2)(iv)	Pass
DFS Detection Thresholds	47 CFR Part 15E	KDB 905462 D02, Clause 5.2 Table 3	Pass
Band edge emissions (Radiated)	47 CFR Part 15E	47 CFR Part 15.407(b)(1) 47 CFR Part 15.407(b)(2) 47 CFR Part 15.407(b)(4) 47 CFR Part 15.407(b)(10)	Pass

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Page 7 of 123

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#### Test Report Number: BTF240419R00904

Undesirable emission limits (below 1GHz)	47 CFR Part 15E	47 CFR Part 15.407(b)(9)	Pass
Undesirable emission limits (above 1GHz)	47 CFR Part 15E	47 CFR Part 15.407(b)(1) 47 CFR Part 15.407(b)(2) 47 CFR Part 15.407(b)(4) 47 CFR Part 15.407(b)(10)	Pass

#### **Test Configuration** 4

#### **Test Equipment List** 4.1

Conducted Emission at AC power line									
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date				
Pulse Limiter	SCHWARZBECK	VTSD 9561-F	00953	2023-11-16	2024-11-15				
Coaxial Switcher	SCHWARZBECK	CX210	CX210	2023-11-16	2024-11-15				
V-LISN	SCHWARZBECK	NSLK 8127	01073	2023-11-16	2024-11-15				
LISN	AFJ	LS16/110VAC	16010020076	2023-11-16	2024-11-15				
EMI Receiver	ROHDE&SCHWA RZ	ESCI3	101422	2023-11-16	2024-11-15				

Duty Cycle								
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date			
RFTest software	/	V1.00	/	/	/			
RF Control Unit	Techy	TR1029-1	/	2023-11-16	2024-11-15			
RF Sensor Unit	Techy	TR1029-2	/	2023-11-16	2024-11-15			
Programmable constant temperature and humidity box	ZZCKONG	ZZ-K02A	20210928007	2023-11-16	2024-11-15			
Adjustable Direct Current Regulated Power Supply	Dongguan Tongmen Electronic Technology Co., LTD	etm-6050c	20211026123	2023-11-16	2024-11-15			
WIDEBAND RADIO COMMNUNICATION TESTER	Rohde & Schwarz	CMW500	161997	2023-11-16	2024-11-15			
MXA Signal Analyzer	KEYSIGHT	N9020A	MY50410020	2023-11-16	2024-11-15			

Maximum conducted output power								
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date			
RFTest software	/	V1.00	/	/	/			
RF Control Unit	Techy	TR1029-1	/	2023-11-16	2024-11-15			
RF Sensor Unit	Techy	TR1029-2	/	2023-11-16	2024-11-15			
Programmable constant temperature and humidity box	ZZCKONG	ZZ-K02A	20210928007	2023-11-16	2024-11-15			
Adjustable Direct Current Regulated Power Supply	Dongguan Tongmen Electronic Technology Co., LTD	etm-6050c	20211026123	2023-11-16	2024-11-15			
WIDEBAND RADIO COMMNUNICATION	Rohde & Schwarz	CMW500	161997	2023-11-16	2024-11-15			

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Page 8 of 123



TESTER			10 March 10	and the second se	
MXA Signal Analyzer	KEYSIGHT	N9020A	MY50410020	2023-11-16	2024-11-15

Power spectral density								
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date			
RFTest software	/	V1.00	/	/	/			
RF Control Unit	Techy	TR1029-1	/	2023-11-16	2024-11-15			
RF Sensor Unit	Techy	TR1029-2	/	2023-11-16	2024-11-15			
Programmable constant temperature and humidity box	ZZCKONG	ZZ-K02A	20210928007	2023-11-16	2024-11-15			
Adjustable Direct Current Regulated Power Supply	Dongguan Tongmen Electronic Technology Co., LTD	etm-6050c	20211026123	2023-11-16	2024-11-15			
WIDEBAND RADIO COMMNUNICATION TESTER	Rohde & Schwarz	CMW500	161997	2023-11-16	2024-11-15			
MXA Signal Analyzer	KEYSIGHT	N9020A	MY50410020	2023-11-16	2024-11-15			

Emission bandwidth and occupied bandwidth								
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date			
RFTest software	/	V1.00	/	/	/			
RF Control Unit	Techy	TR1029-1	/	2023-11-16	2024-11-15			
RF Sensor Unit	Techy	TR1029-2	/	2023-11-16	2024-11-15			
Programmable constant temperature and humidity box	ZZCKONG	ZZ-K02A	20210928007	2023-11-16	2024-11-15			
Adjustable Direct Current Regulated Power Supply	Dongguan Tongmen Electronic Technology Co., LTD	etm-6050c	20211026123	2023-11-16	2024-11-15			
WIDEBAND RADIO COMMNUNICATION TESTER	Rohde & Schwarz	CMW500	161997	2023-11-16	2024-11-15			
MXA Signal Analyzer	KEYSIGHT	N9020A	MY50410020	2023-11-16	2024-11-15			

Channel Availability Check Time									
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date				
RFTest software	/	V1.00	/	/	/				
RF Control Unit	Techy	TR1029-1	/	2023-11-16	2024-11-15				
RF Sensor Unit	Techy	TR1029-2	/	2023-11-16	2024-11-15				
Programmable constant temperature and humidity box	ZZCKONG	ZZ-K02A	20210928007	2023-11-16	2024-11-15				
Adjustable Direct	Dongguan	etm-6050c	20211026123	2023-11-16	2024-11-15				

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Page 9 of 123



#### Test Report Number: BTF240419R00904

Current Regulated Power Supply	Tongmen Electronic Technology Co., LTD	8			
WIDEBAND RADIO COMMNUNICATION TESTER	Rohde & Schwarz	CMW500	161997	2023-11-16	2024-11-15
MXA Signal Analyzer	KEYSIGHT	N9020A	MY50410020	2023-11-16	2024-11-15

U-NII Detection Bandwidth								
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date			
RFTest software	/	V1.00	/	/	/			
RF Control Unit	Techy	TR1029-1	/	2023-11-16	2024-11-15			
RF Sensor Unit	Techy	TR1029-2	/	2023-11-16	2024-11-15			
Programmable constant temperature and humidity box	ZZCKONG	ZZ-K02A	20210928007	2023-11-16	2024-11-15			
Adjustable Direct Current Regulated Power Supply	Dongguan Tongmen Electronic Technology Co., LTD	etm-6050c	20211026123	2023-11-16	2024-11-15			
WIDEBAND RADIO COMMNUNICATION TESTER	Rohde & Schwarz	CMW500	161997	2023-11-16	2024-11-15			
MXA Signal Analyzer	KEYSIGHT	N9020A	MY50410020	2023-11-16	2024-11-15			

Statistical Performance Check								
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date			
RFTest software	/	V1.00	/	/	/			
RF Control Unit	Techy	TR1029-1	/	2023-11-16	2024-11-15			
RF Sensor Unit	Techy	TR1029-2	/	2023-11-16	2024-11-15			
Programmable constant temperature and humidity box	ZZCKONG	ZZ-K02A	20210928007	2023-11-16	2024-11-15			
Adjustable Direct Current Regulated Power Supply	Dongguan Tongmen Electronic Technology Co., LTD	etm-6050c	20211026123	2023-11-16	2024-11-15			
WIDEBAND RADIO COMMNUNICATION TESTER	Rohde & Schwarz	CMW500	161997	2023-11-16	2024-11-15			
MXA Signal Analyzer	KEYSIGHT	N9020A	MY50410020	2023-11-16	2024-11-15			

Channel Move Time, Channel Closing Transmission Time									
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date				
RFTest software	/	V1.00	/	/	/				
RF Control Unit	Techy	TR1029-1	/	2023-11-16	2024-11-15				
RF Sensor Unit	Techy	TR1029-2	/	2023-11-16	2024-11-15				
Programmable constant temperature	ZZCKONG	ZZ-K02A	20210928007	2023-11-16	2024-11-15				

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Page 10 of 123



and humidity box			100 March 100		
Adjustable Direct Current Regulated Power Supply	Dongguan Tongmen Electronic Technology Co., LTD	etm-6050c	20211026123	2023-11-16	2024-11-15
WIDEBAND RADIO COMMNUNICATION TESTER	Rohde & Schwarz	CMW500	161997	2023-11-16	2024-11-15
MXA Signal Analyzer	KEYSIGHT	N9020A	MY50410020	2023-11-16	2024-11-15

Non-Occupancy Period Test						
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date	
RFTest software	/	V1.00	/	/	/	
RF Control Unit	Techy	TR1029-1	/	2023-11-16	2024-11-15	
RF Sensor Unit	Techy	TR1029-2	/	2023-11-16	2024-11-15	
Programmable constant temperature and humidity box	ZZCKONG	ZZ-K02A	20210928007	2023-11-16	2024-11-15	
Adjustable Direct Current Regulated Power Supply	Dongguan Tongmen Electronic Technology Co., LTD	etm-6050c	20211026123	2023-11-16	2024-11-15	
WIDEBAND RADIO COMMNUNICATION TESTER	Rohde & Schwarz	CMW500	161997	2023-11-16	2024-11-15	
MXA Signal Analyzer	KEYSIGHT	N9020A	MY50410020	2023-11-16	2024-11-15	

DFS Detection Thresholds							
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date		
RFTest software	/	V1.00	/	/	/		
RF Control Unit	Techy	TR1029-1	/	2023-11-16	2024-11-15		
RF Sensor Unit	Techy	TR1029-2	/	2023-11-16	2024-11-15		
Programmable constant temperature and humidity box	ZZCKONG	ZZ-K02A	20210928007	2023-11-16	2024-11-15		
Adjustable Direct Current Regulated Power Supply	Dongguan Tongmen Electronic Technology Co., LTD	etm-6050c	20211026123	2023-11-16	2024-11-15		
WIDEBAND RADIO COMMNUNICATION TESTER	Rohde & Schwarz	CMW500	161997	2023-11-16	2024-11-15		
MXA Signal Analyzer	KEYSIGHT	N9020A	MY50410020	2023-11-16	2024-11-15		

Band edge emissions (Radiated)								
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date			
Coaxial cable Multiflex 141	Schwarzbeck	N/SMA 0.5m	517386	/	/			
Preamplifier	SCHWARZBECK	BBV9744	00246	2023-11-16	2023-11-23			

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Page 11 of 123



RE Cable	REBES Talent	UF1-SMASMAM-1 0m	21101566	2023-11-16	2024-11-15
RE Cable	REBES Talent	UF2-NMNM-10m	21101570	2023-11-16	2024-11-15
RE Cable	REBES Talent	UF1-SMASMAM-1 m	21101568	2023-11-16	2024-11-15
RE Cable	REBES Talent	UF2-NMNM-1m	21101576	2023-11-16	2024-11-15
RE Cable	REBES Talent	UF2-NMNM-2.5m	21101573	2023-11-16	2024-11-15
POSITIONAL CONTROLLER	SKET	PCI-GPIB	1	/	2024-11-15
Horn Antenna	SCHWARZBECK	BBHA9170	01157	2023-11-16	2024-11-15
EMI TEST RECEIVER	ROHDE&SCHWA RZ	ESCI7	101032	2023-11-16	2024-11-15
SIGNAL ANALYZER	ROHDE&SCHWA RZ	FSQ40	100010	2023-11-16	2024-11-15
POSITIONAL CONTROLLER	SKET	PCI-GPIB	/	/	1
Broadband Preamplilifier	SCHWARZBECK	BBV9718D	00008	2023-11-16	2024-11-15
Horn Antenna	SCHWARZBECK	BBHA9120D	2597	2023-11-16	2024-11-15
EZ_EMC	Frad	FA-03A2 RE+	/	/	/
POSITIONAL CONTROLLER	SKET	PCI-GPIB	1	1	1
Log periodic antenna	SCHWARZBECK	VULB 9168	01328	2023-11-16	2024-11-15

Undesirable emission limits (below 1GHz)						
Equipment	Manufacturer Model No Inventory No		Cal Date	Cal Due Date		
Coaxial cable Multiflex 141	flex Schwarzbeck N/SMA 0.5m 51		517386	/	1	
Preamplifier	SCHWARZBECK	BBV9744	00246	2023-11-16	2024-11-15	
RE Cable	REBES Talent	UF1-SMASMAM-1 0m	21101566	2023-11-16	2024-11-15	
RE Cable	REBES Talent	UF2-NMNM-10m	21101570	2023-11-16	2024-11-15	
RE Cable	REBES Talent	UF1-SMASMAM-1 m	21101568	2023-11-16	2024-11-15	
RE Cable	REBES Talent	UF2-NMNM-1m	21101576	2023-11-16	2024-11-15	
RE Cable	REBES Talent	UF2-NMNM-2.5m	21101573	2023-11-16	2024-11-15	
POSITIONAL CONTROLLER	SKET	PCI-GPIB	1	/	1	
Horn Antenna	SCHWARZBECK	BBHA9170	01157	2023-11-16	2024-11-15	
EMI TEST RECEIVER	ROHDE&SCHWA RZ	ESCI7	101032	2023-11-16	2024-11-15	
SIGNAL ANALYZER	ROHDE&SCHWA RZ	FSQ40	100010	2023-11-16	2024-11-15	
POSITIONAL CONTROLLER	SKET	PCI-GPIB	1	/	1	
Broadband Preamplilifier	SCHWARZBECK	BBV9718D	00008	2023-11-16	2024-11-15	
Horn Antenna	SCHWARZBECK	BBHA9120D	2597	2023-11-16	2024-11-15	
EZ_EMC	Frad	FA-03A2 RE+	/	/	/	
POSITIONAL CONTROLLER	SKET	PCI-GPIB	1	1	1	

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Log periodic antenna SCHWARZBECK VULB 9168 0132	328 2021-11-28 2024-11-15
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Undesirable emission limits (above 1GHz)						
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date	
Coaxial cable Multiflex 141	Schwarzbeck	N/SMA 0.5m	517386	/	1	
Preamplifier	SCHWARZBECK	BBV9744	00246	2023-11-16	2024-11-15	
RE Cable	REBES Talent	UF1-SMASMAM-1 0m	21101566	2023-11-16	2024-11-15	
RE Cable	REBES Talent	UF2-NMNM-10m	21101570	2023-11-16	2024-11-15	
RE Cable	REBES Talent	UF1-SMASMAM-1 m	21101568	2023-11-16	2024-11-15	
RE Cable	REBES Talent	UF2-NMNM-1m	21101576	2023-11-16	2024-11-15	
RE Cable	REBES Talent	UF2-NMNM-2.5m	21101573	2023-11-16	2024-11-15	
POSITIONAL CONTROLLER	SKET	PCI-GPIB	1	/	1	
Horn Antenna	SCHWARZBECK	BBHA9170	01157	2023-11-16	2024-11-15	
EMI TEST RECEIVER	ROHDE&SCHWA RZ	ESCI7	101032	2023-11-16	2024-11-15	
SIGNAL ANALYZER	ROHDE&SCHWA RZ	FSQ40	100010	2023-11-16	2024-11-15	
POSITIONAL CONTROLLER	SKET	PCI-GPIB	1	/	1	
Broadband Preamplilifier	SCHWARZBECK	BBV9718D	00008	2023-11-16	2024-11-15	
Horn Antenna	SCHWARZBECK	BBHA9120D	2597	2023-11-16	2024-11-15	
EZ_EMC	Frad	FA-03A2 RE+	/	/	/	
POSITIONAL CONTROLLER	SKET	PCI-GPIB	/	1	1	
Log periodic antenna	SCHWARZBECK	VULB 9168	01328	2023-11-16	2024-11-15	



## 4.2 Test Auxiliary Equipment

The EUT was tested as an independent device.

## 4.3 Test Modes

No.	Test Modes	Description
TM1	802.11a mode	Keep the EUT connect to AC power line and works in continuously transmitting mode with 802.11a modulation type. All data rates has been tested and found the data rate @ 6Mbps is the worst case. Only the data of worst case is recorded in the report.
TM2	802.11n mode	Keep the EUT connect to AC power line and works in continuously transmitting mode with 802.11n modulation type. All bandwidth and data rates has been tested and found the data rate @ MCS0 is the worst case. Only the data of worst case is recorded in the report.
TM3	802.11ac mode	Keep the EUT connect to AC power line and works in continuously transmitting mode with 802.11ac modulation type. Only the data of worst case is recorded in the report.
TM4	Normal Operating	Keep the EUT works in normal operating mode and connect to companion device



## 5 Evaluation Results (Evaluation)

## 5.1 Antenna requirement

	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. The use of a
Test Requirement:	permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section.

## 6 Radio Spectrum Matter Test Results (RF)

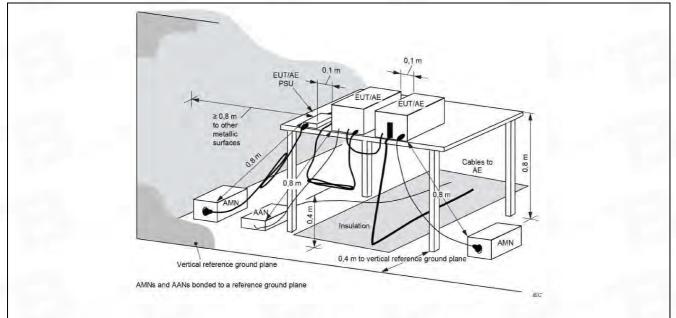
## 6.1 Conducted Emission at AC power line

Test Requirement:	47 CFR Part 15.207(a)					
Test Method:	Refer to ANSI C63.10-2013 section 6.2, standard test method for ac power-line conducted emissions from unlicensed wireless devices					
	Frequency of emission (MHz)	Conducted limit (dBµV)				
	and the second se	Quasi-peak	Average			
Toot Limit:	0.15-0.5	66 to 56*	56 to 46*			
Test Limit:	0.5-5	56	46			
	5-30	60	50			
	*Decreases with the logarithm of the frequency.					

## 6.1.1 E.U.T. Operation:

Operating Environment:			
Temperature:	25.5 °C		1000 C
Humidity:	50.6 %		
Atmospheric Pressure:	1010 mbar		

## 6.1.2 Test Setup Diagram:



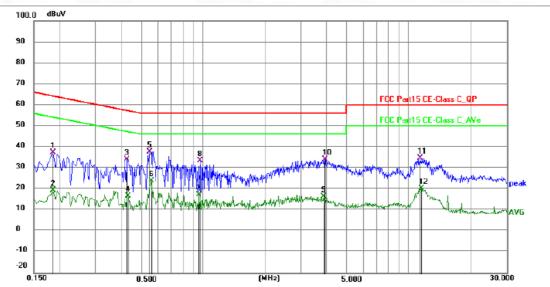
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## 6.1.3 Test Data:

TM1 / Line: Line / Band: U-NII 1 / BW: 20 / CH: L



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F	Remark
1	0.1860	27.03	10.53	37.56	64.21	-26.65	QP	Ρ	
2	0.1860	8.87	10.53	19.40	54.21	-34.81	AVG	Ρ	
3	0.4244	23.71	10.57	34.28	57.36	-23.08	QP	Ρ	
4	0.4290	6.12	10.57	16.69	47.27	-30.58	AVG	Ρ	
5 *	0.5460	27.15	10.60	37.75	56.00	-18.25	QP	Р	
6	0.5594	13.35	10.61	23.96	46.00	-22.04	AVG	Р	
7	0.9555	6.74	10.67	17.41	46.00	-28.59	AVG	Ρ	
8	0.9645	22.85	10.67	33.52	56.00	-22.48	QP	Р	
9	3.8490	5.80	10.66	16.46	46.00	-29.54	AVG	Р	
10	3.9210	23.57	10.67	34.24	56.00	-21.76	QP	Р	
11	11.4045	23.93	10.87	34.80	60.00	-25.20	QP	Р	
12	11.5124	9.48	10.86	20.34	50.00	-29.66	AVG	Ρ	

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100.0 dBuV 90 80 70 FCC P at15 CE-Class C\_QP 60 FCC Part15 CE-Class C\_AVe 50 40 10 8 30 Mlad 20 10 AVG 0 -10 -20 30.000 (MHz) 0.150 0.500 5.000

#### TM1 / Line: Neutral / Band: U-NII 1 / BW: 20 / CH: L

No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F	Remark
1	0.1814	25.07	10.52	35.59	64.42	-28.83	QP	Р	
2	0.1844	9.88	10.53	20.41	54.29	-33.88	AVG	Р	
3 *	0.5414	16.90	10.60	27.50	46.00	-18.50	AVG	Р	
4	0.5550	26.55	10.61	37.16	56.00	-18.84	QP	Р	
5	0.7215	9.17	10.69	19.86	46.00	-26.14	AVG	Р	
6	0.7574	20.03	10.69	30.72	56.00	-25.28	QP	Р	
7	2.2604	8.44	10.67	19.11	46.00	-26.89	AVG	Р	
8	2.2650	20.84	10.67	31.51	56.00	-24.49	QP	Р	
9	4.3530	5.58	10.69	16.27	46.00	-29.73	AVG	Р	
10	4.4385	21.79	10.70	32.49	56.00	-23.51	QP	Р	
11	13.9650	1.86	10.84	12.70	50.00	-37.30	AVG	Р	
12	14.1944	17.69	10.82	28.51	60.00	-31.49	QP	Р	

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## 6.2 Duty Cycle

Test Requirement:	All measurements are to be performed with the EUT transmitting at 100% duty cycle at its maximum power control level; however, if 100% duty cycle cannot be achieved, measurements of duty cycle, x, and maximum-power transmission duration, T, are required for each tested mode of operation.
Test Method:	ANSI C63.10-2013 section 12.2 (b)
Test Limit:	No limits, only for report use.
Procedure:	<ul> <li>i) Set the center frequency of the instrument to the center frequency of the transmission.</li> <li>ii) Set RBW &gt;= EBW if possible; otherwise, set RBW to the largest available value.</li> <li>iii) Set VBW &gt;= RBW.</li> <li>iv) Set detector = peak.</li> <li>v) The zero-span measurement method shall not be used unless both RBW and VBW are &gt; 50/T, where T is defined in item a1) of 12.2, and the number of sweep points across duration T exceeds 100.</li> </ul>

#### 6.2.1 E.U.T. Operation:

Operating Environment:	
Temperature:	25.5 °C
Humidity:	50.6 %
Atmospheric Pressure:	1010 mbar

#### 6.2.2 Test Data:

Please Refer to Appendix for Details.



## 6.3 Maximum conducted output power

	47 CFR Part 15.407(a)(1)(i) 47 CFR Part 15.407(a)(1)(ii)
	47 CFR Part 15.407(a)(1)(iii)
Test Requirement:	47 CFR Part 15.407(a)(1)(iv)
	47 CFR Part 15.407(a)(2)
	47 CFR Part 15.407(a)(3)(i)
Test Method:	ANSI C63.10-2013, section 12.3
	For an outdoor access point operating in the band 5.15-5.25 GHz, the maximum
	conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi.
	If transmitting antennas of directional gain greater than 6 dBi are used, the
	maximum conducted output power shall be reduced by the amount in dB that the
	directional gain of the antenna exceeds 6 dBi. The maximum e.i.r.p. at any
	elevation angle above 30 degrees as measured from the horizon must not exceed 125 mW (21 dBm).
	For an indeer access point operating in the band 5 15 5 25 CHz, the maximum
	For an indoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi.
	If transmitting antennas of directional gain greater than 6 dBi are used, the
	maximum conducted output power shall be reduced by the amount in dB that the
	directional gain of the antenna exceeds 6 dBi.
	For fixed point-to-point access points operating in the band 5.15-5.25 GHz, the
	maximum conducted output power over the frequency band of operation shall not exceed 1 W.
	Fixed point-to-point U-NII devices may employ antennas with directional gain up to 23 dBi without any corresponding reduction in the maximum conducted output power.
Test Limit:	For fixed point-to-point transmitters that employ a directional antenna gain greater than 23 dBi, a 1 dB reduction in maximum conducted output power is required for
	each 1 dB of antenna gain in excess of 23 dBi.
	Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is
	professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed,
	point-to-point operations.
	For client devices in the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW provided the maximum antenna gain does not exceed 6 dBi.
	If transmitting antennas of directional gain greater than 6 dBi are used, the maximum conducted output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.
	For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in megahertz. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum conducted output power shall be reduced by the amount in dB that the
	directional gain of the antenna exceeds 6 dBi.

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	For the band 5.725-5.850 GHz, the maximum conducted output power over the
	frequency band of operation shall not exceed 1 W. If transmitting antennas of directional gain greater than 6 dBi are used, the
	maximum conducted output power shall be reduced by the amount in dB that the
	directional gain of the antenna exceeds 6 dBi.
	However, fixed point-to-point U-NII devices operating in this band may employ
	transmitting antennas with directional gain greater than 6 dBi without any
	corresponding reduction in transmitter conducted power. Fixed, point-to-point
	operations exclude the use of point-to-multipoint systems, omnidirectional
	applications, and multiple collocated transmitters transmitting the same
	information. The operator of the U-NII device, or if the equipment is professionally
	installed, the installer, is responsible for ensuring that systems employing high gain
	directional antennas are used exclusively for fixed, point-to-point operations.
	Method SA-1
	a) Set span to encompass the entire 26 dB EBW or 99% OBW of the signal.
	b) Set RBW = 1 MHz.
	<ul> <li>c) Set VBW &gt;= 3 MHz.</li> <li>d) Number of points in sweep &gt;= [2 × span / RBW]. (This gives bin-to-bin spacing</li> </ul>
	c) Number of points in sweep >= [2 * span / RBw]. (This gives bin-to-bin spacing <= RBW / 2, so
	that narrowband signals are not lost between frequency bins.)
	e) Sweep time = auto.
	f) Detector = RMS (i.e., power averaging), if available. Otherwise, use sample
	detector mode.
	g) If transmit duty cycle < 98%, use a video trigger with the trigger level set to
	enable triggering
	only on full power pulses. The transmitter shall operate at maximum power control
5 .	level for the
Procedure:	entire duration of every sweep. If the EUT transmits continuously (i.e., with no OFF
	intervals) or at duty cycle >= 98%, and if each transmission is entirely at the maximum power
	control level,
	then the trigger shall be set to "free run."
	h) Trace average at least 100 traces in power averaging (rms) mode.
	i) Compute power by integrating the spectrum across the 26 dB EBW or 99% OBW
	of the signal
	using the instrument's band power measurement function, with band limits set
	equal to the
	EBW or OBW band edges. If the instrument does not have a band power function,
	then sum the
	spectrum levels (in power units) at 1 MHz intervals extending across the 26 dB
	EBW or 99%
	OBW of the spectrum.
631 FILT Operation	

## 6.3.1 E.U.T. Operation:

Operating Environment:	
Temperature:	25.5 °C
Humidity:	50.6 %
Atmospheric Pressure:	1010 mbar

#### 6.3.2 Test Data:

Please Refer to Appendix for Details.



## 6.4 Power spectral density

0.4 I Owel Spectral	
	47 CFR Part 15.407(a)(1)(i)
	47 CFR Part 15.407(a)(1)(ii)
Test Requirement:	47 CFR Part 15.407(a)(1)(iii)
	47 CFR Part 15.407(a)(1)(iv)
	47 CFR Part 15.407(a)(2)
	47 CFR Part 15.407(a)(3)(i)
Test Method:	ANSI C63.10-2013, section 12.5
	For an outdoor access point operating in the band 5.15-5.25 GHz, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.
	For an indoor access point operating in the band 5.15-5.25 GHz, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.
	For fixed point-to-point access points operating in the band 5.15-5.25 GHz, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band.
	Fixed point-to-point U-NII devices may employ antennas with directional gain up to 23 dBi without any corresponding reduction in the maximum power spectral density. For fixed point-to-point transmitters that employ a directional antenna gain greater than 23 dBi, a 1 dB reduction in maximum power spectral density is required for each 1 dB of antenna gain in excess of 23 dBi.
Test Limit:	Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.
	For client devices in the 5.15-5.25 GHz band, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.
	For the 5.25-5.35 GHz and 5.47-5.725 GHz bands, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum power spectral density shall be reduced by the amount in dB that the
	directional gain of the antenna exceeds 6 dBi.
	For the band 5.725-5.850 GHz, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, the maximum power spectral density shall be reduced by the amount in dB that the
	directional gain of the antenna exceeds 6 dBi. However, fixed point-to-point U-NII devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter

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	conducted power.
	Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.
	a) Create an average power spectrum for the EUT operating mode being tested by following the instructions in 12.3.2 for measuring maximum conducted output power using a
	spectrum analyzer or EMI receiver; that is, select the appropriate test method (SA-1, SA-2, SA-3, or their
	respective alternatives) and apply it up to, but not including, the step labeled, "Compute
	power" (This procedure is required even if the maximum conducted output power
	measurement was performed using the power meter method PM.) b) Use the peak search function on the instrument to find the peak of the spectrum. c) Make the following adjustments to the peak value of the spectrum, if applicable: 1) If method SA-2 or SA-2A was used, then add [10 log (1 / D)], where D is the duty cycle, to the peak of the spectrum.
	2) If method SA-3A was used and the linear mode was used in step h) of 12.3.2.7, add
Procedure:	1 dB to the final result to compensate for the difference between linear averaging and
	power averaging. d) The result is the PPSD.
	e) The procedure in item a) through item c) requires the use of 1 MHz resolution bandwidth to
	satisfy the 1 MHz measurement bandwidth specified by some regulatory authorities.This
	requirement also permits use of resolution bandwidths less than 1 MHz "provided that the
	measured power is integrated to show the total power over the measurement bandwidth" (i.e.,
	1 MHz). If measurements are performed using a reduced resolution bandwidth and integrated
	over 1 MHz bandwidth, the following adjustments to the procedures apply: 1) Set RBW >= 1 / T, where T is defined in 12.2 a). 2) Set VBW >= [3 × RBW].
	<ul> <li>3) Care shall be taken such that the measurements are performed during a period of continuous transmission or are corrected upward for duty cycle.</li> </ul>

## 6.4.1 E.U.T. Operation:

Operating Environment:		
Temperature:	25.5 °C	
Humidity:	50.6 %	
Atmospheric Pressure:	1010 mbar	

#### 6.4.2 Test Data:

Please Refer to Appendix for Details.

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## 6.5 Emission bandwidth and occupied bandwidth

	U-NII 1, U-NII 2A, U-NII 2C: No limits, only for report use.
Test Requirement:	U-NII 3, U-NII 4: 47 CFR Part 15.407(e)
Test Method:	ANSI C63.10-2013, section 6.9.3 & 12.4
Test Method.	KDB 789033 D02, Clause C.2
	U-NII 1, U-NII 2A, U-NII 2C: No limits, only for report use.
Test Limit:	U-NII 3, U-NII 4: Within the 5.725-5.850 GHz and 5.850-5.895 GHz bands, the
	minimum 6 dB bandwidth of U-NII devices shall be at least 500 kHz.
	Emission bandwidth:
	a) Set RBW = approximately 1% of the emission bandwidth.
	b) Set the VBW > RBW. c) Detector = peak.
	d) Trace mode = max hold.
	e) Measure the maximum width of the emission that is 26 dB down from the peak
	of the emission.
	Compare this with the RBW setting of the instrument. Readjust RBW and repeat
	measurement
	as needed until the RBW/EBW ratio is approximately 1%.
	Occupied bandwidth:
	a) The instrument center frequency is set to the nominal EUT channel center
	frequency. The
	frequency span for the spectrum analyzer shall be between 1.5 times and 5.0 times
	the OBW. b) The nominal IF filter bandwidth (3 dB RBW) shall be in the range of 1% to 5% o
	the OBW,
	and VBW shall be approximately three times the RBW, unless otherwise specified
	by the
	applicable requirement.
	c) Set the reference level of the instrument as required, keeping the signal from
	exceeding the
Procedure:	maximum input mixer level for linear operation. In general, the peak of the spectra
	envelope
	shall be more than [10 log (OBW/RBW)] below the reference level. Specific guidance is given
	in 4.1.5.2.
	d) Step a) through step c) might require iteration to adjust within the specified
	range.
	e) Video averaging is not permitted. Where practical, a sample detection and single
	sweep mode
	shall be used. Otherwise, peak detection and max hold mode (until the trace
	stabilizes) shall be
	used.
	<ul> <li>f) Use the 99% power bandwidth function of the instrument (if available) and repor the measured</li> </ul>
	bandwidth.
	g) If the instrument does not have a 99% power bandwidth function, then the trace
	data points are
	recovered and directly summed in linear power terms. The recovered amplitude
	data points,
	beginning at the lowest frequency, are placed in a running sum until 0.5% of the
	total is reached;
	that frequency is recorded as the lower frequency. The process is repeated until
	99.5% of the
	total is reached; that frequency is recorded as the upper frequency. The 99%
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power bandwidth is
the difference between these two frequencies.
h) The occupied bandwidth shall be reported by providing plot(s) of the measuring instrument
display; the plot axes and the scale units per division shall be clearly labeled. Tabular data may
be reported in addition to the plot(s).
6 dB emission bandwidth:
a) Set RBW = 100 kHz.
b) Set the video bandwidth (VBW) $\geq$ 3 >= RBW.
c) Detector = Peak.
d) Trace mode = max hold.
e) Sweep = auto couple.
f) Allow the trace to stabilize.
g) Measure the maximum width of the emission that is constrained by the
frequencies associated with the two outermost amplitude points (upper and lower
frequencies) that are attenuated by 6 dB relative to the maximum level measured
in the fundamental emission.

### 6.5.1 E.U.T. Operation:

Operating Environment:	
Temperature:	25.5 °C
Humidity:	50.6 %
Atmospheric Pressure:	1010 mbar

#### 6.5.2 Test Data:

Please Refer to Appendix for Details.



## 6.6 Band edge emissions (Radiated)

	47 CFR Part 15.407(b)							
Test Requirement:	47 CFR Part 15.407(b)(2)							
rest Requirement.	47 CFR Part 15.407(b)(4)							
	47 CFR Part 15.407(b)	(10)						
Test Method:	ANSI C63.10-2013, se	ANSI C63.10-2013, section 12.7.4, 12.7.5, 12.7.6						
	For transmitters operat	ting in the 5.15-5.25 GH	Iz band: All emis	ssions outside of the				
	5.15-5.35 GHz band sl	nall not exceed an e.i.r.	p. of −27 dBm/N	1Hz.				
	For transmitters operat	ting in the 5.25-5.35 GF	Iz band: All emis	ssions outside of the				
	5.15-5.35 GHz band sl	nall not exceed an e.i.r.	p. of −27 dBm/N	1Hz.				
	For transmitters operat							
	All emissions shall be l							
	or below the band edg	e increasing linearly to	10 dBm/MHz at	25 MHz above or				
	below the band edge, a	and from 25 MHz above	e or below the ba	and edge increasing				
	linearly to a level of 15	.6 dBm/MHz at 5 MHz a	above or below t	the band edge, and				
	from 5 MHz above or b							
	dBm/MHz at the band	edge.						
	MHz	МНz	MHz	GHz				
	0.090-0.110	16.42-16.423	399.9-410	4.5-5.15				
	<sup>1</sup> 0.495-0.505	16.69475-16.69525		5.35-5.46				
	2.1735-2.1905	16.80425-16.80475	960-1240	7.25-7.75				
	4.125-4.128	25.5-25.67	1300-1427					
	4.17725-4.17775	37.5-38.25	1435-1626.5	9.0-9.2				
	4.20725-4.20775	73-74.6	1645.5-1646.	9.3-9.5				
	4.20723-4.20773	75-74.0	5	9.5-9.5				
	6.215-6.218	74.8-75.2	3 1660-1710	10.6-12.7				
	6.26775-6.26825	108-121.94	1718.8-1722.	13.25-13.4				
	0.20775-0.20025	100-121.94	2	15.25-15.4				
Test Limit:	6 31175 6 31335	102 120	2200-2300	11 17 11 5				
	6.31175-6.31225	123-138		14.47-14.5				
	8.291-8.294	149.9-150.05	2310-2390	15.35-16.2				
	8.362-8.366	156.52475-156.525	2483.5-2500	17.7-21.4				
	0.07605.0.00675	25	2000 2000	00.04.00.40				
	8.37625-8.38675	156.7-156.9	2690-2900	22.01-23.12				
	8.41425-8.41475	162.0125-167.17	3260-3267	23.6-24.0				
	12.29-12.293	167.72-173.2	3332-3339	31.2-31.8				
	12.51975-12.52025	240-285	3345.8-3358	36.43-36.5				
	12.57675-12.57725	322-335.4	3600-4400	( <sup>2</sup> )				
	13.36-13.41							
	1							
	<sup>1</sup> Until February 1, 1999	), this restricted band sl	hall be 0.490-0.5	510 MHz.				
	241 00 0							
	<sup>2</sup> Above 38.6							
	The field strength of en							
		nissions appearing with						
	exceed the limits show							
		the limits in § 15.209sh						
	measurement instrume							
		e with the emission limit						
	based on the average		emissions. The	provisions in §				
	15.35apply to these me	easurements.						
	Except as provided els	ewhere in this subpart,	the emissions fi	rom an intentional				

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#### Test Report Number: BTF240419R00904



	Frequency (MHz) 0.009-0.490	he field strength levels spec Field strength (microvolts/meter)	Measurement distance			
	0.009-0.490		distance			
		()				
			(meters)			
		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			
	bove 1GHz:					
a d b v	bove the ground at a 3 m legrees to determine the b. The EUT was set 3 met was mounted on the top o	eter fully-anechoic chambe position of the highest radia ers away from the interfere f a variable-height antenna	nce-receiving antenna, which			
d p d t t c v v e E f f s	letermine the maximum v polarizations of the antenr I. For each suspected em the antenna was tuned to of below 30MHz, the anter vas turned from 0 degrees and width with Maximum . If the emission level of the pecified, then testing cou	alue of the field strength. Be a are set to make the meas ission, the EUT was arrang heights from 1 meter to 4 m ana was tuned to heights 1 is to 360 degrees to find the n was set to Peak Detect Fi Hold Mode. The EUT in peak mode was 2 Id be stopped and the peak	oth horizontal and vertical surement. ed to its worst case and then heters (for the test frequency meter) and the rotatable table maximum reading. unction and Specified 10dB lower than the limit values of the EUT would be			
Procedure: ir 9 h	<ul> <li>reported. Otherwise the emissions that did not have 10dB margin would be</li> <li>re-tested one by one using peak or average method as specified and then reported in a data sheet.</li> <li>g. Test the EUT in the lowest channel, the middle channel, the Highest channel.</li> <li>h. The radiation measurements are performed in X, Y, Z axis positioning for</li> </ul>					
i. F	Repeat above procedure Remark:	und the X axis positioning ves until all frequencies meas	sured was complete.			
2 P tu e	1. Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor 2. Scan from 18GHz to 40GHz, the disturbance above 18GHz was very low points marked on above plots are the highest emissions could be found wh testing, so only above points had been displayed. The amplitude of spuriou emissions from the radiator which are attenuated more than 20dB below th need not be reported.					
a n d tt 4	re based on average limit ot exceed the maximum   IB under any condition of han the average limit, onl . The disturbance above	permitted average limits spe	strength of any emission shall ecified above by more than 20 ons whose peak level is lower shown in the report. he harmonics were the			

## 6.6.1 E.U.T. Operation:

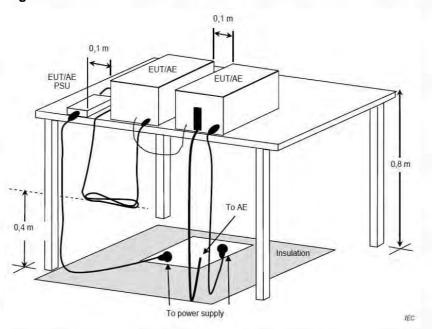
Operating Environment:					
Temperature:	25.5 °C				
Humidity:	50.6 %				

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Page 26 of 123



## Atmospheric Pressure: 1010 mbar 6.6.2 Test Setup Diagram: 1000 mbar



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## 6.6.3 Test Data:

Note: All the mode have been tested, and only the worst mode 802.11a are in the report

_					E CAONALL		-			_
-	1					z_Horizont		[		1
	No.	Frequency	Reading	Factor	Level	Limit	Margin	Detector	P/F	
		(MHz)	(dBu∀)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	20100101		
	1	5084.640	45.97	5.28	51.25	68.20	-16.95	peak	Р	
	2	5150.000	46.91	5.33	52.24	68.20	-15.96	peak	Р	
				UNII-1 20	M_5180M	Iz_Vertica	l			
		Frequency	Reading	Factor	Level	Limit	Margin	Detector	D/F	
	No.	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBu∖//m)	(dB)	Detector	P/F	
	1	5059.640	44.72	5.35	50.07	68.20	-18.13	peak	Р	
	2	5150.000	47.39	5.33	52.72	68.20	-15.48	peak	Р	
			ł	UNII-1 20M	1_5320MHz	z_Horizont	al	1		
		Frequency	Reading	Factor	Level	Limit	Margin	Detector	D/F	
	No.	(MHz)	(dBu∀)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	Detector	P/F	
	1	5350.000	45.31	5.45	50.76	68.20	-17.44	peak	Р	
	2	5460.000	46.67	5.52	52.19	68.20	-16.01	peak	Р	
		ł	ł	UNII-1 20	M_5320MI	-Iz_Vertica	I	• •		
	Na	Frequency	Reading	Factor	Level	Limit	Margin	Detector	D/5	
	No.	(MHz)	(dBu∀)	(dB/m)	(dBuV/m)	(dBu∀/m)	(dB)	Detector	P/F	
	1	5350.000	45.76	5.45	51.21	68.20	-16.99	peak	Р	
	2	5460.000	47.79	5.52	53.31	68.20	-14.89	peak	Р	
			•	UNII-3 20M	1_5745MHz	z_Horizont	al	•	·	_
Γ.		Frequency	Reading	Factor	Level	Limit	Margin			7
	No.	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	Detector	P/F	
	1	5650.000	44.98	5.63	50.61	68.20	-17.59	peak	Р	
	2	5700.000	45.44	5.70	51.14	105.20	-54.06	peak	Р	
	3	5720.000	46.18	5.66	51.84	110.80	-58.96	peak	Р	1
				UNII-1 20	M_5745MI	-Iz_Vertical				
Γ		Frequency	Reading	Factor	Level	Limit	Margin			
	No.	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	Detector	P/F	
	1	5350.000	44.24	5.63	49.87	68.20	-18.33	peak	Р	1
	2	5460.000	45.50	5.70	51.20	105.20	-54.00	peak	P	
	3	5460.000	46.10	5.66	51.76	110.80	-59.04	peak	Р	-

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UNII-3 20M_5825MHz_Horizontal									
No.	Frequency	Reading	Factor	Level	Lijmit	Margin	Detector	P/F	
INO.	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	Detector	P/F	
1	5855.000	47.64	5.73	53.37	110.80	-57.43	peak	Р	
2	5875.000	46.88	5.74	52.62	105.20	-52.58	peak	Р	
3	5925.000	46.33	5.66	51.99	68.20	-16.21	peak	Р	
		· · · · ·	UNII-3 20M	1_5825MHz	z_Horizont	al			
	Frequency	Reading	Factor	Level	Limit	Margin	Detector	P/F	
No.	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	Delector	F/F	
1	5725.000	47.92	5.73	53.65	110.80	-57.15	peak	Р	]
2	5730.000	47.77	5.74	53.51	105.20	-51.69	peak	Р	
3	5730.000	46.84	5.66	52.50	68.20	-15.70	peak	Р	



#### Undesirable emission limits (below 1GHz) 6.7

Test Requirement:	47 CFR Part 15.407(b)(9)						
Test Method:	ANSI C63.10-2013, section 12.7.4, 12.7.5, 12.7.6						
	Unwanted emissions below limits set forth in § 15.209.	/ 1 GHz must comply with	the general field strength				
	Except as provided elsewh radiator shall not exceed th Frequency (MHz)						
Test Limit:	0.009-0.490	(microvolts/meter) 2400/F(kHz)	(meters) 300				
	0.490-1.705 1.705-30.0 30-88	24000/F(kHz) 30 100 **	30 30 3				
	88-216 216-960	150 ** 200 **	3 3				
	Above 960	500	3				
Procedure:	above the ground at a 3 me degrees to determine the p b. The EUT was set 3 or 10 which was mounted on the c. The antenna height is va determine the maximum va polarizations of the antenna d. For each suspected emit the antenna was tuned to h of below 30MHz, the antenn was turned from 0 degrees e. The test-receiver system Bandwidth with Maximum H f. If the emission level of th specified, then testing coul- reported. Otherwise the em- re-tested one by one using data sheet. g. Test the EUT in the lowe h. The radiation measurem Transmitting mode, and fou i. Repeat above procedures Remark: 1. Level= Read Level+ Cat 2. Scan from 9kHz to 30MH points marked on above plu- testing, so only above poin emissions from the radiation need not be reported.	eter semi-anechoic chamb osition of the highest radia o meters away from the intr top of a variable-height ar ried from one meter to fou- lue of the field strength. B a are set to make the mea- ssion, the EUT was arrang heights from 1 meter to 4 m na was tuned to heights 1 to 360 degrees to find the was set to Peak Detect F Hold Mode. e EUT in peak mode was d be stopped and the peak hissions that did not have 1 quasi-peak method as spo st channel, the middle cha ents are performed in X, Y and the X axis positioning v s until all frequencies mean oble Loss+ Antenna Factor- tz, the disturbance below 1 to had been displayed. The which are attenuated mon GHz was very low and the	erference-receiving antenna, htenna tower. Ir meters above the ground to oth horizontal and vertical surement. ged to its worst case and then heters (for the test frequency meter) and the rotatable table e maximum reading. unction and Specified 10dB lower than the limit c values of the EUT would be 10dB margin would be ecified and then reported in a annel, the Highest channel. C z axis positioning for which it is the worst case. sured was complete. Preamp Factor 30MHz was very low. The ons could be found when e amplitude of spurious re than 20dB below the limit e harmonics were the highest				

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# BLAB

a. For above 1GHz, the EUT was placed on the top of a rotating table 1.5 meters
above the ground at a 3 meter fully-anechoic chamber. The table was rotated 360
degrees to determine the position of the highest radiation.
b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
c. The antenna height is varied from one meter to four meters above the ground to
determine the maximum value of the field strength. Both horizontal and vertical
polarizations of the antenna are set to make the measurement.
d. For each suspected emission, the EUT was arranged to its worst case and then
the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency
of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table
was turned from 0 degrees to 360 degrees to find the maximum reading.
e. The test-receiver system was set to Peak Detect Function and Specified
Bandwidth with Maximum Hold Mode.
f. If the emission level of the EUT in peak mode was 10dB lower than the limit
specified, then testing could be stopped and the peak values of the EUT would be
reported. Otherwise the emissions that did not have 10dB margin would be
re-tested one by one using peak or average method as specified and then reported
in a data sheet.
g. Test the EUT in the lowest channel, the middle channel, the Highest channel.
h. The radiation measurements are performed in X, Y, Z axis positioning for
Transmitting mode, and found the X axis positioning which it is the worst case.
i. Repeat above procedures until all frequencies measured was complete.
Remark:
1. Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor
2. Scan from 18GHz to 40GHz, the disturbance above 18GHz was very low. The
points marked on above plots are the highest emissions could be found when
testing, so only above points had been displayed. The amplitude of spurious
emissions from the radiator which are attenuated more than 20dB below the limit
need not be reported. 3. As shown in this section, for frequencies above 1GHz, the field strength limits
are based on average limits. However, the peak field strength of any emission shall
not exceed the maximum permitted average limits specified above by more than 20
dB under any condition of modulation. For the emissions whose peak level is lower
than the average limit, only the peak measurement is shown in the report.
4. The disturbance above 18GHz were very low and the harmonics were the
highest point could be found when testing, so only the above harmonics had been
displayed.

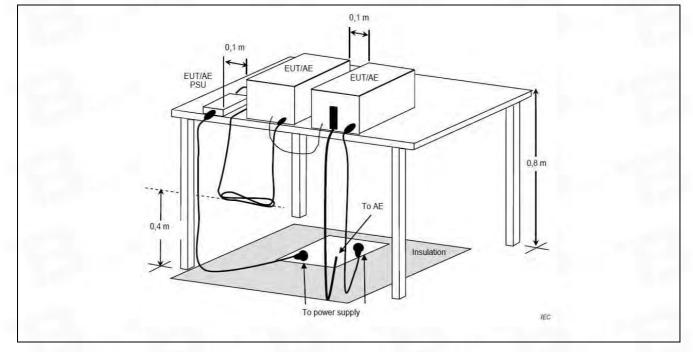
## 6.7.1 E.U.T. Operation:

Operating Environment:	
Temperature:	25.5 °C
Humidity:	50.6 %
Atmospheric Pressure:	1010 mbar

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#### 6.7.2 Test Setup Diagram:

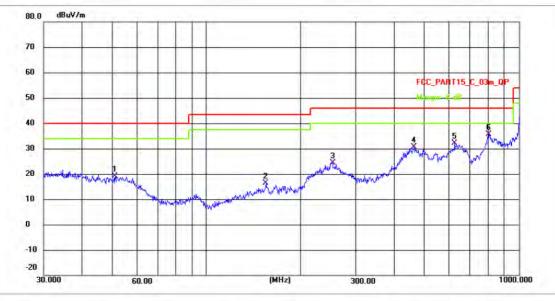


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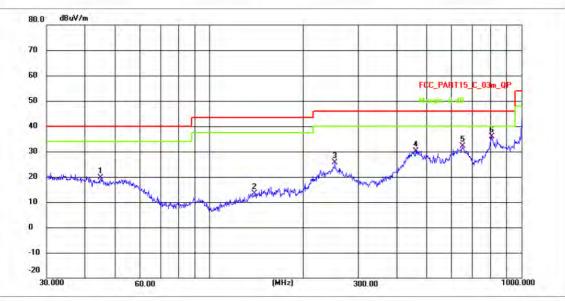
## 6.7.3 Test Data:

Note: All the mode have been tested, and only the worst mode are in the report TM1 / Polarization: Horizontal / Band: U-NII 1 / BW: 20 / CH: L



No.	Frequency (MHz)	Reading (dBu∀)	Factor (dB/m)	Level (dBu√/m)	Limit (dBu∀/m)	Margin (dB)	Detector	P/F
1	51.1209	20.82	-1.76	19.06	40.00	-20.94	QP	P
2	154,8204	24.04	-7.78	16.26	43.50	-27.24	QP	P
3	253.3920	23.88	0.53	24.41	46.00	-21.59	QP	Р
4	461.5356	27.10	3.42	30.52	46.00	-15.48	QP	P
5	625.0780	31.94	0.16	32.10	46.00	-13.90	QP	Р
6 *	803.1933	44.55	-8.92	35.63	46.00	-10.37	QP	P





#### TM1 / Polarization: Vertical / Band: U-NII 1 / BW: 20 / CH: L

No.	Frequency (MHz)	Reading (dBu∀)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	P/F
1	44.8220	23.53	-3.80	19.73	40.00	-20.27	QP	Р
2	140.0961	34.23	-20.79	13.44	43.50	-30.06	QP	Р
3	252.9482	34.68	-9.00	25.68	46.00	-20.32	QP	Р
4	459.1144	36.44	-6.27	30.17	46.00	-15.83	QP	Р
5	650.7997	40.70	-8.61	32.09	46.00	-13.91	QP	Р
6 *	806.0147	44.90	-8.92	35.98	46.00	-10.02	QP	P



## 6.8 Undesirable emission limits (above 1GHz)

0.0 Ondesirable									
	47 CFR Part 15.407(b)								
Test Deguirement	47 CFR Part 15.407(b)(2)								
Test Requirement:	47 CFR Part 15.407(b)(4)								
	47 CFR Part 15.407(b)	(10)							
Test Method:		ANSI C63.10-2013, section 12.7.4, 12.7.5, 12.7.6							
		ting in the 5.15-5.25 GH		sions outside of the					
		nall not exceed an e.i.r.							
	For transmitters operat								
	5.15-5.35 GHz band si	nall not exceed an e.i.r.	p. of -27 dBm/lv	IHZ.					
	<b>F</b>								
	For transmitters operat								
	All emissions shall be l								
		e increasing linearly to							
	below the band edge, a	and from 25 MHz above	e or below the ba	and edge increasing					
	linearly to a level of 15	.6 dBm/MHz at 5 MHz a	above or below t	the band edge, and					
	from 5 MHz above or b	elow the band edge inc	creasing linearly	to a level of 27					
	dBm/MHz at the band		• •						
	MHz	мнz	MHz	GHz					
	0.090-0.110	16.42-16.423	399.9-410	4.5-5.15					
	<sup>1</sup> 0.495-0.505	16.69475-16.69525		5.35-5.46					
	2.1735-2.1905	16.80425-16.80475	960-1240	7.25-7.75					
	4.125-4.128	25.5-25.67	1300-1427	8.025-8.5					
		37.5-38.25							
	4.17725-4.17775		1435-1626.5	9.0-9.2					
	4.20725-4.20775	73-74.6	1645.5-1646.	9.3-9.5					
			5						
	6.215-6.218	74.8-75.2	1660-1710	10.6-12.7					
	6.26775-6.26825	108-121.94	1718.8-1722.	13.25-13.4					
			2						
Test Limit:	6.31175-6.31225	123-138	2200-2300	14.47-14.5					
	8.291-8.294	149.9-150.05	2310-2390	15.35-16.2					
	8.362-8.366	156.52475-156.525	2483.5-2500	17.7-21.4					
		25							
	8.37625-8.38675	156.7-156.9	2690-2900	22.01-23.12					
	8.41425-8.41475	162.0125-167.17	3260-3267	23.6-24.0					
	12.29-12.293	167.72-173.2	3332-3339	31.2-31.8					
	12.51975-12.52025	240-285	3345.8-3358	36.43-36.5					
	12.57675-12.57725	322-335.4	3600-4400	( <sup>2</sup> )					
	13.36-13.41	522-555.4	3000-4400	()					
	13.30-13.41								
		9, this restricted band s	nall be 0.490-0.3						
	<sup>2</sup> Above 38.6								
		nissions appearing with							
	exceed the limits show								
		the limits in § 15.209sh							
		entation employing a CI							
	1000 MHz, compliance	with the emission limit	s in § 15.209sha	all be demonstrated					
		value of the measured							
	15.35apply to these me								
	Except as provided els	ewhere in this subpart,	the emissions fi	rom an intentional					
		ed the field strength lev							
	Frequency (MHz)	Field strength		Measurement					
				measurement					

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#### Test Report Number: BTF240419R00904



		(microvolts/meter)	distance
			(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
Procedure:	<ul> <li>above the ground at a degrees to determine to the EUT was set 3 was mounted on the to c. The antenna height determine the maximul polarizations of the and the antenna was turned from 0 degree. The test-receiver sy Bandwidth with Maxim f. If the emission level specified, then testing reported. Otherwise the re-tested one by one u in a data sheet.</li> <li>g. Test the EUT in the h. The radiation mease Transmitting mode, and i. Repeat above proce Remark:</li> <li>1. Level= Read Level 42. Scan from 18GHz to points marked on above testing, so only above emissions from the radiation the need not be reported.</li> <li>3. As shown in this seare based on average not exceed the maxim dB under any condition than the average limit, 4. The disturbance above proce above proces the the the the the the reported.</li> </ul>	e EUT was placed on the top of 3 meter fully-anechoic chamber the position of the highest radiati meters away from the interferen op of a variable-height antenna to is varied from one meter to four in value of the field strength. Bo tenna are set to make the measu emission, the EUT was arranged to heights from 1 meter to 4 me intenna was tuned to heights 1 m prees to 360 degrees to find the r stem was set to Peak Detect Fu oum Hold Mode. of the EUT in peak mode was 10 could be stopped and the peak is e emissions that did not have 10 using peak or average method as lowest channel, the middle chan urements are performed in X, Y, id found the X axis positioning w dures until all frequencies measu - Cable Loss+ Antenna Factor- Fo 40GHz, the disturbance above ive plots are the highest emission points had been displayed. The diator which are attenuated more ction, for frequencies above 1GH limits. However, the peak field st um permitted average limits spect n of modulation. For the emission only the peak measurement is so to 18GHz were very low and the found when testing, so only the	<ul> <li>The table was rotated 360 ion.</li> <li>ce-receiving antenna, which ower.</li> <li>meters above the ground to th horizontal and vertical urement.</li> <li>ed to its worst case and then eters (for the test frequency neter) and the rotatable table maximum reading.</li> <li>nction and Specified</li> <li>OdB lower than the limit values of the EUT would be 0dB margin would be specified and then reported</li> <li>and, the Highest channel.</li> <li>Z axis positioning for hich it is the worst case.</li> <li>ured was complete.</li> <li>Preamp Factor</li> <li>18GHz was very low. The sould be found when amplitude of spurious e than 20dB below the limit</li> <li>Az, the field strength limits trength of any emission shall cified above by more than 20 ns whose peak level is lower shown in the report.</li> </ul>

#### 6.8.1 E.U.T. Operation:

Operating Environment:	
Temperature:	25.5 °C
Humidity:	50.6 %
Atmospheric Pressure:	1010 mbar

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Page 36 of 123



#### 6.8.2 Test Data:

Not:All of the mode had be tested, only the worse mode of 802.11a are show in the report:

			UNII-1 20	)M 5180MHz	Horizontal					
	Frequency	Reading	Factor	Level	Limit	Margin			1	
No.	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	Detector	P/F		
1	10360.000	89.56	-45.78	43.78	74.00	-30.22	peak	Р	1	
2	15540.000	88.14	-42.21	45.93	74.00	-28.07	peak	Р	1	
	ł	U	INII-1_20	M_5180MHz	_Vertical	1	1		4	
	Frequency	Reading	Factor	Level	Limit	Margin			1	
No.	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	Detector	P/F		
1	10360.000	91.16	-45.84	45.32	74.00	-28.68	peak	Р	1	
2	15540.000	88.83	-42.27	46.56	74.00	-27.44	peak	Р	1	
				V 5200MHz H			1		1	
	Frequency	Reading	Factor	Level	Limit	Margin			1	
No.	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	Detector	P/F		
1	10400.000	89.96	-45.84	44.12	74.00	-29.88	peak	Р	1	
2	15600.000	88.54	-42.27	46.27	74.00	-27.73	peak	Р		
L			UNII-1 20	0M 5200MHz	Vertical		-	I	J	
	Frequency	Reading	Factor	Level	Limit	Margin	Detector F			[
No.	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)		P/F		
1	10400.000	91.66	-45.84	45.82	74.00	-28.18	peak	Р	1	
2	15600.000	89.33	-42.27	47.06	74.00	-26.94	peak	Р	1	
		l	JNII-1_20I	M_5240MHz_H	orizontal		-		1	
Nie	Frequency	Reading	Factor	Level	Limit	Margin	Detector			
No.	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	Detector	P/F		
1	10460.000	90.35	-45.73	44.62	74.00	-29.38	peak	Р	1	
2	15690.000	88.93	-42.16	46.77	74.00	-27.23	peak	Р		
	•		UNII-1_2	0M_5240MHz_	Vertical					
No.	Frequency	Reading	Factor	Level	Limit	Margin	Dotoctor	P/F	1	
INU.	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	Detector	F/F		
1	10460.000	91.99	-45.73	46.26	74.00	-27.74	peak	Р	1	
2	15690.000	89.66	-42.16	47.50	74.00	-26.50	peak	Р		
-	•	•	UNII-3_20	DM_5745MHz_I	Horizontal	•	•	•	-	
No	Frequency	Reading	Factor	Level	Limit	Margin	Detector			
No.	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	Detector	P/F		
1	11490.000	87.41	-45.06	42.35	74.00	-31.65	peak	Р		
2	17235.000	86.60	-40.57	46.03	74.00	-27.97	peak	Р		
	•	•		20M 5745MHz	Vortical		•		÷	

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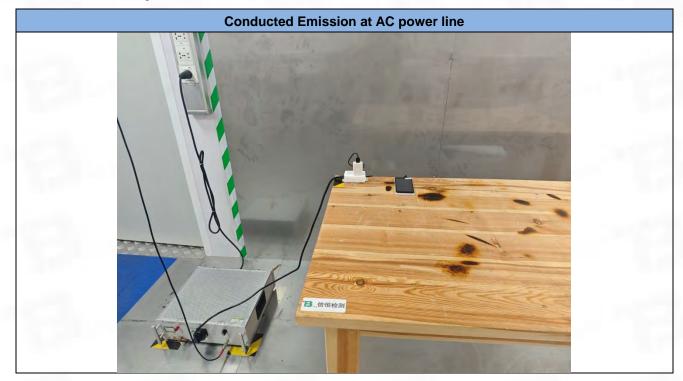
#### Test Report Number: BTF240419R00904

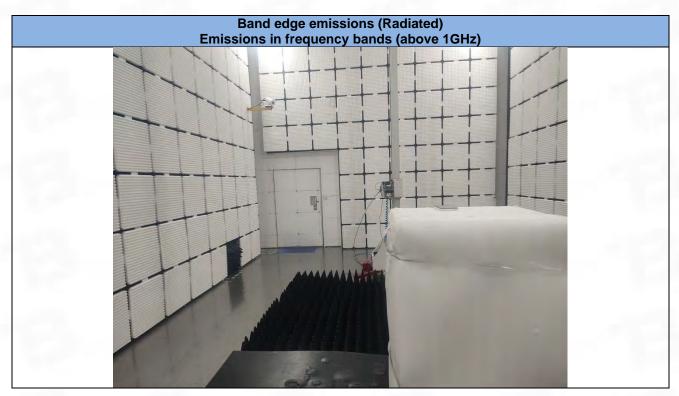
No.	Frequency	Reading	Factor	Level	Limit	Margin	Detector	P/F			
110.	(MHz)	(dBuV)	uV) (dB/m) (dBuV/m) (dBuV/m)		(dBuV/m)	(dB)	Detector				
1	11490.000	87.82	-45.06	42.76	74.00	-31.24	peak	P			
2	17235.000	87.12	-40.57	46.55	74.00	-27.45	peak	P			
UNII-3_20M_5785MHz_Horizontal											
No	Frequency	Reading	Factor	Level	Limit	Margin	Detector	D/F			
NO.	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m) (dB)	Delector					
1	11570.000	87.81	-45.00	42.81	74.00	-31.19	peak	Ρ			
2	17355.000	87.00	-40.51	46.49	74.00	-27.51	peak	Ρ			
		-	UNII-3_2	)M_5785MHz_`	Vertical						
No.	Frequency	Reading	Factor	Level	Limit	Margin	Detector	P/F			
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	Delector				
1	11570.000	89.24	-45.00	44.24	74.00	-29.76	peak	Ρ			
2	17355.000	88.54	-40.51	48.03	74.00	-25.97	peak	Р			
	•	l	JNII-3_201	M_5825MHz_H	orizontal	1					
Ne	Frequency	Reading	Factor	Level	Limit	Margin	Detector				
INO.	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	Delector	F/F			
1	11650.000	88.40	-44.95	43.45	74.00	-30.55	peak	Ρ			
2	17475.000	87.59	-40.46	47.13	74.00	-26.87	peak	Ρ			
UNII-3_20M_5825MHz_Vertical											
No.	Frequency	Reading	Factor	Level	Limit	Margin	Detector	D/E			
	(MHz)	(dBuV)	(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	Delector	F/F			
1	11650.000	89.72	-44.95	44.77	74.00	-29.23	peak	Ρ			
2	17475.000	89.02	-40.46	48.56	74.00	-25.44	peak	Ρ			
	2 No. 1 2 No. 1 2 No. 1 2 No. 1 2	No.         (MHz)           1         11490.000           2         17235.000           2         17235.000           No.         Frequency (MHz)           1         11570.000           2         17355.000           No.         Frequency (MHz)           1         11570.000           2         17355.000           No.         Frequency (MHz)           1         11570.000           2         17355.000           No.         Frequency (MHz)           1         11650.000           2         17475.000           No.         Frequency (MHz)           1         11650.000           1         11650.000	No.         (MHz)         (dBuV)           1         11490.000         87.82           2         17235.000         87.12           No.         Frequency (MHz)         Reading (dBuV)           1         11570.000         87.81           2         17355.000         87.00           No.         Frequency (MHz)         Reading (dBuV)           1         11570.000         87.00           No.         Frequency (MHz)         Reading (dBuV)           1         11570.000         89.24           2         17355.000         88.54           Vo.         Frequency (MHz)         Reading (dBuV)           1         11650.000         88.40           2         17475.000         87.59           No.         Frequency (MHz)         Reading (dBuV)           1         11650.000         89.72	No.         (MHz)         (dBuV)         (dB/m)           1         11490.000         87.82         -45.06           2         17235.000         87.12         -40.57           VIII-3_201         Reading         Factor           No.         Frequency         Reading         Factor           (MHz)         (dBuV)         (dB/m)           1         11570.000         87.81         -45.00           2         17355.000         87.00         -40.51           UNII-3_20           No.         Frequency         Reading         Factor           No.         Frequency         Reading         Factor           No.         Frequency         Reading         Factor           (MHz)         (dBuV)         (dB/m)         1           1         11570.000         89.24         -45.00           2         17355.000         88.54         -40.51           Mo.         Frequency         Reading         Factor           Mo.         Frequency         Reading         Factor           (MHz)         (dBuV)         (dB/m)         1           1         11650.000         89.72         -40.46	No.         (MHz)         (dBuV)         (dB/m)         (dBuV/m)           1         11490.000         87.82         -45.06         42.76           2         17235.000         87.12         -40.57         46.55           UNII-3_20M_5785MHz_H           No.         Frequency (MHz)         Reading (dBuV)         Factor         Level           No.         Frequency (MHz)         (dBuV)         (dB/m)         (dBuV/m)           1         11570.000         87.81         -45.00         42.81           2         17355.000         87.00         -40.51         46.49           UNII-3_20M_5785MHz_           No.         Frequency (MHz)         Reading (dBuV)         Factor         Level           No.         Frequency (MHz)         (dBuV)         (dB/m)         (dBuV/m)           1         11570.000         89.24         -45.00         44.24           2         17355.000         88.54         -40.51         48.03           UNII-3_20M_5825MHz_H           No.         Frequency (MHz)         (dBuV)         (dB/m)         (dBuV/m)           1         11650.000         88.40         -44.95         43.45	No.         (MHz)         (dBuV)         (dB/m)         (dBuV/m)         (dBuV/m)           1         11490.000         87.82         -45.06         42.76         74.00           2         17235.000         87.12         -40.57         46.55         74.00           2         17235.000         87.12         -40.57         46.55         74.00           No.         Frequency (MHz)         Reading (dBuV)         Factor         Level         Limit (dBuV/m)           1         11570.000         87.81         -45.00         42.81         74.00           2         17355.000         87.00         -40.51         46.49         74.00           2         17355.000         87.00         -40.51         46.49         74.00           2         17355.000         89.24         -45.00         44.24         74.00           2         17355.000         89.24         -45.00         44.24         74.00           2         17355.000         88.54         -40.51         48.03         74.00           2         17355.000         88.54         -40.51         48.03         74.00           1         11650.000         88.40         -44.95         43.	No.         (MHz)         (dBuV)         (dB/m)         (dBuV/m)         (dBuV/m)         (dB)           1         11490.000         87.82         -45.06         42.76         74.00         -31.24           2         17235.000         87.12         -40.57         46.55         74.00         -27.45           UNII-3 20M 5785MHz Horizontal           No.         Frequency         Reading         Factor         Level         Limit         Margin           No.         Frequency         Reading         Factor         Level         Limit         Margin           1         11570.000         87.81         -45.00         42.81         74.00         -27.51           UNII-3 20M 5785MHz Vertical           1         11570.000         87.81         -45.00         42.81         74.00         -27.51           UNII-3 20M 5785MHz Vertical           No.         Frequency         Reading         Factor         Level         Limit         Margin           (MHz)         (dBuV)         (dBuV)         (dBuV/m)         (dBuV/m)         (dB         -29.76           2         17355.000         89.24         -45.00         44.24         74.00	No.         (MHz)         (dBuV)         (dBm)         (dBuV/m)         (dBuV/m)         (dBuV/m)         (dB         Detector           1         11490.000         87.82         -45.06         42.76         74.00         -31.24         peak           2         17235.000         87.12         -40.57         46.55         74.00         -27.45         peak           UNII-3 20M 5785MHz Horizontal           No.         Frequency (MHz)         Reading (dBuV)         Factor         Level         Limit (dBuV/m)         Margin (dB)         Detector           1         11570.000         87.81         -45.00         42.81         74.00         -31.19         peak           2         17355.000         87.00         -40.51         46.49         74.00         -27.51         peak           No.         Frequency (MHz)         Reading (dBuV)         Factor         Level         Limit (dBuV/m)         Margin (dB)         Detector           1         11570.000         89.24         -45.00         44.24         74.00         -29.76         peak           2         17355.000         88.54         -40.51         48.03         74.00         -25.97         peak           1	No.         (MHz)         (dBuV)         (dB/m)         (dB/m)         (dBUV/m)         (dB/m)         (dB/m)		

Page 38 of 123



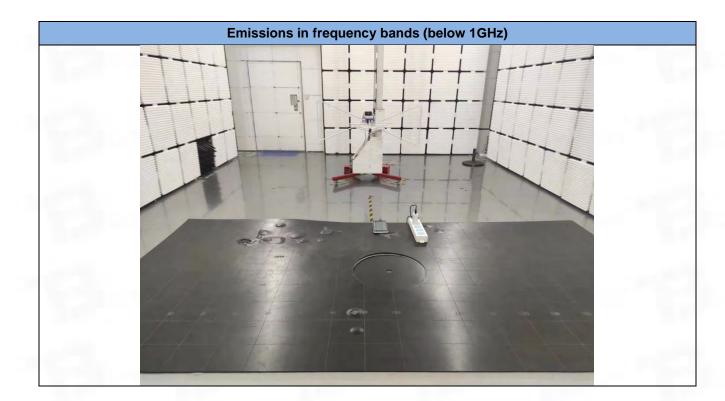
## 7 Test Setup Photos





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Test Report Number: BTF230913R00704



## 8 EUT Constructional Details (EUT Photos)

Please refer to the test report No. BTF240419R00901

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Test Report Number: BTF230913R00704

# Appendix

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# 1. Duty Cycle

## 1.1 Ant1

#### 1.1.1 Test Result

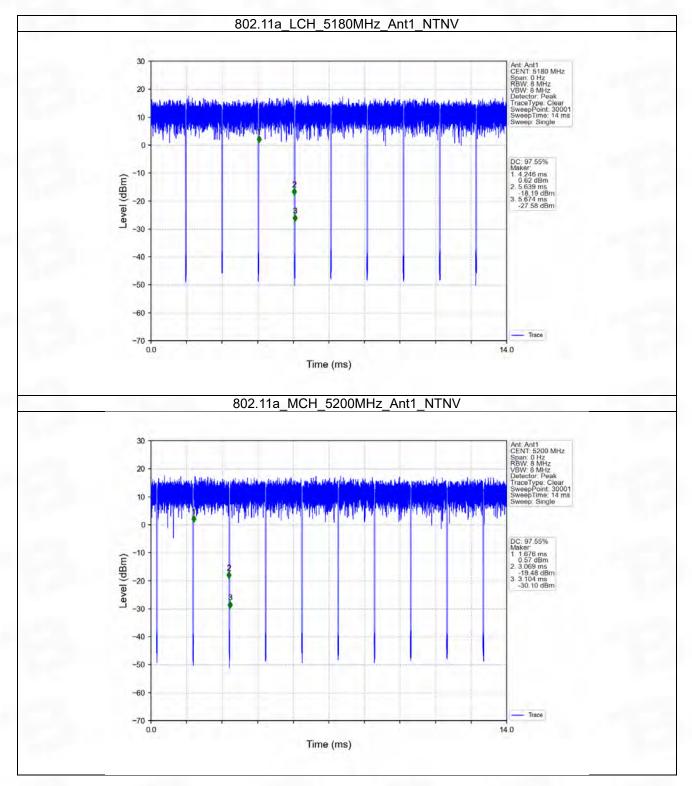
					Ant1		
Mode	ΤX	Frequency	T_on	Period	Duty Cycle	Duty Cycle	Max. DC
Mode	Туре	(MHz)	(ms)	(ms)	(%)	Correction Factor (dB)	Variation (%)
		5180	1.393	1.428	97.55	0.11	0.07
		5200	1.393	1.428	97.55	0.11	0.03
802.11a	SISO	5240	1.393	1.427	97.62	0.10	0.03
002.11a	3130	5745	1.392	1.427	97.55	0.11	0.07
		5785	1.393	1.428	97.55	0.11	0.07
		5825	1.393	1.428	97.55	0.11	0.06
		5180	1.301	1.336	97.38	0.12	0.03
		5200	1.301	1.336	97.38	0.12	0.03
802.11n	SISO	5240	1.301	1.336	97.38	0.12	0.07
(HT20)		5745	1.301	1.336	97.38	0.12	0.04
		5785	1.301	1.335	97.45	0.11	0.03
		5825	1.301	1.336	97.38	0.12	0.07
		5190	0.649	0.683	95.02	0.22	0.03
802.11n	SISO	5230	0.648	0.683	94.88	0.23	0.03
(HT40)		5755	0.649	0.683	95.02	0.22	0.07
		5795	0.649	0.683	95.02	0.22	0.03
		5180	1.301	1.335	97.45	0.11	0.03
		5200	1.301	1.336	97.38	0.12	0.07
802.11ac	SISO	5240	1.301	1.336	97.38	0.12	0.07
(VHT20)		5745	1.301	1.336	97.38	0.12	0.07
		5785	1.300	1.335	97.38	0.12	0.07
		5825	1.301	1.336	97.38	0.12	0.03
		5190	0.648	0.683	94.88	0.23	0.04
802.11ac	SISO	5230	0.649	0.683	95.02	0.22	0.03
(VHT40)	3130	5755	0.648	0.683	94.88	0.23	0.03
		5795	0.649	0.683	95.02	0.22	0.03

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Page 43 of 123

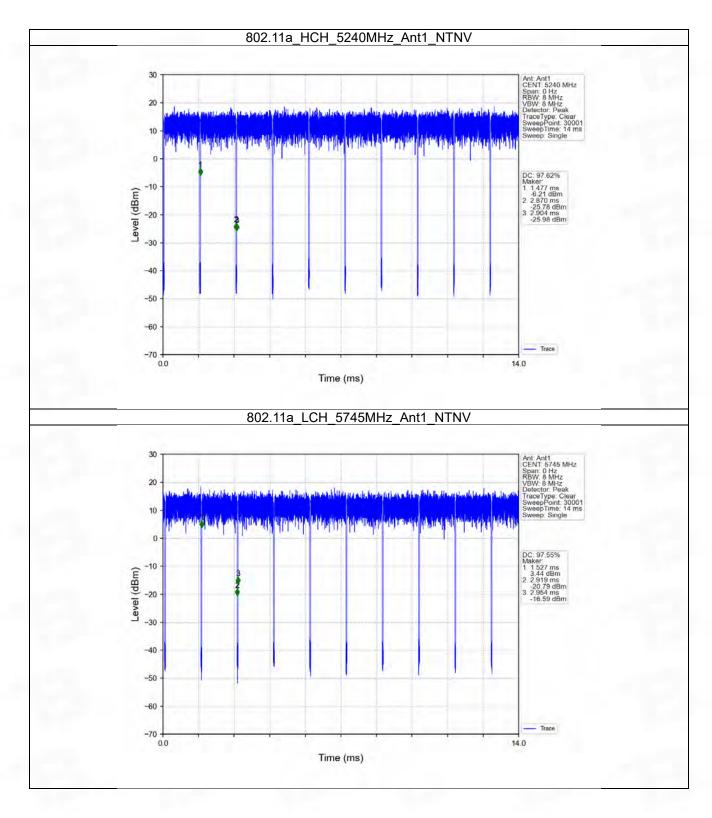


#### 1.1.2 Test Graph



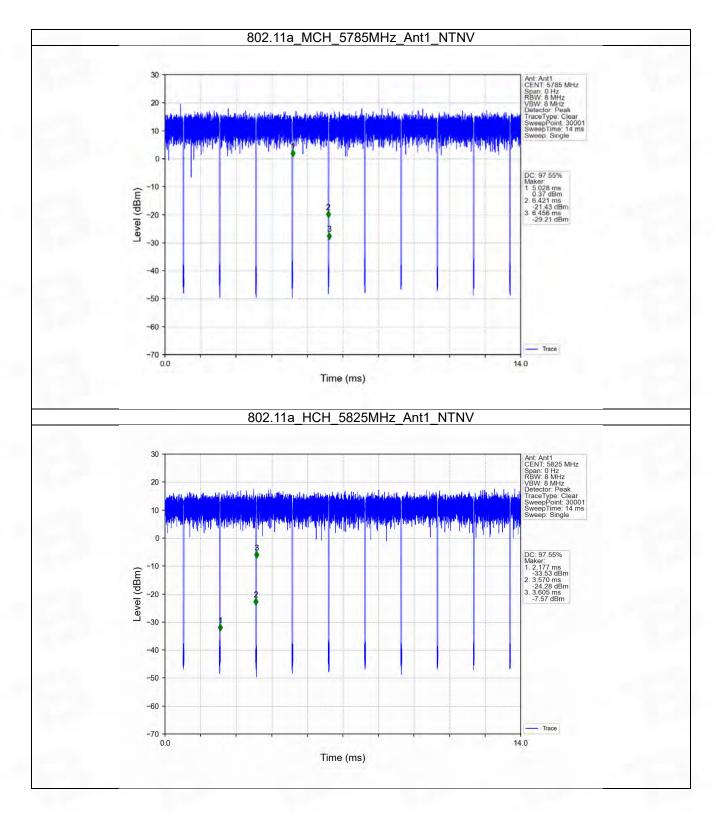
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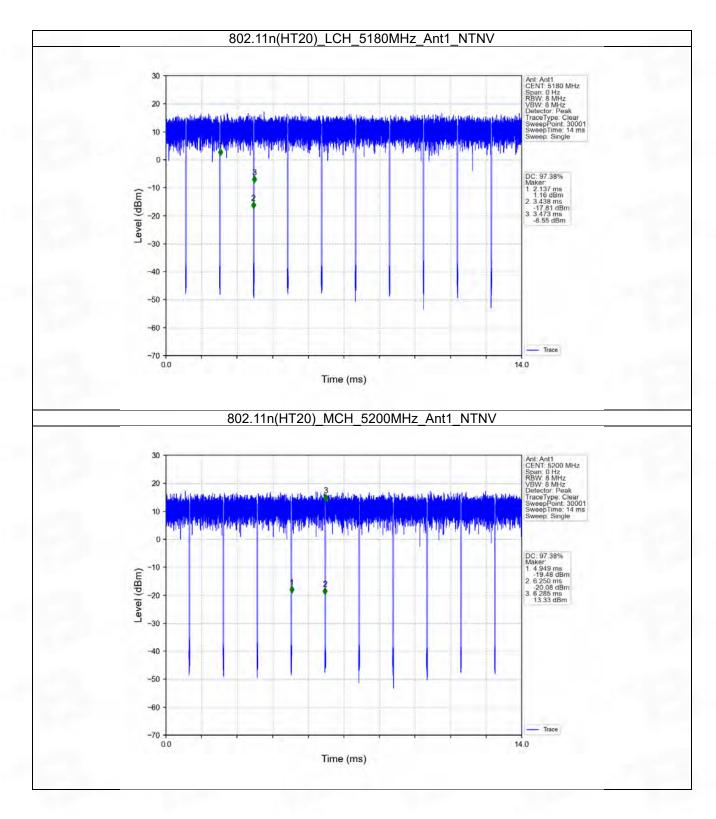


Page 45 of 123



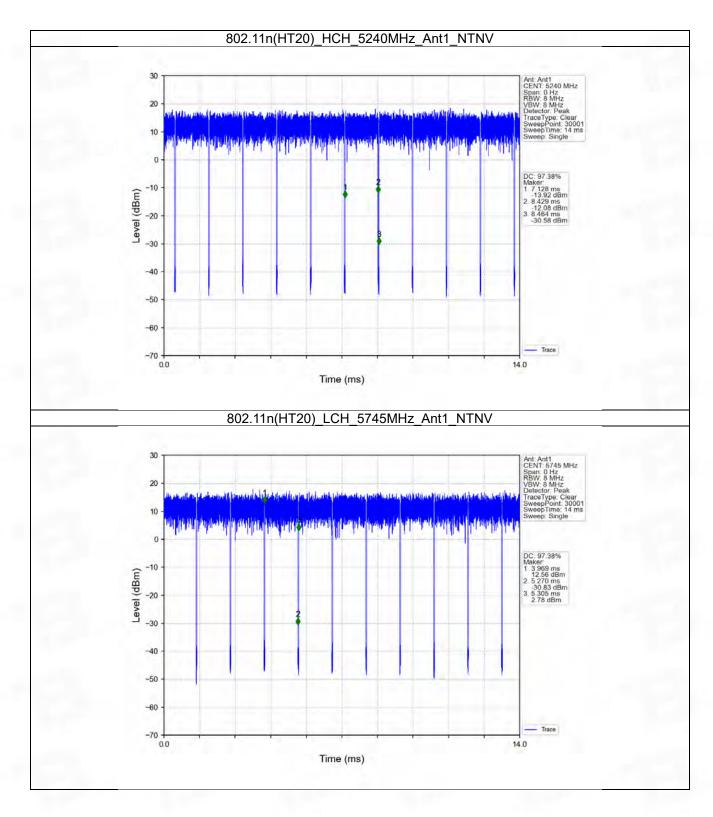






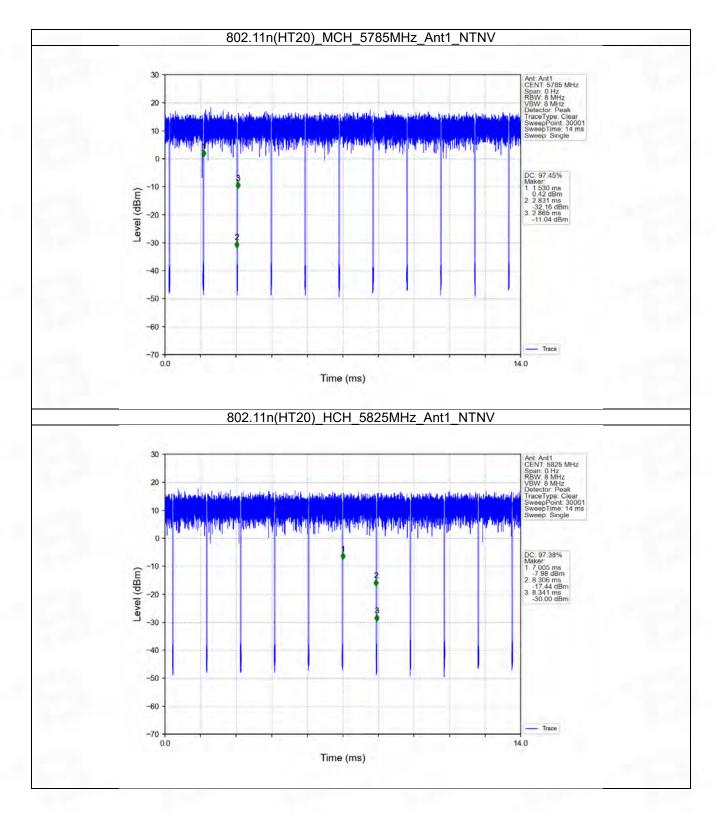
Page 47 of 123





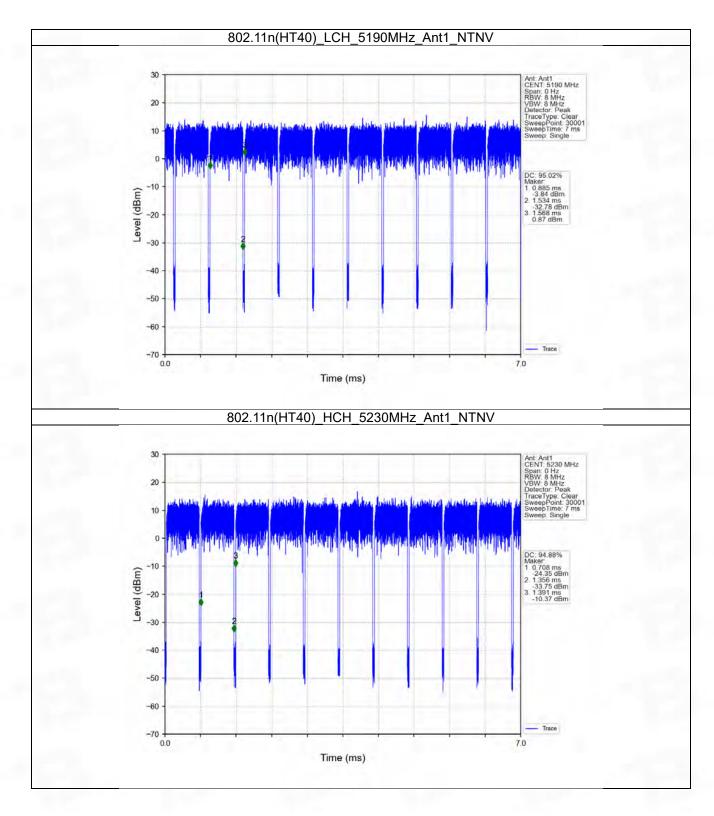
Page 48 of 123





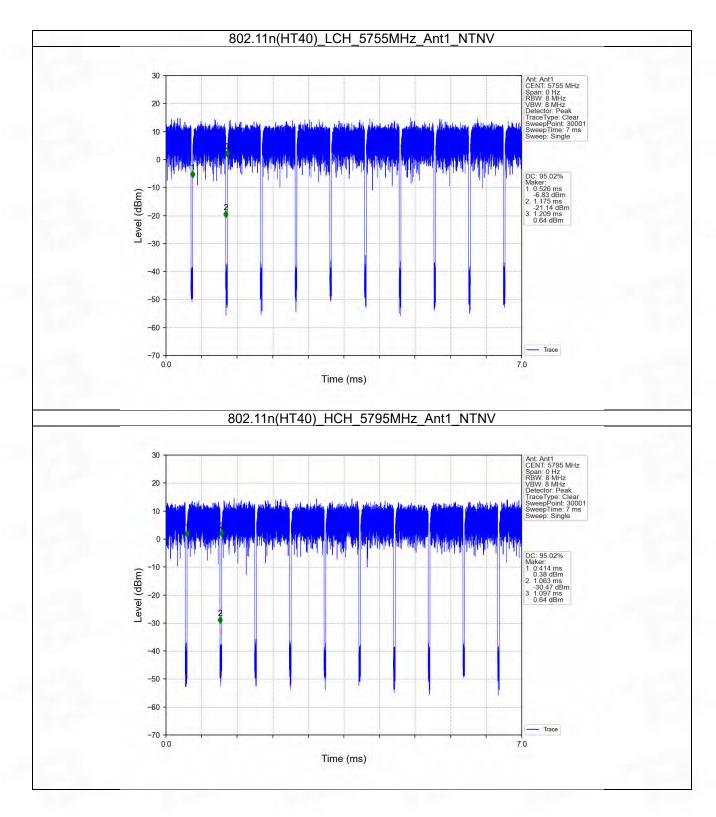
Page 49 of 123





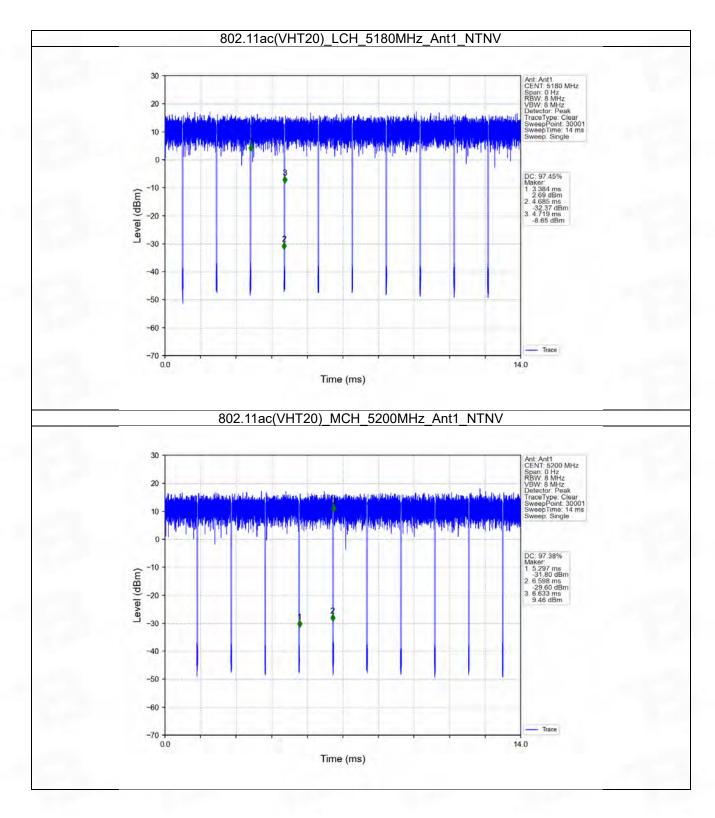
Page 50 of 123





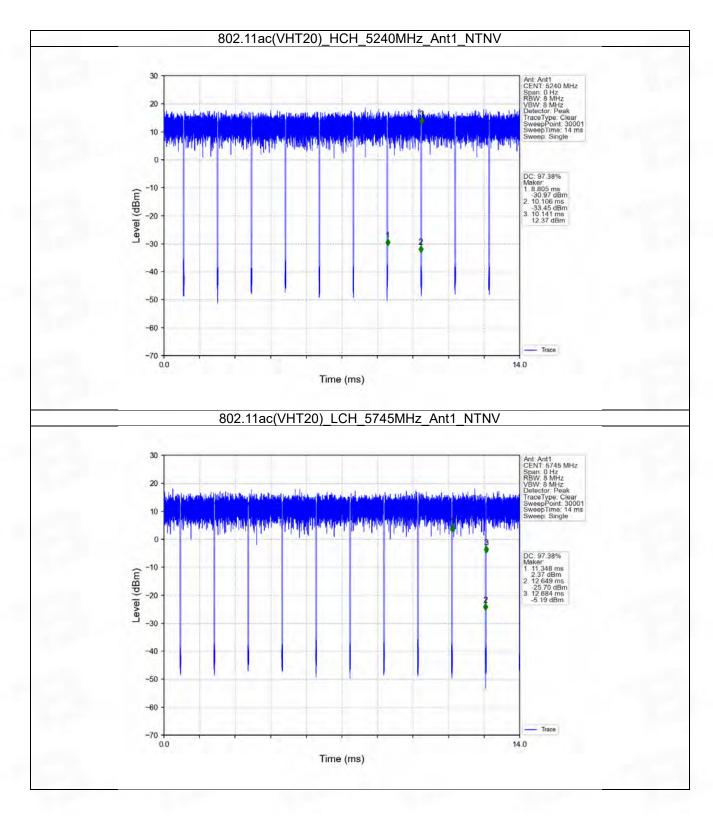
Page 51 of 123





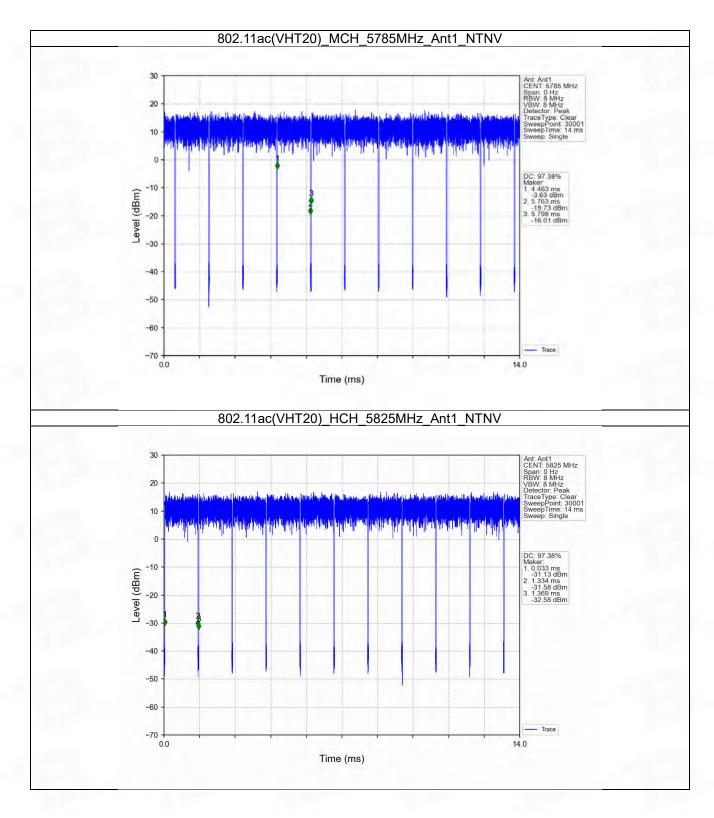
Page 52 of 123





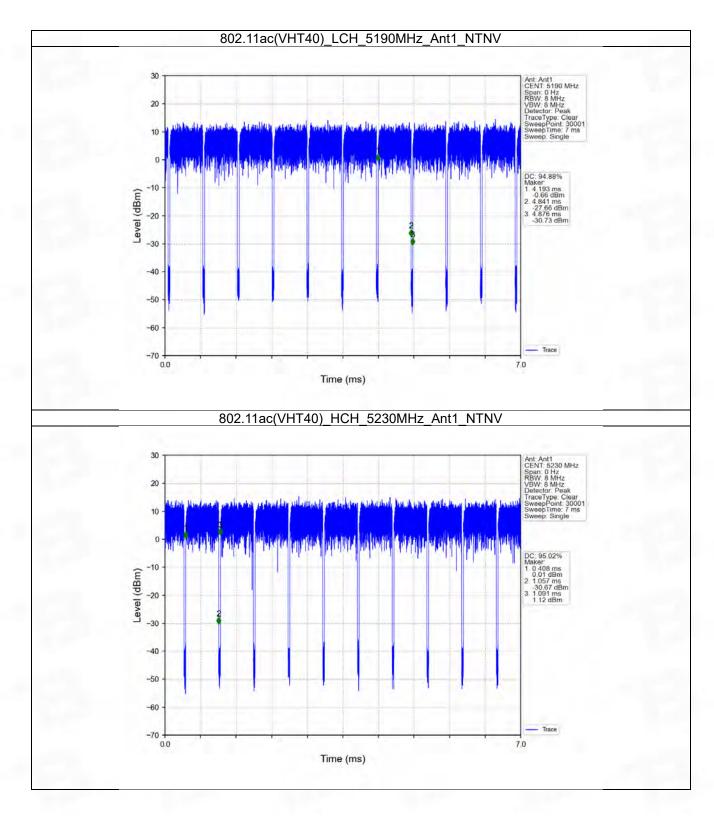
Page 53 of 123



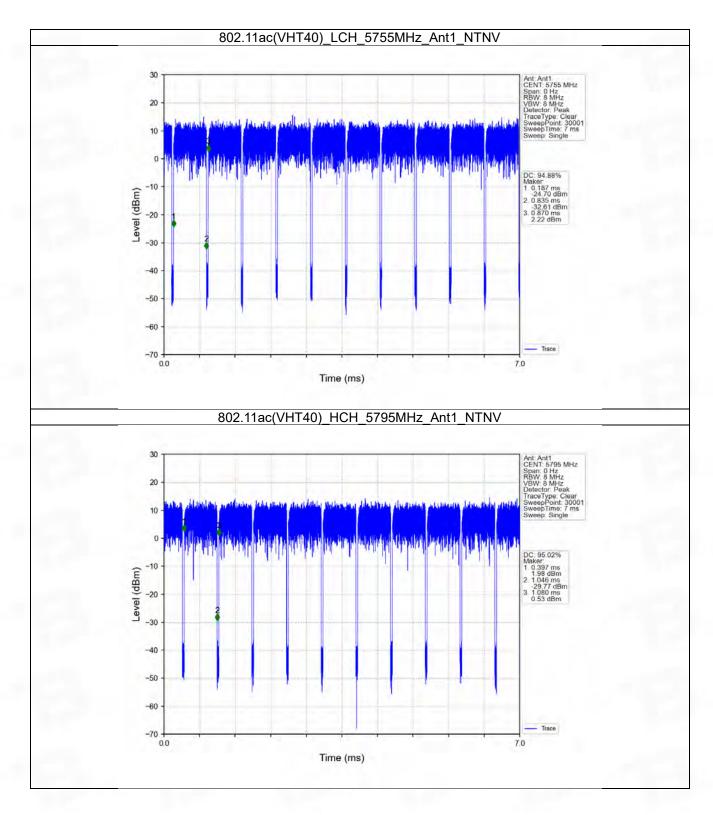


Page 54 of 123











### 2. Bandwidth

#### 2.1 OBW

#### 2.1.1 Test Result

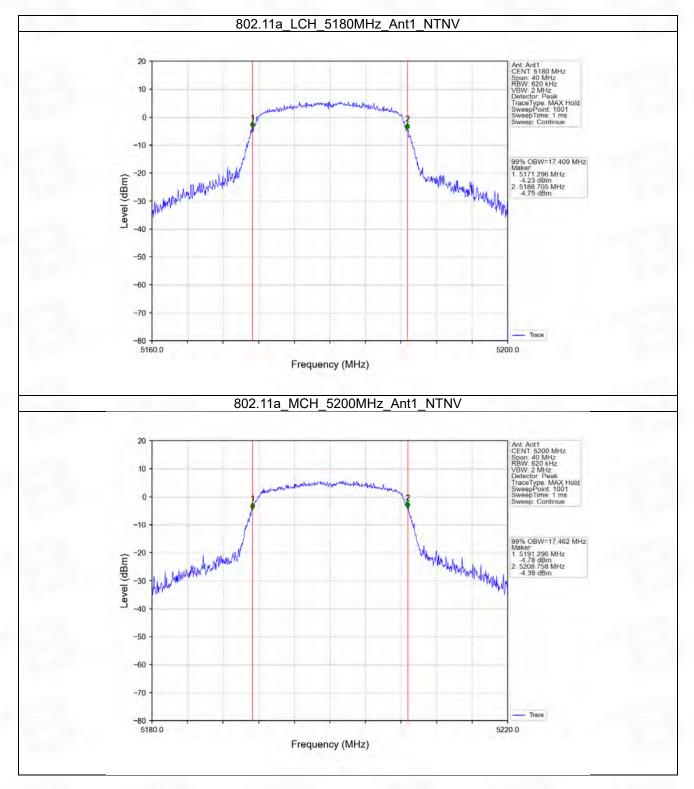
Mode	TX	Frequency (MHz)	ANT	99% Occupied Ba	Verdict	
	Туре			Result	Limit	verdic
802.11a		5180	1	17.409	1	Pass
		5200	1	17.462	1	Pass
	SISO	5240	1	17.493	1	Pass
	5150	5745	1	17.503	1	Pass
		5785	1	17.530	1	Pass
		5825	1	17.569	1	Pass
		5180	1	18.197	/	Pass
		5200	1	18.162	1	Pass
802.11n	SISO	5240	1	18.208	1	Pass
(HT20)		5745	1	18.208	1	Pass
		5785	1	18.286	1	Pass
		5825	1	18.306	1	Pass
	SISO	5190	1	36.715	1	Pass
802.11n		5230	1	36.570	1	Pass
(HT40)		5755	1	36.741	1	Pass
· · ·		5795	1	36.835	/	Pass
	SISO	5180	1	18.202	1	Pass
		5200	1	18.210	1	Pass
802.11ac		5240	1	18.189	1	Pass
(VHT20)		5745	1	18.214	1	Pass
. ,		5785	1	18.258	1	Pass
		5825	1	18.301	1	Pass
802.11ac (VHT40)	SISO	5190	1	36.646	1	Pass
		5230	1	36.638	1	Pass
		5755	1	36.765	/	Pass
		5795	1	36.827	/	Pass

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Page 57 of 123

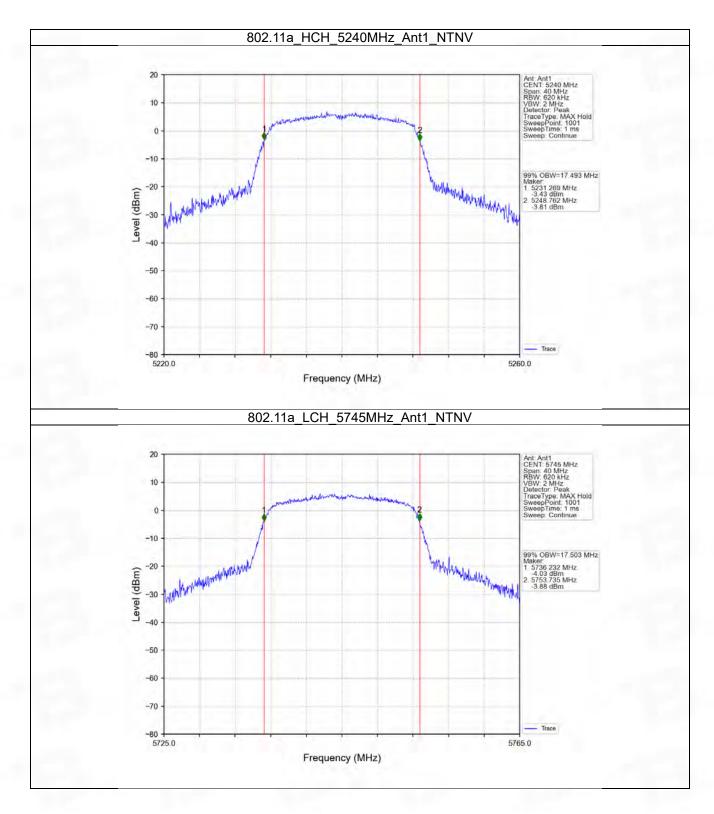


#### 2.1.2 Test Graph

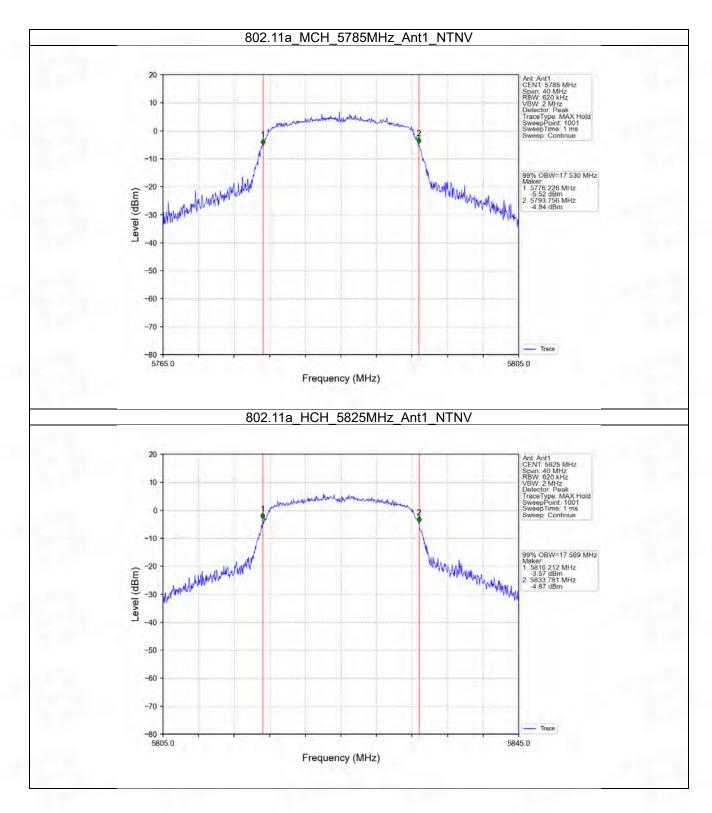


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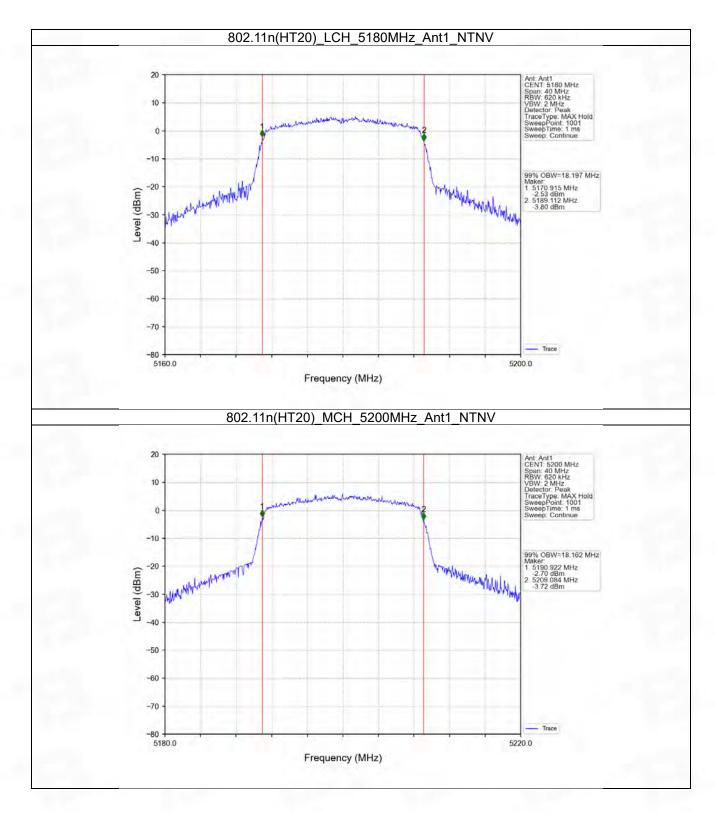






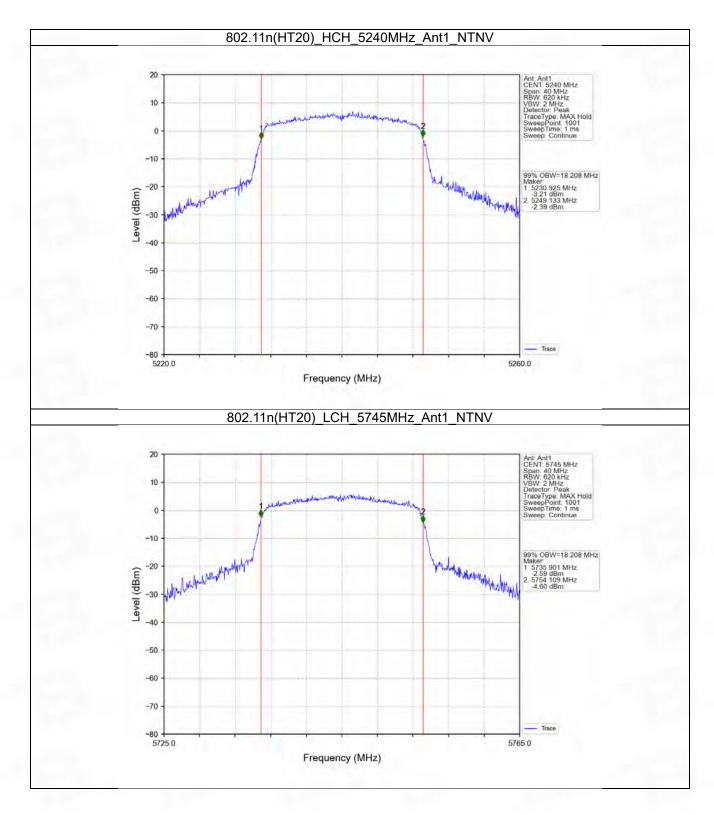
Page 60 of 123



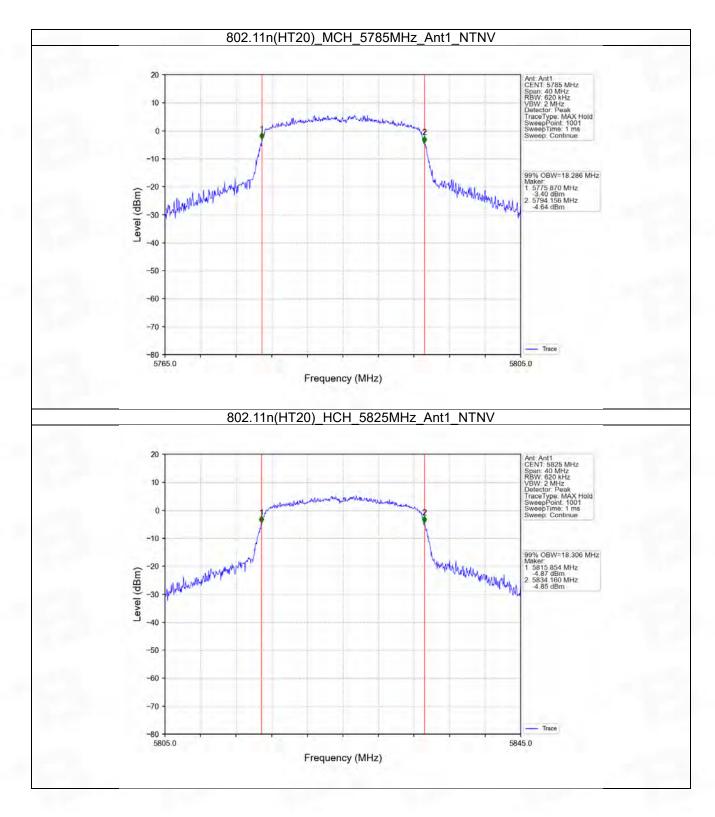


Page 61 of 123

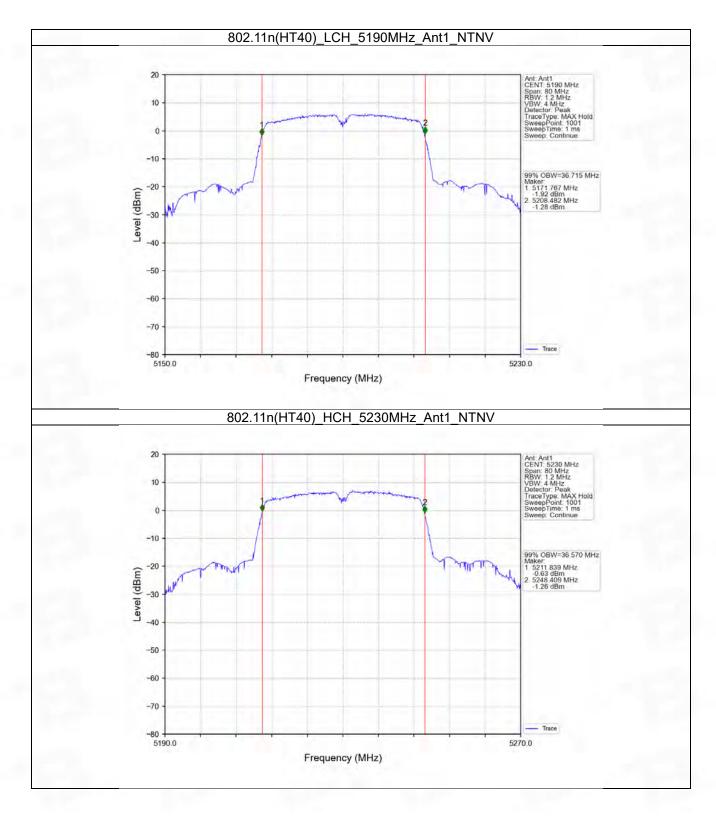




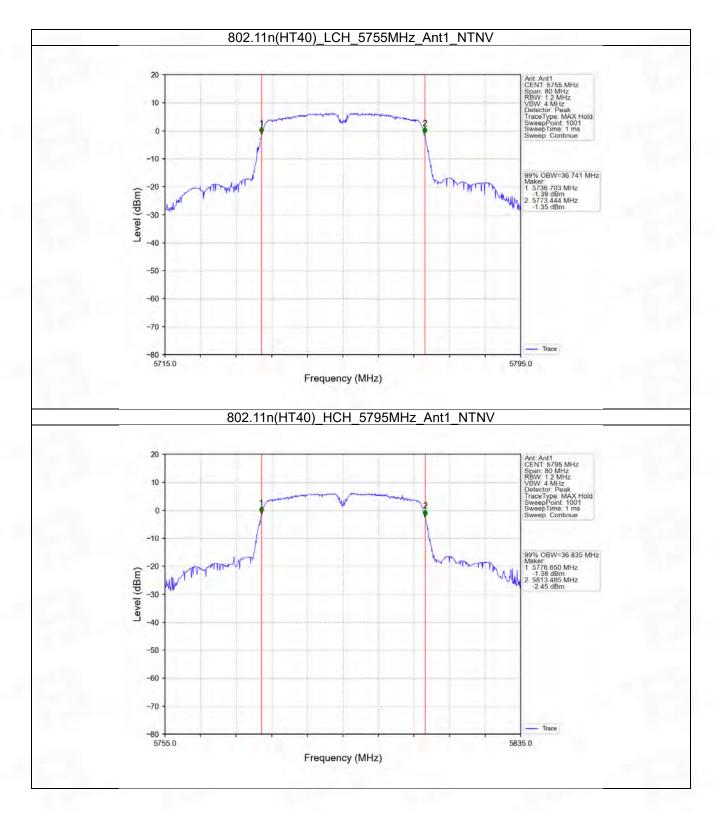




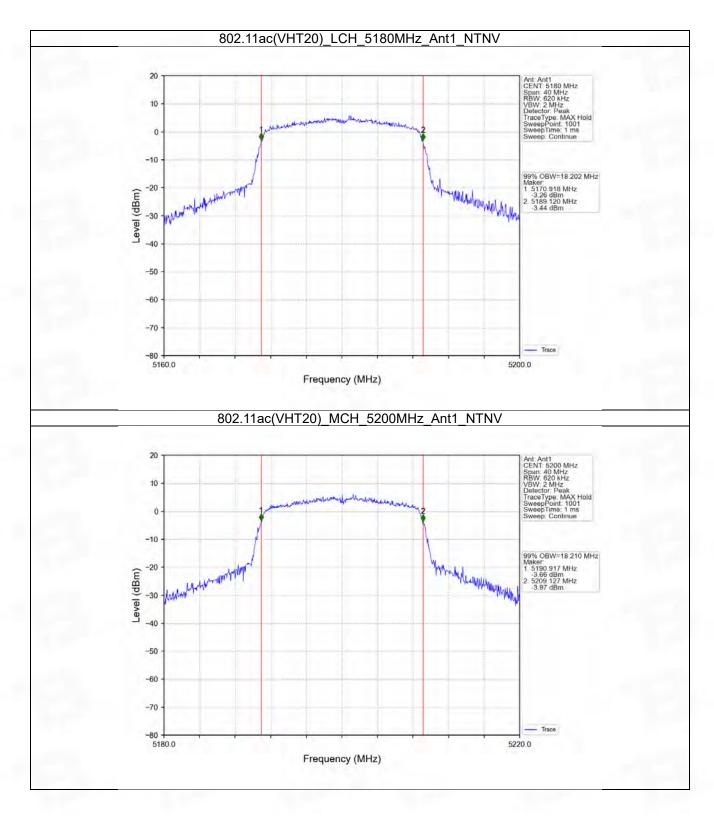




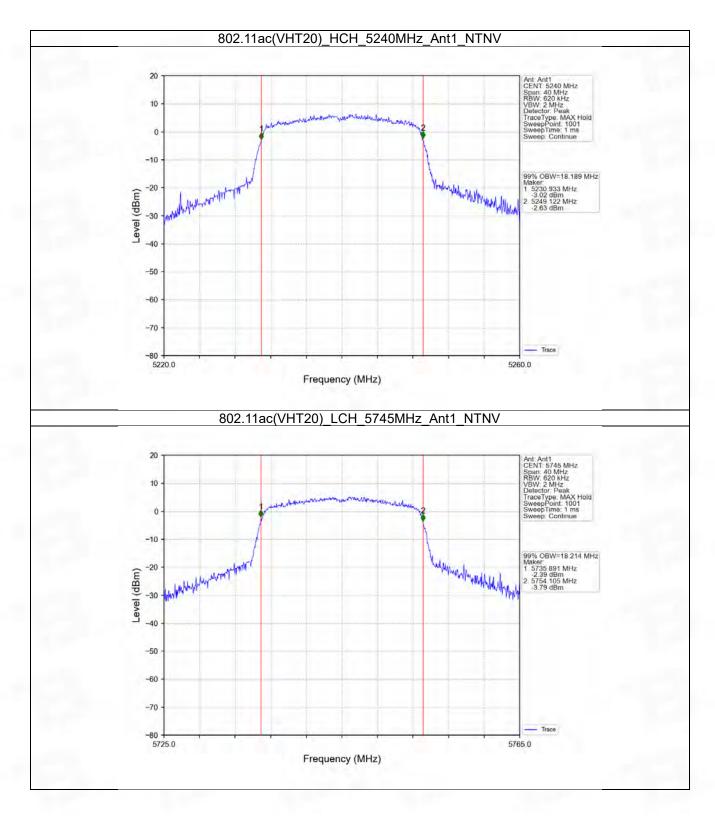






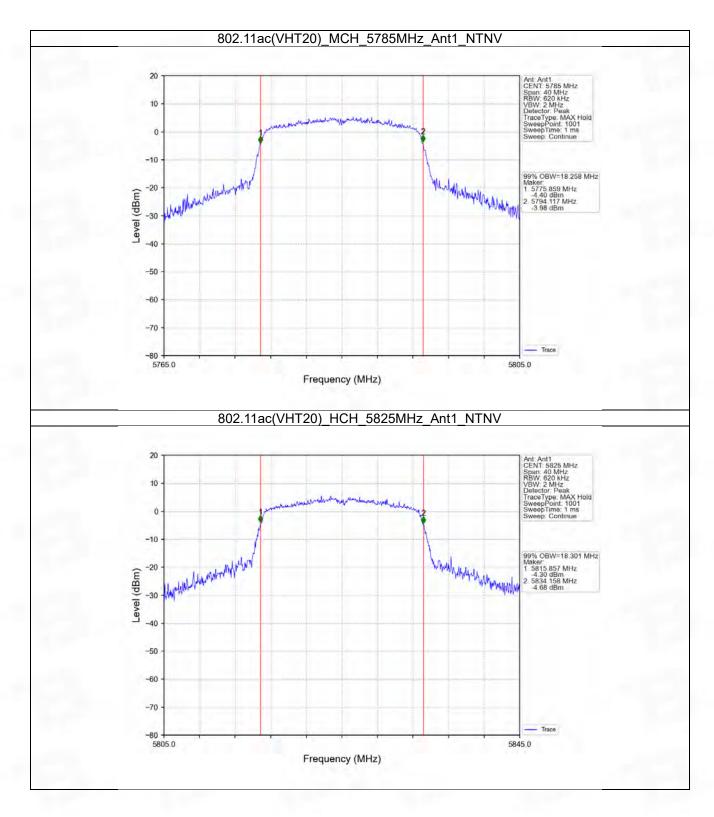




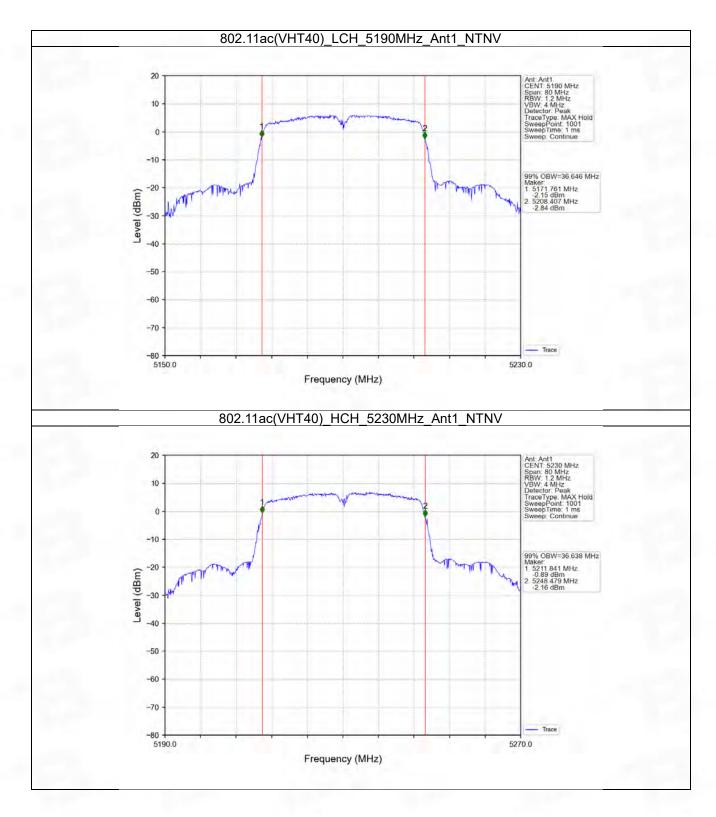


Page 67 of 123

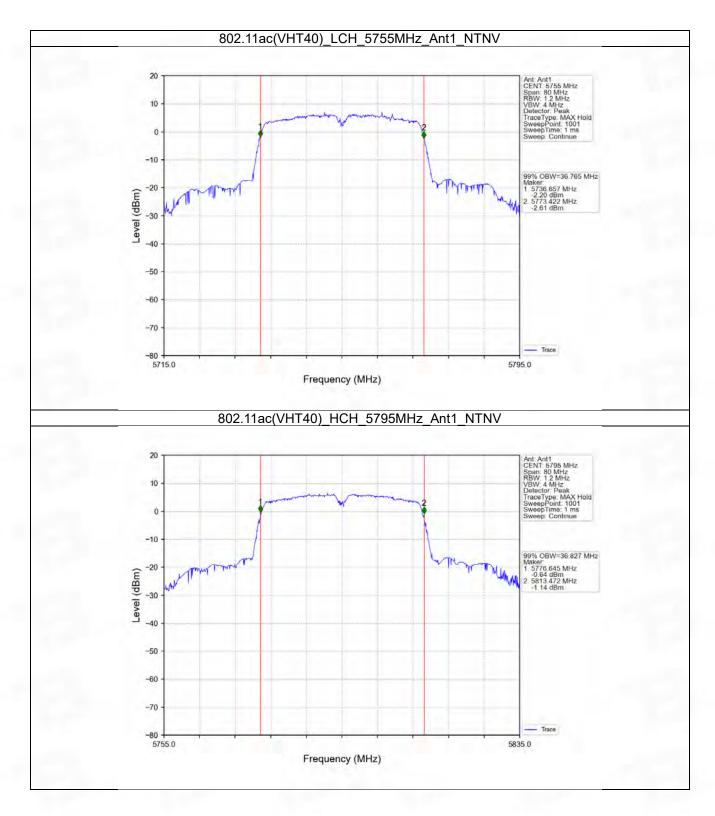












Page 70 of 123



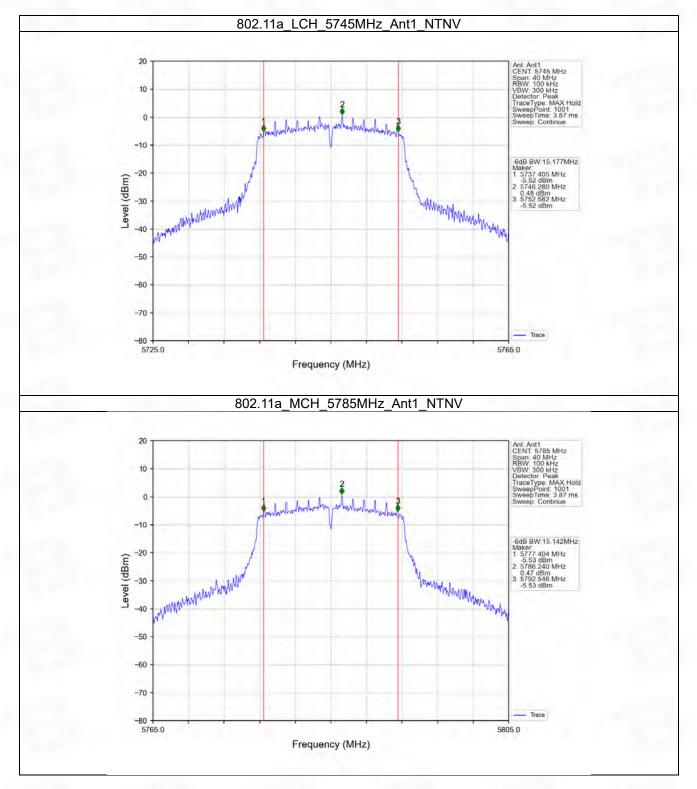
## 2.2 6dB BW

#### 2.2.1 Test Result

Mode	TX	Frequency		6dB Bandw		
	Туре	(MHz)	ANT	Result	Limit	Verdict
802.11a		5745	1	15.177	>=0.5	Pass
	SISO	5785	1	15.142	>=0.5	Pass
		5825	1	15.310	>=0.5	Pass
802.11n (HT20)	SISO	5745	1	15.174	>=0.5	Pass
		5785	1	15.139	>=0.5	Pass
		5825	1	15.180	>=0.5	Pass
802.11n (HT40)	SISO	5755	1	35.212	>=0.5	Pass
		5795	1	35.213	>=0.5	Pass
802.11ac (VHT20)	SISO	5745	1	15.168	>=0.5	Pass
		5785	1	15.157	>=0.5	Pass
		5825	1	15.101	>=0.5	Pass
802.11ac	SISO	5755	1	35.223	>=0.5	Pass
(VHT40)	3130	5795	1	35.217	>=0.5	Pass

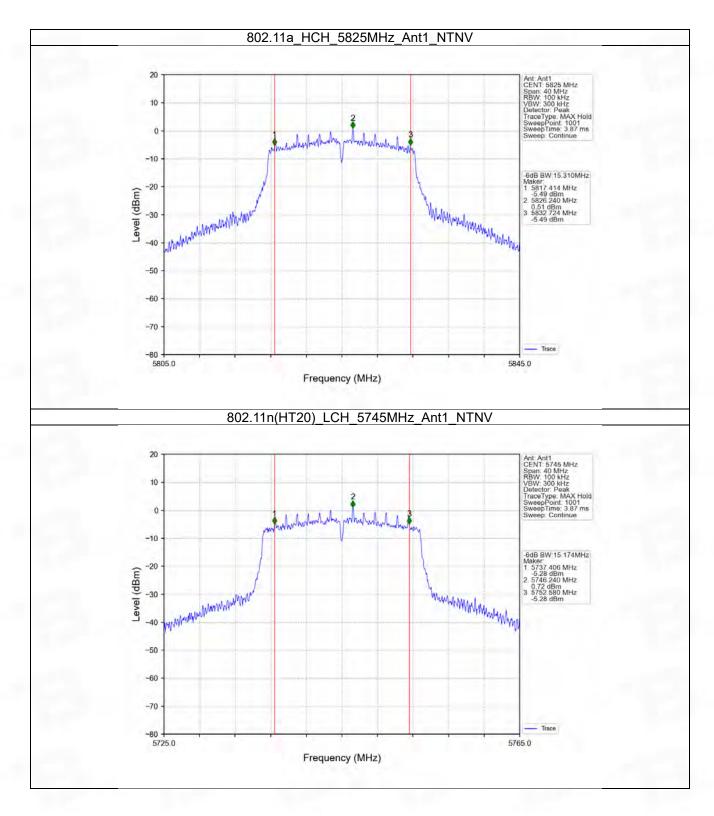


#### 2.2.2 Test Graph



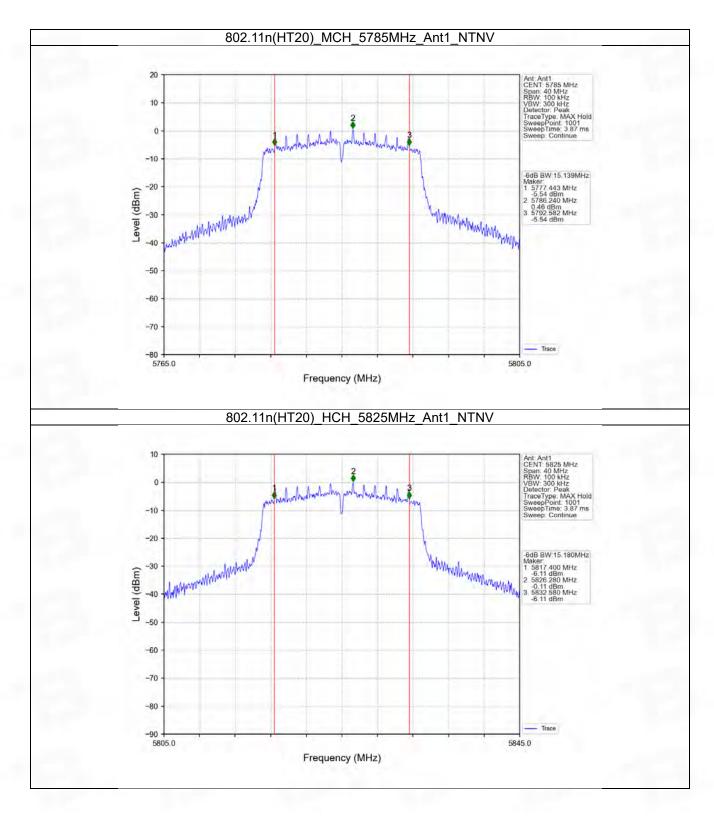
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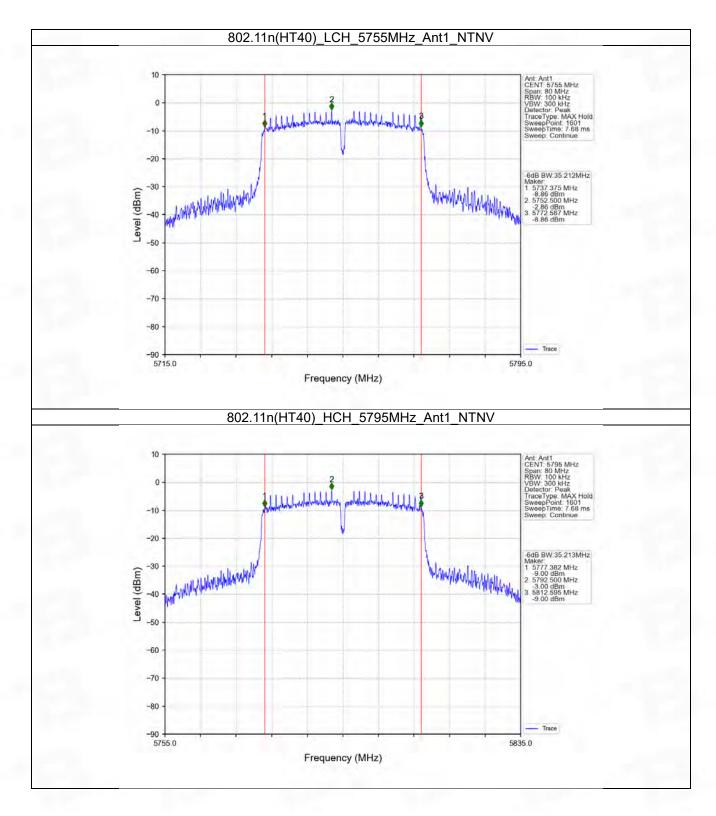


Page 73 of 123



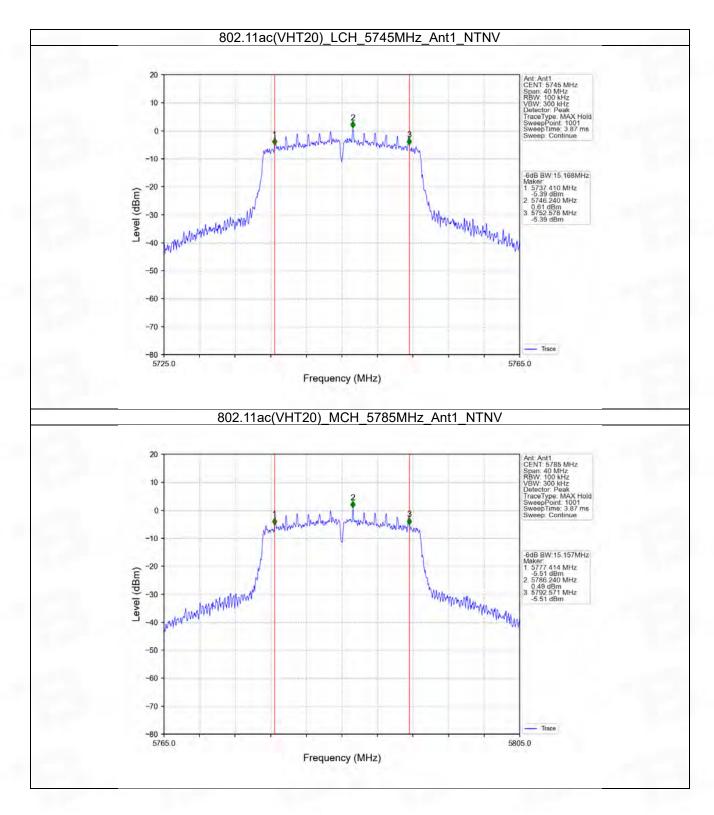






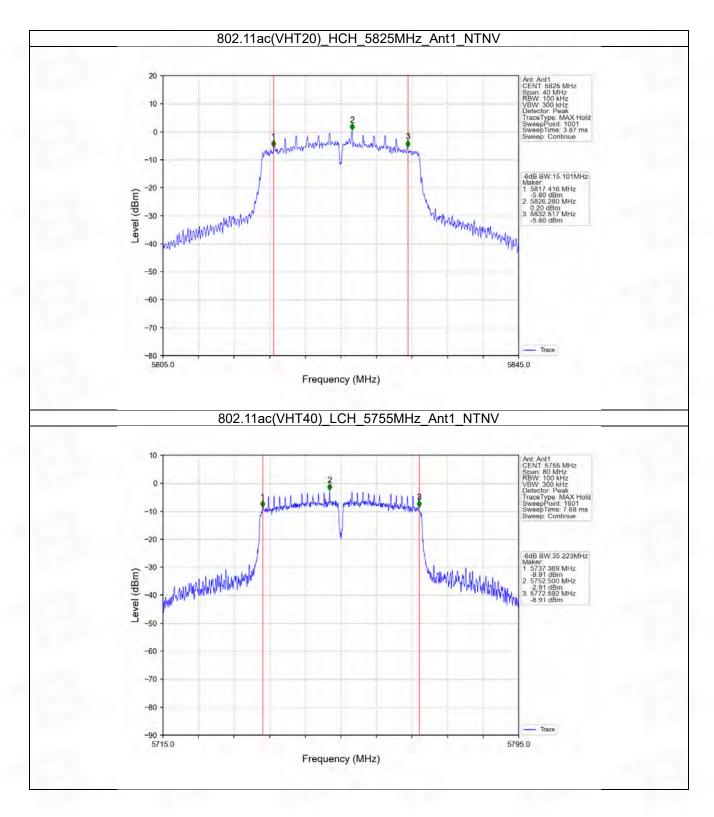
Page 75 of 123





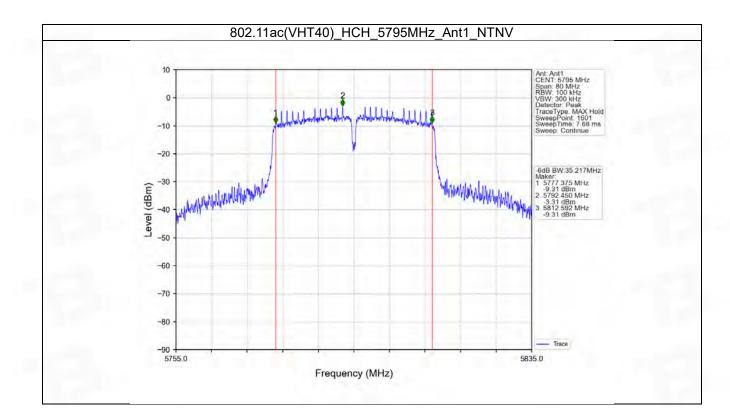
Page 76 of 123





Page 77 of 123







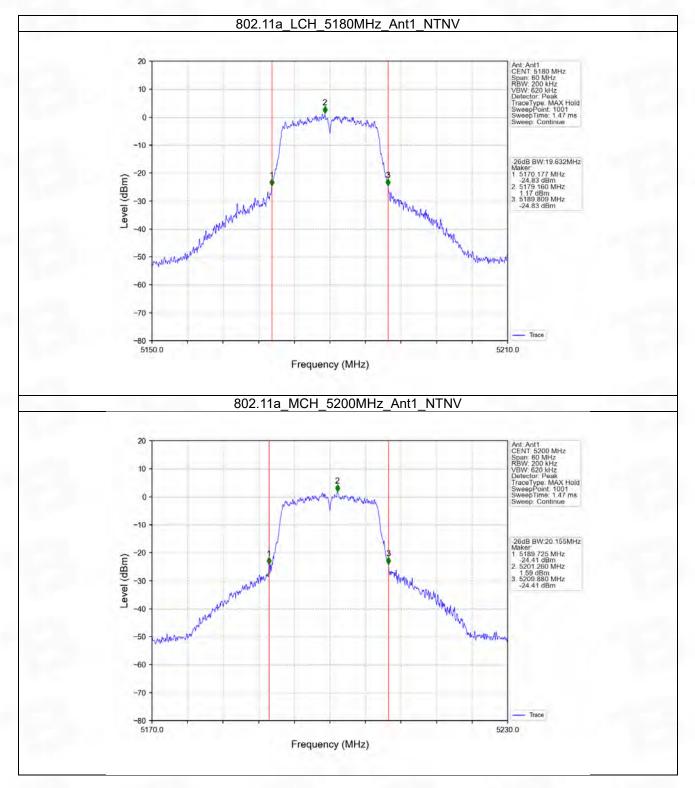
## 2.3 26dB BW

### 2.3.1 Test Result

Mode	TX Type	Frequency (MHz)	ANT	26dB Bandwidth (MHz)		Vardiat
				Result	Limit	Verdict
802.11a	SISO	5180	1	19.632	/	Pass
		5200	1	20.155	/	Pass
		5240	1	19.636	/	Pass
802.11n (HT20)	SISO	5180	1	19.799	/	Pass
		5200	1	19.865	/	Pass
		5240	1	19.760	/	Pass
802.11n (HT40)	SISO	5190	1	41.940	/	Pass
		5230	1	45.509	/	Pass
802.11ac (VHT20)	SISO	5180	1	20.598	/	Pass
		5200	1	19.841	/	Pass
		5240	1	19.773	/	Pass
802.11ac (VHT40)	SISO	5190	1	45.677	/	Pass
		5230	1	41.889	/	Pass

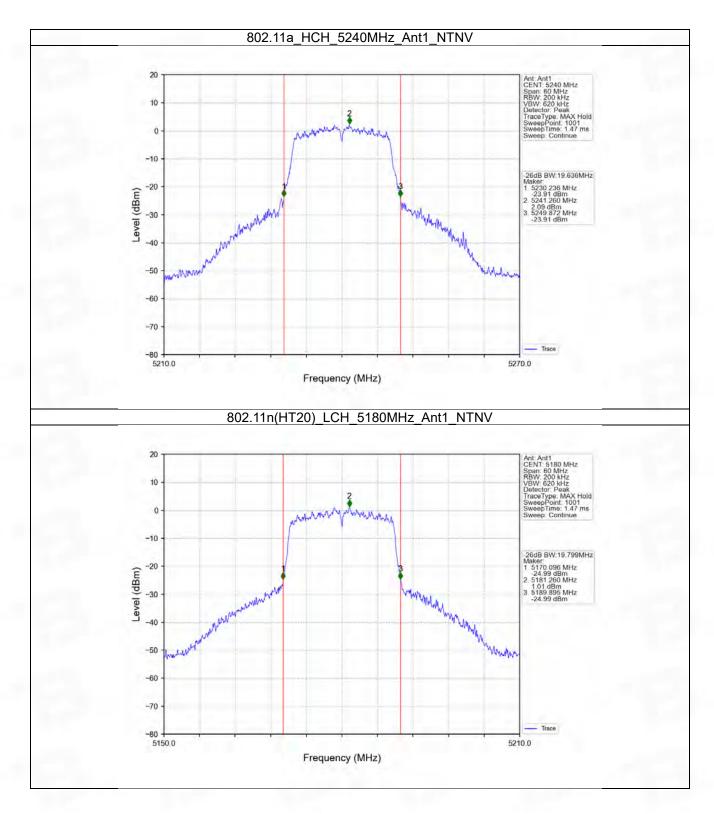


#### 2.3.2 Test Graph



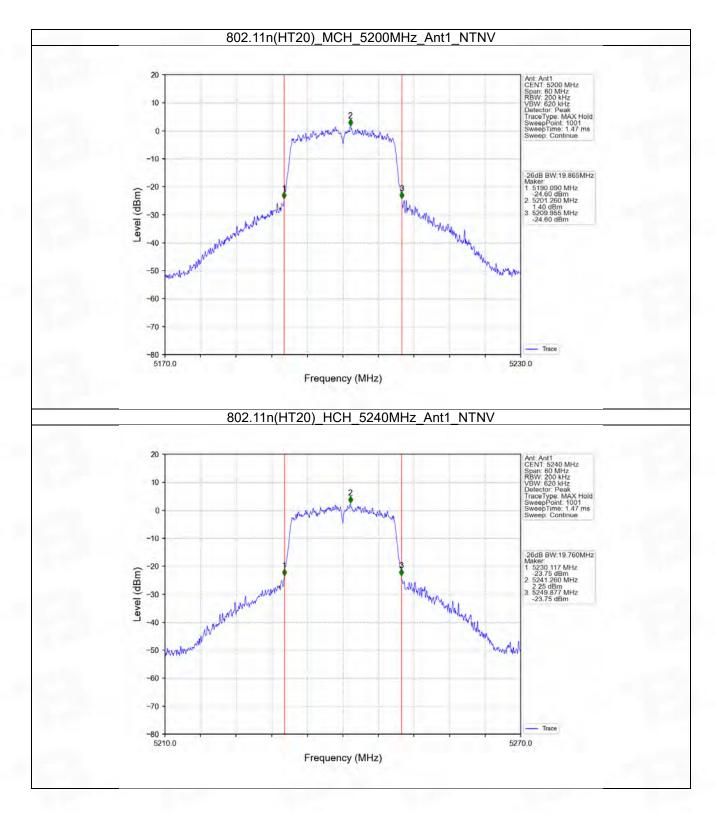
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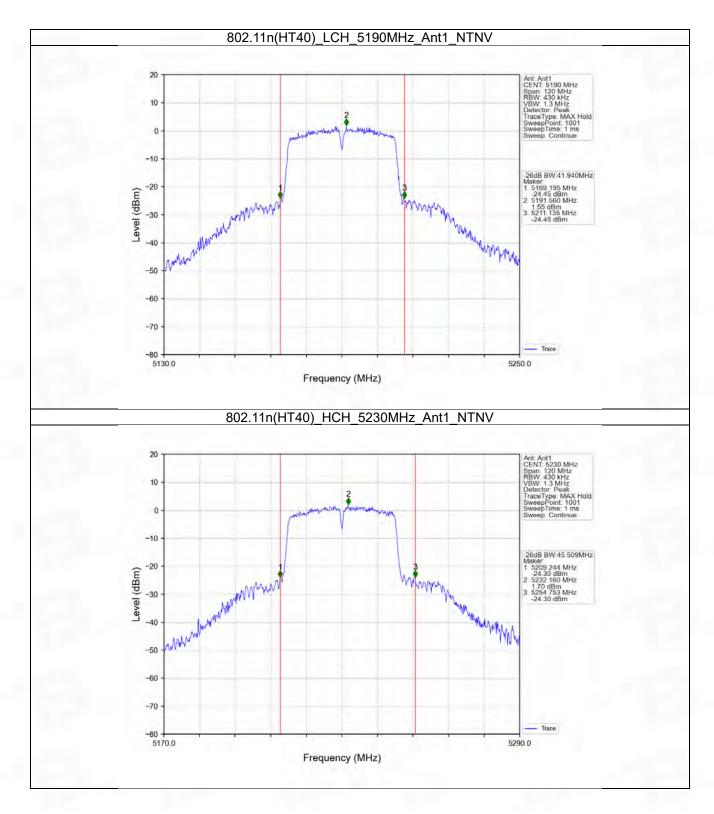


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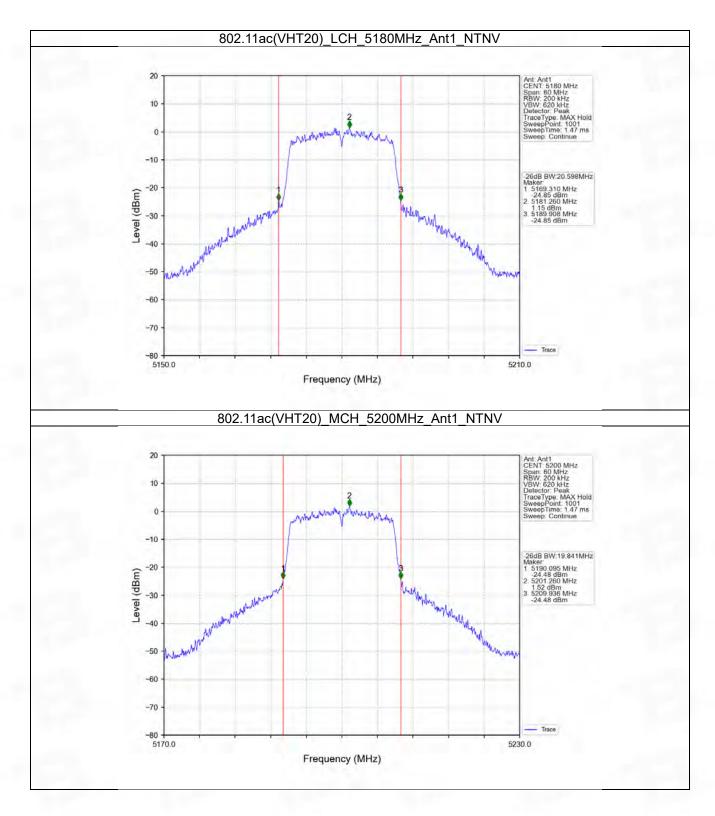






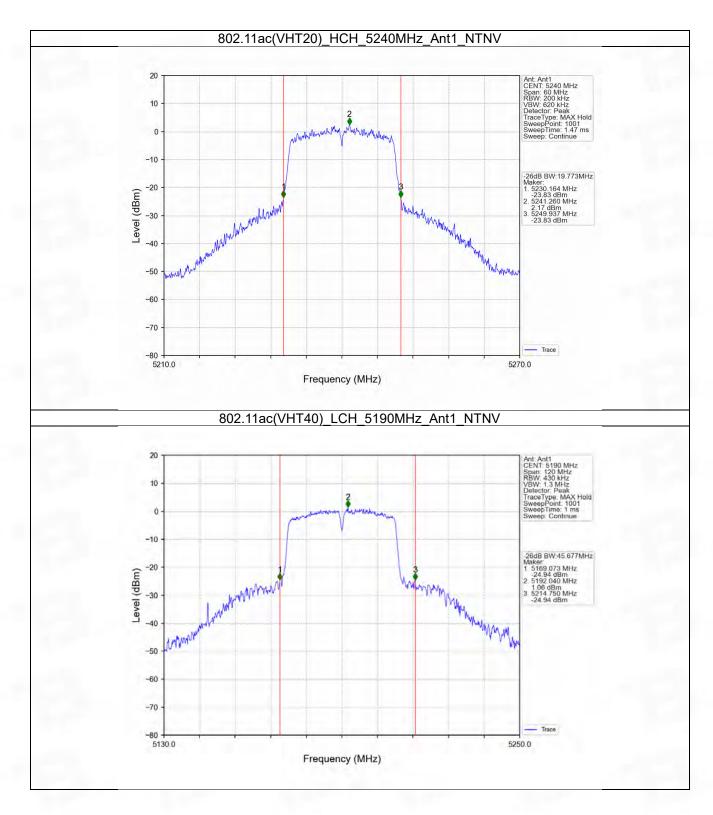
Page 83 of 123





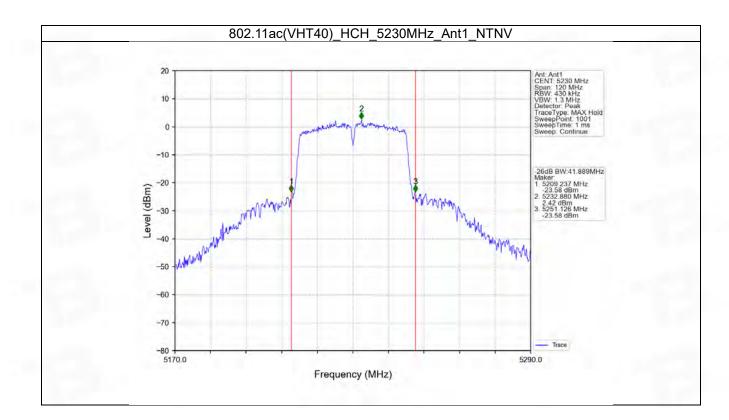
Page 84 of 123





Page 85 of 123







# 3. Maximum Conducted Output Power

### 3.1 Power

#### 3.1.1 Test Result

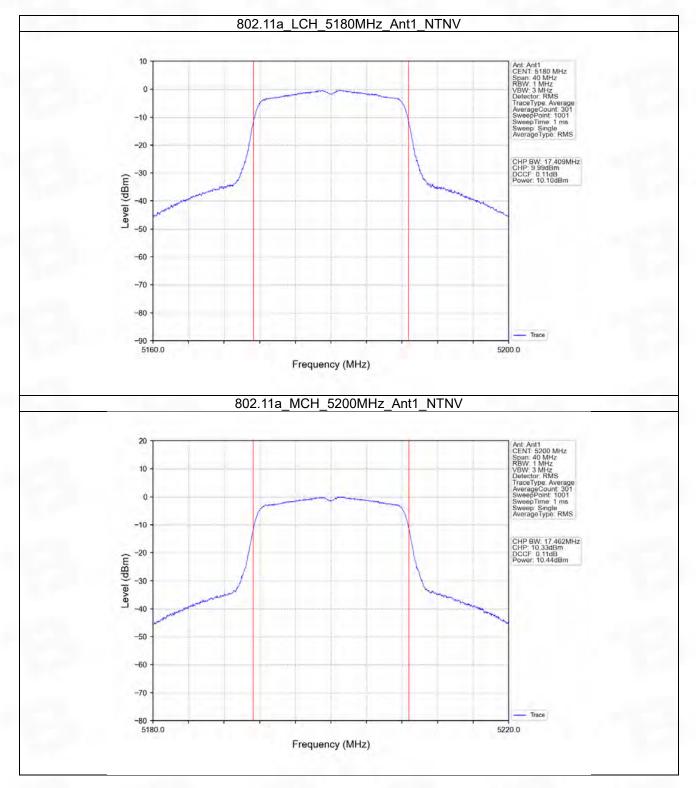
Mode	TX	Frequency	Maximum Average Condu	ucted Output Power (dBm)	Verdiet
	Туре	(MHz)	ANT1	Limit	Verdict
802.11a	SISO	5180	10.10	<=23.98	Pass
		5200	10.44	<=23.98	Pass
		5240	11.20	<=23.98	Pass
		5745	10.63	<=30	Pass
		5785	10.30	<=30	Pass
		5825	10.22	<=30	Pass
		5180	10.02	<=23.98	Pass
		5200	10.41	<=23.98	Pass
802.11n (HT20)		5240	11.29	<=23.98	Pass
	SISO	5745	10.46	<=30	Pass
		5785	10.31	<=30	Pass
		5825	10.08	<=30	Pass
802.11n (HT40)	SISO	5190	10.69	<=23.98	Pass
		5230	11.36	<=23.98	Pass
		5755	10.93	<=30	Pass
		5795	10.75	<=30	Pass
	SISO	5180	10.15	<=23.98	Pass
		5200	10.33	<=23.98	Pass
802.11ac (VHT20)		5240	11.16	<=23.98	Pass
		5745	10.41	<=30	Pass
		5785	10.24	<=30	Pass
		5825	10.03	<=30	Pass
802.11ac (VHT40)	SISO	5190	10.59	<=23.98	Pass
		5230	11.23	<=23.98	Pass
		5755	10.89	<=30	Pass
		5795	10.69	<=30	Pass

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Page 87 of 123

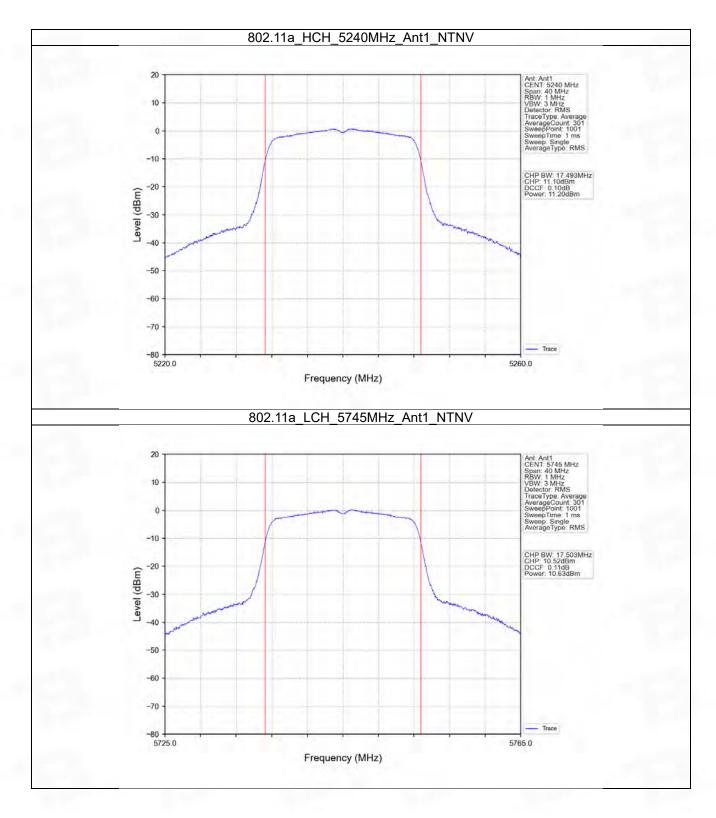


#### 3.1.2 Test Graph



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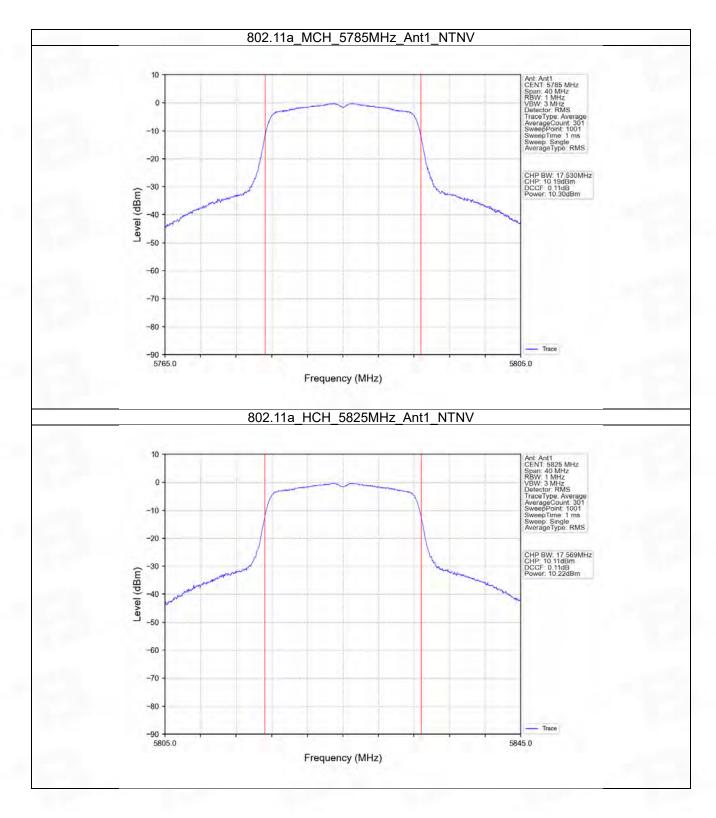




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Page 89 of 123

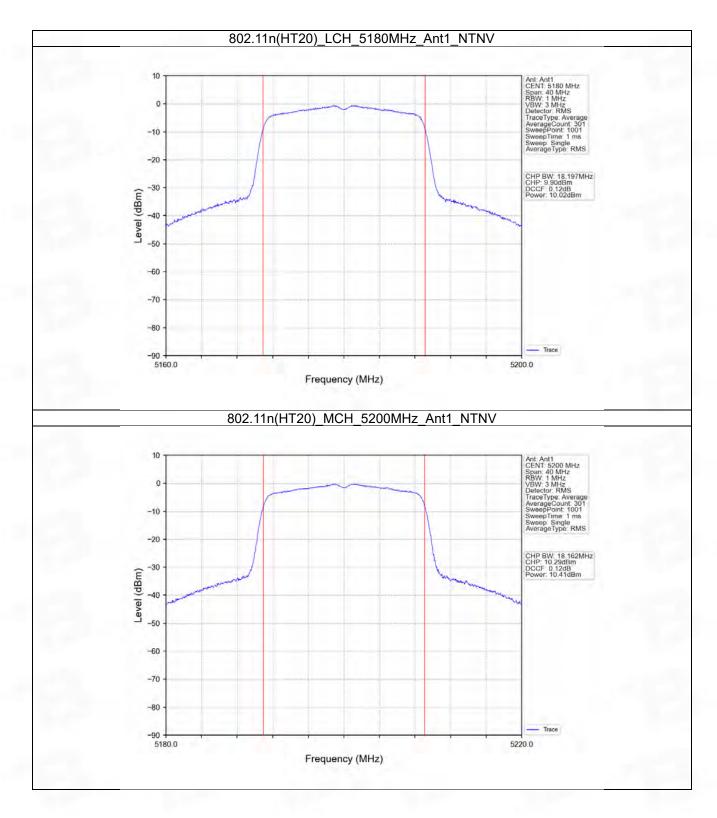




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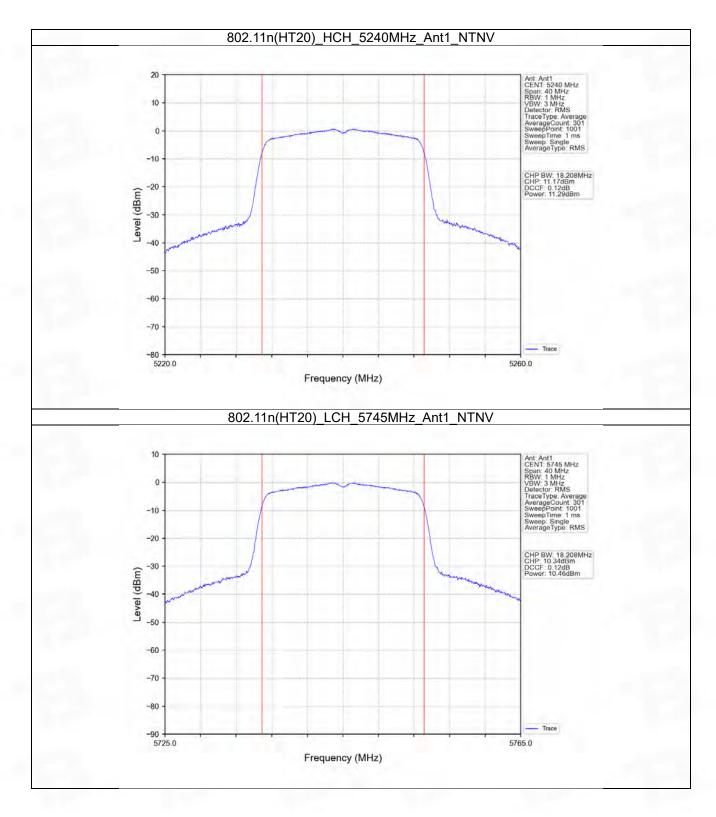
Page 90 of 123



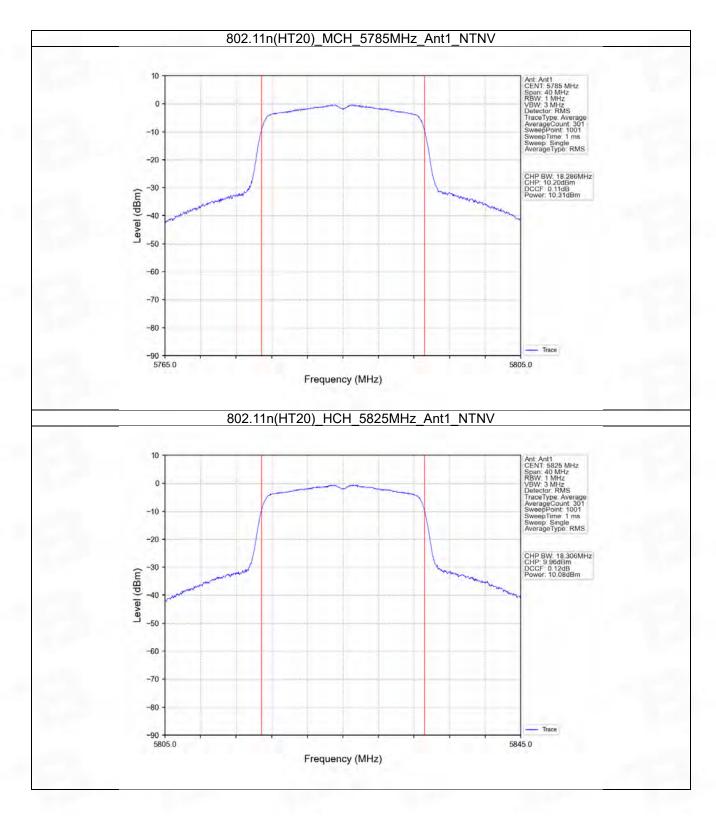


Page 91 of 123

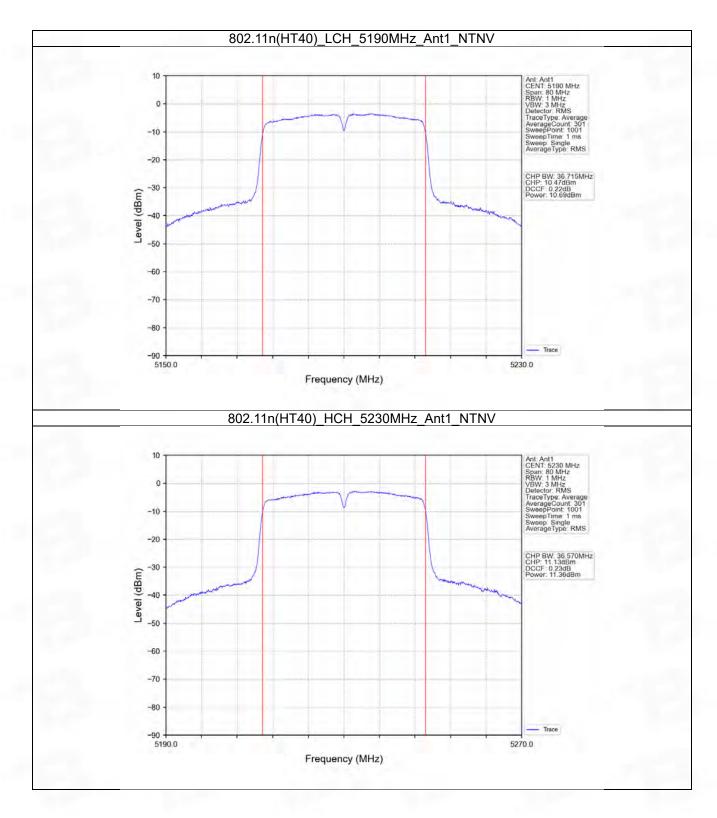




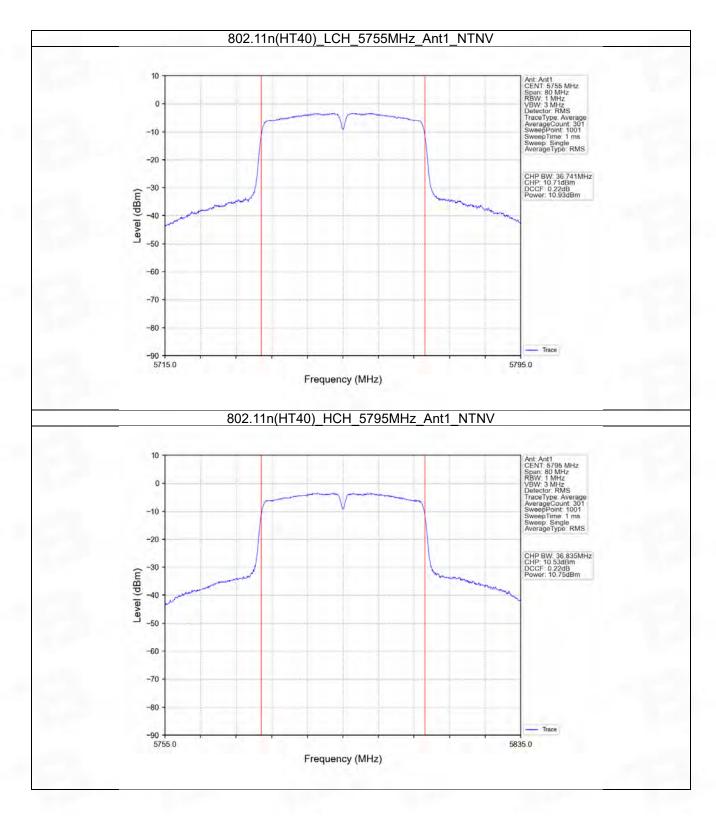






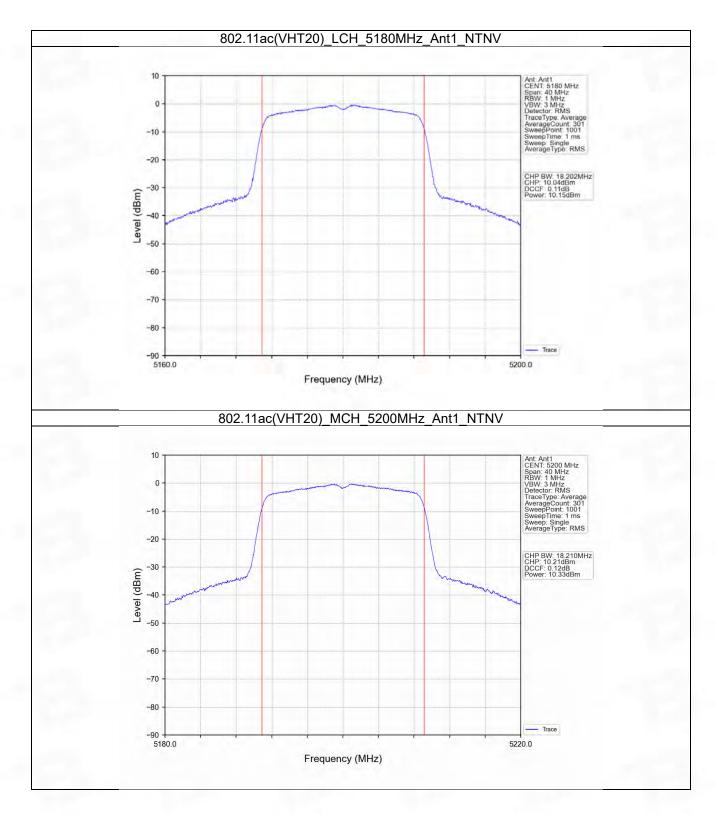






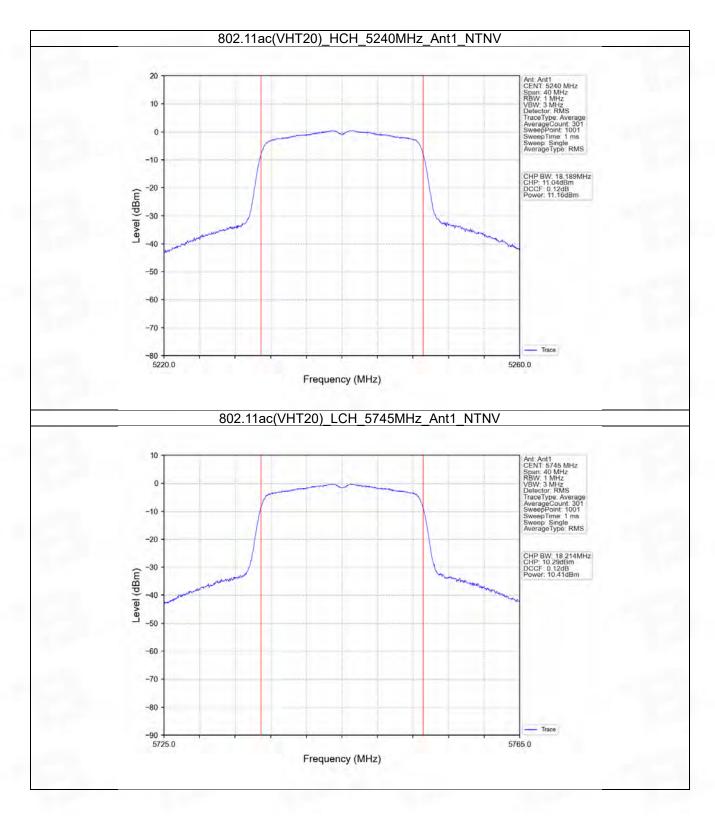
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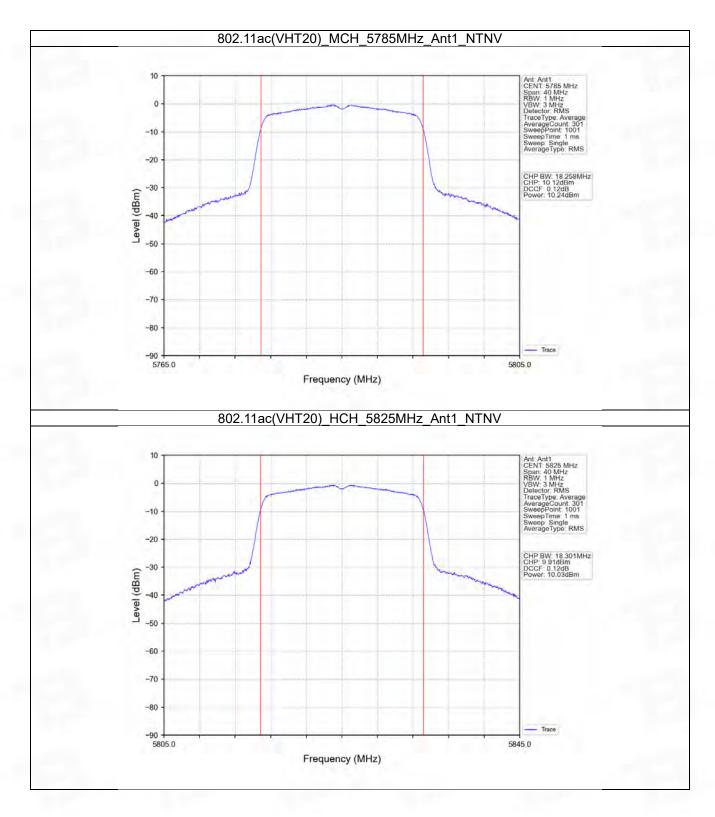
Page 96 of 123





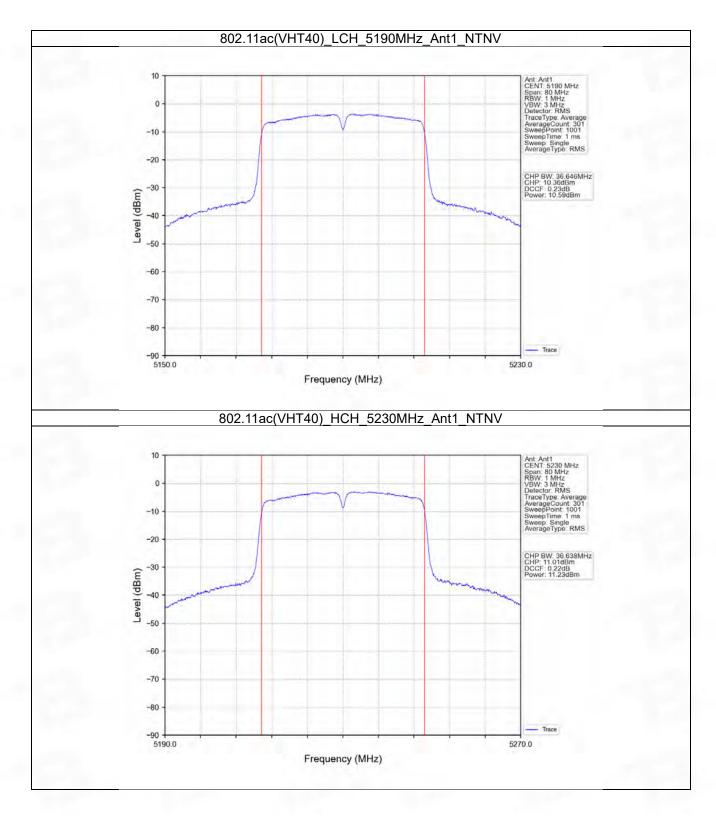
Page 97 of 123





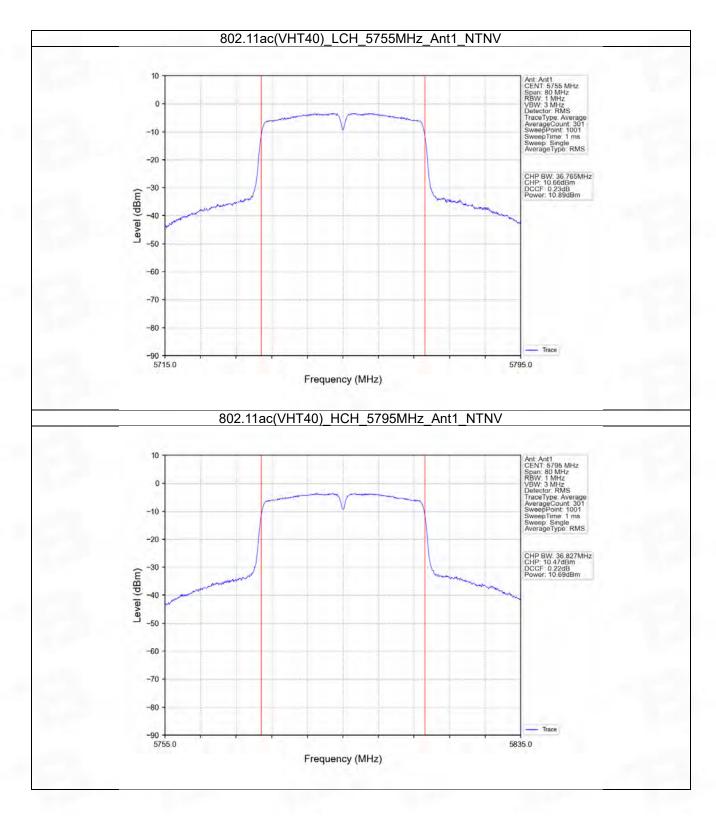
Page 98 of 123





Page 99 of 123





Page 100 of 123



# 4. Maximum Power Spectral Density

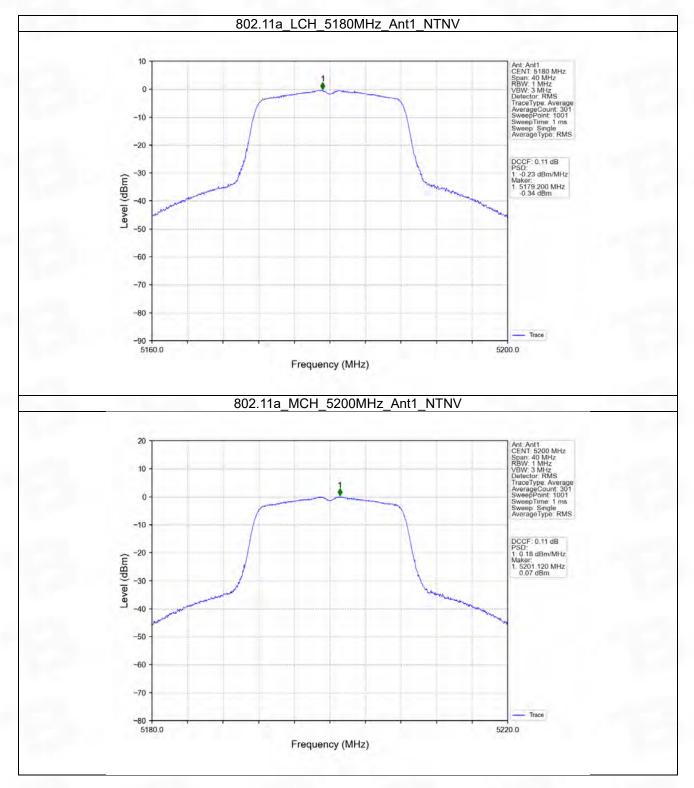
## 4.1 PSD

#### 4.1.1 Test Result

Mode	TX	Frequency	Maximum PSD (dBm/MHz)		Verdict
	Туре	(MHz)	ANT1	Limit	veruici
802.11a	SISO	5180	-0.23	<=11	Pass
		5200	0.18	<=11	Pass
		5240	0.89	<=11	Pass
000.44	SISO	5180	-0.52	<=11	Pass
802.11n		5200	-0.01	<=11	Pass
(HT20)		5240	0.93	<=11	Pass
802.11n (HT40)	SISO	5190	-3.08	<=11	Pass
		5230	-2.63	<=11	Pass
000 44 5	SISO	5180	-0.35	<=11	Pass
802.11ac		5200	-0.11	<=11	Pass
(VHT20)		5240	0.77	<=11	Pass
802.11ac (VHT40)	SISO	5190	-3.46	<=11	Pass
		5230	-2.69	<=11	Pass
Note1: Antenna	Gain: Ant1: 1.11	dBi;			

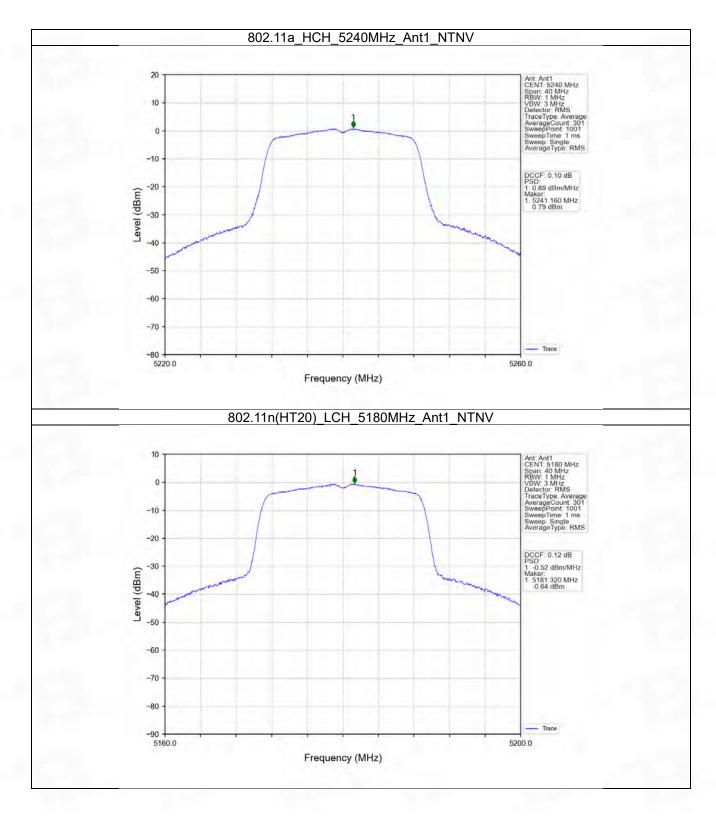


#### 4.1.2 Test Graph



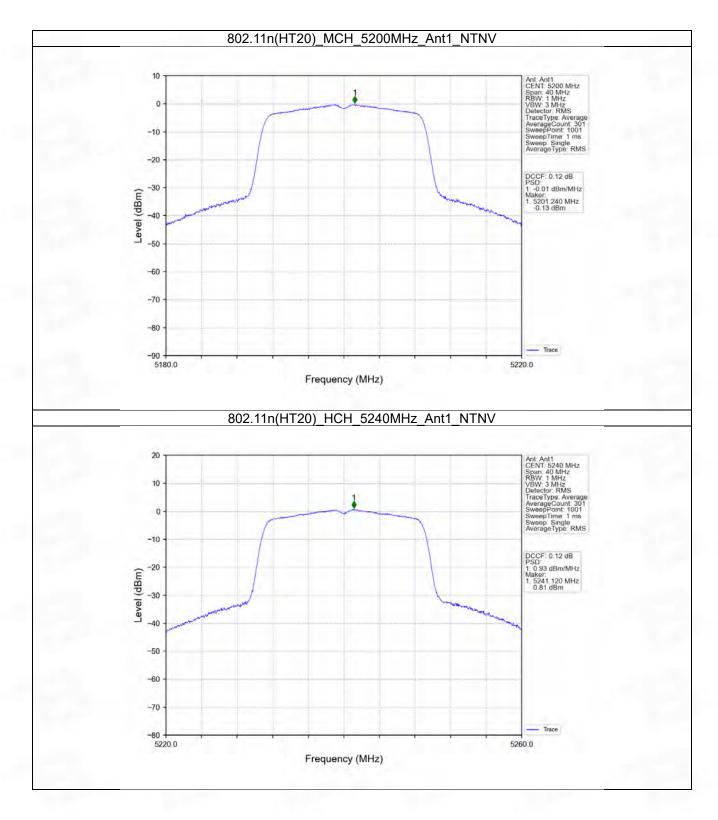
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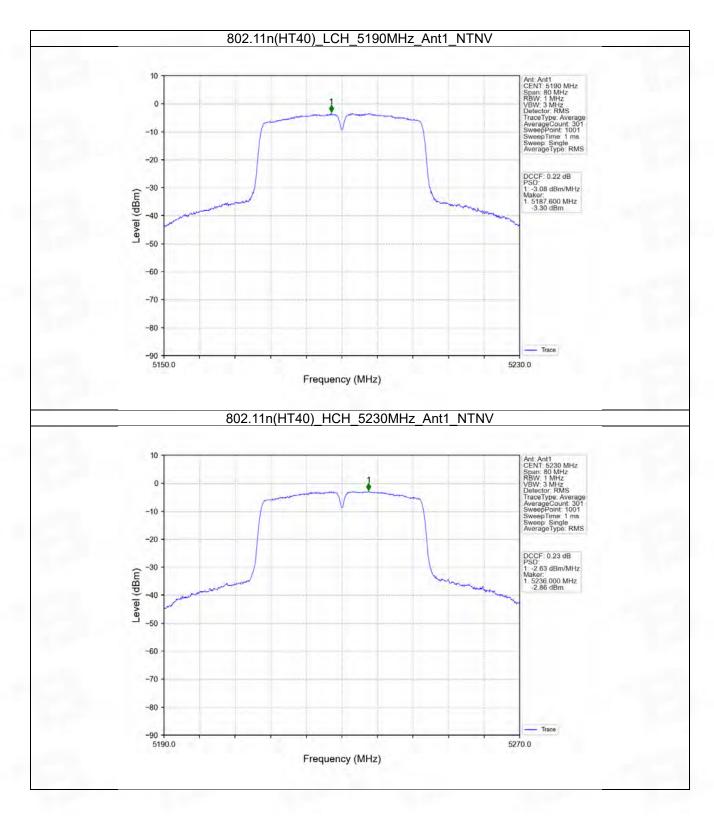
Page 103 of 123





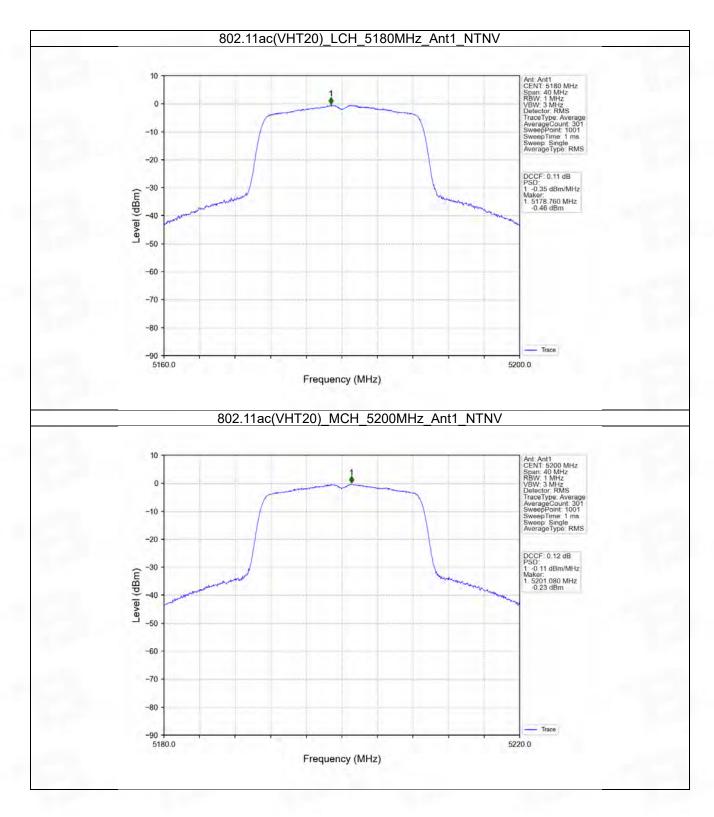
Page 104 of 123





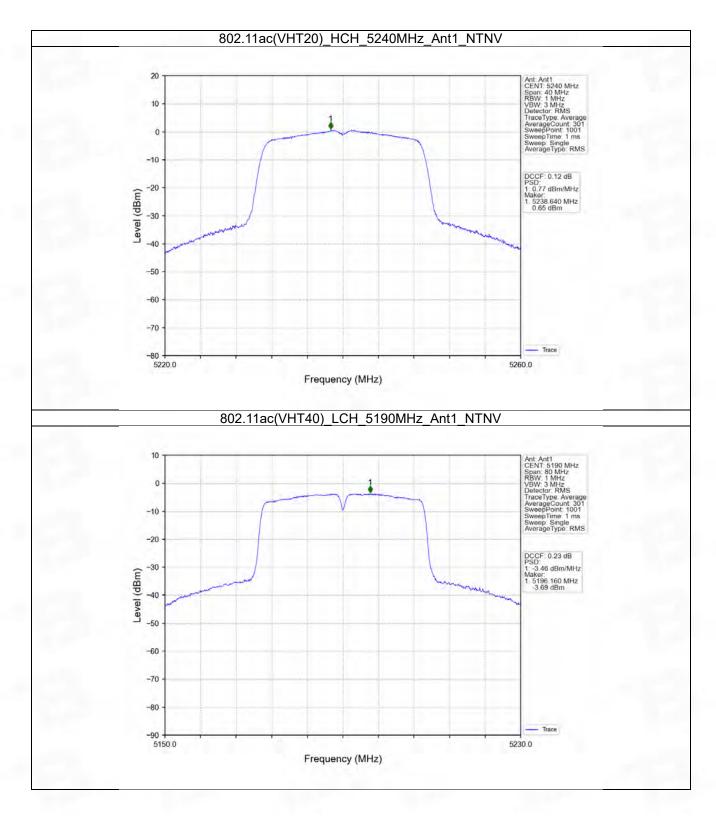
Page 105 of 123





Page 106 of 123











## 4.2 PSD-Band3

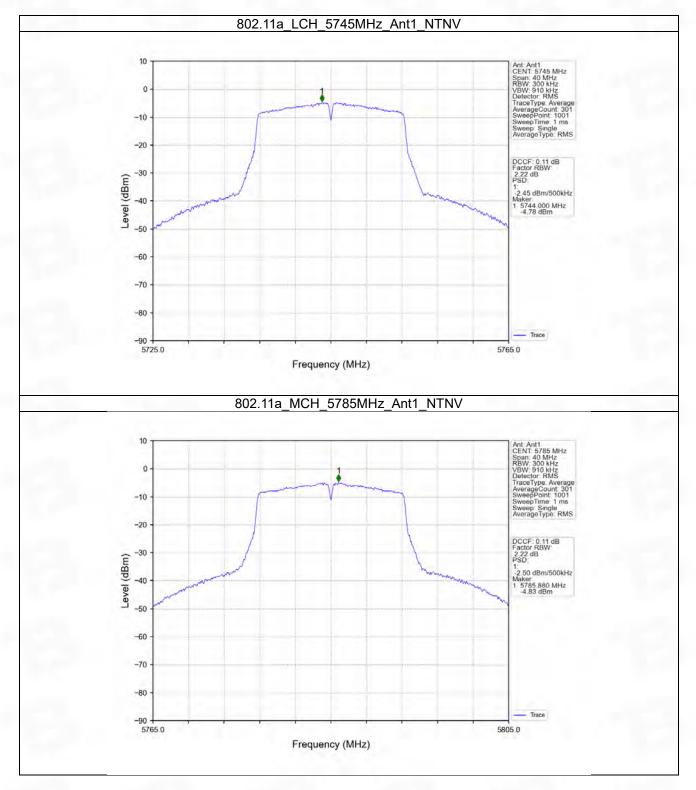
## 4.2.1 Test Result

Mode	ΤX	Frequency	Maximum PSD	(dBm/500kHz)	Verdict
wode	Туре	(MHz)	ANT1	Limit	verdict
	1.00	5745	-2.45	<=30	Pass
802.11a	SISO	5785	-2.50	<=30	Pass
		5825	-2.74	<=30	Pass
000 11-		5745	-2.74	<=30	Pass
802.11n	SISO	5785	-2.84	<=30	Pass
(HT20)		5825	-2.99	<=30	Pass
802.11n	SISO	5755	-5.89	<=30	Pass
(HT40)	5150	5795	-6.24	<=30	Pass
002 11		5745	-2.52	<=30	Pass
802.11ac	SISO	5785	-3.06	<=30	Pass
(VHT20)		5825	-3.13	<=30	Pass
802.11ac	8180	5755	-6.09	<=30	Pass
(VHT40)	SISO	5795	-6.16	<=30	Pass

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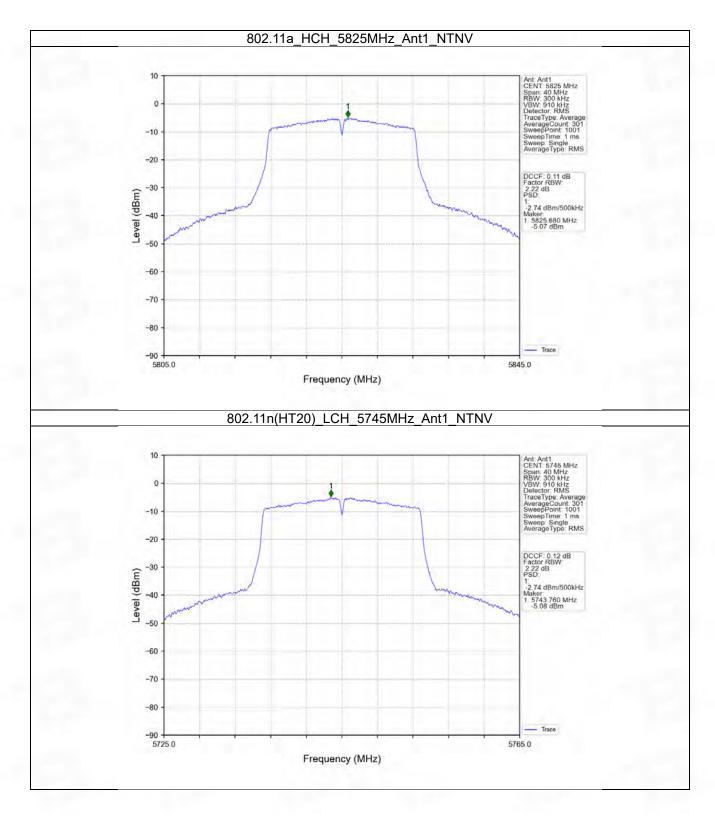


## 4.2.2 Test Graph



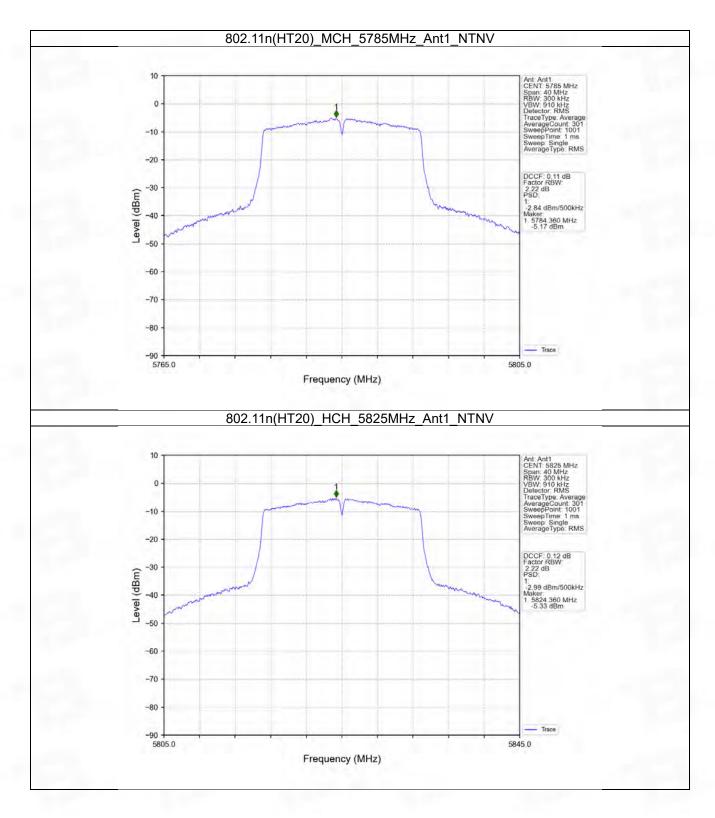
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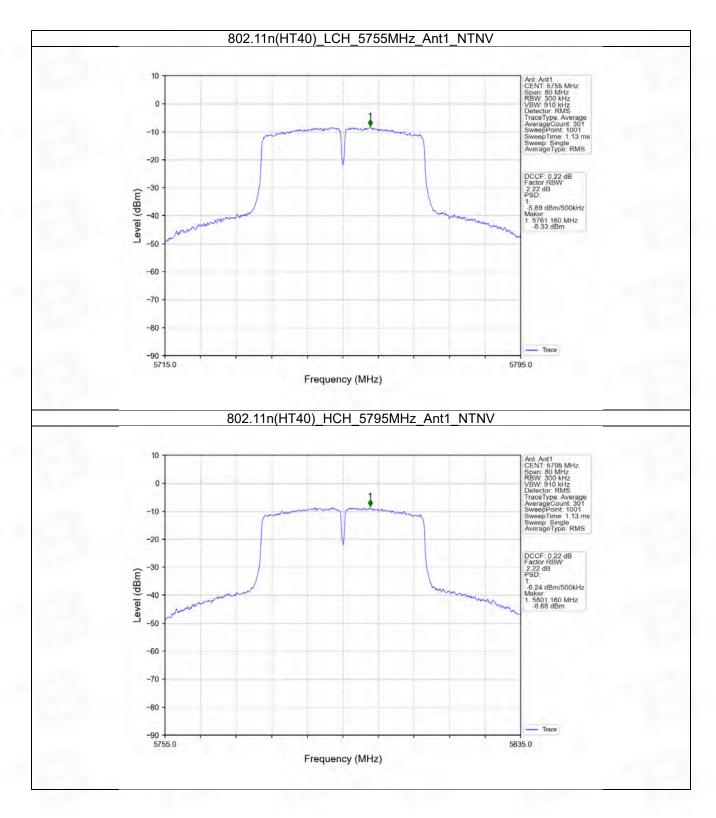
Page 111 of 123





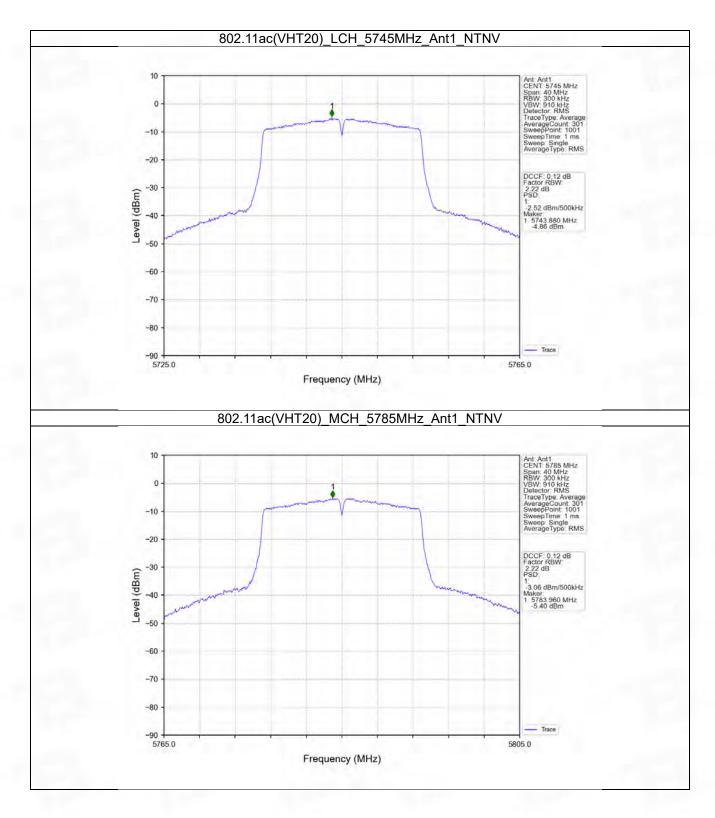
Page 112 of 123





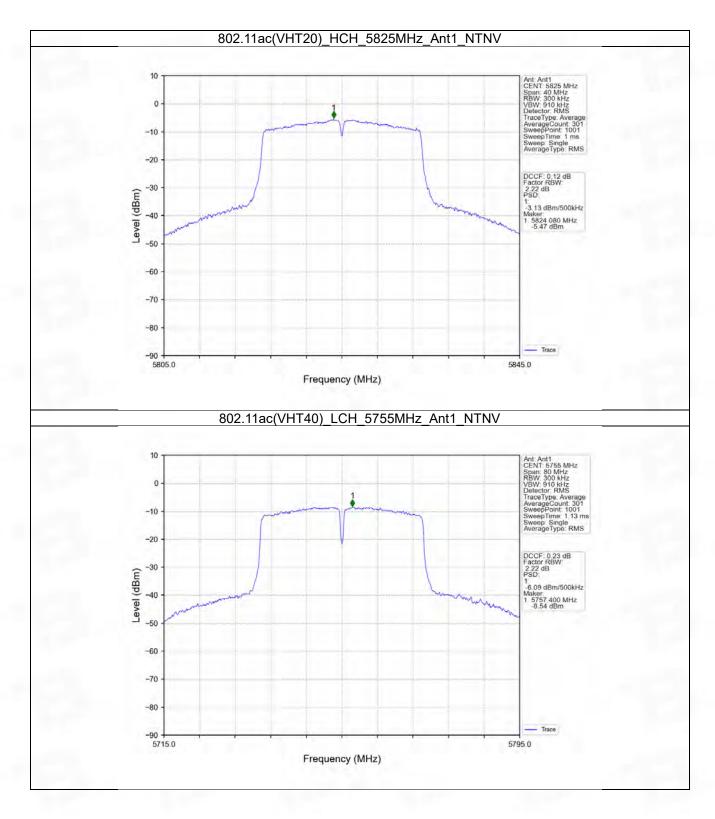
Page 113 of 123





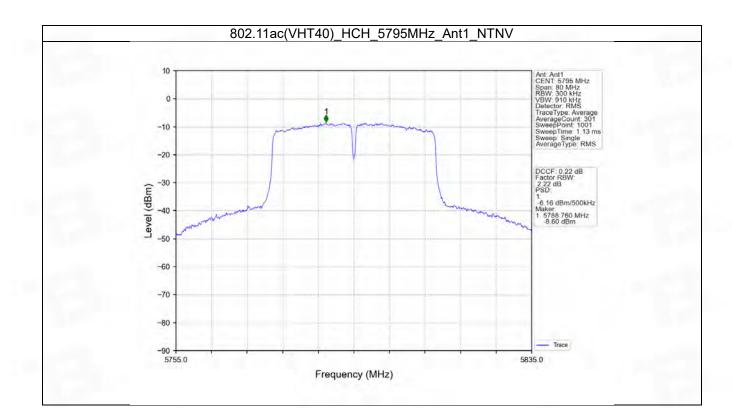
Page 114 of 123





Page 115 of 123





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# 5. Frequency Stability

## 5.1 Ant1

## 5.1.1 Test Result

Mode	TX	Frequency	Temperature	Ant1 Voltage	Measured Frequency	Limit	Verdict	
	Туре	(MHz)	(°C)	(VAC)	(MHz)	(MHz)		
				102	5180.000	5150 to 5250	Pass	
			20	120	5180.020	5150 to 5250	Pass	
				138	5180.000	5150 to 5250	Pass	
			-30	120	5180.020	5150 to 5250	Pass	
		Contraction of the	-20	120	5180.000	5150 to 5250	Pass	
		5180	-10	120	5180.080	5150 to 5250	Pass	
			0	120	5180.000	5150 to 5250	Pass	
			10	120	5180.020	5150 to 5250	Pass	
			30	120	5180.040	5150 to 5250	Pass	
		1. 1 Mar	40	120	5180.000	5150 to 5250	Pass	
			50	120	5180.000	5150 to 5250	Pass	
				102	5200.020	5150 to 5250	Pass	
			20	120	5199.980	5150 to 5250	Pass	
				138	5200.020	5150 to 5250	Pass	
			-30	120	5200.000	5150 to 5250	Pass	
		5200	-20	120	5200.040	5150 to 5250	Pass	
			-10	120	5199.960	5150 to 5250	Pass	
			0	120	5200.040	5150 to 5250	Pass	
		10	120	5200.000	5150 to 5250	Pass		
		30	120	5199.980	5150 to 5250	Pass		
802.11a	SISO			40	120	5200.020	5150 to 5250	Pass
				50	120	5200.060	5150 to 5250	Pass
				102	5240.000	5150 to 5250	Pass	
			20	120	5240.100	5150 to 5250	Pass	
				138	5240.020	5150 to 5250	Pass	
		5240	-30	120	5239.900	5150 to 5250	Pass	
			-20	120	5239.940	5150 to 5250	Pass	
			-10	120	5240.080	5150 to 5250	Pass	
			0	120	5240.000	5150 to 5250	Pass	
			10	120	5240.020	5150 to 5250	Pass	
			30	120	5239.980	5150 to 5250	Pass	
			40	120	5239.960	5150 to 5250	Pass	
			50	120	5239.960	5150 to 5250	Pass	
				102	5745.040	5725 to 5850	Pass	
			20	120	5745.020	5725 to 5850	Pass	
			_0	138	5745.040	5725 to 5850	Pass	
			-30	120	5744.940	5725 to 5850	Pass	
		5745	-20	120	5745.000	5725 to 5850	Pass	
			-10	120	5745.020	5725 to 5850	Pass	
			0	120	5745.000	5725 to 5850	Pass	
			10	120	5745.000	5725 to 5850	Pass	

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Page 117 of 123



			30	120	5745.020	5725 to 5850	Pass
			40	120	5745.000	5725 to 5850	Pass
			50	120	5744.960	5725 to 5850	Pass
				102	5785.000	5725 to 5850	Pass
			20	120	5785.000	5725 to 5850	Pass
				138	5784.980	5725 to 5850	Pass
			-30	120	5784.960	5725 to 5850	Pass
			-20	120	5784.960	5725 to 5850	Pass
		5785	-10	120	5784.980	5725 to 5850	Pass
		ľ	0	120	5784.940	5725 to 5850	Pass
			10	120	5784.960	5725 to 5850	Pass
			30	120	5784.980	5725 to 5850	Pass
			40	120	5785.000	5725 to 5850	Pass
			50	120	5785.040	5725 to 5850	Pass
				102	5825.000	5725 to 5850	Pass
			20	120	5824.920	5725 to 5850	Pass
				138	5824.960	5725 to 5850	Pass
			-30	120	5825.000	5725 to 5850	Pass
			-20	120	5824.940	5725 to 5850	Pass
		5825	-10	120	5824.960	5725 to 5850	Pass
			0	120	5825.000	5725 to 5850	Pass
			10	120	5825.000	5725 to 5850	Pass
			30	120	5824.900	5725 to 5850	Pass
			40	120	5825.020	5725 to 5850	Pass
			50	120	5825.040	5725 to 5850	Pase
				102	5179.960	5150 to 5250	Pass
			20	120	5180.060	5150 to 5250	Pass
				138	5180.020	5150 to 5250	Pass
			-30	120	5180.000	5150 to 5250	Pass
			-20	120	5180.020	5150 to 5250	Pass
		5180	-10	120	5180.060	5150 to 5250	Pase
			0	120	5180.020	5150 to 5250	Pass
			10	120	5179.980	5150 to 5250	Pass
			30	120	5180.020	5150 to 5250	Pase
			40	120	5179.960	5150 to 5250	Pase
			50	120	5180.040	5150 to 5250	Pase
				102	5200.040	5150 to 5250	Pass
			20	120	5199.980	5150 to 5250	Pase
802.11n	SISO			138	5200.000	5150 to 5250	Pass
(HT20)			-30	120	5200.000	5150 to 5250	Pase
			-20	120	5200.020	5150 to 5250	Pase
		5200	-10	120	5200.060	5150 to 5250	Pase
			0	120	5199.960	5150 to 5250	Pass
			10	120	5199.980	5150 to 5250	Pass
			30	120	5200.020	5150 to 5250	Pass
			40	120	5200.020	5150 to 5250	Pass
			50	120	5200.080	5150 to 5250	Pass
				102	5239.980	5150 to 5250	Pass
			20	120	5240.040	5150 to 5250	Pass
		5240		138	5240.000	5150 to 5250	Pass
			-30	120	5240.060	5150 to 5250	Pass
		-	-20	120	5240.000	5150 to 5250	Pass
			-10	120	5240.020	5150 to 5250	Pass

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Page 118 of 123



			0	120	5240.020	5150 to 5250	Pass
			10	120	5239.980	5150 to 5250	Pass
			30	120	5240.040	5150 to 5250	Pass
			40	120	5240.060	5150 to 5250	Pass
			50	120	5240.000	5150 to 5250	Pass
				102	5744.940	5725 to 5850	Pass
			20	120	5745.020	5725 to 5850	Pass
				138	5745.020	5725 to 5850	Pass
			-30	120	5745.080	5725 to 5850	Pass
			-20	120	5744.980	5725 to 5850	Pass
		5745	-10	120	5745.000	5725 to 5850	Pass
			0	120	5744.940	5725 to 5850	Pass
			10	120	5745.040	5725 to 5850	Pass
			30	120	5744.980	5725 to 5850	Pass
			40	120	5745.000	5725 to 5850	Pass
			50	120	5745.020	5725 to 5850	Pass
				102	5785.000	5725 to 5850	Pass
			20	120	5785.020	5725 to 5850	Pass
				138	5784.920	5725 to 5850	Pass
			-30	120	5784.980	5725 to 5850	Pass
			-20	120	5785.040	5725 to 5850	Pass
		5785	-10	120	5785.000	5725 to 5850	Pass
			0	120	5785.020	5725 to 5850	Pass
			10	120	5784.980	5725 to 5850	Pass
			30	120	5784.980	5725 to 5850	Pass
			40	120	5785.000	5725 to 5850	Pass
			50	120	5784.980	5725 to 5850	Pass
				102	5825.040	5725 to 5850	Pass
			20	120	5825.000	5725 to 5850	Pass
			20	138	5824.980	5725 to 5850	Pass
			-30	120	5825.000	5725 to 5850	Pass
			-20	120	5825.020	5725 to 5850	Pass
		5825	-10	120	5825.000	5725 to 5850	Pass
		0020	0	120	5825.000	5725 to 5850	Pass
			10	120	5824.980	5725 to 5850	Pass
			30	120	5825.000	5725 to 5850	Pass
			40	120	5825.020	5725 to 5850	Pass
			50	120	5825.020	5725 to 5850	Pass
			00	102	5190.080	5150 to 5250	Pass
			20	120	5190.040	5150 to 5250	Pass
			20	138	5190.040	5150 to 5250	Pass
			-30	120	5190.120	5150 to 5250	Pass
			-20	120	5190.080	5150 to 5250	Pass
		5190	-10	120	5190.000	5150 to 5250	Pass
		0100	0	120	5190.000	5150 to 5250	Pass
802.11n	SISO		10	120	5190.040	5150 to 5250	Pass
(HT40)			30	120	5190.040	5150 to 5250	Pass
			40	120	5190.040	5150 to 5250	Pass
			50	120	5190.000	5150 to 5250	Pass
			50	102	5230.040	5150 to 5250	Pass
			20	102	5230.040		
		5230	20			5150 to 5250	Pass
			20	138	5230.000	5150 to 5250	Pass
			-30	120	5230.040	5150 to 5250	Pass

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Page 119 of 123



			-20	120	5230.000	5150 to 5250	Pass
			-10	120	5230.000	5150 to 5250	Pass
			0	120	5230.040	5150 to 5250	Pass
			10	120	5230.000	5150 to 5250	Pass
		-	30	120	5230.000	5150 to 5250	Pass
			40	120	5230.040	5150 to 5250	Pass
			50	120	5230.080	5150 to 5250	Pass
				102	5755.000	5725 to 5850	Pass
1000			20	120	5755.000	5725 to 5850	Pass
				138	5755.000	5725 to 5850	Pass
			-30	120	5755.000	5725 to 5850	Pass
			-20	120	5755.000	5725 to 5850	Pass
		5755	-10	120	5755.000	5725 to 5850	Pass
1.000			0	120	5755.040	5725 to 5850	Pass
		-	10	120	5755.040	5725 to 5850	Pass
			30	120	5755.000	5725 to 5850	Pass
		-	40	120	5755.000	5725 to 5850	Pass
			50	120	5755.080	5725 to 5850	Pass
				102	5795.000	5725 to 5850	Pass
			20	120	5795.000	5725 to 5850	Pass
1000				138	5795.040	5725 to 5850	Pass
			-30	120	5795.000	5725 to 5850	Pass
			-20	120	5795.040	5725 to 5850	Pass
100		5795	-10	120	5795.080	5725 to 5850	Pass
			0	120	5795.000	5725 to 5850	Pass
1000			10	120	5795.000	5725 to 5850	Pass
			30	120	5795.040	5725 to 5850	Pass
			40	120	5795.040	5725 to 5850	Pass
100			50	120	5795.040	5725 to 5850	Pass
				102	5180.080	5150 to 5250	Pass
100			20	120	5180.080	5150 to 5250	Pass
				138	5180.040	5150 to 5250	Pass
			-30	120	5180.060	5150 to 5250	Pass
1000			-20	120	5180.040	5150 to 5250	Pass
		5180	-10	120	5179.960	5150 to 5250	Pass
		0.00	0	120	5180.040	5150 to 5250	Pass
			10	120	5180.000	5150 to 5250	Pass
			30	120	5180.040	5150 to 5250	Pass
1.00			40	120	5179.980	5150 to 5250	Pass
		F	50	120	5180.080	5150 to 5250	Pass
802.11ac				102	5200.000	5150 to 5250	Pass
(VHT20)	SISO		20	120	5200.000	5150 to 5250	Pass
				138	5200.020	5150 to 5250	Pass
			-30	120	5200.020	5150 to 5250	Pass
		F	-20	120	5200.000	5150 to 5250	Pass
		5200	-10	120	5200.040	5150 to 5250	Pass
			0	120	5200.100	5150 to 5250	Pass
			10	120	5200.000	5150 to 5250	Pass
			30	120	5200.040	5150 to 5250	Pass
		F	40	120	5200.060	5150 to 5250	Pass
			50	120	5200.000	5150 to 5250	Pass
				102	5240.020	5150 to 5250	Pass
		5240	20	120	5240.000	5150 to 5250	Pass

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Page 120 of 123



				138	5240.000	5150 to 5250	Pass
		-	-30	120	5240.000	5150 to 5250	Pass
			-20	120	5240.040	5150 to 5250	Pass
1000			-10	120	5240.000	5150 to 5250	Pass
			0	120	5240.080	5150 to 5250	Pass
			10	120	5239.940	5150 to 5250	Pass
		-	30	120	5239.940	5150 to 5250	Pass
1000		-	40	120		5150 to 5250	Pass
1.00		-	50		5240.060		
	-		50	120	5240.000	5150 to 5250 5725 to 5850	Pass
			20	102	5745.100		Pass
1000			20	120	5745.040	5725 to 5850	Pass
1. C.			20	138	5744.940	5725 to 5850	Pass
1.00		-	-30	120	5745.020	5725 to 5850	Pass
		5745	-20	120	5745.020	5725 to 5850	Pass
		5745	-10	120	5744.940	5725 to 5850	Pass
1000		-	0	120	5744.960	5725 to 5850	Pass
Sec. 1			10	120	5745.040	5725 to 5850	Pass
			30	120	5745.020	5725 to 5850	Pass
			40	120	5745.040	5725 to 5850	Pass
			50	120	5745.000	5725 to 5850	Pass
				102	5784.940	5725 to 5850	Pass
		A CONTRACTOR	20	120	5785.000	5725 to 5850	Pass
				138	5785.060	5725 to 5850	Pass
			-30	120	5785.040	5725 to 5850	Pass
			-20	120	5784.980	5725 to 5850	Pass
		5785	-10	120	5785.000	5725 to 5850	Pass
			0	120	5784.940	5725 to 5850	Pass
			10	120	5784.980	5725 to 5850	Pass
			30	120	5784.980	5725 to 5850	Pass
			40	120	5785.060	5725 to 5850	Pass
			50	120	5785.000	5725 to 5850	Pass
				102	5824.980	5725 to 5850	Pass
			20	120	5825.000	5725 to 5850	Pass
				138	5825.000	5725 to 5850	Pass
		-	-30	120	5824.980	5725 to 5850	Pass
			-20	120	5825.020	5725 to 5850	Pass
		5825	-10	120	5824.920	5725 to 5850	Pass
		0020	0	120	5824.980	5725 to 5850	Pass
1000			10	120	5825.060	5725 to 5850	Pass
			30	120	5825.000	5725 to 5850	Pass
100			40	120	5825.000	5725 to 5850	Pass
1.00			50	120	5825.000	5725 to 5850	Pass
			00	102	5190.040	5150 to 5250	Pass
1000			20	120	5190.040	5150 to 5250	Pass
			20	120	5190.040	5150 to 5250	Pass
		-	-30	120	5190.080	5150 to 5250	
		-					Pass
802.11ac	SISO	5100	-20	120	5190.040	5150 to 5250	Pass
(VHT40)	3130	5190	-10	120	5190.040	5150 to 5250	Pass
			0	120	5190.040	5150 to 5250	Pass
			10	120	5190.040	5150 to 5250	Pass
			30	120	5190.000	5150 to 5250	Pass
1000		-	40	120	5190.040	5150 to 5250	Pass
			50	120	5190.040	5150 to 5250	Pass

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Page 121 of 123



		102	5230.040	5150 to 5250	Pass
	20	120	5230.040	5150 to 5250	Pass
		138	5230.040	5150 to 5250	Pass
	-30	120	5230.000	5150 to 5250	Pass
	-20	120	5230.000	5150 to 5250	Pass
5230	-10	120	5230.000	5150 to 5250	Pass
	0	120	5230.080	5150 to 5250	Pass
	10	120	5230.040	5150 to 5250	Pass
	30	120	5230.040	5150 to 5250	Pass
	40	120	5230.000	5150 to 5250	Pass
100 C	50	120	5230.040	5150 to 5250	Pass
		102	5755.040	5725 to 5850	Pass
	20	120	5755.040	5725 to 5850	Pass
		138	5755.000	5725 to 5850	Pass
	-30	120	5755.040	5725 to 5850	Pass
	-20	120	5755.000	5725 to 5850	Pass
5755	-10	120	5755.040	5725 to 5850	Pass
	0	120	5755.000	5725 to 5850	Pass
	10	120	5755.000	5725 to 5850	Pass
	30	120	5755.000	5725 to 5850	Pass
	40	120	5755.000	5725 to 5850	Pass
	50	120	5755.040	5725 to 5850	Pass
		102	5795.000	5725 to 5850	Pass
	20	120	5795.000	5725 to 5850	Pass
		138	5795.040	5725 to 5850	Pass
	-30	120	5795.000	5725 to 5850	Pass
	-20	120	5795.040	5725 to 5850	Pass
5795	-10	120	5795.000	5725 to 5850	Pass
	0	120	5794.960	5725 to 5850	Pass
	10	120	5795.000	5725 to 5850	Pass
	30	120	5795.040	5725 to 5850	Pass
	40	120	5795.000	5725 to 5850	Pass
	50	120	5795.000	5725 to 5850	Pass

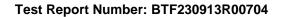
## 6. Form731

## 6.1 Form731

### 6.1.1 Test Result

Lower Freq (MHz)	High Freq (MHz)	MAX Power (W)	MAX Power (dBm)
5180	5240	0.0135	11.29
5745	5825	0.0116	10.63
5190	5230	0.0137	11.36
5755	5795	0.0124	10.93

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