

Report No.: FR911633F



FCC RADIO TEST REPORT

FCC ID : UZ7ET51CE

Equipment : Tablet
Brand Name : Zebra
Model name : ET51CE

Applicant : Zebra Technologies Corporation

1 Zebra Plaza, Holtsville, NY 11742

Manufacturer : Zebra Technologies Corporation

1 Zebra Plaza, Holtsville, NY 11742

Standard : FCC Part 15 Subpart E §15.407

The product was received on Jan. 16, 2019 and testing was started from May 15, 2019 and completed on Jun. 20, 2019. We, SPORTON INTERNATIONAL INC., EMC & Wireless Communications Laboratory, would like to declare that the tested sample has been evaluated in accordance with the test procedures and has been in compliance with the applicable technical standards.

The report must not be used by the client to claim product certification, approval, or endorsement by TAF or any agency of government.

The test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory, the test report shall not be reproduced except in full.

Approved by: Jones Tsai

SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory

No. 52, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.)

TEL: 886-3-327-3456 Page Number : 1 of 45 FAX: 886-3-328-4978 Issued Date : Jun. 25, 2019

Table of Contents

Report No.: FR911633F

: 01

His	tory o	of this test report	3
Su	mmar	y of Test Result	4
1	Gene	eral Description	5
	1.1	Product Feature of Equipment Under Test	5
	1.2	Product Specification of Equipment Under Test	6
	1.3	Modification of EUT	7
	1.4	Testing Location	7
	1.5	Applicable Standards	8
2	Test	Configuration of Equipment Under Test	9
	2.1	Carrier Frequency and Channel	9
	2.2	Test Mode	9
	2.3	Connection Diagram of Test System	14
	2.4	Support Unit used in test configuration and system	16
	2.5	EUT Operation Test Setup	16
	2.6	Measurement Results Explanation Example	16
3	Test	Result	17
	3.1	6dB and 26dB and 99% Occupied Bandwidth Measurement	17
	3.2	Maximum Conducted Output Power Measurement	23
	3.3	Power Spectral Density Measurement	26
	3.4	Unwanted Emissions Measurement	32
	3.5	AC Conducted Emission Measurement	38
	3.6	Automatically Discontinue Transmission	40
	3.7	Antenna Requirements	41
4	List	of Measuring Equipment	43
5	Unce	ertainty of Evaluation	45
Ар	pendi	x A. AC Conducted Emission Test Result	
Ар	pendi	x B. Radiated Spurious Emission	
Аp	pendi	x C. Radiated Spurious Emission Plots	
Ар	pendi	x D. Duty Cycle Plots	
Ар	pendi	x E. Setup Photographs	

TEL: 886-3-327-3456 Page Number : 2 of 45
FAX: 886-3-328-4978 Issued Date : Jun. 25, 2019

History of this test report

Report No.: FR911633F

Report No.	Version	Description	Issued Date
FR911633F	01	Initial issue of report	Jun. 25, 2019

TEL: 886-3-327-3456 Page Number : 3 of 45 FAX: 886-3-328-4978 Issued Date : Jun. 25, 2019

Summary of Test Result

Report No.: FR911633F

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
3.1	15.403 (i)	6dB & 26dB Bandwidth	Pass	-
3.1	2.1049	99% Occupied Bandwidth	Reporting only	-
3.2	15.407 (a)	Maximum Conducted Output Power	Pass	-
3.3	15.407 (a)	Power Spectral Density	Pass	-
3.4	15.407(b)	Unwanted Emissions	Pass	Under limit 1.42 dB at 5647.400 MHz
3.5	15.207	AC Conducted Emission	Pass	Under limit 15.57 dB at 0.166 MHz
3.6	15.407 (c)	Automatically Discontinue Transmission	Pass	-
3.7	15.203 & 15.407 (a)	Antenna Requirement	Pass	-

Declaration of Conformity:

The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.

Comments and Explanations:

The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.

Reviewed by: Wii Chang

Report Producer: Aileen Huang

TEL: 886-3-327-3456 Page Number : 4 of 45
FAX: 886-3-328-4978 Issued Date : Jun. 25, 2019

1 General Description

1.1 Product Feature of Equipment Under Test

Product Feature			
Equipment	Tablet		
Brand Name	Zebra		
Model Name	ET51CE		
FCC ID	UZ7ET51CE		
EUT supports Radios application	NFC WLAN 11a/b/g/n HT20/HT40 WLAN 11ac VHT20/VHT40/VHT80 Bluetooth BR/EDR/LE		
HW Version	DV1		
SW Version	Android version 8.1.0		
FW Version	01-19-08.00-OG-U00-PLT		
MFD	19MAY01		
EUT Stage	Identical Prototype		

Report No.: FR911633F

Remark: The above EUT's information was declared by manufacturer.

Specification of Accessories				
Spare Standard Battery 24.13Wh	Brand Name	Zebra	Model Name	BT-000393

Supported Unit Used in Test Configuration and System				
Cradle (Dock)	Brand Name	Zebra	Part Number	CRD-ET5X-1SCG1
Adapter	Brand Name	Zebra	Part Number	PWRBGA12V50W0WW
DC Cable	Brand Name	Zebra	Part Number	CBL-DC-388A1-01

TEL: 886-3-327-3456 Page Number : 5 of 45
FAX: 886-3-328-4978 Issued Date : Jun. 25, 2019

1.2 Product Specification of Equipment Under Test

Standa	ards-related Product Specification
Tx/Rx Channel Frequency Range	5745 MHz ~ 5825 MHz
Maximum Output Power <cdd modes=""></cdd>	 <ant. 1=""></ant.> 802.11a: 18.30 dBm / 0.0676 W 802.11n HT20: 18.30 dBm / 0.0676 W 802.11n HT40: 18.40 dBm / 0.0692 W 802.11ac VHT20: 18.40 dBm / 0.0708 W 802.11ac VHT80: 18.50 dBm / 0.0708 W 802.11ac VHT80: 18.30 dBm / 0.0676 W <ant. 2=""> 802.11a: 18.40 dBm / 0.0692 W 802.11n HT20: 18.40 dBm / 0.0692 W 802.11n HT40: 18.30 dBm / 0.0676 W 802.11ac VHT20: 18.50 dBm / 0.0708 W 802.11ac VHT40: 18.40 dBm / 0.0692 W 802.11ac VHT40: 18.40 dBm / 0.0692 W 802.11ac VHT40: 18.40 dBm / 0.0692 W 802.11ac VHT40: 18.40 dBm / 0.1368 W 802.11a: 21.46 dBm / 0.1400 W 802.11n HT20: 21.36 dBm / 0.1368 W 802.11ac VHT20: 21.46 dBm / 0.1400 W 802.11ac VHT40: 21.46 dBm / 0.1400 W 802.11ac VHT40: 21.46 dBm / 0.1400 W 802.11ac VHT40: 21.46 dBm / 0.1400 W</ant.>
Maximum Output Power <txbf modes=""></txbf>	802.11ac VHT80: 21.46 dBm / 0.1400 W 802.11ac VHT80: 21.46 dBm / 0.1400 W MIMO <ant. +="" 1="" 2=""> 802.11ac VHT20: 21.31 dBm / 0.1352 W 802.11ac VHT40: 21.46 dBm / 0.1400 W 802.11ac VHT80: 21.41 dBm / 0.1384 W</ant.>
99% Occupied Bandwidth <cdd modes=""></cdd>	<ahref="#"><ant. 1=""> 802.11a: 17.10 MHz 802.11ac VHT20: 18.25 MHz 802.11ac VHT40: 37.20 MHz 802.11ac VHT80: 77.40 MHz <ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"><ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ahref="#"></ant.></ahref="#">

Report No.: FR911633F

TEL: 886-3-327-3456 Page Number : 6 of 45
FAX: 886-3-328-4978 Issued Date : Jun. 25, 2019

Standards-related Product Specification				
	MIMO <ant. 1=""></ant.>			
	802.11ac VHT20 :	19.13 MHz		
	802.11ac VHT40 :	44.16 MHz		
99% Occupied Bandwidth	802.11ac VHT80 :	78.52 MHz		
<txbf modes=""></txbf>	MIMO <ant. 2=""></ant.>			
	802.11ac VHT20:	18.38 MHz		
	802.11ac VHT40:	39.56 MHz		
	802.11ac VHT80 :	78.04 MHz		
Type of Madulation	802.11a/n: OFDM (BPSK / QPSK / 16QAM / 64QAM)			
Type of Modulation	802.11ac : OFDM (BPSK / QPSK / 16QAM / 64QAM / 256QAM)			
Antonno Typo / Coin	<ant. 1=""> : Chip Ant</ant.>	tenna with gain 3.9	99 dBi	
Antenna Type / Gain	<ant. 2=""> : Chip Ant</ant.>	tenna with gain 2.7	75 dBi	
		Ant. 1	Ant. 2	7
	000 44 - /-/		AIII. Z	-
	802.11 a/n/ac	V	V	
Antenna Function Description	802.11 n/ac	V	V	
/ uncoma r uncom Boochipuon	MIMO	•	•	
	802.11ac	V	V	
	TXBF	\ \ \	V	
		•	_	_

Report No.: FR911633F

Note: MIMO Ant. 1+2 is a calculated result from sum of the power MIMO Ant. 1 and MIMO Ant. 2.

1.3 Modification of EUT

No modifications are made to the EUT during all test items.

1.4 Testing Location

Test Site	SPORTON INTERNATIONAL INC.		
Test Site Location	No.52, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.) TEL: +886-3-327-3456 FAX: +886-3-328-4978		
Test Site No.	Sporton	Site No.	
rest site No.	TH05-HY	CO05-HY	

Note: The test site complies with ANSI C63.4 2014 requirement.

Test Site SPORTON INTERNATIONAL INC.	
Test Site Location	No.58, Aly. 75, Ln. 564, Wenhua 3rd, Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.) TEL: +886-3-327-0868 FAX: +886-3-327-0855
Test Site No.	Sporton Site No.
rest site NO.	03CH13-HY

Note: The test site complies with ANSI C63.4 2014 requirement.

FCC designation No.: TW1190 and TW0007

TEL: 886-3-327-3456 Page Number : 7 of 45
FAX: 886-3-328-4978 Issued Date : Jun. 25, 2019

1.5 Applicable Standards

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

Report No.: FR911633F

- FCC Part 15 Subpart E
- FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01.
- FCC KDB 414788 D01 Radiated Test Site v01r01.
- FCC KDB 662911 D01 Multiple Transmitter Output v02r01.
- ANSI C63.10-2013

Remark:

- 1. All test items were verified and recorded according to the standards and without any deviation during the test.
- 2. This EUT has also been tested and complied with the requirements of FCC Part 15, Subpart B, recorded in a separate test report.

TEL: 886-3-327-3456 Page Number : 8 of 45
FAX: 886-3-328-4978 Issued Date : Jun. 25, 2019

2 Test Configuration of Equipment Under Test

a. The EUT has been associated with peripherals and configuration operated in a manner tended to maximize its emission characteristics in a typical application. Frequency range investigated: conduction emission (150 kHz to 30 MHz), radiation emission (9 kHz to the 10th harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower). For radiated measurement, pre-scanned in three orthogonal panels, X, Y, Z. The worst cases (X plane) were recorded in this report.

Report No.: FR911633F

b. AC power line Conducted Emission was tested under maximum output power.

2.1 Carrier Frequency and Channel

Frequency Band	Channel	Freq. (MHz)	Channel	Freq. (MHz)
	149	5745	157	5785
5725-5850 MHz Band 4	151*	5755	159*	5795
(U-NII-3)	153	5765	161	5805
(3 : 111 0)	155#	5775	165	5825

Note:

- 1. The above Frequency and Channel in "*" were 802.11n HT40 and 802.11ac VHT40.
- 2. The above Frequency and Channel in "#" were 802.11ac VHT80.

2.2 Test Mode

Final test modes are considering the modulation and worse data rates as below table.

Single Mode

Modulation	Data Rate
802.11a	6 Mbps
802.11n HT20 (Covered by VHT20)	MCS0
802.11n HT40 (Covered by VHT40)	MCS0
802.11ac VHT20	MCS0
802.11ac VHT40	MCS0
802.11ac VHT80	MCS0

TEL: 886-3-327-3456 Page Number : 9 of 45
FAX: 886-3-328-4978 Issued Date : Jun. 25, 2019

MIMO Mode

Modulation	Data Rate
802.11a	6 Mbps
802.11n HT20 (Covered by VHT20)	MCS0
802.11n HT40 (Covered by VHT40)	MCS0
802.11ac VHT20	MCS0
802.11ac VHT40	MCS0
802.11ac VHT80	MCS0

Report No.: FR911633F

TXBF Mode

Modulation	Data Rate
802.11ac VHT20	MCS0
802.11ac VHT40	MCS0
802.11ac VHT80	MCS0

	Test Cases
AC	Mode 1: WLAN (5GHz) Link + Bluetooth Link + USB Cable (Type C) + USB (Type
Conducted	C) with LCD Monitor + AC Adaptor (PWRBGA12V50W0WW) with DC
Emission	Cable (CBL-DC-388A1-01) + Dock (CRD-ET5X-1SCG1) (Charging with
EIIIISSIOII	EUT) + MPEG4 (Color Bar) + NFC On + SD Card (Load)

<CDD Mode>

	Ch #	Band IV:5725-5850 MHz									
	Ch. #	802.11a	802.11ac VHT20	802.11ac VHT40	802.11ac VHT80						
L	Low	149	149	151	-						
M	Middle	157	157	-	155						
Н	High	165	165	159	-						

<TXBF Mode>

	Ch. #		Band IV:5725-5850 MHz									
	CII. #	802.11ac VHT20	802.11ac VHT40	802.11ac VHT80								
Г	Low	149	151	-								
M	Middle	157	-	155								
Н	High	165	159	-								

TEL: 886-3-327-3456 Page Number : 10 of 45 FAX: 886-3-328-4978 Issued Date : Jun. 25, 2019

<CDD Mode>

<Ant. 1>

	802.11a RF Output Power (dBm)												
Power vs. Channel					Pov	er vs D	ata Rate)					
Channel	Frequency	Data Rate (bps)	channel	Data Rate (bps)									
Chaine	(MHz)	6M	Chamilei	9М	12M	18M	24M	36M	48M	54M			
CH 149	5745	18.20											
CH 157	5785	18.30	CH 157	18.20	17.90	18.00	17.90	17.90	18.00	17.90			
CH 165	5825	18.10											

Report No.: FR911633F

	802.11n HT20 RF Output Power (dBm)												
	Power vs. Channel				Power vs Data Rate								
Channel	Frequency	MCS Index	channel			N	ICS Inde	X					
Chamilei	(MHz)	MCS0	Citatillei	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7			
CH 149	5745	18.30											
CH 157	5785	18.10	CH 149	CH 149 18.20	17.90	17.90	17.90	17.90	18.00	17.90			
CH 165	5825	18.20											

	802.11n HT40 RF Output Power (dBm)											
	Power vs. Char	nnel			Po	wer vs D	ata Rate					
Channel	Frequency	MCS Index	channel MCS Index									
Onamie	(MHz)	MCS0	Chamile	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7		
CH 151	5755	18.10	CU 450	40.00	40.00	40.00	40.00	40.00	40.00	40.00		
CH 159	5795	18.40	CH 159	18.00	18.00	18.00	18.00	18.00	18.00	18.00		

	802.11ac VHT20 RF Output Power (dBm)												
F	Power vs. Cha	Power vs Data Rate											
Channel	Frequency	MCS Index	channel	channel MCS Index									
Chamilei	(MHz)	MCS0	Chamilei	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7	MCS8		
CH 149	5745	18.40											
CH 157	5785	18.20	CH 149	CH 149	18.30	18.00	18.00	18.00	18.00	18.10	18.00	18.00	
CH 165	5825	18.30											

	802.11ac VHT40 RF Output Power (dBm)											
P	ower vs. Cha		Power vs Data Rate									
Channel	Frequency	MCS Index	channel				М	CS Inde	×			
Chamilei	(MHz)	MCS0	Chamilei	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7	MCS8	MCS9
CH 151	5755	18.20	CI 150	10.10	40.40	10.10	10.10	10.10	10.10	10.10	40.40	40.40
CH 159	5795	18.50	CH 159	18.10	18.10	18.10	18.10	18.10	18.10	18.10	18.10	18.10

	802.11ac VHT80 RF Output Power (dBm)											
P	ower vs. Cha	nnel	Power vs Data Rate									
Channel	Frequency	Frequency MCS Index	channel MCS Index									
Chamilei	(MHz)	MCS0	Chamilei	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7	MCS8	MCS9
CH155	5775	18.30	CH155 17.90 17.90 17.90 17.90 17.90 17.90 17.90 17.90 17.90									

TEL: 886-3-327-3456 Page Number : 11 of 45 FAX: 886-3-328-4978 Issued Date : Jun. 25, 2019

<Ant. 2>

	802.11a RF Output Power (dBm)													
Power vs. Channel					Pov	er vs D	ata Rate)						
Channel	Frequency	Data Rate (bps)	channel	Data Rate (bps)										
Chamilei	(MHz)	6M	Citatillei	9М	12M	18M	24M	36M	48M	54M				
CH 149	5745	18.40												
CH 157	5785	18.40	CH 157	18.30	18.30	18.00	18.30	18.30	18.30	18.30				
CH 165	5825	18.20												

Report No.: FR911633F

		802.	11n HT20 R	F Output	Power (dBm)				
	Power vs. Char	nnel			Po	wer vs D	ata Rate			
Channel	Frequency	MCS Index	channol			N	ICS Inde	x		
Chamilei	(MHz)	MCS0	channel	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
CH 149	5745	18.10								
CH 157	5785	18.40	CH 157	18.30	18.30	18.30	18.30	18.30	18.30	18.30
CH 165	5825	18.30								

		802.	11n HT40 R	F Output	Power (dBm)							
	Power vs. Char	nnel			Po	wer vs D	ata Rate						
Channel	Frequency	MCS Index	channel	MCS Index									
Onamie	(MHz)	MCS0	Chamile	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7			
CH 151	5755	18.20	CU 450	10.20	10.20	10.20	10.20	10.20	10.00	10.00			
CH 159	5795	18.30	CH 159	18.20	18.20	18.20	18.20	18.20	18.20	18.20			

		80	2.11ac VH1	720 RF C	output P	ower (dE	3m)				
F	Power vs. Cha	nnel				Power	vs Data	Rate			
Channel	Frequency	MCS Index	channel				MCS	Index			
Chamilei	(MHz)	MCS0		MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7	MCS8
CH 149	5745	18.20									
CH 157	5785	18.50	CH 157	18.40	18.40	18.40	18.40	18.40	18.40	18.40	18.40
CH 165	5825	18.40									

			802.11ac	VHT40 F	RF Outp	ut Powe	er (dBm)				
P	ower vs. Cha	nnel				Pov	ver vs D	ata Rat	е			
Channel	Frequency	MCS Index	Index channel MCS Index									
Onamer	(MHz)	MCS0	Chamer	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7	MCS8	MCS9
CH 151	5755	18.30	CI 150		40.00	40.00	40.00	40.00	10.00	40.00	40.00	40.00
CH 159	5795	18.40	CH 159	18.30	18.30	18.30	18.30	18.30	18.30	18.30	18.30	18.30

			802.11ac	VHT80 F	RF Outp	ut Powe	er (dBm)							
P	ower vs. Cha	nnel				Pov	ver vs D	ata Rat	е						
Channel	Frequency	Frequency	Frequency	Frequency	MCS Index					М	CS Inde	ex			
Chamer	(MHz)	MCS0	Channel MCS1 MCS2 MCS3 MCS4 MCS5 MCS6 MCS7 MCS8 MCS9												
CH155	5775	18.40								18.30					

TEL: 886-3-327-3456 Page Number : 12 of 45
FAX: 886-3-328-4978 Issued Date : Jun. 25, 2019

MIMO <Ant. 1 + 2>

		802.11a	a RF Output	Power	(dBm)					
	Power vs. C	hannel			Pov	ver vs D	ata Rate	•		
	Frequency	Data Rate (bps)			Data Rate (bps)					
Channel	(MHz)	6M	channel	9M	12M	18M	24M	36M	48M	54M
CH 149	5745	21.46								
CH 157	5785	21.26	CH 149	21.06	21.01	21.16	21.01	21.06	21.11	21.11
CH 165	5825	21.46								

Report No.: FR911633F

		802.	11n HT20 R	F Output	Power (dBm)				
	Power vs. Char	nnel			Po	wer vs D	ata Rate			
	Frequency	MCS Index				N	ICS Inde	X		
Channel	(MHz)	MCS0	channel	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
CH 149	5745	21.36								
CH 157	5785	21.16	CH 149	20.91	20.96	20.96	20.96	21.01	21.01	20.96
CH 165	5825	21.31								

		802.	11n HT40 R	F Output	Power (dBm)						
	Power vs. Char	nnel			Po	wer vs D	ata Rate					
	Frequency	MCS Index				MCS Index						
Channel	(MHz)	MCS0	channel	MCS1	MCS2	MCS3	MCS4	MCS5		MCS7		
CH 151	5755	21.36	CLIATA	04.04	04.04	04.04	04.04	04.04	04.04	20.04		
CH 159	5795	21.16	CH 151	21.31	21.31	21.01	21.01	21.01	21.01	20.91		

		80	2.11ac VH1	Γ20 RF C	output P	ower (dE	Bm)				
F	Power vs. Cha	nnel				Power	vs Data	Rate			
	Frequency	MCS Index					MCS	Index			
Channel	(MHz)	MCS0	channel	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6		MCS8
CH 149	5745	21.46									
CH 157	5785	21.26	CH 149	21.01	21.06	21.06	21.06	21.11	21.11	21.06	21.11
CH 165	5825	21.41									

			802.11ac \	VHT40 I	RF Outp	ut Powe	er (dBm)				
P	ower vs. Cha	nnel				Pov	ver vs D	ata Rat	е			
	Frequency	MCS Index	ndex Channel MCS Index									
Channel	(MHz)	MCS0	channel	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7	MCS8 21.11	MCS9
CH 151	5755	21.46	011454	04.44	04.44	04.44	04.44	04.44	04.44	24.04	04.44	24.00
CH 159	5795	21.26	CH 151	21.41	21.41	21.11	21.11	21.11	21.11	21.01	21.11	21.06

			802.11ac	VHT80 F	RF Outp	ut Powe	er (dBm)							
P	ower vs. Cha	nnel				Pov	ver vs D	ata Rat	е						
	Frequency	Frequency	Frequency		MCS Index					М	CS Inde	ex			
Channel	(MHz)	MCS0	channel MCS1 MCS2 MCS3 MCS4 MCS5 MCS6 MCS7 MCS8 MCS9												
CH155	5775	21.46	CH155	21.41	21.41	21.41	21.41	21.36	21.36	21.36	21.36	21.41			

TEL: 886-3-327-3456 Page Number : 13 of 45 FAX: 886-3-328-4978 Issued Date : Jun. 25, 2019

<TXBF Mode>

MIMO <Ant. 1 + 2>

		80	2.11ac VH	Γ20 RF C	output P	ower (dE	3m)				
F	Power vs. Chai	nnel				Power	vs Data	Rate			
	Frequency	MCS Index					MCS	Index			
Channel	(MHz)	MCS0	channel	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7	MCS8
CH 149	5745	21.17									
CH 157	5785	21.31	CH 157	21.21	21.26	21.26	21.26	21.26	21.26	21.21	21.21
CH 165	5825	21.12									

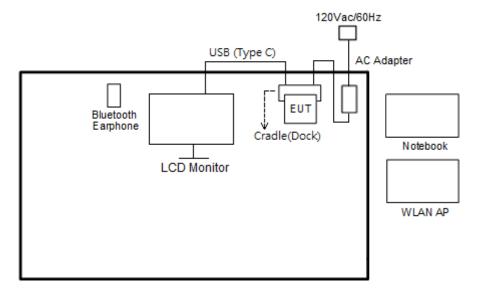
Report No.: FR911633F

	802.11ac VHT40 RF Output Power (dBm)											
P	ower vs. Cha	nnel	Power vs Data Rate									
	Frequency	MCS Index					М	CS Inde	ex			
Channel	(MHz)	MCS0	channel	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7	MCS8	MCS9
CH 151	5755	21.46	011454	04.44	24.44	04.44	04.44	04.44	04.00	04.00	24.20	24.24
CH 159	5795	21.41	CH 151	21.41	21.41	21.41	21.41	21.41	21.36	21.36	21.36	21.31

802.11ac VHT80 RF Output Power (dBm)												
Р	Power vs. Channel Power vs Data Rate											
	Frequency	MCS Index		MCS Index								
Channel	(MHz)	MCS0	channel	Channel MCS1 MCS2 MCS3 MCS4 MCS5 MCS6 MCS7 MCS8 MCS8							MCS9	
CH155	5775	21.41	CH155	CH155 21.36 21.31 21.36 21.36 21.36 21.41 21.36 21.36 21.							21.36	

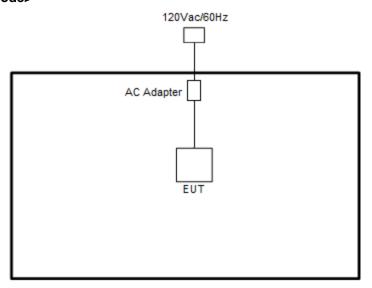
2.3 Connection Diagram of Test System

<AC Conducted Emission Mode>



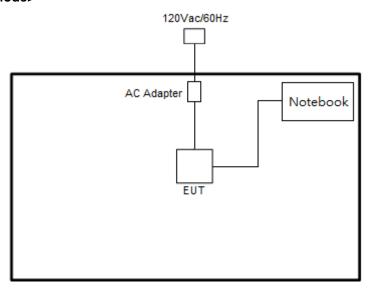
TEL: 886-3-327-3456 Page Number : 14 of 45 FAX: 886-3-328-4978 Issued Date : Jun. 25, 2019

<WLAN CDD Mode>



Report No.: FR911633F

<WLAN TXBF Mode>



TEL: 886-3-327-3456 Page Number : 15 of 45
FAX: 886-3-328-4978 Issued Date : Jun. 25, 2019

2.4 Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model Name	FCC ID	Data Cable	Power Cord
1.	Bluetooth Earphone	Sony Ericsson	MW600	PY7DDA-2029	N/A	N/A
2.	WLAN AP	ASUS	RT-AC66U	MSQ-RTAC66U	N/A	Unshielded, 1.8 m
3.	Notebook	DELL	Latitude E6320	FCC DoC/ Contains FCC ID: QDS-BRCM1054	N/A	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m
4.	Notebook	DELL	Latitude E3340	FCC DoC/ Contains FCC ID: PD97260NGU	N/A	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m
5.	LCD Monitor	DELL	P2715Qt	FCC DoC	Shielded, 1.6 m	Unshielded, 1.8 m
6.	SD Card	SanDisk	MicroSD HC	FCC DoC	N/A	N/A

Report No.: FR911633F

2.5 EUT Operation Test Setup

The RF test items, utility "QRCT_qud.win.1.1_installer_10044.7" was installed in Notebook which was programmed in order to make the EUT get into the engineering modes to provide channel selection, power level, data rate and the application type and for continuous transmitting signals.

For TXBF mode, the modulation modes and data rates manipulated by the command lines in the engineering program made the EUT link to another EUT by power under the normal operation. The "adb" software tool was used to enable the EUT to transmit signals continuously.

2.6 Measurement Results Explanation Example

For all conducted test items:

The offset level is set in the spectrum analyzer to compensate the RF cable loss and attenuator factor between EUT conducted output port and spectrum analyzer. With the offset compensation, the spectrum analyzer reading level is exactly the EUT RF output level.

Example:

The spectrum analyzer offset is derived from RF cable loss and attenuator factor.

Offset = RF cable loss + attenuator factor.

Following shows an offset computation example with cable loss 4.2 dB and 10dB attenuator.

 $Offset(dB) = RF \ cable \ loss(dB) + attenuator \ factor(dB).$

= 4.2 + 10 = 14.2 (dB)

TEL: 886-3-327-3456 Page Number : 16 of 45 FAX: 886-3-328-4978 Issued Date : Jun. 25, 2019

3 Test Result

3.1 6dB and 26dB and 99% Occupied Bandwidth Measurement

3.1.1 Description of 6dB and 26dB and 99% Occupied Bandwidth

The minimum 6 dB bandwidth shall be at least 500 kHz. 26dB and 99% Occupied bandwidth are reporting only.

3.1.2 Measuring Instruments

See list of measuring equipment of this test report.

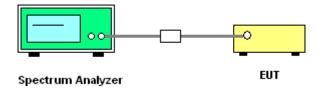
3.1.3 Test Procedures

The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01.
 Section C) Emission bandwidth for the band 5.725-5.85GHz

Report No.: FR911633F

- 2. Set RBW = 100kHz.
- 3. Set the VBW \geq 3 x RBW.
- 4. Detector = Peak.
- 5. Trace mode = max hold
- 6. Measure the maximum width of the emission that is 6 dB down from the peak of the emission.
- 7. Measure and record the results in the test report.

3.1.4 Test Setup



TEL: 886-3-327-3456 Page Number : 17 of 45
FAX: 886-3-328-4978 Issued Date : Jun. 25, 2019

3.1.5 Test Result of 6dB and 26dB and 99% Occupied Bandwidth

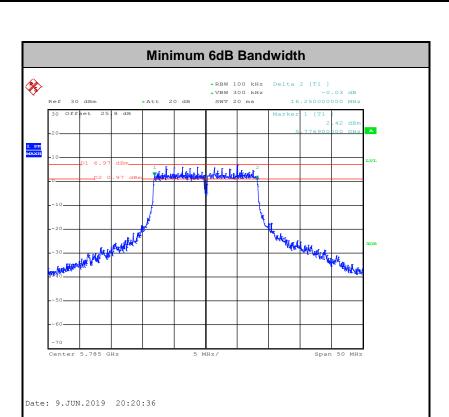
<CDD Mode>

Test Engineer :	Croed Wu and Shiming Liv	Temperature :	21~25 ℃
rest Engineer .	Creed Wu and Shiming Liu	Relative Humidity :	51~54%

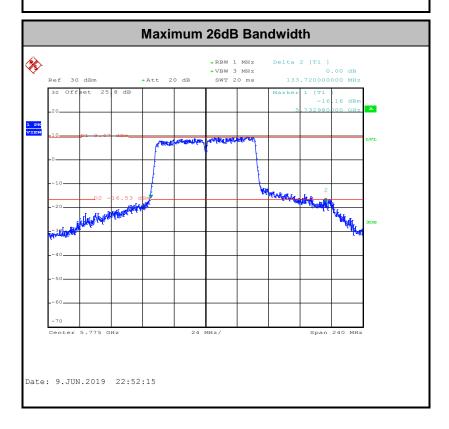
Report No.: FR911633F

	Band IV												
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	99% Bandwidth (MHz)		26d Bandv (MF	width	6 dB Bandwidth (MHz)		6 dB Bandwidth Min. Limit (MHz)	Pass/Fail	
					Ant 1	Ant 2	Ant 1	Ant 2	Ant 1	Ant 2			
11a	6Mbps	1	149	5745	17.05	16.85	35.45	28.35	16.30	16.30	0.5	Pass	
11a	6Mbps	1	157	5785	17.00	16.95	33.85	26.65	16.40	16.40	0.5	Pass	
11a	6Mbps	1	165	5825	17.10	16.85	34.50	26.25	16.30	16.30	0.5	Pass	
VHT20	MCS0	1	149	5745	18.20	18.05	35.90	25.90	17.60	17.60	0.5	Pass	
VHT20	MCS0	1	157	5785	18.10	18.05	32.70	28.80	17.50	17.55	0.5	Pass	
VHT20	MCS0	1	165	5825	18.25	18.05	39.15	28.65	17.65	17.65	0.5	Pass	
VHT40	MCS0	1	151	5755	37.10	37.00	70.84	44.37	36.38	36.28	0.5	Pass	
VHT40	MCS0	1	159	5795	37.20	37.00	65.94	53.20	36.27	36.18	0.5	Pass	
VHT80	MCS0	1	155	5775	77.40	77.28	133.72	97.04	76.04	76.32	0.5	Pass	
11a	6Mbps	2	149	5745	17.05	16.75	34.90	25.25	16.30	16.30	0.5	Pass	
11a	6Mbps	2	157	5785	17.05	16.75	34.10	28.25	16.30	16.25	0.5	Pass	
11a	6Mbps	2	165	5825	17.15	16.70	38.80	26.15	16.30	16.30	0.5	Pass	
VHT20	MCS0	2	149	5745	18.10	18.00	38.70	29.30	17.50	17.60	0.5	Pass	
VHT20	MCS0	2	157	5785	18.20	18.05	39.10	29.30	17.45	17.45	0.5	Pass	
VHT20	MCS0	2	165	5825	18.35	17.95	39.40	29.70	17.55	17.50	0.5	Pass	
VHT40	MCS0	2	151	5755	37.20	37.10	75.13	52.68	36.28	35.92	0.5	Pass	
VHT40	MCS0	2	159	5795	37.40	37.10	69.93	48.99	36.24	36.23	0.5	Pass	
VHT80	MCS0	2	155	5775	77.52	77.16	133.39	93.76	75.80	76.26	0.5	Pass	

TEL: 886-3-327-3456 Page Number : 18 of 45 FAX: 886-3-328-4978 Issued Date : Jun. 25, 2019

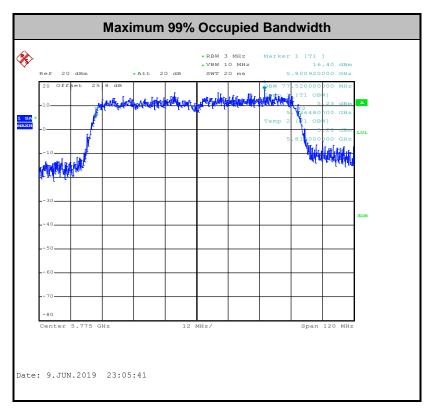


Report No.: FR911633F



TEL: 886-3-327-3456 Page Number : 19 of 45 FAX: 886-3-328-4978 Issued Date : Jun. 25, 2019





Note: The occupied channel bandwidth is maintained within the band of operation for all of the modulations.

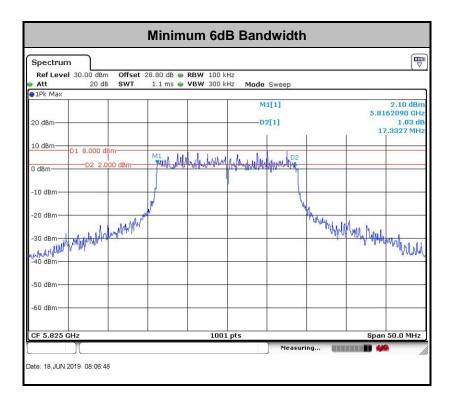
TEL: 886-3-327-3456 Page Number : 20 of 45 FAX: 886-3-328-4978 Issued Date : Jun. 25, 2019

<TXBF Modes>

Test Engineer :	Kai Liao	Temperature :	21~25 ℃
rest Engineer .		Relative Humidity :	51~54%

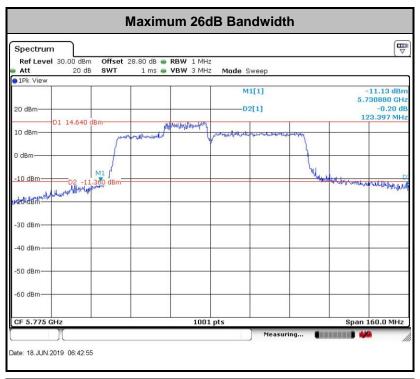
Report No.: FR911633F

Band IV												
Mod.	Data Rate	NTX	СН.	Freq. (MHz)	Band	9% width Hz)		dB width Hz)	6 dB h Bandwidth (MHz)		6 dB Bandwidth Min. Limit (MHz)	Pass/Fail
					Ant 1	Ant 2	Ant 1	Ant 2	Ant 1	Ant 2		
VHT20	MCS0	2	149	5745	18.58	18.23	39.21	39.01	17.73	17.68	0.5	Pass
VHT20	MCS0	2	157	5785	18.68	18.38	44.56	40.61	17.73	17.68	0.5	Pass
VHT20	MCS0	2	165	5825	19.13	17.93	45.10	35.46	17.73	17.33	0.5	Pass
VHT40	MCS0	2	151	5755	43.46	39.56	80.83	83.35	36.41	36.95	0.5	Pass
VHT40	MCS0	2	159	5795	44.16	39.36	87.66	78.13	36.41	36.86	0.5	Pass
VHT80	MCS0	2	155	5775	78.52	78.04	123.40	115.41	72.57	75.13	0.5	Pass

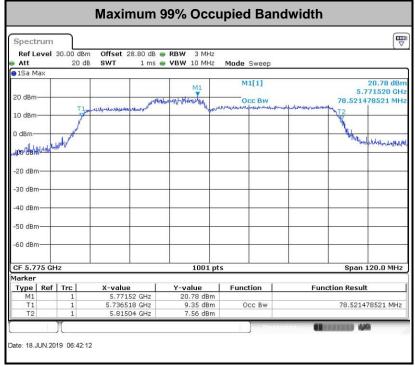


TEL: 886-3-327-3456 Page Number : 21 of 45 FAX: 886-3-328-4978 Issued Date : Jun. 25, 2019





Report No.: FR911633F



Note: The occupied channel bandwidth is maintained within the band of operation for all of the modulations.

TEL: 886-3-327-3456 Page Number : 22 of 45 FAX: 886-3-328-4978 Issued Date : Jun. 25, 2019

3.2 Maximum Conducted Output Power Measurement

3.2.1 Limit of Maximum Conducted Output Power

For the band 5.725–5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W.

Report No.: FR911633F

If transmitting antennas of directional gain greater than 6 dBi are used, the peak output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

3.2.2 Measuring Instruments

See list of measuring equipment of this test report.

3.2.3 Test Procedures

<CDD Modes>

The testing follows Method PM of FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01.

Method PM (Measurement using an RF average power meter):

- 1. Measurement is performed using a wideband RF power meter.
- 2. The EUT is configured to transmit continuously with a consistent duty cycle at its maximum power control level.
- 3. Measure the average power of the transmitter, and the average power is corrected with duty factor, $10 \log(1/x)$, where x is the duty cycle.

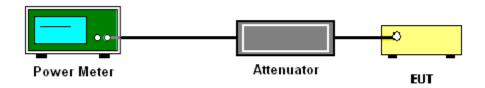
<TXBF Modes>

The testing follows Method PM-G of FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01 for TXBF modes.

Method PM-G (Measurement using a gated RF average power meter):

- 1. Measurement is performed using a wideband RF power meter.
- 2. The EUT is configured to transmit at its maximum power control level.
- 3. Measure the average power of the transmitter
- 4. Since the measurement is made only during the ON time of the transmitter, no duty cycle correction factor is required.

3.2.4 Test Setup



TEL: 886-3-327-3456 Page Number : 23 of 45
FAX: 886-3-328-4978 Issued Date : Jun. 25, 2019

3.2.5 Test Result of Maximum Conducted Output Power

<CDD Mode>

Test Engineer :	Creed Wu and Shiming Liu	Temperature :	21~25 ℃
rest Engineer.	Creed wa and Shiffling Eld	Relative Humidity :	51~54%

Report No.: FR911633F

						Band I	v						
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Average Conducted Power (dBm)		Cond Powe	FCC Conducted Power Limit (dBm)		G Bi)	Pass/Fail		
					Ant 1	Ant 2	SUM	Ant 1	Ant 2	Ant 1	Ant 2		
11a	6Mbps	1	149	5745	18.20	18.40		30.00	30.00	3.99	2.75	Pass	
11a	6Mbps	1	157	5785	18.30	18.40		30.00	30.00	3.99	2.75	Pass	
11a	6Mbps	1	165	5825	18.10	18.20		30.00	30.00	3.99	2.75	Pass	
HT20	MCS0	1	149	5745	18.30	18.10		30.00	30.00	3.99	2.75	Pass	
HT20	MCS0	1	157	5785	18.10	18.40		30.00	30.00	3.99	2.75	Pass	
HT20	MCS0	1	165	5825	18.20	18.30		30.00	30.00	3.99	2.75	Pass	
HT40	MCS0	1	151	5755	18.10	18.20		30.00	30.00	3.99	2.75	Pass	
HT40	MCS0	1	159	5795	18.40	18.30		30.00	30.00	3.99	2.75	Pass	
VHT20	MCS0	1	149	5745	18.40	18.20		30.00	30.00	3.99	2.75	Pass	
VHT20	MCS0	1	157	5785	18.20	18.50		30.00	30.00	3.99	2.75	Pass	
VHT20	MCS0	1	165	5825	18.30	18.40		30.00	30.00	3.99	2.75	Pass	
VHT40	MCS0	1	151	5755	18.20	18.30		30.00	30.00	3.99	2.75	Pass	
VHT40	MCS0	1	159	5795	18.50	18.40		30.00	30.00	3.99	2.75	Pass	
VHT80	MCS0	1	155	5775	18.30	18.40		30.00	30.00	3.99	2.75	Pass	
11a	6Mbps	2	149	5745	18.50	18.40	21.46	30	.00	3.	99	Pass	
11a	6Mbps	2	157	5785	18.30	18.20	21.26	30	.00	3.	99	Pass	
11a	6Mbps	2	165	5825	18.50	18.40	21.46	30	.00	3.	99	Pass	
HT20	MCS0	2	149	5745	18.30	18.40	21.36	30	.00	3.	99	Pass	
HT20	MCS0	2	157	5785	18.10	18.20	21.16	30	.00	3.	99	Pass	
HT20	MCS0	2	165	5825	18.30	18.30	21.31	30	.00	3.	99	Pass	
HT40	MCS0	2	151	5755	18.40	18.30	21.36	30	.00	3.	99	Pass	
HT40	MCS0	2	159	5795	18.20	18.10	21.16	30	.00	3.	99	Pass	
VHT20	MCS0	2	149	5745	18.40	18.50	21.46	30	.00	3.	99	Pass	
VHT20	MCS0	2	157	5785	18.20	18.30	21.26	30.00		3.	99	Pass	
VHT20	MCS0	2	165	5825	18.40	18.40	21.41	30.00		3.	99	Pass	
VHT40	MCS0	2	151	5755	18.50	18.40	21.46	30.00				99	Pass
VHT40	MCS0	2	159	5795	18.30	18.20	21.26	30.00 3.99		99	Pass		
VHT80	MCS0	2	155	5775	18.40	18.50	21.46	30	.00	3.	99	Pass	

TEL: 886-3-327-3456 Page Number : 24 of 45 FAX: 886-3-328-4978 Issued Date : Jun. 25, 2019

<TXBF Mode>

Test Engineer :	Kai Liao	Temperature :	21~25°C
rest Engineer:		Relative Humidity :	51~54%

Report No.: FR911633F

Band IV														
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Average Conducted Power (dBm)			FCC Conducted Power Limit (dBm)		mit (dBi)		Pass/Fail		
					Ant 1 Ant 2 SUM			Ant 1	Ant 2	Ant 1	Ant 2			
VHT20	MCS0	2	149	5745	18.40	17.90	21.17	29.60		6.	40	Pass		
VHT20	MCS0	2	157	5785	18.50	18.10	21.31	29.60		29.60		6.	40	Pass
VHT20	MCS0	2	165	5825	18.40	17.80	21.12	29.60		29.60		6.	40	Pass
VHT40	MCS0	2	151	5755	18.40	18.50	21.46	29.60		29.60 6.40		Pass		
VHT40	MCS0	2	159	5795	18.40	18.40	21.41	29.60		29.60 6.40		Pass		
VHT80	MCS0	2	155	5775	18.50	18.30	21.41	29	.60	6.	40	Pass		

3.3 Power Spectral Density Measurement

3.3.1 Limit of Power Spectral Density

For the band 5.725–5.85 GHz, the maximum power spectral density shall not exceed 30 dBm in any 500-kHz band.

Report No.: FR911633F

If transmitting antennas of directional gain greater than 6 dBi are used, the peak output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

3.3.2 Measuring Instruments

See list of measuring equipment of this test report.

3.3.3 Test Procedures

The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01. Section F) Maximum power spectral density.

<CDD Modes>

Method SA-2

(trace averaging across on and off times of the EUT transmissions, followed by duty cycle correction).

- Measure the duty cycle.
- Set span to encompass the entire emission bandwidth (EBW) of the signal.
- Set RBW = 300 kHz.
- Set VBW ≥ 1 MHz.
- Number of points in sweep ≥ 2 Span / RBW.
- Sweep time = auto.
- Detector = RMS
- Trace average at least 100 traces in power averaging mode.
- Add 10 log(500kHz/RBW) to the test result.
- Add 10 log(1/x), where x is the duty cycle, to the measured power in order to compute the average power during the actual transmission times. For example, add 10 log(1/0.25) = 6 dB if the duty cycle is 25 percent.

TEL: 886-3-327-3456 Page Number : 26 of 45
FAX: 886-3-328-4978 Issued Date : Jun. 25, 2019

<TXBF Modes>

Method SA-3

(power averaging (rms) detection with max hold):

- Set span to encompass the entire emission bandwidth (EBW) of the signal.
- Set RBW = 300 kHz.
- Set VBW ≥ 1 MHz.
- Number of points in sweep ≥ 2 Span / RBW.
- Sweep time ≤ (number of points in sweep) × T, when duty cycle is less than 98 percent
 where T is the minimum transmission duration over which the transmitter is on and is
 transmitting at its maximum power control level for the tested mode of operation.

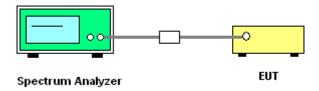
Report No.: FR911633F

- Detector = power averaging (rms).
- Trace mode = max hold.
- Allow max hold to run for at least 60 seconds, or longer as needed to allow the trace to stabilize.
- 1. The RF output of EUT was connected to the spectrum analyzer by a low loss cable.
- 2. Each plot has already offset with cable loss, and attenuator loss. Measure the PPSD and record it.
- 3. For MIMO mode, calculation method follows FCC KDB 662911 D01 Multiple Transmitter Output v02r01.

Method (c): Measure and add 10 log(N_{ANT}) dB.

With this technique, spectrum measurements are performed at each output of the device, but rather than summing the spectra or the spectral peaks across the outputs, the quantity $10 \log(N_{ANT})$ dB is added to each spectrum value before comparing to the emission limit. The addition of $10 \log(N_{ANT})$ dB serves to apportion the emission limit among the N_{ANT} outputs so that each output is permitted to contribute no more than $1/N_{ANT}$ th of the PSD limit.

3.3.4 Test Setup



TEL: 886-3-327-3456 Page Number : 27 of 45
FAX: 886-3-328-4978 Issued Date : Jun. 25, 2019

3.3.5 Test Result of Power Spectral Density

<CDD Mode>

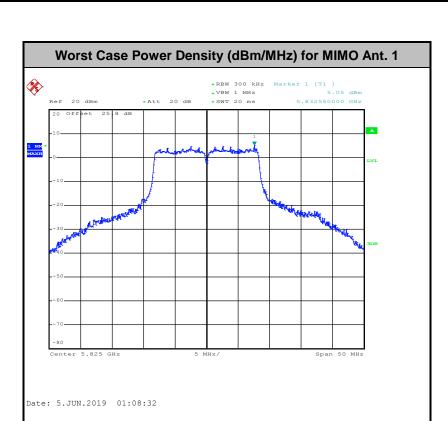
Test Engineer :	Creed Wu and Shiming Liu	Temperature :	21~25 ℃
rest Engineer .		Relative Humidity :	51~54%

Report No.: FR911633F

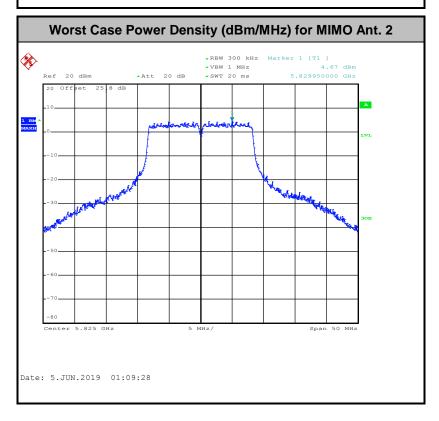
Band IV																
Mod.	Data Rate	NTX	СН.	Freq. (MHz)	Duty Factor (dB)		10log (500kHz /RBW) Factor (dB)		Average Power Density (dBm/500kHz)		Average PSD Limit (dBm/500kHz)		DG (dBi)		Pass /Fail	
					Ant 1	Ant 2	Ant 1	Ant 2	Ant 1	Ant 2	SUM	Ant 1	Ant 2	Ant 1	Ant 2	
11a	6Mbps	1	149	5745	0.20	0.19	2.22	2.22	7.09	7.15		30.00	30.00	3.99	2.75	Pass
11a	6Mbps	1	157	5785	0.20	0.19	2.22	2.22	7.19	7.35		30.00	30.00	3.99	2.75	Pass
11a	6Mbps	1	165	5825	0.20	0.19	2.22	2.22	7.36	6.71		30.00	30.00	3.99	2.75	Pass
VHT20	MCS0	1	149	5745	0.21	0.21	2.22	2.22	6.81	6.50		30.00	30.00	3.99	2.75	Pass
VHT20	MCS0	1	157	5785	0.21	0.21	2.22	2.22	6.85	6.57		30.00	30.00	3.99	2.75	Pass
VHT20	MCS0	1	165	5825	0.21	0.21	2.22	2.22	7.17	6.95		30.00	30.00	3.99	2.75	Pass
VHT40	MCS0	1	151	5755	0.22	0.23	2.22	2.22	4.19	3.91		30.00	30.00	3.99	2.75	Pass
VHT40	MCS0	1	159	5795	0.22	0.23	2.22	2.22	4.10	3.96		30.00	30.00	3.99	2.75	Pass
VHT80	MCS0	1	155	5775	0.46	0.50	2.22	2.22	1.60	1.23		30.00	30.00	3.99	2.75	Pass
11a	6Mbps	2	149	5745	0.19	0.19	2.	22	6.77	7.00	10.01	29	.60	6.	40	Pass
11a	6Mbps	2	157	5785	0.19	0.19	2.	22	6.93	6.71	9.94	29	.60	6.	40	Pass
11a	6Mbps	2	165	5825	0.19	0.19	2.	22	7.27	6.89	10.28	29	.60	6.40		Pass
VHT20	MCS0	2	149	5745	0.21	0.20	2.	22	6.89	6.68	9.90	29	.60	6.40		Pass
VHT20	MCS0	2	157	5785	0.21	0.20	2.	22	6.60	7.00	10.01	29	.60	6.	40	Pass
VHT20	MCS0	2	165	5825	0.21	0.20	2.	22	7.16	7.07	10.17	29	.60	6.	40	Pass
VHT40	MCS0	2	151	5755	0.23	0.25	2.	22	4.28	4.44	7.45	29	.60	6.	40	Pass
VHT40	MCS0	2	159	5795	0.23	0.25	2.	22	3.80	4.06	7.07	29	29.60 6.40		40	Pass
VHT80	MCS0	2	155	5775	0.43	0.46	2.	22	1.49	1.52	4.53	29	.60	6.	40	Pass

Note: PSD Sum = Max PSD (Ant. 1, Ant. 2) + 10 log (n)

TEL: 886-3-327-3456 Page Number : 28 of 45
FAX: 886-3-328-4978 Issued Date : Jun. 25, 2019



Report No.: FR911633F



TEL: 886-3-327-3456 Page Number : 29 of 45 FAX: 886-3-328-4978 Issued Date : Jun. 25, 2019

<TXBF Modes>

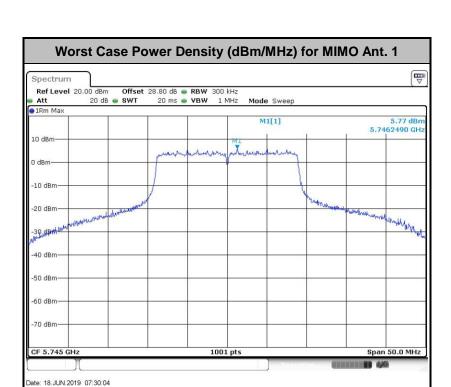
Test Engineer :	Kai Liao	Temperature :	21~25 ℃
rest Engineer:		Relative Humidity :	51~54%

Report No.: FR911633F

Band IV																		
Mod.	Data Rate	NTX	СН.	Freq. (MHz)	10log (500kHz /RBW) Factor (dB)		Average Power Density (dBm/500kHz)			Average PSD Limit (dBm/500kHz)		DG (dBi)		Pass /Fail				
							Ant 1	Ant 2	SUM	Ant 1	Ant 2	Ant 1	Ant 2					
VHT20	MCS0	2	149	5745	2.22		7.99	8.23	11.24	29	.60	6.	40	Pass				
VHT20	MCS0	2	157	5785	2.22		7.70	8.22	11.23	29	.60	6.	40	Pass				
VHT20	MCS0	2	165	5825	2.22		7.59	7.91	10.92	29.60		6.	40	Pass				
VHT40	MCS0	2	151	5755	2.22		5.82	5.98	8.99	29.60		6.	40	Pass				
VHT40	MCS0	2	159	5795	2.22		2.22 4.79 5.65		8.66	29.60		29.60		29.60		6.	40	Pass
VHT80	MCS0	2	155	5775	2.:	22	6.36	7.27	10.28	29.60		6.	40	Pass				

Note: PSD Sum = Max PSD (Ant. 1, Ant. 2) + 10 log (n)

TEL: 886-3-327-3456 Page Number : 30 of 45 FAX: 886-3-328-4978 Issued Date : Jun. 25, 2019



Report No.: FR911633F



TEL: 886-3-327-3456 Page Number : 31 of 45 FAX: 886-3-328-4978 Issued Date : Jun. 25, 2019

3.4 Unwanted Emissions Measurement

This section is to measure unwanted emissions through radiated measurement for band edge spurious emissions and out of band emissions measurement.

Report No.: FR911633F

3.4.1 Limit of Unwanted Emissions

- (1) For transmitters operating in the 5.725-5.85 GHz band: 15.407(b)(4)(i) All emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.
- (2) Unwanted spurious emissions fallen in restricted bands shall comply with the general field strength limits as below table,

Frequency	Field Strength	Measurement Distance		
(MHz)	(microvolts/meter)	(meters)		
0.009 - 0.490	2400/F(kHz)	300		
0.490 – 1.705	24000/F(kHz)	30		
1.705 – 30.0	30	30		
30 – 88	100	3		
88 – 216	150	3		
216 - 960	200	3		
Above 960	500	3		

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

$$E = \frac{1000000\sqrt{30P}}{3}$$
 µV/m, where P is the eirp (Watts)

EIRP (dBm)	Field Strength at 3m (dBµV/m)
- 27	68.3

TEL: 886-3-327-3456 Page Number : 32 of 45 FAX: 886-3-328-4978 Issued Date : Jun. 25, 2019

- (3) KDB789033 D02 v02r01 G)2)c)
 - (i) Section 15.407(b)(1) to (b)(3) specify the unwanted emission limits for the U-NII-1 and U-NII-2 bands. As specified, emissions above 1000 MHz that are outside of the restricted bands are subject to a peak emission limit of -27 dBm/MHz.3

Report No.: FR911633F

- (ii) Section 15.407(b)(4) specifies the unwanted emission limit for the U-NII-3 band. A band emissions mask is specified in Section 15.407(b)(4)(i). The emission limits are in terms of a Peak detector. An alternative to the band emissions mask is specified in Section 15.407(b)(4)(ii). The alternative limits are based on the highest antenna gain specified in the filing. There are also marketing and importation restrictions for the devices using the alternative limit.⁴
- **Note 3:** An out-of-band emission that complies with both the average and peak limits of Section 15.209 is not required to satisfy the -27 dBm/MHz peak emission limit.
- Note 4: Only devices with antenna gains of 10 dBi or less may be approved using the emission limits specified in Section 15.247(d) till March 2, 2018; all other devices operating in this band must use the mask specified in Section 15.407(b)(4)(i).

3.4.2 Measuring Instruments

See list of measuring equipment of this test report.

3.4.3 Test Procedures

- The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01.
 Section G) Unwanted emissions measurement.
 - (1) Procedure for Unwanted Emissions Measurements Below 1000MHz
 - RBW = 120 kHz
 - VBW = 300 kHz
 - Detector = Peak
 - Trace mode = max hold
 - (2) Procedure for Peak Unwanted Emissions Measurements Above 1000 MHz
 - RBW = 1 MHz
 - VBW ≥ 3 MHz
 - Detector = Peak
 - Sweep time = auto
 - Trace mode = max hold
 - (3) Procedures for Average Unwanted Emissions Measurements Above 1000MHz
 - RBW = 1 MHz
 - VBW = 10 Hz, when duty cycle is no less than 98 percent.
 - VBW ≥ 1/T, when duty cycle is less than 98 percent where T is the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.

TEL: 886-3-327-3456 Page Number : 33 of 45
FAX: 886-3-328-4978 Issued Date : Jun. 25, 2019

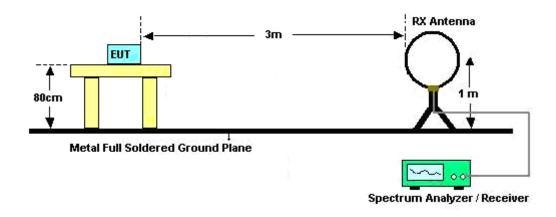
The EUT was placed on a turntable with 0.8 meter for frequency below 1GHz and 1.5 meter for frequency above 1GHz respectively above ground.

Report No.: FR911633F

- 3. The EUT was set 3 meters from the interference receiving antenna which was mounted on the top of a variable height antenna tower.
- 4. The antenna is a broadband antenna and its height is adjusted between one meter and four meters above ground to find the maximum value of the field strength for both horizontal polarization and vertical polarization of the antenna.
- 5. For each suspected emission, the EUT was arranged to its worst case and then adjust the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading.
- 6. For testing below 1GHz, if the emission level of the EUT in peak mode was 3 dB lower than the limit specified, then peak values of EUT will be reported, otherwise, the emissions will be repeated one by one using the CISPR guasi-peak method and reported.
- 7. For testing above 1GHz, the emission level of the EUT in peak mode was 20dB lower than average limit (that means the emission level in average mode also complies with the limit in average mode), then peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.

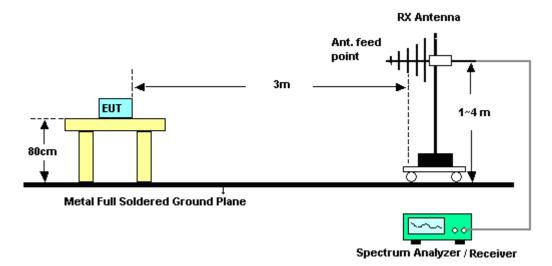
3.4.4 Test Setup

For radiated emissions below 30MHz



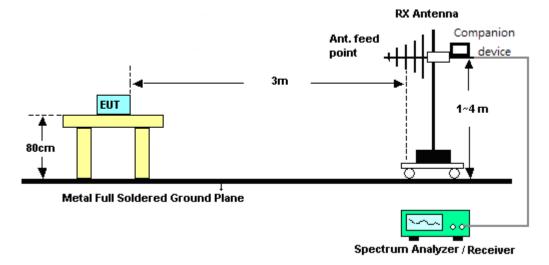
TEL: 886-3-327-3456 Page Number : 34 of 45 FAX: 886-3-328-4978 Issued Date : Jun. 25, 2019

For radiated emissions from 30MHz to 1GHz <CDD Mode>



Report No.: FR911633F

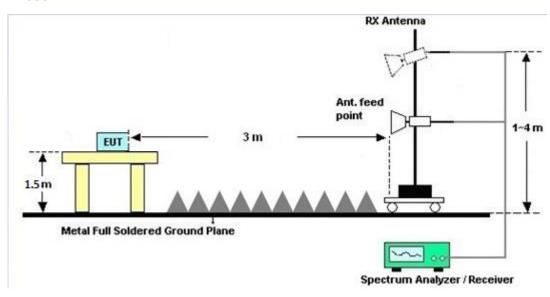
<TXBF Modes>



TEL: 886-3-327-3456 Page Number : 35 of 45
FAX: 886-3-328-4978 Issued Date : Jun. 25, 2019

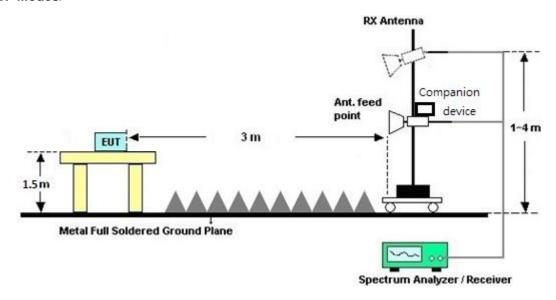
For radiated emissions above 1GHz

<CDD Mode>



Report No.: FR911633F

<TXBF Modes>



TEL: 886-3-327-3456 : 36 of 45 Page Number FAX: 886-3-328-4978 Issued Date : Jun. 25, 2019 : 01

Report Version

Report Template No.: BU5-FR15EWLB4 AC MA Version 2.4

3.4.5 Test Results of Radiated Emissions (9 kHz ~ 30 MHz)

The low frequency, which started from 9 kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line was not reported.

Report No.: FR911633F

There is a comparison data of both open-field test site and alternative test site - semi-Anechoic chamber according to 414788 D01 Radiated Test Site v01r01, and the result came out very similar.

3.4.6 Test Result of Radiated Band Edges

Please refer to Appendix B and C.

3.4.7 Duty Cycle

Please refer to Appendix D.

3.4.8 Test Result of Unwanted Radiated Emission (30MHz ~ 10th Harmonic)

Please refer to Appendix B and C.

TEL: 886-3-327-3456 Page Number : 37 of 45
FAX: 886-3-328-4978 Issued Date : Jun. 25, 2019

3.5 AC Conducted Emission Measurement

3.5.1 Limit of AC Conducted Emission

For equipment that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed the limits in the following table.

Report No.: FR911633F

Eroquency of emission (MUz)	Conducted limit (dBμV)			
Frequency of emission (MHz)	Quasi-peak	Average		
0.15-0.5	66 to 56*	56 to 46*		
0.5-5	56	46		
5-30	60	50		

^{*}Decreases with the logarithm of the frequency.

3.5.2 Measuring Instruments

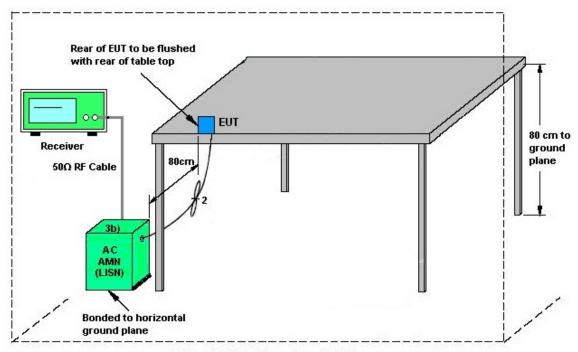
See list of measuring equipment of this test report.

3.5.3 Test Procedures

- 1. The EUT was placed 0.4 meter from the conducting wall of the shielding room was kept at least 80 centimeters from any other grounded conducting surface.
- 2. Connect EUT to the power mains through a line impedance stabilization network (LISN).
- 3. All the support units are connecting to the other LISN.
- 4. The LISN provides 50 ohm coupling impedance for the measuring instrument.
- 5. The FCC states that a 50 ohm, 50 microhenry LISN should be used.
- 6. Both sides of AC line were checked for maximum conducted interference.
- 7. The frequency range from 150 kHz to 30 MHz was searched.
- 8. Set the test-receiver system to Peak Detect Function and specified bandwidth with Maximum Hold Mode.

TEL: 886-3-327-3456 Page Number : 38 of 45 FAX: 886-3-328-4978 Issued Date : Jun. 25, 2019

3.5.4 Test Setup



Report No.: FR911633F

AMN = Artificial mains network (LISN)

AE = Associated equipment

EUT = Equipment under test

ISN = Impedance stabilization network

3.5.5 Test Result of AC Conducted Emission

Please refer to Appendix A.

TEL: 886-3-327-3456 Page Number : 39 of 45
FAX: 886-3-328-4978 Issued Date : Jun. 25, 2019

3.6 Automatically Discontinue Transmission

3.6.1 Limit of Automatically Discontinue Transmission

The device shall automatically discontinue transmission in case of either absence of information to transmit or operational failure. These provisions are not intended to preclude the transmission of control or signaling information or the use of repetitive codes used by certain digital technologies to complete frame or burst intervals. Applicants shall include in their application for equipment authorization to describe how this requirement is met.

Report No.: FR911633F

3.6.2 Measuring Instruments

See list of measuring equipment of this test report.

3.6.3 Test Result of Automatically Discontinue Transmission

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

TEL: 886-3-327-3456 Page Number : 40 of 45 FAX: 886-3-328-4978 Issued Date : Jun. 25, 2019

3.7 Antenna Requirements

3.7.1 Standard Applicable

If transmitting antenna directional gain is greater than 6 dBi, both the peak transmit power and the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

Report No.: FR911633F

3.7.2 Antenna Anti-Replacement Construction

An embedded-in antenna design is used.

3.7.3 Antenna Gain

<CDD Modes >

FCC KDB 662911 D01 Multiple Transmitter Output v02r01

For CDD transmissions, directional gain is calculated as

Directional gain = GANT + Array Gain, where Array Gain is as follows.

For power spectral density (PSD) measurements on all devices,

Array Gain = 10 log(NANT/NSS=1) dB.

For power measurements on IEEE 802.11 devices,

Array Gain = 0 dB (i.e., no array gain) for NANT ≤ 4.

Directional gain may be calculated by using the formulas applicable to equal gain antennas with

GANT set equal to the gain of the antenna having the highest gain;

The EUT supports CDD mode.

For power, the directional gain G_{ANT} is set equal to the antenna having the highest gain, i.e., F(2)f(i).

For PSD, the directional gain calculation is following F)2)f)ii) of KDB 662911 D01 v02r01.

The power and PSD limit should be modified if the directional gain of EUT is over 6 dBi,

The directional gain "DG" is calculated as following table.

<cdd mod<="" th=""><th>les></th><th></th><th></th><th></th><th></th><th></th></cdd>	les>					
			DG	DG	Power	PSD
			for	for	Limit	Limit
	Ant. 1	Ant. 2	Power	PSD	Reduction	Reduction
	(dBi)	(dBi)	(dBi)	(dBi)	(dB)	(dB)
Band IV	3.99	2.75	3.99	6.40	0.00	0.40

Power Limit Reduction = DG(Power) - 6dBi, (min = 0)

 $PSD \ Limit \ Reduction = DG(PSD) - 6dBi, (min = 0)$

TEL: 886-3-327-3456 Page Number : 41 of 45 FAX: 886-3-328-4978 Issued Date : Jun. 25, 2019

TXBF modes

FCC KDB 662911 D01 Multiple Transmitter Output v02r01

For CDD transmissions, directional gain is calculated as

$$Directional Gain = 10 \cdot \log \left[\frac{\sum_{j=1}^{N_{SS}} \left\{ \sum_{k=1}^{N_{ANT}} g_{j,k} \right\}^{2}}{N_{ANT}} \right]$$

Report No.: FR911633F

where

Each antenna is driven by no more than one spatial stream;

 N_{SS} = the number of independent spatial streams of data;

 N_{ANT} = the total number of antennas

 $g_{j,k} = 10^{G_k/20}$ if the kth antenna is being fed by spatial stream j, or zero if it is not; G_k is the gain in dBi of the kth antenna.

The EUT supports beamforming for 802.11ac modes.

The directional gain calculation is following F)2)e)ii) of KDB 662911 D01 v02r01.

The power and PSD limit should be modified if the directional gain of EUT is over 6 dBi,

The directional gain "DG" is calculated as following table.

			DG	DG	Power	PSD
			for	for	Limit	Limit
	Ant 1	Ant 2	Power	PSD	Reduction	Reduction
	(dBi)	(dBi)	(dBi)	(dBi)	(dB)	(dB)
Band IV	3.99	2.75	6.40	6.40	0.40	0.40

Power Limit Reduction = DG(Power) - 6dBi, (min = 0)

 $PSD \ Limit \ Reduction = DG(PSD) - 6dBi, \ (min = 0)$

TEL: 886-3-327-3456 Page Number : 42 of 45
FAX: 886-3-328-4978 Issued Date : Jun. 25, 2019

4 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
AC Power Source	ChainTek	APC-1000W	N/A	N/A	N/A	May 21, 2019	N/A	Conduction (CO05-HY)
EMI Test Receiver	Rohde & Schwarz	ESR3	102388	9KHz~3.6GHz	Nov. 12, 2018	May 21, 2019	Nov. 11, 2019	Conduction (CO05-HY)
LISN	Rohde & Schwarz	ENV216	100080	9kHz~30MHz	Nov. 14, 2018	May 21, 2019	Nov. 13, 2019	Conduction (CO05-HY)
LISN	Rohde & Schwarz	ENV216	100081	9kHz~30MHz	Nov. 09, 2018	May 21, 2019	Nov. 08, 2019	Conduction (CO05-HY)
Software	Rohde & Schwarz	EMC32 V10.30	N/A	N/A	N/A	May 21, 2019	N/A	Conduction (CO05-HY)
LF Cable	HUBER + SUHNER	RG-214/U	LF01	N/A	Dec. 31, 2018	May 21, 2019	Dec. 30, 2019	Conduction (CO05-HY)
Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100851	N/A	Dec. 31, 2018	May 21, 2019	Dec. 30, 2019	Conduction (CO05-HY)
<cdd mode=""></cdd>								
Power Sensor	DARE	RPR3006W	16I00054S NO10	10MHz~6GHz	Dec. 19, 2018	May 31, 2019~ Jun. 20, 2019	Dec. 18, 2019	Conducted (TH05-HY)
Spectrum Analyzer	Rohde & Schwarz	FSP40	100057	9kHz-40GHz	Nov. 21, 2018	May 31, 2019~ Jun. 20, 2019	Nov. 20, 2019	Conducted (TH05-HY)
Switch Box & RF Cable	EM	EMSW18	SW107090 3	N/A	Dec 19,2018	May 31, 2019~ Jun. 20, 2019	Dec 18 2019	Conducted (TH05-HY)
<txbf mode=""></txbf>								
Power Sensor	DARE	RPR3006W	13I00030S NO32	9kHz~6GHz	Dec. 03, 2018	May 15, 2019~ Jun. 20, 2019	Dec. 02, 2019	Conducted (TH05-HY)
Spectrum Analyzer	Rohde & Schwarz	FSP40	100057	9kHz-40GHz	Nov. 21, 2018	May 15, 2019~ Jun. 20, 2019	Nov. 20, 2019	Conducted (TH05-HY)
Switch Box & RF Cable	Burgeon	ETF-058	EC120838 2	N/A	Mar. 27, 2019	May 15, 2019~ Jun. 20, 2019	Mar. 26, 2020	Conducted (TH05-HY)

Report No.: FR911633F

TEL: 886-3-327-3456 Page Number : 43 of 45 FAX: 886-3-328-4978 Issued Date : Jun. 25, 2019

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Loop Antenna	Rohde & Schwarz	HFH2-Z2	100488	9 kHz~30 MHz	Jan. 07, 2019	Jun. 01, 2019~ Jun. 18, 2019	Jan. 06, 2020	Radiation (03CH13-HY)
Horn Antenna	SCHWARZBE CK	BBHA 9120 D	9120D-124 1	1GHz ~ 18GHz	Jun. 29, 2018	Jun. 01, 2019~ Jun. 18, 2019	Jun. 28, 2019	Radiation (03CH13-HY)
Bilog Antenna	TESEQ	CBL 6111D&00800 N1D01N-06	37059&01	30MHz~1GHz	Oct. 13, 2018	Jun. 01, 2019~ Jun. 18, 2019	Oct. 12, 2019	Radiation (03CH13-HY)
SHF-EHF Horn Antenna	SCHWARZBE CK	BBHA 9170	BBHA9170 584	18GHz- 40GHz	Dec. 05, 2018	Jun. 01, 2019~ Jun. 18, 2019	Dec. 04, 2019	Radiation (03CH13-HY)
Preamplifier	Keysight	83017A	MY532700 80	1GHz~26.5GHz	Nov. 14, 2018	Jun. 01, 2019~ Jun. 18, 2019	Nov. 13, 2020	Radiation (03CH13-HY)
Preamplifier	MITEQ	AMF-7D-0010 1800-30-10P	1590074	1GHz~18GHz	May 20, 2019	Jun. 01, 2019~ Jun. 18, 2019	May 19, 2020	Radiation (03CH13-HY)
Amplifier	Sonoma-Instru ment	310 N	187282	9KHz~1GHz	Dec. 18, 2018	Jun. 01, 2019~ Jun. 18, 2019	Dec. 17, 2019	Radiation (03CH13-HY)
Amplifier	MITEQ	TTA1840-35- HG	1871923	18GHz~40GHz, VSWR : 2.5:1 max	Jul. 16, 2018	Jun. 01, 2019~ Jun. 18, 2019	Jul. 15, 2019	Radiation (03CH13-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 126E	0030/126E	30M-18G	Feb. 13, 2019	Jun. 01, 2019~ Jun. 18, 2019	Feb. 12, 2020	Radiation (03CH13-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104	804793/4	30M-18G	Feb. 13, 2019	Jun. 01, 2019~ Jun. 18, 2019	Feb. 12, 2020	Radiation (03CH13-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104	MY24961/ 4	30M-18G	Feb. 13, 2019	Jun. 01, 2019~ Jun. 18, 2019	Feb. 12, 2020	Radiation (03CH13-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	MY2859/2	30M~40GHz	Mar. 13, 2019	Jun. 01, 2019~ Jun. 18, 2019	Mar. 12, 2020	Radiation (03CH13-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	MY4274/2	30M~40GHz	Mar. 13, 2019	Jun. 01, 2019~ Jun. 18, 2019	Mar. 12, 2020	Radiation (03CH13-HY)
Spectrum Analyzer	Keysight	N9010A	MY553705 26	10Hz~44GHz	Mar. 19, 2019	Jun. 01, 2019~ Jun. 18, 2019	Mar. 18, 2020	Radiation (03CH13-HY)
Antenna Mast	EMEC	AM-BS-4500- B	N/A	1m~4m	N/A	Jun. 01, 2019~ Jun. 18, 2019	N/A	Radiation (03CH13-HY)
Turn Table	EMEC	TT2000	N/A	0~360 Degree	N/A	Jun. 01, 2019~ Jun. 18, 2019	N/A	Radiation (03CH13-HY)
Software	AUDIX	E3 6.2009-8-24c	RK-001124	N/A	N/A	Jun. 01, 2019~ Jun. 18, 2019	N/A	Radiation (03CH13-HY)
EMI Test Receiver	Keysight	N9038A (MXE)	MY541300 85	20Hz ~ 8.4GHz	Nov. 01, 2018	Jun. 01, 2019~ Jun. 18, 2019	Oct. 31, 2019	Radiation (03CH13-HY)
Filter	Woken	WHKX8-5272. 5-6750-18000 -40ST	SN5	6.75G Highpass	Mar.13, 2019	Jun. 01, 2019~ Jun. 18, 2019	Mar. 12, 2020	Radiation (03CH13-HY)
Filter	Wainwright	WHKX12-108 0-1200-15000 -60ST	SN3	1.2G Low Pass	Jul. 05, 2018	Jun. 01, 2019~ Jun. 18, 2019	Jul. 04, 2019	Radiation (03CH13-HY)

Report No.: FR911633F

TEL: 886-3-327-3456 Page Number : 44 of 45 FAX: 886-3-328-4978 Issued Date : Jun. 25, 2019

5 Uncertainty of Evaluation

<u>Uncertainty of Conducted Emission Measurement (150kHz ~ 30MHz)</u>

Measuring Uncertainty for a Level of Confidence	2.2
of 95% (U = 2Uc(y))	2.2

Report No.: FR911633F

Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

Measuring Uncertainty for a Level of Confidence	4.9
of 95% (U = 2Uc(y))	4.5

Uncertainty of Radiated Emission Measurement (1000 MHz ~ 18000 MHz)

Measuring Uncertainty for a Level of Confidence	5.4
of 95% (U = 2Uc(y))	3.4

<u>Uncertainty of Radiated Emission Measurement (18000 MHz ~ 40000 MHz)</u>

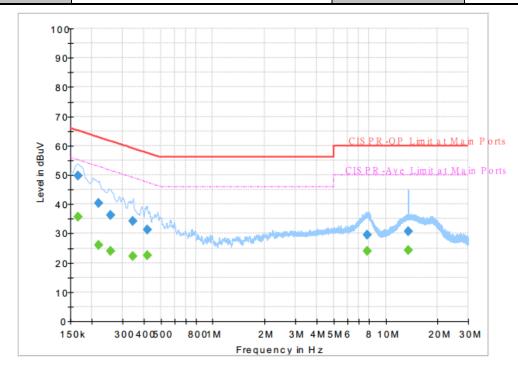
Measuring Uncertainty for a Level of Confidence	4.2
of 95% (U = 2Uc(y))	4.3

TEL: 886-3-327-3456 Page Number : 45 of 45 FAX: 886-3-328-4978 Issued Date : Jun. 25, 2019

Appendix A. AC Conducted Emission Test Results

Test Engineer :		Temperature :	22~25 ℃
	Encoeng	Relative Humidity :	52~55%
Test Voltage :	120Vac / 60Hz	Phase :	Line

Report No.: FR911633F



Final Result

Frequency (MHz)	QuasiPeak (dBuV)	CAverage (dBuV)	Limit (dBuV)	Margin (dB)	Line	Filter	Corr. (dB)
0.165750		35.61	55.17	19.56	L1	OFF	19.5
0.165750	49.60		65.17	15.57	L1	OFF	19.5
0.217500		25.88	52.91	27.03	L1	OFF	19.5
0.217500	40.30		62.91	22.61	L1	OFF	19.5
0.255750		23.96	51.57	27.61	L1	OFF	19.5
0.255750	36.24		61.57	25.33	L1	OFF	19.5
0.343500		22.26	49.12	26.86	L1	OFF	19.5
0.343500	34.19		59.12	24.93	L1	OFF	19.5
0.417750		22.46	47.49	25.03	L1	OFF	19.5
0.417750	31.41		57.49	26.08	L1	OFF	19.5
7.838250		23.90	50.00	26.10	L1	OFF	19.7
7.838250	29.46		60.00	30.54	L1	OFF	19.7
13.560000		24.39	50.00	25.61	L1	OFF	19.7
13.560000	30.58	-	60.00	29.42	L1	OFF	19.7

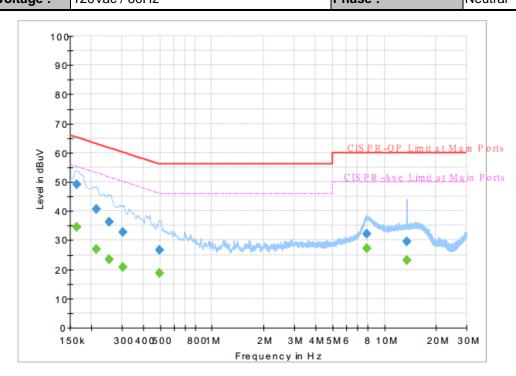
TEL: 886-3-327-3456 Page Number: A1 of A2

 Test Engineer :
 Eric Jeng
 Temperature :
 22~25°C

 Relative Humidity :
 52~55%

 Test Voltage :
 120Vac / 60Hz
 Phase :
 Neutral

Report No.: FR911633F



Final Result

Frequency (MHz)	QuasiPeak (dBuV)	CAverage (dBuV)	Limit (dBuV)	Margin (dB)	Line	Filter	Corr. (dB)
0.163500		34.64	55.28	20.64	N	OFF	19.5
0.163500	49.22		65.28	16.06	N	OFF	19.5
0.213000		26.81	53.09	26.28	N	OFF	19.5
0.213000	40.69		63.09	22.40	N	OFF	19.5
0.253500		23.29	51.64	28.35	N	OFF	19.5
0.253500	36.39		61.64	25.25	N	OFF	19.5
0.303000		20.83	50.16	29.33	N	OFF	19.5
0.303000	32.61		60.16	27.55	N	OFF	19.5
0.494250		18.85	46.10	27.25	N	OFF	19.5
0.494250	26.47		56.10	29.63	N	OFF	19.5
7.953000		27.22	50.00	22.78	N	OFF	19.7
7.953000	32.05		60.00	27.95	N	OFF	19.7
13.560000		23.18	50.00	26.82	N	OFF	19.8
13.560000	29.51		60.00	30.49	N	OFF	19.8

TEL: 886-3-327-3456 Page Number: A2 of A2

Appendix B. Radiated Spurious Emission

Toot Engineer :		Temperature :	24.5~24.6°C
Test Engineer :	Andy Yang, JC Liang and Wilson Wu	Relative Humidity :	50%

Report No.: FR911633F

<CDD Mode>

Band 4 - 5725~5850MHz WIFI 802.11a (Band Edge @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant. 1		(MHz)	(dBµV/m)	Limit (dB)	Line (dBµV/m)	Level (dBµV)	Factor (dB/m)	Loss (dB)	Factor (dB)	Pos (cm)	Pos (deg)	Avg.	(H/V)
		5645	50.42	-17.78	68.2	41.54	32.09	6.34	29.55	100	233	P	Н
		5699	58.88	-45.58	104.46	49.9	32.17	6.36	29.55	100	233	Р	Н
		5719	69.91	-40.61	110.52	60.88	32.21	6.37	29.55	100	233	Р	Н
		5724.4	84.13	-36.7	120.83	75.1	32.21	6.37	29.55	100	233	Р	Н
	*	5745	115.51	-	-	106.44	32.24	6.38	29.55	100	233	Р	Н
	*	5745	107.42	-	-	98.35	32.24	6.38	29.55	100	233	Α	Н
000 44 5													Н
802.11a CH 149													Н
5745MHz		5615.4	48.19	-20.01	68.2	39.37	32.04	6.33	29.55	331	352	Р	V
37 43WHZ		5697.8	51.08	-52.5	103.58	42.1	32.17	6.36	29.55	331	352	Р	V
		5719.4	67.83	-42.8	110.63	58.8	32.21	6.37	29.55	331	352	Р	V
		5725	78.39	-43.81	122.2	69.36	32.21	6.37	29.55	331	352	Р	V
	*	5745	109.47	-	-	100.4	32.24	6.38	29.55	331	352	Р	V
	*	5745	102.05	-	-	92.98	32.24	6.38	29.55	331	352	Α	V
													V
													V

TEL: 886-3-327-3456 Page Number : B1 of B54



WIFI Preamp Note Level Over Limit Read Antenna Path Ant **Table** Peak Pol. Frequency Limit Factor Ant. Line Level Loss Factor Pos Pos Avg. 1 (dB) (dB \(\psi V/m \) (MHz) (dBµV/m) (dB_µV) (dB/m) (dB) (dB) (cm) (deg) (P/A) (H/V) 5630.2 49.27 -18.93 68.2 40.42 32.07 6.33 29.55 100 233 Н Ρ 5687 49.72 -45.89 95.61 40.75 32.17 6.35 29.55 100 233 Н 5705 51.11 -55.49 106.6 42.11 32.19 6.36 29.55 100 233 Ρ Н 5723.2 52.07 -66.03 118.1 43.04 32.21 6.37 29.55 100 233 Ρ Н * 5785 114.34 105.22 32.29 6.39 29.56 100 233 Ρ Н 5785 97.84 32.29 100 233 106.96 6.39 29.56 Α Η Р 5851.6 52.91 32.38 6.44 29.56 100 233 -65.64 118.55 43.65 Н 5862.4 51.34 -57.39 108.73 42.04 32.41 6.45 29.56 100 233 Ρ Н 51.59 Ρ 5898.6 -36.11 87.7 42.21 32.46 6.48 29.56 100 233 Н Ρ 5934.6 51 -17.2 68.2 41.55 32.5 6.51 29.56 100 233 Н Н 802.11a Н **CH 157** 5646.8 48.66 -19.54 68.2 39.78 32.09 6.34 29.55 347 352 Ρ V 5785MHz 5696.2 49.32 -53.08 102.4 40.34 32.17 6.36 29.55 347 352 Ρ ٧ 5711.6 48.84 -59.61 108.45 39.84 32.19 6.36 29.55 347 352 Ρ ٧ ٧ 5722.6 49.63 -67.1 116.73 40.6 32.21 6.37 29.55 347 352 Ρ ٧ 5785 109.99 100.87 32.29 6.39 29.56 347 352 * 32.29 6.39 29.56 ٧ 5785 102.34 93.22 347 352 Α V 5853.2 49.56 -65.34 114.9 40.3 32.38 6.44 29.56 347 352 Ρ 5862.8 49.51 -59.1 108.61 40.21 32.41 6.45 29.56 347 352 Ρ ٧ Ρ ٧ 5913.6 50.28 -26.3376.61 40.87 32.48 6.49 29.56 347 352 Ρ 5941.8 50.75 -17.45 68.2 41.27 32.53 6.51 29.56 347 352 ٧ ٧ ٧

Report No.: FR911633F

TEL: 886-3-327-3456 Page Number: B2 of B54



WIFI Preamp Note Over Limit Read Antenna **Path** Ant **Table** Peak Pol. **Frequency** Level Ant. Limit Line Level **Factor** Factor Pos Pos Loss Avg. (dBµV/m) (dB) (dBµV/m) (dB/m) (deg) (P/A) (H/V) (MHz) (dBµV) (dB) (dB) (cm) * 114.33 102 5825 105.11 32.36 6.42 29.56 231 Η * 5825 106.78 97.56 32.36 6.42 29.56 102 --231 Α Н 5852.4 74.71 -42.02 116.73 65.45 32.38 6.44 29.56 102 231 Ρ Н 5855.2 72.13 62.84 32.41 6.44 29.56 102 231 Ρ Η -38.61 110.74 5875.4 56.29 -48.61 104.9 46.96 32.43 6.46 29.56 102 231 Ρ Н Р 5929 50.64 -17.56 68.2 41.2 32.5 6.5 29.56 102 231 Н Н Н 802.11a **CH 165** 5825 109.69 100.47 32.36 6.42 29.56 327 351 ٧ 5825MHz ٧ 5825 102.26 93.04 32.36 29.56 327 351 Α -_ 6.42 74.6 32.38 29.56 Р ٧ 5851 -45.32 119.92 65.34 6.44 327 351 Р ٧ 5855 66.92 -43.88 110.8 57.63 32.41 6.44 29.56 327 351 5876.2 52.48 -51.83 104.31 43.15 32.43 6.46 29.56 327 351 Ρ V ٧ Ρ 5928.4 48.63 -19.57 68.2 39.19 32.5 6.5 29.56 327 351 ٧ ٧ ٧ No other spurious found. Remark All results are PASS against Peak and Average limit line.

Report No.: FR911633F

TEL: 886-3-327-3456 Page Number : B3 of B54

Band 4 5725~5850MHz

Report No.: FR911633F

WIFI 802.11a (Harmonic @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1		(MHz)	(dBµV/m)		(dBµV/m)	(dB _µ V)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V
		11490	46.9	-27.1	74	52.82	39.92	10.46	56.3	100	0	Р	Н
		17235	48.23	-19.97	68.2	51.01	40.84	12.95	56.57	100	0	Р	Н
000 44 -													Н
802.11a													Н
CH 149		11490	46.48	-27.52	74	52.4	39.92	10.46	56.3	100	0	Р	٧
5745MHz		17235	48.19	-20.01	68.2	50.97	40.84	12.95	56.57	100	0	Р	٧
													V
													V
		11570	46.36	-27.64	74	52.4	39.76	10.5	56.3	100	0	Р	Н
		17355	49.72	-18.48	68.2	52.19	41.26	13.08	56.81	100	0	Р	Н
													Н
802.11a													Н
CH 157		11570	46.52	-27.48	74	52.56	39.76	10.5	56.3	100	0	Р	٧
5785MHz		17355	49.53	-18.67	68.2	52	41.26	13.08	56.81	100	0	Р	V
													V
													V
		11650	46.34	-27.66	74	52.48	39.62	10.54	56.3	100	0	Р	Н
		17475	49.45	-18.75	68.2	51.61	41.68	13.21	57.05	100	0	Р	Н
													Н
802.11a													Н
CH 165		11650	48.64	-25.36	74	54.78	39.62	10.54	56.3	100	0	Р	٧
5825MHz		17475	50.02	-18.18	68.2	52.18	41.68	13.21	57.05	100	0	Р	V
													٧
													V
	4			1					1		I	<u>I</u>	
Remark		other spurious results are PA											

TEL: 886-3-327-3456 Page Number : B4 of B54

Band 4 5725~5850MHz WIFI 802.11ac VHT20 (Band Edge @ 3m)

Report No.: FR911633F

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant. 1		(MHz)	(dBµV/m)	Limit (dB)	Line (dBµV/m)	Level	Factor (dB/m)	Loss (dB)	Factor (dB)	Pos (cm)	Pos (deg)	Avg.	(H/V)
•		5615.8	49.36	-18.84	68.2	40.51	32.07	6.33	29.55	100	232	P	H
		3013.8	49.30	-10.04		40.51	32.07		29.55	100			
		5700	58.24	-46.96	105.2	49.26	32.17	6.36	29.55	100	232	Р	Н
		5719.6	70.21	-40.48	110.69	61.18	32.21	6.37	29.55	100	232	Р	Н
		5723.8	85.93	-33.53	119.46	76.9	32.21	6.37	29.55	100	232	Р	Н
	*	5745	114.64	-	-	105.57	32.24	6.38	29.55	100	232	Р	Н
	*	5745	107.35	-	-	98.28	32.24	6.38	29.55	100	232	Α	Н
802.11ac													Н
VHT20													Н
CH 149		5624.6	48.87	-19.33	68.2	40.02	32.07	6.33	29.55	349	347	Р	٧
5745MHz		5697	51.79	-51.2	102.99	42.81	32.17	6.36	29.55	349	347	Р	٧
		5720	66.35	-44.45	110.8	57.32	32.21	6.37	29.55	349	347	Р	V
		5724.6	81.78	-39.51	121.29	72.75	32.21	6.37	29.55	349	347	Р	٧
	*	5745	109.55	-	-	100.48	32.24	6.38	29.55	349	347	Р	٧
	*	5745	102.16	-	-	93.09	32.24	6.38	29.55	349	347	Α	٧
													٧
													٧

TEL: 886-3-327-3456 Page Number : B5 of B54



WIFI Preamp Note Level Over Limit Read Antenna Path Ant **Table** Peak Pol. Frequency Limit Factor Ant. Line Level Loss Factor Pos Pos Avg. 1 (dB) (dB \(\psi V/m \) (MHz) (dBµV/m) (dB_µV) (dB/m) (dB) (dB) (cm) (deg) (P/A) (H/V) 5643.4 49.12 -19.08 68.2 40.24 32.09 6.34 29.55 105 233 Н Р 5687.2 50.27 -45.49 95.76 41.3 32.17 6.35 29.55 105 233 Н 5713 52.45 -56.39 108.84 43.44 32.19 6.37 29.55 105 233 Ρ Н 5722.2 52.43 -63.39 115.82 43.4 32.21 6.37 29.55 105 233 Ρ Н * 5785 114.13 105.01 32.29 6.39 29.56 105 233 Ρ Н 5785 97.61 32.29 233 106.73 6.39 29.56 105 Α Η Р 5852.2 54.11 32.38 29.56 105 233 -63.07 117.18 44.85 6.44 Н 5858.6 53.61 -56.18 109.79 44.31 32.41 6.45 29.56 105 233 Ρ Н Ρ 5903 52.03 -32.41 84.44 42.65 32.46 6.48 29.56 105 233 Η Ρ 5935.4 50.69 -17.51 68.2 41.24 32.5 6.51 29.56 105 233 Н 802.11ac Η VHT20 Н **CH 157** 5635.8 49.46 -18.74 68.2 40.59 32.09 6.33 29.55 346 353 Ρ V 5785MHz 5689 49.45 -47.64 97.09 40.47 32.17 6.36 29.55 346 353 Ρ ٧ 5714 48.58 -60.54 109.12 39.57 32.19 6.37 29.55 346 353 Ρ ٧ ٧ 5720.2 48.94 -62.32 111.26 39.91 32.21 6.37 29.55 346 353 Ρ ٧ 5785 109.21 100.09 32.29 6.39 29.56 346 353 * 102.03 32.29 6.39 29.56 ٧ 5785 92.91 346 353 Α V 5852.4 49.89 -66.84 116.73 40.63 32.38 6.44 29.56 346 353 Ρ 5871.8 51.43 -54.66 106.09 42.1 32.43 6.46 29.56 346 353 Ρ ٧ ٧ 5879.6 50 -51.78 101.78 40.67 32.43 6.46 29.56 346 353 Ρ Ρ 5935.8 49.44 -18.76 68.2 39.99 32.5 6.51 29.56 346 353 ٧ ٧ ٧

Report No.: FR911633F

TEL: 886-3-327-3456 Page Number : B6 of B54



WIFI Level Preamp Note Frequency Over Limit Read Antenna **Path** Ant Table Peak Pol. Limit Line Level **Factor** Factor Pos Pos Ant. Loss Avg. (dB) (dB \(V/m \) (dBµV/m) (dB/m) (deg) (P/A) (H/V) (MHz) (dB_µV) (dB) (dB) (cm) * 113.61 104.39 32.36 100 5825 6.42 29.56 233 Η * 5825 106.45 97.23 32.36 6.42 29.56 100 233 Н --Α 5852.8 78.31 -37.51 115.82 69.05 32.38 6.44 29.56 100 233 Ρ Н 5861.4 71.79 -37.22 62.49 32.41 29.56 100 233 Н 109.01 6.45 5875.8 60.44 -44.17 104.61 51.11 32.43 6.46 29.56 100 233 Ρ Н Р 5925.2 50.81 -17.39 68.2 41.37 32.5 6.5 29.56 100 233 Н Н 802.11ac VHT20 Н **CH 165** 5825 109.83 100.61 32.36 6.42 29.56 380 354 ٧ 5825MHz ٧ 5825 102.23 93.01 32.36 29.56 380 354 Α _ _ 6.42 74.43 29.56 380 Ρ ٧ 5851.6 -44.12 118.55 65.17 32.38 6.44 354 Р ٧ 5856.8 68.87 -41.43 110.3 59.57 32.41 6.45 29.56 380 354 5882 55.21 -44.79 100 45.87 32.43 6.47 29.56 380 354 Ρ V Р ٧ 5943.6 50.2 -18 68.2 40.72 32.53 6.51 29.56 380 354 ٧ ٧ No other spurious found. Remark All results are PASS against Peak and Average limit line.

Report No.: FR911633F

TEL: 886-3-327-3456 Page Number : B7 of B54

Band 4 5725~5850MHz

Report No.: FR911633F

WIFI 802.11ac VHT20 (Harmonic @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1		(MHz)	(dBµV/m)	(dB)	(dBµV/m)	(dB _µ V)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V
		11490	48.53	-25.47	74	54.45	39.92	10.46	56.3	100	0	Р	Н
		17235	49.15	-19.05	68.2	51.93	40.84	12.95	56.57	100	0	Р	Н
802.11ac													Н
VHT20													Н
CH 149		11490	46.5	-27.5	74	52.42	39.92	10.46	56.3	100	0	Р	V
5745MHz		17235	47.86	-20.34	68.2	50.64	40.84	12.95	56.57	100	0	Р	V
													V
													V
		11570	46.51	-27.49	74	52.55	39.76	10.5	56.3	100	0	Р	Н
		17355	49.06	-19.14	68.2	51.53	41.26	13.08	56.81	100	0	Р	Н
802.11ac													Н
VHT20													Н
CH 157		11570	47.23	-26.77	74	53.27	39.76	10.5	56.3	100	0	Р	V
5785MHz		17355	49.69	-18.51	68.2	52.16	41.26	13.08	56.81	100	0	Р	V
													V
													V
		11650	46.08	-27.92	74	52.22	39.62	10.54	56.3	100	0	Р	Н
		17475	49.52	-18.68	68.2	51.68	41.68	13.21	57.05	100	0	Р	Н
802.11ac													Н
VHT20													Н
CH 165		11650	46.65	-27.35	74	52.79	39.62	10.54	56.3	100	0	Р	V
5825MHz		17475	49.82	-18.38	68.2	51.98	41.68	13.21	57.05	100	0	Р	V
													V
													V

Remark

1. No other spurious found.

2. All results are PASS against Peak and Average limit line.

TEL: 886-3-327-3456 Page Number: B8 of B54

Band 4 5725~5850MHz WIFI 802.11ac VHT40 (Band Edge @ 3m)

Report No.: FR911633F

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1		(MHz)	(dBµV/m)	(dB)	(dBµV/m)		(dB/m)	(dB)	(dB)	(cm)		(P/A)	
		5648.4	52.88	-15.32	68.2	44	32.09	6.34	29.55	100	232	Р	Н
		5698.4	67.49	-36.53	104.02	58.51	32.17	6.36	29.55	100	232	Р	Н
		5718.6	85.36	-25.05	110.41	76.33	32.21	6.37	29.55	100	232	Р	Н
		5722	88.28	-27.08	115.36	79.25	32.21	6.37	29.55	100	232	Р	Н
	*	5755	111.8	-	-	102.72	32.26	6.38	29.56	100	232	Р	Н
	*	5755	104.8	-	-	95.72	32.26	6.38	29.56	100	232	Α	Н
		5853.2	60.97	-53.93	114.9	51.71	32.38	6.44	29.56	100	232	Р	Н
		5861.6	57.59	-51.36	108.95	48.29	32.41	6.45	29.56	100	232	Р	Н
		5879.8	54.61	-47.02	101.63	45.28	32.43	6.46	29.56	100	232	Р	Н
		5927.8	51.35	-16.85	68.2	41.91	32.5	6.5	29.56	100	232	Р	Н
802.11ac													Н
VHT40													Н
CH 151		5610	50.05	-18.15	68.2	41.24	32.04	6.32	29.55	350	349	Р	٧
5755MHz		5700	61.91	-43.29	105.2	52.93	32.17	6.36	29.55	350	349	Р	V
		5715	77.22	-32.18	109.4	68.21	32.19	6.37	29.55	350	349	Р	V
		5724.4	80.18	-40.65	120.83	71.15	32.21	6.37	29.55	350	349	Р	V
	*	5755	106.65	-	-	97.57	32.26	6.38	29.56	350	349	Р	V
	*	5755	99.89	-	-	90.81	32.26	6.38	29.56	350	349	Α	V
		5853	54.88	-60.48	115.36	45.62	32.38	6.44	29.56	350	349	Р	V
		5866	52.92	-54.8	107.72	43.62	32.41	6.45	29.56	350	349	Р	V
		5885.4	50.62	-46.86	97.48	41.28	32.43	6.47	29.56	350	349	Р	V
		5941.4	49.72	-18.48	68.2	40.24	32.53	6.51	29.56	350	349	Р	V
													V
													V

TEL: 886-3-327-3456 Page Number : B9 of B54



WIFI Preamp Note Level Over Limit Read Antenna Path **Table** Peak Pol. Frequency Ant Ant. Limit Line Level Factor Loss Factor Pos Pos Avg. 1 (dB) (dB \(\psi V/m \) (MHz) (dBµV/m) (dB_µV) (dB/m) (dB) (dB) (cm) (deg) (P/A) (H/V) 5612.8 49.21 -18.99 68.2 40.39 32.04 6.33 29.55 100 232 Н Р 5697.6 53.95 -49.48 103.43 44.97 32.17 6.36 29.55 100 232 Н 5719.8 58.67 -52.07 110.74 49.64 32.21 6.37 29.55 100 232 Ρ Н 5724.8 62.7 -59.04 121.74 53.67 32.21 6.37 29.55 100 232 Ρ Н * 5795 111 101.85 32.31 6.4 29.56 100 232 Ρ Н 5795 103.59 94.44 32.31 6.4 29.56 100 232 Α Η Р 5850.6 76.45 32.38 29.56 100 232 -44.38 120.83 67.19 6.44 Η 5855 72.23 -38.57 110.8 62.94 32.41 6.44 29.56 100 232 Ρ Н Ρ 5878 63.81 -39.16 102.97 54.48 32.43 6.46 29.56 100 232 Η Ρ 5930 51.5 -16.7 68.2 42.06 32.5 6.5 29.56 100 232 Н 802.11ac Η **VHT40** Н **CH 159** 5628.6 48.66 -19.54 68.2 39.81 32.07 6.33 29.55 397 138 Ρ V 5795MHz 5699.8 49.59 -55.46 105.05 40.61 32.17 6.36 29.55 397 138 Ρ ٧ 5717.8 52.64 -57.54 110.18 43.61 32.21 6.37 29.55 397 138 Ρ ٧ ٧ 5721.4 52.8 -61.19 113.99 43.77 32.21 6.37 29.55 397 138 Ρ 5795 105.93 96.78 32.31 6.4 29.56 397 138 ٧ * ٧ 5795 98.63 89.48 32.31 29.56 397 138 6.4 Α V 5850 69.03 -53.17 122.2 59.77 32.38 6.44 29.56 397 138 Ρ 5856.2 65.53 -44.93 110.46 56.24 32.41 29.56 397 138 Ρ ٧ 6.44 ٧ 5876.2 54.24 -50.07 104.31 44.91 32.43 6.46 29.56 397 138 Ρ Ρ 5934 50.43 -17.7768.2 40.98 32.5 6.51 29.56 397 138 ٧ ٧ ٧ No other spurious found. Remark

Report No.: FR911633F

TEL: 886-3-327-3456 Page Number: B10 of B54

All results are PASS against Peak and Average limit line.

Band 4 5725~5850MHz

WIFI 802.11ac VHT40 (Harmonic @ 3m)

Report No.: FR911633F

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1		(MHz)	(dBµV/m)	(dB)	(dBµV/m)	(dBµV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V
		11510	47.3	-26.7	74	53.23	39.9	10.47	56.3	100	0	Р	Н
		17265	48.29	-19.91	68.2	50.98	40.96	12.98	56.63	100	0	Р	Н
802.11ac													Н
VHT40													Н
CH 151		11510	46.69	-27.31	74	52.62	39.9	10.47	56.3	100	0	Р	V
5755MHz		17265	49.35	-18.85	68.2	52.04	40.96	12.98	56.63	100	0	Р	V
													V
													V
		11590	45.7	-28.3	74	51.76	39.73	10.51	56.3	100	0	Р	Н
		17385	49.45	-18.75	68.2	51.83	41.38	13.11	56.87	100	0	Р	Н
802.11ac													Н
VHT40													Н
CH 159		11590	46.6	-27.4	74	52.66	39.73	10.51	56.3	100	0	Р	V
5795MHz		17385	50.36	-17.84	68.2	52.74	41.38	13.11	56.87	100	0	Р	V
													V
													V

^{2.} All results are PASS against Peak and Average limit line.

TEL: 886-3-327-3456 Page Number : B11 of B54

Band 4 5725~5850MHz WIFI 802.11ac VHT80 (Band Edge @ 3m)

Report No.: FR911633F

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1		(MHz)	(dBµV/m)	(dB)	(dBµV/m)	(dB _µ V)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V
		5643.6	57.18	-11.02	68.2	48.3	32.09	6.34	29.55	100	245	Р	Н
		5693.4	77.64	-22.69	100.33	68.66	32.17	6.36	29.55	100	245	Р	Н
		5718.4	81.07	-29.28	110.35	72.04	32.21	6.37	29.55	100	245	Р	Н
		5724	81.44	-38.48	119.92	72.41	32.21	6.37	29.55	100	245	Р	Н
	*	5775	106.76	-	-	97.64	32.29	6.39	29.56	100	245	Р	Н
	*	5775	99.95	-	-	90.83	32.29	6.39	29.56	100	245	Α	Н
		5853.6	82.05	-31.94	113.99	72.76	32.41	6.44	29.56	100	245	Р	Н
		5857	82.1	-28.14	110.24	72.8	32.41	6.45	29.56	100	245	Р	Н
		5876.2	75.99	-28.32	104.31	66.66	32.43	6.46	29.56	100	245	Р	Н
		5929.6	65.62	-2.58	68.2	56.18	32.5	6.5	29.56	100	245	Р	Н
802.11ac													Н
VHT80													Н
CH 155		5649.2	54.02	-14.18	68.2	45.14	32.09	6.34	29.55	399	138	Р	V
5775MHz		5681.6	71.32	-20.3	91.62	62.38	32.14	6.35	29.55	399	138	Р	V
		5716	73.64	-36.04	109.68	64.63	32.19	6.37	29.55	399	138	Р	V
		5724.2	75	-45.38	120.38	65.97	32.21	6.37	29.55	399	138	Р	V
	*	5775	103.48	-	-	94.36	32.29	6.39	29.56	399	138	Р	V
	*	5775	96.41	-	-	87.29	32.29	6.39	29.56	399	138	Α	V
		5851.4	77.73	-41.28	119.01	68.47	32.38	6.44	29.56	399	138	Р	V
		5856.6	76.21	-34.14	110.35	66.91	32.41	6.45	29.56	399	138	Р	V
		5877	71.13	-32.58	103.71	61.8	32.43	6.46	29.56	399	138	Р	V
		5932.8	62.62	-5.58	68.2	53.17	32.5	6.51	29.56	399	138	Р	V
													V
													V

Remark

2. All results are PASS against Peak and Average limit line.

TEL: 886-3-327-3456 : B12 of B54 Page Number

Band 4 5725~5850MHz

Report No.: FR911633F

WIFI 802.11ac VHT80 (Harmonic @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	ł	
Ant. 1		(MHz)	(dBµV/m)	Limit (dB)	Line (dBµV/m)	Level (dBµV)	Factor (dB/m)	Loss (dB)	Factor (dB)	Pos (cm)	Pos (deg)	Avg. (P/A)	
		11550	46.16	-27.84	74	52.17	39.8	10.49	56.3	100	0	Р	Н
		17325	48.75	-19.45	68.2	51.32	41.14	13.04	56.75	100	0	Р	Н
802.11ac													Н
VHT80													Н
CH 155		11550	45.89	-28.11	74	51.9	39.8	10.49	56.3	100	0	Р	V
5775MHz		17325	48.99	-19.21	68.2	51.56	41.14	13.04	56.75	100	0	Р	٧
													V
													V
Remark	1. No	other spurious	s found.	l		<u>I</u>	I		1		I.	II.	

2. All results are PASS against Peak and Average limit line.

TEL: 886-3-327-3456 Page Number: B13 of B54

Emission below 1GHz

Report No.: FR911633F

5GHz WIFI 802.11ac VHT80 (LF @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1		(MHz)	(dBµV/m)	(dB)	(dBµV/m)	(dBµV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
		106.63	27.64	-15.86	43.5	42.72	16.26	0.81	32.21	-	-	Р	Н
		114.39	27.49	-16.01	43.5	41.93	16.84	0.85	32.2	-	-	Р	Н
		285.11	25.46	-20.54	46	37.59	18.6	1.33	32.15	-	-	Р	Н
		832.19	31.79	-14.21	46	32.63	28.34	2.4	31.74	-	-	Р	Η
		896.21	38.45	-7.55	46	38.57	28.7	2.44	31.43	100	0	Р	Η
		945.68	33.5	-12.5	46	31.62	30.24	2.45	31.02	-	-	Р	Н
													Η
													Η
													Н
													Н
5GHz													Н
802.11ac													Η
VHT80		31.94	32.2	-7.8	40	40.39	23.64	0.45	32.29	100	0	Р	V
LF		90.14	26.02	-17.48	43.5	43.09	14.4	0.72	32.23	-	-	Р	V
		96.93	27.18	-16.32	43.5	43.21	15.38	0.74	32.21	-	-	Р	V
		118.27	26.32	-17.18	43.5	40.55	17.03	0.87	32.2	-	-	Р	V
		738.1	30.32	-15.68	46	32.39	27.62	2.18	32.01	-	-	Р	V
		949.56	34.03	-11.97	46	31.89	30.47	2.45	30.99	-	-	Р	>
													V
													V
													V
													V
													V
							1			1	1	1	V

TEL: 886-3-327-3456 Page Number : B14 of B54

Band 4 - 5725~5850MHz

Report No. : FR911633F

WIFI 802.11a (Band Edge @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
2		(MHz)	(dBµV/m)	(dB)	(dBµV/m)	(dBµV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
		5648.4	49.73	-18.47	68.2	40.85	32.09	6.34	29.55	100	294	Р	Н
		5686	54.86	-40.01	94.87	45.89	32.17	6.35	29.55	100	294	Р	Н
		5718.8	62.61	-47.85	110.46	53.58	32.21	6.37	29.55	100	294	Р	Н
		5724.2	77.28	-43.1	120.38	68.25	32.21	6.37	29.55	100	294	Р	Н
	*	5745	111.92	-	-	102.85	32.24	6.38	29.55	100	294	Р	Н
	*	5745	104.43	-	-	95.36	32.24	6.38	29.55	100	294	Α	Н
000.44													Н
802.11a													Н
CH 149 5745MHz		5645	49.83	-18.37	68.2	40.95	32.09	6.34	29.55	316	162	Р	V
3743WITIZ		5690.8	52.25	-46.17	98.42	43.27	32.17	6.36	29.55	316	162	Р	V
		5717.8	62.33	-47.85	110.18	53.3	32.21	6.37	29.55	316	162	Р	V
		5724.8	75.27	-46.47	121.74	66.24	32.21	6.37	29.55	316	162	Р	V
	*	5745	110.29	-	-	101.22	32.24	6.38	29.55	316	162	Р	V
	*	5745	102.81	-	-	93.74	32.24	6.38	29.55	316	162	Α	V
													V
													V

TEL: 886-3-327-3456 Page Number : B15 of B54



WIFI Preamp Note Level Over Limit Read Antenna Path Ant **Table** Peak Pol. Frequency Factor Ant. Limit Line Level Loss Factor Pos Pos Avg. 2 (dB) (dB \(\psi V/m \) (MHz) (dBµV/m) (dB_µV) (dB/m) (dB) (dB) (cm) (deg) (P/A) (H/V) 5634.4 49.14 -19.06 68.2 40.27 32.09 6.33 29.55 112 290 Н Ρ 5699.6 49.55 -55.36 104.91 40.57 32.17 6.36 29.55 112 290 Н 5716.4 51.45 -58.34 109.79 42.44 32.19 6.37 29.55 112 290 Ρ Н 5724.2 51.07 -69.31 120.38 42.04 32.21 6.37 29.55 112 290 Ρ Н * 5785 111.58 102.46 32.29 6.39 29.56 112 290 Ρ Н 5785 32.29 290 104.09 94.97 6.39 29.56 112 Α Η Р 5855 110.8 32.41 29.56 290 53.05 -57.75 43.76 6.44 112 Η 5855 53.05 -57.75 110.8 43.76 32.41 6.44 29.56 112 290 Ρ Н Ρ 5884.6 51.83 -46.24 98.07 42.49 32.43 6.47 29.56 112 290 Η Ρ 5939.6 49.95 -18.2568.2 40.47 32.53 6.51 29.56 112 290 Н Η 802.11a Н **CH 157** 5645.8 48.67 -19.53 68.2 39.79 32.09 6.34 29.55 310 162 Ρ V 5785MHz 5659 49.7 -25.18 74.88 40.79 32.12 6.34 29.55 310 162 Ρ ٧ 5719.4 50.14 -60.49 110.63 41.11 32.21 6.37 29.55 310 162 Ρ ٧ ٧ 5723.6 51.28 -67.73 119.01 42.25 32.21 6.37 29.55 310 162 Ρ 5785 109.23 100.11 32.29 6.39 29.56 310 162 ٧ * 32.29 ٧ 5785 101.9 92.78 6.39 29.56 310 162 Α V 5850.8 50.57 -69.81 120.38 41.31 32.38 6.44 29.56 310 162 Ρ 5868 51.28 -55.88 107.16 41.98 32.41 6.45 29.56 310 162 Ρ ٧ ٧ 5880.6 50.87 -50.17101.04 41.54 32.43 6.46 29.56 310 162 Ρ Ρ 5935.8 49.62 -18.58 68.2 40.17 32.5 6.51 29.56 310 162 ٧ ٧ ٧

Report No.: FR911633F

TEL: 886-3-327-3456 Page Number: B16 of B54



WIFI Preamp Note Over Limit Read Antenna **Path** Ant **Table** Peak Pol. **Frequency** Level Limit Line Level Factor Factor Pos Ant. Loss Pos Avg. (dBµV/m) (dB) (dBµV/m) (dB/m) (deg) (P/A) (H/V) 2 (MHz) (dBµV) (dB) (dB) (cm) * 111.39 102.17 100 5825 32.36 6.42 29.56 290 Η * 5825 104.17 94.95 32.36 6.42 29.56 100 290 --Α Н 5850.4 61.45 -59.84 121.29 52.19 32.38 6.44 29.56 100 290 Ρ Н 5858.2 32.41 29.56 100 290 Ρ Н 57.99 -51.91 109.9 48.69 6.45 5883.6 54.03 -44.78 98.81 44.69 32.43 6.47 29.56 100 290 Ρ Н Р 5940.2 50.75 -17.45 68.2 41.27 32.53 6.51 29.56 100 290 Н Н Н 802.11a **CH 165** 5825 109.37 100.15 32.36 6.42 29.56 305 162 ٧ 5825MHz ٧ 5825 92.89 32.36 29.56 305 162 Α 102.11 _ _ 6.42 5850.4 32.38 29.56 305 Р ٧ 63.97 -57.32 121.29 54.71 6.44 162 Р ٧ 5855.8 55.62 -54.96 110.58 46.33 32.41 6.44 29.56 305 162 5888.8 52.09 -42.87 94.96 42.72 32.46 6.47 29.56 305 162 Ρ V Р ٧ 5930.2 49.78 -18.42 68.2 40.34 32.5 6.5 29.56 305 162 ٧ ٧ ٧ No other spurious found. Remark All results are PASS against Peak and Average limit line.

Report No.: FR911633F

TEL: 886-3-327-3456 Page Number: B17 of B54

Band 4 5725~5850MHz

Report No. : FR911633F

WIFI 802.11a (Harmonic @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
2		(MHz)	(dBµV/m)	(dB)	(dBµV/m)	(dBµV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V
		11490	46.53	-27.47	74	52.45	39.92	10.46	56.3	100	0	Р	Н
		17235	48.93	-19.27	68.2	51.71	40.84	12.95	56.57	100	0	Р	Н
802.11a													Н
CH 149													Н
5745MHz		11490	46.99	-27.01	74	52.91	39.92	10.46	56.3	100	0	Р	V
37 43WH12		17235	48.21	-19.99	68.2	50.99	40.84	12.95	56.57	100	0	Р	V
													V
													V
		11570	45.79	-28.21	74	51.83	39.76	10.5	56.3	100	0	Р	Н
		17355	48.85	-19.35	68.2	51.32	41.26	13.08	56.81	100	0	Р	Н
802.11a													Н
CH 157													Н
5785MHz		11570	45.57	-28.43	74	51.61	39.76	10.5	56.3	100	0	Р	V
		17355	48.54	-19.66	68.2	51.01	41.26	13.08	56.81	100	0	Р	V
													V
		11650	46.74	-27.26	74	52.88	39.62	10.54	56.3	100	0	Р	V
		17475	49.65	-18.55	68.2	51.81	41.68	13.21	57.05	100	0	P	Н
													Н
802.11a													Н
CH 165		11650	46.83	-27.17	74	52.97	39.62	10.54	56.3	100	0	Р	V
5825MHz		17475	49.47	-18.73	68.2	51.63	41.68	13.21	57.05	100	0	Р	V
													V
													V

TEL: 886-3-327-3456 Page Number : B18 of B54



Band 4 5725~5850MHz WIFI 802.11ac VHT20 (Band Edge @ 3m)

Report No.: FR911633F

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.		, .	,, .	Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
2		(MHz)	(dBµV/m)	(dB)	(dBµV/m)	(dB _µ V)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
		5616.2	49.54	-18.66	68.2	40.69	32.07	6.33	29.55	108	293	Р	Н
		5694	54.64	-46.14	100.78	45.66	32.17	6.36	29.55	108	293	Р	Н
		5720	71.94	-38.86	110.8	62.91	32.21	6.37	29.55	108	293	Р	Н
		5723.6	82.84	-36.17	119.01	73.81	32.21	6.37	29.55	108	293	Р	Н
	*	5745	112.13	-	-	103.06	32.24	6.38	29.55	108	293	Р	Н
	*	5745	104.38	-	-	95.31	32.24	6.38	29.55	108	293	Α	Н
802.11ac													Н
VHT20													П
CH 149		5605.6	49.08	-19.12	68.2	40.27	32.04	6.32	29.55	302	164	Р	V
5745MHz		5699.2	52.6	-52.01	104.61	43.62	32.17	6.36	29.55	302	164	Р	V
		5719.8	68.95	-41.79	110.74	59.92	32.21	6.37	29.55	302	164	Р	V
		5723.4	82.74	-35.81	118.55	73.71	32.21	6.37	29.55	302	164	Р	V
	*	5745	109.85	-	-	100.78	32.24	6.38	29.55	302	164	Р	٧
	*	5745	102.46	-	-	93.39	32.24	6.38	29.55	302	164	Α	٧
													٧
													V

TEL: 886-3-327-3456 Page Number : B19 of B54



WIFI Preamp Note Level Over Limit Read Antenna Path Ant **Table** Peak Pol. Frequency Limit Line Factor Ant. Level Loss Factor Pos Pos Avg. 2 (dB) (dB \(\psi V/m \) (MHz) (dBµV/m) (dB_µV) (dB/m) (dB) (dB) (cm) (deg) (P/A) (H/V) 5619.8 49.89 -18.31 68.2 41.04 32.07 6.33 29.55 102 291 Н Р 5689.2 50.18 -47.06 97.24 41.2 32.17 6.36 29.55 102 291 Н 5709.2 51.34 -56.44 107.78 42.34 32.19 6.36 29.55 102 291 Ρ Н 5725 51.13 -71.07 122.2 42.1 32.21 6.37 29.55 102 291 Ρ Н * 5785 111.48 -102.36 32.29 6.39 29.56 102 291 Ρ Н 5785 32.29 102 291 104.22 95.1 6.39 29.56 Α Η Р 5850 52.31 122.2 32.38 29.56 102 291 -69.89 43.05 6.44 Н 5856.2 52.92 -57.54 110.46 43.63 32.41 6.44 29.56 102 291 Ρ Н 104.46 Ρ 5876 50.93 -53.53 41.6 32.43 6.46 29.56 102 291 Н Ρ 5949.6 51.31 -16.89 68.2 41.82 32.53 6.52 29.56 102 291 Н 802.11ac Н VHT20 Н **CH 157** 5649.8 49.92 -18.28 68.2 41.01 32.12 6.34 29.55 310 161 Ρ V 5785MHz 5699.2 49.9 -54.71 104.61 40.92 32.17 6.36 29.55 310 161 Ρ ٧ 5709.2 51.03 -56.75 107.78 42.03 32.19 6.36 29.55 310 161 Ρ ٧ ٧ 5723.2 50.86 -67.24 118.1 41.83 32.21 6.37 29.55 310 161 Ρ ٧ 5785 109.39 100.27 32.29 6.39 29.56 310 161 * 32.29 6.39 29.56 ٧ 5785 102.15 93.03 310 161 Α V 5850 50.53 -71.67 122.2 41.27 32.38 6.44 29.56 310 161 Ρ 5862.4 50.97 -57.76 108.73 41.67 32.41 6.45 29.56 310 161 Ρ ٧ ٧ 5888.4 49.89 -45.3695.25 40.52 32.46 6.47 29.56 310 161 Ρ Ρ 5930 50.11 -18.09 68.2 40.67 32.5 6.5 29.56 310 161 ٧ ٧ ٧

Report No.: FR911633F

TEL: 886-3-327-3456 Page Number: B20 of B54



WIFI Preamp Note Frequency Over Limit Read Antenna **Path** Ant Table Peak Pol. Level Limit Line **Factor** Factor Pos Pos Ant. Level Loss Avg. (dB) (dB \(V/m \) (dBµV/m) (dB/m) (deg) (P/A) (H/V) 2 (MHz) (dBµV) (dB) (dB) (cm) * 111.16 101.94 32.36 100 5825 6.42 29.56 291 Η * 5825 103.77 94.55 32.36 6.42 29.56 100 291 Н --Α 5850 68.29 -53.91 122.2 59.03 32.38 6.44 29.56 100 291 Ρ Н 5855.2 32.41 29.56 100 291 Η 62.22 -48.52 110.74 52.93 6.44 5880.8 55.13 -45.76 100.89 45.8 32.43 6.46 29.56 100 291 Ρ Н 6.5 Р 5926.8 50.1 -18.1 68.2 40.66 32.5 29.56 100 291 Н Н 802.11ac VHT20 Н **CH 165** 5825 108.97 99.75 32.36 6.42 29.56 305 162 ٧ 5825MHz ٧ 5825 101.73 92.51 32.36 29.56 305 162 Α --6.42 29.56 305 Р ٧ 5850 68.5 -53.7 122.2 59.24 32.38 6.44 162 Р ٧ 5858.4 57.64 -52.21 109.85 48.34 32.41 6.45 29.56 305 162 5885.8 53.1 -44.08 97.18 43.76 32.43 6.47 29.56 305 162 Ρ V Р ٧ 5926.2 49.59 -18.61 68.2 40.15 32.5 6.5 29.56 305 162 ٧ ٧ No other spurious found. Remark All results are PASS against Peak and Average limit line.

Report No.: FR911633F

TEL: 886-3-327-3456 Page Number: B21 of B54

Band 4 5725~5850MHz

Report No.: FR911633F

WIFI 802.11ac VHT20 (Harmonic @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
2		(MHz)	(dBµV/m)	(dB)	(dBµV/m)	(dBµV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V
		11490	46.49	-27.51	74	52.41	39.92	10.46	56.3	100	0	Р	Н
		17235	48.64	-19.56	68.2	51.42	40.84	12.95	56.57	100	0	Р	Н
802.11ac													Н
VHT20													Н
CH 149		11490	47.42	-26.58	74	53.34	39.92	10.46	56.3	100	0	Р	V
5745MHz		17235	49.23	-18.97	68.2	52.01	40.84	12.95	56.57	100	0	Р	V
													V
													V
		11570	46.14	-27.86	74	52.18	39.76	10.5	56.3	100	0	Р	Н
		17355	49.08	-19.12	68.2	51.55	41.26	13.08	56.81	100	0	Р	Н
802.11ac													Н
VHT20													Н
CH 157		11570	46.23	-27.77	74	52.27	39.76	10.5	56.3	100	0	Р	V
5785MHz		17355	49.01	-19.19	68.2	51.48	41.26	13.08	56.81	100	0	Р	٧
													V
													V
		11650	46.97	-27.03	74	53.11	39.62	10.54	56.3	100	0	Р	Н
		17475	49.6	-18.6	68.2	51.76	41.68	13.21	57.05	100	0	Р	Н
802.11ac													Н
VHT20													Н
CH 165		11650	46.06	-27.94	74	52.2	39.62	10.54	56.3	100	0	Р	V
5825MHz		17475	48.95	-19.25	68.2	51.11	41.68	13.21	57.05	100	0	Р	V
													V
													V

Remark

1. No other spurious found.

2. All results are PASS against Peak and Average limit line.

TEL: 886-3-327-3456 Page Number: B22 of B54

Band 4 5725~5850MHz WIFI 802.11ac VHT40 (Band Edge @ 3m)

Report No.: FR911633F

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
2		(MHz)	(dBµV/m)	(dB)	(dBµV/m)	(dBµV)	(dB/m)	(dB)	(dB)	(cm)		(P/A)	
		5632.8	50.84	-17.36	68.2	41.97	32.09	6.33	29.55	104	291	Р	Н
		5697.2	65.77	-37.37	103.14	56.79	32.17	6.36	29.55	104	291	Р	Н
		5718.4	80.25	-30.1	110.35	71.22	32.21	6.37	29.55	104	291	Р	Н
		5721.8	83.43	-31.47	114.9	74.4	32.21	6.37	29.55	104	291	Р	Н
	*	5755	108.95	-	-	99.87	32.26	6.38	29.56	104	291	Р	Н
	*	5755	101.46	-	-	92.38	32.26	6.38	29.56	104	291	Α	Н
		5855	52.8	-58	110.8	43.51	32.41	6.44	29.56	104	291	Р	Н
		5855.2	52.89	-57.85	110.74	43.6	32.41	6.44	29.56	104	291	Р	Н
		5902.6	50.89	-33.85	84.74	41.51	32.46	6.48	29.56	104	291	Р	Н
		5935.4	50.22	-17.98	68.2	40.77	32.5	6.51	29.56	104	291	Р	Н
802.11ac													Н
VHT40													Н
CH 151		5642	50.33	-17.87	68.2	41.45	32.09	6.34	29.55	328	162	Р	٧
5755MHz		5695.6	60.35	-41.61	101.96	51.37	32.17	6.36	29.55	328	162	Р	٧
		5719.2	77.77	-32.81	110.58	68.74	32.21	6.37	29.55	328	162	Р	٧
		5724	80.08	-39.84	119.92	71.05	32.21	6.37	29.55	328	162	Р	٧
	*	5755	106.68	-	-	97.6	32.26	6.38	29.56	328	162	Р	٧
	*	5755	99.45	-	-	90.37	32.26	6.38	29.56	328	162	Α	٧
		5850.2	51.43	-70.31	121.74	42.17	32.38	6.44	29.56	328	162	Р	٧
		5858.6	51.3	-58.49	109.79	42	32.41	6.45	29.56	328	162	Р	٧
		5897.2	50.64	-38.09	88.73	41.26	32.46	6.48	29.56	328	162	Р	٧
		5931.8	49.17	-19.03	68.2	39.72	32.5	6.51	29.56	328	162	Р	٧
													V
													V

TEL: 886-3-327-3456 Page Number : B23 of B54



WIFI Preamp Note Level Over Limit Read Antenna Path **Table** Peak Pol. Frequency Ant Ant. Limit Line Level Factor Loss Factor Pos Pos Avg. 2 (dB) (dB \(\psi V/m \) (MHz) (dBµV/m) (dBµV) (dB/m) (dB) (dB) (cm) (deg) (P/A) (H/V) 5638.2 49.03 -19.17 68.2 40.15 32.09 6.34 29.55 100 292 Н Р 5690.8 51.18 -47.24 98.42 42.2 32.17 6.36 29.55 100 292 Н 5708.4 53.09 -54.46 107.55 44.09 32.19 6.36 29.55 100 292 Ρ Н 5720.8 56.54 -56.08 112.62 47.51 32.21 6.37 29.55 100 292 Ρ Н * 5795 107.89 98.74 32.31 6.4 29.56 100 292 Ρ Н 5795 100.93 91.78 32.31 6.4 29.56 100 292 Α Η Р 5850 60.45 32.38 29.56 100 292 -61.75 122.2 51.19 6.44 Н 5855.2 60.25 -50.49 110.74 50.96 32.41 6.44 29.56 100 292 Ρ Н Ρ 5875 54.23 -50.97 105.2 44.9 32.43 6.46 29.56 100 292 Н Ρ 5947.8 50.92 -17.2868.2 41.43 32.53 6.52 29.56 100 292 Н 802.11ac Н **VHT40** Н **CH 159** 5628.6 49 -19.2 68.2 40.15 32.07 6.33 29.55 309 164 Ρ V 5795MHz 5677 50.08 -38.14 88.22 41.14 32.14 6.35 29.55 309 164 Ρ ٧ 5720 52.44 -58.36 110.8 43.41 32.21 6.37 29.55 309 164 Ρ ٧ ٧ 5723.8 52.86 -66.6 119.46 43.83 32.21 6.37 29.55 309 164 Ρ 5795 106.02 96.87 32.31 6.4 29.56 309 164 ٧ * ٧ 5795 98.91 89.76 32.31 29.56 309 164 6.4 Α 5851.6 57.43 -61.12 118.55 48.17 32.38 6.44 29.56 309 164 Ρ V 5858.6 56.08 -53.71 109.79 46.78 32.41 6.45 29.56 309 164 Ρ ٧ ٧ 5875.8 52.8 -51.81 104.61 43.47 32.43 6.46 29.56 309 164 Ρ Ρ 5941 50.09 -18.11 68.2 40.61 32.53 6.51 29.56 309 164 ٧ ٧ ٧ No other spurious found. Remark

Report No.: FR911633F

All results are PASS against Peak and Average limit line.

TEL: 886-3-327-3456 : B24 of B54 Page Number

Band 4 5725~5850MHz

Report No.: FR911633F

WIFI 802.11ac VHT40 (Harmonic @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol
Ant.		(MHz)	(dBµV/m)	Limit (dB)	Line (dBµV/m)	Level	Factor (dB/m)	Loss (dB)	Factor (dB)	Pos (cm)	Pos (deg)	Avg.	
Z		, ,					-					P	
		11510	46.93	-27.07	74	52.86	39.9	10.47	56.3	100	0		Н
		17265	48.25	-19.95	68.2	50.94	40.96	12.98	56.63	100	0	Р	Н
802.11ac													Н
VHT40													Н
CH 151		11510	46.92	-27.08	74	52.85	39.9	10.47	56.3	100	0	Р	V
5755MHz		17265	49.32	-18.88	68.2	52.01	40.96	12.98	56.63	100	0	Р	V
													V
													V
		11590	46.46	-27.54	74	52.52	39.73	10.51	56.3	100	0	Р	Н
		17385	50.42	-17.78	68.2	52.8	41.38	13.11	56.87	100	0	Р	Н
802.11ac													Н
VHT40													Н
CH 159		11590	45.87	-28.13	74	51.93	39.73	10.51	56.3	100	0	Р	V
5795MHz		17385	49.03	-19.17	68.2	51.41	41.38	13.11	56.87	100	0	Р	V
													V
													V
Remark	1. No	other spurious	s found.										

Remark

TEL: 886-3-327-3456 Page Number : B25 of B54

^{2.} All results are PASS against Peak and Average limit line.

Band 4 5725~5850MHz WIFI 802.11ac VHT80 (Band Edge @ 3m)

Report No.: FR911633F

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
2		(MHz)	(dBµV/m)		(dBµV/m)	(dB _µ V)	(dB/m)	(dB)	(dB)	(cm)		(P/A)	
		5646.2	55.6	-12.6	68.2	46.72	32.09	6.34	29.55	100	290	Р	Н
		5697.2	75.25	-27.89	103.14	66.27	32.17	6.36	29.55	100	290	Р	Н
		5718	77.16	-33.08	110.24	68.13	32.21	6.37	29.55	100	290	Р	Н
		5724.2	80.91	-39.47	120.38	71.88	32.21	6.37	29.55	100	290	Р	Н
	*	5775	105.52	-	-	96.4	32.29	6.39	29.56	100	290	Р	Н
	*	5775	98.53	-	-	89.41	32.29	6.39	29.56	100	290	Α	Н
		5853.8	78	-35.54	113.54	68.71	32.41	6.44	29.56	100	290	Р	Н
		5855	75.44	-35.36	110.8	66.15	32.41	6.44	29.56	100	290	Р	Н
		5877.6	70.75	-32.52	103.27	61.42	32.43	6.46	29.56	100	290	Р	Н
		5925	57.43	-10.77	68.2	47.99	32.5	6.5	29.56	100	290	Р	Н
802.11ac													Н
VHT80													Н
CH 155		5647.6	53.58	-14.62	68.2	44.7	32.09	6.34	29.55	323	163	Р	٧
5775MHz		5695.4	73.04	-28.77	101.81	64.06	32.17	6.36	29.55	323	163	Р	V
		5718.2	75.55	-34.75	110.3	66.52	32.21	6.37	29.55	323	163	Р	V
		5724.2	76.81	-43.57	120.38	67.78	32.21	6.37	29.55	323	163	Р	V
	*	5775	102.96	-	-	93.84	32.29	6.39	29.56	323	163	Р	V
	*	5775	96.38	-	-	87.26	32.29	6.39	29.56	323	163	Α	V
		5853.8	76.07	-37.47	113.54	66.78	32.41	6.44	29.56	323	163	Р	V
		5867.8	72.89	-34.32	107.21	63.59	32.41	6.45	29.56	323	163	Р	V
		5875.8	65.22	-39.39	104.61	55.89	32.43	6.46	29.56	323	163	Р	V
		5935.6	53.44	-14.76	68.2	43.99	32.5	6.51	29.56	323	163	Р	V
													V
													V

Remark

. No other spurious found.

2. All results are PASS against Peak and Average limit line.

TEL: 886-3-327-3456 Page Number: B26 of B54

Report No.: FR911633F

WIFI 802.11ac VHT80 (Harmonic @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos		Avg.	
2		(MHz)	(dBµV/m)	(dB)	(dBµV/m)	(dB _µ V)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
		11550	45.84	-28.16	74	51.85	39.8	10.49	56.3	100	0	Р	Н
		17325	48.95	-19.25	68.2	51.52	41.14	13.04	56.75	100	0	Р	Н
802.11ac													Н
VHT80													Н
CH 155		11550	45.61	-28.39	74	51.62	39.8	10.49	56.3	100	0	Р	V
5775MHz		17325	49.37	-18.83	68.2	51.94	41.14	13.04	56.75	100	0	Р	V
													٧
													V
	1 No	o other spurious	s found										,
Remark		outor opunou	o iodiid.										
	2. All	l results are PA	SS against F	Peak and	Average lim	it line.							

TEL: 886-3-327-3456 Page Number : B27 of B54

Emission below 1GHz

Report No.: FR911633F

5GHz WIFI 802.11ac VHT80 (LF @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
2		(MHz)	(dBµV/m)	(dB)	(dBµV/m)	(dBµV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V
		106.63	28.74	-14.76	43.5	43.82	16.26	0.81	32.21	-	-	Р	Н
		286.08	25.08	-20.92	46	37.19	18.62	1.33	32.15	-	-	Р	Н
		551.86	26.84	-19.16	46	31.83	25.22	1.91	32.21	-	-	Р	Н
		727.43	29.91	-16.09	46	32.46	27.2	2.16	32.04	-	-	Р	Н
		854.5	31.82	-14.18	46	32.03	28.8	2.46	31.63	-	-	Р	Н
		957.32	33.61	-12.39	46	31.2	30.65	2.46	30.92	100	0	Р	Н
													Н
													Н
													Н
													Н
5GHz													Н
802.11ac													Н
VHT80		31.94	31.81	-8.19	40	40	23.64	0.45	32.29	100	0	Р	V
LF		94.99	26.32	-17.18	43.5	42.76	15	0.72	32.22	-	-	Р	V
		119.24	25.13	-18.37	43.5	39.28	17.1	0.88	32.2	-	-	Р	V
		291.9	24.35	-21.65	46	36.32	18.74	1.35	32.15	-	-	Р	V
		864.2	31.56	-14.44	46	31.81	28.72	2.45	31.58	-	-	Р	V
		933.07	33.57	-12.43	46	32.47	29.58	2.45	31.13	-	-	Р	V
													V
													V
													V
													V
													V
													V

TEL: 886-3-327-3456 Page Number: B28 of B54

Report No.: FR911633F

WIFI 802.11a (Band Edge @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1+2		(MHz)	(dBµV/m)	(dB)	(dBµV/m)	(dBµV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
		5649.2	50.09	-18.11	68.2	41.21	32.09	6.34	29.55	100	233	Р	Н
		5697.2	53.35	-49.79	103.14	44.37	32.17	6.36	29.55	100	233	Р	Н
		5716.6	58.04	-51.81	109.85	49.03	32.19	6.37	29.55	100	233	Р	Н
		5723.8	63.56	-55.9	119.46	54.53	32.21	6.37	29.55	100	233	Р	Н
	*	5745	112.07	-	-	103	32.24	6.38	29.55	100	233	Р	Н
	*	5745	104.91	-	-	95.84	32.24	6.38	29.55	100	233	Α	Н
													Н
802.11a													Н
CH 149 5745MHz		5639	49.44	-18.76	68.2	40.56	32.09	6.34	29.55	319	165	Р	V
3743WITZ		5693.4	51.15	-49.18	100.33	42.17	32.17	6.36	29.55	319	165	Р	V
		5719.6	54.5	-56.19	110.69	45.47	32.21	6.37	29.55	319	165	Р	V
		5725	66.01	-56.19	122.2	56.98	32.21	6.37	29.55	319	165	Р	V
	*	5745	108.29	-	-	99.22	32.24	6.38	29.55	319	165	Р	V
	*	5745	101.01	-	-	91.94	32.24	6.38	29.55	319	165	Α	V
													V
													V

TEL: 886-3-327-3456 Page Number : B29 of B54



WIFI Preamp Note Level Over Limit Read Antenna Path Ant **Table** Peak Pol. **Frequency** Limit Line Factor Ant. Level Loss Factor Pos Pos Avg. (dB) (dB \(\psi V/m \) 1+2 (MHz) (dBµV/m) (dB_µV) (dB/m) (dB) (dB) (cm) (deg) (P/A) (H/V) 5630 50.07 -18.13 68.2 41.22 32.07 6.33 29.55 102 235 Н Ρ 5663.2 50.26 -27.74 78 41.34 32.12 6.35 29.55 102 235 Н 5716 51.1 -58.58 109.68 42.09 32.19 6.37 29.55 102 235 Ρ Н 5724.4 51.8 -69.03 120.83 42.77 32.21 6.37 29.55 102 235 Ρ Н * 5785 111.2 102.08 32.29 6.39 29.56 102 235 Ρ Н 5785 32.29 102 235 104.27 95.15 6.39 29.56 Α Η 120.38 Р 5850.8 32.38 6.44 29.56 102 235 51.24 -69.14 41.98 Н 5857.6 51.01 -59.06 110.07 41.71 32.41 6.45 29.56 102 235 Ρ Н 41.12 Ρ 5895 50.5 -39.86 90.36 32.46 6.48 29.56 102 235 Н Ρ 5947.8 50.99 -17.21 68.2 41.5 32.53 6.52 29.56 102 235 Н Н 802.11a Н **CH 157** 5613.6 49.15 -19.05 68.2 40.33 32.04 6.33 29.55 350 172 Ρ V 5785MHz 5652.6 50.07 -20.06 70.13 41.16 32.12 6.34 29.55 350 172 Ρ ٧ 5718.6 48.94 -61.47 110.41 39.91 32.21 6.37 29.55 350 172 Ρ ٧ ٧ 5721.2 49.11 -64.43 113.54 40.08 32.21 6.37 29.55 350 172 Ρ ٧ 5785 107.66 98.54 32.29 6.39 29.56 350 172 * 32.29 6.39 29.56 350 ٧ 5785 100.45 91.33 172 Α V 5850.2 50.78 -70.96 121.74 41.52 32.38 6.44 29.56 350 172 Ρ 5856.6 49.72 -60.63 110.35 40.42 32.41 6.45 29.56 350 172 Ρ ٧ ٧ 5901.2 50.12 -35.65 85.77 40.74 32.46 6.48 29.56 350 172 Ρ Ρ 5930.8 49.83 -18.3768.2 40.39 32.5 6.5 29.56 350 172 ٧ ٧ ٧

Report No.: FR911633F

TEL: 886-3-327-3456 Page Number: B30 of B54



WIFI Preamp Note Over Limit Read Antenna **Path** Ant **Table** Peak Pol. **Frequency** Level Limit Line Level **Factor** Factor Pos Pos Ant. Loss Avg. (dBµV/m) (dB) (dBµV/m) (dB/m) (deg) (P/A) (H/V) 1+2 (MHz) (dBµV) (dB) (dB) (cm) * 111.29 102.07 100 5825 32.36 6.42 29.56 232 Η * 5825 104.35 95.13 32.36 6.42 29.56 100 232 --Α Н 5854 65.19 -47.89 113.08 55.9 32.41 6.44 29.56 100 232 Ρ Н 5858.4 32.41 6.45 29.56 100 232 Ρ Η 59.69 -50.16 109.85 50.39 5903.8 54.34 -29.51 83.85 44.96 32.46 6.48 29.56 100 232 Ρ Н Р 5930 51.02 -17.18 68.2 41.58 32.5 6.5 29.56 100 232 Н Н Н 802.11a **CH 165** 5825 108.65 99.43 32.36 6.42 29.56 312 168 ٧ 5825MHz ٧ 5825 100.91 91.69 32.36 29.56 312 168 Α _ _ 6.42 5851.6 32.38 29.56 168 Р ٧ 56.05 -62.5 118.55 46.79 6.44 312 Р ٧ 5856 56.32 -54.2 110.52 47.03 32.41 6.44 29.56 312 168 5876.8 51.14 -52.72 103.86 41.81 32.43 6.46 29.56 312 168 Ρ V Р ٧ 5930.8 50.13 -18.07 68.2 40.69 32.5 6.5 29.56 312 168 ٧ ٧ ٧ No other spurious found. Remark All results are PASS against Peak and Average limit line.

Report No.: FR911633F

TEL: 886-3-327-3456 Page Number: B31 of B54

Report No. : FR911633F

WIFI 802.11a (Harmonic @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1+2		(MHz)	(dBµV/m)	(dB)	(dBµV/m)	(dBµV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	
		11490	46.72	-27.28	74	52.64	39.92	10.46	56.3	100	0	Р	Н
		17235	48.6	-19.6	68.2	51.38	40.84	12.95	56.57	100	0	Р	Н
802.11a													Н
CH 149													Н
5745MHz		11490	46.27	-27.73	74	52.19	39.92	10.46	56.3	100	0	Р	V
3743WITIZ		17235	49.16	-19.04	68.2	51.94	40.84	12.95	56.57	100	0	Р	٧
													V
													V
		11570	45.47	-28.53	74	51.51	39.76	10.5	56.3	100	0	Р	Н
		17355	49.03	-19.17	68.2	51.5	41.26	13.08	56.81	100	0	Р	Н
000.44													Н
802.11a													Н
CH 157 5785MHz		11570	46.58	-27.42	74	52.62	39.76	10.5	56.3	100	0	Р	٧
37 63 WITZ		17355	49.56	-18.64	68.2	52.03	41.26	13.08	56.81	100	0	Р	٧
													V
													V
		11650	46.9	-27.1	74	53.04	39.62	10.54	56.3	100	0	Р	Н
		17475	50.77	-17.43	68.2	52.93	41.68	13.21	57.05	100	0	Р	Н
													Н
802.11a													Н
CH 165		11650	46.74	-27.26	74	52.88	39.62	10.54	56.3	100	0	Р	٧
5825MHz		17475	49.61	-18.59	68.2	51.77	41.68	13.21	57.05	100	0	Р	V
													V
													٧

TEL: 886-3-327-3456 Page Number: B32 of B54

Band 4 5725~5850MHz WIFI 802.11ac VHT20 (Band Edge @ 3m)

Report No.: FR911633F

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant. 1+2		(MHz)	(dBµV/m)	Limit (dB)	Line (dBµV/m)	Level (dBµV)	Factor (dB/m)	Loss (dB)	Factor (dB)	Pos (cm)	Pos (deg)	Avg.	(H/V)
IT2		5603	50.66	-17.54	68.2	41.85	32.04	6.32	29.55	100	232	P	H
		5699.2	53.36	-51.25	104.61	44.38	32.17	6.36	29.55	100	232	Р	Н
		5720	60.35	-50.45	110.8	51.32	32.21	6.37	29.55	100	232	Р	Н
		5725	67.86	-54.34	122.2	58.83	32.21	6.37	29.55	100	232	Р	Н
	*	5745	111.79	-	-	102.72	32.24	6.38	29.55	100	232	Р	Н
	*	5745	104.39	-	-	95.32	32.24	6.38	29.55	100	232	Α	Н
802.11ac													Н
VHT20													Η
CH 149		5609.8	48.68	-19.52	68.2	39.87	32.04	6.32	29.55	319	160	Р	V
5745MHz		5698.4	51.67	-52.35	104.02	42.69	32.17	6.36	29.55	319	160	Р	V
		5715.6	57.26	-52.31	109.57	48.25	32.19	6.37	29.55	319	160	Р	V
		5723.4	57.01	-61.54	118.55	47.98	32.21	6.37	29.55	319	160	Р	V
	*	5745	107.7	-	-	98.63	32.24	6.38	29.55	319	160	Р	٧
	*	5745	100.43	-	-	91.36	32.24	6.38	29.55	319	160	Α	٧
													٧
													V

TEL: 886-3-327-3456 Page Number : B33 of B54



WIFI Preamp Note Level Over Limit Read Antenna Path Ant **Table** Peak Pol. **Frequency** Limit Line Factor Ant. Level Loss Factor Pos Pos Avg. (dB) (dB \(\psi V/m \) 1+2 (MHz) (dBµV/m) (dB_µV) (dB/m) (dB) (dB) (cm) (deg) (P/A) (H/V) 5636.8 49.68 -18.5268.2 40.81 32.09 6.33 29.55 101 232 Н 5670.8 Р 49.39 -34.24 83.63 40.45 32.14 6.35 29.55 101 232 Н 5705.6 50.26 -56.51 106.77 41.26 32.19 6.36 29.55 101 232 Ρ Н 5723 50.94 -66.7 117.64 41.91 32.21 6.37 29.55 101 232 Ρ Н * 5785 111.88 -102.76 32.29 6.39 29.56 101 232 Ρ Н 5785 32.29 232 104.6 95.48 6.39 29.56 101 Α Η 5855 6.44 Р 110.8 32.41 29.56 101 232 51.49 -59.31 42.2 Н 5856.8 52.47 -57.83 110.3 43.17 32.41 6.45 29.56 101 232 Ρ Н Ρ 5875.4 51.84 -53.06 104.9 42.51 32.43 6.46 29.56 101 232 Н Ρ 5946.4 50.17 -18.03 68.2 40.68 32.53 6.52 29.56 101 232 Н 802.11ac Н VHT20 Н CH 157 5612.8 49.69 -18.51 68.2 40.87 32.04 6.33 29.55 297 166 Ρ V 5785MHz 5664.2 49.21 -29.53 78.74 40.29 32.12 6.35 29.55 297 166 Ρ ٧ 5717.2 49.69 -60.33 110.02 40.68 32.19 6.37 29.55 297 166 Ρ ٧ ٧ 5724.4 50.03 -70.8 120.83 41 32.21 6.37 29.55 297 166 Ρ ٧ 5785 107.39 98.27 32.29 6.39 29.56 297 166 * 32.29 6.39 29.56 ٧ 5785 100.31 91.19 297 166 Α V 5853.8 49.93 -63.61 113.54 40.64 32.41 6.44 29.56 297 166 Ρ 5866.6 49.01 -58.54 107.55 39.71 32.41 6.45 29.56 297 166 Ρ ٧ ٧ 5915.4 50.18 -25.1 75.28 40.77 32.48 6.49 29.56 297 166 Ρ Ρ 5930.2 49.37 -18.83 68.2 39.93 32.5 6.5 29.56 297 166 ٧ ٧ ٧

Report No.: FR911633F

TEL: 886-3-327-3456 Page Number: B34 of B54



WIFI Preamp Note Frequency Over Limit Read Antenna **Path** Ant Table Peak Pol. Level Limit Line Level **Factor** Factor Pos Pos Ant. Loss Avg. (dB) (dBµV/m) (dBµV/m) (dB/m) (deg) (P/A) (H/V) 1+2 (MHz) (dBµV) (dB) (dB) (cm) * 101.83 111.05 32.36 100 5825 6.42 29.56 231 Η * 5825 103.89 94.67 32.36 6.42 29.56 100 231 Н --Α 5850.2 61.77 -59.97 121.74 52.51 32.38 6.44 29.56 100 231 Ρ Н 5855 32.41 29.56 100 231 Η 58.04 -52.76 110.8 48.75 6.44 5878 53.69 -49.28 102.97 44.36 32.43 6.46 29.56 100 231 Ρ Н Р 5931.8 50.77 -17.43 68.2 41.32 32.5 6.51 29.56 100 231 Н Н 802.11ac VHT20 Н **CH 165** 5825 107.64 98.42 32.36 6.42 29.56 308 166 ٧ 5825MHz ٧ 5825 100.37 32.36 29.56 308 166 Α --91.15 6.42 29.56 308 166 Ρ ٧ 5850 56.96 -65.24 122.2 47.7 32.38 6.44 Р ٧ 5859.8 56.6 -52.85 109.45 47.3 32.41 6.45 29.56 308 166 5877.4 52.12 -51.3 103.42 42.79 32.43 6.46 29.56 308 166 Ρ V Р ٧ 5948.6 50.49 -17.71 68.2 41 32.53 6.52 29.56 308 166 ٧ ٧ No other spurious found. Remark All results are PASS against Peak and Average limit line.

Report No.: FR911633F

TEL: 886-3-327-3456 Page Number: B35 of B54

Report No.: FR911633F

WIFI 802.11ac VHT20 (Harmonic @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1+2		(MHz)	(dBµV/m)	(dB)	(dBµV/m)	(dBµV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V
		11490	46.4	-27.6	74	52.32	39.92	10.46	56.3	100	0	Р	Н
		17235	49.79	-18.41	68.2	52.57	40.84	12.95	56.57	100	0	Р	Н
802.11ac													Н
VHT20													Н
CH 149		11490	46.73	-27.27	74	52.65	39.92	10.46	56.3	100	0	Р	V
5745MHz		17235	48.06	-20.14	68.2	50.84	40.84	12.95	56.57	100	0	Р	V
													٧
													V
		11570	46.35	-27.65	74	52.39	39.76	10.5	56.3	100	0	Р	Н
		17355	48.97	-19.23	68.2	51.44	41.26	13.08	56.81	100	0	Р	Н
802.11ac													Н
VHT20													Н
CH 157		11570	45.47	-28.53	74	51.51	39.76	10.5	56.3	100	0	Р	V
5785MHz		17355	49.3	-18.9	68.2	51.77	41.26	13.08	56.81	100	0	Р	V
													V
													V
		11650	47.89	-26.11	74	54.03	39.62	10.54	56.3	100	0	Р	Н
		17475	49.75	-18.45	68.2	51.91	41.68	13.21	57.05	100	0	Р	Н
802.11ac													Н
VHT20													Н
CH 165		11650	46.8	-27.2	74	52.94	39.62	10.54	56.3	100	0	Р	٧
5825MHz		17475	50.08	-18.12	68.2	52.24	41.68	13.21	57.05	100	0	Р	V
													V
													V

Remark

1. No other spurious found.

2. All results are PASS against Peak and Average limit line.

TEL: 886-3-327-3456 Page Number: B36 of B54

Band 4 5725~5850MHz WIFI 802.11ac VHT40 (Band Edge @ 3m)

Report No.: FR911633F

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1+2		(MHz)	(dBµV/m)	, ,	(dBµV/m)	(dB _µ V)	(dB/m)	(dB)	(dB)	(cm)	(deg)		
		5615.8	51.33	-16.87	68.2	42.48	32.07	6.33	29.55	100	234	Р	Н
		5698.6	58.27	-45.9	104.17	49.29	32.17	6.36	29.55	100	234	Р	Н
		5712.2	69.57	-39.05	108.62	60.57	32.19	6.36	29.55	100	234	Р	Н
		5724.8	71.23	-50.51	121.74	62.2	32.21	6.37	29.55	100	234	Р	Н
	*	5755	109.08	-	-	100	32.26	6.38	29.56	100	234	Р	Н
	*	5755	101.85	-	-	92.77	32.26	6.38	29.56	100	234	Α	Н
		5852.2	51.57	-65.61	117.18	42.31	32.38	6.44	29.56	100	234	Р	Н
		5856.2	52.07	-58.39	110.46	42.78	32.41	6.44	29.56	100	234	Р	Н
		5894.6	52.48	-38.18	90.66	43.1	32.46	6.48	29.56	100	234	Р	Η
		5940.2	50.7	-17.5	68.2	41.22	32.53	6.51	29.56	100	234	Р	Н
802.11ac													Н
VHT40													Н
CH 151		5625.2	49.69	-18.51	68.2	40.84	32.07	6.33	29.55	337	169	Р	V
5755MHz		5697.6	52.21	-51.22	103.43	43.23	32.17	6.36	29.55	337	169	Р	V
		5719.4	65.75	-44.88	110.63	56.72	32.21	6.37	29.55	337	169	Р	V
		5724.6	66	-55.29	121.29	56.97	32.21	6.37	29.55	337	169	Р	V
	*	5755	105.24	-	-	96.16	32.26	6.38	29.56	337	169	Р	V
	*	5755	97.89	-	-	88.81	32.26	6.38	29.56	337	169	Α	V
		5850.2	51.42	-70.32	121.74	42.16	32.38	6.44	29.56	337	169	Р	V
		5861	50.02	-59.1	109.12	40.72	32.41	6.45	29.56	337	169	Р	V
		5886	50.67	-46.36	97.03	41.33	32.43	6.47	29.56	337	169	Р	V
		5948.6	49.45	-18.75	68.2	39.96	32.53	6.52	29.56	337	169	Р	V
													V
													V

TEL: 886-3-327-3456 Page Number: B37 of B54



WIFI Preamp Note Level Over Limit Read Antenna Path **Table** Peak Pol. **Frequency** Ant Ant. Limit Line Level Factor Loss Factor Pos Pos Avg. (dB) (dB \(\psi V/m \) 1+2 (MHz) (dBµV/m) (dBµV) (dB/m) (dB) (dB) (cm) (deg) (P/A) (H/V) 5637.6 48.74 -19.4668.2 39.86 32.09 6.34 29.55 110 234 Н Р 5676.6 49.93 -37.99 87.92 40.99 32.14 6.35 29.55 110 234 Н 5709.8 51.97 -55.98 107.95 42.97 32.19 6.36 29.55 110 234 Ρ Н 5723.4 51.69 -66.86 118.55 42.66 32.21 6.37 29.55 110 234 Н * 5795 108.57 99.42 32.31 6.4 29.56 110 234 Ρ Н 5795 101.44 92.29 32.31 6.4 29.56 110 234 Α Η Р 5851.2 32.38 29.56 234 58.76 -60.7 119.46 49.5 6.44 110 Н 5856.2 57.15 -53.31 110.46 47.86 32.41 6.44 29.56 110 234 Ρ Н 44.94 Ρ 5877.2 54.27 -49.3 103.57 32.43 6.46 29.56 110 234 Н Ρ 5933.6 51.48 -16.72 68.2 42.03 32.5 6.51 29.56 110 234 Н 802.11ac Н **VHT40** Н **CH 159** 5644.8 49.16 -19.04 68.2 40.28 32.09 6.34 29.55 314 167 Ρ V 5795MHz 5693 48.39 -51.65 100.04 39.41 32.17 6.36 29.55 314 167 Ρ ٧ 5708.4 49.04 -58.51 107.55 40.04 32.19 6.36 29.55 314 167 Ρ ٧ ٧ 5724.6 50.78 -70.51 121.29 41.75 32.21 6.37 29.55 314 167 Ρ 5795 104.76 95.61 32.31 6.4 29.56 314 167 ٧ * ٧ 5795 97.66 88.51 32.31 29.56 314 167 6.4 Α 5851.4 52.17 -66.84 119.01 42.91 32.38 6.44 29.56 314 167 Ρ V 5862.2 50.8 -57.98 108.78 41.5 32.41 6.45 29.56 314 167 Ρ ٧ ٧ 5877.8 50.71 -52.41 103.12 41.38 32.43 6.46 29.56 314 167 Ρ Ρ 5941.4 49.6 -18.6 68.2 40.12 32.53 6.51 29.56 314 167 ٧ ٧ ٧

Report No.: FR911633F

Remark

No other spurious found.

All results are PASS against Peak and Average limit line.

TEL: 886-3-327-3456 : B38 of B54 Page Number

Report No.: FR911633F

WIFI 802.11ac VHT40 (Harmonic @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol
Ant. 1+2		(MHz)	(dBµV/m)	Limit (dB)	Line (dBµV/m)	Level	Factor (dB/m)	Loss (dB)	Factor (dB)	Pos (cm)	Pos (deg)	Avg.	
172							-						
		11510	46.62	-27.38	74	52.55	39.9	10.47	56.3	100	0	Р	Н
		17265	48.29	-19.91	68.2	50.98	40.96	12.98	56.63	100	0	Р	Н
802.11ac													Н
VHT40													Н
CH 151		11510	47.01	-26.99	74	52.94	39.9	10.47	56.3	100	0	Р	V
5755MHz		17265	48.67	-19.53	68.2	51.36	40.96	12.98	56.63	100	0	Р	V
													V
													V
		11590	45.25	-28.75	74	51.31	39.73	10.51	56.3	100	0	Р	Н
		17385	50.3	-17.9	68.2	52.68	41.38	13.11	56.87	100	0	Р	Н
802.11ac													Н
VHT40													Н
CH 159		11590	46.28	-27.72	74	52.34	39.73	10.51	56.3	100	0	Р	V
5795MHz		17385	50.78	-17.42	68.2	53.16	41.38	13.11	56.87	100	0	Р	V
													V
													V
Remark	1. No	other spurious	s found.	1	1	1			1	I	I	1	_

Remark

TEL: 886-3-327-3456 Page Number: B39 of B54

^{2.} All results are PASS against Peak and Average limit line.

Band 4 5725~5850MHz WIFI 802.11ac VHT80 (Band Edge @ 3m)

Report No.: FR911633F

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol
Ant. 1+2		(MHz)	(dBµV/m)	Limit (dB)	Line (dBµV/m)	Level (dBµV)	Factor (dB/m)	Loss (dB)	Factor (dB)	Pos (cm)		Avg. (P/A)	(H/\
		5648.2	53.23	-14.97	68.2	44.35	32.09	6.34	29.55	329	232	Р	Н
		5685.4	63.54	-30.89	94.43	54.57	32.17	6.35	29.55	329	232	Р	Н
		5708.8	68.67	-39	107.67	59.67	32.19	6.36	29.55	329	232	Р	Н
		5725	70.42	-51.78	122.2	61.39	32.21	6.37	29.55	329	232	Р	Н
	*	5775	106.35	-	-	97.23	32.29	6.39	29.56	329	232	Р	Н
	*	5775	99.5	-	-	90.38	32.29	6.39	29.56	329	232	Α	Н
		5853.4	71.59	-42.86	114.45	62.33	32.38	6.44	29.56	329	232	Р	Н
		5870.2	70.34	-36.2	106.54	61.03	32.41	6.46	29.56	329	232	Р	Н
		5875.4	61.74	-43.16	104.9	52.41	32.43	6.46	29.56	329	232	Р	Н
		5939.4	51.6	-16.6	68.2	42.12	32.53	6.51	29.56	329	232	Р	Н
802.11ac													Н
VHT80													Н
CH 155		5648.8	49.42	-18.78	68.2	40.54	32.09	6.34	29.55	298	125	Р	V
5775MHz		5698.4	62.52	-41.5	104.02	53.54	32.17	6.36	29.55	298	125	Р	V
		5718.8	65.67	-44.79	110.46	56.64	32.21	6.37	29.55	298	125	Р	V
		5723.2	66.85	-51.25	118.1	57.82	32.21	6.37	29.55	298	125	Р	V
	*	5775	102.98	-	-	93.86	32.29	6.39	29.56	298	125	Р	V
	*	5775	96.07	-	-	86.95	32.29	6.39	29.56	298	125	Α	V
		5855	65.79	-45.01	110.8	56.5	32.41	6.44	29.56	298	125	Р	V
		5860.4	69.07	-40.22	109.29	59.77	32.41	6.45	29.56	298	125	Р	V
		5878.8	58.83	-43.55	102.38	49.5	32.43	6.46	29.56	298	125	Р	V
		5931	50.04	-18.16	68.2	40.6	32.5	6.5	29.56	298	125	Р	V
													V
													V

Remark

. No other spurious found.

2. All results are PASS against Peak and Average limit line.

TEL: 886-3-327-3456 Page Number : B40 of B54

Report No.: FR911633F

WIFI 802.11ac VHT80 (Harmonic @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos		Avg.	
1+2		(MHz)	(dBµV/m)	(dB)	(dBµV/m)	(dB _µ V)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
		11550	46.18	-27.82	74	52.19	39.8	10.49	56.3	100	0	Р	Н
		17325	48.99	-19.21	68.2	51.56	41.14	13.04	56.75	100	0	Р	Н
802.11ac													Н
VHT80													Н
CH 155		11550	46.23	-27.77	74	52.24	39.8	10.49	56.3	100	0	Р	V
5775MHz		17325	48.59	-19.61	68.2	51.16	41.14	13.04	56.75	100	0	Р	V
													V
													V
	1. No	other spurious	s found.										
Remark		·											
	All	results are PA	SS against F	Peak and	Average lim	it line.							

TEL: 886-3-327-3456 Page Number: B41 of B54

Emission below 1GHz

Report No.: FR911633F

5GHz WIFI 802.11ac VHT80 (LF @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1+2		(MHz)	(dBµV/m)	(dB)	(dBµV/m)	(dBµV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
		110.51	28.41	-15.09	43.5	43.16	16.55	0.83	32.2	-	-	Р	Н
		286.08	25.9	-20.1	46	38.01	18.62	1.33	32.15	-	-	Р	Н
		566.41	28.22	-17.78	46	32.73	25.67	1.95	32.22	-	-	Р	Н
		836.07	31.49	-14.51	46	32.2	28.44	2.41	31.72	-	-	Р	Н
		900.09	34.81	-11.19	46	34.91	28.7	2.44	31.41	-	-	Р	Н
		959.26	33.56	-12.44	46	31.1	30.69	2.46	30.91	100	0	Р	Н
													Н
													Н
													Н
													Н
5GHz													Н
802.11ac													Н
VHT80		32.91	32.24	-7.76	40	40.91	23.15	0.45	32.29	100	0	Р	V
LF		96.93	27.93	-15.57	43.5	43.96	15.38	0.74	32.21	-	-	Р	V
		151.25	28.73	-14.77	43.5	43.08	16.77	0.96	32.17	-	-	Р	V
		737.13	30.17	-15.83	46	32.3	27.59	2.17	32.02	-	-	Р	V
		857.41	32.3	-13.7	46	32.49	28.8	2.46	31.61	-	-	Р	V
		954.41	33.44	-12.56	46	31.13	30.59	2.46	30.95	-	-	Р	V
													V
													V
													V
													V
													V
								_					V

TEL: 886-3-327-3456 Page Number : B42 of B54

<TXBF Mode>

Band 4 - 5725~5850MHz

Report No.: FR911633F

WIFI 802.11ac VHT20 (Band Edge @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1+2		(MHz)	(dBµV/m)	(dB)	(dBµV/m)	(dBµV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
		5648.4	50.17	-18.03	68.2	41.29	32.09	6.34	29.55	108	231	Р	Н
		5697.6	56	-47.43	103.43	47.02	32.17	6.36	29.55	108	231	Р	Н
		5719.6	71.82	-38.87	110.69	62.79	32.21	6.37	29.55	108	231	Р	Н
		5724.8	83.14	-38.6	121.74	74.11	32.21	6.37	29.55	108	231	Р	Н
	*	5745	114.67	-	-	105.6	32.24	6.38	29.55	108	231	Р	Н
	*	5745	106.13	-	-	97.06	32.24	6.38	29.55	108	231	Α	Н
802.11ac													Н
VHT20													Н
CH 149		5617.8	49.7	-18.5	68.2	40.85	32.07	6.33	29.55	299	128	Р	V
5745MHz		5698.6	50.88	-53.29	104.17	41.9	32.17	6.36	29.55	299	128	Р	V
		5719.8	65.22	-45.52	110.74	56.19	32.21	6.37	29.55	299	128	Р	V
		5724.4	76.72	-44.11	120.83	67.69	32.21	6.37	29.55	299	128	Р	V
	*	5745	110.63	-	-	101.56	32.24	6.38	29.55	299	128	Р	٧
	*	5745	102.19	-	-	93.12	32.24	6.38	29.55	299	128	Α	V
													٧
													٧

TEL: 886-3-327-3456 Page Number : B43 of B54



WIFI Preamp Note Level Over Limit Read Antenna Path Ant **Table** Peak Pol. **Frequency** Factor Ant. Limit Line Level Loss Factor Pos Pos Avg. (dB) (dB \(\psi V/m \) 1+2 (MHz) (dBµV/m) (dB_µV) (dB/m) (dB) (dB) (cm) (deg) (P/A) (H/V) 5621.8 49.38 -18.82 68.2 40.53 32.07 6.33 29.55 100 232 Н Р 5668.4 49.69 -32.16 81.85 40.75 32.14 6.35 29.55 100 232 Н 5718 50.77 -59.47 110.24 41.74 32.21 6.37 29.55 100 232 Ρ Н 5721.4 52.75 -61.24 113.99 43.72 32.21 6.37 29.55 100 232 Ρ Н * 5785 114.61 105.49 32.29 6.39 29.56 100 232 Ρ Н 5785 32.29 100 105.67 96.55 6.39 29.56 232 Α Η Р 5850.8 54.59 32.38 29.56 100 232 -65.79 120.38 45.33 6.44 Н 5855.4 53.26 -57.43 110.69 43.97 32.41 6.44 29.56 100 232 Ρ Н 51.85 -47.71 Ρ 5882.6 99.56 42.51 32.43 6.47 29.56 100 232 Н Ρ 5945.4 51.3 -16.9 68.2 41.81 32.53 6.52 29.56 100 232 Н 802.11ac Н VHT20 Н CH 157 5639 48.37 -19.83 68.2 39.49 32.09 6.34 29.55 311 126 Ρ V 5785MHz 5688.4 49.19 -47.45 96.64 40.21 32.17 6.36 29.55 311 126 Ρ ٧ 5702.4 49.21 -56.66 105.87 40.21 32.19 6.36 29.55 311 126 Ρ ٧ ٧ 5722.6 49.34 -67.39 116.73 40.31 32.21 6.37 29.55 311 126 Ρ 5785 110.74 101.62 32.29 6.39 29.56 311 126 ٧ * 32.29 6.39 29.56 ٧ 5785 102.28 93.16 311 126 Α V 5851.4 50.59 -68.42 119.01 41.33 32.38 6.44 29.56 311 126 Ρ 5870.8 49.66 -56.71 106.37 40.33 32.43 6.46 29.56 311 126 Ρ ٧ ٧ 5918.8 50.46 -22.31 72.77 41.04 32.48 6.5 29.56 311 126 Ρ Ρ 5944.8 49.41 -18.7968.2 39.92 32.53 6.52 29.56 311 126 ٧ ٧ ٧

Report No.: FR911633F

TEL: 886-3-327-3456 Page Number: B44 of B54



WIFI Level Preamp Note Over Limit Read Antenna **Path** Ant Table Peak Pol. **Frequency** Limit Line Factor Factor Pos Pos Ant. Level Loss Avg. (dB) (dBµV/m) (dBµV/m) (dB/m) (deg) (P/A) (H/V) 1+2 (MHz) (dBµV) (dB) (dB) (cm) * 114.78 105.56 32.36 100 5825 6.42 29.56 231 Η * 5825 106.04 96.82 32.36 6.42 29.56 100 231 Н --Α 5850.6 80.09 -40.74 120.83 70.83 32.38 6.44 29.56 100 231 Ρ Н 5855.4 76.45 -34.24 67.16 32.41 29.56 100 231 Н 110.69 6.44 5878.6 61.26 -41.27 102.53 51.93 32.43 6.46 29.56 100 231 Ρ Н 6.5 Р 5930.6 51.94 -16.26 68.2 42.5 32.5 29.56 100 231 Н Н 802.11ac VHT20 Н **CH 165** 5825 111.2 101.98 32.36 6.42 29.56 296 122 ٧ 5825MHz ٧ 5825 102.29 93.07 32.36 29.56 296 122 Α _ _ 6.42 72.47 29.56 296 122 Р ٧ 5850.2 -49.27 121.74 32.38 6.44 63.21 Р ٧ 5857.2 68 -42.18 110.18 58.7 32.41 6.45 29.56 296 122 5879.6 52.67 -49.11 101.78 43.34 32.43 6.46 29.56 296 122 Ρ V Р ٧ 5942.4 49.32 -18.88 68.2 39.84 32.53 6.51 29.56 296 122 ٧ ٧ No other spurious found. Remark All results are PASS against Peak and Average limit line.

Report No.: FR911633F

TEL: 886-3-327-3456 Page Number: B45 of B54

Report No.: FR911633F

WIFI 802.11ac VHT20 (Harmonic @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1+2		(MHz)	(dBµV/m)	(dB)	(dBµV/m)	(dB _µ V)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V
		11490	46.49	-27.51	74	52.41	39.92	10.46	56.3	100	0	Р	Н
		17235	48.75	-19.45	68.2	51.53	40.84	12.95	56.57	100	0	Р	Н
802.11ac													Н
VHT20													Н
CH 149		11490	47.67	-26.33	74	53.59	39.92	10.46	56.3	100	0	Р	V
5745MHz		17235	49.01	-19.19	68.2	51.79	40.84	12.95	56.57	100	0	Р	V
													V
													V
		11570	46.04	-27.96	74	52.08	39.76	10.5	56.3	100	0	Р	Н
		17355	48.74	-19.46	68.2	51.21	41.26	13.08	56.81	100	0	Р	Н
802.11ac													Н
VHT20													Н
CH 157		11570	46.04	-27.96	74	52.08	39.76	10.5	56.3	100	0	Р	V
5785MHz		17355	49.63	-18.57	68.2	52.1	41.26	13.08	56.81	100	0	Р	V
													V
													V
		11650	46.96	-27.04	74	53.1	39.62	10.54	56.3	100	0	Р	Н
		17475	49.66	-18.54	68.2	51.82	41.68	13.21	57.05	100	0	Р	Н
802.11ac													Н
VHT20													Н
CH 165		11650	46.7	-27.3	74	52.84	39.62	10.54	56.3	100	0	Р	V
5825MHz		17475	50.39	-17.81	68.2	52.55	41.68	13.21	57.05	100	0	Р	V
													V
													V

Remark

1. No other spurious found.

2. All results are PASS against Peak and Average limit line.

TEL: 886-3-327-3456 Page Number: B46 of B54

Band 4 5725~5850MHz WIFI 802.11ac VHT40 (Band Edge @ 3m)

Report No.: FR911633F

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1+2		(MHz)	(dBµV/m)	(dB)	(dBµV/m)	(dBµV)	(dB/m)	(dB)	(dB)	(cm)		(P/A)	
		5649.8	65.38	-2.82	68.2	56.47	32.12	6.34	29.55	100	265	Р	Н
		5697.6	81.88	-21.55	103.43	72.9	32.17	6.36	29.55	100	265	Р	Н
		5718.6	93.02	-17.39	110.41	83.99	32.21	6.37	29.55	100	265	Р	Н
		5724.6	95.19	-26.1	121.29	86.16	32.21	6.37	29.55	100	265	Р	Н
	*	5755	113.29	-	-	104.21	32.26	6.38	29.56	100	265	Р	Н
	*	5755	104.2	-	-	95.12	32.26	6.38	29.56	100	265	Α	Н
		5852	69.16	-48.48	117.64	59.9	32.38	6.44	29.56	100	265	Р	Н
		5855.4	66.27	-44.42	110.69	56.98	32.41	6.44	29.56	100	265	Р	Н
		5880.8	62.31	-38.58	100.89	52.98	32.43	6.46	29.56	100	265	Р	Н
		5928	51.26	-16.94	68.2	41.82	32.5	6.5	29.56	100	265	Р	Н
802.11ac													Н
VHT40													Н
CH 151		5648.8	60.79	-7.41	68.2	51.91	32.09	6.34	29.55	302	106	Р	٧
5755MHz		5696.8	81.3	-21.54	102.84	72.32	32.17	6.36	29.55	302	106	Р	٧
		5717.2	89.4	-20.62	110.02	80.39	32.19	6.37	29.55	302	106	Р	٧
		5721.8	90.96	-23.94	114.9	81.93	32.21	6.37	29.55	302	106	Р	٧
	*	5755	110.43	-	-	101.35	32.26	6.38	29.56	302	106	Р	٧
	*	5755	101.17	-	-	92.09	32.26	6.38	29.56	302	106	Α	٧
		5850.4	66.68	-54.61	121.29	57.42	32.38	6.44	29.56	302	106	Р	٧
		5856	65.23	-45.29	110.52	55.94	32.41	6.44	29.56	302	106	Р	٧
		5878.8	60.72	-41.66	102.38	51.39	32.43	6.46	29.56	302	106	Р	٧
		5934.8	50.98	-17.22	68.2	41.53	32.5	6.51	29.56	302	106	Р	٧
													V
													V

TEL: 886-3-327-3456 Page Number : B47 of B54



WIFI Preamp Note Level Over Limit Read Antenna Path **Table** Peak Pol. **Frequency** Ant Ant. Limit Line Level Factor Loss Factor Pos Pos Avg. (dB) (dB \(\psi V/m \) 1+2 (MHz) (dBµV/m) (dBµV) (dB/m) (dB) (dB) (cm) (deg) (P/A) (H/V) 5644.2 51.75 -16.4568.2 42.87 32.09 6.34 29.55 100 265 Н Р 5695 68.94 -32.57 101.51 59.96 32.17 6.36 29.55 100 265 Н 5716 74.06 -35.62 109.68 65.05 32.19 6.37 29.55 100 265 Ρ Н 5722.8 74 -43.18 117.18 64.97 32.21 6.37 29.55 100 265 Ρ Н * 5795 112.81 103.66 32.31 6.4 29.56 100 265 Ρ Н 5795 100 103.63 94.48 32.31 6.4 29.56 265 Α Η Р 5851 80.91 71.65 32.38 29.56 100 265 -39.01 119.92 6.44 Н 5855.2 80.04 -30.7 110.74 70.75 32.41 6.44 29.56 100 265 Ρ Н Ρ 5881.8 71.45 -28.7 100.15 62.11 32.43 6.47 29.56 100 265 Н Ρ 5927.6 58.18 -10.02 68.2 48.74 32.5 6.5 29.56 100 265 Н 802.11ac Н **VHT40** Н **CH 159** 5638.4 49.38 -18.82 68.2 40.5 32.09 6.34 29.55 264 108 Ρ V 5795MHz 5696.8 63.35 -39.49 102.84 54.37 32.17 6.36 29.55 264 108 Ρ ٧ 5720 72.41 -38.39 110.8 63.38 32.21 6.37 29.55 264 108 Ρ ٧ ٧ 5723.6 73.86 -45.15 119.01 64.83 32.21 6.37 29.55 264 108 Ρ 5795 111.39 102.24 32.31 6.4 29.56 264 108 ٧ * ٧ 5795 101.7 92.55 32.31 29.56 264 108 6.4 Α V 5853 81.13 -34.23 115.36 71.87 32.38 6.44 29.56 264 108 Ρ 5856.4 78.49 -31.92 69.19 32.41 6.45 29.56 264 108 Ρ ٧ 110.41 ٧ 5882.8 72.1 -27.31 99.41 62.76 32.43 6.47 29.56 264 108 Ρ Ρ 5931.8 57.99 -10.21 68.2 48.54 32.5 6.51 29.56 264 108 ٧ ٧ ٧ No other spurious found. Remark

Report No.: FR911633F

All results are PASS against Peak and Average limit line.

TEL: 886-3-327-3456 : B48 of B54 Page Number

Report No.: FR911633F

WIFI 802.11ac VHT40 (Harmonic @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol
Ant. 1+2		(MHz)	(dBµV/m)	Limit (dB)	Line (dBµV/m)	Level (dBµV)	Factor (dB/m)	Loss (dB)	Factor (dB)	Pos (cm)	Pos (deg)	Avg. (P/A)	
		11510	45.87	-28.13	74	51.8	39.9	10.47	56.3	100	0	Р	Н
		17265	48.43	-19.77	68.2	51.12	40.96	12.98	56.63	100	0	Р	Н
802.11ac													Н
VHT40													Н
CH 151		11510	46.58	-27.42	74	52.51	39.9	10.47	56.3	100	0	Р	V
5755MHz		17265	49.61	-18.59	68.2	52.3	40.96	12.98	56.63	100	0	Р	V
													V
													V
		11590	46.67	-27.33	74	52.73	39.73	10.51	56.3	100	0	Р	Н
		17385	50.06	-18.14	68.2	52.44	41.38	13.11	56.87	100	0	Р	Н
802.11ac													Н
VHT40													Н
CH 159		11590	45.77	-28.23	74	51.83	39.73	10.51	56.3	100	0	Р	V
5795MHz		17385	49.35	-18.85	68.2	51.73	41.38	13.11	56.87	100	0	Р	V
													V
													V

Remark

TEL: 886-3-327-3456 Page Number : B49 of B54

^{2.} All results are PASS against Peak and Average limit line.

Band 4 5725~5850MHz WIFI 802.11ac VHT80 (Band Edge @ 3m)

Report No.: FR911633F

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.	ļ ļ			Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1+2		(MHz)	(dBµV/m)	(dB)	(dBµV/m)	(dBµV)	(dB/m)	(dB)	(dB)	(cm)		(P/A)	
		5647.4	66.78	-1.42	68.2	57.9	32.09	6.34	29.55	100	264	Р	Н
		5698	82.85	-20.88	103.73	73.87	32.17	6.36	29.55	100	264	Р	Н
		5717.8	87.53	-22.65	110.18	78.5	32.21	6.37	29.55	100	264	Р	Н
		5724.8	88.17	-33.57	121.74	79.14	32.21	6.37	29.55	100	264	Р	Н
	*	5775	109.99	-	-	100.87	32.29	6.39	29.56	100	264	Р	Н
	*	5775	100.19	-	-	91.07	32.29	6.39	29.56	100	264	Α	Н
		5852.6	83.93	-32.34	116.27	74.67	32.38	6.44	29.56	100	264	Р	Н
		5855.6	84.78	-25.85	110.63	75.49	32.41	6.44	29.56	100	264	Р	Н
		5878.2	77.53	-25.29	102.82	68.2	32.43	6.46	29.56	100	264	Р	Н
		5927	64.82	-3.38	68.2	55.38	32.5	6.5	29.56	100	264	Р	Н
802.11ac													Н
VHT80													Н
CH 155		5649.2	66.13	-2.07	68.2	57.25	32.09	6.34	29.55	244	106	Р	V
5775MHz		5699.8	82.22	-22.83	105.05	73.24	32.17	6.36	29.55	244	106	Р	V
		5715.6	86.69	-22.88	109.57	77.68	32.19	6.37	29.55	244	106	Р	V
		5724.4	87.31	-33.52	120.83	78.28	32.21	6.37	29.55	244	106	Р	V
	*	5775	108.64	-	-	99.52	32.29	6.39	29.56	244	106	Р	V
	*	5775	99.77	-	-	90.65	32.29	6.39	29.56	244	106	Α	V
		5851.4	84.72	-34.29	119.01	75.46	32.38	6.44	29.56	244	106	Р	V
		5860.2	84.05	-25.29	109.34	74.75	32.41	6.45	29.56	244	106	Р	V
		5875.8	78.56	-26.05	104.61	69.23	32.43	6.46	29.56	244	106	Р	V
		5925.8	65.36	-2.84	68.2	55.92	32.5	6.5	29.56	244	106	Р	V
													V
													V

Remark

. No other spurious found.

2. All results are PASS against Peak and Average limit line.

TEL: 886-3-327-3456 Page Number : B50 of B54

Report No.: FR911633F

WIFI 802.11ac VHT80 (Harmonic @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1+2		(MHz)	(dBµV/m)	(dB)	(dBµV/m)	(dBµV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
		11550	46.49	-27.51	74	52.5	39.8	10.49	56.3	100	0	Р	Н
		17325	48.37	-19.83	68.2	50.94	41.14	13.04	56.75	100	0	Р	Н
802.11ac													Н
VHT80													Н
CH 155		11550	46.13	-27.87	74	52.14	39.8	10.49	56.3	100	0	Р	V
5775MHz		17325	48.87	-19.33	68.2	51.44	41.14	13.04	56.75	100	0	Р	V
													V
													٧
Remark	1. No	o other spurious	s found.										

TEL: 886-3-327-3456 Page Number : B51 of B54

^{2.} All results are PASS against Peak and Average limit line.

Emission below 1GHz

Report No.: FR911633F

5GHz WIFI 802.11ac VHT80 (LF @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1+2		(MHz)	(dBµV/m)	(dB)	(dBµV/m)	(dBµV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
		106.63	29.02	-14.48	43.5	44.1	16.26	0.81	32.21	-	-	Р	Н
		285.11	25.88	-20.12	46	38.01	18.6	1.33	32.15	-	-	Р	Н
		572.23	27.29	-18.71	46	31.95	25.51	1.96	32.22	-	-	Р	Н
		687.66	28.89	-17.11	46	32.76	26	2.12	32.11	-	-	Р	Н
		858.38	31.98	-14.02	46	32.17	28.8	2.46	31.61	-	-	Р	Н
		953.44	33.88	-12.12	46	31.61	30.57	2.45	30.96	100	0	Р	Н
													Н
													Н
													Н
													Н
5GHz													Н
802.11ac													Н
VHT80		32.91	33.2	-6.8	40	41.87	23.15	0.45	32.29	100	0	Р	V
LF		97.9	27.67	-15.83	43.5	43.67	15.4	0.75	32.21	-	-	Р	V
		119.24	24.35	-19.15	43.5	38.5	17.1	0.88	32.2	-	-	Р	V
		292.87	23.31	-22.69	46	35.26	18.76	1.35	32.15	-	-	Р	V
		636.25	28.97	-17.03	46	32.9	26.08	2.07	32.19	-	-	Р	V
		954.41	34.03	-11.97	46	31.72	30.59	2.46	30.95	-	-	Р	V
													V
													V
													V
													V
													V
			1										V

TEL: 886-3-327-3456 Page Number: B52 of B54

Note symbol

Report No. : FR911633F

*	Fundamental Frequency which can be ignored. However, the level of any unwanted emissions
	shall not exceed the level of the fundamental frequency.
!	Test result is over limit line.
P/A	Peak or Average
H/V	Horizontal or Vertical

TEL: 886-3-327-3456 Page Number : B53 of B54

A calculation example for radiated spurious emission is shown as below:

Report No.: FR911633F

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1		(MHz)	(dBµV/m)	(dB)	(dBµV/m)	(dBµV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11b		2390	55.45	-18.55	74	54.51	32.22	4.58	35.86	103	308	Р	Н
CH 01													
2412MHz		2390	43.54	-10.46	54	42.6	32.22	4.58	35.86	103	308	Α	Н

- 1. Path Loss(dB) = Cable loss(dB) + Filter loss(dB) + Attenuator loss(dB)
- 2. Level(dBµV/m) = Antenna Factor(dB/m) + Path Loss(dB) + Read Level(dBµV) Preamp Factor(dB)
- 3. Over Limit(dB) = Level(dB μ V/m) Limit Line(dB μ V/m)

For Peak Limit @ 2390MHz:

- 1. Level(dBµV/m)
- = Antenna Factor(dB/m) + Path Loss(dB) + Read Level(dBµV) Preamp Factor(dB)
- $= 32.22(dB/m) + 4.58(dB) + 54.51(dB\mu V) 35.86 (dB)$
- $= 55.45 (dB\mu V/m)$
- 2. Over Limit(dB)
- = Level(dBµV/m) Limit Line(dBµV/m)
- $= 55.45(dB\mu V/m) 74(dB\mu V/m)$
- = -18.55(dB)

For Average Limit @ 2390MHz:

- 1. Level(dBµV/m)
- = Antenna Factor(dB/m) + Path Loss(dB) + Read Level(dBµV) Preamp Factor(dB)
- $= 32.22(dB/m) + 4.58(dB) + 42.6(dB\mu V) 35.86 (dB)$
- $= 43.54 (dB\mu V/m)$
- 2. Over Limit(dB) = Level(dB μ V/m) Limit Line(dB μ V/m)
- $= 43.54(dB\mu V/m) 54(dB\mu V/m)$
- = -10.46(dB)

Both peak and average measured complies with the limit line, so test result is "PASS".

TEL: 886-3-327-3456 Page Number : B54 of B54

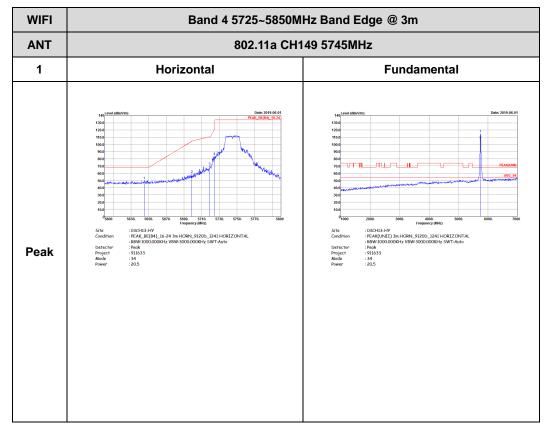
Appendix C. Radiated Spurious Emission Plots

Toot Engineer	Andy Yang, JC Liang and Wilson Wu	Temperature :	24.5~24.6°C
Test Engineer :	Andy rang, 3C clang and wilson we	Relative Humidity :	50%

Report No.: FR911633F

<CDD Mode>

Band 4 - 5725~5850MHz WIFI 802.11a (Band Edge @ 3m)



TEL: 886-3-327-3456 Page Number : C1 of C103

WIFI

Band 4 5725~5850MHz Band Edge @ 3m

802.11a CH149 5745MHz

1

Vertical

Fundamental

Fundamental

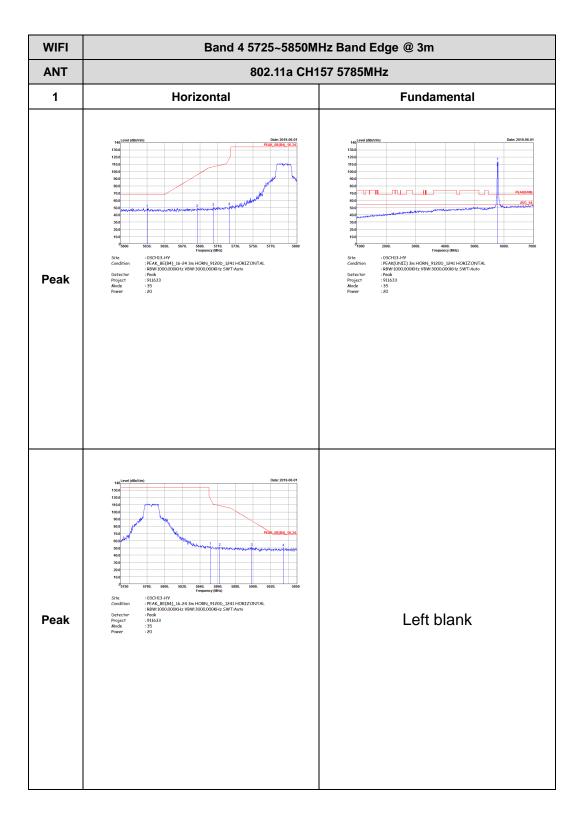
Fundamental

Formal Management of the state of the state

Report No.: FR911633F

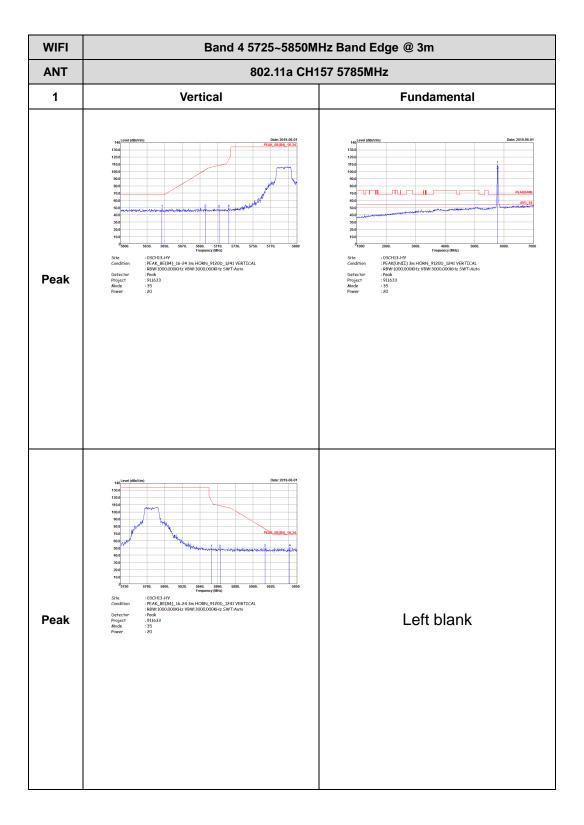
TEL: 886-3-327-3456 Page Number : C2 of C103

Report No.: FR911633F



: C3 of C103 TEL: 886-3-327-3456 Page Number

Report No.: FR911633F



: C4 of C103 TEL: 886-3-327-3456 Page Number

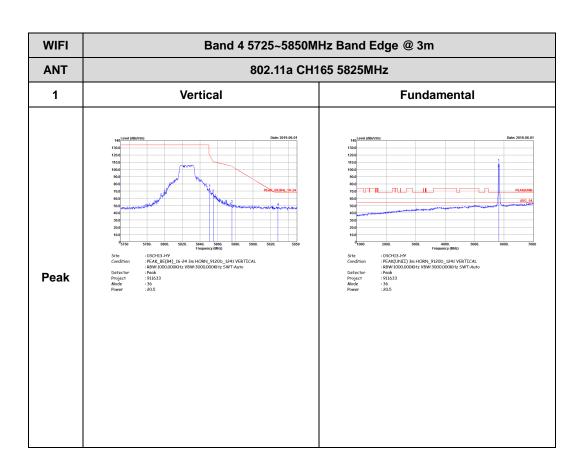
WIFI

Band 4 5725~5850MHz Band Edge @ 3m

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Report No.: FR911633F

TEL: 886-3-327-3456 Page Number : C5 of C103

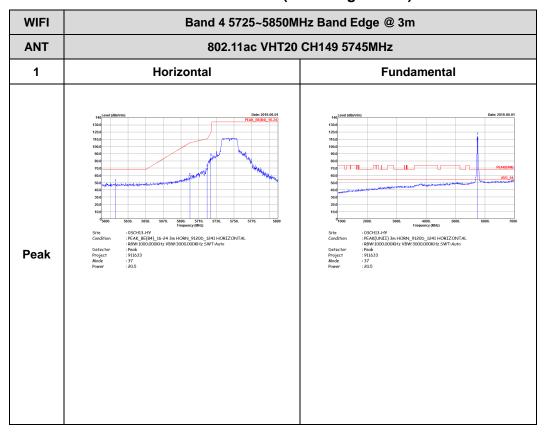


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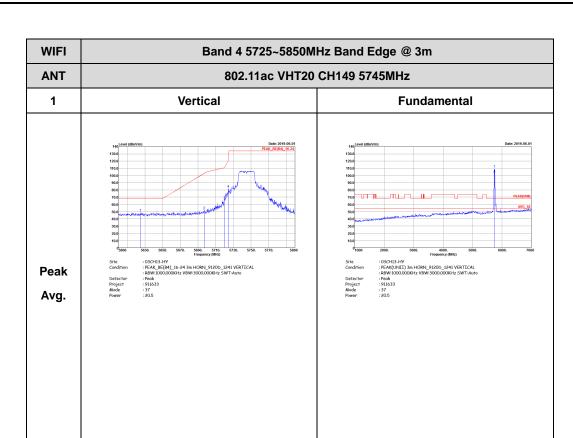
TEL: 886-3-327-3456 Page Number : C6 of C103

Band 4 5725~5850MHz WIFI 802.11ac VHT20 (Band Edge @ 3m)

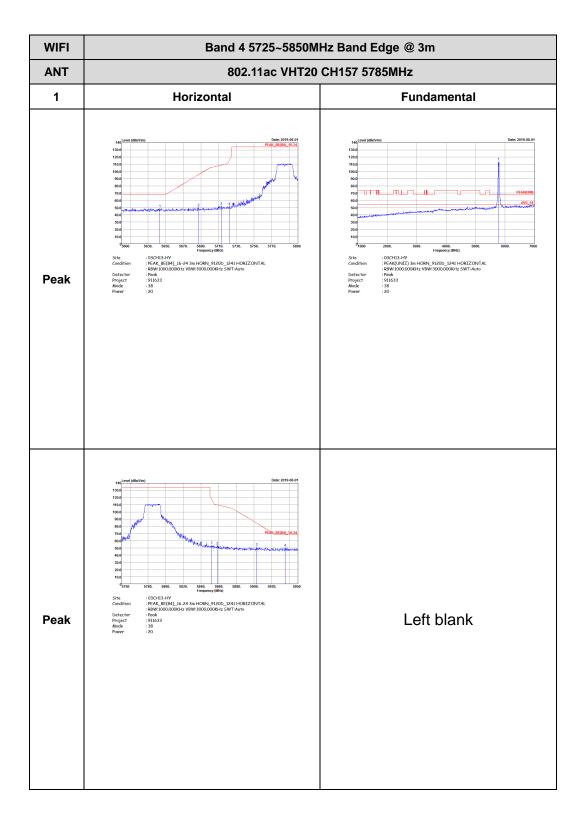
Report No.: FR911633F



TEL: 886-3-327-3456 Page Number : C7 of C103

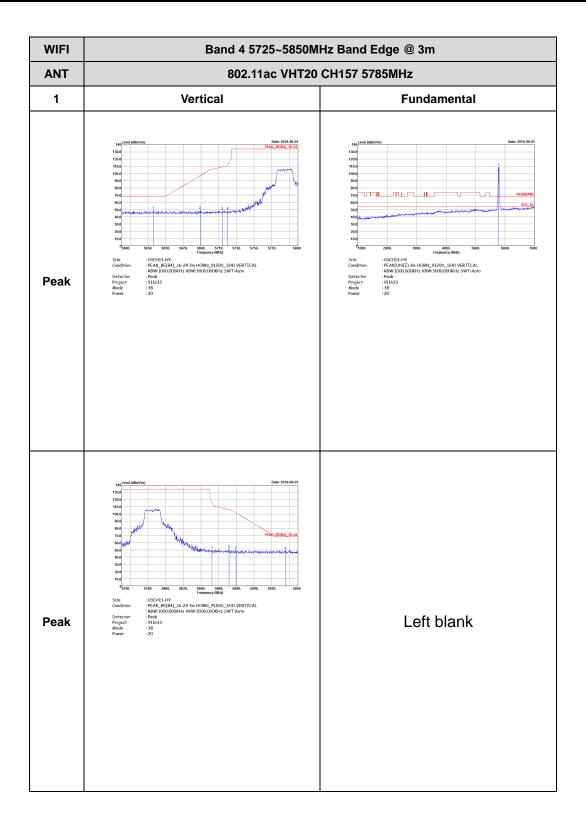


TEL: 886-3-327-3456 Page Number : C8 of C103

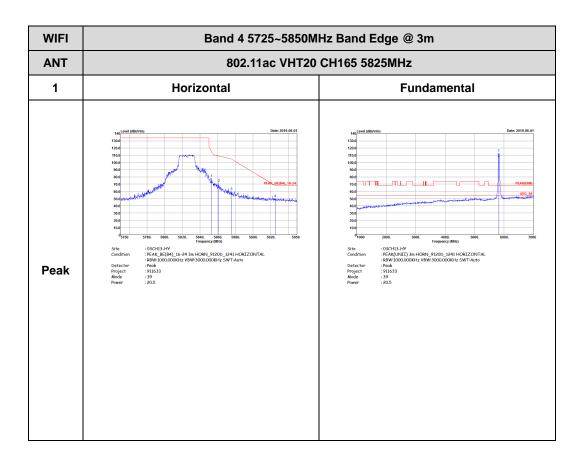


: C9 of C103 TEL: 886-3-327-3456 Page Number

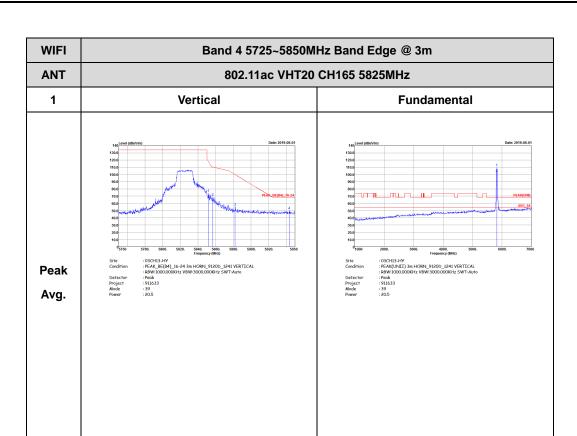
RADIO TEST REPORT Report No. : FR911633F



TEL: 886-3-327-3456 Page Number : C10 of C103



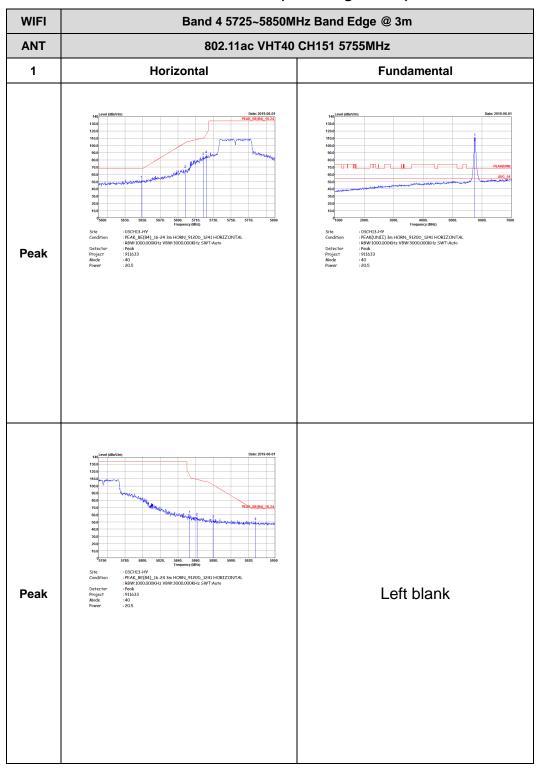
TEL: 886-3-327-3456 Page Number : C11 of C103



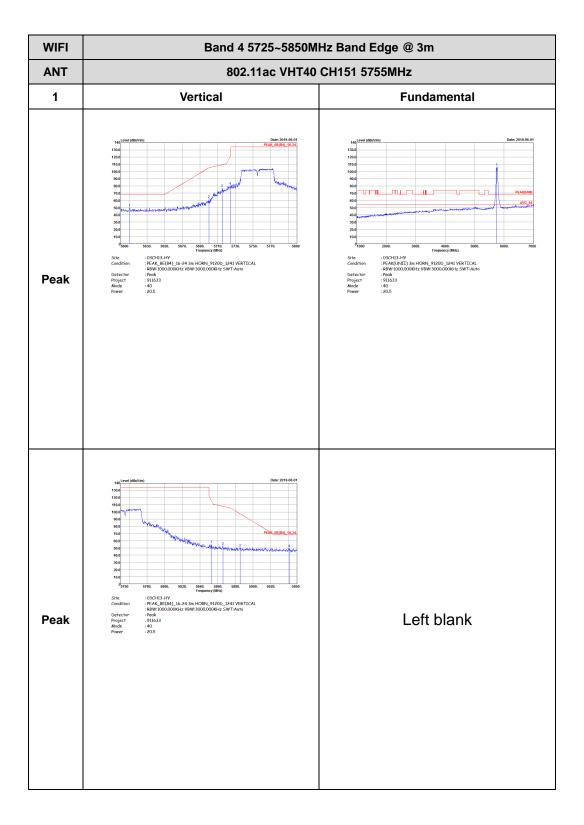
TEL: 886-3-327-3456 Page Number : C12 of C103

Band 4 5725~5850MHz WIFI 802.11ac VHT40 (Band Edge @ 3m)

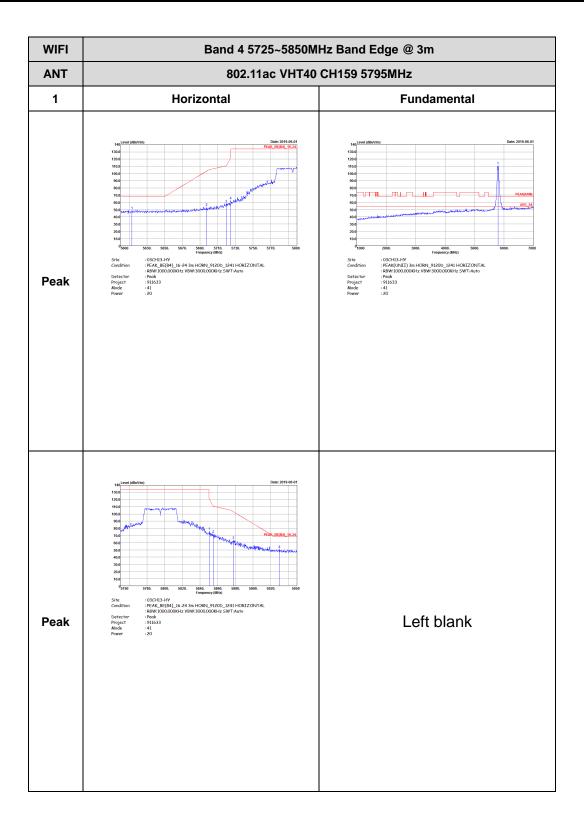
Report No.: FR911633F



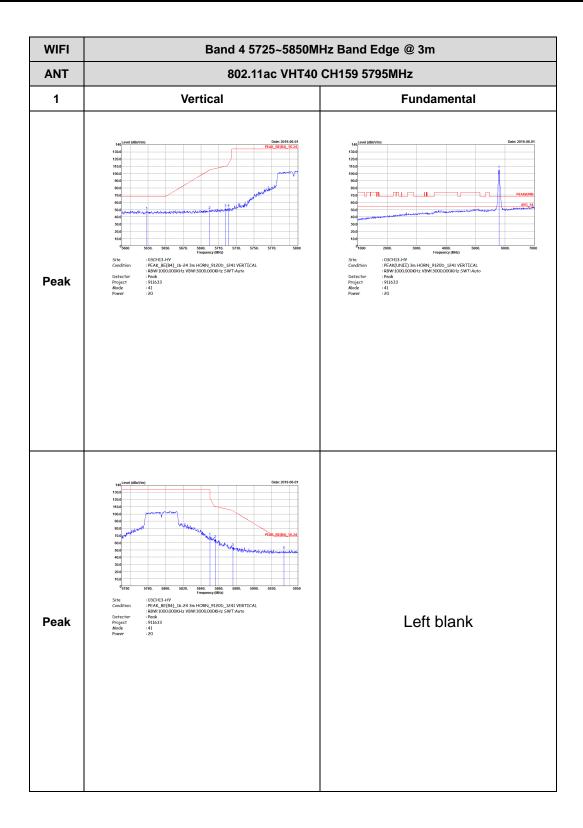
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TEL: 886-3-327-3456 Page Number : C14 of C103



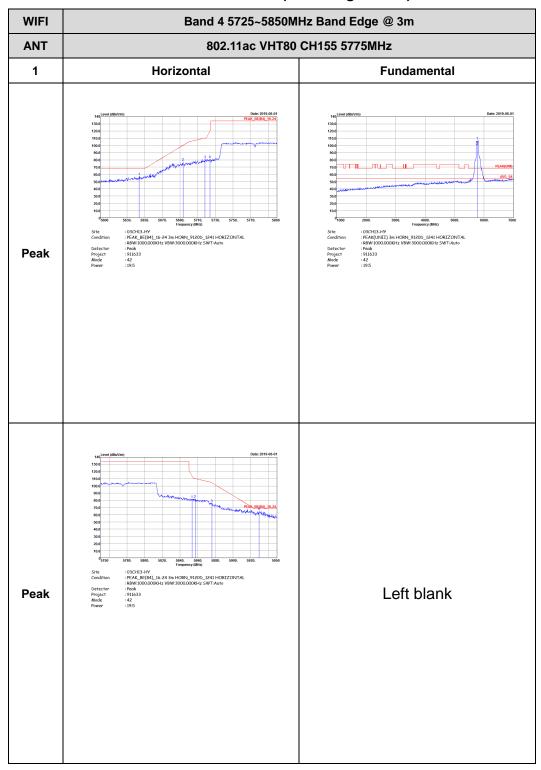
: C15 of C103 TEL: 886-3-327-3456 Page Number



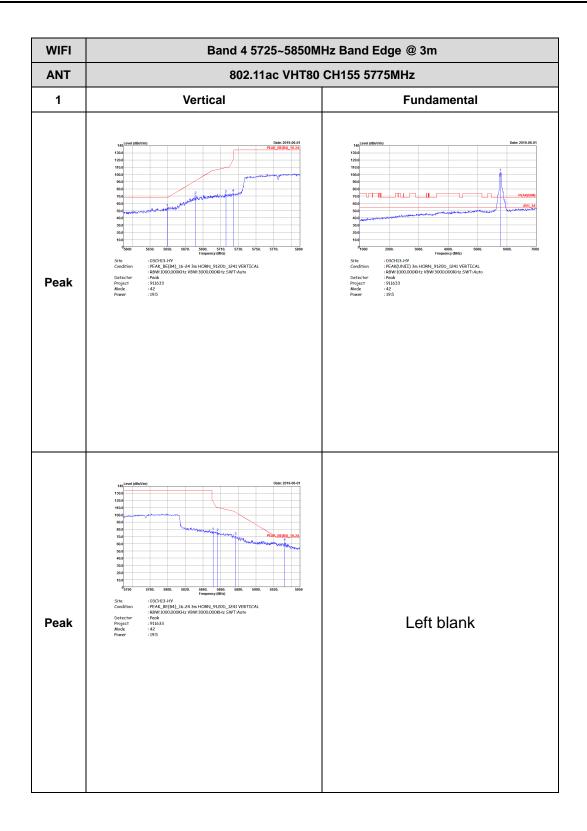
: C16 of C103 TEL: 886-3-327-3456 Page Number

Band 4 5725~5850MHz WIFI 802.11ac VHT80 (Band Edge @ 3m)

Report No.: FR911633F



TEL: 886-3-327-3456 Page Number : C17 of C103

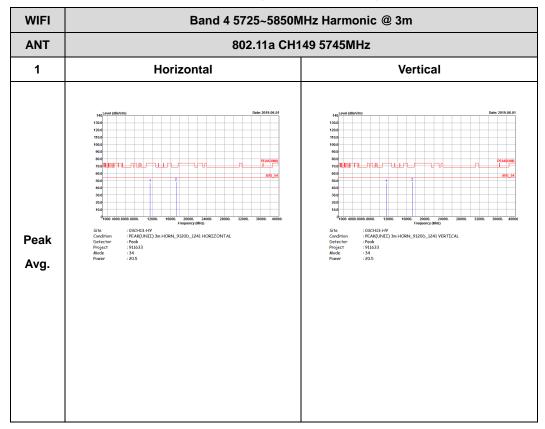


TEL: 886-3-327-3456 Page Number : C18 of C103

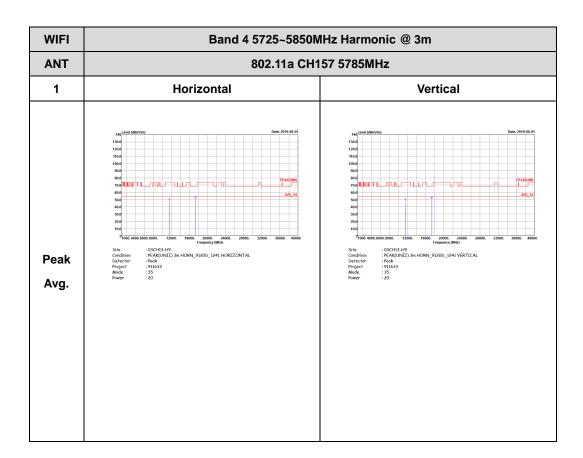
Band 4 - 5725~5850MHz

Report No.: FR911633F

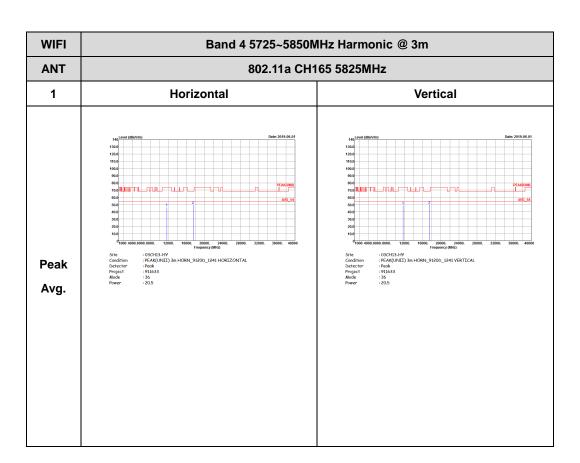
WIFI 802.11a (Harmonic @ 3m)



TEL: 886-3-327-3456 Page Number : C19 of C103



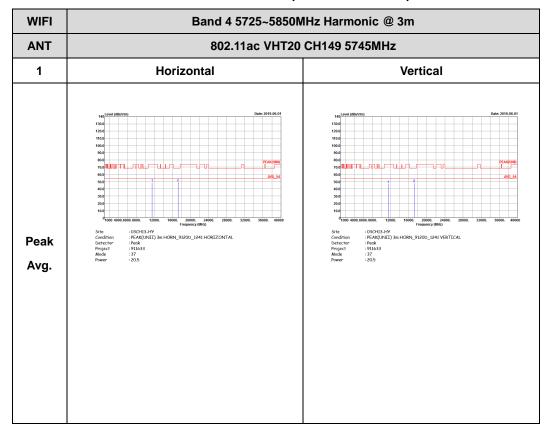
TEL: 886-3-327-3456 Page Number : C20 of C103



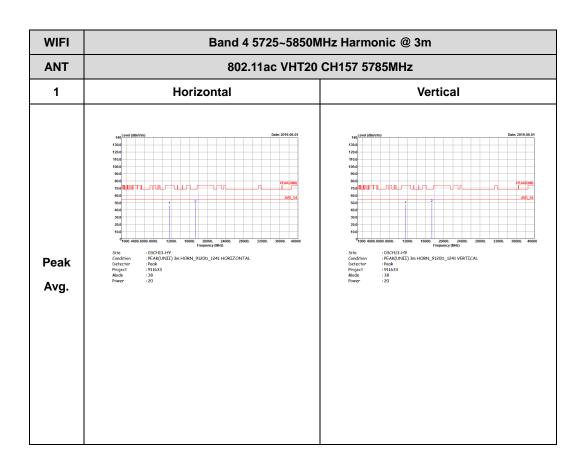
TEL: 886-3-327-3456 Page Number : C21 of C103

Band 4 5725~5850MHz WIFI 802.11ac VHT20 (Harmonic @ 3m)

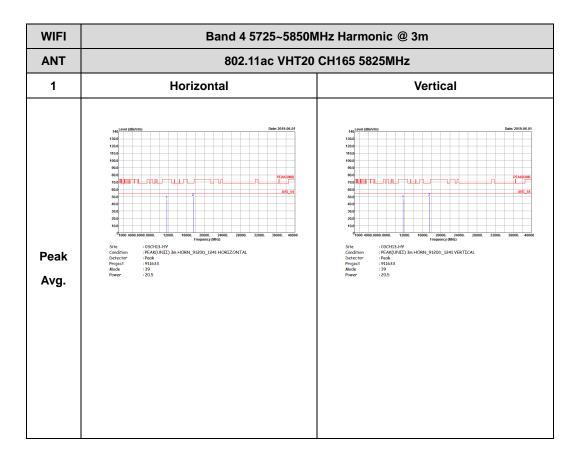
Report No.: FR911633F



TEL: 886-3-327-3456 Page Number : C22 of C103



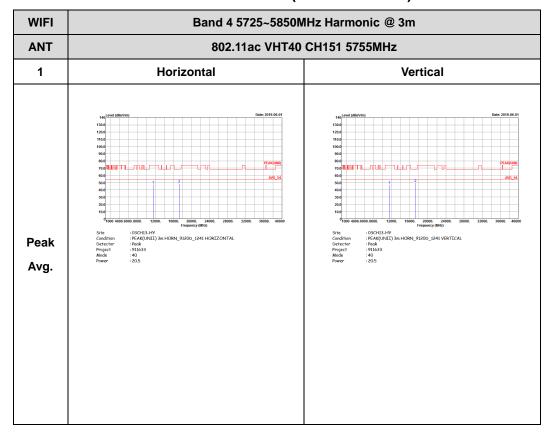
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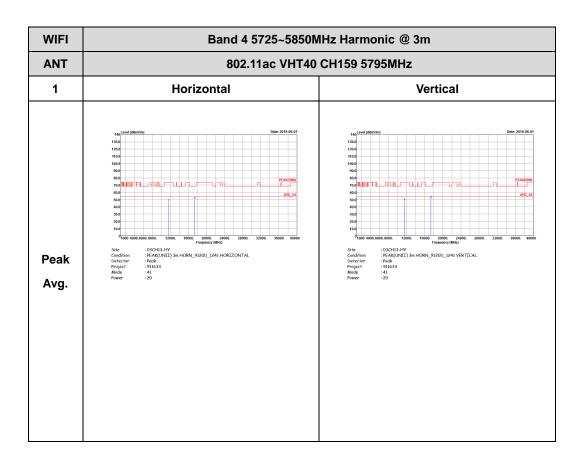
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Band 4 5725~5850MHz WIFI 802.11ac VHT40 (Harmonic @ 3m)

Report No.: FR911633F



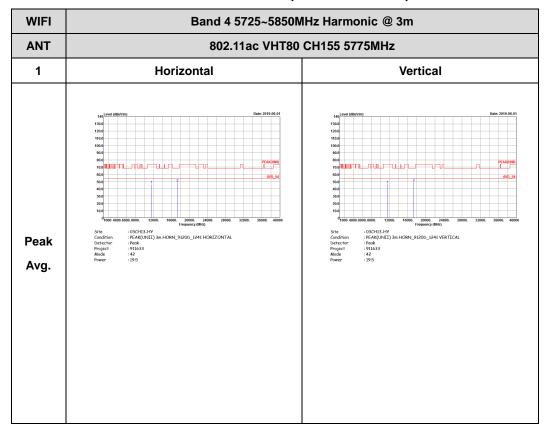
TEL: 886-3-327-3456 Page Number : C25 of C103



TEL: 886-3-327-3456 Page Number : C26 of C103

Band 4 5725~5850MHz WIFI 802.11ac VHT80 (Harmonic @ 3m)

Report No.: FR911633F

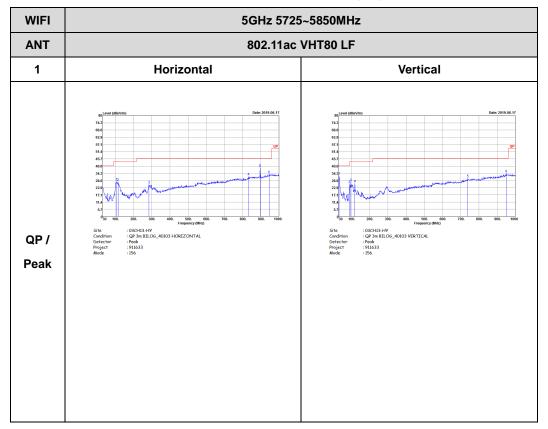


TEL: 886-3-327-3456 Page Number : C27 of C103

Emission below 1GHz

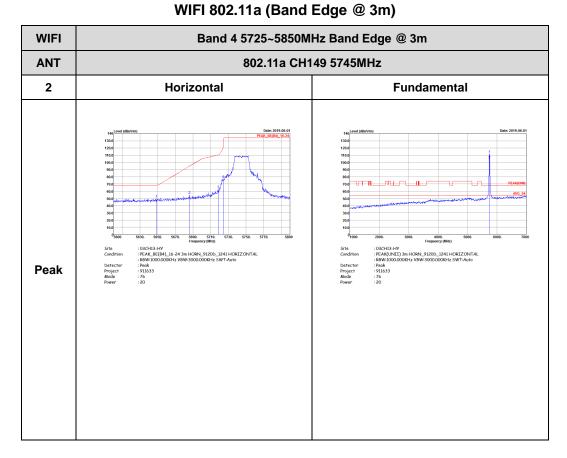
Report No.: FR911633F

5GHz WIFI 802.11ac VHT80 (LF)

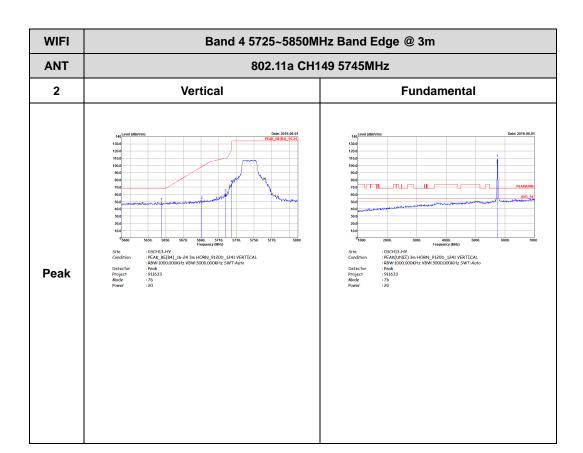


TEL: 886-3-327-3456 Page Number : C28 of C103

Band 4 - 5725~5850MHz

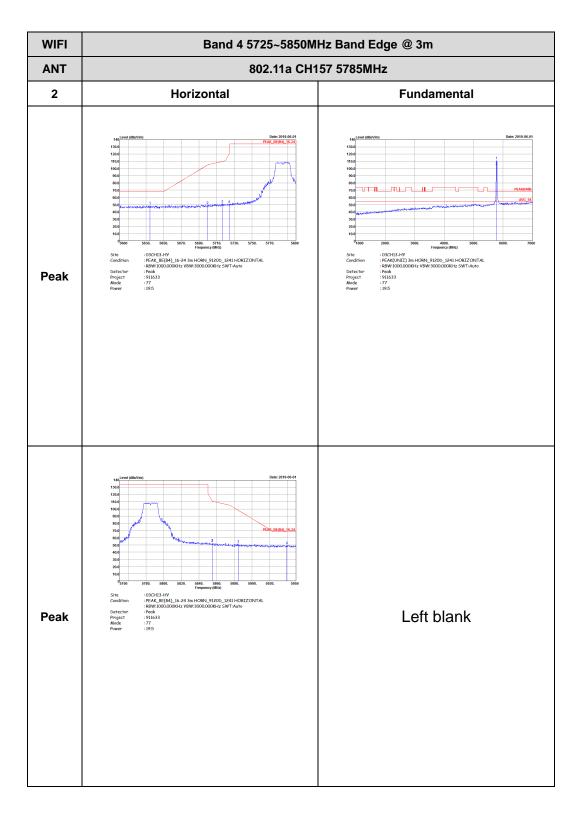


TEL: 886-3-327-3456 Page Number : C29 of C103

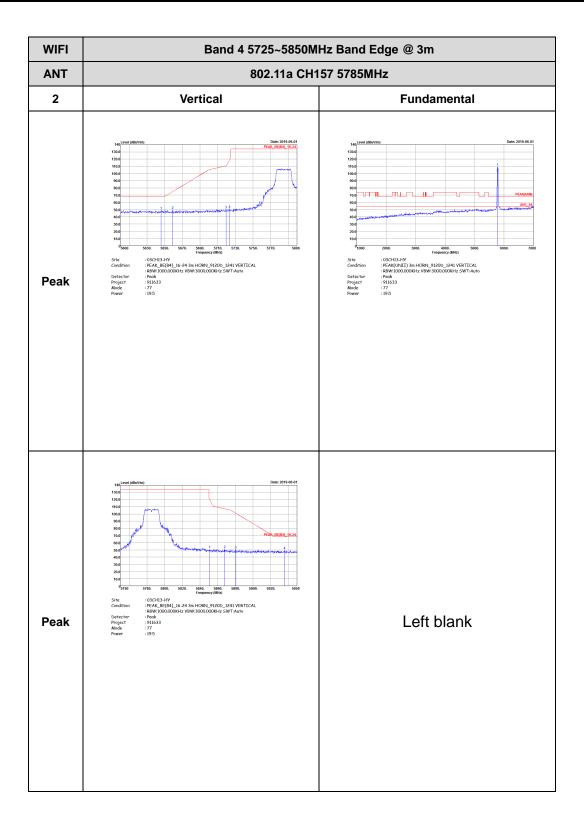


TEL: 886-3-327-3456 Page Number : C30 of C103





TEL: 886-3-327-3456 Page Number : C31 of C103

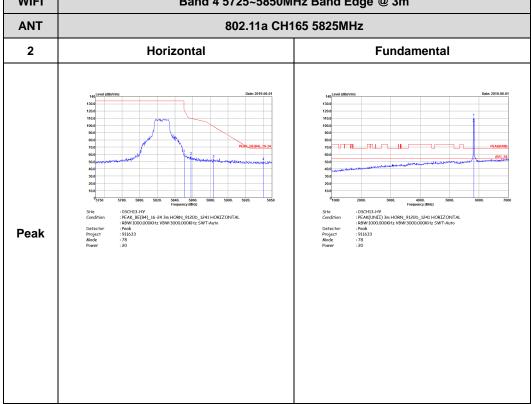


TEL: 886-3-327-3456 Page Number : C32 of C103

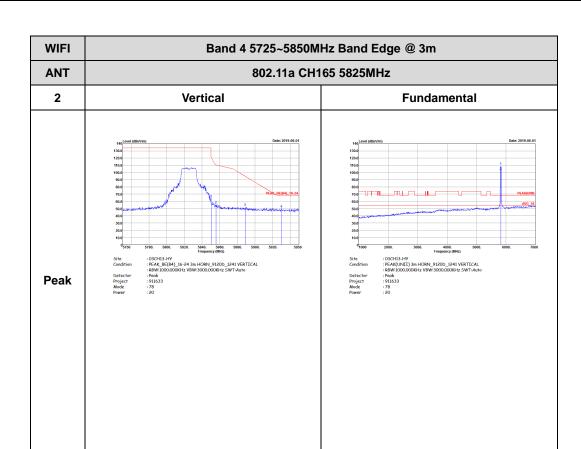
FCC RADIO TEST REPORT

Report No. : FR911633F

WIFI Band 4 5725~5850MHz Band Edge @ 3m



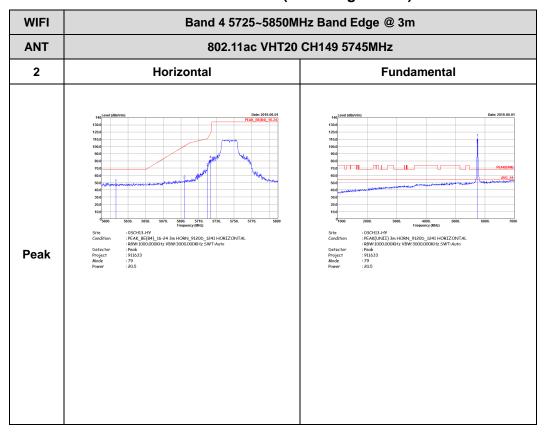
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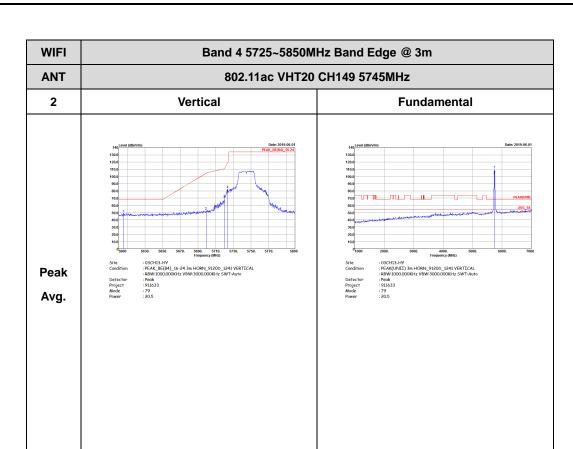
TEL: 886-3-327-3456 Page Number : C34 of C103

Band 4 5725~5850MHz WIFI 802.11ac VHT20 (Band Edge @ 3m)

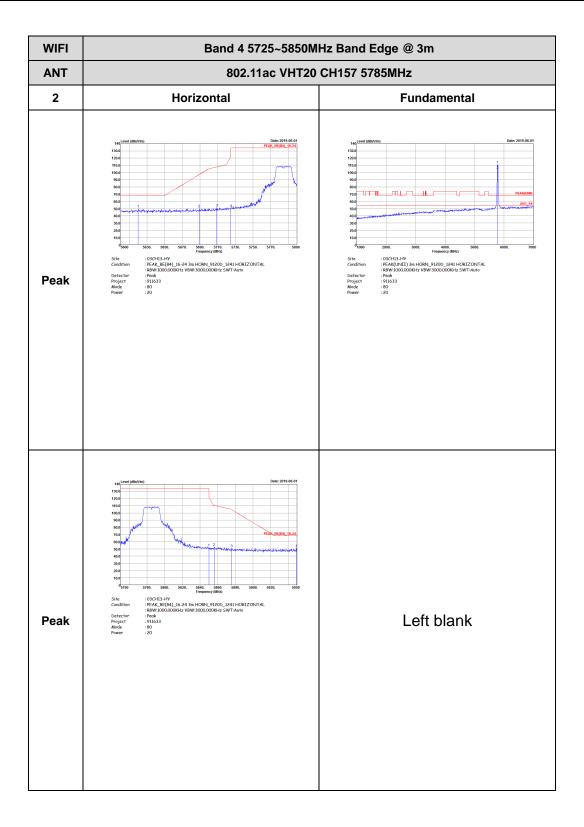
Report No.: FR911633F



TEL: 886-3-327-3456 Page Number : C35 of C103

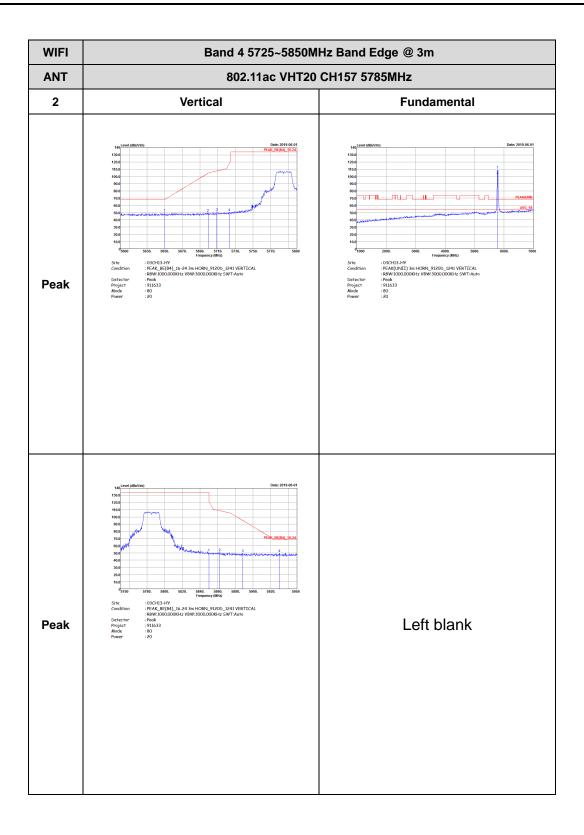


TEL: 886-3-327-3456 Page Number : C36 of C103

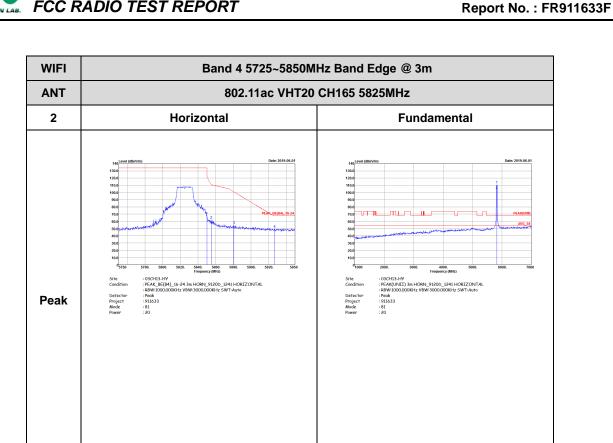


TEL: 886-3-327-3456 Page Number : C37 of C103

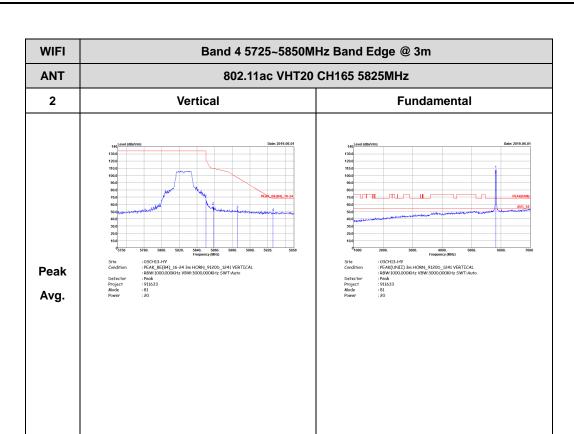




TEL: 886-3-327-3456 Page Number : C38 of C103



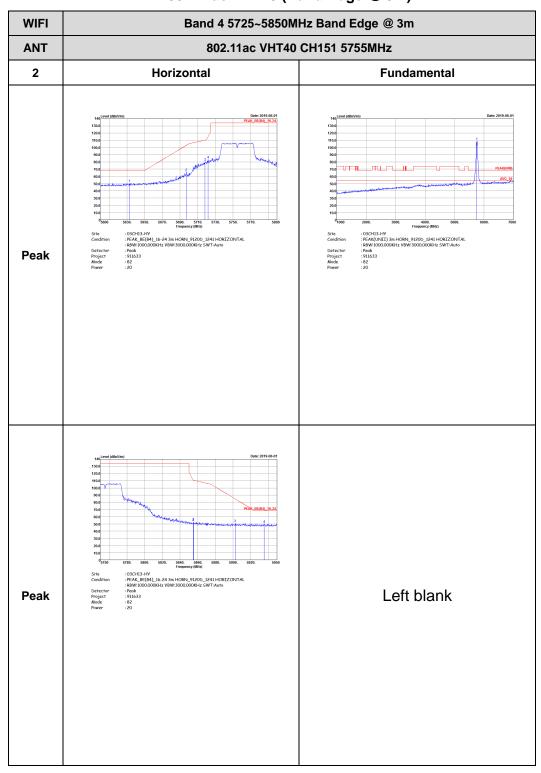
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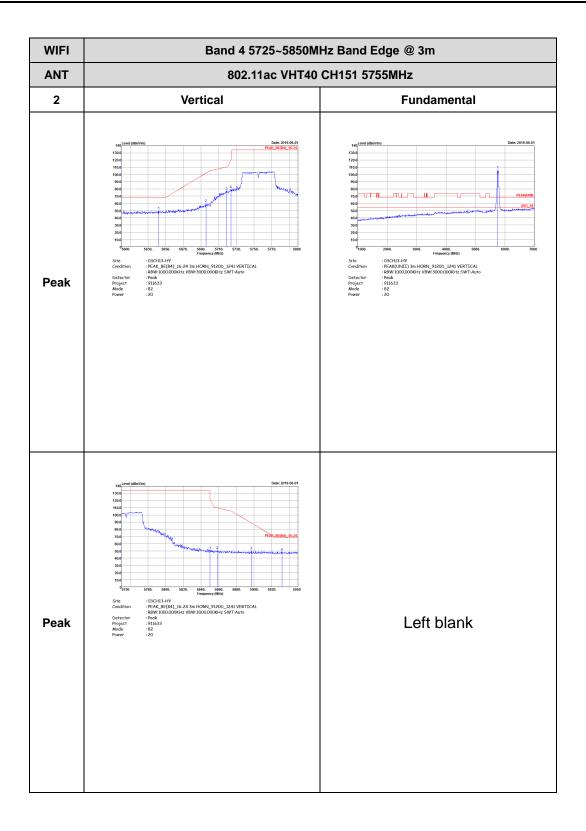
TEL: 886-3-327-3456 Page Number : C40 of C103

Band 4 5725~5850MHz WIFI 802.11ac VHT40 (Band Edge @ 3m)

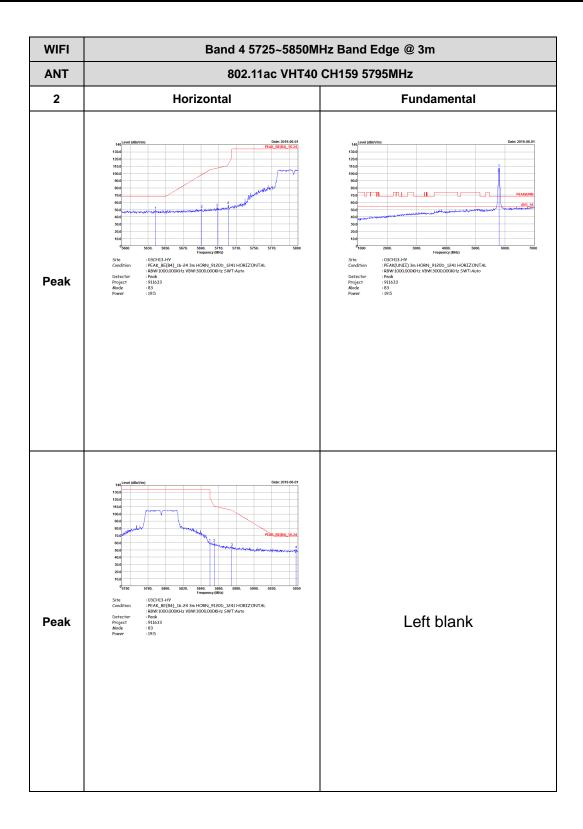
Report No.: FR911633F



TEL: 886-3-327-3456 Page Number : C41 of C103



TEL: 886-3-327-3456 Page Number : C42 of C103



TEL: 886-3-327-3456 Page Number : C43 of C103