Report No. : FZ0D1713





DFS TEST REPORT

FCC ID : UDX-60069010

Equipment : Network Camera

Brand Name : CISCO

Model Name : MV2-HW

Applicant : Cisco Systems, Inc.

170 West Tasman Drive, San Jose, CA 95134, USA

Manufacturer : Cisco Systems, Inc.

170 West Tasman Drive, San Jose, CA 95134, USA

Factory : LITE-ON Technology Corp. Networking Plant

No. 101, Neihuan N. Rd., Nanzi Processing Export,

Nanzi Dist., Kaohsiung City 811, Taiwan

Standard: 47 CFR FCC Part 15.407

The product was received on Jan. 28, 2021, and testing was started from May 04, 2021 and completed on May 04, 2021. We, Sporton International Inc. Hsinchu Laboratory, would like to declare that the tested sample has been evaluated in accordance with the procedures given in FCC KDB 905462 D02 UNII DFS Compliance Procedures New Rules v02 and shown compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of Sporton International Inc. Hsinchu Laboratory, the test report shall not be reproduced except in full.

Approved by: Sam Chen

Sporton International Inc. Hsinchu Laboratory

No.8, Ln. 724, Bo'ai St., Zhubei City, Hsinchu County 302010, Taiwan (R.O.C.)

TEL: 886-3-656-9065 FAX: 886-3-656-9085

Report Template No.: CB-A12_4 Ver1.1

Page Number : 1 of 30

Issued Date : May 14, 2021

Report Version : 01

Table of Contents

Histo	ory of this test report	3
Sumi	nmary of Test Result	4
1	General Description	5
1.1	Information	5
1.2	Accessories	9
1.3	Support Equipment	9
1.4	Applicable Standards	9
1.5	Testing Location Information	9
2	Test Configuration of EUT	10
2.1	Test Channel Frequencies Configuration	10
2.2	The Worst Case Measurement Configuration	10
3	Dynamic Frequency Selection (DFS) Test Result	11
3.1	General DFS Information	11
3.2	Radar Test Waveform Calibration	14
3.3	In-service Monitoring	21
4	Test Equipment and Calibration Data	29
5	Measurement Uncertainty	30

Appendix A. Test Photos

Photographs of EUT v01

TEL: 886-3-656-9065 FAX: 886-3-656-9085

Report Template No.: CB-A12_4 Ver1.1

Page Number : 2 of 30

: May 14, 2021

Report No.: FZ0D1713

Report Version : 01

Issued Date

History of this test report

Report No.: FZ0D1713

Report No.	Version	Description	Issued Date
FZ0D1713	01	Initial issue of report	May 14, 2021

TEL: 886-3-656-9065 Page Number : 3 of 30

FAX: 886-3-656-9085 Issued Date : May 14, 2

Summary of Test Result

Report No.: FZ0D1713

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
-	FCC KDB 905462 7.8.1	DFS: UNII Detection Bandwidth Measurement	N/A	-
-	FCC KDB 905462 7.8.2.1	DFS: Initial Channel Availability Check Time	N/A	-
-	FCC KDB 905462 7.8.2.2	DFS: Radar Burst at the Beginning of the Channel Availability Check Time	N/A	-
-	FCC KDB 905462 7.8.2.3	DFS: Radar Burst at the End of the Channel Availability Check Time	N/A	-
3.3	FCC KDB 905462 7.8.3	DFS: In-Service Monitoring for Channel Move Time (CMT)	PASS	-
3.3	FCC KDB 905462 7.8.3	DFS: In-Service Monitoring for Channel Closing Transmission Time (CCTT)	PASS	-
3.3	FCC KDB 905462 7.8.3	DFS: In-Service Monitoring for Non-Occupancy Period (NOP)	PASS	-
-	FCC KDB 905462 7.8.4	DFS: Statistical Performance Check	N/A	-
3.1.4	FCC KDB 905462 8.1	User Access Restrictions	N/A	Manufacturer attestation NOT accessible to user

Note: Since the product is client without radar detection function, only Channel Move Time, Channel Closing Transmission Time and Non-Occupancy Period are required to perform.

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: Sam Chen Report Producer: Viola Huang

TEL: 886-3-656-9065 Page Number : 4 of 30
FAX: 886-3-656-9085 Issued Date : May 14, 2021



1 General Description

1.1 Information

1.1.1 RF General Information

Specification Items	Description		
Frequency Range	5250 MHz – 5350 MHz		
	5470 MHz – 5725 MHz		
Power Type	From power adapter or host system		
Channel Bandwidth	20/40/80 MHz operating channel bandv	vidth	
	☐ Master		
Operating Mode	Client with radar detection		
	☐ Client without radar detection		
Communication Mode		☐ Frame Based	
TPC Function	With TPC ■ Market	☐ Without TPC	
Weather Band (5600~5650MHz)	☑ With 5600~5650MHz	☐ Without 5600~5650MHz	
Power-on cycle	NA (No Channel Availability Check Function)		
Firmware Number	VERSION=0.3.0.0222 (0300)		
11a, HT20 and HT40 use a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM modulation. VHT20, VHT40, VHT80 use a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM, 256QA modulation. EUT employ a TPC mechanism and TPC have the capability to operate at least 6 dB below highest F output power.			

Report No.: FZ0D1713

Note: The above information was declared by manufacturer.

TEL: 886-3-656-9065 Page Number : 5 of 30
FAX: 886-3-656-9085 Issued Date : May 14, 2021

TPC Power Result

Mode	Min Power	Max Power	Min EIRP	Max EIRP
	(dBm)	(dBm)	(dBm)	(dBm)
802.11a_Nss1,(6Mbps)_1TX	-	-	-	-
5.25-5.35GHz	13.13	19.13	15.80	21.80
5.47-5.725GHz	14.87	20.87	17.54	23.54
802.11ac VHT20_Nss1,(MCS0)_1TX	-	-	-	-
5.25-5.35GHz	13.25	19.25	15.92	21.92
5.47-5.725GHz	14.95	20.95	17.62	23.62
802.11ac VHT40_Nss1,(MCS0)_1TX	-	-	-	-
5.25-5.35GHz	14.39	20.39	17.06	23.06
5.47-5.725GHz	14.90	20.90	17.57	23.57
802.11ac VHT80_Nss1,(MCS0)_1TX	-	-	-	-
5.25-5.35GHz	11.87	17.87	14.54	20.54
5.47-5.725GHz	15.62	21.62	18.29	24.29

Report No.: FZ0D1713

TEL: 886-3-656-9065 Page Number : 6 of 30
FAX: 886-3-656-9085 Issued Date : May 14, 2021



1.1.2 Antenna Information

		Port						
Ant.	WLAN 2.4GHz	WLAN 5GHz	Bluetooth	Brand	Model Name	Antenna Type	Connector	Gain (dBi)
1	2	2	2	Aristotle	RFA-25-10159-P1-V3	PIFA Antenna	I-PEX	Note 1
2	1	1	1	Aristotle	RFA-25-10159-P2	PIFA Antenna	I-PEX	Note i

Report No.: FZ0D1713

Note 1:

Ant.			
Aiit.	WLAN 2.4GHz	WLAN 5GHz	Bluetooth
1	1.3	2.25	1.3
2	2.68	2.67	2.68

Note 2: The above information was declared by manufacturer.

Note 3: Because antenna set 1 and antenna set 2 are the same type antennas, only the low gain antenna "antenna set 1" was tested.

Note 4: The EUT has two antennas.

For 2.4GHz WLAN function

IEEE 802.11b/g/n mode (1TX/1RX):

The EUT supports the antenna with TX and RX diversity functions.

Both port 1 and port 2 support transmit and receive functions, but only one of them will be used at one time.

For 5GHz WLAN function

IEEE 802.11a/n/ac mode (1TX/1RX):

The EUT supports the antenna with TX and RX diversity functions.

Both port 1 and port 2 support transmit and receive functions, but only one of them will be used at one time.

For Bluetooth function (1TX/1RX):

The EUT supports the antenna with TX and RX diversity functions.

Both port 1 and port 2 support transmit and receive functions, but only one of them will be used at one time.

TEL: 886-3-656-9065 Page Number : 7 of 30
FAX: 886-3-656-9085 Issued Date : May 14, 2021

1.1.3 DFS Band Carrier Frequencies

There are three bandwidth systems.

For 20MHz bandwidth systems, use Channel 52, 56, 60, 64, 100, 104, 108, 112, 116, 120, 124, 128, 132, 136, 140, 144.

Report No.: FZ0D1713

For 40MHz bandwidth systems, use Channel 54, 62, 102, 110, 118, 126, 134, 142.

For 80MHz bandwidth systems, use Channel 58, 106, 122, 138.

Frequency Band	Channel No.	Frequency	Channel No.	Frequency
	52	5260 MHz	60	5300 MHz
5250~5350 MHz	54	5270 MHz	62	5310 MHz
Band 2	56	5280 MHz	64	5320 MHz
	58	5290 MHz	-	-
	100	5500 MHz	124	5620 MHz
	102	5510 MHz	126	5630 MHz
	104	5520 MHz	128	5640 MHz
	106	5530 MHz	132	5660 MHz
5470~5725 MHz	108	5540 MHz	134	5670 MHz
5470~5725 MH2 Band 3	110	5550 MHz	136	5680 MHz
Danu 3	112	5560 MHz	138	5690 MHz
	116	5580 MHz	140	5700 MHz
	118	5590 MHz	142	5710 MHz
	120	5600 MHz	144	5720 MHz
	122	5610 MHz	-	-

TEL: 886-3-656-9065 Page Number : 8 of 30
FAX: 886-3-656-9085 Issued Date : May 14, 2021



1.2 Accessories

Accessories						
Equipment Name Brand Name Model Name Rating						
AC Adapter	CISCO	MA-PWR-USB-US	INPUT: 100-240V, 50-60Hz, 0.32A max OUTPUT: 5.0V, 2.0A			
		Others				
USB cable*1, Shielded, 3m						
Wall Mount*1						

Report No.: FZ0D1713

1.3 Support Equipment

	Support Equipment							
No.	No. Equipment Brand Name Model Name FCC ID							
Α	Notebook	DELL	E4300	N/A				
В	Notebook	DELL	E4300	N/A				
С	WLAN AP	ASUS	RT-AX88U	MSQ-RTAXHP00				

1.4 Applicable Standards

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

- 47 CFR FCC Part 15.407
- FCC KDB 905462 D02 UNII DFS Compliance Procedures New Rules v02

1.5 Testing Location Information

Testing Location Information							
Test Lab. : Sporton	Test Lab. : Sporton International Inc. Hsinchu Laboratory						
Hsinchu	Hsinchu ADD: No.8, Ln. 724, Bo'ai St., Zhubei City, Hsinchu County 302010, Taiwan (R.O.C.)						
(TAF: 3787)	TEL: 886-3-656-9065 FAX: 886-3-656-9085						
	Test site Designation No. TW3787 with FCC.						
	Conformity Assessment Body Identifier (CABID) TW3787 with ISED.						

Test Condition	Test Site No.	Test Engineer	Test Environment (°C / %)	Test Date
DFS	DF01-CB	Mason Chen	23.7-25.6 / 64-67	May 04, 2021

TEL: 886-3-656-9065 Page Number : 9 of 30
FAX: 886-3-656-9085 Issued Date : May 14, 2021

2 Test Configuration of EUT

2.1 Test Channel Frequencies Configuration

Test Channel Frequencies Configuration			
IEEE Std.	Test Channel Freq. (MHz)		
802.11ac (VHT80)	5530 MHz		

Report No.: FZ0D1713

2.2 The Worst Case Measurement Configuration

Th	The Worst Case Mode for Following Conformance Tests				
Tests Item	Dynamic Frequency Selection (DFS)				
Test Condition	Radiated measurement The EUT shall be configured to operate at the highest transmitter output power setting. If more than one antenna assembly is intended for this power setting, the gain of the antenna assembly with the lowest gain shall be used. The DFS radar test signals have been aligned to the direction corresponding to the EUT's maximum antenna gain.				
Modulation Mode	802.11ac (VHT80)				

TEL: 886-3-656-9065 Page Number : 10 of 30 FAX: 886-3-656-9085 Issued Date : May 14, 2021

3 Dynamic Frequency Selection (DFS) Test Result

3.1 General DFS Information

3.1.1 DFS Parameters

Table D.1: DFS requirement values				
Parameter	Value			
Non-occupancy period	Minimum 30 minutes			
Channel Availability Check Time	60 seconds			
Channel Move Time	10 seconds (Note 1).			
Channel Closing Transmission Time	200 milliseconds + an aggregate of 60 milliseconds over remaining 10 second periods. (Notes 1 and 2).			
U-NII Detection Bandwidth	Minimum 100% of the 99% power bandwidth (Note 3).			

Report No.: FZ0D1713

- Note 1: Channel Move Time and the Channel Closing Transmission Time should be performed with Radar Type 0. The measurement timing begins at the end of the Radar Type 0 burst.
- Note 2: The Channel Closing Transmission Time is comprised of 200 milliseconds starting at the beginning of the Channel Move Time plus any additional intermittent control signals required to facilitate Channel changes (an aggregate of 60 milliseconds) during the remainder of the 10 second period. The aggregate duration of control signals will not count quiet periods in between transmissions.
- Note 3: During the U-NII Detection Bandwidth detection test, radar type 0 is used and for each frequency step the minimum percentage of detection is 90%. Measurements are performed with no data traffic.

Table D.2: Interference threshold values					
Maximum Transmit Power	Value (see note)				
EIRP≥200 mW	-64 dBm				
EIRP < 200 mW and PSD < 10dBm/MHz	-62 dBm				
EIRP < 200 mW and PSD >= 10dBm/MHz	-64 dBm				

- Note 1: This is the level at the input of the receiver assuming a 0 dBi receive antenna.
- Note 2: Throughout these test procedures an additional 1 dB has been added to the amplitude of the test transmission waveforms to account for variations in measurement equipment. This will ensure that the test signal is at or above the detection threshold level to trigger a DFS response.
- Note3: EIRP is based on the highest antenna gain. For MIMO devices refer to KDB Publication 662911D01.

TEL: 886-3-656-9065 Page Number : 11 of 30
FAX: 886-3-656-9085 Issued Date : May 14, 2021

3.1.2 Applicability of DFS Requirements Prior to Use of a Channel

	DFS Operational mode				
Requirement	Master	Client without radar detection	Client with radar detection		
Non-Occupancy Period	Yes	Not required	Yes		
DFS Detection Threshold	Yes	Not required	Yes		
Channel Availability Check Time	Yes	Not required	Not required		
U-NII Detection Bandwidth	Yes	Not required	Yes		

Report No.: FZ0D1713

3.1.3 Applicability of DFS Requirements during Normal Operation

	DFS Operational mode				
Requirement	Master	Client without radar detection	Client with radar detection		
DFS Detection Threshold	Yes	Not required	Yes		
Channel Closing Transmission Time	Yes	Yes	Yes		
Channel Move Time	Yes	Yes	Yes		
U-NII Detection Bandwidth	Yes	Not required	Yes		

Additional requirements for devices with multiple bandwidth modes	Master Device or Client with Radar Detection	Client Without Radar Detection
U-NII Detection Bandwidth and Statistical Performance Check	All BW modes must be tested	Not required
Channel Move Time and Channel Closing Transmission Time	Test using widest BW mode available	Test using the widest BW mode available for the link
All other tests	Any single BW mode	Not required

Note: Frequencies selected for statistical performance check (Section 7.8.4) should include several frequencies within the radar detection bandwidth and frequencies near the edge of the radar detection bandwidth. For 802.11 devices it is suggested to select frequencies in each of the bonded 20 MHz channels and the channel center frequency.

TEL: 886-3-656-9065 Page Number : 12 of 30
FAX: 886-3-656-9085 Issued Date : May 14, 2021

3.1.4 User Access Restrictions

User Access Restrictions

Report No.: FZ0D1713

DFS controls (hardware or software) related to radar detection are NOT accessible to the user. Manufacturer statement confirming that information regarding the parameters of the detected Radar Waveforms is not available to the end user.

3.1.5 Channel Loading/Data Streaming

	The data file (MPEG-4) has been transmitting in a streaming mode.
\boxtimes	Software to ping the client is permitted to simulate data transfer with random ping intervals.
\boxtimes	Minimum channel loading of approximately 17%.
	Unicast protocol has been used.

TEL: 886-3-656-9065 Page Number : 13 of 30 FAX: 886-3-656-9085 Issued Date : May 14, 2021

3.2 Radar Test Waveform Calibration

3.2.1 Short Pulse Radar Test Waveforms

Radar Type	Pulse Width (µsec)	PRI (µsec)	Number of Pulses	Minimum Percentage of Successful Detection	Minimum Trials
0	1	1428	18	See Note 1	See Note 1
1A	1	15 unique PRI in KDB 905462 D02 Table 5a	[(1) (19×10 ⁶)]	60%	15
1B	1	15 unique PRI within 518-3066, Excluding 1A PRI	$Roundup \left\{ \left(\frac{1}{360} \right) \times \left(\frac{19 \times 10^6}{PRI} \right) \right\}$	60%	15
2	1-5	150-230	23-29	60%	30
3	6-10	200-500	16-18	60%	30
4	11-20	200-500	12-16	60%	30
Aggrega	ate (Radar Type	80%	120		

Report No.: FZ0D1713

Note 1: Short Pulse Radar Type 0 should be used for the detection bandwidth test, channel move time, and channel closing time tests.

A minimum of 30 unique waveforms are required for each of the short pulse radar types 1 through 4. If more than 30 waveforms are used for short pulse radar types 1 through 4, then each additional waveform must also be unique and not repeated from the previous waveforms. The aggregate is the average of the percentage of successful detections of short pulse radar types 1-4.

3.2.2 Long Pulse Radar Test Waveform

Radar Type	Pulse Width (µsec)	Chirp Width (MHz)	PRI (µsec)	Number of Pulses per <i>Burst</i>	Number of Bursts	Minimum Percentage of Successful Detection	Minimum Trials
5	50-100	5-20	1000-2000	1-3	8-20	80%	30

Each waveform is defined as follows:

- The transmission period for the Long Pulse Radar test signal is 12 seconds.
- There are a total of 8 to 20 Bursts in the 12 second period, with the number of Bursts being randomly chosen.
 This number is Burst Count.
- Each Burst consists of 1 to 3 pulses, with the number of pulses being randomly chosen. Each Burst within the 12 second sequence may have a different number of pulses.
- The pulse width is between 50 and 100 microseconds, with the pulse width being randomly chosen. Each pulse within a Burst will have the same pulse width. Pulses in different Bursts may have different pulse widths.
- Each pulse has a linear FM chirp between 5 and 20 MHz, with the chirp width being randomly chosen. Each pulse within a transmission period will have the same chirp width. The chirp is centered on the pulse. For example, with a radar frequency of 5300 MHz and a 20 MHz chirped signal, the chirp starts at 5290 MHz and

TEL: 886-3-656-9065 Page Number : 14 of 30 FAX: 886-3-656-9085 Issued Date : May 14, 2021



ends at 5310 MHz.

• If more than one pulse is present in a Burst, the time between the pulses will be between 1000 and 2000 microseconds, with the time being randomly chosen. If three pulses are present in a Burst, the time between the first and second pulses is chosen independently of the time between the second and third pulses.

Report No.: FZ0D1713

• The 12 second transmission period is divided into even intervals. The number of intervals is equal to Burst Count. Each interval is of length (12,000,000 / Burst Count) microseconds. Each interval contains one Burst. The start time for the Burst, relative to the beginning of the interval, is between 1 and [(12,000,000 / Burst Count) – (Total Burst Length) + (One Random PRI Interval)] microseconds, with the start time being randomly chosen. The step interval for the start time is 1 microsecond. The start time for each Burst is chosen independently.

3.2.3 Frequency Hopping Radar Test Waveform

Radar Type	Pulse Width (µsec)	PRI (µsec)	Pulses per Hop	Hopping Rate (kHz)	Hopping Sequence Length (ms)	Minimum Percentage of Successful Detection	Minimum Trials
6	1	333	9	0.333	300	70%	30

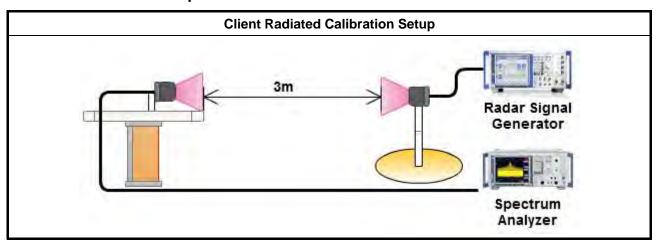
The FCC Type 6 waveform uses a static waveform with 100 bursts in the instruments ARB. In addition, the RF list mode is operated with a list containing 100 frequencies from a randomly generated list and it had be ensured that at least one of the random frequencies falls into the UNII Detection Bandwidth of the DUT. Each burst from the waveform file initiates a trigger pulse at the beginning that switches the RF list from one item to the next one.

3.2.4 DFS Threshold Level

DFS Threshold Level			
DFS Threshold level: -6	63 dBm	at the antenna connector	
		in front of the antenna	
The Interference Radar Detection Threshold Level is is $-64 dBm + 0 [dBi] + 1 dB = -63 dBm$. That had been taken into account the output power range and antenna gain.			

TEL: 886-3-656-9065 Page Number: 15 of 30
FAX: 886-3-656-9085 Issued Date: May 14, 2021

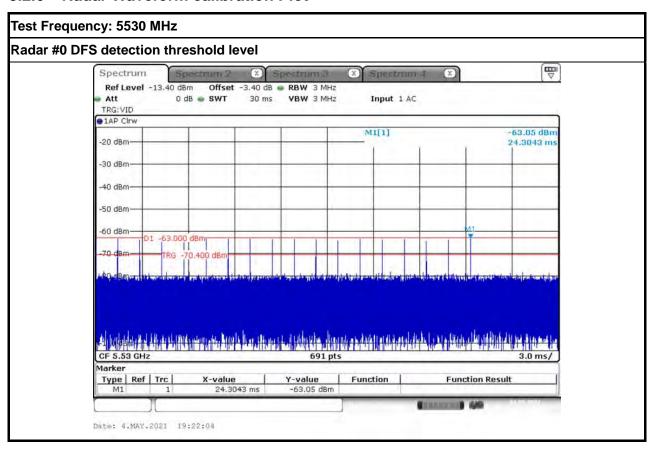
3.2.5 Calibration Setup



Report No.: FZ0D1713

TEL: 886-3-656-9065 Page Number : 16 of 30 FAX: 886-3-656-9085 Issued Date : May 14, 2021

3.2.6 Radar Waveform calibration Plot



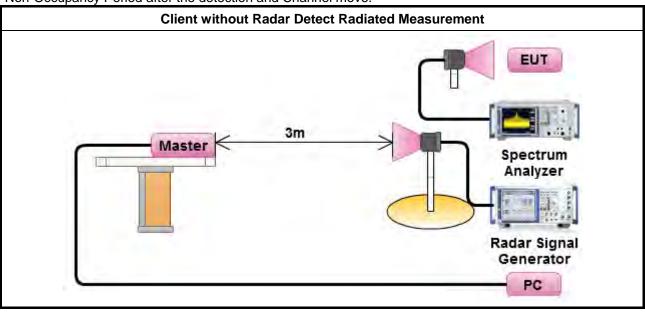
Report No.: FZ0D1713

TEL: 886-3-656-9065 Page Number : 17 of 30
FAX: 886-3-656-9085 Issued Date : May 14, 2021

3.2.7 Test Setup

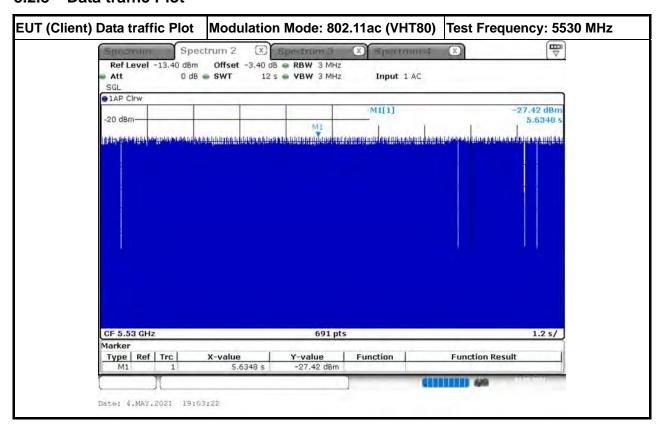
A spectrum analyzer is used as a monitor to verify that the EUT has vacated the Channel within the (Channel Closing Transmission Time and Channel Move Time, and does not transmit on a Channel during the Non-Occupancy Period after the detection and Channel move.

Report No.: FZ0D1713



TEL: 886-3-656-9065 Page Number : 18 of 30
FAX: 886-3-656-9085 Issued Date : May 14, 2021

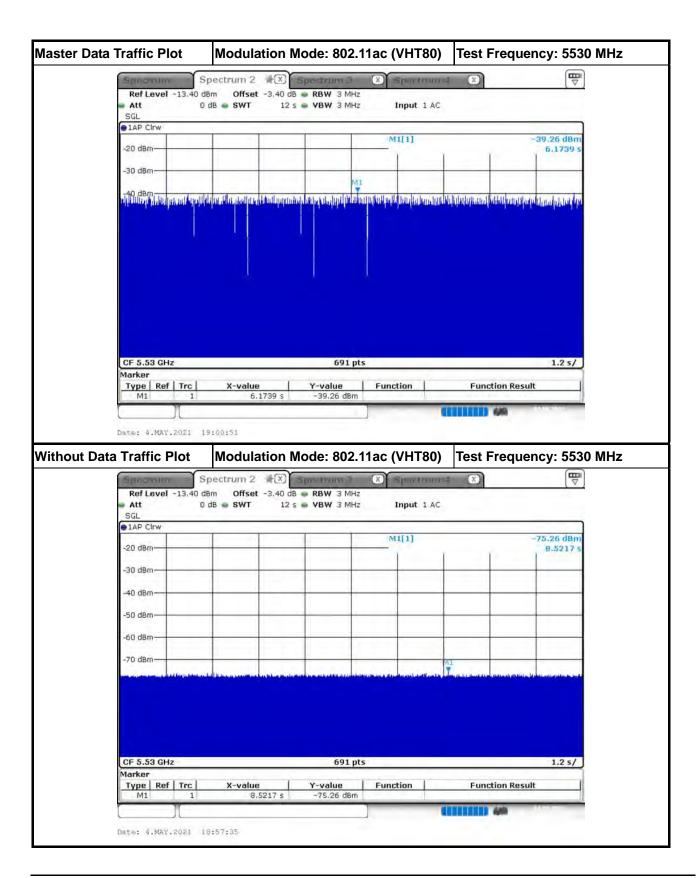
3.2.8 Data traffic Plot



Report No.: FZ0D1713

TEL: 886-3-656-9065 Page Number : 19 of 30
FAX: 886-3-656-9085 Issued Date : May 14, 2021

Report No. : FZ0D1713



TEL: 886-3-656-9065 Page Number : 20 of 30
FAX: 886-3-656-9085 Issued Date : May 14, 2021

3.3 In-service Monitoring

3.3.1 In-service Monitoring Limit

In-service Monitoring Limit			
Channel Move Time	10 sec		
Channel Closing Transmission Time	200 ms + an aggregate of 60 ms over remaining 10 sec periods.		
Non-occupancy period	Minimum 30 minutes		

Report No.: FZ0D1713

3.3.2 Measuring Instruments

Refer a test equipment and calibration data table in this test report.

3.3.3 Test Procedures

Test Method

- ✓ Verified during In-Service Monitoring; Channel Closing Transmission Time, Channel Move Time. Client Device will associate with the EUT. Observe the transmissions of the EUT at the end of the radar Burst on the Operating Channel for duration greater than 10 seconds. Measure and record the transmissions from the EUT during the observation time (Channel Move Time). Compare the Channel Move Time and Channel Closing Transmission Time limits.
- ✓ Verified during In-Service Monitoring; Channel Closing Transmission Time, Channel Move Time. One 12 sec plot needs to be reported for the Short Pulse Radar Types 0. And zoom-in a 60 ms plot verified channel closing time for the aggregate transmission time starting from 200ms after the end of the radar signal to the completion of the channel move.
- ✓ Verified during In-Service Monitoring; Non-Occupancy Period. Client Device will associate with the EUT. Observe the transmissions of the EUT at the end of the radar Burst on the Operating Channel for duration greater than 10 seconds. Measure and record the transmissions from the EUT during the observation time (Non-Occupancy Period). Compare the Non-Occupancy Period limits.

TEL: 886-3-656-9065 Page Number: 21 of 30
FAX: 886-3-656-9085 Issued Date: May 14, 2021



3.3.4 Test Result of Channel Move Time

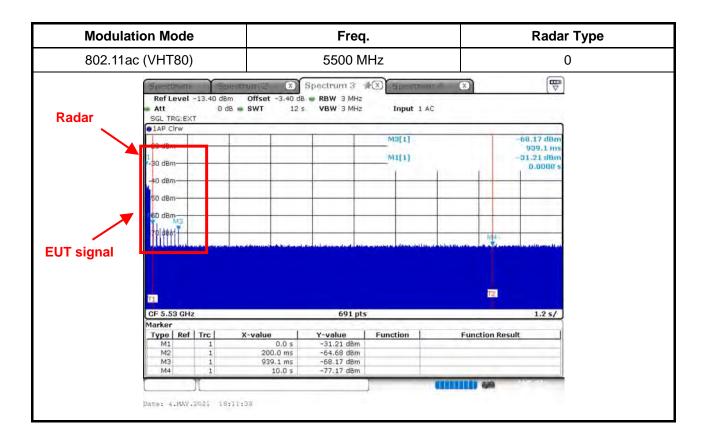
Modulation Mode: 802.11ac (VHT80)

Parameter	Test Result	Limit	
Farameter	Type 0		
Test Channel (MHz)	5530 MHz	-	
Channel Move Time (sec.)	0.939	< 10s	

Report No.: FZ0D1713

TEL: 886-3-656-9065 Page Number : 22 of 30
FAX: 886-3-656-9085 Issued Date : May 14, 2021

Report No. : FZ0D1713



TEL: 886-3-656-9065 Page Number : 23 of 30
FAX: 886-3-656-9085 Issued Date : May 14, 2021



3.3.5 Test Result of Channel Closing Transmission Time

Modulation Mode: 802.11ac (VHT80)

Parameter	Test Result	Limit	
Farameter	Туре 0		
Test Channel (MHz)	5530 MHz	-	
Channel Closing Transmission Time (ms) (Note)	28.99	< 60ms	

Report No.: FZ0D1713

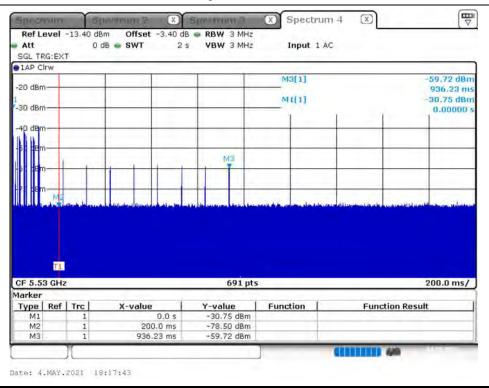
Note: The Channel Closing Transmission Time is comprised of 200 milliseconds starting at the beginning of the Channel Move Time plus any additional intermittent control signals required to facilitate a Channel move (an aggregate of 60 milliseconds) during the remainder of the 10 seconds period. The aggregate duration of control signals will not count quiet periods in between transmissions.

TEL: 886-3-656-9065 Page Number : 24 of 30 FAX: 886-3-656-9085 Issued Date : May 14, 2021

Modulation Mode	Freq.	Radar Type
802.11ac (VHT80)	5530 MHz	0

Report No.: FZ0D1713

Channel Closing Transmission Time is comprised of 200 ms starting at the beginning of the Channel Move Time plus 60ms additional intermittent control signals



Dwell is the dwell time per spectrum analyzer sampling bin.

S is the sweep time

B is the number of spectrum analyzer sampling bins

C is the intermittent control signals of Channel Closing Transmission Time

N is the number of spectrum analyzer sampling bins (intermittent control signals) showing a U-NII transmission

Dwell (2.899 ms)= S (2000 ms) / B (690) C (28.99 ms) = N (10) X Dwell (2.899 ms)

TEL: 886-3-656-9065 Page Number : 25 of 30
FAX: 886-3-656-9085 Issued Date : May 14, 2021



3.3.6 Test Result of Non-Occupancy Period

Modulation Mode: 802.11ac (VHT80)

Parameter	Test Result	Limit	
Farameter	Туре 0		
Test Channel (MHz)	5530 MHz	-	
Non-Occupancy Period (min.)	≧30	≧ 30 min	

Report No.: FZ0D1713

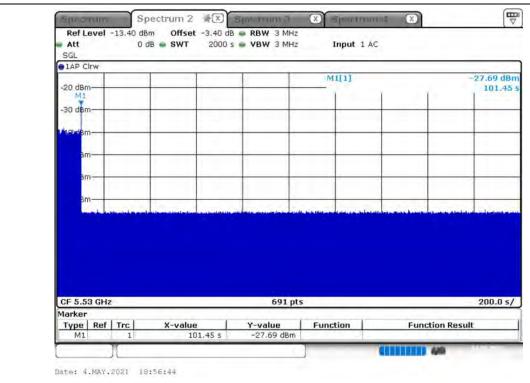
TEL: 886-3-656-9065 Page Number : 26 of 30 FAX: 886-3-656-9085 Issued Date : May 14, 2021

Report No. : FZ0D1713

Modulation Mode	Freq.
802.11ac (VHT80)	5530 MHz

Non-Occupancy Period

During the 30 minutes observation time, UUT did not make any transmissions on a channel after a radar signal was detected on that channel by either the Channel Availability Check or the In-Service Monitoring.



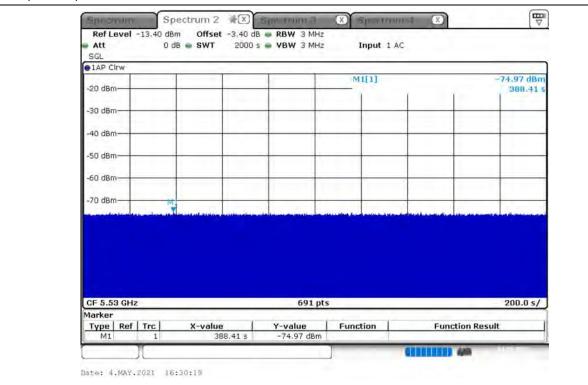
TEL: 886-3-656-9065 Page Number : 27 of 30
FAX: 886-3-656-9085 Issued Date : May 14, 2021

Non-associated test

Master was off.

During the 30 minutes observation time, The UUT did not make any transmissions in the DFS band after UUT power up.

Report No.: FZ0D1713



TEL: 886-3-656-9065 Page Number : 28 of 30 FAX: 886-3-656-9085 Issued Date : May 14, 2021

4 Test Equipment and Calibration Data

Instrument	Brand	Model No.	Serial No.	Characteristics	Calibration Date	Calibration Due Date	Remark
Spectrum Analyzer	R&S	FSV40	101026	9kHz~40GHz	Dec. 01, 2020	Nov. 30, 2021	Radiated (DF01-CB)
ESG Signal generator	Agilent	E4438C	MY49072778	250kHz-6GHz	Aug. 24, 2020	Aug. 23, 2021	Radiated (DF01-CB)
Horn Antenna	COM-POWER	AH-118	071187	1GHz – 18GHz	Jul. 08, 2020	Jul. 07, 2021	Radiated (DF01-CB)
Horn Antenna	COM-POWER	AH-118	071042	1GHz – 18GHz	Dec. 22, 2020	Dec. 21, 2021	Radiated (DF01-CB)
RF Power Divider	STI	2 Way	DV-2way -05	1GHz ~ 8GHz	Mar. 01, 2021	Feb. 28, 2022	Radiated (DF01-CB)
RF Power Divider	STI	2 Way	DV-2way -06	1GHz ~ 8GHz	Mar. 01, 2021	Feb. 28, 2022	Radiated (DF01-CB)
RF Power Divider	MTJ	4 Way	DFS-01-DV-01	1GHz ~ 6GHz	Oct. 05, 2020	Oct. 04, 2021	Radiated (DF01-CB)
RF Cable-high	Woken	RG402	High Cable-57	1 GHz –18 GHz	Oct. 05, 2020	Oct. 04, 2021	Radiated (DF01-CB)
RF Cable-high	Woken	RG402	High Cable-58	1 GHz –18 GHz	Oct. 05, 2020	Oct. 04, 2021	Radiated (DF01-CB)
RF Cable-high	Woken	RG402	High Cable-59	1 GHz –18 GHz	Oct. 05, 2020	Oct. 04, 2021	Radiated (DF01-CB)

Report No.: FZ0D1713

Note: Calibration Interval of instruments listed above is one year.

TEL: 886-3-656-9065 Page Number : 29 of 30
FAX: 886-3-656-9085 Issued Date : May 14, 2021

5 Measurement Uncertainty

Test Items	Uncertainty	Remark
Radiated Emission	3.4 dB	Confidence levels of 95%

Report No.: FZ0D1713

TEL: 886-3-656-9065 Page Number : 30 of 30 FAX: 886-3-656-9085 Issued Date : May 14, 2021