FCC DFS Test Report

FCC ID: 2ACYT-VAX8852

Test Report No……..:	RF260408012-02-003
Product(s) Name……...:	Network Module
Model(s)……..:	VAX8852-UM
Trade Mark……....:	/
Applicant……..…:	SHENZHEN Hitevision Technology Co., Ltd.
Address……..…...:	Honghe Mansion No. 1 Building A, 1 Danzi North Road, Shatian,Kengzi Street, Pingshan District, Shenzhen, 518122 Guangdong, P.R. China
Receipt Date……..:	2026.04.22
Test Date……....:	2026.05.24
Issued Date……..…:	2026.06.16
Standards…….:	47 CFR FCC Part 15, Subpart E(Section 15.407) FCC KDB 789033 D02 General U-NII Test Procedures New Rules v02r01 FCC KDB 905462 D02 UNII DFS Compliance Procedures New Rules v02
Testing Laboratory……:	Shenzhen Haiyun Standard Technical Co., Ltd.

Prepared By:	Checked By:	Approved By:	
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History of this test report

Original Report Issue Date: 2026.06.16

● No additional attachment

○ Additional attachments were issued following record

Attachment No.	Issue Date	Description

1. TEST LOCATION

Company:	Shenzhen Haiyun Standard Technical CO., Ltd.
Address:	No. 110-113, 115, 116, Block B, Jinyuan Business Building, Bao'an District, Shenzhen, China
CNAS Registration Number:	CNAS L18252
FCC Designation Number	CN1340
CAB identifier	CN0145
A2LA Certificate Number	6823.01

2. TEST ENVIRONMENT CONDITIONS

Test Item	Temperature	Humidity	Test Voltage	Tested By
Dynamic Frequency Selection (DFS)	24.2°C	51%	AC 120V/60Hz	Lemon He

3. SUMMARY OF TEST RESULTS

Test procedures according to the technical standard(s):

FCC CFR Title 47, Part 15, Subpart E				
Standard(s) Section	**Test Item**	**Test Result**	**Judgment**	**Remark**
FCC 15.407(h)	Transmit Power Control (TPC) and Dynamic Frequency Selection (DFS)	------	PASS	------

4. GENERAL INFORMATION

4.1 GENERAL DESCRIPTION OF EUT

Product No.	POC260408012-S001
Equipment Name	Network Module
Model Name	VAX8852-UM
Trade Mark	/
Power Supply	DC3.3V,4A (Provided by Android Circuit system)
WiFi 6 Chip (RTL8852BU):	
Operation Frequency Band(s)	UNII-2A: 5250 MHz ~ 5350 MHz UNII-2C: 5470 MHz ~ 5725 MHz
Modulation Type	OFDM/OFDMA
Antenna gain	Ant1&Ant 2: 2.76dBi (The two antenna ports use the same type of antenna)
Antenna type	PIFA Antenna
Bit Rate of Transmitter	IEEE 11a mode : 6/9/12/18/24/36/48/54 IEEE 11n mode : up to 300 IEEE 11ac mode : up to 866 IEEE 11ax mode : up to 1201
Operating Mode(s)	☐ Master ☒ Client device without radar detection ☐ Client device with radar detection
WiFi 5 Chip (RTL8811CU):	
Operation Frequency Band(s)	UNII-2A: 5250 MHz ~ 5350 MHz UNII-2C: 5470 MHz ~ 5725 MHz
Modulation Type	OFDM
Antenna gain	Ant3: 3.55dBi
Antenna type	PIFA Antenna
Bit Rate of Transmitter	IEEE 11a mode : 6/9/12/18/24/36/48/54 IEEE 11n mode : up to 150 IEEE 11ac mode : up to 433
Operating Mode(s)	☐ Master ☒ Client device without radar detection ☐ Client device with radar detection

Note:

1. For more detailed features description, please refer to the manufacturer’s specifications or the user's manual.

2. Channel List:

WiFi 6 Chip (RTL8852BU):

Channel Information			
Frequency Range (MHz)	IEEE Std. 802.11	Ch. Frequency (MHz)	Channel Number
5150-5250	802.11a/n/ac/ax (20MHz)	5180-5240	36-48
5250-5350		5260-5320	52-64
5470-5725		5500-5700	100-140
5725-5850		5745-5825	149-165
5150-5250	802.11n/ac/ax (40MHz)	5190-5230	38-46
5250-5350		5270-5310	54-62
5470-5725		5510-5670	102-134
5725-5850		5755-5795	151-159
5150-5250	802.11ac/ax (80MHz)	5210	42
5250-5350		5290	58
5470-5725		5530-5610	106-122
5725-5850		5775	155

Note: For 802.11ax mode only support full RU mode.

WiFi 5 Chip (RTL8811CU):

Channel Information			
Frequency Range (MHz)	IEEE Std. 802.11	Ch. Frequency (MHz)	Channel Number
5150-5250	802.11a/n/ac (20MHz)	5180-5240	36-48
5250-5350		5260-5320	52-64
5470-5725		5500-5700	100-140
5725-5850		5745-5825	149-165
5150-5250	802.11n/ac (40MHz)	5190-5230	38-46
5250-5350		5270-5310	54-62
5470-5725		5510-5670	102-134
5725-5850		5755-5795	151-159
5150-5250	802.11ac (80MHz)	5210	42
5250-5350		5290	58
5470-5725		5530-5610	106-122
5725-5850		5775	155

4.2 MAXIMUM OUTPUT POWER AND E.I.R.P.

WiFi 6 Chip (RTL8852BU):

Frequency Band (MHz)	Max Output Power (dBm)	Max. e.i.r.p. (dBm)	Max. e.i.r.p. (mW)
5250~5350	17.60	20.36	108.64
5470~5725	19.88	22.64	183.65

WiFi 5 Chip (RTL8811CU):

Frequency Band (MHz)	Max Output Power (dBm)	Max. e.i.r.p. (dBm)	Max. e.i.r.p. (mW)
5250~5350	17.25	20.8	120.23
5470~5725	17.97	21.52	141.91

Note:
1) U-NII devices operating in the 5.25-5.35 GHz band and the 5.47-5.725GHz band shall employ a TPC mechanism. A TPC mechanism is not required for systems with an e.i.r.p. of less than 500 mW.

4.3 DESCRIPTION OF TEST MODES

WiFi 6 Chip (RTL8852BU):

Test Mode	Description
Mode 1	IEEE 802.11ax80: 5290MHz

Note: The TX AX80 Mode Channel 58 is found to be the worst case and recorded.

WiFi 5 Chip (RTL8811CU):

Test Mode	Description
Mode 1	IEEE 802.11ac80: 5290MHz

Note: The TX AC80 Mode Channel 58 is found to be the worst case and recorded.

4.4 SUPPORT UNITS

Support Equipment				
No.	Equipment	Brand Name	Model Name	Remarks
1	BE3600 Dual Band WiFi Router	ASUS	BD4	FCC ID:MSQ-RTBE7M00

5. U-NII DFS RULE REQUIREMENTS

5.1 WORKING MODES AND REQUIRED TEST ITEMS

The manufacturer shall state whether the UUT is capable of operating as a Master and/or a Client. If the UUT is capable of operating in more than one operating mode then each operating mode shall be tested separately. See tables below for the applicability of DFS requirements for each of the operational modes.

Applicability of DFS requirements prior to μse a channel

Requirement	Operati nal ode		
	Master	Client without radar detection	Client with radar detection
Non-Occupancy Period	√	Not required	√
DFS Detection Threshold	√	Not required	√
Channel Availability Check Time	√	Not required	Not required
U-NII Detection Bandwidth	√	Not required	√

Applicability of DFS requirements during normal operation

Requirement	Operational Mode		
	Master	Client without radar detection	Client with radar detection
DFS Detection Threshol	√	Not required	√
Channel Closing Transmission Time	√	√	√
Channel Move Tim	√	√	√
U-NII Detection Bandwidth	√	Not required	√

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 mμst be tested	Not required
Channel Move Time and Channel Closing Transmission Time	Test μsing widest BW mode available	Test μsing the widest BW mode available for the link
All other tests	Any single BW mode	Not required

Note: Frequencies selected for statistical performance check 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.

5.2 TEST LIMITS AND RADAR SIGNAL PARAMETERS

DETECTION THRESHOLD VALUES

DFS Detection Thresholds for Master Devices and Client Devices with Radar Detection

Maximum Transmit Power	Value (See Notes 1, 2 and 3)
e.i.r.p. ≥ 200 milliwatt	-64 dBm
e.i.r.p. < 200 milliwatt and power spectral density < 10 dBm/MHz	-62 dBm
e.i.r.p. < 200 milliwatt that do not meet the power spectral density requirement	-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: e.i.r.p. is based on the highest antenna gain. For MIMO devices refer to KDB Publication 662911 D01.

TEST LIMIT

DFS Response Requirement Values

Parameter	Value
Non-occupancy period	Minimum 30 minutes
Channel Availability Check Time	60 seconds
Channel Move Time	10 seconds. See Note 1.
Channel Closing Transmission Time	200 milliseconds + an aggregate of 60 milliseconds over remaining 10 second period. See Notes 1 and 2.
U-NII Detection Bandwidth	Minimum 100% of the UNII 99% transmission power bandwidth. See Note 3.

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 plμs any additional intermittent control signals required to facilitate a Channel move (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 should be μsed.
For each frequency step the minimum percentage of detection is 90 percent. Measurements are performed with no data traffic.

PARAMETERS OF DFS TEST SIGNALS

Step intervals of 0.1 microsecond for Pulse Width, 1 microsecond for PRI, 1 MHz for chirp width and 1 for the number of pulses will be utilized for the random determination of specific test waveforms.

Short Pulse Radar Test Waveforms.

Radar Type	Pulse Width (μsec)	PRI (μsec)	Number of Pulses	Minimum Percentage of Successful Detection	Minimum Number of Trials
0	1	1428	18	See Note 1	See Note 1

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

6. MEASUREMENT INSTRUMENTS LIST

DFS						
No.	Equipment	Manufacturer	Type No.	Serial No.	Cal. date (yyyy/mm/dd)	Cal. Due date (yyyy/mm/dd)
1	MXA Signal Analyzer	Keysight	N9021B	MY60080169	2026/2/27	2027/2/26
2	RF Control Unit	dsusoft	JS0806-2	21G8060449	2026/2/27	2027/2/26
3	power supply unit	dsusoft	JS0806-4 ADC	N/A	2026/2/27	2027/2/26
4	VXG Signal Generator	Keysight	M9384B	MY61270787	2025/6/10	2026/6/9
5	EXG Analog Signal Generator	Keysight	N5173B	MY59101282	2026/2/27	2027/2/26
6	Test software	dsusoft	JS1120-3 Ver.3.2.22.0			

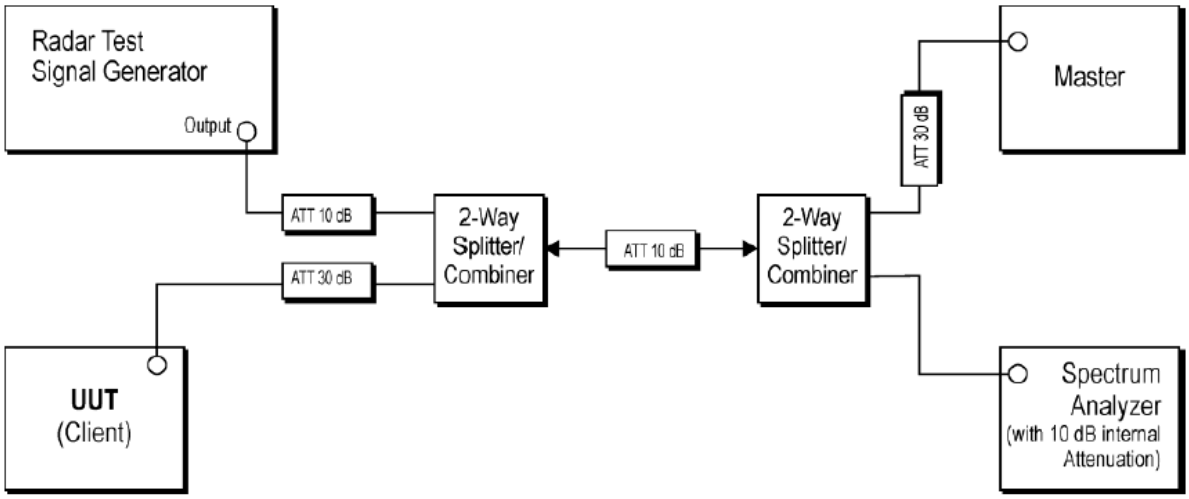
7. DYNAMIC FREQUENCY SELECTION (DFS)

7.1 DFS MEASUREMENT SYSTEM

Test Precedure

1. Master device and client device are set up by conduction method as the following configuration.
2. The client device is connected to notebook and to access a IP address on wireless connection with the master device.
3. Then the master device is connected to another notebook to access a IP address.
4. Finally, let the two IP addresses run traffic with each other through the Run flow software “Lan test” to reach 17% channel loading as below.

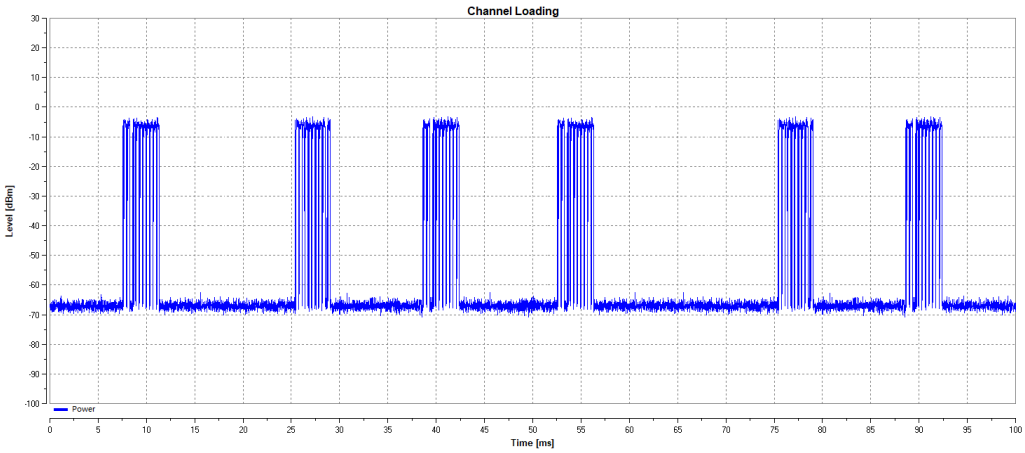
Setup for Client with injection at the Master



Radar Test Waveforms are injected into the Master.

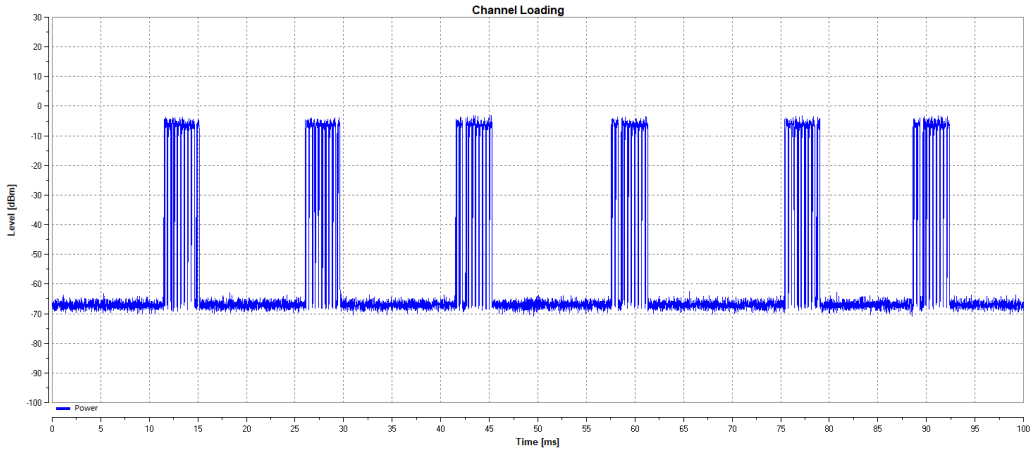
Channel Loading

WiFi 6 Chip (RTL8852BU):



Test Mode	Frequency[MHz]	Result	Limit [%]	Verdict
11ax80	5290	17.49	17	PASS

WiFi 5 Chip (RTL8811CU):



Test Mode	Frequency[MHz]	Result	Limit [%]	Verdict
11ac80	5290	17.62	17	PASS

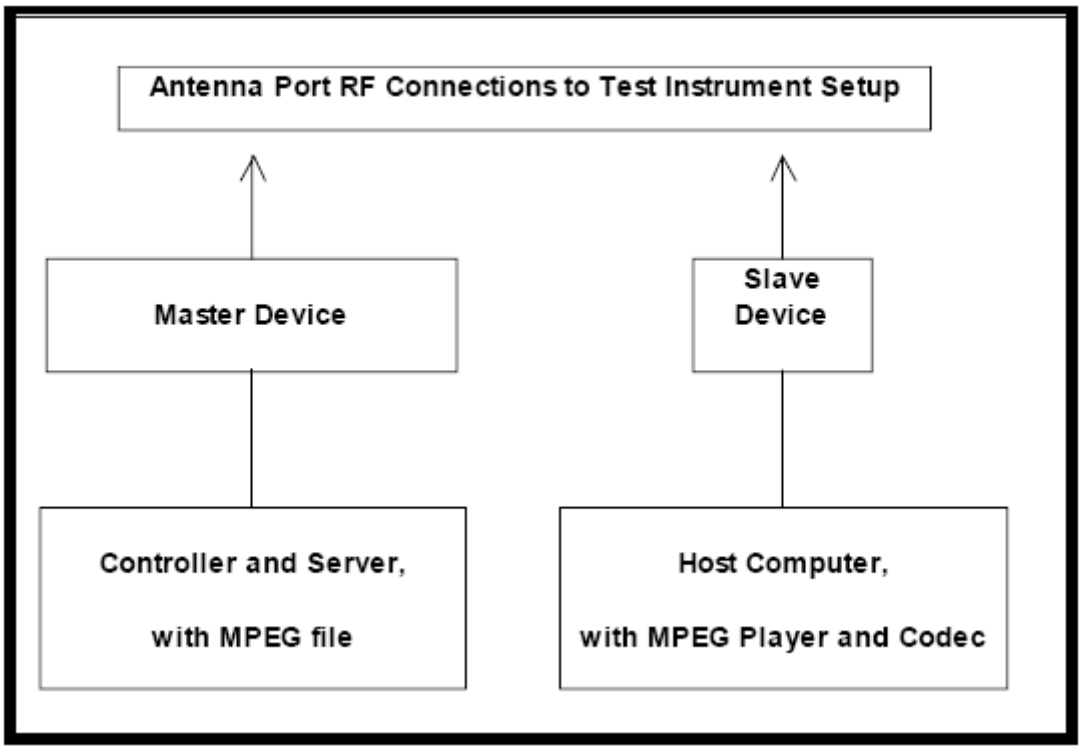
The signal monitoring equipment consists of a spectrum analyzer set to display 8001 bins on the horizontal axis. The time-domain resolution is 2 msec / bin with a 16 second sweep time, meeting the 10 second short pulse reporting criteria. The aggregate ON time is calculated by multiplying the number of bins above a threshold during a particular observation period by the dwell time per bin, with the analyzer set to peak detection and max hold.

Should multiple RF ports be utilized for the Master and/or Slave devices (for example, for diversity or MIMO implementations), additional combiner/dividers are inserted between the Master Combiner/Divider and the pad connected to the Master Device (and/or between the Slave Combiner/Divider and the pad connected to the Slave Device). Additional pads are utilized such that there is one pad at each RF port on each EUT.

7.2 CALIBRATION OF DFS DETECTION THRESHOLD LEVEL

A 50 ohm load is connected in place of the spectrum analyzer, and the spectrum analyzer is connected in place of the master device and the signal generator is set to CW mode. The amplitude of the signal generator is adjµsted to yield a level of -62dBm as measured on the spectrum analyzer.

Without changing any of the instrument settings, the spectrum analyer is reconnected to the Common port of the Spectrum Analyzer Combiner/Divider. Measure the amplitude and calculate the difference from -64 dBm. Adjµst the Reference Level Offset of the spectrum analyzer to this difference.
The spectrum analyzer displays the level of the signal generator as received at the antenna ports of the Master Device. The interference detection threshold may be varied from the calibrated value of -64 dBm and the spectrum analyzer will still indicate the level as received by the Master Device.
Set the signal generator to produce a radar waveform, trigger a burst manually and measure the level on the spectrum analyzer. Readjµst the amplitude of the signal generator as required so that the peak level of the waveform is at a displayed level equal to the required or desired interference detection threshold. Separate signal generator amplitude settings are determined as required for each radar type.



7.3 DEVIATION FROM TEST STANDARD

No deviation.

8. TEST RESULTS

8.1 SUMMARY OF DFS TEST RESULT

WiFi 6 Chip (RTL8852BU):

Clause	Test Parameter	Remarks	Result
FCC 15.407	Channel Move Time	Applicable	Pass
	Channel Closing Transmission Time	Applicable	Pass

WiFi 5 Chip (RTL8811CU):

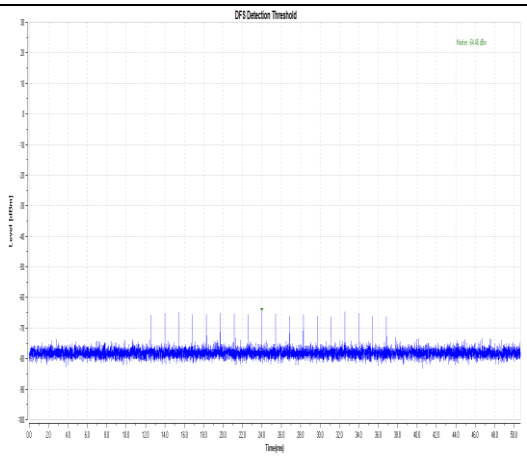
Clause	Test Parameter	Remarks	Result
FCC 15.407	Channel Move Time	Applicable	Pass
	Channel Closing Transmission Time	Applicable	Pass

8.2 DFS DETECTION THRESHOLD

WiFi 6 Chip (RTL8852BU):

Note: EIRP > 200 milliwatt in RF report, so detection threshold level is -64dBm

Test Mode	Frequency[dbm]	Radar Type	Result	Limit[dbm]	Verdict
11ax80	5290	Type0	-64.46	-64	PASS

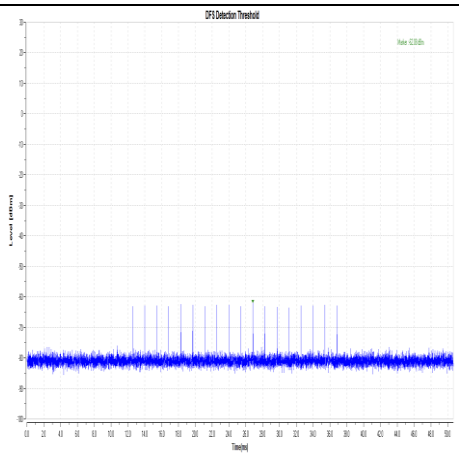


11AX80MIMO-5290-Type0-PASS

WiFi 5 Chip (RTL8811CU):

Note: EIRP < 200 milliwatt and power spectral density < 10 dBm/MHz in RF report, so detection threshold level is -62dBm

Test Mode	Frequency[dbm]	Radar Type	Result	Limit[dbm]	Verdict
11ac80	5290	Type0	-62.08	-62	PASS



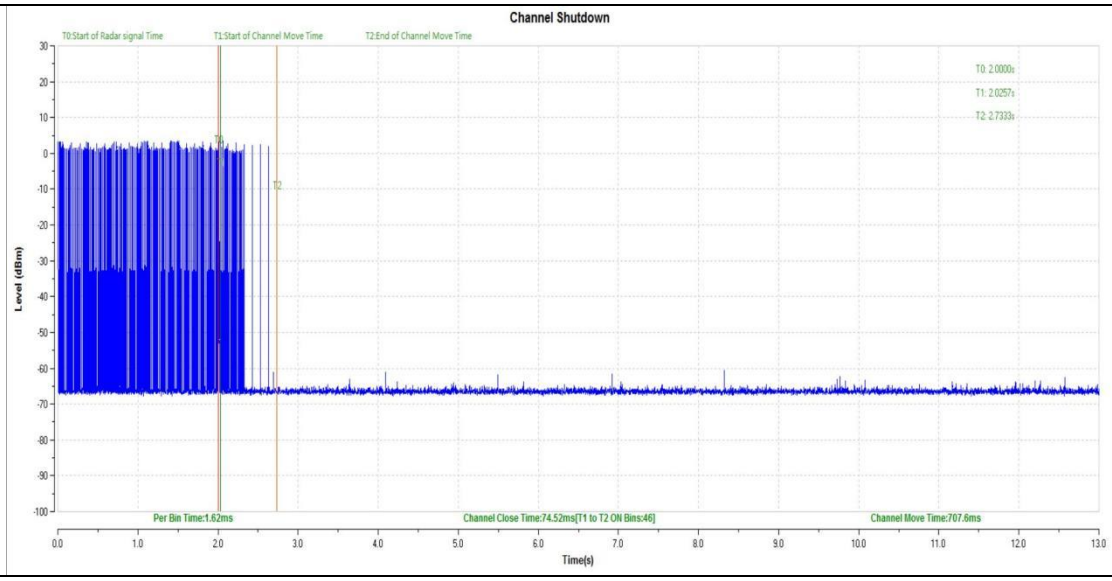
11AC80SISO-5290-Type0-PASS

8.3 CHANNEL MOVE TIME AND CHANNEL CLOSING TRANSMISSION TIME

WiFi 6 Chip (RTL8852BU):

TX (IEEE 802.11ax80 Mode)

Radar signal 0



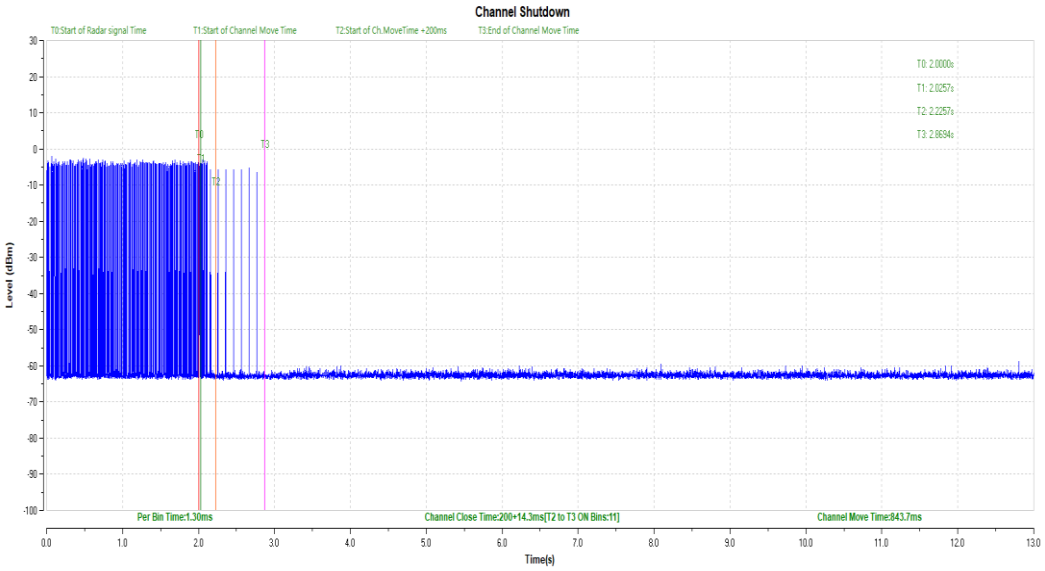
11AX80-5290-Reference-PASS

TestMode	Frequency[MHz]	CCTT[ms]	Limit[ms]	CMT[ms]	Limit[ms]	Verdict
11ax80	5290	74.52	1000	707.6	1000	PASS

WiFi 5 Chip (RTL8811CU):

TX (IEEE 802.11ac80 Mode)

Radar signal 0



11AC80-5290-Reference-PASS

TestMode	Frequency[MHz]	CCTT[ms]	Limit[ms]	CMT[ms]	Limit[ms]	Verdict
11ac80	5290	214.3	1000	843.7	1000	PASS

Statement

1. The report is invalid without the official seal or special seal of Shenzhen Haiyun Standard Technology Co., Ltd. (hereinafter referred to as the unit).
2. The report is invalid without the signature of the approver.
3. The report is invalid if altered arbitrarily.
4. The report shall not be partially copied without the written approval of the unit.
5. The reported test results are only valid for the tested samples.
6. If there is any objection to the test report, it shall be submitted to the test unit within 15 days from the date of receiving the report, and the overdue shall not be accepted.

Shenzhen Haiyun Standard Technology Co., Ltd.

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(END OF REPORT)