

ARIB STD-T71 DFS Test Report

Product Name : Wireless Access Point

Model No. : AP460SC

Applicant : Extreme Networks, Inc

Address : 6480 Via Del Oro, San Jose, CA 95119 USA USA

Date of Receipt : May. 11, 2020

Test Date : Oct. 28, 2019 ~ Feb. 04, 2021

Issued Date : Feb. 05, 2021

Report No. : 2032034R-RF-JPDFS-P03V02

Report Version : V1.0

The test results presented in this report relate only to the object tested.

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The measurement result is considered in conformance with the requirement if it is within the prescribed limit. It is not necessary to calculate the uncertainty associated with the measurement result.

This report is not used for social proof in China (or Mainland China) market.

DFS Test Report

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Product Name : Wireless Access Point
Applicant : Extreme Networks, Inc
Address : 6480 Via Del Oro, San Jose, CA 95119 USA
Manufacturer : Extreme Networks, Inc
Address : 6480 Via Del Oro, San Jose, CA 95119 USA
Model No. : AP460SC
EUT Voltage : DC 37~57V
Test Voltage : AC 100V/60Hz
Applicable Standard : ARIB STD-T71 V6.2 (2018-07)
Test Result : Pass
Performed Location : No.99 Hongye Rd., Suzhou Industrial Park, Suzhou, 215006,
Jiangsu, China
TEL: +86-512-6251-5088 / FAX: +86-512-6251-5098

Operation Mode : ☒ Master device
☐ Slaver device with radar detection function
☐ Slaver device without radar detection function

Documented By : Scott Shen
(Project Engineer: Scott Shen)

Approved By : Jack Zhang
(Supervisor: Jack Zhang)

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1. General Information

Product Name	Wireless Access Point
Model No.	AP460SC
EUT Voltage	DC 37~57V
Test Voltage	AC 100V/60Hz
Type of Modulation	OFDM
Declared Power	<p>Radio 1:</p> <p>4.0mW/MHz for 802.11a/n/ac/ax(20MHz)</p> <p>1.0mW/MHz for 802.11n/ac/ax(40MHz)</p> <p>0.5mW/MHz for 802.11ac/ax(80MHz)</p> <p>Radio 2:</p> <p>2.0mW/MHz for 802.11a/n/ac/ax(20MHz)</p> <p>1.0mW/MHz for 802.11n/ac/ax(40MHz)</p> <p>0.5mW/MHz for 802.11ac/ax(80MHz)</p> <p>Radio 3-Dual 2.4GHz & 5GHz mode:</p> <p>2.0mW/MHz for 802.11a/n/ac/ax(20MHz) for 5.15~5.35GHz CDD</p> <p>6.0mW/MHz for 802.11a/n/ac/ax(20MHz) for 5.47~5.73GHz CDD</p> <p>1.0mW/MHz for 802.11n/ac/ax(40MHz) for 5.15~5.35GHz CDD</p> <p>2.5mW/MHz for 802.11n/ac/ax(40MHz) for 5.47~5.73GHz CDD</p> <p>0.5mW/MHz for 802.11ac/ax(80MHz) for 5.15~5.35GHz CDD</p> <p>1.5mW/MHz for 802.11ac/ax(80MHz) for 5.47~5.73GHz CDD</p> <p>0.05mW/MHz for 802.11ax(160MHz)</p> <p>0.65mW/MHz for 802.11a/n/ac/ax(20MHz) for 5.15~5.35GHz beamforming</p> <p>2.5mW/MHz for 802.11a/n/ac/ax(20MHz) for 5.47~5.73GHz beamforming</p> <p>0.3mW/MHz for 802.11n/ac/ax(40MHz) for 5.15~5.35GHz beamforming</p> <p>1.0mW/MHz for 802.11n/ac/ax(40MHz) for 5.47~5.73GHz beamforming</p> <p>0.15mW/MHz for 802.11ac/ax(80MHz) for 5.15~5.35GHz beamforming</p> <p>0.5mW/MHz for 802.11ac/ax(80MHz) for 5.47~5.73GHz beamforming</p> <p>0.02mW/MHz for 802.11ax(160MHz) for beamforming</p> <p>Radio 3-Dual 5GHz mode:</p> <p>6mW/MHz for 802.11a/n/ac/ax(20MHz) for CDD</p> <p>2.5mW/MHz for 802.11n/ac/ax(40MHz) for CDD</p> <p>1.5mW/MHz for 802.11ac/ax(80MHz) for CDD</p> <p>0.05mW/MHz for 802.11ax(160MHz) for CDD</p> <p>2.5mW/MHz for 802.11a/n/ac/ax(20MHz) for beamforming</p> <p>1.0mW/MHz for 802.11n/ac/ax(40MHz) for beamforming</p> <p>0.5mW/MHz for 802.11ac/ax(80MHz) for beamforming</p> <p>0.02mW/MHz for 802.11ax(160MHz) for beamforming</p>

Transmit modes	☒	802.11a	☒	802.11n(20MHz)	☒	802.11n(40MHz)
	☒	802.11ac(20MHz)	☒	802.11ac(40MHz)	☒	802.11ac(80MHz)
	☒	802.11ax(20MHz)	☒	802.11ax(40MHz)	☒	802.11ax(80MHz)
	☒	802.11ax(160MHz)				
Support Bands			☐	Outdoor AP		
			☒	Indoor AP		
	☒	5150MHz~5250MHz	☐	Fixed point-to-point AP		
			☐	Mobile and Portable Client		
			☐	Peer to peer Client		
	☒	5250MHz~5350MHz				
	☒	5470MHz~5730MHz				
Frequency Range	802.11a/n/ac/ax(20MHz): 5180 – 5240 MHz, 5260 -5320 MHz, 5500 – 5720MHz 802.11n/ac/ax(40MHz): 5190 – 5230 MHz, 5270 – 5310MHz, 5510 – 5710MHz 802.11ac/ax(80MHz): 5210MHz, 5290MHz, 5530MHz, 5610MHz, 5690MHz 802.11ax(160MHz): 5250MHz, 5570MHz					
Channel Number	802.11a/n/ac/ax(20MHz): 20 802.11n/ac/ax(40MHz): 10 802.11ac/ax(80MHz): 5 802.11ax(160MHz): 2					
Type of Modulation	802.11a/n/ac/ax: OFDM-BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM					
Data Rate	802.11a: 6/9/12/18/24/36/48/54 Mbps					
	802.11n: up to 600 Mbps					
	802.11ac: up to 1732 Mbps					
	802.11ax: up to 4.8 Gbps					

Antenna List for 5.0GHz Band:

AP460S6C:

Antenna Model No.	N/A									
Antenna Manufacturer	N/A									
Antenna Delivery	☒	1*TX+1*RX	☒	2*TX+2*RX	☒	3*TX+3*RX	☒	4*TX+4*RX		
Antenna Technology	☒	SISO								
	☒	MIMO	☒	Basic methodology						
			☒	Beamforming						
Antenna Type	PIFA									
Antenna Gain(Radio 1)										
Antenna Technology	Ant Gain (dBi)									
Ant 4(Radio 1)	6.36									
Antenna Gain(Radio 2)										
Antenna Technology	Ant Gain (dBi)									
☒	SISO	☒	Ant1 (Radio 2)	7.29						
		☒	Ant2 (Radio 2)	7.79						
☒	Beam-forming			3.01						

Antenna Gain(Radio 3)			
Antenna Technology			Ant Gain (dBi)
☒	SISO	☒ Ant3 (Radio 3)	7.84
		☒ Ant5 (Radio 3)	8.06
		☒ Ant6 (Radio 3)	7.91
		☒ Ant7 (Radio 3)	7.65
☒	2*2 Beam-forming		3.01
☒	4*4 Beam-forming		6.02

AP460S12C:

Antenna Model No.	N/A									
Antenna Manufacturer	N/A									
Antenna Delivery	☒	1*TX+1*RX	☒	2*TX+2*RX	☒	3*TX+3*RX	☒	4*TX+4*RX		
Antenna Technology	☒	SISO								
	☒	MIMO	☒	Basic methodology						
			☒	Beamforming						
Antenna Type	PIFA									
Antenna Gain(Radio 1)										
Antenna Technology	Ant Gain (dBi)									
Ant 4(Radio 1)	5.54									
Antenna Gain(Radio 2)										
Antenna Technology	Ant Gain (dBi)									
☒	SISO	☒	Ant1 (Radio 2)	6.34						
		☒	Ant2 (Radio 2)	6.11						
☒	Beam-forming			3.01						

Antenna Gain(Radio 3)			
Antenna Technology			Ant Gain (dBi)
☒	SISO	☒ Ant3 (Radio 3)	6.12
		☒ Ant5 (Radio 3)	6.15
		☒ Ant6 (Radio 3)	5.37
		☒ Ant7 (Radio 3)	5.31
☒	2*2 Beam-forming		3.01
☒	4*4 Beam-forming		6.02

Note1: The device supports 3 radios, radio 1(1*1 2.4GHz & 1*1 5GHz full band); radio 2(2*2 2.4GHz & 2*2 5GHz low band); radio 3(4*4 5GHz full band & 1*1 BLE), and radio 2 & 3 can works with Dual 2.4GHz & 5GHz mode and Dual 5GHz mode. As the 5GHz high band filter is different between two modes, additional Radio 3 5GHz high band mode is tested for compliance.

Dual 2.4GHz & 5GHz mode: Radio 2(2.4GHz 2*2) + Radio 3(5GHz full band 4*4)

Dual 5GHz mode: Radio 2(5GHz low band 2*2) + Radio 3(5GHz high band 4*4)

2: Radio 3 1*1 and 3*3 power will follow 2*2 and 4*4 power setting, so only 2*2 and 4*4 data are tested.

The UUT operates in the following bands:

1. 5250-5350 MHz
2. 5470-5730 MHz

The UUT is Master Device that has radar interference detection function. The highest gain antenna assembly utilized with the EUT has a maximum gain of 6dBi in 5GHz frequency band. The 50-ohm Tx/Rx antenna port is connected to the test system to perform conducted tests.

The UUT utilizes 802.11a/n/ac/ax IP based architecture. One nominal channel bandwidth, 20 MHz, 40MHz, 80MHz and 160MHz are implemented.

The slaver device is Intel WiFi module ax200.

The communication load conditions for EUT so that the transmission speed for signals that do not include error correction and control signals may amount to 50% of the maximum signal transmission speed for radio equipment, and establish communications with the external test

Operation in the 5470-5730 MHz frequency bands Master device provides, on aggregate, uniform loading of the spectrum across all devices by selecting an operating channel among the available channels using a random algorithm.

DFS operation description:

1. At first, the EUT will detect whether there is any radar signal.
2. If there is no radar signal, the EUT will notify "Full HD Video Transmitter (Slave)" to transmit the video signal.
3. If the EUT confronts the interference of radar signal during the period of transmitting the video signal, "Full HD video receiver (Master)" will notify "Full HD Video transmitter (slave)" to stop transmitting the video signal.

The test set-up is using **Set-up A** which UUT is a RLAN device operating in master mode, and test items as follows requirements:

Requirement	DFS Operational mode		
	Master	Slave without radar detection	Slave with radar detection
Channel Availability Check	√	Not required	√ (see note 2)
Off-Channel CAC (see note 1)	√	Not required	√ (see note 2)
In-Service Monitoring	√	Not required	√
Channel Shutdown	√	√	√
Non-Occupancy Period	√	Not required	√
Uniform Spreading	√	Not required	Not required
NOTE 1: Where implemented by the manufacturer.			
NOTE 2: A slave with radar detection is not required to perform a CAC or <i>Off-Channel</i> CAC at initial use of the channel but only after the slave has detected a radar signal on the <i>Operating Channel</i> by <i>In-Service Monitoring</i> .			

2. Test Equipment

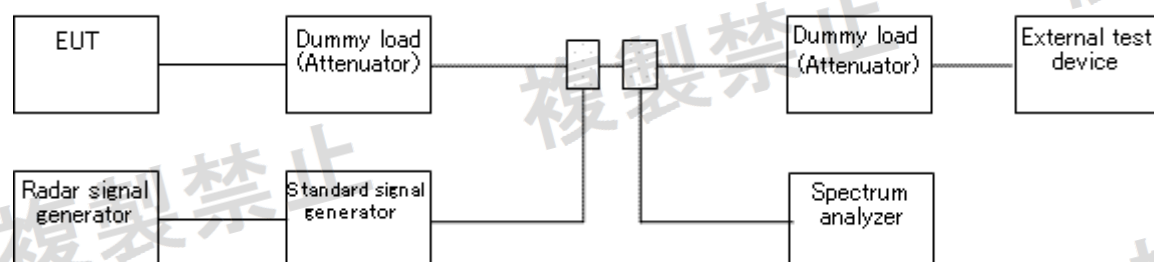
Dynamic Frequency Selection (DFS) / TR-8

Instrument	Manufacturer	Type No.	Serial No	Cali. Due Date
MAX Signal Analyzer	Agilent	N9020A	MY49100159	2021.12.18
MAX Signal Analyzer	Keysight	N9020B	MY59050482	2021.11.24
ESG Vector Signal Generator	Keysight	E4438C	US41461222	2021.09.22

Instrument	Manufacturer	Type No.	Serial No
Splitter/Combiner (Qty: 2)	Mini-Circuits	ZAPD-50W 4.2-6.0 GHz	NN256400424
Splitter/Combiner (Qty: 2)	MCLI	PS3-7	4463/4464
ATT (Qty: 1)	Mini-Circuits	VAT-30+	30912
Laptop PC	Asus	N80V	8BN0AS226971468
RF Cable (Qty: 6)	Mini-Circuits	N/A	DFS-1~6

Software	Manufacturer	Function
Pulse Building	Agilent	Radar Signal Generation Software
DFS Tool	Agilent	DFS Test Software

3. Test Setup



4. DFS Detection Thresholds

(1) Interference Threshold value

Maximum Transmit Power	Value (see note)
≥ 200 milliwatt	-64 dBm
< 200 milliwatt	-62 dBm
Note 1: This is the level at the input of the receiver assuming a 0 dBi receive antenna.	

(2) DFS Response requirement values

Parameter	Value
Non-Occupancy Period	≥ 30 Minutes
Channel Availability Check Time	≥ 60 Seconds
Channel Move Time	≤ 10 Seconds
Channel Closing Transmission Time	≤ 260 milliseconds

5. Radar Test Waveforms

Generate pulses based on test signals in the following table with the radar signal generator, apply them to the external pulse modulation input of the standard signal generator, and generate quasi radar pulses.

(1) Operation Frequency band 5250-5350MHz (W53)

Fixed pulse radar wave test signals

Test signal	Pulse width [μs]		Repetition frequency [Hz]		Minimum number of consecutive pulses	Radar Detection Probability
	Minimum value	Maximum value	Minimum value	Maximum value		
1	0.5	5	200	1000	10	60% or more
2	0.5	5	200	1600	15	60% or more
3	0.5	5	200	1000	"Repetition frequency x 0.026" (Round up to less than 1), or "22", whichever is larger, or "30", whichever is smaller	60% or more
4	0.5	15	200	1600	"Repetition frequency x 0.026" (Round up to less than 1), or "22", whichever is larger, or "30", whichever is smaller	60% or more
5	0.5	1.5	1114	1118	30	60% or more
6	0.5	1.5	928	932	25	60% or more
7	0.5	1.5	886	890	24	60% or more
8	0.5	1.5	738	742	20	60% or more

(2) Operation Frequency band 5470-5730MHz (W56)

A. Fixed pulse radar wave test signals

Test signal	Pulse width [μs]	Pulse repetition frequency [Hz]	Number of continuous pulses	Repetition cycle [s]	Radar Detection Probability
Fixed Pulse 1 (DFS-J2-1)	0.5	720	18	15.0	60% or more
Fixed Pulse 2 (DFS-US-1)	1.0	700	18	15.0	60% or more
Fixed Pulse 3 (DFS-J2-2)	2.0	250	18	15.0	60% or more

B. Variable pulse radar wave test signals

Test signal	Pulse width [μs]	Pulse repetition frequency [Hz]	Number of continuous pulses	Repetition cycle [s]	Radar Detection Probability
Variable Pulse 4 (DFS-US-2)	1 to 5μs in increments of 1μs	Any one frequency in a range of 4,347 to 6,667 Hz	23 - 29	15.0	60% or more
Variable Pulse 5 (DFS-US-3)	6 to 10μs in increments of 1μs	Any one frequency in a range of 2,000 to 5,000 Hz	16 - 18	15.0	60% or more
Variable Pulse 6 (DFS-US-4)	11 to 20μs in increments of 1μs	Any one frequency in a range of 2,000 to 5,000 Hz	12 - 16	15.0	60% or more
Aggregate (Fixed and Variable Radar Types 1 - 6) must be					80% or more

Note: Each item in the table shall consist of any combination of 1.

C. Chirp radar wave test signal

Test signal	Pulse width [μs]	Pulse repetition frequency [Hz]	Number of continuous pulses	Repetition cycle [s]	Radar Detection Probability
Chirp (DFS-US-5)	50 to 100μs in increments of 1μs	Any one frequency in a range of 500 to 1,000 Hz	1 - 3	12.0	80% or more

Note 1: Bursts shall be transmitted within 12 seconds.

Note 2: The chirp width shall be a frequency width that ranges from 5 to 20 MHz in increments of 1MHz. An individual chirp width can be any in each burst and chirp widths within the same burst shall be equal.

Note 3: The number of bursts shall be any integer in a range of 8 to 20 and a burst interval shall be a time period derived from dividing 12 seconds with the number of bursts.

Note 4: If there are multiple pulses within a burst of 1s, the width of each pulse shall be equal and the pulse repetition frequency shall not have any relationships with that for the subsequent pulses of 1.

Note 5: Each item in the table shall consist of any combination of 1.

D. Frequency hopping radar wave test signal

Test signal	Pulse width [μs]	Pulse repetition frequency [Hz]	Number of continuous pulses	Repetition cycle [s]	Radar Detection Probability
Hopping (DFS-US-6)	1.0	3,000	9	10.0	70% or more

Note 1: The hopping frequency shall be any frequency that ranges from 5,250 to 5,724 MHz in increments of 1MHz.

Note 2: An individual hopping interval shall be 3 ms and a total of all hopping intervals shall be 300ms.

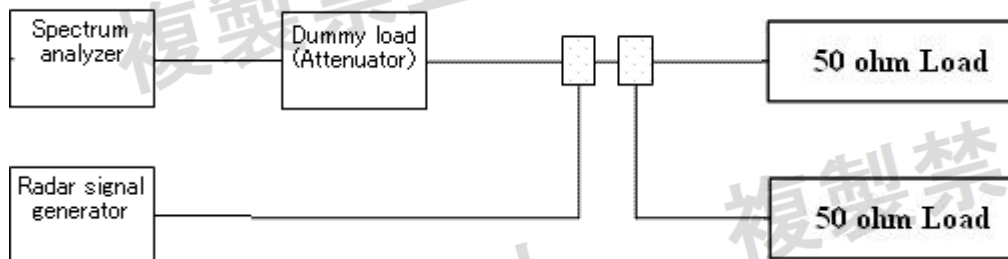
Note 3: Burst intervals shall be 3ms.

6. Radar Waveform Calibration

The following equipment setup was used to calibrate the conducted radar waveform. A spectrum analyzer was used to establish the test signal level for each radar type. During this process there were replace 50ohm terminal from master and client device and no transmissions by either the master or client device. The spectrum analyzer was switched to the zero span (time domain) at the frequency of the radar waveform generator. Peak detection was utilized. The spectrum analyzer resolution bandwidth (RBW) and video bandwidth (VBW) were set to 1MHz and 1 MHz.

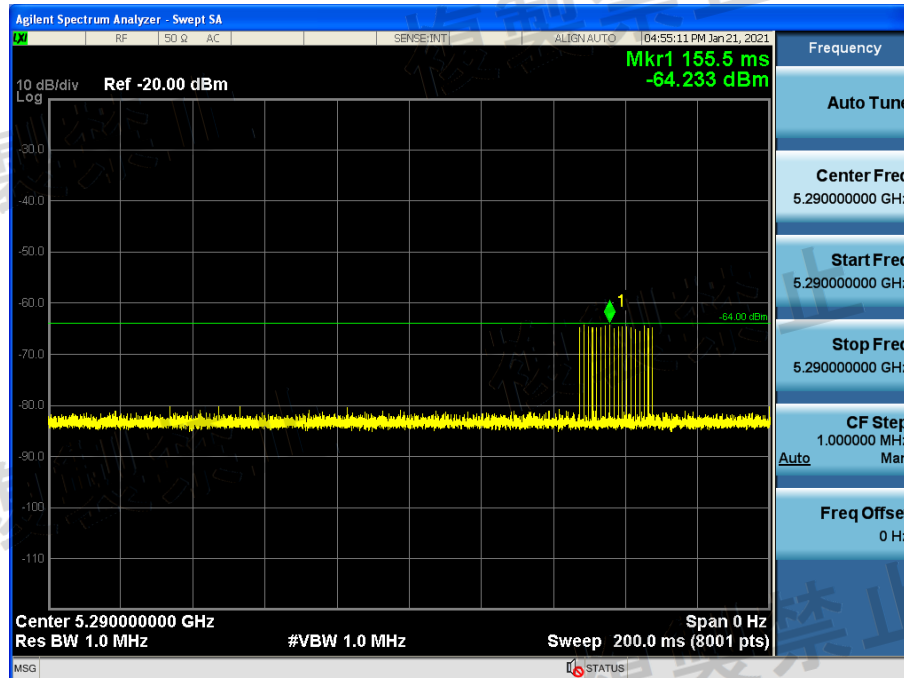
The signal generator amplitude was set so that the power level measured at the spectrum analyzer was -62dBm due to the interference threshold level is not required.

Conducted Calibration Setup

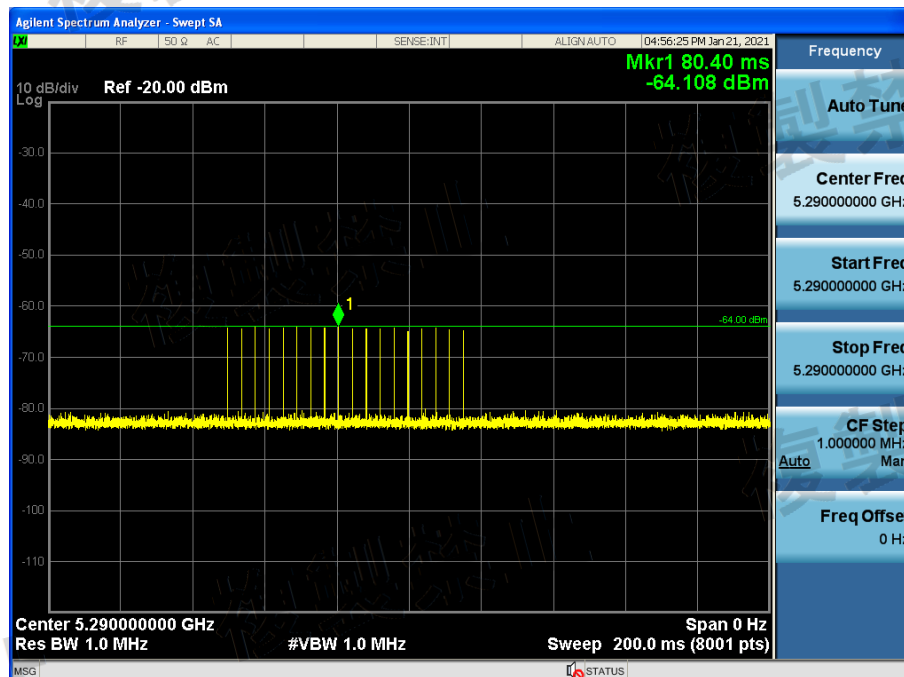


6.1. Radar Waveform Calibration Result

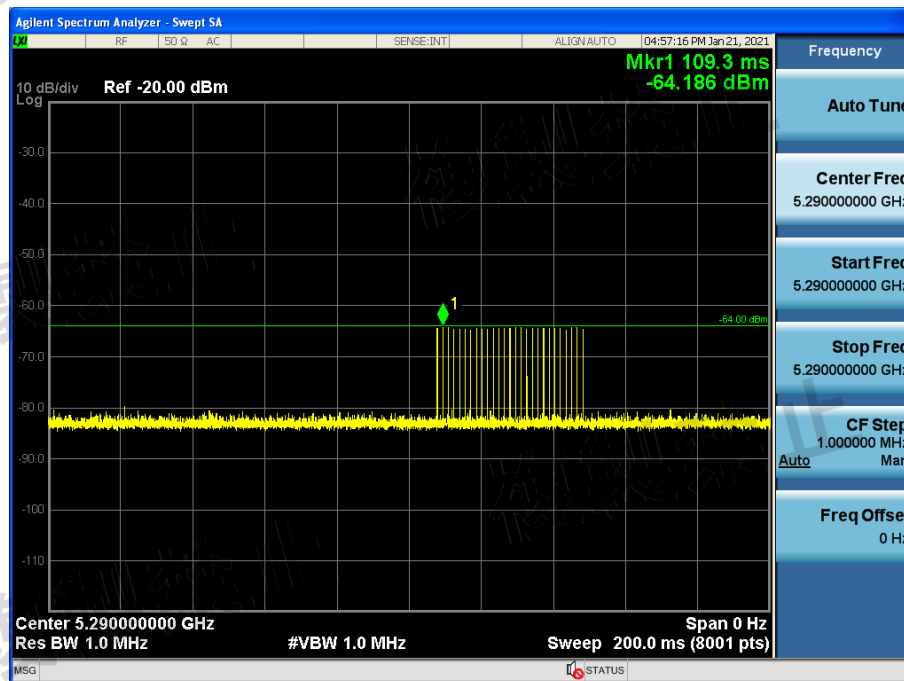
Radar DFS-JP-W53-1 Calibration Plot (5290MHz)



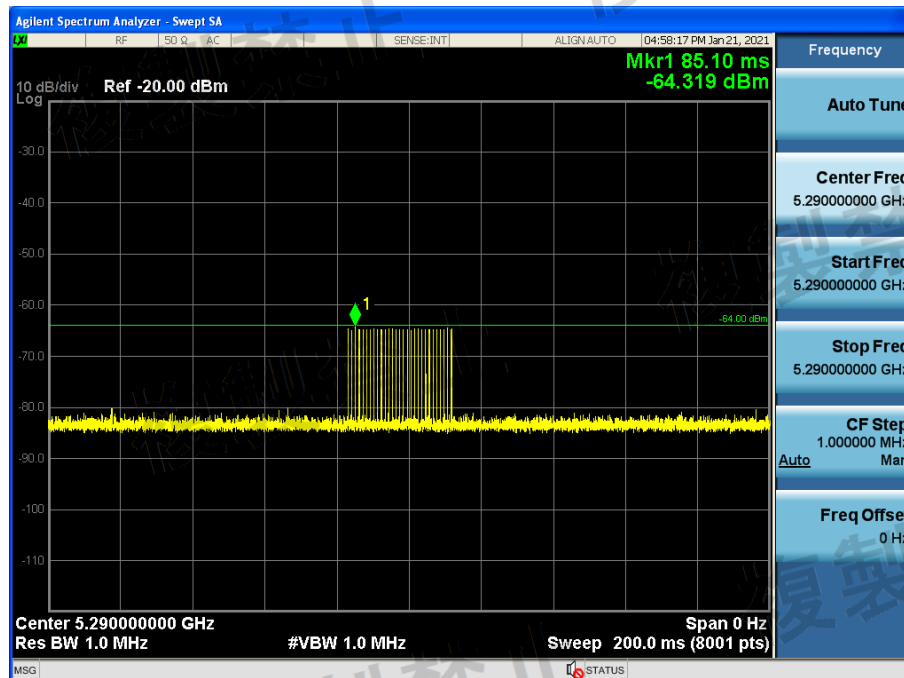
Radar DFS-JP-W53-2 Calibration Plot (5290MHz)



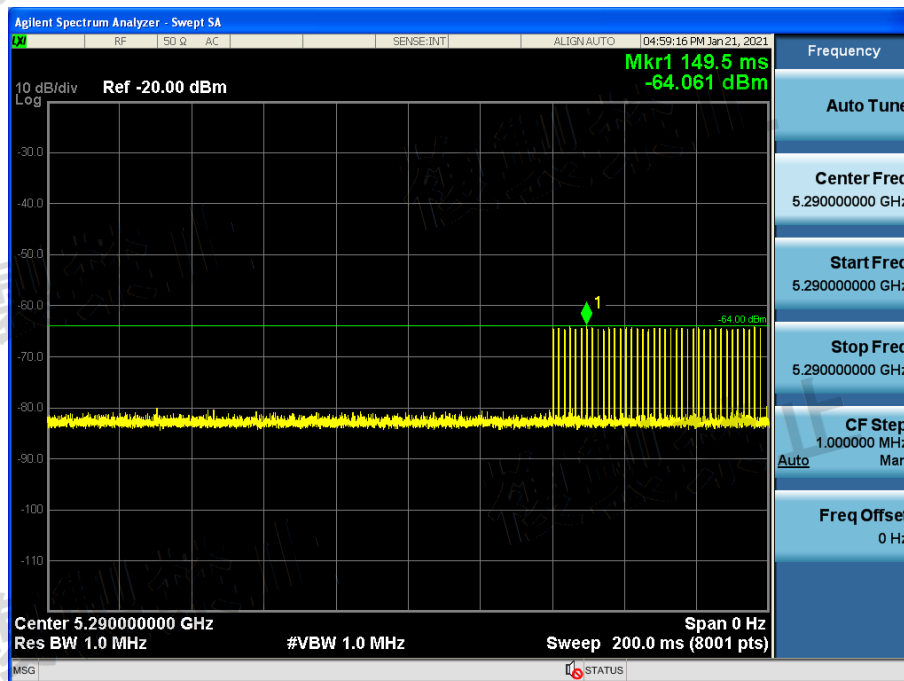
Radar DFS-JP-W53-3 Calibration Plot (5290MHz)



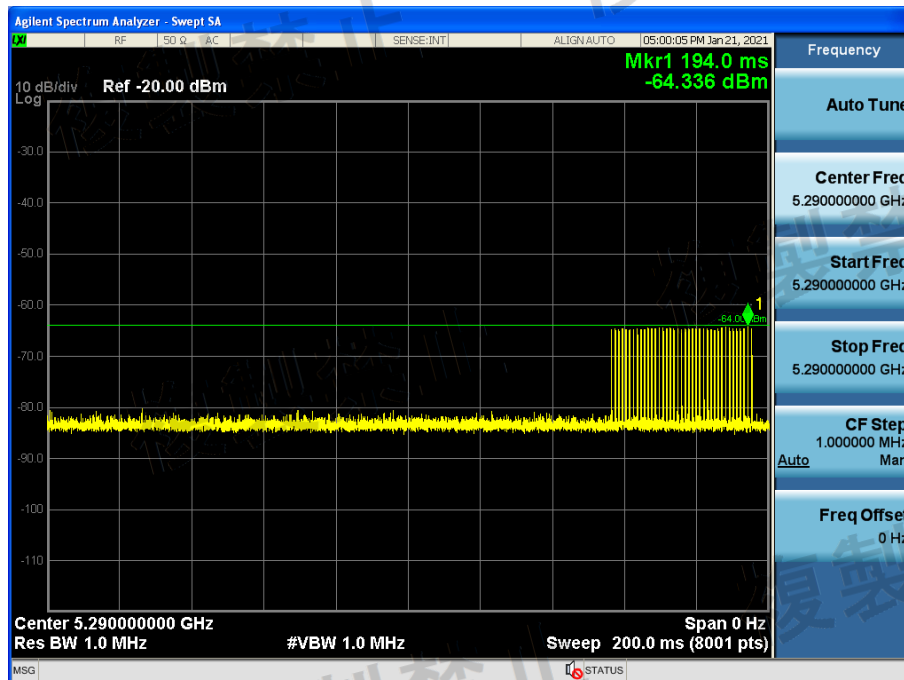
Radar DFS-JP-W53-4 Calibration Plot (5290MHz)



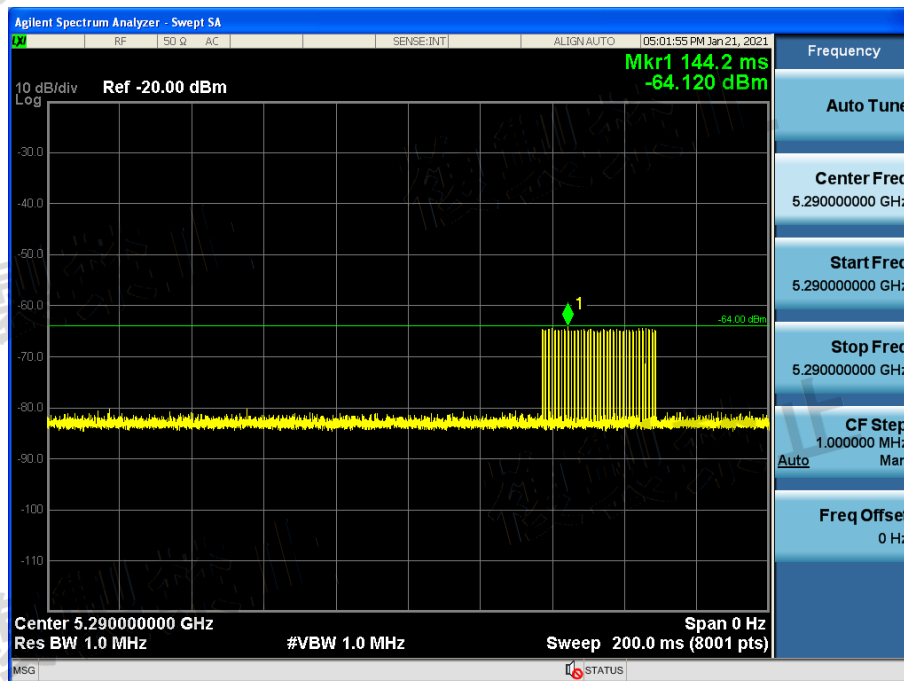
Radar DFS-JP-W53-5 Calibration Plot (5290MHz)



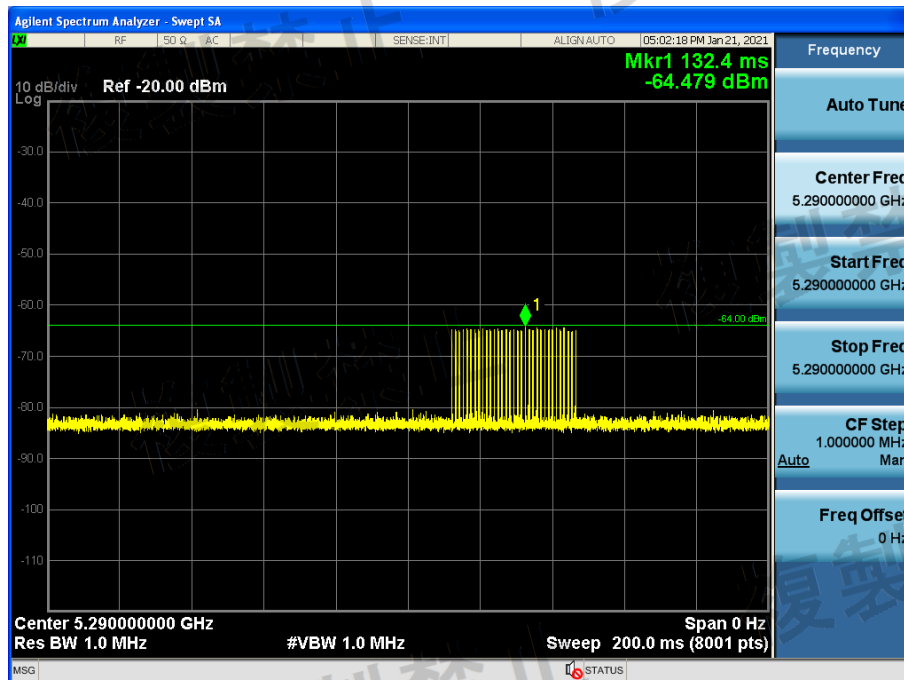
Radar DFS-JP-W53-6 Calibration Plot (5290MHz)



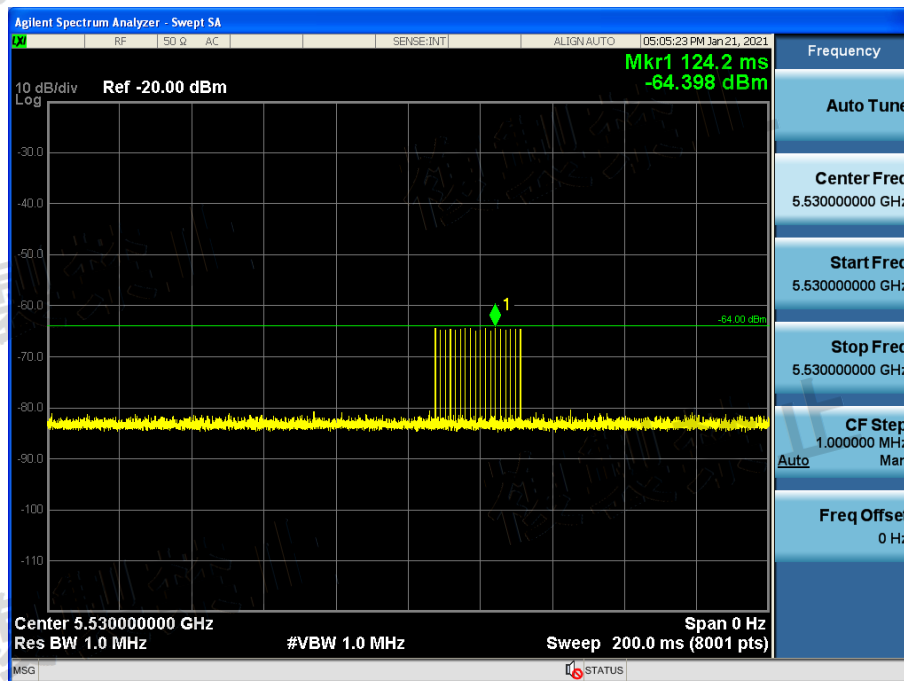
Radar DFS-JP-W53-7 Calibration Plot (5290MHz)



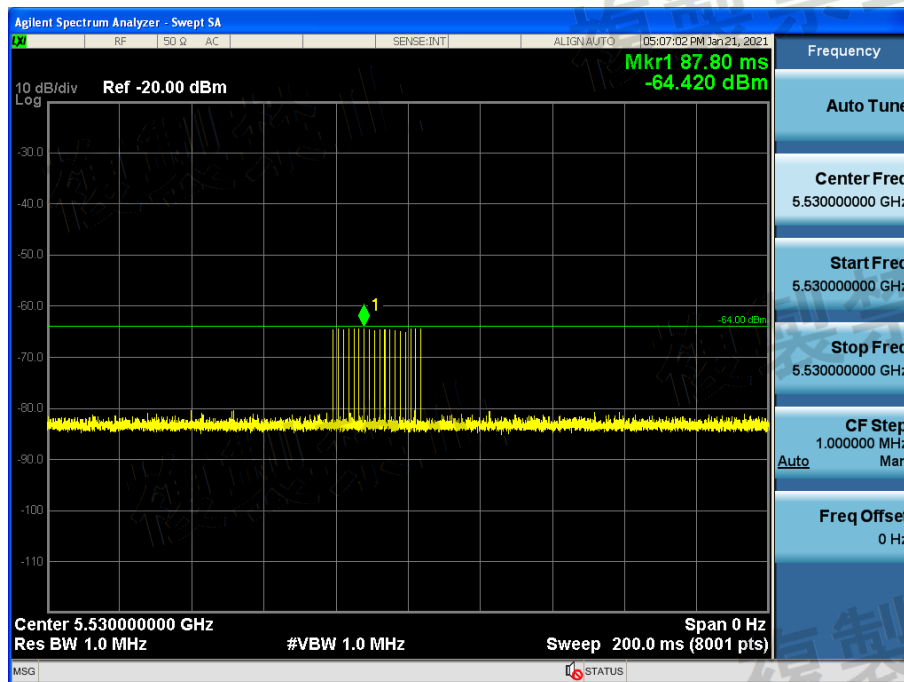
Radar DFS-JP-W53-8 Calibration Plot (5290MHz)



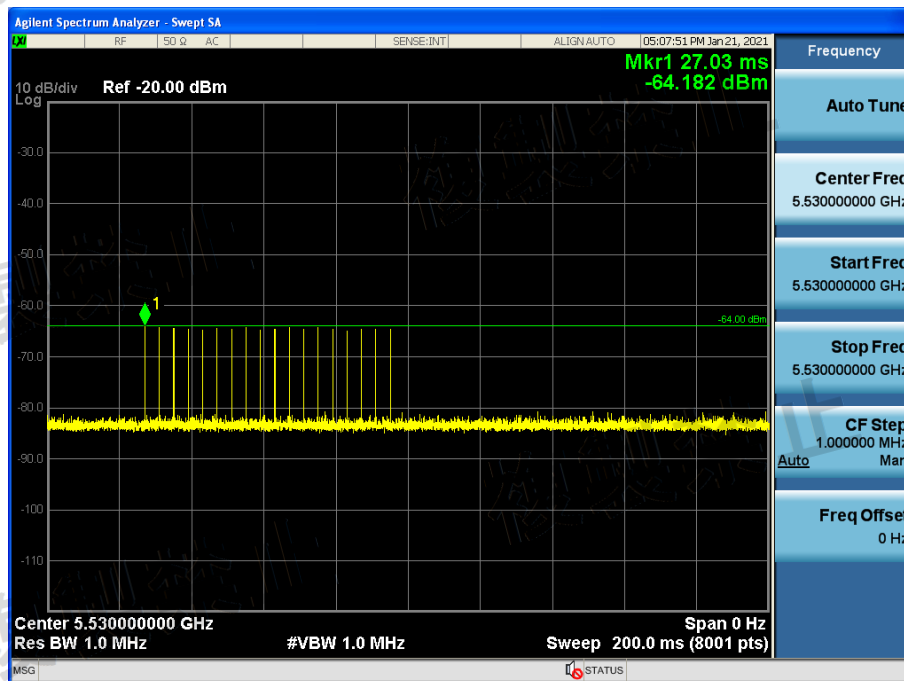
Radar DFS-J2-1 Calibration Plot (5530MHz)



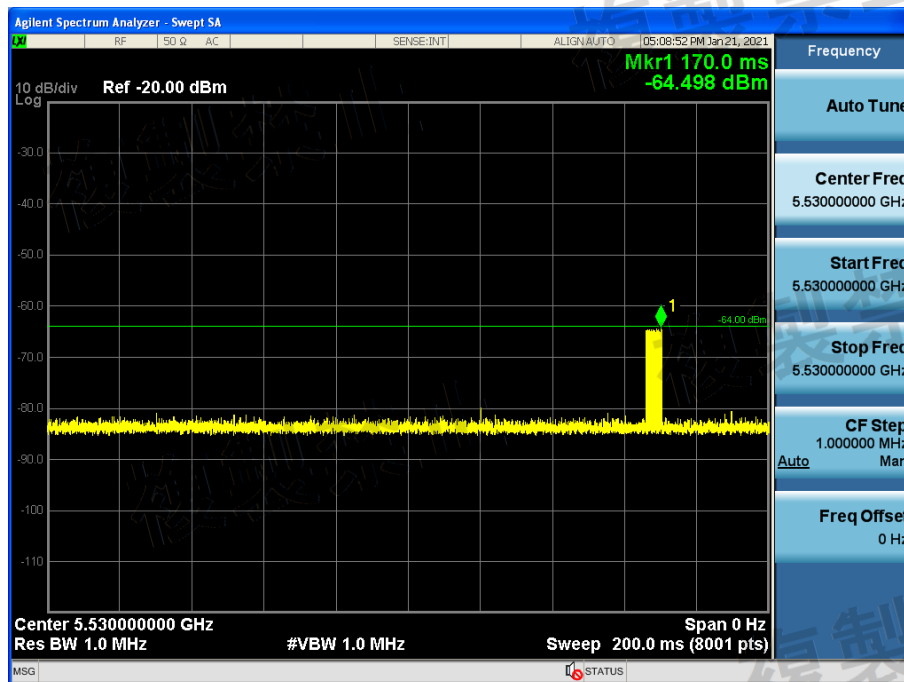
Radar DFS-J2-2 Calibration Plot (5530MHz)



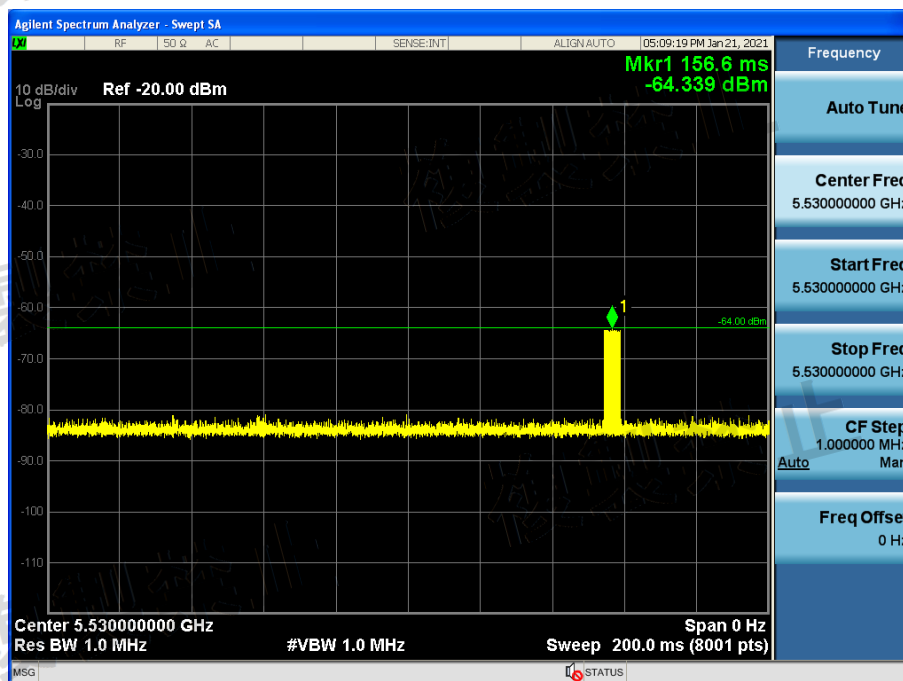
Radar DFS-US-1 Calibration Plot (5530MHz)



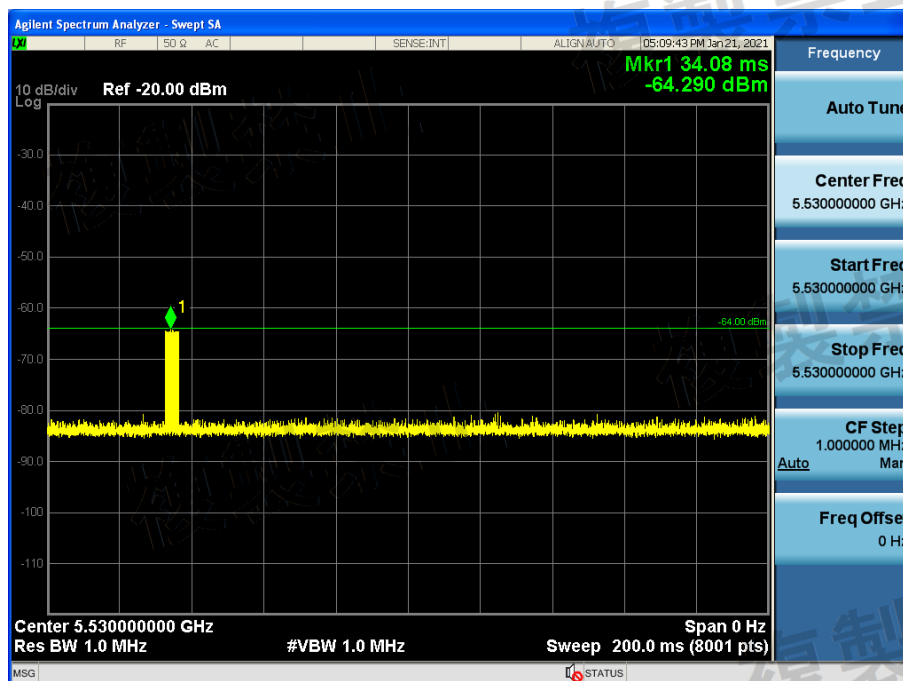
Radar DFS-US-2 Calibration Plot (5530MHz)



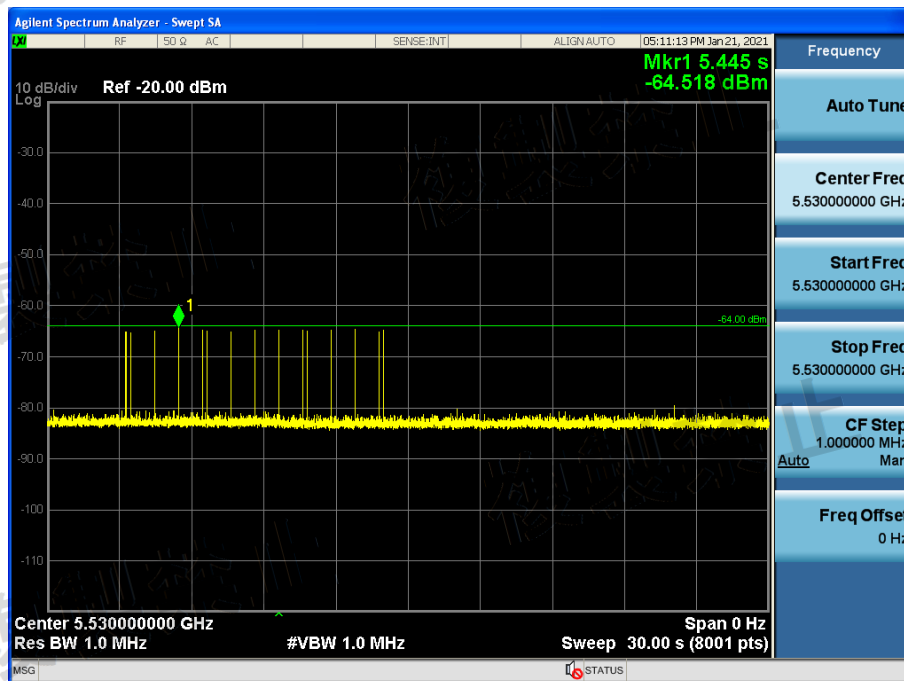
Radar DFS-US-3 Calibration Plot (5530MHz)



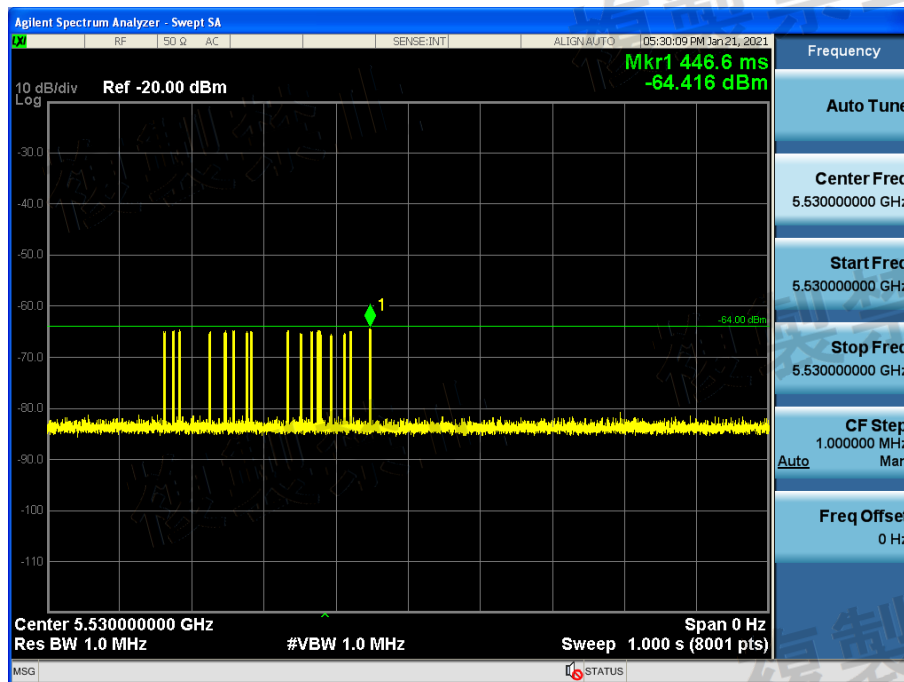
Radar DFS-US-4 Calibration Plot (5530MHz)



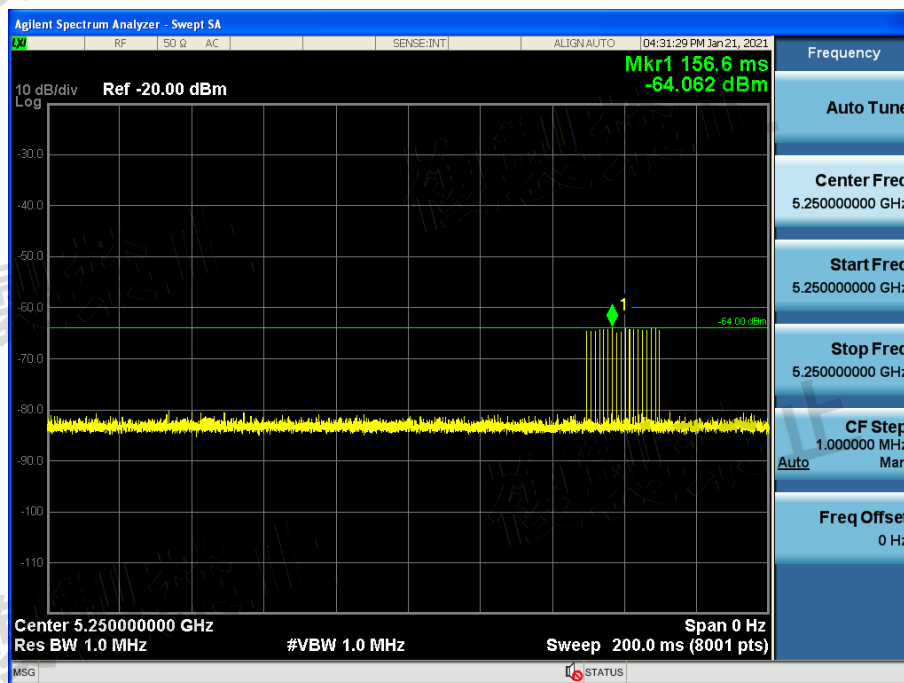
Radar DFS-US-5 Calibration Plot (5530MHz)



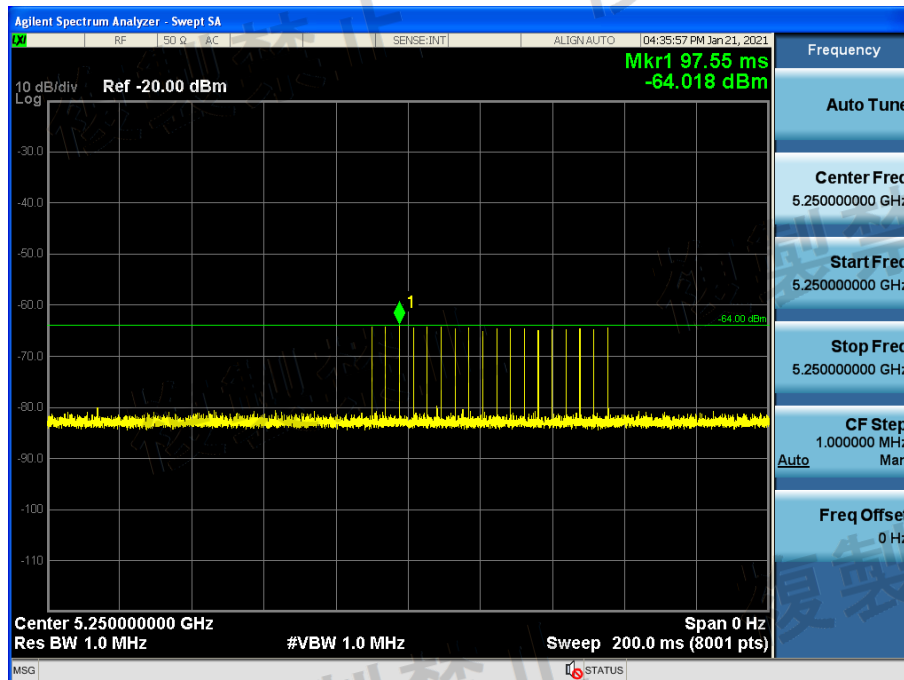
Radar DFS-US-6 Calibration Plot (5530MHz)



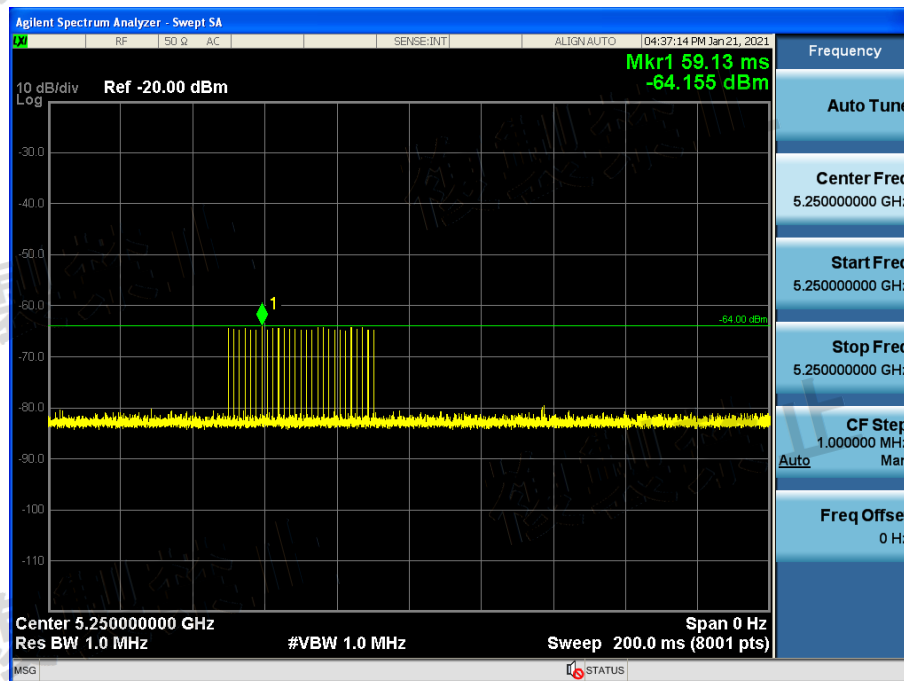
Radar DFS-JP-W53-1 Calibration Plot (5250MHz)



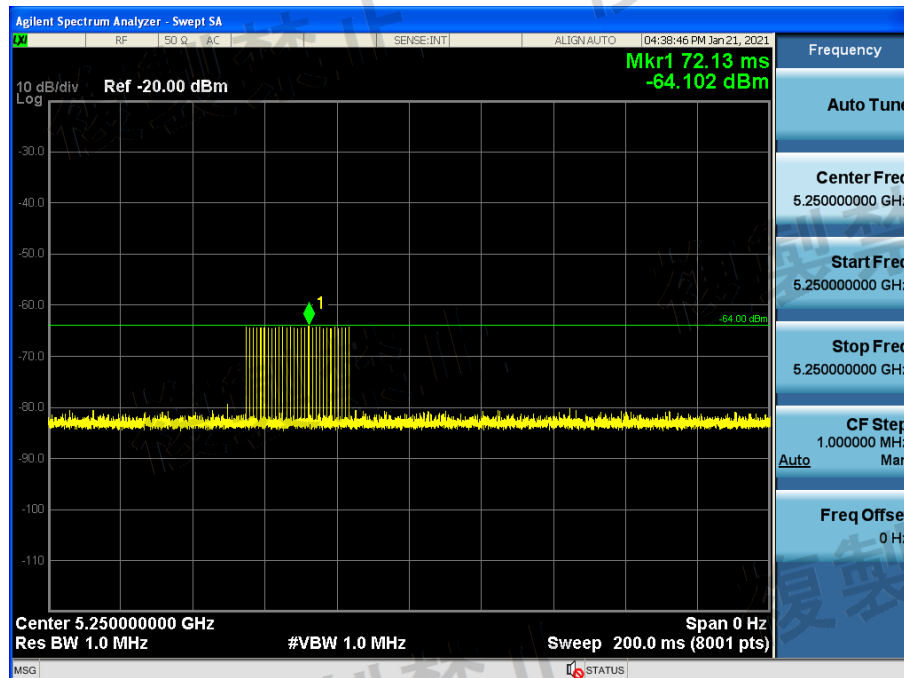
Radar DFS-JP-W53-2 Calibration Plot (5250MHz)



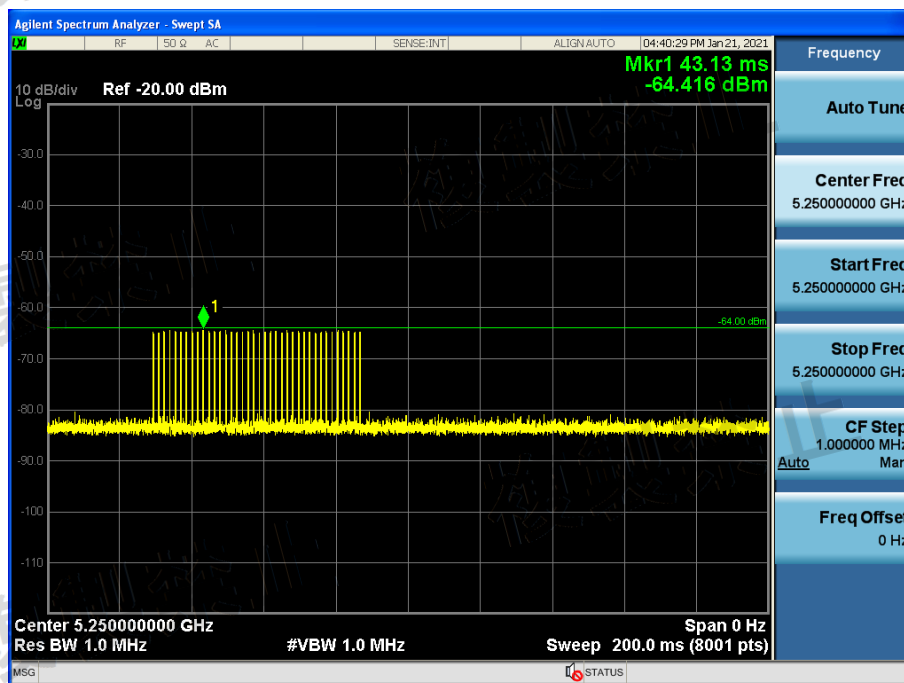
Radar DFS-JP-W53-3 Calibration Plot (5250MHz)



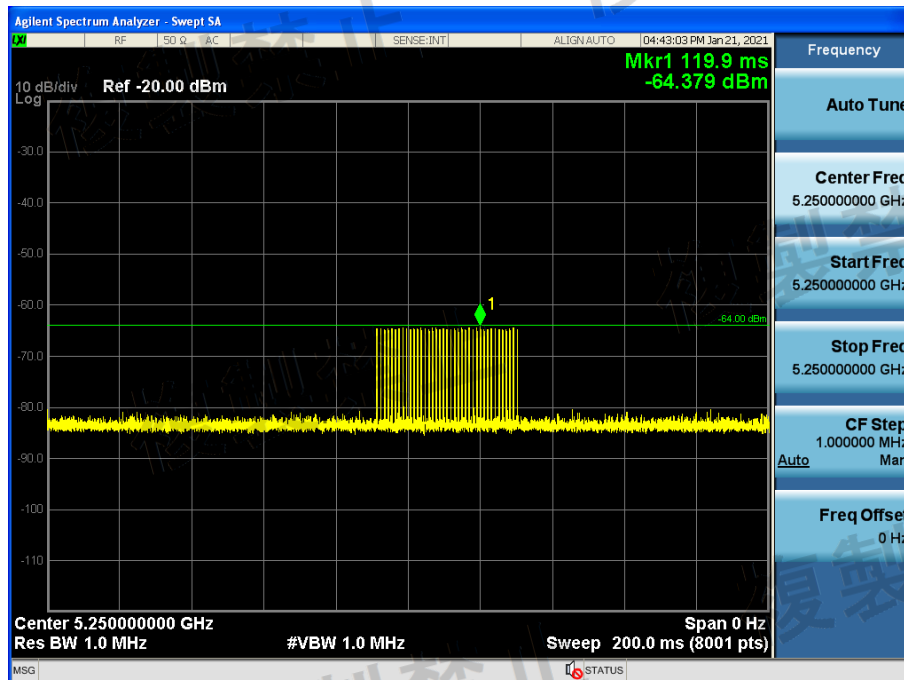
Radar DFS-JP-W53-4 Calibration Plot (5250MHz)



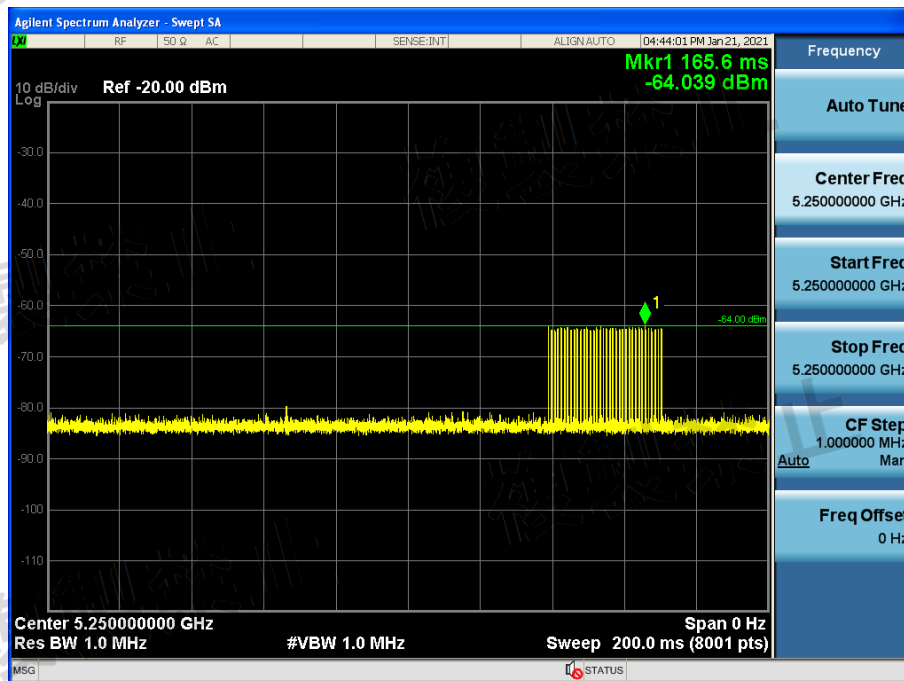
Radar DFS-JP-W53-5 Calibration Plot (5250MHz)



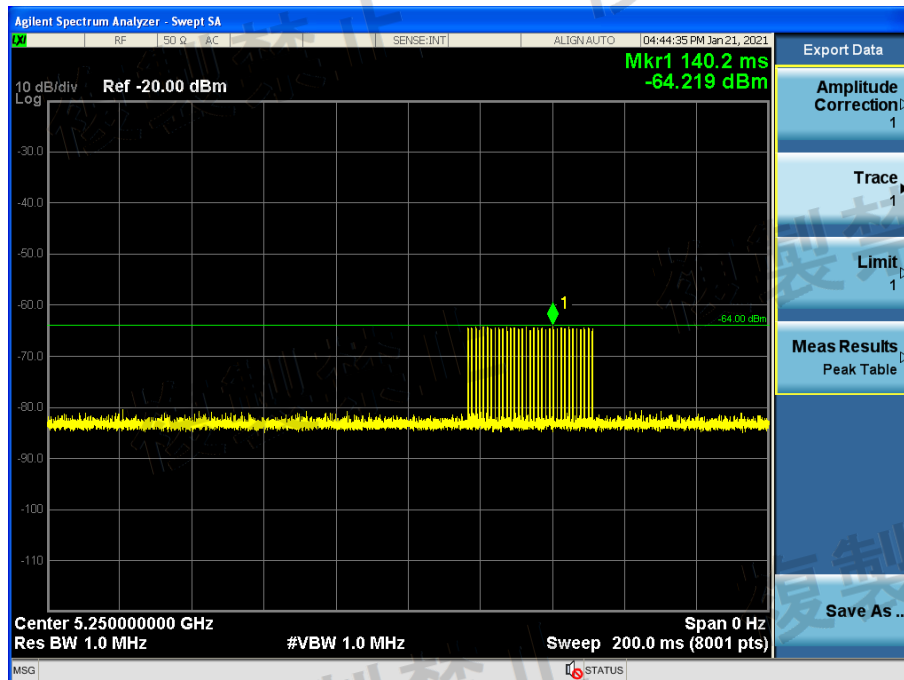
Radar DFS-JP-W53-6 Calibration Plot (5250MHz)



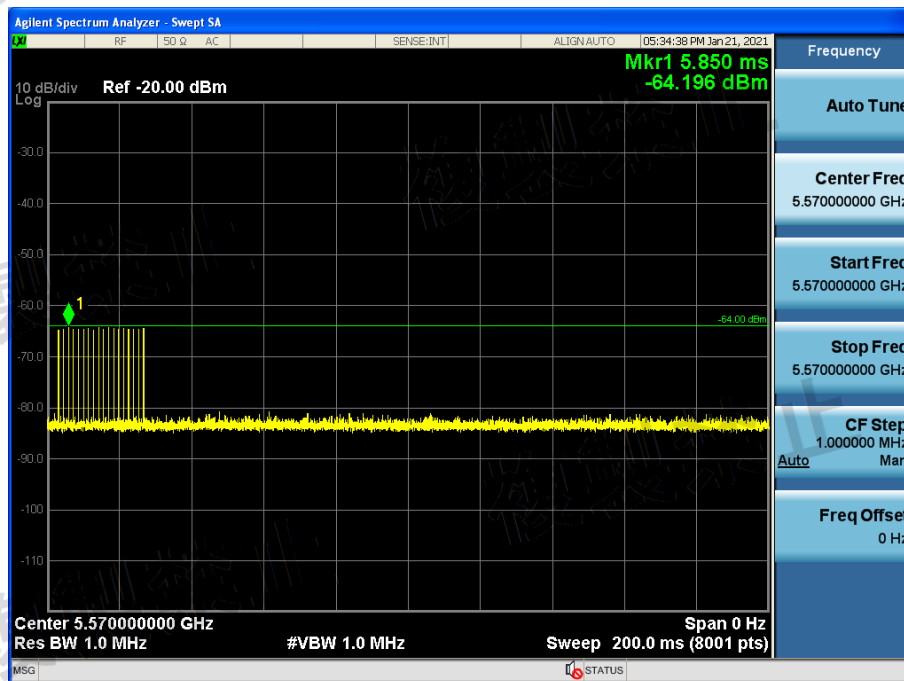
Radar DFS-JP-W53-7 Calibration Plot (5250MHz)



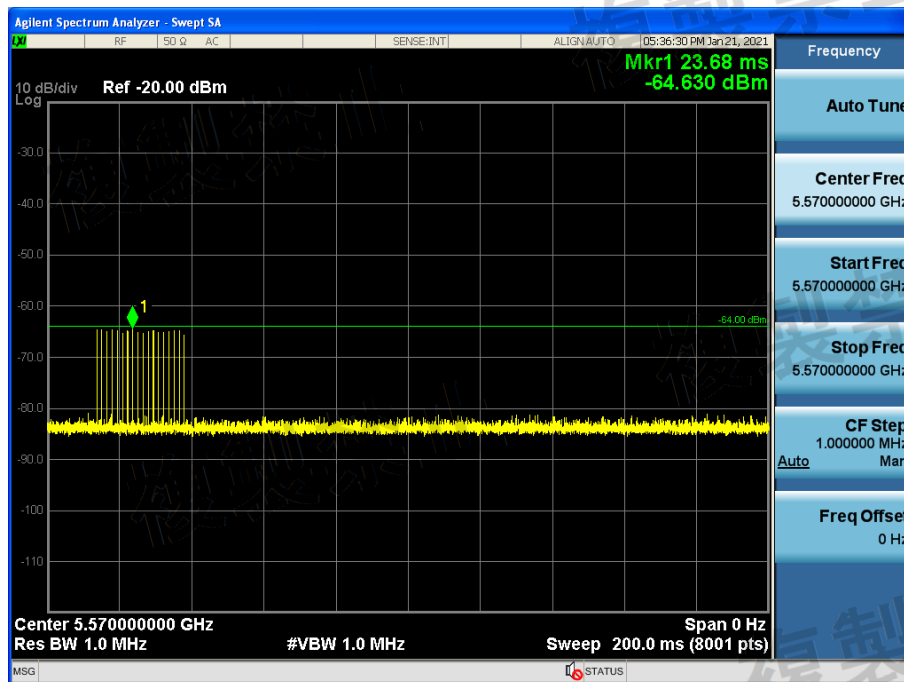
Radar DFS-JP-W53-8 Calibration Plot (5250MHz)



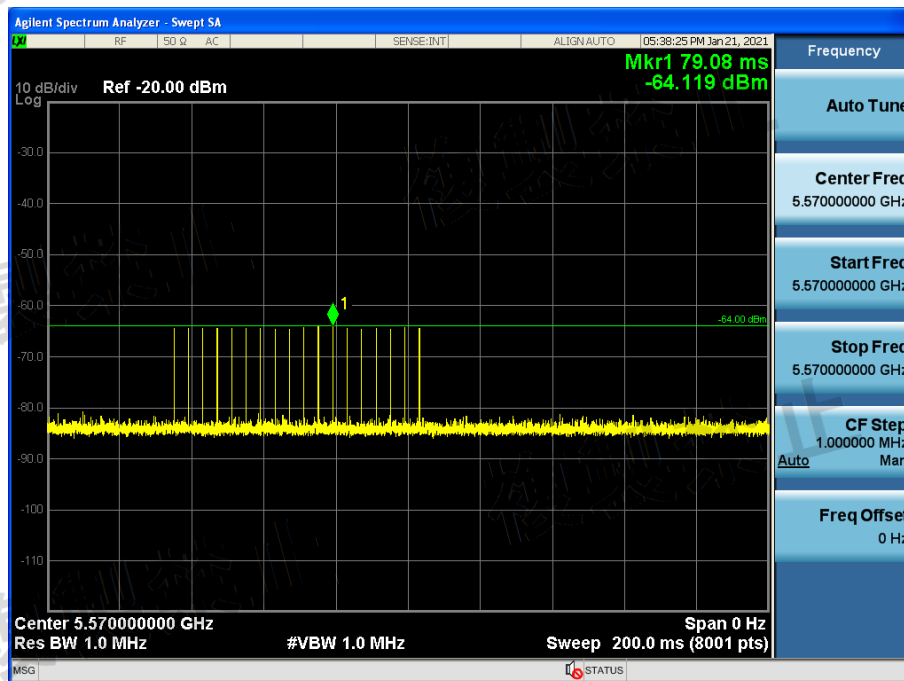
Radar DFS-J2-1 Calibration Plot (5570MHz)



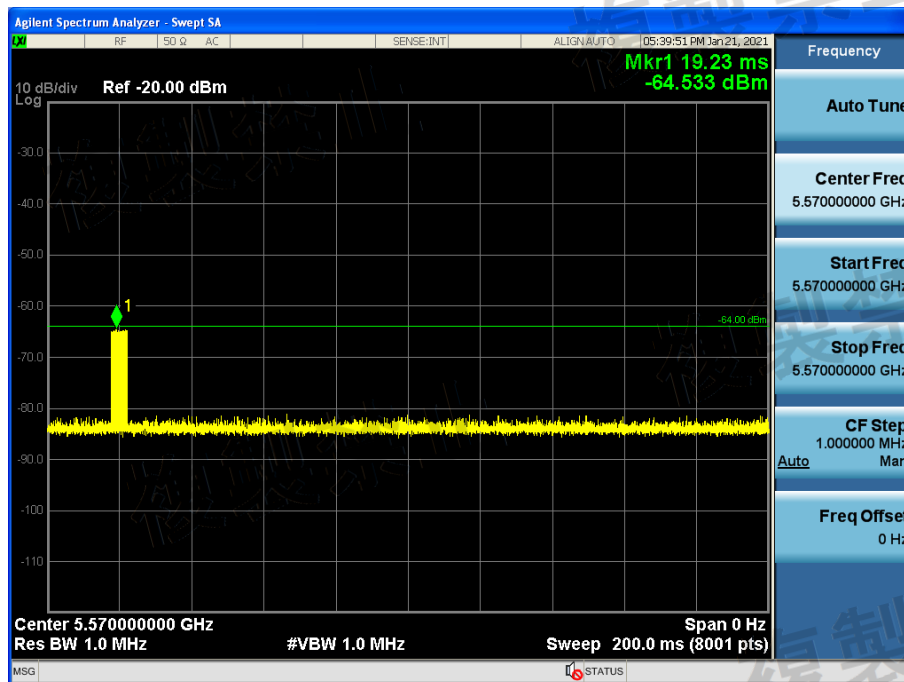
Radar DFS-J2-2 Calibration Plot (5570MHz)



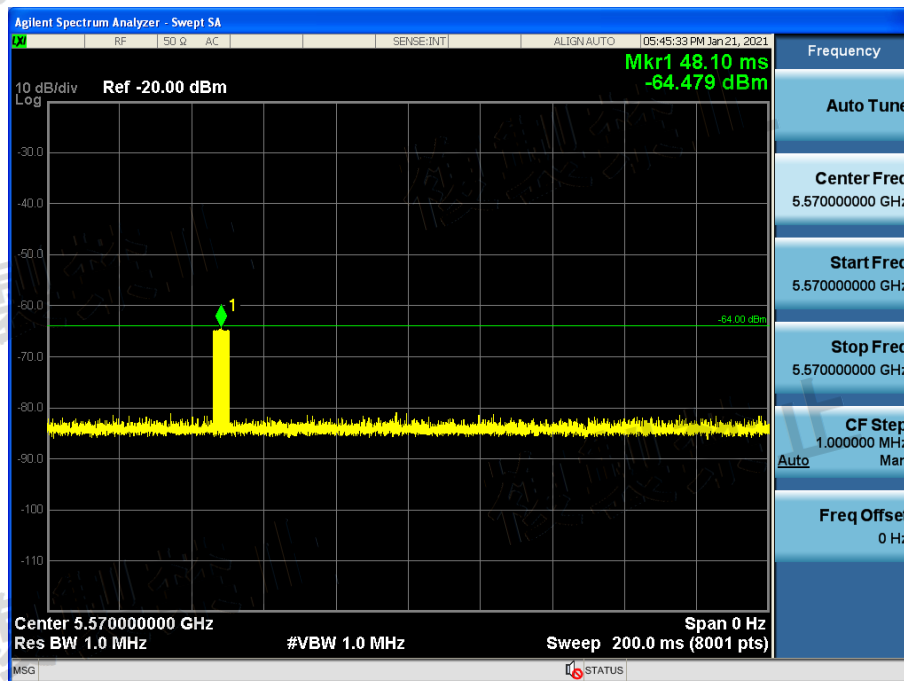
Radar DFS-US-1 Calibration Plot (5570MHz)



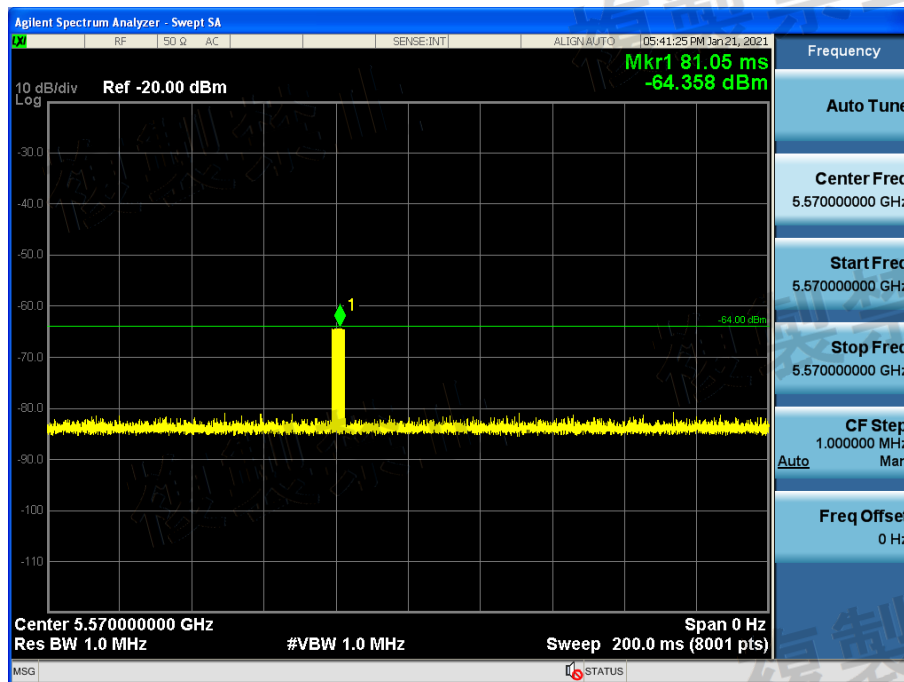
Radar DFS-US-2 Calibration Plot (5570MHz)



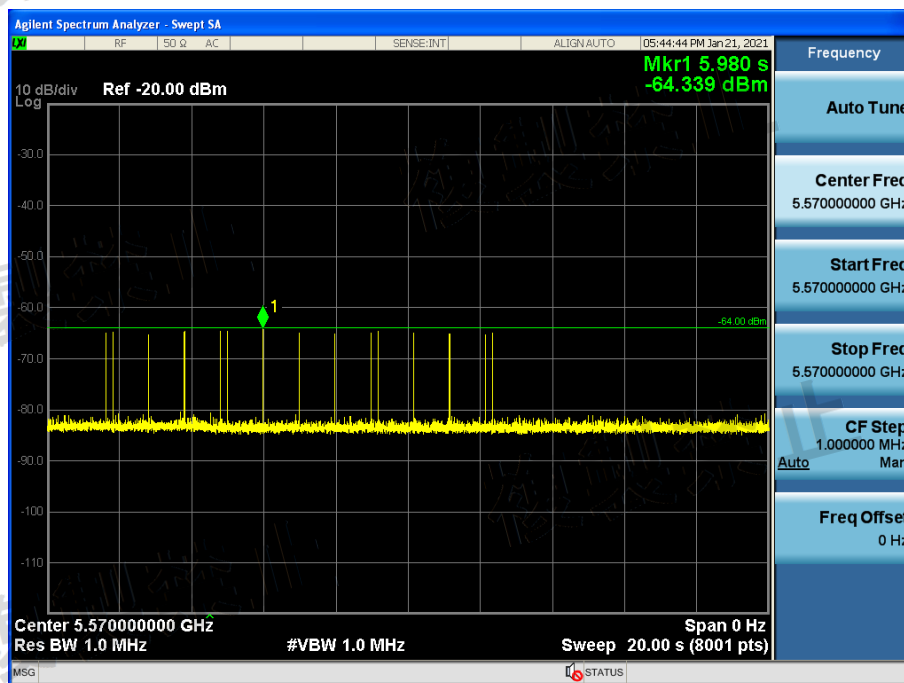
Radar DFS-US-3 Calibration Plot (5570MHz)



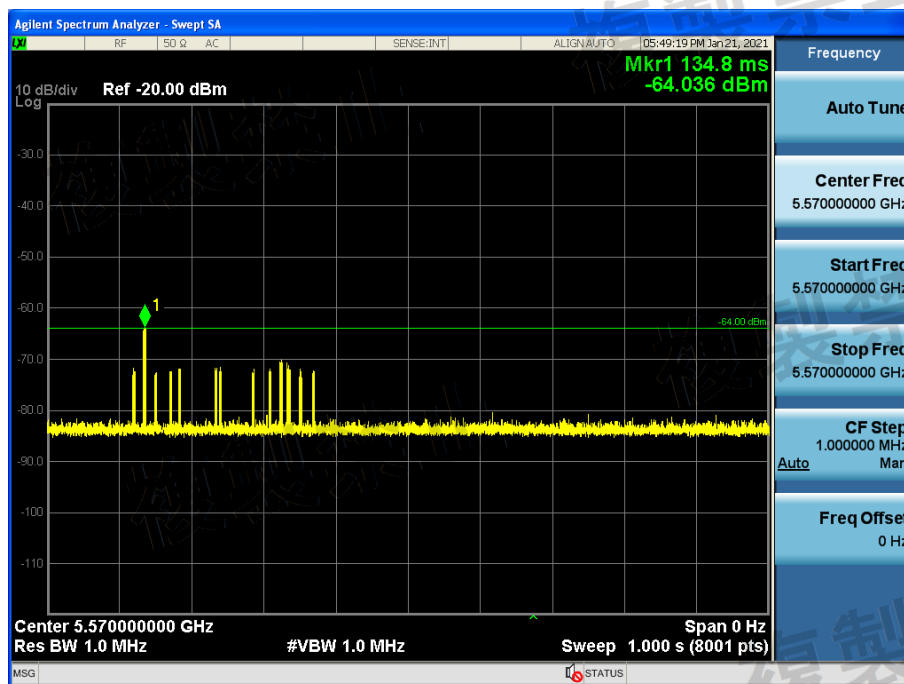
Radar DFS-US-4 Calibration Plot (5570MHz)



Radar DFS-US-5 Calibration Plot (5570MHz)

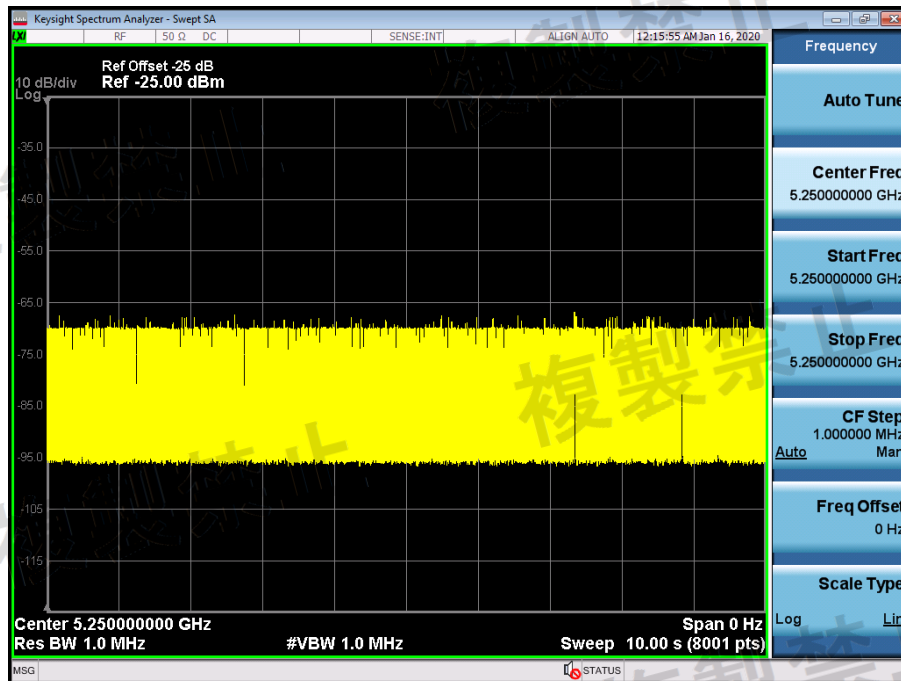
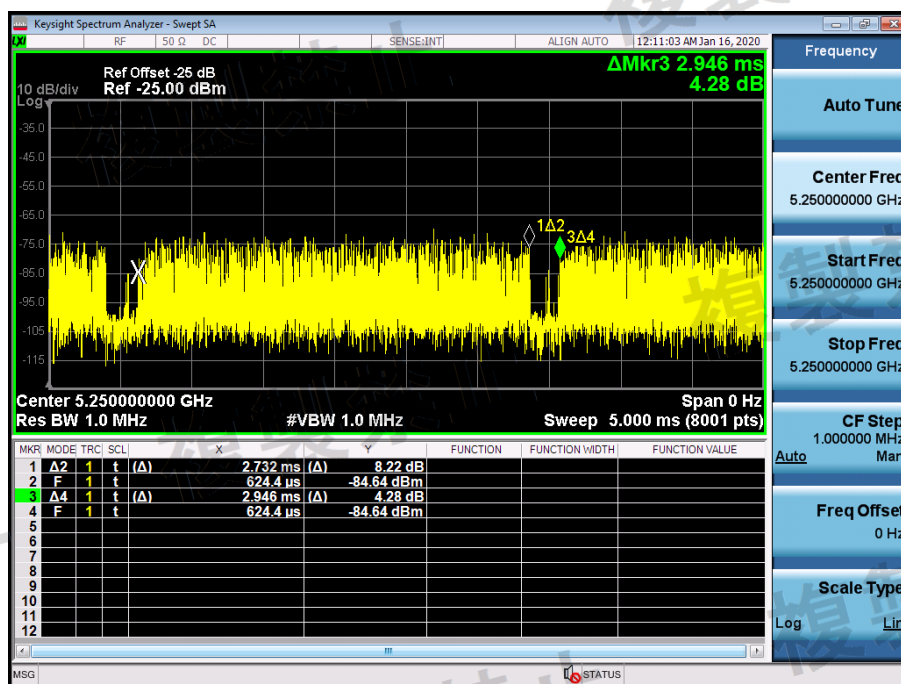


Radar DFS-US-6 Calibration Plot (5570MHz)



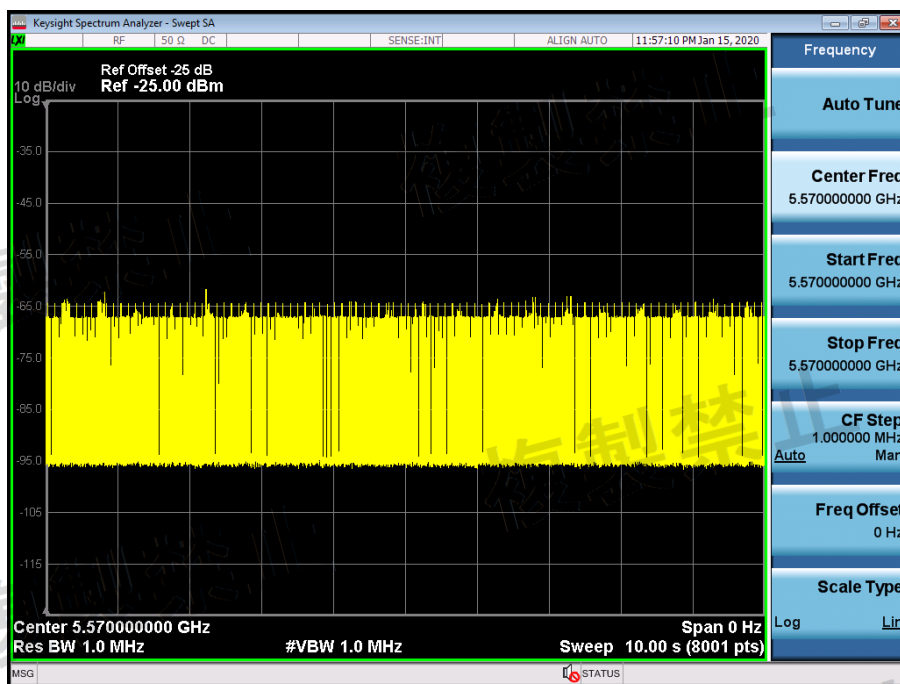
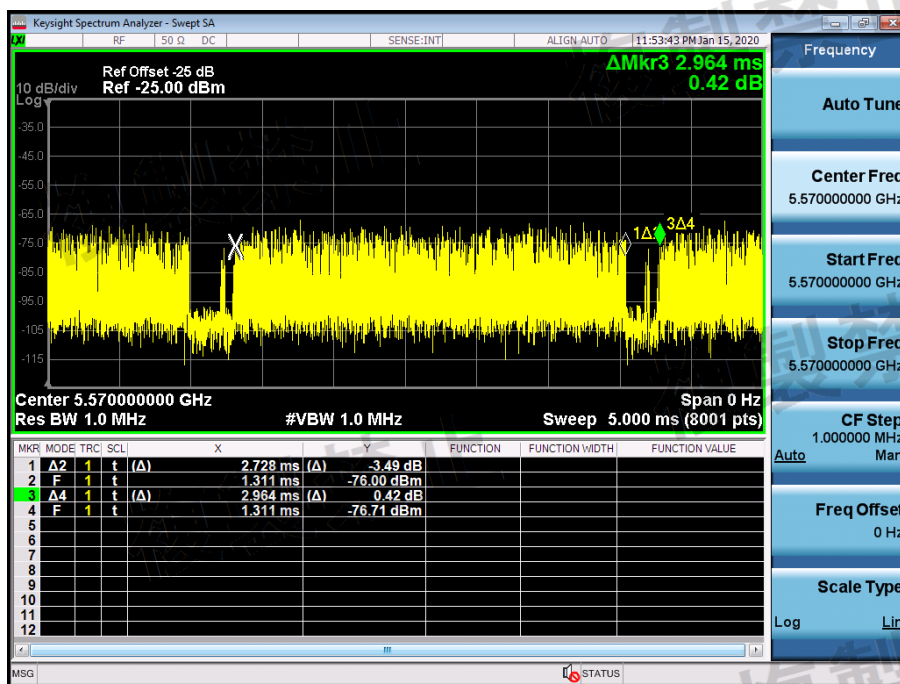
6.2. Master Data Traffic Plot Result

Plot of WLAN Traffic at 5250MHz



Packet ratio	Requirement ratio
92.74%	>50%

Plot of WLAN Traffic at 5570MHz



Packet ratio	Requirement ratio
92.04%	>50%

7. Initial Channel Availability Check Time

7.1. Test Procedure

- A. Set the standard signal generator to be in non-transmission state.
- B. Set EUT to be in state of available channel checking by initializing EUT and confirm with the spectrum analyzer that EUT does not radiate emissions.
- C. In a time slot selected randomly from the time period of available channel checking, set the standard signal input generator to be in transmission state and apply quasi radar pulses at the prescribed level to EUT.
- D. Confirm with the spectrum analyzer that EUT does not radiate emissions when quasi radar pulses are input to EUT.
- E. Repeat Steps A to D four times and record each time whether EUT radiates emissions or not. If EUT does not radiate emissions, assume that a quasi radar pulse has been detected and find how many times it has been detected.

7.2. Test Requirement

- A. Describe the statue with "Pass" if EUT has detected a quasi radar pulse four times in Step (4)-(i)-E and with "Fail" if it has detected the pulse three times or less.
- B. Regarding "time period during which transmission stops when radar emissions have been detected by confirming available channels," confirm it with the application document.

7.3. Uncertainty

$\pm 1\text{ms}$.

7.4. Test Result of Initial Channel Availability Check Time

Radio 1:

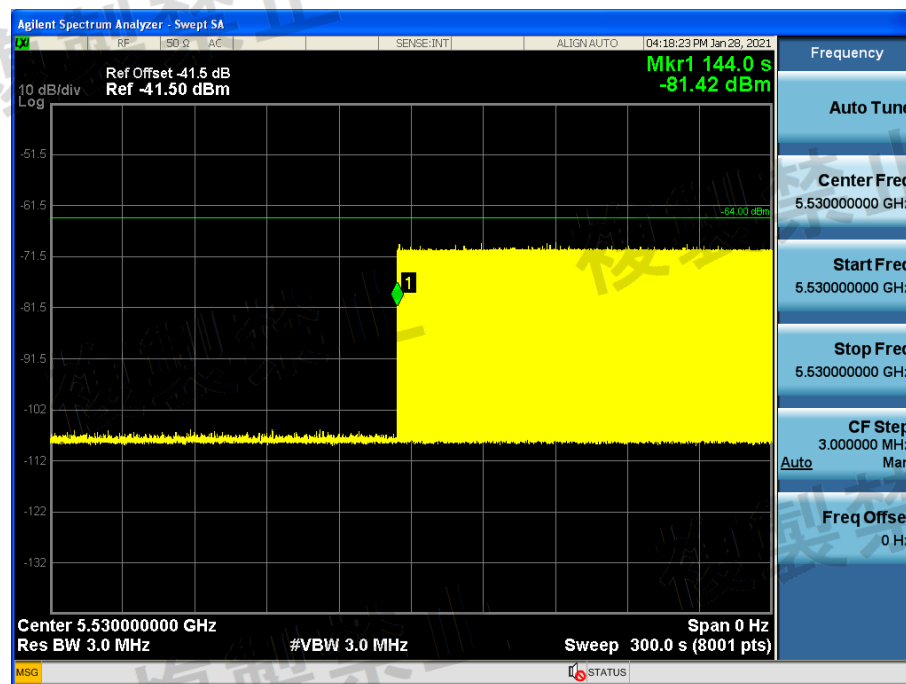
Test Item : Initial Channel Availability Check Time

Radar : None

Type

Test Mode : Transmit at 5530MHz by 802.11ac(80MHz)

The EUT does not transmit any beacon or data transmission until at least 1 minute after the completion of the power-on cycle (84 sec). The initial power up time of the EUT is indicated by Marker 1R (144 sec) – CAC (60 sec). Initial beacons/data transmissions are indicated by Marker 1R (144 sec)



Radio 2:

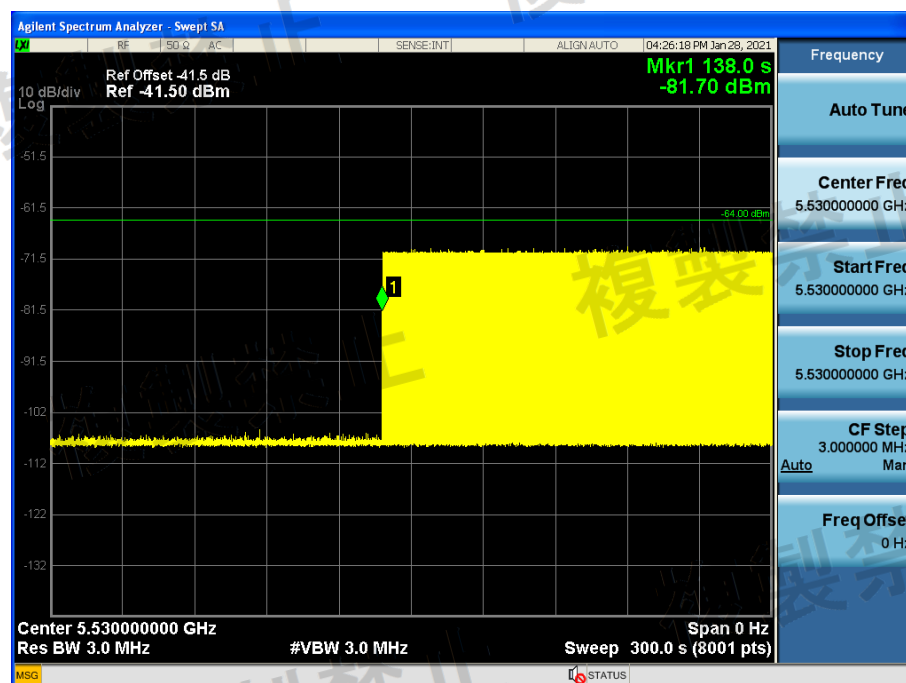
Test Item : Initial Channel Availability Check Time

Radar : None

Type

Test Mode : Transmit at 5530MHz by 802.11ac(80MHz)

The EUT does not transmit any beacon or data transmission until at least 1 minute after the completion of the power-on cycle (78 sec). The initial power up time of the EUT is indicated by Marker 1R (138 sec) – CAC (60 sec). Initial beacons/data transmissions are indicated by Marker 1R (138 sec)



Radio 3:

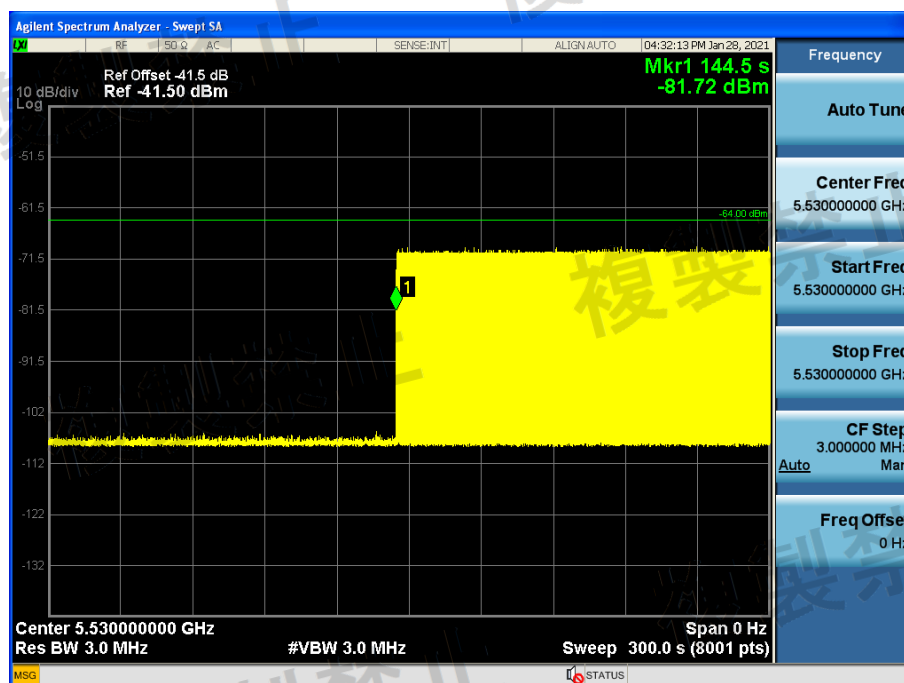
Test Item : Initial Channel Availability Check Time

Radar : None

Type

Test Mode : Transmit at 5530MHz by 802.11ac(80MHz)

The EUT does not transmit any beacon or data transmission until at least 1 minute after the completion of the power-on cycle (84.5 sec). The initial power up time of the EUT is indicated by Marker 1R (144.5 sec) – CAC (60 sec). Initial beacons/data transmissions are indicated by Marker 1R (144.5 sec)



8. Radar Burst at the Beginning of the Channel Availability Check Time

8.1. Test Procedure

The steps below define the procedure to verify successful radar detection on the selected Channel during a period equal to the Channel Availability Check Time and avoidance of operation on that Channel when a radar Burst with a level equal to the DFS Detection Threshold (-64dBm) occurs at the beginning of the Channel Availability Check Time.

The EUT is powered on at T0. T1 denotes the instant when the EUT has completed its power-up sequence. The Channel Availability Check Time commences at instant T1 and will end no sooner than T1 + 60 seconds.

A single Burst of short pulse of radar type Fixed Pulse 1 and Fixed Pulse 2(W53) and (ii)-A and -B (W56) at -64 dBm will commence within a 2 second window starting at T1.

Visual indication on the EUT of successful detection of the radar Burst will be recorded and reported. Observation of emissions at 5500MHz will continue for 1.5 minutes after the radar Burst, Verify that during the 1.5 minute measurement window no EUT transmissions occurred at 5500MHz.

8.2. Test Requirement

In beginning of the Channel Availability Check (CAC) Time, radar is detected on this channel, select another intended channel and perform a CAC that channel.

8.3. Uncertainty

± 1ms.

8.4. Test Result of Radar Burst at the Beginning of the Channel Availability Check Time

Radio 1:

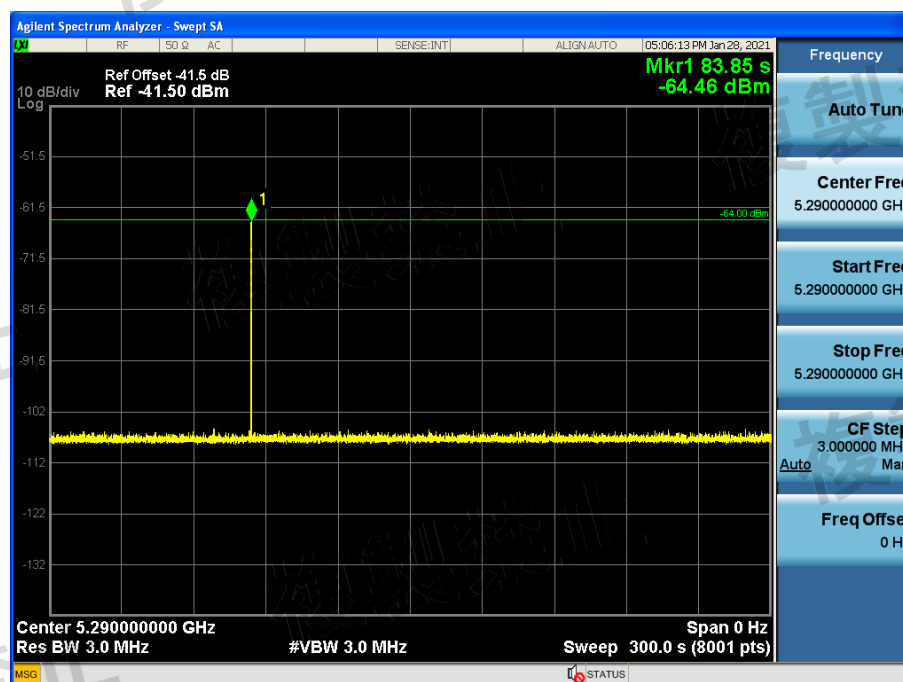
Test Item : Radar Burst at the Beginning of the Channel Availability Check Time

Test Mode : Transmit at 5290MHz by 802.11ac(80MHz)

Trial 1~4

Beginning of the Channel Availability Check			
Trial #	Frequency (MHz)	Radar Type	1= Detection 0= No Detection
1	5290	DFS-JP-W53-1	1
2	5290	DFS-JP-W53-1	1
3	5290	DFS-JP-W53-1	1
4	5290	DFS-JP-W53-1	1
Aggregate			4
Limit			>3
Test Result			Pass

Note: Only the worst data was showed in the report.



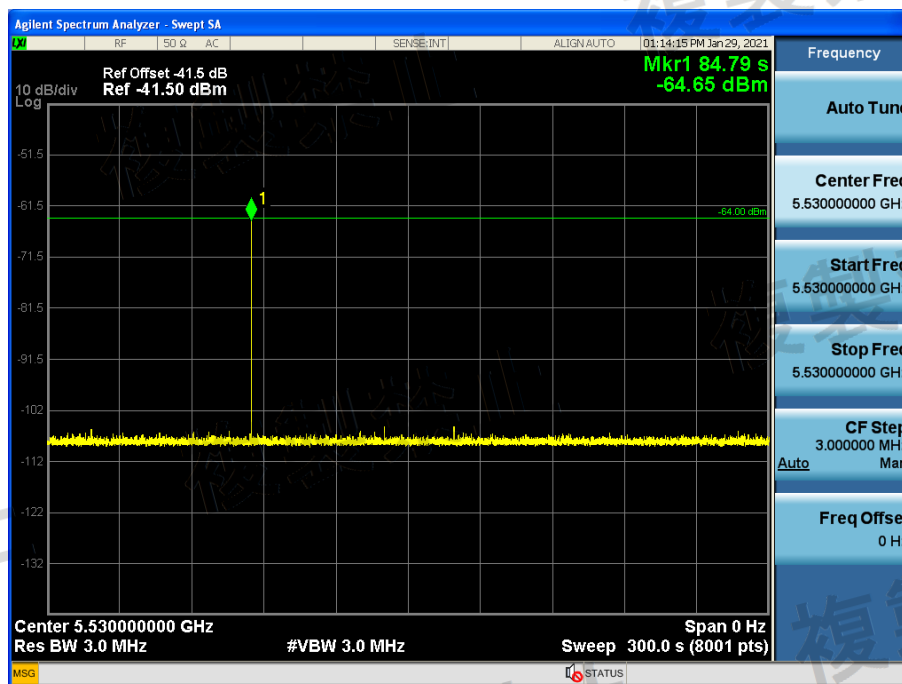
Test Item : Radar Burst at the Beginning of the Channel Availability Check Time

Test Mode : Transmit at 5530MHz by 802.11ac(80MHz)

Trial 1~4

Beginning of the Channel Availability Check			
Trial #	Frequency (MHz)	Radar Type	1= Detection 0= No Detection
1	5530	DFS-J2-1	1
2	5530	DFS-J2-1	1
3	5530	DFS-J2-1	1
4	5530	DFS-J2-1	1
Aggregate			4
Limit			>3
Test Result			Pass

Note: Only the worst data was showed in the report.



Radio 2:

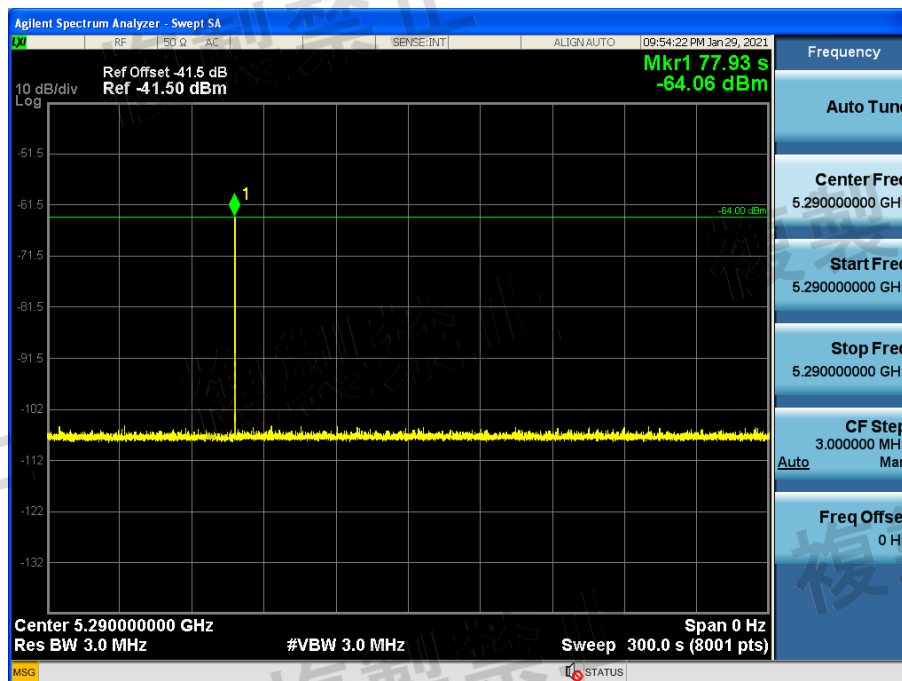
Test Item : Radar Burst at the Beginning of the Channel Availability Check Time

Test Mode : Transmit at 5290MHz by 802.11ac(80MHz)

Trial 1~4

Beginning of the Channel Availability Check			
Trial #	Frequency (MHz)	Radar Type	1= Detection 0= No Detection
1	5290	DFS-JP-W53-1	1
2	5290	DFS-JP-W53-1	1
3	5290	DFS-JP-W53-1	1
4	5290	DFS-JP-W53-1	1
Aggregate			4
Limit			>3
Test Result			Pass

Note: Only the worst data was showed in the report.



Radio 3:

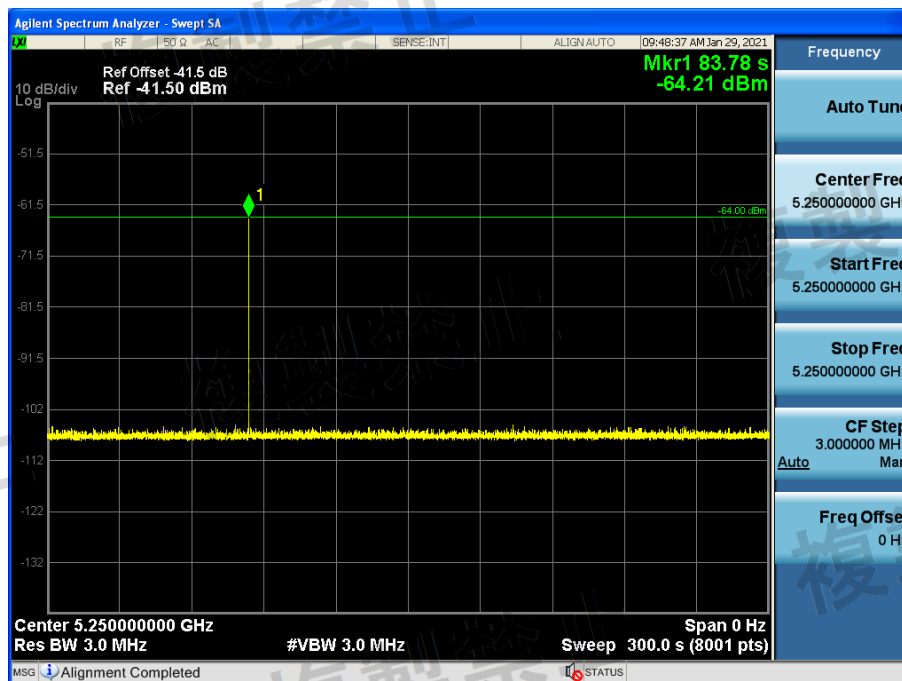
Test Item : Radar Burst at the Beginning of the Channel Availability Check Time

Test Mode : Transmit at 5250MHz by 802.11ax(160MHz)

Trial 1~4

Beginning of the Channel Availability Check			
Trial #	Frequency (MHz)	Radar Type	1= Detection 0= No Detection
1	5250	DFS-JP-W53-1	1
2	5250	DFS-JP-W53-1	1
3	5250	DFS-JP-W53-1	1
4	5250	DFS-JP-W53-1	1
Aggregate			4
Limit			>3
Test Result			Pass

Note: Only the worst data was showed in the report.



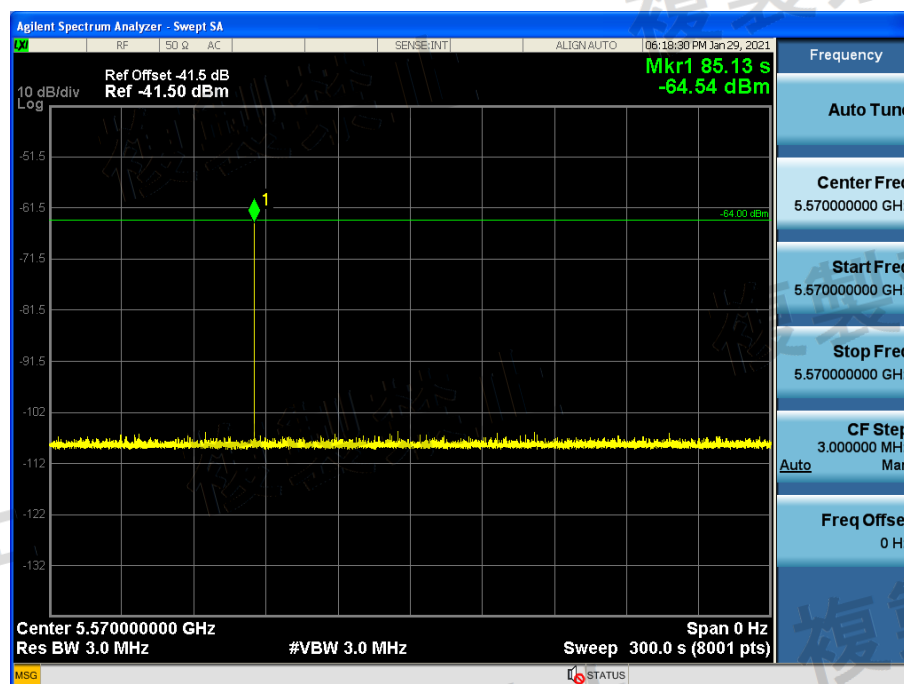
Test Item : Radar Burst at the Beginning of the Channel Availability Check Time

Test Mode : Transmit at 5570MHz by 802.11ax(160MHz)

Trial 1~4

Beginning of the Channel Availability Check			
Trial #	Frequency (MHz)	Radar Type	1= Detection 0= No Detection
1	5570	DFS-J2-1	1
2	5570	DFS-J2-1	1
3	5570	DFS-J2-1	1
4	5570	DFS-J2-1	1
Aggregate			4
Limit			>3
Test Result			Pass

Note: Only the worst data was showed in the report.



9. Radar Burst at the End of the Channel Availability Check Time

9.1. Test Procedure

The steps below define the procedure to verify successful radar detection on the selected Channel during a period equal to the Channel Availability Check Time and avoidance of operation on that Channel when a radar Burst with a level equal to the DFS Detection Threshold (-62dBm) occurs at the end of the Channel Availability Check Time.

The UUT is powered on at T_0 . T_1 denotes the instant when the UUT has completed its power-up sequence. The Channel Availability Check Time commences at instant T_1 and will end no sooner than $T_1 + 60$ seconds. A single Burst of short pulse of radar type 1 at -62 dBm will commence within a 2 second window starting at $T_1 + 58$ seconds.

Visual indication on the UUT of successful detection of the radar Burst will be recorded and reported. Observation of emissions at 5500MHz and 5500MHz will continue for 1.5 minutes after the radar Burst has been generated.

Verify that during the 1.5minute measurement window no UUT transmissions occurred at 5500MHz and 5500MHz.

9.2. Test Requirement

In the end of Channel Availability Check (CAC) Time, radar is detected on this channel, select another intended channel and perform a CAC that channel.

9.3. Uncertainty

$\pm 1\text{ms}$.

9.4. Test Result of Radar Burst at the End of the Channel Availability Check Time

Radio 1:

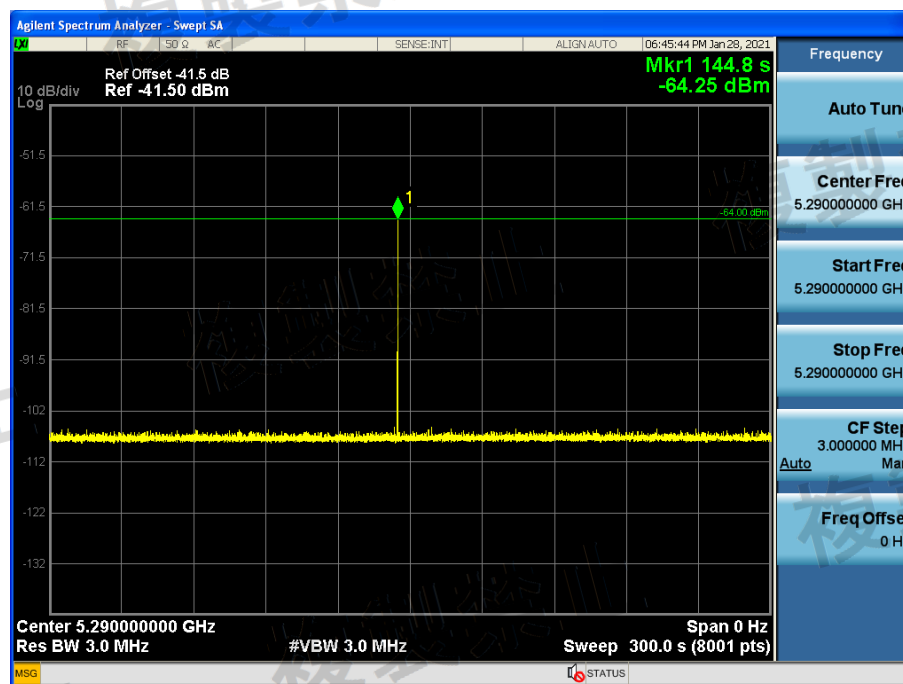
Test Item : Radar Burst at the End of the Channel Availability Check Time

Test Mode : Transmit at 5290MHz by 802.11ac(80MHz)

Trial 1~4

End of the Channel Availability Check			
Trial #	Frequency (MHz)	Radar Type	1= Detection 0= No Detection
1	5290	DFS-JP-W53-1	1
2	5290	DFS-JP-W53-1	1
3	5290	DFS-JP-W53-1	1
4	5290	DFS-JP-W53-1	1
Aggregate			4
Limit			>3
Test Result			Pass

Note: Only the worst data was showed in the report.



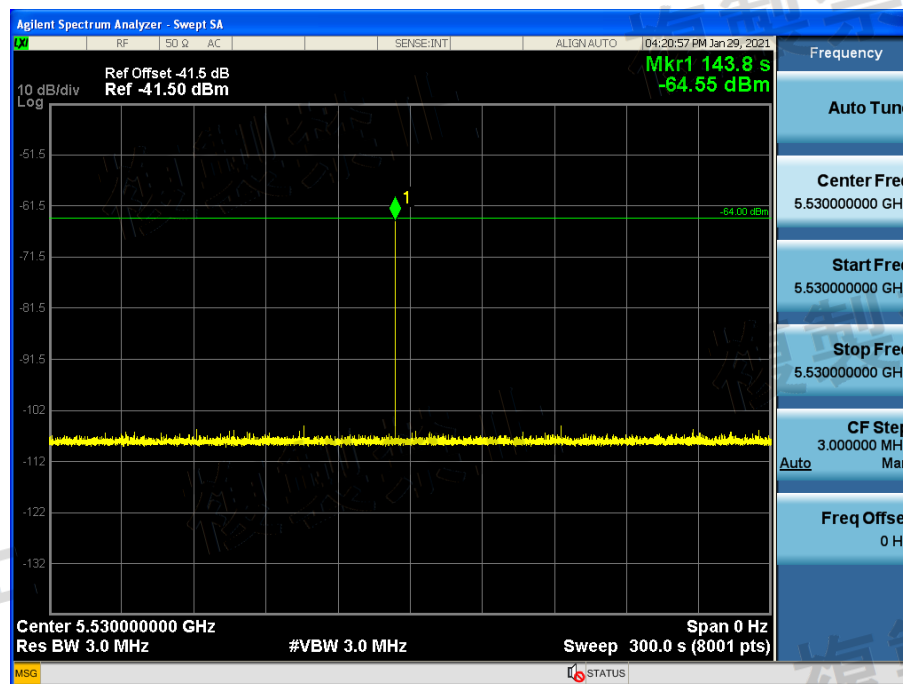
Test Item : Radar Burst at the End of the Channel Availability Check Time

Test Mode : Transmit at 5530MHz by 802.11ac(80MHz)

Trial 1~4

End of the Channel Availability Check			
Trial #	Frequency (MHz)	Radar Type	1= Detection 0= No Detection
1	5530	DFS-J2-1	1
2	5530	DFS-J2-1	1
3	5530	DFS-J2-1	1
4	5530	DFS-J2-1	1
Aggregate			4
Limit			>3
Test Result			Pass

Note: Only the worst data was showed in the report.



Radio 2:

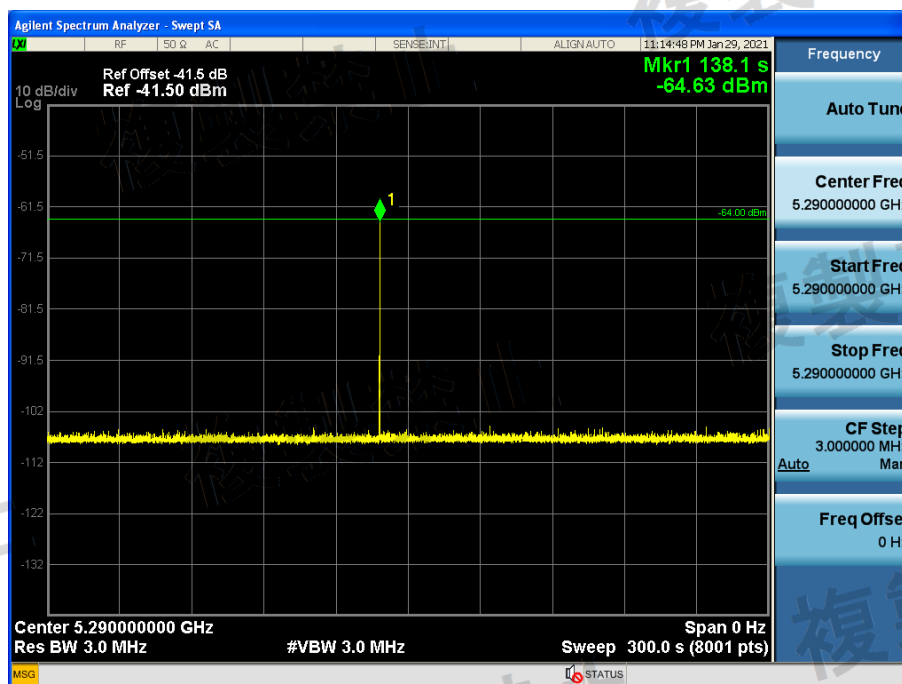
Test Item : Radar Burst at the End of the Channel Availability Check Time

Test Mode : Transmit at 5290MHz by 802.11ac(80MHz)

Trial 1~4

End of the Channel Availability Check			
Trial #	Frequency (MHz)	Radar Type	1= Detection 0= No Detection
1	5290	DFS-JP-W53-1	1
2	5290	DFS-JP-W53-1	1
3	5290	DFS-JP-W53-1	1
4	5290	DFS-JP-W53-1	1
Aggregate			4
Limit			>3
Test Result			Pass

Note: Only the worst data was showed in the report.



Radio 3:

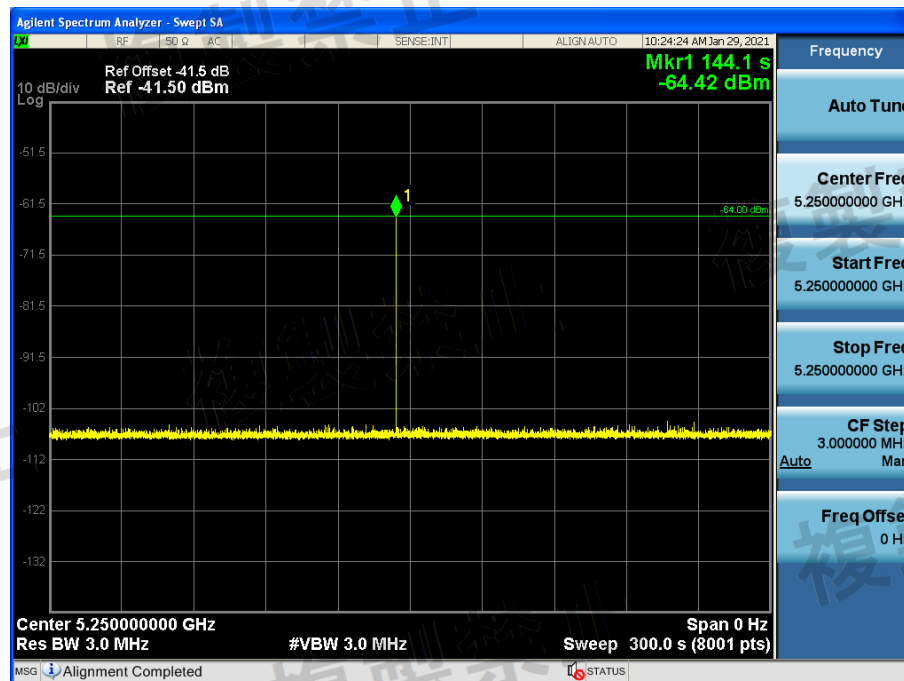
Test Item : Radar Burst at the End of the Channel Availability Check Time

Test Mode : Transmit at 5250MHz by 802.11ax(160MHz)

Trial 1~4

End of the Channel Availability Check			
Trial #	Frequency (MHz)	Radar Type	1= Detection 0= No Detection
1	5250	DFS-JP-W53-1	1
2	5250	DFS-JP-W53-1	1
3	5250	DFS-JP-W53-1	1
4	5250	DFS-JP-W53-1	1
Aggregate			4
Limit			>3
Test Result			Pass

Note: Only the worst data was showed in the report.



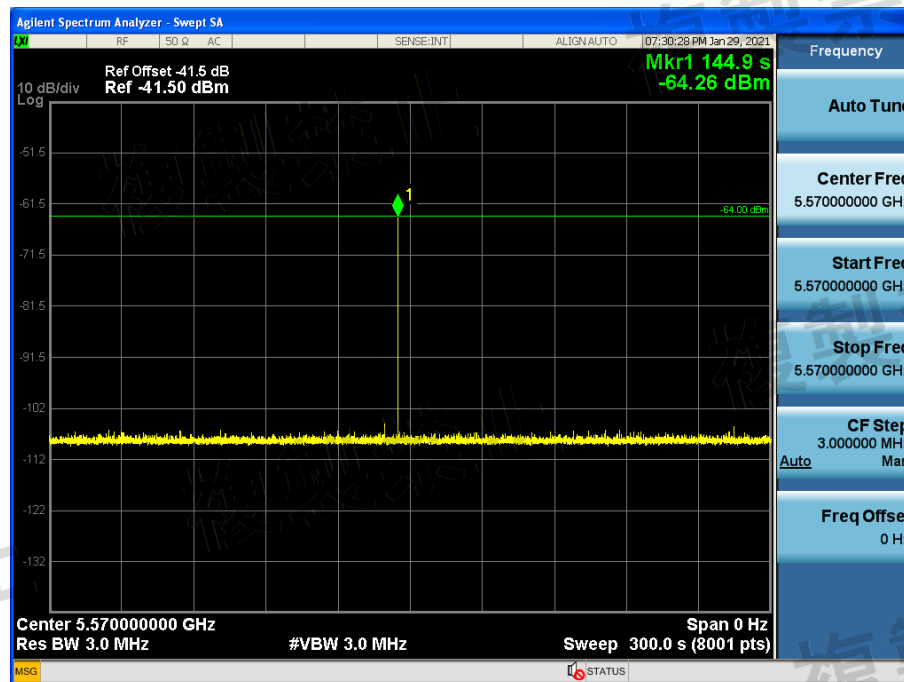
Test Item : Radar Burst at the End of the Channel Availability Check Time

Test Mode : Transmit at 5570MHz by 802.11ax(160MHz)

Trial 1~4

End of the Channel Availability Check			
Trial #	Frequency (MHz)	Radar Type	1= Detection 0= No Detection
1	5570	DFS-J2-1	1
2	5570	DFS-J2-1	1
3	5570	DFS-J2-1	1
4	5570	DFS-J2-1	1
Aggregate			4
Limit			>3
Test Result			Pass

Note: Only the worst data was showed in the report.



10. Statistical Performance Check

10.1. Test Procedure

For W53 band

- A. Set the standard signal generator to be in non-transmission state.
- B. Set EUT to be in state of operating channel monitoring by initializing it and transmit waves at the test frequency.
- C. Set the communication load conditions for EUT so that the transmission speed for signals that do not include error correction and control signals may amount to 50% of the maximum signal transmission speed for radio equipment, and establish communications with the external test device.
- D. Set the standard signal generator to be in transmission state and apply quasi radar pulses at the prescribed input level to EUT.
- E. Confirm with the spectrum analyzer that EUT stops radiating emissions when quasi radar pulses are input to EUT.
- F. Repeat Steps A to E 20 times and record each time whether EUT radiates emissions or not. If EUT does not radiate emissions, assume that a quasi radar pulse has been detected and find how many times it has been detected.

The measurement operation, however, shall be terminated when a quasi radar pulse has been detected 15 times.

- G. If the number of occurrences of quasi radar signal detection is 11 to 14 in Step F, repeat Steps A to E 20 times and record each time whether EUT radiates emissions or not.

If EUT does not radiate emissions, assume that a quasi radar pulse has been detected and find the number of occurrences of quasi radar pulse detection by adding the value in Step F and the one in this step.

For W56 band

- A. Set the standard signal generator to be in non-transmission state.
- B. Set EUT to be in state of operating channel monitoring by initializing it and transmit waves at the test frequency.
- C. Establish communications with the external test device under the prescribed communication load conditions.
- D. Set the output of the standard signal generator to be in transmission state and apply quasi radar pulses at the prescribed input level to EUT.
- E. Confirm with the spectrum analyzer that EUT stops radiating emissions when quasi radar pulses are input to EUT.

F. Find the number of occurrences of quasi radar pulse detection by following Steps (a) to (c) for test signals prescribed in (2)-(ii)-A and (2)-(ii)-B.

(a) Repeat Steps A to E 20 times and record each time whether EUT radiates emissions or not. If EUT does not radiate emissions, assume that a quasi radar pulse has been detected and find how many times it has been detected. The measurement operation, however, shall be terminated when a quasi radar pulse has been detected 18 times.

(b) If the number of occurrences of quasi radar signal detection is 11 to 14 in Step (a), go to Step G below. If the number is 15 to 17, go to Step (c) below.

(c) Repeat Steps A to E 20 times and record each time whether EUT radiates emissions or not. If EUT does not radiate emissions, assume that a quasi radar pulse has been detected and find how many times it has been detected.

G. Find the mean of probabilities of detecting quasi radar pulses.

(a) Repeat Steps A to E 20 times and record each time whether EUT radiates emissions or not. If EUT does not radiate emissions, assume that a quasi radar pulse has been detected and find how many times it has been detected.

(b) Find a total of the numbers of occurrences of quasi radar signal detection and a total of the numbers of tests for each of six types of test signals listed in (2)-(ii)-A and -B.

H. Find the number of occurrences of quasi radar signal detection for the test signal listed in (2)-(ii)-C by following Steps (a) to (c) below.

(a) Repeat Steps A to E 20 times and record each time whether EUT radiates emissions or not. If EUT does not radiate emissions, assume that a quasi radar pulse has been detected and find how many times it has been detected. The measurement operation, however, shall be terminated when a quasi radar pulse has been detected 18 times.

(b) If the number of occurrences of quasi radar signal detection is 15 to 17 in Step (a), go to Step (c) below.

(c) Repeat Steps A to E 20 times and record each time whether EUT radiates emissions or not. Find the number of occurrences of quasi radar signal detection by adding the value in Step (a) and the one in this step.

I. Find the number of occurrences of quasi radar signal detection for the test signal listed in (2)-(ii)-D by following Steps (a) to (c) below.

(a) Repeat Steps A to E 20 times and record each time whether EUT radiates emissions or not. If EUT does not radiate emissions, assume that a quasi radar pulse has been detected and find how many times it has been detected. The measurement operation, however, shall be terminated when a quasi radar pulse has been detected 16 times.

(b) If the number of occurrences of quasi radar signal detection is 13 to 15 in Step (a), go to Step (c) below.

(c) Repeat Steps A to E 20 times and record each time whether EUT radiates emissions or not. If EUT does not radiate emissions, assume that a quasi radar pulse has been detected and find how many times it has been detected.

10.2. Test Requirement

For W53 band

- A. Indicate the test result with "Pass" if EUT has detected a quasi radar pulse 15 times or more in Step (4)-(ii)-F and with "Fail" if it has detected the pulse 10 times or less.
- B. If you followed Step (4)-(ii)-G, indicate the test result with "Pass" when EUT detected a quasi radar pulse 24 times or more and with "Fail" when it detected the pulse 23 times or less.
- C. In conjunction with "Pass" or "Fail" in A and B above, indicate the number of pulse detections and the number of tests for each of Fixed Pulse 1 and Fixed Pulse 2.
- D. Regarding "control function from master station to slave station," "operating channel monitoring function and transmission stop time," and "time period during which transmission stops when radar emissions have been detected by monitoring operating channels," confirm them with the application document.

For W56 band

- A. In the case of the fixed pulse and variable pulse radar wave test signals
 - (a) For the six types of test signals prescribed in (2)-(ii)-A and -B, describe the test result with "Pass" if EUT has detected a quasi radar pulse 18 times or more in Step (4)-(ii)-F-(a) and with "Fail" if it has detected the pulse 10 times or less.
 - (b) If you followed Step (4)-(ii)-F-(c), describe the test result with "Pass" when the total number of occurrences of quasi radar pulse detection is 32 or more and with "Fail" when it is 23 or less.
 - (c) If you followed Step (4)-(ii)-G, find the detection probability with the number of instances of detecting a quasi radar pulse and the number of tests for each of the six types of test signals prescribed in (2)-(ii)-A and -B. Then, describe the test result with "Pass" when the mean detection probability is 80% or more and with "Fail" when it is less than 80%.
 - (d) In (a) to (c) above, describe the number of pulse detections and the number of tests for each of the test signals prescribed in (2)-(ii)-A and -B in conjunction with "Pass" or "Fail"
- B. In the case of the chirp radar wave test signal
 - (a) Describe the test result with "Pass" if EUT has detected a quasi radar pulse 18 times or more in Step (4)-(ii)-H-(a) and with "Fail" if it has detected the pulse 14 times or less.
 - (b) If you followed Step (4)-(ii)-H-(c), describe the test result with "Pass" when the total number of occurrences of quasi radar pulse detection is 32 or more and with "Fail" when it is 31 or less.

(c) In (a) and (b) above, describe the number of pulse detections and the number of tests in conjunction with "Pass" or "Fail"

C. In the case of frequency hopping radar wave test signals

(a) Describe the test result with "Pass" if EUT has detected a quasi radar pulse 16 times or more in Step (4)-(ii)-I-(a) and with "Fail" if it has detected the pulse 12 times or less.

(b) If you followed Step (4)-(ii)-I-(c), describe the test result with "Pass" when the total number of occurrences of quasi radar pulse detection is 28 or more and with "Fail" when it is 27 or less.

(c) In (a) and (b) above, describe the number of pulse detections and the number of tests in conjunction with "Pass" or "Fail"

Minimum percentage of successful detections

W53 band

Radar Type	Minimum Percentage of Successful Detection	Minimum Number of Trials
DFS-JP-W53-1	60%	20
DFS-JP-W53-2	60%	20
DFS-JP-W53-3	60%	20
DFS-JP-W53-4	60%	20
DFS-JP-W53-5	60%	20
DFS-JP-W53-6	60%	20
DFS-JP-W53-7	60%	20
DFS-JP-W53-8	60%	20

W56 band

Radar Type	Minimum Percentage of Successful Detection	Minimum Number of Trials
DFS-J2-1	60%	20
DFS-J2-2	60%	20
DFS-US-1	60%	20
DFS-US-2	60%	20
DFS-US-3	60%	20
DFS-US-4	60%	20

Aggregate (Radar Types 1-6)	80%	120
DFS-US-5	80%	20
DFS-US-6	70%	20

The percentage of successful detection is calculated by:

$$\frac{\text{TotalWaveformDetections}}{\text{TotalWaveformTrials}} \times 100 = \text{Probability of Detection Radar Waveform}$$

10.3. Uncertainty

± 1ms.

10.4. Test Result of Statistical Performance Check

Radio 1:

Test Item : Statistical Performance Check
 Radar Type : DFS-JP-W53-1
 Test Mode : Transmit at 5290MHz by 802.11ac(80MHz)

Trial #	Frequency (MHz)	1= Detection 0= No Detection	
1	5290	1	
2	5290	1	
3	5290	1	
4	5290	1	
5	5290	1	
6	5290	0	
7	5290	1	
8	5290	1	
9	5290	1	
10	5290	1	
11	5290	1	
12	5290	1	
13	5290	0	
14	5290	1	
15	5290	1	
16	5290	1	
17	5290	0	
18	5290	1	
19	5290	1	
20	5290	1	
Detection Percentage(%)			85%
Limit			>60%

Test Item : Statistical Performance Check
 Radar Type : DFS-JP-W53-2
 Test Mode : Transmit at 5290MHz by 802.11ac(80MHz)

Trial #	Frequency (MHz)	1= Detection 0= No Detection	
1	5290	1	
2	5290	1	
3	5290	1	
4	5290	0	
5	5290	1	
6	5290	0	
7	5290	1	
8	5290	1	
9	5290	1	
10	5290	0	
11	5290	1	
12	5290	1	
13	5290	0	
14	5290	1	
15	5290	1	
16	5290	0	
17	5290	1	
18	5290	1	
19	5290	1	
20	5290	1	
Detection Percentage(%)			75%
Limit			>60%

Test Item : Statistical Performance Check

Radar Type : DFS-JP-W53-3

Test Mode : Transmit at 5290MHz by 802.11ac(80MHz)

Trial #	Frequency (MHz)	1= Detection 0= No Detection	
1	5290		1
2	5290		1
3	5290		1
4	5290		1
5	5290		0
6	5290		1
7	5290		0
8	5290		1
9	5290		1
10	5290		1
11	5290		0
12	5290		1
13	5290		1
14	5290		1
15	5290		0
16	5290		1
17	5290		1
18	5290		0
19	5290		1
20	5290		1
Detection Percentage(%)			75%
Limit			>60%

Test Item : Statistical Performance Check
 Radar Type : DFS-JP-W53-4
 Test Mode : Transmit at 5290MHz by 802.11ac(80MHz)

Trial #	Frequency (MHz)	1= Detection 0= No Detection	
1	5290	1	
2	5290	1	
3	5290	1	
4	5290	1	
5	5290	0	
6	5290	1	
7	5290	1	
8	5290	0	
9	5290	1	
10	5290	1	
11	5290	1	
12	5290	1	
13	5290	0	
14	5290	1	
15	5290	1	
16	5290	1	
17	5290	0	
18	5290	1	
19	5290	1	
20	5290	1	
Detection Percentage(%)			80%
Limit			>60%

Test Item : Statistical Performance Check

Radar Type : DFS-JP-W53-5

Test Mode : Transmit at 5290MHz by 802.11ac(80MHz)

Trial #	Frequency (MHz)	1= Detection 0= No Detection	
1	5290	1	
2	5290	1	
3	5290	1	
4	5290	0	
5	5290	1	
6	5290	1	
7	5290	0	
8	5290	1	
9	5290	1	
10	5290	1	
11	5290	1	
12	5290	0	
13	5290	1	
14	5290	1	
15	5290	0	
16	5290	1	
17	5290	1	
18	5290	1	
19	5290	1	
20	5290	1	
Detection Percentage(%)			80%
Limit			>60%

Test Item : Statistical Performance Check
 Radar Type : DFS-JP-W53-6
 Test Mode : Transmit at 5290MHz by 802.11ac(80MHz)

Trial #	Frequency (MHz)	1= Detection 0= No Detection	
1	5290	1	
2	5290	1	
3	5290	0	
4	5290	1	
5	5290	1	
6	5290	1	
7	5290	0	
8	5290	1	
9	5290	1	
10	5290	1	
11	5290	1	
12	5290	0	
13	5290	1	
14	5290	1	
15	5290	1	
16	5290	1	
17	5290	0	
18	5290	1	
19	5290	1	
20	5290	1	
Detection Percentage(%)			80%
Limit			>60%

Test Item : Statistical Performance Check

Radar Type : DFS-JP-W53-7

Test Mode : Transmit at 5290MHz by 802.11ac(80MHz)

Trial #	Frequency (MHz)	1= Detection 0= No Detection	
1	5290	1	
2	5290	1	
3	5290	1	
4	5290	0	
5	5290	1	
6	5290	1	
7	5290	1	
8	5290	0	
9	5290	1	
10	5290	1	
11	5290	0	
12	5290	1	
13	5290	1	
14	5290	1	
15	5290	0	
16	5290	1	
17	5290	0	
18	5290	1	
19	5290	1	
20	5290	1	
Detection Percentage(%)			75%
Limit			>60%

Test Item : Statistical Performance Check
 Radar Type : DFS-JP-W53-8
 Test Mode : Transmit at 5290MHz by 802.11ac(80MHz)

Trial #	Frequency (MHz)	1= Detection 0= No Detection	
1	5290	1	
2	5290	1	
3	5290	1	
4	5290	0	
5	5290	1	
6	5290	1	
7	5290	1	
8	5290	0	
9	5290	1	
10	5290	1	
11	5290	1	
12	5290	0	
13	5290	1	
14	5290	1	
15	5290	1	
16	5290	1	
17	5290	0	
18	5290	1	
19	5290	1	
20	5290	1	
Detection Percentage(%)			80%
Limit			>60%

Test Item : Statistical Performance Check

Radar Type : DFS-J2-1

Test Mode : Transmit at 5530MHz by 802.11ac(80MHz)

Trial #	Frequency (MHz)	Pulse Width (us)	PRI (us)	Pulses/Burs	1= Detection 0= No Detection
1	5530	0.5	720	18	1
2	5530	0.5	720	18	1
3	5530	0.5	720	18	1
4	5530	0.5	720	18	0
5	5530	0.5	720	18	1
6	5530	0.5	720	18	1
7	5530	0.5	720	18	1
8	5530	0.5	720	18	0
9	5530	0.5	720	18	1
10	5530	0.5	720	18	1
11	5530	0.5	720	18	1
12	5530	0.5	720	18	1
13	5530	0.5	720	18	0
14	5530	0.5	720	18	1
15	5530	0.5	720	18	1
16	5530	0.5	720	18	1
17	5530	0.5	720	18	0
18	5530	0.5	720	18	1
19	5530	0.5	720	18	1
20	5530	0.5	720	18	1
Detection Percentage(%)					80%
Limit					>60%

Test Item : Statistical Performance Check

Radar Type : DFS-J2-2

Test Mode : Transmit at 5530MHz by 802.11ac(80MHz)

Trial #	Frequency (MHz)	Pulse Width (us)	PRI (us)	Pulses/Burs	1= Detection 0= No Detection
1	5530	2	700	18	1
2	5530	2	700	18	1
3	5530	2	700	18	1
4	5530	2	700	18	1
5	5530	2	700	18	1
6	5530	2	700	18	0
7	5530	2	700	18	1
8	5530	2	700	18	1
9	5530	2	700	18	0
10	5530	2	700	18	1
11	5530	2	700	18	1
12	5530	2	700	18	1
13	5530	2	700	18	1
14	5530	2	700	18	1
15	5530	2	700	18	0
16	5530	2	700	18	1
17	5530	2	700	18	1
18	5530	2	700	18	0
19	5530	2	700	18	1
20	5530	2	700	18	1
Detection Percentage(%)					80%
Limit					>60%

Test Item : Statistical Performance Check

Radar Type : DFS-US-1

Test Mode : Transmit at 5530MHz by 802.11ac(80MHz)

Trial #	Frequency (MHz)	Pulse Width (us)	PRI (us)	Pulses/Burs	1= Detection 0= No Detection
1	5530	1	250	18	1
2	5530	1	250	18	1
3	5530	1	250	18	1
4	5530	1	250	18	0
5	5530	1	250	18	1
6	5530	1	250	18	1
7	5530	1	250	18	1
8	5530	1	250	18	1
9	5530	1	250	18	1
10	5530	1	250	18	0
11	5530	1	250	18	1
12	5530	1	250	18	1
13	5530	1	250	18	1
14	5530	1	250	18	1
15	5530	1	250	18	0
16	5530	1	250	18	1
17	5530	1	250	18	1
18	5530	1	250	18	0
19	5530	1	250	18	1
20	5530	1	250	18	1
Detection Percentage(%)					80%
Limit					>60%

Test Item : Statistical Performance Check

Radar Type : DFS-US-2

Test Mode : Transmit at 5530MHz by 802.11ac(80MHz)

Trial #	Frequency (MHz)	Pulse Width (us)	PRI (us)	Pulses/Burs	1= Detection 0= No Detection
1	5530	4.0	5637	26	1
2	5530	1.0	4435	23	1
3	5530	2.0	4988	24	1
4	5530	5.0	6506	29	1
5	5530	5.0	6010	28	0
6	5530	3.0	5448	26	1
7	5530	4.0	5607	26	1
8	5530	3.0	5199	25	1
9	5530	4.0	5586	26	1
10	5530	1.0	4497	23	1
11	5530	5.0	6004	27	1
12	5530	5.0	6402	29	1
13	5530	4.0	5626	26	1
14	5530	2.0	5076	25	0
15	5530	5.0	6363	29	1
16	5530	3.0	5505	26	1
17	5530	5.0	6635	29	1
18	5530	3.0	5154	25	1
19	5530	3.0	5442	26	1
20	5530	2.0	5085	25	1
21	5530	4.0	5637	26	1
22	5530	1.0	4435	23	1
23	5530	2.0	4988	24	1
24	5530	5.0	6506	29	1
25	5530	5.0	6010	28	0
26	5530	3.0	5448	26	1
27	5530	4.0	5607	26	1
28	5530	3.0	5199	25	1
29	5530	4.0	5586	26	1
30	5530	1.0	4497	23	1
Detection Percentage(%)					90%

Test Item : Statistical Performance Check

Radar Type : DFS-US-3

Test Mode : Transmit at 5530MHz by 802.11ac(80MHz)

Trial #	Frequency (MHz)	Pulse Width (us)	PRI (us)	Pulses/Burs	1= Detection 0= No Detection
1	5530	9.0	3668	17	1
2	5530	6.0	2114	16	1
3	5530	7.0	2828	16	0
4	5530	10.0	4791	18	1
5	5530	10.0	4150	18	1
6	5530	8.0	3423	17	0
7	5530	9.0	3630	17	1
8	5530	8.0	3102	17	1
9	5530	9.0	3602	17	1
10	5530	6.0	2194	16	0
11	5530	10.0	4143	18	1
12	5530	10.0	4657	18	1
13	5530	9.0	3655	17	1
14	5530	7.0	2942	16	0
15	5530	10.0	4607	18	1
16	5530	8.0	3498	17	1
17	5530	10.0	4959	18	1
18	5530	8.0	3044	17	0
19	5530	8.0	3417	17	1
20	5530	7.0	2954	16	1
21	5530	9.0	3668	17	1
22	5530	6.0	2114	16	1
23	5530	7.0	2828	16	1
24	5530	10.0	4791	18	1
25	5530	10.0	4150	18	1
26	5530	8.0	3423	17	0
27	5530	9.0	3630	17	1
28	5530	8.0	3102	17	1
29	5530	9.0	3602	17	1
30	5530	6.0	2194	16	1
Detection Percentage(%)					80%

Test Item : Statistical Performance Check

Radar Type : DFS-US-4

Test Mode : Transmit at 5530MHz by 802.11ac(80MHz)

Trial #	Frequency (MHz)	Pulse Width (us)	PRI (us)	Pulses/Burs	1= Detection 0= No Detection
1	5530	17.0	3668	14	1
2	5530	11.0	2114	12	1
3	5530	14.0	2828	13	0
4	5530	20.0	4791	16	1
5	5530	18.0	4150	15	1
6	5530	16.0	3423	14	1
7	5530	16.0	3630	14	1
8	5530	15.0	3102	13	1
9	5530	16.0	3602	14	0
10	5530	11.0	2194	12	1
11	5530	18.0	4143	15	1
12	5530	20.0	4657	16	0
13	5530	17.0	3655	14	1
14	5530	14.0	2942	13	1
15	5530	20.0	4607	16	1
16	5530	16.0	3498	14	1
17	5530	20.0	4959	16	1
18	5530	14.0	3044	13	0
19	5530	16.0	3417	14	1
20	5530	14.0	2954	13	1
21	5530	17.0	3668	14	1
22	5530	11.0	2114	12	1
23	5530	14.0	2828	13	1
24	5530	20.0	4791	16	0
25	5530	18.0	4150	15	1
26	5530	16.0	3423	14	0
27	5530	16.0	3630	14	1
28	5530	15.0	3102	13	1
29	5530	16.0	3602	14	1
30	5530	11.0	2194	12	1
Detection Percentage (%)					80%
Limit					>60%

Total Type Six Radar Statistical Performance			
Radar Type	Detection Percentage (%)	Limit (%)	Result
DFS-J2-1	80	>60	Pass
DFS-J2-2	80	>60	Pass
DFS-US-1	80	>60	Pass
DFS-US-2	90	>60	Pass
DFS-US-3	80	>60	Pass
DFS-US-4	80	>60	Pass
Aggregate (6 Radar type)	81.7	>80	Pass

Test Item : Statistical Performance Check

Radar Type : DFS-US-5

Test Mode : Transmit at 5530MHz by 802.11ac(80MHz)

Trial #	Frequency (MHz)	Number of Bursts (us)	Burst Period(s) (us)	Repetition Cycle (s)	1= Detection 0= No Detection
1	5530	15	0.8000000	12.0000000	1
2	5530	8	1.5000000	12.0000000	1
3	5530	11	1.0909091	12.0000000	1
4	5530	20	0.6000000	12.0000000	0
5	5530	17	0.7058824	12.0000000	1
6	5530	14	0.8571429	12.0000000	1
7	5530	15	0.8000000	12.0000000	1
8	5530	12	1.0000000	12.0000000	1
9	5530	14	0.8571429	12.0000000	1
10	5530	8	1.5000000	12.0000000	0
11	5530	17	0.7058824	12.0000000	1
12	5530	19	0.6315789	12.0000000	1
13	5530	15	0.8000000	12.0000000	1
14	5530	12	1.0000000	12.0000000	1
15	5530	19	0.6315789	12.0000000	1
16	5530	14	0.8571429	12.0000000	1
17	5530	20	0.6000000	12.0000000	1
18	5530	12	1.0000000	12.0000000	1
19	5530	14	0.8571429	12.0000000	1
20	5530	12	1.0000000	12.0000000	1
21	5530	15	0.8000000	12.0000000	0
22	5530	8	1.5000000	12.0000000	1
23	5530	11	1.0909091	12.0000000	1
24	5530	20	0.6000000	12.0000000	1
25	5530	17	0.7058824	12.0000000	1
26	5530	14	0.8571429	12.0000000	1
27	5530	15	0.8000000	12.0000000	1
28	5530	12	1.0000000	12.0000000	0
29	5530	14	0.8571429	12.0000000	1
30	5530	8	1.5000000	12.0000000	1
Detection Percentage (%)					86.7%
Limit					>80%

Test Item : Statistical Performance Check

Radar Type : DFS-US-6

Test Mode : Transmit at 5530MHz by 802.11ac(80MHz)

trial #	Pulse Width (us)	Pulse Reptition Frequency(Hz)	Number of Continuous Pulses	Burst Interval(ms)	All Hopping Interval	Visible Frequency Number	Repetition Cycle (s)	1= Detection 0= No Detection
1	1	1.0	3000	9	3.0	300.0	16	1
2	1	1.0	3000	9	3.0	300.0	10	1
3	1	1.0	3000	9	3.0	300.0	14	1
4	1	1.0	3000	9	3.0	300.0	19	0
5	1	1.0	3000	9	3.0	300.0	15	1
6	1	1.0	3000	9	3.0	300.0	18	1
7	1	1.0	3000	9	3.0	300.0	14	1
8	1	1.0	3000	9	3.0	300.0	14	1
9	1	1.0	3000	9	3.0	300.0	21	1
10	1	1.0	3000	9	3.0	300.0	15	1
11	1	1.0	3000	9	3.0	300.0	16	1
12	1	1.0	3000	9	3.0	300.0	24	0
13	1	1.0	3000	9	3.0	300.0	13	1
14	1	1.0	3000	9	3.0	300.0	20	1
15	1	1.0	3000	9	3.0	300.0	17	1
16	1	1.0	3000	9	3.0	300.0	20	1
17	1	1.0	3000	9	3.0	300.0	16	1
18	1	1.0	3000	9	3.0	300.0	18	0
19	1	1.0	3000	9	3.0	300.0	14	1
20	1	1.0	3000	9	3.0	300.0	16	1
21	1	1.0	3000	9	3.0	300.0	16	1
22	1	1.0	3000	9	3.0	300.0	10	1
23	1	1.0	3000	9	3.0	300.0	14	1
24	1	1.0	3000	9	3.0	300.0	19	1
25	1	1.0	3000	9	3.0	300.0	15	1
26	1	1.0	3000	9	3.0	300.0	18	0
27	1	1.0	3000	9	3.0	300.0	14	1
28	1	1.0	3000	9	3.0	300.0	14	1
29	1	1.0	3000	9	3.0	300.0	21	1
30	1	1.0	3000	9	3.0	300.0	15	1
Detection Percentage (%)								86.7%
Limit								>80%

Radio 2:

Test Item : Statistical Performance Check
 Radar Type : DFS-JP-W53-1
 Test Mode : Transmit at 5290MHz by 802.11ac(80MHz)

Trial #	Frequency (MHz)	1= Detection 0= No Detection	
1	5290	1	
2	5290	1	
3	5290	1	
4	5290	0	
5	5290	1	
6	5290	1	
7	5290	1	
8	5290	0	
9	5290	1	
10	5290	1	
11	5290	1	
12	5290	1	
13	5290	1	
14	5290	0	
15	5290	1	
16	5290	0	
17	5290	1	
18	5290	1	
19	5290	1	
20	5290	1	
Detection Percentage(%)			80%
Limit			>60%

Test Item : Statistical Performance Check
 Radar Type : DFS-JP-W53-2
 Test Mode : Transmit at 5290MHz by 802.11ac(80MHz)

Trial #	Frequency (MHz)	1= Detection 0= No Detection	
1	5290	1	
2	5290	1	
3	5290	1	
4	5290	1	
5	5290	0	
6	5290	1	
7	5290	1	
8	5290	1	
9	5290	1	
10	5290	1	
11	5290	1	
12	5290	0	
13	5290	1	
14	5290	1	
15	5290	1	
16	5290	1	
17	5290	1	
18	5290	0	
19	5290	1	
20	5290	1	
Detection Percentage(%)			85%
Limit			>60%

Test Item : Statistical Performance Check

Radar Type : DFS-JP-W53-3

Test Mode : Transmit at 5290MHz by 802.11ac(80MHz)

Trial #	Frequency (MHz)	1= Detection 0= No Detection	
1	5290	1	
2	5290	1	
3	5290	1	
4	5290	1	
5	5290	0	
6	5290	1	
7	5290	1	
8	5290	1	
9	5290	0	
10	5290	1	
11	5290	1	
12	5290	1	
13	5290	1	
14	5290	1	
15	5290	0	
16	5290	1	
17	5290	1	
18	5290	1	
19	5290	1	
20	5290	1	
Detection Percentage(%)			85%
Limit			>60%

Test Item : Statistical Performance Check
 Radar Type : DFS-JP-W53-4
 Test Mode : Transmit at 5290MHz by 802.11ac(80MHz)

Trial #	Frequency (MHz)	1= Detection 0= No Detection	
1	5290	1	
2	5290	1	
3	5290	1	
4	5290	0	
5	5290	1	
6	5290	1	
7	5290	1	
8	5290	1	
9	5290	1	
10	5290	0	
11	5290	1	
12	5290	1	
13	5290	1	
14	5290	1	
15	5290	0	
16	5290	1	
17	5290	1	
18	5290	1	
19	5290	1	
20	5290	1	
Detection Percentage(%)			85%
Limit			>60%

Test Item : Statistical Performance Check

Radar Type : DFS-JP-W53-5

Test Mode : Transmit at 5290MHz by 802.11ac(80MHz)

Trial #	Frequency (MHz)	1= Detection 0= No Detection	
1	5290	1	
2	5290	1	
3	5290	1	
4	5290	1	
5	5290	1	
6	5290	0	
7	5290	1	
8	5290	1	
9	5290	1	
10	5290	1	
11	5290	0	
12	5290	1	
13	5290	1	
14	5290	1	
15	5290	1	
16	5290	1	
17	5290	1	
18	5290	0	
19	5290	1	
20	5290	1	
Detection Percentage(%)			85%
Limit			>60%

Test Item : Statistical Performance Check
 Radar Type : DFS-JP-W53-6
 Test Mode : Transmit at 5290MHz by 802.11ac(80MHz)

Trial #	Frequency (MHz)	1= Detection 0= No Detection	
1	5290	1	
2	5290	1	
3	5290	1	
4	5290	1	
5	5290	0	
6	5290	1	
7	5290	1	
8	5290	1	
9	5290	1	
10	5290	0	
11	5290	1	
12	5290	1	
13	5290	1	
14	5290	1	
15	5290	0	
16	5290	1	
17	5290	0	
18	5290	1	
19	5290	1	
20	5290	1	
Detection Percentage(%)			80%
Limit			>60%

Test Item : Statistical Performance Check

Radar Type : DFS-JP-W53-7

Test Mode : Transmit at 5290MHz by 802.11ac(80MHz)

Trial #	Frequency (MHz)	1= Detection
		0= No Detection
1	5290	1
2	5290	1
3	5290	0
4	5290	1
5	5290	1
6	5290	0
7	5290	1
8	5290	1
9	5290	0
10	5290	1
11	5290	1
12	5290	1
13	5290	1
14	5290	0
15	5290	1
16	5290	1
17	5290	1
18	5290	0
19	5290	1
20	5290	1
Detection Percentage(%)		75%
Limit		>60%

Test Item : Statistical Performance Check
 Radar Type : DFS-JP-W53-8
 Test Mode : Transmit at 5290MHz by 802.11ac(80MHz)

Trial #	Frequency (MHz)	1= Detection 0= No Detection	
1	5290	1	
2	5290	1	
3	5290	0	
4	5290	1	
5	5290	1	
6	5290	1	
7	5290	0	
8	5290	1	
9	5290	1	
10	5290	1	
11	5290	1	
12	5290	1	
13	5290	0	
14	5290	1	
15	5290	1	
16	5290	0	
17	5290	1	
18	5290	1	
19	5290	1	
20	5290	1	
Detection Percentage(%)			80%
Limit			>60%

Radio 3:

Test Item : Statistical Performance Check
 Radar Type : DFS-JP-W53-1
 Test Mode : Transmit at 5250MHz by 802.11ax(160MHz)

Trial #	Frequency (MHz)	1= Detection 0= No Detection	
1	5250	1	
2	5250	1	
3	5250	1	
4	5250	0	
5	5250	1	
6	5250	1	
7	5250	1	
8	5250	1	
9	5250	1	
10	5250	1	
11	5250	1	
12	5250	0	
13	5250	1	
14	5250	1	
15	5250	1	
16	5250	1	
17	5250	1	
18	5250	0	
19	5250	1	
20	5250	1	
Detection Percentage(%)			85%
Limit			>60%

Test Item : Statistical Performance Check
 Radar Type : DFS-JP-W53-2
 Test Mode : Transmit at 5250MHz by 802.11ax(160MHz)

Trial #	Frequency (MHz)	1= Detection 0= No Detection	
1	5250	1	
2	5250	1	
3	5250	0	
4	5250	1	
5	5250	1	
6	5250	1	
7	5250	1	
8	5250	0	
9	5250	1	
10	5250	1	
11	5250	1	
12	5250	1	
13	5250	1	
14	5250	1	
15	5250	0	
16	5250	1	
17	5250	1	
18	5250	0	
19	5250	1	
20	5250	1	
Detection Percentage(%)			80%
Limit			>60%

Test Item : Statistical Performance Check
 Radar Type : DFS-JP-W53-3
 Test Mode : Transmit at 5250MHz by 802.11ax(160MHz)

Trial #	Frequency (MHz)	1= Detection
		0= No Detection
1	5250	1
2	5250	1
3	5250	1
4	5250	0
5	5250	1
6	5250	1
7	5250	1
8	5250	1
9	5250	1
10	5250	0
11	5250	1
12	5250	1
13	5250	0
14	5250	1
15	5250	0
16	5250	1
17	5250	1
18	5250	1
19	5250	1
20	5250	1
Detection Percentage(%)		80%
Limit		>60%

Test Item : Statistical Performance Check
 Radar Type : DFS-JP-W53-4
 Test Mode : Transmit at 5250MHz by 802.11ax(160MHz)

Trial #	Frequency (MHz)	1= Detection 0= No Detection	
1	5250	1	
2	5250	1	
3	5250	0	
4	5250	1	
5	5250	1	
6	5250	1	
7	5250	1	
8	5250	1	
9	5250	1	
10	5250	0	
11	5250	1	
12	5250	1	
13	5250	1	
14	5250	1	
15	5250	1	
16	5250	1	
17	5250	1	
18	5250	0	
19	5250	1	
20	5250	1	
Detection Percentage(%)			85%
Limit			>60%

Test Item : Statistical Performance Check

Radar Type : DFS-JP-W53-5

Test Mode : Transmit at 5250MHz by 802.11ax(160MHz)

Trial #	Frequency (MHz)	1= Detection 0= No Detection	
1	5250	1	
2	5250	1	
3	5250	0	
4	5250	1	
5	5250	1	
6	5250	1	
7	5250	0	
8	5250	1	
9	5250	1	
10	5250	1	
11	5250	1	
12	5250	1	
13	5250	0	
14	5250	1	
15	5250	1	
16	5250	0	
17	5250	1	
18	5250	0	
19	5250	1	
20	5250	1	
Detection Percentage(%)			75%
Limit			>60%

Test Item : Statistical Performance Check
 Radar Type : DFS-JP-W53-6
 Test Mode : Transmit at 5250MHz by 802.11ax(160MHz)

Trial #	Frequency (MHz)	1= Detection 0= No Detection	
1	5250	1	
2	5250	1	
3	5250	1	
4	5250	0	
5	5250	1	
6	5250	1	
7	5250	1	
8	5250	1	
9	5250	1	
10	5250	1	
11	5250	0	
12	5250	1	
13	5250	1	
14	5250	1	
15	5250	0	
16	5250	1	
17	5250	1	
18	5250	1	
19	5250	1	
20	5250	1	
Detection Percentage(%)			85%
Limit			>60%

Test Item : Statistical Performance Check
 Radar Type : DFS-JP-W53-7
 Test Mode : Transmit at 5250MHz by 802.11ax(160MHz)

Trial #	Frequency (MHz)	1= Detection 0= No Detection	
1	5250	1	
2	5250	1	
3	5250	1	
4	5250	1	
5	5250	0	
6	5250	1	
7	5250	1	
8	5250	0	
9	5250	1	
10	5250	1	
11	5250	1	
12	5250	1	
13	5250	1	
14	5250	1	
15	5250	0	
16	5250	1	
17	5250	1	
18	5250	0	
19	5250	1	
20	5250	1	
Detection Percentage(%)			80%
Limit			>60%

Test Item : Statistical Performance Check
 Radar Type : DFS-JP-W53-8
 Test Mode : Transmit at 5250MHz by 802.11ax(160MHz)

Trial #	Frequency (MHz)	1= Detection 0= No Detection	
1	5250	1	
2	5250	1	
3	5250	0	
4	5250	1	
5	5250	1	
6	5250	1	
7	5250	0	
8	5250	1	
9	5250	1	
10	5250	1	
11	5250	1	
12	5250	1	
13	5250	1	
14	5250	1	
15	5250	0	
16	5250	1	
17	5250	1	
18	5250	1	
19	5250	1	
20	5250	1	
Detection Percentage(%)			85%
Limit			>60%

Test Item : Statistical Performance Check

Radar Type : DFS-J2-1

Test Mode : Transmit at 5570MHz by 802.11ax(160MHz)

Trial #	Frequency (MHz)	Pulse Width (us)	PRI (us)	Pulses/Burs	1= Detection 0= No Detection
1	5570	0.5	720	18	1
2	5570	0.5	720	18	1
3	5570	0.5	720	18	0
4	5570	0.5	720	18	1
5	5570	0.5	720	18	1
6	5570	0.5	720	18	1
7	5570	0.5	720	18	0
8	5570	0.5	720	18	1
9	5570	0.5	720	18	1
10	5570	0.5	720	18	1
11	5570	0.5	720	18	1
12	5570	0.5	720	18	1
13	5570	0.5	720	18	1
14	5570	0.5	720	18	1
15	5570	0.5	720	18	1
16	5570	0.5	720	18	1
17	5570	0.5	720	18	0
18	5570	0.5	720	18	1
19	5570	0.5	720	18	1
20	5570	0.5	720	18	1
Detection Percentage(%)					85%
Limit					>60%

Test Item : Statistical Performance Check

Radar Type : DFS-J2-2

Test Mode : Transmit at 5570MHz by 802.11ax(160MHz)

Trial #	Frequency (MHz)	Pulse Width (us)	PRI (us)	Pulses/Burs	1= Detection 0= No Detection
1	5570	2	700	18	1
2	5570	2	700	18	1
3	5570	2	700	18	0
4	5570	2	700	18	1
5	5570	2	700	18	1
6	5570	2	700	18	1
7	5570	2	700	18	0
8	5570	2	700	18	1
9	5570	2	700	18	1
10	5570	2	700	18	1
11	5570	2	700	18	1
12	5570	2	700	18	1
13	5570	2	700	18	1
14	5570	2	700	18	1
15	5570	2	700	18	0
16	5570	2	700	18	1
17	5570	2	700	18	0
18	5570	2	700	18	1
19	5570	2	700	18	1
20	5570	2	700	18	1
Detection Percentage(%)					80%
Limit					>60%

Test Item : Statistical Performance Check

Radar Type : DFS-US-1

Test Mode : Transmit at 5570MHz by 802.11ax(160MHz)

Trial #	Frequency (MHz)	Pulse Width (us)	PRI (us)	Pulses/Burs	1= Detection 0= No Detection
1	5570	1	250	18	1
2	5570	1	250	18	1
3	5570	1	250	18	1
4	5570	1	250	18	0
5	5570	1	250	18	1
6	5570	1	250	18	1
7	5570	1	250	18	1
8	5570	1	250	18	1
9	5570	1	250	18	0
10	5570	1	250	18	1
11	5570	1	250	18	1
12	5570	1	250	18	1
13	5570	1	250	18	1
14	5570	1	250	18	1
15	5570	1	250	18	1
16	5570	1	250	18	1
17	5570	1	250	18	0
18	5570	1	250	18	1
19	5570	1	250	18	1
20	5570	1	250	18	1
Detection Percentage(%)					85%
Limit					>60%

Test Item : Statistical Performance Check

Radar Type : DFS-US-2

Test Mode : Transmit at 5570MHz by 802.11ax(160MHz)

Trial #	Frequency (MHz)	Pulse Width (us)	PRI (us)	Pulses/Burs	1= Detection 0= No Detection
1	5570	4.0	5637	26	1
2	5570	1.0	4435	23	1
3	5570	2.0	4988	24	0
4	5570	5.0	6506	29	1
5	5570	5.0	6010	28	1
6	5570	3.0	5448	26	1
7	5570	4.0	5607	26	1
8	5570	3.0	5199	25	0
9	5570	4.0	5586	26	1
10	5570	1.0	4497	23	1
11	5570	5.0	6004	27	1
12	5570	5.0	6402	29	1
13	5570	4.0	5626	26	1
14	5570	2.0	5076	25	1
15	5570	5.0	6363	29	0
16	5570	3.0	5505	26	1
17	5570	5.0	6635	29	1
18	5570	3.0	5154	25	1
19	5570	3.0	5442	26	1
20	5570	2.0	5085	25	1
21	5570	4.0	5637	26	1
22	5570	1.0	4435	23	1
23	5570	2.0	4988	24	1
24	5570	5.0	6506	29	1
25	5570	5.0	6010	28	1
26	5570	3.0	5448	26	0
27	5570	4.0	5607	26	1
28	5570	3.0	5199	25	1
29	5570	4.0	5586	26	1
30	5570	1.0	4497	23	1
Detection Percentage(%)					86.7%

Test Item : Statistical Performance Check

Radar Type : DFS-US-3

Test Mode : Transmit at 5570MHz by 802.11ax(160MHz)

Trial #	Frequency (MHz)	Pulse Width (us)	PRI (us)	Pulses/Burs	1= Detection 0= No Detection
1	5570	9.0	3668	17	1
2	5570	6.0	2114	16	1
3	5570	7.0	2828	16	1
4	5570	10.0	4791	18	1
5	5570	10.0	4150	18	1
6	5570	8.0	3423	17	0
7	5570	9.0	3630	17	1
8	5570	8.0	3102	17	1
9	5570	9.0	3602	17	1
10	5570	6.0	2194	16	0
11	5570	10.0	4143	18	1
12	5570	10.0	4657	18	1
13	5570	9.0	3655	17	1
14	5570	7.0	2942	16	1
15	5570	10.0	4607	18	1
16	5570	8.0	3498	17	1
17	5570	10.0	4959	18	1
18	5570	8.0	3044	17	1
19	5570	8.0	3417	17	1
20	5570	7.0	2954	16	1
21	5570	9.0	3668	17	0
22	5570	6.0	2114	16	1
23	5570	7.0	2828	16	1
24	5570	10.0	4791	18	1
25	5570	10.0	4150	18	0
26	5570	8.0	3423	17	1
27	5570	9.0	3630	17	0
28	5570	8.0	3102	17	1
29	5570	9.0	3602	17	1
30	5570	6.0	2194	16	1
Detection Percentage(%)					83.3%

Test Item : Statistical Performance Check

Radar Type : DFS-US-4

Test Mode : Transmit at 5570MHz by 802.11ax(160MHz)

Trial #	Frequency (MHz)	Pulse Width (us)	PRI (us)	Pulses/Burs	1= Detection 0= No Detection
1	5570	17.0	3668	14	1
2	5570	11.0	2114	12	1
3	5570	14.0	2828	13	1
4	5570	20.0	4791	16	1
5	5570	18.0	4150	15	0
6	5570	16.0	3423	14	1
7	5570	16.0	3630	14	1
8	5570	15.0	3102	13	1
9	5570	16.0	3602	14	1
10	5570	11.0	2194	12	0
11	5570	18.0	4143	15	1
12	5570	20.0	4657	16	1
13	5570	17.0	3655	14	1
14	5570	14.0	2942	13	1
15	5570	20.0	4607	16	0
16	5570	16.0	3498	14	1
17	5570	20.0	4959	16	1
18	5570	14.0	3044	13	1
19	5570	16.0	3417	14	1
20	5570	14.0	2954	13	0
21	5570	17.0	3668	14	1
22	5570	11.0	2114	12	1
23	5570	14.0	2828	13	1
24	5570	20.0	4791	16	1
25	5570	18.0	4150	15	1
26	5570	16.0	3423	14	1
27	5570	16.0	3630	14	1
28	5570	15.0	3102	13	1
29	5570	16.0	3602	14	0
30	5570	11.0	2194	12	1
Detection Percentage (%)					83.3%
Limit					>60%

Total Type Six Radar Statistical Performance

Radar Type	Detection Percentage (%)	Limit (%)	Result
DFS-J2-1	85	>60	Pass
DFS-J2-2	80	>60	Pass
DFS-US-1	85	>60	Pass
DFS-US-2	86.7	>60	Pass
DFS-US-3	83.3	>60	Pass
DFS-US-4	83.3	>60	Pass
Aggregate (6 Radar type)	83.9	>80	Pass

Test Item : Statistical Performance Check

Radar Type : DFS-US-5

Test Mode : Transmit at 5570MHz by 802.11ax(160MHz)

Trial #	Frequency (MHz)	Number of Bursts (us)	Burst Period(s) (us)	Repetition Cycle (s)	1= Detection 0= No Detection
1	5570	15	0.8000000	12.0000000	1
2	5570	8	1.5000000	12.0000000	1
3	5570	11	1.0909091	12.0000000	1
4	5570	20	0.6000000	12.0000000	1
5	5570	17	0.7058824	12.0000000	0
6	5570	14	0.8571429	12.0000000	1
7	5570	15	0.8000000	12.0000000	1
8	5570	12	1.0000000	12.0000000	0
9	5570	14	0.8571429	12.0000000	1
10	5570	8	1.5000000	12.0000000	1
11	5570	17	0.7058824	12.0000000	1
12	5570	19	0.6315789	12.0000000	1
13	5570	15	0.8000000	12.0000000	1
14	5570	12	1.0000000	12.0000000	1
15	5570	19	0.6315789	12.0000000	1
16	5570	14	0.8571429	12.0000000	1
17	5570	20	0.6000000	12.0000000	0
18	5570	12	1.0000000	12.0000000	1
19	5570	14	0.8571429	12.0000000	1
20	5570	12	1.0000000	12.0000000	1
21	5570	15	0.8000000	12.0000000	1
22	5570	8	1.5000000	12.0000000	1
23	5570	11	1.0909091	12.0000000	1
24	5570	20	0.6000000	12.0000000	1
25	5570	17	0.7058824	12.0000000	1
26	5570	14	0.8571429	12.0000000	1
27	5570	15	0.8000000	12.0000000	0
28	5570	12	1.0000000	12.0000000	1
29	5570	14	0.8571429	12.0000000	1
30	5570	8	1.5000000	12.0000000	1
Detection Percentage (%)					86.7%
Limit					>80%

Test Item : Statistical Performance Check

Radar Type : DFS-US-6

Test Mode : Transmit at 5570MHz by 802.11ax(160MHz)

trial #	Pulse Width (us)	Pulse Reptition Frequency(Hz)	Number of Continuous Pulses	Burst Interval(ms)	All Hopping Interval	Visible Frequency Number	Repetition Cycle (s)	1= Detection 0= No Detection
1	1	1.0	3000	9	3.0	300.0	16	1
2	1	1.0	3000	9	3.0	300.0	10	0
3	1	1.0	3000	9	3.0	300.0	14	1
4	1	1.0	3000	9	3.0	300.0	19	1
5	1	1.0	3000	9	3.0	300.0	15	1
6	1	1.0	3000	9	3.0	300.0	18	1
7	1	1.0	3000	9	3.0	300.0	14	1
8	1	1.0	3000	9	3.0	300.0	14	0
9	1	1.0	3000	9	3.0	300.0	21	1
10	1	1.0	3000	9	3.0	300.0	15	1
11	1	1.0	3000	9	3.0	300.0	16	1
12	1	1.0	3000	9	3.0	300.0	24	1
13	1	1.0	3000	9	3.0	300.0	13	1
14	1	1.0	3000	9	3.0	300.0	20	1
15	1	1.0	3000	9	3.0	300.0	17	1
16	1	1.0	3000	9	3.0	300.0	20	1
17	1	1.0	3000	9	3.0	300.0	16	1
18	1	1.0	3000	9	3.0	300.0	18	1
19	1	1.0	3000	9	3.0	300.0	14	1
20	1	1.0	3000	9	3.0	300.0	16	0
21	1	1.0	3000	9	3.0	300.0	16	1
22	1	1.0	3000	9	3.0	300.0	10	1
23	1	1.0	3000	9	3.0	300.0	14	1
24	1	1.0	3000	9	3.0	300.0	19	1
25	1	1.0	3000	9	3.0	300.0	15	1
26	1	1.0	3000	9	3.0	300.0	18	1
27	1	1.0	3000	9	3.0	300.0	14	0
28	1	1.0	3000	9	3.0	300.0	14	1
29	1	1.0	3000	9	3.0	300.0	21	1
30	1	1.0	3000	9	3.0	300.0	15	1
Detection Percentage (%)								86.7%
Limit								>80%

11. In-Service Monitoring for Channel Move Time and Channel Closing Transmission Time and Non-Occupancy Period

11.1. Test Procedure

These tests define how the following DFS parameters are verified during In-Service Monitoring; Channel Closing Transmission Time, Channel Move Time, and Non-Occupancy Period. The steps below define the procedure to determine the above mentioned parameters when a radar Burst with a level equal to the DFS Detection Threshold -62dBm is generated on the Operating Channel of the U-NII device.

At time T_0 the Radar Waveform generator sends a Burst of pulses for each of the radar types at -62dBm.

Observe the transmissions of the UUT at the end of the radar Burst on the Operating Channel for duration greater than 10 seconds. Measure and record the transmissions from the UUT during the observation time (Channel Move Time). Compare the Channel Move Time and Channel Closing

Transmission Time results to the limits defined in the DFS Response requirement values table.

Measure the UUT for more than 30 minutes following the channel close/move time to verify that the UUT does not resume any transmissions on this Channel.

11.2. Test Requirement

Parameter	Value
Channel Move Time	10 Seconds
Channel Closing Transmission Time	260 milliseconds
Non-Occupancy Period	Minimum 30 minutes

11.3. Uncertainty

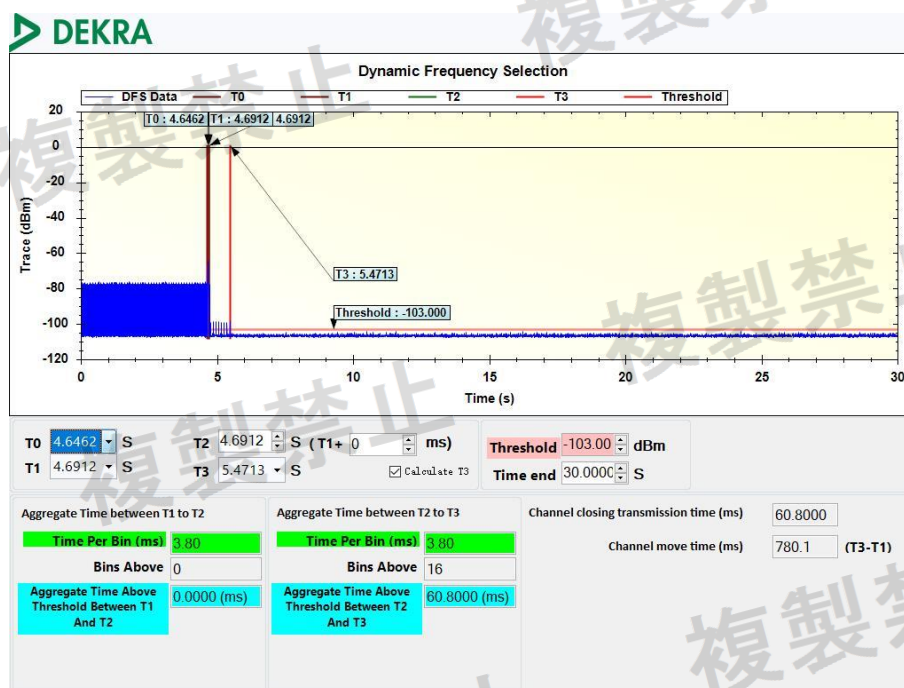
$\pm 1\text{ms}$.

11.4. Test Result of Channel Move Time and Channel Closing Transmission Time and Non-Occupancy Period

Radio 1:

Test Item : Channel Move Time and Channel Closing Transmission Time Test
 Radar : DFS-JP-W53-1
 Type :
 Test Mode : Transmit at 5290MHz by 802.11ac(80MHz)

Channel Move Time for Radar Test DFS-JP-W53-1 at 5290MHz

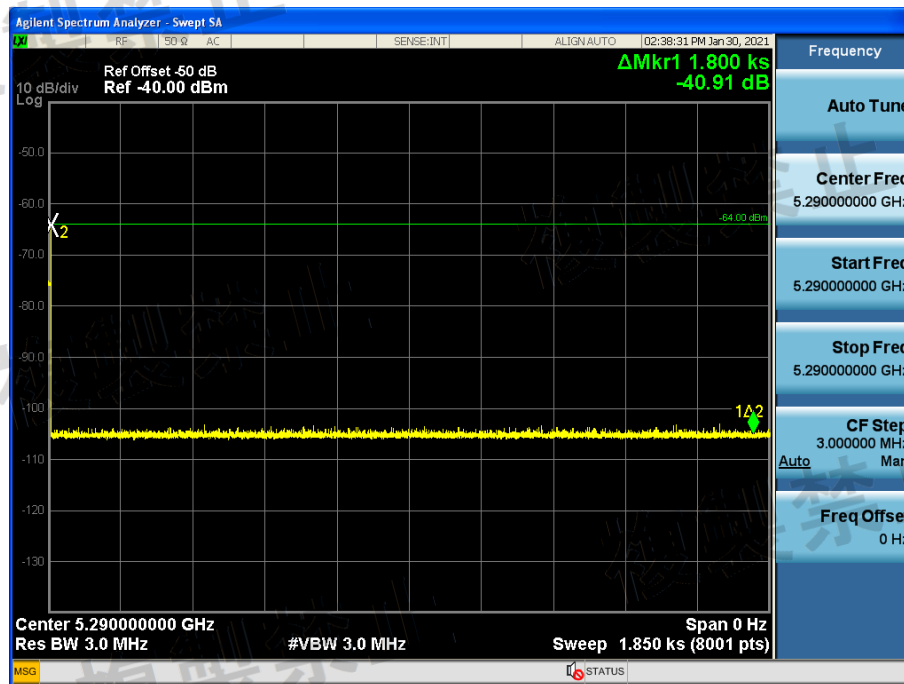


Test Item	Test Result (Sec)	Limit (Sec)
Channel Move Time	0.7801	10
Channel Closing Transmission	0.0608	0.26

The results showed that after radar signal injected the channel move time was less than 10 seconds.

Test Item : Non-Occupancy Period
 Radar : DFS-JP-W53-1
 Type
 Test Mode : Transmit at 5290MHz by 802.11ac(80MHz)

Non-Occupancy Period at 5290 MHz

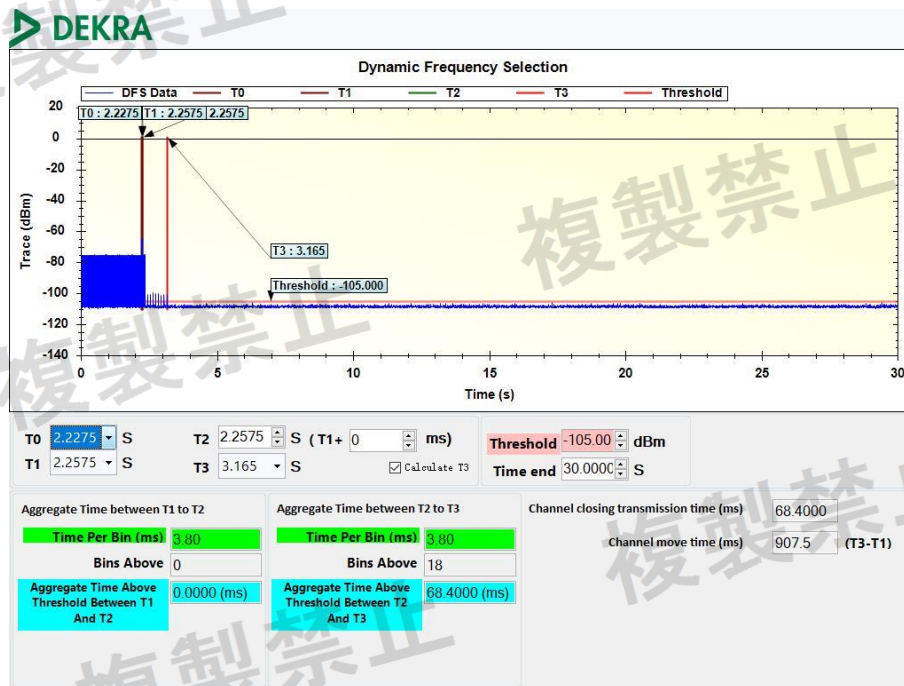


Test Item	Test Result (Minutes)	Limit (Minutes)
Non-Occupancy Period	>30	≥30

No EUT transmissions were observed on the test channel during 30 minutes observation time.

Test Item : Channel Move Time and Channel Closing Transmission Time Test
 Radar : DFS-J2-1
 Type :
 Test Mode : Transmit at 5530MHz by 802.11ac(80MHz)

Channel Move Time for Radar Test DFS-J2-1 at 5530MHz

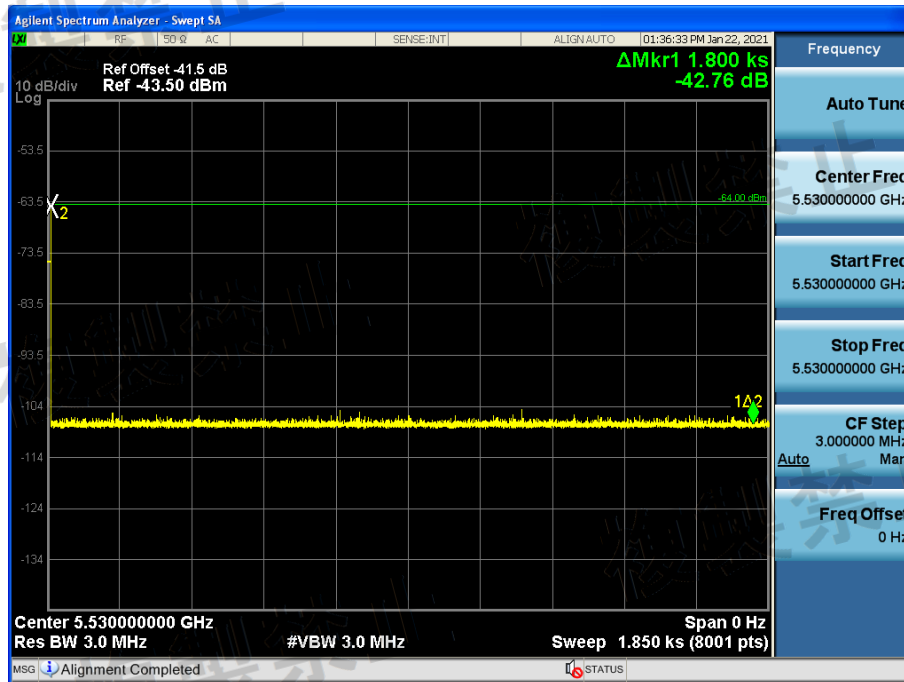


Test Item	Test Result (Sec)	Limit (Sec)
Channel Move Time	0.9075	10
Channel Closing Transmission	0.0684	0.26

The results showed that after radar signal injected the channel move time was less than 10 seconds.

Test Item : Non-Occupancy Period
 Radar : DFS-J2-1
 Type
 Test Mode : Transmit at 5530MHz by 802.11ac(80MHz)

Non-Occupancy Period at 5530 MHz

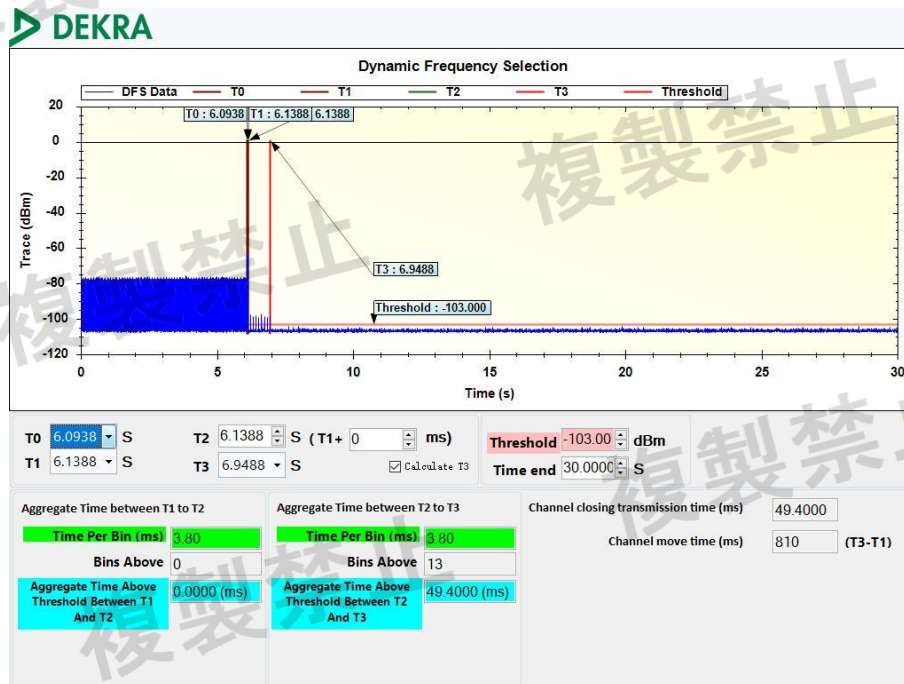


Test Item	Test Result (Minutes)	Limit (Minutes)
Non-Occupancy Period	>30	≥30

No EUT transmissions were observed on the test channel during 30 minutes observation time.

Radio 2:

Test Item : Channel Move Time and Channel Closing Transmission Time Test
 Radar : DFS-JP-W53-1
 Type :
 Test Mode : Transmit at 5290MHz by 802.11ac(80MHz)

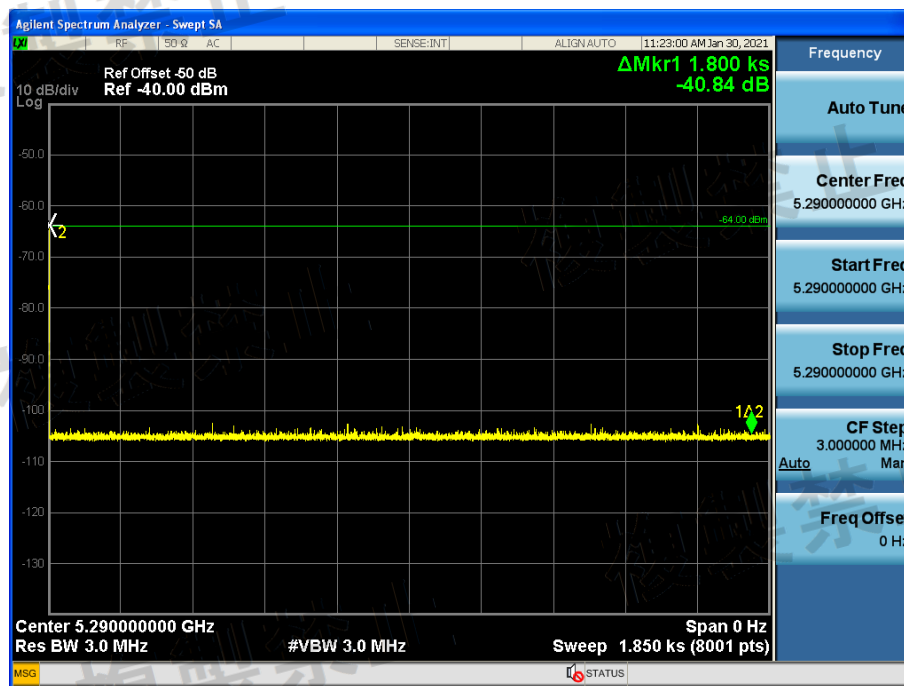
Channel Move Time for Radar Test DFS-JP-W53-1 at 5290MHz

Test Item	Test Result (Sec)	Limit (Sec)
Channel Move Time	0.81	10
Channel Closing Transmission	0.0494	0.26

The results showed that after radar signal injected the channel move time was less than 10 seconds.

Test Item : Non-Occupancy Period
 Radar : DFS-JP-W53-1
 Type
 Test Mode : Transmit at 5290MHz by 802.11ac(80MHz)

Non-Occupancy Period at 5290 MHz

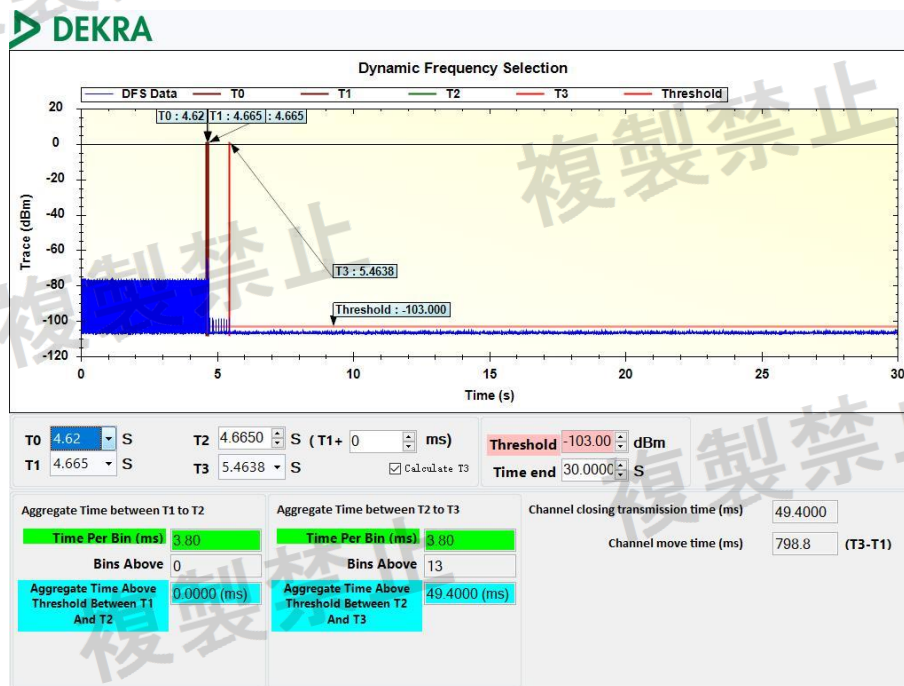


Test Item	Test Result (Minutes)	Limit (Minutes)
Non-Occupancy Period	>30	≥ 30

No EUT transmissions were observed on the test channel during 30 minutes observation time.

Radio 3:

Test Item : Channel Move Time and Channel Closing Transmission Time Test
 Radar : DFS-JP-W53-1
 Type :
 Test Mode : Transmit at 5250MHz by 802.11ax(160MHz)

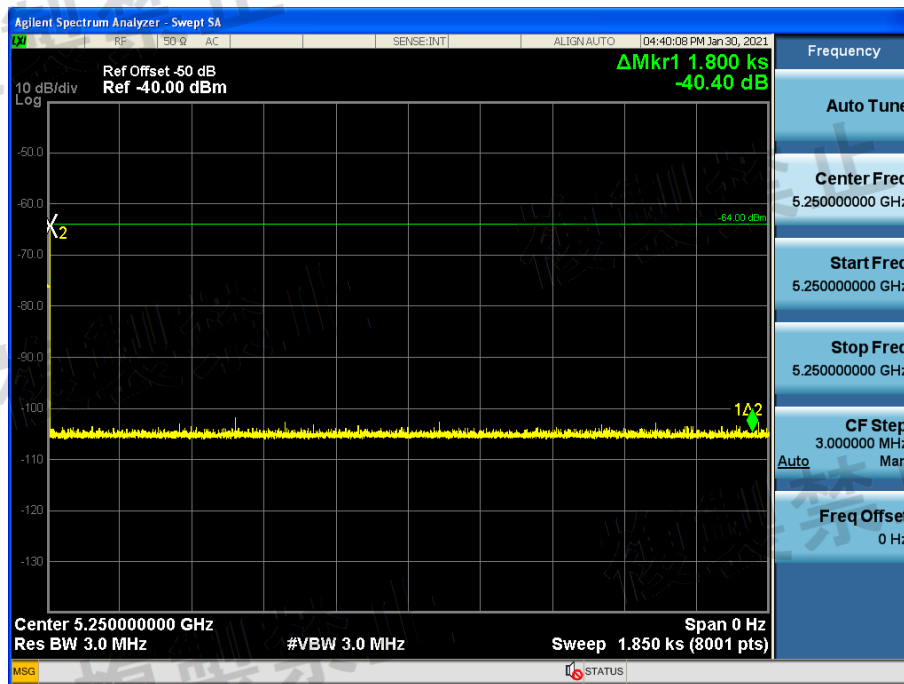
Channel Move Time for Radar Test DFS-JP-W53-1 at 5250MHz

Test Item	Test Result (Sec)	Limit (Sec)
Channel Move Time	0.7988	10
Channel Closing Transmission	0.0494	0.26

The results showed that after radar signal injected the channel move time was less than 10 seconds.

Test Item : Non-Occupancy Period
 Radar : DFS-JP-W53-1
 Type
 Test Mode : Transmit at 5250MHz by 802.11ax(160MHz)

Non-Occupancy Period at 5250 MHz

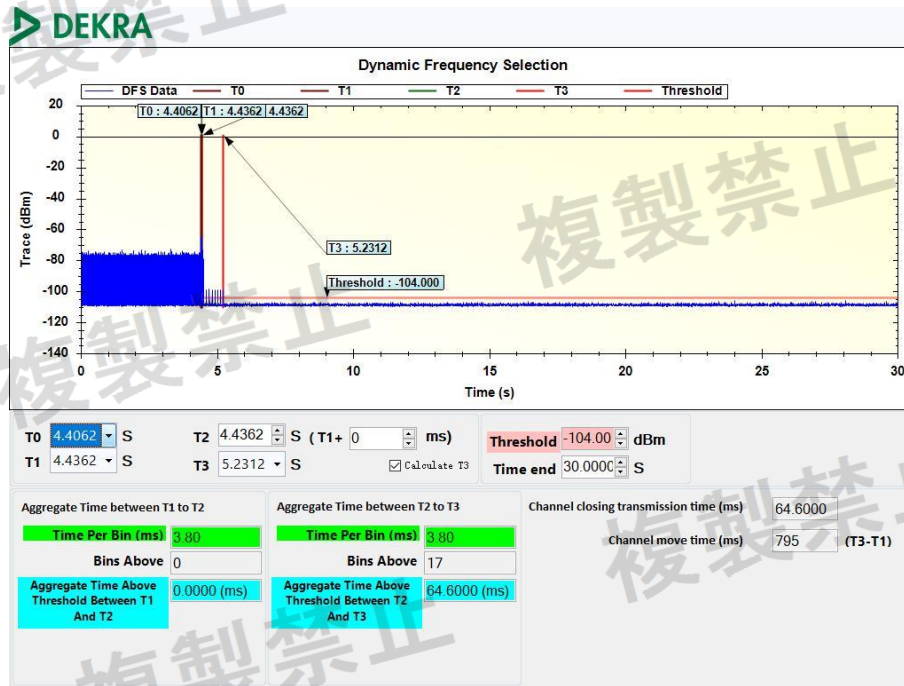


Test Item	Test Result (Minutes)	Limit (Minutes)
Non-Occupancy Period	>30	≥30

No EUT transmissions were observed on the test channel during 30 minutes observation time.

Test Item : Channel Move Time and Channel Closing Transmission Time Test
 Radar : DFS-J2-1
 Type :
 Test Mode : Transmit at 5570MHz by 802.11ax(160MHz)

Channel Move Time for Radar Test DFS-J2-1 at 5570MHz

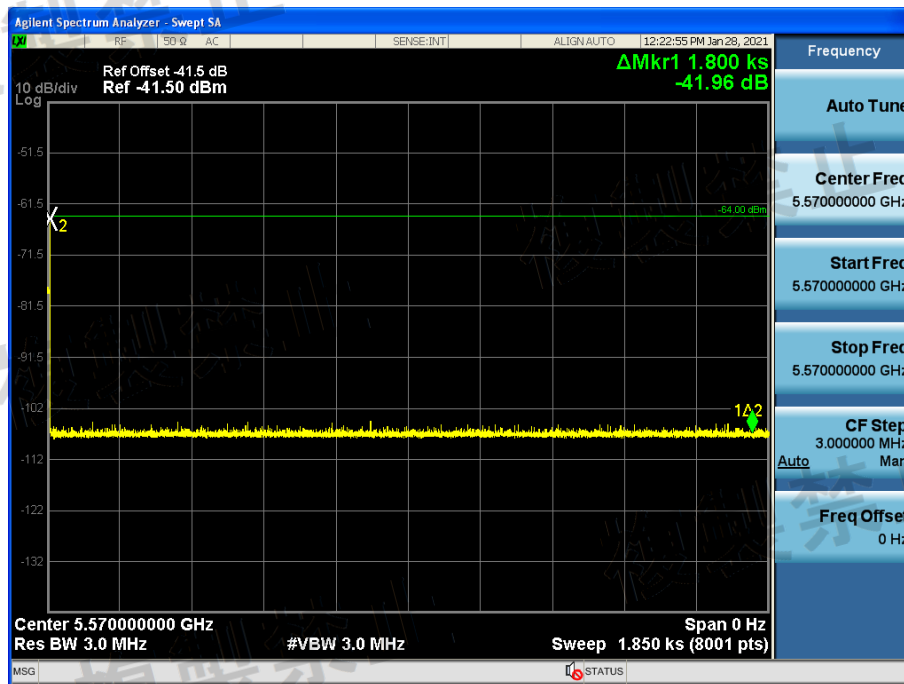


Test Item	Test Result (Sec)	Limit (Sec)
Channel Move Time	0.795	10
Channel Closing Transmission	0.0646	0.26

The results showed that after radar signal injected the channel move time was less than 10 seconds.

Test Item : Non-Occupancy Period
 Radar : DFS-J2-1
 Type
 Test Mode : Transmit at 5570MHz by 802.11ax(160MHz)

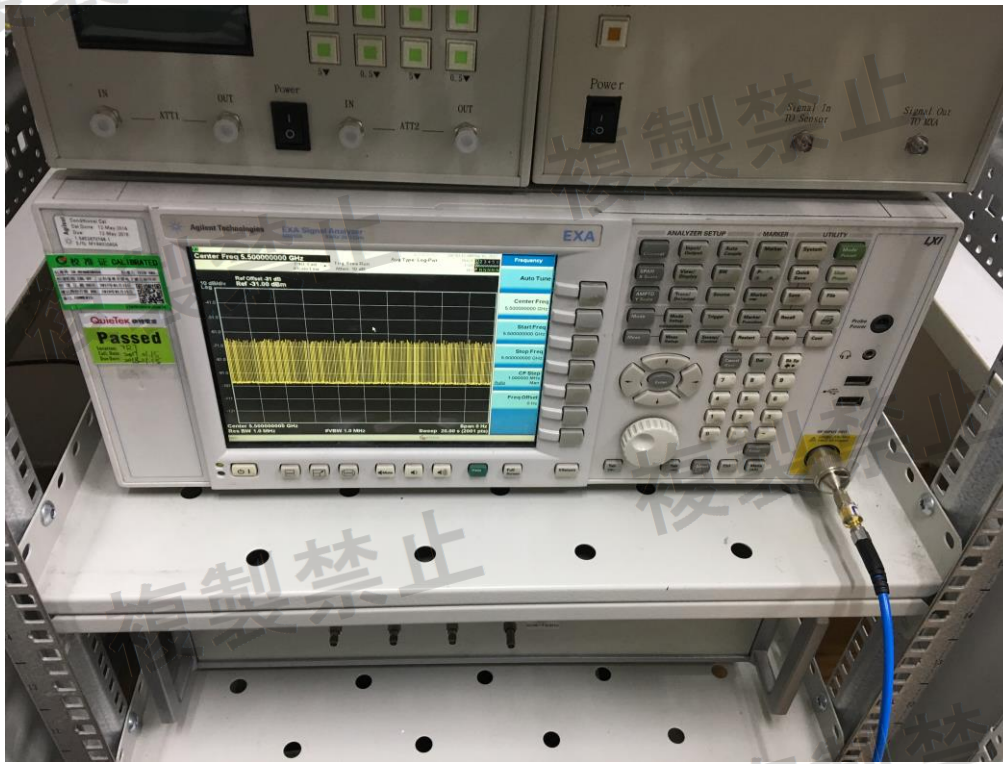
Non-Occupancy Period at 5570 MHz



Test Item	Test Result (Minutes)	Limit (Minutes)
Non-Occupancy Period	>30	≥30

No EUT transmissions were observed on the test channel during 30 minutes observation time.

DFS Test Setup Photo:**Full DFS Test Setup Photo****DFS Set-up Photo: Radar Generator**

DFS Set-up Photo: Spectrum Analyzer**DFS Set-up Photo: Client**