

DFS TEST REPORT

FCC ID: 2A4K9-T2

Report No. : SSP24040167-5E

Applicant : YABER TECHNOLOGIES CO.,LIMITED

Product Name : Projector

Model Name : T2 Plus

Test Standard : FCC Part 15 Subpart E

Date of Issue : 2024-06-05



Shenzhen CCUT Quality Technology Co., Ltd.

1F, Building 35, Changxing Technology Industrial Park, Yutang Street, Guangming District, Shenzhen,
Guangdong, China; (Tel.:+86-755-23406590 website: www.ccuttest.com)

This test report is limited to the above client company and the product model only. It may not be duplicated without prior permitted by Shenzhen CCUT Quality Technology Co., Ltd.

Test Report Basic Information

Applicant:	YABER TECHNOLOGIES CO.,LIMITED Room 406,4 Floor, B Building, BanTian International Center, HuanCheng Address of Applicant.....:	South Road, BanTian Street, LongGang District, Shenzhen, China
Manufacturer:	YABER TECHNOLOGIES CO.,LIMITED Room 406,4 Floor, B Building, BanTian International Center, HuanCheng Address of Manufacturer.....:	South Road, BanTian Street, LongGang District, Shenzhen, China
Product Name:	Projector	
Brand Name:	Yaber	
Main Model:	T2 Plus	
Series Models:	T2, S28, K11, K12, K3	
Test Standard:	FCC Part 15 Subpart E KDB 905462 D02 V02	
Date of Test	2024-04-18 to 2024-05-30	
Test Result:	PASS	
Tested By	<u>Lorzix Luo</u> (Lorzix Luo)	
Reviewed By:	<u>Lieber Ouyang</u> (Lieber Ouyang)	
Authorized Signatory:	<u>Lahm Peng</u> (Lahm Peng)	
Note : This test report is limited to the above client company and the product model only. It may not be duplicated without prior permitted by Shenzhen CCUT Quality Technology Co., Ltd.. All test data presented in this test report is only applicable to presented test sample.		

CONTENTS

1. General Information.....	5
1.1 Product Information	5
1.2 Test Setup Information.....	7
1.3 Compliance Standards.....	8
1.4 Test Facilities.....	8
1.5 List of Measurement Instruments	8
2. Summary of Test Results	9
3. DFS Overview.....	10
3.1 Master Device	10
3.2 Client Device	10
3.3 Applicability	11
4. DFS Standard Requirements	12
4.1 DFS Detection Thresholds	12
4.2 Response Requirements.....	12
5. Radar Test Waveforms.....	13
5.1 Short Pulse Radar Test Waveforms.....	13
5.2 Long Pulse Radar Test Waveforms.....	13
5.3 Test Data and Results.....	14
6. Radar Waveform Calibration	15
6.1 Standard and Limit.....	15
6.2 Calibration Setup	15
6.3 Calibration Test Plots	16
7. DFS Test Procedure	17
7.1 In-Service Monitoring	17
7.2 DFS Test Setup.....	18
8. DFS Test Results	20
8.1 Channel Shutdown	20
8.2 Non-Occupancy Period.....	21

Revision History

Revision	Issue Date	Description	Revised By
V1.0	2024-06-05	Initial Release	Lahm Peng

1. General Information

1.1 Product Information

Product Name:	Projector
Trade Name:	Yaber
Main Model:	T2 Plus
Series Models:	T2, S28, K11, K12, K3
Rated Voltage:	DC 11.1V by battery, Power Input: AC 100-240V~50/60Hz
Power Adapter:	N/A
Battery:	DC 11.1V, 8000mAh
Test Sample No:	SSP24040167-1
Hardware Version:	V1.0
Software Version:	V1.0.0.16
Note 1: The test data is gathered from a production sample, provided by the manufacturer. Note 2: The Complimentary accessories, color of appearance and model name of series models listed are different from the main model, but the circuit and the electronic construction are the same, declared by the manufacturer.	

Wireless Specification	
Wireless Standard:	802.11a(HT20) 802.11n(HT20/HT40) 802.11ac(VHT20/VHT40/VHT80) 802.11ax(HE20/HE40/HE80)
Operating Frequency:	U-NII Band 2: 5260MHz to 5320MHz U-NII Band 3: 5500MHz to 5720MHz
Number of Channel:	Refer to the following channel list
Modulation:	OFDM, OFDMA(BPSK, QPSK, BPSK, 16QAM, 64QAM, 256QAM, 1024QAM)
Operation Mode	☐ Master
	☐ Client with radar detection
	☒ Client without radar detection
Communication Mode	☒ IP Based(Load Based) ☐ Frame Based
TPC Function	☐ With TPC Function ☒ Without TPC Function
Antenna Gain:	5.49dBi
Type of Antenna:	FPCB Antenna

Channel List for UNII Band 2 (5260-5320MHz)							
802.11a/n/ac/ax(20MHz)				802.11n/ac/ax(40MHz)		802.11ac/ax(80MHz)	
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
52	<u>5260</u>	56	5280	54	<u>5270</u>	58	<u>5290</u>
60	<u>5300</u>	64	<u>5320</u>	62	<u>5310</u>	--	--

Channel List for UNII Band 3 (5500-5720MHz)							
802.11a/n/ac/ax(20MHz)		802.11n/ac/ax(40MHz)		802.11ac/ax(80MHz)		(160MHz)	
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
100	<u>5500</u>	102	<u>5510</u>	106	<u>5530</u>	--	--
104	5520	110	5550	122	<u>5610</u>	--	--
108	5540	118	<u>5590</u>	--	--	--	--
112	5560	126	5630	--	--	--	--
116	5580	134	<u>5670</u>	--	--	--	--
120	<u>5600</u>	142	5710	--	--	--	--
124	5620	--	--	--	--	--	--
128	5640	--	--	--	--	--	--
132	5660	--	--	--	--	--	--
136	5680	--	--	--	--	--	--
140	<u>5700</u>	--	--	--	--	--	--
144	5720	--	--	--	--	--	--

1.2 Test Setup Information

The EUT in this application is a client device without radar detection capability and indicate the FCC identifier for the Master U-NII Device .During the test, the product works on the designated test channel and transmits normal data to the master.

Messages for communication between Master and Client Devices: 0101010101.....(Continuous cycle.)

The type of system architecture for the device in this application is IP based, more detailed description as follows:

List of Test Modes			
Test Mode	Description	Remark	
TM1	802.11a	Band 2/3	
TM2	802.11n	Band 2/3	
TM3	802.11ac	Band 2/3	
TM4	802.11ax	Band 2/3	
List and Details of Auxiliary Cable			
Description	Length (cm)	Shielded/Unshielded	With/Without Ferrite
-	-	-	-
-	-	-	-
List and Details of Auxiliary Equipment			
Description	Manufacturer	Model	Serial Number
WIFI Router	TP-LINK	EAP650	FCCID: 2AXJ4EAP650
Laptop	Lenovo	ThlnkPad E15 Gen 3	SPPOZ22485

1.3 Compliance Standards

Compliance Standards	
FCC Part 15 Subpart E	FEDERAL COMMUNICATIONS COMMISSION, RADIO FREQUENCY DEVICES, Unlicensed National Information Infrastructure Devices
KDB 905462 D02 V02	Compliance measurement procedures for unlicensed-national information Infrastructure devices operating in the 5250-5350MHz and 5470-5725MHz bands Incorporating dynamic frequency selection
All measurements contained in this report were conducted with all above standards	
According to standards for test methodology	
FCC Part 15 Subpart E	FEDERAL COMMUNICATIONS COMMISSION, RADIO FREQUENCY DEVICES, Unlicensed National Information Infrastructure Devices
KDB 905462 D02 V02	Compliance measurement procedures for unlicensed-national information Infrastructure devices operating in the 5250-5350MHz and 5470-5725MHz bands Incorporating dynamic frequency selection
Maintenance of compliance is the responsibility of the manufacturer or applicant. Any modification of the product, which result is lowering the emission, should be checked to ensure compliance has been maintained.	

1.4 Test Facilities

Laboratory Name:	Shenzhen CCUT Quality Technology Co., Ltd. 1F, Building 35, Changxing Technology Industrial Park, Yutang Street, Guangming District, Shenzhen, Guangdong, China
CNAS Laboratory No.:	L18863
A2LA Certificate No.:	6893.01
FCC Registration No:	583813
ISED Registration No.:	CN0164
All measurement facilities used to collect the measurement data are located at 1F, Building 35, Changxing Technology Industrial Park, Yutang Street, Guangming District, Shenzhen, Guangdong, China.	

1.5 List of Measurement Instruments

Description	Manufacturer	Model	Serial Number	Cal. Date	Due. Date
RF Test System	MWRFTest	MW100-RFCB	220418SQS-37	2023-07-31	2024-07-30
Spectrum Analyzer	KEYSIGHT	N9020A	ATO-90521	2023-07-31	2024-07-30
Radio Tester	ROHDE&SCHWARZ	CMW500	2K50-126968	2023-07-31	2024-07-30
Signal Generator	Agilent	N5182A	MY47071192	2023-07-31	2024-07-30

2. Summary of Test Results

FCC Rule	DFS Test Item	Result
FCC Part 15.407 (h)	Non-Occupancy Period	PASS
FCC Part 15.407 (h)	DFS Detection Threshold	N/A
FCC Part 15.407 (h)	Channel Availability Check Time	N/A
FCC Part 15.407 (h)	U-NII Detection Bandwidth	N/A
FCC Part 15.407 (h)	Channel Closing Transmission Time	PASS
FCC Part 15.407 (h)	Channel Move Time	PASS
FCC Part 15.407 (h)	Statistical Performance Check	N/A
Passed: The EUT complies with the essential requirements in the standard Failed: The EUT does not comply with the essential requirements in the standard N/A: Not applicable		

3. DFS Overview

3.1 Master Device

- a) The Master Device will use DFS in order to detect Radar Waveforms with received signal strength above the DFS Detection Threshold in the 5250-5350 MHz and 5470-5725 MHz bands. DFS is not required in the 5150-5250 MHz or 5725-5825 MHz bands.
- b) Before initiating a network on a Channel, the Master Device will perform a Channel Availability Check for a specified time duration (Channel Availability Check Time) to ensure that there is no radar system operating on the Channel, using DFS described under subsection a) above.
- c) The Master Device initiates a U-NII network by transmitting control signals that will enable other U-NII devices to Associate with the Master Device.
- d) During normal operation, the Master Device will monitor the Channel (In-Service Monitoring) to ensure that there is no radar system operating on the Channel, using DFS described under a).
- e) If the Master Device has detected a Radar Waveform during In-Service Monitoring as described under d), the Operating Channel of the U-NII network is no longer an Available Channel. The Master Device will instruct all associated Client Device(s) to stop transmitting on this Channel within the Channel Move Time. The transmissions during the Channel Move Time will be limited to the Channel Closing Transmission Time.
- f) Once the Master Device has detected a Radar Waveform it will not utilize the Channel for the duration of the Non-Occupancy Period. 3
- g) If the Master Device delegates the In-Service Monitoring to a Client Device, then the combination will be tested to the requirements described under d) through f) above.

3.2 Client Device

- a) A Client Device will not transmit before having received appropriate control signals from a Master Device.
- b) A Client Device will stop all its transmissions whenever instructed by a Master Device to which it is associated and will meet the Channel Move Time and Channel Closing Transmission Time requirements. The Client Device will not resume any transmissions until it has again received control signals from a Master Device.
- c) If a Client Device is performing In-Service Monitoring and detects a Radar Waveform above the DFS Detection Threshold, it will inform the Master Device. This is equivalent to the Master Device detecting the Radar Waveform and d) through f) of section 5.1.1 apply.
- d) Irrespective of Client Device or Master Device detection the Channel Move Time and Channel Closing Transmission Time requirements remain the same.
- e) The client test frequency must be monitored to ensure no transmission of any type has occurred for 30 minutes. Note: If the client moves with the master, the device is considered compliant if nothing appears in the client non-occupancy period test. For devices that shut down (rather than moving channels), no beacons should appear.

3.3 Applicability

A U-NII network will employ a DFS function to detect signals from radar systems and to avoid co-channel operation with these systems. This applies to the 5250-5350 MHz and 5470-5725 MHz bands.

Within the context of the operation of the DFS function, a U-NII device will operate in either Master Mode or Client Mode. U-NII devices operating in Client Mode can only operate in a network controlled by a U-NII device operating in Master Mode.

Tables 1 and 2 shown below summarize the information contained in sections 5.1.1 and 5.1.2

Table 1: Applicability of DFS Requirements Prior to Use of a Channel

Requirement	Operational Mode		
	Master	Client Without Radar Detection	Client With Radar Detection
Non-Occupancy Period	Yes	Not required	Yes
DFS Detection Threshold	Yes	Not required	Yes
Channel Availability Check Time	Yes	Not required	Not required
U-NII Detection Bandwidth	Yes	Not required	Yes

Table 2: Applicability of DFS Requirements During Normal Operation

Requirement	Operational Mode	
	Master Device or Client with Radar Detection	Client without Radar Detection
DFS Detection Threshold	Yes	Not required
Channel Closing Transmission Time	Yes	Yes
Channel Move Time	Yes	Yes
U-NII Detection Bandwidth	Yes	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 must be tested	Not required
Channel Move Time and Channel Closing Transmission Time	Test using widest BW mode available	Test using the widest BW mode available for the link
All other tests	Any single BW mode	Not required

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

4. DFS Standard Requirements

4.1 DFS Detection Thresholds

Table 3 below provides the DFS Detection Thresholds for Master Devices as well as Client Devices incorporating In-Service Monitoring.

Note: For devices that support multiple Nominal Channel Bandwidths, the Channel Availability Check

Table 3: DFS Detection Thresholds for Master Devices and Client Devices with Radar Detection

Maximum Transmit Power	Value (See Notes 1, 2, and 3)
EIRP $\geq$ 200 milliwatt	-64dBm
EIRP < 200 milliwatt and -62 dBm power spectral density < 10 dBm/MHz	-62dBm
EIRP < 200 milliwatt that do not meet the power -64 dBm spectral density requirement	-64dBm

Note 1: This is the level at the input of the receiver assuming a 0dBi receive antenna.

Note 2: Throughout these test procedures an additional 1 dB has been added to the amplitude of the test transmission waveforms to account for variations in measurement equipment. This will ensure that the test signal is at or above the detection threshold level to trigger a DFS response.

Note3: EIRP is based on the highest antenna gain. For MIMO devices refer to KDB Publication 662911 D01.

4.2 Response Requirements

Table 4 provides the response requirements for Master and Client Devices incorporating DFS.

Table 4: DFS Response Requirement Values

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

Note 1: Channel Move Time and the Channel Closing Transmission Time should be performed with Radar Type 0. The measurement timing begins at the end of the Radar Type 0 burst.

Note 2: The Channel Closing Transmission Time is comprised of 200 milliseconds starting at the beginning of the Channel Move Time plus any additional intermittent control signals required to facilitate 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 used. For each frequency step the minimum percentage of detection is 90 percent. Measurements are performed with no data traffic.

5. Radar Test Waveforms

5.1 Short Pulse Radar Test Waveforms

This section provides the parameters for required test waveforms, minimum percentage of successful detections, and the minimum number of trials that must be used for determining DFS conformance. Step intervals of 0.1 microsecond for Pulse Width, 1 microsecond for PRI, 1MHz for chirp width and 1 for the number of pulses will be utilized for the random determination of specific test waveforms.

Radar Type	Pulse Width (us)	PRI (us)	Number of Pulses	Minimum Percentage of Successful Detection	Minimum Number of Trials
1	1	1428	18	See Note 1	See Note 1
2	1-5	150-230	23-29	60%	30
3	6-10	200-500	16-18	60%	30
4	11-20	200-500	12-16	60%	30

5.2 Long Pulse Radar Test Waveforms

Radar Type	Pulse Width (us)	PRI (us)	Pulses	Number of Pulses per Burst	Number of Bursts	Minimum Percentage of Successful Detection	Minimum Number of Trials
5	50-100	5-20	1000-2000	1-3	8-20	80%	30

The parameters for this waveform are randomly chosen. Thirty unique waveforms are required for the Long Pulse Radar Type waveforms. If more than 30 waveforms are used for the Long Pulse Radar Type waveforms, then each additional waveform must also be unique and not repeated from the previous waveforms.

Each waveform is defined as follows:

- 1) The transmission period for the Long Pulse Radar test signal is 12 seconds.
- 2) There are a total of 8 to 20 Bursts in the 12 second period, with the number of Bursts being randomly chosen. This number is Burst Count.
- 3) Each Burst consists of 1 to 3 pulses, with the number of pulses being randomly chosen. Each Burst within the 12 second sequence may have a different number of pulses.
- 4) The pulse width is between 50 and 100 microseconds, with the pulse width being randomly chosen. Each pulse within a Burst will have the same pulse width. Pulses in different Bursts may have different pulse widths.

5) Each pulse has a linear frequency modulated chirp between 5MHz and 20MHz, with the chirp width being randomly chosen. Each pulse within a transmission period will have the same chirp width. The chirp is centered on the pulse. For example, with a radar frequency of 5300MHz and a 20MHz chirped signal, the chirp starts at 5290MHz and ends at 5310MHz.

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

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

5.3 Test Data and Results

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

For the Frequency Hopping Radar Type, the same Burst parameters are used for each waveform. The hopping sequence is different for each waveform and a 100-length segment is selected from the hopping sequence defined by the following algorithm: 4.

The first frequency in a hopping sequence is selected randomly from the group of 475 integer frequencies from 5250MHz to 5724MHz. Next, the frequency that was just chosen is removed from the group and is randomly selected from the remaining 474 frequencies in the group. This process continues until all are chosen for the set. For selection of a random frequency, the frequencies remaining within the groupware treated as equally likely.

Initial power up or at initial installation. Channels being used by other RLAN equipment may be omitted from the list of Usable Channels.

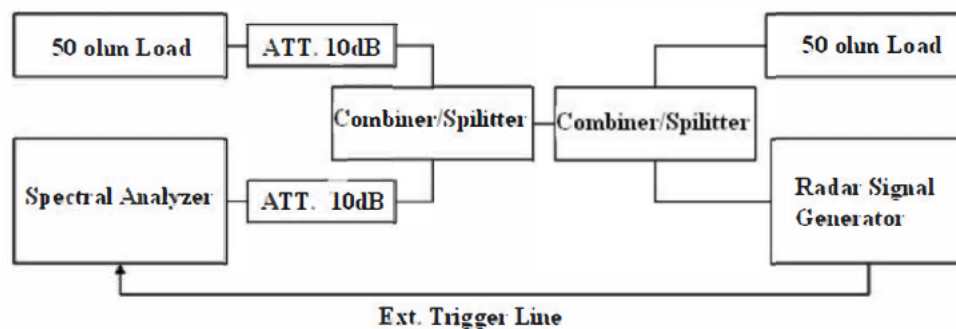
6. Radar Waveform Calibration

6.1 Standard and Limit

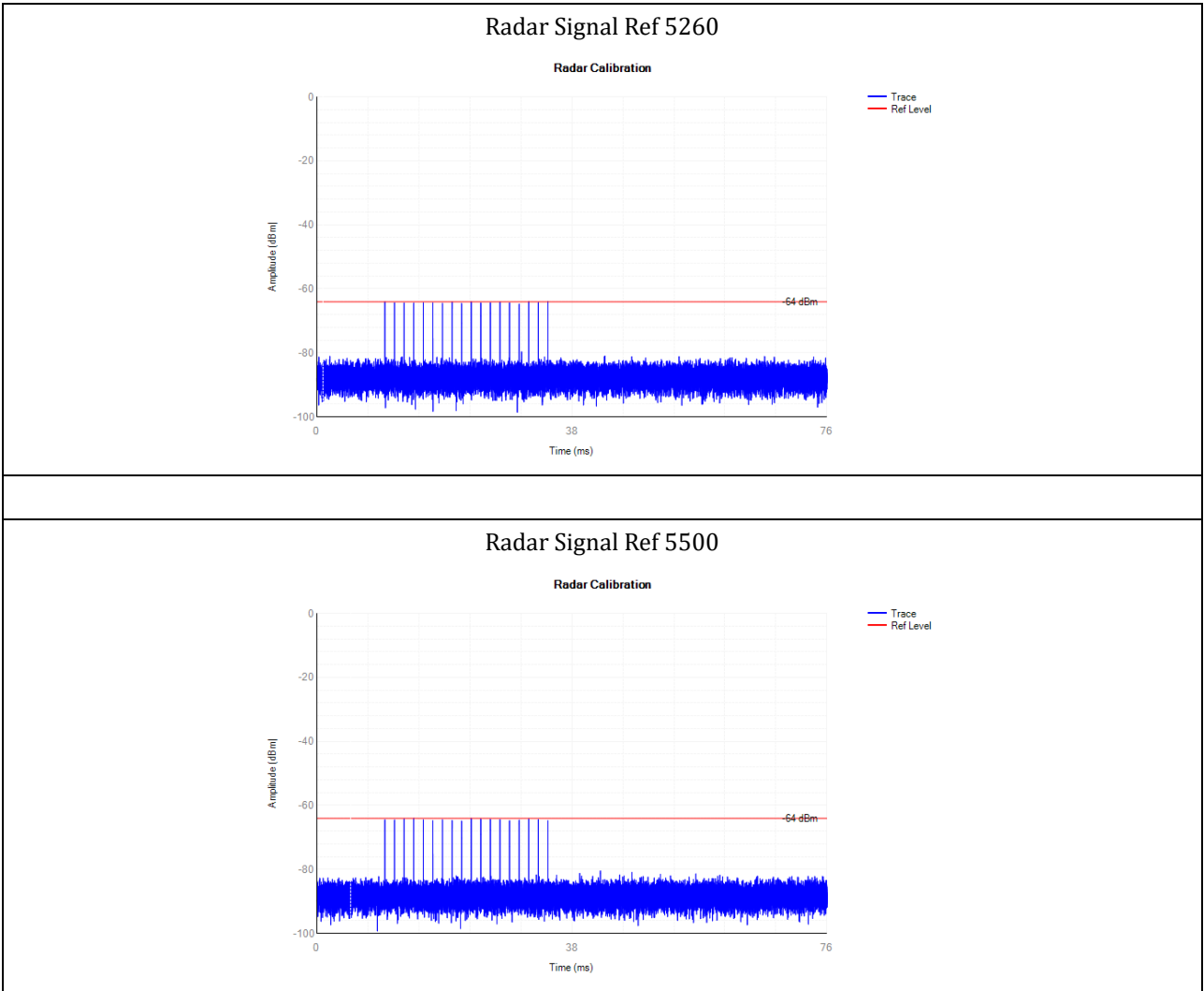
The following equipment setup was used to calibrate the conducted radar waveform. A spectrum analyzer was used to establish the test signal level for each radar type. During this process there were no transmissions by either the master or client device. The spectrum analyzer was switched to the zero spans (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 3MHz. The signal generator amplitude was set so that the power level measured at the spectrum analyzer was -55dBm due to the interference threshold level is not required.

6.2 Calibration Setup



6.3 Calibration Test Plots



7. DFS Test Procedure

7.1 In-Service Monitoring

These tests define how the following DFS parameters are verified during In-Service Monitoring;

- Channel Closing Transmission Time
- Channel Move Time
- 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 + 1 dB is generated on the Operating Channel of the UNII device (In- Service Monitoring).

a) One frequency will be chosen from the Operating Channels of the UUT within the 5250MHz-5350 MHz or 5470MHz-5725 MHz bands. For 802.11 devices, the test frequency must contain control signals. This can be verified by disabling channel loading and monitoring the spectrum analyzer. If no control signals are detected, another frequency must be selected within the emission bandwidth where control signals are detected.

b) In case the UUT is a U-NII device operating as a Client Device (with or without DFS), a U-NII device operating as a Master Device will be used to allow the UUT (Client device) to Associate with the Master Device. In case the UUT is a Master Device, a U-NII device operating as a Client Device will be used and it is assumed that the Client will Associate with the UUT (Master). In both cases for conducted tests, the Radar Waveform generator will be connected to the Master Device. For radiated tests, the emissions of the Radar Waveform generator will be directed towards the Master Device. If the Master Device has antenna gain, the main beam of the antenna will be directed toward the radar emitter. Vertical polarization is used for testing.

c) Stream the channel loading test file from the Master Device to the Client Device on the test Channel for the entire period of the test.

d) At time T₀ the Radar Waveform generator sends a Burst of pulses for one of the Radar Type 0 in Table 5 at levels defined in Table 3, on the Operating Channel. An additional 1 dB is added to the radar test signal to ensure it is at or above the DFS Detection Threshold, accounting for equipment variations/errors.

e) 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). Measure and record the Channel Move Time and Channel Closing Transmission Time if radar detection occurs. Figure 17 illustrates Channel Closing Transmission Time.

f) When operating as a Master Device, monitor the UUT for more than 30 minutes following instant T₂ to verify that the UUT does not resume any transmissions on this Channel. Perform this test once and record the measurement result.

g) In case the UUT is a U-NII device operating as a Client Device with In-Service Monitoring, perform steps a) to f).

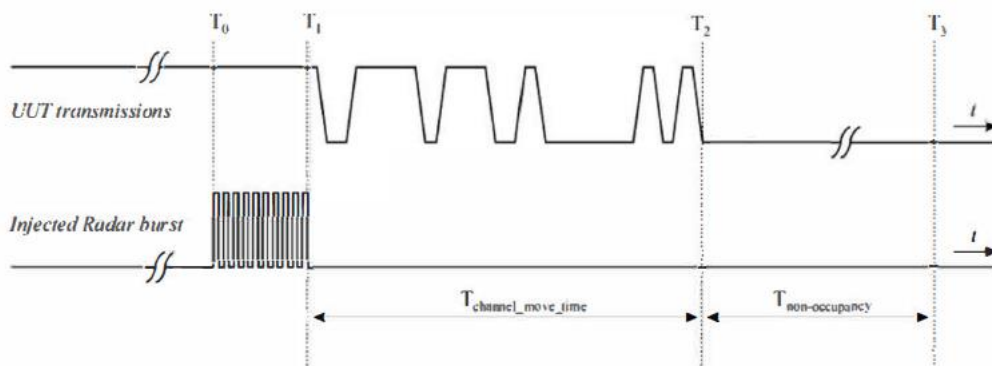
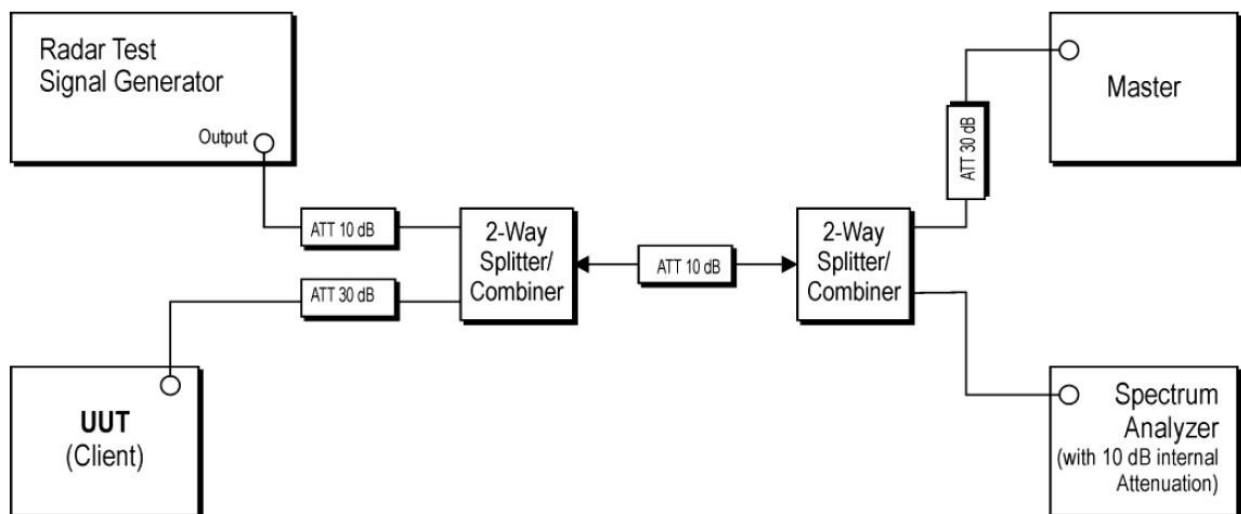


Figure 17: Example of Channel Closing Transmission Time & Channel Closing Time

7.2 DFS Test Setup



1. The radar pulse generator is setup to provide a pulse at frequency that the master and client are operating. A type 0 radar pulse with a 1us pulse width and a 1428us PRI is used for the testing.
2. The vector signal generator is adjusted to provide the radar burst (18 pulses) at the level of approximately -64dBm at the antenna port of the master device
3. A trigger is provided from the pulse generator to the DFS monitoring system in order to capture the traffic and the occurrence of the radar pulse.
4. EUT will associate with the master at channel. The file "iperf.exe" specified by the FCC is streamed from the PC 2 through the master and the client device to the PC 1 and played in full motion video using Media Player Classic Ver. 6.4.8.6 in order to properly load the network for the entire period of the test.
5. When radar burst with a level equal to the DFS Detection Threshold +1dB is generated on the operating channel of the U-NII device. At time T0 the radar waveform generator sends a burst of pulse of the radar waveform at Detection Threshold +1dB.
6. Observe the transmissions of the EUT at the end of the radar Burst on the Operating ChannelMeasure and record the transmissions from the UUT during the observation time (Channel Move Time). One 15 seconds plot is reported for the Short Pulse Radar Type 0. The plot for the Short Pulse Radar Types start at the end of the radar burst. The Channel Move Time will be calculated based on the zoom in 600ms plot of the Short Pulse Radar Type
7. Measurement of the aggregate duration of the Channel Closed Transmission Time method. With the spectrum analyzer set to zero span tuned to the center frequency of the EUT operating channel at the radar simulated frequency, peak detection, and max hold, the dwell time per bin is given by: $Dwell (0.3ms) = S (12000ms) / B (4000)$; where Dwell is the dwell time per spectrum analyzer sampling bin, S is sweep time and B is the number of spectrum analyzer sampling bins. An upper bound of the aggregate duration of the intermittent control signals of Channel Closing Transmission Time is calculated by: $C (ms) = N \times Dwell (0.3ms)$; where C is the Closing Time, N is the number of spectrum analyzer sampling bins (intermittent control signals) showing a U-NII transmission and Dwell is the dwell time per bin.
8. Measurement the EUT for more than 30 minutes following the channel move time to verify that no transmission or beacons occur on this channel.

Note: This client device (UUT) was activated at 42 seconds and the radar signal was transmitted at 43 seconds.

8. DFS Test Results

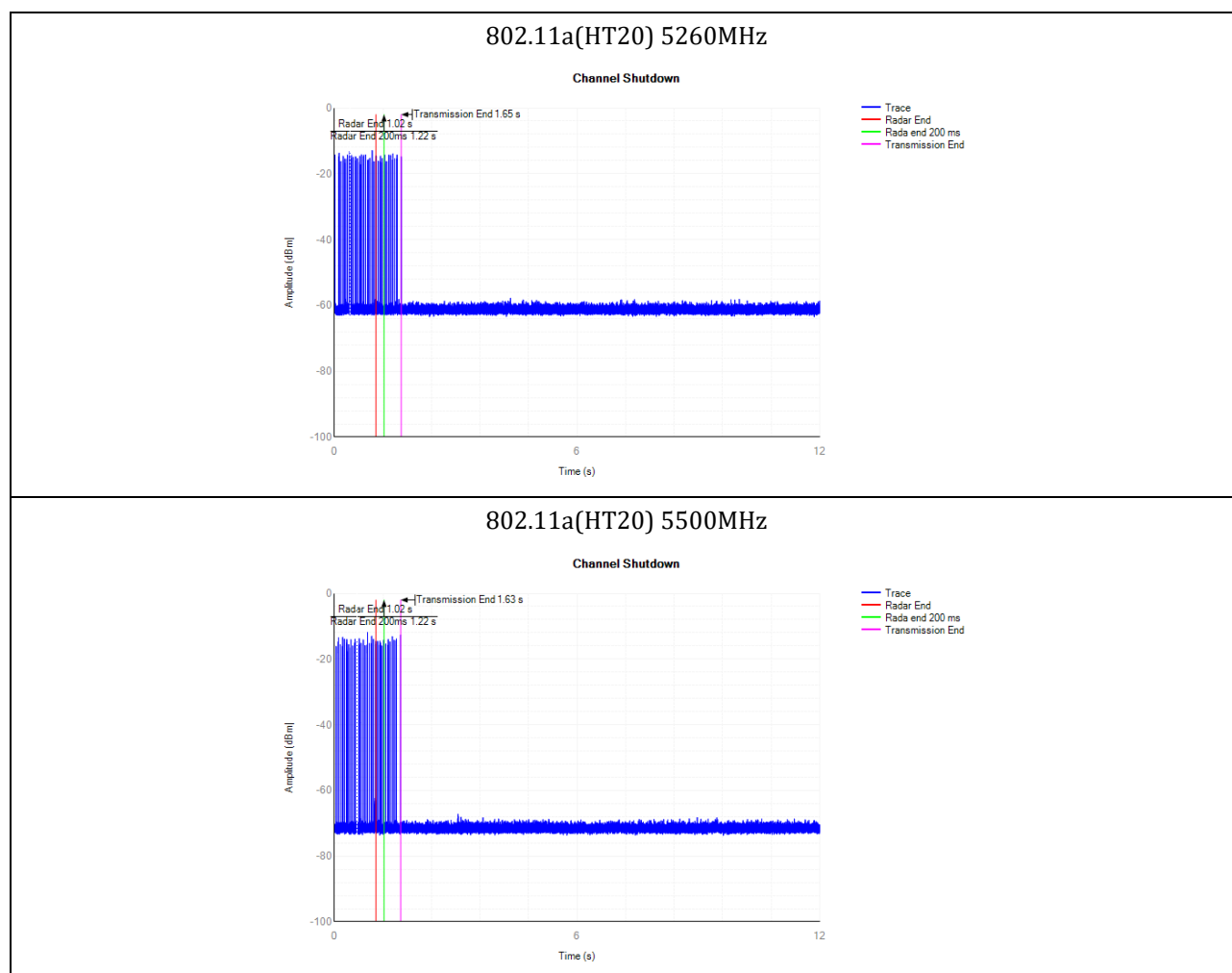
8.1 Channel Shutdown

Test Mode	Test Channel	CMT(s)	Limits(s)	CCTT(s)	Limit(s)	Result
802.11a(HT20)	5260MHz	0.6241	10	0.0128	200 milliseconds + an aggregate of 60 milliseconds over remaining 10 second period	Pass
	5500MHz	0.6101	10	0.008		Pass

Note 1: CMT is Channel Move Times, CCTT is Channel Closing Transmission Time;

Note 2: The aggregate duration of all transmissions of the WLAN device on this channel during the Channel Move Time shall be limited to the Channel Closing Transmission Time. The aggregate duration of all transmissions shall not include quiet periods in between transmissions;

Note 3: A reference type radar waveform was introduced to the EUT when 1 s after sweep, and the spectrum Analyzer sweep time was set to 12s for monitoring and capturing the plot. A software Program was created to collect the trace data and capturing the plot, then automatic calculate the duration time.

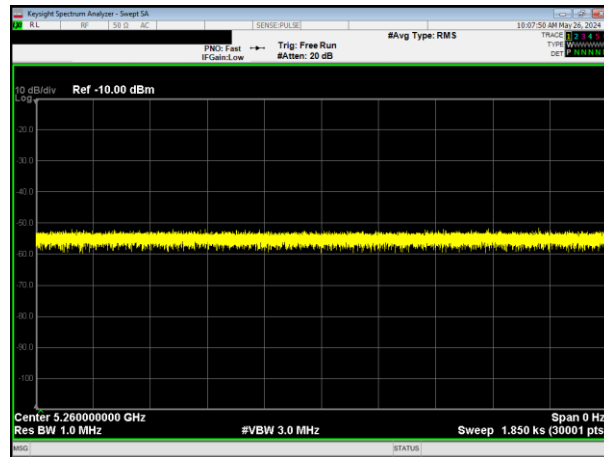


8.2 Non-Occupancy Period

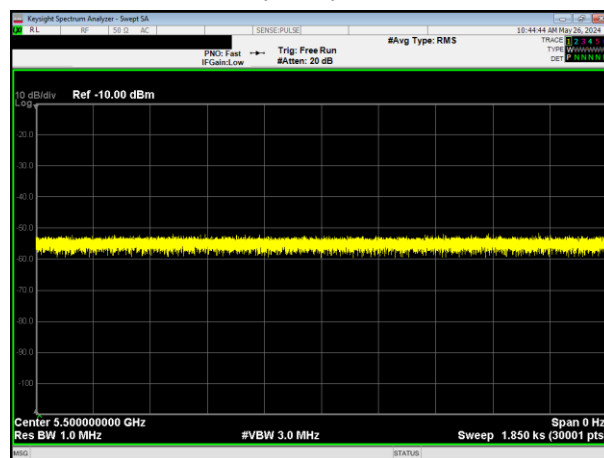
Test Mode	Test Channel	Bandwidth	Measured Value	Limit	Test Result
802.11a(HT20)	5260MHz	20MHz	>30min	30min	Pass
	5500MHz	20MHz	>30min	30min	Pass

Note: All modes have been tested and passed, only listed the worst mode in the test report.

802.11a(HT20) 5260MHz



802.11a(HT20) 5500MHz



***** END OF REPORT *****