



DFS Test Report

FCC ID:XMF-MID7030

IC:20064-MID7030

Original Grant

Report No. : TBR-C-202512-0001-84

Applicant : Lightcomm Technology Co., Ltd.

Equipment Under Test (EUT)

EUT Name : 7"core tablet

Model No. : TBBLU36020962

Series Model No. : Please Refer To Page 4

Brand Name : onn

Sample ID : HC-C-202512-0001-01-01&HC-C-202512-0001-01-02

Receipt Date : 2025-12-04

Test Date : 2025-12-04 to 2025-12-23

Issue Date : 2025-12-23

Standards : FCC Part 15 Subpart E 15.407
RSS 247 Issue 4 July 2025

Test Method : ETSI EN 301 893 V2.2.1 (2024-11)
KDB 905462 D02 UNII DFS Compliance Procedures New Rules v02
KDB 905462 D03 UNII Clients Without Radar Detection New Rules v01r02

Conclusions : **PASS**

In the configuration tested, the EUT complied with the standards specified above

Test By : Lily Zhang

Reviewed By : Camille Li

Approved By : Ivan Su



This report details the results of the testing carried out on one sample. The results contained in this test report do not relate to other samples of the same product. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in the report.

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Revision History

Report No.	Version	Description	Issued Date
TBR-C-202512-0001-83	Rev.01	Initial issue of report	2025-12-23



1. General Information about EUT

1.1 Client Information

Applicant	:	Lightcomm Technology Co., Ltd.
Address	:	UNIT 1306 13/F ARION COMMERCIAL CENTRE, 2-12 QUEEN'S ROAD WEST, SHEUNG WAN HK
Manufacturer	:	Lightcomm Technology Co., Ltd.
Address	:	UNIT 1306 13/F ARION COMMERCIAL CENTRE, 2-12 QUEEN'S ROAD WEST, SHEUNG WAN HK

1.2 General Description of EUT (Equipment Under Test)

EUT Name	:	7"core tablet
Models No. for FCC	:	TBBLU36020962, TBSIL36020962, TBPnk36020962, TBBRN36020962, MID7030, 36020962
Models No. for IC	:	TBBLU36020962, 36020962, TBSIL36020962, TBBRN36020962
HVIN	:	TBBLU36020962, 36020962, TBSIL36020962, TBBRN36020962
Model Different	:	All these models are identical in the same PCB layout and electrical circuit, The only difference is appearance color.
Operating Frequency Band	:	☒ 5250-5350MHz ☒ 5470-5725MHz
TPC	:	☒ No ☐ Yes
Power Rating	:	Input:5.0V=2A
Rechargeable Li-ion Battery	:	DC 3.85V 3200mAh, 12.32Wh
Software Version	:	alps-mp-b0.mp1-V9
Hardware Version	:	MID7030MX_MT8786_LPDDR4_MB_VER3.0
Note	:	This device was functioned as a ☐ Master ☐ Slave device with radar detection ☒ Slave device without radar detection

Note:

(1)For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.



(2)Antenna information provided by the manufacturer.

Antenna Type: FPC	Max. Gain:	2.59dBi
The above antenna information is declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications, the laboratory shall not be held responsible.		

(3)Channel List:

Frequency Band	Channel No.	Frequency	Channel No.	Frequency
5260~5320 MHz (U-NII-2A)	52	5260 MHz	60	5300 MHz
	54	5270 MHz	62	5310MHz
	56	5280MHz	64	5320 MHz
	58	5290MHz		
For 20 MHz Bandwidth, use channel 52, 56, 60, 64. For 40 MHz Bandwidth, use channel 54, 62. For 80 MHz Bandwidth, use channel 58.				
Frequency Band	Channel No.	Frequency	Channel No.	Frequency
5500~5720 MHz (U-NII-2C)	100	5500 MHz	124	5620 MHz
	102	5510 MHz	126	5630 MHz
	104	5520 MHz	128	5640 MHz
	106	5530 MHz	132	5660 MHz
	108	5540 MHz	134	5670 MHz
	110	5550 MHz	136	5680 MHz
	112	5560 MHz	140	5700 MHz
	116	5580 MHz		
	118	5590 MHz		
	120	5600 MHz		
	122	5610 MHz		
For 20 MHz Bandwidth, use channel 100, 104, 108, 112, 116, 120, 124, 128, 132, 136, 140 For 40 MHz Bandwidth, use channel 102, 110, 118, 126, 134 For 80 MHz Bandwidth, use channel 106, 122				

1.3 Measurement Uncertainty

The reported uncertainty of measurement $y \pm U$, where expended uncertainty U is based on a standard uncertainty multiplied by a coverage factor of $k=2$, providing a level of confidence of approximately 95 %.

Parameters	Expanded Uncertainty (U_{Lab})
Radio frequency	$\pm 0,001 \%$
Generated signal levels, conducted	$\pm 2.6dB$
Time	$\pm 5\%$
Humidity	$\pm 4\%$
Temperature	$\pm 0.6^{\circ}C$



1.4 Test Facility

The testing report were performed by the Shenzhen Toby Technology Co., Ltd., in their facilities located at 1/F., Building 6, Rundongsheng Industrial Zone, Longzhu, Xixiang, Bao'an District, Shenzhen, Guangdong, China. At the time of testing, the following bodies accredited the Laboratory:

CNAS (L5813)

The Laboratory has been accredited by CNAS to ISO/IEC 17025: 2017 General Requirements for the Competence of Testing and Calibration Laboratories for the competence in the field of testing. And the Registration No.: CNAS L5813.

A2LA Certificate No.: 4750.01

The laboratory has been accredited by American Association for Laboratory Accreditation(A2LA) to ISO/IEC 17025: 2017 General Requirements for the Competence of Testing and Calibration Laboratories for the technical competence in the field of Electrical Testing. And the A2LA Certificate No.: 4750.01.FCC Accredited Test Site Number: 854351. Designation Number: CN1223.

IC Registration No.: (11950A)

The Laboratory has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing. The site registration: Site# 11950A. CAB identifier: CN0056.



2. Test Software

Test Item	Test Software	Manufacturer	Version No.
RF Test System	JS1120	Tonscend	V3.2.22

3. Test Equipment and Test Site

Test Site				
No.	Test Site	Manufacturer	Specification	Used
TB-EMCSR001	Shielding Chamber #1	YIHENG	7.5*4.0*3.0 (m)	X
TB-EMCSR002	Shielding Chamber #2	YIHENG	8.0*4.0*3.0 (m)	√
TB-EMCCA001	3m Anechoic Chamber #A	ETS	9.0*6.0*6.0 (m)	X
TB-EMCCB002	3m Anechoic Chamber #B	YIHENG	9.0*6.0*6.0 (m)	X

Antenna Conducted Emission					
Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Due Date
Spectrum Analyzer	Rohde & Schwarz	FSV40-N	102197	Jun. 16, 2025	Jun. 15, 2026
Vector Signal Generator	Agilent	N5182A	MY50141294	Aug. 27, 2025	Aug. 26, 2026
Analog Signal Generator	Agilent	N5181A	MY48180463	Aug. 27, 2025	Aug. 26, 2026
Vector Signal Generator	KEYSIGT	N5182B	MY59101429	Aug. 27, 2025	Aug. 26, 2026
Analog Signal Generator	KEYSIGHT	N5173B	MY61252685	Aug. 27, 2025	Aug. 26, 2026
Frequency Extender	KEYSIGHT	N5182BX07	MY59360126	Aug. 27, 2025	Aug. 26, 2026
RF Control Unit	Tonsced	JS0806-2	21F8060439	Aug. 27, 2025	Aug. 26, 2026
Power Control Box	Tonsced	JS0806-4ADC	21C8060387	N/A	N/A
Attenuator	XQY	25dB	N/A	N/A	N/A
Attenuator	XQY	10dB	N/A	N/A	N/A



4. Test Summary

Client without radar detection				
DFS requirements within the 5250-5350 MHz, 5470-5600 MHz, 5650-5725 MHz bands				
Test Method: KDB 905462 D02 UNII DFS Compliance Procedures New Rules v02 KDB 905462 D03 UNII Clients Without Radar Detection New Rules v01r02				
Standard Section	Test Item	Test Sample(s)	Judgment	Remark
RSS 247 Issue 4(7.3.6.3)(c) FCC 15.407(h)	Channel move time	HC-C-202512-0001-01-01	PASS	N/A
RSS 247 Issue 4(7.3.6.3)(d) FCC 15.407(h)	Channel closing transmission time	HC-C-202512-0001-01-01	PASS	N/A
RSS 247 Issue 4(7.3.6.3)(e) FCC 15.407(h)	Non-occupancy period	HC-C-202512-0001-01-01	PASS	N/A
DFS requirements within the 5600-5650 MHz bands				
Test Method: ETSI EN 301 893 V2.2.1 (2024-11)				
Standard Section	Test Item	Test Sample(s)	Judgment	Remark
RSS 247 Issue 4(7.3.6.3)(c)	Channel move time	HC-C-202512-0001-01-01	PASS	N/A
RSS 247 Issue 4(7.3.6.3)(d)	Channel closing transmission time	HC-C-202512-0001-01-01	PASS	N/A
Note: N/A is an abbreviation for Not Applicable.				



5. DFS Radar Signal Detection Threshold

5.1 Test Standard and Requirements

5.1.1 Test Standard

FCC Part 15.407(h)

RSS 247 Issue 4(7.3.6.3)

5.1.2 Radar Signal Detection Threshold

RSS 247 Issue 4:

Devices shall employ a DFS radar detection mechanism to detect the presence of radar systems and to avoid co-channel operation with radar systems. The device must detect radar signals within its entire emission bandwidth. The minimum DFS radar signal detection threshold is described below in Table 2.

Table 2: DFS Detection threshold for controller devices and client devices with radar detection	
Devices	DFS Threshold
Devices with a maximum e.i.r.p. < 200 mW AND a maximum Power Spectral Density < 10 dBm/MHz	-62 dBm
Devices with $200 \text{ mW} \leq \text{maximum e.i.r.p.} \leq 1 \text{ W}$	-64 dBm
Note: The detection threshold power is the received power, averaged over a 1 μs reference to a 0 dBi antenna.	

FCC Part 15 Subpart E 15.407:

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

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 ≥ 200 milliwatt	-64 dBm
EIRP < 200 milliwatt and power spectral density < 10 dBm/MHz	-62 dBm
EIRP < 200 milliwatt that do not meet the power spectral density requirement	-64 dBm
Note 1: This is the level at the input of the receiver assuming a 0 dBi receive antenna. Note 2: Throughout these test procedures an additional 1 dB has been added to the amplitude of the test transmission waveforms to account for variations in measurement equipment. This will ensure that the test signal is at or above the detection threshold level to trigger a DFS response. Note3: EIRP is based on the highest antenna gain. For MIMO devices refer to KDB Publication 662911 D01.	

ETSI EN 301 893 V2.2.1:

Table D.2: Radar detection threshold

Power Spectral Density (PSD) (dBm/MHz)	Radar detection threshold (dBm) (see note 1 and note 2)
10	-62
NOTE 1: This is the level at the input of the receiver of an RLAN device with a maximum PSD of 10 dBm/MHz and assuming a 0 dBi receive antenna. For devices employing a different PSD and/or a different receive antenna assembly gain G (dBi), the radar detection threshold at the receiver input follows the following relationship: $\text{radar detection threshold (dBm)} = -62 + 10 - \text{PSD (dBm/MHz)} + G \text{ (dBi)}.$ However, the radar detection threshold shall not be less than -64 dBm assuming a 0 dBi receive antenna gain. NOTE 2: Secondary devices with a maximum RF output power of less than or equal to 23 dBm EIRP do not have to implement radar detection unless these devices are used in fixed outdoor point-to-point or fixed outdoor point-to-multipoint applications (see clause 4.2.6.1.3).	



5.2 Radar Test Waveforms

RSS 247 Issue 4& FCC Part 15 Subpart E 15.407:

Table 5 – Short Pulse Radar Test Waveforms

Radar Type	Pulse Width (μsec)	PRI (μsec)	Number of Pulses	Minimum Percentage of Successful Detection	Minimum Number of Trials
0	1	1428	18	See Note 1	See Note 1
1	1	Test A: 15 unique PRI values randomly selected from the list of 23 PRI values in Table 5a	Roundup $\left\{ \left(\frac{1}{360} \right) \cdot \left(\frac{19 \cdot 10^6}{\text{PRI}_{\mu\text{sec}}} \right) \right\}$	60%	30
		Test B: 15 unique PRI values randomly selected within the range of 518-3066 μsec, with a minimum increment of 1 μsec, excluding PRI values selected in Test A			
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
Aggregate (Radar Types 1-4)				80%	120
Note 1: Short Pulse Radar Type 0 should be used for the detection bandwidth test, channel move time, and channel closing time tests.					

Table 6 – Long Pulse Radar Test Waveform

Radar Type	Pulse Width (μsec)	Chirp Width (MHz)	PRI (μsec)	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

Table 7 – Frequency Hopping Radar Test Waveform

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



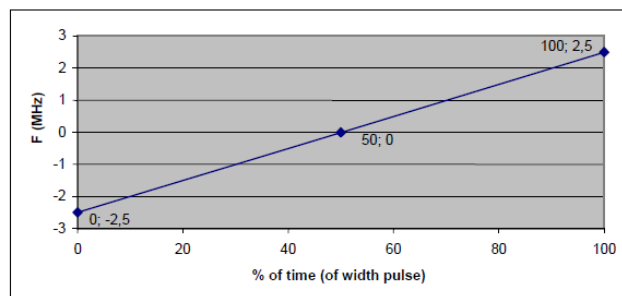
ETSI EN 301 893 V2.2.1:

Table D.4: Parameters of radar test signals

Radar test signal (see note 1 to note 3)	Pulse width W (μs)		PRF (PPS)		Number of different PRFs	PPB for each PRF (see note 5)
	Min	Max	Min	Max		
1	0,5	5	200	1 000	1	10 (see note 6)
2	0,5	15	200	1 600	1	15 (see note 6)
3	0,5	15	2 300	4 000	1	25
4	20	30	2 000	4 000	1	20
5	0,5	2	300	400	2/3	10 (see note 6)
6	0,5	2	400	1 200	2/3	15 (see note 6)

NOTE 1: Radar test signal 1 to signal 4 are signals with constant PRF (see figure D.1). These radar test signals are intended to simulate also radars using a packet-based staggered PRF (see figure D.2).

NOTE 2: Radar test signal 4 is a modulated radar test signal. The modulation is a chirp modulation with a $\pm 2,5$ MHz frequency deviation as shown in the following graph.



NOTE 3: Radar test signal 5 and radar test signal 6 are signals with single pulse-based staggered PRF using 2 or 3 different PRF values. For radar test signal 5, the difference between the PRF values chosen shall be between 20 PPS and 50 PPS. For radar test signal 6, the difference between the PRF values chosen shall be between 80 PPS and 400 PPS (see figure D.3).

NOTE 4: Apart from off-channel CAC testing, the radar test signals shall only contain a single burst of pulses (see figure D.1, figure D.3 and figure D.4). For off-channel CAC testing, repetitive bursts shall be used for the total duration of the test (see figure D.2 and figure D.5 (see also clause 4.2.6.2.3, clause 5.4.8.2.1.4.2 and clause 5.4.8.2.1.4.3)).

NOTE 5: The total number of pulses in a burst is equal to the number of pulses for a single PRF multiplied by the number of different PRFs used.

NOTE 6: For the CAC and off-channel CAC requirements, the minimum number of pulses (for each PRF) for any of the radar test signals to be detected in the band 5 600 MHz to 5 650 MHz shall be 18.

Test Signal Level:

The radar test signal level is set at the *Master Device*, or the *Client Device* with *In-Service Monitoring*, as appropriate for the particular test. This device is known as the Radar Detection Device (RDD). The RDD consists of the applicable device and the device antenna assembly that has the lowest antenna assembly gain of all available antenna assemblies. Depending on the UUT, the following configurations exist:

- When the *Master Device* is the UUT, the *Master Device* is the RDD.
- When a *Client Device* without Radar Detection is the UUT, the *Master Device* is the RDD.
- When a *Client Device* with Radar Detection is the UUT, and is tested for response to the *Master Device* detections, the *Master Device* is the RDD.
- When a *Client Device* with Radar Detection is the UUT, and is tested for independent response to detections by the *Client Device*, the *Client Device* is the RDD.

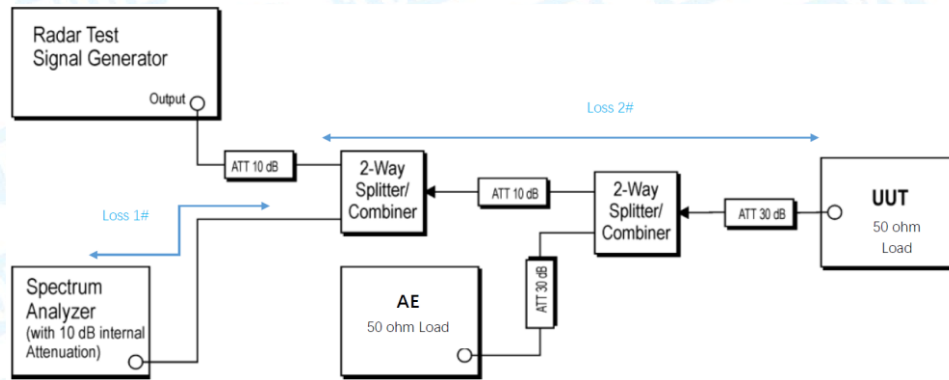
A spectrum analyzer is used to establish the test signal level for each radar type. During this process, there are no transmissions by either the *Master Device* or *Client Device*. The spectrum analyzer is switched to the zero span (time domain) mode at the frequency of the *Radar Waveform* generator. The peak detector function of the spectrum analyzer is utilized. The spectrum analyzer resolution bandwidth (RBW) and video bandwidth (VBW) are set to at least 3 MHz.

The signal generator amplitude and/or step attenuators are set so that the power level measured at the spectrum analyzer is equal to the *DFS Detection Threshold* that is required for the tests. The signal generator and attenuator settings are recorded for use during the test.

Data demonstrating that the test signal level is correctly set for each radar type (0-6) will be recorded and reported.



5.3 Test Setup



5.4 Test Procedure

Connect according to the reference test setup, and then connect 50-ohm load at the AE and UUT port.

Through the test software, control the signal generator to generate the radar wave signal required for the test. The generated radar wave signal is obtained by the spectrum analyzer to get the radar detection threshold. Continuously adjust the signal generator intensity until the spectrum analyzer reads the required radar detection threshold for the test, and record this value. At the same time, the software will record the value of the signal generator at this time.

During DFS testing, the software generates the required radar detection threshold at the UUT port by reading the value of the signal generator and the known Loss1# and Loss2#.

5.5 Deviation From Test Standard

No deviation

5.6 Test Data

Calibration: The EUT is slave equipment and it with a max gain is **2.59**dBi.

For a detection threshold level of -62dBm and the master **(Brand: Altice Labs, Model: GR140IG, FCC ID: 2AW68-GR140IG)** antenna gain is 5.98 dBi, required detection threshold is -56.02dBm = $(-62 + 5.98)$ dBm.

Note: Maximum Transmit Power is less than 200 milliwatt in this report, so detection threshold level is -62dBm.

The Client and Master are connected via WIFI commands, and the network mode is TCP. The startup time of the host and the startup time of the tested equipment both start to operate after 60 seconds.

Channels whose nominal bandwidth falls partly or completely within the 5 600 MHz to 5 650 MHz band: 600 seconds.



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

6.1 Test Standard and Limit

6.1.1 Test Standard

FCC Part 15.407(h)
RSS 247 Issue 4(7.3.6.3)

6.1.2 Limit

RSS 247 Issue 4:

Channel move time: after a radar signal is detected, the device shall cease all transmissions on the operating channel within 10 s.

Channel closing transmission time: is comprised of 200 ms 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 ms) over the remaining 10 s period of the channel move time.

The aggregate duration of all transmissions shall not count quiet periods between transmissions.

Non-occupancy period: a channel that has been flagged as containing a radar signal, either by a channel availability check or in-service monitoring, is subject to a 30-minute non-occupancy period where the channel cannot be used by the LE-LAN device. The non-occupancy period starts from the time that the radar signal is detected.

FCC Part 15 Subpart E 15.407:

Channel Move Time. After a radar's presence is detected, all transmissions shall cease on the operating channel within 10 seconds. Transmissions during this period shall consist of normal traffic for a maximum of 200 ms after detection of the radar signal. In addition, intermittent management and control signals can be sent during the remaining time to facilitate vacating the operating channel.

Non-occupancy Period. A channel that has been flagged as containing a radar system, either by a channel availability check or in-service monitoring, is subject to a non-occupancy period of at least 30 minutes. The non-occupancy period starts at the time when the radar system is detected.

ETSI EN 301 893 V2.2.1:

Radar signals can be detected by a primary device or by a secondary device with radar detection. If a radar signal was detected by a secondary device with radar detection, this secondary device shall inform its primary device that it has detected a radar.

The primary device shall instruct all associated secondary devices to stop transmitting on this operating channel, which they shall do within the channel move time. The primary device shall also stop its own transmissions on that operating channel within the channel move time.

The aggregate duration of all transmissions of the RLAN 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.

For equipment having simultaneous transmissions on multiple (adjacent or non-adjacent) operating channels, only the channel(s) containing the frequency on which radar was detected is subject to the channel shutdown requirement. The equipment is allowed to continue transmissions on other operating channels.

The channel move time shall not exceed the limit given in table D.1.

The channel closing transmission time shall not exceed the limit given in table D.1.

During the non-occupancy period the RLAN device shall not make any transmissions on a channel once radar has been detected.

For equipment having simultaneous transmissions on multiple (adjacent or non-adjacent) operating channels, only the channel(s) containing the frequency on which radar was detected is (are) subject to the non-occupancy period requirement. The equipment is allowed to continue transmissions on other operating channels.

Before the RLAN device may transmit on a channel after the non-occupancy period ended, the channel shall be again identified as an available channel.



The non-occupancy period shall not be less than the value defined in table D.1.

Table D.1: DFS requirement values

Parameter	Value
Channel Availability Check (CAC) time	60 s (see note 1)
Minimum off-channel CAC time	6 minutes (see note 2)
Maximum off-channel CAC time	4 hours (see note 2)
Channel move time	10 s
Channel closing transmission time	1 s
Non-occupancy period	30 minutes
NOTE 1: For channels whose nominal channel bandwidth falls completely or partly within the band 5 600 MHz to 5 650 MHz, the CAC time shall be 10 minutes.	
NOTE 2: For channels whose nominal channel bandwidth falls completely or partly within the band 5 600 MHz to 5 650 MHz, the off-channel CAC time shall be within the range 1 hour to 24 hours.	

6.2 Test Setup

UUT is an RLAN device operating as slave device without radar detection

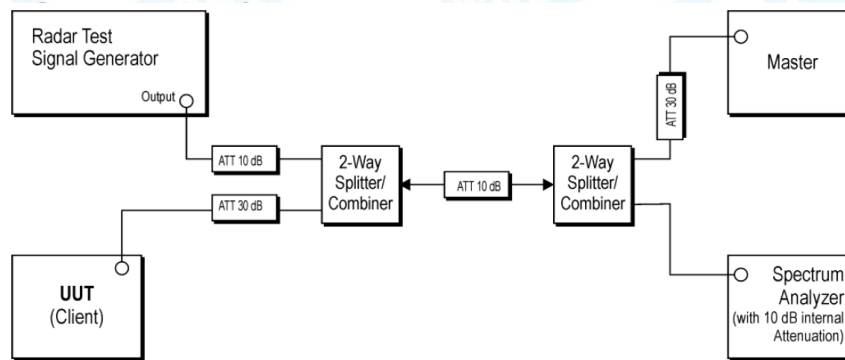


Figure 3: Example Conducted Setup where UUT is a Client and Radar Test Waveforms are injected into the Master

6.3 Test Procedure

RSS 247 Issue 4& FCC Part 15 Subpart E 15.407

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* + 1dB is generated on the *Operating Channel* of the U-NII device (*In-Service Monitoring*).

- One frequency will be chosen from the *Operating Channels* of the UUT within the 5250-5350 MHz or 5470-5725 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.
- 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.
- 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.
- 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.
- 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).

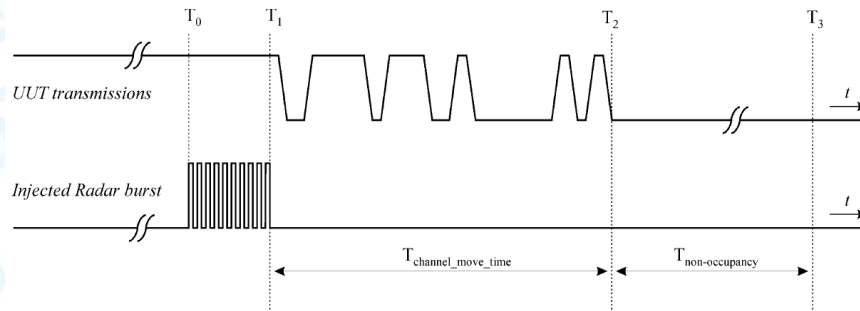


Figure 17: Example of Channel Closing Transmission Time & Channel Closing Time

ETSI EN 301 893 V2.2.1:

The steps in the present clause define the procedure to verify the channel shutdown process and to determine the channel closing transmission time, the channel move time and the non-occupancy period. This is illustrated in figure 16.

The operating channel on which these tests are performed is designated as Chr.

- a) When the UUT is a primary device, a secondary device shall be used that associates with the UUT. The radar test signal generator and the UUT shall be connected using setup A described in clause 5.4.8.1.3.1.

When the UUT is a secondary device (with or without radar detection), the UUT shall associate with a primary device. The radar test signal generator and the UUT shall be connected using setup B described in clause 5.4.8.1.3.2.

In both cases, it is assumed that the channel selection mechanism for the uniform spreading requirement is disabled in the primary device.

- b) The UUT shall transmit a test transmission sequence in accordance with clause 5.3.1.2 on the selected channel Chr. While the testing is performed on Chr, the equipment is allowed to have simultaneous transmissions on other adjacent or non-adjacent operating channels.

- c) At a time T₀, a single-burst test signal shall be generated on Chr using the reference DFS test signal defined in table D.3 and at a level of up to 10 dB above the level defined in clause 5.4.8.2.1.1 on the selected channel. T₁ denotes the end of the radar burst.

- d) The transmissions of the UUT following instant T₁ on the selected channel Chr shall be observed for a period greater than or equal to the channel move time defined in table D.1. The aggregate duration (channel closing transmission time) of all transmissions from the UUT on Chr during the channel move time shall be compared to the limit given in table D.1. For equipment capable of having simultaneous transmissions on multiple (adjacent or non-adjacent) operating channels, the equipment is allowed to continue transmissions on other operating channels (different from Chr).

The aggregate duration of all transmissions of the UUT does not include quiet periods in between transmissions of the UUT.

- e) T₂ denotes the instant when the UUT has ceased all transmissions on channel Chr. The time difference between T₁ and T₂ shall be measured. This value (channel move time) shall be noted and compared with the limit given in table D.1.

- f) Following instant T₂, the selected channel Chr shall be observed for a period equal to the non-occupancy period (T₃ - T₂) to verify that the UUT does not resume any transmissions on this channel.

- g) When the UUT is a secondary device with radar detection, step b) to step f) shall be repeated with the generator connected to the UUT using setup C as described in clause 5.4.8.1.3.3 (see also table D.2, note 2).

For a secondary device with radar detection, the following additional steps are performed to



verify the capability of the secondary device to report the detection of a radar to its primary device.

h) The radar test signal generator, the UUT and the primary device shall be connected using setup C as described in clause 5.4.8.1.3.3.

i) The primary device shall transmit a test transmission sequence in accordance with clause 5.3.1.2 on the selected channel Chr. While the testing is performed on Chr, the equipment is allowed to have simultaneous transmissions on other adjacent or non-adjacent operating channels.

j) At a time T_0 , a single-burst test signal shall be generated on Chr using the reference DFS test signal defined in table D.3 and at a level of up to 10 dB above the level defined in clause 5.4.8.2.1.1 on the selected channel. T_1 denotes the end of the radar burst.

k) The transmissions of the primary device following instant T_1 on the selected channel Chr shall be observed for a period greater than or equal to the channel move time given in table D.1. The aggregate duration (channel closing transmission time) of all transmissions from the primary device on Chr during the channel move time shall be compared to the limit given in table D.1. For equipment capable of having simultaneous transmissions on multiple (adjacent or non-adjacent) operating channels, the equipment is allowed to continue transmissions on other operating channels (different from Chr).

The aggregate duration of all transmissions of the primary device does not include quiet periods in between transmissions of the primary device.

l) T_2 denotes the instant when the primary device has ceased all transmissions on the channel Chr. The time difference between T_1 and T_2 shall be measured. This value (channel move time) shall be noted and compared with the limit given in table D.1.

m) Following instant T_2 , the selected channel Chr shall be observed for a period equal to the non-occupancy period ($T_3 - T_2$) to verify that neither the secondary device nor the primary device do resume any transmissions on this channel.

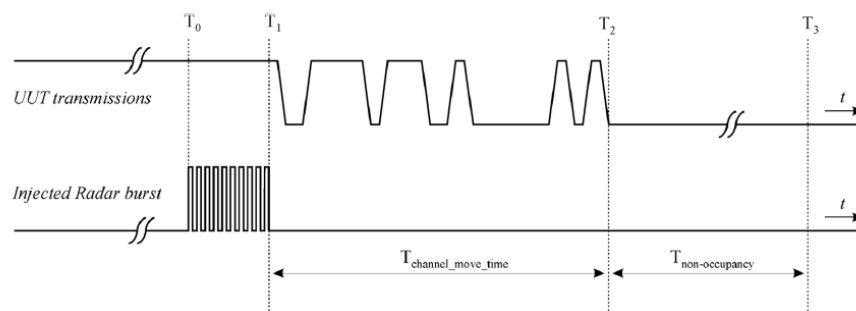


Figure 16: Channel closing transmission time, channel move time and non-occupancy period

6.4 Deviation From Test Standard

No deviation

6.5 EUT Operating Mode

1. Master device and client device are set up by conduction method as the following configuration.
2. The client device is connected to the master device. and to access a IP address on wireless connection with the master device.
3. Then the master device is connected to another notebook to access a IP address.
4. Finally, let the two IP addresses run traffic with each other through the Run flow software "Lan test" to reach 17% channel loading for FCC&IC test, reach 30% channel loading for EN 301893 test.

6.6 Test Data

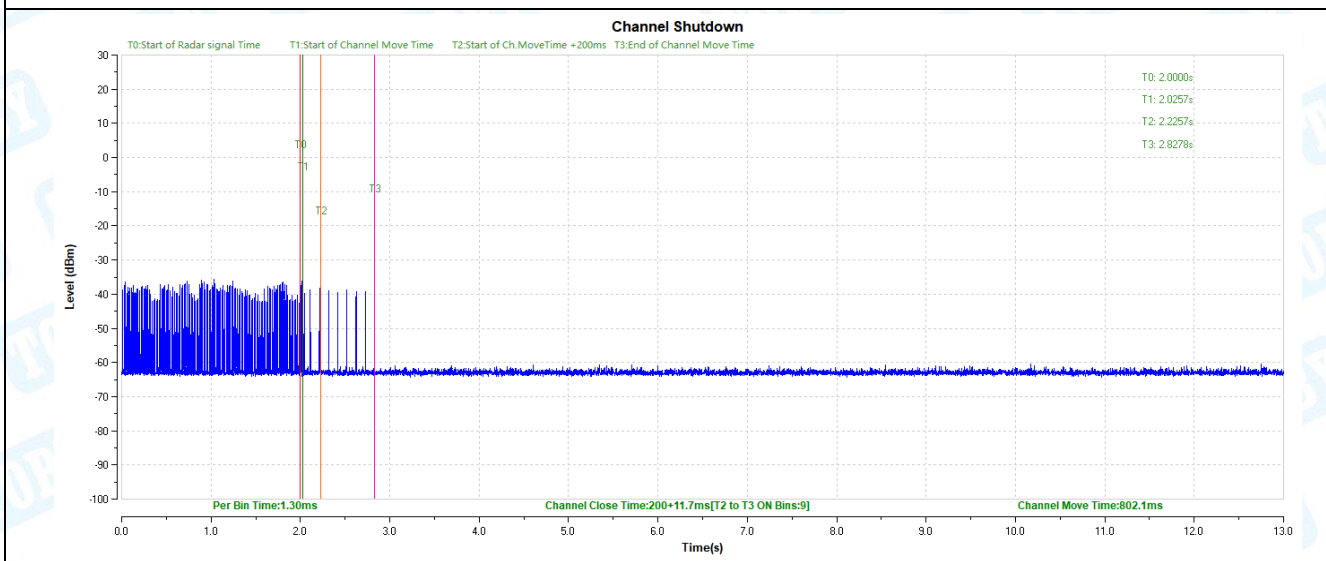
Please refer to the Attachment inside test report.



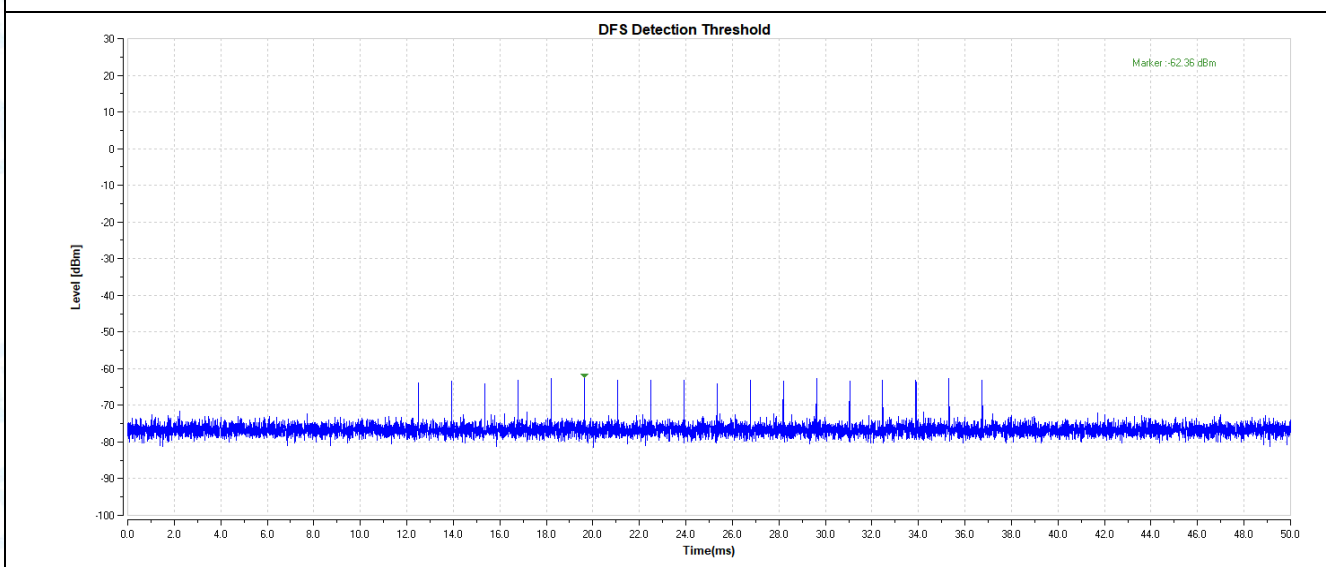
Attachment A--Channel Move Time, Channel Closing Transmission Time and Non-Occupancy Period-(KDB 905462)

Channel Closing Transmission Time and Channel Move Time Result						
Test Mode	Frequency[MHz]	CCTT[ms]	Limit[ms]	CMT[ms]	Limit[ms]	Verdict
11AC80	5290	200+11.7	200+60	802.1	10000	PASS
	5530	200+11.7	200+60	802.1	10000	PASS

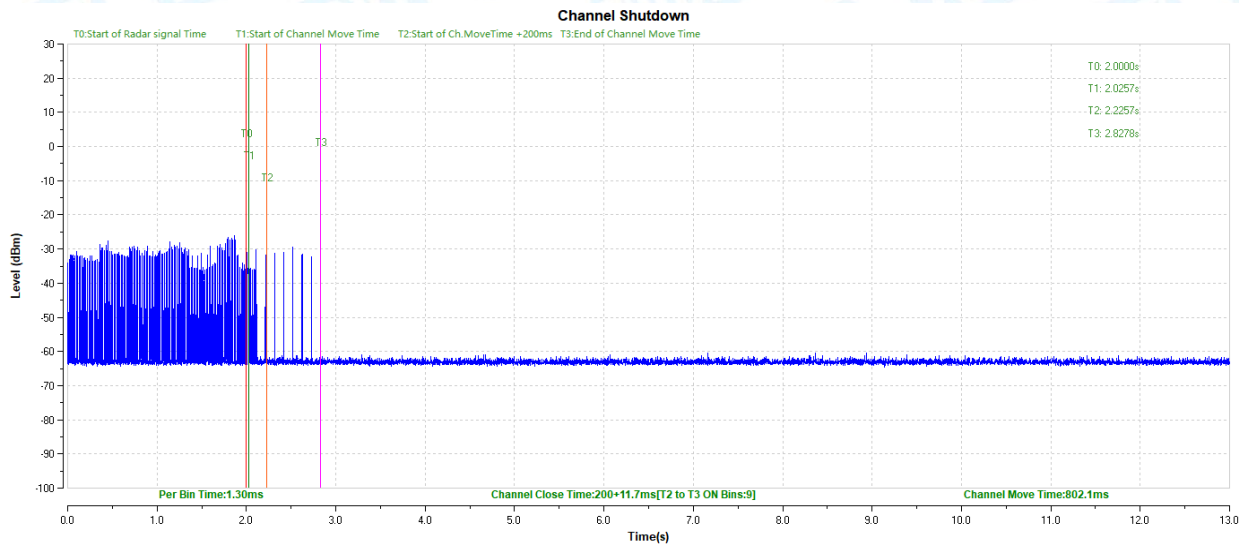
TX (11ax 80MHz Mode)_5290MHz Radar Signal 0



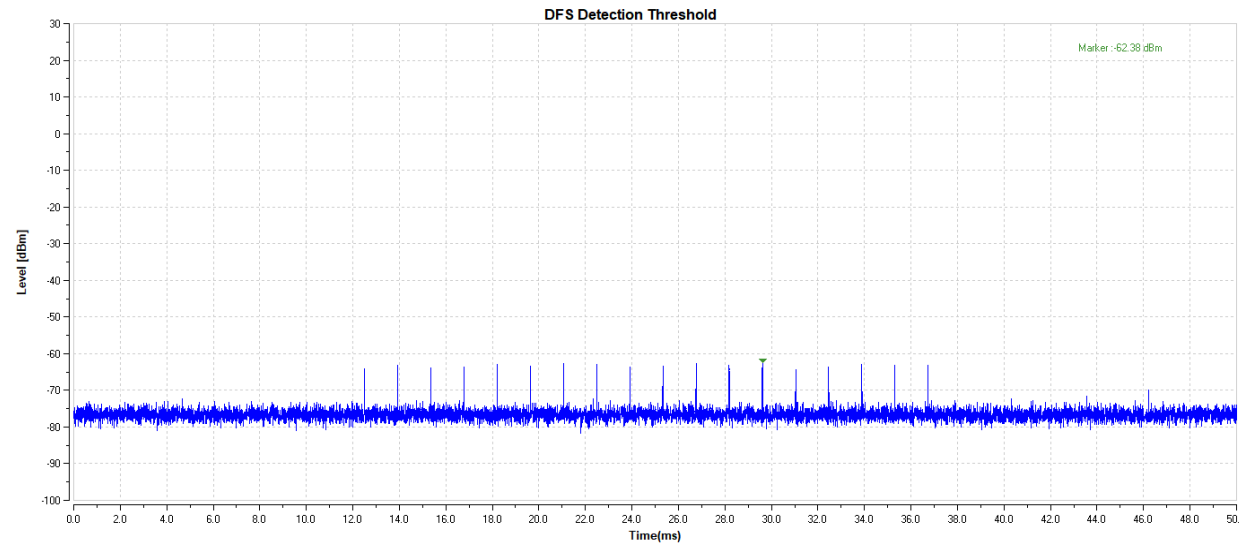
Cablibration Plots



TX (11ax 80MHz Mode)_5530MHz Radar Signal 0



Cablibration Plots

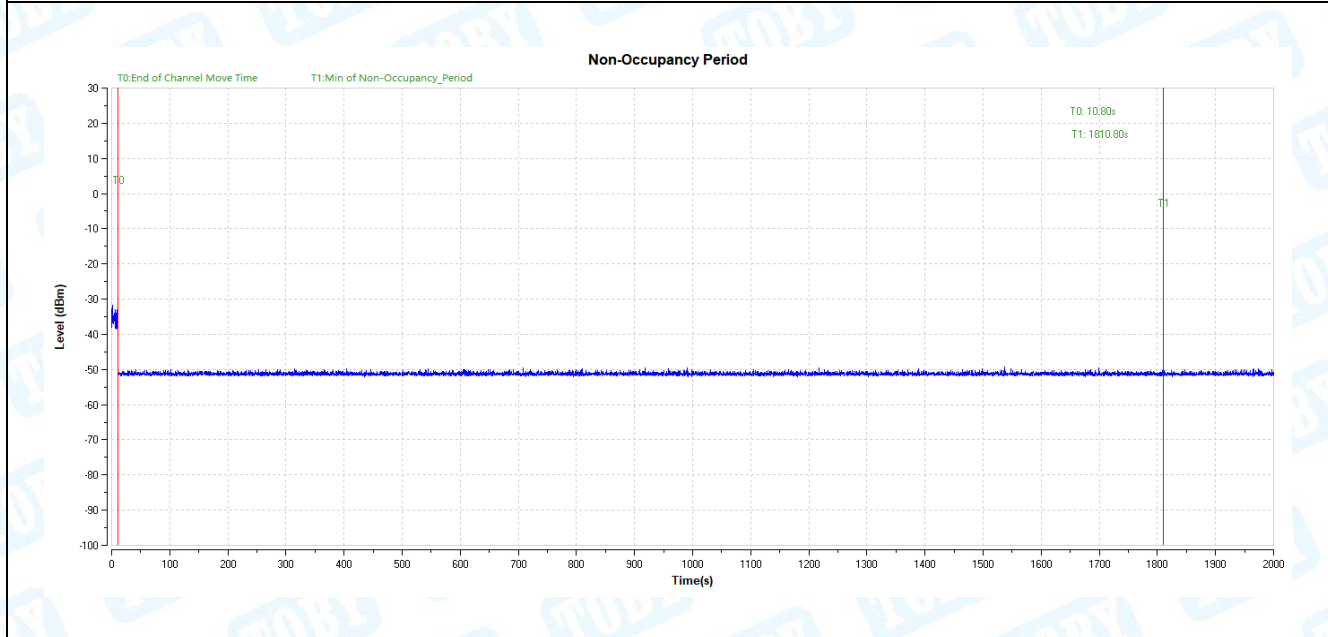


Non-Occupancy Period Result

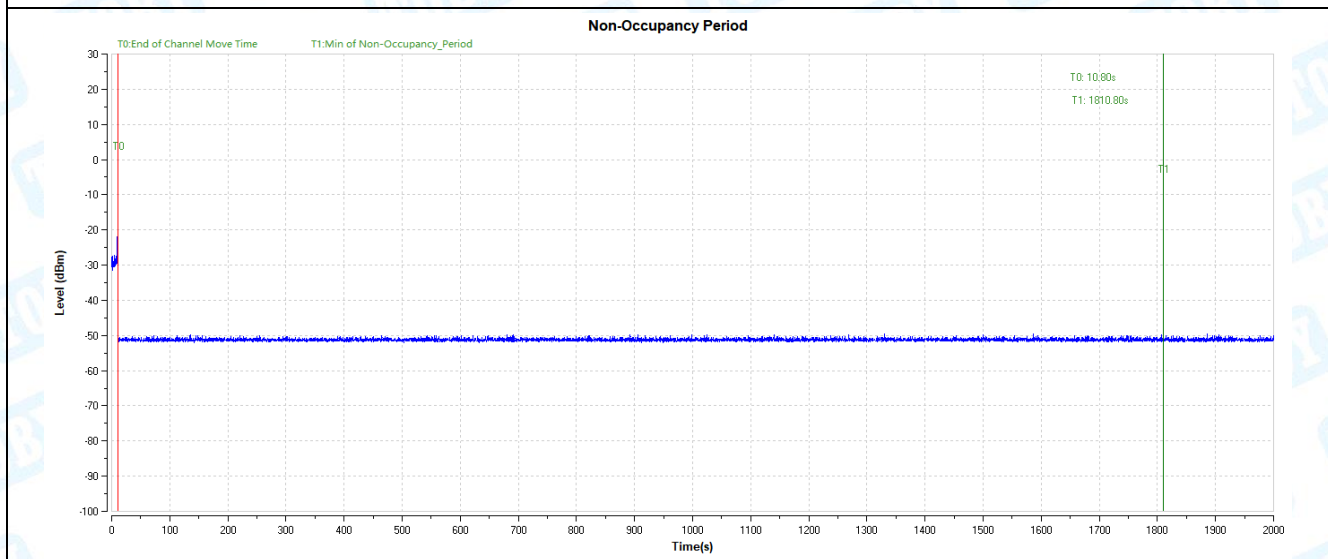
Modulation Mode	Freq. (MHz)	Non-Occupancy Period		
		Measured	Limit	Result
AC80	5290	>30min	30min	Complied
	5530	>30min	30min	Complied

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

11ax 80MHz Mode 5290MHz



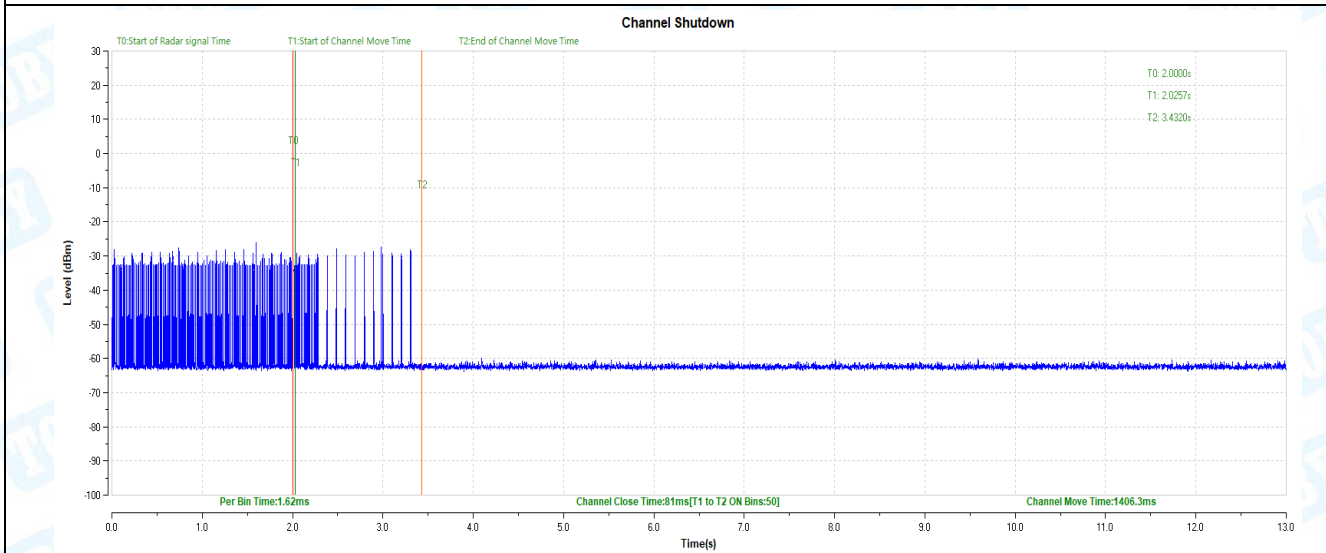
11ax 80MHz Mode 5530MHz



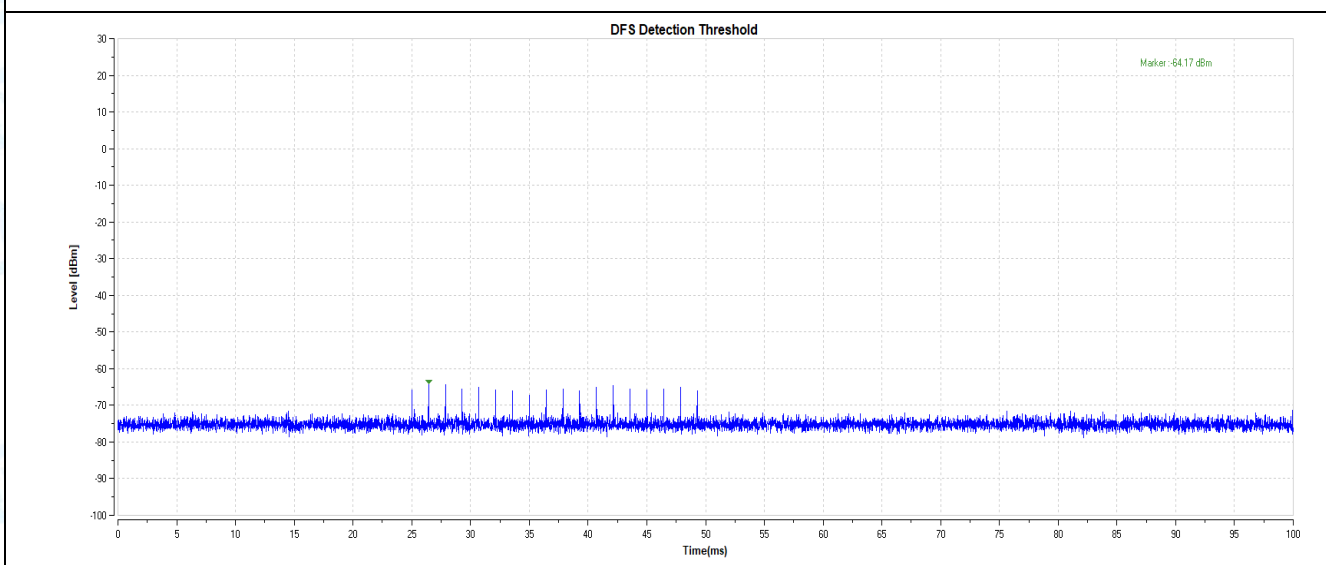
Attachment B--Channel Move Time, Channel Closing Transmission Time-(ETSI EN 301 893 V2.2.1)

Test Mode	Channel	CCTT[ms]	Limit[ms]	CMT[ms]	Limit[ms]	Verdict
11AC80	5610	81	1000	1406.3	10000	PASS

TX (11ac 80MHz Mode)_5610MHz Radar Signal 0



Cablibration Plots



-----END OF THE REPORT-----

