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ETSI EN 301 893 V2.2.1 (2024-11)

DFS TEST REPORT

For

SHENZHEN TENDA TECHNOLOGY CO., LTD.

6-8 Floor, Tower E3, No. 1001, Zhongshanyuan Road, Nanshan District, Shenzhen, China. 518052

Tested Model: AX12 Pro

Report Type: Amended Report	Product Name: AX3000 Dual Band Gigabit Wi-Fi 6 Router
Report Number:	<u>RSZA251230001-01DM1</u>
Report Date:	<u>2026-04-16</u>
Reviewed By:	<u>Jenny Yang</u>
Approved By:	<u>Kyle Xu</u>
Prepared By:	Bay Area Compliance Laboratories Corp. (Kunshan) Building 2 & 6, No.248, Chenghu Road, Development Zone, Yushan, Kunshan, Suzhou, Jiangsu, China. Tel: +86-512-86175000 Fax: +86-512-88934268 www.baclcorp.com.cn

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REPORT REVISION

Version	Report Number	Release Date	Contents
R1V1	RSZA251230001-01D	2026-02-06	Original Report Invalidated
R1V2	RSZA251230001-01DM1	2026-04-16	1. Deleted Band 1 on page 4

Note: The amended report (Report No.: RSZA251230001-01DM1) supersedes and replaces the previous issued report (Report No.: RSZA251230001-01D). Please discard or destroy the previous issued report and dispose of it accordingly.

GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

Applicant:	SHENZHEN TENDA TECHNOLOGY CO., LTD.
Product Name:	AX3000 Dual Band Gigabit Wi-Fi 6 Router
Tested Model:	AX12 Pro
Power Supply:	DC 12V from adapter
RF Function:	5G Wi-Fi
Operating Band/Frequency:	Sub-band 2: 5250~5350 MHz
Maximum EIRP:	SISO Sub-band 2: 802.11a: 18.98 dBm MIMO: Sub-band 2: 802.11ac-VHT20: 18.50 dBm 802.11ac-VHT40: 18.69 dBm 802.11ac-VHT80: 18.88 dBm 802.11ax-HE20: 18.71 dBm 802.11ax-HE40: 18.52 dBm 802.11ax-HE80: 18.64 dBm 802.11ac-VHT160: 18.47 dBm 802.11ax-HE160: 18.03 dBm Beamforming: Sub-band 2: 802.11ac-VHT20: 19.37 dBm 802.11ac-VHT40: 18.91 dBm 802.11ac-VHT80: 19.27 dBm 802.11ax-HE20: 18.72 dBm 802.11ax-HE40: 17.42 dBm 802.11ax-HE80: 18.53 dBm 802.11ac-VHT160: 18.63 dBm 802.11ax-HE160: 18.35 dBm
Channel Number:	B2:7
Channel Separation:	802.11a/n-HT20/ac-VHT20/ax-HE20: 20 MHz, 802.11ac-VHT40/n-HT40/ax-HE40: 40 MHz, 802.11ac-VHT80/ax-HE80: 80 MHz 802.11ac-VHT160/ax-HE160: 160 MHz
Modulation Type:	OFDM, OFDMA
★Maximum Antenna Gain:	Antenna Gain: 7.06 dBi Beamforming: 3.0 dB

*Adapter information**Model: BW0121201000WE**Input: 100-240V, 50/60Hz, 0.5A**Output: 12.0V, 1.0A 12.0W**Note: The maximum antenna gain was provided by the applicant.**All measurement and test data in this report was gathered from production sample serial number: RSZA251230001-1(Assigned by BACL (Kunshan). The EUT was received on 2025-12-30).***Objective**

This report is prepared for *SHENZHEN TENDA TECHNOLOGY CO., LTD.* in accordance with ETSI EN 301 893 V2.2.1 (2024-11), 5 GHz RLAN; Harmonised Standard covering the essential requirements of article 3.2 of Directive 2014/53/EU

The objective is to determine the compliance of EUT with ETSI EN 301 893 V2.2.1 (2024-11).

Test Methodology

All measurements contained in this report were conducted with ETSI EN 301 893 V2.2.1 (2024-11).

Test Facility

The Test site used by Bay Area Compliance Laboratories Corp. (Kunshan) to collect test data is located on the Building 2 & 6, No.248, Chenghu Road, Development Zone, Yushan, Kunshan, Suzhou, Jiangsu, China.

SYSTEM TEST CONFIGURATION

Description of Test Configuration

The system was configured for testing according to EN 301 893

Equipment Modifications

No modifications were made to the EUT.

EUT Exercise Software

No Exercise Software.

Support Equipment List and Details

Manufacturer	Description	Model	Serial Number
/	/	/	/

External I/O Cable

Cable Description	Length(m)	From Port	To Port
/	/	/	/

SUMMARY OF TEST RESULTS

The following result table represents the list of measurements required under the ETSI EN 301 893 V2.2.1 (2024-11).

For Master Mode:

ETSI EN 301 893 V2.2.1 (2024-11)	Description of Test	Result
Clause 4.2.6.2.2	DFS: Channel Availability Check	Compliant
Clause 4.2.6.2.3	DFS: Off-Channel CAC – Radar Detection Threshold Level	Compliant
Clause 4.2.6.2.3	DFS: Off-Channel CAC – Detection Probability	Compliant
Clause 4.2.6.2.4	DFS: In service Monitoring	Compliant
Clause 4.2.6.2.5	DFS: Channel shutdown	Compliant
Clause 4.2.6.2.6	DFS: Non-occupancy period	Compliant
Clause 4.2.6.2.7	DFS: Uniform spreading	Compliant

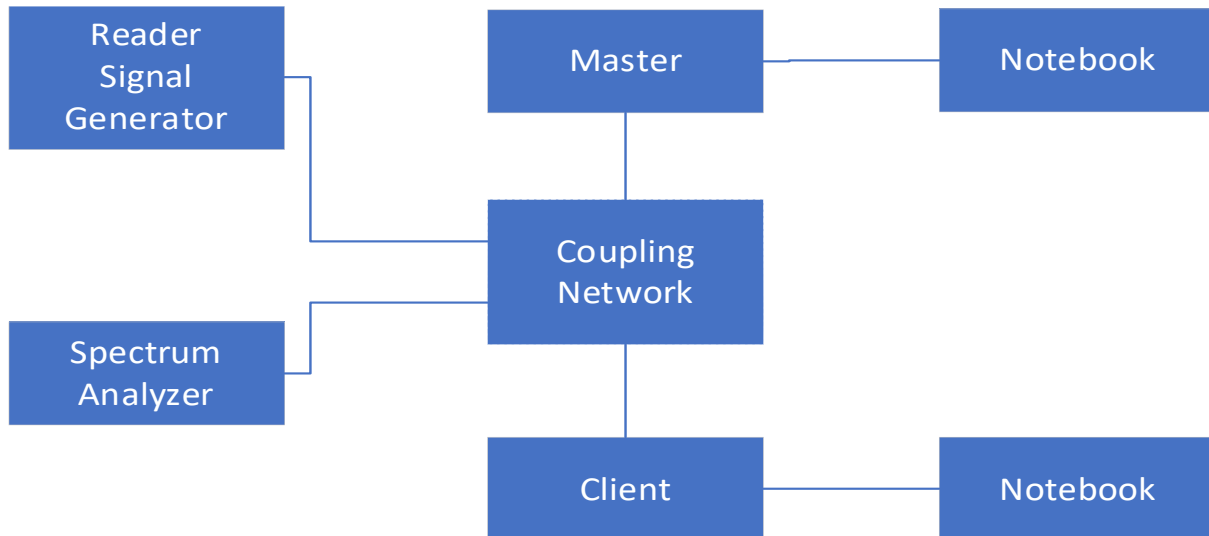
For Slave Mode without Radar Detection

ETSI EN 301 893 V2.2.1 (2024-11)	Description of Test	Result
Clause 4.2.6.2.5	DFS: Channel shutdown	Compliant

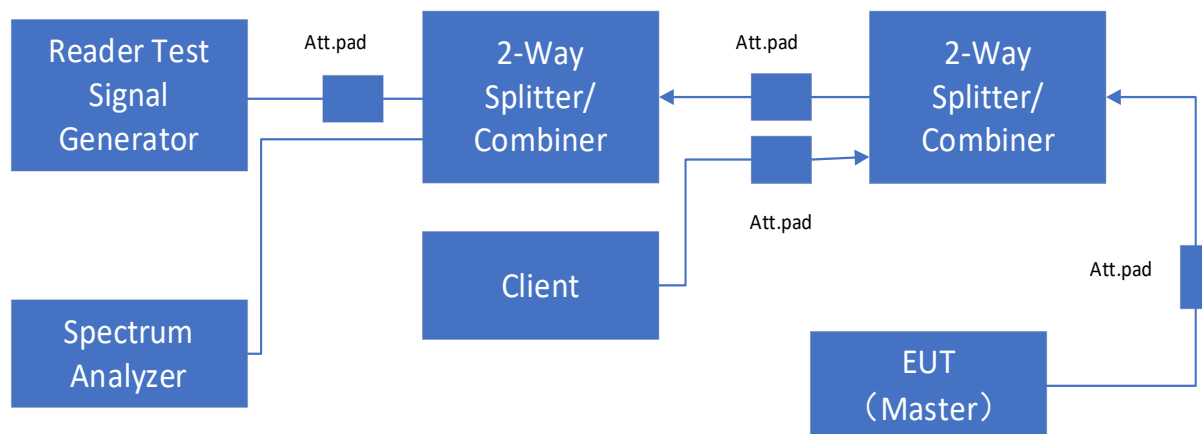
DFS MEASUREMENT SYSTEM

BACL DFS measurement system consists of two subsystems: (1) The radar signal generating subsystem and (2) the traffic monitoring subsystem.

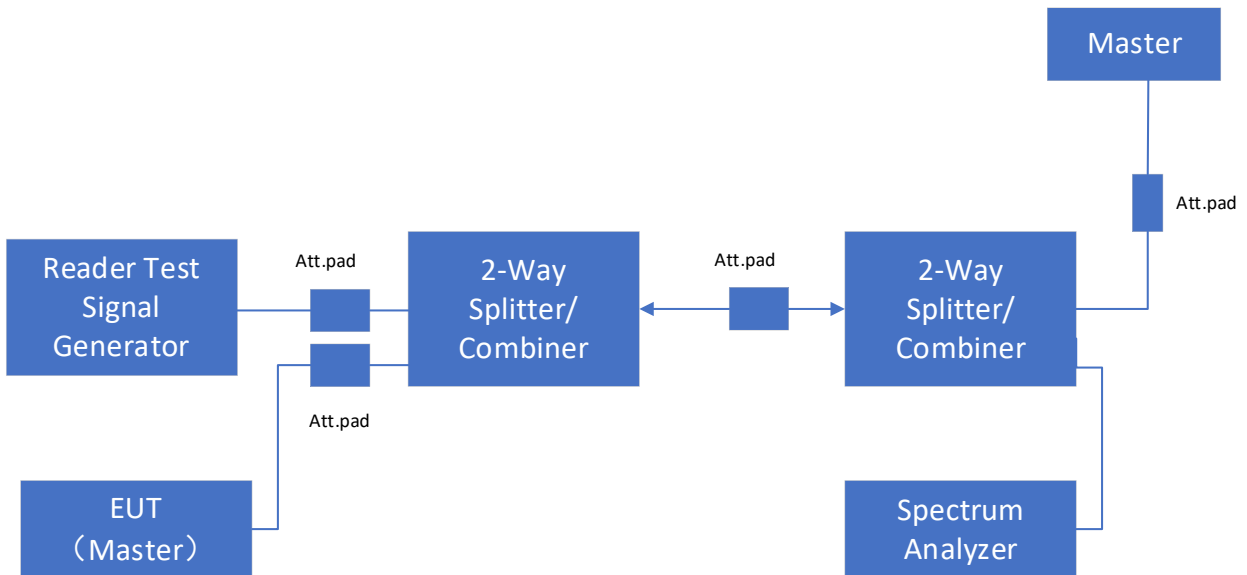
System Block Diagram



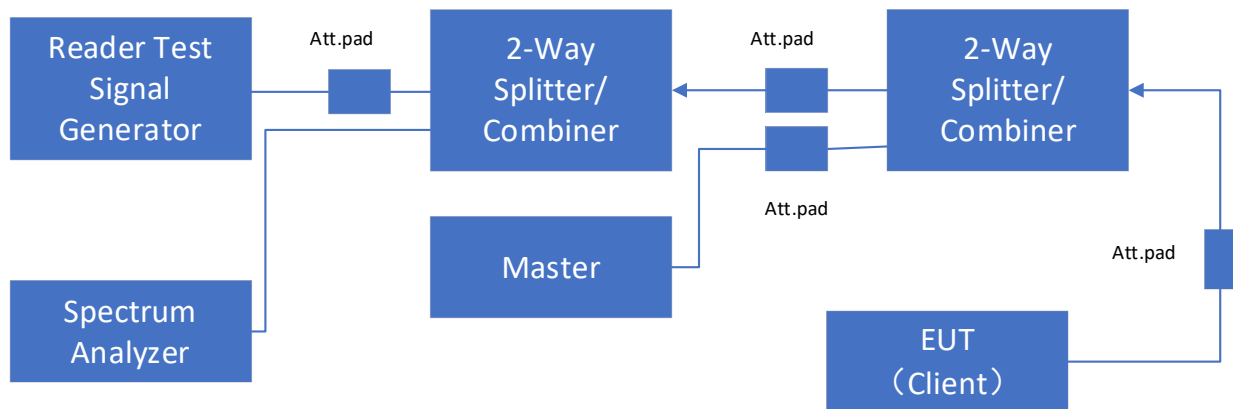
Conducted Method



Setup for Master with injection at the Master

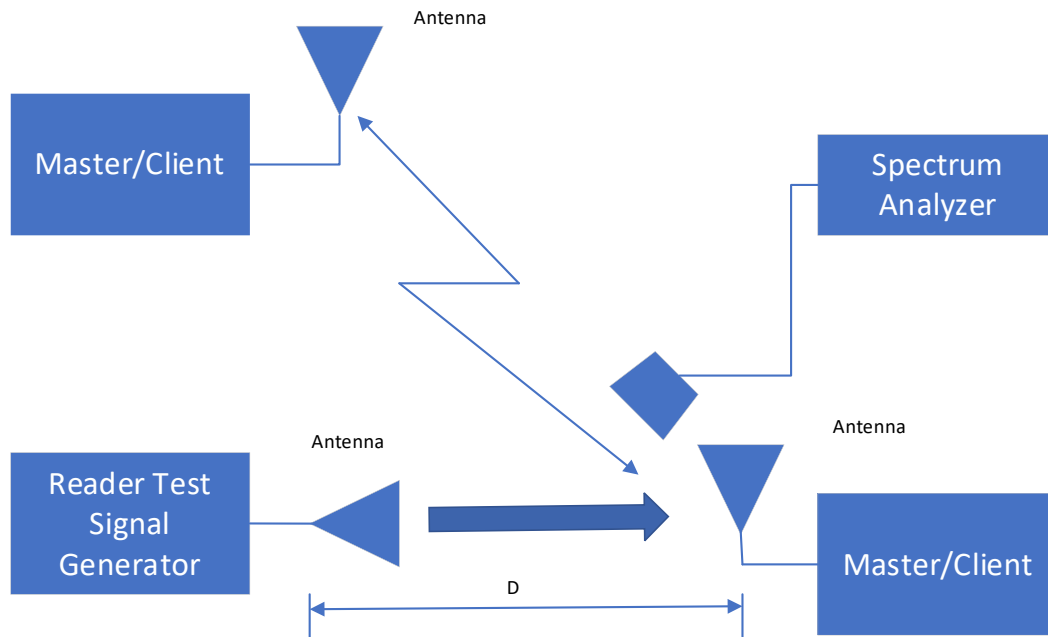


Setup for Client with injection at the Master



Setup for Client with injection at the Client

Radiated Method

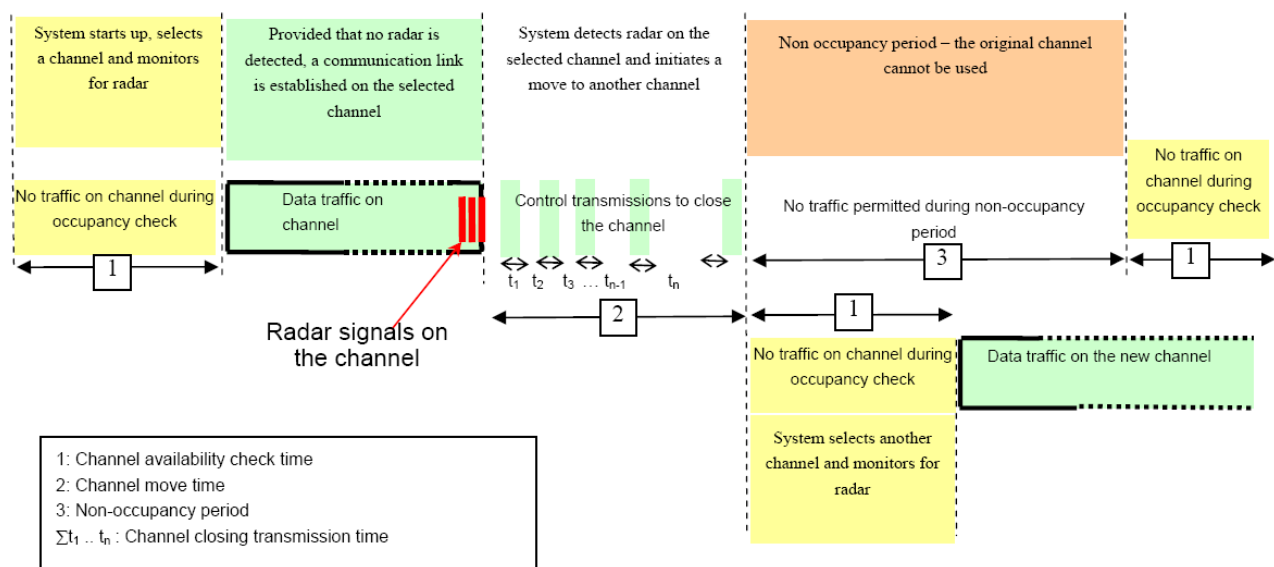


Test Procedure

A spectrum analyzer is used as a monitor verifies that the EUT status including Channel Closing Transmission Time and Channel Move Time, and does not transmit on a Channel during the Non-Occupancy Period after the detection and Channel move. It is also used to monitor EUT transmissions during the Channel Availability Check Time.

DFS Implementation

Please refer to the block diagram:



Description of EUT

The EUT operates in 5250-5350 MHz range when performing DFS testing.

The EUT operates in 5470-5725 MHz range when performing DFS testing.

Channel loading

The DFS tests related to the Channel CAC Check and the In-Service Monitoring shall be performed by using a test transmission sequence on the Operating Channel that shall consist of packet transmissions that together exceed the transmitter minimum activity ratio of 30 % measured over an interval of 100 ms. The duration of the sequence shall be adequate for the DFS test purposes.

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Rohde & Schwarz	SIGNAL ANALYZER	FSV40	101116	2025-04-09	2026-04-08
Rohde & Schwarz	VECTOR SIGNAL GENERATOR	SMBV100A	261558	2025-04-08	2026-04-07
Tonscend Corporation	RF Control Unit	JS0806-2	JS0806001	2025-04-09	2026-04-08
Tonscend Corporation	RF Test System	JS1120-3	N/A	N/A	N/A

Statement of Traceability: Bay Area Compliance Laboratories Corp. (Kunshan) attests that all calibrations have been performed in accordance to requirements that traceable to National Primary Standards and International System of Units (SI).

Environmental Conditions & Test Information

Test Date:	2026-01-28
Temperature:	19 °C
Relative Humidity:	50 %
ATM Pressure:	102.0 kPa
Test Result:	Pass
Test Engineer:	Neil Zhou

RADAR DETECTION THRESHOLD LEVEL

Description of EUT

For 5250-5350, The rated output power of EUT is ≤ 23 dBm (EIRP), therefore the calibrated radiated DFS detection threshold level is set to -62 dBm.

For 5470-5725, The rated output power of EUT is ≤ 23 dBm (EIRP), therefore the calibrated radiated DFS detection threshold level is set to -62 dBm.

Data package streamed from the Access Point to the Client using the software “JS1120-3 RF Test System”.

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Rohde & Schwarz	SIGNAL ANALYZER	FSV40	101116	2025-04-09	2026-04-08
Rohde & Schwarz	VECTOR SIGNAL GENERATOR	SMBV100A	261558	2025-04-08	2026-04-07
Tonscend Corporation	RF Control Unit	JS0806-2	JS0806001	2025-04-09	2026-04-08

Statement of Traceability: Bay Area Compliance Laboratories Corp. (Kunshan) attests that all calibrations have been performed in accordance to requirements that traceable to National Primary Standards and International System of Units (SI).

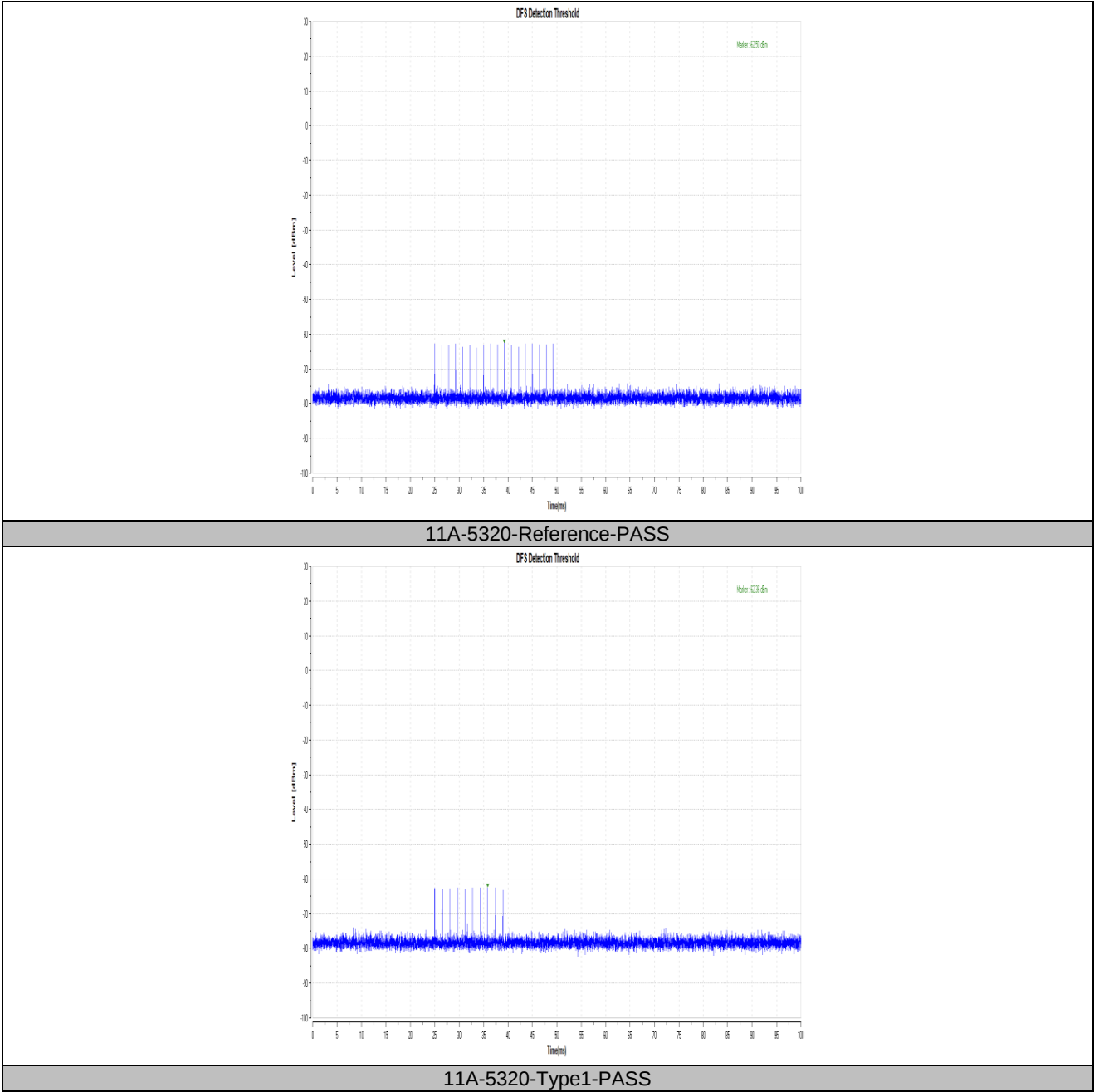
Environmental Conditions & Test Information

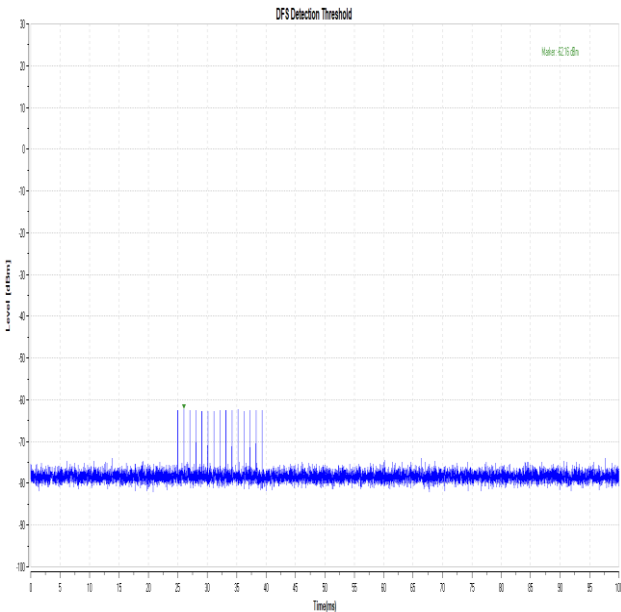
Test Date:	2026-01-28
Temperature:	19 °C
Relative Humidity:	50 %
ATM Pressure:	102.0 kPa
Test Result:	Pass
Test Engineer:	Neil Zhou

Test Result

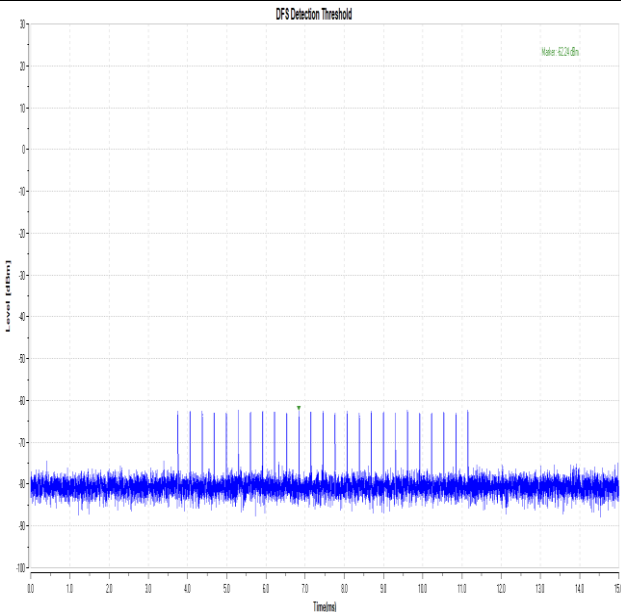
Test Mode	Frequency[MHz]	Radar Type	Result	Limit[dbm]	Verdict
11A	5320	Reference	-62.50	-62.00	PASS
11A	5320	Type1	-62.36	-62.00	PASS
11A	5320	Type2	-62.16	-62.00	PASS
11A	5320	Type3	-62.24	-62.00	PASS
11A	5320	Type4	-62.31	-62.00	PASS
11A	5320	Type5	-62.06	-62.00	PASS
11A	5320	Type6	-62.41	-62.00	PASS
11AX160	5250	Reference	-62.01	-62.00	PASS
11AX160	5250	Type1	-62.23	-62.00	PASS
11AX160	5250	Type2	-62.27	-62.00	PASS
11AX160	5250	Type3	-62.01	-62.00	PASS
11AX160	5250	Type4	-62.43	-62.00	PASS
11AX160	5250	Type5	-62.24	-62.00	PASS
11AX160	5250	Type6	-62.26	-62.00	PASS

Test Graphs

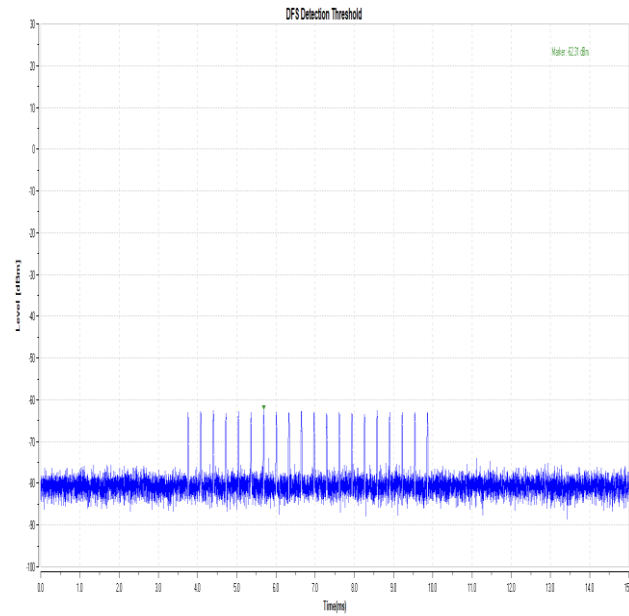




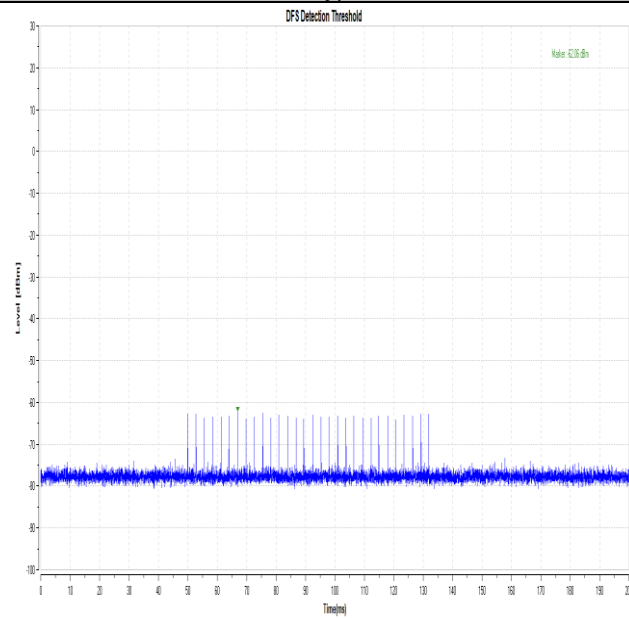
11A-5320-Type2-PASS



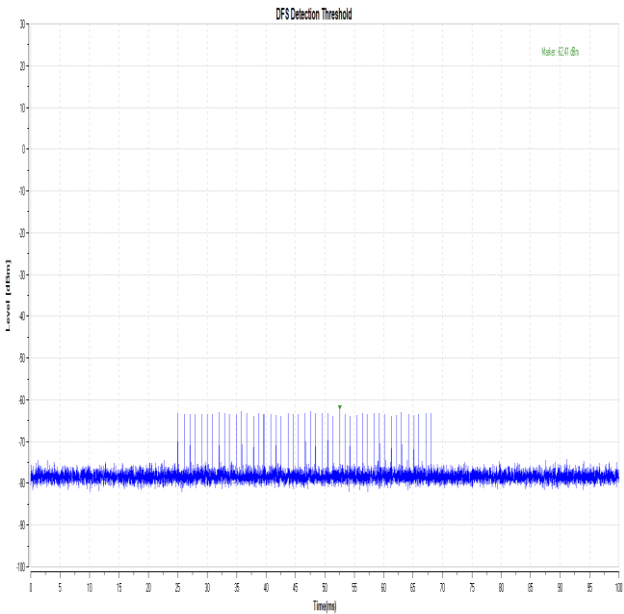
11A-5320-Type3-PASS



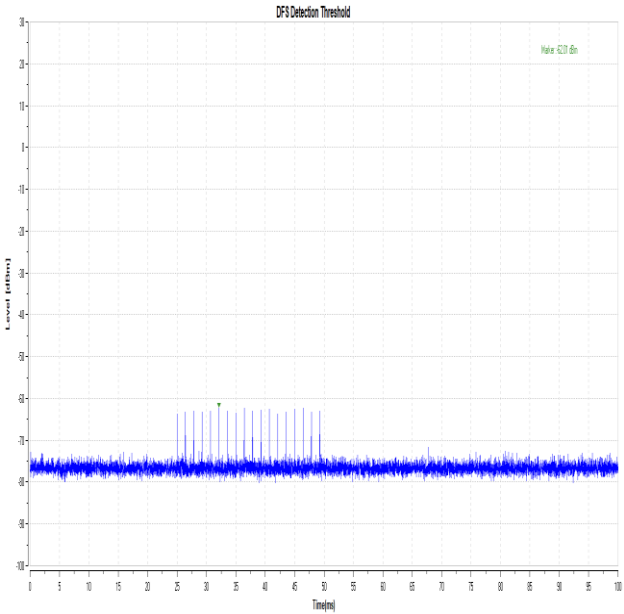
11A-5320-Type4-PASS



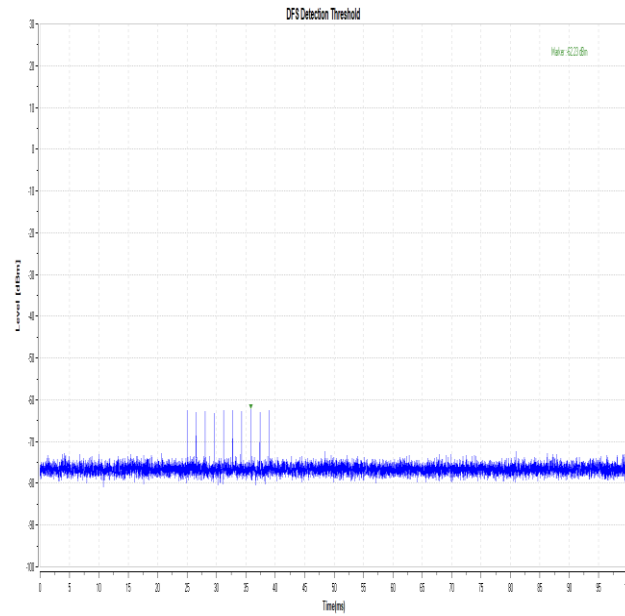
11A-5320-Type5-PASS



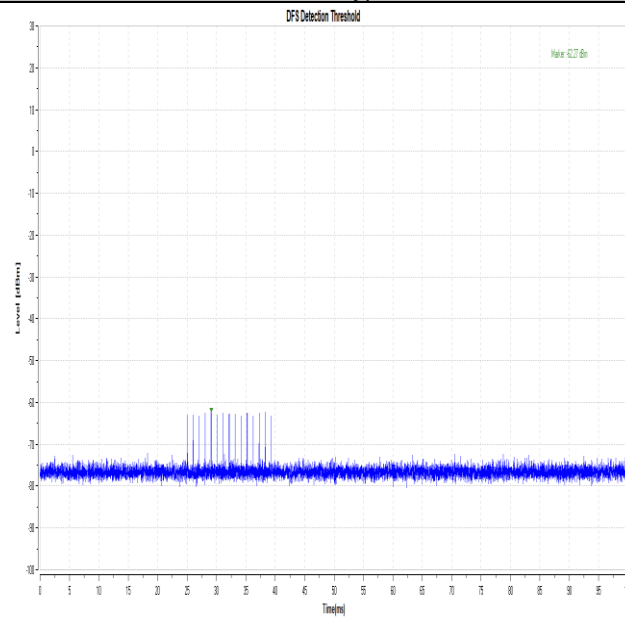
11A-5320-Type6-PASS



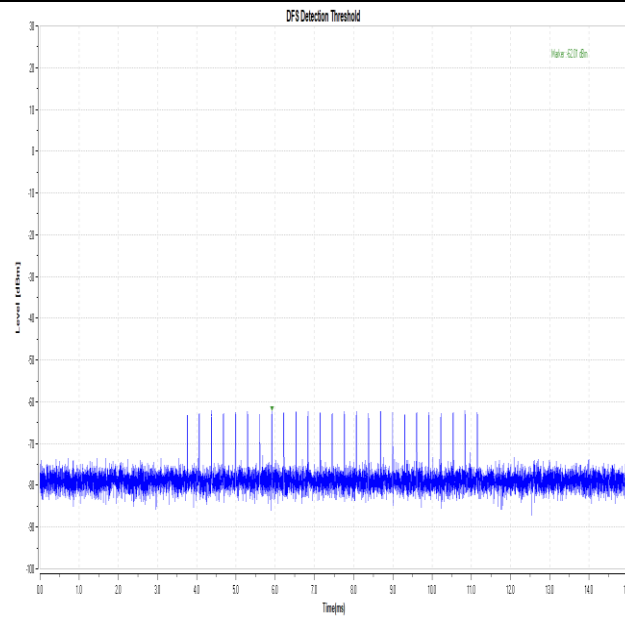
11AX160-5250-Reference-PASS



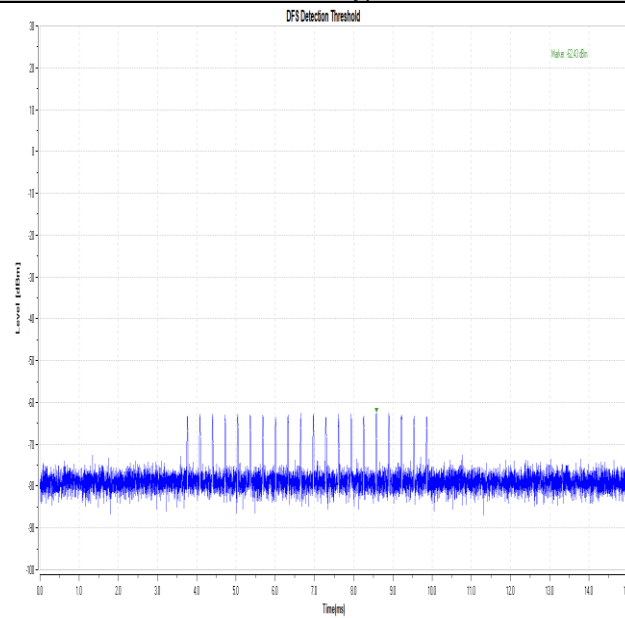
11AX160-5250-Type1-PASS



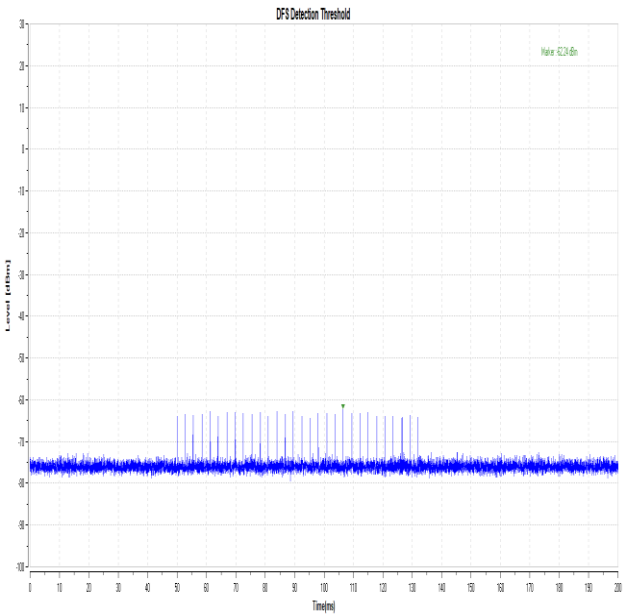
11AX160-5250-Type2-PASS



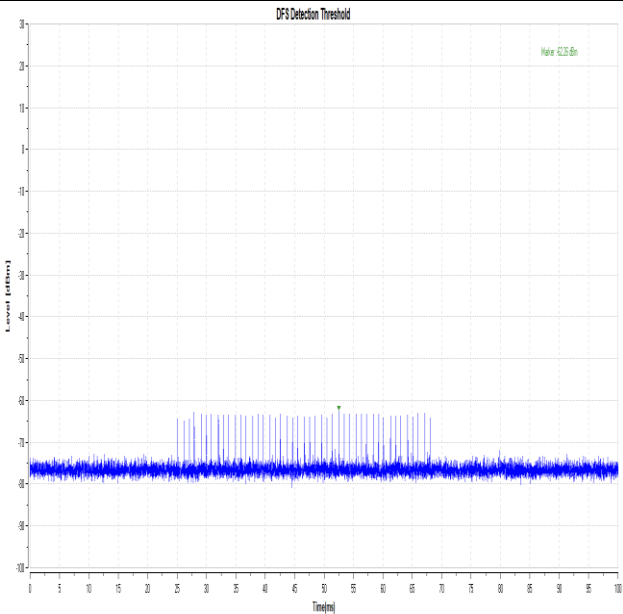
11AX160-5250-Type3-PASS



11AX160-5250-Type4-PASS



11AX160-5250-Type5-PASS



11AX160-5250-Type6-PASS

CHANNEL AVAILABILITY CHECK

Test Procedure

- 1) Measure the initial power-up time of EUT.
- 2) With link established on channel, apply a radar signal within 0~2 seconds after the initial power-up period; monitor the transmissions on channel from the spectrum analyzer.
- 3) Reboot EUT, with a link established on channel, apply a radar signal within 58~60 seconds after the initial power-up period, and monitor the transmission on channel from the spectrum analyzer.

Test Results

Timing of Radar Burst	Spectrum Analyzer Display
No Radar Triggered	Transmission begin after power-up cycle +60 seconds CAC
Within 2 seconds of the CAC starting	No transmission
Within the last 2 seconds of the CAC	No transmission

Please refer to the following plots.

Test Result

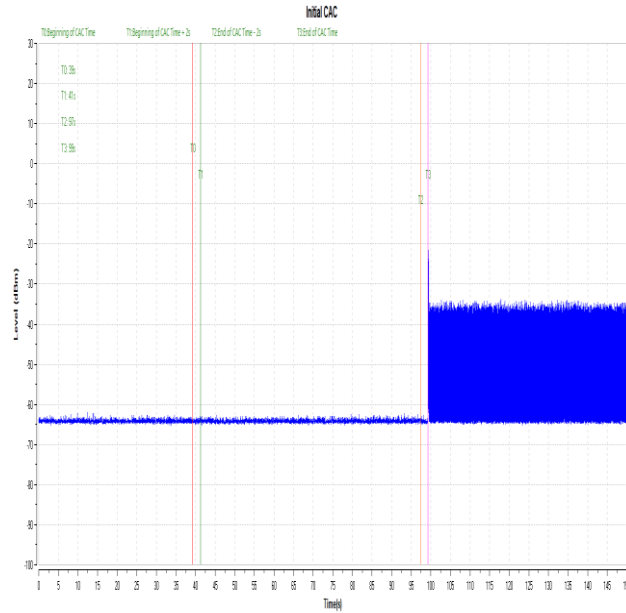
Test Mode	Frequency[MHz]	Result	Verdict
11A	5320	See test Graph	PASS
11AX160	5250	See test Graph	PASS

Test Graphs

Initial Channel Availability Check Time

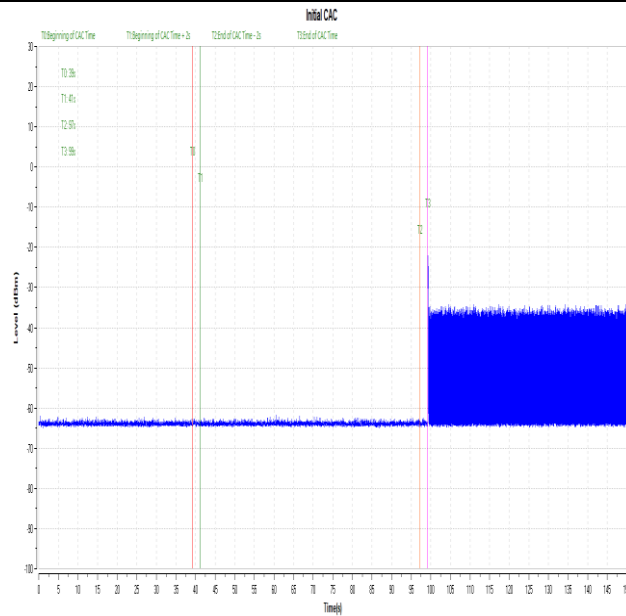
20MHz_5320

CAC time =60s



160MHz_5250

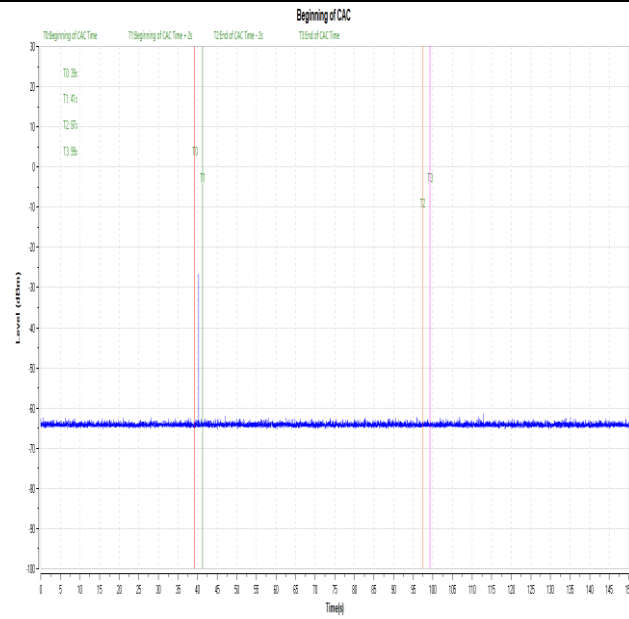
CAC time =60s



Beginning of Channel Availability Check Time

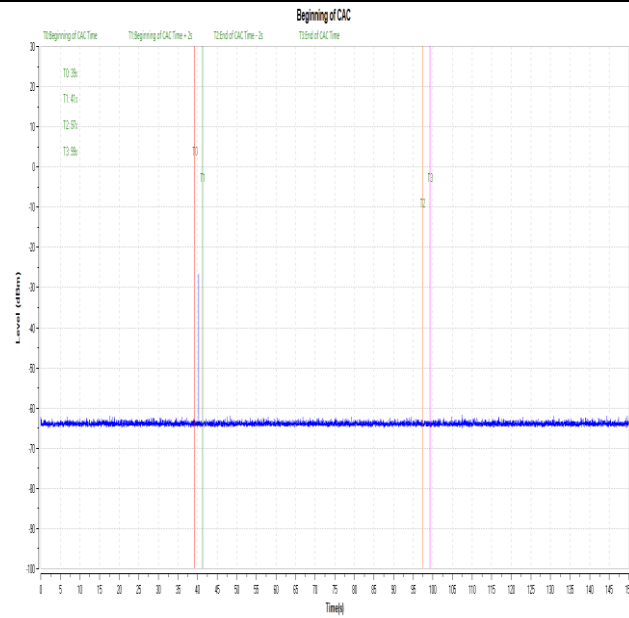
20MHz_5320

CAC time =60s



160MHz_5250

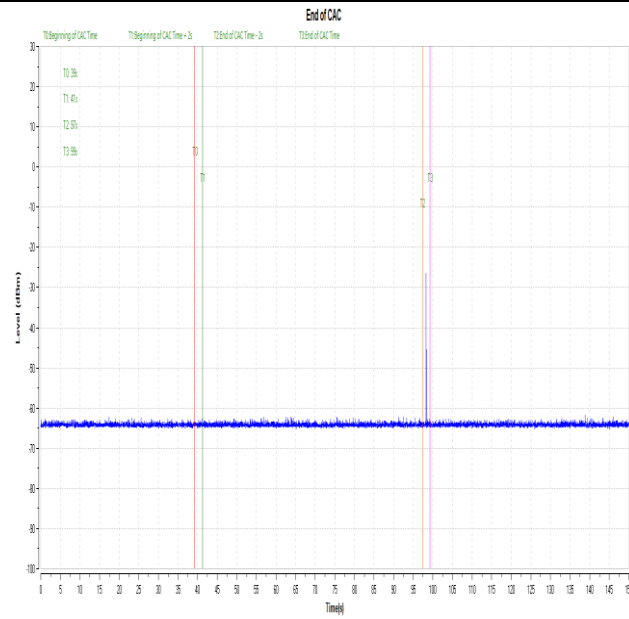
CAC time =60s



End of Channel Availability Check Time

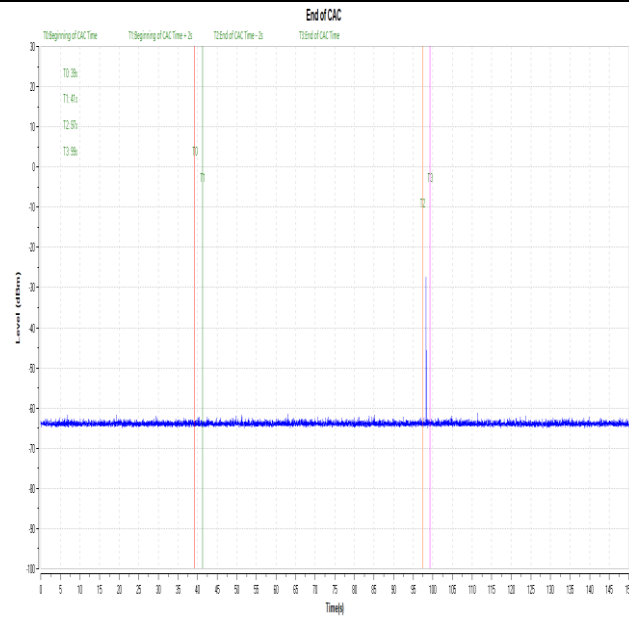
20MHz_5320

CAC time =60s



160MHz_5250

CAC time =60s



CHANNEL SHUTDOWN

Test Procedure:

Perform radar at a level of 10 dB above the level defined in clause 5.4.8.2.1 on the selected channel.

The aggregate channel closing transmission time is calculated as follows:

Aggregate Transmission Time = $N * \text{Dwell Time}$

N is the number of spectrum analyzer bins showing a device transmission

Dwell Time is the dwell time per bin (i.e. $\text{Dwell Time} = S/B$, S is the sweep time and B is the number of bin, i.e. 8001)

Test Results:

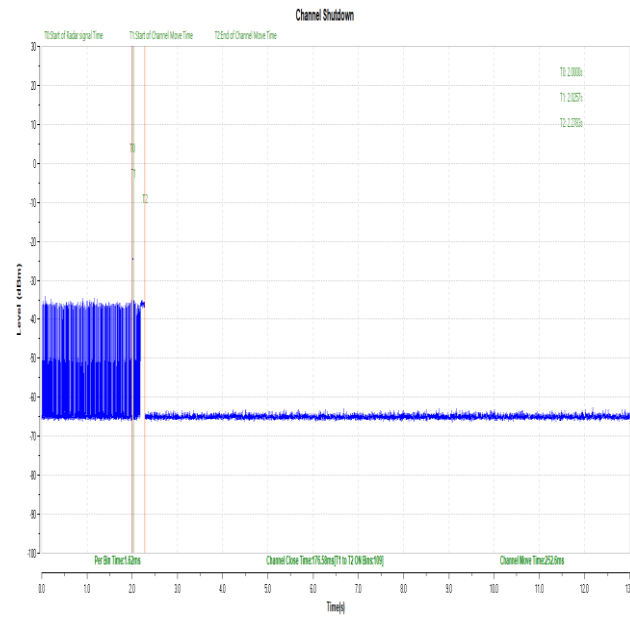
For Master Mode:

Frequency(MHz)	Bandwidth (MHz)	Results
5320	20	Compliant
5250	160	Compliant

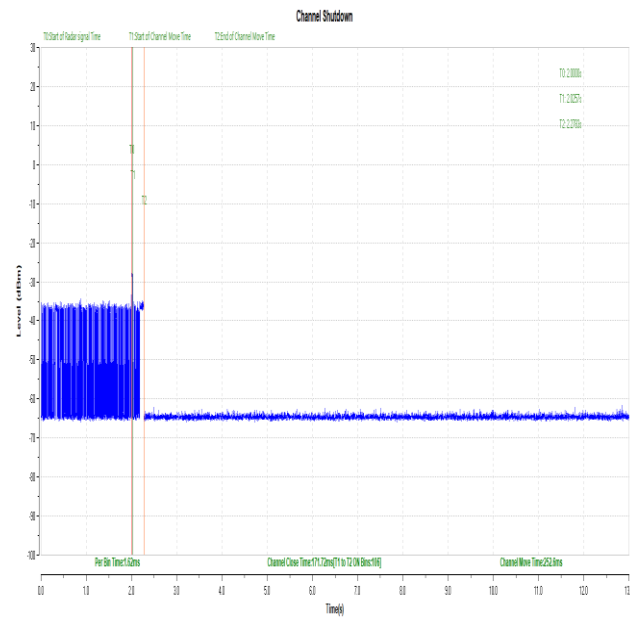
Please refer to the following tables and plots.

Test Mode	Frequency[MHz]	CCTT[ms]	Limit[ms]	CMT[ms]	Limit[ms]	Verdict
11A	5320	176.58	1000	252.6	10000	PASS
11AX160	5250	171.72	1000	252.6	10000	PASS

5320 MHz Bandwidth 20 MHz



5250 MHz Bandwidth 160 MHz



NON-OCCUPANCY PERIOD

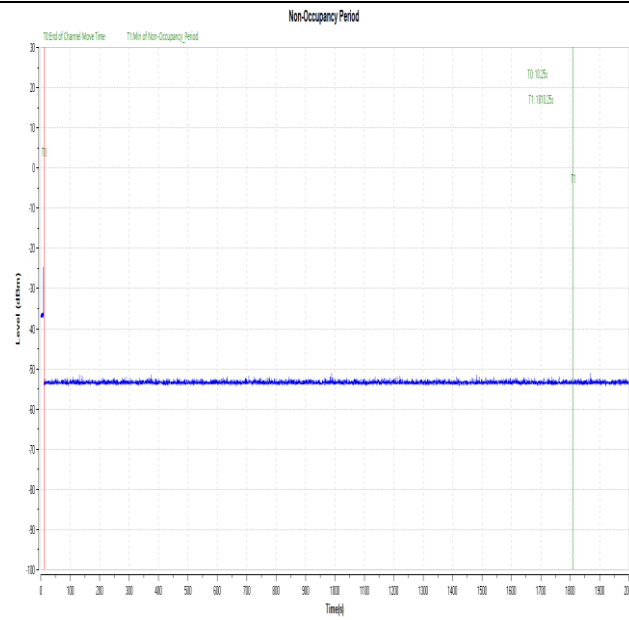
Test Procedure

Measure the EUT for more than 30 minutes following the channel close/move time to verify that the EUT does not resume any transmissions on this channel. Provide one plot to demonstrate no transmission on the channel for the non-occupancy period (30 minutes observation time)

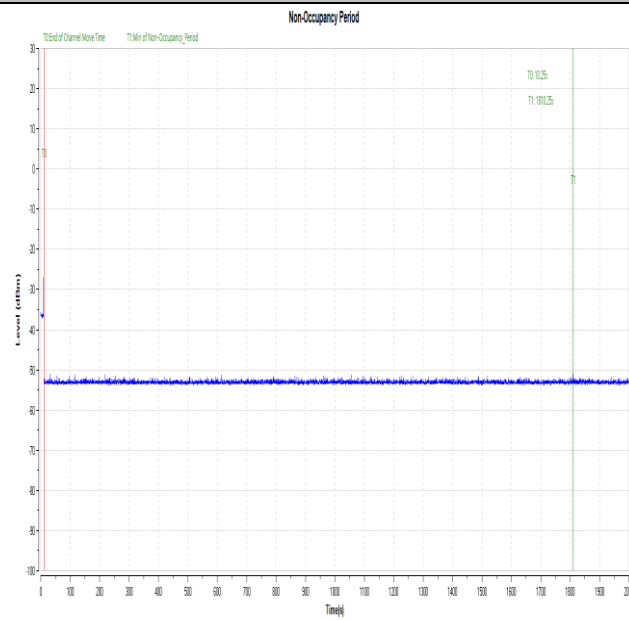
Test Result

Test Mode	Frequency[MHz]	Result	Limit[s]	Verdict
11A	5320	see test graph	≥ 1800	PASS
11AX160	5250	see test graph	≥ 1800	PASS

Test Graphs



11A-5320-Reference-PASS



11AX160-5250-Reference-PASS

IN SERVICE MONITORING

Test Procedure:

Stream LanTest Packet files from master to slave.

Generate radar waveform.

Record whether or not the waveform was detected.

At least 20 trials are applied for each radar type.

For radar types with randomized parameters, each trial uses a unique waveform.

Perform with each of the radar types.

Prescan all BWs, Perform the data with lowest and highest bandwidth for 20MHz, 160MHz modes.

Probability (%) = Total WaveformTrials/Total WaveformTrials×100

Test Mode	Channel	Radar Type	Pass Times	Fail Times	Probability (%)	Limit (%)	Verdict
20MHz	5320 MHz	Type1	19	1	95	60	PASS
		Type2	17	3	85	60	PASS
		Type3	18	2	90	60	PASS
		Type4	18	2	90	60	PASS
		Type5	19	1	95	60	PASS
		Type6	16	4	80	60	PASS
160MHz	5250 MHz	Type1	18	2	90	60	PASS
		Type2	17	3	85	60	PASS
		Type3	18	2	90	60	PASS
		Type4	19	1	95	60	PASS
		Type5	17	3	85	60	PASS
		Type6	18	2	90	60	PASS

EXHIBIT A - EUT PHOTOGRAPHS

Refer to report No.: RSZA251230001-01B.

Declarations

1. The laboratory is not responsible for the authenticity of any information provided by the applicant. Information from the applicant that may affect test results is marked with “★”.
2. The test data was only valid for the test sample(s). This report must not be duplicated or used in part without prior written consent from the laboratory.
3. This report is valid only with a valid digital signature. The digital signature may be available only under the Adobe software above version 7.0.
4. Otherwise required by the applicant or Product Regulations, Decision Rule in this report did not consider the uncertainty.
5. The extended uncertainty given in this report is obtained by combining the standard uncertainty times the coverage factor $k=2$ with the 95.45% confidence interval.

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