

Test Report

Applicant : Jiangsu Fulian Communication Technology Co.,Ltd
Address : Yongan Community, the south of Lanling Road, Danyang Development District, Jiangsu Province, China.
Product Name : FLC8720FRA-B
Brand Mark : Fulian
Model : FLC8720FRA-B
FCC ID : 2AXS5-FLC8720FRA-B
Report Number : BLA-EMC-202503-A2704
Date of Receipt : Mar. 7, 2025
Date of Test : Mar. 7, 2025 to Apr. 2, 2025
Test Standard : 47 CFR Part 15, Subpart E 15.407
Test Result : Pass

Compiled by:



Review by:



Approved by:



Issued Date: Apr 2, 2025

BlueAsia of Technical Services(Shenzhen) Co.,Ltd.Address: Building C, No. 107, Shihuan Road, Shiyuan Sub-District, Baoan District,
Shenzhen, Guangdong Province, China

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Revise Record

Version No.	Date	Description
01	Apr. 2, 2025	Original

1 General information

1.1 General information

Applicant	Jiangsu Fulian Communication Technology Co.,Ltd
Address	Yongan Community, the south of Lanling Road, Danyang Development District, Jiangsu Province, China.
Manufacturer	Jiangsu Fulian Communication Technology Co.,Ltd
Address	Yongan Community, the south of Lanling Road, Danyang Development District, Jiangsu Province, China.
Factory	Jiangsu Fulian Communication Technology Co.,Ltd
Address	Yongan Community, the south of Lanling Road, Danyang Development District, Jiangsu Province, China.

1.2 General description of EUT

Product Name	FLC8720FRA-B
Model No.	FLC8720FRA-B
Series model	N/A
Operation Frequency	Band 1: 5180MHz-5240MHz; Band 2: 5260MHz~5320MHz; Band 3: 5500MHz~5700MHz; Band 4: 5745MHz-5825MHz.
Channel numbers	Band 1: 802.11a/802.11n(HT20): 4, 802.11n(HT40):2
	Band 2: 802.11a/802.11n(HT20): 4, 802.11n(HT40):2
	Band 3: 802.11a/802.11n(HT20): 11, 802.11n(HT40):5
	Band 4: 802.11a/802.11(HT20): 5, 802.11n(HT40): 2,
Modulation Type	BPSK, QPSK, 16-QAM, 64-QAM
Channel Spacing	802.11a/n: 20MHz, 802.11n: 40MHz
Data speed	6Mbps, 9Mbps, 12Mbps, 18Mbps, 24Mbps, 36Mbps, 48Mbps, 54Mbps, Up to 433 Mbps
DFS type	Slave
Antenna Type:	External antenna
Antenna Gain:	Band1: 3.67dBi, Band2: 3.67 dBi Band3: 3.67dBi, Band4: 3.23 dBi(Provided by customer)
Power supply or adapter information	DC3.3V
Hardware Version	N/A
Software Version	N/A

Note: For a more detailed description, please refer to Specification or User's Manual supplied by the applicant and/or manufacturer.

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2 Test summary

Test Items	Limit	Result
Channel Availability Check	> 60 seconds	N/A
UNII Detection Bandwidth	> 100% of the UNII 99% transmission power bandwidth	N/A
Statistical Performance Check	Radar type 1,2,3,4 $\geq$ 60% Aggregate Radar type 1~4 and 5 $\geq$ 80% Radar type 6 $\geq$ 70%	N/A
Channel Move Time	< 10 seconds	Pass
Channel Closing Transmission Time	< 20ms + aggregate of 60ms over remaining 10 second period	Pass
Non-Occupancy Period	> 30 minutes	Pass
<i>Note: "Pass" means meet the requirements, "N/A" means not applicable</i>		

3 Test Configuration

3.1 Test mode

Test Mode	Description
Normal working	Keep the EUT in continuously working in normal mode.

3.2 EUT Configuration for DFS Test channel

Test Items	Channel Frequency
Channel Move Time	5260MHz, 5310MHz 5500MHz, 5590MHz
Channel Closing Transmission Time	5260MHz, 5310MHz 5500MHz, 5590MHz
Non-Occupancy Period	5260MHz, 5310MHz 5500MHz, 5590MHz

3.3 Auxiliary equipment

Device Type	Manufacturer	Model Name	Serial No.	Remark
Lenovo	Laptop	SL510	2847A65	Lenovo
ASUS	WiFi Router	GT-AXE11000	M3IAJF201052	ASUS

Note:

“--” mean no any auxiliary device during testing.

3.4 Test environment

Temperature	20 ~ 25 °C
Humidity	60% ~ 65%
Atmospheric pressure	1012 kPa

4 Laboratory information

4.1 Laboratory and accreditations

The test facility is recognized, certified, or accredited by the following organizations:

Company name:	BlueAsia of Technical Services(Shenzhen) Co., Ltd.
Address:	Building C, No. 107, Shihuan Road, Shiyan Sub-District, Baoan District, Shenzhen, Guangdong Province, China
CNAS accredited No.:	L9788
A2LA Cert. No.:	5071.01
FCC Designation No.:	CN1252
ISED CAB identifier No.:	CN0028
Telephone:	+86-755-28682673
FAX:	+86-755-28682673

4.2 Measurement uncertainty

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of $k=1.96$.

Parameter	Expanded Uncertainty
RF output power, conducted	± 1.5 dB
Temperature	± 3 °C
Supply voltages	± 3 %
Time	± 5 %

5 Test equipment

RF conducted

Equipment	Name	Model	Manufacture	S/N	Cal. Date	Due. Date
BLA-EMC-003-003	Shield room	5*3*3	SKET	N/A	2023/11/16	2025/11/15
BLA-EMC-016	Signal Generator	N5182A	Agilent	MY52420567	2024/06/28	2025/06/27
BLA-EMC-038	Spectrum	N9020A	Agilent	MY49100060	2024/08/08	2025/08/07
BLA-EMC-042	Power sensor	RPR3006W	DARE	14I00889SN042	2024/08/08	2025/08/07
BLA-EMC-044	Radio communication tester	CMW500	R&S	132429	2024/08/08	2025/08/07
BLA-EMC-064	Signal Generator	N5182B	KEYSIGHT	MY58108892	2024/06/28	2025/06/27
BLA-EMC-079	Spectrum	N9020A	Agilent	MY54420161	2024/08/08	2025/08/07
BLA-EMC-088	Audio Analyzer	ATS-1	Audio Precision	ATS141094	2024/06/28	2025/06/27

Test software

Software No.	Software Name	Manufacture	Software version	Test site
BLA-EMC-S010	MTS 8310	MW	2.0.0.0	RF

6 DFS Technical Requirements

6.1 DFS Parameters

Table D.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 D.2: Applicability of DFS requirements during normal operation		
Requirement	Operational Mode	
	Master	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	Operational Mode	
	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 20 MHz channels and the channel center frequency.		

Table D.3: DFS Detection Thresholds	
Maximum Transmit Power	Value (See Notes 1,2, and 3)
EIRP $\geq$ 200 mW	-64 dBm
EIRP < 200 mW and power spectral density < 10 dBm/MHz	-62 dBm
EIRP < 200 mW 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.	

Table D.4: DFS requirement values

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

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

Note 2: The Channel Closing Transmission Time is comprised of 200 milliseconds starting at the beginning of the Channel Move Time 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.

Table D.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 Test B	Roundup $\left\{ \frac{1}{360} \right\}$ $\left\{ \frac{19 \cdot 10^6}{PRI_{\mu sec}} \right\}$	60%	30
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 D.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

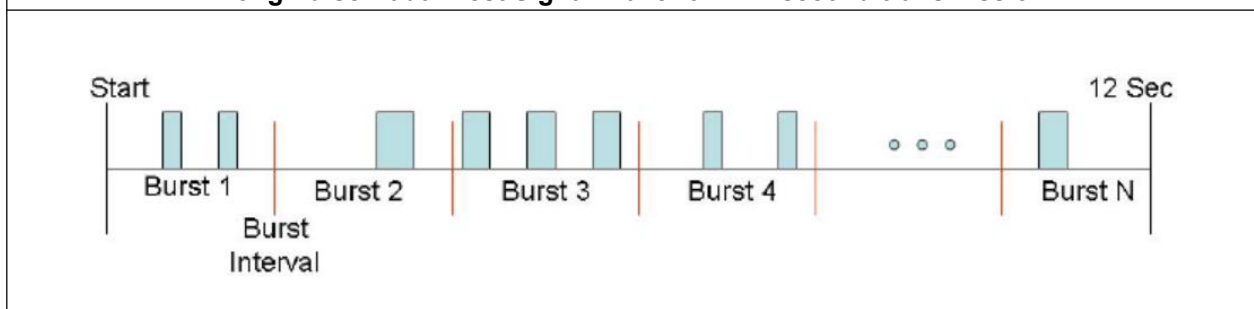
Long Pulse Radar Test Signal Wave form 12 second transmission


Table D.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	0	0.333	300	70%	30

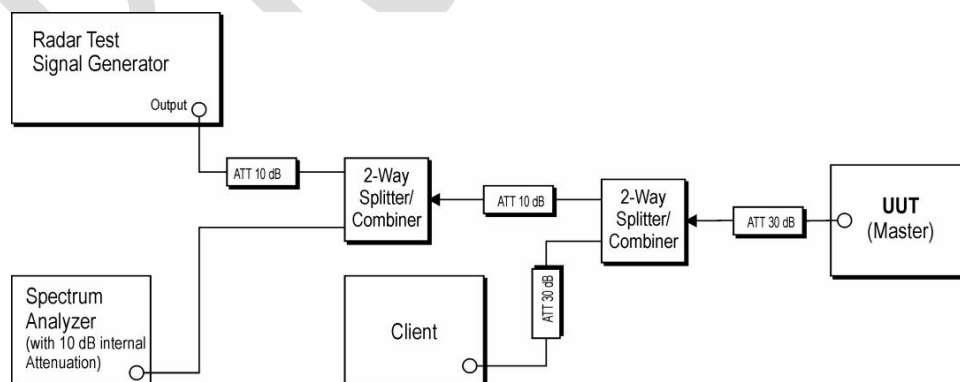
6.2 DFS Technical Requirements

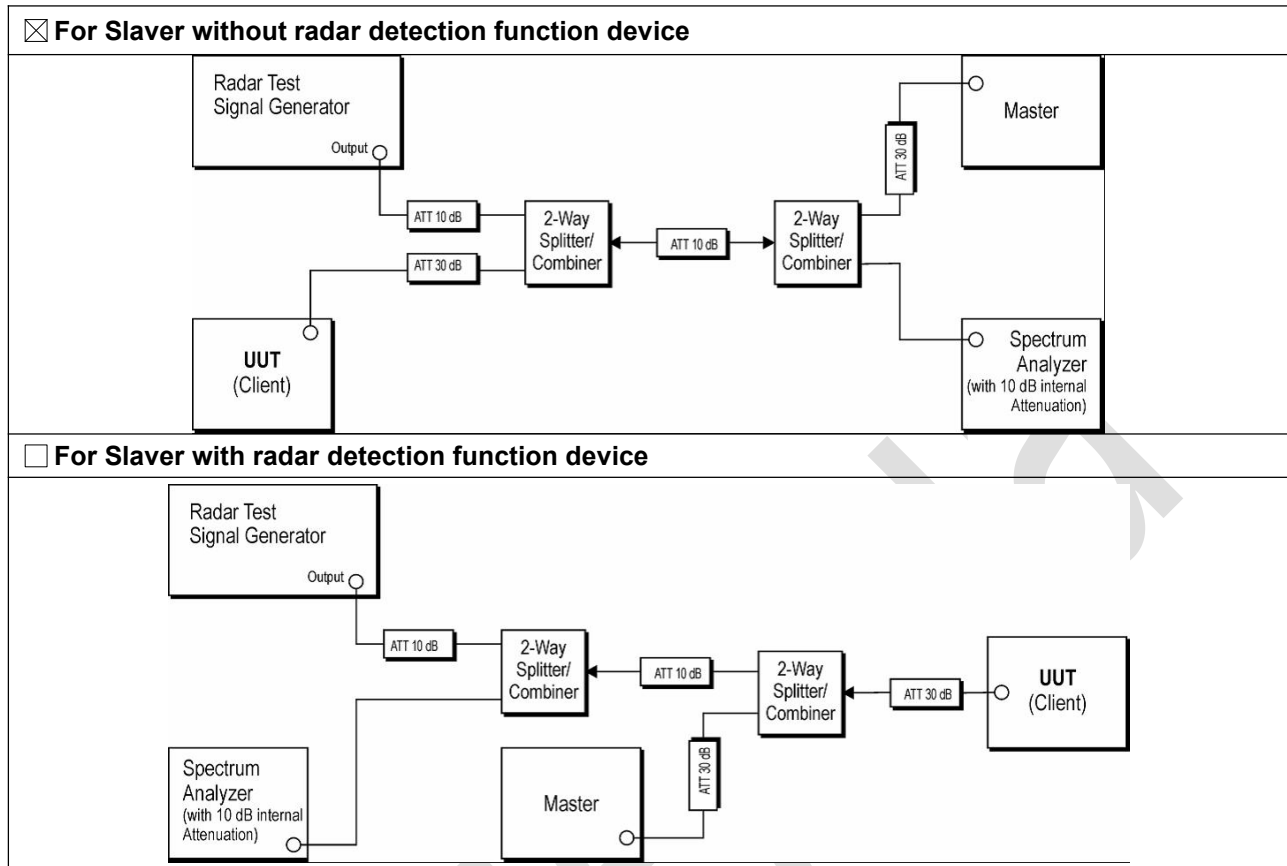
Requirement	DFS Operational mode		
	☐ Master	☒ Slave without Radar Detection	☐ Slave with Radar Detection
Channel Availability Check	√	Not Required	Not Required
UNII Detection Bandwidth	√	Not Required	√
Statistical Performance Check	√	Not Required	√
Channel Move Time	√	√	√
Channel Closing Transmission Time	√	√	√
Non-Occupancy Period	√	√	√

6.3 DFS Threshold Level

DFS Threshold Level	
5250MHz ~ 5350MHz	-62dBm @ antenna connector
5470MHz~5725MHz	-62dBm @ antenna connector
Note: The worst case level was selected to perform the test.	

6.4 Test Setup Block

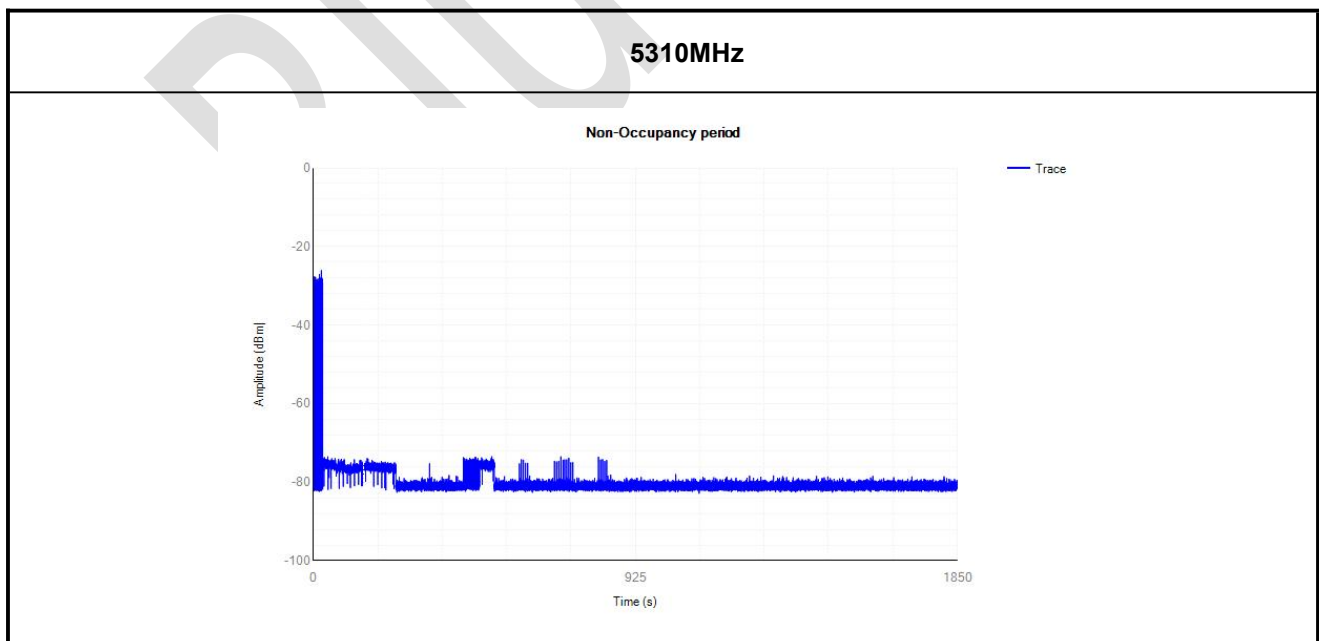
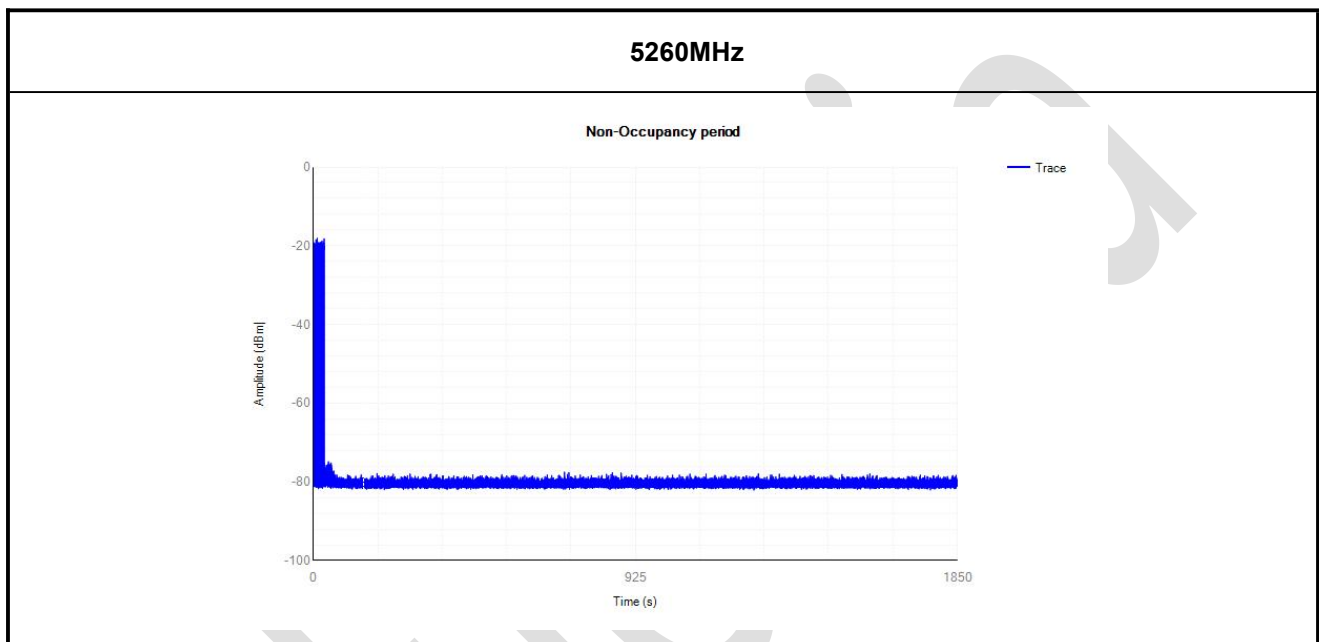
☐ For master device


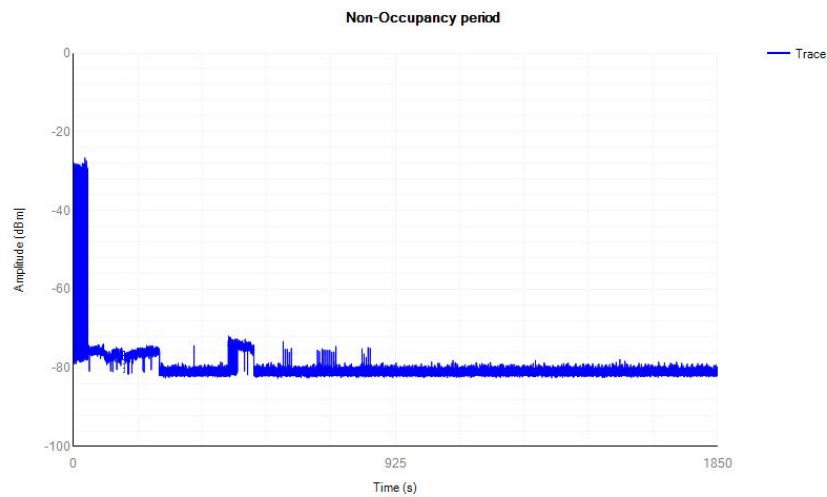
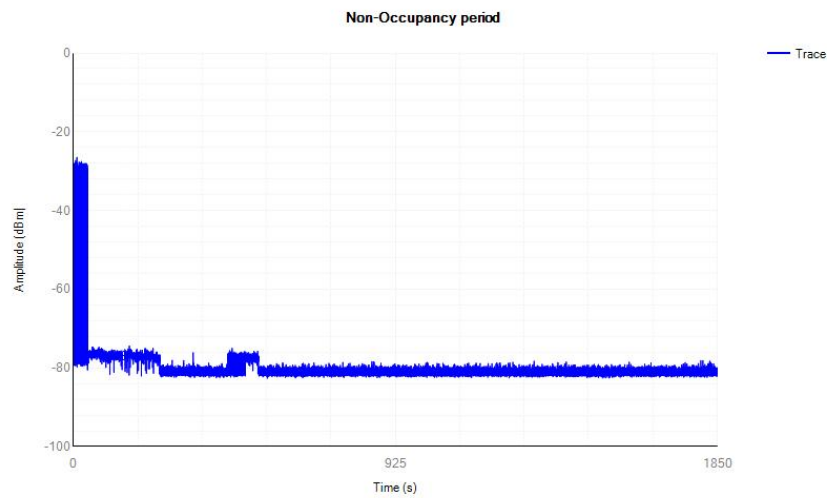


7 Test Result

7.1 Non-Occupancy Period

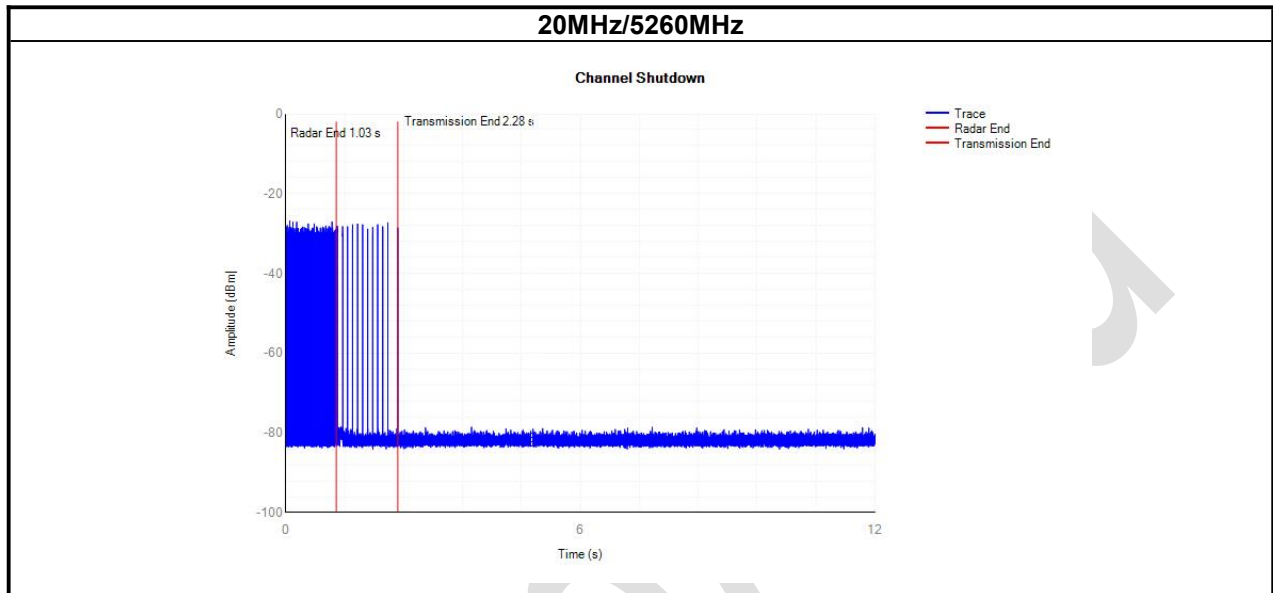
Test Items	Value	Limit	Result
Non-Occupancy Period	> 30 minutes	Minimum 30 minutes	Pass



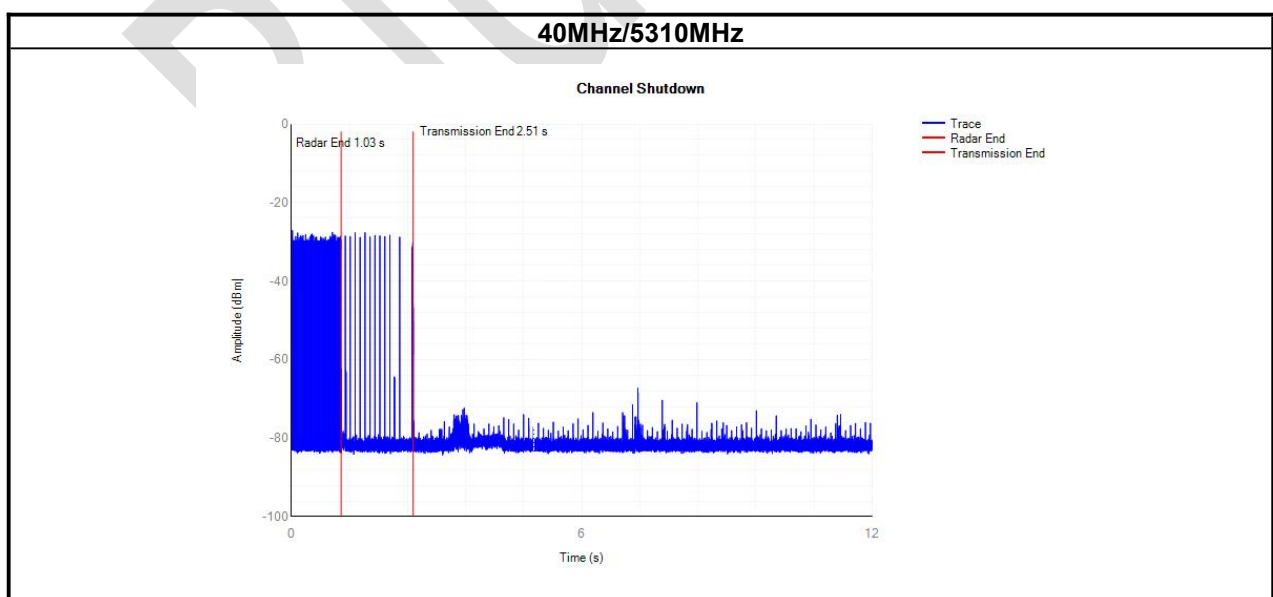
5500MHz**5590MHz**

7.2 Channel Move Time and Channel Closing Transmission Time

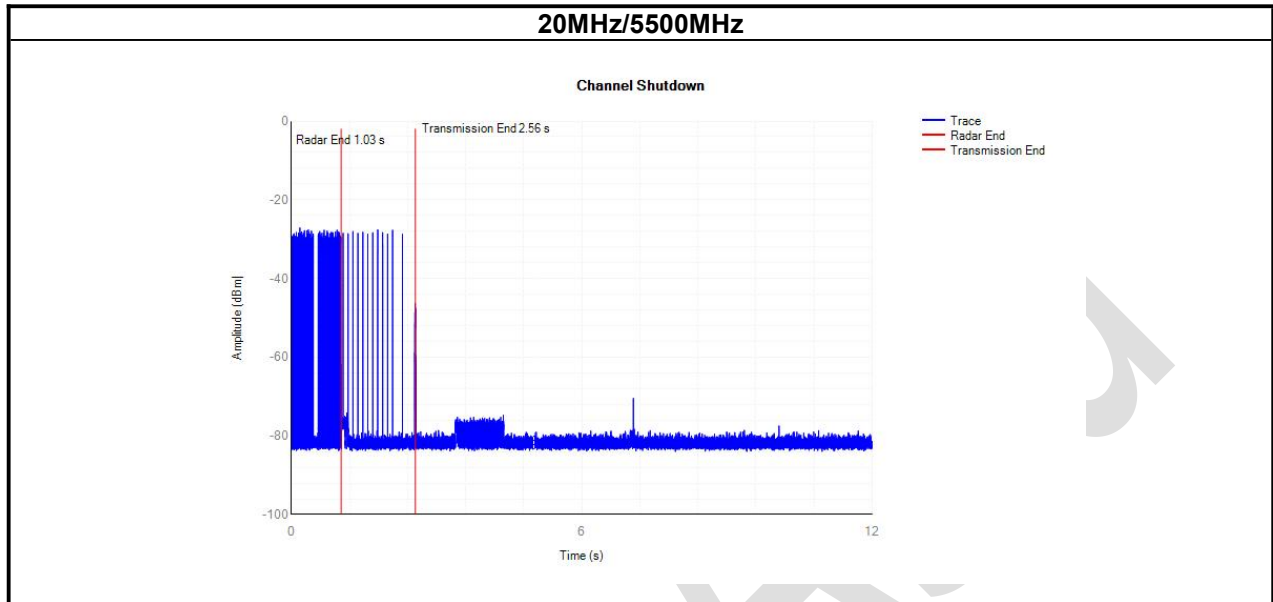
Test Items	Value	Limit	Result
Channel Closing Transmission Time	0.018s	1s	Pass
Channel Move Time	1.2538s	10 s	Pass



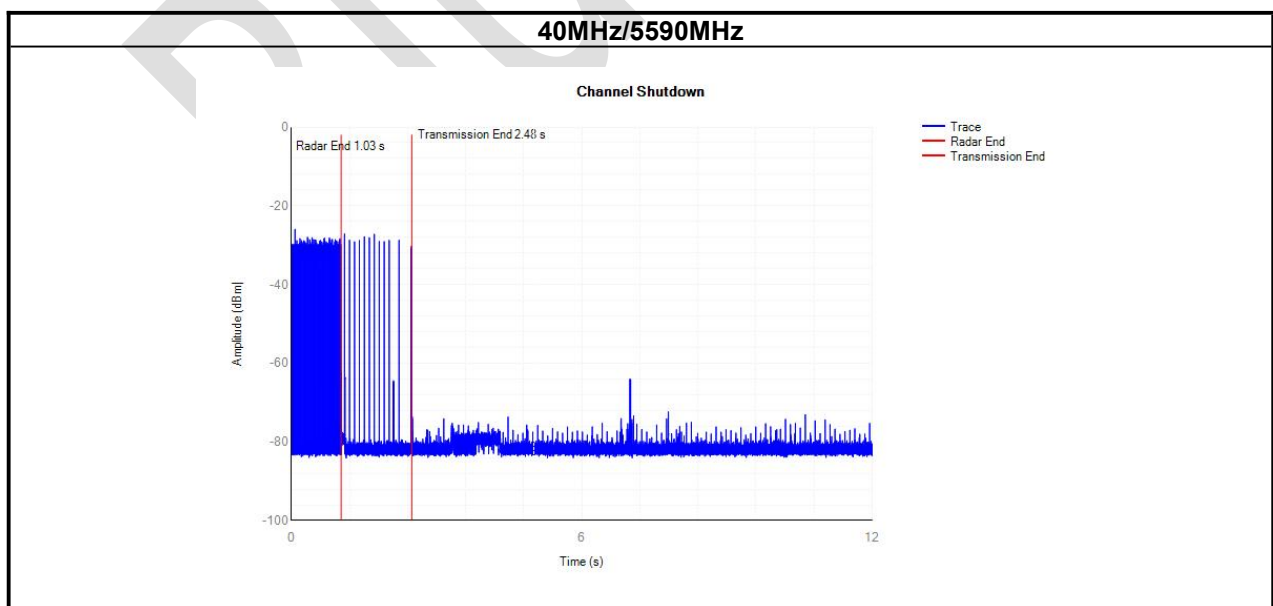
Test Items	Value	Limit	Result
Channel Closing Transmission Time	0.0148s	1s	Pass
Channel Move Time	1.4882s	10 s	Pass



Test Items	Value	Limit	Result
Channel Closing Transmission Time	0.0112s	1s	Pass
Channel Move Time	1.5338s	10s	Pass



Test Items	Value	Limit	Result
Channel Closing Transmission Time	0.0116s	1s	Pass
Channel Move Time	1.459s	10s	Pass



8 Test photos



9 Appendix B: photographs of EUT

Reference to the test report no. BLA-EMC-202503-A2701

----END OF REPORT----

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