TEST REPORT

Report No.	SST2503E0176
Applicant:	Shenzhen Colorful Yugong Applied Technology Innovation Co., Ltd.
Address of Applicant:	1103, 11th Floor, Building 4, Shenzhen New Generation Industrial Park, No. 136, ZhongkangRoad, Meilin Street, Futian District, Shenzhen, China.
Product Name:	NOTEBOOK COMPUTER
Trade Mark:	COLORFUL
Standard(s):	FCC CFR Title 47 Part 15 Subpart E Section 15.407
FCC ID:	2BN3V-S1
Test Report Form No:	SST-RD-7.5-02-E01(A/0)
Date of sample receipt:	2024/12/25
Date of Test:	2024/12/25 - 2025/3/6
Date of report issued:	2025/3/7

*The equipment complies with the requirements according to the standard(s) or Specification above, it is applicable only to the tested sample identified in the report.

Prepared by: _____

Reviewed by: _____

Approved by: _____

GUANGDONG SET SAIL TESTING CO., LTD. *CERTIFICATE**

Revision History

Version	Description	Date of Issue
V1.0	Original	2025/3/7

2 Contents

Page

3 Test Summary

Test items	Basics standards	Operational Mode	
		Master Device or Client with Radar Detection	Client Without Radar Detection
DFS Detection Threshold	47 CFR Part 15.407(h) KDB 905462	Y	N
Channel Closing Transmission Time		Y	Y
Channel Move Time		Y	Y
U-NII Detection Bandwidth		Y	N

4 General Information

4.1 Client Information

Applicant:	Shenzhen Colorful Yugong Applied Technology Innovation Co., Ltd.
Address of applicant:	1103, 11th Floor, Building 4, Shenzhen New Generation Industrial Park, No. 136, ZhongkangRoad, Meilin Street, Futian District, Shenzhen, China.
Manufacturer:	Same as applicant
Address of Manufacturer:	Same as applicant
Factory:	Shenzhen Gentude Technology Co.,Ltd
Address of Factory:	601, Building 1, Emdoor Building, No. 8 Guang Ke 1st Road, Laokeng Community,Long Tian Street, PingShan District, Shenzhen, China

4.2 General Description of EUT

Product Name:	NOTEBOOK COMPUTER	
Model No.:	COLORFUL S1**********, COLORFUL Rimbook S1**********, S1**********, Rimbook S1**********（"*" represents for 0-9, a-z, A-Z, "-" or spaces to indicate different sales channels or different colors)	
Test Model:	S1	
Test sample(s) ID:	2412230501	
Sample(s) Status:	Normal firmware	
S/N:	/	
Hardware version:	/	
Software version:	/	
Operation Frequency:	5260MHz ~ 5320MHz 5500MHz ~ 5700MHz	
Technical specific:	802.11a, 802.11n, 802.11ac, 802.11ax	
Channel Bandwidth	20/40/80MHz operating channel bandwidth	
Modulation technology:	OFDM(A)	
Operating Mode	☐Master	
	☐Client with radar detection	
	☒Client without radar detection	
TPC Function	☐With TPC	☒Without TPC
Antenna gain:	Refer to section 4.7 for details	
Power supply:	AC/DC ADAPTER Model: AY65FA-AF1903422-US Input: AC 100~240V, 50/60Hz, 1.8A Output: DC 19V, 3.42A Or DC 11.55V 5200mAh/60.06Wh Rechargeable li-ion battery	

Channel list for 802.11 @20m							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
36	5180MHz	40	5200MHz	44	5220MHz	48	5240MHz
52	5260MHz	56	5280MHz	60	5300MHz	64	5320MHz
100	5500MHz	104	5520MHz	108	5540MHz	112	5560MHz
116	5580MHz	120	5600MHz	124	5620MHz	128	5640MHz
132	5660MHz	136	5680MHz	140	5700MHz		

Channel list for 802.11 @40m							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
38	5190MHz	46	5230MHz	54	5270MHz	62	5310MHz
102	5510MHz	110	5550MHz	118	5590MHz	126	5630MHz
134	5670MHz						

Channel list for 802.11 @80m							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
42	5210MHz	58	5290MHz	106	5530MHz	122	5610MHz

4.3 Test mode(s)

Mode 1:	Normal operation
Mode 2:	
Mode 3:	

4.4 Test Facility

The test facility is recognized, certified, or accredited by these organizations:	**FCC Accredited Lab** Test Firm Registration Number: 638130 Designation Number: CN1359
	IC Registration Lab CAB Identifier No. CN0154
	A2LA Accreditation Lab Certificate No.:7057.01

Test Performed at:	**Name** GuangDong Set Sail Testing Co., Ltd.
	Address 101, No.19, Tianxin Hudie 1st Road, Huangjiang Town, Dongguan, Guangdong, China

4.5 Description of Support Units

Device Type	Brand	Model	Series No.	Note
Notebook PC	HP	ZHAN 66P	---	---
Router	ASUS	RT-AC88U	---	FCC ID: MSQ-RTGW00
Router	ASUS	RT-BE96U	---	FCC ID: MSQ-RTBE6G00

4.6 Additional Instructions

Test Software	Normal SW
Power level setup	Default

4.7 Antenna Information

Ant	Manufacturer	Model	Antenna Type	Antenna Gain (dBi)	Note
2	GUANGDONG SLEING COMM-TECH CO.,LTD	SLEingB250210225	FPCB	2.2	WIFI

All above information provided by the applicant which is fully responsible for those information.

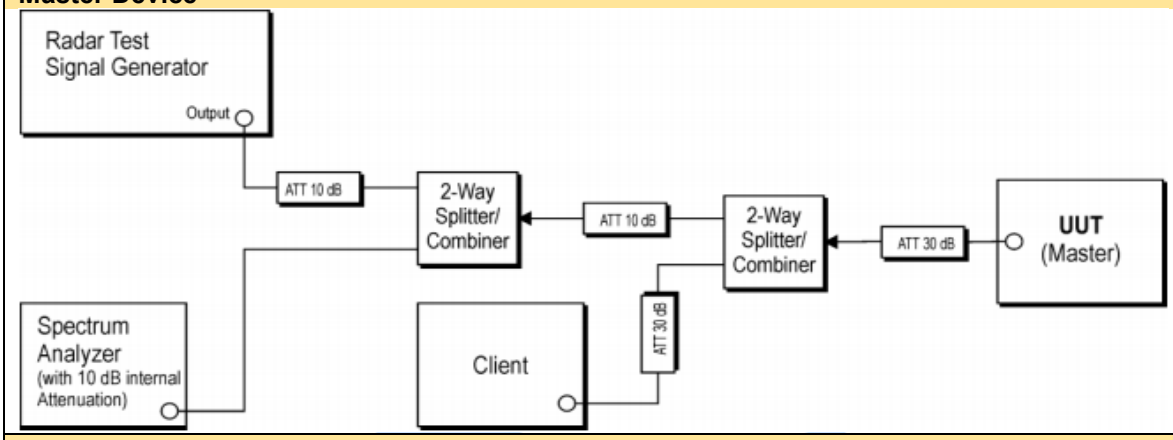
4.8 Others

The laboratory responsible for all the information provided in the report, except those information provided by the applicant.
The applicant shall fully responsible for the information they provided.
The report would be invalid without a stamp of test laboratory and the signatures of compiler and approver.
The laboratory has not been responsible for the sampling stage; the test report merely corresponds to the test sample received.
Any objection to the test report shall submitted to the test laboratory within 15 days from the date of receipt of the report.
It is not permitted to copy extracts of these test result without the written permission of the test laboratory.

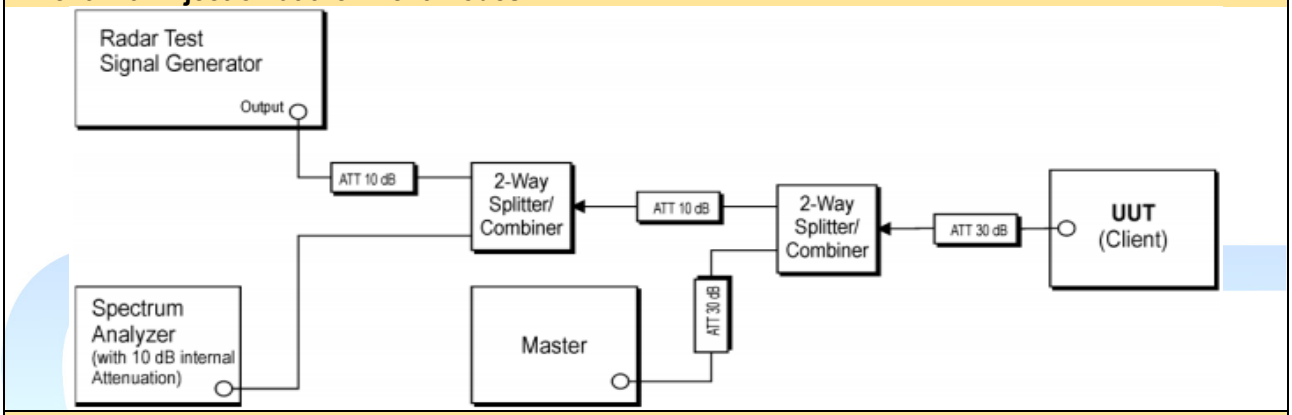
5 Technical Requirement

5.1 Test configuration diagram

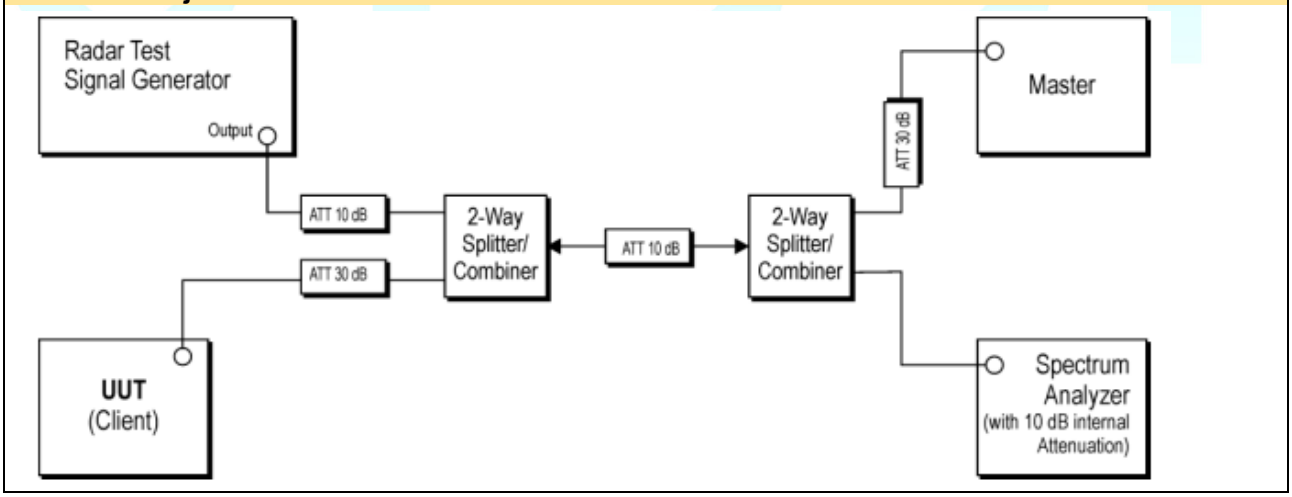
Master Device



Client with injection at the Client Modes



Client with injection at the Master Modes



5.2 DFS Detection Thresholds

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.

5.3 Response Requirements

DFS Response 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 milliseconds + an aggregate of 60 milliseconds over remaining 10 second period. See Notes 1 and 2.
U-NII Detection Bandwidth	Minimum 100% of the U-NII 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.

5.4 RADAR TEST WAVEFORMS

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 $\left\{\left(\frac{1}{360}\right)\cdot\left(\frac{19\cdot10^6}{PRI_{\mu sec}}\right)\right\}$	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.

A minimum of 30 unique waveforms are required for each of the Short Pulse Radar Types 2 through 4. If more than 30 waveforms are used for Short Pulse Radar Types 2 through 4, then each additional waveform must also be unique and not repeated from the previous waveforms. If more than 30 waveforms are used for Short Pulse Radar Type 1, then each additional waveform is generated with Test B and must also be unique and not repeated from the previous waveforms in Tests A or B.

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

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.

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

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

6 Test Procedures

6.1 Radar Calibration

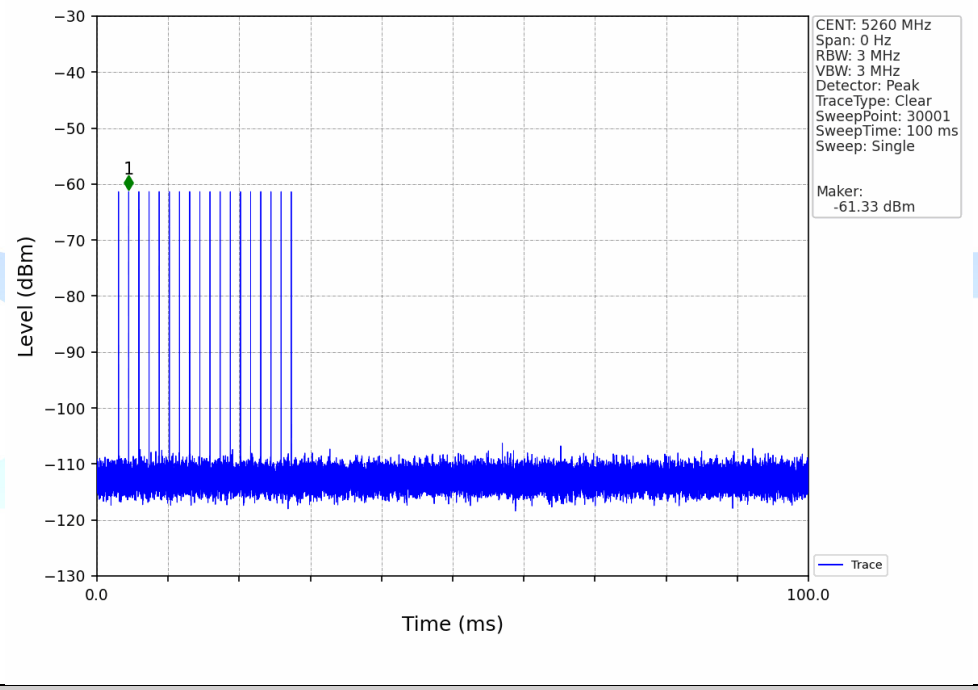
DFS Threshold Level

-61dBm+antenna gain

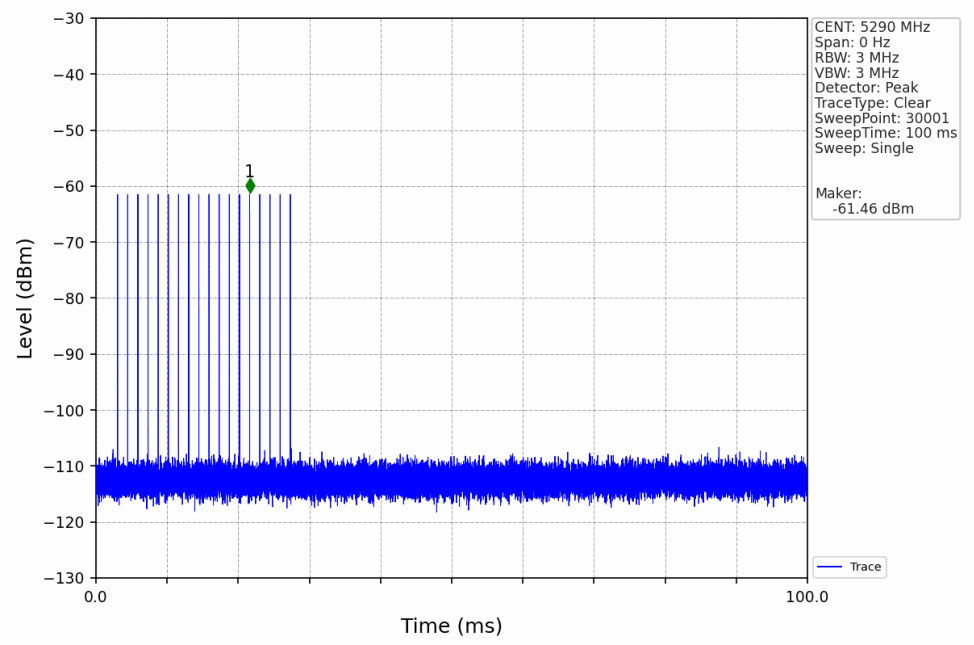
Test Result

Band: 2A							
Mode	Bandwidth (MHz)	Frequency (MHz)	Radar Signal		Signal Calibration		Verdict
			Type	Trial Id	Result	Limit	
802.11a	20	5260	0	0	Refer To Test Graph		Pass
802.11ac	80	5290	0	0	Refer To Test Graph		Pass

Test Graphs



11A-5260


CENT: 5290 MHz
Span: 0 Hz
RBW: 3 MHz
VBW: 3 MHz
Detector: Peak
TraceType: Clear
SweepPoint: 30001
SweepTime: 100 ms
Sweep: Single
Maker:
-61.46 dBm
Level (dBm)
Time (ms)
Trace
0.0
100.0

11AC-5290

6.2 Channel Move Time, Channel Closing Transmission Time and Non-Occupancy Period

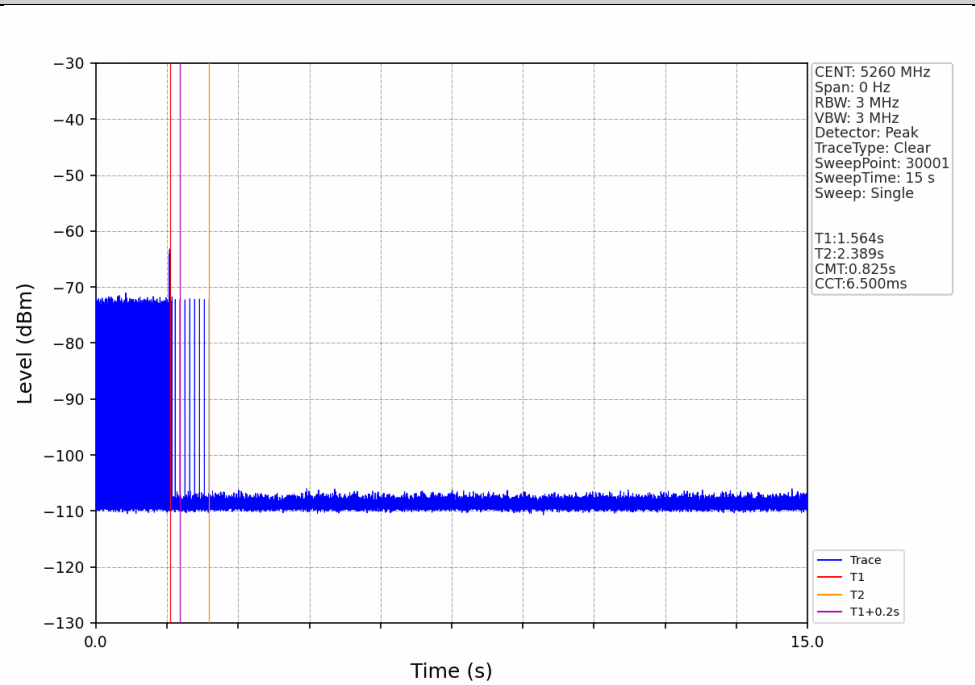
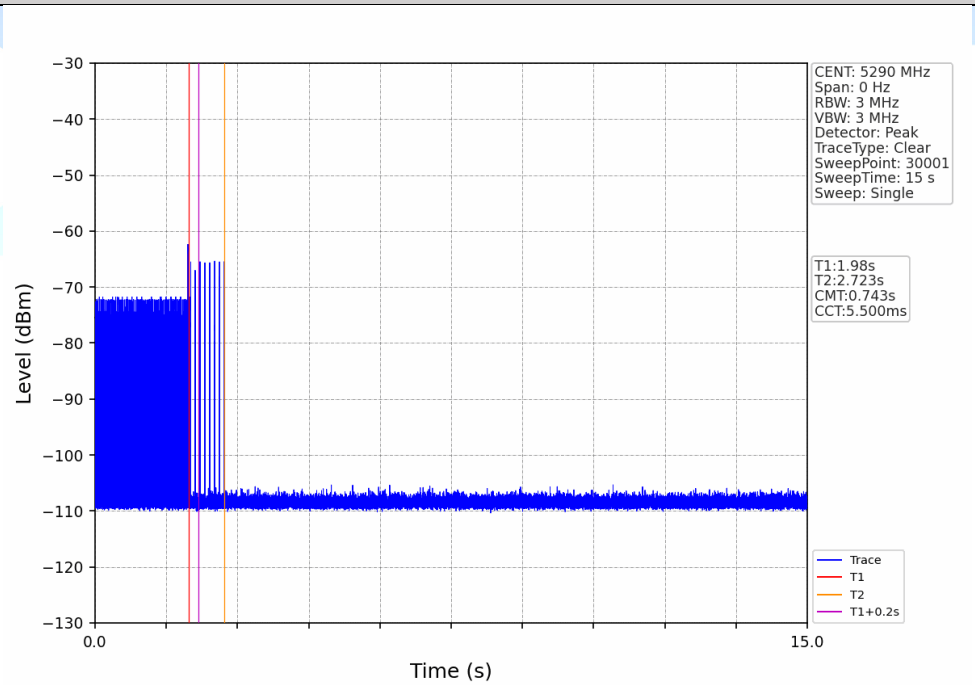
Limit	
Channel Move Time	<10s
Channel Closing Transmission Time	<260ms
Non-Occupancy Period	>30min

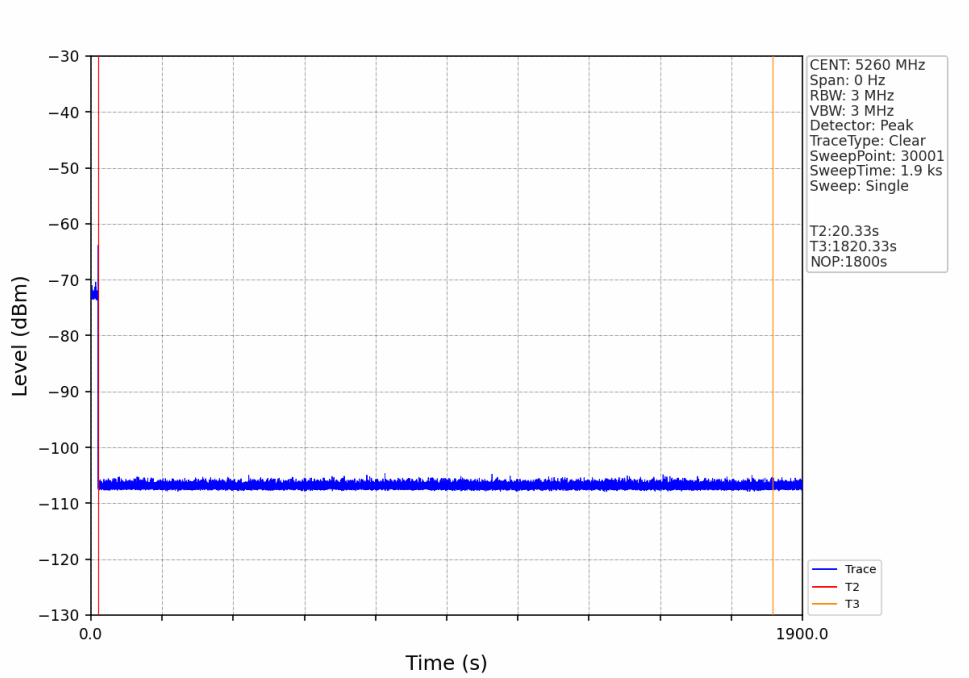
Test Result

Band: 2A							
Mode	Bandwidth (MHz)	Frequency (MHz)	Channel Move Time	Limit[ms]	Closing Transmission Time	Limit[ms]	Verdict
802.11a	20	5260	825	10000	6.5	200+60	Pass
802.11ac	80	5290	743	10000	5.5	200+60	Pass

Band: 2A					
Mode	Bandwidth (MHz)	Frequency (MHz)	Non-Occupancy Period		Verdict
			Result	Limit[ms]	
802.11a	20	5260	Refer To Test Graph	≥1800	Pass
802.11ac	80	5290	Refer To Test Graph	≥1800	Pass

Test Graphs

CMT & CTT

11A-5260

11AC-5290

Non-Occupancy Period

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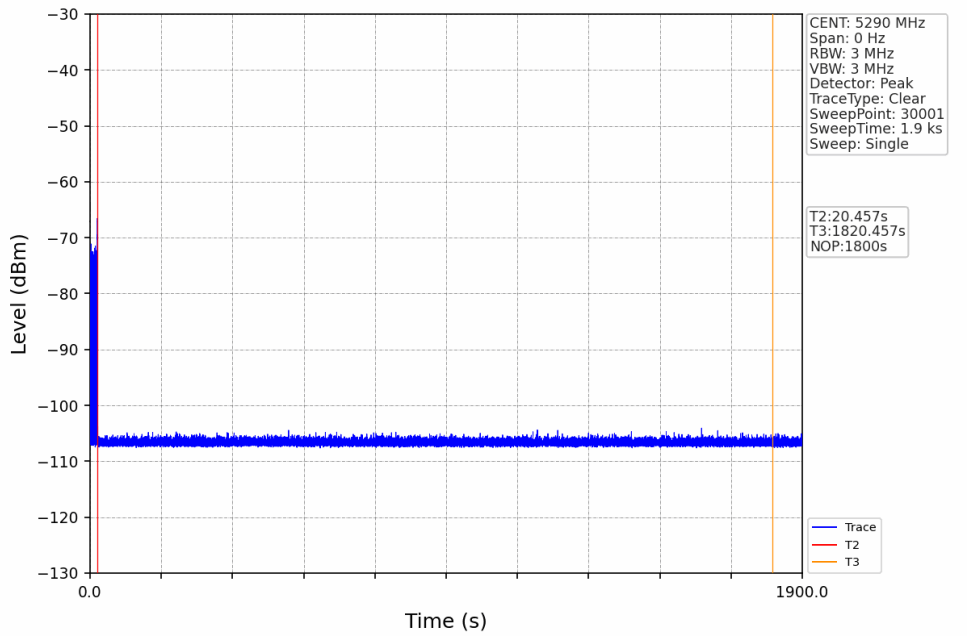
11AC-5290

7 Test Setup Photo

Reference to the **appendix I** for details.

8 EUT Constructional Details

Reference to the **appendix II** for details.

Annex A --Test Instruments list

RF conducted						
Equipment No.	**Test Equipment**	**Manufacturer**	**Model No.**	**Serial No.**	**Cal. cycle**	**Cal.Date**
SST-E-RSC001	Shielding Room	BOST	543	/	3 year	2023.01.07
SST-E-RSC007	Spectrum analyzer	keysight	N9020A	MY51280659	1 year	2024.04.16
SST-E-RSC008	Analog signal source	Agilent	N5181A	MY48180054	1 year	2024.04.16
SST-E-RSC009	Vector signal source	keysight	N5172B	MY57281610	1 year	2024.04.16
SST-E-EMC007	Thermohygrometer	KTJ	TA218A	879032	1 year	2024.04.18
SST-E-RSC010	Spectrum analyzer	R&S	FSV40-N	/	1 year	2024.04.16
SST-E-RSC015-1	Power meter 1	TST	TST V2	/	1 year	2024.04.16
/	Test Software	TST PASS	TST PASS	V2.0	/	/

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