



No.:
FCCSZ2025-0031-RF4

TEST REPORT

FCC ID : 2AV2J-DBOX04

NAME OF SAMPLE : Smart Projector

APPLICANT : Shenzhen Dangs Science and Technology Co.,Ltd

CLASSIFICATION OF TEST : N/A

CVC Testing Technology (Shenzhen) Co., Ltd.



Applicant		Name: Shenzhen Dangs Science and Technology Co.,Ltd Address: 1301, Block D1, Chuangzhi Yuncheng, Liuxian Avenue, Nanshan District, Shenzhen, Guangdong Province	
Manufacturer		Name: Shenzhen Dangs Science and Technology Co.,Ltd Address: 1301, Block D1, Chuangzhi Yuncheng, Liuxian Avenue, Nanshan District, Shenzhen, Guangdong Province	
Equipment Under Test		Product Name: Smart Projector Model Name: DBOX04 Additional Model Name: See section 2.1 Brand Name: Dangbei Serial NO.: N/A Sample NO.: 4-1	
Date of Receipt.	Apr. 11, 2025	Date of Testing	Apr. 11, 2025 ~ May. 09, 2025
Test Specification		Test Result	
FCC Part 15, Subpart E, Section 15.407		PASS	
Evaluation of Test Result		The equipment under test was found to comply with the requirements of the standards applied.	
		Seal of CVC Issue Date: May. 09, 2025	
Compiled by: Zhu Yulin Name Signature	Reviewed by: Mo Xianbiao Name Signature	Approved by: Dong Sanbi Name Signature	
Other Aspects: NONE.			
Abbreviations:OK, Pass= passed		Fail = failed	N/A= not applicable EUT= equipment, sample(s) under tested

This test report relates only to the EUT, and shall not be reproduced except in full, without written approval of CVC.



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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
FCCSZ2024-0010-RF3	Original release	May. 09, 2025



1 SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

STANDARD SECTION	TEST TYPE AND LIMIT	RESULT	REMARK
FCC 15.407	Channel Move Time	PASS	474.7ms
FCC 15.407	Channel Closing Transmission Time	PASS	200+aggregate of 5.2ms over remaining 10s period.
FCC 15.407	Non-Occupancy Period and Client Beacon Test	PASS	≥30 min

Note: Since the product is client without radar detection function, only Channel Move Time, Channel Closing Transmission Time and Non-Occupancy Period and Client Beacon Test are required to be performed



1.1 LIST OF TEST AND MEASUREMENT INSTRUMENTS

Antenna Port Conducted Test					
Equipment	Manufacturer	Model No.	Serial Number	Cal. interval	Cal. Due
Signal&Spectrum Analyzer	Rohde&Schwarz	FSV 30	104408	1 year	2026/4/22
#3Shielding room	MORI	443	N/A	3 year	2026/5/16
Wideband radio communication tester	Rohde&Schwarz	CMW 500	168778	1 year	2025/5/24
Analog signal Generator (100kHz ~ 40GHz)	Rohde&Schwarz	SMB 100A	181934	1 year	2026/4/22
Vector signal Generator (9kHz ~ 6GHz)	Rohde&Schwarz	SGT 100A	111724	1 year	2026/4/22
RF control unit(BT/WiFi)	Tonscend	JS0806-2-8CH	CS0300023	1 year	2026/4/22
Temperature and humidity meter	/	C193561457	C193561457	1 year	2026/4/28

1.2 TEST LOCATION

The tests and measurements refer to this report were performed by EMC testing Lab. of CVC Testing Technology (Shenzhen) Co., Ltd.

Lab Address: No. 1301, Guanguang Road, Xinlan Community, Guanlan Street, Longhua District, Shenzhen City, Guangdong Province 518110 P.R.China

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FCC(Test firm designation number: CN1363)

IC(Test firm CAB identifier number: CN0137)

CNAS(Test firm designation number: L16091)



2 GENERAL INFORMATION

2.1 GENERAL PRODUCT INFORMATION

PRODUCT NAME	Smart Projector
BRAND NAME	Dangbei
MODEL NAME	DBOX04
ADDITIONAL MODEL NAME (Remark 6)	DB*****("can be 0-9,A-Z,a-z,or blank)
POWER SUPPLY	DC 19V From Adapter(Input: 100-240V~50/60Hz)
OPERATING FREQUENCY	5260MHz ~ 5320MHz, 5500MHz ~ 5720MHz
ANTENNA TYPE (Remark 4/5)	ANT1: FPC Antenna, with 3.93dBi gain ANT2: FPC Antenna, with 3.89dBi gain
I/O PORTS	Refer to User's Manual
CABLE SUPPLIED	N/A
DEVICE TYPE	<input type="checkbox"/> Master <input checked="" type="checkbox"/> Client without radar detection <input type="checkbox"/> Client with radar detection
Remark:	
1. For more detailed features description, please refer to the manufacturer's specifications or the User's Manual.	
2. For the test results, the EUT had been tested with all conditions. But only the worst case was shown in test report.	
3. EUT photo refer to report (Report NO.: FCCSZ2025-0031-EUT).	
4. Please refer to the antenna report.	
5. Since the above data and/or information is provided by the client relevant results or conclusions of this report are only made for these data and/or information, CVC is not responsible for the authenticity, integrity and results of the data and information and/or the validity of the conclusion.	
6. For marketing purposes, only the model names on the nameplates are labeled differently in different markets, with no safety issues.	



2.2 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL

BANDWIDTH	CHANNEL	TEST TYPE AND LIMIT	
80MHz	CH58	Channel Move Time	
		Channel Closing Transmission Time	
		Non-Occupancy Period and Client Beacon Test	
Remark:			
This test was investigated for different bandwidth (20MHz, 40MHz, 80MHz). The following plots was worst case.			

2.3 DESCRIPTION OF SUPPORT UNITS

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Support Equipment						
NO	Description	Brand	Model No.	FCC ID	Supplied by	
1	Wireless router	ZTE	MF282	N/A	Lab	
Support Cable						
NO	Description	Quantity (Number)	Length (m)	Detachable (Yes/ No)	Shielded (Yes/ No)	Cores (Number)
1	N/A	N/A	N/A	N/A	N/A	N/A



3 REQUIREMENTS AND PARAMETERS FOR DFS TEST

3.1 APPLICABILITY OF DFS REQUIREMENTS

APPLICABILITY OF DFS REQUIREMENTS PRIOR TO USE A CHANNEL

REQUIREMENT	OPERATIONAL MODE		
	MASTER	CLIENT WITHOUT RADAR DETECTION	CLIENT WITH RADAR DETECTION
Non-Occupancy Period	✓	✓	✓
DFS Detection Threshold	✓	Not required	✓
Channel Availability Check Time	✓	Not required	Not required
Uniform Spreading	✓	Not required	Not required
U-NII Detection Bandwidth	✓	Not required	✓

APPLICABILITY OF DFS REQUIREMENTS DURING NORMAL OPERATION

REQUIREMENT	OPERATIONAL MODE		
	MASTER	CLIENT WITHOUT RADAR DETECTION	CLIENT WITH RADAR DETECTION
DFS Detection Threshold	✓	Not required	✓
Channel Closing Transmission Time	✓	✓	✓
Channel Move Time	✓	✓	✓
U-NII Detection Bandwidth	✓	Not required	✓



3.2 DETECTION THRESHOLD VALUES

DFS DETECTION THRESHOLDS FOR MASTER DEVICES AND CLIENT DEVICES WITH RADAR DETECTION

MAXIMUM TRANSMIT POWER	VALUE (SEE Note 1 and 2)
≥ 200 milliwatt	-64 dBm
< 200 milliwatt	-62 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.

3.3 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	100% of the UNII transmission power bandwidth. See Note 3.

Note 1: The instant that the Channel Move Time and the Channel Closing Transmission Time begins is as follows:

- For the Short Pulse Radar Test Signals this instant is the end of the Burst.
- For the Frequency Hopping radar Test Signal, this instant is the end of the last radar Burst generated.
- For the Long Pulse Radar Test Signal this instant is the end of the 12 second period defining the Radar Waveform.

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 1 is used and for each frequency step the minimum percentage of detection is 90 percent. Measurements are performed with no data traffic.



3.4 PARAMETERS OF DFS TEST SIGNALS

Step intervals of 0.1 microsecond for Pulse Width, 1 microsecond for PRI, 1 MHz for chirp width and 1 for the number of pulses will be utilized for the random determination of specific 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 Test B	Roundup $\left\lceil \frac{1}{360} \cdot \frac{19 \cdot 10^6}{\text{PRI} \cdot \text{sec}} \right\rceil$	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.					

LONG PULSE RADAR TEST WAVEFORM

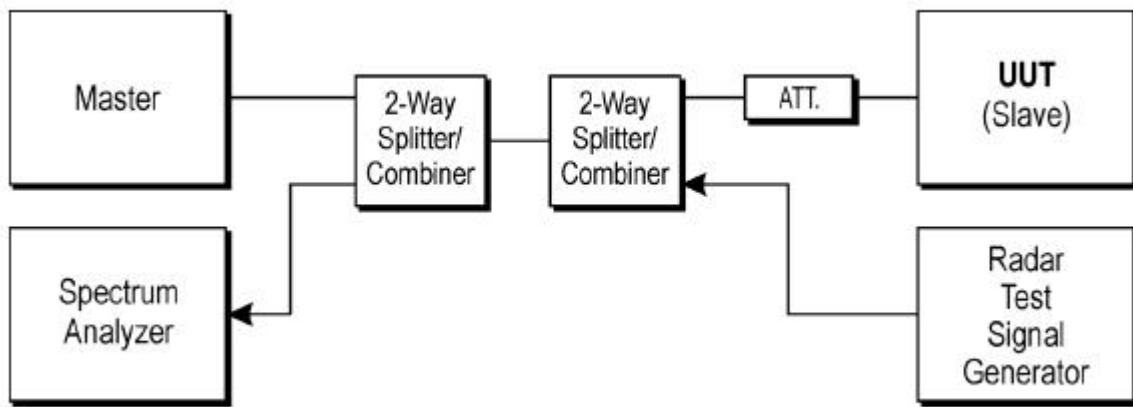
RADAR TYPE	PULSE WIDTH (μsec)	CHIRP WIDTH (MHz)	PRI (μsec)	NUMBER OF PULSES PER BURST	NUMBER OF BURSTS	MINIMUM PERCENTAGE OF SUCCESSFUL DETECTION	MINIMUM NUMBER OF TRIALS
5	50-100	5-20	1000-2000	1-3	8-20	80%	30

FREQUENCY HOPPING RADAR TEST WAVEFORM

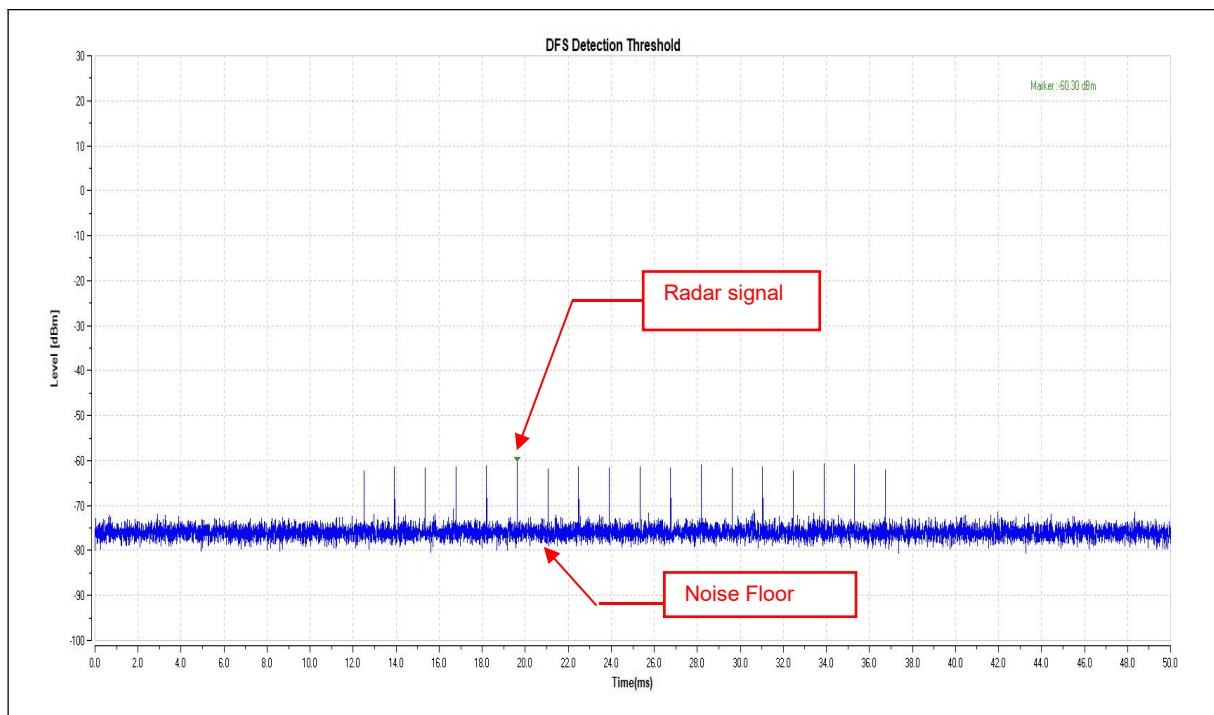
RADAR TYPE	PULSE WIDTH (μsec)	PRI (μsec)	PULSES PER HOP	HOPPING RATE (kHz)	HOPPING SEQUENCE LENGTH (msec)	MINIMUM PERCENTAGE OF SUCCESSFUL DETECTION	MINIMUM NUMBER OF TRIALS
6	1	333	9	0.333	300	70%	30

4 TEST RESULTS

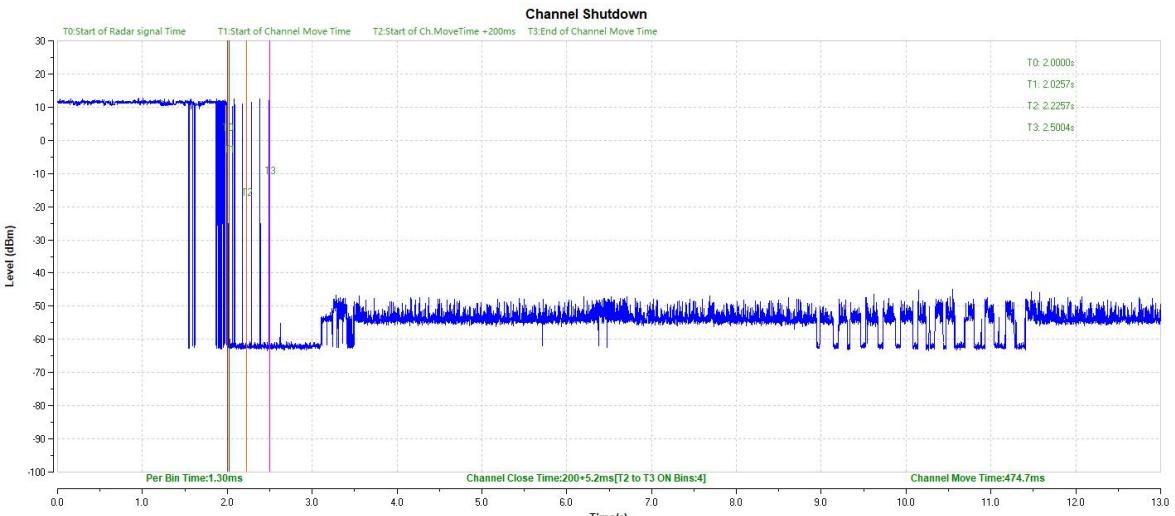
4.1 TEST SETUP OF DFS



4.2 DFS DETECTION THRESHOLD



4.3 CHANNEL CLOSING TRANSMISSION AND CHANNEL MOVE TIME**Radar Signal 0**

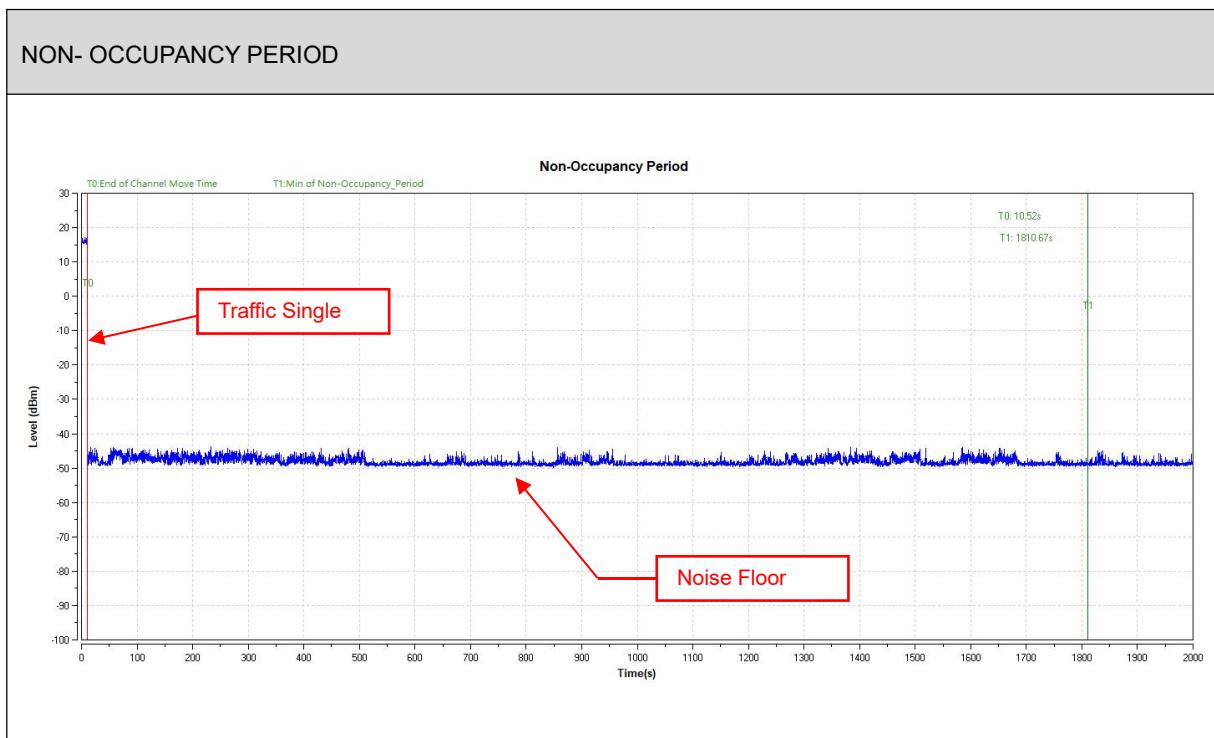
Channel Move Time(ms)	474.7	Channel Closing Transmission Time(ms)	200+5.2
			

NOTE:

- 1.T0 denotes the Start of Rader Singnl Time.
- 2.T1 denotes the Start of Channel Move Time.
- 3.T2 denotes the Start of Channel Move Time + 200ms.
- 4.T3 denotes the End of Channel Move Time.
- 5.Per Bin Time = Sweep time (13000ms) / Sweep Point Bins (10000) =1.3ms
- 6.Channel Closing Transmission Time(200 + 5.2ms) = 200+ ON Bins* Per Bin Time

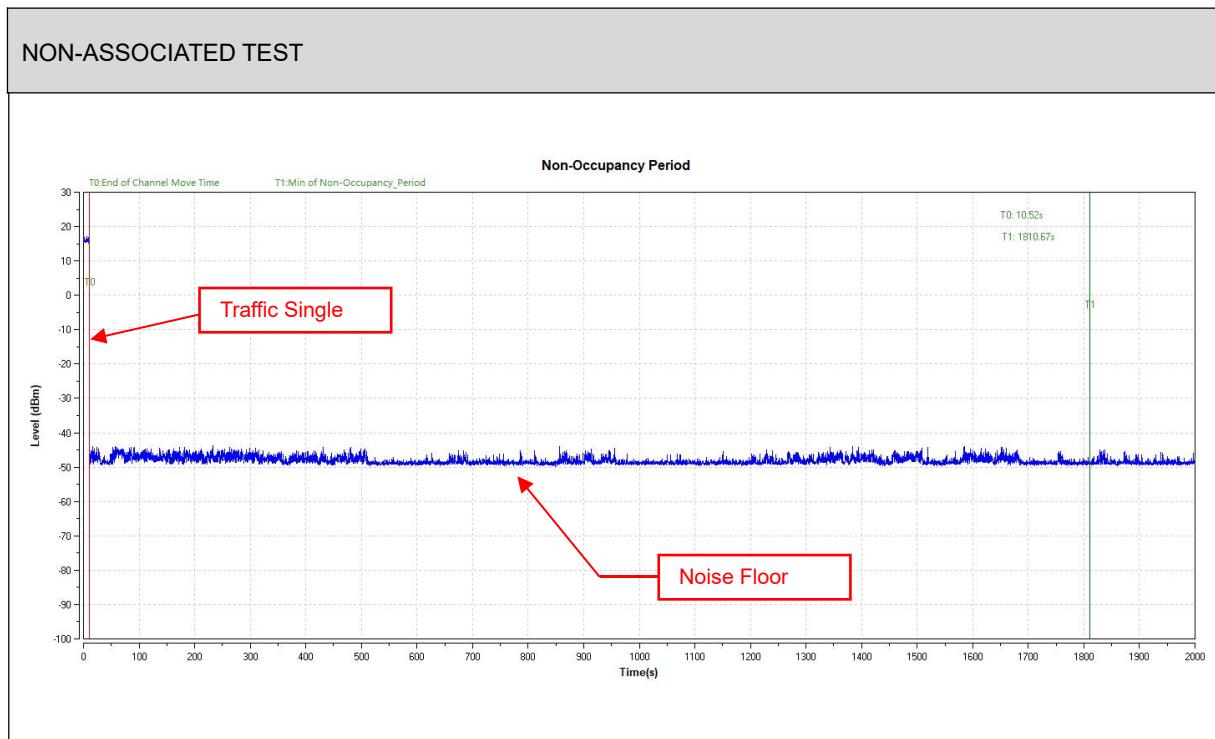
4.4 NON- OCCUPANCY PERIOD

- 1) Test results demonstrating an associated client link is established with the master on a test frequency
- 2) The client and DFS-certified master device are associated, and system testing will be performed with channel-loading for a non-occupancy period test.
- 3) The device transmits one type of radar as specified in the DFS Order.
- 4) The test frequency has been 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;
- 5)An analyzer plot that contains a single 30-minute sweep on the original test frequency.



Master was off.

During the 30 minutes observation time, The UUT did not make any transmissions in the DFS band after UUT power up





5 PHOTOGRAPHS OF THE EUT

Please refer to the attached file (External Photos report and Internal Photos).

----- End of the Report -----



Important

- (1) The test report is invalid without the official stamp of CVC;
- (2) Any part photocopies of the test report are forbidden without the written permission from CVC;
- (3) The test report is invalid without the signatures of Approval and Reviewer;
- (4) The test report is invalid if altered;
- (5) Objections to the test report must be submitted to CVC within 15 days.
- (6) Generally, commission test is responsible for the tested samples only.
- (7) As for the test result “-” or “N” means “not applicable”, “/” means “not test”, “P” means “pass” and “F” means “fail”

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