

TEST REPORT

CERTIFICATE OF CONFORMITY

Standard: 47 CFR FCC Part 15, Subpart E (Section 15.407)
Report No.: RFBCUN-WTW-P25020520-7
FCC ID: H8NPCTE020
Product: Mobile Computer
Brand: Askey
Model No.: RC40
Received Date: 2025/3/11
Test Date: 2025/4/17 ~ 2025/4/24
Issued Date: 2025/7/4
Applicant: Askey Computer Corporation
Address: 10F, No.119, JIANKANG RD., ZHONGHE DIST., NEW TAIPEI CITY, TAIWAN
Issued By: Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch
Lin Kou Laboratories
Lab Address: No. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan
Test Location: No. 19, Hwa Ya 2nd Rd., Wen Hwa Vil., Kwei Shan Dist., Taoyuan City 33383, Taiwan
FCC Registration / 788550 / TW0003
Designation Number:

Approved by: _____

Jeremy Lin

Jeremy Lin / Project Engineer

, Date: _____

2025/7/4

This test report consists of 26 pages in total. It may be duplicated completely for legal use with the approval of the applicant. It should not be reproduced except in full, without the written approval of our laboratory. The test results in the report only apply to the tested sample. The test results in this report are traceable to the national or international standards.

Prepared by : Vera Huang / Specialist



This report is governed by, and incorporates by reference, the Conditions of Testing as posted at the date of issuance of this report at <http://www.bureauveritas.com/home/about-us/our-business/cps/about-us/terms-conditions/> and is intended for your exclusive use. Any copying or replication of this report to or for any other person or entity, or use of our name or trademark, is permitted only with our prior written permission. This report sets forth our findings solely with respect to the test samples identified herein. The results set forth in this report are not indicative or representative of the quality or characteristics of the lot from which a test sample was taken or any similar or identical product unless specifically and expressly noted. Our report includes all of the tests requested by you and the results thereof based upon the information that you provided to us. Measurement uncertainty is only provided upon request for accredited tests. Statements of conformity are based on simple acceptance criteria without taking measurement uncertainty into account, unless otherwise requested in writing. You have 60 days from date of issuance of this report to notify us of any material error or omission caused by our negligence or if you require measurement uncertainty; provided, however, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents.

Table of Contents

Release Control Record	3
1 Certificate.....	4
2 Summary of Test Results	5
2.1 Supplementary Information	5
3 General Information	6
3.1 General Description of EUT	6
3.2 Antenna Description of EUT	7
3.3 EUT Power Level.....	7
4 Test Instruments	8
4.1 Channel Closing Transmission and Channel Move Time	8
4.2 Non-Associated Test.....	8
5 Limits of Test Items.....	9
5.1 Working Modes and Required Test Items	9
5.2 Test Limits and Radar Signal Parameters	10
6 Test Arrangements.....	13
6.1 Test Setup.....	13
6.2 Test Procedure	14
6.2.1 DFS Measurement System.....	14
6.2.2 Calibration of DFS Detection Threshold Level.....	17
6.2.3 DFS Detection Threshold.....	18
6.2.4 DFS Companion Device	18
7 Test Results of Test Item	19
7.1 Channel Closing Transmission and Channel Move Time	19
7.2 Non-Associated Test.....	23
8 Declaration of Conformity by the Manufacturer	24
8.1 Transmit Power Control (TPC)	24
8.2 Statement of Manufacturer	24
9 Pictures of Test Arrangements	25
10 Information of the Testing Laboratories	26



Release Control Record

Issue No.	Description	Date Issued
RFBCUN-WTW-P25020520-7	Original Release	2025/7/4



1 Certificate

Product: Mobile Computer

Brand: Askey

Test Model: RC40

Sample Status: Engineering sample

Applicant: Askey Computer Corporation

Test Date: 2025/4/17 ~ 2025/4/24

Standard: 47 CFR FCC Part 15, Subpart E (Section 15.407)

Measurement KDB 905462 D02 UNII DFS Compliance Procedures New Rules v02

procedure: KDB 905462 D03 UNII Clients Without Radar Detection New Rules v01r02

The above equipment has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's RF characteristics under the conditions specified in this report.

2 Summary of Test Results

47 CFR FCC Part 15, Subpart E (Section 15.407)			
Clause	Test Item	Result	Remark
15.407(h)	U-NII Detection Bandwidth	N/A	Not Applicable
15.407(h)	Channel Availability Check Time	N/A	Not Applicable
15.407(h)	Channel Closing Transmission and Channel Move Time	Pass	Applicable
15.407(h)	Non-Occupancy Period	N/A	Not Applicable
15.407(h)	Statistical Performance Check	N/A	Not Applicable
15.407(h)	Non-Associated Test	Pass	Applicable

Note: Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

2.1 Supplementary Information

There is not any deviation from the test standards for the test method, and no modifications required for compliance.

3 General Information

3.1 General Description of EUT

Product	Mobile Computer
Brand	Askey
Test Model	RC40
DFS Firmware/software version	Android version:14 Kernel version: 5.10.209-qki-consolidate-android12-9 #1 Wed Feb 5 08:21:13 UTC 2025
Operational Mode	Client without radar detection (with TPC function)
Operating Frequency Band	5.25 GHz ~ 5.35 GHz 5.47 GHz ~ 5.725 GHz
Communication Mode	IP based

Note:

1. The EUT contains following accessories.

Battery	Brand	Askey
	Model	RC40-BR-SBL500
	Nominal Voltage	3.85V
	Nominal Capacity	5000mAh, 19.25Wh
	Rated Capacity	4900mAh, 18.865Wh
	Limited Charging Voltage	4.4V
AC Adapter 1 (for Charging Cradle) (Optional)	Brand	Sunny Computer Technology Co.,LTD.
	Model	SYS1649-5012-T3
	Input	100-240V~,1.5A MAX,50-60Hz
	Output	+12.0V=4.16A
	Output Power	50.0W MAX.
	Description	1.2M / 1core
Power Cord (for AC Adapter 1 & 3) (Optional)	Brand	I-SHENG
	Model	V5BVS33161218002
	Description	1.8M
AC Adapter 2 (Optional)	Brand	CHANNEL WELL TECHNOLOGY
	Model	A1C030AC
	Input	100-240V~, 50-60Hz, 1.2A
	Output	5.0V= 3.0A 15.0W
		9.0V= 3.0A 27.0W
12.0V= 2.5A 30.0W		
15.0V= 2.0A 30.0W		
20.0V=1.5A 30.0W		
AC Adapter 3 (for Charging Cradle) (Optional)	Brand	MASS POWER
	Model	S050-1A120416B3
	Input	100-240V~ 50-60Hz, 1.5A
	Output	12.0V 4.16A, 49.92W
Charging Cradle (Optional)	Brand	Askey
	Model	RC40-CD-TBE100
Scan Handle (Optional)	Brand	Askey
	Model	RC40-PT-TGH000

2. The above EUT information is declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications or User's Manual.

3.2 Antenna Description of EUT

1. The antenna information is listed as below.

Antenna	Ant. 5	Ant. 8
Antenna Type	PIFA	PIFA
Connector Type	ipex(MHF)	ipex(MHF)
Brand	HONGBO	HONGBO
Model	290-40738	290-40738
Frequency Range	Antenna Gain (dBi)	
5.15~5.25GHz	2.50	2.46
5.25~5.35GHz	2.21	1.96
5.47~5.725GHz	2.18	2.23
5.725~5.85GHz	2.21	1.16

* Detail antenna specification please refer to antenna datasheet and/or antenna measurement report.

3.3 EUT Power Level

Highest Power Level						
Signal Mode	Frequency Band (MHz)	Conducted Power		Gain (dBi)	EIRP	
		(mW)	(dBm)		(mW)	(dBm)
CDD	5250-5350	43.096	16.34	2.21	71.686	18.55
	5470-5725	43.58	16.39	2.23	72.826	18.62
Beamforming	5250-5350	21.301	13.28	5.1	68.929	18.38
	5470-5725	21.607	13.35	5.22	71.878	18.57

4 Test Instruments

The calibration interval of the all test instruments are 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

4.1 Channel Closing Transmission and Channel Move Time

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
* Signal Analyzer R&S	FSV7	104056	2024/5/29	2026/5/28
Horn Antenna Schwarzbeck	BBHA 9120D	9120D-563	2024/11/10	2025/11/9
MXG Vector signal generator Keysight	N5182B	MY53052282	2025/1/6	2026/1/5
Software BV	BVDFS_Auto- ISM_Workbench_V2A2	N/A	N/A	N/A

Notes:

1. * The calibration interval of the above test instruments is 24 months and the calibrations are traceable to NML/ROC and NIST/USA
2. The test was performed in DFS room.
3. Tested Date: 2025/4/17 ~ 2025/4/24

4.2 Non-Associated Test

Refer to section 4.1 to get the tested date and information of the instruments.

5 Limits of Test Items

5.1 Working Modes and Required Test Items

The manufacturer shall state whether the UUT is capable of operating as a Master and/or a Client. If the UUT is capable of operating in more than one operating mode then each operating mode shall be tested separately. See tables 1 and 2 for the applicability of DFS requirements for each of the operational modes.

Table 1: Applicability of DFS Requirements Prior To Use a Channel

Requirement	Operational Mode		
	Master	Client without radar detection	Client with radar detection
Non-Occupancy Period	✓	✓ note	✓
DFS Detection Threshold	✓	Not required	✓
Channel Availability Check Time	✓	Not required	Not required
U-NII Detection Bandwidth	✓	Not required	✓

Note: Per KDB 905462 D03 UNII Clients Without Radar Detection New Rules v01r02 section (b)(5/6), 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. An analyzer plot that contains a single 30-minute sweep on the original channel.

Table 2: Applicability of DFS Requirements during Normal Operation.

Requirement	Operational Mode	
	Master or Client with radar detection	Client without radar detection
DFS Detection Threshold	✓	Not required
Channel Closing Transmission Time	✓	✓
Channel Move Time	✓	✓
U-NII Detection Bandwidth	✓	Not required

Additional requirements for devices with multiple bandwidth modes	Master 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.

5.2 Test Limits and Radar Signal Parameters

Detection Threshold Values

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 \geq 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.

Note 3: EIRP is based on the highest antenna gain. For MIMO devices refer to KDB Publication 662911 D01.

Table 4: 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.

Parameters of DFS Test Waveforms

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.

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 ----- 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	$\text{Roundup} \left\lceil \left(\frac{1}{360} \right) \cdot \left(\frac{19 \cdot 10^6}{\text{PRI}_{\mu\text{sec}}} \right) \right\rceil$	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.					

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
<p>Three subsets of trials will be performed with a minimum of ten trials per subset. The subset of trials differ in where the Long Pulse Type 5 Signal is tuned in frequency.</p> <p>a) the Channel center frequency b) tuned frequencies such that 90% of the Long Pulse Type 5 frequency modulation is within the low edge of the UUT Occupied Bandwidth c) tuned frequencies such that 90% of the Long Pulse Type 5 frequency modulation is within the high edge of the UUT Occupied Bandwidth</p> <p>It include 10 trails for every subset, the formula as below,</p> <p>For subset case 1: the center frequency of the signal generator will remain fixed at the center of the UUT Channel.</p> <p>For subset case 2: to retain 90% frequency overlap between the radar signal and the UUT Occupied Bandwidth, the center frequency of the signal generator will vary for each of the ten trials in subset case 2. The center frequency of the signal generator for each trial is calculated by:</p> $FL + (0.4 * \text{Chirp Width [in MHz]})$ <p>For subset case 3: to retain 90% frequency overlap between the radar signal and the UUT Occupied Bandwidth, the center frequency of the signal generator will vary for each of the ten trials in subset case 3. The center frequency of the signal generator for each trial is calculated by:</p> $FH - (0.4 * \text{Chirp Width [in MHz]})$							

Table 7: Frequency Hopping Radar Test Waveform

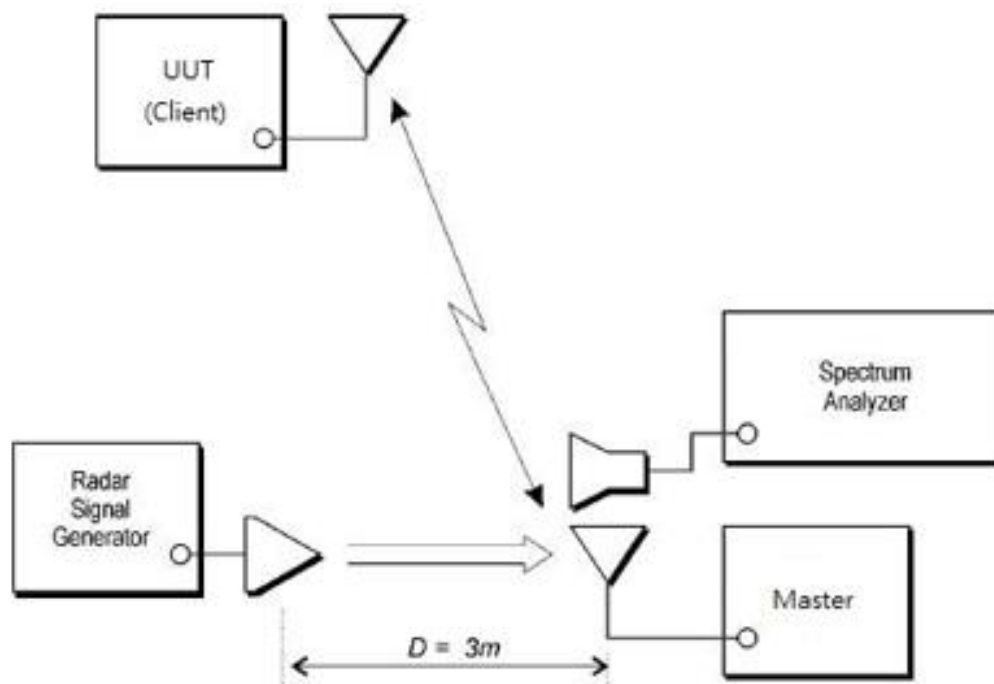
Radar Type	Pulse Width (μsec)	PRI (μsec)	Pulses per Hop	Hopping Rate (kHz)	Hopping Sequence Length (msec)	Minimum Percentage of Successful Detection	Minimum Number of Trials
6	1	333	9	0.333	300	70%	30

6 Test Arrangements

6.1 Test Setup

Radiated measurement

Client without Radar Detection Mode



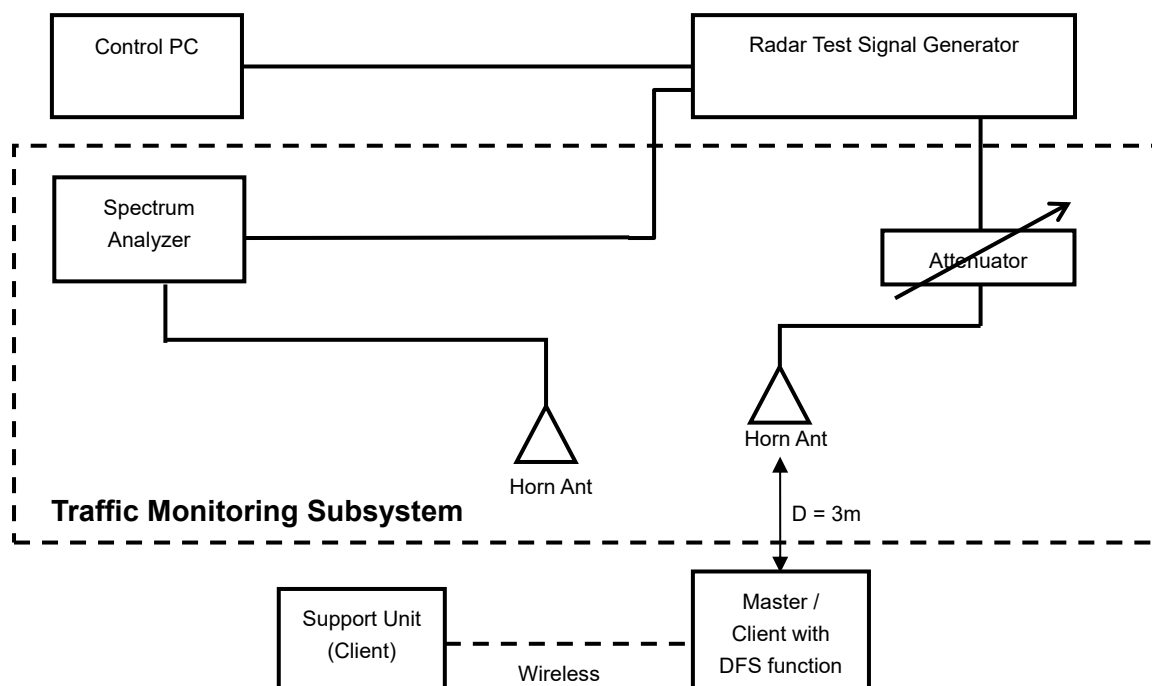
The UUT is a U-NII Device operating in Client mode without radar detection. The radar test signals are injected into the Master Device. Applicable Evaluation Criteria

6.2 Test Procedure

6.2.1 DFS Measurement System

A complete DFS Measurement System consists of two subsystems: (1) the Radar Signal Generating system and (2) the Traffic Monitoring system. The control PC is necessary for generating the Radar waveforms in Table 5, 6 and 7. The traffic monitoring subsystem is specified to the type of unit under test (UUT).

Radiated Setup Configuration of DFS Measurement System



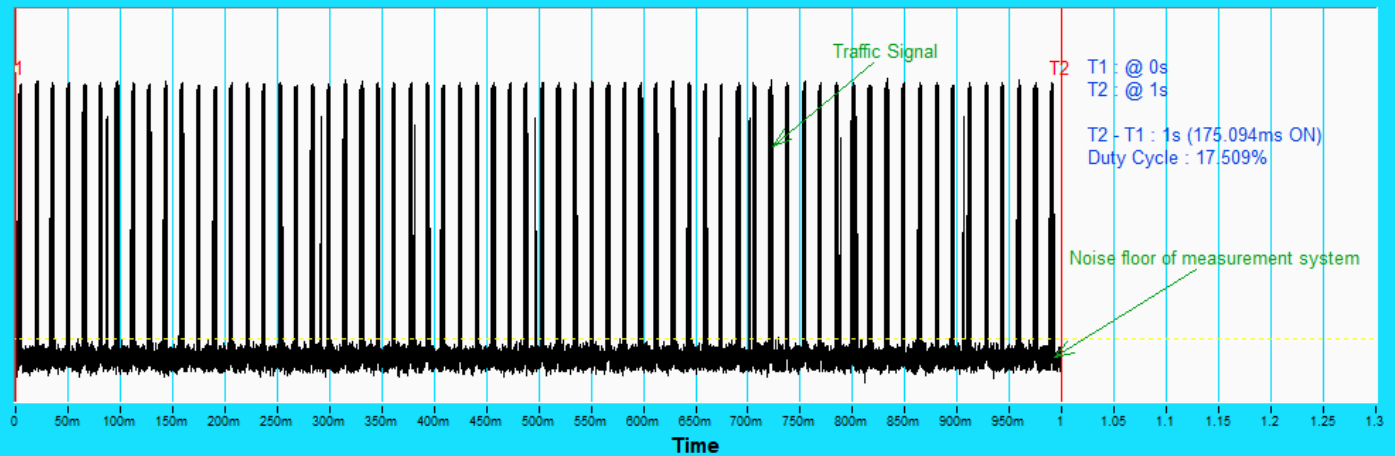
Channel Loading

System testing will be performed with channel-loading using means appropriate to the data types that are used by the unlicensed device. The following requirements apply:

Applicable	Requirements apply
	a) The data file must be of a type that is typical for the device (i.e., MPEG-2, MPEG-4, WAV, MP3, MP4, AVI, etc.) and must generally be transmitting in a streaming mode.
	b) Software to ping the client is permitted to simulate data transfer but must have random ping intervals.
✓	c) Timing plots are required with calculations demonstrating a minimum channel loading of approximately 17% or greater.
	d) Unicast or Multicast protocols are preferable but other protocols may be used. The appropriate protocol used must be described in the test procedures.

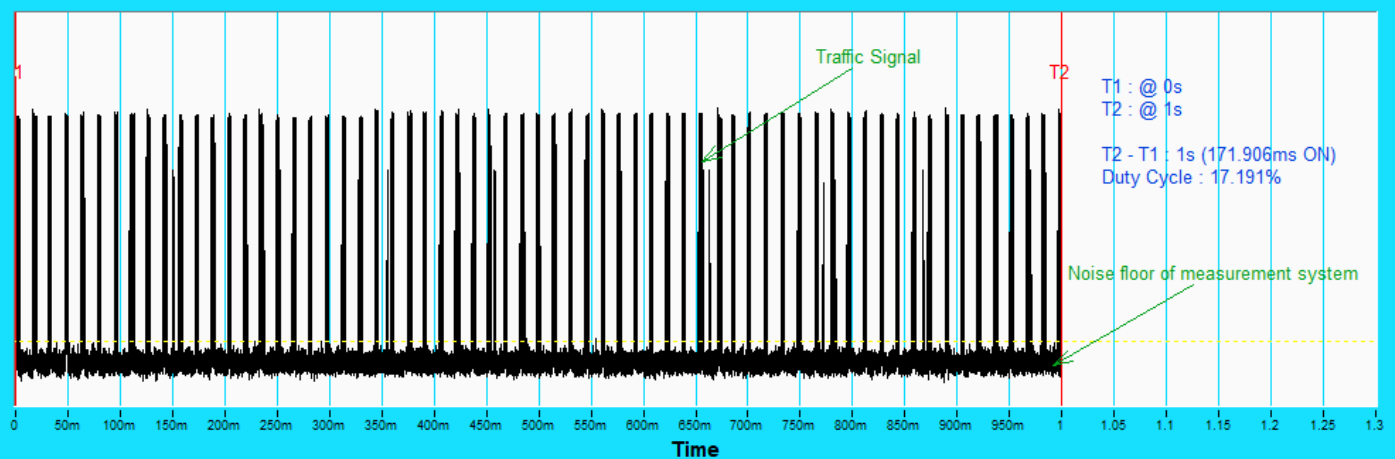
Plots of Channel Loading

Duty Cycle



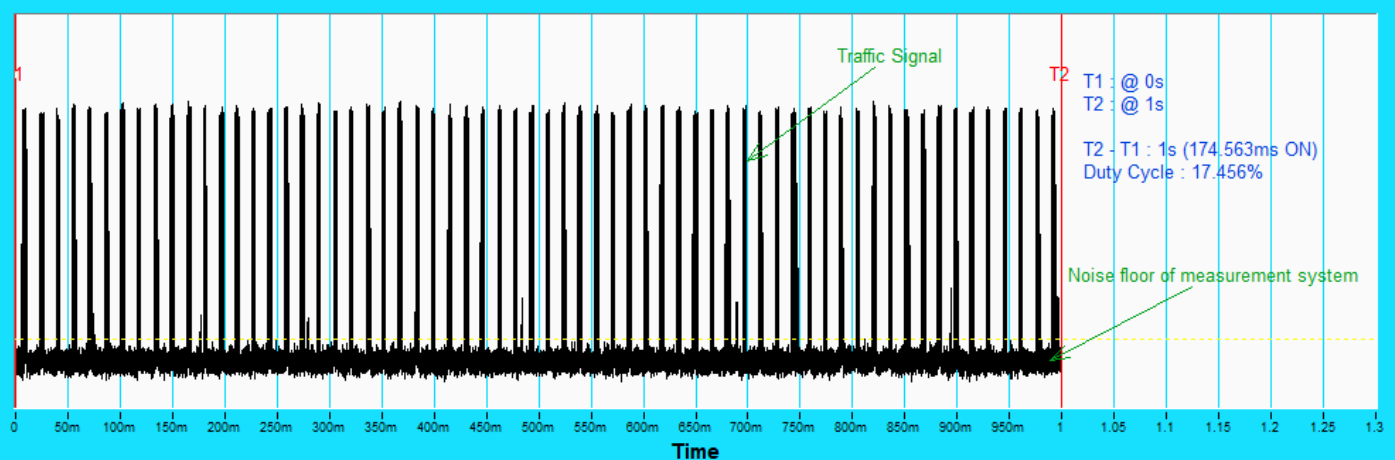
802.11ax (HE20)

Duty Cycle



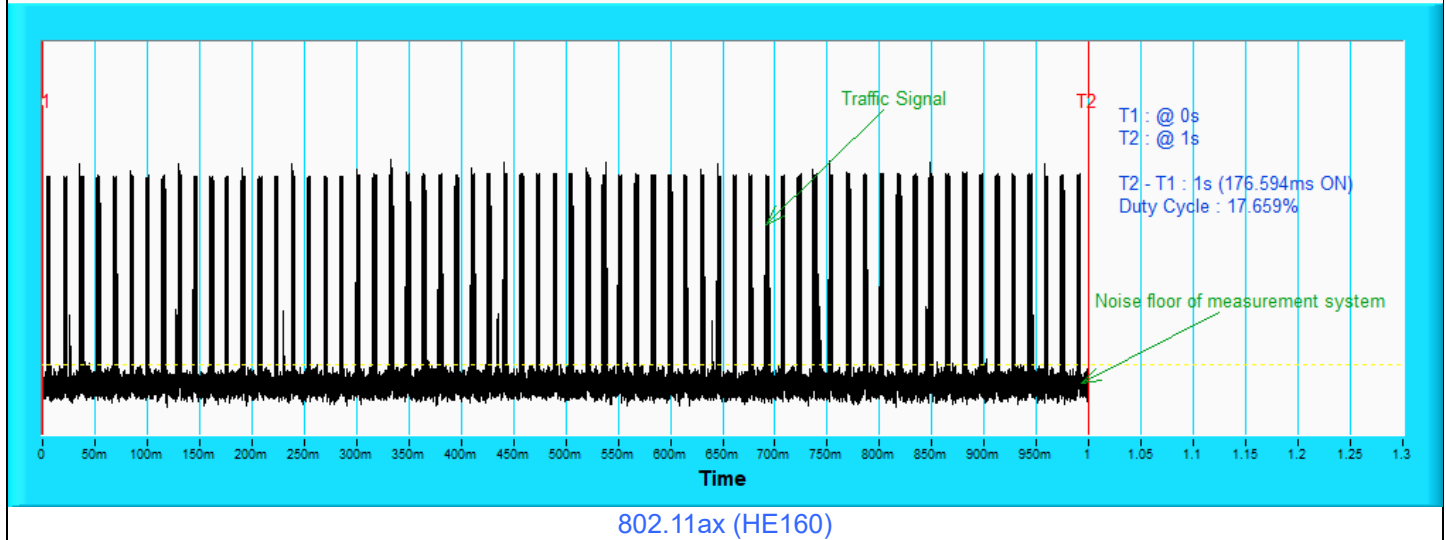
802.11ax (HE40)

Duty Cycle



802.11ax (HE80)

Plots of Channel Loading

Duty Cycle

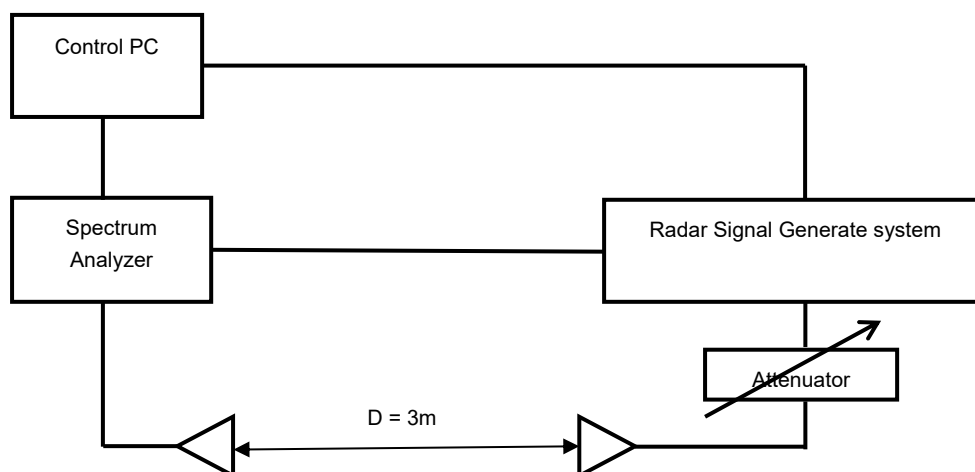
6.2.2 Calibration of DFS Detection Threshold Level

The measured channel is chosen from the operating channels of the UUT within the DFS band and using the all bandwidth mode available for the link. The radar signal was the same as transmitted channels, and injected into the antenna of AP (master) or Client Device with Radar Detection, measured the channel closing transmission time and channel move time.

Radiated setup configuration of Calibration of DFS Detection Threshold Level

The radar signal generate system is generating waveform pattern of radar types. The amplitude of the radar signal generator system is adjusted to yield a level of -64 dBm as measured on the spectrum analyzer.

The interference detection threshold level is lower than -64 dBm hence it provides margin to the limit.

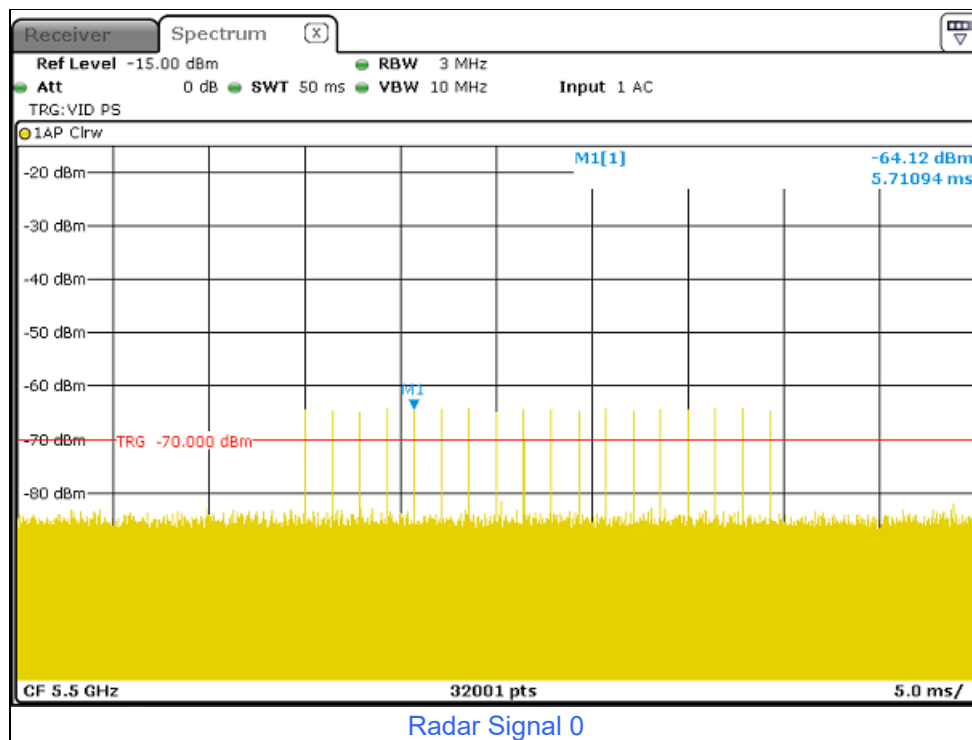


6.2.3 DFS Detection Threshold

Test Mode: Device Operating in Client without radar detection Mode

Client with injection at the Master. (The radar test waveforms are injected into the Master Device)

For detection threshold level of -64 dBm, the tested level is lower than required level for 1 dB, hence it provides margin to the limit.



6.2.4 DFS Companion Device

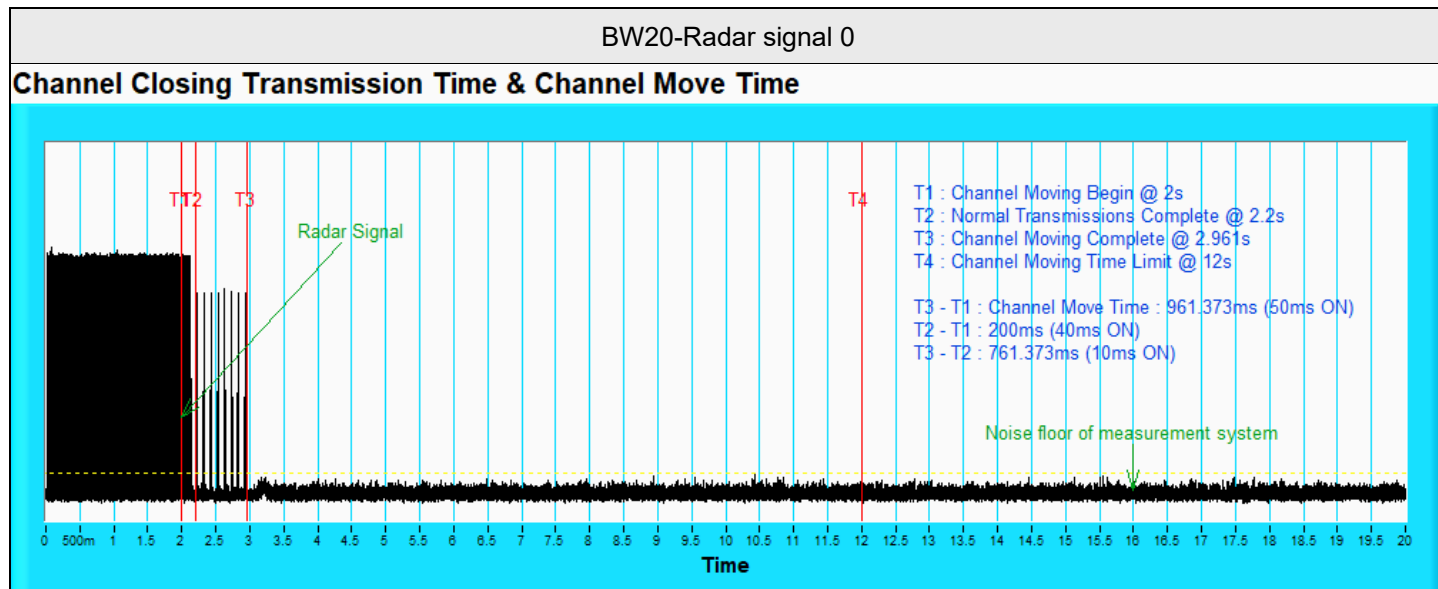
Companion Device Information					
Product	Brand	Model No.	FCC ID	Specification	Software/Firmware Version
802.11ax wireless Router	ASUS	RT-AX88U	MSQ-RTAXHP00	5G Ant Min gain : 2.24dBi Maximum EIRP : 26.30dBm	3.0.0.4.384_5329-gd8d34a4

Note: This device was functioned as a Master device during the DFS test.

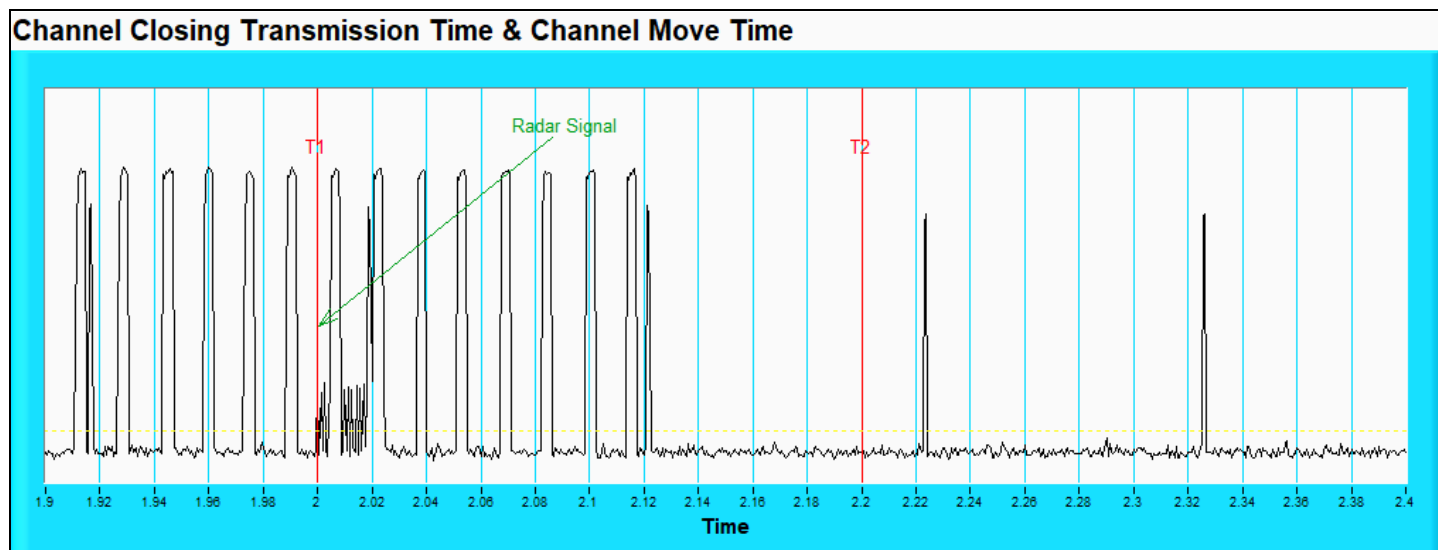
7 Test Results of Test Item

7.1 Channel Closing Transmission and Channel Move Time

Environmental Conditions:	25°C, 60% RH	Tested By:	Stan Shih
---------------------------	--------------	------------	-----------



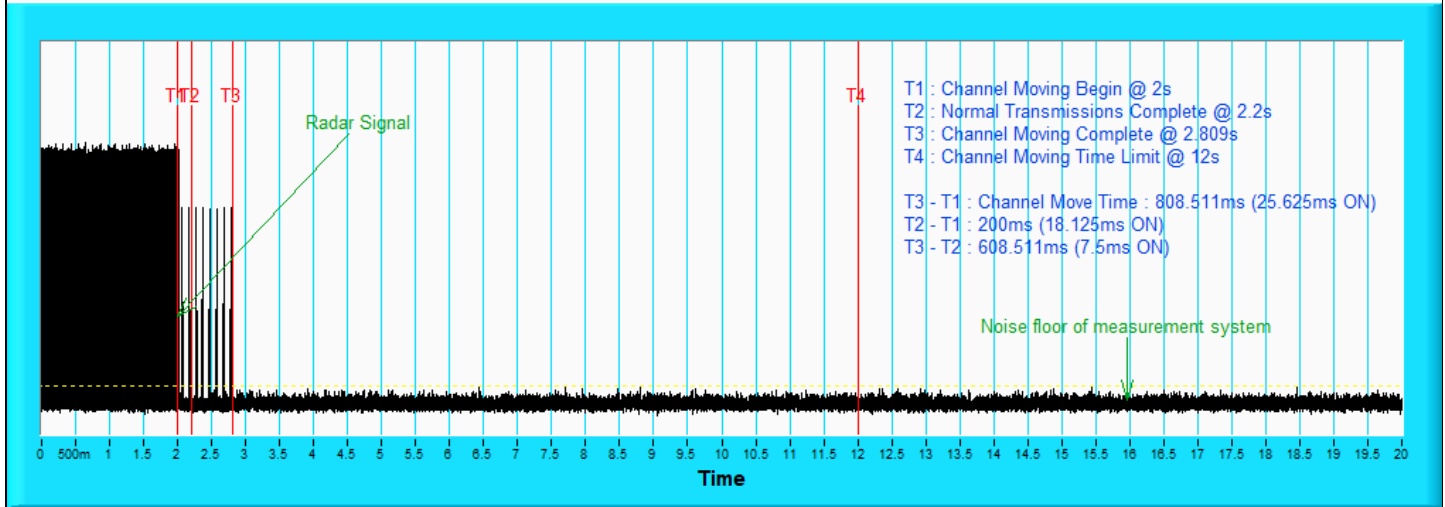
Note: T1 denotes the start of Channel Move Time upon the end of the last Radar burst. T2 denotes the data transmission time of 200 ms from T1. T3 denotes the end of Channel Move Time. T4 denotes the 10 second from T1 to observe the aggregate duration of transmissions.



Note: Zoom in of the first 500 ms after radar signal applied.

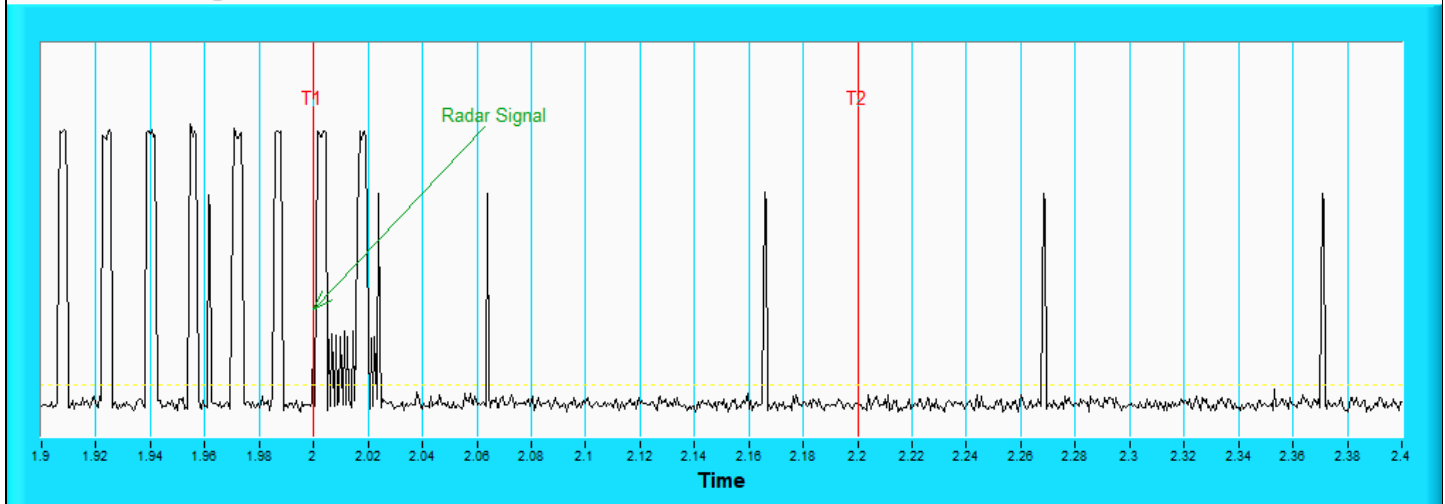
BW40-Radar signal 0

Channel Closing Transmission Time & Channel Move Time



Note: T1 denotes the start of Channel Move Time upon the end of the last Radar burst. T2 denotes the data transmission time of 200 ms from T1. T3 denotes the end of Channel Move Time. T4 denotes the 10 second from T1 to observe the aggregate duration of transmissions.

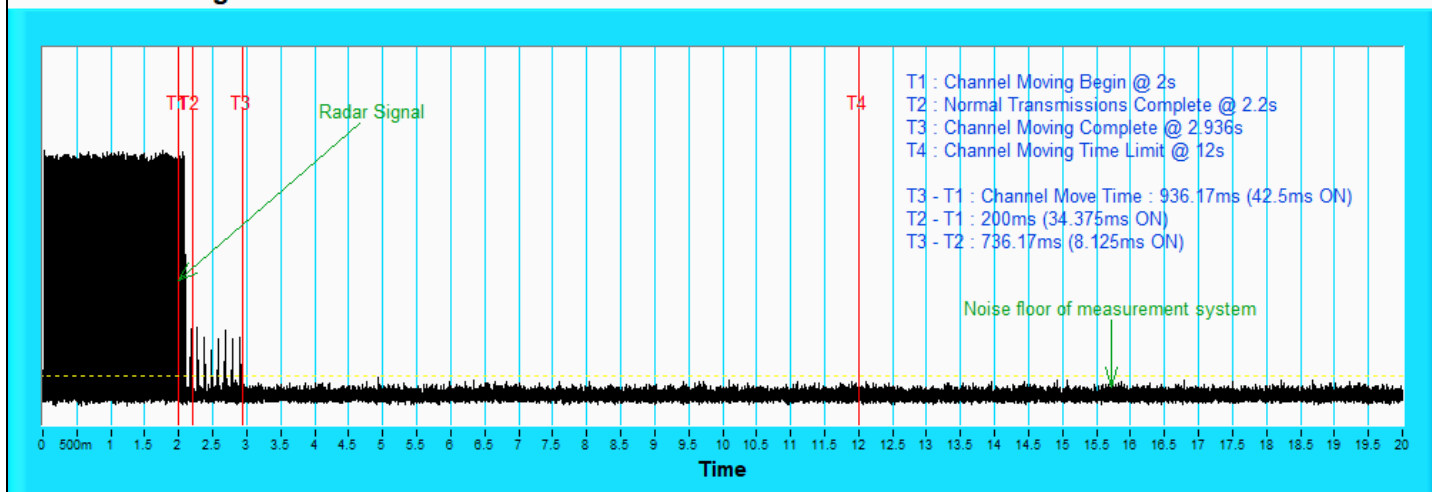
Channel Closing Transmission Time & Channel Move Time



Note: Zoom in of the first 500 ms after radar signal applied.

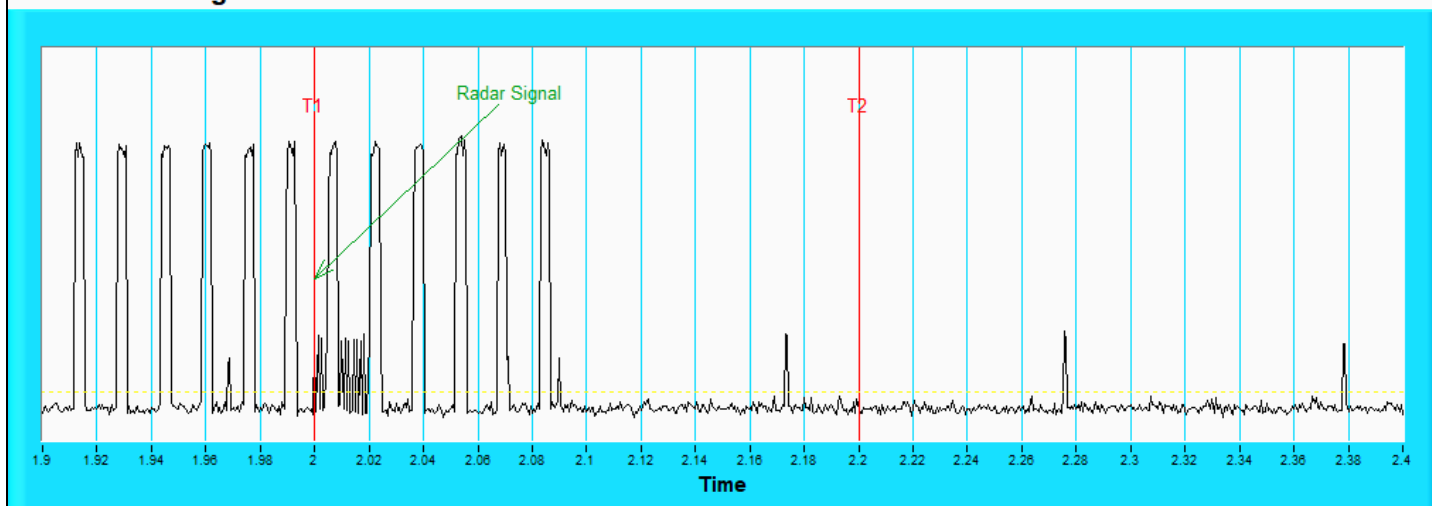
BW80-Radar signal 0

Channel Closing Transmission Time & Channel Move Time



Note: T1 denotes the start of Channel Move Time upon the end of the last Radar burst. T2 denotes the data transmission time of 200 ms from T1. T3 denotes the end of Channel Move Time. T4 denotes the 10 second from T1 to observe the aggregate duration of transmissions.

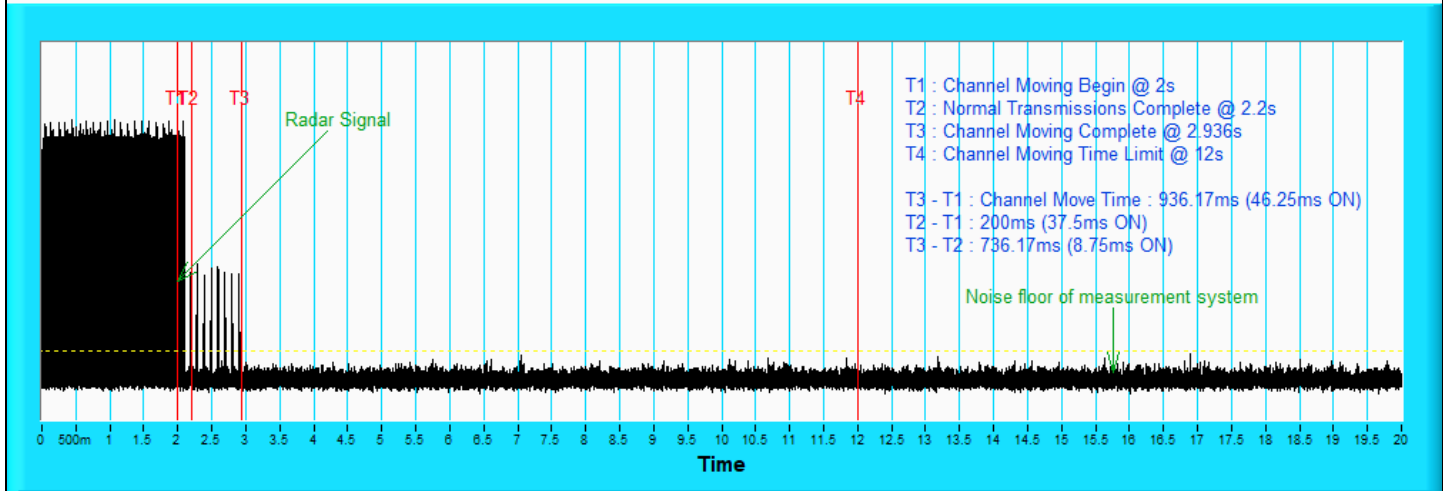
Channel Closing Transmission Time & Channel Move Time



Note: Zoom in of the first 500 ms after radar signal applied.

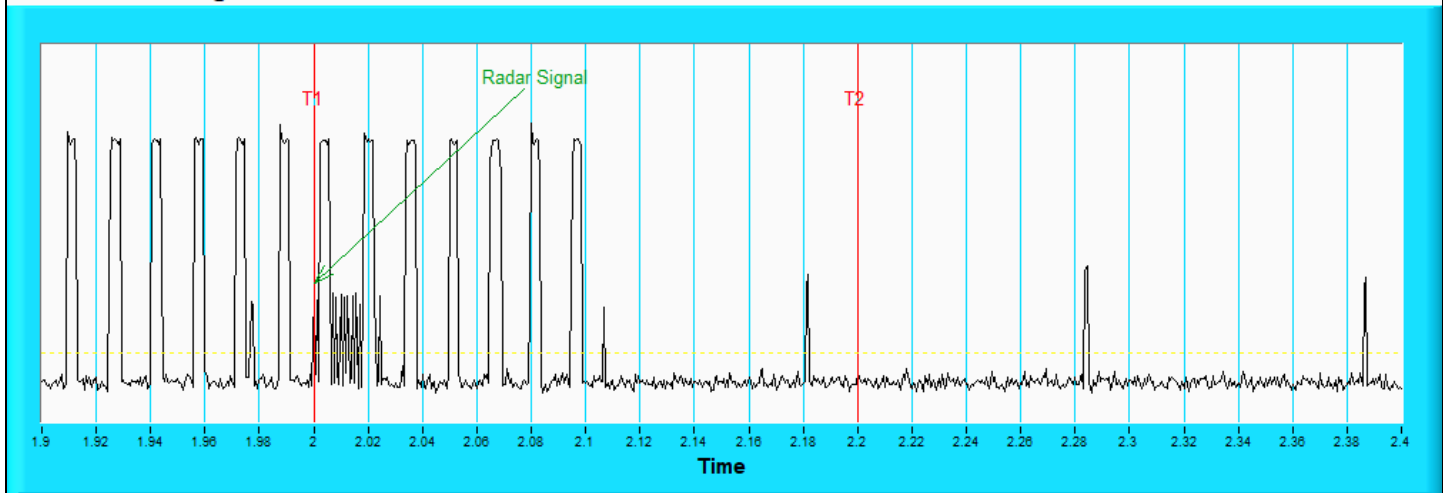
BW160-Radar signal 0

Channel Closing Transmission Time & Channel Move Time



Note: T1 denotes the start of Channel Move Time upon the end of the last Radar burst. T2 denotes the data transmission time of 200 ms from T1. T3 denotes the end of Channel Move Time. T4 denotes the 10 second from T1 to observe the aggregate duration of transmissions.

Channel Closing Transmission Time & Channel Move Time



Note: Zoom in of the first 500 ms after radar signal applied.

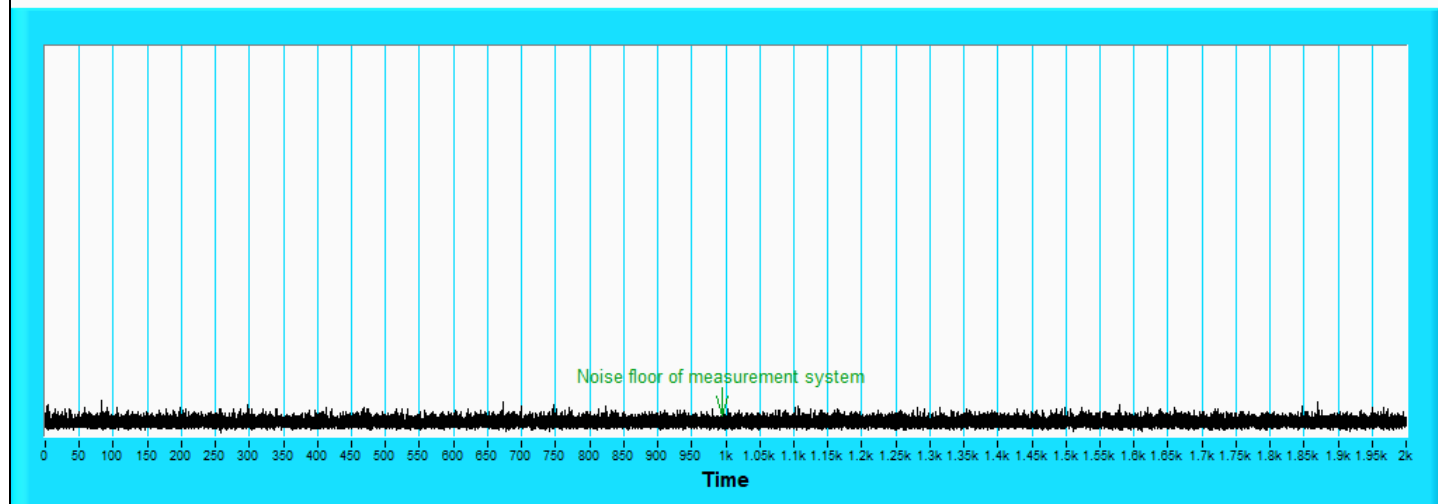
7.2 Non-Associated Test

Environmental Conditions:	25°C, 60% RH	Tested By:	Stan Shih
---------------------------	--------------	------------	-----------

Master was off.

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

Non - Associated



8 Declaration of Conformity by the Manufacturer

8.1 Transmit Power Control (TPC)

U-NII devices operating in DFS Bands (5.25 to 5.35 GHz and 5.47 to 5.725 GHz) shall employ a TPC mechanism. The U-NII device is required to have the capability to operate at least 6 dB below the mean EIRP value of 30 dBm. A TPC mechanism is not required for systems with an e.i.r.p. of less than 500 mW.

The maximum EIRP of this device is 72.826 mW, and it has TPC functionality.

The UUT can adjust a transmitter's output power based on the signal level present at the receiver. TPC is auto controlled by software.

8.2 Statement of Manufacturer

Manufacturer statement confirming that information regarding the parameters of the detected Radar Waveforms is not available to the end user. And the device doesn't have ad-hoc mode on DFS frequency band.

9 Pictures of Test Arrangements

Please refer to the attached file (DFS Test Setup Photo)

10 Information of the Testing Laboratories

We, Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch, were founded in 1988 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are FCC recognized accredited test firms and accredited according to ISO/IEC 17025.

If you have any comments, please feel free to contact us at the following:

Lin Kou EMC/RF Lab

Tel: 886-2-26052180

Fax: 886-2-26051924

Hsin Chu EMC/RF/Telecom Lab

Tel: 886-3-6668565

Fax: 886-3-6668323

Hwa Ya EMC/RF/Safety Lab

Tel: 886-3-3183232

Fax: 886-3-3270892

Email: service.adt@bureauveritas.com

Web Site: <http://ee.bureauveritas.com.tw>

The address and road map of all our labs can be found in our web site also.

--- END ---