TEST REPORT

Dt&C

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1. Report No: DRTFCC1711-0240

- 2. Customer
 - Name : Kyocera Corporation
 - · Address : 2-1-1 Kagahara, Tsuzuki-ku, Yokohama-shi, Kanagawa, Japan
- 3. Use of Report : FCC Original Grant
- 4. Product Name / Model Name : Tablet / FA51 FCC : JOYFA51
- 5. Test Method Used : KDB 905462 Test Specification : FCC Part 15.407
- 6. Date of Test : 2017.11.06 ~ 2017.11.07
- 7. Testing Environment : See appended test report.
- 8. Test Result : Refer to the attached test result.

Affirmation	Tested by	Technical Manager		
	Name : JaeHyeok Bang	(Signature)		
The test results presented in this test report are limited only to the sample supplied by applicant and				

the use of this test report is inhibited other than its purpose. This test report shall not be reproduced except in full, without the written approval of DT&C Co., Ltd.

2017.11.09.

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If this report is required to confirmation of authenticity, please contact to report@dtnc.net

Test Report Version

Test Report No.	Date	Description
DRTFCC1711-0240	Nov. 09, 2017	Initial issue

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1. GENERAL INFORMATIONEUT DESCRIPTION

1.1. EUT Description

DC 3.8 V			
802.11a/n/ac: 20 MHz			
802.11n/ac: 40 MHz			
802.11ac: 80 MHz			
OFDM			

Note1: The above EUT information was declared by the manufacturer. Note2: Refer to UNII report

1.2. Auxiliary equipment

Equipment	Model No.	Serial No.	Manufacturer	Note
Access Point (Master)	DIR-868L	R3X81E6000093	D-Link	FCCID: RRK2012060056-1
-	-	-	-	-

1.3. Testing environment

Ambient Condition		
 Temperature 	+23 °C ~ +25 °C	
 Relative Humidity 	43 % ~ 44 %	

2. DYNAMIC FREQUENCY SELECTION TEST DESCRIPTION

2.1. Applicability of DFS requirements prior to use of a channel

	Operational mode			
Requirement	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	

2.2. Applicability of DFS requirements during normal operation

	Operational mode		
Requirement	Master or client with radar detection	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	Operatio	onal mode		
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.

The EUT was tested according to the following specification: 905462 D02 UNII DFS Compliance Procedure New Rules v02 905462 D03 Client Without DFS New Rules v01r02

2.3. Requirements of client devices

- a) A Client Device will not transmit before having received appropriate control signals from a Master Device.
- b) A Client Device will stop all its transmissions whenever instructed by a Master Device to which it is associated and will meet the Channel Move Time and Channel Closing Transmission Time requirements. The Client Device will not resume any transmissions until it has again received control signals from a Master Device.
- c) If a Client Device is performing In-Service Monitoring and detects a Radar Waveform above the DFS Detection Threshold, it will inform the Master Device. This is equivalent to the Master Device detecting the Radar Waveform and d) through f) of section 5.1.1 apply.
- d) Irrespective of Client Device or Master Device detection the Channel Move Time and Channel Closing Transmission Time requirements remain the same.
- e) The client test frequency must be 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 nonoccupancy period test. For devices that shut down (rather than moving channels), no beacons should appear.

2.4. 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 or remaining 10 second period. See Notes 1 and 2.			
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..

2.5. DFS detection thresholds

Below provides the DFS Detection Thresholds for Master Devices as well as Client Devices incorporating In-Service Monitoring.

Maximum Transmit Power	Value			
	(See Notes 1, 2, and 3)			
EIRP \geq 200 milliwatt	-64 dBm			
EIRP < 200 milliwatt and	-62 dBm			
power spectral density < 10 dBm/MHz				
EIRP < 200 milliwatt that do not meet the power spectral density	-64 dBm			
requirement				
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				
where the end of the constitution is an end of the construction of This will end on the table to the terms is a				

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.



2.6. 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 section 2.6.2. Test B: 15 unique PRI values randomly selected within the range of 518- 3066 µsec, with a minimum increment of 1 µsec, excluding PRI	$\operatorname{Roundup}\left\{ \left(\frac{1}{360}\right) \cdot \left(\frac{19 \cdot 10^6}{PRI_{\mu sec}}\right) \right\}$	60%	30
2	1-5	values selected in Test A 150-230	23-29	60%	30
3	6-10	200-500	16-18	60%	30
4	11-20	200-500	12-16	60%	30
Aggregat	Aggregate (Radar Types 1-4)			80%	120
Note 1 : As the EUT is a Client Device with no Radar Detection only one type radar pulse is required for the testing. Radar Pulse type 0 was used in the evaluation of the Client device for the purpose of measuring the Channel Move					

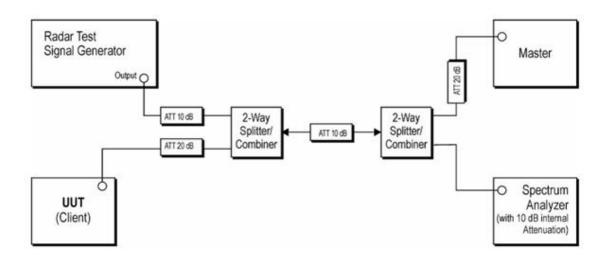
Time and the Channel Closing Transmission Time.

Note 2: This report was applied Short Pulse Radar Type 0.

3. Test procedure

3.1. Setup for Client with injection at the Master

The setup method is shown below diagram. The method according to the 905462 D02 UNII DFS Compliance Procedure New Rules v02 - section 7.2



3.2. Spectrum analyzer setting parameter

The setting parameter is shown below and it according to the 905462 D02 UNII DFS Compliance Procedure New Rules v02 - section 7.5

- 1) RBW /VBW ≥ 3MHz
- 2) Detector = Peak
- 3) Span = zero span
- 4) Sweep time \geq 12s

3.3. Conducted test procedure

- One frequency will be chosen from the Operating Channels of the UUT within the 5250-5350 MHz or 5470-5725 MHz bands.
- 2) The Client Device (EUT) is set up the above diagram and communications between the Master device and the Client is established.
- 3) Stream the channel loading test file from the Master Device to the Client Device on the test Channel for the entire period of the test. (The MPEG file specified by the FCC ("6 ½ Magic Hours"))
- 4) An additional 1 dB is added to the radar test signal to ensure it is at or above the DFS Detection Threshold, accounting for equipment variations/errors.
- 5) Observe the transmissions of the UUT at the end of the Burst on the Operating Channel for duration greater than 12 seconds for Radar Type 0 to ensure detection occurs.
- After the initial radar burst the channel is monitored for 30 minutes to ensure no transmissions or beacons occur.
 A second monitoring setup is used to verify that the Master and Client have both moved to different channels.

4. SUMMARY OF TESTS

Parameter	Limit	Status Note 1				
Channel move time	10 seconds	C Note 2				
Channel closing transmission time	200ms + aggregate of 60ms over remaining 10 second period	C Note 2, 3				
Non-occupancy period	30 minutes	С				
 Note 1: C=Comply NC=Not Comply NT=Not Tested NA=Not Applicable Note 2: 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 3: 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. 						

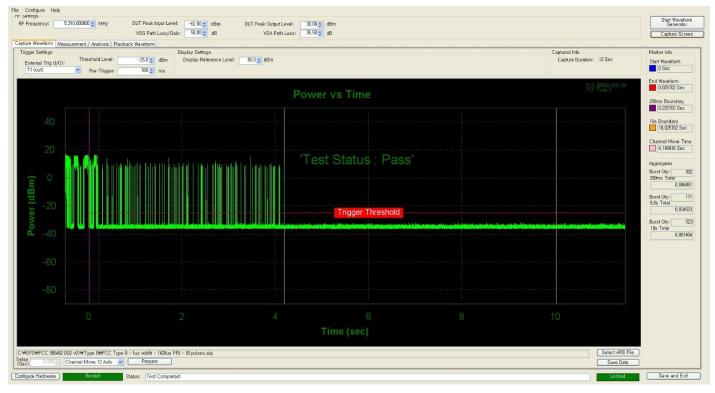
5. LIST OF EQUIPMENTS

Туре	Manufacturer	Model	Cal.Date (yy/mm/dd)	Next.Cal.Date (yy/mm/dd)	S/N
MXA Signal Analyzer	Agilent	N9020A	2017-01-11	2018-01-11	MY50200828
DFS Bridge System	DTNC	DFS-01	2017-09-18	2018-09-18	T001
DC Power Supply	Agilent	66332A	2017-09-05	2018-09-05	GB42110550
PXIS-2670(G)	ADLINK	3025C	2017-07-13	2018-07-13	302581/834
PXIS-2670(G)	ADLINK	3035C	2017-07-13	2018-07-13	303581/927
Companion Device(AP)	D-Link	DIR-868L	N/A	N/A	R3X81E6000093
Thermhygrometer	BODYCOM	BJ5478	2017-04-11	2018-04-11	120612-1
Multimeter	FLUKE	17B+	2017-02-02	2018-02-02	36390701WS
Signal Generator	Rohde Schwarz	SMF100A	2017-04-21	2018-04-21	102341

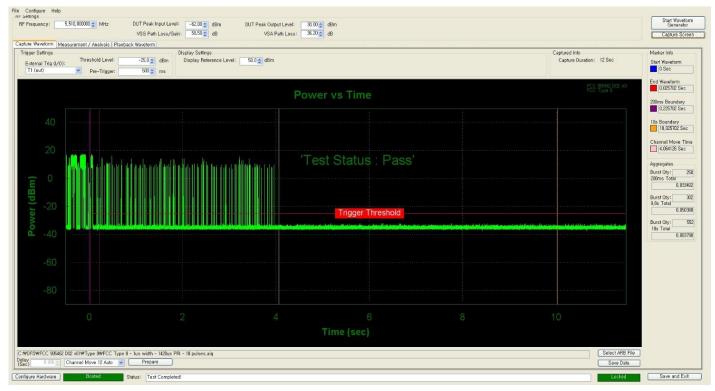
6. TEST RESULTS

6.1. Move time and aggregate time

6.1.1. U-NII-2A : 802.11n(HT40), 5310 MHz



6.1.2. U-NII-2C : 802.11n(HT40), 5510 MHz



6.2. Non-occupancy period

6.2.1. U-NII-2A : 802.11n(HT40), 5310 MHz



6.2.2. U-NII-2C : 802.11n(HT40), 5510 MHz

