

HCT CO., LTD.

CERTIFICATE OF COMPLIANCE

FCC Certification(DFS)

Applicant Name: LG Electronics MobileComm U.S.A., Inc.	Date of Issue: July 01, 2014 Test Site/Location:
Address:	HCT CO., LTD., 74, Seoicheon-ro 578beon-gil,
1000 Sylvan Avenue, Englewood Cliffs NJ 07632	Majang-myeon, Icheon-si, Gyeonggi-do, Korea
	Report No.: HCT-R-1407-F003
	HCT FRN: 0005866421
	IC Recognition No.: 5944A-3

FCC ID	: ZNFV480
IC	: 2703C-V480
APPLICANT	: LG Electronics MobileComm U.S.A., Inc.

FCC/ IC Model(s):	LG-V480
Additional FCC/ IC Model(s):	LGV480, V480
EUT Type:	2.4/5GHz BT/WiFi Tablet
Max. RF Output Power:	802.11a_UNII2 Band (8.80 dBm)/ 802.11n_20 MHz BW_UNII2 Band (7.83 dBm)/ 802.11n_40 MHz BW_UNII2 Band (6.75 dBm)
	802.11a_UNII2e Band (8.70 dBm)/ 802.11n_20 MHz BW_UNII2e Band (7.60 dBm)/ 802.11n_40 MHz BW_UNII2e Band (7.78 dBm)
Frequency Range:	5260 MHz - 5320 MHz (UNII2 Band) 5500 MHz - 5700 MHz (UNII2e Band)
Modulation type	OFDM
FCC Classification:	Unlicensed National Information Infrastructure (UNII)
FCC Rule Part(s):	Part 15.407(DFS)
IC Rule :	RSS-210(Issue 8, December 2010)

Engineering Statement:

The measurements shown in this report were made in accordance with the procedures indicated, and the emissions from this

equipment were found to be within the limits applicable. I assume full responsibility for the accuracy and completeness of these measurements, and for the qualifications of all persons taking them.

HCT CO., LTD. Certifies that no party to this application has subject to a denial of Federal benefits that includes FCC benefits pursuant to section 5301 of the Anti-Drug Abuse Act of 1998,21 U.S. C.853(a)



Report prepared by : Jong Seok Lee Test engineer of RF Team

Approved by : Chang Seok Choi Manager of RF Team

This report only responds to the tested sample and may not be reproduced, except in full, without written approval of the HCT Co., Ltd.

TEST REPORT		www.hct.co.kr
Test Report No. Date of Issue: HCT-R-1407-F003 July 01, 2014	7/WiFi Tablet FCC I ZNFV	



Version

TEST REPORT NO.	DATE	DESCRIPTION
HCT-R-1407-F003	July 01, 2014	- First Approval Report

Test Report No. Date of Issue: EUT Type: 2.4/5GHz BT/WiFi Tablet FCC ID: IC: HCT-R-1407-F003 July 01, 2014 EUT Type: 2.4/5GHz BT/WiFi Tablet ZNFV480 2703C-V480	FCC PT.15.407 TEST REPORT	FCC & IC CERTIFICATION REPORT	www.hct.co.kr
		 EUT Type: 2.4/5GHz BT/WiFi Tablet	



Table of Contents

1. GENERAL INFORMATION	4
2. EUT DESCRIPTION	4
3. SCOPE	5
4. INSTRUMENT CALIBRATION	5
5. FACILITIES AND ACCREDITATIONS	5
5.1 FACILITIES	5
5.2 EQUIPMENT	5
6. SUMMARY OF TEST RESULTS	6
7. DESCRIPTION OF DYNAMIC FREQUENCY SELECTION TEST	7
7.1 APPLICABILITY	7
7.2 REQUIREMENTS	7
7.3 DFS DETECTION THRESHOLD VALUES	9
7.4 PARAMETERS OF DFS TEST SIGNALS	9
7.5 TEST AND MEASUREMENT SYSTEM 1	1
7.6 DESCRIPTION OF EUT 1 3	3
7.7 UNII2 TEST RESULT 1 4	4
7.8 UNII2e TEST RESULT 2 (0
8. LIST OF TEST EQUIPMENT	4

FCC PT.15.407 TEST REPORT		FCC & IC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCT-R-1407-F003	Date of Issue: July 01, 2014	EUT Type: 2.4/5GHz BT/WiFi Tablet	FCC ID: ZNFV480	IC: 2703C-V480
		Dana 2 af 04		



Applicant:	LG Electronics MobileComm U.S.A., Inc.
Address:	1000 Sylvan Avenue, Englewood Cliffs NJ 07632
FCC ID:	ZNFV480
IC:	2703C-V480
EUT Type: FCC/IC Model name(s):	2.4/5GHz BT/WiFi Tablet LG-V480
Additional FCC/IC Model name(s):	LGV480, V480
Date(s) of Tests:	June 17, 2014 ~ June 27, 2014
Place of Tests:	HCT Co., Ltd. 74, Seoicheon-ro 578beon-gil, Majang-myeon, Icheon-si, Gyeonggi-do, Korea (IC Recognition No. : 5944A-3)

2. EUT DESCRIPTION

EUT Type	2.4/5GHz BT/WiFi Tablet
FCC/ IC Model Name	LG-V480
Additional FCC/ IC Model Name	LGV480, V480
Power Supply	DC 3.7 V
Battery type	Li-ion Battery(Standard)
Frequency Range	5260 MHz - 5320 MHz (UNII2 Band)_20 MHz BW 5500 MHz - 5700 MHz (UNII2e Band)_20 MHz BW where)Not supported 5600 MHz - 5650 MHz
Max. RF Output Power:	802.11a_UNII2 Band (8.80 dBm)/ 802.11n_20 MHz BW_UNII2 Band (7.83 dBm)/ 802.11n_40 MHz BW_UNII2 Band (6.75 dBm)
	802.11a_UNII2e Band (8.70 dBm)/ 802.11n_20 MHz BW_UNII2e Band (7.60 dBm)/ 802.11n_40 MHz BW_UNII2e Band (7.78 dBm)
Modulation Type	OFDM
Antenna Specification	Manufacturer: ace technologyA
	Antenna type: Planar Inverted F Antenna
	Peak Gain: -1.83 dBi (5260 MHz – 5320 MHz, 5500 MHz – 5700 MHz)

TEST REPORT		FCC & IC CERTIFICATION REPORT		www.hct.co.kr
	t e of Issue: y 01, 2014	EUT Type: 2.4/5GHz BT/WiFi Tablet	FCC ID: ZNFV480	IC: 2703C-V480



This report has been prepared to demonstrate compliance with the requirements for Dynamic Frequency Selection(DFS) as stated in FCC 06-96. Testing was performed LG-V700 in accordance with the measurement procedure described in Appendix B of FCC 06-96. As of July 20, 2007 all devices operating in the UNII-II Band and /or the UNII-III Bands must comply with the DFS requirements. As the EUT does not have radar detection capability it was evaluated as a Client Only Device.

4. INSTRUMENT CALIBRATION

The measuring equipment, which was utilized in performing the tests documented herein, has been calibrated in accordance with the manufacturer's recommendations for utilizing calibration equipments, which is traceable to recognized national standards.

5. FACILITIES AND ACCREDITATIONS

5.1 FACILITIES

The SAC(Semi-Anechoic Chamber) and conducted measurement facility used to collect the radiated data are located at the 74, Seoicheon-ro 578beon-gil, Majang-myeon, Icheon-si, Gyeonggi-do, Korea The site is constructed in conformance with the requirements of ANSI C63.4. (Version :2003) and CISPR Publication 22. Detailed description of test facility was submitted to the Commission and accepted dated February 28, 2014 (Registration Number: 90661)

5.2 EQUIPMENT

Radiated emissions are measured with one or more of the following types of Linearly polarized antennas: tuned dipole, bi-conical, log periodic, bi-log, and/or ridged waveguide, horn. Spectrum analyzers with pre-selectors and quasi-peak detectors are used to perform radiated measurements. Conducted emissions are measured with Line Impedance Stabilization Networks and EMI Test Receivers. Calibrated wideband preamplifiers, coaxial cables, and coaxial attenuators are also used for making measurements.

All receiving equipment conforms to CISPR Publication 16-1, "Radio Interference Measuring Apparatus and Measurement Methods."

FCC PT.15.407 TEST REPORT		FCC & IC CERTIFICATION REPORT		www.hct.co.kr
Test Report No.	Date of Issue:	EUT Type: 2.4/5GHz BT/WiFi Tablet	FCC ID:	IC:
HCT-R-1407-F003	July 01, 2014		ZNFV480	2703C-V480



6. SUMMARY OF TEST RESULTS

Band	Parameter	Measured	Limit	Result
	Channel Move Time	< 1 s	10 seconds	PASS
UNII2	Channel Closing Transmission Time	< 200 ms + 54 ms (aggregate)	200 ms + aggregate of 60 ms over remaining 10 second period	PASS
	Non-occupancy Period	n-occupancy Period Monitored > 30 minutes occurred) 30 minutes		PASS
	Channel Move Time	<1s	10 seconds	PASS
UNII2e	Channel Closing Transmission Time	< 200 ms + 54 ms (aggregate)	200 ms + aggregate of 60 ms over remaining 10 second period	PASS
	Non-occupancy Period	Monitored > 30 minutes (No transmission occurred)	30 minutes	PASS

FCC PT.15.407 TEST REPORT		FCC & IC CERTIFICATION REPORT			
Test Report No. HCT-R-1407-F003	Date of Issue: July 01, 2014	EUT Type: 2.4/5GHz BT/WiFi Tablet	FCC ID: ZNFV480	IC: 2703C-V480	



7. DESCRIPTION OF DYNAMIC FREQUENCY SELECTION TEST

7.1 APPLICABILITY

The following table from FCC 06-96 lists the applicable requirements for the DFS testing. The device evaluated in this report is considered a client device without radar detection capability.

	Operation Mode					
Requirement	Maatar	Client Without Radar	Client With Radar			
	Master	Detection	Detection			
Non-Occupancy Period	Yes	Not required	Yes			
DFS Detection Threshold	Yes	Not required	Yes			
Channel Availability Check Time	Yes	Not required	Not required			
Uniform Spreading	Yes	Not required	Not required			
U-NII Detection Bandwidth	Yes	Not required	Yes			

Table 1-1. DFS Applicability

	Operation Mode				
Requirement	Master	Client Without Radar	Client With Radar		
	Waster	Detection	Detection		
DFS Detection Threshold	Yes	Not required	Yes		
Channel Closing Transmission Time	Yes	Yes	Yes		
Channel Move Time	Yes	Yes	Yes		
U-NII Detection Bandwidth	Yes	Not required	Yes		

Table 1-2. DFS Applicability During Normal Operation

7.2 REQUIREMENTS

Per FCC 06-96 the following are the requirements for 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

FCC PT.15.407 TEST REPORT		FCC & IC CERTIFICATION REPORT					
Test Report No. HCT-R-1407-F003	Date of Issue: July 01, 2014	EUT Type: 2.4/5GHz BT/WiFi Tablet	FCC ID: ZNFV480	IC: 2703C-V480			



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.

Channel Move Time and Channel Closing Transmission Time requirements are listed following table.

Parameter	Value
Non-occupancy period	Minimum 30 minutes
Channel Availability Check Time	60 seconds
Channel Move Time	10 seconds
	See Note 1.
	200 milliseconds + an
Channel Closing Transmission Time	Aggregate of 60 milliseconds over
	Remaining 10 second period. See Notes
	1 and 2.
	Minimum 80 % of the U-NII
U-NII Detection Bandwidth	99 % transmission
	Power bandwidth. See Note 3.
Note 1: The instant that the Channel Move Time and the Chann	el Closing Transmission Time begins is
as follows:	
For the Short Pulse Radar Test Signals this instant is the end of the second seco	ne Burst.
For the Frequency Hopping radar Test Signal, this instant is the end of the second secon	nd 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 begging of the Channel Move Time plus any additional intermitt	ent control signals required
to facilitate a Channel move (an aggregate of 60 milliseconds) durin	ng the remainder of the 10
second period. The aggregate duration of control signals will not co	unt quiet periods in between
transmissions.	
Note 3: During the U-NII Detection Bandwidth detection test, R	adar type 1 is used and for each
frequency step the minimum percentage of detection is 90 percent.	Measurements are performed
with no data traffic.	

Table 1-3: DFS Response requirements

FCC PT.15.407 TEST REPORT		FCC & IC CERTIFICATION REPORT		
Test Report No.	Date of Issue:	EUT Type: 2.4/5GHz BT/WiFi Tablet	FCC ID:	IC:
HCT-R-1407-F003	July 01, 2014		ZNFV480	2703C-V480



7.3 DFS DETECTION THRESHOLD VALUES

The DFS detection thresholds are defined for Master devices and Client Devices with In-service monitoring. These detection thresholds are listed in the following table.

Maximum Transmit Power	Value (See Notes 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 amp	blitude 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 re	sponse.				

Table 1-4: Detection Thresholds for Master Devices and Client Devices with Radar Detection

7.4 PARAMETERS OF DFS TEST SIGNALS

As the EUT is a Client Device with no Radar Detection only one type radar pulse is required for the testing. Radar Pulse type 1 was used in the evaluation of the Client device for the purpose of measuring the Channel Move Time and the Channel Closing Transmission Time. Table 3-5 lists the parameters for the Short Pulse Radar Waveforms. A plot of the Radar pulse Type 1 used for testing is included in Section 5.0 of this report.

Radar Type	Pulse Width (μsec)	PRI (µsec)	Number Of Pulses	Minimum Percentage of Successful Detection	Minimum Number of Trials
1	1	1428	18	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 (Rada	ar Types 1-4)		80 %	120	

Table 1-5: Parameters for Short Pulse Radar Waveforms

FCC PT.15.407 TEST REPORT		FCC & IC CERTIFICATION REPORT		
Test Report No.	Date of Issue:	EUT Type: 2.4/5GHz BT/WiFi Tablet	FCC ID:	IC:
HCT-R-1407-F003	July 01, 2014		ZNFV480	2703C-V480



Radar Type	Pulse Width (µsec)	Chirp Width (MHz)	PRI (µsec)	Number Of Pulses Per Burst	Number Of Burst	Minimum Percentage of Successful Detection	Minimum Number of Trials	
5	50 - 100	5 - 20	5 - 20	1 - 3	8 - 20	60 %	30	
	Table 1-6. Parameters for Long Pulse Radar Waveforms							

Radar Type	Pulse Width (μsec)	PRI (µsec)	Pulse 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	
	Table 1-7. Parameters for Long Pulse Radar Waveforms							

FCC PT.15.407 TEST REPORT		www.hct.co.kr		
Test Report No. HCT-R-1407-F003	Date of Issue: July 01, 2014	EUT Type: 2.4/5GHz BT/WiFi Tablet	FCC ID: ZNFV480	IC: 2703C-V480



7.5 TEST AND MEASUREMENT SYSTEM

General Test Setup Procedure:

- 1. Connect FCC approved Master AP to a network, via wired Ethernet, that allows connection to an FTP server.
- 2. Associate the EUT with the Master AP.
- 3. Launch the FTP application on the EUT.
- 4. Connect to the FTP server application to the FTP server hosting the file
- 5. Initiate an FTP download of the file from the host.
- 6. Monitor the channel loading during transfer.
- 7. Reduce the maximum allowed data rate for the Master AP, using the AP's GUI interface.
- 8. Repeat steps 5-7 until the channel loading is as close to 20 % as possible.
- 9. Record the data rate setting on the Master AP and the channel loading.
- 10. While the system is performing an FTP transfer using the settings form item 9 above, perform the Channel Closing Transmission Time and Channel Move Time Measurements as required by FCC 06-96 using a conducted test.

PROCEDURE

The FCC 06-96 describes a radiated test setup and a conducted test setup. A radiated test setup was used for this testing. Figure 3-1 shows the typical test setup. Each one channel selected between 5260 and 5320 MHz, 5500 and 5700 is chosen for the testing.

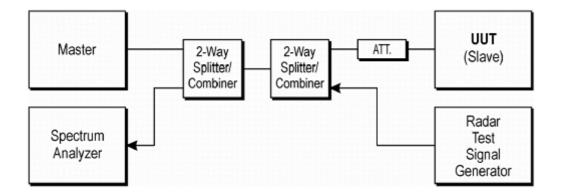


Figure 3-1. Conducted Test Setup for DFS

- 1. The radar pulse generator is setup to provide a pulse at the frequency that the Master and Client are operating. A Type 1 radar pulse with a 1 µs pulse width and a 1428 µs PRI is used for the testing.
- 2. The vector signal generator is adjusted to provide the radar burst (18 pulses) at a level of approximately -62 dBm at the antenna of the Master device.

FCC PT.15.407 TEST REPORT		FCC & IC CERTIFICATION REPORT				
Test Report No. HCT-R-1407-F003	Date of Issue: July 01, 2014	EUT Type: 2.4/5GHz BT/WiFi Tablet	FCC ID: ZNFV480	IC: 2703C-V480		
		Bage 1 1 of 24				



- 3. The Client Device (EUT) is set up per the diagram in Figure 3-1 and communications between the Master device and the Client is established.
- 4. The MPEG file specified by the FCC (*"6½ Magic Hours"*) is streamed from the "file computer" through the Master to the Slave Device and played in full motion video using Media Player Classic Ver.6.4.8.6 in order to properly load the network.
- 5. The real time spectrum analyzer is set to record about 15 sec window to any transmissions occurring up to and after 10 sec.
- 6. The system is again setup and the monitoring time is shortened in order to capture the Channel Closing Transmission Time. This time is measured to insure that the Client ceases transmission within 200 ms and the aggregate of emissions occurring after 200 ms up to 10 sec do not exceed 60 ms.

(Note: the channel may be different since the Master and Client have changed channels due to the detection of the initial radar pulse.)

7. After the initial radar burst the channel is monitored for 30 minutes to insure no transmissions or beacons occur. A second monitoring setup is used to verify that the Master and Client have both moved to different channels.

SYSTEM CALIBRATION

A-50-ohm load is connected in place of the spectrum analyzer, and the spectrum analyzer is connected to a coaxial cable. The signal generator is set to CW mode. The amplitude of the signal generator is adjusted to yield a level of - 62 dBm as measured on the spectrum analyzer.

Without changing any of the instrument settings, the spectrum analyzer is reconnected to the common port of the spectrum analyzer combiner or divider.

The spectrum analyzer displays the level of the signal generator higher than the client TX level. Because we can not search the signal generator in the spectrum analyzer when the signal generator level is - 62 dBm. The spectrum analyzer will still indicate the level higher than the client TX level.

FCC PT.15.407 TEST REPORT		FCC & IC CERTIFICATION REPORT			
Test Report No.	Date of Issue:	EUT Type: 2.4/5GHz BT/WiFi Tablet	FCC ID:	IC:	
HCT-R-1407-F003	July 01, 2014		ZNFV480	2703C-V480	



The EUT operates over the 5260 MHz - 5320 MHz and 5500 MHz - 5700 MHz ranges.

The EUT is a slave device without radar detection.

The EUT antenna has a gain of -1.83 dBi in 5260 MHz - 5320 MHz band, 5500 MHz- 5700 MHz band.

The highest power level within these bands in 8.3 dBm EIRP in the 5260 MHz - 5320 MHz band and 8.2 dBm EIRP in the 5500 MHz – 5700 MHz band.

The EUT one transmitter/receiver chain connected to a coaxial cable to perform conducted tests.

TPC is not required since the maximum EIRP is less than 500 mW.

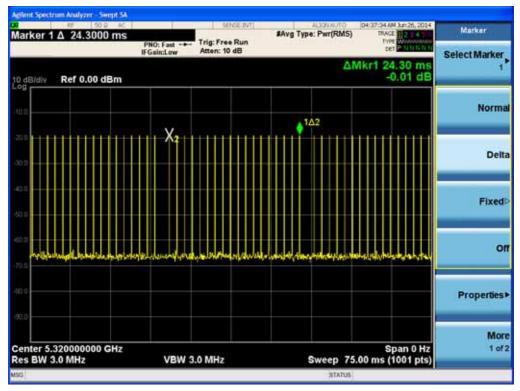
The EUT utilizes the 802.11a/n architecture. Two nominal channel bandwidth is implemented: 20 MHz, 40 MHz

FCC PT.15.407 TEST REPORT		www.hct.co.kr		
Test Report No.	Date of Issue:	EUT Type: 2.4/5GHz BT/WiFi Tablet	FCC ID:	IC:
HCT-R-1407-F003	July 01, 2014		ZNFV480	2703C-V480



7.7 UNII2 TEST RESULT

RESULT PLOTS_(UNII2 Band)



Type1 Radar Pulse Number

Marker Descriptions:

Number of Pulse Form M1R to M1 : 18

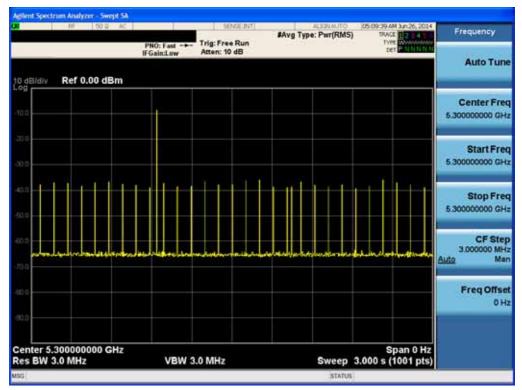
TEST REPORT	FCC & IC CERTIFICATION REPORT				
Test Report No.Date ofHCT-R-1407-F003July 01,		EUT Type: 2.4/5GHz BT/WiFi Tablet	FCC ID: ZNFV480	IC: 2703C-V480	



Type1 PRI

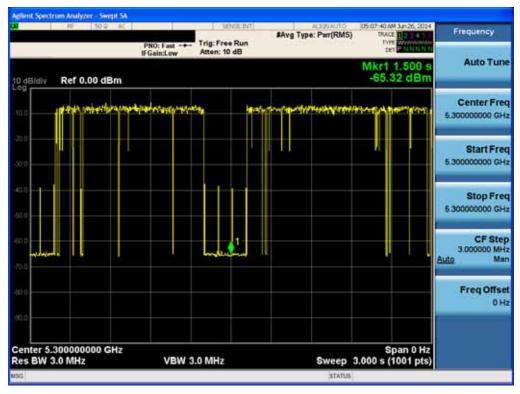
Peak Search	04:38:42 AM 3,4:26, 2014 TRACE 12 4 TYPE WARD 121 M	#Avg Type: Pwr(RMS)	rig: Free Run Atten: 10 dB	PNO: Fast +++	0 ms	Δ 1.43000	larker 1
NextPea	lkr1 1.430 ms -0.01 dB	ΔM	Atten: 10 dB	IFGain:Low		Ref 0.00 d	0 dB/div
Next Pk Righ	102						0.0
Next Pk Le		X2					0.0 0.0
Marker Del							0.0 510
Mkr⊸C	legenerady had so ist	nya waxa waa ka	proversite and the second	h a ntitriphene	interesting the	aser-press	0.0 0.0 1/(:// /
Mkr→RefL							£5
Mor 1 of	Span 0 Hz 00 ms (1001 pts)	Sweep 5.0	MHz	VBW 3.	GHz	20000000 (.0 MHz	enter 5.3
		STATUS					15

Time Display, Non WLAN Channel Traffic



FCC PT.15.407 TEST REPORT		FCC & IC CERTIFICATION REPORT				
Test Report No. HCT-R-1407-F003	Date of Issue: July 01, 2014	EUT Type: 2.4/5GHz BT/WiFi Tablet	FCC ID: ZNFV480	IC: 2703C-V480		





Time Display, WLAN Channel Traffic (Streaming Video)

FCC PT.15.407 TEST REPORT		FCC & IC CERTIFICATION REPORT				
Test Report No. HCT-R-1407-F003	Date of Issue: July 01, 2014	EUT Type: 2.4/5GHz BT/WiFi Tablet	FCC ID: ZNFV480	IC: 2703C-V480		



	SENCE INT	#Avg Type: Pwr(RMS)	10:12:09 AM 3at 25, 2014 TRACE	Frequency
PNO: Fast ++- IFGain:Low	Trig: Free Run #Atten: 24 dB	16 17 17 17 17	ter PALLINE	1210-1210-1
			∆Mkr1 15.00 s -44.26 dB	Auto Tune
				Center Free 5.300000000 GH
				Start Free 5.30000000 GH
				Stop Free 5.30000000 GH
and the second second	a the state of the	lan un parte production and a start and a		CF Stej 1.000000 MH <u>Auto</u> Ma
				Freq Offse 0 H
			Span 0 Hz	
	PNO: Fast +	PNO: Fast + Trig: Free Run IFGain:Low Akten: 24 dB	PNO: Fast	PNO: Fast

Channel Move Time (< 10 sec)

Marker Descriptions:

Time from M1R to M1 : 10 s

FCC PT.15.407 TEST REPORT		FCC & IC CERTIFICATION REPORT				
Test Report No.	Date of Issue:	EUT Type: 2.4/5GHz BT/WiFi Tablet	FCC ID:	IC:		
HCT-R-1407-F003	July 01, 2014		ZNFV480	2703C-V480		



16 50.2 AC	- AND THE REAL PROPERTY OF	Trig: Free Run Atten: 10 dB	Avg Type: Log-Pwr	03:32:04 PM Am 30, 2014 TRACE 2:04 TRACE TYPE WARMANN DET P IN 11 121 M	Frequency
ΔMkr5 8.000 ms 10 dB/div Ref 0.00 dBm 0.69 dB					
mont	<2	×4 0 ^{3∆4}		*	Center Free 5.300000000 GH
	14:	506	- A		Start Fre 5.30000000 GH
					Stop Fre 5.30000000 GH
000000 GHz MHz	VBW	3.0 MHz	Sweep	Span 0 Hz 2.000 s (1001 pts)	CF Ste 3.000000 MH
al X (A)	200.0 ms (Δ)	-47.37 dB	UNCTION FUNCTION WDTH	FUNCTION VALUE	Auto Ma
(A) (A)	208.0 ms (Δ) 808.0 ms 8.000 ms (Δ)	0.62 dB -25.80 dBm 0.69 dB			Freq Offse 0 H
	500,0 1112				
	ef 0.00 dBm	ef 0.00 dBm ef 0.00 dBm 0000000 GHz MHz VBW CL X (Δ) 208.0 ms (Δ) 808.0 ms (Δ) 808.0 ms (Δ) 808.0 ms (Δ) 808.0 ms (Δ)	PNO: Fast \rightarrow Trig: Free Run Atten: 10 dB ef 0.00 dBm $\sqrt{2}$ $\sqrt{4}$ $\sqrt{3}\Delta 4$ $\sqrt{5}\Delta 6$ $\sqrt{5}\Delta $	PNO: Fast Trig: Free Run Atten: 10 dB Avg Type: Log-Pwr ef 0.00 dBm Δ	PHO: Fast Trig: Free Run Atten: 10 dB Avg Type: Log-Pwr three Public Log PHO: East three Public Log ΔMkr5 8.000 ms 0.69 dB ΔMkr5 8.000 ms 0.69 dB 4 3Δ4 ΔMkr5 8.000 ms 0.69 dB 4 3Δ4 * 4 3Δ4 * 5 5 5 5 6 5 5 5 5 0000000 GHz VBW 3.0 MHz Sweep 2.000 s (1001 pts) Span 0 Hz Sweep 2.000 s (1001 pts) CL X V Function Function watcher 1Δ1 208.0 ms 17.22 dBm 17.22 dBm 17.22 dBm 1Δ1 208.0 ms 17.22 dBm 17.22 dBm 17.22 dBm 1Δ1 208.0 ms 17.22 dBm 17.22 dBm 17.22 dBm 1Δ1 208.0 ms 17.22 dBm 17.22 dBm 17.22 dBm 1Δ1 208.0 ms 17.25 dBm 17.25 dBm 17.25 dBm 1Δ1 208.0 ms 17.25 dBm 17.25 dBm 17.25 dBm 1Δ1 0.65 dB 17.25 dBm 17.25 dBm

Channel Closing Transmission Time, Aggregate Time After 200 ms

Calculation of Aggregate Time:

Pulse width = 8 ms (Delta Marker5)

Number of pulses occurring after 200 ms from end of burst = 3 (Number from M3 to M4)

Aggregate time from 200 ms to 10 sec after burst = 3 x 8 ms = 24 ms

Aggregate Time: 24 ms

Limit: 60 ms

FCC PT.15.407 TEST REPORT		FCC & IC CERTIFICATION REPORT				
Test Report No. HCT-R-1407-F003	Date of Issue: July 01, 2014	EUT Type: 2.4/5GHz BT/WiFi Tablet	FCC ID: ZNFV480	IC: 2703C-V480		



enter 5. es BW 3	300000000 GH 3.0 MHz		3.0 MHz	Sweep	Span 0 Hz 2.000 ks (1001 pts)	
0.0						Freq Offs 01
0.0						_
0.0	900-1-101-1-100-1-100	and a second		an an Inner an an Anna Anna Anna Anna Anna Ann		CF Ste 3.000000 Mi Auto M
0.0						5.30000000 G
0.0 						Stop Fr
0.0						Start Fr 5.300000000 G
X2						
						Center Fr 5.300000000 G
) dB/div	Ref 0.00 dBn	n			∆Mkr1 1.800 ks -48.63 dB	Auto Tu
		PNO: Fast ++ IFGain:Low	Trig: Free Run #Atten: 10 dB		DET PNNNN	
	RF 50 S	AC,	SENSE:INT	#Avg Type: RMS	12:36:06 PM Jun 27, 2014 TRACE 1 2 3 4 5 6	Frequency

Non-occupancy Period – Monitoring live real time spectrum – Elapse time 30 minutes

FCC PT.15.407 TEST REPORT		FCC & IC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCT-R-1407-F003	Date of Issue: July 01, 2014	EUT Type: 2.4/5GHz BT/WiFi Tablet	FCC ID: ZNFV480	IC: 2703C-V480



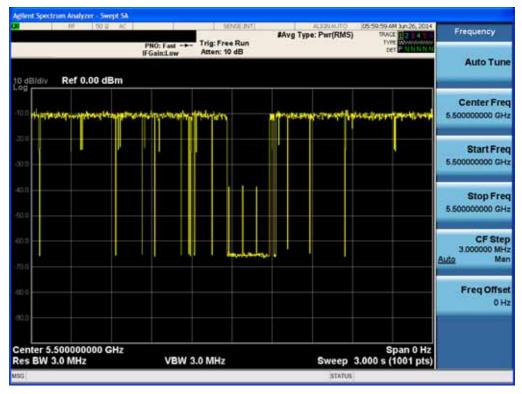
7.8 UNII2e TEST RESULT

RESULT PLOTS_(UNII2e Band)



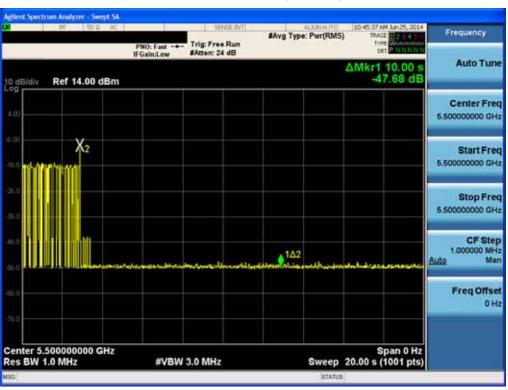
Time Display, Non WLAN Channel Traffic

Time Display, WLAN Channel Traffic (Streaming Video)



Test Report No. Date of Issue: EUT Type: 2.4/5GHz BT/WiFi Tablet FCC ID: IC: HCT P. 1407 E003 Huku 01 2014 EUT Type: 2.4/5GHz BT/WiFi Tablet ZNEV/480 Z703C V/480	FCC PT.15.407 TEST REPORT		FCC & IC CERTIFICATION REPORT		www.hct.co.kr
	Test Report No. HCT-R-1407-F003	Date of Issue: July 01, 2014	EUT Type: 2.4/5GHz BT/WiFi Tablet	FCC ID: ZNFV480	IC: 2703C-V480





Channel Move Time (< 10 sec)

Marker Descriptions:

Time from M1R to M1 : 10 s

Test Report No.Date of Issue:HCT-R-1407-F003July 01, 2014EUT Type: 2.4/5GHz BT/WiFi Tablet	FCC ID: ZNFV480	IC: 2703C-V480



PNO: Fast ++- Trig: Free Run If Gain:Low Atten: 10 dB	Avg Type: Log-Pwr	03/28/41 PM Jun 30, 2014 19/462 2 4 1 1/98 000000000000000000000000000000000000	Frequency
	Δ	Mkr5 8.000 ms -0.23 dB	Auto Tune
X ₂ X ₁ X ₄ 3 ³⁴⁴		*	Center Fre 5.50000000 GH
142 546		1	Start Fre 5.50000000 GH
			Stop Fre 5.50000000 GH
VBW 3.0 MHz			CF Ste 3.000000 MH
	CTION FUNCTION WIDTH	FUNCTION VALUE	<u>Auto</u> Ma
602.0 ms -20,53 dBm			
844.0 ms -28.76 dBm			Freq Offse
946.0 ms 45.78 dBm			
	PN0: Fast Trig: Free Run Atten: 10 dB V 3Δ4 V 3Δ4 V 5Δ6 VBW 3.0 MHz 30.0 MHz VBW 3.0 MHz 200.0 ms (Δ) 200.0 ms (Δ) -28.76 dBm 208.0 ms (Δ) -28.76 dBm 208.0 ms (Δ) -28.76 dBm 208.0 ms (Δ) -28.76 dBm	PN0: Fast Trig: Free Run Atten: 10 dB Avg Type: Log-Pwr Y Atten: 10 dB Δ Y 3Δ4 4 Y 5Δ6 4 Y 5Δ6 4 Y 5Δ6 4 Y FUNCTION FUNCTION WDTH Y FUNCTION FUNCTION WDTH 2000 ms (Δ) -45.19 dB 602.0 ms -20.53 dBm 20.53 dBm 208.0 ms -29.76 dBm 40.0 ms 8.000 ms (Δ) -28.76 dBm	PNO: Fast Trig: Free Run Avg Type: Log-Pwr PMACE PACE PMACE <

Channel Closing Transmission Time, Aggregate Time After 200 ms

Calculation of Aggregate Time:

Pulse width = 8 ms (Delta Marker5)

Number of pulses occurring after 200 ms from end of burst = 3 (Number from M3 to M4)

Aggregate time from 200 ms to 10 sec after burst = 3 x 8 ms = 24 ms

Aggregate Time: 24 ms

Limit: 60 ms

FCC PT.15.407 TEST REPORT		FCC & IC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCT-R-1407-F003	Date of Issue: July 01, 2014	EUT Type: 2.4/5GHz BT/WiFi Tablet	FCC ID: ZNFV480	IC: 2703C-V480



es Bw J		VBW 3	V MHZ	Sweep		
enter 5.5 es BW 3	500000000 GHz	VBW 3	0 MHz	Swaap	Span 0 Hz 2.000 ks (1001 pts)	
1.0						Freq Offs 01
						Eron Offe
1.0	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		ر هوني الماسيري والي الماني الماني الماني الماني الماني الي الي الي الي الي الي الي الي الي ال	and a second constraint of the second se	al an an an an Anna Anna Anna Anna Anna	<u>Auto</u> M
.0					<u></u> 1∆2 –	CF Ste 3.000000 Mi
.0						
						Stop Fre 5.50000000 Gi
™ <mark>∦2</mark>						5.50000000 G
						Start Fr
						5.50000000 G
						Center Fr
dB/div	Ref 0.00 dBm			1	Mkr1 1.800 ks -33.79 dB	
		IFGain:Low	#Atten: 10 dB		DET PINNNN	Auto Tu
		PNO: Fast +++	Trig: Free Run	#Avg Type: RMS	TRACE 123456	Frequency
	RF 50 g AC		SENSE:INT	ALIGNAUTO	02:05:42 PM Jun 27, 2014	

Non-occupancy Period – Monitoring live real time spectrum – Elapse time 30 minutes

FCC PT.15.407 TEST REPORT		FCC & IC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCT-R-1407-F003	Date of Issue: July 01, 2014	EUT Type: 2.4/5GHz BT/WiFi Tablet	FCC ID: ZNFV480	IC: 2703C-V480



8. LIST OF TEST EQUIPMENT

Manufacturer	Model / Equipment	Calibration Date	Calibration Interval	Calibration Due	Serial No.
Cisco System	AIR-AP1242AG-K-K9 / Wireless AP (Master Device)	N/A	N/A	N/A	FCW1323U01K FCC ID: LDK102056
HP	MRLBB/1002 / Wireless AP (Master Device)	N/A	N/A	N/A	CN17DLM0JB FCC ID: RTP- MRLBB1003S
Rohde & Schwarz	SMBV 100A/ Signal Generator	10/28/2013	Annual	10/28/2014	255727
Agilent	E4440A/ Spectrum Analyzer	04/09/2014	Annual	04/09/2015	US45303008
Agilent	N9020A/ SIGNAL ANALYZER	05/23/2014	Annual	05/23/2015	MY51110063
Agilent	N1911A/Power Meter	01/24/2014	Annual	01/24/2015	MY45100523
Agilent	N1921A /POWER SENSOR	07/11/2013	Annual	07/11/2014	MY45241059
Hewlett Packard	11636B/Power Divider	10/22/2013	Annual	10/22/2014	11377
Agilent	87300B/Directional Coupler	12/18/2013	Annual	12/18/2014	3116A03621
Hewlett Packard	11667B / Power Splitter	01/27/2014	Annual	01/27/2015	10545
DIGITAL	EP-3010 /DC POWER SUPPLY	10/29/2013	Annual	10/29/2014	3110117
ITECH	IT6720 / DC POWER SUPPLY	11/05/2013	Annual	11/05/2014	0100021562870011 99
Agilent	8493C / Attenuator(10 dB)	07/24/2013	Annual	07/24/2014	76649
WEINSCHEL	2-3 / Attenuator(3 dB)	10/28/2013	Annual	10/28/2014	BR0617

FCC PT.15.407 TEST REPORT		FCC & IC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCT-R-1407-F003	Date of Issue: July 01, 2014	EUT Type: 2.4/5GHz BT/WiFi Tablet	FCC ID: ZNFV480	IC: 2703C-V480