FCC RF Test Report

APPLICANT : Motorola Mobility LLC EQUIPMENT : Mobile Cellular Phone

BRAND NAME : Motorola

MODEL NAME : XT2435-1

FCC ID : IHDT56AM4

STANDARD : FCC Part 15 Subpart C §15.247

CLASSIFICATION : (DTS) Digital Transmission System

TEST DATE(S) : May 22, 2024 ~ Jun. 12, 2024

We, Sporton International Inc. (Kunshan), would like to declare that the tested sample has been evaluated in accordance with the test procedures and has been in compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of Sporton International Inc. (Kunshan), the test report shall not be reproduced except in full.

JasonJia

Approved by: Jason Jia





Report No.: FR352916-18

Sporton International Inc. (Kunshan)

No. 1098, Pengxi North Road, Kunshan Economic Development Zone Jiangsu Province 215300 People's Republic of China

Sporton International Inc. (Kunshan)

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Report Issued Date: Jun. 21, 2024

Report Version : Rev. 01

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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FR352916-18	Rev. 01	Initial issue of report	Jun. 21, 2024

Report Template No.: BU5-FR15CWL AC MA Version 2.0

SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
3.1	15.247(a)(2)	6dB Bandwidth	≥ 0.5MHz	Pass	-
3.1	-	99% Bandwidth	-	Report Only	-
3.2	15.247(b)	15.247(b) Power Output Measurement		Pass	-
3.3	15.247(e)	Power Spectral Density	≤ 8dBm/3kHz	Pass	-
2.4	45.047(4)	Conducted Band Edges	< 20dBc	Pass	-
3.4 15.247(d)		Conducted Spurious Emission	_ ≤ 200BC	Pass	-
3.5	15.247(d)	Radiated Band Edges and Radiated Spurious Emission	15.209(a) & 15.247(d)	Pass	Under limit 4.14 dB at 2389.95 MHz
3.6	15.207	15.207 AC Conducted Emission		Pass	Under limit 11.58 dB at 0.564 MHz
3.7	15.203 & 15.247(b) Antenna Requirement		15.203 & 15.247(b)	Pass	-

Note:

This is a variant report for XT2435-1. The change note could be referred to the XT2435-1_Operational Description of Product Equality Declaration which is exhibit separately. Based on the similarity between current and previous project, only add 802.11n HT40 related test cases from original test report (Sporton Report Number FR352916C) were verified for the differences.

Conformity Assessment Condition:

- The test results (PASS/FAIL) with all measurement uncertainty excluded are presented against the regulation limits
 or in accordance with the requirements stipulated by the applicant/manufacturer who shall bear all the risks of
 non-compliance that may potentially occur if measurement uncertainty is taken into account.
- The measurement uncertainty please refer to each test result in the section "Measurement Uncertainty"

Disclaimer:

The product specifications of the EUT presented in the test report that may affect the test assessments are declared by the manufacturer who shall take full responsibility for the authenticity.

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1 General Description

1.1 Applicant

Motorola Mobility LLC

222 W, Merchandise Mart Plaza, Chicago IL 60654 USA

1.2 Manufacturer

Motorola Mobility LLC

222 W, Merchandise Mart Plaza, Chicago IL 60654 USA

1.3 Product Feature of Equipment Under Test

Product Feature			
Equipment	Mobile Cellular Phone		
Brand Name	Motorola		
Model Name	XT2435-1		
FCC ID	IHDT56AM4		
IMEI Code	Conducted: 352433390004452/352433390004460 Conduction: 35243390002415/352433390002423 Radiation: 352433390002571/352433390002589		
HW Version	DVT1		
SW Version	U3UT34.4		
EUT Stage Identical Prototype			

Remark: The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.

1.4 Product Specification of Equipment Under Test

Standards-related Product Specification		
Tx/Rx Channel Frequency Range	2412 MHz ~ 2462 MHz	
Maximum (Peak) Output Power to antenna	802.11n HT40 : 24.31 dBm (0.2698 W)	
Antenna Type / Gain	IFA Antenna type with gain -2.7 dBi	
Type of Modulation	802.11b : DSSS (DBPSK / DQPSK / CCK) 802.11g/n : OFDM (BPSK / QPSK / 16QAM / 64QAM)	

1.5 Modification of EUT

No modifications are made to the EUT during all test items.

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1.6 Specification of Accessory

	Sp	ecification of Accessory	у	
AC Adapter 1 (US)	Brand Name	Motorola(Salcomp)	Model Name	MC-331L
AC Adapter 1 (EU)	Brand Name	Motorola(Salcomp)	Model Name	MC-332L
AC Adapter 1 (UK)	Brand Name	Motorola(Salcomp)	Model Name	MC-333L
AC Adapter 1 (BR)	Brand Name	Motorola(Salcomp)	Model Name	MC-337L
AC Adapter 2 (US)	Brand Name	Motorola(Chenyang)	Model Name	MC-331
AC Adapter 2 (EU)	Brand Name	Motorola(Chenyang)	Model Name	MC-332
AC Adapter 2 (BR)	Brand Name	Motorola(Chenyang)	Model Name	MC-337
Battery 1	Brand Name	Motorola(Jiade)	Model Name	QA50
Battery 2	Brand Name	Motorola (ATL)	Model Name	QA50
USB Cable 1	Brand Name	Motorola (WASHIN)	Model Name	S928D92375
USB Cable 2	Brand Name	Motorola (Saibao)	Model Name	S928D95755

1.7 Testing Location

Sporton International Inc. (Kunshan) is accredited to ISO/IEC 17025:2017 by American Association for Laboratory Accreditation with Certificate Number 5145.02.

Test Firm	Sporton International Inc. (Kunshan)			
	No. 1098, Pengxi North	n Road, Kunshan Econom	ic Development Zone	
Test Site Location	Jiangsu Province 215300 People's Republic of China			
	TEL: +86-512-57900158			
	Sporton Site No.	FCC Designation No.	FCC Test Firm	
Test Site No.	Sporton Site No.	FCC Designation No.	Registration No.	
rest site NO.	CO01-KS 03CH05-KS TH01-KS	CN1257	314309	

1.8 Test Software

Item	Site	Manufacturer	Name	Version
1.	TH01-KS	SPORTON	FCC 15C-15E Test Tools Ver10.0_210607	10.0
2.	03CH05-KS	AUDIX	E3	210616
3.	CO01-KS	AUDIX	E3	6.2009-8-24

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1.9 Applicable Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

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- 47 CFR Part 15 Subpart C §15.247
- FCC KDB 558074 D01 15.247 Meas Guidance v05r02
- ANSI C63.10-2013

Remark:

- All test items were verified and recorded according to the standards and without any deviation during the test.
- 2. This EUT has also been tested and complied with the requirements of FCC Part 15, Subpart B, recorded in a separate test report.

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2 Test Configuration of Equipment Under Test

- a. The EUT has been associated with peripherals and configuration operated in a manner tended to maximize its emission characteristics in a typical application. Frequency range investigated: conduction emission (150 kHz to 30 MHz), radiation emission (9 kHz to the 10th harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower). For radiated measurement, pre-scanned in three orthogonal panels, X, Y, Z. The worst cases (X plane) were recorded in this report.
- b. AC power line Conducted Emission was tested under maximum output power.

2.1 Carrier Frequency and Channel

Frequency Band	Channel	Freq. (MHz)	Channel	Freq. (MHz)
	1	2412	7	2442
	2	2417	8	2447
2400-2483.5 MHz	3	2422	9	2452
2400-2463.3 IVITZ	4	2427	10	2457
	5	2432	11	2462
	6	2437	-	-

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2.2 Test Mode

Final test modes are considering the modulation and worse data rates as below table.

Modulation	Data Rate
802.11n HT40	MCS0

	Test Cases
AC	Mode 1 :GSM 850 Idle + Bluetooth Link + WLAN Link (2.4G)+ USB Cable 2
Conducted	
Emission	(Charging from Adapter1) + Earphone + Battery1

RSE Co-location
802.11n40 CH03 Tx + EN DC_41A-n78A Link

Remark:

- 1. For Radiated Test Cases, the tests were performance with Adapter 1, Earphone and USB Cable2.
- 2. The RSE co-location mode is assessed from the worst WLAN TX + WWAN Link mode.

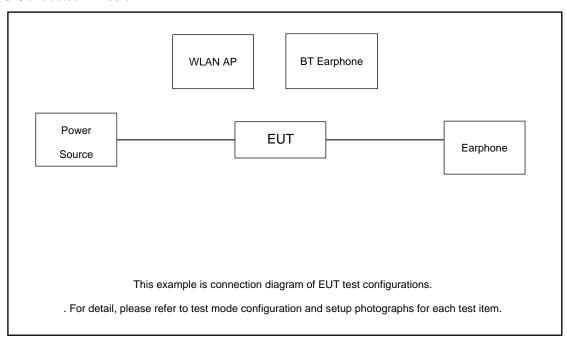
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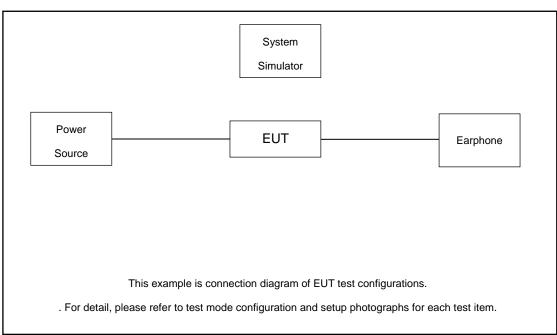
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2.3 Connection Diagram of Test System

AC Conducted Emission:



Radiated Emission:



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2.4 Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model Name	FCC ID	Data Cable	Power Cord	
1.	LTE Base Station	Anritus	MT8821C	N/A	N/A	Unshielded,1.8m	
2.	Bluetooth Earphone	Lenovo	thinkplus-BH3	N/A	N/A	N/A	
3.	Notebook	Lenovo	G480	QDS-BRCM1050I	N/A	shielded cable DC O/P 1.8m , Unshielded AC I/P cable 1.8m	
4.	WLAN AP	D-link	DIR-655	KA21R655B1	N/A	Unshielded,1.8m	
5.	Earphone	N/A	N/A	N/A	N/A	N/A	
6.	SD Card	Kingston	8GB	N/A	N/A	N/A	

2.5 EUT Operation Test Setup

For WLAN RF test items, an engineering test program was provided and enabled to make EUT continuous transmit.

For AC power line conducted emissions, the EUT was set to connect with the WLAN AP under large package sizes transmission.

2.6 Measurement Results Explanation Example

For all conducted test items:

The offset level is set in the spectrum analyzer to compensate the RF cable loss and attenuator factor between EUT conducted output port and spectrum analyzer. With the offset compensation, the spectrum analyzer reading level is exactly the EUT RF output level.

Example:

The spectrum analyzer offset is derived from RF cable loss and attenuator factor.

Offset = RF cable loss + attenuator factor.

Following shows an offset computation example with cable loss 0.8 dB and 10dB attenuator.

 $Offset(dB) = RF \ cable \ loss(dB) + attenuator \ factor(dB).$

= 0.8 + 10 = 10.8 (dB)

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3 Test Result

3.1 6dB and 99% Bandwidth Measurement

3.1.1 Limit of 6dB Bandwidth and 99% Bandwidth

The minimum 6 dB bandwidth shall be at least 500 kHz.

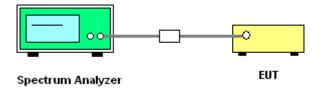
3.1.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

3.1.3 Test Procedures

- 1. The testing follows ANSI C63.10-2013 clause 11.8
- 2. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
- 3. Set to the maximum power setting and enable the EUT transmit continuously.
- 4. Make the measurement with the spectrum analyzer's resolution bandwidth (RBW) = 100 kHz. Set the Video bandwidth (VBW) = 300 kHz. In order to make an accurate measurement. The 6 dB bandwidth must be greater than 500 kHz.
- 5. For 99% Bandwidth Measurement, the spectrum analyzer's resolution bandwidth (RBW) = 1%-5% of OBW and set the Video bandwidth (VBW) = 3MHz.
- 6. Measure and record the results in the test report.

3.1.4 Test Setup

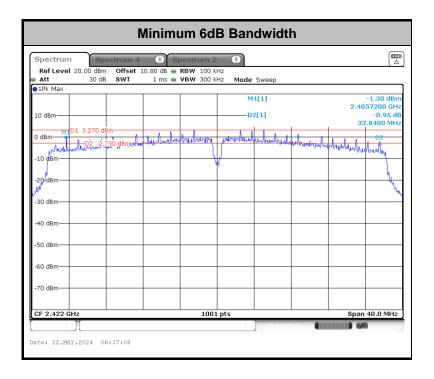


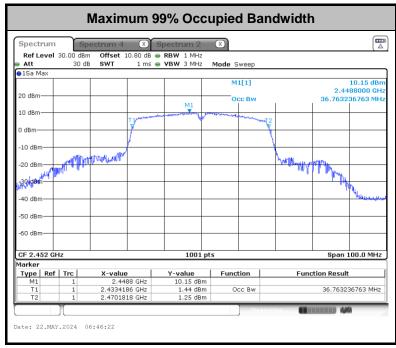
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3.1.5 Test Result of 6dB and 99% Occupied Bandwidth

Please refer to Appendix A.





Note: The occupied channel bandwidth is maintained within the band of operation for all of the modulations.

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3.2 Output Power Measurement

3.2.1 Limit of Output Power

For systems using digital modulation in the 2400-2483.5MHz, the limit for peak output power is 30dBm. If transmitting antenna with directional gain greater than 6dBi is used, the peak output power from the intentional radiator shall be reduced below the above stated value by the amount in dB that the directional gain of the antenna exceeds 6 dBi. In case of point-to-point operation, the limit has to be reduced by 1dB for every 3dB that the directional gain of the antenna exceeds 6dBi.

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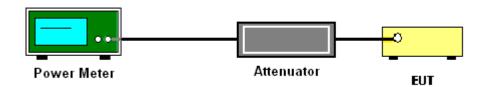
3.2.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

3.2.3 Test Procedures

- The testing follows the Measurement Procedure of ANSI C63.10-2013 clause 11.9.1.3 PKPM1
 Peak power meter or ANSI C63.10-2013 clause 11.9.2.3.1 Method AVGPM method.
- 2. The RF output of EUT was connected to the power meter by RF cable and attenuator. The path loss was compensated to the results for each measurement.
- 3. Set to the maximum power setting and enable the EUT transmit continuously.
- 4. Measure the conducted output power and record the results in the test report.

3.2.4 Test Setup



3.2.5 Test Result of Peak Output Power

Please refer to Appendix A.

3.2.6 Test Result of Average Output Power (Reporting Only)

Please refer to Appendix A.

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3.3 Power Spectral Density Measurement

3.3.1 Limit of Power Spectral Density

The peak power spectral density shall not be greater than 8dBm in any 3kHz band at any time interval of continuous transmission.

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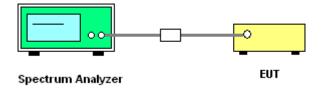
3.3.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

3.3.3 Test Procedures

- 1. The testing follows Measurement Procedure of ANSI C63.10-2013 clause 11.10.2 Method PKPSD.
- 2. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
- 3. Set to the maximum power setting and enable the EUT transmit continuously.
- 4. Make the measurement with the spectrum analyzer's resolution bandwidth (RBW) = 3 kHz. Video bandwidth VBW = 10 kHz In order to make an accurate measurement, set the span to 1.5 times DTS Channel Bandwidth. (6dB BW)
- 5. Detector = peak, Sweep time = auto couple, Trace mode = max hold, Allow trace to fully stabilize. Use the peak marker function to determine the maximum power level.
- 6. Measure and record the results in the test report.

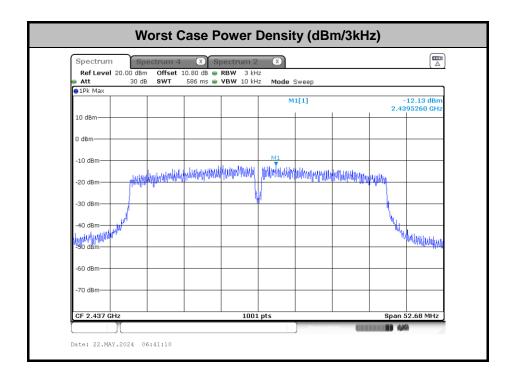
3.3.4 Test Setup



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3.3.5 Test Result of Power Spectral Density

Please refer to Appendix A.



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3.4 Conducted Band Edges and Spurious Emission Measurement

3.4.1 Limit of Conducted Band Edges and Spurious Emission Measurement

In any 100 kHz bandwidth outside of the authorized frequency band, the emissions which fall in the non-restricted bands shall be attenuated at least 20 dB / 30dB relative to the maximum PSD level in 100 kHz by RF conducted measurement.

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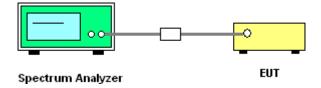
3.4.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

3.4.3 Test Procedures

- The testing follows ANSI C63.10-2013 clause 11.11
- 2. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
- 3. Set to the maximum power setting and enable the EUT transmit continuously.
- Set RBW = 100 kHz, VBW=300 kHz, Peak Detector. Unwanted Emissions measured in any 100 kHz bandwidth outside of the authorized frequency band shall be attenuated by at least 20 dB relative to the maximum in-band peak PSD level in 100 kHz when maximum peak conducted output power procedure is used. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, the attenuation required under this paragraph shall be 30 dB instead of 20 dB per 15.247(d).
- Measure and record the results in the test report. 5.
- The RF fundamental frequency should be excluded against the limit line in the operating frequency band.

3.4.4 Test Setup



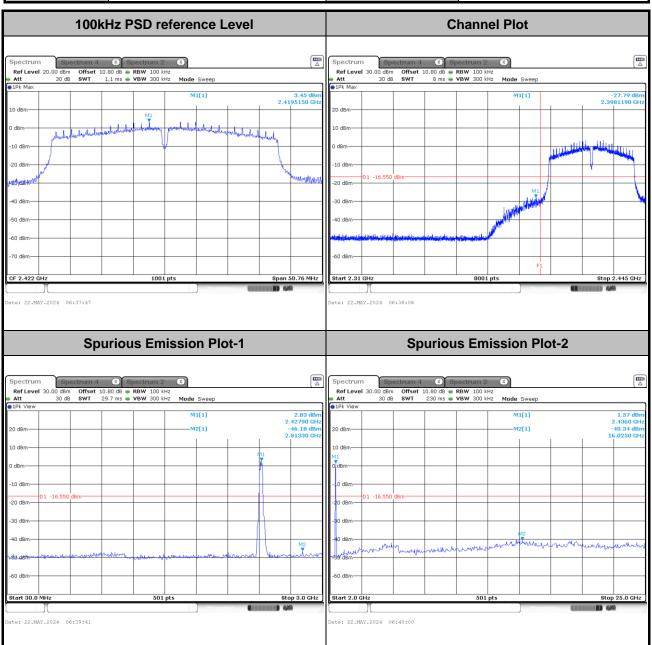
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3.4.5 Test Result of Conducted Band Edges and Spurious Emission

Test Engineer :	Joseph Zhang	Temperature :	21~25℃
	Jacob Zhang	Relative Humidity :	51~54%

 Test Mode :
 802.11n HT40
 Test Channel :
 03

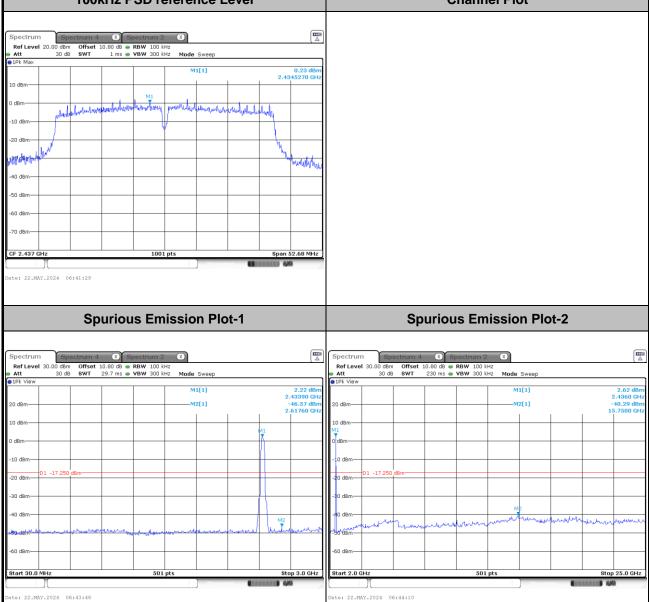


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Test Mode: 802.11n HT40 Test Channel: 06

100kHz PSD reference Level Channel Plot



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Test Mode: 802.11n HT40 Test Channel: 09 100kHz PSD reference Level **Channel Plot** ate: 22.MAY.2024 06:45:13 ate: 22.MAY.2024 06:45:32 **Spurious Emission Plot-1 Spurious Emission Plot-2** Ref Level 30.00 dBm Att 30 dB Ref Level 30.00 dBm Att 30 dB Offset 10.80 dB • RBW 100 kHz SWT 29.7 ms • VBW 300 kHz M1[1] M1[1] M2[1] M2[1]

Date: 22.MAY.2024 06:47:22



TEL: +86-512-57900158 FCC ID: IHDT56AM4

ate: 22.MAY.2024 06:46:57

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3.5 Radiated Band Edges and Spurious Emission Measurement

3.5.1 Limit of Radiated band edge and Spurious Emission Measurement

In any 100 kHz bandwidth outside the intentional radiator frequency band, all harmonics/spurious must be at least 20 dB below the highest emission level within the authorized band. If the output power of this device was measured by spectrum analyzer, the attenuation under this paragraph shall be 30 dB instead of 20 dB. In addition, radiated emissions which fall in the restricted bands must also comply with the limits as below.

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Frequency	Field Strength	Measurement Distance
(MHz)	(microvolts/meter)	(meters)
0.009 - 0.490	2400/F(kHz)	300
0.490 – 1.705	24000/F(kHz)	30
1.705 – 30.0	30	30
30 – 88	100	3
88 – 216	150	3
216 - 960	200	3
Above 960	500	3

3.5.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

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3.5.3 Test Procedures

- The testing follows ANSI C63.10-2013 clause 11.11 & 11.12
- 2. The EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level.

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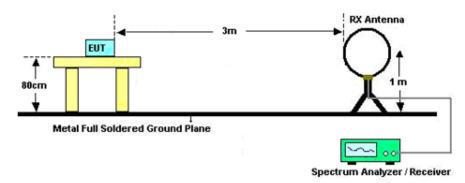
- 3. The EUT was placed on a turntable with 0.8 meter for frequency below 1GHz and 1.5 meter for frequency above 1GHz respectively above ground.
- 4. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
- 5. Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level
- For testing below 1GHz, if the emission level of the EUT in peak mode was 3 dB lower than the 6. limit specified, then peak values of EUT will be reported, otherwise, the emissions will be repeated one by one using the CISPR quasi-peak method and reported.
- 7. For testing above 1GHz, the emission level of the EUT in peak mode was 20dB lower than peak limit (that means the emission level in average mode also complies with the limit in average mode), then peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.
- 8. Use the following spectrum analyzer settings:
 - (1) Span shall wide enough to fully capture the emission being measured;
 - (2) Set RBW=100 kHz for f < 1 GHz; VBW ≥ RBW; Sweep = auto; Detector function = peak; Trace = max hold:
 - (3) Set RBW = 1 MHz, VBW= 3MHz for $f \ge 1$ GHz for peak measurement. For average measurement:
 - VBW = 10 Hz, when duty cycle is no less than 98 percent.
 - VBW ≥ 1/T, when duty cycle is less than 98 percent where T is the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.

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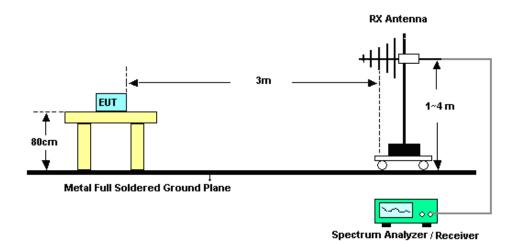


3.5.4 Test Setup

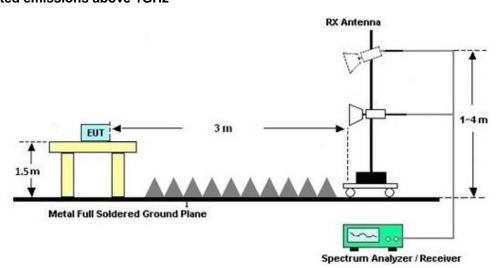
For radiated emissions below 30MHz



For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz



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3.5.5 Test Results of Radiated Spurious Emissions (9kHz ~ 30MHz)

The low frequency, which started from 9 kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line was not reported.

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There is a comparison data of both open-field test site and semi-Anechoic chamber, and the result came out very similar.

3.5.6 Test Result of Radiated Spurious at Band Edges

Please refer to Appendix C.

3.5.7 Duty Cycle

Please refer to Appendix D.

3.5.8 Test Result of Radiated Spurious Emission (30MHz ~ 10th Harmonic or 40GHz, whichever is lower)

Please refer to Appendix C.

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3.6 AC Conducted Emission Measurement

3.6.1 Limit of AC Conducted Emission

For equipment that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed the limits in the following table.

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Frequency of Emission	Conducted Limit (dBμV)			
(MHz)	Quasi-Peak	Average		
0.15-0.5	66 to 56*	56 to 46*		
0.5-5	56	46		
5-30	60	50		

^{*}Decreases with the logarithm of the frequency.

3.6.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

3.6.3 Test Procedures

- 1. The EUT was placed 0.4 meter from the conducting wall of the shielding room, and it was kept at least 80 centimeters from any other grounded conducting surface.
- 2. Connect EUT to the power mains through a line impedance stabilization network (LISN).
- 3. All the support units are connecting to the other LISN.
- 4. The LISN provides 50 ohm coupling impedance for the measuring instrument.
- 5. The FCC states that a 50 ohm, 50 microhenry LISN should be used.
- 6. Both sides of AC line were checked for maximum conducted interference.
- 7. The frequency range from 150 kHz to 30 MHz was searched.
- 8. Set the test-receiver system to Peak Detect Function and specified bandwidth (IF bandwidth = 9kHz) with Maximum Hold Mode.

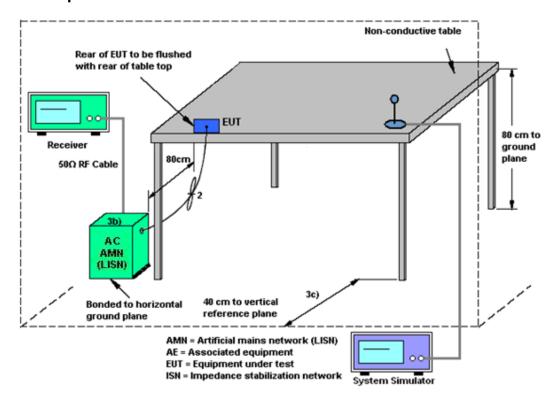
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3.6.4 Test Setup



3.6.5 Test Result of AC Conducted Emission

Please refer to Appendix B.

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3.7 Antenna Requirements

3.7.1 Standard Applicable

If directional gain of transmitting Antennas is greater than 6dBi, the power shall be reduced by the same level in dB comparing to gain minus 6dBi. The use of a permanently attached Antenna or of an Antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the rule.

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3.7.2 Antenna Anti-Replacement Construction

An embedded-in antenna design is used.

3.7.3 Antenna Gain

The antenna peak gain of EUT is less than 6 dBi. Therefore, it is not necessary to reduce maximum peak output power limit.

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4 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Spectrum Analyzer	R&S	FSV40	101040	10Hz~40GHz	Oct. 11, 2023	May 22, 2024	Oct. 10, 2024	Conducted (TH01-KS)
Pulse Power Senor	Anritsu	MA2411B	0917070	300MHz~40GH z	Jan. 02, 2024	May 22, 2024	Jan. 01, 2025	Conducted (TH01-KS)
Power Meter	Anritsu	ML2495A	1005002	50MHz Bandwidth	Jan. 02, 2024	May 22, 2024	Jan. 01, 2025	Conducted (TH01-KS)
EMI Receiver	R&S	ESCI7	100768	9kHz~7GHz;	Apr. 18, 2024	Jun. 01, 2024	Apr. 17, 2025	Conduction (CO01-KS)
AC LISN (for auxiliary equipment)	MessTec	AN3016	060103	9kHz~30MHz	Oct. 11, 2023	Jun. 01, 2024	Oct. 10, 2024	Conduction (CO01-KS)
AC LISN	MessTec	AN3016	060105	9kHz~30MHz	Apr. 18, 2024	Jun. 01, 2024	Apr. 17, 2025	Conduction (CO01-KS)
AC Power Source	Chroma	61602	ABP00000 0811	AC 0V~300V, 45Hz~1000Hz	Oct. 11, 2023	Jun. 01, 2024	Oct. 10, 2024	Conduction (CO01-KS)
EMI Test Receiver	Keysight	N9038A	MY564000 04	3Hz~8.5GHz;M ax 30dBm	Oct. 10, 2023	Jun. 12, 2024	Oct. 09, 2024	Radiation (03CH05-KS)
EXA Spectrum Analyzer	Keysight	N9010A	MY551502 44	10Hz-44G,MAX 30dB	Apr. 18, 2024	Jun. 12, 2024	Apr. 17, 2025	Radiation (03CH05-KS)
Loop Antenna	R&S	HFH2-Z2	100321	9kHz~30MHz	Oct. 10, 2023	Jun. 12, 2024	Oct. 09, 2024	Radiation (03CH05-KS)
Bilog Antenna	TeseQ	CBL6111D	59913	30MHz-1GHz	Aug. 19, 2023	Jun. 12, 2024	Aug. 18, 2024	Radiation (03CH05-KS)
Double Ridge Horn Antenna	ETS-Lindgren	3117	75957	1GHz~18GHz	Oct. 23, 2023	Jun. 12, 2024	Oct. 22, 2024	Radiation (03CH05-KS)
SHF-EHF Horn	Com-power	AH-840	101093	18GHz~40GHz	Jan. 05, 2024	Jun. 12, 2024	Jan. 04, 2025	Radiation (03CH05-KS)
Amplifier	SONOMA	310N	380826	9KHz-1GHz	Jul. 06, 2023	Jun. 12, 2024	Jul. 05, 2024	Radiation (03CH05-KS)
Amplifier	EM	EM18G40GA	060852	18~40GHz	Jan. 05, 2024	Jun. 12, 2024	Jan. 04, 2025	Radiation (03CH05-KS)
high gain Amplifier	EM	EM01G18GA	060839	1Ghz-18Ghz	Oct. 10, 2023	Jun. 12, 2024	Oct. 09, 2024	Radiation (03CH05-KS)
Amplifier	EM	EM01G18GA	060833	1Ghz-18Ghz	Jan. 03, 2024	Jun. 12, 2024	Jan. 02, 2025	Radiation (03CH05-KS)
AC Power Source	Chroma	61601	F1040900 04	N/A	NCR	Jun. 12, 2024	NCR	Radiation (03CH05-KS)
Turn Table	ChamPro	EM 1000-T	060762-T	0~360 degree	NCR	Jun. 12, 2024	NCR	Radiation (03CH05-KS)
Antenna Mast	ChamPro	EM 1000-A	060762-A	1 m~4 m	NCR	Jun. 12, 2024	NCR	Radiation (03CH05-KS)

NCR: No Calibration Required

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5 Measurement Uncertainty

The measurement uncertainties shown below were calculated in accordance with the requirements of ANSI 63.10-2013. All the measurement uncertainty value were shown with a coverage K=2 to indicate 95% level of confidence. The measurement data show herein meets or exceeds the CISPR measurement uncertainty values specified in CISPR 16-4-2 and can be compared directly to specified limit to determine compliance.

Uncertainty of Conducted Measurement

Conducted Spurious Emission & Bandedge	±2.26 dB
Occupied Channel Bandwidth	±0.1%
Conducted Power	±0.46 dB
Conducted Power Spectral Density	±0.88 dB
Frequency	±0.4 Hz

Uncertainty of AC Conducted Emission Measurement (0.15 MHz ~ 30 MHz)

Measuring Uncertainty for a Level of Confidence	2.84 dB
of 95% (U = 2Uc(y))	2.84 UB

Uncertainty of Radiated Emission Measurement (9 KHz ~ 30 MHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	3.30 dB
Of 95% (U = 2UC(V))	

Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

Measuring Uncertainty for a Level of Confidence	6.02 dB
of 95% (U = 2Uc(y))	0.02 UB

Uncertainty of Radiated Emission Measurement (1 GHz ~ 18 GHz)

Measuring Uncertainty for a Level of Confidence	5.22 dB
of 95% (U = 2Uc(y))	J.22 UD

<u>Uncertainty of Radiated Emission Measurement (18 GHz ~ 40 GHz)</u>

Measuring Uncertainty for a Level of Confidence	5.34 dB
of 95% (U = 2Uc(y))	5.34 UB

----- THE END -----

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Appendix A. Conducted Test Results

Sporton International Inc. (Kunshan)

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A1 - DTS Part

Test Engineer:	Jacob Zhang	Temperature:	21~25	ů
Test Date:	2024/5/22	Relative Humidity:	51~54	%

TEST RESULTS DATA 6dB and 99% Occupied Bandwidth

2.4GHz Band										
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	99% Occupied BW (MHz)	6dB BW (MHz)	6dB BW Limit (MHz)	Pass/Fail		
HT40	MCS0	1	3	2422	36.26	33.84	0.50	Pass		
HT40	MCS0	1	6	2437	36.56	35.12	0.50	Pass		
HT40	MCS0	1	9	2452	36.76	35.08	0.50	Pass		

TEST RESULTS DATA Peak Power Table

2.4GHz Band										
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Peak Conducted Power (dBm)	Conducted Power Limit (dBm)	DG (dBi)	EIRP Power (dBm)	EIRP Power Limit (dBm)	Pass /Fail
HT40	MCS0	1	3	2422	23.53	30.00	-2.70	20.83	36.00	Pass
HT40	MCS0	1	6	2437	24.31	30.00	-2.70	21.61	36.00	Pass
HT40	MCS0	1	9	2452	23.76	30.00	-2.70	21.06	36.00	Pass

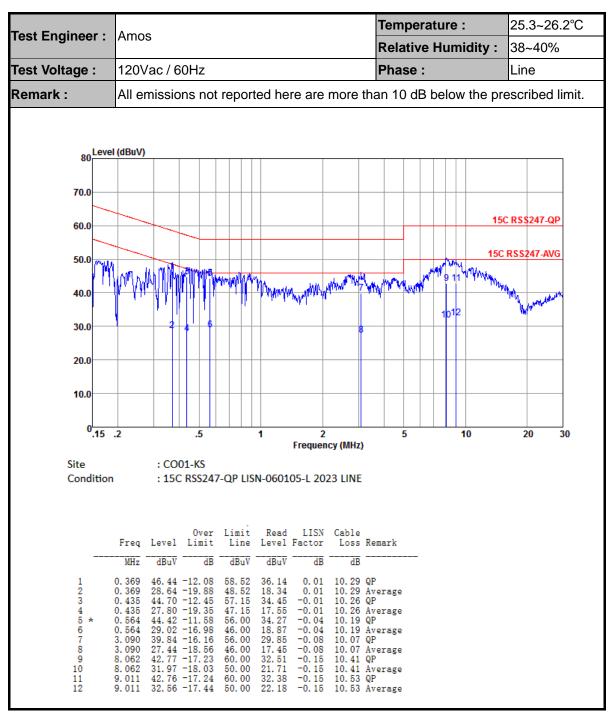
TEST RESULTS DATA Average Power Table (Reporting Only)

2.4GHz Band									
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Duty Factor (dB)	Average Conducted Power (dBm)			
HT40	MCS0	1	3	2422	0	13.27			
HT40	MCS0	1	6	2437	0	16.11			
HT40	MCS0	1	9	2452	0	13.77			

TEST RESULTS DATA Peak Power Density

2.4GHz Band										
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Peak PSD (dBm /3kHz)	DG (dBi)	Peak PSD Limit (dBm /3kHz)	Pass/Fail		
HT40	MCS0	1	3	2422	-14.86	-2.70	8.00	Pass		
HT40	MCS0	1	6	2437	-12.13	-2.70	8.00	Pass		
HT40	MCS0	1	9	2452	-14.46	-2.70	8.00	Pass		

Appendix B. AC Conducted Emission Test Results



TEL: +86-512-57900158 FCC ID: IHDT56AM4



Test Engineer :	Amos		Temperature :	25.3~26.2°C				
icat Eligilicei .	Relative Humidity:							
Test Voltage :	120Vac / 60Hz		Phase :	Neutral				
All emissions not reported here are more than 10 dB below the prescribed limit								
80 Leve	I (dBuV)							
80								
70.0								
50.0	\downarrow		150	RSS247-QP				
60.0								
50.0	No. of the last of	u And Miller and	Land Party H	RSS247-AVG				
40.0		7 TOWN TOWN	9 11 1	1.1 Laboretta				
40.0	Tarah II Maha II alah	1 [' '		May May May 1				
30.0	1 1 1 1	6	10					
20.0		8						
10.0								
0 <mark>.15</mark>	.2 .5	1 2	5 10	20 30				
.15	.2 .5	Frequency (MHz)	5 10	20 30				
Site Condition	: CO01-KS	I-060105-N 2023 NEUTR	Δ1					
Condition	. 15C K35247-QF LISIN	1-000103-IN 2023 INEO I K	AL					
	Over Limit Freq Level Limit Line	Read LISN Cable Level Factor Loss Re	mark					
	MHz dBuV dB dBuV	dBuV dB dB						
1 *	0.505 28.15 -17.85 46.00	33.50 -0.07 10.22 QP 18.00 -0.07 10.22 Av						
3 4	0.928 25.60 -20.40 46.00	31. 49 -0. 09 10. 10 QP 15. 59 -0. 09 10. 10 Av	erage					
5 6 7	1.829 24.86 -21.14 46.00	31.60 -0.12 10.08 QP 14.90 -0.12 10.08 Av 30.29 -0.12 10.08 QP	erage					
8 9	2. 213 23. 45 -22. 55 46. 00 4. 430 40. 13 -15. 87 56. 00	13.49 -0.12 10.08 Av 30.20 -0.13 10.06 QP	erage					
10 11 12		16.50 -0.13 10.06 Av 32.50 -0.12 10.35 QP	-					
12	1.000 30.43 19.31 30.00	20.20 0.12 10.00 AV	erake					

Note:

- 1. Level(dB μ V) = Read Level(dB μ V) + LISN Factor(dB) + Cable Loss(dB)
- 2. Over Limit(dB) = Level(dB μ V) Limit Line(dB μ V)

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Appendix C. Radiated Spurious Emission Test Data

Radiated Spurious Emission Test Modes

Mode	Band (MHz)	Modulation	Channel	Frequency	Data Rate	RU	Remark
Mode 1	2400-2483.5	802.11n HT40	03	2422	MCS0	-	-
Mode 2	2400-2483.5	802.11n HT40	06	2437	MCS0	-	-
Mode 3	2400-2483.5	802.11n HT40	09	2452	MCS0	-	-

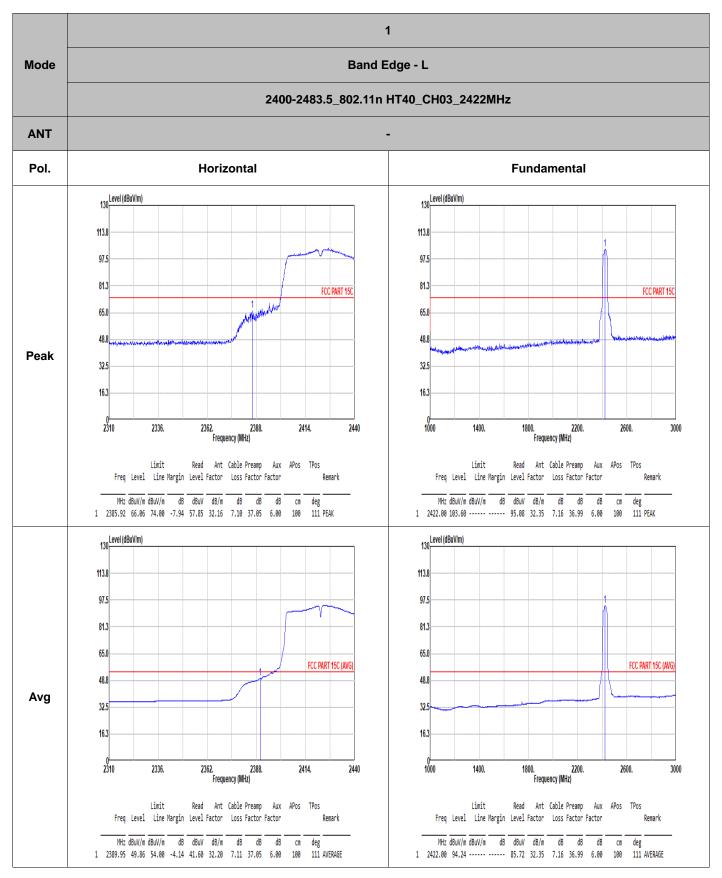
Summary of each worse mode

Mode	Modulation	Ch.	Freq. (MHz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Pol.	Peak Avg.	Result	Remark
1	802.11n HT40	03	2389.95	49.86	54.00	-4.14	Н	AVERAGE	Pass	Band Edge
1	802.11n HT40	03	7266.00	42.11	74.00	-31.89	V	PEAK	Pass	Harmonic
2	802.11n HT40	06	2483.50	44.97	54.00	-9.03	Н	AVERAGE	Pass	Band Edge
2	802.11n HT40	06	7311.00	43.39	74.00	-30.61	Н	PEAK	Pass	Harmonic
3	802.11n HT40	09	2484.58	49.83	54.00	-4.17	Н	AVERAGE	Pass	Band Edge
3	802.11n HT40	09	7356.00	42.64	74.00	-31.36	V	PEAK	Pass	Harmonic

Page Number

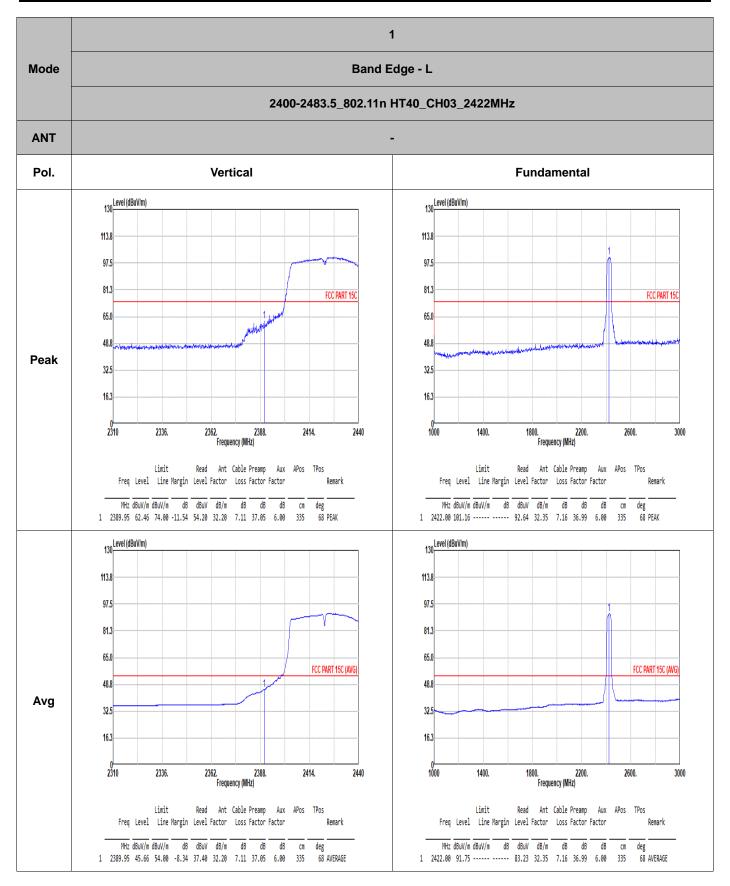
: C1 of C24

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1 Mode Band Edge - R 2400-2483.5_802.11n HT40_CH03_2422MHz **ANT** Pol. Horizontal **Fundamental** 130 Level (dBuV/m) 113.8 97.5 81.3 FCC PART 15C we wanted with the the work the days 65.0 48.8 **Peak** Blank 32.5 16.3 2452. 2488. 2500 2464. 2476. Frequency (MHz) Limit Read Ant Cable Preamp Aux APos TPos Freq Level Line Margin Level Factor Loss Factor Factor MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB deg 1 2483.86 52.19 74.00 -21.81 43.31 32.47 7.26 36.85 6.00 100 111 PEAK 130 Level (dBuV/m) 113.8 97.5 81.3 65.0 FCC PART 15C (AVG 48.8 Avg Blank 32.5 16.3 0<u>—</u> 2440 2464. 2476. Frequency (MHz) 2452. 2488. 2500 Limit Read Ant Cable Preamp Aux APos TPos Freq Level Line Margin Level Factor Loss Factor Factor Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 2485.90 39.41 54.00 -14.59 30.52 32.47 7.26 36.84 6.00 100 111 AVERAGE

CC RF Test Report No.: FR352916-18



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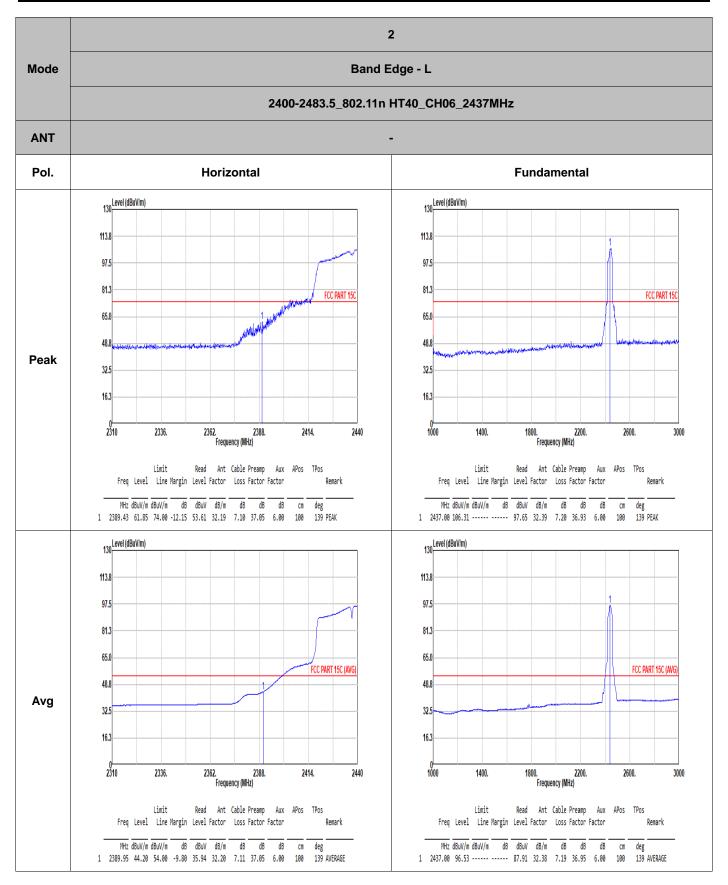
1 Mode Band Edge - R 2400-2483.5_802.11n HT40_CH03_2422MHz **ANT** Vertical Pol. **Fundamental** 130 Level (dBuV/m) 113.8 97.5 81.3 FCC PART 15C Maradamento de Marada 65.0 48.8 **Peak** Blank 32.5 16.3 2440 2452. 2488. 2500 2464. 2476. Frequency (MHz) Limit Read Ant Cable Preamp Aux APos TPos Freq Level Line Margin Level Factor Loss Factor Factor Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB deg 1 2484.16 50.72 74.00 -23.28 41.84 32.47 7.26 36.85 6.00 335 130 Level (dBuV/m) 113.8 97.5 81.3 65.0 FCC PART 15C (AVG 48.8 Avg Blank 32.5 16.3 0<u>—</u> 2440 2464. 2476. Frequency (MHz) 2452. 2488. 2500 Limit Read Ant Cable Preamp Aux APos TPos Freq Level Line Margin Level Factor Loss Factor Factor Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB 1 2487.10 37.97 54.00 -16.03 29.08 32.47 7.26 36.84 6.00 335 68 AVERAGE

1 Mode Harmonic 2400-2483.5_802.11n HT40_CH03_2422MHz **ANT** Vertical Pol. Horizontal 130 Level (dBuV/m) 130 Level (dBuV/m) 113.8 113.8 97.5 97.5 81.3 81.3 FCC PART 15C FCC PART 150 65.0 65.0 FCC PART 15C (AVG) FCC PART 15C (AVG) 48.8 48.8 Peak Avg 9000. Frequency (MHz) 3000 9000. 12000. Frequency (MHz) 18000 12000. 18000 Limit Read Ant Cable Preamp Aux APos TPos Limit Read Ant Cable Preamp Aux APos TPos Freq Level Line Margin Level Factor Loss Factor Factor Freq Level Line Margin Level Factor Loss Factor Factor MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB 1 4844.00 40.27 74.00 -33.73 61.41 34.12 10.25 65.51 0.00 1 4844.00 40.83 74.00 -33.17 61.97 34.12 10.25 65.51 0.00 -- PEAK

2 7266.00 42.10 74.00 -31.90 59.86 35.70 12.72 66.18 0.00 --

2 7266.00 42.11 74.00 -31.89 59.87 35.70 12.72 66.18 0.00

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2 Mode Band Edge - R 2400-2483.5_802.11n HT40_CH06_2437MHz **ANT** Pol. Horizontal **Fundamental** 130 Level (dBuV/m) 113.8 97.5 81.3 FCC PART 15C aware bet the week that the to be part what 65.0 48.8 **Peak** Blank 32.5 16.3 2440 2452. 2488. 2500 2464. 2476. Frequency (MHz) Limit Read Ant Cable Preamp Aux APos TPos Freq Level Line Margin Level Factor Loss Factor Factor MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB deg 1 2484.40 61.79 74.00 -12.21 52.91 32.47 7.26 36.85 6.00 100 139 PEAK 130 Level (dBuV/m) 113.8 97.5 81.3 65.0 FCC PART 15C (AVG 48.8 Avg Blank 32.5 16.3 0<u>—</u> 2440 2464. 2476. Frequency (MHz) 2452. 2488. 2500 Limit Read Ant Cable Preamp Aux APos TPos Freq Level Line Margin Level Factor Loss Factor Factor Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 2483.50 44.97 54.00 -9.03 36.09 32.47 7.26 36.85 6.00 100 139 AVERAGE

Report No.: FR352916-18 2 Mode Band Edge - L 2400-2483.5_802.11n HT40_CH06_2437MHz **ANT** Pol. Vertical **Fundamental** 130 Level (dBuV/m) 130 Level (dBuV/m) 113.8 113.8 97.5 97.5 81.3 81.3 FCC PART 150 65.0 65.0 48.8 48.8 **Peak** 32.5 32.5 16.3 16.3 2310 1000 2336. 2388. 2414. 2440 1400. 2600. 3000 2362. 2200. Frequency (MHz) Frequency (MHz) Limit Read Ant Cable Preamp Aux APos TPos Limit Read Ant Cable Preamp Aux APos TPos Freq Level Line Margin Level Factor Loss Factor Factor Freq Level Line Margin Level Factor Loss Factor Factor MHz dBuV/m dBuV/m dB dBuV dB/m MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB dB dB deg dB 1 2388.91 57.80 74.00 -16.20 49.56 32.19 7.10 37.05 6.00 375 1 2437.00 105.59 ----- 96.97 32.38 7.19 36.95 6.00 375 130 Level (dBuV/m) 130 Level (dBuV/m) 113.8 113.8 97.5 97.5 81.3 81.3 65.0 65.0 FCC PART 15C (AVG FCC PART 15C (AVG 48.8 48.8 Avg 32.5 32.5 16.3 16.3 0<u>-</u> 2310 1000 2362. 2 Frequency (MHz) 2336. 2388. 2414. 2440 1400. 1800. 3000 Frequency (MHz) Limit Read Ant Cable Preamp Aux APos TPos Limit Read Ant Cable Preamp Aux APos TPos

Remark

Freq Level Line Margin Level Factor Loss Factor Factor

MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB

1 2389.95 42.14 54.00 -11.86 33.88 32.20 7.11 37.05 6.00 375 77 AVERAGE

Freq Level Line Margin Level Factor Loss Factor Factor

1 2437.00 97.42 ----- 88.81 32.38 7.18 36.95 6.00 375

MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg

Remark

2 Mode Band Edge - R 2400-2483.5_802.11n HT40_CH06_2437MHz **ANT** Vertical Pol. **Fundamental** 130 Level (dBuV/m) 113.8 97.5 81.3 FCC PART 15C 65.0 48.8 **Peak** Blank 32.5 16.3 2440 2452. 2488. 2500 2464. 2476. Frequency (MHz) Limit Read Ant Cable Preamp Aux APos TPos Freq Level Line Margin Level Factor Loss Factor Factor Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB deg 1 2483.92 57.37 74.00 -16.63 48.49 32.47 7.26 36.85 6.00 375 130 Level (dBuV/m) 113.8 97.5 81.3 65.0 FCC PART 15C (AVG 48.8 Avg Blank 32.5 16.3 0<u>—</u> 2440 2464. 2476. Frequency (MHz) 2452. 2488. 2500 Limit Read Ant Cable Preamp Aux APos TPos Freq Level Line Margin Level Factor Loss Factor Factor Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB 1 2483.56 41.67 54.00 -12.33 32.79 32.47 7.26 36.85 6.00 375 77 AVERAGE

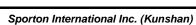
TEL: +86-512-57900158 FCC ID: IHDT56AM4

2 Mode Harmonic 2400-2483.5_802.11n HT40_CH06_2437MHz **ANT** Vertical Pol. Horizontal 130 Level (dBuV/m) 130 Level (dBuV/m) 113.8 113.8 97.5 97.5 81.3 81.3 FCC PART 15C FCC PART 150 65.0 65.0 FCC PART 15C (AVG) FCC PART 15C (AVG) 48.8 48.8 Peak 32.5 Avg 9000. Frequency (MHz) 3000 9000. 12000. Frequency (MHz) 18000 12000. 18000 Limit Read Ant Cable Preamp Aux APos TPos Limit Read Ant Cable Preamp Aux APos TPos Freq Level Line Margin Level Factor Loss Factor Factor Freq Level Line Margin Level Factor Loss Factor Factor MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB 1 4874.00 41.24 74.00 -32.76 62.34 34.14 10.29 65.53 0.00 1 4874.00 41.17 74.00 -32.83 62.27 34.14 10.29 65.53 0.00 -- PEAK

2 7311.00 43.39 74.00 -30.61 61.24 35.72 12.72 66.29 0.00 --

2 7311.00 42.00 74.00 -32.00 59.85 35.72 12.72 66.29 0.00

Report No.: FR352916-18 3 Mode Band Edge - L 2400-2483.5_802.11n HT40_CH09_2452MHz **ANT** Pol. Horizontal **Fundamental** 130 Level (dBuV/m) 130 Level (dBuV/m) 113.8 113.8 97.5 97.5 81.3 81.3 FCC PART 150 and the problem to the state of 65.0 65.0 48.8 48.8 **Peak** 32.5 32.5 16.3 16.3 2310 1000 2336. 2388. 2414. 2440 1400. 2600. 3000 2362. 2200. Frequency (MHz) Frequency (MHz) Limit Read Ant Cable Preamp Aux APos TPos Limit Read Ant Cable Preamp Aux APos TPos Freq Level Line Margin Level Factor Loss Factor Factor Freq Level Line Margin Level Factor Loss Factor Factor MHz dBuV/m dBuV/m dB dBuV dB/m MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB dB dB deg dB deg 1 2386.96 57.32 74.00 -16.68 49.10 32.17 7.10 37.05 6.00 101 1 2452.00 104.12 ----- 95.41 32.41 7.21 36.91 6.00 101 130 Level (dBuV/m) 130 Level (dBuV/m) 113.8 113.8 97.5 97.5 81.3 81.3 65.0 65.0 FCC PART 15C (AV FCC PART 15C (AVG 48.8 48.8 Avg 32.5 32.5 16.3 16.3



0<u>-</u> 2310

2336.

Limit

2362. 2 Frequency (MHz)

Freq Level Line Margin Level Factor Loss Factor Factor

MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm

1 2389.95 40.66 54.00 -13.34 32.40 32.20 7.11 37.05 6.00 101 102 AVERAGE

2388.

Read Ant Cable Preamp Aux APos TPos

2414.

2440

Freq Level Line Margin Level Factor Loss Factor Factor

MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg

1 2452.00 94.95 ----- 86.25 32.41 7.21 36.92 6.00 101 102 AVERAGE

1800.

Frequency (MHz)

Read Ant Cable Preamp Aux APos TPos

1000

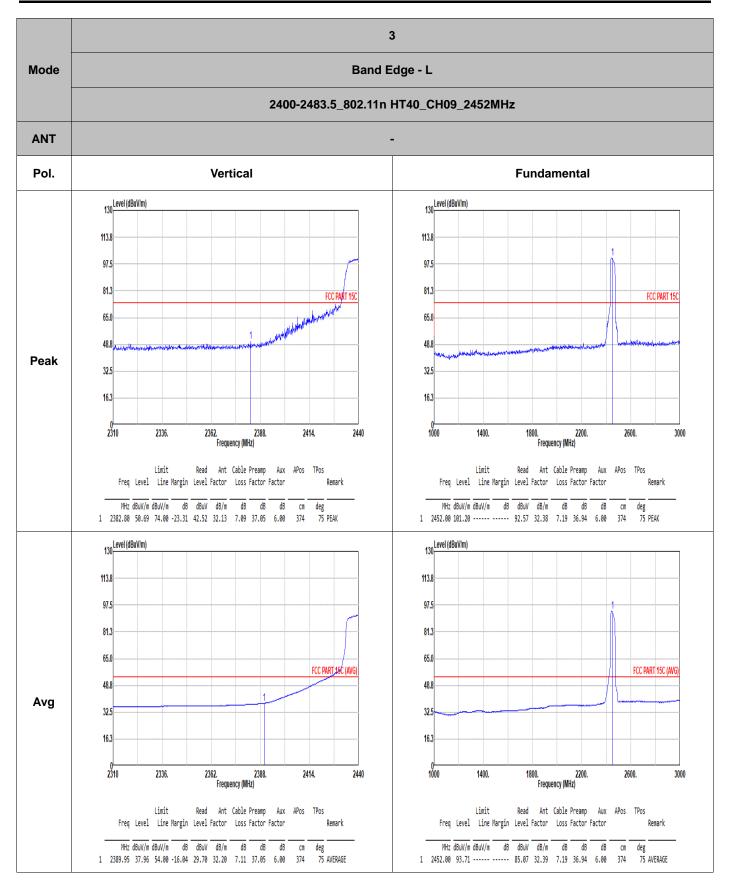
1400.

Limit

3000

3 Mode Band Edge - R 2400-2483.5_802.11n HT40_CH09_2452MHz **ANT** Pol. Horizontal **Fundamental** 130 Level (dBuV/m) 113.8 97.5 81.3 FCC PART 15C 65.0 48.8 **Peak** Blank 32.5 16.3 2440 4. 2476. Frequency (MHz) 2452. 2500 2464. 2488. Limit Read Ant Cable Preamp Aux APos TPos Freq Level Line Margin Level Factor Loss Factor Factor MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB deg 1 2486.02 68.34 74.00 -5.66 59.45 32.47 7.26 36.84 6.00 101 130 Level (dBuV/m) 113.8 97.5 81.3 65.0 FCC PART 15C (AVG 48.8 Avg Blank 32.5 16.3 0<u>—</u> 2440 2464. 2476. Frequency (MHz) 2452. 2488. 2500 Limit Read Ant Cable Preamp Aux APos TPos Freq Level Line Margin Level Factor Loss Factor Factor Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 2484.58 49.83 54.00 -4.17 40.95 32.47 7.26 36.85 6.00 101 102 AVERAGE

CC RF Test Report No.: FR352916-18



TEL: +86-512-57900158 FCC ID: IHDT56AM4

3 Mode Band Edge - R 2400-2483.5_802.11n HT40_CH09_2452MHz **ANT** Vertical Pol. **Fundamental** 130 Level (dBuV/m) 113.8 97.5 81.3 FCC PART 15C 65.0 48.8 **Peak** Blank 32.5 16.3 2440 2452. 2500 2464. 2476. 2488. Frequency (MHz) Limit Read Ant Cable Preamp Aux APos TPos Freq Level Line Margin Level Factor Loss Factor Factor MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB deg 1 2487.34 63.72 74.00 -10.28 54.83 32.47 7.26 36.84 6.00 374 130 Level (dBuV/m) 113.8 97.5 81.3 65.0 FCC PART 15C (AVG 48.8 Avg Blank 32.5 16.3 0<u>—</u> 2440 2464. 2476. Frequency (MHz) 2452. 2488. 2500 Limit Read Ant Cable Preamp Aux APos TPos Freq Level Line Margin Level Factor Loss Factor Factor Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB 1 2484.40 44.64 54.00 -9.36 35.76 32.47 7.26 36.85 6.00 374 75 AVERAGE

TEL: +86-512-57900158 FCC ID: IHDT56AM4

3 Mode Harmonic 2400-2483.5_802.11n HT40_CH09_2452MHz **ANT** Vertical Pol. Horizontal 130 Level (dBuV/m) 130 Level (dBuV/m) 113.8 113.8 97.5 97.5 81.3 81.3 FCC PART 15C FCC PART 150 65.0 65.0 FCC PART 15C (AVG) FCC PART 15C (AVG) 48.8 48.8 Peak 32.5 Avg 9000. Frequency (MHz) 3000 9000. 12000. Frequency (MHz) 18000 12000. 18000 Limit Read Ant Cable Preamp Aux APos TPos Limit Read Ant Cable Preamp Aux APos TPos Freq Level Line Margin Level Factor Loss Factor Factor Freq Level Line Margin Level Factor Loss Factor Factor MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB deg 1 4904.00 41.40 74.00 -32.60 62.45 34.17 10.33 65.55 0.00 1 4904.00 40.87 74.00 -33.13 61.92 34.17 10.33 65.55 0.00 -- PEAK

2 7356.00 42.64 74.00 -31.36 60.52 35.80 12.73 66.41 0.00 --

2 7356.00 42.64 74.00 -31.36 60.52 35.80 12.73 66.41 0.00

1 Mode 18G-25G 2400-2483.5_802.11n HT40_CH03_2422MHz ANT Pol. Horizontal Vertical 130 Level (dBuV/m) 130 Level (dBuV/m) 113.8 13.8 97.5 97.5 81.3 81.3 FCC PART 15C FCC PART 15C Peak 65.0 65.0 Avg 48.8 32.5 16.3 16.3 18000 18000 19400. 20800. 22200. 23600. 25000 19400. 20800. 22200. 23600. 25000 Frequency (MHz) Frequency (MHz)

1 Mode 30-1G 2400-2483.5_802.11n HT40_CH03_2422MHz **ANT** Pol. Horizontal Vertical 80 Level (dBuV/m) 80 Level (dBuV/m) 70.0 60.0 50.0 50.0 40.0 10.0 QP -10.0 -20<mark>30 100.</mark> -20₃₀ 100. 500. 60 Frequency (MHz) 500. 60 Frequency (MHz) Over Limit Read CableAntenna Preamp A/Pos T/Pos Freq Level Limit Line Level Loss Factor Factor Over Limit Read CableAntenna Preamp A/Pos T/Pos Freq Level Limit Line Level Loss Factor Factor Remark MHz dBuV/m dB dBuV/m dBuV dB dB/m deg MHz dBuV/m dB dBuV/m dBuV dB dB/m deg 32.91 22.90 -17.91 40.00 31.21 6.76 23.06 32.94 98.87 25.52 -17.98 43.50 48.02 1.50 16.87 32.87 188.11 22.49 -21.01 43.50 37.60 2.08 15.65 32.84 345.55 28.07 -17.93 46.00 37.84 28.20 32.32 29.20 617.62 26.15 -19.85 46.00 30.35 3.79 25.04 33.03 857.41 29.14 -16.86 46.00 30.35 4.47 26.60 32.29
 36.79
 28.96 - 11.04
 40.00
 40.12
 0.83
 20.92
 32.91

 89.17
 25.14 - 18.36
 43.50
 41.61
 1.41
 14.97
 32.85

 145.43
 23.29 - 20.21
 43.50
 37.81
 1.82
 16.48
 32.82

 15.15
 25.97 - 19.08
 46.00
 37.44
 2.1
 19.68
 23.64

 443.22
 26.59 - 19.41
 46.00
 34.00
 3.21
 22.41
 33.63

 745.86
 28.12 - 17.88
 46.00
 30.97
 4.18
 25.78
 32.81
 --- Peak --- Peak --- Peak --- Peak --- Peak

<Co-location>

Radiated Spurious Emission Test Modes

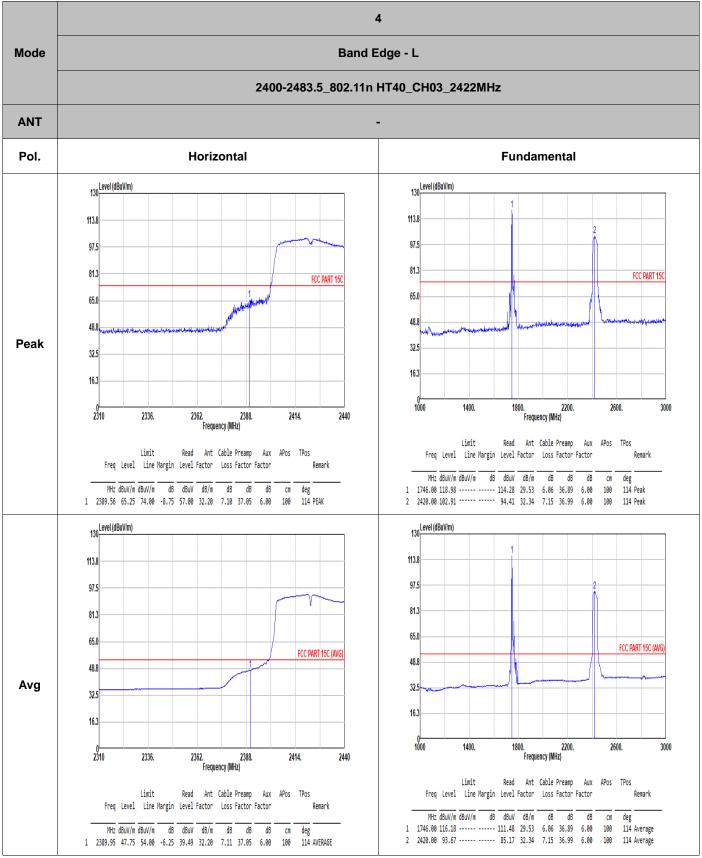
Mode	Band (MHz)	Modulation	Channel Frequency		Data Rate	RU	Remark			
Mode 4	2400-2483.5	802.11n HT40	03	2422	MCS0	-	-			
iviode 4	Part 27Q DC_41A_n78A									

Summary of each worse mode

Mode	Modulation	Ch.	Freq. (MHz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Pol.	Peak Avg.	Result	Remark
4	802.11n HT40	03	2389.95	47.75	54.00	-6.25	Н	AVERAGE	Pass	Band Edge
4	802.11n HT40	03	7266.00	42.56	74.00	-31.44	Н	PEAK	Pass	Harmonic

Sporton International Inc. (Kunshan)
TEL: +86-512-57900158
FCC ID: IHDT56AM4

FCC RF Test Report No.: FR352916-18

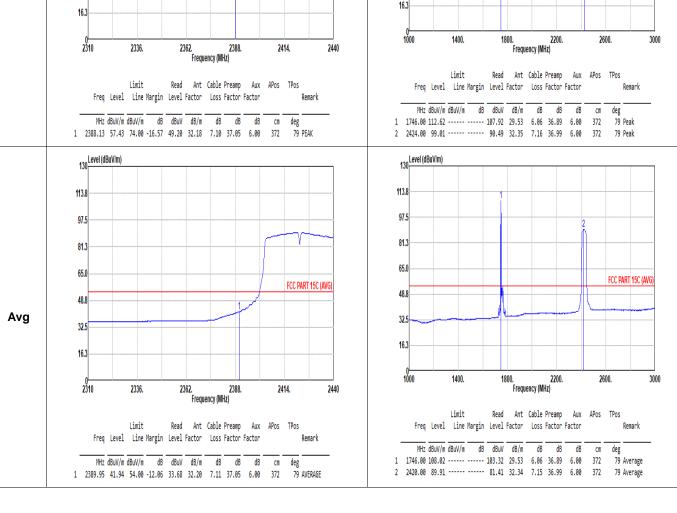


TEL: +86-512-57900158 FCC ID: IHDT56AM4

	4									
Mode	Band Edge - R 2400-2483.5_802.11n HT40_CH03_2422MHz									
ANT	-									
Pol.	Horizontal	Fundamental								
Peak	13.8 97.5 81.3 65.0 2440 2452. 16.3 Limit Read Ant Cable Preamp Aux APOs TPOs Remark Freq Level Line Margin Level Factor Loss Factor Factor Remark NH: dBuV/m dBuV/m dBuV/m dB dB dB dB dB cm deg 1 2486.38 52.18 74.09 -21.82 43.29 32.47 7.26 36.84 6.09 109 114 PEAK	Blank								
Avg	13.8 97.5 81.3 65.0 2440 2452. 2464. Frequency (MHz) Limit Read Ant Cable Preamp Aux APOS TPOS Remark Freq Level Line Margin Level Factor Loss Factor Factor Remark NH:z dBuV/m dBuV/m dBu dBuV dB/m dB dB dB dB cm deg 1 2485.78 39.07 54.00 -14.93 30.18 32.47 7.26 36.84 6.00 100 114 AVERAGE	Blank								

TEL: +86-512-57900158 FCC ID: IHDT56AM4

Report No.: FR352916-18 4 Mode Band Edge - L 2400-2483.5_802.11n HT40_CH03_2422MHz **ANT** Pol. Vertical **Fundamental** 130 Level (dBuV/m) 130 Level (dBuV/m) 113.8 113.8 97.5 97.5 81.3 81.3 FCC PART 15C FCC PART 150 65.0 65.0 48.8 48.8 **Peak** 32.5 32.5 16.3 16.3 1000 1400. 2200. 3000 2310 2336. 2388. 2414. 2440 Frequency (MHz) 2362. Frequency (MHz) Limit Read Ant Cable Preamp Aux APos TPos Limit Read Ant Cable Preamp Aux APos TPos Freq Level Line Margin Level Factor Loss Factor Factor Freq Level Line Margin Level Factor Loss Factor Factor Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB deg 1 1746.00 112.62 ----- 107.92 29.53 6.06 36.89 6.00 79 Peak 1 2388.13 57.43 74.00 -16.57 49.20 32.18 7.10 37.05 6.00 372 2 2424.00 99.01 ----- 90.49 32.35 7.16 36.99 6.00 372 79 Peak 130 Level (dBuV/m) 130 Level (dBuV/m) 113.8 113.8 97.5 97.5 81.3 81.3



TEL: +86-512-57900158 FCC ID: IHDT56AM4

4 Mode Band Edge - R 2400-2483.5_802.11n HT40_CH03_2422MHz **ANT** Vertical Pol. **Fundamental** 130 Level (dBuV/m) 113.8 97.5 81.3 FCC PART 15C 65.0 moderate before the complete special and the 48.8 **Peak** Blank 32.5 16.3 2440 2452. 2488. 2500 2464. 2476. Frequency (MHz) Limit Read Ant Cable Preamp Aux APos TPos Freq Level Line Margin Level Factor Loss Factor Factor Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 2483.56 50.57 74.00 -23.43 41.69 32.47 7.26 36.85 6.00 372 130 Level (dBuV/m) 113.8 97.5 81.3 65.0 FCC PART 15C (AVG 48.8 Avg Blank 32.5 16.3 0<u>—</u> 2440 2464. 2476. Frequency (MHz) 2452. 2488. 2500 Limit Read Ant Cable Preamp Aux APos TPos Freq Level Line Margin Level Factor Loss Factor Factor Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB 1 2484.70 37.80 54.00 -16.20 28.92 32.47 7.26 36.85 6.00 372 79 AVERAGE

4 Mode Harmonic 2400-2483.5_802.11n HT40_CH03_2422MHz **ANT** Vertical Pol. Horizontal 130 Level (dBuV/m) 130 Level (dBuV/m) 113.8 113.8 97.5 97.5 81.3 81.3 FCC PART 15C FCC PART 15C 65.0 65.0 FCC PART 15C (AVG) FCC PART 15C (AVG) 48.8 Peak 32.5 Avg 16.3 3000 6000. 9000. 12000. Frequency (MHz) 18000 12000. 15000. 18000 Frequency (MHz) Limit Read Ant Cable Preamp Aux APos TPos Remark Freq Level Line Margin Level Factor Loss Factor Factor Limit Read Ant Cable Preamp Aux APos TPos Remark Freq Level Line Margin Level Factor Loss Factor Factor MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm
1 4844.00 40.42 74.00 -33.58 61.56 34.12 10.25 65.51 0.00 --cm deg -- -- PEAK -- -- PEAK MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB 2 7266.00 42.39 74.00 -31.61 60.15 35.70 12.72 66.18 0.00 1 4844.00 40.76 74.00 -33.24 61.90 34.12 10.25 65.51 0.00 -- PEAK

2 7266.00 42.56 74.00 -31.44 60.32 35.70 12.72 66.18 0.00

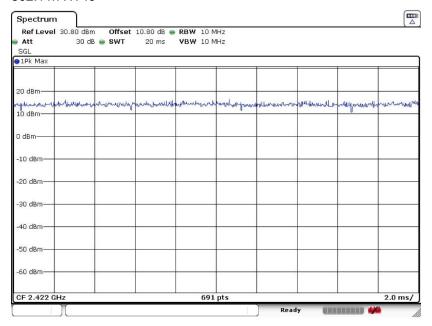
TEL: +86-512-57900158 FCC ID: IHDT56AM4

3 14553.00 50.26 71.75 -21.49 57.14 39.25 18.40 64.53 0.00

Appendix D. Duty Cycle Plots

Band	Duty Cycle(%)	T(ms)	1/T(kHz)	VBW Setting
802.11n HT40	100%	-	-	10Hz

802.11n HT40



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