





Report No.: FR441123D

FCC CO-LOCATION RADIO **TEST REPORT**

FCC ID : 2AFZZRC04

Equipment : Xiaomi WiFi Range Extender AC1200

Brand Name : xiaomi Model Name : RC04

Applicant : Xiaomi Communications Co., Ltd

#019, 9th Floor, Building 6, 33 Xi'erqi Middle Road,

Haidian District, Beijing, China, 100085

Manufacturer : Xiaomi Communications Co., Ltd

#019, 9th Floor, Building 6, 33 Xi'ergi Middle Road,

Haidian District, Beijing, China, 100085

Standard : FCC Part 15 Subpart E §15.407

The product was received on Apr. 24, 2024 and testing was performed from May 28, 2024 to May 29, 2024. We, Sporton International Inc. Wensan Laboratory, 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 from Sporton International Inc. Wensan Laboratory, the test report shall not be reproduced except in full.

Approved by: Louis Wu

TEL: 886-3-327-0868

Lunis Win

Sporton International Inc. Wensan Laboratory

No.58, Aly. 75, Ln. 564, Wenhua 3rd, Rd., Guishan Dist., Taoyuan City 333010

FAX: 886-3-327-0855 : Jun. 21, 2024 Issue Date

Report Template No.: BU5-FR15EWL AC MA Version 2.4

Report Version

Page Number

: 01

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History of this test report

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Report No.	Version	Description	Issue Date
FR441123D	01	Initial issue of report	Jun. 21, 2024

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Summary of Test Result

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Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
3.1	15.407(b)	Unwanted Emissions	Pass	3.20 dB under the limit at 11160.00 MHz
3.2	15.203	Antenna Requirement	Pass	-

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.
- 2. 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.

Reviewed by: Keven Cheng Report Producer: Michelle Chen

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1 General Description

1.1 Product Feature of Equipment Under Test

Product Feature

General Specs

Wi-Fi 2.4GHz 802.11b/g/n and Wi-Fi 5GHz 802.11a/n/ac.

Antenna Type

WLAN:

<ant. 1>: External Antenna<ant. 2>: External Antenna

Antenna information				
2400 MHz ~ 2483.5 MHz	Peak Gain (dBi)	Ant. 1: 3.36 Ant. 2: 3.21		
5470 MHz ~ 5720 MHz	Peak Gain (dBi)	Ant. 1: 3.72 Ant. 2: 3.93		

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Remark: The EUT's information above is declared by manufacturer. Please refer to Disclaimer in report summary.

1.2 Modification of EUT

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

1.3 Testing Location

Test Site	Sporton International Inc. Wensan Laboratory
Test Site Location	No.58, Aly. 75, Ln. 564, Wenhua 3rd, Rd., Guishan Dist., Taoyuan City 333010 TEL: +886-3-327-0868 FAX: +886-3-327-0855
Test Site No.	Sporton Site No. 03CH23-HY

Note: The test site complies with ANSI C63.4 2014 requirement.

FCC designation No.: TW3786

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1.4 Applicable Standards

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

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- FCC Part 15 Subpart C §15.247
- FCC Part 15 Subpart E
- FCC KDB Publication No. 558074 D01 15.247 Meas Guidance v05r02
- FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01.
- FCC KDB 414788 D01 Radiated Test Site v01r01.
- FCC KDB 662911 D01 Multiple Transmitter Output v02r01.
- ANSI C63.10-2013

Remark:

- 1. All test items were verified and recorded according to the standards and without any deviation during the test.
- 2. The TAF code is not including all the FCC KDB listed without accreditation.

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2 Test Configuration of Equipment Under Test

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: radiation emission (9 kHz to the 10th harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower). For radiated measurement, the measured emission level of the EUT was maximized by rotating the EUT on a turntable, adjusting the orientation of the EUT and EUT antenna in three orthogonal axis (X: flat, Y: portrait, Z: landscape), and adjusting the measurement antenna orientation, following C63.10 exploratory test procedures and only the worst plane recorded in this report.

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2.1 Carrier Frequency and Channel

2400-24	83.5 MHz	5470 MHz ~ 5725 MHz		
802	11b	802.11n HT20		
Channel Freq. (MHz)		Channel	Freq. (MHz)	
06	2437	116	5580	

2.2 Test Mode

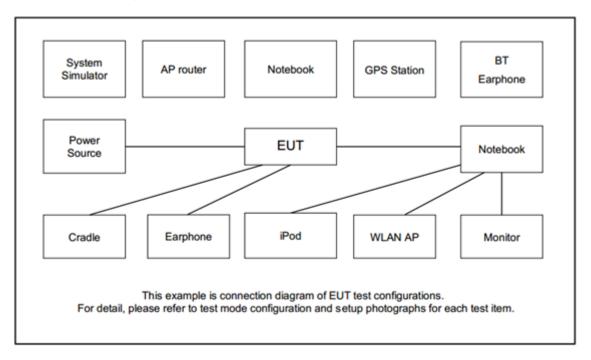
<Co-Location>

100 _000		
Test Mode	Test Mode Modulation	
Mode 1	WLAN 2.4GHz 802.11b for Ant. 1 + WLAN 5GHz 802.11n	1Mbps + MCS0
Wiode	HT20 for MIMO <ant. 1+2=""></ant.>	TWIDPS + WC30

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2.3 Connection Diagram of Test System



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2.4 EUT Operation Test Setup

The RF test items, utility "Tera Term v4.95" was installed in Notebook which was programmed in order to make the EUT get into the engineering modes to provide channel selection, power level, data rate and the application type and for continuous transmitting signals.

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3 Test Result

3.1 Unwanted Emissions Measurement

This section is to measure unwanted emissions through radiated measurement for band edge spurious emissions and out of band emissions measurement.

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3.1.1 Limit of Unwanted Emissions

(1) For transmitters operating in the 5150-5250 MHz band: all emissions outside of the 5150-5350 MHz band shall not exceed an EIRP of –27dBm/MHz.

For transmitters operating in the 5250-5350 MHz band: all emissions outside of the 5150-5350 MHz band shall not exceed an EIRP of -27 dBm/MHz. Devices operating in the 5250-5350 MHz band that generate emissions in the 5150-5250 MHz band must meet all applicable technical requirements for operation in the 5150-5250 MHz band (including indoor use) or alternatively meet an out-of-band emission EIRP limit of -27 dBm/MHz in the 5150-5250 MHz band.

For transmitters operating in the 5470-5600 MHz and 5650-5725MHz band: all emissions outside of the 5470-5600 MHz and 5650-5725MHz band shall not exceed an EIRP of -27 dBm/MHz.

(2) Unwanted spurious emissions falls in restricted bands shall comply with the general field strength limits as below table:

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

Note: The following formula is used to convert the EIRP to field strength.

$$E = \frac{1000000\sqrt{30P}}{3}$$
 µV/m, where P is the eirp (Watts)

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EIRP (dBm)	Field Strength at 3m (dBµV/m)		
- 27	68.3		

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- (3) KDB789033 D02 v02r01 G)2)c)
 - (i) Sections 15.407(b)(1-3) specifies the unwanted emissions limit for the U-NII-1 and U-NII-2 bands. As specified, emissions above 1000 MHz that are outside of the restricted bands are subject to a peak emission limit of −27 dBm/MHz.
 - (ii) Section 15.407(b)(4) specifies the unwanted emissions limit for the U-NII-3 band. A band emissions mask is specified in Section 15.407(b)(4)(i). The emission limits are based on the use of a peak detector.

3.1.2 Measuring Instruments

Please refer to the measuring equipment list in this test report.

3.1.3 Test Procedures

- The testing follows FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01.
 Section G) Unwanted emissions measurement.
 - (1) Procedure for Unwanted Emissions Measurements Below 1000 MHz
 - RBW = 120 kHz
 - VBW = 300 kHz
 - Detector = Peak
 - Trace mode = max hold
 - (2) Procedure for Peak Unwanted Emissions Measurements Above 1000 MHz
 - RBW = 1 MHz
 - VBW ≥ 3 MHz
 - Detector = Peak
 - Sweep time = auto
 - Trace mode = max hold
 - (3) Procedures for Average Unwanted Emissions Measurements Above 1000 MHz
 - RBW = 1 MHz
 - 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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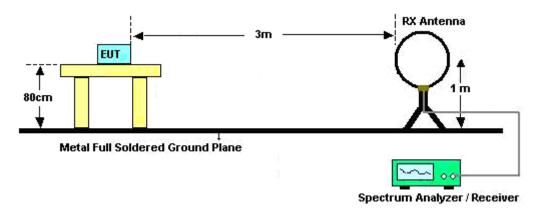
The EUT is placed on a turntable with 0.8 meter for frequency below 1 GHz and 1.5 meter for frequency above 1 GHz respectively above ground.

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- 3. The EUT is set 3 meters away from the receiving antenna which is mounted on the top of a variable height antenna tower.
- 4. The antenna is a broadband antenna and its height is adjusted between one meter and four meters above ground to find the maximum value of the field strength for both horizontal polarization and vertical polarization of the antenna.
- 5. For each suspected emission, the EUT is arranged to its worst case and then adjust the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading.
- 6. Radiated testing below 1 GHz is performed by adjusting the antenna tower from 1 m to 4 m and by rotating the turn table from 0 degree to 360 degrees to find the peak maximum hold reading. When there is no suspected emission found and the emission level is with at least 6 dB margin against QP limit line, the position is marked as "-".
- 7. Radiated testing above 1 GHz is performed by adjusting the antenna tower from 1 m to 4 m and by rotating the turn table from 0 degree to 360 degrees to find the peak maximum hold reading for scanning all frequencies. When there is no suspected emission found and the harmonic emission level is with at least 6 dB margin against average limit line, the position is marked as "-".

3.1.4 Test Setup

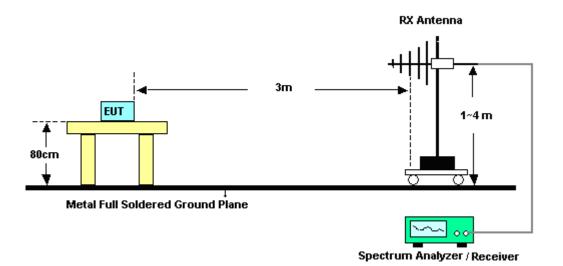
For radiated emissions below 30MHz



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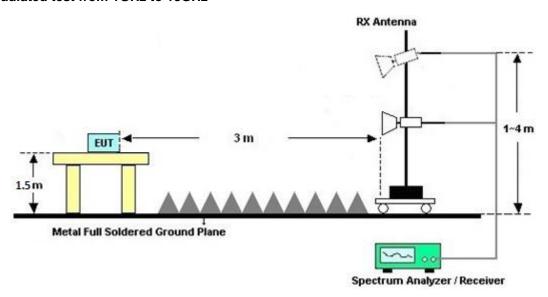


For radiated emissions from 30MHz to 1GHz



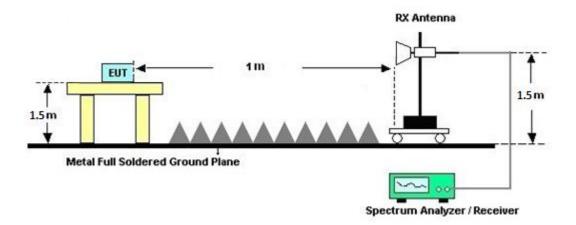
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For radiated test from 1GHz to 18GHz



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For radiated test above 18GHz



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

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

There is adequate comparison measurement of both open-field test site and alternative test site - semi-Anechoic chamber according to 414788 D01 Radiated Test Site v01r01, and the result came out very similar.

3.1.6 Test Result of Radiated Spurious at Band Edges

Please refer to Appendix A.

3.1.7 Duty Cycle

Please refer to Appendix B.

3.1.8 Test Result of Radiated Spurious Emissions (30MHz ~ 10th Harmonic)

Please refer to Appendix A.

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3.2 Antenna Requirements

3.2.1 Standard Applicable

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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3.2.2 Antenna Anti-Replacement Construction

An embedded-in antenna design is used.

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4 List of Measuring Equipment

Instrument	Brand Name	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Loop Antenna	Rohde & Schwarz	HFH2-Z2	100488	9kHz~30MHz	Sep. 12, 2023	May 28, 2024~ May 29, 2024	Sep. 11, 2024	Radiation (03CH23-HY)
Bilog Antenna with 6dB pad	TESEQ & WOKEN	CBL 6111D & 00802N1D-06	62028 & 003	N/A	Oct. 15, 2023	May 28, 2024~ May 29, 2024	Oct. 14, 2024	Radiation (03CH23-HY)
Amplifier	SONOMA	310N	421582	N/A	Jul. 15, 2023	May 28, 2024~ May 29, 2024	Jul. 14, 2024	Radiation (03CH23-HY)
Double Ridged Guide Horn Antenna	RFSPIN	DRH18-E	LE2C05A18E N	1GHz~18GHz	Jul. 12, 2023	May 28, 2024~ May 29, 2024	Jul. 11, 2024	Radiation (03CH23-HY)
SHF-EHF Horn Antenna	SCHWARZBE CK	BBHA9170	1223	18GHz-40GHz	Jul. 10, 2023	May 28, 2024~ May 29, 2024	Jul. 09, 2024	Radiation (03CH23-HY)
Amplifier	EMEC	EM01G18GA	060878	N/A	Sep. 28, 2023	May 28, 2024~ May 29, 2024	Sep. 27, 2024	Radiation (03CH23-HY)
Preamplifier	EMEC	EM18G40G	060871	18-40GHz	Sep. 06, 2023	May 28, 2024~ May 29, 2024	Sep. 05, 2024	Radiation (03CH23-HY)
Signal Analyzer	Keysight	N9010B	MY62170337	N/A	Aug. 17, 2023	May 28, 2024~ May 29, 2024	Aug. 16, 2024	Radiation (03CH23-HY)
Hygrometer	TECPEL	DTM-303B	TP211542	N/A	Oct. 30, 2023	May 28, 2024~ May 29, 2024	Oct. 29, 2024	Radiation (03CH23-HY)
Controller	EMEC	EM1000	N/A	Control Turn table & Ant Mast	N/A	May 28, 2024~ May 29, 2024	N/A	Radiation (03CH23-HY)
Antenna Mast	ChainTek	MBS-520-1	N/A	1m~4m	N/A	May 28, 2024~ May 29, 2024	N/A	Radiation (03CH23-HY)
Turn Table	ChainTek	T-200-S-1	N/A	0~360 Degree	N/A	May 28, 2024~ May 29, 2024	N/A	Radiation (03CH23-HY)
Software	Audix	E3 6.09824_2019 122	RK-002348	N/A	N/A	May 28, 2024~ May 29, 2024	N/A	Radiation (03CH23-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	803951/2	9kHz~30MHz	Mar. 06, 2024	May 28, 2024~ May 29, 2024	Mar. 05, 2025	Radiation (03CH23-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	804395/2	N/A	Nov. 27, 2023	May 28, 2024~ May 29, 2024	Nov. 26, 2024	Radiation (03CH23-HY)
RF Cable	EMC	EMC101Y	231115/23111 9/231122	N/A	Nov. 27, 2023	May 28, 2024~ May 29, 2024	Nov. 26, 2024	Radiation (03CH23-HY)

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5 Measurement Uncertainty

<u>Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)</u>

Measuring Uncertainty for a Level of Confidence	6.5 dB
of 95% (U = 2Uc(y))	0.5 UB

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Uncertainty of Radiated Emission Measurement (1000 MHz ~ 6000 MHz)

Measuring Uncertainty for a Level of Confidence	4.6 dB
of 95% (U = 2Uc(y))	4.0 UB

Uncertainty of Radiated Emission Measurement (6000 MHz ~ 18000 MHz)

Measuring Uncertainty for a Level of Confidence	4.6 dB
of 95% (U = 2Uc(y))	4.0 UB

<u>Uncertainty of Radiated Emission Measurement (18000 MHz ~ 40000 MHz)</u>

Measuring Uncertainty for a Level of Confidence	5.3 dB
of 95% (U = 2Uc(y))	9.3 UB

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Appendix A. Radiated Spurious Emission Test Data

Test Engineer :	Leo Li and Lucifer Jiang	Temperature :	21.7~22.5°C	
		Relative Humidity :	51.0~57.0%	

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-L	Low channel location
-R	High channel location

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A1. Radiated Spurious Emission Test Modes

Mode	Band (MHz)	Antenna	Modulation	Channel Frequency		Data Rate	RU	Remark	
	2400-2483.5	1	802.11b	06	2437	1Mbps	-	-	
	5.47-5.725	1+2 802.11n HT20		116	5580	MCS0	-	-	
Mode 1	2400-2483.5 1		802.11b	06	2437	2437 1Mbps		LF	
	5.47-5.725	1+2	802.11n HT20	116	5580	MCS0	-	LF 	
	2400-2483.5	1 802.11b		06	2437	1Mbps			
	5.47-5.725	1+2	802.11n HT20	116	5580	MCS0	-	SHF	

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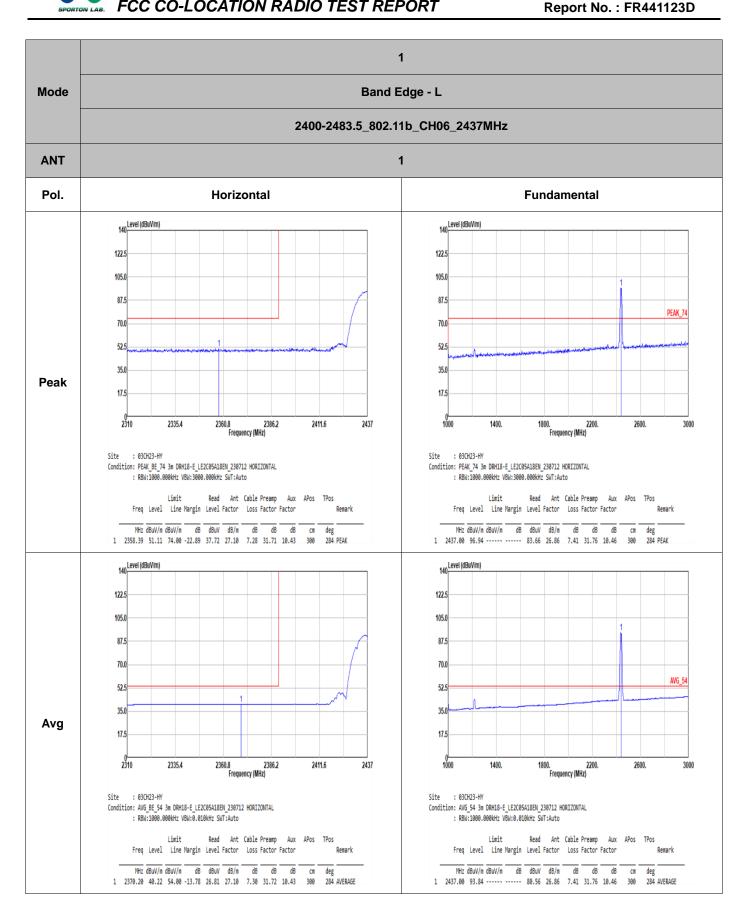
A2. Summary of each worse mode

Mode	Modulation	Ch.	Freq. (MHz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Pol.	Peak Avg.	Result	RU	Remark
1	802.11b 802.11n HT20	6	5418.77	46.29	54.00	-7.71	V	Avg.	Pass	-	Band Edge
		HT20 116	11160	50.80	54.00	-3.20	V	Avg.	Pass	-	Harmonic
	WLAN Tx LF	-	718.70	37.38	46.00	-8.62	V	Peak	Pass	-	LF
	WLAN Tx SHF	-	37646.00	47.17	68.20	-21.03	Н	Peak	Pass	-	SHF

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1 Mode Band Edge - R 2400-2483.5_802.11b_CH06_2437MHz **ANT** Pol. Horizontal **Fundamental** 140 Level (dBuV/m) 122.5 105.0 87.5 PEAK_BE_7 70.0 52.5 35.0 Peak Blank 17.5 0--- 2437 2462.2 2474.8 Frequency (MHz) 2449.6 2487.4 2500 : 03CH23-HY Condition: PEAK_BE_74 3m DRH18-E_LE2C05A18EN_230712 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto 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 cm deg
1 2499.24 51.59 74.00 -22.41 38.21 26.90 7.49 31.80 10.48 300 284 PEAK 140 Level (dBuV/m) 105.0 87.5 70.0 52.5 35.0 Avg Blank 17.5 2437 2462.2 2462.2 Frequency (MHz) 2449.6 2487.4 2474.8 2500 Site : 03CH23-HY Condition: AVG_BE_54 3m DRH18-E_LE2C05A18EN_230712 HORIZONTAL : RBW:1000.000kHz VBW:0.010kHz SWT:Auto 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 | cm | deg | | 1 2493.13 | 40.26 | 54.00 -13.74 | 26.88 | 26.90 | 7.49 | 31.80 | 10.48 | 300 | 284 | AVERAGE

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1 Band Edge - L Mode 2400-2483.5_802.11b_CH06_2437MHz **ANT** Pol. Vertical **Fundamental** 140 Level (dBuV/m) 140 Level (dBuV/m) 122.5 122.5 105.0 105.0 87.5 87.5 PEAK_74 70.0 70.0 52.5 52.5 35.0 Peak 17.5 2310 1000 2335.4 2411.6 1400. 2386.2 2437 3000 Frequency (MHz) Frequency (MHz) : 03CH23-HY Site : 03CH23-HY Condition: PEAK_BE_74 3m DRH18-E_LE2C05A18EN_230712 VERTICAL Condition: PEAK_74 3m DRH18-E_LE2C05A18EN_230712 VERTICAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto 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 cm deg
1 2376.80 60.10 74.00 -13.90 46.74 27.03 7.32 31.72 10.43 127 162 PEAK MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 2437.00 107.50 ----- 94.22 26.86 7.41 31.76 10.46 127 162 PEAK 140 Level (dBuV/m) 140 Level (dBuV/m) 122.5 105.0 105.0 87.5 87.5 70.0 70.0 52 5 52.5 Avg 17.5 17.5 1000 2310 2335.4 2360.8 2411.6 2386.2 2437 1400. 1800. 2200. 2600. 3000 Frequency (MHz) Frequency (MHz) Site : 03CH23-HY Site : 03CH23-HY Condition: AVG_54 3m DRH18-E_LE2C05A18EN_230712 VERTICAL Condition: AVG_BE_54 3m DRH18-E_LE2C05A18EN_230712 VERTICAL : RBW:1000.000kHz VBW:0.010kHz SWT:Auto : RBW:1000.000kHz VBW:0.010kHz SWT:Auto Read Ant Cable Preamp Aux APos TPos Limit Read Ant Cable Preamp Aux APos TPos Limit 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 dB cm deg | 1 2437.00 104.40 ------ 91.10 26.88 7.41 31.76 10.46 127 162 AVERAGE | NH: dBuV/m dBuV/m dB dB dB dB dB cm deg | 1 2380.99 42.40 54.00 -11.60 29.07 27.00 7.32 31.73 10.44 127 162 AVERAGE

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1 Mode Band Edge - R 2400-2483.5_802.11b_CH06_2437MHz **ANT** Pol. Vertical **Fundamental** 140 Level (dBuV/m) 122.5 105.0 87.5 PEAK_BE_7 70.0 52.5 35.0 Peak Blank 17.5 0--- 2437 2462.2 2474.8 Frequency (MHz) 2449.6 2487.4 2500 : 03CH23-HY Condition: PEAK_BE_74 3m DRH18-E_LE2C05A18EN_230712 VERTICAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto 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 | cm | deg | |
| 1 | 2493.32 | 52.28 | 74.00 | -21.72 | 38.90 | 26.90 | 7.49 | 31.80 | 10.48 | 127 | 162 | PEAK 140 Level (dBuV/m) 105.0 87.5 70.0 52.5 35.0 Avg Blank 17.5 2437 2462.2 2462.2 Frequency (MHz) 2487.4 2449.6 2474.8 2500 Site : 03CH23-HY Condition: AVG_BE_54 3m DRH18-E_LE2C05A18EN_230712 VERTICAL : RBW:1000.000kHz VBW:0.010kHz SWT:Auto Limit Read Ant Cable Preamp Aux APos TPos Freq Level Line Margin Level Factor Loss Factor Factor

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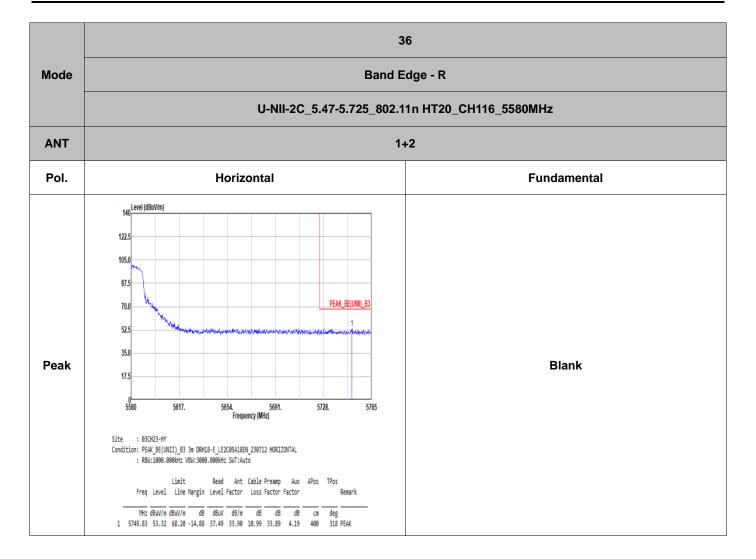


36 Mode Band Edge - L U-NII-2C_5.47-5.725_802.11n HT20_CH116_5580MHz **ANT** 1+2 Horizontal **Fundamental** Pol. 140_Level (dBuV/m) 140 Level (dBuV/m) 122.5 122.5 105.0 105.0 87.5 87.5 70.0 70.0 52.5 52.5 35.0 35.0 Peak 17.5 5442. 5 Frequency (MHz) 5350 5396. 5534. 5580 1000 7000 Frequency (MHz) : 03CH23-HY : 03CH23-HY Condition: PEAK_BE(UNII)_B3 3m DRH18-E_LE2C05A18EN_230712 HORIZONTAL Condition: PEAK(UNII) 3m DRH18-E_LE2C05A18EN_230712 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto 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 Remark Freq Level Line Margin Level Factor Loss Factor Factor MHz dBuV/m dBuV/m dB dBuV dB/m dB deg MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 5403.82 52.66 74.00 -21.34 37.69 32.52 11.19 33.59 4.09 318 PEAK 1 5580.00 103.52 ----- 88.19 33.07 11.22 33.79 4.15 400 318 PEAK 2 5461.78 51.48 68.20 -16.72 36.40 32.72 11.20 33.68 4.11 400 140 Level (dBuV/m) 140 Level (dBuV/m) 122.5 105.0 105.0 87.5 87.5 70.0 70.0 525 52.5 35.0 Avg 17.5 17.5 5442. Frequency (MHz) 1000 5350 5396. 5488 5534 5580 2200. 3400. 4600 5800. 7000 . Frequency (MHz) Site : 03CH23-HY Site : 03CH23-HY Condition: AVG_54 3m DRH18-E_LE2C05A18EN_230712 HORIZONTAL Condition: AVG_BE(UNII)_B3 3m DRH18-E_LE2C05A18EN_230712 HORIZONTAL : RBW:1000.000kHz VBW:0.820kHz SWT:Auto : RBW:1000.000kHz VBW:0.820kHz SWT:Auto Read Ant Cable Preamp Aux APos TPos Limit Read Ant Cable Preamp Aux APos TPos Limit 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 cm deg MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 5453.04 43.23 54.00 -10.77 28.14 32.71 11.20 33.67 4.11 400 318 AVERAGE 1 5580.00 95.68 ----- 80.35 33.07 11.22 33.79 4.15 400 318 AVERAGE

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36 Mode Band Edge - L U-NII-2C_5.47-5.725_802.11n HT20_CH116_5580MHz **ANT** 1+2 Vertical **Fundamental** Pol. 140_Level (dBuV/m) 140 Level (dBuV/m) 122.5 122.5 105.0 105.0 87.5 87.5 70.0 70.0 52.5 52.5 35.0 Peak 17.5 5442. 5 Frequency (MHz) 5350 5396. 5534. 5580 1000 7000 Frequency (MHz) : 03CH23-HY : 03CH23-HY Condition: PEAK_BE(UNII)_B3 3m DRH18-E_LE2C05A18EN_230712 VERTICAL Condition: PEAK(UNII) 3m DRH18-E_LE2C05A18EN_230712 VERTICAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto 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 Remark Freq Level Line Margin Level Factor Loss Factor Factor MHz dBuV/m dBuV/m dB dBuV dB/m dB deg MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 5421.76 54.91 74.00 -19.09 39.90 32.59 11.19 33.62 4.10 253 2 5463.39 55.58 68.20 -12.62 40.49 32.73 11.20 33.68 4.11 253 360 PEAK 1 5580.00 115.30 ----- 99.97 33.07 11.22 33.79 4.15 253 360 PEAK 360 PEAK 140 Level (dBuV/m) 140 Level (dBuV/m) 122.5 105.0 105.0 87.5 87.5 70.0 70.0 525 52.5 35.0 Avg 17.5 17.5 5442. Frequency (MHz) 1000 5350 5396. 5488 5534 5580 2200. 3400. 4600 5800. 7000 . Frequency (MHz) Site : 03CH23-HY Site : 03CH23-HY Condition: AVG_54 3m DRH18-E_LE2C05A18EN_230712 VERTICAL Condition: AVG_BE(UNII)_B3 3m DRH18-E_LE2C05A18EN_230712 VERTICAL : RBW:1000.000kHz VBW:0.820kHz SWT:Auto : RBW:1000.000kHz VBW:0.820kHz SWT:Auto Read Ant Cable Preamp Aux APos TPos Read Ant Cable Preamp Aux APos TPos Limit Limit 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 cm deg MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 5418.77 46.29 54.00 -7.71 31.29 32.58 11.19 33.62 4.10 253 360 AVERAGE 1 5580.00 109.00 ----- 93.68 33.06 11.22 33.79 4.15 253 360 AVERAGE

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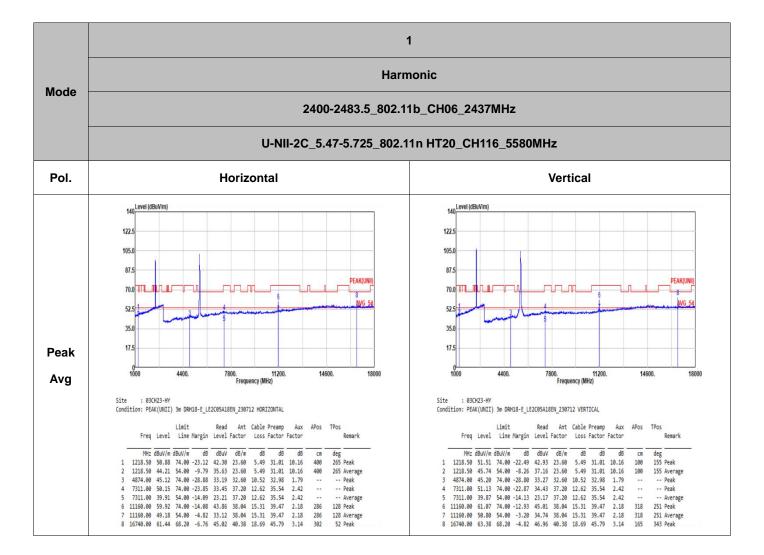
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36 Mode Band Edge - R U-NII-2C_5.47-5.725_802.11n HT20_CH116_5580MHz **ANT** 1+2 Pol. Vertical **Fundamental** 140 Level (dBuV/m) 122.5 105.0 87.5 70.0 52.5 35.0 Peak Blank 17.5 5580 5617. 5728. 5765 Frequency (MHz) : 03CH23-HY Condition: PEAK_BE(UNII)_B3 3m DRH18-E_LE2C05A18EN_230712 VERTICAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto 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 dB cm deg | 1 5735.77 | 55.96 68.20 -12.24 40.16 33.84 11.01 33.88 4.19 253 360 PEAK

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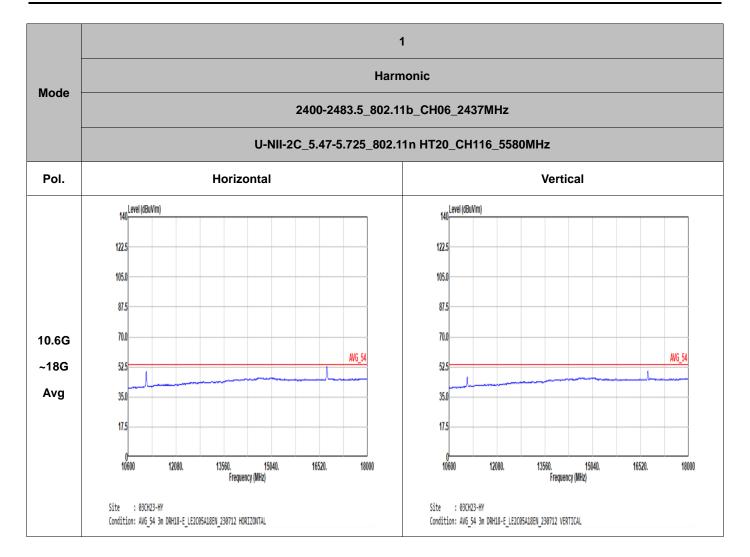
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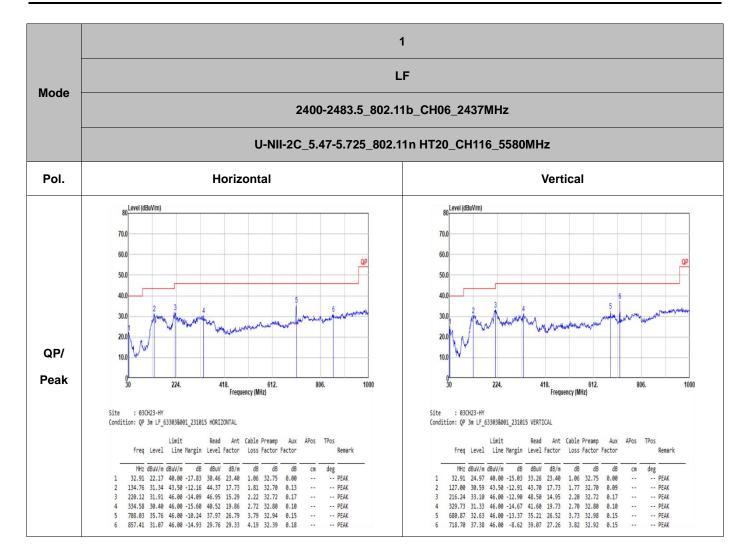




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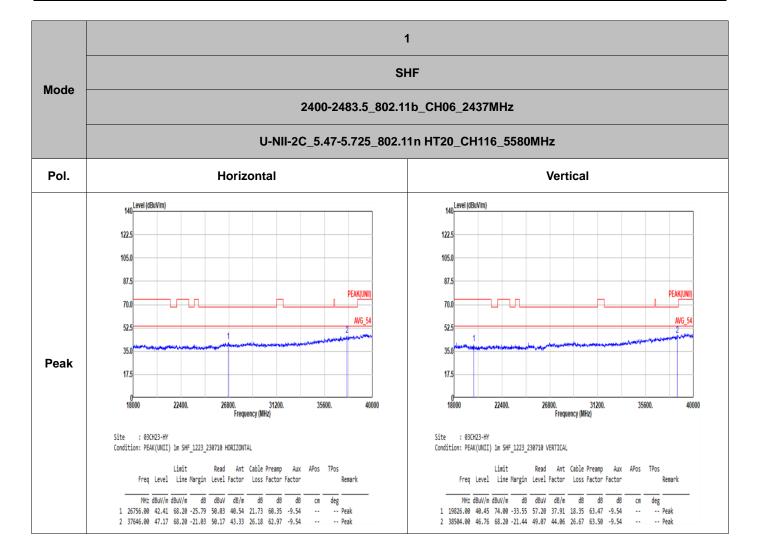




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Appendix B. Duty Cycle Plots

Antenna	Band	Duty Cycle(%)	T(us)	1/T(kHz)	VBW Setting
1	802.11b	98.19	-	-	10Hz
1+2	5GHz 802.11n HT20	80.06	1305	0.77	820Hz

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<Ant. 1>



MIMO <Ant. 1+2>



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