FCC CO-LOCATION RADIO TEST REPORT

FCC ID	:	**UZ7WT63B0**
Equipment	:	**WT6300 Wearable Computer**
Brand Name	:	**Zebra**
Model Name	:	**WT63B0**
Applicant	:	**Zebra Technologies Corporation 1 Zebra Plaza, Holtsville, NY 11742**
Manufacturer	:	**Zebra Technologies Corporation 1 Zebra Plaza, Holtsville, NY 11742**
Standard	:	**FCC Part 15 Subpart E §15.407**

The product was received on Aug. 12, 2020 and testing was started from Sep. 24, 2020 and completed on Sep. 24, 2020. We, SPORTON INTERNATIONAL INC. EMC & Wireless Communications 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 of SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory, the test report shall not be reproduced except in full.

Louis Wu

Approved by: Louis Wu

SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory
No. 52, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.)

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History of this test report

Report No.	Version	Description	Issued Date
FR072944G	01	Initial issue of report	Sep. 29, 2020

Summary of Test Result

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
3.1	15.407(b)	Unwanted Emissions	Pass	Under limit 1.35 dB at 5350.560 MHz
3.2	15.203 15.407(a)	Antenna Requirement	Pass	-

Declaration of Conformity:
The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.
Comments and Explanations:
The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.

Reviewed by: Wii Chang

Report Producer: Yimin Ho

1 General Description

1.1 Product Feature of Equipment Under Test

Product Feature	
Equipment	WT6300 Wearable Computer
Brand Name	Zebra
Model Name	WT63B0
FCC ID	UZ7WT63B0
EUT supports Radios application	NFC WLAN 11a/b/g/n HT20/HT40 WLAN 11ac VHT20/VHT40/VHT80 Bluetooth BR/EDR/LE
HW Version	EV2.5
SW Version	10-14-10.00-QC-U01-PRD-HEL-04
OS Version	Android 10
FW Version	FUSION_QA_2_1.3.0.006_Q
MFD	29JUL20
EUT Stage	Engineering Sample

Remark: The above EUT's information was declared by manufacturer.

Specification of Accessories				
AC Adapter 1	**Brand Name**	Zebra	**Part Number**	PWR-WUA5V12W0US
AC Adapter 2	**Brand Name**	Zebra	**Part Number**	PWR-WUA5V12W0WW
AC Adapter 3	**Brand Name**	Zebra	**Part Number**	PWR-BUA5V16W0WW
Battery 1	**Brand Name**	Zebra	**Part Number**	BT000262A01
Battery 2	**Brand Name**	Zebra	**Part Number**	BT-000262-50
Battery 3	**Brand Name**	Zebra	**Part Number**	BT-000362-00
AC Power Cable	**Brand Name**	Zebra	**Part Number**	50-16000-182R
DC Cable	**Brand Name**	Zebra	**Part Number**	CBL-DC-383A1-01
USB Cable	**Brand Name**	Zebra	**Part Number**	CBL-NGWT-USBCHG-01
Vibrating Cable	**Brand Name**	Zebra	**Part Number**	CBL-NGWT-HDVBAP-01
Audio Cable 1	**Brand Name**	Zebra	**Part Number**	CBL-HS2100-12S1-01
Audio Cable 2	**Brand Name**	Zebra	**Part Number**	CBL-HS3100-CUC1-01
Keyboard	**Brand Name**	Zebra	**Part Number**	KYPD-WT6XANFASM-01
Scanner 1	**Brand Name**	Zebra	**Part Number**	RS51B0-TBSNWR
Scanner 2	**Brand Name**	Zebra	**Part Number**	RS60B0-SRSTWR
Scanner 3	**Brand Name**	Zebra	**Part Number**	RS4000-HPCSWR
Scanner 4	**Brand Name**	Zebra	**Part Number**	RS5000-LCFSWR
Earphone 1	**Brand Name**	Zebra	**Part Number**	HS2100-OTH
Earphone 2	**Brand Name**	Zebra	**Part Number**	HS3100-OTH
Wrist Mount	**Brand Name**	Zebra	**Part Number**	SG-NGWT-WRMTS-01
Wrist Mount	**Brand Name**	Zebra	**Part Number**	SG-NGWT-WRMTL-01
Wrist Mount	**Brand Name**	Zebra	**Part Number**	SG-NGWT-WRMTXL-01
Hip Mount	**Brand Name**	Zebra	**Part Number**	SG-NGWT-HPMNT-01

1.2 Product Specification of Equipment Under Test

Product Specification subjective to this standard	
Tx/Rx Frequency Range	2412 MHz ~ 2462 MHz 5260 MHz ~ 5320 MHz
Antenna Type / Gain	**<2412 MHz ~ 2462 MHz>** Ant. 1: Patch Antenna with gain 2.4 dBi Ant. 2: Patch Antenna with gain 3.7 dBi **<5260 MHz ~ 5320 MHz>** Ant. 1 : Patch Antenna with gain 3.0 dBi Ant. 2 : Patch Antenna with gain 4.1 dBi
Type of Modulation	802.11n : OFDM (BPSK/QPSK/16QAM/64QAM) 802.11ac : OFDM (BPSK/QPSK/16QAM/64QAM/256QAM)

1.3 Modification of EUT

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

1.4 Testing Location

Test Site	SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory
Test Site Location	No.58, Aly. 75, Ln. 564, Wenhua 3rd, Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.) TEL: +886-3-327-0868 FAX: +886-3-327-0855
Test Site No.	**Sporton Site No.**
	03CH16-HY

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

FCC designation No.: TW0007

1.5 Applicable Standards

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

- FCC Part 15 Subpart E
- 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.
- FCC KDB Publication No. 558074 D01 DTS Meas. Guidance v05r02
- 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. This EUT has also been tested and complied with the requirements of FCC Part 15, Subpart B, recorded in a separate test report.
3. The TAF code is not including all the FCC KDB listed without accreditation.

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: 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 (Y plane) were recorded in this report.

2.1 Carrier Frequency and Channel

2400-2483.5 MHz 802.11n HT40		5250-5350 MHz 802.11ac VHT80	
Channel	**Freq. (MHz)**	**Channel**	**Freq. (MHz)**
3	2422	58	5290

2.2 Test Mode

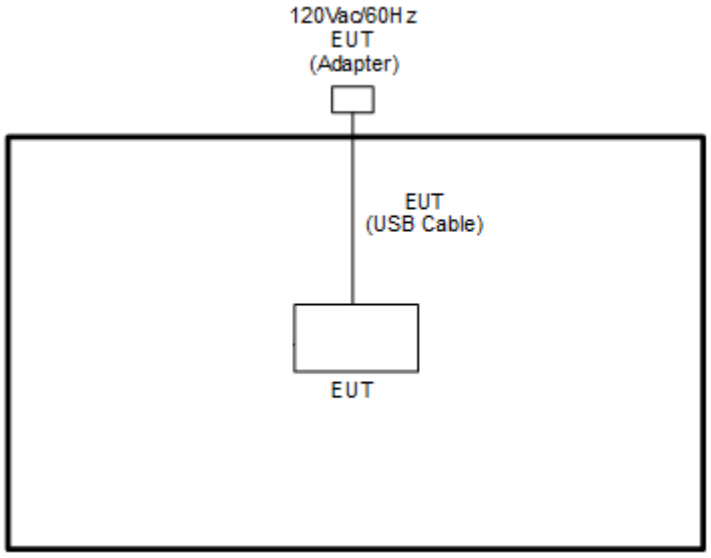
Final test modes are considering the modulation and worse data rates as below table.

<Co-Location>

Modulation	Data Rate
802.11n HT40 for Ant. 1 + 802.11ac VHT80 for Ant. 2	**MCS0 + MCS0**

Remark: For Radiated Test Cases, the tests were performed with Adapter 1 and Battery 1.

2.3 Connection Diagram of Test System



2.4 Support Unit used in test configuration and system

Item	Equipment	Brand Name	Model Name	FCC ID	Data Cable	Power Cord
1.	Notebook	Lenovo	L570	FCC DoC	N/A	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m

2.5 EUT Operation Test Setup

The RF test items, utility “QRCT_V4.0.00156” 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.

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.

3.1.1 Limit of Unwanted Emissions

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

Frequency (MHz)	Field Strength (microvolts/meter)	Measurement Distance (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)

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

(2) 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

See list of measuring equipment of this test report.

3.1.3 Test Procedures

1. 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 1000MHz

   - 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

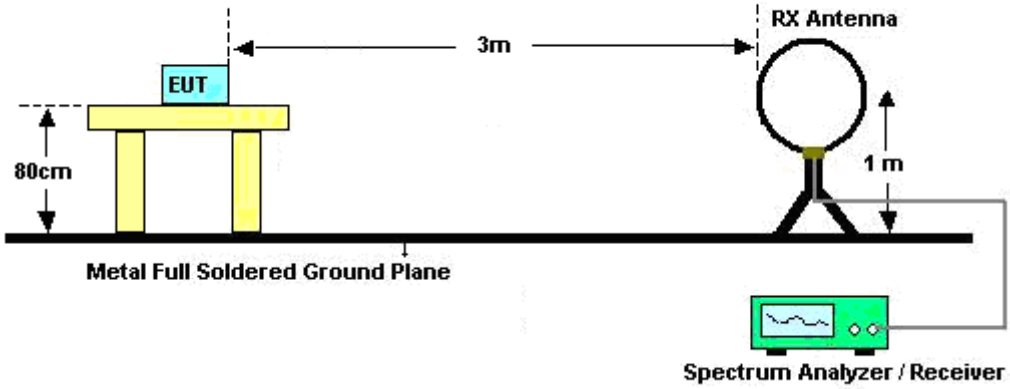
   (3) Procedures for Average Unwanted Emissions Measurements Above 1000MHz

   - 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.

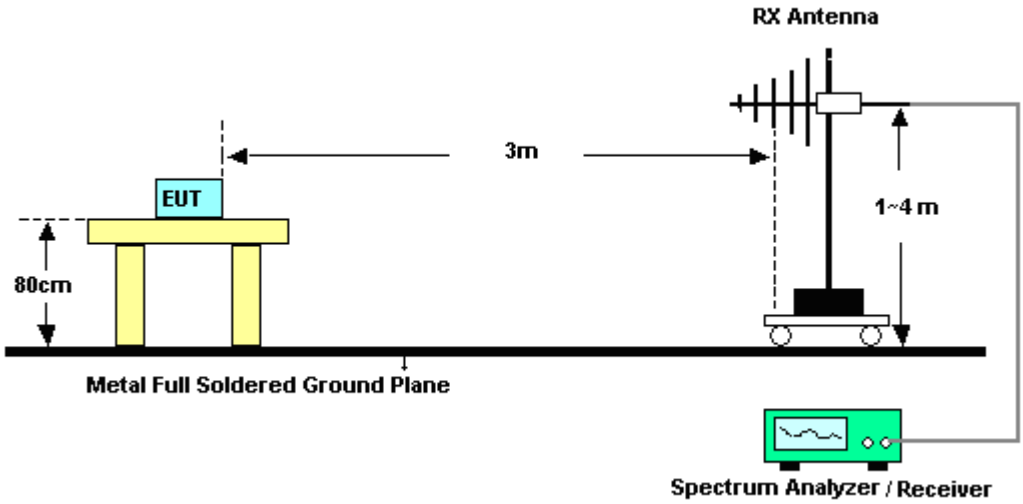
2. The EUT was placed on a turntable with 0.8 meter for frequency below 1GHz and 1.5 meter for frequency above 1GHz respectively above ground.
3. The EUT was set 3 meters from the interference receiving antenna which was mounted on the top of a variable height antenna tower.
4. The antenna is a broadband 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 was 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. For testing below 1GHz, if the emission level of the EUT in peak mode was 3 dB lower than the 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 average 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.

3.1.4 Test Setup

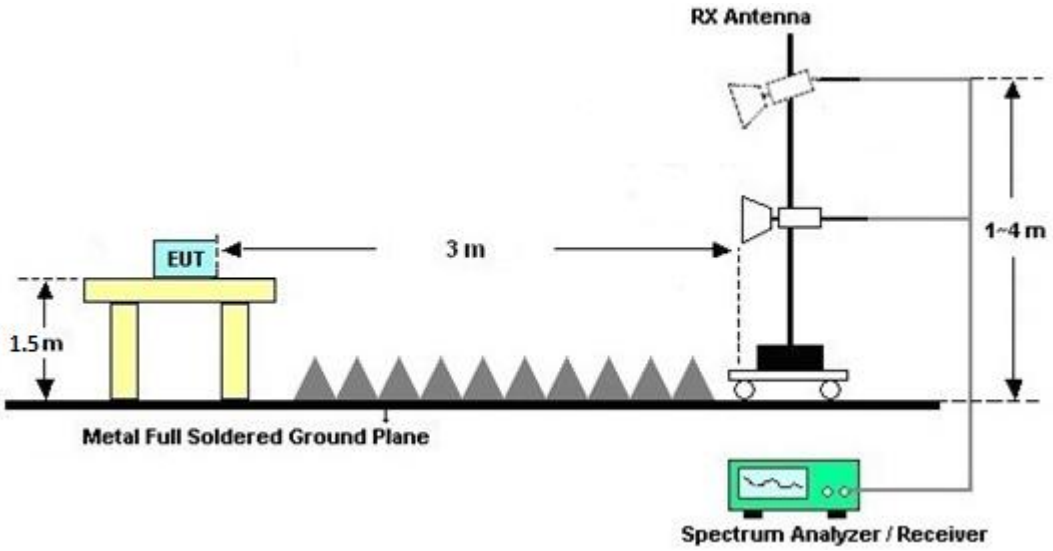
For radiated emissions below 30MHz



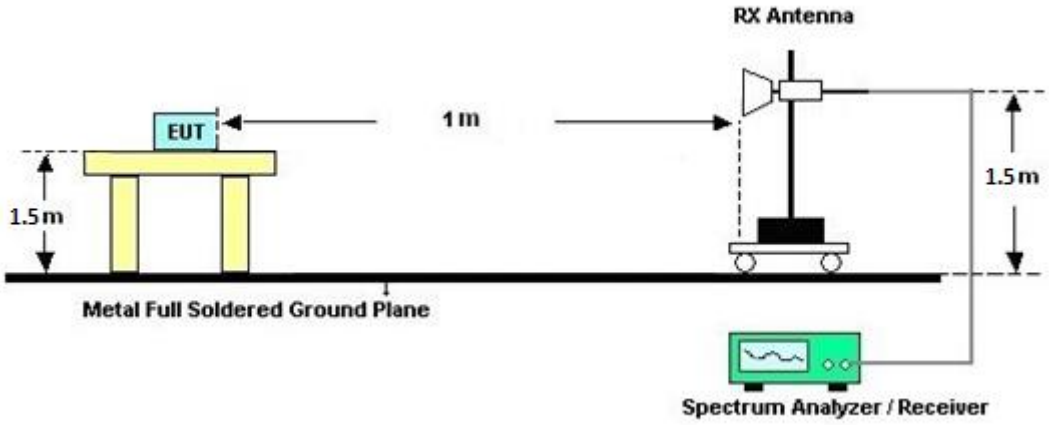
For radiated emissions from 30MHz to 1GHz



For radiated emissions from 1GHz to 18GHz



For radiated emissions above 18GHz



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

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.

There is a comparison data 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 and B.

3.1.7 Duty Cycle

Please refer to Appendix C.

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

Please refer to Appendix A and B.

3.2 Antenna Requirements

3.2.1 Standard Applicable

If transmitting antenna directional gain is greater than 6 dBi, both the peak transmit power and the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

3.2.2 Antenna Anti-Replacement Construction

An embedded-in antenna design is used.

3.2.3 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.

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	9 kHz~30 MHz	Jul. 14, 2020	Sep. 24,.2020	Jul. 13, 2021	Radiation (03CH16-HY)
Bilog Antenna	TESEQ	CBL6111D&00802N1D01N-06	47020&06	30MHz to 1GHz	Oct. 12, 2019	Sep. 24,.2020	Oct. 11, 2020	Radiation (03CH16-HY)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170584	18GHz~40GHz	Dec.10, 2019	Sep. 24,.2020	Dec. 09, 2020	Radiation (03CH16-HY)
Amplifier	SONOMA	310N	371607	9kHz~1G	Oct. 01. 2019	Sep. 24,.2020	Sep. 30. 2020	Radiation (03CH16-HY)
Horn Antenna	SCHWARZBECK	BBHA 9120 D	9120D-1212	1G~18GHz	May 20, 2019	Sep. 24,.2020	May 19, 2020	Radiation (03CH16-HY)
Preamplifier	Jet-Power	JPA0118-55-303	1710001800054001	1GHz~18GHz	Sep. 04, 2020	Sep. 24,.2020	Sep. 03, 2021	Radiation (03CH16-HY)
Preamplifier	EMEC	EM18G40G	060715	18GHz ~40GHz	Dec. 13, 2019	Sep. 24,.2020	Dec. 12, 2020	Radiation (03CH16-HY)
Preamplifier	Keysight	83017A	MY532702604	1GHz~26.5GHz	Dec. 11, 2019	Sep. 24,.2020	Dec.10, 2020	Radiation (03CH16-HY)
EMI Test Receiver	Keysight	N9038A (MXE)	MY572901111	3Hz~26.5GHz	Dec. 05, 2019	Sep. 24,.2020	Dec. 04, 2020	Radiation (03CH16-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104	MY11680/4PE	NA	Aug. 29, 2020	Sep. 24,.2020	Aug. 28, 2021	Radiation (03CH16-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104	MY11688/4PE	NA	Aug. 29, 2020	Sep. 24,.2020	Aug. 28, 2021	Radiation (03CH16-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	EC-A5-300-5757	NA	Aug. 29, 2020	Sep. 24,.2020	Aug. 28, 2021	Radiation (03CH16-HY)
Hygrometer	TECPEL	DTM-303B	TP162965	N/A	Oct. 25. 2019	Sep. 24,.2020	Oct. 24. 2020	Radiation (03CH16-HY)
Software	Audix	E3 6.2009-8-24	RK-001136	N/A	N/A	Sep. 24,.2020	N/A	Radiation (03CH16-HY)
Controller	ChainTek	3000-1	N/A	Control Turn table & Ant Mast	N/A	Sep. 24,.2020	N/A	Radiation (03CH16-HY)
Antenna Mast	ChainTek	MBS-520-1	N/A	1m~4m	N/A	Sep. 24,.2020	N/A	Radiation (03CH16-HY)
Turn Table	ChainTek	T-200-S-1	N/A	0~360 Degree	N/A	Sep. 24,.2020	N/A	Radiation (03CH16-HY)

5 Uncertainty of Evaluation

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**4.5**

Uncertainty of Radiated Emission Measurement (1000 MHz ~ 18000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**6.3**

Uncertainty of Radiated Emission Measurement (18000 MHz ~ 40000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**4.7**

Appendix A. Radiated Spurious Emission

Test Engineer :	Karl Hou and CR Liao	Temperature :	20 ~ 25°C
		Relative Humidity :	50 ~ 65 %

802.11n HT40_Ch. 03 2422 MHz (Band edge @ 3m)

WIFI Ant. Simultaneously	Note	Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
Ant. 0_ 11n HT40_ Ch. 03 + Ant. 1_ 11ac VHT80_ Ch. 58		2387	58.28	-15.72	74	41.93	27.65	18.48	29.78	250	202	P	H
		2389.94	49.33	-4.67	54	32.99	27.64	18.48	29.78	250	202	A	H
	*	2422	104.26			87.92	27.6	18.54	29.8	250	202	P	H
	*	2422	96.39			80.05	27.6	18.54	29.8	250	202	A	H
		2486.91	56.79	-17.21	74	40.41	27.53	18.67	29.82	250	202	P	H
		2485.3	47.38	-6.62	54	31	27.53	18.67	29.82	250	202	A	H
		2339.54	57.41	-16.59	74	40.96	27.82	18.39	29.76	356	100	P	V
		2361.52	47.15	-6.85	54	30.74	27.75	18.43	29.77	356	100	A	V
	*	2422	95.94			79.6	27.6	18.54	29.8	356	100	P	V
	*	2422	88.59			72.25	27.6	18.54	29.8	356	100	A	V
		2484.32	57.42	-16.58	74	41.05	27.53	18.66	29.82	356	100	P	V
		2493	46.95	-7.05	54	30.59	27.51	18.68	29.83	356	100	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

802.11ac VHT80_Ch.58 5290 MHz (Band edge @ 3m)

WIFI Ant. Simultaneously	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
Ant. 0_ 11n HT40_ Ch. 03 + Ant. 1_ 11ac VHT80_ Ch. 58		5114.24	55.17	-18.83	74	39.1	31.9	13	28.83	255	336	P	H
		5133.96	45.18	-8.82	54	29.09	31.9	13.03	28.84	255	336	A	H
	*	5290	107.09	-	-	91.46	31.3	13.27	28.94	255	336	P	H
	*	5290	99.52	-	-	83.89	31.3	13.27	28.94	255	336	A	H
		5354.64	60.43	-13.57	74	44.71	31.31	13.39	28.98	255	336	P	H
		5350.56	52.65	-1.35	54	36.95	31.3	13.38	28.98	255	336	A	H
													H
		5081.6	54.61	-19.39	74	38.62	31.83	12.96	28.8	348	56	P	H
		5125.12	44.92	-9.08	54	28.83	31.9	13.02	28.83	348	56	A	V
	*	5290	99.69	-	-	84.06	31.3	13.27	28.94	348	56	P	V
	*	5290	91.94	-	-	76.31	31.3	13.27	28.94	348	56	A	V
		5411.52	54.48	-19.52	74	38.57	31.45	13.48	29.02	348	56	P	V
		5440.32	44.75	-9.25	54	28.73	31.56	13.5	29.04	348	56	A	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Harmonic @ 3m

WIFI Ant. Simultaneously	Note	Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
Ant. 0_ 11n HT40_ Ch. 03 + Ant. 1_ 11ac VHT80_ Ch. 58		4944	56.13	-17.87	74	39.11	31.18	14.59	28.75	100	0	P	H
		4944	45.23	-8.77	54	28.21	31.18	14.59	28.75	100	0	A	H
		7266	44.45	-29.55	74	50.98	36.36	16.54	59.43	100	0	P	H
		10580	48.38	-19.82	68.2	50.92	39.54	19.52	61.6	100	0	P	H
		15870	47.43	-26.57	74	47.07	37.66	23.47	60.77	100	0	P	H
													H
													H
		4944	57.47	-16.53	74	40.45	31.18	14.59	28.75	100	0	P	V
		4944	45.04	-8.96	54	28.02	31.18	14.59	28.75	100	0	A	V
		7266	44.19	-29.81	74	50.72	36.36	16.54	59.43	100	0	P	V
		10580	47.93	-20.27	68.2	50.47	39.54	19.52	61.6	100	0	P	V
		15870	46.31	-27.69	74	45.95	37.66	23.47	60.77	100	0	P	V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Note symbol

*	**Fundamental Frequency** which can be ignored. However, the level of any unwanted emissions shall not exceed the level of the fundamental frequency.
-	The signal is **Unintentional Radiators**.
P/A	**P**eak or **A**verage
H/V	**H**orizontal or **V**ertical

A calculation example for radiated spurious emission is shown as below:

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
Simultaneously		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11b CH 01 2412MHz		2390	55.45	-18.55	74	54.51	32.22	4.58	35.86	103	308	P	H
		2390	43.54	-10.46	54	42.6	32.22	4.58	35.86	103	308	A	H

1. Path Loss(dB) = Cable loss(dB) + Filter loss(dB) + Attenuator loss(dB)
2. Level(dBμV/m) = Antenna Factor(dB/m) + Path Loss(dB) + Read Level(dBμV) - Preamp Factor(dB)
3. Over Limit(dB) = Level(dBμV/m) – Limit Line(dBμV/m)

For Peak Limit @ 2390MHz:

1. Level(dBμV/m)

= Antenna Factor(dB/m) + Path Loss(dB) + Read Level(dBμV) - Preamp Factor(dB)

= 32.22(dB/m) + 4.58(dB) + 54.51(dBμV) – 35.86 (dB)

= 55.45 (dBμV/m)

2. Over Limit(dB)

= Level(dBμV/m) – Limit Line(dBμV/m)

= 55.45(dBμV/m) – 74(dBμV/m)

= -18.55(dB)

For Average Limit @ 2390MHz:

1. Level(dBμV/m)

= Antenna Factor(dB/m) + Path Loss(dB) + Read Level(dBμV) - Preamp Factor(dB)

= 32.22(dB/m) + 4.58(dB) + 42.6(dBμV) – 35.86 (dB)

= 43.54 (dBμV/m)

2. Over Limit(dB) = Level(dBμV/m) – Limit Line(dBμV/m)

= 43.54(dBμV/m) – 54(dBμV/m)

= -10.46(dB)

Both peak and average measured complies with the limit line, so test result is "PASS".

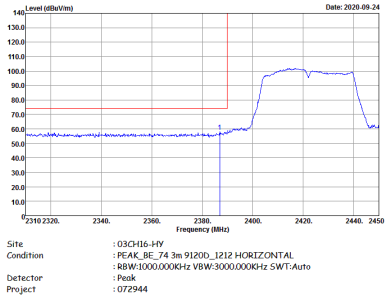
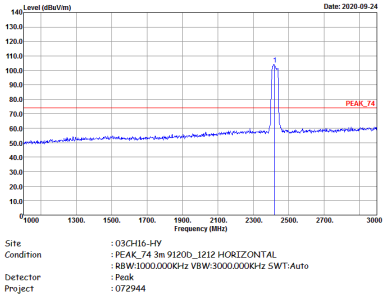
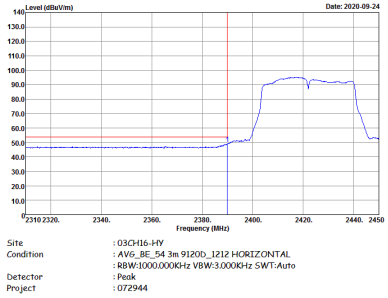
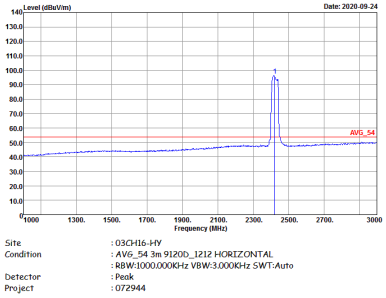
Appendix B. Radiated Spurious Emission Plots

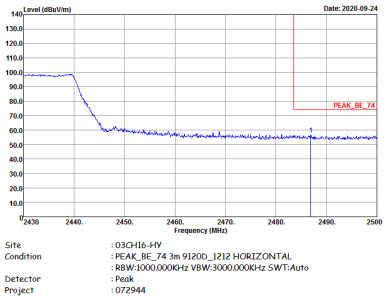
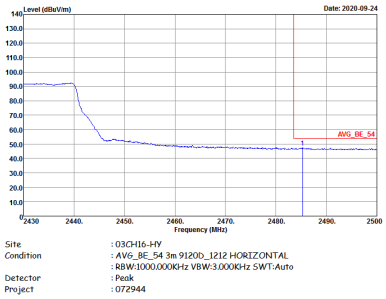
Test Engineer :	Karl Hou and CR Liao	Temperature :	20 ~ 25°C
		Relative Humidity :	50 ~ 65 %

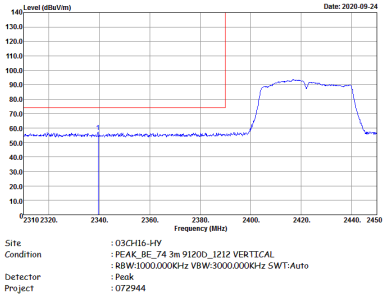
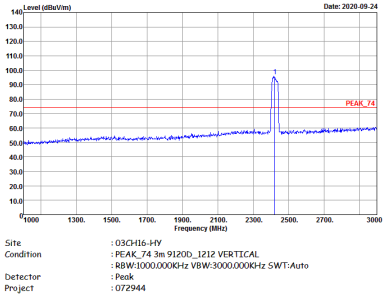
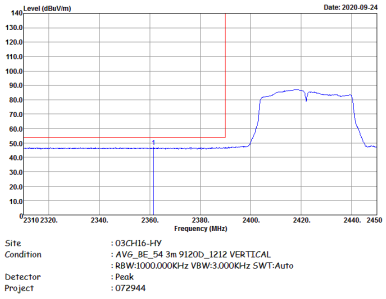
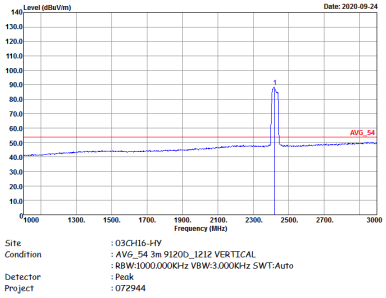
Note symbol

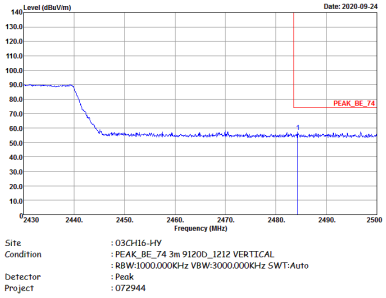
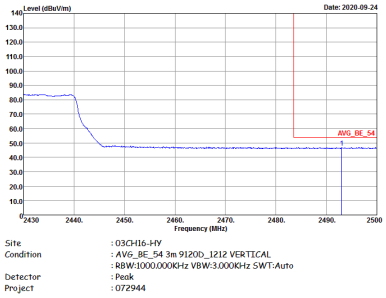
-L	**Low channel location**
-R	**High channel location**

802.11n HT40_Ch03 2422 MHz (Band Edge @ 3m)

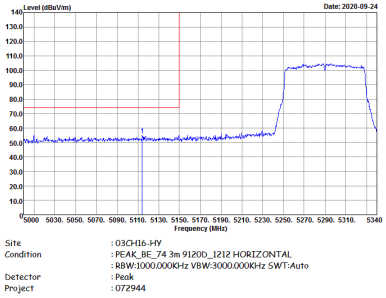
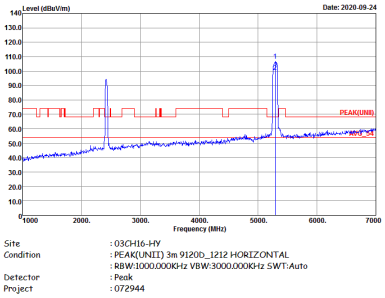
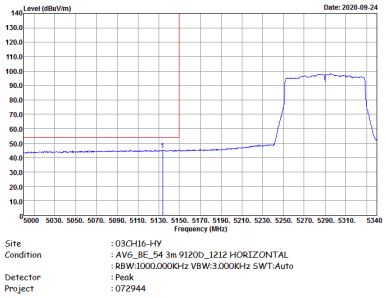
ANT	Ant. 0_11n HT40_Ch. 03 + Ant. 1_11ac VHT80_Ch. 58 - L	
Simultaneously	**Horizontal**	**Fundamental**
Peak		
Avg.		

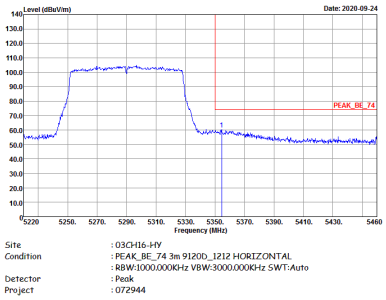
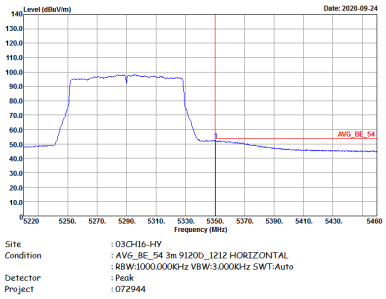
ANT	Ant. 0_11n HT40_Ch. 03 + Ant. 1_11ac VHT80_Ch. 58 - L	
Simultaneously	Horizontal	Fundamental
Peak		Left blank
Avg.		Left blank

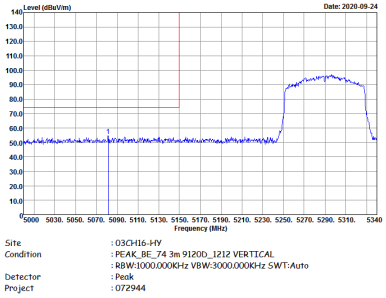
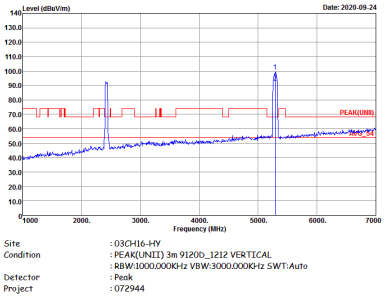
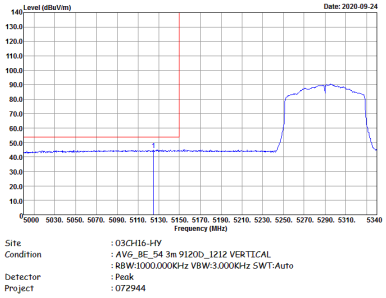
ANT	Ant. 0_11n HT40_Ch. 03 + Ant. 1_11ac VHT80_Ch. 58 - R	
Simultaneously	Vertical	Fundamental
Peak		
Avg.		

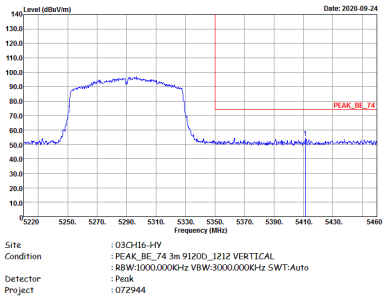
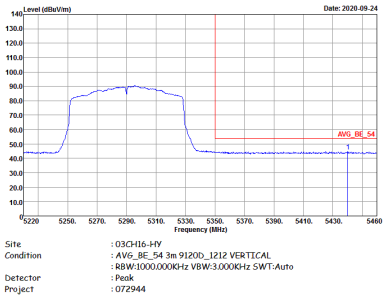
ANT	Ant. 0_11n HT40_Ch. 03 + Ant. 1_11ac VHT80_Ch. 58 - R	
Simultaneously	**Vertical**	**Fundamental**
Peak		**Left blank**
Avg.		**Left blank**

802.11ac VHT80_Ch.58 5290 MHz (Band edge @ 3m)

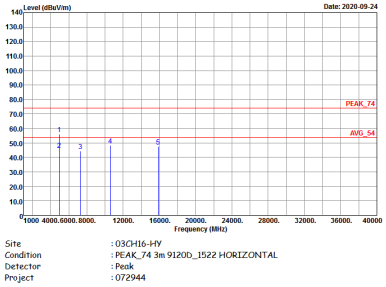
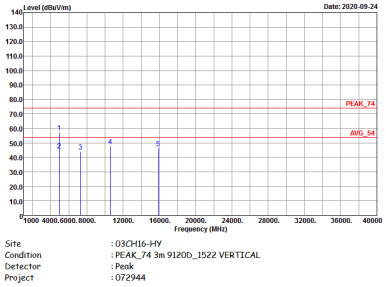
ANT	Ant. 0_11n HT40_Ch. 03 + Ant. 1_11ac VHT80_Ch. 58 - L	
Simultaneously	Horizontal	Fundamental
Peak		
Avg.		Left blank

ANT	Ant. 0_11n HT40_Ch. 03 + Ant. 1_11ac VHT80_Ch. 58 - L	
Simultaneously	Horizontal	Fundamental
Peak		Left blank
Avg.		Left blank

ANT	Ant. 0_11n HT40_Ch. 03 + Ant. 1_11ac VHT80_Ch. 58 - R	
Simultaneously	Vertical	Fundamental
Peak		
Avg.		Left blank

ANT	Ant. 0_11n HT40_Ch. 03 + Ant. 1_11ac VHT80_Ch. 58 - R	
Simultaneously	Vertical	Fundamental
Peak		Left blank
Avg.		Left blank

Harmonic @ 3m

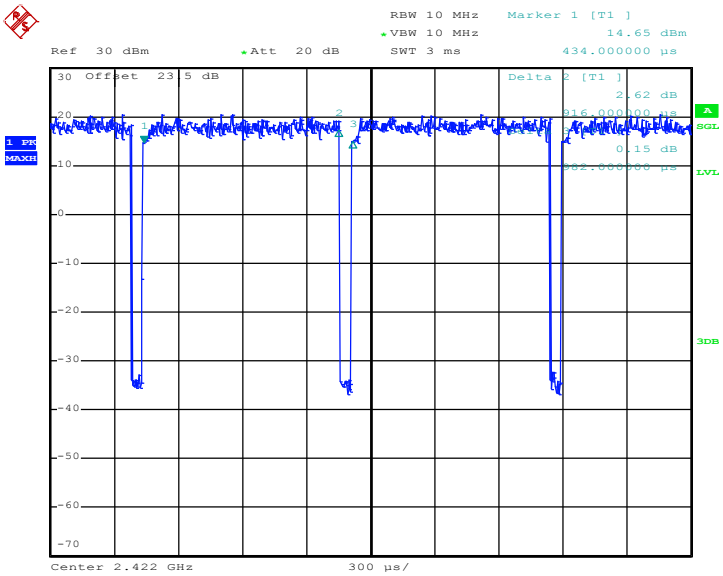
ANT	11a(n40)_Ch03+Ant 1_11ac(80)_Ch58	
Simultaneously	Horizontal	Vertical
Peak Avg.		

Appendix C. Duty Cycle Plots

Antenna	Band	Duty Cycle (%)	T(us)	1/T(kHz)	VBW Setting	Duty Factor (dB)
1	2.4GHz 802.11n HT40	93.28	916	1.09	3kHz	0.30
2	5GHz 802.11ac VHT80	91.87	452	2.21	3kHz	0.37

<Ant. 1>

802.11n HT40



<Ant. 2>

802.11ac VHT80