

RF TEST REPORT





Report No.: **SL13072901-ZBR-045 (FCC)_WLAN**

Supersede Report No.: NONE

Applicant	:	Zebra Technologies Corp.
Product Name	:	N Radio module with 802.11 a/b/g/n and BT
Model No.	:	WYSBMVGXB
Test Standard	:	47CFR15.247: 2012, 47CFR15.407: 2012 RSS 210 Issue 8: 2010
Test Method	:	ANSI C63.4 – 2009 RSS-Gen Issue 3: 2010 558074 D01 DTS Meas Guidance v03r01 789033 D01 General UNII Test Procedures v01r03
FCC ID	:	I28MD-EXLAN11N
IC ID	:	3798B-EXLAN11N
Dates of test	:	July 30th - Aug 2nd, 2013
Issue Date	:	9/11/2013
Test Result	:	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail
Equipment complied with the specification [X]		
Equipment did not comply with the specification []		

This Test Report is Issued Under the Authority of:

	
David Zhang	Choon Sian Ooi
Test Engineer	Engineer Reviewer

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Laboratory Introduction

SIEMIC, headquartered in the heart of Silicon Valley, with superior facilities in US and Asia, is one of the leading independent testing and certification facilities providing customers with one-stop shop services for Compliance Testing and Global Certifications.



In addition to testing and certification, SIEMIC provides initial design reviews and compliance management throughout a project. Our extensive experience with China, Asia Pacific, North America, European, and International compliance requirements, assures the fastest, most cost effective way to attain regulatory compliance for the global markets.

Accreditations for Conformity Assessment

Country/Region	Accreditation Body	Scope
USA	FCC, A2LA	EMC , RF/Wireless , Telecom
Canada	IC, A2LA, NIST	EMC, RF/Wireless , Telecom
Taiwan	BSMI , NCC , NIST	EMC, RF, Telecom , Safety
Hong Kong	OFTA , NIST	RF/Wireless , Telecom
Australia	NATA, NIST	EMC, RF, Telecom , Safety
Korea	KCC/RRA, NIST	EMI, EMS, RF , Telecom, Safety
Japan	VCCI, JATE, TELEC, RFT	EMI, RF/Wireless, Telecom
Mexico	NOM, COFETEL, Caniety	Safety, EMC , RF/Wireless, Telecom
Europe	A2LA, NIST	EMC, RF, Telecom , Safety

Accreditations for Product Certifications

Country	Accreditation Body	Scope
USA	FCC TCB, NIST	EMC , RF , Telecom
Canada	IC FCB , NIST	EMC , RF , Telecom
Singapore	iDA, NIST	EMC , RF , Telecom
EU	NB	EMC & R&TTE Directive
Japan	MIC (RCB 208)	RF , Telecom
HongKong	OFTA (US002)	RF , Telecom

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1 Executive Summary

The purpose of this test program was to demonstrate compliance of the Zebra Technologies Corp., FCC/IC certified, N Radio module with 802.11 a/b/g/n and BT (FCC ID: I28MD-EXLAN11N, IC ID: 3798B-EXLAN11N), and model: WYSBMVGXB, to be install into a printer host (Printer mode: ZT400 Series (Models ZT410 and ZT420)), and transmit simultaneously with ZBR5 Bluetooth radio module, against the current Stipulated Standards. The WYSBMVGXB to be install into a printer host (Printer model: ZT400 Series (Models ZT410 and ZT420)) has demonstrated compliance with the Stipulated Standard listed on 1st page.

The ZT400 Series (Models ZT410 and ZT420)are mobile printer with both N radio module and ZBR5 Bluetooth installed inside.

2 Customer information

Applicant Name	:	Zebra Technologies Corp.
Applicant Address	:	333 Corporate Woods Pkwy , Vernon Hills, IL 60061-3109 USA
Manufacturer Name	:	Zebra Technologies Corp.
Manufacturer Address	:	333 Corporate Woods Pkwy , Vernon Hills, IL 60061-3109 USA

3 Test site information

Lab performing tests	:	SIEMIC Laboratories
Lab Address	:	775 Montague Expressway, Milpitas, CA 95035
Dates of test (from – to)	:	July 30th - Aug 2nd, 2013

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4 EUT Information

4.1 EUT Description

Product Name	: N Radio module with 802.11 a/b/g/n and BT
Model No.	: WYSBMVGXB
Trade Name	: Zebra
Serial No.	: 100-240VAC
Input Power	: 3.3VDC
Host	: Mobile Printer
Host model	: ZT400 Series (Models ZT410 and ZT420)
Host SN	: 18J133000001 (ZT410), 18J133000006 (ZT420)
Host Input Power	: 120VAC, 60Hz
Date of EUT received	: July 30th, 2013
Clock Frequencies	: N/A
Port/Connectors	: N Radio (WLAN), ZBR5 Radio (Bluetooth)

4.2 Radio Description

Spec for N Radio -

Radio Type	802.11b	802.11g	802.11a	802.11n-20M	802.11n-40M
Operating Frequency	2412-2462MHz	2412-2462MHz	5180-5320MHz 5500-5700MHz 5745-5825MHz	2412-2462MHz 5180-5320MHz 5500-5700MHz 5745-5825MHz	5190-5310MHz 5510-5670MHz 5755-5795MHz
Modulation	DSSS (CCK, DQPSK, DBPSK)	OFDM-CCK (BPSK, QPSK, 16QAM, 64QAM)	OFDM (BPSK, QPSK, 16QAM, 64QAM)	OFDM (BPSK, QPSK, 16QAM, 64QAM)	OFDM (BPSK, QPSK, 16QAM, 64QAM)
Channel Spacing	5MHz	5MHz	20MHz	5MHz(2.4GHz), 20MHz (5GHz)	40MHz
Number of Channels	11	11	21	11(2.4GH) 21 (5GHz)	7 (2.4GH) 9 (5GHz)
Antenna Type	Omnidirectional antenna				
Antenna Gain	2.2 dBi (2.4GHz), 5.0 dBi (5GHz)				
Antenna Connector Type	Reversed SMA				

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N Radio Channel list

Type		Channel No.	Frequency (MHz)	Available (Y/N)
802.11b/g/n-HT20	2412-2462	1	2412	Y
		2	2417	Y
		3	2422	Y
		4	2427	Y
		5	2432	Y
		6	2437	Y
		7	2442	Y
		8	2447	Y
		9	2452	Y
		10	2457	Y
		11	2462	Y
	2467-2472	12	2467	-
		13	2472	-
	2484	14	2484	-
802.11a/n-HT20	5150-5250MHz	36	5180	Y
		40	5200	Y
		44	5220	Y
		48	5240	Y
	5250-5350MHz	52	5260	Y
		56	5280	Y
		60	5300	Y
		64	5320	Y
	5470-5725MHz	100	5500	Y
		104	5520	Y
		108	5540	Y
		112	5560	Y
		116	5580	Y
		132	5660	Y
		136	5680	Y
		140	5700	Y
	5725-5825MHz	149	5745	Y
		153	5765	Y
		157	5785	Y
		161	5805	Y
		165	5825	Y
802.11n-HT40	5150-5250MHz	36,40	5190	Y
		40,44	5210	Y
		44,48	5230	Y
	5250-5350MHz	52,56	5270	Y
		56,60	5290	Y
		60,64	5310	Y
	5470-5725MHz	100,104	5510	Y
		104,108	5530	Y
		108,112	5550	Y
		112,116	5570	Y
		132,136	5670	Y
	5725-5825MHz	149,153	5755	Y
		153,157	5775	Y
		157,161	5795	Y

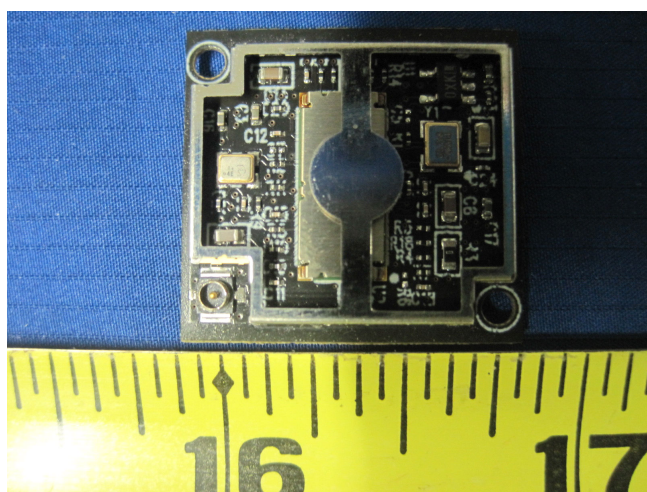
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4.3 EUT test modes/configuration Description

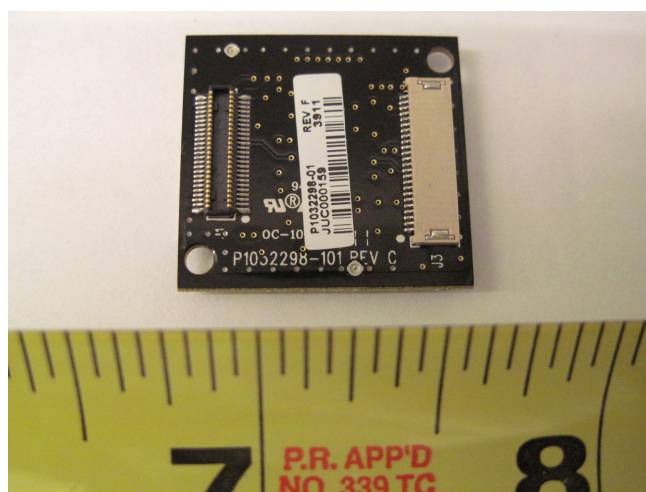
Mode	Note
802.11b mid CH (2437MHz), Con TX mode	To be transmitting simultaneously with ZBR5 BT radio module on the printer
N radio in 802.11n-20MHz (5500MHz), Con TX mode	
Note: Power level setting	
2.4GHz – 18dBm	
5GHz – 17 dBm	

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4.4 EUT Photos - External



N Radio Top View



N Radio Bottom View



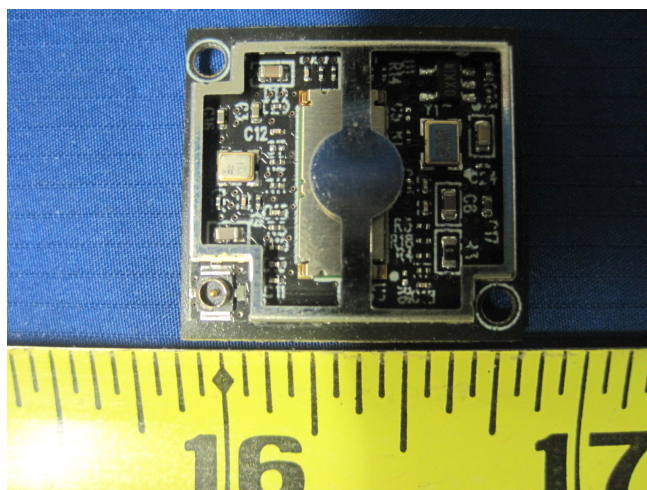
WLAN antenna Top View



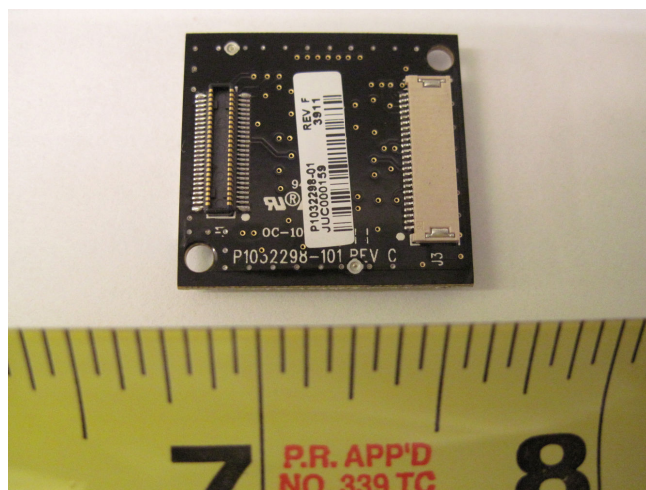
WLAN antenna Front View

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4.5 EUT Photos - Internal



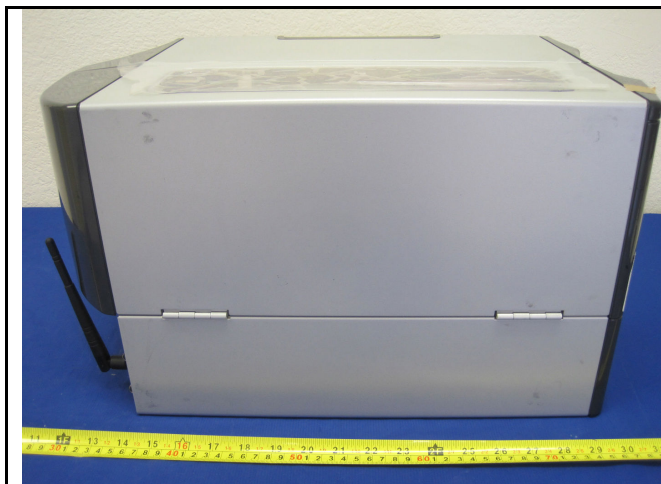
N Radio Top View



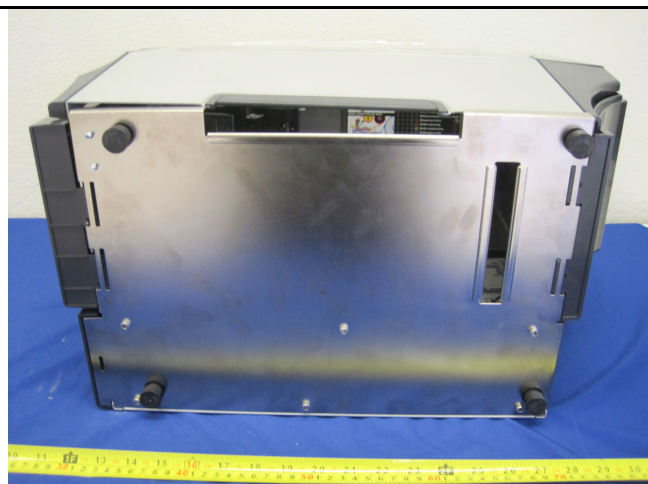
N Radio Bottom View

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4.6 Host Printer



Top – ZT410



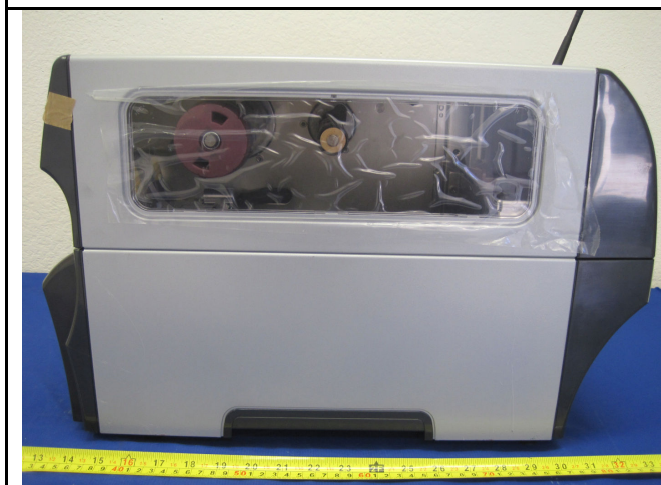
Bottom – ZT410



Front – ZT410



Rear – ZT410



Left Side – ZT410

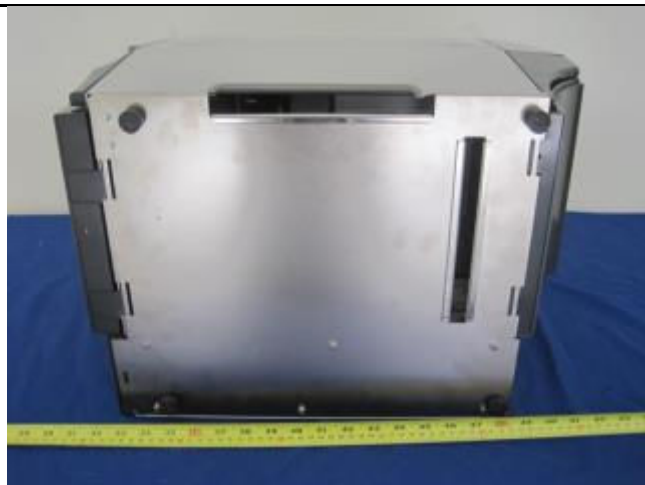


Right Side – ZT410

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Top – ZT420



Bottom – ZT420



Front – ZT420



Rear – ZT420



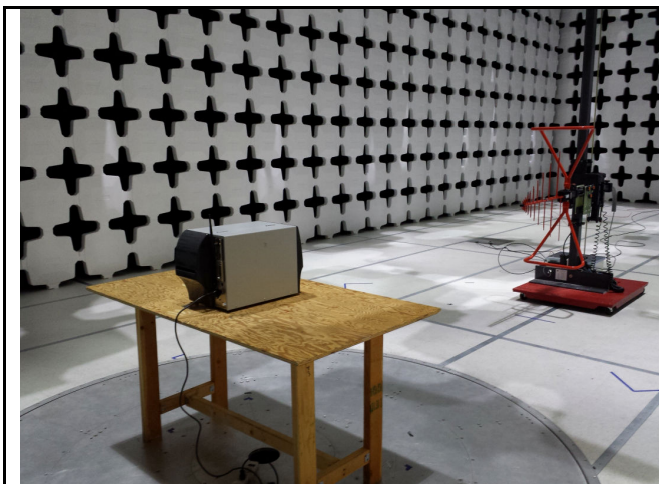
Left Side – ZT420



Right Side – ZT420

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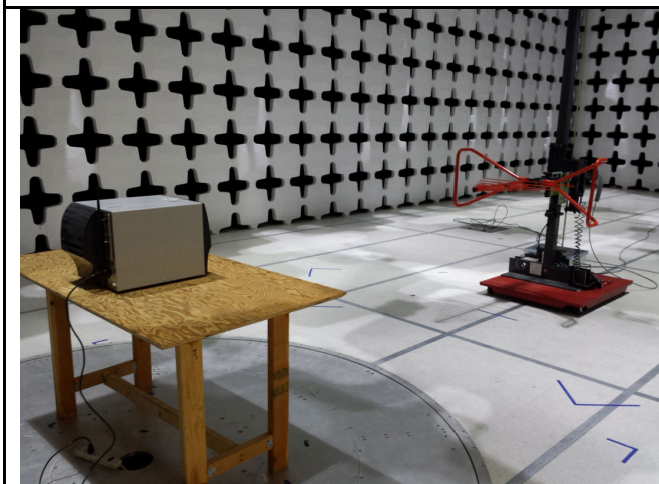
4.7 EUT Test Setup Photos



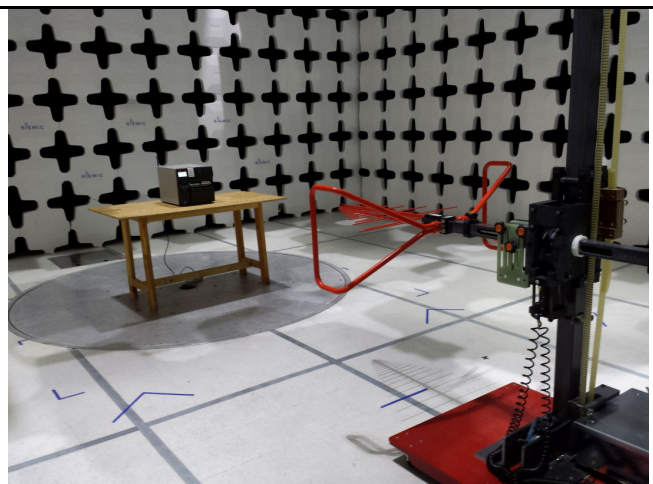
Radiated Emission below 1GHz – ZT410 (Front)



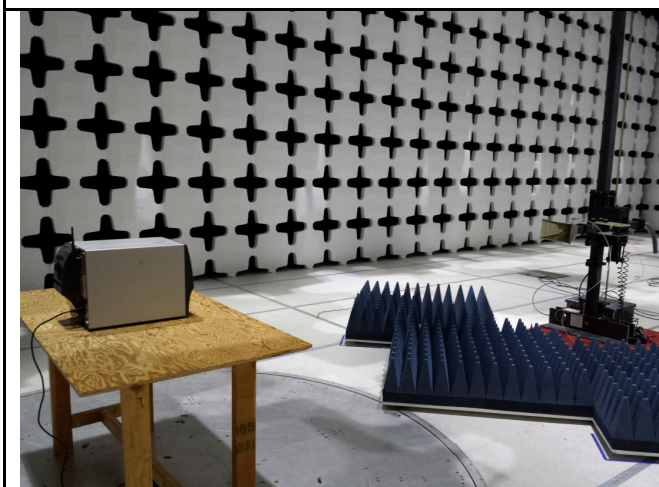
Radiated Emission below 1GHz – ZT410 (Rear)



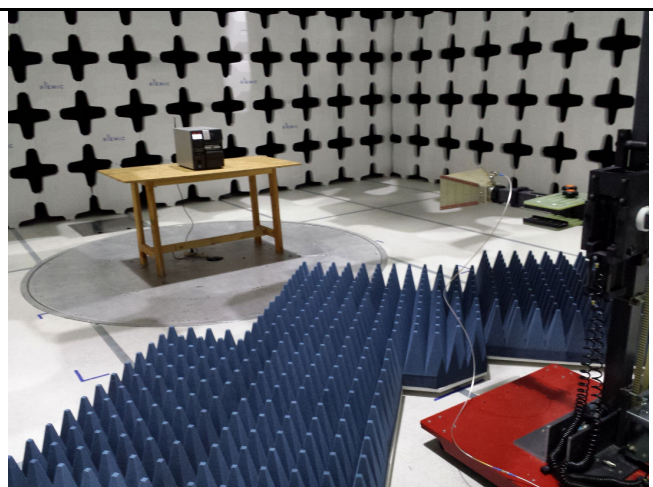
Radiated Emission below 1GHz – ZT420 (Front)



Radiated Emission below 1GHz – ZT420 (Rear)

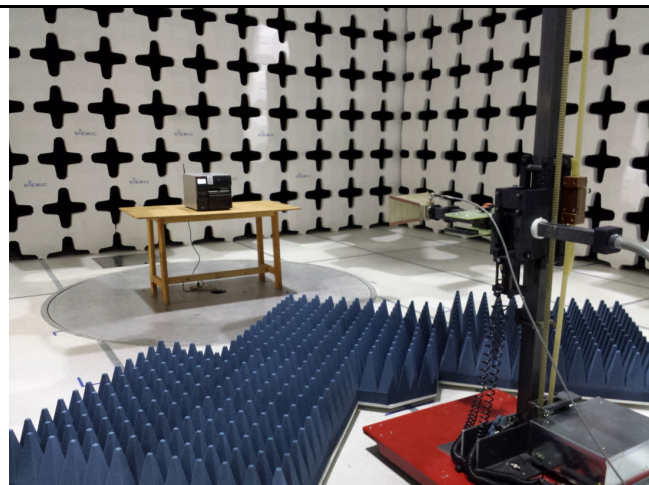


Radiated Emission above 1GHz – ZT410 (Front)

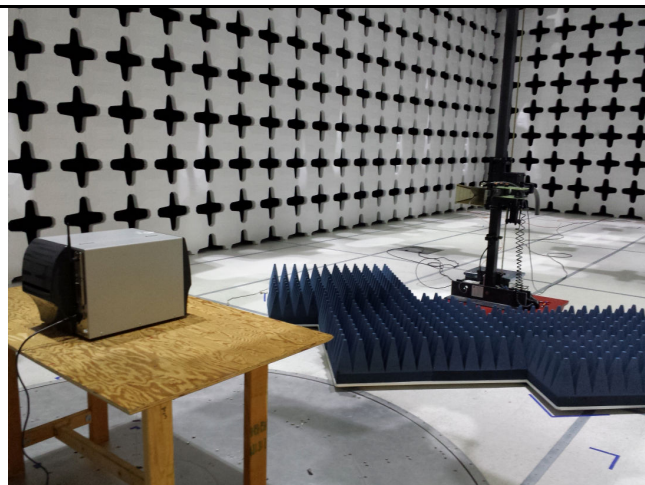


Radiated Emission above 1GHz – ZT410 (Rear)

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Radiated Emission above 1GHz – ZT420 (Front)



Radiated Emission above 1GHz – ZT420 (Rear)

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5 Report Revision History

Report No.	Report Version	Description	Issue Date
SL13072901-ZBR-045 (FCC)_WLAN	NONE	Original	09/09/2013

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6 Test Summary

Test Item	Test standard		Test Method/Procedure		Pass / Fail
Radiated Spurious Emissions	FCC	15.209; 15.247(d)	FCC	ANSI C63.4 – 2009 558074 D01 DTS Meas Guidance v03r01	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> N/A
	IC	RSS210(A8.5)	IC	-	
Radiated Spurious Emissions	FCC	15.407(b)(2), 15.407(b)(6)	FCC	ANSI C63.4 – 2009 789033 D01 General UNII Test Procedures v01r03	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> N/A
	IC	RSS210(A9.3)(1)	IC	-	

Note:

This report is C2PC report for the N radio module to be installed into the printer host. Only the spurious emission measurement was required to be made. Please refer to following original FCC test report for other test results,

SL11042701-ZBR-026 (WLAN_15.247) Rev1.0
SL11042701-ZBR-026 (WLAN_15.407)_non DFS Rev1.0
SL11042701-ZBR-026 (DFS)

PS: All measurement uncertainty is not taken into consideration for all presented data.

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7 Measurement Uncertainty

Test Item	Frequency Range	Description	Uncertainty
Band Edge and Radiated Spurious Emissions	30MHz – 1GHz	Confidence level of approximately 95% (in the case where distributions are normal), with a coverage factor of 2 (for EUTs < 0.5m X 0.5m X 0.5m)	+5.6dB/-4.5dB
Band Edge and Radiated Spurious Emissions	1Hz – 40GHz	Confidence level of approximately 95% (in the case where distributions are normal), with a coverage factor of 2 (for EUTs < 0.5m X 0.5m X 0.5m)	+4.3dB/-4.1dB

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8 Measurements, examination and derived results

8.1 Radiated Measurement

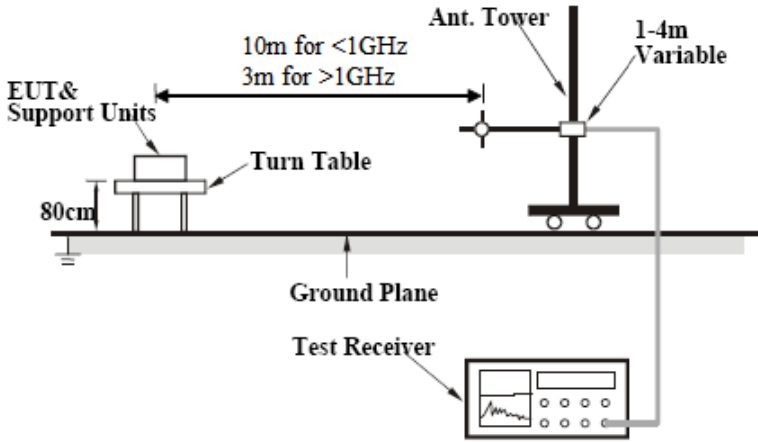
Receiver/Spectrum analyser setting

TEST	Detector	RBW	VBW	Test Distance	NOTES
Radiated Emission < 1GHz (30MHz – 1GHz)	PK/QP	120KHz	300KHz	3m	NONE
Radiated Emission > 1GHz (1GHz – 40GHz)	PK/AV	1MHz	3MHz	3m	NONE

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8.1.1 Radiated Measurement below 1GHz

Requirement(s):

Spec	Item	Requirement	Applicable
§ 15.247(d) RSS210 (A8.5)	a)	For non-restricted band, In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB or 30dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, determined by the measurement method on output power to be used. Attenuation below the general limits specified in § 15.209(a) is not required <input checked="" type="checkbox"/> 20 dB down <input type="checkbox"/> 30 dB down	<input checked="" type="checkbox"/>
	b)	or restricted band, emission must also comply with the radiated emission limits specified in § 15.209(a)	<input checked="" type="checkbox"/>
§ 15.407(b)(6) RSS210(A2.5)		Unwanted emissions below 1 GHz must comply with the general field strength limits set forth in § 15.209.	<input checked="" type="checkbox"/>
§ 15.407(b)(7) RSS210(A2.5)		The provisions of § 15.205 apply to intentional radiators operating under this section.	<input checked="" type="checkbox"/>
Test Setup			
Procedure		<ol style="list-style-type: none"> The EUT was switched on and allowed to warm up to its normal operating condition. The test was carried out at the selected frequency points obtained from the EUT characterisation. Maximization of the emissions, was carried out by rotating the EUT, changing the antenna polarization, and adjusting the antenna height in the following manner: <ol style="list-style-type: none"> Vertical or horizontal polarisation (whichever gave the higher emission level over a full rotation of the EUT) was chosen. The EUT was then rotated to the direction that gave the maximum emission. Finally, the antenna height was adjusted to the height that gave the maximum emission. A Quasi-peak measurement was then made for that frequency point. Steps 2 and 3 were repeated for the next frequency point, until all selected frequency points were measured. 	
Remark		NONE	
Result		<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail	

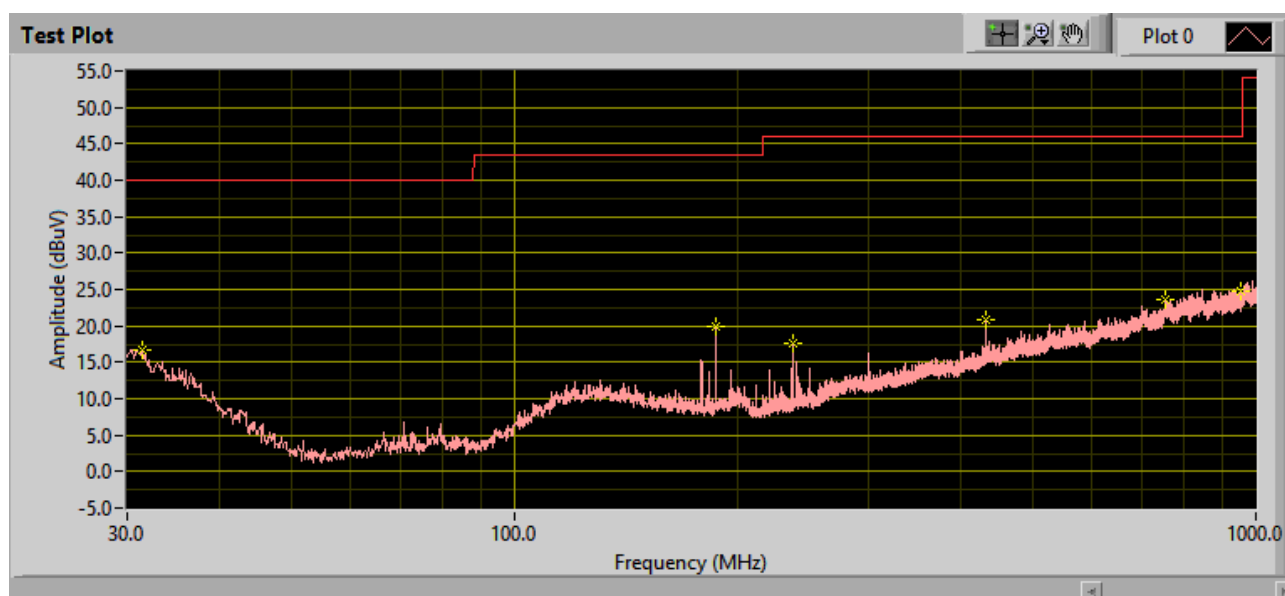
Test Data ☒ Yes (See below) ☐ N/A

Test Plot ☒ Yes (See below) ☐ N/A

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Test specification:	Radiated Spurious Emission			
Environ Conditions:	Temp(oC):	23	Result:	Pass
	Humidity(%):	55		
	Atmospheric(mPa):	1008		
Mains Power:	120VAC, 60Hz			
Test Date:	07/30/2013			
Tested by:	David Zhang			
Remarks:	With ZBR5 Bluetooth radio to be installed inside ZT410 Printer host			

Graph-



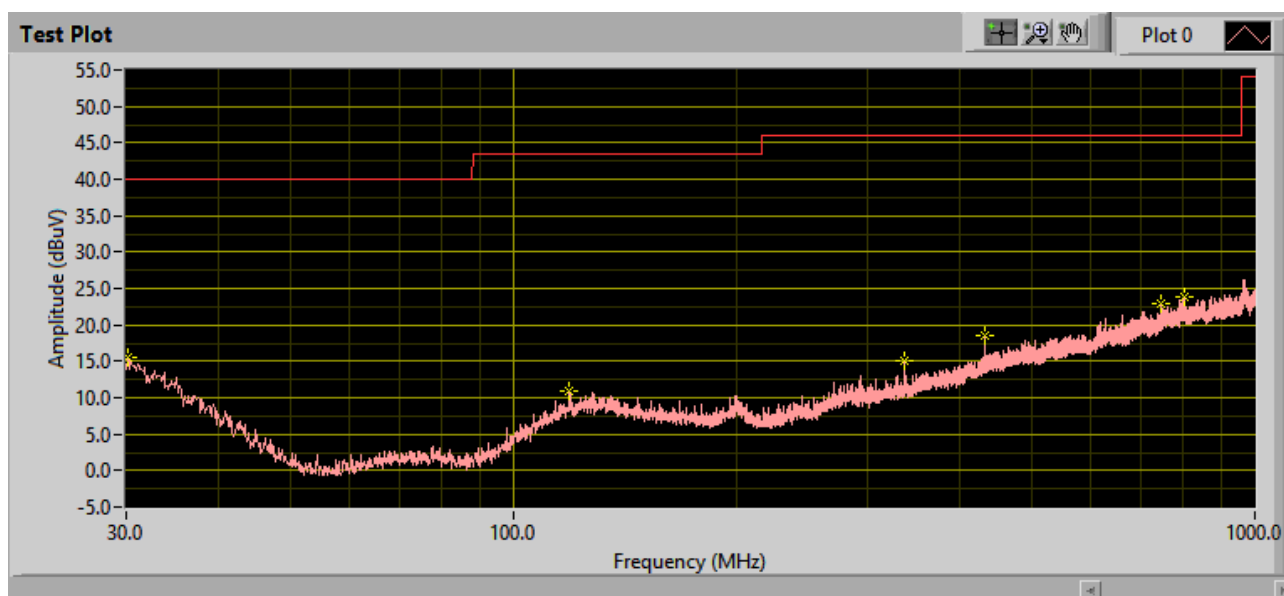
Test Data

Frequency (MHz)	Azimuth	Polarity	Height (cm)	Antenna (dB)	Cable (dB)	Amplifier (dB)	Corrected (dBuV/m)	Limit (dBuV/m)	Margin (dB)
31.46	132.00	H	122.00	20.70	0.50	30.00	13.46	40.00	-26.54
956.35	121.00	V	291.00	26.00	4.20	30.00	21.58	46.00	-24.42
236.85	114.00	H	134.00	13.10	1.80	30.00	14.37	46.00	-31.63
432.07	98.00	V	108.00	18.90	2.50	30.00	17.48	46.00	-28.52
187.02	145.00	H	100.00	13.00	1.60	30.00	16.53	43.52	-26.99
755.32	11.00	H	150.00	23.60	3.70	30.00	20.35	46.00	-25.65

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Test specification:	Radiated Spurious Emission			
Environ Conditions:	Temp(oC):	23	Result:	Pass
	Humidity(%):	55		
	Atmospheric(mPa):	1008		
Mains Power:	120VAC, 60Hz			
Test Date:	07/30/2013			
Tested by:	David Zhang			
Remarks:	With ZBR5 Bluetooth radio to be installed inside ZT420 Printer host			

Graph-



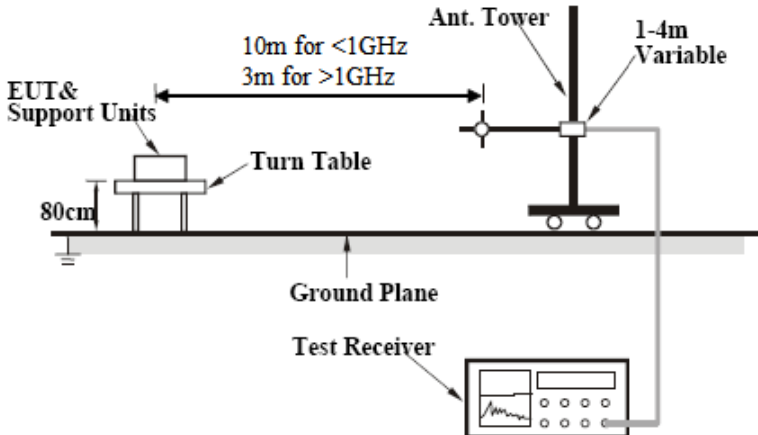
Test Data

Frequency (MHz)	Azimuth	Polarity	Height (cm)	Antenna (dB)	Cable (dB)	Amplifier (dB)	Corrected (dBuV/m)	Limit (dBuV/m)	Margin (dB)
336.04	110.00	V	232.00	16.30	2.20	30.00	12.95	46.00	-33.05
30.12	194.00	V	112.00	21.70	0.50	30.00	13.45	40.00	-26.55
119.00	105.00	H	100.00	15.00	1.20	30.00	8.69	43.52	-34.83
805.03	152.00	H	104.00	24.70	3.80	30.00	21.60	46.00	-24.40
746.10	193.00	V	105.00	23.60	3.70	30.00	20.80	46.00	-25.20
431.94	113.00	V	106.00	18.90	2.50	30.00	16.40	46.00	-29.60

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8.1.2 Radiated Spurious Emissions > 1GHz & Band Edge

Requirement(s):

Spec	Item	Requirement	Applicable
§ 15.247(d) RSS210 (A8.5)	a)	For non-restricted band, In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB or 30dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, determined by the measurement method on output power to be used. Attenuation below the general limits specified in § 15.209(a) is not required <input checked="" type="checkbox"/> 20 dB down <input type="checkbox"/> 30 dB down	<input checked="" type="checkbox"/>
	b)	or restricted band, emission must also comply with the radiated emission limits specified in § 15.209(a)	<input checked="" type="checkbox"/>
§ 15.407(b)(6) RSS210(A2.5)		Unwanted emissions below 1 GHz must comply with the general field strength limits set forth in § 15.209.	<input type="checkbox"/>
§ 15.407(b)(7) RSS210(A2.5)		The provisions of § 15.205 apply to intentional radiators operating under this section.	<input checked="" type="checkbox"/>
Test Setup			
Procedure	<ol style="list-style-type: none"> The EUT was switched on and allowed to warm up to its normal operating condition. The test was carried out at the selected frequency points obtained from the EUT characterisation. Maximization of the emissions, was carried out by rotating the EUT, changing the antenna polarization, and adjusting the antenna height in the following manner: <ol style="list-style-type: none"> Vertical or horizontal polarisation (whichever gave the higher emission level over a full rotation of the EUT) was chosen. The EUT was then rotated to the direction that gave the maximum emission. Finally, the antenna height was adjusted to the height that gave the maximum emission. A Quasi-peak measurement was then made for that frequency point. Steps 2 and 3 were repeated for the next frequency point, until all selected frequency points were measured. 		
Remark	NONE		
Result	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail		

Test Data ☒ Yes (See below) ☐ N/A

Test Plot ☒ Yes (See below) ☐ N/A

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Test Result with both N radio and ZBR5 BT radio module transmitting simultaneously in Printer host: ZT410

N radio in 802.11b mid CH + ZBR5 in GFSK-Hopping Mode, Con TX mode @ 3 Meter

Frequency (MHz)	Reading (dBuV/m)	Direction (degree)	Height (cm)	Polarity (H/V)	Antenna Loss (dB)	Cable Loss (dB)	Amplifier (dB)	Corrected Reading (dBuV/m)	15.247/15.209 AV Limit @ 3m (dBuV/m)	Margin (dBuV/m)	Detector (pk/avg)
1614.61	47.63	-	-	H	25.66	2.01	31.99	43.30	54	-10.70	PK
7201.79	42.91	-	-	H	35.50	3.87	32.42	49.86	54	-4.14	PK
10404.19	38.75	-	-	H	40.02	4.71	32.82	50.66	54	-3.34	PK
4851.09	46.59	-	-	V	32.74	3.71	32.53	50.50	54	-3.50	PK
10438.26	39.18	-	-	V	40.12	4.73	32.82	51.21	54	-2.79	PK
Remark	Emission was scanned up to 40GHz; no emissions were detected above the noise floor which was at least 20dB below the specification limit. If the emission PK level is within Average limit, then the maximization and average measurement are not performed.										

N radio in 802.11b mid CH + ZBR5 in 8DPSK-Hopping Mode, Con TX mode @ 3 Meter

Frequency (MHz)	Reading (dBuV/m)	Direction (degree)	Height (cm)	Polarity (H/V)	Antenna Loss (dB)	Cable Loss (dB)	Amplifier (dB)	Corrected Reading (dBuV/m)	15.247/15.209 AV Limit @ 3m (dBuV/m)	Margin (dBuV/m)	Detector (pk/avg)
1885.77	53.69	-	-	H	26.59	2.13	32.03	50.39	54	-3.61	PK
7915.83	43.71	-	-	H	36.52	3.25	32.21	51.27	54	-2.73	PK
10402.81	38.61	-	-	H	40.02	4.71	32.82	50.51	54	-3.49	PK
5973.95	43.14	-	-	V	33.87	4.05	32.37	48.70	54	-5.30	PK
10402.81	37.85	-	-	V	40.02	4.71	32.82	49.75	54	-4.25	PK
11867.74	37.47	-	-	V	40.92	5.82	32.39	51.82	54	-2.18	PK
Remark	Emission was scanned up to 40GHz; no emissions were detected above the noise floor which was at least 20dB below the specification limit. If the emission PK level is within Average limit, then the maximization and average measurement are not performed.										

PS: 802.11b Mid channel was determined to be the worst case from N-Radio spurious emission testing. Therefore it was chosen for this co-location testing.

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Test Result with both N radio and ZBR5 BT radio module transmitting simultaneously in Printer host: ZT420

N radio in 802.11b mid CH + ZBR5 in GFSK-Hopping Mode, Con TX mode @ 3 Meter

Frequency (MHz)	Reading (dBuV/m)	Direction (degree)	Height (cm)	Polarity (H/V)	Antenna Loss (dB)	Cable Loss (dB)	Amplifier (dB)	Corrected Reading (dBuV/m)	15.247/15.209 AV Limit @ 3m (dBuV/m)	Margin (dBuV/m)	Detector (pk/avg)
4849.70	47.20	-	-	H	32.73	3.71	32.53	51.11	54	-2.89	PK
7507.01	43.74	-	-	H	36.11	3.60	32.47	50.99	54	-3.01	PK
7915.83	43.79	-	-	H	36.52	3.25	32.21	51.35	54	-2.65	PK
4873.99	55.10	110	134	V	32.76	3.71	32.53	59.04	54	5.04	PK
4873.99	40.06	110	134	V	32.76	3.71	32.53	44.00	54	-10.00	AV
7575.15	43.79	-	-	V	36.18	3.55	32.42	51.09	54	-2.91	PK
Remark	Emission was scanned up to 40GHz; no emissions were detected above the noise floor which was at least 20dB below the specification limit. If the emission PK level is within Average limit, then the maximization and average measurement are not performed.										

N radio in 802.11b mid CH + ZBR5 in 8DPSK-Hopping Mode, Con TX mode @ 3 Meter

Frequency (MHz)	Reading (dBuV/m)	Direction (degree)	Height (cm)	Polarity (H/V)	Antenna Loss (dB)	Cable Loss (dB)	Amplifier (dB)	Corrected Reading (dBuV/m)	15.247/15.209 AV Limit @ 3m (dBuV/m)	Margin (dBuV/m)	Detector (pk/avg)
3189.36	44.34	-	-	H	30.42	2.88	32.35	45.29	54	-8.71	PK
7983.97	43.29	-	-	H	36.58	3.19	32.17	50.90	54	-3.10	PK
7915.83	43.21	-	-	V	36.52	3.25	32.21	50.77	54	-3.23	PK
Remark	Emission was scanned up to 40GHz; no emissions were detected above the noise floor which was at least 20dB below the specification limit. If the emission PK level is within Average limit, then the maximization and average measurement are not performed.										

PS: 802.11b Mid channel was determined to be the worst case from N-Radio spurious emission testing. Therefore it was chosen for this co-location testing.

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Annex A. TEST INSTRUMENT & METHOD

Annex A.i. TEST INSTRUMENTATION & GENERAL PROCEDURES

Instrument	Model	Serial #	Cal Date	Cal Cycle	Cal Due	In use
Conducted Emissions						
R & S Receiver	ESIB 40	100179	04/20/2013	1 Year	04/20/2014	<input checked="" type="checkbox"/>
R&S LISN	ESH2-Z5	861741/013	05/18/2013	1 Year	05/18/2014	<input checked="" type="checkbox"/>
CHASE LISN	MN2050B	1018	07/24/2013	1 Year	07/24/2014	<input checked="" type="checkbox"/>
Sekonic Hygro Hermograph	ST-50	HE01-000092	05/25/2013	1 Year	05/25/2014	<input checked="" type="checkbox"/>
Radiated Emissions						
R & S Receiver	ESL6	100178	03/01/2013	1 Year	03/01/2014	<input checked="" type="checkbox"/>
R & S Receiver	ESIB 40	100179	04/20/2013	1 Year	04/20/2014	<input type="checkbox"/>
Bi-Log antenna (30MHz~2GHz)	JB1	A030702	02/09/2013	1 Year	02/09/2014	<input checked="" type="checkbox"/>
Horn Antenna (1-26.5GHz)	3115	10SL0059	04/26/2013	1 Year	04/26/2014	<input checked="" type="checkbox"/>
Horn Antenna (18-40 GHz)	AH-840	101013	04/23/2013	1 Year	04/23/2014	<input checked="" type="checkbox"/>
Pre-Amplifier (1-26.5GHz)	8449B	3008A00715	05/30/2013	1 Year	05/30/2014	<input checked="" type="checkbox"/>
Microwave Preamplifier (18-40 GHz)	PA-840	181251	05/30/2013	1 Year	05/30/2014	<input checked="" type="checkbox"/>
3 Meters SAC	3M	N/A	10/13/2012	1 Year	10/13/2013	<input type="checkbox"/>
10 Meters SAC	10M	N/A	06/05/2013	1 Year	06/05/2014	<input checked="" type="checkbox"/>
Sekonic Hygro Hermograph	ST-50	HE01-000092	05/25/2013	1 Year	05/25/2014	<input checked="" type="checkbox"/>
Sekonic Hygro Hermograph	ST-50	HE01-000092	05/25/2013	1 Year	05/25/2014	<input checked="" type="checkbox"/>
Power Analyzer	PACS-1	72394	5/19/2013	1 Year	05/19/2014	<input checked="" type="checkbox"/>
Sekonic Hygro Hermograph	ST-50	HE01-000092	05/25/2013	1 Year	05/25/2014	<input checked="" type="checkbox"/>

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Annex B. TEST SETUP AND SUPPORTING EQUIPMENT

EUT TEST CONDITIONS

Annex B. i. SUPPORTING EQUIPMENT DESCRIPTION
















The following is a description of supporting equipment and details of cables used with the EUT.

Equipment Description (Including Brand Name)	Model & Serial Number	Cable Description (List Length, Type & Purpose)
N/A	N/A	N/A








NOTE: No special supporting equipment are used or needed during testing to achieve compliance.

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Annex C. SIEMIC Accreditation

Accreditations	Document	Scope / Remark
ISO 17025 (A2LA)		Please see the documents for the detailed scope
ISO Guide 65 (A2LA)		Please see the documents for the detailed scope
TCB Designation		A1 , A2 , A3 , A4 , B1 , B2 , B3 , B4 , C
FCC DoC Accreditation		FCC Declaration of Conformity Accreditation
FCC Site Registration		3 meter site
FCC Site Registration		10 meter site
IC Site Registration		3 meter site
IC Site Registration		10 meter site
EU NB		Radio & Telecommunications Terminal Equipment: EN45001 – EN ISO/IEC 17025
		Electromagnetic Compatibility: EN45001 – EN ISO/IEC 17025
Singapore iDA CB(Certification Body)		Phase I , Phase II
Vietnam MIC CAB Accreditation		Please see the document for the detailed scope
HongKong OFCA		(Phase II) OFCA Foreign Certification Body for Radio and Telecom
		(Phase I) Conformity Assessment Body for Radio and Telecom
Industry Canada CAB		Radio: Scope A – All Radio Standard Specification in Category I
		Telecom: CS-03 Part I, II, V, VI, VII, VIII

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Japan Recognized Certification Body Designation		Radio : A1. Terminal equipment for purpose of calling Telecom : B1. Specified radio equipment specified in Article 38-2, Paragraph 1, Item 1 of the Radio Law
Korea CAB Accreditation		EMI : KCC Notice 2008-39, RRL Notice 2008-3: CA Procedures for EMI KN22: Test Method for EMI EMS : KCC Notice 2008-38, RRL Notice 2008-4: CA Procedures for EMS KN24, KN61000-4-2, -4-3, -4-4, -4-5, -4-6, -4-8, -4-11: Test Method for EMS Radio : RRL Notice 2008-26, RRL Notice 2008-2, RRL Notice 2008-10, RRL Notice 2007-49, RRL Notice 2007-20, RRL Notice 2007-21, RRL Notice 2007-80, RRL Notice 2004-68 Telecom : President Notice 20664, RRL Notice 2007-30, RRL Notice 2008-7 with attachments 1, 3, 5, 6; President Notice 20664, RRL Notice 2008-7 with attachment 4
Taiwan NCC CAB Recognition		LP0002, PSTN01, ADSL01, ID0002, IS6100, CNS14336, PLMN07, PLMN01, PLMN08
Taiwan BSMI CAB Recognition		CNS 13438
Japan VCCI		R-3083: Radiation 3 meter site C-3421: Main Ports Conducted Interference Measurement T-1597: Telecommunication Ports Conducted Interference Measurement
Australia CAB Recognition		EMC : AS/NZS CISPR 11, AS/NZS CISPR 14.1, AS/NZS CISPR22, AS/NZS 61000.6.3, AS/NZS 61000.6.4 Radiocommunications : AS/NZS 4281, AS/NZS 4268, AS/NZS 4280.1, AS/NZS 4280.2, AS/NZS 4295, AS/NZS 4582, AS/NZS 4583, AS/NZS 4769.1, AS/NZS 4769.2, AS/NZS 4770, AS/NZS 4771 Telecommunications : AS/ACIF S002:05, AS/ACIF S003:06, AS/ACIF S004:06, AS/ACIF S006:01, AS/ACIF S016:01, AS/ACIF S031:01, AS/ACIF S038:01, AS/ACIF S040:01, AS/ACIF S041:05, AS/ACIF S043.2:06, AS/ACIF S60950.1
Australia NATA Recognition		AS/ACIF S002, AS/ACIF S003, AS/ACIF S004, AS/ACIF S006, AS/ACIF S016, AS/ACIF S031, AS/ACIF S038, AS/ACIF S040, AS/ACIF S041, AS/ACIF S043.2

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