



RF TEST REPORT







Report No.: FCC_IC_RF_SL18030201-ZBR-006_Co-Location
Supersede Report No.:

Applicant	:	Zebra Technologies Corp.
Product Name	:	Label Printer
Model No.	:	ZT410, ZT420
Test Standard	:	FCC 15.247 RSS247 Issue 2, 2017 RSS-210 Issue 9: 2016
Test Method	:	FCC 15.247 ANSI C63.10 2013 RSS Gen Issue 5, April 2018
FCC ID	:	I28MD-FXLAN11AC I28MD-ZBR5QLN I28-RFIDM6EMTT
IC ID	:	3798B- FXLAN11AC 3798B-ZBR5QLN 3798B-RFIDM6EMTT
Dates of test	:	04/27/2018 – 04/28/2018
Issue Date	:	05/01/2018
Test Result	:	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail
Equipment complied with the specification		[X]
This Test Report is Issued Under the Authority of:		
		
Deon Dai		Chen Ge
RF Test Engineer		Engineer Reviewer
This test report may be reproduced in full only Test result presented in this test report is applicable to the tested sample only		

Issued By:
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Laboratory Introduction

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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	EMC, RF/Wireless, Telecom, Safety
Europe	A2LA, NIST	EMC, RF, Telecom, Safety
Israel	MOC, 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 & RED Directive
Japan	MIC (RCB 208)	RF, Telecom
Hong Kong	OFTA (US002)	RF, Telecom

CONTENTS

1	REPORT REVISION HISTORY	4
2	EXECUTIVE SUMMARY.....	5
3	CUSTOMER INFORMATION	5
4	TEST SITE INFORMATION	5
5	MODIFICATION.....	5
6	EUT INFORMATION	6
6.1	EUT Description.....	6
6.2	Radio Description.....	6
6.3	EUT test modes/configuration Description.....	8
7	SUPPORTING EQUIPMENT/SOFTWARE AND CABLING DESCRIPTION.....	9
7.1	Supporting Equipment	9
7.2	Cabling Description	9
7.3	Test Software Description	9
8	TEST SUMMARY.....	10
9	MEASUREMENT UNCERTAINTY	11
9.1	Radiated Emissions (30MHz to 1GHz).....	11
9.2	Radiated Emissions (1GHz to 40GHz).....	11
9.3	RF conducted measurement	12
10	MEASUREMENTS, EXAMINATION AND DERIVED RESULTS.....	13
10.1	Radiated Measurements.....	13
10.1.1	Radiated Measurements 30MHz to 1GHz	13
10.1.2	Radiated Spurious Emissions between 1GHz-25GHz.....	16
	ANNEX A. TEST INSTRUMENT.....	19
	ANNEX A. SIEMIC ACCREDITATION	20

1 Report Revision History

Report No.	Report Version	Description	Issue Date
FCC_IC_RF_SL18030201-ZBR-006_Co-Location	None	Original	05/01/2018

2 Executive Summary

The purpose of this test program was to demonstrate compliance of following product

Company: Zebra Technologies Corporation
Product: Label Printer
Model: ZT410, ZT420

against the current Stipulated Standards. The specified model product stated above has demonstrated compliance with the Stipulated Standard listed on 1st page.

3 Customer information

Applicant Name	:	Zebra Technologies Corp.
Applicant Address	:	3 Overlook Point Lincolnshire, IL 60069, USA
Manufacturer Name	:	Zebra Technologies Corp.
Manufacturer Address	:	3 Overlook Point Lincolnshire, IL 60069, USA

4 Test site information

Lab performing tests	:	SIEMIC Laboratories
Lab Address	:	775 Montague Expressway, Milpitas, CA 95035
FCC Test Site No.	:	881796
IC Test Site No.	:	4842D-2
VCCI Test Site No.	:	A0133

5 Modification

Index	Item	Description	Note
-	-	-	-
-	-	-	-

6 EUT Information

6.1 EUT Description

Product Name	Label Printer
Model No.	ZT410, ZT420
Trade Name	Zebra Technologies Corporation
Serial No.	18J173400772 18J172603806 18J172603811
Input Power	100-240Vac, 50/60Hz
Power Adapter Manu/Model	N/A
Power Adapter SN	N/A
Date of EUT received	4/23/2018
Equipment Class/ Category	DTS, DSS
Clock Frequencies	N/A
Port/Connectors	USB, RS232, RJ45, Parallel, USB host x2

The ZT400 Series printers come in two printing widths: 4" (ZT410) and 6" (ZT420). These two models have the exact same power supply, main control board, and control panel interface. Both models have standard USB2.0, RS-232 serial, 10/100 ethernet, Bluetooth 2.1 communications, and optional parallel port, AC-WLAN, RFID. Both models can print up to 14ips (inches per second), and are Energy Star compliant.

Please note below the differences between the two models ZT410 and ZT420:

PHYSICAL CHARACTERISTICS

	ZT410 closed	ZT420 closed
Length	19.50"/495 mm	19.50"/495 mm
Width	10.6"/269 mm	13.25"/336.55 mm
Height	12.75"/324 mm	12.75"/324 mm
Weight	36 lbs./16.33kg	40 lbs./18.14 kg

The ZT410 is only available with 600dpi printing resolution

6.2 Radio Description

Specifications for Radio:

Specs for Bluetooth

Radio Type	Bluetooth (Ver2.1+EDR)
Operating Frequency	2402MHz-2480MHz
Modulation	FHSS (BDR/EDR)
Channel Spacing	1MHz (BDR, EDR)
Antenna Type	Patch antenna
Antenna Gain	1.16 dBi
Antenna Connector Type	-

Specifications for Radio:

Specs for UHF RFID

Radio Type	UHF RFID
Operating Frequency	902.75-927.25MHz
Modulation	ASK
Channel Spacing	500 KHz
Antenna Type	Loop/Coil
Antenna Gain(dBi)	-36dBi
Number of Channels	50

Specs for WLAN

Radio Type	802.11b	802.11g	802.11n-20M	802.11n-40M
Operating Frequency	2412-2462MHz	2412-2462MHz	2412-2462MHz	2422-2462MHz
Modulation	DSSS (CCK, DQPSK, DBPSK)	OFDM-CCK (BPSK, QPSK, 16QAM,64QAM)	OFDM (BPSK, QPSK, 16QAM, 64QAM)	OFDM (BPSK, QPSK, 16QAM, 64QAM)
Channel Spacing	5MHz	5MHz	5MHz(2.4GHz)	40MHz
Number of Channels	11	11	11(2.4GH)	7(2.4GH)
Antenna Type	Omnidirectional Antenna			
Antenna Gain (Peak)	Omnidirectional Antenna = 3dBi (for 2.4GHz)			
Antenna Connector Type	Reverse SMA U.FL connector			
Remarks	2.4GHz and 5GHz Radio does not transmit simultaneously			

Radio Type	802.11a	802.11n-20M	802.11n-40M	802.11ac-80M
Operating Frequency	5180-5240MHz 5260-5320MHz 5500-5700MHz 5745-5825MHz	5180-5240MHz 5260-5320MHz 5500-5700MHz 5745-5825MHz	5190-5230MHz 5270-5310MHz 5510-5670MHz 5755-5795MHz	5210MHz, 5290MHz 5530MHz, 5610MHz, 5690MHz,5775MHz
Modulation	OFDM (BPSK, QPSK, 16QAM, 64QAM)	OFDM (BPSK, QPSK, 16QAM, 64QAM)	OFDM (BPSK, QPSK, 16QAM, 64QAM)	OFDM (BPSK, QPSK, 16QAM, 64QAM)
Channel Spacing	20MHz	20MHz (5GHz)	40MHz	80MHz
Number of Channels	22	22 (5GHz)	10 (5GHz)	6 (5GHz)
Antenna Type	Omnidirectional Antenna			
Antenna Gain	Omnidirectional Antenna = 5dBi (5GHz)			
Antenna Connector Type	Reverse SMA U.FL connector			
Remarks	2.4GHz and 5GHz Radio does not transmit simultaneously			

EUT test modes/configuration Description

Mode	Note
RF test	EUT is set to continuously transmit
Note: None	

Test Item	Operating mode	Tested antenna port
Antenna Requirement	N/A	-
Conducted Emissions Voltage	N/A	-
Radiated Spurious Emission	Continuous Transmit	-
Frequency Stability	N/A	-
Occupied Bandwidth	N/A	-
Note: -		

7 Supporting Equipment/Software and cabling Description

7.1 Supporting Equipment

Index	Supporting Equipment Description	Model	Serial No	Manu	Note
1	Laptop	Inspiron 17	BM4JRF2	Dell	-

7.2 Cabling Description

Name	Connection Start		Connection Stop		Length / shielding Info		Note
	From	I/O Port	To	I/O Port	Length (m)	Shielding	
USB	EUT	Connector	Laptop	USB	2	-	-

7.3 Test Software Description

Test Item	Software	Description
RF Testing	Zebra Tool Box1.81	Set the EUT to transmit continuously
-	-	-

8 Test Summary

Test Item	Test standard		Test Method/Procedure		Pass / Fail
Radiated Spurious Emission	FCC	15.209,15.247(d)	FCC	ANSI C63.10-2013	<input checked="" type="checkbox"/> Pass
	IC	RSS210(A8.5)	IC	RSS Gen Issue 5, April 2018	<input type="checkbox"/> N/A
Remark	<ol style="list-style-type: none"> All measurement uncertainties are not taken into consideration for all presented test result. The applicant shall ensure frequency stability by showing that an emission is maintained within the band of operation under all normal operating conditions as specified in the user's manual. Only Radiated Spurious Emission for colocation has been tested for this report 				

9 Measurement Uncertainty

9.1 Radiated Emissions (30MHz to 1GHz)

The test is to measure the radiated emissions of the EUT.

Some error sources that can contribute to the total uncertainty:

- Uncertainty of the receiver
- Uncertainty of the antenna
- Uncertainty of cables
- Uncertainty due to the mismatches
- NSA Calibration
- Etc., details see the below table

Source of Uncertainty	Value (dB)	Probability Distribution	Division	Sensitivity Coefficient	Expanded Uncertainty
Receiver Reading	0.12	Rectangular	1.732	1	0.069284
Cable Insertion Loss	0.21	Normal	2	1	0.105
Filter Insertion Loss	0.25	Normal	2	1	0.125
Antenna Factor	0.65	Normal	2	1	0.325
Receiver CW accuracy	0.5	Rectangular	1.732	1	0.2886836
Pulse Amplitude Response	1.5	Rectangular	1.732	1	0.86605081
PRF Response	1.5	Rectangular	1.732	1	0.86605081
Mismatch Filter - Receiver	0.25	U-Shape	1.414	1	0.1768033
NSA Calibration	4.0	U-Shape	1.414	1	2.8288543
Combined Standard Uncertainty					3.0059131
Expanded Uncertainty (K=2)					6.0118262

The total derived measurement uncertainty is +/- 6.00 dB.

9.2 Radiated Emissions (1GHz to 40GHz)

The test is to measure the radiated emissions of the EUT.

Some error sources that can contribute to the total uncertainty:

- Uncertainty of the receiver
- Uncertainty of the antenna
- Uncertainty of cables
- Uncertainty due to the mismatches
- VSWR Calibration
- Etc., details see the below table

Source of Uncertainty	Value (dB)	Probability Distribution	Division	Sensitivity Coefficient	Expanded Uncertainty
Receiver Reading	0.12	Rectangular	1.732	1	0.0692840
Cable Insertion Loss	0.21	Normal	2	1	0.1050000
Filter Insertion Loss	0.25	Normal	2	1	0.1250000
Antenna Factor	0.65	Normal	2	1	0.3250000
Receiver CW accuracy	0.5	Rectangular	1.732	1	0.2886836
Pulse Amplitude Response	1.5	Rectangular	1.732	1	0.8660508
PRF Response	1.5	Rectangular	1.732	1	0.8660508
Mismatch Filter - Receiver	0.25	U-Shape	1.414	1	0.1768033
VSWR Calibration	2.0	U-Shape	1.414	1	1.4144272
Combined Standard Uncertainty					4.2363
Expanded Uncertainty (K=2)					8.4726

The total derived measurement uncertainty is +/- 8.47 dB.

9.3 RF conducted measurement

The test is to measure the RF output power from the EUT.

Some error sources that can contribute to the total uncertainty:

- Uncertainty of the Reference Level Uncertainty
- Uncertainty of variable attenuators
- Uncertainty of cables
- Uncertainty due to the mismatches

Source of Uncertainty	Value (dB)	Probability Distribution	Division	Sensitivity Coefficient	Expanded Uncertainty
Reference Level	0.12	Rectangular	1.732	1	0.069284
Cable Insertion Loss	0.21	Normal	2	1	0.105
Attenuator	0.25	Normal	2	1	0.125
Mismatch	0.25	U-Shape	1.414	1	0.1768033
Combined Standard Uncertainty					0.476087
Expanded Uncertainty (K=2)					0.952174

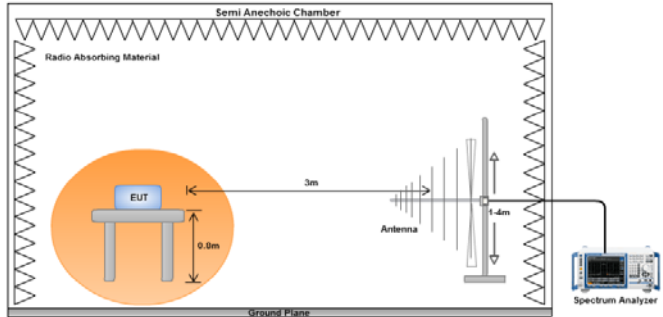
The total derived measurement uncertainty is +/- 0.95 dB.

10 Measurements, examination and derived results

10.1 Radiated Measurements

10.1.1 Radiated Measurements 30MHz to 1GHz

Requirement(s):

Spec	Requirement	Applicable										
47 CFR 15.247(d) §RSS-210 (B.6) RSS-247	<p>Except higher limit as specified elsewhere in other section, the emissions from the low-power radio-frequency devices shall not exceed the field strength levels specified in the following table and the level of any unwanted emissions shall not exceed the level of the fundamental emission. The tighter limit applies at the band edges</p> <table border="1"> <thead> <tr> <th>Frequency range (MHz)</th> <th>Field Strength (uV/m)</th> </tr> </thead> <tbody> <tr> <td>30 – 88</td> <td>100</td> </tr> <tr> <td>88 – 216</td> <td>150</td> </tr> <tr> <td>216 960</td> <td>200</td> </tr> <tr> <td>Above 960</td> <td>500</td> </tr> </tbody> </table>	Frequency range (MHz)	Field Strength (uV/m)	30 – 88	100	88 – 216	150	216 960	200	Above 960	500	☒
Frequency range (MHz)	Field Strength (uV/m)											
30 – 88	100											
88 – 216	150											
216 960	200											
Above 960	500											
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. 											
Test Date	04/27/2018 – 04/28/2018	<table border="1"> <tr> <td>Environmental conditions</td> <td>Temperature</td> <td>20.1°C</td> </tr> <tr> <td></td> <td>Relative Humidity</td> <td>36%</td> </tr> <tr> <td></td> <td>Atmospheric Pressure</td> <td>1026mbar</td> </tr> </table>	Environmental conditions	Temperature	20.1°C		Relative Humidity	36%		Atmospheric Pressure	1026mbar	
Environmental conditions	Temperature	20.1°C										
	Relative Humidity	36%										
	Atmospheric Pressure	1026mbar										
Remark	-											
Result	☒ Pass ☐ Fail											

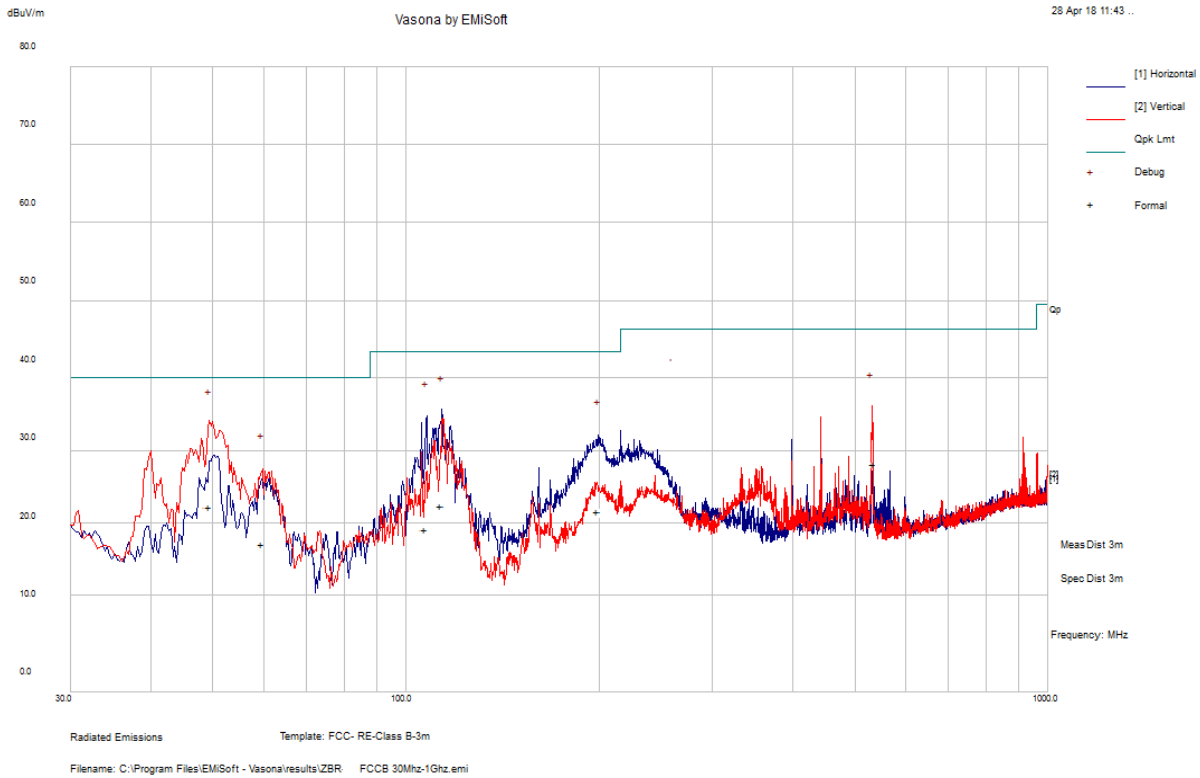
Test Data ☒ Yes (See below) ☐ N/A

Test Plot ☒ Yes (See below) ☐ N/A

Test was done by Deon Dai at 10-meter chamber.

Test specification:	Radiated Emissions		
Mains Power:	120VAC, 60Hz		Result: <input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail
Tested by:	Deon Dai		
Test Date:	04/27/2018		
Remarks:	ZT420: UHF RFID and Bluetooth transmit simultaneously		

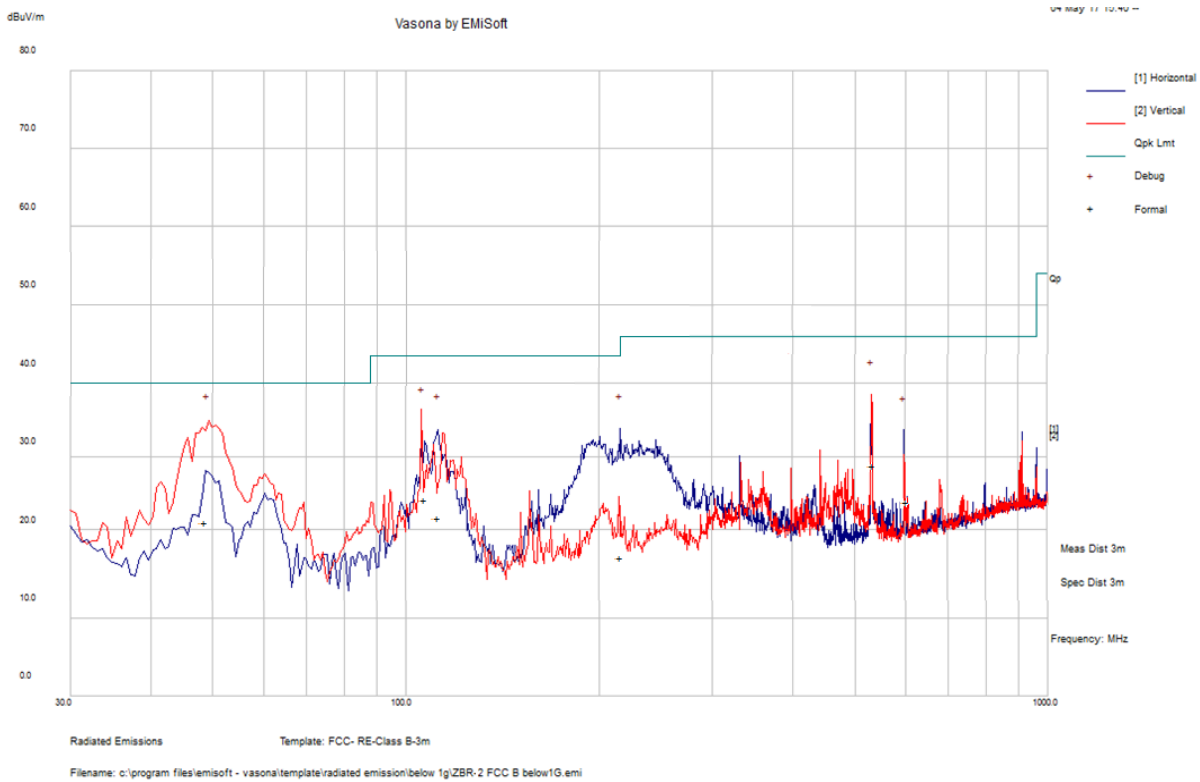
f=30MHz – 1000MHz plot and 3-meter distance



Frequency MHz	Raw dBµV/m	Cable Loss	AF dB	Level dBµV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBµV/m	Margin dB	Pass /Fail
49.47	36.26	13.13	-26.96	22.43	Quasi Max	V	169	356	40	-17.57	Pass
113.74	33.46	13.5	-23.4	23.56	Quasi Max	H	189	254	43.5	-19.94	Pass
107.61	29.49	13.5	-24.1	18.89	Quasi Max	H	123	214	43.5	-24.61	Pass
531.41	29.57	15.74	-18.1	27.21	Quasi Max	V	100	25	46	-18.79	Pass
59.69	31.45	13.16	-27.73	16.88	Quasi Max	V	102	199	40	-23.12	Pass
199.46	32.19	14.1	-24.3	21.99	Quasi Max	H	203	280	43.5	-21.51	Pass

Test specification:	Radiated Emissions		
Mains Power:	120VAC, 60Hz		Result: <input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail
Tested by:	Deon Dai		
Test Date:	04/27/2018		
Remarks:	ZT420: UHF RFID and AC Radio transmit simultaneously		

f=30MHz – 1000MHz plot and 3-meter distance

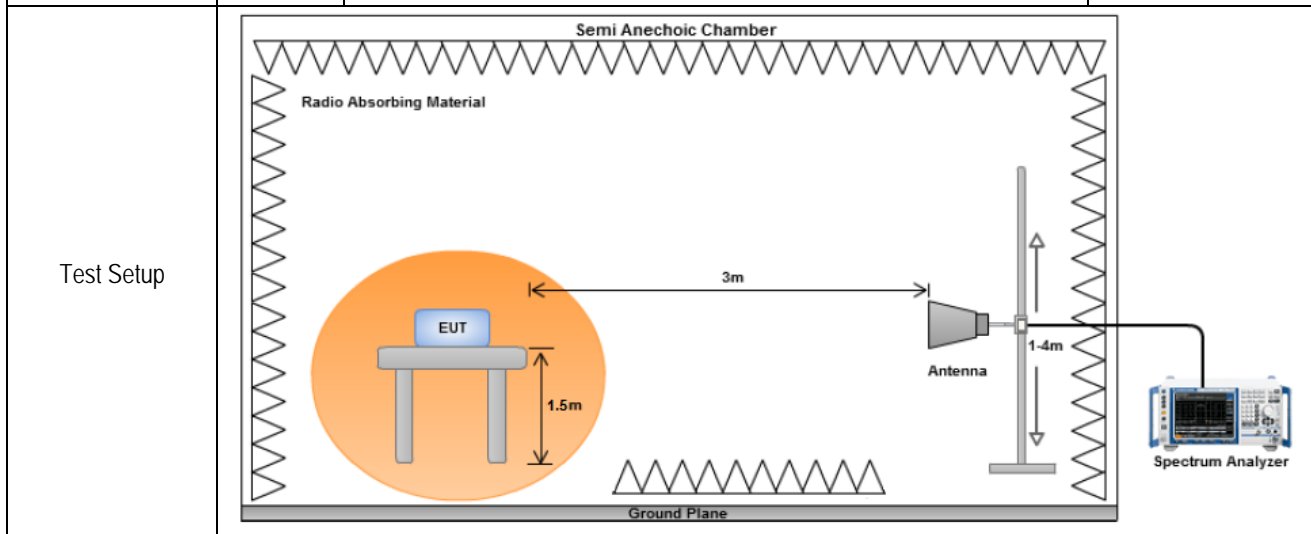


Frequency MHz	Raw dBμV/m	Cable Loss	AF dB	Level dBμV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBμV/m	Margin dB	Pass /Fail
49.39	34.88	13.13	-26.92	21.09	Quasi Max	V	100	357	40	-18.91	Pass
105.77	35.2	13.47	-24.43	24.24	Quasi Max	V	125	214	43.5	-19.26	Pass
112.40	32.34	13.5	-23.5	22.34	Quasi Max	H	199	341	43.5	-21.16	Pass
216.15	28.86	14.2	-25.7	17.36	Quasi Max	H	202	155	46	-28.64	Pass
532.67	30.65	15.75	-18.12	28.28	Quasi Max	V	100	254	46	-17.72	Pass
598.59	25.53	16	-17.4	24.13	Quasi Max	H	120	219	46	-21.87	Pass

10.1.2 Radiated Spurious Emissions between 1GHz-25GHz

Requirement(s):

Spec	Item	Requirement	Applicable
47CFR§15.247(d), RSS210(A8.5) RSS-247	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 type="checkbox"/> 20 dB down <input checked="" 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	<input type="checkbox"/>



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. An average 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.
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Remark	The EUT was scanned up to 40GHz. Both horizontal and vertical polarities were investigated. The results show only the worst case.
--------	---

Result	<input checked="" type="checkbox"/> Pass
--------	--

Test Data Yes (See below) N/A

Test Plot Yes (See below) N/A

Test was done by Deon Dai at 10-meter chamber.

Test specification:	Radiated Emissions		
Mains Power:	120VAC, 60Hz		Result: <input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail
Tested by:	Deon Dai		
Test Date:	04/28/2018		
Remarks:	ZT420: UHF RFID and Bluetooth transmit simultaneously		

Frequency (MHz)	Raw (dBuV)	Cable Loss (dB)	AF (dB)	Level (dBuV/m)	Measurement Type	Pol (V/H)	Hgt (cm)	Azt (Deg)	Limit (dBuV/m)	Margin (dB)	Pass /Fail
4260.91	40.49	3.96	-1.04	43.41	Peak Max	V	100	120	74	-30.59	Pass
12412.25	38.71	6.53	4.05	49.3	Peak Max	H	231	227	74	-24.7	Pass
2123.38	46.6	2.82	-3.09	46.32	Peak Max	V	249	206	74	-27.68	Pass
1329.28	42.4	2.18	-5.9	38.68	Peak Max	V	101	258	74	-35.32	Pass
6654.15	38.99	4.94	-0.27	43.67	Peak Max	H	342	352	74	-30.33	Pass
1169.82	43.67	2.04	-6.82	38.89	Peak Max	H	259	280	74	-35.11	Pass
4260.91	27.21	3.96	-1.04	30.13	Average Max	V	100	120	54	-23.87	Pass
12412.25	26.76	6.53	4.05	37.35	Average Max	H	231	227	54	-16.65	Pass
2123.38	28.54	2.82	-3.09	28.26	Average Max	V	249	206	54	-25.74	Pass
1329.28	30.03	2.18	-5.9	26.31	Average Max	V	101	258	54	-27.69	Pass
6654.15	26.55	4.94	-0.27	31.22	Average Max	H	342	352	54	-22.78	Pass
1169.82	30.68	2.04	-6.82	25.9	Average Max	H	259	280	54	-28.1	Pass

















Test specification:	Radiated Emissions		
Mains Power:	120VAC, 60Hz		Result: <input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail
Tested by:	Deon Dai		
Test Date:	04/28/2018		
Remarks:	ZT420: UHF RFID and AC Radio transmit simultaneously		








Frequency (MHz)	Raw (dBuV)	Cable Loss (dB)	AF (dB)	Level (dBuV/m)	Measurement Type	Pol (V/H)	Hgt (cm)	Azt (Deg)	Limit (dBuV/m)	Margin (dB)	Pass /Fail
4262.49	47.33	3.96	-1.04	50.25	Peak Max	V	146	134	74	-23.75	Pass
12213.86	38.91	6.49	3.71	49.12	Peak Max	H	351	207	74	-24.89	Pass
2124.87	49.76	2.82	-3.1	49.48	Peak Max	V	150	30	74	-24.53	Pass
3106.68	40.27	3.36	-1.42	42.21	Peak Max	V	296	324	74	-31.79	Pass
3151.21	40.28	3.39	-1.46	42.21	Peak Max	H	324	130	74	-31.79	Pass
2073.6	41.25	2.78	-2.91	41.13	Peak Max	V	208	119	74	-32.87	Pass
4262.49	27.46	3.96	-1.04	30.37	Average Max	V	146	134	54	-23.63	Pass
12213.86	26.83	6.49	3.71	37.03	Average Max	H	351	207	54	-16.97	Pass
2124.87	28.28	2.82	-3.1	28	Average Max	V	150	30	54	-26.01	Pass
3106.68	27.75	3.36	-1.42	29.68	Average Max	V	296	324	54	-24.32	Pass
3151.21	28	3.39	-1.46	29.93	Average Max	H	324	130	54	-24.07	Pass
2073.6	28.47	2.78	-2.91	28.34	Average Max	V	208	119	54	-25.66	Pass

Annex A. TEST INSTRUMENT

Instrument	Model	Serial #	Cal Date	Cal Cycle	Cal Due	In use
Radiated Emissions						
Keysight EXA 44GHz Spectrum Analyzer	N9030B(PXA)	MY57140374	09/06/2017	1 Year	09/06/2018	<input checked="" type="checkbox"/>
Bi-Log antenna (30MHz~2GHz)	JB1	A030702	03/09/2018	2 Year	03/09/2020	<input checked="" type="checkbox"/>
Horn Antenna (1GHz~18GHz)	3115	100059	11/09/2017	1 Year	11/09/2018	<input checked="" type="checkbox"/>
Horn Antenna (18GHz~40GHz)	PA-840	181251	06/23/2017	1 Year	06/23/2018	<input checked="" type="checkbox"/>
Preamplifier (100KHz-7GHz)	LPA-6-30	11170602	05/09/2017	1 Year	05/09/2018	<input checked="" type="checkbox"/>
Pre-Amplifier (1-26.5GHz)	8449B	3008A00715	08/16/2017	1 Year	08/16/2018	<input checked="" type="checkbox"/>

Annex A. 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 Equipment: EN45011: EN ISO/IEC 17065
		Electromagnetic Compatibility: EN45011 – EN ISO/IEC 17065
Singapore iDA CB(Certification Body)	 	Phase I , Phase II
Vietnam MIC CAB Accreditation		Please see the document for the detailed scope
Hong Kong 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

Japan Recognized Certification Body Designation		<p>Radio: A1. Terminal equipment for purpose of calling</p> <p>Telecom: B1. Specified radio equipment specified in Article 38-2, Paragraph 1, Item 1 of the Radio Law</p>
Korea CAB Accreditation		<p>EMI: KCC Notice 2008-39, RRL Notice 2008-3: CA Procedures for EMI KN22: Test Method for EMI</p> <p>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</p>
		<p>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</p> <p>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</p>
Taiwan NCC CAB Recognition		LP0002, PSTN01, ADSL01, ID0002, IS6100, CNS14336, PLMN07, PLMN01, PLMN08
Taiwan BSMI CAB Recognition		CNS 13438
Japan VCCI		<p>R-3083: Radiation 3 meter site</p> <p>C-3421: Main Ports Conducted Interference Measurement</p> <p>T-1597: Telecommunication Ports Conducted Interference Measurement</p>
Australia CAB Recognition		<p>EMC: AS/NZS CISPR 11, AS/NZS CISPR 14.1, AS/NZS CISPR22, AS/NZS 61000.6.3, AS/NZS 61000.6.4</p>
		<p>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</p>
		<p>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</p>
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