

Global United Technology Services Co., Ltd.

Report No.: GTSL202104000279-02

TEST Report

Applicant: Dalian Cloud Force Technologies Co., Ltd.

Address of Applicant: Unit1, Block B, 6th Floor, No.23 Honggang Road, Ganjingzi

District, Dalian, Liaoning Province, China

Manufacturer: Dalian Cloud Force Technologies Co., Ltd.

Address of Unit1, Block B, 6th Floor, No.23 Honggang Road, Ganjingzi

Manufacturer: District, Dalian, Liaoning Province, China

Equipment Under Test (EUT)

Product Name: Wireless Motion Sensor

Model No.: MS1P

Series model: N/A

Trade Mark: Ubibot

FCC ID: 2AMFC-MS1P

IC: 24405-MS1P

Applicable standards: FCC Part 15.247

RSS 247 Issue 2, February 2017

RSS-GEN Issue 5 ANSI C63.10: 2013

Date of sample receipt: Sep.14,2020

Date of Test: Sep.14,2020- Apr.30,2021

Date of report issued: Apr.30,2021

PASS * Test Result:

In the configuration tested, the EUT complied with the standards specified above.

Authorized Signature:

Laboratory Manager

This results shown in this test report refer only to the sample(s) tested, this test report cannot be reproduced, except in full, without prior written permission of the company. The report would be invalid without specific stamp of test institute and the signatures of compiler and approver.



2 Version

Version No.	Date	Description
00	Apr.30,2021	Original
	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	2 2 2 2 2 2 2 2 2
8 8 9	2 2 2 2	
	d & B	
g 2	10 mg 10 mg	2 2 2 2 2

Tested/ Prepared By	Trankly	Date:	Apr.30,2021	
	Project Engineer		9 9 8 5	
Check By:	Johnson Lust	Date:	Apr.30,2021	
	Paviewer			



3 Contents

9		age
1	COVER PAGE	1
2	VERSION	2
3	CONTENTS	3
4		
5	GENERAL INFORMATION	5
	5.1 GENERAL DESCRIPTION OF EUT	5
	5.2 TEST MODE	
	5.3 DESCRIPTION OF SUPPORT UNITS	
	5.4 DEVIATION FROM STANDARDS	
	5.6 TEST FACILITY	
	5.7 Test Location	
	5.8 ADDITIONAL INSTRUCTIONS	7
6	TEST INSTRUMENTS LIST	8
7		
	7.1 ANTENNA REQUIREMENT	
	7.2 CONDUCTED EMISSIONS	
	7.4 20DB EMISSION BANDWIDTH & 99% OCCUPY BANDWIDTH	
	7.5 FREQUENCIES SEPARATION	
	7.6 HOPPING CHANNEL NUMBER	
	7.7 DWELL TIME	
	7.8 PSEUDORANDOM FREQUENCY HOPPING SEQUENCE	
	7.9.1 Conducted Emission Method	
	7.9.2 Radiated Emission Method	
	7.10 Spurious Emission	
	7.10.1 Conducted Emission Method	
	7.10.2 Radiated Emission Method	44
8	TEST SETUP PHOTO	52
a	FUT CONSTRUCTIONAL DETAILS	52



4 Test Summary

Test Item	Section in CFR 47	Result
Antenna Requirement	15.203/15.247 (c) RSS-Gen Section 6.8	Pass
AC Power Line Conducted Emission	15.207(a) RSS-Gen Section 8.8	Pass
Maximum peak conducted output power	15.247 (b)(1) RSS-247 Section 5.4(b)	Pass
20dB Occupied Bandwidth & 99% Occupy Bandwidth	15.247 (a)(1) RSS-247 Section 5.4(a) RSS-Gen Section 6.7	Pass
Carrier Frequencies Separation	15.247 (a)(1) RSS-247 Section 5.1(b)	Pass
Hopping Channel Number	15.247 (a)(1) RSS-247 Section 5.1(d)	Pass
Dwell Time	15.247 (a)(1) RSS-247 Section 5.1(d)	Pass
Pseudorandom Frequency Hopping Sequence	15.247(b)(4) RSS-247 Section 5.1	Pass
Radiated Emission	15.205/15.209 Section 3.3 & RSS-Gen Section 8.9	Pass
Band Edge	15.247(d) RSS-247 Section 5.5	Pass

Remarks:

- 1. Pass: The EUT complies with the essential requirements in the standard.
- 2. Test according to ANSI C63.10:2013

Measurement Uncertainty

Test Item	Frequency Range	Measurement Uncertainty	Notes
Radiated Emission	30MHz-200MHz	3.8039dB	(1)
Radiated Emission	200MHz-1GHz	3.9679dB	(1)
Radiated Emission	1GHz-18GHz	4.29dB	(1)
Radiated Emission	18GHz-40GHz	3.30dB	(1)
AC Power Line Conducted Emission	0.15MHz ~ 30MHz	3.44dB	(1)

Telephone: +86 (0) 755 2779 8480 Fax: +86 (0) 755 2779 8960



5 General Information

5.1 General Description of EUT

	Product Name:	Wireless Motion Sensor
- 6	Model No.:	MS1P
87	Series model:	N/A
é	Test sample(s) ID:	GTSL202104000279-1(Engineer sample) GTSL202104000279-2(Normal sample)
*	Operation Frequency:	2402MHz~2480MHz
6	Channel numbers:	79
3	Channel separation:	1MHz
6	Modulation type:	GFSK, π /4-DQPSK, 8-DPSK
	Antenna Type:	PCB Antenna
6	Antenna gain:	0dBi
5	Power supply:	DC 5V/1A From External Circuit and AC 100-240V/50/60Hz
je di	Adapter Information (auxiliary test equipment supplied by test Lab)	Mode: CD122 Input: AC100-240V, 50/60Hz, 500mA Output: DC 5V, 2A



Operation Frequency each of channel								
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency	
1	2402MHz	21	2422MHz	41	2442MHz	61	2462MHz	
2	2403MHz	22	2423MHz	42	2443MHz	62	2463MHz	
3	2404MHz	23	2424MHz	43	2444MHz	63	2464MHz	
4	2405MHz	24	2425MHz	44	2445MHz	64	2465MHz	
5	2406MHz	25	2426MHz	45	2446MHz	65	2466MHz	
6	2407MHz	26	2427MHz	46	2447MHz	66	2467MHz	
7	2408MHz	27	2428MHz	47	2448MHz	67	2468MHz	
8	2409MHz	28	2429MHz	48	2449MHz	68	2469MHz	
9	2410MHz	29	2430MHz	49	2450MHz	69	2470MHz	
10	2411MHz	30	2431MHz	50	2451MHz	70	2471MHz	
11	2412MHz	31	2432MHz	51	2452MHz	71	2472MHz	
12	2413MHz	32	2433MHz	52	2453MHz	72	2473MHz	
13	2414MHz	33	2434MHz	53	2454MHz	73	2474MHz	
14	2415MHz	34	2435MHz	54	2455MHz	74	2475MHz	
15	2416MHz	35	2436MHz	55	2456MHz	75	2476MHz	
16	2417MHz	36	2437MHz	56	2457MHz	76	2477MHz	
17	2418MHz	37	2438MHz	57	2458MHz	77	2478MHz	
18	2419MHz	38	2439MHz	58	2459MHz	78	2479MHz	
19	2420MHz	39	2440MHz	59	2460MHz	79	2480MHz	
20	2421MHz	40	2441MHz	60	2461MHz	8	6 6	

Note:

In section 15.31(m), regards to the operating frequency range over 10 MHz, the Lowest frequency, the middle frequency, and the highest frequency of channel were selected to perform the test, and the selected channel see below:

Channel	Frequency
The lowest channel	2402MHz
The middle channel	2441MHz
The Highest channel	2480MHz



5.2 Test mode

Transmitting mode Keep the EUT in continuously transmitting mode.

Remark: During the test, the test voltage was tuned from 85% to 115% of the nominal rated supply voltage, and found that the worst case was under the nominal rated supply condition. So the report just shows that condition's data.

5.3 Description of Support Units

None.

5.4 Deviation from Standards

None.

5.5 Abnormalities from Standard Conditions

None.

5.6 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

• FCC —Registration No.: 381383

Global United Technology Services Co., Ltd., Shenzhen EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in files. Registration 381383.

• IC —Registration No.: 9079A

The 3m Semi-anechoic chamber of Global United Technology Services Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 9079A

• NVLAP (LAB CODE:600179-0)

Global United Technology Services Co., Ltd., is accredited by the National Voluntary Laboratory Accreditation Program (NVLAP). LAB CODE:600179-0

5.7 Test Location

All tests were performed at:

Global United Technology Services Co., Ltd.

Address: No. 123-128, Tower A, Jinyuan Business Building, No.2, Laodong Industrial Zone, Xixiang Road, Baoan District, Shenzhen, Guangdong, China 518102

Tel: 0755-27798480 Fax: 0755-27798960

5.8 Additional Instructions

Test Software	Special AT test command provided by manufacturer to Keep the EUT in continuously transmitting mode and hopping mode
Power level setup	Default

Global United Technology Services Co., Ltd.

No. 123-128, Tower A, Jinyuan Business Building, No.2, Laodong Industrial Zone, Xixiang Road, Baoan District, Shenzhen, Guangdong, China 518102

Telephone: +86 (0) 755 2779 8480 Fax: +86 (0) 755 2779 8960



6 Test Instruments list

Radi	iated Emission:	2 2		2	0 0	0 0
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal.Date (mm-dd-yy)	Cal.Due date (mm-dd-yy)
1	3m Semi- Anechoic Chamber	ZhongYu Electron	9.2(L)*6.2(W)* 6.4(H)	GTS250	July. 02 2020	July. 01 2025
2	Control Room	ZhongYu Electron	6.2(L)*2.5(W)* 2.4(H)	GTS251	N/A	N/A
3	EMI Test Receiver	Rohde & Schwarz	ESU26	GTS203	June. 25 2020	June. 24 2021
4	BiConiLog Antenna	SCHWARZBECK MESS-ELEKTRONIK	VULB9163	GTS214	June. 25 2020	June. 24 2021
5	Double -ridged waveguide horn	SCHWARZBECK MESS-ELEKTRONIK	BBHA 9120 D	GTS208	June. 25 2020	June. 24 2021
6	Horn Antenna	ETS-LINDGREN	3160	GTS217	June. 25 2020	June. 24 2021
7	EMI Test Software	FARAD	EZ-EMC	N/A	N/A	N/A
8	Coaxial Cable	GTS	N/A	GTS213	June. 25 2020	June. 24 2021
9	Coaxial Cable	GTS	N/A	GTS211	June. 25 2020	June. 24 2021
10	Coaxial cable	GTS	N/A	GTS210	June. 25 2020	June. 24 2021
11	Coaxial Cable	GTS	N/A	GTS212	June. 25 2020	June. 24 2021
12	Amplifier(100kHz-3GHz)	HP	8347A	GTS204	June. 25 2020	June. 24 2021
13	Amplifier(2GHz-20GHz)	HP	84722A	GTS206	June. 25 2020	June. 24 2021
14	Amplifier (18-26GHz)	Rohde & Schwarz	AFS33-18002 650-30-8P-44	GTS218	June. 25 2020	June. 24 2021
15	Band filter	Amindeon	82346	GTS219	June. 25 2020	June. 24 2021
16	Power Meter	Anritsu	ML2495A	GTS540	June. 25 2020	June. 24 2021
17	Power Sensor	Anritsu	MA2411B	GTS541	June. 25 2020	June. 24 2021
18	Wideband Radio Communication Tester	Rohde & Schwarz	CMW500	GTS575	June. 25 2020	June. 24 2021
19	Splitter	Agilent	11636B	GTS237	June. 25 2020	June. 24 2021
20	Loop Antenna	ZHINAN	ZN30900A	GTS534	June. 25 2020	June. 24 2021
21	Breitband hornantenne	SCHWARZBECK	BBHA 9170	GTS579	Oct. 18 2020	Oct. 17 2021
22	Amplifier	TDK	PA-02-02	GTS574	Oct. 18 2020	Oct. 17 2021
23	Amplifier	TDK	PA-02-03	GTS576	Oct. 18 2020	Oct. 17 2021
24	PSA Series Spectrum Analyzer	Rohde & Schwarz	FSP	GTS578	June. 25 2020	June. 24 2021



Cond	ucted Emission				7	
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal.Date (mm-dd-yy)	Cal.Due date (mm-dd-yy)
1	Shielding Room	ZhongYu Electron	7.3(L)x3.1(W)x2.9(H)	GTS252	May.15 2019	May.14 2022
2	EMI Test Receiver	R&S	ESCI 7	GTS552	June. 25 2020	June. 24 2021
3	Coaxial Switch	ANRITSU CORP	MP59B	GTS225	June. 25 2020	June. 24 2021
4	ENV216 2-L-V- NETZNACHB.DE	ROHDE&SCHWARZ	ENV216	GTS226	June. 25 2020	June. 24 2021
5	Coaxial Cable	GTS	N/A	GTS227	N/A	N/A
6	EMI Test Software	FARAD	EZ-EMC	N/A	N/A	N/A
7	Thermo meter	KTJ	TA328	GTS233	June. 25 2020	June. 24 2021
8	Absorbing clamp	Elektronik- Feinmechanik	MDS21	GTS229	June. 25 2020	June. 24 2021
9	ISN	SCHWARZBECK	NTFM 8158	GTS565	June. 25 2020	June. 24 2021

RF C	RF Conducted Test:							
Item	Test Equipment	Manufacturer	Model No.	Serial No.	Cal.Date (mm-dd-yy)	Cal.Due date (mm-dd-yy)		
1	MXA Signal Analyzer	Agilent	N9020A	GTS566	June. 25 2020	June. 24 2021		
2	EMI Test Receiver	R&S	ESCI 7	GTS552	June. 25 2020	June. 24 2021		
3	Spectrum Analyzer	Agilent	E4440A	GTS533	June. 25 2020	June. 24 2021		
4	MXG vector Signal Generator	Agilent	N5182A	GTS567	June. 25 2020	June. 24 2021		
5	ESG Analog Signal Generator	Agilent	E4428C	GTS568	June. 25 2020	June. 24 2021		
6	USB RF Power Sensor	DARE	RPR3006W	GTS569	June. 25 2020	June. 24 2021		
7	RF Switch Box	Shongyi	RFSW3003328	GTS571	June. 25 2020	June. 24 2021		
8	Programmable Constant Temp & Humi Test Chamber	WEWON	WHTH-150L-40-880	GTS572	June. 25 2020	June. 24 2021		
9	Power Sensor	Agilent	E9300A	GTS589	June. 25 2020	June. 24 2021		
10	Spectrum analyzer	Agilent	N9020A	GTS591	June. 25 2020	June. 24 2021		

Gene	eral used equipment:	6 6				
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal.Date (mm-dd-yy)	Cal.Due date (mm-dd-yy)
1	Humidity/ Temperature Indicator	KTJ	TA328	GTS243	June. 25 2020	June. 24 2021
2	Barometer	ChangChun	DYM3	GTS255	June. 25 2020	June. 24 2021

Telephone: +86 (0) 755 2779 8480 Fax: +86 (0) 755 2779 8960



7 Test results and Measurement Data

7.1 Antenna requirement

Standard requirement: FCC Part15 C Section 15.203 /247(c)

15.203 requirement:

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

15.247(c) (1)(i) requirement:

(i) Systems operating in the 2400-2483.5 MHz band that is used exclusively for fixed. Point-to-point operations may employ transmitting antennas with directional gain greater than 6dBi provided the maximum conducted output power of the intentional radiator is reduced by 1 dB for every 3 dB that the directional gain of the antenna exceeds 6dBi.

Standard requirement: RSS-Gen Section 6.8

A transmitter can only be sold or operated with antennas with which it was approved.

When a measurement at the antenna connector is used to determine RF output power, the effective gain of the device's antenna shall be stated, based on measurement or on data from the antenna manufacturer. For transmitters of RF output power of 10 miliwatts or less, only the portion of the antenna gain that is in excess of 6 dBi (6 dB above isotropic gain) shall be added to the measured RF output power to demonstrate compliance with the radiated power limits specified in the applicable standard. For transmitters of output power greater than 10 milliwatts, the total antenna gain shall be added to the measured RF output power to demonstrate compliance to the specified radiated power

E.U.T Antenna:

The antenna is PCB Antenna, the best case gain of the is 0dBi, reference to the appendix II for details



7.2 Conducted Emissions

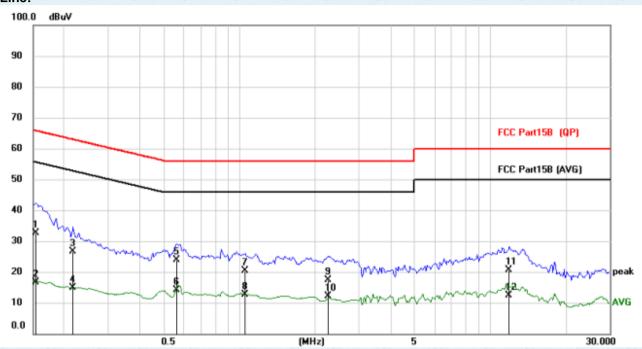
Test Requirement:	FCC Part15 C Section 15.207 RSS-Gen Section 8.8				
Test Method:	ANSI C63.10:2013 & RSS-Gen				
Test Frequency Range:	150KHz to 30MHz				
Class / Severity:	Class B				
Receiver setup:	RBW=9KHz, VBW=30KHz, Sv	RBW=9KHz, VBW=30KHz, Sweep time=auto			
Limit:	Fraguerou rongo (MHz)	Limit	(dBuV)		
	Frequency range (MHz)	Quasi-peak	Average		
	0.15-0.5	66 to 56*	56 to 46*		
	0.5-5	56	46		
	5-30	60	50		
	* Decreases with the logarithm	n of the frequency.			
Test setup:	Reference Plane		_ 8 _ 8 _ 8		
	E.U.T Test table/Insulation plane	EMI Receiver			
	Remark E.U.T. Equipment Under Test LISN: Line Impedence Stabilization Network Test table height=0.8m				
Test procedure:	E.U.T: Equipment Under Test LISN: Line Impedence Stabilization Network	n network (L.I.S.N.). Tedance for the measuralso connected to the n/50uH coupling imperor the block diagram of the maximum emissional of the interface care	This provides a uring equipment. e main power through a edance with 500hm of the test setup and en conducted sion, the relative ables must be changed		
Test Instruments:	 E.U.T. Equipment Under Test LISN: Line Impedence Stabilization Network Test table height=0.8m The E.U.T and simulators a line impedance stabilization 500hm/50uH coupling impedues a subject of the peripheral devices are LISN that provides a 500hm termination. (Please refer to photographs). Both sides of A.C. line are of interference. In order to find positions of equipment and 	n network (L.I.S.N.). Tedance for the measuralso connected to the n/50uH coupling imperothe block diagram of the maximum emissional of the interface capana on conducted measurance of the maximum emissional of the interface capana on conducted measurance capana cap	This provides a uring equipment. e main power through a edance with 500hm of the test setup and en conducted sion, the relative ables must be changed		
	 E.U.T. Equipment Under Test LISN: Line Impedence Stabilization Network Test table height=0.8m 1. The E.U.T and simulators a line impedance stabilization 50ohm/50uH coupling impedition. 2. The peripheral devices are LISN that provides a 50ohn termination. (Please refer to photographs). 3. Both sides of A.C. line are of interference. In order to find positions of equipment and according to ANSI C63.10:2 	n network (L.I.S.N.). Tedance for the measuralso connected to the n/50uH coupling imperor the block diagram of the maximum emissional of the interface capacity on conducted maximum emissional of the interface capacity.	This provides a uring equipment. e main power through a edance with 500hm of the test setup and en conducted sion, the relative ables must be changed		
Test Instruments:	E.U.T. Equipment Under Test LISN: Line Impedence Stabilization Network Test table height=0.8m 1. The E.U.T and simulators a line impedance stabilization 500hm/50uH coupling imped 2. The peripheral devices are LISN that provides a 500hn termination. (Please refer to photographs). 3. Both sides of A.C. line are of interference. In order to find positions of equipment and according to ANSI C63.10:2 Refer to section 6.0 for details	n network (L.I.S.N.). Tedance for the measuralso connected to the n/50uH coupling imperothe block diagram of the checked for maximum different the maximum emissival of the interface capacity.	This provides a uring equipment. e main power through a edance with 500hm of the test setup and en conducted sion, the relative ables must be changed		
Test Instruments: Test mode:	E.U.T. Equipment Under Test LISN: Line Impedence Stabilization Network Test table height=0.8m 1. The E.U.T and simulators a line impedance stabilization 50ohm/50uH coupling imped 2. The peripheral devices are LISN that provides a 50ohn termination. (Please refer to photographs). 3. Both sides of A.C. line are of interference. In order to find positions of equipment and according to ANSI C63.10:2 Refer to section 6.0 for details	n network (L.I.S.N.). Tedance for the measuralso connected to the n/50uH coupling imperothe block diagram of the checked for maximum different the maximum emissival of the interface capacity.	This provides a suring equipment. The main power through a sedance with 500hm of the test setup and the conducted sion, the relative sables must be changed measurement.		

Remark: Both high and low voltages have been tested to show only the worst low voltage test data.



Measurement data:

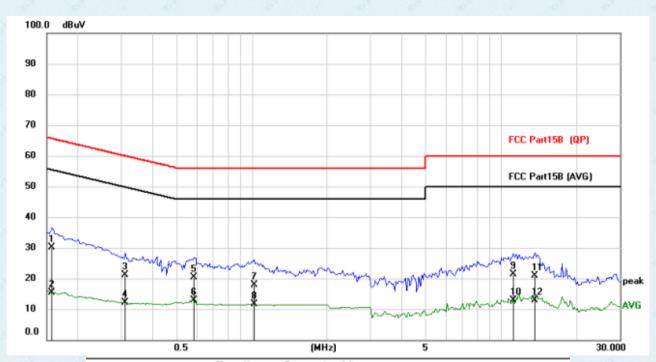
Line:



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector
1		0.1539	21.64	10.92	32.56	65.79	-33.23	QP
2		0.1539	5.73	10.92	16.65	55.79	-39.14	AVG
3		0.2163	15.83	10.92	26.75	62.96	-36.21	QP
4		0.2163	3.84	10.92	14.76	52.96	-38.20	AVG
5		0.5595	12.98	10.92	23.90	56.00	-32.10	QP
6	*	0.5595	3.33	10.92	14.25	46.00	-31.75	AVG
7		1.0509	9.37	10.92	20.29	56.00	-35.71	QP
8		1.0509	1.82	10.92	12.74	46.00	-33.26	AVG
9		2.2559	6.46	10.98	17.44	56.00	-38.56	QP
10		2.2559	1.06	10.98	12.04	46.00	-33.96	AVG
11		11.9232	9.24	11.40	20.64	60.00	-39.36	QP
12		11.9232	0.91	11.40	12.31	50.00	-37.69	AVG



Neutral:



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector
1		0.1578	19.26	10.93	30.19	65.58	-35.39	QP
2		0.1578	4.35	10.93	15.28	55.58	-40.30	AVG
3		0.3099	10.22	10.92	21.14	59.97	-38.83	QP
4		0.3099	1.27	10.92	12.19	49.97	-37.78	AVG
5		0.5829	9.53	10.92	20.45	56.00	-35.55	QP
6	*	0.5829	1.95	10.92	12.87	46.00	-33.13	AVG
7		1.0236	6.97	10.92	17.89	56.00	-38.11	QP
8		1.0236	0.81	10.92	11.73	46.00	-34.27	AVG
9		11.2329	9.93	11.39	21.32	60.00	-38.68	QP
10		11.2329	1.43	11.39	12.82	50.00	-37.18	AVG
11		13.6587	9.49	11.44	20.93	60.00	-39.07	QP
12		13.6587	1.56	11.44	13.00	50.00	-37.00	AVG

Notes:

- 1. An initial pre-scan was performed on the line and neutral lines with peak detector.
- 2. Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission.
- 3. Final Level =Receiver Read level + LISN Factor + Cable Los



7.3 Conducted Peak Output Power

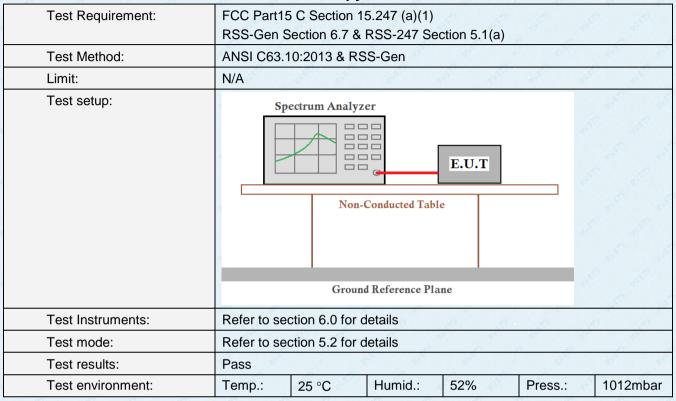
Test Requirement:	FCC Part15 C Section 15.247 (b)(1) RSS-247 Section 5.4(b)			
Test Method:	ANSI C63.10:2013 & RSS-Gen			
Limit:	30dBm(for GFSK),20.97dBm(for EDR)			
Test setup:	Power sensor and Spectrum analyzer E.U.T Non-Conducted Table Ground Reference Plane			
Test Instruments:	Refer to section 6.0 for details			
Test mode:	Refer to section 5.2 for details			
Test results:	Pass // / / / / / / / / / / / / / / / / /			
Test environment:	Temp.: 25 °C Humid.: 52% Press.: 1012mbar			

Measurement Data

Mode	Test channel	Peak Output Power (dBm)	Limit (dBm)	Result
2 2 2	Lowest	4.10	Le Le L	
GFSK	Middle	4.19	30.00	Pass
	Highest	4.20		
	Lowest	4.46	8 8	
π/4-DQPSK	Middle	4.76	20.97	Pass
	Highest	4.54	8 8 6	
8 8	Lowest	4.94		8 8
8-DPSK	Middle	5.22	20.97	Pass
	Highest	4.90		



7.4 20dB Emission Bandwidth & 99% Occupy Bandwidth



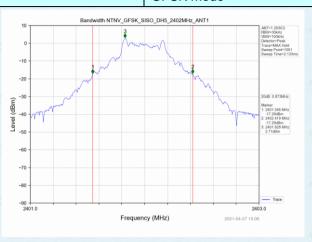
Measurement Data

Mode	Test channel	20dB Emission Bandwidth (MHz)	99% Occupy Bandwidth (MHz)	Result
	Lowest	0.873	0.803	- C
GFSK	Middle	0.879	0.814	Pass
	Highest	0.877	0.817	9 8
8 8	Lowest	1.271	1.172	8 6
π/4-DQPSK	Middle	1.269	1.158	Pass
	Highest	1.278	1.168	. 9
	Lowest	1.203	1.149	
8-DPSK	Middle	1.205	1.153	Pass
	Highest	1.202	1.150	8 8

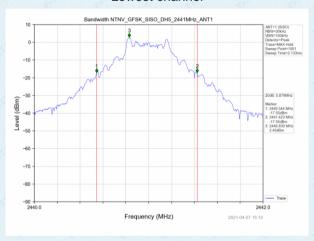


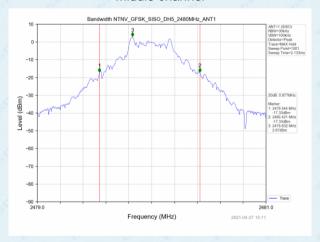
Test plot as follows: 20dB Emission Bandwidth

Test mode: GFSK mode



Lowest channel

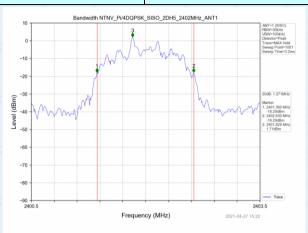




Highest channel

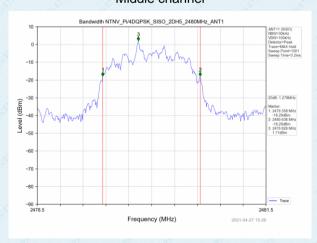


Test mode: π/4-DQPSK mode



Lowest channel

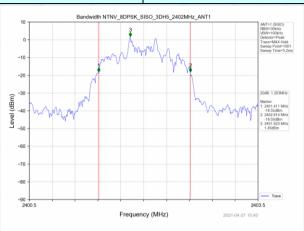




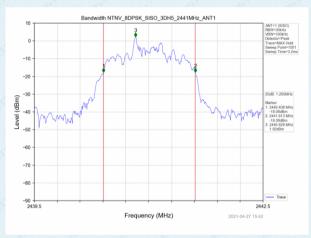
Highest channel

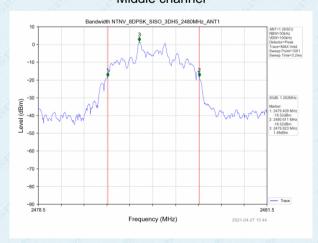


Test mode: 8-DPSK mode



Lowest channel



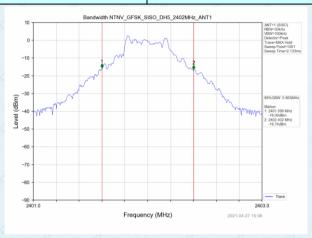


Highest channel

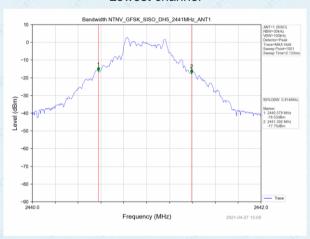


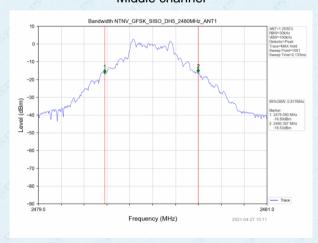
Test plot as follows: 99% Occupy Bandwidth

Test mode: GFSK mode



Lowest channel

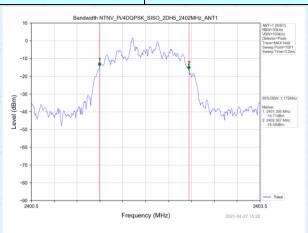




Highest channel

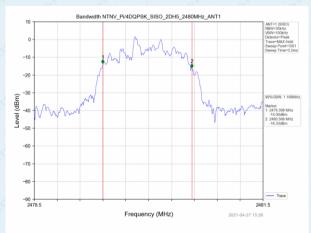


Test mode: π/4-DQPSK mode



Lowest channel

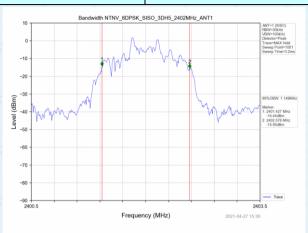




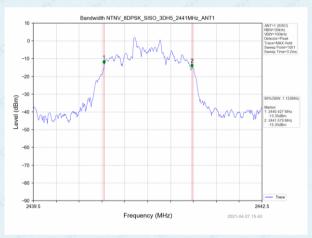
Highest channel

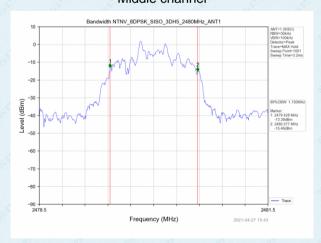


Test mode: 8-DPSK mode



Lowest channel





Highest channel



7.5 Frequencies Separation

Test Requirement:	FCC Part15 C Section 15.247 (a)(1) RSS-247 Section 5.1(b)				
Test Method:	ANSI C63.10:2013 & RSS-Gen				
Receiver setup:	RBW=100KHz, VBW=300KHz, detector=Peak				
Limit:	GFSK: 20dB bandwidth π/4-DQPSK & 8DSK: 0.025MHz or 2/3 of the 20dB bandwidth (whichever is greater)				
Test setup:	Spectrum Analyzer E.U.T Non-Conducted Table Ground Reference Plane				
Test Instruments:	Refer to section 6.0 for details				
Test mode:	Refer to section 5.2 for details				
Test results:	Pass				
Test environment:	Temp.: 25 °C Humid.: 52% Press.: 1012mbar				

Measurement Data

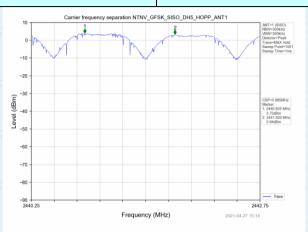
Mode	Test channel	Frequencies Separation (MHz)	Limit (kHz)	Result
			25KHz or	
GFSK	Middle	0.985	2/3*20dB	Pass
			bandwidth	
			25KHz or	8 6
π/4-DQPSK	Middle	0.999	2/3*20dB	Pass
			bandwidth	
	8		25KHz or	8 8
8-DPSK	Middle	0.999	2/3*20dB	Pass
			bandwidth	

Remark: We have tested all mode at high, middle and low channel, and recorded worst case at middle

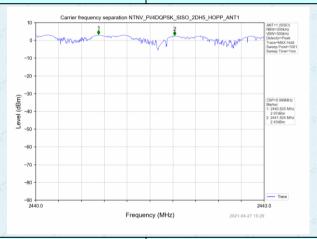


Test plot as follows:

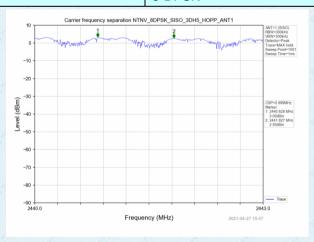
Modulation mode: GFSK



Test mode: $\pi/4$ -DQPSK



Test mode: 8-DPSK





7.6 Hopping Channel Number

Test Requirement:	FCC Part15 C Section 15.247 (a)(1) RSS-247 Section 5.1(d)					
Test Method:	ANSI C63.10:2013 & RSS-Gen					
Receiver setup:	RBW=100kHz, VBW=300kHz, Frequency range=2400MHz-2483.5MHz, Detector=Peak					
Limit:	15 channels					
Test setup:	Spectrum Analyzer E.U.T Non-Conducted Table Ground Reference Plane					
Test Instruments:	Refer to section 6.0 for details					
Test mode:	Refer to section 5.2 for details					
Test results:	Pass					
Test environment:	Temp.: 25 °C Humid.: 52% Press.: 1012mbar					

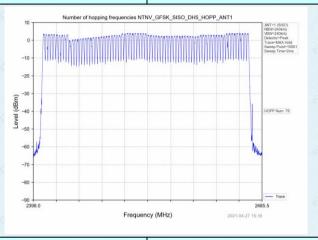
Measurement Data:

Mode	Hopping channel numbers	Limit	Result
GFSK	79	≥15	Pass
π/4-DQPSK	79	8 8 8 6	Pass
8-DPSK	79	8 8 2	Pass

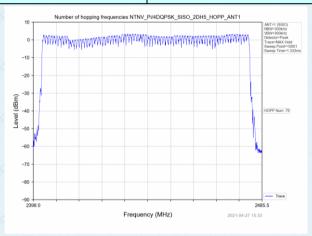


Test plot as follows:

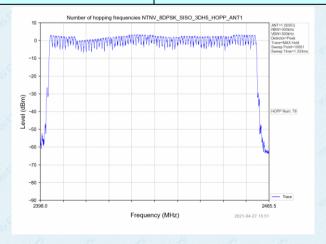
Test mode: GFSK



Test mode: $\pi/4$ -DQPSK



Test mode: 8-DPSK





7.7 Dwell Time

Test Requirement:	FCC Part15 C Section 15.247 (a)(1) RSS-247 Section 5.1(d)					
Test Method:	ANSI C63.10:2013 & RSS-Gen					
Receiver setup:	RBW=1MHz, VBW=1MHz, Span=0Hz, Detector=Peak					
Limit:	0.4 Second					
Test setup:	Spectrum Analyzer E.U.T Non-Conducted Table Ground Reference Plane					
Test Instruments:	Refer to section 6.0 for details					
Test mode:	Refer to section 5.2 for details					
Test results:	Pass					
Test environment:	Temp.: 25 °C Humid.: 52% Press.: 1012mbar					



Measurement Data GFSK mode:

Frequency	Packet	Pulse time (ms)	Dwell time(ms)	Limit(ms)	Result	
2441MHz	DH1	11 0.392 125.440		400	Pass	
2441MHz	DH3	1.649	267.138	400	Pass	
2441MHz	DH5	2.896	321.456	400	Pass	

Note:We have tested all mode at high, middle and low channel, and recoreded worst case at middle channel.

Dwell time=Pulse time (ms) x (1600 ÷ 2 ÷ 79) x31.6 Second for DH1, 2-DH1

Dwell time=Pulse time (ms) \times (1600 \div 4 \div 79) \times 31.6 Second for DH3, 2-DH3

Dwell time=Pulse time (ms) \times (1600 \div 6 \div 79) \times 31.6 Second for DH5, 2-DH5

π/4-DQPSK mode:

Frequency	Packet	Pulse time (ms)	Dwell time(ms)	Limit(ms)	Result	
2441MHz	2DH1	0.386	123.520	400	Pass	
2441MHz	2DH3	1.638	273.546	400	Pass	
2441MHz	2DH5	2.885	340.430	400	Pass	

Note:We have tested all mode at high, middle and low channel, and recoreded worst case at middle channel.

Dwell time=Pulse time (ms) \times (1600 \div 2 \div 79) \times 31.6 Second for DH1, 2-DH1

Dwell time=Pulse time (ms) \times (1600 \div 4 \div 79) \times 31.6 Second for DH3, 2-DH3

Dwell time=Pulse time (ms) \times (1600 \div 6 \div 79) \times 31.6 Second for DH5, 2-DH5

8-DPSK mode:

Frequency	Packet	Pulse time (ms)	Dwell time(ms)	Limit(ms)	Result Pass	
2441MHz	3DH1	0.383	122.560	400		
2441MHz	3DH3	1.633	277.610	400	Pass	
2441MHz 3DH5		2.885	300.040	400	Pass	

Note:We have tested all mode at high, middle and low channel, and recoreded worst case at middle channel.

Dwell time=Pulse time (ms) \times (1600 \div 2 \div 79) \times 31.6 Second for DH1, 2-DH1, 3-DH1

Dwell time=Pulse time (ms) \times (1600 \div 4 \div 79) \times 31.6 Second for DH3, 2-DH3, 3-DH3

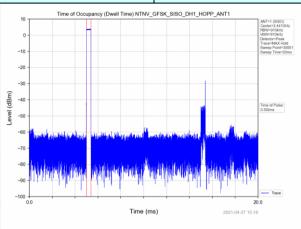
Dwell time=Pulse time (ms) \times (1600 \div 6 \div 79) \times 31.6 Second for DH5, 2-DH5, 3-DH5

Telephone: +86 (0) 755 2779 8480 Fax: +86 (0) 755 2779 8960

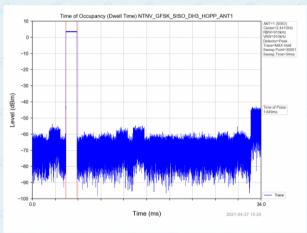


Test plot as follows: GFSK mode:

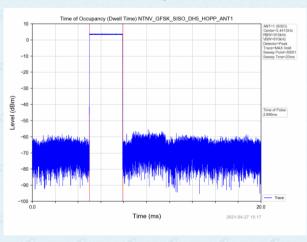
Test channel: 2441MHz



DH₁



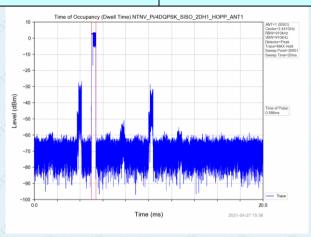
DH3



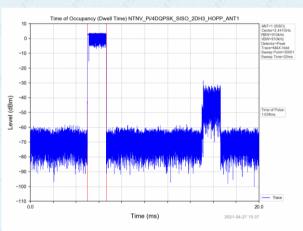


π/4-DQPSK mode:

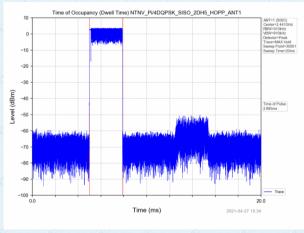
Test channel: 2441MHz



DH1



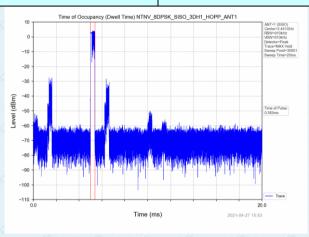
DH3



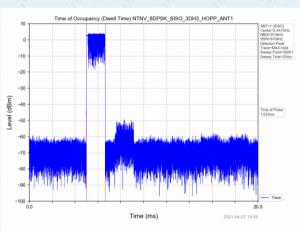


8-DPSK mode:

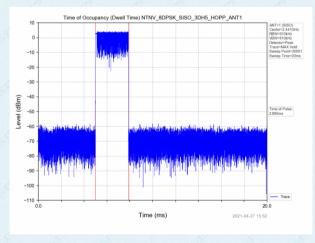
Test channel: 2441MHz



DH1



DH3





7.8 Pseudorandom Frequency Hopping Sequence

Test Requirement:

FCC Part15 C Section 15.247 (a)(1)/g/h requirement:

a(1): Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater.

Alternatively. Frequency hopping systems operating in the 2400-2483.5 MHz band may have hopping channel carrier frequencies that are separated by 25 kHz or two-thirds of the 20 dB bandwidth of the hopping channel, whichever is greater, provided the systems operate with an output power no greater than 125 mW. The system shall hop to channel frequencies that are selected at the system hopping rate from a Pseudorandom ordered list of hopping frequencies. Each frequency must be used equally on the average by each transmitter. The system receivers shall have input bandwidths that match the hopping channel bandwidths of their corresponding transmitters and shall shift frequencies in synchronization with the transmitted signals.

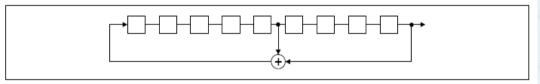
(g) Frequency hopping spread spectrum systems are not required to employ all available hopping channels during each transmission. However, the system, consisting of both the transmitter and the receiver, must be designed to comply with all of the regulations in this section should the transmitter be presented with a continuous data (or information) stream. In addition, a system employing short transmission bursts must comply with the definition of a frequency hopping system and must distribute its transmissions over the minimum number of hopping channels specified in this section.

(h) The incorporation of intelligence within a frequency hopping spread spectrum system that permits the system to recognize other users within the spectrum band so that it individually and independently chooses and adapts its hopsets to avoid hopping on occupied channels is permitted. The coordination of frequency hopping systems in any other manner for the express purpose of avoiding the simultaneous occupancy of individual hopping frequencies by multiple transmitters is not permitted.

EUT Pseudorandom Frequency Hopping Sequence

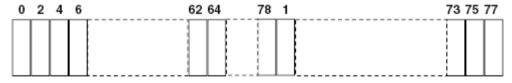
The pseudorandom sequence may be generated in a nine-stage shift register whose 5th and 9th stage outputs are added in a modulo-two addition stage. And the result is fed back to the input of the first stage. The sequence begins with the first ONE of 9 consecutive ONEs; i.e. the shift register is initialized with nine ones.

- · Number of shift register stages: 9
- Length of pseudo-random sequence: 29-1 = 511 bits
- · Longest sequence of zeros: 8 (non-inverted signal)



Linear Feedback Shift Register for Generation of the PRBS sequence

An example of Pseudorandom Frequency Hopping Sequence as follow:



Each frequency used equally on the average by each transmitter.

The system receivers have input bandwidths that match the hopping channel bandwidths of their corresponding transmitters and shift frequencies in synchronization with the transmitted signals.

it permits the system to recognize other users within the spectrum band so that it individually and independently chooses and adapts its hopsets to avoid hopping on occupied channels is permitted.



7.9 Band Edge

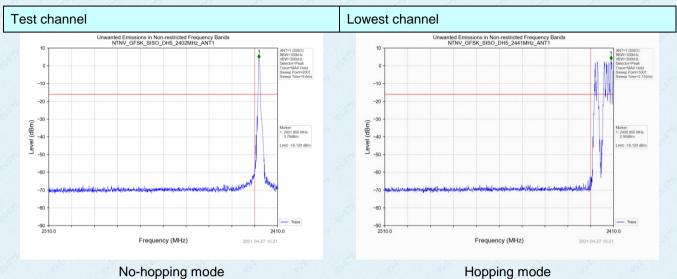
7.9.1 Conducted Emission Method

Test Requirement:	FCC Part15 C Section 15.247 (d) RSS-247 Section 5.5					
Test Method:	ANSI C63.10:2013 & RSS-Gen					
Receiver setup:	RBW=100kHz, VBW=300kHz, Detector=Peak					
Limit:	In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement.					
Test setup:	Spectrum Analyzer E.U.T Non-Conducted Table Ground Reference Plane					
Test Instruments:	Refer to section 6.0 for details					
Test mode:	Refer to section 5.2 for details					
Test results:	Pass					
Test environment:	Temp.: 25 °C Humid.: 52% Press.: 1012mbar					



Test plot as follows:

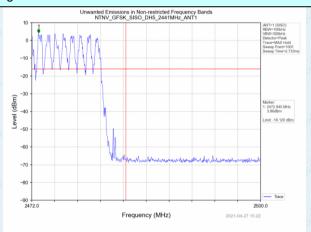
GFSK Mode:



Test channel:

No-hopping mode

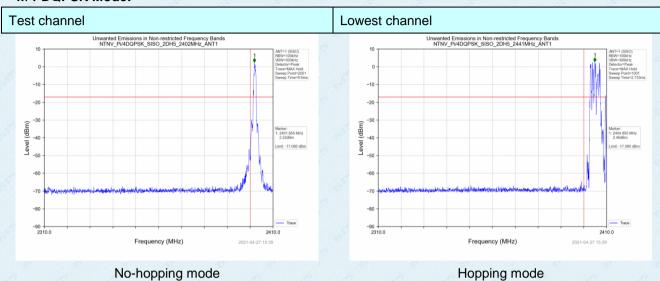
Highest channel



Hopping mode



π/4-DQPSK Mode:

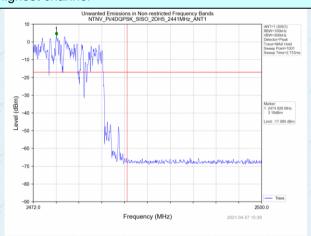


Test channel:

Unwanted Emissions in Non-restricted Frequency Bands NTNV_Pir4DQPSK_SISO_20H5_2480MHz_ANT1 ANT1 (BBSC) VWW-3000ts VWW-30

No-hopping mode

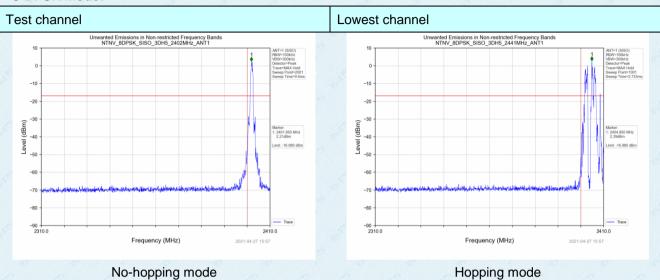
Highest channel



Hopping mode



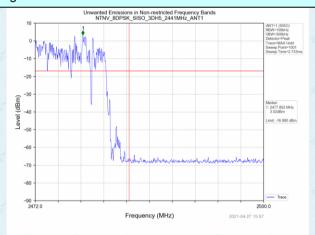
8-DPSK Mode:



Test channel:

No-hopping mode

Highest channel



Hopping mode



7.9.2 Radiated Emission Method

Test Requirement:	FCC Part15 C Section 15.209 and 15.205				
	Section 3.3 & RSS-Gen Section 8.9				
Test Method:	ANSI C63.10:2013 & RSS-Gen				
Test Frequency Range:	All of the restrict bands were tested, only the worst band's (2310MHz to 2500MHz) data was showed.				
Test site:	Measurement Distance: 3m				
Receiver setup:	Frequency	RBW	VBW	Remark	
	Above 1GHz	Peak Peak	1MHz 1MHz	3MHz 10Hz	Peak Value Average Value
Limit:	Freque	ncy /	Limit (dBuV/		Remark
	Above 1	GHz	54.0 74.0		Average Value Peak Value
Test setup:	Test Antenna- Tum Table- <150cm >-				
Test Procedure:	1. The FLIT was placed on the top of a rotating table 1.5 meters above the				
	 The EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter camber. The table was rotated 360 degrees to determine the position of the highest radiation. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rota table was turned from 0 degrees to 360 degrees to find the maximum reading. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet. 				
Test Instruments:	Refer to section 6.0 for details				
Test mode:	Refer to section 5.2 for details				
Test results:	Pass				
Test environment:	Temp.: 25	°C Hum	id.: 52%	Pr	ress.: 1012mbar

Telephone: +86 (0) 755 2779 8480 Fax: +86 (0) 755 2779 8960



Measurement Data

Remark: GFSK, Pi/4 DQPSK and 8DPSK all have been tested, only worse case GFSK is reported.

Operation Mode: GFSK TX Low channel(2402MHz)

Horizontal (Worst case)

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detecto
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Туре
2390	57.33	-5.68	51.65	74	-22.35	peak
2390	44.32	-5.68	38.64	54	-15.36	AVG

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Туре
2390	60.31	-5.68	54.63	74	-19.37	peak
2390	45.02	-5.68	39.34	54	-14.66	AVG



Operation Mode: GFSK TX High channel (2480MHz)

Horizontal (Worst case)

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Type
2483.5	59.79	-5.85	53.94	74	-20.06	peak
2483.5	44.31	-5.85	38.46	54	-15.54	AVG

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Type
2483.5	62.30	-5.85	56.45	74	-17.55	peak
2483.5	45.89	-5.85	40.04	54	-13.96	AVG

Remark: Factor = Antenna Factor + Cable Loss - Pre-amplifier.

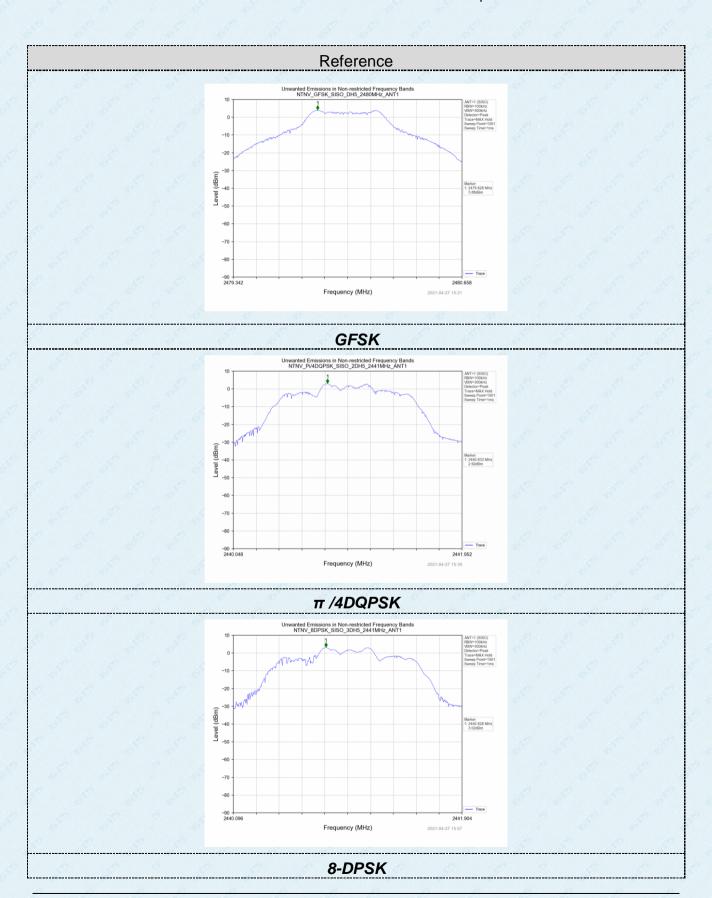


7.10 Spurious Emission

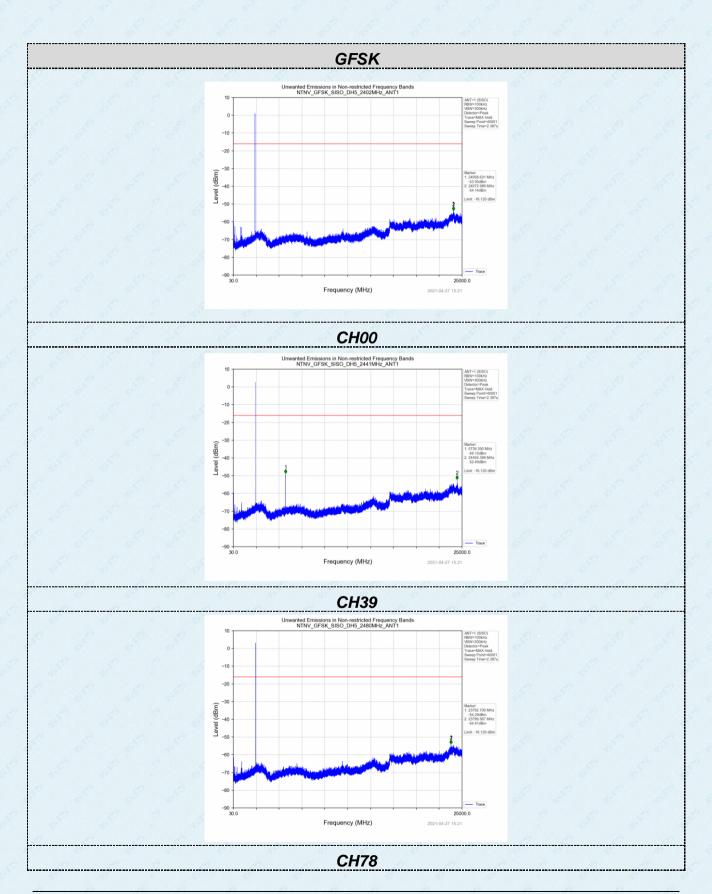
7.10.1 Conducted Emission Method

Test Requirement:	FCC Part15 C Section 15.247 (d) RSS-247 Section 5.5
Test Method:	ANSI C63.10:2013 & RSS-Gen
Limit:	In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement.
Test setup:	Spectrum Analyzer E.U.T Non-Conducted Table Ground Reference Plane
Test Instruments:	Refer to section 6.0 for details
Test mode:	Refer to section 5.2 for details
Test results:	Pass
Test environment:	Temp.: 25 °C Humid.: 52% Press.: 1012mbar

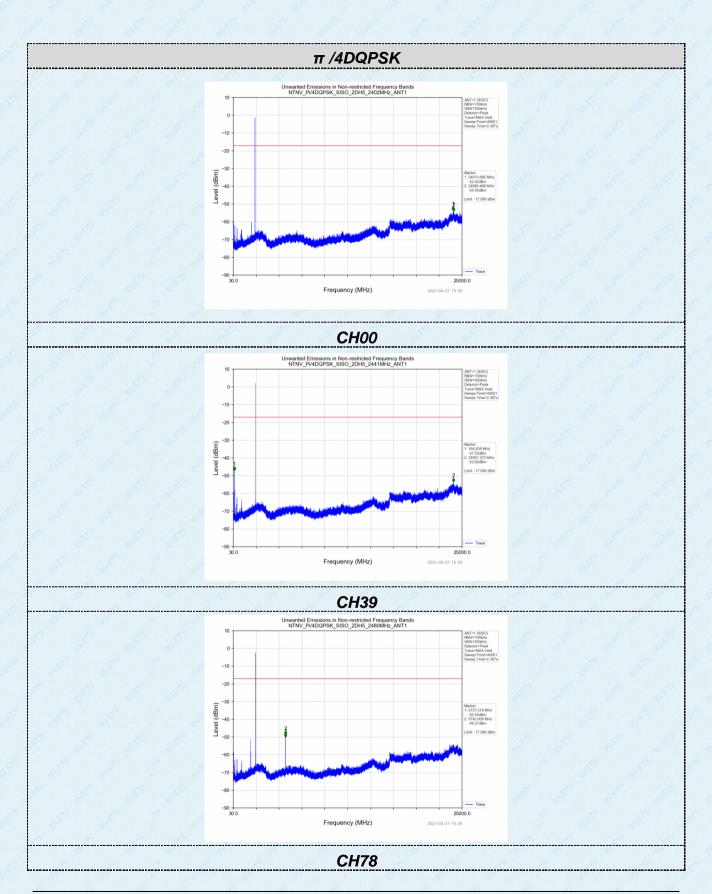




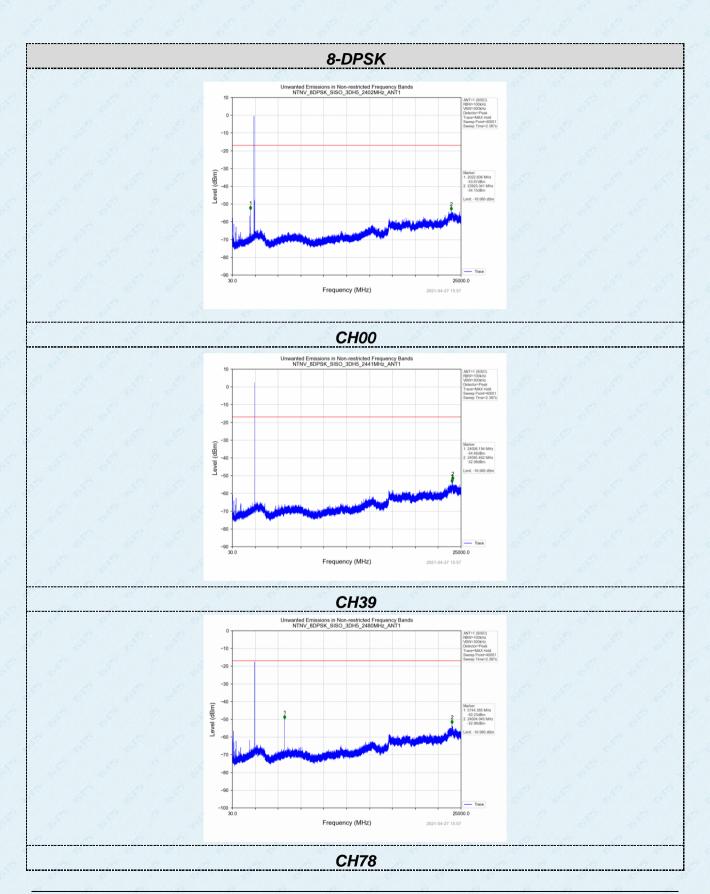
GTS



GTS



GTS

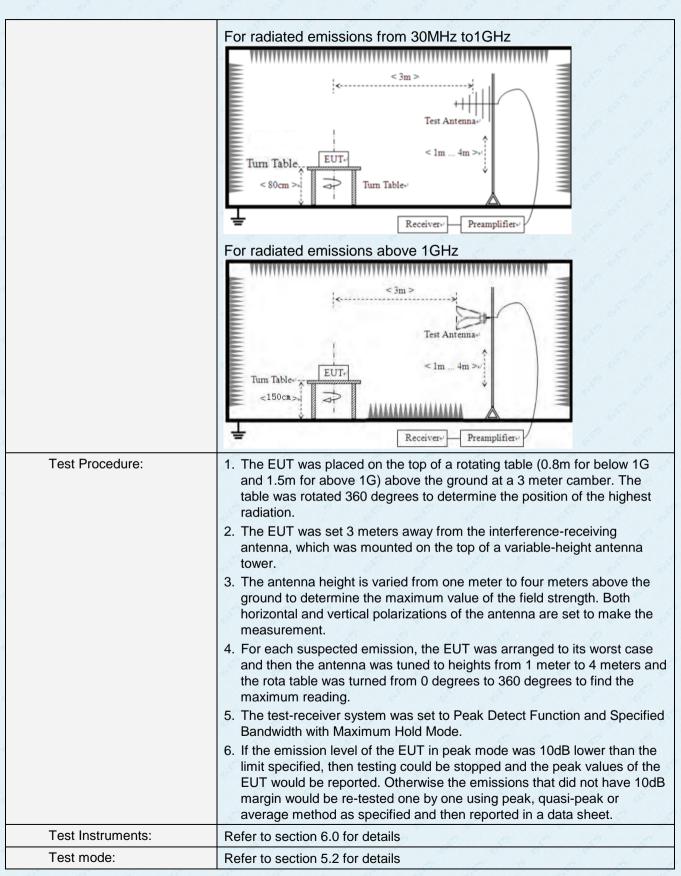




7.10.2 Radiated Emission Method

Test Requirement:	FCC Part15 C Section Section 3.3 & RSS-C							
Test Method:	ANSI C63.10:2013 8	RS	S-Gen				9	
Test Frequency Range:	9kHz to 25GHz		6 6	6		6	-61	
Test site:	Measurement Distar	nce: 3	3m	- P			6	
Receiver setup:	Frequency	<u> </u>	Detector	RBW		VBW		Value
	9KHz-150KHz	Qu	ıasi-peak	200H	Ηz	600Hz	z	Quasi-peak
	150KHz-30MHz Qu		ıasi-peak	9KH	lz	30KH:	z	Quasi-peak
	30MHz-1GHz	Q	ıasi-peak	120K	Hz	300KH	lz	Quasi-peak
	Above 1GHz	9 9	Peak	1MH	lz	3MHz	Z	Peak
	Above 1G112		Peak	1MH	lz	10Hz		Average
Limit:	Frequency	6 5	Limit (u\	//m)	Va	alue	N	leasurement Distance
	0.009MHz-0.490MHz		2400/F(k	(Hz)	(QΡ	300m	
	0.490MHz-1.705MHz		24000/F(KHz)	(QΡ	30m	
	1.705MHz-30MHz		30	45°		QP		30m
	30MHz-88MHz			6	(QΡ	000	
	88MHz-216MHz	150	600	(QP 🧷			
	216MHz-960MH	200		(QΡ		3m	
	960MHz-1GHz		500			QΡ		OIII
	Above 1GHz		500 Av		Ave	verage		
	710010 10112	. 6	5000		Р	Peak		
Test setup:	For radiated emissions from 9kHz to 30MHz							
	Turn Table EUT	T	< 3m > Test A	ntenna lm Receiver				







Test environment:	Temp.:	25 °C	Humid.:	52%	Press.:	1012mbar
Test voltage:	AC 120V, 6	0Hz	8 8			
Test results:	Pass	10 10	B	9 9		9 69

Measurement data:

Remarks:

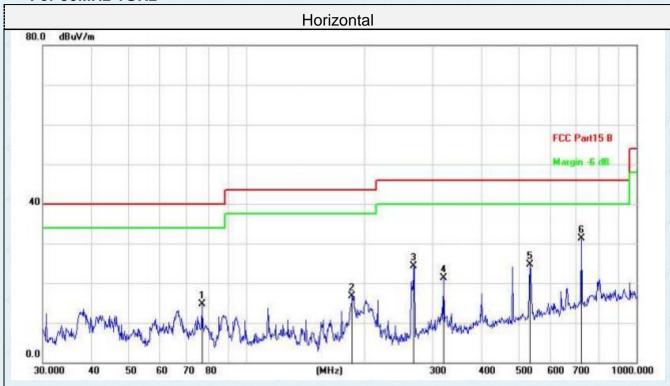
- 1. During the test, pre-scan the GFSK, $\pi/4$ -DQPSK, 8-DPSK modulation, and found the GFSK modulation which it is worse case.
- 2. Pre-scan all kind of the place mode (X-axis, Y-axis, Z-axis), and found the Y-axis which it is worse case.

■ 9kHz~30MHz

The low frequency, which started from 9 kHz to 30 MHz, was pre-scanned and the result which was 20 dB lower than the limit line per 15.31(o) was not reported.



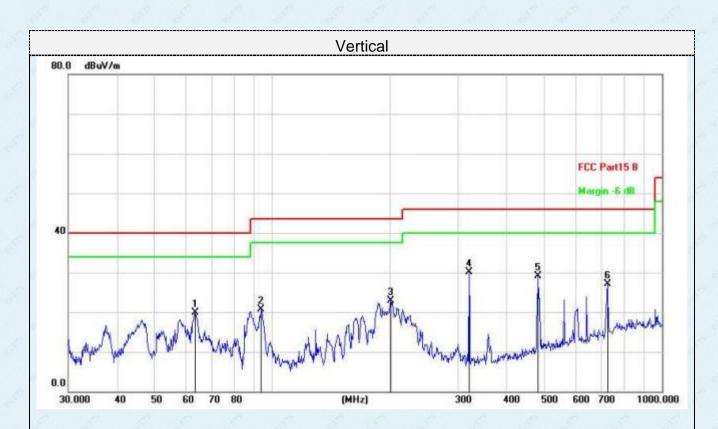
For 30MHz-1GHz



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBuV	dB	dBuV/m	dB/m	dB	Detector
1		76.7808	35.19	-20.53	14.66	40.00	-25.34	QP
2		186.4409	35.91	-19.18	16.73	43.50	-26.77	QP
3		268.4853	43.37	-19.04	24.33	46.00	-21.67	QP
4		319.9370	39.43	-18.12	21.31	46.00	-24.69	QP
5		533.8321	39.01	-14.24	24.77	46.00	-21.23	QP
6	*	721.7259	42.78	-11.46	31.32	46.00	-14.68	QP

Final Level = Receiver Read level + Correct Factor





No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBuV	dB	dBuV/m	dB/m	dB	Detector
1		63.5356	39.02	-19.16	19.86	40.00	-20.14	QP
2		93.7685	41.72	-21.01	20.71	43.50	-22.79	QP
3		201.3930	43.06	-20.13	22.93	43.50	-20.57	QP
4	*	319.9370	47.58	-17.56	30.02	46.00	-15.98	QP
5		480.5276	44.76	-15.67	29.09	46.00	-16.91	QP
6		724.2611	38.11	-10.93	27.18	46.00	-18.82	QP

Final Level =Receiver Read level + Correct Factor



For 1GHz to 25GHz

Remark: For test above 1GHz GFSK and Pi/4 DQPSK were test at Low, Middle, and High channel; only the worst result of GFSK was reported as below:

CH Low (2402MHz)

Horizontal:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Datastas
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Detecto Type
4804	61.33	-3.61	57.72	74	-16.28	peak
4804	45.58	-3.61	41.97	54	-12.03	AVG
7206	54.98	-0.85	54.13	74	-19.87	peak
7206	44.22	-0.85	43.37	54	-10.63	AVG
<u> </u>	2	£ <u>-</u>	2	8 -8	2 - 8	<u>,4</u>
Ø	Ø <u></u> Ø	<u> </u>	8 <u>8.</u> 8	<u>/2</u> /	<u>4</u>	& <u></u>)

Remark: Factor = Antenna Factor + Cable Loss - Pre-amplifier.

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	S. S.
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Detector Type
4804	60.31	-3.61	56.7	74	-17.3	peak
4804	45.59	-3.61	41.98	54	-12.02	AVG
7206	56.33	-0.85	55.48	74	-18.52	peak
7206	44.82	-0.85	43.97	54	-10.03	AVG
8 8	8 - 8	8 /	9 9 8	<i>\$</i> 2	<u> </u>	& <u></u> &
<u> </u>		££		\$ -\$	2 - 8	
Remark: Facto	or = Antenna Fac	tor + Cable Lo	ss – Pre-amplifier.		o jo	g g



CH Middle (2441MHz)

Horizontal:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	6
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Detector Type
4882	61.38	-3.49	57.89	74	-16.11	peak
4882	46.79	-3.49	43.3	54	-10.7	AVG
7326	57.93	-0.8	57.13	74	-16.87	peak
7326	45.08	-0.8	44.28	54	-9.72	AVG
° - <u></u> & <u> </u>	8 - 8	£		<u> </u>	<u> </u>	<i>8</i> 6
<i>6</i>	å <u>4</u> .	£\$	7 8	8 8	2 8	<u> </u>

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Detector Type
4882	60.37	-3.49	56.88	74	-17.12	peak
4882	45.29	-3.49	41.8	54	-12.2	AVG
7326	54.72	-0.80	53.92	74	-20.08	peak
7326	42.31	-0.8	41.51	54	-12.49	AVG
<u>4</u>	2 2	8 -8	2 8	8 - 8	2 8	_50
Ø Ø	8 8	<u> 4</u>	0 <u>0</u> 1	<u> </u>	9 <u>2</u> 9	B

Remark: Factor = Antenna Factor + Cable Loss - Pre-amplifier.



CH High (2480MHz)

Horizontal:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	- 5
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Detector Type
4960	62.35	-3.41	58.94	74	-15.06	peak
4960	45.95	-3.41	42.54	54	-11.46	AVG
7440	55.36	-0.72	54.64	74	-19.36	peak
7440	42.79	-0.8	41.99	54	-12.01	AVG
- 6 <u>-</u> -		ee	1 _6	6 <u></u> . 6	1 <u></u> 8	<u> 4</u>
£ &	8 <u></u> 8	<u> </u>	? <u>&_</u> &	" <u>&_</u> = &	<u> </u>	£ 6
	9 2	0 0	9 29	0 0	9 2	

Remark: Factor = Antenna Factor + Cable Loss - Pre-amplifier.

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	Detector Type
4960	61.35	-3.41	57.94	74	-16.06	peak
4960	45.79	-3.41	42.38	54	-11.62	AVG
7440	55.35	-0.72	54.63	74	-19.37	peak
7440	42.90	-0.80	42.10	54	-11.90	AVG
<i>8</i>	<u> </u>	££	2 8	8 _8	? <u></u> &	4
£ - <u></u> £	8 - 8	£ (<u> </u>	<u> </u>	é é

Remark: Factor = Antenna Factor + Cable Loss - Pre-amplifier.

Remark:

(1) Data of measurement within this frequency range shown "--- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

(2) When the test results of Peak Detected below the limits of Average Detected,

the Average Detected is not need completed.



8 Test Setup Photo

Reference to the appendix I for details.

9 EUT Constructional Details

Reference to the appendix II for details.

-----End-----