

FCC Radio Test Report

Applicant	:	Motorola Mobility LLC
Equipment	:	moto tag
Brand Name	:	Motorola
Model Name	:	XT2445-1
FCC ID	:	IHDT6AB3
Standard	:	47 CFR FCC Part 15.519
Test Date(S)	:	May 22, 2024 ~ May 25, 2024

We, Sporton International Inc. (Kunshan), would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.10-2013 and shown compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of Sporton International Inc. (Kunshan), the test report shall not be reproduced except in full.

JasonJia

Approved by: Jason Jia



Sporton International Inc. (Kunshan) No. 1098, Pengxi North Road, Kunshan Economic Development Zone Jiangsu Province 215300 People's Republic of China



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History of this test report

Report No.	Version	Description	Issued Date
FR441117B	01	Initial issue of report	May 28, 2024
FR441117B	02	 Added S/N of conducted sample for 15.519(a)(1) testing Updated section 3.2.5 description of marker on plots. 	May 29, 2024



Summary of Test Result

Report Clause	Ref. Std. Clause	Test Items	Result (PASS/FAIL)	Remark
1.4	15.203 15.519(a)(2)	Antenna Requirement	PASS	15.203
-	15.207	AC Power-line Conducted Emissions	Not Applicable	2
3.1	15.503	UWB Bandwidth	PASS	≥ 500MHz
3.2	15.519(a)(1)	Technical requirements for Hand Held UWB systems	PASS	15.519(a)(1)
3.3	15.519(e)	Peak Emissions within a 50 MHz Bandwidth	PASS	≤ 0 dBm/50MHz
3.4	15.519(c) /15.519(d)	Radiated Emissions	PASS	UWB Emissions: 15.519(c) GPS Emissions: 15.519(d) Digital Emissions: 15.209

2. The device is Powered by battery only.

Conformity Assessment Condition:

 The test results (PASS/FAIL) with all measurement uncertainty excluded are presented against the regulation limits or in accordance with the requirements stipulated by the applicant/manufacturer who shall bear all the risks of non-compliance that may potentially occur if measurement uncertainty is taken into account.

2. The measurement uncertainty please refer to each test result in the section "Measurement Uncertainty"

Disclaimer:

The product specifications of the EUT presented in the test report that may affect the test assessments are declared by the manufacturer who shall take full responsibility for the authenticity.



1 General Description

1.1 Applicant

Motorola Mobility LLC

222 W, Merchandise Mart Plaza, Chicago IL 60654 USA

1.2 Manufacturer

Motorola Mobility LLC

222 W, Merchandise Mart Plaza, Chicago IL 60654 USA

1.3 Product Feature of Equipment Under Test

Product Feature			
Equipment	moto tag		
Brand Name	Motorola		
Model Name	XT2445-1		
FCC ID	IHDT6AB3		
SN Code	Radiation: UT0D3L1445D008C Conducted: UT0D3L1445D0089		
HW Version	EVT2		
SW Version	1.0.9		
EUT Stage	Identical Prototype		

Remark: The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.

1.4 Product Specification of Equipment Under Test

Standards-related Product Specification			
Channel Number & Tx/Rx Frequency Range	CH05: 6489.6 MHz CH09: 7987.2 MHz		
Antenna Type	IFA Antenna		
UWB category	hand held device		
Antenna Gain	<ch05> : 2.5 dBi <ch09> : 3.5 dBi</ch09></ch05>		
Type of Modulation	BPM-BPSK		

1.5 Modification of EUT

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



1.6 Type of EUT

	Operational Condition				
EUT	EUT Power Type From Battery				
		Type of EUT			
\boxtimes	Stand-alone				
	Combined (EUT where the radio part is fully integrated within another device)				
	Combined Equipment - Brand Name / Model No.:				
	Plug-in radio (EUT intended for a variety of host systems)				
	Host System - Brand Name / Model No.:				
	Other:				

1.7 Testing Location Information

Sporton International Inc. (Kunshan) is accredited to ISO/IEC 17025:2017 by American Association for Laboratory Accreditation with Certificate Number 5145.02.

Test Firm	Sporton International Ir	Sporton International Inc. (Kunshan)			
	No. 1098, Pengxi North Road, Kunshan Economic Development Zone				
Test Site Location	Site Location Jiangsu Province 215300 People's Republic of China				
	TEL : +86-512-57900158				
Test Site No.	Sporton Site No.	FCC Designation No.	FCC Test Firm Registration No.		
	03CH06-KS	CN1257	314309		

Test Condition	Test Site No.	Test Engineer	Test Environment	Test Date
Radiated			22 ~ 23 °C	May 22, 2024~
Radiated	03CH06-KS	Levi Zhao	41 ~ 42 %	May 25, 2024

1.8 Test Software

ltem	Site	Manufacture	Name	Version
1.	03CH06-KS	AUDIX	E3	210616



1.9 Testing Applied Standards

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

- 47 CFR FCC Part 15F
- ANSI C63.10-2013
- FCC KDB 414788 D01 Radiated Test Site v01r01
- FCC KDB 393764 D01 v02
- FCC KDB 412172 D01 v01r01

1.10 Specification of Accessory

Specification of Accessory				
Battery	Brand Name	Motorola	Model Name	CR2032



2 Test Configuration of EUT

2.1 Test Mode

Test Configuration						
Mode	UWB Channel	preamble_cidx	rx_sts_mode	packet_length		
Mode 1	5	9	0	67		
Mode 2	5	9	1	67		
Mode 3	5	9	3	0		
Mode 4	5	10	0	67		
Mode 5	5	10	1	67		
Mode 6	5	10	3	0		
Mode 7	5	11	0	67		
Mode 8	5	11	1	67		
Mode 9	5	11	3	0		
Mode 10	5	12	0	67		
Mode 11	5	12	1	67		
Mode 12	5	12	3	0		
Mode 13	9	9	0	67		
Mode 14	9	9	1	67		
Mode 15	9	9	3	0		
Mode 16	9	10	0	67		
Mode 17	9	10	1	67		
Mode 18	9	10	3	0		
Mode 19	9	11	0	67		
Mode 20	9	11	1	67		
Mode 21	9	11	3	0		
Mode 22	9	12	0	67		
Mode 23	9	12	1	67		
Mode 24	9	12	3	0		

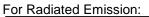


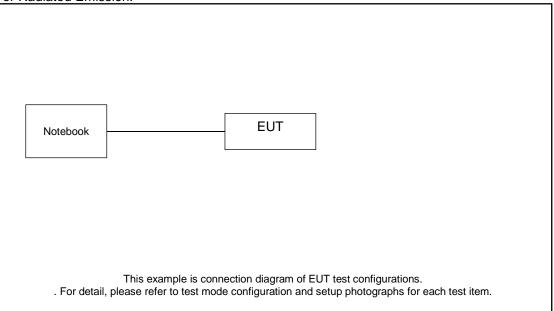
2.2 The Worst Case Measurement Configuration

The Worst Case Mode for Following Conformance Tests							
Tests Item	UWB Bandwidth, Peak Emissions within a 50 MHz Bandwidth, Radiated Emissions						
Test Condition	Radiated measurement						
Operating Mode	СТХ						
Mode 1 configuration was	tested and found to be the v	vorst case and measure	d during the test.				
Operating Mode > 1GHz	СТХ						
	X Plane	Y Plane	Z Plane				
Orthogonal Planes of EUT							
Worst Planes of EUT	V						
Worst Planes of EUT V Remark: 1. The measured emission level of the EUT was maximized by rotating the EUT on a turntable, adjusting the orientation of the EUT and EUT antenna in three orthogonal axis (X: flat, Y: portrait, Z: landscape), and adjusting the measurement antenna orientation, following C63.10 exploratory test procedures and find X plane as worst plane and recorded in this report. 2. The Notebook for debugging parameters.							



2.3 Test Setup Diagram





2.4 Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model Name	FCC ID	Data Cable	Power Cord
1.	Notebook	Honor	N/A	N/A	N/A	shielded cable DC O/P 1.8m , Unshielded AC I/P cable 1.8m



3 Transmitter Test Result

3.1 UWB bandwidth

3.1.1 UWB bandwidth Limit

UWB bandwidth Limit

UWB bandwidth \geq 500 MHz or Fractional bandwidth \geq 0.2; Fractional bandwidth $= 2(f_H - f_L)/(f_H + f_L)$

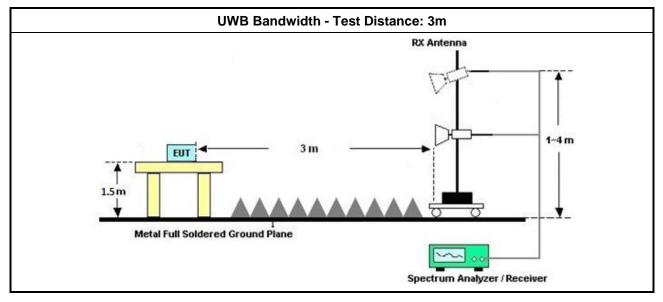
3.1.2 Measuring Instruments

Refer a test equipment and calibration data table in this test report.

3.1.3 Test Procedures

	Test Method						
\boxtimes	For the UWB bandwidth shall be measured using one of the options below:						
	Refer as ANSI C63.10, clause 6.9.3 and clause 10.1 for UWB bandwidth testing.						

3.1.4 Test Setup

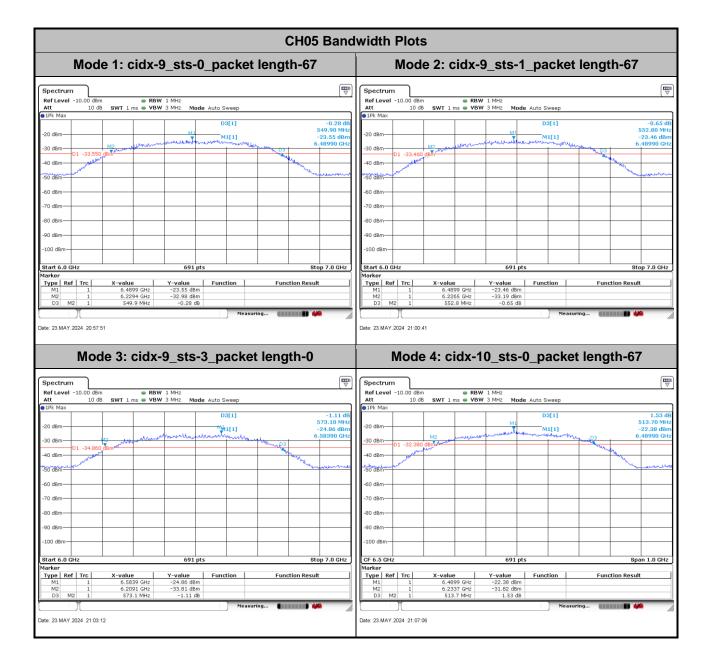




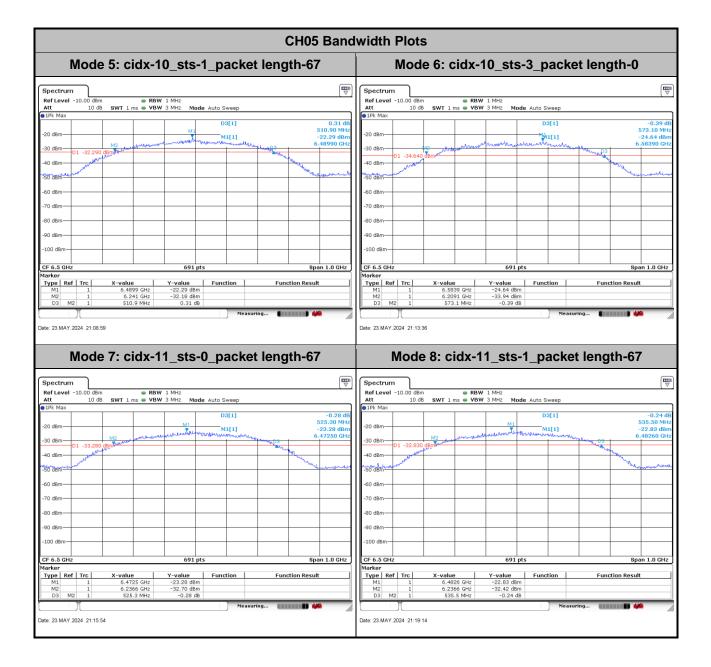
3.1.5 Test Result of UWB Bandwidth

Mode	Channel	Preamble_ cidx	Rx_sts_ mode	Packet_ length	Bandwidth (MHz)	Limit(MHz)	Result	Pol(H/V)
Mode 1	5	9	0	67	549.9	≥500	Pass	Н
Mode 2	5	9	1	67	552.8	≥500	Pass	Н
Mode 3	5	9	3	0	573.1	≥500	Pass	Н
Mode 4	5	10	0	67	513.7	≥500	Pass	Н
Mode 5	5	10	1	67	510.9	≥500	Pass	Н
Mode 6	5	10	3	0	573.1	≥500	Pass	Н
Mode 7	5	11	0	67	525.3	≥500	Pass	Н
Mode 8	5	11	1	67	535.5	≥500	Pass	Н
Mode 9	5	11	3	0	563	≥500	Pass	Н
Mode 10	5	12	0	67	570.2	≥500	Pass	Н
Mode 11	5	12	1	67	570.2	≥500	Pass	Н
Mode 12	5	12	3	0	563	≥500	Pass	Н
Mode 13	9	9	0	67	574.5	≥500	Pass	V
Mode 14	9	9	1	67	583.2	≥500	Pass	V
Mode 15	9	9	3	0	531.1	≥500	Pass	V
Mode 16	9	10	0	67	555.7	≥500	Pass	V
Mode 17	9	10	1	67	555.7	≥500	Pass	V
Mode 18	9	10	3	0	539.8	≥500	Pass	V
Mode 19	9	11	0	67	558.6	≥500	Pass	V
Mode 20	9	11	1	67	565.8	≥500	Pass	V
Mode 21	9	11	3	0	557.2	≥500	Pass	V
Mode 22	9	12	0	67	577.4	≥500	Pass	V
Mode 23	9	12	1	67	563	≥500	Pass	V
Mode 24	9	12	3	0	539.8	≥500	Pass	V

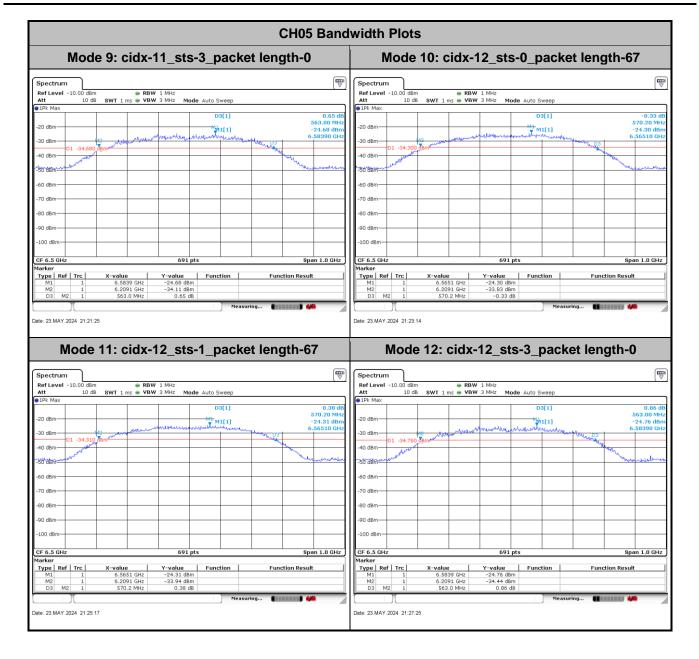




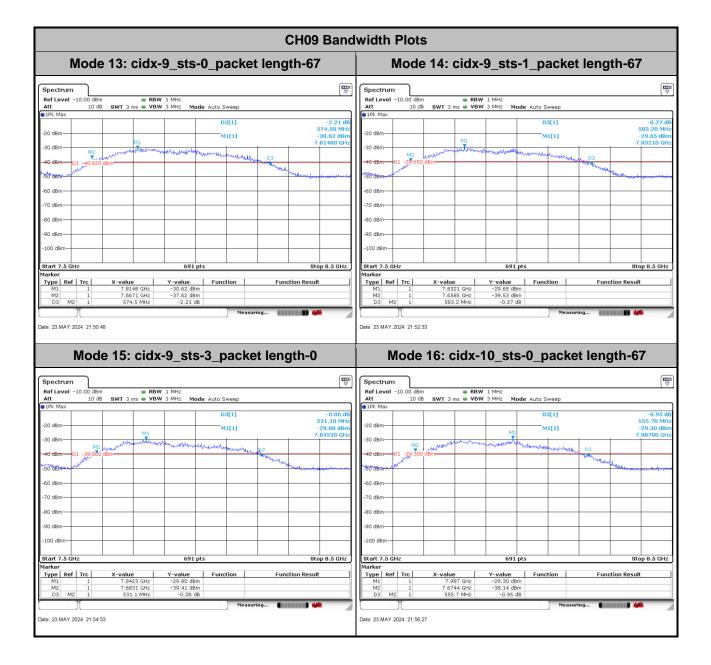




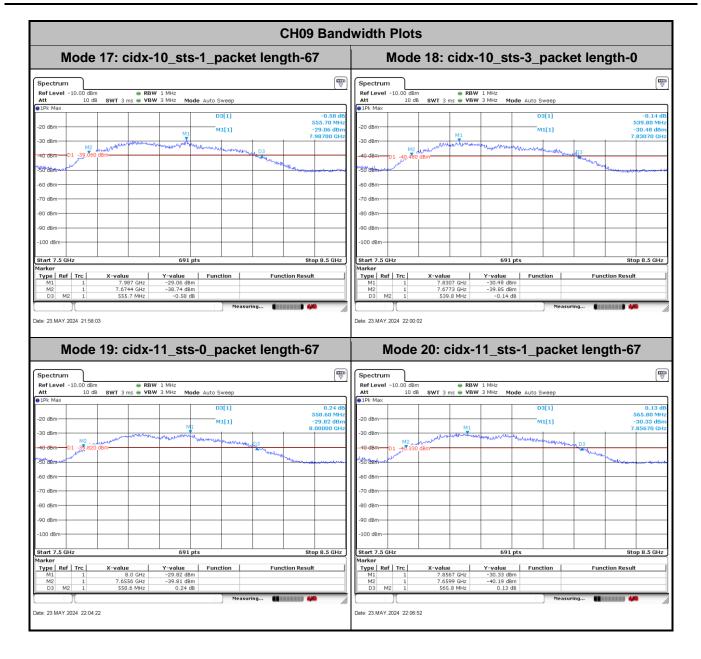




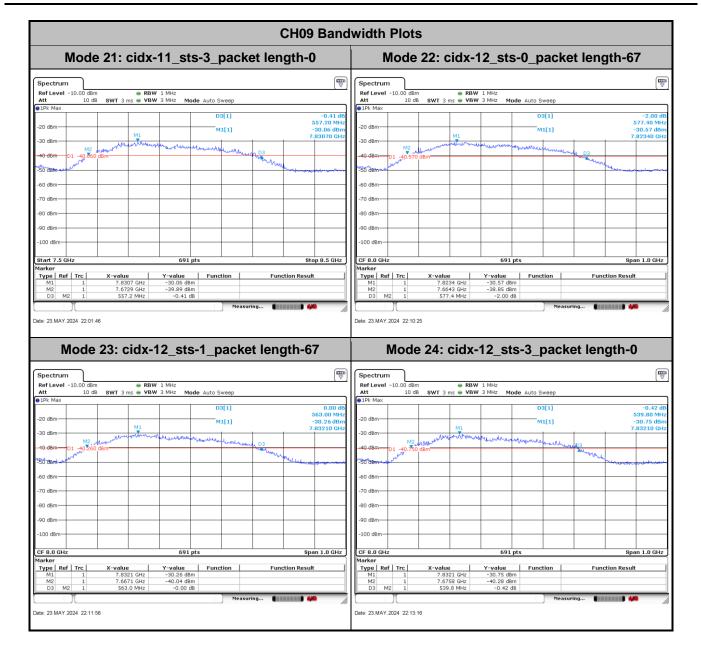














3.2 Technical requirements for hand held UWB systems

3.2.1 Technical Requirements for transmission Limit

FCC 15.519(a) (1) A UWB device operating under the provisions of this section shall transmit only when it is sending information to an associated receiver. The UWB intentional radiator shall cease transmission within 10 seconds unless it receives an acknowledgement from the associated receiver that its transmission is being received. An acknowledgment of reception must continue to be received by the UWB intentional radiator at least every 10 seconds or the UWB device must cease transmitting.

3.2.2 Measuring Instruments

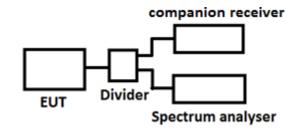
Refer a test equipment and calibration data table in this test report.

3.2.3 Test Procedure

Follow the test step as below:

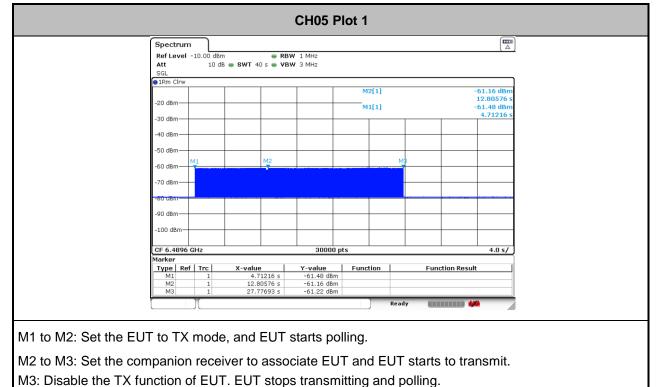
- 1. Turn on both EUT and companion receiver.
- 2. Set the EUT to TX mode, and EUT starts polling.
- 3. Set the companion receiver to associate EUT and EUT starts to transmit.
- 4. Disable the TX function of EUT.
- 5. Check if EUT stop transmitting once step 4 is made. (see plot 1 in clause 3.3.5)
- 6. Turn off both EUT and companion receiver.
- 7. Repeat step 1 to step 3.
- 8. Disable the RX function of the companion receiver to disassociate the EUT.
- 9. Check if EUT stop transmitting once step 8 is made. (see plot 2 in clause 3.3.5)

3.2.4 Test Setup

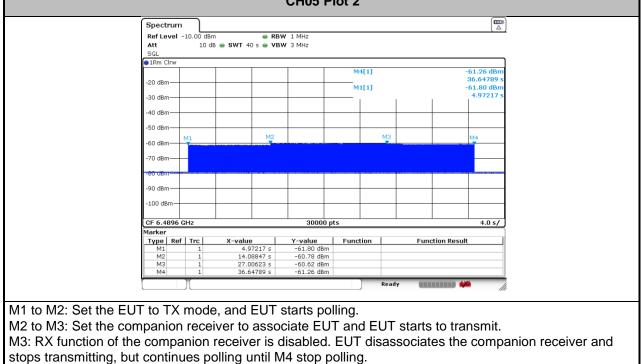




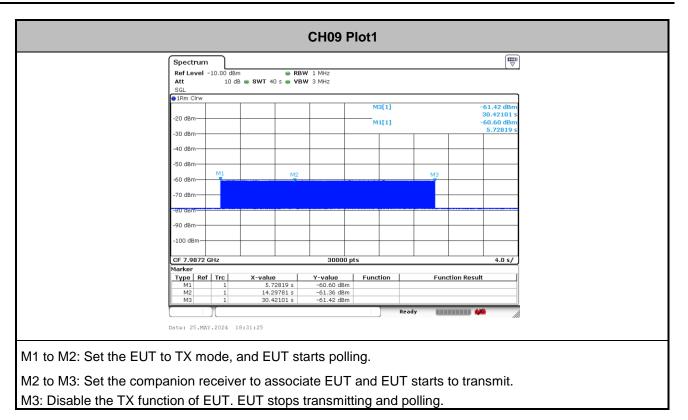
3.2.5 Test Result

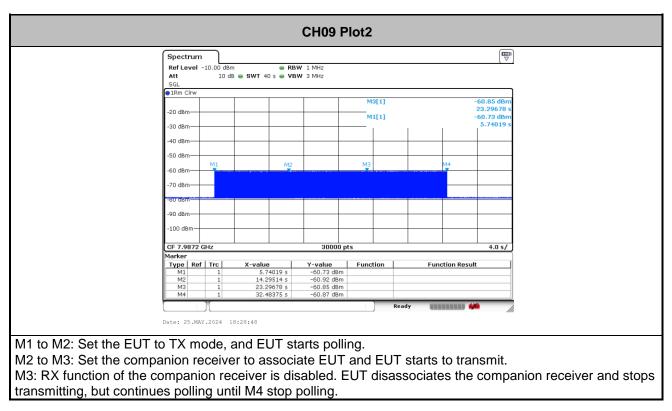


CH05 Plot 2









3.3 Peak Power Measurement

3.3.1 Peak Power Measurement Limit

Peak Power Measurement L	imit
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$\mathbf{P}_{eirp} = 0 \text{ dBm}/50\text{MH}$	Ιz
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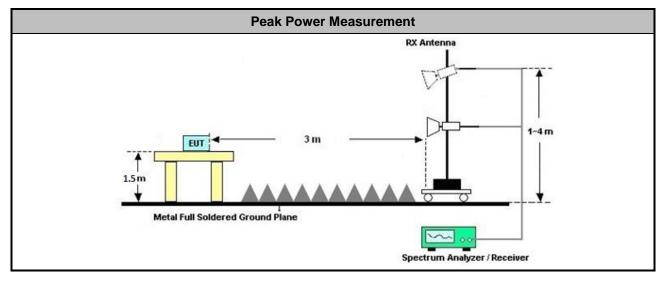
3.3.2 Measuring Instruments

Refer a test equipment and calibration data table in this test report.

3.3.3 Test Procedures

	Test Method						
\square	Peak Power Measurement						
	\boxtimes	Refer as ANSI C63.10, clause 10.3.1 for radiated measurement procedure testing.					
	\square	Refer as ANSI C63.10, clause 10.3.2 for measurement distance is 3m					
	\square	Refer as ANSI C63.10, clause 10.3.5 for peak detector procedure testing					
	\square	Refer as ANSI C63.10, clause 10.3.6 for bandwidth conversion of peak power					
	Frec	 quency of max peak power is pre-located: The span bandwidth is continuously reduced to find the worst frequency. Once the worst frequency is found, the setting of spectrum analyzer is set as below: Central frequency: Worst frequency point Span: Zero span RBW: 40MHz VBW: 40MHz Detector: Peak detector 					
		Trace: Max hold					

3.3.4 Test Setup



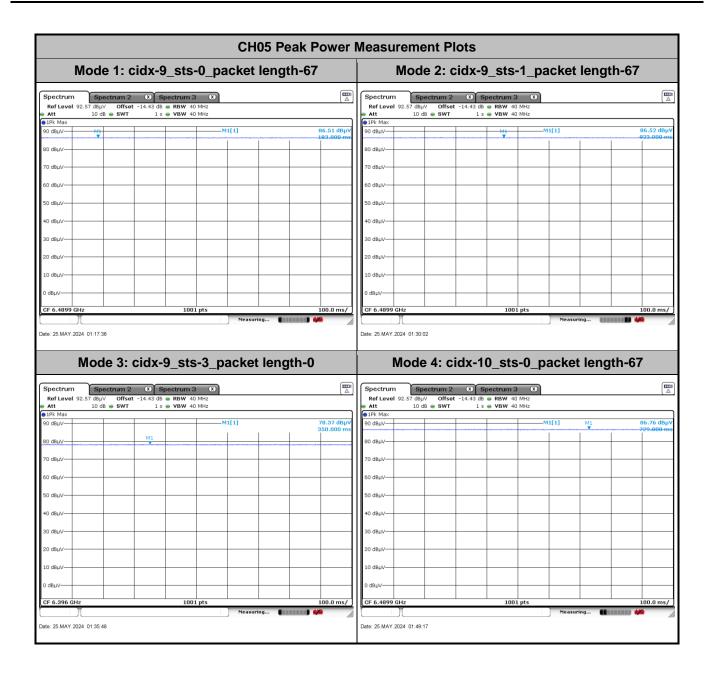
Sporton International Inc. (Kunshan) TEL : +86-512-57900158 FCC ID: IHDT6AB3 Page Number: 22 of 58Report Issued Date: May 29, 2024Report Version: 02Report Template No.: BU5-FR15F Version 1.0



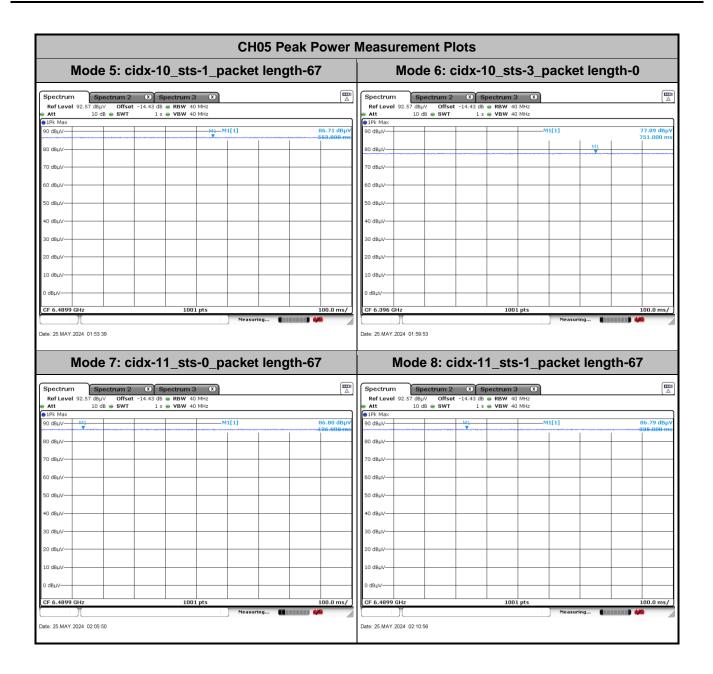
Peak Measurement Result								
Mode	Freq. (MHz)	E-Field (dBuV/m)	EIRP _{40MHz} (dBm)	EIRP _{50MHz} Limit(dBm)	EIRP _{40MHz} Limit (dBm)	Margin [dB]	Result	Pol [H/V]
1	6489.9	86.51	-8.69	0	-1.94	-6.75	Pass	н
2	6489.9	86.52	-8.68	0	-1.94	-6.74	Pass	н
3	6396	78.37	-16.83	0	-1.94	-14.89	Pass	н
4	6489.9	86.76	-8.44	0	-1.94	-6.5	Pass	н
5	6489.9	86.71	-8.49	0	-1.94	-6.55	Pass	н
6	6396	77.89	-17.31	0	-1.94	-15.37	Pass	н
7	6489.9	86.8	-8.4	0	-1.94	-6.46	Pass	н
8	6489.9	86.79	-8.41	0	-1.94	-6.47	Pass	н
9	6396	78.32	-16.88	0	-1.94	-14.94	Pass	н
10	6489	86.42	-8.78	0	-1.94	-6.84	Pass	н
11	6414	84.35	-10.85	0	-1.94	-8.91	Pass	н
12	6395.8	77.02	-18.18	0	-1.94	-16.24	Pass	н
13	7987.596	89.22	-5.98	0	-1.94	-4.04	Pass	V
14	7987.096	89.26	-5.94	0	-1.94	-4	Pass	V
15	7956	81.21	-13.99	0	-1.94	-12.05	Pass	V
16	7987.195	89.45	-5.75	0	-1.94	-3.81	Pass	V
17	7987.144	89.37	-5.83	0	-1.94	-3.89	Pass	V
18	7893.696	81.04	-14.16	0	-1.94	-12.22	Pass	V
19	7987.266	89.44	-5.76	0	-1.94	-3.82	Pass	V
20	7987.241	89.41	-5.79	0	-1.94	-3.85	Pass	V
21	7893.696	81.07	-14.13	0	-1.94	-12.19	Pass	V
22	7974.596	89.01	-6.19	0	-1.94	-4.25	Pass	V
23	7955.796	86.53	-8.67	0	-1.94	-6.73	Pass	V
24	7839.527	80.3	-14.9	0	-1.94	-12.96	Pass	V
Note 1: EIF	RP [dBm] = E	-Field [dBu\	//m] - 95.2;	1			1	ı

- Note 2: Bandwidth Correction Factor (BWCF) = 20 log (40MHz/50MHz). Note 3: EIRP_{40MHz} Limit = EIRP_{50MHz} Limit + BWCF, FCC Part 15.521(g).
- Note 4: Measurement worst emissions of receive antenna polarization.





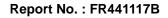




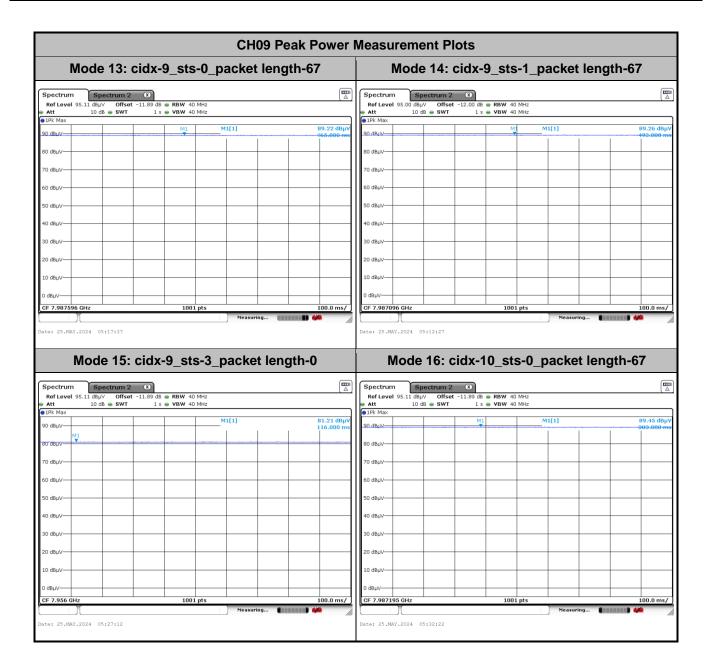


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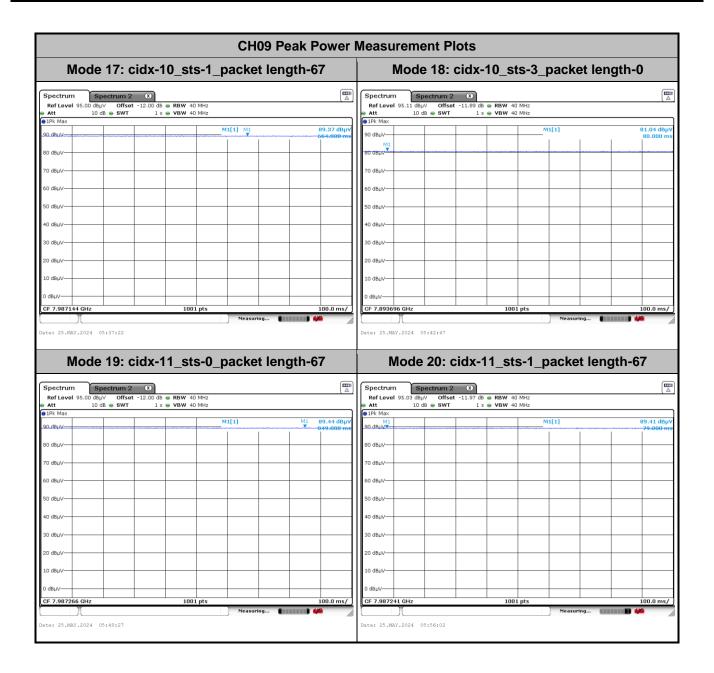
Mode 9. ci						
mode 3. Cl	idx-11_sts-3_pa	cket length-0	Mode 1	10: cidx-12_st	s-0_packet	length-67
ectrum Spectrum 2	Spectrum 3 X		Spectrum Spec	trum 2 🛛 🗴 Spectrum 3	×	
af Level 92.57 dBµ∀ Offset -	-14.43 dB 👄 RBW 40 MHz		Ref Level 92.57 dBµV	Offset -14.43 dB 👄 RBW 40		
10 dB 👄 SWT Max	1 s 👄 VBW 40 MHz		Att 10 dB IPk Max	SWT 1 s ● VBW 40	MHz	
BµV		1] 78.32	dBμV 90 dBμV		M1[1]	M1 86.42
		845.00 M1				
3μV-			80 dBµV			
ВµV			70 dBµV			
JV-			60 dBµV			
3µV			50 dBµV			
μV			40 dBµV			
N/			30 dBµV			
μν			30 UBHA			
μν			20 dBµV			
μV			10 dBµV			
v			0 dBµV			
						100.0
5.MAY.2024 02:18:59	idx-12_sts-1_pa	Measuring 🗰 🗰 🦇	CF 6.489 GHz Date: 25 MAY 2024 02 38:43 MODE	1001 12: cidx-12_st	Measuring	(111111) 🥠
25 MAY 2024 02:18:59 Mode 11: ci	idx-12_sts-1_pa	Measuring 🗰 🗰 🦇	Date: 25 MAY 2024 02 38 43 Mode Spectrum	12: cidx-12_st	Measuring	(111111) 🥠
ectrum f Level 92.57 dBµ∀ Offset - t 10 dB ⊜ SWT		Measuring 🗰 🗰 🦇	Date: 25 MAY 2024 02.38.43 Mode Spectrum Ref Lavel 66.00 dBµV Att 10 dB		Measuring	(111111) 🥠
5.MAY.2024 02:18:59 Mode 11: ci trum tevel 92:57 dBµ/ Offset 10 dB @ SWT Max	idx-12_sts-1_pa	Neasuring	Date: 25 MAY 2024 02 38 43 Mode Spectrum Ref Level 86,00 0By/ Att 10 dB 10 dB 10 dB 10 dB	0ffset -14.43 dB = RBW 40 • SWT 15 • VBW 40	Measuring	(111111) 🥠
MAY 2024 02:18:59 Mode 11: ci trum Level 92:57 dBµ/ Offset 10 db e swr Max	idx-12_sts-1_pa	Neasuring	Date: 25 MAY 2024 02 38 43 Mode Spectrum Ref Level 86,00 0By/ Att 10 dB 10 dB 10 dB 10 dB	12: cidx-12_st	Measuring S-3_packet	: length-0
MAY 2024 02:18:59 Mode 11: ci trum Level 92:57 dBµV offset 10 dB • SWT Max	idx-12_sts-1_pa	Neasuring	Date: 25 MAY 2024 02 38 43 Mode Image: Spectrum Ref Lavel 86.00 dBµV Att 10 dB Image: DFk Max B0 dBµV	0ffset -14.43 dB • RBW 40 • SWT 1 • VBW 40	Measuring S-3_packet	t length-0
MAY 2024 02:18:59 Mode 11: ci trum Level 92:57 dBµY Offset 10 dB • SWT Max	idx-12_sts-1_pa	Neasuring	Date: 25 MAY 2024 02 38 43 Mode Spectrum Ref Level 86,00 0By/ Att 10 dB 10 dB 10 dB 10 dB	0ffset -14.43 dB • RBW 40 • SWT 1 • VBW 40	Measuring S-3_packet	t length-0
Mode 11: ci 5.MAY 2024 02:18:59 Mode 11: ci trum Level 92:57 dBµ/ Offset 10 dB • SWT Max	idx-12_sts-1_pa	Neasuring	Date: 25 MAY 2024 02 38 43 Mode Image: Spectrum Ref Lavel 86.00 dBµV Att 10 dB Image: DFk Max B0 dBµV	0ffset -14.43 dB • RBW 40 • SWT 1 • VBW 40	Measuring S-3_packet	t length-0
MAY 2024 02:18:59 Mode 11: ci trum Level 92:57 dBµV Offset 10 dB = SWT Max W	idx-12_sts-1_pa	Neasuring	Spectrum Ref Level 66.00 dBµV Mt 0 B0 dBµV 0 dBµV 60 dBµV 60 dBµV	0ffset -14.43 dB • RBW 40 • SWT 1 • VBW 40	Measuring S-3_packet	t length-0
MAY 2024 02:18:59 Mode 11: ci trum Level 92.57 dBµV offset 10 dB • 8WT Max W UV	idx-12_sts-1_pa	Neasuring	Spectrum Ref Level 66.00 dByV Att 10 dB 0 ms 618/V 70 dByV 70 dByV	0ffset -14.43 dB • RBW 40 • SWT 1 • VBW 40	Measuring S-3_packet	t length-0
Mode 11: ci	idx-12_sts-1_pa	Neasuring	Spectrum Ref Level 66.00 dBµV Mt 0 B0 dBµV 0 dBµV 60 dBµV 60 dBµV	0ffset -14.43 dB • RBW 40 • SWT 1 • VBW 40	Measuring S-3_packet	t length-0
Mode 11: ci	idx-12_sts-1_pa	Neasuring	Spectrum Ref Level 66.00 dBµV • 10 h Max 0 ms • 10 h Max • 0 dBµV	0ffset -14.43 dB • RBW 40 • SWT 1 • VBW 40	Measuring S-3_packet	t length-0
SMAY 2024 02:18:59 Mode 11: сі trum Level 92:57 dBµV Offset - 10 db ⊕ swт Мах ₩ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓	idx-12_sts-1_pa	Neasuring	Spectrum Ref Level 86.00 dBµV • Nt 10 dB • PK Max 80 dBµV • 0 dBµV	0ffset -14.43 dB • RBW 40 • SWT 1 • VBW 40	Measuring S-3_packet	t length-0
SMAY.2024 02:18:59 Mode 11:ci ctrum offset 10 db swr Max wr Wr offset Nu/- offset Nu/- offset Nu/- offset Nu/- offset Nu/- offset	idx-12_sts-1_pa	Neasuring	Spectrum Ref Level 66.00 dBµV • 10 h Max 0 ms • 10 h Max • 0 dBµV	0ffset -14.43 dB • RBW 40 • SWT 1 • VBW 40	Measuring S-3_packet	t length-0
SMAY.2024 02:18:59 Mode 11: ci trum Tevel 92:57 dBµV Offset 10 dB @ SWT Max MV	idx-12_sts-1_pa	Neasuring	Spectrum Ref Level 66.00 dBµV PFK Max 80 dBµV 60 dBµV 50 dBµV 90 dBµV 50 dBµV 90 dBµV	0ffset -14.43 dB • RBW 40 • SWT 1 • VBW 40	Measuring S-3_packet	t length-0
5. MAY.2024 02:18:59 Mode 11: ci tevel 92:57 dBµV offset 10 dB = SWT Мак Мак Мак Мак Мак Мак Мак Мак	idx-12_sts-1_pa	Neasuring	Date: 25. MAY.2024 02.38.43 Mode Spectrum Ref Level 66.00 dBµV Att 10 dB 10 dB 917k Max 80 dBµV 10 dB 90 dBµV 60 dBµV 50 dBµV 90 dBµV 50 dBµV 40 dBµV 90 dBµV 30 dBµV 50 dBµV	0ffset -14.43 dB • RBW 40 • SWT 1 • VBW 40	Measuring S-3_packet	t length-0
S.MAY.2024 02:18:59 Mode 11: ci	idx-12_sts-1_pa	Neasuring	Spectrum Ref Level 66.00 dByV 0 ms 60 dByV 60 dByV 60 dByV 50 dByV 60 dByV 50 dByV 20 dByV 10 dByV 10 dByV 10 dByV 10 dByV 20 dByV 10 dByV	0ffset -14.43 dB • RBW 40 • SWT 1 • VBW 40	Measuring S-3_packet	t length-0
Mode 11: ci	idx-12_sts-1_pa	Neasuring	Spectrum Ref Level 68.00 dBµV 0 mm 0 dBµV	0ffset -14.43 dB • RBW 40 • SWT 1 • VBW 40	Measuring S-3_packet	t length-0
SMAY 2024 02:18:59 Mode 11:ci ctrum 0 Lavel 92:57 dBµ/ Offset 10:dB # SWT Max W/ u/ u/	idx-12_sts-1_pa	Measuring	Spectrum Ref Level 66.00 dBµV Att 10 dB BUV 0 dBµV 60 dBµV 60 dBµV 50 dBµV 90 dBµV 10 dB 10 dB BUV 10 dB 10 dBµV 10 dBµV 10 dBµV 10 dBµV	12: cidx-12_st	Measuring	* length-0
SMAY 2024 02:18:59 Mode 11: ci strum f tavel 22:57 dBµV Offset t 10 dB @ SWT Max BµV BµV	idx-12_sts-1_pa	Neasuring	Spectrum Ref Level 66.00 dBµV Att 10 dB BUV 0 dBµV 60 dBµV 60 dBµV 50 dBµV 90 dBµV 10 dB 10 dB BUV 10 dB 10 dBµV 10 dBµV 10 dBµV 10 dBµV	0ffset -14.43 dB • RBW 40 • SWT 1 • VBW 40	Measuring	** Iength-0













П

	CH09	9 Peak Power	Measurement	Plots		
Mode 21: c	idx-11_sts-3_packet	length-0	Mode 22	2: cidx-12_sts-	0_packet len	gth-67
Spectrum Spectrum 2 Ref Level 95.02 dBµY Offset -: Att 10 dB SWT	11.98 dB • RBW 40 MHz 1 s • VBW 40 MHz		Spectrum Spectru Ref Level 95.11 dBµV (Att 10 dB 9	Offset -11.89 dB 👄 RBW 40 MH:		
10 UB WHI]	10 UB 10 UB 10 UB 10 UB 10 UB		2	
90 dBµV	M1[1]	81.07 dBµ¥ 177.000 ms	90 dBuV		M1[1] M1	89.01 dBµV 741.000 ms
			80 dBµV-			
00 000			00 dbpv			
70 dBµV			70 dBµV			
60 dBµV			60 dBµV			
50 dBµV			50 dBµV			
40 dBµV			40 dBµV			
30 dBµV			30 dBµV			
20 dBµV			20 dBµV			
20 0000			20 0000			
10 dBµV			10 dBµV			
0 dBµV			0 dBµV			
CF 7.893696 GHz	1001 pts	100.0 ms/	CF 7.974596 GHz	1001 pts	;	100.0 ms/
Mode 23: ci	dx-12_sts-1_packet	length-67	Mode 24	4: cidx-12_sts-	-3_packet ler	ngth-0
Ref Level 95.00 dBµ∀ Offset -: Att 10 dB SWT • 1Pk Max	12.00 dB • RBW 40 MHz 1 s • VBW 40 MHz		Ref Level 94.56 dBµV 0 ■ Att 10 dB ● 5 ● 1Pk Max	Offset -12.44 dB ● RBW 40 MH SWT 1 s ● VBW 40 MH		×
	M1[1] M1	86.53 dBµV	90 dBµV		M1[1]	80.30 dBµV
90 dBµV-		653.000 ms	M1			40.000 ms
30 dBµV			-00-dBuV			
70 dBµV			70 dBµV			
60 dBµV			60 dBµV			
00 000						
50 dBµV			50 dBµV			
40 dBµV			40 dBµV			
			20 dBub/			
30 dBµV			30 dBµV-			
20 dBµV			20 dBµV			
10 dBµV			10 dBµV			
0 dBµV			0 dBµV			
CF 7.955796 GHz	1001 pts	100.0 ms/	CF 7.839527 GHz	1001 pts		100.0 ms/
Nate: 25.MAY.2024 06:14:58	Measuring.	n an an a	Date: 25.MAY.2024 06:21:	04	Measuring 📲	



3.4 Radiated Emissions

3.4.1 Radiated Emissions Limit

Radiated Emissions below 960MHz and Emissions from Digital Circuitry Limit								
Frequency Range (MHz)	Frequency Range (MHz) Field Strength (uV/m) Field Strength (dBuV/m) Measure Distance							
0.009~0.490	2400/F(kHz)	48.5 - 13.8	300					
0.490~1.705	24000/F(kHz)	33.8 - 23	30					
1.705~30.0	30	29	30					
30~88	100	40	3					
88~216	150	43.5	3					
216~960	200	46	3					
Above 960	500	54	3					

Note 1: Test distance for frequencies at or above 30 MHz, measurements may be performed at a distance other than the limit distance provided they are not performed in the near field and the emissions to be measured can be detected by the measurement equipment. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade (inverse of linear distance for field-strength measurements, inverse of linear distance-squared for power-density measurements).

Note 2: Test distance for frequencies at below 30 MHz, measurements may be performed at a distance closer than the EUT limit distance; however, an attempt should be made to avoid making measurements in the near field. When performing measurements below 30 MHz at a closer distance than the limit distance, the results shall be extrapolated to the specified distance by either making measurements at a minimum of two or more distances on at least one radial to determine the proper extrapolation factor or by using the square of an inverse linear distance extrapolation factor (40 dB/decade). The test report shall specify the extrapolation method used to determine compliance of the EUT.

Radi	ated Emissions above 960MHz Li	mit
Frequency Range (MHz)	EIRP (dBm)	EIRP (dBuV/m @3m)
960-1610	-75.3	19.93
1610-1990	-63.3	31.93
1990-3100	-61.3	33.93
3100-10600	-41.3	53.93
Above 10600	-61.3	33.93

Radiated Emissions in GPS Bands Lim	iit	
Frequency Range (MHz)	EIRP (dBm)	EIRP (dBuV/m @3m)
1164-1240	-85.3	9.93
1559-1610	-85.3	9.93

Note: E (dBuv/m) = EIRP (dBm) + 95.23, example, E(dBuV/m) = -85.3 + 95.23 = 9.93 dBuV/m.

3.4.2 Measuring Instruments

Refer a test equipment and calibration data table in this test report.

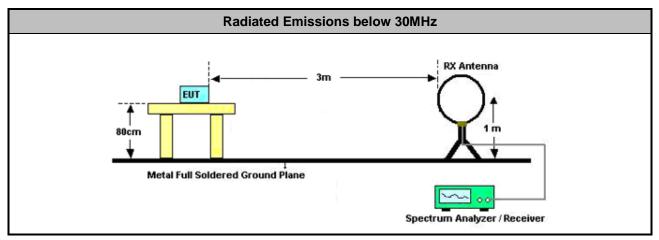
3.4.3 Test Procedures

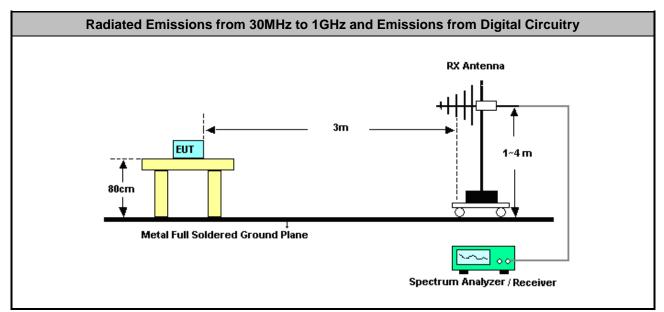
		Test Method for Radiated Emissions above 960MHz
\boxtimes	Rac	liated Emissions above 960MHz
	\boxtimes	Refer as ANSI C63.10, clause 10.3.1 for radiated measurement procedure testing.
		Refer as ANSI C63.10, clause 10.3.2 for measurement distance is 3m. In some cases, it may be necessary to measure the radiated UWB emissions at a closer distance to obtain enough signal and margin to overcome the measurement system noise floor. Distance extrapolation factor = 20 log (test distance [X m]/specific distance [3 m]) (dB)
	\boxtimes	Refer as ANSI C63.10, clause 10.3.4 for rms detector procedure testing.
	\boxtimes	Refer as ANSI C63.10, clause 10.3.7 for evaluating AVG-PSD (RBW=1MHz).
	\boxtimes	Refer as ANSI C63.10, clause 10.3.10 for evaluating AVG-PSD in GPS Band (RBW≥1kHz).
\boxtimes	For	radiated measurement.
	\boxtimes	Refer as ANSI C63.10, clause 10.3.8 following eirp can be used radiated test configuration.
		Refer as ANSI C63.10, clause 10.3.9 following eirp can be directly determined using the field strength.

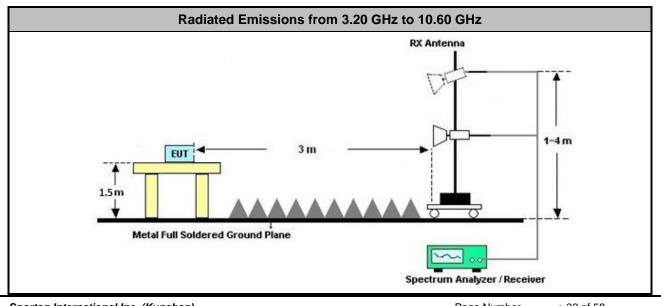
	Те	est Method for Radiated Emissions below 960MHz and Emissions from Digital Circuitry
	perfe equi extra dista	surements may be performed at a distance other than the limit distance provided they are not ormed in the near field and the emissions to be measured can be detected by the measurement pment. When performing measurements at a distance other than that specified, the results shall be apolated to the specified distance using an extrapolation factor of 20 dB/decade (inverse of linear ance for field-strength measurements, inverse of linear distance-squared for power-density surements) for above 30MHz-960MHz; 40dB/decade for frequency below 30MHz.
\boxtimes	For	the transmitter unwanted emissions shall be measured using following options below:
	\boxtimes	Refer as ANSI C63.10, clause 4.1.4 Detector functions and selection of bandwidth
		Refer as ANSI C63.10, clause 4.1.4.2.4 average value of pulsed emissions. Adjusted by a "duty cycle correction factor", derived from 20log (dwell time/100 ms). Average emission = peak emission + 20 log (duty cycle).
	\boxtimes	Refer as ANSI C63.10, clause 4.1.4.2.2 measurement procedure peak limit.
\boxtimes	For	radiated measurement.
	\boxtimes	Refer as ANSI C63.10, clause 6.4 for radiated emissions below 30 MHz and test distance is 3m.
	\boxtimes	Refer as ANSI C63.10, clause 6.5 for radiated emissions 30 MHz to 1 GHz and test distance is 3m.
	\boxtimes	Refer as ANSI C63.10, clause 6.6 for radiated emissions above 1 GHz and test distance is 0.5m or 1m or 3m.
	\boxtimes	If the noise floor can't meet the limit, the test distance will be shorten and described in the report.
\bowtie	Any	unwanted emissions level shall not exceed the fundamental emission level.



3.4.4 Test Setup

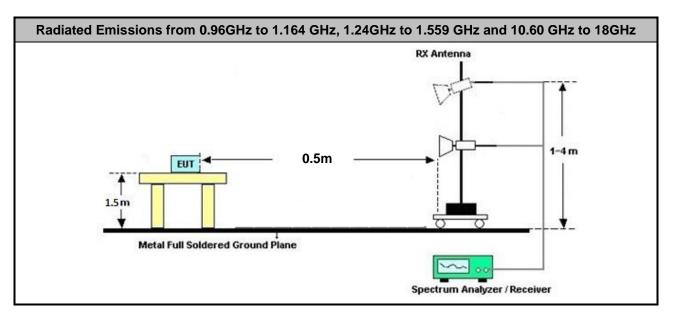


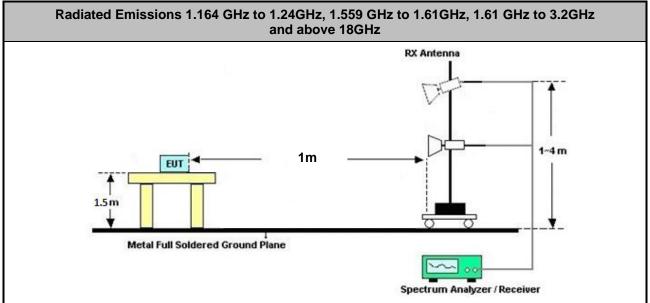




Sporton International Inc. (Kunshan) TEL : +86-512-57900158 FCC ID: IHDT6AB3 Page Number: 32 of 58Report Issued Date: May 29, 2024Report Version: 02Report Template No.: BU5-FR15F Version 1.0







Note 1: Magnetic field tests shall be performed in the frequency range of 9 kHz to 30 MHz using a calibrated loop antenna. Electric field tests shall be performed in the frequency range of 30 MHz to 1000 MHz using a calibrated bi-log antenna and the frequency range of 1 GHz to 40 GHz using a calibrated horn antenna. Note 2: If test distance other than 3m is used, the used test distance will be recorded in test result.

3.4.5 Radiated Emissions (Below 30MHz)

All amplitude of spurious emissions that are attenuated by more than 20 dB below the permissible value has no need to be reported.

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





3.4.6 Radiated Emissions (Fundamental)

Test mode	Frequency (MHz)	Emission Level (dBuV/m)	Emission Limit (dBm/MHz)	Emission Limit (dBuV/m)	Margin (dB)	Result	Pol (H/V)
1	6404	50.19	-41.3	53.9	-3.71	Pass	Н
2	6411.59	51.08	-41.3	53.9	-2.82	Pass	н
3	6398.55	48.28	-41.3	53.9	-5.62	Pass	Н
4	6404.35	49.94	-41.3	53.9	-3.96	Pass	Н
5	6404.35	50.69	-41.3	53.9	-3.21	Pass	н
6	6407.25	48.28	-41.3	53.9	-5.62	Pass	Н
7	6411.59	50.34	-41.3	53.9	-3.56	Pass	Н
8	6411.59	50.92	-41.3	53.9	-2.98	Pass	Н
9	6404.35	48.23	-41.3	53.9	-5.67	Pass	Н
10	6411.59	50.28	-41.3	53.9	-3.62	Pass	Н
11	6395.65	50.66	-41.3	53.9	-3.24	Pass	Н
12	6408.7	48	-41.3	53.9	-5.9	Pass	Н
13	7986.96	52.68	-41.3	53.9	-1.22	Pass	V
14	7955.07	53.4	-41.3	53.9	-0.5	Pass	V
15	7986.96	51.46	-41.3	53.9	-2.44	Pass	V
16	7986.96	53.1	-41.3	53.9	-0.8	Pass	V
17	7956.52	53.46	-41.3	53.9	-0.44	Pass	V
18	7986.96	51.49	-41.3	53.9	-2.41	Pass	V
19	7956.52	52.71	-41.3	53.9	-1.19	Pass	V
20	7963.77	53.32	-41.3	53.9	-0.58	Pass	V
21	7957.97	51.1	-41.3	53.9	-2.8	Pass	V
22	7986.96	52.59	-41.3	53.9	-1.31	Pass	V
23	7955.07	53.29	-41.3	53.9	-0.61	Pass	V
24	7842.03	51.54	-41.3	53.9	-2.36	Pass	V

Note: E (dBuv/m) Limit= EIRP (dBm) Lmit + 95.2 = -41.3 + 95.2 = 53.9 dBuV/m.



	CH05 Radiated Em	issions (Fundamental)	
perating Function	Standalone mode	Polarization	Н
		Test Distance	3m
Mode 1: cidx-9_sts	-0_packet length-67	Mode 2: cidx-9_st	s-1_packet length-67
Freq Lini Lini Level factor 1 6404.00 50.19	5-3_packet length-0	Limit Over Read Ant Freq Level Line L	db db cm deg deg <thdeg< th=""> <thdeg< th=""> <thdeg< th="" th<=""></thdeg<></thdeg<></thdeg<>



perating Function	Standalone mode	Polarization	н
		Test Distance	3m
Mode 5: cidx-10_st	ts-1_packet length-67	Mode 6: cidx-10_s	ts-3_packet length-0
	uency (MHz) cbla Presmo Aux APos Toos cbla Presmo Aux APos Toos cbla Presmo Aux APos Toos cbla Presmo Aux APos Toos	130 Level (dBuVim) 113.8	Jancy (MHz) Cable Preamp Aux APOs TPOS Loss Factor Remork Pol/Pha



		ssions (Fundamental)	
perating Function	Standalone mode	Polarization	Н
		Test Distance	3m
Mode 9: cidx-11_st	s-3_packet length-0	Mode 10: cidx-12_s	ts-0_packet length-67
130_Level (dBuV/m) 113.8 97.5 81.3 65.0 48.8 32.5		130	
16.3 6000 6200. 6400 Frequ Freq Level Linit Over Read Ant Mit deuV/m deuV/m deuV/m dev factor 1 6404.35 48.23	dB dB deg	Freq Level Linit Over Read Ant The Linit Level Factor Mit dBuV/m dBuV/m dB dBuV/ dB dBuV dB/m 1 6411.59 59.28 64.71 35.59 Mode 12: cidx-12_s	Loss Factor Factor Remark Pol/Phas
16.3 6000 6200. 6400. Freq Level Linet Over Read Ant Freq Level Linet Linit Level Factor NHZ dBuV/m dBuV/m dB dBuV dB/m 1 6404.35 48.23 62.66 35.50	Gable Preamp Aux APos TPos Loss Factor Factor Remark Pol/Phase d8 d8 d8 cm deg 10.98 60.91 0.00 Average Horizontal	Image: Space of the s	Uency (MH2) Cable Preamp Aux APos TPos Loss Factor Remark Pol/Pha dB dB dB cm deg 10.98 60.91 0.00 Average Horizon
16.3 6000 6200. 6400. Frequencial Line Line Line Line Line Line Line Line	Gable Preamp Aux APos TPos Loss Factor Factor Remark Pol/Phase d8 d8 d8 cm deg 10.98 60.91 0.00 Average Horizontal	Freq Freq Level Linit Over Read Art Freq Level Linit Linit Level Factor Mrst deuv/n deuv/n de deuv dy/n 1 6411.59 59.28 64.71 35.59 Mode 12: cidx-12_s	Uency (MF12) Cable Preamp Aux APos TPos Loss Factor Factor Remark Pol/Pha dB dB dB cm deg 10.98 60.91 0.00 Average Horizon
16.3 6200. 6400. Freq Linit Over Read Mit dBuV/m dBuV/m dB 1 6404.35 48.23	Gable Preamp Aux APos TPos Loss Factor Factor Remark Pol/Phase d8 d8 d8 cm deg 10.98 60.91 0.00 Average Horizontal	Freq Limit Over Read Art Freq Level Line Limit Level Factor Mit dbuv/m dbuv/m db dbuv/m db dbvv db dbvv dbvv <td>Uency (MF12) Cable Preamp Aux APos TPos Loss Factor Factor Remark Pol/Pha dB dB dB cm deg 10.98 60.91 0.00 Average Horizon</td>	Uency (MF12) Cable Preamp Aux APos TPos Loss Factor Factor Remark Pol/Pha dB dB dB cm deg 10.98 60.91 0.00 Average Horizon
16.3 6200. 6400. Freq Linit Over Read Mit dBuV/m dBuV/m dB 1 6404.35 48.23	Gable Preamp Aux APos TPos Loss Factor Factor Remark Pol/Phase d8 d8 d8 cm deg 10.98 60.91 0.00 Average Horizontal	Freq Limit Over Read Art Freq Level Line Limit Level Factor Mit dbut/m db dbut/m	Uency (MH2) Cable Preamp Aux APos TPos Loss Factor Remark Pol/Pha dB dB dB cm deg 10.98 60.91 0.00 Average Horizon
16.3 6200. 6400. Freq Linit Over Read 1 5404.35 48.23 Over Read 1 6404.35 48.23 Over Read Ant 1 6404.35 48.23 Over Read Ant 1 6404.35 48.23 Over Read Ant 130 62.66 35.50 State State	Gable Preamp Aux APos TPos Loss Factor Factor Remark Pol/Phase d8 d8 d8 cm deg 10.98 60.91 0.00 Average Horizontal	Freq Limit Over Read Art Freq Level Line Limit Level Factor M:: dbuv/m dbuv/m db dbuv/m db dbuv/m db/m dbuv/m db/m db/m 1 6411.59 59.28 64.71 25.59 Mode 12: cidx-12_s Image: Cidx-12_s Image: Cidx-12_s Image: Cidx-12_s 138	Uency (MF12) Cable Preamp Aux APos TPos Loss Factor Factor Remark Pol/Pha dB dB dB cm deg 10.98 60.91 0.00 Average Horizon
16.3 6200. 6400. Freq Linit Over Read 1 6404.35 48.23 Over Read 1 6404.35 48.23 Over Read Ant 1 6404.35 48.23 Over Read Ant 1 6404.35 48.23 Over Read Ant 130 62.66 35.50 State State	cable Preamp Aux APos TPos Loss Factor Factor Remark Pol/Phase de de de de de con deg 18.98 60.91 0.00 Average Horizontal	Freq Freq Level Line Linit Level Factor Met dbut/m dbut/m db db/m db db/m db/m 1 6411.59 59.28 64.71 35.59 Mode 12: cidx-12_s 130	Uency (MF12) Cable Preamp Aux APos TPos Loss Factor Factor Remark Pol/Pha dB dB dB cm deg 10.98 60.91 0.00 Average Horizon
10. 000 6200. 6400. Frequent List Over Read Ant 1 6404.35 48.23 62.66 35.50 Mode 11: cidx-12_st 10. 10. 10. 10. 10. 10. 10. 10.	cable Preemp Aux APos TPos Loss Factor Factor Remark Pol/Phase de de de de cei deg 18.98 60.91 0.00 Average Horizontal ES-1_packet length-67 Cable Preemp Aux APos TPos Loss Factor Factor Remark Pol/Phase	Freq Linit Over Revel Art Freq Level Linit Linit Level Factor 1 6411.59 59.28 64.71 35.59 Mode 12: cidx-12_s 10 10 10 10 10 10 10 10 10 10	Cable Preamp Aux APOS TPOS Loss Factor Factor TPOS do do do co deg 10.58 60.51 0.00 Average Horizon sts-3_packet length-0



Perating Function Standalone mode Polarization H Test Distance 3m Mode 13: cidx-9_sts-0_packet length-67 Mode 14: cidx-9_sts-1_packet length-67 ¹¹
Test Distance 3m Mode 13: cidx-9_sts-0_packet length-67 Mode 14: cidx-9_sts-1_packet length-67 100000000000000000000000000000
13 1 798.95 52.65
10 <u>cerel (dBuVim</u>) 10 <u>cerel</u>
130 130 130 130 130 113.8 13.8 13.8 13.8 13.8 13.8 97.5 13.8 13.8 13.8 13.8 97.5 13.8 13.8 13.8 13.8 97.5 13.8 13.8 13.8 13.8 97.5 13.8 13.8 13.8 13.8 97.5 13.8 13.8 13.8 13.8
65.0 65.0 65.0 1 48.8 48.8 48.8 48.8 48.8 48.8 48.8 48
32.5 16.3
7500 7700. 7900. 10. 8300. 8500 7500 7700. 7900. 8100. 8300. 8500
7500 7700. 8100. 8300. 8500 7500 7700. 7900. 8100. 8300. 8500 Limit Over Read Ant Cable Preamp Aux APos TPos Limit Over Read Ant Cable Preamp Aux APos TPos Limit Over Read Ant Cable Preamp Aux APos TPos Limit Over Read Ant Cable Preamp Aux APos TPos Limit Over Read Ant Cable Preamp Aux APos TPos Limit Over Read Ant Cable Preamp Aux APos TPos



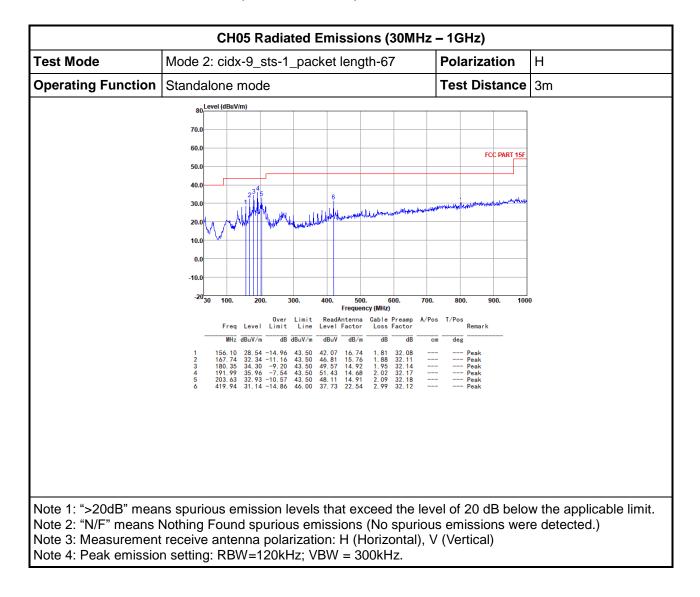
		ssions (Fundamental)	
perating Function	Standalone mode	Polarization	н
porating random		Test Distance	3m
Mode 17: cidx-10_st	s-1_packet length-67	Mode 18: cidx-10_s	sts-3_packet length-0
130 Level (dBuVim) 113.8 97.5 81.3 65.0 48.8 32.5 16.3 7500 7700. 7900.	8100. 8300. 8500	130 Level (dBuVim) 113.8 97.5 81.3 65.0 48.8 32.5 16.3 7500 7700. 7900. Frequ	1 1 8100. 8300. 8500
Image: State Limit Linit Linit Level Factor 1 7956.52 53.46 1 7956.52 53.46 1 7956.52 53.46	Cable Preamp Aux APos TPos Loss Factor Factor Remark Pol/Phase	130 Level (dBuV/m) 113.8 97.5 81.3 65.0 48.8	Loss Factor Factor Remark Pol/Pha
Freq Level Limit Over Read Ant 1 7956.52 53.46 65.46 35.90	Cable Pream Aux APos Tos 100 100 100 100 100 Pol/Phase 12.30 60.20 0.00 Average Pol/Phase Aux APos Tos Remark Pol/Phase 12.30 60.20 0.00 Average Horizontal	Freq Level Linit Level Factor 1 7986.96 51.49 63.38 35.90 Mode 20: cidx-11_s cidx-11_s cidx-11_s 130	ts-1_packet length-67
Freq Level Limit Lower Read Ant 1 7956.52 53.46 65.46 35.90	Cable Pream Aux APos TPos Remark Pol/Phase 100 100 100 100 100 100 100 12.30 60.20 0.00 Average Pol/Phase search Average Horizontal	Freq Level Linit Level Factor 1 7986.96 51.49	Loss Factor Factor Remark Pol/Pha dB dB dB cn deg 12.41 60.20 0.00 Average Horizon ts-1_packet length-67

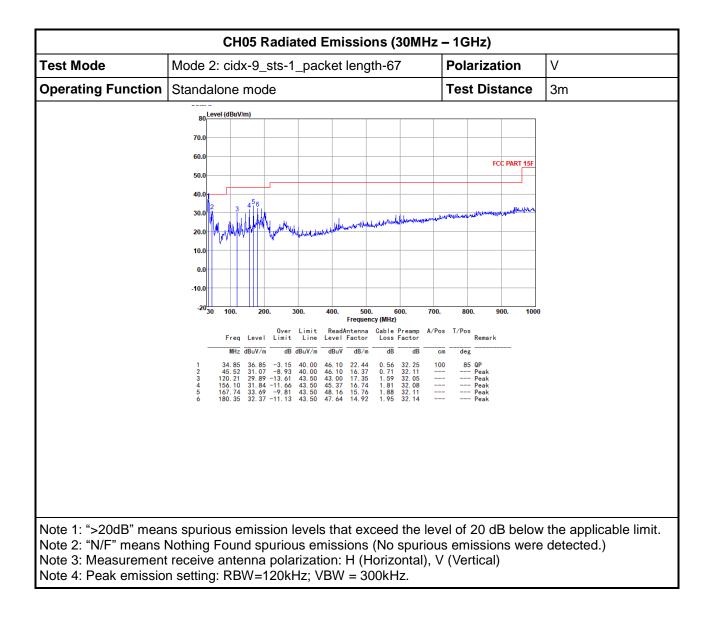


	CH09 Radiated Emis						
perating Function	Standalone mode	Polarization	Н				
		Test Distance	3m				
Mode 21: cidx-11_s	ts-3_packet length-0	Mode 22: cidx-12_st	s-0_packet length-67				
Tree Level Line Line Level Factor Tree Level Address	s-1_packet length-67	Freq Level Limit Over Read Ant C 1 7966.96 52.59	Loss Factor Factor di di di di di on deg deg di di deg on deg on Average Horizont ts-3_packet length-0 ts-3_packet length-0 ts-				

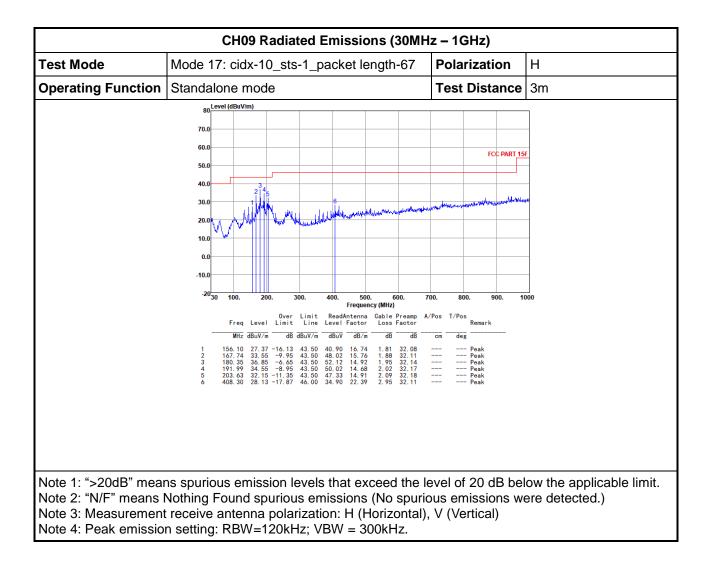


3.4.7 Radiated Emissions (30MHz – 1GHz)

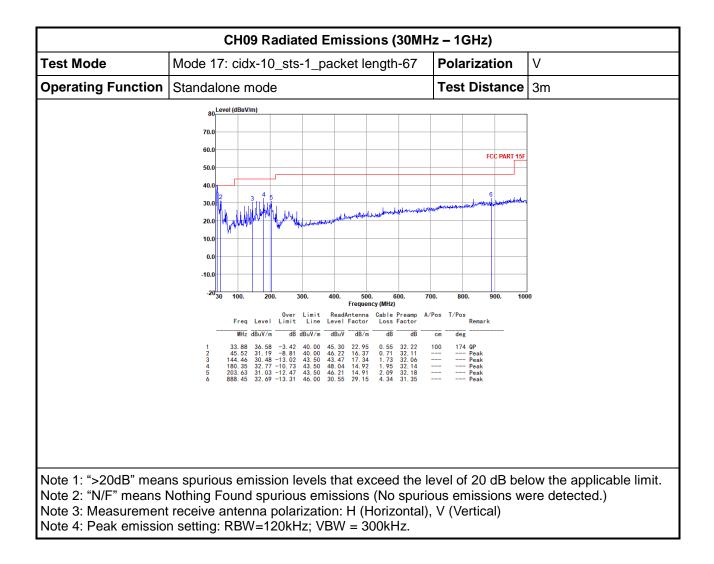














Test Mode Mode 2: cidx-9_sts-1_packet length-67 Polarization H Operating Function Standalone mode
Test Distance 960 ~1164 MHz: 0.5m 1164 ~ 1240 MHz: 1m 1240 ~ 1559 MHz: 0.5m 1559 ~ 1610 MHz: 1m 1610 ~ 3200 MHz: 1m 1610 ~ 10600 MHz: 3m 10600 ~ 18000 MHz: 0.5m 18000 ~ 40000 MHz: 1m 10600 ~ 18000 MHz: 1m 10600 ~ 18000 MHz: 1m 960 ~ 10000 MHz: 1m 10000 ~ 10000 MHz: 1m 10000 ~ 40000 MHz: 1m
1164 ~ 1240 MHz: 1m 1240 ~ 1559 MHz: 0.5m 1559 ~ 1610 MHz: 1m 1610 ~ 3200 MHz: 1m 1610 ~ 10600 MHz: 3m 10600 ~ 18000 MHz: 0.5m 18000 ~ 40000 MHz: 1m $^{80}_{65.3}_{52.5}_{38.8}_{25.0}_{10}_{10}_{10}_{10}_{10}_{10}_{10}_{1$
66.3 52.5 38.8 25.0 25.0 5 25.0 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5
2.5 -16.3

3.4.8 Radiated Emissions (960MHz – 40GHz)



	CH05 F	Radiated Emis	sions (9	60MH	z – 40)GHz	z)		
Test Mode	Mode 2: cidx-9	_sts-1_packet	ength-6	7	Pola	rizat	ion	V	
Operating Function	Standalone mo	ode							
Test Distance	960 ~1164 MH 1164 ~ 1240 M 1240 ~ 1559 M 1559 ~ 1610 M 1610 ~ 3200 M 1610 ~ 10600 10600 ~ 18000 18000 ~ 40000	Hz: 1m IHz: 0.5m IHz: 1m IHz: 1m MHz: 3m 0 MHz: 0.5m							
	80 Level (dBuV/m)								
	66.3								
	52.5						PART 1	5F	
	25.0	5 menture of the					6	~	
	11.3					•••			
	-2.5								
	-16.3								
	-30 ¹¹ 960 8768.	16576. Frequ	243 ency (MHz)	84.	321	92.	4	40000	
			Cable Prea		APos	TPos		Pol/Phase	
	Freq Level Line	E Limit Level Factor	Loss Fact	IB dB		deg -	lemark		
	2 1262.97 18.46 19.93	-1.47 63.33 28.23		31 -15.56		Д Д	verage verage	Vertical Vertical	
		-4.12 63.94 35.80	11.06 60.			A	lverage lverage lverage	Vertical Vertical Vertical	
	5 35358.00 23.45 33.93						verage	Vertical	
Note 1: ">20dB" mea Note 2: "N/F" means Note 3: Measuremer Note 3: Average emi Note 5: Average emi Note 6: #5 is fundam Note 7:	Nothing Found s nt receive antenn ssion setting outs ssion setting in G	purious emissi a polarization: side GPS Band	ons (No H (Horiz s: RBW	spuric ontal), =1MH:	ous en V (V∉ z; VB\	nissio ertica N=3I	ons we I)		le lir
Distance extra	polation factor =							3 m]) (dB)	
-	ance extrapolatio		•	,		•	,		
 Corrected Rea 	ding: Antenna Fa	actor (dB/m) + (Cable Lo	oss (dE	3) + R	ead	Level	(dBuV) -	

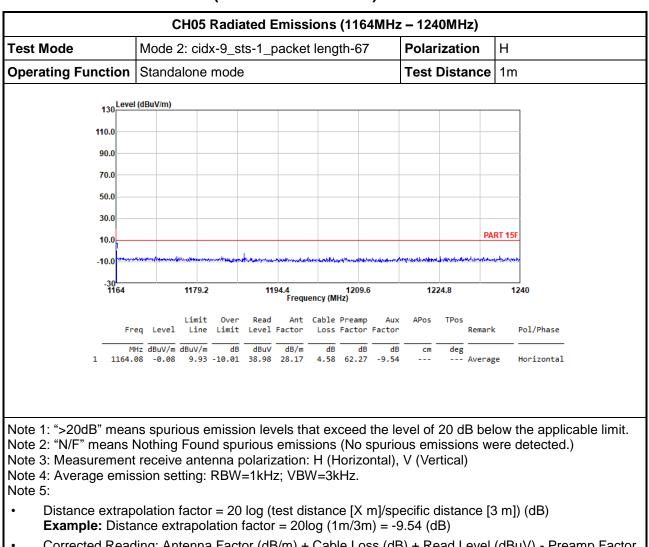


			СН	09 R	adia	ted E	m	ission	s (9	60MH	z – 40	0GHz	z)		
Test Mode		Mode	17: c	idx-′	10_st	ts-1_	pa	cket le	ngth	-67	Pola	rizat	ion	Н	
Operating Functior	n	Stand	alone	e mo	de										
Test Distance		960 ~ 1164 1240 1559 1610 1610 10600 18000	~ 124 ~ 155 ~ 161 ~ 320 ~ 106) ~ 18	0 MI 59 M 0 M 00 M 500 N 500 N	Hz: 1 Hz: 0 Hz: 1 Hz: 1 MHz: MHz:	m).5m m 3m 2: 0.5	m								
		80 Level (di	3uV/m)												
	66														
	52	2.5		4										_	
	38	3.8		ller									PART	15F	
	25	5.0				لمسر	-	hanne	بمسيمر	m	h	m	ى <mark>مە</mark> ر رەر بەلىمەرس	6 •	
	11	I.3 II													
	-2	2.5												+-1	
	-16													+-1	
	-	30 960		8768.		16	576. Fi	requency (N	2438 1Hz)	34.	32	192.		40000	
		Freq	Level		Over Limit	Read Level		Ant Cable tor Loss		p Aux r Factor	APos	TPos	Remark	Pol/Phase	
	1	MHz 974.69	dBuV/m 18.33		dB -1.60	dBuV 62.00		3/m dB		B dB 7 -15.56		deg	Average	— — — Horizontal	
	2 3	1390.89 2746.85	17.11	19.93	-2.82	61.58	28.	.40 5.01	62.3	2 -15.56 9 -9.54			Average Average	Horizontal Horizontal	
		15979.80	28.64	33.93	-5.29	45.14	40.	.80 12.22 .68 17.74	59.3	6 -15.56			Average Average	Horizontal Horizontal	
	6	38988.00	25.12	33.93	-8.81	13.70	40.	.89 34.82	54.7	5 -9.54			Average	Horizontal	
Note 1: ">20dB" mea Note 2: "N/F" means Note 3: Measureme Note 4: Average em Note 5: Average em Note 6: #5 is fundan Note 7:	s N nt iss iss ne	lothing receiv sion se sion se ntal si	g Fou e ant etting etting gnal.	nd s enna outs in G	purio a pola side (PS b	ous ei arizat GPS I oands	mis ior Bai : R	ssions n: H (H nds: R RBW=1	(No oriz BW: kHz	spuric ontal), =1MH: ; VBW	ous er V (Ve z; VB' /=3k⊦	nissi ertica W=3 Iz.	ons w al) MHz.	ere detected.)	ble limit.
 Distance extra Example: Dist 														3 m]) (dB)	
Example: Dis			•					0.		,		`	,	(dBu\/)	
 Corrected Rea Preamp Facto 														(ubuv) -	



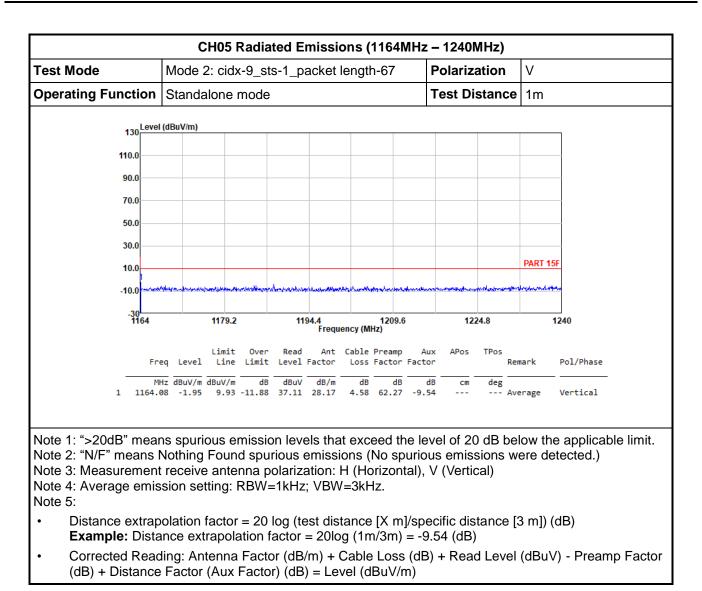
		CH09 R	adiated	d Emi	ssions	s (960M	Hz – 4	0GHz)			
Test Mode	Mode	17: cidx-	10_sts-	1_pac	ket ler	gth-67	Pola	arizatio	on	V	
Operating Function	Standa	alone mo	de								
Test Distance	1164 - 1240 - 1559 - 1610 - 1610 - 10600	1164 MH: - 1240 M - 1559 M - 1610 M - 3200 M - 10600 I ~ 18000 ~ 40000	Hz: 1m Hz: 0.5 Hz: 1m Hz: 1m MHz: 3r MHz: 0	n).5m							
	80 Level (dB	uV/m)								_	
	66.3										
	52.5		┓							_	
	38.8								PART 1	5F	
	25.0		mum	~^+	-		www.	m	man	~	
	11.3									_	
	-2.5										
	-30 960	8768.		16576. Fro	equency (MH	24384. z)	32	2192.	4	0000	
	Freq	Limit Level Line	Over R Limit Le		nt Cable or Loss	Preamp A Factor Fact	ux APos or	TPos Rer	mark	Pol/Phase	
1		BuV/m dBuV/m 18.50 19.93		BuV dB,		dB 62.17 -15.	dB cm	deg	erage	Vertical	
2	1372.70	16.58 19.93 25.42 33.93	-3.35 61	.09 28.4	4.97	62.32 -15. 61.01 -9.	56	Ave	erage	Vertical Vertical	
4 5	7876.80	51.54 53.93 26.37 33.93	-2.39 63	.89 35.	30 12.26			Ave	erage	Vertical Vertical	
6		23.07 33.93						Ave		Vertical	
Note 1: ">20dB" mea Note 2: "N/F" means											e li
Note 3: Measuremen											
Note 4: Average emis	ssion se	tting out	side GP	S Bar	nds: RE	3W=1M	Ήz; VB	W=3M			
Note 5: Average emis		0	iPS ban	ds: R	BW=1	kHz; VB	W=3kl	Hz.			
Note 6: #5 is fundam Note 7:	ental siç	jnai.									
Distance extrap	olation	factor =	20 log (*	test d	istance	[X m]/	specific	distan	nce [3	m]) (dB)	
Example: Dista										-/ · · /	
Corrected Rea	dina. Ar	tenna Fa	actor (d	3/m) _	Cable		4B) T B	Dood			



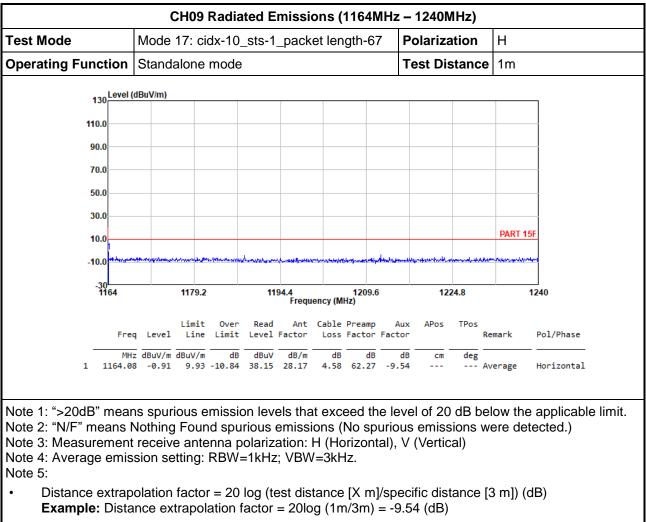


3.4.9 Radiated Emissions (1164MHz – 1240MHz)

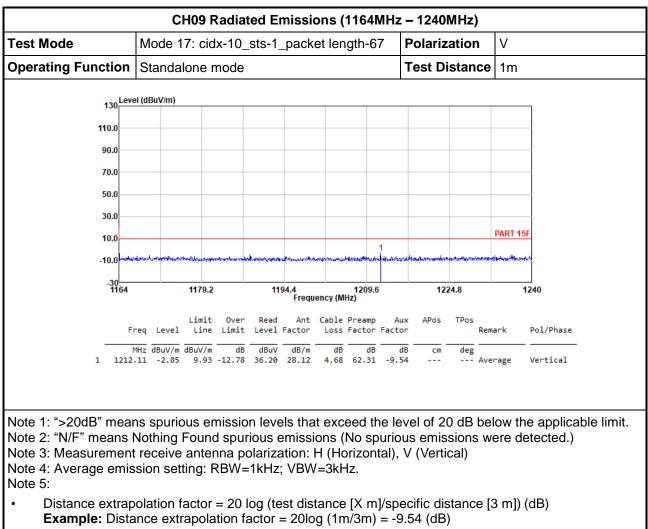




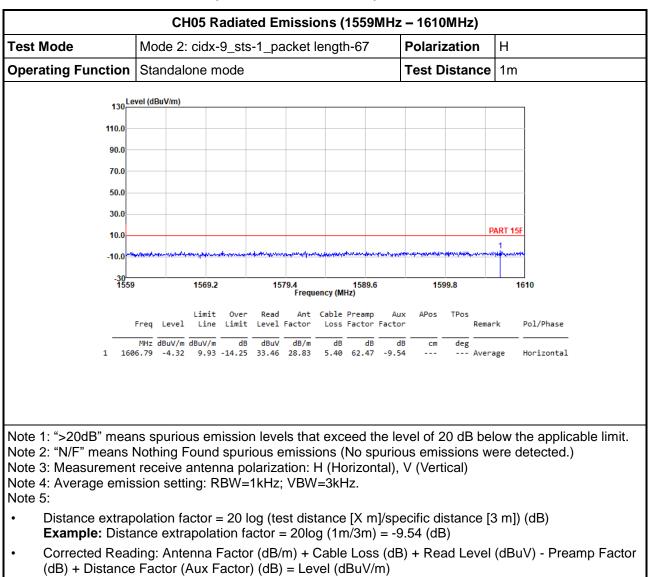






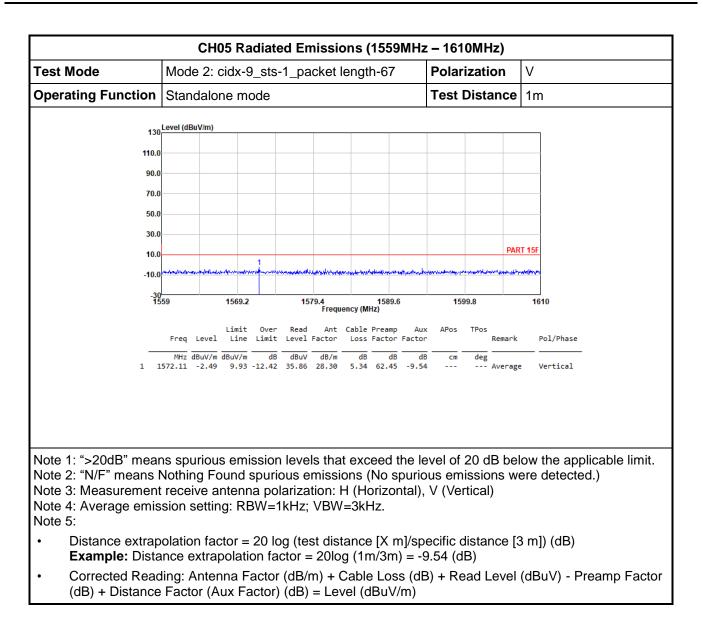




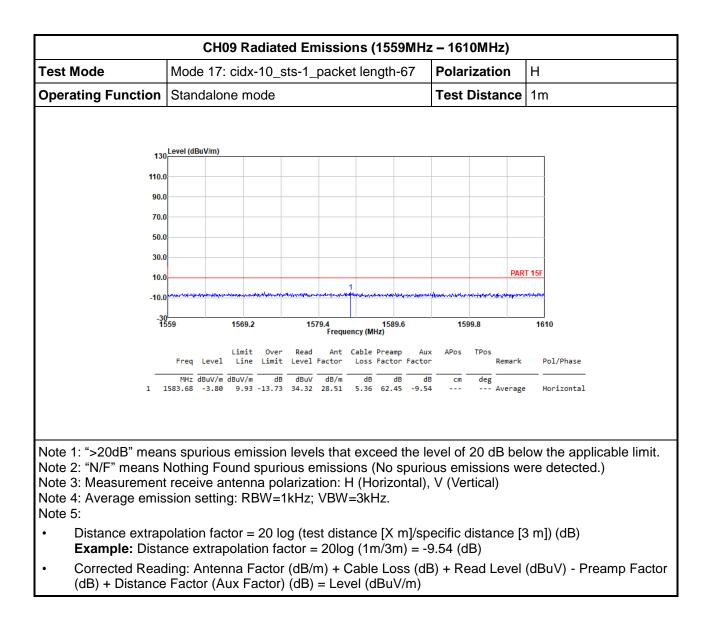


3.4.10 Radiated Emissions (1559MHz – 1610MHz)

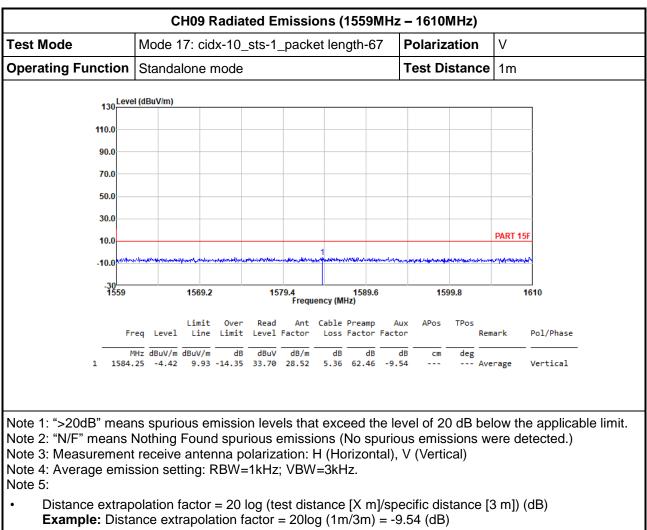














4	Test Equipment and Calibration Data
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Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
EMI Test Receiver	Keysight	N9038A	MY564000 04	3Hz~8.5GHz;M ax 30dBm	Oct. 10, 2023	May 22, 2024~ May 25, 2024	Oct. 09, 2024	Radiation (03CH06-KS)
EXA Spectrum Analyzer	Keysight	N9010B	MY602421 26	10Hz-44GHz	Oct. 10, 2023	May 22, 2024~ May 25, 2024	Oct. 09, 2024	Radiation (03CH06-KS)
Loop Antenna	R&S	HFH2-Z2	100321	9kHz~30MHz	Oct. 10, 2023	May 22, 2024~ May 25, 2024	Oct. 09, 2024	Radiation (03CH06-KS)
Bilog Antenna	TeseQ	CBL6111D	59913	30MHz-1GHz	Aug. 19, 2023	May 22, 2024~ May 25, 2024	Aug. 18, 2024	Radiation (03CH06-KS)
Double Ridge Horn Antenna	ETS-Lindgren	3117	00240132	1GHz~18GHz	Jul. 12, 2023	May 22, 2024~ May 25, 2024	Jul. 11, 2024	Radiation (03CH06-KS)
SHF-EHF Horn	Com-power	AH-840	101093	18GHz~40GHz	Jan. 05, 2024	May 22, 2024~ May 25, 2024	Jan. 04, 2025	Radiation (03CH06-KS)
Amplifier	SONOMA	310N	380827	9KHz ~1GHZ	Jul. 06, 2023	May 22, 2024~ May 25, 2024	Jul. 05, 2024	Radiation (03CH06-KS)
Amplifier	MITEQ	EM18G40GG A	060728	18~40GHz	Jan. 04, 2024	May 22, 2024~ May 25, 2024	Jan. 03, 2025	Radiation (03CH06-KS)
high gain Amplifier	MITEQ	AMF-7D-0010 1800-30-10P	2082395	1Ghz-18Ghz	Jan. 04, 2024	May 22, 2024~ May 25, 2024	Jan. 03, 2025	Radiation (03CH06-KS)
Amplifier	Keysight	83017A	MY532703 19	500MHz~26.5G Hz	Oct. 10, 2023	May 22, 2024~ May 25, 2024	Oct. 09, 2024	Radiation (03CH06-KS)
AC Power Source	Chroma	61601	F1040900 04	N/A	NCR	May 22, 2024~ May 25, 2024	NCR	Radiation (03CH06-KS)
Turn Table	ChamPro	EM 1000-T	060762-T	0~360 degree	NCR	May 22, 2024~ May 25, 2024	NCR	Radiation (03CH06-KS)
Antenna Mast	ChamPro	EM 1000-A	060762-A	1 m~4 m	NCR	May 22, 2024~ May 25, 2024	NCR	Radiation (03CH06-KS)

NCR: No Calibration Required.



5 Measurement Uncertainty

The measurement uncertainties shown below were calculated in accordance with the requirements of ANSI 63.10-2013. All the measurement uncertainty value were shown with a coverage K=2 to indicate 95% level of confidence. The measurement data show herein meets or exceeds the CISPR measurement uncertainty values specified in CISPR 16-4-2 and can be compared directly to specified limit to determine compliance.

Uncertainty of Radiated Emission Measurement (9 KHz ~ 30 MHz)

Measuring Uncertainty for a Level of Confidence	3.3 dB
of 95% (U = 2Uc(y))	

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

Measuring Uncertainty for a Level of Confidence	6.06 dB
of 95% (U = 2Uc(y))	0.00 aB

Uncertainty of Radiated Emission Measurement (1 GHz ~ 18 GHz)

Measuring Uncertainty for a Level of Confidence	5.18 dB
of 95% (U = 2Uc(y))	5.16 UB

Uncertainty of Radiated Emission Measurement (18 GHz ~ 40 GHz)

Measuring Uncertainty for a Level of Confidence	5.38 dB
of 95% (U = 2Uc(y))	5.58 0B

----- THE END ------