

Report No. : FR131667-15AC

FCC Test Report

Equipment : 802.11n, Dual Band, Wireless LAN

PCI Express Half Mini Card

Brand Name : Sparklan

Model No. : WPEA-121N

FCC ID : RYK-WPEA-121N

Standard : 47 CFR FCC Part 15.247

Operating Band : 2400 MHz - 2483.5 MHz

Equipment Class : DTS

Applicant : SparkLAN Communications, Inc.

Manufacturer 8F., No. 257, Sec. 2, Tiding Blvd., Neihu District,

Taipei City 11493, Taiwan

The product sample received on Apr. 31, 2015 and completely tested on Oct. 06, 2015. We, SPORTON, 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., the test report shall not be reproduced except in full.

Reviewed by:

Kevin Liang / Assistant Manager

Testing Laboratory 1190

SPORTON INTERNATIONAL INC. Page No. : 1 of 86
TEL: 886-3-327-3456 Report Version : Rev. 01



FCC Test Report

Table of Contents

1.1 Information	l	GENERAL DESCRIPTION	5
Testing Applied Standards Testing Location Information Description TEST CONFIGURATION OF EUT The Worst Case Modulation Configuration The Worst Case Power Setting Parameter The Worst Case Measurement Configuration The Worst Case Measurement Configuration Test Setup Diagram Transmitter Test Result AC Power-line Conducted Emissions Transmitter Rediated Bandedge Emissions Transmitter Radiated Bandedge Emissions Transmitter Radiated Bandedge Emissions Transmitter Radiated Emissions Transmitter Radiated Emissions Transmitter Radiated Bandedge Emissions Transmitter Radiated Emissions Transmitter Radiated Emissions	1.1	Information	5
1.4 Testing Location Information 1.5 Measurement Uncertainty 2 TEST CONFIGURATION OF EUT 2.1 The Worst Case Modulation Configuration 2.2 The Worst Case Power Setting Parameter 2.3 The Worst Case Measurement Configuration 2.4 Test Setup Diagram 3 TRANSMITTER TEST RESULT 3.1 AC Power-line Conducted Emissions 3.2 6dB Bandwidth 3.3 RF Output Power 3.4 Power Spectral Density 3.5 Transmitter Radiated Bandedge Emissions 3.6 Radiated Unwanted Emissions	1.2	Support Equipment	7
TEST CONFIGURATION OF EUT	1.3	Testing Applied Standards	7
2 TEST CONFIGURATION OF EUT	1.4	Testing Location Information	7
The Worst Case Modulation Configuration The Worst Case Power Setting Parameter The Worst Case Power Setting Parameter The Worst Case Measurement Configuration Test Setup Diagram TRANSMITTER TEST RESULT The Worst Case Measurement Configuration TRANSMITTER TEST RESULT The Worst Case Power Setting Parameter The Worst Case Power Setting Parameter The Worst Case Modulation Configuration The Worst Case Power Setting Parameter The Worst Case Measurement Configuration The Worst Case Measureme	1.5	Measurement Uncertainty	8
The Worst Case Power Setting Parameter	2	TEST CONFIGURATION OF EUT	9
The Worst Case Measurement Configuration	2.1	The Worst Case Modulation Configuration	9
Test Setup Diagram	2.2	The Worst Case Power Setting Parameter	9
TRANSMITTER TEST RESULT 3.1 AC Power-line Conducted Emissions 3.2 6dB Bandwidth 3.3 RF Output Power 3.4 Power Spectral Density 3.5 Transmitter Radiated Bandedge Emissions 3.6 Radiated Unwanted Emissions 3.7	2.3	The Worst Case Measurement Configuration	10
AC Power-line Conducted Emissions	2.4	Test Setup Diagram	11
3.2 6dB Bandwidth	3	TRANSMITTER TEST RESULT	13
RF Output Power	3.1	AC Power-line Conducted Emissions	13
Power Spectral Density	3.2	6dB Bandwidth	16
Transmitter Radiated Bandedge Emissions	3.3	RF Output Power	19
3.6 Radiated Unwanted Emissions	3.4	Power Spectral Density	24
	3.5	Transmitter Radiated Bandedge Emissions	27
TEST EQUIPMENT AND CALIBRATION DATA85	3.6	Radiated Unwanted Emissions	32
	1	TEST EQUIPMENT AND CALIBRATION DATA	85

APPENDIX A. TEST PHOTOS

APPENDIX B. PHOTOGRAPHS OF EUT

Report No.: FR131667-15AC



Summary of Test Result

Report No.: FR131667-15AC

		Conforma	nce Test Specifications		
Report Clause	Ref. Std. Clause	Description	Measured	Limit	Result
1.1.2	15.203	Antenna Requirement	Antenna connector mechanism complied	FCC 15.203	Complied
3.1	15.207	AC Power-line Conducted Emissions	[dBuV]: 0.1515980MHz 54.91 (Margin 11.00dB) - QP 37.22 (Margin 18.69dB) - AV	FCC 15.207	Complied
3.2	15.247(a)	6dB Bandwidth	6dB Bandwidth Unit [MHz] 20M: 9.58 / 40M: 35.84	≥500kHz	Complied
3.3	15.247(b)	RF Output Power (Maximum Peak Conducted Output Power)	Power [dBm]: 21.71	Power [dBm]:30	Complied
3.4	15.247(e)	Power Spectral Density	PSD [dBm/100kHz]: - 8.43	PSD [dBm/3kHz]:8	Complied
3.5	15.247(d)	Transmitter Radiated Bandedge Emissions	Non-Restricted Bands: 2399.824MHz: 21.73dB Restricted Bands [dBuV/m at 3m]: 2483.5MHz 52.96 (Margin 1.04dB) - PK 71.29 (Margin 2.71dB) - AV	Non-Restricted Bands: > 20 dBc Restricted Bands: FCC 15.209	Complied
3.6	15.247(d)	Radiated Unwanted Emissions	Restricted Bands [dBuV/m at 3m]: 4874MHz 52.88 (Margin 1.12dB) – AV 55.20 (Margin 18.80dB) - PK	Non-Restricted Bands: > 20 dBc Restricted Bands: FCC 15.209	Complied

SPORTON INTERNATIONAL INC. : 3 of 86
TEL: 886-3-327-3456 : Report Version : Rev. 01



Revision History

Report No.: FR131667-15AC

Report No.	Version	Description	Issued Date
FR131667-15AC	Rev. 01	Initial issue of report	Dec, 08, 2015

SPORTON INTERNATIONAL INC. Page No. : 4 of 86 TEL: 886-3-327-3456 Report Version : Rev. 01



1 General Description

1.1 Information

1.1.1 RF General Information

RF General Information								
Frequency Range (MHz)	IEEE Std. 802.11	Ch. Freq. (MHz)	Channel Number	Transmit Chains (N _{TX})	RF Output Power (dBm)			
2400 2492 5	b	2412-2462 1-11 [11]	2	21.32				
2400-2483.5	b		1-11 [11]	1	18.73			
2400-2483.5	~	2442 2462	1-11 [11]	2	21.64			
2400-2463.5	g	2412-2462		1	19.24			
2400 2402 5	» (UT20)	2442 2462	4 44 [44]	2	21.71			
2400-2483.5	n (HT20) 2412-2462 1-11 [11]	20) 2412-2462 1	2412-2462 1-11 [11]	1	19.15			
2400 2492 5	2400-2483.5 n (HT40) 2422-2452 3-9 [7]	2	20.39					
2400-2463.5		1	17.54					

Report No.: FR131667-15AC

Note 1: RF output power specifies that Maximum Peak Conducted Output Power.

Note 2: 802.11b uses a combination of DSSS-DBPSK, DQPSK, CCK modulation.
Note 3: 802.11g/n uses a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM modulation.

1.1.2 Antenna Information

	Antenna Category
\boxtimes	Integral antenna (antenna permanently attached)
	□ Temporary RF connector provided
	No temporary RF connector provided Transmit chains bypass antenna and soldered temporary RF connector provided for connected measurement. In case of conducted measurements the transmitter shall be connected to the measuring equipment via a suitable attenuator and correct for all losses in the RF path.

Antenna General Information						
Ant. Cat.	Ant. Type	Gain _(dBi)				
Integral	PIFA	4.00				

SPORTON INTERNATIONAL INC. : 5 of 86
TEL: 886-3-327-3456 : Report Version : Rev. 01



FCC Test Report

1.1.3 Type of EUT

		Iden	tify El	IT			
EU	EUT Serial Number N/A						
-				advatian . D Dastate			
Pre	Presentation of Equipment						
	T	Туре	e of El	UT			
\boxtimes	Stand-alone						
	Combined (EUT where	the radio part is fully into	egrate	d within another devic	e)		
	Combined Equipment	Brand Name / Model No	o.:				
	Plug-in radio (EUT inte	nded for a variety of hos	t syste	ems)			
	Host System - Brand N	lame / Model No.:					
	Other:						
1.1.	4 Test Signal Du	ty Cycle					
		Operated Mode f	or Wo	orst Duty Cycle			
	Operated normally mode for worst duty cycle						
\boxtimes	Operated test mode for	r worst duty cycle					
	Test Signal D	uty Cycle (x)	N _{TX}		r Duty Factor – (10 log 1/x)		
\boxtimes	100.00% - IEEE 802.1	1b	2		0.00		
	100.00% - IEEE 802.1	1b	1		0.00		
\boxtimes	97.96%- IEEE 802.11g]	2	0.09			
	97.96%- IEEE 802.11g	J	1	0.09			
\boxtimes	97.82%- IEEE 802.11r	(HT20)	2	0.10			
	97.82%- IEEE 802.11r	ı (HT20)	1	0.10			
\boxtimes			2	0.09			
97.87%- IEEE 802.11n (HT40)			1		0.09		
1.1	5 EUT Operation	al Condition		•			
Sup	oply Voltage	☐ AC mains	\boxtimes	DC			
Тур	e of DC Source	☐ Internal DC supply		From system	External DC adapter		

Report No.: FR131667-15AC

SPORTON INTERNATIONAL INC. Page No. : 6 of 86 TEL: 886-3-327-3456 Report Version : Rev. 01

1.2 Support Equipment

Support Equipment - RF Conducted						
No.	Equipment	Brand Name	Model Name	FCC ID		
1	Notebook	DELL	E5540	DoC		
2	Adapter for NB	DELL	HA65NM130	DoC		
3	Fixture	-	-	-		

Report No.: FR131667-15AC

	Support Equipment - AC Conduction and Radiated Emission						
No.	No. Equipment Brand Name Model Name FCC ID						
1	Notebook	DELL	E5540	DoC			
	Adapter for NB	DELL	LA65NS-01	DoC			
2	Fixture	-	-	-			

Note: The fixture provide by customer.

1.3 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 15
- ANSI C63.10-2013
- FCC KDB 558074 D01 v03r02
- FCC KDB 662911 D01v02r01

1.4 Testing Location Information

	Testing Location						
\boxtimes	HWA YA ADD : No. 52, Hwa Ya 1st Rd., Hwa Ya Technology Park, Kwei-Shan District, Tao Yuan City, Taiwan, R.O.C.						
	TEL: 886-3-327-3456 FAX: 886-3-327-0973						
	Test site registered number [636805] with FCC.						
	Test Condition Test Site No. Test Engineer Test Environment						
AC Conduction CO04-HY Zeus 21°C / 59%				21°C / 59%			
	RF Conducted TH01-HY Leo 20.4°C / 60.2%					20.4°C / 60.2%	
Radiated Emission		03CH02-HY	Allen	23.4°C / 56%			

SPORTON INTERNATIONAL INC. Page No. : 7 of 86
TEL: 886-3-327-3456 Report Version : Rev. 01



1.5 Measurement Uncertainty

ISO/IEC 17025 requires that an estimate of the measurement uncertainties associated with the emissions test results be included in the report. The measurement uncertainties given below are based on a 95% confidence level (based on a coverage factor (k=2)

Report No.: FR131667-15AC

level (based on a coverage factor (k=2)	leasurement Uncertainty	
Test Item		Uncertainty
AC power-line conducted emissions		±2.3 dB
Emission bandwidth, 6dB bandwidth		±0.6 %
RF output power, conducted		±0.1 dB
Power density, conducted		±0.6 dB
Unwanted emissions, conducted	9 – 150 kHz	±0.4 dB
	0.15 – 30 MHz	±0.4 dB
	30 – 1000 MHz	±0.6 dB
	1 – 18 GHz	±0.5 dB
	18 – 40 GHz	±0.5 dB
	40 – 200 GHz	N/A
All emissions, radiated	9 – 150 kHz	±2.5 dB
	0.15 – 30 MHz	±2.3 dB
	30 – 1000 MHz	±2.6 dB
	1 – 18 GHz	±3.6 dB
	18 – 40 GHz	±3.8 dB
	40 – 200 GHz	N/A
Temperature		±0.8 °C
Humidity		±5 %
DC and low frequency voltages		±0.9%
Time		±1.4 %
Duty Cycle		±0.6 %

SPORTON INTERNATIONAL INC. : 8 of 86
TEL: 886-3-327-3456 : Report Version : Rev. 01



2 Test Configuration of EUT

2.1 The Worst Case Modulation Configuration

Worst Modulation Used for Conformance Testing						
Modulation Mode	Transmit Chains (N _{TX})	Data Rate / MCS	Worst Data Rate / MCS			
11b	2	1-11 Mbps				
TID	1	1-11 Mbps	1 Mbps			
11 a	2		G Mhna			
11g	1	6-54 Mbps	6 Mbps			
	2	MCS 0-15	MCS 0			
HT20	1	MCS 0-7	MCS 0			
UT40	2	MCS 0-15	MCS 0			
HT40	1	MCS 0-7	IVICS U			

Report No.: FR131667-15AC

Note 1: IEEE Std. 802.11n modulation consists of HT20 and HT40 (HT: High Throughput). The EUT supports HT20 and HT40. Worst modulation mode of Guard Interval (GI) is 800ns.

Note 2: Modulation modes consist below configuration:

11b: IEEE 802.11b, 11g: IEEE 802.11g, HT20/HT40: IEEE 802.11n

Note 3: RF output power specifies that Maximum Peak Conducted Output Power.

2.2 The Worst Case Power Setting Parameter

The Worst Case Power Setting Parameter (2400-2483.5MHz band)									
Test Software Version		Atheros Radio Test2 (ART2-GUI)_ 2.3							
			Test Frequency (MHz)						
Modulation Mode	N _{TX}		NCB: 20MHz			NCB: 40MHz			
		2412	2437	2462	2422	2437	2452		
11h	2	16	15.5	15.5	-	-	-		
11b	1	17.5	17.5	16	-	-	-		
44 ~	2	14	14	13	-	-	-		
11g	1	15	15	13.5	-	-	-		
UT20	2	14	14	14	-	-	-		
HT20	1	14.5	15.5	13	-	-	-		
LITAO	2	-	-	-	11	13	9.5		
HT40	1	-	-	-	11.5	14	10.5		

SPORTON INTERNATIONAL INC. : 9 of 86
TEL: 886-3-327-3456 : Report Version : Rev. 01

2.3 The Worst Case Measurement Configuration

Т	The Worst Case Mode for Following Conformance Tests		
Tests Item AC power-line conducted emissions			
Condition	AC power-line conducted measurement for line and neutral Test Voltage: 120Vac / 60Hz Operating Mode Description		
Operating Mode			
1	Transmit Mode		

Report No.: FR131667-15AC

The Worst Case Mode for Following Conformance Tests				
Tests Item RF Output Power, Power Spectral Density, 6 dB Bandwidth				
Test Condition	Conducted measurement at transmit chains			
Modulation Mode	11b, 11g, HT20, HT40			

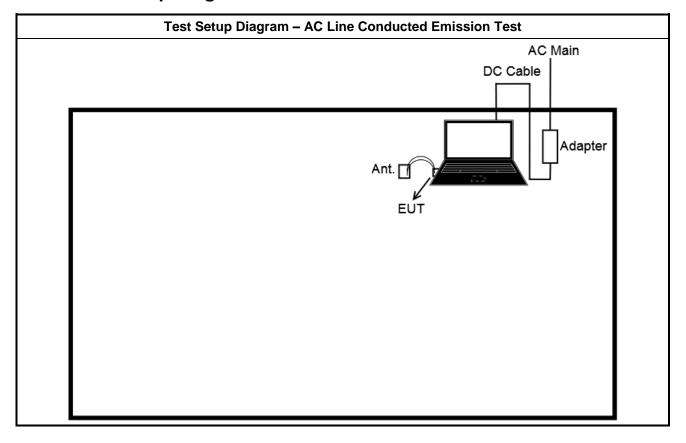
Th	The Worst Case Mode for Following Conformance Tests					
Tests Item	Transmitter Radiated Unwanted Emissions Transmitter Radiated Bandedge Emissions					
Test Condition	Radiated measurement					
	□ EUT will be placed in fixed position.					
User Position	EUT will be placed in mobile position and operating multiple positions.					
	EUT will be a hand-held or body-worn battery-powered devices and operating multiple positions.					
Operating Mode	Operating Mode Description					
1	Transmit Mode					
Modulation Mode	11b, 11g, HT20, HT40					
	X Plane					
Orthogonal Planes of EUT						

SPORTON INTERNATIONAL INC. Page No. : 10 of 86
TEL: 886-3-327-3456 Report Version : Rev. 01



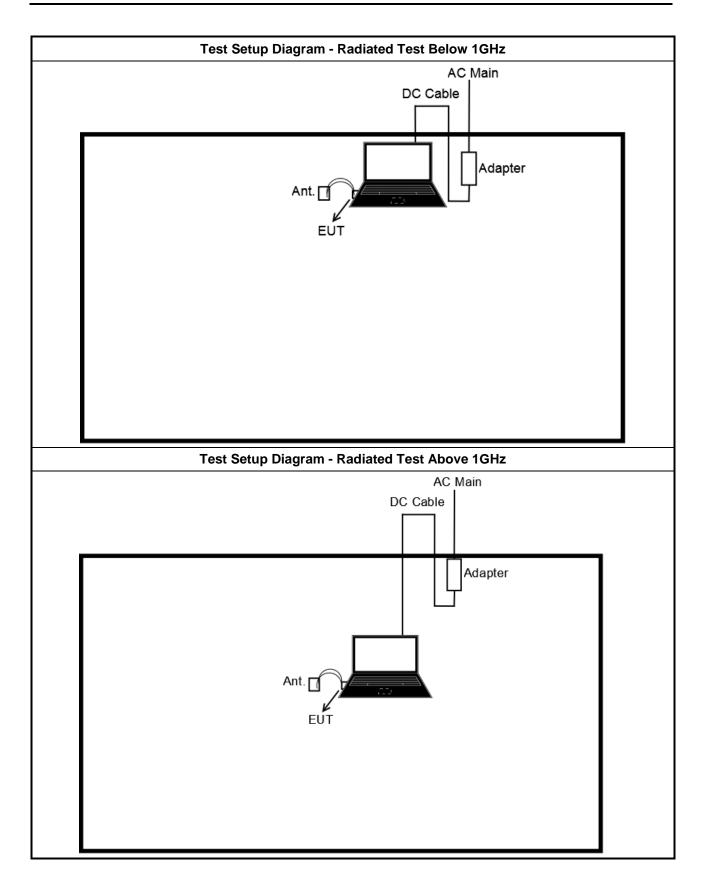
Report No. : FR131667-15AC

2.4 Test Setup Diagram



SPORTON INTERNATIONAL INC. Page No. : 11 of 86 TEL: 886-3-327-3456 Report Version : Rev. 01

Report No. : FR131667-15AC



SPORTON INTERNATIONAL INC.

TEL: 886-3-327-3456 FAX: 886-3-327-0973 Page No. : 12 of 86 Report Version : Rev. 01



3 Transmitter Test Result

3.1 AC Power-line Conducted Emissions

3.1.1 AC Power-line Conducted Emissions Limit

AC Power-line Conducted Emissions Limit					
Frequency Emission (MHz) Quasi-Peak Average					
0.15-0.5	66 - 56 *	56 - 46 * 46			
0.5-5	56				
5-30	60	50			

Report No.: FR131667-15AC

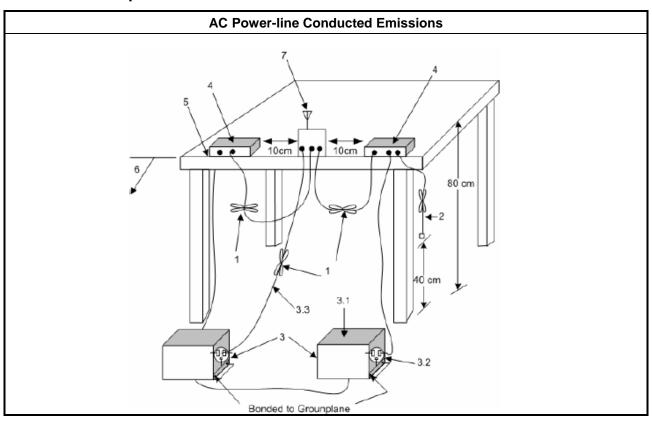
3.1.2 Measuring Instruments

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

3.1.3 Test Procedures

	Test Method
\boxtimes	Refer as ANSI C63.10-2013, clause 6.2 for AC power-line conducted emissions.

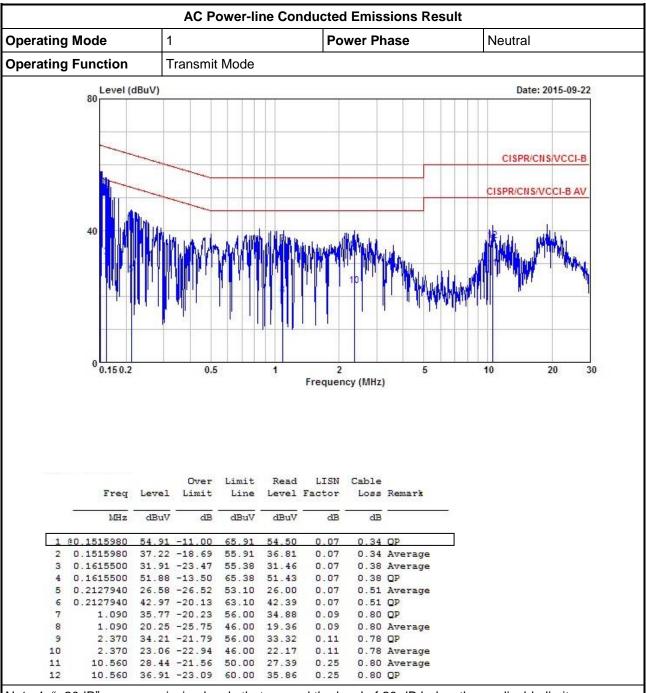
3.1.4 Test Setup



SPORTON INTERNATIONAL INC. Page No. : 13 of 86
TEL: 886-3-327-3456 Report Version : Rev. 01



3.1.5 Test Result of AC Power-line Conducted Emissions



Report No.: FR131667-15AC

Note 1: ">20dB" means emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: "N/F" means Nothing Found emissions (No emissions were detected.)

SPORTON INTERNATIONAL INC. Page No. : 14 of 86
TEL: 886-3-327-3456 Report Version : Rev. 01

AC Power-line Conducted Emissions Result Operating Mode Power Phase Line **Operating Function** Transmit Mode Level (dBuV) Date: 2015-09-22 CISPR/CNS/VCCI-B CISPR/CNS/VCCI-B AV 2 30 Frequency (MHz) Over Limit Read LISN Cable Freq Level Limit Line Level Factor Loss Remark MHz dBuV dB dBuV dBuV dB dB 1 @0.1556680 53.79 -11.90 65.69 53.39 0.05 0.35 QP 0.1556680 34.55 -21.14 55.69 34.15 0.05 0.35 Average 0.2150610 43.57 -19.44 63.01 43.00 0.06 0.51 QP 0.2150610 25.71 -27.30 53.01 25.14 0.06 0.51 Average 0.9683980 36.91 -19.09 56.00 36.04 0.79 QP 0.08 0.9683980 19.15 -26.85 46.00 18.28 0.79 Average 0.08 2.790 33.08 -22.92 56.00 32.22 0.11 0.75 QP

Report No.: FR131667-15AC

Note 1: ">20dB" means emission levels that exceed the level of 20 dB below the applicable limit.

21.07

27.63

0.11

0.24

0.24

0.35

0.35

0.75 Average

0.80 Average

0.73 Average

0.80 QP

0.73 QP

Note 2: "N/F" means Nothing Found emissions (No emissions were detected.)

2.790 21.93 -24.07 46.00

10.560 28.67 -21.33 50.00

10.560 36.98 -23.02 60.00 35.94

18.620 37.29 -22.71 60.00 36.21

18.620 29.27 -20.73 50.00 28.19

SPORTON INTERNATIONAL INC. Page No. : 15 of 86
TEL: 886-3-327-3456 Report Version : Rev. 01

FAX: 886-3-327-0973

9

10

11

FCC Test Report No.: FR131667-15AC

3.2 6dB Bandwidth

3.2.1 6dB Bandwidth Limit

6dB Bandwidth Limit					
Systems using digital modulation techniques:					
☑ 6 dB bandwidth ≥ 500 kHz.					

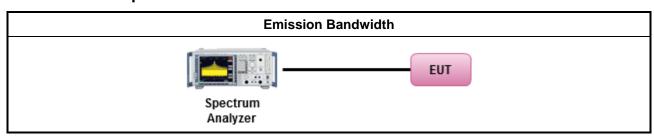
3.2.2 Measuring Instruments

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

3.2.3 Test Procedures

			Test Method				
\boxtimes	For	the emission bandwidth shall be measured using one of the options below:					
	\boxtimes	Ref	er as FCC KDB 558074 D01 v03r02, clause 8.1 Option 1 for 6 dB bandwidth measurement.				
		Ref	er as FCC KDB 558074 D01 v03r02, clause 8.2 Option 2 for 6 dB bandwidth measurement.				
		Ref	er as ANSI C63.10, clause 6.9.1 for occupied bandwidth testing.				
\boxtimes	For	cond	ucted measurement.				
	\boxtimes	The	EUT supports single transmit chain and measurements performed on this transmit chain.				
		The	EUT supports diversity transmitting and the results on transmit chain port 1 is the worst case.				
			Option 1: Multiple transmit chains measurements need to be performed on one of the active transmit chains (antenna outputs). All measurement had be performed on transmit chains 1.				
			Option 2: Multiple transmit chains measurements need to be performed on each transmit chains individually (antenna outputs). All measurement had be performed on all transmit chains.				

3.2.4 Test Setup



SPORTON INTERNATIONAL INC. Page No. : 16 of 86
TEL: 886-3-327-3456 Report Version : Rev. 01



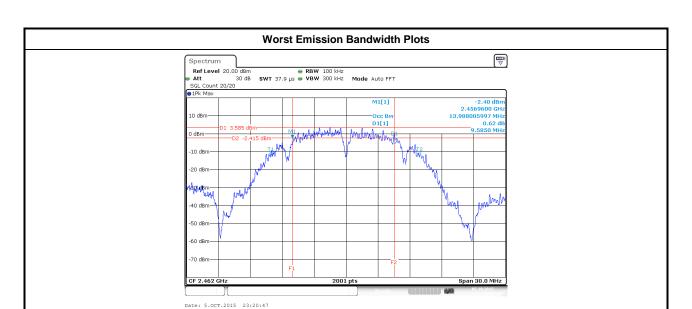
3.2.5 Test Result of Emission Bandwidth

Condition Emission Bandwidth (MHz)						
Modulation Mode N Freq.		99% Ba	ndwidth	6dB Bandwidth		
Modulation Mode	N _{TX}	(MHz)	Chain Port 1	Chain Port 2	Chain Port 1	Chain Port 2
11b	2	2412	13.98	13.88	9.84	10.09
11b	2	2437	13.91	13.82	9.63	9.78
11b	2	2462	13.86	13.86	10.00	10.05
11b	1	2412	14.12	-	10.06	-
11b	1	2437	14.04	-	10.09	-
11b	1	2462	13.98	-	9.58	-
11g	2	2412	16.49	16.44	16.54	16.30
11g	2	2437	16.49	16.50	16.44	16.53
11g	2	2462	16.43	16.46	16.47	15.46
11g	1	2412	16.53	-	16.42	-
11g	1	2437	16.47	-	16.51	-
11g	1	2462	16.50	-	16.36	-
HT20	2	2412	17.70	17.67	17.65	17.73
HT20	2	2437	17.63	17.69	17.64	17.67
HT20	2	2462	17.64	17.69	17.59	17.61
HT20	1	2412	17.70	-	17.77	-
HT20	1	2437	17.64	-	16.93	-
HT20	1	2462	17.69	-	17.68	-
HT40	2	2422	36.38	36.30	36.32	36.32
HT40	2	2437	36.34	36.30	35.84	36.36
HT40	2	2452	36.30	36.34	36.32	36.36
HT40	1	2422	36.42	-	36.52	-
HT40	1	2437	36.34	-	36.44	-
HT40	1	2452	36.30	-	36.12	-
Limi	t		N	/A	≥500	kHz
Result			Complied			

Report No.: FR131667-15AC

SPORTON INTERNATIONAL INC. Page No. : 17 of 86
TEL: 886-3-327-3456 Report Version : Rev. 01

FCC Test Report



Report No. : FR131667-15AC

SPORTON INTERNATIONAL INC. : 18 of 86
TEL: 886-3-327-3456 : Report Version : Rev. 01

3.3 RF Output Power

3.3.1 RF Output Power Limit

	RF Output Power Limit					
Мах	Maximum Peak Conducted Output Power or Maximum Conducted Output Power Limit					
\boxtimes	240	0-2483.5 MHz Band:				
	\boxtimes	If $G_{TX} \le 6$ dBi, then $P_{Out} \le 30$ dBm (1 W)				
	\boxtimes	Point-to-multipoint systems (P2M): If $G_{TX} > 6$ dBi, then $P_{Out} = 30 - (G_{TX} - 6)$ dBm				
		Point-to-point systems (P2P): If $G_{TX} > 6$ dBi, then $P_{Out} = 30 - (G_{TX} - 6)/3$ dBm				
		Smart antenna system (SAS):				
		☐ Single beam: If $G_{TX} > 6$ dBi, then $P_{Out} = 30 - (G_{TX} - 6)/3$ dBm				
		Overlap beam: If $G_{TX} > 6$ dBi, then $P_{Out} = 30 - (G_{TX} - 6)/3$ dBm				
		\square Aggregate power on all beams: If $G_{TX} > 6$ dBi, then $P_{Out} = 30 - (G_{TX} - 6)/3 + 8$ dB dBm				
e.i.r	.p. P	ower Limit:				
\boxtimes	240	0-2483.5 MHz Band				
	\boxtimes	Point-to-multipoint systems (P2M): P _{eirp} ≤ 36 dBm (4 W)				
		Point-to-point systems (P2P): $P_{eirp} \le MAX(36, [P_{Out} + G_{TX}]) dBm$				
		Smart antenna system (SAS)				
		☐ Single beam: $P_{eirp} \le MAX(36, P_{Out} + G_{TX}) dBm$				
		☐ Overlap beam: $P_{eirp} \le MAX(36, P_{Out} + G_{TX}) dBm$				
		☐ Aggregate power on all beams: $P_{eirp} \le MAX(36, [P_{Out} + G_{TX} + 8]) dBm$				
G_{TX}	Pout = maximum peak conducted output power or maximum conducted output power in dBm, GTX = the maximum transmitting antenna directional gain in dBi. Peirp = e.i.r.p. Power in dBm.					

Report No.: FR131667-15AC

3.3.2 Measuring Instruments

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

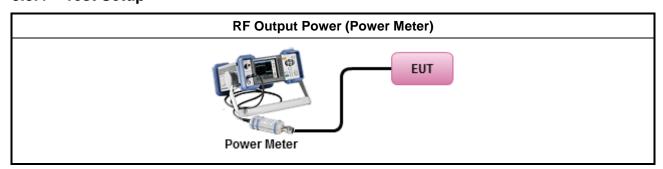
SPORTON INTERNATIONAL INC. : 19 of 86
TEL: 886-3-327-3456 : Report Version : Rev. 01

3.3.3 Test Procedures

		Test Method
	Max	imum Peak Conducted Output Power
		Refer as FCC KDB 558074 D01 v03r02, clause 9.1.1 (RBW ≥ EBW method).
	\boxtimes	Refer as FCC KDB 558074 D01 v03r02, clause 9.1.2 (peak power meter for VBW ≥ DTS BW).
	Max	imum Conducted Output Power
	[duty	/ cycle ≥ 98% or external video / power trigger]
		Refer as FCC KDB 558074 D01 v03r02, clause 9.2.2.2 Method AVGSA-1 (spectral trace averaging).
		Refer as FCC KDB 558074 D01 v03r02, clause 9.2.2.3 Method AVGSA-1 Alt. (slow sweep speed)
	duty	cycle < 98% and average over on/off periods with duty factor
		Refer as FCC KDB 558074 D01 v03r02, clause 9.2.2.4 Method AVGSA-2 (spectral trace averaging).
		Refer as FCC KDB 558074 D01 v03r02, clause 9.2.2.5 Method AVGSA-2 Alt. (slow sweep speed)
	RF p	power meter and average over on/off periods with duty factor or gated trigger
	\boxtimes	Refer as FCC KDB 558074 D01 v03r02, clause 9.2.3 Method AVGPM (using an RF average power meter).
\boxtimes	For	conducted measurement.
	\boxtimes	The EUT supports single transmit chain and measurements performed on this transmit chain.
		The EUT supports diversity transmitting and the results on transmit chain port 1 is the worst case.
	\boxtimes	The EUT supports multiple transmit chains using options given below: Refer as FCC KDB 662911, In-band power measurements. Using the measure-and-sum approach, measured all transmit ports individually. Sum the power (in linear power units e.g., mW) of all ports for each individual sample and save them.
		If multiple transmit chains, EIRP calculation could be following as methods: $P_{total} = P_1 + P_2 + + P_n$ (calculated in linear unit [mW] and transfer to log unit [dBm]) $EIRP_{total} = P_{total} + DG$

Report No.: FR131667-15AC

3.3.4 Test Setup



SPORTON INTERNATIONAL INC. Page No. : 20 of 86
TEL: 886-3-327-3456 Report Version : Rev. 01

3.3.5 Directional Gain for Power Measurement

Directional Gain (DG) Result							
Transmit Chair	ns No.	1	2	-	-		
Maximum G _{AN}	4.00	4.00	-	-			
Modulation Mode	DG (dBi)	N _{TX}	N _{SS} (Min.)	STBC	Array Gain (dB)		
11h	7.01	2	1	-	3.01 (Note3)		
11b	4.00	1	1	-	0.00		
44 ~	7.01	2	1	-	3.01 (Note3)		
11g	4.00	1	1	-	0.00		
LITOO	7.01	2	1	-	3.01 (Note3)		
HT20	4.00	1	1	-	0.00		
UT40	7.01	2	1	-	3.01 (Note3)		
HT40	4.00	1	1	-	0.00		

Report No.: FR131667-15AC

- Note 1: For all transmitter outputs with equal antenna gains, directional gain is to be computed as follows: Any transmit signals are correlated, Directional Gain = G_{ANT} + 10 log(N_{TX}) = 4.00+10 log(2)= 7.01 All transmit signals are completely uncorrelated, Directional Gain = G_{ANT}
- Note 2: For all transmitter outputs with unequal antenna gains, directional gain is to be computed as follows:

 Any transmit signals are correlated, Directional Gain =10 log[(10^{G1/20} +... + 10^{GN/20})² /N_{TX}]

 All transmit signals are completely uncorrelated, Directional Gain = 10 log[(10^{G1/10} +... + 10^{GN/10})/N_{TX}]
- Note 3: For Spatial Multiplexing, Directional Gain (DG) = G_{ANT} + 10 log(N_{TX}/N_{SS}), where Nss = the number of independent spatial streams data.
- Note 4: For CDD transmissions, directional gain is calculated as power measurements: Directional Gain (DG) = G_{ANT} + Array Gain, where Array Gain is as follows: Array Gain = 0 dB (i.e., no array gain) for $N_{TX} \le 4$;

Array Gain = 0 dB (i.e., no array gain) for channel widths ≥ 40 MHz for any N_{TX};

SPORTON INTERNATIONAL INC. Page No. : 21 of 86
TEL: 886-3-327-3456 Report Version : Rev. 01



3.3.6 Test Result of Maximum Peak Conducted Output Power

		N	laximum Pea	k Conducted	d Output Pov	wer Result			
Condi	tion				RF O	utput Power	(dBm)		
Modulation Mode	N _{TX}	Freq. (MHz)	Chain Port 1	Chain Port 2	Sum Chain	Power Limit	DG (dBi)	EIRP Power	EIRP Limit
11b	2	2412	18.47	18.15	21.32	28.99	7.01	28.33	36.00
11b	2	2437	17.94	17.71	20.84	28.99	7.01	27.85	36.00
11b	2	2462	17.39	17.26	20.34	28.99	7.01	27.35	36.00
11b	1	2412	18.72	-	18.72	30.00	4.00	22.72	36.00
11b	1	2437	18.73	-	18.73	30.00	4.00	22.73	36.00
11b	1	2462	16.53	-	16.53	30.00	4.00	20.53	36.00
11g	2	2412	18.53	18.63	21.59	28.99	7.01	28.60	36.00
11g	2	2437	18.57	18.69	21.64	28.99	7.01	28.65	36.00
11g	2	2462	17.06	17.24	20.16	28.99	7.01	27.17	36.00
11g	1	2412	19.24	-	19.24	30.00	4.00	23.24	36.00
11g	1	2437	18.66	-	18.66	30.00	4.00	22.66	36.00
11g	1	2462	17.77	-	17.77	30.00	4.00	21.77	36.00
HT20	2	2412	18.39	18.73	21.57	28.99	7.01	28.58	36.00
HT20	2	2437	18.76	18.63	21.71	28.99	7.01	28.72	36.00
HT20	2	2462	18.50	18.48	21.50	28.99	7.01	28.51	36.00
HT20	1	2412	19.15	-	19.15	30.00	4.00	23.15	36.00
HT20	1	2437	19.00	-	19.00	30.00	4.00	23.00	36.00
HT20	1	2462	17.93	-	17.93	30.00	4.00	21.93	36.00
HT40	2	2422	16.31	15.88	19.11	28.99	7.01	26.12	36.00
HT40	2	2437	17.42	17.33	20.39	28.99	7.01	27.40	36.00
HT40	2	2452	13.57	13.75	16.67	28.99	7.01	23.68	36.00
HT20	1	2412	16.60	-	16.60	30.00	4.00	20.60	36.00
HT20	1	2437	17.54	-	17.54	30.00	4.00	21.54	36.00
HT20	1	2462	15.76	-	15.76	30.00	4.00	19.76	36.00
Resu	ılt					Complied			

Report No.: FR131667-15AC

SPORTON INTERNATIONAL INC. Page No. : 22 of 86
TEL: 886-3-327-3456 Report Version : Rev. 01



3.3.7 Test Result of Maximum Conducted Output Power

			Maximum (Conducted C	utput Power	Result			
Condi	tion				RF O	utput Power	(dBm)		
Modulation Mode	N _{TX}	Freq. (MHz)	Chain Port 1	Chain Port 2	Sum Chain	Power Limit	DG (dBi)	EIRP Power	EIRP Limit
11b	2	2412	15.53	15.23	18.39	28.99	7.01	25.40	36.00
11b	2	2437	15.02	14.77	17.91	28.99	7.01	24.92	36.00
11b	2	2462	14.44	14.33	17.40	28.99	7.01	24.41	36.00
11b	1	2412	15.91	-	15.91	30.00	4.00	19.91	36.00
11b	1	2437	16.09	-	16.09	30.00	4.00	20.09	36.00
11b	1	2462	13.71	-	13.71	30.00	4.00	17.71	36.00
11g	2	2412	13.84	13.75	16.81	28.99	7.01	23.82	36.00
11g	2	2437	13.99	13.89	16.95	28.99	7.01	23.96	36.00
11g	2	2462	12.11	12.22	15.18	28.99	7.01	22.19	36.00
11g	1	2412	14.30	-	14.30	30.00	4.00	18.30	36.00
11g	1	2437	13.77	-	13.77	30.00	4.00	17.77	36.00
11g	1	2462	12.94	-	12.94	30.00	4.00	16.94	36.00
HT20	2	2412	13.40	13.73	16.57	28.99	7.01	23.58	36.00
HT20	2	2437	14.17	13.92	17.05	28.99	7.01	24.06	36.00
HT20	2	2462	13.57	13.54	16.56	28.99	7.01	23.57	36.00
HT20	1	2412	14.19	-	14.19	30.00	4.00	18.19	36.00
HT20	1	2437	14.07	-	14.07	30.00	4.00	18.07	36.00
HT20	1	2462	13.00	-	13.00	30.00	4.00	17.00	36.00
HT40	2	2422	11.12	10.83	13.99	28.99	7.01	21.00	36.00
HT40	2	2437	12.38	12.28	15.34	28.99	7.01	22.35	36.00
HT40	2	2452	8.51	8.48	11.51	28.99	7.01	18.52	36.00
HT20	1	2412	12.16	-	12.16	30.00	4.00	16.16	36.00
HT20	1	2437	12.94	-	12.94	30.00	4.00	16.94	36.00
HT20	1	2462	11.03	-	11.03	30.00	4.00	15.03	36.00
Resi	ılt	•		•	•	Complied	•		•

Report No.: FR131667-15AC

SPORTON INTERNATIONAL INC. Page No. : 23 of 86
TEL: 886-3-327-3456 Report Version : Rev. 01



3.4 Power Spectral Density

3.4.1 Power Spectral Density Limit

	Power Spectral Density Limit
\boxtimes	Power Spectral Density (PSD) ≤ 8 dBm/3kHz

Report No.: FR131667-15AC

3.4.2 Measuring Instruments

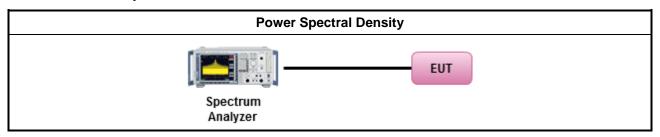
Refer a test equipment and calibration data table in this test report.

3.4.3 Test Procedures

		Test Method
	outp the c cond of th	k power spectral density procedures that the same method as used to determine the conducted ut power. If maximum peak conducted output power was measured to demonstrate compliance to putput power limit, then the peak PSD procedure below (Method PKPSD) shall be used. If maximum ducted output power was measured to demonstrate compliance to the output power limit, then one average PSD procedures shall be used, as applicable based on the following criteria (the peak procedure is also an acceptable option).
		Refer as FCC KDB 558074 D01 v03r02, clause 10.2 Method PKPSD (RBW=3-100kHz;detector=peak).
	[duty	/ cycle ≥ 98% or external video / power trigger]
	\boxtimes	Refer as FCC KDB 558074 D01 v03r02, clause 10.3 Method AVGPSD-1 (spectral trace averaging).
		Refer as FCC KDB 558074 D01 v03r02, clause 10.4 Method AVGPSD-1 Alt. (slow sweep speed)
	duty	cycle < 98% and average over on/off periods with duty factor
		Refer as FCC KDB 558074 D01 v03r02, clause 10.5 Method AVGPSD-2 (spectral trace averaging).
		Refer as FCC KDB 558074 D01 v03r02, clause 10.6 Method AVGPSD-2 Alt. (slow sweep speed)
\boxtimes	For	conducted measurement.
	\boxtimes	The EUT supports single transmit chain and measurements performed on this transmit chain.
		The EUT supports diversity transmitting and the results on transmit chain port 1 is the worst case.
	\boxtimes	The EUT supports multiple transmit chains using options given below:
		Option 1: Measure and sum the spectra across the outputs. Refer as FCC KDB 662911, In-band power spectral density (PSD). Sample all transmit ports simultaneously using a spectrum analyzer for each transmit port. Where the trace bin-by-bin of each transmit port summing can be performed. (i.e., in the first spectral bin of output 1 is summed with that in the first spectral bin of output 2 and that from the first spectral bin of output 3, and so on up to the N _{TX} output to obtain the value for the first frequency bin of the summed spectrum.). Add up the amplitude (power) values for the different transmit chains and use this as the new data trace.
		Option 2: Measure and add 10 log(N) dB, where N is the number of transmit chains. Refer as FCC KDB 662911, In-band power spectral density (PSD). Performed at each transmit chains and each transmit chains shall be compared with the limit have been reduced with 10 log(N). Or each transmit chains shall be add 10 log(N) to compared with the limit

SPORTON INTERNATIONAL INC. Page No. : 24 of 86
TEL: 886-3-327-3456 Report Version : Rev. 01

3.4.4 Test Setup



Report No.: FR131667-15AC

3.4.5 Test Result of Power Spectral Density

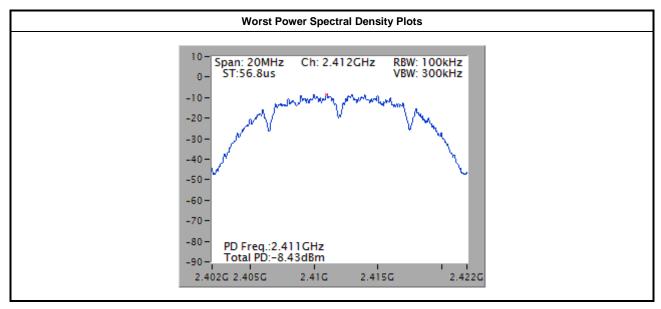
			Power Spectral Density Result	
Condi	tion		Power Spe	ctral Density
Modulation Mode	N _{TX}	Freq. (MHz)	Sum Chain (dBm/100kHz)	PSD Limit (dBm/3kHz)
11b	2	2412	-8.43	8.00
11b	2	2437	-9.84	8.00
11b	2	2462	-8.55	8.00
11b	1	2412	-11.25	8.00
11b	1	2437	-10.07	8.00
11b	1	2462	-12.49	8.00
11g	2	2412	-11.00	8.00
11g	2	2437	-10.70	8.00
11g	2	2462	-12.45	8.00
11g	1	2412	-15.26	8.00
11g	1	2437	-15.80	8.00
11g	1	2462	-16.52	8.00
HT20	2	2412	-13.73	8.00
HT20	2	2437	-12.97	8.00
HT20	2	2462	-12.41	8.00
HT20	1	2412	-15.53	8.00
HT20	1	2437	-15.65	8.00
HT20	1	2462	-16.39	8.00
HT40	2	2422	-15.31	8.00
HT40	2	2437	-15.08	8.00
HT40	2	2452	-18.37	8.00
HT40	1	2422	-17.79	8.00
HT40	1	2437	-16.55	8.00
HT40	1	2452	-18.30	8.00
Resu	ılt		Con	nplied

SPORTON INTERNATIONAL INC. Page No. : 25 of 86
TEL: 886-3-327-3456 Report Version : Rev. 01

Report No.: FR131667-15AC

: 26 of 86

: Rev. 01



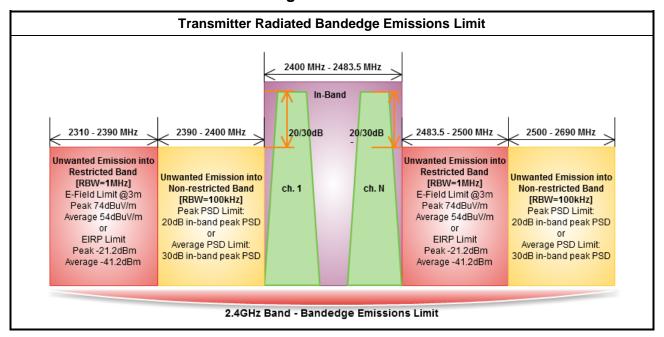
Note: 15.2dBm has been offset for 3kHz data.

SPORTON INTERNATIONAL INC. Page No.
TEL: 886-3-327-3456 Report Version



3.5 Transmitter Radiated Bandedge Emissions

3.5.1 Transmitter Radiated Bandedge Emissions Limit



Report No.: FR131667-15AC

3.5.2 Measuring Instruments

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

SPORTON INTERNATIONAL INC. Page No. : 27 of 86
TEL: 886-3-327-3456 Report Version : Rev. 01



FCC Test Report

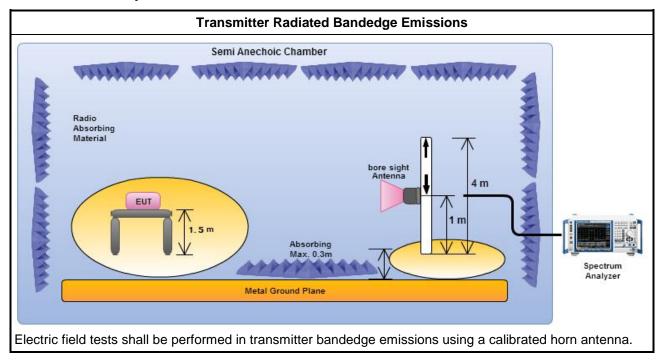
3.5.3 Test Procedures

			Test Method
\boxtimes	The	aver	age emission levels shall be measured in [duty cycle ≥ 98 or duty factor].
\boxtimes			ANSI C63.10, clause 6.10 bandedge testing shall be performed at the lowest frequency and highest frequency channel within the allowed operating band.
\boxtimes	For t	the tr	ansmitter unwanted emissions shall be measured using following options below:
		Refe ban	er as FCC KDB 558074 D01 v03r02, clause 11 for unwanted emissions into non-restricted ds.
	\boxtimes	Ref	er as FCC KDB 558074 D01 v03r02, clause 12 for unwanted emissions into restricted bands.
			Refer as FCC KDB 558074 D01 v03r02, clause 12.2.5.1 Option 1 (trace averaging for duty cycle $\geq 98\%$)
			Refer as FCC KDB 558074 D01 v03r02, clause 12.2.5.2 Option 2 (trace averaging + duty factor).
			Refer as FCC KDB 558074 D01 v03r02, clause 12.2.5.3 Option 3 (Reduced VBW≥1/T).
		\boxtimes	Refer as ANSI C63.10, clause 4.1.4.2.3 (Reduced VBW). VBW ≥ 1/T, where T is pulse time.
			Refer as ANSI C63.10, clause 4.1.4.2.4 average value of pulsed emissions.
			Refer as FCC KDB 558074 D01 v03r02, clause 11.3 and 12.2.4 measurement procedure peak limit.
\boxtimes	Fort	the tr	ansmitter bandedge emissions shall be measured using following options below:
			er as FCC KDB 558074 D01 v03r02, clause 13.3 for narrower resolution bandwidth (100kHz) of the band power and summing the spectral levels (i.e., 1 MHz).
	\boxtimes	Ref	er as ANSI C63.10, clause 6.10.6.2 for marker-delta method for band-edge measurements.
\boxtimes			ted measurement, refer as FCC KDB 558074 D01 v03r02, clause 12.2.7 and ANSI C63.10, 6. Test distance is 3m.

Report No.: FR131667-15AC

SPORTON INTERNATIONAL INC. Page No. : 28 of 86
TEL: 886-3-327-3456 Report Version : Rev. 01

Test Setup 3.5.4



Report No.: FR131667-15AC

SPORTON INTERNATIONAL INC. Page No. : 29 of 86 TEL: 886-3-327-3456 Report Version : Rev. 01

3.5.5 Test Result of Transmitter Radiated Bandedge Emissions

	24	100-2483.5N	/IHz Transmitter	Radiated Band	dedge Emission	s (Non-restricte	d Band)	
Modulation	N _{TX}	Test Freq. (MHz)	In-band PSD [i] (dBuV/100kHz)	Freq. (MHz)	Out-band PSD [o] (dBuV/100kHz)	[i] - [o] (dB)	Limit (dB)	Pol.
11b	2	2412	99.24	2397.136	63.56	35.68	20	Н
11b	2	2462	99.23	2548.200	51.98	47.25	20	Н
11b	1	2412	102.67	2398.032	67.11	35.56	20	Н
11b	1	2462	101.37	2505.400	64.20	37.17	20	Н
11g	2	2412	98.99	2399.824	71.08	27.91	20	Н
11g	2	2462	97.07	2524.400	52.10	44.97	20	Н
11g	1	2412	90.34	2399.936	67.35	22.99	20	Н
11g	1	2462	97.44	2537.400	63.37	34.07	20	Н
HT20	2	2412	96.90	2399.600	67.53	29.37	20	Н
HT20	2	2462	100.63	2547.800	51.97	48.66	20	Н
HT20	1	2412	89.25	2399.824	67.52	21.73	20	Н
HT20	1	2462	97.24	2505.600	62.26	34.98	20	Н
HT40	2	2422	93.51	2399.892	63.32	30.19	20	Н
HT40	2	2452	89.55	2500.400	52.14	37.41	20	Н
HT40	1	2422	93.73	2397.384	65.11	28.62	20	Н
HT40	1	2452	90.18	2506.160	63.78	26.40	20	Н

Report No.: FR131667-15AC

SPORTON INTERNATIONAL INC. Page No. : 30 of 86
TEL: 886-3-327-3456 Report Version : Rev. 01



FCC Test Report

Modulation Mode	N _{TX}	Freq. (MHz)	Measure Distance (m)	Freq. (MHz) PK	Level (dBuV/m) PK	Limit (dBuV/m) PK	Freq. (MHz) AV	Level (dBuV/m) AV	Limit (dBuV/m) AV	Pol.
11b	2	2412	3	2323.888	60.18	74	2387.280	46.55	54	Н
11b	2	2462	3	2498.600	59.06	74	2483.540	46.86	54	Н
11b	1	2412	3	2386.384	61.02	74	2386.160	49.91	54	Н
11b	1	2462	3	2483.600	61.29	74	2487.600	50.96	54	Н
11g	2	2412	3	2389.968	71.98	74	2389.968	52.92	54	Н
11g	2	2462	3	2483.800	71.29	74	2483.500	52.96	54	Н
11g	1	2412	3	2389.968	69.72	74	2389.968	52.83	54	Н
11g	1	2462	3	2483.500	69.50	74	2483.500	52.51	54	Н
HT20	2	2412	3	2389.296	63.93	74	2389.968	49.23	54	Н
HT20	2	2462	3	2484.500	69.13	74	2483.500	51.88	54	Н
HT20	1	2412	3	2389.968	70.52	74	2389.968	52.74	54	Н
HT20	1	2462	3	2483.500	69.76	74	2483.500	52.89	54	Н
HT40	2	2422	3	2389.992	67.78	74	2389.992	52.43	54	Н
HT40	2	2452	3	2484.320	67.84	74	2483.600	52.82	54	Н
HT40	1	2422	3	2386.824	66.56	74	2389.992	52.77	54	Н
HT40	1	2452	3	2485.760	67.14	74	2483.500	52.65	54	Н

Report No. : FR131667-15AC

SPORTON INTERNATIONAL INC. Page No. : 31 of 86
TEL: 886-3-327-3456 Report Version : Rev. 01



3.6 Radiated Unwanted Emissions

3.6.1 Radiated Unwanted Emissions Limit

	Restricted Band	Emissions Limit	
Frequency Range (MHz)	Field Strength (uV/m)	Field Strength (dBuV/m)	Measure Distance (m)
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

Report No.: FR131667-15AC

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.

Un-restricted Ban	d Emissions Limit
RF output power procedure	Limit (dB)
Peak output power procedure	20
Average output power procedure	30

Note 1: If the peak output power procedure is used to measure the fundamental emission power to demonstrate compliance to requirements, then the peak conducted output power measured within any 100 kHz outside the authorized frequency band shall be attenuated by at least 20 dB relative to the maximum measured in-band peak PSD level.

Note 2: If the average output power procedure is used to measure the fundamental emission power to demonstrate compliance to requirements, then the power in any 100 kHz outside of the authorized frequency band shall be attenuated by at least 30 dB relative to the maximum measured in-band average PSD level.

3.6.2 Measuring Instruments

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

SPORTON INTERNATIONAL INC. Page No. : 32 of 86
TEL: 886-3-327-3456 Report Version : Rev. 01



FCC Test Report No.: FR131667-15AC

3.6.3 Test Procedures

			Test Method
	perfo equi extra dista	orme pmei apola ance	ments may be performed at a distance other than the limit distance provided they are not d in the near field and the emissions to be measured can be detected by the measurement nt. When performing measurements at a distance other than that specified, the results shall be ted to the specified distance using an extrapolation factor of 20 dB/decade (inverse of linear for field-strength measurements, inverse of linear distance-squared for power-density ments).
\boxtimes	The	aver	age emission levels shall be measured in [duty cycle ≥ 98 or duty factor].
\boxtimes	For	the tr	ansmitter unwanted emissions shall be measured using following options below:
	\boxtimes	Refe ban	er as FCC KDB 558074 D01 v03r02, clause 11 for unwanted emissions into non-restricted ds.
	\boxtimes	Ref	er as FCC KDB 558074 D01 v03r02, clause 12 for unwanted emissions into restricted bands.
			Refer as FCC KDB 558074 D01 v03r02, clause 12.2.5.1 Option 1 (trace averaging for duty cycle ≥98%)
			Refer as FCC KDB 558074 D01 v03r02, clause 12.2.5.2 Option 2 (trace averaging + duty factor).
			Refer as FCC KDB 558074 D01 v03r02, clause 12.2.5.3 Option 3 (Reduced VBW≥1/T).
		\boxtimes	Refer as ANSI C63.10, clause 4.1.4.2.3 (Reduced VBW). VBW ≥ 1/T, where T is pulse time.
			Refer as ANSI C63.10, clause 4.1.4.2.4 average value of pulsed emissions.
			Refer as FCC KDB 558074 D01 v03r02, clause 11.3 and 12.2.4 measurement procedure peak limit.
			Refer as FCC KDB 558074 D01 v03r02, clause 12.2.3 measurement procedure Quasi-Peak limit.
\boxtimes	For	radia	ted measurement, refer as FCC KDB 558074 D01 v03r02, clause 12.2.7.
	\boxtimes	Ref	er as ANSI C63.10, clause 6.4 for radiated emissions below 30 MHz and test distance is 3m.
	\boxtimes	Ref	er as ANSI C63.10, clause 6.5 for radiated emissions 30 MHz to 1 GHz and test distance is 3m.
	\boxtimes	Ref	er as ANSI C63.10, clause 6.6 for radiated emissions above 1 GHz and test distance is 3m.
	The	any	unwanted emissions level shall not exceed the fundamental emission level.
			ude of spurious emissions that are attenuated by more than 20 dB below the permissible value eed to be reported.

SPORTON INTERNATIONAL INC. Page No. : 33 of 86
TEL: 886-3-327-3456 Report Version : Rev. 01

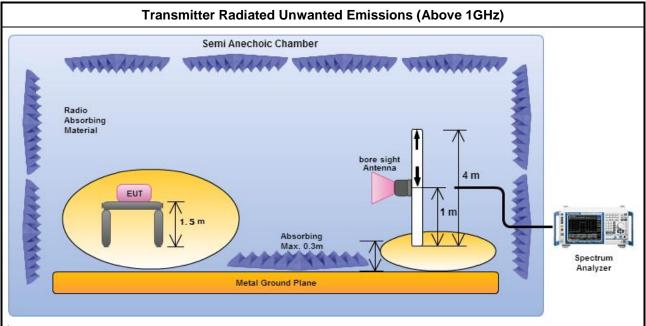


3.6.4 Test Setup

Semi Anechoic Chamber Radio Absorbing Material Metal Ground Plane Transmitter Radiated Unwanted Emissions (below 1GHz) Semi Anechoic Chamber Antenna Antenna Spectrum Analyzer

Report No.: FR131667-15AC

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.



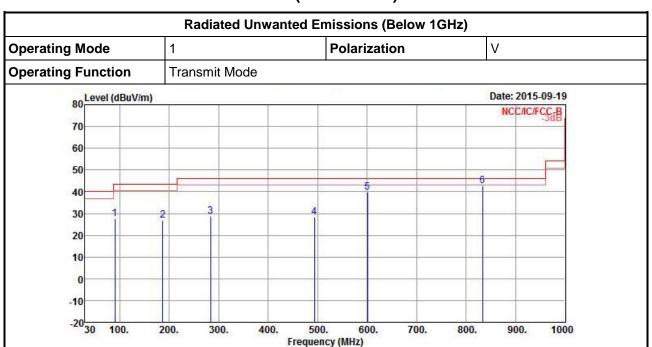
Electric field tests shall be performed in the frequency range of 1 GHz to 10th harmonic of highest fundamental frequency or 40 GHz using a calibrated horn antenna.

3.6.5 Radiated Unwanted 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.

SPORTON INTERNATIONAL INC. Page No. : 34 of 86
TEL: 886-3-327-3456 Report Version : Rev. 01

3.6.6 Radiated Unwanted Emissions (Below 1GHz)



Report No.: FR131667-15AC

	122	V45 - 1125	0ver			Antenna			125 16
	Freq	Level	Limit	Line	Level	Factor	Loss	Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	-
1	90.140	27.61	-15.89	43.50	45.42	8.59	1.34	27.74	Peak
2	187.140	26.93	-16.57	43.50	43.65	8.79	1.97	27.48	Peak
3	284.140	28.83	-17.17	46.00	40.98	12.48	2.46	27.09	Peak
4	493.660	28.38	-17.62	46.00	36.42	17.13	3.22	28.39	Peak
5	600.360	39.90	-6.10	46.00	46.34	18.28	3.70	28.42	Peak
6	833.160	42.70	-3.30	46.00	46.22	19.88	4.45	27.85	Peak

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

SPORTON INTERNATIONAL INC. Page No. : 35 of 86
TEL: 886-3-327-3456 Report Version : Rev. 01

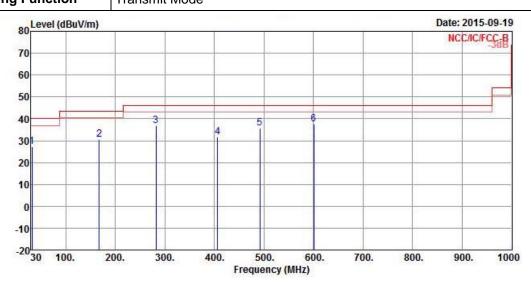


Radiated Unwanted Emissions (Below 1GHz)

Operating Mode 1 Polarization H

Operating Function Transmit Mode

Report No.: FR131667-15AC



	Freq	Level	Over Limit	7.3				Preamp Factor	
-	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	-
1	31.940	27.30	-12.70	40.00	37.47	16.93	0.76	27.86	Peak
2	167.740	30.71	-12.79	43.50	46.79	9.59	1.87	27.54	Peak
2 3 4	282.200	36.65	-9.35	46.00	48.87	12.43	2.45	27.10	Peak
	406.360	31.77	-14.23	46.00	41.04	15.72	2.94	27.93	Peak
5	491.720	35.65	-10.35	46.00	43.66	17.14	3.22	28.37	Peak
6	600.360	37.54	-8.46	46.00	43.98	18.28	3.70	28.42	Peak

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

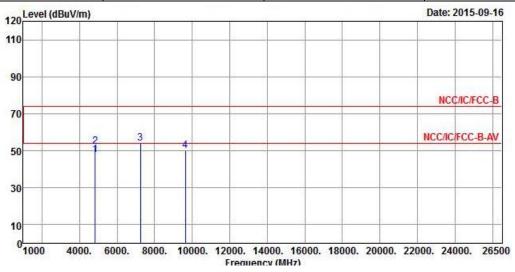
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

SPORTON INTERNATIONAL INC. Page No. : 36 of 86
TEL: 886-3-327-3456 Report Version : Rev. 01

FCC Test Report No.: FR131667-15AC

3.6.7 Transmitter Radiated Unwanted Emissions (Above 1GHz)

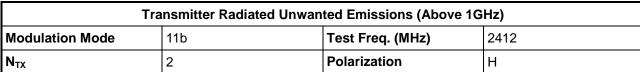
Transmitter Radiated Unwanted Emissions (Above 1GHz)									
Modulation Mode 11b Test Freq. (MHz) 2412									
N _{TX} 2 Polarization V									

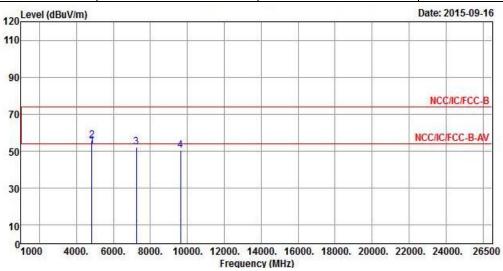


	Freq	Level	Over Limit	Limit Line		Antenna Factor			
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	4824.000	47.94	-6.06	54.00	43.57	34.33	4.70	34.66	Average
2	4824.000	52.29	-21.71	74.00	47.92	34.33	4.70	34.66	Peak
3	7236.000	53.87			47.53	35.90	5.37	34.93	Peak
4	9648.000	50.18			42.23	36.89	6.35	35.29	Peak

- Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.
- Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)
- Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
- Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
- Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level (101.92 dBuV/m).
- Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

SPORTON INTERNATIONAL INC. Page No. : 37 of 86
TEL: 886-3-327-3456 Report Version : Rev. 01

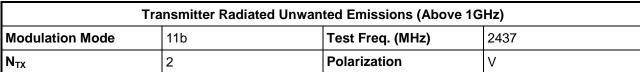


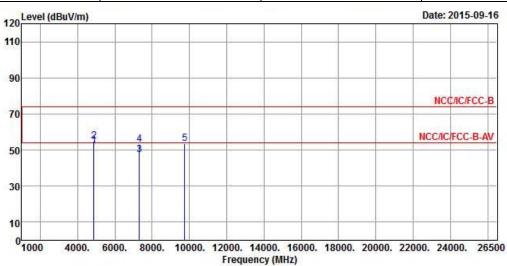


			0ver	Limit	Read	Antenna	Cable	Preamp	
	Freq	Level	Limit	Line	Level	Factor	Loss	Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	4824.000	52.64	-1.36	54.00	48.27	34.33	4.70	34.66	Average
2	4824.000	55.65	-18.35	74.00	51.28	34.33	4.70	34.66	Peak
3	7236.000	52.25			45.91	35.90	5.37	34.93	Peak
4	9648.000	50.39			42.44	36.89	6.35	35.29	Peak

- Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.
- Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)
- Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
- Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
- Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level (101.92 dBuV/m).
- Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

SPORTON INTERNATIONAL INC. Page No. : 38 of 86
TEL: 886-3-327-3456 Report Version : Rev. 01



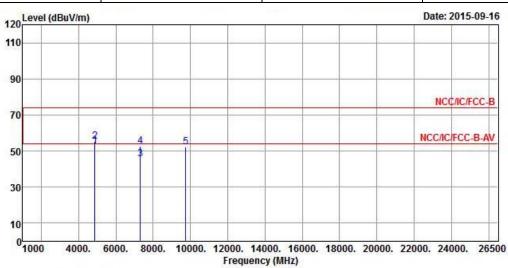


	Freq	Level	Over Limit			Antenna Factor		THE RESIDENCE OF THE PARTY OF T	
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	\$
1	4874.000	52.13	-1.87	54.00	47.73	34.32	4.73	34.65	Average
2	4874.000	54.98	-19.02	74.00	50.58	34.32	4.73	34.65	Peak
3	7311.000	47.16	-6.84	54.00	40.71	35.92	5.47	34.94	Average
4	7311.000	53.00	-21.00	74.00	46.55	35.92	5.47	34.94	Peak
5	9748.000	53.46			45.39	36.96	6.41	35.30	Peak

- Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.
- Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)
- Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
- Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
- Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level (105.02 dBuV/m).
- Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

SPORTON INTERNATIONAL INC. Page No. : 39 of 86
TEL: 886-3-327-3456 Report Version : Rev. 01

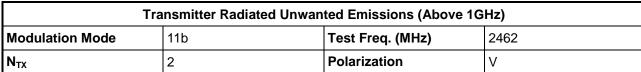
Report No.: FR131667-15AC

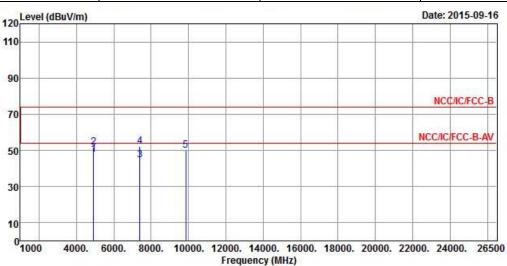


	Freq	Level	Over Limit	Limit Line		Antenna Factor		THE STATE OF THE STATE OF	
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	in a
1	4874.000	52.88	-1.12	54.00	48.48	34.32	4.73	34.65	Average
2	4874.000	55.20	-18.80	74.00	50.80	34.32	4.73	34.65	Peak
3	7311.000	45.69	-8.31	54.00	39.25	35.92	5.47	34.95	Average
4	7311.000	52.77	-21.23	74.00	46.32	35.92	5.47	34.94	Peak
5	9748.000	52.09			44.02	36.96	6.41	35.30	Peak

- Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.
- Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)
- Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
- Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
- Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level (105.02 dBuV/m).
- Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

SPORTON INTERNATIONAL INC. Page No. : 40 of 86
TEL: 886-3-327-3456 Report Version : Rev. 01



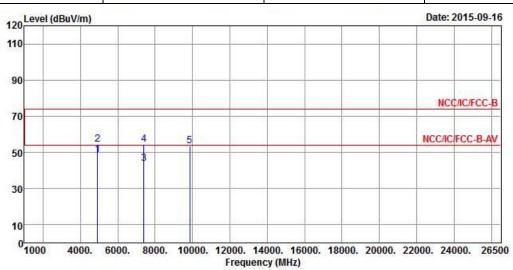


	Frea	Level	Over Limit			Antenna Factor		THE RESIDENCE	
		dBuV/m	11-24-10-4-1	dBuV/m			dB	dB	
	1112	abav/iii	ub	abav/iii	abav	ub/iii	ub	ub	
1	4924.000	48.00	-6.00	54.00	43.53	34.31	4.79	34.63	Average
2	4924.000	51.78	-22.22	74.00	47.31	34.31	4.79	34.63	Peak
3	7386.000	44.59	-9.41	54.00	38.02	35.96	5.57	34.96	Average
4	7386.000	52.27	-21.73	74.00	45.70	35.96	5.57	34.96	Peak
5	9848.000	50.19			41.99	37.01	6.50	35.31	Peak

- Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.
- Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)
- Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
- Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
- Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level (101.87 dBuV/m).
- Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

SPORTON INTERNATIONAL INC. Page No. : 41 of 86
TEL: 886-3-327-3456 Report Version : Rev. 01

Report No.: FR131667-15AC

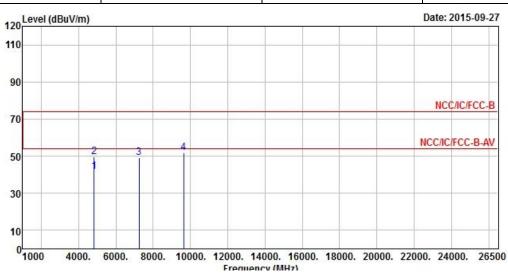


	Freq	Level	Over Limit			Antenna Factor		The second second	
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	i e
1	4924.000	48.84	-5.16	54.00	44.37	34.31	4.79	34.63	Average
2	4924.000	54.68	-19.32	74.00	50.21	34.31	4.79	34.63	Peak
3	7386.000	44.03	-9.97	54.00	37.46	35.96	5.57	34.96	Average
4	7386.000	54.29	-19.71	74.00	47.72	35.96	5.57	34.96	Peak
5	9848.000	53.46		1, 1, 1, 1, 1	45.26	37.01	6.50	35.31	Peak

- Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.
- Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)
- Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
- Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
- Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level (101.87 dBuV/m).
- Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

SPORTON INTERNATIONAL INC. Page No. : 42 of 86
TEL: 886-3-327-3456 Report Version : Rev. 01

Report No.: FR131667-15AC

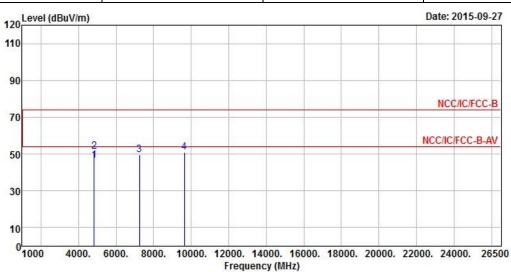


	Freq	Level				Antenna Factor		-	
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	4824.000	41.82	-12.18	54.00	37.45	34.33	4.70	34.66	Average
2	4824.000	49.66	-24.34	74.00	45.29	34.33	4.70	34.66	Peak
3	7236.000	49.20			42.86	35.90	5.37	34.93	Peak
4	9648.000	51.61			43.66	36.89	6.35	35.29	Peak

- Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.
- Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)
- Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
- Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
- Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level (105.04 dBuV/m).
- Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

SPORTON INTERNATIONAL INC. Page No. : 43 of 86
TEL: 886-3-327-3456 Report Version : Rev. 01

Report No.: FR131667-15AC

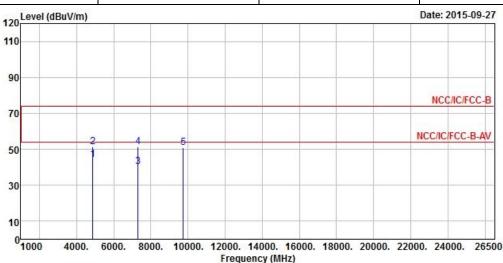


			0ver	Limit	Read	Antenna	Cable	Preamp	
	Freq	Level	Limit	Line	Level	Factor	Loss	Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	(a)
1	4824.000	46.59	-7.41	54.00	42.22	34.33	4.70	34.66	Average
2	4824.000	51.30	-22.70	74.00	46.93	34.33	4.70	34.66	Peak
3	7236.000	49.51			43.17	35.90	5.37	34.93	Peak
4	9648.000	51.08			43.13	36.89	6.35	35.29	Peak

- Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.
- Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)
- Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
- Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
- Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level (105.04 dBuV/m).
- Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

SPORTON INTERNATIONAL INC. Page No. : 44 of 86
TEL: 886-3-327-3456 Report Version : Rev. 01

Tra	Transmitter Radiated Unwanted Emissions (Above 1GHz)									
Modulation Mode 11b Test Freq. (MHz) 2437										
N _{TX} 1 Polarization V										

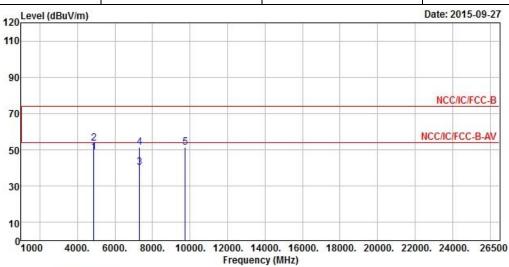


	Freq	Level		Limit Line					Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	9
1	4874.000	44.39	-9.61	54.00	39.99	34.32	4.73	34.65	Average
2	4874.000	51.19	-22.81	74.00	46.79	34.32	4.73	34.65	Peak
3	7311.000	40.21	-13.79	54.00	33.76	35.92	5.47	34.94	Average
4	7311.000	51.20	-22.80	74.00	44.75	35.92	5.47	34.94	Peak
5	9748.000	51.01			42.94	36.96	6.41	35.30	Peak

- Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.
- Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)
- Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
- Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
- Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level (107.50 dBuV/m).
- Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

SPORTON INTERNATIONAL INC. Page No. : 45 of 86
TEL: 886-3-327-3456 Report Version : Rev. 01

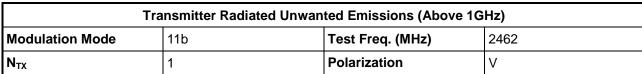
Report No.: FR131667-15AC

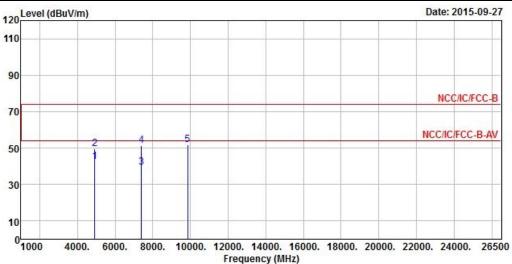


	Freq	Level		Limit Line				Salara Lange	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	·
1	4874.000	48.53	-5.47	54.00	44.13	34.32	4.73	34.65	Average
2	4874.000	53.51	-20.49	74.00	49.11	34.32	4.73	34.65	Peak
3	7311.000	40.24	-13.76	54.00	33.79	35.92	5.47	34.94	Average
4	7311.000	51.53	-22.47	74.00	45.08	35.92	5.47	34.94	Peak
5	9748.000	51.32			43.25	36.96	6.41	35.30	Peak

- Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.
- Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)
- Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
- Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
- Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level (107.50 dBuV/m).
- Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

SPORTON INTERNATIONAL INC. Page No. : 46 of 86
TEL: 886-3-327-3456 Report Version : Rev. 01



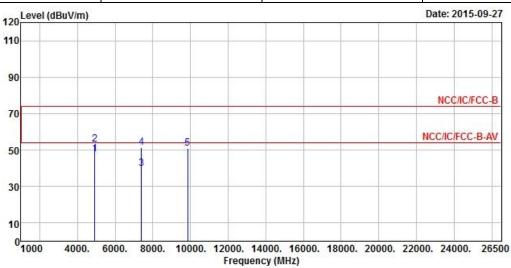


	Freq	Level		Limit Line					Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	4924.000	42.67	-11.33	54.00	38.20	34.31	4.79	34.63	Average
2	4924.000	49.72	-24.28	74.00	45.25	34.31	4.79	34.63	Peak
3	7386.000	39.45	-14.55	54.00	32.88	35.96	5.57	34.96	Average
4	7386.000	51.52	-22.48	74.00	44.95	35.96	5.57	34.96	Peak
5	9848.000	51.70			43.50	37.01	6.50	35.31	Peak

- Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.
- Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)
- Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
- Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
- Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level (103.53 dBuV/m).
- Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

SPORTON INTERNATIONAL INC. Page No. : 47 of 86
TEL: 886-3-327-3456 Report Version : Rev. 01

Report No.: FR131667-15AC



			0ver	Limit	Read	Antenna	Cable	Preamp	
	Freq	Level	Limit	Line	Level	Factor	Loss	Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	3
1	4924.000	47.79	-6.21	54.00	43.32	34.31	4.79	34.63	Average
2	4924.000	53.08	-20.92	74.00	48.61	34.31	4.79	34.63	Peak
3	7386.000	39.69	-14.31	54.00	33.12	35.96	5.57	34.96	Average
4	7386.000	51.24	-22.76	74.00	44.67	35.96	5.57	34.96	Peak
5	9848.000	51.11			42.91	37.01	6.50	35.31	Peak

- Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.
- Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)
- Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
- Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
- Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level (103.53 dBuV/m).
- Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

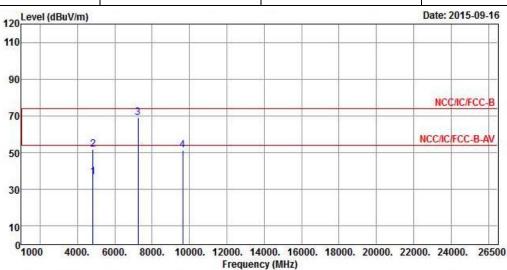
SPORTON INTERNATIONAL INC. Page No. : 48 of 86
TEL: 886-3-327-3456 Report Version : Rev. 01

Transmitter Radiated Unwanted Emissions (Above 1GHz)

Modulation Mode 11g Test Freq. (MHz) 2412

N_{TX} 2 Polarization V

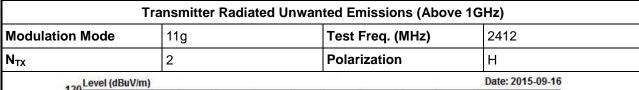
Report No.: FR131667-15AC

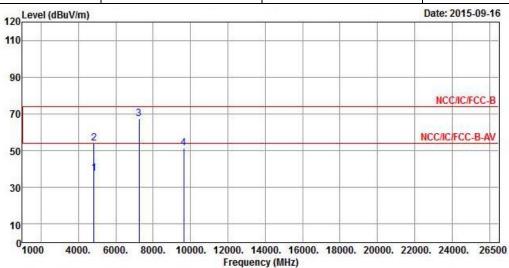


		Over	Limit	ReadA	Antenna	Cable	Preamp	
Freq	Level	Limit	Line	Level	Factor	Loss	Factor	Remark
MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
4824.000	36.69	-17.31	54.00	32.32	34.33	4.70	34.66	Average
4824.000	52.01	-21.99	74.00	47.64	34.33	4.70	34.66	Peak
7236.000	69.07			62.73	35.90	5.37	34.93	Peak
9648.000	51.36			43.41	36.89	6.35	35.29	Peak
	MHz 4824.000 4824.000 7236.000	MHz dBuV/m 4824.000 36.69 4824.000 52.01	Freq Level Limit MHz dBuV/m dB 4824.000 36.69 -17.31 4824.000 52.01 -21.99 7236.000 69.07	Freq Level Limit Line MHz dBuV/m dB dBuV/m 4824.000 36.69 -17.31 54.00 4824.000 52.01 -21.99 74.00 7236.000 69.07	Freq Level Limit Line Level MHz dBuV/m dB dBuV/m dBuV 4824.000 36.69 -17.31 54.00 32.32 4824.000 52.01 -21.99 74.00 47.64 7236.000 69.07 62.73	Freq Level Limit Line Level Factor MHz dBuV/m dB dBuV/m dBuV dB/m 4824.000 36.69 -17.31 54.00 32.32 34.33 4824.000 52.01 -21.99 74.00 47.64 34.33 7236.000 69.07 62.73 35.90	Freq Level Limit Line Level Factor Loss MHz dBuV/m dB dBuV/m dBuV dB/m dB 4824.000 36.69 -17.31 54.00 32.32 34.33 4.70 4824.000 52.01 -21.99 74.00 47.64 34.33 4.70 7236.000 69.07 62.73 35.90 5.37	Freq Level Limit Line Level Factor Loss Factor MHz dBuV/m dB dBuV/m dBuV dB/m dB dB 4824.000 36.69 -17.31 54.00 32.32 34.33 4.70 34.66 4824.000 52.01 -21.99 74.00 47.64 34.33 4.70 34.66 7236.000 69.07 62.73 35.90 5.37 34.93

- Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.
- Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)
- Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
- Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
- Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level (105.74 dBuV/m).
- Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

SPORTON INTERNATIONAL INC. Page No. : 49 of 86
TEL: 886-3-327-3456 Report Version : Rev. 01





	Freq	Level		Limit Line					Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	4824.000	37.69	-16.31	54.00	33.32	34.33	4.70	34.66	Average
2	4824.000	53.86	-20.14	74.00	49.49	34.33	4.70	34.66	Peak
3	7236.000	67.44			61.10	35.90	5.37	34.93	Peak
4	9648.000	51.27			43.32	36.89	6.35	35.29	Peak

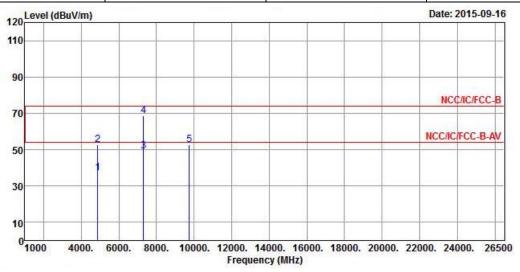
- Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.
- Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)
- Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
- Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
- Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level (105.74 dBuV/m).
- Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

SPORTON INTERNATIONAL INC. Page No. : 50 of 86
TEL: 886-3-327-3456 Report Version : Rev. 01



Tra	nsmitter Radiated Unwan	ted Emissions (Above 1G	Hz)
Modulation Mode	11g	Test Freq. (MHz)	2437
N_{TX}	2	Polarization	V

Report No.: FR131667-15AC

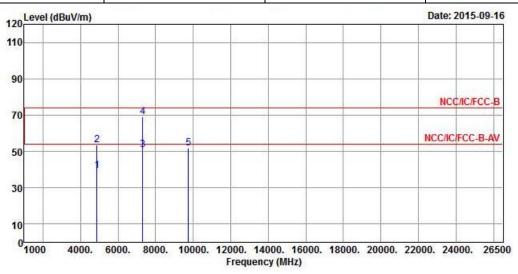


	Freq	Level		Limit Line				100	
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	4874.000	37.33	-16.67	54.00	32.93	34.32	4.73	34.65	Average
2	4874.000	52.69	-21.31	74.00	48.29	34.32	4.73	34.65	Peak
3	7311.000	49.35	-4.65	54.00	42.90	35.92	5.47	34.94	Average
4	7311.000	68.74	-5.26	74.00	62.29	35.92	5.47	34.94	Peak
5	9748.000	52.63			44.56	36.96	6.41	35.30	Peak

- Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.
- Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)
- Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
- Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
- Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level (108.13 dBuV/m).
- Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

SPORTON INTERNATIONAL INC. Page No. : 51 of 86
TEL: 886-3-327-3456 Report Version : Rev. 01

Tra	nsmitter Radiated Unwan	ted Emissions (Above 1G	Hz)
Modulation Mode	11g	Test Freq. (MHz)	2437
N_{TX}	2	Polarization	Н



	Freq	Level		Limit Line				1000000	
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	4874.000	39.59	-14.41	54.00	35.19	34.32	4.73	34.65	Average
2	4874.000	53.68	-20.32	74.00	49.28	34.32	4.73	34.65	Peak
3	7311.000	51.11	-2.89	54.00	44.66	35.92	5.47	34.94	Average
4	7311.000	69.28	-4.72	74.00	62.83	35.92	5.47	34.94	Peak
5	9748 000	51 86			43 79	36 96	6 41	35 30	Peak

- Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.
- Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)
- Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
- Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
- Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level (108.13 dBuV/m).
- Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

SPORTON INTERNATIONAL INC. Page No. : 52 of 86 TEL: 886-3-327-3456 Report Version : Rev. 01

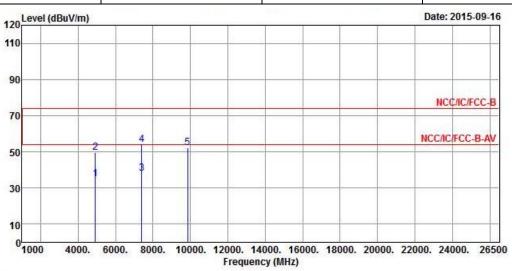


Transmitter Radiated Unwanted Emissions (Above 1GHz)

Modulation Mode 11g Test Freq. (MHz) 2462

N_{TX} 2 Polarization V

Report No.: FR131667-15AC



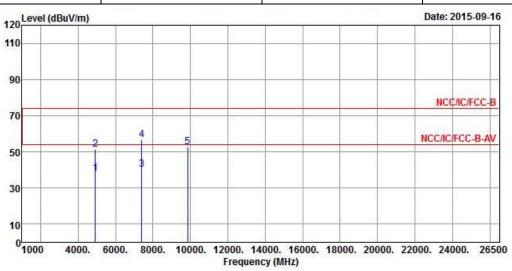
	Freq	Level		Limit Line				1405	
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	4924.000	35.08	-18.92	54.00	30.61	34.31	4.79	34.63	Average
2	4924.000	49.43	-24.57	74.00	44.96	34.31	4.79	34.63	Peak
3	7386.000	38.10	-15.90	54.00	31.53	35.96	5.57	34.96	Average
4	7386.000	53.94	-20.06	74.00	47.37	35.96	5.57	34.96	Peak
5	9848.000	52.10			43.90	37.01	6.50	35.31	Peak

- Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.
- Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)
- Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
- Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
- Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level (104.47 dBuV/m).
- Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

SPORTON INTERNATIONAL INC. Page No. : 53 of 86
TEL: 886-3-327-3456 Report Version : Rev. 01



Report No.: FR131667-15AC



	Freq	Level		Limit Line				- 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
-	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	-
1	4924.000	37.90	-16.10	54.00	33.43	34.31	4.79	34.63	Average
2	4924.000	51.43	-22.57	74.00	46.96	34.31	4.79	34.63	Peak
3	7386.000	40.33	-13.67	54.00	33.76	35.96	5.57	34.96	Average
4	7386.000	56.61	-17.39	74.00	50.04	35.96	5.57	34.96	Peak
5	9848.000	52.70			44.50	37.01	6.50	35.31	Peak

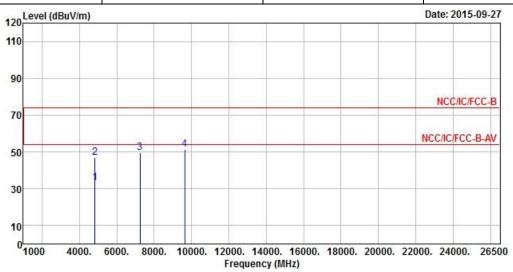
- Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.
- Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)
- Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
- Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
- Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level (104.47 dBuV/m).
- Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

SPORTON INTERNATIONAL INC. Page No. : 54 of 86
TEL: 886-3-327-3456 Report Version : Rev. 01



Tra	nsmitter Radiated Unwan	ted Emissions (Above 1G	Hz)
Modulation Mode	11g	Test Freq. (MHz)	2412
N _{TX}	1	Polarization	V

Report No.: FR131667-15AC

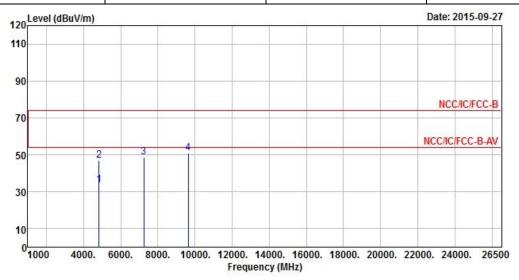


	Freq	Level	Over Limit	Limit Line		Antenna Factor		A STATE OF THE PARTY OF THE PAR	Remark
8	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	÷
1	4824.000	33.22	-20.78	54.00	28.85	34.33	4.70	34.66	Average
2	4824.000	47.15	-26.85	74.00	42.78	34.33	4.70	34.66	Peak
3	7236.000	49.53			43.19	35.90	5.37	34.93	Peak
4	9648.000	51.19			43.24	36.89	6.35	35.29	Peak

- Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.
- Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)
- Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
- Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
- Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level (97.10 dBuV/m).
- Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

SPORTON INTERNATIONAL INC. Page No. : 55 of 86
TEL: 886-3-327-3456 Report Version : Rev. 01

Tra	nsmitter Radiated Unwan	ted Emissions (Above 1G	Hz)
Modulation Mode	11g	Test Freq. (MHz)	2412
N_{TX}	1	Polarization	Н

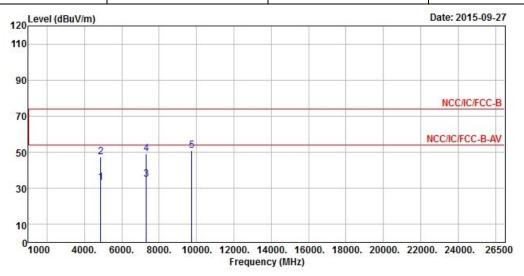


			Over	Limit	Read	Antenna	Cable	Preamp	
	Freq	Level	Limit	Line	Level	Factor	Loss	Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	4824.000	33.61	-20.39	54.00	29.24	34.33	4.70	34.66	Average
2	4824.000	46.97	-27.03	74.00	42.60	34.33	4.70	34.66	Peak
3	7236.000	48.77			42.43	35.90	5.37	34.93	Peak
4	9648.000	50.84			42.89	36.89	6.35	35.29	Peak

- Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.
- Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)
- Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
- Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
- Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level (97.10 dBuV/m).
- Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

SPORTON INTERNATIONAL INC. Page No. : 56 of 86 TEL: 886-3-327-3456 Report Version : Rev. 01

Tra	ınsmitter Radiated Unwan	ted Emissions (Above 1G	Hz)
Modulation Mode	11g	Test Freq. (MHz)	2437
N_{TX}	1	Polarization	V

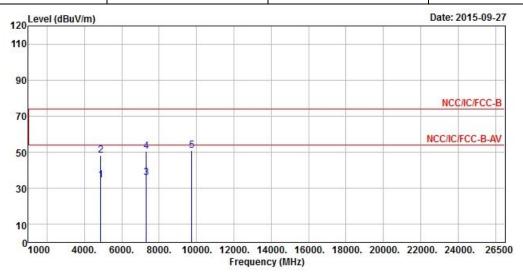


	Freq	Level		Limit Line					Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	4874.000	33.13	-20.87	54.00	28.73	34.32	4.73	34.65	Average
2	4874.000	47.29	-26.71	74.00	42.89	34.32	4.73	34.65	Peak
3	7311.000	35.15	-18.85	54.00	28.70	35.92	5.47	34.94	Average
4	7311.000	49.37	-24.63	74.00	42.92	35.92	5.47	34.94	Peak
5	9748.000	50.97			42.90	36.96	6.41	35.30	Peak

- Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.
- Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)
- Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
- Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
- Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level (108.94 dBuV/m).
- Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

SPORTON INTERNATIONAL INC. Page No. : 57 of 86 TEL: 886-3-327-3456 Report Version : Rev. 01

Tra	nsmitter Radiated Unwan	ted Emissions (Above 1G	Hz)
Modulation Mode	11g	Test Freq. (MHz)	2437
N _{TX}	1	Polarization	Н

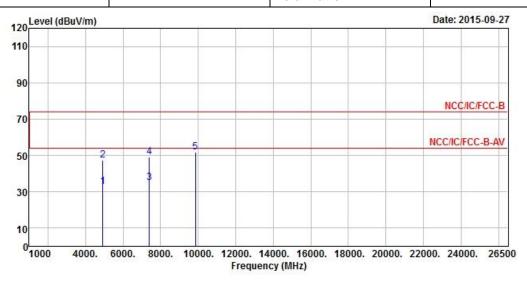


	Freq	Level				Antenna Factor			
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	4874.000	34.40	-19.60	54.00	30.00	34.32	4.73	34.65	Average
2	4874.000	48.25	-25.75	74.00	43.85	34.32	4.73	34.65	Peak
3	7311.000	36.01	-17.99	54.00	29.56	35.92	5.47	34.94	Average
4	7311.000	50.42	-23.58	74.00	43.97	35.92	5.47	34.94	Peak
5	9748.000	50.93			42.86	36.96	6.41	35.30	Peak

- Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.
- Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)
- Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
- Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
- Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level (108.94 dBuV/m).
- Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

SPORTON INTERNATIONAL INC. Page No. : 58 of 86 TEL: 886-3-327-3456 Report Version : Rev. 01

	Transmitter Rad	diated Unwanted Emissions (Above	1GHz)
Modulation Mode	11g	Test Freq. (MHz)	2462
N _{TX}	1	Polarization	V

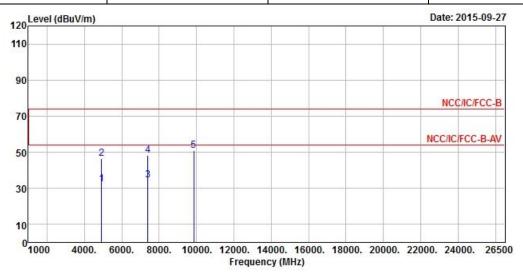


	Freq	Level				Antenna Factor			Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	4924.000	32.71	-21.29	54.00	28.24	34.31	4.79	34.63	Average
2	4924.000	47.28	-26.72	74.00	42.81	34.31	4.79	34.63	Peak
3	7386.000	35.16	-18.84	54.00	28.59	35.96	5.57	34.96	Average
4	7386.000	49.28	-24.72	74.00	42.71	35.96	5.57	34.96	Peak
5	9848.000	51.78			43.58	37.01	6.50	35.31	Peak

- Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.
- Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)
- Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
- Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
- Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level (105.06 dBuV/m).
- Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

SPORTON INTERNATIONAL INC. Page No. : 59 of 86
TEL: 886-3-327-3456 Report Version : Rev. 01

Tra	ınsmitter Radiated Unwan	ted Emissions (Above 1G	Hz)
Modulation Mode	11g	Test Freq. (MHz)	2462
N _{TX}	1	Polarization	Н

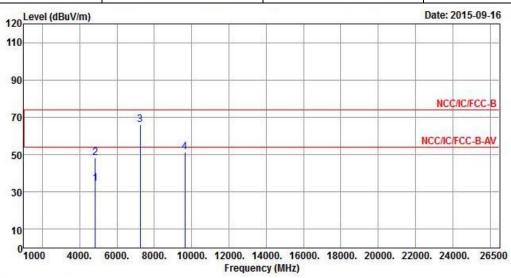


	Freq	Level		Limit Line					Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	<u> </u>
1	4924.000	32.48	-21.52	54.00	28.01	34.31	4.79	34.63	Average
2	4924.000	46.46	-27.54	74.00	41.99	34.31	4.79	34.63	Peak
3	7386.000	34.63	-19.37	54.00	28.06	35.96	5.57	34.96	Average
4	7386.000	48.42	-25.58	74.00	41.85	35.96	5.57	34.96	Peak
5	9848.000	51.07			42.87	37.01	6.50	35.31	Peak

- Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.
- Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)
- Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
- Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
- Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level (105.06 dBuV/m).
- Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

SPORTON INTERNATIONAL INC. Page No. : 60 of 86 TEL: 886-3-327-3456 Report Version : Rev. 01

Tra	nsmitter Radiated Unwan	ted Emissions (Above 1G	Hz)
Modulation Mode	HT20	Test Freq. (MHz)	2412
N _{TX}	2	Polarization	V



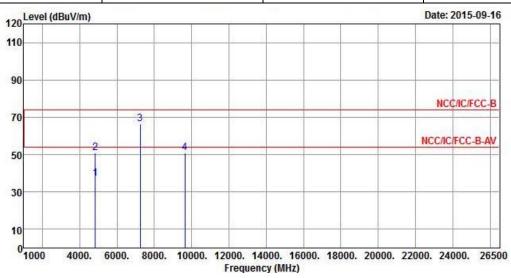
			0ver	Limit	Read	Antenna	Cable	Preamp	
	Freq	Level	Limit	Line	Level	Factor	Loss	Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	4824.000	34.73	-19.27	54.00	30.36	34.33	4.70	34.66	Average
2	4824.000	48.27	-25.73	74.00	43.90	34.33	4.70	34.66	Peak
3	7236.000	66.11			59.78	35.90	5.37	34.94	Peak
4	9648.000	51.35			43.40	36.89	6.35	35.29	Peak

- Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.
- Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)
- Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
- Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
- Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level (104.16 dBuV/m).
- Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

SPORTON INTERNATIONAL INC. Page No. : 61 of 86 TEL: 886-3-327-3456 Report Version : Rev. 01

Transmitter Radiated Unwanted Emissions (Above 1GHz)								
Modulation Mode	HT20	Test Freq. (MHz)	2412					
N _{TX}	2 Polarization		Н					

Report No.: FR131667-15AC



			0ver	Limit	Read	Antenna	Cable	Preamp	
	Freq	Level	Limit	Line	Level	Factor	Loss	Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	4824.000	37.21	-16.79	54.00	32.84	34.33	4.70	34.66	Average
2	4824.000	50.74	-23.26	74.00	46.37	34.33	4.70	34.66	Peak
3	7236.000	66.33			59.99	35.90	5.37	34.93	Peak
4	9648.000	51.05			43.09	36.90	6.35	35.29	Peak

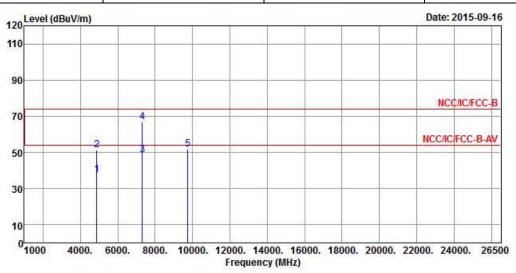
- Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.
- Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)
- Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
- Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
- Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level (104.16 dBuV/m).
- Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

SPORTON INTERNATIONAL INC. Page No. : 62 of 86
TEL: 886-3-327-3456 Report Version : Rev. 01



Transmitter Radiated Unwanted Emissions (Above 1GHz)							
Modulation Mode	HT20	Test Freq. (MHz)	2437				
N_{TX}	l _{TX} 2		V				

Report No.: FR131667-15AC



	Freq	Level		Limit Line				The second second	
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	ret
1	4874.000	37.82	-16.18	54.00	33.42	34.32	4.73	34.65	Average
2	4874.000	51.22	-22.78	74.00	46.82	34.32	4.73	34.65	Peak
3	7311.000	48.58	-5.42	54.00	42.13	35.92	5.47	34.94	Average
4	7311.000	67.05	-6.95	74.00	60.60	35.92	5.47	34.94	Peak
5	9748.000	51.63			43.56	36.96	6.41	35.30	Peak

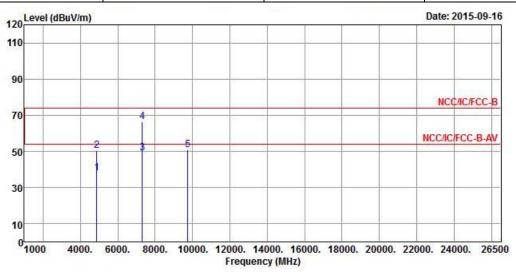
- Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.
- Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)
- Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
- Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
- Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level (106.92 dBuV/m).
- Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

SPORTON INTERNATIONAL INC. Page No. : 63 of 86
TEL: 886-3-327-3456 Report Version : Rev. 01



Transmitter Radiated Unwanted Emissions (Above 1GHz)								
Modulation Mode	HT20	Test Freq. (MHz)	2437					
N_{TX}	2 P		Н					

Report No.: FR131667-15AC



			0ver	Limit	Read	Antenna	Cable	Preamp	
	Freq	Level	Limit	Line	Level	Factor	Loss	Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	re e
1	4874.000	37.88	-16.12	54.00	33.48	34.32	4.73	34.65	Average
2	4874.000	50.53	-23.47	74.00	46.13	34.32	4.73	34.65	Peak
3	7311.000	49.07	-4.93	54.00	42.62	35.92	5.47	34.94	Average
4	7311.000	66.28	-7.72	74.00	59.83	35.92	5.47	34.94	Peak
5	9748.000	51.07			43.02	36.94	6.41	35.30	Peak

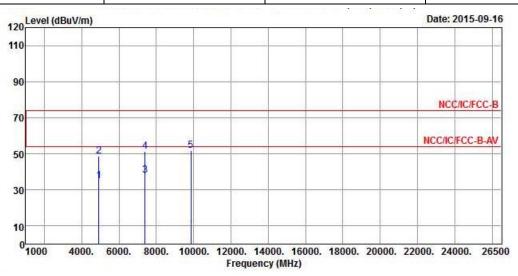
- Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.
- Note 2: "N/F" means Nothing round spundus emissions (No spurious emissions were detected.)
- Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
- Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
- Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level (106.92 dBuV/m).
- Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

SPORTON INTERNATIONAL INC. Page No. : 64 of 86
TEL: 886-3-327-3456 Report Version : Rev. 01



Transmitter Radiated Unwanted Emissions (Above 1GHz)								
Modulation Mode	HT20	Test Freq. (MHz)	2462					
N _{TX}	2	Polarization	V					

Report No.: FR131667-15AC



	Freq	Level		Limit Line		Antenna Factor			
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	5
1	4924.000	34.97	-19.03	54.00	30.52	34.32	4.76	34.63	Average
2	4924.000	48.66	-25.34	74.00	44.19	34.31	4.79	34.63	Peak
3	7386.000	38.08	-15.92	54.00	31.52	35.95	5.57	34.96	Average
4	7386.000	51.49	-22.51	74.00	44.92	35.96	5.57	34.96	Peak
5	9848.000	51.62			43.42	37.01	6.50	35.31	Peak

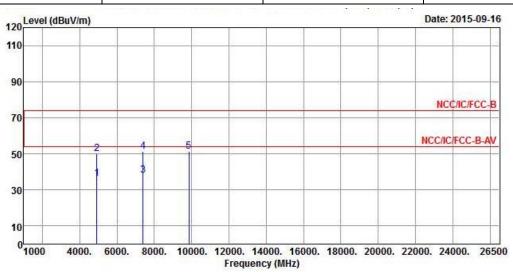
- Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.
- Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)
- Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
- Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
- Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level (107.07 dBuV/m).
- Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

SPORTON INTERNATIONAL INC. Page No. : 65 of 86
TEL: 886-3-327-3456 Report Version : Rev. 01



Transmitter Radiated Unwanted Emissions (Above 1GHz)								
Modulation Mode	HT20	Test Freq. (MHz)	2462					
N _{TX}	2	Polarization	Н					

Report No.: FR131667-15AC



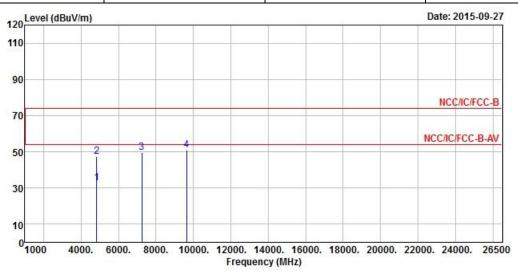
			Over	Limit	Read	Antenna	Cable	Preamp	
	Freq	Level	Limit	Line	Level	Factor	Loss	Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	5
1	4924.000	36.35	-17.65	54.00	31.90	34.32	4.76	34.63	Average
2	4924.000	50.21	-23.79	74.00	45.74	34.31	4.79	34.63	Peak
3	7386.000	38.13	-15.87	54.00	31.57	35.95	5.57	34.96	Average
4	7386.000	51.29	-22.71	74.00	44.72	35.96	5.57	34.96	Peak
5	9848.000	51.56			43.30	37.04	6.53	35.31	Peak

- Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.
- Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)
- Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
- Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
- Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level (107.07 dBuV/m).
- Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

SPORTON INTERNATIONAL INC. Page No. : 66 of 86
TEL: 886-3-327-3456 Report Version : Rev. 01

Transmitter Radiated Unwanted Emissions (Above 1GHz)								
Modulation Mode	HT20	Test Freq. (MHz)	2412					
N _{TX} 1		Polarization	V					

Report No.: FR131667-15AC



	Freq	Level		Limit Line					Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	50 <u>-</u>
1	4824.000	32.56	-21.44	54.00	28.19	34.33	4.70	34.66	Average
2	4824.000	47.34	-26.66	74.00	42.97	34.33	4.70	34.66	Peak
3	7236.000	49.41			43.07	35.90	5.37	34.93	Peak
4	9648.000	50.75			42.80	36.89	6.35	35.29	Peak

- Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.
- Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)
- Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
- Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
- Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level (95.62 dBuV/m).

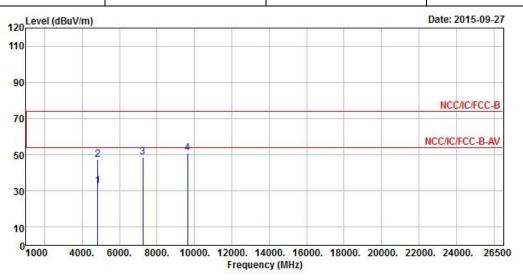
Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

SPORTON INTERNATIONAL INC. Page No. : 67 of 86
TEL: 886-3-327-3456 Report Version : Rev. 01



Transmitter Radiated Unwanted Emissions (Above 1GHz)						
Modulation Mode	HT20	Test Freq. (MHz)	2412			
N _{TX}	1	Polarization	Н			

Report No.: FR131667-15AC



		Over	Limit	Read/	Antenna	Cable	Preamp	
Freq	Level	Limit	Line	Level	Factor	Loss	Factor	Remark
MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	<u> </u>
4824.000	32.79	-21.21	54.00	28.42	34.33	4.70	34.66	Average
4824.000	47.47	-26.53	74.00	43.10	34.33	4.70	34.66	Peak
7236.000	48.90			42.56	35.90	5.37	34.93	Peak
9648.000	50.93			42.98	36.89	6.35	35.29	Peak
	MHz 4824.000 4824.000 7236.000	MHz dBuV/m 4824.000 32.79 4824.000 47.47	Freq Level Limit MHz dBuV/m dB 4824.000 32.79 -21.21 4824.000 47.47 -26.53 7236.000 48.90	Freq Level Limit Line MHz dBuV/m dB dBuV/m 4824.000 32.79 -21.21 54.00 4824.000 47.47 -26.53 74.00 7236.000 48.90	Freq Level Limit Line Level MHz dBuV/m dB dBuV/m dBuV 4824.000 32.79 -21.21 54.00 28.42 4824.000 47.47 -26.53 74.00 43.10 7236.000 48.90 42.56	Freq Level Limit Line Level Factor MHz dBuV/m dB dBuV/m dBuV dB/m 4824.000 32.79 -21.21 54.00 28.42 34.33 4824.000 47.47 -26.53 74.00 43.10 34.33 7236.000 48.90 42.56 35.90	Freq Level Limit Line Level Factor Loss MHz dBuV/m dB dBuV/m dBuV dB/m dB 4824.000 32.79 -21.21 54.00 28.42 34.33 4.70 4824.000 47.47 -26.53 74.00 43.10 34.33 4.70 7236.000 48.90 42.56 35.90 5.37	4824.000 32.79 -21.21 54.00 28.42 34.33 4.70 34.66 4824.000 47.47 -26.53 74.00 43.10 34.33 4.70 34.66 7236.000 48.90 42.56 35.90 5.37 34.93

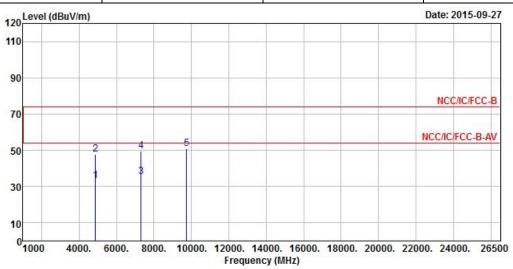
- Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.
- Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)
- Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
- Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
- Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level (95.62 dBuV/m).
- Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

SPORTON INTERNATIONAL INC. Page No. : 68 of 86
TEL: 886-3-327-3456 Report Version : Rev. 01



Transmitter Radiated Unwanted Emissions (Above 1GHz)						
Modulation Mode	HT20	Test Freq. (MHz)	2437			
N_{TX}	1	Polarization	V			

Report No.: FR131667-15AC



	Freq	Freq Level		Limit Line					Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	3
1	4874.000	33.24	-20.76	54.00	28.84	34.32	4.73	34.65	Average
2	4874.000	47.65	-26.35	74.00	43.25	34.32	4.73	34.65	Peak
3	7311.000	35.62	-18.38	54.00	29.17	35.92	5.47	34.94	Average
4	7311.000	49.39	-24.61	74.00	42.94	35.92	5.47	34.94	Peak
5	9748.000	51.08			43.01	36.96	6.41	35.30	Peak

- Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.
- Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)
- Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
- Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
- Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level (109.68 dBuV/m).
- Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

SPORTON INTERNATIONAL INC. Page No. : 69 of 86
TEL: 886-3-327-3456 Report Version : Rev. 01

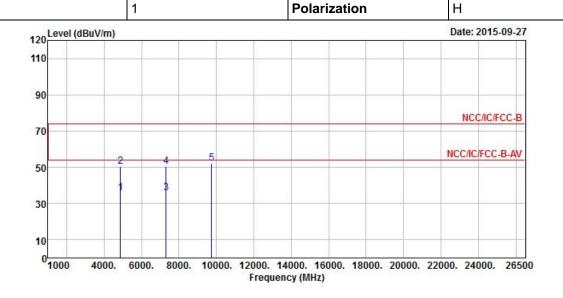
 N_{TX}

FCC Test Report

Transmitter Radiated Unwanted Emissions (Above 1GHz)

Modulation Mode HT20 Test Freq. (MHz) 2437

Report No.: FR131667-15AC



	Freq	Level		Limit Line					
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	3
1	4874.000	35.65	-18.35	54.00	31.25	34.32	4.73	34.65	Average
2	4874.000	50.38	-23.62	74.00	45.98	34.32	4.73	34.65	Peak
3	7311.000	35.98	-18.02	54.00	29.53	35.92	5.47	34.94	Average
4	7311.000	50.39	-23.61	74.00	43.94	35.92	5.47	34.94	Peak
5	9748.000	52.12			44.05	36.96	6.41	35.30	Peak

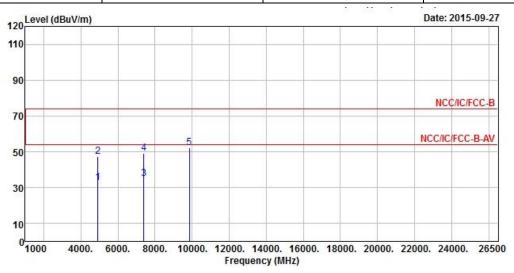
- Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.
- Note 2: "N/F" means Nothing Fourious emissions (No spurious emissions were detected.)
- Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
- Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
- Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level (109.68 dBuV/m).
- Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

SPORTON INTERNATIONAL INC. Page No. : 70 of 86
TEL: 886-3-327-3456 Report Version : Rev. 01



Transmitter Radiated Unwanted Emissions (Above 1GHz)							
Modulation Mode	HT20	Test Freq. (MHz)	2462				
N_{TX}	1	Polarization	V				

Report No.: FR131667-15AC



			0ver	Limit	ReadA	Antenna	Cable	Preamp	
	Freq	Level	Limit	Line	Level	Factor	Loss	Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	3
1	4924.000	32.82	-21.18	54.00	28.35	34.31	4.79	34.63	Average
2	4924.000	47.45	-26.55	74.00	42.98	34.31	4.79	34.63	Peak
3	7386.000	35.07	-18.93	54.00	28.50	35.96	5.57	34.96	Average
4	7386.000	49.28	-24.72	74.00	42.71	35.96	5.57	34.96	Peak
5	9848.000	52.30			44.10	37.01	6.50	35.31	Peak

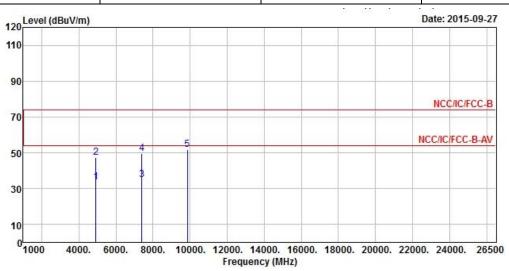
- Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.
- Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)
- Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
- Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
- Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level (103.75 dBuV/m).
- Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

SPORTON INTERNATIONAL INC. Page No. : 71 of 86
TEL: 886-3-327-3456 Report Version : Rev. 01



Transmitter Radiated Unwanted Emissions (Above 1GHz)						
Modulation Mode	HT20	Test Freq. (MHz)	2462			
N _{TX}	1	Polarization	Н			

Report No.: FR131667-15AC



			0ver	Limit	ReadA	Antenna	Cable	Preamp	
	Freq	Level	Limit	Line	Level	Factor	Loss	Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	3
1	4924.000	33.74	-20.26	54.00	29.27	34.31	4.79	34.63	Average
2	4924.000	47.29	-26.71	74.00	42.82	34.31	4.79	34.63	Peak
3	7386.000	35.20	-18.80	54.00	28.63	35.96	5.57	34.96	Average
4	7386.000	49.49	-24.51	74.00	42.92	35.96	5.57	34.96	Peak
5	9848.000	51.98			43.78	37.01	6.50	35.31	Peak

- Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.
- Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)
- Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
- Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
- Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level (103.75 dBuV/m).
- Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

SPORTON INTERNATIONAL INC. Page No. : 72 of 86
TEL: 886-3-327-3456 Report Version : Rev. 01

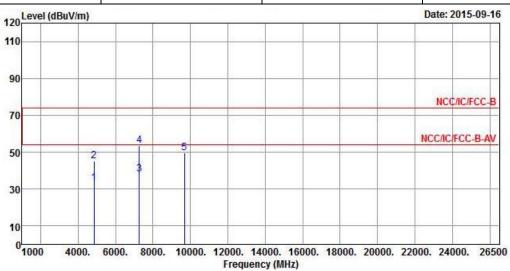


Transmitter Radiated Unwanted Emissions (Above 1GHz)

Modulation Mode HT40 Test Freq. (MHz) 2422

N_{TX} 2 Polarization V

Report No.: FR131667-15AC



			Over	Limit	ReadA	Antenna	Cable	Preamp	
	Freq	Level	Limit	Line	Level	Factor	Loss	Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	4844.000	33.14	-20.86	54.00	28.73	34.33	4.73	34.65	Average
2	4844.000	45.07	-28.93	74.00	40.66	34.33	4.73	34.65	Peak
3	7266.000	38.03	-15.97	54.00	31.64	35.91	5.42	34.94	Average
4	7266.000	53.47	-20.53	74.00	47.08	35.91	5.42	34.94	Peak
5	9688.000	49.45			41.46	36.91	6.38	35.30	Peak

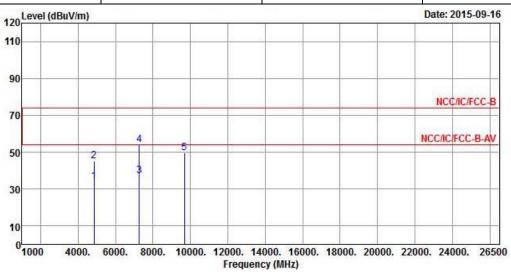
- Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.
- Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)
- Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
- Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
- Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level (100.71 dBuV/m).
- Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

SPORTON INTERNATIONAL INC. Page No. : 73 of 86
TEL: 886-3-327-3456 Report Version : Rev. 01



Transmitter Radiated Unwanted Emissions (Above 1GHz)								
Modulation Mode	HT40	Test Freq. (MHz)	2422					
N _{TX}	2	Polarization	Н					

Report No.: FR131667-15AC



			Over	Limit	ReadA	Antenna	Cable	Preamp	
	Freq	Level	Limit	Line	Level	Factor	Loss	Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	4844.000	34.16	-19.84	54.00	29.75	34.33	4.73	34.65	Average
2	4844.000	45.27	-28.73	74.00	40.86	34.33	4.73	34.65	Peak
3	7266.000	37.14	-16.86	54.00	30.75	35.91	5.42	34.94	Average
4	7266.000	54.00	-20.00	74.00	47.61	35.91	5.42	34.94	Peak
5	9688.000	49.74			41.75	36.91	6.38	35.30	Peak

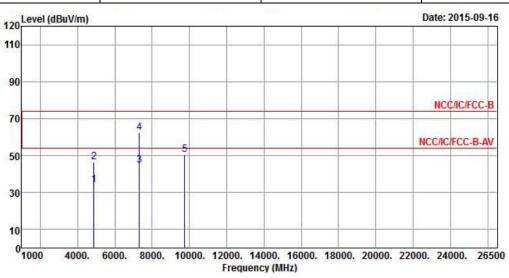
- Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.
- Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)
- Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
- Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
- Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level (100.71 dBuV/m).
- Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

SPORTON INTERNATIONAL INC. Page No. : 74 of 86
TEL: 886-3-327-3456 Report Version : Rev. 01



Transmitter Radiated Unwanted Emissions (Above 1GHz)							
Modulation Mode	HT40	Test Freq. (MHz)	2437				
N_{TX}	2	Polarization	V				

Report No.: FR131667-15AC



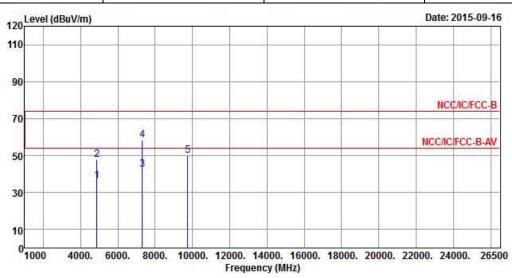
			Over	Limit	Read	Antenna	Cable	Preamp	
	Freq	Level	Limit	Line	Level	Factor	Loss	Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	4874.000	34.31	-19.69	54.00	29.91	34.32	4.73	34.65	Average
2	4874.000	46.59	-27.41	74.00	42.19	34.32	4.73	34.65	Peak
3	7311.000	44.89	-9.11	54.00	38.44	35.92	5.47	34.94	Average
4	7311.000	62.38	-11.62	74.00	55.93	35.92	5.47	34.94	Peak
5	9748.000	50.59			42.52	36.96	6.41	35.30	Peak

- Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.
- Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)
- Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
- Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
- Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level (103.87 dBuV/m).
- Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

SPORTON INTERNATIONAL INC. Page No. : 75 of 86
TEL: 886-3-327-3456 Report Version : Rev. 01

Report No.: FR131667-15AC

Transmitter Radiated Unwanted Emissions (Above 1GHz)							
Modulation Mode HT40 Test Freq. (MHz) 2437							
N_{TX}	2	Polarization	Н				



			0ver	Limit	Read	Antenna	Cable	Preamp	
	Freq	Level	Limit	Line	Level	Factor	Loss	Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	-
1	4874.000	36.22	-17.78	54.00	31.82	34.32	4.73	34.65	Average
2	4874.000	47.80	-26.20	74.00	43.40	34.32	4.73	34.65	Peak
3	7311.000	42.40	-11.60	54.00	35.95	35.92	5.47	34.94	Average
4	7311.000	58.58	-15.42	74.00	52.13	35.92	5.47	34.94	Peak
5	9748.000	50.22			42.15	36.96	6.41	35.30	Peak

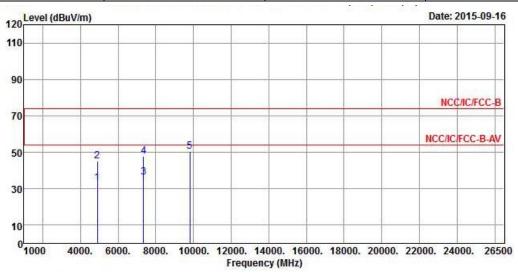
- Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.
- Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)
- Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
- Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
- Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level (103.87 dBuV/m).
- Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

SPORTON INTERNATIONAL INC. Page No. : 76 of 86 TEL: 886-3-327-3456 Report Version : Rev. 01



Transmitter Radiated Unwanted Emissions (Above 1GHz)								
Modulation Mode	HT40	Test Freq. (MHz)	2452					
N_{TX}	2	Polarization	V					

Report No.: FR131667-15AC



	Freq	Level		Limit Line					Remark
8	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	4904.000	33.20	-20.80	54.00	28.76	34.32	4.76	34.64	Average
2	4904.000	45.37	-28.63	74.00	40.93	34.32	4.76	34.64	Peak
3	7356.000	36.49	-17.51	54.00	29.98	35.94	5.52	34.95	Average
4	7356.000	47.81	-26.19	74.00	41.30	35.94	5.52	34.95	Peak
5	9808.000	50.46			42.30	36.99	6.47	35.30	Peak

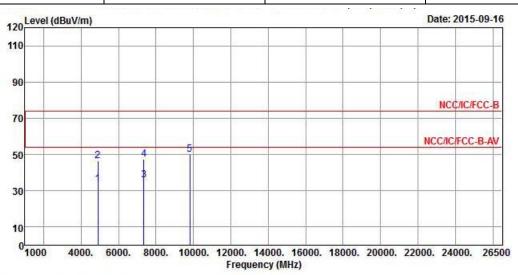
- Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.
- Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)
- Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
- Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
- Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level (97.36 dBuV/m).
- Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

SPORTON INTERNATIONAL INC. Page No. : 77 of 86
TEL: 886-3-327-3456 Report Version : Rev. 01



Transmitter Radiated Unwanted Emissions (Above 1GHz)								
Modulation Mode	HT40	Test Freq. (MHz)	2452					
N _{TX}	2	Polarization	Н					

Report No.: FR131667-15AC



			0ver	Limit	Read	Antenna	Cable	Preamp	
	Freq	Level	Limit	Line	Level	Factor	Loss	Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	3
1	4904.000	33.84	-20.16	54.00	29.40	34.32	4.76	34.64	Average
2	4904.000	46.54	-27.46	74.00	42.10	34.32	4.76	34.64	Peak
3	7356.000	35.96	-18.04	54.00	29.45	35.94	5.52	34.95	Average
4	7356.000	47.52	-26.48	74.00	41.01	35.94	5.52	34.95	Peak
5	9808.000	50.02			41.86	36.99	6.47	35.30	Peak

- Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.
- Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)
- Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
- Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
- Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level (97.36 dBuV/m).

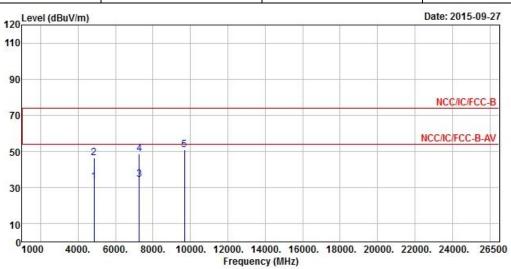
Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

SPORTON INTERNATIONAL INC. Page No. : 78 of 86
TEL: 886-3-327-3456 Report Version : Rev. 01



Transmitter Radiated Unwanted Emissions (Above 1GHz)							
Modulation Mode	HT40	Test Freq. (MHz)	2422				
N _{TX}	1	Polarization	V				

Report No.: FR131667-15AC



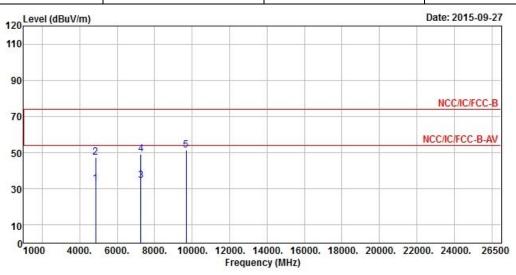
	Freq	Level		Limit Line					Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	<u> </u>
1	4844.000	33.06	-20.94	54.00	28.65	34.33	4.73	34.65	Average
2	4844.000	46.64	-27.36	74.00	42.23	34.33	4.73	34.65	Peak
3	7266.000	34.74	-19.26	54.00	28.35	35.91	5.42	34.94	Average
4	7266.000	48.80	-25.20	74.00	42.41	35.91	5.42	34.94	Peak
5	9688,000	51.01			43.02	36.91	6.38	35.30	Peak

- Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.
- Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)
- Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
- Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
- Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level (100.99 dBuV/m).
- Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

SPORTON INTERNATIONAL INC. Page No. : 79 of 86
TEL: 886-3-327-3456 Report Version : Rev. 01

Tra	Transmitter Radiated Unwanted Emissions (Above 1GHz)									
Modulation Mode	HT40	Test Freq. (MHz)	2422							
N_{TX}	1	Polarization	Н							

Report No.: FR131667-15AC



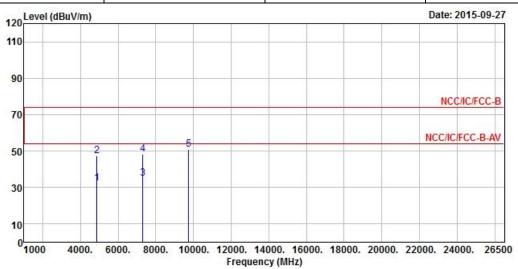
	Freq	Level	Over Limit	Limit Line		Antenna Factor			
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	4844.000	32.69	-21.31	54.00	28.28	34.33	4.73	34.65	Average
2	4844.000	47.26	-26.74	74.00	42.85	34.33	4.73	34.65	Peak
3	7266.000	34.71	-19.29	54.00	28.32	35.91	5.42	34.94	Average
4	7266.000	49.13	-24.87	74.00	42.74	35.91	5.42	34.94	Peak
5	9688 000	51.23			43.24	36.91	6.38	35.30	Peak

- Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.
- Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)
- Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
- Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
- Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level (100.99 dBuV/m).
- Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

SPORTON INTERNATIONAL INC. Page No. : 80 of 86
TEL: 886-3-327-3456 Report Version : Rev. 01

Report No. : FR131667-15AC

Transmitter Radiated Unwanted Emissions (Above 1GHz)									
Modulation Mode	HT40	Test Freq. (MHz)	2437						
N_{TX}	1	Polarization	V						



	Freq	Level		Limit Line					
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	S2
1	4874.000	32.53	-21.47	54.00	28.13	34.32	4.73	34.65	Average
2	4874.000	47.26	-26.74	74.00	42.86	34.32	4.73	34.65	Peak
3	7311.000	34.77	-19.23	54.00	28.32	35.92	5.47	34.94	Average
4	7311.000	48.19	-25.81	74.00	41.74	35.92	5.47	34.94	Peak
5	9748.000	50.81			42.74	36.96	6.41	35.30	Peak

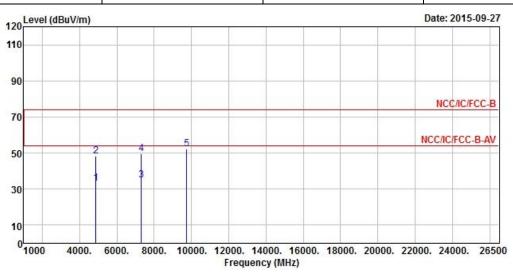
- Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.
- Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)
- Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
- Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
- Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level (100.50 dBuV/m).
- Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

SPORTON INTERNATIONAL INC. Page No. : 81 of 86
TEL: 886-3-327-3456 Report Version : Rev. 01



Transmitter Radiated Unwanted Emissions (Above 1GHz)									
Modulation Mode	HT40	Test Freq. (MHz)	2437						
N _{TX}	1	Polarization	Н						

Report No.: FR131667-15AC



	Freq	Level	Over Limit			Antenna Factor		-	Remark
(A)	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	in the second se
1 4	1874.000	33.13	-20.87	54.00	28.73	34.32	4.73	34.65	Average
2 4	1874.000	48.15	-25.85	74.00	43.75	34.32	4.73	34.65	Peak
3 7	7311.000	34.86	-19.14	54.00	28.41	35.92	5.47	34.94	Average
4 7	7311.000	49.44	-24.56	74.00	42.99	35.92	5.47	34.94	Peak
5 9	748.000	52.06			43.99	36.96	6.41	35.30	Peak

- Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.
- Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)
- Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
- Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
- Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level (100.50 dBuV/m).

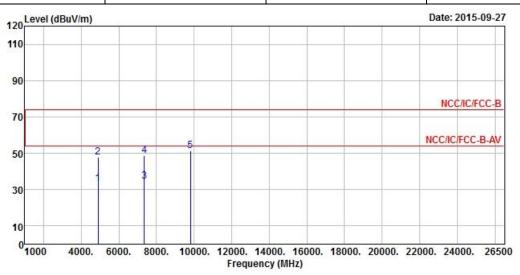
Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

SPORTON INTERNATIONAL INC. Page No. : 82 of 86 TEL: 886-3-327-3456 Report Version : Rev. 01



Transmitter Radiated Unwanted Emissions (Above 1GHz)									
Modulation Mode	HT40	Test Freq. (MHz)	2452						
N _{TX}	1	Polarization	V						

Report No.: FR131667-15AC



	Freq	Level		Limit Line					
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	<u>-</u>
1	4904.000	33.09	-20.91	54.00	28.65	34.32	4.76	34.64	Average
2	4904.000	47.69	-26.31	74.00	43.25	34.32	4.76	34.64	Peak
3	7356.000	34.65	-19.35	54.00	28.14	35.94	5.52	34.95	Average
4	7356.000	48.52	-25.48	74.00	42.01	35.94	5.52	34.95	Peak
5	9808.000	51.39			43.23	36.99	6.47	35.30	Peak

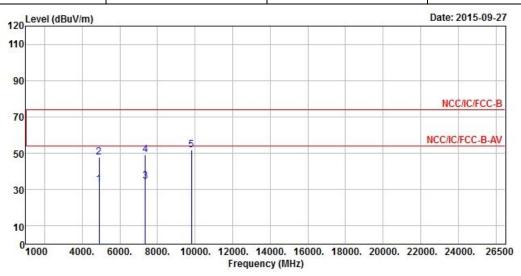
- Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.
- Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)
- Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
- Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
- Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level (97.30 dBuV/m).

Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

SPORTON INTERNATIONAL INC. Page No. : 83 of 86 TEL: 886-3-327-3456 Report Version : Rev. 01

Transmitter Radiated Unwanted Emissions (Above 1GHz)									
Modulation Mode	HT40	Test Freq. (MHz)	2452						
N _{TX}	1	Polarization	Н						

Report No.: FR131667-15AC



			0ver	Limit	Read	Antenna	Cable	Preamp	
	Freq	Level	Limit	Line	Level	Factor	Loss	Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	-
1	4904.000	32.92	-21.08	54.00	28.48	34.32	4.76	34.64	Average
2	4904.000	47.69	-26.31	74.00	43.25	34.32	4.76	34.64	Peak
3	7356.000	34.67	-19.33	54.00	28.16	35.94	5.52	34.95	Average
4	7356.000	49.36	-24.64	74.00	42.85	35.94	5.52	34.95	Peak
5	9808.000	52.02			43.86	36.99	6.47	35.30	Peak

- Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.
- Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)
- Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
- Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
- Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level (97.30 dBuV/m).
- Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

SPORTON INTERNATIONAL INC. Page No. : 84 of 86
TEL: 886-3-327-3456 Report Version : Rev. 01



4 Test Equipment and Calibration Data

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
EMC Receiver	R&S	ESCS 30	100174	9kHz ~ 2.75GHz	Apr. 15. 2015	AC Conduction
LISN	SCHWARZBECK MESS-ELEKTRONIK	NSLK 8127	8127-477	9kHz ~ 30MHz	Jan. 22, 2015	AC Conduction
RF Cable-CON	HUBER+SUHNER	RG213/U	07611832020001	9kHz ~ 30MHz	Oct. 31, 2014	AC Conduction
EMI Filter	LINDGREN	LRE-2030	2651	< 450 Hz	NCR	AC Conduction

Report No.: FR131667-15AC

Note: Calibration Interval of instruments listed above is one year. NCR: No Calibration Request.

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
Spectrum Analyzer	R&S	FSV 40	101500	9KHz~40GHz	May. 06, 2015	RF Conducted
Signal Generator	R&S	SMR40	100116	10MHz ~ 40GHz	Jul. 28, 2015	RF Conducted
Power Sensor	Anritsu	MA2411B	0917017	300MHz ~ 40GHz	Feb. 17, 2015	RF Conducted
Power Meter	Anritsu	ML2495A	0949003	300MHz ~ 40GHz	Feb. 17, 2015	RF Conducted
4 Port switch	CEI	P4R-720120	TH01	1GHz~26.5GHz	Jul. 01, 2015	RF Conducted

Note: Calibration Interval of instruments listed above is one year.

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
Spectrum Analyzer	R&S	FSP40	100593	9kHz ~ 40GHz	Oct. 20, 2014	Radiation
3m Semi Anechoic Chamber	SIDT FRANKONIA	SAC-3M	03CH02-HY	30MHz ~ 1GHz 3m	May 03, 2015	Radiation
Amplifier	Agilent	8447D	2944A11149	100kHz ~ 1.3GHz	Jul. 24,2015	Radiation
Amplifier	Agilent	8449B	3008A02373	1GHz ~ 26.5GHz	Sep.10.2015	Radiation
Horn Antenna	ETS-LINDGREN	3117	00091920	1GHz ~ 18GHz	Nov. 28, 2014	Radiation
Horn Antenna	SCHWARZBECK	BBHA9170	BBHA9170154	18GHz ~ 40GHz	Jan. 27, 2015	Radiation
RF Cable-R03m	Jye Bao	RG142	CB021	9kHz ~ 1GHz	Nov. 08, 2014	Radiation
RF Cable-high	SUHNER	SUCOFLEX106	MY17173/4	1GHz ~ 40GHz	Mar. 04, 2015	Radiation
Bilog Antenna	SCHAFFNER	CBL 6112D	22237	30MHz ~ 1GHz	Sep. 18, 2015	Radiation
Bilog Antenna	SCHAFFNER	CBL61128	2723	30MHz ~ 2GHz	Sep 20, 2014	Radiation
Turn Table	Chaintek Instruments	3000	MF7802058	0~ 360 degree	N/A	Radiation
Antenna Mast	MF	MF7802	MF780208205	1 ~ 4 m	N/A	Radiation

Note: Calibration Interval of instruments listed above is one year.

SPORTON INTERNATIONAL INC. Page No. : 85 of 86
TEL: 886-3-327-3456 Report Version : Rev. 01



Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
Amplifier	EMC INSTRUMENTS	EMC184045B	980192	18GHz ~ 40GHz	Aug. 25.2014	Radiation
Loop Antenna	R&S	HFH2-Z2	100330	9 kHz~30 MHz	Nov. 10, 2014	Radiation

Report No.: FR131667-15AC

Note: Calibration Interval of instruments listed above is two years.

SPORTON INTERNATIONAL INC. Page No. : 86 of 86
TEL: 886-3-327-3456 Report Version : Rev. 01