

Equipment : IP Wireless Camera

Brand Name : FLIR SECURE

Model No. : Fxx2xxx (x= 0-9, A-Z)

FCC ID : UCZFXC21

Standard : 47 CFR FCC Part 15.247 Frequency : 2400 MHz – 2483.5 MHz

FCC Classification : DTS

Function : | Point-to-multipoint; | Point-to-point

Applicant : Lorex Technology Inc

250 Royal Crest Court, Markham, Ontario, L3R

Manufacturer : Chicony Electronics (Dong Guan) Co.,Ltd.

San Zhong Guan Li Qu, Qingxi Town, Dongguan City

Guangdong 523651 China

The product sample received on Apr. 14, 2016 and completely tested on May 26, 2016. 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

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Appendix I. Test Result of AC Power-line Conducted Emissions

Appendix A. Test Result of Emission Bandwidth

Appendix B. Test Result of Maximum Conducted Output Power

Appendix C. Test Result of Power Spectral Density

Appendix D. Test Result of Transmitter Radiated Bandedge Emissions

Appendix E. Transmitter Radiated Unwanted Emissions

Appendix F. Test Photos

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Summary of Test Result

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		Conform	ance Test Specifications		
Report Ref. Std. Clause Description		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	[[]		Complied
3.2	15.247(a)	DTS Bandwidth	Refer as Appendix A	≥500kHz	Complied
3.3	15.247(b)	Fundamental Emission Output Power	Refer as Appendix B	Power [dBm]:30	Complied
3.4	15.247(e)	Power Spectral Density	Refer as Appendix C	PSD [dBm/3kHz]:8	Complied
3.5	15.247(d)	Test Result of Transmitter Radiated Bandedge Emissions	Non-Restricted Bands: 2399.824 MHz: 29.17 dB Restricted Bands [dBuV/m at 3m]:2387.28 MHz 71.22 (Margin 2.78dB) – PK [dBuV/m at 3m]:2483.6 MHz 52.42 (Margin 1.58dB) - AV	Non-Restricted Bands:> 20 dBc Bands: FCC 15.209	Complied
3.6	15.247(d)	Transmitter Radiated Unwanted Emissions	Restricted Bands [dBuV/m at 3m]: 400.54 MHz 42.54 (Margin 3.46dB) - QP	Non-Restricted Bands:> 20 dBc Restricted Bands: FCC 15.209	Complied

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Revision History

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Report No.	Version	Description	Issued Date
FR640901AC	Rev. 02	Initial issue of report	Aug. 05, 2016

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1 General Description

1.1 Information

1.1.1 RF General Information

Band	Mode	BWch (MHz)	Nss-Min	Nant	Worst Data Rate / MCS
2.4G	11b	20	1	1	1 Mbps
2.4G	11g	20	1	1	6 Mbps

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Note:

- 2.4G is the 2.4GHz Band (2.4-2.4835GHz).
- 11b mode uses a combination of DSSS-DBPSK, DQPSK, CCK modulation.
- 11g, HT20 and HT40 use a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM modulation.
- VHT20, VHT40 and VHT80 use a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM, 256QAM modulation.
- BWch is the nominal channel bandwidth.
- Nss-Min is the minimum number of spatial streams.
- Nant is the number of outputs. e.g., 2(2,3) means have 2 outputs for port 2 and port 3. 2 means have 2 outputs for port 1 and port 2.

1.1.2 Antenna Information

	Ante	nna Categ	jory				
	Integral antenna (antenna permanently attached)						
I	□ Те	mporary F	RF connector provided				
I	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.						
	Extern	al antenna	(dedicated antennas)				
I	☐ Si	ngle powe	er level with corresponding an	tenna(s).			
Ī		ultiple pov	ver level and corresponding a	ntenna(s).			
Ī	☐ R	Fconnecto	or provided				
	☐ Unique antenna connector. (e.g., MMCX, U.FL, IPX, and RP-SMA, RP-N type)						
	Standard antenna connector. (e.g., SMA, N, BNC, and TNC type)						
	Antenna General Information						
No.	Ar	nt. Cat.	Ant. Type	Model	Gain (dBi)		
1	Ir	itegral	PIFA FX C 0.61				

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1.1.3 Type of EUT

	Identify EUT				
EU	T Serial Number	N/A			
Pre	sentation of Equipment				
		Type of EUT			
\boxtimes	Stand-alone				
	Combined (EUT where the radio part is fully integrated within another device)				
	Combined Equipment - Brand Name / Model No.:				
	Plug-in radio (EUT intended for a variety of host systems)				
	Host System - Brand Name / Model No.:				
	Other:				

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1.1.4 Mode Test Duty Cycle

Operated Mode for Worst Duty Cycle					
Test Signal Duty Cycle (x) Power Duty Factor [dB] – (10 log 1/x)					
	0.02				
	0.22				

1.1.5 EUT Operational Condition

Supply Voltage	☐ AC mains	□ DC	
Type of DC Source			☐ Battery

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1.2 Testing Applied Standards

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

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- 47 CFR FCC Part 15
- ANSI C63.10-2013
- FCC KDB 558074 D01 v03r05

1.3 Testing Location Information

	Testing Location							
\boxtimes	HWA YA	ADD	:	No. 52, Hwa Ya 1st Rd., I	lo. 52, Hwa Ya 1st Rd., Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C.			
		TEL	:	886-3-327-3456 FA	X : 886-3-318-0055			
Test Condition Test Site No.		Test Site No.	Test Engineer	Test Environment				
AC Conduction CO0		CO04-HY	Ryan Hong	23°C / 56%				
RF Conducted		TH01-HY	TH01-HY Jeremy Lin					
	Radiate	d		03CH03-HY	Joe Wang	22.2°C / 51.8%		

Test site registered number [553509] with FCC.

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1.4 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)

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M	easurement 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 %

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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	1	1-11 Mbps	1 Mbps				
11g 1 6-54 Mbps 6 Mbps							
ote: RF output power sp	ecifies that Maximum Peak (Conducted Output Power.	•				

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2.2 Test Channel Mode

Test S	Putty						
Band	Band Mode		Nss-Min	Nant	Ch. (MHz)	Range	Power Setting
2.4G	11b	20	1	1	2412	L	18
2.4G	11b	20	1	1	2437	М	19
2.4G	11b	20	1	1	2462	Н	18
2.4G	11g	20	1	1	2412	L	14
2.4G	11g	20	1	1	2437	М	19
2.4G	11g	20	1	1	2462	Н	15

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2.3 The Worst Case Measurement Configuration

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	Operating Mode Description	
1	Adapter Mode	
2	USB Mode	
For operating mode 1 is the worst case and it was record in this test report.		

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The Worst Case Mode for Following Conformance Tests		
Tests Item	DTS Bandwidth, Fundamental Emission Output Power, Power Spectral Density, Emissions in Non-restricted Frequency Bands	
Test Condition	Conducted measurement at transmit chains	

The Worst Case Mode for Following Conformance Tests				
Tests Item	Emissions in Restricted Frequency Bands			
Test Condition	Radiated measurement If EUT consist of multiple antenna assembly (multiple antenna are used in EUT regardless of spatial multiplexing MIMO configuration), the radiated test should be performed with highest antenna gain of each antenna type.			
	☐ EUT will be placed in	fixed position.		
User Position		mobile position and operati ree orthogonal planes.	ng multiple positions. EUT	
	EUT will be a hand-held or body-worn battery-powered devices and operating multiple positions. EUT shall be performed three orthogonal planes.			
Operating Mode < 1GHz				
	□ 2. USB Mode			
For operating mode 1 is th	e worst case and it was rec	ord in this test report.		
	X Plane	Y Plane	Z Plane	
Orthogonal Planes of EUT				
Worst Planes of EUT	V			
Worst Planes of Ant	V			

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2.4 Accessories and Support Equipment

Specification of Accessory				
A.C. A damtan	Brand Name	SPPS	Model Name	SC/10WA050200US
AC Adapter	Power Rating	I/P:100 - 240 Vac, 0.5	mA, O/P: 5 Vdc,	2 A
USB Cable	Signal Line	2.7 meter, shielded ca	able, with ferrite	core

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Note: Regarding to more detail and other information, please refer to user manual.

	Support Equipment- Conduction				
No.	Equipment	Brand Name	Model Name	BSMI / FCC ID	
1	Notebook	DELL	E5530	R33002/DOC	
2	AC adapter for NB	DELL	LA65NS2-01	R35737/DOC	

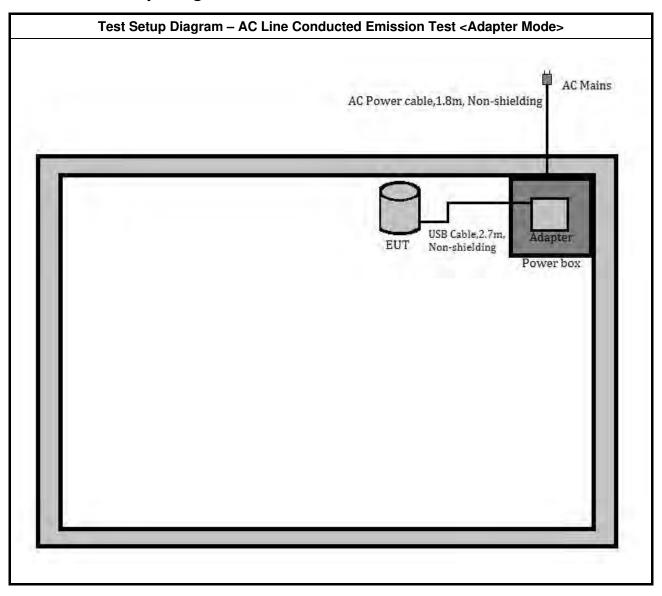
Support Equipment- Radiated				
No.	Equipment	Brand Name	Model Name	BSMI / FCC ID
1	Notebook	DELL	E5530	R33002/DOC
2	AC adapter for NB	DELL	LA65NS2-01	R35737/DOC

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2.5 Test Setup Diagram



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Test Setup Diagram - Radiated Test <Adapter Mode> AC Mains AC Power cable, 1.8m, Non-shielding USB Cable, 2.7m, EUT Non-shielding Power box

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3 Transmitter Test Result

3.1 AC Power-line Conducted Emissions

3.1.1 AC Power-line Conducted Emissions Limit

Frequency Emission (MHz) Quasi-Peak Average			
56 - 46 *			
46			
50			
5-30 60 50 Note 1: * Decreases with the logarithm of the frequency.			

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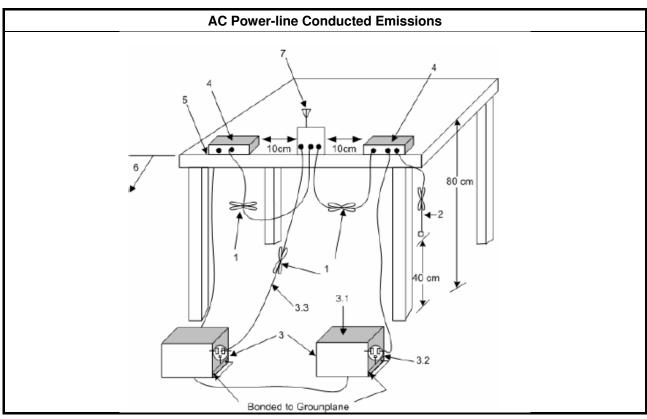
3.1.2 Measuring Instruments

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

3.1.3 Test Procedures

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

3.1.4 Test Setup



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3.1.5 Test Result of AC Power-line Conducted Emissions

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3.2 DTS Bandwidth

3.2.1 6dB Bandwidth Limit

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

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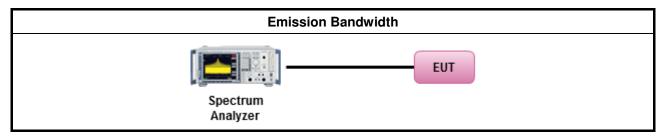
3.2.2 Measuring Instruments

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

3.2.3 Test Procedures

		Test Method
•	For	the emission bandwidth shall be measured using one of the options below:
	\boxtimes	Refer as FCC KDB 558074, clause 8.1 Option 1 for 6 dB bandwidth measurement.
		Refer as FCC KDB 558074, clause 8.2 Option 2 for 6 dB bandwidth measurement.
	\boxtimes	Refer as ANSI C63.10, clause 6.9.1 for occupied bandwidth testing.

3.2.4 Test Setup



3.2.5 Test Result of Emission Bandwidth

Refer as Appendix A

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3.3 **Fundamental Emission Output Power**

Fundamental Emission Output Power Limit 3.3.1

Max	Maximum Peak Conducted Output Power or Maximum Conducted Output Power Limit			
•	2400-2483.5 MHz Band:			
	•	If $G_{TX} \le 6$ dBi, then $P_{Out} \le 30$ dBm (1 W)		
	•	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		
		- 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:		
•	2400-2483.5 MHz Band			
	•	 Point-to-multipoint systems (P2M): P_{eirp} ≤ 36 dBm (4 W) 		
	•	Point-to-point systems (P2P): P _{eirp} ≤ 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}	\mathbf{P}_{Out} = maximum peak conducted output power or maximum conducted output power in dBm, \mathbf{G}_{TX} = the maximum transmitting antenna directional gain in dBi. \mathbf{P}_{eirp} = e.i.r.p. Power in dBm.			

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Measuring Instruments

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

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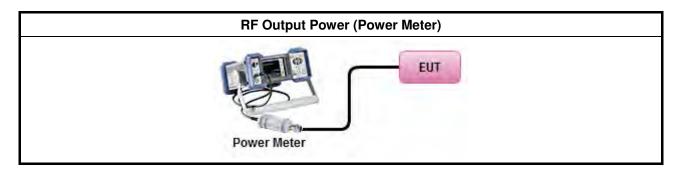


3.3.3 Test Procedures

	Test Method
•	Maximum Peak Conducted Output Power
	Refer as FCC KDB 558074, clause 9.1.1 Option 1 (RBW ≥ EBW method).
	Refer as FCC KDB 558074, clause 9.1.2 Option 2 (peak power meter for VBW ≥ DTS BW)
•	Maximum Conducted Output Power
	[duty cycle ≥ 98% or external video / power trigger]
	Refer as FCC KDB 558074, clause 9.2.2.2 Method AVGSA-1 (spectral trace averaging).
	Refer as FCC KDB 558074, 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, clause 9.2.2.4 Method AVGSA-2 (spectral trace averaging).
	Refer as FCC KDB 558074, clause 9.2.2.5 Method AVGSA-2 Alt. (slow sweep speed)
	RF power meter and average over on/off periods with duty factor or gated trigger
	Refer as FCC KDB 558074, clause 9.2.3 Method AVGPM (using an RF average power meter).
•	For conducted measurement.
	If 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

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3.3.4 Test Setup



3.3.5 Test Result of Maximum Peak Conducted Output Power

Refer as Appendix B

3.3.6 Test Result of Maximum Average Conducted Output Power

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3.4 Power Spectral Density

3.4.1 Power Spectral Density Limit

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

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3.4.2 Measuring Instruments

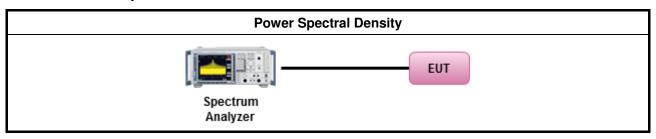
Refer a test equipment and calibration data table in this test report.

3.4.3 Test Procedures

			Test Method					
•	Peak power spectral density procedures that the same method as used to determine the conducted output power. If maximum peak conducted output power was measured to demonstrate compliance to the output power limit, then the peak PSD procedure below (Method PKPSD) shall be used. If maximum conducted output power was measured to demonstrate compliance to the output power limit, then one of the average PSD procedures shall be used, as applicable based on the following criteria (the peak PSD procedure is also an acceptable option).							
	\boxtimes	Ref	er as FCC KDB 558074, clause 10.2 Method PKPSD (RBW=3-100kHz; Detector=peak).					
	[dut	у сус	le ≥ 98% or external video / power trigger]					
		Ref	er as FCC KDB 558074, clause 10.3 Method AVGPSD-1 (spectral trace averaging).					
		Ref	er as FCC KDB 558074, clause 10.4 Method AVGPSD-2 (slow sweep speed)					
	duty	/ cycl	e < 98% and average over on/off periods with duty factor					
		Ref	er as FCC KDB 558074, clause 10.5 Method AVGPSD-1 Alt (spectral trace averaging).					
		Ref	er as FCC KDB 558074, clause 10.6 Method AVGPSD-2 Alt. (slow sweep speed)					
•	For	cond	ucted measurement.					
	•	If Th	ne 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 sum spectral maxima across the outputs. With this technique, spectra are measured at each output of the device at the required resolution bandwidth. The maximum value (peak) of each spectrum is determined. These maximum values are then summed mathematically in linear power units across the outputs. These operations shall be performed separately over frequency spans that have different out-of-band or spurious emission limits,					
			Option 3: 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.					

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3.4.4 Test Setup



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3.4.5 Test Result of Power Spectral Density

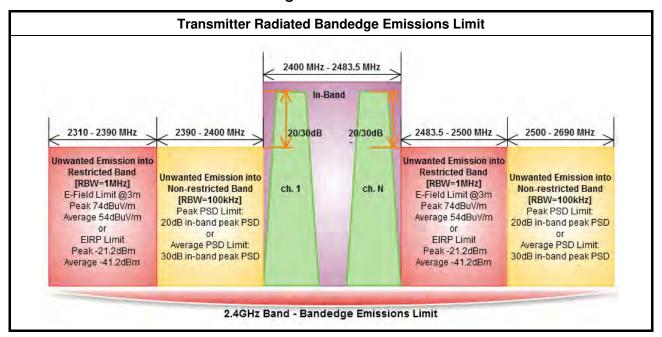
Refer as Appendix C

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3.5 Transmitter Radiated Bandedge Emissions

3.5.1 Transmitter Radiated Bandedge Emissions Limit



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3.5.2 Measuring Instruments

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

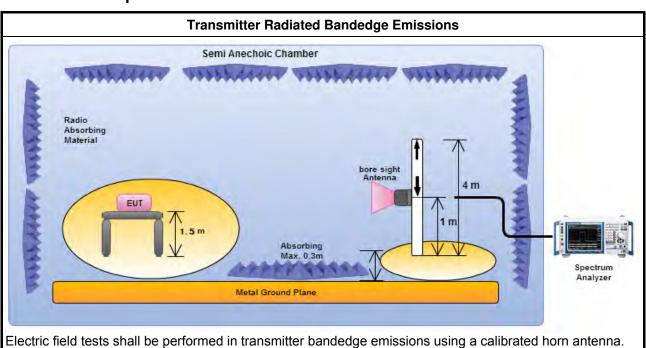
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3.5.3 Test Procedures

		Test Method					
\boxtimes	The	average emission levels shall be measured in [duty cycle ≥ 98 or duty factor].					
\boxtimes		Refer as ANSI C63.10, clause 6.10 bandedge testing shall be performed at the lowest frequency channel and highest frequency channel within the allowed operating band.					
\boxtimes	For	the transmitter unwanted emissions shall be measured using following options below:					
	\boxtimes	Refer as FCC KDB 558074, clause 11 for unwanted emissions into non-restricted bands.					
	\boxtimes	Refer as FCC KDB 558074, clause 12 for unwanted emissions into restricted bands.					
		Refer as FCC KDB 558074, clause 12.2.5.1 Option 1 (trace averaging for duty cycle ≥98%)					
		Refer as FCC KDB 558074, clause 12.2.5.2 Option 2 (trace averaging + duty factor).					
		Refer as FCC KDB 558074, clause 12.2.5.3 Option 3 (Reduced VBW≥1/T).					
		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, clause 11.3 and 12.2.4 measurement procedure peak limit.					
\boxtimes	For	the transmitter bandedge emissions shall be measured using following options below:					
		Refer as FCC KDB 558074, clause 13.3 for narrower resolution bandwidth (100kHz) using the band power and summing the spectral levels (i.e., 1 MHz).					
		Refer as ANSI C63.10, clause 6.10 for band-edge testing.					
	\boxtimes	Refer as ANSI C63.10, clause 6.10.6.2 for marker-delta method for band-edge measurements.					
\boxtimes		radiated measurement, refer as FCC KDB 558074, clause 12.2.7 and ANSI C63.10, clause 6.6. distance is 3m.					

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3.5.4 Test Setup



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3.5.5 Test Result of Emissions in Non-restricted Frequency Bands

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Refer as Appendix D

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3.6 Transmitter Radiated Unwanted Emissions

3.6.1 Transmitter in 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				

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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 Band 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.

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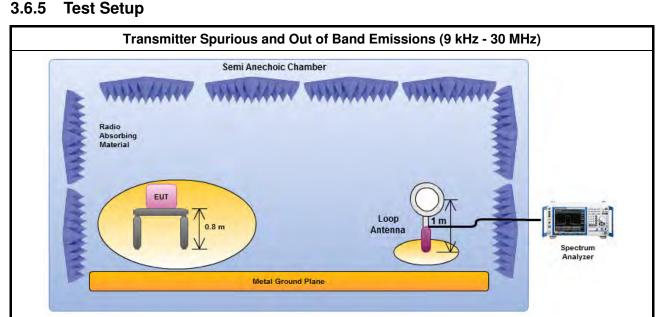


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3.6.3 Test Procedures

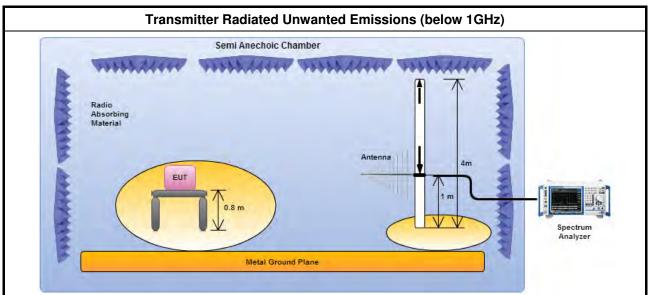
		Test Method								
	perfo equip extra dista	Measurements may be performed at a distance other than the limit distance provided they are not performed in the near field and the emissions to be measured can be detected by the measurement equipment. When performing measurements at a distance other than 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).								
\boxtimes	The	average emission levels shall be measured in [duty cycle ≥ 98 or duty factor].								
\boxtimes	For t	he transmitter unwanted emissions shall be measured using following options below:								
	\boxtimes	Refer as FCC KDB 558074, clause 11 for unwanted emissions into non-restricted bands.								
		Refer as FCC KDB 558074, clause 12 for unwanted emissions into restricted bands.								
		☐ Refer as FCC KDB 558074, clause 12.2.5.1 Option 1 (trace averaging for duty cycle ≥98%)								
		Refer as FCC KDB 558074, clause 12.2.5.2 Option 2 (trace averaging + duty factor).								
		Refer as FCC KDB 558074, clause 12.2.5.3 Option 3 (Reduced VBW≥1/T).								
		Refer as ANSI C63.10, clause 4.1.4.2.3 (Reduced VBW). VBW \geq 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, clause 11.3 and 12.2.4 measurement procedure peak limit.								
		Refer as FCC KDB 558074, clause 12.2.3 measurement procedure Quasi-Peak limit.								
\boxtimes	For r	radiated measurement, refer as FCC KDB 558074, clause 12.2.7.								
	\boxtimes	Refer as ANSI C63.10, clause 6.4 for radiated emissions below 30 MHz and test distance is 3m.								
		Refer as ANSI C63.10, clause 6.5 for radiated emissions 30 MHz to 1 GHz and test distance is 3m.								
	\boxtimes	Refer as ANSI C63.10, clause 6.6 for radiated emissions above 1 GHz and test distance is 3m.								
\boxtimes	The	any unwanted emissions level shall not exceed the fundamental emission level.								
\boxtimes		mplitude of spurious emissions that are attenuated by more than 30 dB below the permissible value no need to be reported.								

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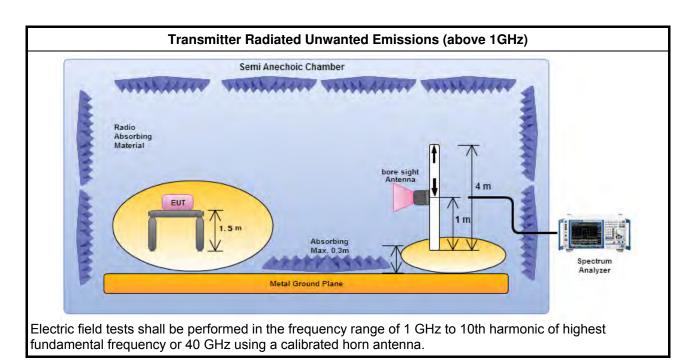
Magnetic field tests shall be performed in the frequency range of 9 kHz to 30 MHz using a calibrated loop antenna.



Electric field tests shall be performed in the frequency range of 30 MHz to 1000 MHz using a calibrated bi-log antenna.

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3.6.6 Transmitter Radiated Unwanted Emissions (Below 30MHz)

The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported. Any spurious which has more than 20 dB of margin compared to the applicable limit is not necessarily reported.

3.6.7 Transmitter Radiated Unwanted Emissions

Refer as Appendix E

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4 Test Equipment and Calibration Data

Instrument for AC Conduction

	motiument for AG Gondaguon						
Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Last Cal.	Calibration Due Date	
EMC Receiver	KETSIGHT	N9038A	MY54130031	20Hz ~ 8.4GHz	Apr. 14, 2016	Apr. 13, 2017	
LISN	SCHWARZBECK MESS-ELEKTRONIK	NSLK 8127	8127-477	9kHz ~ 30MHz	Jan. 26, 2016	Jan. 25, 2017	
RF Cable-CON	HUBER+SUHNER	RG213/U	07611832020001	9kHz ~ 30MHz	Oct. 30, 2015	Oct. 29, 2016	
EMI Filter	LINDGREN	LRE-2030	2651	< 450 Hz	NCR	NCR	

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Instrument for Conducted Test

motramont re	instrument for conducted rest							
Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Last Cal.	Calibration Due Date		
Spectrum Analyzer	R&S	FSV 40	101500	9KHz~40GHz	May 12, 2016	May 11, 2017		
Signal Generator	R&S	SMR40	100116	10MHz ~ 40GHz	Jul. 28, 2015	Jul. 27, 2016		
Power Sensor	Anritsu	MA2411B	0917017	300MHz ~ 40GHz	Feb. 04 ,2016	Feb. 03 ,2017		
Power Meter	Anritsu	ML2495A	0949003	300MHz ~ 40GHz	Feb. 04, 2016	Feb. 03, 2017		

Instrument for Radiated Test

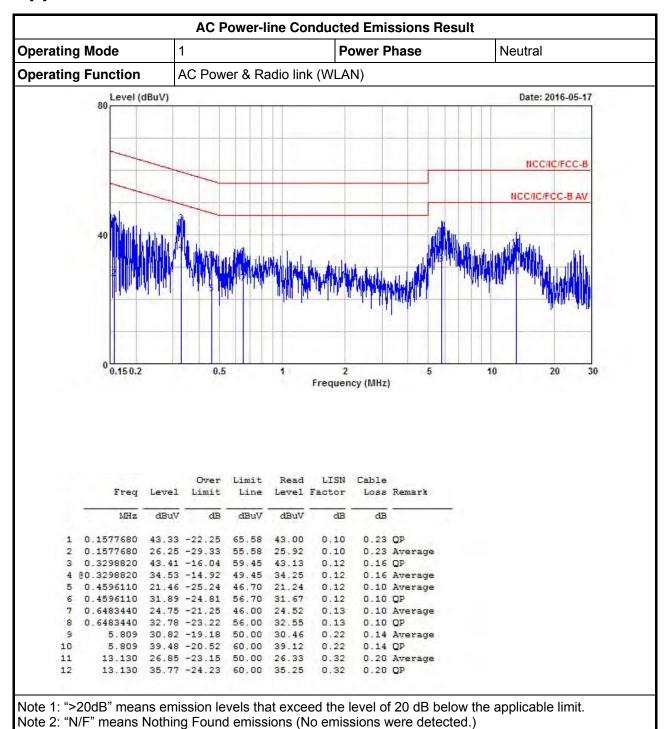
Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Last Cal.	Calibration Due Date
3m Semi Anechoic Chamber	TDK	SAC-3M	03CH09-HY	30MHz ~ 1GHz 3m	Jul. 01, 2015	Jun. 30, 2016
3m Semi Anechoic Chamber	TDK	SAC-3M	03CH09-HY	1GHz ~ 18GHz 3m	Jul. 01, 2015	Jun. 30, 2016
Amplifier	EMC	EMC9135	980232	9kHz ~ 1.0GHz	Jan. 29, 2016	Jan. 28, 2017
Amplifier	Agilent	8449B	3008A02096	1GHz ~ 26.5GHz	Apr.11.2016	Apr.10.2017
Spectrum	KEYSIGHT	N9010A	MY54200885	10Hz ~ 44GHz	Jul. 15, 2015	Jul. 14, 2016
Bilog Antenna & 5dB Attenator	TESEQ & MTJ	CBL 6111D & MTJ6102	35418	30MHz ~ 1GHz	Mar. 31, 2016	Mar. 30, 2017
Horn Antenna	SCHWARZBECK	BBHA 9120D	BBHA 9120D 1534	1GHz ~ 18GHz	Apr. 22, 2016	Apr. 21, 2017
Horn Antenna	SCHWARZBECK	BBHA9170	BBHA9170614	18GHz ~ 40GHz	Jan. 04, 2016	Jan. 03, 2017
Loop Antenna	ROHDE&SCHWARZ	HFH2-Z2	100330	9 kHz~30 MHz	Nov. 10, 2014	Nov. 09, 2016

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Appendix I. Test Result of AC Power-line Conducted Emissions

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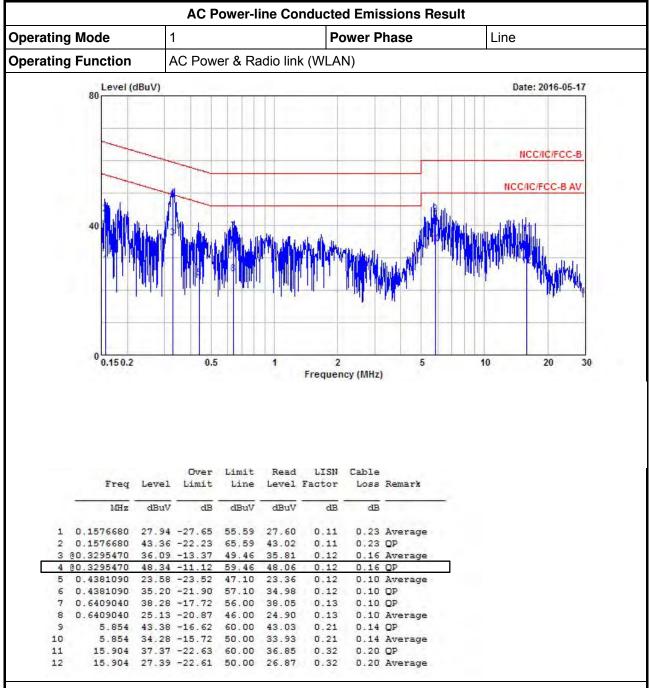


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Note 1: ">20dB" means emission levels that exceed the level of 20 dB below the applicable limit.

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

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Appendix A. Test Result of Emission Bandwidth

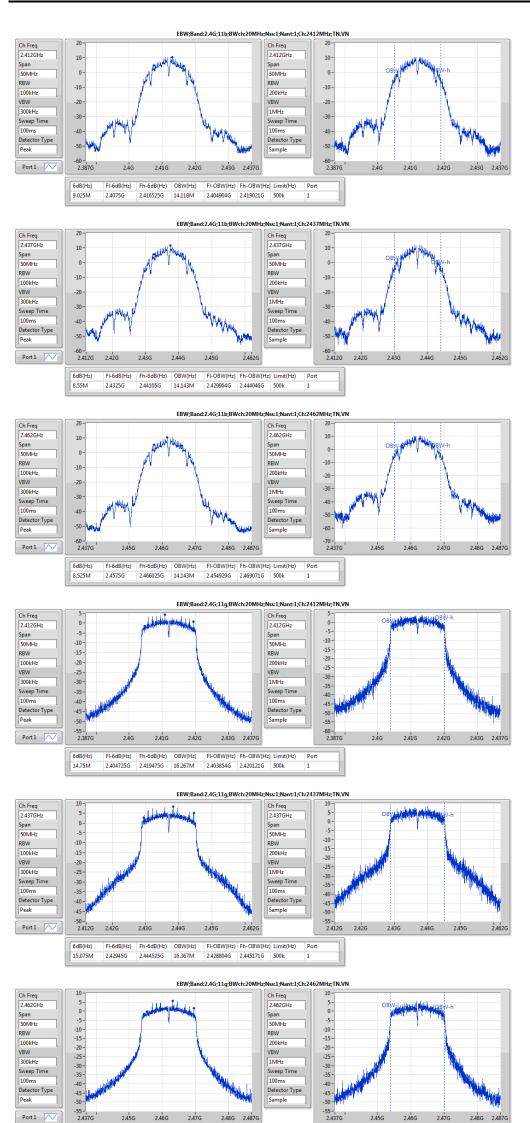
Mode	N dB	OBW	ITU-Code
	(Hz)	(Hz)	
2.4G;11b;20;1;1	9.025M	14.143M	14M1G1D
2.4G;11g;20;1;1	15.075M	16.367M	16M4D1D

Result

Mode	Result	Limit	P1-N dB	P1-OBW
			(Hz)	(Hz)
2.4G;11b;20;1;1;2412;L;TN,VN	Pass	500k	9.025M	14.118M
2.4G;11b;20;1;1;2437;M;TN,VN	Pass	500k	8.55M	14.143M
2.4G;11b;20;1;1;2462;H;TN,VN	Pass	500k	8.525M	14.143M
2.4G;11g;20;1;1;2412;L;TN,VN	Pass	500k	14.75M	16.267M
2.4G;11g;20;1;1;2437;M;TN,VN	Pass	500k	15.075M	16.367M
2.4G;11g;20;1;1;2462;H;TN,VN	Pass	500k	14.2M	16.292M

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Summary (For PK)

Mode	Sum	Sum	EIRP	EIRP
	(dBm)	(W)	(dBm)	(W)
2.4G;11b;20;1;1	21.66	0.14655	22.27	0.16866
2.4G;11g;20;1;1	25.47	0.35237	26.08	0.40551

Result (For PK)

Mode	Result	DG	EIRP	EIRP Lim.	Sum	Sum Lim.	P1
		(dBi)	(dBm)	(dBm)	(dBm)	(dBm)	(dBm)
2.4G;11b;20;1;1;2412;L;TN,VN	Pass	0.61	21.43	36.00	20.82	30.00	20.82
2.4G;11b;20;1;1;2437;M;TN,VN	Pass	0.61	22.27	36.00	21.66	30.00	21.66
2.4G;11b;20;1;1;2462;H;TN,VN	Pass	0.61	21.01	36.00	20.40	30.00	20.40
2.4G;11g;20;1;1;2412;L;TN,VN	Pass	0.61	24.60	36.00	23.99	30.00	23.99
2.4G;11g;20;1;1;2437;M;TN,VN	Pass	0.61	26.08	36.00	25.47	30.00	25.47
2.4G;11g;20;1;1;2462;H;TN,VN	Pass	0.61	24.96	36.00	24.35	30.00	24.35

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Appendix B. Test Result of Maximum Conducted Output Power Summary (For AV)

Mode	Sum	Sum	EIRP	EIRP
	(dBm)	(W)	(dBm)	(W)
2.4G;11b;20;1;1	19.26	0.08433	19.87	0.09705
2.4G;11g;20;1;1	18.00	0.0631	18.61	0.07261

Result (For AV)

Mode	Result	DG	EIRP	EIRP Lim.	Sum	Sum Lim.	P1
		(dBi)	(dBm)	(dBm)	(dBm)	(dBm)	(dBm)
2.4G;11b;20;1;1;2412;L;TN,VN	Pass	0.61	19.08	36.00	18.47	30.00	18.47
2.4G;11b;20;1;1;2437;M;TN,VN	Pass	0.61	19.87	36.00	19.26	30.00	19.26
2.4G;11b;20;1;1;2462;H;TN,VN	Pass	0.61	18.60	36.00	17.99	30.00	17.99
2.4G;11g;20;1;1;2412;L;TN,VN	Pass	0.61	15.15	36.00	14.54	30.00	14.54
2.4G;11g;20;1;1;2437;M;TN,VN	Pass	0.61	18.61	36.00	18.00	30.00	18.00
2.4G;11g;20;1;1;2462;H;TN,VN	Pass	0.61	15.90	36.00	15.29	30.00	15.29

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Appendix C. Test Result of Power Spectral Density

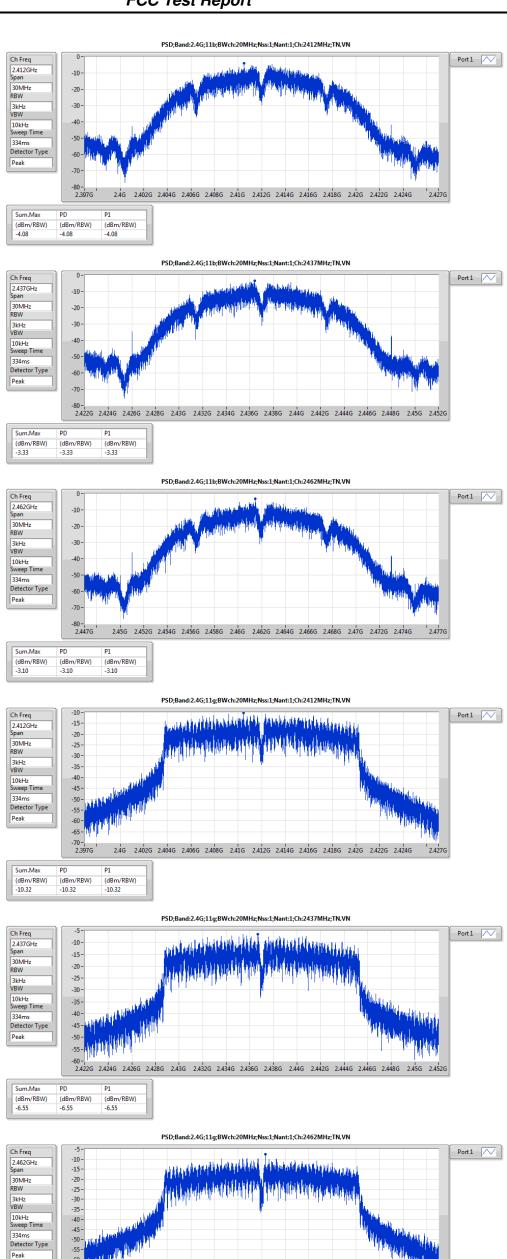
Mode	PD	EIRP.PD
	(dBm/RBW)	(dBm/RBW)
2.4G;11b;20;1;1	-3.10	-2.49
2.4G;11g;20;1;1	-6.55	-5.94

Result

Mode	Result	Meas.RBW	Lim.RBW	BWCF	DG	Sum.Max	PD	PD.Limit	EIRP.PD	EIRP.PD.Li m	P1
		(Hz)	(Hz)	(dB)	(dBi)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
2.4G;11b;20;1;1;2412;L;TN,VN	Pass	3k	3k	0.00	0.61	-4.08	-4.08	8.00	-3.47	Inf	-4.08
2.4G;11b;20;1;1;2437;M;TN,VN	Pass	3k	3k	0.00	0.61	-3.33	-3.33	8.00	-2.72	Inf	-3.33
2.4G;11b;20;1;1;2462;H;TN,VN	Pass	3k	3k	0.00	0.61	-3.10	-3.10	8.00	-2.49	Inf	-3.10
2.4G;11g;20;1;1;2412;L;TN,VN	Pass	3k	3k	0.00	0.61	-10.32	-10.32	8.00	-9.71	Inf	-10.32
2.4G;11g;20;1;1;2437;M;TN,VN	Pass	3k	3k	0.00	0.61	-6.55	-6.55	8.00	-5.94	Inf	-6.55
2.4G;11g;20;1;1;2462;H;TN,VN	Pass	3k	3k	0.00	0.61	-7.63	-7.63	8.00	-7.02	Inf	-7.63

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2.45G 2.452G 2.454G 2.456G 2.458G 2.46G 2.462G 2.464G 2.466G 2.468G 2.47G 2.472G 2.474G 2.477G

(dBm/RBW) -7.63 (dBm/RBW) -7.63

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(dBm/RBW) -7.63

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Appendix D. Test Result of Transmitter Radiated Bandedge Emissions

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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	1	2412	103.27	2398.032	64.90	38.37	20	V
11b	1	2462	105.00	2500.100	45.08	59.92	20	V
11g	1	2412	96.25	2399.824	67.08	29.17	20	V
11g	1	2462	97.69	2500.200	44.87	52.82	20	V

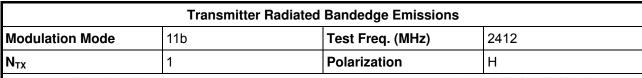
		2400-2483.	5MHz Trans	mitter Radi	ated Bande	dge Emissio	ns (Restric	ted Band)		
Modulation Mode	N _{TX}	Freq. (MHz)	Measure Distance (m)	Freq. (MHz) PK	Level (dBuV/m) PK	Limit (dBuV/m) PK	Freq. (MHz) AV	Level (dBuV/m) AV	Limit (dBuV/m) AV	Pol.
11b	1	2412	3	2383.69	58.69	74	2385.48	52.30	54	٧
11b	1	2462	3	2487.60	58.63	74	2487.80	51.85	54	V
11g	1	2412	3	2387.28	71.22	74	2389.96	51.88	54	V
11g	1	2462	3	2487.80	70.57	74	2483.60	52.42	54	V

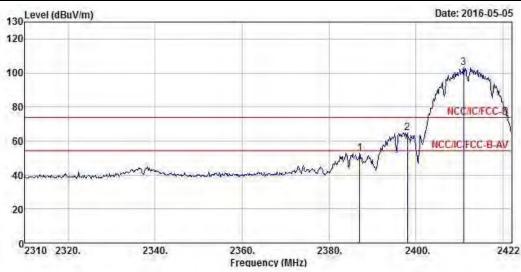
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Transmitter Radiated Bandedge Emissions (Non-restricted Band)

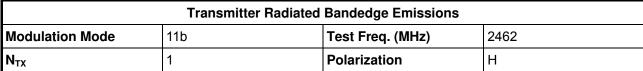


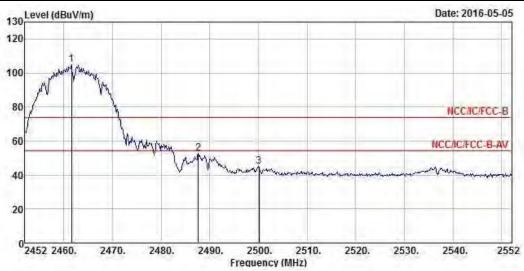


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3
3 Peak
3 Peak
4 Peak
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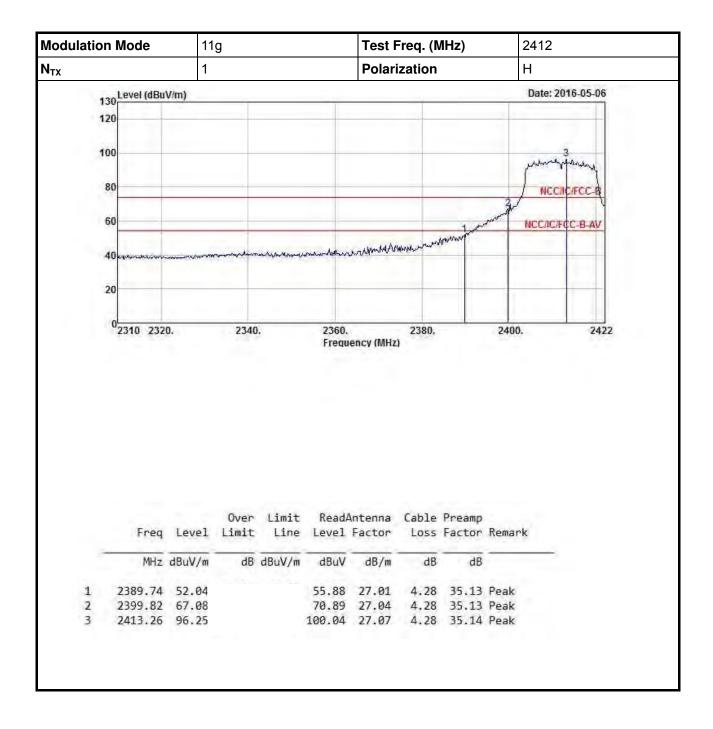




			Over	Limit	Read	Antenna	Cable	Preamp	
	Freq	Level	Limit	Line	Level	Factor	Loss	Factor	Remark
-	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	2461.60	105.00			108.64	27.20	4.32	35.16	Peak
2	2487.60	52.55			56.10	27.27	4.35	35.17	Peak
3	2500.10	45.08			48.60	27.30	4.35	35.17	Peak

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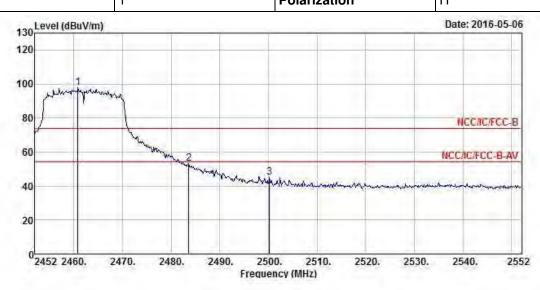


Transmitter Radiated Bandedge Emissions

Modulation Mode 11g Test Freq. (MHz) 2462

N_{TX} 1 Polarization H

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			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	2460.80	97.69			101.33	27.20	4.32	35.16	Peak
2	2483.60	53.39			56.94	27.26	4.35	35.16	Peak
3	2500.20	44.87			48.39	27.30	4.35	35.17	Peak

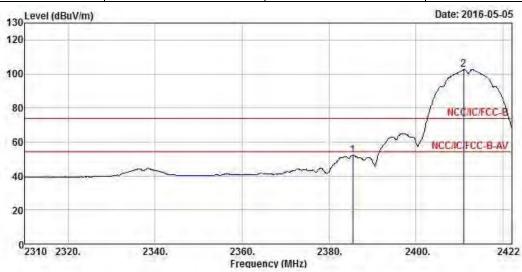
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Transmitter Radiated Bandedge Emissions (Restricted Band)

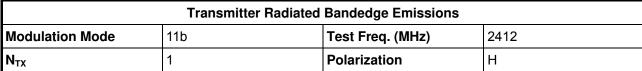
	Transmitter Radiated	Bandedge Emissions	
Modulation Mode	11b	Test Freq. (MHz)	2412
N_{TX}	1	Polarization	Н

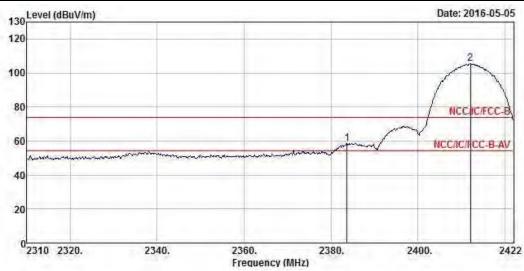


	Freq	Level				Antenna Factor			Remark	
3	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		3
1	2385.49	52.30	-1.70	54.00	56.15	27.00	4.28	35.13	Average	
2	2411.02	102.53			106.32	27.07	4.28	35.14	Average	

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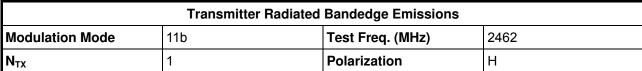


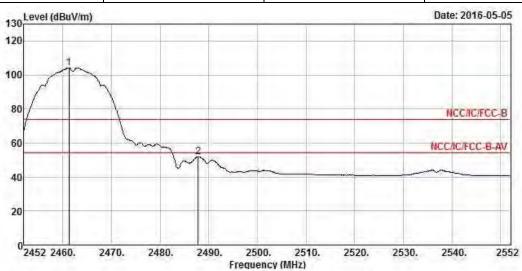


	Freq	Level				Antenna Factor			
-	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	2383.70	58.69	-15.31	74.00	62.57	27.00	4.25	35.13	Peak
2	2412.14	105.53			109.32	27.07	4.28	35.14	Peak

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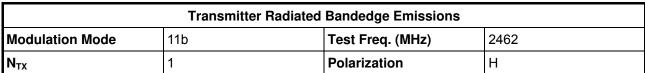


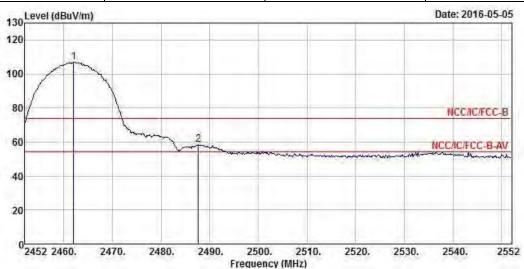


	Freq	Level				Antenna Factor				
-	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		-
1 2	2461.20 2487.80		-2.15	54.00					Average Average	

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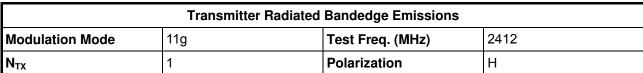


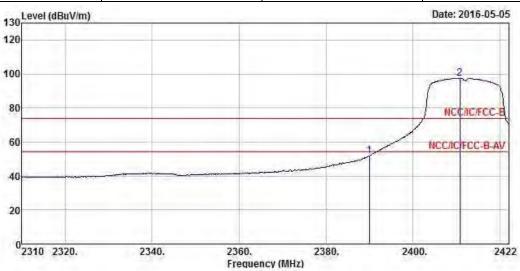


	Freq	Level				Antenna Factor			
3	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1 2	2462.00 2487.60			74.00		27.20 27.27			

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			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		3
1	2389.97	51.88	-2.12	54.00	55.72	27.01	4.28	35.13	Average	
2	2410.80	97.58			101.37	27.07	4.28	35.14	Average	

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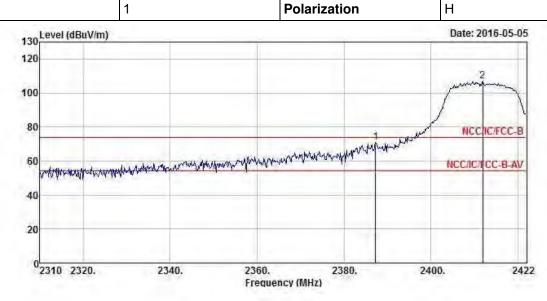


Transmitter Radiated Bandedge Emissions

Modulation Mode 11g Test Freq. (MHz) 2412

N_{TX} 1 Polarization H

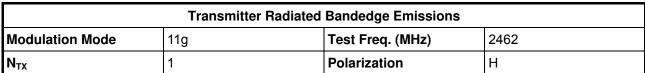
Report No.: FR640901AC

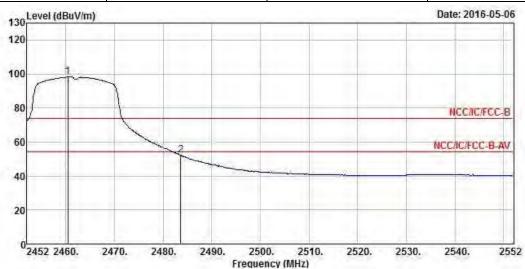


	Freq	Level				Antenna Factor			
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	2387.28	71.22	-2.78	74.00	75.06	27.01	4.28	35.13	Peak
2	2411.92	106.86			110.65	27.07	4.28	35.14	Peak

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11-4	rever	Limit	Line	Level	Factor	Loss	Factor	Remark
MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
		4 50	F4 00					
	MHz	MHz dBuV/m	MHz dBuV/m dB	MHz dBuV/m dB dBuV/m	MHz dBuV/m dB dBuV/m dBuV 460.40 98.24 101.87	MHz dBuV/m dB dBuV/m dBuV dB/m 460.40 98.24 101.87 27.20	MHz dBuV/m dB dBuV/m dBuV dB/m dB 460.40 98.24 101.87 27.20 4.32	MHz dBuV/m dB dBuV/m dBuV dB/m dB dB

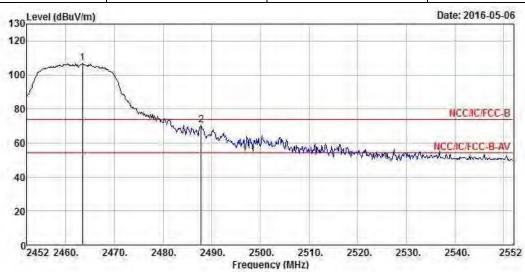
SPORTON INTERNATIONAL INC. Page No. : D12 of D13
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Report No.: FR640901AC

Transmitter Radiated Bandedge Emissions

Modulation Mode 11g Test Freq. (MHz) 2462

N_{TX} 1 Polarization H



	Freq	Level				Antenna Factor			
-	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	2463.40					27.20			
2	2487.80	70.57	-3.43	74.00	74.12	27.27	4.35	35.17	Peak

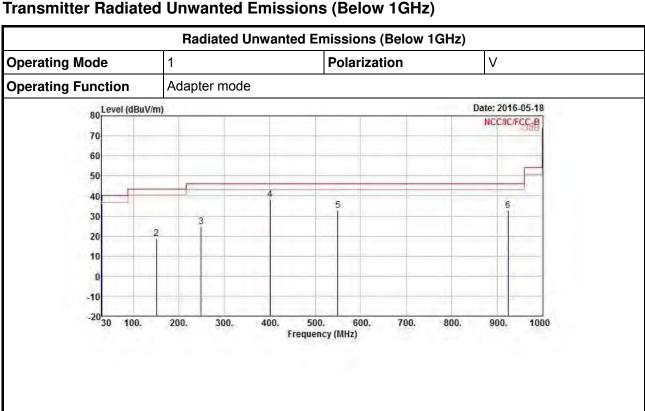
SPORTON INTERNATIONAL INC. Page No. : D13 of D13
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Appendix E. Transmitter Radiated Unwanted Emissions

Report No.: FR640901AC

Transmitter Radiated Unwanted Emissions (Below 1GHz)



	Freq	Level	Over Limit	Limit Line		Antenna Factor		Preamp Factor	
-	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	30.00	36.21	-3.79	40.00	48.41	24.90	0.32	37.42	Peak
2	150.28	18.69	-24.81	43.50	38.01	16.59	0.69	36.60	Peak
3	249.22	24.80	-21.20	46.00	42.39	17.92	0.88	36.39	Peak
4	400.54	38.45	-7.55	46.00	52.48	21.51	1.12	36.66	Peak
5	549.92	32.73	-13.27	46.00	44.60	23.90	1.35	37.12	Peak
6	924.34	32.92	-13.08	46.00	39.45	29.23	1.82	37.58	Peak

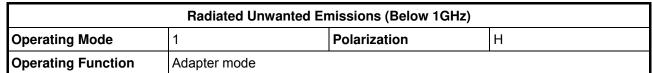
Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

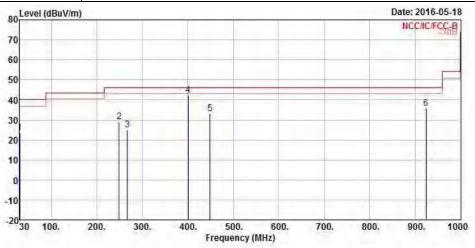
Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

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

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C Test Report Report No.: FR640901AC





	Freq	Level	Over Limit			Antenna Factor			Remark
-	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	30.00	23.58	-16.42	40.00	35.78	24.90	0.32	37.42	Peak
2	249.22	29.23	-16.77	46.00	46.82	17.92	0.88	36.39	Peak
3	266.68	25.13	-20.87	46.00	41.89	18.73	0.91	36.40	Peak
4	400.54	42.54	-3.46	46.00	56.57	21.51	1.12	36.66	QP
5	449.04	33.03	-12.97	46.00	46.27	22.38	1.20	36.82	Peak
6	924.34	35.63	-10.37	46.00	42.16	29.23	1.82	37.58	Peak

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

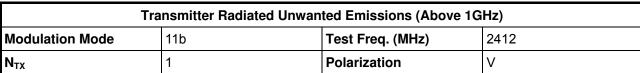
Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

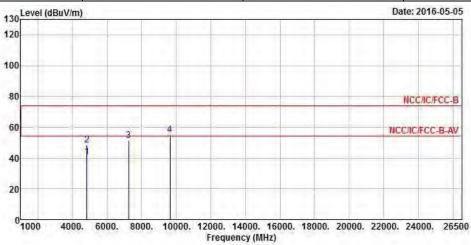
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

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CC Test Report No. : FR640901AC

Transmitter Radiated Unwanted Emissions (Above 1GHz)





			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
1	4824.00	40.71	-13.29	54.00	38.61	31.15	6.11	35.16	Average	
2	4824.00	48.60	-25.40	74.00	46.50	31.15	6.11	35.16	Peak	
3	7236.00	51.10			43.03	35.91	7.57	35.41	Peak	
4	9648.00	55.38			43.84	38.69	8.80	35.95	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 (105.53 dBuV/m).
- Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

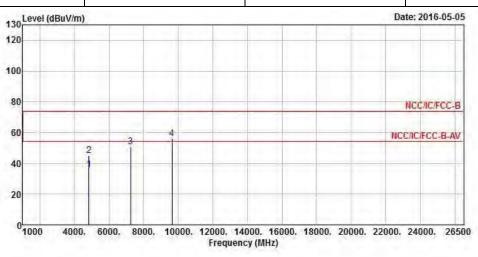
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Transmitter Radiated Unwanted Emissions (Above 1GHz)

Modulation Mode 11b Test Freq. (MHz) 2412

N_{TX} 1 Polarization H

Report No.: FR640901AC



	Freq	Level				Antenna Factor			
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	4824.00	35.96	-18.04	54.00	33.86	31.15	6.11	35.16	Average
2	4824.00	45.00	-29.00	74.00	42.90	31.15	6.11	35.16	Peak
3	7236.00	50.82	G.		42.75	35.91	7.57	35.41	Peak
4	9648.00	56.14	4		44.60	38.69	8.80	35.95	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)

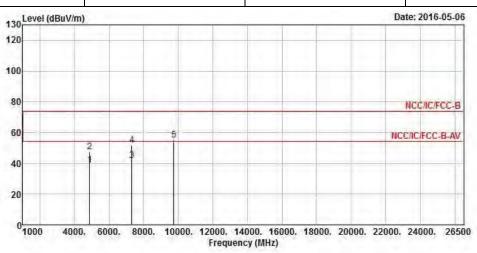
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level (105.53dBuV/m).

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

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Report No.: FR640901AC

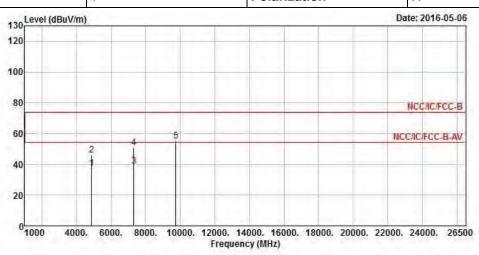


	Freq	Level	Over Limit			Antenna Factor				
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		-
1	4874.00	39.00	-15.00	54.00	36.81	31.22	6.13	35.16	Average	
2	4874.00	47.51	-26.49	74.00	45.32	31.22	6.13	35.16	Peak	
3	7311.00	41.59	-12.41	54.00	33.30	36.11	7.60	35.42	Average	
4	7311.00	51.79	-22.21	74.00	43.50	36.11	7.60	35.42	Peak	
5	9748.00	55.40			43.71	38.75	8.89	35.95	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 (103.17 dBuV/m).
- Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

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	Freq	Level	Over Limit			Antenna Factor			Remark	
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		_
1	4874.00	37.60	-16.40	54.00	35.41	31.22	6.13	35.16	Average	
2	4874.00	45.90	-28.10	74.00	43.71	31.22	6.13	35.16	Peak	
3	7311.00	39.00	-15.00	54.00	30.71	36.11	7.60	35.42	Average	
4	7311.00	51.09	-22.91	74.00	42.80	36.11	7.60	35.42	Peak	
5	9748.00	55.19			43.50	38.75	8.89	35.95	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.

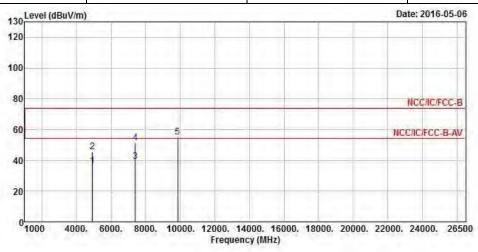
Note 5: For un-restricted bands, unwanted emissions shall be attenuated by at least 20 dB relative to the maximum measured in-band level (103.17 dBuV/m).

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

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FCC Test Report No.: FR640901AC

Transmitter Radiated Unwanted Emissions (Above 1GHz)								
Modulation Mode11bTest Freq. (MHz)2462								
N _{TX} 1 Polarization V								



			Over	Limit	ReadA	Antenna			
	Freq	Level	Limit	Line	Level	Factor	Loss	Factor	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	4924.00	36.36	-17.64	54.00	34.05	31.29	6.17	35.15	Average
2	4924.00	45.62	-28.38	74.00	43.31	31.29	6.17	35.15	Peak
3	7386.00	39.44	-14.56	54.00	30.94	36.30	7.63	35.43	Average
4	7386.00	51.26	-22.74	74.00	42.76	36.30	7.63	35.43	Peak
5	9848.00	55.25			43.37	38.81	9.03	35.96	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 (107.19 dBuV/m).
- Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

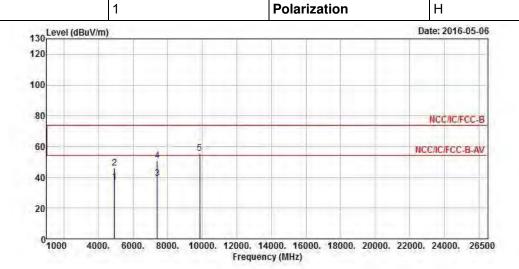
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 N_{TX}

Transmitter Radiated Unwanted Emissions (Above 1GHz)

Modulation Mode 11b Test Freq. (MHz) 2462

Report No.: FR640901AC



	Eren	Laval	Over Limit	Limit Line		Antenna			Ramark	
	1129	rever	LIMIL	Line	rever	raccor	LU33	ractor	Kellal K	
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		
1	4924.00	37.02	-16.98	54.00	34.71	31.29	6.17	35.15	Average	
2	4924.00	45.82	-28.18	74.00	43.51	31.29	6.17	35.15	Peak	
3	7386.00	39.12	-14.88	54.00	30.62	36.30	7.63	35.43	Average	
4	7386.00	50.83	-23.17	74.00	42.33	36.30	7.63	35.43	Peak	
5	9848.00	55.68			43.80	38.81	9.03	35.96	Peak	

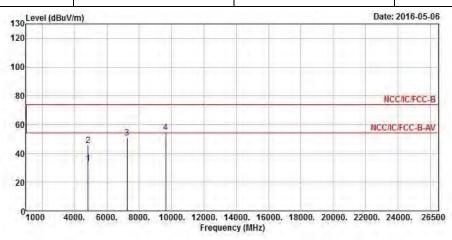
- Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.
- Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)
- Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
- Note 4: For restricted 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 (107.19dBuV/m).
- Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

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FCC Test Report

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

Report No.: FR640901AC



			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	4824.00	33.30	-20.70	54.00	31.20	31.15	6.11	35.16	Average
2	4824.00	45.38	-28.62	74.00	43.28	31,15	6.11	35.16	Peak
3	7236.00	50.62			42.55	35.91	7.57	35.41	Peak
4	9648.00	54.90			43.36	38.69	8.80	35.95	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 (106.86dBuV/m).

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

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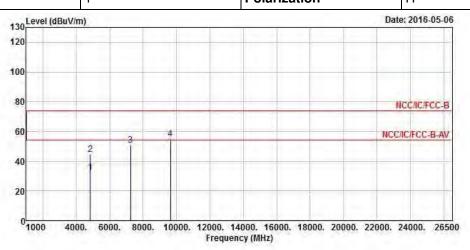
FCC Test Report

Transmitter Radiated Unwanted Emissions (Above 1GHz)

Modulation Mode 11g Test Freq. (MHz) 2412

N_{TX} 1 Polarization H

Report No.: FR640901AC



	Freq	Over Lim Freq Level Limit Li						Remark	
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	4824.00	32.82	-21.18	54.00	30.72	31.15	6.11	35.16	Average
2	4824.00	44.50	-29.50	74.00	42.40	31,15	6.11	35.16	Peak
3	7236.00	50.97			42.90	35.91	7.57	35.41	Peak
4	9648.00	54.98			43.44	38.69	8.80	35.95	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 (106.86 dBuV/m).
- Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

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Modulation Mode

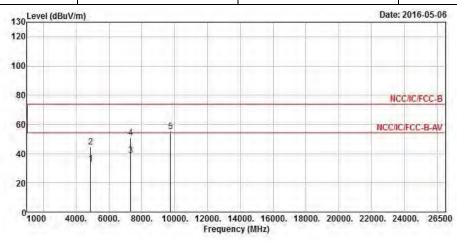
FCC Test Report

Transmitter Radiated Unwanted Emissions (Above 1GHz)

Report No.: FR640901AC

2437

Test Freq. (MHz) 11g 1 **Polarization** V N_{TX}



	Freq	Level	Over Limit	Limit Line		Antenna Factor			Remark
-	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	
1	4874.00	32.98	-21.02	54.00	30.79	31.22	6.13	35.16	Average
2	4874.00	44.70	-29.30	74.00	42.51	31.22	6.13	35.16	Peak
3	7311.00	39.01	-14.99	54.00	30.72	36.11	7.60	35.42	Average
4	7311.00	51.09	-22.91	74.00	42.80	36.11	7.60	35.42	Peak
5	9748.00	55.10			43.41	38.75	8.89	35.95	Peak

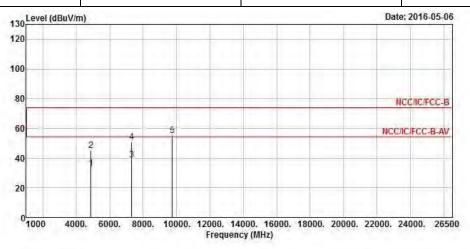
- Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.
- Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)
- Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
- Note 4: For restricted 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 (105.95 dBuV/m).
- Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

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FCC Test Report

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

Report No.: FR640901AC



	Freq	Level		Limit Line					Remark	
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	_	_
1	4874.00	32.90	-21.10	54.00	30.71	31.22	6.13	35.16	Average	
2	4874.00	45.06	-28.94	74.00	42.87	31.22	6.13	35.16	Peak	
3	7311.00	38.89	-15.11	54.00	30.60	36.11	7.60	35.42	Average	
4	7311.00	50.97	-23.03	74.00	42.68	36.11	7.60	35.42	Peak	
5	9748.00	55.09			43.40	38.75	8.89	35.95	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 (105.95 dBuV/m).
- Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

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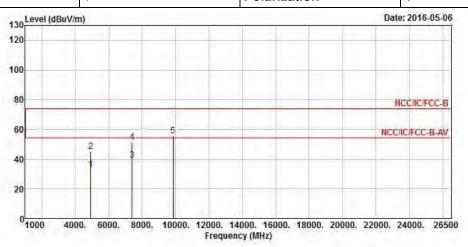
FCC Test Report

Transmitter Radiated Unwanted Emissions (Above 1GHz)

Modulation Mode 11g Test Freq. (MHz) 2462

N_{TX} 1 Polarization V

Report No.: FR640901AC



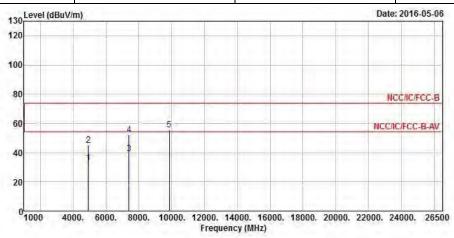
	Freq	Level	Over Limit	Limit Line		Antenna Factor				
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		-
1	4924.00	33.08	-20.92	54.00	30.77	31.29	6.17	35.15	Average	
2	4924.00	45.16	-28.84	74.00	42.85	31.29	6.17	35.15	Peak	
3	7386.00	39.25	-14.75	54.00	30.75	36.30	7.63	35.43	Average	
4	7386.00	51.27	-22.73	74.00	42.77	36.30	7.63	35.43	Peak	
5	9848.00	55.58			43.70	38.81	9.03	35.96	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 (107.05 dBuV/m).
- Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

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Transmitter Radiated Unwanted Emissions (Above 1GHz)									
Modulation Mode	11g	Test Freq. (MHz)	2462						
N_{TX}	1	Polarization	Н						



	Freq	Level	Level	Level	Level	Level	Over Limit	Line		Antenna Factor			Remark	
-	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB						
1	4924.00	32.91	-21.09	54.00	30.60	31.29	6.17	35.15	Average					
2	4924.00	44.86	-29.14	74.00	42.55	31.29	6.17	35.15	Peak					
3	7386.00	39.10	-14.90	54.00	30.60	36.30	7.63	35.43	Average					
4	7386.00	52.05	-21.95	74.00	43.55	36.30	7.63	35.43	Peak					
5	9848.00	55.42			43.54	38.81	9.03	35.96	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 ((107.05 dBuV/m).
- Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

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