



<b>Prüfbericht-Nr.:</b> <i>Test Report No.:</i>	50178464 001	<b>Auftrags-Nr.:</b> <i>Order No.:</i>	144194558	<b>Seite 1 von 23</b> <i>Page 1 of 23</i>	
<b>Kunden-Referenz-Nr.:</b> <i>Client Reference No.:</i>	N/A	<b>Auftragsdatum:</b> <i>Order date:</i>	29.08.2018		
<b>Auftraggeber:</b> <i>Client:</i>	Augury systems Ltd. 39 Haatzmaut St., 1st Floor, Haifa, 3303320, Israel				
<b>Prüfgegenstand:</b> <i>Test item:</i>	Smart Wireless Gateway Node v2.0				
<b>Bezeichnung / Typ-Nr.:</b> <i>Identification / Type No.:</i>	AC00013				
<b>Auftrags-Inhalt:</b> <i>Order content:</i>	US FCC Certification; ISCED Canada Certification				
<b>Prüfgrundlage:</b> <i>Test specification:</i>	FCC Part 15 Subpart C RSS-247 Issue 2 ANSI C63.10-2013				
<b>Wareneingangsdatum:</b> <i>Date of receipt:</i>	30.08.2018				
<b>Prüfmuster-Nr.:</b> <i>Test sample No.:</i>	A000800903-001				
<b>Prüfzeitraum:</b> <i>Testing period:</i>	04.09.2018 - 01.11.2018				
<b>Ort der Prüfung:</b> <i>Place of testing:</i>	TÜV Rheinland Hong Kong Ltd.				
<b>Prüflaboratorium:</b> <i>Testing laboratory:</i>	TÜV Rheinland Hong Kong Ltd.				
<b>Prüfergebnis*:</b> <i>Test result*:</i>	Pass				
<b>geprüft von / tested by:</b>		<b>kontrolliert von / reviewed by:</b>			
					
12.11.2018	Benny Lau / Senior Project Manager	12.11.2018	Sharon Li / Unit Senior Manager		
<b>Datum</b> <i>Date</i>	<b>Name / Stellung</b> <i>Name / Position</i>	<b>Unterschrift</b> <i>Signature</i>	<b>Datum</b> <i>Date</i>	<b>Name / Stellung</b> <i>Name / Position</i>	<b>Unterschrift</b> <i>Signature</i>
<b>Sonstiges / Other:</b>		FCC ID: 2AJJIAC00013 IC: 23482-AC00013			
<b>Zustand des Prüfgegenstandes bei Anlieferung:</b> <i>Condition of the test item at delivery:</i>		Prüfmuster vollständig und unbeschädigt <i>Test item complete and undamaged</i>			
<p>* Legende: 1 = sehr gut 2 = gut 3 = befriedigend 4 = ausreichend 5 = mangelhaft P(ass) = entspricht o.g. Prüfgrundlage(n) F(ail) = entspricht nicht o.g. Prüfgrundlage(n) N/A = nicht anwendbar N/T = nicht getestet</p> <p>Legend: 1 = very good 2 = good 3 = satisfactory 4 = sufficient 5 = poor P(ass) = passed a.m. test specification(s) F(ail) = failed a.m. test specification(s) N/A = not applicable N/T = not tested</p>					
<p><b>Dieser Prüfbericht bezieht sich nur auf das o.g. Prüfmuster und darf ohne Genehmigung der Prüfstelle nicht auszugsweise vervielfältigt werden. Dieser Bericht berechtigt nicht zur Verwendung eines Prüfzeichens.</b></p> <p><i>This test report only relates to the a. m. test sample. Without permission of the test center this test report is not permitted to be duplicated in extracts. This test report does not entitle to carry any test mark.</i></p>					

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## Product information

### Manufacturers declarations

	BLE Transceiver	WIFI Transceiver
Operating frequency range	2402 - 2480 MHz	2412 - 2462 MHz
Type of modulation	GFSK	802.11b: DSSS (DBPSK/DQPSK/CCK) 802.11g: OFDM (BPSK/QPSK/16-QAM) 802.11n: OFDM (BPSK/QPSK/16QAM/64QAM)
Number of channels	40	11
Bandwidth	N/A	20MHz
Channel separation	2 MHz	5 MHz
Type of antenna	External Antenna	
Antenna gain	5 dBi	
Professional installation	Yes	
Power level	fix	
Type of equipment	stand alone radio device	
Connection to public utility power line	Yes	
Nominal voltage	100-240VAC	
Independent Operation Modes	Transmitting	

### Product function and intended use

The equipment under test (EUT) is a wireless gateway for the data transfer with Ethernet, Wi-Fi and BLE connectivity. It is powered by 100-240VAC.

FCC ID: 2AJJIAC00013/ IC: 23482-AC00013

Models	Product description
AC00013	Smart Wireless Gateway Node v2.0

### Submitted documents

Circuit Diagram  
Block Diagram  
Technical Description  
User manual  
Label

### Independent Operation Modes

The basic operation modes are:

- Transmitting mode.

For further information refer to User Manual

### Related Submittal(s) Grants

This is a single application for certification of the BLE and WIFI transmitter.  
Others digital function which is independent from the transmitter is authorized under SDOC procedure.  
Please refer to test report 50199565 001 issued by TÜV Rheinland Hong Kong Ltd.

## **Remark**

The test results in this test report are only relevant to the tested sample and does not involve any assessment in the production.

## Test Set-up and Operation Mode

### Principle of Configuration Selection

**Emission:** The equipment under test (EUT) was configured to measure its highest possible radiation level. The test modes were adapted accordingly in reference to the instructions for use.

### Test Operation and Test Software

Test operation should refer to test methodology.

- During test, Channel & Power Controlling Software provided by the customer was used to control the operating channel as well as the output power level. The RF output power was selected according to the instruction given by the manufacturer. The setting of the RF output power expected by the customer shall be fixed on the firmware of the final end product.

### Special Accessories and Auxiliary Equipment

- None

### Countermeasures to achieve EMC Compliance

- None

## Test Methodology

### Radiated Emission

The radiated emission measurements of the transmitter part were performed according to the procedures in ANSI C63.10-2013.

For measurement below 1GHz - the equipment under test (EUT) was placed at the middle of the 80 cm height turntable. For measurement above 1GHz - the EUT was placed at the middle of the 1.5 m height turntable and RF absorbing material was placed on ground plane between turntable and measuring antenna. During the testing, the EUT was operated standalone and arranged for maximum emissions. The EUT was tested in three orthogonal planes.

The investigation is performed with the EUT rotated 360°, the antenna height scanned between 1m and 4m, and the antenna rotated to repeat the measurements for both the horizontal and vertical antenna polarizations. Repeat the measurement steps until the maximum emissions were obtained.

All radiated tests were performed at an antenna to EUT with 3 meters distance, unless stated otherwise in particular parts of this test report.

### Field Strength Calculation

The field strength at 3 m was established by adding the meter reading of the spectrum analyzer to the factors associated with antenna correction factor, cable loss, preamplifiers and filter attenuation.

The equation is expressed as follow:

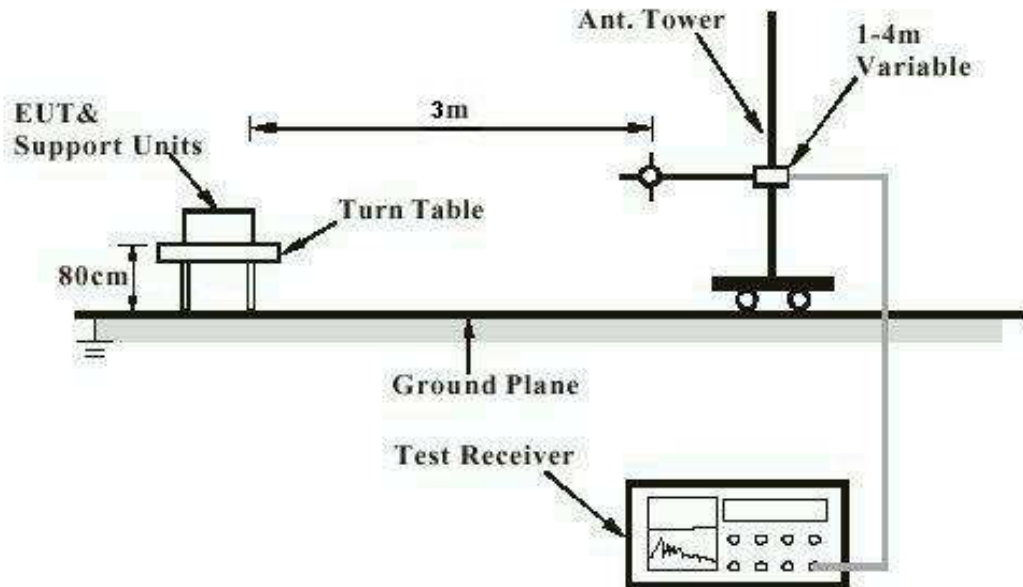
$$FS = R + AF + CF + FA - PA$$

Where FS = Field Strength in dBuV/m at 3 meters.  
R = Reading of Spectrum Analyzer in dBuV.  
AF = Antenna Factor in dB.  
CF = Cable Attenuation Factor in dB.  
FA = Filter Attenuation Factor in dB.  
PA = Preamplifier Factor in dB.

FA and PA are only be used for the measuring frequency above 1 GHz.

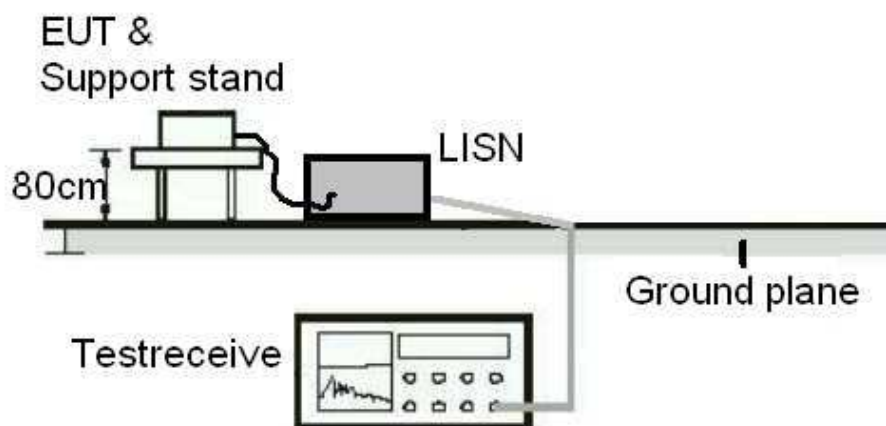
## Test Setup Diagram

Diagram of Measurement Configuration for Radiation Test

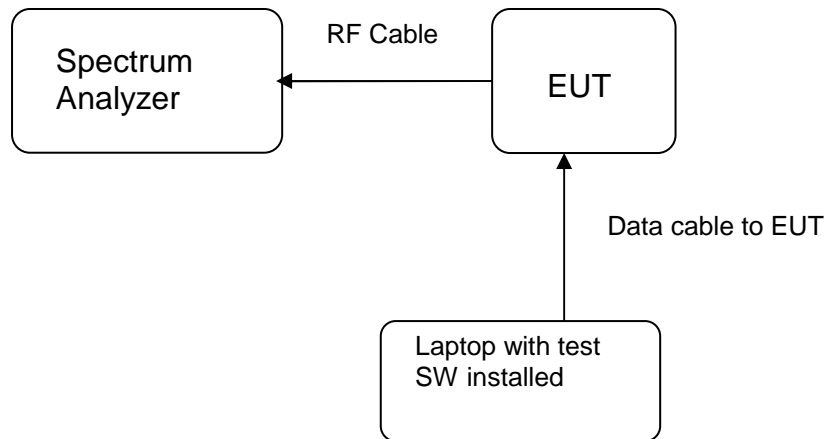


**Note:** Measurements above 1 GHz are done with a table height of 1.5m. In addition, there is RF absorbing material on the floor of the test site for above 1GHz measurement.

Diagram of Measurement Equipment Configuration for Mains Conduction Measurement (if applicable)





**Diagram of Equipment Configuration for Antenna-port Conducted Measurement (if applicable)**

## Test Facility

### Test Laboratory Information

TÜV Rheinland Hong Kong Ltd.

Address: 3-4, 11/F., Fou Wah Industrial Building, 10-16 Pun Shan Street, Tsuen Wan, N.T., Hong Kong

Tel.: +852 2192 1000

Fax: +852 2192 1001

Email [service-gc@tuv.com](mailto:service-gc@tuv.com)

Web: [www.tuv.com](http://www.tuv.com)

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

#### **FCC**

Type	: Accredited Test Firm
Designation Number	: HK0013
Test Firm Registration Number	: 371735
Scope	: Intentional Radiators

#### **ISED**

The 10m Semi-anechoic chamber used by TÜV Rheinland Hong Kong Ltd at Hong Kong Productivity Council has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing

Test Site Registration Number : 4780A-1

## List of Test and Measurement Instruments

### Radiated Emission

Equipment	Manufacturer	Type	Cal. Date	Due Date
Semi-anechoic Chamber	Frankonia	Nil	23-Apr-18	23-Apr-19
Test Receiver	R & S	ESU40	12-Jun-18	12-Jun-19
Active Loop Antenna	EMCO	6502	25-Oct-18	25-Oct-19
Bi-conical Antenna	R & S	HK116	21-Mar-18	21-Mar-20
Log Periodic Antenna	R & S	HL223	22-Mar-18	22-Mar-20
Standard Gain Horn	ETS-Lindgren	3160-07	4-Sep-18	4-Sep-20
Standard Gain Horn	ETS-Lindgren	3160-08	26-Sep-18	26-Sep-20
Standard Gain Horn	ETS-Lindgren	3160-10	3-Oct-18	3-Oct-20
Double-Ridged Waveguide Horn	EMCO	3116	5-Oct-18	5-Oct-20
Double-Ridged Waveguide Horn	EMCO	3117	30-Aug-18	30-Aug-20
Coaxial cable	Harbour	LL335	12-Jun-18	12-Jun-19
High Frequency Cable	Pasternack	PE3VNA4001-3M	11-Dec-17	11-Dec-19
Microwave amplifier 0.5-26.5GHz, 25dB gain	HP	83017A	25-Jun-18	25-Jun-19
Preamplifier 18GHz to 40GHz with cable (EMC656)	A.H. Systems, Inc.	PAM-1840VH	29-Jan-18	29-Jan-19
High Pass Filter (cutoff freq. =1000MHz)	Trilithic	23042	30-Oct-17	30-Oct-19

### AC Mains Conducted Emission

Equipment	Manufacturer	Type	Cal. Date	Due Date
Test Receiver	R & S	ESU40	12-Jun-18	12-Jun-19
LISN	R&S	ENV216	31-Jul-18	31-Jul-19
Double Shield Cable	Huber+ Suhner	RG223/U-01	18-May-17	18-May-19

### Radio Test

Equipment	Manufacturer	Type	Cal. Date	Due Date
Spectrum Analyzer	R & S	FSP30	3-May-18	2-May-19

## Measurement Uncertainty

The estimated combined standard uncertainty for power-line conducted emissions measurements is  $\pm 2.42\text{dB}$ .

The estimated combined standard uncertainty for radiated emissions measurements is  $\pm 4.81\text{dB}$  (9kHz to 30MHz) and  $\pm 4.62\text{dB}$  (30MHz to 200MHz) and  $\pm 5.67\text{dB}$  (200MHz to 1000MHz) and is  $\pm 5.07\text{dB}$  (1GHz to 8.2GHz) and  $\pm 4.58\text{dB}$  (8.2GHz to 12.4GHz) and  $\pm 4.78\text{dB}$  (12.4GHz to 18GHz)

The estimated combined standard uncertainty for antenna conducted emission is  $\pm 2.1\text{dB}$

The reported expanded uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor of  $k=2$ , which for the level of confidence is approximately 95%.

## Results FCC Part 15 – Subpart C / RSS-247 Issue 2

<b>FCC 15.203 – Antenna Requirement 1</b>		<b>N/A</b>
<b>FCC Requirement:</b>	No antenna other than that furnished by the responsible party shall be used with the device	
<b>Results:</b>	This requirement does not apply to intentional radiators that must be professionally installed.	
<b>Verdict:</b>	Pass	

<b>FCC 15.204 – Antenna Requirement 2</b>		<b>Pass</b>
<b>FCC Requirement:</b>	An intentional radiator may be operated only with the antenna with which it is authorized. If an antenna is marketed with the intentional radiator, it shall be of a type which is authorized with the intentional radiator.	
<b>Results:</b>	The EUT must be professionally installed. Only the tested antenna will be used with the EUT.	
<b>Verdict:</b>	N/A	

<b>RSS-Gen 6.3 – External Control</b>		<b>Pass</b>
<b>IC Requirement:</b>	The device shall not have any external controls accessible to the user that enable it to be adjusted, selected or programmed to operate in violation of the limits prescribed in the applicable RSS.	
<b>Results:</b>	The device does not have any transmitter external controls accessible to the user that can be adjusted and operated in violation of the limits of this standard.	
<b>Verdict:</b>	Pass	

<b>RSS-Gen 8.3 – Antenna Requirement</b>		<b>Pass</b>
<b>IC Requirement:</b>	When a measurement at the antenna connector is used to determine RF output power, the effective gain of the device's antenna shall be stated, based on measurement or on data from the antenna manufacturer.	
<b>Results:</b>	a) Antenna type: b) Manufacturer c) model no d) Gain with reference to an isotropic radiator:	External antenna TRENDnet TEW-A057 5 dBi
<b>Verdict:</b>	Pass	

<b>FCC 15.207/ RSS-Gen 8.8 – Conducted Emission on AC Mains</b>						<b>Pass</b>
Test Specification : ANSI C63.10-2013 Test date : 01.11.2018 Mode of operation : WIFI ON, BLE ON, Ethernet ON. Supply voltage : 120Vac 60Hz Temperature : 23°C Humidity : 50%						
Requirement: 15.207(a)/ RSS-Gen 8.8						
<b>Results:</b> For test Results plots refer to Appendix 1						
<b>Live measurement</b>						
Frequency range (MHz)	Frequency (MHz)	Quasi-peak dBµV	Average dBµV	Limit QP (dBµV)	Limit AV (dBµV)	Verdict
0,15 – 0,5	No peak found	---	---	66 - 56	56 - 46	Pass
> 0,5 - 5	No peak found	---	---	56	46	Pass
> 5 - 30	16.23	31.62	31.38	60	50	Pass
<b>Neutral measurement</b>						
Frequency range (MHz)	Frequency (MHz)	Quasi-peak dBµV	Average dBµV	Limit QP (dBµV)	Limit AV (dBµV)	Verdict
0,15 – 0,5	No peak found	---	---	66 - 56	56 - 46	Pass
> 0,5 - 5	No peak found	---	---	56	46	Pass
> 5 - 30	17.694	30.00	29.93	60	50	Pass
<b>Remark:</b> Pre-scan has been conducted to determine the worst-case mode from all possible combinations between available modulations and data rate.						

<b>FCC 15.247 (a)(2) / RSS-247 5.2 – 6dB Bandwidth Measurement</b>			<b>Pass</b>
<b>FCC/ IC Requirement:</b> Systems using digital modulation techniques may operate in the 902 – 928 MHz, 2400 – 2483.5 MHz, and 5725 – 5850 MHz bands. The minimum 6dB bandwidth shall be at least 500kHz.			
Test Specification : ANSI C63.10 – 2013 Test date : 31.10.2018 Tested Model : AC00013 Mode of operation : Tx mode Port of testing : Temporary antenna port Supply voltage : 120VAC 60Hz Temperature : 23°C Humidity : 50%			
<b>Results:</b> For test protocols please refer to Appendix 1			
<b>BLE</b>			
Channel frequency (MHz)	6 dB left (MHz)	6 dB right (MHz)	6dB bandwidth (kHz)
2402	2401.650	2402.330	680
2440	2439.660	2440.330	670
2480	2479.660	2480.330	670
<b>802.11b</b>			
Channel frequency (MHz)	6 dB left (MHz)	6 dB right (MHz)	6dB bandwidth (MHz)
2412	2406.920	2417.04	10.12
2437	2421.960	2432.04	10.08
2462	2457.000	2467.04	10.04
<b>802.11g</b>			
Channel frequency (MHz)	6 dB left (MHz)	6 dB right (MHz)	6dB bandwidth (MHz)
2412	2404.440	2419.56	15.12
2437	2429.480	2444.56	15.08
2462	2454.440	2469.56	15.12
<b>802.11n20</b>			
Channel frequency (MHz)	6 dB left (MHz)	6 dB right (MHz)	6dB bandwidth (MHz)
2412	2404.400	2419.60	15.20
2437	2429.440	2444.56	15.12
2462	2454.440	2469.56	15.12
<b>Remark:</b> Nil			

<b>FCC 15.247(b)(3) / RSS-247 5.4 – Maximum Peak Couducted Output Power</b>				<b>Pass</b>
<b>FCC/ IC Requirement:</b> For systems using digital modulation in the 902-928 MHz, 2400-2483.5 MHz, and 5725-5850MHz bands: 1 Watt (30dBm)				
Test Specification : ANSI C63.10 – 2013 Test date : 31.10.2018 Tested Model : AC00013 Mode of operation : Tx mode Port of testing : Temporary antenna port Supply voltage : 120VAC 60Hz Temperature : 23°C Humidity : 50%				
<b>Results:</b> For test protocols please refer to Appendix 1				
<b>BLE</b>				
Frequency (MHz)	Cable loss (dB)	Measured Output Power (dBm)	Limit (W/dBm)	Verdict
2402	2	5.14	30.0	Pass
2440	2	5.60	30.0	Pass
2480	2	5.24	30.0	Pass
<b>802.11b</b>				
Frequency (MHz)	Cable loss (dB)	Measured Output Power (dBm)	Limit (dBm)	Verdict
2412	0	15.6	30.0	Pass
2437	0	15.3	30.0	Pass
2462	0	15.1	30.0	Pass
<b>802.11g</b>				
Frequency (MHz)	Cable loss (dB)	Measured Output Power (dBm)	Limit (dBm)	Verdict
2412	0	17.5	30.0	Pass
2437	0	17.6	30.0	Pass
2462	0	17.3	30.0	Pass
<b>802.11n-HT20</b>				
Frequency (MHz)	Cable loss (dB)	Measured Output Power (dBm)	Limit (dBm)	Verdict
2412	0	17.6	30.0	Pass
2437	0	17.5	30.0	Pass
2462	0	17.3	30.0	Pass
<b>Remark:</b> 1) Cable loss is included in the offset of the SA. 2) For the peak power measurement of 802.11b, 802.11g and 802.11n, broadband peak RF power meter is used and directly connect to the antenna port of the EUT. 3) Only one antenna port is activated. It is not MIMO transmitter.				



FCC 15.247(e) / RSS-247 5.2 – Power Spectral Density				Pass
<b>FCC/ IC Requirement:</b> For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.				
Test Specification : ANSI C63.10 – 2013 Test date : 31.10.2018 Tested Model : AC00013 Mode of operation : Tx mode Port of testing : Temporary antenna port Supply voltage : 120VAC 60Hz Temperature : 23°C Humidity : 50%				
<b>Results:</b> For test protocols please refer to Appendix 1.				
<b>BLE</b>				
Operating frequency (MHz)	Cable loss (dB)	Power density (dBm)	Limit (dBm)	Verdict
2402	2	5.06	8.0	Pass
2440	2	5.52	8.0	Pass
2480	2	5.16	8.0	Pass
<b>802.11g</b>				
Operating frequency (MHz)	Cable loss (dB)	Power density (dBm)	Limit (dBm)	Verdict
2412	2	5.90	8.0	Pass
2437	2	5.29	8.0	Pass
2462	2	5.05	8.0	Pass
<b>802.11n-HT20</b>				
Operating frequency (MHz)	Cable loss (dB)	Power density (dBm)	Limit (dBm)	Verdict
2412	2	4.68	8.0	Pass
2437	2	4.65	8.0	Pass
2462	2	4.25	8.0	Pass
<b>802.11n-HT40</b>				
Operating frequency (MHz)	Cable loss (dB)	Power density (dBm)	Limit (dBm)	Verdict
2422	2	4.14	8.0	Pass
2437	2	3.76	8.0	Pass
2452	2	3.22	8.0	Pass
<b>Remark:</b> 1) Cable loss is included in the offset of the SA. 2) Only one antenna port is activated. It is not MIMO transmitter.				

FCC 15.247(d) / RSS-247 5.5 – Spurious Conducted Emissions				Pass	
Test Specification : ANSI C63.10 – 2013 Test date : 31.10.2018 Tested Model : AC00013 Mode of operation : Tx mode Port of testing : Temporary antenna port Supply voltage : 120VAC 60Hz Temperature : 23°C Humidity : 50%					
FCC/ IC Requirement: In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement.					
Results:		Only the worst cases is shown below. For test protocols refer to Appendix 1			
BLE					
Operating frequency (MHz)	Spurious frequency (MHz)	Spurious Level (dBm)	Reference value (dBm)	Delta (dB)	Verdict
2402	7720.000	-29.61	5.06	34.67	Pass
2440	9280.000	-29.90	5.52	35.42	Pass
2480	7680.000	-29.58	5.16	34.74	Pass
802.11b					
Operating frequency (MHz)	Spurious frequency (MHz)	Spurious Level (dBm)	Reference value (dBm)	Delta (dB)	Verdict
2412	2397.000	-36.26	5.90	42.16	Pass
2437	7420.000	-29.53	5.29	34.82	Pass
2462	9220.000	-29.28	5.05	34.33	Pass
802.11g					
Operating frequency (MHz)	Spurious frequency (MHz)	Spurious Level (dBm)	Reference value (dBm)	Delta (dB)	Verdict
2412	2398.800	-17.44	4.68	22.12	Pass
2437	21592.000	-21.13	4.65	25.78	Pass
2462	2483.7	-33.48	4.25	37.73	Pass
802.11n-HT20					
Operating frequency (MHz)	Spurious frequency (MHz)	Spurious Level (dBm)	Reference value (dBm)	Delta (dB)	Verdict
2412	2400.400	-20.63	4.14	24.77	Pass
2437	24592.000	-20.01	3.76	23.77	Pass
2462	2483.900	-33.10	3.22	36.32	Pass
Remark: 1) Only one antenna port is activated. It is not MIMO transmitter.					

<b>FCC 15.205/ RSS-Gen 8.9 – Radiated Emissions in Restricted Frequency Bands</b>		<b>Pass</b>
Test Specification : ANSI C63.10 – 2013 Test Date : 31.10.2018 Tested Model : AC00013 Mode of operation : Tx mode Port of testing : Enclosure Frequency range : 9kHz – 25GHz Supply voltage : 120VAC 60Hz Temperature : 23°C Humidity : 50%		
<b>FCC/ IC Requirement:</b> In any 100kHz bandwidth outside the frequency band at least 20dB below the highest level of the desired power. In addition, radiated emissions which fall in the restricted bands must also comply with the radiated emission general limits.		
<b>Results:</b> All three transmit frequency modes comply with the field strength within the restricted bands. There is no spurious found below 30MHz.		
Mode: BLE TX@2402MHz		Vertical Polarization
Freq MHz	Level dBuV/m	Limit/ Detector dBuV/m
2390.000	35.9	74.0 / PK
2390.000	30.3	54.0 / AV
4803.994	49.7	74.0 / PK
4803.994	46.6	54.0 / AV
7205.990	47.5	74.0 / PK
7205.990	41.3	54.0 / AV
Mode: BLE TX@2402MHz		Horizontal Polarization
Freq MHz	Level dBuV/m	Limit/ Detector dBuV/m
2390.000	36.2	74.0 / PK
2390.000	30.1	54.0 / AV
4803.980	42.4	74.0 / PK
4803.980	35.8	54.0 / AV
7205.971	48.4	74.0 / PK
7205.971	41.2	54.0 / AV
Mode: BLE TX@2440MHz		Vertical Polarization
Freq MHz	Level dBuV/m	Limit/ Detector dBuV/m
53.569	30.0	40.0 / QP
425.004	36.8	46.0 / QP
4897.495	52.2	74.0 / PK
4897.495	49.5	54.0 / AV
Mode: BLE TX@2440MHz		Horizontal Polarization
Freq MHz	Level dBuV/m	Limit/ Detector dBuV/m
4879.496	42.9	74.0 / PK
4879.496	38.0	54.0 / AV
7319.246	47.6	74.0 / PK
7319.246	40.8	54.0 / AV

Mode: BLE TX@2480MHz Vertical Polarization		
Freq MHz	Level dBuV/m	Limit/ Detector dBuV/m
2483.500	37.6	74.0 / PK
2483.500	31.4	54.0 / AV
4960.496	50.6	74.0 / PK
4960.496	46.8	54.0 / AV
7440.746	46.1	74.0 / PK
7440.746	39.8	54.0 / AV
Mode: BLE TX@2480MHz Horizontal Polarization		
Freq MHz	Level dBuV/m	Limit/ Detector dBuV/m
2483.500	35.9	74.0 / PK
2483.500	29.9	54.0 / AV
4959.641	41.7	74.0 / PK
4959.641	35.1	54.0 / AV
7439.391	46.1	74.0 / PK
7439.391	39.8	54.0 / AV
Mode: 802.11b@2412MHz Vertical Polarization		
Freq MHz	Level dBuV/m	Limit/ Detector dBuV/m
2390.000	46.0	74.0 / PK
2390.000	32.2	54.0 / AV
4824.075	51.9	74.0 / PK
4824.075	41.5	54.0 / AV
7236.000	57.1	74.0 / PK
7236.000	42.9	54.0 / AV
Mode: 802.11b@2412MHz Horizontal Polarization		
Freq MHz	Level dBuV/m	Limit/ Detector dBuV/m
2390.000	45.8	74.0 / PK
2390.000	32.0	54.0 / AV
4824.000	54.5	74.0 / PK
4824.000	47.7	54.0 / AV
7236.000	57.0	74.0 / PK
7236.000	43.0	54.0 / AV
Mode: 802.11b@2437MHz Vertical Polarization		
Freq MHz	Level dBuV/m	Limit/ Detector dBuV/m
46.394	30.1	40.0 / QP
375.011	37.6	46.0 / QP
525.016	31.8	46.0 / QP
4873.998	52.4	74.0 / PK
4873.998	44.4	54.0 / AV
Mode: 802.11b@2437MHz Horizontal Polarization		
Freq MHz	Level dBuV/m	Limit/ Detector dBuV/m
4873.998	51.3	74.0 / PK
4873.998	38.6	54.0 / AV
7319.998	56.5	74.0 / PK
7319.998	42.6	54.0 / AV

Mode: 802.11b@2462MHz			Vertical Polarization		
Freq MHz	Level dBuV/m	Limit/ Detector dBuV/m	Freq MHz	Level dBuV/m	Limit/ Detector dBuV/m
2483.500	44.6	74.0 / PK	2483.500	32.4	54.0 / AV
4923.999	54.3	74.0 / PK	4923.999	47.9	54.0 / AV
Mode: 802.11b@2462MHz			Horizontal Polarization		
Freq MHz	Level dBuV/m	Limit/ Detector dBuV/m	Freq MHz	Level dBuV/m	Limit/ Detector dBuV/m
2483.500	45.1	74.0 / PK	2483.500	32.4	54.0 / AV
4924.000	51.4	74.0 / PK	4924.000	40.4	54.0 / AV
7386.000	56.2	74.0 / PK	7386.000	42.5	54.0 / AV
Mode: 802.11g@2412MHz			Vertical Polarization		
Freq MHz	Level dBuV/m	Limit/ Detector dBuV/m	Freq MHz	Level dBuV/m	Limit/ Detector dBuV/m
2390.000	45.2	74.0 / PK	2390.000	32.2	54.0 / AV
4823.998	51.1	74.0 / PK	4823.998	38.4	54.0 / AV
Mode: 802.11g@2412MHz			Horizontal Polarization		
Freq MHz	Level dBuV/m	Limit/ Detector dBuV/m	Freq MHz	Level dBuV/m	Limit/ Detector dBuV/m
2390.000	44.7	74.0 / PK	2390.000	32.1	54.0 / AV
7236.000	56.9	74.0 / PK	7236.000	42.8	54.0 / AV
Mode: 802.11g@2437MHz			Vertical Polarization		
Freq MHz	Level dBuV/m	Limit/ Detector dBuV/m	Freq MHz	Level dBuV/m	Limit/ Detector dBuV/m
4874.000	51.6	74.0 / PK	4874.000	41.9	54.0 / AV
7311.000	55.6	74.0 / PK	7311.000	42.6	54.0 / AV
Mode: 802.11g@2437MHz			Horizontal Polarization		
Freq MHz	Level dBuV/m	Limit/ Detector dBuV/m	Freq MHz	Level dBuV/m	Limit/ Detector dBuV/m
7310.998	56.0	74.0 / PK	7310.998	42.6	54.0 / AV
Mode: 802.11g@2462MHz			Vertical Polarization		
Freq MHz	Level dBuV/m	Limit/ Detector dBuV/m	Freq MHz	Level dBuV/m	Limit/ Detector dBuV/m
2483.500	45.2	74.0 / PK	2483.500	32.4	54.0 / AV
4924.000	53.0	74.0 / PK	4924.000	43.0	54.0 / AV

7386.000	45.2	74.0 / PK
7386.000	32.4	54.0 / AV
Mode: 802.11g@2462MHz Horizontal Polarization		
<b>Freq MHz</b>	<b>Level dBuV/m</b>	<b>Limit/ Detector dBuV/m</b>
2483.500	45.9	74.0 / PK
2483.500	32.4	54.0 / AV
4923.999	51.8	74.0 / PK
4923.999	40.6	54.0 / AV
Mode: 802.11n@2412MHz Vertical Polarization		
<b>Freq MHz</b>	<b>Level dBuV/m</b>	<b>Limit/ Detector dBuV/m</b>
2390.000	45.2	74.0 / PK
2390.000	32.1	54.0 / AV
4824.000	51.6	74.0 / PK
4824.000	39.7	54.0 / AV
Mode: 802.11n@2412MHz Horizontal Polarization		
<b>Freq MHz</b>	<b>Level dBuV/m</b>	<b>Limit/ Detector dBuV/m</b>
2390.000	45.3	74.0 / PK
2390.000	32.1	54.0 / AV
4824.000	50.7	74.0 / PK
4824.000	37.2	54.0 / AV
Mode: 802.11n@2437MHz Vertical Polarization		
<b>Freq MHz</b>	<b>Level dBuV/m</b>	<b>Limit/ Detector dBuV/m</b>
4873.998	52.5	74.0 / PK
4873.998	43.7	54.0 / AV
7311.000	55.7	74.0 / PK
7311.000	42.6	54.0 / AV
Mode: 802.11n@2437MHz Horizontal Polarization		
<b>Freq MHz</b>	<b>Level dBuV/m</b>	<b>Limit/ Detector dBuV/m</b>
4873.998	50.5	74.0 / PK
4873.998	38.1	54.0 / AV
7310.998	56.6	74.0 / PK
7310.998	42.6	54.0 / AV
Mode: 802.11n@2462MHz Vertical Polarization		
<b>Freq MHz</b>	<b>Level dBuV/m</b>	<b>Limit/ Detector dBuV/m</b>
2483.500	45.5	74.0 / PK
2483.500	32.4	54.0 / AV
4923.999	53.8	74.0 / PK
4923.999	46.0	54.0 / AV
Mode: 802.11n@2462MHz Horizontal Polarization		
<b>Freq MHz</b>	<b>Level dBuV/m</b>	<b>Limit/ Detector dBuV/m</b>
2483.500	45.7	74.0 / PK
2483.500	32.4	54.0 / AV

4923.999	51.1	74.0 / PK
4923.999	39.4	54.0 / AV
7385.999	56.2	74.0 / PK
7385.999	42.5	54.0 / AV

**Remark:** 1) Pre-scan has been conducted to determine the worst-case mode from all possible combinations between available modulations and data rate.  
2) BLE and WIFI will not have simultaneous transmission.