

# ELECTROMAGNETIC EMISSIONS COMPLIANCE REPORT

# INTENTIONAL RADIATOR CERTIFICATION TO FCC PART 15 SUBPART C REQUIREMENT

	OF
Applicant:	BitaTek Co., Ltd.
	6F., No. 115, Wugong 3rd Rd., Wugu Dist., New Taipei City 248,
	Taiwan.
Product Name:	Frey
Brand Name:	Bitatek
Model No.:	Frey M1-0000, Frey M1-0010
Model Difference:	Frey M1-0000 with GPS, Frey M1-0010 without GPS
FCC ID:	SPYIM0002
Report Number:	ER/2018/10129
FCC Rule Part:	§15.247, Cat: DTS
Issue Date:	Feb. 09, 2018
Date of Test:	Jan. 18, 2018~ Jan. 22, 2018
Date of EUT Received:	Jan. 17, 2018

### We hereby certify that:

The above equipment was tested by SGS Taiwan Ltd. Electronics & Communication Laboratory The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C63.10:2013 and the energy emitted by the sample EUT tested as described in this report is in compliance with conducted and radiated emission limits.

The test results of this report relate only to the tested sample identified in this report.

Prepared By:

Allen Isai

Allen Tsai / Engineer

im Chang

Approved By:

Jim Chang / Asst. Manager



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# **Revision History**

Report Number	Revision	Description	Issue Date
ER/2018/10129	Rev.00	Initial creation of document	Feb. 09, 2018

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# **Table of Contents**

1	GENERAL INFORMATION	4
2	SYSTEM TEST CONFIGURATION	6
3	SUMMARY OF TEST RESULTS	8
4	DESCRIPTION OF TEST MODES	9
5	MEASUREMENT UNCERTAINTY	
6	WLAN RADIATED SPURIOUS EMISSION MEASUREMENT	

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#### **GENERAL INFORMATION** 1

# **1.1 Product description**

### General:

Product Name of Host:	Mobile Computers		
Brand Name of Host:	Opticon		
Model No of Host.:	H-28		
Model Difference:	N/A		
Hardware Version:	ES1.1		
Software Version:	N/A		
Scope:	The test report covers the radiated emissions requirements of the standards referenced in the report to allow system level approval of the module in this specific host.		
Class II Permissive change:	Frey INSTALLED IN Mobile Computers		
	3.7Vdc from Rechargeable Li-polymer Battery or 5V & 9V from AC/DC Adapter		
Power Supply:	Battery:	<ol> <li>Model No.: BTBAT2, Supplier: Leung's Communication &amp; Electric Products (Guangzhou) LTD.</li> <li>Model No.: BTBAT1, Supplier: Leung's Communication &amp; Electric Products (Guangzhou) LTD.</li> </ol>	
	Adapter:	Model No.: S018BDV0900200, Supplier: Ten Pao Industrial Co., Ltd.	

## WLAN 2.4GHz:

Wi-Fi	Frequency Range	Channels	Modulation Technology		
11b/g	2412-2462	11	DSSS OFDM		
11n (2.4GHz)	HT20 2412-2462	11	OFDM		
11n (2.4GHz)	HT40 2422-2452	11	OFDM		
Antenna Desig	Antenna Designation:		IFA Antenna, Gain: 2dBi		
Modulation type		CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM			
Transition Rate:		802.11 b: 1/2/5.5/11 Mbps 802.11 g: 6/9/12/18/24/36/48/54 Mbps 802.11 HT20: 6.5 – 72.5Mbps 802.11 HT40: 13.5 – 150Mbps			

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# 1.2 Test Methodology of Applied Standards

FCC Part 15, Subpart C §15.247 FCC KDB 558074 D01 DTS Meas. Guidance ANSI C63.10:2013 Note: All test items have been performed and record as per the above standards.

### **1.3 Test Facility**

SGS Taiwan Ltd. Electronics & Communication Laboratory No.134, Wu Kung Road, New Taipei Industrial Park, Wuku District, New Taipei City, Taiwan 24803 (TAF code 0513)

FCC Registration Numbers are: 509634 / TW0001

### **1.4 Special Accessories**

There are no special accessories used while test was conducted.

### **1.5 Equipment Modifications**

There was no modification incorporated into the EUT.

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#### SYSTEM TEST CONFIGURATION 2

# 2.1 EUT Configuration

The EUT configuration for testing is installed on RF field strength measurement to meet the Commissions requirement and operating in a manner which intends to maximize its emission characteristics in a continuous normal application.

# 2.2 EUT Exercise

An engineering test mode (software/firmware) that applicant provided was utilized to manipulate the EUT into transmit, selection of the test channel, and modulation scheme.

# 2.3 Test Procedure

# 2.3.1 Radiated Emissions for DTS & DSS

The EUT is a placed on as turn table. For emissions testing at or below 1 GHz, the table height shall be 0.8 m above the reference ground plane. For emission measurements above 1 GHz, the table height shall be 1.5 m. The turn table shall rotate 360 degrees to determine the position of maximum emission level. EUT is set 3m away from the receiving antenna which varied from 1m to 4m to find out the highest emission. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical. In order to find out the max. emission, the relative positions of this transmitter (EUT) was rotated through three orthogonal axes and measurement procedures for electric field radiated emissions above 1 GHz the EUT measurement is to be made "while keeping the antenna in the 'cone of radiation' from that area and pointed at the area both in azimuth and elevation, with polarization oriented for maximum response." is still within the 3dB illumination BW of the measurement antenna.

## 2.3.2 Radiated Emissions (ERP/EIRP) for PCE

According to measurement procured TIA/EIA 603C, The EUT is a placed on as turn table which is 0.8 m above ground plane. The turn table shall rotate 360 degrees to determine the position of maximum emission level. EUT is set 3m away from the receiving antenna which varied from 1m to 4m to find out the highest emission. And also, each emission was to be maximized by changing the polarization of receiving antenna both Horizontal and Vertical. In order to find out the max. emission, the relative positions of this transmitter (EUT) was rotated through three orthogonal axes and measurement procedures for electric field radiated emissions above 1 GHz the EUT measurement is to be made "while keeping the antenna in the 'cone of radiation' from that area and pointed at the area both in azimuth and elevation, with polarization oriented for maximum response." is still within the 3dB illumination BW of the measurement antenna according to the requirements in Section 8 and 13.

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### 2.4 Configuration of Tested System

### Fig. 2-1 Radiated Emission Configuration



### **Table 2-1 Equipment Used in Tested System**

Item	Equipment	Mfr/Brand	Model/Type No.	Series No.	Data Cable	Power Cord
1.	WLAN Test Software	N/A	N/A	N/A	N/A	N/A
2.	Notebook	Lenovo	L430	R9-X11BG	Shielded	Unshielded

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#### SUMMARY OF TEST RESULTS 3

FCC Rules	Description Of Test	Result
§15.247(d)	Radiated Band Edge and Spurious Emission	Compliant
§15.203 §15.247(b)	Antenna Requirement	Compliant

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#### **DESCRIPTION OF TEST MODES** 4

## 4.1 Operated in 2400 ~ 2483.5MHz Band

### 13 channels are provided for 802.11b, 802.11g and 802.11n HT20

	,	0	
CHANNEL	FREQUENCY	CHANNEL	FREQUENCY
1	2412 MHz	8	2447 MHz
2	2417 MHz	9	2452 MHz
3	2422 MHz	10	2457 MHz
4	2427 MHz	11	2462 MHz
5	2432 MHz	12	2467 MHz
6	2437 MHz	13	2472 MHz
7	2442 MHz		

### 11 channels are provided for 802.11n HT40

	CHANNEL	FREQUENCY	CHANNEL	FREQUENCY	
ſ	3	2422 MHz	8	2447 MHz	
ſ	4	2427 MHz	9	2452 MHz	
ſ	5	2432 MHz	10	2457 MHz	
ſ	6	2437 MHz	11	2462 MHz	
	7	2442 MHz			

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# 4.2 The Worst Test Modes and Channel Details

- 1. The EUT has been tested under operating condition.
- 2. Test program used to control the EUT for staying in continuous transmitting and receiving mode is programmed.

3. Investigation has been done on all the possible configurations for searching the worst case.

## **RADIATED EMISSION TEST:**

MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION	DATA RATE (Mbps)	ANTENNA PORT
	RADIATED EMISSION TEST (BELOW 1 GHz)				
802.11g	1 to 13	1,6,11,12,13	OFDM	6	Aux
	RADI	ATED EMISS	ION TEST (ABO	VE 1 GHz)	
802.11b	1 to 13	1,6,11,12,13	DSSS	1	Aux
802.11g	1 to 13	1,6,11,12,13	OFDM	6	Aux
802.11n (HT20)	1 to 13	1,6,11,12,13	OFDM	MCS 8	MIMO
802.11n (HT40)	3 to 11	3,6,9,10,11	OFDM	MCS 8	MIMO
Note:					

The field strength of radiation emission was measured as EUT stand-up position (H mode) and lie down position (E1, E2 mode) for 802.11b/g/n WLAN Transmitter for channel Low, Mid and High, the worst case H position was reported.

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#### **MEASUREMENT UNCERTAINTY** 5

Radiated Spurious Emission:

Measurement uncertainty (Polarization : <b>Vertical</b> )	9kHz – 30MHz: +/- 2.87 dB
	30MHz - 180MHz: +/- 3.37dB
	180MHz -417MHz: +/- 3.19dB
	0.417GHz-1GHz: +/- 3.19dB
	1GHz - 18GHz: +/- 4.04dB
	18GHz - 40GHz: +/- 4.04dB

Measurement uncertainty (Polarization : <b>Horizontal</b> )	9kHz – 30MHz: +/- 2.87 dB
	30MHz - 167MHz: +/- 4.22dB
	167MHz -500MHz: +/- 3.44dB
	0.5GHz-1GHz: +/- 3.39dB
	1GHz - 18GHz: +/- 4.08dB
	18GHz - 40GHz: +/- 4.08dB

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.



#### WLAN RADIATED SPURIOUS EMISSION MEASUREMENT 6

# 6.1 Measurement Equipment Used:

SGS SAC-III									
Name of	MFR	MODEL	SERIAL	LAST	CAL DUE.				
Equipment		NUMBER	NUMBER	CAL.					
Bi-log Antenna	SCHWAZBECK	VULB9168	378	2017/12/29	2018/12/28				
Horn Antenna	Schwarzbeck	BBHA9120D	1441	2017/08/04	2018/08/03				
Horn Antenna	Schwarzbeck	BBHA9170	184	2017/12/12	2018/12/11				
Loop Antenna	ETS.LINDGREN	6502	148045	2017/09/26	2018/09/25				
Spectrum Analyzer	Agilent	E4446A	MY51100003	2017/05/10	2018/05/09				
EMI Test Receiver	R&S	ESCI7	100760	2017/06/06	2018/06/05				
Pre-Amplifier	HP	8449B	3008A00578	2018/01/02	2019/01/01				
Pre-Amplifier	HP	8447D	2944A07676	2018/01/02	2019/01/01				
Pre-Amplifier	EMC Instru- ments Corp.	EMC0126530	980038	2018/01/02	2019/01/01				
Attenuator	Mini-Circuit	BW-S10W2+	3	2018/01/02	2019/01/01				
Filter 2400-2483.5 MHz	EWT	EWT-14-0166	M1	2018/01/02	2019/01/01				
Low Loss Cable	Huber Suhner	966_RX	9	2018/01/02	2019/01/01				

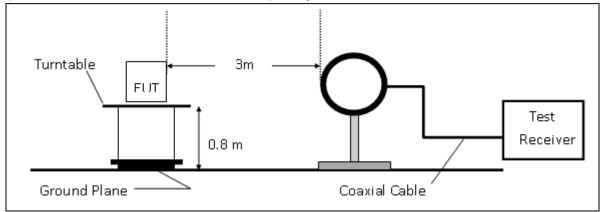
NOTE: N.C.R refers to Not Calibrated Required.

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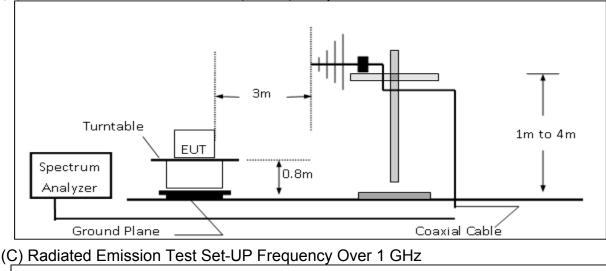


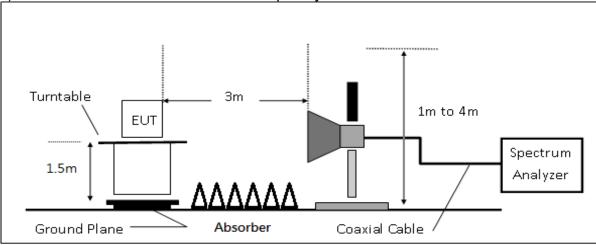
# 6.2 Test SET-UP

(A) Radiated Emission Test Set-UP Frequency Below 30MHz.



# (B) Radiated Emission Test Set-Up, Frequency form 30MHz to 1000MHz





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### **6.3 Measurement Procedure**

- 1. The testing follows the Measurement Procedure of FCC KDB 558074 D01 DTS Meas. Guidance.
- 2. The EUT was placed on a turn table with 0.8m for frequency< 1GHz and 1.5m for frequency> 1GHz above ground plan.
- 3. The turn table shall rotate 360 degrees to determine the position of maximum emission level.
- 4. EUT is set 3m away from the receiving antenna which varied from 1m to 4m to find out the highest emissions.
- 5. Set the spectrum analyzer as RBW=120 kHz and VBW=300 kHz for Peak Detector (PK) and Quasi-peak (QP) at frequency below 1 GHz.
- 6. Set the spectrum analyzer as RBW=1 MHz, VBW=3 MHz for Peak Detector at frequency above 1 GHz.
- 7. Set the spectrum analyzer as RBW=1 MHz, VBW=10 Hz (Duty cycle > 98%) or VBW ≥ 1/T (Duty cycle < 98%) for Average Detector at frequency above 1 GHz.
- 8. When measurement procedures for electric field radiated emissions above 1 GHz the EUT measurement is to be made "while keeping the antenna in the 'cone of radiation' from that area and pointed at the area both in azimuth and elevation, with polarization oriented for maximum response." is still within the 3dB illumination BW of the measurement antenna.
- 9. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
- 10. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical. On spectrum, change spectrum mode in linear display mode, and reduce VBW = 10Hz if average reading is measured.
- 11. Repeat above procedures until all default test channel measured were complete.

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# 6.4 Field Strength Calculation

The field strength is calculated by adding the Antenna Factor and Cable Factor and subtracting the Amplifier Gain and Duty Cycle Correction Factor (if any) from the measured reading. The basic equation with a sample calculation is as follows:

## FS = RA + AF + CL - AG

Where	6	CL = Cable Attenuation Factor (Cable Loss)
	RA = Reading Amplitude	AG = Amplifier Gain
	AF = Antenna Factor	

Actual FS(dB $\mu$ V/m) = SPA. Reading level(dB $\mu$ V) + Factor(dB)

Factor(dB) = Antenna Factor(dBµV/m) + Cable Loss(dB) – Pre Amplifier Gain(dB)

### Note :

"F": denotes Fundamental Frequency.; "H": denotes Harmonic Frequency.

"E" : denotes Band Edge Frequency. ; "S" : denotes Spurious Frequency.

# 6.5 Test Results of Radiated Spurious Emissions form 9 KHz to 30 MHz

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

## 6.6 Measurement Result

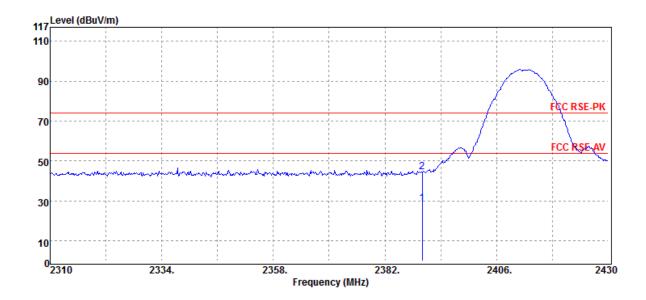
Refer to attach tabular data sheets.

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### 6.6.1 Bandedge Measurement Result



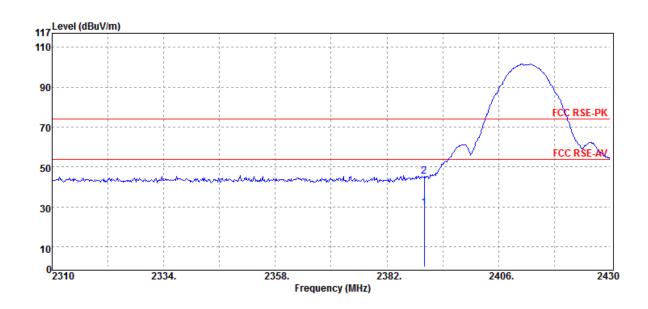
Freq.	Note	Detector	Spectrum	Factor	Actual	Limit	Margin
		Mode	Reading Level		FS	@3m	
MHz	F/H/E/S	PK/QP/AV	dBµV	dB	dBµV/m	dBµV/m	dB
2390.00	Е	Average	30.55	-1.74	28.81	54.00	-25.19
2390.00	Е	Peak	46.26	-1.74	44.52	74.00	-29.48

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Report No.:ER/2018/10129 Page 17 of 57

**Operation Band** :802.11b Fundamental Frequency :2412 MHz **Operation Mode** :Bandedge CH LOW EUT Pol. :H Plane

Test Date :2018-01-18 Temp./Humi. :22 deg\_C / 61 RH Engineer :Tin :HORIZONTAL Measurement Antenna Pol.



Freq.	Note	Detector	Spectrum	Factor	Actual	Limit	Margin
		Mode	Reading Level		FS	@3m	
MHz	F/H/E/S	PK/QP/AV	dBµV	dB	dBµV/m	dBµV/m	dB
2390.00	Е	Average	31.28	-1.74	29.54	54.00	-24.46
2390.00	Е	Peak	46.92	-1.74	45.18	74.00	-28.82

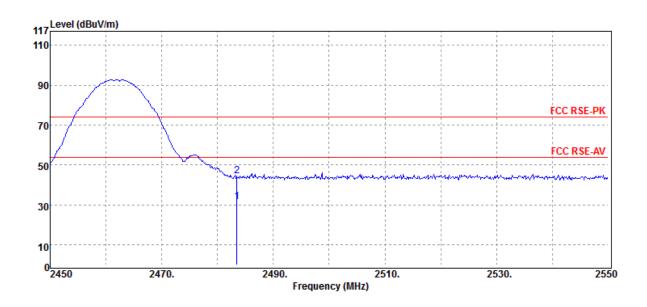
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Report No.:ER/2018/10129 Page 18 of 57



**Operation Band** :802.11b Fundamental Frequency :2462 MHz **Operation Mode** :Bandedge CH HIGH EUT Pol. :H Plane

Test Date :2018-01-18 Temp./Humi. :22 deg\_C / 61 RH Engineer :Tin :VERTICAL Measurement Antenna Pol.



Freq.	Note	Detector	Spectrum	Factor	Actual	Limit	Margin
		Mode	Reading Level		FS	@3m	
MHz	F/H/E/S	PK/QP/AV	dBµV	dB	dBµV/m	dBµV/m	dB
2483.50	Е	Average	33.23	-1.62	31.61	54.00	-22.39
2483.50	Е	Peak	46.33	-1.62	44.71	74.00	-29.29

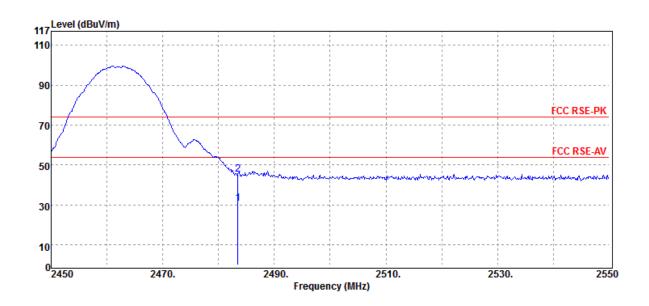
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Report No.:ER/2018/10129 Page 19 of 57



**Operation Band** :802.11b Fundamental Frequency :2462 MHz **Operation Mode** :Bandedge CH HIGH EUT Pol. :H Plane

Test Date :2018-01-18 Temp./Humi. :22 deg\_C / 61 RH Engineer :Tin :HORIZONTAL Measurement Antenna Pol.



Freq.	Note	Detector	Spectrum	Factor	Actual	Limit	Margin
		Mode	Reading Level		FS	@3m	
MHz	F/H/E/S	PK/QP/AV	dBµV	dB	dBµV/m	dBµV/m	dB
2483.50	Е	Average	32.56	-1.62	30.94	54.00	-23.06
2483.50	Е	Peak	47.09	-1.62	45.47	74.00	-28.53

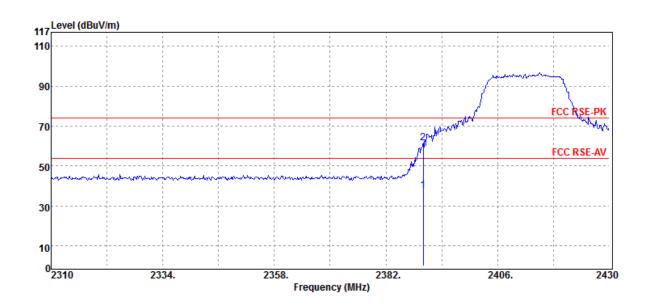
Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



Report No.:ER/2018/10129 Page 20 of 57

**Operation Band** :802.11g Fundamental Frequency :2412 MHz **Operation Mode** :Bandedge CH LOW EUT Pol. :H Plane

Test Date :2018-01-18 Temp./Humi. :22 deg\_C / 61 RH Engineer :Tin :VERTICAL Measurement Antenna Pol.



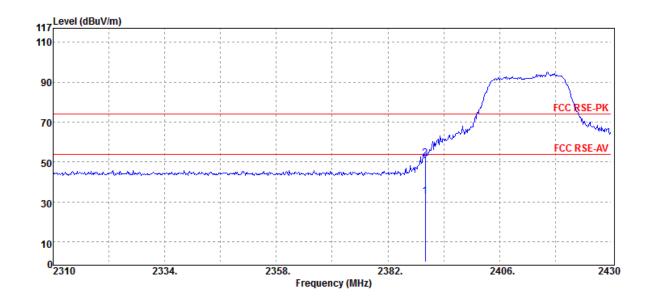
Freq.	Note	Detector	Spectrum	Factor	Actual	Limit	Margin
		Mode	Reading Level		FS	@3m	
MHz	F/H/E/S	PK/QP/AV	dBµV	dB	dBµV/m	dBµV/m	dB
2390.00	Е	Average	39.57	-1.74	37.83	54.00	-16.17
2390.00	Е	Peak	63.42	-1.74	61.68	74.00	-12.32

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

Report No.:ER/2018/10129 Page 21 of 57

**Operation Band** :802.11g Fundamental Frequency :2412 MHz **Operation Mode** :Bandedge CH LOW EUT Pol. :H Plane

Test Date :2018-01-18 Temp./Humi. :22 deg\_C / 61 RH Engineer :Tin :HORIZONTAL Measurement Antenna Pol.



Freq.	Note	Detector	Spectrum	Factor	Actual	Limit	Margin
		Mode	Reading Level		FS	@3m	
MHz	F/H/E/S	PK/QP/AV	dBµV	dB	dBµV/m	dBµV/m	dB
2390.00	Е	Average	34.67	-1.74	32.93	54.00	-21.07
2390.00	Е	Peak	53.51	-1.74	51.77	74.00	-22.23

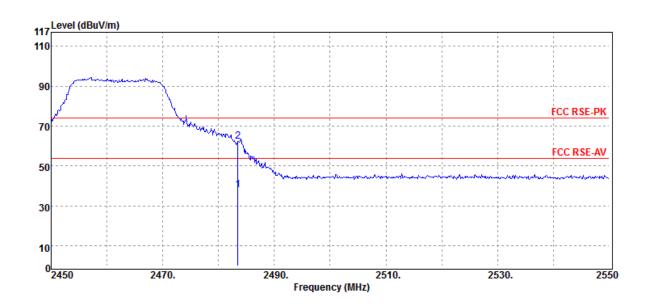
Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

Report No.:ER/2018/10129 Page 22 of 57



**Operation Band** :802.11g Fundamental Frequency :2462 MHz **Operation Mode** :Bandedge CH HIGH EUT Pol. :H Plane

Test Date :2018-01-18 Temp./Humi. :22 deg\_C / 61 RH Engineer :Tin :VERTICAL Measurement Antenna Pol.



Freq.	Note	Detector	Spectrum	Factor	Actual	Limit	Margin
		Mode	Reading Level		FS	@3m	
MHz	F/H/E/S	PK/QP/AV	dBµV	dB	dBµV/m	dBµV/m	dB
2483.50	Е	Average	39.74	-1.62	38.12	54.00	-15.88
2483.50	Е	Peak	64.03	-1.62	62.41	74.00	-11.59

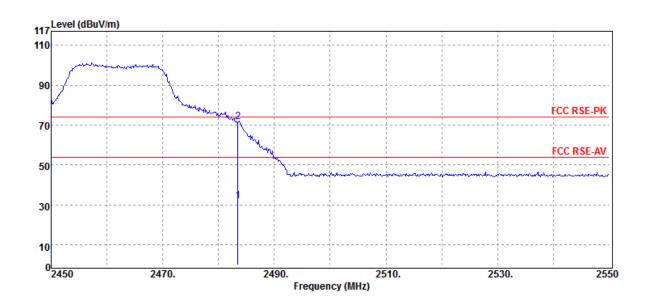
Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

Report No.:ER/2018/10129 Page 23 of 57



**Operation Band** :802.11g Fundamental Frequency :2462 MHz **Operation Mode** :Bandedge CH HIGH EUT Pol. :H Plane

Test Date :2018-01-18 Temp./Humi. :22 deg\_C / 61 RH Engineer :Tin :HORIZONTAL Measurement Antenna Pol.



Freq.	Note	Detector	Spectrum	Factor	Actual	Limit	Margin
		Mode	Reading Level		FS	@3m	
MHz	F/H/E/S	PK/QP/AV	dBμV	dB	dBµV/m	dBµV/m	dB
2483.50	Е	Average	33.48	-1.62	31.86	54.00	-22.14
2483.50	Е	Peak	73.33	-1.62	71.71	74.00	-2.29

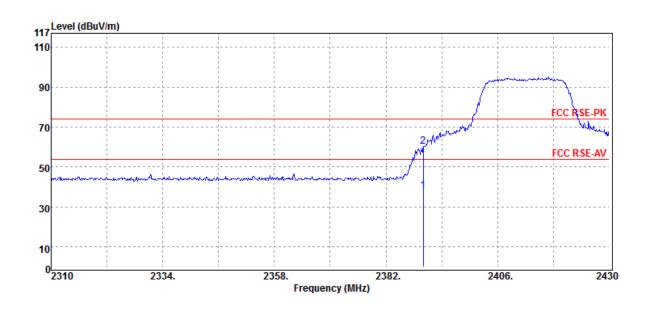
Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



Report No.:ER/2018/10129 Page 24 of 57

**Operation Band** :802.11n20 Fundamental Frequency :2412 MHz **Operation Mode** :Bandedge CH LOW EUT Pol. :H Plane

Test Date :2018-01-18 Temp./Humi. :22 deg\_C / 61 RH Engineer :Tin :VERTICAL Measurement Antenna Pol.



Freq.	Note	Detector	Spectrum	Factor	Actual	Limit	Margin
		Mode	Reading Level		FS	@3m	
MHz	F/H/E/S	PK/QP/AV	dBµV	dB	dBµV/m	dBµV/m	dB
2390.00	Е	Average	39.74	-1.74	38.00	54.00	-16.00
2390.00	Е	Peak	61.94	-1.74	60.20	74.00	-13.80

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



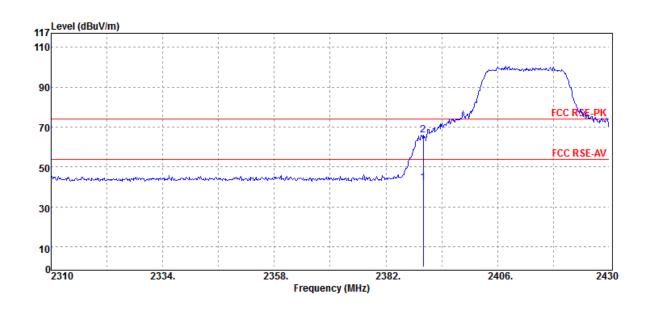
Report No.:ER/2018/10129 Page 25 of 57

**Operation Band** Fundamental Frequency **Operation Mode** EUT Pol.

:802.11n20 :2412 MHz :Bandedge CH LOW :H Plane

Test Date Temp./Humi. Engineer :Tin Measurement Antenna Pol.

:2018-01-18 :22 deg\_C / 61 RH :HORIZONTAL



Freq.	Note	Detector	Spectrum	Factor	Actual	Limit	Margin
		Mode	Reading Level		FS	@3m	
MHz	F/H/E/S	PK/QP/AV	dBµV	dB	dBµV/m	dBµV/m	dB
2390.00	Е	Average	43.86	-1.74	42.12	54.00	-11.88
2390.00	Е	Peak	67.87	-1.74	66.13	74.00	-7.87

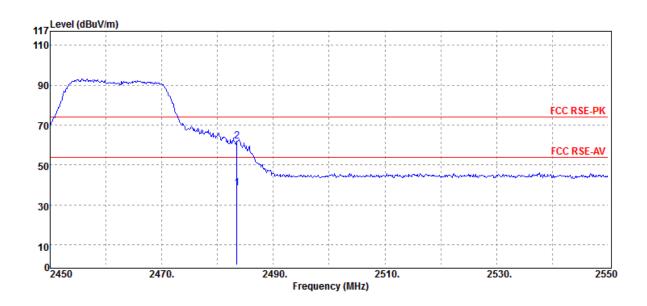
Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

Report No.:ER/2018/10129 Page 26 of 57



**Operation Band** :802.11n20 Fundamental Frequency :2462 MHz **Operation Mode** :Bandedge CH HIGH EUT Pol. :H Plane

Test Date :2018-01-18 Temp./Humi. :22 deg\_C / 61 RH Engineer :Tin :VERTICAL Measurement Antenna Pol.



Freq.	Note	Detector	Spectrum	Factor	Actual	Limit	Margin
		Mode	Reading Level		FS	@3m	
MHz	F/H/E/S	PK/QP/AV	dBµV	dB	dBµV/m	dBµV/m	dB
2483.50	Е	Average	39.88	-1.62	38.26	54.00	-15.74
2483.50	Е	Peak	63.49	-1.62	61.87	74.00	-12.13

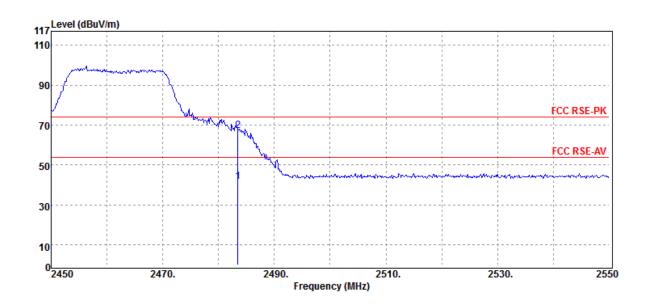
Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

Report No.:ER/2018/10129 Page 27 of 57



**Operation Band** :802.11n20 Fundamental Frequency :2462 MHz **Operation Mode** :Bandedge CH HIGH EUT Pol. :H Plane

Test Date :2018-01-18 Temp./Humi. :22 deg\_C / 61 RH Engineer :Tin :HORIZONTAL Measurement Antenna Pol.



Freq.	Note	Detector	Spectrum	Factor	Actual	Limit	Margin
		Mode	Reading Level		FS	@3m	
MHz	F/H/E/S	PK/QP/AV	dBµV	dB	dBµV/m	dBµV/m	dB
2483.50	Е	Average	43.28	-1.62	41.66	54.00	-12.34
2483.50	Е	Peak	68.97	-1.62	67.35	74.00	-6.65

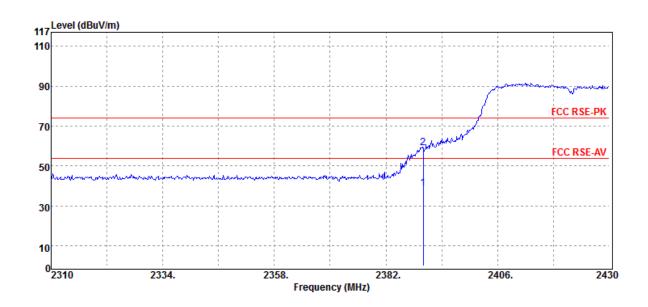
Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

Report No.:ER/2018/10129 Page 28 of 57



**Operation Band** :802.11n40 Fundamental Frequency :2422 MHz **Operation Mode** :Bandedge CH LOW EUT Pol. :H Plane

Test Date :2018-01-19 Temp./Humi. :21 deg\_C / 62 RH Engineer :Tin :VERTICAL Measurement Antenna Pol.



Freq.	Note	Detector	Spectrum	Factor	Actual	Limit	Margin
		Mode	Reading Level		FS	@3m	
MHz	F/H/E/S	PK/QP/AV	dBµV	dB	dBµV/m	dBµV/m	dB
2390.00	Е	Average	40.72	-1.74	38.98	54.00	-15.02
2390.00	Е	Peak	60.92	-1.74	59.18	74.00	-14.82

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

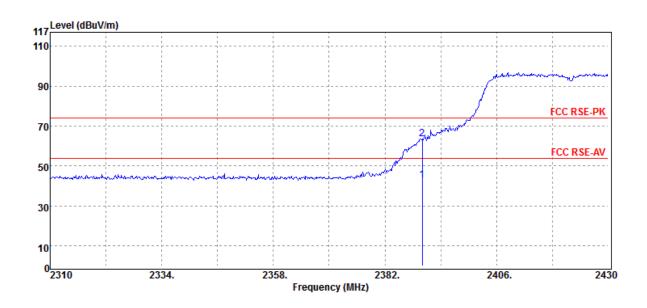
Report No.:ER/2018/10129 Page 29 of 57



**Operation Band** :802.11n40 Fundamental Frequency :2422 MHz **Operation Mode** :Bandedge CH LOW EUT Pol. :H Plane

Test Date Temp./Humi. Engineer Measurement Antenna Pol.

:2018-01-19 :21 deg\_C / 62 RH :Tin :HORIZONTAL



Freq.	Note	Detector	Spectrum	Factor	Actual	Limit	Margin
		Mode	Reading Level		FS	@3m	
MHz	F/H/E/S	PK/QP/AV	dBµV	dB	dBµV/m	dBµV/m	dB
2390.00	Е	Average	44.55	-1.74	42.81	54.00	-11.19
2390.00	Е	Peak	65.10	-1.74	63.36	74.00	-10.64

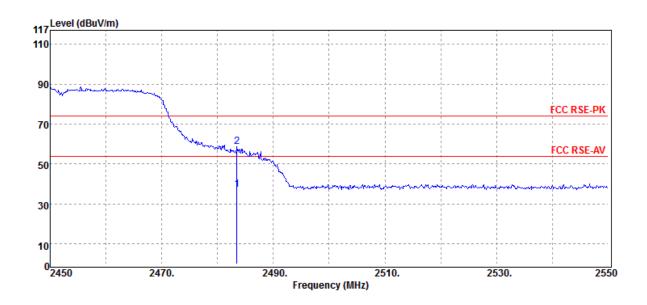
Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

Report No.:ER/2018/10129 Page 30 of 57



**Operation Band** :802.11n40 Fundamental Frequency :2452 MHz **Operation Mode** :Bandedge CH HIGH EUT Pol. :H Plane

Test Date :2018-01-19 Temp./Humi. :21 deg\_C / 62 RH Engineer :Tin :VERTICAL Measurement Antenna Pol.



Freq.	Note	Detector	Spectrum	Factor	Actual	Limit	Margin
		Mode	Reading Level		FS	@3m	
MHz	F/H/E/S	PK/QP/AV	dBµV	dB	dBµV/m	dBµV/m	dB
2483.50	Е	Average	38.77	-1.62	37.15	54.00	-16.85
2483.50	Е	Peak	60.16	-1.62	58.54	74.00	-15.46

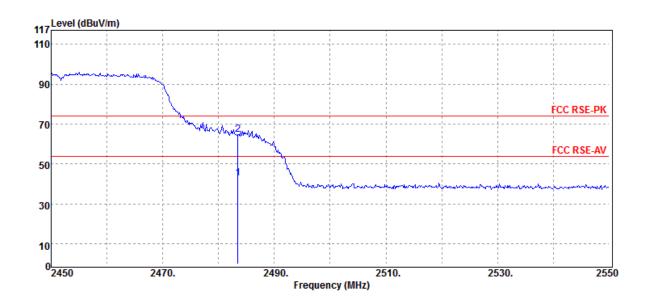
Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

Report No.:ER/2018/10129 Page 31 of 57



**Operation Band** :802.11n40 Fundamental Frequency :2452 MHz **Operation Mode** :Bandedge CH HIGH EUT Pol. :H Plane

Test Date :2018-01-19 Temp./Humi. :21 deg\_C / 62 RH Engineer :Tin :HORIZONTAL Measurement Antenna Pol.



Freq.	Note	Detector	Spectrum	Factor	Actual	Limit	Margin
		Mode	Reading Level		FS	@3m	
MHz	F/H/E/S	PK/QP/AV	dBµV	dB	dBµV/m	dBµV/m	dB
2483.50	Е	Average	44.44	-1.62	42.82	54.00	-11.18
2483.50	Е	Peak	66.39	-1.62	64.77	74.00	-9.23

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

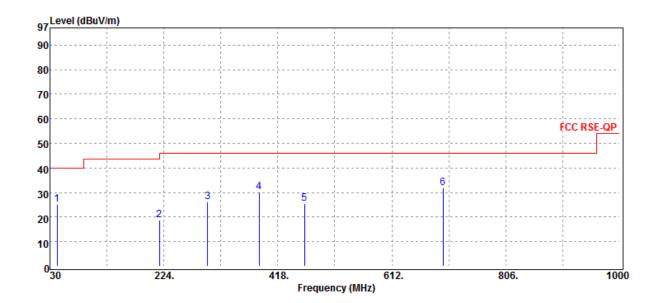


### 6.6.2 Below 1GHz Radiated Measurement Result

**Operation Band** Fundamental Frequency :2437 MHz **Operation Mode** EUT Pol.

:802.11g :Tx CH MID :H Plane

:2018-01-22 Test Date Temp./Humi. :22 deg\_C / 61 RH Engineer :Tin :VERTICAL Measurement Antenna Pol.



Freq.	Note	Detector	Spectrum	Factor	Actual	Limit	Margin
		Mode	Reading Level		FS	@3m	
MHz	F/H/E/S	PK/QP/AV	dBµV	dB	dBµV/m	dBµV/m	dB
42.61	S	Peak	33.37	-8.29	25.08	40.00	-14.92
216.24	S	Peak	28.38	-9.43	18.95	46.00	-27.05
298.69	S	Peak	32.01	-5.95	26.06	46.00	-19.94
385.99	S	Peak	34.36	-4.31	30.05	46.00	-15.95
463.59	S	Peak	27.90	-2.55	25.35	46.00	-20.65
699.30	S	Peak	30.28	1.44	31.72	46.00	-14.28

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only. 除非另有说明,此根告结果僅對測試之樣品負責,同時此樣品僅保留的天。本報告未經本公司書面許可,不可部份複製。 This document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at <u>www.sgs.com/terms\_and\_conditions.htm</u> and, for elec-tronic format documents, subject to Terms and Conditions for Electronic Documents at <u>www.sgs.com/terms\_e-document.htm</u></u>. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or ap-pagarance of this document is unavial and offenders may be prosecuted to the fullest extent of the law. pearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.

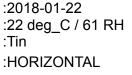
SGS Taiwan Ltd. No.134,WuKungRoad,NewTaipeiIndustrialPark,WukuDistrict,NewTaipeiCity,Taiwan24803/新北市五股區新北產業園區五工路 134 號

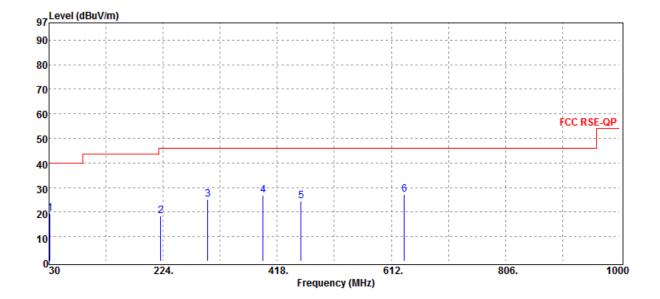


Report No.:ER/2018/10129 Page 33 of 57

Operation Band	:802.11g
Fundamental Frequency	:2437 MHz
Operation Mode	:Tx CH MID
EUT Pol.	:H Plane

Test Date Temp./Humi. Engineer :Tin Measurement Antenna Pol.





Freq.	Note	Detector	Spectrum	Factor	Actual	Limit	Margin
		Mode	Reading Level		FS	@3m	
MHz	F/H/E/S	PK/QP/AV	dBµV	dB	dBµV/m	dBµV/m	dB
31.94	S	Peak	28.49	-9.11	19.38	40.00	-20.62
220.12	S	Peak	27.59	-9.25	18.34	46.00	-27.66
299.66	S	Peak	30.99	-5.93	25.06	46.00	-20.94
393.75	S	Peak	31.00	-4.17	26.83	46.00	-19.17
458.74	S	Peak	27.26	-2.68	24.58	46.00	-21.42
634.31	S	Peak	26.54	0.51	27.05	46.00	-18.95

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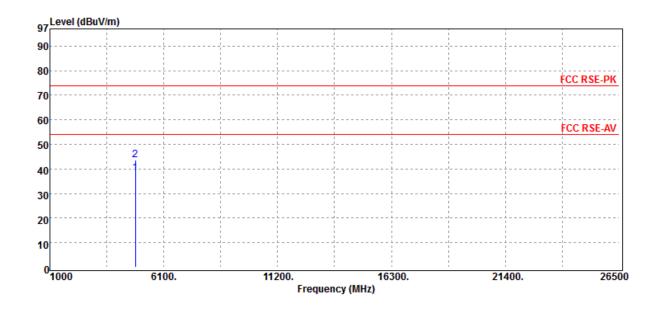


### 6.6.3 Above 1GHz Radio Measurement Result

Operation Band	:802.11b
Fundamental Frequency	:2412 MHz
Operation Mode	:Tx CH LOW
EUT Pol.	:H Plane

Test Date Temp./Humi. Engineer Measurement Antenna Pol.

:2018-01-19 :21 deg\_C / 62 RH :Tin :VERTICAL



Freq.	Note	Detector	Spectrum	Factor	Actual	Limit	Safe	
		Mode	Reading Level		FS	@3m	Margin	
MHz	F/H/E/S	PK/QP/AV	dBµV	dB	dBµV/m	dBµV/m	dB	
4824.00	Н	Average	33.45	4.93	38.38	54.00	-15.62	
4824.00	Н	Peak	38.55	4.93	43.48	74.00	-30.52	

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



Report No.:ER/2018/10129 Page 35 of 57

Operation Band Fundamental Frequency Operation Mode EUT Pol.		:802.11b :2412 MHz :Tx CH LOW :H Plane		Test Date Temp./Humi. Engineer Measurement Antenna Pol.		:21 deg :Tin	:2018-01-19 :21 deg_C / 62 RH :Tin :HORIZONTAL					
97	BuV/m)											
90												
<mark>80</mark>						FCC RSE-PK						
70												
60						FCC RSE-AV						
50			· · · · · · · · · · · · · · · · · · ·	       								
40	2		· · · · · · · · · · · · · · · · · · ·			1 1 1 1 1						
30				1 1 1 1		1 1 1 1 1						
20												
10												
0 <mark>0</mark>	610	0.	11200.	16300.	21400.	2650	D					
Frequency (MHz)												
<b>Free</b>	Nata	Detector	Castrum	Fastar	Astual	Limit	Safe					
Freq.	Note	Detector	Spectrum	Factor	Actual							
N 41 1-		Mode	Reading Level	JD	FS	@3m	Margin					
MHz	F/H/E/S	PK/QP/AV	dBµV	dB	dBµV/m	dBµV/m	dB					
1001.00			04.75	4.00		54.00	44.00					
4824.00	Н	Average	34.75	4.93	39.68	54.00	-14.32					
4824.00	Н	Peak	38.12	4.93	43.05	74.00	-30.95					



Operation Band Fundamental Frequency Operation Mode EUT Pol.		:802.11b :2437 MHz :Tx CH MID :H Plane		Test Date Temp./Hu Engineer Measuren	mi. nent Antenna F	:21 deg :Tin	:2018-01-19 :21 deg_C / 62 RH :Tin :VERTICAL						
97 Level (dBuV/m)													
90													
80						FCC RSE-PK							
70					 								
60						FCC RSE-AV							
50													
40			· · · · · · · · · · · · · · · · · · ·		1 1 1 1 								
30			· · · · · · · · · · · · · · · · · · ·										
20													
10													
0 1000	610	0.	11200.	16300.	21400.	2650	D						
			Frequency (MH	L)									
Freq.	Note	Detector	Spectrum	Factor	Actual	Limit	Safe						
		Mode	Reading Level		FS	@3m	Margin						
MHz	F/H/E/S	PK/QP/AV	dBµV	dB	dBµV/m	dBµV/m	dB						
4874.00	Н	Average	35.33	5.13	40.46	54.00	-13.54						
4874.00	Н	Peak	38.24	5.13	43.37	74.00	-30.63						



Report No.:ER/2018/10129 Page 37 of 57

Operation Ba Fundamental Operation Mo EUT Pol.	Frequency	:802.11b :2437 MHz :Tx CH MID :H Plane		Test Date Temp./Humi. Engineer Measurement Antenna Pol.		:Tin	1-19 _C / 62 RH ONTAL
97	BuV/m)						
90							
<mark>80</mark>						FCC RSE-PK	
70						FUC NJE-PN	
60						FCC RSE-AV	
50	2						
40				·			
30							
20						· · · · · · · · · · · · · · · · · · ·	
10			· · · · · · · · · · · · · · · · · · ·			·	
0 <mark>0</mark>	610	0.	11200.	16300.	21400.	2650	0
			Frequency (MH)				
Freq.	Note	Detector	Spectrum	Factor	Actual	Limit	Safe
		Mode	Reading Level		FS	@3m	Margin
MHz	F/H/E/S	PK/QP/AV	dBμV	dB	dBµV/m	dBµV/m	dB
4874.00	Н	Average	38.19	5.13	43.32	54.00	-10.68
4874.00	Н	Peak	39.48	5.13	44.61	74.00	-29.39



Operation Ba Fundamental Operation Mo EUT Pol.	Frequency	:802.11b :2462 MHz :Tx CH HIG :H Plane	Н	Test Date Temp./Hu Engineer Measure	umi.	:Tin	_C / 62 RH
97 Level (dl	BuV/m)						1
<mark>90</mark>							
80			·			FCC RSE-PK	
70							
<mark>60</mark>						FCC RSE-AV	
50	2						
40							
30							
20							
10			· · · · · · · · · · · · · · · · · · ·			 	
0 <mark></mark> 1000	610	0.	11200. Frequency (MH	16300. Iz)	21400.	2650	0
Freq.	Note	Detector	Spectrum	Factor	Actual	Limit	Safe
		Mode	Reading Level		FS	@3m	Margin
MHz	F/H/E/S	PK/QP/AV	dBµV	dB	dBµV/m	dBµV/m	dB
4924.00	Н	Average	33.95	5.25	39.20	54.00	-14.80
4924.00	Н	Peak	38.35	5.25	43.60	74.00	-30.40



Report No.:ER/2018/10129 Page 39 of 57

Operation Ba Fundamental Operation Mc EUT Pol.	Frequency	:802.11b :2462 MHz :Tx CH HIG :H Plane	Н	Test Date Temp./Hu Engineer Measure	umi.	:Tin	01-19 9_C / 62 RH CONTAL
97 Evel (dl	BuV/m)						1
90							
80						FCC RSE-PK	
70							
60						FCC RSE-AV	
50	2						
40							
30							
20							
10							
0 <mark></mark> 1000	610	0.	11200. Frequency (MH	16300.  z)	21400.	2650	0
Freq.	Note	Detector	Spectrum	Factor	Actual	Limit	Safe
		Mode	Reading Level		FS	@3m	Margin
MHz	F/H/E/S	PK/QP/AV	dBμV	dB	dBµV/m	dBµV/m	dB
4924.00	Н	Average	34.22	5.25	39.47	54.00	-14.53
4924.00	Н	Peak	39.28	5.25	44.53	74.00	-29.47



Operation Bar Fundamental Operation Mo EUT Pol.	Frequency	:802.11g :2412 MHz :Tx CH LOV :H Plane	V	Test Date Temp./Hu Engineer Measurer	ımi.	:Tin	_C / 62 RH
97	BuV/m)						
90				· · · · · · · · · · · · · · · · · · ·			
80						FCC RSE-PK	
70			· · · · · · · · · · · · · · · · · · ·				
60			· · · · · · · · · · · · · · · · · · ·			FCC RSE-AV	
50				       			
40	2		· · · · · · · · · · · · · · · · · · ·				
30			· · · · · · · · · · · · · · · · · · ·	       			
20							
10							
0 <mark></mark> 1000	610	0.	11200. Frequency (MH	16300. z)	21400.	2650	0
Freq.	Note	Detector	Spectrum	Factor	Actual	Limit	Safe
		Mode	Reading Level		FS	@3m	Margin
MHz	F/H/E/S	PK/QP/AV	dBµV	dB	dBµV/m	dBµV/m	dB
4824.00	Н	Average	28.12	4.93	33.05	54.00	-20.95
4824.00	Н	Peak	36.19	4.93	41.12	74.00	-32.88



Report No.:ER/2018/10129 Page 41 of 57

Operation Ba Fundamental Operation Mo EUT Pol.	Frequency	:802.11g :2412 MHz :Tx CH LOV :H Plane	V	Test Date Temp./Humi. Engineer Measurement Antenna Pol.			1-19 _C / 62 RH ONTAL
97	BuV/m)						
<mark>90</mark>				       			
<b>80</b>						FCC RSE-PK	
70	· · · · · · · · · · · · · · · · · · ·		· · · · · · · · · · · · · · · · · · ·	     			
<b>60</b>						FCC RSE-AV	
50			· · · · · · · · · · · · · · · · · · ·	     			
40	2			     			
30				       		·	
20				       		·	
10				       			
0	610	0.	11200.	16300.	21400.	2650	0
			Frequency (MH				
Freq.	Note	Detector	Spectrum	Factor	Actual	Limit	Safe
		Mode	Reading Level		FS	@3m	Margin
MHz	F/H/E/S	PK/QP/AV	dBμV	dB	dBµV/m	dBµV/m	dB
4824.00	Н	Average	27.62	4.93	32.55	54.00	-21.45
4824.00	Н	Peak	35.75	4.93	40.68	74.00	-33.32



Operation Bar Fundamental Operation Mo EUT Pol.	Frequency	:802.11g :2437 MHz :Tx CH MID :H Plane		Test Date Temp./Humi. Engineer Measurement Antenna Pol.		:Tin	_C / 62 RH
97	uV/m)						
90							
80						FCC RSE-PK	
70						FUL ROE-PN	
60						FCC RSE-AV	
50							
40	2						
30			· · · · · · · · · · · · · · · · · · ·			·	
20		       	· · · · · · · · · · · · · · · · · · ·				
10		       				 	
0 <mark></mark> 1000	610	0.	11200. Frequency (MH	16300. z)	21400.	2650	0
Freq.	Note	Detector	Spectrum	Factor	Actual	Limit	Safe
		Mode	Reading Level		FS	@3m	Margin
MHz	F/H/E/S	PK/QP/AV	dBµV	dB	dBµV/m	dBµV/m	dB
4874.00	Н	Average	25.20	5.13	30.33	54.00	-23.67
4874.00	Н	Peak	34.12	5.13	39.25	74.00	-34.75



Operation Ba Fundamental Operation Mo EUT Pol.	Frequency	:802.11g :2437 MHz :Tx CH MID :H Plane		Test Date Temp./Humi. Engineer Measurement Antenna Pol.		:Tin	01-19  _C / 62 RH CONTAL
97 Level (df	BuV/m)						
90				·			
80				·		FCC RSE-PK	
70				·		FUL ROE-PR	
60						FCC RSE-AV	
50						FUU ROE-AV	
40	2			·			
30				·			
20							
10							
0 <mark></mark>	610	0.	11200.	16300.	21400.	2650	0
			Frequency (MH	Z)			
_							- <i>i</i>
Freq.	Note	Detector	Spectrum	Factor	Actual	Limit	Safe
		Mode	Reading Level		FS	@3m	Margin
MHz	F/H/E/S	PK/QP/AV	dBμV	dB	dBµV/m	dBµV/m	dB
4874.00	Н	Average	24.55	5.13	29.68	54.00	-24.32
4874.00	Н	Peak	33.45	5.13	38.58	74.00	-35.42



Operation Ba Fundamenta Operation Ma EUT Pol.	I Frequency	:802.11g :2462 MHz :Tx CH HIG :H Plane	MHz Ten HIGH Eng		est Date emp./Humi. ngineer leasurement Antenna Pol.		01-19 g_C / 62 RH CAL
97 Level (d	IBuV/m)	1					]
90							
80			·			FCC RSE-PK	
70			· · · · · · · · · · · · · · · · · · ·				
60	·····					FCC RSE-AV	
50							
40	2					·	
30							
20							
10							
0 <mark></mark> 1000	610	0.	11200. Frequency (MH	16300. Iz)	21400.	2650	0
Freq.	Note	Detector	Spectrum	Factor	Actual	Limit	Safe
		Mode	Reading Level		FS	@3m	Margin
MHz	F/H/E/S	PK/QP/AV	dBµV	dB	dBµV/m	dBµV/m	dB
4924.00	Н	Average	24.51	5.25	29.76	54.00	-24.24
4924.00	Н	Peak	33.78	5.25	39.03	74.00	-34.97



Report No.:ER/2018/10129 Page 45 of 57

Operation Ba Fundamental Operation Mo EUT Pol.	Frequency	:802.11g :2462 MHz :Tx CH HIG :H Plane	Н	Test Date Temp./Hu Engineer Measure	umi.	:Tin	)1-19 J_C / 62 RH CONTAL
97	BuV/m)						1
90							
80						FCC RSE-PK	
70		       					
60			· · · · · · · · · · · · · · · · · · ·			FCC RSE-AV	
50							
40	2						
30			· · · · · · · · · · · · · · · · · · ·				
20		     					
10		     					
0 <mark></mark>	610	0.	11200. Frequency (MH	16300. z)	21400.	2650	0
Freq.	Note	Detector	Spectrum	Factor	Actual	Limit	Safe
		Mode	Reading Level		FS	@3m	Margin
MHz	F/H/E/S	PK/QP/AV	dBµV	dB	dBµV/m	dBµV/m	dB
4924.00	Н	Average	24.33	5.25	29.58	54.00	-24.42
4924.00	Н	Peak	34.37	5.25	39.62	74.00	-34.38



Operation Bai Fundamental Operation Mo EUT Pol.	Frequency	:802.11n20 :2412 MHz :Tx CH LOV :H Plane	V	Test Date Temp./Hu Engineer Measurer	ımi.	:Tin	_C / 62 RH
97 Level (dB	luV/m)						
90							
80						FCC RSE-PK	
70							
60						FCC RSE-AV	
50							
40	2						
30							
20							
10							
0 <mark></mark> 1000	610	0.	11200. Frequency (MHz	16300. z)	21400.	2650	0
Freq.	Note	Detector	Spectrum	Factor	Actual	Limit	Safe
		Mode	Reading Level		FS	@3m	Margin
MHz	F/H/E/S	PK/QP/AV	dBµV	dB	dBµV/m	dBµV/m	dB
4824.00	Н	Average	24.84	4.93	29.77	54.00	-24.23
4824.00	Н	Peak	35.67	4.93	40.60	74.00	-33.40



Report No.:ER/2018/10129 Page 47 of 57

Operation Bar Fundamental Operation Mo EUT Pol.	Frequency	:802.11n20 :2412 MHz :Tx CH LOV :H Plane	V	Test Date Temp./Hu Engineer Measurer		:Tin	_C / 62 RH
97	BuV/m)						
<mark>90</mark>							
80						FCC RSE-PK	
70							
<mark>60</mark>			· · · · · · · · · · · · · · · · · · ·			FCC RSE-AV	
<b>50</b>				       			
40	2						
30	1		· · · · · · · · · · · · · · · · · · ·	       		       	
20							
10							
0 <mark></mark> 1000	610	0.	11200. Frequency (MH	16300. z)	21400.	26500	)
Freq.	Note	Detector	Spectrum	Factor	Actual	Limit	Safe
		Mode	Reading Level		FS	@3m	Margin
MHz	F/H/E/S	PK/QP/AV	dBµV	dB	dBµV/m	dBµV/m	dB
4824.00	Н	Average	25.24	4.93	30.17	54.00	-23.83
4824.00	Н	Peak	35.66	4.93	40.59	74.00	-33.41



Operation Ba Fundamental Operation Mo EUT Pol.	Frequency	:802.11n20 :2437 MHz :Tx CH MID :H Plane		Test Date Temp./Humi. Engineer Measurement Antenna Pol.		:Tin	g_C / 62 RH
97	BuV/m)						
90							
80							
70						FCC RSE-PK	
60						FCC DEF AV	
50						FCC RSE-AV	
40	2		· · · · · · · · · · · · · · · · · · ·				
30						·	
20				1 1 1 1		       	
10		     	· · · · · · · · · · · · · · · · · · ·			     	
0 <sup>L</sup> 1000	610	0.	11200. Frequency (MH	16300. z)	21400.	2650	0
Freq.	Note	Detector	Spectrum	Factor	Actual	Limit	Safe
		Mode	Reading Level		FS	@3m	Margin
MHz	F/H/E/S	PK/QP/AV	dBµV	dB	dBµV/m	dBµV/m	dB
							_
4874.00	Н	Average	25.13	5.13	30.26	54.00	-23.74
4874.00	Н	Peak	36.11	5.13	41.24	74.00	-32.76

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Fundamental	Operation Band Fundamental Frequency Operation Mode EUT Pol.		802.11n20 2437 MHz Fx CH MID H Plane		e umi. ment Antenna P	:Tin	01-19 g_C / 62 RH ZONTAL
97 Level (dE	BuV/m)						
90							
80							
70						FCC RSE-PK	
60						FCC RSE-AV	
50						FUC RSE-AV	
40	2						
30							
20							
10							
0 <mark></mark>	610	0	44200	46200	21400.	2650	
1000	010		11200. 16300. Frequency (MHz)		21400.	2050	10
Freq.	Note	Detector	Spectrum	Factor	Actual	Limit	Safe
		Mode	Reading Level		FS	@3m	Margin
MHz	F/H/E/S	PK/QP/AV	dBμV	dB	dBµV/m	dBµV/m	dB
4874.00	Н	Average	24.77	5.13	29.90	54.00	-24.10
4874.00	Н	Peak	34.91	5.13	40.04	74.00	-33.96



4924.00

Н

Operation Ba Fundamental Operation Mo EUT Pol.	Frequency	:802.11n20 :2462 MHz :Tx CH HIG :H Plane	Temp./Humi.		:Tin	g_C / 62 RH	
97 Level (d	BuV/m)						-
90	·			· · · · · · · · · · · · · · · · · · ·			
80	· · · · · · · · · · · · · · · · · · ·			· · · · · · · · · · · · · · · · · · ·		FCC RSE-PK	
70	· J						
60	l					FCC RSE-AV	
50							
40	2			· · · · · · · · · · · · · · · · · · ·			
30		       		· · · · · · · · · · · · · · · · · · ·			
20						 	
10							
0 <mark></mark> 1000	610	0.	11200. Frequency (MH	16300. z)	21400.	2650	] 00
Freq.	Note	Detector	Spectrum	Factor	Actual	Limit	Safe
		Mode	Reading Level		FS	@3m	Margin
MHz	F/H/E/S	PK/QP/AV	dBµV	dB	dBµV/m	dBµV/m	dB
4924.00	Н	Average	24.88	5.25	30.13	54.00	-23.87

Peak

35.37

5.25

40.62

74.00

-33.38



Report No.:ER/2018/10129 Page 51 of 57

Fundamental Operation Mo	Operation Band Fundamental Frequency Operation Mode		н	Test Date Temp./Hu Engineer	umi.	:Tin	g_C / 62 RH
EUT Pol.		:H Plane		Measure	ment Antenna	Pol. :HORI	ZONTAL
97 Level (dE	BuV/m)						-
90							
<mark>80</mark>						FCC RSE-PK	
70							
60	· · · · · · · · · · · · · · · · · · ·					FCC RSE-AV	
50							
40	2						
30							
20						   	
10						   	
0	610	0	11200.	16300.	21400.	265	
1000	010		Frequency (MI				
Freq.	Note	Detector	Spectrum	Factor	Actual	Limit	Safe
		Mode	Reading Level		FS	@3m	Margin
MHz	F/H/E/S	PK/QP/AV	dBμV	dB	dBµV/m	dBµV/m	dB
4924.00	Н	Average	24.93	5.25	30.18	54.00	-23.82
4924.00	Н	Peak	35.48	5.25	40.73	74.00	-33.27



Operation Bar Fundamental Operation Mo EUT Pol.	Frequency	:802.11n40 :2422 MHz :Tx CH LOV :H Plane	V	Test Date Temp./Humi. Engineer Measurement Antenna Pol.		:Tin	_C / 62 RH
97	uV/m)						
90			· · · · · · · · · · · · · · · · · · ·				
80						FCC RSE-PK	
70							
60						FCC RSE-AV	
50							
40	2						
30							
20							
10							
0 <mark></mark> 1000	610	0.	11200. Frequency (MH	16300. z)	21400.	26500	)
Freq.	Note	Detector	Spectrum	Factor	Actual	Limit	Safe
		Mode	Reading Level		FS	@3m	Margin
MHz	F/H/E/S	PK/QP/AV	dBµV	dB	dBµV/m	dBµV/m	dB
4844.00	Н	Average	25.41	4.97	30.38	54.00	-23.62
4844.00	Н	Peak	35.32	4.97	40.29	74.00	-33.71



Operation Ba Fundamental Operation Mc EUT Pol.	Frequency	:802.11n40 :2422 MHz :Tx CH LOV :H Plane	V	Test Date Temp./Humi. Engineer Measurement Antenna Pol.		:Tin	_C / 62 RH
97 Level (dE	BuV/m)					<b>_</b>	
90							
80						FCC RSE-PK	
70						FUC KJE-PK	
60				·		FCC RSE-AV	
50						CC NJL-AV	
40	2			·			
30				·			
20							
10							
0 <mark></mark>	610	0.	11200.	16300.	21400.	2650	)
			Frequency (MH				-
Freq.	Note	Detector	Spectrum	Factor	Actual	Limit	Safe
		Mode	Reading Level		FS	@3m	Margin
MHz	F/H/E/S	PK/QP/AV	dBμV	dB	dBµV/m	dBµV/m	dB
4844.00	Н	Average	24.92	4.97	29.89	54.00	-24.11
4844.00	Н	Peak	35.41	4.97	40.38	74.00	-33.62



Operation Ba Fundamental Operation Mo EUT Pol.	Frequency	:802.11n40 :2437 MHz :Tx CH MID :H Plane	)	Test Date Temp./Humi. Engineer Measurement Antenna Pol.		:Tin	J_C / 62 RH
97	BuV/m)						
90							
80						FCC DEF DV	
70						FCC RSE-PK	
60						TCC DCT AV	
50						FCC RSE-AV	
40	2						
30							
20							
10		     				     	
		-					
0 <sup>L</sup> 1000	610	0.	11200. 16300. Frequency (MHz)		21400.	2650	0
Freq.	Note	Detector	Spectrum	Factor	Actual	Limit	Safe
		Mode	Reading Level		FS	@3m	Margin
MHz	F/H/E/S	PK/QP/AV	dBµV	dB	dBµV/m	dBµV/m	dB
4874.00	Н	Average	24.83	5.13	29.96	54.00	-24.04
4874.00	Н	Peak	34.51	5.13	39.64	74.00	-34.36

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Operation Ba Fundamental Operation Mo EUT Pol.	Frequency	:802.11n40 :2437 MHz :Tx CH MID :H Plane		Test Date Temp./Hu Engineer Measurer	ımi.	:Tin	01-19  _C / 62 RH CONTAL
97	BuV/m)						
90				·			
80				·		FCC RSE-PK	
70						FUL ROE-PR	
60				·		FCC RSE-AV	
50				·		FCC NSE-AV	
40	2						
30				·			
20				·			
10							
0 <mark></mark>	610	0	11200.	16300.	21400.	2650	0
1000	010		Frequency (MH		21400.	2030	0
Freq.	Note	Detector	Spectrum	Factor	Actual	Limit	Safe
		Mode	Reading Level		FS	@3m	Margin
MHz	F/H/E/S	PK/QP/AV	dBµV	dB	dBµV/m	dBµV/m	dB
4874.00	Н	Average	24.68	5.13	29.81	54.00	-24.19
4874.00	Н	Peak	34.44	5.13	39.57	74.00	-34.43



Operation Fundame Operation EUT Pol.	ntal Frequency	:802.11n40 :2452 MHz :Tx CH HIG :H Plane	Н	Test Date Temp./Humi. Engineer Measurement Antenna Pol.		:Tin	g_C / 62 RH
97	el (dBuV/m)						7
<b>90</b>							
80						FCC RSE-PK	
70							
60						FCC RSE-AV	
50							
<b>40</b>	2						
30	1						
20							
10							
0 <mark></mark> 100	0 61	00.	11200. Frequency (MH	16300. Iz)	21400.	265	 00
Freq.	Note	Detector	Spectrum	Factor	Actual	Limit	Safe
		Mode	Reading Level		FS	@3m	Margin
MHz	F/H/E/S	PK/QP/AV	dBμV	dB	dBµV/m	dBµV/m	dB
4904.00	) Н	Average	24.60	5.24	29.84	54.00	-24.16
4904.00	) Н	Peak	35.80	5.24	41.04	74.00	-32.96



Operation Bar Fundamental Operation Mo EUT Pol.	Frequency	:802.11n40 :2452 MHz :Tx CH HIG :H Plane	Н	Test Date Temp./Humi. Engineer Measurement Antenna Pol.		:Tin	1-19 _C / 62 RH CONTAL
97	BuV/m)						
90							
80						FCC RSE-PK	
70						FUL RGE-PR	
60						FCC RSE-AV	
50						FCC R3E-AV	
40	2						
30							
20							
10							
0 <mark>0</mark>	610	0	11200.	16300.	21400.	2650	n
1000			Frequency (MH		211001	2000	•
Freq.	Note	Detector	Spectrum	Factor	Actual	Limit	Safe
		Mode	Reading Level		FS	@3m	Margin
MHz	F/H/E/S	PK/QP/AV	dBµV	dB	dBµV/m	dBµV/m	dB
4904.00	Н	Average	24.78	5.24	30.02	54.00	-23.98
4904.00	Н	Peak	36.22	5.24	41.46	74.00	-32.54

~ End of Report ~

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