

# Shenzhen Toby Technology Co., Ltd.

Report No.: TB-FCC144253

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# **FCC Radio Test Report** FCC ID: 2AEXP-BRAVO

## **Original Grant**

Report No. TB-FCC144252

AFFIX, LLC **Applicant** 

**Equipment Under Test (EUT)** 

**EUT Name** Ranger

Model No. **Bravo** 

**AFFIX** Serial No.

2015-05-19 **Receipt Date** 

**Test Date** 2015-05-20 to 2015-06-01

2015-06-03 **Issue Date** 

FCC Part 15, Subpart C (15.247:2014) **Standards** 

ANSI C63.10: 2013 **Test Method** 

Conclusions **PASS** 

In the configuration tested, the EUT complied with the standards specified above,

The EUT technically complies with the FCC and IC requirements

**Test/Witness Engineer** 

Approved&

**Authorized** 

This report details the results of the testing carried out on one sample. The results contained in this test report do not relate to other samples of the same product. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in the report.

TB-RF-074-1.0

Fax: +86 75526509195 Tel: +86 75526509301



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# 1. General Information about EUT

### 1.1 Client Information

Applicant : AFFIX, LLC

Address : 2170 N.W. 87 Avenue. Doral Florida, 33172

Manufacturer : AFFIX, LLC

Address : 2170 N.W. 87 Avenue. Doral Florida, 33172

## 1.2 General Description of EUT (Equipment Under Test)

EUT Name	:	Ranger			
Models No.	:	Bravo			
Model Difference					
TON		Operation Frequency 802.11b/g/n(HT20): 2 802.11n(HT40): 2422	412MHz~2462MHz		
		Number of Channel:	802.11b/g/n(HT20):11 channels see note(3) 802.11n(HT40): 7 channels see note(3)		
Product Description		RF Output Power:	802.11b: 17.10 dBm 802.11g: 16.49 dBm 802.11n (HT20): 16.65 dBm 802.11n (HT40): 15.51 dBm		
		Antenna Gain:	1.39 dBi (FPC Antenna)		
			Modulation Type:	802.11b: DSSS (CCK, DQPSK, DBPSK) 802.11g: OFDM 802.11n: OFDM	
		Bit Rate of Transmitter:	802.11b:11/5.5/2/1 Mbps 802.11g:54/48/36/24/18/12/9/6 Mbps 802.11n:up to 150Mbps		
Power Supply	i	DC power supplied book DC Voltage supplied	y AC/DC Adapter.		
Power Rating		Input: AC 100~240V Output: 5V/1A	Input: AC 100~240V 50/60Hz 0.2A		
Connecting I/O Port(S)	:	Please refer to the Us			

#### Note

(1) This Test Report is FCC Part 15.247 for 802.11b/g/n, the test procedure follows the FCC



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KDB 558074 D01 DTS Meas Guidance v03r02.

(2) For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.

(3) Channel List:

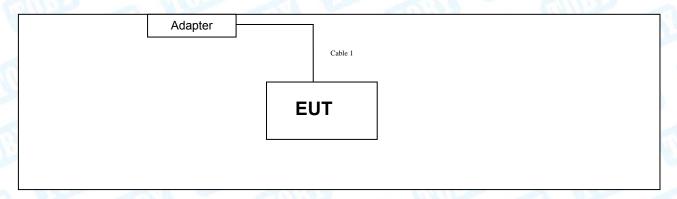
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
01	2412	05	2432	09	2452
02	2417	06	2437	10	2457
03	2422	07	2442	11	2462
04	2427	80	2447		

Note:CH 01~CH 11 for 802.11b/g/n(HT20)

CH 03~CH 09 for 802.11n(HT40)

- (4) The Antenna information about the equipment is provided by the applicant.
- 1.3 Block Diagram Showing the Configuration of System Tested

### **TX Mode**



# 1.4 Description of Support Units

Equipment Information						
Name Model S/N Manufact			Manufacturer	Used "√"		
53		EMPS -	L. C.	11.0		
		Cable Information				
Number	Shielded Type	Ferrite Core	Length	Note		
Cable 1	YES	NO	0.8M	3 7 6		



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### 1.5 Description of Test Mode

To investigate the maximum EMI emission characteristics generates from EUT, the test system was pre-scanning tested base on the consideration of following EUT operation mode or test configuration mode which possible have effect on EMI emission level. Each of these EUT operation mode(s) or test configuration mode(s) mentioned follow was evaluated respectively.

For Conducted Test				
Final Test Mode	Description			
Mode 1	AC Charging with TX B Mode			

	For Radiated Test					
Final Test Mode	e Description					
Mode 3	TX Mode B Mode Channel 01/06/11					
Mode 4	TX Mode G Mode Channel 01/06/11					
Mode 5	TX Mode N(HT20) Mode Channel 01/06/11					
Mode 6	TX Mode N(HT40) Mode Channel 03/06/09					

### Note:

(1) For all test, we have verified the construction and function in typical operation. And all the test modes were carried out with the EUT in transmitting operation in maximum power with all kinds of data rate.

According to ANSI C63.10 standards, the measurements are performed at the highest, middle, lowest available channels, and the worst case data rate as follows:

802.11b Mode: CCK (1 Mbps) 802.11g Mode: OFDM (6 Mbps)

802.11n (HT20) Mode: MCS 0 (6.5 Mbps) 802.11n (HT40) Mode: MCS 0 (13 Mbps)

- (2) During the testing procedure, the continuously transmitting with the maximum power mode was programmed by the customer.
- (3) The EUT is considered a mobile unit; in normal use it was positioned on Z-plane. The worst case was found positioned on Z-plane. Therefore only the test data of this Z-plane was used for radiated emission measurement test.

## 1.6 Description of Test Software Setting

During testing 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 selection is for the setting of RF output power expected by the customer and is going to be fixed on the firmware of the final end product power parameters of WLAN.



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	*#*#3646633#*#*	
CH 01	CH 06	CH 11
19	19	19
16	16	16
16	16	16
CH 03	CH 06	CH 09
15	15	15
	19 16 16 CH 03	CH 01         CH 06           19         19           16         16           16         16           CH 03         CH 06

## 1.7 Measurement Uncertainty

The reported uncertainty of measurement y  $\pm$  U, where expended uncertainty U is based on a standard uncertainty multiplied by a coverage factor of k=2, providing a level of confidence of approximately 95 %.

Test Item	Parameters	Expanded Uncertainty (U <sub>Lab</sub> )
Conducted Emission	Level Accuracy: 9kHz~150kHz	±3.42 dB
Conducted Emission	150kHz to 30MHz	±3.42 dB
Radiated Emission	Level Accuracy: 9kHz to 30 MHz	±4.60 dB
Radiated Emission	Level Accuracy: 30MHz to 1000 MHz	±4.40 dB
Radiated Emission	Level Accuracy: Above 1000MHz	±4.20 dB



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### 1.7 Test Facility

The testing report were performed by the Shenzhen Toby Technology Co., Ltd., in their facilities located at 1A/F., Bldg.6, Yusheng Industrial Zone, The National Road No.107 Xixiang Section 467, Xixiang, Bao'an, Shenzhen, Guangdong, China. At the time of testing, the following bodies accredited the Laboratory:

#### **CNAS (L5813)**

The Laboratory has been accredited by CNAS to ISO/IEC 17025: 2005 General Requirements for the Competence of Testing and Calibration Laboratories for the competence in the field of testing. And the Registration No.: CNAS L5813.

### FCC List No.: (811562)

The Laboratory is listed in the United States of American Federal Communications Commission (FCC), and the registration number is 811562.

### IC Registration No.: (11950A-1)

The Laboratory has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing. The site registration: Site# 11950A-1.

May 22, 2014 certificated by TUV Rheinland(China) Co., Ltd. with TUV certificate No.: UA 50282953 0001 and report No.: 17026822 002. The certificate is valid until the next scheduled audit or up to 18 months, at the discretion of TUV Rhineland.



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# 2. Test Summary

	FCC Par	t 15 Subpart C(15.247)/RSS 247	Issue 1		
Standa	rd Section	Took Mann	Tue de constant	Damarla	
FCC	IC	Test Item	Judgment	Remark	
15.203	1	Antenna Requirement	PASS	N/A	
15.207	RSS-GEN 7.2.4	Conducted Emission	PASS	N/A	
15.205	RSS-GEN 7.2.2	Restricted Bands	PASS	N/A	
15.247(a)(2)	RSS 247 5.2 (1)	6dB Bandwidth	PASS	N/A	
15.247(b)	RSS 247 5.4 (4)	Peak Output Power	PASS	N/A	
15.247(e)	RSS 247 5.2 (2)	Power Spectral Density	PASS	N/A	
15.247(d)	RSS 247 5.5	Transmitter Radiated Spurious Emission	PASS	N/A	

**Note:** "/" for no requirement for this test item.

N/A is an abbreviation for Not Applicable.



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# 3. Test Equipment

AC Main C	onducted Emis	ssion			
Description	Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due Date
EMI Test Receiver	ROHDE& SCHWARZ	ESCI	100321	Aug. 08, 2014	Aug. 07, 2015
50ΩCoaxial Switch	Anritsu	MP59B	X10321	Aug. 08, 2014	Aug. 07, 2015
L.I.S.N	Rohde & Schwarz	ENV216	101131	Aug. 08, 2014	Aug. 07, 2015
L.I.S.N	SCHWARZBECK	NNBL 8226-2	8226-2/164	Aug. 08, 2014	Aug. 07, 2015
Radiation	Spurious Emis	sion			
Description	Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due Date
Spectrum Analyzer	Agilent	E4407B	MY45106456	Sep. 01, 2014	Aug. 31, 2015
EMI Test Receiver	Rohde & Schwarz	ESCI	100010/007	Aug. 08, 2014	Aug. 07, 2015
Bilog Antenna	ETS-LINDGREN	3142E	00117537	Mar. 28, 2015	Mar. 27, 2016
Horn Antenna	ETS-LINDGREN	3117	00143207	Mar. 28, 2015	Mar. 27, 2016
Pre-amplifier	Sonoma	310N	185903	Mar. 28, 2015	Mar. 27, 2016
Pre-amplifier	HP	8447B	3008A00849	Mar. 28, 2015	Mar. 27, 2016
Cable	HUBER+SUHNER	100	SUCOFLEX	Mar. 28, 2015	Mar. 27, 2016
Positioning Controller	ETS-LINDGREN	2090	N/A	N/A	N/A
Antenna C	onducted Emis	ssion			
Description	Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due Date
Spectrum Analyzer	Agilent	E4407B	MY45106456	Sep. 01, 2014	Aug. 31, 2015
EMI Test Receiver	Rohde & Schwarz	ESCI	100010/007	Aug. 08, 2014	Aug. 07, 2015
Power Meter	Anritsu	ML2495A	25406005	Aug. 08, 2014	Aug. 07, 2015



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# 4. Conducted Emission Test

### 4.1 Test Standard and Limit

4.1.1Test Standard FCC Part 15.207

#### 4.1.2 Test Limit

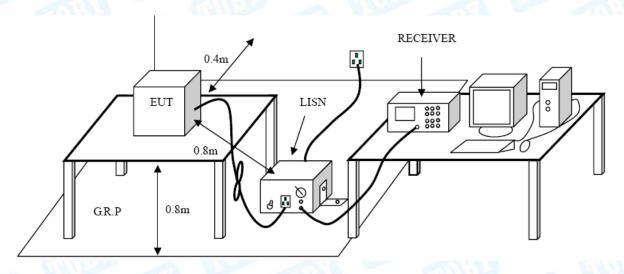
#### **Conducted Emission Test Limit**

A Francisco Million	Maximum RF Line Voltage (dBμV)		
Frequency	Quasi-peak Level	Average Level	
150kHz~500kHz	66 ~ 56 *	56 ~ 46 *	
500kHz~5MHz	56	46	
5MHz~30MHz	60	50	

#### Notes:

- (1) \*Decreasing linearly with logarithm of the frequency.
- (2) The lower limit shall apply at the transition frequencies.
- (3) The limit decrease in line with the logarithm of the frequency in the range of 0.15 to 0.50MHz.

### 4.2 Test Setup



### 4.3 Test Procedure

The EUT was placed 0.8 meters from the horizontal ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipments powered from additional LISN(s). The LISN provide 50 Ohm/50uH of coupling impedance for the measuring instrument.

Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.



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I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.

LISN at least 80 cm from nearest part of EUT chassis.

The bandwidth of EMI test receiver is set at 9kHz, and the test frequency band is from 0.15MHz to 30MHz.

### 4.4 EUT Operating Mode

Please refer to the description of test mode.

### 4.5 Test Data

Please see the next page.



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EUT:	Ranger	Model Name :	Bravo
Temperature:	25 ℃	Relative Humidity:	55%
Test Voltage:	AC 120V/60Hz		
Terminal:	Line		
Test Mode:	AC Charging with TX B	Mode	THE RESERVE TO SERVE
Remark:	Only worse case is rep	orted	1:35
90.0 dBuV			
			QP: — AVG: —

			QP: — AVG: —
0.150 0.5	(MHz)	5	30.000

No. Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
	MHz	dBuV	dB	dBuV	dBu∀	dB	Detector
1	0.2020	43.89	10.02	53.91	63.52	-9.61	QP
2	0.2020	34.20	10.02	44.22	53.52	-9.30	AVG
3	0.2540	42.58	10.02	52.60	61.62	-9.02	QP
4 *	0.2540	35.58	10.02	45.60	51.62	-6.02	AVG
5	0.6380	38.94	10.09	49.03	56.00	-6.97	QP
6	0.6380	27.14	10.09	37.23	46.00	-8.77	AVG
7	1.0140	38.01	10.06	48.07	56.00	-7.93	QP
8	1.0140	28.37	10.06	38.43	46.00	-7.57	AVG
9	1.4100	36.93	10.06	46.99	56.00	-9.01	QP
10	1.4100	26.13	10.06	36.19	46.00	-9.81	AVG
11	2.6060	35.49	10.04	45.53	56.00	-10.47	QP
12	2.6060	25.37	10.04	35.41	46.00	-10.59	AVG

\*:Maximum data x:Over limit !:over margin



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120V/60Hz Itral Charging with y worse case	n TX B Mod		y:	QP: AVG:	pea
ıtral Charging with					W W
Charging with			and the second second		W W
					W W
y worse case	is reported		and the same of th		W W
My My	M/~~~		and the second second		W W
Thy my					W W
	(MHz)	5			30.000
					30.000
Reading Level	Correct Factor		imit	Over	
dBuV	dB	dBuV di	Bu∀	dB	Detector
42.51	10.10	52.61 61	1.36	-8.75	QP
36.92	10.10	47.02 51	1.36	-4.34	AVG
37.98	10.02	48.00 56	3.00	-8.00	QP
23.83	10.02	33.85 46	3.00	-12.15	AVG
37.51	10.15	47.66 56	3.00	-8.34	QP
27.84	10.15	37.99 46	3.00	-8.01	AVG
37.26	10.12	47.38 56	3.00	-8.62	QP
26.95	10.12	37.07 46	3.00	-8.93	AVG
35.73	10.06	45.79 56	3.00	-10.21	QP
25.41	10.06	35.47 46	3.00	-10.53	AVG
31.32	10.06	41.38 56	3.00	-14.62	QP
21.35	10.06	31.41 46	3.00	-14.59	AVG
	dBuV 42.51 36.92 37.98 23.83 37.51 27.84 37.26 26.95 35.73 25.41 31.32 21.35	Reading Level         Correct Factor           dBuV         dB           42.51         10.10           36.92         10.10           37.98         10.02           23.83         10.02           37.51         10.15           27.84         10.15           37.26         10.12           26.95         10.12           35.73         10.06           25.41         10.06           31.32         10.06           21.35         10.06	Reading Level         Correct Factor         Measurement Measurement         Limit Measurement           dBuV         dB         dBuV         d           42.51         10.10         52.61         66           36.92         10.10         47.02         56           37.98         10.02         48.00         56           23.83         10.02         33.85         46           37.51         10.15         47.66         56           27.84         10.15         37.99         46           37.26         10.12         47.38         56           26.95         10.12         37.07         46           35.73         10.06         45.79         56           25.41         10.06         35.47         46           31.32         10.06         41.38         56           21.35         10.06         31.41         46	Reading Level         Correct Factor Factor Ment         Measurement         Limit           dBuV         dB         dBuV         dBuV           42.51         10.10         52.61         61.36           36.92         10.10         47.02         51.36           37.98         10.02         48.00         56.00           23.83         10.02         33.85         46.00           37.51         10.15         47.66         56.00           27.84         10.15         37.99         46.00           37.26         10.12         47.38         56.00           26.95         10.12         37.07         46.00           35.73         10.06         45.79         56.00           25.41         10.06         35.47         46.00           31.32         10.06         41.38         56.00           21.35         10.06         31.41         46.00	Reading Level         Correct Factor         Measurement Measurement         Limit ABuV         Over ABuV           42.51         10.10         52.61         61.36         -8.75           36.92         10.10         47.02         51.36         -4.34           37.98         10.02         48.00         56.00         -8.00           23.83         10.02         33.85         46.00         -12.15           37.51         10.15         47.66         56.00         -8.34           27.84         10.15         37.99         46.00         -8.01           37.26         10.12         47.38         56.00         -8.62           26.95         10.12         37.07         46.00         -8.93           35.73         10.06         45.79         56.00         -10.21           25.41         10.06         35.47         46.00         -10.53           31.32         10.06         41.38         56.00         -14.62           21.35         10.06         31.41         46.00         -14.59



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# 5. Radiated Emission Test

### 5.1 Test Standard and Limit

5.1.1 Test Standard FCC Part 15.209

5.1.2 Test Limit

### Radiated Emission Limits (9kHz~1000MHz)

Frequency (MHz	Field Strength (microvolt/meter)	Measurement Distance (meters)
0.009~0.490	2400/F(KHz)	300
0.490~1.705	24000/F(KHz)	30
1.705~30.0	30	30
30~88	100	3
88~216	150	3
216~960	200	3
Above 960	500	3

### Radiated Emission Limit (Above 1000MHz)

Frequency	Class A (dBuV	//m)(at 3 M)	Class B (dBuV/m)(at 3 M)		
(MHz)	Peak	Average	Peak	Average	
Above 1000	80	60	74	54	

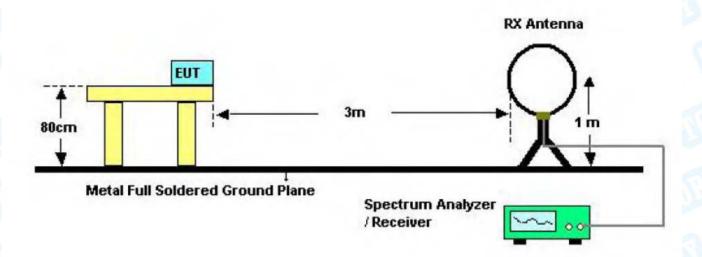
### Note:

- (1) The tighter limit applies at the band edges.
- (2) Emission Level(dBuV/m)=20log Emission Level(uV/m)

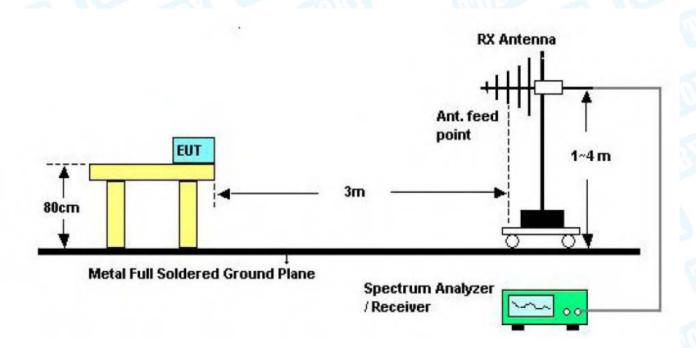


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# 5.2 Test Setup



Below 30MHz Test Setup

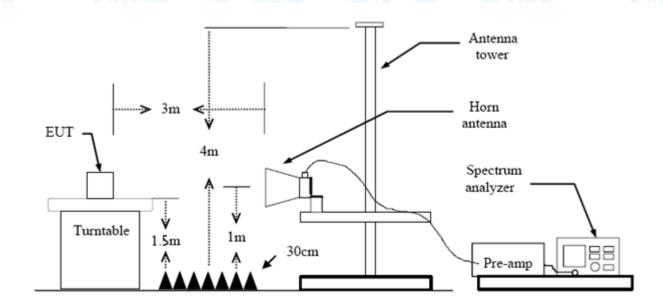


Below 1000MHz Test Setup

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Above 1GHz Test Setup

#### 5.3 Test Procedure

- (1) The measuring distance of 3m shall be used for measurements at frequency up to 1GHz and above 1 GHz. The EUT was placed on a rotating 0.8m high above ground, the table was rotated 360 degrees to determine the position of the highest radiation.
- (2) Measurements at frequency above 1GHz. The EUT was placed on a rotating 1.5m high above the ground. RF absorbers covered the ground plane with a minimum area of 3.0m by 3.0m between the EUT and measurement receiver antenna. The RF absorber shall not exceed 30cm in high above the conducting floor. The table was rotated 360 degrees to determine the position of the highest radiation.
- (3) The Test antenna shall vary between 1m and 4m, Both Horizontal and Vertical antenna are set to make measurement.
- (4) The initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
- (5) If the Peak Mode measured value compliance with and lower than Quasi Peak Mode Limit Bellow 1 GHz, the EUT shall be deemed to meet QP Limits and then no additional QP Mode measurement performed. But the Peak Value and average value both need to comply with applicable limit above 1 GHz.
- (6) Testing frequency range below 1GHz the measuring instrument use VBW=120 kHz with Quasi-peak detection.
- (7) Testing frequency range above 1GHz the measuring instrument use RBW=1 MHz and VBW=3 MHz with Peak Detector for Peak Values, and use RBW=1 MHz and VBW=10 Hz with Peak Detector for Average Values.
- (8) For the actual test configuration, please see the test setup photo.



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## 5.4 EUT Operating Condition

The Equipment Under Test was set to Continual Transmitting in maximum power.

### 5.5 Test Data

Remark: During testing above 1GHz the measuring instrument use RBW=1 MHz and VBW=3 MHz with Peak Detector for Peak Values, and use RBW=1 MHz and VBW=10 Hz with Peak Detector for Average Values.

Test data please refer the following pages.



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Rang	ger	M	odel:	В	ravo		
25 °C		R	elative Humic	dity: 5	55%		
est Voltage: AC 120V/60Hz							
nt. Pol. Horizontal							
TX B	Mode 2412	MHz	CHILD'S	2	2 1	A lease	
Only	worse case	is reported					
				(RF)FCC 1			
				4	maigin -o	6	
	2			7. 5 ↑ ¥			
1		3	١				
- A	many or his	July March	N. M		Mary Johnson	a III palleraribaser	
\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	<b>V</b>	V	WW. John	Antipolation play (forthernor)	V 13		
Aller .							
50 60 70	80	(MHz)	300	400 5	00 600 700	1000.000	
50 60 70				400 50	00 600 700	1000.000	
	Reading	Correct	Measure-	400 5i	00 600 700 Over	1000.000	
50 60 70  Freq.  MHz		Correct Factor					
Freq.	Reading Level	Correct Factor	Measure- ment dBuV/m	Limit dBuV/m	Over	Detector	
Freq. MHz 66.9911	Reading Level dBuV 49.24	Correct Factor dB/m -24.48	Measure- ment dBuV/m 24.76	Limit dBuV/m 40.00	Over dB -15.24	Detecto peak	
Freq. MHz 66.9911 01.2883	Reading Level dBuV 49.24 52.66	Correct Factor dB/m -24.48 -21.83	Measure- ment dBuV/m 24.76 30.83	Limit dBuV/m 40.00 43.50	Over  dB  -15.24  -12.67	Detector peak peak	
Freq. MHz 66.9911 01.2883	Reading Level dBuV 49.24 52.66 50.06	Correct Factor dB/m -24.48 -21.83 -20.89	Measure- ment dBuV/m 24.76 30.83 29.17	Limit dBuV/m 40.00 43.50 43.50	Over  dB  -15.24  -12.67  -14.33	Detector peak peak peak	
Freq. MHz 66.9911 01.2883 90.4050 03.2500	Reading Level dBuV 49.24 52.66 50.06 51.88	Correct Factor dB/m -24.48 -21.83 -20.89 -12.82	Measure- ment dBuV/m 24.76 30.83 29.17 39.06	Limit dBuV/m 40.00 43.50 43.50 46.00	Over  dB  -15.24  -12.67  -14.33  -6.94	Detector peak peak peak peak	
Freq. MHz 66.9911 01.2883	Reading Level dBuV 49.24 52.66 50.06	Correct Factor dB/m -24.48 -21.83 -20.89	Measure- ment dBuV/m 24.76 30.83 29.17	Limit dBuV/m 40.00 43.50 43.50	Over  dB  -15.24  -12.67  -14.33	Detector peak peak peak peak	
	25 °C AC 1 Horiz	25 °C AC 120V/60Hz Horizontal TX B Mode 2412	25 °C R AC 120V/60Hz Horizontal TX B Mode 2412MHz Only worse case is reported	25 °C Relative Humin AC 120V/60Hz Horizontal TX B Mode 2412MHz Only worse case is reported	25 °C Relative Humidity: 55 AC 120V/60Hz Horizontal TX B Mode 2412MHz Only worse case is reported  (RE)FCC 1	25 °C Relative Humidity: 55%  AC 120V/60Hz  Horizontal  TX B Mode 2412MHz  Only worse case is reported  (RE)FCC 15C 3M Radiation Margin 6	



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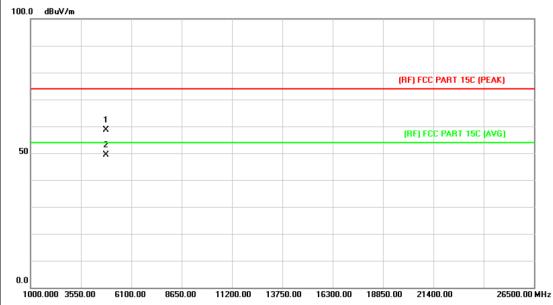
EU	T:		Ran	ger		Model:		Bravo		
Ter	nperature	<b>)</b> :	25	$^{\circ}$ C	NBO .	Relative Hum	nidity:	y: 55%		
Tes	t Voltage	:	AC	120V/60H	łz	010	6	UPP		
An	t. Pol.		Vert	ical	2 AM				MA	
Tes	t Mode:		TX	B Mode 2	412MHz	THE PERSON NAMED IN		A W	A less	
Rei	mark:		Only	y worse c	ase is reporte	ed	600	33		
80.0	D dBuV/m									
30	1	2 X	\( \)	3			(RF)FCC	15C 3M Radiation Margin -6	dB 6 ×	
-20										
30	0.000 40	50	60 7	0 80	(MHz)	300	400	500 600 700	1000.00	
1	No. Mk.	Fre	eq.	Readir Leve	-		Limit	Over		
		MH	Z	dBu∀	dB/m	dBuV/m	dBuV/n	n dB	Detecto	
1		43.20	)17	54.01	-21.52	32.49	40.00	-7.51	peak	
2		55.80	)46	56.29	-24.47	31.82	40.00	-8.18	peak	
	·	00.50	779	59.49	-21.86	37.63	43.50	-5.87	peak	
3		99.52	-, -							
		99.52 103.2		53.15	-12.82	40.33	46.00	-5.67	peak	
3	! 4		500	53.15 46.40		40.33 33.70	46.00		peak peak	

\*:Maximum data x:Over limit !:over margin



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EUT:	Ranger	Model:	Bravo					
Temperature:	25 ℃	Relative Humidity:	55%					
Test Voltage:	AC 120V/60Hz							
Ant. Pol.	Horizontal							
Test Mode:	TX B Mode 2412MHz	TX B Mode 2412MHz						
Remark:	No report for the emission	No report for the emission which more than 10 dB below the						
	prescribed limit.	20 m 13						

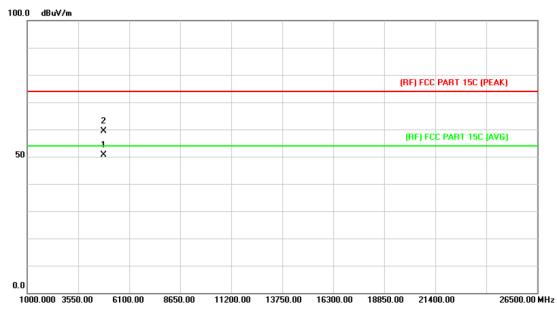


No	. Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1		4823.874	45.07	13.56	58.63	74.00	-15.37	peak
2	*	4824.009	35.94	13.56	49.50	54.00	-4.50	AVG



Page: 22 of 87

EUT:	Ranger	Model:	Bravo
Temperature:	25 ℃	Relative Humidity:	55%
Test Voltage:	AC 120V/60Hz	(1) T	THE
Ant. Pol.	Vertical		
Test Mode:	TX B Mode 2412MHz		THE PARTY OF THE P
Remark:	No report for the emission prescribed limit.	n which more than 10 (	dB below the
	·		

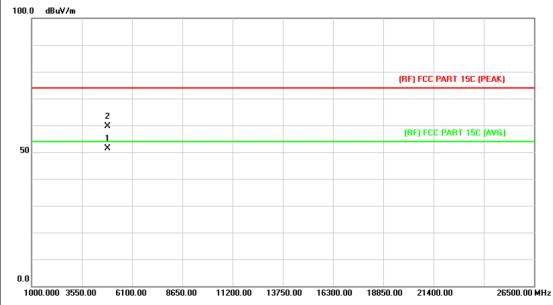


No	. Mk	. Freq.		Correct Factor	Measure- ment	Limit	Over	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*	4824.009	37.19	13.56	50.75	54.00	-3.25	AVG
2		4824.018	45.94	13.56	59.50	74.00	-14.50	peak



Page: 23 of 87

EUT:	Ranger	Model:	Bravo				
Temperature:	25 ℃	Relative Humidity:	55%				
Test Voltage:	AC 120V/60Hz	AC 120V/60Hz					
Ant. Pol.	Horizontal						
Test Mode:	TX B Mode 2437MHz						
Remark:	No report for the emission which more than 10 dB below the						
	prescribed limit.						

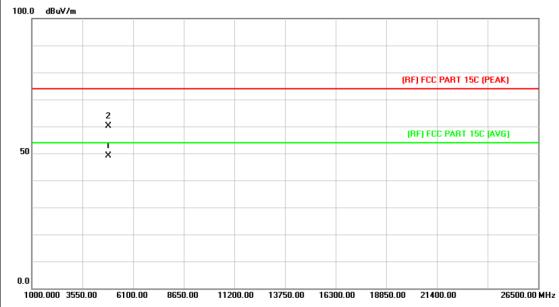


No	. Mk	. Freq.	_	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*	4874.009	37.52	13.86	51.38	54.00	-2.62	AVG
2		4874.051	45.82	13.86	59.68	74.00	-14.32	peak



Page: 24 of 87

EUT:	Ranger	Model:	Bravo			
Temperature:	25 ℃	Relative Humidity:	55%			
Test Voltage:	AC 120V/60Hz					
Ant. Pol.	Vertical					
Test Mode:	TX B Mode 2437MHz	Will Dear	The state of the s			
	No report for the emission which more than 10 dB below the prescribed limit.					

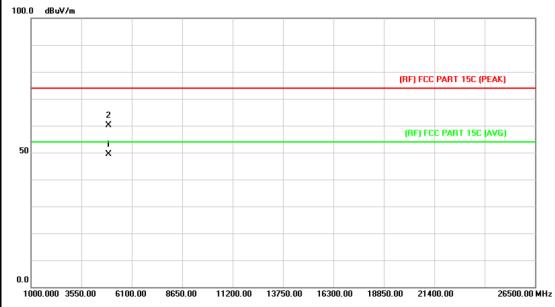


No	э. М	k. Freq.	Reading Level		Measure- ment	Limit	Over	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*	4873.973	35.37	13.86	49.23	54.00	-4.77	AVG
2		4874.123	46.19	13.86	60.05	74.00	-13.95	peak



Page: 25 of 87

EUT:	Ranger	Model:	Bravo				
Temperature:	25 ℃	Relative Humidity:	55%				
Test Voltage:	AC 120V/60Hz	AC 120V/60Hz					
Ant. Pol.	Horizontal						
Test Mode:	TX B Mode 2462MHz						
Remark:	No report for the emission which more than 10 dB below the						
	prescribed limit.						

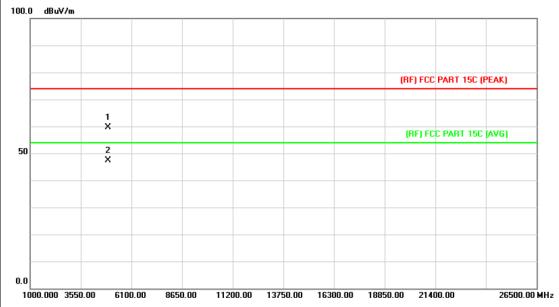


ı	No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
			MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1		*	4923.922	35.31	14.15	49.46	54.00	-4.54	AVG
2			4924.054	45.98	14.15	60.13	74.00	-13.87	peak



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EUT:	Ranger	Model:	Bravo				
Temperature:	25 ℃	25 °C Relative Humidity:					
Test Voltage:	AC 120V/60Hz	AC 120V/60Hz					
Ant. Pol.	Vertical						
Test Mode:	TX B Mode 2462MHz						
Remark:	No report for the emission which more than 10 dB below the prescribed limit.						
· · · · · · · · · · · · · · · · · · ·							

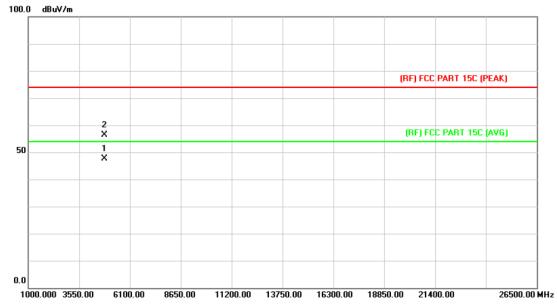


	No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
			MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1			4923.970	45.37	14.15	59.52	74.00	-14.48	peak
2		*	4924.009	33.11	14.15	47.26	54.00	-6.74	AVG



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EUT:	Ranger	Model:	Bravo				
Temperature:	25 ℃	Relative Humidity:	55%				
Test Voltage:	AC 120V/60Hz	AC 120V/60Hz					
Ant. Pol.	Horizontal	Horizontal					
Test Mode:	TX G Mode 2412MHz						
Remark:	No report for the emission	No report for the emission which more than 10 dB below the					
	prescribed limit.						
l							

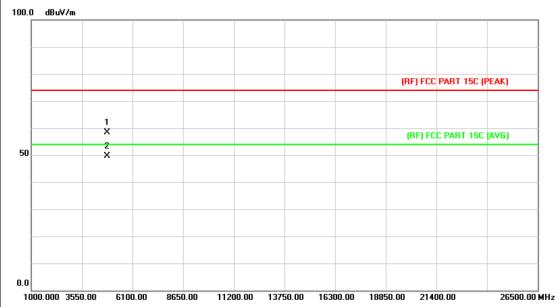


No	. Mk	. Freq.	Reading Level		Measure- ment	Limit	Over	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*	4824.009			47.69	54.00	-6.31	AVG
2		4824.234	42.93	13.56	56.49	74.00	-17.51	peak



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EUT:	Ranger	Model:	Bravo				
Temperature:	25 ℃	Relative Humidity:	55%				
Test Voltage:	AC 120V/60Hz	AC 120V/60Hz					
Ant. Pol.	Vertical	Vertical					
Test Mode:	TX G Mode 2412MHz		THE PARTY OF THE P				
Remark:	No report for the emission prescribed limit.	No report for the emission which more than 10 dB below the prescribed limit.					
	prescribed limit.						

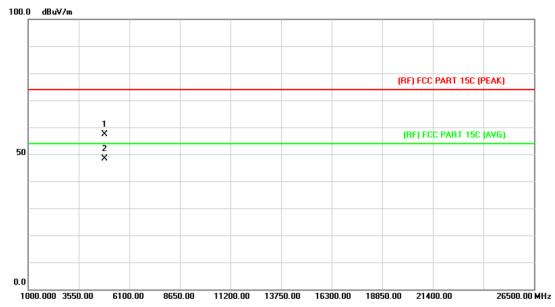


No	o. Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1		4824.123	44.78	13.56	58.34	74.00	-15.66	peak
2	*	4824.201	36.09	13.56	49.65	54.00	-4.35	AVG



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EUT:	Ranger	Model:	Bravo				
Temperature:	25 ℃	Relative Humidity:	55%				
Test Voltage:	AC 120V/60Hz	AC 120V/60Hz					
Ant. Pol.	Horizontal	Horizontal					
Test Mode:	TX G Mode 2437MHz						
Remark:	No report for the emission	No report for the emission which more than 10 dB below the					
	prescribed limit.						

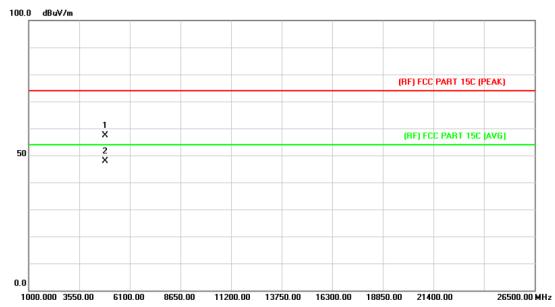


No	. Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1		4874.056	43.48	13.86	57.34	74.00	-16.66	peak
2	*	4874.154	34.49	13.86	48.35	54.00	-5.65	AVG



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EUT:	Ranger	Model:	Bravo			
Temperature:	25 ℃	Relative Humidity:	55%			
Test Voltage:	AC 120V/60Hz	AC 120V/60Hz				
Ant. Pol.	Vertical	Vertical				
Test Mode:	TX G Mode 2437MHz					
Remark:	No report for the emission	No report for the emission which more than 10 dB below the				
	prescribed limit.					

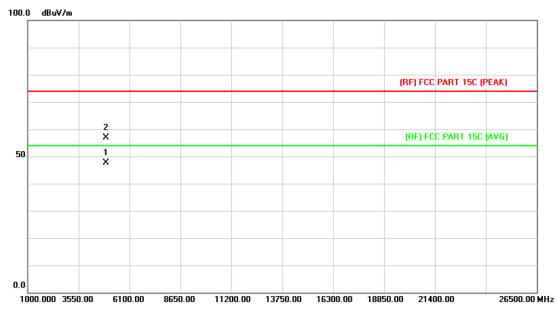


N	Ю.	Mk.	Freq.	Reading Level		Measure- ment	Limit	Over	
			MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1			4874.234	43.57	13.86	57.43	74.00	-16.57	peak
2		*	4874.367	34.12	13.86	47.98	54.00	-6.02	AVG



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EUT:	Ranger	Model:	Bravo			
Temperature:	25 ℃	Relative Humidity:	55%			
Test Voltage:	AC 120V/60Hz					
Ant. Pol.	Horizontal	Horizontal				
Test Mode:	TX G Mode 2462MHz	THE STATE OF				
Remark:	No report for the emission	No report for the emission which more than 10 dB below the				
	prescribed limit.					
		·	·			

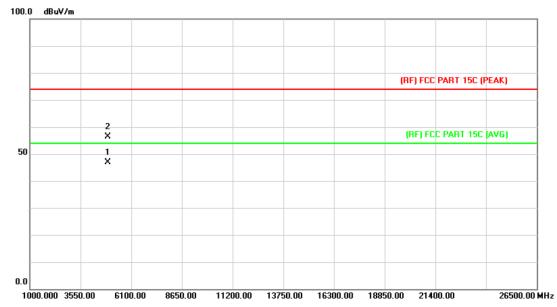


No	o. Mk	. Freq.	_	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*	4923.987	33.51	14.15	47.66	54.00	-6.34	AVG
2		4924.035	42.83	14.15	56.98	74.00	-17.02	peak



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EUT:	Ranger	Model:	Bravo			
Temperature:	25 ℃	Relative Humidity:	55%			
Test Voltage:	AC 120V/60Hz	AC 120V/60Hz				
Ant. Pol.	Vertical	Vertical				
Test Mode:	TX G Mode 2462MHz					
Remark:	No report for the emission	No report for the emission which more than 10 dB below the				
	prescribed limit.					
İ						

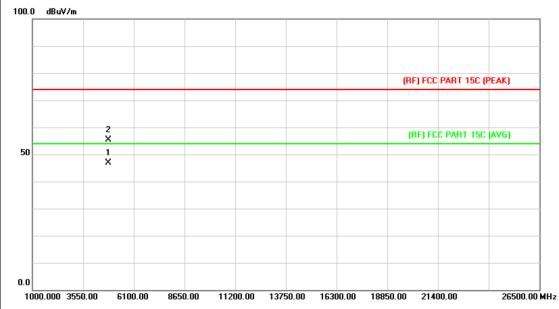


N	No.	Mk.	Freq.	_	Correct Factor	Measure- ment	Limit	Over	
			MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1		*	4923.899	32.74	14.15	46.89	54.00	-7.11	AVG
2			4924.320	42.27	14.15	56.42	74.00	-17.58	peak



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EUT:	Ranger	Model:	Bravo				
Temperature:	25 ℃	Relative Humidity:	55%				
Test Voltage:	AC 120V/60Hz	AC 120V/60Hz					
Ant. Pol.	Horizontal	Horizontal					
Test Mode:	TX N(HT20) Mode 2412	MHz					
Remark:	No report for the emission which more than 10 dB below the						
	prescribed limit.						

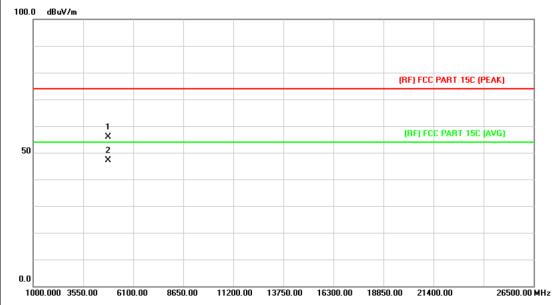


-	No.	Mk.	Freq.	_	Correct Factor	Measure- ment	Limit	Over	
			MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1		*	4823.894				54.00	-7.22	AVG
2			4824.412	41.82	13.56	55.38	74.00	-18.62	peak



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EUT:	Ranger	Model:	Bravo			
Temperature:	25 ℃	Relative Humidity:	55%			
Test Voltage:	AC 120V/60Hz					
Ant. Pol.	Vertical	Vertical				
Test Mode:	TX N(HT20) Mode 2412N	ИНz				
Remark:	No report for the emissio	No report for the emission which more than 10 dB below the				
	prescribed limit.					

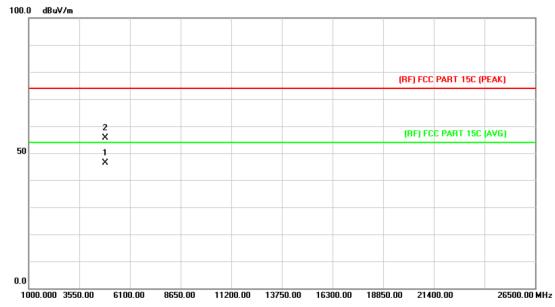


No	. Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1		4824.102	42.31	13.56	55.87	74.00	-18.13	peak
2	*	4824.151	33.56	13.56	47.12	54.00	-6.88	AVG



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EUT:	Ranger	Model:	Bravo			
Temperature:	25 ℃	Relative Humidity:	55%			
Test Voltage:	AC 120V/60Hz	AC 120V/60Hz				
Ant. Pol.	Horizontal					
Test Mode:	TX N(HT20) Mode 2437MHz					
Remark:	No report for the emission which more than 10 dB below the					
	prescribed limit.					
İ						

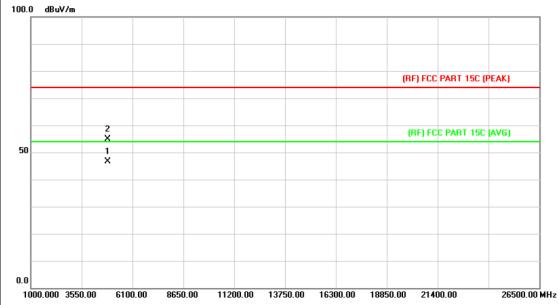


ı	No.	Mk.	Freq.	Reading Level		Measure- ment	Limit	Over	
			MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1		*	4874.254	32.46	13.86	46.32	54.00	-7.68	AVG
2			4874.322	41.78	13.86	55.64	74.00	-18.36	peak



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EUT:	Ranger	Model:	Bravo			
Temperature:	:: 25 ℃ Relative Humidity		55%			
Test Voltage:	AC 120V/60Hz	AC 120V/60Hz				
Ant. Pol.	Vertical					
Test Mode:	TX N(HT20) Mode 2437MHz					
Remark:	No report for the emission which more than 10 dB below the					
	prescribed limit.					

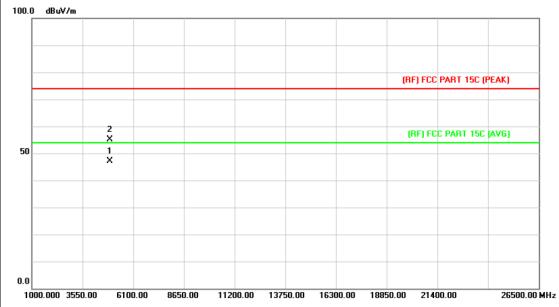


No	. Mk	. Freq.	Reading Level		Measure- ment	Limit	Over	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*	4873.896	32.66	13.86	46.52	54.00	-7.48	AVG
2		4873.998	41.13	13.86	54.99	74.00	-19.01	peak



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EUT:	Ranger	Model:	Bravo				
Temperature:	25 ℃	°C Relative Humidity:					
Test Voltage:	AC 120V/60Hz	AC 120V/60Hz					
Ant. Pol.	Horizontal	Horizontal					
Test Mode:	TX N(HT20) Mode 2462	MHz					
Remark:	Remark: No report for the emission which more than 10 dB below the prescribed limit.						

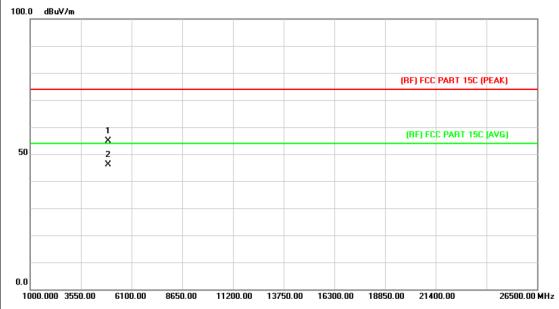


No	. M	k. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*	4924.214	32.91	14.15	47.06	54.00	-6.94	AVG
2		4924.362	41.01	14.15	55.16	74.00	-18.84	peak



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EUT:	Ranger	Model:	Bravo			
Temperature:	25 ℃ Relative Humidity:		55%			
Test Voltage:	AC 120V/60Hz					
Ant. Pol.	Vertical	Vertical				
Test Mode:	TX N(HT20) Mode 2462N	ИНz	A THURSDAY			
Remark:	No report for the emission which more than 10 dB below the prescribed limit.					
			dB below the			

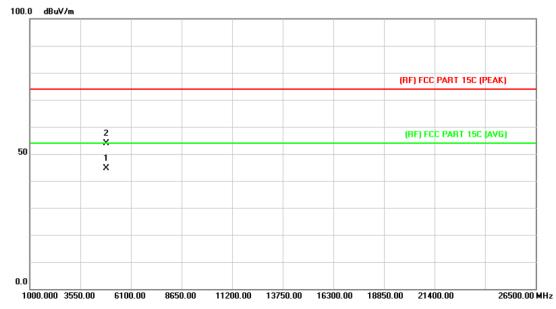


No	o. Mk	. Freq.	•	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1		4924.487	40.73	14.15	54.88	74.00	-19.12	peak
2	*	4924.534	31.97	14.15	46.12	54.00	-7.88	AVG



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EUT:	Ranger	Model:	Bravo				
Temperature:	25 ℃	25 ℃ Relative Humidity:					
Test Voltage:	AC 120V/60Hz	AC 120V/60Hz					
Ant. Pol.	Horizontal	Horizontal					
Test Mode:	TX N(HT40) Mode 2422	MHz					
Remark: No report for the emission which more than 10 dB below the prescribed limit.							
400.0 0.00							

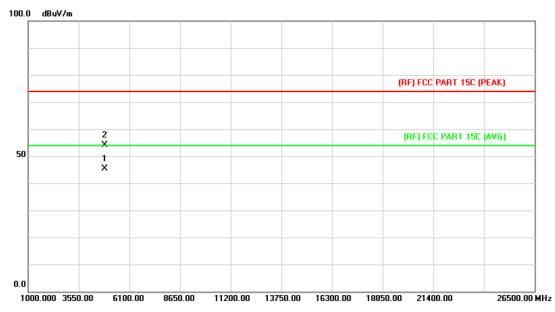


No	. Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*	4843.798	30.97	13.68	44.65	54.00	-9.35	AVG
2		4844.352	40.29	13.68	53.97	74.00	-20.03	peak



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EUT:	Ranger	Model:	Bravo			
Temperature:	25 ℃	Relative Humidity:	55%			
Test Voltage:	AC 120V/60Hz					
Ant. Pol.	Vertical	Vertical				
Test Mode:	TX N(HT40) Mode 2422N	ИНz	THE PARTY OF THE P			
Remark:	No report for the emission which more than 10 dB below the					
	prescribed limit.					

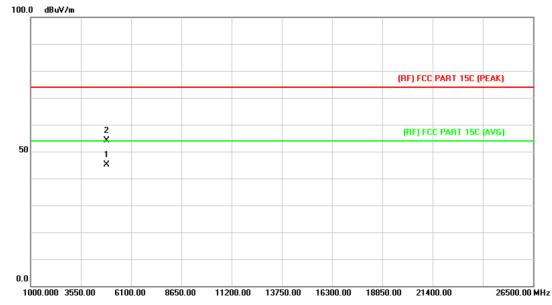


	No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
			MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
•	1	*	4844.244	31.63	13.68	45.31	54.00	-8.69	AVG
2	2		4844.254	40.44	13.68	54.12	74.00	-19.88	peak



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EUT:	Ranger	Model:	Bravo				
Temperature:	25 ℃	Relative Humidity:	55%				
Test Voltage:	AC 120V/60Hz	AC 120V/60Hz					
Ant. Pol.	Horizontal	Horizontal					
Test Mode:	TX N(HT40) Mode 2437	MHz					
Remark:	No report for the emission	No report for the emission which more than 10 dB below the					
	prescribed limit.						

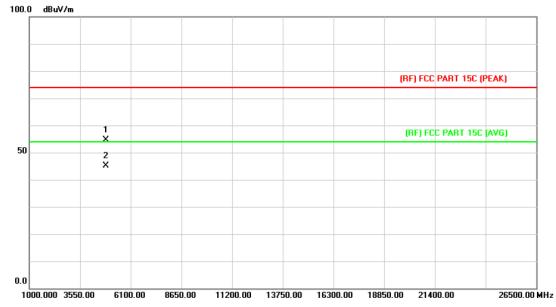


No	o. Mk	. Freq.		Correct Factor	Measure- ment	Limit	Over	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*	4874.225	31.23	13.86	45.09	54.00	-8.91	AVG
2		4874.263	40.36	13.86	54.22	74.00	-19.78	peak



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EUT:	Ranger	Model:	Bravo				
Temperature:	25 ℃	Relative Humidity:	55%				
Test Voltage:	AC 120V/60Hz						
Ant. Pol.	Vertical	Vertical					
Test Mode:	TX N(HT40) Mode 2437	MHz					
Remark:	No report for the emission	No report for the emission which more than 10 dB below the					
	prescribed limit.						

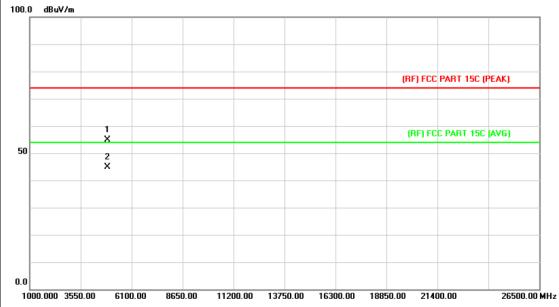


N	o.	Mk.	Freq.	Reading Level		Measure- ment	Limit	Over	
			MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1			4874.358	40.83	13.86	54.69	74.00	-19.31	peak
2	*	r	4874.641	31.37	13.86	45.23	54.00	-8.77	AVG



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EUT:	Ranger	Model:	Bravo				
Temperature:	25 ℃	25 ℃ Relative Humidity: 55%					
Test Voltage:	AC 120V/60Hz	(A)	THE				
Ant. Pol.	Horizontal	Horizontal					
Test Mode:	TX N(HT40) Mode 2452I	MHz					
Remark:	No report for the emission	n which more than 10	dB below the				
	prescribed limit.	22 m 13					
i							

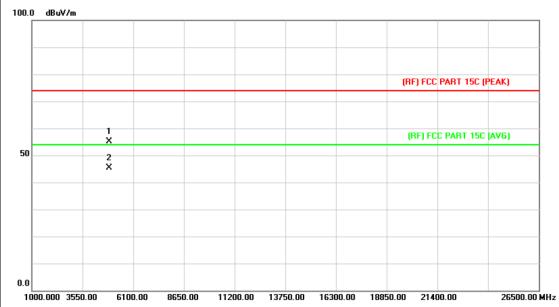


No	o. Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1		4904.652	40.80	14.03	54.83	74.00	-19.17	peak
2	*	4904.864	30.86	14.03	44.89	54.00	-9.11	AVG



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EUT:	Ranger	Model:	Bravo			
Temperature:	25 ℃	Relative Humidity:	55%			
Test Voltage:	AC 120V/60Hz	AC 120V/60Hz				
Ant. Pol.	Vertical	Vertical				
Test Mode:	TX N(HT40) Mode 2452I	MHz	THE PARTY OF THE P			
Remark:	No report for the emission prescribed limit.	n which more than 10 (	dB below the			
	prescribed limit.					



No.	Mk.	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1		4904.363	41.18	14.03	55.21	74.00	-18.79	peak
2	*	4904.421	31.36	14.03	45.39	54.00	-8.61	AVG



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# 6. Restricted Bands Requirement

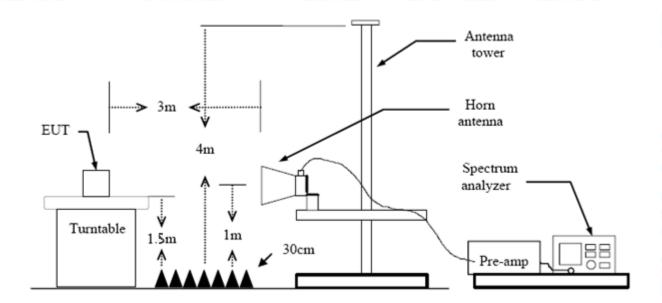
## 6.1 Test Standard and Limit

6.1.1 Test Standard FCC Part 15.209 FCC Part 15.205

6.1.2 Test Limit

Restricted Frequency	Class B (dB	BuV/m)(at 3 M)
Band (MHz)	Peak	Average
2310 ~2390	74	54
2483.5 ~2500	74	54

## 6.2 Test Setup



## 6.3 Test Procedure

- (1) The measuring distance of 3m shall be used for measurements at frequency up to 1GHz and above 1 GHz. The EUT was placed on a rotating 0.8m high above ground, the table was rotated 360 degrees to determine the position of the highest radiation.
- (2) Measurements at frequency above 1GHz. The EUT was placed on a rotating 1.5m high above the ground. RF absorbers covered the ground plane with a minimum area of 3.0m by 3.0m between the EUT and measurement receiver antenna. The RF absorber shall not exceed 30cm in high above the conducting floor. The table was rotated 360 degrees to determine the position of the highest radiation.
- (3) The Test antenna shall vary between 1m and 4m, Both Horizontal and Vertical antenna are set to make measurement.



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(4) The initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.

- (5) If the Peak Mode measured value compliance with and lower than Quasi Peak Mode Limit Bellow 1 GHz, the EUT shall be deemed to meet QP Limits and then no additional QP Mode measurement performed. But the Peak Value and average value both need to comply with applicable limit above 1 GHz.
- (6) Testing frequency range below 1GHz the measuring instrument use VBW=120 kHz with Quasi-peak detection.
- (7) Testing frequency range above 1GHz the measuring instrument use RBW=1 MHz and VBW=3 MHz with Peak Detector for Peak Values, and use RBW=1 MHz and VBW=10 Hz with Peak Detector for Average Values.
- (8) For the actual test configuration, please see the test setup photo.

## 6.4 EUT Operating Condition

The Equipment Under Test was set to Continual Transmitting in maximum power.

### 6.5 Test Data

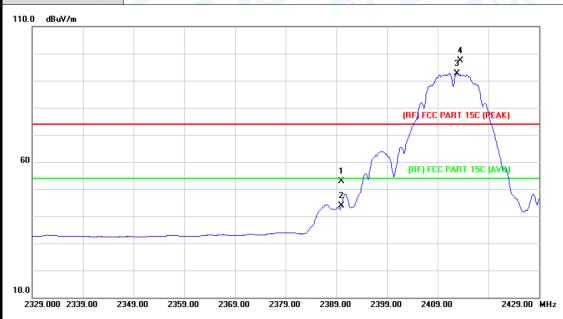
Please see the next page.



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## (1) Radiation Test

EUT:	Ranger	Model:	Bravo
Temperature:	25 ℃	Relative Humidity:	55%
Test Voltage:	AC 120V/60Hz		
Ant. Pol.	Horizontal		
Test Mode:	TX B Mode 2412MHz		
Remark:	N/A	THE PARTY OF THE P	



No.	Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1		2390.000	52.05	0.77	52.82	74.00	-21.18	peak
2		2390.000	43.05	0.77	43.82	54.00	-10.18	AVG
3	*	2412.800	91.79	0.86	92.65	Fundament	al Frequency	AVG
4	Χ	2413.500	96.58	0.86	97.44	Fundament	al Frequency	peak



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UT	:		Rang	jer	N	lodel:		Bravo	
em	peratu	re:	25 °C		R	Relative Hum	idity:	55%	
est	Voltag	e:	AC 1	20V/60Hz		810	6	THE	
ht.	Pol.		Vertic	cal	THU THU				
est	Mode:		TX B	Mode 2412	2MHz		9	2 11	1
Ren	nark:		N/A	THE PERSON NAMED IN			1	133	
110.0	dBuV/m								
								4	
								3	
								- Army	
							(BF)	CC PART 15C (PEAI	K)
60							$\sim$ $^{\prime}$		
						1 ×	V (RF)	FCC PART 15C (AV)	B)
						3\/			M
		<del> </del>							
10.0									
23	29.000 233	9.00 2	349.00	2359.00 236	69.00 2379.00	0 2389.00 23	399.00 2	409.00	2429.00 MI
	lo. Mk.	E		Reading	Correct		Limit	Over	
ľ	IO. IVIK		eq.	Level	Factor	ment			5
		MH	łΖ	dBu∀	dB/m	dBuV/m	dBuV.		Detecto
							740	0 -20.36	
1		2390.	.000	52.87	0.77	53.64	74.0	0 -20.30	peak
1		2390. 2390.		52.87 42.05	0.77 0.77	53.64 42.82	54.0		
	*		.000				54.0		AVG AVG



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EUT:	Ranger	Model:	Bravo
Temperature:	25 ℃	Relative Humidity:	55%
Test Voltage:	AC 120V/60Hz	531	THE STATE OF
Ant. Pol.	Horizontal		
Test Mode:	TX B Mode 2462MHz		THE PARTY OF THE P
Remark:	N/A		1:33

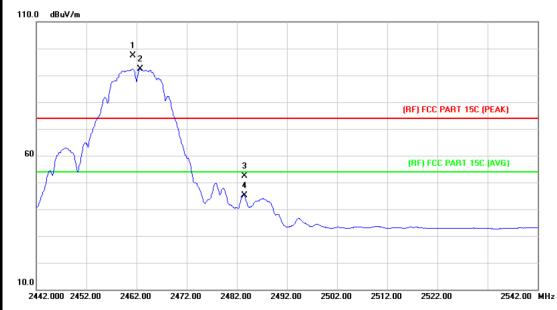


No	o. Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∀	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*	2462.700	90.37	1.08	91.45	Fundamenta	l Frequency	AVG
2	Χ	2463.400	95.14	1.08	96.22	Fundamenta	l Frequency	peak
3		2483.500	50.11	1.17	51.28	74.00	-22.72	peak
4		2483.500	43.96	1.17	45.13	54.00	-8.87	AVG



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EUT:	Ranger	Model:	Bravo
Temperature:	25 ℃	Relative Humidity:	55%
Test Voltage:	AC 120V/60Hz	01 - 6	Miles Comment
Ant. Pol.	Vertical		
Test Mode:	TX B Mode 2462MHz		
Remark:	N/A		1:33

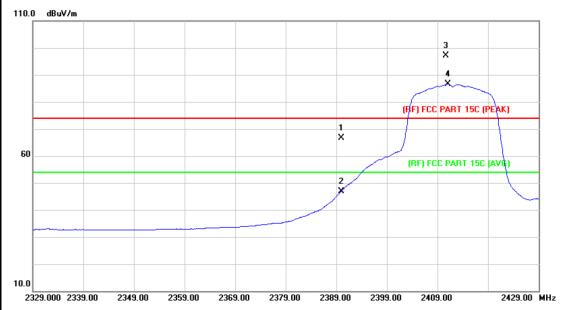


No.	Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1	Χ	2461.300	96.27	1.07	97.34	Fundamenta	l Frequency	peak
2	*	2462.700	91.37	1.08	92.45	Fundamenta	I Frequency	AVG
3		2483.500	51.19	1.17	52.36	74.00	-21.64	peak
4		2483.500	43.96	1.17	45.13	54.00	-8.39	AVG



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EUT:	Ranger	Model:	Bravo			
Temperature:	25 ℃	Relative Humidity:	55%			
Test Voltage:	AC 120V/60Hz	100	THE			
Ant. Pol. Horizontal						
Test Mode:	TX G Mode 2412MHz		A MULL			
Remark:	N/A		1:33			
110.0 dBuV/m						
			3			
			3			

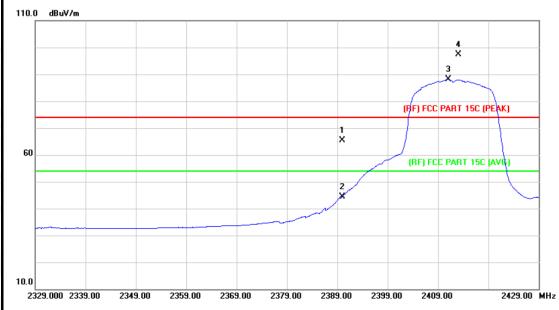


No	. Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∨	dB/m	dBuV/m	dBuV/m	dB	Detector
1		2390.000	65.79	0.77	66.56	74.00	-7.44	peak
2		2390.000	46.22	0.77	46.99	54.00	-7.01	AVG
3	Χ	2410.700	96.17	0.86	97.03	Fundamental	Frequency	peak
4	*	2411.000	85.69	0.86	86.55	Fundamental	Frequency	AVG



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EUT:	Ranger	Model:	Bravo
Temperature:	25 ℃	Relative Humidity:	55%
Test Voltage:	AC 120V/60Hz		THE STATE OF
Ant. Pol.	Vertical	U.	
Test Mode:	TX G Mode 2412MHz		
Remark:	N/A		1133
	<u> </u>		

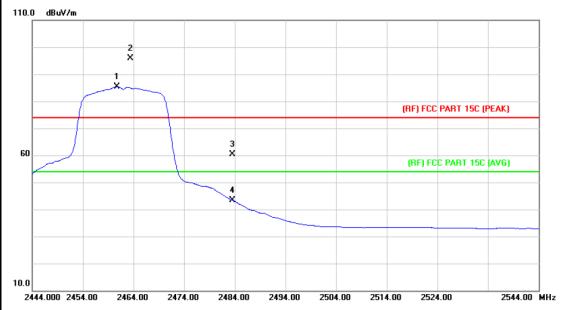


No.	Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∨	dB/m	dBuV/m	dBuV/m	dB	Detector
1		2390.000	64.59	0.77	65.36	74.00	-8.64	peak
2		2390.000	43.72	0.77	44.49	54.00	-9.51	AVG
3	*	2411.000	87.19	0.86	88.05	Fundamenta	l Frequency	AVG
4	Χ	2413.000	96.48	0.86	97.34	Fundamenta	l Frequency	peak



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EUT:	Ranger	Model:	Bravo						
Temperature:	25 ℃	Relative Humidity:	55%						
Test Voltage:	AC 120V/60Hz	AC 120V/60Hz							
Ant. Pol.	Horizontal								
Test Mode:	TX G Mode 2462MHz		The same						
Remark:	N/A		1:33						
110.0 dBuV/m									

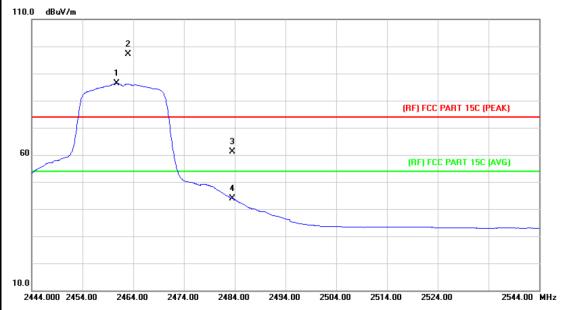


No	o. Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∨	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*	2460.700	84.25	1.06	85.31	Fundamenta	Frequency	AVG
2	Χ	2463.400	94.72	1.08	95.80	Fundamenta	Frequency	peak
3		2483.500	59.26	1.17	60.43	74.00	-13.57	peak
4		2483.500	42.28	1.17	43.45	54.00	-10.55	AVG



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EUT:	Ranger	Model:	Bravo
Temperature:	25 ℃	Relative Humidity:	55%
Test Voltage:	AC 120V/60Hz		
Ant. Pol.	Vertical	U	
Test Mode:	TX G Mode 2462MHz		THE PARTY OF THE P
Remark:	N/A		1:33



No.	Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*	2460.700	85.25	1.06	86.31	Fundamental	Frequency	AVG
2	Χ	2463.000	96.06	1.08	97.14	Fundamental	Frequency	peak
3		2483.500	60.07	1.17	61.24	74.00	-12.76	peak
4		2483.500	42.78	1.17	43.95	54.00	-10.05	AVG



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EU	Γ:			Ran	ger			Model		Bravo		
Ten	npe	ratui	e:	25	$^{\circ}$ C	CILITY OF	30	Relativ	e Hum	idity:	55%	Alace
Tes	t Vo	ltag	e:	AC	120V	/60Hz		Bush		(E	M:19	
٩nt	. Po	ol.		Hor	izonta	al	· BR	1		1		
Tes	t M	ode:		TX	N(HT	20) Mo	de 2412N	/lHz	4/1/20			
Ren	nar	k:		N/A				9			133	
110.0	) dB	BuV/m										
60									1 X		3 X 4 X A X A X A X A X A X A X A X A X A	
10.0												
_		00 2339 Mk.		e49.00		ading	Correct Facto	ct Mea	asure-	99.00 24 Limit	09.00 Over	2429.00 MH
			MH	z	C	lBu∀	dB/m	dB	BuV/m	dBuV/	m dB	Detecto
1			2390.	000	6	1.85	0.77	62	2.62	74.0	0 -11.38	B peak
2			2390.	000	4	6.23	0.77	4	7.00	54.0	0 -7.00	AVG
		Χ	2410.	700	9	6.13	0.86	90	6.99	Fundame	ental Frequency	, peak
3												-



10.0

2329.000 2339.00

2349.00

Report No.: TB-FCC144253

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(RF) FCC PART 15C (AVG)

2409.00

2429.00 MHz

					ALTERNATION OF THE PARTY OF THE			
EUT:	EUT: Ranger Model:				Bravo			
Temperature:	mperature: 25 °C Relative Humidity:					55%		
Test Voltage:	AC 12	0V/60Hz	TOTAL TOTAL	6	CUM			
Ant. Pol.	Vertica	Vertical						
Test Mode:	TX N(H	HT20) Mode	2412MHz	1000		IN		
Remark:	emark: N/A							
110.0 dBuV/m				(ह्रा)	4 X 3 X	ak)		
60			1 X					

No	Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBu∨	dB/m	dBuV/m	dBuV/m	dB	Detector
1		2390.000	60.57	0.77	61.34	74.00	-12.66	peak
2		2390.000	45.73	0.77	46.50	54.00	-7.50	AVG
3	*	2411.100	86.73	0.86	87.59	Fundamental	Frequency	AVG
4	Χ	2412.700	96.01	0.86	96.87	Fundamental	Frequency	peak

2379.00

2389.00

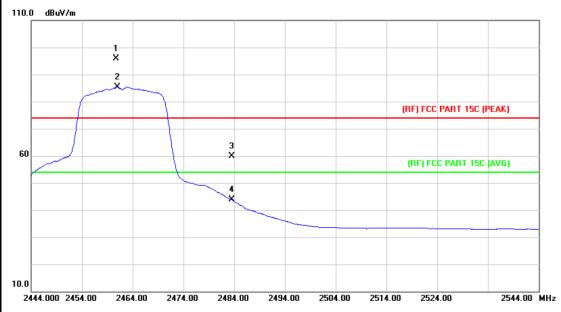
2399.00

2369.00



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EUT:	Ranger	Model:	Bravo				
Temperature:	<b>25</b> ℃	Relative Humidity:	55%				
Test Voltage:	AC 120V/60Hz						
Ant. Pol.	Horizontal	Horizontal					
Test Mode:	TX N(HT20) Mode 2462MHz						
Remark:	Remark: N/A						

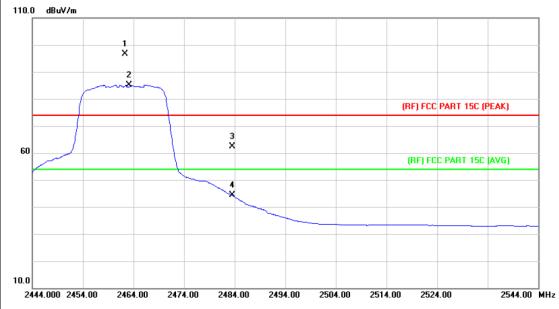


No	. Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1	Χ	2460.700	94.84	1.06	95.90	Fundamenta	l Frequency	peak
2	*	2461.000	84.25	1.06	85.31	Fundamenta	I Frequency	AVG
3		2483.500	58.83	1.17	60.00	74.00	-14.00	peak
4		2483.500	42.60	1.17	43.77	54.00	-10.23	AVG



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Í	EUT:	Ranger	Model:	Bravo				
	Temperature:	25 ℃	Relative Humidity:	55%				
	Test Voltage:	AC 120V/60Hz						
	Ant. Pol.	Vertical						
	Test Mode:	TX N(HT20) Mode 2462MHz						
	Remark:	N/A	The same					

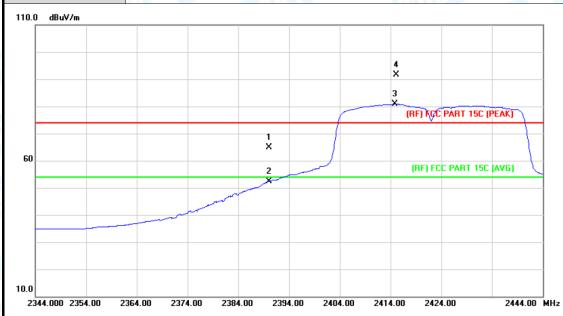


No	. Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1	Χ	2462.300	95.66	1.08	96.74	Fundamenta	l Frequency	peak
2	*	2463.200	84.17	1.08	85.25	Fundamental Frequency		AVG
3		2483.500	61.14	1.17	62.31	74.00	-11.69	peak
4		2483.500	43.10	1.17	44.27	54.00	-9.73	AVG



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EUT:	Ranger	Model:	Bravo					
Temperature:	25 ℃	Relative Humidity:	55%					
Test Voltage:	AC 120V/60Hz							
Ant. Pol.	Horizontal							
Test Mode:	TX N(HT40) Mode 2422MHz							
Remark: N/A								
440.0 10.111								



No	. Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1		2390.000	64.08	0.77	64.85	74.00	-9.15	peak
2		2390.000	51.70	0.77	52.47	54.00	-1.53	AVG
3	*	2414.900	79.92	0.88	80.80	Fundamenta	al Frequency	AVG
4	Χ	2415.100	90.65	0.88	91.53	Fundamenta	al Frequency	peak



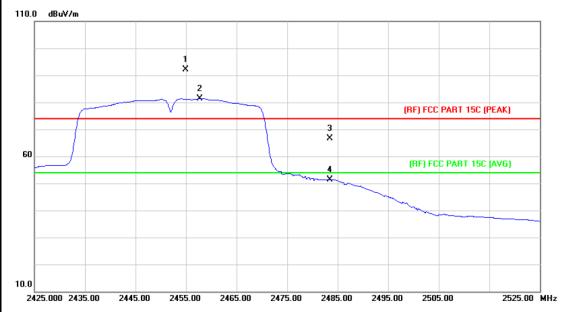
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EUT	Γ:		Ran	ger			M	odel:				Brav	0		
Ten	nperatu	re:	25 °	С	M	33	R	elativ	e Hu	midity	<b>/</b> :	55%	1	167	طلو
Гes	t Voltag	je:	AC 1	120V/60	)Hz	-	K				6	W	6		
Ant	. Pol.		Vert	cal		113							6	TAV	
Tes	t Mode:	•	1XT	N(HT40)	) Mod	e 2422	2MHz								
Rer	nark:		N/A	AR	A. C.		51			6	M	(i)			
110.0	) dBuV/m														_
										4 ×					
										3					
										X	RF) FCC	PART	15C (PE	AK)	+
						1.									
60						×					(DE) EC	C DADI	15C (A	VC)	
						2 X					(HF) FC	L PAH	IDL ĮA	VGJ	
															-
10.0 23	844.000 235	4.00	2364.00	2374.00	2384	.00 23	94.00	2404	.00	2414.00	2424	1.00		2444.0	 D MH:
				Read	lina	Corre	-ct	Mea	asure	2_					
١	lo. Mk	. Fr	eq.	Lev		Fact			ent		mit	(	Over		
		M	Hz	dBu	V	dB/n	1	dB	uV/m	dE	3uV/n	1	dB	De	tecto
1		2390	0.000	64.0	08	0.77		64	4.85	7	4.00	, .	9.15		eak
2		2390	0.000	50.7	70	0.77	7	51	1.47	5	4.00	, .	-2.53		VG
	*		.900	80.9		0.88			1.80				equen		VG
3													-		
	Х	2416	3.100	91.7	79	0.88	3	92	2.67	Fu	ndame	ntal Fr	edilen	ev D	eak



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EUT:	Ranger	Model:	Bravo			
Temperature:	<b>25</b> ℃	Relative Humidity:	55%			
Test Voltage:	AC 120V/60Hz					
Ant. Pol.	Horizontal					
Test Mode:	TX N(HT40) Mode 2452MHz					
Remark:	N/A					

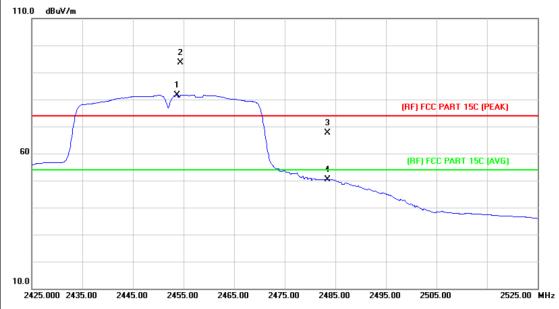


No	. Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1	Χ	2454.900	91.09	1.05	92.14	Fundamenta	I Frequency	peak
2	*	2457.700	80.27	1.05	81.32	Fundamenta	l Frequency	AVG
3		2483.500	65.38	1.17	66.55	74.00	-7.45	peak
4		2483.500	50.26	1.17	51.43	54.00	-2.57	AVG

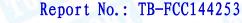


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EUT:	Ranger	Model:	Bravo			
Temperature:	<b>25</b> ℃	Relative Humidity:	55%			
Test Voltage:	AC 120V/60Hz					
Ant. Pol.	Vertical					
Test Mode:	TX N(HT40) Mode 2452MHz					
Remark:	N/A		1:33			
	<del></del>					



No	. Mk	. Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB	Detector
1	*	2453.700	80.71	1.04	81.75	Fundamenta	Frequency	AVG
2	Χ	2454.400	92.52	1.05	93.57	Fundamenta	Frequency	peak
3		2483.500	66.37	1.17	67.54	74.00	-6.46	peak
4		2483.500	49.26	1.17	50.43	54.00	-3.57	AVG

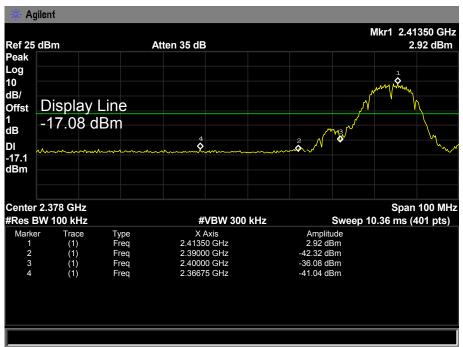


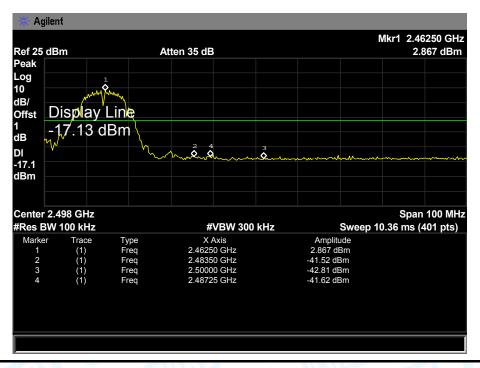


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## (2) Conducted Test

EUT:	Ranger	Model:	Bravo			
Temperature:	25 ℃	Relative Humidity:	55%			
Test Voltage:	DC 3.7V					
Test Mode:	TX B Mode 2412MHz / TX B Mode 2462MHz					
Remark:	The EUT is programed in	continuously transmitt	ing mode			



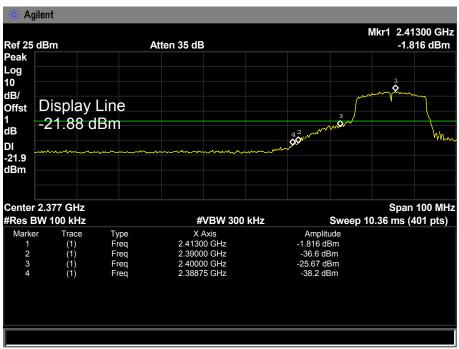


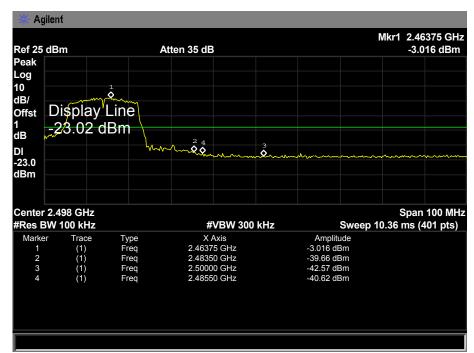




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EUT:	Ranger	Model:	Bravo				
Temperature:	25 ℃ Relative Humidity: 55%						
Test Voltage:	DC 3.7V						
Test Mode:	TX G Mode 2412MHz / T	TX G Mode 2412MHz / TX G Mode 2462MHz					
Remark:	The EUT is programed in	The EUT is programed in continuously transmitting mode					



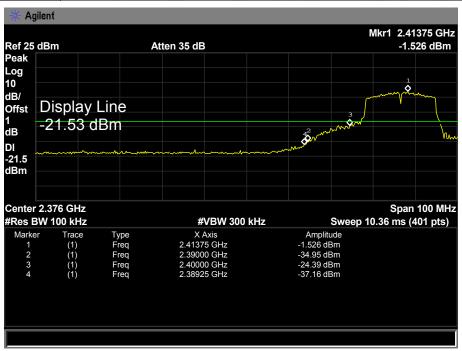


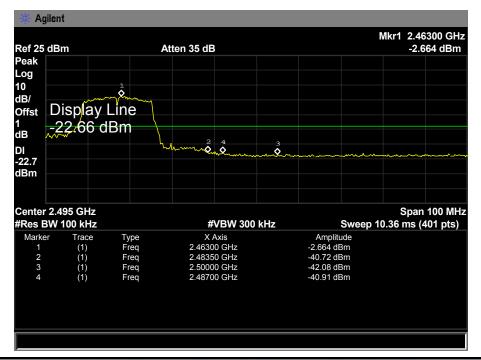




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EUT:	Ranger	Model:	Bravo
Temperature:	25 ℃	Relative Humidity:	55%
Test Voltage:	DC 3.7V		
Test Mode:	TX N(HT20) Mode 2412MHz / TX N(HT20) Mode 2462MHz		
Remark:	The EUT is programed in continuously transmitting mode		



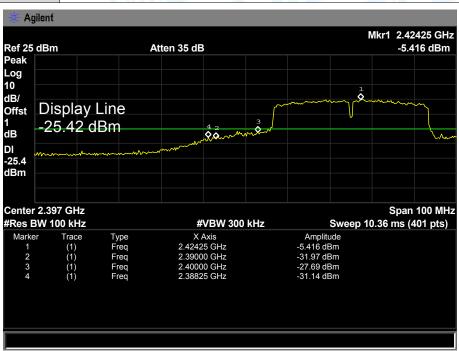


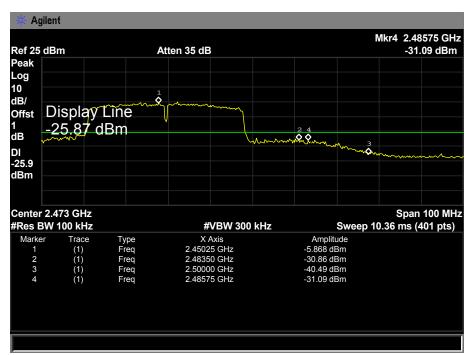




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EUT:	Ranger	Model:	Bravo
Temperature:	25 ℃	Relative Humidity:	55%
Test Voltage:	DC 3.7V		
Test Mode:	TX N(HT40) Mode 2422MHz / TX N(HT40) Mode 2452MHz		
Remark:	The EUT is programed in continuously transmitting mode		







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## 7. Bandwidth Test

## 7.1 Test Standard and Limit

7.1.1 Test Standard FCC Part 15.247 (a)(2)

7.1.2 Test Limit

FCC Part 15 Subpart C(15.247)/RSS-210			
Test Item	Limit	Frequency Range(MHz)	
Bandwidth	>=500 KHz (6dB bandwidth)	2400~2483.5	

## 7.2 Test Setup



## 7.3 Test Procedure

- (1) The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram above.
- (2) The bandwidth is measured at an amplitude level reduced 6dB from the reference level. The reference level is the level of the highest amplitude signal observed from the transmitter at the fundamental frequency. Once the reference level is established, the equipment is conditioned with typical modulating signal to produce the worst –case (i.e the widest) bandwidth.
- (3)Measure the channel separation the spectrum analyzer was set to Resolution Bandwidth:100 kHz, and Video Bandwidth:300 kHz, Detector: Peak, Sweep Time set auto.

## 7.4 EUT Operating Condition

The EUT was set to continuously transmitting in each mode and low, middle and high channel for the test.



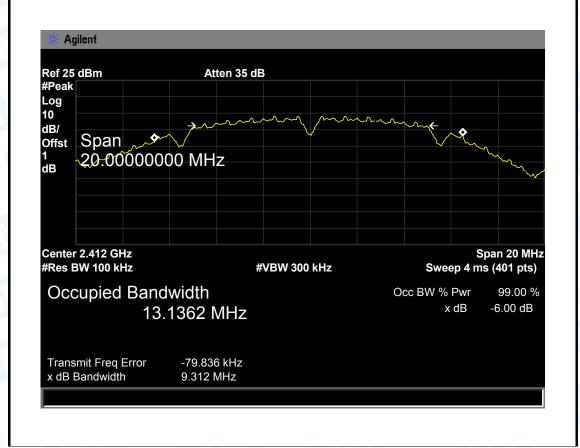
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## 7.5 Test Data

Ranger	Model:	Bravo
25 ℃	Relative Humidity:	55%
DC 3.7V		
TX 802.11B Mode		
y 6dB Bandwidth	99% Bandwidth	Limit
(MHz)	(MHz)	(MHz)
9.312	13.1362	
9.302	12.9879	>=0.5
9.181	12.8221	
	25 ℃ DC 3.7V TX 802.11B Mode  y 6dB Bandwidth (MHz) 9.312 9.302	25 ℃ Relative Humidity:  DC 3.7V  TX 802.11B Mode  y 6dB Bandwidth (MHz) (MHz)  9.312 13.1362  9.302 12.9879

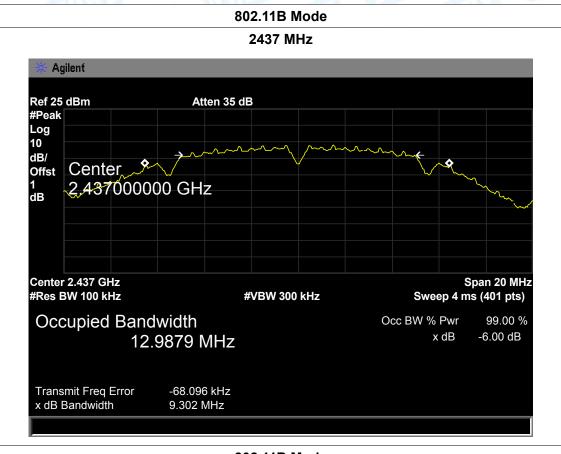
#### 802.11B Mode

#### 2412 MHz





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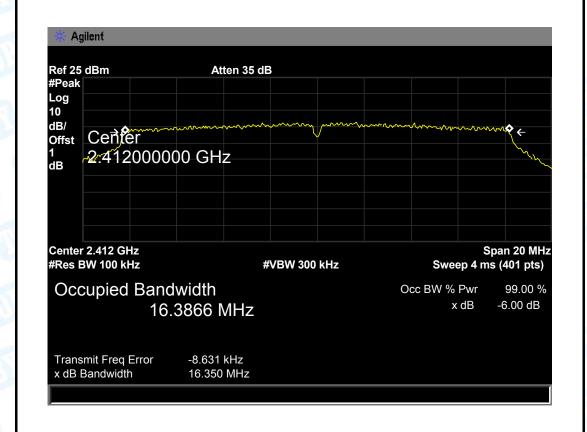
### 802.11B Mode 2462 MHz Agilent Ref 25 dBm Atten 35 dB #Peak Log 10 dB/ Center Offst 1 dB 2.462000000 GHz Center 2.462 GHz Span 20 MHz #Res BW 100 kHz **#VBW 300 kHz** Sweep 4 ms (401 pts) Occupied Bandwidth Occ BW % Pwr 99.00 % -6.00 dB x dB 12.8221 MHz Transmit Freq Error -74.774 kHz x dB Bandwidth 9.181 MHz



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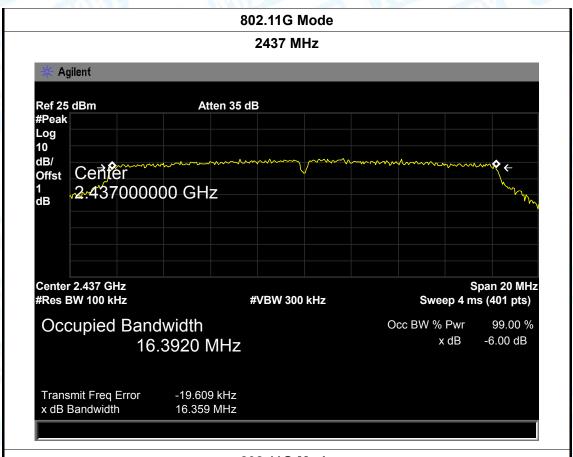
EUT:	Ranger	Model:	Bravo
Temperature:	25 ℃	Relative Humidity:	55%
Test Voltage:	DC 3.7V	U.	
Test Mode:	TX 802.11G Mode		
Channel frequency 6dB Bandwidth		99% Bandwidth	Limit
(MHz)	(MHz)	(MHz)	(MHz)
2412	16.350	16.3866	
2437	16.359	16.3920	>=0.5
2462	16.375	16.3521	
802.11G Mode			

#### 2412 MHz





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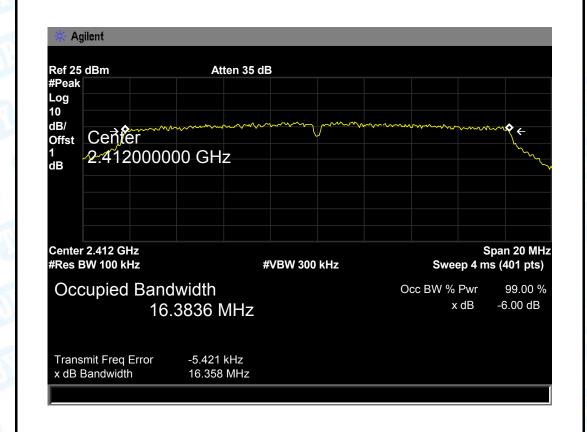
### 802.11G Mode 2462 MHz Agilent Ref 25 dBm Atten 35 dB #Peak Log 10 dB/ Center Offst 1 dB 2.462000000 GHz Center 2.462 GHz Span 20 MHz #Res BW 100 kHz **#VBW 300 kHz** Sweep 4 ms (401 pts) Occupied Bandwidth Occ BW % Pwr 99.00 % -6.00 dB x dB 16.3521 MHz Transmit Freq Error -20.841 kHz x dB Bandwidth 16.375 MHz



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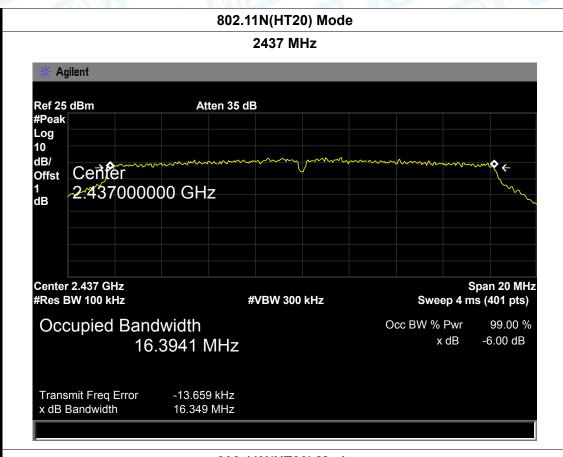
EUT:	Ranger	Model:	Bravo
Temperature:	25 ℃	Relative Humidity:	55%
Test Voltage:	DC 3.7V		
Test Mode:	TX 802.11N(HT20) Mode		
Channel frequency 6dB Bandwidth		99% Bandwidth	Limit
(MHz)	(MHz)	(MHz)	(MHz)
2412	16.358	16.3836	
2437	16.349	16.3941	>=0.5
2462	16.371	16.3674	
802.11N(HT20) Mode			

#### 2412 MHz





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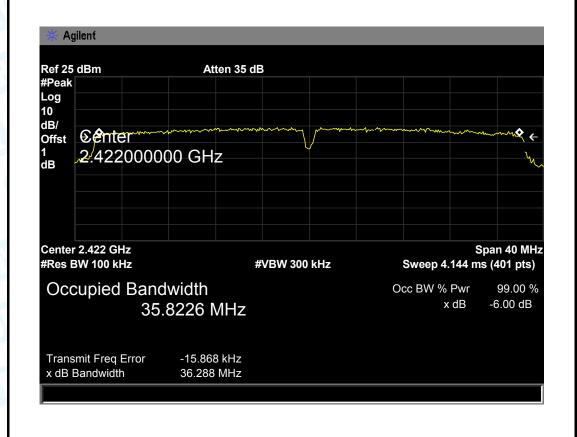


### 802.11N(HT20) Mode 2462 MHz Agilent Ref 25 dBm Atten 35 dB #Peak Log 10 dB/ Center Offst 1 dB 2:462000000 GHz Center 2.462 GHz Span 20 MHz #Res BW 100 kHz **#VBW 300 kHz** Sweep 4 ms (401 pts) Occupied Bandwidth Occ BW % Pwr 99.00 % -6.00 dB x dB 16.3674 MHz Transmit Freq Error -23.546 kHz x dB Bandwidth 16.371 MHz



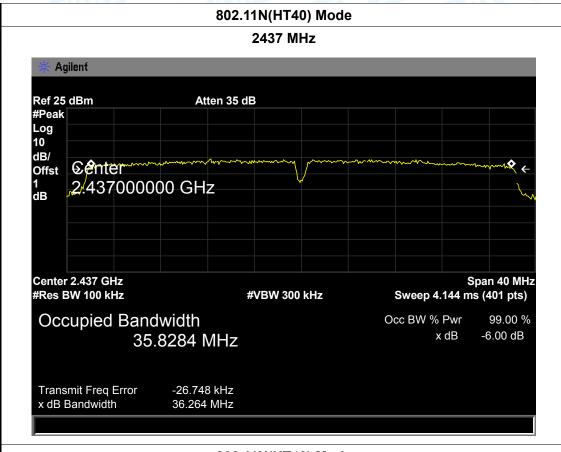
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EUT:	Ranger	Model:	Bravo	
Temperature:	25 ℃	Relative Humidity:	55%	
Test Voltage:	DC 3.7V	(1) T		
Test Mode:	TX 802.11N(HT40) Mode			
Channel frequence	cy 6dB Bandwidth	y 6dB Bandwidth 99% Bandwidth Limit		
(MHz)	(MHz)	(MHz)	(MHz)	
2412	36.288	35.8226		
2437	36.264	35.8284	>=0.5	
2462	36.284	35.7889		
802.11N(HT40) Mode				





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### 802.11N(HT40) Mode 2452 MHz Agilent Ref 25 dBm Atten 35 dB #Peak Log 10 dB/ **©**enter Offst 1 dB 2.452000000 GHz Center 2.452 GHz Span 40 MHz #Res BW 100 kHz Sweep 4.144 ms (401 pts) **#VBW 300 kHz** Occupied Bandwidth Occ BW % Pwr 99.00 % -6.00 dB x dB 35.7889 MHz Transmit Freq Error -18.161 kHz x dB Bandwidth 36.284 MHz



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# 8. Peak Output Power Test

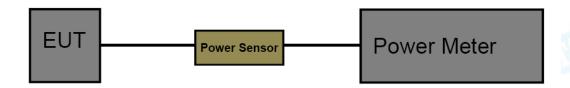
### 8.1 Test Standard and Limit

8.1.1 Test Standard FCC Part 15.247 (b)

8.1.2 Test Limit

FCC Part 15 Subpart C(15.247)/RSS-210			
Test Item Limit Frequency Range(MHz			
Peak Output Power	1 Watt or 30 dBm	2400~2483.5	

## 8.2 Test Setup



### 8.3 Test Procedure

The measurement is according to section 9.1.2 of KDB 558074 D01 DTS Meas Guidance v03r02.

The EUT was connected to RF power meter via a broadband power sensor as show the block above. The power sensor video bandwidth is greater than or equal to the DTS bandwidth of the equipment.

## 8.4 EUT Operating Condition

The EUT was set to continuously transmitting in the max power during the test.



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# 8.5 Test Data

EUT:	Ranger	Model Name :	Bravo
Temperature:	25 ℃	Relative Humidity:	55%
Test Voltage:	DC 3.7V		CITI'S D
Mode	Channel frequency (MHz)	Test Result (dBm)	Limit (dBm)
	2412	17.10	
802.11b	2437	16.84	
	2462	16.45	
	2412	16.49	
802.11g	2437	16.25	
	2462	15.58	30
802.11n	2412	16.65	30
(HT20)	2437	16.33	
(11120)	2462	15.76	
902.44 =	2422	15.51	
802.11n (HT40)	2437	15.48	
(11140)	2452	15.06	
	Resi	ult: PASS	



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# 9. Power Spectral Density Test

### 9.1 Test Standard and Limit

9.1.1 Test Standard FCC Part 15.247 (e)

9.1.2 Test Limit

FCC Part 15 Subpart C(15.247)			
Test Item Limit Frequency Range(MHz)			
Power Spectral Density 8dBm(in any 3 kHz) 2400~2483.5			

### 9.2 Test Setup



### 9.3 Test Procedure

The EUT was directly connected to the Spectrum Analyzer and antenna output port as show in the block diagram above. The measurement according to section 10.2 of KDB 558074 D01 DTS Meas Guidance v03r02.

- (1) The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram above.
- (2) Set analyser center frequency to DTS channel center frequency.
- (3) Set the span to 1.5 times the DTS bandwidth.
- (4) Set the RBW to: 3 kHz(5) Set the VBW to: 10 kHz
- (6) Detector: peak(7) Sweep time: auto
- (8) Allow trace to fully stabilize. Then use the peak marker function to determine the maximum amplitude level.

## 9.4 EUT Operating Condition

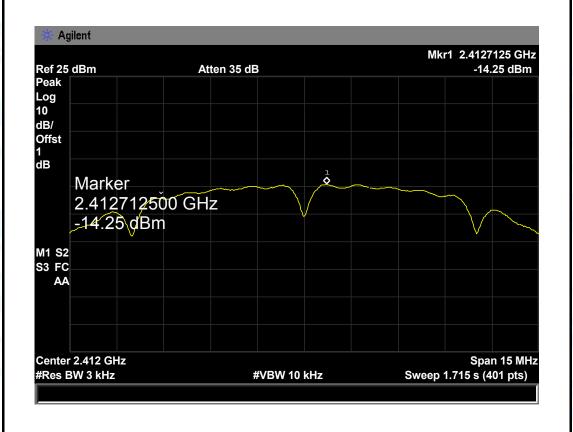
The EUT was set to continuously transmitting in each mode and low, middle and high channel for the test.



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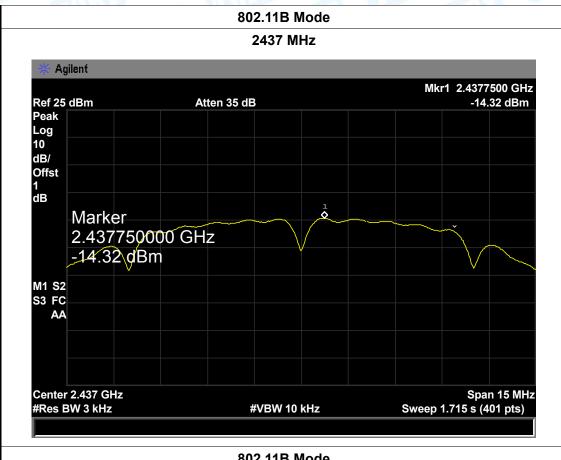
### 9.5 Test Data

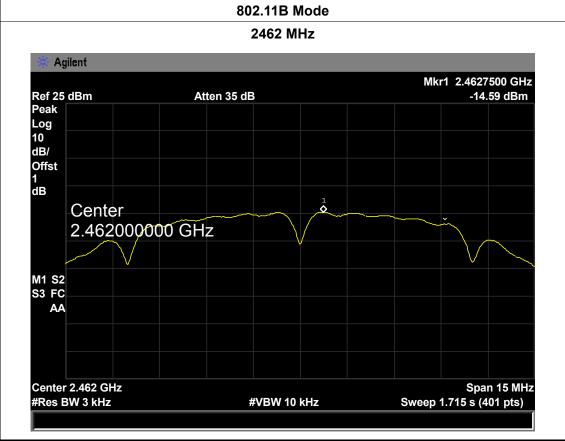
EUT:	Ranger		Model:	Bravo
Temperature:	25 ℃		Relative Humidity:	55%
Test Voltage:	DC 3.7V			
Test Mode:	TX 802.1	TX 802.11B Mode		
Channel Frequency	uency Power Density		Density	Limit (dBm)
(MHz)		(3 kHz	/dBm)	
2412		-14.25		
2437		-14.32		8
2462		-14.59		
		802.111	3 Mode	





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2437

2462

Report No.: TB-FCC144253

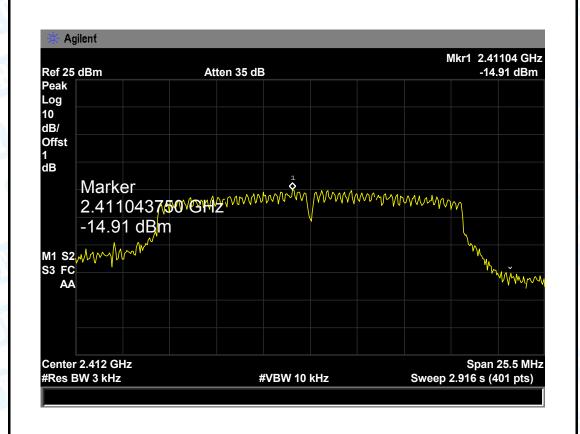
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8

	EUT:	Ranger		Model:		Bravo
1	Temperature:	25 ℃		Temperature:		25 ℃
1	Test Voltage:	DC 3.7V	Contract of the second	131 E	6	THE STATE OF
	Test Mode:	TX 802.11	IG Mode		N V	
	Channel Frequ	uency	Power I	Density		Limit (dBm)
	(MHz)		(3 kHz	/dBm)		
	2412		-14	.91		

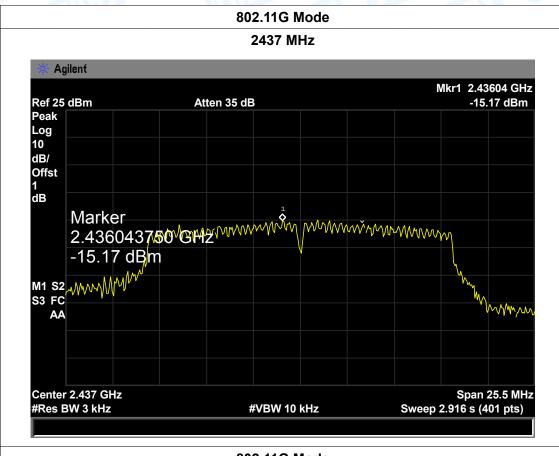
-15.61 **802.11G Mode** 

-15.17





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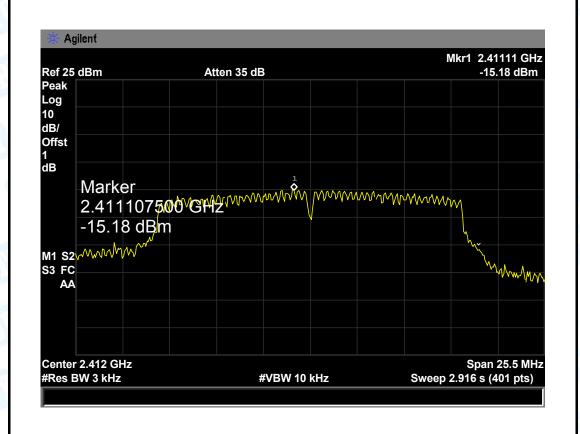


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EUT:	Ranger		Model:	Bravo
Temperature:	25 ℃		Temperature:	25 ℃
Test Voltage:	DC 3.7V	Charles and the second	13.8 F	
Test Mode:	TX 802.11	TX 802.11N(HT20) Mode		
Channel Frequency	uency	Power	Density	Limit (dBm)

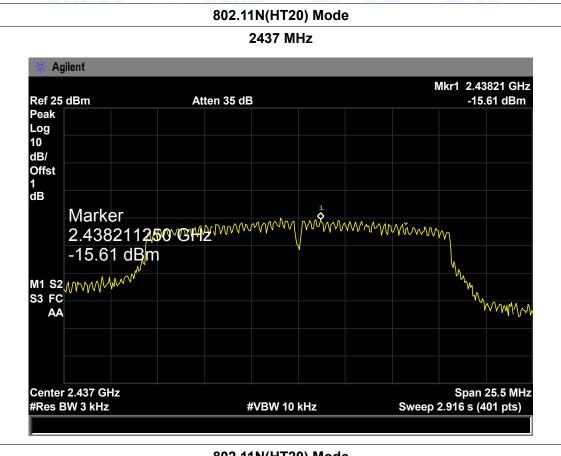
Channel Frequency	Power Density	Limit (dBm)
(MHz)	(3 kHz/dBm)	
2412	-15.18	
2437	-15.61	8
2462	-17.43	
	•	

### 802.11N(HT20) Mode





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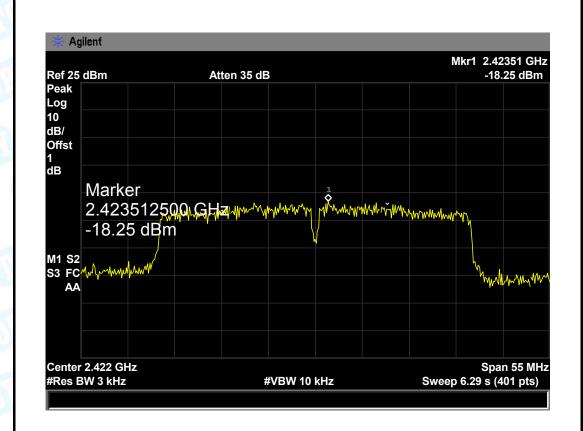
### 802.11N(HT20) Mode 2462 MHz Agilent Mkr1 2.46111 GHz Ref 25 dBm -17.43 dBm Atten 35 dB Peak Log 10 dB/ Offst 1 dB Marker 2.461107500VGHZ/WWW. Mymmymmymm -17.43 dBm M1 S2 S3 FC AA Center 2.462 GHz Span 25.5 MHz #Res BW 3 kHz #VBW 10 kHz Sweep 2.916 s (401 pts)



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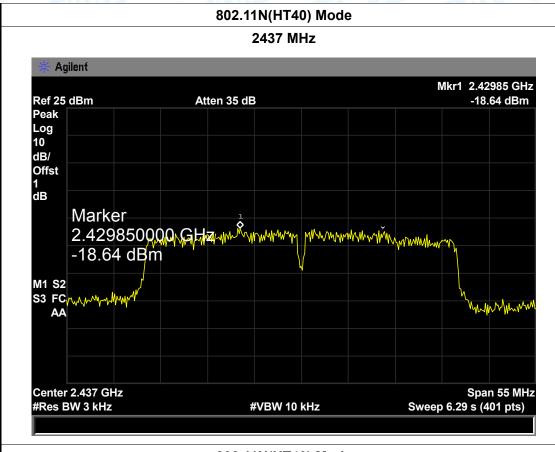
EUT:	Ranger	\ \alpha \	Model:	Bravo
Temperature:	25 ℃		Temperature:	25 ℃
Test Voltage:	DC 3.7V	Contract of the second	13.0 F	
Test Mode:	TX 802.1	1N(HT40) Mode		
Channel Frequency	uency	Power	Density	Limit (dBm)
(MHz)		(3 kHz	/dBm)	
2412		-18	.25	
2437	-18		-18.64 <b>8</b>	
2462		-19	.45	

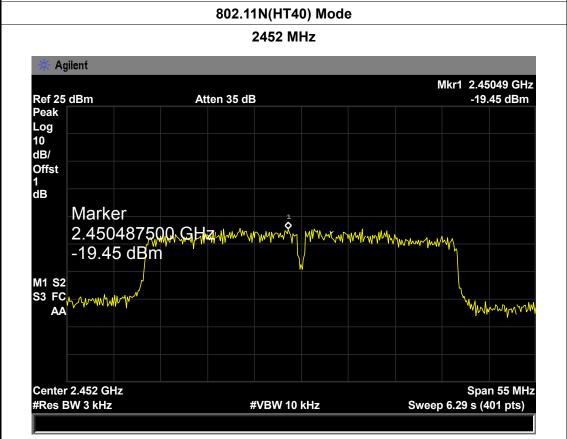
### 802.11N(HT40) Mode 2422 MHz





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# 10. Antenna Requirement

### 10.1 Standard Requirement

10.1.1 Standard FCC Part 15.203

### 10.1.2 Requirement

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this Section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

### 10.2 Antenna Connected Construction

The directional gains of the antenna used for transmitting is 1.39 dBi, and the antenna de-signed with permanent attachment and no consideration of replacement. Please see the EUT photo for details.

#### 10.3 Result

The EUT antenna is a FPC Antenna. It complies with the standard requirement.

	Antenna Type
	☐ Permanent attached antenna
V.U.	▼ Unique connector antenna
CODE I	□ Professional installation antenna