

ELECTROMAGNETIC EMISSIONS COMPLIANCE REPORT

INTENTIONAL RADIATOR CERTIFICATION TO FCC PART 15 SUBPART C REQUIREMENT

	OF
Product Name:	PDA Phone
Brand Name:	Sony
Type No.:	РМ-0730-ВV
Model Difference:	N/A
FCC ID:	PY7PM-0730
Report No.:	EH/2014/10069
Issue Date:	Mar. 21, 2014
FCC Rule Part:	§15.247, Cat: DTS
Prepared for:	Sony Mobile Communications AB Nya Vattentornet 22188 Lund/Sweden
Prepared by:	SGS Taiwan Ltd. Electronics & Communication Laboratory No.134, Wu Kung Road, New Taipei Industrial Park, Wuku District, New Taipei City, Taiwan 24803
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VERIFICATION OF COMPLIANCE

Applicant:	Sony Mobile Communications AB Nya Vattentornet 22188 Lund/Sweden
Product Name:	PDA Phone
Brand Name:	Sony
Type No.:	PM-0730-BV
Model Difference:	N/A
FCC ID:	PY7PM-0730
File Number:	EH/2014/10069
Date of test:	Jan. 27, 2014 ~ Mar. 21, 2014
Date of EUT Received:	Jan. 27, 2014

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 C63.4:2009 & ANSI 63.10:2009 and the energy emitted by the sample EUT tested as described in this report is in compliance with conducted and radiated emission limits of FCC Rules Part 15.247.

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

Test By:	Marcus Tseng	Date	Mar. 21, 2014
Prepared By:	Marcus Tseng/Engineer Julia Chang	Date	Mar. 21, 2014
Approved By:	Julia Chang / Clerk Tim Ch ang	Date	Mar. 21, 2014

Jim Chang / Supervisor

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Revision History

Report Number	Revision	Description	Issue Date
EH/2014/10069	Rev.00	Initial creation of document	Mar. 21, 2014

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FCC ID: PY7PM-0730

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GENERAL INFORMATION 1

Product description 1.1

General:

Product Name:	PDA Phon	e	
Brand Name:	Sony		
Type No.:	PM-0730-1	BV	
Model Difference:	N/A		
Data Cable (USB):	Type No.: 2.Model N	o.: EC450, Supplier: K-one AI-0700, Length: 100 cm o.: EC801, Supplier: Sony AI-0401, Length: 100 cm	
Simple Hands-Free (SHF-White):	• 1	: MH410c, Supplier: Foster Electric	
Simple Hands-Free (SHF-Black):		: MH410c, Supplier: Foster Electric CCA-0004017	
Car Charger:	Model No.: AN400, Supplier: Salcomp Type No.: CAA-0003013		
Hi-Fi Wireless Headset:	Model No.: MW600, Supplier: BALDA Type No.: DDA-0002029.B coupling with Simple Hands Free (Model No.: MH755, Supplier: BALDA Type No.: AG-0502)		
Hardware Version:	A		
Software Version:	18.1.A.0.9		
	3.8Vdc		
	Battery:	Model No.: LIS1546ERPC, Supplier: Sony Type No.: N/A	
Power Supply:	Adapter:	1.Model No.: EP800, Supplier: Salcomp Type No.: CAA-0002016-US	
		2.Model No.: EP880, Supplier: Salcomp Type No.: AC-0400-US	

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Bluetooth_BR+EDR:

Bluetooth Version:	V3.0+HS
Channel number:	79 channels
Modulation type:	Frequency Hopping Spread Spectrum
Transmit Power:	10.04dBm
Frequency Range:	2.402GHz – 2.480GHz
Dwell Time:	<= 0.4s
Antenna Designation:	PIFA Antenna, Gain: -1.34dBi

Bluetooth Low Energy:

Frequency Range:	2402 – 2480MHz
Bluetooth Version:	V4.0 Dual mode
Channel number:	40 channels
Modulation type:	GFSK
Transmit Power:	1.85dBm (Peak)
Antenna Designation:	PIFA Antenna, Gain: -1.34dBi

NFC:

Operating Frequency:	13.56MHz
Transmit Power:	< 123dBuV/m at 3m.
Number of Channels:	1
Antenna Type:	Loop Antenna
Modulation Type:	ASK, BPSK

Antenna Plus:

Operation Frequency:	2402 – 2480MHz		
Transmit Power	101.78dBuV/m at 3m.		
Channel number:	79		
Modulation Type:	GFSK		
Antenna Designation:	PIFA Antenna, Gain: -1.34dBi		

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GSM / WCDMA/ LTE:

	Operating Frequency		Rated Power
	GSM/GPRS 850, Class 33	824.2 MHz- 848.8 MHz	33dBm
	EDGE 850, Class 33	824.2 MHz- 848.8 MHz	27dBm
Cellular Phone	GSM/GPRS 1900, Class 33	1850.2MHz - 1909.8MHz	30dBm
Standards Frequency	EDGE 1900, Class 33	1850.2MHz - 1909.8MHz	26dBm
Range and Power.	5MHz BW LTE-Band 7	2502.5MHz – 2567.5MHz	23 dBm
	10MHz BW LTE-Band 7	2505.0MHz - 2565.0MHz	23 dBm
	15MHz BW LTE-Band 7	2507.5MHz – 2562.5MHz	23 dBm
	20MHz BW LTE-Band 7	2510.0MHz – 2560MHz	23 dBm
Type of Emission:	GSM 850: 250KGXW, GSM 1900: 252KGXW GPRS 850: 244KGXW, GPRS 1900: 248KGXW EDGE 850: 249KG7W, EDGE 1900: 248KG7W 5MHz BW LTE-Band 7: QPSK: 4M51G7D, 16QAM: 4M51D7W 10MHz BW LTE-Band 7: QPSK: 9M01G7D, 16QAM: 8M99D7W 15MHz BW LTE-Band 7: QPSK: 13M5G7D, 16QAM: 13M4D7W 20MHz BW LTE-Band 7: QPSK: 17M9G7D, 16QAM: 17M9D7W		
IMEI:	004402452026218		



WLAN 5GHz:

Wi-Fi	Frequency Range	Channels	Rated Power (Avg)	Modulation Technology	
11a	5150~5250	4	13.96dBm	OFDM	
	5250~5350	4	13.97dBm		
	5470~5725	8	13.99dBm		
11n	HT20 5150~5250	4	HT20: 11.49dBm	OFDM	
	HT20 5250~5350	4	HT20: 11.49dBm		
	HT20 5470~5725	8	HT20: 11.83dBm		
11n	HT40 5150~5250	2	HT40: 11.41dBm	OFDM	
	HT40 5250~5350	2	HT40: 10.45dBm		
	HT40 5470~5725	3	HT40: 10.48dBm		
Antenna Designation	PIFA Antenna, 5GHz Gain: -0.38dBi (5150MHz-5250MHz) 5GHz Gain: 0.10dBi (5250MHz-5350MHz) 5GHz Gain: 3.98dBi (5470MHz-5725MHz)				
Modulation type	64QAM, 16QAM, QPSK, BPSK for OFDM				
Transition Rate:	802.11 n_20MHz	18/24/36/48/54 Mb : 6.5 – 65.0Mbps : 13.5 – 135.0Mbp	1		

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WLAN 2.4GHz+5.7GHz:

Wi-Fi	Frequency Range	Channels	Rated Power	Modulation Technology		
11b/g	2412-2462	11	b: 20.35dBm g: 21.91dBm	DSSS, OFDM		
11n	HT20 2412-2462	11	HT20: 20.55dBm	OFDM		
11a	5725-5850	5	a: 21.15dBm			
11n (5GHz)	HT20 5725-5850	5	HT20: 20.22dBm	OFDM		
11n (5GHz)	HT40 5725-5850	2	HT40: 19.50dBm			
Antenna Des	Antenna Designation:		PIFA Antenna, 2.4GHz Gain: -1.34dBi 5GHz Gain: 4.51dBi (5725MHz-5850MHz)			
Modulation type:		CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM				
Transition R	ate:	802.11 a: 6/9 802.11 b: 1/2 802.11 g: 6/9 802.11 n_20	0/12/18/24/36/48/54 Mbps 2/5.5/11 Mbps 9/12/18/24/36/48/54 Mbps MHz: 6.5 – 65.0Mbps MHz: 13.5 – 135.0Mbps			

The 2.4G max antenna gain is -1.34dBi which was choosing for Radiated Spurious Emission test.

The 5G max antenna gain is 4.51dBi which was choosing for Radiated Spurious Emission test.

The EUT is in compliance with FCC \$15.247 at which the frequency band of 2400~2483.5, and 5725~5850MHz has been tested.

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IEEE 802.11n Spec:

MCS Index					NCBPS	ND	NDBPS		Datarat	e(Mbps)		
	Nss	Modulation	ation R NBPSC	NC	BPS	ND	BPS	800	nsGI	400	nsGI	
- 1995 State (1992)					20MHz	40MHz	20MHz	40MHz	20MHz	40MHz	20MHz	40MHz
0	1	BPSK	1/2	1	52	108	26	54	6.5	13.5	7.200	15
1	1	QPSK	1/2	2	104	216	52	108	13.0	27.0	14.400	30
2	1	QPSK	3/4	2	104	216	78	162	19.5	40.5	21.700	45
3	1	16-QAM	1/2	4	208	432	104	216	26.0	54.0	28.900	60
4	1	16-QAM	3/4	4	208	432	156	324	39.0	81.0	43.300	90
5	1	64-QAM	2/3	6	312	648	208	432	52.0	108.0	57.800	120
6	1	64-QAM	3/4	6	312	648	234	486	58.5	121.5	65.000	135
7	1	64-QAM	5/6	6	312	648	260	540	65.0	135.0	72.200	150

Symbol	Explanation
NSS	Number of spatial streams
R	Code rate
NBPSC	Number of coded bite per single carrier
NCBPS	Number of coded bite per symbol
NDBPS	Number of data bite per symbol
GI	Guard interval

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Related Submittal(s) / Grant (s) 1.2

This submittal(s) (test report) is intended for FCC ID: PY7PM-0730 filing to comply with Section 15.247 of the FCC Part 15, Subpart C Rules. The composite system (digital device) is compliance with Subpart B is authorized under the certification procedure.

Test Methodology 1.3

Both conducted and radiated testing was performed according to the procedures in ANSI C63.4:2009 and ANSI 63.10:2009. Radiated testing was performed at an antenna to EUT distance 3 meters.

Tested in accordance with Apr 2013 KDB558074 D01 V03 for compliance to FCC 47CFR 15.247 requirements.

Test Facility 1.4

The measurement facilities used to collect the 3m Radiated Emission and AC power line conducted data are located on the address of SGS Taiwan Ltd. Electronics & Communication Laboratory No.134, Wu Kung Road, Wuku Industrial Zone, Taipei County, Taiwan which are constructed and calibrated to meet the FCC requirements in documents ANSI C63.4:2009. & ANSI C63.10:2009. FCC Registration Number: 990257. Canada Registration Number: 4620A-4.

The 10 m Open Area Test Sites located on the address of SGS Taiwan Ltd. Electronics & Communication Laboratory No. 29, Pau-Tou-Tsuo Valley Chia-Pau Tsuen, Linkou Hsiang, Taipei county, which is constructed and calibrated to meet the CISPR 22/EN 55022 requirements. SGS Site No. 1(3 &10 meters) and FCC Registration Number: 94644.

1.5 **Special Accessories**

There are no special accessories used while test was conducted.

Equipment Modifications 1.6

There was no modification incorporated into the EUT.

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2 SYSTEM TEST CONFIGURATION

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 Conducted Emissions

The EUT is a placed on as turn table which is 0.8 m above ground plane. According to the general criterion in Section 7.1 of ANSI C63.4:2009 & 6.2 ANSI 63.10:2009.Conducted emissions from the EUT measured in the frequency range between 0.15 MHz and 30MHz, and the measurement procedure 7.3 in ANSI 63.4:2009 & 6.2.2, and 6.2.3 in ANSI 63.10:2009 is followed to carry out the test. The CISPR Quasi-Peak and Average detector mode is employed according to §15.107

2.3.2 Radiated Emissions

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 hand-held 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 and of ANSI C63.4:2009, & Section 6.3, 6.4, 6.5, and 6.6 of ANSI 63.10:2009.

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2.4 **Configuration of Tested System**

Fig. 2-1 Radiated Emission



Fig. 2-2 Conducted (Antenna Port) 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	QRCT	2.4.83.0	N/A	N/A	N/A
2.	Notebook	DELL	E5400	3704625136	N/A	N/A

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Fig. 2-3 AC Power Line Conducted Emission



Table 2-2 Equipment Used in Tested System

Item	Equipment	Mfr/Brand	Model/Type No.	Series No.	Data Cable	Power Cord
1.	WLAN Test Software	QRCT	2.4.83.0	N/A	N/A	N/A

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SUMMARY OF TEST RESULTS 3

FCC Rules	Description Of Test	Result
§15.207(a)	AC Power Line Conducted Emission	Compliant
§15.247(b) (3)	Peak Output Power	Compliant
§15.247(a)(2)	6dB Bandwidth	Compliant
§15.247(d)	100 KHz Bandwidth Of Frequency Band Edges	Compliant
§15.247(d)	Spurious Emission	Compliant
§15.247(e)	Peak Power Density	Compliant
§15.203	Antenna Requirement	Compliant

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4 DESCRIPTION OF TEST MODES

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

802.11 b mode: Channel low (2412MHz) \cdot mid (2437MHz) and high (2462MHz) with 1Mbps lowest data rate are chosen for full testing.

802.11 g mode: Channel low (2412MHz) \cdot mid (2437MHz) and high (2462MHz) with 6Mbps lowest data rate are chosen for full testing.

 $802.11 \text{ n}_{20}\text{MHz}$ mode: Channel low (2412MHz) \cdot mid (2437MHz) and high (2462MHz) with 6.5Mbps lowest data rate are chosen for full testing.

802.11 a mode: Channel low (5745MHz) \cdot mid (5785MHz) and high (5825MHz) with 6Mbps lowest data rate are chosen for full testing.

802.11 n (5GHz) _20MHz: Lowest (5745MHz), Mid (5785MHz) and high (5825MHz) with 6.5 Mbps lowest data rate are chosen for full testing.

802.11 n (5GHz) _40MHz: Lowest (5755MHz) and high (5795MHz) with 13.5 Mbps lowest data rate are chosen for full testing.

The worst case is determined by the output power that generates the highest emission. As examined in the section of output power measurement, the section 7.5, the lowest data rate at a/b/g/n_HT20/n_HT40 resulted the highest level of fundamental emission, and therefore, the lowest data rate is chosen as the worst-case to conduct the remaining of other mandatory test cases.

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

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5 **MEASUREMENT UNCERTAINTY**

Test Items	Uncertainty
AC Power Line Conducted Emission	+/- 2.586 dB
Peak Output Power	+/- 1.55dB (for Spectrum) +/- 1.42 dB (for Power Meter)
6dB Bandwidth	+/- 123.36 Hz
100 KHz Bandwidth Of Frequency Band Edges	+/- 1.55 dB
Peak Power Density	+/- 1.55 dB
Temperature	+/- 0.8 °C
Humidity	+/- 4.7 %
DC / AC Power Source	DC= +/- 1%, AC=+/- 0.2%

Radiated Spurious Emission:

	30MHz - 180MHz: +/- 3.37dB
Measurement uncertainty (Polarization : Vertical)	180MHz -417MHz: +/- 3.19dB
	0.417GHz-1GHz: +/- 3.19dB
	1GHz - 18GHz: +/- 4.04dB
	18GHz - 40GHz: +/- 4.04dB

	30MHz - 167MHz: +/- 4.22dB
Measurement uncertainty	167MHz -500MHz: +/- 3.44dB
(Polarization : Horizontal)	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.

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6 **CONDUCTED EMISSION TEST**

6.1 **Standard Applicable:**

According to §15.207, frequency range within 150kHz to 30MHz shall not exceed the Limit table as below.

Frequency range		imits B(uV)			
MHz	Quasi-peak	Average			
0.15 to 0.50	66 to 56	56 to 46			
0.50 to 5	56	46			
5 to 30	60	50			
Note					
1. The lower limit shall apply at the transition frequencies					
2. The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz.					

Measurement Equipment Used: 6.2

	Conducted Emission Test Site										
EQUIPMENT	MFR	MODEL	SERIAL	LAST	CAL DUE.						
ТҮРЕ		NUMBER	NUMBER	CAL.							
EMI Test Receiver	R&S	ESCI7	100760	05/27/2013	05/26/2014						
LISN	Rolf-Heine	NNB-2/16Z	99012	03/23/2013	03/22/2014						
LISN	FCC	FCC-LISN-50/250-25-2-01	04034	03/23/2013	03/22/2014						
Coaxial Cables	N/A	WK CE Cable	N/A	11/26/2013	11/25/2014						

6.3 EUT Setup:

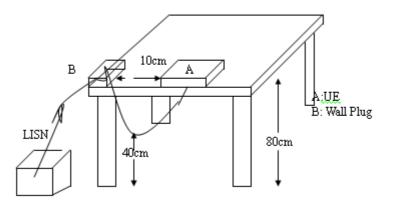
- 1. The conducted emission tests were performed in the test site, using the setup in accordance with the ANSI C63.4:2009 & ANSI 63.10:2009.
- 2. The AC/DC Power adaptor of EUT was plug-in LISN. The EUT was placed flushed with the rear of the table.
- 3. The LISN was connected with 120Vac/60Hz power source.

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6.4 Test SET-UP (Block Diagram of Configuration)



Measurement Procedure: 6.5

- 1. The EUT was placed on a table which is 0.8m above ground plane.
- 2. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
- 3. Repeat above procedures until all phases of power being supplied by given UE are completed

6.6 **Measurement Result:**

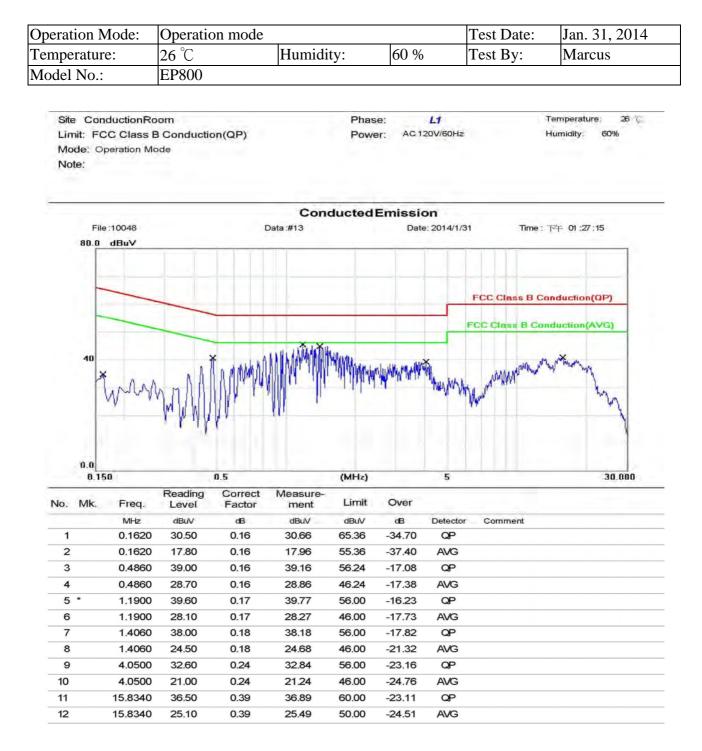
Note: Refer to next page for measurement data and plots. Note2: The * reveals the worst-case results that closet to the limit

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AC POWER LINE CONDUCTED EMISSION TEST DATA



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9

10

11

12

3.8540

3.8540

20.9340

20.9340

26.00

6.50

33.50

15.80

0.29

0.29

0.53

0.53

26.29

6.79

34.03

16.33

56.00

46.00

60.00

50.00

-29.71

-39.21

-25.97

-33.67

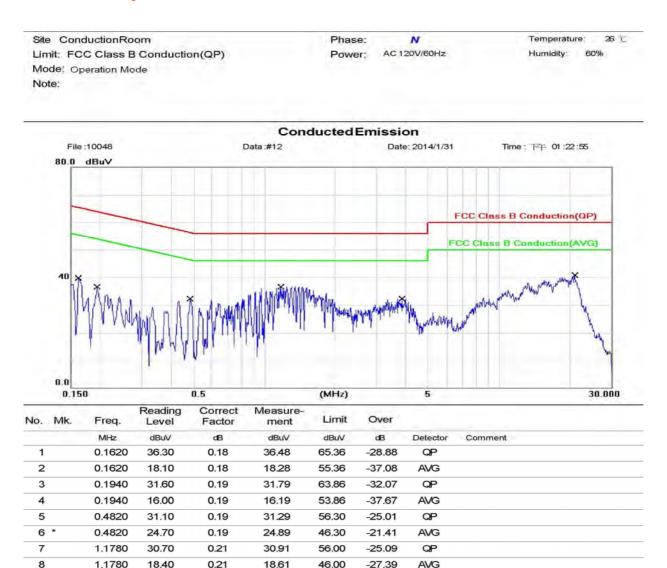
QP

AVG

OP

AVG

FCC ID: PY7PM-0730



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9

10

11

12

1.4827

1.4827

3.8820

3.8820

41.10

28.80

34.10

22.90

FCC ID: PY7PM-0730

perat	ion M	lode:	-	on mode	1				Test Date:	Feb. 12, 2014
empe	rature	e:	26 °C		Humidit	y:	60 %	'	Test By:	Marcus
lodel	No.:		EP880							
Lim	nit: FCC de: Op	luctionRo C Class E eration M	3 Conductio	on(QP)		Phase Powe		L1 20V/60Hz		Temperature: 26 ℃ Humidity: 60%
					Cond	ducted	missi	on		
	File :	10048		1.1	Data:#16		Date	e: 2014/2/1	2 Time	: 下午 10:17:28
	100.0	dBuV								
		-					_			
	-								FCC Class B (Conduction(QP)
	50								FCC Class B Co	onduction(AVG)
				× × w	way hand the the	Window days				and the
	W	nna	month	Manne	and the second	a shere a	materiteter	my humber	Kunton	man for
			-							
	0.0									
	0.150	1		0.5		(MHz)	-	5		30.000
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over			
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment	
1		0.4780	39.00	0.16	39.16	56.37	-17.21	QP		
2		0.4780	29.20	0.16	29.36	46.37	-17.01	AVG		
3		0.5913	36.10	0.16	36.26	56.00	-19.74	QP		
4		0.5913	25.90	0.16	26.06	46.00	-19.94	AVG		
5		1.2226	41.30	0.17	41.47	56.00	-14.53	QP		
6		1.2226	30.20	0.17	30.37	46.00	-15.63	AVG		
7	*	1.3373	41.30	0.18	41.48	56.00	-14.52	QP		
8		1.3373	30.70	0.18	30.88	46.00	-15.12	AVG		
		4 4007	11.10	0.40	11.00	50.00	4470	00		

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0.18

0.18

0.24

0.24

41.28

28.98

34.34

23.14

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56.00

46.00

56.00

46.00

-14.72

-17.02

-21.66

-22.86

QP

AV/G

QP

AVG



7

8

9

10

11

12

1.5015

1.5015

3.7420

3.7420

23.3660

23.3660

34.60

22.20

27.30

16.40

34.70

19.00

0.23

0.23

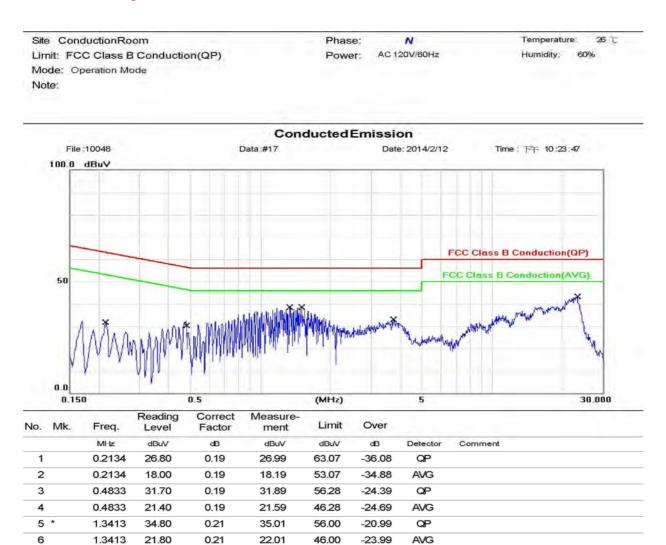
0.28

0.28

0.55

0.55

FCC ID: PY7PM-0730



56.00

46.00

56.00

46.00

60.00

50.00

34.83

22.43

27.58

16.68

35 25

19.55

-21.17

-23.57

-28.42

-29.32

-24.75

-30.45

QP

AVG

QP

AVG

OP

AVG

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7 PEAK OUTPUT POWER MEASUREMENT

7.1 **Standard Applicable:**

According to §15.247 (b)

(3) For systems using digital modulation in the 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz bands: 1 Watt. As an alternative to a peak power measurement, compliance with the one Watt limit can be based on a measurement of the maximum conducted output power. Maximum Conducted Output Power is defined as the total transmit power delivered to all antennas and antenna elements averaged across all symbols in the signaling alphabet when the transmitter is operating at its maximum power control level. Power must be summed across all antennas and antenna elements. The average must not include any time intervals during which the transmitter is off or is transmitting at a reduced power level. If multiple modes of operation are possible (e.g., alternative modulation methods), the maximum conducted output power is the highest total transmit power occurring in any mode.

(4) The conducted output power limit specified in paragraph (b) of this section is based on the use of antennas with directional gains that do not exceed 6 dBi. Except as shown in paragraph (c) of this section, if transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(1), (b)(2), and (b)(3) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

As an alternative to a peak power measurement, compliance can be based on a measurement of the maximum conducted output power. The maximum conducted output power is the total transmit power delivered to all antennas and antenna elements, averaged across all symbols in the signaling alphabet when the transmitter is operating at its maximum power control level. Power must be summed across all antennas and antenna elements. The average must not include any time intervals during which the transmitter is off or transmitting at a reduced power level. If multiple modes of operation are implemented, the maximum conducted output power is the highest total transmit power occurring in any mode.

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Conducted Emission Test Site EQUIPMENT MFR MODEL SERIAL LAST CAL DUE. TYPE **NUMBER NUMBER** CAL. Power Sensor Anritsu ML2495A 1005007 01/13/2014 01/12/2015 Power Meter MA2411B 917032 Anritsu 01/13/2014 01/12/2015 05/30/2013 05/29/2014 E4446A MY51100003 Spectrum Analyzer Agilent Spectrum Analyzer MY45304525 Agilent E4440A 03/08/2014 03/07/2015 DC Block Mini-Circuits 02/27/2014 02/28/2013 BLK-18-S+ 1 **SUCOFLEX** Low Loss Cable HUBER+SUHNER 01/03/2014 01/02/2015 N/A 104PEA BW-S10W2+ Attenuator Mini-Circuit 002 02/28/2013 02/27/2014 N/A Splitter Agilent 11636B 02/28/2013 02/27/2014

7.2 Measurement Equipment Used

DC Block	Mini-Circuits	BLK-18-S+	1	02/27/2014	02/26/2015
Attenuator	Mini-Circuit	BW-S10W2+	002	02/27/2014	02/26/2015
Splitter	Agilent	11636B	N/A	02/27/2014	02/26/2015

Remark: Please note that the duration to conduct the test took place in the mean time when the calibration for several equipments is due, and therefore extra tables of equipment calibration is constructed to indicate the calibration work is still maintained.

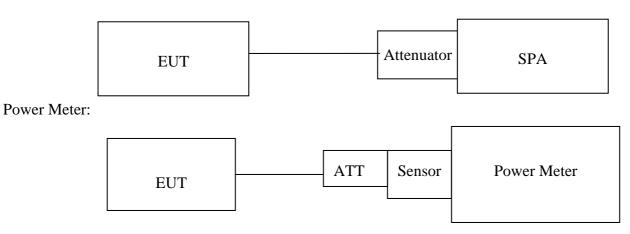
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7.3 **Test Set-up:**

Spectrum:



7.4 **Measurement Procedure:**

1. Place the EUT on the table and set it in transmitting mode.

2. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the power meter or spectrum. (Peak power setting on Spectrum: Channel power function, RBW = 1MHz, VBW = 3MHz, Span: 30/60MHz, Detector =peak, Sweep = Auto. Setting on spectrum is adjusted based on the mandatory procedure in 9.1.2 of the KDB558074). Power Meter is used as the auxiliary test equipment to conduct the output power measurement. 9.1.3 in KDB558074 is followed.

(Avg. power setting on Spectrum: Channel power function, RBW = 1MHz, VBW = 3MHz, Span: 30/60MHz, Detector =Avg., Trace avg =100, Sweep = Auto, Setting on spectrum is adjusted based on the mandatory procedure in 9.2.2.4 of the KDB558074). Power Meter is used as the auxiliary test equipment to conduct the output power measurement. 9.2.3, option 3 in KDB558074 is followed.

3. Record the max. Reading as observed from Spectrum or Power Meter.

4. Repeat above procedures until all frequency of interest measured was complete.

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FCC ID: PY7PM-0730

Pre-anaysis Check: While conducting average power measurement, duty cycle of each mode (a/n_ht20 /n_ht40) shall be checked to ensure its duty cycle in order to compensate for the loss due to insufficient ratio of duty cycle. All duty cycle is pre-scanned, and result as obtained below shows only the most representative ones

b = 99%, g = 99%, and $n_ht_20 = 99\%$, a = 99%, n_20 (5G) = 99\%, and n_40 (5G) = 99\%, where duty cycle is conducted as the given transmission with given virtual operation that expresses the percentage. *Formula:*

Duty Cycle = *Ton* / (*Ton*+*Toff*)

Test Procedure:

Set span = 0, RBW = 1MHz, VBW = 3MHz, Detector = Peak Duty Cycle:

	Duty Cycle
802.11b	0.990
802.11g	0.990
802.11n_20 (2.4G)	0.990
802.11a	0.990
802.11n_20 (5G)	0.990
802.11n_40 (5G)	0.990

Duty Cycle Factor: $10 * \log (1/0.99) = 0.04$

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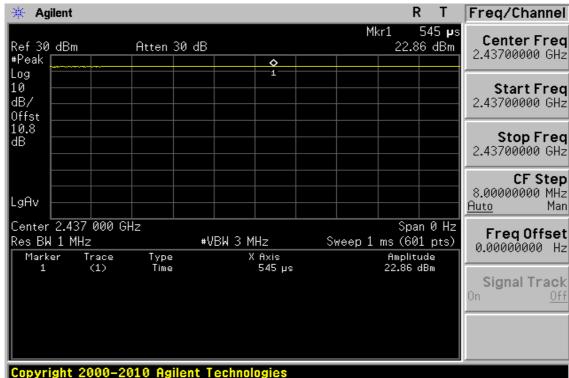
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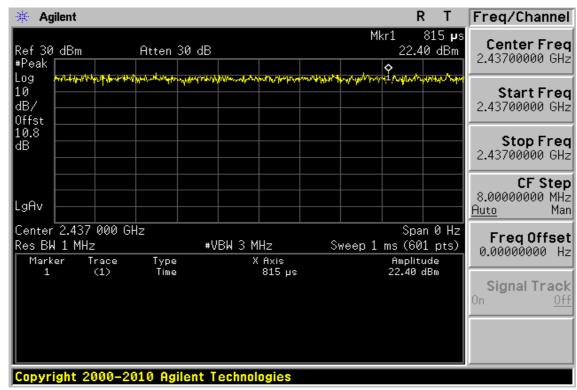


Duty Factor:





802.11 g

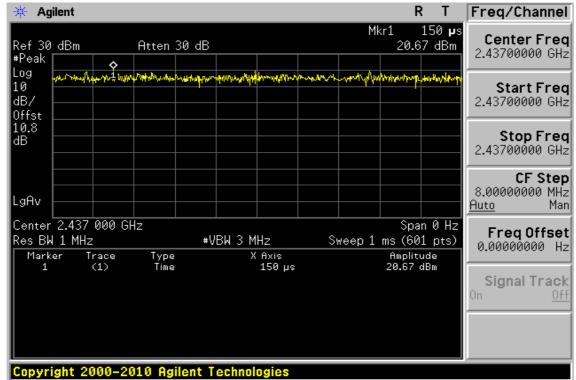


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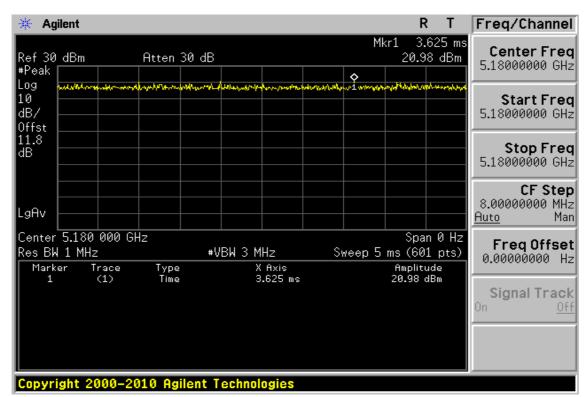
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802.11 n 20 MHz



802.11a

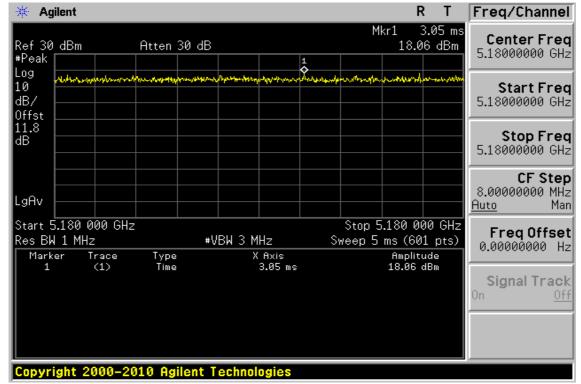


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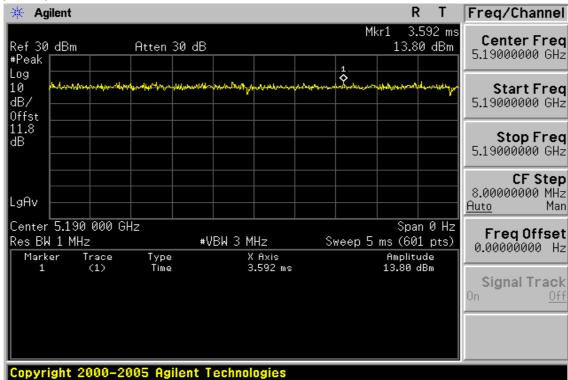
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802.11 n (5GHz) 20M



802.11 n (5GHz) 40M



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7.5 **Measurement Result:**

802.11b

			Peak Power Output (dBm)										
СП	Frequency		D										
СН	(MHz)	1	2	Required Limit									
1	2412	20.10	19.97	19.95	19.90	1 Watt = 30 dBm							
6	2437	20.34	20.32	20.30	20.16	1 Watt = 30 dBm							
11	2462	20.35	20.22	20.12	20.08	1 Watt = 30 dBm							

			Average Power Output (dBm)									
СП	Frequency		Data Rate									
СН	(MHz)	1	1 2 5.5 11									
1	2412	17.93	17.79	17.77	17.70	1 Watt = 30 dBm						
6	2437	17.98	17.93	17.85	17.77	1 Watt = 30 dBm						
11	2462	17.96	17.82	17.73	17.65	1 Watt = 30 dBm						

802.11g

			Peak Power Output(dBm)										
СН	Frequency				D								
Сп	(MHz)	6	9	12	18	24	36	48	54	Required Limit			
1	2412	19.91	19.85	19.79	19.68	19.56	19.44	19.40	19.33	1 Watt = 30 dBm			
6	2437	21.91	21.81	21.68	21.62	21.52	21.39	21.35	21.26	1 Watt = 30 dBm			
11	2462	20.84	20.71	20.69	20.64	20.59	20.45	20.31	20.18	1 Watt = 30 dBm			

			Average Power Output(dBm)											
СП	Frequency				D									
СН	(MHz)	6	9	12	18	24	36	48	54	Required Limit				
1	2412	11.97	11.84	11.73	11.71	11.63	11.51	11.49	11.46	1 Watt = 30 dBm				
6	2437	14.94	14.82	14.69	14.67	14.57	14.53	14.50	14.48	1 Watt = 30 dBm				
11	2462	12.94	12.84	12.79	12.70	12.65	12.59	12.51	12.40	1 Watt = 30 dBm				

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802.11n 20M

			Peak Power Output(dBm)										
CII	Frequency		Data Rate										
СН	(MHz)	MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7	Limit			
1	2412	19.72	19.58	19.44	19.33	19.20	19.12	19.10	19.03	1 Watt = 30 dBm			
6	2437	20.55	20.53	20.48	20.37	20.33	20.19	20.10	19.99	1 Watt = 30 dBm			
11	2462	20.22	20.08	19.99	19.92	19.90	19.83	19.72	19.64	1 Watt = 30 dBm			

			Average Power Output(dBm)										
СН	Frequency Data Rate												
Сп	(MHz)	MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7	Limit			
1	2412	11.83	11.79	11.69	11.65	11.59	11.55	11.45	11.33	1 Watt = 30 dBm			
6	2437	12.88	12.85	12.76	12.62	12.50	12.47	12.35	12.31	1 Watt = 30 dBm			
11	2462	10.97	10.90	10.85	10.78	10.68	10.58	10.53	10.46	1 Watt = 30 dBm			

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802.11a

			Peak Power Output (dBm)										
OTT	Frequency												
СН	(MHz)	6	9	12	18	24	36	48	54	Required Limit			
149	5745	21.15	21.08	20.98	20.84	20.81	20.68	20.60	20.48	1 Watt = 30 dBm			
157	5785	21.04	21.03	20.99	20.91	20.86	20.80	20.73	20.65	1 Watt = 30 dBm			
165	5825	20.88	20.78	20.67	20.57	20.45	20.32	20.25	20.21	1 Watt = 30 dBm			

CII	Frequency		D							
СН	(MHz)	6	9	12	18	24	36	48	54	Required Limit
149	5745	13.98	13.93	13.83	13.79	13.71	13.68	13.65	13.60	1 Watt = 30 dBm
157	5785	13.95	13.87	13.76	13.71	13.68	13.64	13.61	13.57	1 Watt = 30 dBm
165	5825	13.99	13.89	13.85	13.82	13.73	13.68	13.64	13.62	1 Watt = 30 dBm

802.11n (5GHz) 20M

	Frequency									
СН	(MHz)	MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7	Required Limit
149	5745	19.61	19.58	19.44	19.34	19.29	19.22	19.17	19.04	1 Watt = 30 dBm
157	5785	20.22	20.19	20.08	20.04	19.97	19.90	19.86	19.84	1 Watt = 30 dBm
165	5825	19.99	19.90	19.76	19.68	19.66	19.60	19.53	19.49	1 Watt = 30 dBm

GI	Frequency		D							
СН	(MHz)	MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7	Required Limit
149	5745	11.38	11.34	11.27	11.20	11.12	11.03	10.94	10.91	1 Watt = 30 dBm
157	5785	11.42	11.35	11.28	11.21	11.17	11.06	10.96	10.93	1 Watt = 30 dBm
165	5825	11.44	11.39	11.28	11.14	11.08	11.05	10.97	10.84	1 Watt = 30 dBm

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802.11n (5GHz)_40M

			Peak Power Output(dBm)								
СН	Frequency		D								
	(MHz)	MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7	Required Limit	
151	5755	19.50	19.44	19.41	19.38	19.34	19.25	19.18	19.05	1 Watt = 30 dBm	
159	5795	19.20	19.14	19.09	19.06	19.01	18.96	18.92	18.88	1 Watt = 30 dBm	

			Average Power Output(dBm)								
СН	Frequency (MHz)		D 111.4								
		MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7	Required Limit	
151	5755	10.31	10.25	10.19	10.16	10.11	10.08	9.96	9.91	1 Watt = 30 dBm	
159	5795	10.36	10.31	10.27	10.22	10.17	10.11	10.06	9.99	1 Watt = 30 dBm	

* Note: The duty cycle factor is compensated to obtain the maximum value of measurement in average.

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8 **6dB BANDWIDTH**

8.1 **Standard Applicable:**

According to §15.247(a)(2), Systems using digital modulation techniques may operate in the 902 - 928 MHz,2400 - 2483.5 MHz, and 5725 - 5850 MHz bands. The minimum 6 dB bandwidth shall be at least 500kHz.

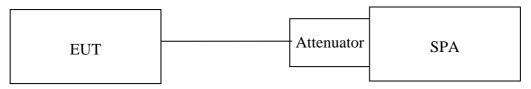
Measurement Equipment Used: 8.2

Conducted Emission Test Site										
EQUIPMENT	MFR	MODEL	SERIAL	LAST	CAL DUE.					
ТҮРЕ		NUMBER	NUMBER	CAL.						
Power Sensor	Anritsu	ML2495A	1005007	01/13/2014	01/12/2015					
Power Meter	Anritsu	MA2411B	917032	01/13/2014	01/12/2015					
Spectrum Analyzer	Agilent	E4446A	MY51100003	05/30/2013	05/29/2014					
Spectrum Analyzer	Agilent	E4440A	MY45304525	03/08/2014	03/07/2015					
DC Block	Mini-Circuits	BLK-18-S+	1	02/28/2013	02/27/2014					
Low Loss Cable	HUBER+SUHNER	SUCOFLEX 104PEA	N/A	01/03/2014	01/02/2015					
Attenuator	Mini-Circuit	BW-S10W2+	002	02/28/2013	02/27/2014					
Splitter	Agilent	11636B	N/A	02/28/2013	02/27/2014					

DC Block	Mini-Circuits	BLK-18-S+	1	02/27/2014	02/26/2015
Attenuator	Mini-Circuit	BW-S10W2+	002	02/27/2014	02/26/2015
Splitter	Agilent	11636B	N/A	02/27/2014	02/26/2015

Remark: Please note that the duration to conduct the test took place in the mean time when the calibration for several equipments is due, and therefore extra tables of equipment calibration is constructed to indicate the calibration work is still maintained.

Test Set-up: 8.3



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8.4 **Measurement Procedure:**

- 1. Place the EUT on the table and set it in transmitting mode.
- 2. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the spectrum analyzer.
- 3. Set the spectrum analyzer as RBW = 100 kHz, VBW = 3*RBW, Span = 30M/50MHz, Detector=Peak, Sweep=auto, the setting on spectrum is adjusted based on the procedure as guide in 8.1 option 1 of KDB558074.
- 4. Mark the peak frequency and –6dB (upper and lower) frequency.
- 5. Repeat above procedures until all frequency of interest measured was complete.

8.5 **Measurement Result:**

Frequency (MHz)	Bandwidth (kHz)	Limit (kHz)	Result
2412	9089	> 500	PASS
2437	8612	> 500	PASS
2462	8126	> 500	PASS

802.11b

802.11g

Frequency	Bandwidth Limit		Result
(MHz)	(kHz)	(kHz)	
2412	16402	> 500	PASS
2437	16437	> 500	PASS
2462	16499	> 500	PASS

802.11n 20M

Frequency (MHz)	Bandwidth (kHz)	Limit (kHz)	Result
2412	17644	> 500	PASS
2437	17633	> 500	PASS
2462	17651	> 500	PASS

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802.1	1 1a
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Frequency	Bandwidth	Bandwidth Limit	
(MHz)	(kHz)	(kHz)	
5745	16433	> 500	PASS
5785	16428	> 500	PASS
5825	16609	> 500	PASS

802.11n (5GHz)_20M

Frequency	Bandwidth	Limit	Result
(MHz)	(kHz)	(kHz)	
5745	17638	> 500	PASS
5785	17636	> 500	PASS
5825	17808	> 500	PASS

802.11n (5GHz) 40M

Frequency	Bandwidth	Limit	Result
(MHz)	(kHz)	(kHz)	
5755	35740	> 500	PASS
5795	35220	> 500	PASS

* Note: Offset 10.8dB for 2.4G 802.11b/g/n_20;

Offset 11.8dB for 5G 802.11a/n_20/n_40.

* Note: The arrow "->" reveals X decibel level

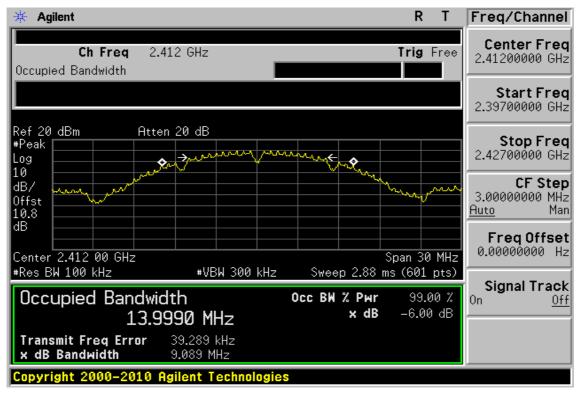
*Refer to next page for plots

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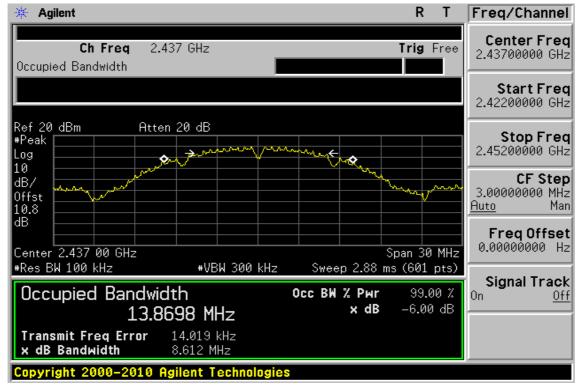
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802.11b 6dB Band Width Test Data CH-Low



6dB Band Width Test Data CH-Mid



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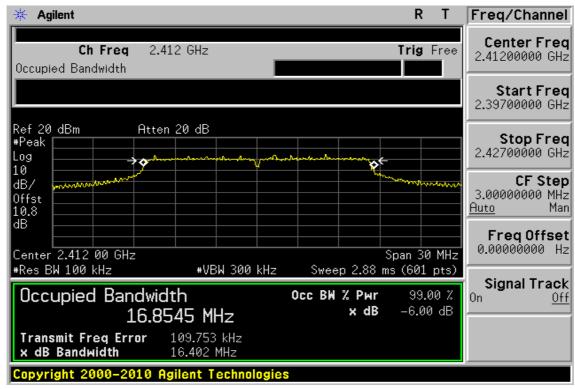


6dB Band Width Test Data CH-High



802.11g

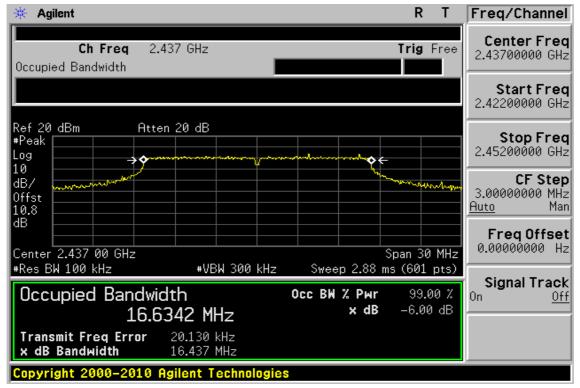
6dB Band Width Test Data CH-Low



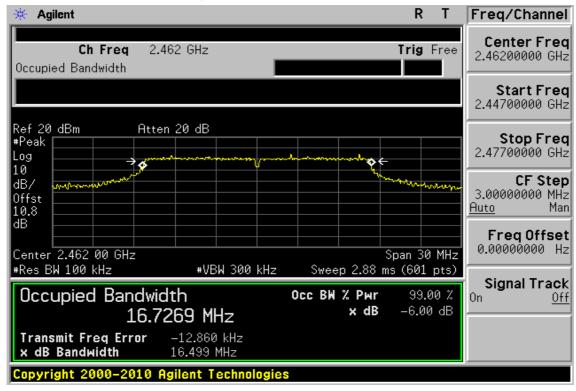
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6dB Band Width Test Data CH-Mid



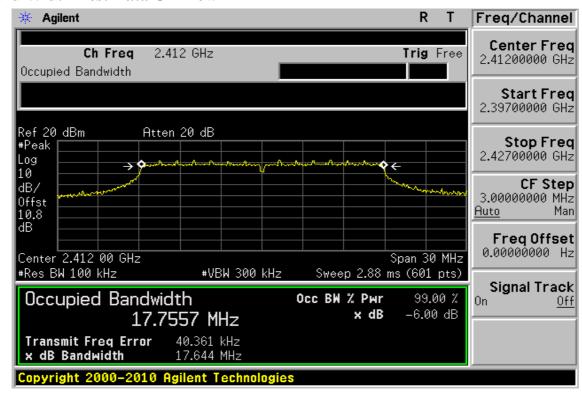
6dB Band Width Test Data CH-High



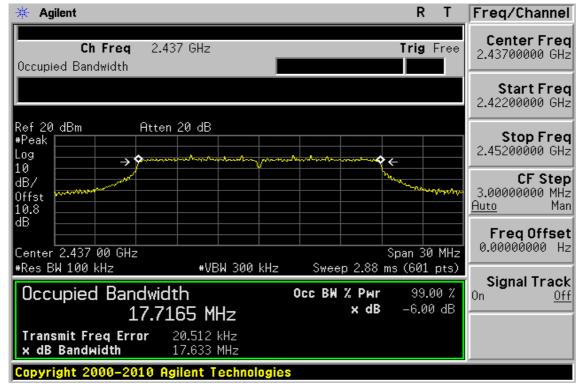
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802.11n 20M 6dB Band Width Test Data CH-Low



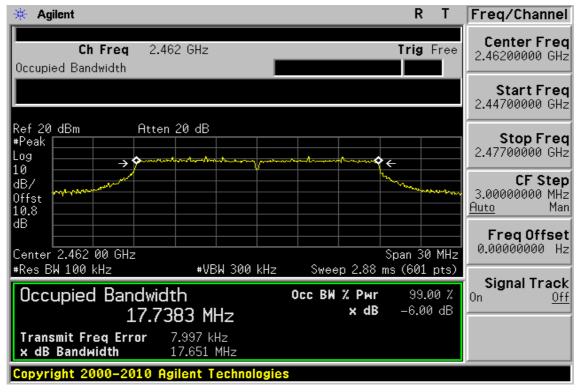
6dB Band Width Test Data CH-Mid



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6dB Band Width Test Data CH-High

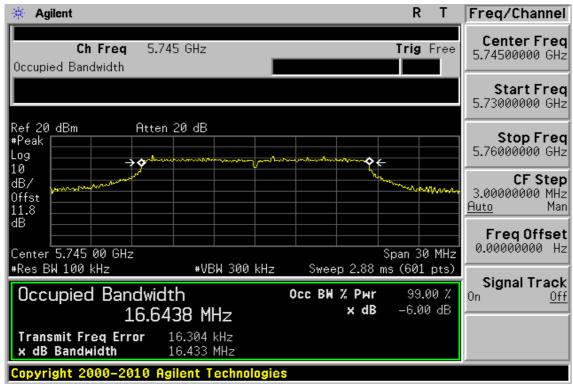


Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

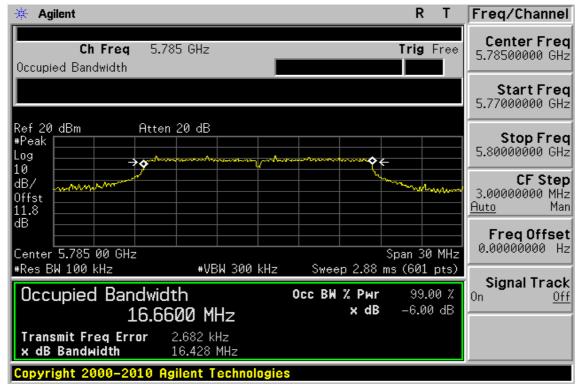
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802.11a 6dB Band Width Test Data CH-Low



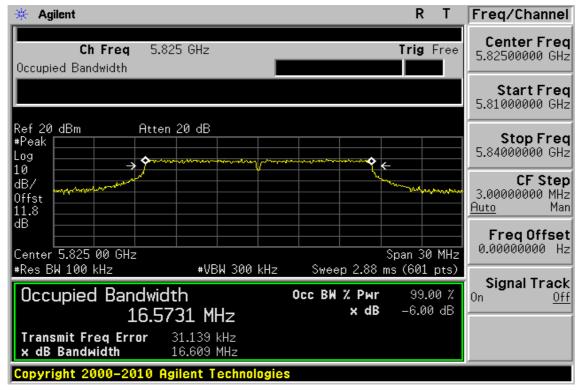
6dB Band Width Test Data CH-Mid



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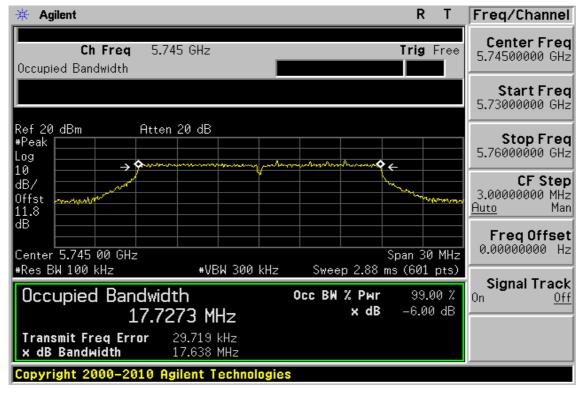


6dB Band Width Test Data CH-High



802.11n (5GHz)_20M

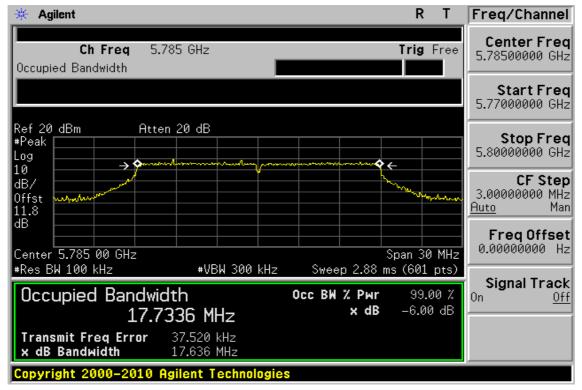
6dB Band Width Test Data CH-Low



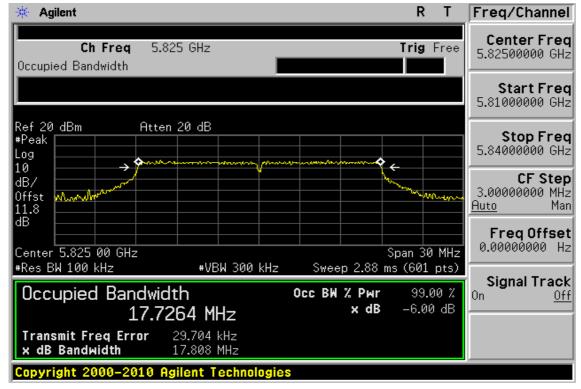
Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



6dB Band Width Test Data CH-Mid



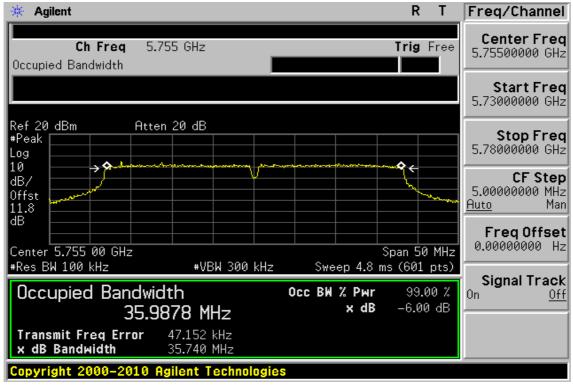
6dB Band Width Test Data CH-High



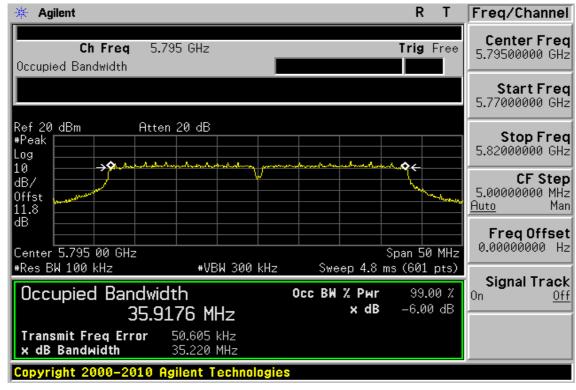
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802.11n (5GHz) 40M 6dB Band Width Test Data CH-Low



6dB Band Width Test Data CH-High



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9 **BAND EDGES MEASUREMENT**

9.1 **Standard Applicable:**

According to §15.247(d), in any 100 kHz bandwidth outside the frequency bands in which the spread spectrum intentional radiator in operating, the radio frequency power that is produced by the intentional radiator shall be at least 20dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in15.209(a).

9.2 **Measurement Equipment Used:**

9.2.1 Conducted Emission at antenna port:

Refer to section 7.2 for details.

Radiated emission: 9.2.2

966 Chamber						
EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.	
EMI Test Receiver	R&S	ESCI7	100760	05/27/2013	05/26/2014	
Spectrum Analyzer	Agilent	E4446A	MY51100003	05/30/2013	05/29/2014	
EXA Spectrum Analyzer	Agilent	N9010A	MY50420195	01/20/2014	01/19/2015	
Spectrum Analyzer	R&S	FSV-30	101398	10/22/2013	10/21/2014	
Bilog Antenna	SCHWAZBECK	VULB9168	378	01/02/2014	01/02/2015	
Horn antenna	ETS.LINDGREN	3117	123995	05/31/2013	05/30/2014	
Horn Antenna	Schwarzbeck	BBHA9170	184	01/23/2014	01/22/2015	
Pre-Amplifier	Agilent	8447D	2944A07676	01/03/2014	01/02/2015	
Pre-Amplifier	Agilent	8449B	3008A00578	01/03/2014	01/02/2015	
Pre-Amplifier	EMC Instruments Corp.	EMC184045	980135	01/24/2014	01/23/2015	
Filter 2400-2483.5 MHz	EWT	EWT-14-0166	M2	02/27/2014	02/26/2015	
Attenuator	Mini-Circuit	BW-S10W2+	004	02/27/2014	02/26/2015	
Turn Table	HD	DT420	N/A	N.C.R	N.C.R	
Antenna Tower	HD	MA240-N	240/657	N.C.R	N.C.R	
Controller	HD	HD100	N/A	N.C.R	N.C.R	
Low Loss Cable	Huber Suhner	966_Rx	9	01/03/2014	01/02/2015	
3m Site NSA	SGS	966 chamber	N/A	07/15/2013	07/14/2014	

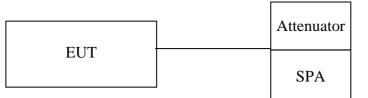
Note: N.C.R refers to Not Calibrated Required.

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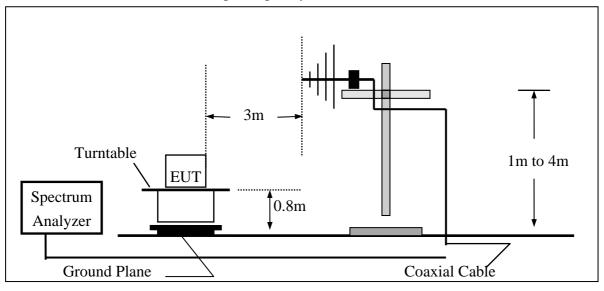
9.3 **Test SET-UP:**

9.3.1 **Conducted Emission at antenna port:**

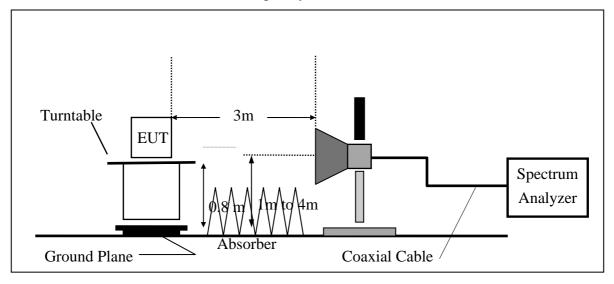


9.3.2 Radiated emission:

(A) Radiated Emission Test Set-Up, Frequency Below 1000MHz



(B) Radiated Emission Test Set-UP Frequency Over 1 GHz



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9.4 **Measurement Procedure:**

Unwanted Emissions into Non-Restricted Frequency Bands, Measurement Procedure followed by 11.1 of KDB558074 D01

- 1. Place the EUT on the table and set it in transmitting mode.
- 2. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the spectrum analyzer.
- 3. Set start to edge frequency, and stop frequency of spectrum analyzer so as to encompass the spectrum to be examined.
- 4. Set the spectrum analyzer as RBW, VBW=300KHz, Detector = Peak, Sweep = auto
- 5. Mark the highest reading of the emission as the reference level measurement.
- 6. Set DL as the limit = reading on marker 1 20dBm
- 7. Marker on frequency, 2.3999GHz and 2.4836GHz, and examine shall 100 KHz immediately outside the authorized (2400~2483.5) be attenuated by 20dB at least relative to the maximum emission of power.
- 8. Repeat above procedures until all default test channel (low, middle, and high) was complete.

Unwanted Emission falling into Restricted Frequency Bands, Measurement Procedure followed by 12.1 of KDB558074:

- 1. The EUT was placed on a turn table which is 0.8m above ground plane.
- 2. The turn table shall rotate 360 degrees to determine the position of maximum emission level.
- 3.EUT is set 3m away from the receiving antenna which varied from 1m to 4m to find out the highest emissions.
- 4. 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.
- 5. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
- 6. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
- 7.On spectrum, following 8.1.2, and RBW = 1MHz, VBW = 3MHz, & Marker 2390MHz, and 2483.5MHz (Peak Measurement). Average Measurement: following 8.2 with the modification span to 1MHz, &RBW = 1MHz, VBW = 3MHz and peak marker function to obtain the highest reading on 2390, and 2483.5MHz.
- 8. Repeat above procedures until all default test channel (low, middle, and high) was complete

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9.5 **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	FS = Field Strength	CL = Cable Attenuation Factor (Cable Loss)
	RA = Reading Amplitude	AG = Amplifier Gain
	AF = Antenna Factor	

9.6 **Measurement Result:**

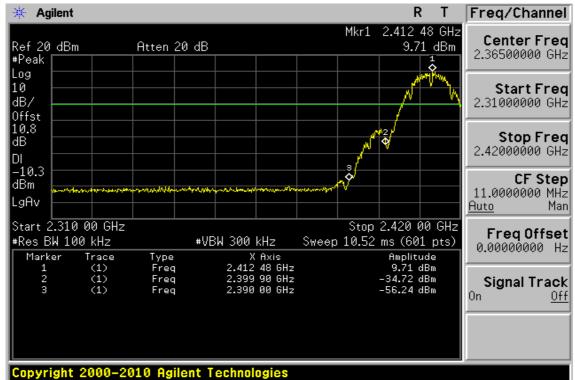
Note: Refer to next page spectrum analyzer data chart and tabular data sheets.

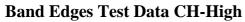
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Tabular Results:

802.11b

Frequency (GHz)	Results (dBm)	Ref (dBm)	Limit (dBm)	Verdict
2.3999	-34.72	9.71	-10.30	Pass
2.4835	-47.81	9.98	-10.00	Pass

Note: Limit = Ref (The highest level of emission) dBm - 20dBm

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FCC ID: PY7PM-0730

Radiated Emission:

For measurement plot of radiation revealing the compliance of 15.209, please refer to Appendix I. (Unwanted Emissions into Restricted Frequency Bands): 802.11 b mode **Operation Band** :802.11 b Test Date :2014-03-18 Fundamental Frequency :2412 MHz Temp./Humi. :20.5 deg C / 66 RH **Operation Mode** :Band Edge LOW Engineer :Curry EUT Pol. :H Plane :VERTICAL Measurement Antenna Pol. Actual FS($dB\mu V/m$) = SPA. Reading level($dB\mu V$) + Factor(dB)

Factor(dB) = Antenna Factor($dB\mu V/m$) + 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.

The trace on RE(radiation emission) plot is as colored blue, and the detection manner we've employed is peak detector.

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	E	Average	32.38	2.42	34.80	54.00	-19.20
2390.00	E	Peak	43.72	2.42	46.14	74.00	-27.86

Operation Band	:802.11 b	Test Date	:2014-03-18
Fundamental Frequency	:2412 MHz	Temp./Humi.	:20.5 deg_C / 66 RH
Operation Mode	:Band Edge LOW	Engineer	:Curry
EUT Pol.	:H Plane	Measurement Antenna Pol.	:HORIZONTAL

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

Factor(dB) = Antenna Factor($dB\mu V/m$) + Cable Loss(dB) – Pre_Amplifier Gain(dB)

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

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

The trace on RE(radiation emission) plot is as colored blue, and the detection manner we've employed is peak detector.

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	E	Average	33.26	2.42	35.68	54.00	-18.32
2390.00	E	Peak	48.09	2.42	50.51	74.00	-23.49

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FCC ID: PY7PM-0730

Report No.: EH/2014/10069 Issue Date: Mar. 21, 2014 Page: 55 of 247

Operation Band	:802.11 b	Test Date	:2014-03-18
Fundamental Frequency	:2462 MHz	Temp./Humi.	:20.5 deg_C / 66 RH
Operation Mode	:Band Edge HIGH	Engineer	:Curry
EUT Pol.	:H Plane	Measurement Antenna Pol.	:VERTICAL

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

 $Factor(dB) = Antenna Factor(dB\mu V/m) + Cable Loss(dB) - Pre_Amplifier Gain(dB)$

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

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

The trace on RE(radiation emission) plot is as colored blue, and the detection manner we've employed is peak detector.

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	33.77	2.74	36.51	54.00	-17.49
2483.50	Е	Peak	44.91	2.74	47.65	74.00	-26.35
Operation Band		:802.11 b	Tes	t Date		:2014-03-18	

Operation Band	:802.11 b	Test Date	:2014-03-18
Fundamental Frequency	:2462 MHz	Temp./Humi.	:20.5 deg_C / 66 RH
Operation Mode	:Band Edge HIGH	Engineer	:Curry
EUT Pol.	:H Plane	Measurement Antenna Pol.	:HORIZONTAL

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

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

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

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

The trace on RE(radiation emission) plot is as colored blue, and the detection manner we've employed is peak detector.

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	36.53	2.74	39.27	54.00	-14.73
2483.50	Е	Peak	47.13	2.74	49.87	74.00	-24.13

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Man

Off

Freq Offset 0.00000000 Hz

Signal Track

Auto

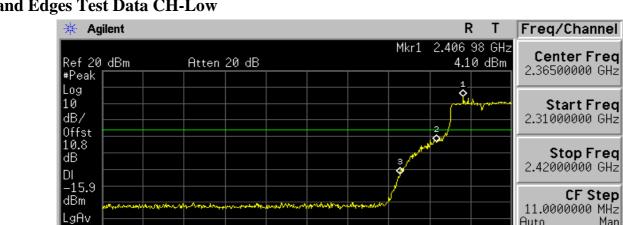
Ûn

Stop 2.420 00 GHz

Amplitude 4.10 dBm -23.35 dBm

-42.83 dBm

Sweep 10.52 ms (601 pts)



#VBW 300 kHz

Type Freq

Freq

Freq

X Axis 2.406 98 GHz 2.399 90 GHz 2.390 00 GHz

802.11g - Unwanted Emissions into Non-Restricted Frequency Bands **Band Edges Test Data CH-Low**



Trace

(1)(1)

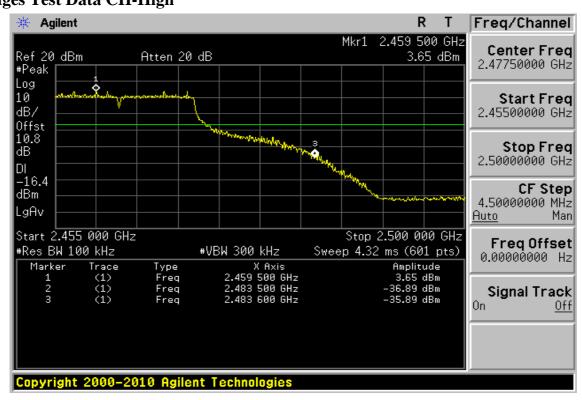
(1)

Start 2.310 00 GHz

#Res BW 100 kHz

Marker

23



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Tabular Results:

802.11g

Frequency (GHz)	Results (dBm)	Ref (dBm)	Limit (dBm)	Verdict
2.3999	-23.35	4.10	-15.90	Pass
2.4836	-35.89	3.65	-16.40	Pass

Note: Limit = Ref (The highest level of emission) dBm - 20dBm

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FCC ID: PY7PM-0730

Radiated Emission:

For measurement plot of radiation revealing the compliance of 15.209, please refer to Appendix I. (Unwanted Emissions into Restricted Frequency Bands): 802.11 g mode **Operation Band** :802.11 g Test Date :2014-03-18 **Fundamental Frequency** :2412 MHz Temp./Humi. :20.5 deg_C / 66 RH **Operation Mode** :Band Edge LOW Engineer :Curry EUT Pol. :H Plane :VERTICAL Measurement Antenna Pol.

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

 $Factor(dB) = Antenna Factor(dB\mu V/m) + Cable Loss(dB) - Pre_Amplifier Gain(dB)$

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

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

The trace on RE(radiation emission) plot is as colored blue, and the detection manner we've employed is peak detector.

Freq.	Note	Detector	Spectrum	Factor	Actual	Limit	Margin
		Mode	Reading Lev	el	FS	@3m	
MHz	F/H/E/S	PK/QP/AV	dBµV	dB	dBµV/m	dBµV/m	dB
2390.00	Е	Average	33.24	2.42	35.66	54.00	-18.34
2390.00	Е	Peak	51.85	2.42	54.27	74.00	-19.73
Operation Band Fundamental F Operation Mod EUT Pol.	requency	:802.11 g :2412 MHz :Band Edge I :H Plane	LOW	Test Date Temp./Humi. Engineer Measurement An	tenna Pol.	:2014-03-18 :20.5 deg_C / :Curry :HORIZONTA	

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

 $Factor(dB) = Antenna Factor(dB\mu V/m) + Cable Loss(dB) - Pre_Amplifier Gain(dB)$

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

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

The trace on RE(radiation emission) plot is as colored blue, and the detection manner we've employed is peak detector.

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	E	Average	35.54	2.42	37.96	54.00	-16.04
2390.00	E	Peak	56.76	2.42	59.18	74.00	-14.82

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FCC ID: PY7PM-0730

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Operation Band	:802.11 g	Test Date	:2014-03-18
Fundamental Frequency	:2462 MHz	Temp./Humi.	:20.5 deg_C / 66 RH
Operation Mode	:Band Edge HIGH	Engineer	:Curry
EUT Pol.	:H Plane	Measurement Antenna Pol.	:VERTICAL

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

 $Factor(dB) = Antenna Factor(dB\mu V/m) + Cable Loss(dB) - Pre_Amplifier Gain(dB)$

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

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

The trace on RE(radiation emission) plot is as colored blue, and the detection manner we've employed is peak detector.

Freq.	Note	Detector	Spectrum	Factor	Actual	Limit	Margin
		Mode	Reading Lev	el	FS	@3m	
MHz	F/H/E/S	PK/QP/AV	dBµV	dB	dBµV/m	dBµV/m	dB
2483.50	Е	Average	39.13	2.74	41.87	54.00	-12.13
2483.50	Е	Peak	57.46	2.74	60.20	74.00	-13.80
Operation Band Fundamental F Operation Mod EUT Pol.	requency	:802.11 g :2462 MHz :Band Edge F :H Plane		Test Date Temp./Humi. Engineer Measurement An	tenna Pol.	:2014-03-18 :20.5 deg_C / :Curry :HORIZONTA	

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

 $Factor(dB) = Antenna Factor(dB\mu V/m) + Cable Loss(dB) - Pre_Amplifier Gain(dB)$

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

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

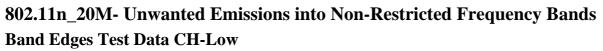
The trace on RE(radiation emission) plot is as colored blue, and the detection manner we've employed is peak detector.

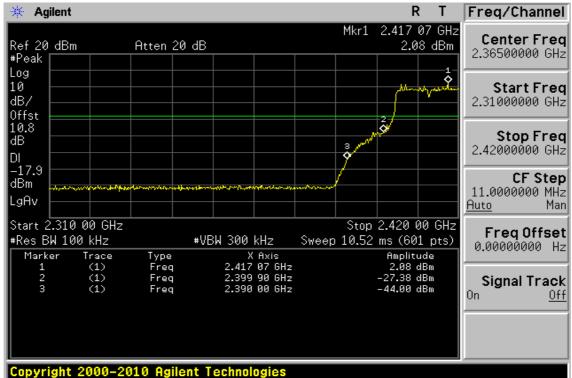
Freq.	Note	Detector	Spectrum	Factor	Actual	Limit	Margin
		Mode	Reading Level		FS	@3m	
MHz	F/H/E/S	PK/QP/AV	dBμV	dB	dBµV/m	dBµV/m	dB
2483.50	E	Average	40.17	2.74	42.91	54.00	-11.09
2483.50	E	Peak	60.72	2.74	63.46	74.00	-10.54

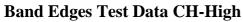
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802.11n_20MHz

Frequency (GHz)	Results (dBm)	Ref (dBm)	Limit (dBm)	Verdict
2.3999	-27.38	2.08	-17.90	Pass
2.4836	-39.22	1.34	-18.70	Pass

Note: Limit = Ref (The highest level of emission) dBm - 20dBm

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Radiated Emission: 802.11 n 20M mode

For measurement plot of radiation revealing the compliance of 15.209, please refer to Appendix I (Unwanted Emissions into Restricted Frequency Bands): 802.11 n 20M mode **Operation Band** :802.11 n20M Test Date :2014-03-18 Fundamental Frequency :2412 MHz Temp./Humi. :20.5 deg_C / 66 RH **Operation Mode** :Band Edge LOW Engineer :Curry EUT Pol. :H Plane :VERTICAL Measurement Antenna Pol.

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

 $Factor(dB) = Antenna Factor(dB\mu V/m) + Cable Loss(dB) - Pre_Amplifier Gain(dB)$

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

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

The trace on RE(radiation emission) plot is as colored blue, and the detection manner we've employed is peak detector.

Freq.	Note	Detector	Spectrum	Factor	Actual	Limit	Margin
		Mode	Reading Leve	el	FS	@3m	
MHz	F/H/E/S	PK/QP/AV	dBµV	dB	dBµV/m	dBµV/m	dB
2390.00	Е	Average	33.22	2.42	35.64	54.00	-18.36
2390.00	Е	Peak	50.33	2.42	52.75	74.00	-21.25
Operation Band Fundamental F Operation Mod	requency	:802.11 n20N :2412 MHz :Band Edge I		Test Date Temp./Humi. Engineer		:2014-03-18 :20.5 deg_C / :Curry	
EUT Pol.		:H Plane		Measurement An	tenna Pol.	:HORIZONT	AL
1 - 1 - 1 - 1 - 1 - 1		D 1' 1 1/1T					

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

 $Factor(dB) = Antenna Factor(dB\mu V/m) + Cable Loss(dB) - Pre_Amplifier Gain(dB)$

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

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

The trace on RE(radiation emission) plot is as colored blue, and the detection manner we've employed is peak detector.

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	E	Average	35.76	2.42	38.18	54.00	-15.82
2390.00	E	Peak	53.06	2.42	55.48	74.00	-18.52

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FCC ID: PY7PM-0730

Report No.: EH/2014/10069 Issue Date: Mar. 21, 2014 Page: 63 of 247

Operation Band	:802.11 n20M	Test Date	:2014-03-18
Fundamental Frequency	:2462 MHz	Temp./Humi.	:20.5 deg_C / 66 RH
Operation Mode	:Band Edge HIGH	Engineer	:Curry
EUT Pol.	:H Plane	Measurement Antenna Pol.	:VERTICAL

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

Factor(dB) = Antenna Factor($dB\mu V/m$) + Cable Loss(dB) – Pre_Amplifier Gain(dB)

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

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

The trace on RE(radiation emission) plot is as colored blue, and the detection manner we've employed is peak detector.

Freq.	Note	Detector	Spectrum	Factor	Actual	Limit	Margin
		Mode	Reading Lev	el	FS	@3m	
MHz	F/H/E/S	PK/QP/AV	dBµV	dB	dBµV/m	dBµV/m	dB
2483.50	Е	Average	37.34	2.74	40.08	54.00	-13.92
2483.50	Е	Peak	55.62	2.74	58.36	74.00	-15.64
Operation Band Fundamental F Operation Mod EUT Pol.	requency	:802.11 n20N :2462 MHz :Band Edge I :H Plane	HIGH	Test Date Temp./Humi. Engineer Measurement An	tenna Pol.	:2014-03-18 :20.5 deg_C / :Curry :HORIZONTA	

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

Factor(dB) = Antenna Factor($dB\mu V/m$) + Cable Loss(dB) – Pre_Amplifier Gain(dB)

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

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

The trace on RE(radiation emission) plot is as colored blue, and the detection manner we've employed is peak detector.

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	E	Average	40.36	2.74	43.10	54.00	-10.90
2483.50	E	Peak	61.69	2.74	64.43	74.00	-9.57

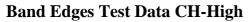
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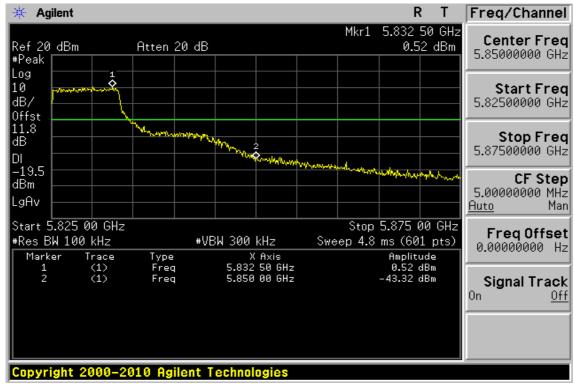
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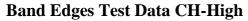


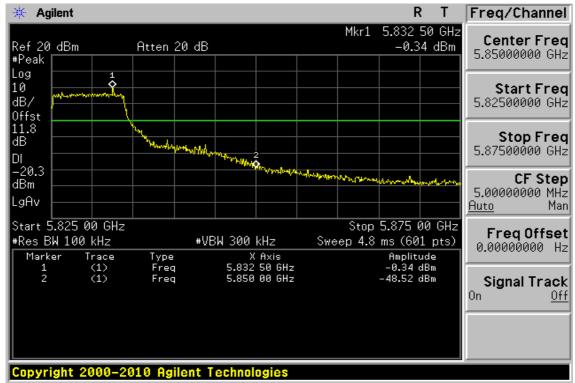




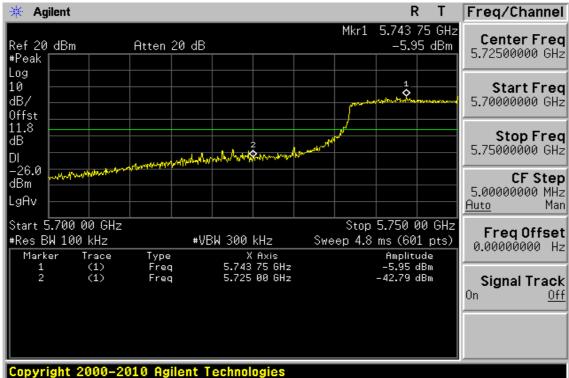


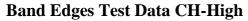


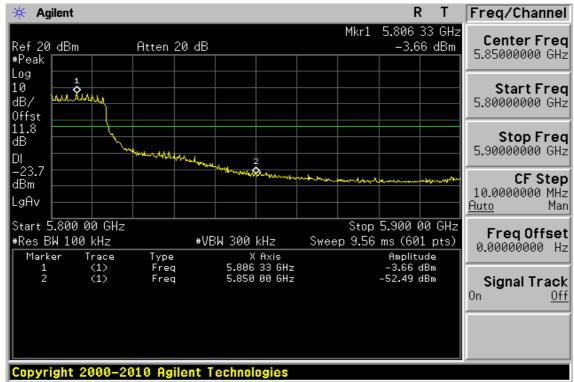














Tabular Results:

802.11a

Frequency (GHz)	Results (dBm)	Ref (dBm)	Limit (dBm)	Verdict
5.7250	-32.75	1.37	-18.60	Pass
5.8500	-43.32	0.52	-19.50	Pass

802.11n_20M

Frequency (GHz)	Results (dBm)	Ref (dBm)	Limit (dBm)	Verdict
5.7250	-40.75	-0.88	-20.90	Pass
5.8500	-48.52	-0.34	-20.30	Pass

802.11n_40M

Frequency (GHz)	Results (dBm)	Ref (dBm)	Limit (dBm)	Verdict
5.7250	-42.79	-5.95	-26.00	Pass
5.8500	-52.49	-3.66	-23.70	Pass

Note: Limit = Ref (The highest level of emission) dBm - 20dBm

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10 SPURIOUS EMISSION TEST 10.1 Standard Applicable

According to §15.247(d),

Emission at antenna port:

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB.

Radiated Spurious Emission

Attenuation below the general limits specified in § 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in § 15.205(a), must also comply with the radiated emission limits specified in § 15.209(a) (see § 15.205(c)).

And according to §15.33(a) (1), for an intentional radiator operates below 10GHz, the frequency range of measurements: to the tenth harmonic of the highest fundamental frequency or to 40GHz, whichever is lower.

10.2 Measurement Equipment Used:

10.2.1 Conducted Emission at antenna port:

Refer to section 7.2 for details.

10.2.2 Radiated emission:

Refer to section 9.2.2 for details.

10.3 Test SET-UP:

10.3.1 Conducted Emission at antenna port:

Refer to section 7.3 for details.

10.3.2 Radiated emission:

Refer to section 9.3.2 for details.

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10.4 Measurement Procedure:

Radiated Emission:

- 1. The EUT was placed on a turn table which is 0.8m above ground plane.
- 2. The turn table shall rotate 360 degrees to determine the position of maximum emission level.
- 3. EUT is set 3m away from the receiving antenna which varied from 1m to 4m to find out the highest emissions.
- 4. 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.
- 5. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
- 6. 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.
- 7. Repeat above procedures until all default test channel measured were complete.

Conducted Emission:

- 1. To connect Antenna Port of EUT to Spectrum.
- 2. Set RBW = 100K & VBW = 300K on Spectrum.
- Sweep the frequency to determine spurious emission as seen on spectrum from span of 30 to 3G, 3G to 8G, 8G to 13G, 13G to 18G and 18G to 26.5GHz, 18G to 40GHz (applicable if operation mode is 5GHz)
- 4. Via Software, combine 5 spans of frequency range into one plot
- 5. Repeat above procedures until all default test channel measured were complete.

10.5 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	FS = Field Strength	CL = Cable Attenuation Factor (Cable Loss)
	RA = Reading Amplitude	AG = Amplifier Gain
	AF = Antenna Factor	

10.6 Measurement Result:

Note: Refer to next page spectrum analyzer data chart and tabular data sheets.

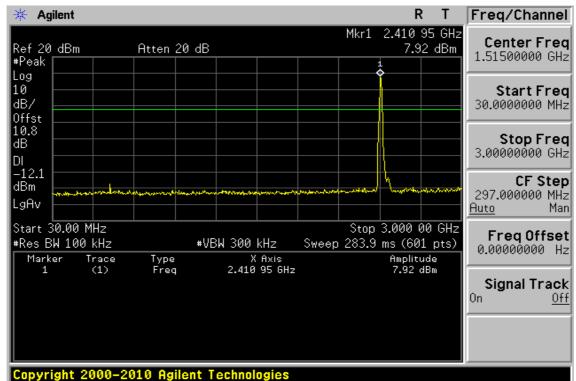
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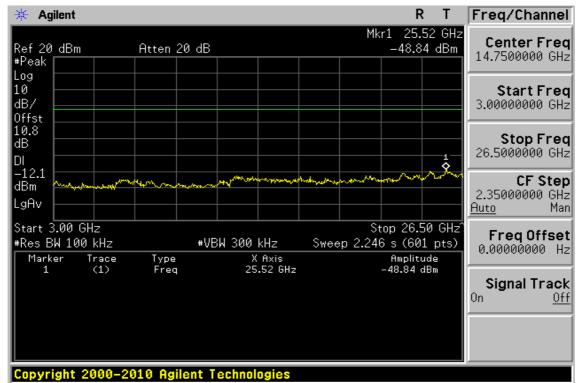
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Conducted Spurious Emission Measurement Result (802.11b) Ch Low 30MHz - 3GHz



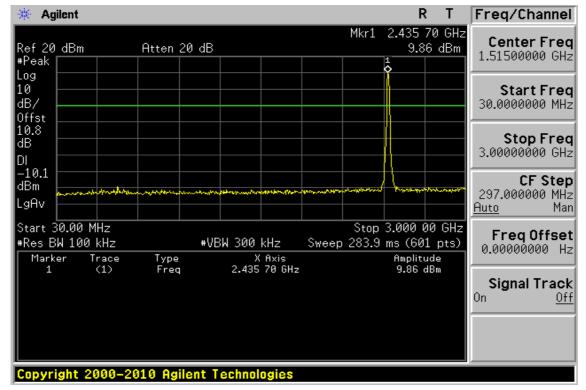
Ch Low 3GHz – 26.5GHz



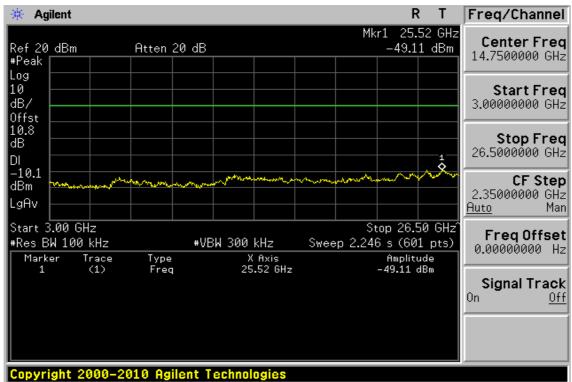
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Ch Mid 30MHz – 3GHz



Ch Mid 3GHz – 26.5GHz



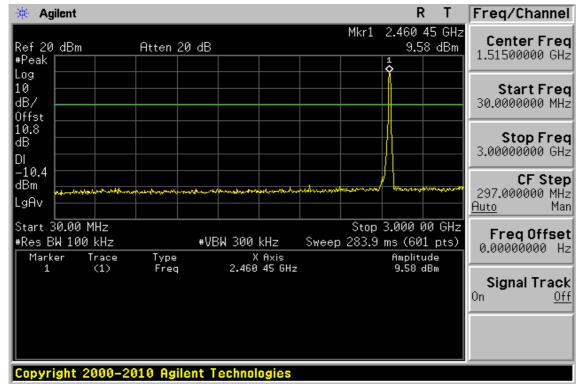
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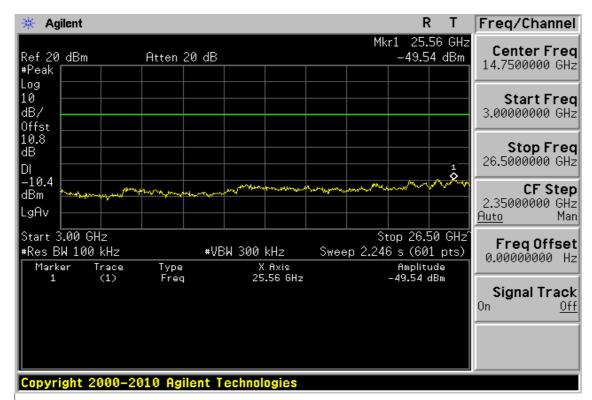
No.134,WuKungRoad,NewTaipeiIndustrialPark,WukuDistrict,NewTaipeiCity,Taiwan24803/新北市五股區新北產業園區五工路 134 號 GS Taiwan Ltd.



Ch High 30MHz – 3GHz



Ch High 3GHz – 26.5GHz



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.



Tabular Results:

Out of Band emission at antenna terminals – 802.11b					
Fundamental Frequency	2412 MHz	Engineer	:Nick		
Operation Mode	:TX Low				

Freq. (MHz)	Note F/H/E/S	Reading dBm	Limit dBm	Safe Margin dB
2412.00	Ref	7.92		
<30	S		-12.10	
30-1000	S		-12.10	
4824.00	Н		-12.10	
7236.00	Н		-12.10	
9648.00	Н		-12.10	
12060.00	Н		-12.10	
14472.00	Н		-12.10	
16884.00	Н		-12.10	
19296.00	Н		-12.10	
24120.00	Н		-12.10	
25520.00	S	-48.84	-12.10	36.74

Note : "H" : denotes Harmonic Frequency. "S" : denotes Spurious Frequency.

"---": denotes Noise Floor. Ref: Reference Signal

Note2: Limit = Ref (the highest emission of the fundamental) - 20dBm

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.



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Fundamental Frequency Operation Mode		2437 MHz Engineer :TX Mid		eer	:Nick
	Freq. (MHz)	Note F/H/E/S	Reading dBm	Limit dBm	Safe Margin dB
	2437.00	Ref	9.86		
	<30	S		-10.10	
	30-1000	S		-10.10	
	4874.00	Н		-10.10	
	7311.00	Н		-10.10	
	9748.00	Н		-10.10	
	12185.00	Н		-10.10	
	14622.00	Н		-10.10	
	17059.00	Н		-10.10	
	19496.00	Н		-10.10	
	21933.00	Н		-10.10	
	24370.00	Н		-10.10	
	25520.00	S	-49.11	-10.10	39.01

"H" : denotes Harmonic Frequency. "S" : denotes Spurious Frequency. Note : "---": denotes Noise Floor.

Note2: Limit = Ref (the highest emission of the fundamental) - 20dBm

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Fundamental Frequency Operation Mode		2462 MHz Engineer :TX High		eer	:Nick
	Freq. (MHz)	Note F/H/E/S	Reading dBm	Limit dBm	Safe Margin dB
	2462.00	Ref	9.58		
	<30	S		-10.40	
	30-1000	S		-10.40	
	4924.00	Н		-10.40	
	7386.00	Н		-10.40	
	9848.00	Н		-10.40	
	12310.00	Н		-10.40	
	14772.00	Н		-10.40	
	17234.00	Н		-10.40	
	19696.00	Н		-10.40	
	22158.00	Н		-10.40	
	24620.00	Н		-10.40	
	25560.00	S	-49.54	-10.40	39.14

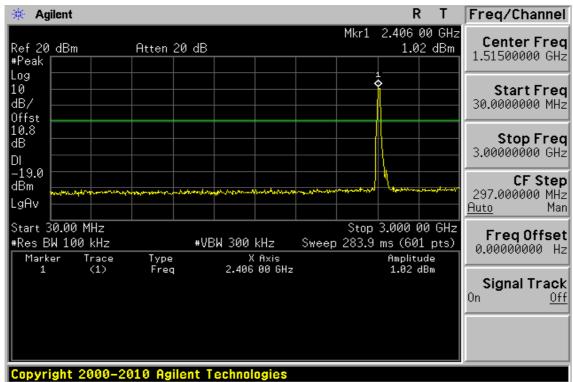
"H" : denotes Harmonic Frequency. "S" : denotes Spurious Frequency. Note : "---": denotes Noise Floor.

Note2: Limit = Ref (the highest emission of the fundamental) - 20dBm

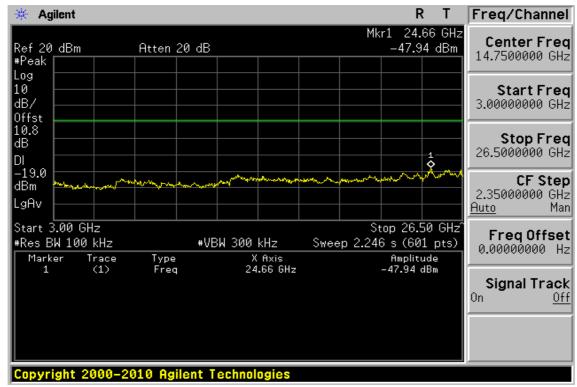
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Conducted Spurious Emission Measurement Result (802.11g) Ch Low 30MHz - 3GHz



Ch Low 3GHz – 26.5GHz

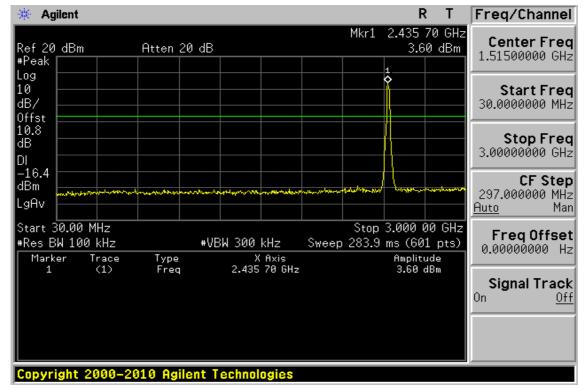


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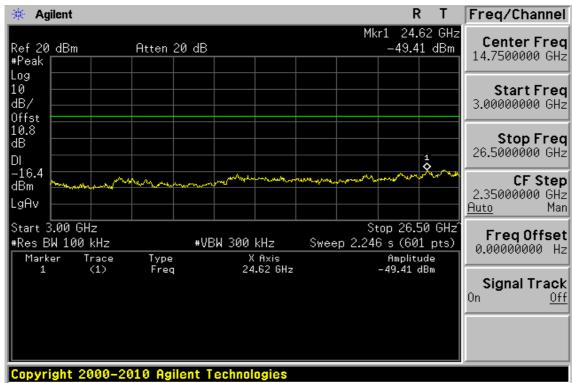
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Ch Mid 30MHz – 3GHz



Ch Mid 3GHz – 26.5GHz

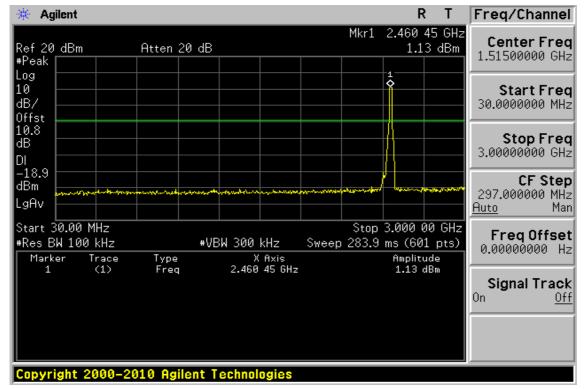


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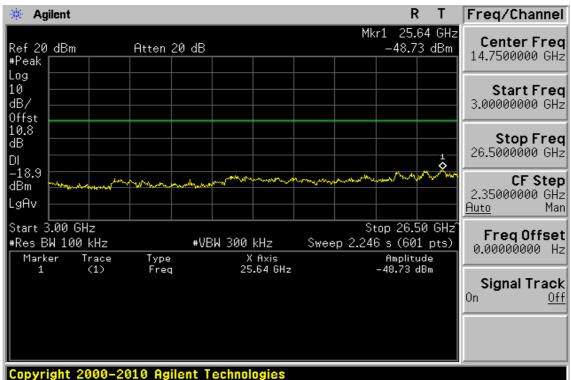
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Ch High 30MHz – 3GHz



Ch High 3GHz – 26.5GHz



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Tabular Results:

Out of Band emission at antenna terminals – 802.11g					
Fundamental Frequency	2412 MHz	Engineer	:Nick		
Operation Mode	:TX Low				

Freq. (MHz)	Note F/H/E/S	Reading dBm	Limit dBm	Safe Margin dB
2412.00	Ref	1.02		
<30	S		-19.00	
30-1000	S		-19.00	
4824.00	Н		-19.00	
7236.00	Н		-19.00	
9648.00	Н		-19.00	
12060.00	Н		-19.00	
14472.00	Н		-19.00	
16884.00	Н		-19.00	
19296.00	Н		-19.00	
24120.00	Н		-19.00	
24660.00	S	-47.94	-19.00	28.94

Note : "H" : denotes Harmonic Frequency. "S" : denotes Spurious Frequency. "---": denotes Noise Floor. Ref: Reference Signal

Note2: Limit = Ref (the highest emission of the fundamental) - 20dBm

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Fundamental Frequency Operation Mode		2437 MHz :TX Mid	8		:Nick
	Freq. (MHz)	Note F/H/E/S	Reading dBm	Limit dBm	Safe Margin dB
	2437.00	Ref	3.60		
	<30	S		-16.40	
	30-1000	S		-16.40	
	4874.00	Н		-16.40	
	7311.00	Н		-16.40	
	9748.00	Н		-16.40	
	12185.00	Н		-16.40	
	14622.00	Н		-16.40	
	17059.00	Н		-16.40	
	19496.00	Н		-16.40	
	21933.00	Н		-16.40	
	24370.00	Н		-16.40	
	24620.00	S	-49.41	-16.40	33.01

"H" : denotes Harmonic Frequency. "S" : denotes Spurious Frequency. Note : "---": denotes Noise Floor.

Note2: Limit = Ref (the highest emission of the fundamental) - 20dBm

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Fundamental Frequency Operation Mode		2462 MHz Engineer :TX High		eer	:Nick
	Freq. (MHz)	Note F/H/E/S	Reading dBm	Limit dBm	Safe Margin dB
	2462.00	Ref	1.13		
	<30	S		-18.90	
	30-1000	S		-18.90	
	4924.00	Н		-18.90	
	7386.00	Н		-18.90	
	9848.00	Н		-18.90	
	12310.00	Н		-18.90	
	14772.00	Н		-18.90	
	17234.00	Н		-18.90	
	19696.00	Н		-18.90	
	22158.00	Н		-18.90	
	24620.00	Н		-18.90	
	25640.00	S	-48.73	-18.90	29.83

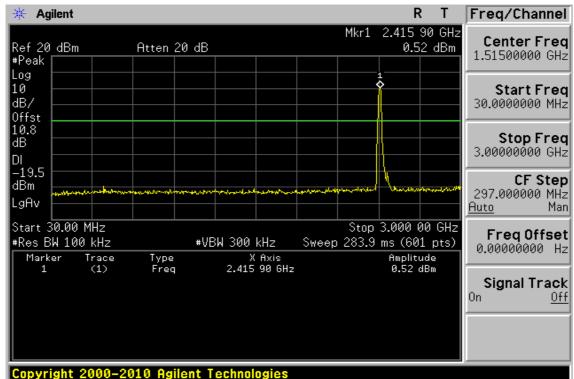
"H" : denotes Harmonic Frequency. "S" : denotes Spurious Frequency. Note : "---": denotes Noise Floor.

Note2: Limit = Ref (the highest emission of the fundamental) - 20dBm

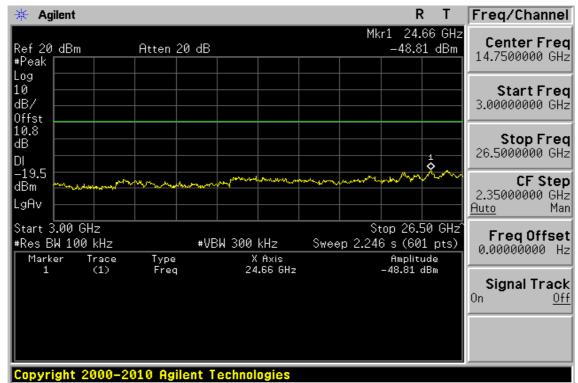
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Conducted Spurious Emission Measurement Result (802.11n_20M) Ch Low 30MHz – 3GHz



Ch Low 3GHz – 26.5GHz

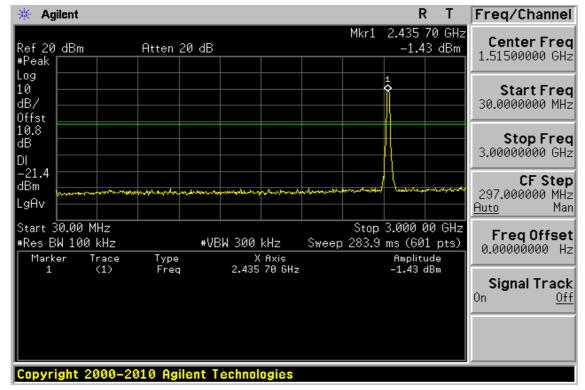


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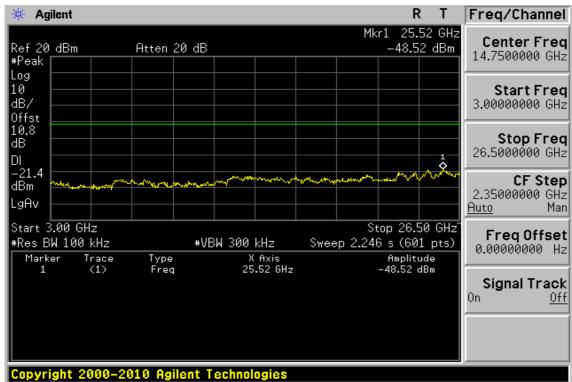
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Ch Mid 30MHz – 3GHz



Ch Mid 3GHz – 26.5GHz

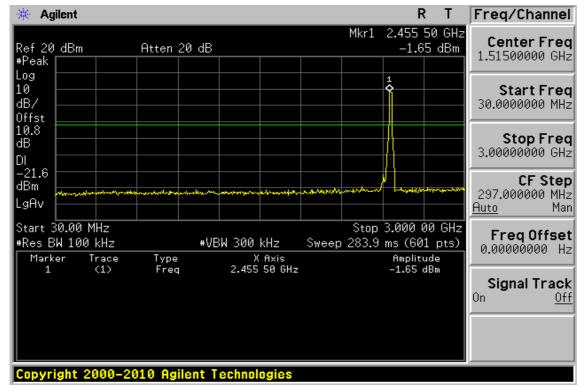


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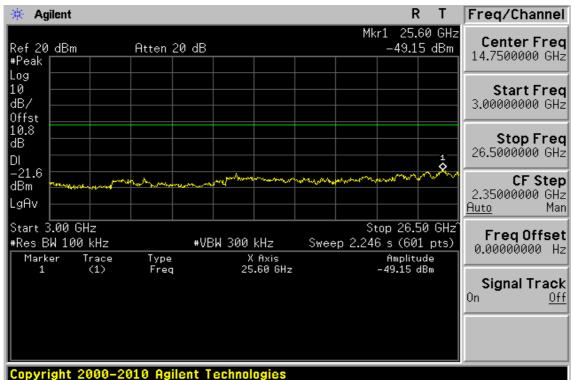
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Ch High 30MHz – 3GHz



Ch High 3GHz – 26.5GHz



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Tabular Results:

Out of Band emission at antenna terminals – 802.11n_20M					
Fundamental Frequency	2412 MHz	Engineer	:Nick		
Operation Mode	:TX Low				

	Freq. (MHz)	Note F/H/E/S	Reading dBm	Limit dBm	Safe Margin dB
-	2412.00	Ref	0.52		
	<30	S		-19.50	
	30-1000	S		-19.50	
	4824.00	Н		-19.50	
	7236.00	Н		-19.50	
	9648.00	Н		-19.50	
	12060.00	Н		-19.50	
	14472.00	Н		-19.50	
	16884.00	Н		-19.50	
	19296.00	Н		-19.50	
	24120.00	Н		-19.50	
	24660.00	S	-48.81	-19.50	29.31

Note : "H" : denotes Harmonic Frequency. "S" : denotes Spurious Frequency.

"---": denotes Noise Floor. Ref: Reference Signal

Note2: Limit = Ref (the highest emission of the fundamental) - 20dBm

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Fundamental Frequency Operation Mode		2437 MHz Engineer :TX Mid		eer	:Nick
	Freq. (MHz)	Note F/H/E/S	Reading dBm	Limit dBm	Safe Margin dB
	2437.00	Ref	-1.43		
	<30	S		-21.40	
	30-1000	S		-21.40	
	4874.00	Н		-21.40	
	7311.00	Н		-21.40	
	9748.00	Н		-21.40	
	12185.00	Н		-21.40	
	14622.00	Н		-21.40	
	17059.00	Н		-21.40	
	19496.00	Н		-21.40	
	21933.00	Н		-21.40	
	24370.00	Н		-21.40	
	25520.00	S	-48.52	-21.40	27.12

"H" : denotes Harmonic Frequency. "S" : denotes Spurious Frequency. Note : "---": denotes Noise Floor.

Note2: Limit = Ref (the highest emission of the fundamental) - 20dBm

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Fundamental Frequency Operation Mode		2462 MHz Engineer :TX High		eer	:Nick
	Freq. (MHz)	Note F/H/E/S	Reading dBm	Limit dBm	Safe Margin dB
	2462.00	Ref	-1.65		
	<30	S		-21.60	
	30-1000	S		-21.60	
	4924.00	Н		-21.60	
	7386.00	Н		-21.60	
	9848.00	Н		-21.60	
	12310.00	Н		-21.60	
	14772.00	Н		-21.60	
	17234.00	Н		-21.60	
	19696.00	Н		-21.60	
	22158.00	Н		-21.60	
	24620.00	Н		-21.60	
	25600.00	S	-49.15	-21.60	27.55

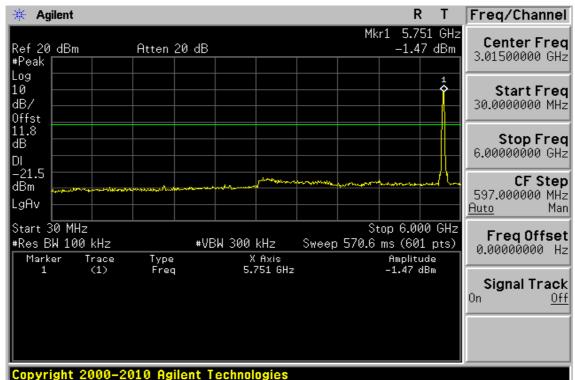
"H" : denotes Harmonic Frequency. "S" : denotes Spurious Frequency. Note : "---": denotes Noise Floor.

Note2: Limit = Ref (the highest emission of the fundamental) - 20dBm

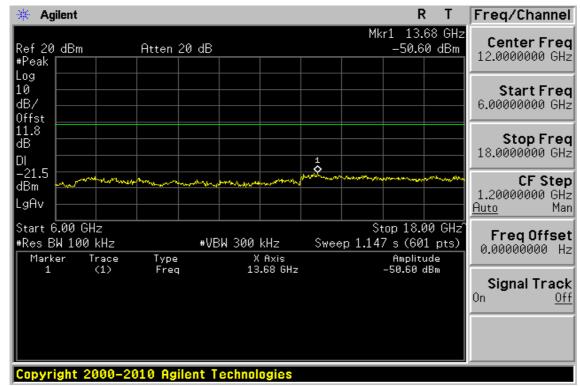
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Conducted Spurious Emission Measurement Result (802.11a) Ch Low 30MHz - 6GHz



Ch Low 6GHz – 18GHz

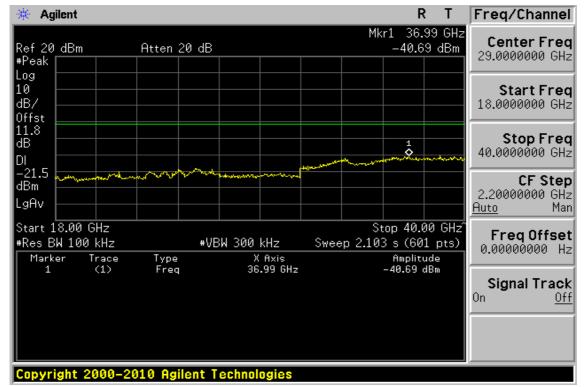


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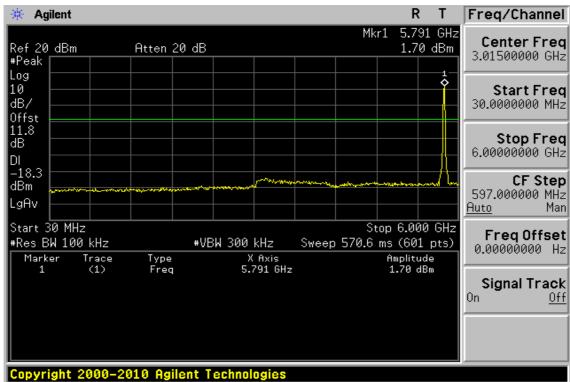
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Ch Low 18GHz – 40GHz



Ch Mid 30MHz – 6GHz

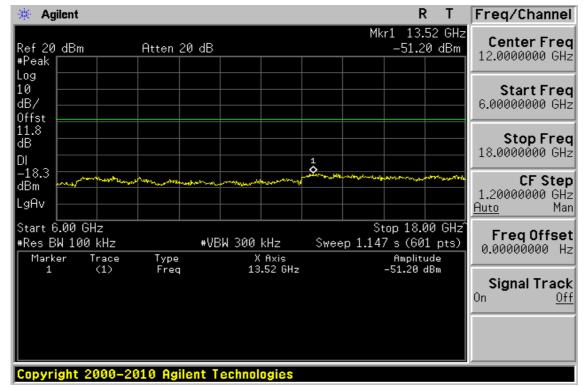


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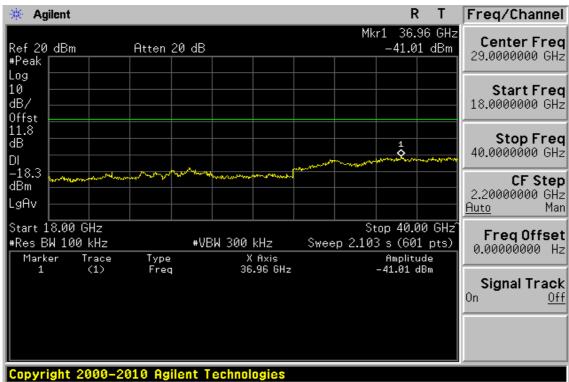
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Ch Mid 6GHz – 18GHz



Ch Mid 18GHz – 40GHz

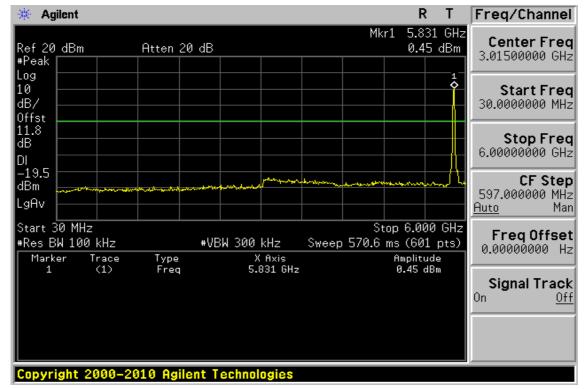


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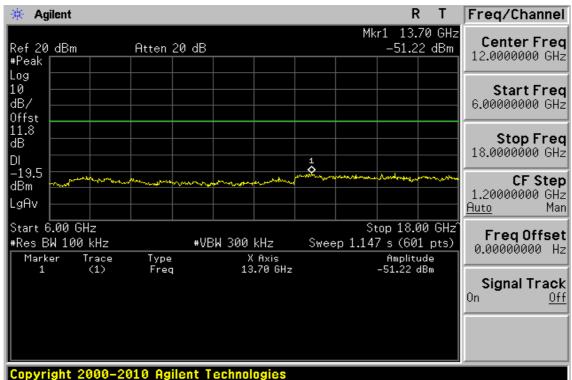
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Ch High 30MHz – 6GHz



Ch High 6GHz – 18GHz

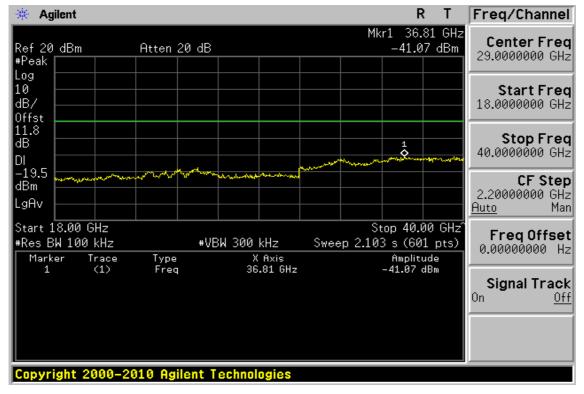


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Ch High 18GHz – 40GHz



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Tabular Results:

Out of Band emission at antenna terminals - 802	.11a
---	------

Fundamental Frequency	5745 MHz	Engineer	:Nick
Operation Mode	:TX Low		

_	Freq. (MHz)	Note F/H/E/S	Reading dBm	Limit dBm	Safe Margin dB
	5751.00	Ref	-1.47		
	<30	S		-21.50	
	30-1000	S		-21.50	
	11490.00	Н		-21.50	
	13680.00	Н	-50.6	-21.50	29.10
	17235.00	Н		-21.50	
	22980.00	Н		-21.50	
	28725.00	Н		-21.50	
	34470.00	Н		-21.50	
	36990.00	S	-40.69	-21.50	19.19

Note : "H" : denotes Harmonic Frequency. "S" : denotes Spurious Frequency.

"---": denotes Noise Floor. Ref: Reference Signal

Note2: Limit = Ref (the highest emission of the fundamental) - 20dBm

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.



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Fundamental Frequency Operation Mode		5785 MHz Engineer :TX Mid		eer	:Nick
	Freq. (MHz)	Note F/H/E/S	Reading dBm	Limit dBm	Safe Margin dB
-	5791.00	Ref	1.70		
	<30	S		-18.30	
	30-1000	S		-18.30	
	11570.00	Н		-18.30	
	13520.00	S	-51.2	-18.30	32.90
	17355.00	Н		-18.30	
	23140.00	Н		-18.30	
	28925.00	Н		-18.30	
	34710.00	Н		-18.30	
	36960.00	S	-41.01	-18.30	22.71

"H" : denotes Harmonic Frequency. "S" : denotes Spurious Frequency. Note : "---": denotes Noise Floor.

Note2: Limit = Ref (the highest emission of the fundamental) - 20dBm

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FCC ID: PY7PM-0730

Report No.: EH/2014/10069 Issue Date: Mar. 21, 2014 Page: 95 of 247

Fundamental Frequency Operation Mode		5825 MHz Engineer :TX High		eer	:Nick
	Freq. (MHz)	Note F/H/E/S	Reading dBm	Limit dBm	Safe Margin dB
	5831.00	Ref	0.45		
	<30	S		-19.50	
	30-1000	S		-19.50	
	11650.00	Н		-19.50	
	13700.00	S	-51.22	-19.50	31.72
	17475.00	Н		-19.50	
	23300.00	Н		-19.50	
	29125.00	Н		-19.50	
	34950.00	Н		-19.50	
	36810.00	S	-41.07	-19.50	21.57

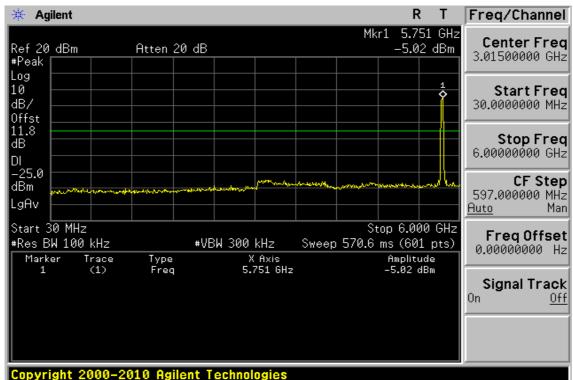
"H" : denotes Harmonic Frequency. "S" : denotes Spurious Frequency. Note : "---": denotes Noise Floor.

Note2: Limit = Ref (the highest emission of the fundamental) - 20dBm

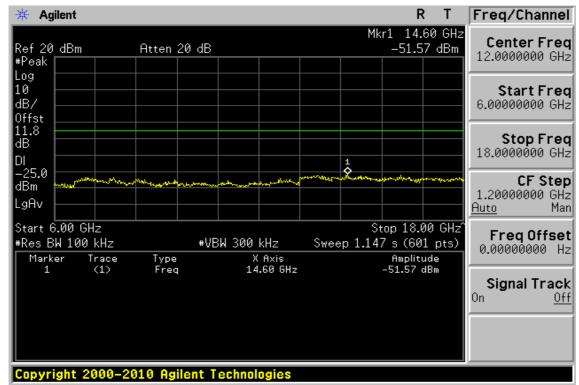
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Conducted Spurious Emission Measurement Result (802.11n (5GHz)_20M) Ch Low 30MHz - 6GHz



Ch Low 6GHz – 18GHz

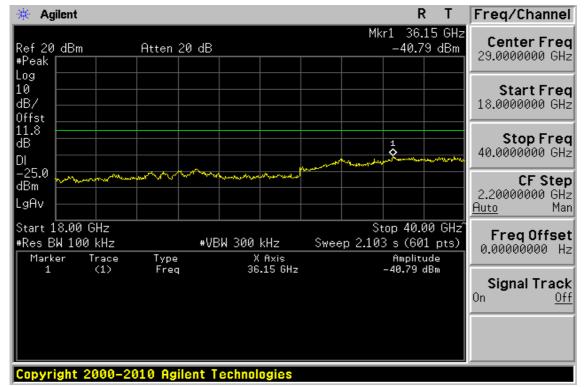


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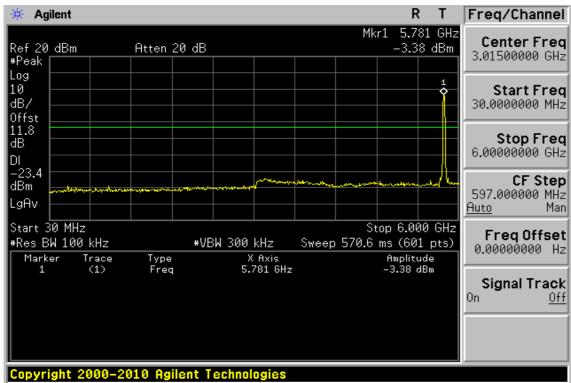
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Ch Low 18GHz – 40GHz



Ch Mid 30MHz – 6GHz

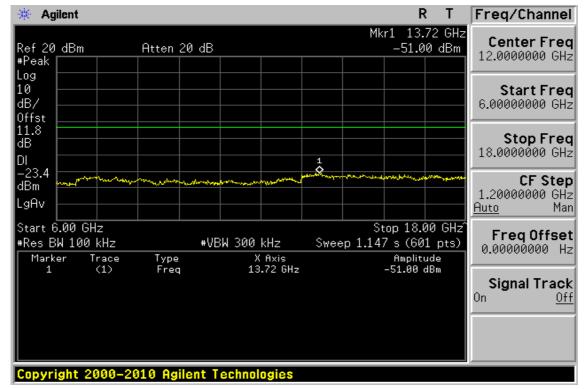


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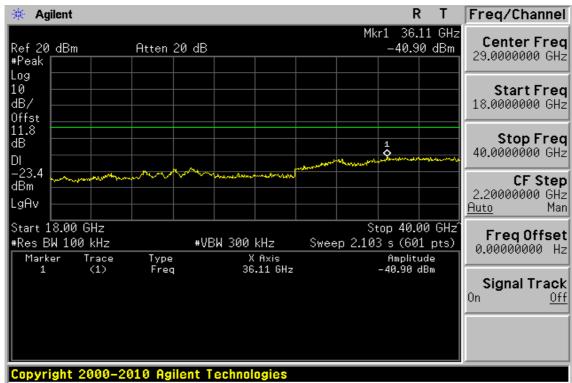
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Ch Mid 6GHz – 18GHz



Ch Mid 18GHz – 40GHz

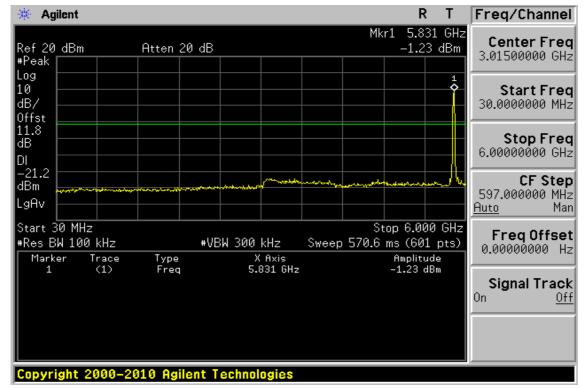


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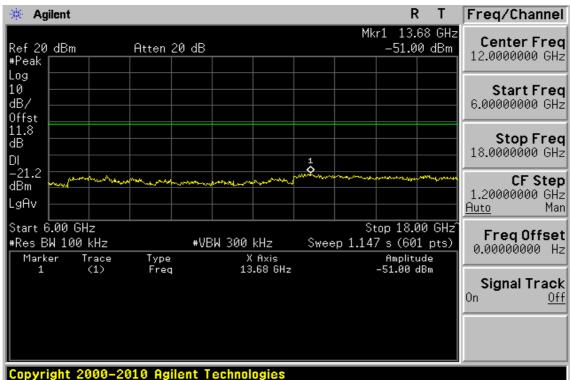
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Ch High 30MHz – 6GHz



Ch High 6GHz – 18GHz

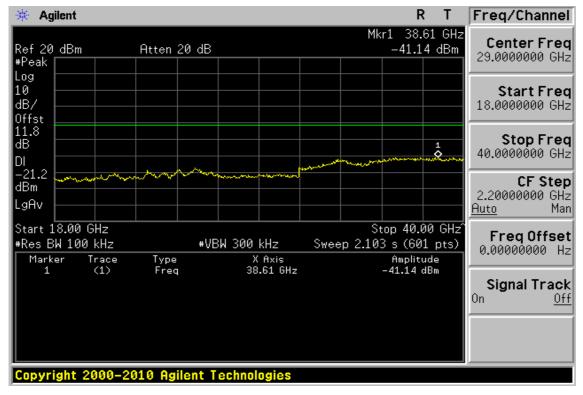


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Ch High 18GHz – 40GHz



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~ ~

Out of Band emission at antenna terminals - 802.11n_20M

Fundamental Frequency	5745 MHz	Engineer	:Nick
Operation Mode	:TX Low		

Freq. (MHz)	Note F/H/E/S	Reading dBm	Limit dBm	Safe Margin dB
5751.00	Ref	-5.02		
<30	S		-25.00	
30-1000	S		-25.00	
11490.00	Н		-25.00	
14600.00	S	-51.57	-25.00	26.57
17235.00	Н		-25.00	
22980.00	Н		-25.00	
34470.00	Н		-25.00	
36150.00	S	-40.79	-25.00	15.79

"H" : denotes Harmonic Frequency. "S" : denotes Spurious Frequency. Note :

"---": denotes Noise Floor. Ref: Reference Signal

Note2: Limit = Ref (the highest emission of the fundamental) - 20dBm

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Report No.: EH/2014/10069 Issue Date: Mar. 21, 2014 Page: 102 of 247

Fundamental Frequency Operation Mode		5785 MHz Engineer :TX Mid		eer	:Nick
	Freq. (MHz)	Note F/H/E/S	Reading dBm	Limit dBm	Safe Margin dB
	5781.00	Ref	-3.38		
	<30	S		-23.40	
	30-1000	S		-23.40	
	11570.00	Н		-23.40	
	13720.00	S	-51.00	-23.40	27.60
	17355.00	Н		-23.40	
	23140.00	Н		-23.40	
	28925.00	Н		-23.40	
	34710.00	Н		-23.40	
	36110.00	S	-41.56	-23.40	18.16

"H" : denotes Harmonic Frequency. "S" : denotes Spurious Frequency. Note : "---": denotes Noise Floor.

Note2: Limit = Ref (the highest emission of the fundamental) - 20dBm

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Report No.: EH/2014/10069 Issue Date: Mar. 21, 2014 Page: 103 of 247

Fundamental Frequency Operation Mode		5825 MHz Engineer :TX High		eer	:Nick	
	Freq. (MHz)	Note F/H/E/S	Reading dBm	Limit dBm	Safe Margin dB	
-	5831.00	Ref	-1.23			
	<30	S		-21.20		
	30-1000	S		-21.20		
	11650.00	Н		-21.20		
	13680.00	S	-51.00	-21.20	29.80	
	17475.00	Н		-21.20		
	23300.00	Н		-21.20		
	29125.00	Н		-21.20		
	34950.00	Н		-21.20		
	38610.00	S	-41.57	-21.20	20.37	

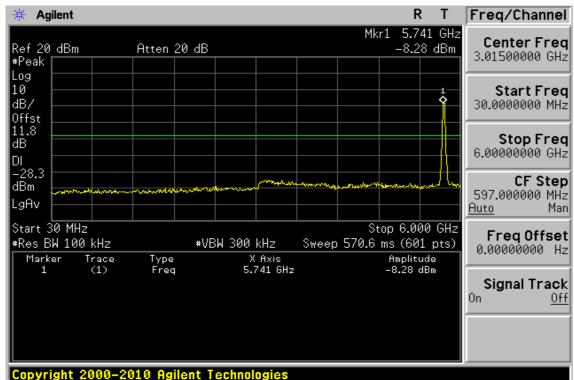
"H" : denotes Harmonic Frequency. "S" : denotes Spurious Frequency. Note : "---": denotes Noise Floor.

Note2: Limit = Ref (the highest emission of the fundamental) - 20dBm

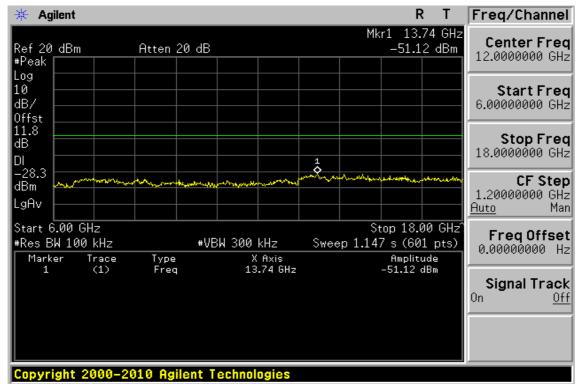
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Conducted Spurious Emission Measurement Result (802.11n (5GHz)_40M) Ch Low 30MHz - 6GHz



Ch Low 6GHz – 18GHz

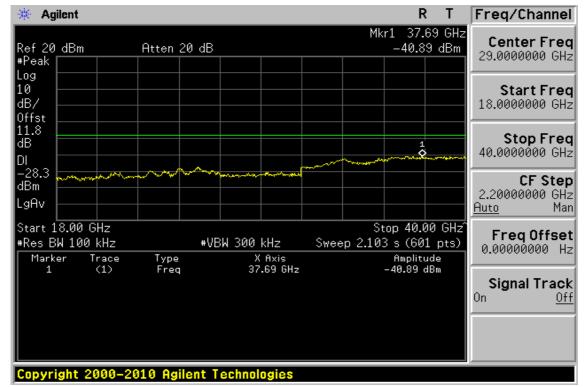


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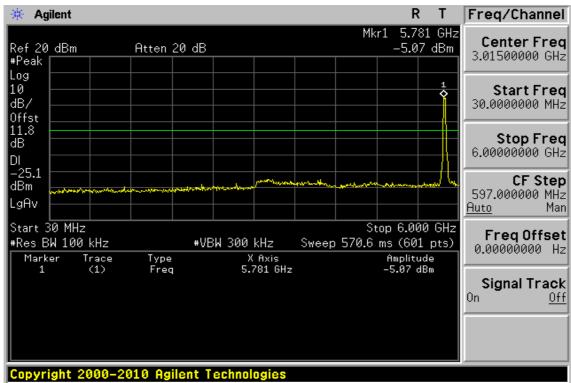
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Ch Low 18GHz – 40GHz



Ch High 30MHz - 6GHz

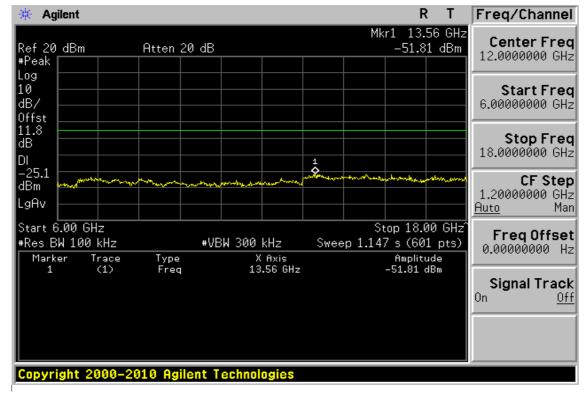


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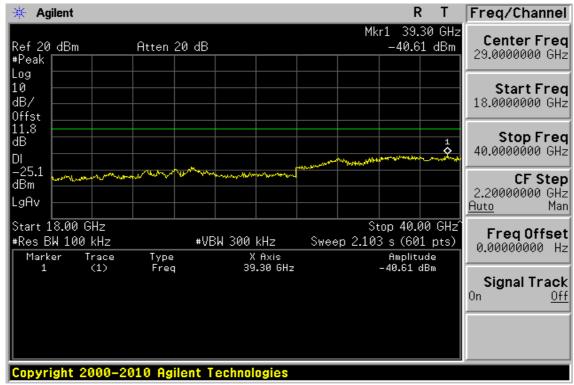
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Ch High 6GHz – 18GHz



Ch High 18GHz – 40GHz



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Out of Band emission at antenna terminals - 802.11n_40M

Fundamental Frequency Operation Mode	5755 MHz :TX Low	Engineer		:Nick
			Q_f_	
		 	Safe	

Freq. (MHz)	Note F/H/E/S	Reading dBm	Limit dBm	Safe Margin dB
5741.00	Ref	-8.28		
<30	S		-28.30	
30-1000	S		-28.30	
11510.00	Н		-28.30	
13740.00	S	-51.12	-28.30	22.82
17265.00	Н		-28.30	
23020.00	Н		-28.30	
28775.00	Н		-28.30	
34530.00	Н		-28.30	
37690.00	S	-40.89	-28.30	12.59

"H" : denotes Harmonic Frequency. "S" : denotes Spurious Frequency. Note :

"---": denotes Noise Floor. Ref: Reference Signal

Note2: Limit = Ref (the highest emission of the fundamental) - 20dBm

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.



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Fundamental Frequency Operation Mode		5795 MHz Engineer :TX High		eer	:Nick	
	Freq. (MHz)	Note F/H/E/S	Reading dBm	Limit dBm	Safe Margin dB	
	5781.00	Ref	-5.07			
	<30	S		-25.10		
	30-1000	S		-25.10		
	11590.00	Н		-25.10		
	13560.00	S	-51.81	-25.10	26.71	
	17385.00	Н		-25.10		
	23180.00	Н		-25.10		
	28975.00	Н		-25.10		
	34770.00	Н		-25.10		
	39300.00	S	-40.61	-25.10	15.51	

"H" : denotes Harmonic Frequency. "S" : denotes Spurious Frequency. Note : "---": denotes Noise Floor.

Note2: Limit = Ref (the highest emission of the fundamental) - 20dBm

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.



Radiated Spurious Emission Measurement Result (802.11b)

For measurement plot of radiation, please refer to Appendix I.									
Operation Band	:802.11 b	Test Date	:2014-03-20						
Fundamental Frequency	:2412 MHz	Temp./Humi.	:21deg_C/59RH						
Operation Mode	:TX LOW	Engineer	:Curry						
EUT Pol.	:H Plane	Measurement Antenna Pol.	:VERTICAL						

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

 $Factor(dB) = Antenna Factor(dB\mu V/m) + Cable Loss(dB) - Pre_Amplifier Gain(dB)$

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

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

"---": denotes Noise Floor.

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
99.84	S	Peak	32.22	-17.86	14.36	43.50	-29.14
161.92	S	Peak	27.60	-12.69	14.91	43.50	-28.59
272.50	S	Peak	26.63	-11.85	14.78	46.00	-31.22
464.56	S	Peak	28.11	-8.00	20.11	46.00	-25.89
691.54	S	Peak	27.35	-3.76	23.59	46.00	-22.41
949.56	S	Peak	27.52	0.18	27.70	46.00	-18.30
4824.00	Н	Average	34.36	6.89	41.25	54.00	-12.75
4824.00	Н	Peak	38.26	6.89	45.15	74.00	-28.85
7236.00	Н						
9648.00	Н						
12060.00	Н						
14472.00	Н						
16884.00	Н						
19296.00	Н						
21708.00	Н						
24120.00	Н						

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.



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Operation Band	:802.11 b	Test Date	:2014-03-20
Fundamental Frequency	:2412 MHz	Temp./Humi.	:21deg_C/59RH
Operation Mode	:TX LOW	Engineer	:Curry
EUT Pol.	:H Plane	Measurement Antenna Pol.	:HORIZONTAL

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

 $Factor(dB) = Antenna Factor(dB\mu V/m) + Cable Loss(dB) - Pre_Amplifier Gain(dB)$

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

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

"---": denotes Noise Floor.

24120.00

Η

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
50.37	S	Peak	26.28	-12.96	13.32	40.00	-26.68
154.16	S	Peak	28.22	-12.73	15.49	43.50	-28.01
270.56	S	Peak	25.40	-11.93	13.47	46.00	-32.53
500.45	S	Peak	27.19	-7.52	19.67	46.00	-26.33
693.48	S	Peak	28.42	-3.83	24.59	46.00	-21.41
995.15	S	Peak	27.30	0.32	27.62	54.00	-26.38
4824.00	Н	Average	25.65	6.89	32.54	54.00	-21.46
4824.00	Н	Peak	37.60	6.89	44.49	74.00	-29.51
7236.00	Н						
9648.00	Н						
12060.00	Н						
14472.00	Н						
16884.00	Н						
19296.00	Н						
21708.00	Н						

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.



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Operation Band	:802.11 b	Test Date	:2014-03-20
Fundamental Frequency	:2437 MHz	Temp./Humi.	:21deg_C/59RH
Operation Mode	:TX MID	Engineer	:Curry
EUT Pol.	:H Plane	Measurement Antenna Pol.	:VERTICAL

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

 $Factor(dB) = Antenna Factor(dB\mu V/m) + Cable Loss(dB) - Pre_Amplifier Gain(dB)$

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

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

"---": denotes Noise Floor.

24370.00

Η

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
99.84	S	Peak	32.75	-17.86	14.89	43.50	-28.61
155.13	S	Peak	26.94	-12.71	14.23	43.50	-29.27
258.92	S	Peak	26.87	-12.60	14.27	46.00	-31.73
490.75	S	Peak	28.11	-7.68	20.43	46.00	-25.57
700.27	S	Peak	27.77	-4.08	23.69	46.00	-22.31
904.94	S	Peak	28.80	-0.67	28.13	46.00	-17.87
4874.00	Н	Average	31.54	6.96	38.50	54.00	-15.50
4874.00	Н	Peak	38.76	6.96	45.72	74.00	-28.28
7311.00	Н						
9748.00	Н						
12185.00	Н						
14622.00	Н						
17059.00	Н						
19496.00	Н						
21933.00	Н						

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.



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Operation Band	:802.11 b	Test Date	:2014-03-20
Fundamental Frequency	:2437 MHz	Temp./Humi.	:21deg_C/59RH
Operation Mode	:TX MID	Engineer	:Curry
EUT Pol.	:H Plane	Measurement Antenna Pol.	:HORIZONTAL

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

 $Factor(dB) = Antenna Factor(dB\mu V/m) + Cable Loss(dB) - Pre_Amplifier Gain(dB)$

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

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

"---": denotes Noise Floor.

24370.00

Η

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
49.40	S	Peak	26.90	-12.95	13.95	40.00	-26.05
162.89	S	Peak	26.91	-12.72	14.19	43.50	-29.31
275.41	S	Peak	26.24	-11.72	14.52	46.00	-31.48
465.53	S	Peak	27.96	-7.97	19.99	46.00	-26.01
676.99	S	Peak	27.87	-3.78	24.09	46.00	-21.91
964.11	S	Peak	27.26	0.20	27.46	54.00	-26.54
4874.00	Н	Average	25.78	6.96	32.74	54.00	-21.26
4874.00	Н	Peak	36.71	6.96	43.67	74.00	-30.33
7311.00	Н						
9748.00	Н						
12185.00	Н						
14622.00	Н						
17059.00	Н						
19496.00	Н						
21933.00	Н						

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.



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Operation Band	:802.11 b	Test Date	:2014-03-20
Fundamental Frequency	:2462 MHz	Temp./Humi.	:21deg_C/59RH
Operation Mode	:TX HIGH	Engineer	:Curry
EUT Pol.	:H Plane	Measurement Antenna Pol.	:VERTICAL

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

 $Factor(dB) = Antenna Factor(dB\mu V/m) + Cable Loss(dB) - Pre_Amplifier Gain(dB)$

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

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

"---": denotes Noise Floor.

24620.00

Η

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
99.84	S	Peak	31.94	-17.86	14.08	43.50	-29.42
162.89	S	Peak	27.18	-12.72	14.46	43.50	-29.04
248.25	S	Peak	27.22	-13.01	14.21	46.00	-31.79
500.45	S	Peak	27.65	-7.52	20.13	46.00	-25.87
577.08	S	Peak	29.38	-5.43	23.95	46.00	-22.05
995.15	S	Peak	27.26	0.32	27.58	54.00	-26.42
4924.00	Н	Average	27.78	7.01	34.79	54.00	-19.21
4924.00	Н	Peak	36.45	7.01	43.46	74.00	-30.54
7386.00	Н						
9848.00	Н						
12310.00	Н						
14772.00	Н						
17234.00	Н						
19696.00	Н						
22158.00	Н						

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.



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Operation Band	:802.11 b	Test Date	:2014-03-20
Fundamental Frequency	:2462 MHz	Temp./Humi.	:21deg_C/59RH
Operation Mode	:TX HIGH	Engineer	:Curry
EUT Pol.	:H Plane	Measurement Antenna Pol.	:HORIZONTAL

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

 $Factor(dB) = Antenna Factor(dB\mu V/m) + Cable Loss(dB) - Pre_Amplifier Gain(dB)$

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

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

"---": denotes Noise Floor.

24620.00

Η

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
59.10	S	Peak	27.79	-13.52	14.27	40.00	-25.73
162.89	S	Peak	26.58	-12.72	13.86	43.50	-29.64
272.50	S	Peak	25.97	-11.85	14.12	46.00	-31.88
477.17	S	Peak	27.99	-7.79	20.20	46.00	-25.80
685.72	S	Peak	28.11	-3.69	24.42	46.00	-21.58
952.47	S	Peak	27.63	0.18	27.81	46.00	-18.19
4924.00	Н	Average	24.71	7.01	31.72	54.00	-22.28
4924.00	Н	Peak	36.04	7.01	43.05	74.00	-30.95
7386.00	Н						
9848.00	Н						
12310.00	Н						
14772.00	Н						
17234.00	Н						
19696.00	Н						
22158.00	Н						

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.



Radiated Spurious Emission Measurement Result (802.11g)

Operation Band	:802.11 g	Test Date	:2014-03-20
Fundamental Frequency	:2412 MHz	Temp./Humi.	:21deg_C/59RH
Operation Mode	:TX LOW	Engineer	:Curry
EUT Pol.	:H Plane	Measurement Antenna Pol.	:VERTICAL

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

 $Factor(dB) = Antenna Factor(dB\mu V/m) + Cable Loss(dB) - Pre_Amplifier Gain(dB)$

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

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

"---": denotes Noise Floor.

24120.00

Η

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
53.28	S	Peak	27.70	-13.16	14.54	40.00	-25.46
168.71	S	Peak	26.79	-12.90	13.89	43.50	-29.61
275.41	S	Peak	26.27	-11.72	14.55	46.00	-31.45
482.99	S	Peak	27.82	-7.73	20.09	46.00	-25.91
678.93	S	Peak	27.51	-3.70	23.81	46.00	-22.19
969.93	S	Peak	28.20	0.17	28.37	54.00	-25.63
4824.00	Н	Average	25.40	6.89	32.29	54.00	-21.71
4824.00	Н	Peak	37.32	6.89	44.21	74.00	-29.79
7236.00	Н						
9648.00	Н						
12060.00	Н						
14472.00	Н						
16884.00	Н						
19296.00	Н						
21708.00	Н						

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.



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Operation Band	:802.11 g	Test Date	:2014-03-20
Fundamental Frequency	:2412 MHz	Temp./Humi.	:21deg_C/59RH
Operation Mode	:TX LOW	Engineer	:Curry
EUT Pol.	:H Plane	Measurement Antenna Pol.	:HORIZONTAL

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

 $Factor(dB) = Antenna Factor(dB\mu V/m) + Cable Loss(dB) - Pre_Amplifier Gain(dB)$

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

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

"---": denotes Noise Floor.

24120.00

Η

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
48.43	S	Peak	26.61	-12.97	13.64	40.00	-26.36
158.04	S	Peak	26.61	-12.66	13.95	43.50	-29.55
274.44	S	Peak	25.82	-11.76	14.06	46.00	-31.94
475.23	S	Peak	27.88	-7.81	20.07	46.00	-25.93
684.75	S	Peak	26.99	-3.67	23.32	46.00	-22.68
951.50	S	Peak	28.03	0.18	28.21	46.00	-17.79
4824.00	Н	Average	24.64	6.89	31.53	54.00	-22.47
4824.00	Н	Peak	37.04	6.89	43.93	74.00	-30.07
7236.00	Н						
9648.00	Н						
12060.00	Н						
14472.00	Н						
16884.00	Н						
19296.00	Н						
21708.00	Н						

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.



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Operation Band	:802.11 g	Test Date	:2014-03-20
Fundamental Frequency	:2437 MHz	Temp./Humi.	:21deg_C/59RH
Operation Mode	:TX MID	Engineer	:Curry
EUT Pol.	:H Plane	Measurement Antenna Pol.	:VERTICAL

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

 $Factor(dB) = Antenna Factor(dB\mu V/m) + Cable Loss(dB) - Pre_Amplifier Gain(dB)$

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

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

"---": denotes Noise Floor.

24370.00

Η

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
99.84	S	Peak	33.46	-17.86	15.60	43.50	-27.90
159.98	S	Peak	26.41	-12.63	13.78	43.50	-29.72
243.40	S	Peak	27.73	-13.15	14.58	46.00	-31.42
468.44	S	Peak	28.17	-7.90	20.27	46.00	-25.73
681.84	S	Peak	27.36	-3.66	23.70	46.00	-22.30
961.20	S	Peak	27.85	0.21	28.06	54.00	-25.94
4874.00	Н	Average	25.37	6.96	32.33	54.00	-21.67
4874.00	Н	Peak	37.69	6.96	44.65	74.00	-29.35
7311.00	Н						
9748.00	Н						
12185.00	Н						
14622.00	Н						
17059.00	Н						
19496.00	Н						
21933.00	Н						

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.



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Operation Band	:802.11 g	Test Date	:2014-03-20
Fundamental Frequency	:2437 MHz	Temp./Humi.	:21deg_C/59RH
Operation Mode	:TX MID	Engineer	:Curry
EUT Pol.	:H Plane	Measurement Antenna Pol.	:HORIZONTAL

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

 $Factor(dB) = Antenna Factor(dB\mu V/m) + Cable Loss(dB) - Pre_Amplifier Gain(dB)$

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

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

"---": denotes Noise Floor.

24370.00

Η

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
50.37	S	Peak	26.47	-12.96	13.51	40.00	-26.49
170.65	S	Peak	27.28	-12.99	14.29	43.50	-29.21
275.41	S	Peak	25.48	-11.72	13.76	46.00	-32.24
490.75	S	Peak	28.45	-7.68	20.77	46.00	-25.23
680.87	S	Peak	28.00	-3.66	24.34	46.00	-21.66
995.15	S	Peak	28.06	0.32	28.38	54.00	-25.62
4874.00	Н	Average	24.62	6.96	31.58	54.00	-22.42
4874.00	Н	Peak	37.09	6.96	44.05	74.00	-29.95
7311.00	Н						
9748.00	Н						
12185.00	Н						
14622.00	Н						
17059.00	Н						
19496.00	Н						
21933.00	Н						

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.



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Operation Band	:802.11 g	Test Date	:2014-03-20
Fundamental Frequency	:2462 MHz	Temp./Humi.	:21deg_C/59RH
Operation Mode	:TX HIGH	Engineer	:Curry
EUT Pol.	:H Plane	Measurement Antenna Pol.	:VERTICAL

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

 $Factor(dB) = Antenna Factor(dB\mu V/m) + Cable Loss(dB) - Pre_Amplifier Gain(dB)$

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

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

"---": denotes Noise Floor.

24620.00

Η

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
57.16	S	Peak	27.49	-13.41	14.08	40.00	-25.92
173.56	S	Peak	27.14	-13.26	13.88	43.50	-29.62
274.44	S	Peak	26.91	-11.76	15.15	46.00	-30.85
476.20	S	Peak	28.04	-7.80	20.24	46.00	-25.76
684.75	S	Peak	27.54	-3.67	23.87	46.00	-22.13
936.95	S	Peak	28.45	0.00	28.45	46.00	-17.55
4924.00	Н	Average	25.11	7.01	32.12	54.00	-21.88
4924.00	Н	Peak	37.23	7.01	44.24	74.00	-29.76
7386.00	Н						
9848.00	Н						
12310.00	Н						
14772.00	Н						
17234.00	Н						
19696.00	Н						
22158.00	Н						

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.



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Operation Band	:802.11 g	Test Date	:2014-03-20
Fundamental Frequency	:2462 MHz	Temp./Humi.	:21deg_C/59RH
Operation Mode	:TX HIGH	Engineer	:Curry
EUT Pol.	:H Plane	Measurement Antenna Pol.	:HORIZONTAL

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

 $Factor(dB) = Antenna Factor(dB\mu V/m) + Cable Loss(dB) - Pre_Amplifier Gain(dB)$

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

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

"---": denotes Noise Floor.

24620.00

Η

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
48.43	S	Peak	26.68	-12.97	13.71	40.00	-26.29
160.95	S	Peak	26.81	-12.66	14.15	43.50	-29.35
275.41	S	Peak	25.94	-11.72	14.22	46.00	-31.78
480.08	S	Peak	28.49	-7.75	20.74	46.00	-25.26
678.93	S	Peak	27.82	-3.70	24.12	46.00	-21.88
906.88	S	Peak	28.33	-0.60	27.73	46.00	-18.27
4924.00	Н	Average	23.57	7.01	30.58	54.00	-23.42
4924.00	Н	Peak	37.25	7.01	44.26	74.00	-29.74
7386.00	Н						
9848.00	Н						
12310.00	Н						
14772.00	Н						
17234.00	Н						
19696.00	Н						
22158.00	Н						

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.



Radiated Spurious Emission Measurement Result (802.11n_20M)

Operation Band	:802.11 n20M	Test Date	:2014-03-20
Fundamental Frequency	:2412 MHz	Temp./Humi.	:21deg_C/59RH
Operation Mode	:TX LOW	Engineer	:Curry
EUT Pol.	:H Plane	Measurement Antenna Pol.	:VERTICAL

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

 $Factor(dB) = Antenna Factor(dB\mu V/m) + Cable Loss(dB) - Pre_Amplifier Gain(dB)$

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

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

"---": denotes Noise Floor.

24120.00

Η

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
99.84	S	Peak	32.34	-17.86	14.48	43.50	-29.02
160.95	S	Peak	26.54	-12.66	13.88	43.50	-29.62
272.50	S	Peak	26.78	-11.85	14.93	46.00	-31.07
486.87	S	Peak	28.16	-7.71	20.45	46.00	-25.55
683.78	S	Peak	26.89	-3.67	23.22	46.00	-22.78
957.32	S	Peak	28.24	0.20	28.44	46.00	-17.56
4824.00	Н	Average	25.62	6.89	32.51	54.00	-21.49
4824.00	Н	Peak	36.82	6.89	43.71	74.00	-30.29
7236.00	Н						
9648.00	Н						
12060.00	Н						
14472.00	Н						
16884.00	Н						
19296.00	Н						
21708.00	Н						

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.



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Operation Band	:802.11 n20M	Test Date	:2014-03-20
Fundamental Frequency	:2412 MHz	Temp./Humi.	:21deg_C/59RH
Operation Mode	:TX LOW	Engineer	:Curry
EUT Pol.	:H Plane	Measurement Antenna Pol.	:HORIZONTAL

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

 $Factor(dB) = Antenna Factor(dB\mu V/m) + Cable Loss(dB) - Pre_Amplifier Gain(dB)$

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

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

"---": denotes Noise Floor.

24120.00

Η

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
51.34	S	Peak	26.93	-13.03	13.90	40.00	-26.10
154.16	S	Peak	27.06	-12.73	14.33	43.50	-29.17
275.41	S	Peak	26.21	-11.72	14.49	46.00	-31.51
482.99	S	Peak	28.24	-7.73	20.51	46.00	-25.49
651.77	S	Peak	27.50	-4.57	22.93	46.00	-23.07
952.47	S	Peak	28.00	0.18	28.18	46.00	-17.82
4824.00	Н	Average	24.31	6.89	31.20	54.00	-22.80
4824.00	Н	Peak	37.83	6.89	44.72	74.00	-29.28
7236.00	Н						
9648.00	Н						
12060.00	Н						
14472.00	Н						
16884.00	Н						
19296.00	Н						
21708.00	Н						

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.



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Operation Band	:802.11 n20M	Test Date	:2014-03-20
Fundamental Frequency	:2437 MHz	Temp./Humi.	:21deg_C/59RH
Operation Mode	:TX MID	Engineer	:Curry
EUT Pol.	:H Plane	Measurement Antenna Pol.	:VERTICAL

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

 $Factor(dB) = Antenna Factor(dB\mu V/m) + Cable Loss(dB) - Pre_Amplifier Gain(dB)$

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

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

"---": denotes Noise Floor.

24370.00

Η

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
51.34	S	Peak	26.13	-13.03	13.10	40.00	-26.90
150.28	S	Peak	26.94	-12.79	14.15	43.50	-29.35
272.50	S	Peak	26.37	-11.85	14.52	46.00	-31.48
454.86	S	Peak	28.61	-8.26	20.35	46.00	-25.65
691.54	S	Peak	27.45	-3.76	23.69	46.00	-22.31
943.74	S	Peak	27.98	0.10	28.08	46.00	-17.92
4874.00	Н	Average	25.73	6.96	32.69	54.00	-21.31
4874.00	Н	Peak	36.18	6.96	43.14	74.00	-30.86
7311.00	Н						
9748.00	Н						
12185.00	Н						
14622.00	Н						
17059.00	Н						
19496.00	Н						
21933.00	Н						

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.



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Operation Band	:802.11 n20M	Test Date	:2014-03-20
Fundamental Frequency	:2437 MHz	Temp./Humi.	:21deg_C/59RH
Operation Mode	:TX MID	Engineer	:Curry
EUT Pol.	:H Plane	Measurement Antenna Pol.	:HORIZONTAL

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

 $Factor(dB) = Antenna Factor(dB\mu V/m) + Cable Loss(dB) - Pre_Amplifier Gain(dB)$

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

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

"---": denotes Noise Floor.

24370.00

Η

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
52.31	S	Peak	26.27	-13.09	13.18	40.00	-26.82
148.34	S	Peak	27.18	-12.86	14.32	43.50	-29.18
273.47	S	Peak	26.93	-11.81	15.12	46.00	-30.88
536.34	S	Peak	28.54	-7.59	20.95	46.00	-25.05
685.72	S	Peak	26.56	-3.69	22.87	46.00	-23.13
912.70	S	Peak	28.47	-0.44	28.03	46.00	-17.97
4874.00	Н	Average	24.11	6.96	31.07	54.00	-22.93
4874.00	Н	Peak	38.15	6.96	45.11	74.00	-28.89
7311.00	Н						
9748.00	Н						
12185.00	Н						
14622.00	Н						
17059.00	Н						
19496.00	Н						
21933.00	Н						

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.



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Operation Band	:802.11 n20M	Test Date	:2014-03-20
Fundamental Frequency	:2462 MHz	Temp./Humi.	:21deg_C/59RH
Operation Mode	:TX HIGH	Engineer	:Curry
EUT Pol.	:H Plane	Measurement Antenna Pol.	:VERTICAL

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

 $Factor(dB) = Antenna Factor(dB\mu V/m) + Cable Loss(dB) - Pre_Amplifier Gain(dB)$

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

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

"---": denotes Noise Floor.

24620.00

Η

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
99.84	S	Peak	33.01	-17.86	15.15	43.50	-28.35
162.89	S	Peak	26.68	-12.72	13.96	43.50	-29.54
276.38	S	Peak	27.33	-11.68	15.65	46.00	-30.35
474.26	S	Peak	28.32	-7.82	20.50	46.00	-25.50
509.18	S	Peak	28.76	-7.45	21.31	46.00	-24.69
682.81	S	Peak	26.98	-3.67	23.31	46.00	-22.69
4924.00	Н	Average	24.37	7.01	31.38	54.00	-22.62
4924.00	Н	Peak	36.26	7.01	43.27	74.00	-30.73
7386.00	Н						
9848.00	Н						
12310.00	Н						
14772.00	Н						
17234.00	Н						
19696.00	Н						
22158.00	Н						

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.



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Operation Band	:802.11 n20M	Test Date	:2014-03-20
Fundamental Frequency	:2462 MHz	Temp./Humi.	:21deg_C/59RH
Operation Mode	:TX HIGH	Engineer	:Curry
EUT Pol.	:H Plane	Measurement Antenna Pol.	:HORIZONTAL

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

 $Factor(dB) = Antenna Factor(dB\mu V/m) + Cable Loss(dB) - Pre_Amplifier Gain(dB)$

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

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

"---": denotes Noise Floor.

24620.00

Η

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
61.04	S	Peak	27.97	-13.77	14.20	40.00	-25.80
153.19	S	Peak	26.74	-12.74	14.00	43.50	-29.50
274.44	S	Peak	25.61	-11.76	13.85	46.00	-32.15
489.78	S	Peak	29.08	-7.70	21.38	46.00	-24.62
719.67	S	Peak	27.86	-4.26	23.60	46.00	-22.40
951.50	S	Peak	27.75	0.18	27.93	46.00	-18.07
4924.00	Н	Average	23.61	7.01	30.62	54.00	-23.38
4924.00	Н	Peak	37.04	7.01	44.05	74.00	-29.95
7386.00	Н						
9848.00	Н						
12310.00	Н						
14772.00	Н						
17234.00	Н						
19696.00	Н						
22158.00	Н						

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.



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Radiated Spurious Emission Measurement Result (802.11a)

Operation Band	:802.11 a	Test Date	:2014-03-20
Fundamental Frequency	:5745 MHz	Temp./Humi.	:22.7 deg_C / 67 RH
Operation Mode	:TX LOW	Engineer	:Curry
EUT Pol.	:H Plane	Measurement Antenna Pol.	:VERTICAL

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

 $Factor(dB) = Antenna Factor(dB\mu V/m) + Cable Loss(dB) - Pre_Amplifier Gain(dB)$

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

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

"---": denotes Noise Floor.

34470.00

Η

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
62.01	S	Peak	27.52	-13.97	13.55	40.00	-26.45
164.83	S	Peak	27.14	-12.78	14.36	43.50	-29.14
362.71	S	Peak	27.78	-9.96	17.82	46.00	-28.18
559.62	S	Peak	28.45	-6.72	21.73	46.00	-24.27
755.56	S	Peak	28.33	-2.69	25.64	46.00	-20.36
927.25	S	Peak	27.98	-0.17	27.81	46.00	-18.19
11490.00	Н	Average	23.12	17.78	40.90	54.00	-13.10
11490.00	Н	Peak	25.25	17.78	43.03	74.00	-30.97
17235.00	Н						
22980.00	Н						
28725.00	Н						

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.



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Operation Band	:802.11 a	Test Date	:2014-03-20
Fundamental Frequency	:5745 MHz	Temp./Humi.	:22.7 deg_C / 67 RH
Operation Mode	:TX LOW	Engineer	:Curry
EUT Pol.	:H Plane	Measurement Antenna Pol.	:HORIZONTAL

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

 $Factor(dB) = Antenna Factor(dB\mu V/m) + Cable Loss(dB) - Pre_Amplifier Gain(dB)$

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

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

"---": denotes Noise Floor.

34470.00

Η

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
41.64	S	Peak	27.57	-13.32	14.25	40.00	-25.75
141.55	S	Peak	26.97	-13.10	13.87	43.50	-29.63
286.08	S	Peak	27.77	-11.47	16.30	46.00	-29.70
483.96	S	Peak	28.59	-7.73	20.86	46.00	-25.14
680.87	S	Peak	28.80	-3.66	25.14	46.00	-20.86
831.22	S	Peak	28.75	-2.21	26.54	46.00	-19.46
11490.00	Н	Average	22.48	17.78	40.26	54.00	-13.74
11490.00	Н	Peak	26.38	17.78	44.16	74.00	-29.84
17235.00	Н						
22980.00	Н						
28725.00	Н						

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.



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Operation Band	:802.11 a	Test Date	:2014-03-20
Fundamental Frequency	:5785 MHz	Temp./Humi.	:22.7 deg_C / 67 RH
Operation Mode	:TX MID	Engineer	:Curry
EUT Pol.	:H Plane	Measurement Antenna Pol.	:VERTICAL

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

 $Factor(dB) = Antenna Factor(dB\mu V/m) + Cable Loss(dB) - Pre_Amplifier Gain(dB)$

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

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

"---": denotes Noise Floor.

34710.00

Η

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
44.55	S	Peak	27.42	-13.11	14.31	40.00	-25.69
253.10	S	Peak	27.00	-12.84	14.16	46.00	-31.84
406.36	S	Peak	27.09	-9.00	18.09	46.00	-27.91
588.72	S	Peak	28.17	-5.12	23.05	46.00	-22.95
773.99	S	Peak	28.17	-2.82	25.35	46.00	-20.65
923.37	S	Peak	27.37	-0.24	27.13	46.00	-18.87
11570.00	Н	Average	23.64	17.66	41.30	54.00	-12.70
11570.00	Н	Peak	25.83	17.66	43.49	74.00	-30.51
17355.00	Н						
23140.00	Н						
28925.00	Н						

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.



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Operation Band	:802.11 a	Test Date	:2014-03-20
Fundamental Frequency	:5785 MHz	Temp./Humi.	:22.7 deg_C / 67 RH
Operation Mode	:TX MID	Engineer	:Curry
EUT Pol.	:H Plane	Measurement Antenna Pol.	:HORIZONTAL

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

 $Factor(dB) = Antenna Factor(dB\mu V/m) + Cable Loss(dB) - Pre_Amplifier Gain(dB)$

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

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

"---": denotes Noise Floor.

34710.00

Η

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
45.52	S	Peak	27.14	-13.07	14.07	40.00	-25.93
159.98	S	Peak	26.37	-12.63	13.74	43.50	-29.76
293.84	S	Peak	26.73	-11.36	15.37	46.00	-30.63
424.79	S	Peak	27.18	-8.96	18.22	46.00	-27.78
653.71	S	Peak	29.45	-4.51	24.94	46.00	-21.06
842.86	S	Peak	27.09	-2.10	24.99	46.00	-21.01
11570.00	Н	Average	22.48	17.66	40.14	54.00	-13.86
11570.00	Н	Peak	26.12	17.66	43.78	74.00	-30.22
17355.00	Н						
23140.00	Н						
28925.00	Н						

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.



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Operation Band	:802.11 a	Test Date	:2014-03-20
Fundamental Frequency	:5825 MHz	Temp./Humi.	:22.7 deg_C / 67 RH
Operation Mode	:TX HIGH	Engineer	:Curry
EUT Pol.	:H Plane	Measurement Antenna Pol.	:VERTICAL

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

 $Factor(dB) = Antenna Factor(dB\mu V/m) + Cable Loss(dB) - Pre_Amplifier Gain(dB)$

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

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

"---": denotes Noise Floor.

34950.00

Η

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
57.16	S	Peak	27.82	-13.41	14.41	40.00	-25.59
150.28	S	Peak	27.47	-12.79	14.68	43.50	-28.82
391.81	S	Peak	27.07	-9.35	17.72	46.00	-28.28
585.81	S	Peak	27.85	-5.17	22.68	46.00	-23.32
757.50	S	Peak	27.67	-2.70	24.97	46.00	-21.03
920.46	S	Peak	27.76	-0.29	27.47	46.00	-18.53
11650.00	Н	Average	23.18	17.87	41.05	54.00	-12.95
11650.00	Н	Peak	25.33	17.87	43.20	74.00	-30.80
17475.00	Н						
23300.00	Н						
29125.00	Н						

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.



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Operation Band	:802.11 a	Test Date	:2014-03-20
Fundamental Frequency	:5825 MHz	Temp./Humi.	:22.7 deg_C / 67 RH
Operation Mode	:TX HIGH	Engineer	:Curry
EUT Pol.	:H Plane	Measurement Antenna Pol.	:HORIZONTAL

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

 $Factor(dB) = Antenna Factor(dB\mu V/m) + Cable Loss(dB) - Pre_Amplifier Gain(dB)$

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

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

"---": denotes Noise Floor.

34950.00

Η

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
53.28	S	Peak	27.42	-13.16	14.26	40.00	-25.74
152.22	S	Peak	27.29	-12.76	14.53	43.50	-28.97
471.35	S	Peak	29.28	-7.85	21.43	46.00	-24.57
574.17	S	Peak	28.45	-5.62	22.83	46.00	-23.17
769.14	S	Peak	28.37	-2.83	25.54	46.00	-20.46
943.74	S	Peak	28.36	0.10	28.46	46.00	-17.54
11650.00	Н	Average	23.05	17.87	40.92	54.00	-13.08
11650.00	Н	Peak	25.13	17.87	43.00	74.00	-31.00
17475.00	Н						
23300.00	Н						
29125.00	Н						

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.



17235.00

22980.00

28725.00

34470.00

Η

Η

Η

Η

FCC ID: PY7PM-0730

-				(002.1111 (301)	(Z)_201VI)	2014 02 20	
Operation Ban		:802.11 n20N		Fest Date		:2014-03-20	
Fundamental I	· ·	:5745 MHz		Γemp./Humi.		:22.7 deg_C /	67 RH
Operation Mo	de	:TX LOW	1	Engineer		:Curry	
EUT Pol.		:H Plane	I	Measurement An	tenna Pol.	:VERTICAL	
Actual FS(dBµ'	V/m) = SPA.	Reading level(dI	$B\mu V$) + Factor(dB	3)			
Factor(dB) = At	ntenna Factor($dB\mu V/m) + Cab$	ole Loss(dB) – Pro	e_Amplifier Gain(dB)		
Note : "F" : •	denotes Fundai	mental Frequency	y. ; "H" : denotes I	Harmonic Frequenc	у.		
"E"	: denotes Band	Edge Frequency.	; "S" : denotes Sp	ourious Frequency.			
دد	" : denotes Noi	se Floor.					
Freq.	Note	Detector	Spectrum	Factor	Actual	Limit	Margin
		Mode	Reading Leve	1	FS	@3m	
MHz	F/H/E/S	PK/QP/AV	dBµV	dB	dBµV/m	dBµV/m	dB
49.40	S	Peak	27.07	-12.95	14.12	40.00	-25.88
161.92	S	Peak	27.28	-12.69	14.59	43.50	-28.91
380.17	S	Peak	26.96	-9.57	17.39	46.00	-28.61
601.33	S	Peak	28.24	-5.56	22.68	46.00	-23.32
817.64	S	Peak	28.16	-2.14	26.02	46.00	-19.98
942.77	S	Peak	27.21	0.08	27.29	46.00	-18.71
11490.00	Н	Average	23.48	17.78	41.26	54.00	-12.74
11490.00	Н	Peak	25.41	17.78	43.19	74.00	-30.81

Radiated Spurious Emission Measurement Result (802.11n (5GHz) 20M)

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.



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Operation Band	:802.11 n20M	Test Date	:2014-03-20
Fundamental Frequency	:5745 MHz	Temp./Humi.	:22.7 deg_C / 67 RH
Operation Mode	:TX LOW	Engineer	:Curry
EUT Pol.	:H Plane	Measurement Antenna Pol.	:HORIZONTAL

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

 $Factor(dB) = Antenna Factor(dB\mu V/m) + Cable Loss(dB) - Pre_Amplifier Gain(dB)$

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

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

"---": denotes Noise Floor.

34470.00

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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
48.43	S	Peak	27.27	-12.97	14.30	40.00	-25.70
138.64	S	Peak	26.93	-13.29	13.64	43.50	-29.86
316.15	S	Peak	27.60	-10.99	16.61	46.00	-29.39
473.29	S	Peak	28.34	-7.83	20.51	46.00	-25.49
788.54	S	Peak	28.51	-2.54	25.97	46.00	-20.03
937.92	S	Peak	28.01	0.01	28.02	46.00	-17.98
11490.00	Н	Average	22.45	17.78	40.23	54.00	-13.77
11490.00	Н	Peak	26.32	17.78	44.10	74.00	-29.90
17235.00	Н						
22980.00	Н						
28725.00	Н						

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.: EH/2014/10069 Issue Date: Mar. 21, 2014 Page: 135 of 247

Operation Band	:802.11 n20M	Test Date	:2014-03-20
Fundamental Frequency	:5785 MHz	Temp./Humi.	:22.7 deg_C / 67 RH
Operation Mode	:TX MID	Engineer	:Curry
EUT Pol.	:H Plane	Measurement Antenna Pol.	:VERTICAL

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

 $Factor(dB) = Antenna Factor(dB\mu V/m) + Cable Loss(dB) - Pre_Amplifier Gain(dB)$

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

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

"---": denotes Noise Floor.

34710.00

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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
52.31	S	Peak	26.56	-13.09	13.47	40.00	-26.53
153.19	S	Peak	27.37	-12.74	14.63	43.50	-28.87
419.94	S	Peak	27.03	-8.92	18.11	46.00	-27.89
647.89	S	Peak	27.53	-4.71	22.82	46.00	-23.18
813.76	S	Peak	27.47	-2.14	25.33	46.00	-20.67
939.86	S	Peak	27.15	0.05	27.20	46.00	-18.80
11570.00	Н	Average	23.37	17.66	41.03	54.00	-12.97
11570.00	Н	Peak	25.81	17.66	43.47	74.00	-30.53
17355.00	Н						
23140.00	Н						
28925.00	Н						

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.: EH/2014/10069 Issue Date: Mar. 21, 2014 Page: 136 of 247

Operation Band	:802.11 n20M	Test Date	:2014-03-20
Fundamental Frequency	:5785 MHz	Temp./Humi.	:22.7 deg_C / 67 RH
Operation Mode	:TX MID	Engineer	:Curry
EUT Pol.	:H Plane	Measurement Antenna Pol.	:HORIZONTAL

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

 $Factor(dB) = Antenna Factor(dB\mu V/m) + Cable Loss(dB) - Pre_Amplifier Gain(dB)$

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

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

"---": denotes Noise Floor.

34710.00

Η

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
54.25	S	Peak	26.48	-13.22	13.26	40.00	-26.74
154.16	S	Peak	27.17	-12.73	14.44	43.50	-29.06
300.63	S	Peak	26.07	-11.22	14.85	46.00	-31.15
523.73	S	Peak	27.61	-7.47	20.14	46.00	-25.86
715.79	S	Peak	27.65	-4.29	23.36	46.00	-22.64
858.38	S	Peak	27.94	-1.64	26.30	46.00	-19.70
11570.00	Н	Average	22.74	17.66	40.40	54.00	-13.60
11570.00	Н	Peak	25.94	17.66	43.60	74.00	-30.40
17355.00	Н						
23140.00	Н						
28925.00	Н						

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.: EH/2014/10069 Issue Date: Mar. 21, 2014 Page: 137 of 247

Operation Band	:802.11 n20M	Test Date	:2014-03-20
Fundamental Frequency	:5825 MHz	Temp./Humi.	:22.7 deg_C / 67 RH
Operation Mode	:TX HIGH	Engineer	:Curry
EUT Pol.	:H Plane	Measurement Antenna Pol.	:VERTICAL

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

 $Factor(dB) = Antenna Factor(dB\mu V/m) + Cable Loss(dB) - Pre_Amplifier Gain(dB)$

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

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

"---": denotes Noise Floor.

34950.00

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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
52.31	S	Peak	27.65	-13.09	14.56	40.00	-25.44
156.10	S	Peak	27.43	-12.70	14.73	43.50	-28.77
385.02	S	Peak	26.85	-9.47	17.38	46.00	-28.62
556.71	S	Peak	28.49	-6.91	21.58	46.00	-24.42
756.53	S	Peak	27.22	-2.69	24.53	46.00	-21.47
858.38	S	Peak	27.26	-1.64	25.62	46.00	-20.38
11650.00	Н	Average	22.98	17.87	40.85	54.00	-13.15
11650.00	Н	Peak	25.62	17.87	43.49	74.00	-30.51
17475.00	Н						
23300.00	Н						
29125.00	Н						

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.: EH/2014/10069 Issue Date: Mar. 21, 2014 Page: 138 of 247

Operation Band	:802.11 n20M	Test Date	:2014-03-20
Fundamental Frequency	:5825 MHz	Temp./Humi.	:22.7 deg_C / 67 RH
Operation Mode	:TX HIGH	Engineer	:Curry
EUT Pol.	:H Plane	Measurement Antenna Pol.	:HORIZONTAL

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

 $Factor(dB) = Antenna Factor(dB\mu V/m) + Cable Loss(dB) - Pre_Amplifier Gain(dB)$

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

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

"---": denotes Noise Floor.

34950.00

Η

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
47.46	S	Peak	27.03	-13.00	14.03	40.00	-25.97
154.16	S	Peak	26.96	-12.73	14.23	43.50	-29.27
353.01	S	Peak	26.82	-10.16	16.66	46.00	-29.34
608.12	S	Peak	27.94	-5.83	22.11	46.00	-23.89
800.18	S	Peak	26.87	-2.29	24.58	46.00	-21.42
938.89	S	Peak	27.78	0.03	27.81	46.00	-18.19
11650.00	S	Average	22.76	17.87	40.63	54.00	-13.37
11650.00	Н	Peak	25.68	17.87	43.55	74.00	-30.45
17475.00	Н						
23300.00	Н						
29125.00	Н						

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.



17265.00

23020.00

28775.00

34530.00

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FCC ID: PY7PM-0730

Operation Ban		:802.11 n40N		est Date	L2)_40101)	:2014-03-20	
Fundamental F		:5755 MHz		emp./Humi.		:2014-03-20 :22.7 deg_C /	67 RH
Operation Mod		:TX LOW		igineer		:Curry	07 101
EUT Pol.		:H Plane		easurement An	itenna Pol.	:VERTICAL	
Actual FS(dBµV	V/m = SPA.	Reading level(dB	$B\mu V$) + Factor(dB)				
Factor(dB) = Ar	ntenna Factor($dB\mu V/m) + Cab$	le Loss(dB) – Pre_	Amplifier Gain((dB)		
Note : " F " : c	lenotes Funda	mental Frequency	y. ; "H" : denotes Ha	armonic Frequenc	y.		
"E"	: denotes Band	Edge Frequency.	; "S" : denotes Spur	rious Frequency			
•د٥	': denotes Noi	se Floor.					
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
52.31	S	Peak	27.31	-13.09	14.22	40.00	-25.78
52.31 155.13	S S	Peak Peak	27.31 26.35	-13.09 -12.71	14.22 13.64	40.00 43.50	-25.78 -29.86
155.13	S	Peak	26.35	-12.71	13.64	43.50	-29.86
155.13 401.51	S S	Peak Peak	26.35 27.46	-12.71 -9.12	13.64 18.34	43.50 46.00	-29.86 -27.66
155.13 401.51 638.19	S S S	Peak Peak Peak	26.35 27.46 27.50	-12.71 -9.12 -5.12	13.64 18.34 22.38	43.50 46.00 46.00	-29.86 -27.66 -23.62
155.13 401.51 638.19 744.89	S S S	Peak Peak Peak Peak	26.35 27.46 27.50 27.33	-12.71 -9.12 -5.12 -2.92	13.64 18.34 22.38 24.41	43.50 46.00 46.00 46.00	-29.86 -27.66 -23.62 -21.59

Radiated Spurious Emission Measurement Result (802.11n (5GHz) 40M)

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.: EH/2014/10069 Issue Date: Mar. 21, 2014 Page: 140 of 247

Operation Band	:802.11 n40M	Test Date	:2014-03-20
Fundamental Frequency	:5755 MHz	Temp./Humi.	:22.7 deg_C / 67 RH
Operation Mode	:TX LOW	Engineer	:Curry
EUT Pol.	:H Plane	Measurement Antenna Pol.	:HORIZONTAL

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

 $Factor(dB) = Antenna Factor(dB\mu V/m) + Cable Loss(dB) - Pre_Amplifier Gain(dB)$

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

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

"---": denotes Noise Floor.

34530.00

Η

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
52.31	S	Peak	27.19	-13.09	14.10	40.00	-25.90
148.34	S	Peak	26.90	-12.86	14.04	43.50	-29.46
301.60	S	Peak	26.56	-11.19	15.37	46.00	-30.63
482.99	S	Peak	27.91	-7.73	20.18	46.00	-25.82
649.83	S	Peak	27.13	-4.63	22.50	46.00	-23.50
854.50	S	Peak	27.45	-1.77	25.68	46.00	-20.32
11510.00	Н	Average	23.12	17.78	40.90	54.00	-13.10
11510.00	Н	Peak	25.89	17.78	43.67	74.00	-30.33
17265.00	Н						
23020.00	Н						
28775.00	Н						

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.: EH/2014/10069 Issue Date: Mar. 21, 2014 Page: 141 of 247

Operation Band	:802.11 n40M	Test Date	:2014-03-20
Fundamental Frequency	:5795 MHz	Temp./Humi.	:22.7 deg_C / 67 RH
Operation Mode	:TX HIGH	Engineer	:Curry
EUT Pol.	:H Plane	Measurement Antenna Pol.	:VERTICAL

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

 $Factor(dB) = Antenna Factor(dB\mu V/m) + Cable Loss(dB) - Pre_Amplifier Gain(dB)$

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

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

"---": denotes Noise Floor.

34770.00

Η

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
52.31	S	Peak	26.83	-13.09	13.74	40.00	-26.26
158.04	S	Peak	27.04	-12.66	14.38	43.50	-29.12
382.11	S	Peak	27.77	-9.53	18.24	46.00	-27.76
515.97	S	Peak	28.73	-7.44	21.29	46.00	-24.71
852.56	S	Peak	28.25	-1.82	26.43	46.00	-19.57
924.34	S	Peak	26.35	-0.21	26.14	46.00	-19.86
11590.00	Н	Average	23.44	17.74	41.18	54.00	-12.82
11590.00	Н	Peak	25.45	17.74	43.19	74.00	-30.81
17385.00	Н						
23180.00	Н						
28975.00	Н						

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.: EH/2014/10069 Issue Date: Mar. 21, 2014 Page: 142 of 247

Operation Band	:802.11 n40M	Test Date	:2014-03-20
Fundamental Frequency	:5795 MHz	Temp./Humi.	:22.7 deg_C / 67 RH
Operation Mode	:TX HIGH	Engineer	:Curry
EUT Pol.	:H Plane	Measurement Antenna Pol.	:HORIZONTAL

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

 $Factor(dB) = Antenna Factor(dB\mu V/m) + Cable Loss(dB) - Pre_Amplifier Gain(dB)$

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

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

"---": denotes Noise Floor.

34770.00

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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
54.25	S	Peak	27.05	-13.22	13.83	40.00	-26.17
146.40	S	Peak	27.45	-12.93	14.52	43.50	-28.98
369.50	S	Peak	28.12	-9.80	18.32	46.00	-27.68
642.07	S	Peak	27.94	-4.95	22.99	46.00	-23.01
824.43	S	Peak	27.49	-2.17	25.32	46.00	-20.68
922.40	S	Peak	27.01	-0.26	26.75	46.00	-19.25
11590.00	Н	Average	22.37	17.74	40.11	54.00	-13.89
11590.00	Н	Peak	25.46	17.74	43.20	74.00	-30.80
17385.00	Н						
23180.00	Н						
28975.00	Н						

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.

11 PEAK POWER SPECTRAL DENSITY

11.1 Standard Applicable:

According to §15.247(e) For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8dBm in any 3 kHz band during any time interval of continuous transmission. This power spectral density shall be determined in accordance with the provisions of paragraph (b) of this section. The same method of determining the conducted output power shall be used to determine the power spectral density.

11.2 Measurement Equipment Used:

Refer to section 7.2 for details.

11.3 Test Set-up:

Refer to section 7.3 for details. (Spectrum Option)

11.4 Measurement Procedure (following the measurement procedure 10.2 of KDB558074):

1. Set analyzer center frequency to DTS channel center frequency.

- 2. Set the span to 1.5 times the DTS channel bandwidth.
- 3. Set the RBW \geq 3 kHz.
- 4. Set the VBW > 3 x RBW.
- 5. Detector = peak.
- 6. Sweep time = auto couple.
- 7. Trace mode = max hold.
- 8. Allow trace to fully stabilize.
- 9. Use the peak marker function to determine the maximum amplitude level.
- 10. If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.

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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.



11.5 Measurement Result:

802.11b

Frequency	RF Power Density	Maximum Limit
MHz	Reading (dBm)	(dBm)
2412	-4.03	8
2437	-3.82	8
2462	-4.22	8

802.11g

Frequency	RF Power Density	Maximum Limit
MHz	Reading (dBm)	(dBm)
2412	-10.04	8
2437	-9.04	8
2462	-9.92	8

802.11n 20M

Frequency	RF Power Density	Maximum Limit
MHz	Reading (dBm)	(dBm)
2412	-12.52	8
2437	-12.37	8
2462	-12.01	8

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.



802.11a

Frequency	RF Power Density	Maximum Limit
MHz	Reading (dBm)	(dBm)
5745	-10.42	8
5785	-12.06	8
5825	-10.66	8

802.11n (5GHz)_20M

Frequency	RF Power Density	Maximum Limit
MHz	Reading (dBm)	(dBm)
5745	-13.29	8
5785	-12.93	8
5825	-14.42	8

802.11n (5GHz)_40M

Frequency	RF Power Density	Maximum Limit
MHz	Reading (dBm)	(dBm)
5755	-18.58	8
5795	-17.87	8

* Note: Offset 10.8dB for 2.4G 802.11b/g/n_20; Offset 11.8dB for 5G 802.11a/n_20/n_40.

*Refer to next page for plots

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.

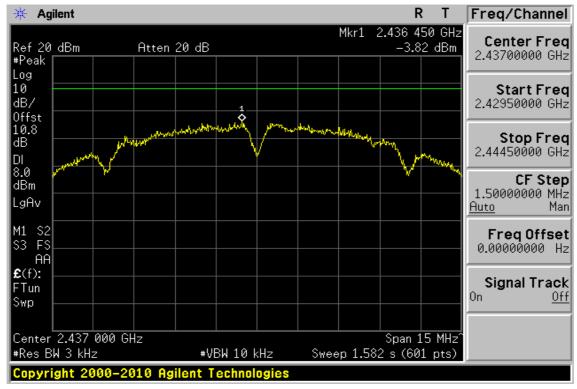
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802.11b **Power Spectral Density Test Plot (CH-Low)**



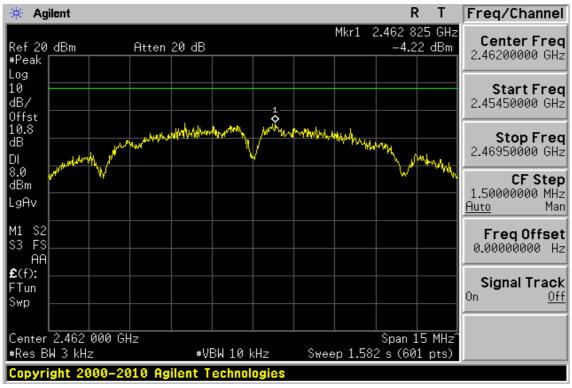
Power Spectral Density Test Plot (CH-Mid)



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.

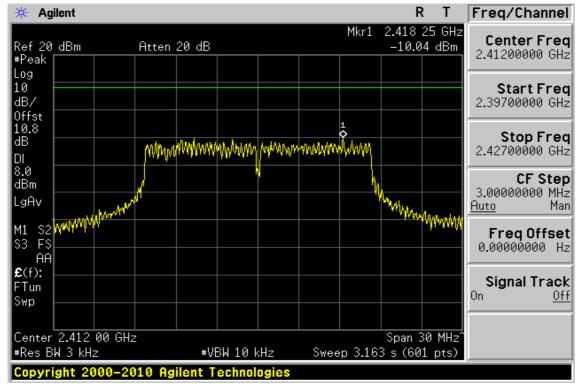


Power Spectral Density Test Plot (CH-High)

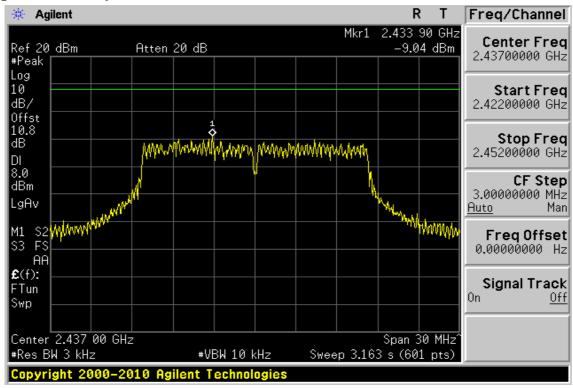


802.11g

Power Spectral Density Test Plot (CH-Low)

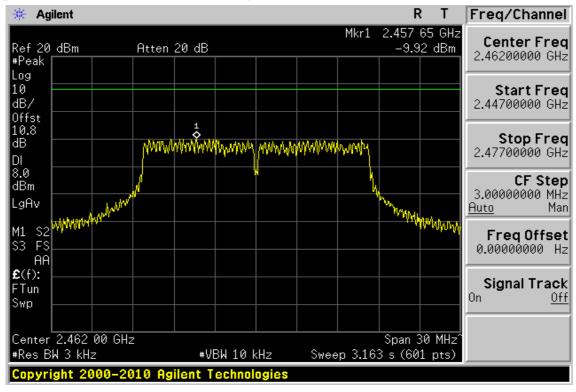


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Power Spectral Density Test Plot (CH-Mid)

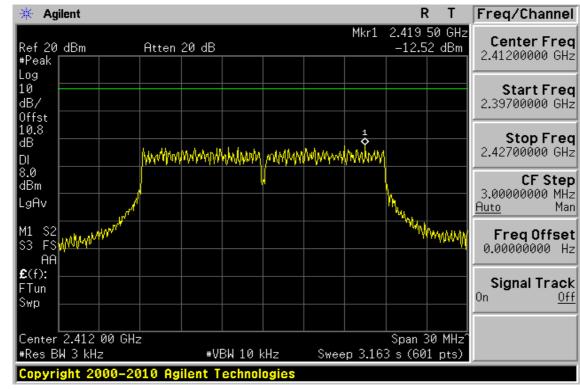
Power Spectral Density Test Plot (CH-High)



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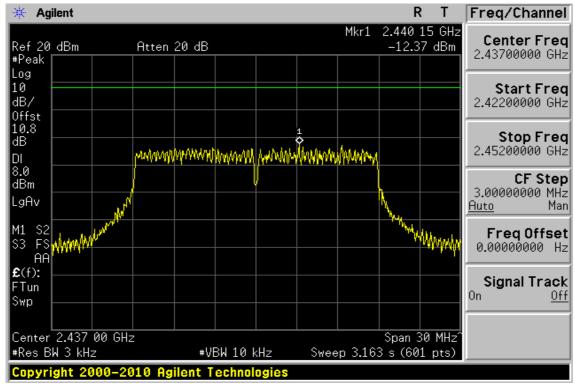


802.11n 20M



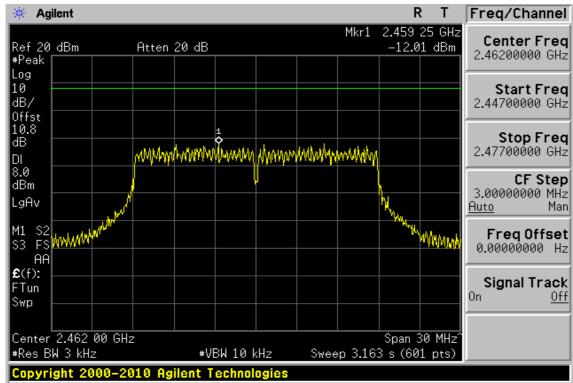
Power Spectral Density Test Plot (CH-Low)





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Power Spectral Density Test Plot (CH-High)

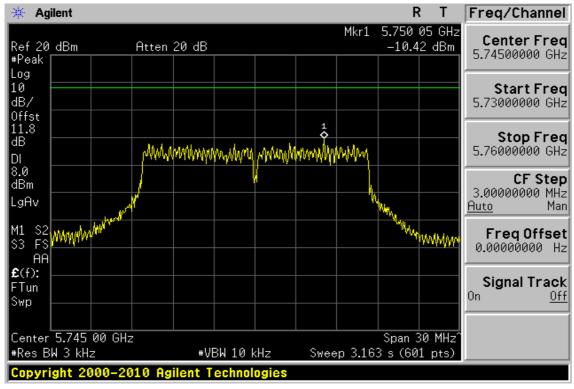
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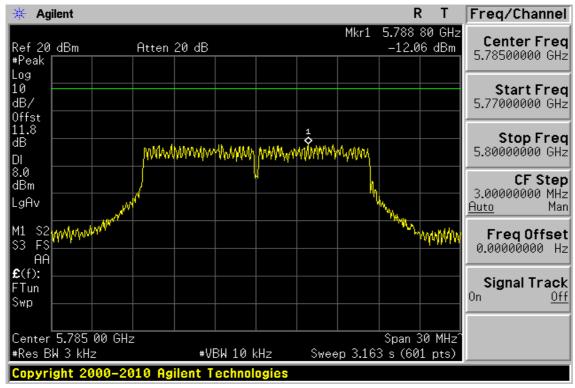
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802.11a **Power Spectral Density Test Plot (CH-Low)**



Power Spectral Density Test Plot (CH-Mid)



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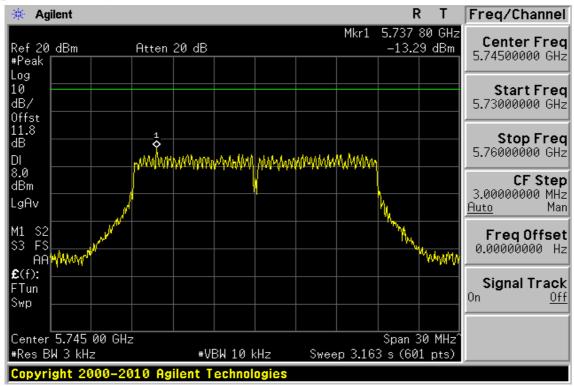


🔆 Agilent R Т Freq/Channel Mkr1 5.821 60 GHz Center Freq Ref 20 dBm -10.66 dBm Atten 20 dB 5.82500000 GHz #Peak Log 10 Start Freq dB/ 5.81000000 GHz Offst 11.8Stop Freq dB handen anther and hand hand hand www.hone+wherephaty 5.84000000 GHz DI 8.0 CF Step dBm 3.00000000 MHz LgAv Man Auto Munder Wederwood NWWWWW Μ1 S2 Freq Offset FS S3 0.00000000 Hz AΑ £(f): Signal Track FTun 0n Off Swp Center 5.825 00 GHz Span 30 MHz #Res BW 3 kHz #VBW 10 kHz Sweep 3.163 s (601 pts) Copyright 2000–2010 Agilent Technologies

Power Spectral Density Test Plot (CH-High)

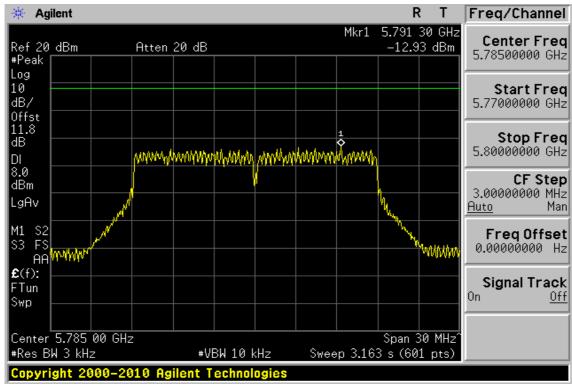
802.11n (5GHz)_20M

Power Spectral Density Test Plot (CH-Low)



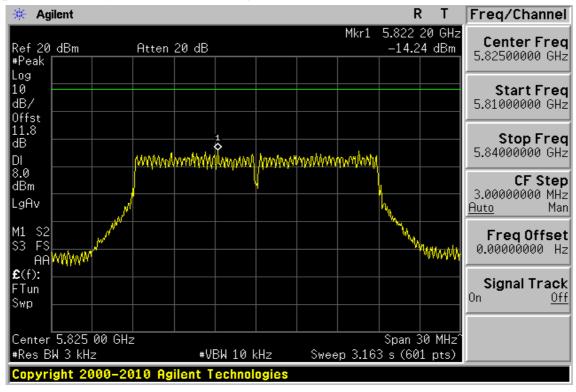
Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



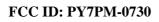


Power Spectral Density Test Plot (CH-Mid)

Power Spectral Density Test Plot (CH-High)



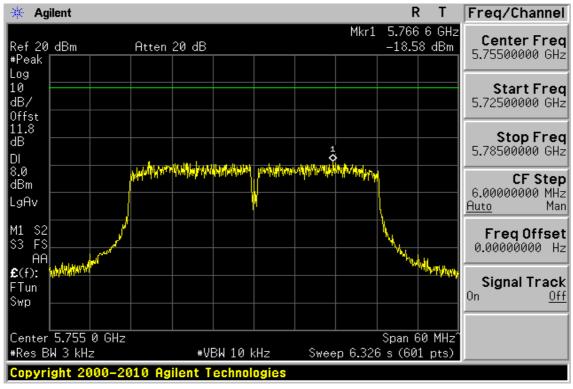
Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.



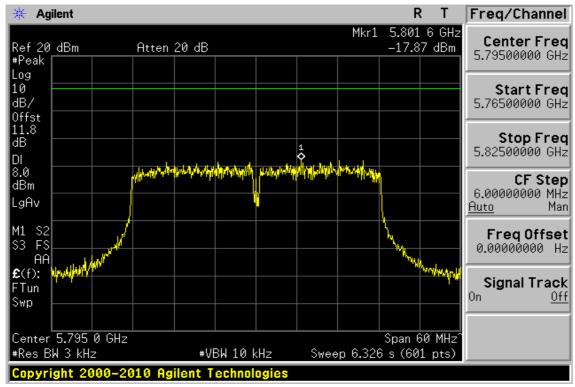


802.11n (5GHz) 40M

Power Spectral Density Test Plot (CH-Low)



Power Spectral Density Test Plot (CH-High)



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12 ANTENNA REQUIREMENT

12.1 Standard Applicable:

For intentional device, according to \$15.203, an intentional radiator shall be designed to ensure that no antenna other than furnished by the responsible party shall be used with the device.

12.2 Antenna Connected Construction:

The directional gains of antenna used for transmitting is -1.34dBi for 2.4GHz, 4.51dBi for 5725-5850 MHz and the antenna connector is designed with unique type RF connector and no consideration of replacement. Please see EUT photo and antenna spec. for details.

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APPENDIX 1 MEASUREMENT PLOT OF RADIATED SPURIOUS EMISSION

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Band Edges Radiated Emission:

Note: The emission that surpasses the limit of peak represents the fundamental emission of the operation that does not account to be conformed to the limit of the interest.

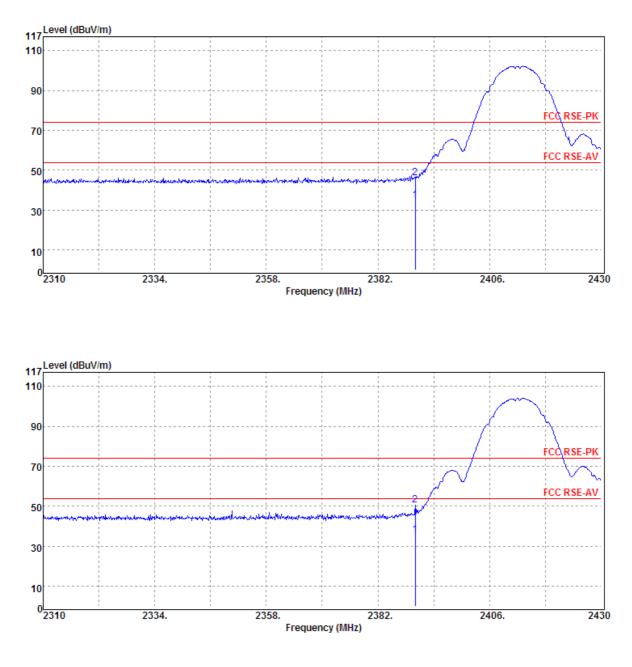
802.11b

Operation Band	
Fundamental Frequency	
Operation Mode	
EUT Pol.	

:802.11 b :2412 MHz :Band edge LOW :H Plane

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

:2014-03-18 :20.5 deg_C / 66 RH :Curry :Ver. / Hor.



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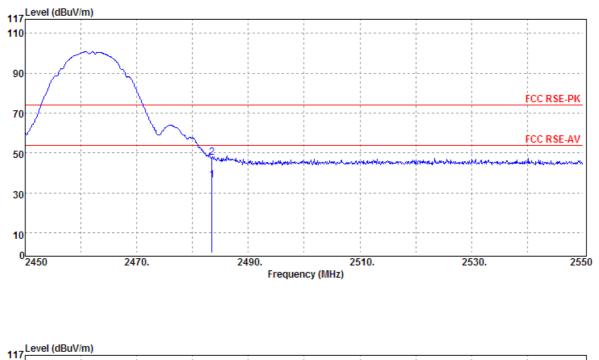


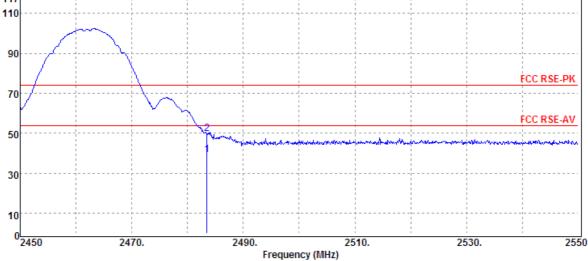
Report No.: EH/2014/10069 Issue Date: Mar. 21, 2014 Page: 158 of 247

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

:802.11 b :2462 MHz :Band edge HIGH :H Plane

Test Date Temp./Humi. Engineer Measurement Antenna Pol. :2014-03-18 :20.5 deg_C / 66 RH :Curry :Ver. / Hor.





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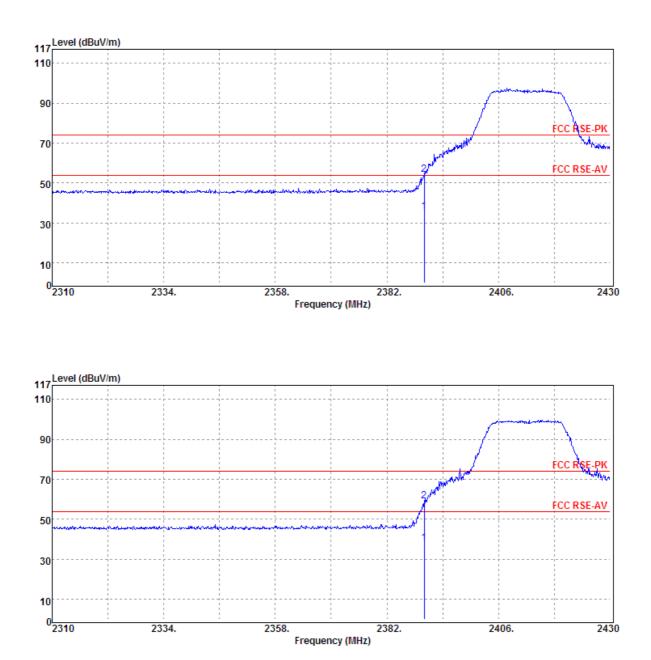
Report No.: EH/2014/10069 Issue Date: Mar. 21, 2014 Page: 159 of 247

802.11g

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

:802.11 g :2412 MHz :Band edge LOW :H Plane

Test Date Temp./Humi. Engineer Measurement Antenna Pol. :2014-03-18 :20.5 deg_C / 66 RH :Curry :Ver. / Hor.



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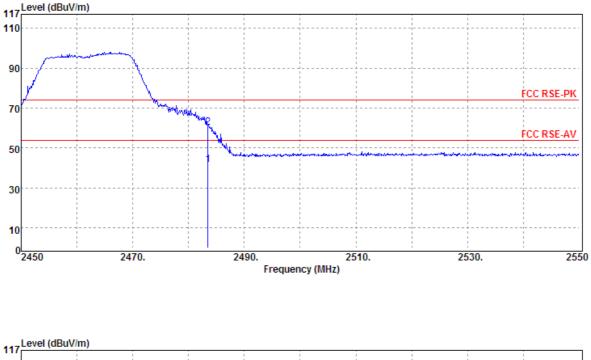


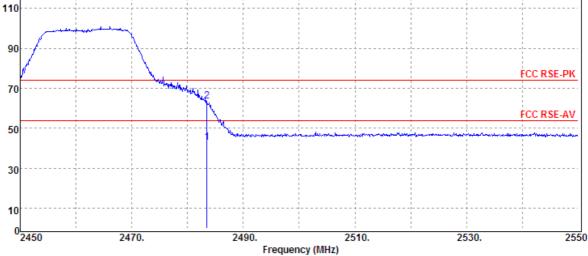
Report No.: EH/2014/10069 Issue Date: Mar. 21, 2014 Page: 160 of 247

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

:802.11 g :2462 MHz :Band edge HIGH :H Plane

Test Date Temp./Humi. Engineer Measurement Antenna Pol. :2014-03-18 :20.5 deg_C / 66 RH :Curry :Ver. / Hor.





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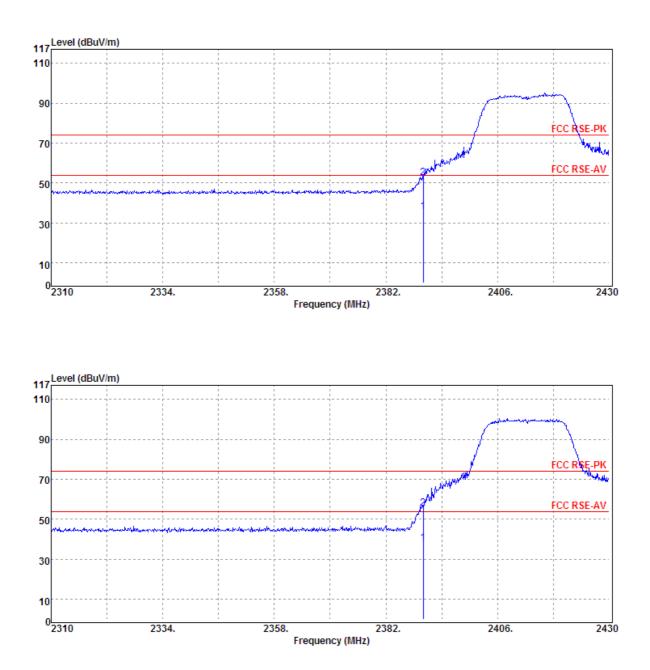
Report No.: EH/2014/10069 Issue Date: Mar. 21, 2014 Page: 161 of 247

11n_20 (2.4GHz)

Operation Band Fundamental Frequency Operation Mode EUT Pol.

:802.11 n20M :2412 MHz :Band edge LOW :H Plane

Test Date Temp./Humi. Engineer Measurement Antenna Pol. :2014-03-18 :20.5 deg_C / 66 RH :Curry :Ver. / Hor.



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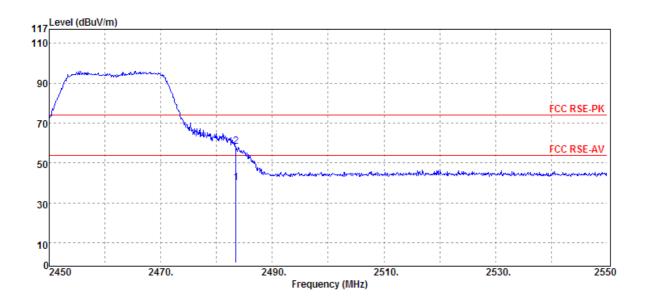


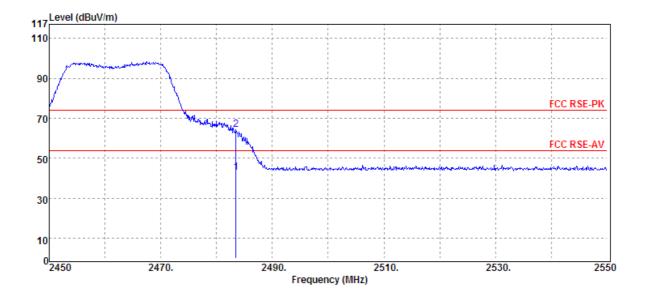
Report No.: EH/2014/10069 Issue Date: Mar. 21, 2014 Page: 162 of 247

Operation Band Fundamental Frequency Operation Mode EUT Pol.

:802.11 n20M :2462 MHz :Band edge HIGH :H Plane

Test Date Temp./Humi. Engineer Measurement Antenna Pol. :2014-03-18 :20.5 deg_C / 66 RH :Curry :Ver. / Hor.





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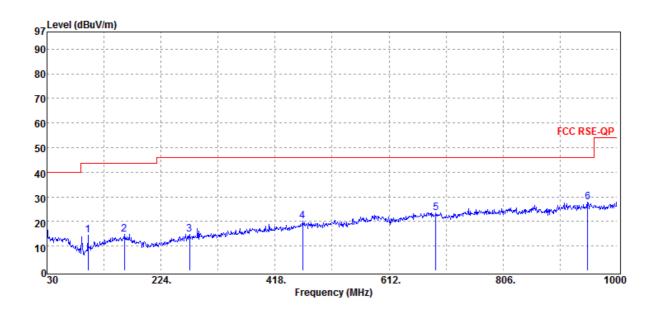
Radiated Spurious Emission Measurement photos Result (below 1GHz)

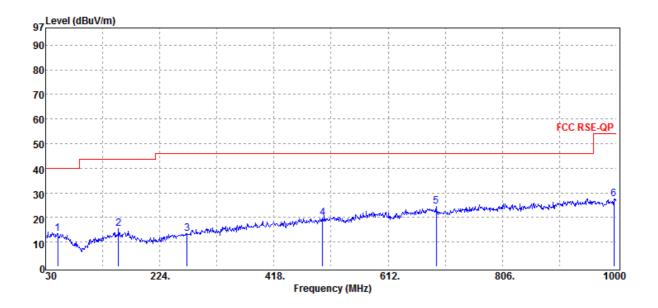
Operation Band Fundamental Frequency Operation Mode EUT Pol.

:802.11 b :2412 MHz :TX LOW :H Plane

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

:2014-03-20 :21deg_C/59RH :Curry :Ver. / Hor.





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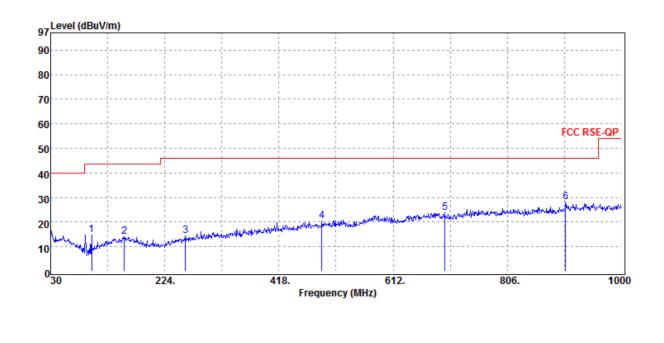


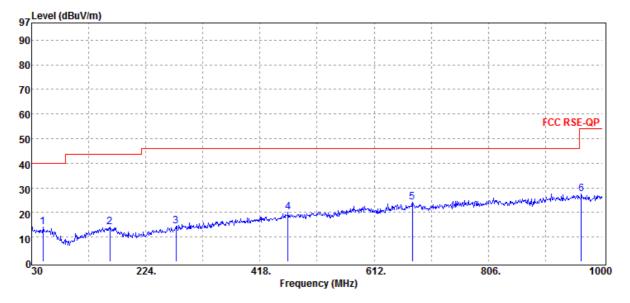
Report No.: EH/2014/10069 Issue Date: Mar. 21, 2014 Page: 164 of 247

Operation Band Fundamental Frequency Operation Mode EUT Pol.

:802.11 b :2437 MHz :TX MID :H Plan

Test Date Temp./Humi. Engineer Measurement Antenna Pol. :2014-03-20 :21deg_C/59RH :Curry :Ver. / Hor.





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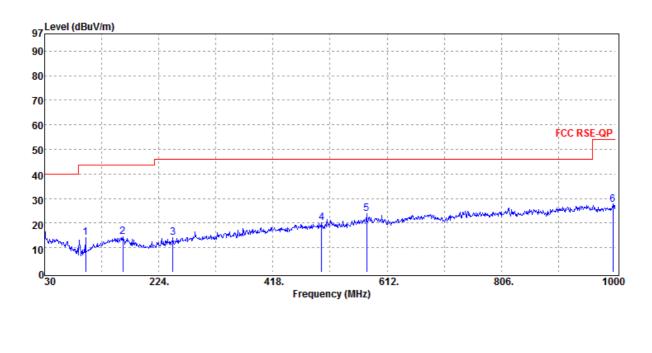


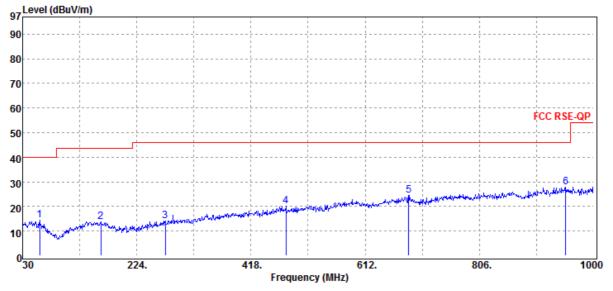
Report No.: EH/2014/10069 Issue Date: Mar. 21, 2014 Page: 165 of 247

Operation Band Fundamental Frequency Operation Mode EUT Pol.

:802.11 b :2462 MHz :TX HIGH :H Plane

Test Date Temp./Humi. Engineer Measurement Antenna Pol. :2014-03-20 :21deg_C/59RH :Curry :Ver. / Hor.





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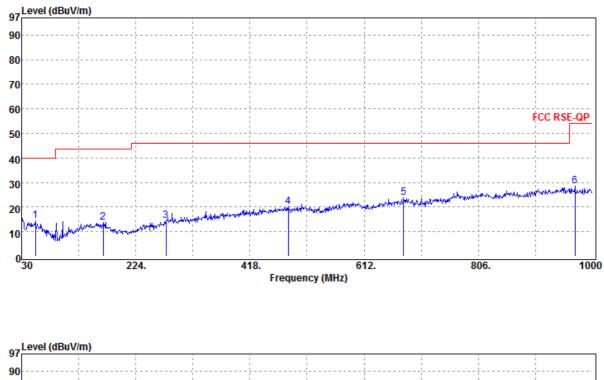
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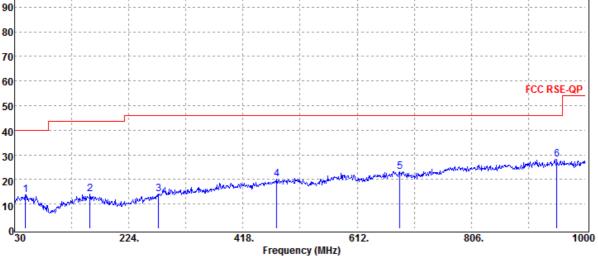


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Operation Band :802.11 g **Fundamental Frequency** :2412 MHz **Operation Mode** :TX LOW EUT Pol. :H Plane

Test Date Temp./Humi. Engineer Measurement Antenna Pol. :2014-03-20 :21deg_C/59RH :Curry :Ver. / Hor.





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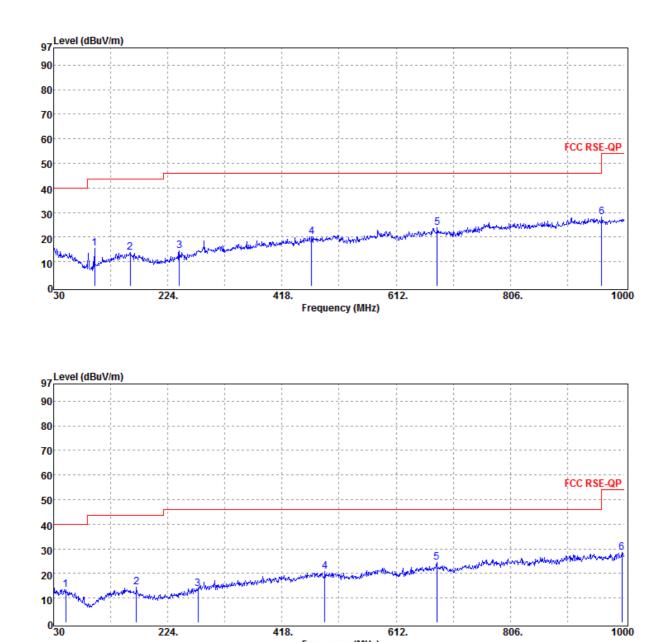
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Operation Band :802.11 g **Fundamental Frequency** :2437 MHz **Operation Mode** :TX MID EUT Pol. :H Plan

Test Date Temp./Humi. Engineer Measurement Antenna Pol. :2014-03-20 :21deg_C/59RH :Curry :Ver. / Hor.



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.

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224

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Frequency (MHz)

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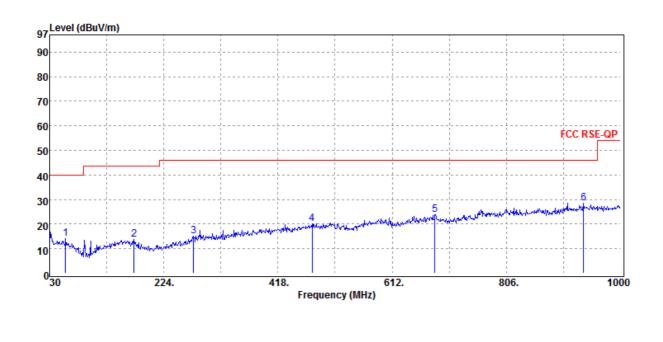


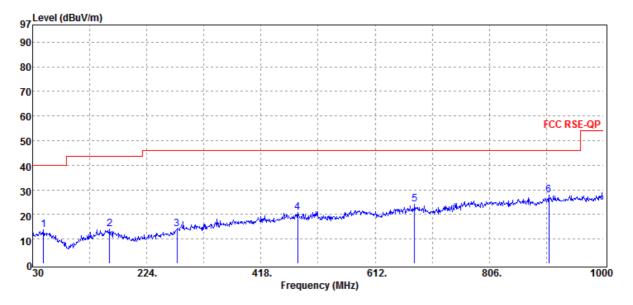
Report No.: EH/2014/10069 Issue Date: Mar. 21, 2014 Page: 168 of 247

Operation Band Fundamental Frequency Operation Mode EUT Pol.

:802.11 g :2462 MHz :TX HIGH :H Plane

Test Date Temp./Humi. Engineer Measurement Antenna Pol. :2014-03-20 :21deg_C/59RH :Curry :Ver. / Hor.





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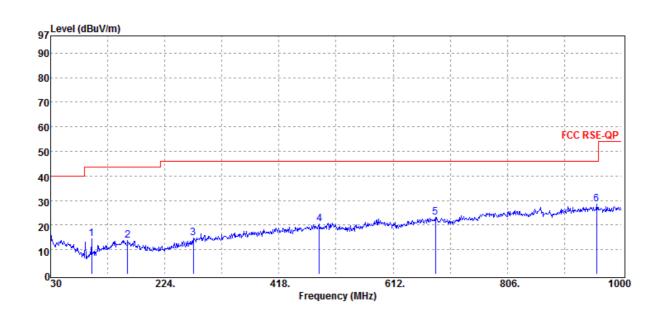


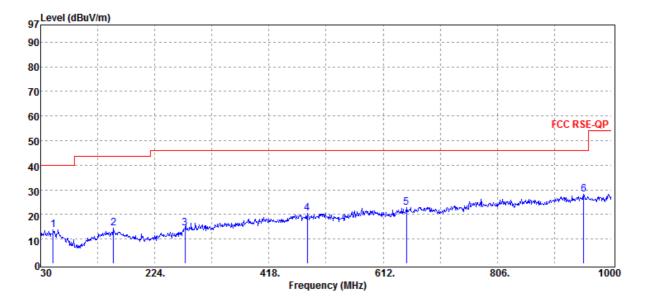
Report No.: EH/2014/10069 Issue Date: Mar. 21, 2014 Page: 169 of 247

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

:802.11 n20M :2412 MHz :TX LOW :H Plane

Test Date Temp./Humi. Engineer Measurement Antenna Pol. :2014-03-20 :21deg_C/59RH :Curry :Ver. / Hor.





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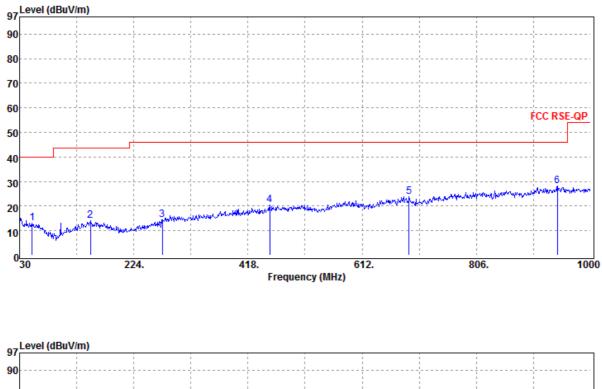


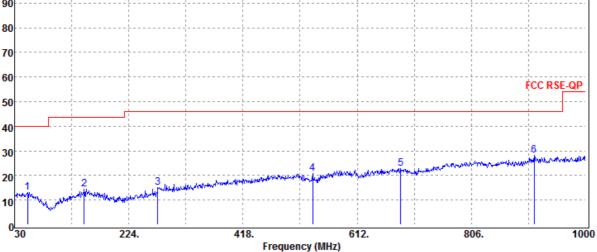
Report No.: EH/2014/10069 Issue Date: Mar. 21, 2014 Page: 170 of 247

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

:802.11 n20M :2437 MHz :TX MID :H Plane

Test Date Temp./Humi. Engineer Measurement Antenna Pol. :2014-03-20 :21deg_C/59RH :Curry :Ver. / Hor.





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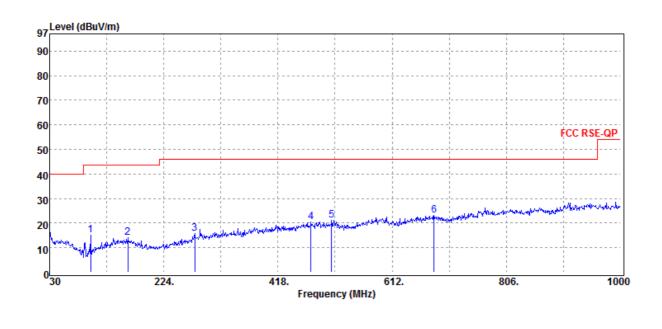


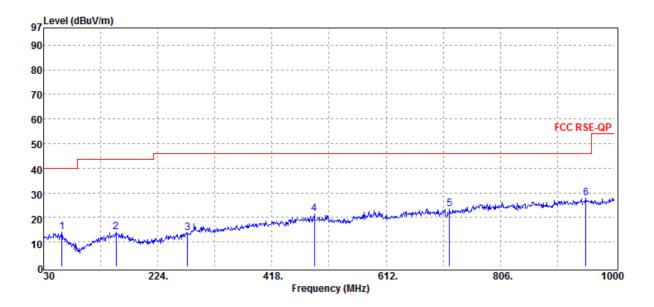
Report No.: EH/2014/10069 Issue Date: Mar. 21, 2014 Page: 171 of 247

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

:802.11 n20M :2462 MHz :TX HIGH :H Plane

Test Date Temp./Humi. Engineer Measurement Antenna Pol. :2014-03-20 :21deg_C/59RH :Curry :Ver. / Hor.





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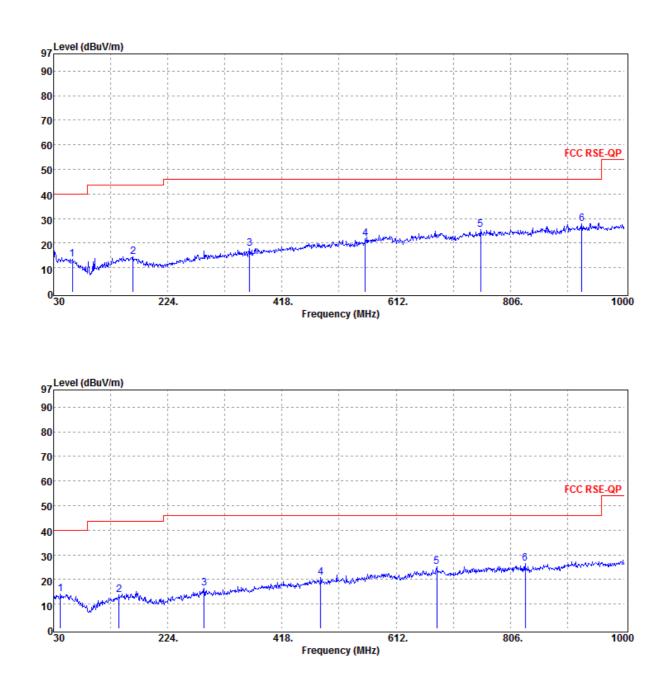
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Operation Band :802.11 a Fundamental Frequency :5745 MHz **Operation Mode** :TX LOW EUT Pol. :H Plane

Test Date Temp./Humi. Engineer Measurement Antenna Pol. :2014-03-20 :22.7 deg_C / 67 RH :Curry :Ver. / Hor.



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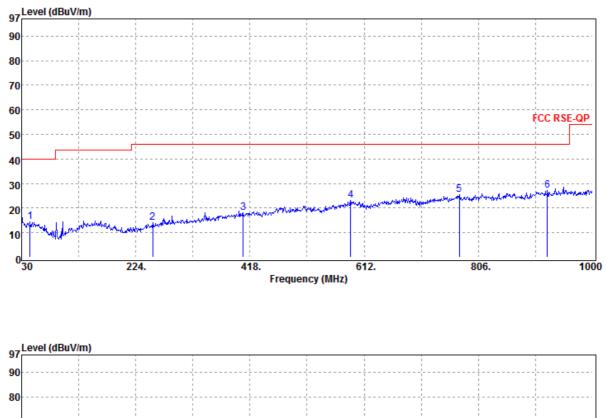


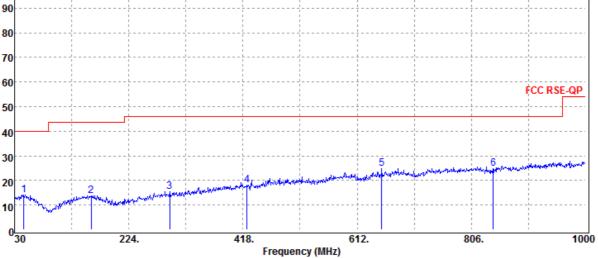
Report No.: EH/2014/10069 Issue Date: Mar. 21, 2014 Page: 173 of 247

Operation Band :802.11 a Fundamental Frequency :5785 MHz **Operation Mode** :TX MID EUT Pol. :H Plane

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

:2014-03-20 :22.7 deg_C / 67 RH :Curry :Ver. / Hor.





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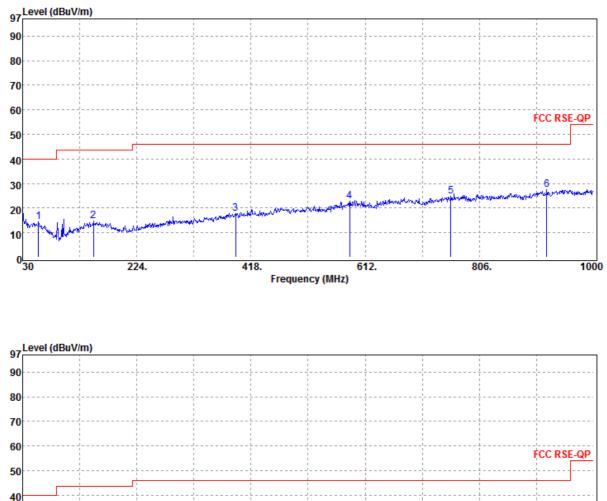


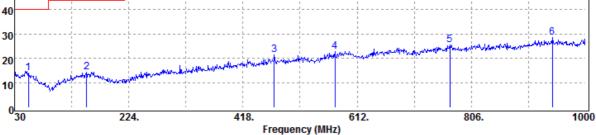
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Operation Band Fundamental Frequency **Operation Mode** EUT Pol.

:802.11 a :5825 MHz :TX HIGH :H Plane

Test Date Temp./Humi. Engineer Measurement Antenna Pol. :2014-03-20 :22.7 deg_C / 67 RH :Curry :Ver. / Hor.





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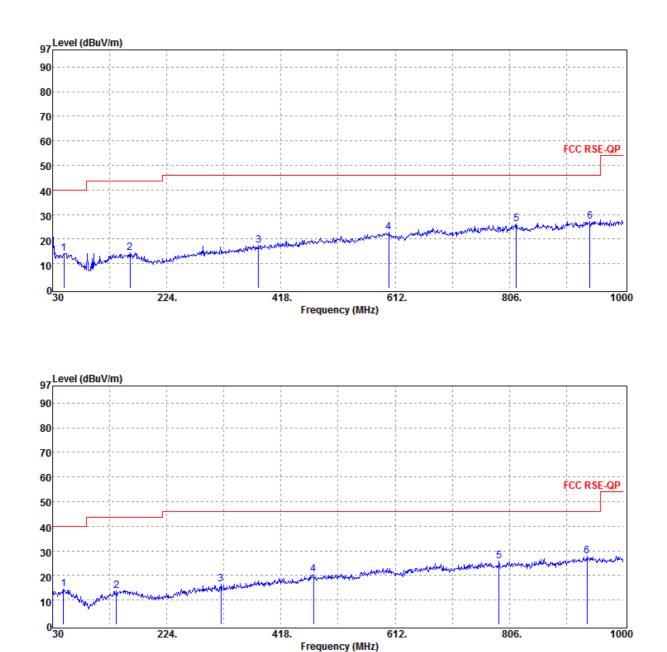


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Operation Band Fundamental Frequency **Operation Mode** EUT Pol.

:802.11 n20M :5745 MHz :TX LOW :H Plane

Test Date Temp./Humi. Engineer Measurement Antenna Pol. :2014-03-20 :22.7 deg_C / 67 RH :Curry :Ver. / Hor.



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Report No.: EH/2014/10069 Issue Date: Mar. 21, 2014 Page: 176 of 247

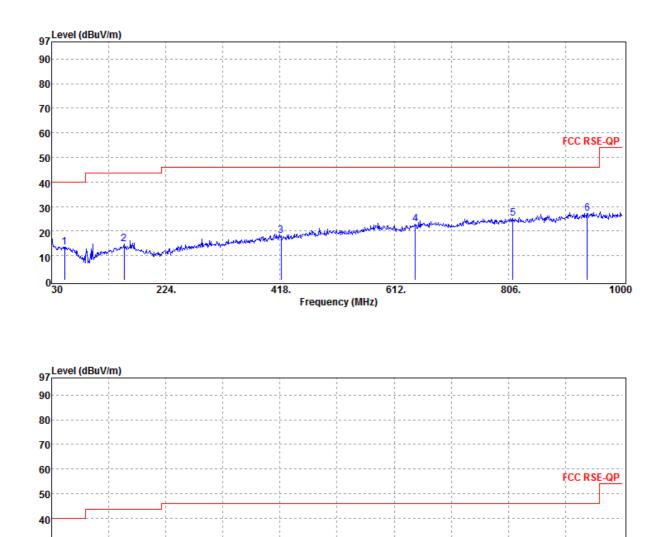
Operation Band Fundamental Frequency **Operation Mode** EUT Pol.

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:802.11 n20M :5785 MHz :TX MID :H Plane

Test Date Temp./Humi. Engineer Measurement Antenna Pol. :2014-03-20 :22.7 deg_C / 67 RH :Curry :Ver. /Hor.



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Frequency (MHz)

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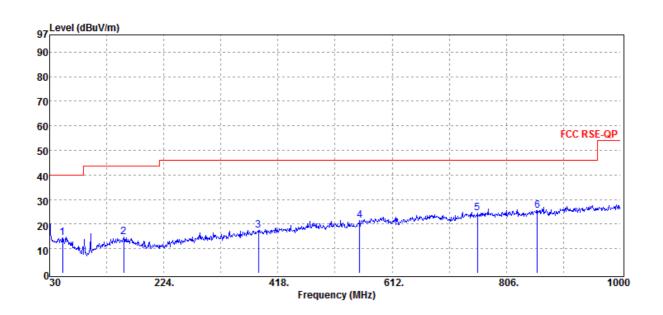


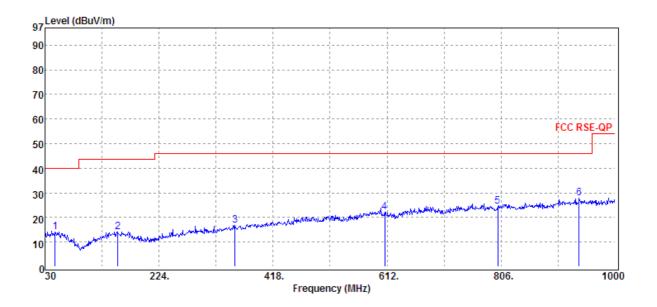
Report No.: EH/2014/10069 Issue Date: Mar. 21, 2014 Page: 177 of 247

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

:802.11 n20M :5825 MHz :TX HIGH :H Plane

Test Date Temp./Humi. Engineer Measurement Antenna Pol. :2014-03-20 :22.7 deg_C / 67 RH :Curry :Ver. / Hor.





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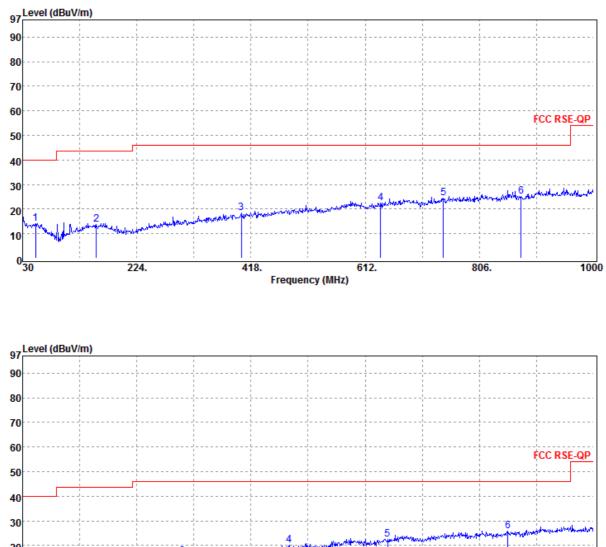


Report No.: EH/2014/10069 Issue Date: Mar. 21, 2014 Page: 178 of 247

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

:802.11 n40M :5755 MHz :TX LOW :H Plane

Test Date Temp./Humi. Engineer Measurement Antenna Pol. :2014-03-20 :22.7 deg_C / 67 RH :Curry :Ver. / Hor.



20 2 10 0<u>___</u> 418. 1000 224. 612. 806. Frequency (MHz)

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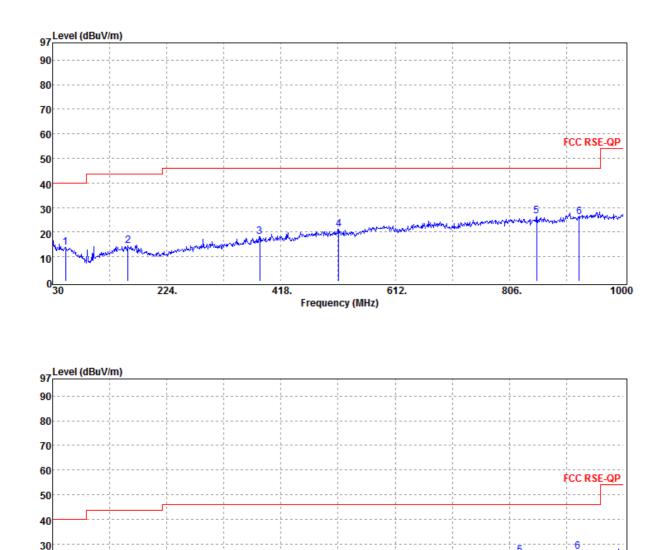
Operation Band Fundamental Frequency Operation Mode EUT Pol.

> 20 10

> > 0<u>___</u>

:802.11 n40M :5795 MHz :TX HIGH :H Plane

Test Date Temp./Humi. Engineer Measurement Antenna Pol. :2014-03-20 :22.7 deg_C / 67 RH :Curry :Ver. / Hor.



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Frequency (MHz)

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

612.

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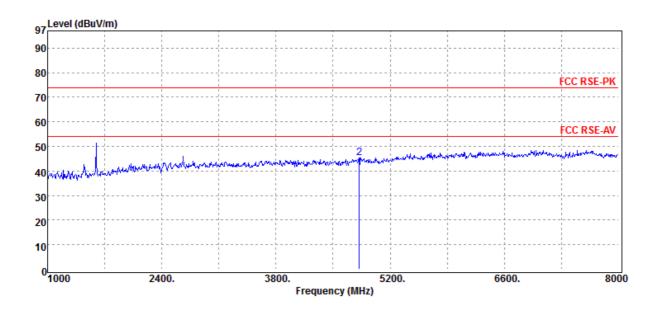
Radiated Spurious Emission Measurement photos Result (above 1GHz)

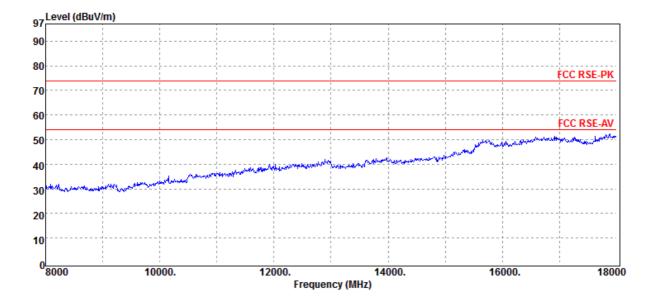
Operation Band Fundamental Frequency Operation Mode EUT Pol.

:802.11 b :2412 MHz :TX LOW :H Plane

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

:2014-03-20 :21deg_C/59RH :Curry :VERTICAL



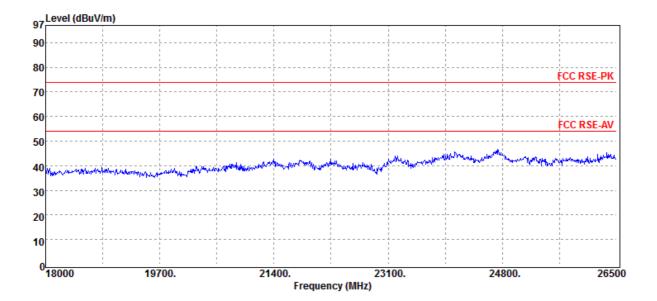


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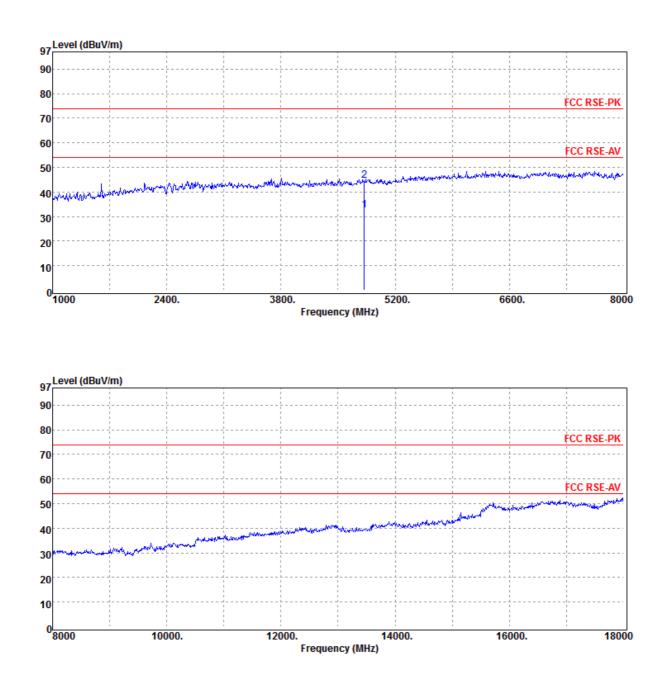


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Operation Band Fundamental Frequency Operation Mode EUT Pol.

:802.11 b :2412 MHz :TX LOW :H Plane

Test Date Temp./Humi. Engineer Measurement Antenna Pol. :2014-03-20 :21deg_C/59RH :Curry :HORIZONTAL

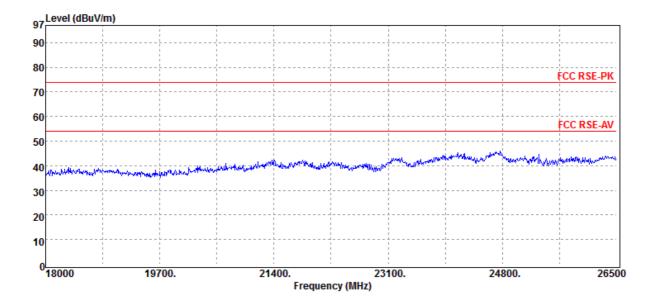


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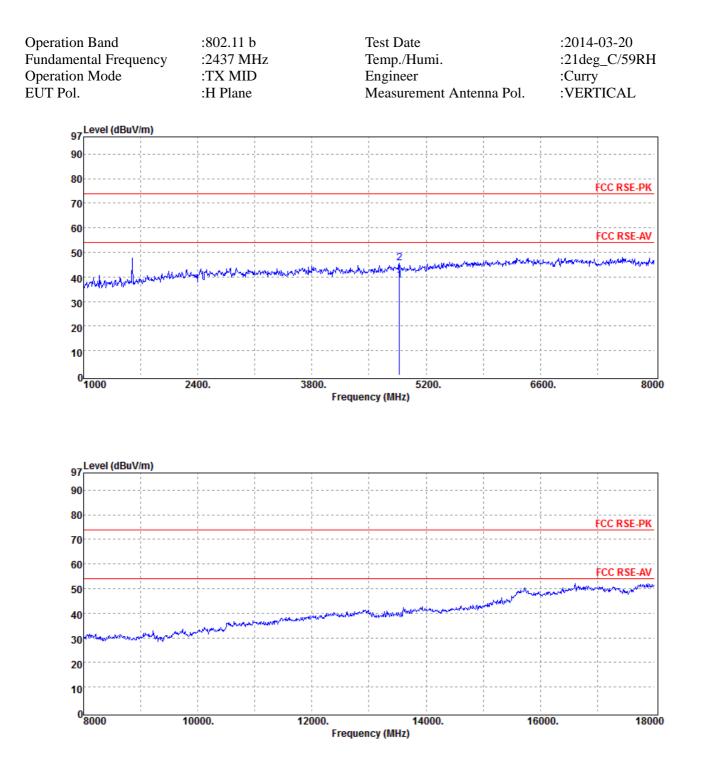


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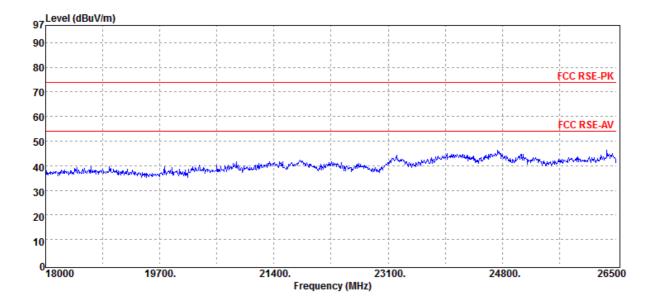


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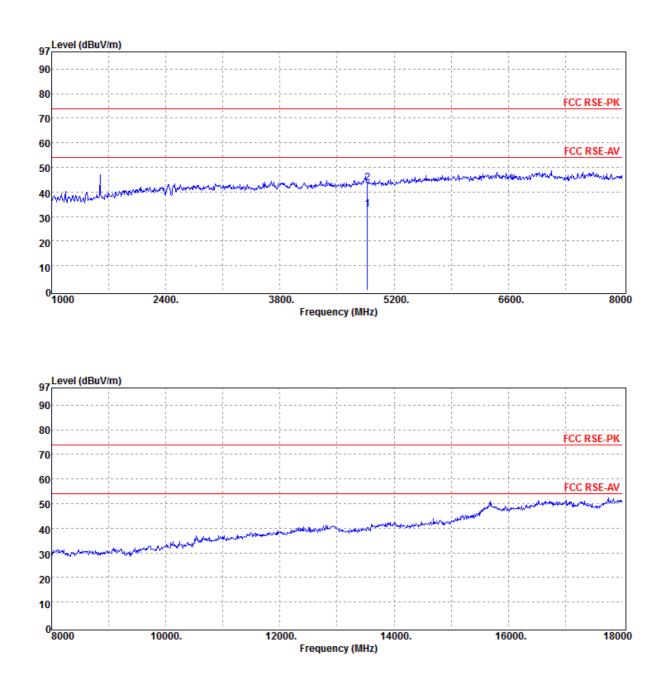


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Operation Band Fundamental Frequency Operation Mode EUT Pol.

:802.11 b :2437 MHz :TX MID :H Plane

Test Date Temp./Humi. Engineer Measurement Antenna Pol. :2014-03-20 :21deg_C/59RH :Curry :HORIZONTAL

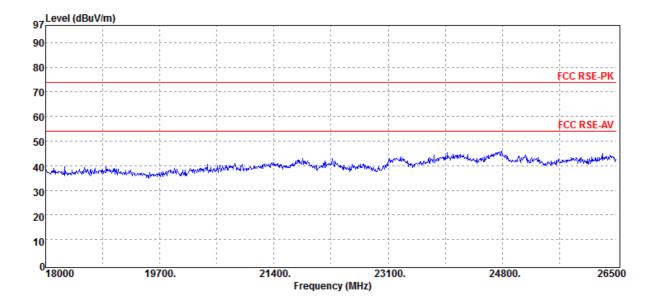


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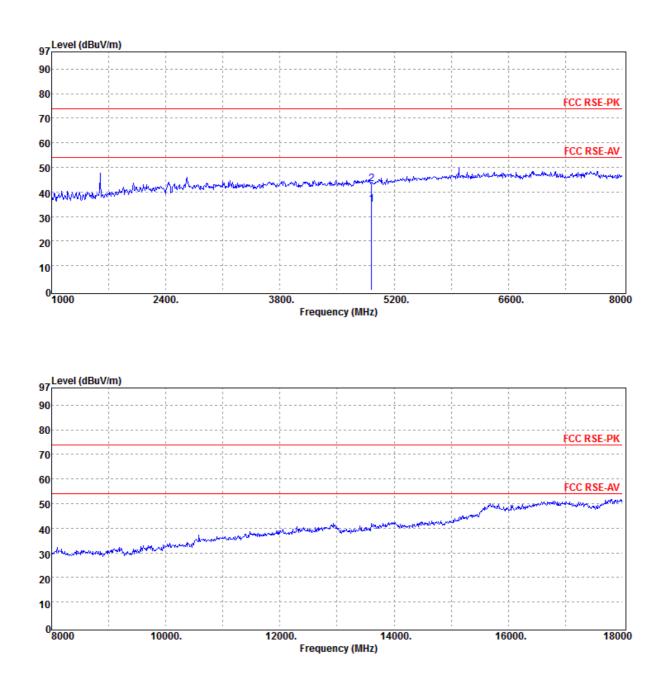


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Operation Band Fundamental Frequency Operation Mode EUT Pol.

:802.11 b :2462 MHz :TX HIGH :H Plane

Test Date Temp./Humi. Engineer Measurement Antenna Pol. :2014-03-20 :21deg_C/59RH :Curry :VERTICAL

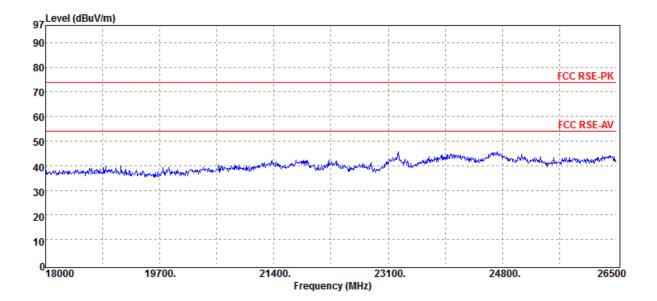


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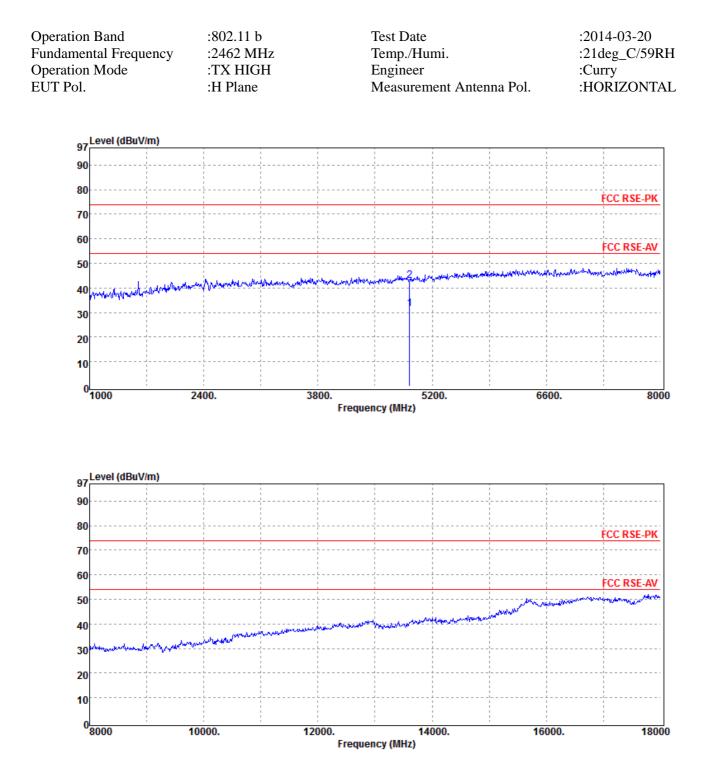


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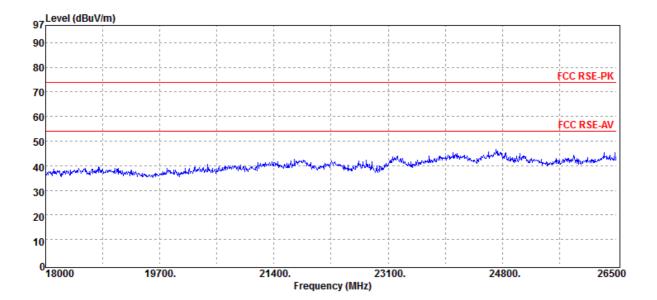


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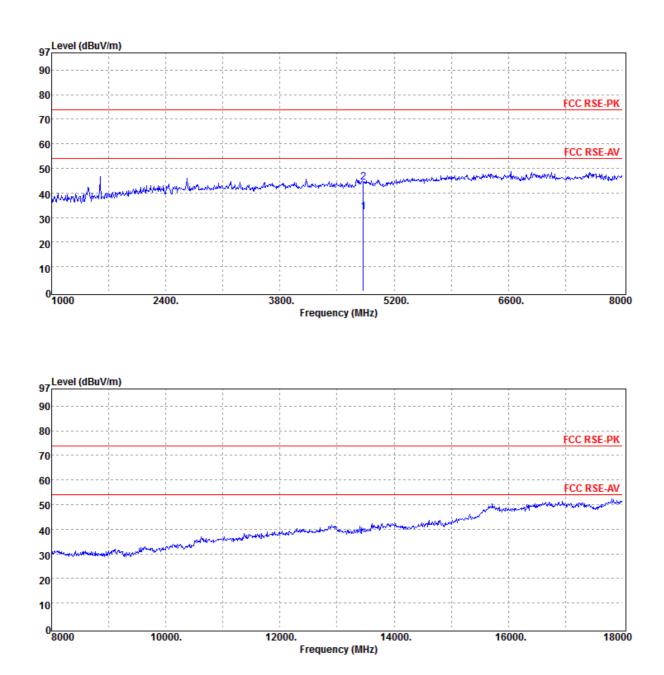


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Operation Band Fundamental Frequency **Operation Mode** EUT Pol.

:802.11 g :2412 MHz :TX LOW :H Plane

Test Date Temp./Humi. Engineer Measurement Antenna Pol. :2014-03-20 :21deg_C/59RH :Curry :VERTICAL

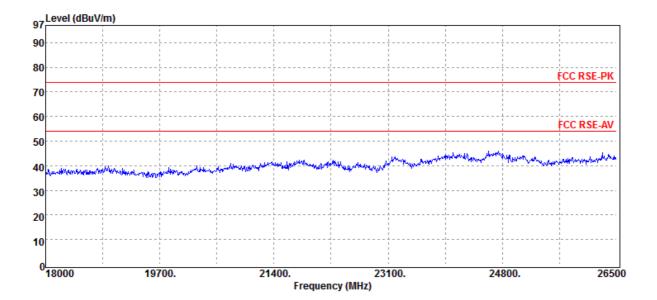


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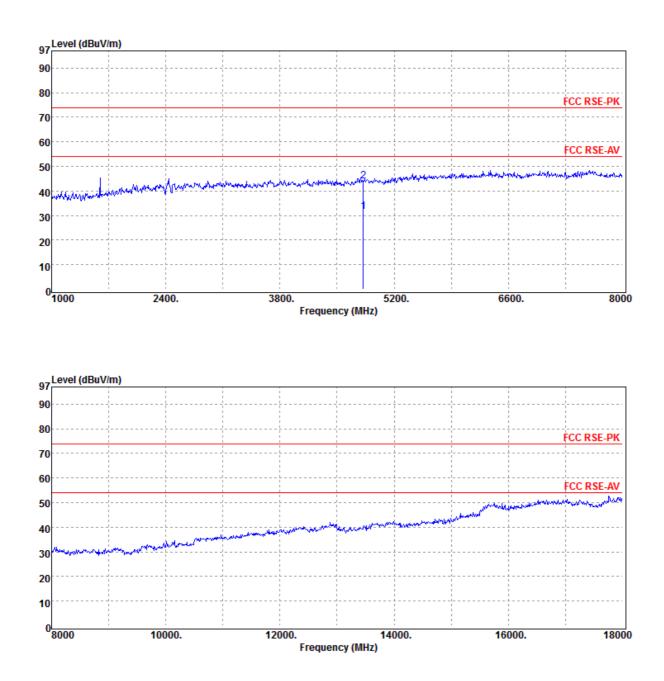


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Operation Band Fundamental Frequency Operation Mode EUT Pol.

:802.11 g :2412 MHz :TX LOW : H Plane

Test Date Temp./Humi. Engineer Measurement Antenna Pol. :2014-03-20 :21deg_C/59RH :Curry :HORIZONTAL

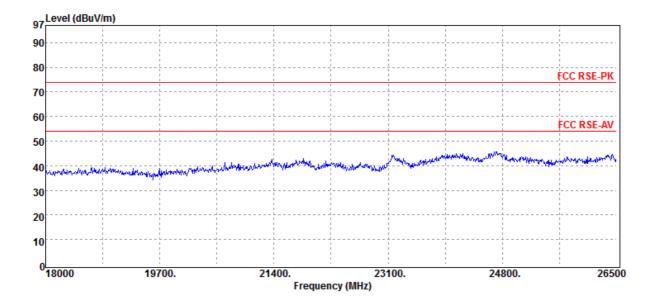


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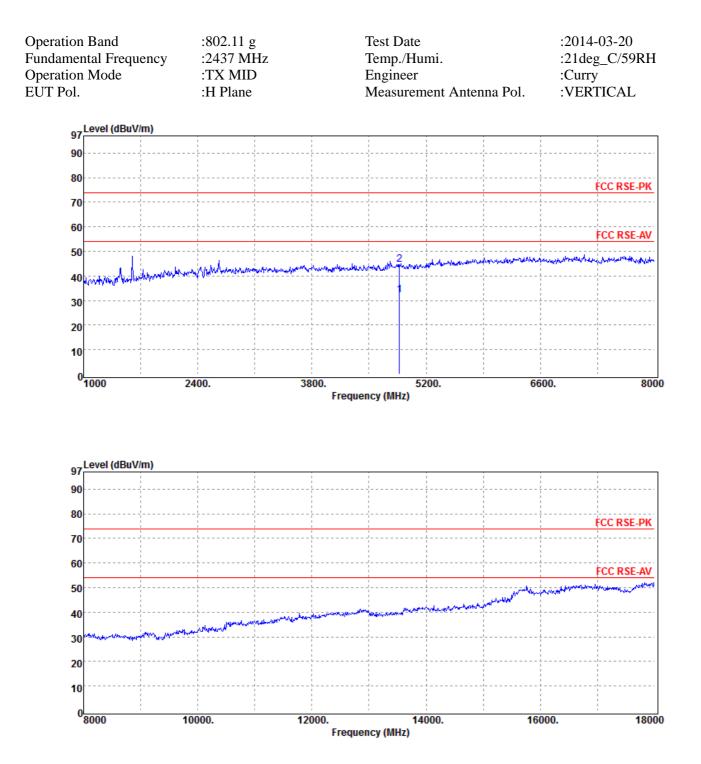


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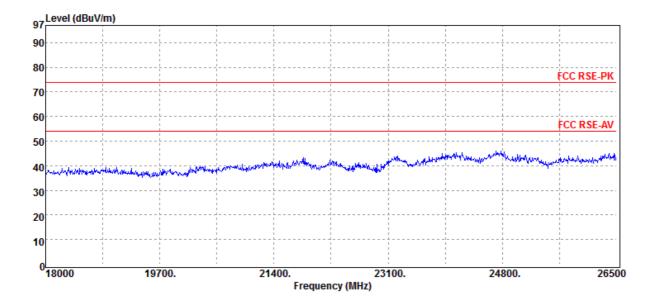


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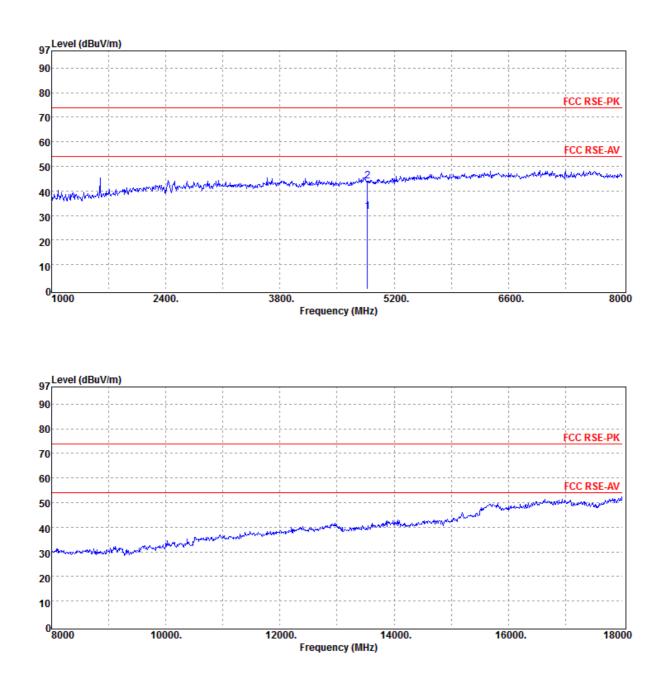


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Operation Band Fundamental Frequency Operation Mode EUT Pol.

:802.11 g :2437 MHz :TX MID :H Plane

Test Date Temp./Humi. Engineer Measurement Antenna Pol. :2014-03-20 :21deg_C/59RH :Curry :HORIZONTAL

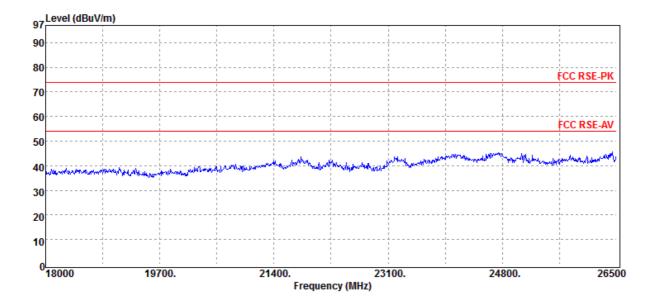


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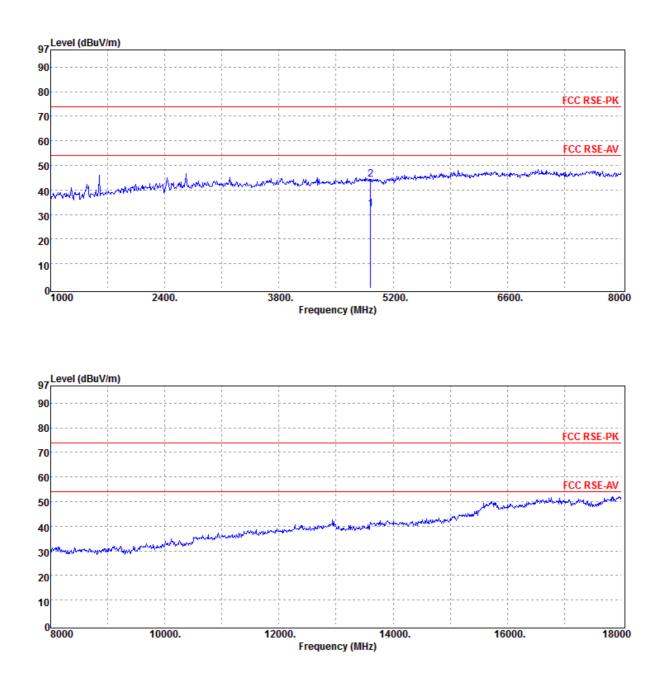


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Operation Band Fundamental Frequency Operation Mode EUT Pol.

:802.11 g :2462 MHz :TX HIGH :H Plane

Test Date Temp./Humi. Engineer Measurement Antenna Pol. :2014-03-20 :21deg_C/59RH :Curry :VERTICAL

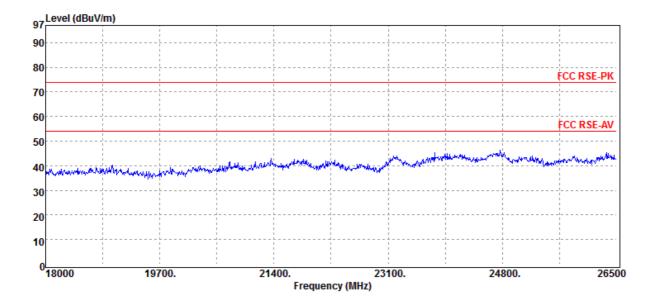


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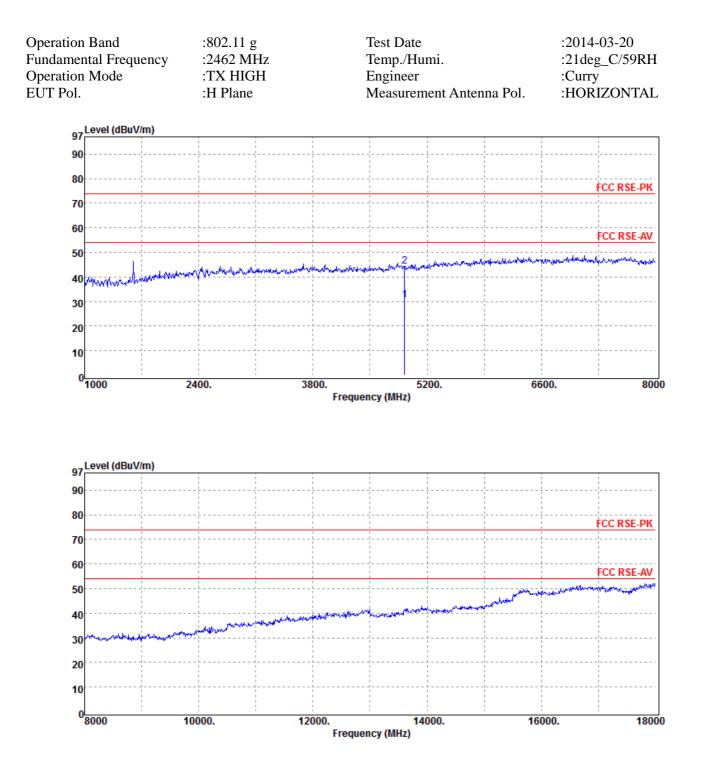


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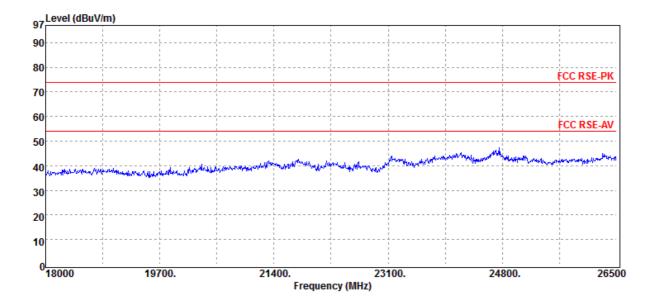


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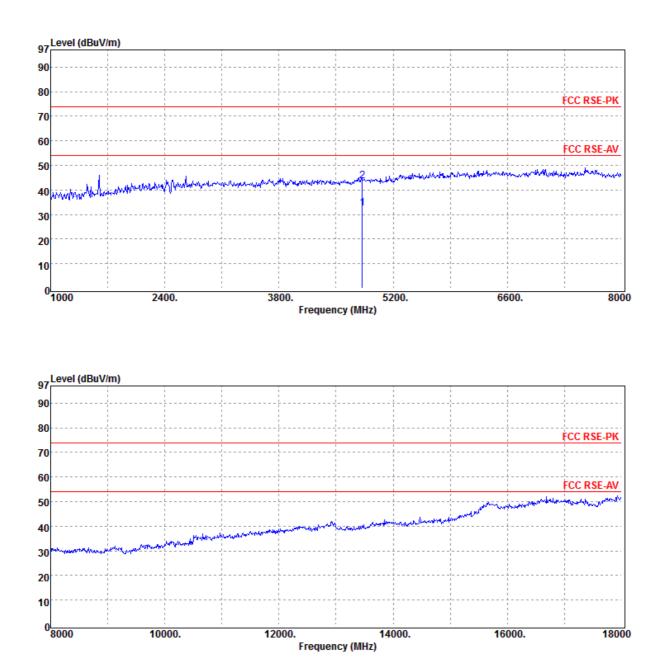


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Operation Band Fundamental Frequency **Operation Mode** EUT Pol.

:802.11 n20M :2412 MHz :TX LOW :H Plane

Test Date Temp./Humi. Engineer Measurement Antenna Pol. :2014-03-20 :21deg_C/59RH :Curry :VERTICAL

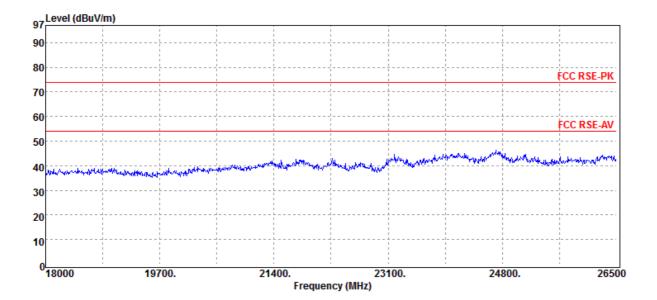


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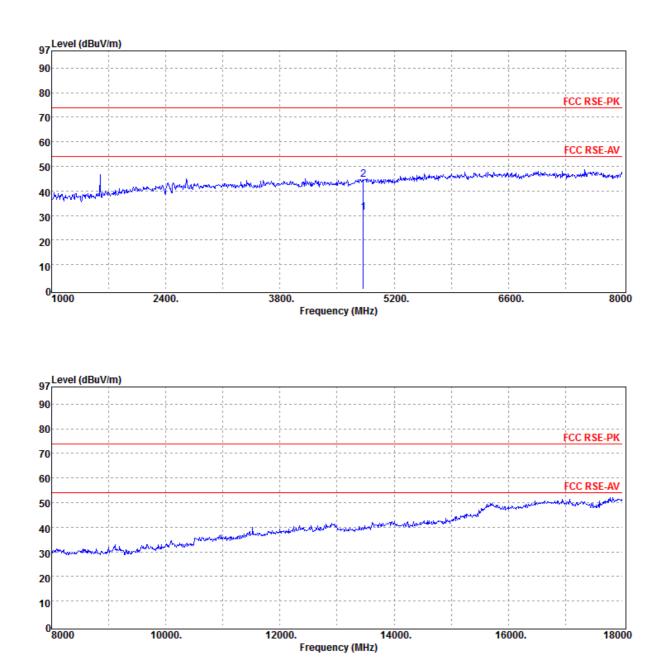


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Operation Band Fundamental Frequency Operation Mode EUT Pol.

:802.11 n20M :2412 MHz :TX LOW :H Plane

Test Date Temp./Humi. Engineer Measurement Antenna Pol. :2014-03-20 :21deg_C/59RH :Curry :HORIZONTAL

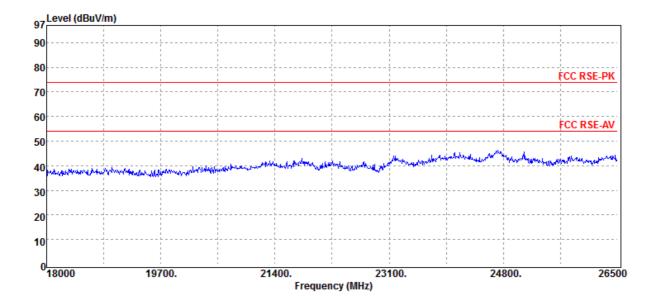


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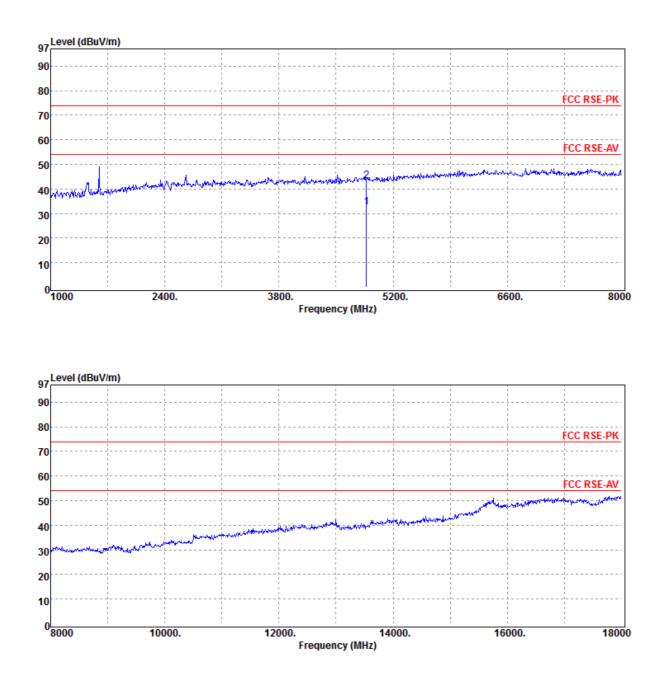


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Operation Band Fundamental Frequency Operation Mode EUT Pol.

:802.11 n20M :2437 MHz :TX MID :H Plane

Test Date Temp./Humi. Engineer Measurement Antenna Pol. :2014-03-20 :21deg_C/59RH :Curry :VERTICAL

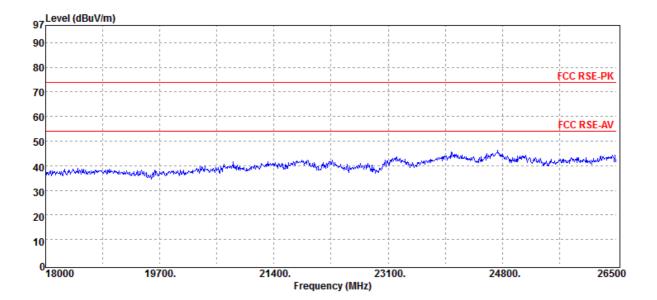


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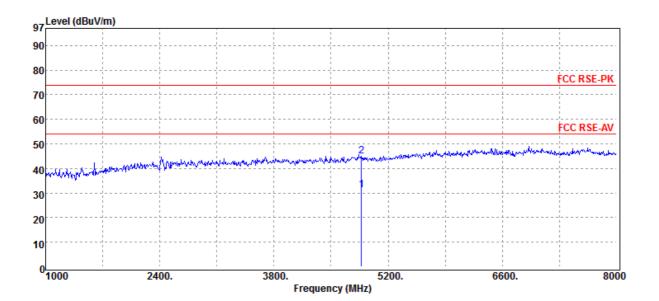


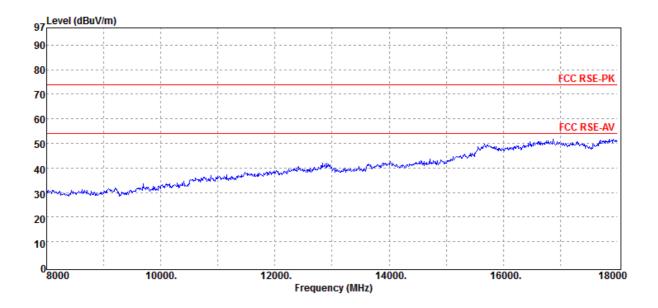
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Operation Band Fundamental Frequency Operation Mode EUT Pol.

:802.11 n20M :2437 MHz :TX MID :H Plane

Test Date Temp./Humi. Engineer Measurement Antenna Pol. :2014-03-20 :21deg_C/59RH :Curry :HORIZONTAL

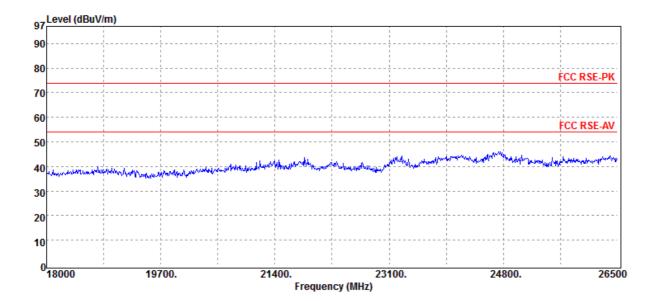




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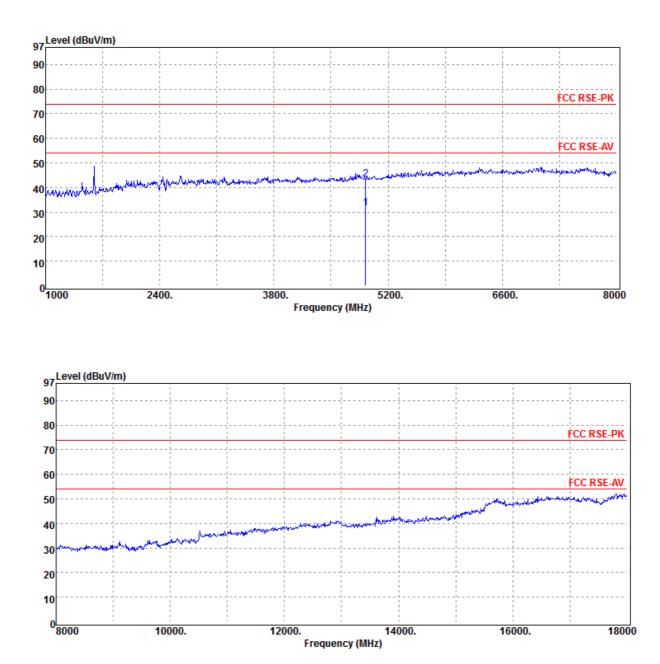


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Operation Band Fundamental Frequency Operation Mode EUT Pol.

:802.11 n20M :2462 MHz :TX HIGH :H Plane

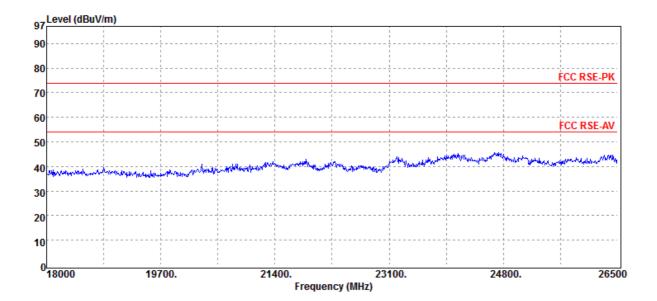
Test Date Temp./Humi. Engineer Measurement Antenna Pol. :2014-03-20 :21deg C/59RH :Curry :VERTICAL



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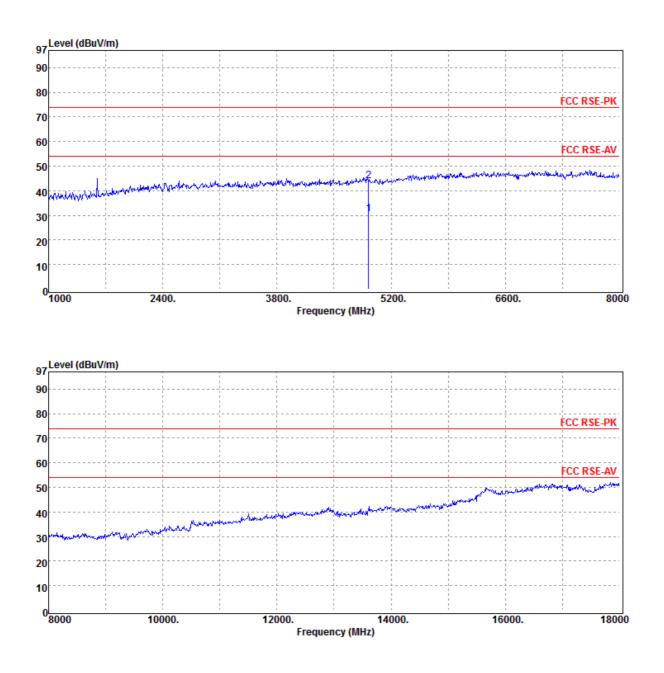


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Operation Band Fundamental Frequency Operation Mode EUT Pol.

:802.11 n20M :2462 MHz :TX HIGH :H Plane

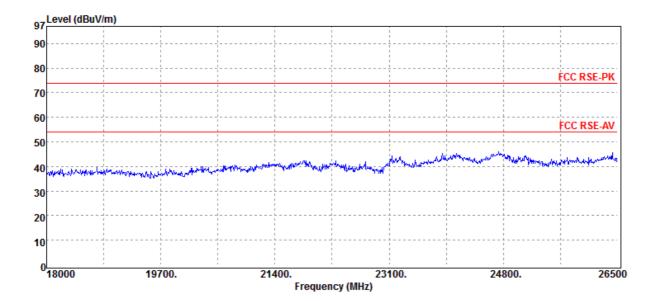
Test Date Temp./Humi. Engineer Measurement Antenna Pol. :2014-03-20 :21deg C/59RH :Curry :HORIZONTAL



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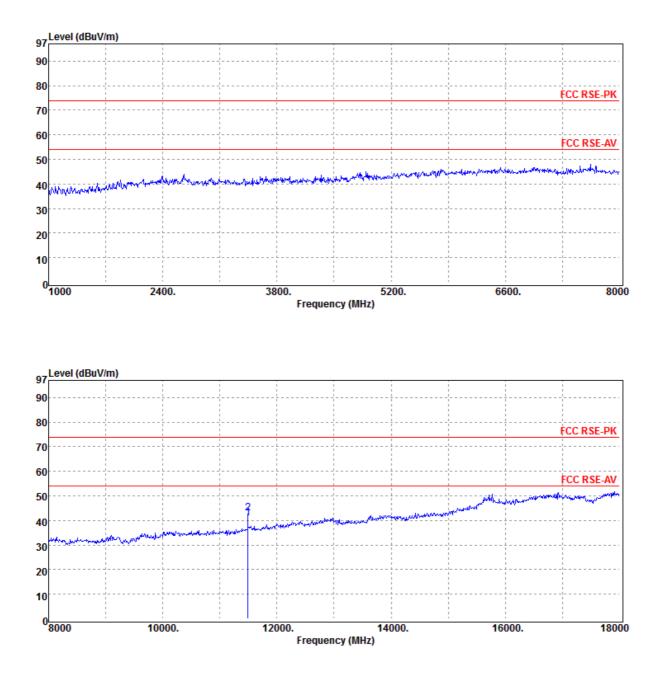


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Operation Band Fundamental Frequency **Operation Mode** EUT Pol.

:802.11 a :5745 MHz :TX LOW :H Plane

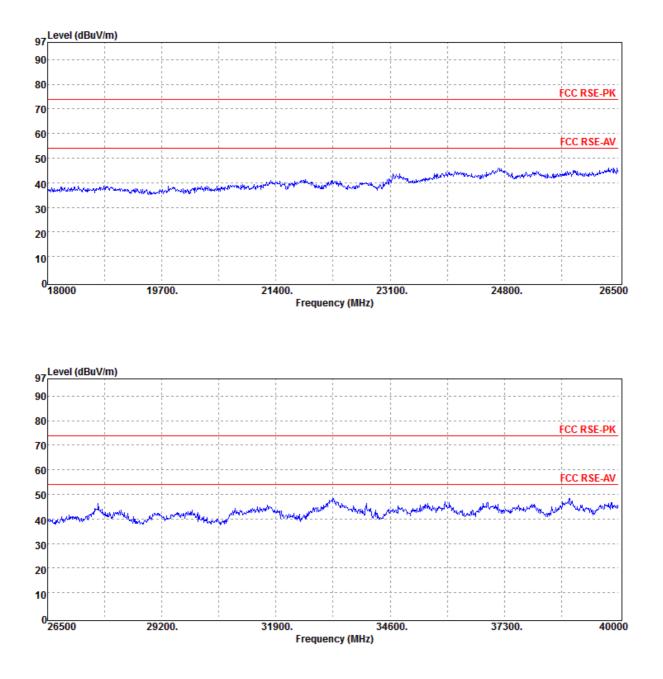
Test Date Temp./Humi. Engineer Measurement Antenna Pol. :2014-03-20 :22.7 deg_C / 67 RH :Curry :VERTICAL



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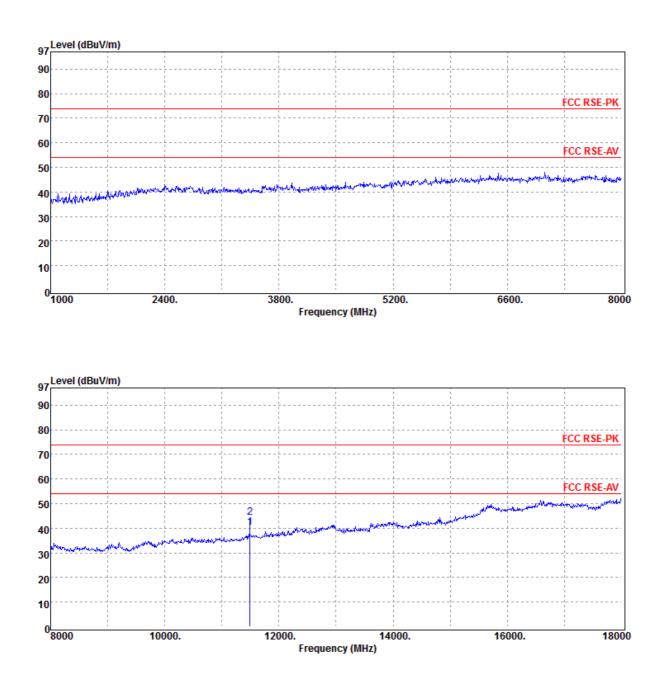


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Operation Band Fundamental Frequency Operation Mode EUT Pol.

:802.11 a :5745 MHz :TX LOW :H Plane

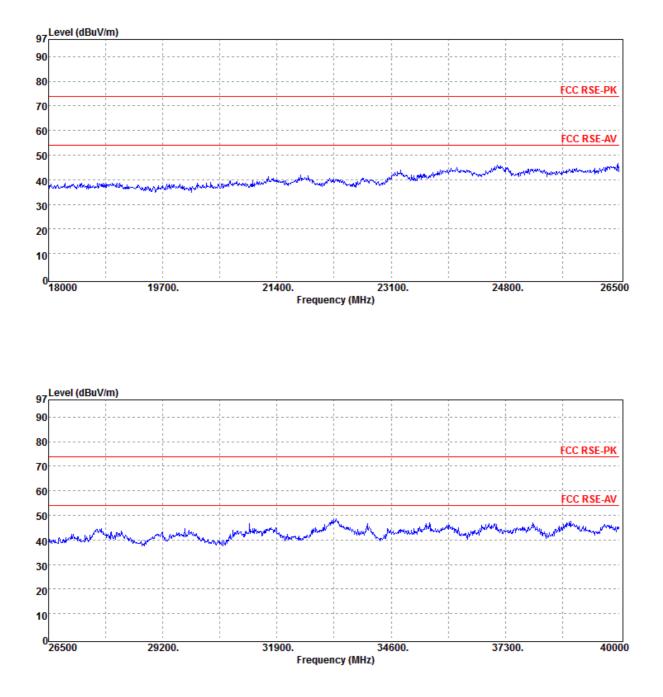
Test Date Temp./Humi. Engineer Measurement Antenna Pol. :2014-03-20 :22.7 deg_C / 67 RH :Curry :HORIZONTAL



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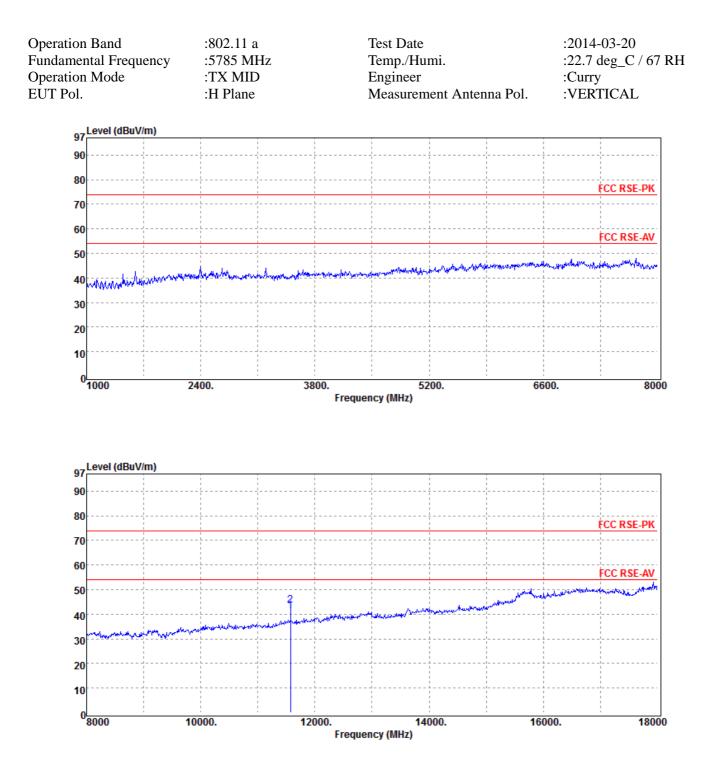


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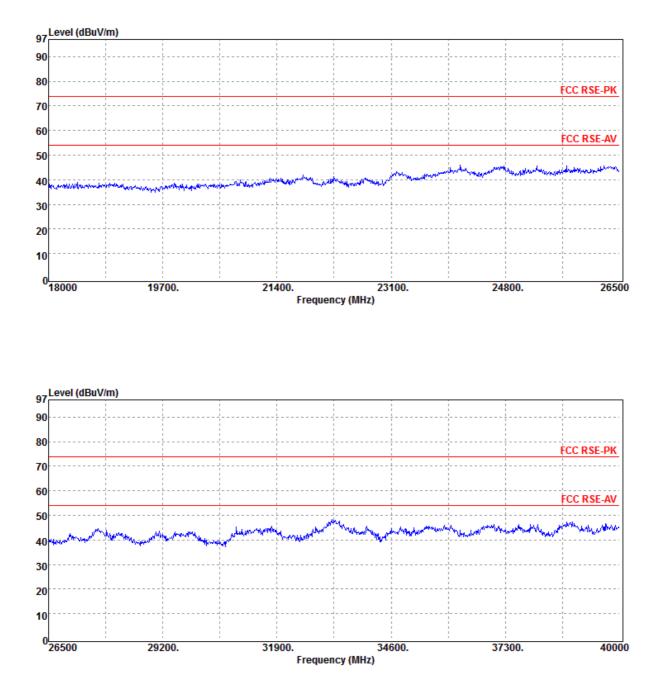
Report No.: EH/2014/10069 Issue Date: Mar. 21, 2014 Page: 220 of 247



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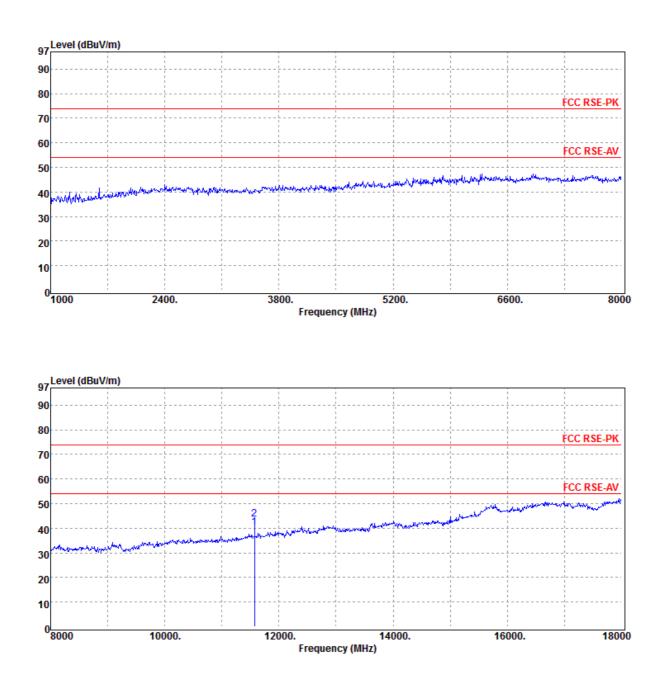


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Operation Band Fundamental Frequency Operation Mode EUT Pol.

:802.11 a :5785 MHz :TX MID :H Plane

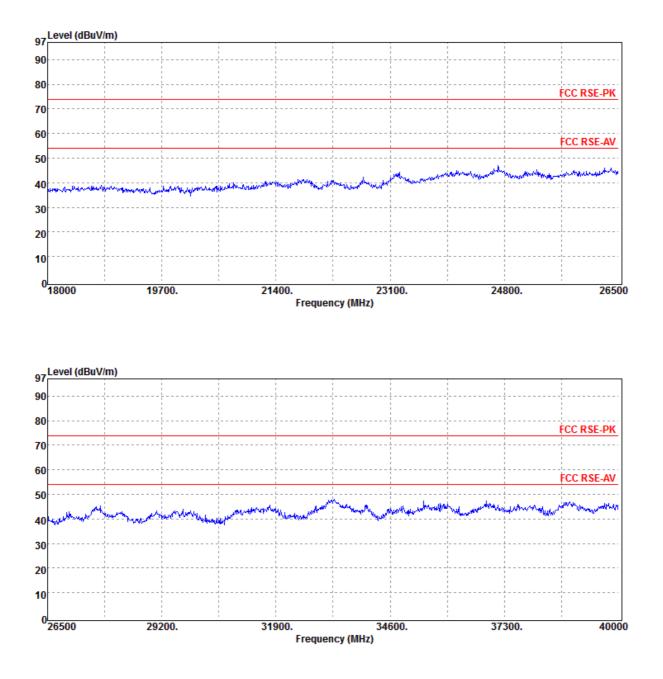
Test Date Temp./Humi. Engineer Measurement Antenna Pol. :2014-03-20 :22.7 deg_C / 67 RH :Curry :HORIZONTAL



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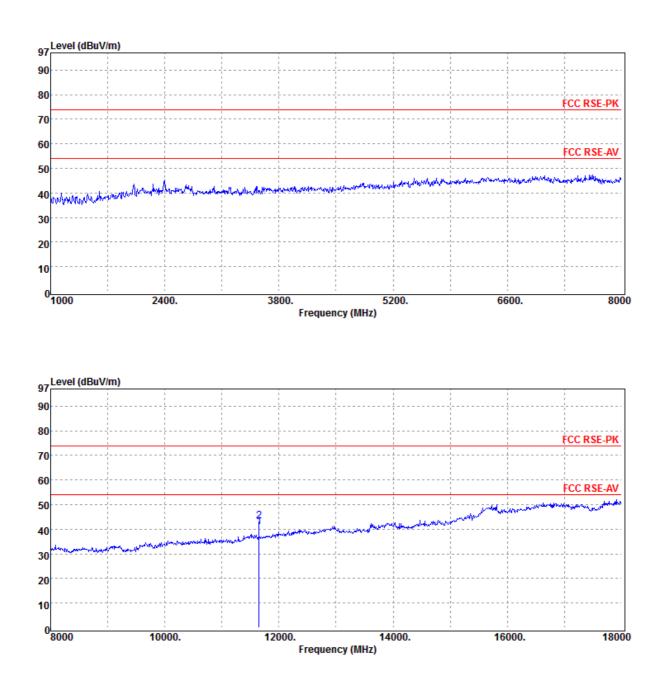


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Operation Band Fundamental Frequency Operation Mode EUT Pol.

:802.11 a :5825 MHz :TX HIGH :H Plane

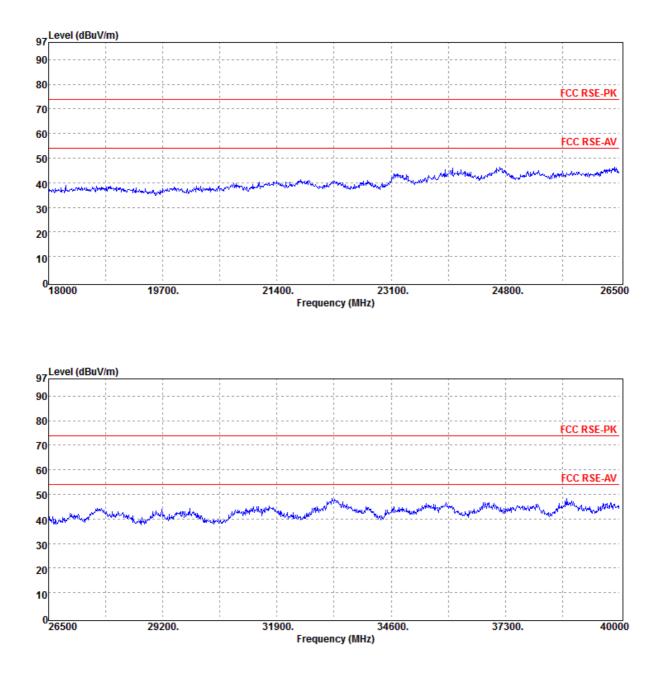
Test Date Temp./Humi. Engineer Measurement Antenna Pol. :2014-03-20 :22.7 deg_C / 67 RH :Curry :VERTICAL



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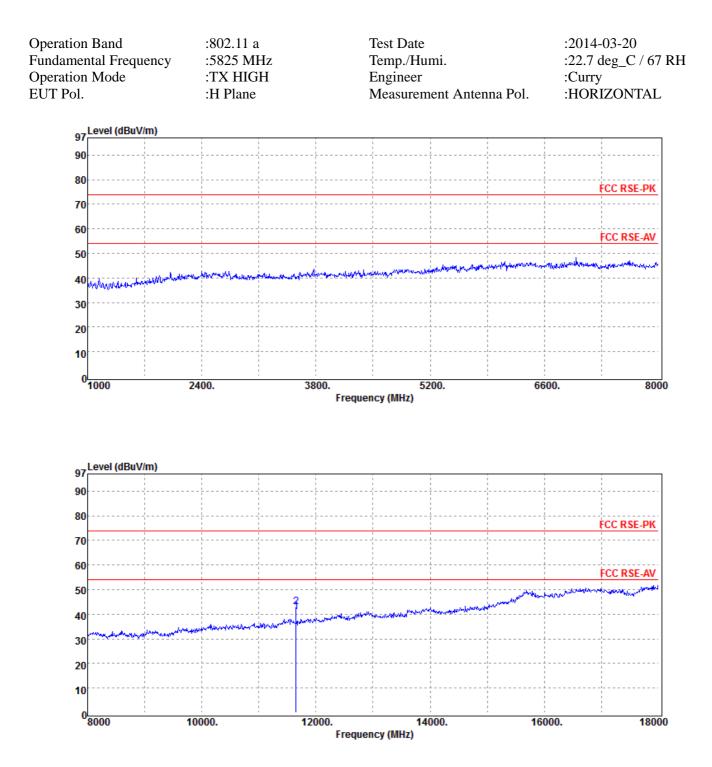




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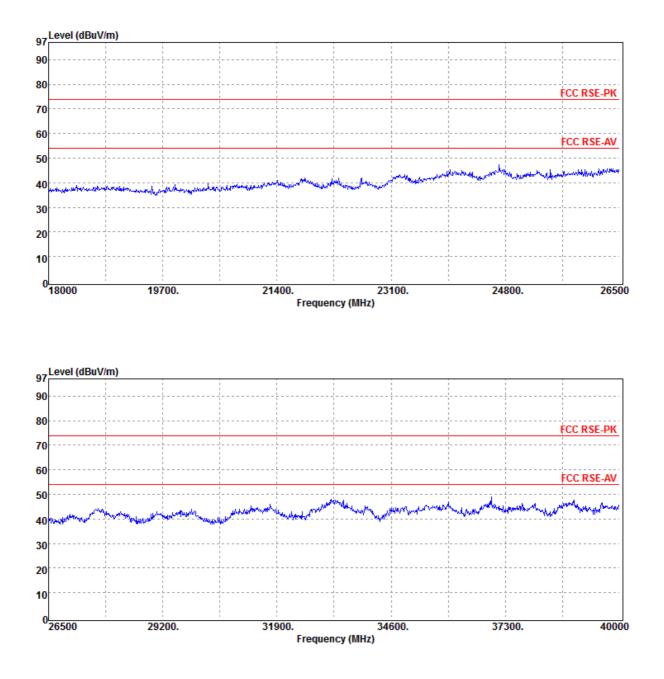
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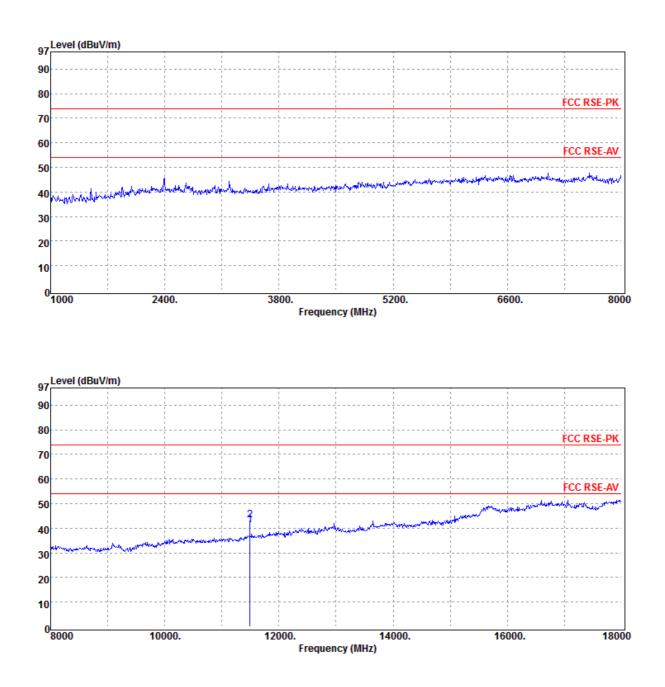


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Operation Band Fundamental Frequency **Operation Mode** EUT Pol.

:802.11 n20M :5745 MHz :TX LOW :H Plane

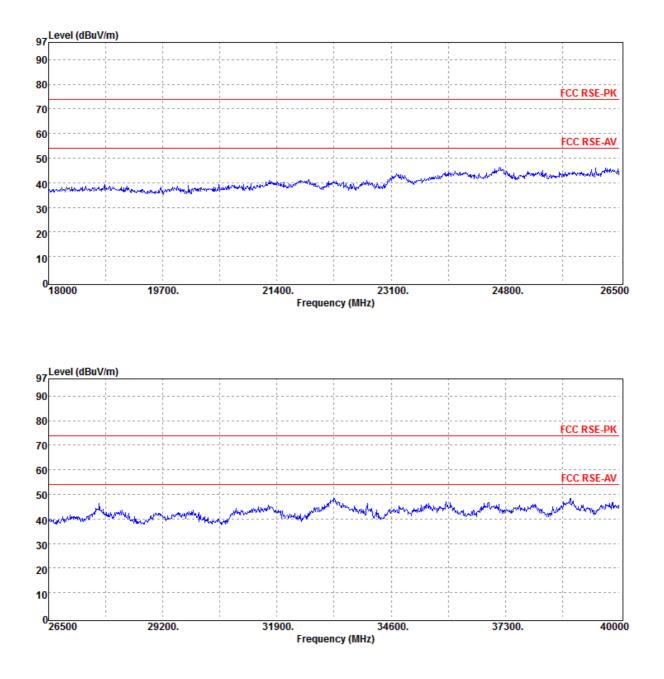
Test Date Temp./Humi. Engineer Measurement Antenna Pol. :2014-03-20 :22.7 deg_C / 67 RH :Curry :VERTICAL



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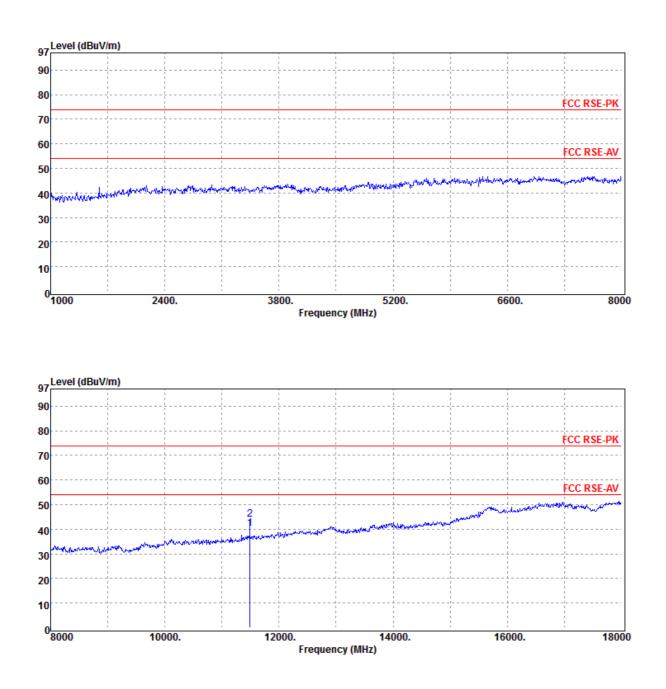


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Operation Band Fundamental Frequency **Operation Mode** EUT Pol.

:802.11 n20M :5745 MHz :TX LOW :H Plane

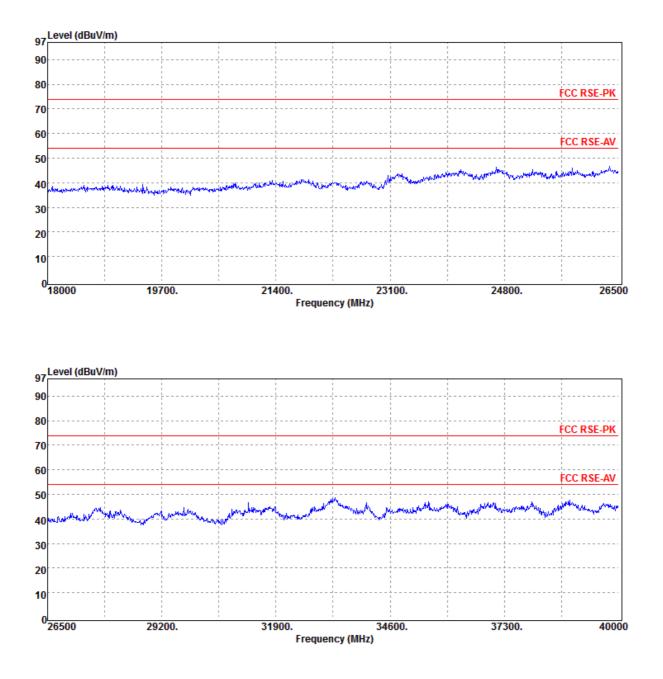
Test Date Temp./Humi. Engineer Measurement Antenna Pol. :2014-03-20 :22.7 deg_C / 67 RH :Curry :HORIZONTAL



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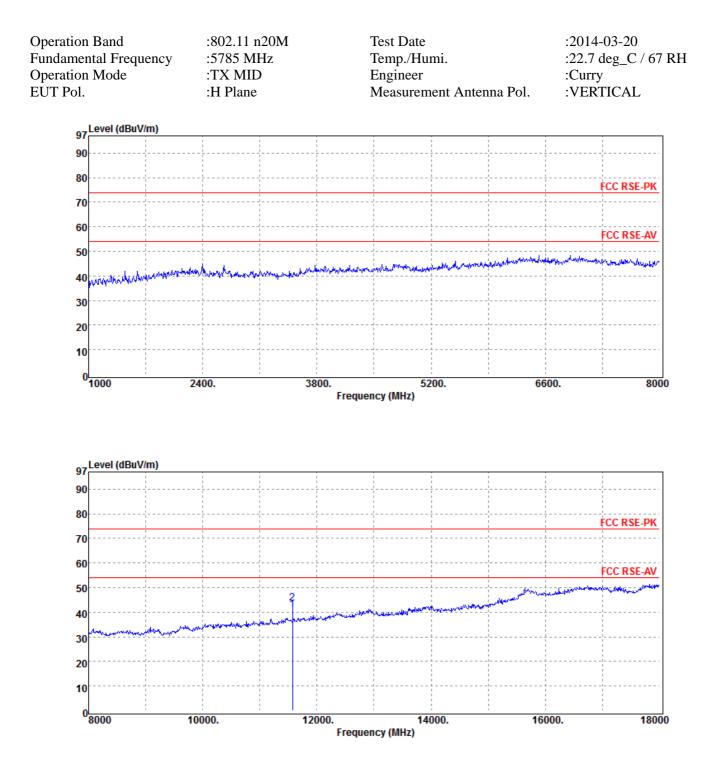
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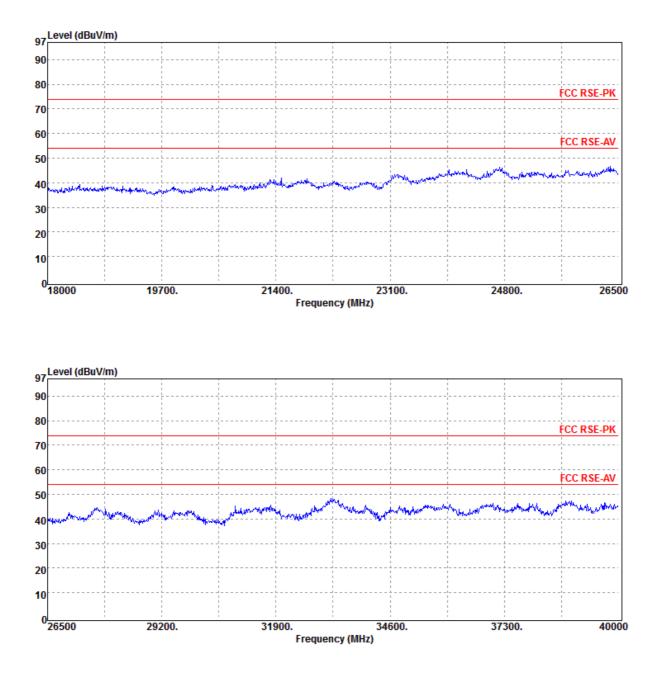
Report No.: EH/2014/10069 Issue Date: Mar. 21, 2014 Page: 232 of 247



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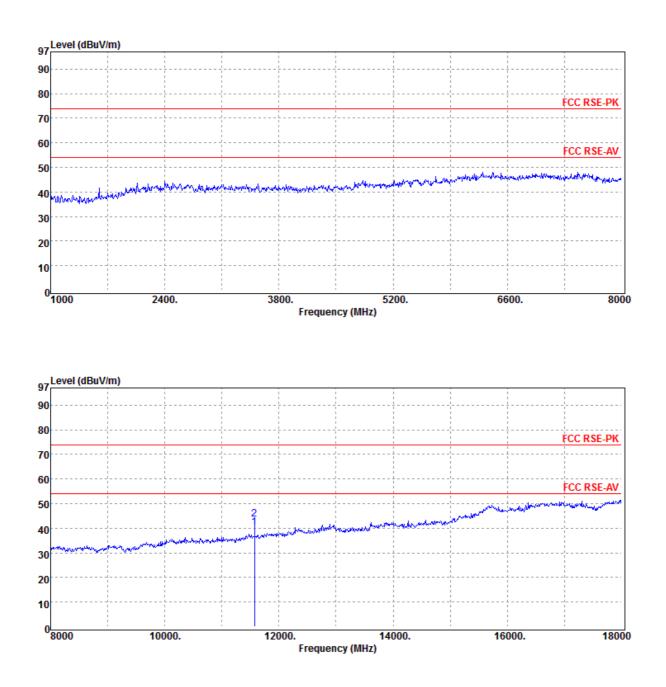


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Operation Band Fundamental Frequency **Operation Mode** EUT Pol.

:802.11 n20M :5785 MHz :TX MID :H Plane

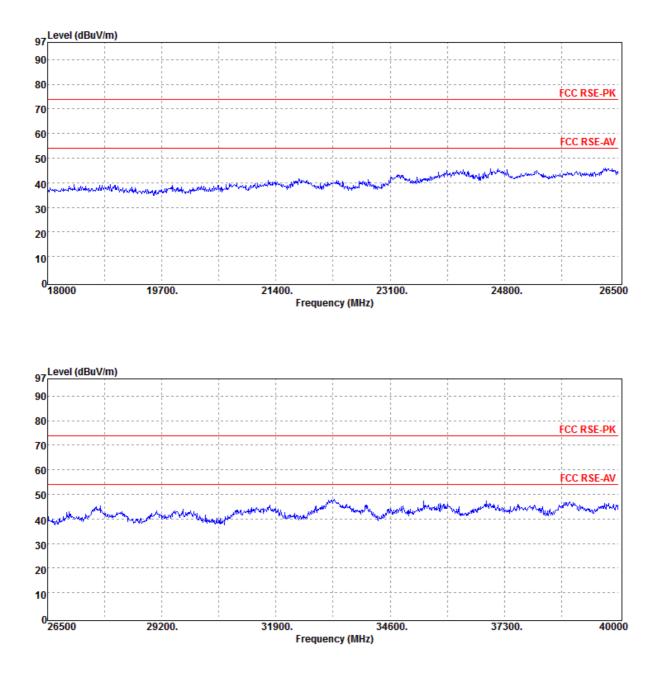
Test Date Temp./Humi. Engineer Measurement Antenna Pol. :2014-03-20 :22.7 deg_C / 67 RH :Curry :HORIZONTAL



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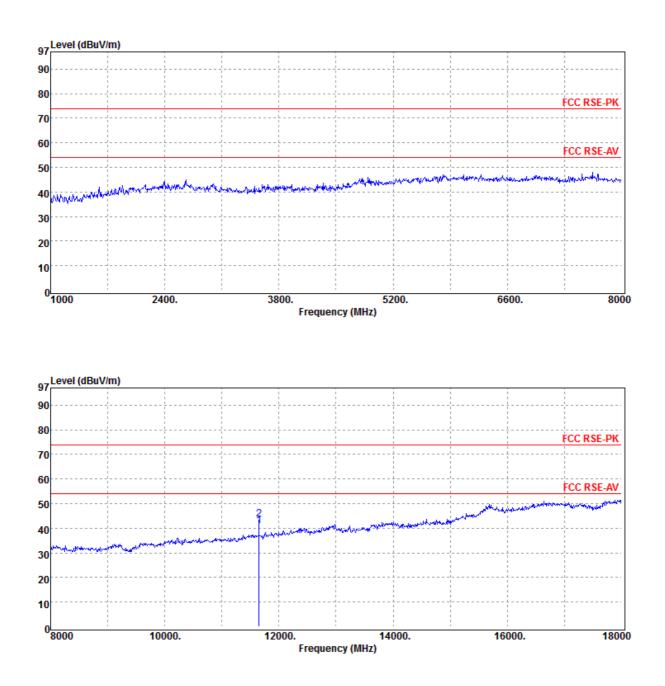


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Operation Band Fundamental Frequency **Operation Mode** EUT Pol.

:802.11 n20M :5825 MHz :TX HIGH :H Plane

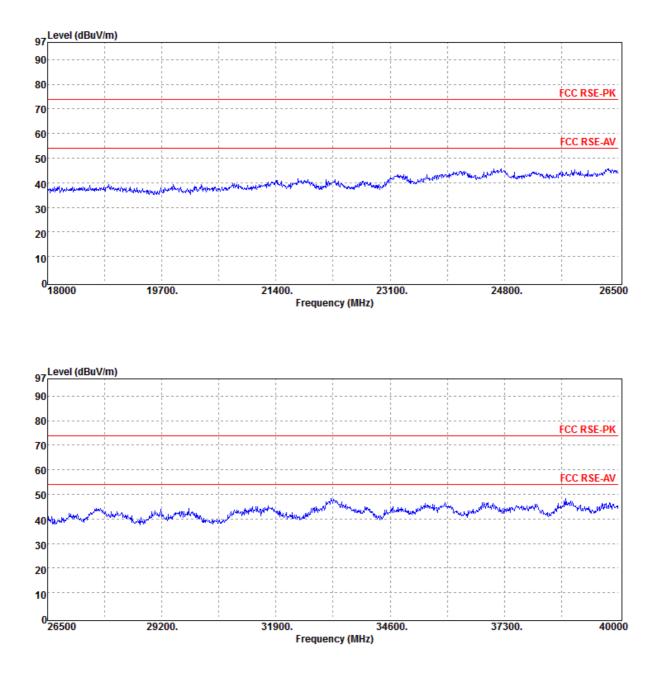
Test Date Temp./Humi. Engineer Measurement Antenna Pol. :2014-03-20 :22.7 deg_C / 67 RH :Curry :VERTICAL



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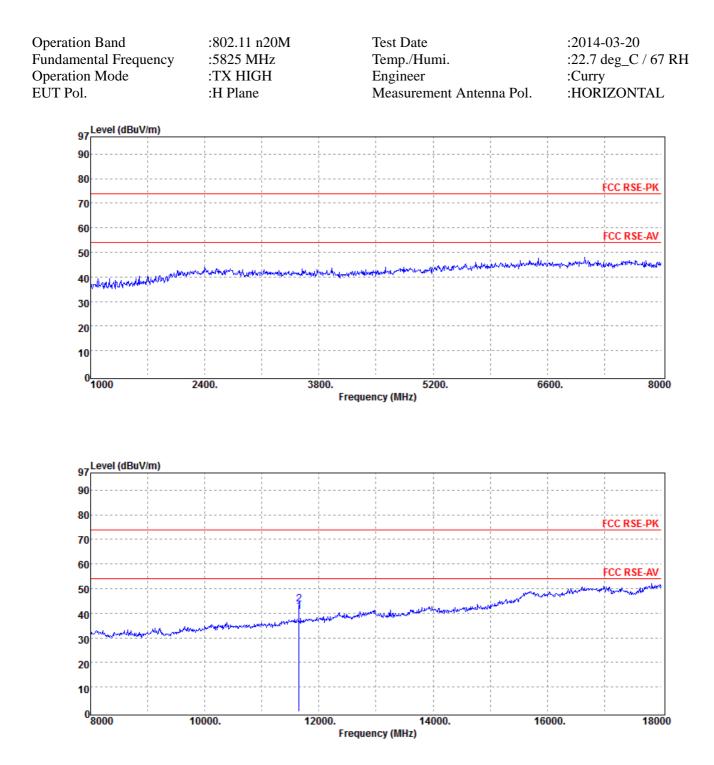
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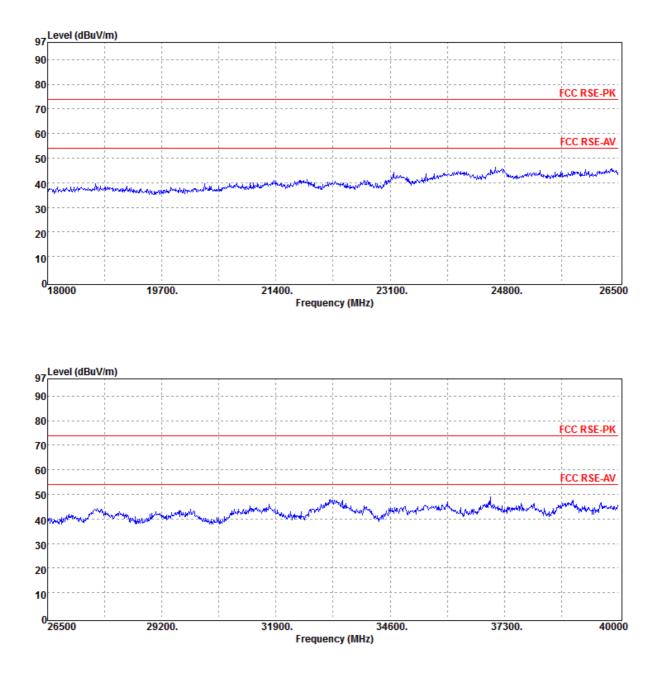
Report No.: EH/2014/10069 Issue Date: Mar. 21, 2014 Page: 238 of 247



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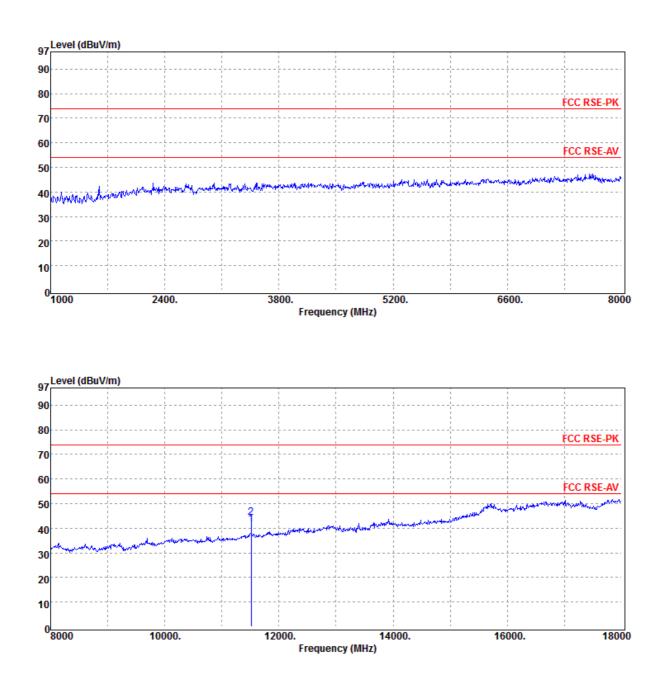


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Operation Band Fundamental Frequency **Operation Mode** EUT Pol.

:802.11 n40M :5755 MHz :TX LOW :H Plane

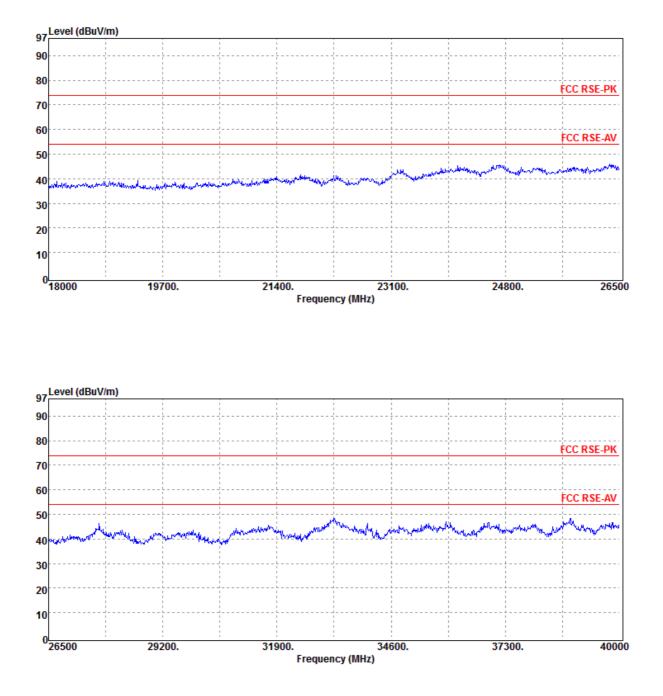
Test Date Temp./Humi. Engineer Measurement Antenna Pol. :2014-03-20 :22.7 deg_C / 67 RH :Curry :VERTICAL



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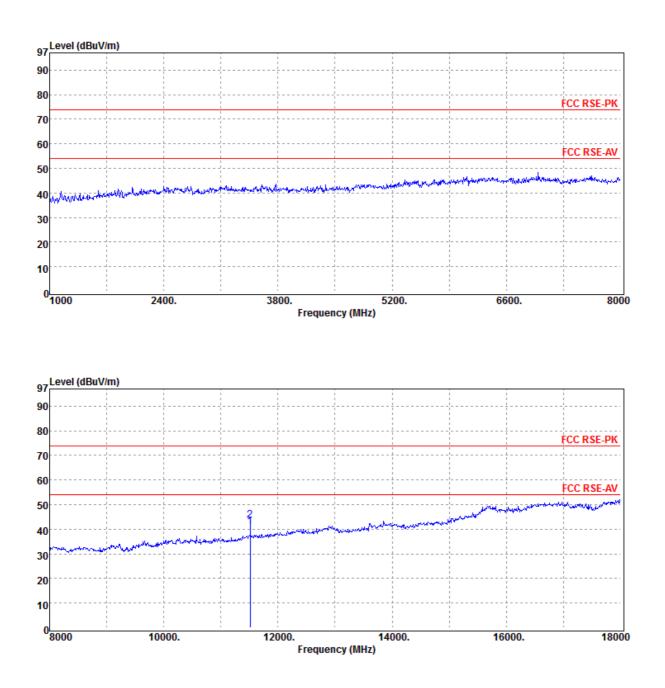


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Operation Band Fundamental Frequency **Operation Mode** EUT Pol.

:802.11 n40M :5755 MHz :TX LOW :H Plane

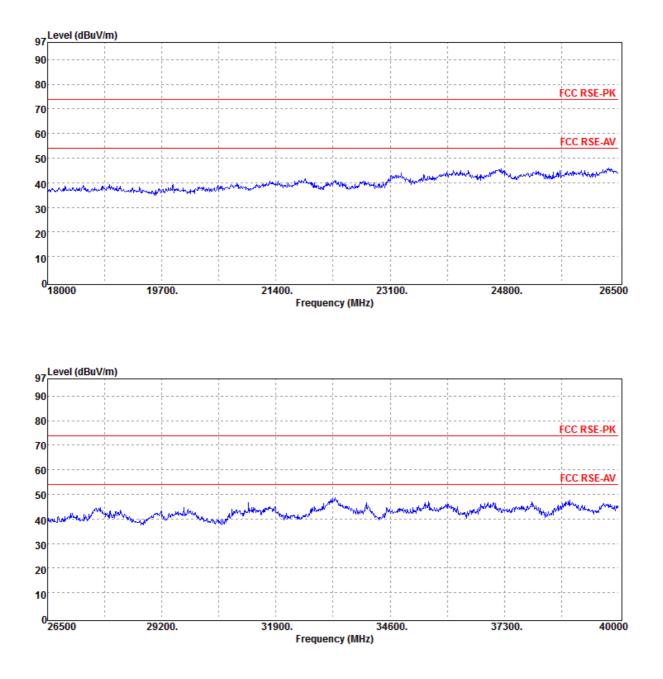
Test Date Temp./Humi. Engineer Measurement Antenna Pol. :2014-03-20 :22.7 deg_C / 67 RH :Curry :HORIZONTAL



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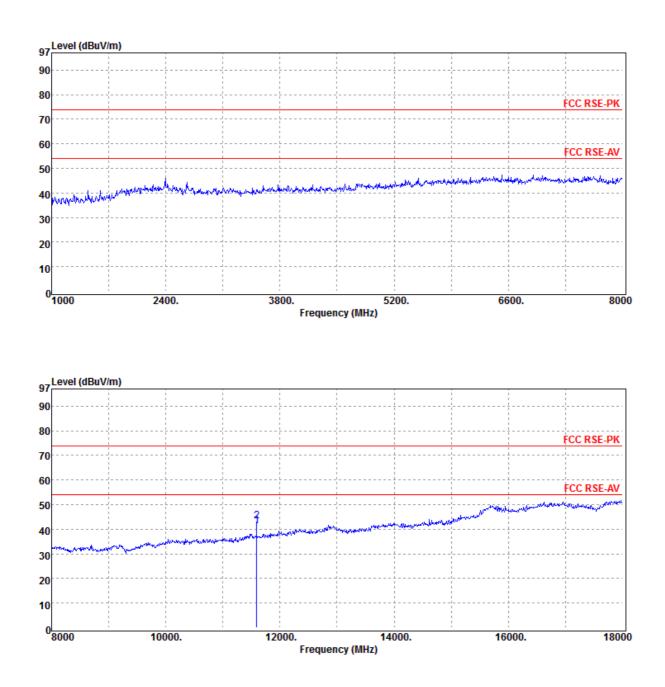


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Operation Band Fundamental Frequency **Operation Mode** EUT Pol.

:802.11 n40M :5795 MHz :TX HIGH :H Plane

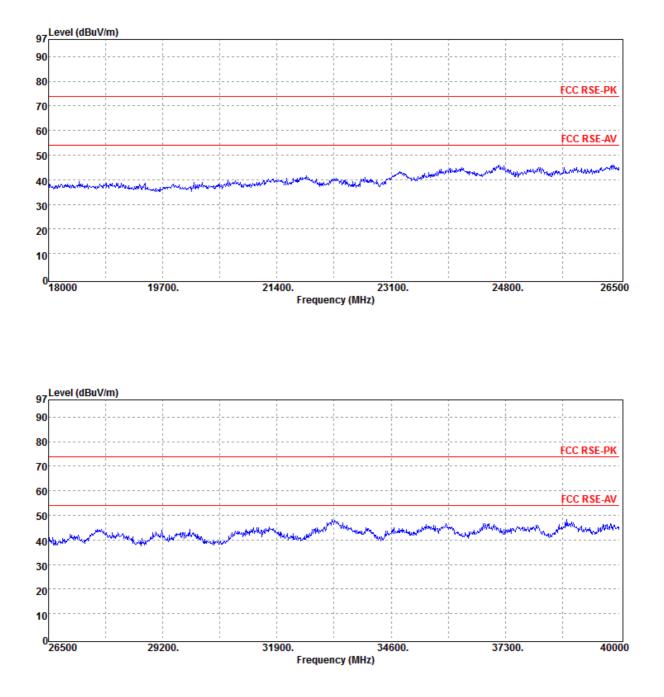
Test Date Temp./Humi. Engineer Measurement Antenna Pol. :2014-03-20 :22.7 deg_C / 67 RH :Curry :VERTICAL



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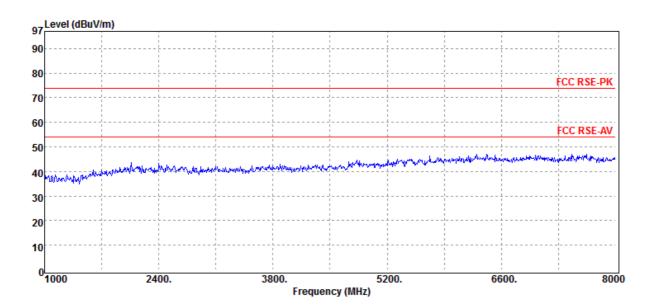


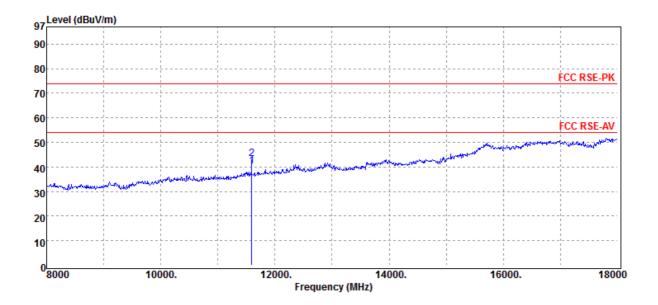
Report No.: EH/2014/10069 Issue Date: Mar. 21, 2014 Page: 246 of 247

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

:802.11 n40M :5795 MHz :TX HIGH :H Plane

Test Date Temp./Humi. Engineer Measurement Antenna Pol. :2014-03-20 :22.7 deg_C / 67 RH :Curry :HORIZONTAL

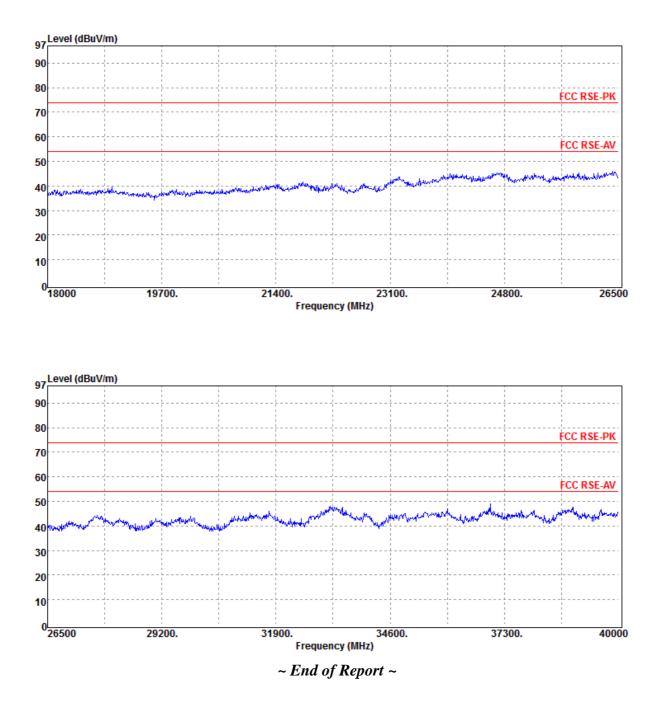




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