



Neutron Engineering Inc.

FCC Radio Test Report

FCC ID: QISR215

This report concerns (check one): ☒ Original Grant ☐ Class I Change

Issued Date : Jul. 11, 2013
Project No. : 1306C076
Equipment : Vodafone Mobile Wi-Fi
Model Name : R215
Applicant : Huawei Technologies Co., Ltd.
Address : Bantian, Longgang District, Shenzhen
China

Tested by: Neutron Engineering Inc. EMC Laboratory

Date of Receipt: Jun. 07, 2013

Date of Test: Jun. 07, 2013 ~ Jul. 10, 2013

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Declaration

Neutron represents to the client that testing is done in accordance with standard procedures as applicable and that test instruments used has been calibrated with the standards traceable to National Measurement Laboratory (NML) of R.O.C., or National Institute of Standards and Technology (NIST) of U.S.A.

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Limitation

For the use of the authority's logo is limited unless the Test Standard(s)/Scope(s)/Item(s) mentioned in this test report is (are) included in the conformity assessment authorities acceptance respective.



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1. CERTIFICATION

Equipment : Vodafone Mobile Wi-Fi
Brand Name : Vodafone
Model Name : R215
Applicant : Huawei Technologies Co., Ltd.
Manufacturer : Huawei Technologies Co., Ltd.
Address : Bantian, Longgang District, Shenzhen China
Factory : Huawei Technologies Co., Ltd.
Address : Huawei Base, Bantian, Longgang District, Shenzhen 518129, P.R. China
Date of Test : Jun. 07, 2013 ~ Jul. 10, 2013
Test Item : ENGINEERING SAMPLE
Standard(s) : FCC Part15, Subpart E(15.407) / ANSI C63.4 : 2009;
FCC KDB 789033 D01 General UNII Test Procedures v01r03 .

The above equipment has been tested and found compliance with the requirement of the relative standards by Neutron Engineering Inc. EMC Laboratory.

The test data, data evaluation, and equipment configuration contained in our test report (Ref No. NEI-FCCP-1-1306C076) were obtained utilizing the test procedures, test instruments, test sites that has been accredited by the Authority of TAF according to the ISO-17025 quality assessment standard and technical standard(s).

Test result included in this report is only for the 5180MHz~5250MHz Mode part of the product.

**2. SUMMARY OF TEST RESULTS**

Test procedures according to the technical standard(s):

FCC Part15, Subpart E			
Standard(s) Section	Test Item	Judgment	Remark
15.207	AC Power Line Conducted Emissions	PASS	
15.407(a)	26dB Spectrum Bandwidth	PASS	
15.407(a)	Maximum Conducted Output Power	PASS	
15.407(a)	Power Spectral Density	PASS	
15.407(a)	Peak Excursion	PASS	
15.407(a)	Radiated Emissions	PASS	
15.407(b)	Band Edge Emissions	PASS	
15.407(g)	Frequency Stability	PASS	
15.203	Antenna Requirements	PASS	

NOTE:

- (1) "N/A" denotes test is not applicable in this test report.
- (2) The test follows FCC KDB Publication No. 662911 D01 Multiple Transmitter Output v01r02



2.1 TEST FACILITY

The test facilities used to collect the test data in this report is **DG-C02/DG-CB03** at the location of No.3,Jinshagang 1st Road, ShiXia, Dalang Town, Dong Guan, China.523792
Neutron's test firm number for FCC 319330

2.2 MEASUREMENT UNCERTAINTY

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

A. Conducted Measurement :

Test Site	Method	Measurement Frequency Range	U , (dB)	NOTE
DG-C02	CISPR	150 KHz ~ 30MHz	1.94	

B. Radiated Measurement :

Test Site	Method	Measurement Frequency Range	Ant. H / V	U , (dB)	NOTE
DG-CB03	CISPR	30MHz ~ 200MHz	V	3.82	
		30MHz ~ 200MHz	H	3.60	
		200MHz ~ 1,000MHz	V	3.86	
		200MHz ~ 1,000MHz	H	3.94	
		1GHz~18GHz	V	4.23	
		1GHz~18GHz	H	4.15	
		18GHz~40GHz	V	4.15	
		18GHz~40GHz	H	4.14	



3. GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

Equipment	Vodafone Mobile Wi-Fi	
Brand Name	Vodafone	
Model Name	R215	
Mode Different	N/A	
Product Description	The EUT is a Vodafone Mobile Wi-Fi.	
	Operation Frequency	Band 1:5180MHz~5240MHz
	Modulation Technology	OFDM
	Bit Rate of Transmitter	11a: 6/ 9/12/18/24/36/48/54Mbps 11n: 300Mbps
	Antenna Designation	Please see note 3.(Page 9)
	Antenna Gain(Peak)	
	Output Power Band 1	802.11a: 8.23dBm 802.11n (20M): 8.39dBm 802.11n (40M): 7.88dBm
	More details of EUT technical specification, please refer to the User's Manual.	
Power Source	#1 DC voltage supplied from AC/DC adapter. 1) Brand/Model: HUAWEI/HW-050100U1W(HK) 2) Brand/Model: HUAWEI/HW-050100U1W(TPI) #2 DC voltage supplied from Li-ion battery. 1) Brand/Model: HUAWEI/HB554666RAW 2) Brand/Model: HUAWEI/HB5F2H #3 DC voltage supplied from USB system.	
Power Rating	#1 I/P: AC 100-240V O/P: DC 5V/1A #2 1)DC 3.7V 1500mAh (Charging Voltage 4.2V) 2)DC 3.7V 1780mAh (Charging Voltage 4.2V) #3 DC 5V	
Connecting I/O Port(s)	Please refer to the User's Manual	

Note:

1. For a more detailed features description, please refer to the manufacturer's specifications



2. Channel List:

802.11a/ 802.11n 20M		802.11n 40M	
Band 1			
Channel	Frequency (MHz)	Channel	Frequency (MHz)
36	5180	38	5190
40	5200	46	5230
44	5220		
48	5240		

3. Antenna Specification:

Ant.	Manufacturer	Model Name	Antenna Type	Connector	Gain (dBi)
1	HUAWEI	N/A	Internal Antenna	N/A	3.2
2	HUAWEI	N/A	Internal Antenna	N/A	2.2

Note: The EUT incorporates a MIMO function. Physically, the EUT provides two completed transmitters and two receivers (2T2R).

Operating Mode TX Mode	1TX	2TX
802.11a	V (ANT 1 or ANT 2)	-
802.11n(20MHz)	-	V (ANT 1 & ANT 2)
802.11n(40MHz)	-	V (ANT 1 & ANT 2)



3.2 DESCRIPTION OF TEST MODES

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

Pretest Test Mode	Description
Mode 1	TX A Mode / CH36, CH40, CH48(Band 1)
Mode 2	TX N20 Mode / CH36, CH40, CH48(Band 1)
Mode 3	TX N40 Mode / CH38, CH46 (Band 1)
Mode 4	TX Mode

The EUT system operated these modes were found to be the worst case during the pre-scanning test as following:

For Conducted Test	
Final Test Mode	Description
Mode 4	TX Mode

For Radiated Test	
Final Test Mode	Description
Mode 1	TX A Mode / CH36, CH40, CH48(Band 1)
Mode 2	TX N20 Mode / CH36, CH40, CH48(Band 1)
Mode 3	TX N40 Mode / CH38, CH46 (Band 1)

Note:

- (1) The measurements are performed at the high, middle, low available channels.
- (2) The EUT is considered a portable unit; it was pre-tested on the positioned of each 3 axis. The worst case was found positioned on X-plane. Therefore only the test data of this X-plane was used for radiated emission measurement test.
- (3) The power supply from adapter and Li-ion battery were tested for radiated, the power supply from Li-ion battery is worst case for and included in the test report.
- (4) For TX A mode, both of the output power for Ant 1 and Ant 2 were tested, Ant 1 is found to be the worst case.
- (5) The mode 4 is the EUT was programmed to be in continuously transmitting/TX mode.



3.3 TABLE OF PARAMETERS OF TEXT SOFTWARE SETTING

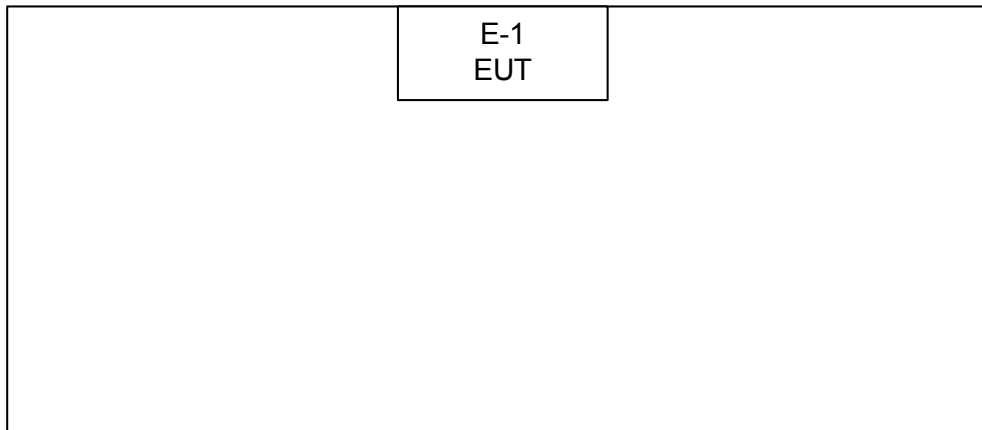
During testing channel & power controlling software provided by the customer was used to control the operating channel as well as the output power level. The RF output power selection is for the setting of RF output power expected by the customer and is going to be fixed on the firmware of the final end product

Test software version	N/A		
Frequency	5180 MHz	5200MHz	5240 MHz
A Mode	850	900	950
Frequency	5180 MHz	5200MHz	5240 MHz
N20 Mode	650	650	700
Frequency	5190 MHz	5230MHz	
N40 Mode	700	700	

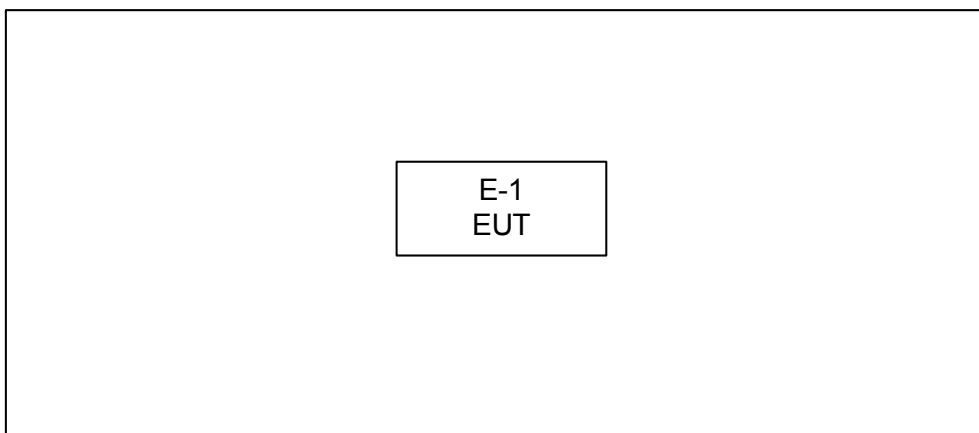


3.4 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED

Conducted Mode:



Radiated Mode:



**3.5 DESCRIPTION OF SUPPORT UNITS**

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Item	Equipment	Mfr/Brand	Model/Type No.	FCC ID	Series No.	Note
E-1	Vodafone Mobile Wi-Fi	Vodafone	R215	QISR215	N/A	EUT

Item	Shielded Type	Ferrite Core	Length	Note
-	-	-	-	

Note:

- (1) The support equipment was authorized by Declaration of Confirmation.
- (2) For detachable type I/O cable should be specified the length in m in 『Length』 column.



4. EMC EMISSION TEST

4.1 CONDUCTED EMISSION MEASUREMENT

4.1.1 POWER LINE CONDUCTED EMISSION (Frequency Range 150KHz-30MHz)

FREQUENCY (MHz)	Class A (dBuV)		Class B (dBuV)	
	Quasi-peak	Average	Quasi-peak	Average
0.15 -0.5	79.00	66.00	66 - 56 *	56 - 46 *
0.50 -5.0	73.00	60.00	56.00	46.00
5.0 -30.0	73.00	60.00	60.00	50.00

Note:

(1) The tighter limit applies at the band edges.

(2) The limit of " * " marked band means the limitation decreases linearly with the logarithm of the frequency in the range.

4.1.2 MEASUREMENT INSTRUMENTS LIST

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Last Calibration	Next Calibration
1	LISN	EMCO	3816/2	00052765	May.24.2013	Apr. 25, 2014
2	LISN	R&S	ENV216	100087	Nov.15.2012	Nov.16.2013
3	Test Cable	N/A	C_17	N/A	Mar.14.2013	Mar.15.2014
4	EMI TEST RECEIVER	R&S	ESCS30	826547/02 2	May.24.2013	Apr. 25, 2014
5	50Ω Terminator	SHX	TF2-3G-A	08122902	May.24.2013	Apr. 25, 2014

Remark: "N/A" denotes no model name, serial no. or calibration specified.

All calibration period of equipment list is one year.



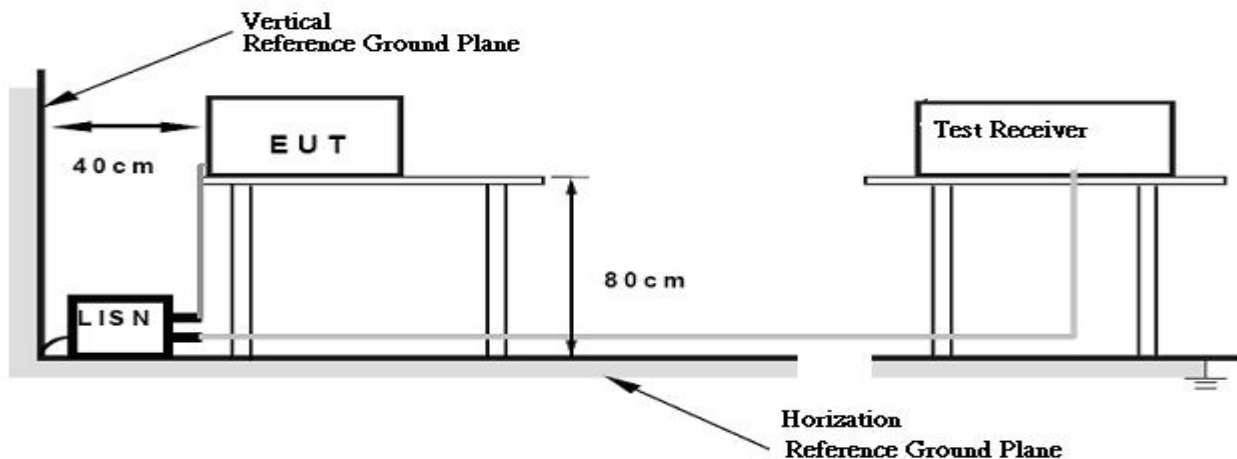
4.1.3 TEST PROCEDURE

- a. The EUT was placed 0.8 meters from the horizontal ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipments powered from additional LISN(s). The LISN provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.
- b. Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.
- c. I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
- d. LISN at least 80 cm from nearest part of EUT chassis.
- e. For the actual test configuration, please refer to the related Item –EUT Test Photos.

4.1.4 DEVIATION FROM TEST STANDARD

No deviation

4.1.5 TEST SETUP



4.1.6 EUT OPERATING CONDITIONS

The EUT was configured for testing in a typical fashion (as a customer would normally use it). The EUT has been programmed to continuously transmit during test. This operating condition was tested and used to collect the included data.

The EUT was programmed to be in continuously transmitting/TX mode.



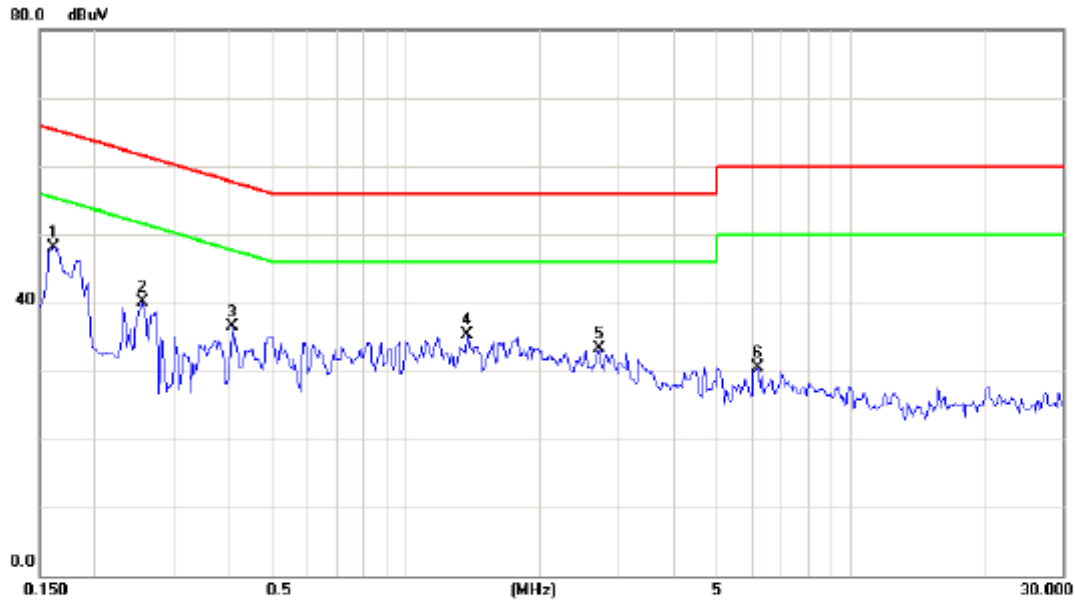
4.1.7 TEST RESULTS

Remark

- (1) All readings are QP Mode value unless otherwise stated AVG in column of『Note』. If the QP Mode Measured value compliance with the QP Limits and lower than AVG Limits, the EUT shall be deemed to meet both QP & AVG Limits and then only QP Mode was measured, but AVG Mode didn't perform. In this case, a “ * ” marked in AVG Mode column of Interference Voltage Measured.
- (2) Measuring frequency range from 150KHz to 30MHz.



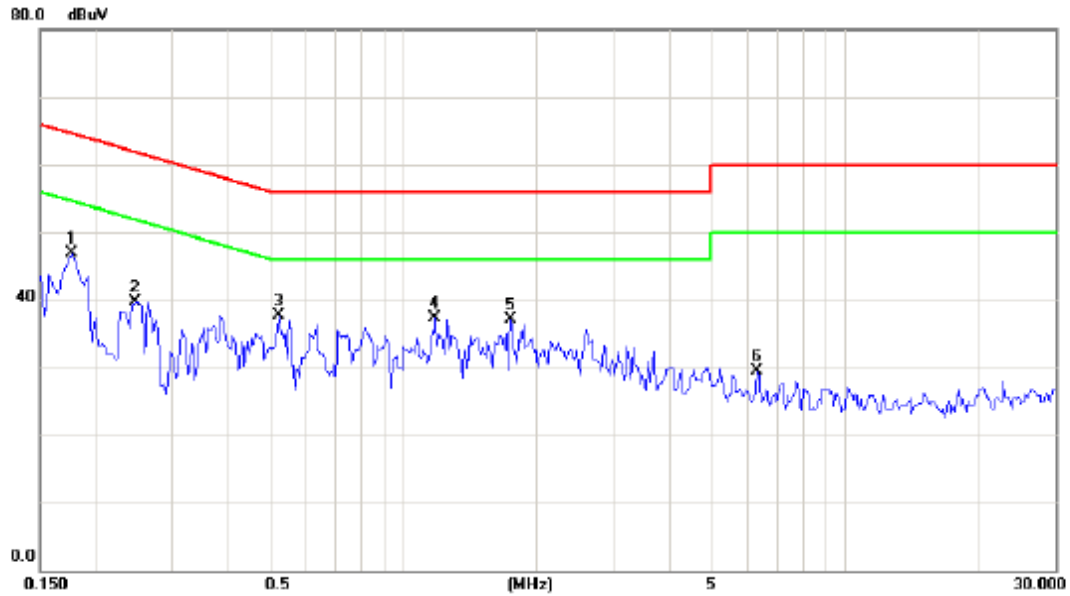
EUT:	Vodafone Mobile Wi-Fi	Model Name:	R215
Temperature:	24 °C	Relative Humidity:	55 %
Test Power:	AC 120V/60Hz	Phase:	Line
Test Mode :	TX Mode	Adapter:	HK



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1	*	0.1617	38.56	9.63	48.19	65.38	-17.19	peak	
2		0.2555	30.44	9.66	40.10	61.58	-21.48	peak	
3		0.4078	26.83	9.68	36.51	57.69	-21.18	peak	
4		1.3766	25.54	9.78	35.32	56.00	-20.68	peak	
5		2.7242	23.38	9.86	33.24	56.00	-22.76	peak	
6		6.1953	20.56	9.95	30.51	60.00	-29.49	peak	



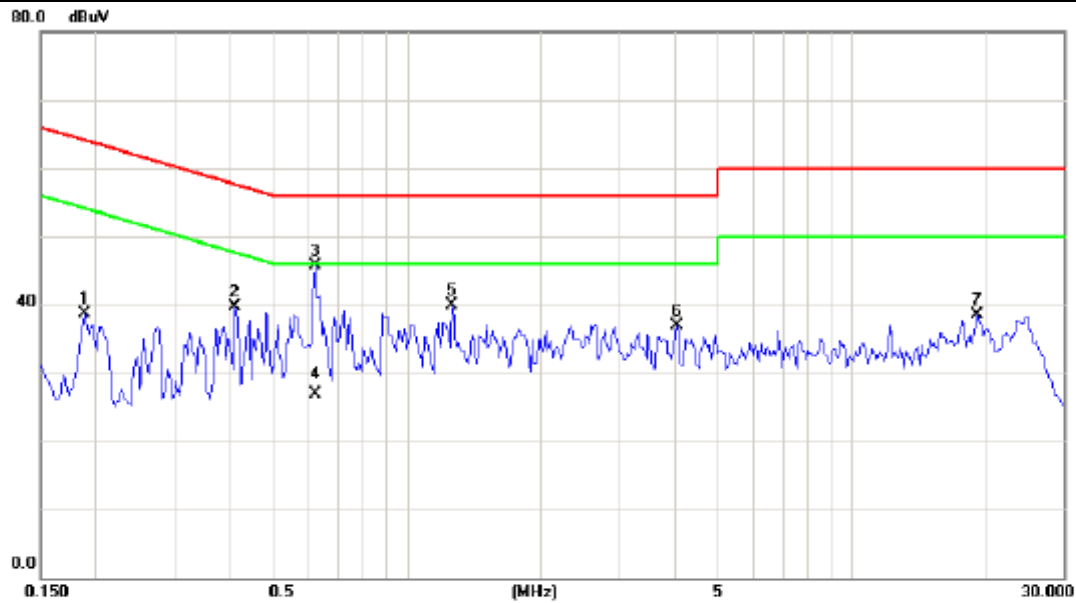
EUT:	Vodafone Mobile Wi-Fi	Model Name:	R215
Temperature:	24 °C	Relative Humidity:	55 %
Test Power:	AC 120V/60Hz	Phase:	Neutral
Test Mode :	TX Mode	Adapter:	HK



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1	*	0.1773	37.18	9.71	46.89	64.61	-17.72	peak	
2		0.2477	30.04	9.71	39.75	61.83	-22.08	peak	
3		0.5211	27.99	9.74	37.73	56.00	-18.27	peak	
4		1.1812	27.48	9.78	37.26	56.00	-18.74	peak	
5		1.7477	27.23	9.84	37.07	56.00	-18.93	peak	
6		6.3398	19.49	9.99	29.48	60.00	-30.52	peak	



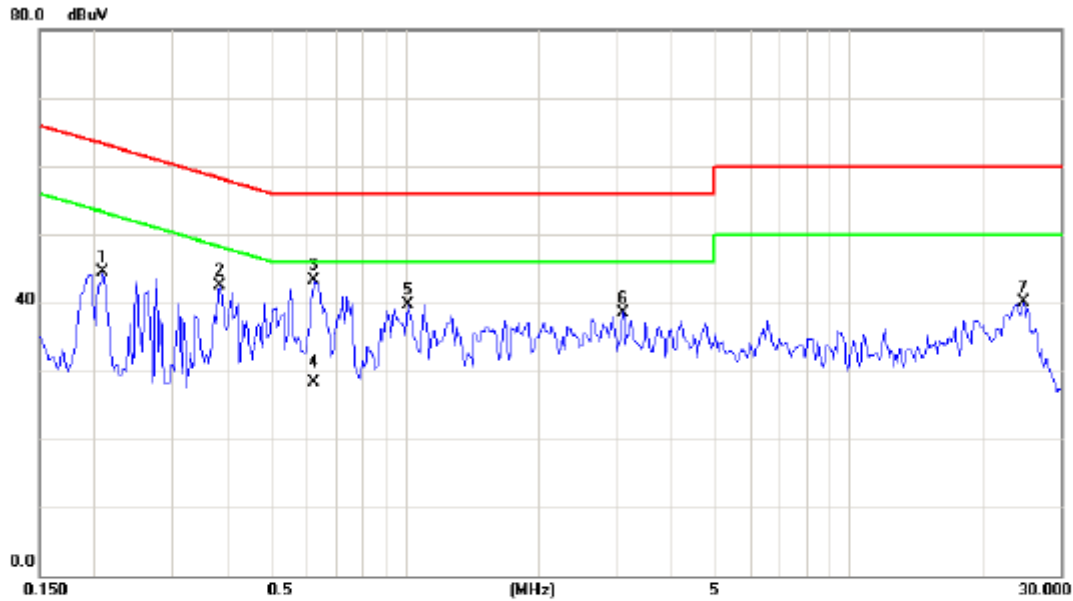
EUT:	Vodafone Mobile Wi-Fi	Model Name:	R215
Temperature:	24 °C	Relative Humidity:	55 %
Test Power:	AC 120V/60Hz	Phase:	Line
Test Mode :	TX Mode	Adapter:	TPI



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1		0.1891	29.14	9.65	38.79	64.08	-25.29	peak	
2		0.4117	30.02	9.68	39.70	57.61	-17.91	peak	
3	*	0.6266	35.93	9.72	45.65	56.00	-10.35	peak	
4		0.6266	17.20	9.72	26.92	46.00	-19.08	AVG	
5		1.2672	30.16	9.77	39.93	56.00	-16.07	peak	
6		4.0508	27.04	9.90	36.94	56.00	-19.06	peak	
7		19.1484	28.20	10.26	38.46	60.00	-21.54	peak	



EUT:	Vodafone Mobile Wi-Fi	Model Name:	R215
Temperature:	24 °C	Relative Humidity:	55 %
Test Power:	AC 120V/60Hz	Phase:	Neutral
Test Mode :	TX Mode	Adapter:	TPI



No. Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1	0.2086	34.74	9.71	44.45	63.26	-18.81	peak	
2	0.3844	32.75	9.73	42.48	58.18	-15.70	peak	
3 *	0.6266	33.57	9.75	43.32	56.00	-12.68	peak	
4	0.6266	18.60	9.75	28.35	46.00	-17.65	AVG	
5	1.0133	29.93	9.77	39.70	56.00	-16.30	peak	
6	3.1055	28.71	9.89	38.60	56.00	-17.40	peak	
7	24.6680	29.45	10.57	40.02	60.00	-19.98	peak	



4.2 RADIATED EMISSION MEASUREMENT

4.2.1 RADIATED EMISSION LIMITS (Frequency Range 9kHz-1000MHz)

20dBc in any 100 kHz bandwidth outside the operating frequency band. In case the emission fall within the restricted band specified on 15.205(a), then the 15.209(a) limit in the table below has to be followed.

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

LIMITS OF RADIATED EMISSION MEASUREMENT (Above 1000MHz)

FREQUENCY (MHz)	(dBuV/m)	
	PEAK	AVERAGE
Above 1000	74	54

Notes:

- (1) The limit for radiated test was performed according to FCC PART 15C.
- (2) The tighter limit applies at the band edges.

LIMITS OF UNWANTED EMISSION OUT OF THE RESTRICTED BANDS

Frequencies (MHz)	EIRP Limit (dBm)	Equivalent Field Strength at 3m (dBμV/m)
5150~5250	-27	68.3
5250~5350	-27	68.3
5470~5725	-27	68.3
5725~5825	-27	68.3
	-17	78.3

NOTE: The following formula is used to convert the equipment isotropic radiated power (eirp) to field strength:

$$E = \frac{1000000 \sqrt{30P}}{3} \mu\text{V/m, where } P \text{ is the eirp (Watts)}$$



4.2.2 MEASUREMENT INSTRUMENTS LIST

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Last Calibration	Next Calibration
1	Antenna	Schwarbeck	VULB9160	9160-3232	May.25.2013	Apr. 25, 2014
2	Amplifier	HP	8447D	2944A09673	May.04.2013	Apr. 25, 2014
3	Test Receiver	R&S	ESCI	100382	May.04.2013	Apr. 25, 2014
4	Test Cable	N/A	C-01_CB03	N/A	Jul.01.2013	Jun.30.2014
5	Antenna	ETS	3115	00075789	May.25.2013	Apr. 25, 2014
6	Amplifier	Agilent	8449B	3008A02274	May.04.2013	Apr. 25, 2014
7	Spectrum	Agilent	E4408B	US39240143	Nov.24.2012	Nov. 16.2013
8	Test Cable	HUBER+SUHNER	C-45	N/A	May.02.2013	Apr. 30, 2014
9	Controller	CT	SC100	N/A	N/A	N/A
10	Horn Antenna	EMCO	3115	9605-4803	May.26.2013	May.25.2014
11	Active Loop Antenna	R&S	HFH2-Z2	830749/020	May.04.2013	Apr. 25, 2014
12	Broad-Band Horn Antenna	Schwarzbeck	BBHA 9170	9170319	Oct.13.2012	Oct.12.2013

Remark: "N/A" denotes no model name, serial no. or calibration specified.

All calibration period of equipment list is one year.

4.2.3 TEST PROCEDURE

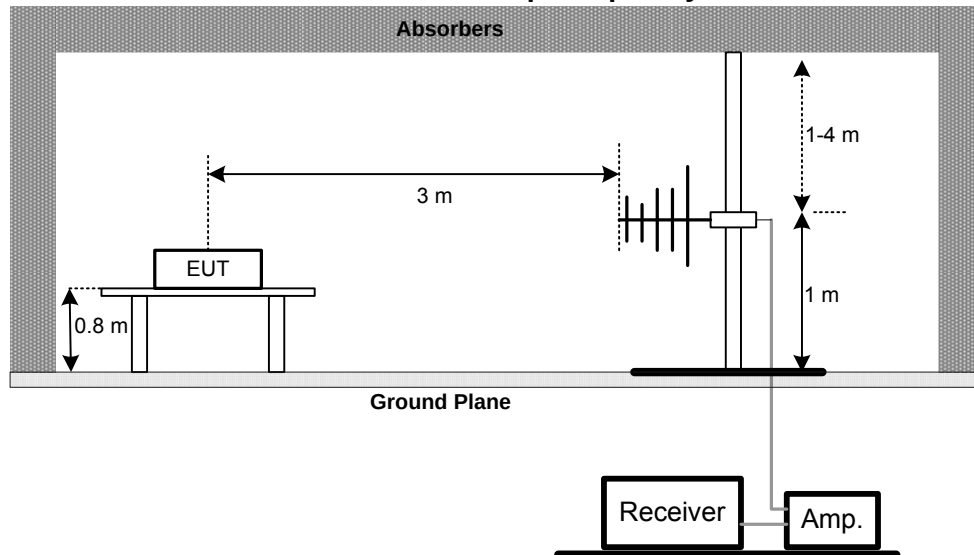
- The measuring distance of at 1.5m shall be used for measurements at frequency up to 1GHz. For frequencies above 1GHz, any suitable measuring distance may be used.
- The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- The height of the equipment or of the substitution antenna shall be 0.8 m; the height of the test antenna shall vary between 1 m to 4 m. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- The initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
- If the Peak Mode measured value compliance with and lower than Quasi Peak Mode Limit, the EUT shall be deemed to meet QP Limits and then no additional QP Mode measurement performed.
- For the actual test configuration, please refer to the related Item –EUT Test Photos.

4.2.4 DEVIATION FROM TEST STANDARD

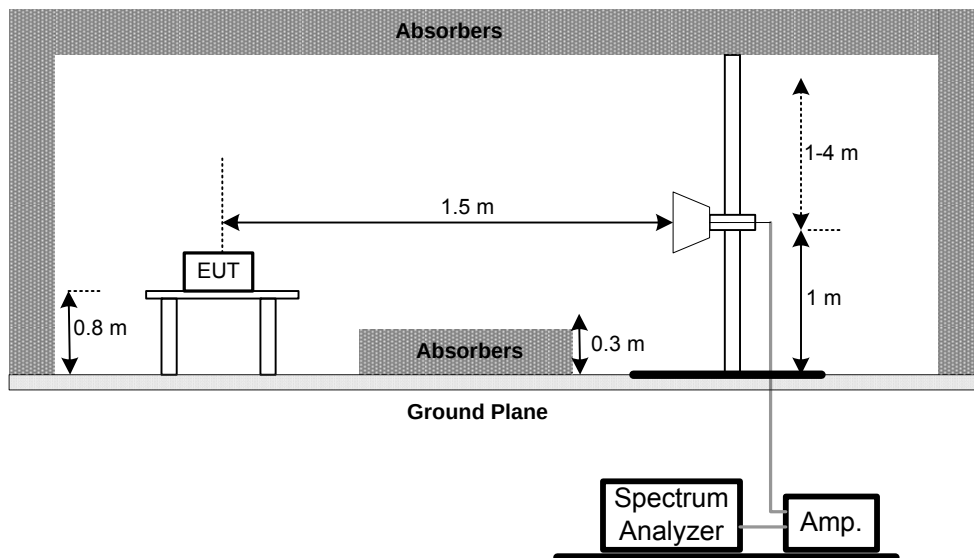
No deviation

4.2.5 TEST SETUP

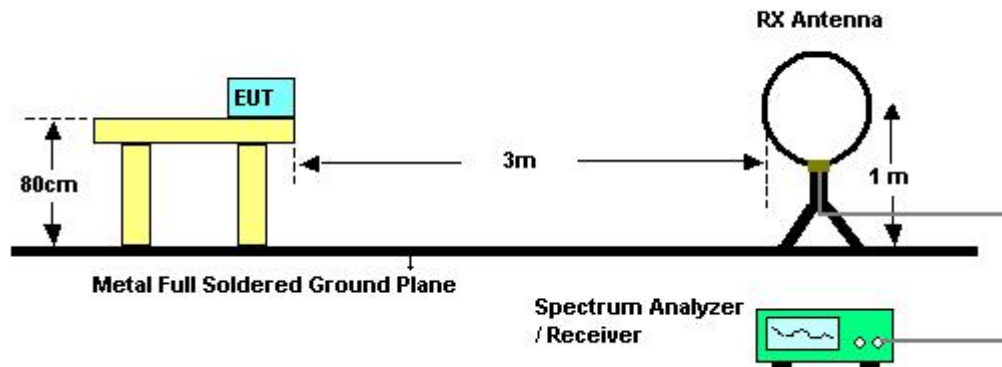
Radiated Emission Test Set-Up Frequency 30 - 1000MHz



Radiated Emission Test Set-Up Frequency Above 1 GHz



Radiated emissions below 30MHz



4.2.6 EUT OPERATING CONDITIONS

The EUT tested system was configured as the statements of 4.1.6 Unless otherwise a special operating condition is specified in the follows during the testing.



4.2.7 TEST RESULTS (9K~ 30MHz)

EUT :	Vodafone Mobile Wi-Fi	Model Name :	R215
Temperature :	24 °C	Relative Humidity :	54 %
Test Voltage :	DC 3.7V		
Test Mode :	TX Mode		

Freq. (MHz)	Ant. 0°/90°	Reading(RA) (dBuV)	Corr.Factor(CF) (dB)	Measured(FS) (dBuV/m)	Limits(QP) (dBuV/m)	Margin (dB)	Note
0.0094	0°	17.20	24.30	41.50	128.19	-86.69	AV
0.0094	0°	19.65	24.30	43.95	148.19	-104.24	PK
0.0137	0°	18.12	24.30	42.42	124.87	-82.45	AV
0.0137	0°	20.68	24.30	44.98	144.87	-99.89	PK
0.0245	0°	17.32	24.02	41.34	119.82	-78.49	AV
0.0245	0°	20.25	24.02	44.27	139.82	-95.56	PK
0.0328	0°	18.21	23.49	41.70	117.29	-75.59	AV
0.0328	0°	20.64	23.49	44.13	137.29	-93.16	PK
0.4260	0°	18.51	19.98	38.49	95.02	-56.53	AVG
0.4260	0°	20.87	19.98	40.85	115.02	-74.17	PK
1.5250	0°	18.75	19.55	38.30	63.94	-25.64	QP

Freq. (MHz)	Ant. 0°/90°	Reading(RA) (dBuV)	Corr.Factor(CF) (dB)	Measured(FS) (dBuV/m)	Limits(QP) (dBuV/m)	Margin (dB)	Note
0.0093	90°	18.21	24.30	42.51	128.28	-85.77	AVG
0.0093	90°	20.75	24.30	45.05	148.28	-103.23	PK
0.0237	90°	17.26	24.07	41.33	120.11	-78.78	AVG
0.0237	90°	20.43	24.07	44.50	140.11	-95.61	PK
0.0318	90°	18.32	23.55	41.87	117.56	-75.68	AVG
0.0318	90°	20.54	23.55	44.09	137.56	-93.46	PK
0.0429	90°	17.64	22.85	40.49	114.96	-74.47	AVG
0.0429	90°	20.23	22.85	43.08	134.96	-91.88	PK
0.2390	90°	17.15	20.42	37.57	100.04	-62.46	AVG
0.2390	90°	20.68	20.42	41.10	120.04	-78.93	PK
1.6750	90°	18.24	19.53	37.77	63.12	-25.35	QP

Remark :

- (1) The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.
- (2) Distance extrapolation factor = $40 \log (\text{specific distance} / \text{test distance})$ (dB);.
- (3) Limit line = specific limits (dBuV) + distance extrapolation factor..



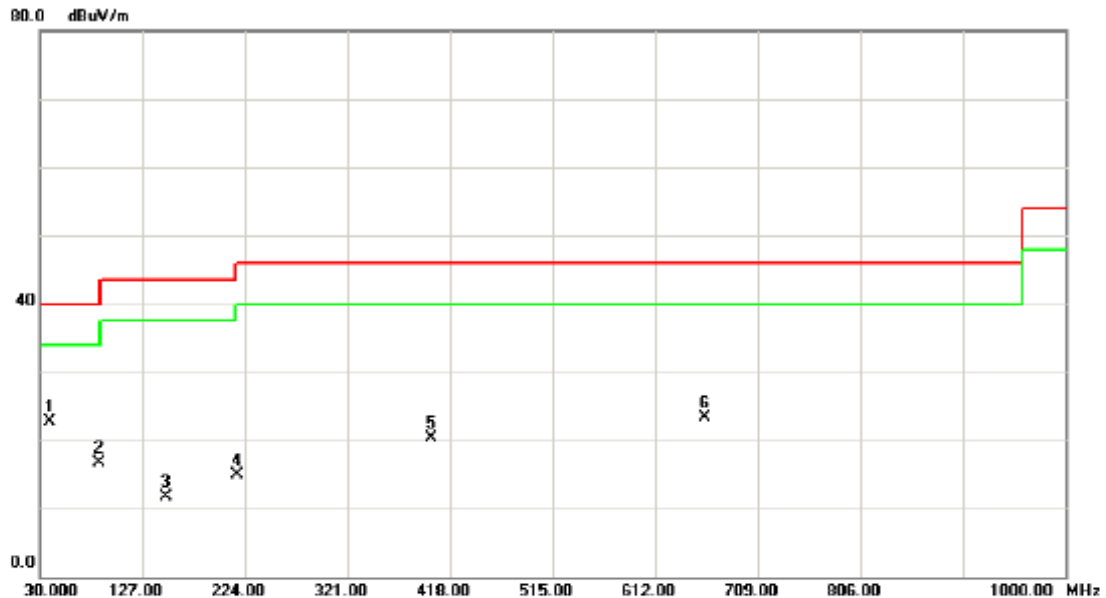
4.2.8 TEST RESULTS-BETWEEN 30MHZ - 1000MHZ

Remark :

- (1) Reading in which marked as QP or Peak means measurements by using are Quasi-Peak Mode or Peak Mode with Detector BW=120KHz ; SPA setting in RBW=120KHz, VBW =120KHz, Swp. Time = 0.3 sec./MHz ◦
- (2) All readings are Peak unless otherwise stated QP in column of 『Note』 . Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform ◦
- (3) Measuring frequency range from 30MHz to 1000MHz ◦
- (4) If the peak scan value lower limit more than 20dB, then this signal data does not show in table ◦



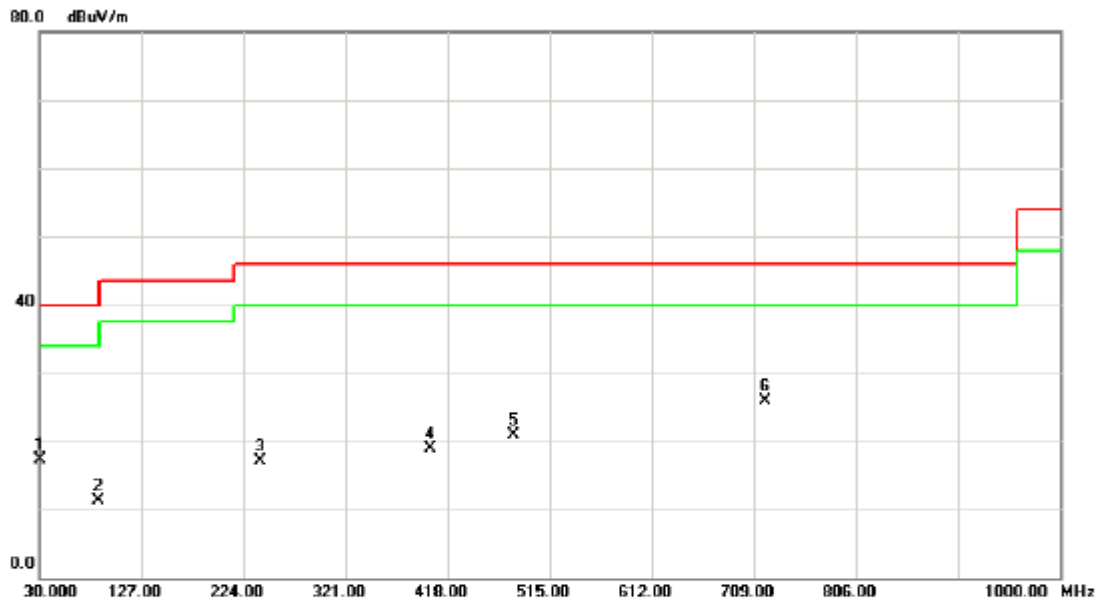
EUT :	Vodafone Mobile Wi-Fi	Model Name :	R215
Temperature :	25°C	Relative Humidity :	58 %
Pressure :	1010 hPa	Test Voltage :	DC 3.7V
Test Mode :	Band 1/TX A Mode 5180MHz	Phase:	Vertical
Adapter:	HK		



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	*	39.7000	39.63	-16.90	22.73	40.00	-17.27	peak	
2		86.2600	35.93	-19.26	16.67	40.00	-23.33	peak	
3		149.3100	29.60	-17.85	11.75	43.50	-31.75	peak	
4		216.2400	31.49	-16.49	15.00	46.00	-31.00	peak	
5		400.5400	30.07	-9.80	20.27	46.00	-25.73	peak	
6		659.5300	27.96	-4.67	23.29	46.00	-22.71	peak	



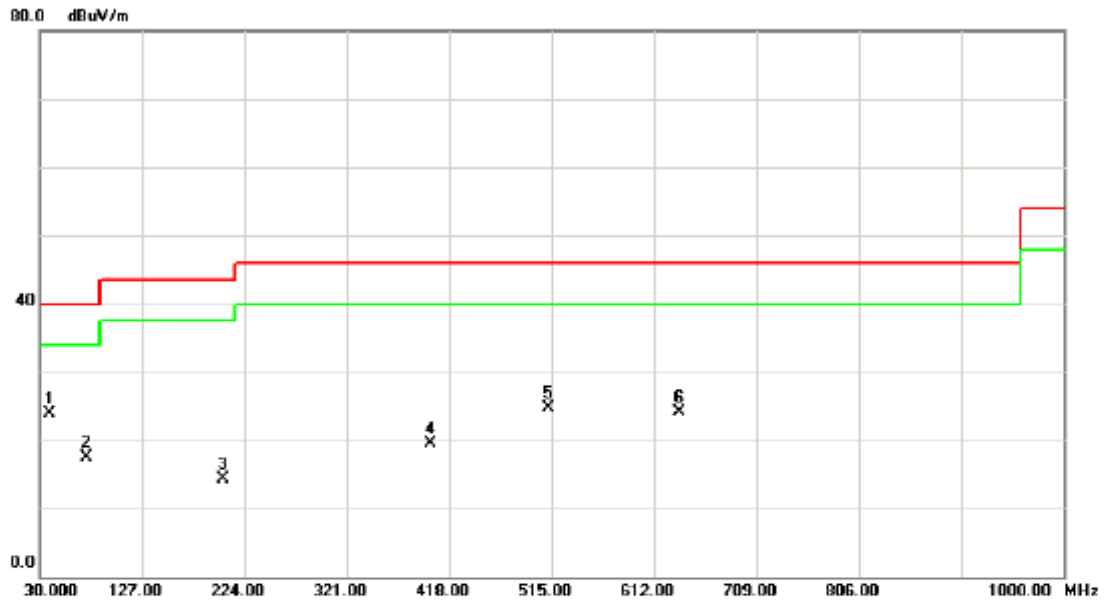
EUT :	Vodafone Mobile Wi-Fi	Model Name :	R215
Temperature :	25°C	Relative Humidity :	58 %
Pressure :	1010 hPa	Test Voltage :	DC 3.7V
Test Mode :	Band 1/TX A Mode 5180MHz	Phase:	Horizontal
Adapter:	HK		



No. Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	30.9700	33.55	-16.23	17.32	40.00	-22.68	peak	
2	86.2600	30.47	-19.26	11.21	40.00	-28.79	peak	
3	239.5200	32.89	-15.71	17.18	46.00	-28.82	peak	
4	401.5100	28.61	-9.79	18.82	46.00	-27.18	peak	
5	480.0800	29.53	-8.64	20.89	46.00	-25.11	peak	
6 *	719.6700	30.31	-4.49	25.82	46.00	-20.18	peak	



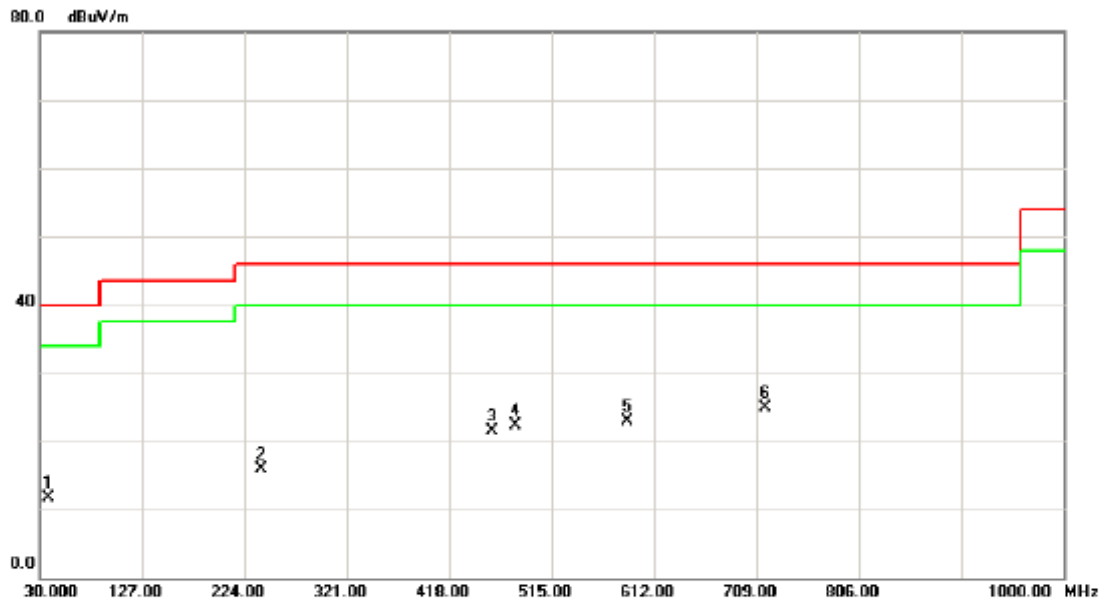
EUT :	Vodafone Mobile Wi-Fi	Model Name :	R215
Temperature :	25°C	Relative Humidity :	58 %
Pressure :	1010 hPa	Test Voltage :	DC 3.7V
Test Mode :	Band 1/TX A Mode 5200MHz	Phase:	Vertical
Adapter:	HK		



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	*	39.7000	40.78	-16.90	23.88	40.00	-16.12	peak	
2		74.6200	36.50	-18.92	17.58	40.00	-22.42	peak	
3		203.6300	31.08	-16.87	14.21	43.50	-29.29	peak	
4		400.5400	29.25	-9.80	19.45	46.00	-26.55	peak	
5		511.1200	32.62	-7.99	24.63	46.00	-21.37	peak	
6		635.2800	29.05	-4.90	24.15	46.00	-21.85	peak	



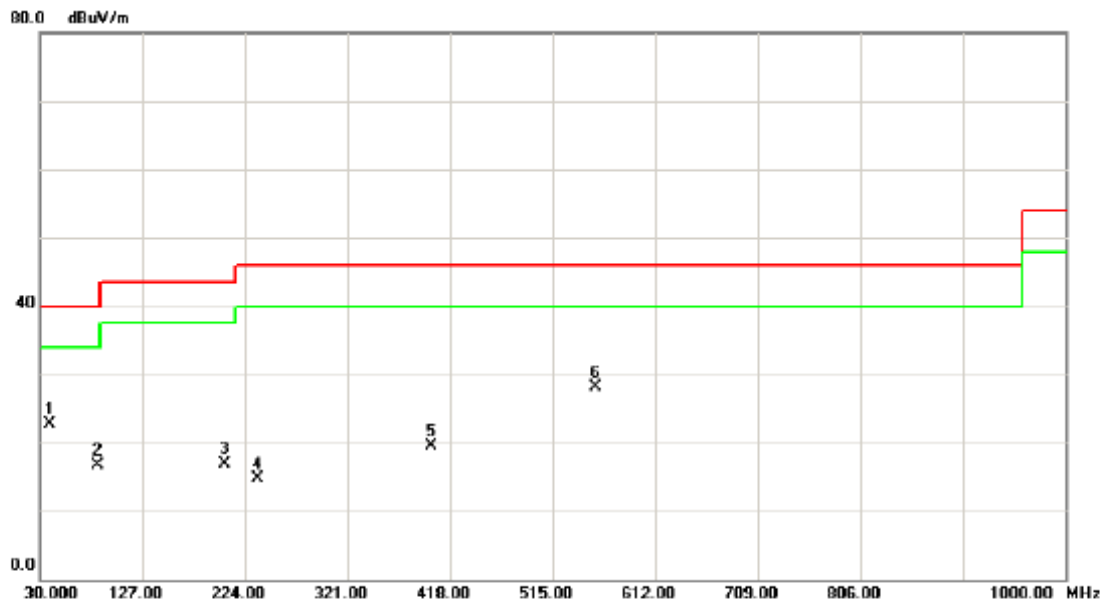
EUT :	Vodafone Mobile Wi-Fi	Model Name :	R215
Temperature :	25°C	Relative Humidity :	58 %
Pressure :	1010 hPa	Test Voltage :	DC 3.7V
Test Mode :	Band 1/TX A Mode 5200MHz	Phase:	Horizontal
Adapter:	HK		



No. Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	38.7300	28.80	-17.01	11.79	40.00	-28.21	peak	
2	239.5200	31.56	-15.71	15.85	46.00	-30.15	peak	
3	458.7400	30.44	-8.89	21.55	46.00	-24.45	peak	
4	480.0800	30.96	-8.64	22.32	46.00	-23.68	peak	
5	586.7800	28.58	-5.77	22.81	46.00	-23.19	peak	
6 *	717.7300	29.45	-4.50	24.95	46.00	-21.05	peak	



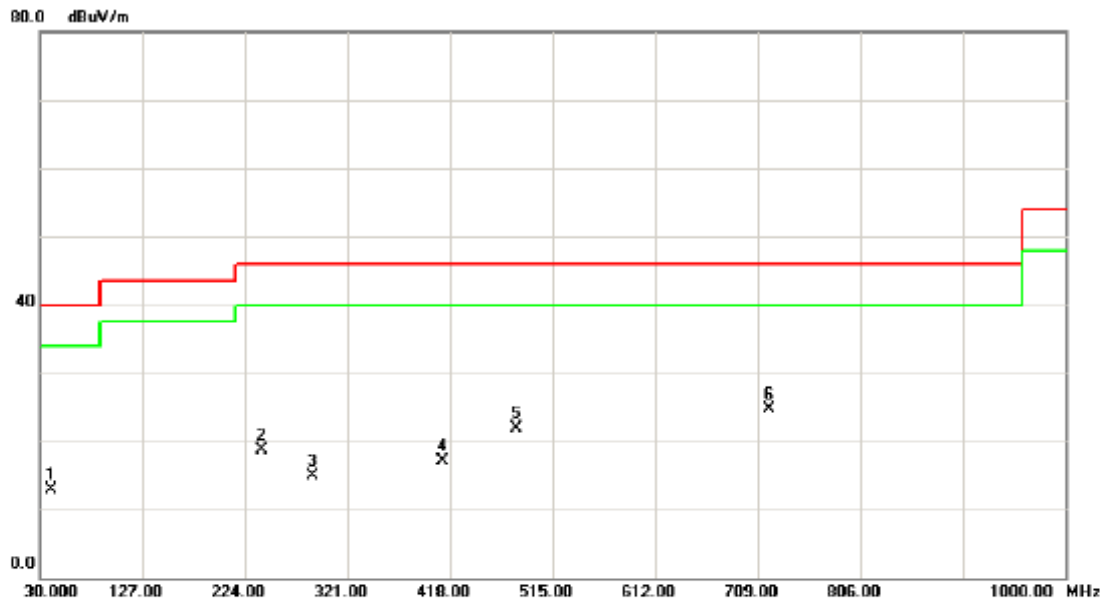
EUT :	Vodafone Mobile Wi-Fi	Model Name :	R215
Temperature :	25°C	Relative Humidity :	58 %
Pressure :	1010 hPa	Test Voltage :	DC 3.7V
Test Mode :	Band 1/TX A Mode 5240MHz	Phase:	Vertical
Adapter:	HK		



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	*	39.7000	39.70	-16.90	22.80	40.00	-17.20	peak	
2		84.3200	36.06	-19.27	16.79	40.00	-23.21	peak	
3		205.5700	33.73	-16.84	16.89	43.50	-26.61	peak	
4		236.6100	30.57	-15.82	14.75	46.00	-31.25	peak	
5		400.5400	29.35	-9.80	19.55	46.00	-26.45	peak	
6		555.7400	34.61	-6.47	28.14	46.00	-17.86	peak	



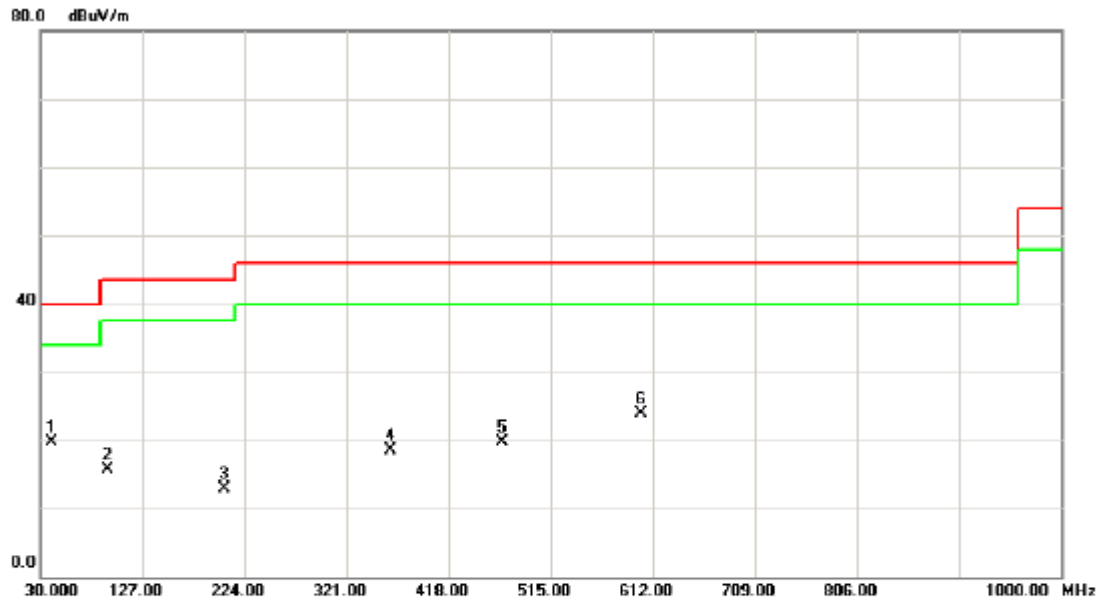
EUT :	Vodafone Mobile Wi-Fi	Model Name :	R215
Temperature :	25°C	Relative Humidity :	58 %
Pressure :	1010 hPa	Test Voltage :	DC 3.7V
Test Mode :	Band 1/TX A Mode 5240MHz	Phase:	Horizontal
Adapter:	HK		



No. Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	40.6700	29.83	-16.83	13.00	40.00	-27.00	peak	
2	240.4900	34.36	-15.67	18.69	46.00	-27.31	peak	
3	288.0200	27.55	-12.72	14.83	46.00	-31.17	peak	
4	410.2400	26.71	-9.65	17.06	46.00	-28.94	peak	
5	480.0800	30.50	-8.64	21.86	46.00	-24.14	peak	
6 *	719.6700	29.11	-4.49	24.62	46.00	-21.38	peak	



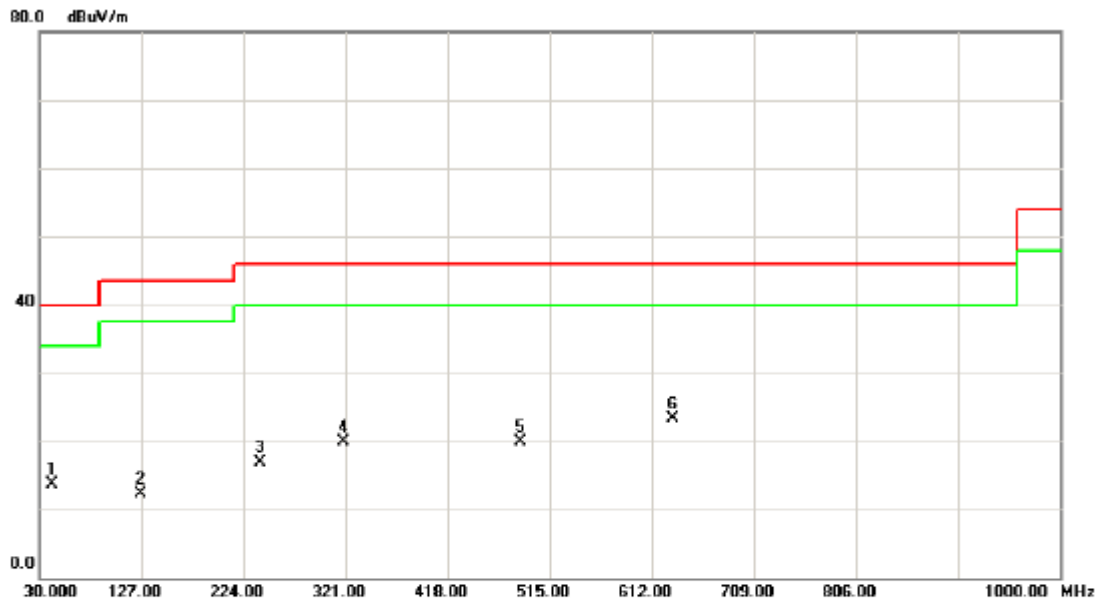
EUT :	Vodafone Mobile Wi-Fi	Model Name :	R215
Temperature :	25°C	Relative Humidity :	58 %
Pressure :	1010 hPa	Test Voltage :	DC 3.7V
Test Mode :	Band 1/TX A Mode 5180MHz	Phase:	Vertical
Adapter:	TPI		



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	*	40.6700	36.51	-16.83	19.68	40.00	-20.32	peak	
2		94.0200	34.41	-18.80	15.61	43.50	-27.89	peak	
3		205.5700	29.82	-16.84	12.98	43.50	-30.52	peak	
4		362.7100	29.58	-11.08	18.50	46.00	-27.50	peak	
5		469.4100	28.49	-8.76	19.73	46.00	-26.27	peak	
6		600.3600	29.35	-5.49	23.86	46.00	-22.14	peak	



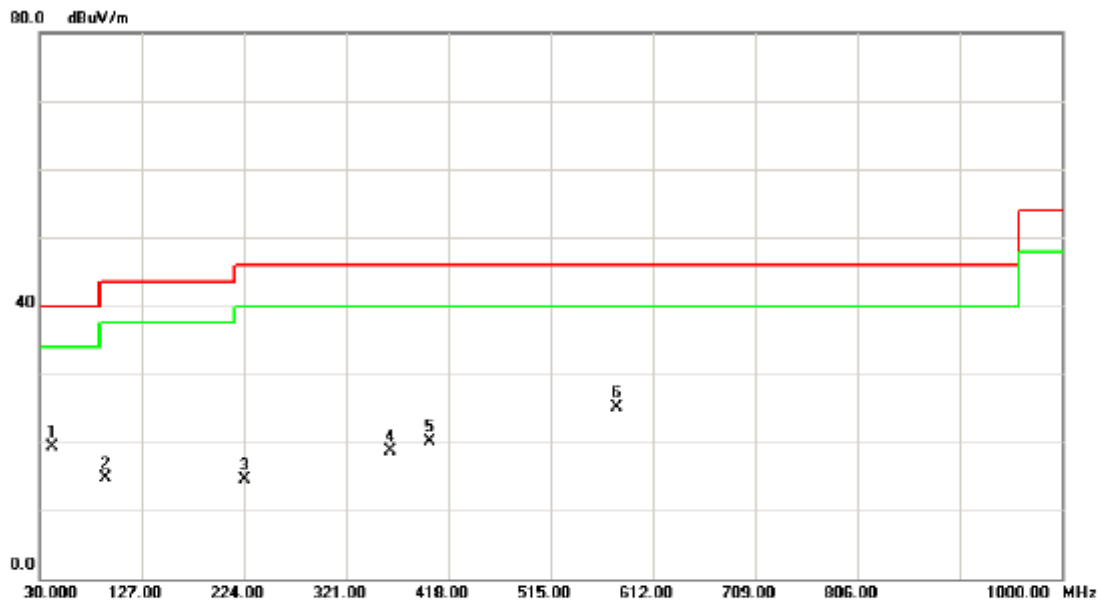
EUT :	Vodafone Mobile Wi-Fi	Model Name :	R215
Temperature :	25°C	Relative Humidity :	58 %
Pressure :	1010 hPa	Test Voltage :	DC 3.7V
Test Mode :	Band 1/TX A Mode 5180MHz	Phase:	Horizontal
Adapter:	TPI		



No. Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	41.6400	30.47	-16.77	13.70	40.00	-26.30	peak	
2	126.0300	30.77	-18.43	12.34	43.50	-31.16	peak	
3	239.5200	32.58	-15.71	16.87	46.00	-29.13	peak	
4	319.0600	32.13	-12.22	19.91	46.00	-26.09	peak	
5	486.8700	28.41	-8.55	19.86	46.00	-26.14	peak	
6 *	632.3700	28.30	-4.96	23.34	46.00	-22.66	peak	



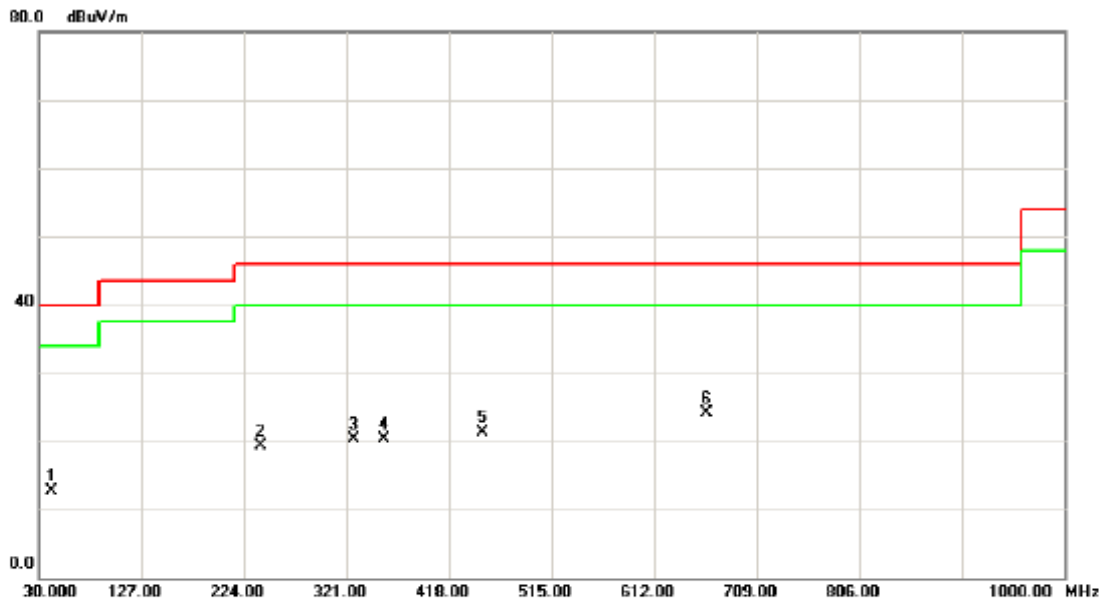
EUT :	Vodafone Mobile Wi-Fi	Model Name :	R215
Temperature :	25°C	Relative Humidity :	58 %
Pressure :	1010 hPa	Test Voltage :	DC 3.7V
Test Mode :	Band 1/TX A Mode 5200MHz	Phase:	Vertical
Adapter:	TPI		



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	*	42.6100	36.22	-16.83	19.39	40.00	-20.61	peak	
2		93.0500	33.54	-18.92	14.62	43.50	-28.88	peak	
3		224.0000	30.70	-16.21	14.49	46.00	-31.51	peak	
4		362.7100	29.71	-11.08	18.63	46.00	-27.37	peak	
5		400.5400	29.83	-9.80	20.03	46.00	-25.97	peak	
6		578.0500	31.09	-5.97	25.12	46.00	-20.88	peak	



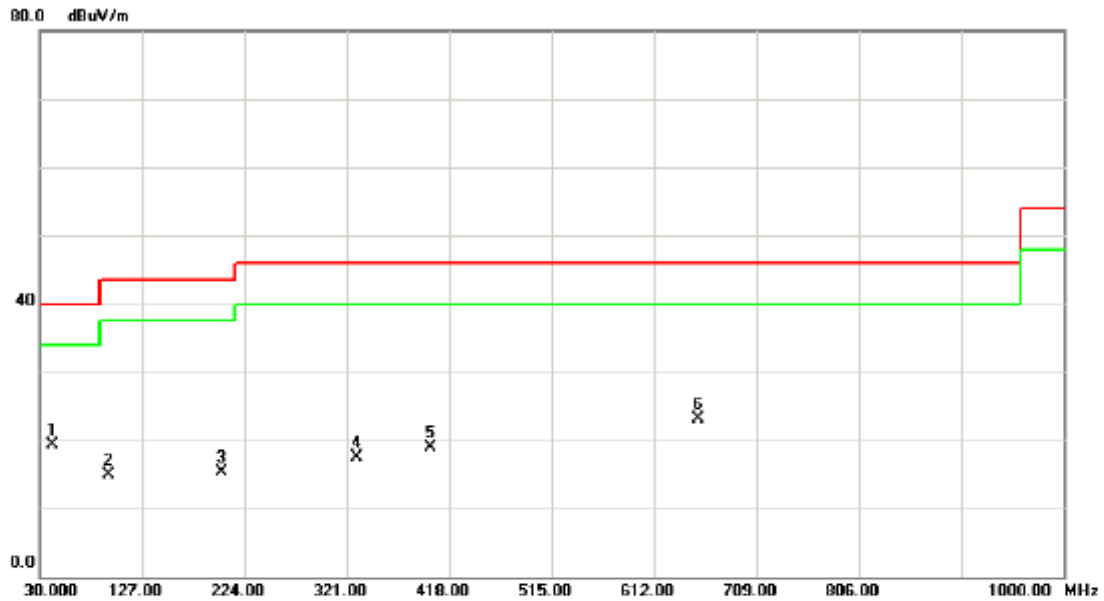
EUT :	Vodafone Mobile Wi-Fi	Model Name :	R215
Temperature :	25°C	Relative Humidity :	58 %
Pressure :	1010 hPa	Test Voltage :	DC 3.7V
Test Mode :	Band 1/TX A Mode 5200MHz	Phase:	Horizontal
Adapter:	TPI		



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		42.6100	29.52	-16.83	12.69	40.00	-27.31	peak	
2		239.5200	35.09	-15.71	19.38	46.00	-26.62	peak	
3		327.7900	32.26	-12.02	20.24	46.00	-25.76	peak	
4		355.9200	31.68	-11.33	20.35	46.00	-25.65	peak	
5		450.0100	30.34	-8.99	21.35	46.00	-24.65	peak	
6	*	661.4700	28.75	-4.68	24.07	46.00	-21.93	peak	



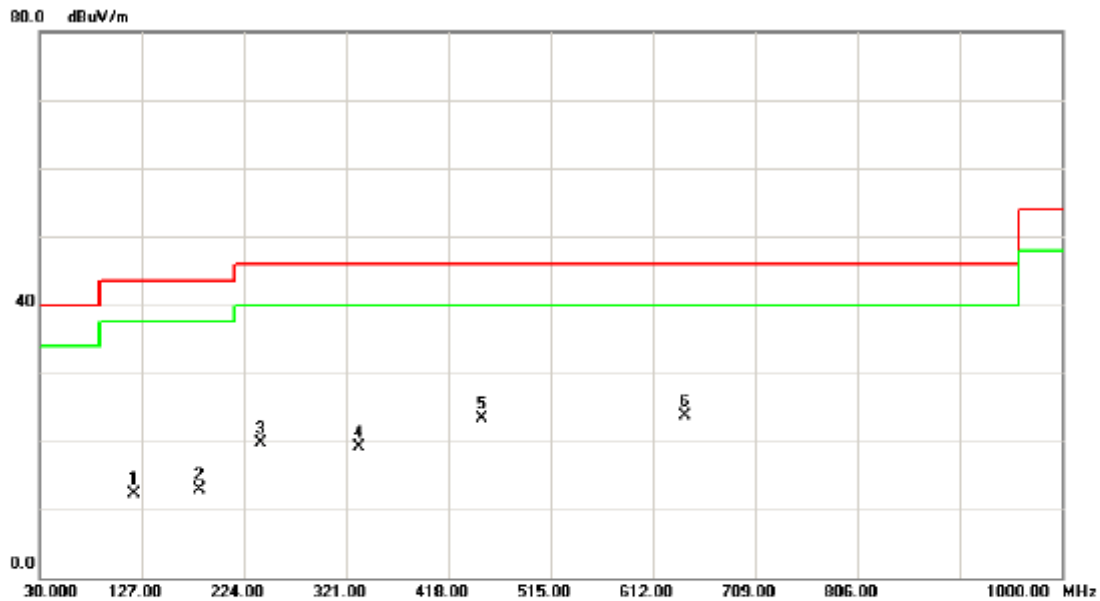
EUT :	Vodafone Mobile Wi-Fi	Model Name :	R215
Temperature :	25°C	Relative Humidity :	58 %
Pressure :	1010 hPa	Test Voltage :	DC 3.7V
Test Mode :	Band 1/TX A Mode 5240MHz	Phase:	Vertical
Adapter:	TPI		



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	*	42.6100	36.10	-16.83	19.27	40.00	-20.73	peak	
2		94.9900	33.67	-18.70	14.97	43.50	-28.53	peak	
3		202.6600	32.23	-16.88	15.35	43.50	-28.15	peak	
4		330.7000	29.48	-11.97	17.51	46.00	-28.49	peak	
5		400.5400	28.78	-9.80	18.98	46.00	-27.02	peak	
6		653.7100	27.68	-4.67	23.01	46.00	-22.99	peak	



EUT :	Vodafone Mobile Wi-Fi	Model Name :	R215
Temperature :	25°C	Relative Humidity :	58 %
Pressure :	1010 hPa	Test Voltage :	DC 3.7V
Test Mode :	Band 1/TX A Mode 5240MHz	Phase:	Horizontal
Adapter:	TPI		



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1		120.2100	30.77	-18.52	12.25	43.50	-31.25	peak	
2		182.2900	30.22	-17.23	12.99	43.50	-30.51	peak	
3		240.4900	35.29	-15.67	19.62	46.00	-26.38	peak	
4		333.6100	30.94	-11.90	19.04	46.00	-26.96	peak	
5		450.0100	32.24	-8.99	23.25	46.00	-22.75	peak	
6	*	642.0700	28.42	-4.80	23.62	46.00	-22.38	peak	



4.2.9 TEST RESULTS - ABOVE 1000MHZ

EUT :	Vodafone Mobile Wi-Fi	Model Name :	R215
Temperature :	25° C	Relative Humidity :	58 %
Test Voltage :	DC 3.7V		
Test Mode :	Band 1/ TX A Mode 5180MHz		

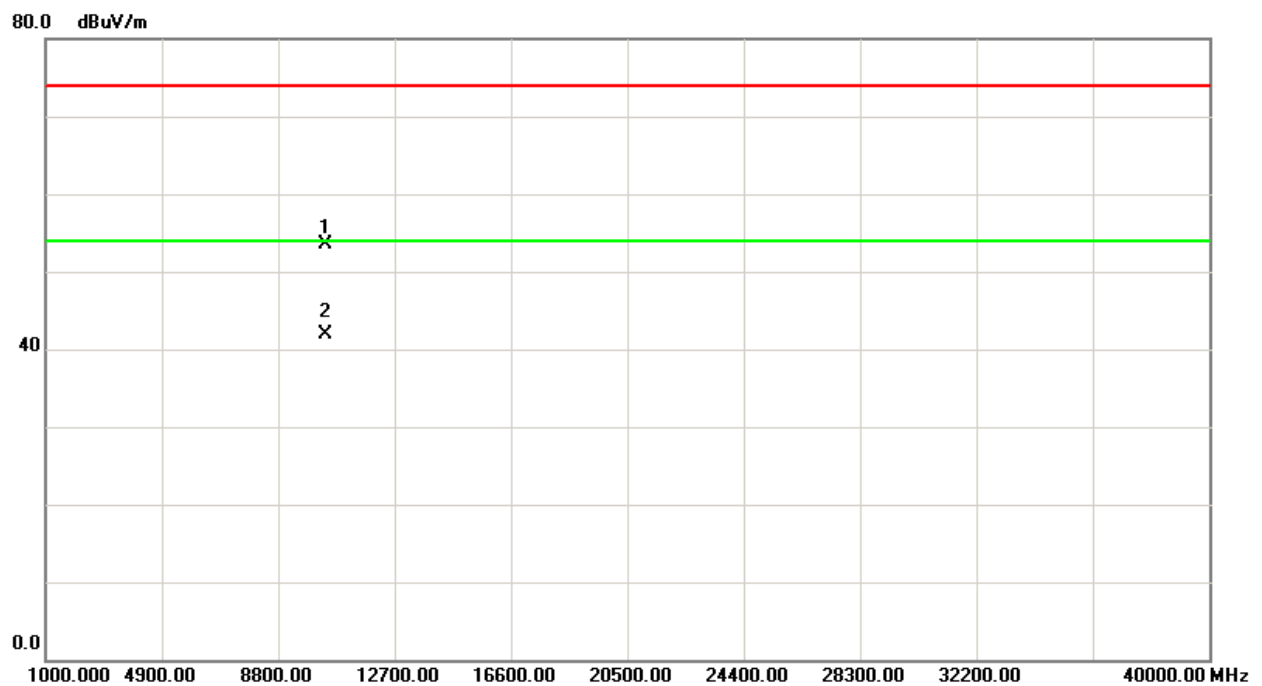
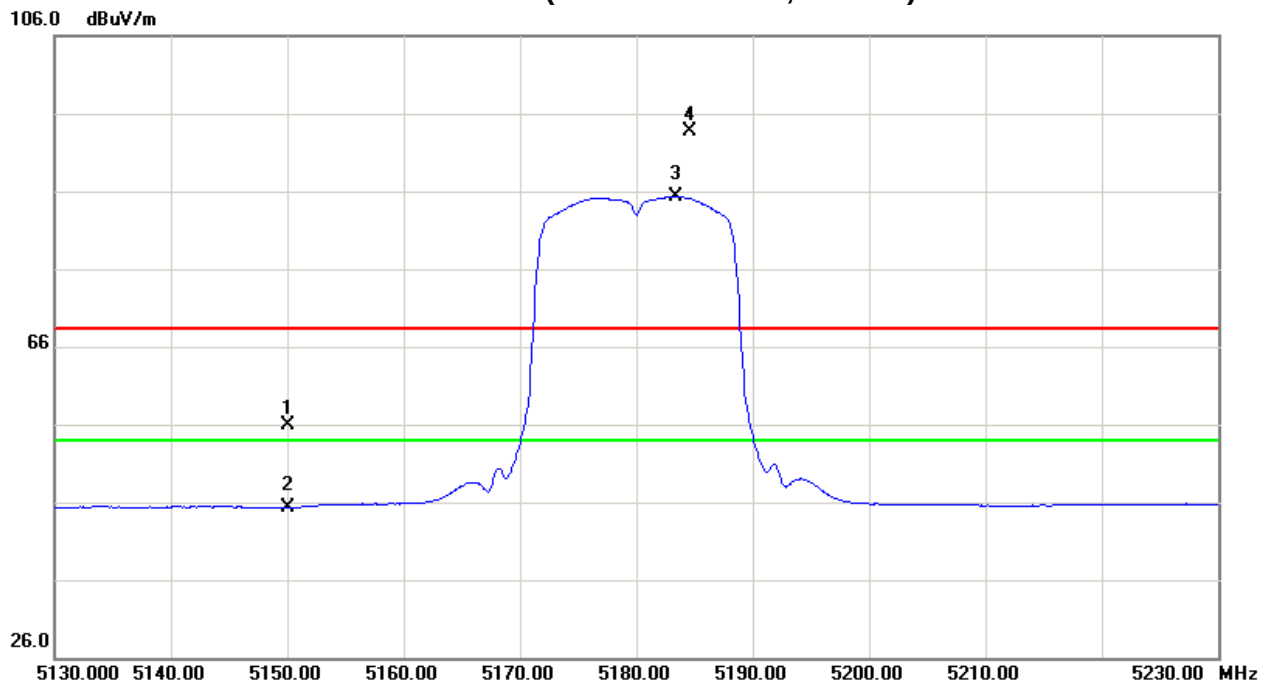
Freq. (MHz)	Ant. Pol. H/V	Reading		Ant./CF CF(dB)	Act.(dBuV/m)		Act.(dBm)		Limit(dBuV/m)		Limit(dBm)		Note
		Peak (dBuV)	AV (dBuV)		Peak	AV	Peak	AV	Peak	AV	Peak	AV	
5150.00	V	15.80	5.22	40.09	55.89	45.31	-48.88	-59.46	68.30	54.00	-27.00	-41.30	X/E
5184.60	V	53.44	45.14	40.18	93.62	85.32	-11.15	-19.45					X/F
10361.80	V	39.67	28.23	13.74	53.41	41.97	-51.36	-62.80	68.30	54.00	-27.00	-41.30	X/H

Remark :

- (1) Spectrum Setting : 30MHz – 1000MHz , RBW= 100KHz, VBW=100KHz, Sweep time = 200 ms. 1GHz- 40GHz, RBW= 1MHz, VBW= 1MHz, Sweep time = Auto
- (2) All readings are Peak unless otherwise stated AV in column of 『Note』 . Peak denotes that the Peak reading compliance with the AV Limits and then AV Mode measurement didn't perform.
- (3) Measuring frequency range from 30MHz to 1000MHz or the 10th harmonic of highest fundamental frequency. "F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency. (This judgment method includes the Band Edge Requirement.)
- (4) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission .
- (5) Data of measurement within this frequency range shown " * " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (6) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.
- (7) EUT Orthogonal Axes :
"X" - denotes Laid on Table ; "Y" - denotes Vertical Stand ; "Z" - denotes Side Stand
- (8) During the measurements above 1GHz it is taken care of that the EUT is always within the 3dB cone of radiation BW of the used antenna.



Orthogonal Axis : X
Band 1/CH36(Above 1000 MHz, Vertical)





EUT :	Vodafone Mobile Wi-Fi	Model Name :	R215
Temperature :	25° C	Relative Humidity :	58 %
Test Voltage :	DC 3.7V		
Test Mode :	Band 1/ TX A Mode 5180MHz		

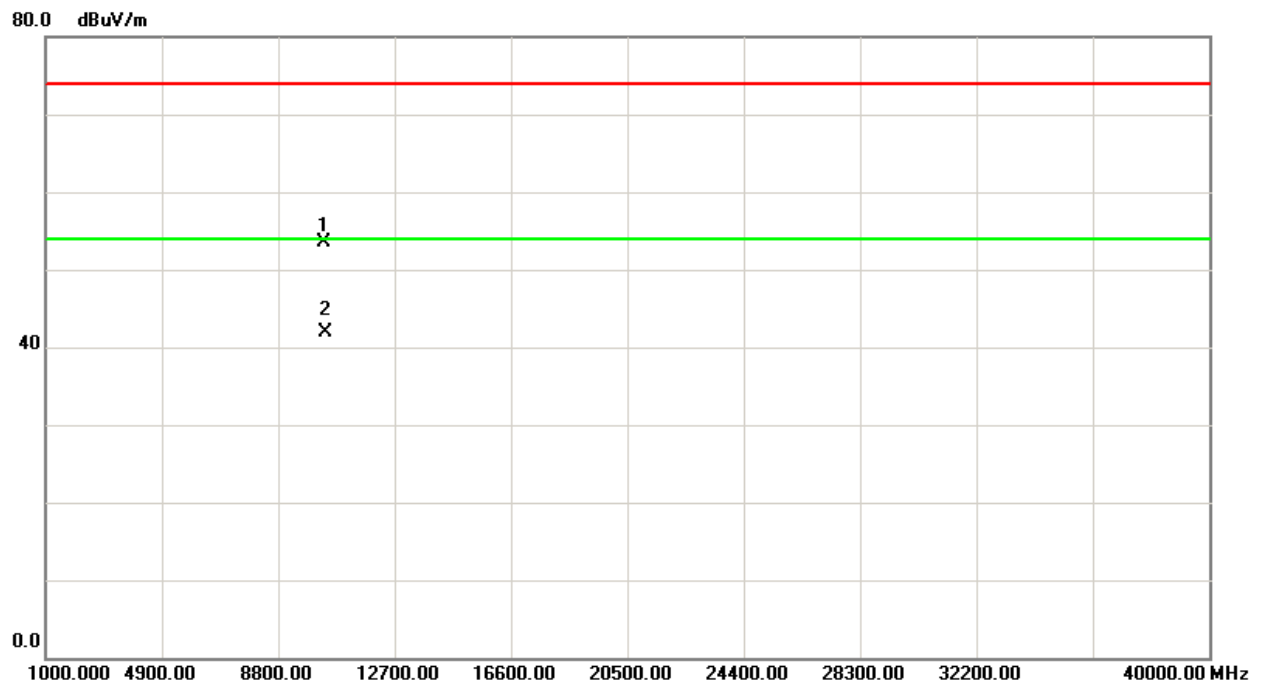
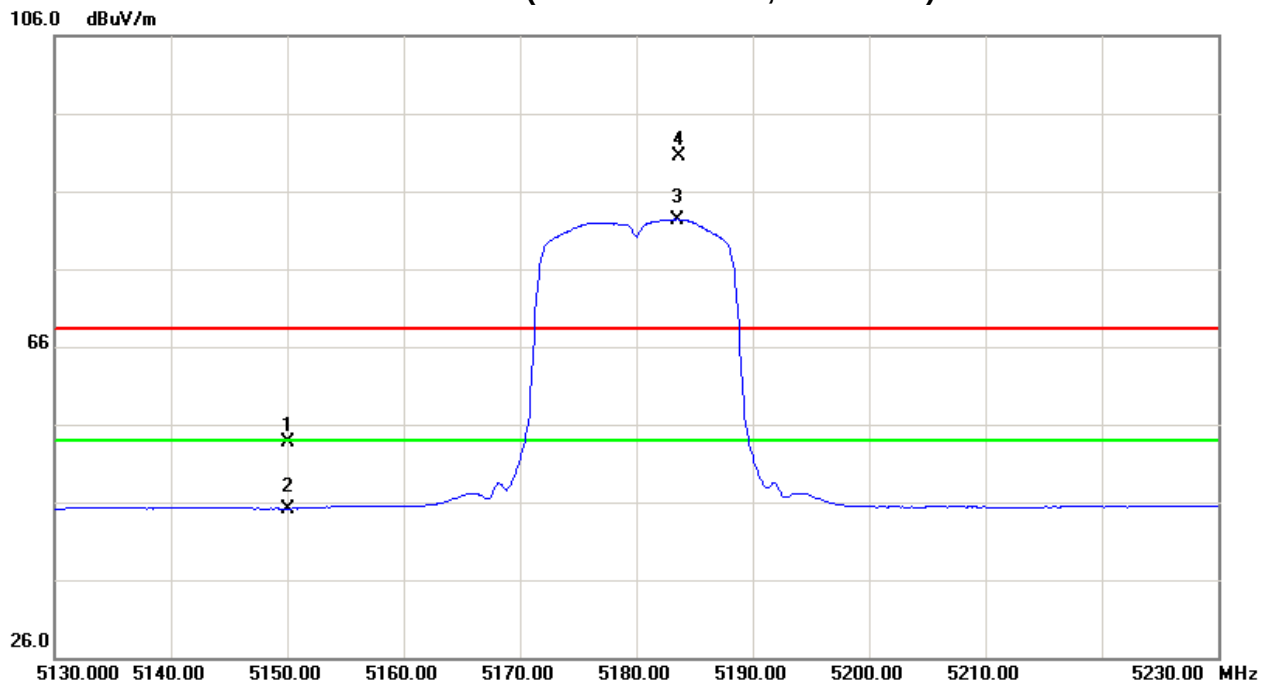
Freq. (MHz)	Ant. Pol. H/V	Reading		Ant./CF CF(dB)	Act.(dBuV/m)		Act.(dBm)		Limit(dBuV/m)		Limit(dBm)		Note
		Peak (dBuV)	AV (dBuV)		Peak	AV	Peak	AV	Peak	AV	Peak	AV	
5150.00	H	13.67	5.09	40.09	53.76	45.18	-51.01	-59.59	68.30	54.00	-27.00	-41.30	X/E
5183.60	H	50.41	42.22	40.18	90.59	82.40	-14.18	-22.37					X/F
10359.12	H	39.70	28.26	13.73	53.43	41.99	-51.34	-62.78	68.30	54.00	-27.00	-41.30	X/H

Remark :

- (1) Spectrum Setting : 30MHz – 1000MHz , RBW= 100KHz, VBW=100KHz, Sweep time = 200 ms. 1GHz- 40GHz, RBW= 1MHz, VBW= 1MHz, Sweep time = Auto
- (2) All readings are Peak unless otherwise stated AV in column of 『Note』 . Peak denotes that the Peak reading compliance with the AV Limits and then AV Mode measurement didn't perform.
- (3) Measuring frequency range from 30MHz to 1000MHz or the 10th harmonic of highest fundamental frequency. "F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency. (This judgment method includes the Band Edge Requirement.)
- (4) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission .
- (5) Data of measurement within this frequency range shown " * " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (6) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.
- (7) EUT Orthogonal Axes :
"X" - denotes Laid on Table ; "Y" - denotes Vertical Stand ; "Z" - denotes Side Stand
- (8) During the measurements above 1GHz it is taken care of that the EUT is always within the 3dB cone of radiation BW of the used antenna.



Orthogonal Axis : X
Band 1/CH36(Above 1000 MHz, Horizontal)





EUT :	Vodafone Mobile Wi-Fi	Model Name :	R215
Temperature :	25° C	Relative Humidity :	58 %
Test Voltage :	DC 3.7V		
Test Mode :	Band 1/ TX A Mode 5200MHz		

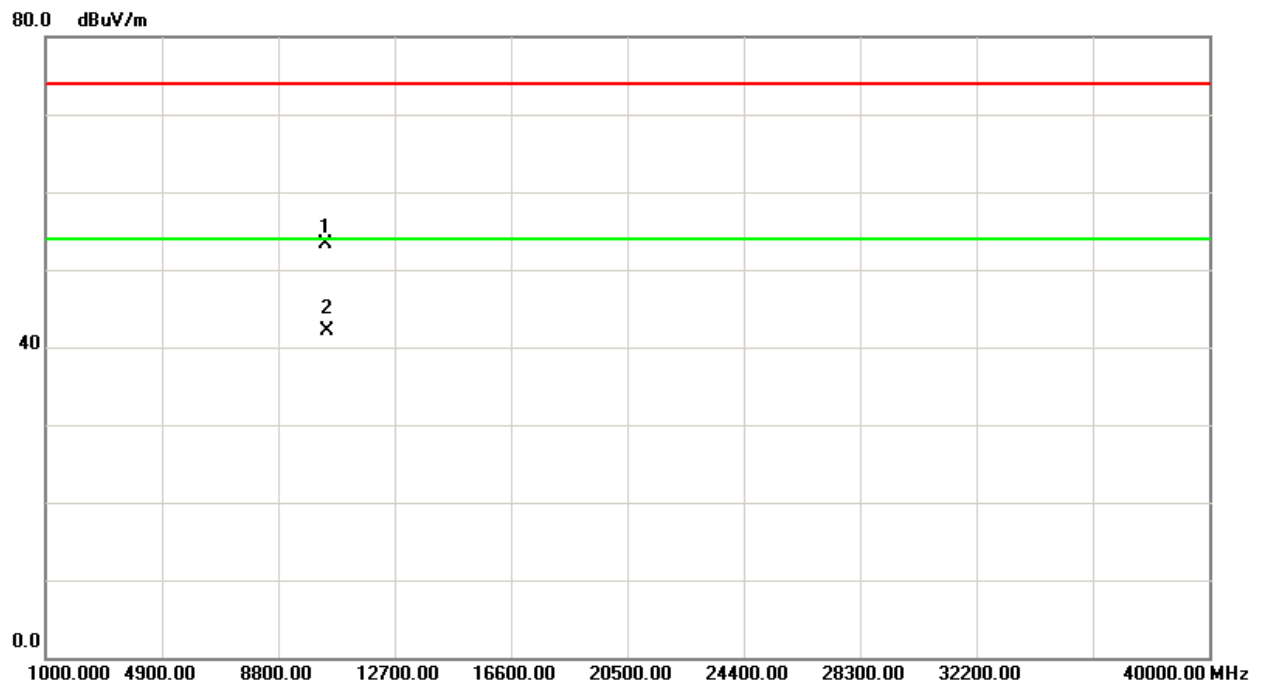
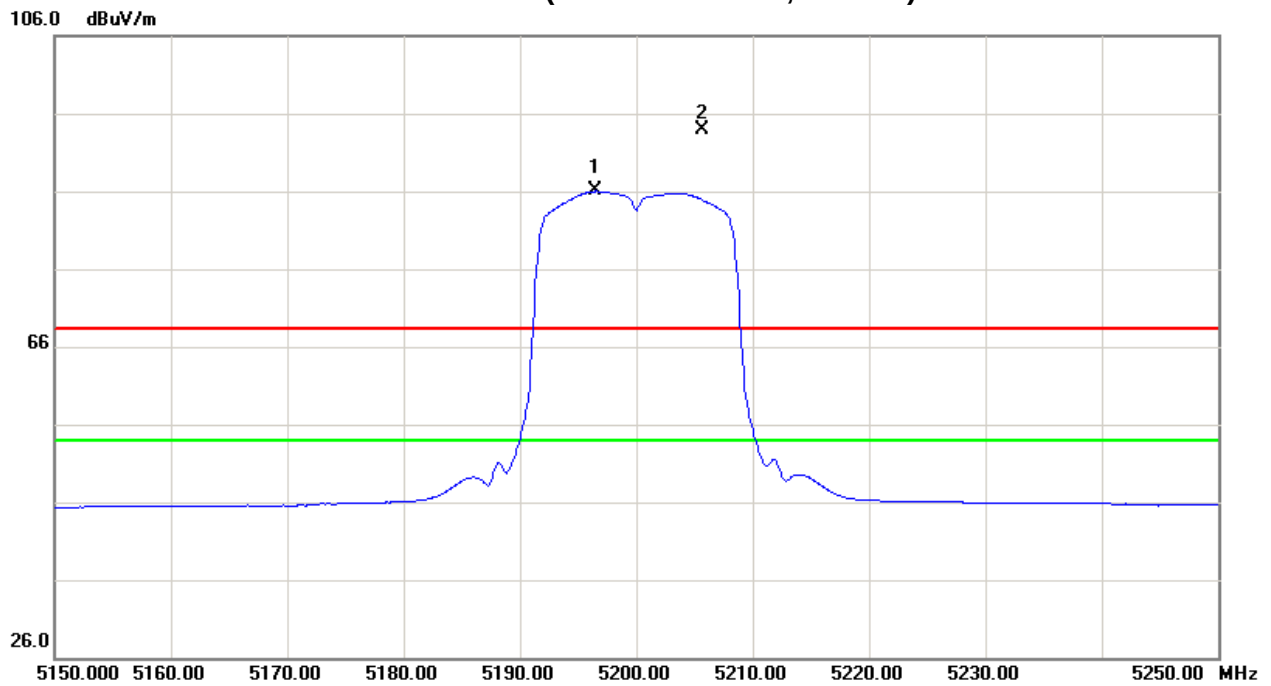
Freq. (MHz)	Ant. Pol. H/V	Reading		Ant./CF CF(dB)	Act.(dBuV/m)		Act.(dBm)		Limit(dBuV/m)		Limit(dBm)		Note
		Peak (dBuV)	AV (dBuV)		Peak	AV	Peak	AV	Peak	AV	Peak	AV	
5205.70	V	53.67	45.80	40.23	93.90	86.03	-10.87	-18.74					X/F
10402.35	V	39.59	28.28	13.78	53.37	42.06	-51.40	-62.71	68.30	54.00	-27.00	-41.30	X/H

Remark :

- (1) Spectrum Setting : 30MHz – 1000MHz , RBW= 100KHz, VBW=100KHz, Sweep time = 200 ms. 1GHz- 40GHz, RBW= 1MHz, VBW= 1MHz, Sweep time = Auto
- (2) All readings are Peak unless otherwise stated AV in column of 『Note 』 . Peak denotes that the Peak reading compliance with the AV Limits and then AV Mode measurement didn't perform.
- (3) Measuring frequency range from 30MHz to 1000MHz or the 10th harmonic of highest fundamental frequency. "F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency. (This judgment method includes the Band Edge Requirement.)
- (4) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission .
- (5) Data of measurement within this frequency range shown " * " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (6) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.
- (7) EUT Orthogonal Axes :
"X" - denotes Laid on Table ; "Y" - denotes Vertical Stand ; "Z" - denotes Side Stand
- (8) During the measurements above 1GHz it is taken care of that the EUT is always within the 3dB cone of radiation BW of the used antenna.



Orthogonal Axis : X
Band 1/CH40(Above 1000 MHz, Vertical)





EUT :	Vodafone Mobile Wi-Fi	Model Name :	R215
Temperature :	25° C	Relative Humidity :	58 %
Test Voltage :	DC 3.7V		
Test Mode :	Band 1/ TX A Mode 5200MHz		

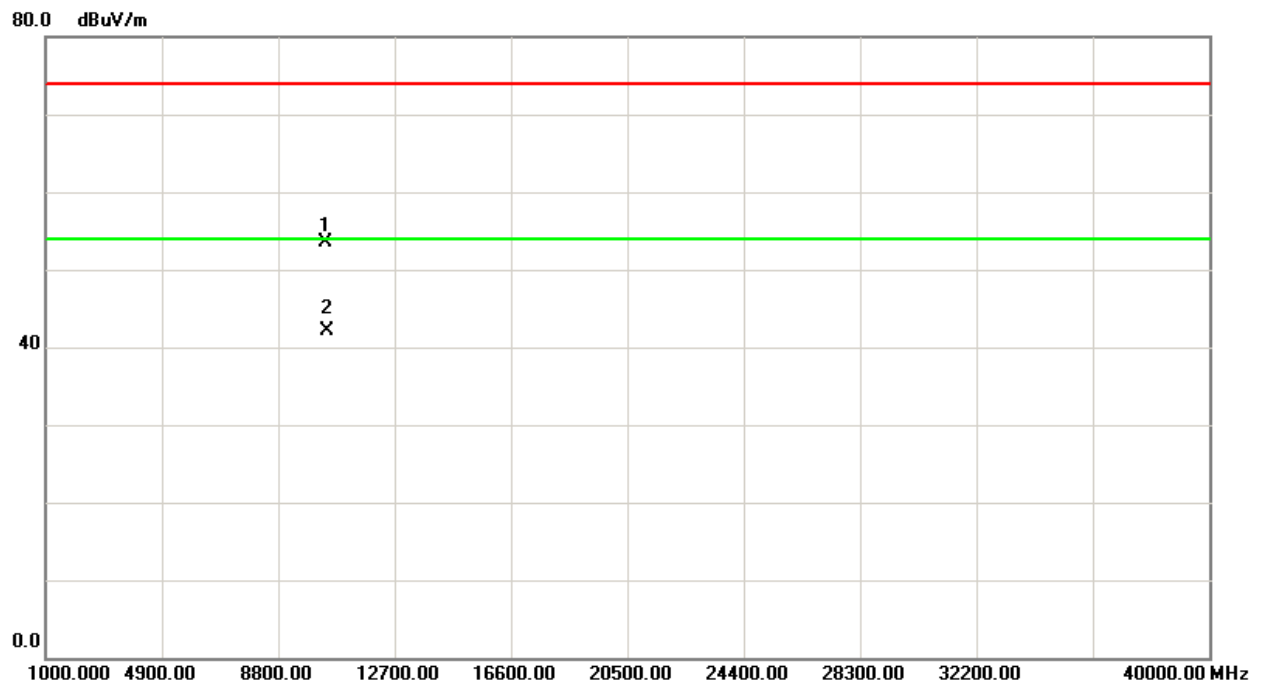
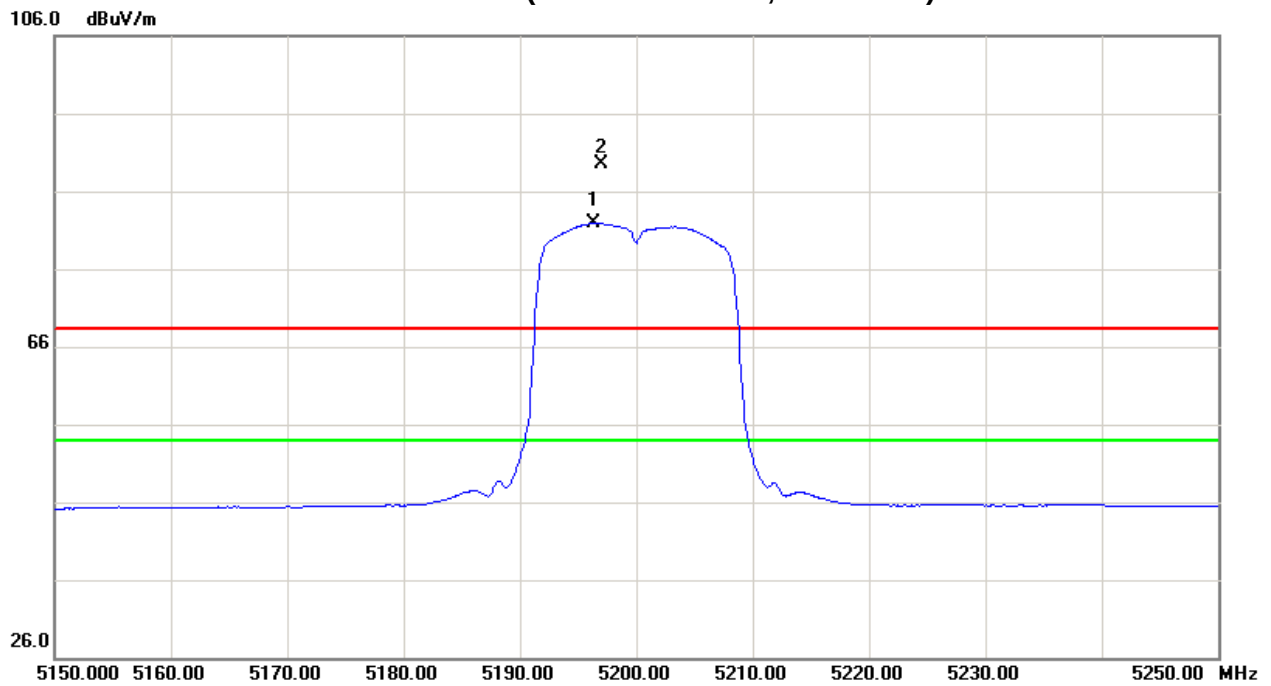
Freq. (MHz)	Ant.Pol. H/V	Reading		Ant./CF CF(dB)	Act.(dBuV/m)		Act.(dBm)		Limit(dBuV/m)		Limit(dBm)		Note
		Peak (dBuV)	AV (dBuV)		Peak	AV	Peak	AV	Peak	AV	Peak	AV	
5197.00	H	49.29	41.68	40.21	89.50	81.89	-15.27	-22.88					X/F
10400.95	H	39.73	28.32	13.78	53.51	42.10	-51.26	-62.67	68.30	54.00	-27.00	-41.30	X/H

Remark :

- (1) Spectrum Setting : 30MHz – 1000MHz , RBW= 100KHz, VBW=100KHz, Sweep time = 200 ms. 1GHz- 40GHz, RBW= 1MHz, VBW= 1MHz, Sweep time = Auto
- (2) All readings are Peak unless otherwise stated AV in column of 『Note』 . Peak denotes that the Peak reading compliance with the AV Limits and then AV Mode measurement didn't perform.
- (3) Measuring frequency range from 30MHz to 1000MHz or the 10th harmonic of highest fundamental frequency. "F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency. (This judgment method includes the Band Edge Requirement.)
- (4) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission .
- (5) Data of measurement within this frequency range shown " * " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (6) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.
- (7) EUT Orthogonal Axes :
"X" - denotes Laid on Table ; "Y" - denotes Vertical Stand ; "Z" - denotes Side Stand
- (8) During the measurements above 1GHz it is taken care of that the EUT is always within the 3dB cone of radiation BW of the used antenna.



Orthogonal Axis : X
Band 1/CH40(Above 1000 MHz, Horizontal)





EUT :	Vodafone Mobile Wi-Fi	Model Name :	R215
Temperature :	25° C	Relative Humidity :	52 %
Test Voltage :	DC 3.7V		
Test Mode :	Band 1/ TX A Mode 5240MHz		

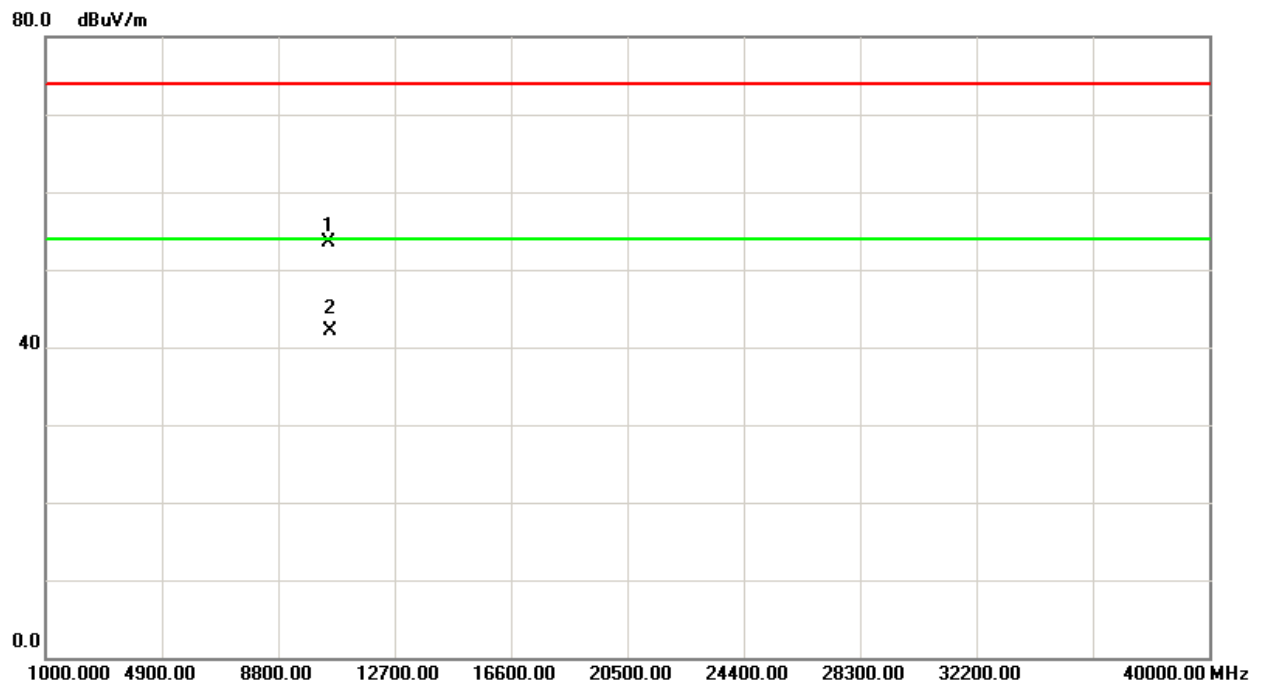
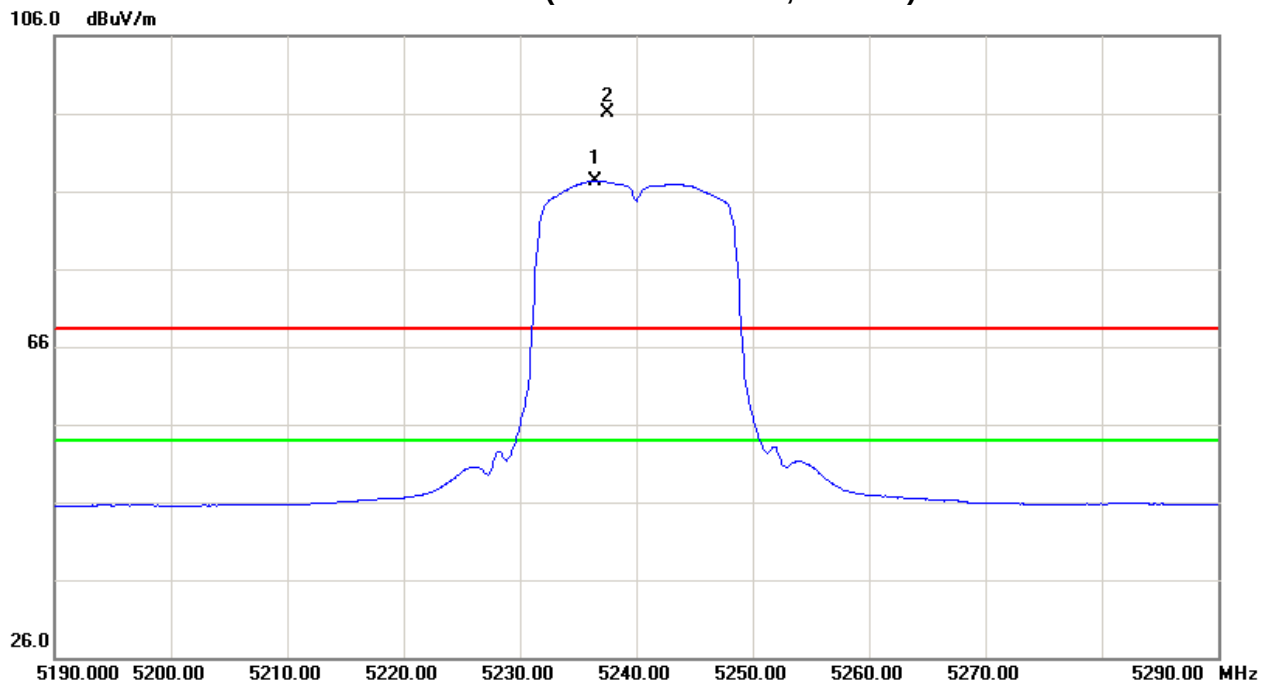
Freq. (MHz)	Ant. Pol. H/V	Reading		Ant./CF CF(dB)	Act.(dBuV/m)		Act.(dBm)		Limit(dBuV/m)		Limit(dBm)		Note
		Peak (dBuV)	AV (dBuV)		Peak	AV	Peak	AV	Peak	AV	Peak	AV	
5237.50	V	55.76	47.01	40.32	96.08	87.33	-8.69	-17.44					X/F
10481.72	V	39.61	28.24	13.87	53.48	42.11	-51.29	-62.66	68.30	54.00	-27.00	-41.30	X/H

Remark :

- (1) Spectrum Setting : 30MHz – 1000MHz , RBW= 100KHz, VBW=100KHz, Sweep time = 200 ms. 1GHz- 40GHz, RBW= 1MHz, VBW= 1MHz, Sweep time = Auto
- (2) All readings are Peak unless otherwise stated AV in column of 『Note 』 . Peak denotes that the Peak reading compliance with the AV Limits and then AV Mode measurement didn't perform.
- (3) Measuring frequency range from 30MHz to 1000MHz or the 10th harmonic of highest fundamental frequency. "F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency. (This judgment method includes the Band Edge Requirement.)
- (4) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission .
- (5) Data of measurement within this frequency range shown " * " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (6) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.
- (7) EUT Orthogonal Axes :
"X" - denotes Laid on Table ; "Y" - denotes Vertical Stand ; "Z" - denotes Side Stand
- (8) During the measurements above 1GHz it is taken care of that the EUT is always within the 3dB cone of radiation BW of the used antenna.



Orthogonal Axis : X
Band 1/CH48(Above 1000 MHz, Vertical)





EUT :	Vodafone Mobile Wi-Fi	Model Name :	R215
Temperature :	25° C	Relative Humidity :	52 %
Test Voltage :	DC 3.7V		
Test Mode :	Band 1/ TX A Mode 5240MHz		

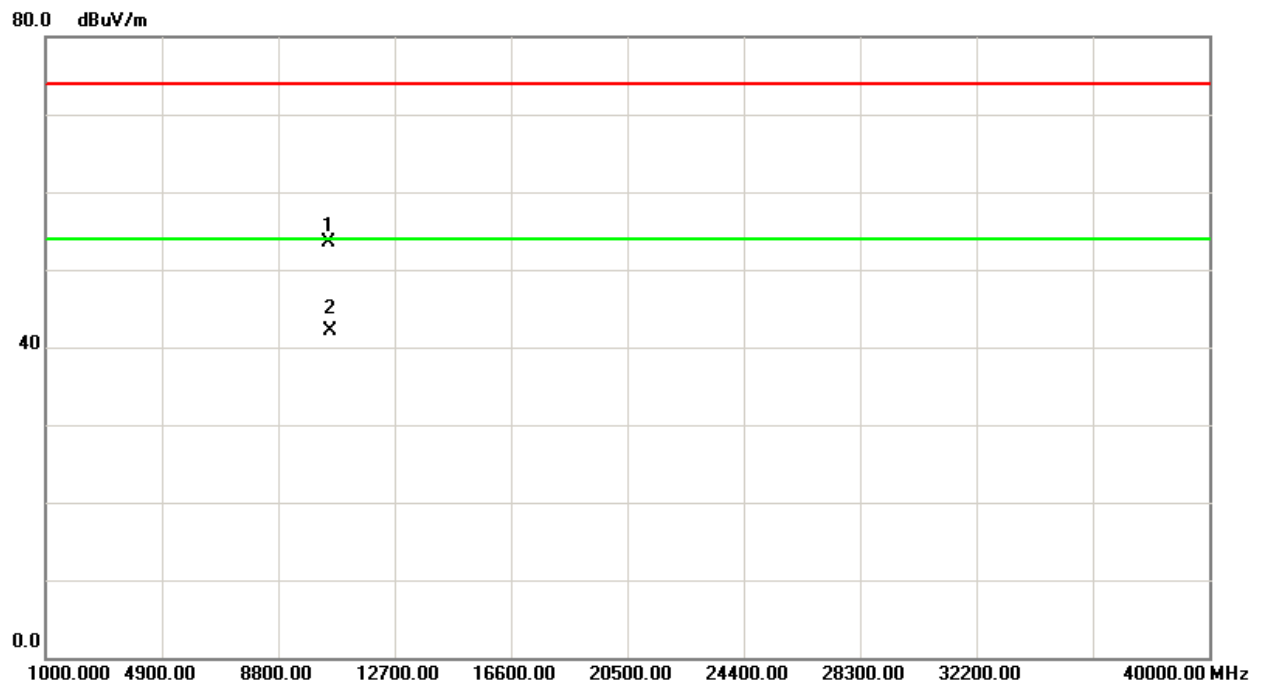
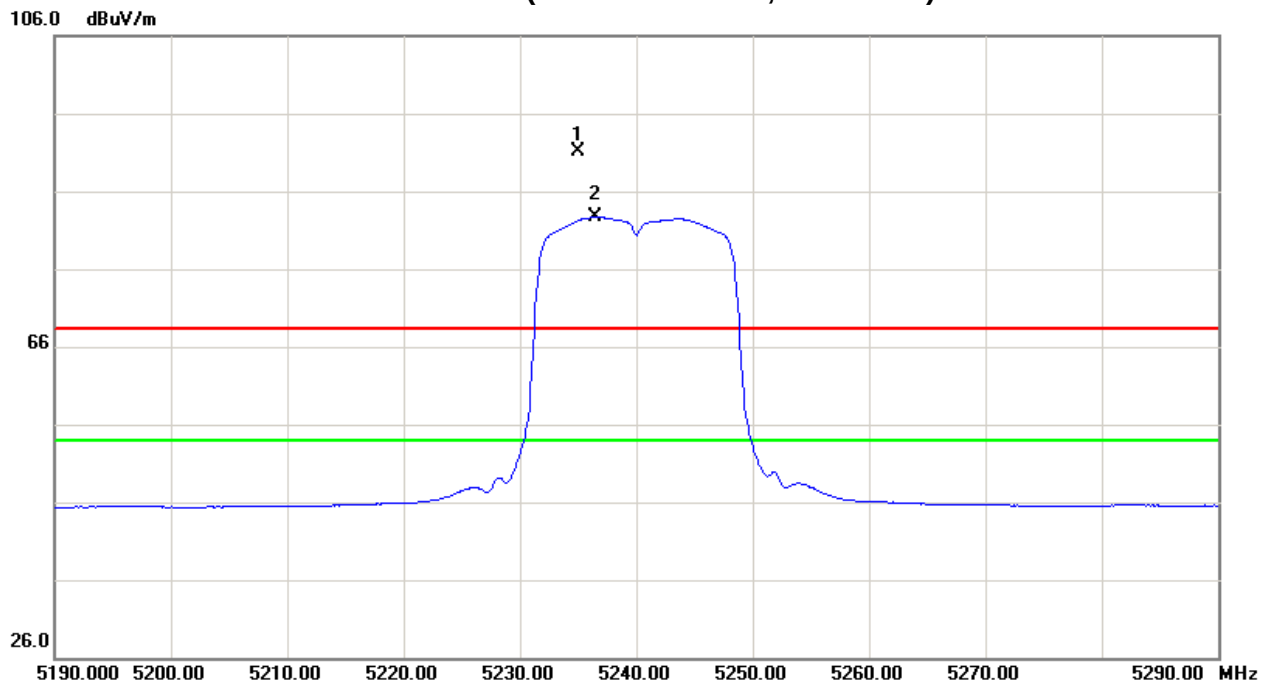
Freq. (MHz)	Ant. Pol. H/V	Reading		Ant./CF CF(dB)	Act.(dBuV/m)		Act.(dBm)		Limit(dBuV/m)		Limit(dBm)		Note
		Peak (dBuV)	AV (dBuV)		Peak	AV	Peak	AV	Peak	AV	Peak	AV	
5235.00	H	50.88	42.37	40.31	91.19	82.68	-13.58	-22.09					X/F
10482.30	H	39.63	28.20	13.87	53.50	42.07	-51.27	-62.70	71.19	62.68	-24.11	-32.62	X/H

Remark :

- (1) Spectrum Setting : 30MHz – 1000MHz , RBW= 100KHz, VBW=100KHz, Sweep time = 200 ms. 1GHz- 40GHz, RBW= 1MHz, VBW= 1MHz, Sweep time = Auto
- (2) All readings are Peak unless otherwise stated AV in column of 『Note』 . Peak denotes that the Peak reading compliance with the AV Limits and then AV Mode measurement didn't perform.
- (3) Measuring frequency range from 30MHz to 1000MHz or the 10th harmonic of highest fundamental frequency. "F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency. (This judgment method includes the Band Edge Requirement.)
- (4) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission .
- (5) Data of measurement within this frequency range shown " * " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (6) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.
- (7) EUT Orthogonal Axes :
"X" - denotes Laid on Table ; "Y" - denotes Vertical Stand ; "Z" - denotes Side Stand
- (8) During the measurements above 1GHz it is taken care of that the EUT is always within the 3dB cone of radiation BW of the used antenna.



Orthogonal Axis : X
Band 1/CH48(Above 1000 MHz, Horizontal)





EUT :	Vodafone Mobile Wi-Fi	Model Name :	R215
Temperature :	25° C	Relative Humidity :	58 %
Test Voltage :	DC 3.7V		
Test Mode :	Band 1/ TX N20 Mode 5180MHz		

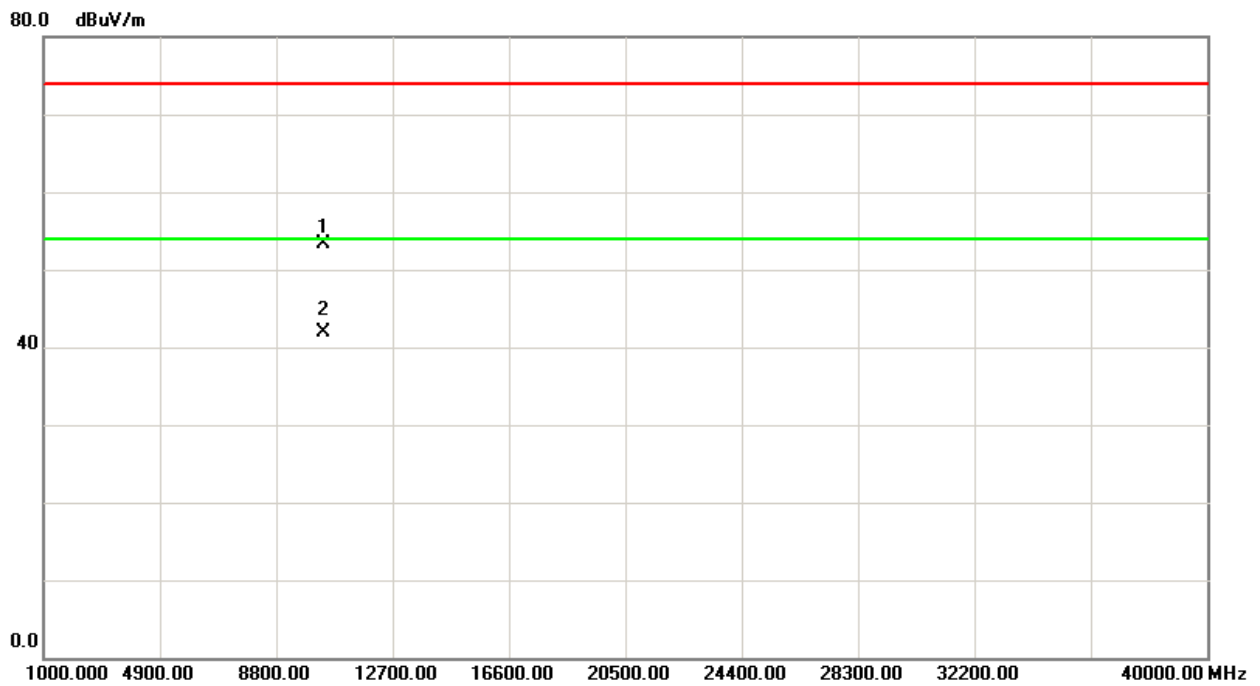
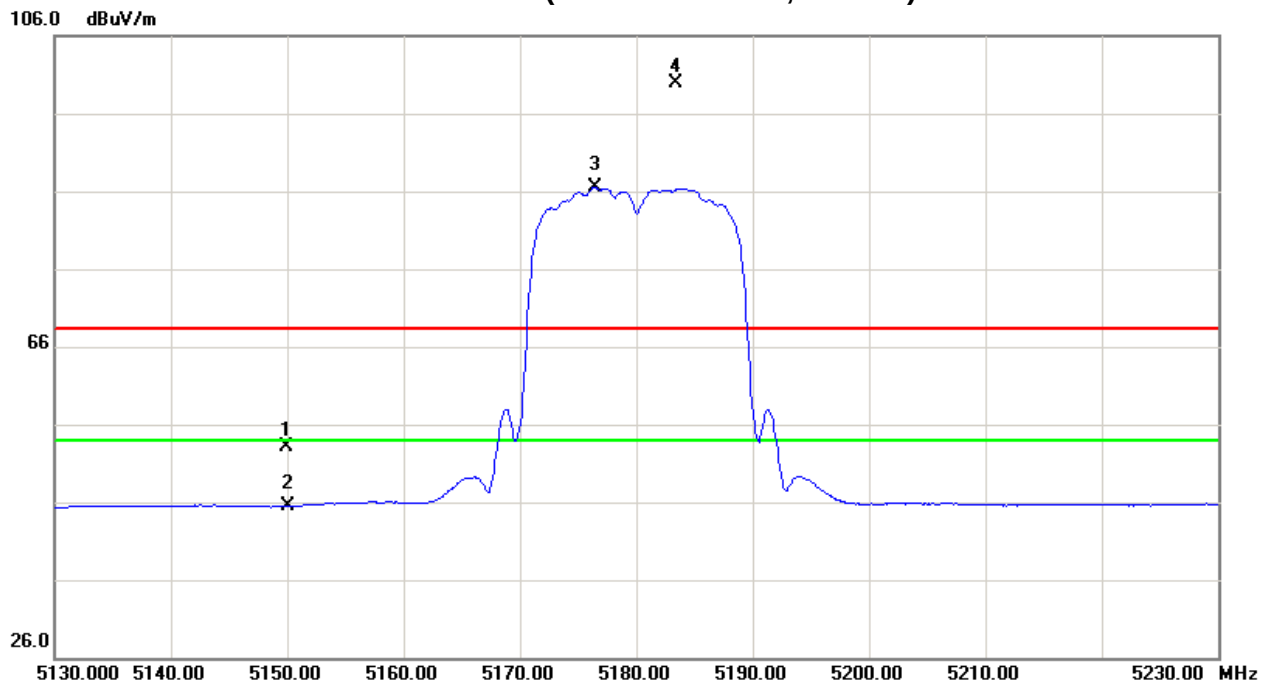
Freq. (MHz)	Ant. Pol. H/V	Reading		Ant./CF CF(dB)	Act.(dBuV/m)		Act.(dBm)		Limit(dBuV/m)		Limit(dBm)		Note
		Peak (dBuV)	AV (dBuV)		Peak	AV	Peak	AV	Peak	AV	Peak	AV	
5150.00	V	13.07	5.40	40.09	53.16	45.49	-51.61	-59.28	68.30	54.00	-27.00	-41.30	X/E
5183.40	V	59.78	46.33	40.18	99.96	86.51	-4.81	-18.26					X/F
10362.40	V	39.48	28.16	13.74	53.22	41.90	-51.55	-62.87	68.30	54.00	-27.00	-41.30	X/H

Remark :

- (1) Spectrum Setting : 30MHz – 1000MHz , RBW= 100KHz, VBW=100KHz, Sweep time = 200 ms. 1GHz- 40GHz, RBW= 1MHz, VBW= 1MHz, Sweep time = Auto
- (2) All readings are Peak unless otherwise stated AV in column of 『Note』 . Peak denotes that the Peak reading compliance with the AV Limits and then AV Mode measurement didn't perform.
- (3) Measuring frequency range from 30MHz to 1000MHz or the 10th harmonic of highest fundamental frequency. "F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency. (This judgment method includes the Band Edge Requirement.)
- (4) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission .
- (5) Data of measurement within this frequency range shown " * " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (6) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.
- (7) EUT Orthogonal Axes :
"X" - denotes Laid on Table ; "Y" - denotes Vertical Stand ; "Z" - denotes Side Stand
- (8) During the measurements above 1GHz it is taken care of that the EUT is always within the 3dB cone of radiation BW of the used antenna.



Orthogonal Axis : X
Band 1/CH36(Above 1000 MHz, Vertical)





EUT :	Vodafone Mobile Wi-Fi	Model Name :	R215
Temperature :	25° C	Relative Humidity :	58 %
Test Voltage :	DC 3.7V		
Test Mode :	Band 1/ TX N20 Mode 5180MHz		

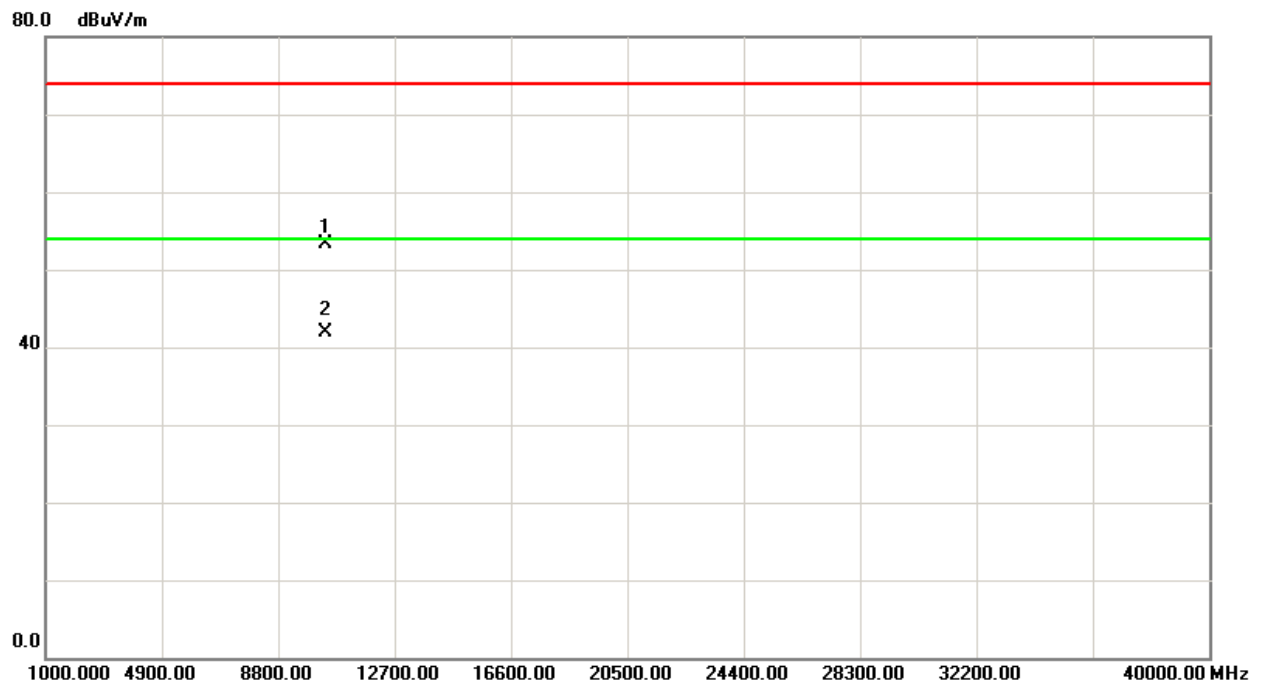
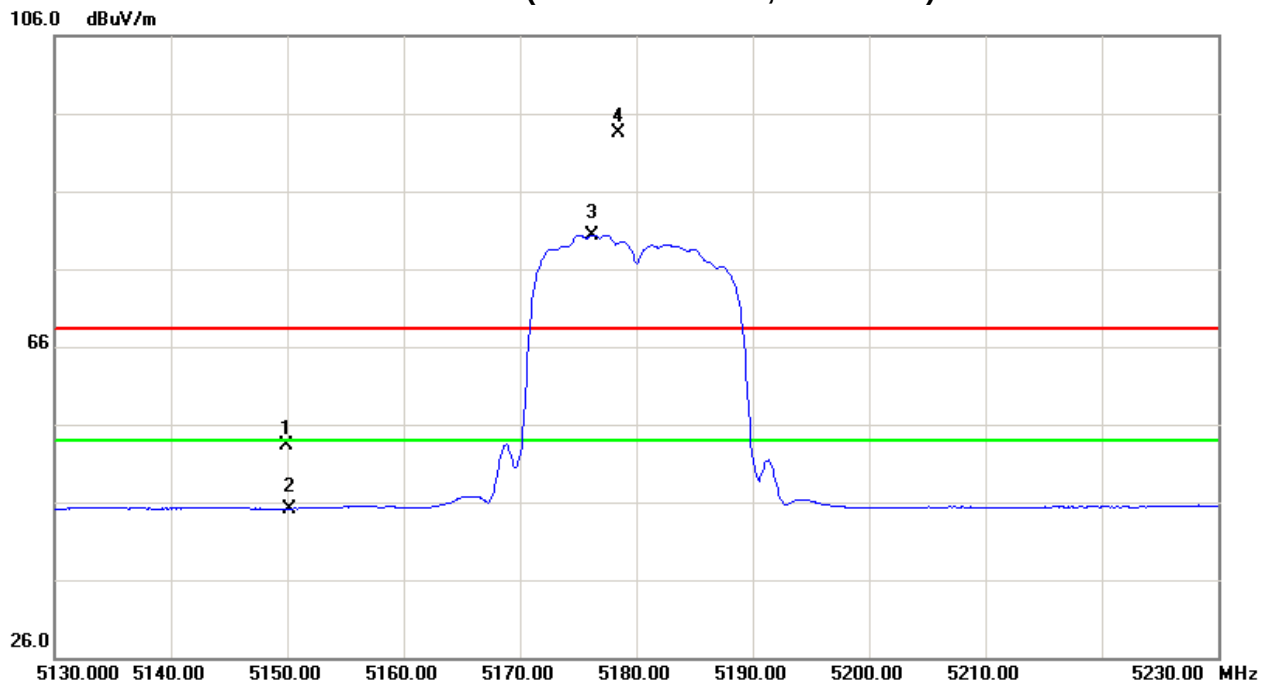
Freq. (MHz)	Ant. Pol. H/V	Reading		Ant./CF CF(dB)	Act.(dBuV/m)		Act.(dBm)		Limit(dBuV/m)		Limit(dBm)		Note
		Peak (dBuV)	AV (dBuV)		Peak	AV	Peak	AV	Peak	AV	Peak	AV	
5150.00	H	13.19	5.06	40.09	53.28	45.15	-51.49	-59.62	68.30	54.00	-27.00	-41.30	X/E
5178.50	H	53.34	40.23	40.16	93.50	80.39	-11.27	-24.38					X/F
10361.35	H	39.50	28.19	13.74	53.24	41.93	-51.53	-62.84	68.30	54.00	-27.00	-41.30	X/H

Remark :

- (1) Spectrum Setting : 30MHz – 1000MHz , RBW= 100KHz, VBW=100KHz, Sweep time = 200 ms. 1GHz- 40GHz, RBW= 1MHz, VBW= 1MHz, Sweep time = Auto
- (2) All readings are Peak unless otherwise stated AV in column of 『Note』 . Peak denotes that the Peak reading compliance with the AV Limits and then AV Mode measurement didn't perform.
- (3) Measuring frequency range from 30MHz to 1000MHz or the 10th harmonic of highest fundamental frequency. "F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency. (This judgment method includes the Band Edge Requirement.)
- (4) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission .
- (5) Data of measurement within this frequency range shown " * " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (6) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.
- (7) EUT Orthogonal Axes :
"X" - denotes Laid on Table ; "Y" - denotes Vertical Stand ; "Z" - denotes Side Stand
- (8) During the measurements above 1GHz it is taken care of that the EUT is always within the 3dB cone of radiation BW of the used antenna.



Orthogonal Axis : X
Band 1/CH36(Above 1000 MHz, Horizontal)





EUT :	Vodafone Mobile Wi-Fi	Model Name :	R215
Temperature :	25° C	Relative Humidity :	58 %
Test Voltage :	DC 3.7V		
Test Mode :	Band 1/ TX N20 Mode 5200MHz		

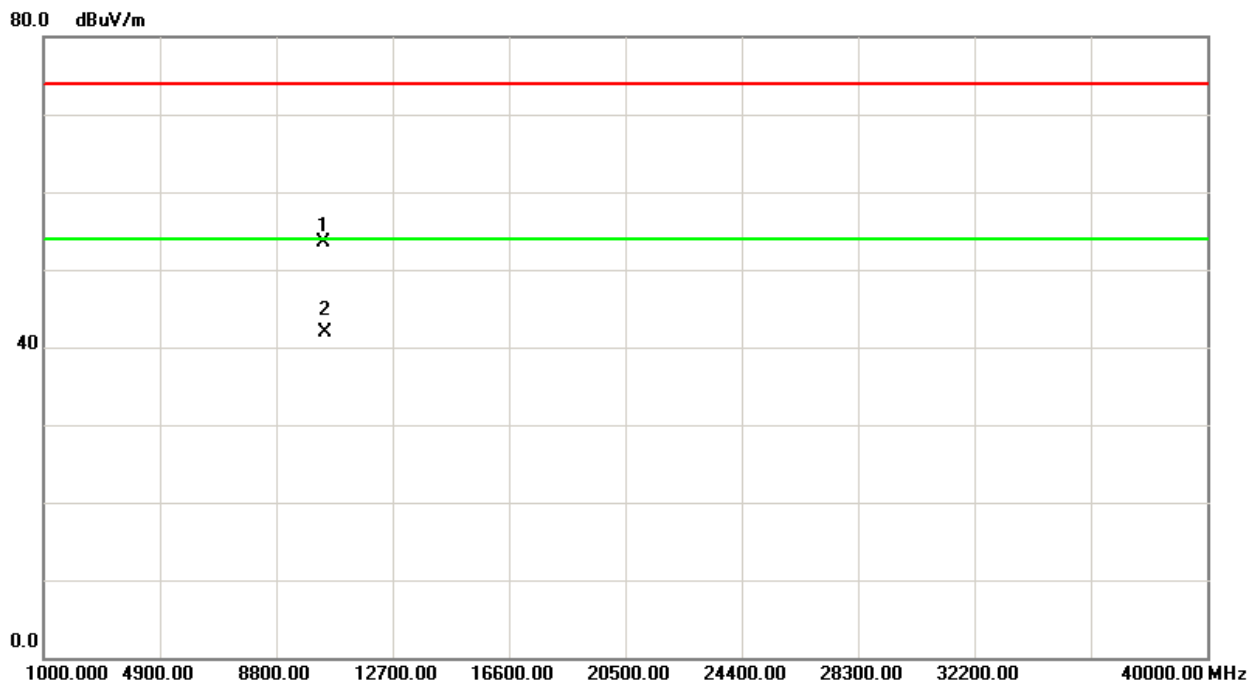
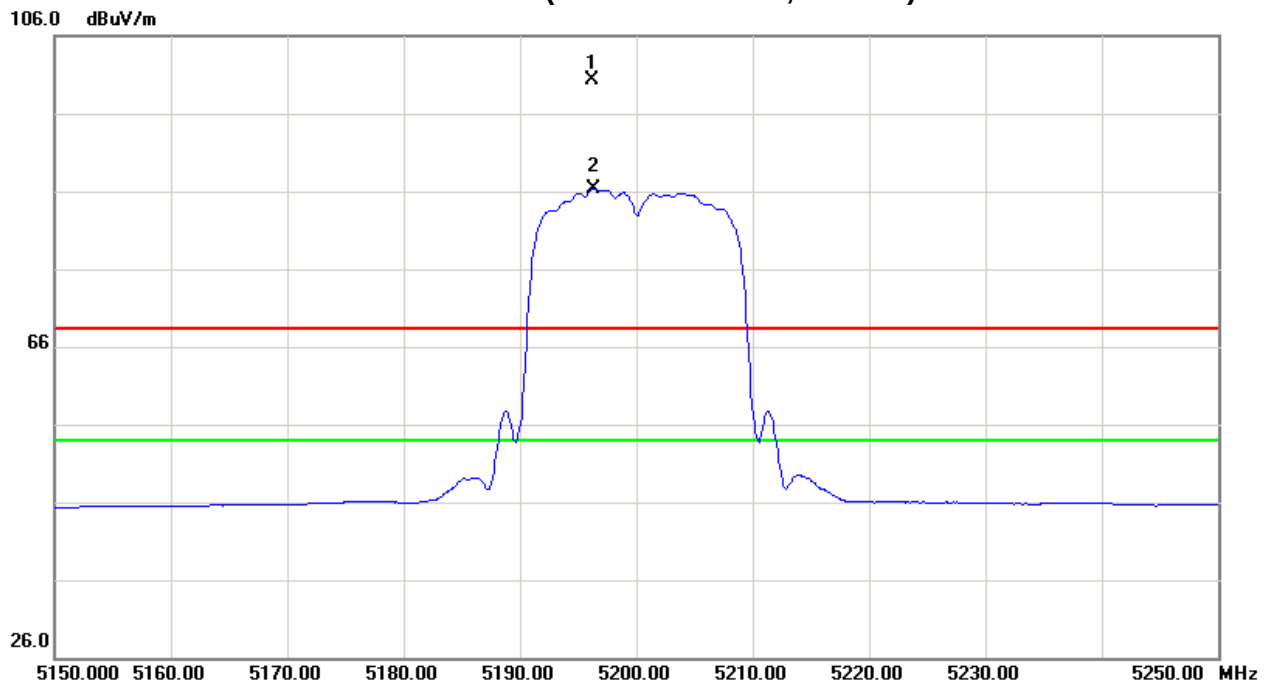
Freq. (MHz)	Ant. Pol. H/V	Reading		Ant./CF CF(dB)	Act.(dBuV/m)		Act.(dBm)		Limit(dBuV/m)		Limit(dBm)		Note
		Peak (dBuV)	AV (dBuV)		Peak	AV	Peak	AV	Peak	AV	Peak	AV	
5196.20	V	60.04	46.19	40.21	100.25	86.40	-4.52	-18.37					X/F
10401.75	V	39.65	28.18	13.78	53.43	41.96	-51.34	-62.81	68.30	54.00	-27.00	-41.30	X/H

Remark :

- (1) Spectrum Setting : 30MHz – 1000MHz , RBW= 100KHz, VBW=100KHz, Sweep time = 200 ms. 1GHz- 40GHz, RBW= 1MHz, VBW= 1MHz, Sweep time = Auto
- (2) All readings are Peak unless otherwise stated AV in column of 『Note』 . Peak denotes that the Peak reading compliance with the AV Limits and then AV Mode measurement didn't perform.
- (3) Measuring frequency range from 30MHz to 1000MHz or the 10th harmonic of highest fundamental frequency. "F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency. (This judgment method includes the Band Edge Requirement.)
- (4) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission .
- (5) Data of measurement within this frequency range shown " * " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (6) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.
- (7) EUT Orthogonal Axes :
"X" - denotes Laid on Table ; "Y" - denotes Vertical Stand ; "Z" - denotes Side Stand
- (8) During the measurements above 1GHz it is taken care of that the EUT is always within the 3dB cone of radiation BW of the used antenna.



Orthogonal Axis : X
Band 1/CH40(Above 1000 MHz, Vertical)





EUT :	Vodafone Mobile Wi-Fi	Model Name :	R215
Temperature :	25 °C	Relative Humidity :	58 %
Test Voltage :	DC 3.7V		
Test Mode :	Band 1/ TX N20 Mode 5200MHz		

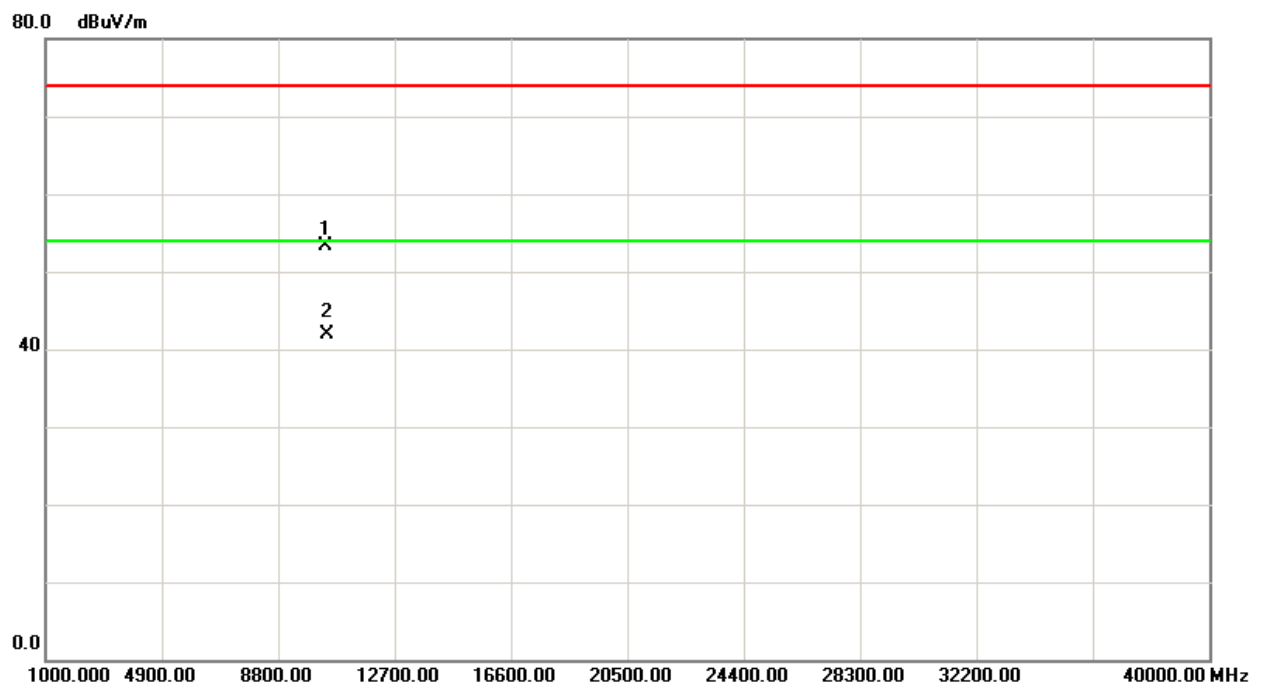
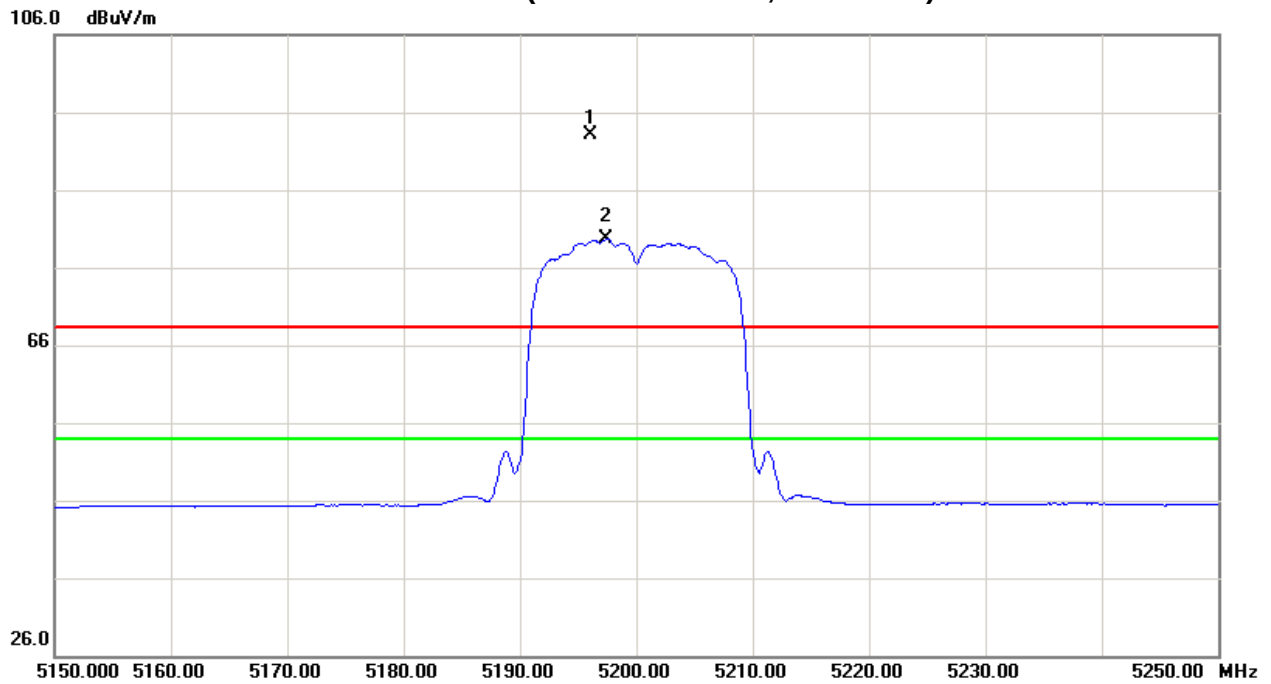
Freq. (MHz)	Ant.Pd. H/V	Reading		Ant./CF CF(dB)	Act.(dBuV/m)		Act.(dBm)		Limit(dBuV/m)		Limit(dBm)		Note
		Peak (dBuV)	AV (dBuV)		Peak	AV	Peak	AV	Peak	AV	Peak	AV	
5196.10	H	52.88	39.45	40.21	93.09	79.66	-11.68	-25.11					X/F
10402.36	H	39.48	28.15	13.78	53.26	41.93	-51.51	-62.84	68.30	54.00	-27.00	-41.30	X/H

Remark :

- (1) Spectrum Setting : 30MHz – 1000MHz , RBW= 100KHz, VBW=100KHz, Sweep time = 200 ms. 1GHz- 40GHz, RBW= 1MHz, VBW= 1MHz, Sweep time = Auto
- (2) All readings are Peak unless otherwise stated AV in column of 『Note』 . Peak denotes that the Peak reading compliance with the AV Limits and then AV Mode measurement didn't perform.
- (3) Measuring frequency range from 30MHz to 1000MHz or the 10th harmonic of highest fundamental frequency. "F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency. (This judgment method includes the Band Edge Requirement.)
- (4) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission .
- (5) Data of measurement within this frequency range shown " * " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (6) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.
- (7) EUT Orthogonal Axes :
"X" - denotes Laid on Table ; "Y" - denotes Vertical Stand ; "Z" - denotes Side Stand
- (8) During the measurements above 1GHz it is taken care of that the EUT is always within the 3dB cone of radiation BW of the used antenna.



Orthogonal Axis : X
Band 1/CH40(Above 1000 MHz, Horizontal)





EUT :	Vodafone Mobile Wi-Fi	Model Name :	R215
Temperature :	25° C	Relative Humidity :	52 %
Test Voltage :	DC 3.7V		
Test Mode :	Band 1/ TX N20 Mode 5240MHz		

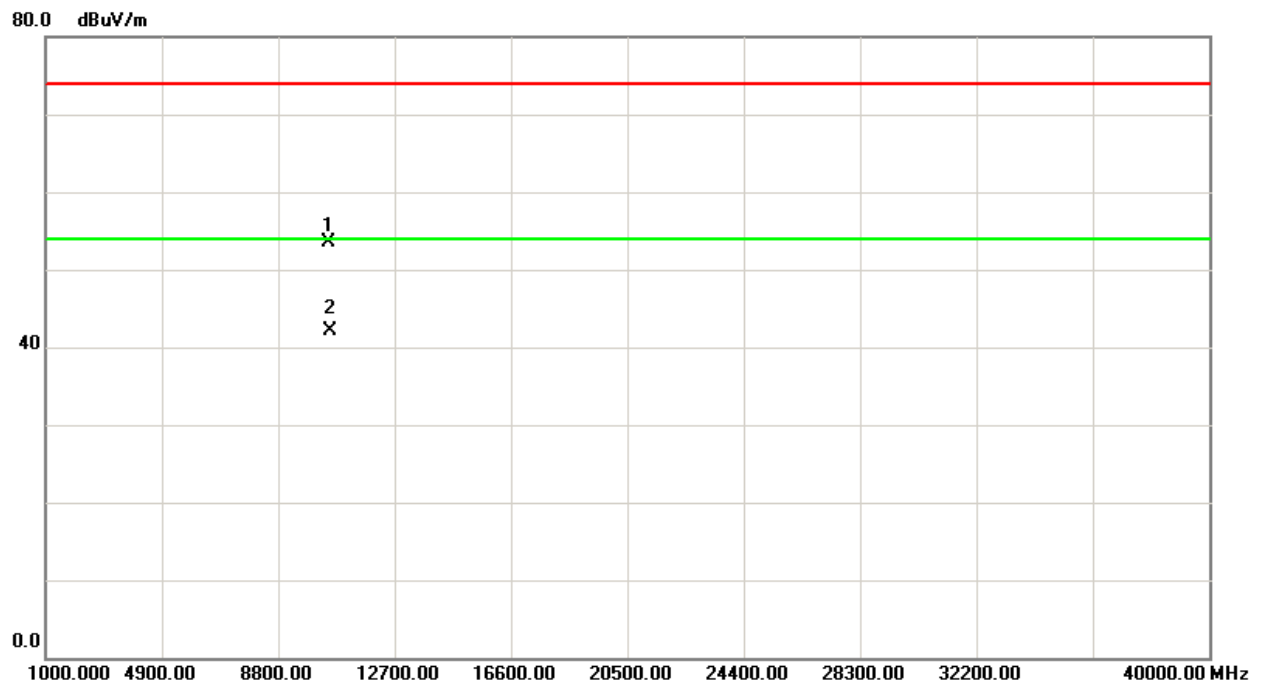
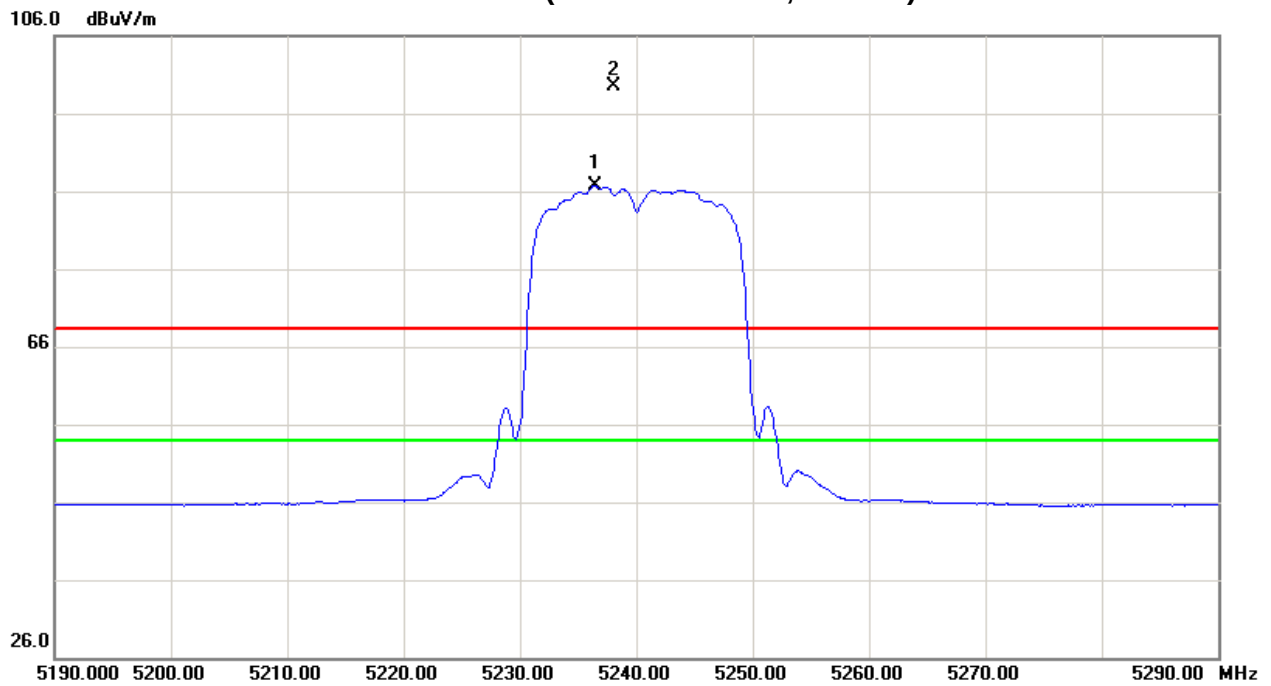
Freq. (MHz)	Ant. Pol. H/V	Reading		Ant./CF CF(dB)	Act.(dBuV/m)		Act.(dBm)		Limit(dBuV/m)		Limit(dBm)		Note
		Peak (dBuV)	AV (dBuV)		Peak	AV	Peak	AV	Peak	AV	Peak	AV	
5238.10	V	59.20	46.37	40.32	99.52	86.69	-5.25	-18.08					X/F
10481.79	V	39.60	28.27	13.87	53.47	42.14	-51.30	-62.63	68.30	54.00	-27.00	-41.30	X/H

Remark :

- (1) Spectrum Setting : 30MHz – 1000MHz , RBW= 100KHz, VBW=100KHz, Sweep time = 200 ms. 1GHz- 40GHz, RBW= 1MHz, VBW= 1MHz, Sweep time = Auto
- (2) All readings are Peak unless otherwise stated AV in column of 『Note』 . Peak denotes that the Peak reading compliance with the AV Limits and then AV Mode measurement didn't perform.
- (3) Measuring frequency range from 30MHz to 1000MHz or the 10th harmonic of highest fundamental frequency. "F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency. (This judgment method includes the Band Edge Requirement.)
- (4) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission .
- (5) Data of measurement within this frequency range shown " * " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (6) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.
- (7) EUT Orthogonal Axes :
"X" - denotes Laid on Table ; "Y" - denotes Vertical Stand ; "Z" - denotes Side Stand
- (8) During the measurements above 1GHz it is taken care of that the EUT is always within the 3dB cone of radiation BW of the used antenna.



Orthogonal Axis : X
Band 1/CH48(Above 1000 MHz, Vertical)





EUT :	Vodafone Mobile Wi-Fi	Model Name :	R215
Temperature :	25° C	Relative Humidity :	52 %
Test Voltage :	DC 3.7V		
Test Mode :	Band 1/ TX N20 Mode 5240MHz		

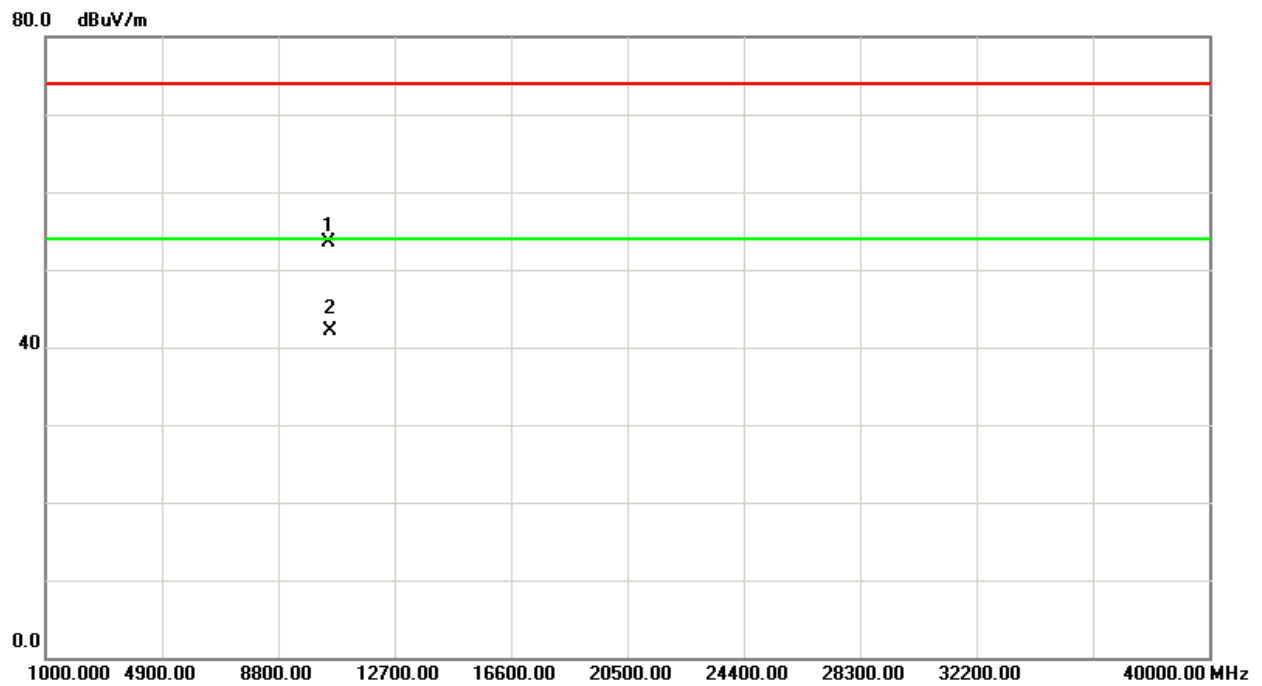
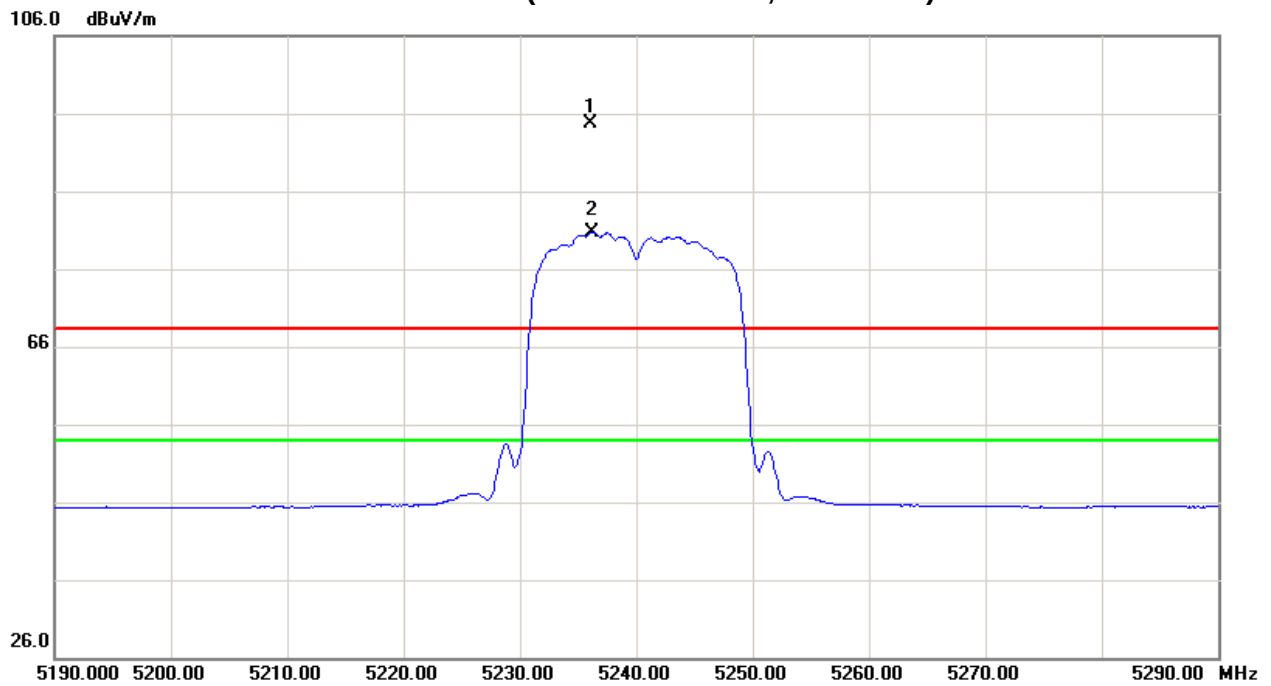
Freq. (MHz)	Ant. Pol. H/V	Reading		Ant./CF CF(dB)	Act.(dBuV/m)		Act.(dBm)		Limit(dBuV/m)		Limit(dBm)		Note
		Peak (dBuV)	AV (dBuV)		Peak	AV	Peak	AV	Peak	AV	Peak	AV	
5236.10	H	54.34	40.40	40.31	94.65	80.71	-10.12	-24.06					X/F
10482.72	H	39.59	28.19	13.87	53.46	42.06	-51.31	-62.71	68.30	54.00	-27.00	-41.30	X/H

Remark :

- (1) Spectrum Setting : 30MHz – 1000MHz , RBW= 100KHz, VBW=100KHz, Sweep time = 200 ms. 1GHz- 40GHz, RBW= 1MHz, VBW= 1MHz, Sweep time = Auto
- (2) All readings are Peak unless otherwise stated AV in column of 『Note』 . Peak denotes that the Peak reading compliance with the AV Limits and then AV Mode measurement didn't perform.
- (3) Measuring frequency range from 30MHz to 1000MHz or the 10th harmonic of highest fundamental frequency. "F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency. (This judgment method includes the Band Edge Requirement.)
- (4) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission .
- (5) Data of measurement within this frequency range shown " * " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (6) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.
- (7) EUT Orthogonal Axes :
"X" - denotes Laid on Table ; "Y" - denotes Vertical Stand ; "Z" - denotes Side Stand
- (8) During the measurements above 1GHz it is taken care of that the EUT is always within the 3dB cone of radiation BW of the used antenna.



Orthogonal Axis : X
Band 1/CH48(Above 1000 MHz, Horizontal)





EUT :	Vodafone Mobile Wi-Fi	Model Name :	R215
Temperature :	25° C	Relative Humidity :	58 %
Test Voltage :	DC 3.7V		
Test Mode :	Band 1/ TX N40 Mode 5190MHz		

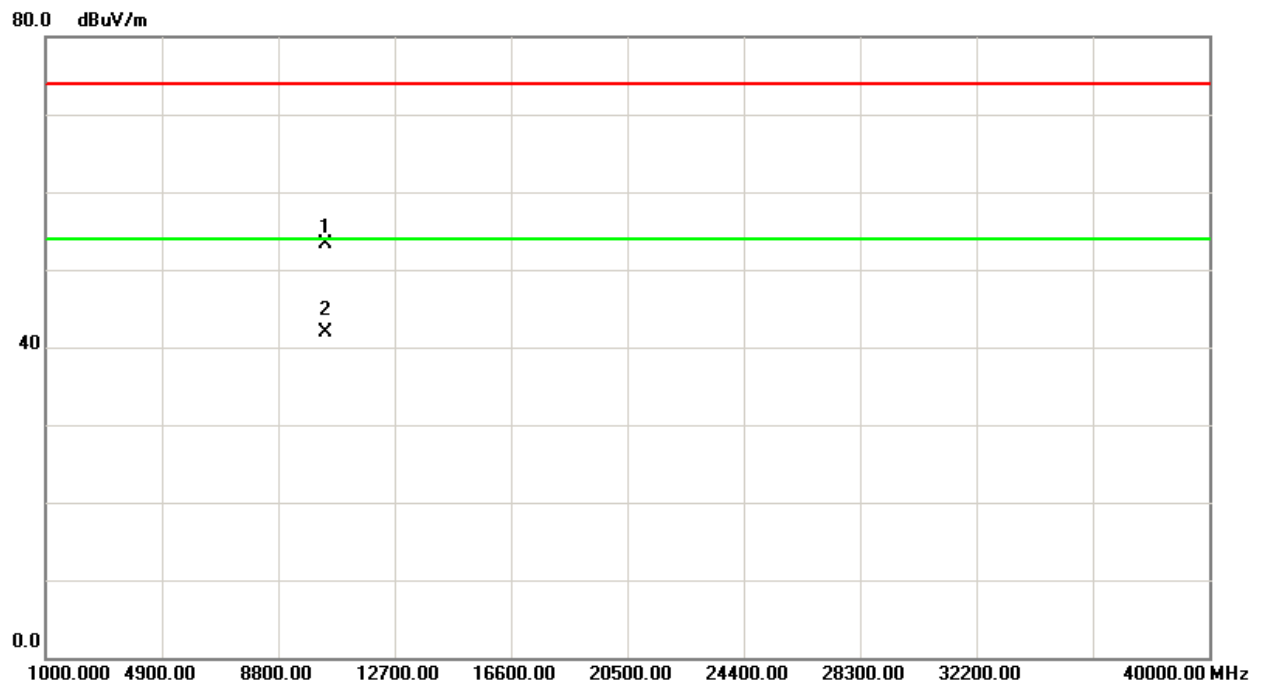
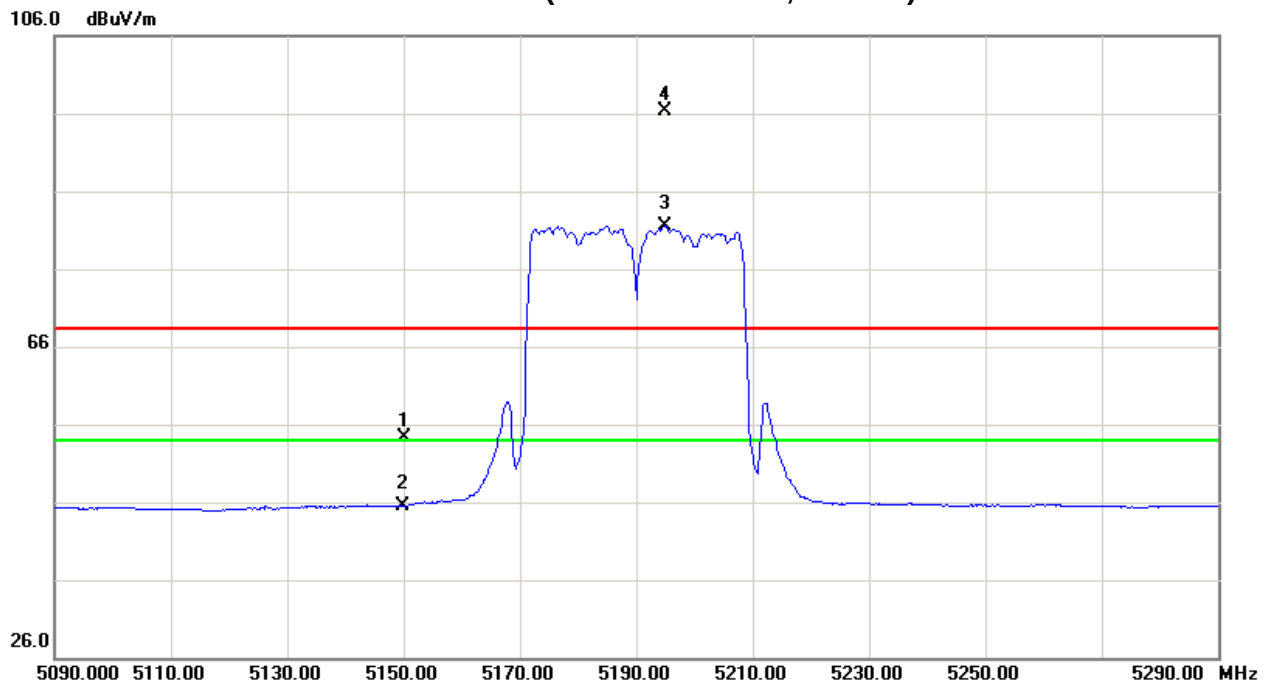
Freq. (MHz)	Ant. Pol. H/V	Reading		Ant./CF CF(dB)	Act.(dBuV/m)		Act.(dBm)		Limit(dBuV/m)		Limit(dBm)		Note
		Peak (dBuV)	AV (dBuV)		Peak	AV	Peak	AV	Peak	AV	Peak	AV	
5150.00	V	14.30	5.46	40.09	54.39	45.55	-50.38	-59.22	68.30	54.00	-27.00	-41.30	X/E
5195.00	V	56.12	41.39	40.21	96.33	81.60	-8.44	-23.17					X/F
10381.65	V	39.52	28.21	13.76	53.28	41.97	-51.49	-62.80	68.30	54.00	-27.00	-41.30	X/H

Remark :

- (1) Spectrum Setting : 30MHz – 1000MHz , RBW= 100KHz, VBW=100KHz, Sweep time = 200 ms. 1GHz- 40GHz, RBW= 1MHz, VBW= 1MHz, Sweep time = Auto
- (2) All readings are Peak unless otherwise stated AV in column of 『Note』 . Peak denotes that the Peak reading compliance with the AV Limits and then AV Mode measurement didn't perform.
- (3) Measuring frequency range from 30MHz to 1000MHz or the 10th harmonic of highest fundamental frequency. "F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency. (This judgment method includes the Band Edge Requirement.)
- (4) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission .
- (5) Data of measurement within this frequency range shown " * " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (6) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.
- (7) EUT Orthogonal Axes :
"X" - denotes Laid on Table ; "Y" - denotes Vertical Stand ; "Z" - denotes Side Stand
- (8) During the measurements above 1GHz it is taken care of that the EUT is always within the 3dB cone of radiation BW of the used antenna.



Orthogonal Axis : X
Band 1/CH38(Above 1000 MHz, Vertical)





EUT :	Vodafone Mobile Wi-Fi	Model Name :	R215
Temperature :	25 °C	Relative Humidity :	58 %
Test Voltage :	DC 3.7V		
Test Mode :	Band 1/ TX N40 Mode 5190MHz		

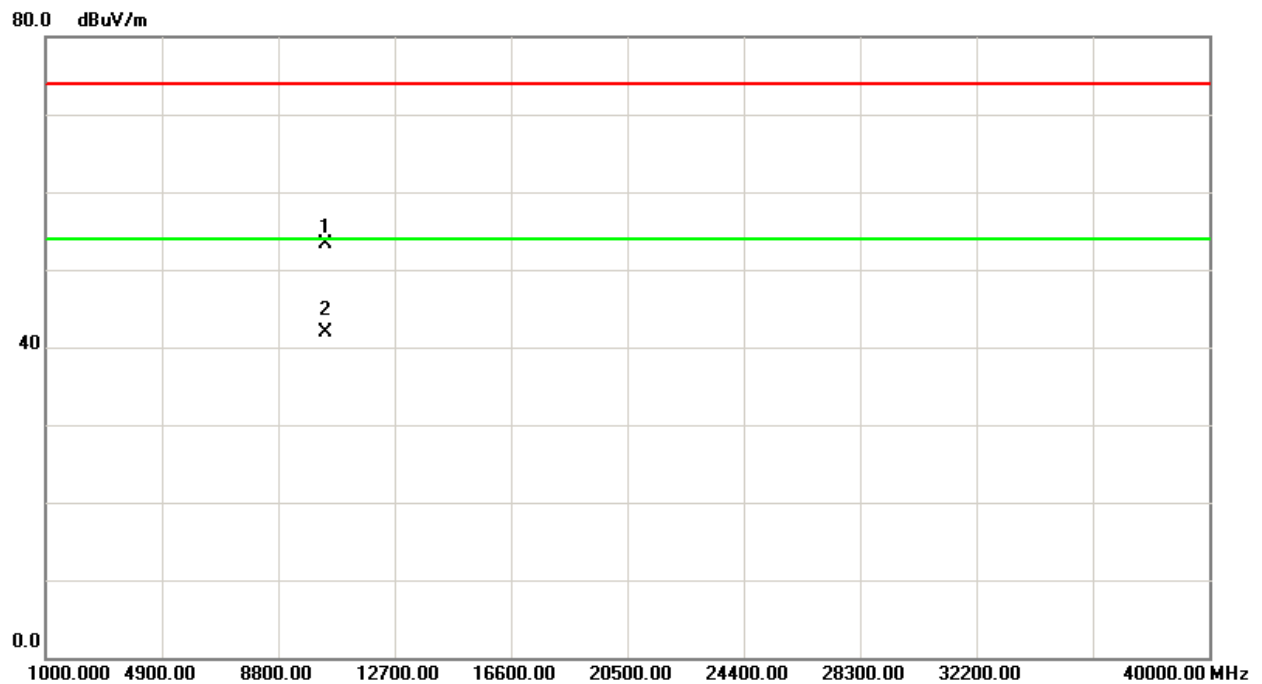
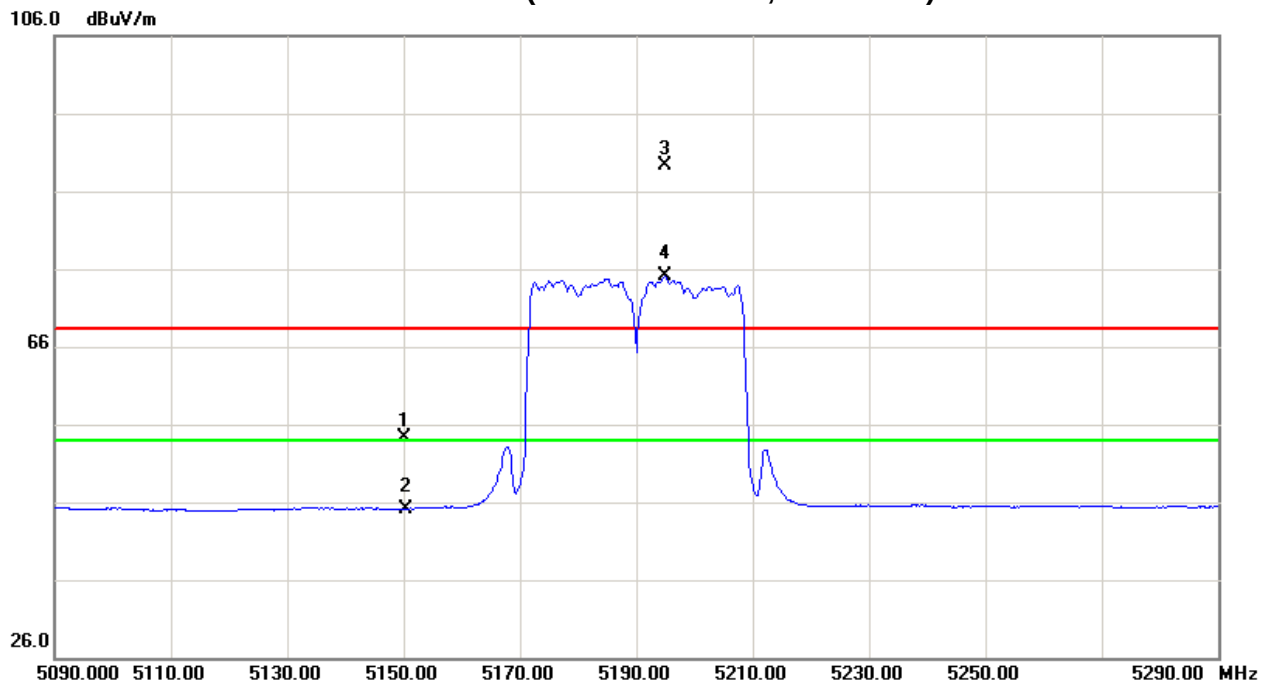
Freq. (MHz)	Ant. Pol. H/V	Reading		Ant./CF CF(dB)	Act.(dBuV/m)		Act.(dBm)		Limit(dBuV/m)		Limit(dBm)		Note
		Peak (dBuV)	AV (dBuV)		Peak	AV	Peak	AV	Peak	AV	Peak	AV	
5150.00	H	14.30	5.09	40.09	54.39	45.18	-50.38	-59.59	68.30	54.00	-27.00	-41.30	X/E
5195.00	H	49.07	34.83	40.21	89.28	75.04	-15.49	-29.73					X/F
10382.24	H	39.46	28.18	13.76	53.22	41.94	-51.55	-62.83	68.30	54.00	-27.00	-41.30	X/H

Remark :

- (1) Spectrum Setting : 30MHz – 1000MHz , RBW= 100KHz, VBW=100KHz, Sweep time = 200 ms. 1GHz- 40GHz, RBW= 1MHz, VBW= 1MHz, Sweep time = Auto
- (2) All readings are Peak unless otherwise stated AV in column of 『Note』 . Peak denotes that the Peak reading compliance with the AV Limits and then AV Mode measurement didn't perform.
- (3) Measuring frequency range from 30MHz to 1000MHz or the 10th harmonic of highest fundamental frequency. "F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency. (This judgment method includes the Band Edge Requirement.)
- (4) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission .
- (5) Data of measurement within this frequency range shown " * " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (6) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.
- (7) EUT Orthogonal Axes :
"X" - denotes Laid on Table ; "Y" - denotes Vertical Stand ; "Z" - denotes Side Stand
- (8) During the measurements above 1GHz it is taken care of that the EUT is always within the 3dB cone of radiation BW of the used antenna.



Orthogonal Axis : X
Band 1/CH38(Above 1000 MHz, Horizontal)





EUT :	Vodafone Mobile Wi-Fi	Model Name :	R215
Temperature :	25° C	Relative Humidity :	58 %
Test Voltage :	DC 3.7V		
Test Mode :	Band 1/ TX N40 Mode 5230MHz		

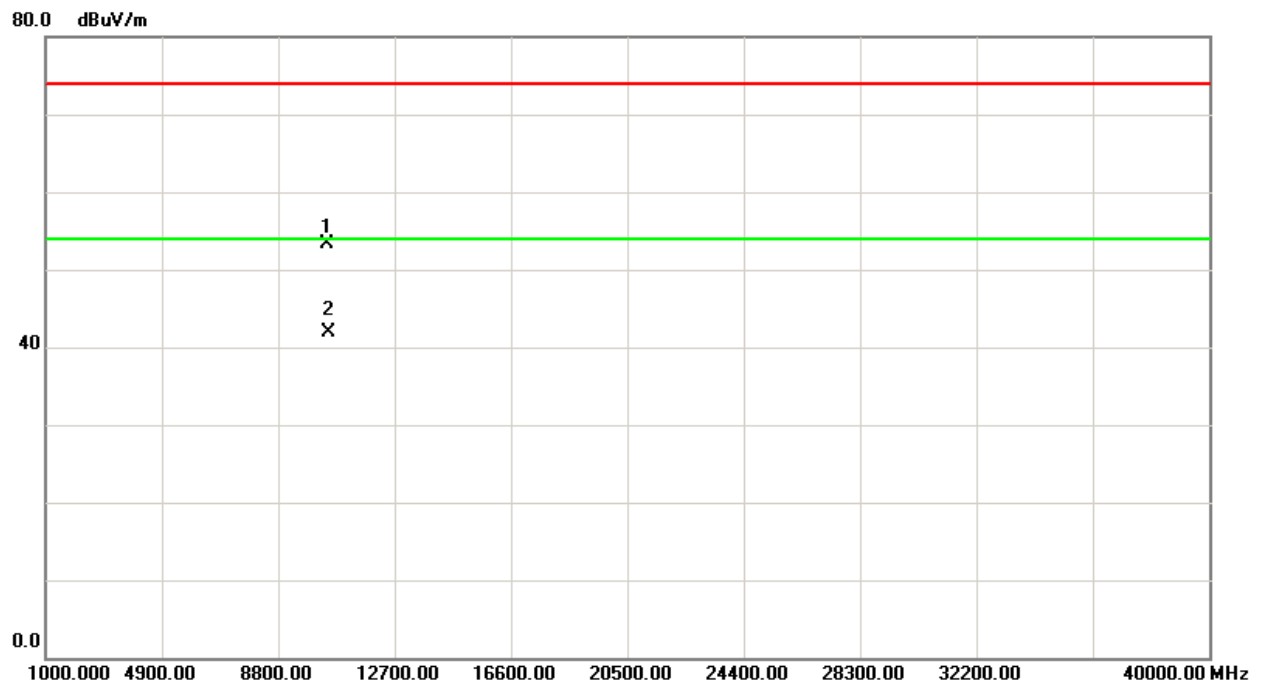
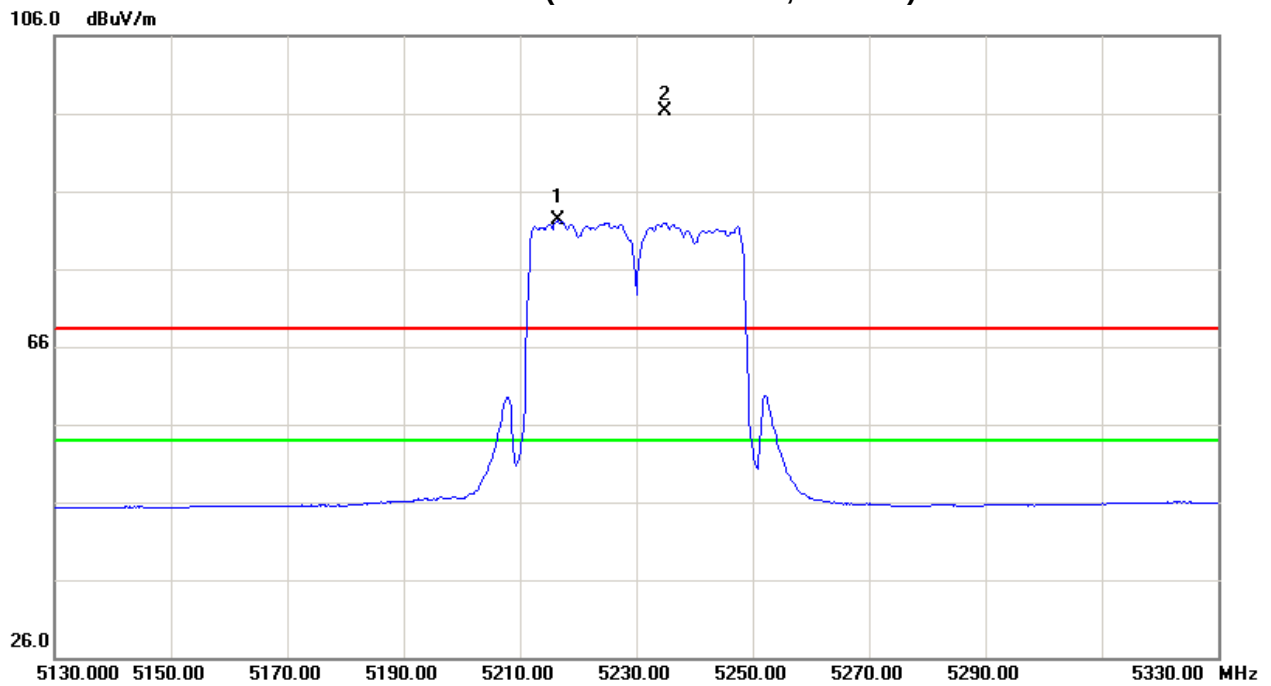
Freq. (MHz)	Ant. Pol. H/V	Reading		Ant./CF CF(dB)	Act.(dBuV/m)		Act.(dBm)		Limit(dBuV/m)		Limit(dBm)		Note
		Peak (dBuV)	AV (dBuV)		Peak	AV	Peak	AV	Peak	AV	Peak	AV	
5235.00	V	56.06	41.95	40.31	96.37	82.26	-8.40	-22.51					X/F
10462.40	V	39.54	28.12	13.85	53.39	41.97	-51.38	-62.80	68.30	54.00	-27.00	-41.30	X/H

Remark :

- (1) Spectrum Setting : 30MHz – 1000MHz , RBW= 100KHz, VBW=100KHz, Sweep time = 200 ms. 1GHz- 40GHz, RBW= 1MHz, VBW= 1MHz, Sweep time = Auto
- (2) All readings are Peak unless otherwise stated AV in column of 『Note 』 . Peak denotes that the Peak reading compliance with the AV Limits and then AV Mode measurement didn't perform.
- (3) Measuring frequency range from 30MHz to 1000MHz or the 10th harmonic of highest fundamental frequency. "F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency. (This judgment method includes the Band Edge Requirement.)
- (4) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission .
- (5) Data of measurement within this frequency range shown " * " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (6) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.
- (7) EUT Orthogonal Axes :
"X" - denotes Laid on Table ; "Y" - denotes Vertical Stand ; "Z" - denotes Side Stand
- (8) During the measurements above 1GHz it is taken care of that the EUT is always within the 3dB cone of radiation BW of the used antenna.



Orthogonal Axis : X
Band 1/CH46(Above 1000 MHz, Vertical)





EUT :	Vodafone Mobile Wi-Fi	Model Name :	R215
Temperature :	25° C	Relative Humidity :	58 %
Test Voltage :	DC 3.7V		
Test Mode :	Band 1/ TX N40 Mode 5230MHz		

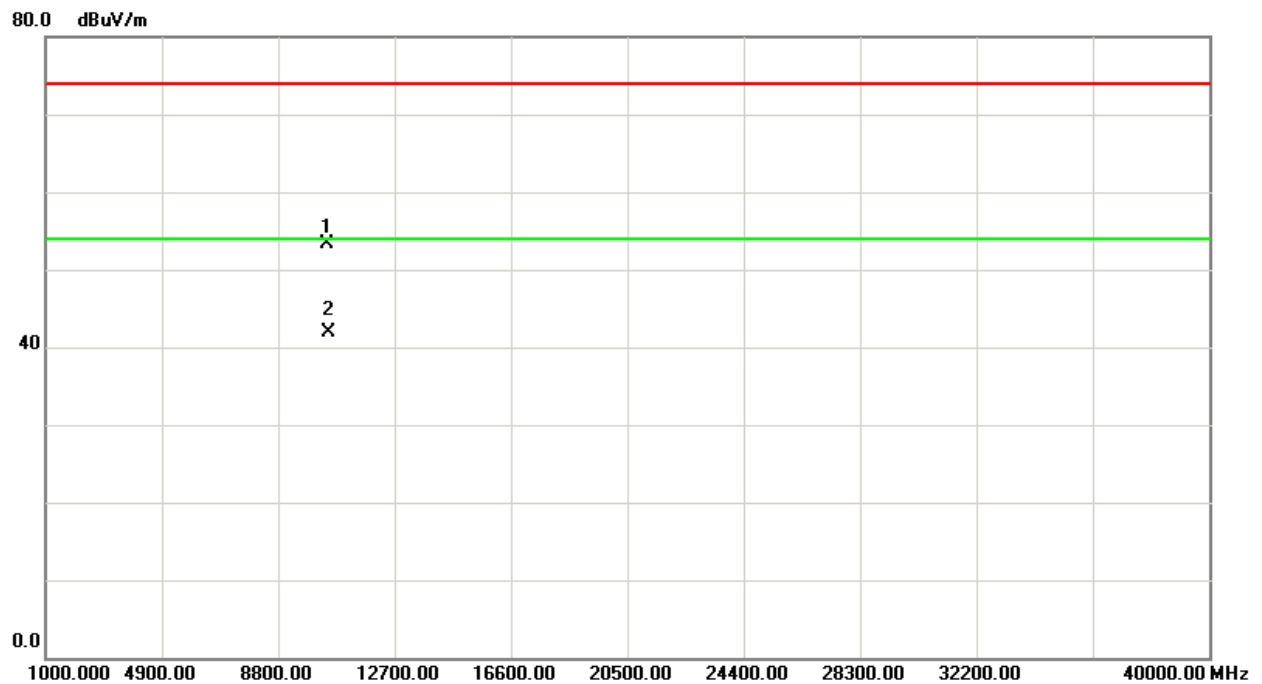
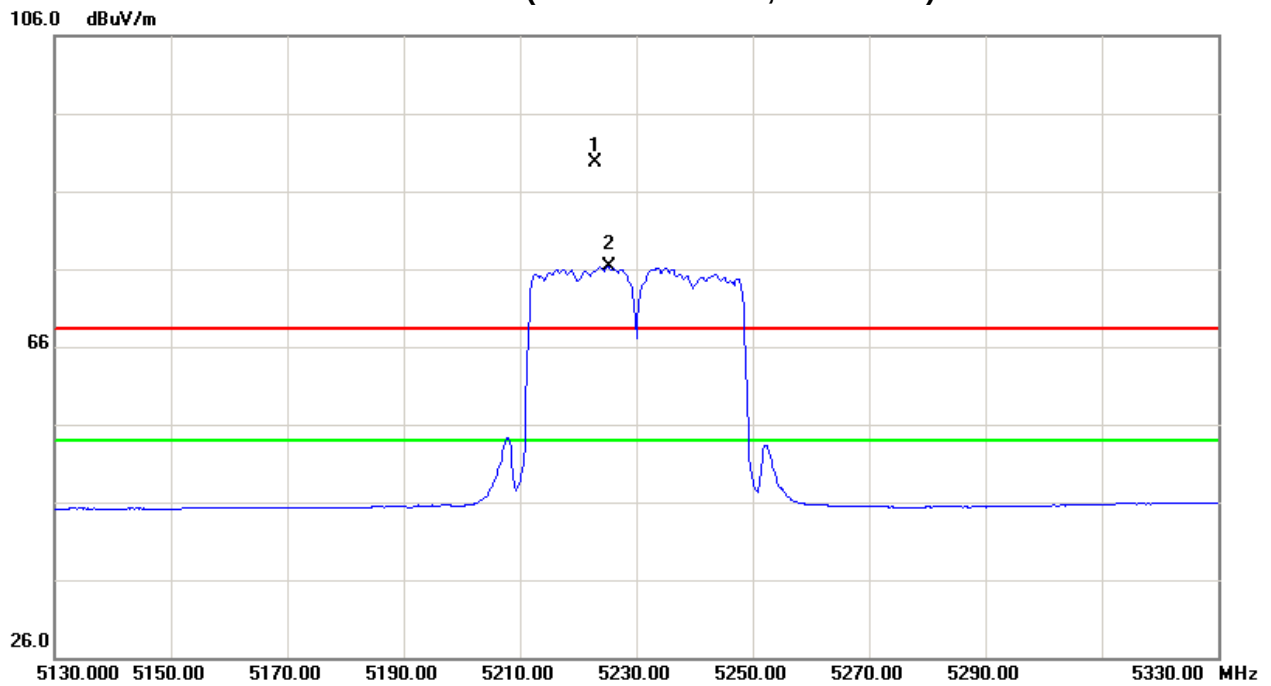
Freq. (MHz)	Ant. Pol. H/V	Reading		Ant./CF CF(dB)	Act.(dBuV/m)		Act.(dBm)		Limit(dBuV/m)		Limit(dBm)		Note
		Peak (dBuV)	AV (dBuV)		Peak	AV	Peak	AV	Peak	AV	Peak	AV	
5222.80	H	49.39	36.04	40.28	89.67	76.32	-15.10	-28.45					X/F
10458.32	H	39.49	28.14	13.84	53.33	41.98	-51.44	-62.79	68.30	54.00	-27.00	-41.30	X/H

Remark :

- (1) Spectrum Setting : 30MHz – 1000MHz , RBW= 100KHz, VBW=100KHz, Sweep time = 200 ms. 1GHz- 40GHz, RBW= 1MHz, VBW= 1MHz, Sweep time = Auto
- (2) All readings are Peak unless otherwise stated AV in column of 『Note 』 . Peak denotes that the Peak reading compliance with the AV Limits and then AV Mode measurement didn't perform.
- (3) Measuring frequency range from 30MHz to 1000MHz or the 10th harmonic of highest fundamental frequency. "F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency. (This judgment method includes the Band Edge Requirement.)
- (4) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission .
- (5) Data of measurement within this frequency range shown " * " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (6) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.
- (7) EUT Orthogonal Axes :
"X" - denotes Laid on Table ; "Y" - denotes Vertical Stand ; "Z" - denotes Side Stand
- (8) During the measurements above 1GHz it is taken care of that the EUT is always within the 3dB cone of radiation BW of the used antenna.



Orthogonal Axis : X
Band 1/CH46(Above 1000 MHz, Horizontal)





5. 26dB SPECTRUM BANDWIDTH

5.1 APPLIED PROCEDURES / LIMIT

FCC Part15, Subpart E			
Test Item	Limit	Frequency Range (MHz)	Result
26 dB Bandwidth	-----	5150MHz~5250	PASS

5.1.1 MEASUREMENT INSTRUMENTS LIST

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Last Calibration	Next Calibration
1	Spectrum Analyzer	R&S	FSP_40	100129	Nov.26.2012	Nov.26.2013

Remark: "N/A" denotes no model name, serial no. or calibration specified.
All calibration period of equipment list is one year.

5.1.2 TEST PROCEDURE

- a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below,

b.

Spectrum Parameters	Setting
Attenuation	Auto
Span Frequency	> 26dB Bandwidth
RB	300 kHz
VB	1000 kHz
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

- c. Measured the spectrum width with power higher than 26dB below carrier

5.1.3 DEVIATION FROM STANDARD

No deviation.

5.1.4 TEST SETUP



5.1.5 EUT OPERATION CONDITIONS

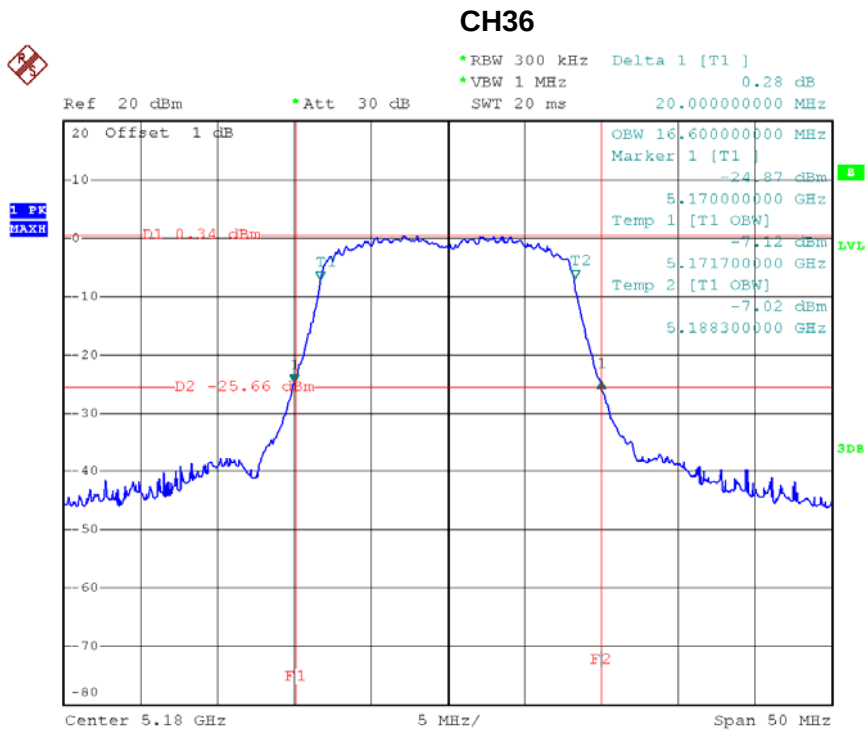
The EUT tested system was configured as the statements of 4.1.6 Unless otherwise a special operating condition is specified in the follows during the testing.



5.1.6 TEST RESULTS

EUT :	Vodafone Mobile Wi-Fi	Model Name :	R215
Temperature :	25 °C	Relative Humidity :	58 %
Test Voltage :	DC 3.7V		
Test Mode :	Band 1/TX A Mode /CH36, CH40, CH48		

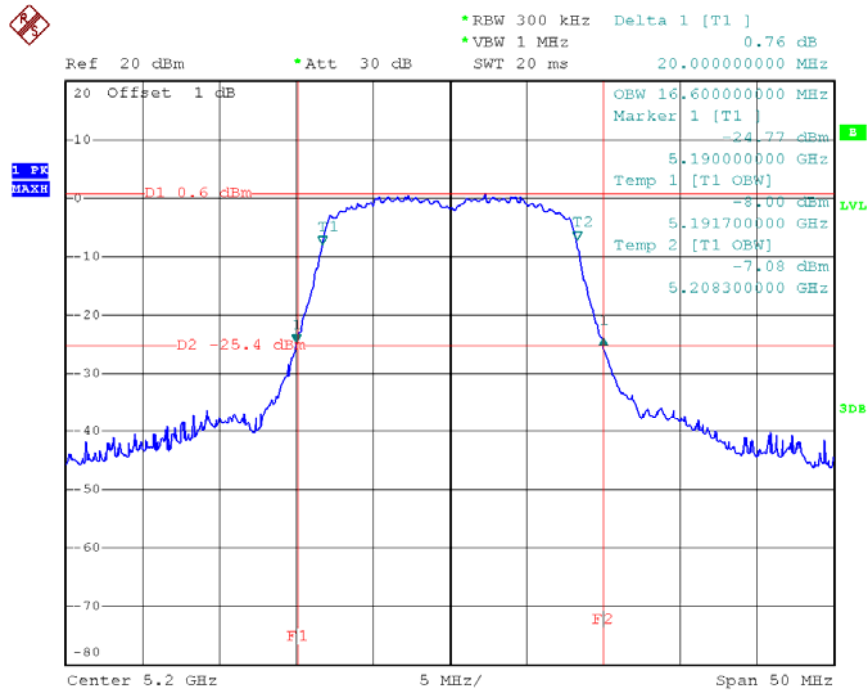
Channel	Frequency (MHz)	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
CH36	5180	20.00	16.60
CH40	5200	20.00	16.60
CH48	5240	20.00	16.60



Date: 27.JUN.2013 10:33:18

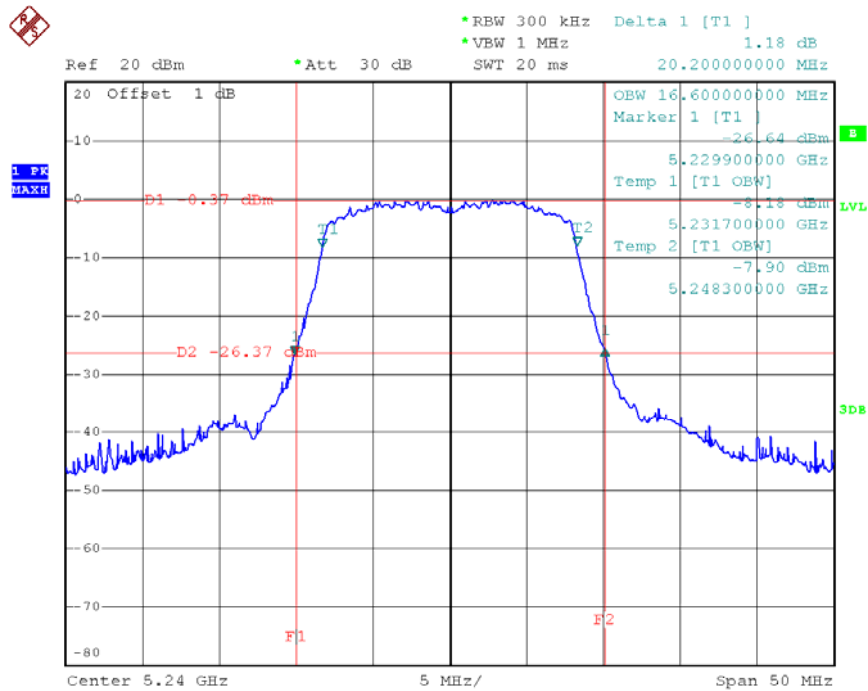


CH40



Date: 27.JUN.2013 10:38:49

CH48

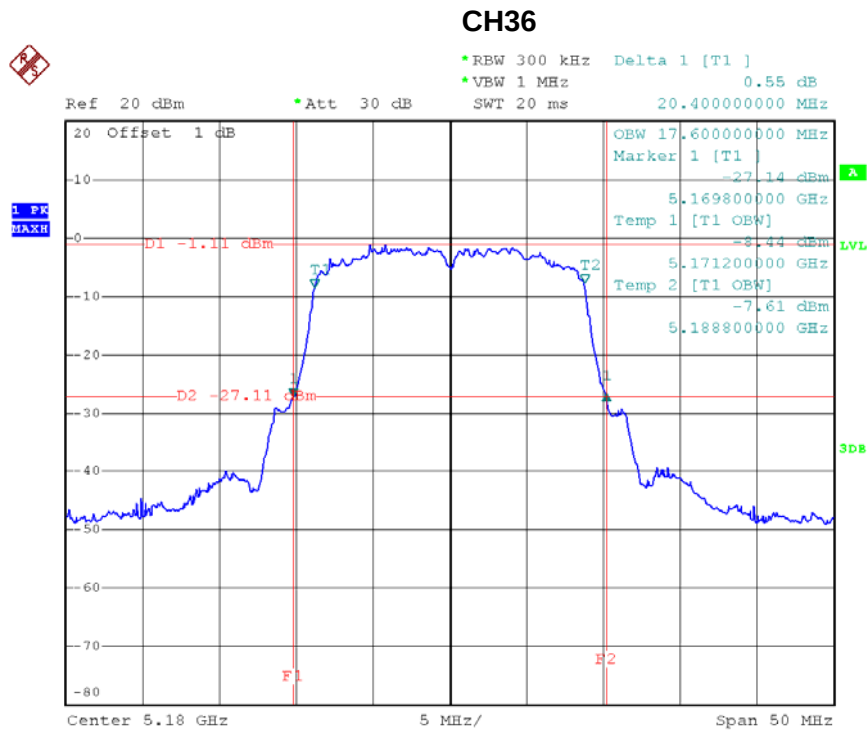


Date: 27.JUN.2013 10:45:59



EUT :	Vodafone Mobile Wi-Fi	Model Name :	R215
Temperature :	25 °C	Relative Humidity :	58 %
Test Voltage :	DC 3.7V		
Test Mode :	Band 1/TXN20 Mode /CH36, CH40, CH48 - ANT 1		

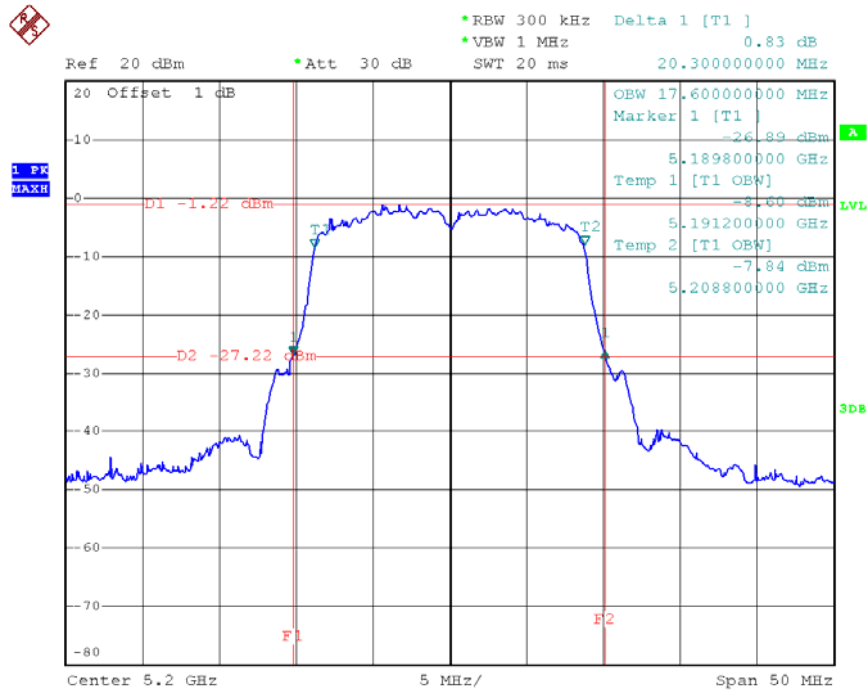
Channel	Frequency (MHz)	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
CH36	5180	20.40	17.60
CH40	5200	20.30	17.60
CH48	5240	20.30	17.60



Date: 28.JUN.2013 10:29:28

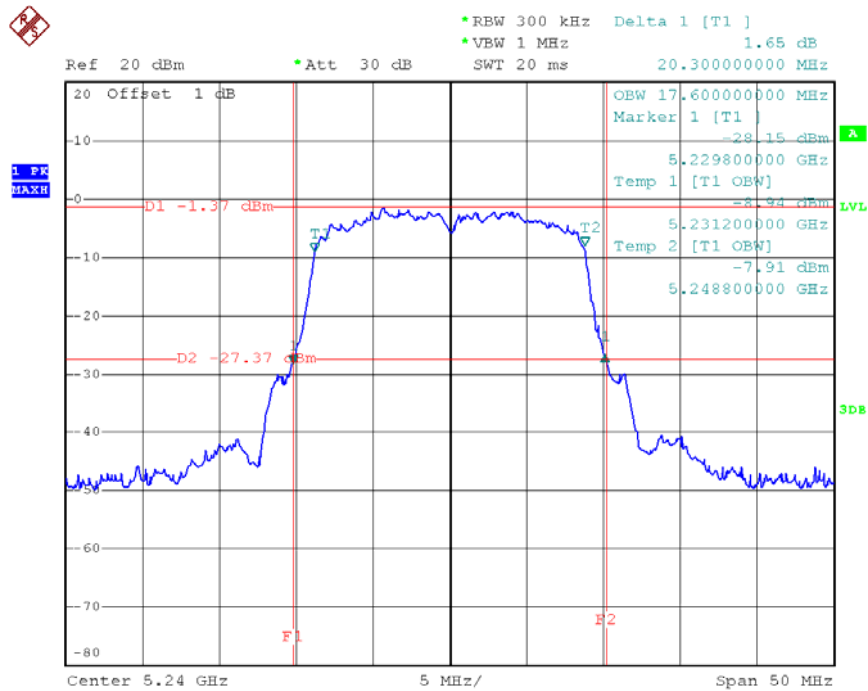


CH40



Date: 28.JUN.2013 10:30:39

CH48

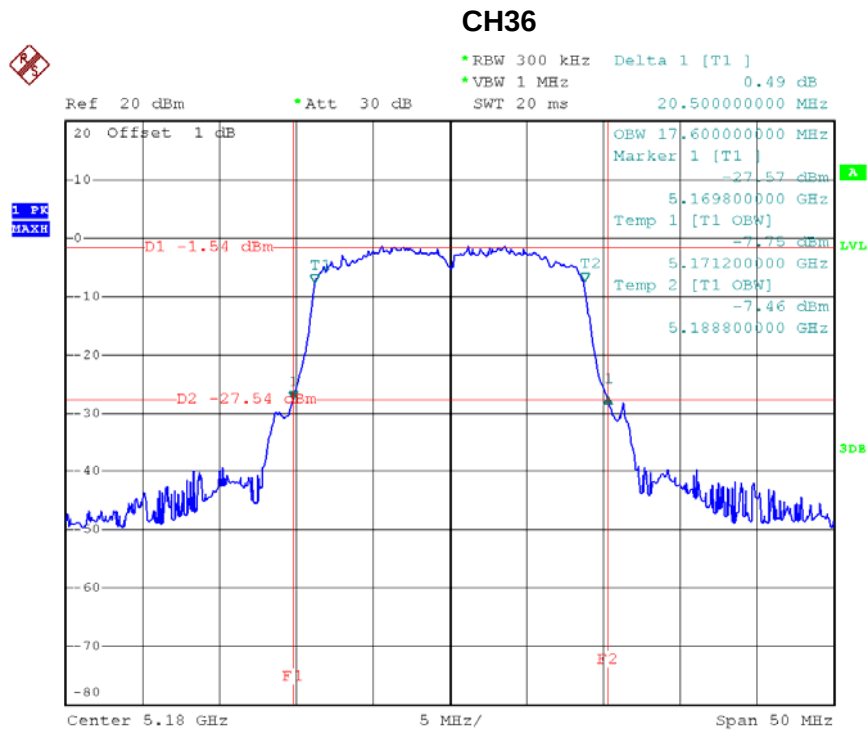


Date: 28.JUN.2013 10:31:24



EUT :	Vodafone Mobile Wi-Fi	Model Name :	R215
Temperature :	25 °C	Relative Humidity :	58 %
Test Voltage :	DC 3.7V		
Test Mode :	Band 1/TXN20 Mode /CH36, CH40, CH48 - ANT 2		

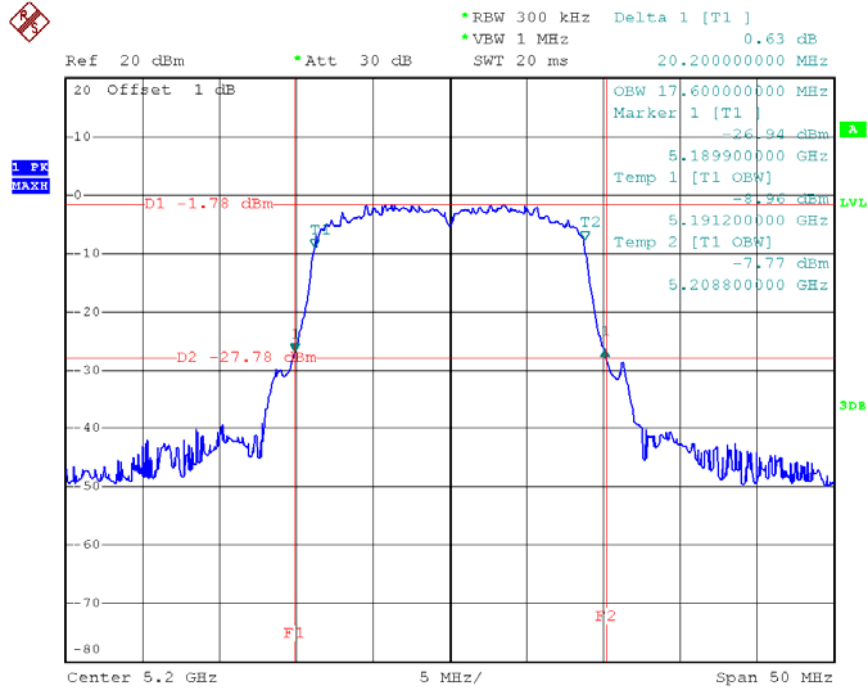
Channel	Frequency (MHz)	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
CH36	5180	20.50	17.60
CH40	5200	20.20	17.60
CH48	5240	20.40	17.60



Date: 28.JUN.2013 10:28:38

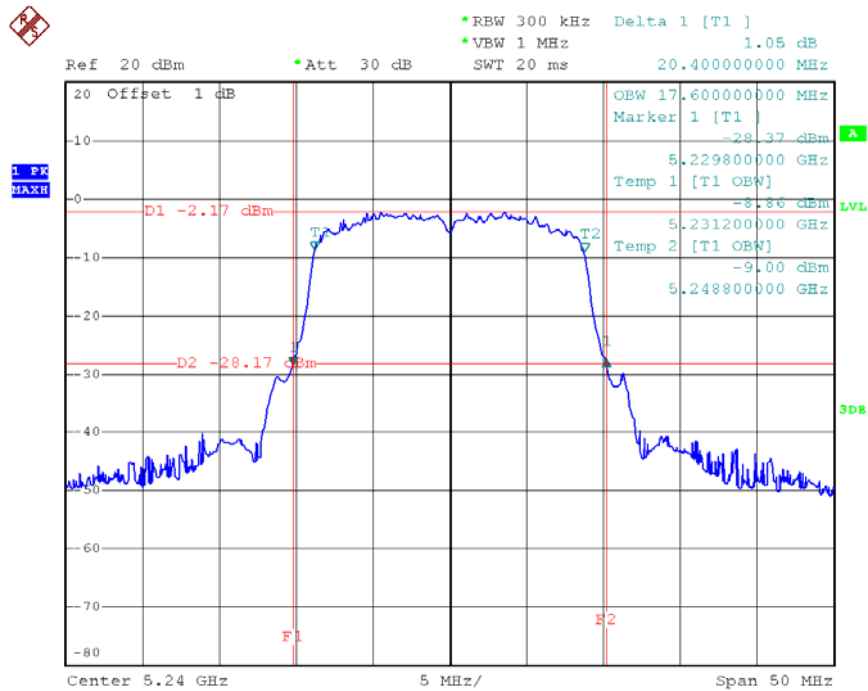


CH40



Date: 28.JUN.2013 10:27:37

CH48



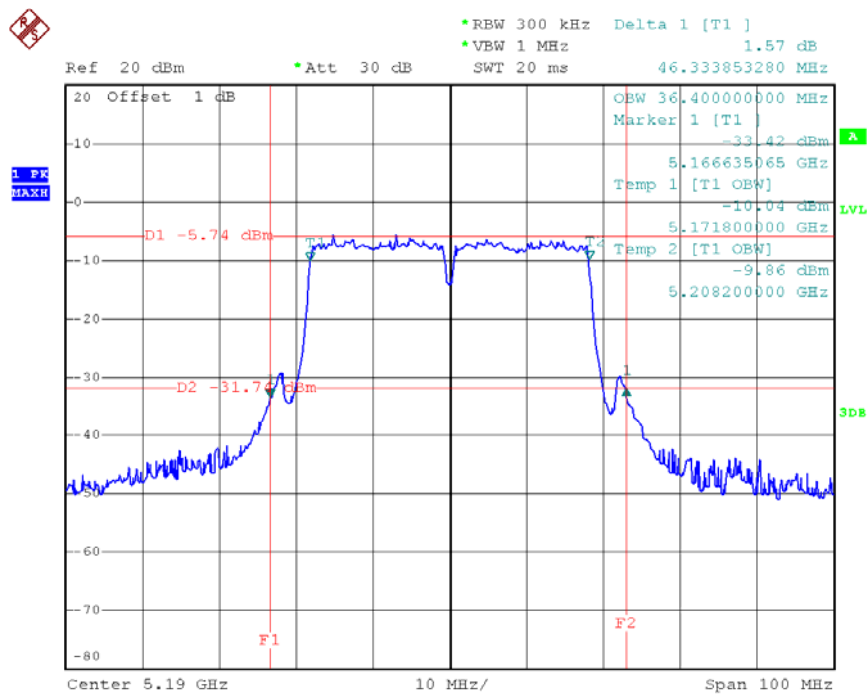
Date: 28.JUN.2013 10:26:53



EUT :	Vodafone Mobile Wi-Fi	Model Name :	R215
Temperature :	25°C	Relative Humidity :	58 %
Test Voltage :	DC 3.7V		
Test Mode :	Band 1/TXN40 Mode /CH38, CH46 - ANT 1		

Channel	Frequency (MHz)	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
CH38	5190	46.33	36.40
CH46	5230	45.80	36.40

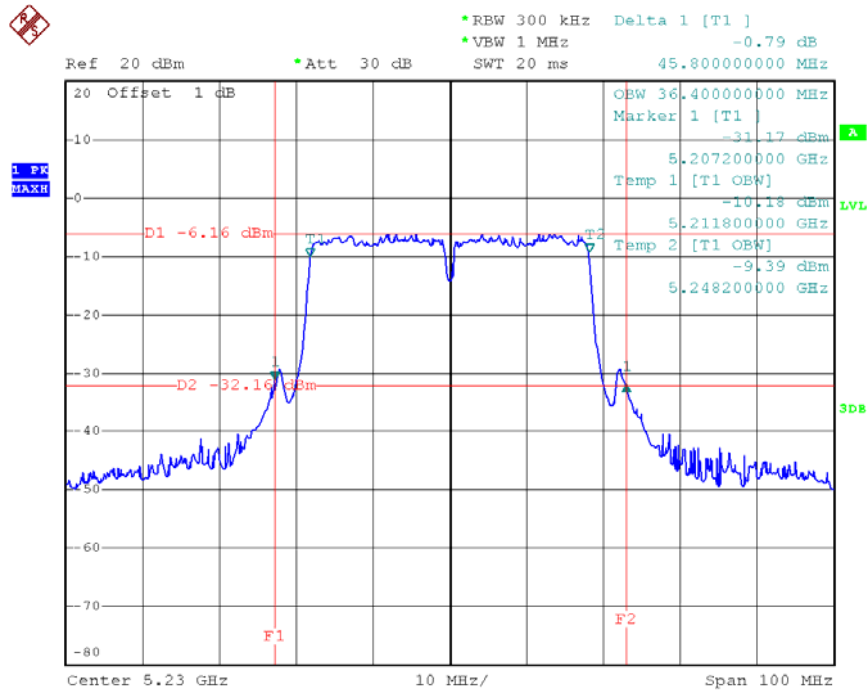
CH38



Date: 28.JUN.2013 09:59:29



CH46



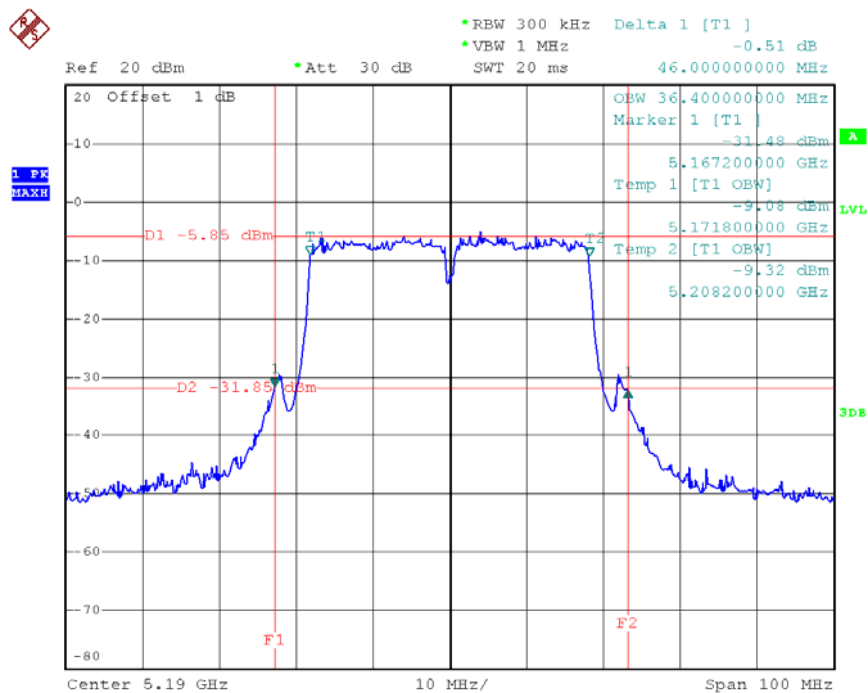
Date: 28.JUN.2013 10:01:32



EUT :	Vodafone Mobile Wi-Fi	Model Name :	R215
Temperature :	25°C	Relative Humidity :	58 %
Test Voltage :	DC 3.7V		
Test Mode :	Band 1/TXN40 Mode /CH38, CH46 - ANT 2		

Channel	Frequency (MHz)	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
CH38	5190	46.00	36.40
CH46	5230	45.60	36.40

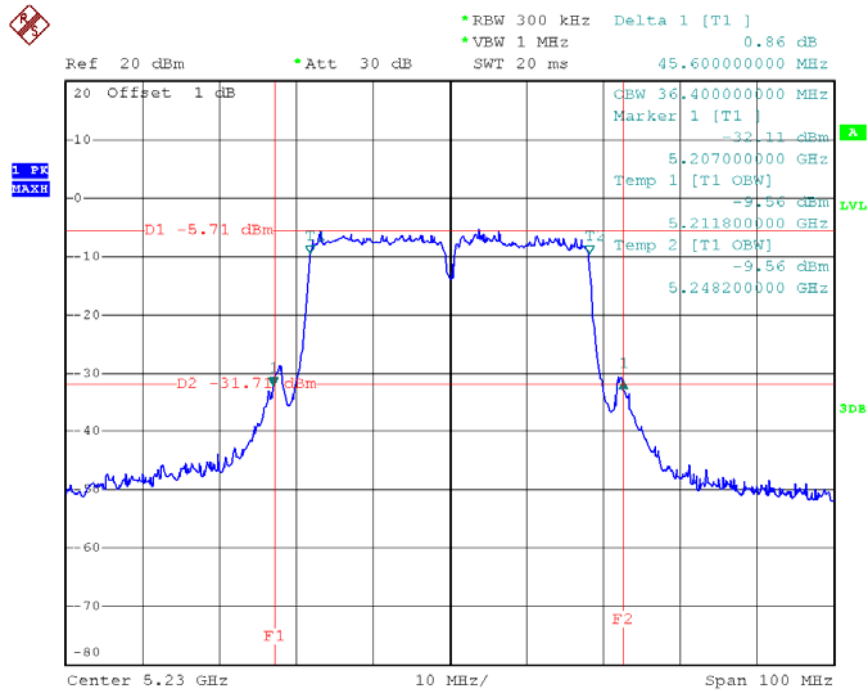
CH38



Date: 28.JUN.2013 10:03:31



CH46



Date: 28.JUN.2013 10:02:24



6. MAXIMUM CONDUCTED OUTPUT POWER

6.1 APPLIED PROCEDURES / LIMIT

FCC Part15, Subpart E			
Test Item	Frequency Range (MHz)	Limit	Result
Conducted Output Power	5150 - 5250	not exceed the lesser of 50 mW (17dBm) or 4 dBm + 10log B,	PASS

Note: where “B” is the 26 dB emissions bandwidth in MHz.

6.1.1 MEASUREMENT INSTRUMENTS LIST

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Last Calibration	Next Calibration
1	Spectrum Analyzer	R&S	FSP_40	100129	Nov.26.2012	Nov.26.2013

Remark: “N/A” denotes no model name, serial no. or calibration specified.

All calibration period of equipment list is one year.

6.1.2 TEST PROCEDURE

- a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below,
- b.

Spectrum Parameter	Setting
Attenuation	Auto
Span Frequency	Encompass the entire emissions bandwidth (EBW) of the signal
RBW	= 1 MHz.
VBW	$\geq$ 3 MHz.
Detector	RMS
Trace	Max Hold
Sweep Time	auto

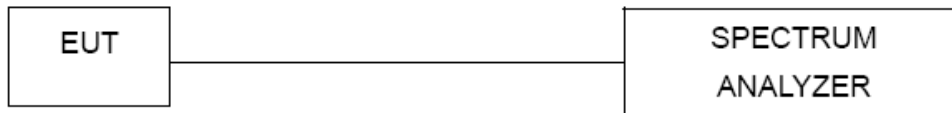
- c. Test was performed in accordance with method C) b) of KDB 789033 D01(A, N20 and N40 mode) and KDB 662911 D01 Multiple Transmitter Output v01r02(N20 and N40 mode).



6.1.3 DEVIATION FROM STANDARD

No deviation.

6.1.4 TEST SETUP



6.1.5 EUT OPERATION CONDITIONS

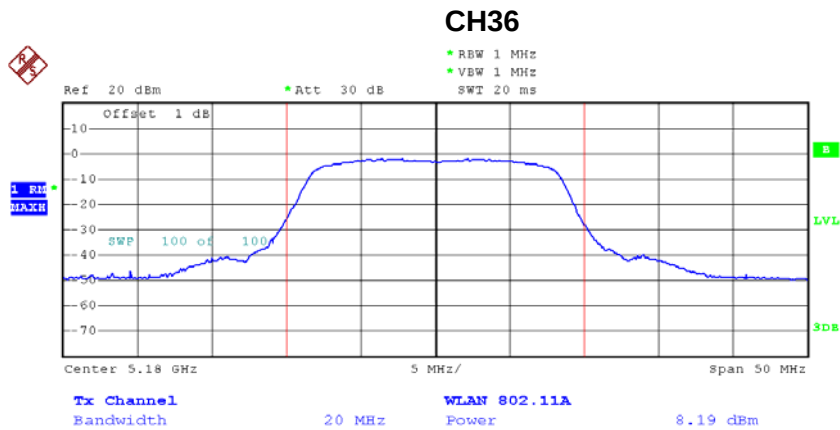
The EUT tested system was configured as the statements of 4.1.6 Unless otherwise a special operating condition is specified in the follows during the testing.



6.1.6 TEST RESULTS

EUT :	Vodafone Mobile Wi-Fi	Model Name :	R215
Temperature :	25 °C	Relative Humidity :	58 %
Test Voltage :	DC 3.7V		
Test Mode :	Band 1/TX A Mode/CH36, CH40, CH48-ANT 1		

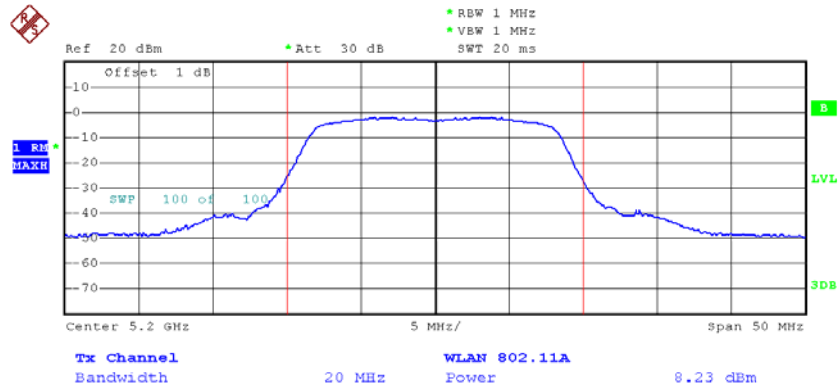
Test Channel	Frequency (MHz)	Conducted Output Power (dBm)	LIMIT (dBm)	LIMIT (W)
CH36	5180	8.19	17.00	0.0501
CH40	5200	8.23	17.00	0.0501
CH48	5240	7.94	17.00	0.0501



Date: 13.JUN.2013 14:27:16

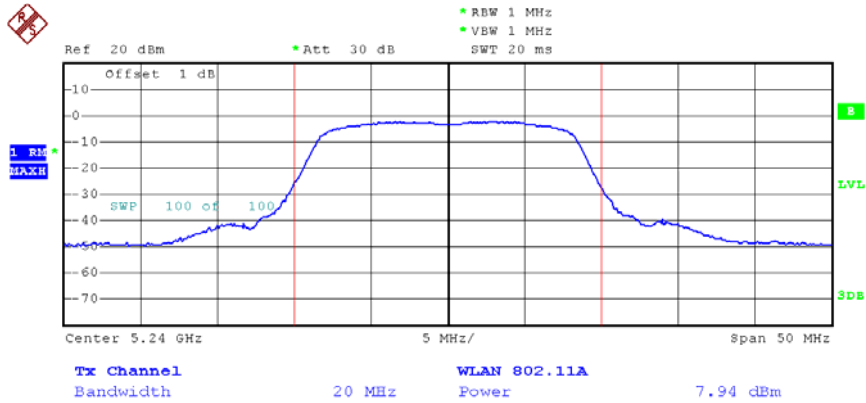


CH40



Date: 13.JUN.2013 14:27:53

CH48

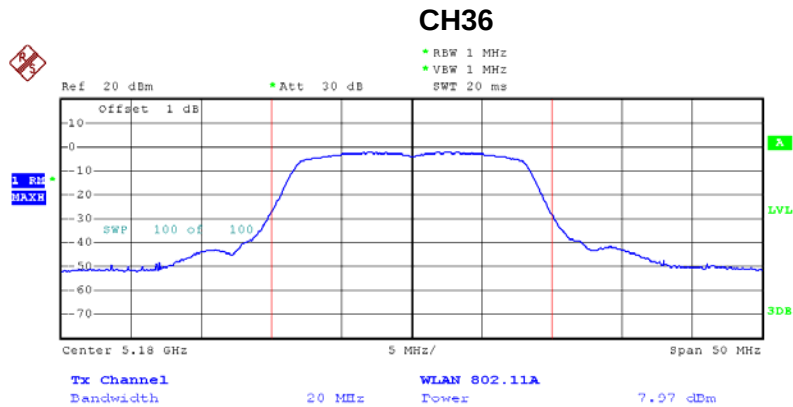


Date: 13.JUN.2013 14:28:16



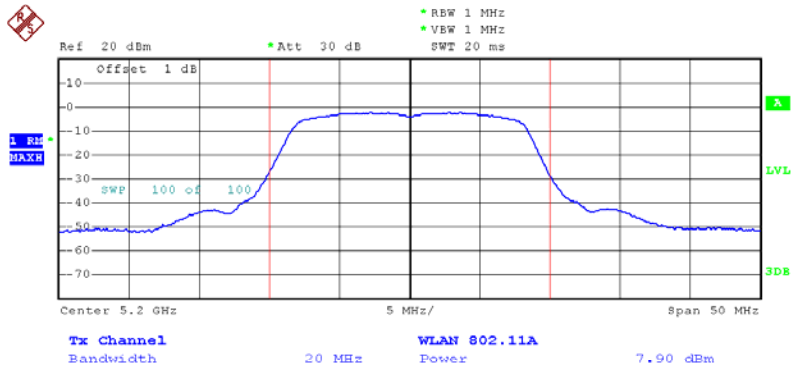
EUT :	Vodafone Mobile Wi-Fi	Model Name :	R215
Temperature :	25 °C	Relative Humidity :	58 %
Test Voltage :	DC 3.7V		
Test Mode :	Band 1/TX A Mode/CH36, CH40, CH48-ANT 2		

Test Channel	Frequency (MHz)	Conducted Output Power (dBm)	LIMIT (dBm)	LIMIT (W)
CH36	5180	7.97	17.00	0.0501
CH40	5200	7.90	17.00	0.0501
CH48	5240	7.53	17.00	0.0501

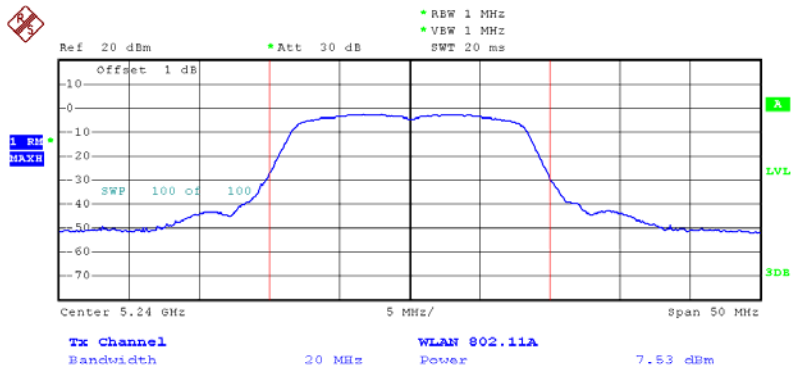




CH40



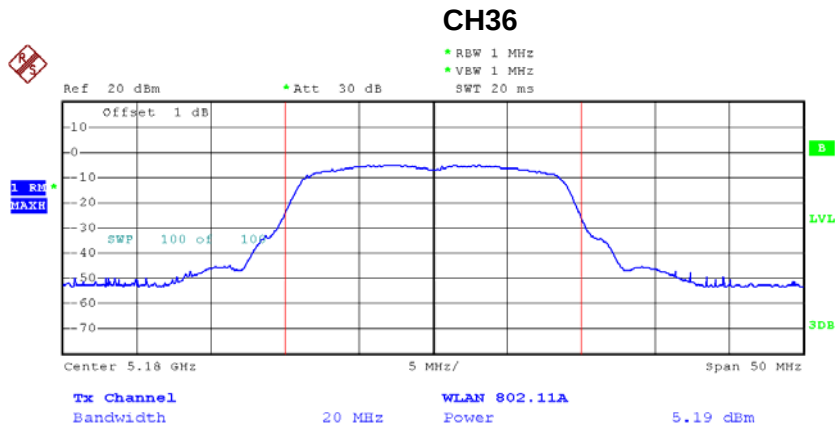
CH48





EUT :	Vodafone Mobile Wi-Fi	Model Name :	R215
Temperature :	25 °C	Relative Humidity :	58 %
Test Voltage :	DC 3.7V		
Test Mode :	Band 1/TX N20 Mode/CH36, CH40, CH48-ANT 1		

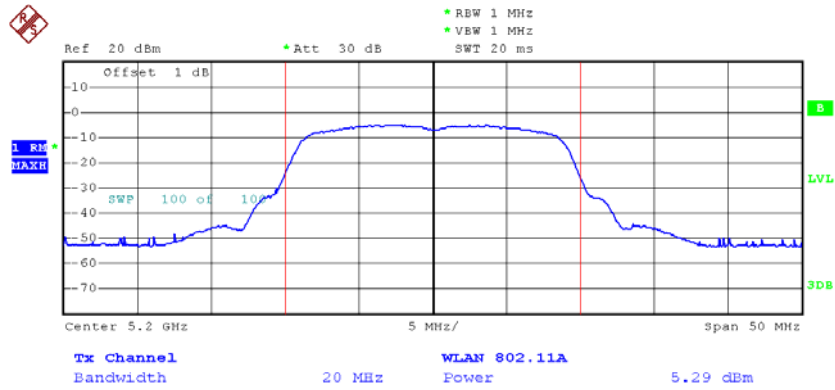
Test Channel	Frequency (MHz)	Conducted Output Power (dBm)	LIMIT (dBm)	LIMIT (W)
CH36	5180	5.19	17.00	0.0501
CH40	5200	5.29	17.00	0.0501
CH48	5240	5.10	17.00	0.0501



Date: 13.JUN.2013 14:38:52

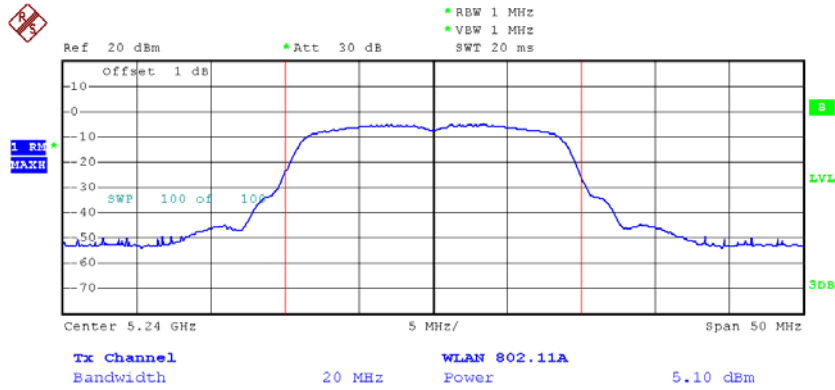


CH40



Date: 13.JUN.2013 14:39:17

CH48

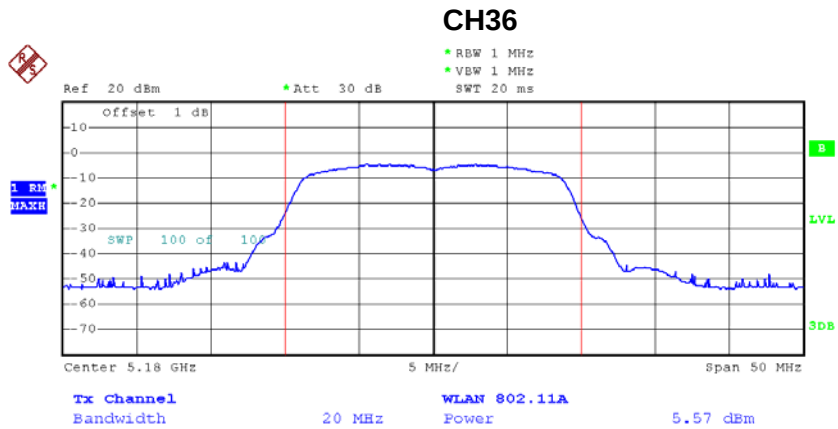


Date: 13.JUN.2013 14:39:35



EUT :	Vodafone Mobile Wi-Fi	Model Name :	R215
Temperature :	25 °C	Relative Humidity :	58 %
Test Voltage :	DC 3.7V		
Test Mode :	Band 1/TX N20 Mode/CH36, CH40, CH48-ANT 2		

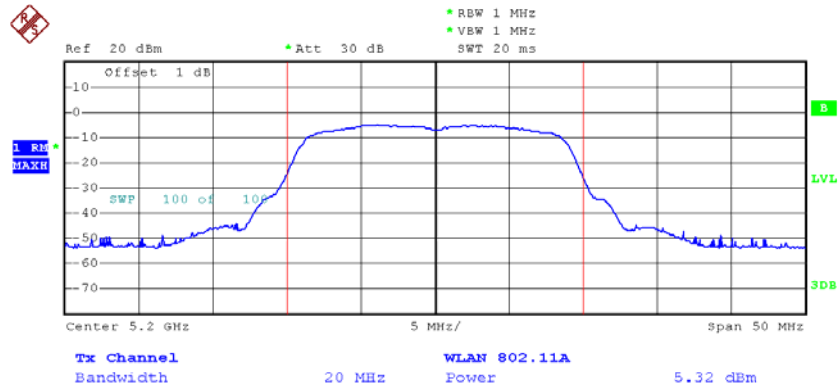
Test Channel	Frequency (MHz)	Conducted Output Power (dBm)	LIMIT (dBm)	LIMIT (W)
CH36	5180	5.57	17.00	0.0501
CH40	5200	5.32	17.00	0.0501
CH48	5240	5.04	17.00	0.0501



Date: 13.JUN.2013 14:47:45

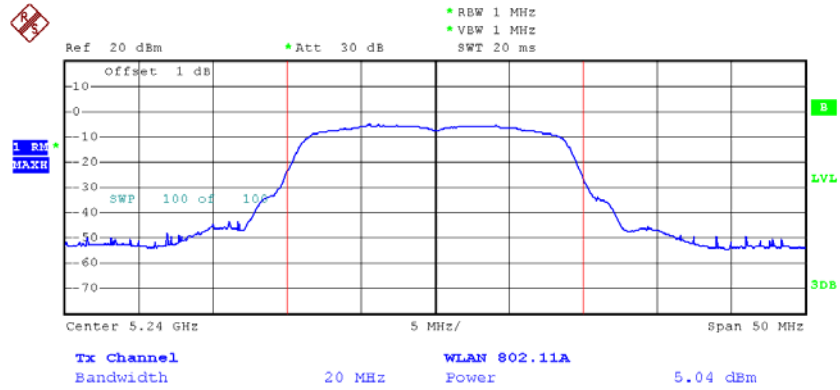


CH40



Date: 13.JUN.2013 14:46:37

CH48



Date: 13.JUN.2013 14:46:02



EUT :	Vodafone Mobile Wi-Fi	Model Name :	R215
Temperature :	25° C	Relative Humidity :	58 %
Test Voltage :	DC 3.7V		
Test Mode :	Band 1/TX N20 Mode/CH36, CH40, CH48-ANT 1+ANT 2		

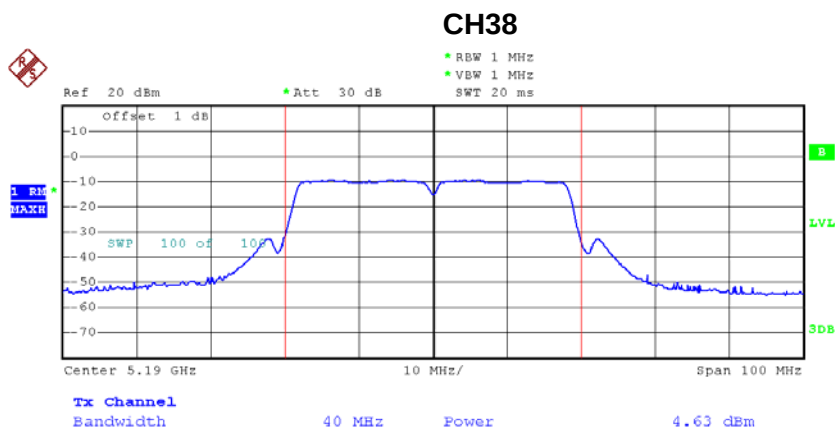
Total ANT 1+ANT 2				
Test Channel	Frequency (MHz)	Conducted Output Power (dBm)	LIMIT (dBm)	LIMIT (W)
CH36	5180	8.39	17.00	0.0501
CH40	5200	8.32	17.00	0.0501
CH48	5240	8.08	17.00	0.0501

Note: This total output power in dBm is transformed from a plus of mW transformed from the output power of ANT1 and ANT2 in dBm.

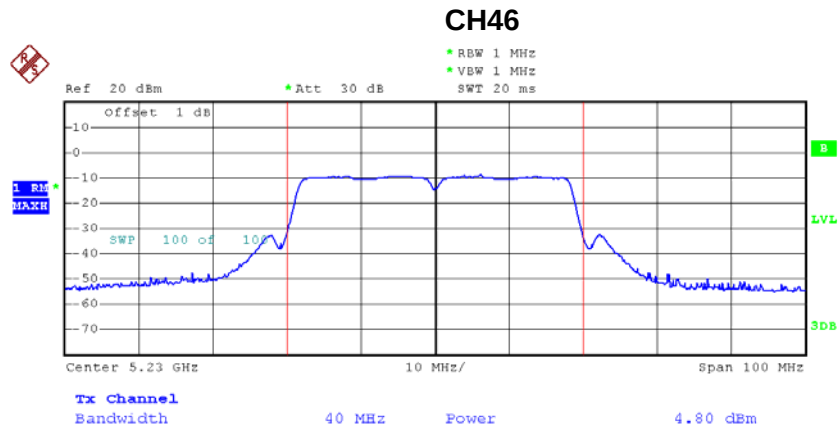


EUT :	Vodafone Mobile Wi-Fi	Model Name :	R215
Temperature :	25 °C	Relative Humidity :	58 %
Test Voltage :	DC 3.7V		
Test Mode :	Band 1/TX N40 Mode/CH38, CH46 -ANT 1		

Test Channel	Frequency (MHz)	Conducted Output Power (dBm)	LIMIT (dBm)	LIMIT (W)
CH38	5190	4.63	17.00	0.0501
CH46	5230	4.80	17.00	0.0501



Date: 13.JUN.2013 14:53:44

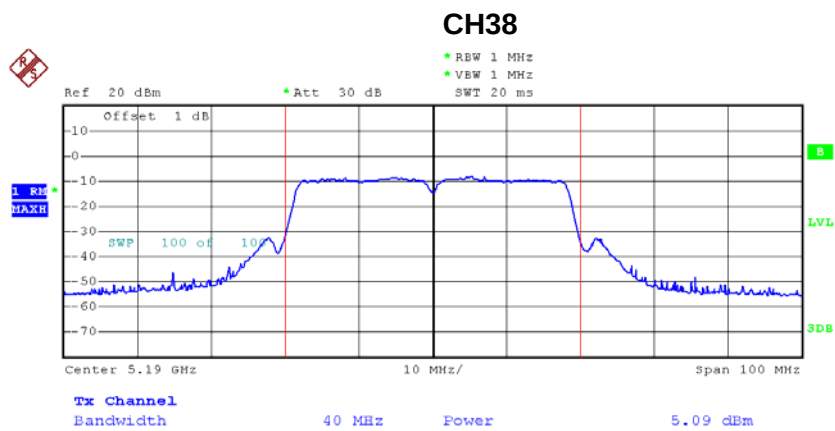


Date: 13.JUN.2013 14:53:20

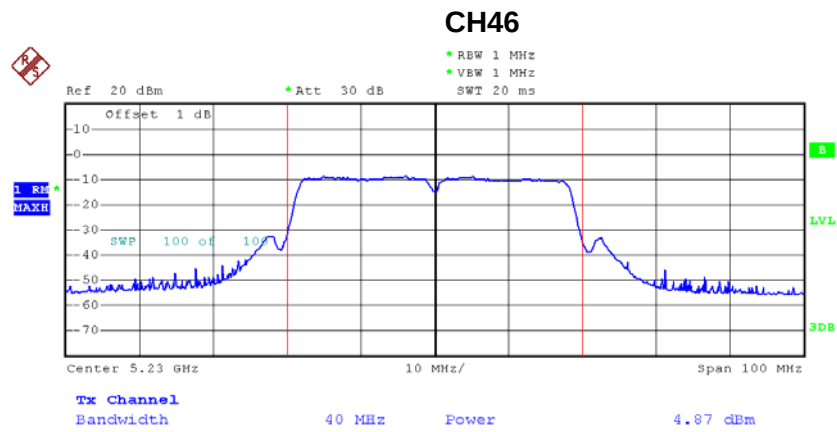


EUT :	Vodafone Mobile Wi-Fi	Model Name :	R215
Temperature :	25 °C	Relative Humidity :	58 %
Test Voltage :	DC 3.7V		
Test Mode :	Band 1/TX N40 Mode/CH38, CH46 -ANT 2		

Test Channel	Frequency (MHz)	Conducted Output Power (dBm)	LIMIT (dBm)	LIMIT (W)
CH38	5190	5.09	17.00	0.0501
CH46	5230	4.87	17.00	0.0501



Date: 13.JUN.2013 14:52:32



Date: 13.JUN.2013 14:52:54



EUT :	Vodafone Mobile Wi-Fi	Model Name :	R215
Temperature :	25° C	Relative Humidity :	58 %
Test Voltage :	DC 3.7V		
Test Mode :	Band 1/TX N40 Mode/CH38, CH46-ANT 1+ANT 2		

Total ANT 1+ANT 2				
Test Channel	Frequency (MHz)	Conducted Output Power (dBm)	LIMIT (dBm)	LIMIT (W)
CH38	5190	7.88	17.00	0.0501
CH46	5230	7.85	17.00	0.0501

Note: This total output power in dBm is transformed from a plus of mW transformed from the output power of ANT1 and ANT2 in dBm.

**7. ANTENNA CONDUCTED SPURIOUS EMISSION****7.1 APPLIED PROCEDURES / LIMIT**

FCC Part15, Subpart E			
Test Item	Limit	Frequency Range (MHz)	Result
Antenna conducted Spurious Emission	-27 dBm/1MHz	5150 – 5250	PASS

7.1.1 MEASUREMENT INSTRUMENTS LIST

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Last Calibration	Next Calibration
1	Spectrum Analyzer	R&S	FSP_40	100129	Nov.26.2012	Nov.26.2013

Remark: "N/A" denotes no model name, serial no. or calibration specified.
All calibration period of equipment list is one year.

7.1.2 TEST PROCEDURE

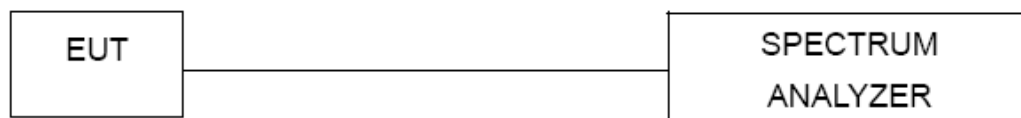
- a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below,

b.

Spectrum Parameter	Setting
Attenuation	Auto
RB	1000 kHz
VB	1000 kHz
Trace	Max Hold
Sweep Time	Auto

7.1.3 DEVIATION FROM STANDARD

No deviation.

7.1.4 TEST SETUP**7.1.5 EUT OPERATION CONDITIONS**

The EUT tested system was configured as the statements of 4.1.6 Unless otherwise a special operating condition is specified in the follows during the testing.



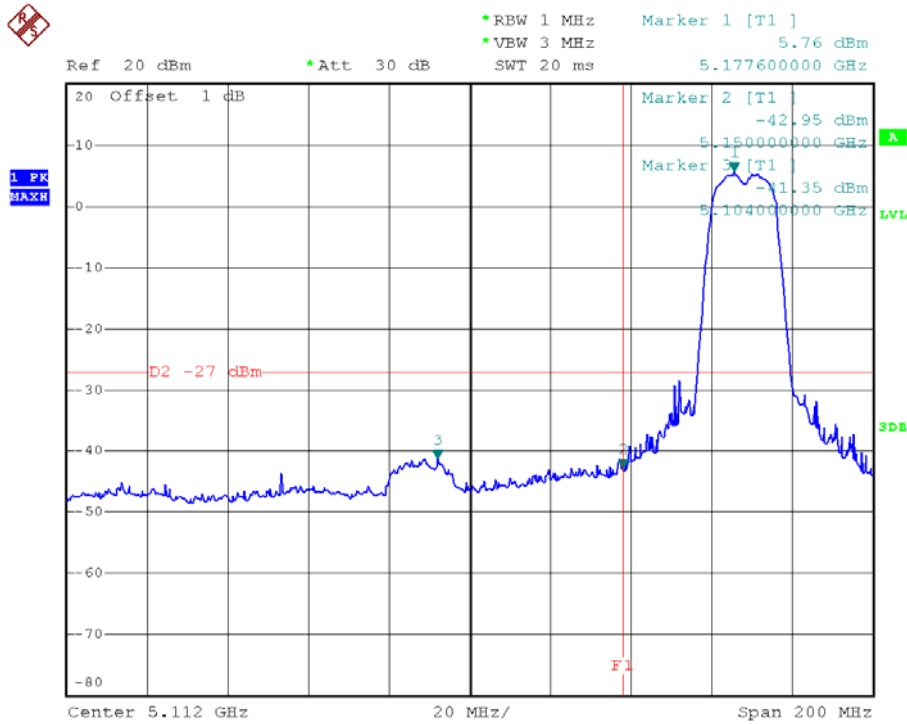
7.1.6 TEST RESULTS

EUT :	Vodafone Mobile Wi-Fi	Model Name :	R215
Temperature :	25 ° C	Relative Humidity :	58 %
Test Voltage :	DC 3.7V		
Test Mode :	Band 1/TX A Mode/ CH36, CH40, CH48		

Channel of Worst Data: CH36			
The max. radio frequency power in any 1000kHz bandwidth outside the frequency band		The max. radio frequency power in any 1000kHz bandwidth within the frequency band.	
FREQUENCY(MHz)	POWER(dBm)	FREQUENCY(MHz)	POWER(dBm)
5104.00	-41.35	5363.20	-45.20
Limit: -27 dBm/1MHz		Result:PASS	
Measurement method: S.A Read value+Ant gain+cable loss			

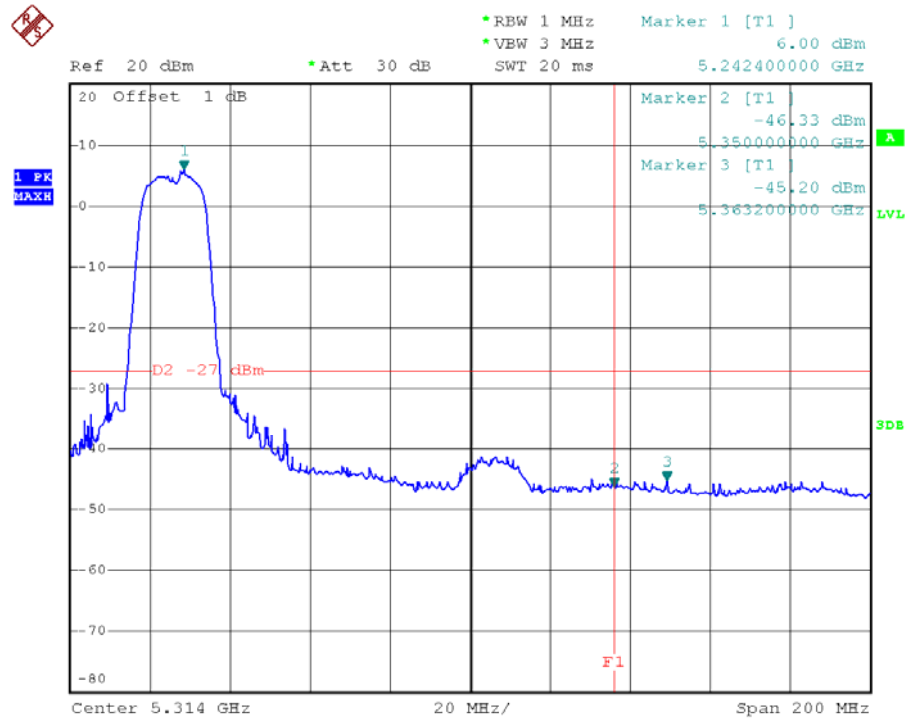


TX mode CH36



Date: 27.JUN.2013 10:43:36

TX mode CH48



Date: 27.JUN.2013 10:44:21

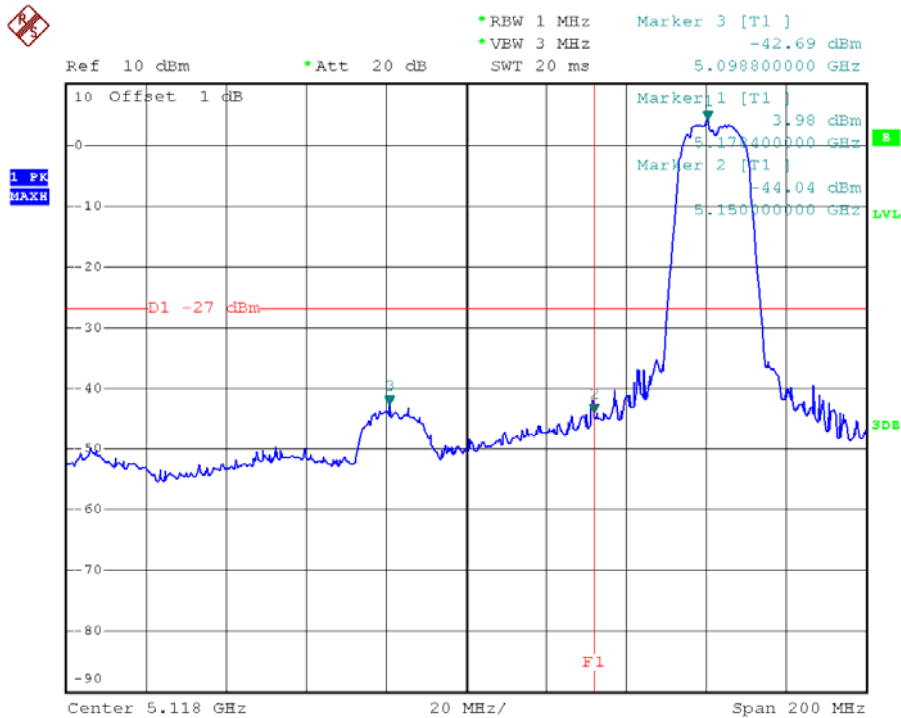


EUT :	Vodafone Mobile Wi-Fi	Model Name :	R215
Temperature :	25° C	Relative Humidity :	58 %
Test Voltage :	DC 3.7V		
Test Mode :	Band 1/TX N20 Mode/ CH36, CH40 , CH48-ANT 1		

Channel of Worst Data: CH36			
The max. radio frequency power in any 1000kHz bandwidth outside the frequency band		The max. radio frequency power in any 1000kHz bandwidth within the frequency band.	
FREQUENCY(MHz)	POWER(dBm)	FREQUENCY(MHz)	POWER(dBm)
5098.80	-42.69	5358.00	-50.09
Limit: -27 dBm/1MHz		Result:PASS	
Measurement method: S.A Read value+Ant gain+cable loss			

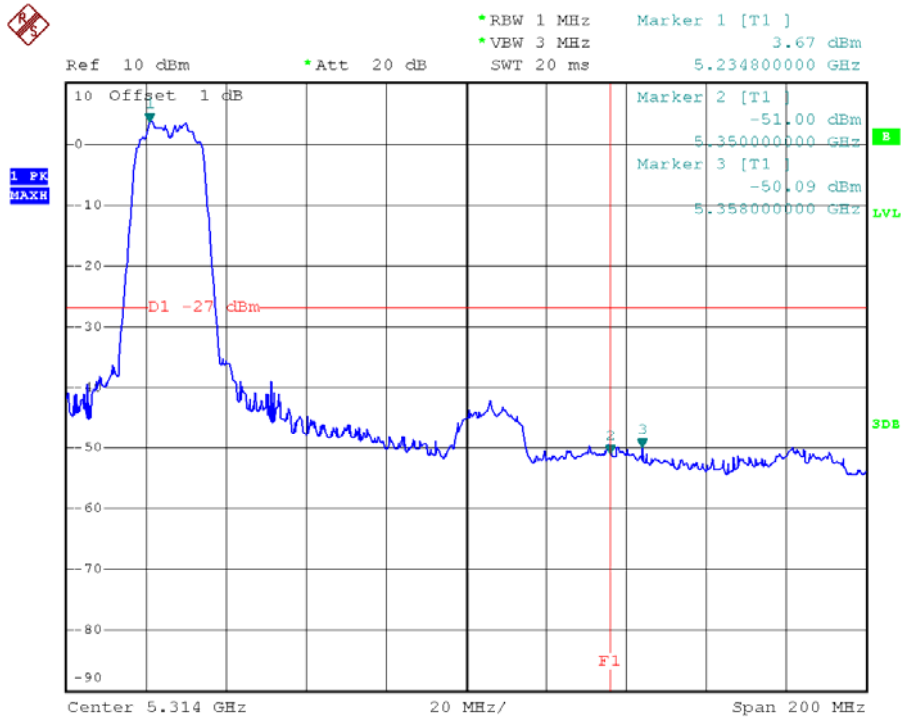


TX mode CH36



Date: 28.JUN.2013 10:34:46

TX mode CH48



Date: 28.JUN.2013 10:32:34

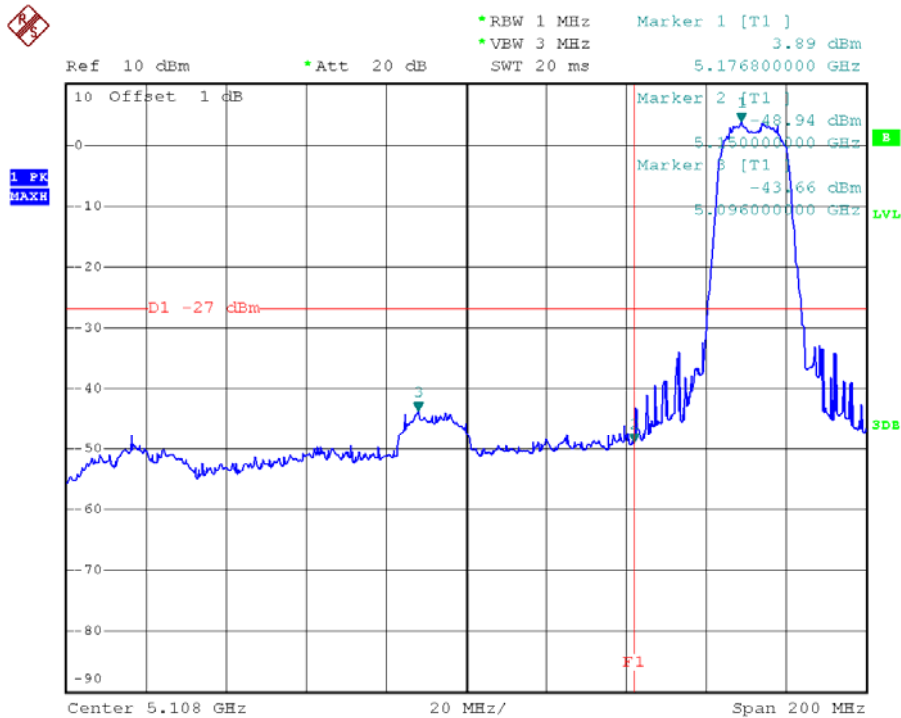


EUT :	Vodafone Mobile Wi-Fi	Model Name :	R215
Temperature :	25° C	Relative Humidity :	58 %
Test Voltage :	DC 3.7V		
Test Mode :	Band 1/TX N20 Mode/ CH36, CH40 , CH48-ANT 2		

Channel of Worst Data: CH36			
The max. radio frequency power in any 1000kHz bandwidth outside the frequency band		The max. radio frequency power in any 1000kHz bandwidth within the frequency band.	
FREQUENCY(MHz)	POWER(dBm)	FREQUENCY(MHz)	POWER(dBm)
5096.00	-43.66	5352.80	-51.80
Limit: -27 dBm/1MHz		Result:PASS	
Measurement method: S.A Read value+Ant gain+cable loss			

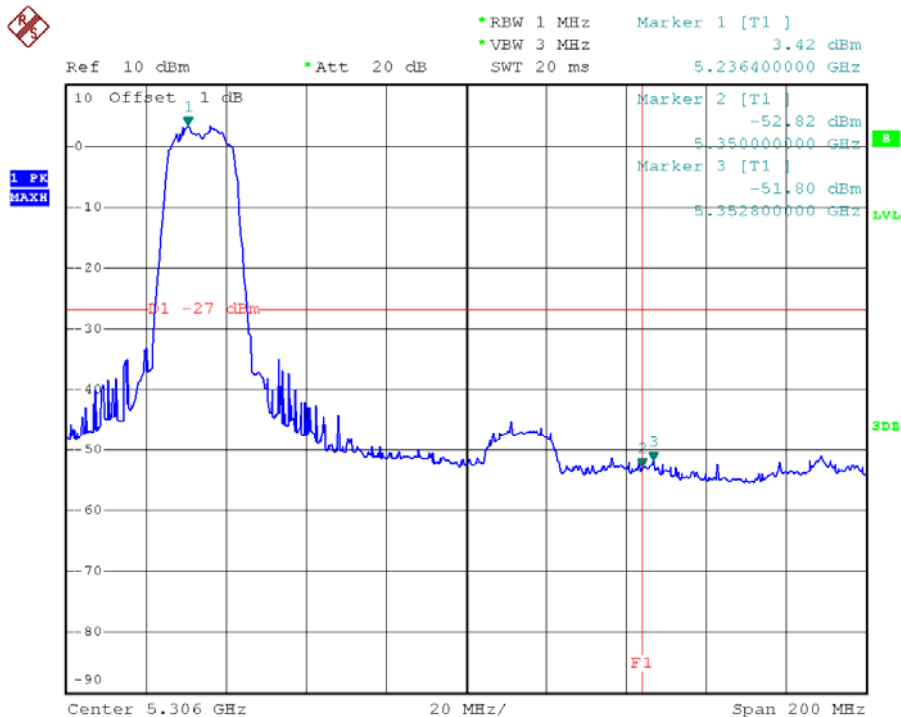


TX mode CH36



Date: 28.JUN.2013 10:36:30

TX mode CH48



Date: 28.JUN.2013 10:38:00

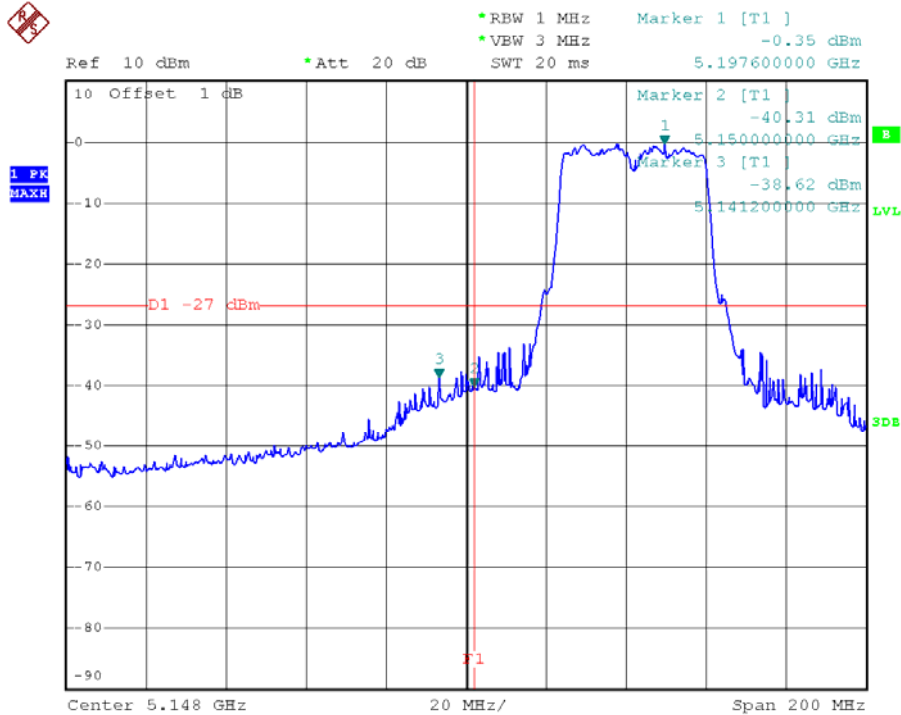


EUT :	Vodafone Mobile Wi-Fi	Model Name :	R215
Temperature :	25° C	Relative Humidity :	58 %
Test Voltage :	DC 3.7V		
Test Mode :	Band 1/TX N40 Mode/ CH38, CH46-ANT 1		

Channel of Worst Data: CH38			
The max. radio frequency power in any 1000kHz bandwidth outside the frequency band		The max. radio frequency power in any 1000kHz bandwidth within the frequency band.	
FREQUENCY(MHz)	POWER(dBm)	FREQUENCY(MHz)	POWER(dBm)
5141.20	-38.62	5373.20	-49.18
Limit: -27 dBm/1MHz		Result:PASS	
Measurement method: S.A Read value+Ant gain+cable loss			

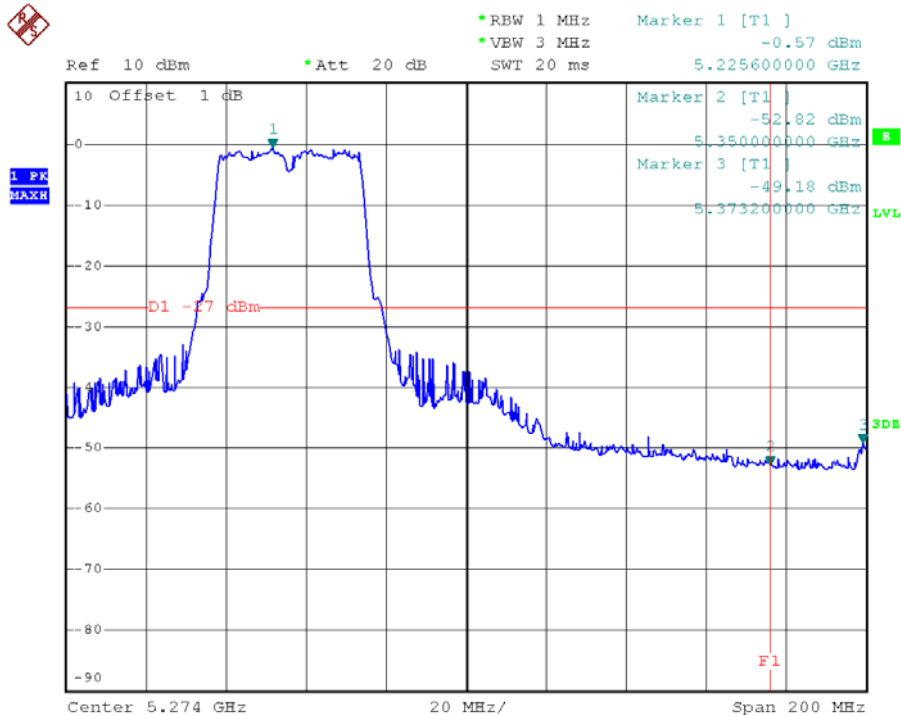


TX mode CH38



Date: 28.JUN.2013 09:56:31

TX mode CH46



Date: 28.JUN.2013 09:55:31

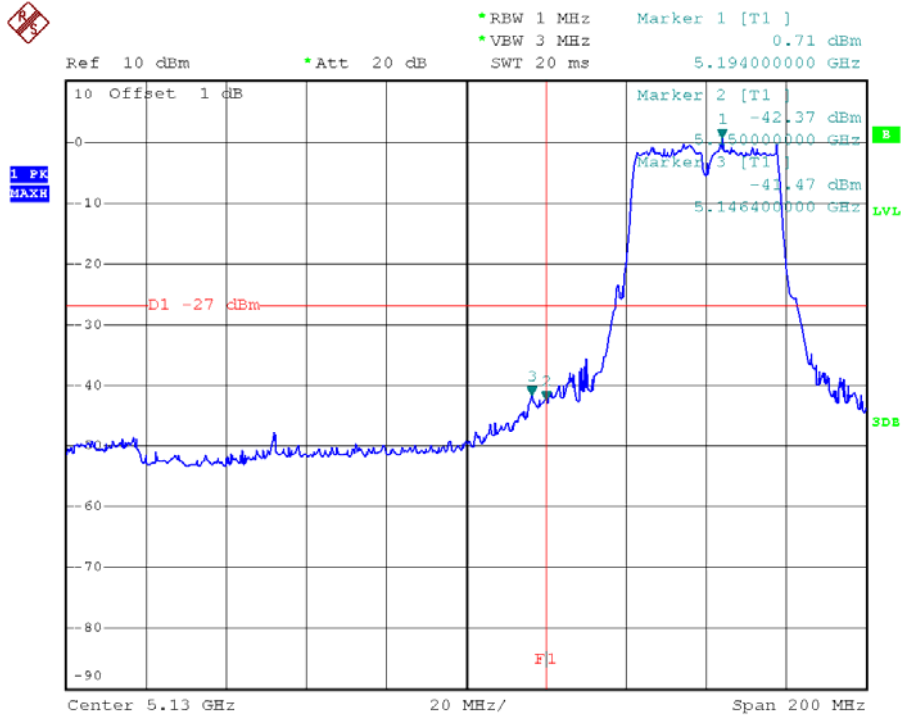


EUT :	Vodafone Mobile Wi-Fi	Model Name :	R215
Temperature :	25° C	Relative Humidity :	58 %
Test Voltage :	DC 3.7V		
Test Mode :	Band 1/TX N40 Mode/ CH38, CH46-ANT 2		

Channel of Worst Data: CH38			
The max. radio frequency power in any 1000kHz bandwidth outside the frequency band		The max. radio frequency power in any 1000kHz bandwidth within the frequency band.	
FREQUENCY(MHz)	POWER(dBm)	FREQUENCY(MHz)	POWER(dBm)
5146.40	-41.47	5373.60	-51.05
Limit: -27 dBm/1MHz		Result:PASS	
Measurement method: S.A Read value+Ant gain+cable loss			

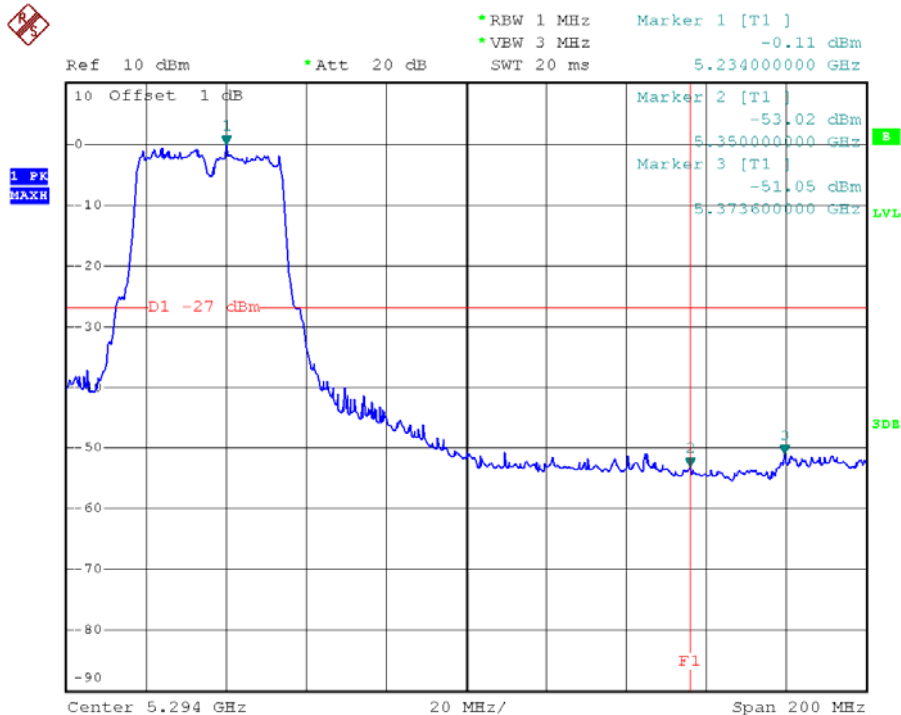


TX mode CH38



Date: 28.JUN.2013 09:50:58

TX mode CH46



Date: 28.JUN.2013 09:53:37



8. POWER SPECTRAL DENSITY TEST

8.1 APPLIED PROCEDURES / LIMIT

FCC Part15, Subpart E			
Test Item	Limit	Frequency Range (MHz)	Result
Power Spectral Density	4 dBm	5150 - 5250	PASS

8.1.1 MEASUREMENT INSTRUMENTS LIST

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Last Calibration	Next Calibration
1	Spectrum Analyzer	R&S	FSP_40	100129	Nov.26.2012	Nov.26.2013

Remark: "N/A" denotes no model name, serial no. or calibration specified.

8.1.2 TEST PROCEDURE

- a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below,

b.

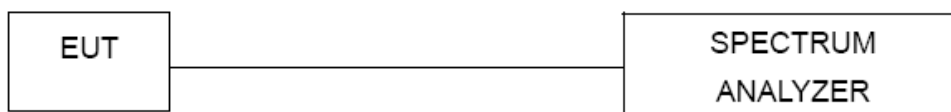
Spectrum Parameter	Setting
Attenuation	Auto
Span Frequency	Encompass the entire emissions bandwidth (EBW) of the signal
RB	= 1 MHz.
VB	≥ 3 MHz.
Detector	RMS
Trace	Max Hold
Sweep Time	Auto

- c. The power spectral density was performed in accordance with method E) of KDB 789033 D01(A, N20 and N40 mode) and KDB 662911 D01 Multiple Transmitter Output v01r02(N20 and N40 mode).

8.1.3 DEVIATION FROM STANDARD

No deviation.

8.1.4 TEST SETUP



8.1.5 EUT OPERATION CONDITIONS

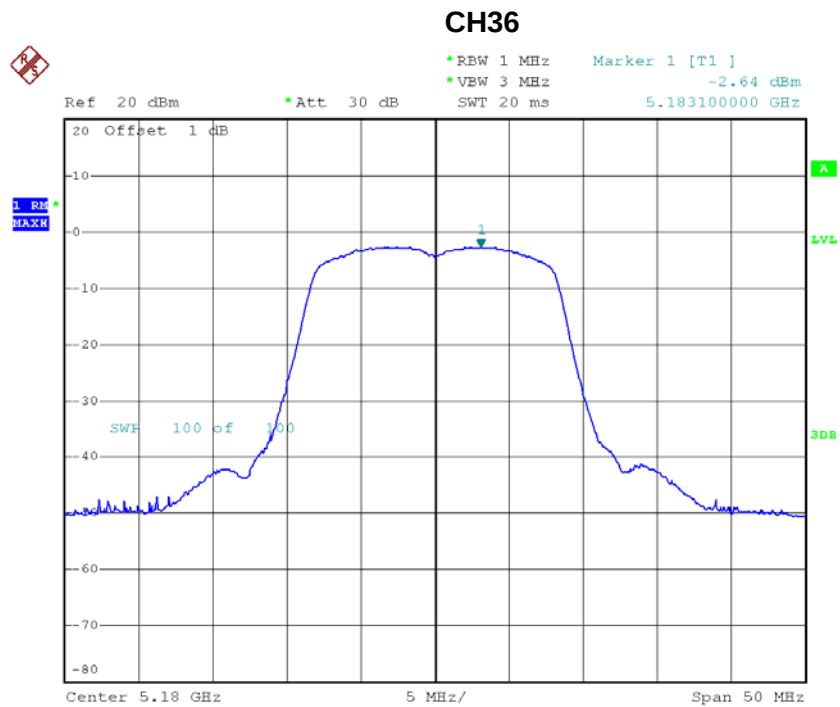
The EUT tested system was configured as the statements of 4.1.6 Unless otherwise a special operating condition is specified in the follows during the testing.



8.1.6 TEST RESULTS

EUT :	Vodafone Mobile Wi-Fi	Model Name :	R215
Temperature :	25 °C	Relative Humidity :	58 %
Test Voltage :	DC 3.7V		
Test Mode :	Band 1/TX A Mode/CH36, CH40, CH48		

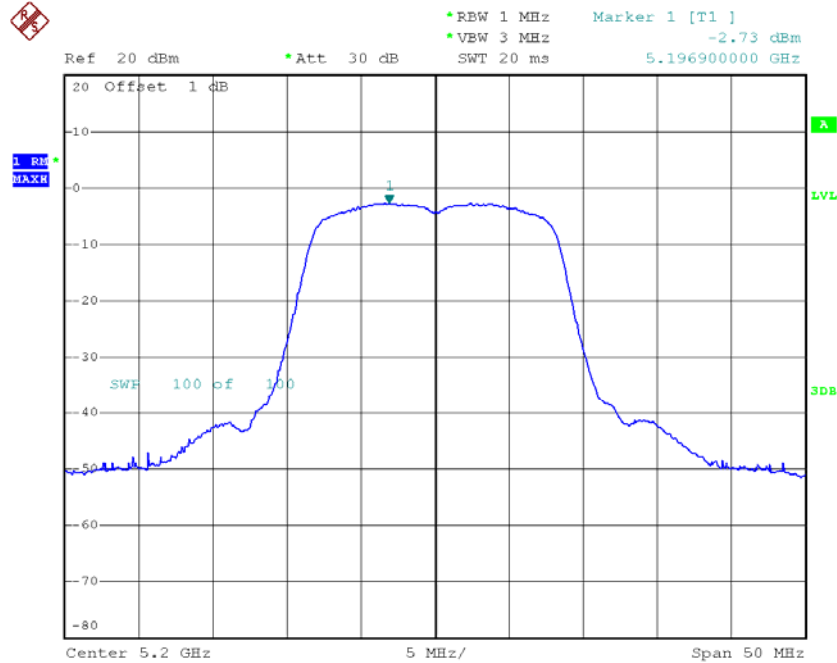
Test Channel	Frequency (MHz)	Power Density (dBm)	LIMIT (dBm)
CH36	5180	-2.64	4.00
CH40	5200	-2.73	4.00
CH48	5240	-2.97	4.00



Date: 27.JUN.2013 10:34:18

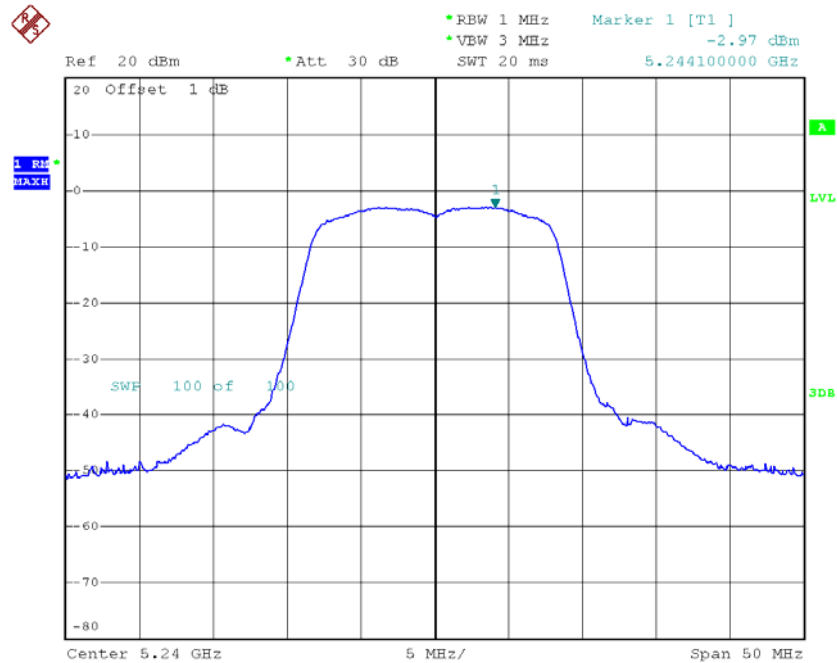


CH40



Date: 27.JUN.2013 10:39:48

CH48

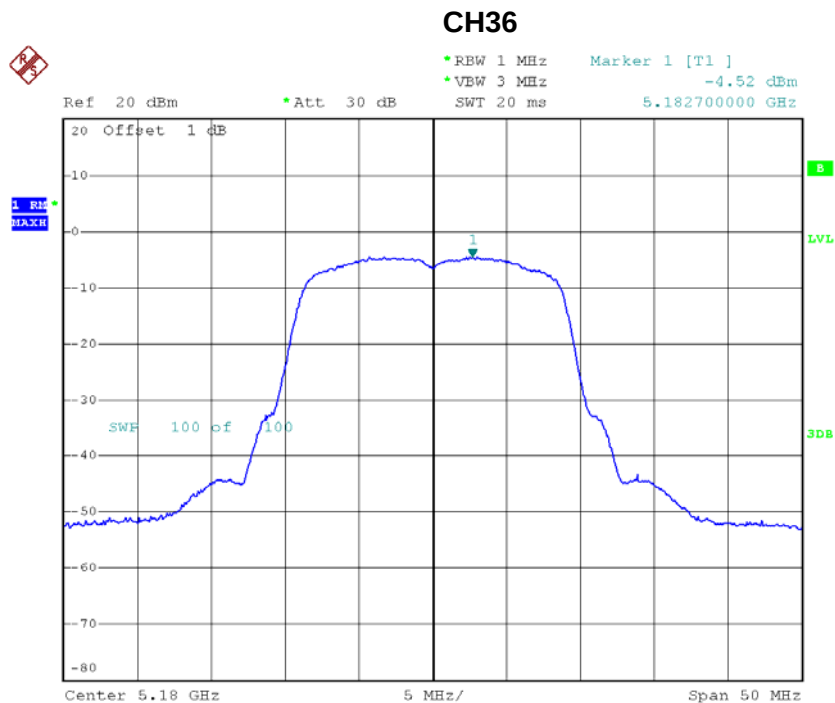


Date: 27.JUN.2013 10:42:19



EUT :	Vodafone Mobile Wi-Fi	Model Name :	R215
Temperature :	25 °C	Relative Humidity :	58 %
Test Voltage :	DC 3.7V		
Test Mode :	Band 1/TX N20 Mode/CH36, CH40, CH48-ANT 1		

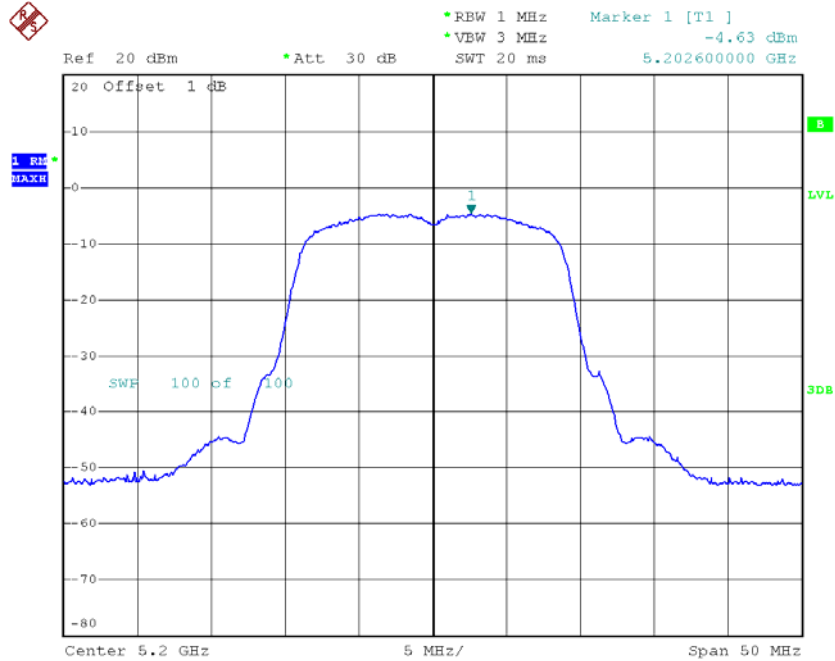
Test Channel	Frequency (MHz)	Power Density (dBm)	LIMIT (dBm)
CH36	5180	-4.52	4.00
CH40	5200	-4.63	4.00
CH48	5240	-5.10	4.00



Date: 28.JUN.2013 10:29:37

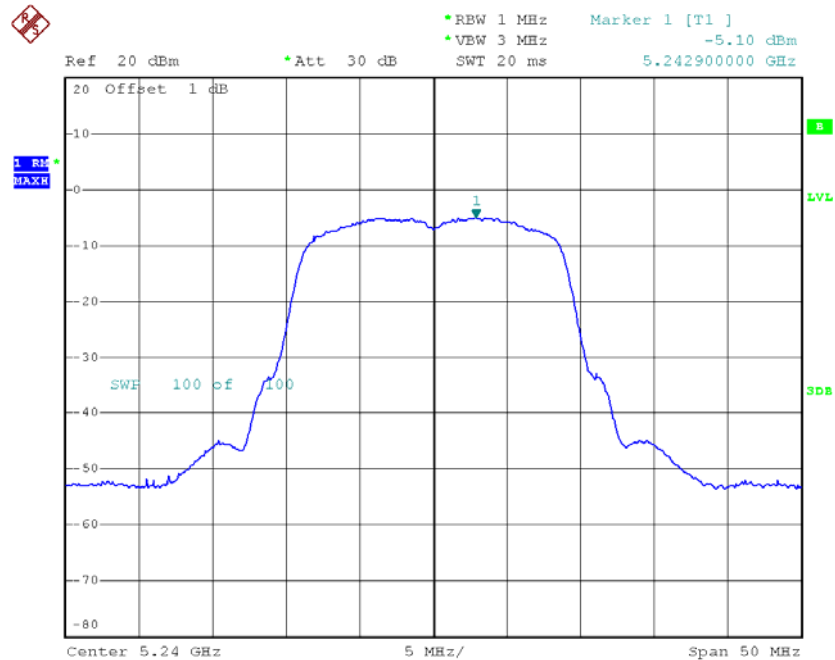


CH40



Date: 28.JUN.2013 10:29:53

CH48

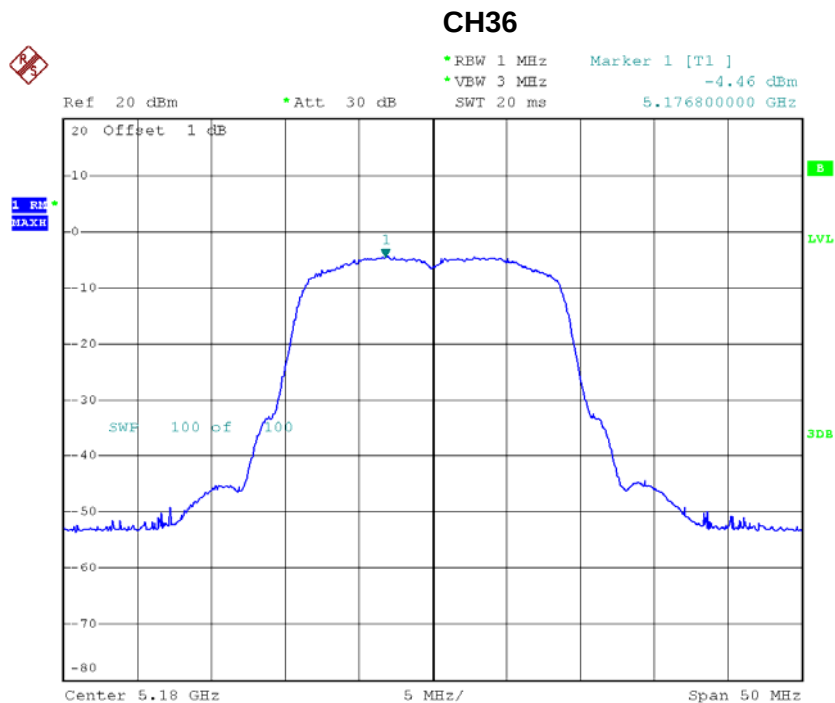


Date: 28.JUN.2013 10:31:40



EUT :	Vodafone Mobile Wi-Fi	Model Name :	R215
Temperature :	25 °C	Relative Humidity :	58 %
Test Voltage :	DC 3.7V		
Test Mode :	Band 1/TX N20 Mode/CH36, CH40, CH48-ANT 2		

Test Channel	Frequency (MHz)	Power Density (dBm)	LIMIT (dBm)
CH36	5180	-4.46	4.00
CH40	5200	-4.18	4.00
CH48	5240	-4.72	4.00



Date: 28.JUN.2013 10:28:04



EUT :	Vodafone Mobile Wi-Fi	Model Name :	R215
Temperature :	25° C	Relative Humidity :	58 %
Test Voltage :	DC 3.7V		
Test Mode :	Band 1/TX N20 Mode/CH36, CH40, CH48-ANT 1+ANT 2		

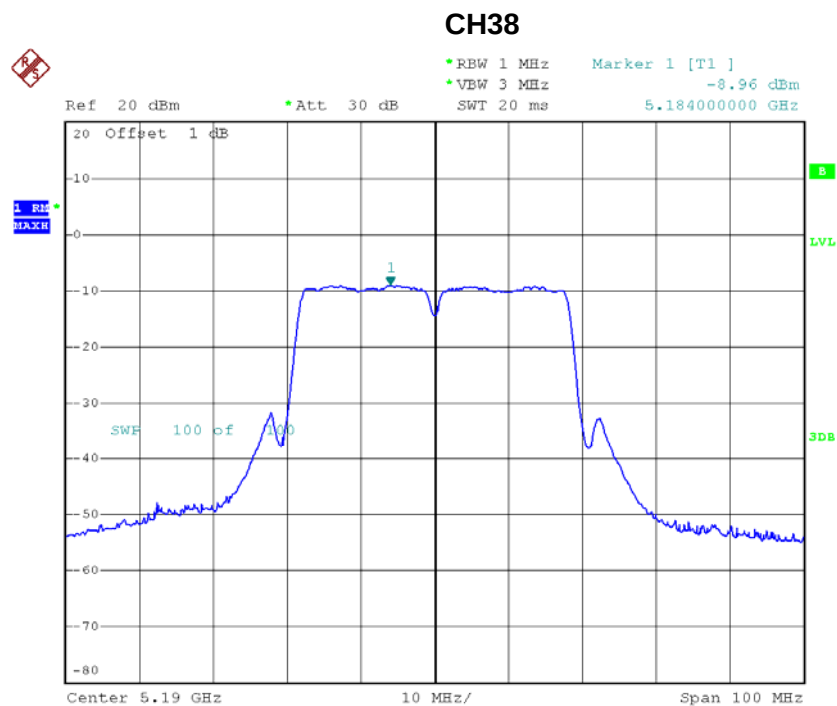
Total ANT 1+ANT 2			
Test Channel	Frequency (MHz)	Power Density (dBm)	LIMIT (dBm)
CH36	5180	-1.48	4.00
CH40	5200	-1.39	4.00
CH48	5240	-1.90	4.00

Note: This total power density in dBm is transformed from a plus of mW transformed from the power density of ANT1 and ANT2 in dBm.

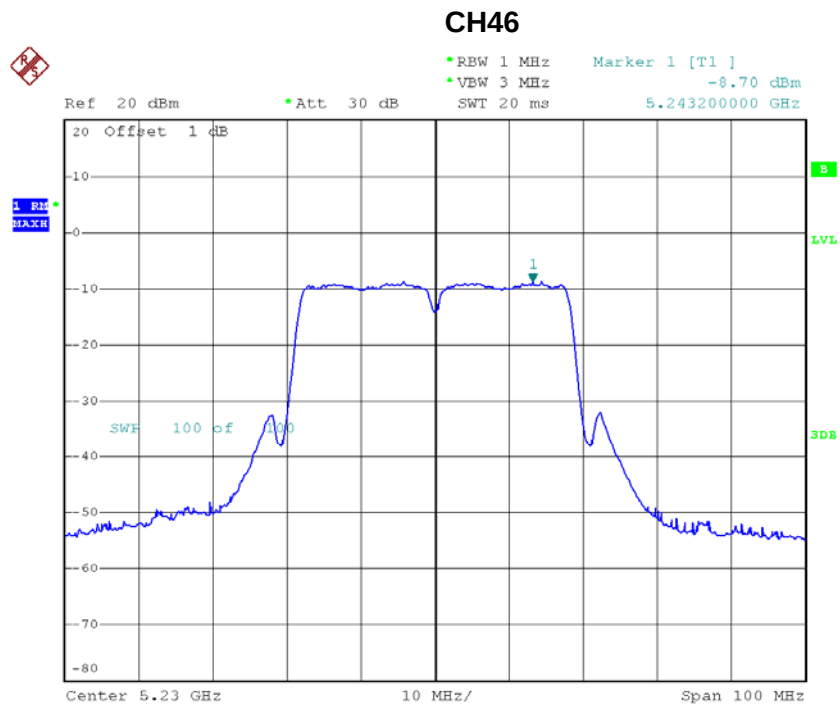


EUT :	Vodafone Mobile Wi-Fi	Model Name :	R215
Temperature :	25 °C	Relative Humidity :	58 %
Test Voltage :	DC 3.7V		
Test Mode :	Band 1/TX N40 Mode/CH38, CH46 -ANT 1		

Test Channel	Frequency (MHz)	Power Density (dBm)	LIMIT (dBm)
CH38	5190	-8.96	4.00
CH46	5230	-8.70	4.00



Date: 28.JUN.2013 10:06:38

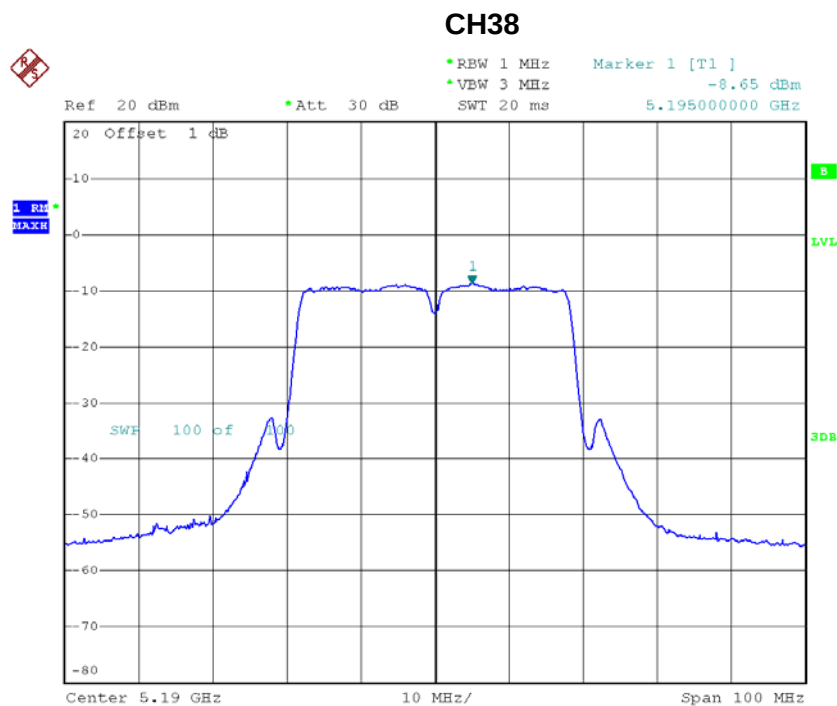


Date: 28.JUN.2013 10:06:09

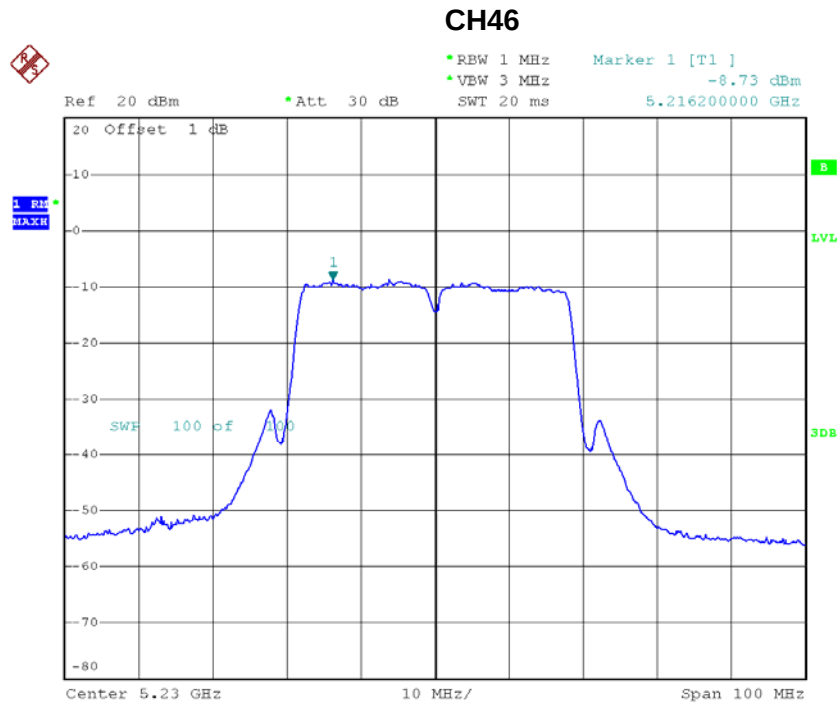


EUT :	Vodafone Mobile Wi-Fi	Model Name :	R215
Temperature :	25 °C	Relative Humidity :	58 %
Test Voltage :	DC 3.7V		
Test Mode :	Band 1/TX N40 Mode/CH38, CH46 -ANT 2		

Test Channel	Frequency (MHz)	Power Density (dBm)	LIMIT (dBm)
CH38	5190	-8.65	4.00
CH46	5230	-8.73	4.00



Date: 28.JUN.2013 10:04:56



Date: 28.JUN.2013 10:05:54



EUT :	Vodafone Mobile Wi-Fi	Model Name :	R215
Temperature :	25° C	Relative Humidity :	58 %
Test Voltage :	DC 3.7V		
Test Mode :	Band 1/TX N40 Mode/CH38, CH46 –ANT 1+ ANT 2		

Total ANT 1+ANT 2			
Test Channel	Frequency (MHz)	Power Density (dBm)	LIMIT (dBm)
CH38	5190	-5.79	4.00
CH46	5230	-5.70	4.00

Note: This total power density in dBm is transformed from a plus of mW transformed from the power density of ANT1 and ANT2 in dBm.



9. PEAK EXCURSION MEASUREMENT

9.1 APPLIED PROCEDURES / LIMIT

FCC Part15, Subpart E			
Test Item	Limit	Frequency Range (MHz)	Result
Peak Excursion Measurement	13 dB	5150 - 5250	PASS

9.1.1 MEASUREMENT INSTRUMENTS LIST

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Last Calibration	Next Calibration
1	Spectrum Analyzer	R&S	FSP_40	100129	Nov.26.2012	Nov.26.2013

Remark: "N/A" denotes no model name, serial no. or calibration specified.

All calibration period of equipment list is one year.

9.1.2 TEST PROCEDURE

- a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below,

b.

Spectrum Parameter	Setting
Attenuation	Auto
Span Frequency	Encompass the entire emissions bandwidth (EBW) of the signal
RB	1000 kHz (Peak Trace) / 1000 kHz (Average Trace)
VB	3000 kHz (Peak Trace) / 3000 kHz (Average Trace)
Detector	Peak (Peak Trace) / RMS (Average Trace)
Trace	Max Hold
Sweep Time	60s

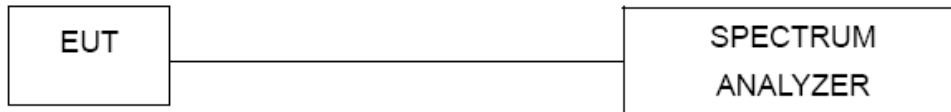
- c. Peak Trace: Set RBW = 1 MHz, VBW $\geq$ 3 MHz with peak detector and maxhold settings.
d. Average Trace: set RBW = 1 MHz, VBW = 3 MHz with RMS detector and trace average across 100 traces in power averaging mode.

9.1.3 DEVIATION FROM STANDARD

No deviation.



9.1.4 TEST SETUP



9.1.5 EUT OPERATION CONDITIONS

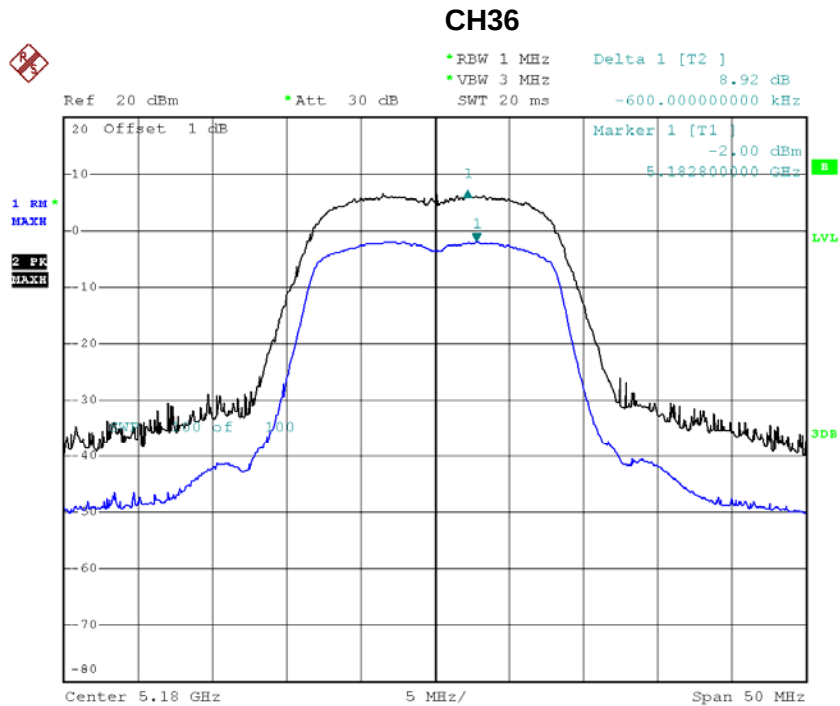
The EUT tested system was configured as the statements of 4.1.6 Unless otherwise a special operating condition is specified in the follows during the testing.



9.1.6 TEST RESULTS

EUT :	Vodafone Mobile Wi-Fi	Model Name :	R215
Temperature :	25° C	Relative Humidity :	58 %
Test Voltage :	DC 3.7V		
Test Mode :	Band 1/TX A Mode/CH36, CH40, CH48		

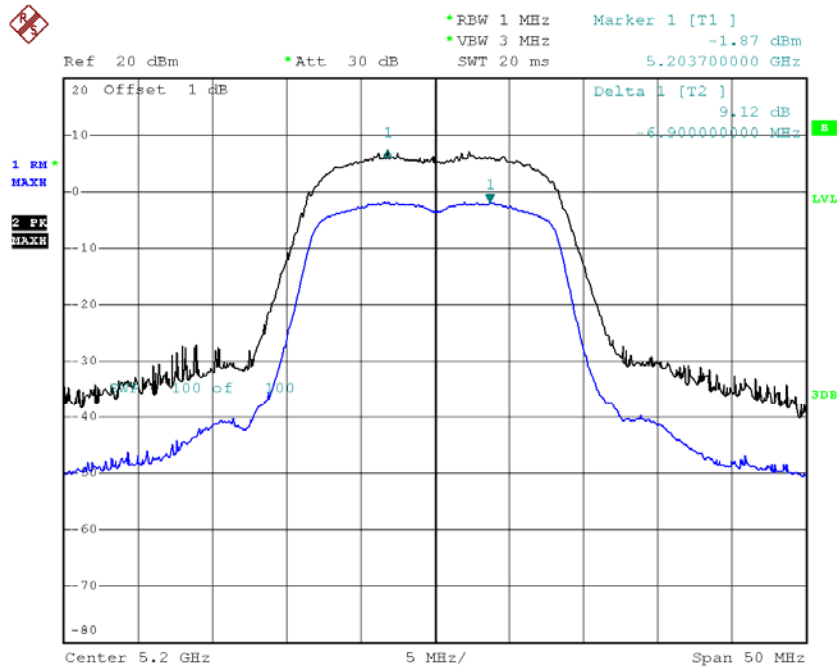
Test Channel	Frequency (MHz)	Peak Excursion (dB)	LIMIT (dB)
CH36	5180	8.92	13
CH40	5200	9.12	13
CH48	5240	9.35	13



Date: 28.JUN.2013 10:14:33

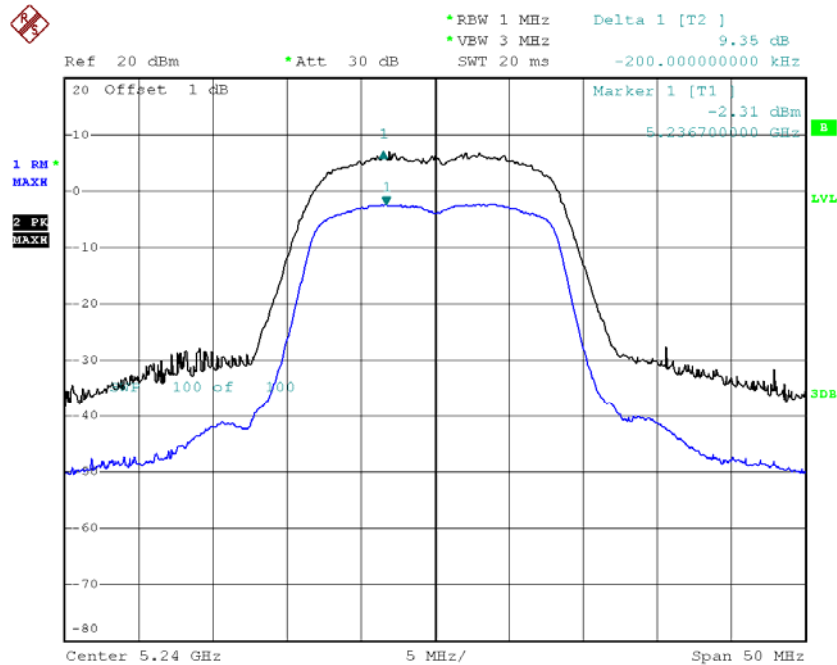


CH40



Date: 28.JUN.2013 10:15:13

CH48

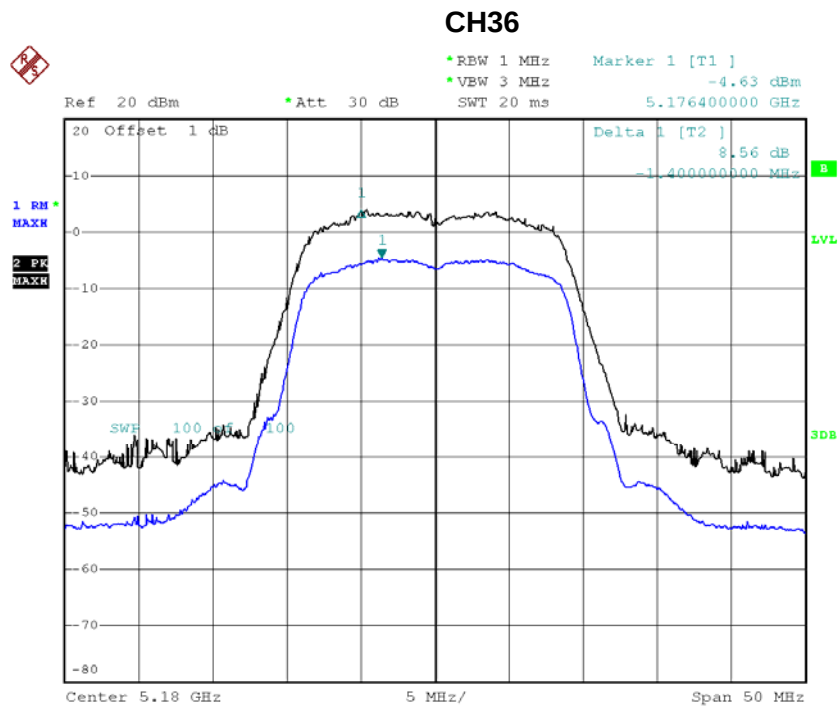


Date: 28.JUN.2013 10:17:33



EUT :	Vodafone Mobile Wi-Fi	Model Name :	R215
Temperature :	25 °C	Relative Humidity :	58 %
Test Voltage :	DC 3.7V		
Test Mode :	Band 1/TX N20 Mode/CH36, CH40, CH48 - ANT 1		

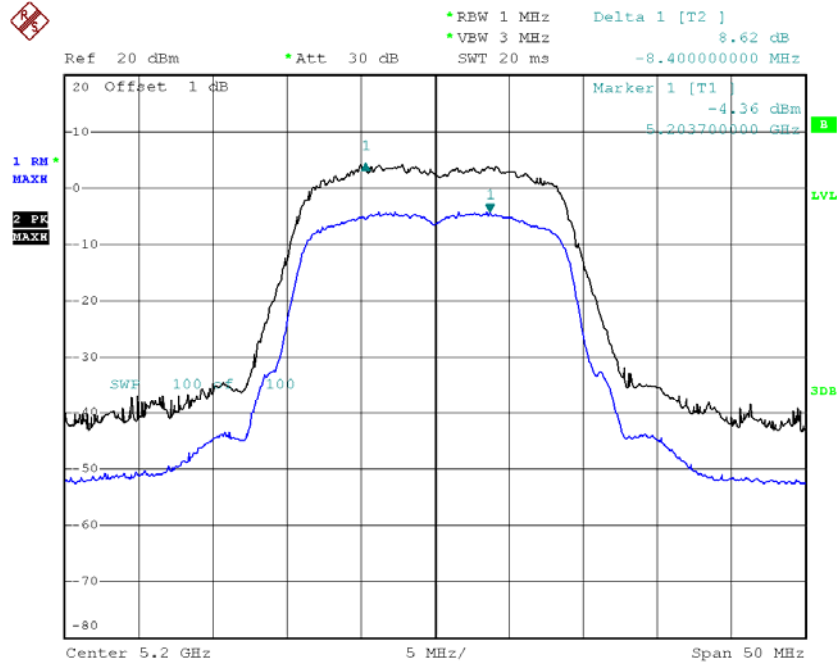
Test Channel	Frequency (MHz)	Peak Excursion (dB)	LIMIT (dB)
CH36	5180	8.56	13
CH40	5200	8.62	13
CH48	5240	8.73	13



Date: 28.JUN.2013 10:22:30

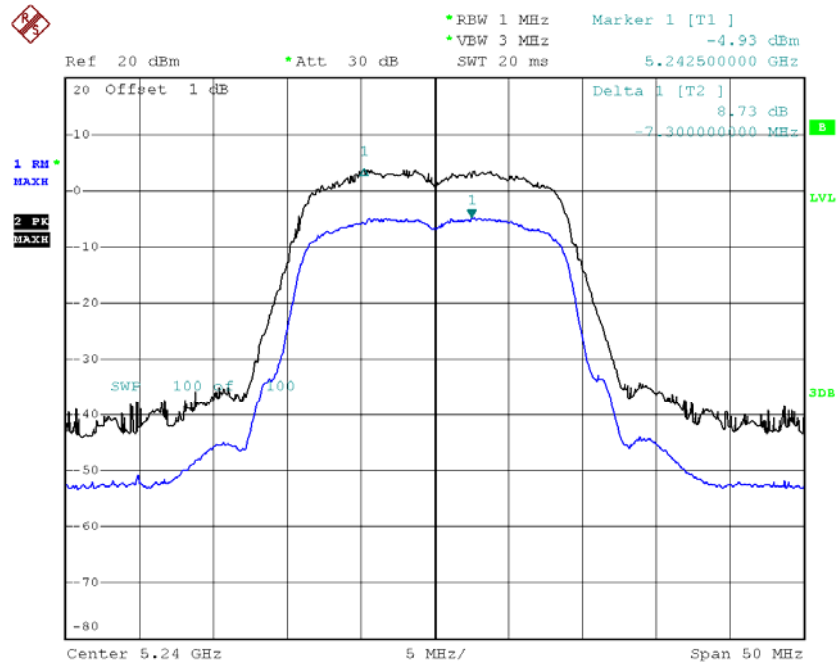


CH40



Date: 28.JUN.2013 10:23:50

CH48

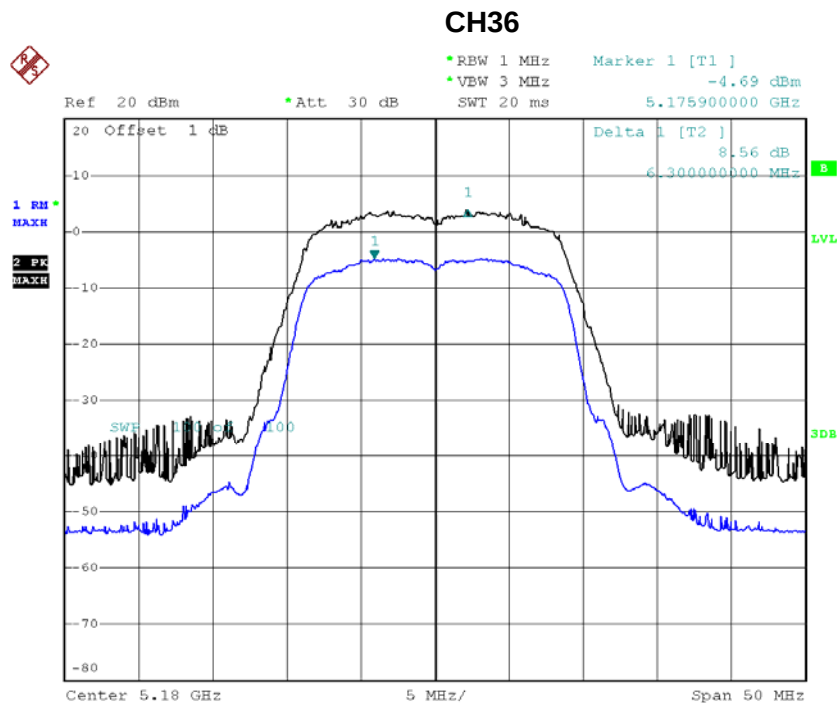


Date: 28.JUN.2013 10:24:36



EUT :	Vodafone Mobile Wi-Fi	Model Name :	R215
Temperature :	25 °C	Relative Humidity :	58 %
Test Voltage :	DC 3.7V		
Test Mode :	Band 1/TX N20 Mode/CH36, CH40, CH48 - ANT 2		

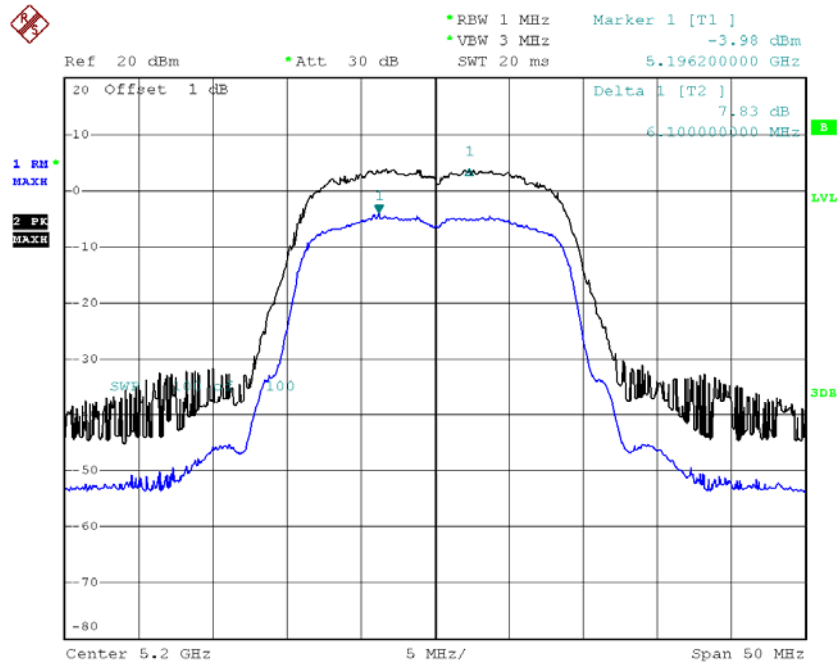
Test Channel	Frequency (MHz)	Peak Excursion (dB)	LIMIT (dB)
CH36	5180	8.56	13
CH40	5200	7.83	13
CH48	5240	8.49	13



Date: 28.JUN.2013 10:22:51

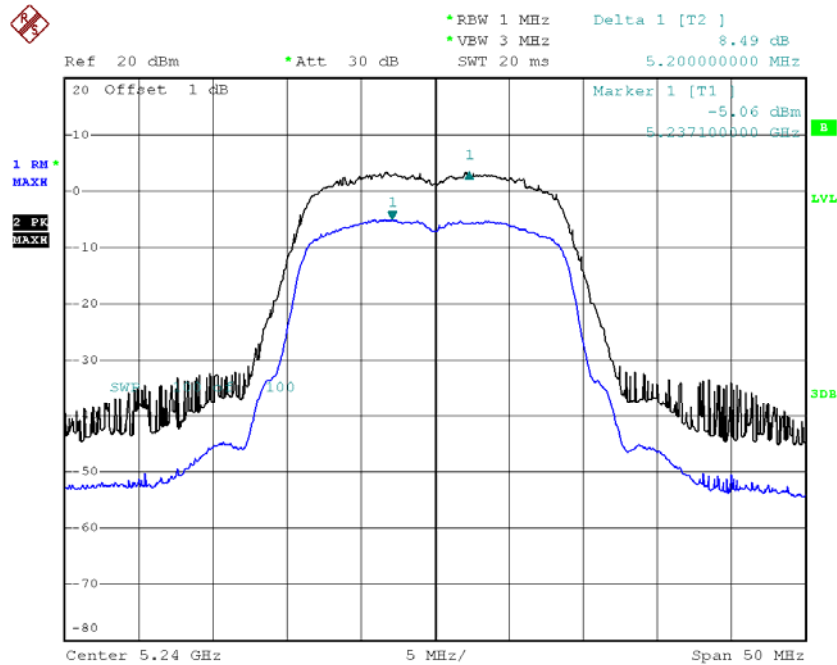


CH40



Date: 28.JUN.2013 10:23:27

CH48

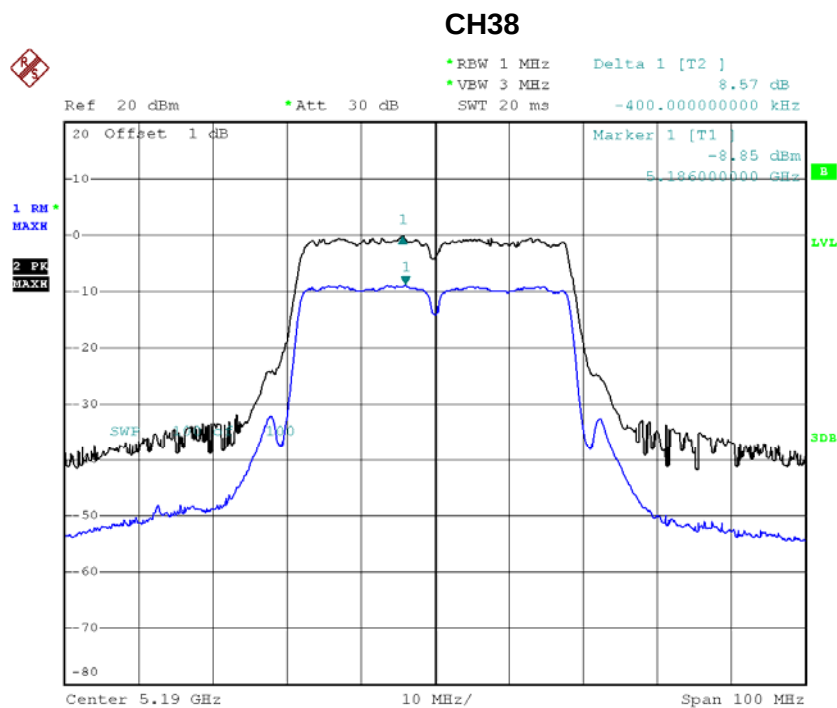


Date: 28.JUN.2013 10:24:59

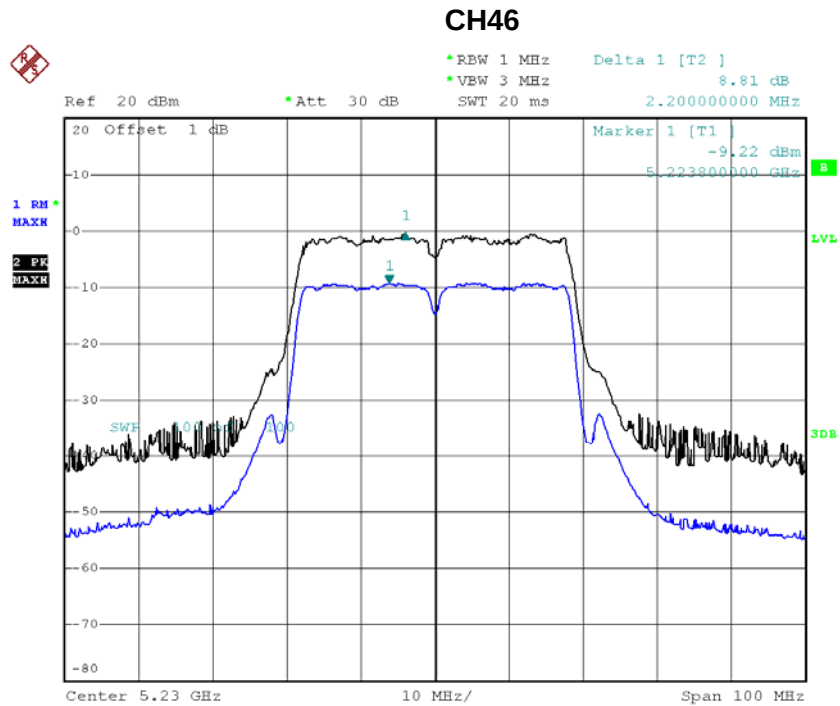


EUT :	Vodafone Mobile Wi-Fi	Model Name :	R215
Temperature :	25 °C	Relative Humidity :	58 %
Test Voltage :	DC 3.7V		
Test Mode :	Band 1/TX N40 Mode/CH38, CH46 - ANT 1		

Test Channel	Frequency (MHz)	Peak Excursion (dB)	LIMIT (dB)
CH38	5190	8.57	13
CH46	5230	8.81	13



Date: 28.JUN.2013 10:07:45

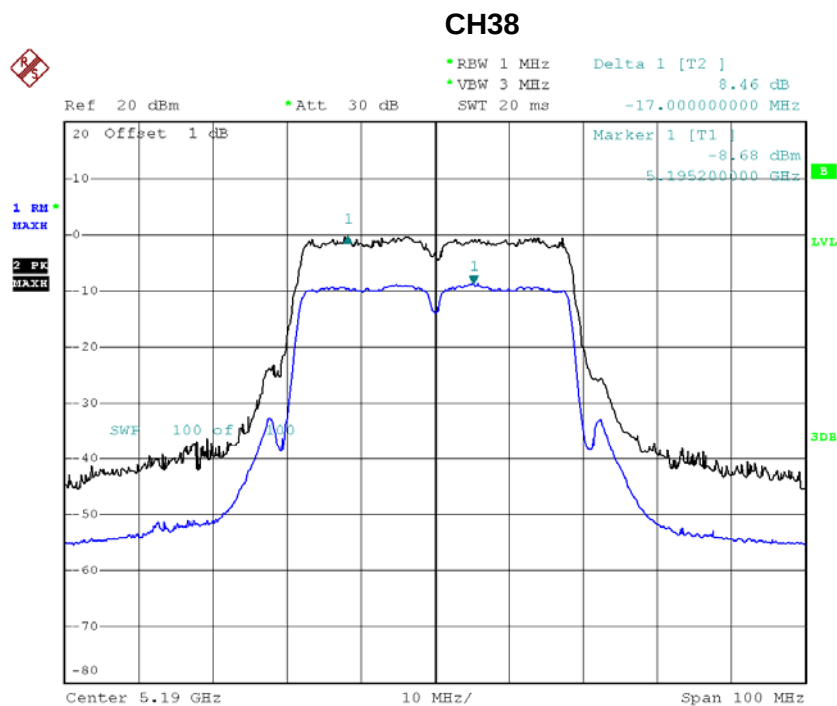


Date: 28.JUN.2013 10:08:32

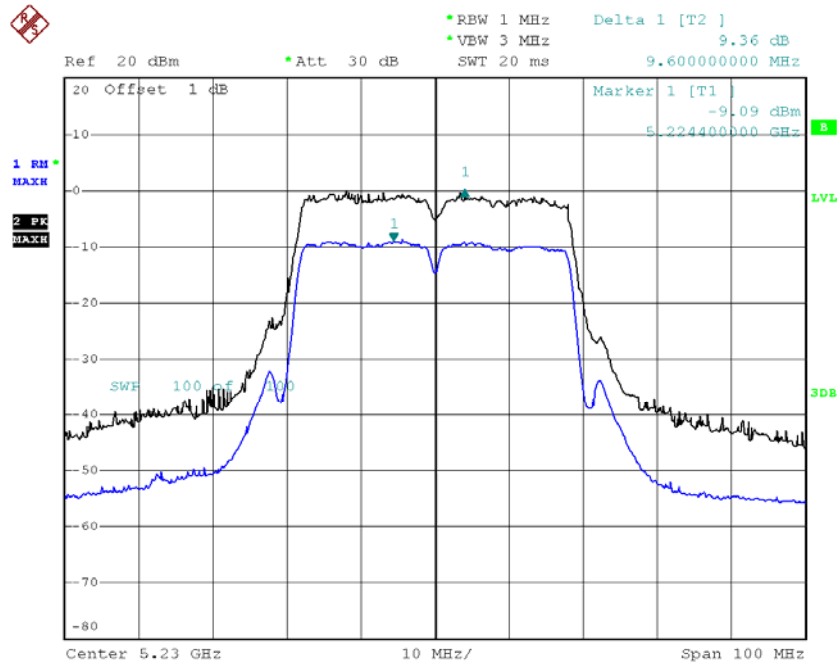


EUT :	Vodafone Mobile Wi-Fi	Model Name :	R215
Temperature :	25 °C	Relative Humidity :	58 %
Test Voltage :	DC 3.7V		
Test Mode :	Band 1/TX N40 Mode/CH38, CH46 - ANT 2		

Test Channel	Frequency (MHz)	Peak Excursion (dB)	LIMIT (dB)
CH38	5190	8.46	13
CH46	5230	9.36	13



Date: 28.JUN.2013 10:09:32



Date: 28.JUN.2013 10:08:58



10. FREQUENCY STABILITY MEASUREMENT

10.1 APPLIED PROCEDURES / LIMIT

FCC Part15, Subpart E 15.407(g)			
Test Item	Limit	Frequency Range (MHz)	Result
Frequency Stability	specified in the user's manual	5150 – 5250	PASS

10.1.1 MEASUREMENT INSTRUMENTS LIST

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP_40	100129	Nov. 26.2013
2	Precision Oven Tester	HOLINK	H-T-1F-D	BA03101701	May.25.2014

Remark: "N/A" denotes no model name, serial no. or calibration specified.

All calibration period of equipment list is one year.

10.1.2 TEST PROCEDURE

- a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below,

b.

Spectrum Parameter	Setting
Attenuation	Auto
Span Frequency	Entire absence of modulation emissions bandwidth
RB	10 kHz
VB	10 kHz
Sweep Time	Auto

- c. The test extreme voltage is to change the primary supply voltage from 85 to 115 percent of the nominal value.

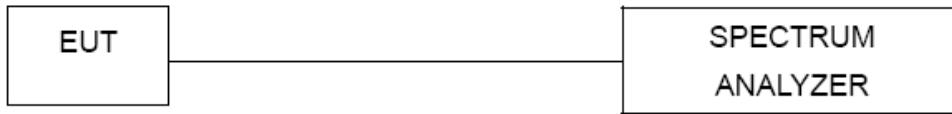
- d. user manual temperature is 0°C~35°C.

10.1.3 DEVIATION FROM STANDARD

No deviation.



10.1.4 TEST SETUP



10.1.5 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 4.1.6 Unless otherwise a special operating condition is specified in the follows during the testing.



10.1.6 TEST RESULTS

EUT :	Vodafone Mobile Wi-Fi	Model Name :	R215
Temperature :	25 ° C	Relative Humidity :	58 %
Test Voltage :	DC 3.7V		
Test Mode :	TX A Mode(5180MHz)		

Voltage vs. Frequency Stability

Voltage	Measurement Frequency (MHz)
(V)	5180
138	5180.00789
120	5180.006850
102	5180.007650
Max. Deviation (MHz)	0.007890
Max. Deviation (ppm)	1.52

Temperature vs. Frequency Stability

Temperature	Measurement Frequency (MHz)
(°C)	5180
0	5180.0076
5	5180.0069
15	5180.0056
25	5180.0045
35	5180.0066
Max. Deviation (MHz)	0.007600
Max. Deviation (ppm)	1.47



EUT :	Vodafone Mobile Wi-Fi	Model Name :	R215
Temperature :	25° C	Relative Humidity :	58 %
Test Voltage :	DC 3.7V		
Test Mode :	TX N20 Mode(5180MHz)		

Voltage vs. Frequency Stability

Voltage	Measurement Frequency (MHz)
(V)	5180
138	5180.003100
120	5180.002600
102	5180.007600
Max. Deviation (MHz)	0.007600
Max. Deviation (ppm)	1.47

Temperature vs. Frequency Stability

Temperature	Measurement Frequency (MHz)
(°C)	5180
0	5180.003640
5	5180.005610
15	5180.007460
25	5180.002830
35	5180.004260
Max. Deviation (MHz)	0.007460
Max. Deviation (ppm)	1.44



EUT :	Vodafone Mobile Wi-Fi	Model Name :	R215
Temperature :	25° C	Relative Humidity :	58 %
Test Voltage :	DC 3.7V		
Test Mode :	TX N40 Mode(5190MHz)		

Voltage vs. Frequency Stability

Voltage	Measurement Frequency (MHz)
(V)	5190
138	5189.986000
120	5189.985000
102	5189.983000
Max. Deviation (MHz)	0.017000
Max. Deviation (ppm)	3.28

Temperature vs. Frequency Stability

Temperature	Measurement Frequency (MHz)
(°C)	5190
0	5189.980000
5	5189.984000
15	5189.982000
25	5189.981000
35	5189.983000
Max. Deviation (MHz)	0.020000
Max. Deviation (ppm)	3.85