



FCC Radio Test Report

FCC ID: Q78-ZXW3512C

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

Issued Date : Mar. 18, 2013
Project No. : 1202C182A
Equipment : Indoor Wireless AP
Model Name : ZXV10 W812N V2
Applicant : ZTE Corporation
Address : ZTE Plaza, Keji Road South, Hi-Tech, Industrial Park,
Nanshan District, Shenzhen, Guangdong, P.R. China
Manufacturer : ZTE Corporation
Address : ZTE Plaza, Keji Road South, Hi-Tech, Industrial Park,
Nanshan District, Shenzhen, Guangdong, P.R. China

Tested by:

Neutron Engineering Inc. EMC Laboratory

Date of Receipt: Nov. 29, 2012

Date of Test:

Nov. 29, 2012 ~ Mar. 15, 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 : Indoor Wireless AP
Brand Name : **ZTE中兴** ;ZTE
Model Name : ZXV10 W812N V2
Applicant : ZTE Corporation
Factory : ZTE Corporation
Address : ZTE Plaza, Keji Road South, Hi-Tech, Industrial Park, Nanshan District,
Shenzhen, Guangdong, P.R. China
Date of Test : Nov. 29, 2012 ~ Mar. 15, 2013
Test Item : ENGINEERING SAMPLE
Standards : FCC Part15, Subpart E(15.407) / ANSI C63.4 : 2009
FCC KDB 789033 D01 General UNII Test Procedures v01r01.

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-3-1202C182A) were obtained utilizing the test procedures, test instruments, test sites that has been accredited by the Authority of NVLAP and TAF according to the ISO-17025 quality assessment standard and technical standard(s).

Test result included in this report is only for the 5150MHz~5250MHz Mode part of the product.



2. SUMMARY OF TEST RESULTS

Test procedures according to the technical standards:

FCC Part15, Subpart E			
Standard 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	
1.1307 1.1310 2.1091 2.1093	RF Exposure Compliance	PASS	

NOTE:

(1) "N/A" denotes test is not applicable in this Test Report



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	3.12	
		1GHz~18GHz	H	3.68	
		18GHz~40GHz	V	4.15	
		18GHz~40GHz	H	4.14	



3. GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

Equipment	Indoor Wireless AP	
Brand Name	ZTE中兴 ;ZTE	
Model Name	ZXV10 W812N V2	
Model Different	The EUT has two kinds of color of the antenna. These antenna just the color different. The rest are the same.	
Product Description	The EUT is a Indoor Wireless AP.	
	Operation Frequency	Band 1:5150MHz~5250MHz
	Modulation Type	OFDM
	Bit Rate of Transmitter	300Mbps
	Antenna Designation	Please see note 3.(Page 10)
	Antenna Gain(Peak)	
	Output Power	802.11a: 14.71dBm 802.11n (20M): 14.65 dBm 802.11n (40M): 14.66 dBm
Based on the application, features, or specification exhibited in User's Manual, the EUT is considered as an ITE/Computing Device. More details of EUT technical specification, please refer to the User's Manual.		
Power Source	DC Voltage supplied from AC/DC adapter. Model name:RD1201500-C55-1MG	
Power Rating	I/P AC 100-240V~50/60Hz 0.6A MAX O/P DC 12V/1.5A	



2. Channel List:

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

3.

Table for Filed Antenna

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)	Note
A	MAGLAYERS	EDA-1513-5G0R2-A1	Dipole	R-SMA	3	5G
B	MAGLAYERS	EDA-1513-5G0R2-A1	Dipole	R-SMA	3	5G

Note:

- (1) The antenna of EUT could be rotated, but the Antenna Polarity vertical is max.
- (2) The EUT incorporates a MIMO function. Physically, the EUT provides two completed transmitters and two receivers (2T2R), all transmit signals are completely uncorrelated, then, **Direction gain = G_{ANT}** , that is Directional gain=3.

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



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.



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

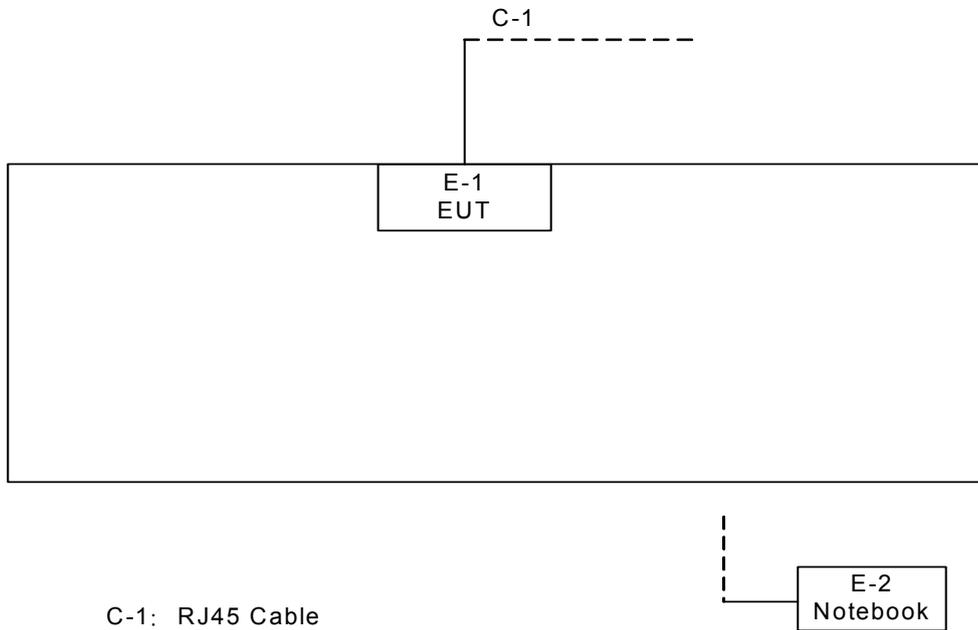
Test software version	NA		
Frequency	5180 MHz	5200 MHz	5240MHz
A Mode	11(ANT A)	11(ANT A)	11(ANT A)
	11(ANT B)	11(ANT B)	11(ANT B)
N20M Mode	11.5(ANT A)	11.5(ANT A)	11 (ANT A)
	11.5(ANT B)	11.5(ANT B)	11 (ANT B)

Test software version	NA	
Frequency	5190 MHz	5230 MHz
N40M Mode	11(ANT A)	10.5(ANT A)
	11(ANT B)	10.5(ANT B)

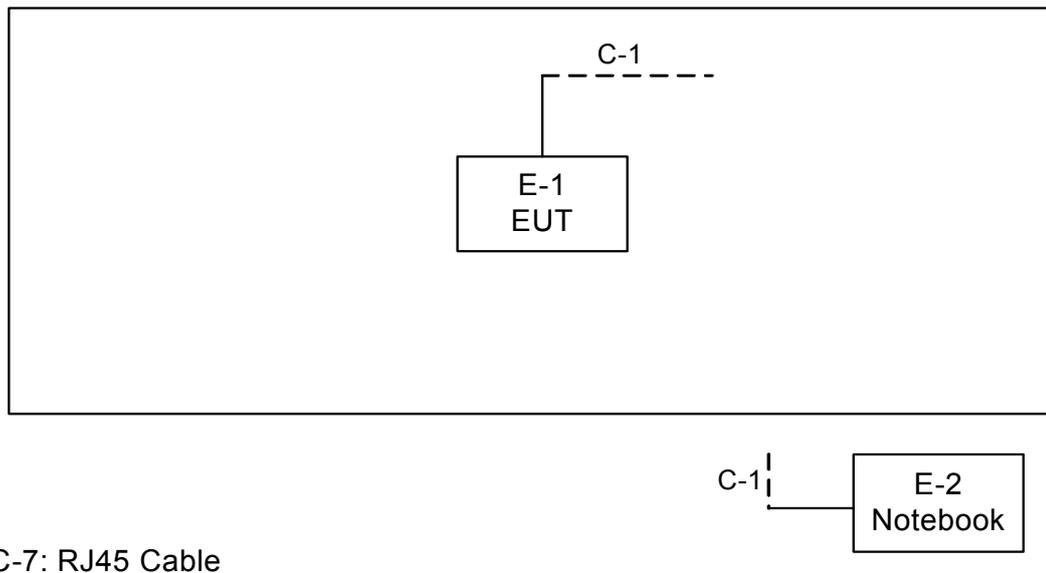


3.4 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED

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	Indoor Wireless AP	ZTE	ZXV10 W812N V2	Q78-ZXW3512C	N/A	EUT
E-8	NOTEBOOK	HP	NB331	DOC	NA	

Item	Shielded Type	Ferrite Core	Length	Note
C-1	YES	NO	10m	

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.26.2012	May.04.2013
2	LISN	R&S	ENV216	100087	May.26.2012	May.04.2013
3	Test Cable	N/A	C_17	N/A	Mar.18.2012	Mar.28.2013
4	EMI TEST RECEIVER	R&S	ESCS30	826547/02 2	May.26.2012	May.04.2013
5	50Ω Terminator	SHX	TF2-3G-A	08122902	May.26.2012	May.04.2013

Remark: "N/A" denotes no model name, serial no. or calibration specified.
All calibration period of Equipment List is One Year.

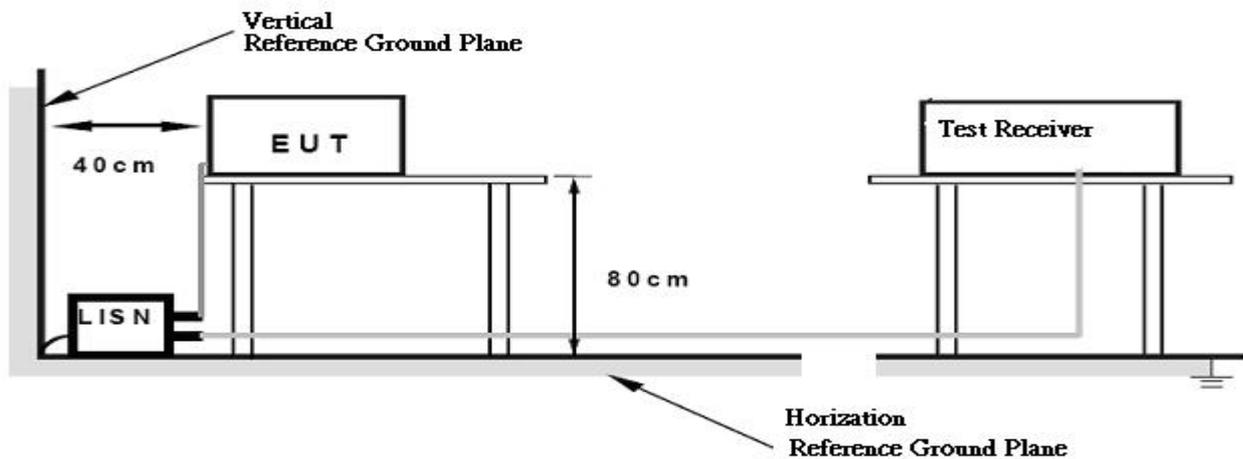
4.1.3 TEST PROCEDURE

- 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 mode.



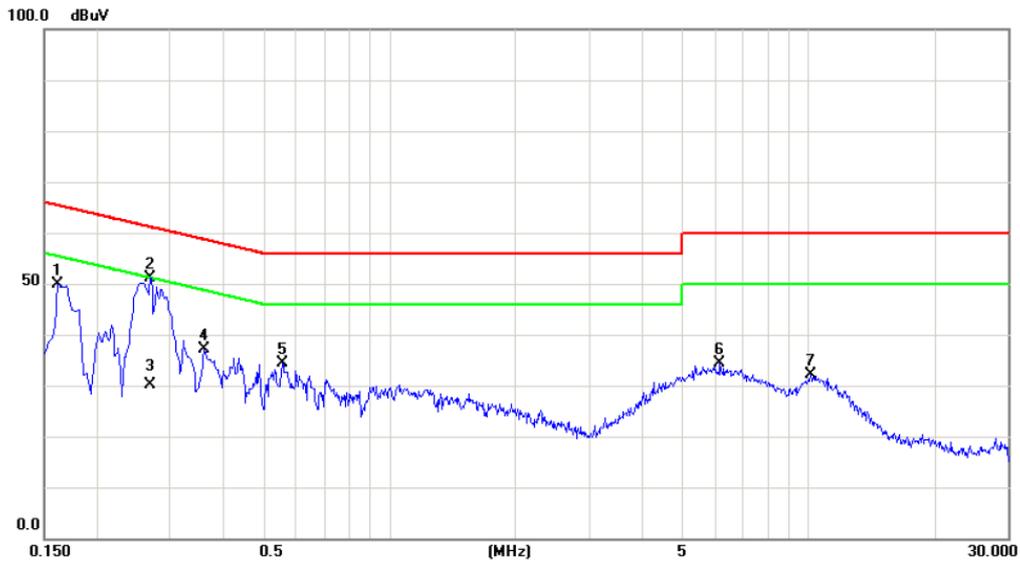
4.1.7 TEST RESULTS

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 ◦



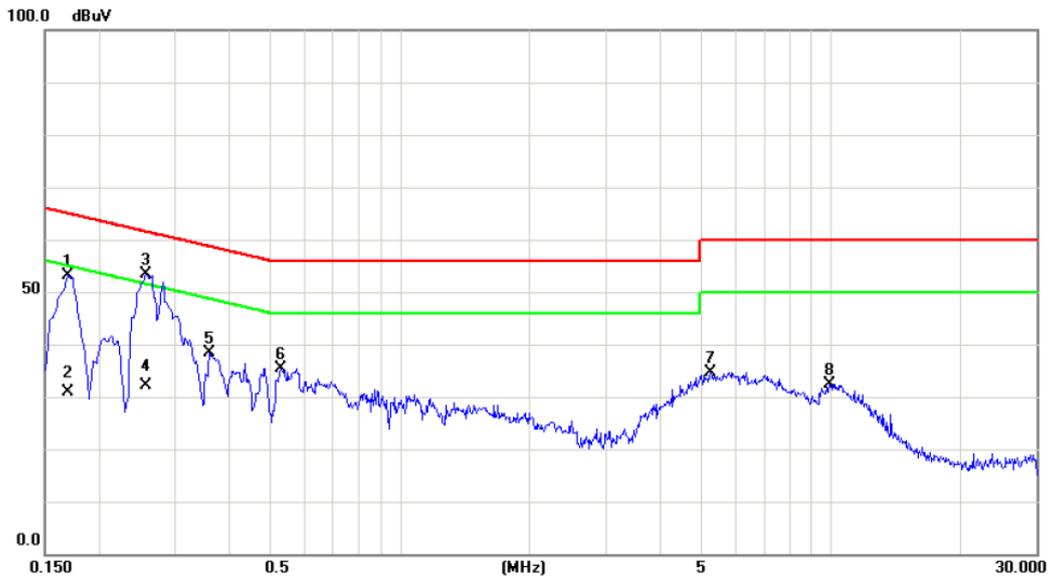
EUT :	Indoor Wireless AP	Model Name :	ZXV10 W812N V2
Temperature :	25 °C	Relative Humidity :	58 %
Pressure :	1010hPa	Test Power :	AC 120V/60Hz
Test Mode :	TX Mode	Phase:	Line



No. Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measurement dBuV	Limit dBuV	Over dB	Detector	Comment
1	0.1620	40.27	9.66	49.93	65.36	-15.43	peak	
2 *	0.2700	41.54	9.68	51.22	61.12	-9.90	peak	
3	0.2700	20.40	9.68	30.08	51.12	-21.04	AVG	
4	0.3620	27.48	9.70	37.18	58.68	-21.50	peak	
5	0.5580	24.58	9.70	34.28	56.00	-21.72	peak	
6	6.1620	24.56	9.92	34.48	60.00	-25.52	peak	
7	10.1300	21.94	10.09	32.03	60.00	-27.97	peak	



EUT :	Indoor Wireless AP	Model Name :	ZXV10 W812N V2
Temperature :	25 °C	Relative Humidity :	58 %
Pressure :	1010hPa	Test Power :	AC 120V/60Hz
Test Mode :	TX Mode	Phase:	Neutral



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1		0.1700	43.51	9.68	53.19	64.96	-11.77	peak	
2		0.1700	21.30	9.68	30.98	54.96	-23.98	AVG	
3	*	0.2580	43.62	9.68	53.30	61.50	-8.20	peak	
4		0.2580	22.40	9.68	32.08	51.50	-19.42	AVG	
5		0.3620	28.80	9.70	38.50	58.68	-20.18	peak	
6		0.5300	25.79	9.69	35.48	56.00	-20.52	peak	
7		5.2620	24.74	9.86	34.60	60.00	-25.40	peak	
8		9.9300	22.33	10.11	32.44	60.00	-27.56	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)
0.490~1.705	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) (at 1.5m)	
	PEAK	AVERAGE
Above 1000	80	60

Notes:

- (1) The limit for radiated test was performed according to FCC PART 15C.
- (2) The tighter limit applies at the band edges.
- (3) Emission level (dBuV/m)=20log Emission level (uV/m).
 The limits above 5GHz shall be extrapolated to the specified distance using an extrapolation factor of 20dB/decade form 3m to 1.5m
 Distance extrapolation factor = 20 log (3m/1.5m) dB ;
 Limit line = specific limits (dBuV) + 6 dB
- (4) For the following data, measurements were performed at a separation distance of 1 meter.
 The field strength was then converted to EIRP per KDB 789033:
 $EIRP [dBm] = E[dBuV/m] + 20 \log(d[meters]) - 104.77$
 EIRP is the equivalent isotropically radiated power in Watts
 E is the field strength
 D is the measurement distance



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:

$$E = \frac{100000 \sqrt{30P}}{3} \mu\text{V/m, where P is the eirp (Watts)}$$



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	Jun .04.2012	May.25.2013
2	Amplifier	HP	8447D	2944A09673	May.26.2012	May.04.2013
3	Test Receiver	R&S	ESCI	100382	May.26.2012	May.04.2013
4	Test Cable	N/A	C-01_CB03	N/A	Jul.01.2012	Jul.01.2013
5	Antenna	ETS	3115	00075789	May.26.2012	May.25.2013
6	Amplifier	Agilent	8449B	3008A02274	May.26.2012	May.04.2013
7	Spectrum	Agilent	E4408B	US39240143	Nov.25.2012	Nov.24.2013
8	Test Cable	HUBER+SUHNER	C-45	N/A	May.04.2012	May.02.2013
9	Controller	CT	SC100	N/A	N/A	N/A
10	Active Loop Antenna	R&S	HFH2-Z2	830749/020	May.26.2012	May.04.2013
11	Broad-Band Horn Antenna	Schwarzbeck	BBHA 9170	9170319	Oct.13.2012	Oct.13.2013
12	Horn Antenna	EMCO	3115	9605-4803	May.26.2012	May.25.2013

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

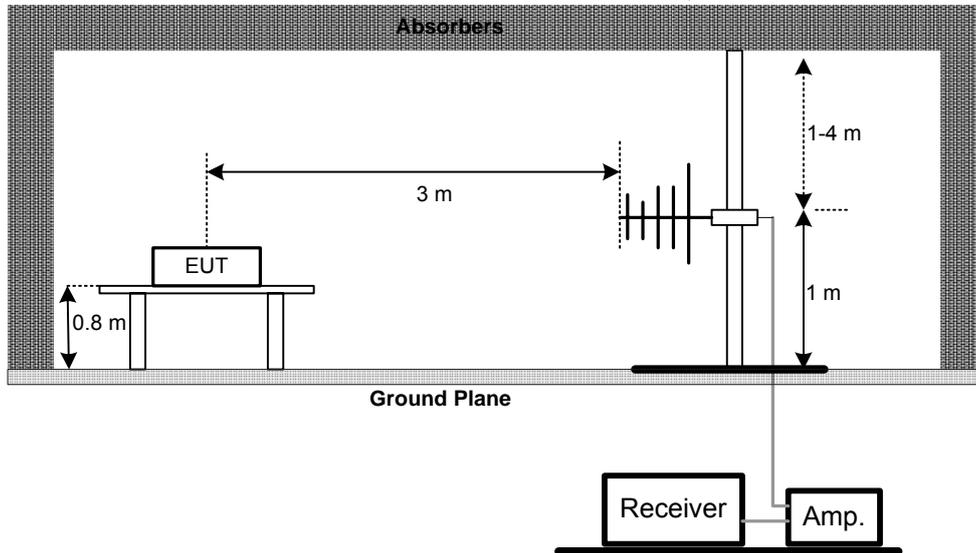
- a. The measuring distance of at 1.5 m shall be used for measurements at frequency up to 1GHz. For frequencies above 1GHz, any suitable measuring distance may be used.
- b. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- c. 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.
- d. 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.
- e. 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.
- f. For the actual test configuration, please refer to the related Item –EUT Test Photos.

4.2.4 DEVIATION FROM TEST STANDARD

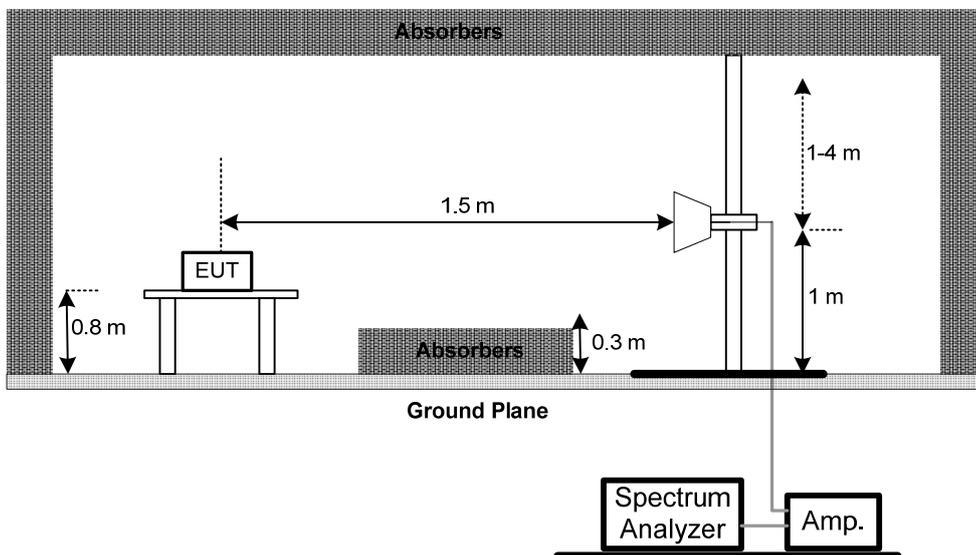
No deviation

4.2.5 TEST SETUP

Radiated Emission Test Set-Up Frequency 30 - 1000MHz



Radiated Emission Test Set-Up Frequency Above 1 GHz



4.2.6 EUT OPERATING CONDITIONS

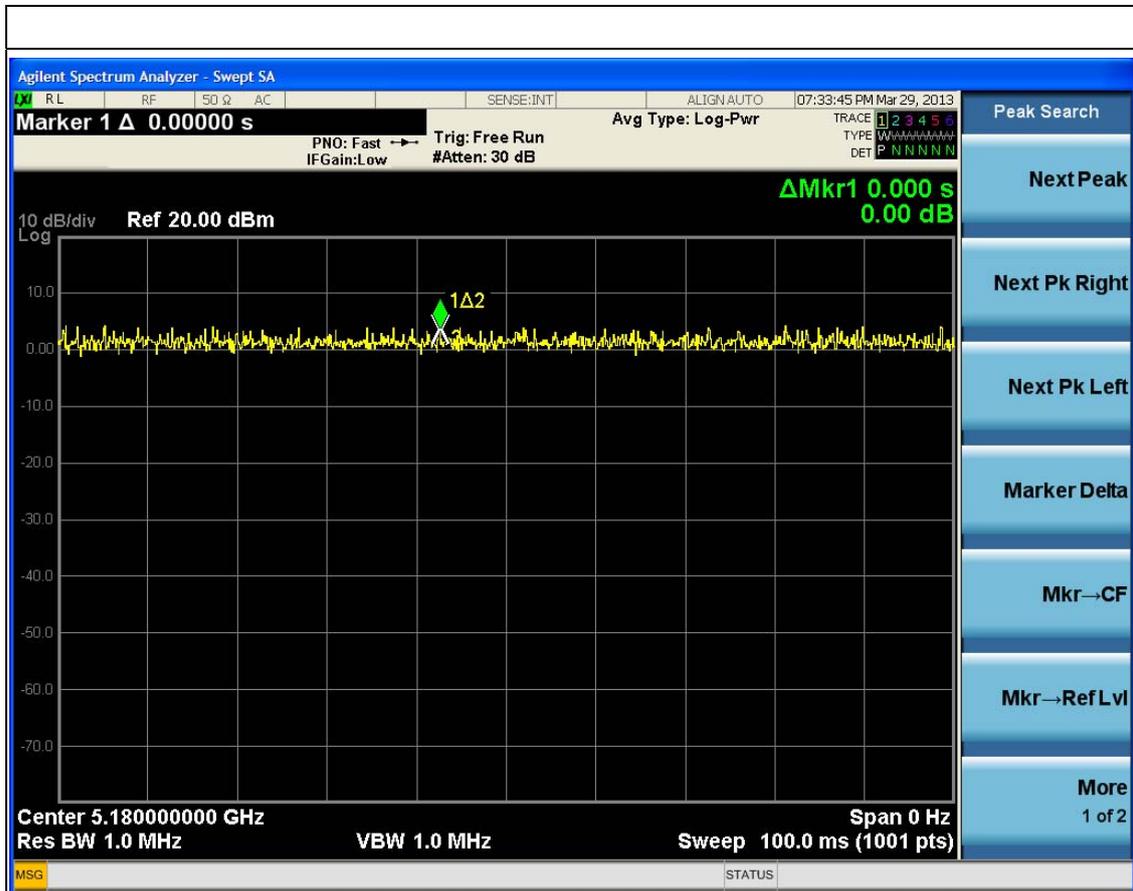
The EUT tested system was configured as the statements of 4.1.6 Unless otherwise a special operating condition is specified in the follows during the testing.



Neutron Engineering Inc.

Duty cycle: TX 5180MHz

Duty cycle: 100%





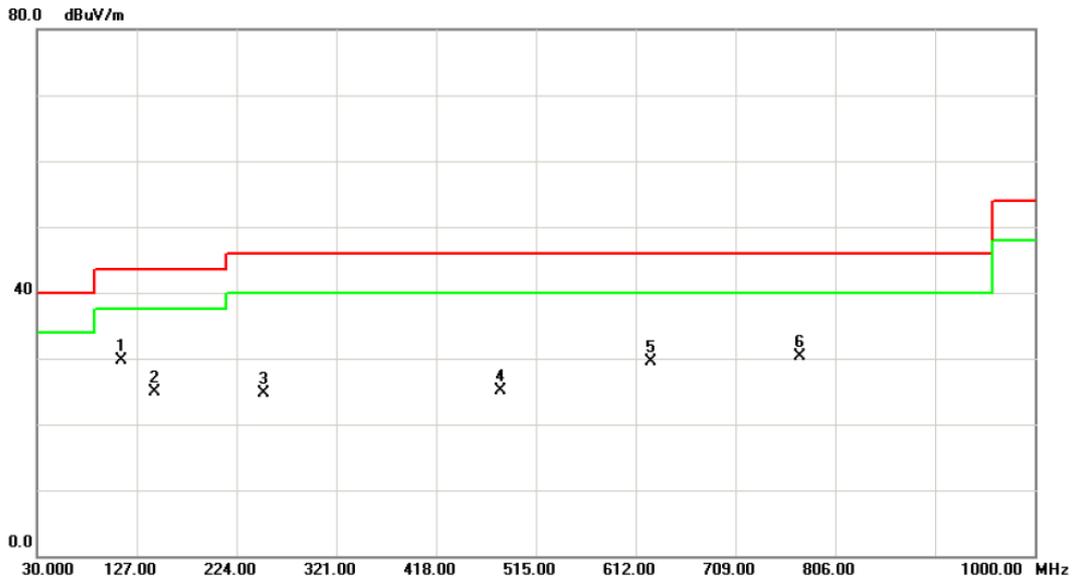
4.2.7 TEST RESULTS-BETWEEN 30MHZ - 1000MHZ

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 ◦



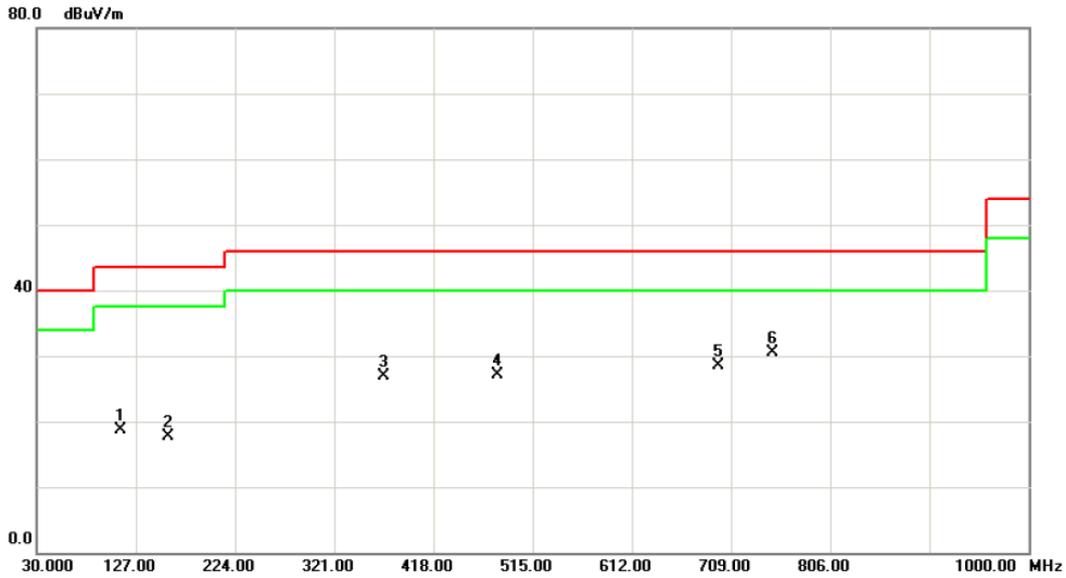
EUT :	Indoor Wireless AP	Model Name :	ZXV10 W812N V2
Temperature :	25°C	Relative Humidity :	58 %
Pressure :	1010 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX Mode	Phase:	Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	*	112.4500	48.22	-18.58	29.64	43.50	-13.86	peak	
2		143.9750	42.84	-17.93	24.91	43.50	-18.59	peak	
3		250.6750	39.65	-14.99	24.66	46.00	-21.34	peak	
4		481.0500	33.77	-8.63	25.14	46.00	-20.86	peak	
5		626.5500	34.47	-5.05	29.42	46.00	-16.58	peak	
6		772.0500	34.19	-3.98	30.21	46.00	-15.79	peak	



EUT :	Indoor Wireless AP	Model Name :	ZXV10 W812N V2
Temperature :	25°C	Relative Humidity :	58 %
Pressure :	1010 hPa	Test Voltage :	AC 120V/60Hz
Test Mode :	TX Mode	Phase:	Horizontal



No. Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measurement dBuV/m	Limit dBuV/m	Over dB	Detector	Comment
1	112.4500	37.20	-18.58	18.62	43.50	-24.88	peak	
2	158.5250	35.62	-17.95	17.67	43.50	-25.83	peak	
3	369.5000	37.73	-10.85	26.88	46.00	-19.12	peak	
4	481.0500	35.73	-8.63	27.10	46.00	-18.90	peak	
5	696.8750	33.11	-4.66	28.45	46.00	-17.55	peak	
6 *	750.2250	34.78	-4.24	30.54	46.00	-15.46	peak	



4.2.8 TEST RESULTS - ABOVE 1000MHZ

EUT :	Indoor Wireless AP	Model Name :	ZXV10 W812N V2
Temperature :	25 ° C	Relative Humidity :	58 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	Band 1/ TX A Mode 5180MHz		

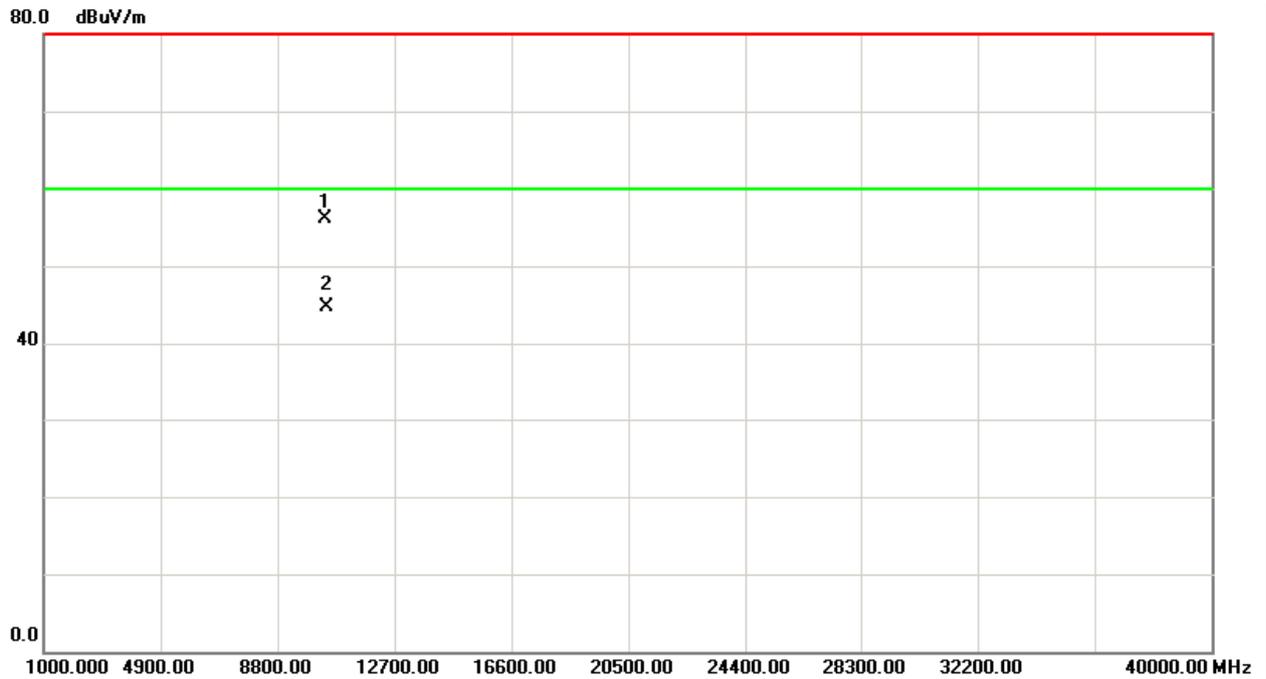
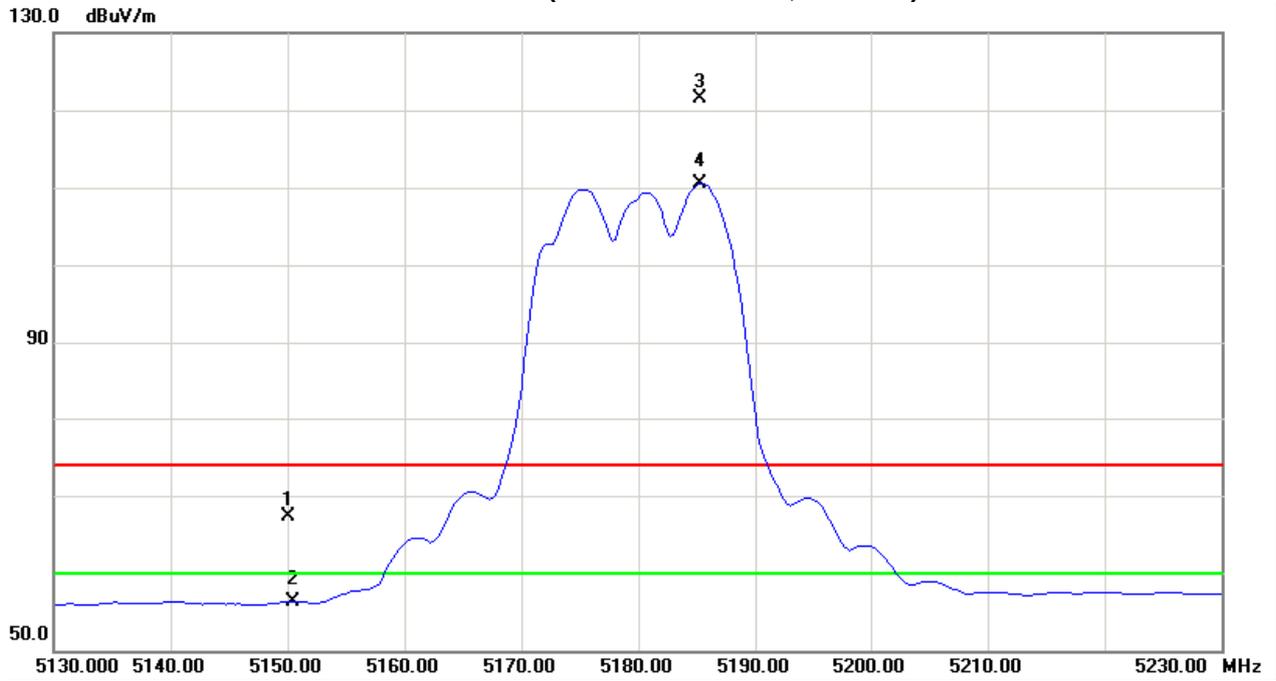
Freq. (MHz)	Ant.Pol. H/V	Reading		Ant./CF CF(dB)	Act.(dBuV/m)		Act.(dBm)		Limit(dBuV/m)		Limit(dBm)		Note
		Peak (dBuV)	AV (dBuV)		Peak	AV	Peak	AV	Peak	AV	Peak	AV	
5150.00	V	27.20	16.22	40.09	67.29	56.31	-37.48	-48.46	80.00	60.00	-24.77	-44.77	X/E
5185.25	V	81.33	70.31	40.18	121.51	110.49	16.74	5.72					X/F
10360.05	V	42.32	31.02	13.73	56.05	44.75	-48.72	-60.02	74.30		-27.00		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.
- (9) The limits above 5GHz shall be extrapolated to the specified distance using an extrapolation factor of 20dB/decade form 3m to 1.5m
 Distance extrapolation factor = 20 log (3m/1.5m) dB ;
 Limit line = specific limits (dBuV) + 6 dB



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





Neutron Engineering Inc.

EUT :	Indoor Wireless AP	Model Name :	ZXV10 W812N V2
Temperature :	25 ° C	Relative Humidity :	58 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	Band 1/ TX A Mode 5180MHz		

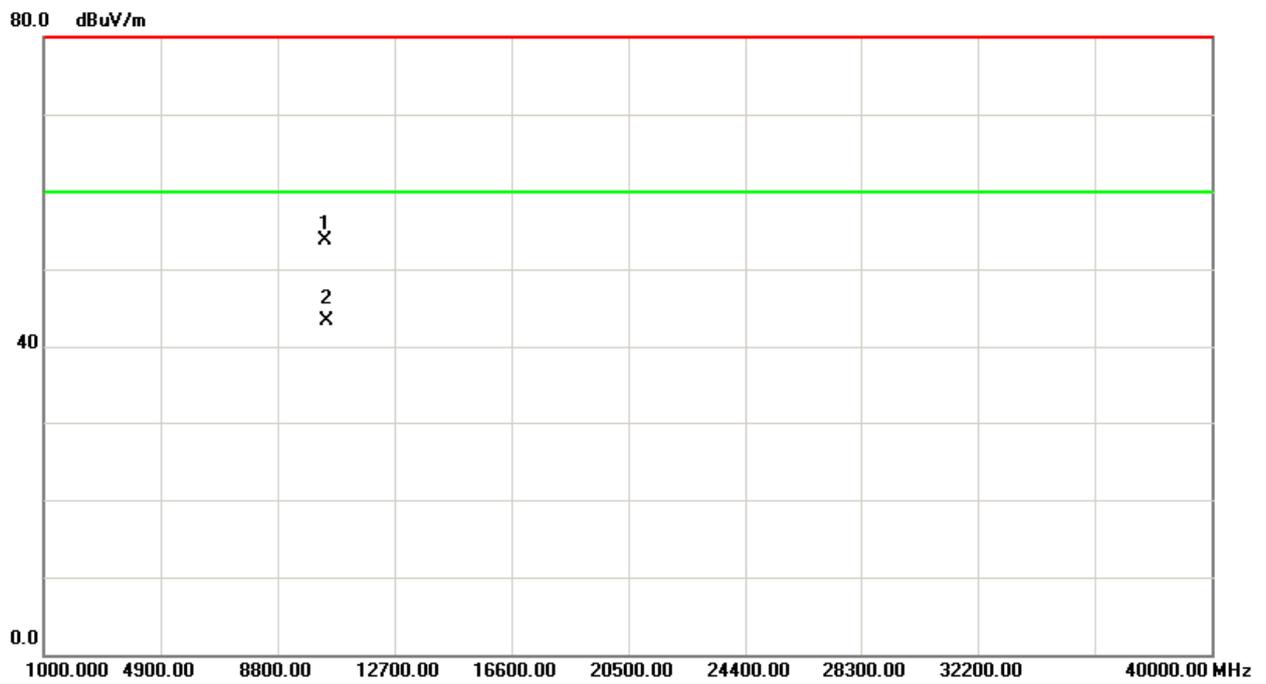
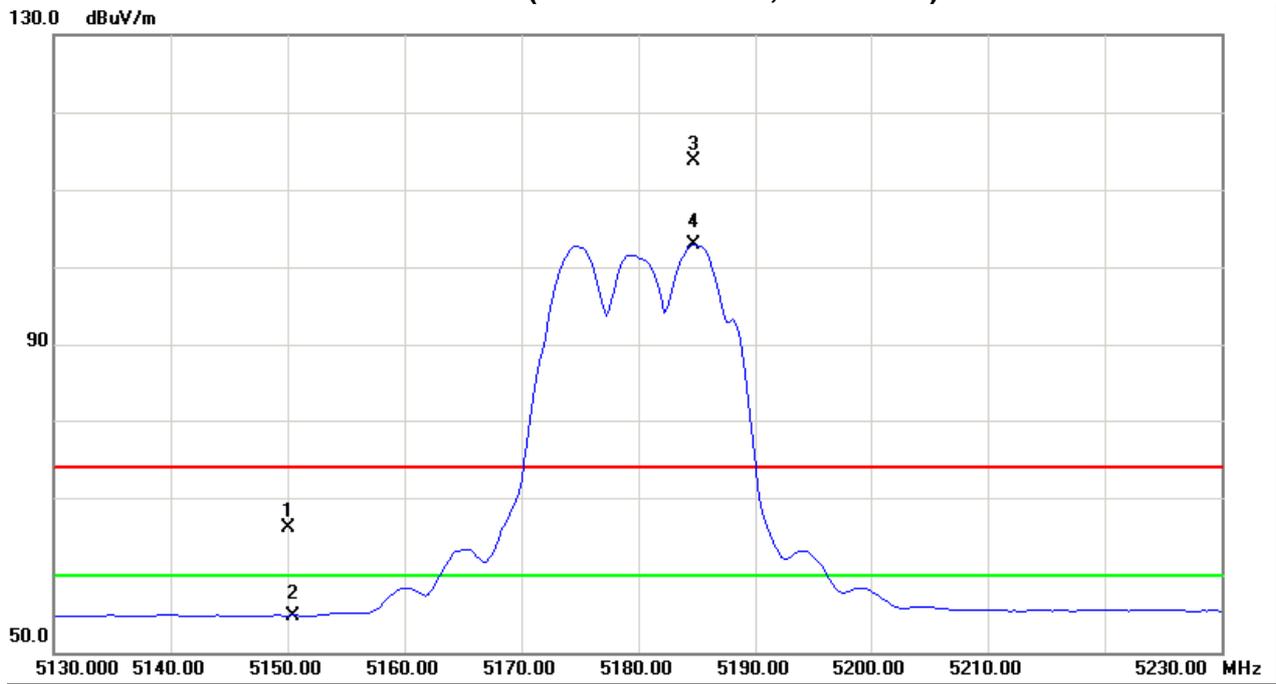
Freq. (MHz)	Ant.Pol. H/V	Reading		Ant./CF CF(dB)	Act.(dBuV/m)		Act.(dBm)		Limit(dBuV/m)		Limit(dBm)		Note
		Peak (dBuV)	AV (dBuV)		Peak	AV	Peak	AV	Peak	AV	Peak	AV	
5150.00	H	25.93	14.71	40.09	66.02	54.80	-32.75	-43.97	80.00	60.00	-24.77	-44.77	X/E
5184.75	H	73.46	62.67	40.18	113.64	102.85	14.87	4.08					X/F
10360.12	H	40.05	29.49	13.73	53.78	43.22	-44.99	-55.55	74.30		-27.00		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.
- (9) The limits above 5GHz shall be extrapolated to the specified distance using an extrapolation factor of 20dB/decade form 3m to 1.5m
Distance extrapolation factor = $20 \log (3m/1.5m)$ dB ;
Limit line = specific limits (dBuV) + 6 dB



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





EUT :	Indoor Wireless AP	Model Name :	ZXV10 W812N V2
Temperature :	25 ° C	Relative Humidity :	58 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	Band 1/ TX A Mode 5200MHz		

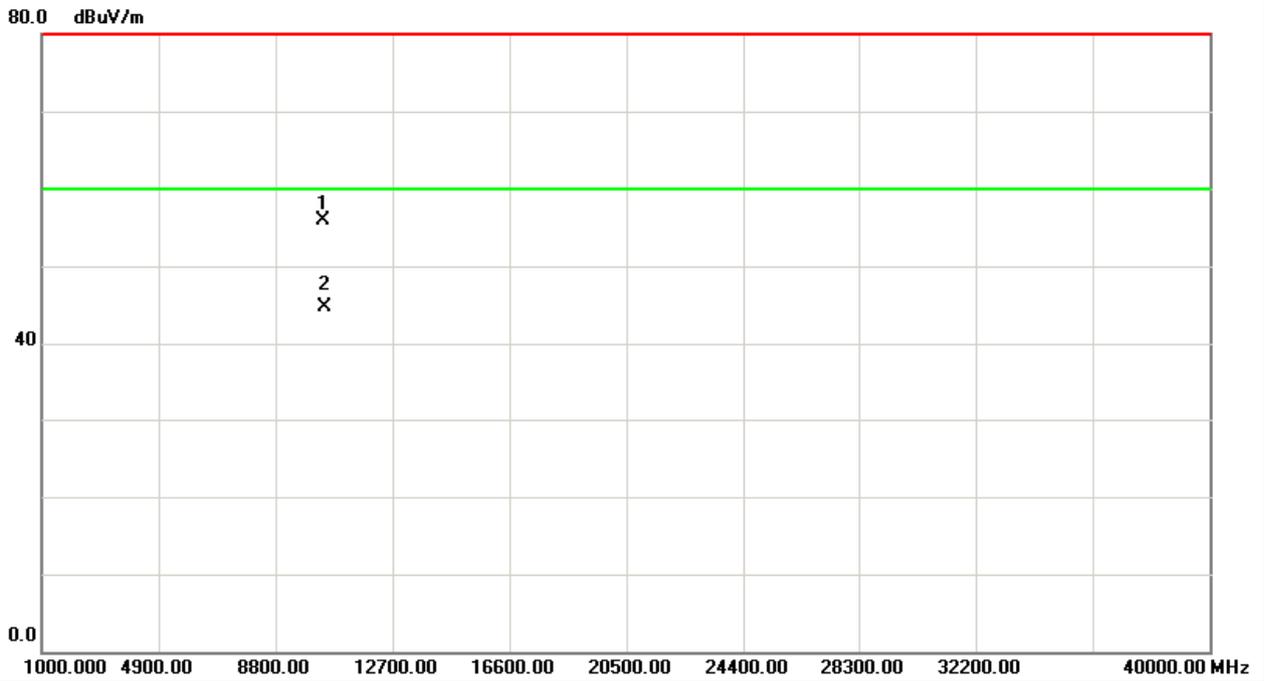
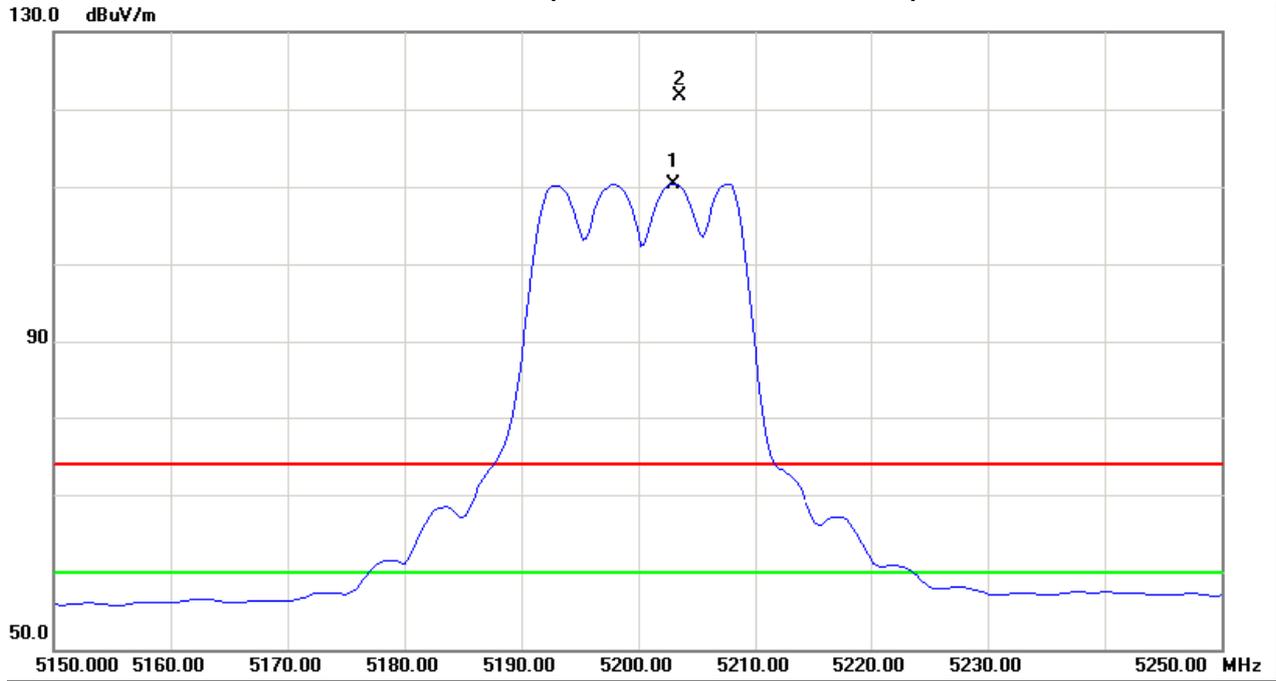
Freq. (MHz)	Ant. Pol. HV	Reading		Ant./CF CF(dB)	Act.(dBuV/m)		Act.(dBm)		Limit(dBuV/m)		Limit(dBm)		Note
		Peak (dBuV)	AV (dBuV)		Peak	AV	Peak	AV	Peak	AV	Peak	AV	
5203.50	V	81.42	70.17	40.23	121.65	110.40	16.88	5.63					X/F
10400.06	V	42.15	30.88	13.78	55.93	44.66	-48.84	-60.11	74.30		-27.00		X/H

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.
- (9) The limits above 5GHz shall be extrapolated to the specified distance using an extrapolation factor of 20dB/decade form 3m to 1.5m
 Distance extrapolation factor = $20 \log (3m/1.5m)$ dB ;
 Limit line = specific limits (dBuV) + 6 dB



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





Neutron Engineering Inc.

EUT :	Indoor Wireless AP	Model Name :	ZXV10 W812N V2
Temperature :	25° C	Relative Humidity :	58 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	Band 1/ TX A Mode 5200MHz		

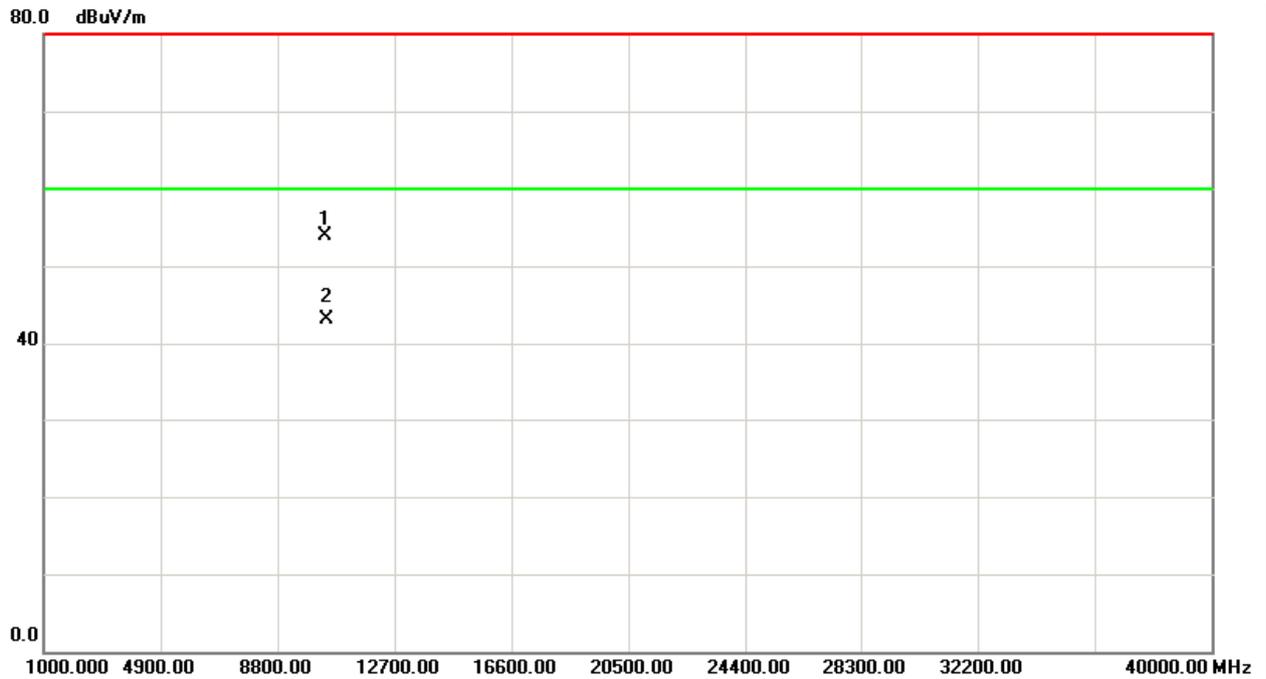
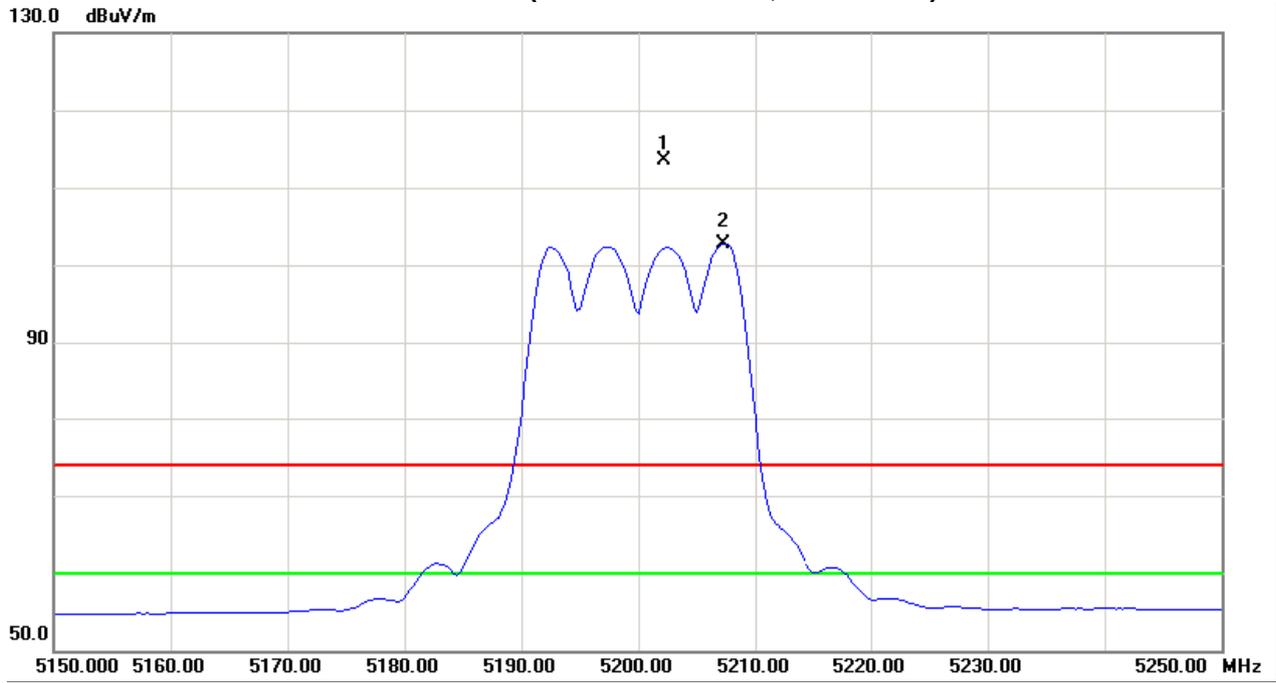
Freq. (MHz)	Ant.Pol. HV	Reading		Ant./CF CF(dB)	Act.(dBuV/m)		Act.(dBm)		Limit(dBuV/m)		Limit(dBm)		Note
		Peak (dBuV)	AV (dBuV)		Peak	AV	Peak	AV	Peak	AV	Peak	AV	
5202.25	H	73.29	62.46	40.22	113.51	102.68	8.74	-2.09					X/F
10399.89	H	40.21	29.27	13.78	53.99	43.05	-50.78	-61.72	74.30		-27.00		X/H

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.
- (9) The limits above 5GHz shall be extrapolated to the specified distance using an extrapolation factor of 20dB/decade form 3m to 1.5m
Distance extrapolation factor = $20 \log (3\text{m}/1.5\text{m})$ dB ;
Limit line = specific limits (dBuV) + 6 dB



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





EUT :	Indoor Wireless AP	Model Name :	ZXV10 W812N V2
Temperature :	25 ° C	Relative Humidity :	52 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	Band 1/ TX A Mode 5240MHz		

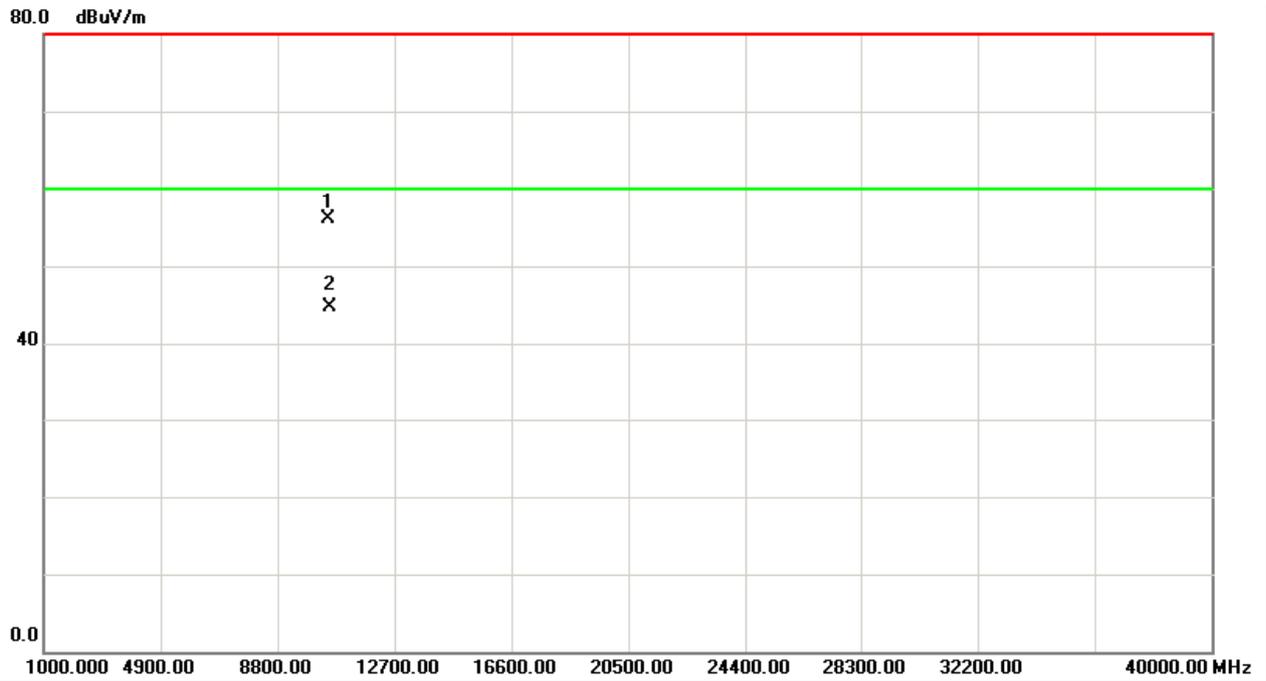
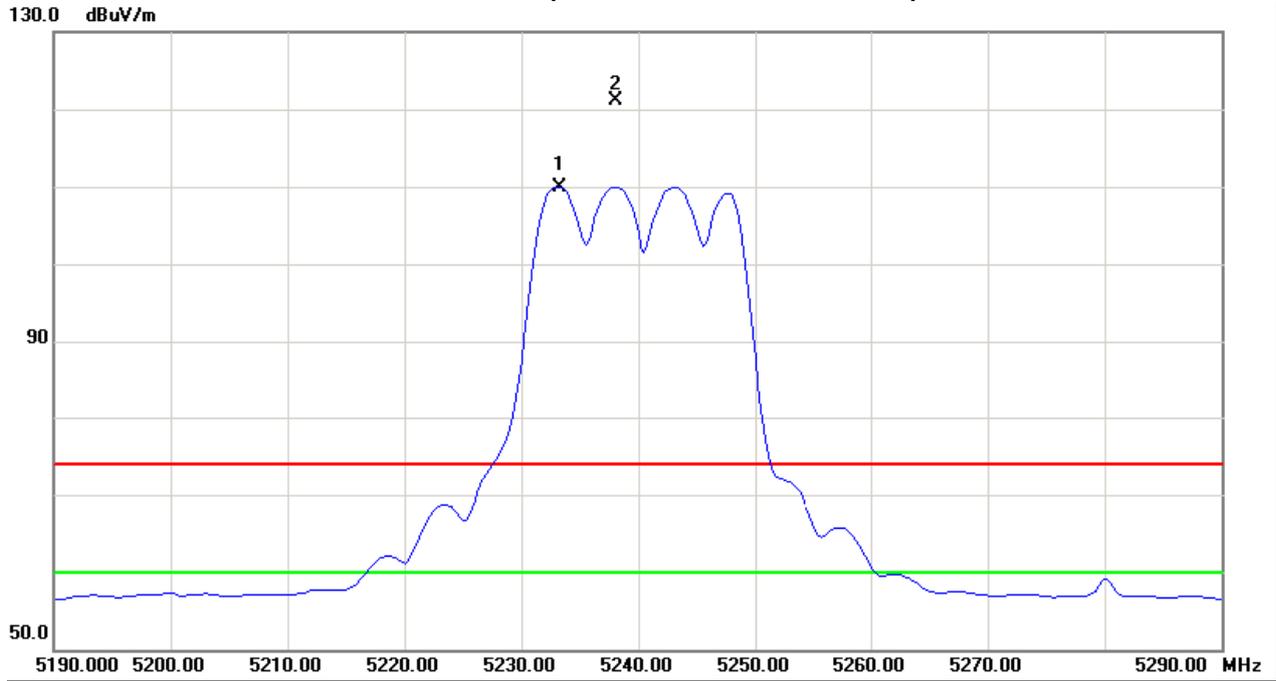
Freq. (MHz)	Ant. Pol. HV	Reading		Ant./CF CF(dB)	Act.(dBuV/m)		Act.(dBm)		Limit(dBuV/m)		Limit(dBm)		Note
		Peak (dBuV)	AV (dBuV)		Peak	AV	Peak	AV	Peak	AV	Peak	AV	
5238.00	V	80.74	69.62	40.32	121.06	109.94	16.29	5.17					X/F
10479.96	V	42.30	30.92	13.87	56.17	44.79	-48.60	-59.98	74.30		-27.00		X/H

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.
- (9) The limits above 5GHz shall be extrapolated to the specified distance using an extrapolation factor of 20dB/decade form 3m to 1.5m
Distance extrapolation factor = 20 log (3m/1.5m) dB ;
Limit line = specific limits (dBuV) + 6 dB



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





EUT :	Indoor Wireless AP	Model Name :	ZXV10 W812N V2
Temperature :	25 °C	Relative Humidity :	52 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	Band 1/ TX A Mode 5240MHz		

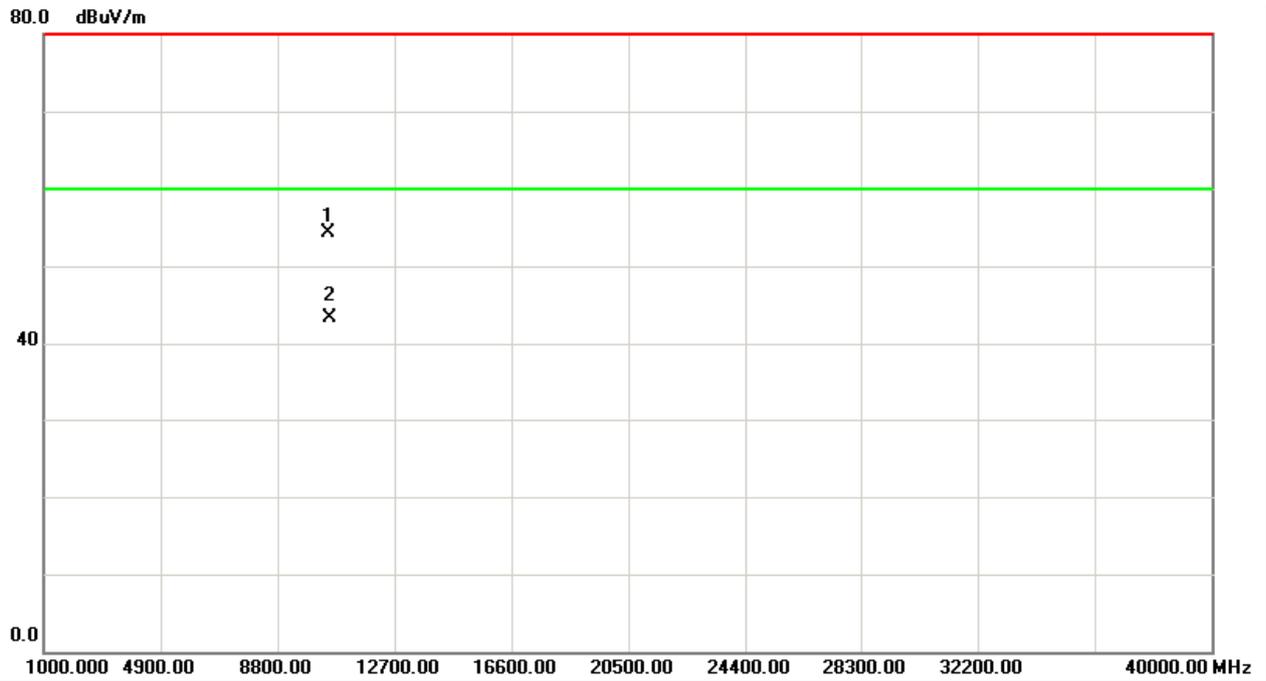
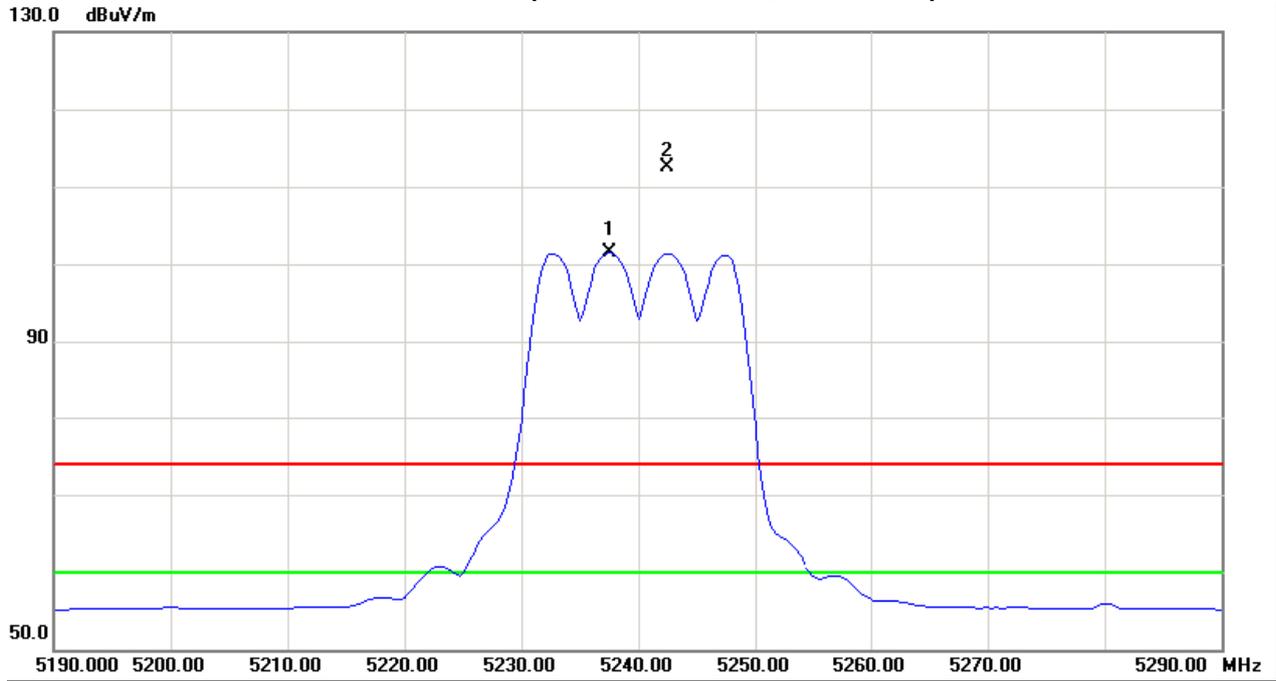
Freq. (MHz)	Ant.Pol. HV	Reading		Ant./CF CF(dB)	Act.(dBuV/m)		Act.(dBm)		Limit(dBuV/m)		Limit(dBm)		Note
		Peak (dBuV)	AV (dBuV)		Peak	AV	Peak	AV	Peak	AV	Peak	AV	
5242.50	H	72.19	61.16	40.33	112.52	101.49	7.75	-3.28					X/F
10480.08	H	40.37	29.34	13.87	54.24	43.21	-50.53	-61.56	74.30		-27.00		X/H

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.
- (9) The limits above 5GHz shall be extrapolated to the specified distance using an extrapolation factor of 20dB/decade form 3m to 1.5m
 Distance extrapolation factor = 20 log (3m/1.5m) dB ;
 Limit line = specific limits (dBuV) + 6 dB



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





EUT :	Indoor Wireless AP	Model Name :	ZXV10 W812N V2
Temperature :	25 ° C	Relative Humidity :	58 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	Band 1/ TX N20 Mode 5180MHz		

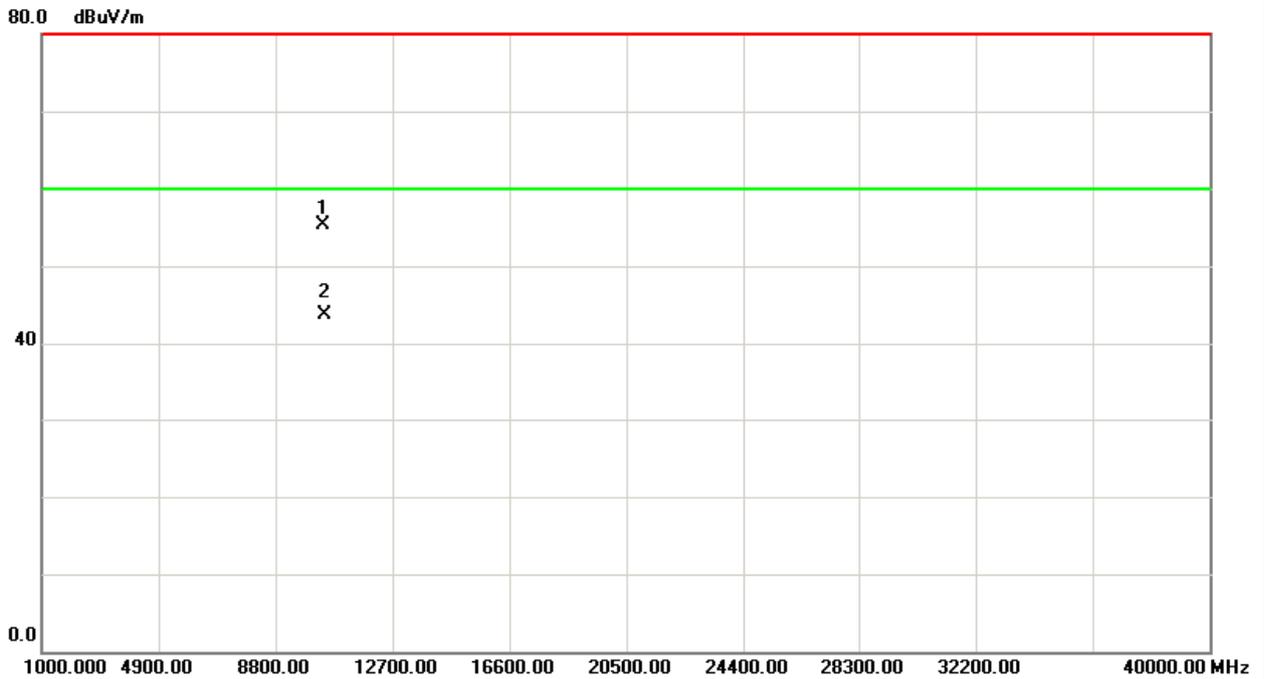
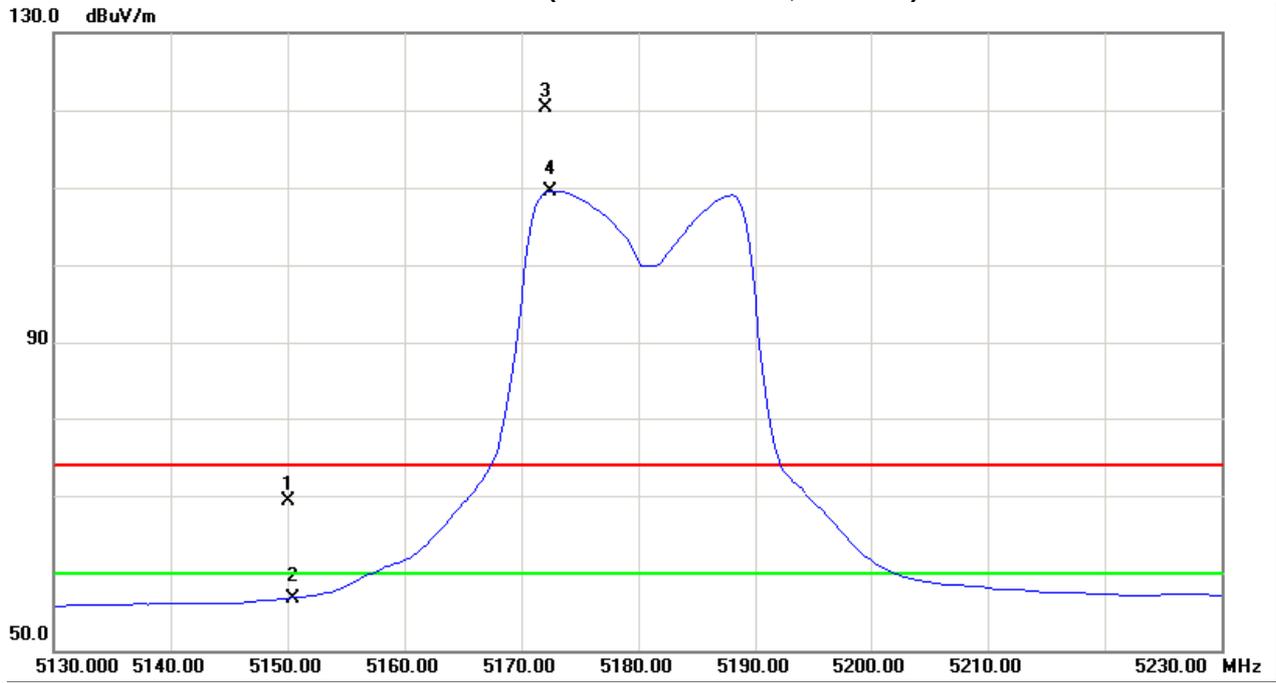
Freq. (MHz)	Ant.Pol. HV	Reading		Ant./CF CF(dB)	Act.(dBuV/m)		Act.(dBm)		Limit(dBuV/m)		Limit(dBm)		Note
		Peak (dBuV)	AV (dBuV)		Peak	AV	Peak	AV	Peak	AV	Peak	AV	
5150.00	V	29.18	16.59	40.09	69.27	56.68	-35.50	-48.09	80.00	60.00	-24.77	-44.77	X/E
5172.00	V	80.24	69.38	40.15	120.39	109.53	15.62	4.76					X/F
10360.04	V	41.59	29.98	13.73	55.32	43.71	-49.45	-61.06	74.30		-27.00		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.
- (9) The limits above 5GHz shall be extrapolated to the specified distance using an extrapolation factor of 20dB/decade form 3m to 1.5m
Distance extrapolation factor = 20 log (3m/1.5m) dB ;
Limit line = specific limits (dBuV) + 6 dB



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





EUT :	Indoor Wireless AP	Model Name :	ZXV10 W812N V2
Temperature :	25° C	Relative Humidity :	58 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	Band 1/ TX N20 Mode 5180MHz		

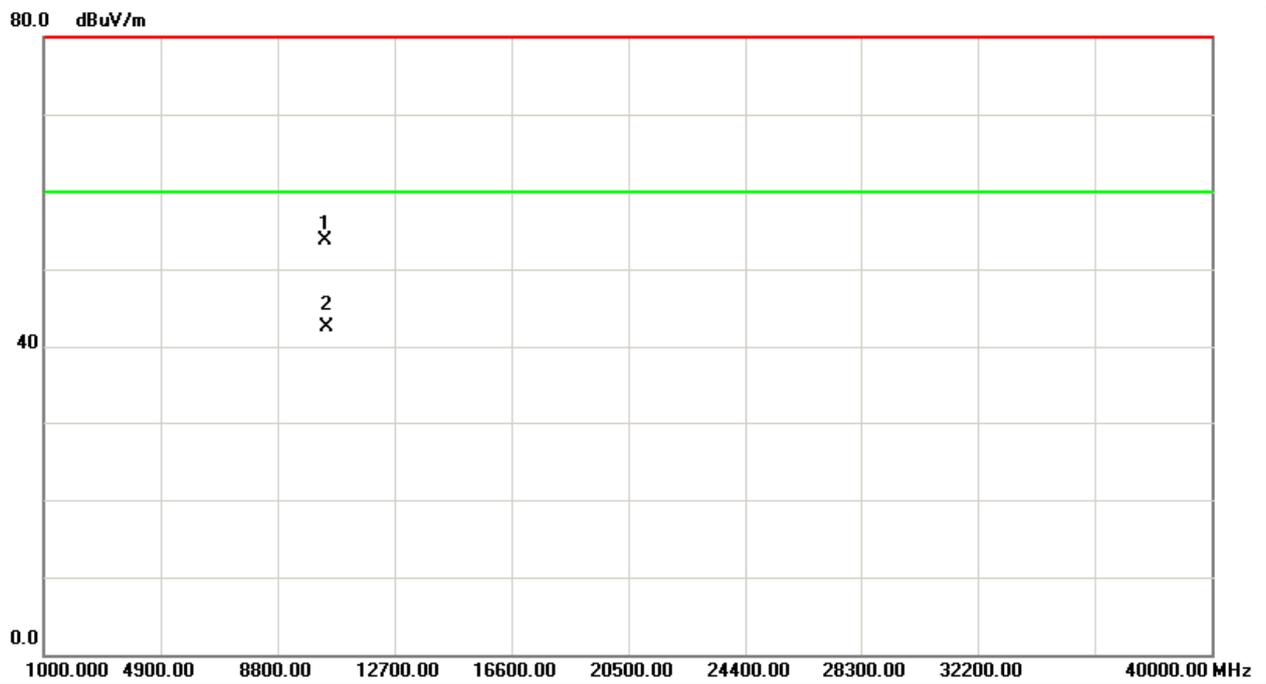
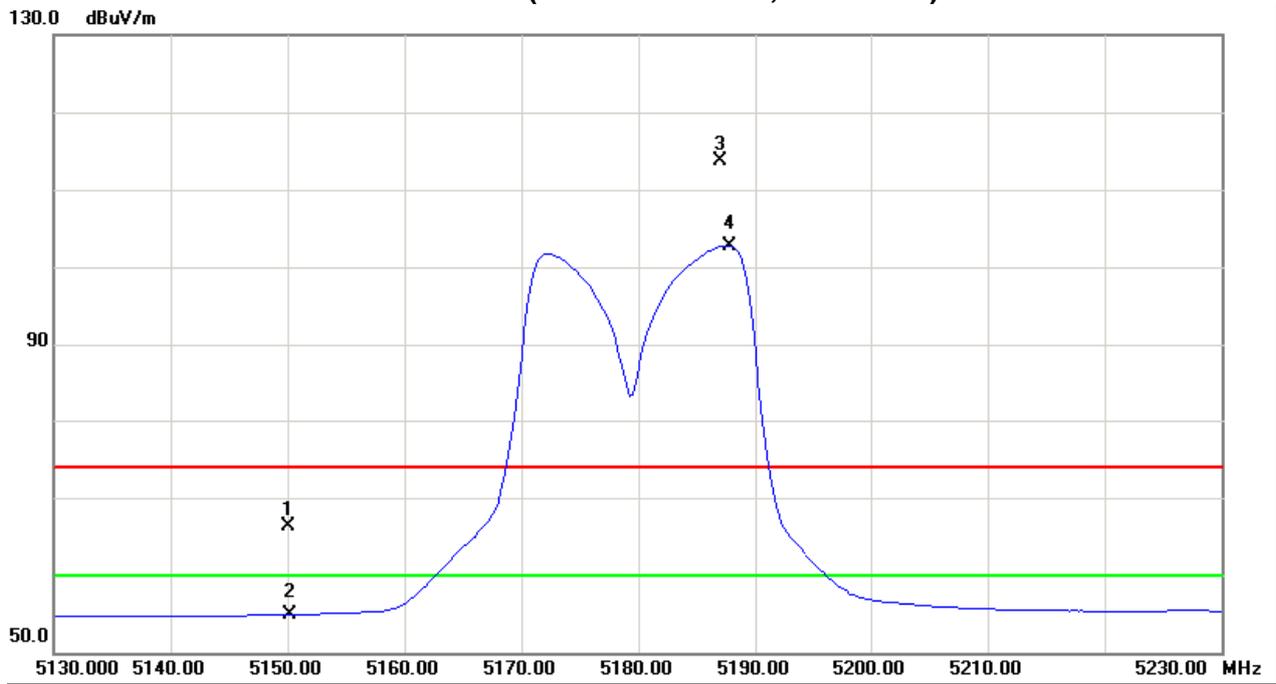
Freq. (MHz)	Ant.Pol. HV	Reading		Ant./CF CF(dB)	Act.(dBuV/m)		Act.(dBm)		Limit(dBuV/m)		Limit(dBm)		Note
		Peak (dBuV)	AV (dBuV)		Peak	AV	Peak	AV	Peak	AV	Peak	AV	
5150.00	H	26.12	14.82	40.09	66.21	54.91	-38.56	-49.86	80.00	60.00	-24.77	-44.77	X/E
5187.00	H	73.44	62.53	40.19	113.63	102.72	8.86	-2.05					X/F
10360.10	H	40.05	28.79	13.73	53.78	42.52	-50.99	-62.25	74.30		-27.00		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.
- (9) The limits above 5GHz shall be extrapolated to the specified distance using an extrapolation factor of 20dB/decade form 3m to 1.5m
 Distance extrapolation factor = 20 log (3m/1.5m) dB ;
 Limit line = specific limits (dBuV) + 6 dB



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





EUT :	Indoor Wireless AP	Model Name :	ZXV10 W812N V2
Temperature :	25 ° C	Relative Humidity :	58 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	Band 1/ TX N20 Mode 5200MHz		

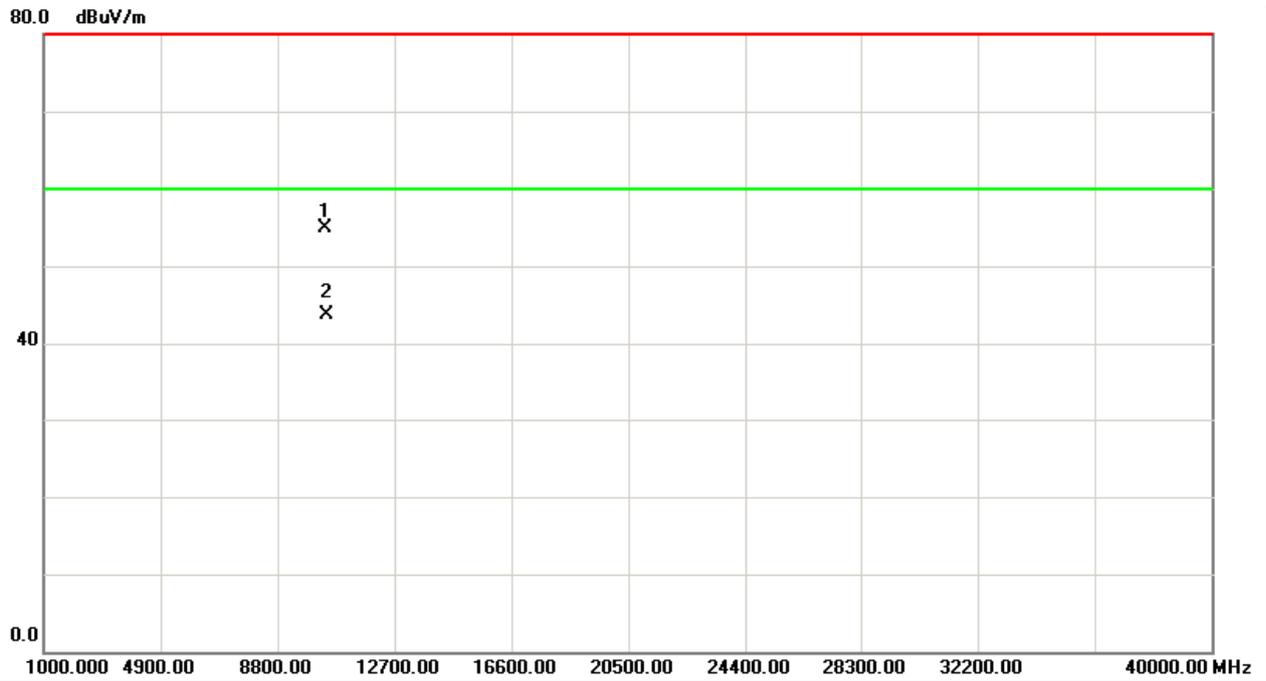
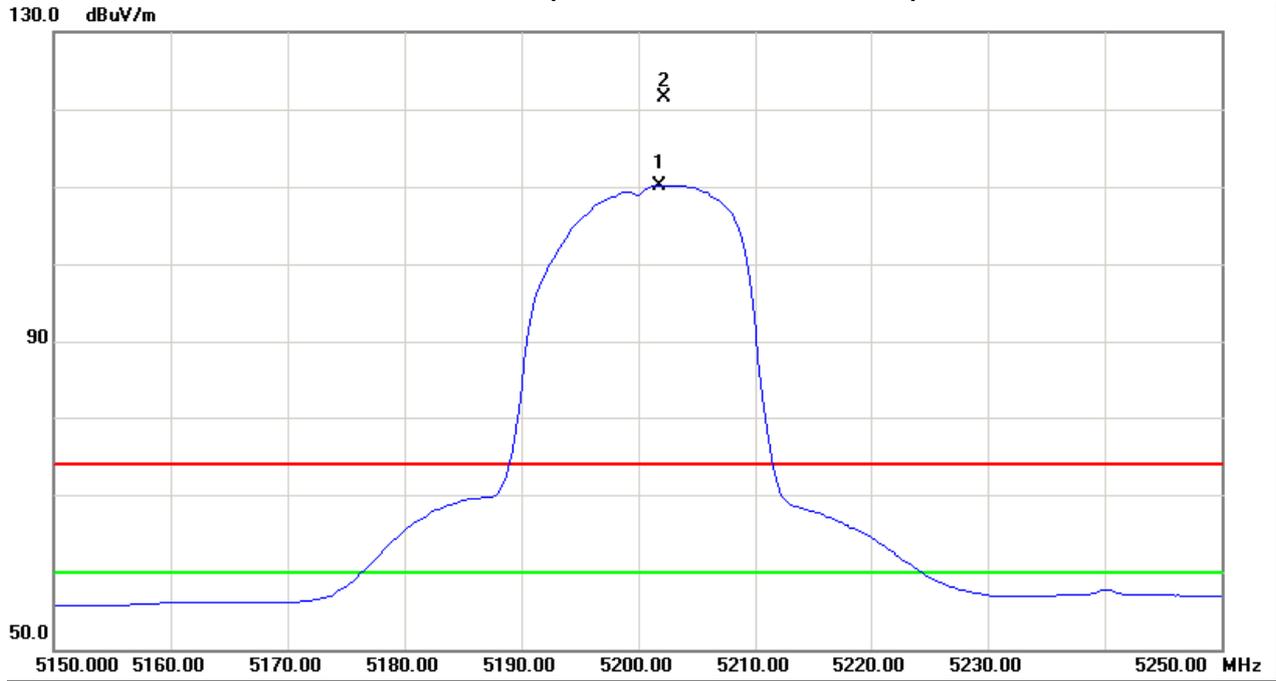
Freq. (MHz)	Ant.Pol. HV	Reading		Ant./CF CF(dB)	Act.(dBuV/m)		Act.(dBm)		Limit(dBuV/m)		Limit(dBm)		Note
		Peak (dBuV)	AV (dBuV)		Peak	AV	Peak	AV	Peak	AV	Peak	AV	
5202.25	V	81.27	69.97	40.22	121.49	110.19	16.72	5.42					X/F
10399.88	V	41.05	29.86	13.78	54.83	43.64	-49.94	-61.13	74.30		-27.00		X/H

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.
- (9) The limits above 5GHz shall be extrapolated to the specified distance using an extrapolation factor of 20dB/decade form 3m to 1.5m
Distance extrapolation factor = 20 log (3m/1.5m) dB ;
Limit line = specific limits (dBuV) + 6 dB



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





EUT :	Indoor Wireless AP	Model Name :	ZXV10 W812N V2
Temperature :	25 °C	Relative Humidity :	58 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	Band 1/ TX N20 Mode 5200MHz		

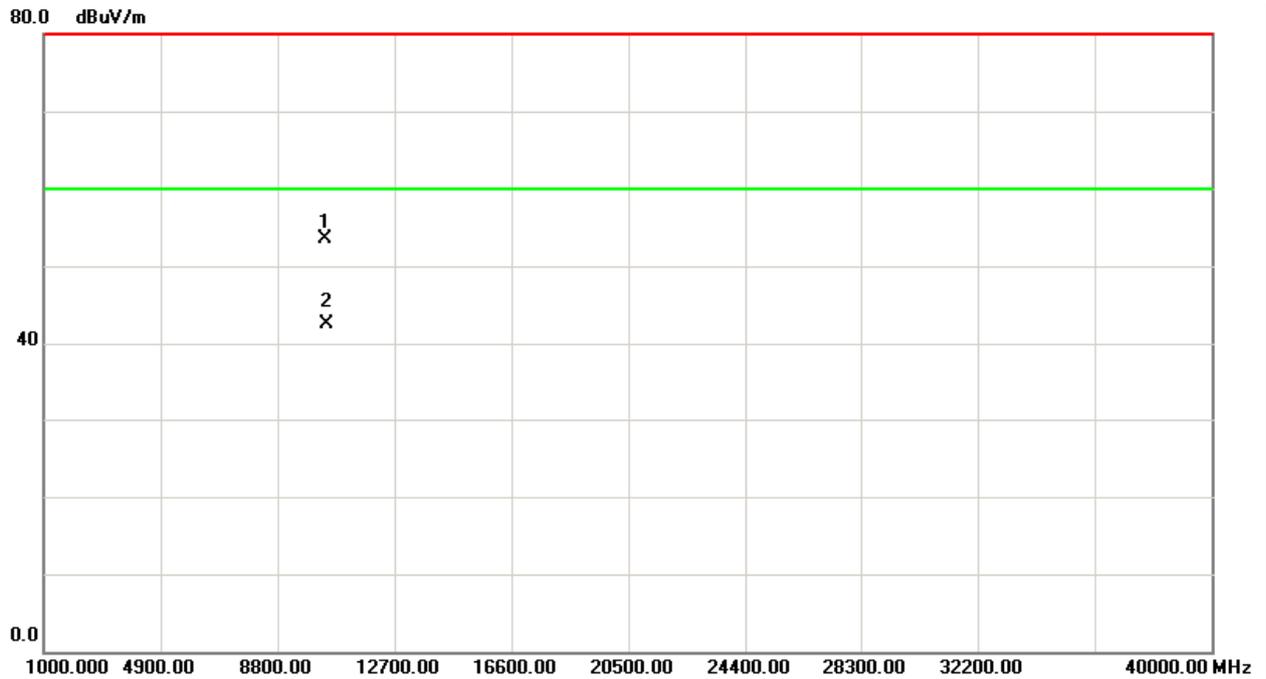
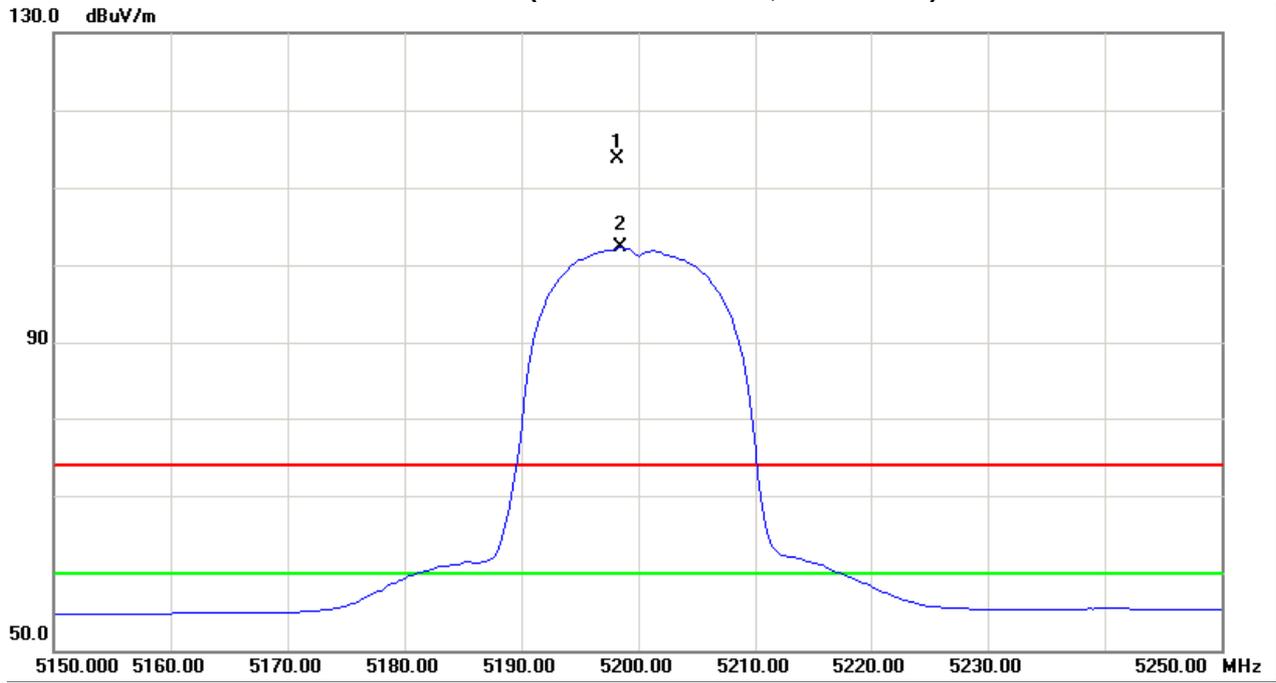
Freq. (MHz)	Ant.Pol. HV	Reading		Ant./CF CF(dB)	Act.(dBUV/m)		Act.(dBm)		Limit(dBUV/m)		Limit(dBm)		Note
		Peak (dBUV)	AV (dBUV)		Peak	AV	Peak	AV	Peak	AV	Peak	AV	
5198.25	H	73.57	62.07	40.22	113.79	102.29	9.02	-2.48					X/F
10400.12	H	39.69	28.75	13.78	53.47	42.53	-51.30	-62.24	74.30		-27.00		X/H

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.
- (9) The limits above 5GHz shall be extrapolated to the specified distance using an extrapolation factor of 20dB/decade form 3m to 1.5m
 Distance extrapolation factor = 20 log (3m/1.5m) dB ;
 Limit line = specific limits (dBUV) + 6 dB



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





EUT :	Indoor Wireless AP	Model Name :	ZXV10 W812N V2
Temperature :	25 ° C	Relative Humidity :	52 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	Band 1/ TX N20 Mode 5240MHz		

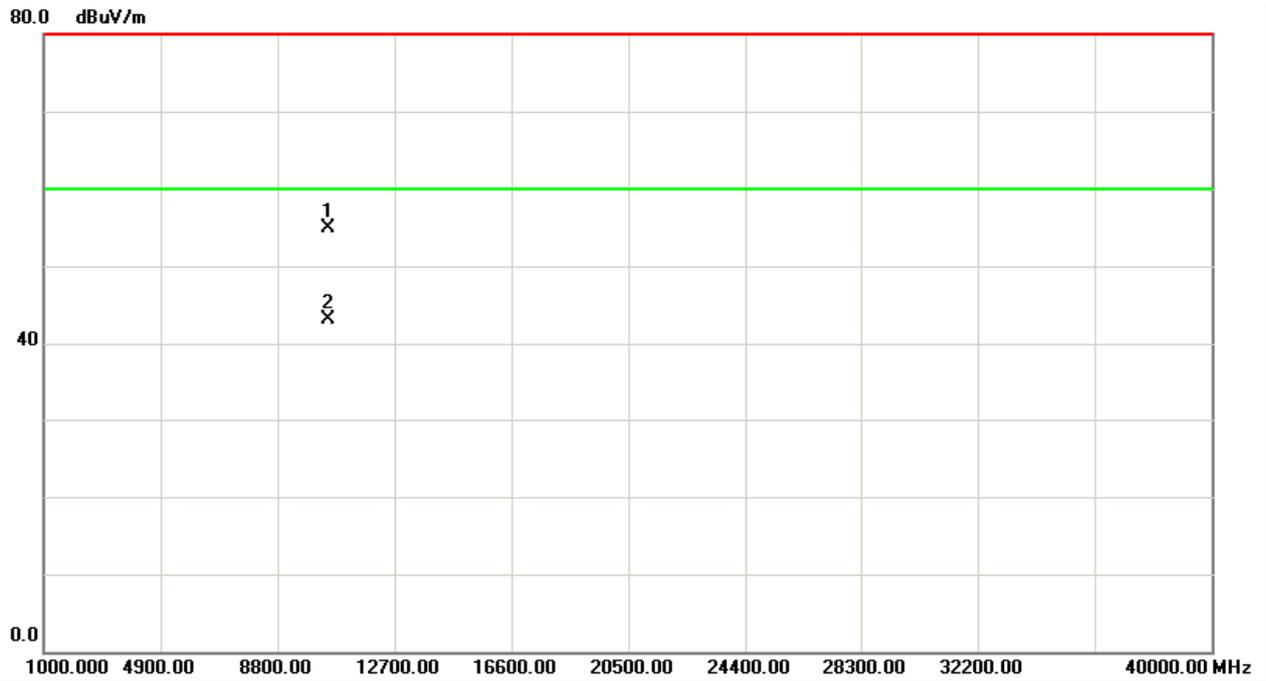
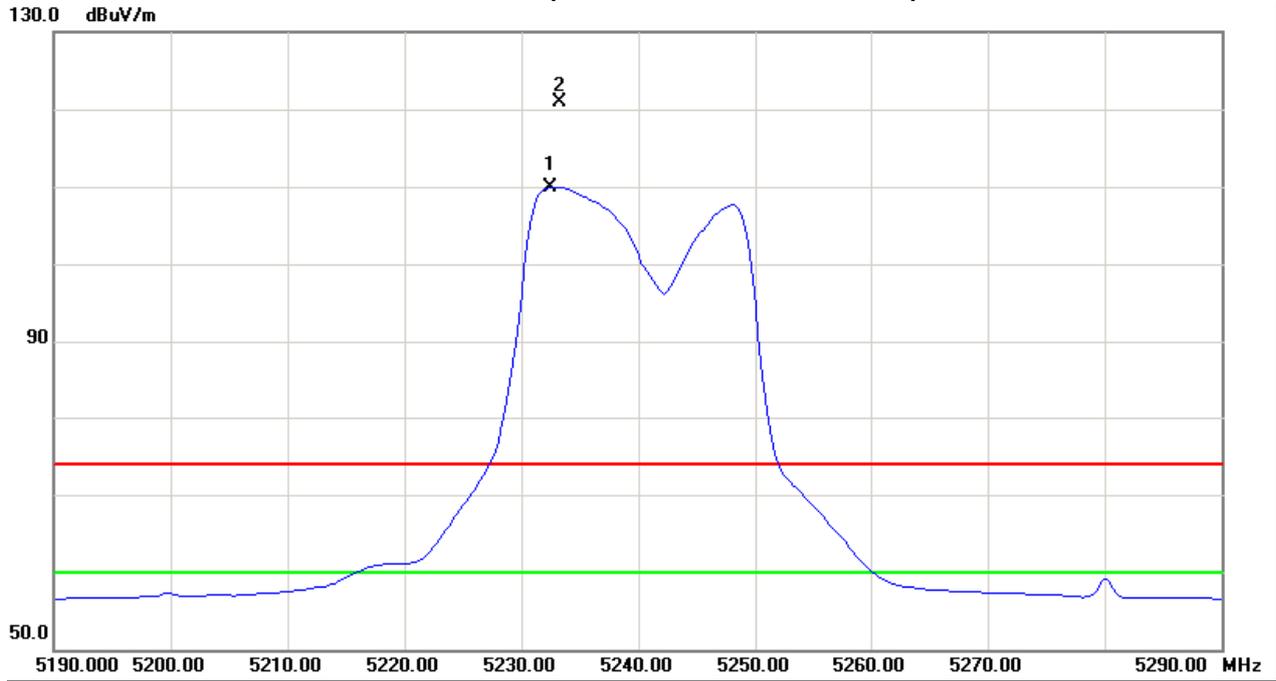
Freq. (MHz)	Ant. Pol. HV	Reading		Ant./CF CF(dB)	Act.(dBuV/m)		Act.(dBm)		Limit(dBuV/m)		Limit(dBm)		Note
		Peak (dBuV)	AV (dBuV)		Peak	AV	Peak	AV	Peak	AV	Peak	AV	
5233.25	V	80.55	69.57	40.31	120.86	109.88	16.09	5.11					X/F
10480.12	V	40.95	29.30	13.87	54.82	43.17	-49.95	-61.60	74.30		-27.00		X/H

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.
- (9) The limits above 5GHz shall be extrapolated to the specified distance using an extrapolation factor of 20dB/decade form 3m to 1.5m
Distance extrapolation factor = 20 log (3m/1.5m) dB ;
Limit line = specific limits (dBuV) + 6 dB



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





EUT :	Indoor Wireless AP	Model Name :	ZXV10 W812N V2
Temperature :	25 ° C	Relative Humidity :	52 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	Band 1/ TX N20 Mode 5240MHz		

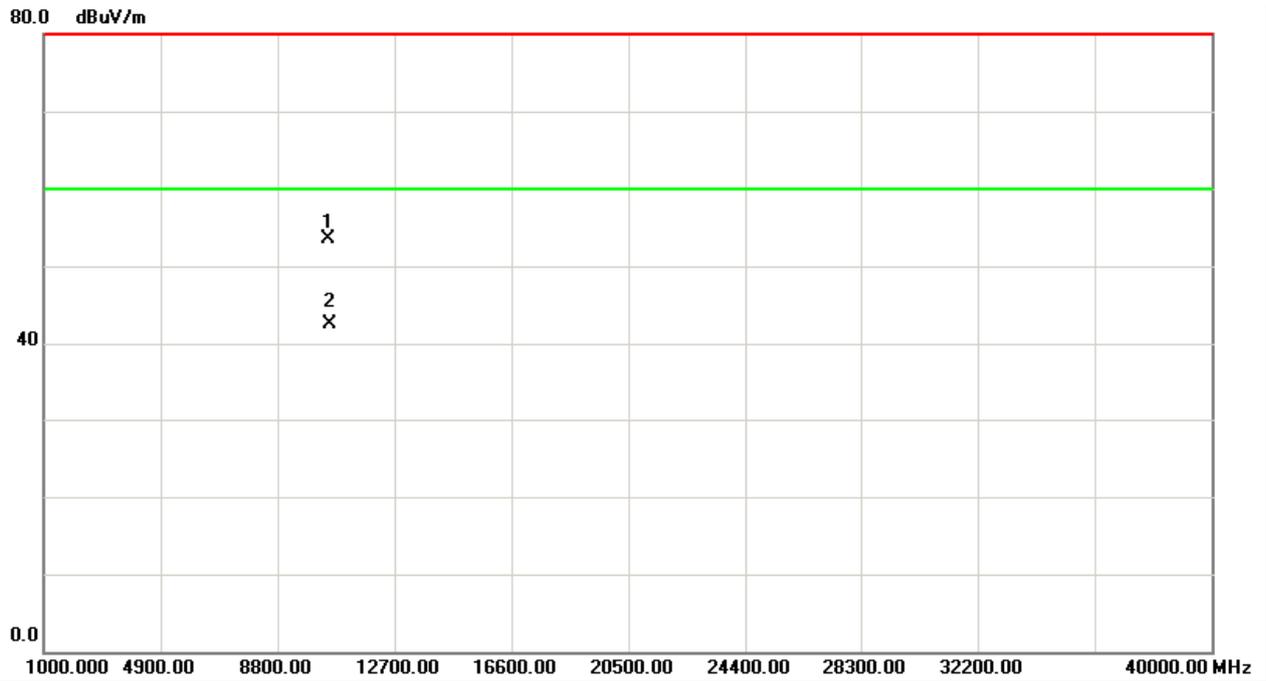
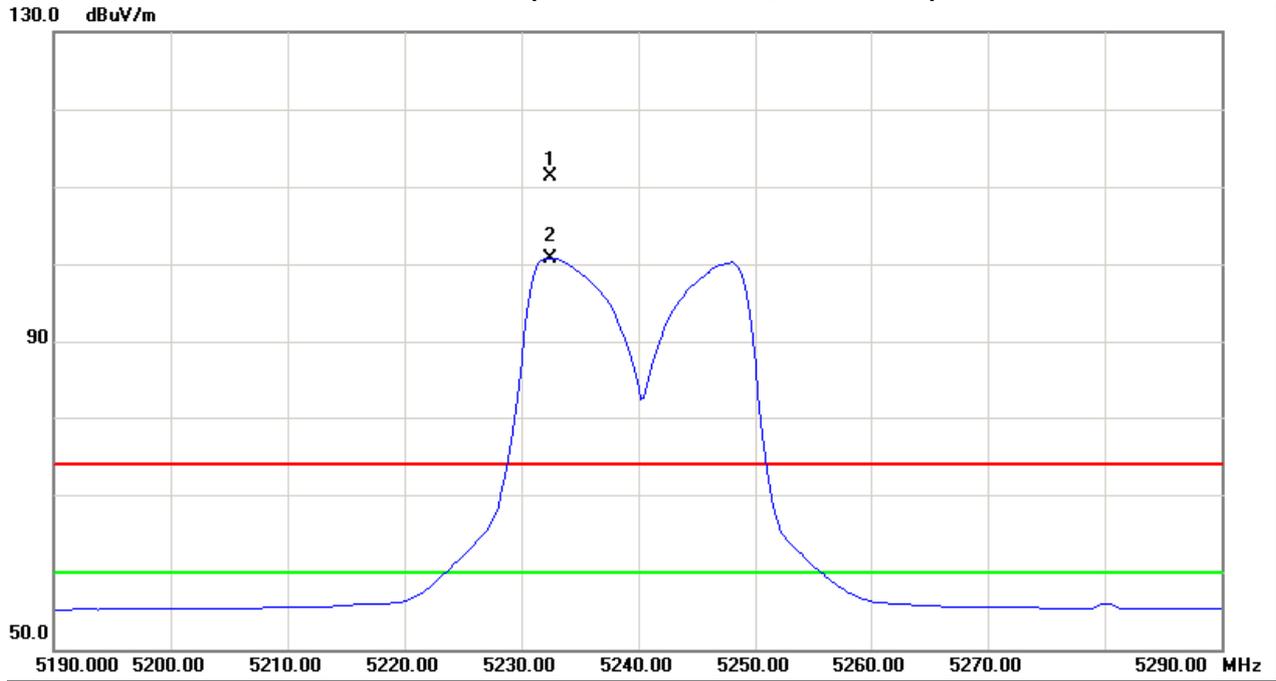
Freq. (MHz)	Ant.Pol. HV	Reading		Ant./CF CF(dB)	Act.(dBuV/m)		Act.(dBm)		Limit(dBuV/m)		Limit(dBm)		Note
		Peak (dBuV)	AV (dBuV)		Peak	AV	Peak	AV	Peak	AV	Peak	AV	
5232.50	H	70.95	60.44	40.31	111.26	100.75	6.49	-4.02					X/F
10479.84	H	39.57	28.68	13.87	53.44	42.55	-51.33	-62.22	74.30		-27.00		X/H

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.
- (9) The limits above 5GHz shall be extrapolated to the specified distance using an extrapolation factor of 20dB/decade form 3m to 1.5m
Distance extrapolation factor = 20 log (3m/1.5m) dB ;
Limit line = specific limits (dBuV) + 6 dB



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





Neutron Engineering Inc.

EUT :	Indoor Wireless AP	Model Name :	ZXV10 W812N V2
Temperature :	25 ° C	Relative Humidity :	58 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	Band 1/ TX N40 Mode 5190MHz		

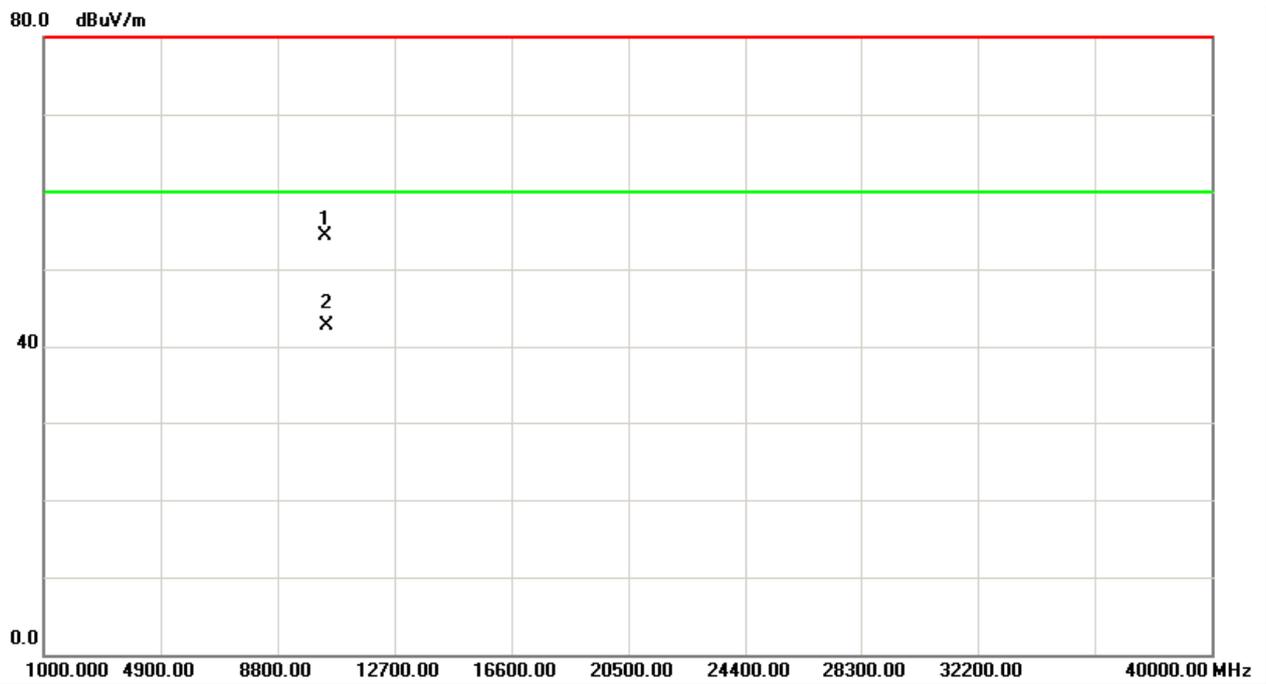
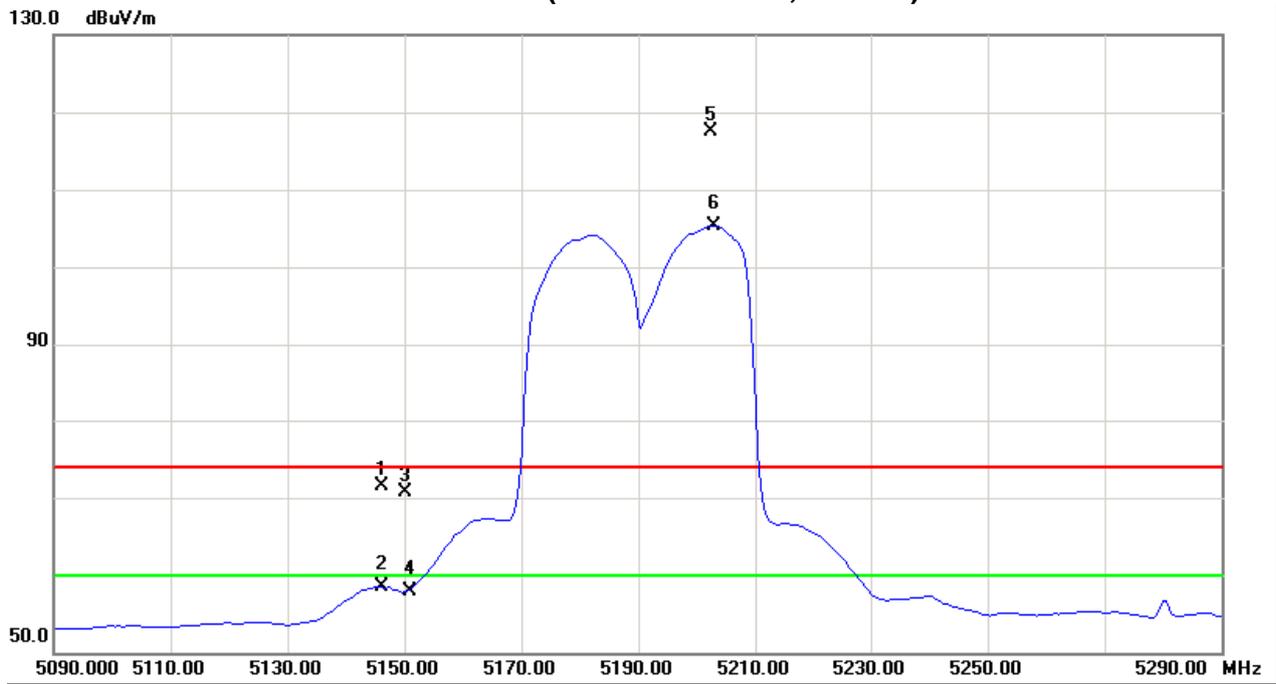
Freq. (MHz)	Ant. Pol. HV	Reading		Ant./CF CF(dB)	Act.(dBuV/m)		Act.(dBm)		Limit(dBuV/m)		Limit(dBm)		Note
		Peak (dBuV)	AV (dBuV)		Peak	AV	Peak	AV	Peak	AV	Peak	AV	
5146.00	V	31.52	18.41	40.08	71.60	58.49	-33.17	-46.28	80.00	60.00	-24.77	-44.77	X/E
5150.00	V	30.67	17.74	40.09	70.76	57.83	-34.01	-46.94	80.00	60.00	-24.77	-44.77	X/E
5202.50	V	77.30	65.06	40.22	117.52	105.28	12.75	0.51					X/F
10380.18	V	40.52	29.04	13.76	54.28	42.80	-50.49	-61.97	74.30		-27.00		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.
- (9) The limits above 5GHz shall be extrapolated to the specified distance using an extrapolation factor of 20dB/decade form 3m to 1.5m
Distance extrapolation factor = $20 \log (3m/1.5m)$ dB ;
Limit line = specific limits (dBuV) + 6 dB



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





Neutron Engineering Inc.

EUT :	Indoor Wireless AP	Model Name :	ZXV10 W812N V2
Temperature :	25 °C	Relative Humidity :	58 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	Band 1/ TX N40 Mode 5190MHz		

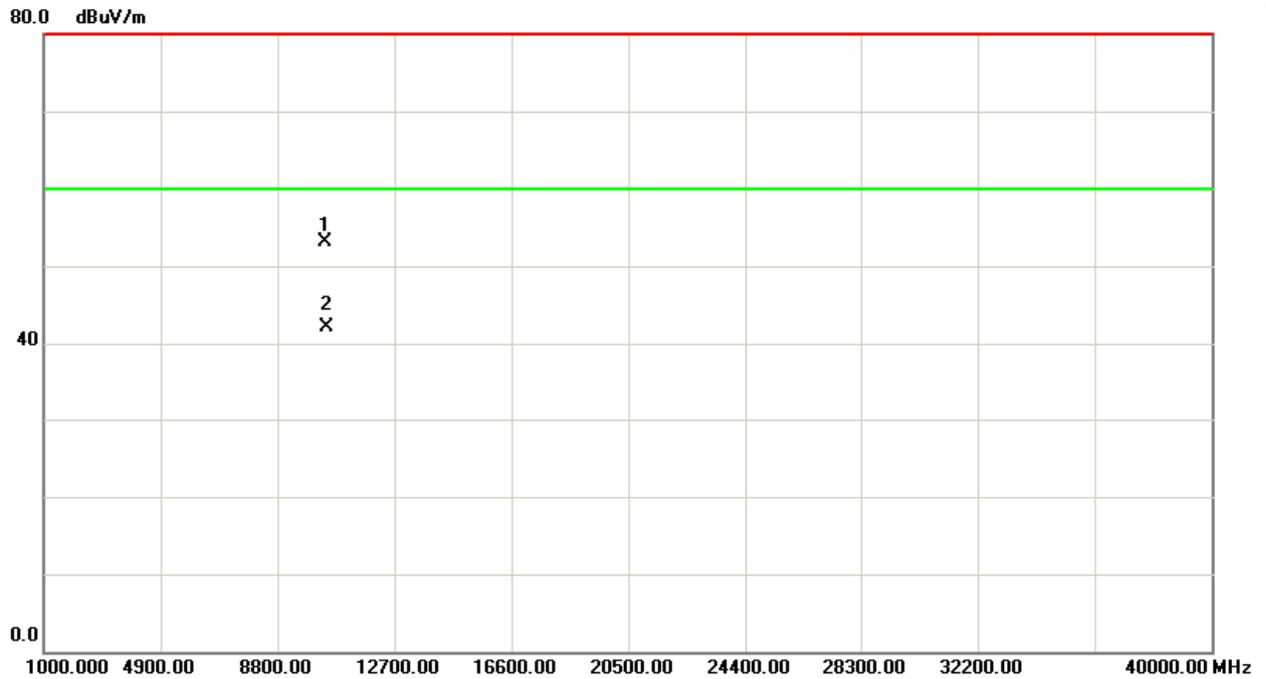
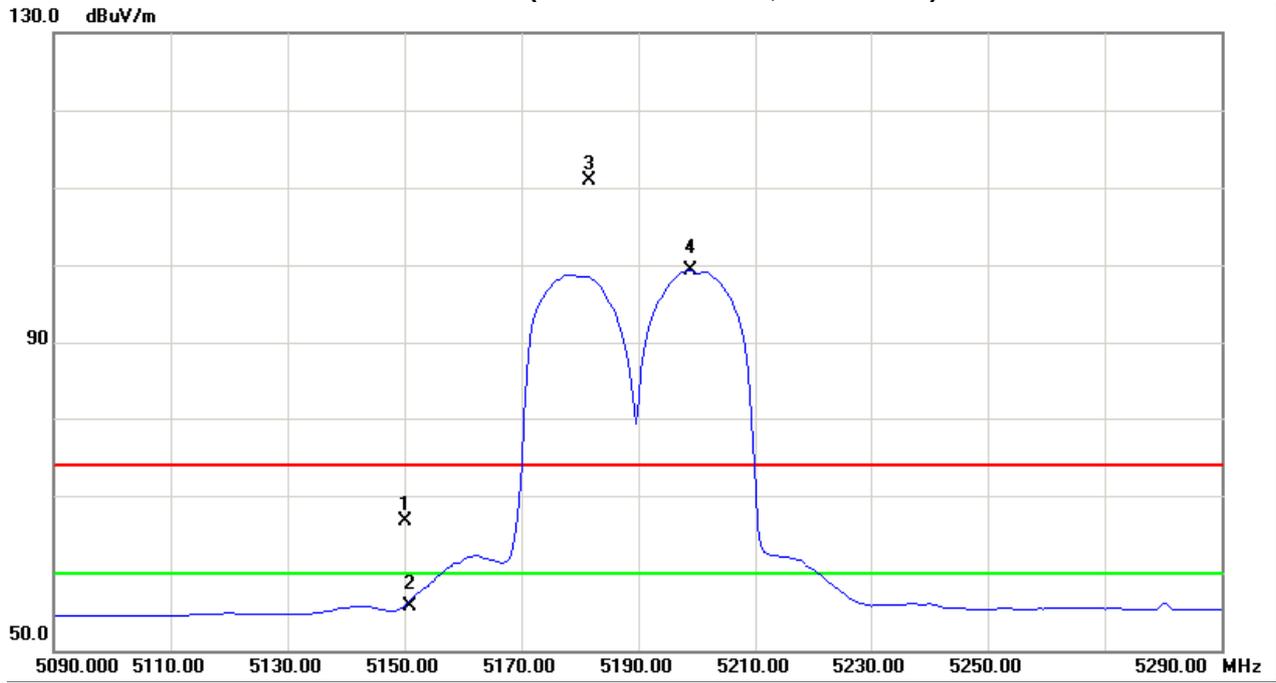
Freq. (MHz)	Ant.Pol. HV	Reading		Ant./CF CF(dB)	Act.(dBuV/m)		Act.(dBm)		Limit(dBuV/m)		Limit(dBm)		Note
		Peak (dBuV)	AV (dBuV)		Peak	AV	Peak	AV	Peak	AV	Peak	AV	
5150.00	H	26.65	15.60	40.09	66.74	55.69	-38.03	-49.08	80.00	60.00	-24.77	-44.77	X/E
5181.50	H	70.79	59.00	40.18	110.97	99.18	6.20	-5.59					X/F
10380.20	H	39.42	28.40	13.76	53.18	42.16	-51.59	-62.61	74.30		-27.00		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.
- (9) The limits above 5GHz shall be extrapolated to the specified distance using an extrapolation factor of 20dB/decade form 3m to 1.5m
Distance extrapolation factor = $20 \log (3m/1.5m)$ dB ;
Limit line = specific limits (dBuV) + 6 dB



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





EUT :	Indoor Wireless AP	Model Name :	ZXV10 W812N V2
Temperature :	25 ° C	Relative Humidity :	52 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	Band 1/ TX N40 Mode 5230MHz		

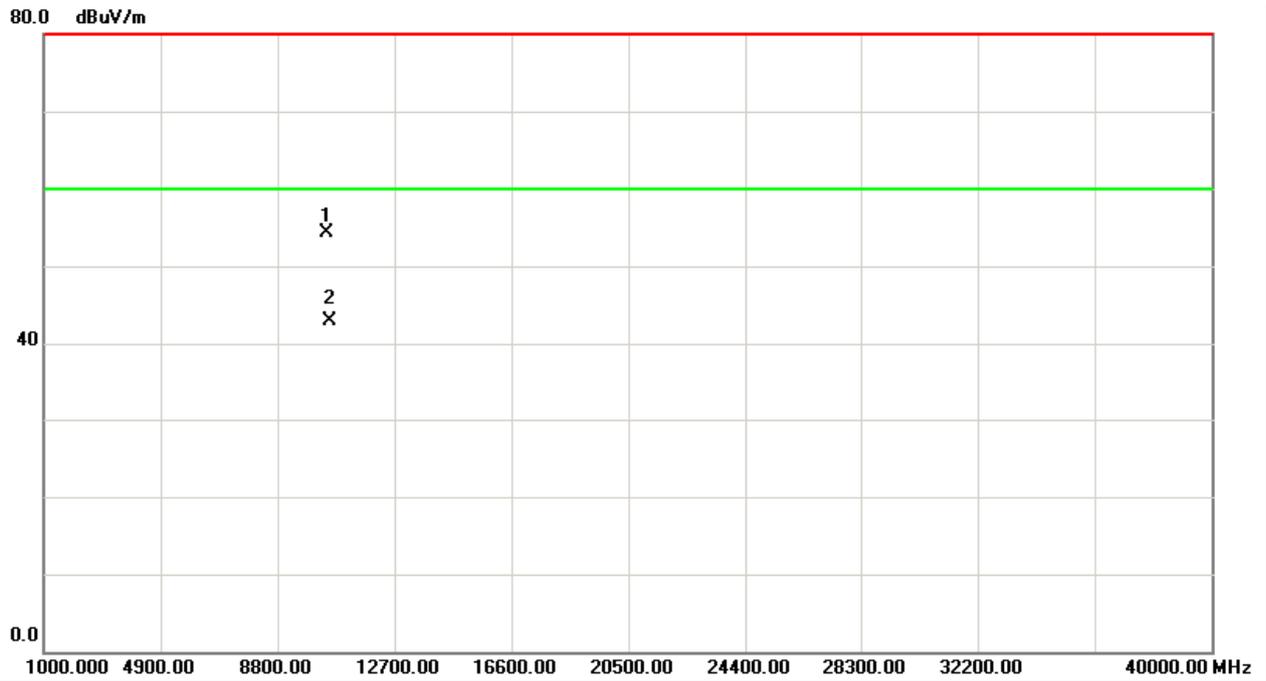
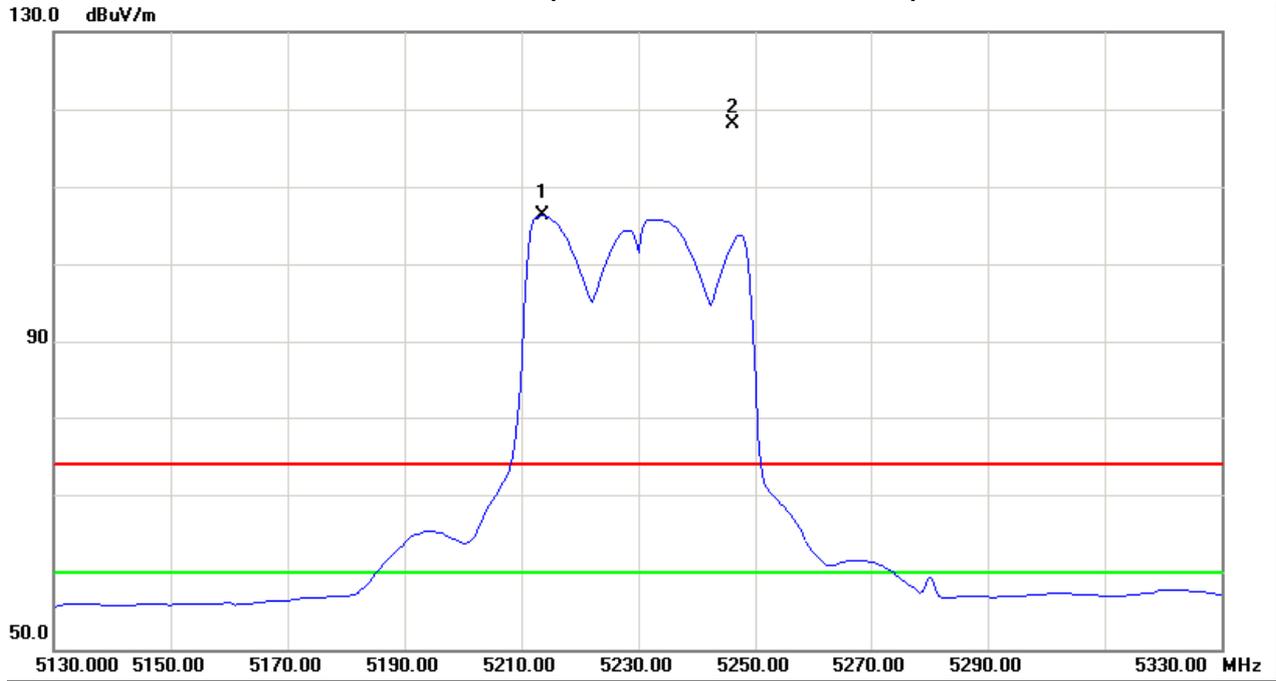
Freq. (MHz)	Ant. Pol. HV	Reading		Ant./CF CF(dB)	Act.(dBuV/m)		Act.(dBm)		Limit(dBuV/m)		Limit(dBm)		Note
		Peak (dBuV)	AV (dBuV)		Peak	AV	Peak	AV	Peak	AV	Peak	AV	
5246.00	V	77.71	65.96	40.25	117.96	106.21	13.19	1.44					X/F
10460.05	V	40.43	29.02	13.85	54.28	42.87	-50.49	-61.90	74.30		-27.00		X/H

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.
- (9) The limits above 5GHz shall be extrapolated to the specified distance using an extrapolation factor of 20dB/decade form 3m to 1.5m
Distance extrapolation factor = 20 log (3m/1.5m) dB ;
Limit line = specific limits (dBuV) + 6 dB



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





EUT :	Indoor Wireless AP	Model Name :	ZXV10 W812N V2
Temperature :	25 ° C	Relative Humidity :	52 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	Band 1/ TX N40 Mode 5230MHz		

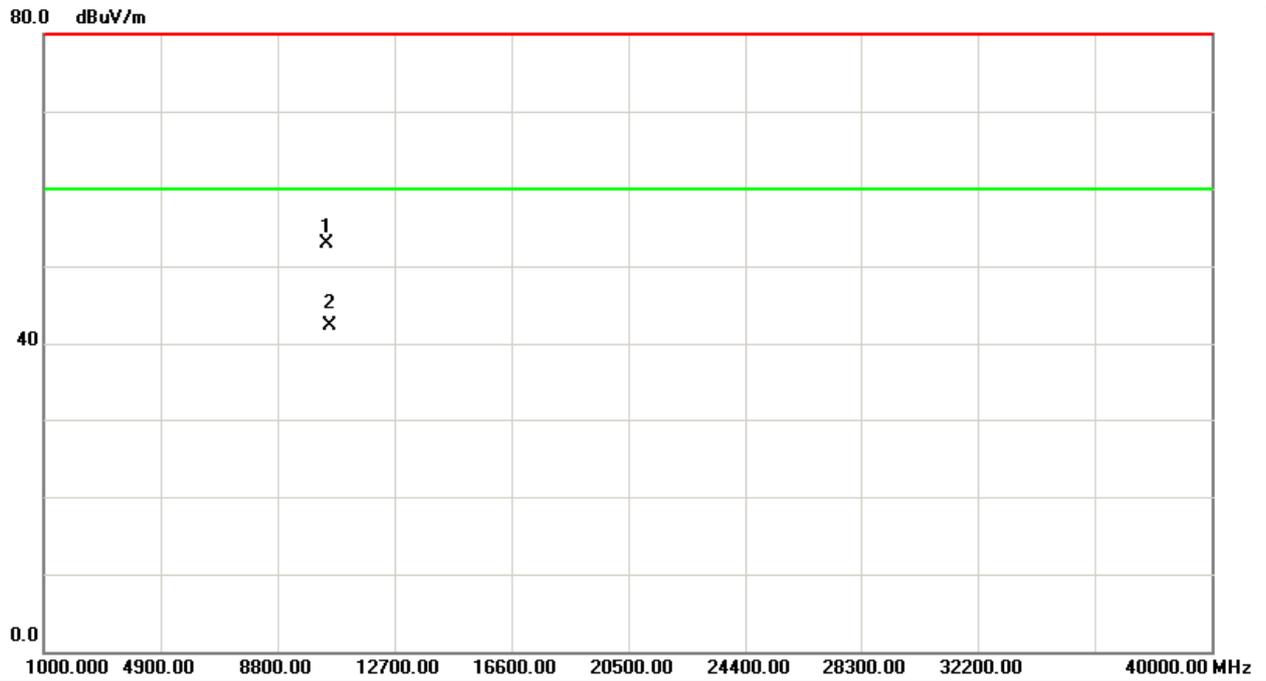
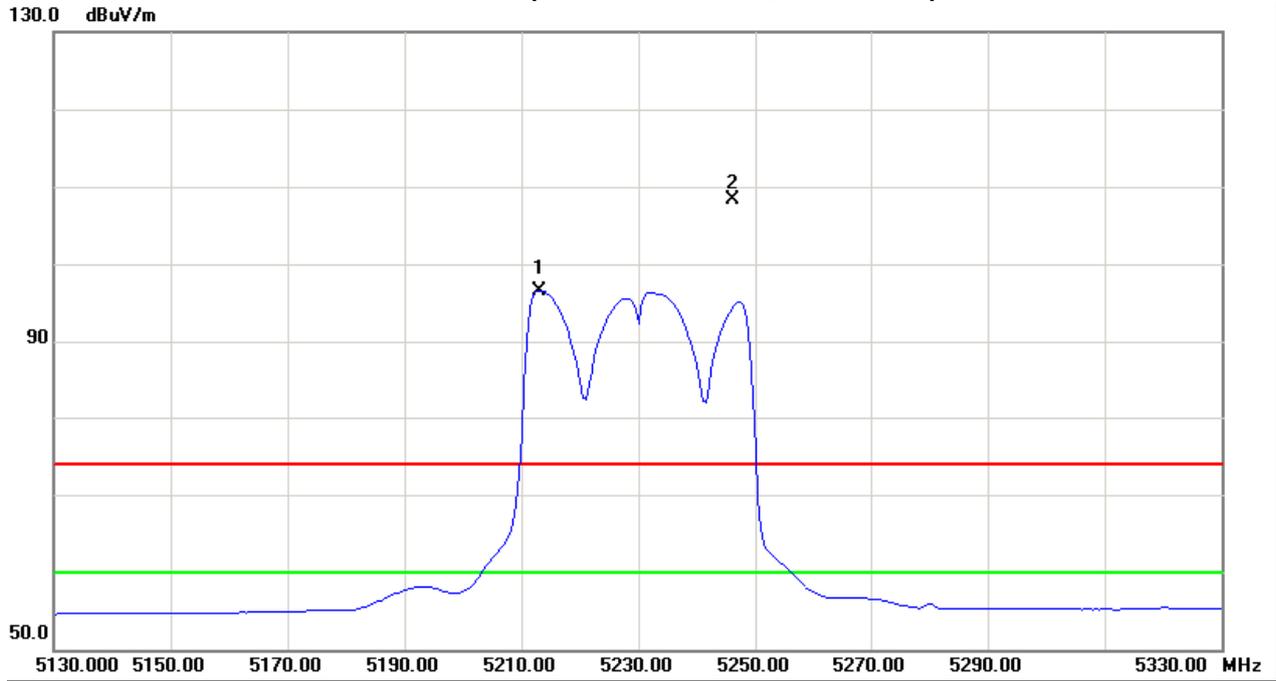
Freq. (MHz)	Ant.Pol. HV	Reading		Ant./CF CF(dB)	Act.(dBuV/m)		Act.(dBm)		Limit(dBuV/m)		Limit(dBm)		Note
		Peak (dBuV)	AV (dBuV)		Peak	AV	Peak	AV	Peak	AV	Peak	AV	
5246.00	H	68.05	56.34	40.34	108.39	96.68	3.62	-8.09					X/F
10460.16	H	39.05	28.48	13.85	52.90	42.33	-51.87	-62.44	74.30		-27.00		X/H

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.
- (9) The limits above 5GHz shall be extrapolated to the specified distance using an extrapolation factor of 20dB/decade form 3m to 1.5m
Distance extrapolation factor = 20 log (3m/1.5m) dB ;
Limit line = specific limits (dBuV) + 6 dB



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.25.2013

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	100 kHz
VB	300 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

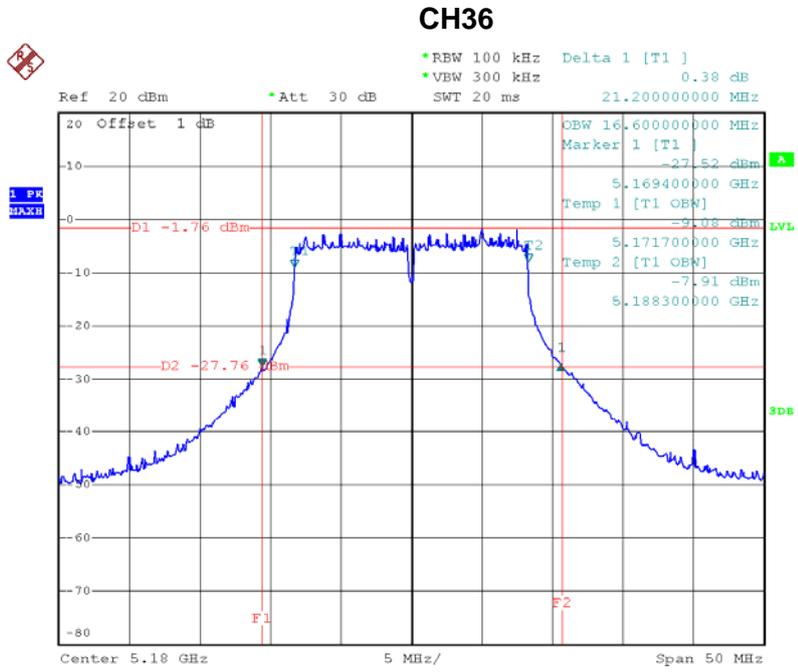
The EUT tested system was configured as the statements of 4.1.6 Unless otherwise a special operating condition is specified in the follows during the testing.



5.1.6 TEST RESULTS

EUT :	Indoor Wireless AP	Model Name :	ZXV10 W812N V2
Temperature :	25 °C	Relative Humidity :	58 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	Band 1/TX A Mode /CH36, CH40, CH48-ANT A		

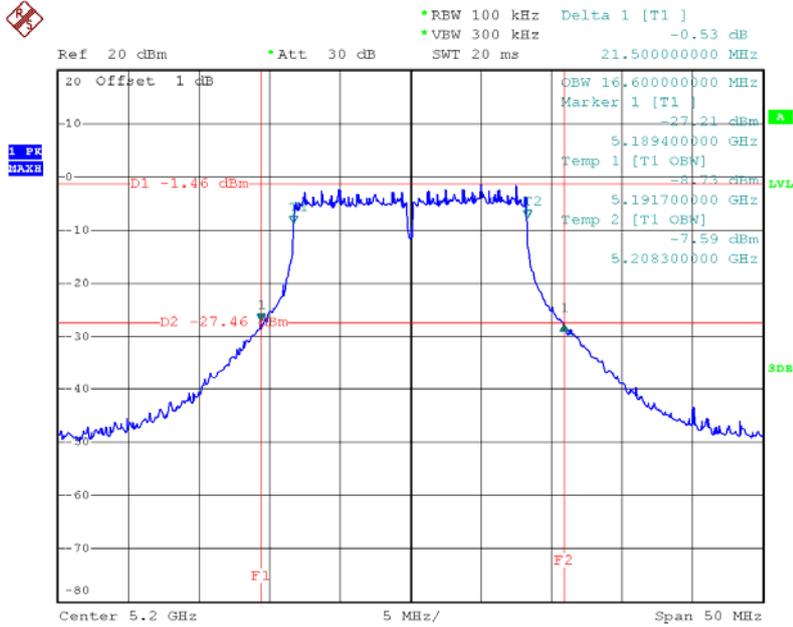
Channel	Frequency (MHz)	26dB Bandwidth (MHz)	Test Result
CH36	5180	21.20	PASS
CH40	5210	21.50	PASS
CH48	5240	21.50	PASS



Date: 17.MAR.2013 11:40:22

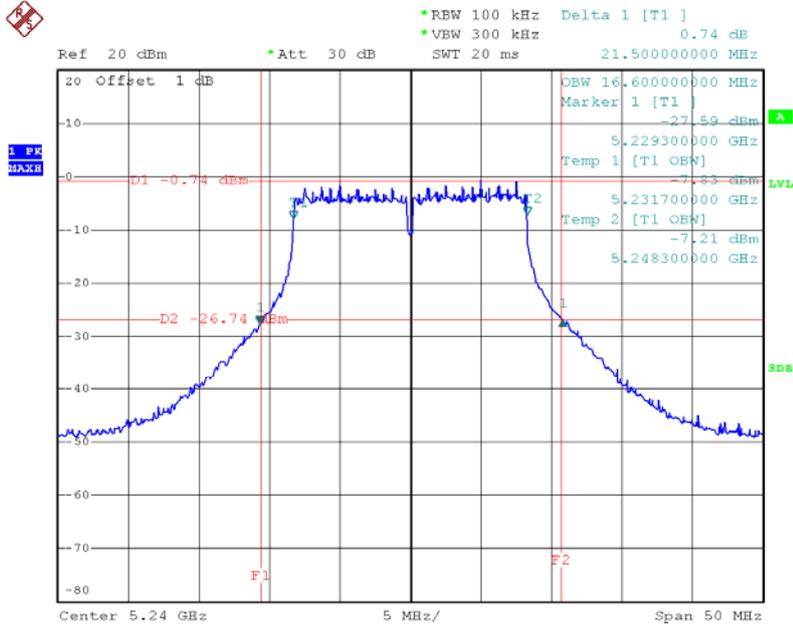


CH40



Date: 17.MAR.2013 11:41:21

CH48

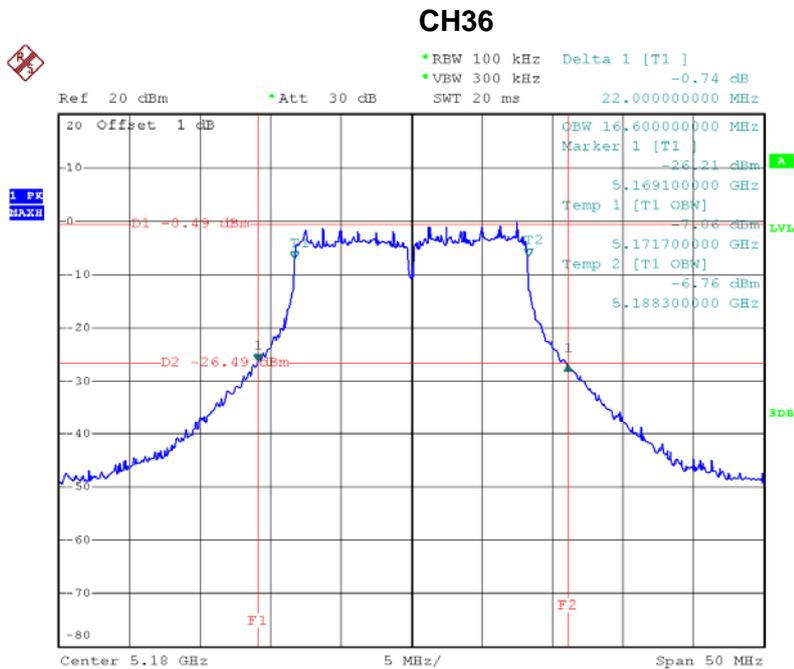


Date: 17.MAR.2013 11:42:59



EUT :	Indoor Wireless AP	Model Name :	ZXV10 W812N V2
Temperature :	25 °C	Relative Humidity :	58 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	Band 1/TX A Mode /CH36, CH40, CH48-ANT B		

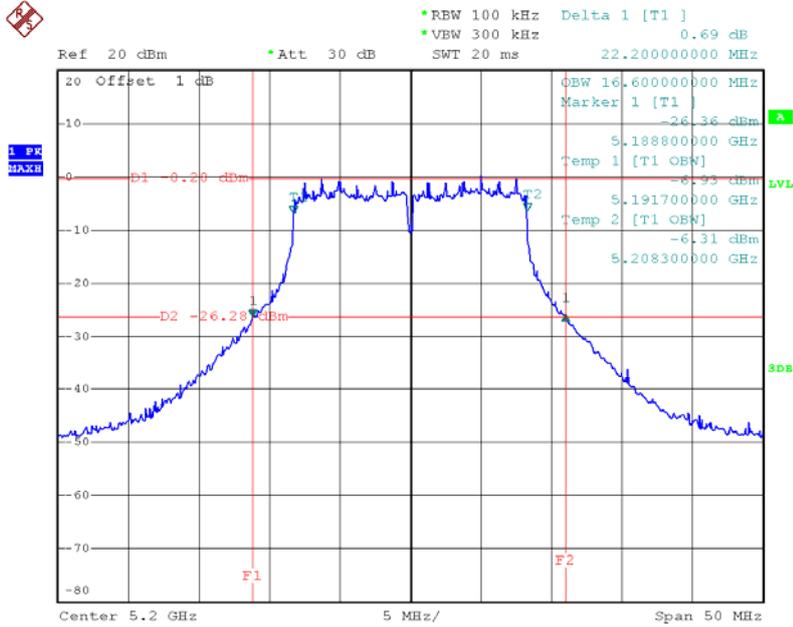
Channel	Frequency (MHz)	26dB Bandwidth (MHz)	Test Result
CH36	5180	22.00	PASS
CH40	5210	22.20	PASS
CH48	5240	21.50	PASS



Date: 17.MAR.2013 11:46:43

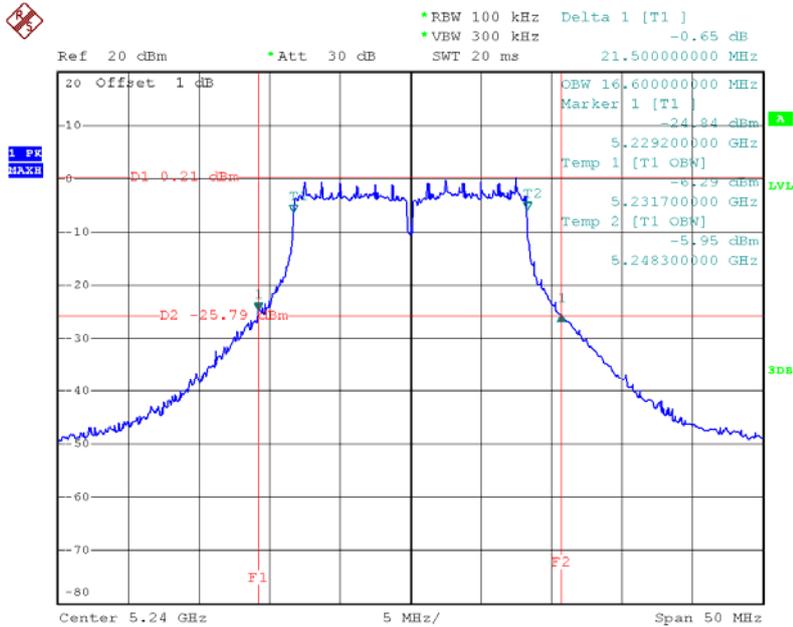


CH40



Date: 17.MAR.2013 11:45:42

CH48

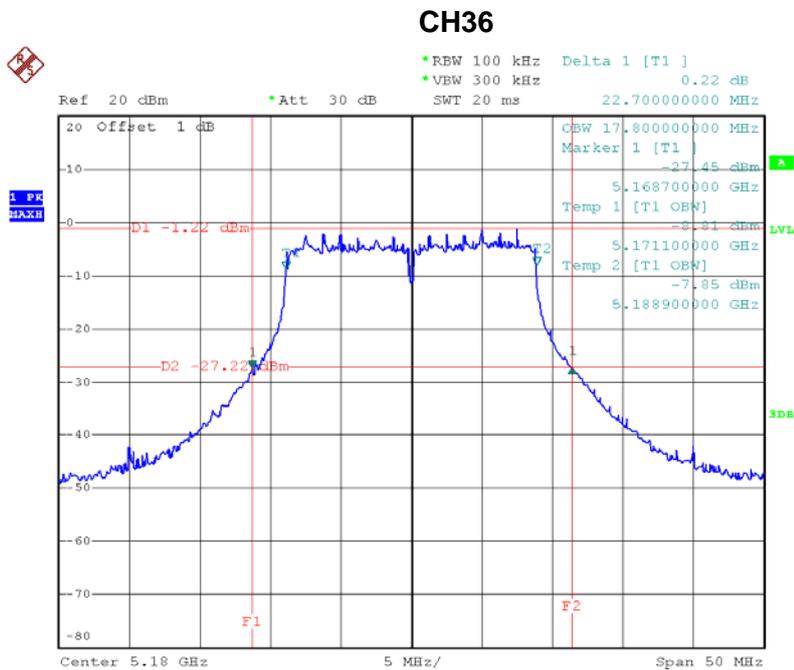


Date: 17.MAR.2013 11:44:00



EUT :	Indoor Wireless AP	Model Name :	ZXV10 W812N V2
Temperature :	25 °C	Relative Humidity :	58 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	Band 1/TXN20 Mode /CH36, CH40, CH48-ANT A		

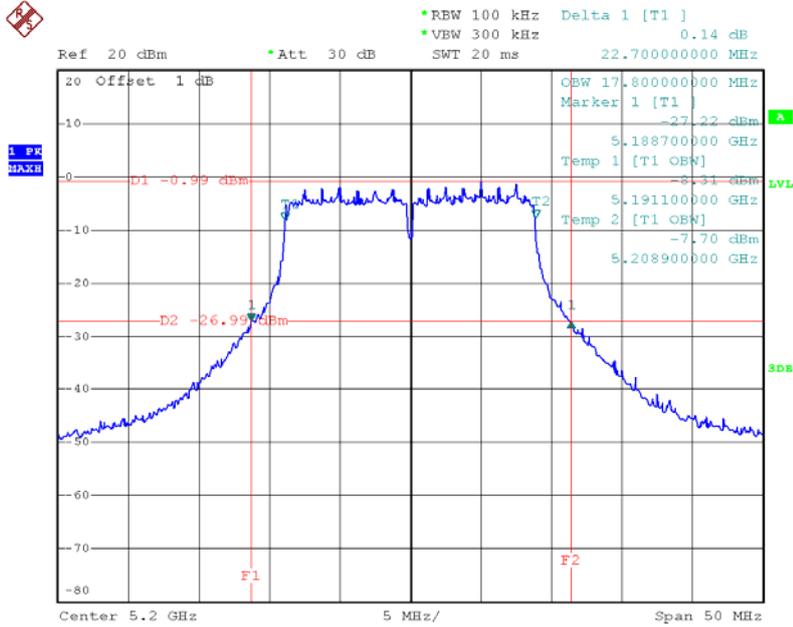
Channel	Frequency (MHz)	26dB Bandwidth (MHz)	Test Result
CH36	5180	22.70	PASS
CH40	5210	22.70	PASS
CH48	5240	22.10	PASS



Date: 17.MAR.2013 11:36:59

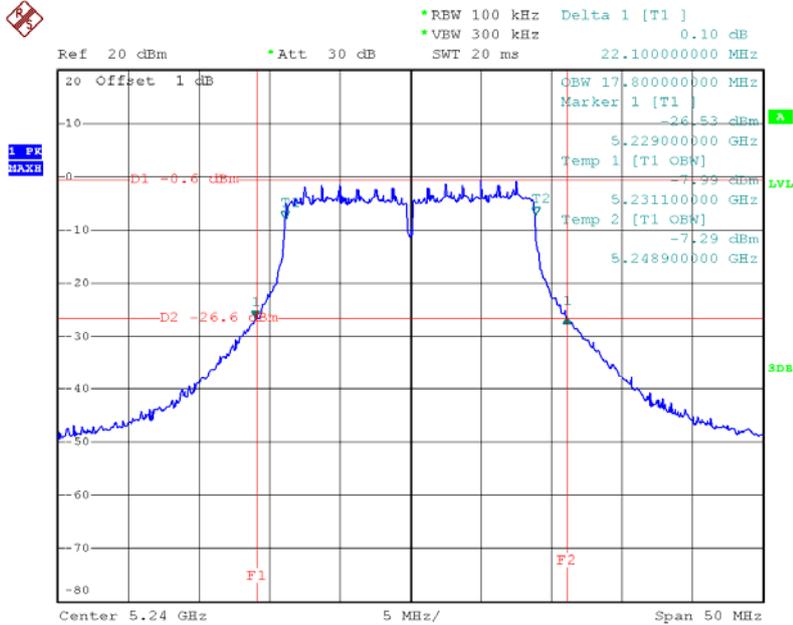


CH40



Date: 17.MAR.2013 11:36:00

CH48

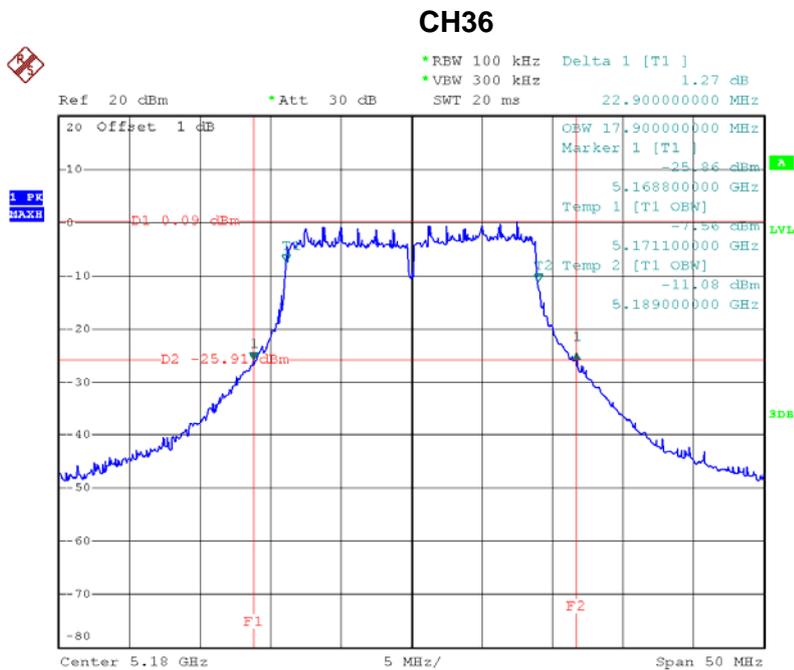


Date: 17.MAR.2013 11:34:26



EUT :	Indoor Wireless AP	Model Name :	ZXV10 W812N V2
Temperature :	25 °C	Relative Humidity :	58 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	Band 1/TXN20 Mode /CH36, CH40, CH48-ANT B		

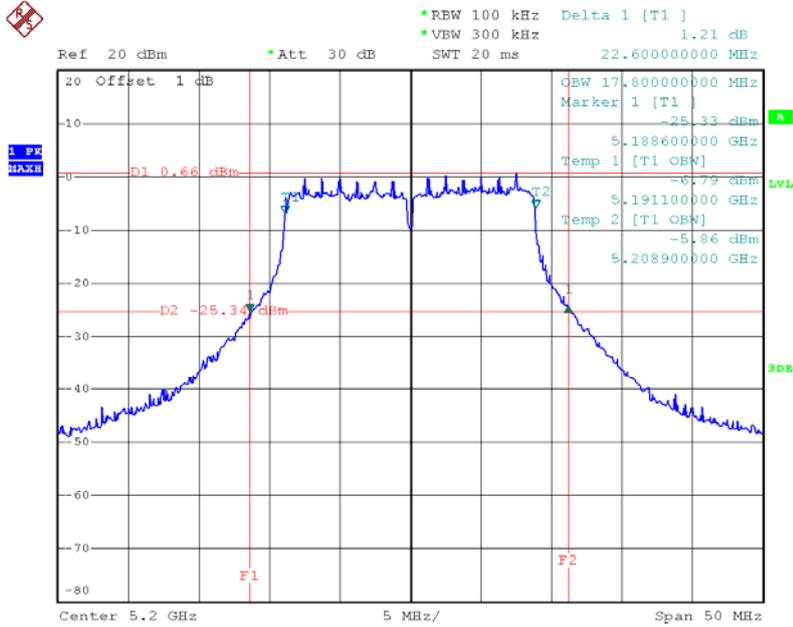
Channel	Frequency (MHz)	26dB Bandwidth (MHz)	Test Result
CH36	5180	22.90	PASS
CH40	5210	22.60	PASS
CH48	5240	22.70	PASS



Date: 17.MAR.2013 11:29:57

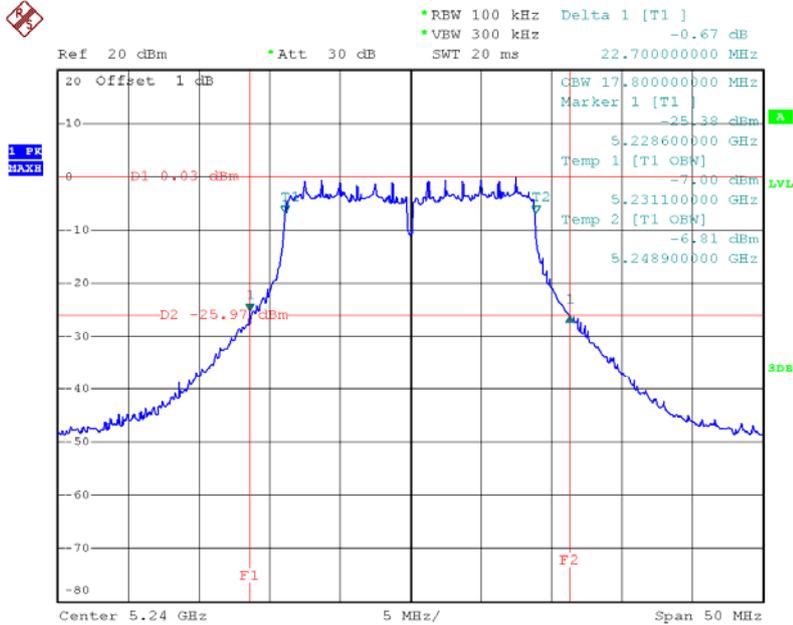


CH40



Date: 17.MAR.2013 11:31:43

CH48

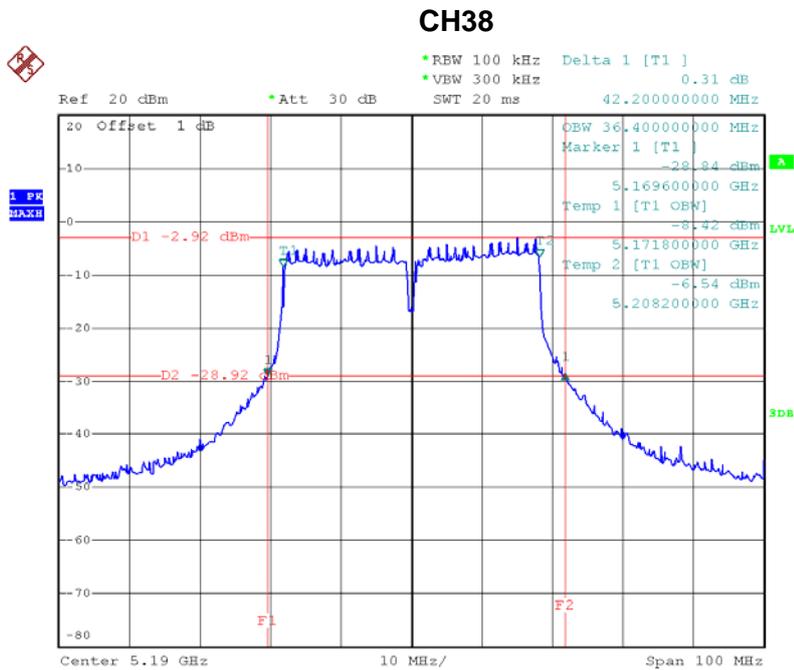


Date: 17.MAR.2013 11:33:10



EUT :	Indoor Wireless AP	Model Name :	ZXV10 W812N V2
Temperature :	25 °C	Relative Humidity :	58 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	Band 1/TXN40 Mode /CH38, CH46-ANT A		

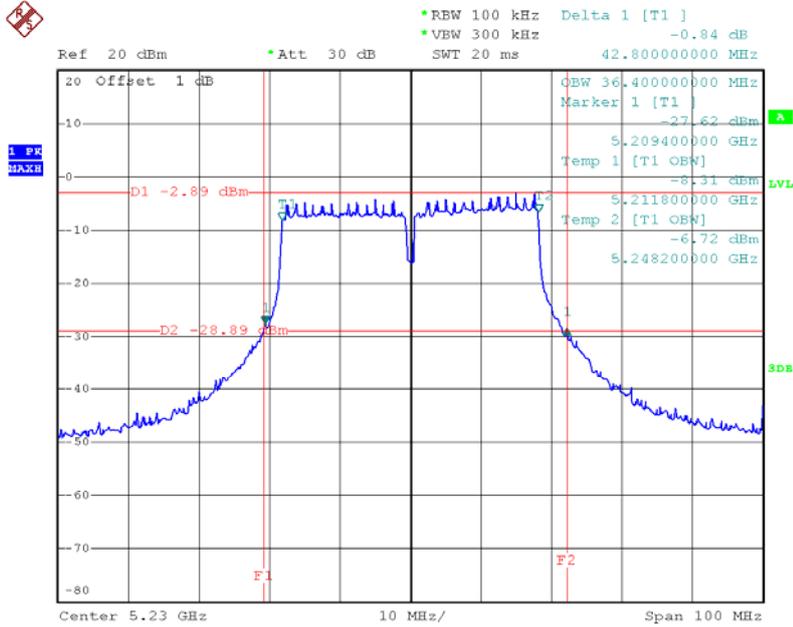
Channel	Frequency (MHz)	26dB Bandwidth (MHz)	Test Result
CH38	5190	42.20	PASS
CH46	5230	42.80	PASS



Date: 17.MAR.2013 11:25:22



CH46

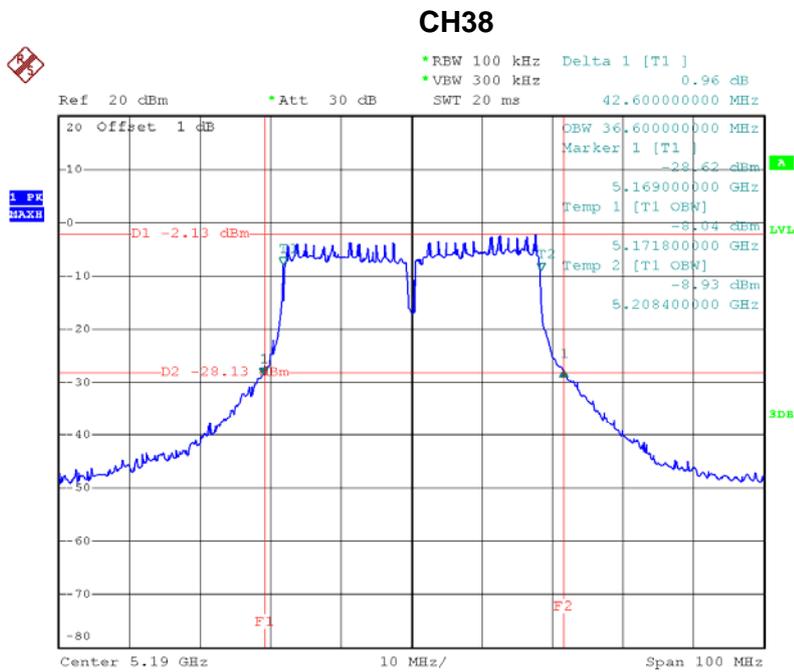


Date: 17.MAR.2013 11:24:05



EUT :	Indoor Wireless AP	Model Name :	ZXV10 W812N V2
Temperature :	25 °C	Relative Humidity :	58 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	Band 1/TXN40 Mode /CH38, CH46-ANT B		

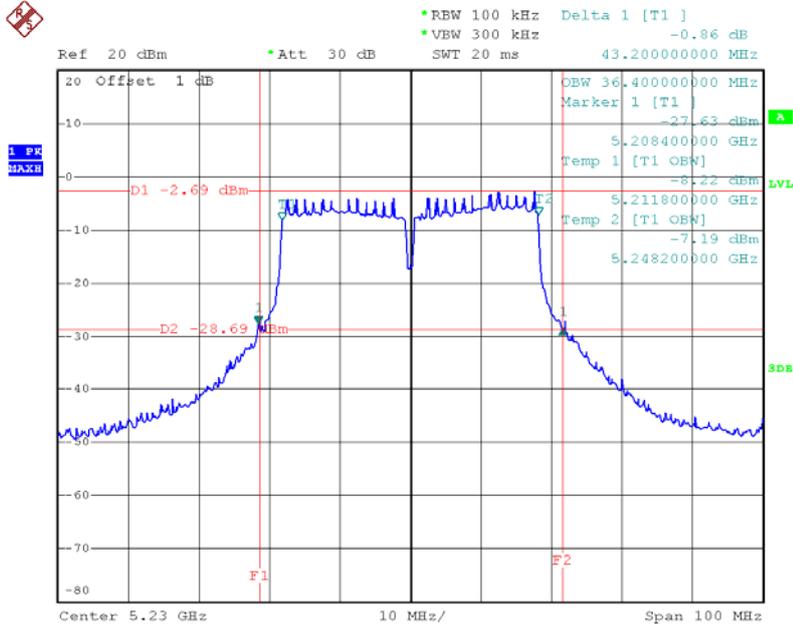
Channel	Frequency (MHz)	26dB Bandwidth (MHz)	Test Result
CH38	5190	42.60	PASS
CH46	5230	43.20	PASS



Date: 17.MAR.2013 11:26:36



CH46



Date: 17.MAR.2013 11:27:34



6. MAXIMUM CONDUCTED OUTPUT POWER

6.1 APPLIED PROCEDURES / LIMIT

FCC Part15, Subpart E			
Test Item	Frequency Range (MHz)	Limit	Result
Peak 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.25.2013

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	≥ 3 MHz.
Detector	RMS
Trace	Max Hold
Sweep Time	auto

- b. Test was performed in accordance with method of KDB 789033 D01.



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 :	Indoor Wireless AP	Model Name :	ZXV10 W812N V2
Temperature :	25 °C	Relative Humidity :	58 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	Band 1/TX A Mode/CH36, CH40, CH48		

Output Power

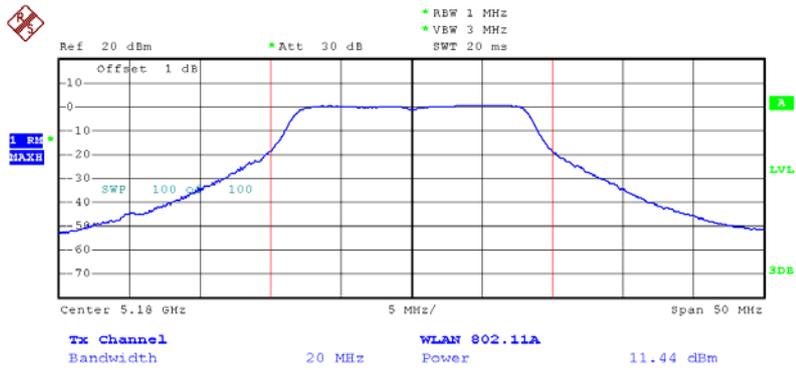
ANT A				
Test Channel	Frequency (MHz)	Output Power (dBm)	LIMIT (dBm)	LIMIT (W)
CH36	5180	11.44	17.00	0.0501
CH40	5200	11.41	17.00	0.0501
CH48	5240	11.71	17.00	0.0501

ANT B				
Test Channel	Frequency (MHz)	Output Power (dBm)	LIMIT (dBm)	LIMIT (W)
CH36	5180	11.34	17.00	0.0501
CH40	5200	11.93	17.00	0.0501
CH48	5240	11.68	17.00	0.0501

Total				
Test Channel	Frequency (MHz)	Output Power (dBm)	LIMIT (dBm)	LIMIT (W)
CH36	5180	14.40	17.00	0.0501
CH40	5200	14.69	17.00	0.0501
CH48	5240	14.71	17.00	0.0501

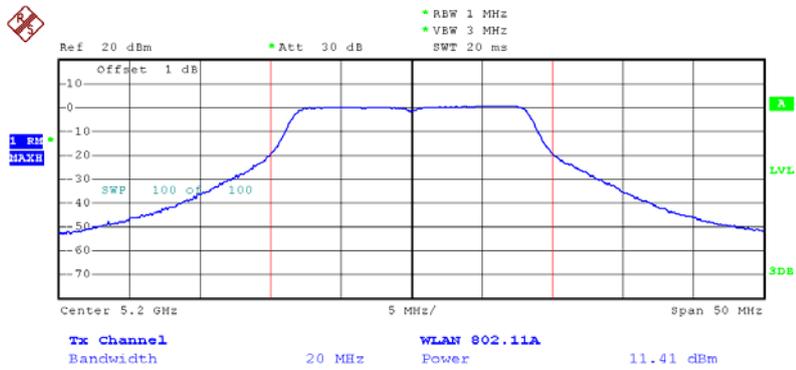


CH36-ANT A



Date: 17.MAR.2013 10:59:29

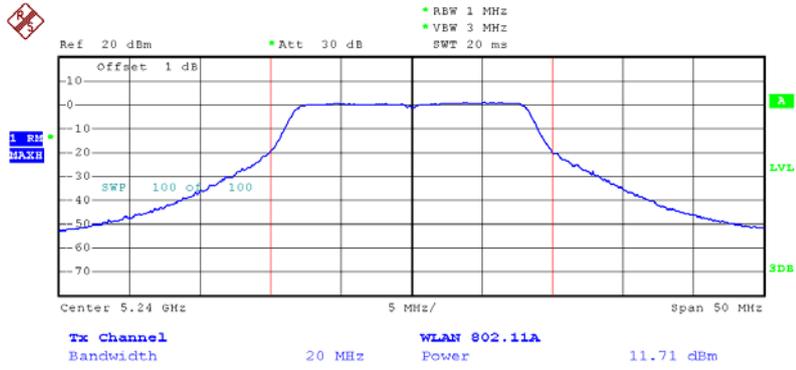
CH40-ANT A



Date: 17.MAR.2013 10:49:43

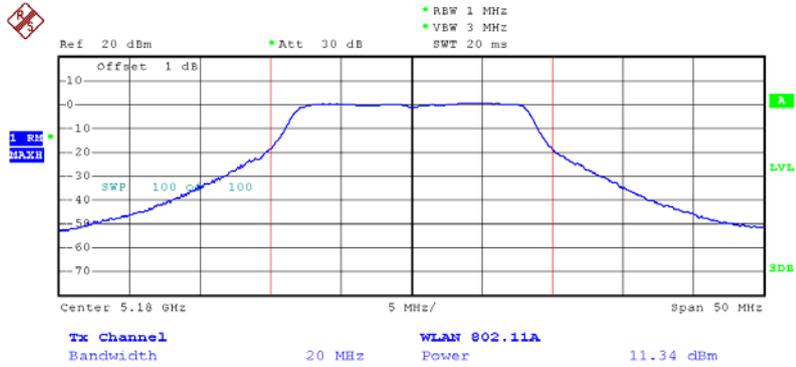


CH48-ANT A



Date: 17.MAR.2013 10:55:39

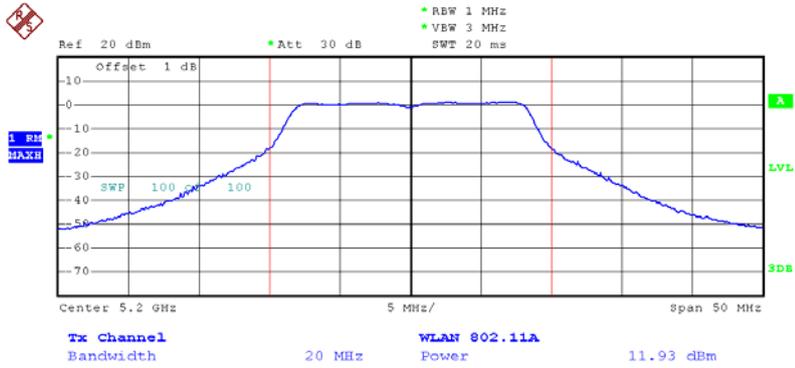
CH36-ANT B



Date: 17.MAR.2013 10:58:57

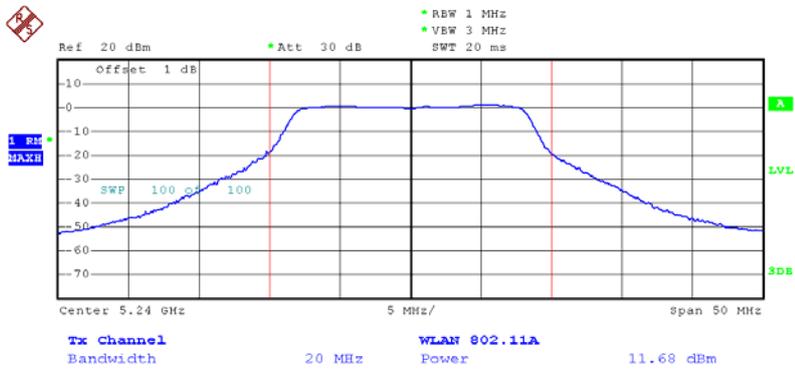


CH40-ANT B



Date: 17.MAR.2013 10:48:49

CH48-ANT B



Date: 17.MAR.2013 10:56:15



EUT :	Indoor Wireless AP	Model Name :	ZXV10 W812N V2
Temperature :	25 °C	Relative Humidity :	58 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	Band 1/TX N20 Mode/CH36, CH40, CH48		

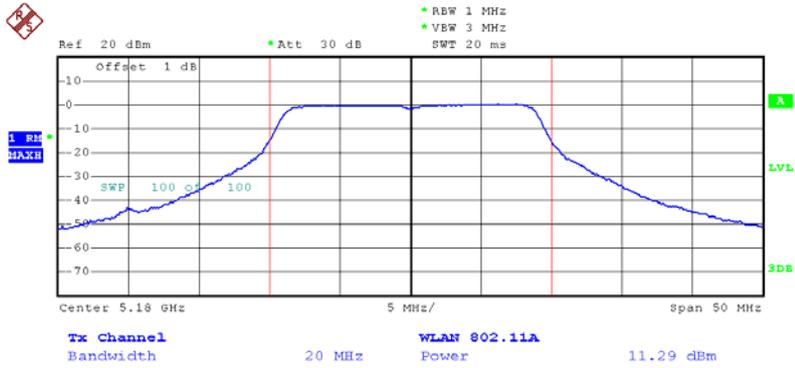
ANT A				
Test Channel	Frequency (MHz)	Output Power (dBm)	LIMIT (dBm)	LIMIT (W)
CH36	5180	11.29	17.00	0.0501
CH40	5200	11.39	17.00	0.0501
CH48	5240	11.52	17.00	0.0501

ANT B				
Test Channel	Frequency (MHz)	Output Power (dBm)	LIMIT (dBm)	LIMIT (W)
CH36	5180	11.72	17.00	0.0501
CH40	5200	11.87	17.00	0.0501
CH48	5240	11.47	17.00	0.0501

Total				
Test Channel	Frequency (MHz)	Output Power (dBm)	LIMIT (dBm)	LIMIT (W)
CH36	5180	14.52	17.00	0.0501
CH40	5200	14.65	17.00	0.0501
CH48	5240	14.51	17.00	0.0501

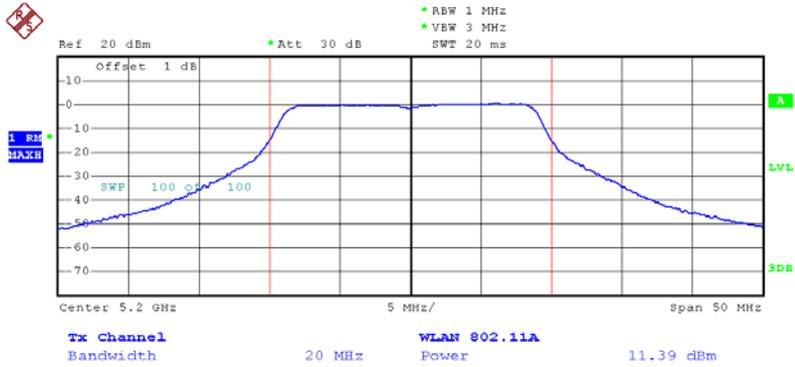


CH36-ANT A



Date: 17.MAR.2013 11:04:36

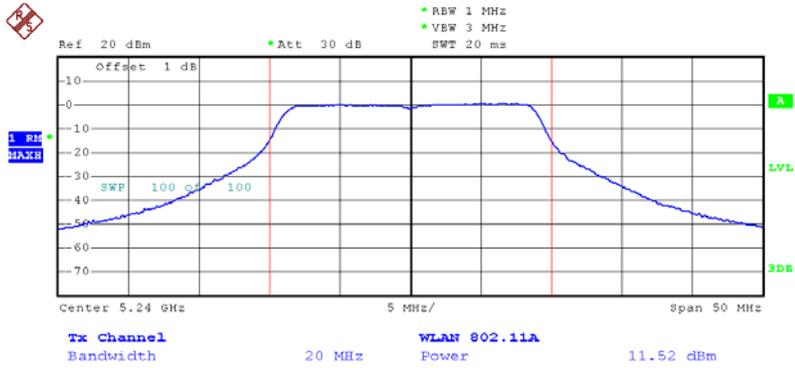
CH40-ANT A



Date: 17.MAR.2013 11:05:42

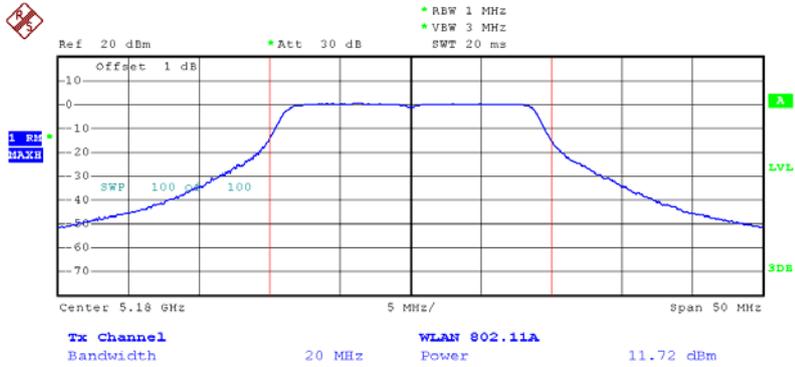


CH48-ANT A



Date: 17.MAR.2013 11:09:30

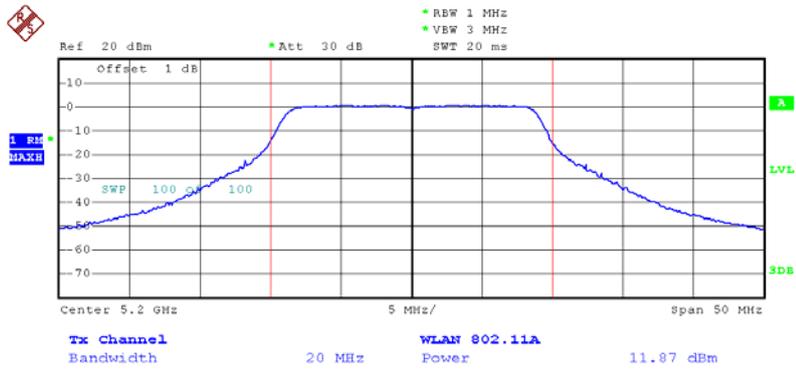
CH36-ANT B



Date: 17.MAR.2013 11:02:26

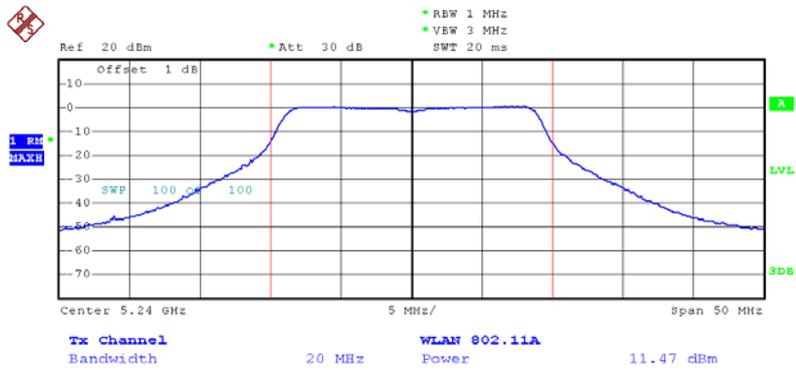


CH40-ANT B



Date: 17.MAR.2013 11:06:33

CH48-ANT B



Date: 17.MAR.2013 11:08:48



Neutron Engineering Inc.

EUT :	Indoor Wireless AP	Model Name :	ZXV10 W812N V2
Temperature :	25 ° C	Relative Humidity :	58 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	Band 1/TX N40 Mode/CH36, CH40, CH48		

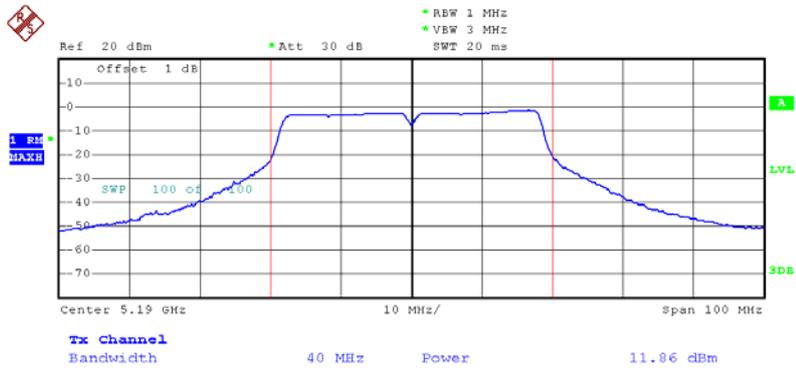
ANT A				
Test Channel	Frequency (MHz)	Output Power (dBm)	LIMIT (dBm)	LIMIT (W)
CH38	5190	11.86	17.00	0.0501
CH46	4230	11.51	17.00	0.0501

ANT B				
Test Channel	Frequency (MHz)	Output Power (dBm)	LIMIT (dBm)	LIMIT (W)
CH38	5190	11.43	17.00	0.0501
CH46	4230	11.66	17.00	0.0501

Total				
Test Channel	Frequency (MHz)	Output Power (dBm)	LIMIT (dBm)	LIMIT (W)
CH38	5190	14.66	17.00	0.0501
CH46	4230	14.60	17.00	0.0501

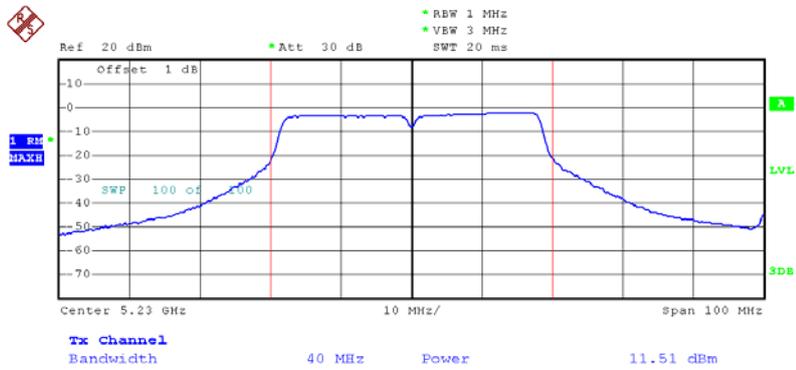


CH38-ANT A



Date: 17.MAR.2013 11:14:41

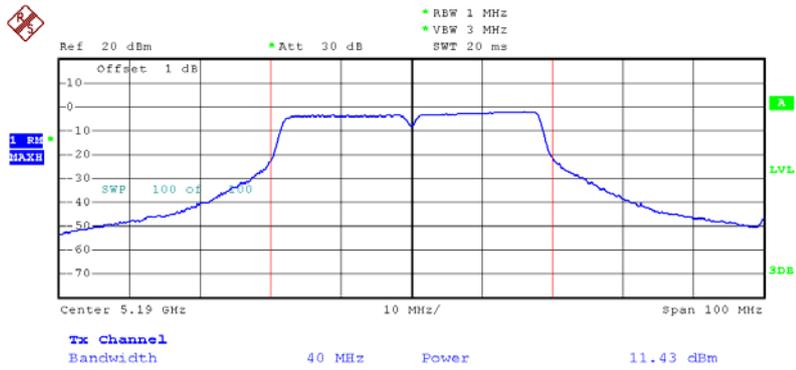
CH46-ANT A



Date: 17.MAR.2013 11:16:44

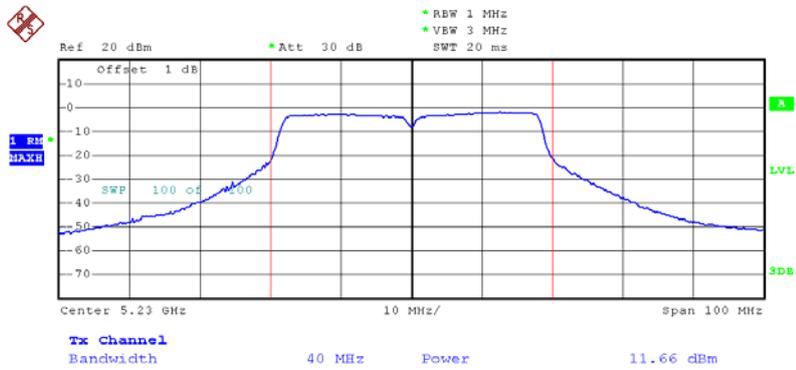


CH38-ANT B



Date: 17.MAR.2013 11:15:31

CH46-ANT B



Date: 17.MAR.2013 11:17:41



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.26.2011	Nov.26.2012

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	3000 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.



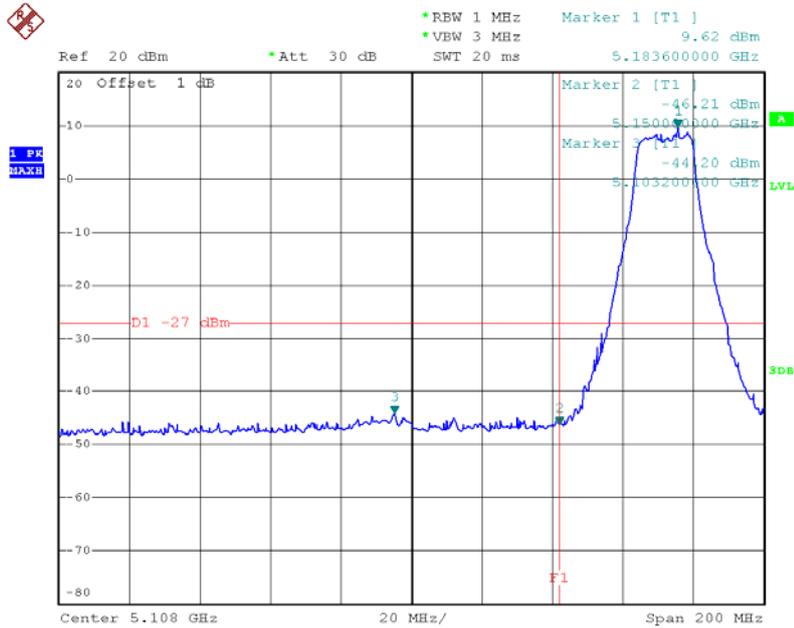
7.1.6 TEST RESULTS

EUT :	Indoor Wireless AP	Model Name :	ZXV10 W812N V2
Temperature :	25 ° C	Relative Humidity :	58 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	Band 1/TX A Mode/ CH36, CH40, CH48 – ANT A		

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)
5103.20	-44.20	5360.40	-37.82
Limit: -27 dBm/1MHz		Result:PASS	
Measurement method: S.A Read value+Ant gain+cable loss			

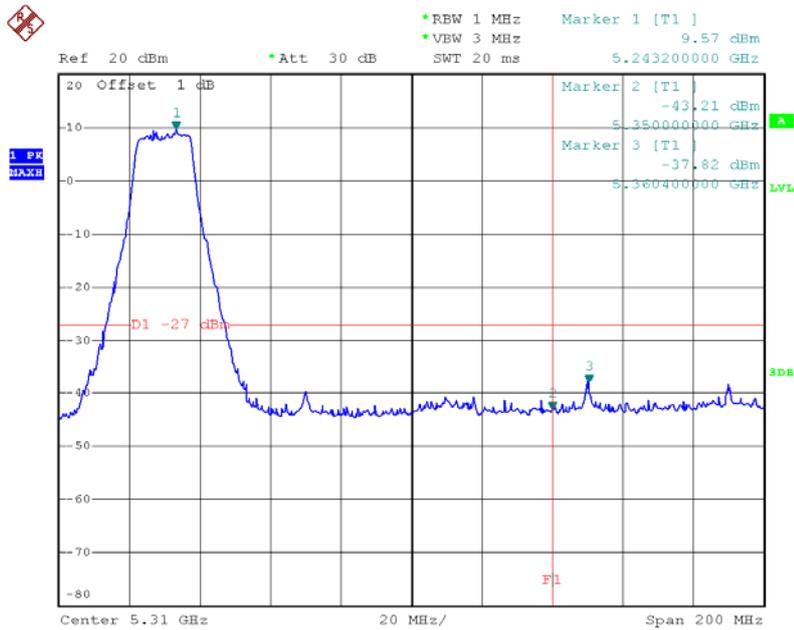


TX mode CH36



Date: 17.MAR.2013 11:58:54

TX mode CH48



Date: 17.MAR.2013 11:56:52

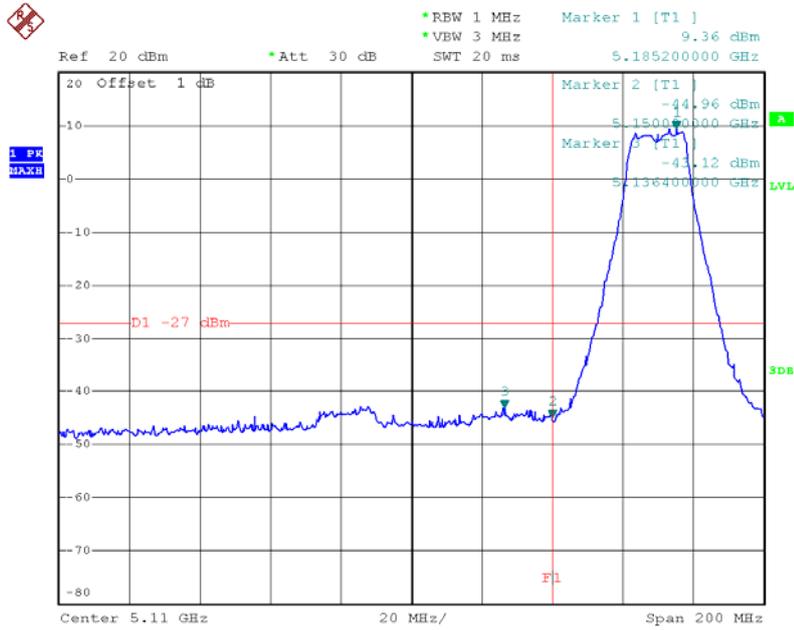


EUT :	Indoor Wireless AP	Model Name :	ZXV10 W812N V2
Temperature :	25 ° C	Relative Humidity :	58 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	Band 1/TX A Mode/ CH36, CH40, CH48 – ANT B		

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)
5136.40	-43.12	5361.20	-40.03
Limit: -27 dBm/1MHz		Result:PASS	
Measurement method: S.A Read value+Ant gain+cable loss			

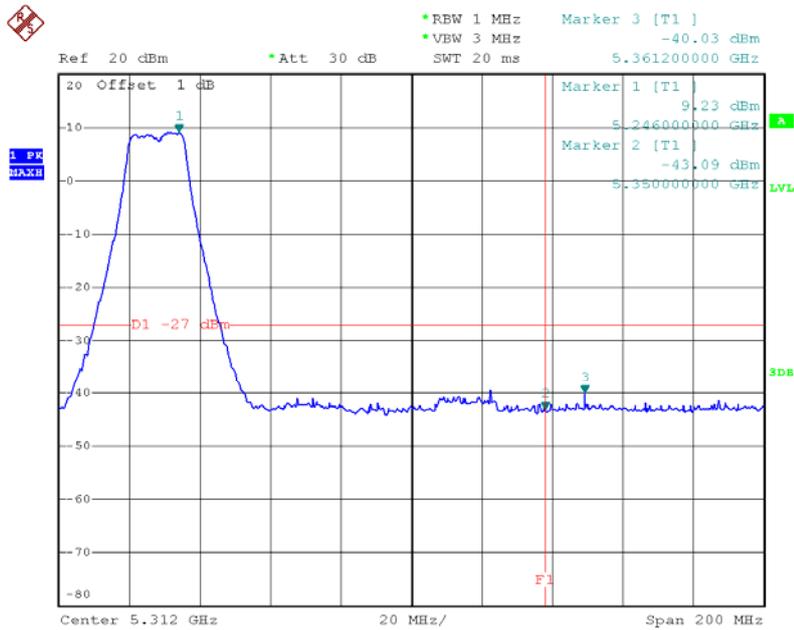


TX mode CH36



Date: 17.MAR.2013 11:49:25

TX mode CH48



Date: 17.MAR.2013 11:53:24

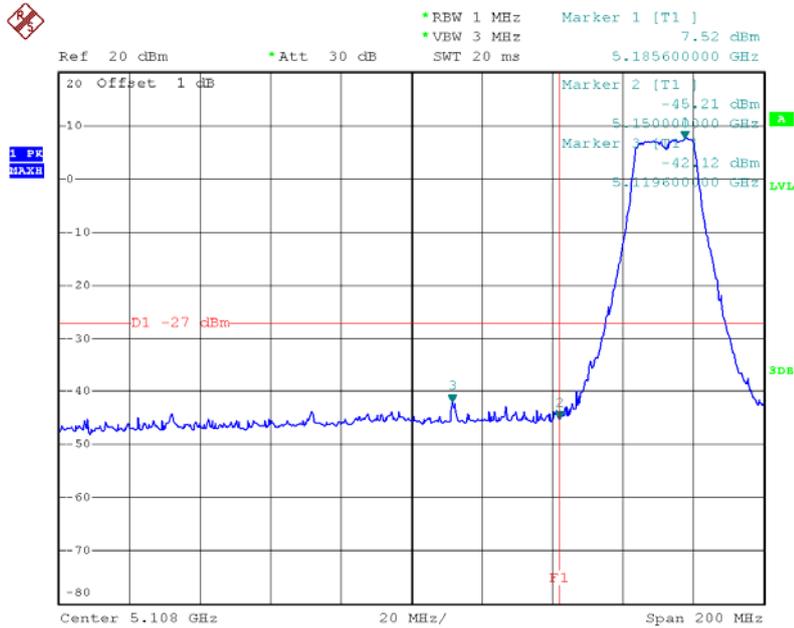


EUT :	Indoor Wireless AP	Model Name :	ZXV10 W812N V2
Temperature :	25 ° C	Relative Humidity :	58 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	Band 1/TX N20 Mode/ H36, CH40 , CH48 – ANT A		

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)
5119.60	-42.12	5360.00	-38.28
Limit: -27 dBm/1MHz		Result:PASS	
Measurement method: S.A Read value+Ant gain+cable loss			

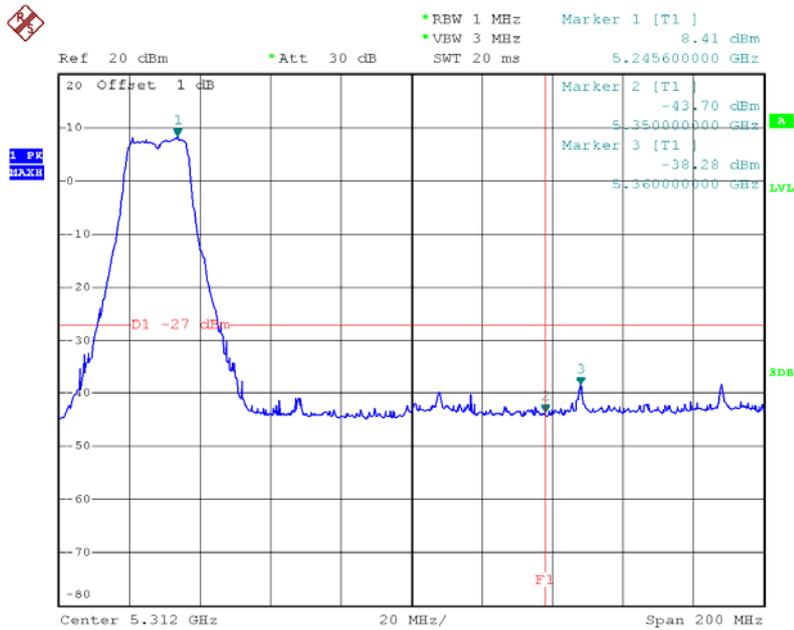


TX mode CH36



Date: 17.MAR.2013 12:00:12

TX mode CH48



Date: 17.MAR.2013 12:02:09

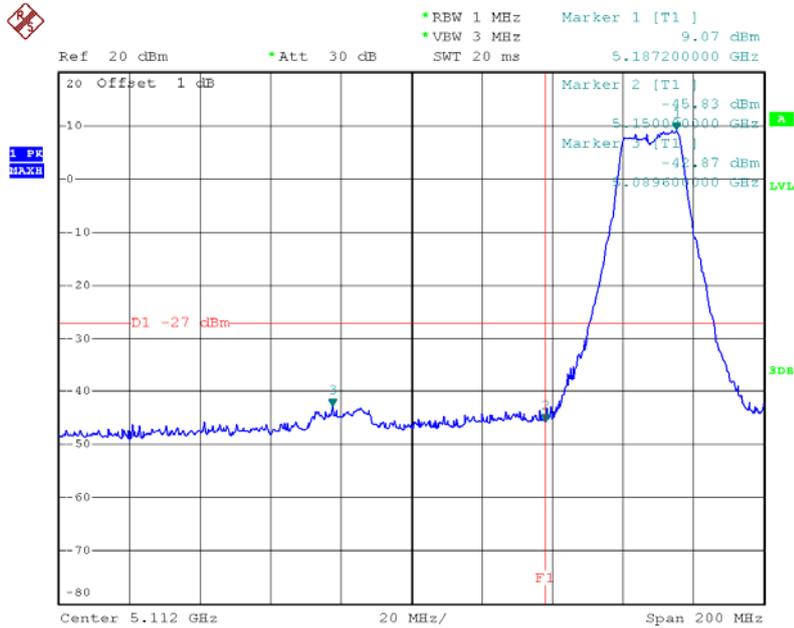


EUT :	Indoor Wireless AP	Model Name :	ZXV10 W812N V2
Temperature :	25 ° C	Relative Humidity :	58 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	Band 1/TX N20 Mode/ H36, CH40 , CH48 – ANT B		

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)
5089.60	-42.87	5356.00	-42.08
Limit: -27 dBm/1MHz		Result:PASS	
Measurement method: S.A Read value+Ant gain+cable loss			

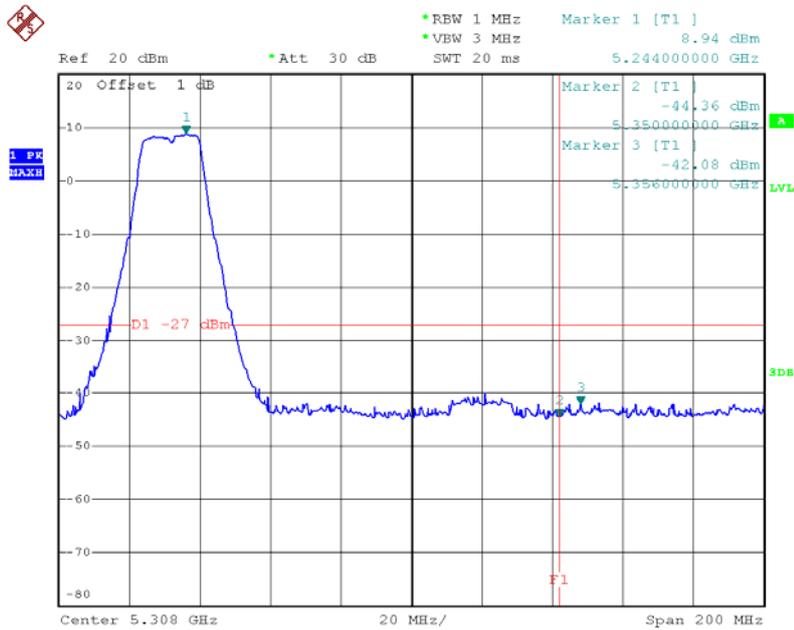


TX mode CH36



Date: 17.MAR.2013 12:06:07

TX mode CH48



Date: 17.MAR.2013 12:03:51

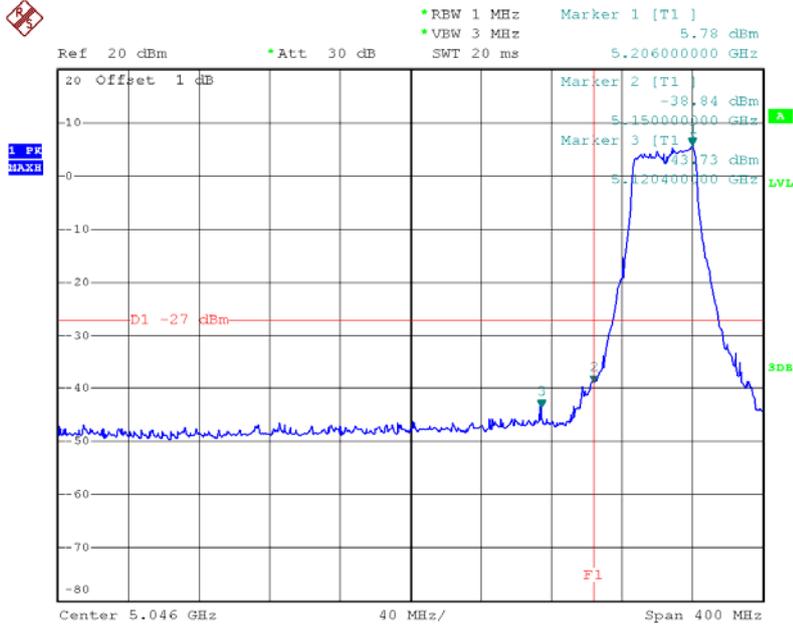


EUT :	Indoor Wireless AP	Model Name :	ZXV10 W812N V2
Temperature :	25 ° C	Relative Humidity :	58 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	Band 1/TX N40 Mode/ CH38, CH46 – ANT A		

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)
5150.00	-38.84	5560.40	-37.29
Limit: -27 dBm/1MHz		Result:PASS	
Measurement method: S.A Read value+Ant gain+cable loss			

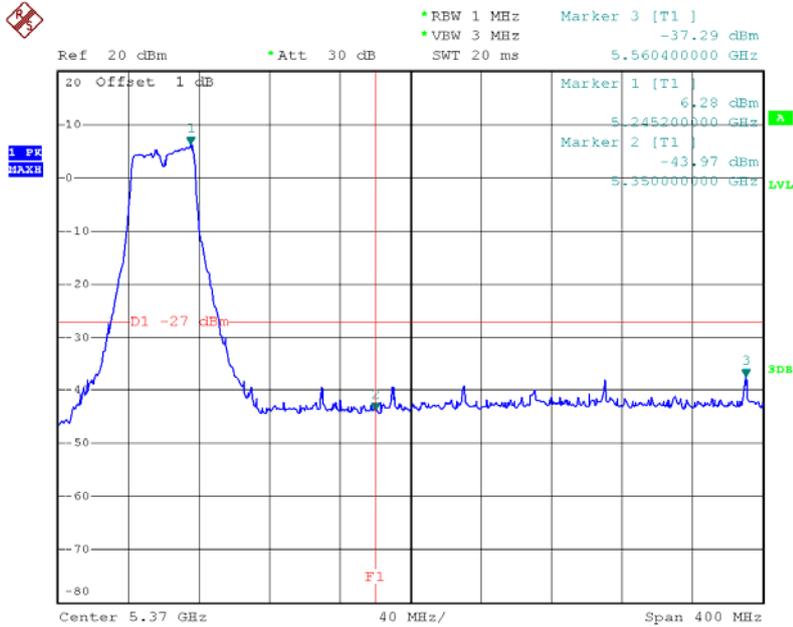


TX mode CH38



Date: 17.MAR.2013 12:13:47

TX mode CH46



Date: 17.MAR.2013 12:12:09



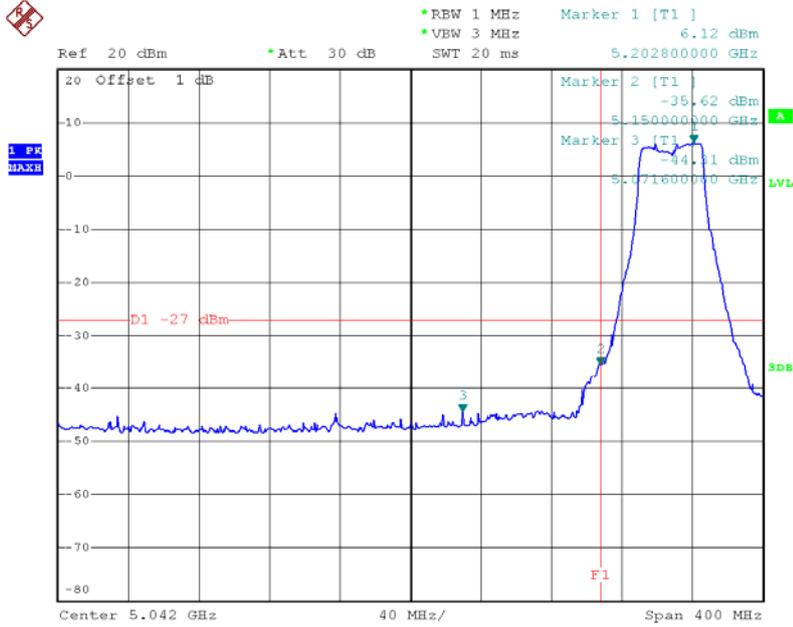
Neutron Engineering Inc.

EUT :	Indoor Wireless AP	Model Name :	ZXV10 W812N V2
Temperature :	25 ° C	Relative Humidity :	58 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	Band 1/TX N40 Mode/ CH38, CH46 – ANT B		

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)
5150.00	-35.62	5399.60	-42.03
Limit: -27 dBm/1MHz		Result:PASS	
Measurement method: S.A Read value+Ant gain+cable loss			

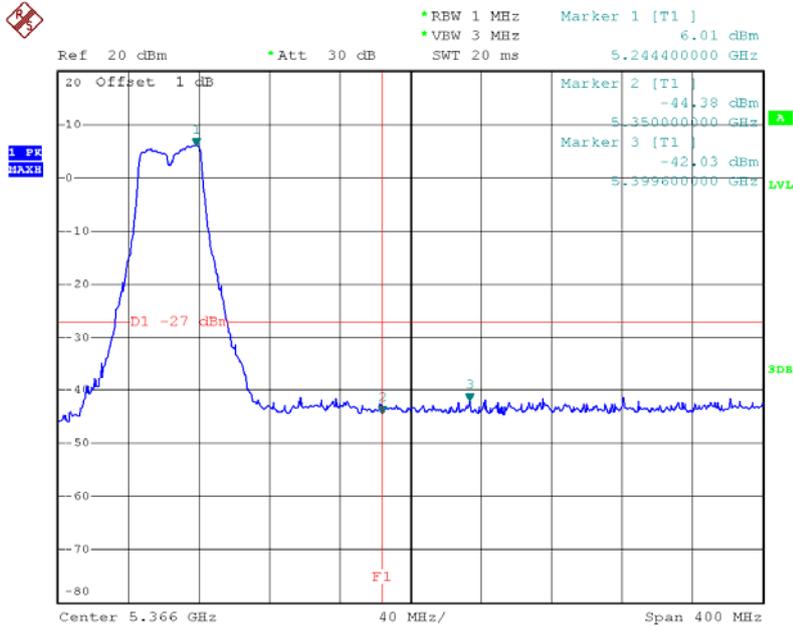


TX mode CH38



Date: 17.MAR.2013 12:08:38

TX mode CH46



Date: 17.MAR.2013 12:10:19



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.25.2013

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

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 :	Indoor Wireless AP	Model Name :	ZXV10 W812N V2
Temperature :	25 ° C	Relative Humidity :	58 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	Band 1/TX A Mode/CH36, CH40, CH48		

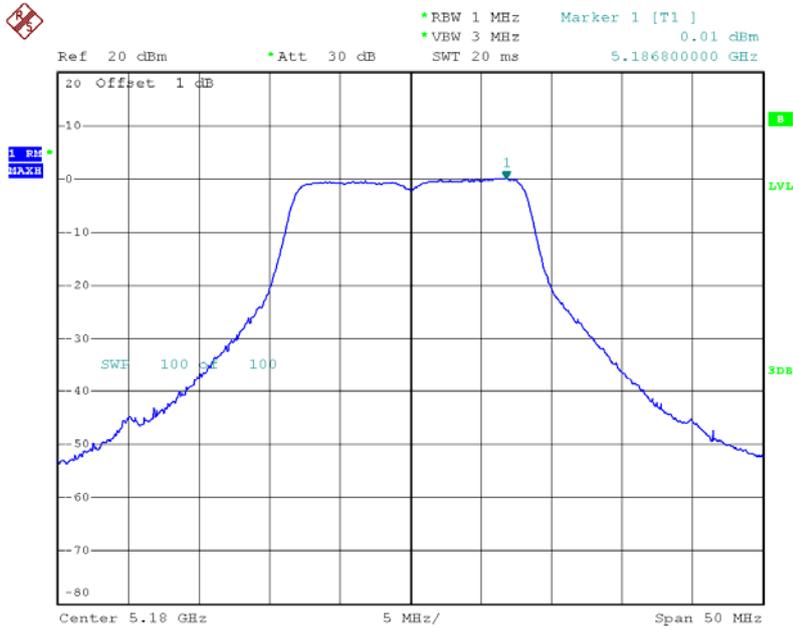
ANT A			
Test Channel	Frequency (MHz)	Power Density (dBm)	LIMIT (dBm)
CH36	5180	0.01	4.00
CH40	5210	0.06	4.00
CH48	5240	0.68	4.00

ANT B			
Test Channel	Frequency (MHz)	Power Density (dBm)	LIMIT (dBm)
CH36	5180	0.40	4.00
CH40	5210	0.91	4.00
CH48	5240	0.94	4.00

Total			
Test Channel	Frequency (MHz)	Power Density (dBm)	LIMIT (dBm)
CH36	5180	3.22	4.00
CH40	5210	3.52	4.00
CH48	5240	3.82	4.00

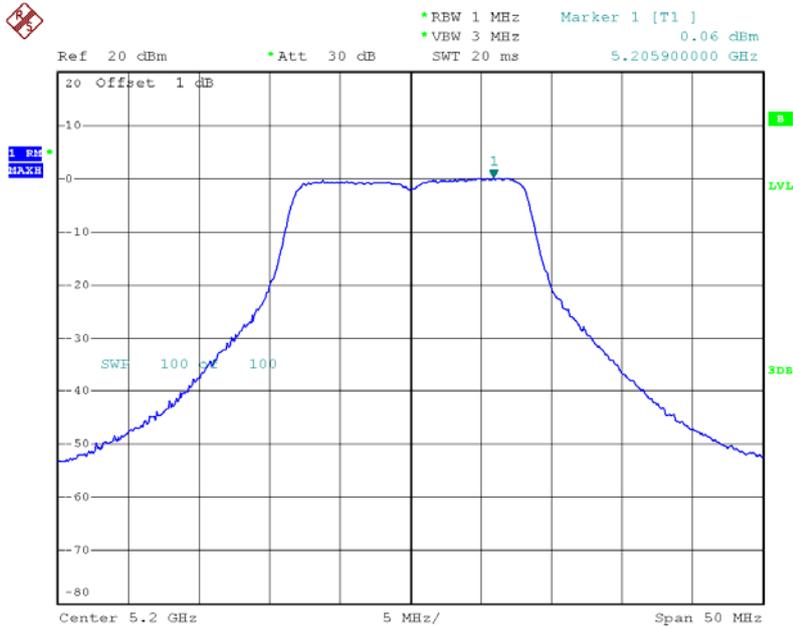


CH36-ANT A



Date: 17.MAR.2013 11:11:00

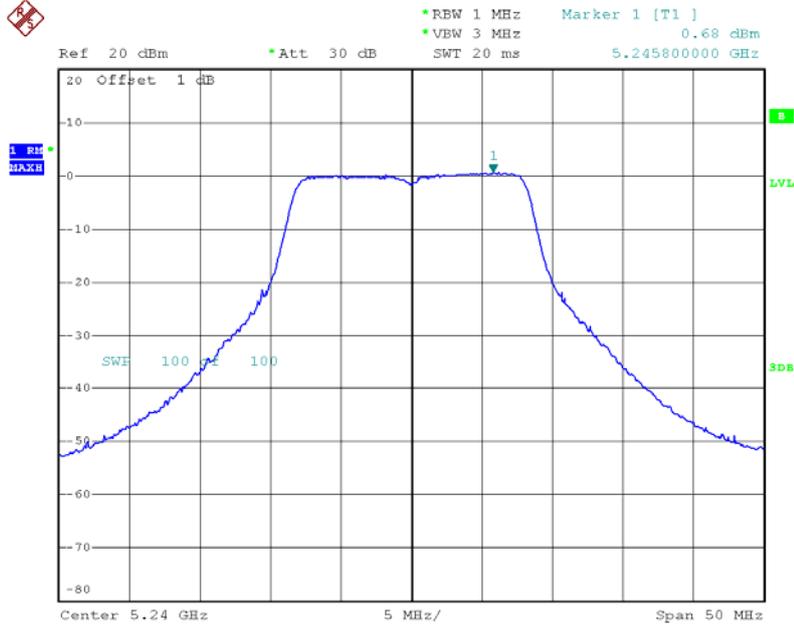
CH40-ANT A



Date: 17.MAR.2013 11:11:19

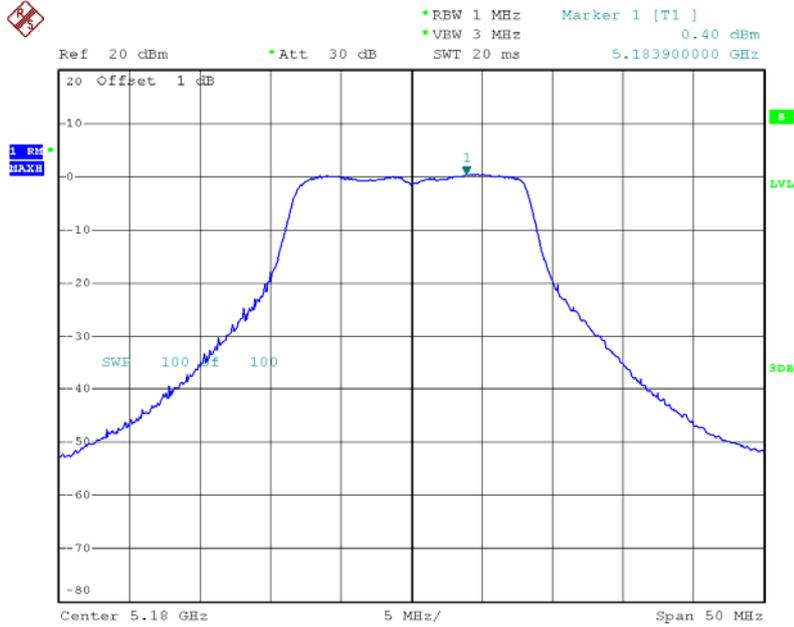


CH48-ANT A



Date: 17.MAR.2013 11:11:39

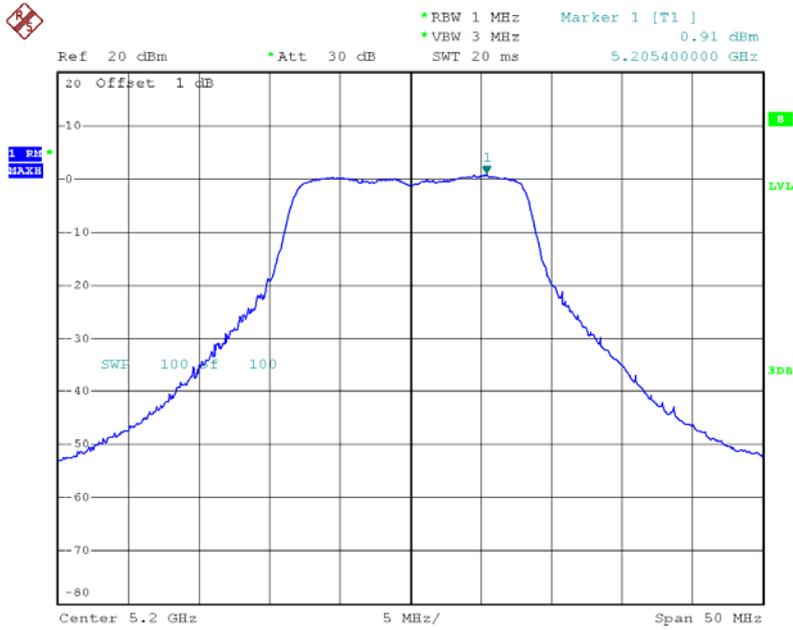
CH36-ANT B



Date: 17.MAR.2013 11:13:06

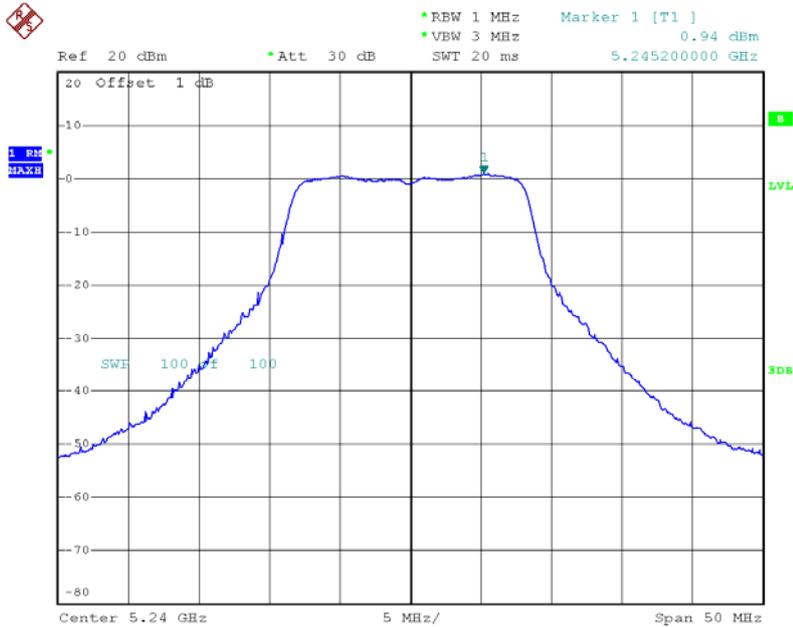


CH40-ANT B



Date: 17.MAR.2013 11:12:42

CH48-ANT B



Date: 17.MAR.2013 11:12:19



EUT :	Indoor Wireless AP	Model Name :	ZXV10 W812N V2
Temperature :	25 °C	Relative Humidity :	58 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	Band 1/TX N20 Mode/CH36, CH40, CH48		

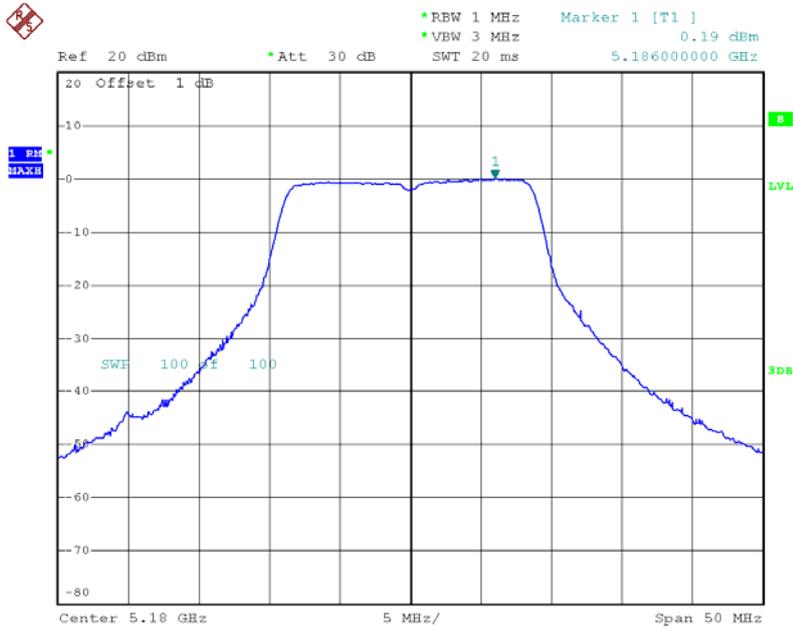
ANT A			
Test Channel	Frequency (MHz)	Power Density (dBm)	LIMIT (dBm)
CH36	5180	0.19	4.00
CH40	5210	0.12	4.00
CH48	5240	0.42	4.00

ANT B			
Test Channel	Frequency (MHz)	Power Density (dBm)	LIMIT (dBm)
CH36	5180	0.21	4.00
CH40	5210	0.71	4.00
CH48	5240	0.32	4.00

Total			
Test Channel	Frequency (MHz)	Power Density (dBm)	LIMIT (dBm)
CH36	5180	3.21	4.00
CH40	5210	3.44	4.00
CH48	5240	3.40	4.00

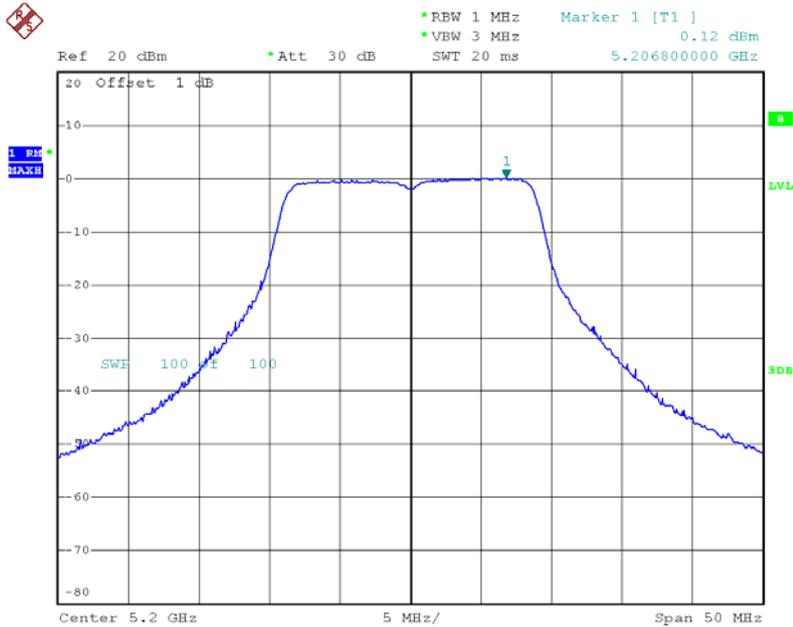


CH36-ANT A



Date: 17.MAR.2013 11:04:45

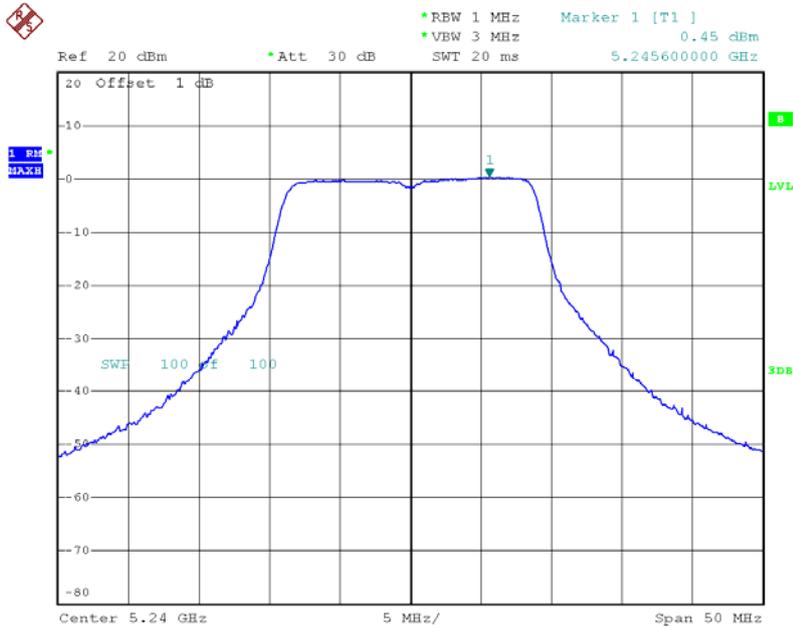
CH40-ANT A



Date: 17.MAR.2013 11:05:50

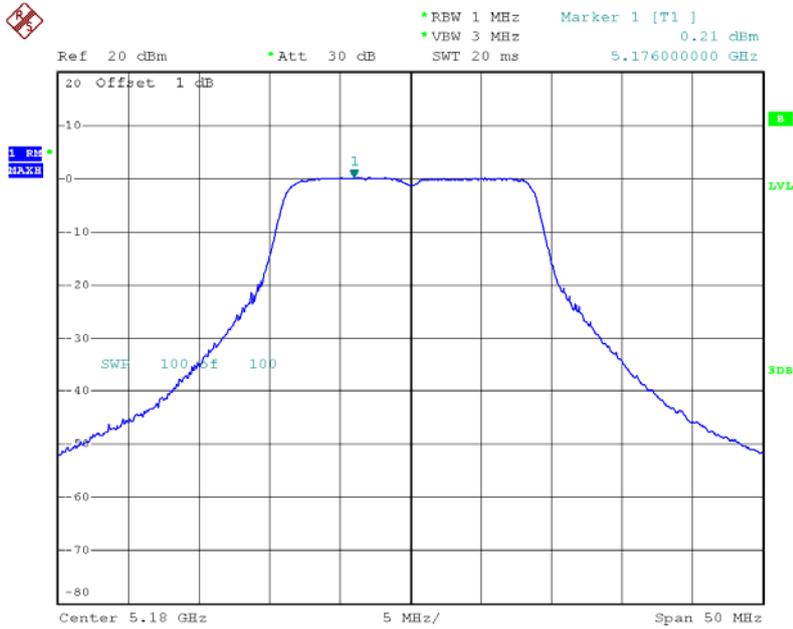


CH48-ANT A



Date: 17.MAR.2013 11:09:39

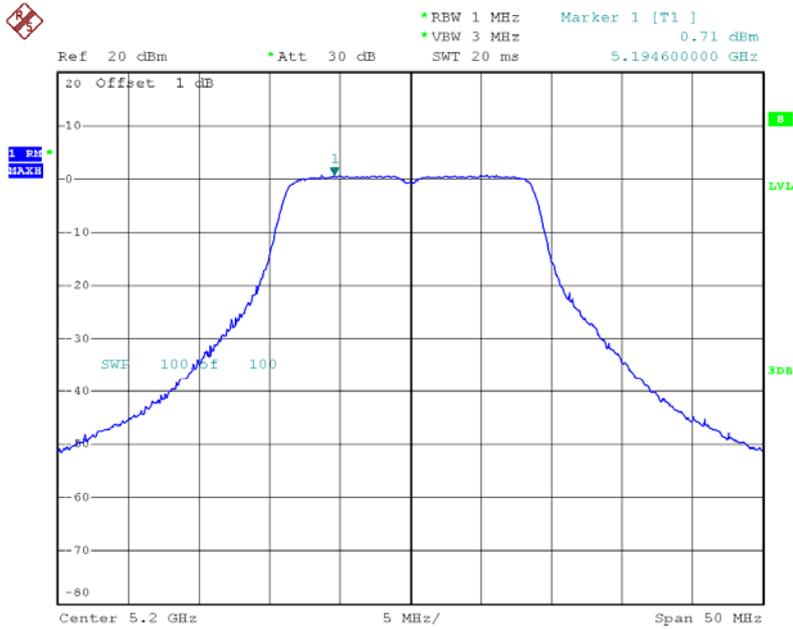
CH36-ANT B



Date: 17.MAR.2013 11:02:49

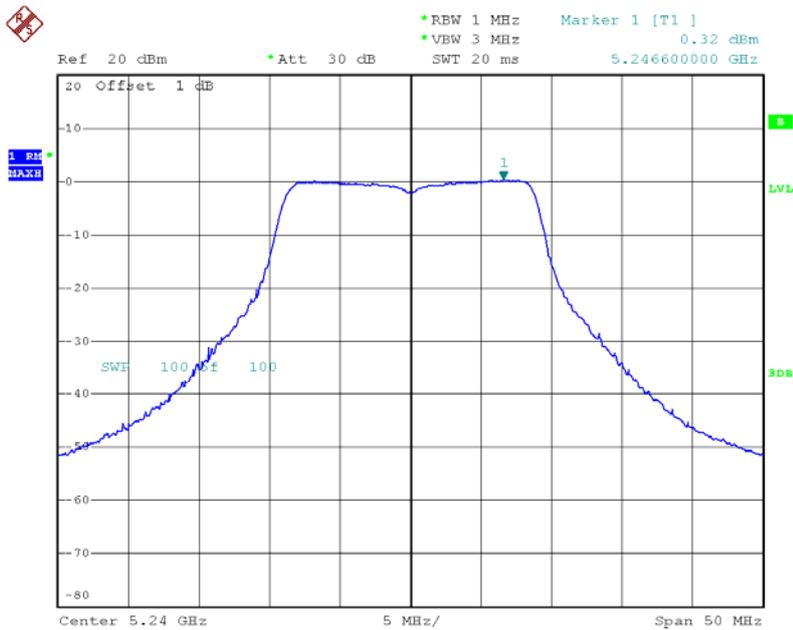


CH40-ANT B



Date: 17.MAR.2013 11:06:25

CH48-ANT B



Date: 17.MAR.2013 11:08:09



Neutron Engineering Inc.

EUT :	Indoor Wireless AP	Model Name :	ZXV10 W812N V2
Temperature :	25 ° C	Relative Humidity :	58 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	Band 1/TX N40 Mode/CH38, CH46		

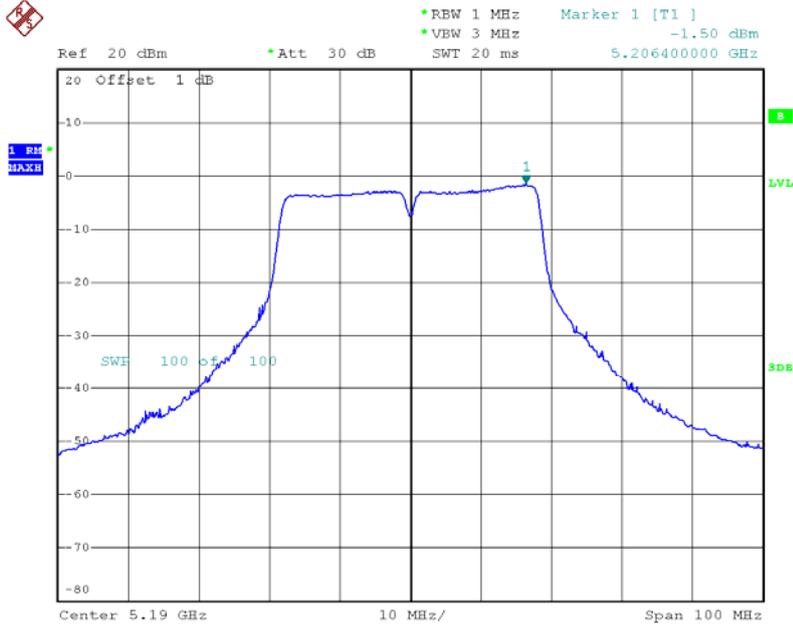
ANT A			
Test Channel	Frequency (MHz)	Power Density (dBm)	LIMIT (dBm)
CH38	5190	-1.50	4.00
CH46	5230	-2.49	4.00

ANT B			
Test Channel	Frequency (MHz)	Power Density (dBm)	LIMIT (dBm)
CH38	5190	-2.19	4.00
CH46	5230	-2.20	4.00

Total			
Test Channel	Frequency (MHz)	Power Density (dBm)	LIMIT (dBm)
CH38	5190	1.18	4.00
CH46	5230	0.67	4.00

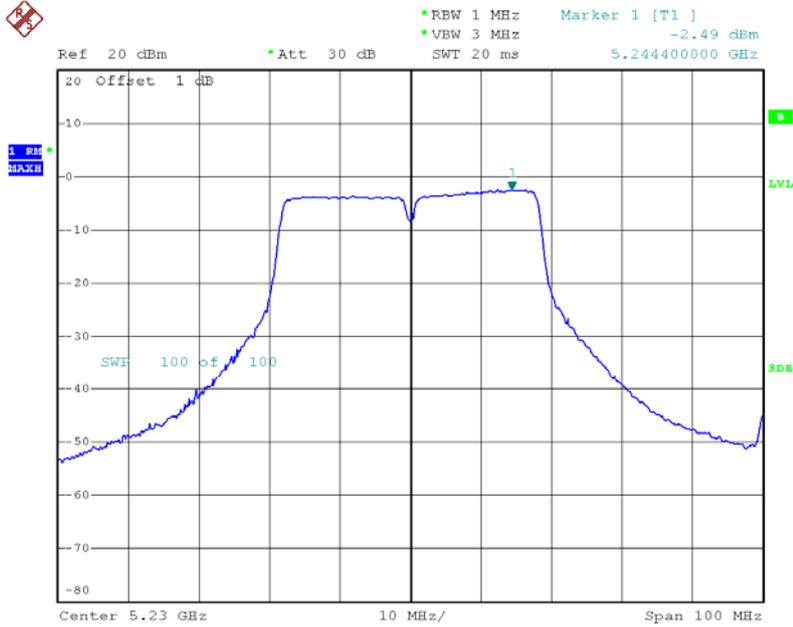


CH38-ANT A



Date: 17.MAR.2013 11:14:57

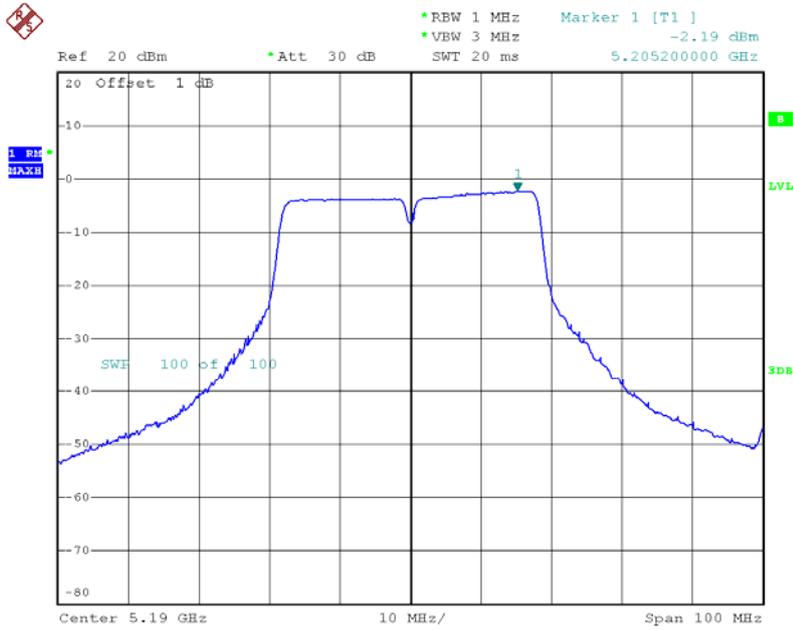
CH46-ANT A



Date: 17.MAR.2013 11:16:56

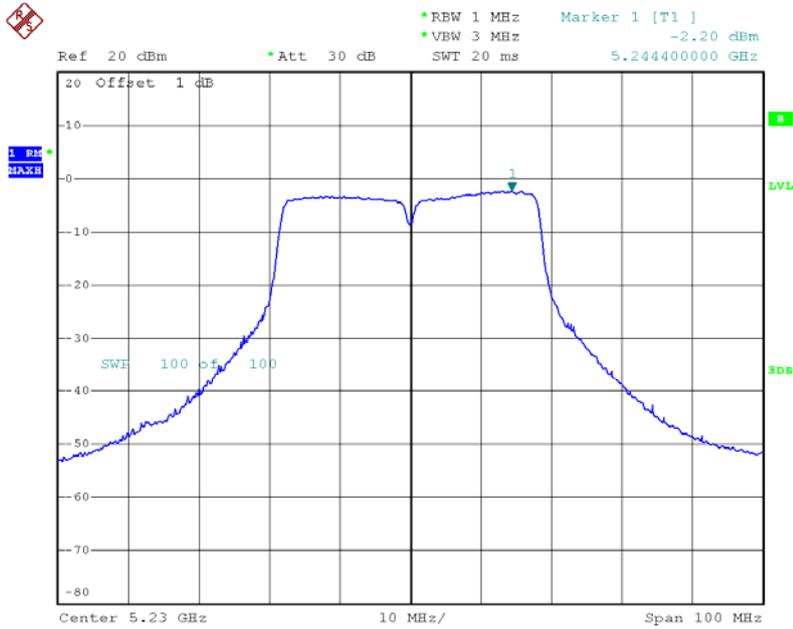


CH38-ANT B



Date: 17.MAR.2013 11:15:42

CH46-ANT B



Date: 17.MAR.2013 11:17:27



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.25.2013

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 ≥ 3 MHz with peak detector and maxhold settings.

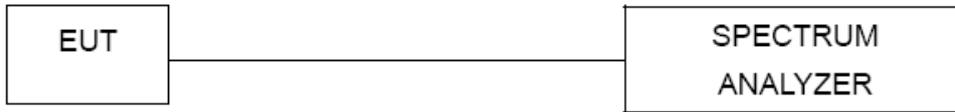
d. Average Trace: set RBW = 1 MHz, VBW = 3 MHz with RMS detector and trace average across 100 traces in power averaging mode.

9.1.3 DEVIATION FROM STANDARD

No deviation.



9.1.4 TEST SETUP



9.1.5 EUT OPERATION CONDITIONS

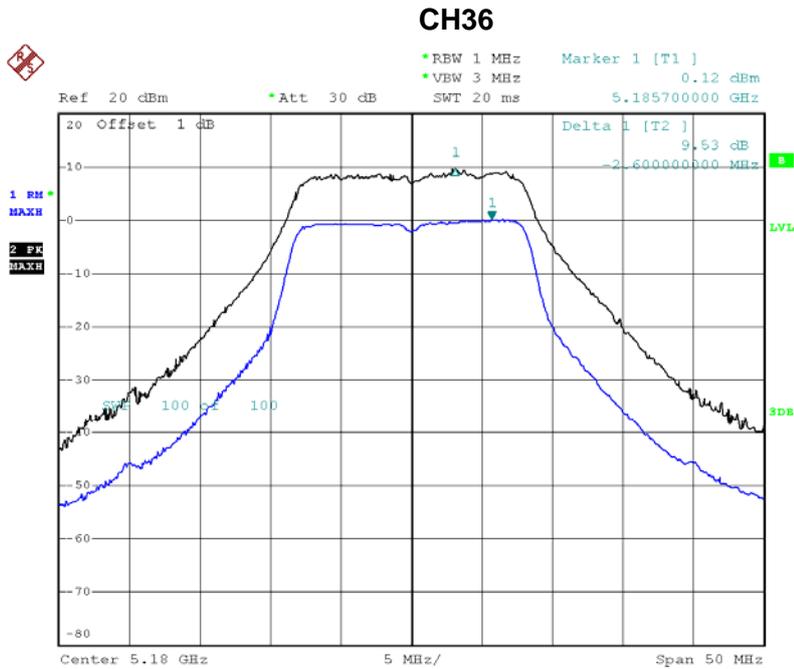
The EUT tested system was configured as the statements of 4.1.6 Unless otherwise a special operating condition is specified in the follows during the testing.



9.1.6 TEST RESULTS

EUT :	Indoor Wireless AP	Model Name :	ZXV10 W812N V2
Temperature :	25 °C	Relative Humidity :	58 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	Band 1/TX A Mode/CH36, CH40, CH48-ANT A		

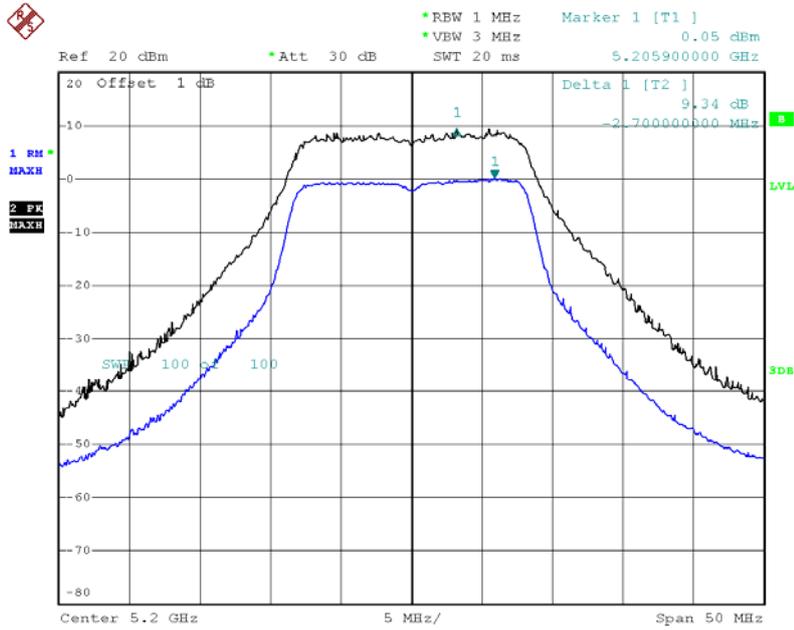
Test Channel	Frequency (MHz)	Peak Excursion (dB)	LIMIT (dB)
CH36	5180	9.53	13
CH40	5210	9.34	13
CH48	5240	9.34	13



Date: 17.MAR.2013 11:39:39

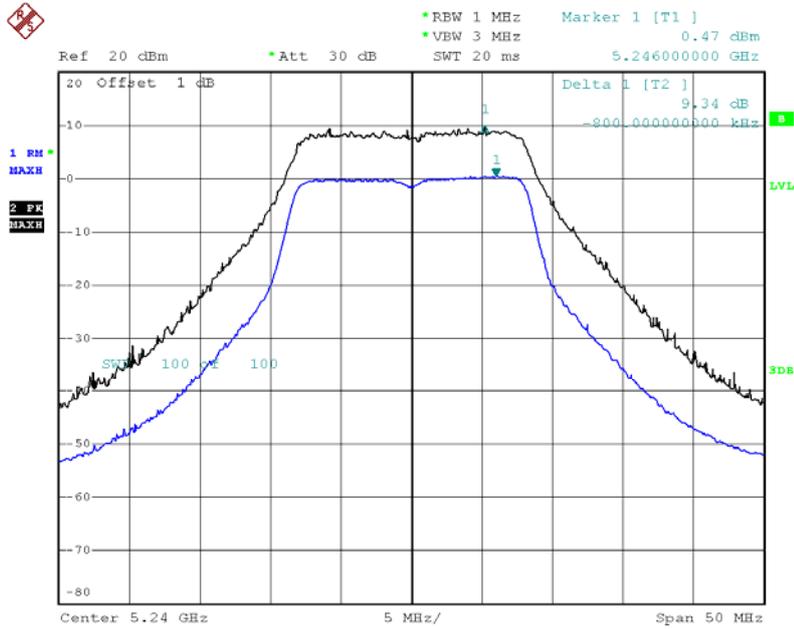


CH40



Date: 17.MAR.2013 11:41:43

CH48

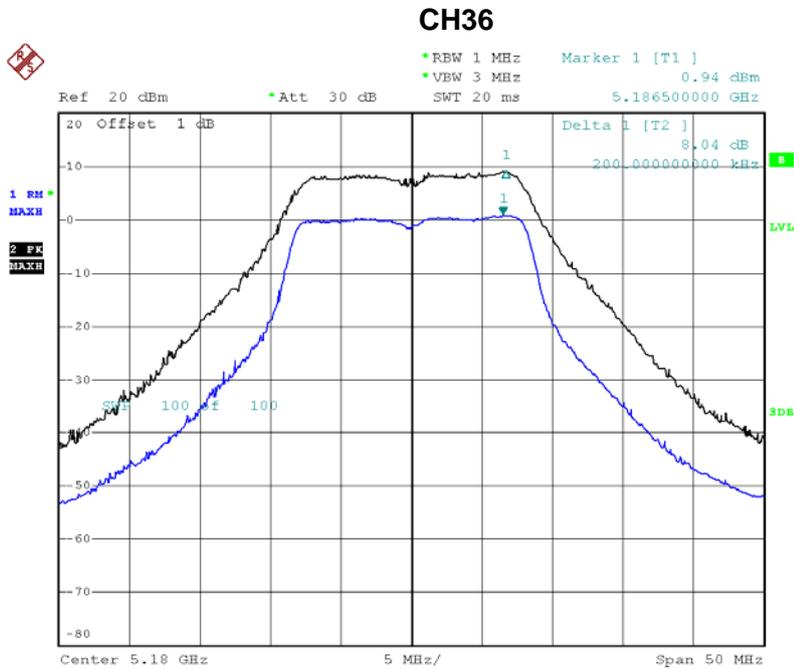


Date: 17.MAR.2013 11:42:12



EUT :	Indoor Wireless AP	Model Name :	ZXV10 W812N V2
Temperature :	25 °C	Relative Humidity :	58 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	Band 1/TX A Mode/CH36, CH40, CH48-ANT B		

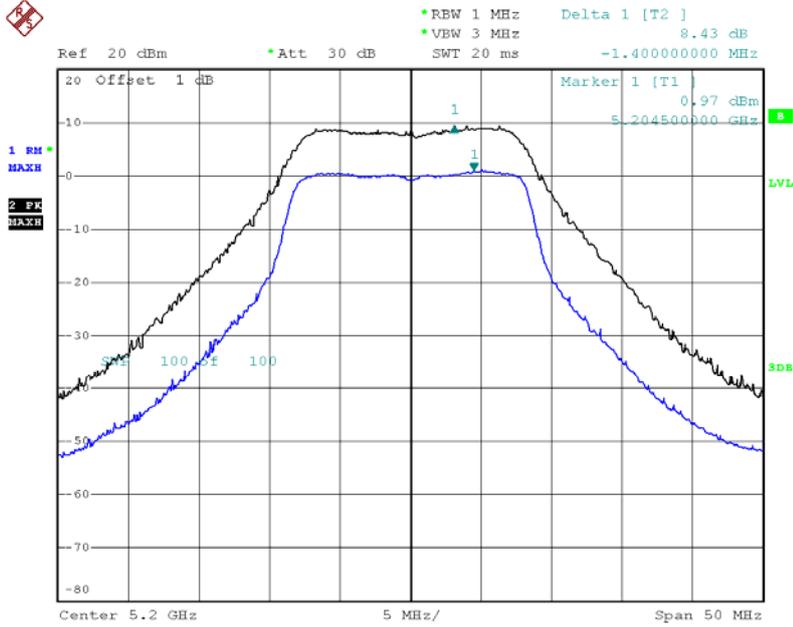
Test Channel	Frequency (MHz)	Peak Excursion (dB)	LIMIT (dB)
CH36	5180	8.04	13
CH40	5210	8.43	13
CH48	5240	8.54	13



Date: 17.MAR.2013 11:47:04

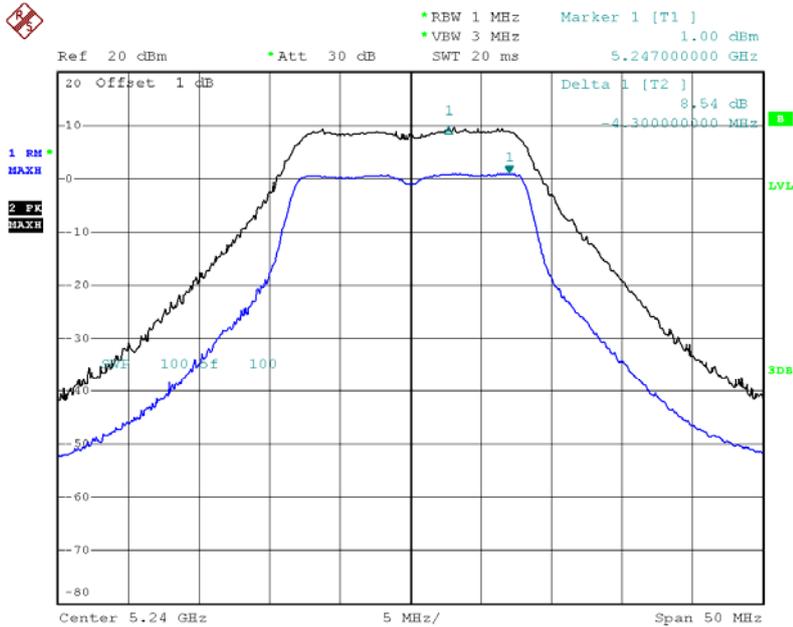


CH40



Date: 17.MAR.2013 11:44:53

CH48

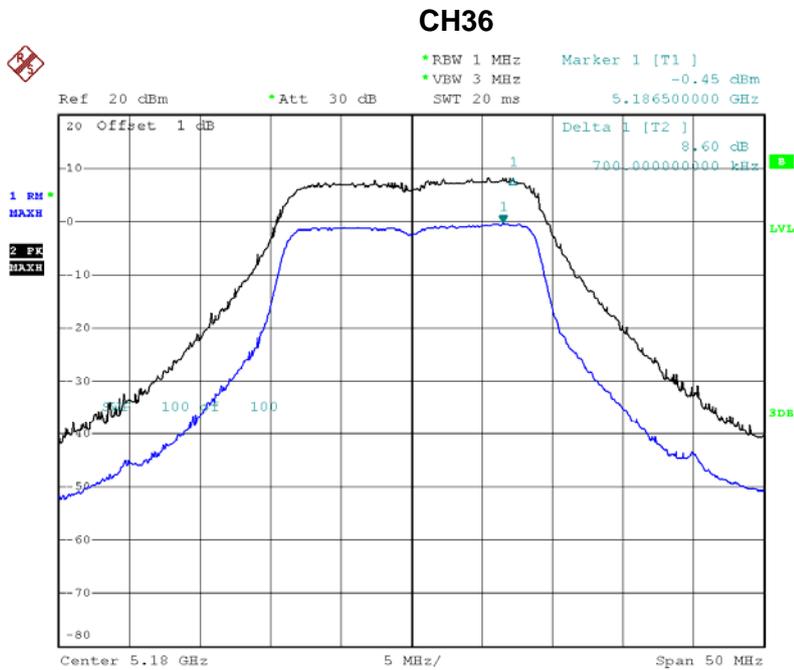


Date: 17.MAR.2013 11:44:22



EUT :	Indoor Wireless AP	Model Name :	ZXV10 W812N V2
Temperature :	25 °C	Relative Humidity :	58 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	Band 1/TX N20 Mode/CH36, CH40, CH48-ANT A		

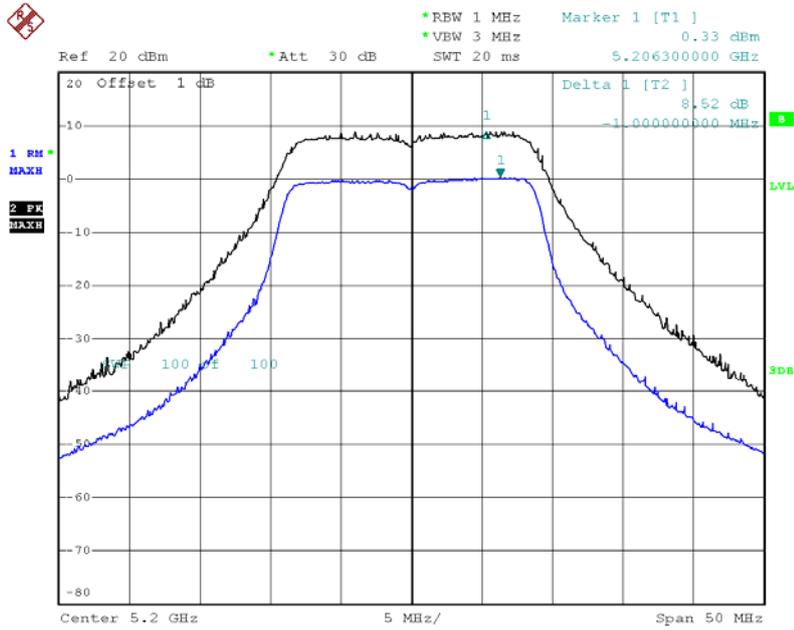
Test Channel	Frequency (MHz)	Peak Excursion (dB)	LIMIT (dB)
CH36	5180	8.60	13
CH40	5210	8.52	13
CH48	5240	8.73	13



Date: 17.MAR.2013 11:37:19

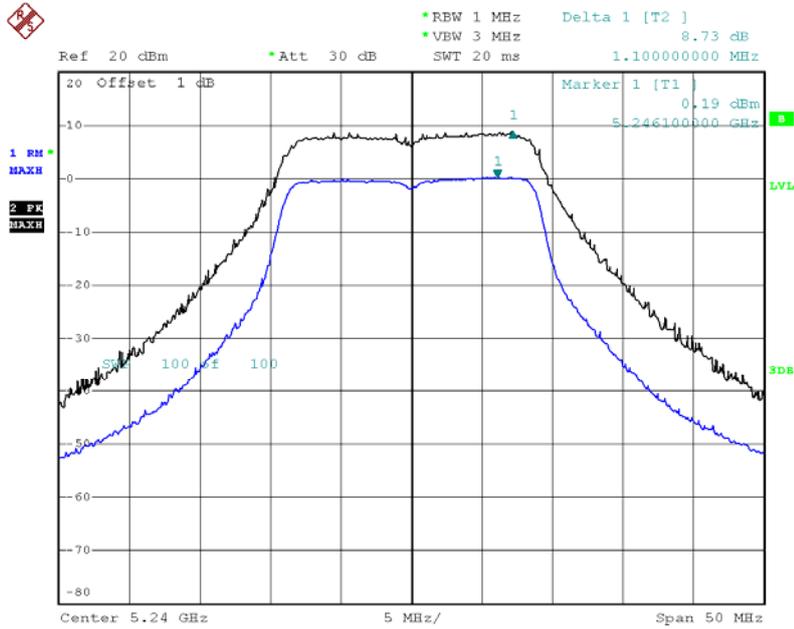


CH40



Date: 17.MAR.2013 11:35:19

CH48

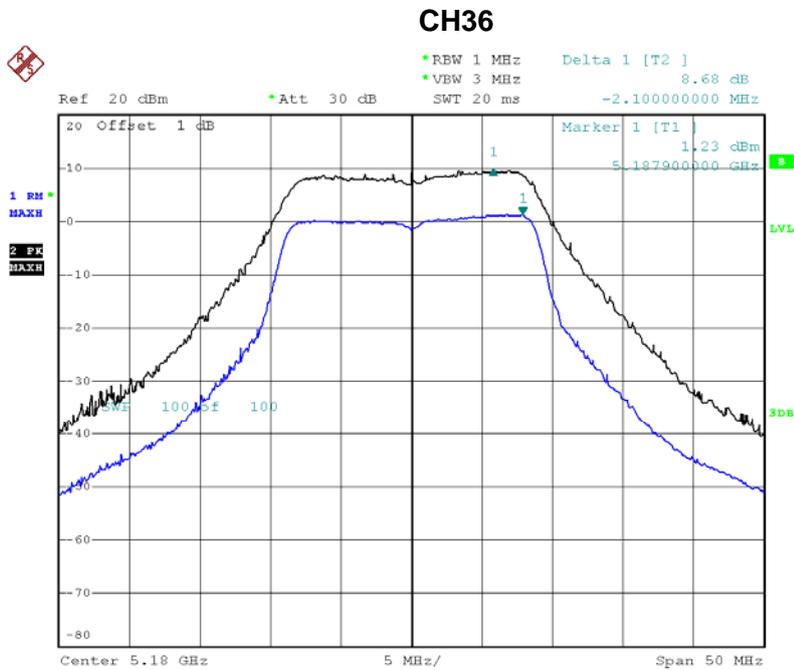


Date: 17.MAR.2013 11:34:42



EUT :	Indoor Wireless AP	Model Name :	ZXV10 W812N V2
Temperature :	25 °C	Relative Humidity :	58 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	Band 1/TX N20 Mode/CH36, CH40, CH48-ANT B		

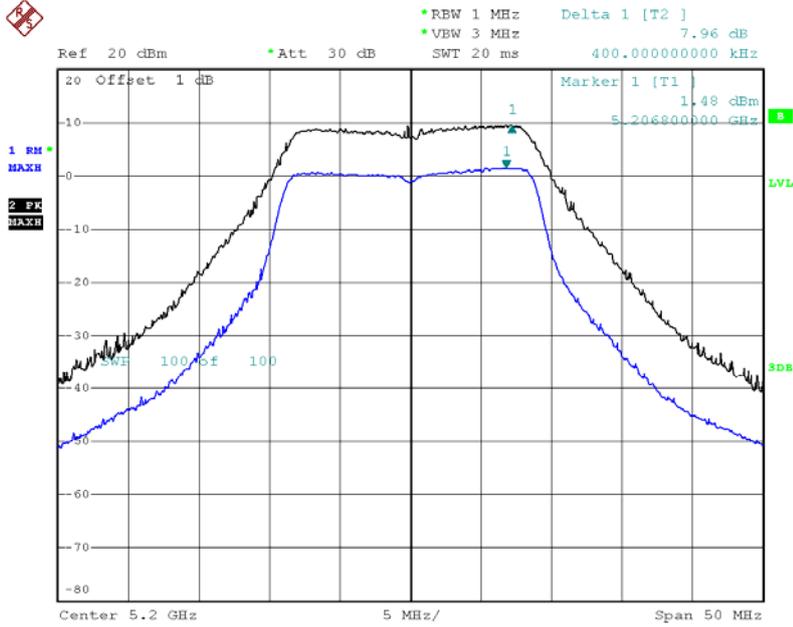
Test Channel	Frequency (MHz)	Peak Excursion (dB)	LIMIT (dB)
CH36	5180	8.68	13
CH40	5210	7.96	13
CH48	5240	8.36	13



Date: 17.MAR.2013 11:30:20

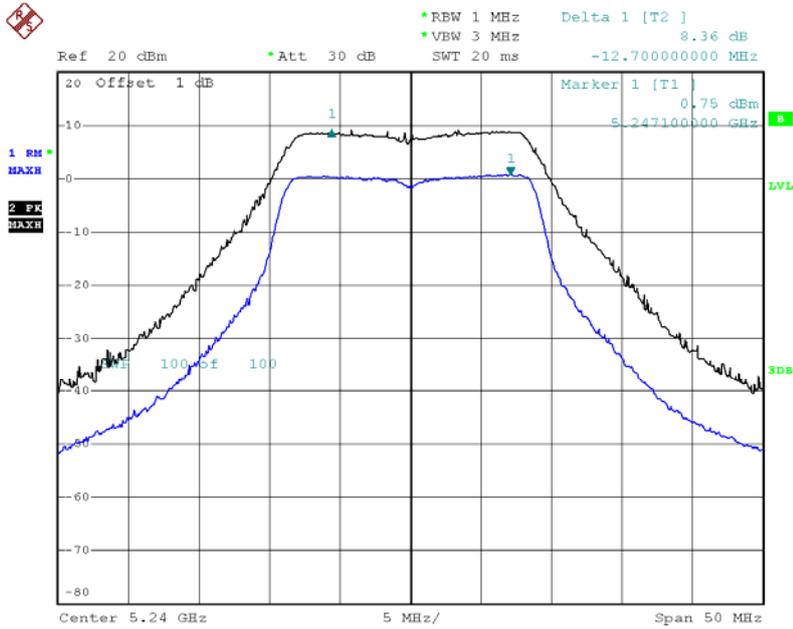


CH40



Date: 17.MAR.2013 11:30:56

CH48

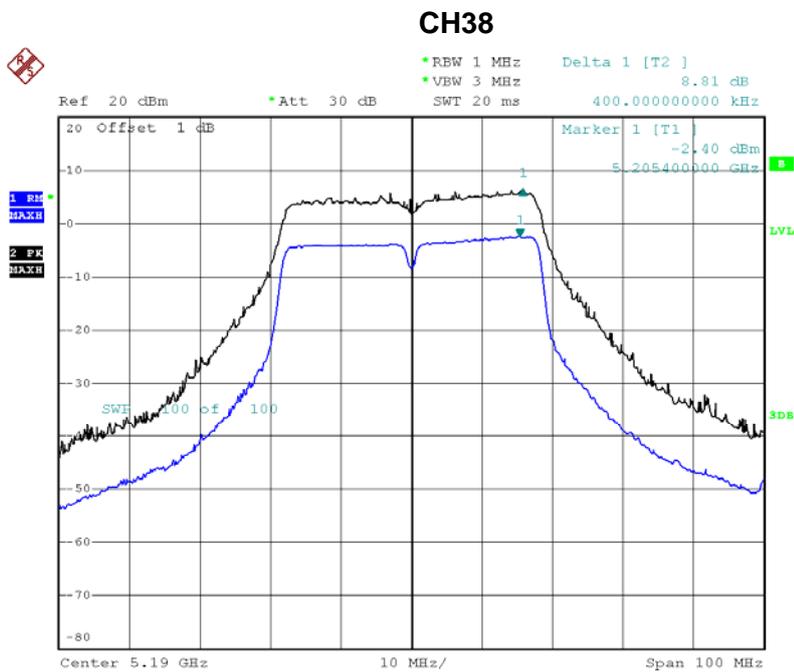


Date: 17.MAR.2013 11:32:25



EUT :	Indoor Wireless AP	Model Name :	ZXV10 W812N V2
Temperature :	25 °C	Relative Humidity :	58 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	Band 1/TX N40 Mode/CH38, CH46-ANT A		

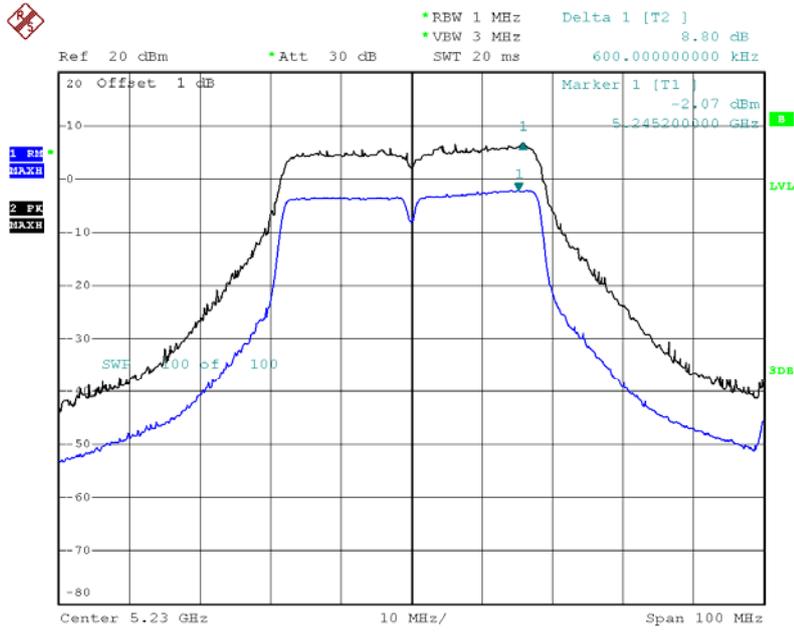
Test Channel	Frequency (MHz)	Peak Excursion (dB)	LIMIT (dB)
CH38	5190	8.81	13
CH46	5230	8.80	13



Date: 17.MAR.2013 11:21:46



CH46

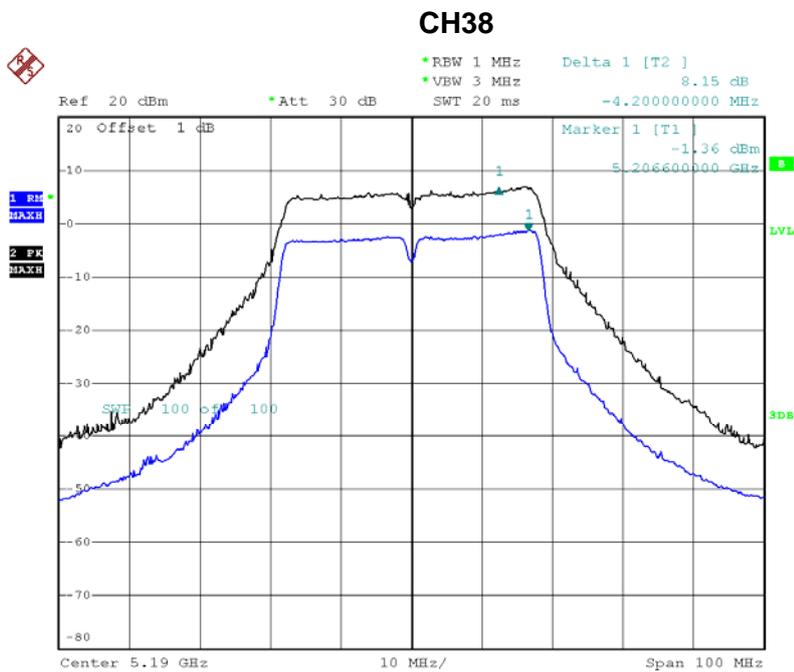


Date: 17.MAR.2013 11:22:23



EUT :	Indoor Wireless AP	Model Name :	ZXV10 W812N V2
Temperature :	25 °C	Relative Humidity :	58 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	Band 1/TX N40 Mode/CH38, CH46-ANT B		

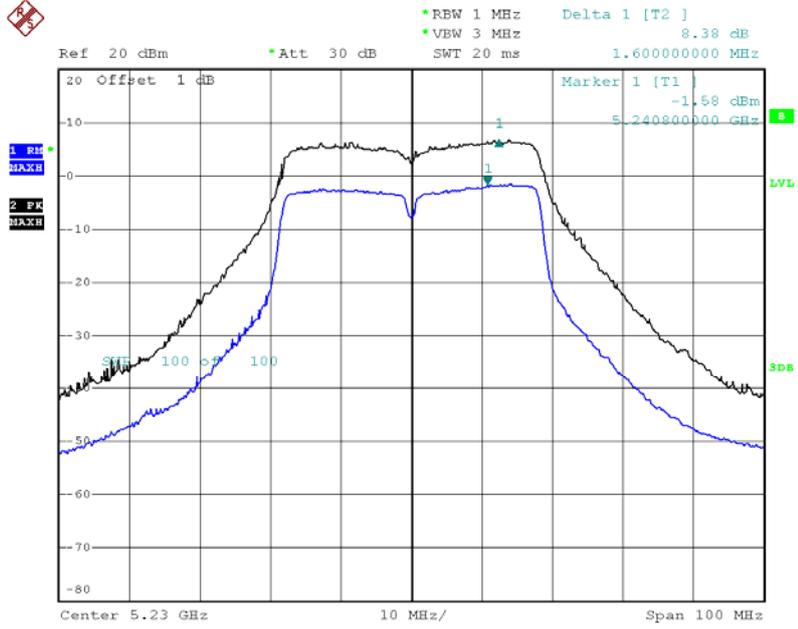
Test Channel	Frequency (MHz)	Peak Excursion (dB)	LIMIT (dB)
CH38	5190	8.15	13
CH46	5230	8.38	13



Date: 17.MAR.2013 11:20:28



CH46



Date: 17.MAR.2013 11:19:43



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.25. 2013
2	Precision Oven Tester	HOLINK	H-T-1F-D	BA03101701	May. 11, 2013

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.

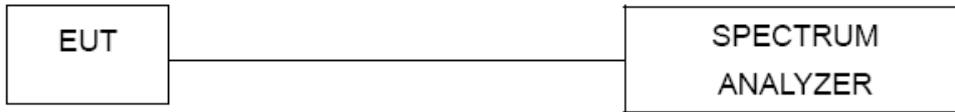
d. user manual temperature is -10°C~45°C.

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 :	Indoor Wireless AP	Model Name :	ZXV10 W812N V2
Temperature :	25 °C	Relative Humidity :	58 %
Test Voltage :	AC 120V/60Hz		
Test Mode :	Band 1		

Voltage vs. Frequency Stability

Voltage	Measurement Frequency (MHz)
(V)	5180
138	5180.0082
120	5180.009600
102	5180.012500
Max. Deviation (MHz)	0.012500
Max. Deviation (ppm)	2.41

Temperature vs. Frequency Stability

Temperature	Measurement Frequency (MHz)
(°C)	5180
-10	5180.015
5	5180.013
20	5180.006
35	5180.009
45	5180.014
Max. Deviation (MHz)	0.015000
Max. Deviation (ppm)	2.90



11. EUT TEST PHOTO

Conducted Measurement Photos



Radiated Measurement Photos

