



FCC RADIO TEST REPORT

FCC ID:2AD37JUE302

Product : Wireless N300 Dual Band USB Adapter

Trade Name : j5 create

Model Name : JUE302

Serial Model : N/A

Report No. : NTEK-2015NT0113211F2

Prepared for

KaiJet Technology International Limited
6F., No113, Zhongcheng Rd., Tucheng Dist., New Taipei City 236,
Taiwan (R.O.C.)

Prepared by

Shenzhen NTEK Testing Technology Co., Ltd.
1/F, Building E, Fenda Science Park, Sanwei Community, Xixiang Street
Bao'an District, Shenzhen P.R. China
Tel.: +86-0755-61156588 Fax.: +86-0755-61156599
Website:www.ntek.org.cn

TEST RESULT CERTIFICATION

Applicant's name KaiJet Technology International Limited
Address 6F., No113, Zhongcheng Rd., Tucheng Dist., New Taipei City 236, Taiwan (R.O.C.)

Manufacture's Name... SHENZHEN MTN ELECTRONICS CO.,LTD.
Address No.5,9 South Futai Road,Pingxi Community,Pingdi Street,Longgang District,Shenzhen City,518117,China

Product description

Product name Wireless N300 Dual Band USB Adapter
Model and/or type JUE302
reference
Serial Model N/A

Standards FCC Part15.247: 01 Oct. 2014

Test procedure ANSI C63.4-2009 and KDB 558074 D02 DTS Part 15.247 Old Rule

This device described above has been tested by NTEK, and the test results show that the equipment under test (EUT) is in compliance with the FCC requirements. And it is applicable only to the tested sample identified in the report.

This report shall not be reproduced except in full, without the written approval of NTEK, this document may be altered or revised by NTEK, personal only, and shall be noted in the revision of the document.

Date of Test

Date (s) of performance of tests 13 Jan. 2015 ~23 Jan. 2015

Date of Issue 23 Jan. 2015

Test Result **Pass**

Testing Engineer : Kyle Xu
(Kyle Xu)

Technical Manager : Brown Lu
(Brown Lu)

Authorized Signatory : Bill Yao
(Bill Yao)

Table of Contents

	Page
1 . SUMMARY OF TEST RESULTS	5
1.1 TEST FACILITY	6
1.2 MEASUREMENT UNCERTAINTY	6
2 . GENERAL INFORMATION	7
2.1 GENERAL DESCRIPTION OF EUT	7
2.2 DESCRIPTION OF TEST MODES	10
2.3 BLOCK DIGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED	11
2.4 DESCRIPTION OF SUPPORT UNITS(CONDUCTED MODE)	12
2.5 EQUIPMENTS LIST FOR ALL TEST ITEMS	13
3 . EMC EMISSION TEST	14
3.1 CONDUCTED EMISSION MEASUREMENT	14
3.1.1 POWER LINE CONDUCTED EMISSION LIMITS	14
3.1.2 TEST PROCEDURE	15
3.1.3 DEVIATION FROM TEST STANDARD	15
3.1.4 TEST SETUP	15
3.1.5 EUT OPERATING CONDITIONS	15
3.1.6 TEST RESULTS	16
3.2 RADIATED EMISSION MEASUREMENT	20
3.2.1 RADIATED EMISSION LIMITS	20
3.2.2 TEST PROCEDURE	21
3.2.3 DEVIATION FROM TEST STANDARD	21
3.2.4 TEST SETUP	22
3.2.5 EUT OPERATING CONDITIONS	23
3.2.6 TEST RESULTS (BETWEEN 9KHZ – 30 MHZ)	24
3.2.7 TEST RESULTS (BETWEEN 30MHZ – 1GHZ)	25
3.2.8 TEST RESULTS (ABOVE 1000 MHZ)	29
4 . POWER SPECTRAL DENSITY TEST	31
4.1 APPLIED PROCEDURES / LIMIT	31
4.1.1 TEST PROCEDURE	31
4.1.2 DEVIATION FROM STANDARD	31
4.1.3 TEST SETUP	31
4.1.4 EUT OPERATION CONDITIONS	31
4.1.5 TEST RESULTS	32
5 . BANDWIDTH TEST	46
5.1 APPLIED PROCEDURES / LIMIT	46
5.1.1 TEST PROCEDURE	46

Table of Contents

	Page
TEST SETUP	46
5.1.2 EUT OPERATION CONDITIONS	46
5.1.3 TEST RESULTS	47
6 . OUTPUT POWER TEST	61
6.1 APPLIED PROCEDURES / LIMIT	61
6.1.1 TEST PROCEDURE	61
6.1.2 DEVIATION FROM STANDARD	61
6.1.3 TEST SETUP	61
6.1.4 EUT OPERATION CONDITIONS	61
6.1.5 TEST RESULTS	62
7 . 100 KHZ BANDWIDTH OF FREQUENCY BAND EDGE	64
7.1 DEVIATION FROM STANDARD	64
7.2 TEST SETUP	64
7.3 EUT OPERATION CONDITIONS	64
7.4 TEST RESULTS	65
8 . ANTENNA REQUIREMENT	74
8.1 STANDARD REQUIREMENT	74
8.2 EUT ANTENNA	74
9 . EUT TEST PHOTO	75
APPENDIX-PHOTOGRAPHS OF EUT CONSTRUCTIONAL DETAILS	

1. SUMMARY OF TEST RESULTS

Test procedures according to the technical standards:

FCC Part15 (15.247) , Subpart C			
Standard Section	Test Item	Judgment	Remark
15.207	Conducted Emission	PASS	
15.247 (a)(2)	6dB Bandwidth	PASS	
15.247 (b)	Peak Output Power	PASS	
15.247 (c)	Radiated Spurious Emission	PASS	
15.247 (d)	Power Spectral Density	PASS	
15.205	Band Edge Emission	PASS	
15.203	Antenna Requirement	PASS	

NOTE:

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

1.1 TEST FACILITY

NTEK Testing Technology Co., Ltd

Add.:1/F, Building E, Fenda Science Park, Sanwei Community, Xixiang Street, Bao'an District, Shenzhen P.R. China.

FCC Registration No.:238937; IC Registration No.:9270A-1

CNAS Registration No.:L5516

1.2 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 %** .

No.	Item	Uncertainty
1	Conducted Emission Test	$\pm 1.38\text{dB}$
2	RF power,conducted	$\pm 0.16\text{dB}$
3	Spurious emissions,conducted	$\pm 0.21\text{dB}$
4	All emissions,radiated(<1G)	$\pm 4.68\text{dB}$
5	All emissions,radiated(>1G)	$\pm 4.89\text{dB}$
6	Temperature	$\pm 0.5^{\circ}\text{C}$
7	Humidity	$\pm 2\%$

2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

Equipment	Wireless N300 Dual Band USB Adapter	
Trade Name	j5 create	
Model Name	JUE302	
Product Description	The EUT is a Wireless N300 Dual Band USB Adapter	
	Operation Frequency:	802.11b/g/n(20MHz):2412~2462 MHz 802.11n(40MHz):2422~2452 MHz
	Modulation Type:	CCK/OFDM/DBPSK/DAPSK
	Bit Rate of Transmitter	802.11b:11/5.5/2/1 Mbps 802.11g:54/48/36/24/18/12/9/6Mbps 802.11n(20MHz):150/144.44/130/117/115.56/104/86.67/78/52/6.5Mbps 802.11n(40MHz):300/270/240/180/150/120/108/90/54 Mbps
	Number Of Channel	802.11b/g/n20MHz:11CH 802.11n40MHz:7CH
	Operation Frequency:	802.11a/n (20 MHz) : 5745 MHz ~ 5825 MHz 802.11n(40MHz): 5755MHz – 5795MHz
	Modulation Type:	OFDM (BPSK / QPSK / 16QAM / 64QAM)
	Antenna Designation:	Please see Note 3.
	Antenna Gain (dBi)	Please see Note 3.
	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.	
Channel List	Please refer to the Note 2.	
Ratings	DC 5.0V	
Adapter	N/A	
Battery	N/A	
Connecting I/O Port(s)	Please refer to the User's Manual	

Note:

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

2. 2.4GHz

Channel List for 802.11b/g/n(20 MHz)							
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
01	2412	04	2427	07	2442	10	2457
02	2417	05	2432	08	2447	11	2462
03	2422	06	2437	09	2452	-	-

Channel List for 802.11n(40MHz)							
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
03	2422	06	2437	09	2452	-	-
04	2427	07	2442	-	-	-	-
05	2432	08	2447	-	-	-	-

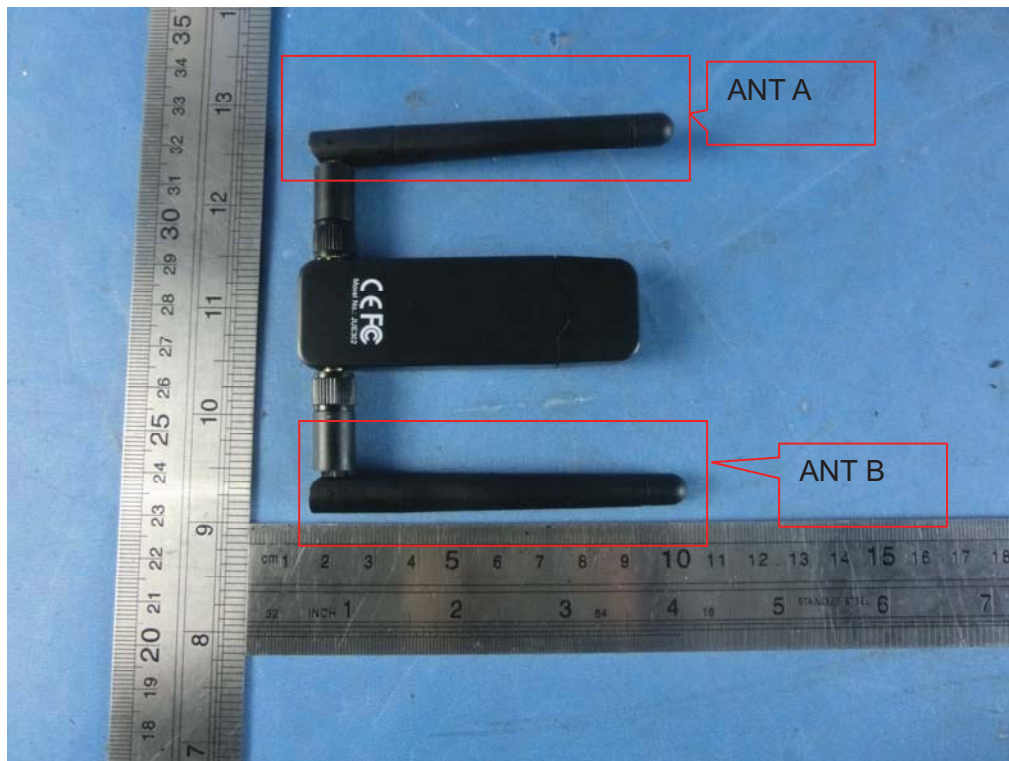
5GHz

802.11a/n20 MHz Carrier Frequency Channel							
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
149	5745	153	5765	157	5785	161	5805
165	5825	-	-	-	-	-	-

802.11n 40MHzCarrier Frequency Channel							
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
151	5755	159	5795			-	-

3.

Antenna	Brand	Model Name	Antenna Type	Gain (dBi)	NOTE
A	N/A	N/A	External antenna	2.0	Wifi Antenna
B	N/A	N/A	External antenna	2.0	Wifi Antenna



The Control software(tool_WIFI.exe) can control antenna A B ,
 For 2.4GHz mode, antenna A B are transmitting,two antennas simultaneously transmit.
 And the data is recorded for radiated emission and band edge.
 For 5GHz mode,antenna A B are transmitting Two antennas simultaneously transmit.
 And the data is recorded for radiated emission, and band edge.
 For MIMO mode , Directional gain= $G_{ANT} + 10\log(N) \text{dbi} = 5.01 \text{dbi}$ in 2.4GHz
 Directional gain= $G_{ANT} + 10\log(N) \text{dbi} = 5.01 \text{dbi}$ in 5.8GHz
 802.11a/b/g/n 2.4GHz & 5.8GHz has MIMO mode.

2.2 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 Mode	Description
Mode 1	802.11b CH1/ CH6/ CH11
Mode 2	802.11g CH1/ CH6/ CH11
Mode 3	802.11n20 CH1/ CH6/ CH11
Mode 4	802.11n40 CH3/ CH6/ CH9
Mode 5	keeping TX MIMO mode
Mode 6	802.11a /n 20 CH149/ CH157/ CH 165
Mode 7	802.11n40 CH 151 / CH 159

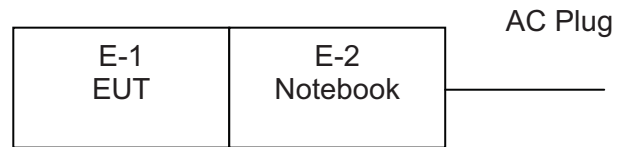
For Conducted Emission	
Final Test Mode	Description
Mode 5	keeping TX MIMO mode

For Radiated Emission	
Final Test Mode	Description
Mode 1	802.11b CH1/ CH6/ CH11
Mode 2	802.11g CH1/ CH6/ CH11
Mode 3	802.11n20 CH1/ CH6/ CH11
Mode 4	802.11n40 CH3/ CH6/ CH 9
Mode 5	keeping TX MIMO mode
Mode 6	802.11a /n20 CH149/ CH157/ CH165
Mode 7	802.11n40 CH151 / CH159

Note:

- (1) The measurements are performed at the highest, middle, lowest available channels.
- (2) The measurements are performed at all Bit Rate of Transmitter, the worst data was reported

2.3 BLOCK DIGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED



2.4 DESCRIPTION OF SUPPORT UNITS(CONDUCTED MODE)

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	Brand	Model/Type No.	Series No.	Note
E-1	Wireless N300 Dual Band USB Adapter	j5 create	JUE302	N/A	EUT
E-2	Notebook	DELL	PP10L	N/A	FCC DOC

Item	Shielded Type	Ferrite Core	Length	Note

Note:

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

2.5 EQUIPMENTS LIST FOR ALL TEST ITEMS

Radiation Test equipment

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until	Calibration period
1	Spectrum Analyzer	Agilent	E4407B	MY45108040	2014.07.06	2015.07.05	1 year
2	Test Receiver	R&S	ESPI	101318	2014.06.06	2015.06.05	1 year
3	Bilog Antenna	TESEQ	CBL6111D	31216	2014.07.06	2015.07.05	1 year
4	50Ω Coaxial Switch	Anritsu	MP59B	6200264416	2014.06.06	2015.06.05	1 year
5	Spectrum Analyzer	ADVANTEST	R3132	150900201	2014.06.06	2015.06.05	1 year
6	Horn Antenna	EM	EM-AH-10180	2011071402	2014.07.06	2015.07.05	1 year
7	Horn Ant	Schwarzbeck	BBHA 9170	9170-181	2014.07.06	2015.07.05	1 year
8	Amplifier	EM	EM-30180	060538	2014.12.22	2015.12.21	1 year
9	Loop Antenna	ARA	PLA-1030/B	1029	2014.06.06	2015.06.05	1 year
10	Power Meter	R&S	NRVS	100696	2014.07.06	2015.07.05	1 year
11	Power Sensor	R&S	URV5-Z4	0395.1619.05	2014.07.06	2015.07.05	1 year

Conduction Test equipment

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until	Calibration period
1	Test Receiver	R&S	ESCI	101160	2014.06.06	2015.06.05	1 year
2	LISN	R&S	ENV216	101313	2014.08.24	2015.08.23	1 year
3	LISN	EMCO	3816/2	00042990	2014.06.06	2015.06.05	1 year
4	50Ω Coaxial Switch	Anritsu	MP59B	6200264417	2014.06.06	2015.06.05	1 year
5	Passive Voltage Probe	R&S	ESH2-Z3	100196	2014.06.06	2015.06.05	1 year
6	Absorbing clamp	R&S	MOS-21	100423	2014.06.06	2015.06.05	1 year

1	Attenuation	MCE	24-10-34	BN9258	2014.06.06	2015.06.05	1 year
---	-------------	-----	----------	--------	------------	------------	--------

3. EMC EMISSION TEST

3.1 CONDUCTED EMISSION MEASUREMENT

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

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

0.15 -0.5	79.00	66.00	66 - 56 *	56 - 46 *	FCC
0.50 -5.0	73.00	60.00	56.00	46.00	FCC
5.0 -30.0	73.00	60.00	60.00	50.00	FCC

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.

The following table is the setting of the receiver

Receiver Parameters	Setting
Attenuation	10 dB
Start Frequency	0.15 MHz
Stop Frequency	30 MHz
IF Bandwidth	9 kHz

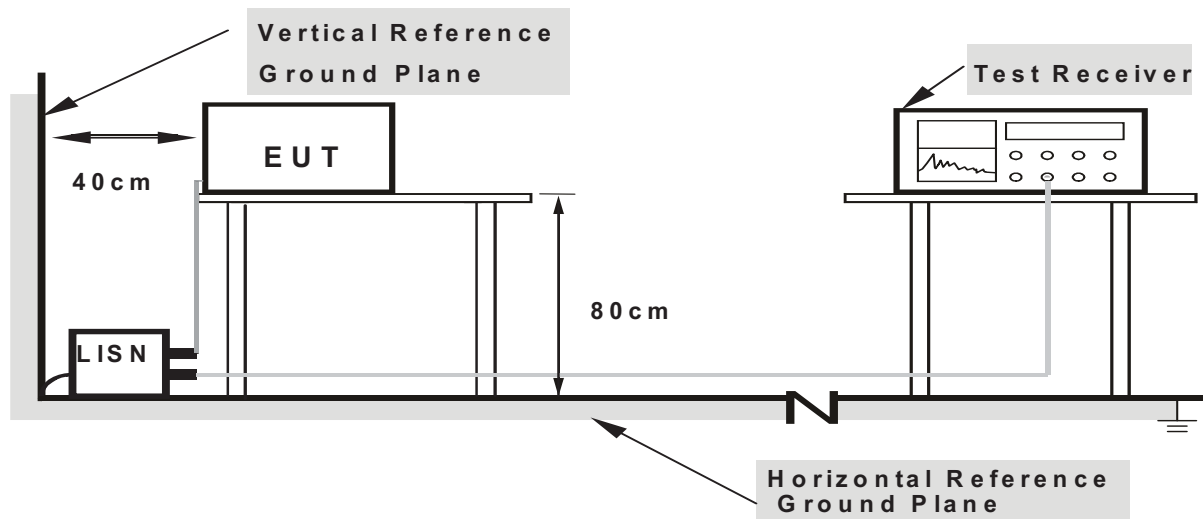
3.1.2 TEST PROCEDURE

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

3.1.3 DEVIATION FROM TEST STANDARD

No deviation

3.1.4 TEST SETUP



Note: 1.Support units were connected to second LISN.

2.Both of LISNs (AMN) are 80 cm from EUT and at least 80 from other units and other metal planes

3.1.5 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.

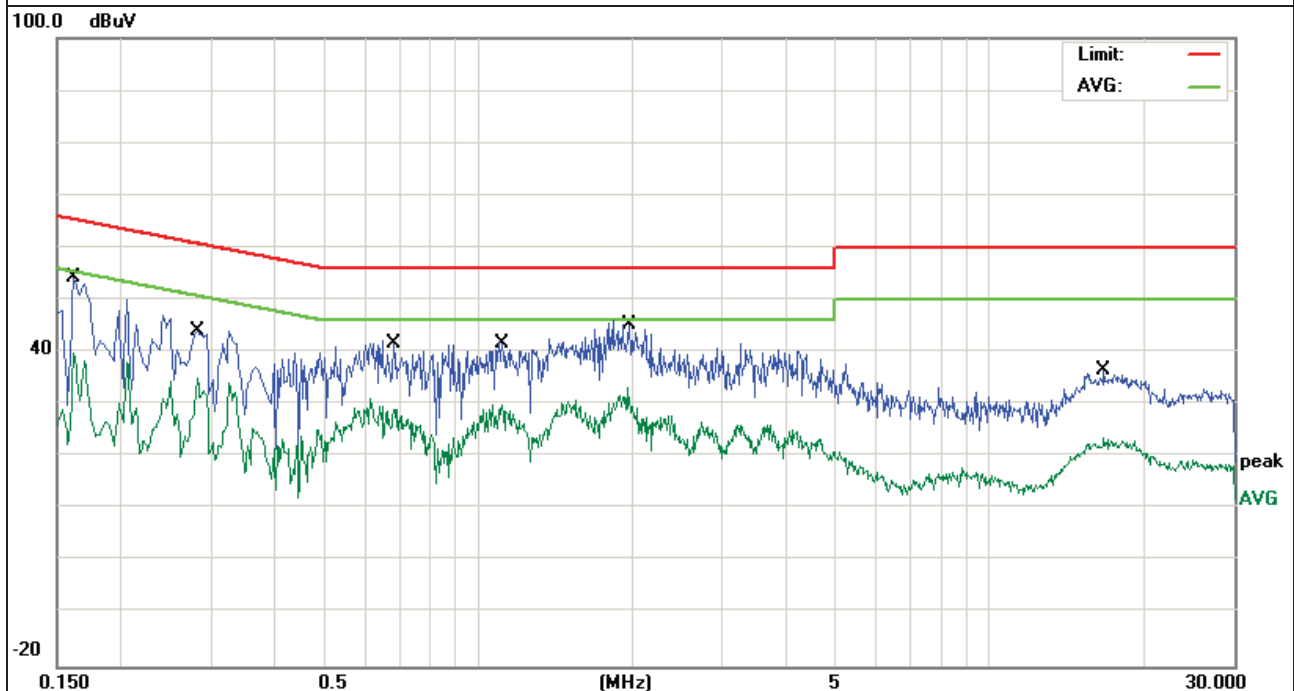
3.1.6 TEST RESULTS

EUT :	Wireless N300 Dual Band USB Adapter	Model Name. :	JUE302
Temperature :	26 °C	Relative Humidity :	56%
Pressure :	1010hPa	Phase :	L
Test Voltage :	DC 5V From PC AC120V/60Hz	Test Mode :	Mode 5(2.4G)

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Remark
(MHz)	(dBμV)	(dB)	(dBμV)	(dBμV)	(dB)	
0.1620	44.78	9.60	54.38	65.36	-10.98	QP
0.1620	30.38	9.60	39.98	55.36	-15.38	AVG
0.2818	34.60	9.50	44.10	60.76	-16.66	QP
0.2818	25.44	9.50	34.94	50.76	-15.82	AVG
0.6860	32.10	9.53	41.63	56.00	-14.37	QP
0.6860	19.61	9.53	29.14	46.00	-16.86	AVG
1.1140	32.05	9.53	41.58	56.00	-14.42	QP
1.1140	20.42	9.53	29.95	46.00	-16.05	AVG
1.9538	33.25	9.55	42.80	56.00	-13.20	QP
1.9538	23.60	9.55	33.15	46.00	-12.85	AVG
16.7179	26.43	10.00	36.43	60.00	-23.57	QP
16.7179	13.56	10.00	23.56	50.00	-26.44	AVG

Remark:

1. All readings are Quasi-Peak and Average values.
2. Factor = Insertion Loss + Cable Loss.

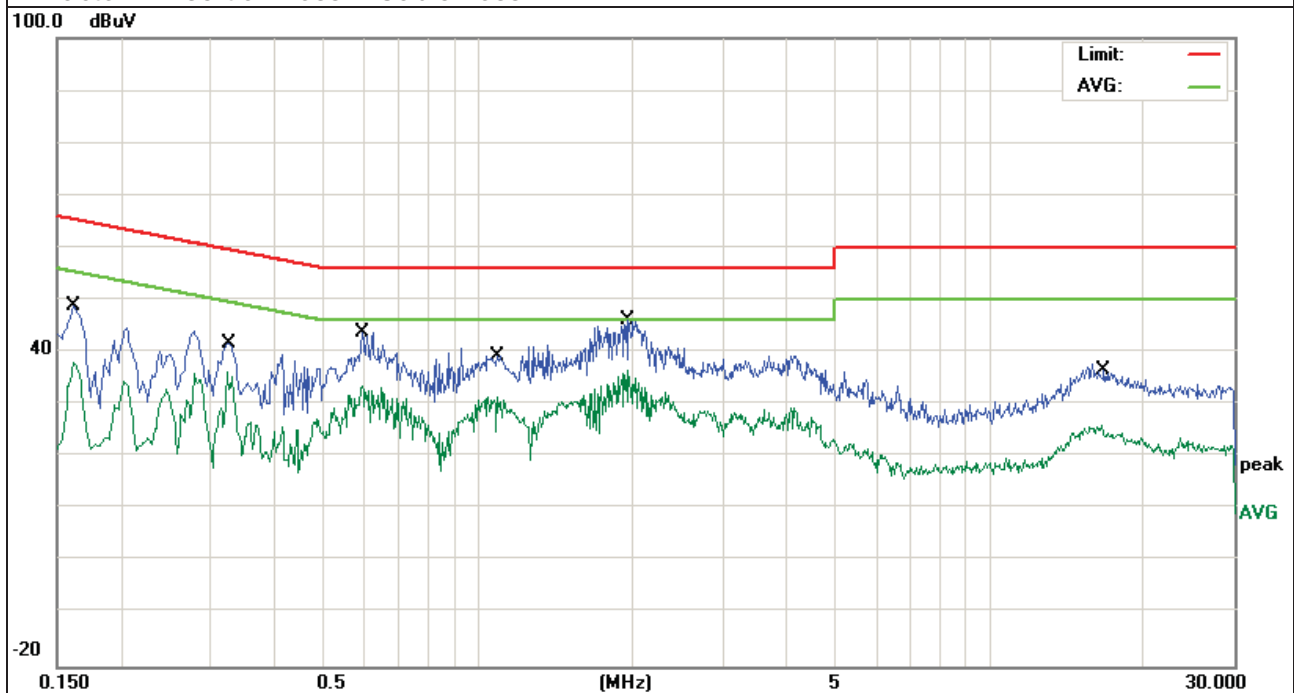


EUT :	Wireless N300 Dual Band USB Adapter	Model Name. :	JUE302
Temperature :	26 °C	Relative Humidity :	56%
Pressure :	1010hPa	Phase :	N
Test Voltage :	DC 5V From PC AC120V/60Hz	Test Mode :	Mode 5(2.4G)

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Remark
(MHz)	(dBμV)	(dB)	(dBμV)	(dBμV)	(dB)	
0.1620	39.19	9.60	48.79	65.36	-16.57	QP
0.1620	28.47	9.60	38.07	55.36	-17.29	AVG
0.3220	32.01	9.50	41.51	59.65	-18.14	QP
0.3220	26.73	9.50	36.23	49.65	-13.42	AVG
0.5939	34.26	9.51	43.77	56.00	-12.23	QP
0.5939	24.04	9.51	33.55	46.00	-12.45	AVG
1.0900	29.65	9.53	39.18	56.00	-16.82	QP
1.0900	22.02	9.53	31.55	46.00	-14.45	AVG
1.9619	36.50	9.55	46.05	56.00	-9.95	QP
1.9619	27.01	9.55	36.56	46.00	-9.44	AVG
16.5458	24.94	9.99	34.93	60.00	-25.07	QP
16.5458	15.98	9.99	25.97	50.00	-24.03	AVG

Remark:

1. All readings are Quasi-Peak and Average values.
2. Factor = Insertion Loss + Cable Loss.

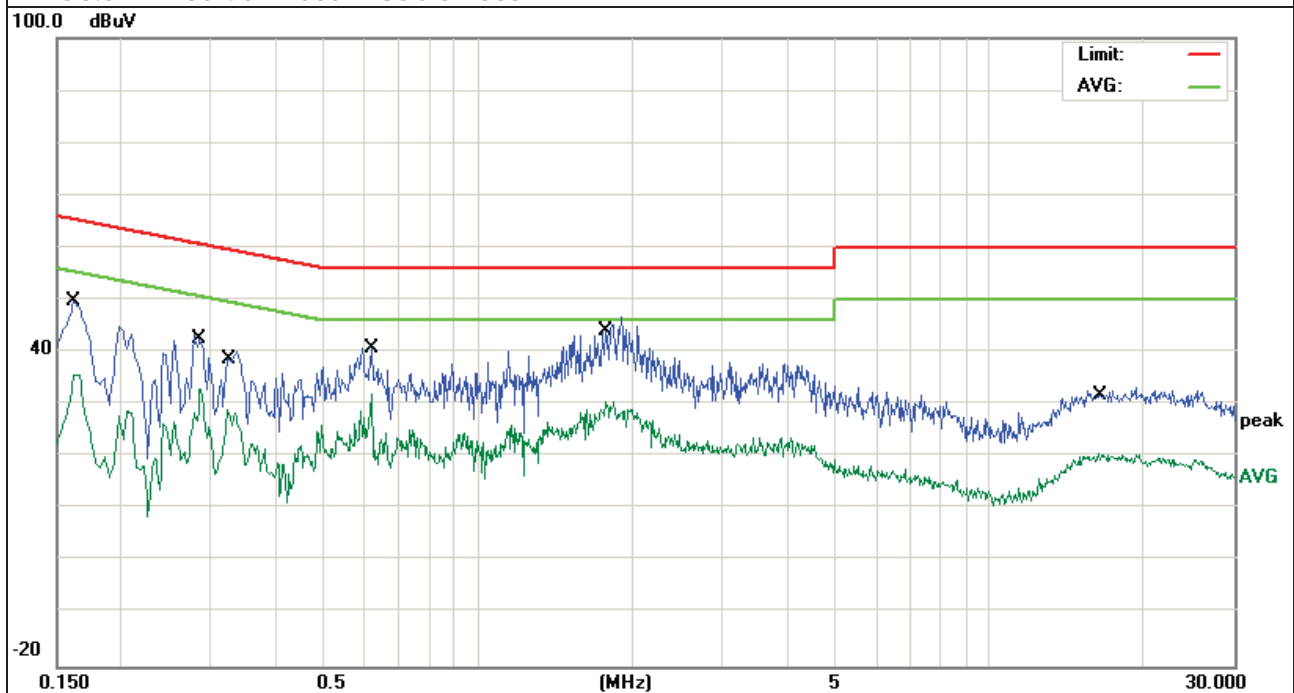


EUT :	Wireless N300 Dual Band USB Adapter	Model Name. :	JUE302
Temperature :	26 °C	Relative Humidity :	56%
Pressure :	1010hPa	Phase :	L
Test Voltage :	DC 5V From PC AC120V/60Hz	Test Mode :	Mode 5(5G)

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Remark
(MHz)	(dBμV)	(dB)	(dBμV)	(dBμV)	(dB)	
0.1620	40.04	9.60	49.64	65.36	-15.72	QP
0.1620	26.10	9.60	35.70	55.36	-19.66	AVG
0.2858	33.14	9.50	42.64	60.64	-18.00	QP
0.2858	23.59	9.50	33.09	50.64	-17.55	AVG
0.3220	29.11	9.50	38.61	59.65	-21.04	QP
0.3220	19.60	9.50	29.10	49.65	-20.55	AVG
0.6179	31.10	9.52	40.62	56.00	-15.38	QP
0.6179	22.48	9.52	32.00	46.00	-14.00	AVG
1.7740	34.45	9.55	44.00	56.00	-12.00	QP
1.7740	21.03	9.55	30.58	46.00	-15.42	AVG
16.2859	21.69	9.95	31.64	60.00	-28.36	QP
16.2859	10.72	9.95	20.67	50.00	-29.33	AVG

Remark:

1. All readings are Quasi-Peak and Average values.
2. Factor = Insertion Loss + Cable Loss.

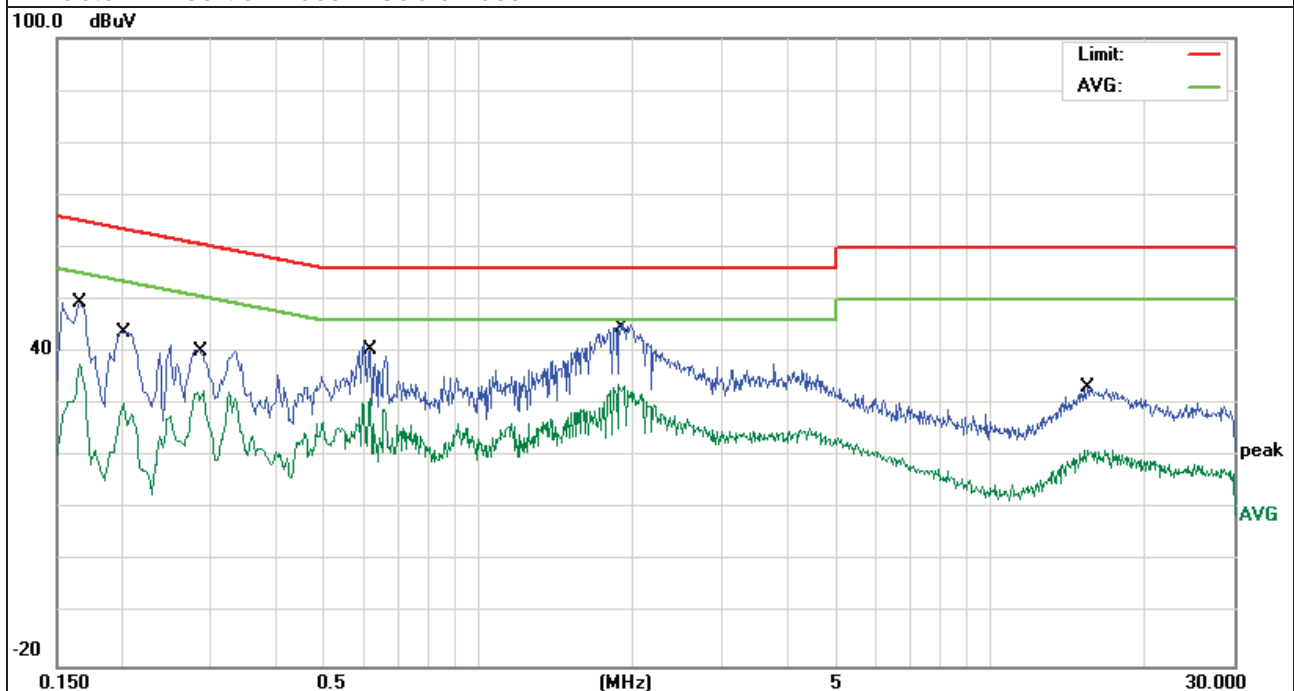


EUT :	Wireless N300 Dual Band USB Adapter	Model Name. :	JUE302
Temperature :	26 °C	Relative Humidity :	56%
Pressure :	1010hPa	Phase :	N
Test Voltage :	DC 5V From PC AC120V/60Hz	Test Mode :	Mode 5(5G)

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV)	Limits (dBμV)	Margin (dB)	Remark
0.1660	39.90	9.59	49.49	65.15	-15.66	QP
0.1660	28.23	9.59	37.82	55.15	-17.33	AVG
0.2020	34.38	9.49	43.87	63.52	-19.65	QP
0.2020	20.90	9.49	30.39	53.52	-23.13	AVG
0.2899	29.72	9.50	39.22	60.52	-21.30	QP
0.2899	23.01	9.50	32.51	50.52	-18.01	AVG
0.6139	31.02	9.52	40.54	56.00	-15.46	QP
0.6139	21.66	9.52	31.18	46.00	-14.82	AVG
1.8779	35.09	9.55	44.64	56.00	-11.36	QP
1.8779	24.29	9.55	33.84	46.00	-12.16	AVG
15.5379	23.36	9.89	33.25	60.00	-26.75	QP
15.5379	11.38	9.89	21.27	50.00	-28.73	AVG

Remark:

1. All readings are Quasi-Peak and Average values.
2. Factor = Insertion Loss + Cable Loss.



3.2 RADIATED EMISSION MEASUREMENT

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

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

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

LIMITS OF RADIATED EMISSION MEASUREMENT (Above 1000MHz)

FREQUENCY (MHz)	dBuV/m@at 3M	
	PEAK	AVERAGE
Above 1000	74	54

Notes:

- (1) The limit for radiated test was performed according to FCC PART 15C.
- (2) The tighter limit applies at the band edges.
- (3) Emission level (dBuV/m)=20log Emission level (uV/m).

Spectrum Parameter	Setting
Attenuation	Auto
Start Frequency	1000 MHz
Stop Frequency	10th carrier harmonic
RB / VB (emission in restricted band)	RBW 1MHz VBW 1MHz PEAK detector for PK value ,RMS detector for AV value

Receiver Parameter	Setting
Attenuation	Auto
Start ~ Stop Frequency	9kHz~150kHz / RB 200Hz for QP
Start ~ Stop Frequency	150kHz~30MHz / RB 9kHz for QP
Start ~ Stop Frequency	30MHz~1000MHz / RB 120kHz for QP

3.2.2 TEST PROCEDURE

- a. The measuring distance of at 3 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 open area test site. 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.

Note:

Both horizontal and vertical antenna polarities were tested and performed pretest to three orthogonal axis. The worst case emissions were reported

During the radiated emission test, the Spectrum Analyzer was set with the following configurations:

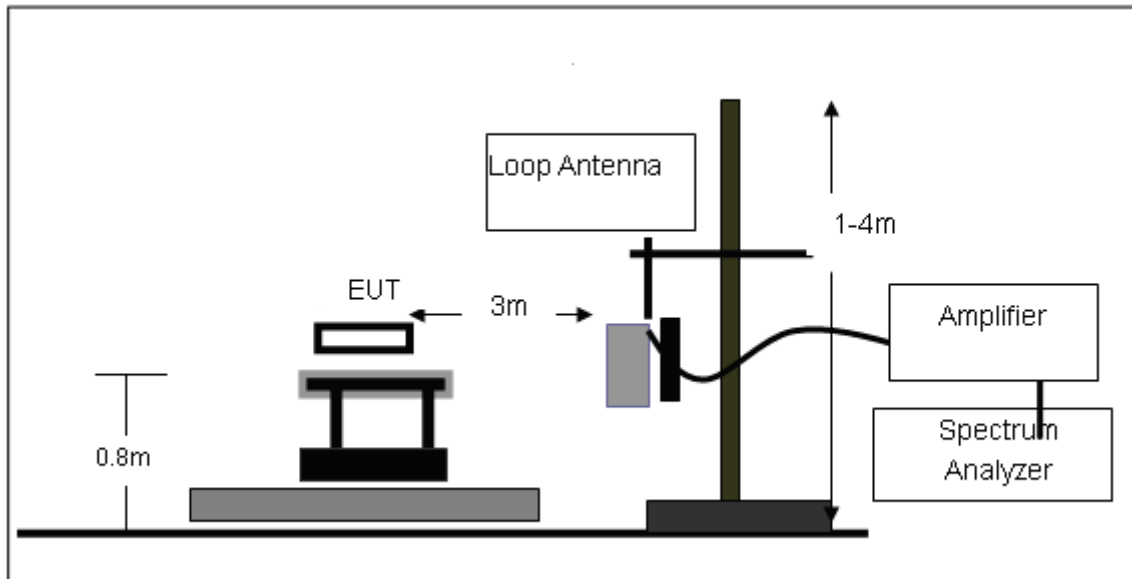
Frequency Band (MHz)	Function	Resolution bandwidth	Video Bandwidth
30 to 1000	QP	120 kHz	300 kHz
Above 1000	Peak	1 MHz	1 MHz
	RMS	1 MHz	1 MHz

3.2.3 DEVIATION FROM TEST STANDARD

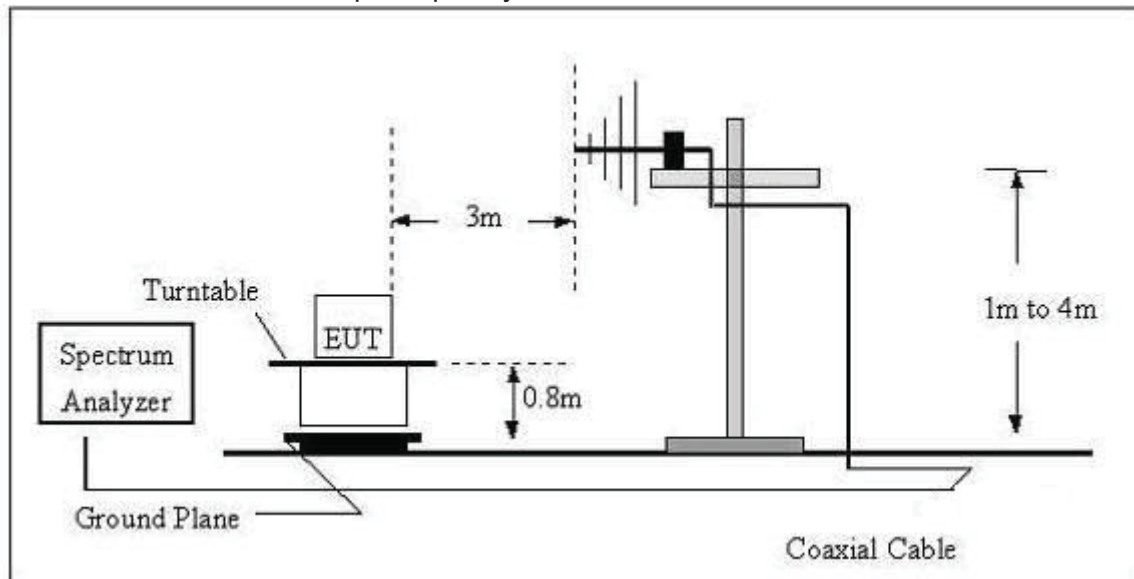
No deviation

3.2.4 TEST SETUP

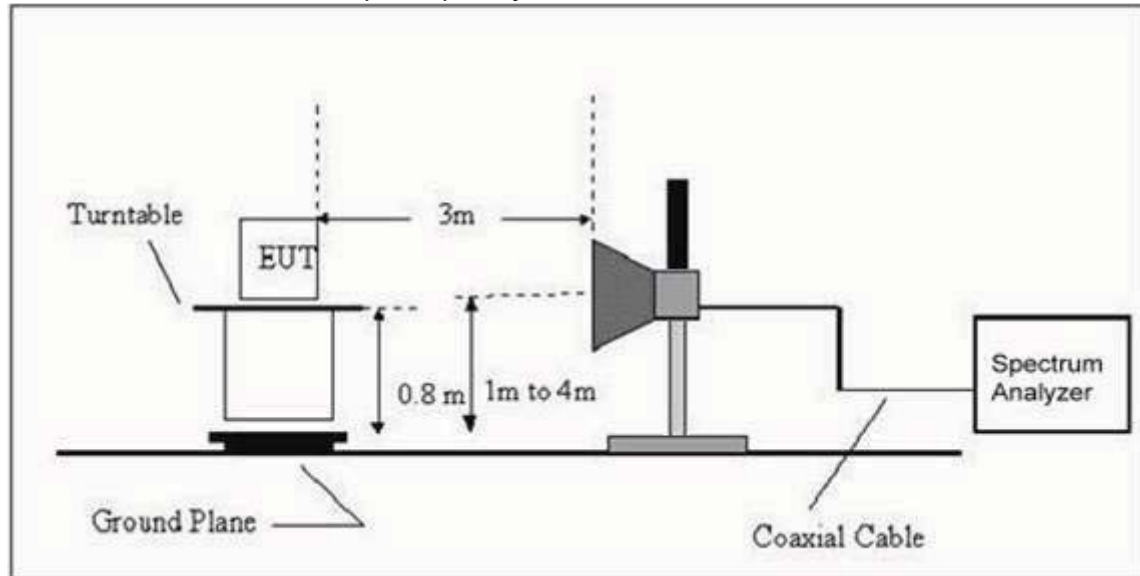
(A) Radiated Emission Test-Up Frequency Below 30MHz



(B) Radiated Emission Test-Up Frequency 30MHz~1GHz



(C) Radiated Emission Test-Up Frequency Above 1GHz

**3.2.5 EUT OPERATING CONDITIONS**

The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.

3.2.6 TEST RESULTS (BETWEEN 9KHZ – 30 MHZ)

EUT:	Wireless N300 Dual Band USB Adapter	Model Name. :	JUE302
Temperature:	20 °C	Relative Humidity:	48%
Pressure:	1010 hPa	Test Voltage :	DC 5V From PC AC120V/60Hz
Test Mode :	keeping TX MIMO mode	Polarization :	--

Freq.	Reading	Limit	Margin	State
(MHz)	(dBuV/m)	(dBuV/m)	(dB)	P/F
--	--	--	--	N/A
--	--	--	--	N/A

NOTE:

The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

Distance extrapolation factor = $40 \log (\text{specific distance/test distance})(\text{dB})$;

Limit line = specific limits(dBuv) + distance extrapolation factor.

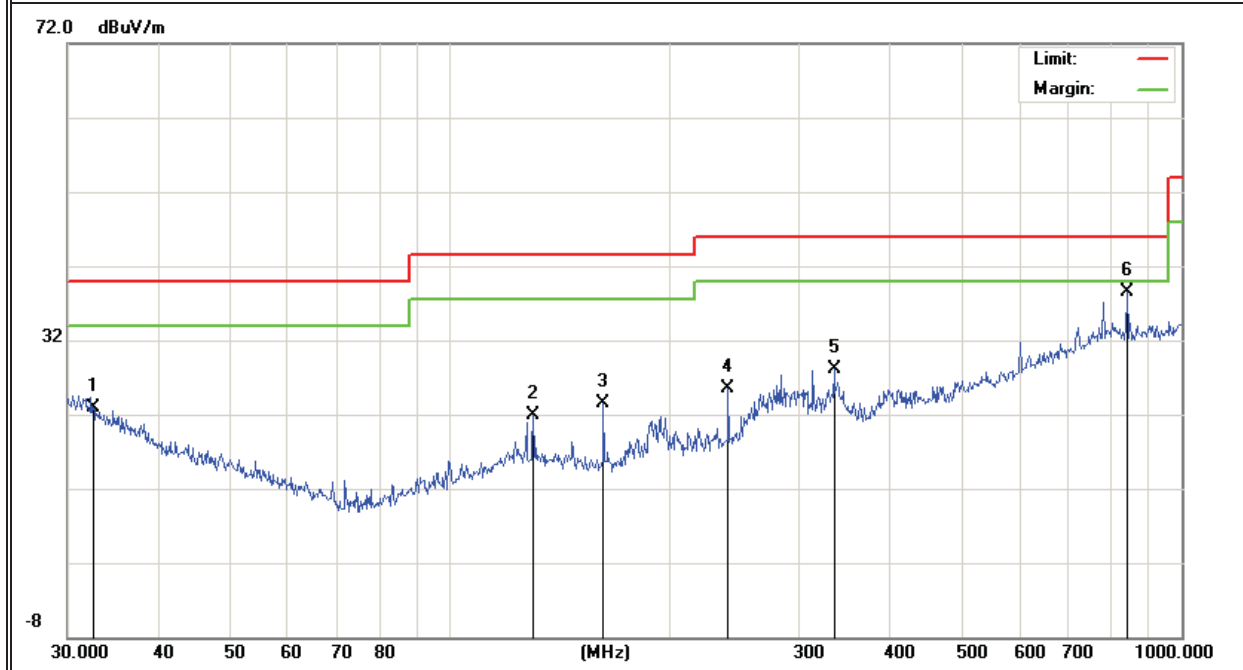
3.2.7 TEST RESULTS (BETWEEN 30MHZ – 1GHZ)

EUT :	Wireless N300 Dual Band USB Adapter	Model Name :	JUE302
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 5V From PC AC120V/60Hz
Test Mode :	keeping TX MIMO mode (2.4G)		

Polar (H/V)	Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Remark
	(MHz)	(dBuV)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
V	32.5197	4.89	18.05	22.94	40.00	-17.06	QP
V	129.9225	9.93	11.89	21.82	43.50	-21.68	QP
V	162.0414	13.06	10.50	23.56	43.50	-19.94	QP
V	239.9874	12.05	13.49	25.54	46.00	-20.46	QP
V	334.8589	12.45	15.61	28.06	46.00	-17.94	QP
V	842.1295	11.21	27.26	38.47	46.00	-7.53	QP

Remark:

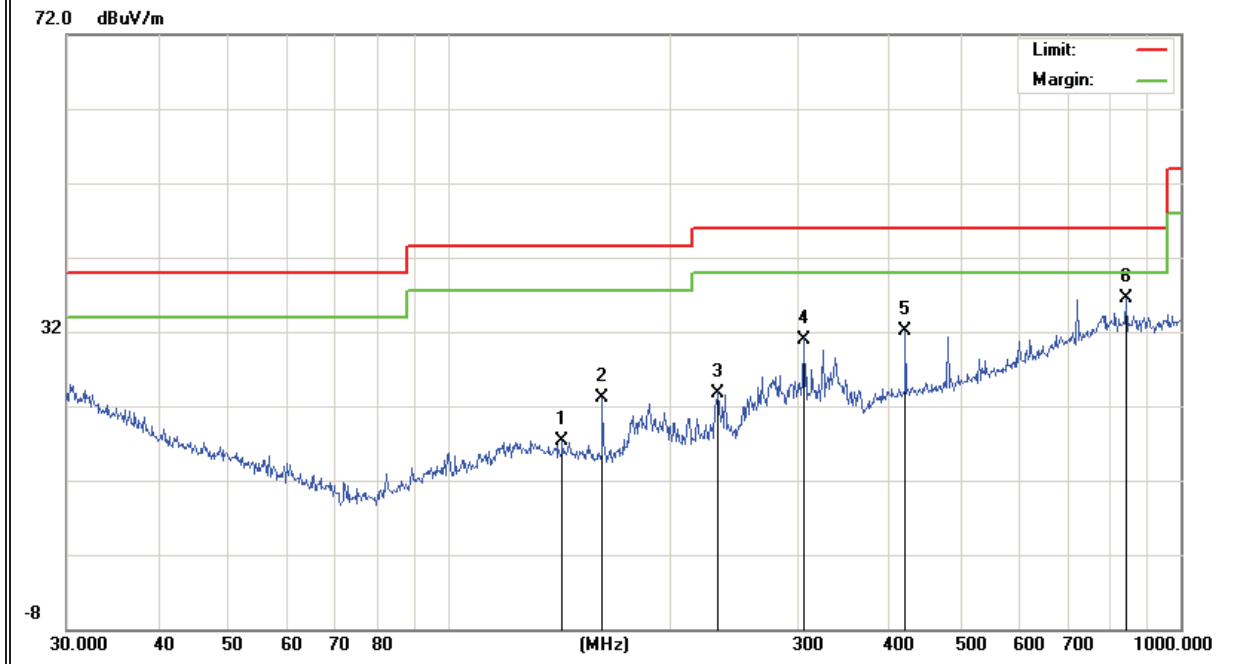
Absolute Level= ReadingLevel+ Factor, Margin= Absolute Level - Limit



Polar (H/V)	Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Remark
	(MHz)	(dBuV)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
H	142.8243	6.16	11.13	17.29	43.50	-26.21	QP
H	162.0414	12.61	10.50	23.11	43.50	-20.39	QP
H	233.3487	10.76	13.04	23.80	46.00	-22.20	QP
H	305.6800	16.61	14.39	31.00	46.00	-15.00	QP
H	420.5803	13.39	18.72	32.11	46.00	-13.89	QP
H	842.1295	9.27	27.26	36.53	46.00	-9.47	QP

Remark:

Absolute Level= ReadingLevel+ Factor, Margin= Absolute Level - Limit

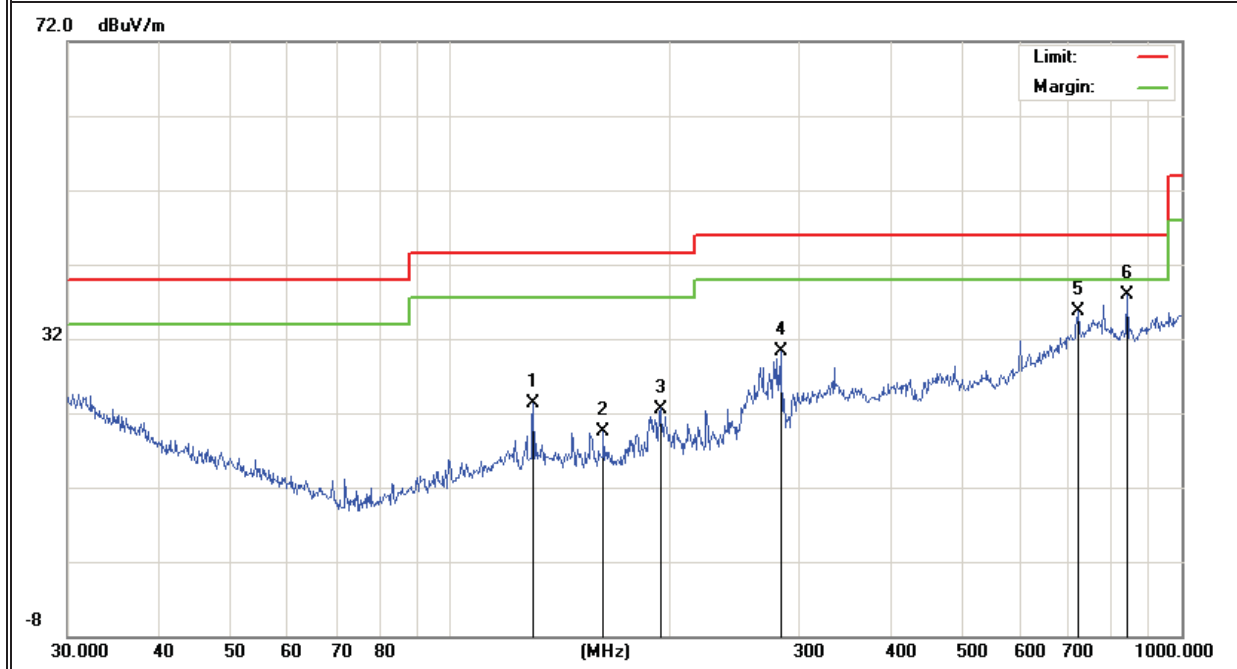


EUT :	Wireless N300 Dual Band USB Adapter	Model Name :	JUE302
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 5V From PC AC120V/60Hz
Test Mode :	keeping TX MIMO mode (5.0G)		

Polar (H/V)	Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Remark
	(MHz)	(dBuV)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
V	129.9225	11.43	11.89	23.32	43.50	-20.18	QP
V	162.0414	9.06	10.50	19.56	43.50	-23.94	QP
V	193.7726	11.86	10.74	22.60	43.50	-20.90	QP
V	282.9852	16.30	13.95	30.25	46.00	-15.75	QP
V	721.7259	10.32	25.36	35.68	46.00	-10.32	QP
V	842.1295	10.71	27.26	37.97	46.00	-8.03	QP

Remark:

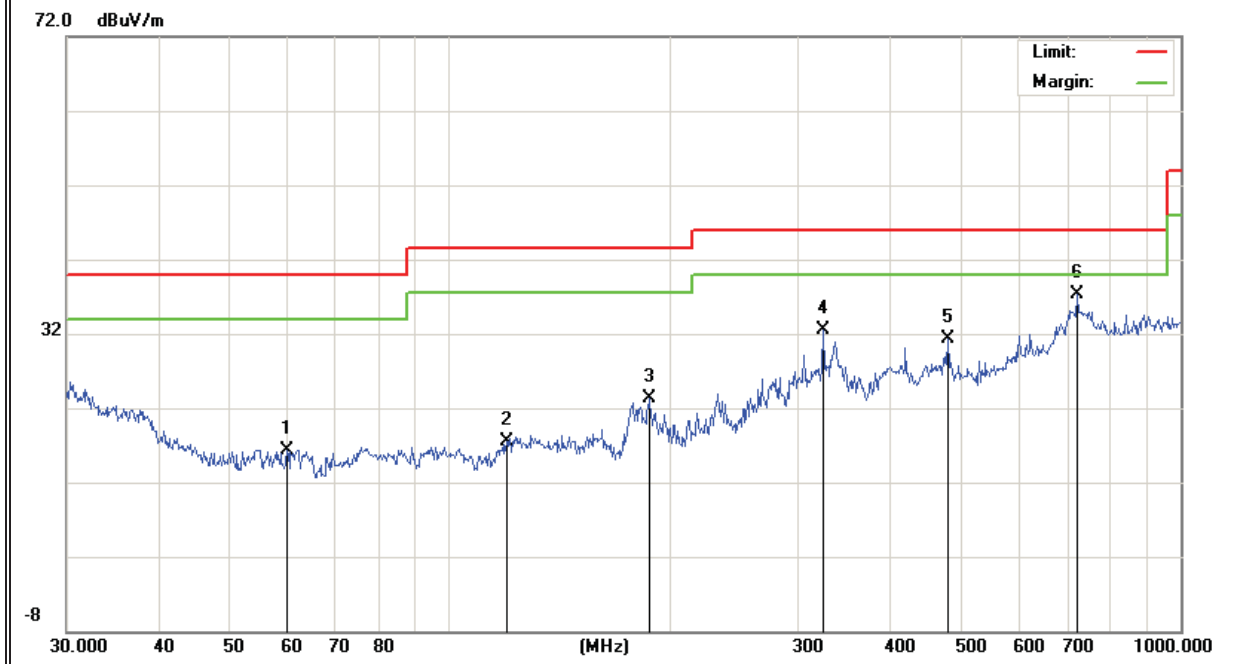
Absolute Level= ReadingLevel+ Factor, Margin= Absolute Level - Limit



Polar (H/V)	Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Remark
	(MHz)	(dBuV)	(dB)	(dBuV/m)	(dBuV/m)	(dB)	
H	60.069	8.52	7.81	16.33	40.00	-23.67	QP
H	119.8555	5.42	12.07	17.49	43.50	-26.01	QP
H	187.7529	12.58	10.68	23.26	43.50	-20.24	QP
H	324.456	17.39	15.18	32.57	46.00	-13.43	QP
H	480.5276	11.35	19.91	31.26	46.00	-14.74	QP
H	721.7259	12.04	25.36	37.40	46.00	-8.60	QP

Remark:

Absolute Level= ReadingLevel+ Factor, Margin= Absolute Level - Limit



3.2.8 TEST RESULTS (ABOVE 1000 MHZ)

EUT :	Wireless N300 Dual Band USB Adapter	Model Name :	JUE302
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 5V From PC AC120V/60Hz
Test Mode :	keeping TX MIMO mode (2.4G)		

Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
Low Channel (2412 MHz)-Above 1G							
Vertical	4824.000	47.59	10.44	58.03	74	-15.97	Pk
Vertical	4824.000	33.51	10.44	43.95	54	-10.05	Av
Vertical	7236.000	39.44	12.39	51.83	74	-22.17	Pk
Horizontal	4824.000	47.83	10.44	58.27	74	-15.73	Pk
Horizontal	4824.000	32.36	10.44	42.8	54	-11.2	Av
Horizontal	7236.000	34.68	12.39	47.07	74	-26.93	Pk
Mid Channel (2437 MHz)-Above 1G							
Vertical	4874.000	45.83	10.4	56.23	74	-17.77	Pk
Vertical	4874.000	31.04	10.4	41.44	54	-12.56	Av
Vertical	7311.000	35.78	12.75	48.53	74	-25.47	Pk
Horizontal	4874.000	46.53	10.4	56.93	74	-17.07	Pk
Horizontal	4874.000	29.36	10.4	39.76	54	-14.24	Av
Horizontal	7311.000	31.36	12.75	44.11	74	-29.89	Pk
High Channel (2462 MHz)- Above 1G							
Vertical	4924.000	46.62	10.39	57.01	74	-16.99	Pk
Vertical	4924.000	34.11	10.39	44.5	54	-9.50	Av
Vertical	7386.000	37.36	12.68	50.04	74	-23.96	Pk
Horizontal	4924.000	47.36	10.39	57.75	74	-16.25	Pk
Horizontal	4924.000	29.87	10.39	40.26	54	-13.74	Av
Horizontal	7386.000	32.12	12.68	44.8	74	-29.20	Pk

Note: 802.11b,g,nH20,nH40 Keeping TX MIMO mode all have been tested , 802.11b” mode is the worst mode.. When PK value is lower than the Average value limit, average didn't record.

EUT :	Wireless N300 Dual Band USB Adapter	Model Name :	JUE302
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 5V From PC AC120V/60Hz
Test Mode :	keeping TX MIMO mode (5.8G)		

Polar (H/V)	Frequency (MHz)	Meter Reading (dBuV)	Factor (dB)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
Low Channel (5745 MHz)-Above 1G							
Vertical	11490.000	37.36	14.21	51.57	74	-22.43	Pk
Vertical	17235.000	34.19	16.09	50.28	74	-23.72	Pk
Horizontal	11490.000	34.9	14.21	49.11	74	-24.89	Pk
Horizontal	17235.000	35.16	16.09	51.25	74	-22.75	Pk
middle Channel (5785 MHz)-Above 1G							
Vertical	11570.000	36.36	14.51	50.87	74	-23.13	Pk
Vertical	17355.000	35.25	16.15	51.4	74	-22.6	Pk
Horizontal	11570.000	34.41	14.51	48.92	74	-25.08	Pk
Horizontal	17355.000	33.27	16.15	49.42	74	-24.58	Pk
High Channel (5825 MHz)-Above 1G							
Vertical	11590.000	37.29	14.55	51.84	74	-22.16	Pk
Vertical	17385.000	35.72	16.18	51.9	74	-22.1	Pk
Horizontal	11590.000	34.69	14.55	49.24	74	-24.76	Pk
Horizontal	17385.000	35.58	16.18	51.76	74	-22.24	Pk

Note: 802.11b,g,nH20,nH40 Keeping TX MIMO mode all have been tested , 802.11b” mode is the worst mode.. When PK value is lower than the Average value limit, average didn't record.

4. POWER SPECTRAL DENSITY TEST

4.1 APPLIED PROCEDURES / LIMIT

FCC Part15 (15.247) , Subpart C				
Section	Test Item	Limit	Frequency Range (MHz)	Result
15.247	Power Spectral Density	8 dBm (in any 3KHz)	2400-2483.5	PASS

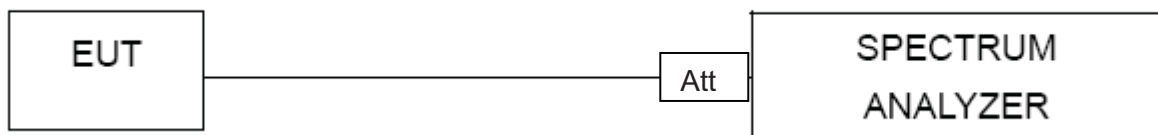
4.1.1 TEST PROCEDURE

1. Set analyzer center frequency to DTS channel center frequency.
2. Set the span to 1.5 times the DTS channel bandwidth.
3. 3 kHz ≤ Set the RBW ≤ 100 kHz.
4. Set the VBW ≥ 3 x RBW.
5. Detector = peak.
6. Sweep time = auto couple.
7. Trace mode = max hold.
8. Allow trace to fully stabilize.
9. Use the peak marker function to determine the maximum amplitude level within the RBW.
10. If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.

4.1.2 DEVIATION FROM STANDARD

No deviation.

4.1.3 TEST SETUP



4.1.4 EUT OPERATION CONDITIONS

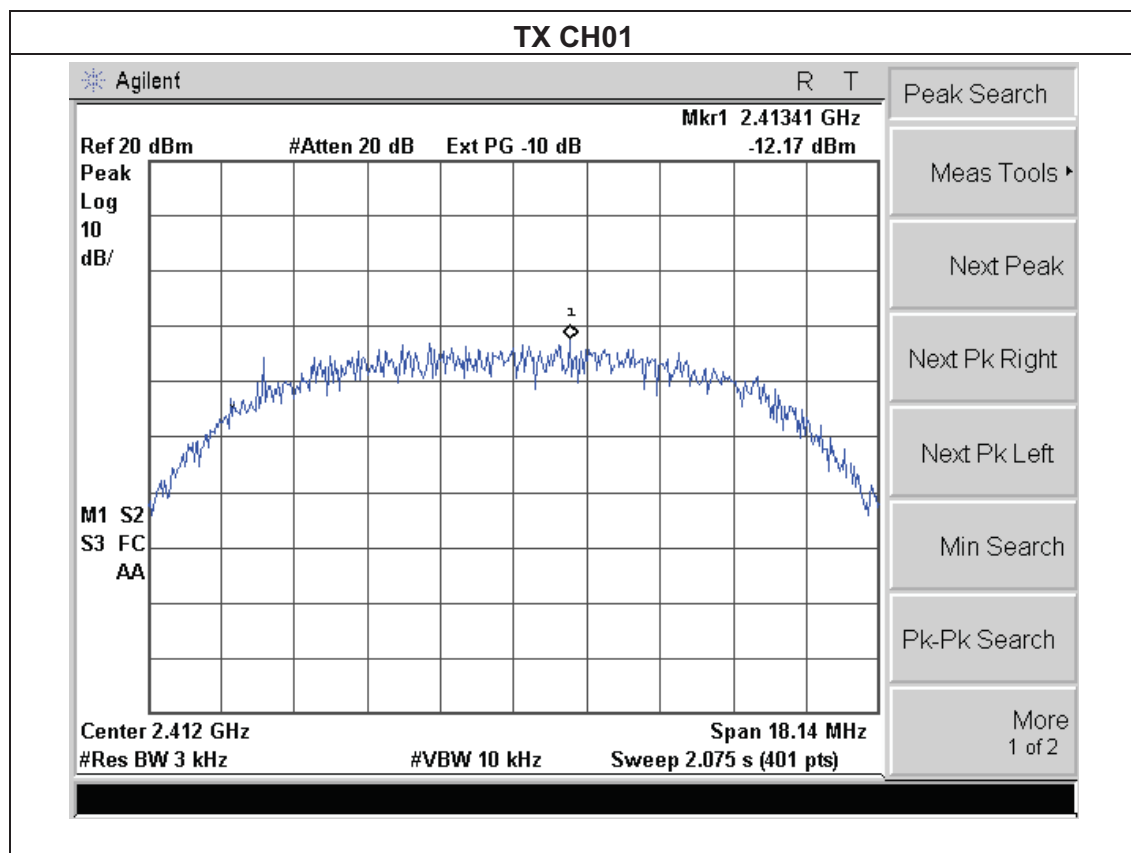
The EUT tested system was configured as the statements of 2.1 Unless otherwise a special operating condition is specified in the follows during the testing.

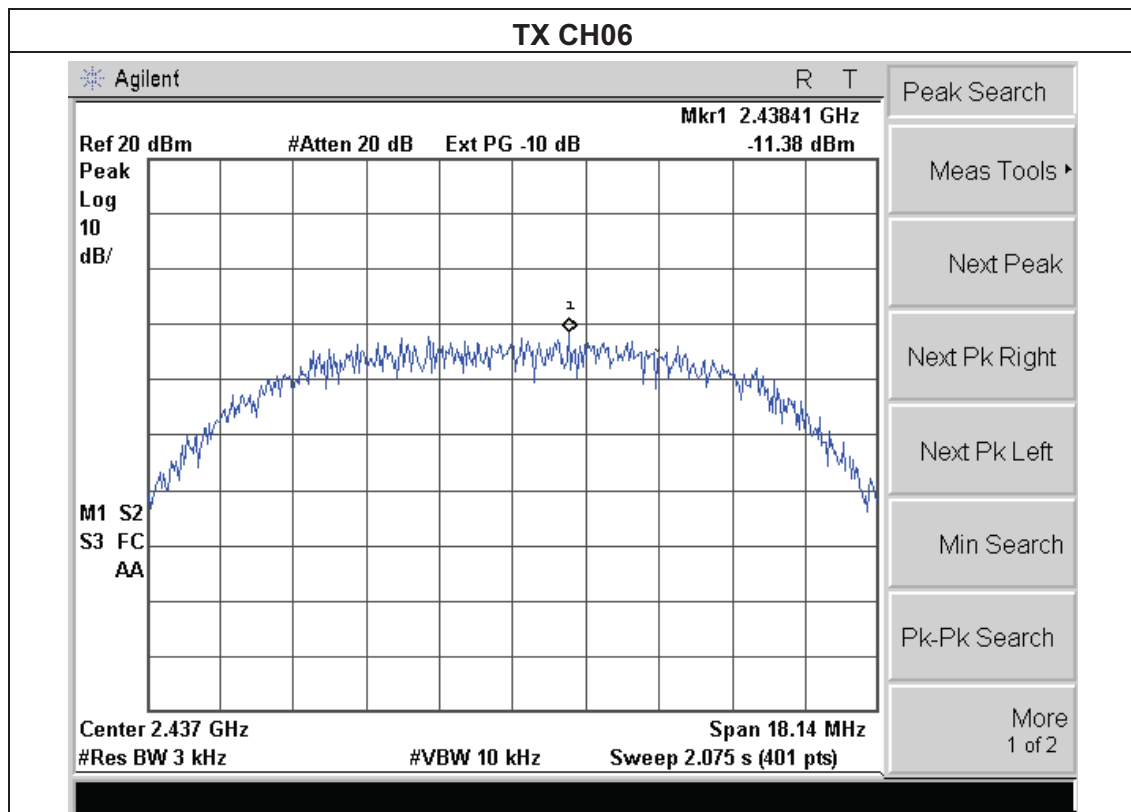
4.1.5 TEST RESULTS

EUT :	Wireless N300 Dual Band USB Adapter	Model Name :	JUE302
Temperature :	25 °C	Relative Humidity :	56%
Pressure :	1015 hPa	Test Voltage :	DC 5V From PC AC120V/60Hz
Test Mode :	TX b Mode /CH01, CH06, CH11		

Frequency	Power Density A (dBm)	Power Density B (dBm)	total power density (dBm)	Limit (dBm)	Result
2412 MHz	-12.17	-13.25	-9.67	8	PASS
2437 MHz	-11.38	-12.47	-9.31	8	PASS
2462 MHz	-12.23	-13.32	-9.73	8	PASS

NOTE: A(B) Represent the value of antenna A and B, ,only shown Antenna A Plot.

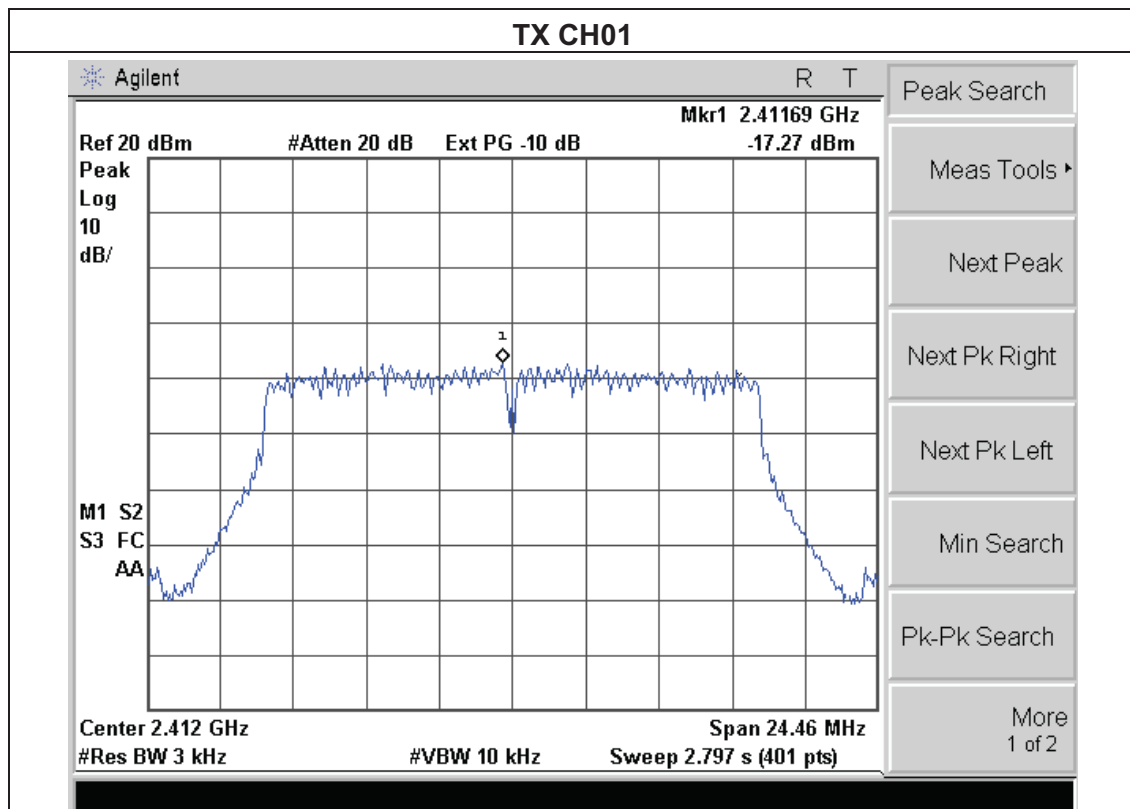


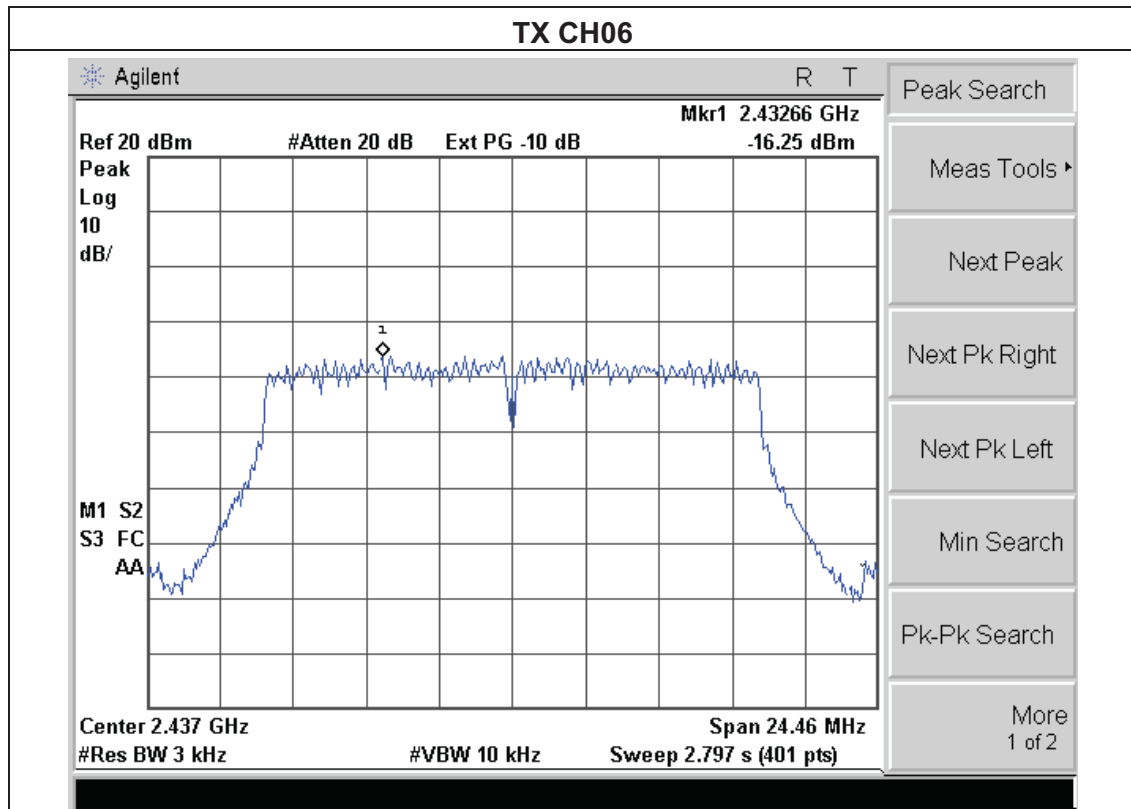


EUT :	Wireless N300 Dual Band USB Adapter	Model Name :	JUE302
Temperature :	25 °C	Relative Humidity :	56%
Pressure :	1015 hPa	Test Voltage :	DC 5V From PC AC120V/60Hz
Test Mode :	TX g Mode /CH01, CH06, CH11		

Frequency	Power Density A (dBm)	Power Density B (dBm)	total power density (dBm)	Limit (dBm)	Result
2412 MHz	-17.27	-18.41	-14.79	8	PASS
2437 MHz	-16.25	-17.13	-14.19	8	PASS
2462 MHz	-16.97	-17.76	-14.34	8	PASS

NOTE: A(B) Represent the value of antenna A and B, The worst data is A Antenna ,only shown Antenna A Plot.

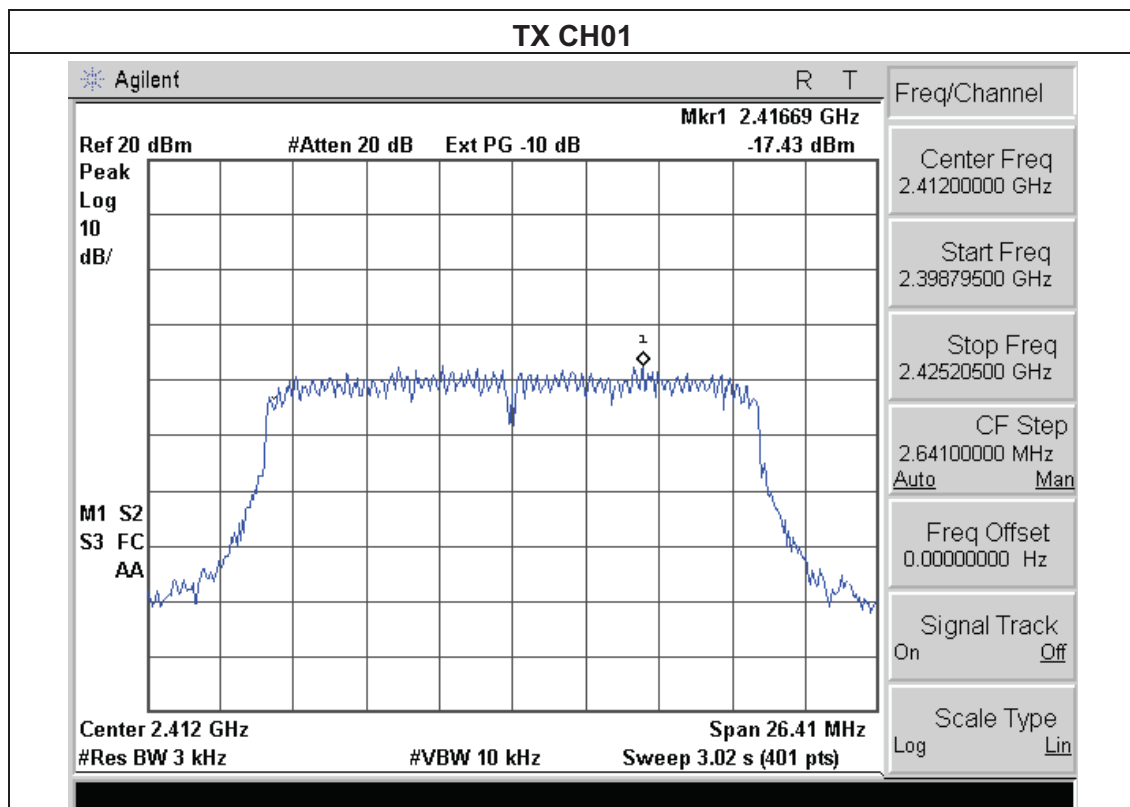


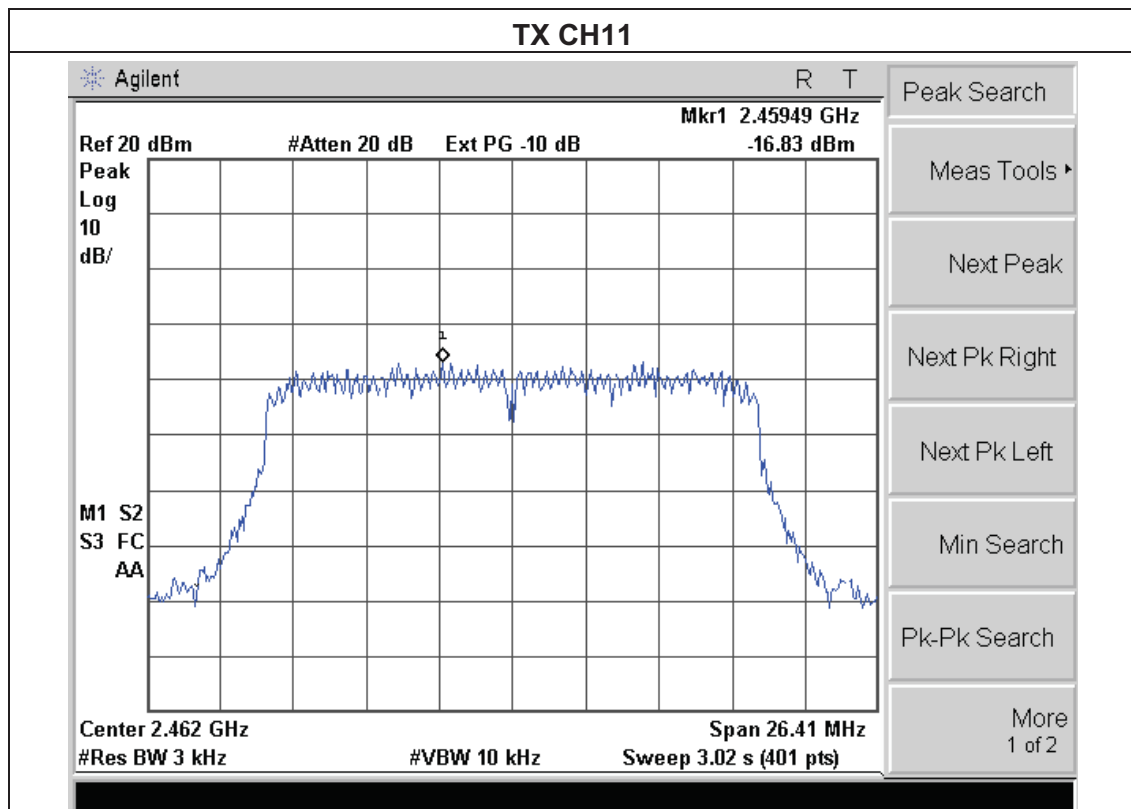
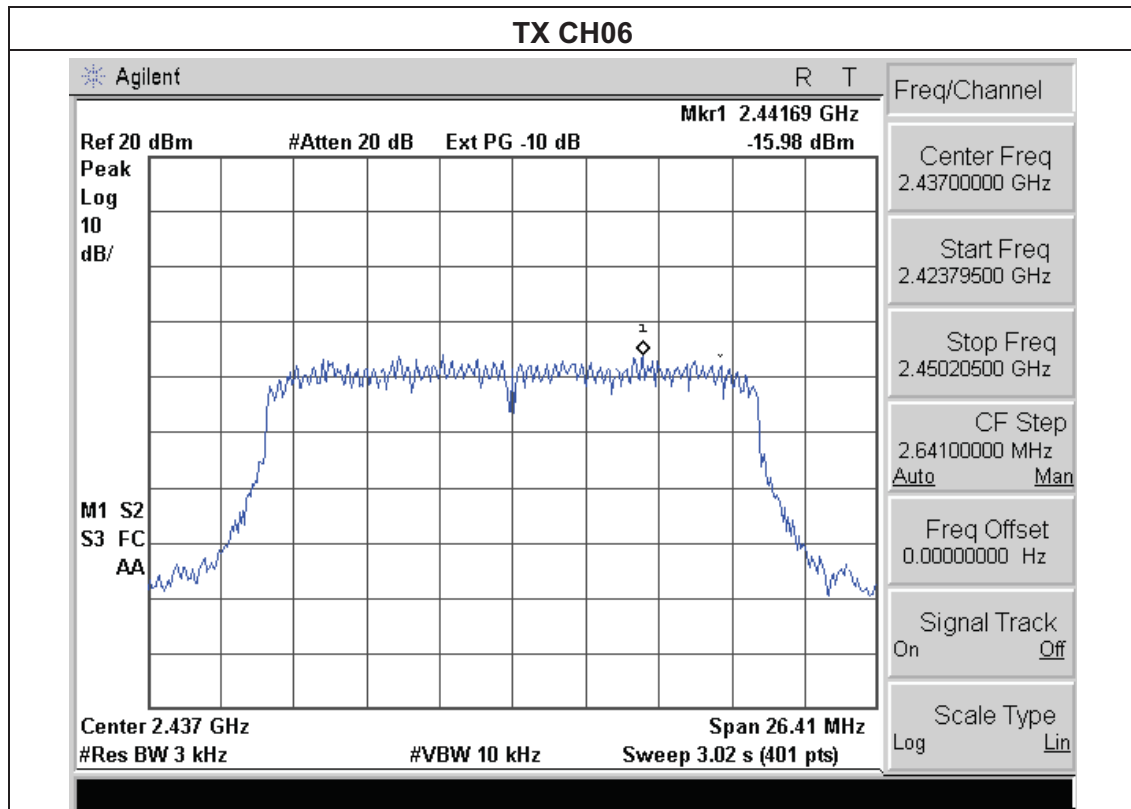


EUT :	Wireless N300 Dual Band USB Adapter	Model Name :	JUE302
Temperature :	25 °C	Relative Humidity :	56%
Pressure :	1015 hPa	Test Voltage :	DC 5V From PC AC120V/60Hz
Test Mode :	TX n Mode (20MHz)/CH01, CH06, CH11		

Frequency	Power Density A (dBm)	Power Density B (dBm)	total power density (dBm)	Limit (dBm)	Result
2412 MHz	-17.43	-18.36	-14.86	8	PASS
2437 MHz	-15.98	-16.82	-14.10	8	PASS
2462 MHz	-16.83	-17.53	-14.16	8	PASS

NOTE: A(B) Represent the value of antenna A and B, ,only shown Antenna A Plot.

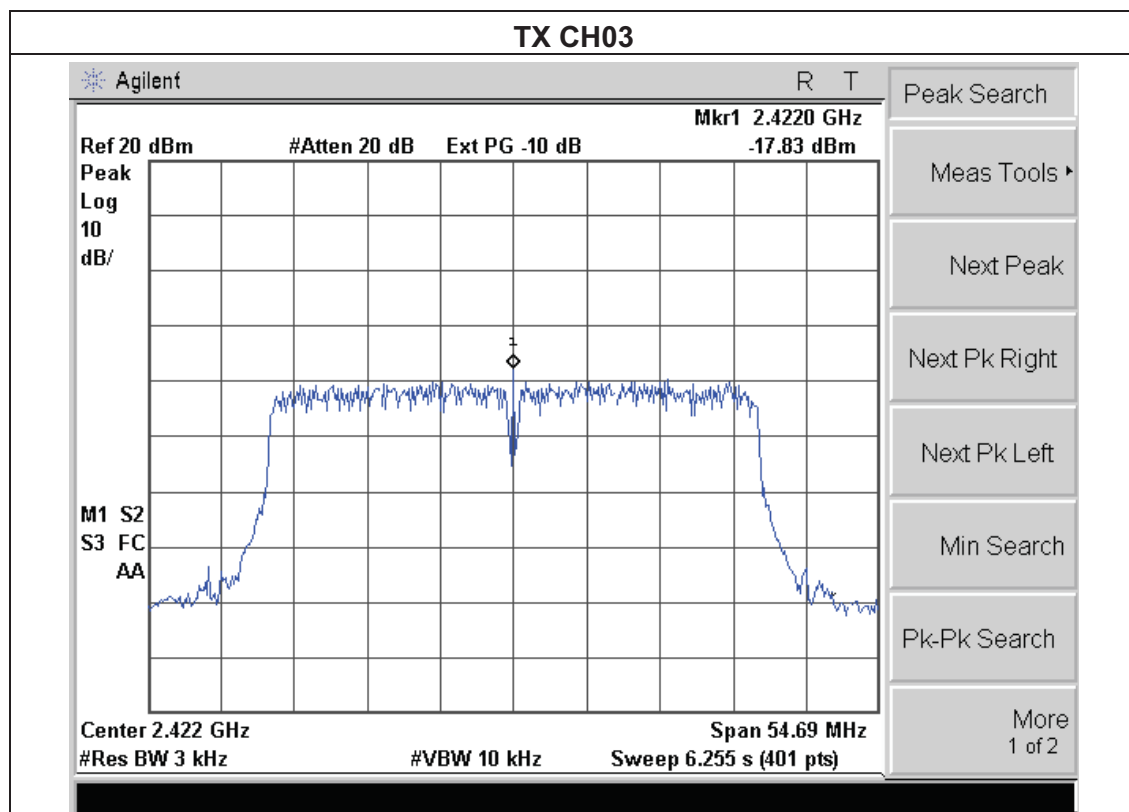


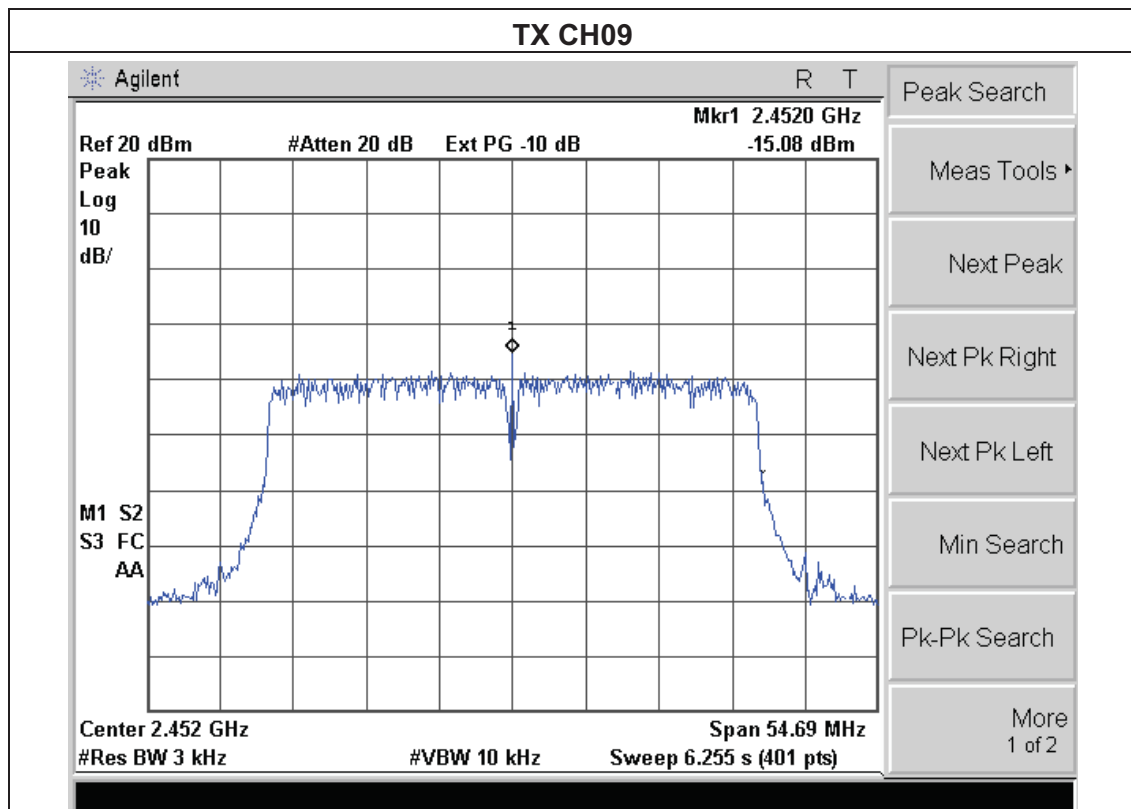
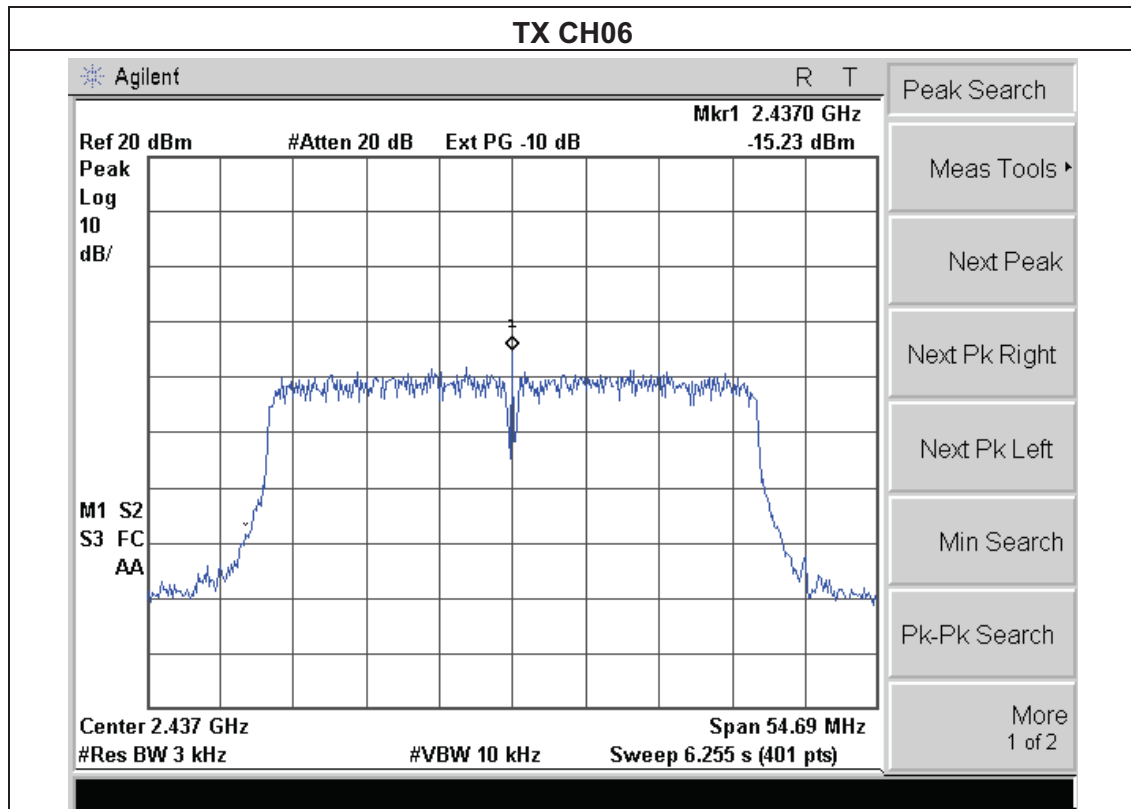


EUT :	Wireless N300 Dual Band USB Adapter	Model Name :	JUE302
Temperature :	25 °C	Relative Humidity :	56%
Pressure :	1015 hPa	Test Voltage :	DC 5V From PC AC120V/60Hz
Test Mode :	TX n Mode (40MHz)/CH03, CH06, CH09		

Frequency	Power Density A (dBm)	Power Density B (dBm)	total power density (dBm)	Limit (dBm)	Result
2422 MHz	-17.83	-18.49	-15.14	8	PASS
2437 MHz	-15.23	-16.76	-14.25	8	PASS
2452 MHz	-15.08	-16.42	-12.69	8	PASS

NOTE: A(B) Represent the value of antenna A and B, ,only shown Antenna A Plot.

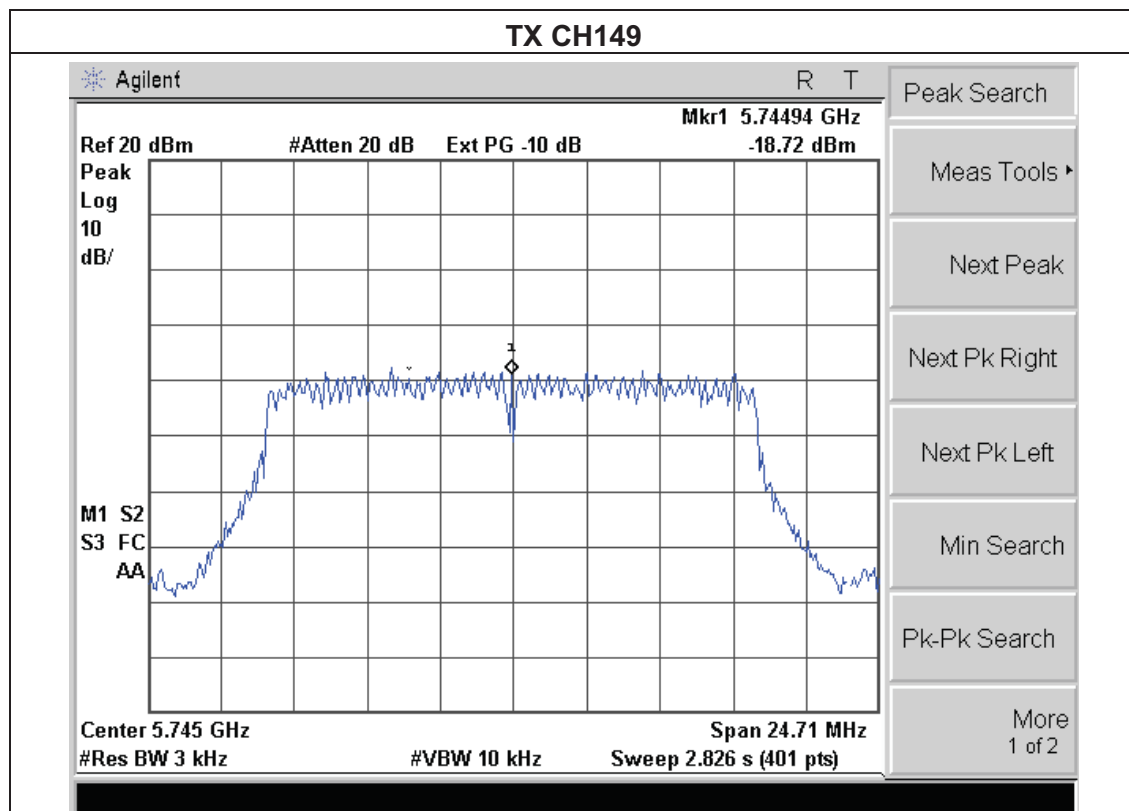


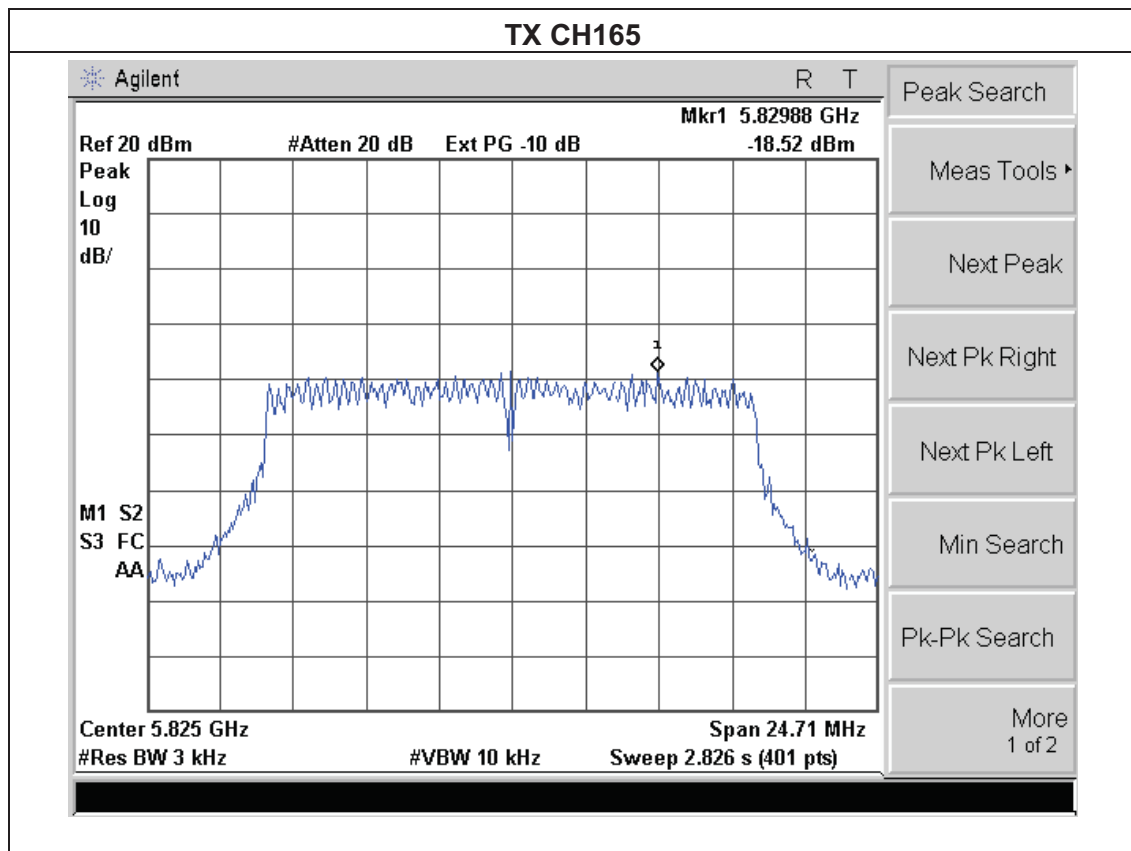
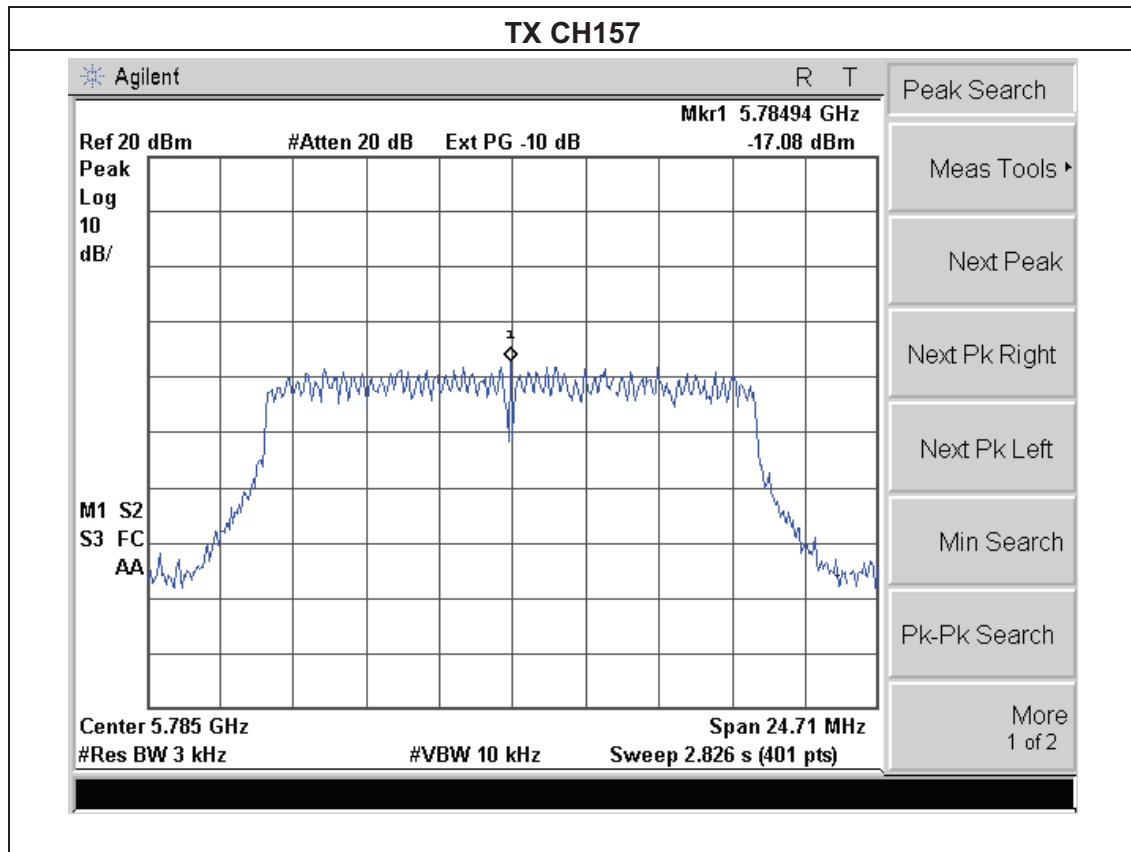


EUT :	Wireless N300 Dual Band USB Adapter	Model Name :	JUE302
Temperature :	25 °C	Relative Humidity :	56%
Pressure :	1015 hPa	Test Voltage :	DC 5V From PC AC120V/60Hz
Test Mode :	TX a Mode /CH149, CH157, CH165		

Frequency	Power Density A (dBm)	Power Density B (dBm)	total power density (dBm)	Limit (dBm)	Result
5745MHz	-18.72	-19.35	-16.01	8	PASS
5785 MHz	-17.08	-18.15	-15.42	8	PASS
5825 MHz	-18.52	-19.25	-15.86	8	PASS

Note: A (B) Represent the value of antenna A and B, ,only shown Antenna A Plot.

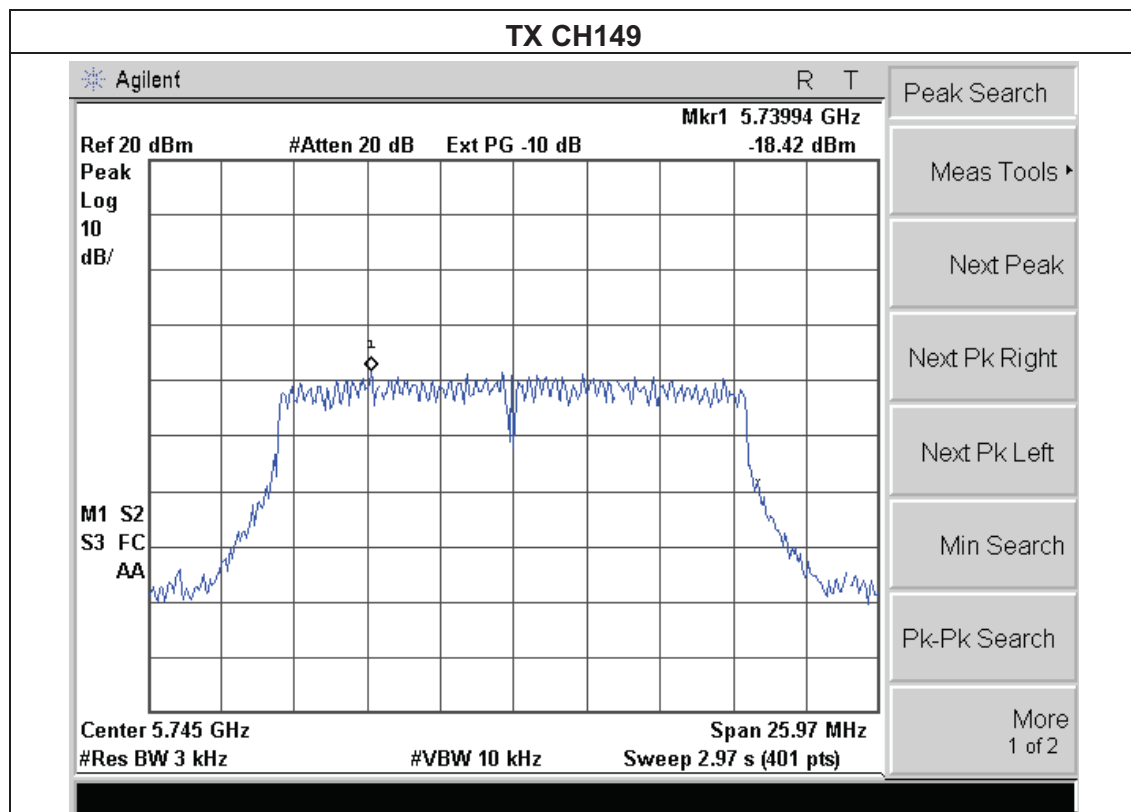


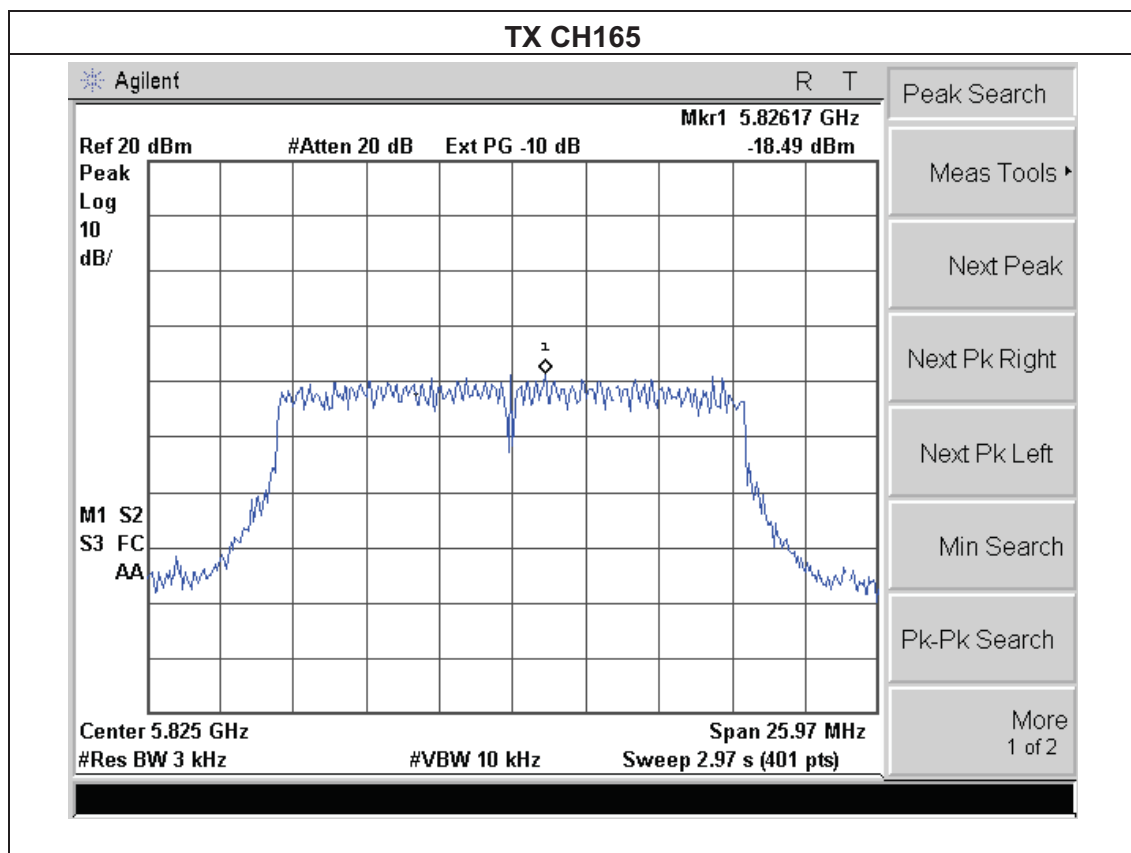
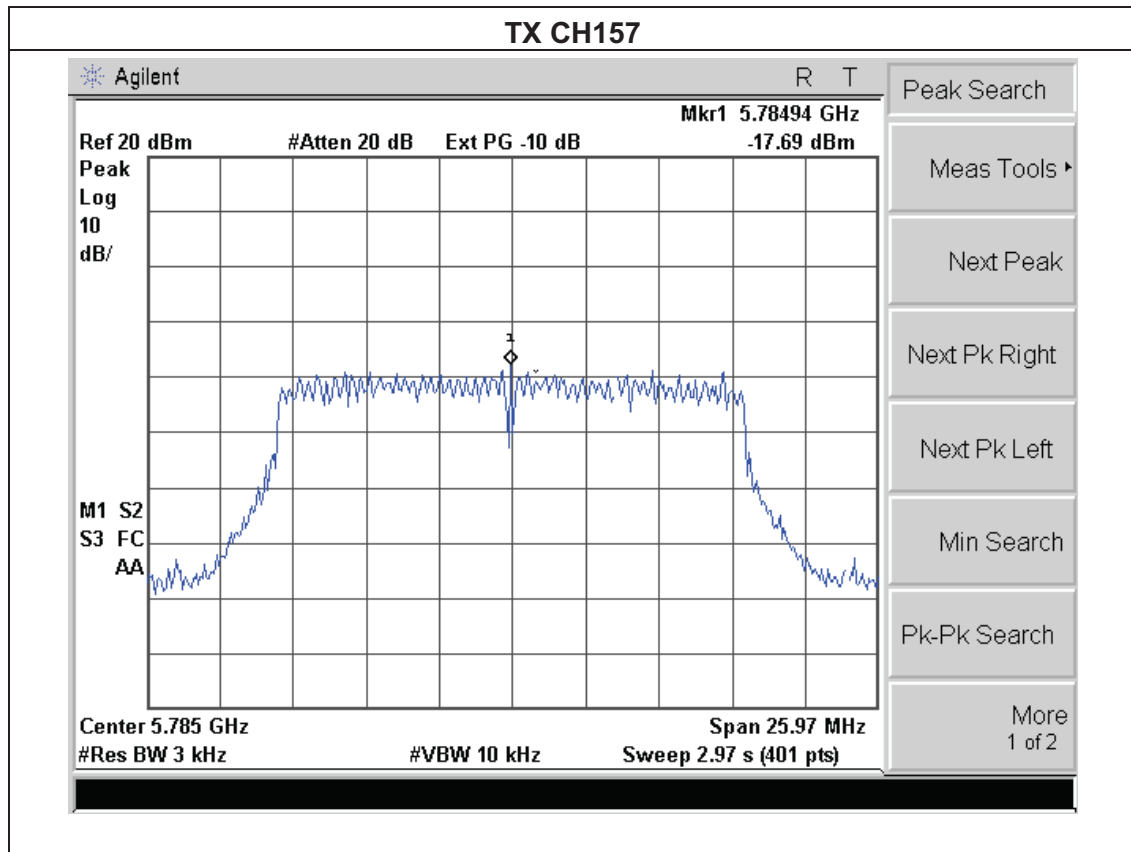


EUT :	Wireless N300 Dual Band USB Adapter	Model Name :	JUE302
Temperature :	25 °C	Relative Humidity :	56%
Pressure :	1015 hPa	Test Voltage :	DC 5V From PC AC120V/60Hz
Test Mode :	TX n(20) Mode(5G) /CH149, CH157, CH165		

Frequency	Power Density A (dBm)	Power Density B (dBm)	total power density (dBm)	Limit (dBm)	Result
5745MHz	-18.42	-19.27	-15.81	8	PASS
5785 MHz	-17.69	-18.43	-15.41	8	PASS
5825 MHz	-18.49	-19.16	-15.80	8	PASS

Note: A (B) Represent the value of antenna A and B, ,only shown Antenna A Plot.

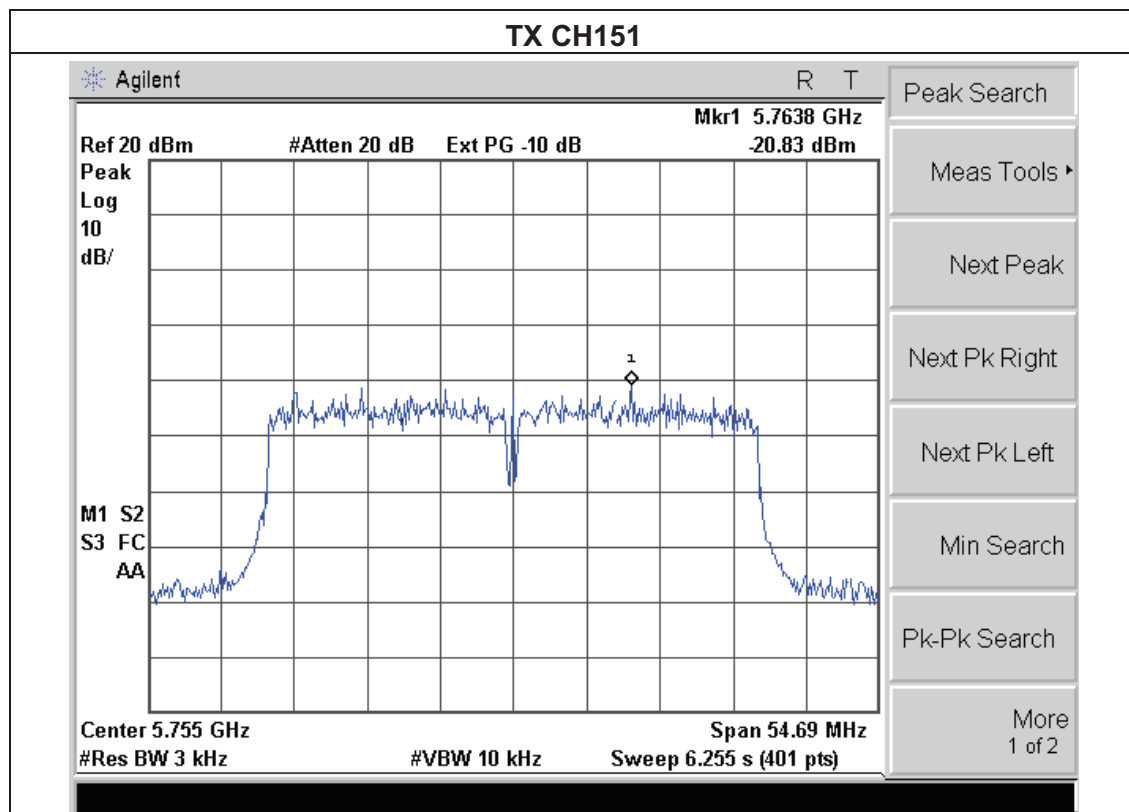


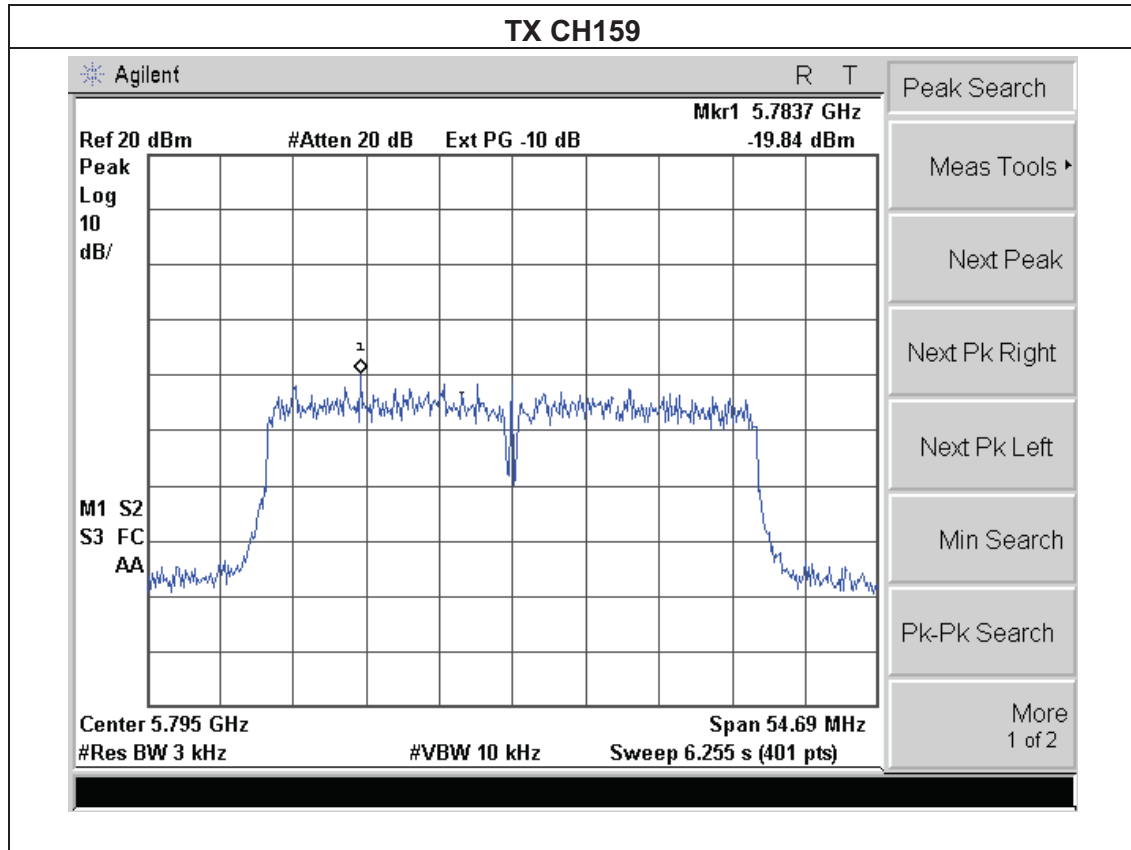


EUT :	Wireless N300 Dual Band USB Adapter	Model Name :	JUE302
Temperature :	25 °C	Relative Humidity :	56%
Pressure :	1015 hPa	Test Voltage :	DC 5V From PC AC120V/60Hz
Test Mode :	TX n40 Mode(5G) /CH151, CH159		

Frequency	Power Density A (dBm)	Power Density B (dBm)	total power density (dBm)	Limit (dBm)	Result
5755 MHz	-20.83	-21.74	-18.25	8	PASS
5795 MHz	-19.84	-20.35	-17.57	8	PASS

Note: A (B) Represent the value of antenna A and B, ,only shown Antenna A Plot.





5. BANDWIDTH TEST

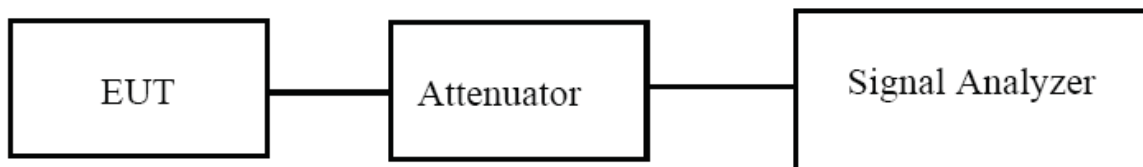
5.1 APPLIED PROCEDURES / LIMIT

FCC Part15 (15.247) , Subpart C				
Section	Test Item	Limit	Frequency Range (MHz)	Result
15.247(a)(2)	Bandwidth	$\geq 500\text{KHz}$ (6dB bandwidth)	2400-2483.5	PASS

5.1.1 TEST PROCEDURE

1. Set RBW = 100 kHz.
2. Set the video bandwidth (VBW) $\geq 3 \times$ RBW.
3. Detector = Peak.
4. Trace mode = max hold.
5. Sweep = auto couple.
6. Allow the trace to stabilize.
7. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

TEST SETUP



5.1.2 EUT OPERATION CONDITIONS

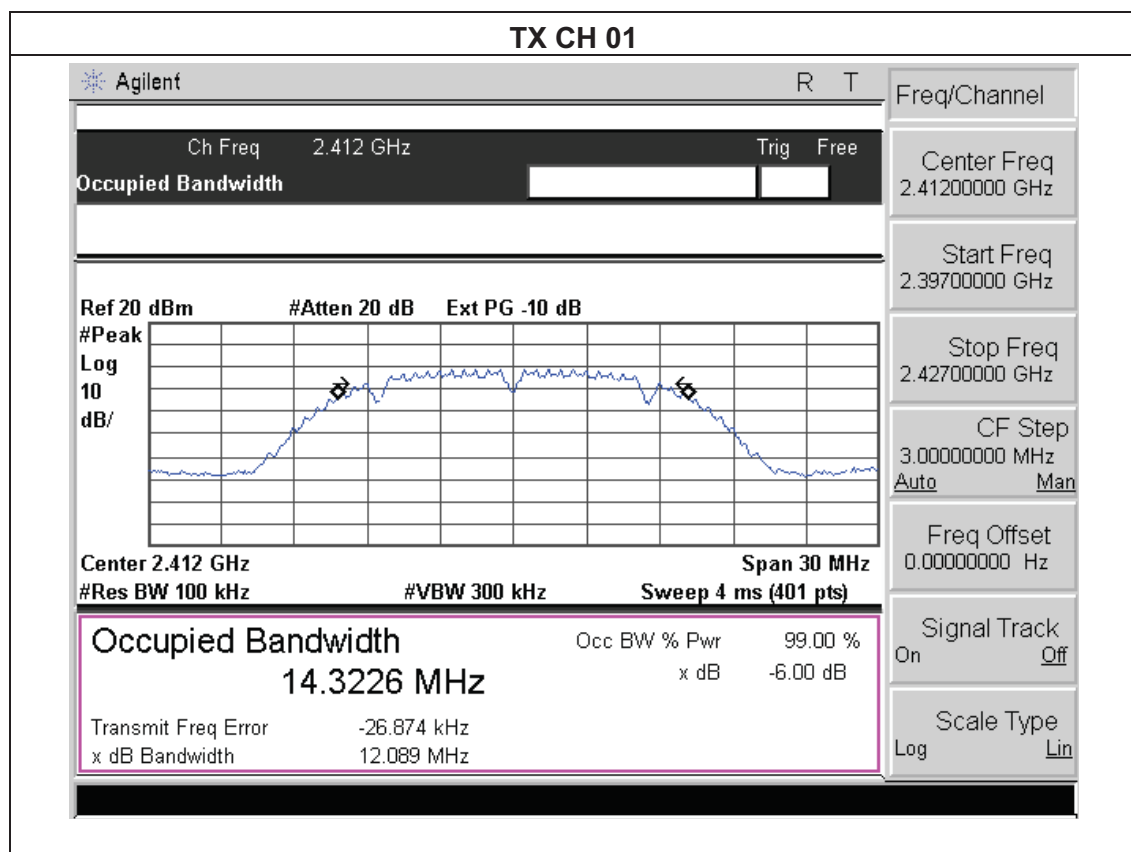
The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.

5.1.3 TEST RESULTS

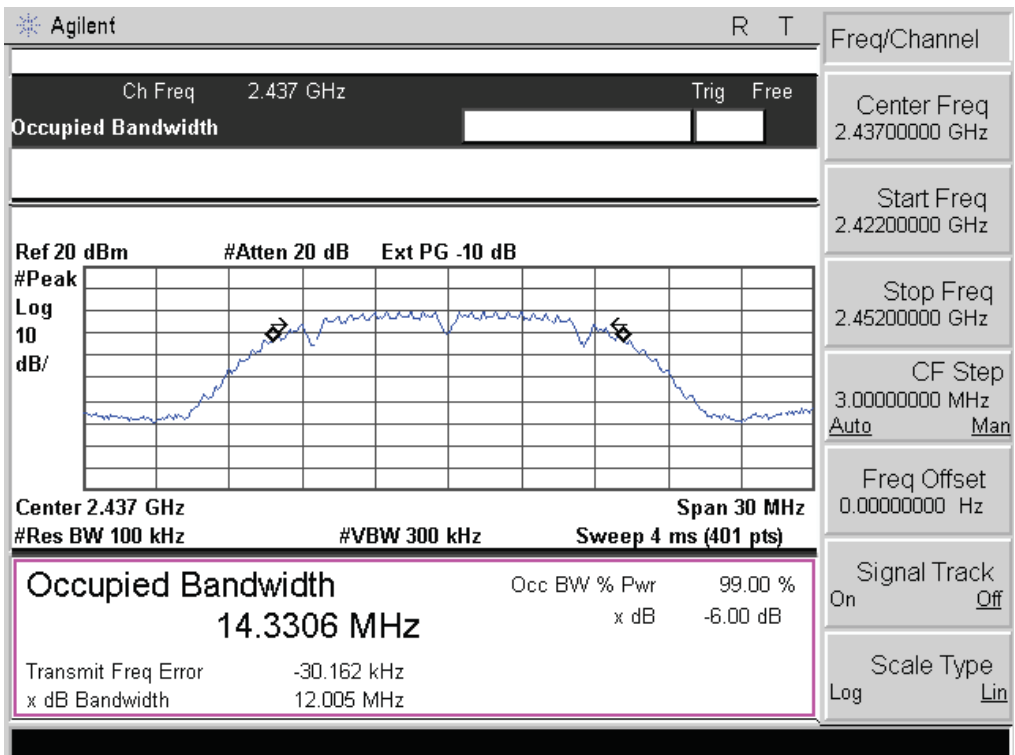
EUT :	Wireless N300 Dual Band USB Adapter	Model Name :	JUE302
Temperature :	25 °C	Relative Humidity :	56%
Pressure :	1012 hPa	Test Voltage :	DC 5V From PC AC120V/60Hz
Test Mode :	TX b Mode /CH01, CH06, CH11		

Channel	Frequency (MHz)	6dB bandwidth (MHz)		Limit (kHz)	Result
		ANT A	ANT B		
Low	2412	12.089	12.054	500	Pass
Middle	2437	12.005	11.989	500	Pass
High	2462	12.032	12.018	500	Pass

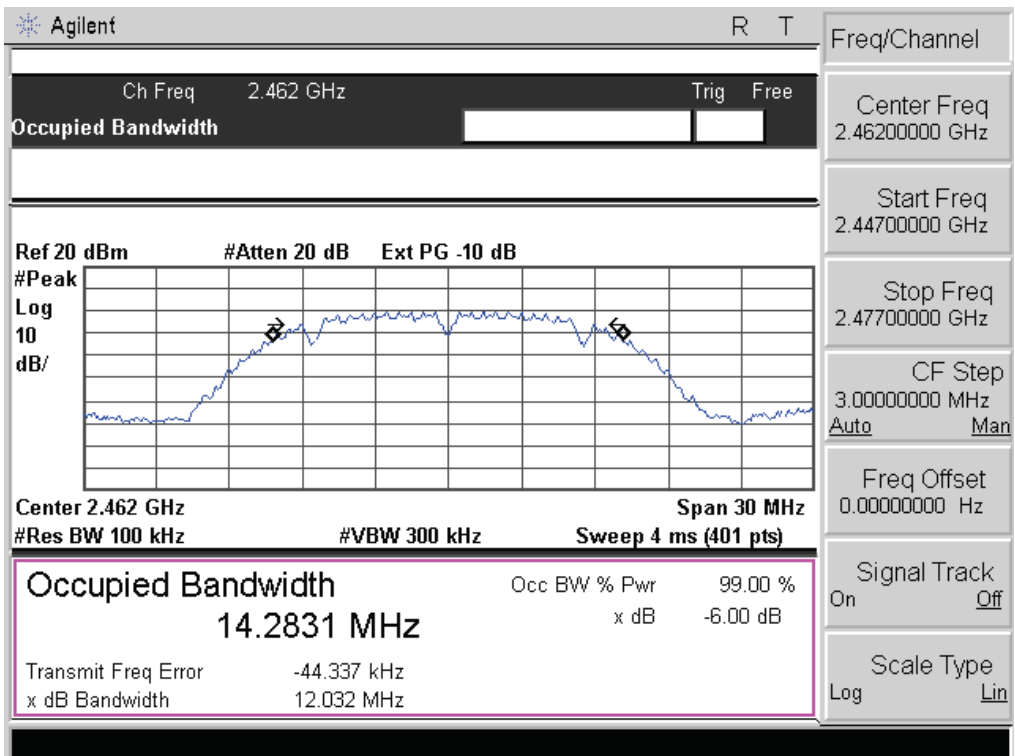
Note: A (B) Represent the value of antenna A and B ,only shown Antenna A Plot.



TX CH 06



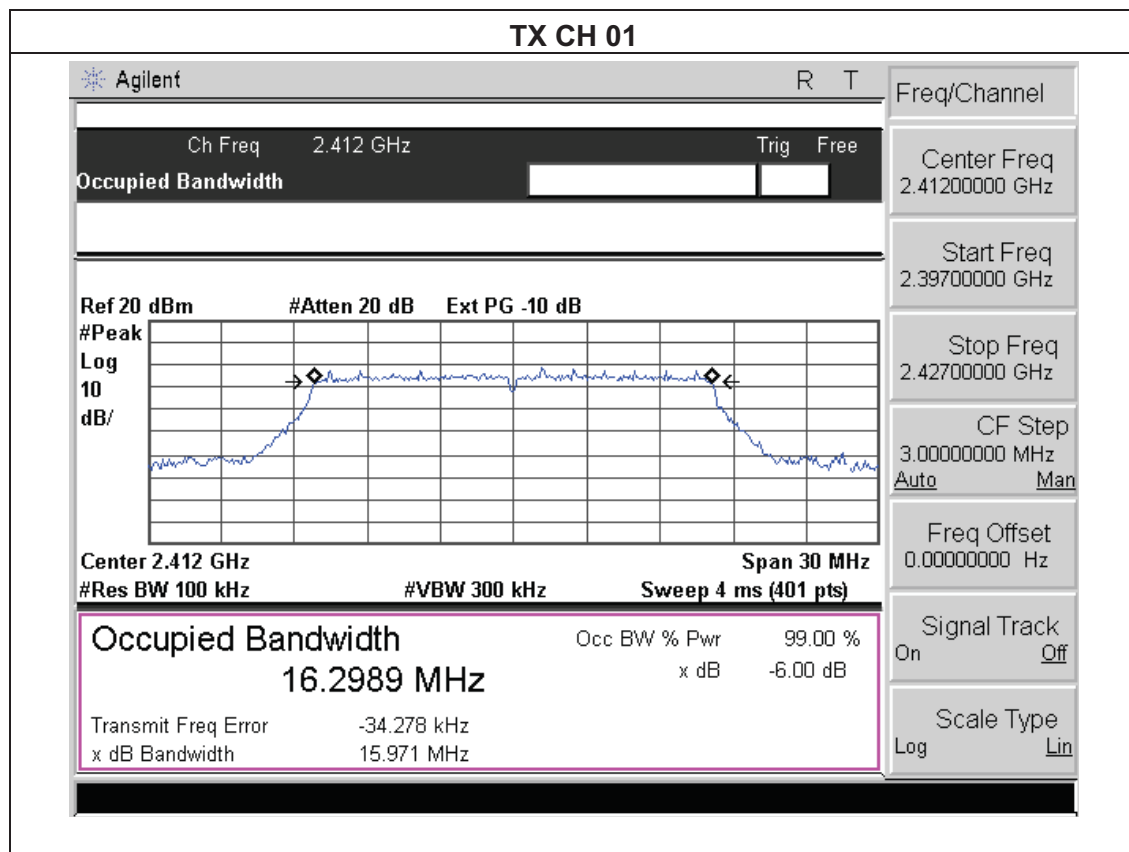
TX CH 11



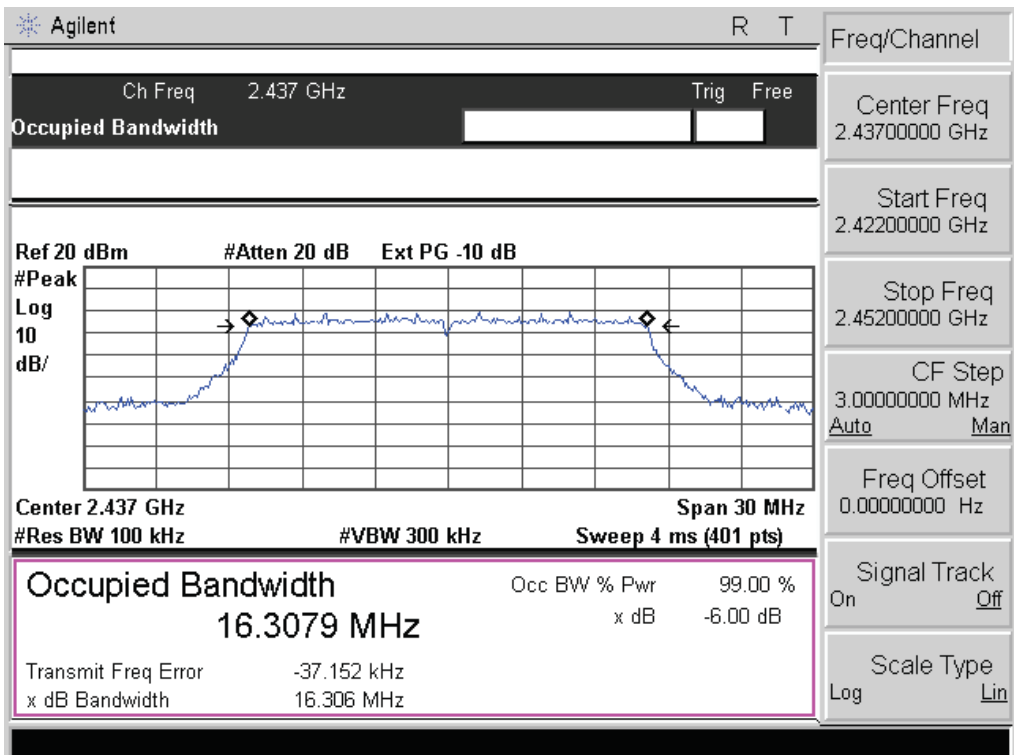
EUT :	Wireless N300 Dual Band USB Adapter	Model Name :	JUE302
Temperature :	25 °C	Relative Humidity :	60%
Pressure :	1012 hPa	Test Voltage :	DC 5V From PC AC120V/60Hz
Test Mode :	TX g Mode /CH01, CH06, CH11		

Channel	Frequency (MHz)	6dB bandwidth (MHz)		Limit (kHz)	Result
		ANT A	ANT B		
Low	2412	15.971	15.967	500	Pass
Middle	2437	16.306	16.287	500	Pass
High	2462	16.153	16.149	500	Pass

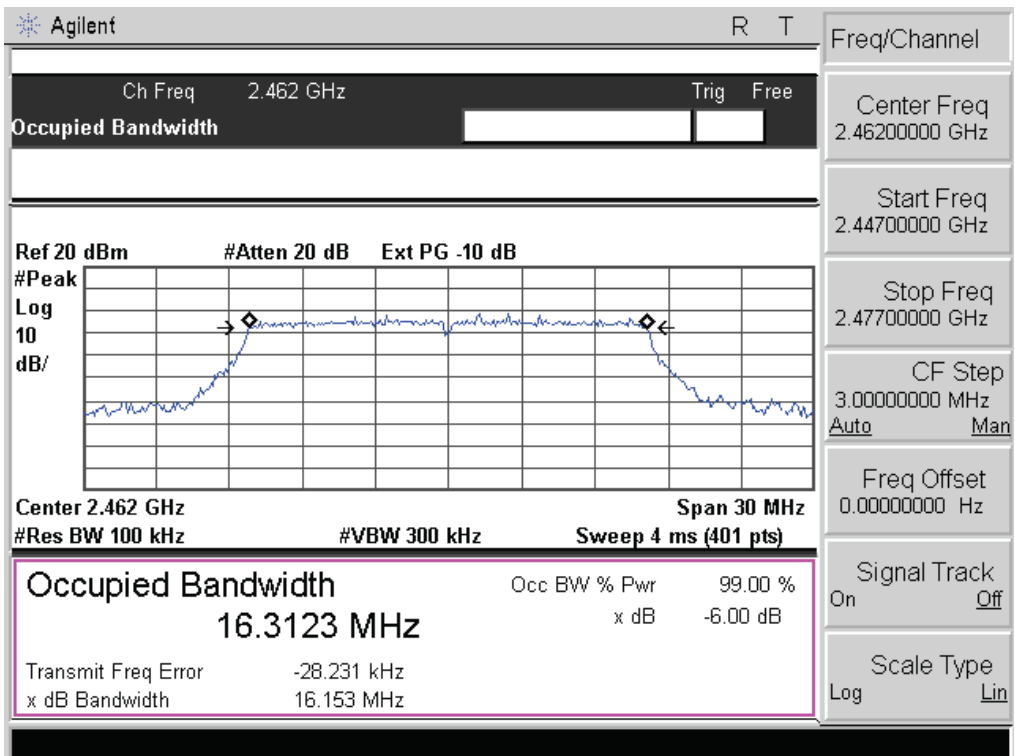
Note: A (B) Represent the value of antenna A and B ,only shown Antenna A Plot.



TX CH 06



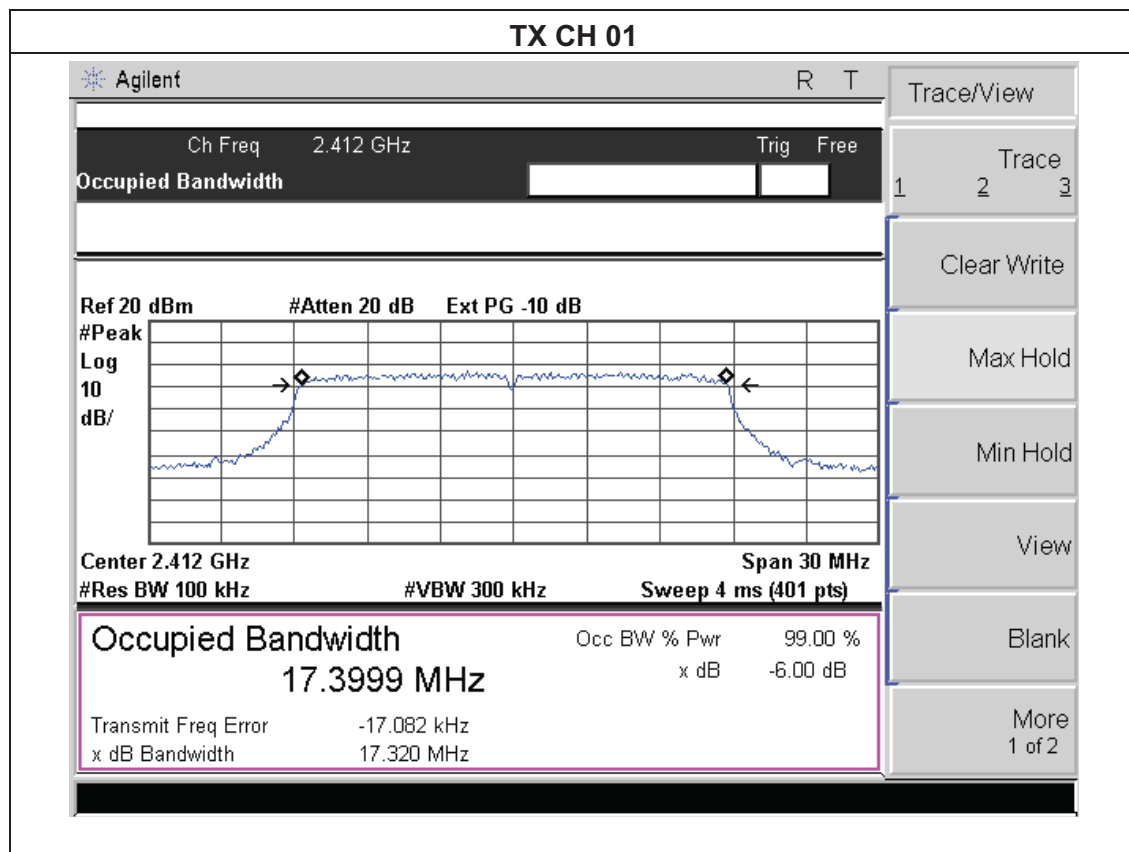
TX CH 11

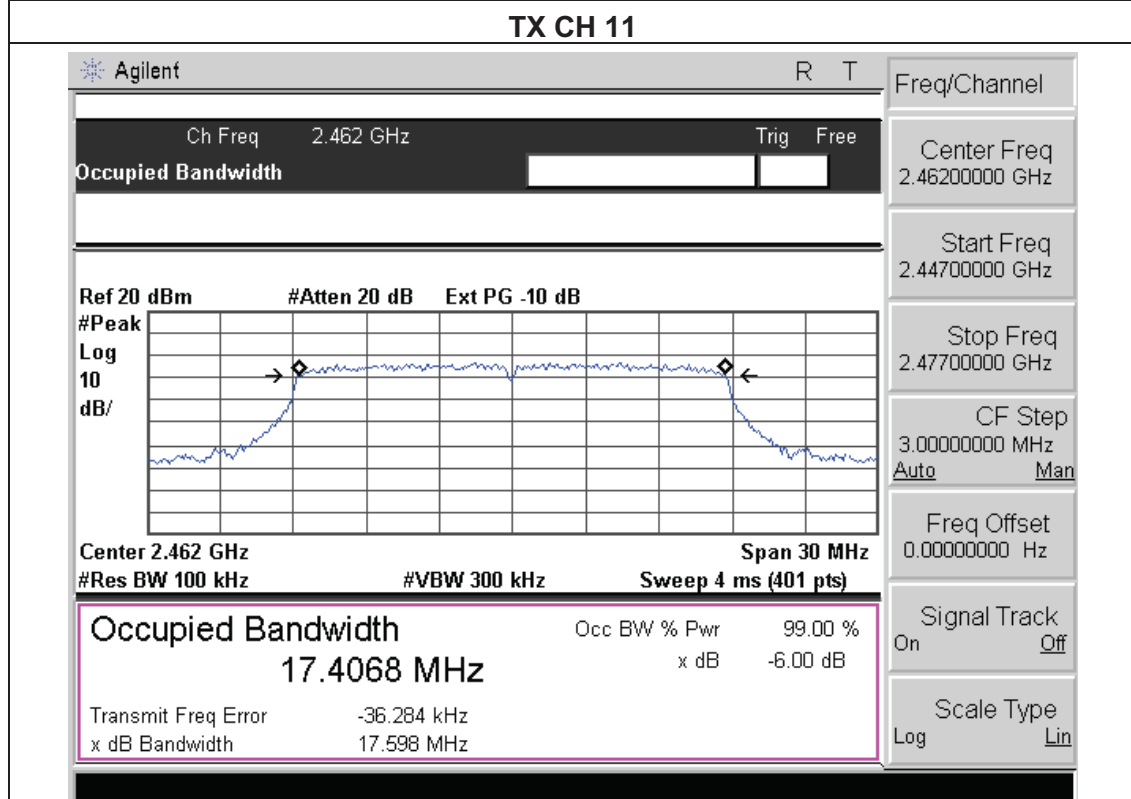
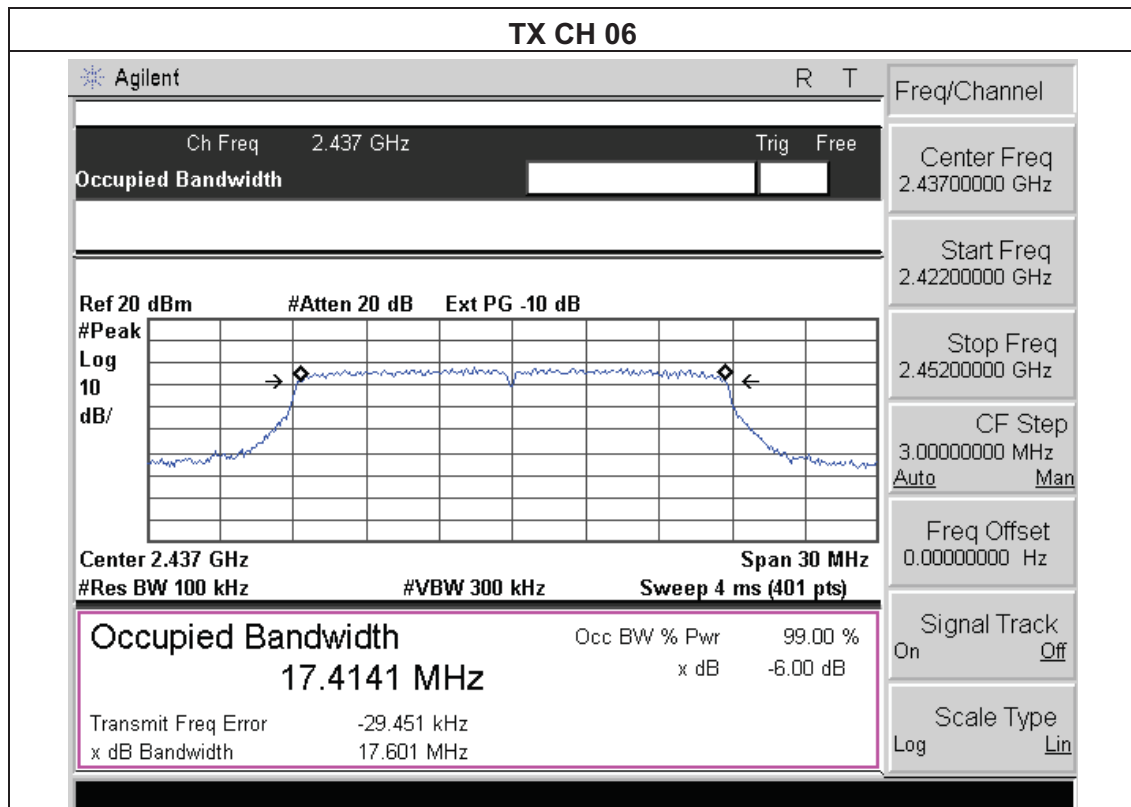


EUT :	Wireless N300 Dual Band USB Adapter	Model Name :	JUE302
Temperature :	25 °C	Relative Humidity :	56%
Pressure :	1012 hPa	Test Voltage :	DC 5V From PC AC120V/60Hz
Test Mode :	TX n Mode(20M) /CH01, CH06, CH11		

Channel	Frequency (MHz)	6dB bandwidth (MHz)		Limit (kHz)	Result
		ANT A	ANT B		
Low	2412	17.320	17.314	500	Pass
Middle	2437	17.601	17.579	500	Pass
High	2462	17.598	17.554	500	Pass

Note: A (B) Represent the value of antenna A and B ,only shown Antenna A Plot.

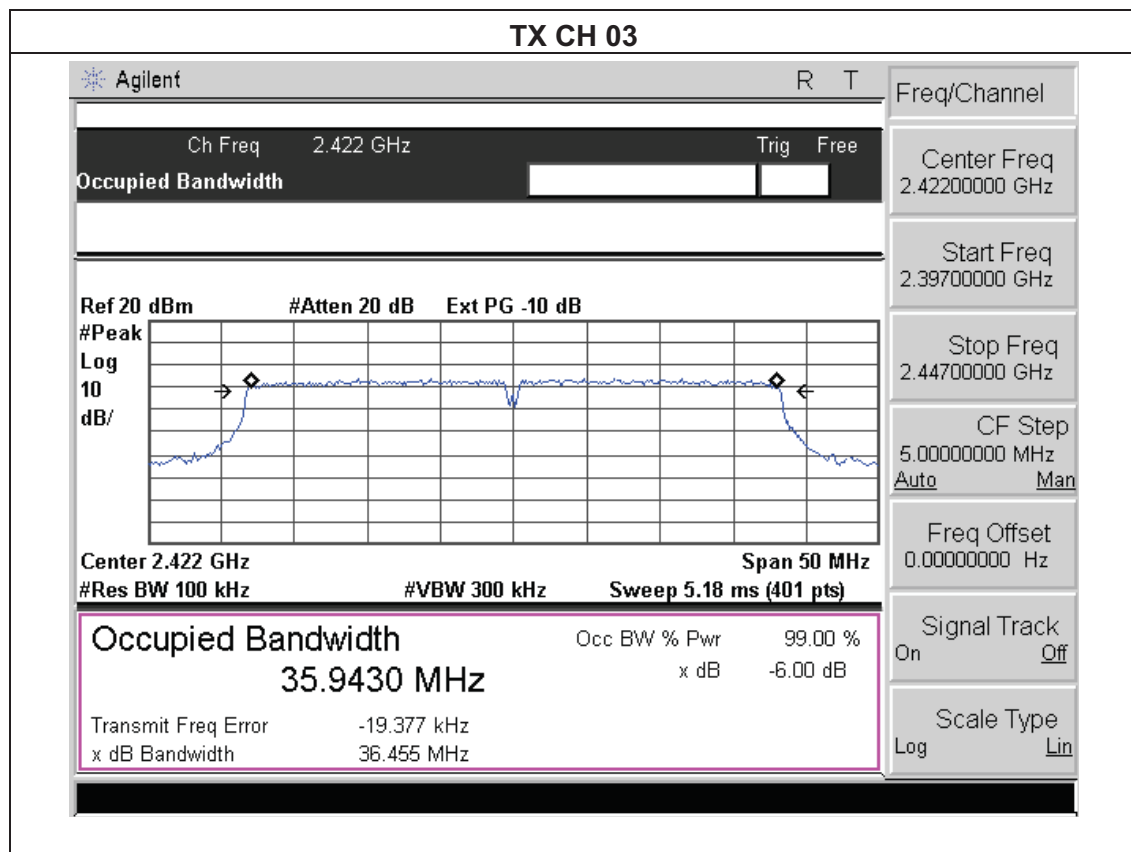


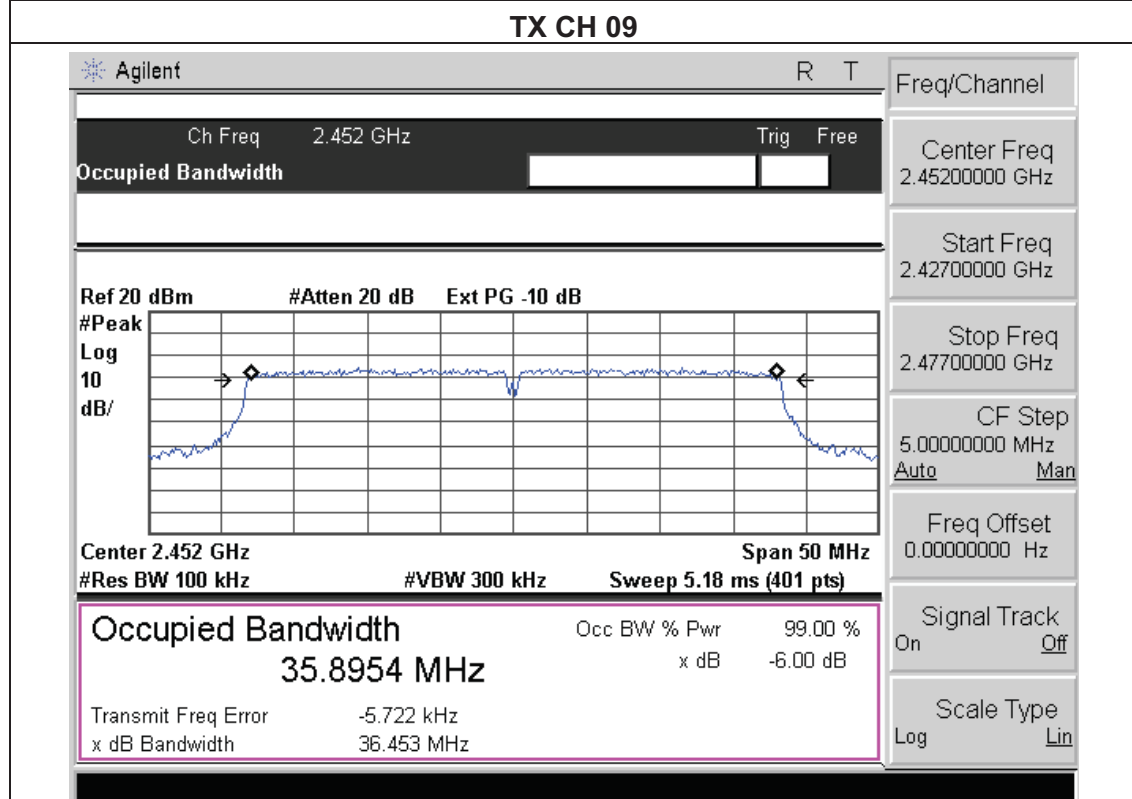
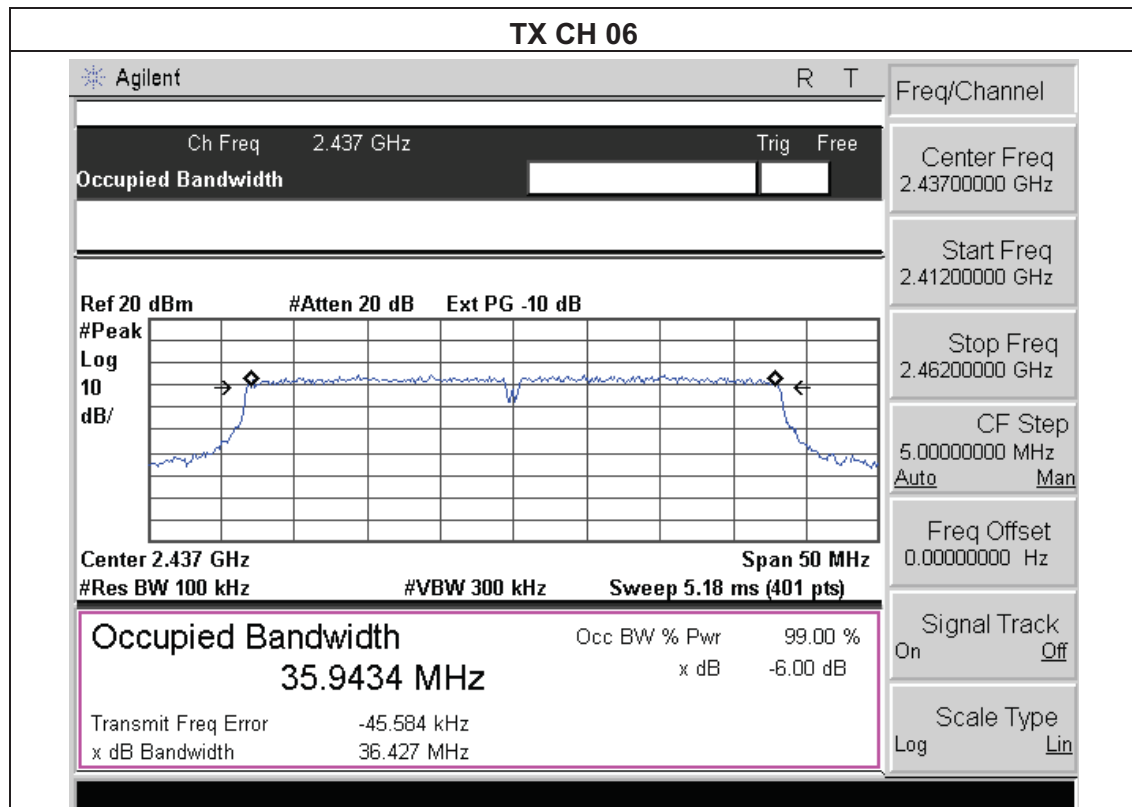


EUT :	Wireless N300 Dual Band USB Adapter	Model Name :	JUE302
Temperature :	25 °C	Relative Humidity :	56%
Pressure :	1012 hPa	Test Voltage :	DC 5V From PC AC120V/60Hz
Test Mode :	TX n Mode(40M) /CH03, CH06, CH09		

Channel	Frequency (MHz)	6dB bandwidth (MHz)		Limit (kHz)	Result
		ANT A	ANT B		
Low	2422	36.455	36.413	500	Pass
Middle	2437	36.427	36.404	500	Pass
High	2452	36.453	36.421	500	Pass

Note: A (B) Represent the value of antenna A and B ,only shown Antenna A Plot.

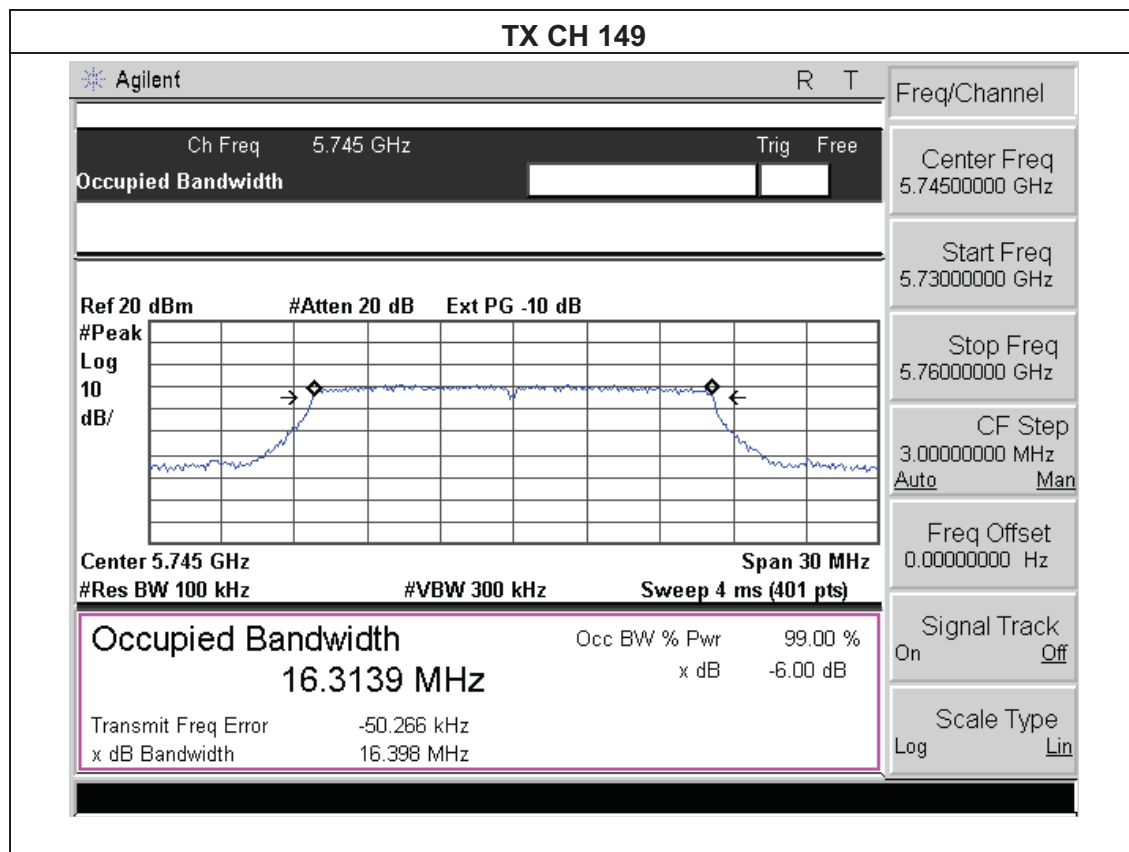




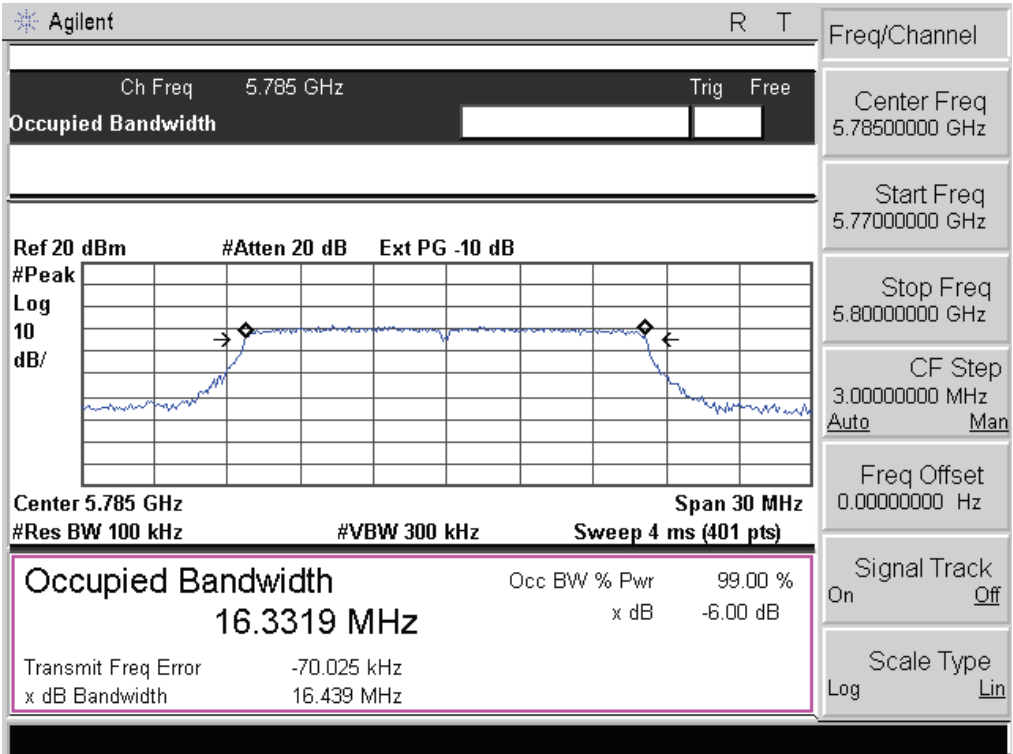
EUT :	Wireless N300 Dual Band USB Adapter	Model Name :	JUE302
Temperature :	25 °C	Relative Humidity :	56%
Pressure :	1012 hPa	Test Voltage :	DC 5V From PC AC120V/60Hz
Test Mode :	TX a Mode /CH149, CH157, CH165		

Channel	Frequency (MHz)	6dB bandwidth (MHz)		Limit (kHz)	Result
		ANT A	ANT B		
Low	5745	16.398	16.318	500	Pass
Middle	5785	16.439	16.404	500	Pass
High	5825	16.468	16.325	500	Pass

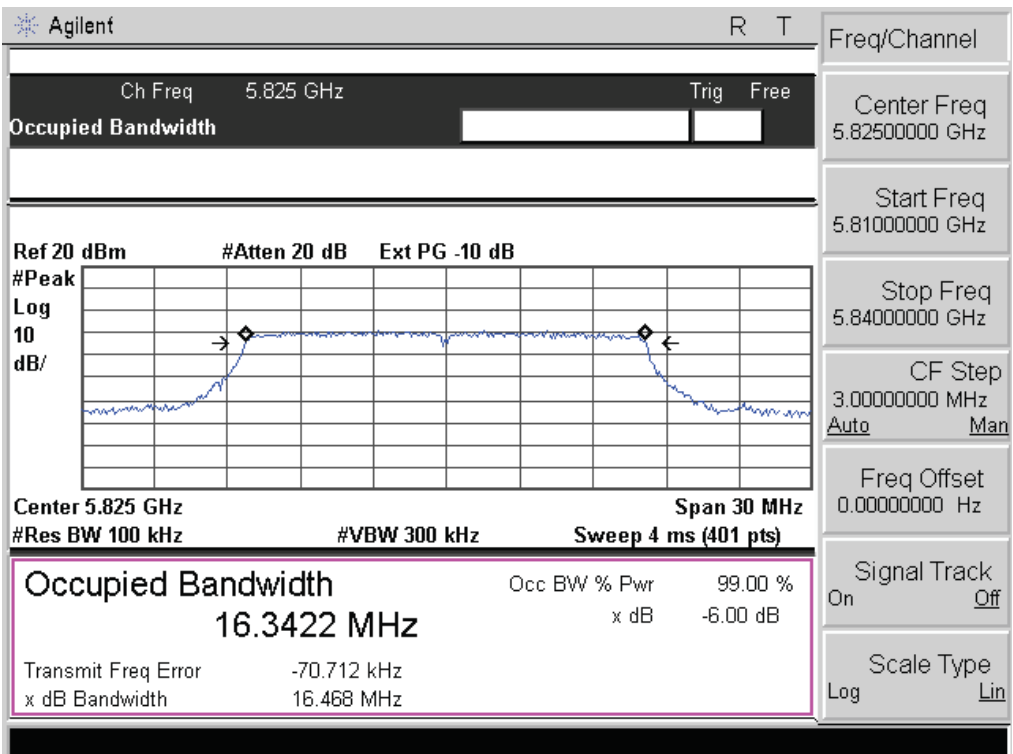
Note: A (B) Represent the value of antenna A and B,only shown Antenna A Plot.



TX CH 157



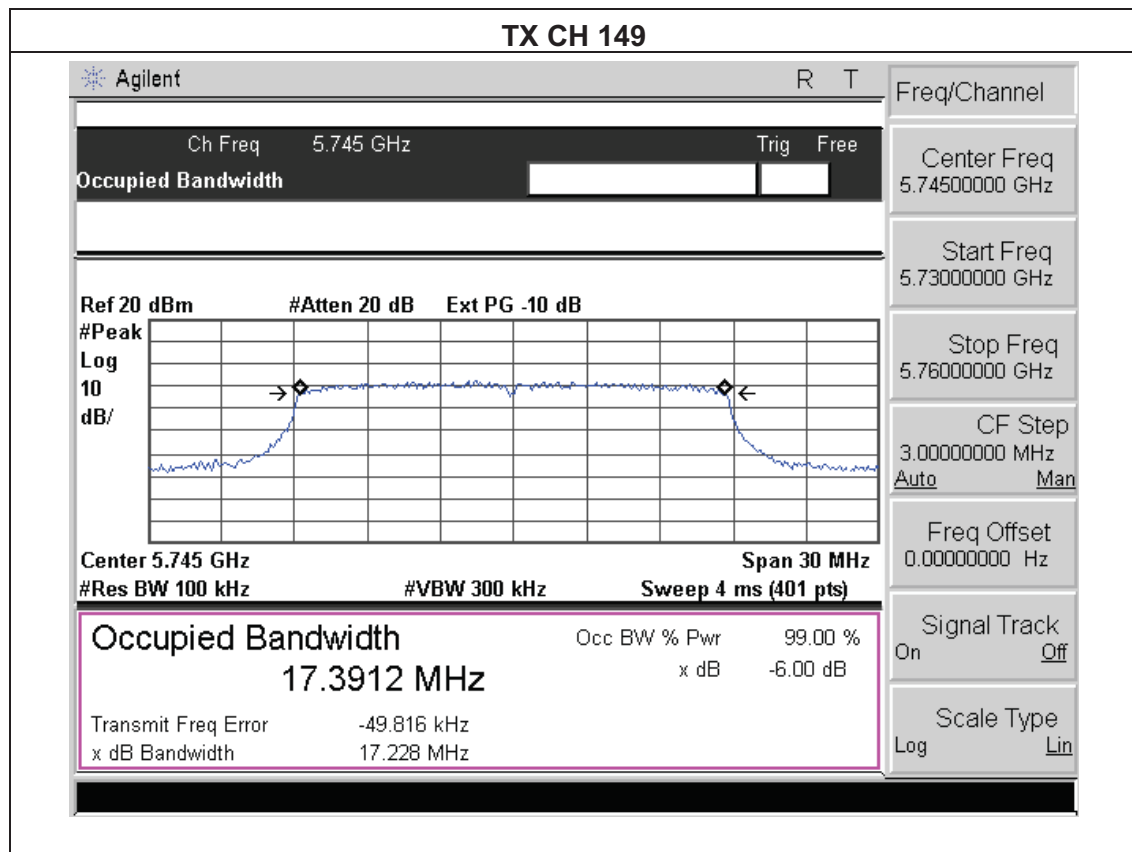
TX CH 165



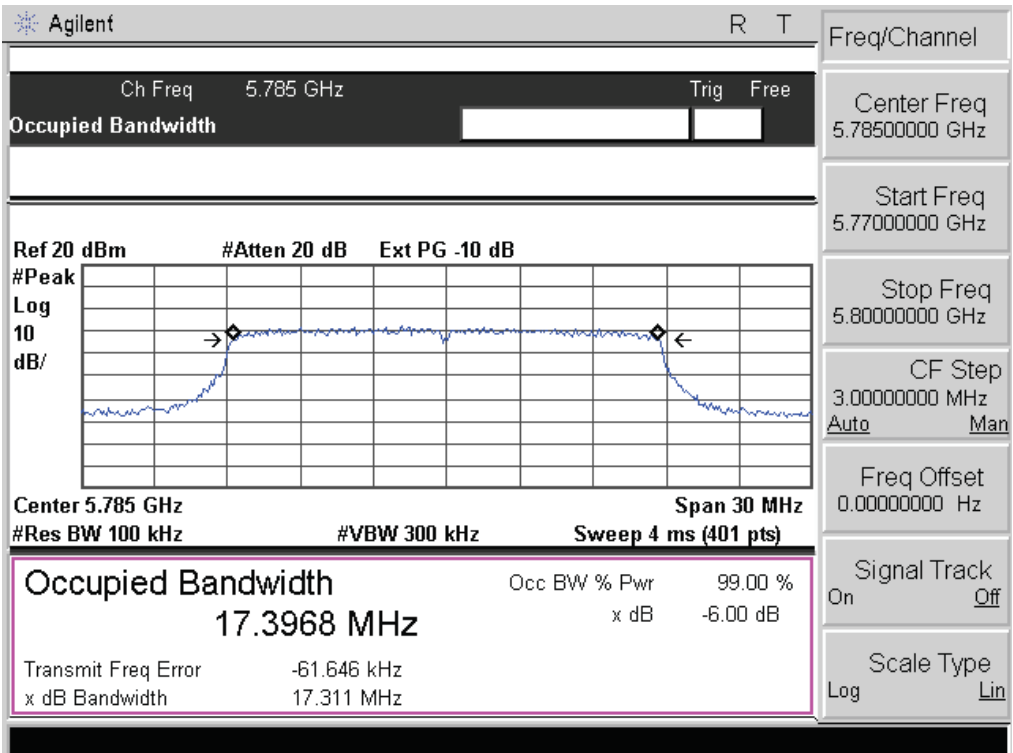
EUT :	Wireless N300 Dual Band USB Adapter	Model Name :	JUE302
Temperature :	25 °C	Relative Humidity :	56%
Pressure :	1012 hPa	Test Voltage :	DC 5V From PC AC120V/60Hz
Test Mode :	TX n(20) Mode(5G) /CH149, CH157, CH165		

Channel	Frequency (MHz)	6dB bandwidth (MHz)		Limit (kHz)	Result
		ANT A	ANT B		
Low	5745	17.228	17.198	500	Pass
Middle	5785	17.311	17.295	500	Pass
High	5825	17.224	17.186	500	Pass

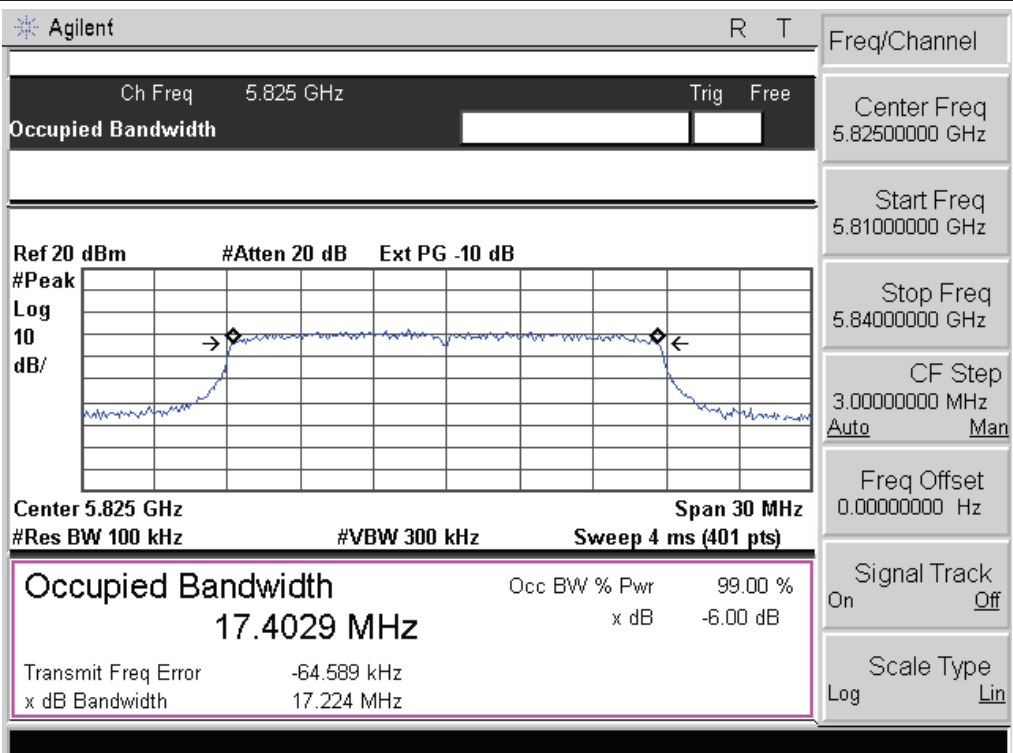
Note: A (B) Represent the value of antenna A and B ,only shown Antenna A Plot.



TX CH 157



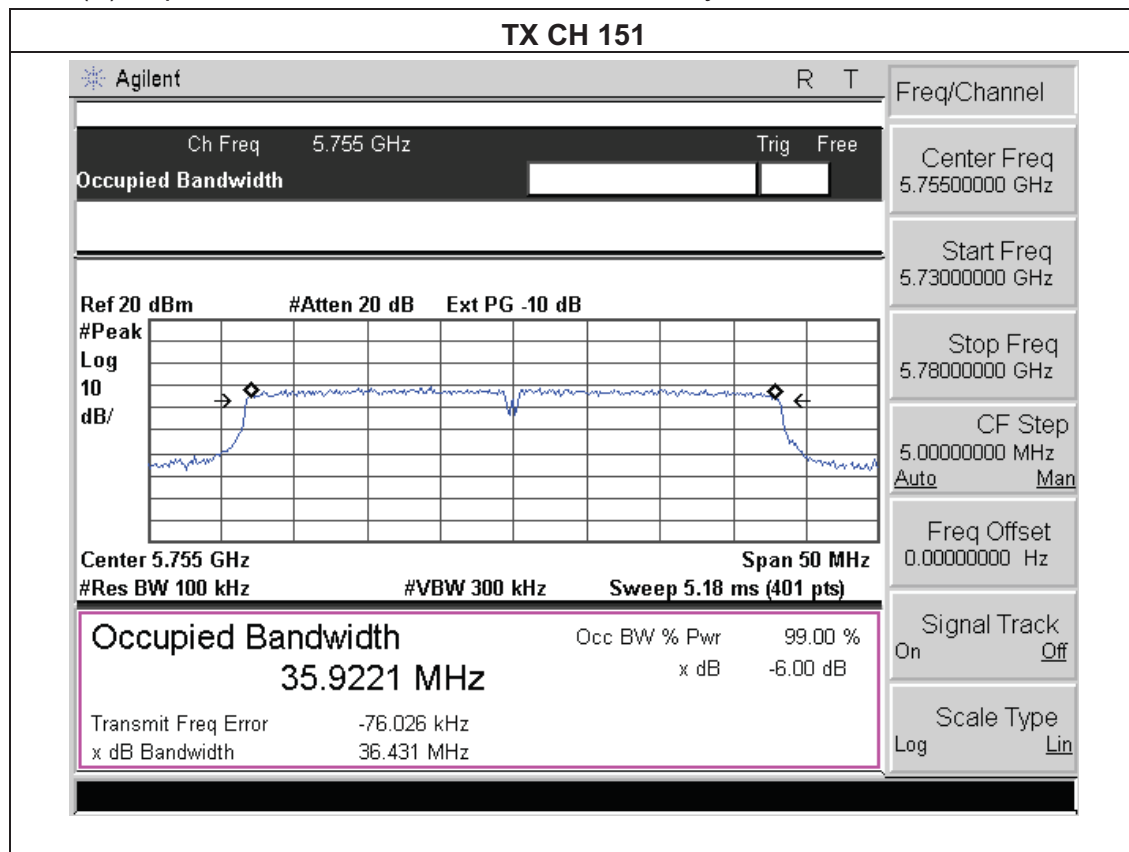
TX CH 165

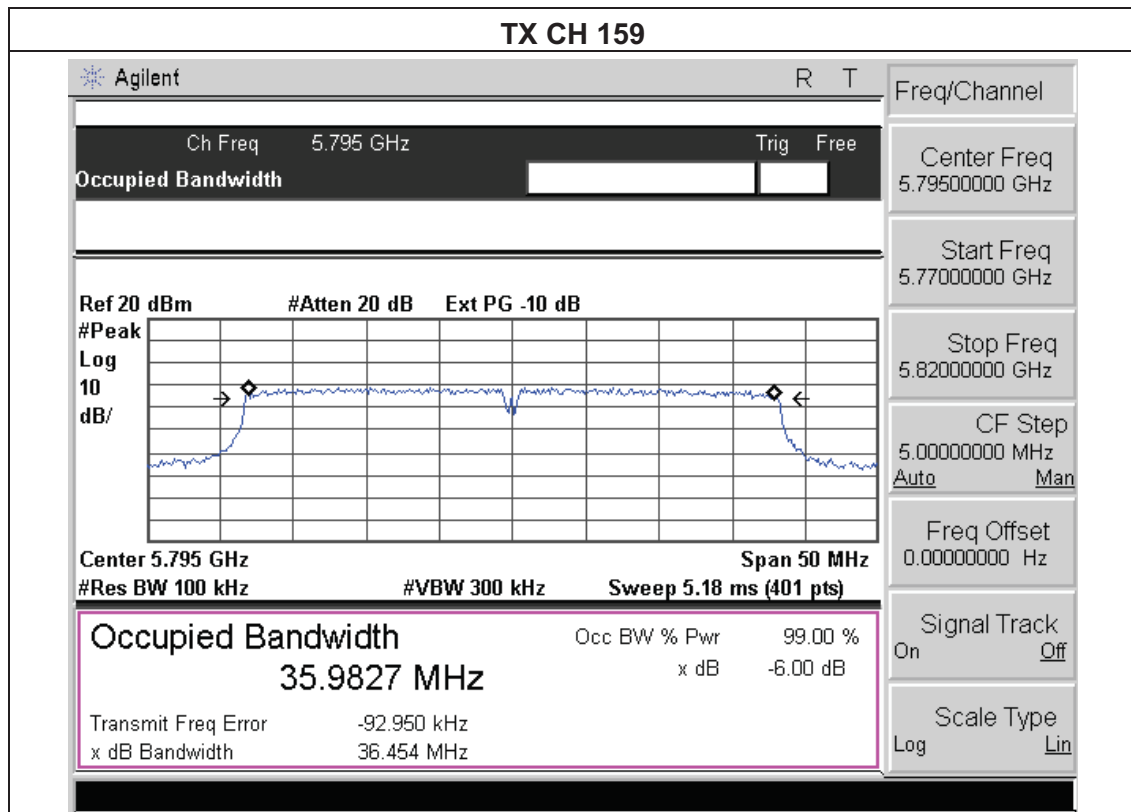


EUT :	Wireless N300 Dual Band USB Adapter	Model Name :	JUE302
Temperature :	25 °C	Relative Humidity :	56%
Pressure :	1012 hPa	Test Voltage :	DC 5V From PC AC120V/60Hz
Test Mode :	TX n40 Mode(5G) /CH151, CH159		

Channel	Frequency (MHz)	6dB bandwidth (MHz)		Limit (kHz)	Result
		ANT A	ANT B		
Low	5755	36.431	36.398	500	Pass
High	5795	36.454	36.371	500	Pass

Note: A (B) Represent the value of antenna A and B ,only shown Antenna A Plot.





6. OUTPUT POWER TEST

6.1 APPLIED PROCEDURES / LIMIT

FCC Part15 (15.247) , Subpart C				
Section	Test Item	Limit	Frequency Range (MHz)	Result
15.247(b)(3)	Output Power	1 watt or 30dBm	2400-2483.5	PASS

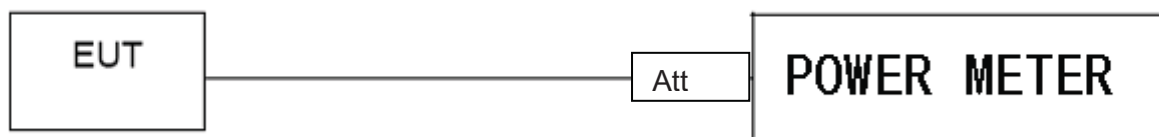
6.1.1 TEST PROCEDURE

- a. The EUT was directly connected to the Power meter

6.1.2 DEVIATION FROM STANDARD

No deviation.

6.1.3 TEST SETUP



6.1.4 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.

6.1.5 TEST RESULTS

EUT :	Wireless N300 Dual Band USB Adapter	Model Name :	JUE302
Temperature :	25 °C	Relative Humidity :	60%
Pressure :	1012 hPa	Test Voltage :	DC 5V From PC AC120V/60Hz
Test Mode :	TX b/g/n(20M, 40M) Mode		

Test Channel	Frequency	Maximum output power. Antenna port		Total Power	LIMIT
	(MHz)	ANT A	ANT B	dBm	dBm
TX 802.11b Mode					
CH01	2412	6.23	5.43	8.86	30
CH06	2437	6.16	5.64	8.92	30
CH11	2462	6.21	5.46	8.86	30
TX 802.11g Mode					
CH01	2412	5.24	4.22	7.77	30
CH06	2437	5.46	4.45	7.87	30
CH11	2462	5.31	4.36	7.87	30
TX 802.11n/20M Mode					
CH01	2412	5.76	4.81	8.32	30
CH06	2437	5.84	4.72	8.28	30
CH11	2462	5.61	4.83	8.25	30
TX 802.11n/40M Mode					
CH03	2422	5.21	4.16	7.73	30
CH06	2437	5.37	4.42	7.84	30
CH09	2452	5.32	4.53	7.95	30

EUT :	Wireless N300 Dual Band USB Adapter	Model Name :	JUE302
Temperature :	25 °C	Relative Humidity :	60%
Pressure :	1012 hPa	Test Voltage :	DC 5V From PC AC120V/60Hz
Test Mode :	TX a/n(5G) Mode		

Test Channe	Frequency	Maximum output power. Antenna port		Total Power	LIMIT
	(MHz)	ANT A	ANT B	dBm	dBm
TX 802.11a Mode					
CH01	5745	3.94	3.06	6.53	30
CH06	5785	3.81	3.17	6.51	30
CH11	5825	3.89	3.19	6.56	30
TX 802.11 n20 Mode					
CH01	5745	3.09	2.36	5.75	30
CH06	5785	3.18	2.42	5.78	30
CH11	5825	3.25	2.37	5.84	30
TX 802.11 n40 Mode					
CH01	5755	2.29	1.51	4.93	30
CH06	5795	2.37	1.33	4.85	30

7. 100 KHZ BANDWIDTH OF FREQUENCY BAND EDGE

APPLICABLE STANDARD

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).

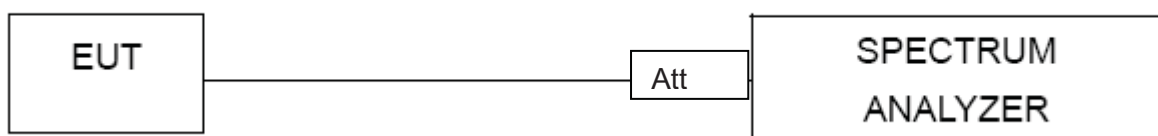
TEST PROCEDURE

- Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
- Position the EUT without connection to measurement instrument. Turn on the EUT and connect its antenna terminal to measurement instrument via a low loss cable. Then set it to any one measured frequency within its operating range, and make sure the instrument is operated in its linear range.
- Set RBW to 100 kHz and VBW of spectrum analyzer to 300 kHz with a convenient frequency span including 100 kHz bandwidth from band edge.
- Measure the highest amplitude appearing on spectral display and set it as a reference level. Plot the graph with marking the highest point and edge frequency.
- Repeat above procedures until all measured frequencies were complete.

7.1 DEVIATION FROM STANDARD

No deviation.

7.2 TEST SETUP



7.3 EUT OPERATION CONDITIONS

The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.

7.4 TEST RESULTS

EUT :	Wireless N300 Dual Band USB Adapter	Model Name :	JUE302
Temperature :	25 °C	Relative Humidity :	56%
Pressure :	1012 hPa	Test Voltage :	DC 5V From PC AC120V/60Hz

Frequency (MHz)	Delta Peak to band emission (dBc)	> Limit (dBc)	Result
802.11b mode			
2400	44.34	30	Pass
2483.5	50.66	30	Pass
802.11g mode			
2400	36.57	30	Pass
2483.5	44.03	30	Pass
802.11n-HT20 mode			
2400	38.04	30	Pass
2483.5	44.25	30	Pass
802.11n-HT40 mode			
2400	33.32	30	Pass
2483.5	39.96	30	Pass

Frequency Band	Delta Peak to band emission (dBc)	> Limit (dBc)	Result
802.11a mode			
5725	42.89	30	Pass
5850	44.31	30	Pass
802.11n20 mode			
5725	43.36	30	Pass
5850	42.40	30	Pass
802.11n40 mode			
5725	36.47	30	Pass
5850	35.79	30	Pass

Radiated band edge: Keeping TX MIMO mode

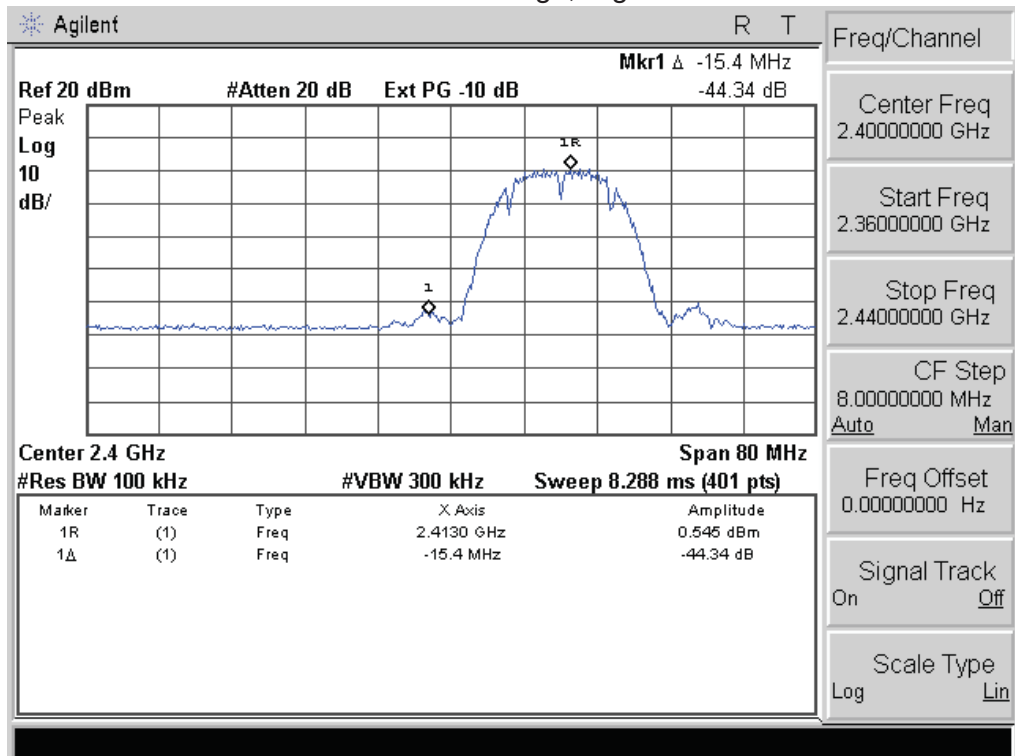
Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type	Comment
802.11b							
2390	54.89	-13.06	41.83	74	-32.17	PEAK	Vertical
2390	57.36	-13.06	44.3	74	-29.7	PEAK	Horizontal
2483.5	56.13	-12.78	43.35	74	-30.65	PEAK	Vertical
2483.5	55.79	-12.78	43.01	74	-30.99	PEAK	Horizontal
802.11g							
2390	56.46	-13.06	43.4	74	-30.6	PEAK	Vertical
2390	57.45	-13.06	44.39	74	-29.61	PEAK	Horizontal
2483.5	54.63	-12.78	41.85	74	-32.15	PEAK	Vertical
2483.5	56.36	-12.78	43.58	74	-30.42	PEAK	Horizontal
802.11n (20)							
2390	57.83	-13.06	44.77	74	-29.23	PEAK	Vertical
2390	56.36	-13.06	43.3	74	-30.7	PEAK	Horizontal
2483.5	57.88	-12.78	45.1	74	-28.9	PEAK	Vertical
2483.5	58.12	-12.78	45.34	74	-28.66	PEAK	Horizontal
802.11n (40)							
2390	55.13	-13.06	42.07	74	-31.93	PEAK	Vertical
2390	49.89	-13.06	36.83	74	-37.17	PEAK	Horizontal
2483.5	54.36	-12.78	41.58	74	-32.42	PEAK	Vertical
2483.5	57.83	-12.78	45.05	74	-28.95	PEAK	Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Detector Type	Comment
802.11a-5G							
5725	40.13	11.79	51.92	74	-22.08	PEAK	Vertical
5725	40.35	11.79	52.14	74	-21.86	PEAK	Horizontal
5850	39.03	11.93	50.96	74	-23.04	PEAK	Vertical
5850	40.21	11.93	52.14	74	-21.86	PEAK	Horizontal
802.11n20-5G							
5725	41.16	11.79	52.95	74	-21.05	PEAK	Vertical
5725	39.78	11.79	51.57	74	-22.43	PEAK	Horizontal
5850	40.66	11.93	52.59	74	-21.41	PEAK	Vertical
5850	39.39	11.93	51.32	74	-22.68	PEAK	Horizontal
802.11n40-5G							
5725	38.11	11.79	49.9	74	-24.1	PEAK	Vertical
5725	37.63	11.79	49.42	74	-24.58	PEAK	Horizontal
5850	38.76	11.93	50.69	74	-23.31	PEAK	Vertical
5850	37.34	11.93	49.27	74	-24.73	PEAK	Horizontal

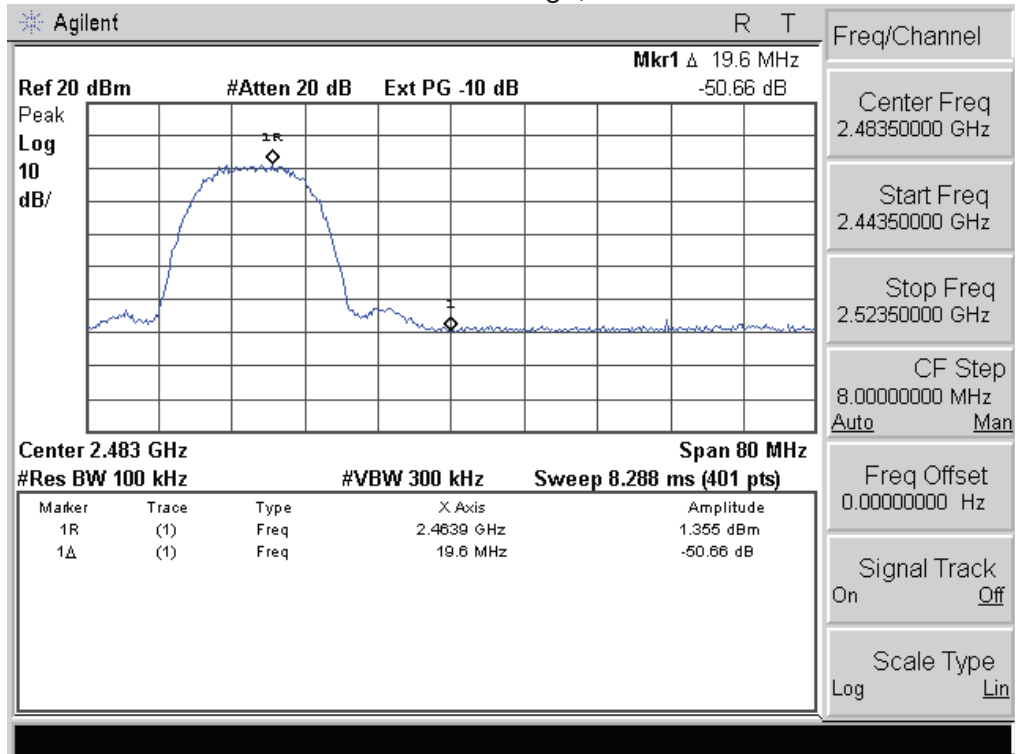
Note: Test method to see chapter 3.2 . When PK value is lower than the Average value limit, average not record.

ANTENNA A and B all have been tested, only reported worse case.

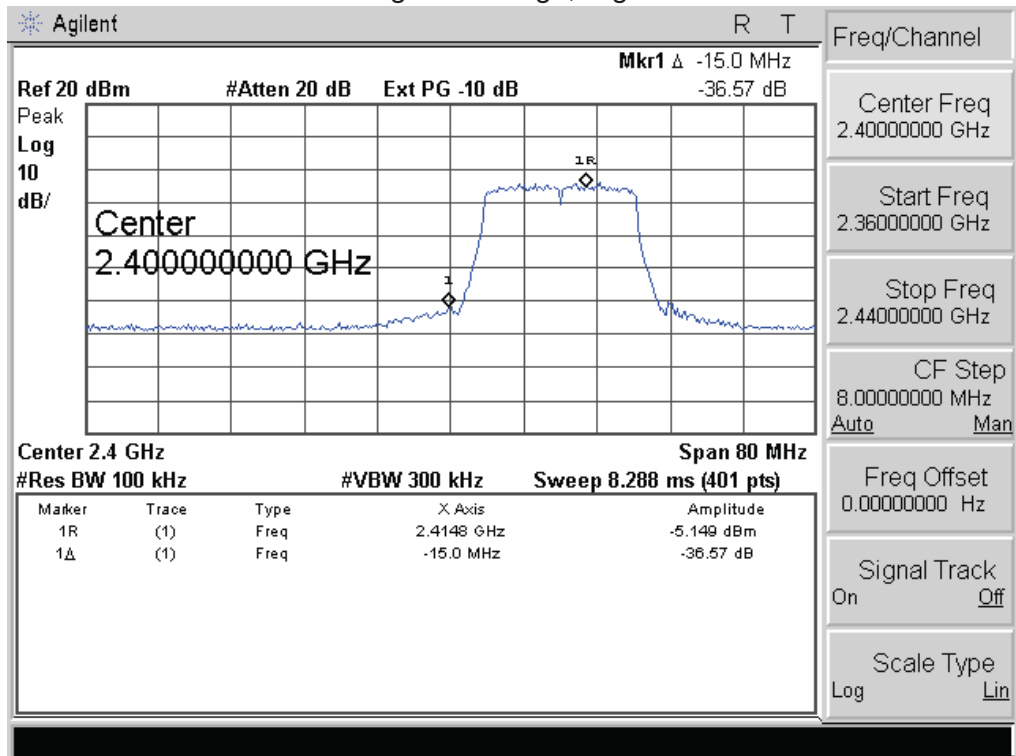
802.11b: Band Edge, Right Side



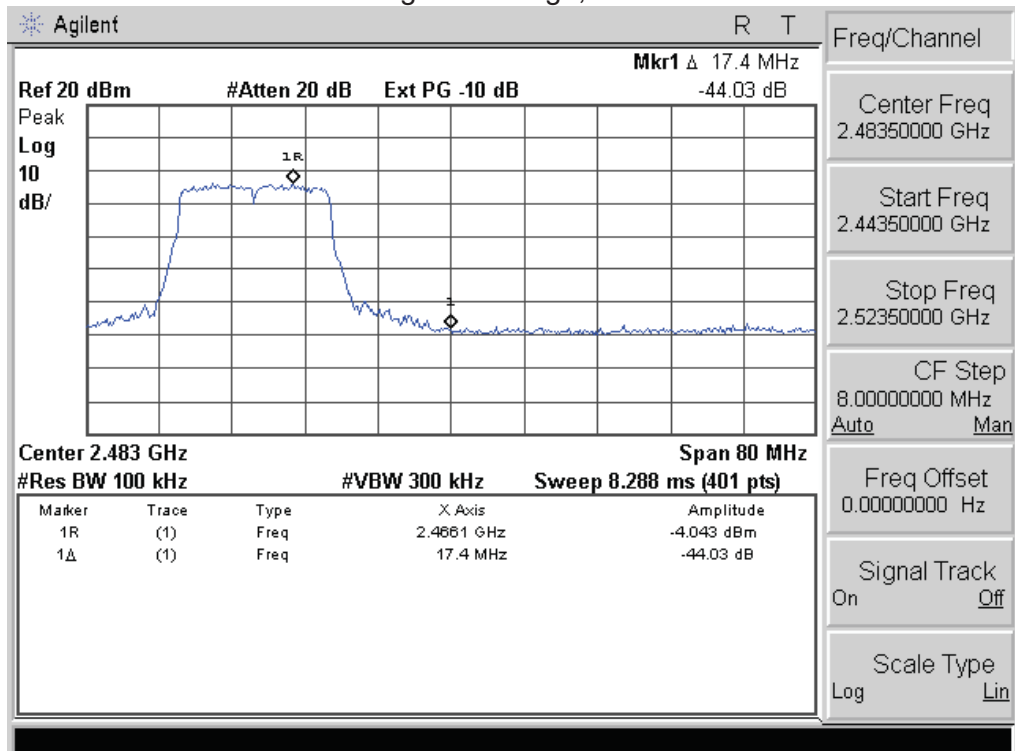
802.11b: Band Edge, Left Side



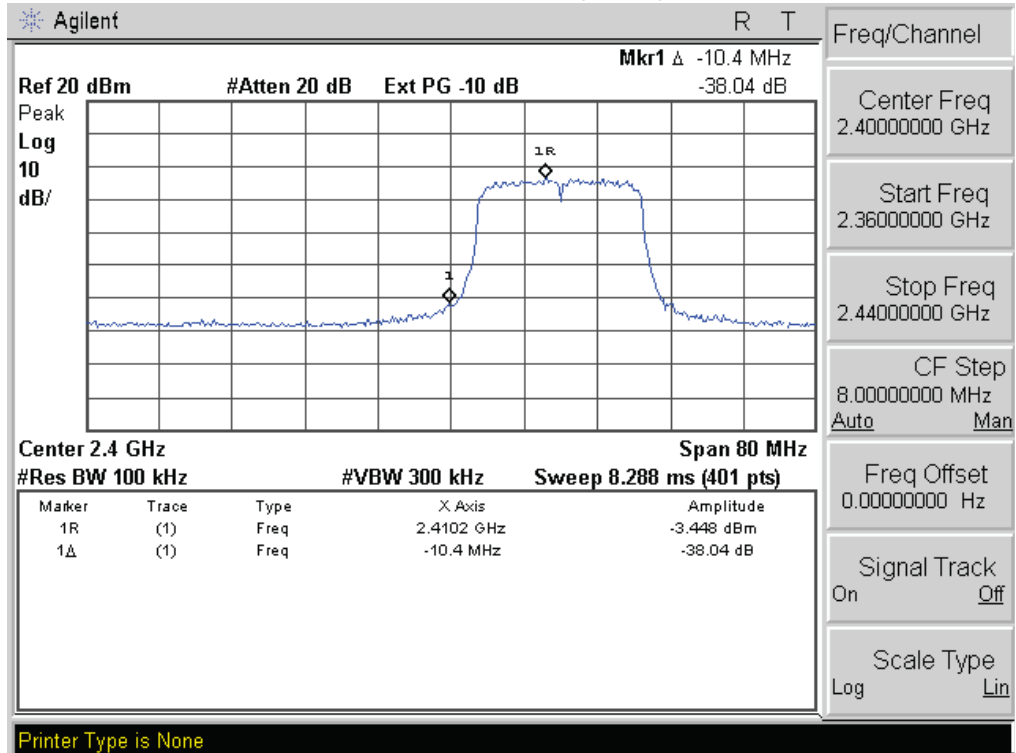
802.11g: Band Edge, Right Side



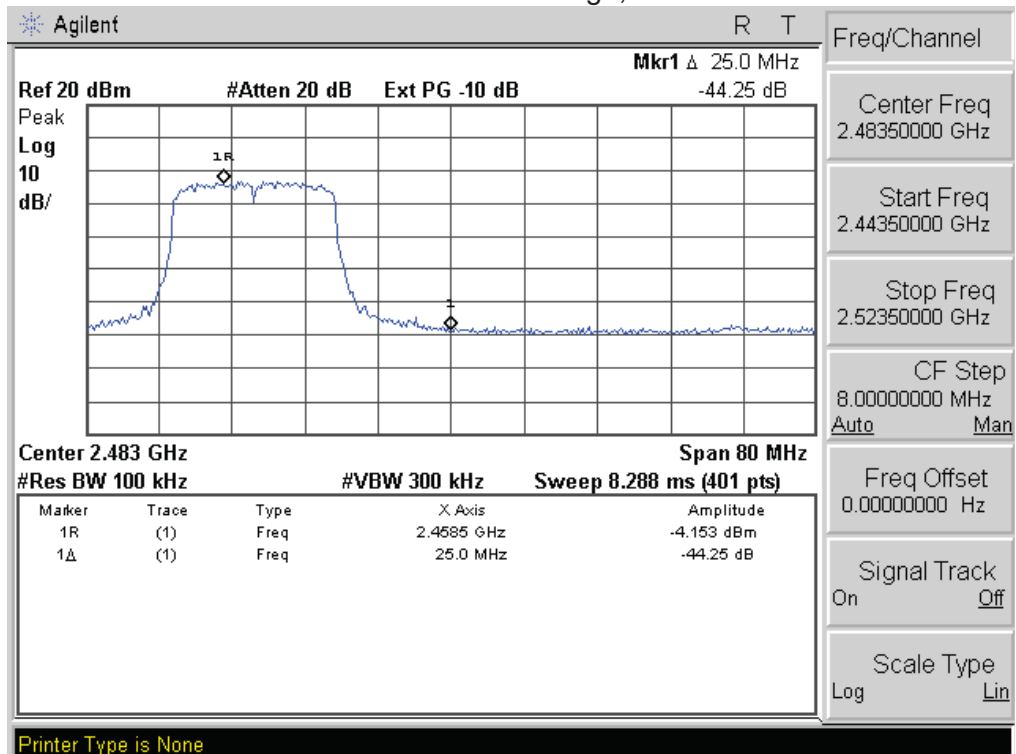
802.11g: Band Edge, Left Side



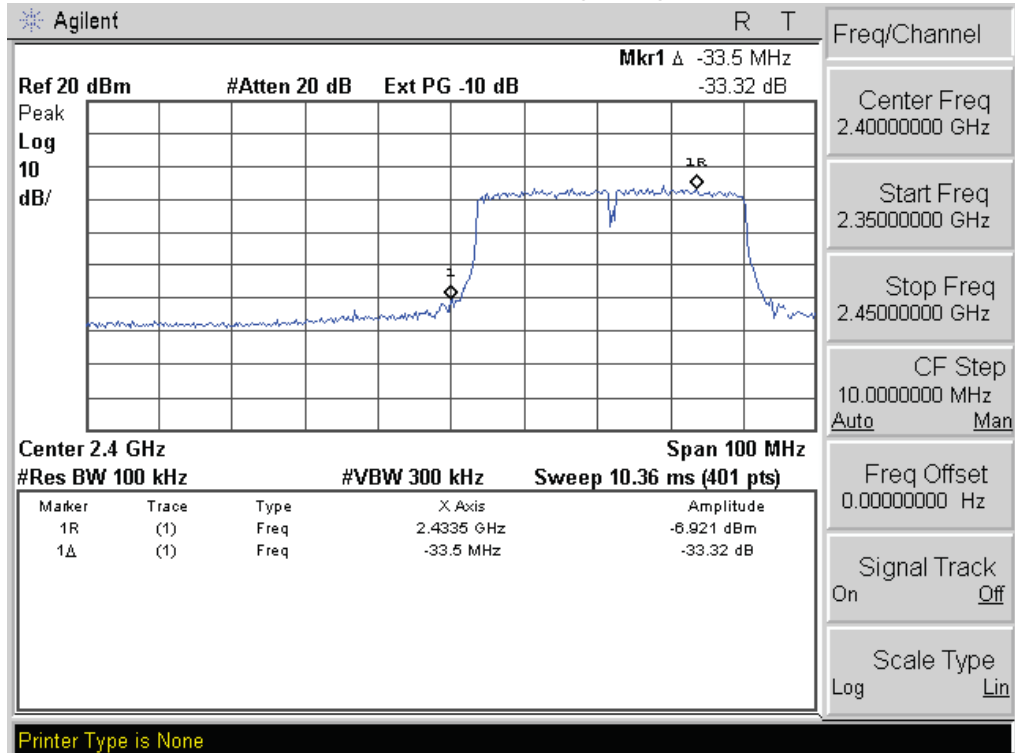
802.11n-HT20: Band Edge, Right Side



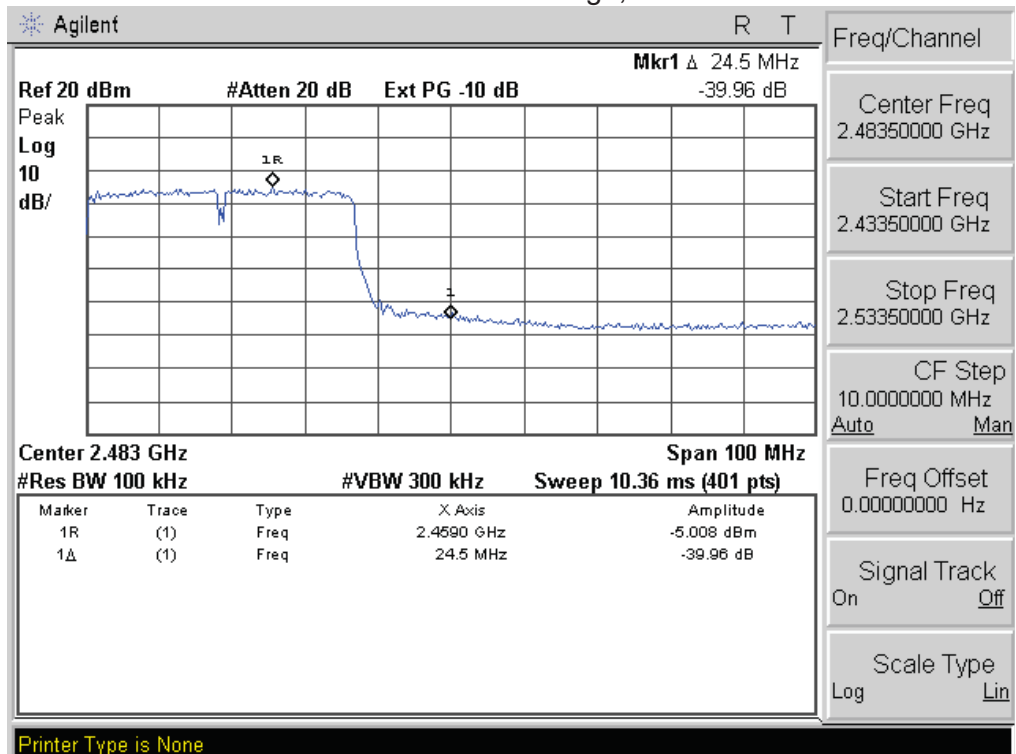
802.11n-HT20: Band Edge, Left Side



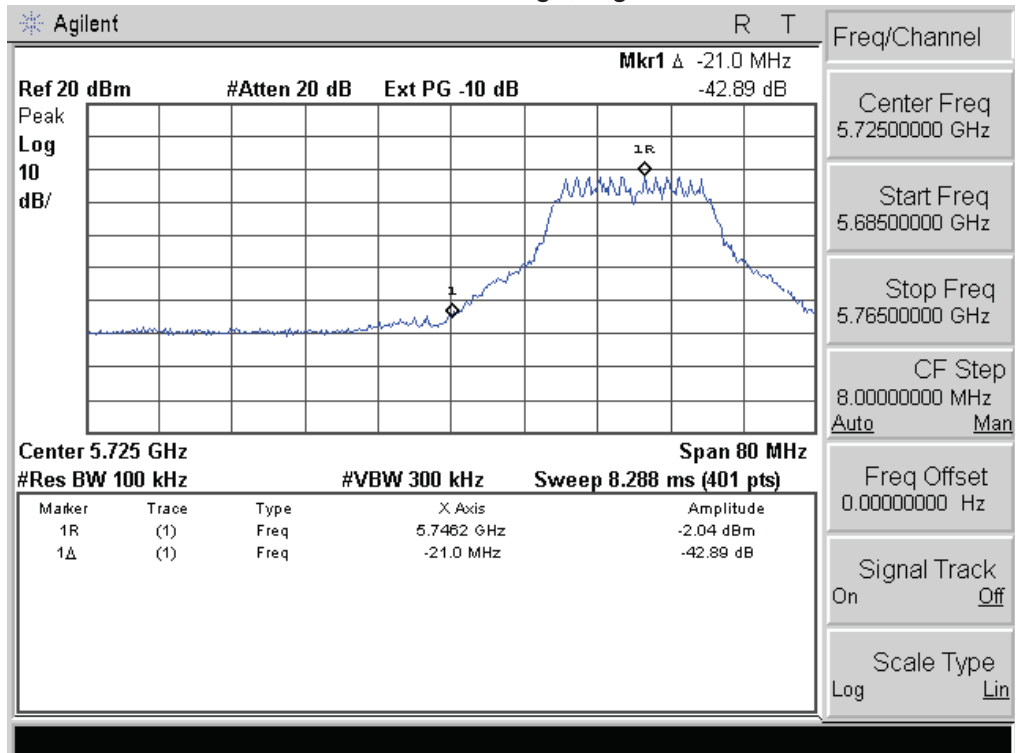
802.11n-HT40: Band Edge, Right Side



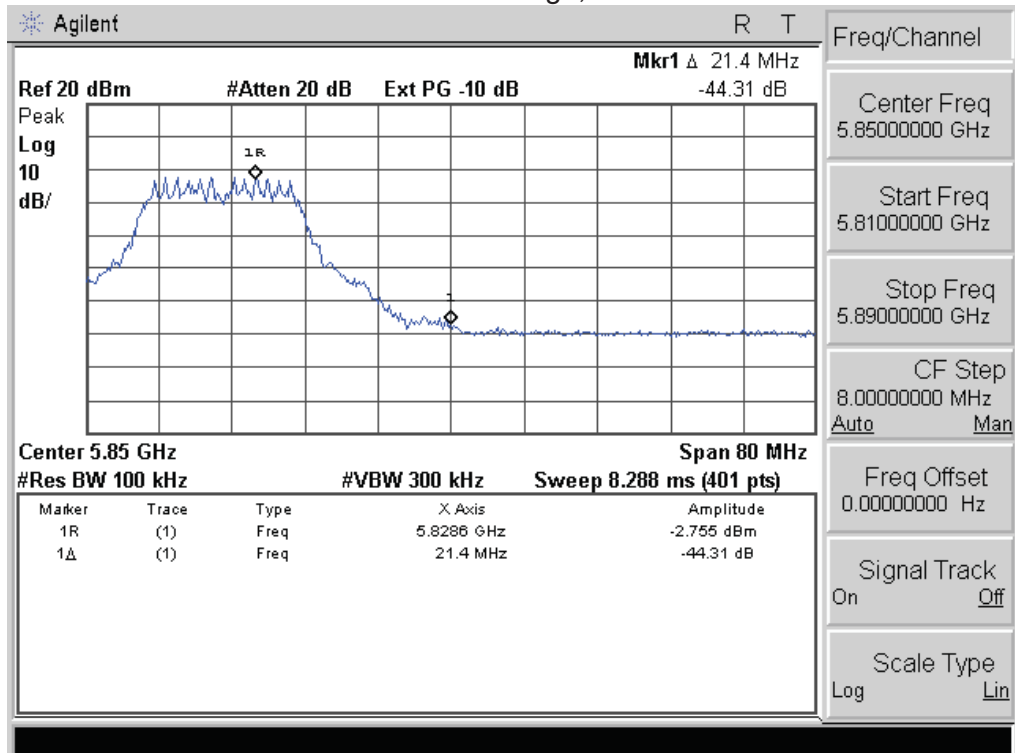
802.11n-HT40: Band Edge, Left Side



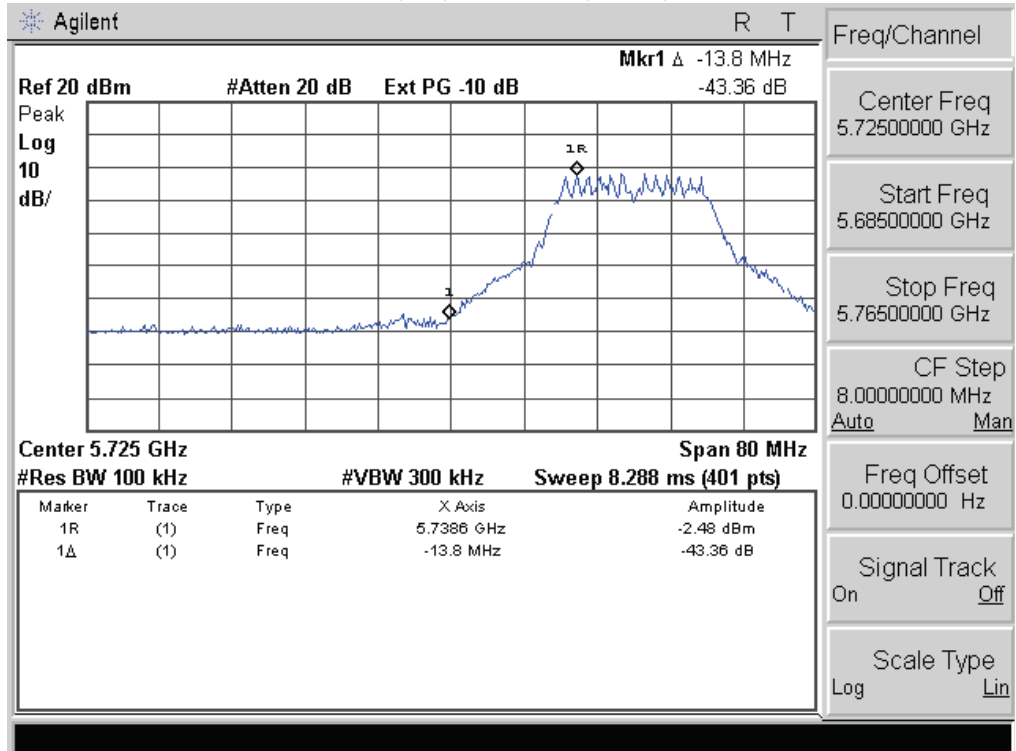
802.11a: Band Edge, Right Side



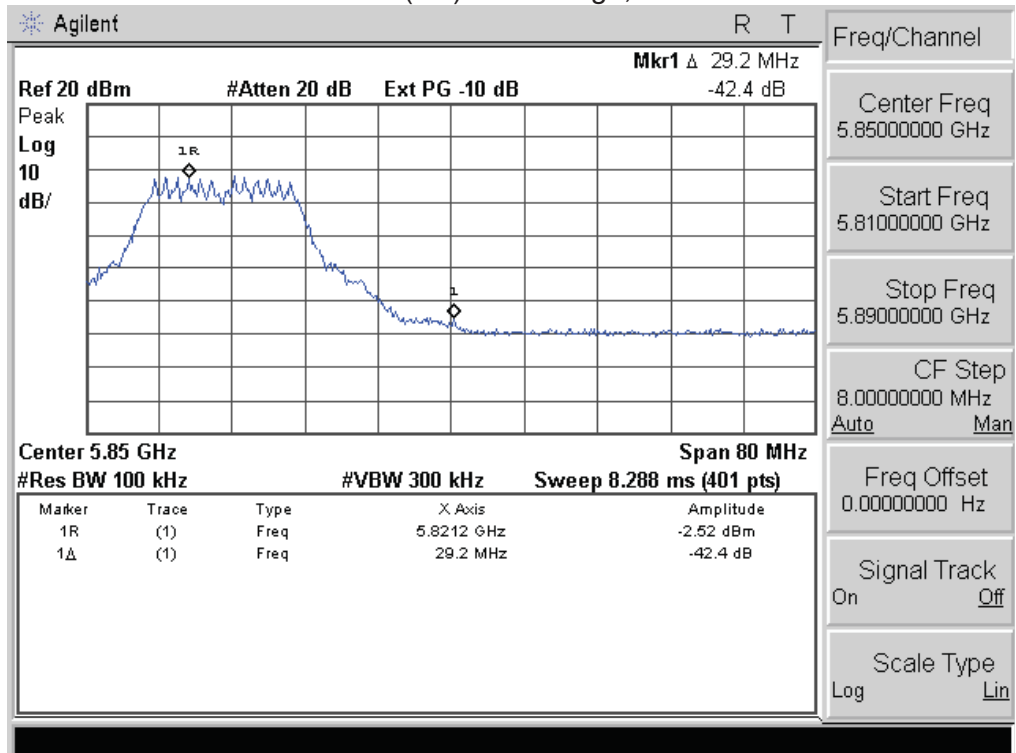
802.11a: Band Edge, Left Side



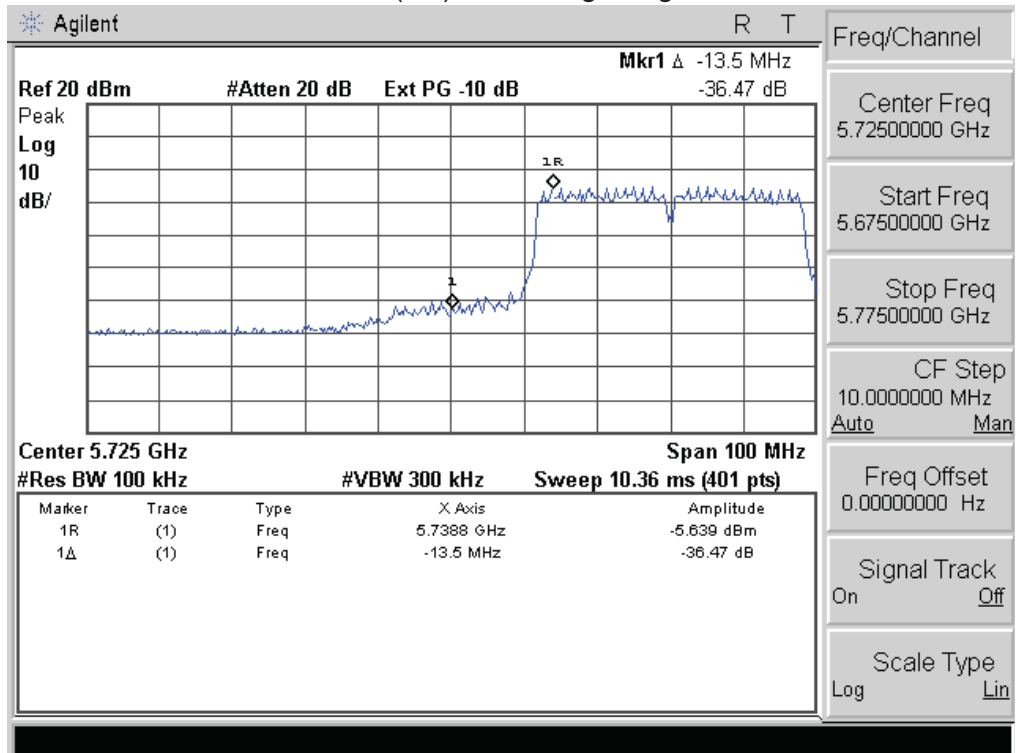
802.11n20(5G): Band Edge, Right Side



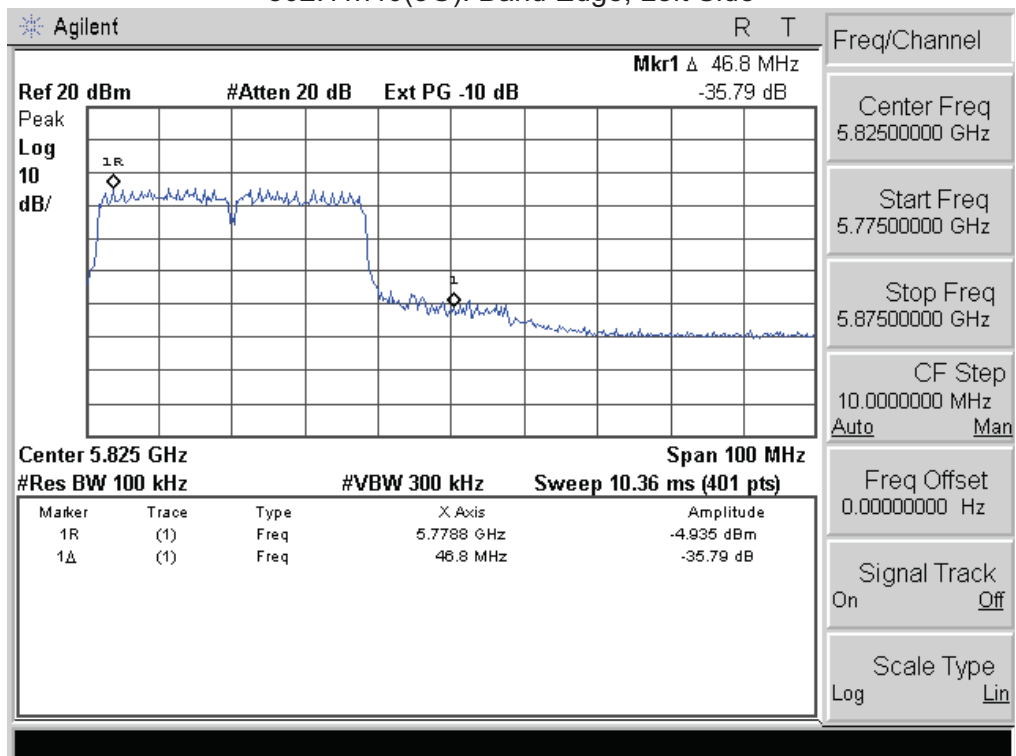
802.11n20(5G): Band Edge, Left Side



802.11n40(5G): Band Edge, Right Side



802.11n40(5G): Band Edge, Left Side



8. ANTENNA REQUIREMENT

8.1 STANDARD REQUIREMENT

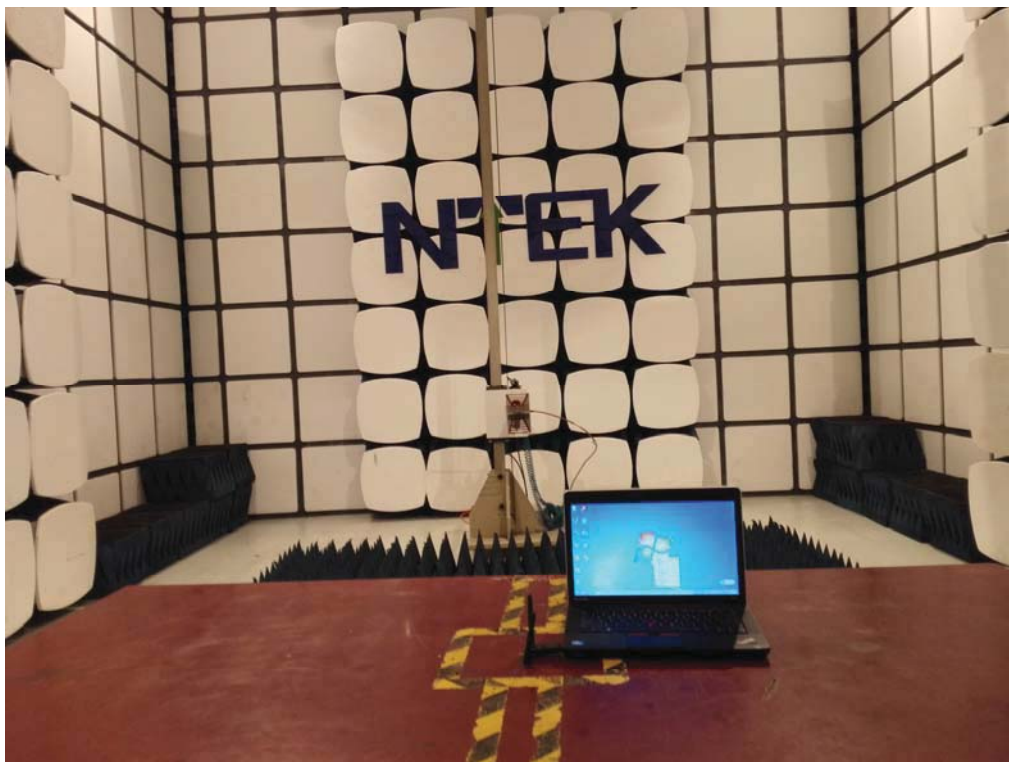
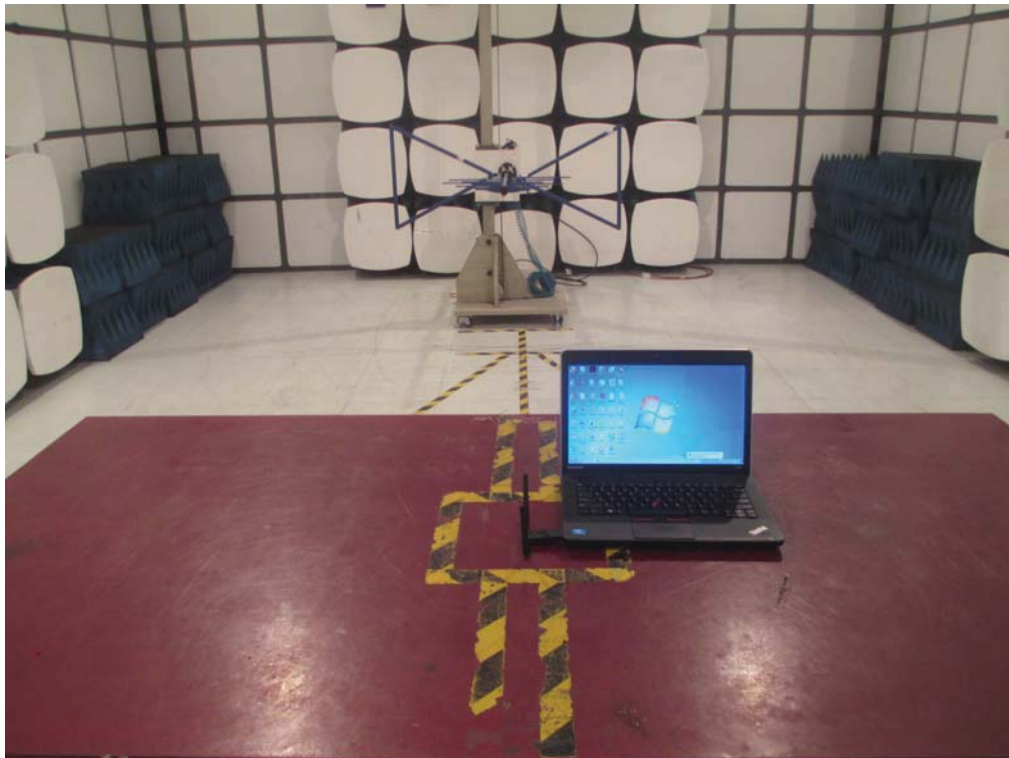
15.203 requirement: For intentional device, according to 15.203: an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

8.2 EUT ANTENNA

The EUT antenna is unique connector antenna(R-SMA), detailed in the External photos, It comply with the standard requirement.

9. EUT TEST PHOTO

Radiated Measurement Photos



Conducted Measurement Photos