APPLICATION FOR CERTIFICATION
On Behalf of
TP-Link Technologies Co., Ltd
3G Mobile Wi-Fi
Model No.: M5350
FCC ID: TE7M5350V2
Brand: TP-LINK

Prepared for : TP-Link Technologies Co., Ltd
Building 24 (Floors 1,2,4,5) and 28 (floorsl-4)
Central Science and technology park , Shennan Rd,
Nanshan, Shenzhen, China

Prepared by : AUDIX Technology Corporation
EMC Department
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File Number : C1M1407030
Report Number : EM-F140426
Date of Test : 2014. 07. 08 ~ 14
Date of Report : 2014. 07. 21

TABLE OF CONTENTS

TEST REPORT CERTIFICATION

Applicant	:	TP-Link Technologies Co., Ltd
Manufacturer	:	TP-Link Technologies Co., Ltd
EUT Description	:	3G Mobile Wi-Fi
FCC ID	**:**	**TE7M5350V2**
		(A) Model No. : M5350
		(B) Serial No. : N/A
		(C) Brand : TP-LINK
		(D) Power Supply : (1) DC 5V (Via USB)
		(2) DC 3.7V (Via Battery)

Measurement Procedure Used:

FCC Rules and Regulations Part 15 Subpart C, Oct. 2013
(FCC CFR 47 Part 15C, §15.205, §15.207, §15.209 and §15.247)
AND ANSI C63.4:2003

The device described above was tested by AUDIX Technology Corporation to determine the maximum emission levels emanating from the device. The maximum emission levels were compared to the FCC Part 15 subpart C limits.

The measurement results are contained in this test report and AUDIX Technology Corporation is assumed full responsibility for the accuracy and completeness of these measurements. Also, this report shows that the EUT to be technically compliant with the requirements of FCC standards.

This report applies to above tested sample only. This report shall not be reproduced in part without written approval of AUDIX Technology Corporation.

Date of Test: 2014. 07. 08 ~ 14 Date of Report: 2014. 07. 21

Producer: Tina Huang
(Tina Huang/Administrator)

Signatory: Ben Cheng
(Ben Cheng/Manager)

1. DESCRIPTION OF REVISION HISTORY

Edition No.	Date of Rev.	Revision Summary	Report No.
0	2014. 07. 21	Original Report	EM-F140426

2. GENERAL INFORMATION

2.1. Description of Device (EUT)

Product	3G Mobile Wi-Fi
Model Number	M5350
Serial Number	N/A
Brand Name	TP-LINK
Applicant	TP-Link Technologies Co., Ltd Building 24 (Floors 1,2,4,5) and 28 (floorsl-4) Central Science and technology park , Shennan Rd, Nanshan, Shenzhen, China
Manufacturer	TP-Link Technologies Co., Ltd Building 24 (Floors 1,2,4,5) and 28 (floorsl-4) Central Science and technology park , Shennan Rd, Nanshan, Shenzhen, China
FCC ID	TE7M5350V2
Fundamental Range	802.11b/g: 2412MHz ~ 2462MHz 802.11n-HT20: 2412MHz ~ 2462MHz GPRS/EGPRS 850: UL: 824.2MHz ~ 848.8MHz DL: 869.2MHz ~ 893.8MHz GPRS/EGPRS 1900: UL: 1850.2MHz ~ 1909.8MHz DL: 1930.2MHz ~ 1989.8MHz WCDMA Band: Band II: UL: 1852.4MHz ~ 1907.6MHz DL: 1932.4MHz ~ 1987.6MHz Band V: UL: 826.4MHz ~ 846.6MHz DL: 871.4MHz ~ 891.6MHz
Frequency Channel	802.11b/g: 11 channels 802.11n-HT20: 2.4GHz: 11 channels GPRS/EGPRS 850: CH 128- CH 251 GPRS/EGPRS 1900: CH 512-CH 810 WCDMA Band: Band II: UL: CH 9262 ~ CH9538; DL: CH 9662 ~ CH9938 Band V: UL: CH 4132 ~ CH4233; DL: CH 4357 ~ CH4458
Radio Technology	802.11b: DSSS Modulation (DBPSK/DQPSK/CCK) 802.11g: DSSS /OFDM Modulation (BPSK/QPSK/16QAM/64QAM) 802.11n: DSSS /OFDM Modulation (SISO) (BPSK/QPSK/16QAM/64QAM) GPRS/EGPRS: GMSK/8PSK WCDMA: QPSK/16-QAM/64-QAM
Data Transfer Rate	802.11b: 1/2/5.5/11Mbps 802.11g: 6/9/12/18/24/36/48/54Mbps 802.11n: up to 72.2Mbps GSM:DL 14.4kbps/UL 14.4kbps GPRS: DL 85.6kbps/UL 85.6kbps EGPRS:DL 236.8kbps/UL 236.8kpbs WCDMA CS: DL 64kbps/UL 64kpbs WCDMA PS: DL 384kbps/UL 384kbps HSPA+:DL 21.6Mbps/UL 5.76Mpbs
USB Cable	Shielded, Detachable, 0.6m
Battery	SHENZHEN BAK Battery Co., Ltd. M/N: TBL-71A2000, Rating: 3.7V, 2000mAh, 7.4Wh
AC Adapter	TP-LINK, M/N T050100-2B3 Input: 100-240V~ 50/60Hz 0.3A, Output: DC 5V, 1A
Date of Receipt of Sample	2014. 06. 23

Note: This EUT has 2.4GHz (WLAN) and GPRS/EGPRS/WCDMA function. See below for related test reports based on radio functionality.

1. The 2.4GHz (WLAN) function has been test in other report of EM-F140426.
2. The GPRS/EGPRS/WCDMA function has been test in other report of EM-F140427.

2.2. Antenna Information

Antenna Part Number	Manufacture	Antenna Type	Peak Gain	
			Frequency	Max Gain
WLAN Antenna	SkyCross	PIFA	2400~2500MHz	3.7dBi
2G+3G Primary Antenna	SkyCross	Fixed Internal	824MHz~894MHz	-1.99dBi
			1850MHz~1990MHz	0.11dBi
3G DRX Antenna	SkyCross	Fixed Internal	869MHz~894MHz	-5.40dBi
			1930MHz~1990MHz	-3.68dBi

2.3. Data Rate Relative to Average Output Power

802.11b			
Channel	Modulation	Date Rate(Mbps)	Power(dBm)
1	DBPSK	1	**14.63**
1	DQPSK	2	**14.62**
1	CCK	5.5	**14.58**
1	CCK	11	**14.61**

802.11g			
Channel	Modulation	Date Rate (Mbps)	Power (dBm)
1	BPSK	MCS0	**12.07**
1	BPSK	MCS1	**12.05**
1	QPSK	MCS2	**12.01**
1	QPSK	MCS3	**11.98**
1	16-QAM	MCS4	**12.03**
1	16-QAM	MCS5	**11.95**
1	64-QAM	MCS6	**11.92**
1	64-QAM	MCS7	**11.99**

802.11n-HT20			
Channel	Modulation	Date Rate (Mbps)	Power (dBm)
1	BPSK	MCS0	**12.03**
1	QPSK	MCS1	**11.98**
1	QPSK	MCS2	**12.01**
1	16-QAM	MCS3	**11.94**
1	16-QAM	MCS4	**11.85**
1	64-QAM	MCS5	**11.89**
1	64-QAM	MCS6	**11.89**
1	64-QAM	MCS7	**11.91**

Note: This assessment is measured at main Ant.

2.4. Test Configuration for Each Test Item

Test Item	**802.11b**	**802.11g**	**802.11n-HT20**	**802.11n-HT40**
	Data Rate for Test (Mbps)			
6db Bandwidth	1	6	6.5	6.5
Maximum Peak Output Power	1	6	6.5	6.5
Emission Limitations	1	6	6.5	6.5
Band Edges	1	6	6.5	6.5
Power Spectral Density	1	6	6.5	6.5

2.5. Tested Supporting System Details

2.5.1. NOTEBOOK PC

Model Number	:	X5502E
Serial Number	:	N/A
Manufacturer	:	ASUS
AC Adapter	:	Enerironix, M/N EXA1208UH DC Cord: Non-Shielded, Undetachable, 1.8m, Bonded a ferrite core
AC Power Cord	:	Non-Shielded, Detachable, 1.8m

2.6. Description of Test Facility

Name of Firm	:	**AUDIX Technology Corporation** EMC Department No. 53-11, Dingfu, Linkou Dist., New Taipei City 244, Taiwan
Test Site (C8/Semi-AC)	:	**No. 8 Shielded Room &** No. 53-11, Dingfu, Linkou Dist., New Taipei City 244, Taiwan **Semi-Anechoic Chamber** No. 53-11, Dingfu, Linkou Dist., New Taipei City 244, Taiwan 2012. 05. 11 File on Federal Communication Commission Registration Number: 90993
NVLAP Lab. Code	:	200077-0
TAF Accreditation No	:	1724

2.7. Measurement Uncertainty

Test Item	Frequency Range	Uncertainty
Conduction Test	150kHz~30MHz	±3.43dB
Radiation Test (Distance: 3m)	30MHz~300MHz	± 2.91dB
	300MHz~1000MHz	± 2.74dB
	Above 1GHz	± 5.02dB

Remark：Uncertainty = $ku_c(y)$

Test Item	Uncertainty
6dB Bandwidth	± 0.05kHz
Maximum peak output power	± 0.33dBm
Emission Limitations	± 0.13dB
Band edges	± 0.13dB
Power spectral density	± 0.13dB

3. CONDUCTED EMISSION MEASUREMET

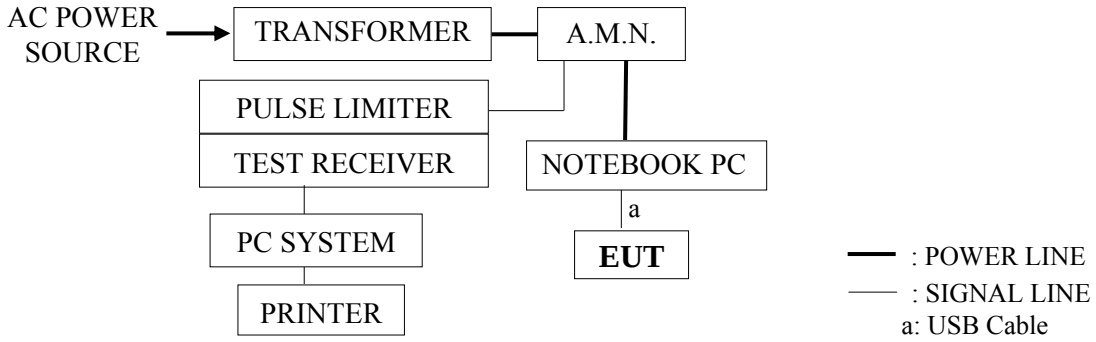
3.1. Test Equipment

The following test equipment was used during the conducted emission measurement：(No. 8 Shielded Room)

Item	Type	Manufacturer	Model No.	Serial No.	Cal. Due Date
1.	Test Receiver	R&S	ESR3	101774	2015. 02. 18
2	A.M.N.	R&S	ESH2-Z5	100366	2015. 06. 20
3	Pulse Limiter	R&S	ESH3-Z2	100354	2015. 01. 17

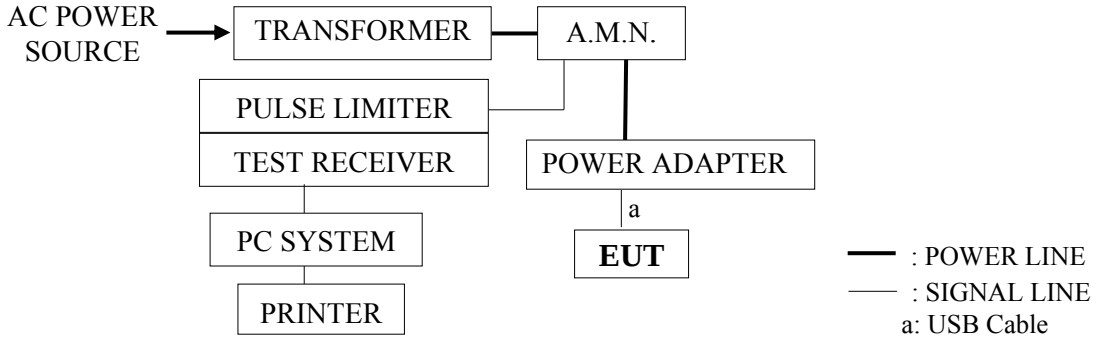
3.2. Block Diagram of Test Setup

[Link Notebook PC with Charge and Operating Mode]



EUT: 3G Mobile Wi-Fi

[Link Power Adapter with Charge and Operating Mode]



EUT: 3G Mobile Wi-Fi

3.3. Powerline Conducted Emission Limit [§15.207, Class B]

Frequency	Maximum RF Line Voltage	
	Quasi-Peak Level	Average Level
150kHz ~ 500kHz	66 ~ 56 dBμV	56 ~ 46 dBμV
500kHz ~ 5MHz	56 dBμV	46 dBμV
5MHz ~ 30MHz	60 dBμV	50 dBμV

Remark 1. If the average limit is met when using a Quasi-Peak detector, the EUT shall be deemed to meet both limits and measurement with the average detector is unnecessary.
2. The lower limit applies at the band edges.

3.4. Operating Condition of EUT

3.4.1. Set up the EUT and simulator as shown on 3.2.

3.4.2. Turn on the power of all equipment.

3.4.3. Using QRCT to enable EUT to transmit wanted frequency in 100% duty cycle.

3.4.4. The other peripheral devices were driven and operated in turn during all testing.

3.5. Test Procedure

The EUT (Link Notebook PC or Power Adapter) was placed on the table which was above the ground by 80cm and it's Notebook PC's adapter power cord or its Switching Power Supply power cord connected to the AC mains through an Artificial Mains Network (A.M.N.). This provided a 50 ohm coupling impedance for the measuring equipment. (Please refer to the block diagram of the test setup and photographs.)
Both sides of A.C. line were checked for maximum conducted interference. In order to find the maximum emission, the relative positions simulators of the interface cables should be manipulated according to ANSI C63.4-2003 regulation during conducted measurement.

The bandwidth of the R&S Test Receiver ESR3 was set at 9kHz.

The frequency range from 150kHz to 30MHz was checked.

All the final readings from Test Receiver were measured with the Quasi-Peak detector and Average detector. Remark: If the Average limit is met when using a Quasi-Peak detector, the Average detector is unnecessary)

3.6. Conducted Emission Measurement Results

PASSED.
(All the emissions not reported below are too low against the prescribed limits.)

EUT with following test modes was performed during this section testing and all the test results are attached in next pages.

EUT: 3G Mobile Wi-Fi Model No.: M5350

Test Date: 2014. 07. 10 Temperature: 25℃ Humidity: 70%

The details are as follows：

Mode	Test Voltage	Operation of EUT	Reference Test Data No.	
			Neutral	Line
1	AC 120V/60Hz (Via Notebook)	Charge and Operating	# 2	# 1
2	AC 120V/60Hz (Via Power Adapter)	Charge and Operating	# 4	# 3

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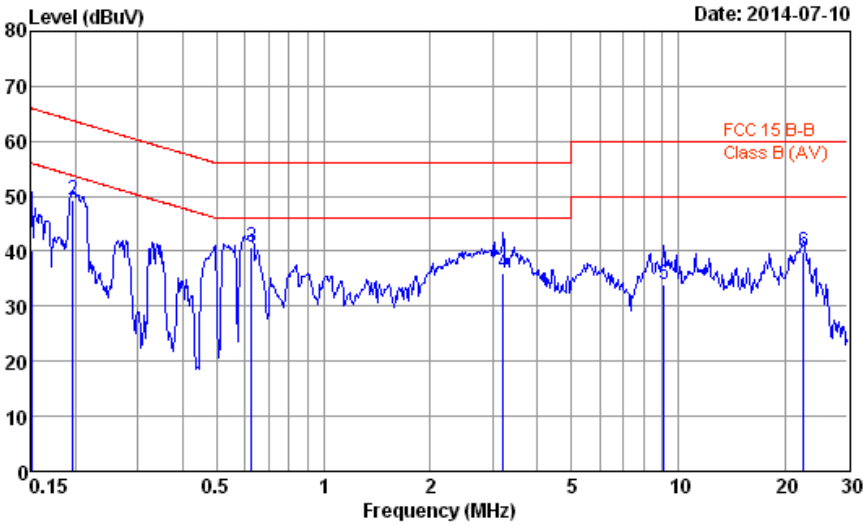
Data: 2



Site no. : No.8 Shielded Room Data no. : 2
Condition : ESH2-Z5 366 LISN Phase : NEUTRAL
Limit : FCC 15B-B
Env. / Ins. : 25°C / 70% ESR3 (1774) Engineer : Fate
EUT : M5350
Power Rating : 120Vac/60Hz
Test Mode : NB

	Freq. (MHz)	AMN Factor (dB)	Cable Loss (dB)	Pulse Att. (dB)	Reading (dBµV)	Emission Level (dBµV)	Limits (dBµV)	Margin (dB)	Remark
1	0.150	0.21	0.02	9.85	30.15	40.23	65.99	25.76	QP
2	0.197	0.21	0.03	9.85	39.12	49.21	63.76	14.55	QP
3	0.627	0.23	0.03	9.85	30.50	40.61	56.00	15.39	QP
4	3.207	0.31	0.07	9.86	25.83	36.07	56.00	19.93	QP
5	9.107	0.45	0.13	9.88	23.41	33.87	60.00	26.13	QP
6	22.535	0.76	0.22	9.95	28.90	39.83	60.00	20.17	QP

Remarks: 1. Emission Level= AMN Factor + Cable Loss + Pulse Att. + Reading.
2. If the average limit is met when useing a quasi-peak detector, the EUT shall be deemed to meet both limits and measurement with average detector is unnecessary.

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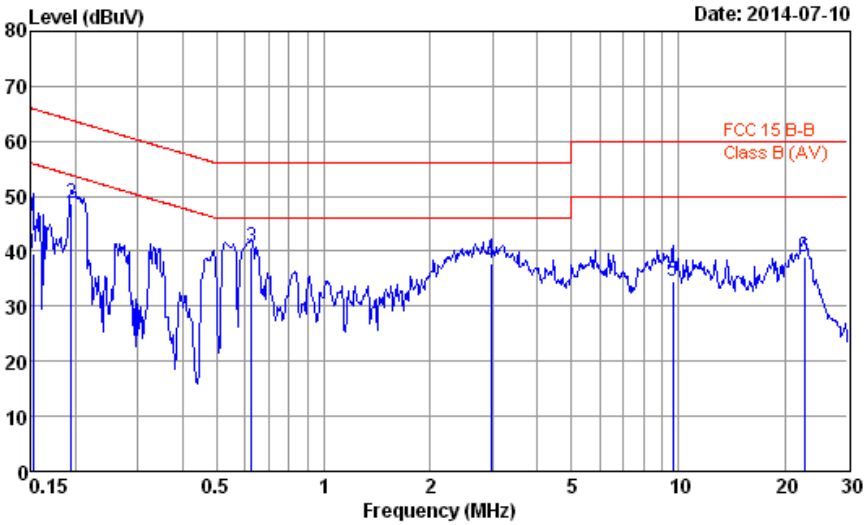
Data: 1



Site no. : No.8 Shielded Room Data no. : 1
Condition : ESH2-Z5 366 LISN Phase : LINE
Limit : FCC 15B-B
Env. / Ins. : 25*C / 70% ESR3 (1774) Engineer : Fate
EUT : M5350
Power Rating : 120Vac/60Hz
Test Mode : NB

	Freq. (MHz)	AMN Factor (dB)	Cable Loss (dB)	Pulse Att. (dB)	Reading (dBµV)	Emission Level (dBµV)	Limits (dBµV)	Margin (dB)	Remark
1	0.152	0.18	0.02	9.85	29.48	39.53	65.91	26.38	QP
2	0.194	0.18	0.03	9.85	38.61	48.67	63.84	15.17	QP
3	0.627	0.20	0.03	9.85	30.59	40.67	56.00	15.33	QP
4	2.962	0.27	0.07	9.86	27.71	37.91	56.00	18.09	QP
5	9.654	0.42	0.14	9.89	24.13	34.58	60.00	25.42	QP
6	22.655	0.71	0.22	9.95	28.22	39.10	60.00	20.90	QP

Remarks: 1. Emission Level= AMN Factor + Cable Loss + Pulse Att. + Reading.
2. If the average limit is met when useing a quasi-peak detector, the EUT shall be deemed to meet both limits and measurement with average detector is unnecessary.

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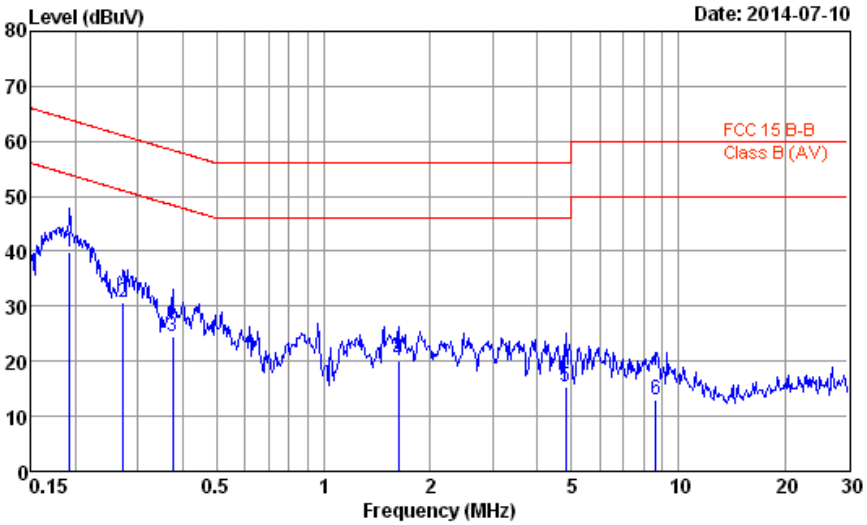
Data: 4



Site no. : No.8 Shielded Room Data no. : 4
Condition : ESH2-Z5 366 LISN Phase : NEUTRAL
Limit : FCC 15B-B
Env. / Ins. : 25°C / 70% ESR3 (1774) Engineer : Fate
EUT : M5350
Power Rating : 120Vac/60Hz
Test Mode : Charge

	Freq. (MHz)	AMN Factor (dB)	Cable Loss (dB)	Pulse Att. (dB)	Reading (dBµV)	Emission Level (dBµV)	Limits (dBµV)	Margin (dB)	Remark
1	0.192	0.21	0.03	9.85	29.91	40.00	63.93	23.93	QP
2	0.273	0.22	0.03	9.85	20.61	30.71	61.03	30.32	QP
3	0.375	0.23	0.03	9.84	14.34	24.44	58.39	33.95	QP
4	1.628	0.24	0.05	9.85	9.98	20.12	56.00	35.88	QP
5	4.822	0.36	0.09	9.86	5.07	15.38	56.00	40.62	QP
6	8.637	0.44	0.13	9.88	2.68	13.13	60.00	46.87	QP

Remarks: 1. Emission Level= AMN Factor + Cable Loss + Pulse Att. + Reading.
2. If the average limit is met when useing a quasi-peak detector, the EUT shall be deemed to meet both limits and measurement with average detector is unnecessary.

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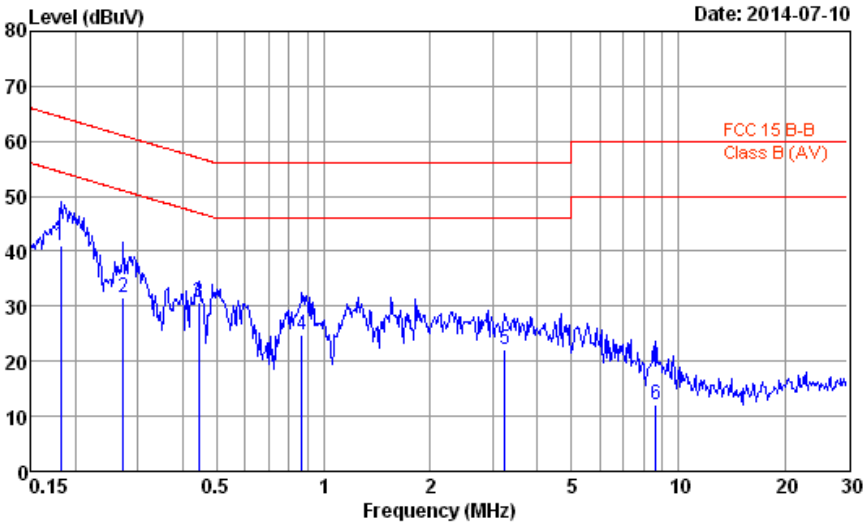
Data: 3



Site no. : No.8 Shielded Room Data no. : 3
Condition : ESH2-Z5 366 LISN Phase : LINE
Limit : FCC 15B-B
Env. / Ins. : 25°C / 70% ESR3 (1774) Engineer : Fate
EUT : M5350
Power Rating : 120Vac/60Hz
Test Mode : Charge

	Freq. (MHz)	AMN Factor (dB)	Cable Loss (dB)	Pulse Att. (dB)	Reading (dBµV)	Emission Level (dBµV)	Limits (dBµV)	Margin (dB)	Remark
1	0.182	0.18	0.03	9.85	31.04	41.10	64.42	23.32	QP
2	0.273	0.19	0.03	9.85	21.63	31.70	61.03	29.33	QP
3	0.444	0.19	0.03	9.84	20.62	30.68	56.98	26.30	QP
4	0.871	0.21	0.04	9.85	14.71	24.81	56.00	31.19	QP
5	3.241	0.27	0.07	9.86	11.99	22.19	56.00	33.81	QP
6	8.637	0.41	0.13	9.88	1.55	11.97	60.00	48.03	QP

Remarks: 1. Emission Level= AMN Factor + Cable Loss + Pulse Att. + Reading.
2. If the average limit is met when useing a quasi-peak detector, the EUT shall be deemed to meet both limits and measurement with average detector is unnecessary.

4. RADIATED EMISSION MEASUREMENT

4.1. Test Equipment

The following test equipment was used during the radiated emission measurement:

4.1.1. For Frequency Range 30MHz~1000MHz (at Semi-Anechoic Chamber)

Item	Type	Manufacturer	Model No.	Serial No.	Cal. Due Date
1.	Spectrum Analyzer	Agilent	N9010A-526	MY53400071	2014. 09. 18
2.	Test Receiver	R&S	ESCS30	100338	2015. 06. 23
3.	Amplifier	HP	8447D	2944A06305	2015. 02. 17
4.	Bilog Antenna	TESEQ	CBL6112D	33821	2014. 08. 07

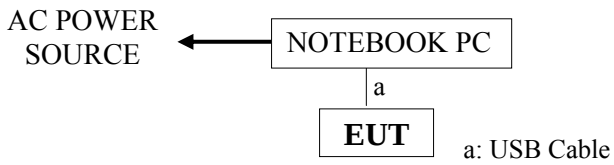
4.1.2. For Frequency Above 1GHz (at Semi-Anechoic Chamber)

Item	Type	Manufacturer	Model No.	Serial No.	Cal. Due Date
1.	Spectrum Analyzer	Agilent	N9010A-526	MY53400071	2014. 09. 18
2.	Test Receiver	R&S	ESCS30	100338	2015. 06. 23
3.	Pre-Amplifier	Agilent	8449B	3008A02676	2015. 02. 20
4.	2.4GHz Notch Filter	K&L	7NSL10-2441.5 E130.5-00	1	2015. 06. 13
5.	3G High Pass Filter	Microware Circuits	H3G018G1	484796	2015. 06. 13
6.	Horn Antenna	EMCO	3115	9609-4927	2015. 06. 16
7.	Horn Antenna	EMCO	3116	2653	2014. 10. 10

4.2. Test Setup

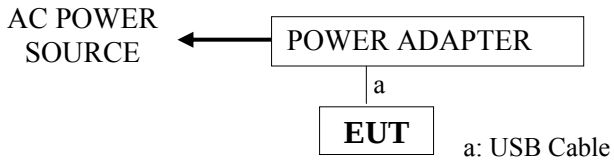
4.2.1. Block Diagram of connection between EUT and simulators

[Link Notebook PC with TX Mode]



EUT: 3G Mobile Wi-Fi

[Link Power Adapter with TX Mode]

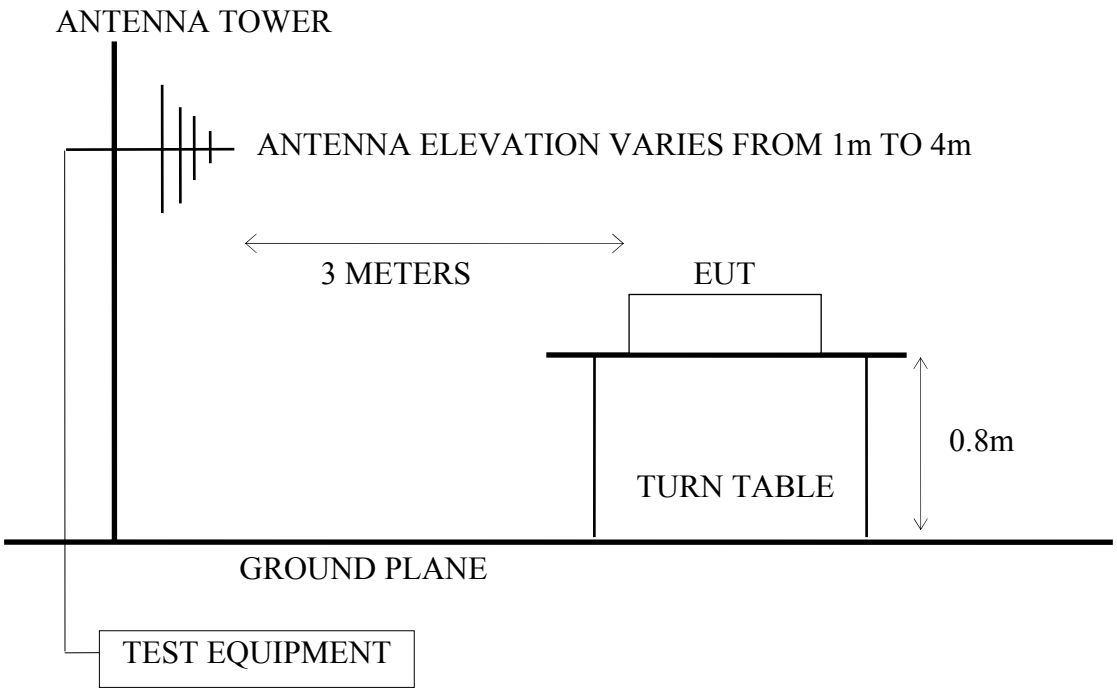


EUT: 3G Mobile Wi-Fi

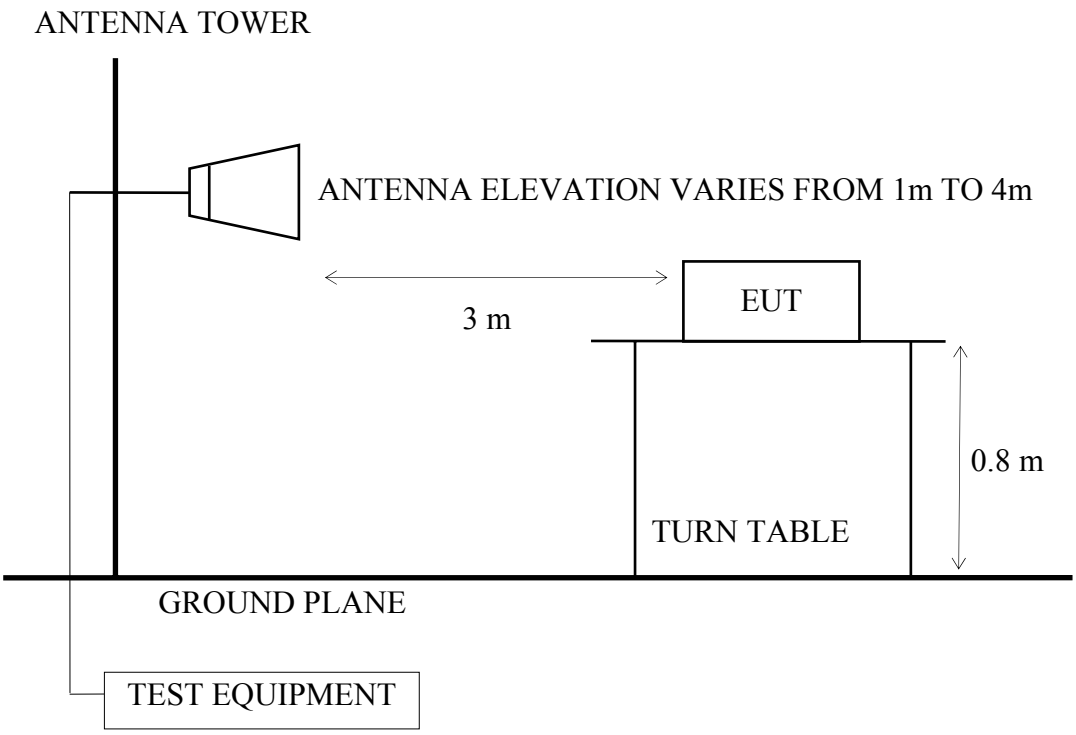
[Battery Mode with TX Mode]

EUT: 3G Mobile Wi-Fi

4.2.2. Semi-Anechoic Chamber (3m) Setup Diagram for 30-1000MHz



4.2.3. Semi-Anechoic Chamber (3m) Setup Diagram for above 1GHz



4.3. Radiated Emission Limits (§15.209)

FREQUENCY MHz	DISTANCE Meters	FIELD STRENGTHS LIMITS	
		μV/m	dBμV/m
30 ~ 88	3	100	40.0
88 ~ 216	3	150	43.5
216 ~ 960	3	200	46.0
Above 960	3	500	54.0
Above 1000	3	74.0 dBμV/m (Peak) 54.0 dBμV/m (Average)	

Remark：(1) Emission level (dBμV/m) = 20 log Emission level (μV/m)
(2) The tighter limit applies at the edge between two frequency bands.
(3) Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.
(4) The limits in this table are based on CFR 47 Part 15.205(a)(b) and Part 15.209 (a).
(5) The over 1GHz limit, FCC limit is used based on CFR 47 Part 15.35(b) and Part 15.205(b) & Part 15.209(e) and Part 15.207(c).

4.4. Operating Condition of EUT

4.4.1. The 3G Mobile Wi-Fi (EUT) can be operated with battery (DC 3.7V) or USB port (DC 5V), after pre-scanning Link Notebook PC with TX Mode , Link Power Adapter with TX Mode and Battery Mode with stand(x), lie(y) and side(z) axes that lie(y) axis is the worst axis.

4.4.2. Using QRCT to enable EUT to transmit wanted frequency in 100% duty cycle.

4.4.3. The EUT supports 802.11b/g/n-HT20 modes, we performed pre-scan high, middle, low channels for each mode for spurious emission and listed the worst channel of each mode in test report.

4.4.4. The worst channel of each mode as following:

Mode	Type of Network	Channel
1.	802.11b	CH 1
2.	802.11g	CH 1
3.	802.11n-HT20	CH 1

4.5. Test Procedure

The EUT and its simulators were placed on a turn table which was 0.8 meter above the ground. The turn table rotated 360 degrees to determine the position of the maximum emission level. EUT was set 3 meters away from the receiving antenna which was mounted on an antenna tower. The antenna moved up and down between 1 to 4 meters to find out the maximum emission level. Broadband antenna such as calibrated biconical and log-periodical antenna or horn antenna were used as a receiving antenna. Both horizontal and vertical polarization of the antenna were set on measurement. In order to find the maximum emission, all of the interface cables were manipulated according to ANSI C63.4-2003 regulation.

The bandwidth of the R&S Test Receiver was set at 120kHz. (For 30MHz to 1000MHz)

The resolution bandwidth and video bandwidth of test spectrum analyzer is 1MHz for peak detection (PK) at frequency above 1GHz.

The resolution bandwidth of test spectrum analyzer is 1MHz and the video bandwidth is 10Hz for average detection (AV) at frequency above 1GHz.

The frequency range from 30MHz to 25GHz (Up to 10th harmonics from fundamental frequency) was checked. 30MHz to 1000MHz was measured with Peak detector.

Above 1GHz was measured with peak and average detector. For frequency from 1GHz to 25GHz, we checked it in 1 meter distance and with a shorter cable 2 meter instead of original's. There is no signal exist.

Pursuant to ANSI C63.4 8.3.1.2, when peak value complies with the average limit, we didn't perform measurement in average detector.

4.6. Test Results

PASSED.
(All emissions not reported for there is no emission be found.)

For Frequency Range 30MHz~1000MHz:

The EUT with following test modes was performed during this section testing and all the test results are listed in section 4.6.1.

EUT: 3G Mobile Wi-Fi M/N: M5350

Test Date: 2014. 07. 08 Temperature: 26℃ Humidity: 43%

No.	Test Voltage	Type	Channel	Frequency	Test Mode	Reference Test Data No.	
						Horizontal	Vertical
1	DC 3.7V (Via Battery)	802.11b	CH 1	2412MHz	Transmit	# 1	# 2
2		802.11g	CH 1	2412MHz		# 1	# 2
3		802.11n-HT20	CH 1	2412MHz		# 1	# 2

* Above all final readings were measured with Peak detector.

For Frequency above 1GHz:

The emissions (up to 25GHz) not reported are too low to be measured.

For Restricted Bands:

The EUT was tested in restricted bands and all the test results are listed in section 4.6.2. (The restricted bands defined in part 15.205(a))

No.	Test Voltage	Type	Channel	Frequency	Test Mode	Reference Test Data No.	
						Horizontal	Vertical
1	DC 3.7V (Via Battery)	802.11b	CH 1	2412MHz	Transmit	# 1, # 2	# 3, # 4
2			CH 11	2462MHz		# 5, # 6	# 7, # 8
3		802.11g	CH 1	2412MHz		# 1, # 2	# 3, # 4
4			CH 11	2462MHz		# 5, # 6	# 7, # 8
5		802.11n-HT20	CH 1	2412MHz		# 1, # 2	# 3, # 4
6			CH 11	2462MHz		# 5, # 6	# 7, # 8

4.6.1. For 30-1000MHz Frequency Range Measurement Results

802.11b , Transmit, Frequency: 2412MHz

Site no. : Audix NO.1 Chamber Data no. : 1
Dis. / Ant. : 3m CBL6112D 33821 Ant. pol. : HORIZONTAL
Limit : 30M-1G
Env. / Ins. : 26*C / 43% N9010A Engineer : Jerome Chang
EUT : M5350
Power Rating : DC 3.7V
Test Mode : 802.11b 2412MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Remark
1	69.77	6.63	2.90	16.83	26.36	40.00	13.64	Peak
2	288.02	12.96	4.58	19.76	37.30	46.00	8.70	Peak
3	397.63	15.50	5.64	22.60	43.74	46.00	2.26	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
2. The emission levels that are 20dB below the official limit are not reported.

Site no. : Audix NO.1 Chamber Data no. : 2
Dis. / Ant. : 3m CBL6112D 33821 Ant. pol. : VERTICAL
Limit : 30M-1G
Env. / Ins. : 26*C / 43% N9010A Engineer : Jerome Chang
EUT : M5350
Power Rating : DC 3.7V
Test Mode : 802.11b 2412MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Remark
1	30.97	18.07	2.34	15.18	35.59	40.00	4.41	Peak
2	399.57	15.53	5.65	18.34	39.52	46.00	6.48	Peak
3	486.87	16.80	6.35	14.66	37.81	46.00	8.19	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
2. The emission levels that are 20dB below the official limit are not reported.

802.11g , Transmit, Frequency: 2412MHz

Site no. : Audix NO.1 Chamber
Dis. / Ant. : 3m CBL6112D 33821
Limit : 30M-1G
Env. / Ins. : 26*C / 43% N9010A
EUT : M5350
Power Rating : DC 3.7V
Test Mode : 802.11g 2412MHz

Data no. : 1
Ant. pol. : HORIZONTAL
Engineer : Jerome Chang

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Remark
1	102.75	11.12	3.24	20.57	34.93	43.50	8.57	Peak
2	288.02	12.96	4.58	20.09	37.63	46.00	8.37	Peak
3	398.60	15.53	5.65	22.90	44.08	46.00	1.92	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
2. The emission levels that are 20dB below the official limit are not reported.

Site no. : Audix NO.1 Chamber
Dis. / Ant. : 3m CBL6112D 33821
Limit : 30M-1G
Env. / Ins. : 26*C / 43% N9010A
EUT : M5350
Power Rating : DC 3.7V
Test Mode : 802.11g 2412MHz

Data no. : 2
Ant. pol. : VERTICAL
Engineer : Jerome Chang

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Remark
1	30.97	18.07	2.34	14.56	34.97	40.00	5.03	Peak
2	399.57	15.53	5.65	17.88	39.06	46.00	6.94	Peak
3	484.93	16.77	6.34	14.75	37.86	46.00	8.14	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
2. The emission levels that are 20dB below the official limit are not reported.

802.11n-HT20 , Transmit, Frequency: 2412MHz

Site no. : Audix NO.1 Chamber Data no. : 1
Dis. / Ant. : 3m CBL6112D 33821 Ant. pol. : HORIZONTAL
Limit : 30M-1G
Env. / Ins. : 26*C / 43% N9010A Engineer : Jerome Chang
EUT : M5350
Power Rating : DC 3.7V
Test Mode : 802.11n20 2412MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Remark
1	69.77	6.63	2.90	17.78	27.31	40.00	12.69	Peak
2	288.02	12.96	4.58	20.46	38.00	46.00	8.00	Peak
3	397.63	15.50	5.64	20.96	42.10	46.00	3.90	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
2. The emission levels that are 20dB below the official limit are not reported.

Site no. : Audix NO.1 Chamber Data no. : 2
Dis. / Ant. : 3m CBL6112D 33821 Ant. pol. : VERTICAL
Limit : 30M-1G
Env. / Ins. : 26*C / 43% N9010A Engineer : Jerome Chang
EUT : M5350
Power Rating : DC 3.7V
Test Mode : 802.11n20 2412MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Remark
1	39.70	13.51	2.51	21.67	37.69	40.00	2.31	Peak
2	398.60	15.53	5.65	17.91	39.09	46.00	6.91	Peak
3	486.87	16.80	6.35	14.88	38.03	46.00	7.97	Peak

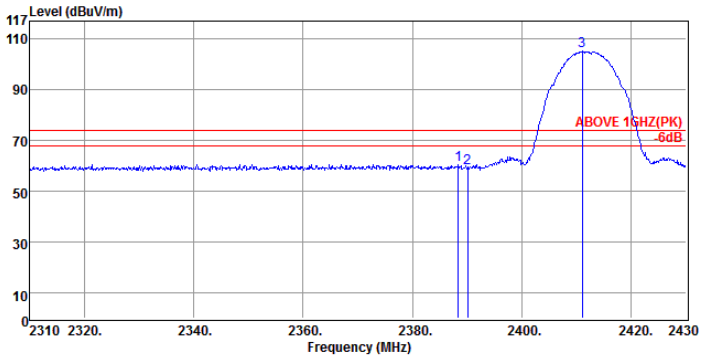
Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
2. The emission levels that are 20dB below the official limit are not reported.

4.6.2. Restricted Bands Measurement Results

Date of Test : 2014. 07. 08 Temperature: 26℃

EUT: 3G Mobile Wi-Fi Humidity: 43%

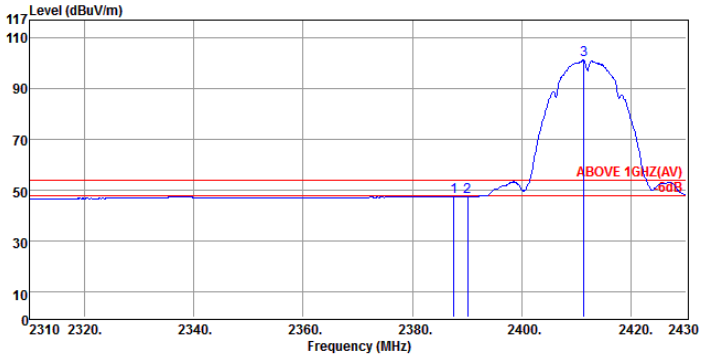
Test Mode: 802.11b , Transmit, Channel: 01, Frequency: 2412MHz



Site no. : Audix NO.1 Chamber Data no. : 1
Dis. / Ant. : 3m 3115(4927) Ant. pol. : HORIZONTAL
Limit : ABOVE 1GHZ(PK)
Env. / Ins. : 26*C / 43% N9010A Engineer : Jerome Chang
EUT : M5350
Power Rating : DC 3.7V
Test Mode : 802.11b 2412MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Remark
1	2388.36	28.20	5.24	27.22	60.66	74.00	13.34	Peak
2	2390.04	28.20	5.24	25.90	59.34	74.00	14.66	Peak
3	2411.04	28.22	5.27	71.62	105.11	74.00	-31.11	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : Audix NO.1 Chamber Data no. : 2
Dis. / Ant. : 3m 3115(4927) Ant. pol. : HORIZONTAL
Limit : ABOVE 1GHZ(AV)
Env. / Ins. : 26*C / 43% N9010A Engineer : Jerome Chang
EUT : M5350
Power Rating : DC 3.7V
Test Mode : 802.11b 2412MHz

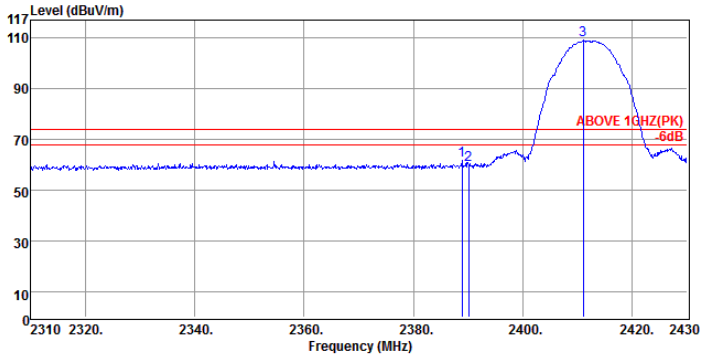
	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Remark
1	2387.52	28.20	5.23	14.12	47.55	54.00	6.45	Average
2	2390.04	28.20	5.24	14.15	47.59	54.00	6.41	Average
3	2411.28	28.22	5.27	67.78	101.27	54.00	-47.27	Average

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
2. The emission levels that are 20dB below the official limit are not reported.

Date of Test : 2014. 07. 08 Temperature: 26℃

EUT: 3G Mobile Wi-Fi Humidity: 43%

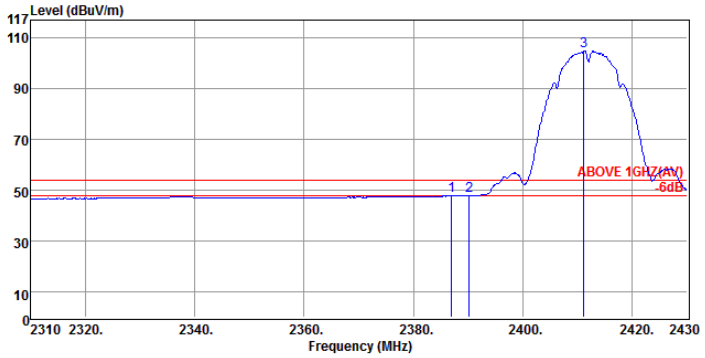
Test Mode: 802.11b , Transmit, Channel: 01, Frequency: 2412MHz



Site no. : Audix NO.1 Chamber Data no. : 3
Dis. / Ant. : 3m 3115(4927) Ant. pol. : VERTICAL
Limit : ABOVE 1GHZ(PK)
Env. / Ins. : 26*C / 43% N9010A Engineer : Jerome Chang
EUT : M5350
Power Rating : DC 3.7V
Test Mode : 802.11b 2412MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Remark
1	2388.84	28.20	5.24	28.19	61.63	74.00	12.37	Peak
2	2390.04	28.20	5.24	26.55	59.99	74.00	14.01	Peak
3	2411.04	28.22	5.27	75.48	108.97	74.00	-34.97	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : Audix NO.1 Chamber Data no. : 4
Dis. / Ant. : 3m 3115(4927) Ant. pol. : VERTICAL
Limit : ABOVE 1GHZ(AV)
Env. / Ins. : 26*C / 43% N9010A Engineer : Jerome Chang
EUT : M5350
Power Rating : DC 3.7V
Test Mode : 802.11b 2412MHz

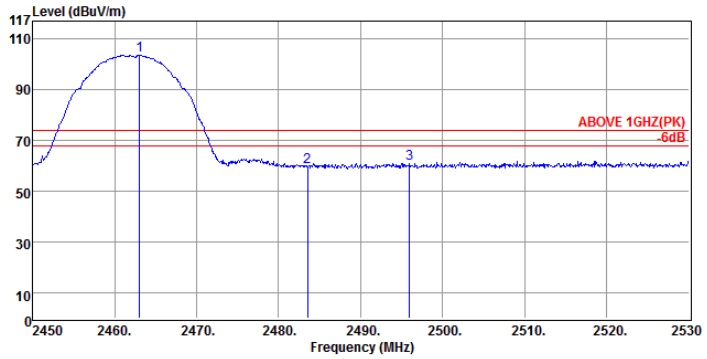
	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Remark
1	2386.92	28.20	5.23	14.37	47.80	54.00	6.20	Average
2	2390.16	28.20	5.24	14.54	47.98	54.00	6.02	Average
3	2411.16	28.22	5.27	71.40	104.89	54.00	-50.89	Average

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
2. The emission levels that are 20dB below the official limit are not reported.

Date of Test : 2014. 07. 08 Temperature: 26℃

EUT: 3G Mobile Wi-Fi Humidity: 43%

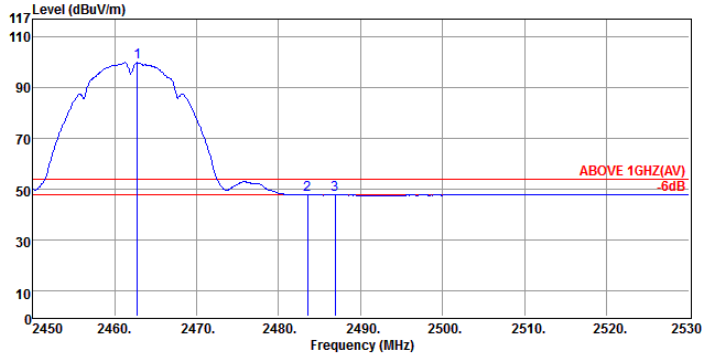
Test Mode: 802.11b , Transmit, Channel: 11, Frequency: 2462MHz



Site no. : Audix NO.1 Chamber Data no. : 5
Dis. / Ant. : 3m 3115(4927) Ant. pol. : HORIZONTAL
Limit : ABOVE 1GHZ(PK)
Env. / Ins. : 26*C / 43% N9010A Engineer : Jerome Chang
EUT : M5350
Power Rating : DC 3.7V
Test Mode : 802.11b 2462MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Remark
1	2463.04	28.27	5.34	70.03	103.64	74.00	-29.64	Peak
2	2483.52	28.29	5.37	25.85	59.51	74.00	14.49	Peak
3	2495.92	28.29	5.38	27.38	61.05	74.00	12.95	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : Audix NO.1 Chamber Data no. : 6
Dis. / Ant. : 3m 3115(4927) Ant. pol. : HORIZONTAL
Limit : ABOVE 1GHZ(AV)
Env. / Ins. : 26*C / 43% N9010A Engineer : Jerome Chang
EUT : M5350
Power Rating : DC 3.7V
Test Mode : 802.11b 2462MHz

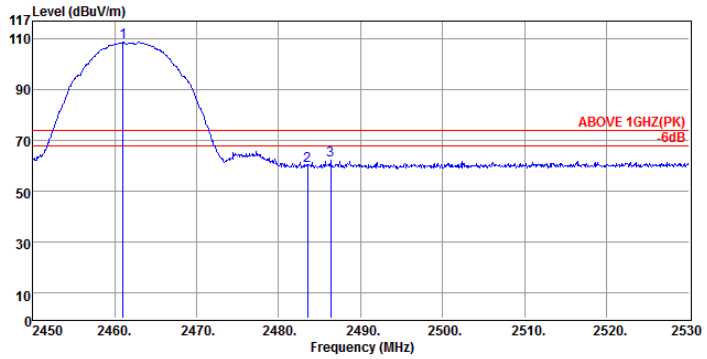
	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Remark
1	2462.80	28.27	5.34	66.23	99.84	54.00	-45.84	Average
2	2483.52	28.29	5.37	14.03	47.69	54.00	6.31	Average
3	2486.88	28.29	5.37	14.06	47.72	54.00	6.28	Average

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
2. The emission levels that are 20dB below the official limit are not reported.

Date of Test : 2014. 07. 08 Temperature: 26℃

EUT: 3G Mobile Wi-Fi Humidity: 43%

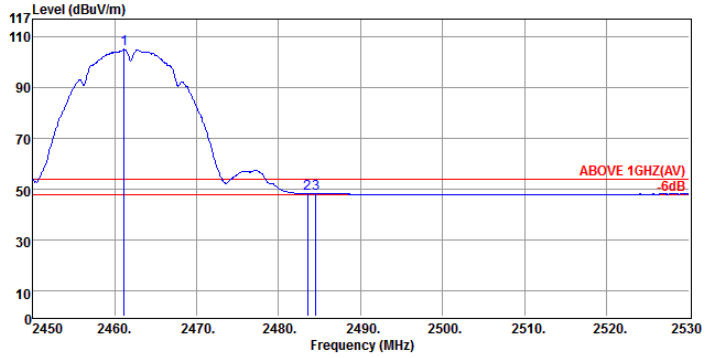
Test Mode: 802.11b , Transmit, Channel: 11, Frequency: 2462MHz



Site no. : Audix NO.1 Chamber Data no. : 7
Dis. / Ant. : 3m 3115(4927) Ant. pol. : VERTICAL
Limit : ABOVE 1GHZ(PK)
Env. / Ins. : 26*C / 43% N9010A Engineer : Jerome Chang
EUT : M5350
Power Rating : DC 3.7V
Test Mode : 802.11b 2462MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Remark
1	2461.04	28.27	5.34	75.03	108.64	74.00	-34.64	Peak
2	2483.52	28.29	5.37	26.19	59.85	74.00	14.15	Peak
3	2486.32	28.29	5.37	28.33	61.99	74.00	12.01	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : Audix NO.1 Chamber Data no. : 8
Dis. / Ant. : 3m 3115(4927) Ant. pol. : VERTICAL
Limit : ABOVE 1GHZ(AV)
Env. / Ins. : 26*C / 43% N9010A Engineer : Jerome Chang
EUT : M5350
Power Rating : DC 3.7V
Test Mode : 802.11b 2462MHz

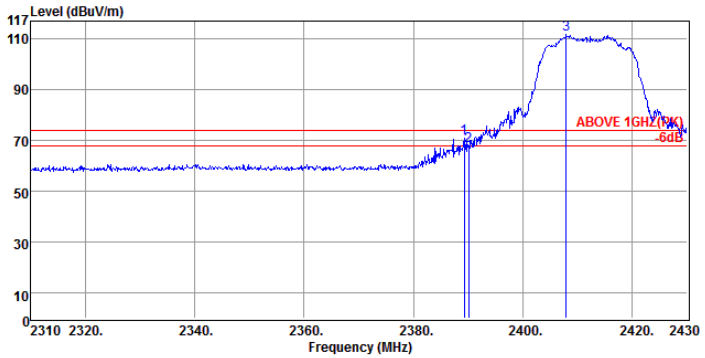
	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Remark
1	2461.20	28.27	5.34	71.45	105.06	54.00	-51.06	Average
2	2483.52	28.29	5.37	14.76	48.42	54.00	5.58	Average
3	2484.56	28.29	5.37	14.61	48.27	54.00	5.73	Average

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
2. The emission levels that are 20dB below the official limit are not reported.

Date of Test : 2014. 07. 08 Temperature: 26℃

EUT: 3G Mobile Wi-Fi Humidity: 43%

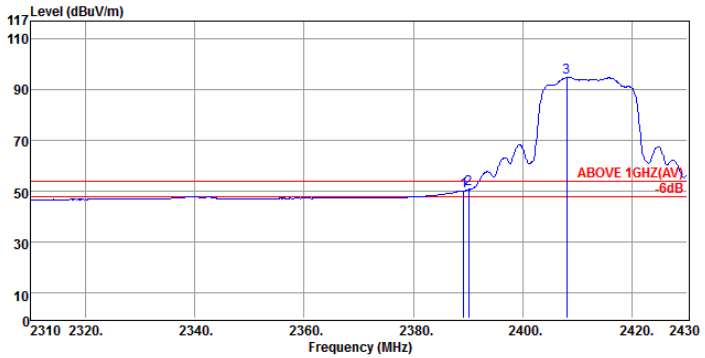
Test Mode: 802.11g , Transmit, Channel: 01, Frequency: 2412MHz



Site no. : Audix NO.1 Chamber Data no. : 1
Dis. / Ant. : 3m 3115(4927) Ant. pol. : HORIZONTAL
Limit : ABOVE 1GHZ(PK)
Env. / Ins. : 26*C / 43% N9010A Engineer : Jerome Chang
EUT : M5350
Power Rating : DC 3.7V
Test Mode : 802.11g 2412MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Remark
1	2389.32	28.20	5.24	37.42	70.86	74.00	3.14	Peak
2	2390.04	28.20	5.24	34.61	68.05	74.00	5.95	Peak
3	2407.92	28.22	5.26	78.09	111.57	74.00	-37.57	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : Audix NO.1 Chamber Data no. : 2
Dis. / Ant. : 3m 3115(4927) Ant. pol. : HORIZONTAL
Limit : ABOVE 1GHZ(AV)
Env. / Ins. : 26*C / 43% N9010A Engineer : Jerome Chang
EUT : M5350
Power Rating : DC 3.7V
Test Mode : 802.11g 2412MHz

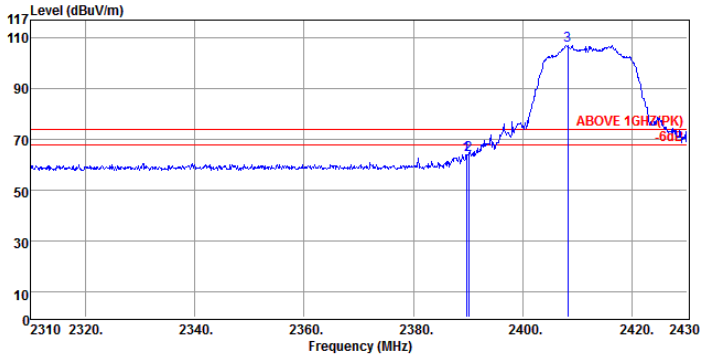
	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Remark
1	2389.20	28.20	5.24	16.66	50.10	54.00	3.90	Average
2	2390.04	28.20	5.24	17.23	50.67	54.00	3.33	Average
3	2408.04	28.22	5.26	61.40	94.88	54.00	-40.88	Average

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
2. The emission levels that are 20dB below the official limit are not reported.

Date of Test : 2014. 07. 08 Temperature: 26℃

EUT: 3G Mobile Wi-Fi Humidity: 43%

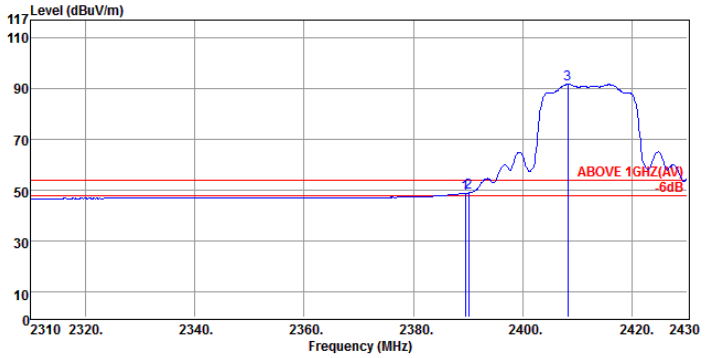
Test Mode: 802.11g , Transmit, Channel: 01, Frequency: 2412MHz



Site no. : Audix NO.1 Chamber Data no. : 3
Dis. / Ant. : 3m 3115(4927) Ant. pol. : VERTICAL
Limit : ABOVE 1GHZ(PK)
Env. / Ins. : 26*C / 43% N9010A Engineer : Jerome Chang
EUT : M5350
Power Rating : DC 3.7V
Test Mode : 802.11g 2412MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Remark
1	2389.68	28.20	5.24	30.57	64.01	74.00	9.99	Peak
2	2390.04	28.20	5.24	30.29	63.73	74.00	10.27	Peak
3	2408.16	28.22	5.26	73.57	107.05	74.00	-33.05	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : Audix NO.1 Chamber Data no. : 4
Dis. / Ant. : 3m 3115(4927) Ant. pol. : VERTICAL
Limit : ABOVE 1GHZ(AV)
Env. / Ins. : 26*C / 43% N9010A Engineer : Jerome Chang
EUT : M5350
Power Rating : DC 3.7V
Test Mode : 802.11g 2412MHz

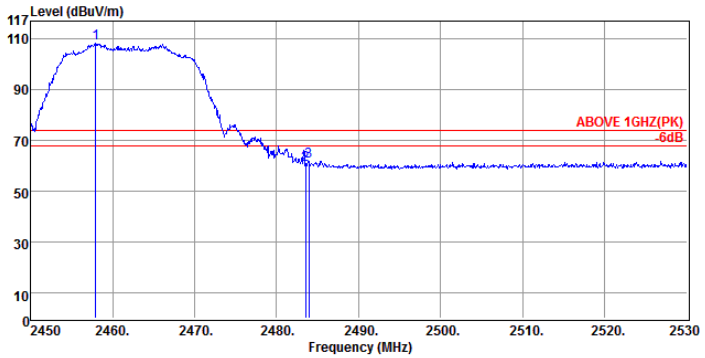
	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Remark
1	2389.44	28.20	5.24	15.37	48.81	54.00	5.19	Average
2	2390.04	28.20	5.24	15.54	48.98	54.00	5.02	Average
3	2408.16	28.22	5.26	58.22	91.70	54.00	-37.70	Average

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
2. The emission levels that are 20dB below the official limit are not reported.

Date of Test : 2014. 07. 08 Temperature: 26℃

EUT: 3G Mobile Wi-Fi Humidity: 43%

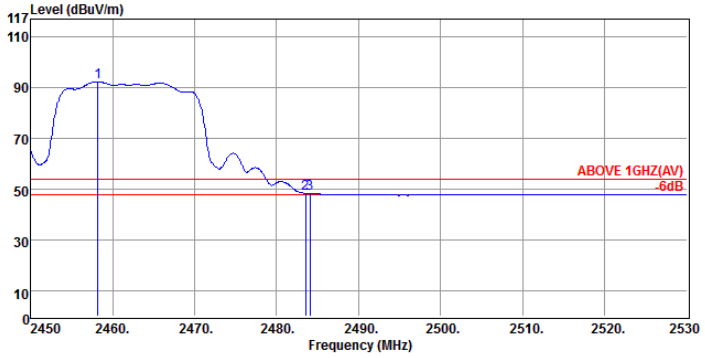
Test Mode: 802.11g , Transmit, Channel: 11, Frequency: 2462MHz



Site no. : Audix NO.1 Chamber Data no. : 5
Dis. / Ant. : 3m 3115(4927) Ant. pol. : HORIZONTAL
Limit : ABOVE 1GHZ(PK)
Env. / Ins. : 26*C / 43% N9010A Engineer : Jerome Chang
EUT : M5350
Power Rating : DC 3.7V
Test Mode : 802.11g 2462MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Remark
1	2457.92	28.26	5.33	74.92	108.51	74.00	-34.51	Peak
2	2483.52	28.29	5.37	26.98	60.64	74.00	13.36	Peak
3	2483.92	28.29	5.37	28.24	61.90	74.00	12.10	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : Audix NO.1 Chamber Data no. : 6
Dis. / Ant. : 3m 3115(4927) Ant. pol. : HORIZONTAL
Limit : ABOVE 1GHZ(AV)
Env. / Ins. : 26*C / 43% N9010A Engineer : Jerome Chang
EUT : M5350
Power Rating : DC 3.7V
Test Mode : 802.11g 2462MHz

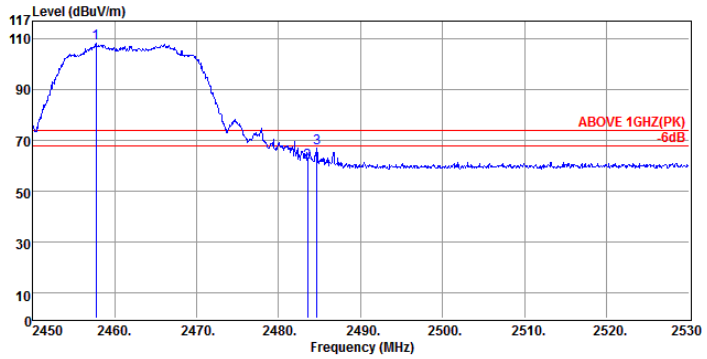
	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Remark
1	2458.24	28.26	5.33	58.75	92.34	54.00	-38.34	Average
2	2483.52	28.29	5.37	14.73	48.39	54.00	5.61	Average
3	2484.08	28.29	5.37	14.68	48.34	54.00	5.66	Average

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
2. The emission levels that are 20dB below the official limit are not reported.

Date of Test : 2014. 07. 08 Temperature: 26℃

EUT: 3G Mobile Wi-Fi Humidity: 43%

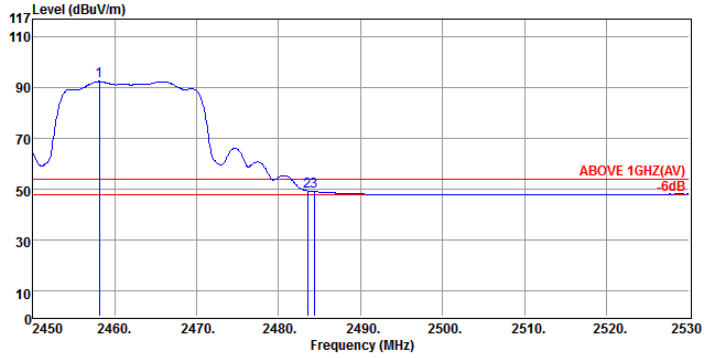
Test Mode: 802.11g , Transmit, Channel: 11, Frequency: 2462MHz



Site no. : Audix NO.1 Chamber Data no. : 7
Dis. / Ant. : 3m 3115(4927) Ant. pol. : VERTICAL
Limit : ABOVE 1GHZ(PK)
Env. / Ins. : 26*C / 43% N9010A Engineer : Jerome Chang
EUT : M5350
Power Rating : DC 3.7V
Test Mode : 802.11g 2462MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Remark
1	2457.76	28.26	5.33	74.57	108.16	74.00	-34.16	Peak
2	2483.52	28.29	5.37	27.56	61.22	74.00	12.78	Peak
3	2484.64	28.29	5.37	33.46	67.12	74.00	6.88	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : Audix NO.1 Chamber Data no. : 8
Dis. / Ant. : 3m 3115(4927) Ant. pol. : VERTICAL
Limit : ABOVE 1GHZ(AV)
Env. / Ins. : 26*C / 43% N9010A Engineer : Jerome Chang
EUT : M5350
Power Rating : DC 3.7V
Test Mode : 802.11g 2462MHz

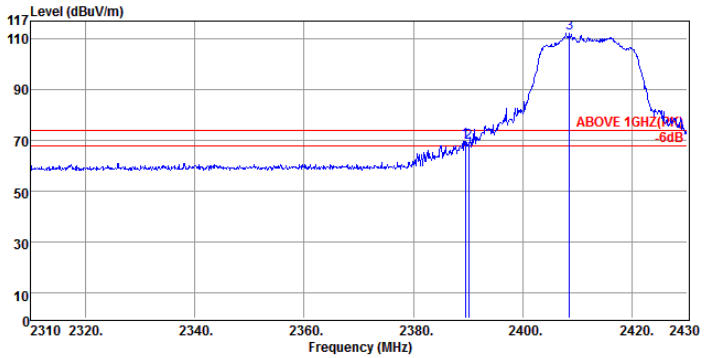
	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Remark
1	2458.16	28.26	5.33	58.85	92.44	54.00	-38.44	Average
2	2483.52	28.29	5.37	15.70	49.36	54.00	4.64	Average
3	2484.32	28.29	5.37	15.50	49.16	54.00	4.84	Average

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
2. The emission levels that are 20dB below the official limit are not reported.

Date of Test : 2014. 07. 08 Temperature: 26℃

EUT: 3G Mobile Wi-Fi Humidity: 43%

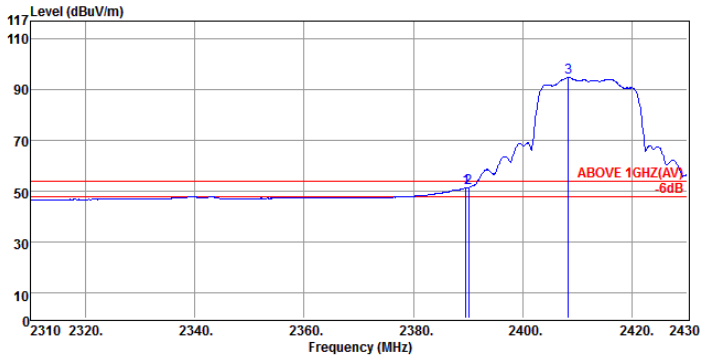
Test Mode: 802.11n-HT20 , Transmit, Channel: 01, Frequency: 2412MHz



Site no. : Audix NO.1 Chamber Data no. : 1
Dis. / Ant. : 3m 3115(4927) Ant. pol. : HORIZONTAL
Limit : ABOVE 1GHZ(PK)
Env. / Ins. : 26*C / 43% N9010A Engineer : Jerome Chang
EUT : M5350
Power Rating : DC 3.7V
Test Mode : 802.11n20 2412MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Remark
1	2389.44	28.20	5.24	36.15	69.59	74.00	4.41	Peak
2	2390.04	28.20	5.24	35.61	69.05	74.00	4.95	Peak
3	2408.52	28.22	5.26	78.56	112.04	74.00	-38.04	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : Audix NO.1 Chamber Data no. : 2
Dis. / Ant. : 3m 3115(4927) Ant. pol. : HORIZONTAL
Limit : ABOVE 1GHZ(AV)
Env. / Ins. : 26*C / 43% N9010A Engineer : Jerome Chang
EUT : M5350
Power Rating : DC 3.7V
Test Mode : 802.11n20 2412MHz

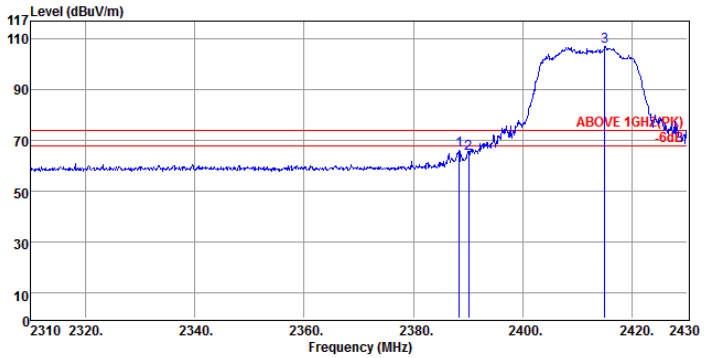
	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Remark
1	2389.56	28.20	5.24	17.97	51.41	54.00	2.59	Average
2	2390.04	28.20	5.24	17.98	51.42	54.00	2.58	Average
3	2408.28	28.22	5.26	61.19	94.67	54.00	-40.67	Average

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
2. The emission levels that are 20dB below the official limit are not reported.

Date of Test : 2014. 07. 08 Temperature: 26℃

EUT: 3G Mobile Wi-Fi Humidity: 43%

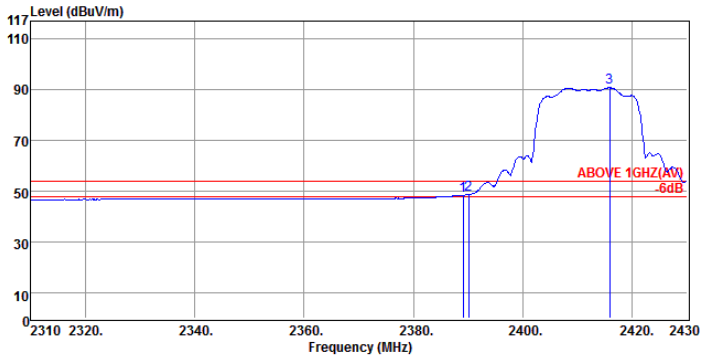
Test Mode: 802.11n-HT20 , Transmit, Channel: 01, Frequency: 2412MHz



Site no. : Audix NO.1 Chamber Data no. : 3
Dis. / Ant. : 3m 3115(4927) Ant. pol. : VERTICAL
Limit : ABOVE 1GHZ(PK)
Env. / Ins. : 26*C / 43% N9010A Engineer : Jerome Chang
EUT : M5350
Power Rating : DC 3.7V
Test Mode : 802.11n20 2412MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Remark
1	2388.36	28.20	5.24	32.54	65.98	74.00	8.02	Peak
2	2390.04	28.20	5.24	31.17	64.61	74.00	9.39	Peak
3	2415.00	28.22	5.27	73.36	106.85	74.00	-32.85	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : Audix NO.1 Chamber Data no. : 4
Dis. / Ant. : 3m 3115(4927) Ant. pol. : VERTICAL
Limit : ABOVE 1GHZ(AV)
Env. / Ins. : 26*C / 43% N9010A Engineer : Jerome Chang
EUT : M5350
Power Rating : DC 3.7V
Test Mode : 802.11n20 2412MHz

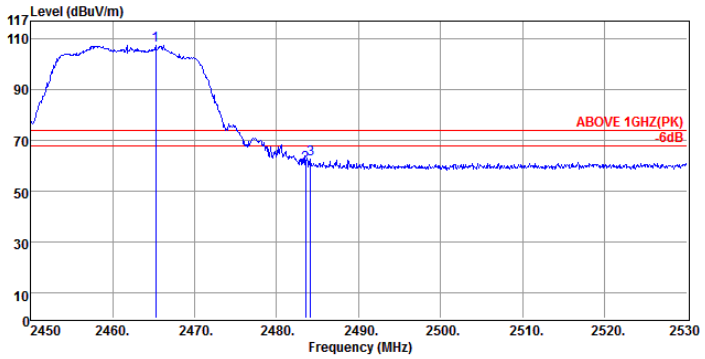
	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Remark
1	2389.08	28.20	5.24	15.02	48.46	54.00	5.54	Average
2	2390.04	28.20	5.24	15.25	48.69	54.00	5.31	Average
3	2415.84	28.22	5.27	57.28	90.77	54.00	-36.77	Average

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
2. The emission levels that are 20dB below the official limit are not reported.

Date of Test : 2014. 07. 08 Temperature: 26℃

EUT: 3G Mobile Wi-Fi Humidity: 43%

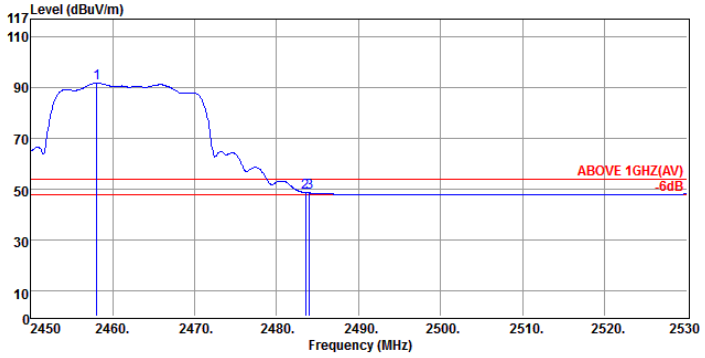
Test Mode: 802.11n-HT20 , Transmit, Channel: 11, Frequency: 2462MHz



Site no. : Audix NO.1 Chamber Data no. : 5
Dis. / Ant. : 3m 3115(4927) Ant. pol. : HORIZONTAL
Limit : ABOVE 1GHZ(PK)
Env. / Ins. : 26*C / 43% N9010A Engineer : Jerome Chang
EUT : M5350
Power Rating : DC 3.7V
Test Mode : 802.11n20 2462MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Remark
1	2465.28	28.27	5.34	73.88	107.49	74.00	-33.49	Peak
2	2483.52	28.29	5.37	26.62	60.28	74.00	13.72	Peak
3	2484.16	28.29	5.37	29.13	62.79	74.00	11.21	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : Audix NO.1 Chamber Data no. : 6
Dis. / Ant. : 3m 3115(4927) Ant. pol. : HORIZONTAL
Limit : ABOVE 1GHZ(AV)
Env. / Ins. : 26*C / 43% N9010A Engineer : Jerome Chang
EUT : M5350
Power Rating : DC 3.7V
Test Mode : 802.11n20 2462MHz

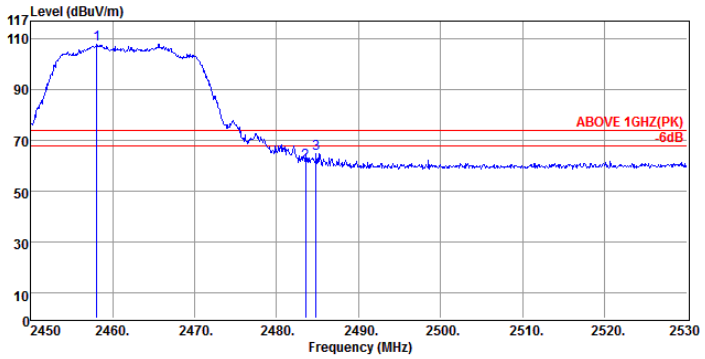
	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Remark
1	2458.08	28.26	5.3?	58.22	91.81	54.00	-37.81	Average
2	2483.52	28.29	5.3	15.04	48.70	54.00	5.30	Average
3	2484.00	28.29	5.37	14.90	48.56	54.00	5.44	Average

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
2. The emission levels that are 20dB below the official limit are not reported.

Date of Test : 2014. 07. 08 Temperature: 26℃

EUT: 3G Mobile Wi-Fi Humidity: 43%

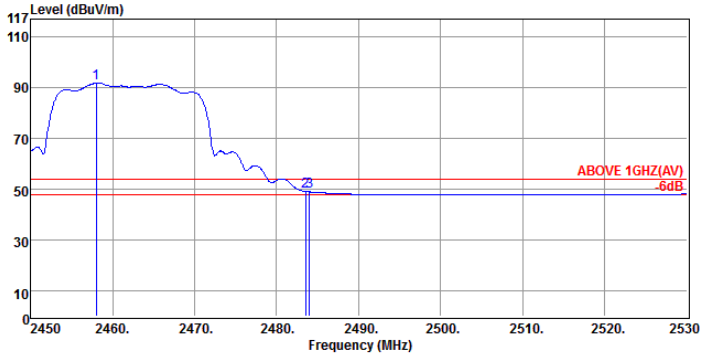
Test Mode: 802.11n-HT20 , Transmit, Channel: 11, Frequency: 2462MHz



Site no. : Audix NO.1 Chamber Data no. : 7
Dis. / Ant. : 3m 3115(4927) Ant. pol. : VERTICAL
Limit : ABOVE 1GHZ(PK)
Env. / Ins. : 26*C / 43% N9010A Engineer : Jerome Chang
EUT : M5350
Power Rating : DC 3.7V
Test Mode : 802.11n20 2462MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Remark
1	2458.08	28.26	5.33	74.34	107.93	74.00	-33.93	Peak
2	2483.52	28.29	5.37	27.76	61.42	74.00	12.58	Peak
3	2484.80	28.29	5.37	31.33	64.99	74.00	9.01	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
2. The emission levels that are 20dB below the official limit are not reported.



Site no. : Audix NO.1 Chamber Data no. : 8
Dis. / Ant. : 3m 3115(4927) Ant. pol. : VERTICAL
Limit : ABOVE 1GHZ(AV)
Env. / Ins. : 26*C / 43% N9010A Engineer : Jerome Chang
EUT : M5350
Power Rating : DC 3.7V
Test Mode : 802.11n20 2462MHz

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBμV)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Remark
1	2458.00	28.26	5.33	58.16	91.75	54.00	-37.75	Average
2	2483.52	28.29	5.37	15.46	49.12	54.00	4.88	Average
3	2484.00	28.29	5.37	15.27	48.93	54.00	5.07	Average

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading
2. The emission levels that are 20dB below the official limit are not reported.

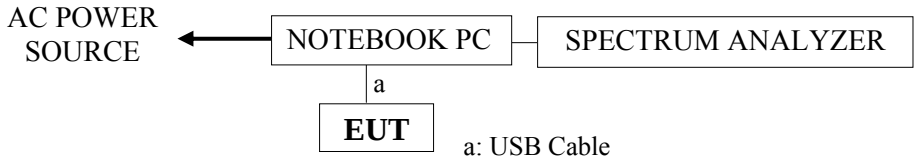
5. 6dB BANDWIDTH MEASUREMENT

5.1. Test Equipment

The following test equipment was used during the Emission Bandwidth measurement:

Item	Type	Manufacturer	Model No.	Serial No.	Cal. Due Date
1.	Spectrum Analyzer	Agilent	N9030A-544	US51350140	2014. 07. 29

5.2. Block Diagram of Test Setup



EUT: 3G Mobile Wi-Fi

5.3. Specification Limits [§15.247(a)(2)]

The minimum 6dB bandwidth shall be at least 500kHz.

5.4. Operating Condition of EUT

Using QRCT to enable EUT to transmit wanted frequency in 100% duty cycle.

5.5. Test Procedure

The transmitter output was connected to the spectrum analyzer. The bandwidth of the fundamental frequency was measure by spectrum analyzer with 1.5% EBW, VBW≥3xRBW. The 6dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 6dB.
The measurement guideline was according to 558074 D01 DTS Meas Guidance v03r02

5.6. Test Results

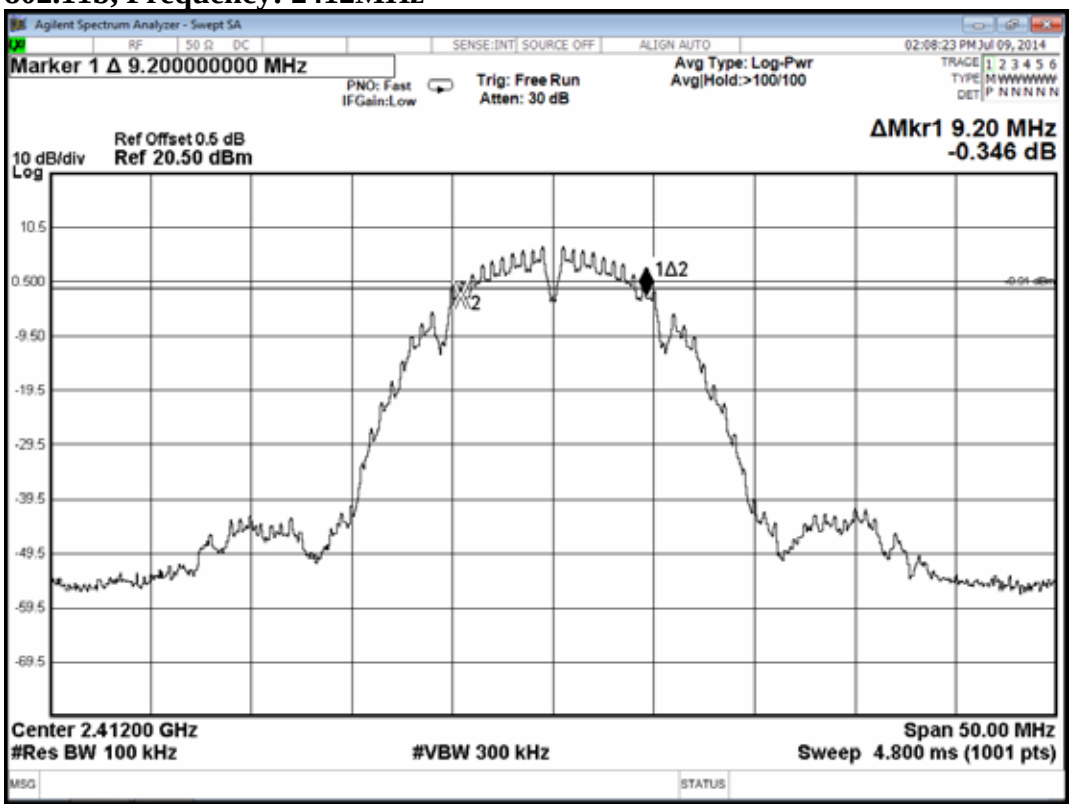
PASSED. All the test results are attached in next pages.

Test Date: 2014. 07. 09 Temperature: 26℃ Humidity: 60%

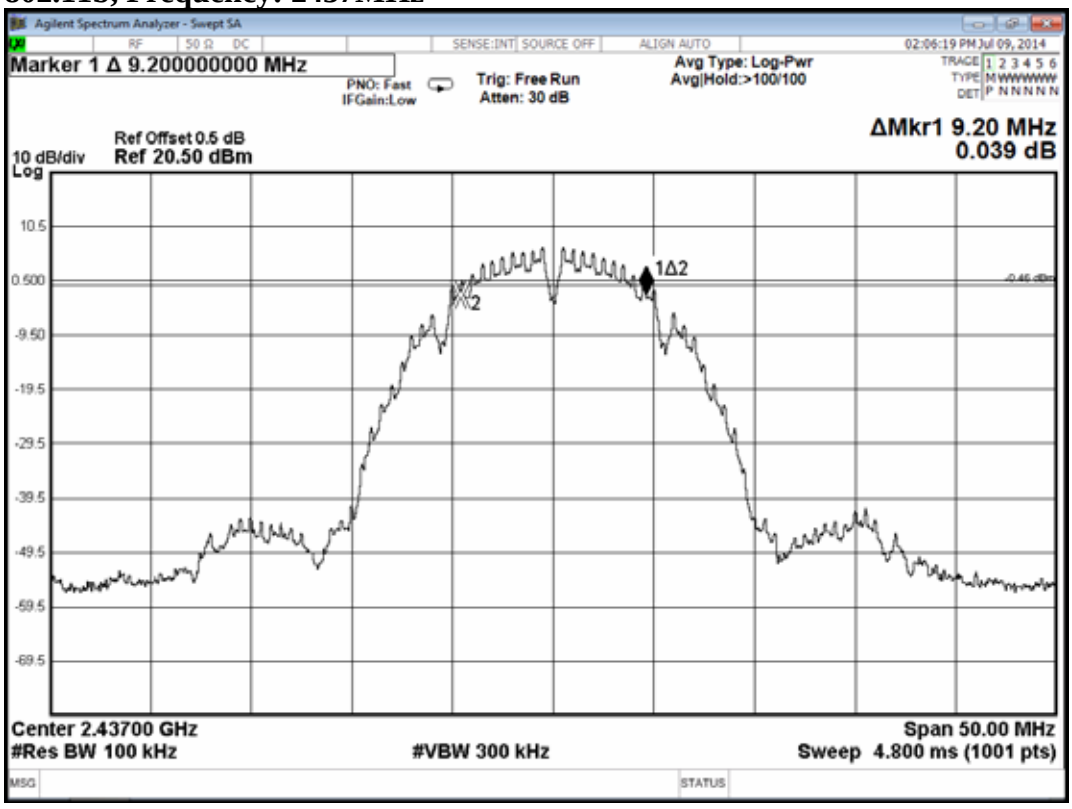
Mode	Type of Network	Channel	Frequency	**6dB Bandwidth (MHz)**
1	802.11b	CH 1	2412MHz	**9.20**
2		CH 6	2437MHz	**9.20**
3		CH 11	2462MHz	**9.20**
4	802.11g	CH 1	2412MHz	**16.40**
5		CH 6	2437MHz	**16.60**
6		CH 11	2462MHz	**16.40**
7	802.11n-HT20	CH 1	2412MHz	**17.20**
8		CH 6	2437MHz	**17.70**
9		CH 11	2462MHz	**17.15**

[Limit: least 500kHz]

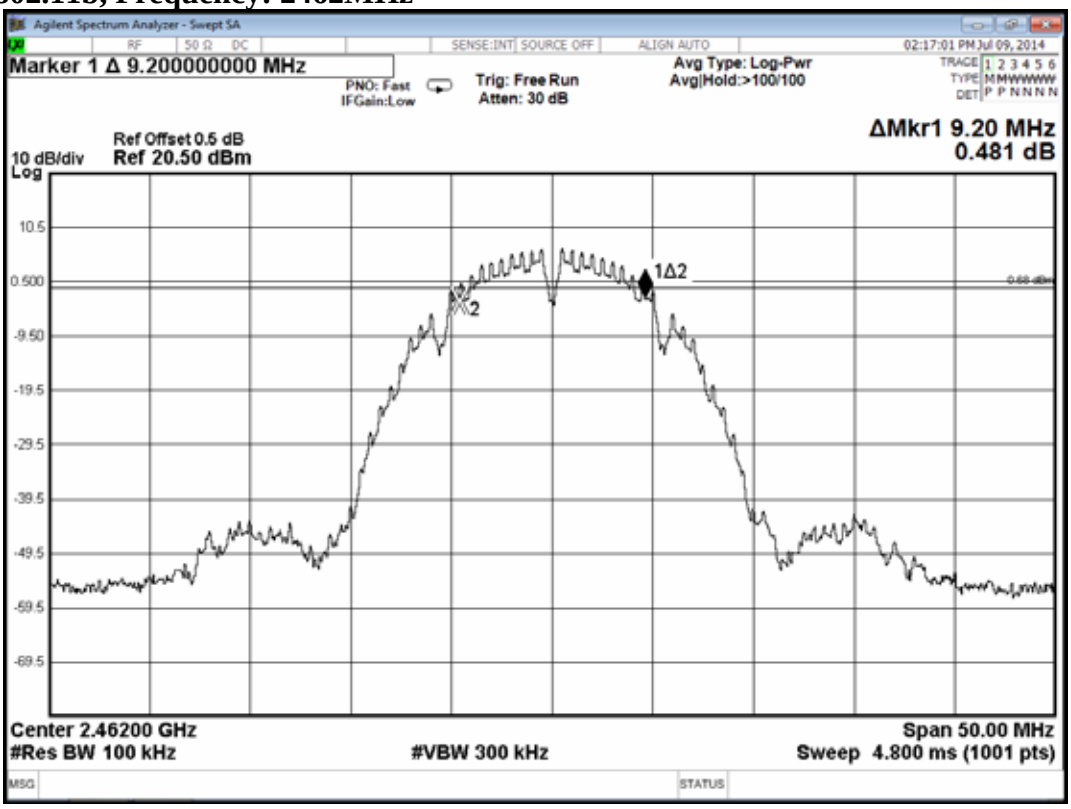
802.11b, Frequency: 2412MHz



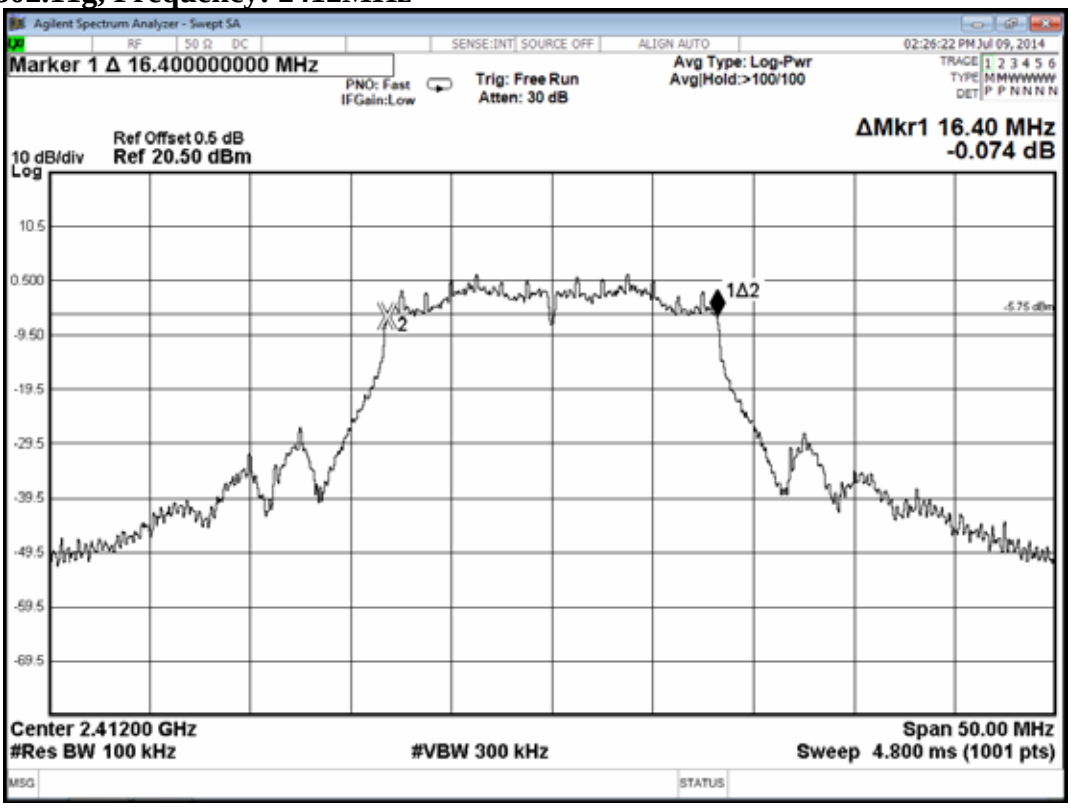
802.11b, Frequency: 2437MHz



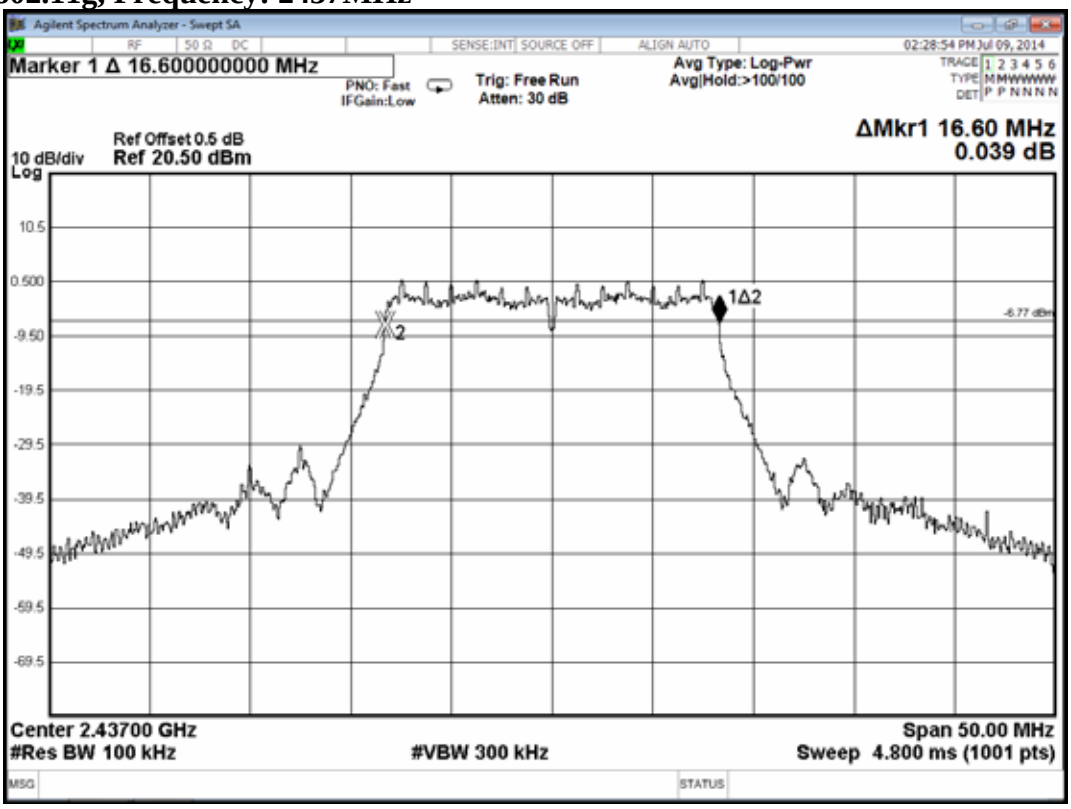
802.11b, Frequency: 2462MHz



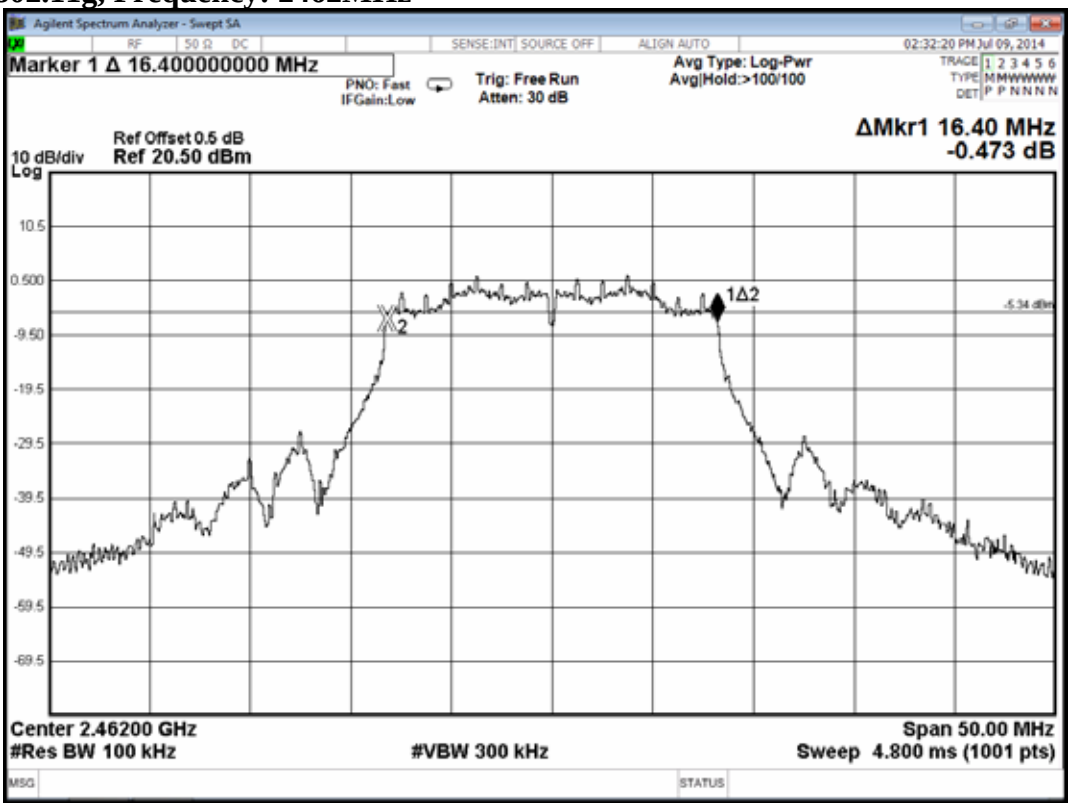
802.11g, Frequency: 2412MHz



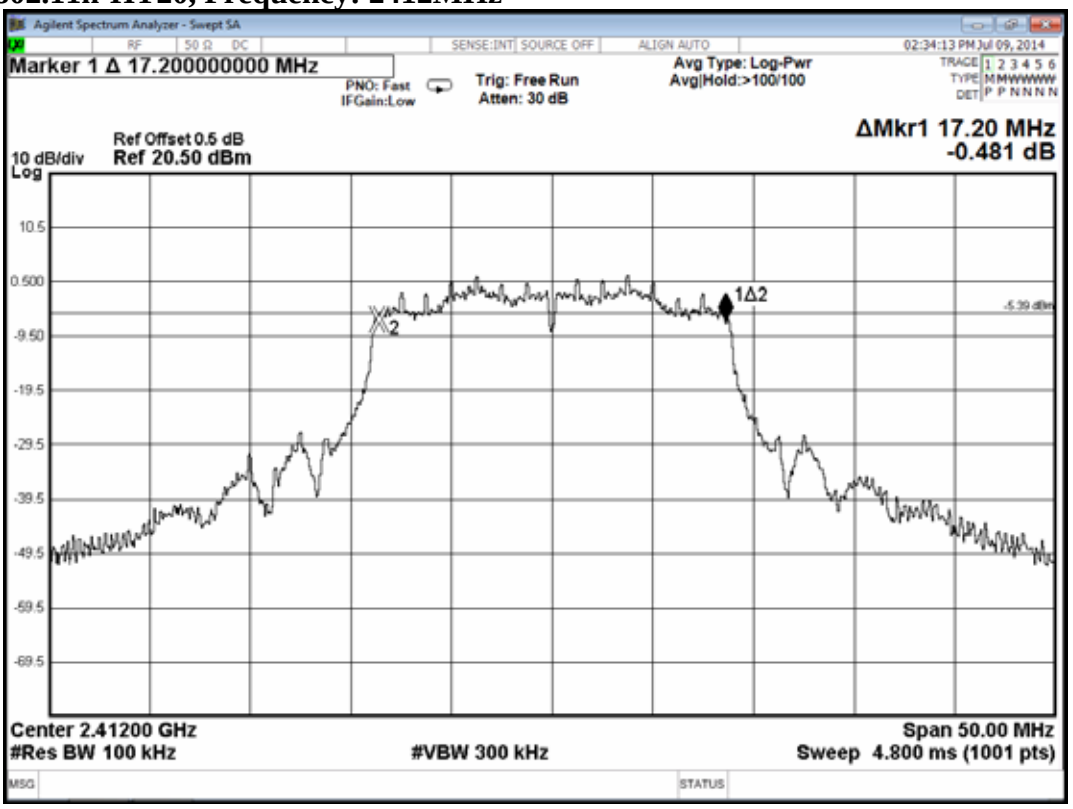
802.11g, Frequency: 2437MHz



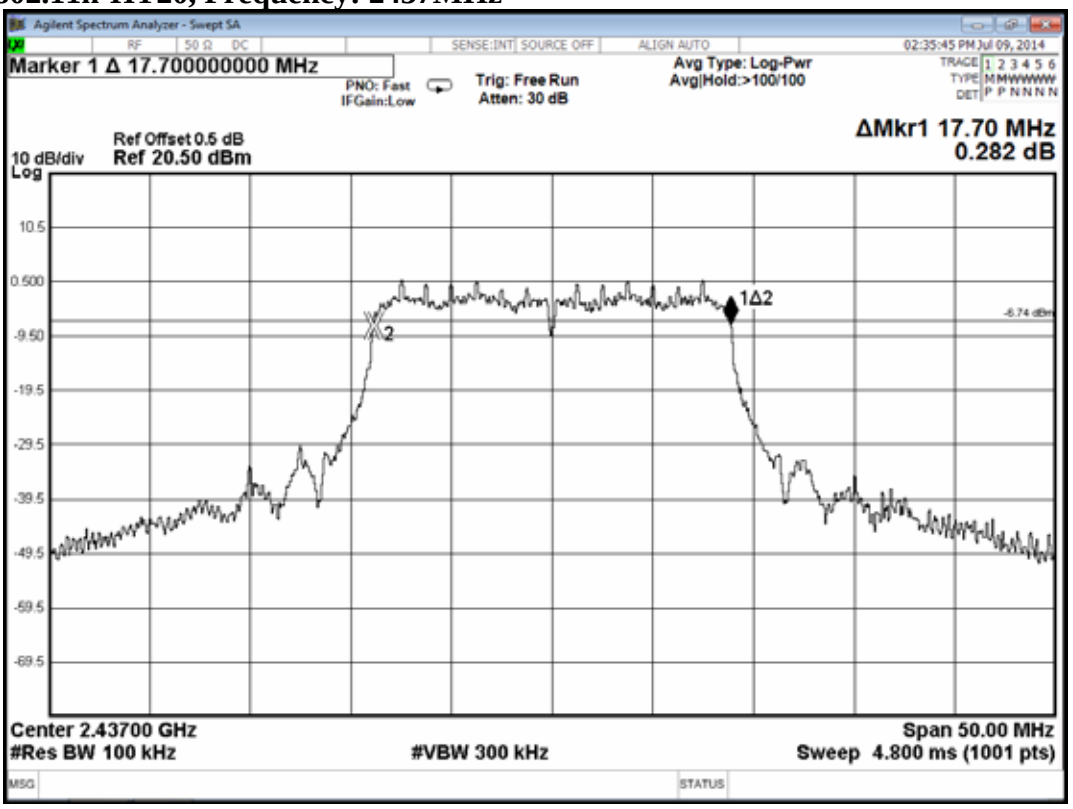
802.11g, Frequency: 2462MHz



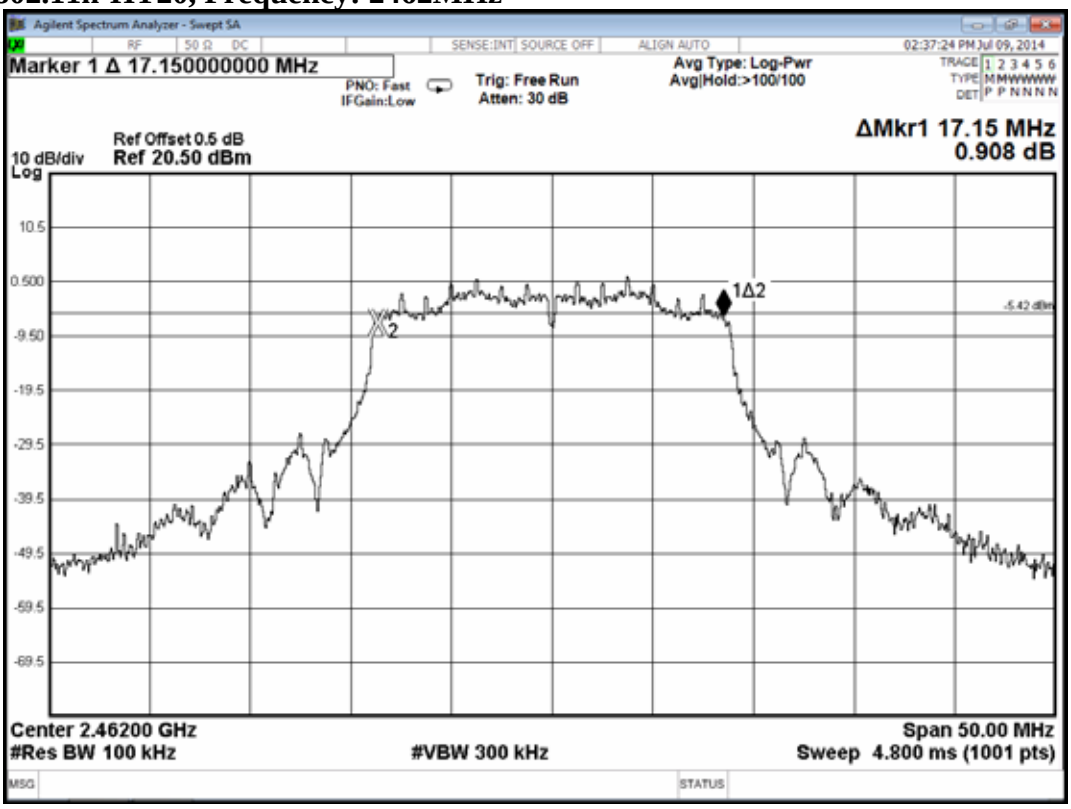
802.11n-HT20, Frequency: 2412MHz



802.11n-HT20, Frequency: 2437MHz



802.11n-HT20, Frequency: 2462MHz



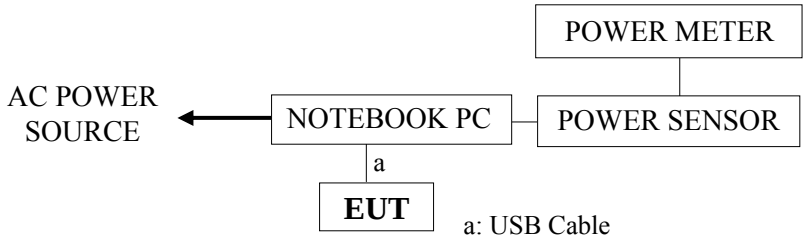
6. MAXIMUM PEAK OUTPUT POWER MEASUREMENT

6.1. Test Equipment

The following test equipment was used during the maximum peak output power measurement:

Item	Type	Manufacturer	Model No.	Serial No.	Cal. Due Date
1.	Power Meter	Antrisu	ML2495A	1145008	2014. 10. 22
2.	Power Sensor	Antrisu	MA2411B	1126096	2014. 10. 22

6.2. Block Diagram of Test Setup



EUT: 3G Mobile Wi-Fi

6.3. Specification Limits [§15.247(b)-(3)]

The Limits of maximum Peak Output Power for digital modulation in 2400-2483.5MHz is: 1Watt. (30dBm)

6.4. Operating Condition of EUT

Using QRCT to enable EUT to transmit wanted frequency in 100% duty cycle.

6.5. Test Procedure

The transmitter output was connected to the power sensor and record the reading of power meter.
The measurement guideline was according to 558074 D01 DTS Meas Guidance v03r02.

6.6. Test Results

PASSED. All the test results are listed below.

Test Date: 2014. 07. 09 Temperature: 26℃ Humidity: 60%

Test Mode	Channel	Frequency (MHz)	**Output Power(dBm)**	
			Peak	**Average**
802.11b	CH 1	2412	**17.69**	**14.63**
	CH 6	2437	**17.51**	**14.48**
	CH 11	2462	**17.62**	**14.46**
802.11g	CH 1	2412	**20.94**	**12.07**
	CH 6	2437	**20.91**	**11.92**
	CH 11	2462	**20.93**	**12.02**
802.11n-HT20	CH 1	2412	**20.94**	**12.03**
	CH 6	2437	**20.91**	**11.96**
	CH 11	2462	**20.92**	**11.87**

[Limit: 1Watt. (30dBm)]

7. EMISSION LIMITATIONS MEASUREMENT

7.1. Test Equipment

The following test equipment was used during the emission limitations test：

Item	Type	Manufacturer	Model No.	Serial No.	Cal. Due Date
1.	Spectrum Analyzer	Agilent	N9030A-544	US51350140	2014. 07. 29

7.2. Block Diagram of Test Setup

The same as section.5.2

7.3. Specification Limits (§15.247(c), RSS-210 A8.5)

7.3.1. In any 100kHz 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 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. Attenuation below the general limits specified in Section 15.209(a) is not required. In addition, radiated emissions which fall in restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a) (See Section 15.205(c)).(※This test result attaching to §4.6.3)

7.3.2. The reference level for determining limit of emission limitations is according to the value measured indicated in plots at section 9.6.

7.4. Operating Condition of EUT

Using QRCT to enable EUT to transmit wanted frequency in 100% duty cycle.

7.5. Test Procedure

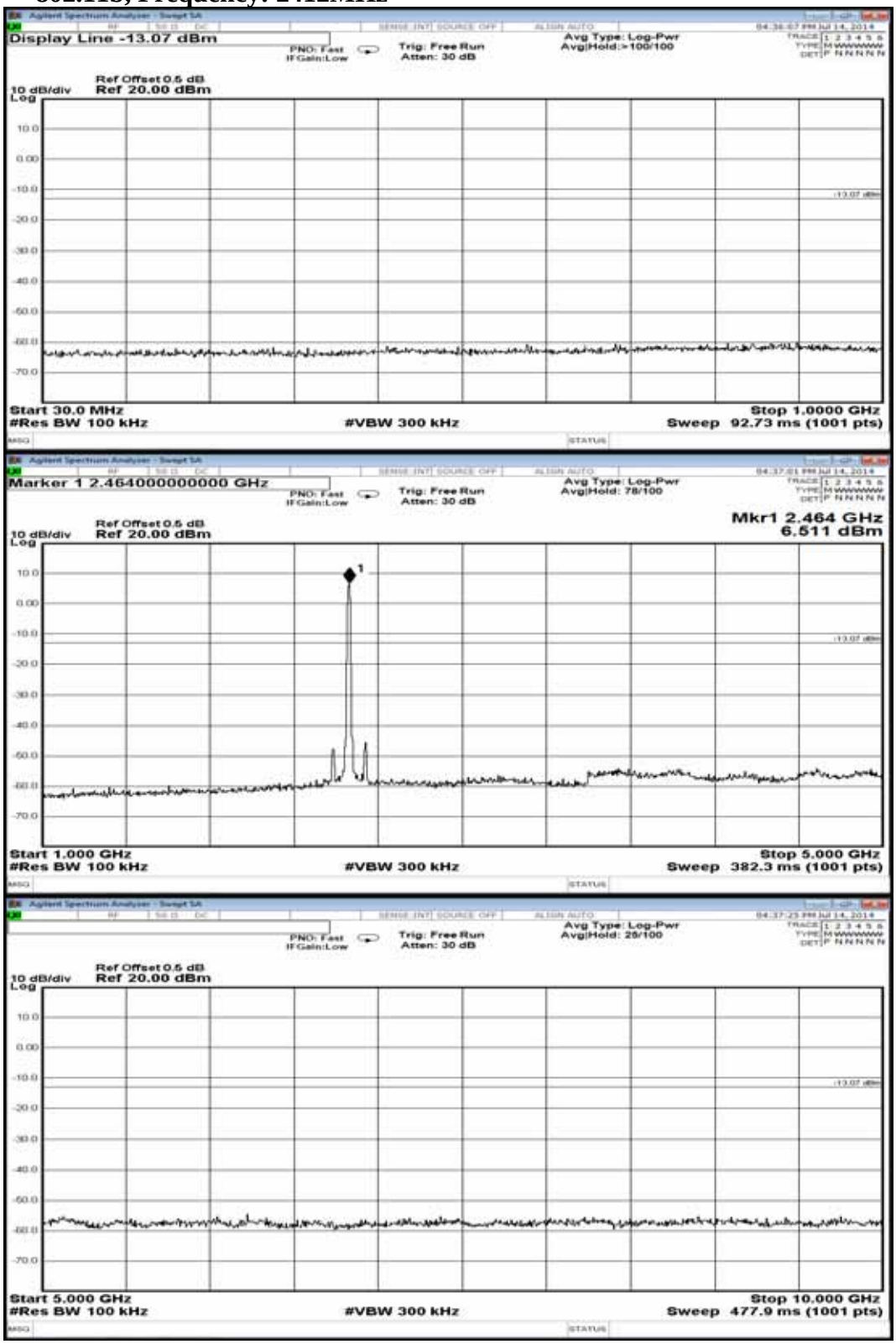
The RF output of EUT was connected to the spectrum analyzer. The bandwidth of the fundamental frequency was measure by spectrum analyzer with 100kHz RBW and 300kHz VBW.
The measurement guideline was according to 558074 D01 DTS Meas Guidance v03r02.

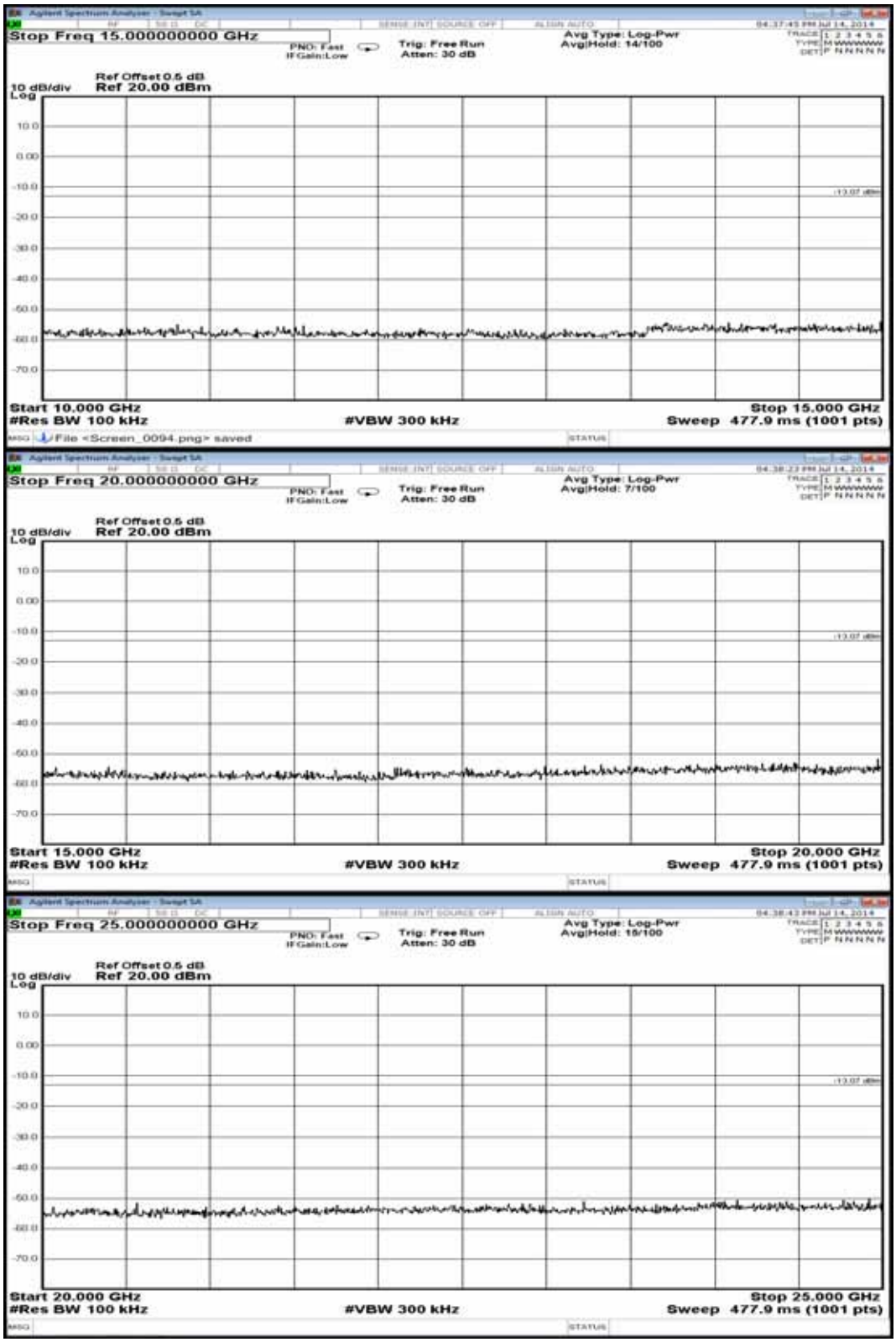
7.6. Test Results

PASSED. The testing data was attached in the next pages.

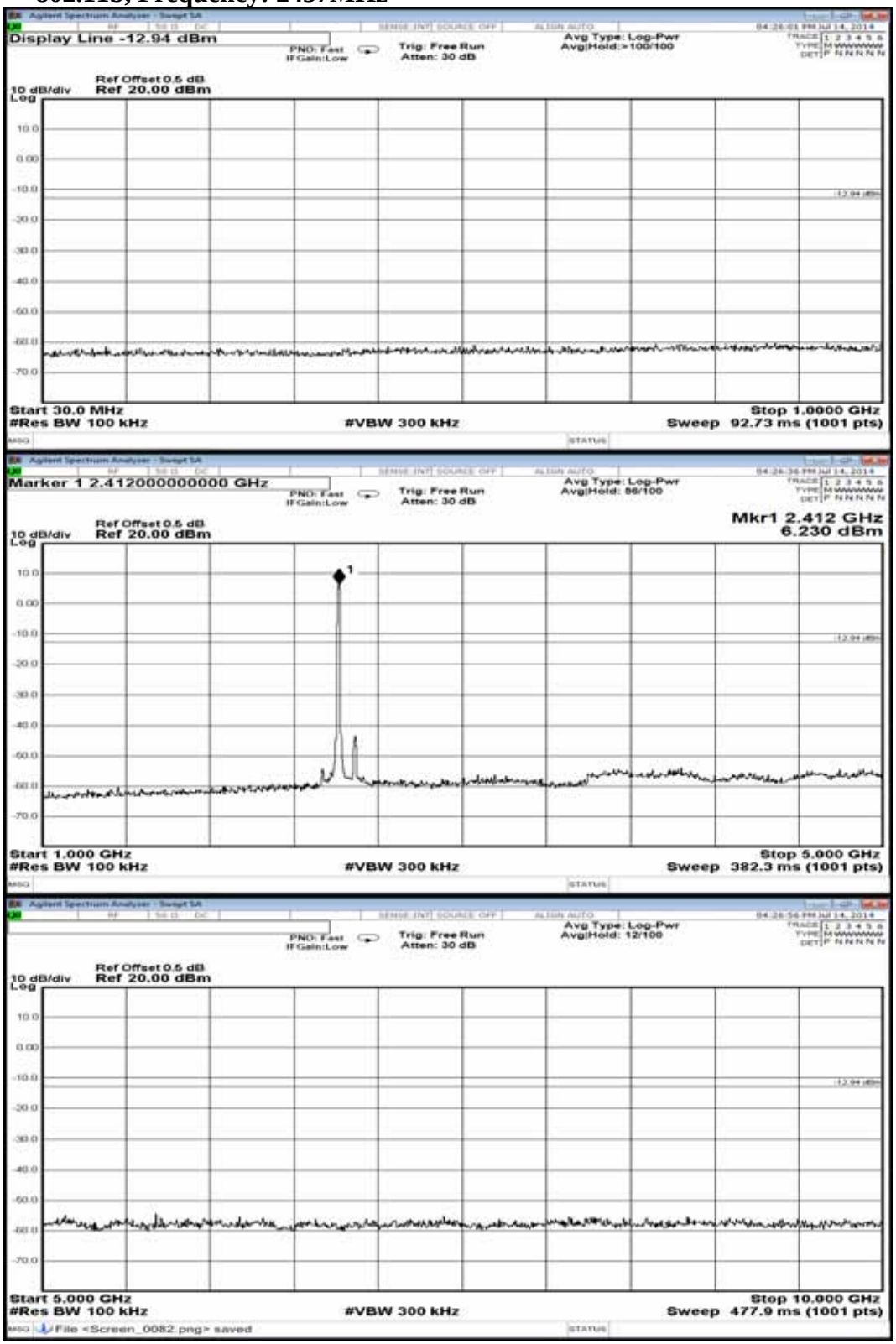
Test Date : 2014. 07. 14 Temperature : 24℃ Humidity : 60%

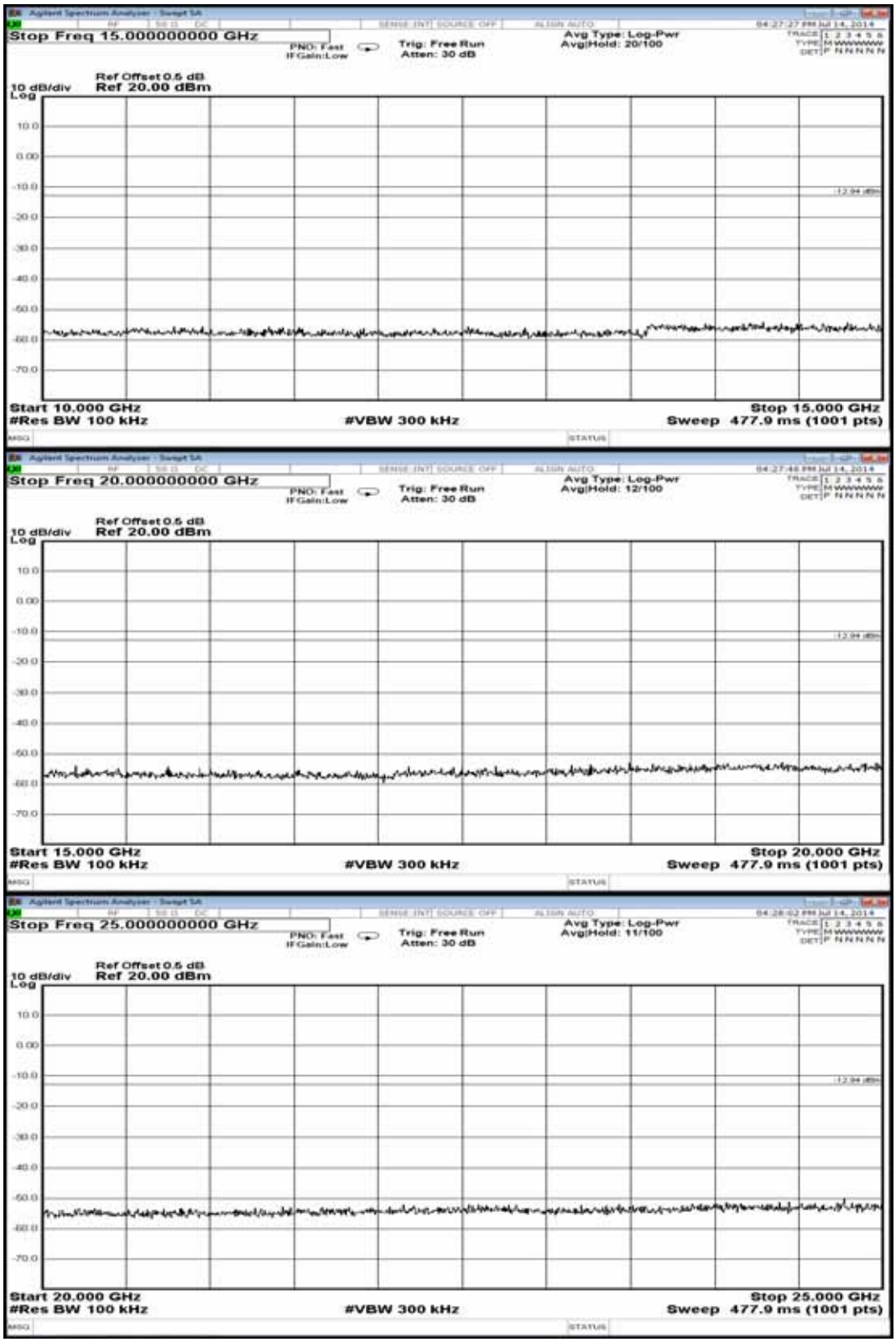
802.11b, Frequency: 2412MHz



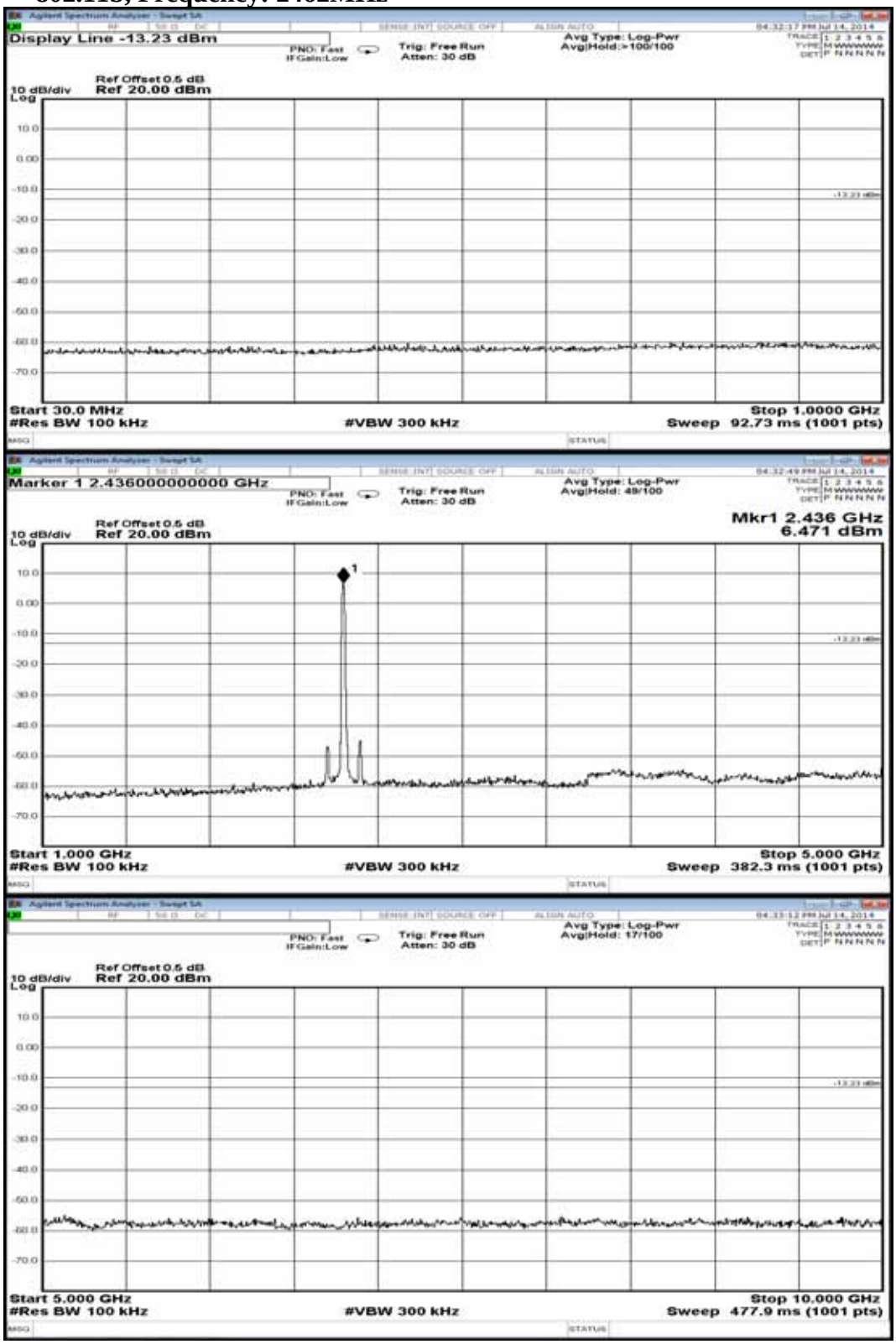

Agilent Spectrum Analyzer - Swept SA
Stop Freq 15.000000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 30 dB
Avg Type: Log-Pwr
Avg|Hold: 14/100
Ref Offset 0.5 dB
10 dB/div
Log
Ref 20.00 dBm
Start 10.000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 15.000 GHz
Sweep 477.9 ms (1001 pts)
File <Screen_0094.png> saved
Agilent Spectrum Analyzer - Swept SA
Stop Freq 20.000000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 30 dB
Avg Type: Log-Pwr
Avg|Hold: 7/100
Ref Offset 0.5 dB
10 dB/div
Log
Ref 20.00 dBm
Start 15.000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 20.000 GHz
Sweep 477.9 ms (1001 pts)
Agilent Spectrum Analyzer - Swept SA
Stop Freq 25.000000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 30 dB
Avg Type: Log-Pwr
Avg|Hold: 15/100
Ref Offset 0.5 dB
10 dB/div
Log
Ref 20.00 dBm
Start 20.000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 25.000 GHz
Sweep 477.9 ms (1001 pts)

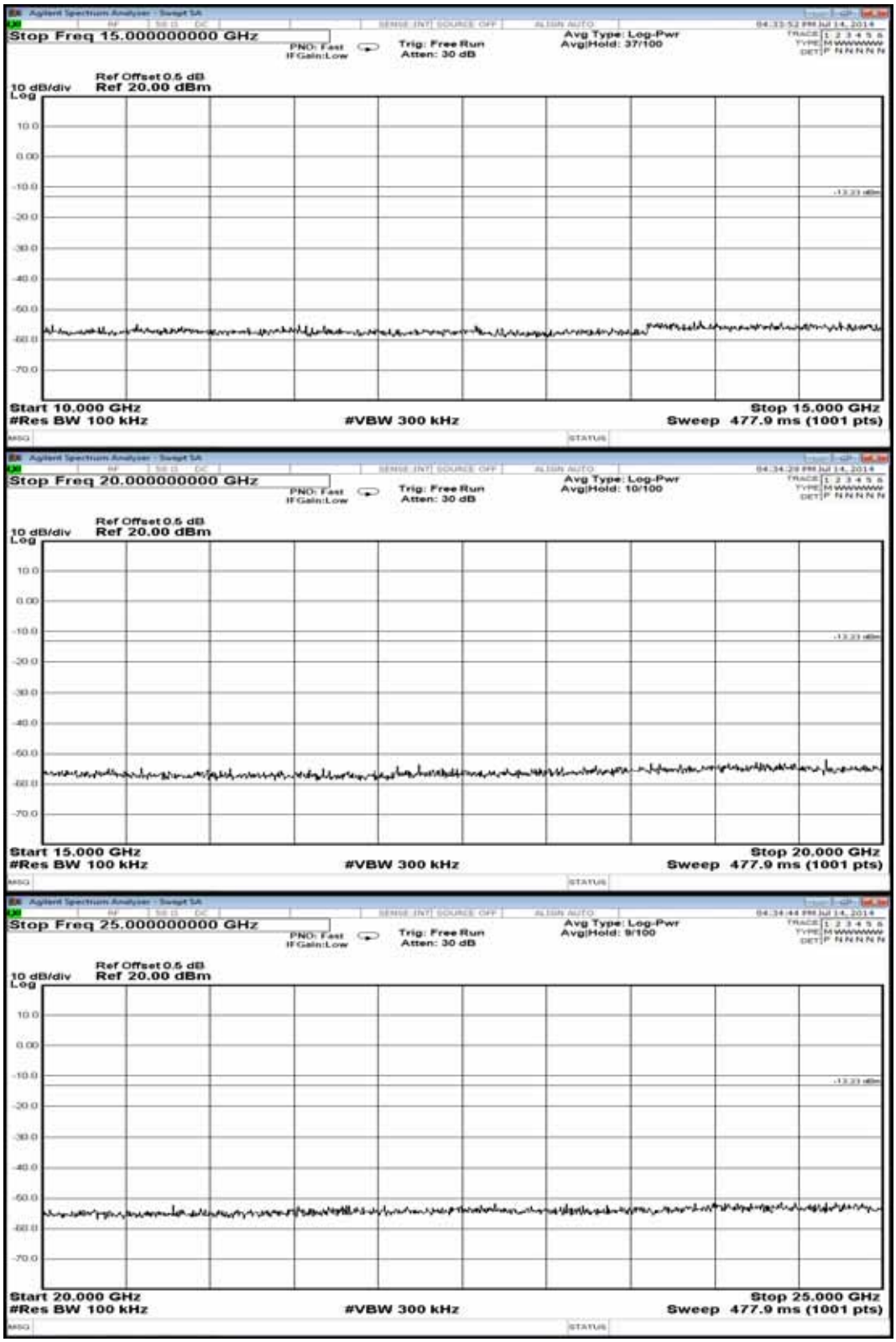
802.11b, Frequency: 2437MHz



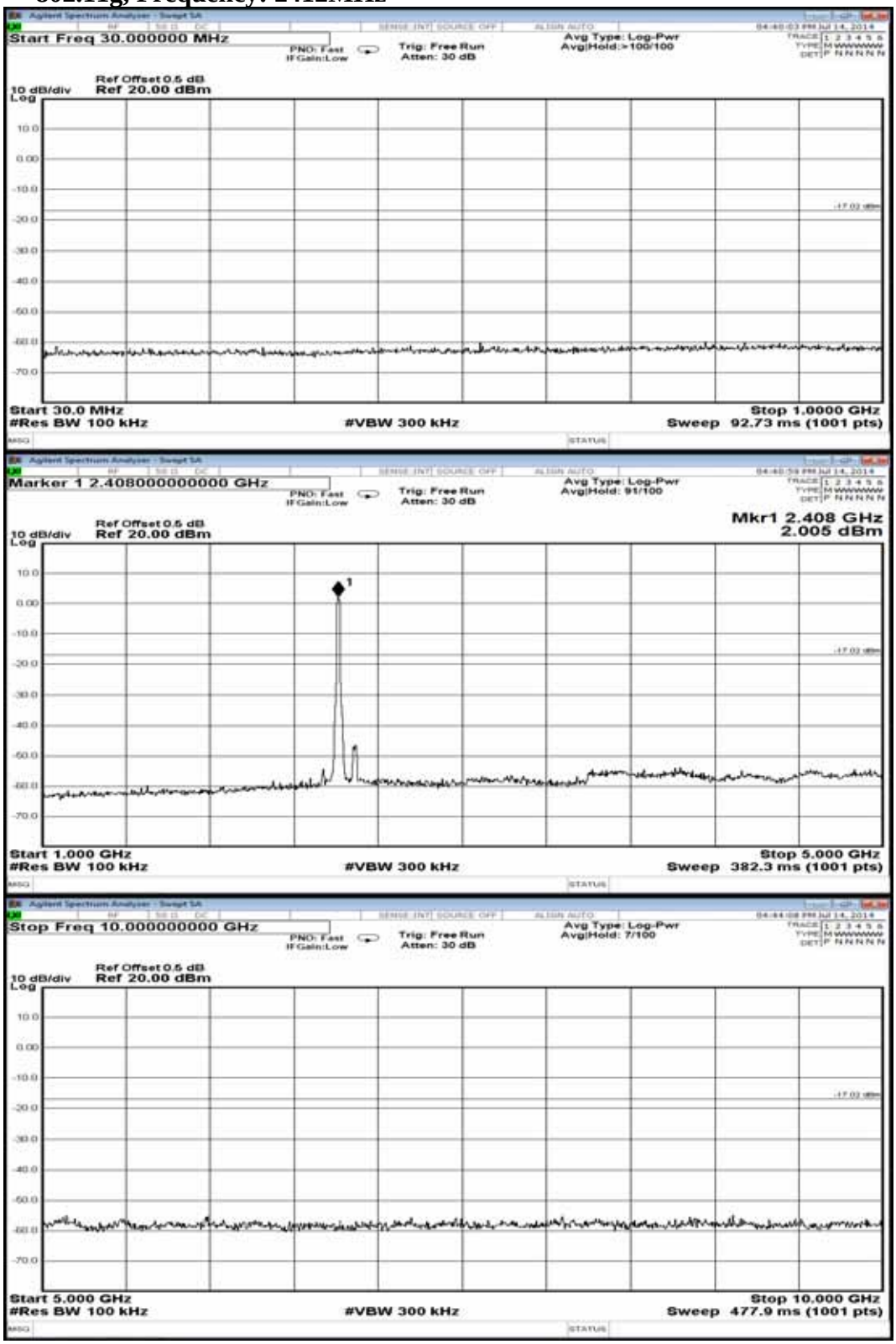

Agilent Spectrum Analyzer - Swept SA
Stop Freq 15.000000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 30 dB
Avg Type: Log-Pwr
Avg|Hold: 20/100
Ref Offset 0.5 dB
10 dB/div
Log
Ref 20.00 dBm
Start 10.000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 15.000 GHz
Sweep 477.9 ms (1001 pts)
Agilent Spectrum Analyzer - Swept SA
Stop Freq 20.000000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 30 dB
Avg Type: Log-Pwr
Avg|Hold: 12/100
Ref Offset 0.5 dB
10 dB/div
Log
Ref 20.00 dBm
Start 15.000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 20.000 GHz
Sweep 477.9 ms (1001 pts)
Agilent Spectrum Analyzer - Swept SA
Stop Freq 25.000000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 30 dB
Avg Type: Log-Pwr
Avg|Hold: 11/100
Ref Offset 0.5 dB
10 dB/div
Log
Ref 20.00 dBm
Start 20.000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 25.000 GHz
Sweep 477.9 ms (1001 pts)

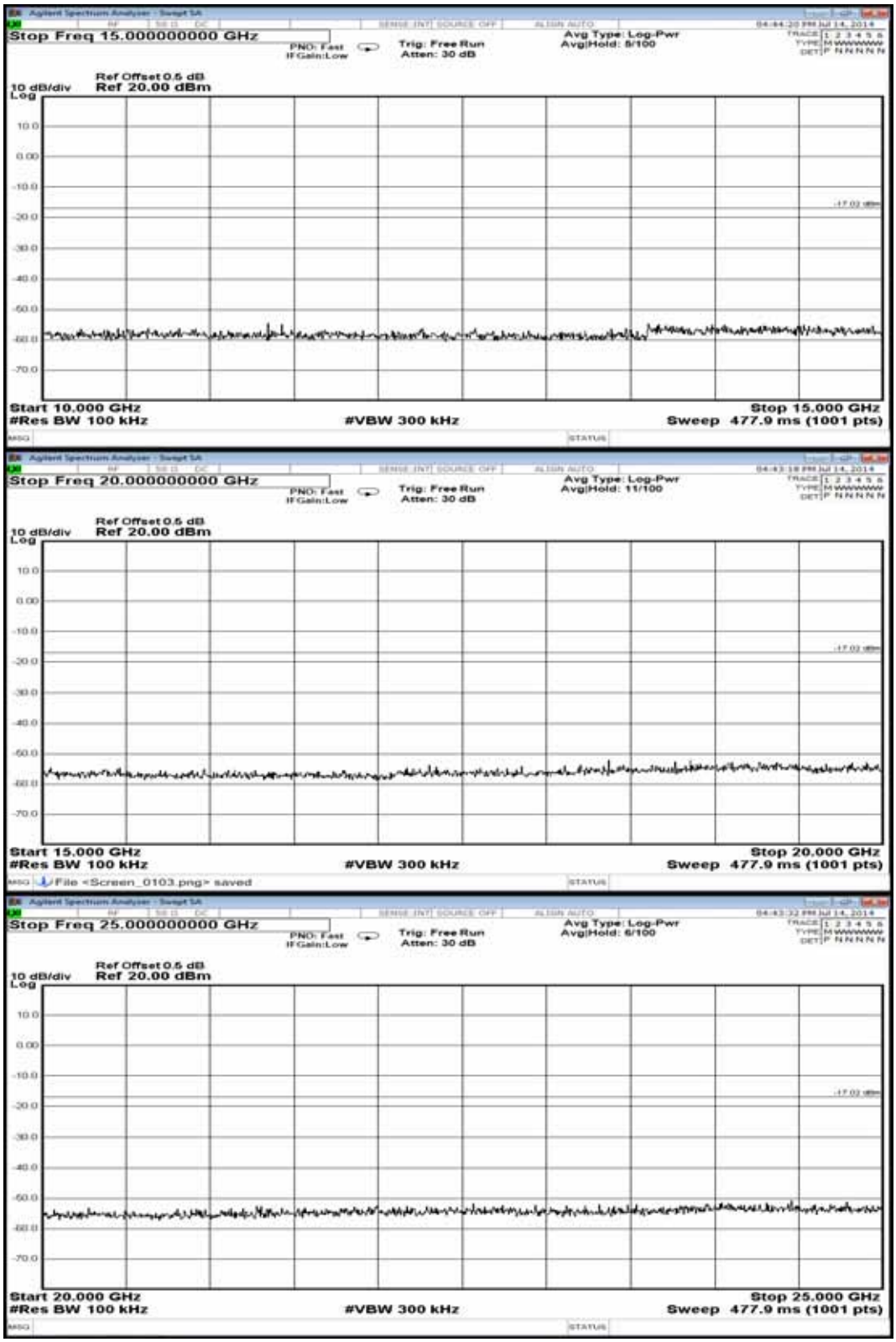
802.11b, Frequency: 2462MHz



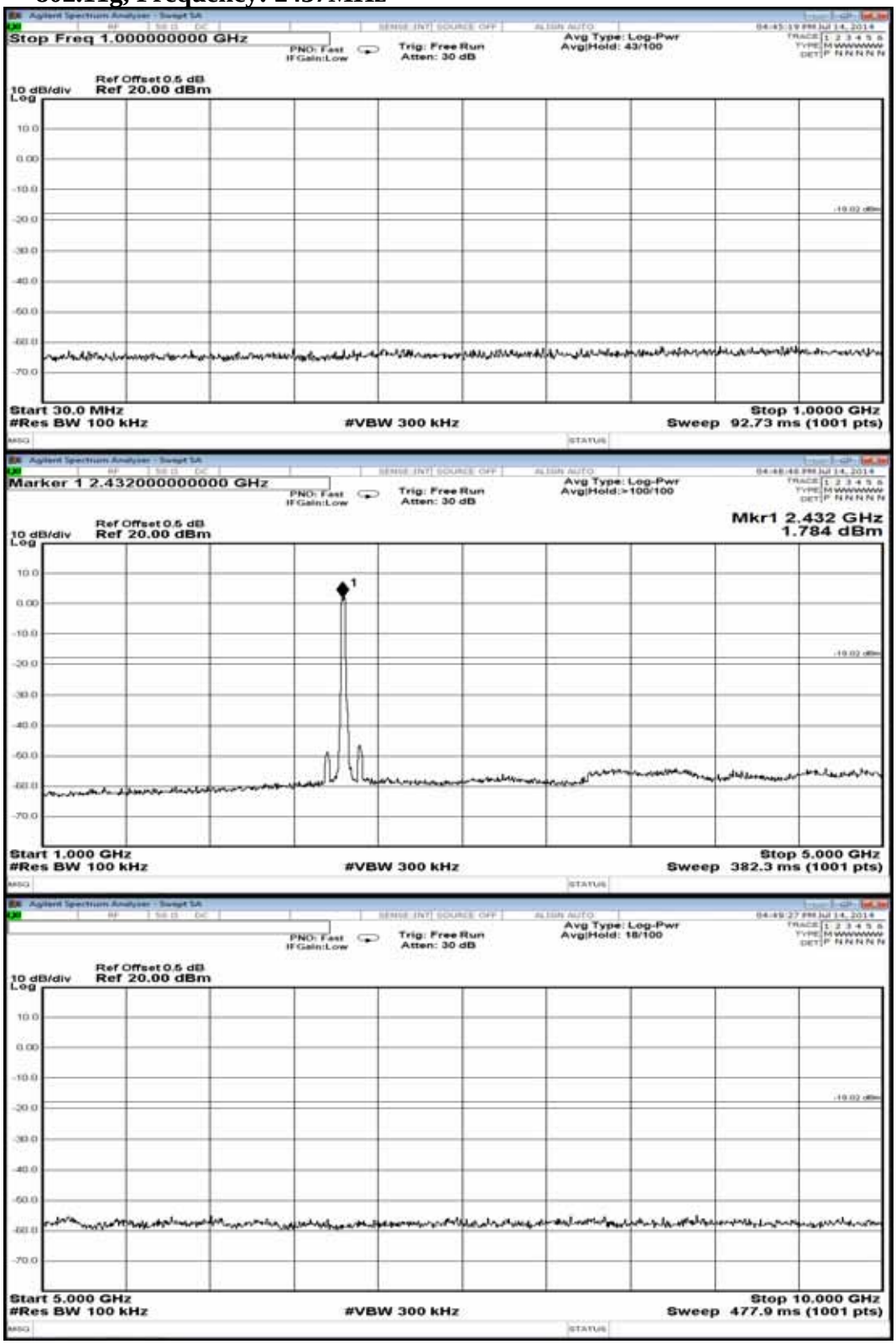

Agilent Spectrum Analyzer - Swept SA
Stop Freq 15.000000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 30 dB
Avg Type: Log-Pwr
Avg|Hold: 37/100
Ref Offset 0.5 dB
10 dB/div
Log
Ref 20.00 dBm
Start 10.000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 15.000 GHz
Sweep 477.9 ms (1001 pts)
Agilent Spectrum Analyzer - Swept SA
Stop Freq 20.000000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 30 dB
Avg Type: Log-Pwr
Avg|Hold: 10/100
Ref Offset 0.5 dB
10 dB/div
Log
Ref 20.00 dBm
Start 15.000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 20.000 GHz
Sweep 477.9 ms (1001 pts)
Agilent Spectrum Analyzer - Swept SA
Stop Freq 25.000000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 30 dB
Avg Type: Log-Pwr
Avg|Hold: 9/100
Ref Offset 0.5 dB
10 dB/div
Log
Ref 20.00 dBm
Start 20.000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 25.000 GHz
Sweep 477.9 ms (1001 pts)

802.11g, Frequency: 2412MHz



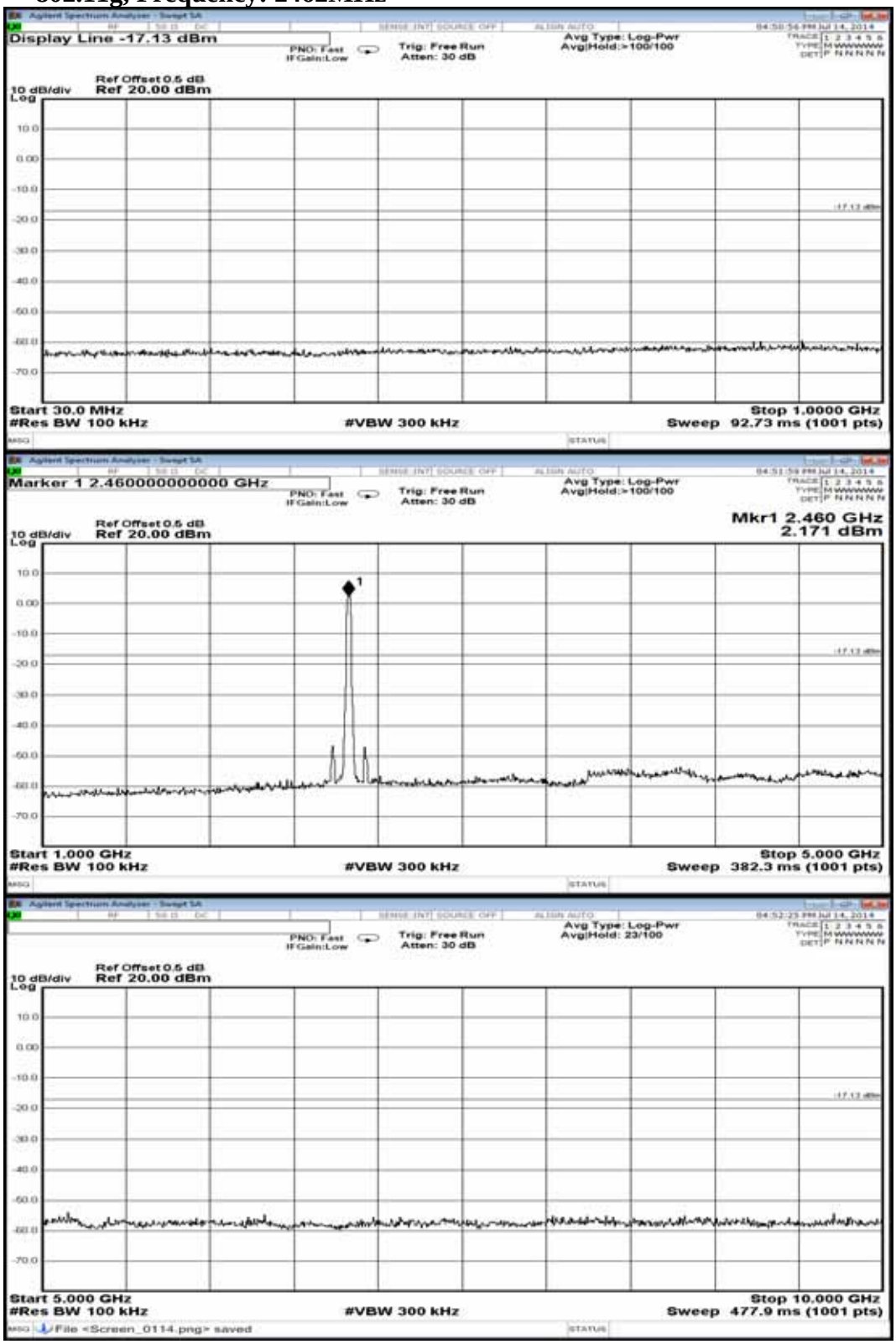

Agilent Spectrum Analyzer - Swept SA
Stop Freq 15.000000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 30 dB
Avg Type: Log-Pwr
Avg|Hold: 5/100
Ref Offset 0.5 dB
10 dB/div
Log
Ref 20.00 dBm
Start 10.000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 15.000 GHz
Sweep 477.9 ms (1001 pts)
Agilent Spectrum Analyzer - Swept SA
Stop Freq 20.000000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 30 dB
Avg Type: Log-Pwr
Avg|Hold: 11/100
Ref Offset 0.5 dB
10 dB/div
Log
Ref 20.00 dBm
Start 15.000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 20.000 GHz
Sweep 477.9 ms (1001 pts)
File <Screen_0103.png> saved
Agilent Spectrum Analyzer - Swept SA
Stop Freq 25.000000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 30 dB
Avg Type: Log-Pwr
Avg|Hold: 6/100
Ref Offset 0.5 dB
10 dB/div
Log
Ref 20.00 dBm
Start 20.000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 25.000 GHz
Sweep 477.9 ms (1001 pts)

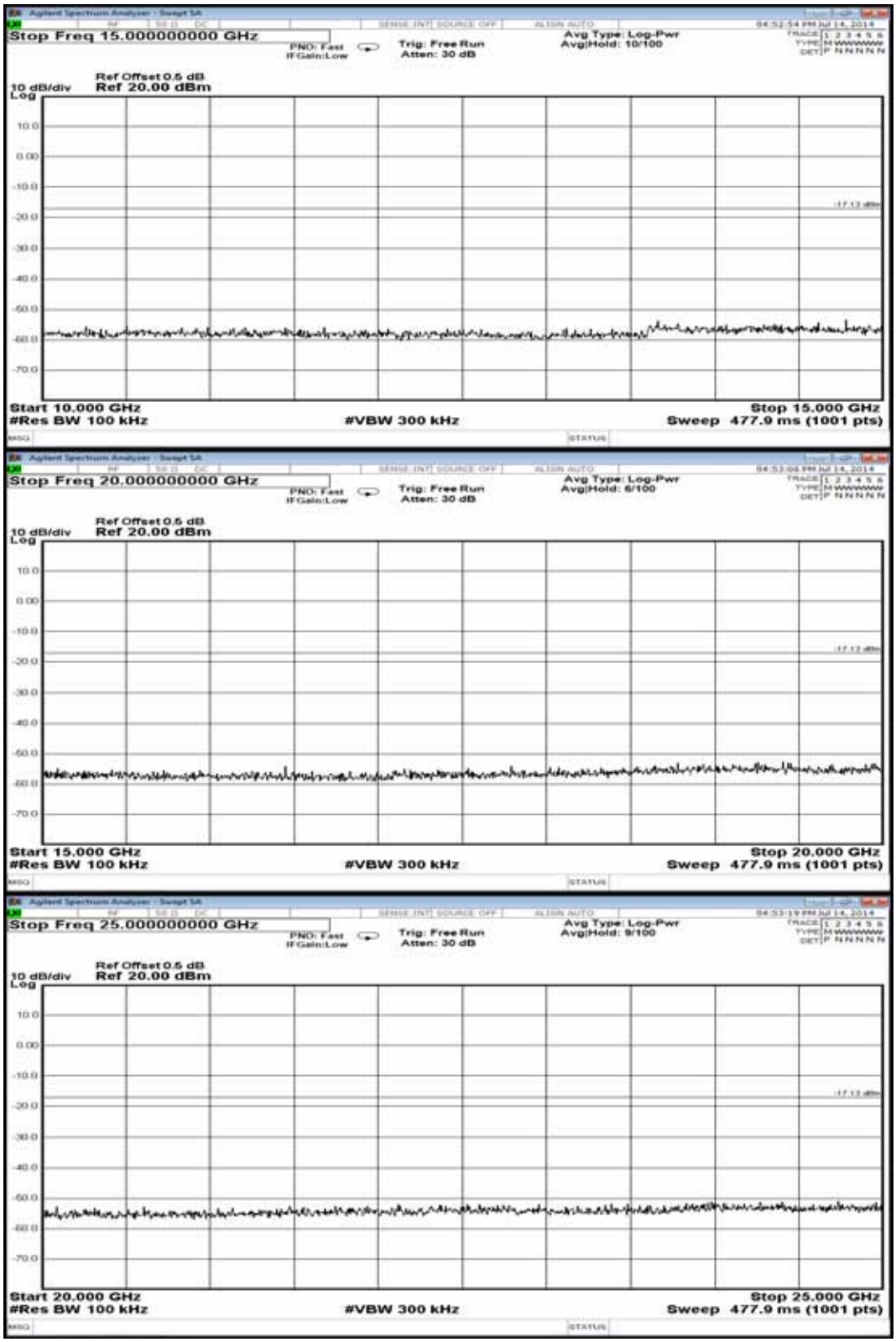
802.11g, Frequency: 2437MHz



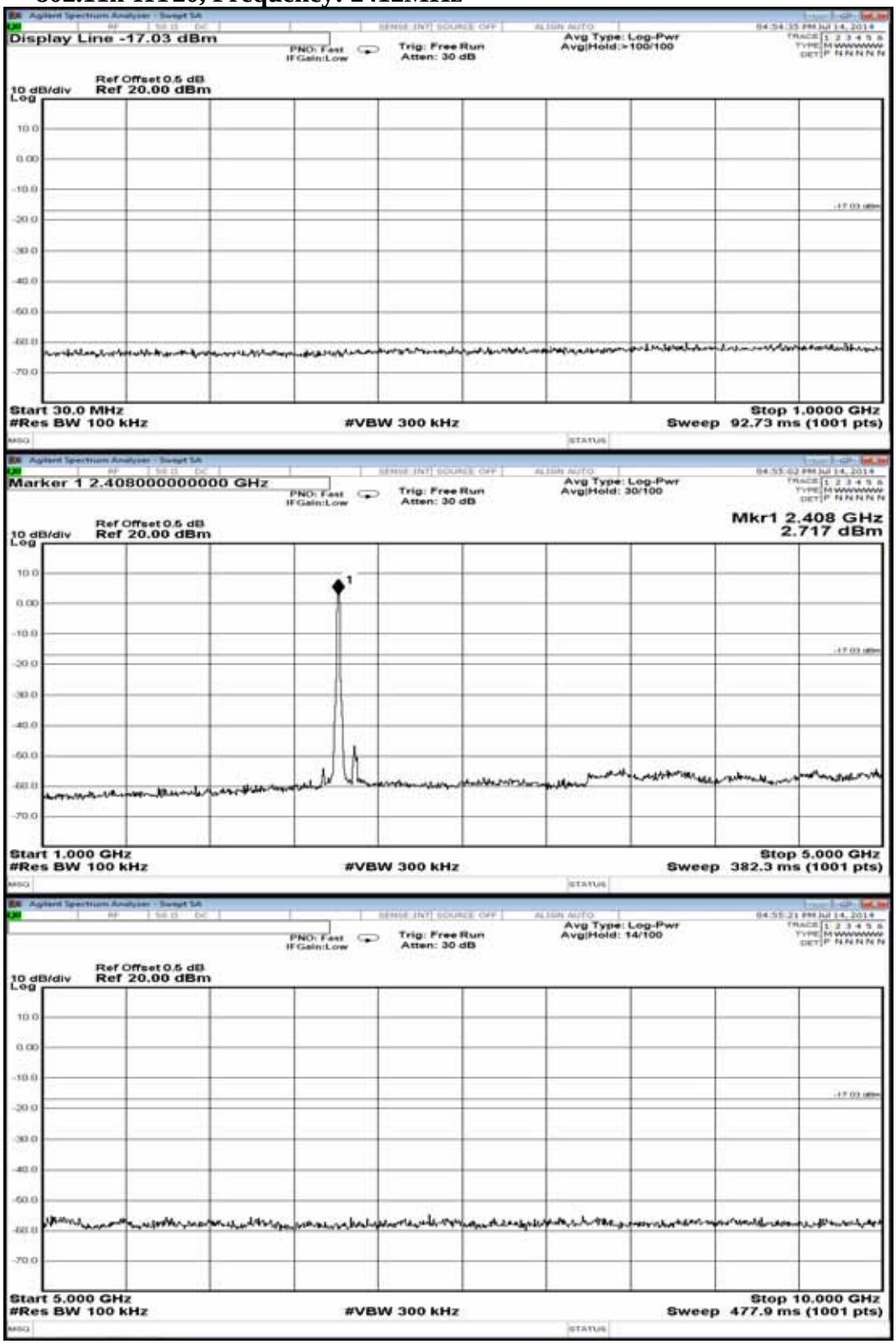

Agilent Spectrum Analyzer - Swept SA
Stop Freq 15.000000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 30 dB
Avg Type: Log-Pwr
Avg|Hold: 7/100
04:49:40 PM Jul 14, 2014
Ref Offset 0.5 dB
10 dB/div
Log
Ref 20.00 dBm
10.0
0.00
-10.0
-20.0
-30.0
-40.0
-50.0
-60.0
-70.0
-19.02 dBm
Start 10.000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 15.000 GHz
Sweep 477.9 ms (1001 pts)
MSG
STATUS
Agilent Spectrum Analyzer - Swept SA
Stop Freq 20.000000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 30 dB
Avg Type: Log-Pwr
Avg|Hold: 6/100
04:49:52 PM Jul 14, 2014
Ref Offset 0.5 dB
10 dB/div
Log
Ref 20.00 dBm
10.0
0.00
-10.0
-20.0
-30.0
-40.0
-50.0
-60.0
-70.0
-19.02 dBm
Start 15.000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 20.000 GHz
Sweep 477.9 ms (1001 pts)
MSG
STATUS
Agilent Spectrum Analyzer - Swept SA
Stop Freq 25.000000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 30 dB
Avg Type: Log-Pwr
Avg|Hold: 7/100
04:50:04 PM Jul 14, 2014
Ref Offset 0.5 dB
10 dB/div
Log
Ref 20.00 dBm
10.0
0.00
-10.0
-20.0
-30.0
-40.0
-50.0
-60.0
-70.0
-19.02 dBm
Start 20.000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 25.000 GHz
Sweep 477.9 ms (1001 pts)
MSG
STATUS

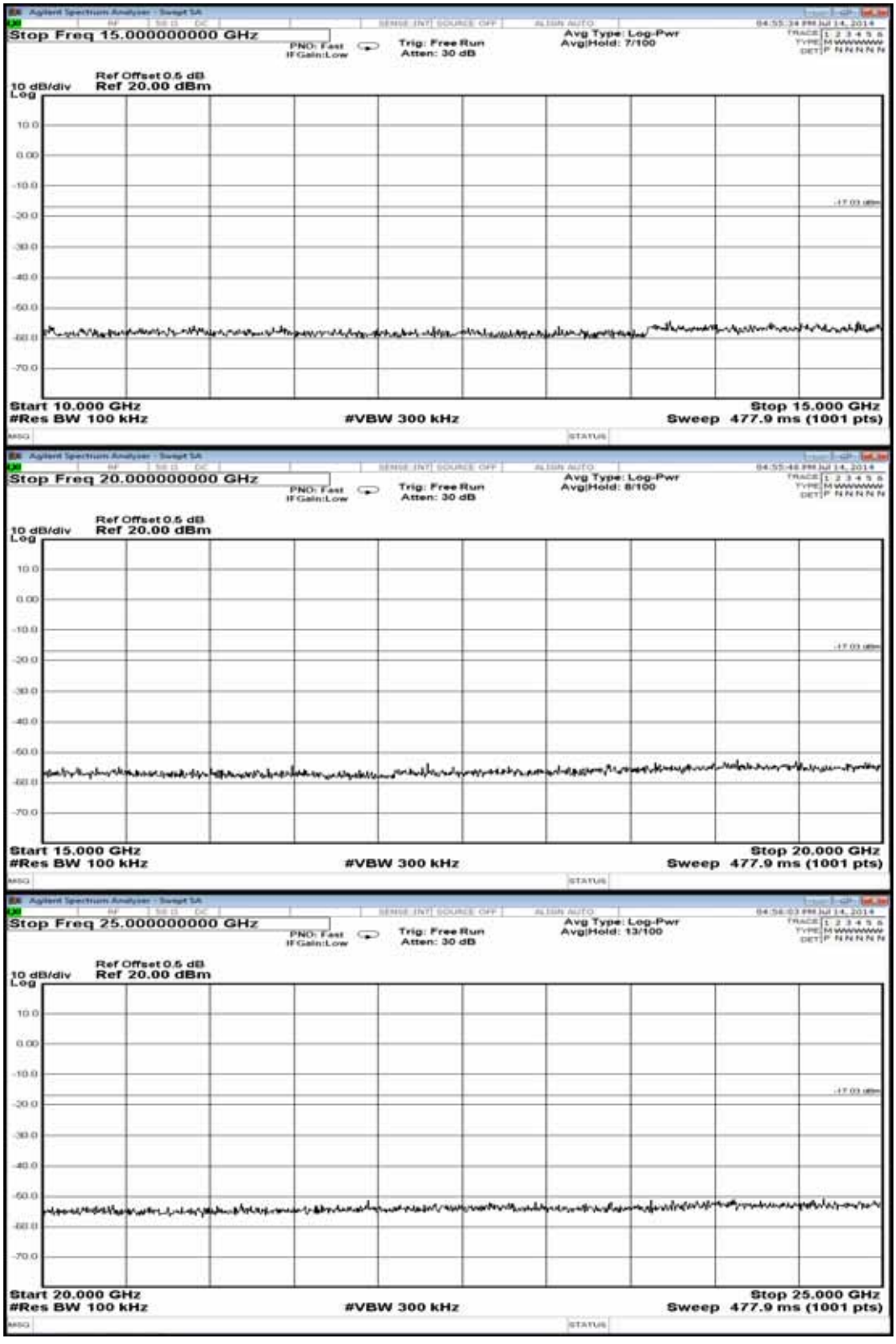
802.11g, Frequency: 2462MHz



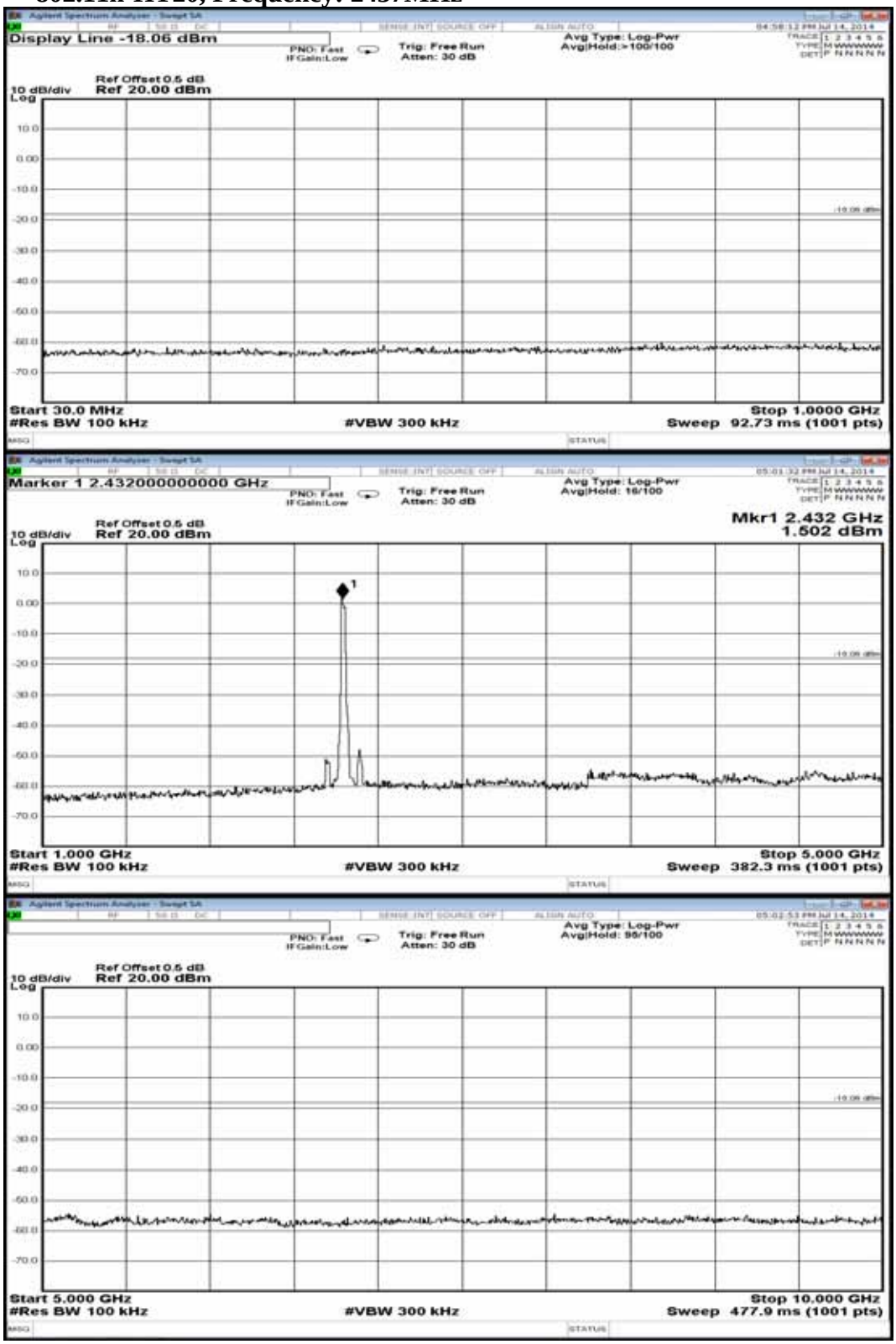

Agilent Spectrum Analyzer - Swept SA
Stop Freq 15.000000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 30 dB
Avg Type: Log-Pwr
Avg|Hold: 10/100
Ref Offset 0.5 dB
10 dB/div
Log
Ref 20.00 dBm
Start 10.000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 15.000 GHz
Sweep 477.9 ms (1001 pts)
Agilent Spectrum Analyzer - Swept SA
Stop Freq 20.000000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 30 dB
Avg Type: Log-Pwr
Avg|Hold: 6/100
Ref Offset 0.5 dB
10 dB/div
Log
Ref 20.00 dBm
Start 15.000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 20.000 GHz
Sweep 477.9 ms (1001 pts)
Agilent Spectrum Analyzer - Swept SA
Stop Freq 25.000000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 30 dB
Avg Type: Log-Pwr
Avg|Hold: 9/100
Ref Offset 0.5 dB
10 dB/div
Log
Ref 20.00 dBm
Start 20.000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 25.000 GHz
Sweep 477.9 ms (1001 pts)

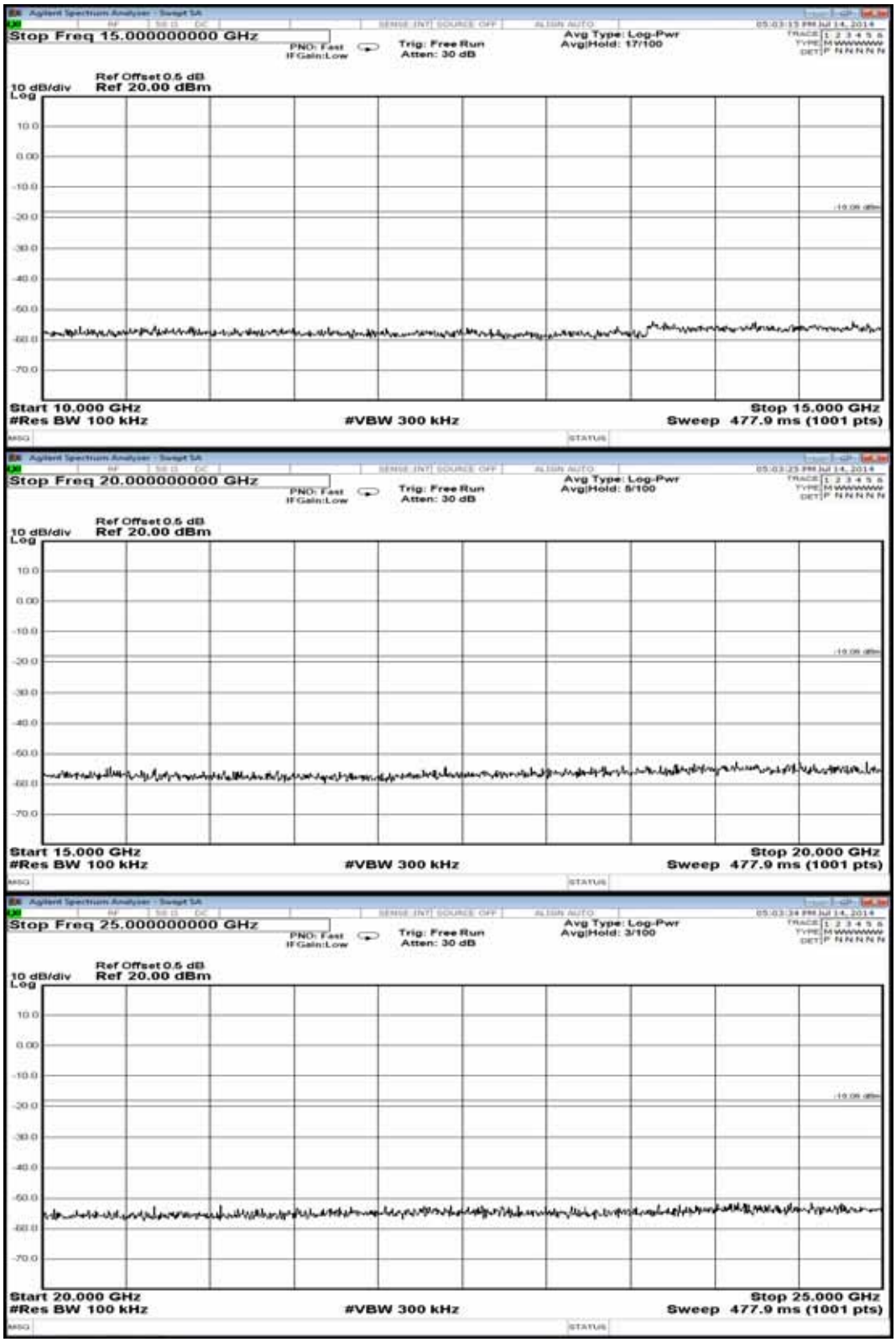
802.11n-HT20, Frequency: 2412MHz



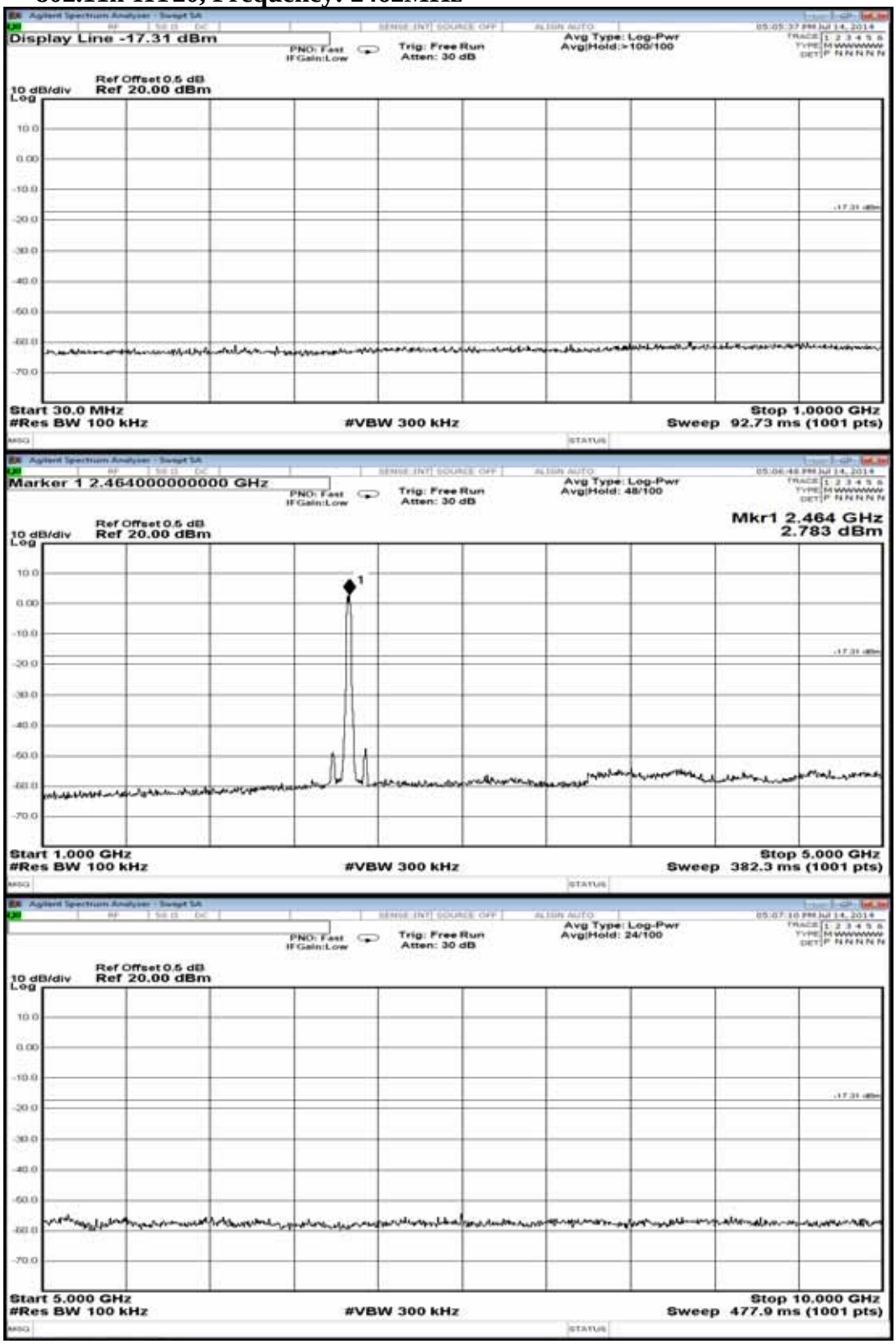

Stop Freq 15.000000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 30 dB
Avg Type: Log-Pwr
Avg|Hold: 7/100
Ref Offset 0.5 dB
10 dB/div
Log
Ref 20.00 dBm
Start 10.000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 15.000 GHz
Sweep 477.9 ms (1001 pts)
Stop Freq 20.000000000 GHz
Avg|Hold: 8/100
Start 15.000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 20.000 GHz
Sweep 477.9 ms (1001 pts)
Stop Freq 25.000000000 GHz
Avg|Hold: 13/100
Start 20.000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 25.000 GHz
Sweep 477.9 ms (1001 pts)

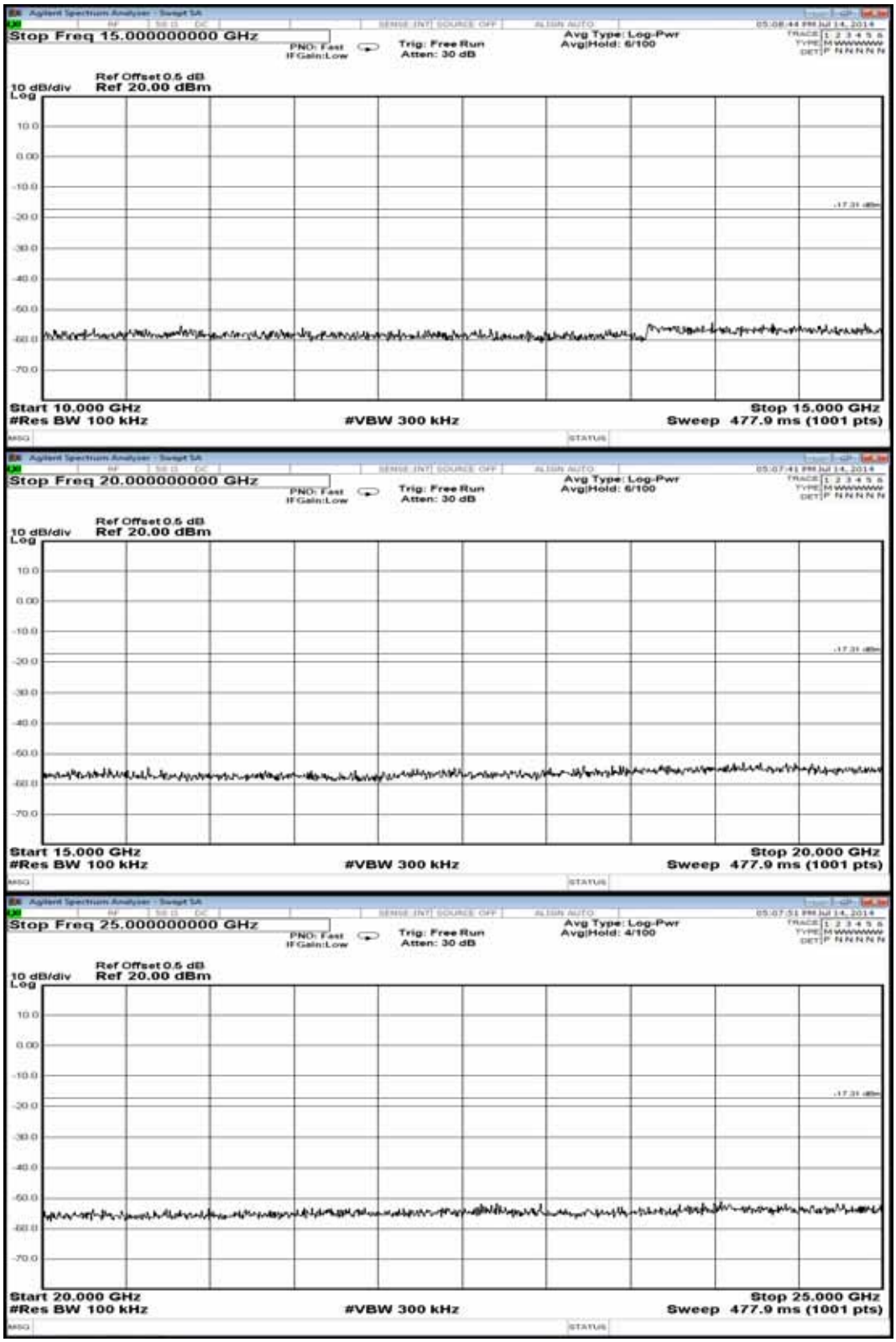
802.11n-HT20, Frequency: 2437MHz




Agilent Spectrum Analyzer - Swept SA
Stop Freq 15.000000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 30 dB
Avg Type: Log-Pwr
Avg|Hold: 17/100
05:03:15 PM Jul 14, 2014
Ref Offset 0.5 dB
10 dB/div
Log
Ref 20.00 dBm
Start 10.000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 15.000 GHz
Sweep 477.9 ms (1001 pts)
Agilent Spectrum Analyzer - Swept SA
Stop Freq 20.000000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 30 dB
Avg Type: Log-Pwr
Avg|Hold: 5/100
05:03:25 PM Jul 14, 2014
Ref Offset 0.5 dB
10 dB/div
Log
Ref 20.00 dBm
Start 15.000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 20.000 GHz
Sweep 477.9 ms (1001 pts)
Agilent Spectrum Analyzer - Swept SA
Stop Freq 25.000000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 30 dB
Avg Type: Log-Pwr
Avg|Hold: 3/100
05:03:34 PM Jul 14, 2014
Ref Offset 0.5 dB
10 dB/div
Log
Ref 20.00 dBm
Start 20.000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 25.000 GHz
Sweep 477.9 ms (1001 pts)

802.11n-HT20, Frequency: 2462MHz




Agilent Spectrum Analyzer - Swept SA
Stop Freq 15.000000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 30 dB
Avg Type: Log-Pwr
Avg|Hold: 6/100
05:08:44 PM Jul 14, 2014
Ref Offset 0.5 dB
10 dB/div
Log
Ref 20.00 dBm
Start 10.000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 15.000 GHz
Sweep 477.9 ms (1001 pts)
Agilent Spectrum Analyzer - Swept SA
Stop Freq 20.000000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 30 dB
Avg Type: Log-Pwr
Avg|Hold: 6/100
05:07:41 PM Jul 14, 2014
Ref Offset 0.5 dB
10 dB/div
Log
Ref 20.00 dBm
Start 15.000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 20.000 GHz
Sweep 477.9 ms (1001 pts)
Agilent Spectrum Analyzer - Swept SA
Stop Freq 25.000000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
Atten: 30 dB
Avg Type: Log-Pwr
Avg|Hold: 4/100
05:07:51 PM Jul 14, 2014
Ref Offset 0.5 dB
10 dB/div
Log
Ref 20.00 dBm
Start 20.000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 25.000 GHz
Sweep 477.9 ms (1001 pts)

8. BAND EDGES MEASUREMENT

8.1. Test Equipment

The following test equipment was used during the band edges measurement:

Item	Type	Manufacturer	Model No.	Serial No.	Cal. Due Date
1.	Spectrum Analyzer	Agilent	N9030A-544	US51350140	2014. 07. 29

8.2. Block Diagram of Test Setup

The same as section.5.2.

8.3. Specification Limits [§15.247(c)]

8.3.1. In any 100kHz 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 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. Attenuation below the general limits specified in Section 15.209(a) is not required. In addition, radiated emissions which fall in restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a) (See Section 15.205(c)).(※This test result attaching to §4.6.3)

8.3.2. The reference level for determining limit of emission limitations is according to the value measured indicated in plots at section 9.6.

8.4. Operating Condition of EUT

Using QRCT to enable EUT to transmit wanted frequency in 100% duty cycle.

8.5. Test Procedure

The transmitter output was connected to the spectrum analyzer. Set both RBW=100 kHz and VBW to 300kHz with suitable frequency span including 100kHz bandwidth from band edge.

The measurement guideline was according to 558074 D01 DTS Meas Guidance v03r02.

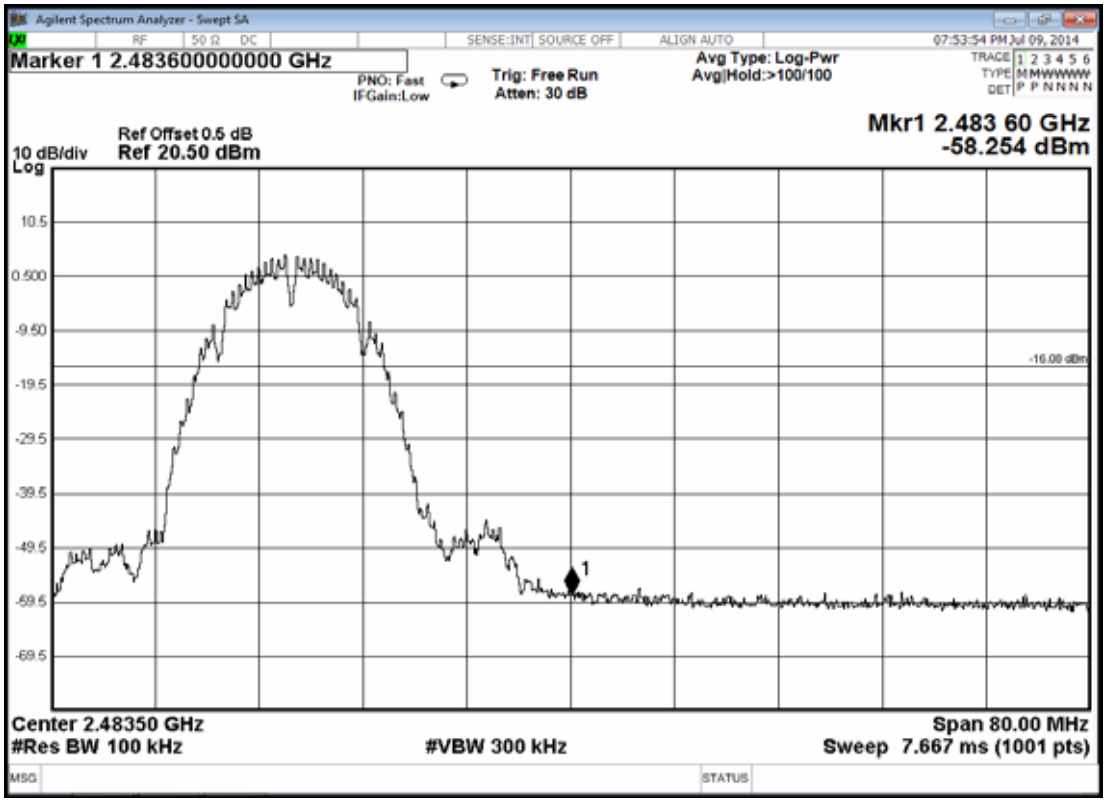
8.6. Test Results

PASSED. All the test results are attached in next pages.

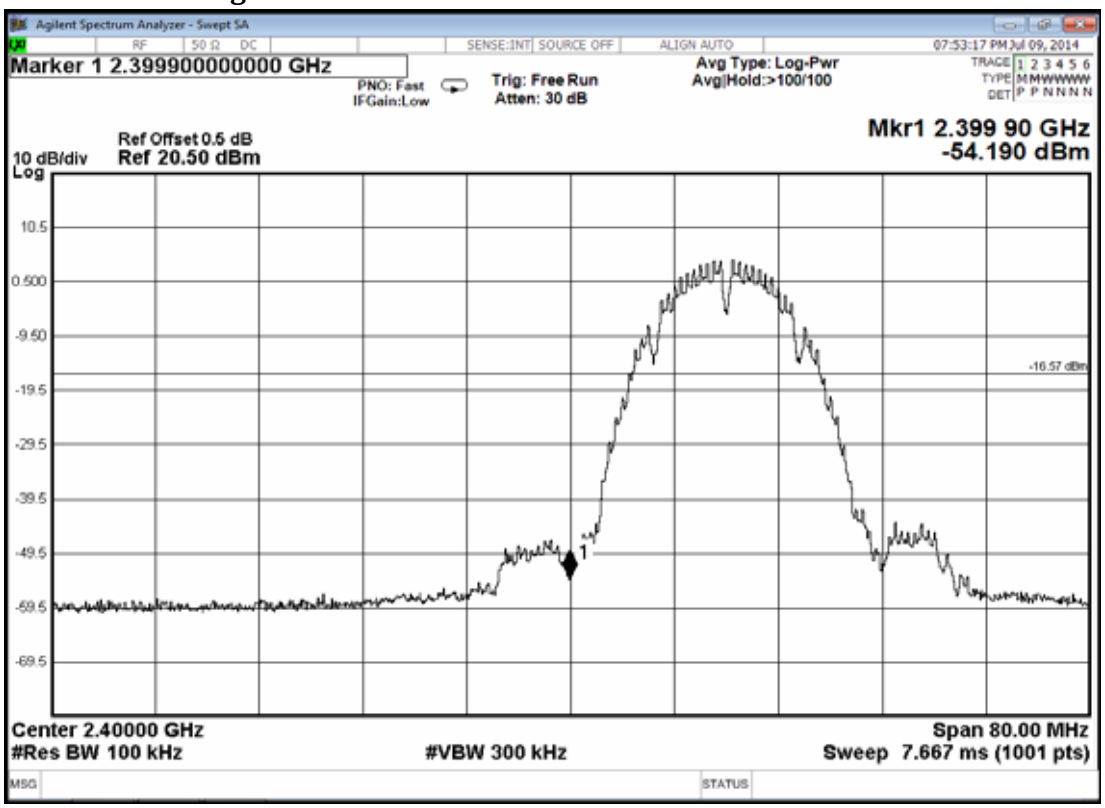
Test Date: 2014. 07. 09 Temperature: 26℃ Humidity: 60%

802.11b

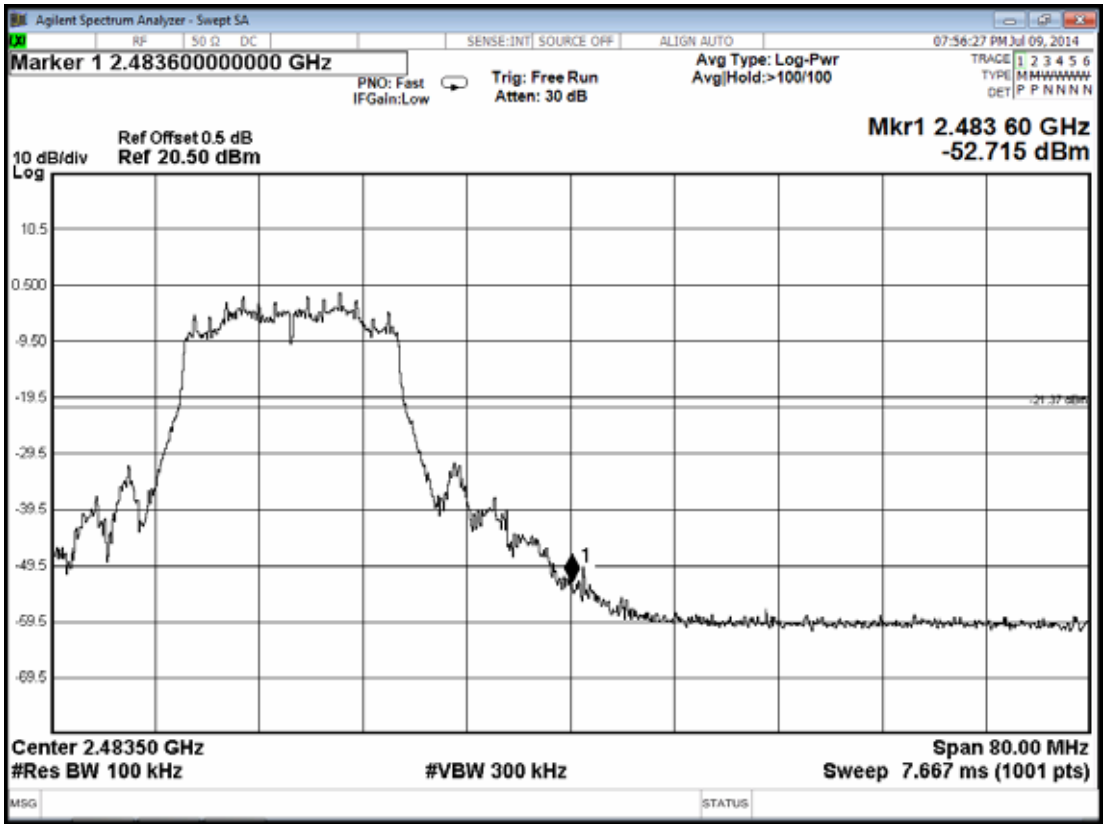
Upper Band edge



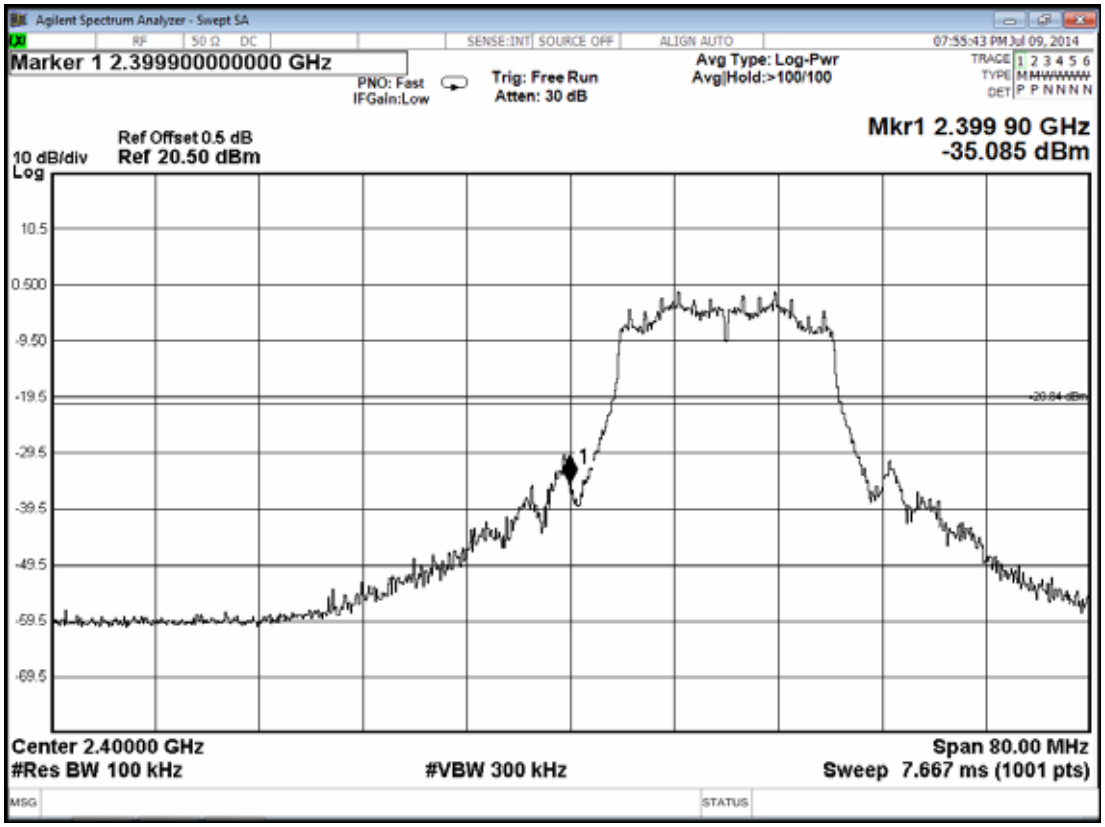
Below Band edge



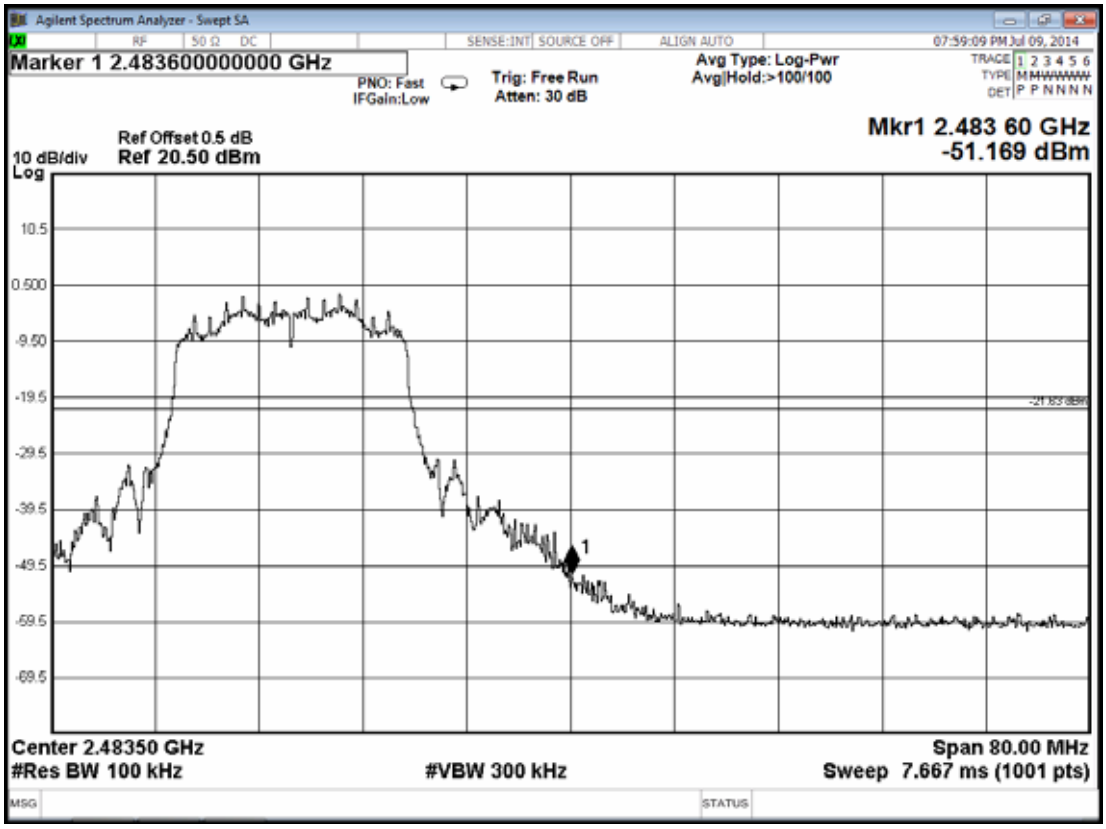
802.11g
Upper Band edge



Below Band edge



802.11n-HT20
Upper Band edge



Below Band edge

9. POWER SPECTRAL DENSITY MEASUREMENT

9.1. Test Equipment

The following test equipment was used during the power spectral density measurement:

Item	Type	Manufacturer	Model No.	Serial No.	Cal. Due Date
1.	Spectrum Analyzer	Agilent	N9030A-544	US51350140	2014. 07. 29

9.2. Block Diagram of Test Setup

The same as section.5.2.

9.3. Specification Limits [§15.247(d)]

The peak power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8dBm in any 3kHz band.

9.4. Operating Condition of EUT

Using QRCT to enable EUT to transmit wanted frequency in 100% duty cycle.

9.5. Test Procedure

The transmitter output was connected to the spectrum analyzer. The bandwidth of the fundamental frequency was measured with the spectrum analyzer using 100kHz RBW and ≥300kHz VBW, set sweep time = Auto.

The measurement guideline was according to KDB 558074 D01 DTS Meas Guidance is v03r02.

9.6. Test Results

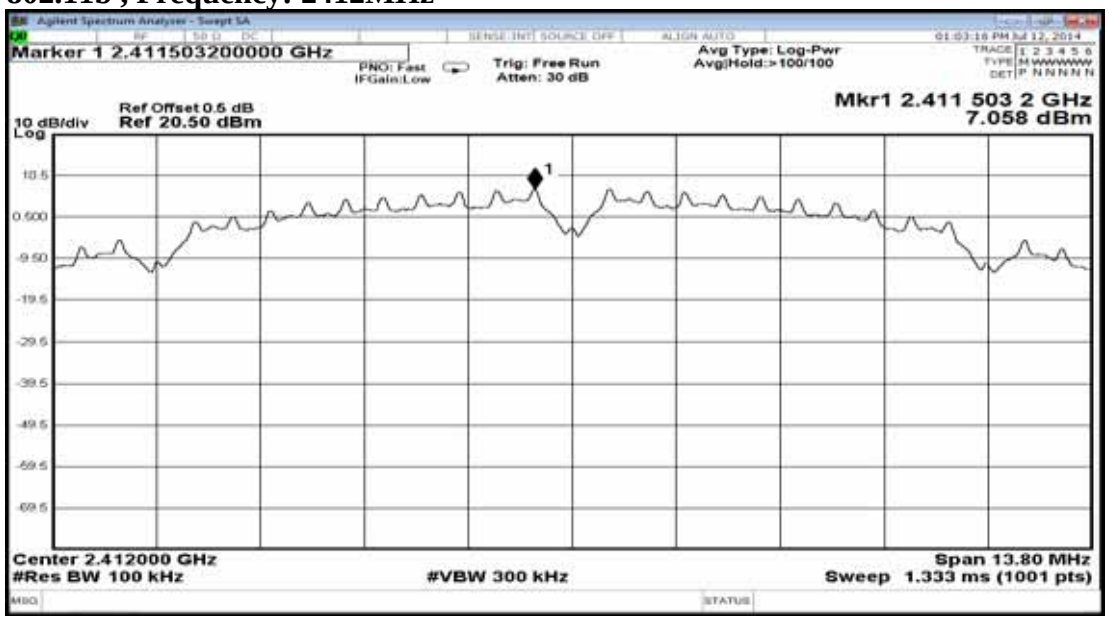
PASSED. All the test results are attached in next pages.

Test Date: 2014. 07. 09 Temperature: 26℃ Humidity: 60%

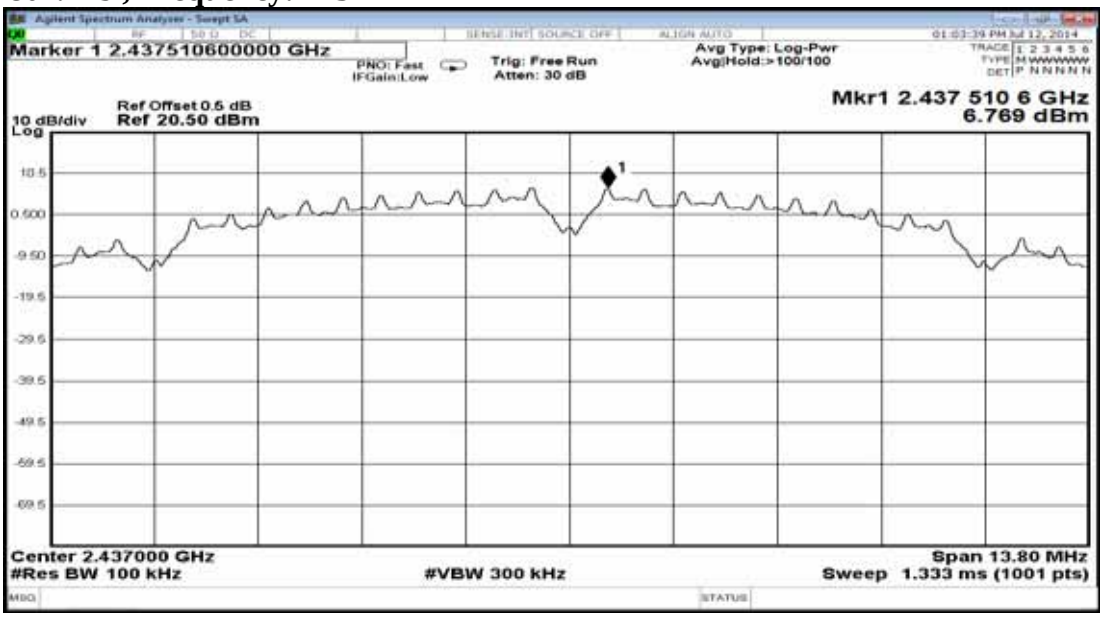
Mode	Type of Network	Channel	Frequency	**Power Spectral Density (dBm)**
1	802.11b	CH 1	2412MHz	**7.058**
2		CH 6	2437MHz	**6.769**
3		CH 11	2462MHz	**6.928**
4	802.11g	CH 1	2412MHz	**2.976**
5		CH 6	2437MHz	**1.976**
6		CH 11	2462MHz	**2.873**
7	802.11n-HT20	CH 1	2412MHz	**2.968**
8		CH 6	2437MHz	**1.941**
9		CH 11	2462MHz	**2.692**

[Limit: 8dBm]

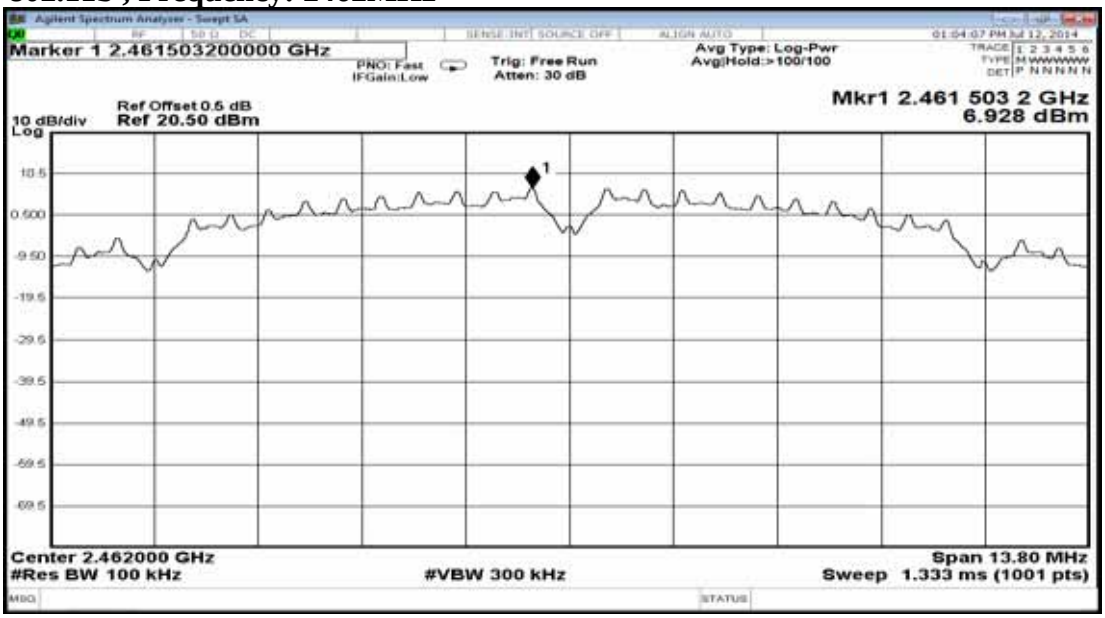
802.11b , Frequency: 2412MHz



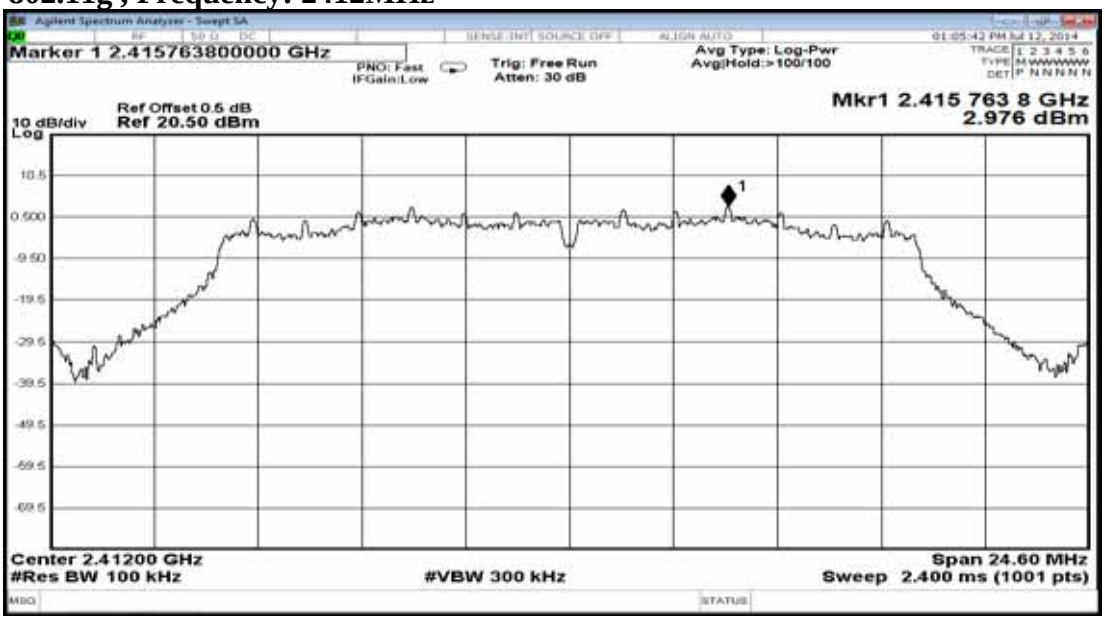
802.11b , Frequency: 2437MHz



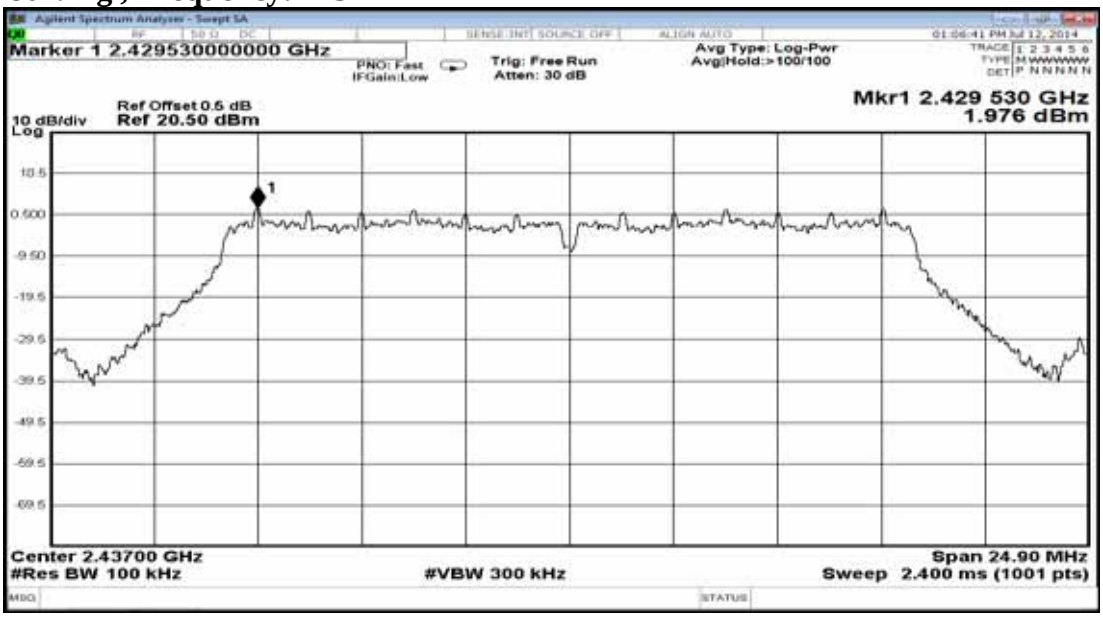
802.11b , Frequency: 2462MHz



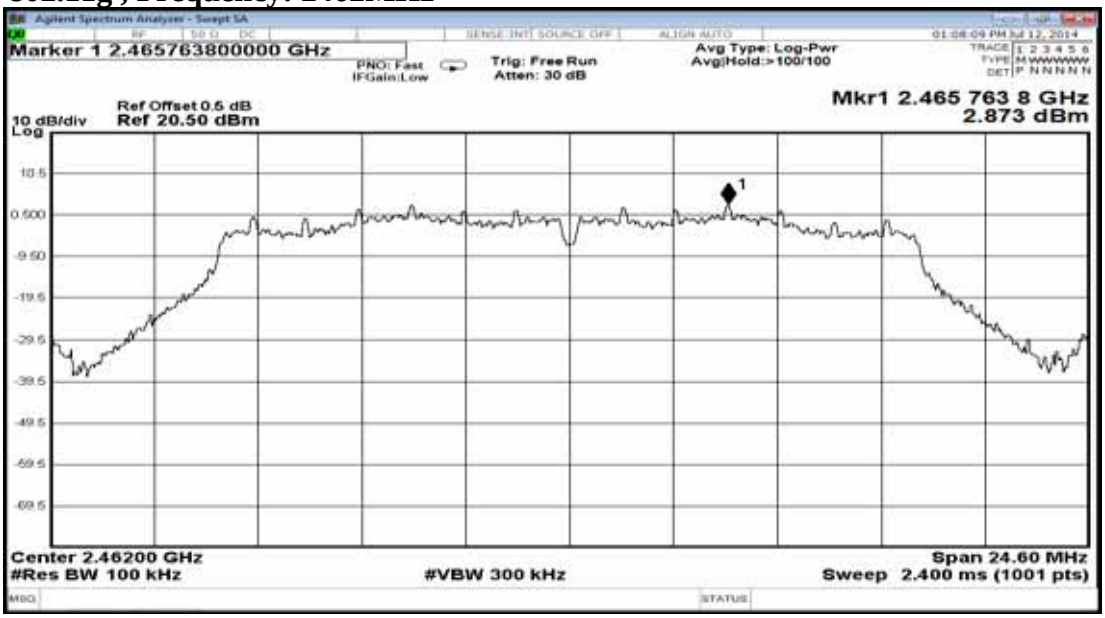
802.11g , Frequency: 2412MHz



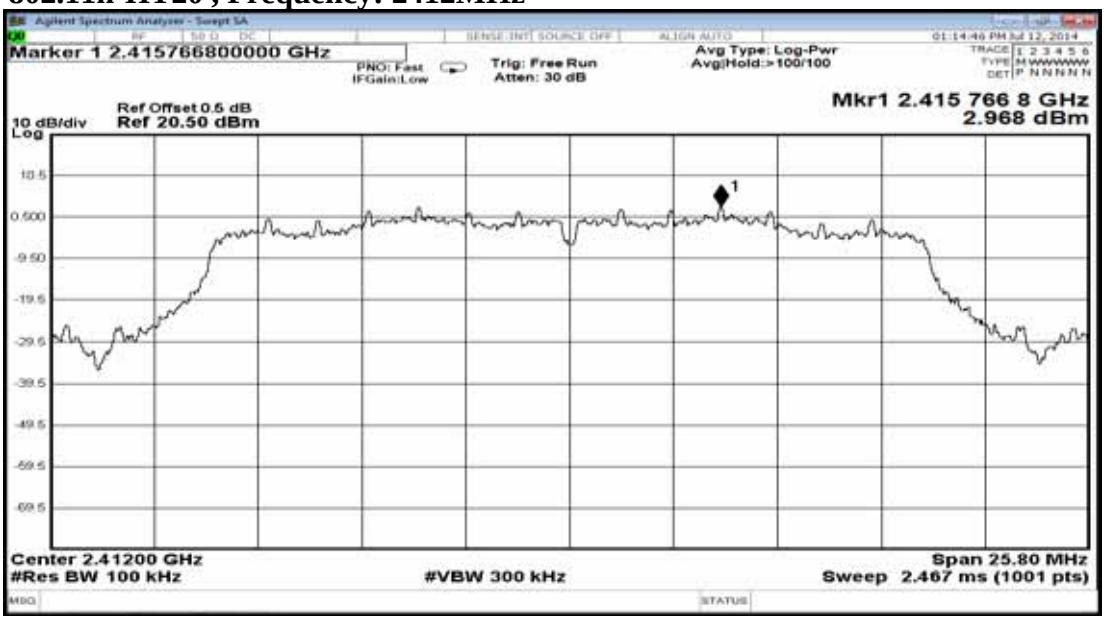
802.11g , Frequency: 2437MHz



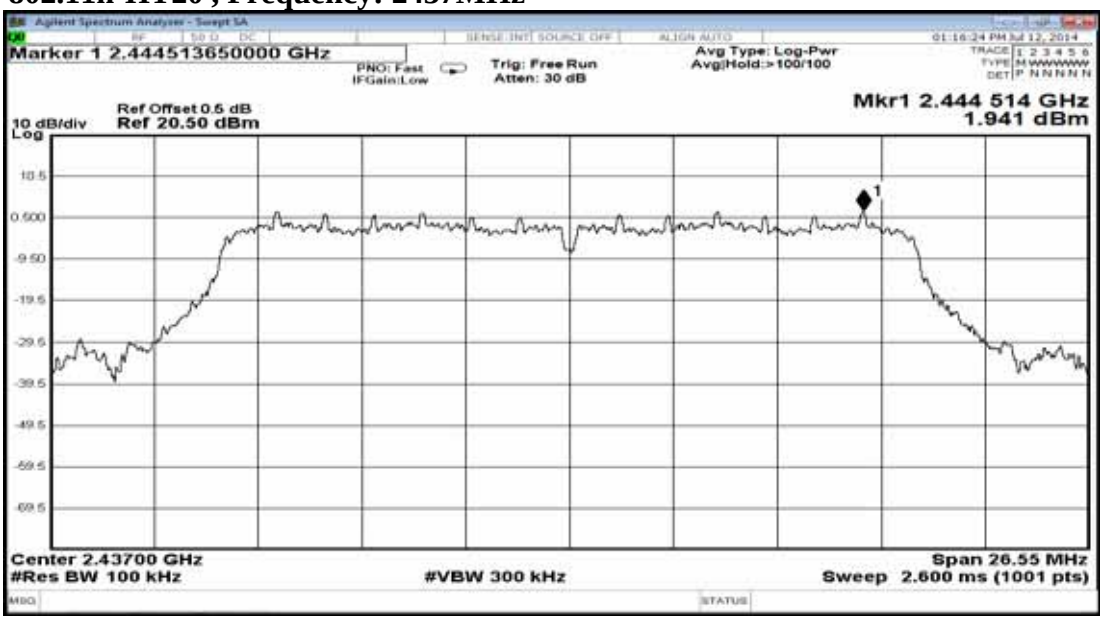
802.11g , Frequency: 2462MHz



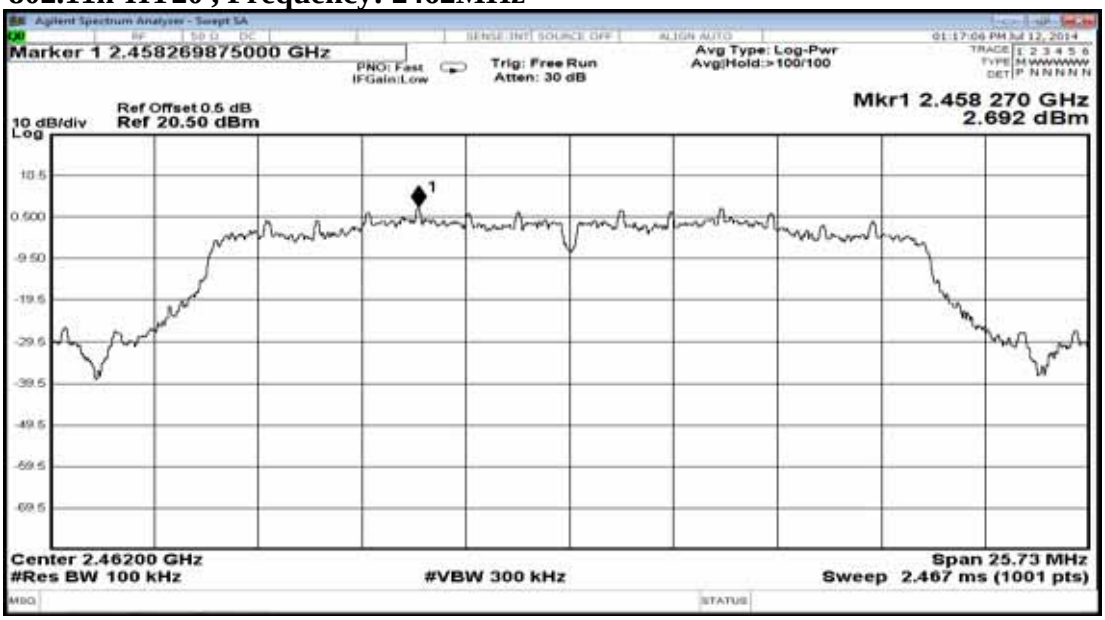
802.11n-HT20 , Frequency: 2412MHz



802.11n-HT20 , Frequency: 2437MHz



802.11n-HT20 , Frequency: 2462MHz



10. DEVIATION TO TEST SPECIFICATIONS

【NONE】

11. PHOTOGRAPHS

11.1. Photos of Conducted Disturbance Measurement

[Link Notebook PC with Charge and Operating Mode]

FRONT VIEW OF CONDUCTED MEASUREMENT

BACK VIEW OF CONDUCTED MEASUREMENT

[Link Power Adapter with Charge and Operating Mode]

FRONT VIEW OF CONDUCTED MEASUREMENT

BACK VIEW OF CONDUCTED MEASUREMENT

11.2. Photos of Radiated Measurement at Semi-Anechoic Chamber

11.2.1. Frequency Below 1GHz

[Link Notebook PC with TX Mode]

[Link Power Adapter with TX Mode]

Battery Mode (Position: Side)

Battery Mode (Position: Lie)

Battery Mode (Position: Stand)

11.2.2.Frequency Above 1GHz

Battery Mode (Position: Side)

Battery Mode (Position: Lie)

Battery Mode (Position: Stand)

11.3. Photo of Section RF Conducted Measurement