FCC RADIO TEST REPORT

FCC ID	:	G95-CGA4234
Equipment Name	:	DOCSIS3.1 Wireless Residential Gateway with Embeded Digital Voice Adapter
Trade Name	:	technicolor
Model Number	:	CGA4234
Product Code	:	CGA4234DGW-TCH, CGA4234VGW-TCH
Applicant	:	Technicolor Connected Home USA LLC 5030 Sugarloaf Parkway Building 6 Lawrenceville, GA 30044
Standard	:	47 CFR FCC Part 15 Subpart C § 15.247

The product was received on Jan. 19, 2018, and testing was started from Jan. 23, 2018 and completed on Jul. 23, 2018. We, SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory, would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.10-2013, 47 CFR FCC Part 15 Subpart C, KDB558074 D01 v05, KDB 662911 D01 v02r01 and shown compliance with the applicable technical standards.

The report must not be used by the client to claim product certification, approval, or endorsement by TAF or any agency of government.

The test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory, the test report shall not be reproduced except in full.

Approved by: Sam Chen

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History of this test report

Report No.	Version	Description	Issued Date
FR811125AA	01	Initial issue of report	Sep. 10, 2018

Summary of Test Result

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Measured	Limit
2.1	15.207	AC Power Line Conducted Emissions	PASS	21.1676MHz 44.98dBuV (Margin -5.02dB)	FCC 15.207
2.2	15.247(b)(3)	Maximum Conducted Output Power	PASS	Power [dBm]: 11b: 29.84dBm 11g: 29.89dBm 11n(20M): 29.99dBm 11n(40M): 26.76dBm	30 dBm
2.3	15.247(e)	Power Spectral Density	PASS	PSD [dBm]: 11b: 1.10dBm/3kHz 11g: -2.79dBm/3kHz 11n(20M): -3.39dBm/3kHz 11n(40M): -8.72dBm/3kHz	8dBm/3kHz
2.4	15.247(a)(2)	6dB Spectrum and 99% Occupied Bandwidth	PASS	6dB Bandwidth [MHz] 11b: 8.075MHz 11g: 16.050MHz 11n(20): 16.925MHz 11n(40): 35.750MHz 99% Occupied [MHz] 11b: 12.519MHz 11g: 17.041MHz 11n(20): 18.016MHz 11n(40): 36.432MHz	≥500kHz
2.5	15.247(d)	Radiated Emissions	PASS	4.92388GHz 51.93dBuV/m (Margin -2.07dB)	-
2.6	15.247(d)	Band Edge Emissions	PASS	2.389998GHz 53.99dBuV/m (Margin -0.01dB)	-
2.7	15.203	Antenna Requirements	PASS	-	-

Reviewed by: Sam Chen

Report Producer: Vicky Huang

1. General Information

1.1. Product Details

Items	Description		
Equipment Name	DOCSIS3.1 Wireless Residential Gateway with Embeded Digital Voice Adapter		
Trade Name	technicolor		
Model Number	CGA4234		
Product Code	CGA4234DGW-TCH, CGA4234VGW-TCH		
FCC ID	G95-CGA4234		
Power Type	From power adapter		
Antenna Type	Please refer to section 1.7		
EUT Stage	■ Product Unit	□	Pre-Sample
Operating Band Conducted Output Power	2400 ~ 2483.5MHz	■	IEEE 802.11b: 29.84 dBm
		■	IEEE 802.11g: 29.89 dBm
		■	IEEE 802.11n 20MHz: 29.99 dBm
		■	IEEE 802.11n 40MHz: 26.76 dBm
Product Type	IEEE 802.11b: WLAN (1/2/3TX, 3RX) IEEE 802.11g: WLAN (1/2/3TX, 3RX) IEEE 802.11n: WLAN (1/2/3TX, 3RX)		
Number of Channel	11 channels for 11n(20MHz) / 7 channel for 11n(40MHz)		
Nominal Chennel Bandwidth	20MHz / 40MHz		
Modulation	802.11b: DSSS (DBPSK, DQPSK, CCK) 802.11g: OFDM (BPSK / QPSK / 16QAM / 64QAM) 802.11n: (BPSK / QPSK / 16QAM / 64QAM) See the below table		
Data Rate (Mbps)	11b mode: DSSS (1/2/5.5/11) 11g mode: OFDM (6/9/12/18/24/36/48/54) 11n(20MHz) mode : (MCS0~MCS23); 11n(40MHz) mode : (MCS0~MCS23) See the below table		
I/O Ports	LAN Port x 4 FXS Port x 2 USB Port x 1 Coaxial Port x1 CM-console 3.5mm x1		
Hardware Version	NPI		
Software Version	CGA4234GA_master_20180829160026		

802.11n Data Rate spec

Standard	INDEX	Data Rate (Mbps)		Standard	INDEX	Data Rate (Mbps)	
-	-	LGI (800ns)	SGI (400ns)	-	-	LGI (800ns)	SGI (400ns)
11n 20MHz N_{SS} = 1	MCS0	6.5	7.2	11n 40MHz N_{SS} = 1	MCS0	13.5	15
	MCS1	13	14.4		MCS1	27	30
	MCS2	19.5	21.7		MCS2	40.5	45
	MCS3	26	28.9		MCS3	54	60
	MCS4	39	43.3		MCS4	81	90
	MCS5	52	57.8		MCS5	108	120
	MCS6	58.5	65		MCS6	121.5	135
	MCS7	65	72.2		MCS7	135	150
11n 20MHz N_{SS} = 2	MCS8	13	14.4	11n 40MHz N_{SS} = 2	MCS8	27	30
	MCS9	26	28.9		MCS9	54	60
	MCS10	39	43.3		MCS10	81	90
	MCS11	52	57.8		MCS11	108	120
	MCS12	78	86.7		MCS12	162	180
	MCS13	104	115.6		MCS13	216	240
	MCS14	117	130		MCS14	243	270
	MCS15	130	144.4		MCS15	270	300
11n 20MHz N_{SS} = 3	MCS16	19.5	21.7	11n 40MHz N_{SS} = 3	MCS16	40.5	45
	MCS17	39	43.3		MCS17	81	90
	MCS18	58.5	65		MCS18	121.5	135
	MCS19	78	86.7		MCS19	162	180
	MCS20	117	130		MCS20	243	270
	MCS21	156	173.3		MCS21	324	360
	MCS22	175.5	195		MCS22	364.5	405
	MCS23	195	216.7		MCS23	405	450

1.2. Accessories

Adapter 1

Model	ADG009
Technicolor P/N	37562760
ID	AD0G2
Manufacturer	AcBel
Input Power	100-240V~50/60Hz, MAX. 1.5A
Output Power	12V, 4.5A
Cable Length	2m

Adapter 2

Model	ADS-48PI-12N-2
Technicolor P/N	N/A
ID	N/A
Manufacturer	HONOR
Input Power	100-240V~50/60Hz, MAX. 1.2A
Output Power	12V, 4.0A
Cable Length	2m

1.3. Information Provided by the Manufacturer

Interface Availability

Interface / Product Code	Internal AC~DC Power Input:100~240V output: DC 12Vdc	FXS	CM-console 3.5mm	Ethernet 10/100/ 1000 Mbps	USB 3.0	Cable modem: DOCSIS3.1 Cable Modem	WLAN IEEE 802.11a/b/g/n/ac (2.4GHz 3*3) (5GHz 4*4 ac)
CGA4234VGW-TCH	●	● (2 port)	● (1 port)	● (4 port)	● (1 port)	●	●
CGA4234DGW-TCH	●	○	● (1 port)	● (4 port)	● (1 port)	●	●

Note:

1. ● : Equipped / ○ : Not Equipped
2. Product code: CGA4234VGW-TCH was selected as representative model for the test and its data was recorded in this report.
3. The CM-console 3.5mm is generally used for FW upgrading by professional installer only.

1.4. Cabling Attached to the Equipment

Table 1- Cable and Interconnection

For product code: CGA4234VGW-TCH

Interface	Cable type	Cable length delivered with the modem	"Real life" Cable length that can be attached to this type of interface	Cable length to be used for testing	Internal/external connection
Cable modem	Coaxial	2 meter flat cable	> 10 meter	10 meter	External
ETH1	UTP Cat 5	1 meter	> 10 meter	10 meter	Internal
FXS1/2	UTP Cat 3	1 meter	> 10 meter	1 meter flat cable	Internal
USB	STP	1 meter	< 3meter	1 meter	Internal
AC power	-	-	-	-	External

For product code: CGA4234DGW-TCH

Interface	Cable type	Cable length delivered with the modem	"Real life" Cable length that can be attached to this type of interface	Cable length to be used for testing	Internal/external connection
Cable modem	Coaxial	2 meter flat cable	> 10 meter	10 meter	External
ETH1	UTP Cat 5	1 meter	> 10 meter	10 meter	Internal
USB	STP	1 meter	< 3meter	1 meter	Internal
AC power	-	-	-	-	External

1.5. Panel Drawing

Reset

X4-RJ45

USB Type-A

F-Connector

x2 FXS

CM-connector

DC-Power Jack

1.6. Transmit Operating Modes

Transmit Operating Mode							Transmit Muitiple Antennas					
■	Operating mode 1 (single antenna)						■	1TX				
■	Operating mode 2 (muitiple antenna, no beam forming)						■	2TX	■	3TX	□	4TX
□	Operating mode 3 (muitiple antenna, with beam forming)						□	2TX	□	3TX	□	4TX
■	802.11b	Operating mode	■	1TX	■	2TX	■	3TX	□	Cyclic shift		
■	802.11g	Operating mode	■	1TX	■	2TX	■	3TX	□	Cyclic shift		
■	802.11n 20MHz	Operating mode	■	1TX	■	2TX	■	3TX	□	Cyclic shift		
■	802.11n 40MHz	Operating mode	■	1TX	■	2TX	■	3TX	□	Cyclic shift		

Note:

For IEEE802.11b, 1Mbps~11Mbps: 1TX; 2TX; 3TX;

For IEEE802.11g, 6Mbps~54Mbps: 1TX; 2TX; 3TX;

For IEEE802.11n,

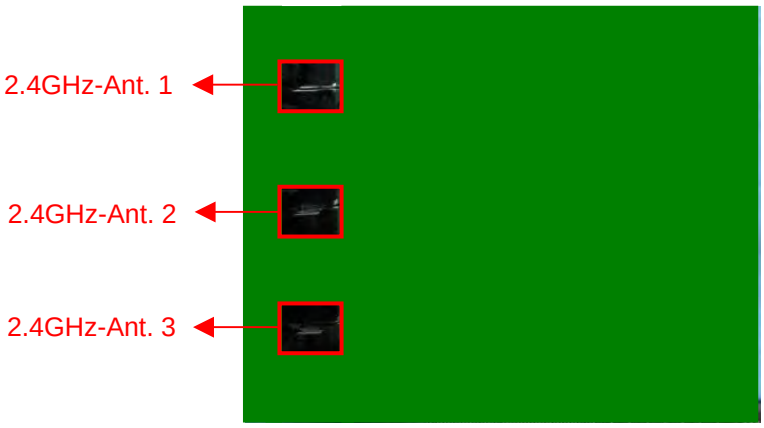
MCS0~MCS7: 1 Stream 1TX, 1 Stream 2TX, 1 Stream 3TX,

MCS8~MCS15: 2 Stream 2TX, 2 Stream 3TX,

MCS16~MCS23: 3 Stream 3TX

1.7. Table for Filed Antenna

Ant.	Brand	Model Name	Antenna Type	Connector
2.4GHz-Ant. 1	technicolor	2G ANTENNA PERP CGA3234	PIFA Antenna	N/A
2.4GHz-Ant. 2	technicolor	2G ANTENNA PERP CGA3234	PIFA Antenna	N/A
2.4GHz-Ant. 3	technicolor	2G ANTENNA PERP CGA3234	PIFA Antenna	N/A



Number of Transmitter Antennas & Bandwidth

Number of Transmitter Antennas	1TX		2TX		3TX	
Bandwidth Mode	20 MHz	40 MHz	20 MHz	40 MHz	20 MHz	40 MHz
802.11b	V	X	V	X	V	X
802.11g	V	X	V	X	V	X
802.11n	V	V	V	V	V	V

For 2400~2483.5MHz

Frequency	Antenna Gain (dBi)					
	Ant. 1		Ant. 2		Ant. 3	
	20 MHz	40 MHz	20 MHz	40 MHz	20 MHz	40 MHz
2412 MHz	2.09	-	1.13	-	2.35	-
2417 MHz	2.00	-	1.27	-	2.25	-
2422 MHz	-	2.00	-	1.27	-	2.25
2427 MHz	-	1.92	-	1.39	-	2.11
2437 MHz	1.85	1.85	1.50	1.50	1.98	1.98
2442 MHz	-	1.85	-	1.50	-	1.98
2447 MHz	-	1.86	-	1.58	-	1.93
2452 MHz	-	1.86	-	1.58	-	1.93
2462 MHz	1.79	-	1.63	-	1.80	-

Frequency	Maximum Gain (dBi) for CDD mode					
	CDD mode (1 Stream 2 TX) for PSD Gain (KDB 662911 Option 2)		CDD mode (1 Stream 3 TX) for PSD Gain (KDB 662911 Option 2)		CDD mode (2 Stream 3 TX) for PSD Gain (KDB 662911 Option 2)	
	20 MHz	40 MHz	20 MHz	40 MHz	20 MHz	40 MHz
2412 MHz	4.15	-	5.43	-	2.88	-
2417 MHz	4.11	-	5.48	-	2.93	-
2422 MHz	-	4.11	-	5.48	-	2.93
2427 MHz	-	4.01	-	5.51	-	2.95
2437 MHz	4.05	4.05	5.54	5.54	2.97	2.97
2442 MHz	-	4.05	-	5.54	-	2.97
2447 MHz	-	4.17	-	5.62	-	3.09
2452 MHz	-	4.17	-	5.62	-	3.09
2462 MHz	4.21	-	5.65	-	3.13	-

Note:

1. Antenna Gain refer to “CGA4234 Lab1D 3x3 2p4GHz Antennas new formulas.xls” files

2. Maximum Correlated Directional Gain = $Directiona\ lGain = 10 \cdot \log\left[\frac{\sum_{j=1}^{N_{SS}}\left\{\sum_{k=1}^{N_{ANT}} g_{j,k}\right\}^2}{N_{ANT}}\right]$

3. Maximum Uncorrelated Directional Gain = $Directiona\ lGain = 10 \cdot \log\left[\frac{\sum_{j=1}^{N_{SS}}\left\{\sum_{k=1}^{N_{ANT}} g_{j,k}\right\}^2}{N_{ANT}}\right]$

Frequency	Maximum Gain (dBi) for SDM mode	
	SDM mode (3 Stream 3 TX) for Power & PSD Gain (KDB 662911 Option 2)	
	20 MHz	40 MHz
2412 MHz	0.59	-
2417 MHz	0.62	-
2422 MHz	-	0.62
2427 MHz	-	0.64
2437 MHz	0.66	0.66
2442 MHz	-	0.66
2447 MHz	-	0.74
2452 MHz	-	0.74
2462 MHz	0.78	-

Note:

1. Antenna Gain refer to “General MGM0110vzn antenna table_20161205.xls” files

2. Maximum Correlated Directional Gain = $Directiona\ lGain = 10 \cdot \log\left[\frac{\sum_{j=1}^{N_{SS}}\left\{\sum_{k=1}^{N_{ANT}} g_{j,k}\right\}^2}{N_{ANT}}\right]$

3. Maximum Uncorrelated Directional Gain = $Directiona\ lGain = 10 \cdot \log\left[\frac{\sum_{j=1}^{N_{SS}}\left\{\sum_{k=1}^{N_{ANT}} g_{j,k}\right\}^2}{N_{ANT}}\right]$

1.8. Table for Carrier Frequencies

11 channels are provided for 802.11b, 802.11g, 802.11n 20MHz:

Frequency Band	Channel No.	Frequency	Channel No.	Frequency
2400~2483.5MHz	1	2412 MHz	7	2442 MHz
	2	2417 MHz	8	2447 MHz
	3	2422 MHz	9	2452 MHz
	4	2427 MHz	10	2457 MHz
	5	2432 MHz	11	2462 MHz
	6	2437 MHz	-	-

7 channels are provided for 802.11n 40MHz:

Frequency Band	Channel No.	Frequency	Channel No.	Frequency
2400~2483.5MHz	3	2422 MHz	7	2442 MHz
	4	2427 MHz	8	2447 MHz
	5	2432 MHz	9	2452 MHz
	6	2437 MHz	-	-

1.9. Table for Test Modes

Preliminary tests were performed in different data rate to find the worst radiated emission. The data rate shown in the table below is the worst-case rate with respect to the specific test item. The following table is a list of the test modes shown in this test report.

Test Items	Mode	Note	Channel	Data Rate	Antenna
AC Power Line Conducted Emissions	Normal Link	-	-	-	-
Maximum Conducted Output Power	11b	DSSS/DBPSK	1/2/6/11	1S1T 1 Mbps	3
			1/2/3/4/ 5/6/11	1S2T 1 Mbps	2+3
			1/2/3/4/ 5/6/11	1S3T 1 Mbps	1+2+3
	11g	OFDM/BPSK	1/2/3/4/ 5/6/9/ 10/11	1S3T 6 Mbps	1+2+3
	11n 20MHz	OFDM/BPSK	1/2/3/4/ 5/6/9/ 10/11	1S3T CDD MCS0	1+2+3
				2S3T CDD MCS8	1+2+3
			1/2/3/4/ 5/6/8/9/ 10/11	3S3T SDM MCS16	1+2+3
	11n 40MHz		3/4/5/6/ 7/8/9	1S3T CDD MCS0	1+2+3
				2S3T CDD MCS8	1+2+3
				3S3T SDM MCS16	1+2+3

Power Spectral Density	11b	DSSS/DBPSK	1/6/11	1S1T 1 Mbps	3
			1/6/11	1S2T 1 Mbps	2+3
			1/6/11	1S3T 1 Mbps	1+2+3
	11g	OFDM/BPSK	1/6/11	1S3T 6 Mbps	1+2+3
	11n 20MHz	OFDM/BPSK	1/6/11	1S3T CDD MCS0	1+2+3
				2S3T CDD MCS8	1+2+3
			1/6/11	3S3T SDM MCS16	1+2+3
	11n 40MHz		3/6/9	1S3T CDD MCS0	1+2+3
				2S3T CDD MCS8	1+2+3
				3S3T SDM MCS16	1+2+3
6dB Spectrum and 99% Occupied Bandwidth	11b	DSSS/DBPSK	1/6/11	1S1T 1 Mbps	3
			1/6/11	1S2T 1 Mbps	2+3
			1/6/11	1S3T 1 Mbps	1+2+3
	11g	OFDM/BPSK	1/6/11	1S3T 6 Mbps	1+2+3
	11n 20MHz	OFDM/BPSK	1/6/11	1S3T CDD MCS0	1+2+3
				2S3T CDD MCS8	1+2+3
			1/6/11	3S3T SDM MCS16	1+2+3
	11n 40MHz		3/6/9	1S3T CDD MCS0	1+2+3
				2S3T CDD MCS8	1+2+3
				3S3T SDM MCS16	1+2+3

Radiated Emissions 9kHz~1GHz	Normal Link	-	-	-	-
Radiated Emissions 1GHz~10th Harmonic	11b	DSSS/DBPSK	1/6/11	1S1T 1 Mbps	3
			1/6/11	1S2T 1 Mbps	2+3
			1/6/11	1S3T 1 Mbps	1+2+3
	11n 20MHz	OFDM/BPSK	1/6/11	1S3T CDD MCS0	1+2+3
				2S3T CDD MCS8	1+2+3
			1/6/11	3S3T SDM MCS16	1+2+3
	11n 40MHz		3/6/9	1S3T CDD MCS0	1+2+3
				2S3T CDD MCS8	1+2+3
				3S3T SDM MCS16	1+2+3

Band Edge Emissions	11b	DSSS/DBPSK	1/2/6/11	1S1T 1 Mbps	3
			1/2/3/4/ 5/6/11	1S2T 1 Mbps	2+3
			1/2/3/4/ 5/6/11	1S3T 1 Mbps	1+2+3
	11n 20MHz	OFDM/BPSK	1/2/3/4/ 5/6/9/ 10/11	1S3T CDD MCS0	1+2+3
				2S3T CDD MCS8	1+2+3
			1/2/3/4/ 5/6/8/9/ 10/11	3S3T SDM MCS16	1+2+3
	11n 40MHz		3/4/5/6/ 7/8/9	1S3T CDD MCS0	1+2+3
				2S3T CDD MCS8	1+2+3
				3S3T SDM MCS16	1+2+3

Note1:
The device with multiple operating mode, measurements on the middle channel were tested to determine the worst case mode. (Each modulation family were tested in band edge, spurious emission and in band PSD after investigate worst case mode).
Note 2:
Base on tx core command, the 11b default mode are 1S1T SISO, 1S2T CDD, 1S3T CDD, the 802.11g default mode is 1S3T CDD, the 802.11n 20MHz / 40MHz, default mode are 1S3T CDD, 2S3T CDD, 3S3T SDM.
wl -i wl1 txcore
txcore enabled bitmap (Nsts {4..1}) 0x00 0x07 0x07 0x07
txcore mask OFDM 0x07 CCK 0x01
Note 3:
Base on same power setting with 802.11n mode, the 802.11g mode were only tested the “Maximum Conducted Output Power”, “Power Spectral Density” and ”Bandwidth”.

The following test modes were performed for all tests:

For Conducted Emission test:

Test Mode 1: Normal Link + Adapter 1

Test Mode 2: Normal Link + Adapter 2

For Radiated Emission below 1GHz test:

Test Mode 1: Normal Link + Adapter 1

Test Mode 2: Normal Link + Adapter 2

For Radiated Emission above 1GHz test:

Test Mode 1: CTX in Y axis

For Co-location MPE Test:

The EUT could be applied with 2.4GHz WLAN function and 5GHz WLAN function; therefore Co-location Maximum Permissible Exposure (Please refer to FA811125) test is added for simultaneously transmit between 2.4GHz WLAN function and 5GHz WLAN function.

Note 1: The EUT can only be used at standing position.

Note 2: The connection diagram of test system and test photos only selected worst mode to record in the test report.

Note 3: The CM-console port can not be used by end user. It is generally used for updating FW by professional installer.

Note 4: All the specification of test configurations and test modes were based on customer's request.

1.10. Table for Testing Locations

Test Site Location				
Address:	No.8, Lane 724, Bo-ai St., Jhubei City, Hsinchu County 302, Taiwan, R.O.C.			
TEL:	886-3-656-9065			
FAX:	886-3-656-9085			
Test Site No.	**Site Category**	**Location**	**FCC Designation No.**	**IC File No.**
03CH01-CB	SAC	Hsin Chu	TW0006	IC 4086D
CO01-CB	Conduction	Hsin Chu	TW0006	IC 4086D
TH01-CB	OVEN Room	Hsin Chu	-	-

Open Area Test Site (OATS); Semi Anechoic Chamber (SAC).

1.11. Table for Supporting Units

For Test Site No: 03CH01-CB

For Radiated Emissions below 1GHz:

Support Unit	Brand	Model	FCC ID
Notebook*5	DELL	E4300	N/A
Notebook	Apple	Mac Book	N/A
Phone*2	SAMPO	HT-B 907WL	N/A
Terminal System(CO)	HUAWEI	SmartAX MA5633	N/A
Terminal System(OLT)	HUAWEI	SLD X-100	N/A
Terminal System(PC)	Acer	VT7200D	N/A
Terminal System(Monitor)	DELL	1704FPTt	N/A
Terminal System(Mouse)	Logitech	M-U0026	N/A
Terminal System(Keyboard)	iCooky	SK068	N/A
Flash disk3.0	Silicon Power	I-Series	N/A

For Radiated Emissions above 1GHz:

Support Unit	Brand	Model	FCC ID
Notebook	DELL	E4300	N/A

For Test Site No: CO01-CB

Support Unit	Brand	Model	FCC ID
Notebook*6	DELL	E6430	N/A
Phone*2	SAMPO	HT-B 907WL	N/A
Terminal System(CO)	HUAWEI	SmartAX MA5633	N/A
Terminal System(OLT)	HUAWEI	SLD X-100	N/A
Terminal System(PC)	Acer	VT7200D	N/A
Terminal System(Monitor)	DELL	1704FPTt	N/A
Terminal System(Mouse)	Logitech	M-U0026	N/A
Terminal System(Keyboard)	iCooky	SK068	N/A
Flash disk3.0	Transcend	JetFlash-700	N/A

For Test Site No: TH01-CB

Support Unit	Brand	Model	FCC ID
Notebook	DELL	E4300	N/A

1.12. Table for Parameters of Test Software Setting

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

The Power Setting Parameter					
Test Software Version	CGA4234GA_master_20180829160026				
Worst Modulation Mode	**Number of Transmit Chains (NTX)**	**Frequency (MHz)**	**Maximum Output Power (dBm)**	**Power Setting**	**Data Rate / MCS**
802.11b, Ant. 3 (SISO)	1Stream 1TX	2412	26.55	103	1Mbps
802.11b, Ant. 3 (SISO)	1Stream 1TX	2417	27.43	106	1Mbps
802.11b, Ant. 3 (SISO)	1Stream 1TX	2437	27.43	106	1Mbps
802.11b, Ant. 3 (SISO)	1Stream 1TX	2462	26.81	106	1Mbps
802.11b, Ant. 2+3 (CDD)	1Stream 2TX	2412	27.15	96	1Mbps
802.11b, Ant. 2+3 (CDD)	1Stream 2TX	2417	27.77	98	1Mbps
802.11b, Ant. 2+3 (CDD)	1Stream 2TX	2422	28.42	101	1Mbps
802.11b, Ant. 2+3 (CDD)	1Stream 2TX	2427	29.45	104	1Mbps
802.11b, Ant. 2+3 (CDD)	1Stream 2TX	2432	29.71	104	1Mbps
802.11b, Ant. 2+3 (CDD)	1Stream 2TX	2437	29.78	104	1Mbps
802.11b, Ant. 2+3 (CDD)	1Stream 2TX	2462	29.75	106	1Mbps
802.11b, Ant. 1+2+3 (CDD)	1Stream 3TX	2412	29.84	98	1Mbps
802.11b, Ant. 1+2+3 (CDD)	1Stream 3TX	2417	29.82	98	1Mbps
802.11b, Ant. 1+2+3 (CDD)	1Stream 3TX	2422	29.77	98	1Mbps
802.11b, Ant. 1+2+3 (CDD)	1Stream 3TX	2427	29.78	98	1Mbps
802.11b, Ant. 1+2+3 (CDD)	1Stream 3TX	2432	29.79	98	1Mbps
802.11b, Ant. 1+2+3 (CDD)	1Stream 3TX	2437	29.76	98	1Mbps
802.11b, Ant. 1+2+3 (CDD)	1Stream 3TX	2462	29.84	100	1Mbps
802.11g, Ant. 1+2+3 (CDD)	1Stream 3TX	2412	25.52	81	6Mbps
802.11g, Ant. 1+2+3 (CDD)	1Stream 3TX	2417	28.22	92	6Mbps
802.11g, Ant. 1+2+3 (CDD)	1Stream 3TX	2422	28.47	93	6Mbps
802.11g, Ant. 1+2+3 (CDD)	1Stream 3TX	2427	29.80	98	6Mbps
802.11g, Ant. 1+2+3 (CDD)	1Stream 3TX	2432	29.82	98	6Mbps
802.11g, Ant. 1+2+3 (CDD)	1Stream 3TX	2437	29.89	98	6Mbps
802.11g, Ant. 1+2+3 (CDD)	1Stream 3TX	2452	29.85	99	6Mbps
802.11g, Ant. 1+2+3 (CDD)	1Stream 3TX	2457	28.73	95	6Mbps

802.11g, Ant. 1+2+3 (CDD)	1Stream 3TX	2462	26.36	87	6Mbps
802.11n 20MHz, Ant. 1+2+3 (CDD)	1Stream 3TX	2412	25.54	81	MCS0
802.11n 20MHz, Ant. 1+2+3 (CDD)	1Stream 3TX	2417	28.24	92	MCS0
802.11n 20MHz, Ant. 1+2+3 (CDD)	1Stream 3TX	2422	28.49	93	MCS0
802.11n 20MHz, Ant. 1+2+3 (CDD)	1Stream 3TX	2427	29.82	98	MCS0
802.11n 20MHz, Ant. 1+2+3 (CDD)	1Stream 3TX	2432	29.87	98	MCS0
802.11n 20MHz, Ant. 1+2+3 (CDD)	1Stream 3TX	2437	29.92	98	MCS0
802.11n 20MHz, Ant. 1+2+3 (CDD)	1Stream 3TX	2452	29.89	99	MCS0
802.11n 20MHz, Ant. 1+2+3 (CDD)	1Stream 3TX	2457	28.75	95	MCS0
802.11n 20MHz, Ant. 1+2+3 (CDD)	1Stream 3TX	2462	26.42	87	MCS0
802.11n 20MHz, Ant. 1+2+3 (CDD)	2Stream 3TX	2412	25.01	78	MCS8
802.11n 20MHz, Ant. 1+2+3 (CDD)	2Stream 3TX	2417	27.58	89	MCS8
802.11n 20MHz, Ant. 1+2+3 (CDD)	2Stream 3TX	2422	28.70	94	MCS8
802.11n 20MHz, Ant. 1+2+3 (CDD)	2Stream 3TX	2427	29.96	99	MCS8
802.11n 20MHz, Ant. 1+2+3 (CDD)	2Stream 3TX	2432	29.97	99	MCS8
802.11n 20MHz, Ant. 1+2+3 (CDD)	2Stream 3TX	2437	29.99	99	MCS8
802.11n 20MHz, Ant. 1+2+3 (CDD)	2Stream 3TX	2452	29.85	99	MCS8
802.11n 20MHz, Ant. 1+2+3 (CDD)	2Stream 3TX	2457	28.83	96	MCS8
802.11n 20MHz, Ant. 1+2+3 (CDD)	2Stream 3TX	2462	26.17	86	MCS8
802.11n 20MHz, Ant. 1+2+3 (SDM)	3Stream 3TX	2412	24.8	77	MCS16
802.11n 20MHz, Ant. 1+2+3 (SDM)	3Stream 3TX	2417	26.42	85	MCS16
802.11n 20MHz, Ant. 1+2+3 (SDM)	3Stream 3TX	2422	27.8	91	MCS16
802.11n 20MHz, Ant. 1+2+3 (SDM)	3Stream 3TX	2427	28.82	95	MCS16
802.11n 20MHz, Ant. 1+2+3 (SDM)	3Stream 3TX	2432	29.95	99	MCS16
802.11n 20MHz, Ant. 1+2+3 (SDM)	3Stream 3TX	2437	29.99	99	MCS16
802.11n 20MHz, Ant. 1+2+3 (SDM)	3Stream 3TX	2447	29.84	99	MCS16
802.11n 20MHz, Ant. 1+2+3 (SDM)	3Stream 3TX	2452	29.76	99	MCS16
802.11n 20MHz, Ant. 1+2+3 (SDM)	3Stream 3TX	2457	27.56	91	MCS16
802.11n 20MHz, Ant. 1+2+3 (SDM)	3Stream 3TX	2462	25.31	83	MCS16

802.11n 40MHz, Ant. 1+2+3 (CDD)	1Stream 3TX	2422	23.12	71	MCS0
802.11n 40MHz, Ant. 1+2+3 (CDD)	1Stream 3TX	2427	23.89	73	MCS0
802.11n 40MHz, Ant. 1+2+3 (CDD)	1Stream 3TX	2432	25.80	82	MCS0
802.11n 40MHz, Ant. 1+2+3 (CDD)	1Stream 3TX	2437	26.51	85	MCS0
802.11n 40MHz, Ant. 1+2+3 (CDD)	1Stream 3TX	2442	25.99	83	MCS0
802.11n 40MHz, Ant. 1+2+3 (CDD)	1Stream 3TX	2447	25.14	80	MCS0
802.11n 40MHz, Ant. 1+2+3 (CDD)	1Stream 3TX	2452	23.69	74	MCS0
802.11n 40MHz, Ant. 1+2+3 (CDD)	2Stream 3TX	2422	23.29	71	MCS8
802.11n 40MHz, Ant. 1+2+3 (CDD)	2Stream 3TX	2427	24.10	74	MCS8
802.11n 40MHz, Ant. 1+2+3 (CDD)	2Stream 3TX	2432	26.17	83	MCS8
802.11n 40MHz, Ant. 1+2+3 (CDD)	2Stream 3TX	2437	26.76	86	MCS8
802.11n 40MHz, Ant. 1+2+3 (CDD)	2Stream 3TX	2442	26.69	86	MCS8
802.11n 40MHz, Ant. 1+2+3 (CDD)	2Stream 3TX	2447	26.00	83	MCS8
802.11n 40MHz, Ant. 1+2+3 (CDD)	2Stream 3TX	2452	23.55	73	MCS8
802.11n 40MHz, Ant. 1+2+3 (SDM)	3Stream 3TX	2422	22.28	66	MCS16
802.11n 40MHz, Ant. 1+2+3 (SDM)	3Stream 3TX	2427	23.85	73	MCS16
802.11n 40MHz, Ant. 1+2+3 (SDM)	3Stream 3TX	2432	25.62	81	MCS16
802.11n 40MHz, Ant. 1+2+3 (SDM)	3Stream 3TX	2437	26.72	86	MCS16
802.11n 40MHz, Ant. 1+2+3 (SDM)	3Stream 3TX	2442	26.42	85	MCS16
802.11n 40MHz, Ant. 1+2+3 (SDM)	3Stream 3TX	2447	24.26	76	MCS16
802.11n 40MHz, Ant. 1+2+3 (SDM)	3Stream 3TX	2452	22.62	69	MCS16

1.13. EUT Operation during Test

For CTX Mode:

The EUT was programmed to be in continuously transmitting mode.

For Normal Link:

During the test, the EUT operation to normal function.

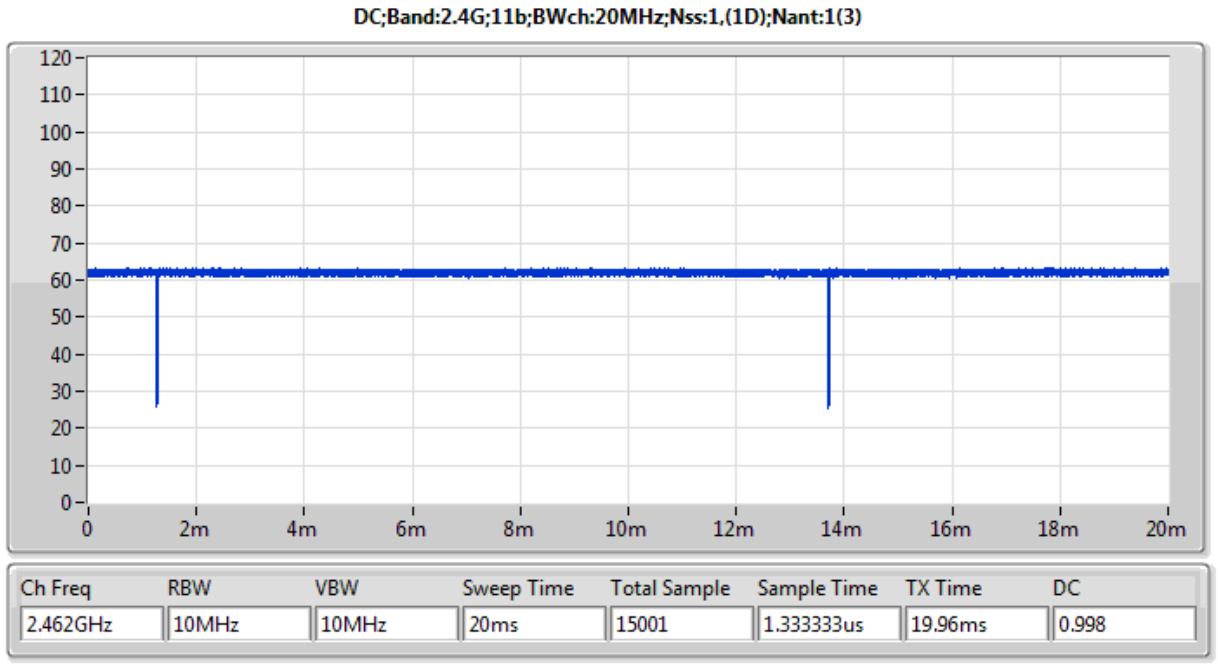
1.14. Duty Cycle

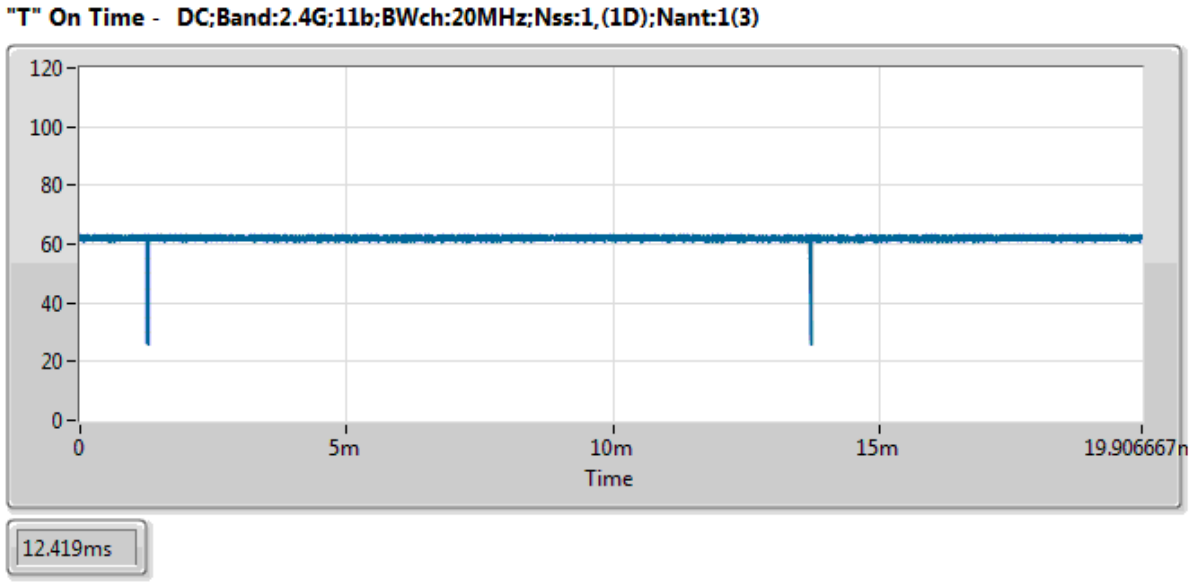
Mode	Total On Time (ms)	Period (ms)	on time (ms)	Duty Cycle (%)	Duty Factor (dB)	1/T Minimum VBW/(kHz)
802.11b 1Mbps, Ant. 3, 1S1T (SISO)	19.960	20	12.419	99.8%	0.01	0.01
802.11b 1Mbps, Ant. 2+3, 1S2T (CDD)	19.958	20	12.418	99.8%	0.01	0.01
802.11b 1Mbps, Ant. 1+2+3, 1S3T (CDD)	19.959	20	12.419	99.8%	0.01	0.01
802.11g 6Mbps, Ant. 1+2+3 (CDD)	19.760	20	2.073	98.8%	0.05	0.01
802.11n 20MHz MCS0 / Ant. 1+2+3, 1S3T (CDD)	9.918	10	1.921	99.2%	0.04	0.01
802.11n 20MHz MCS8 / Ant. 1+2+3, 2S3T (CDD)	9.832	10	0.986	98.3%	0.07	0.01
802.11n 20MHz MCS16 / Ant. 1+2+3, 3S3T (SDM)	9.763	10	0.677	97.6%	0.10	1.48
802.11n 40MHz MCS0 / Ant. 1+2+3, 1S3T (CDD)	19.649	20	0.947	98.2%	0.08	0.01
802.11n 40MHz MCS8 / Ant. 1+2+3, 2S3T (CDD)	9.666	10	0.497	96.7%	0.15	2.01
802.11n 40MHz MCS16 / Ant. 1+2+3, 3S3T (SDM)	9.538	10	0.353	95.4%	0.21	2.83

Note: Power measurement using sweep trigger and gating of the power meter, duty factor is not required.

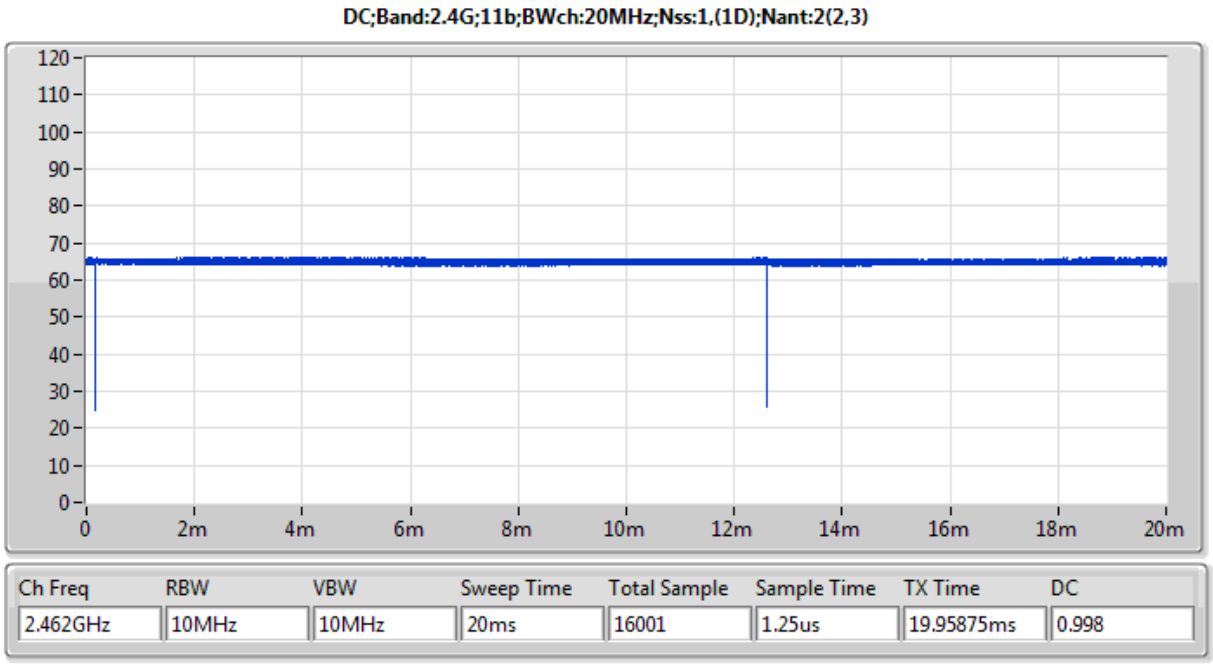
Plot:

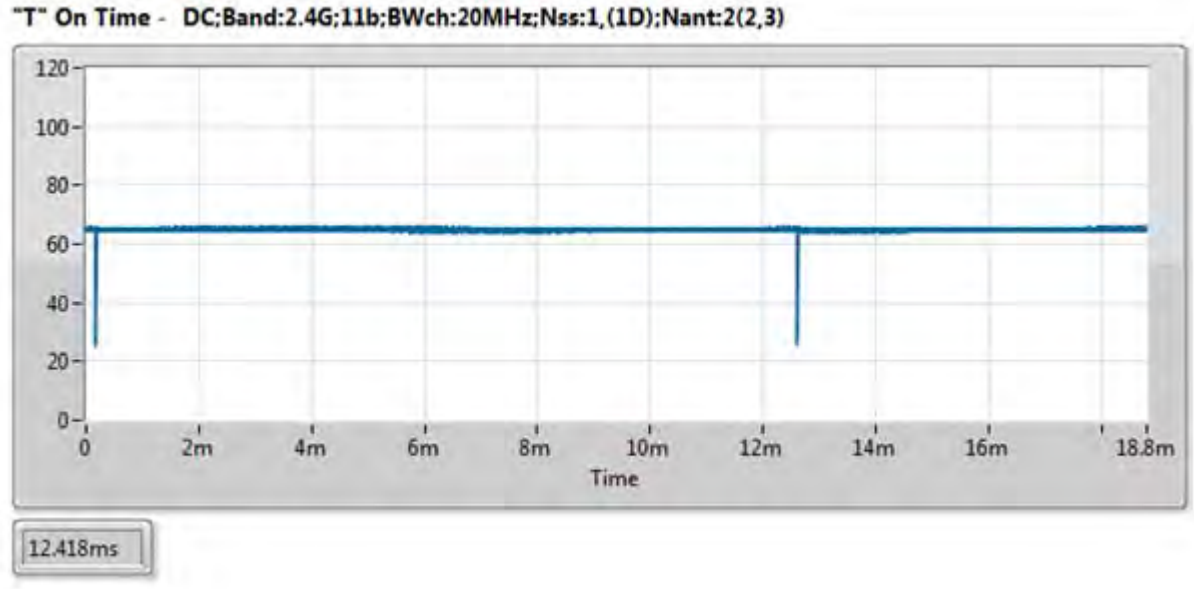
802.11b 1Mbps, Ant. 3, 1S1T (SISO)



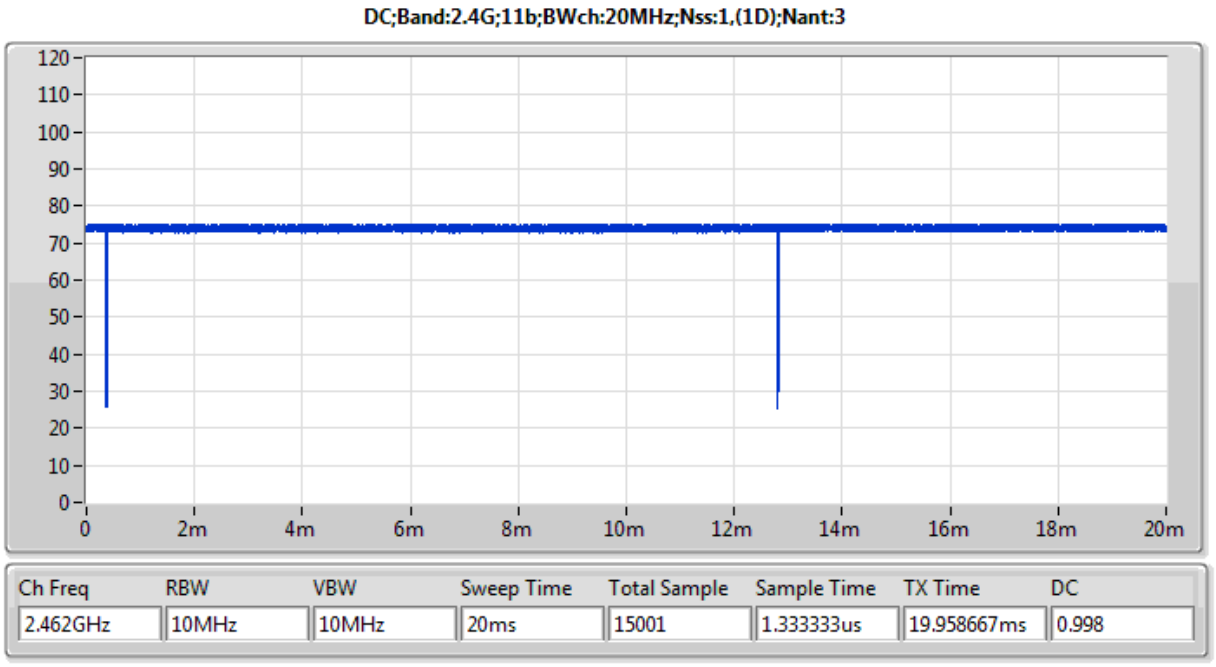


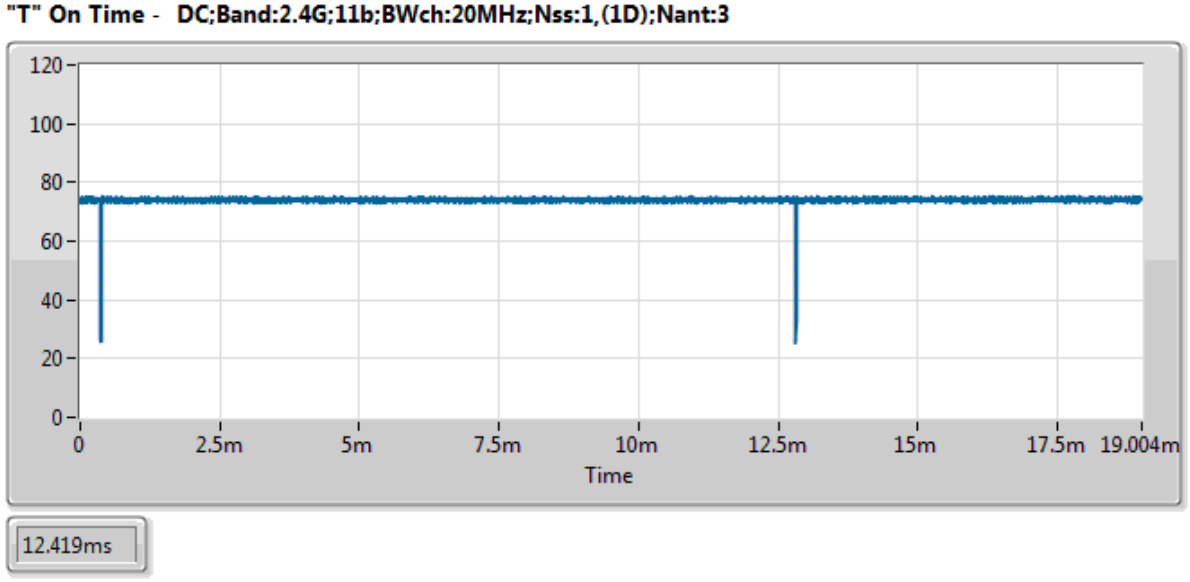
802.11b 1Mbps, Ant. 2+3, 1S2T (CDD)



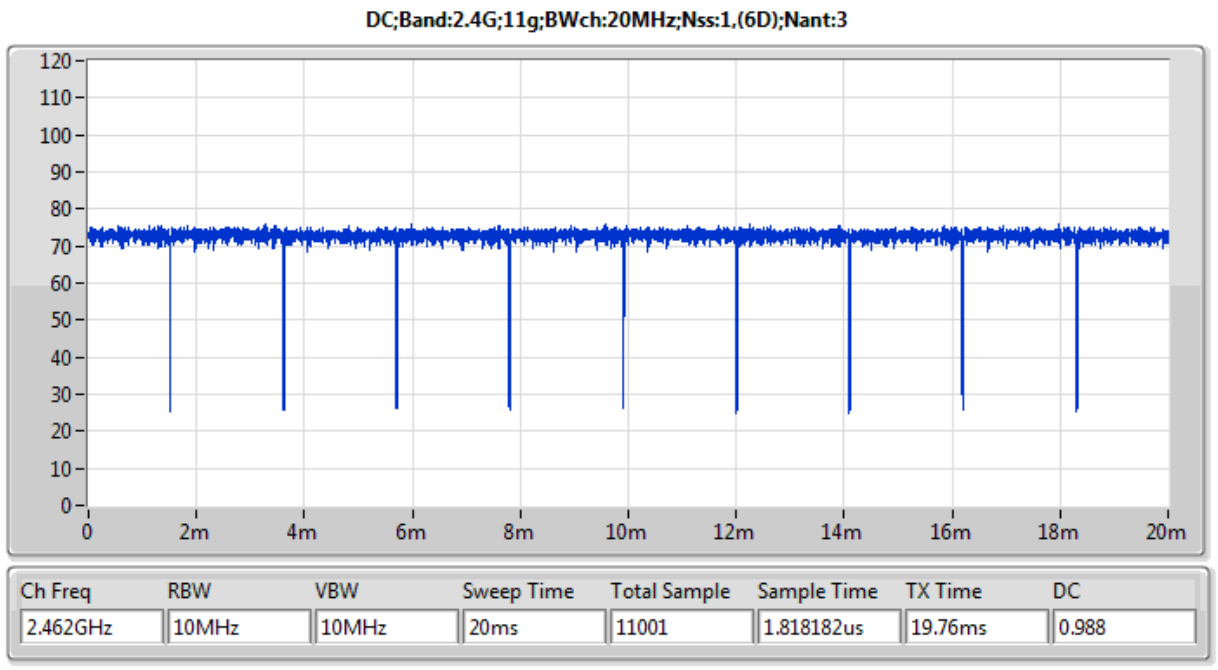


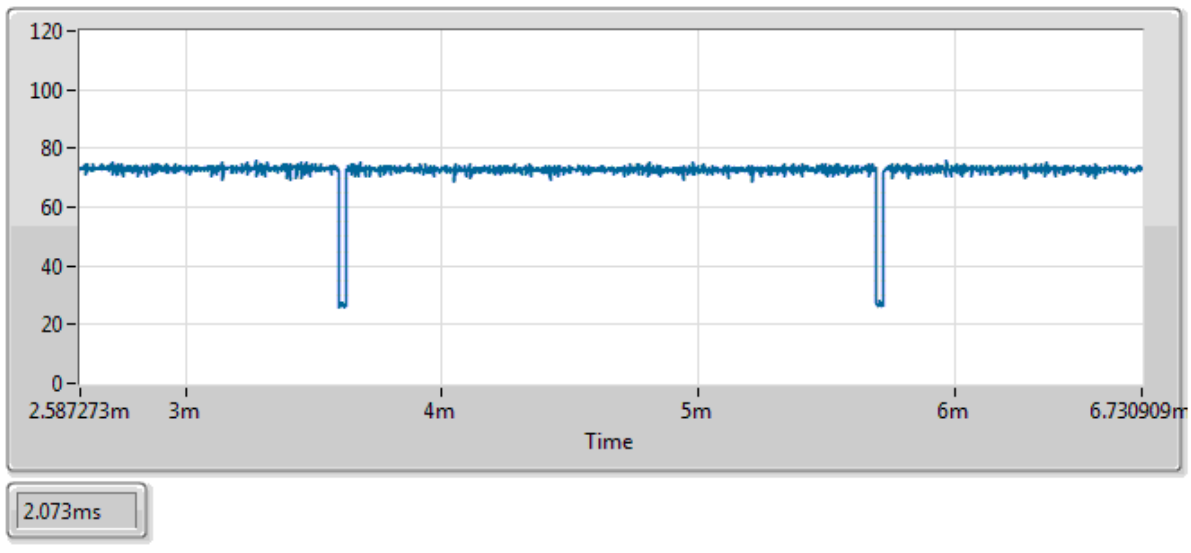
802.11b 1Mbps, Ant. 1+2+3, 1S3T (CDD)



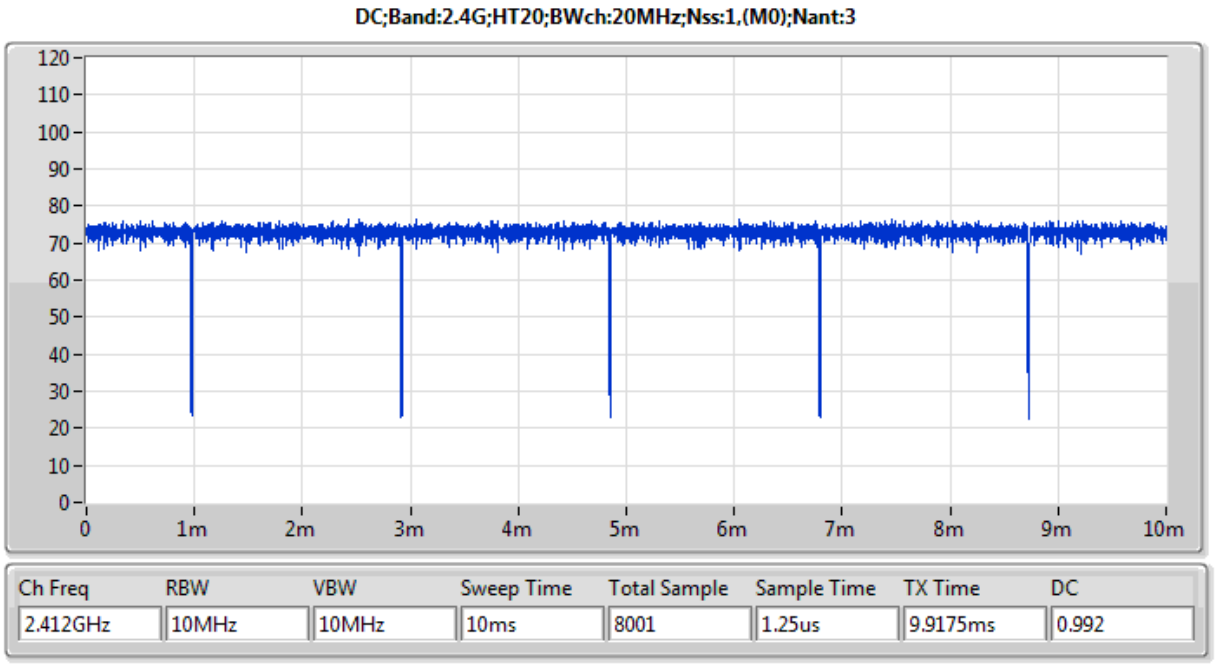


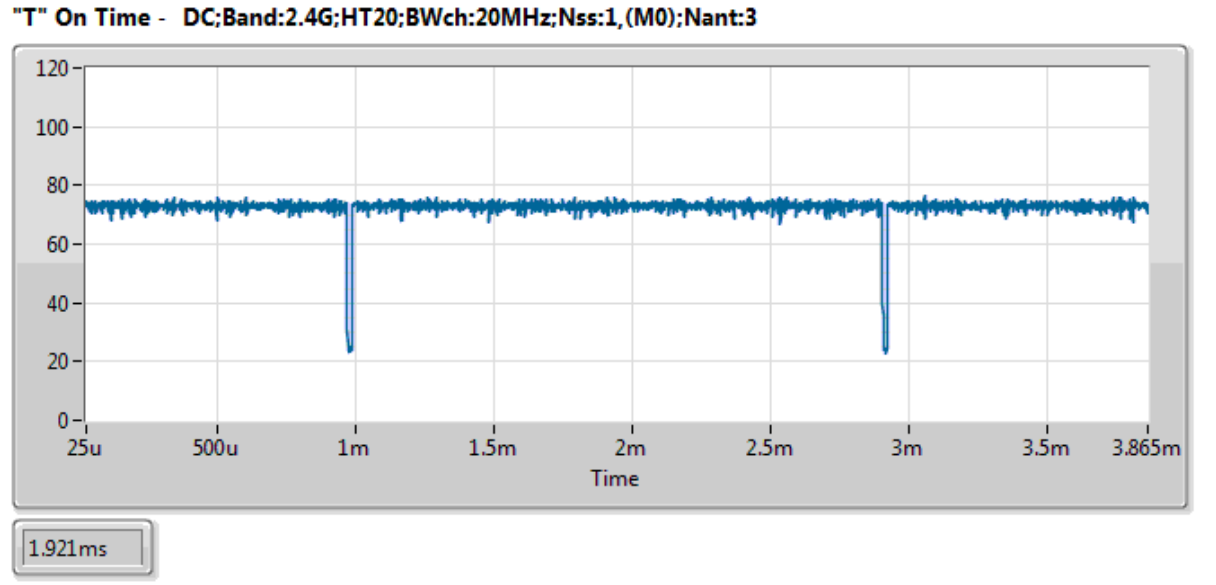
802.11g 6Mbps, Ant. 1+2+3, 1S3T (CDD)



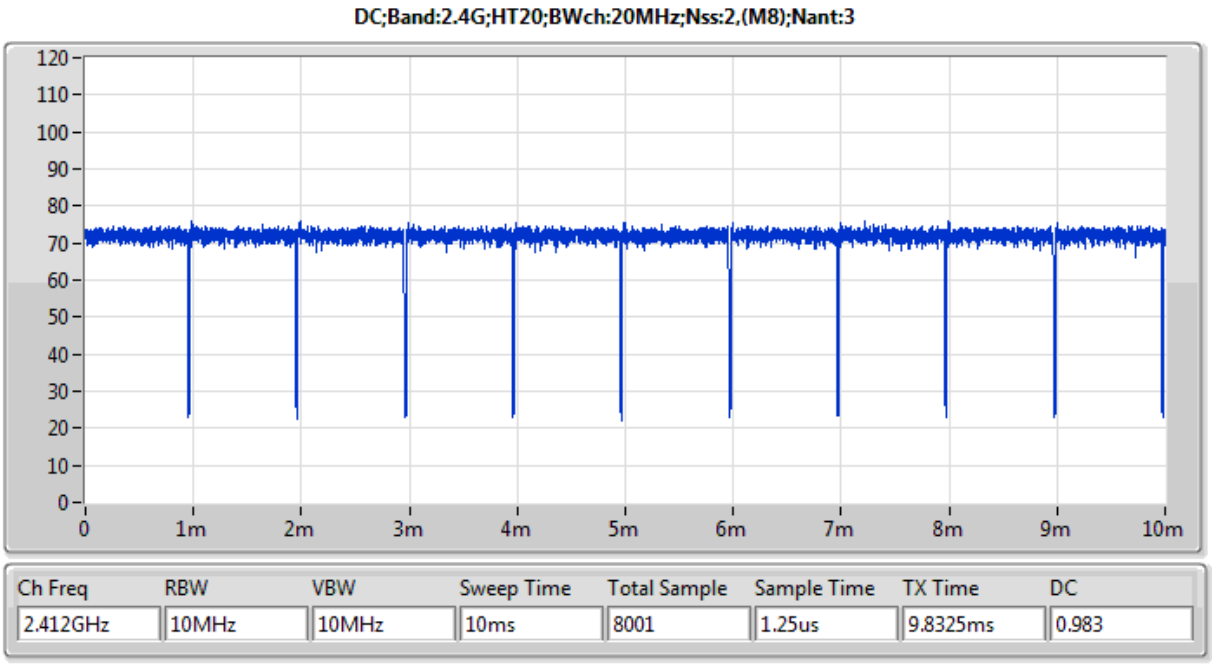


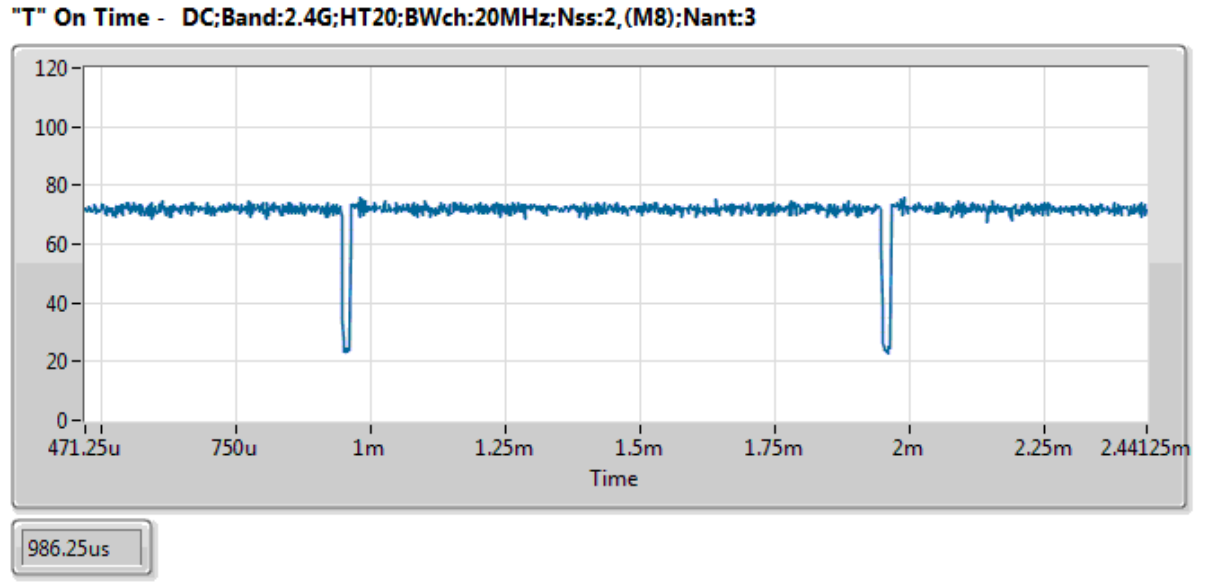
802.11n 20MHz MCS0 / Ant. 1+2+3, 1S3T (CDD)



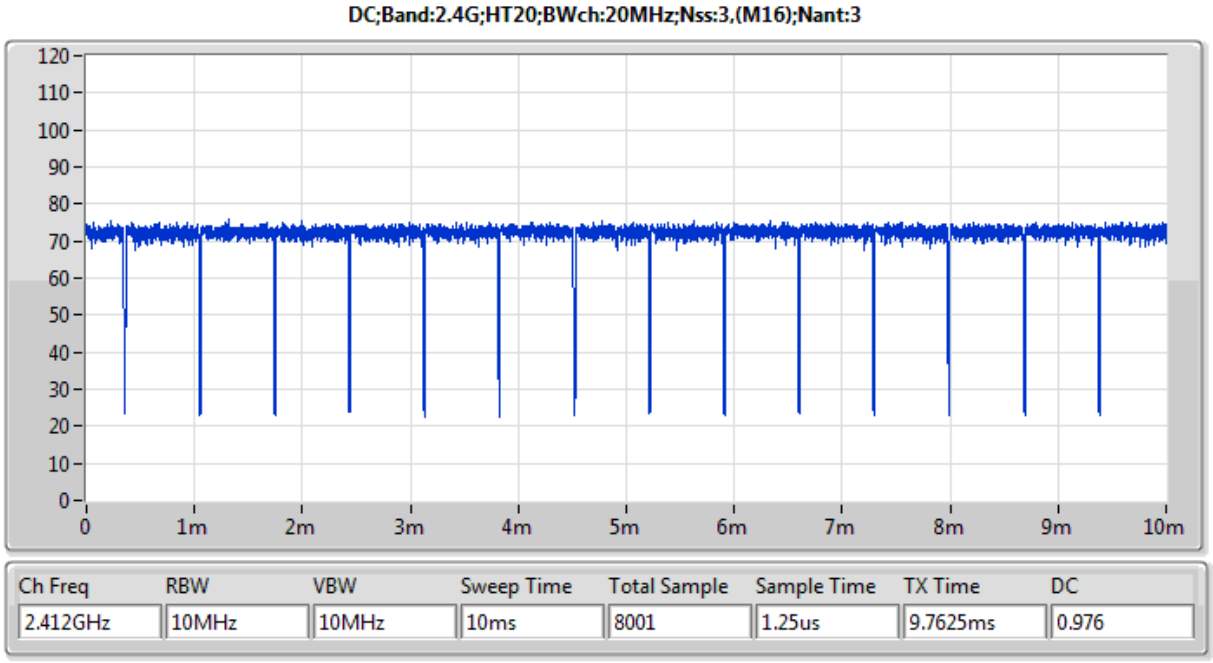


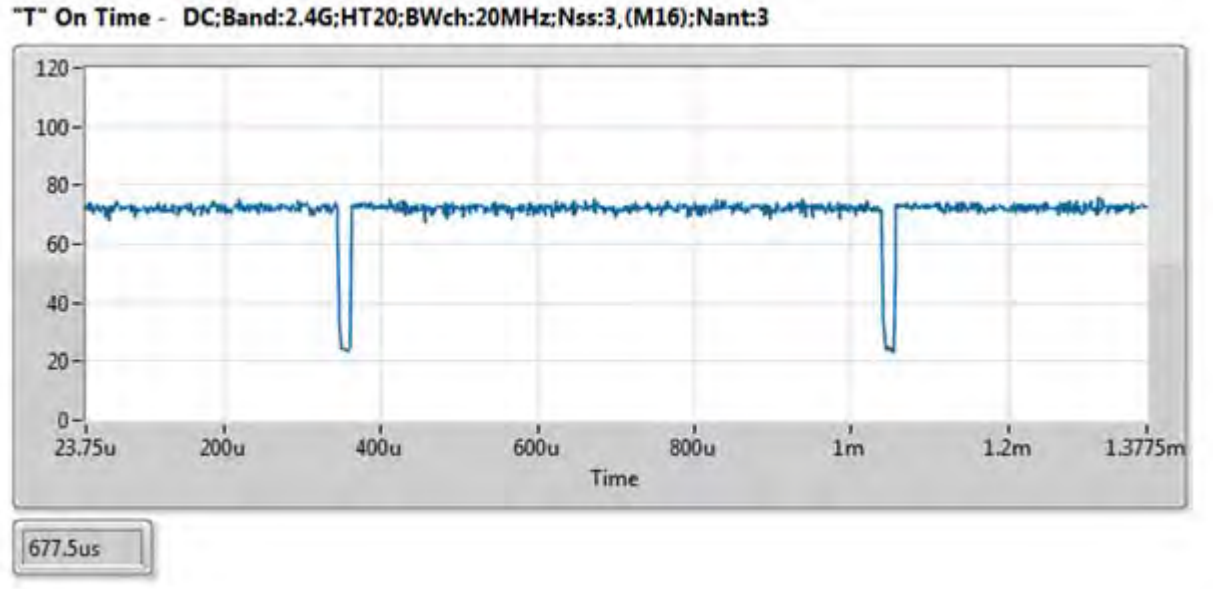
802.11n 20MHz MCS8 / Ant. 1+2+3, 2S3T (CDD)



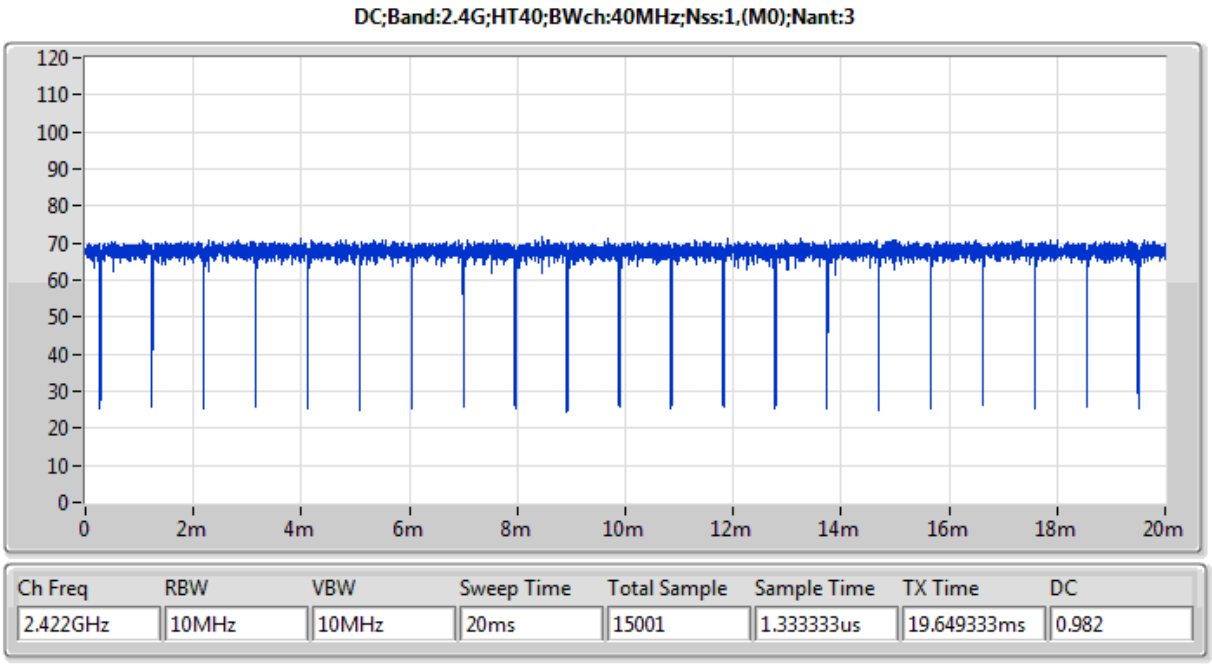


802.11n 20MHz MCS16 / Ant. 1+2+3, 3S3T (SDM)

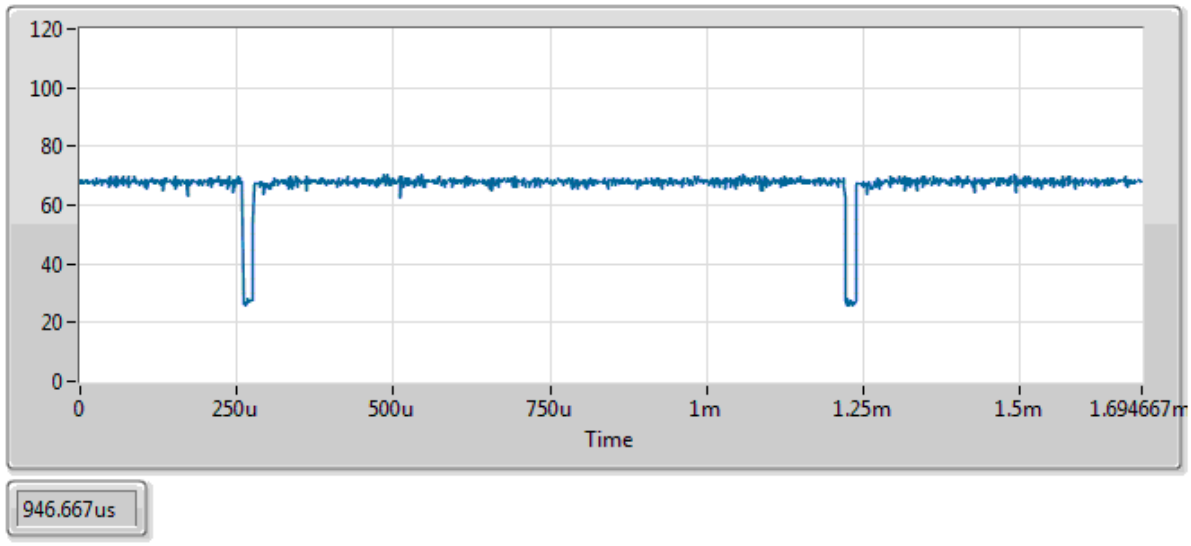




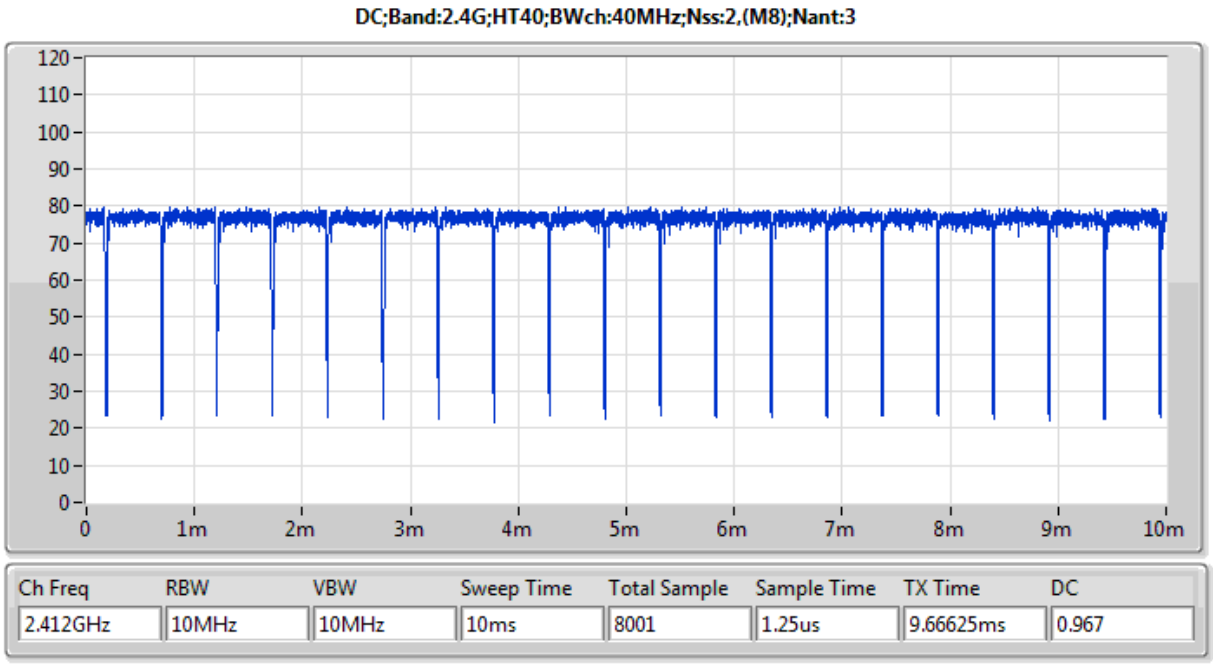
802.11n 40MHz MCS0 / Ant. 1+2+3, 1S3T (CDD)

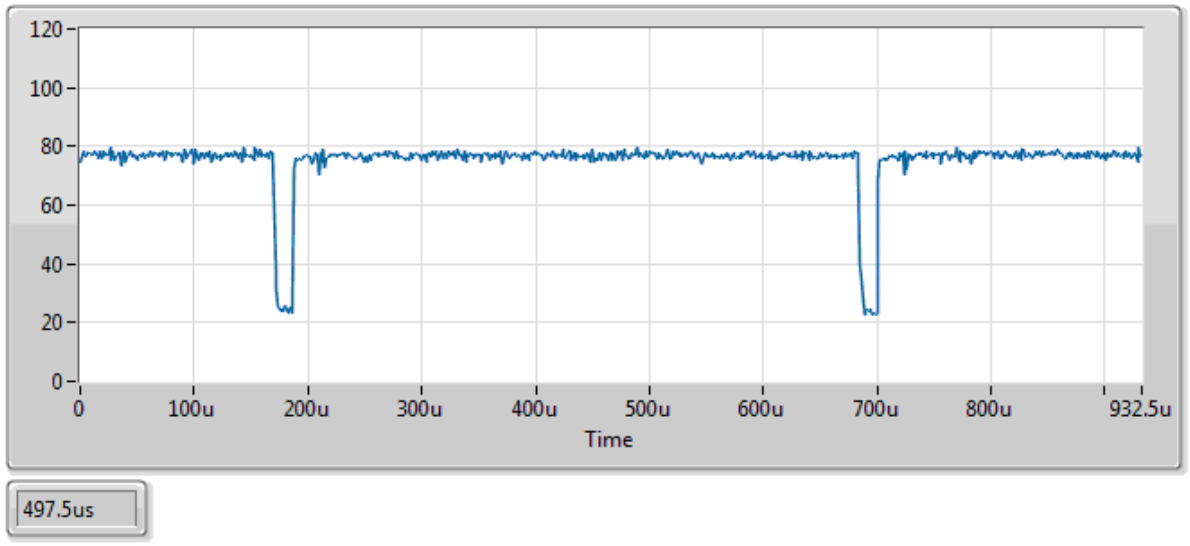


Ch Freq	RBW	VBW	Sweep Time	Total Sample	Sample Time	TX Time	DC
2.422GHz	10MHz	10MHz	20ms	15001	1.333333us	19.649333ms	0.982

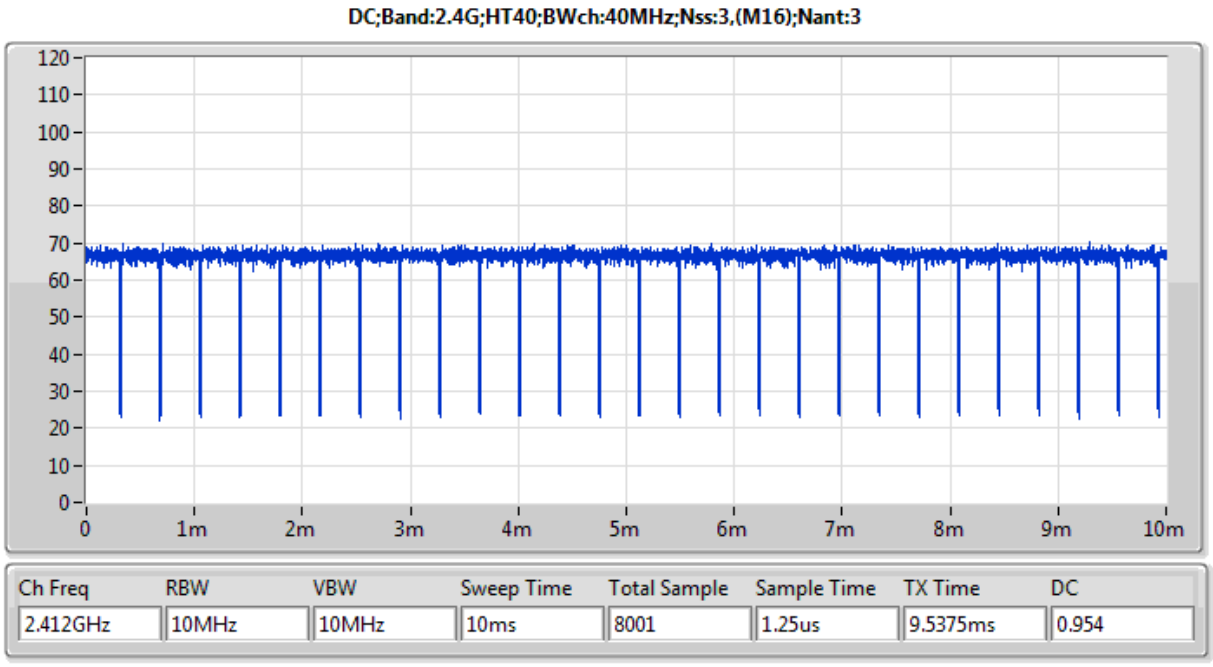


802.11n 40MHz MCS8 / Ant. 1+2+3, 2S3T (CDD)

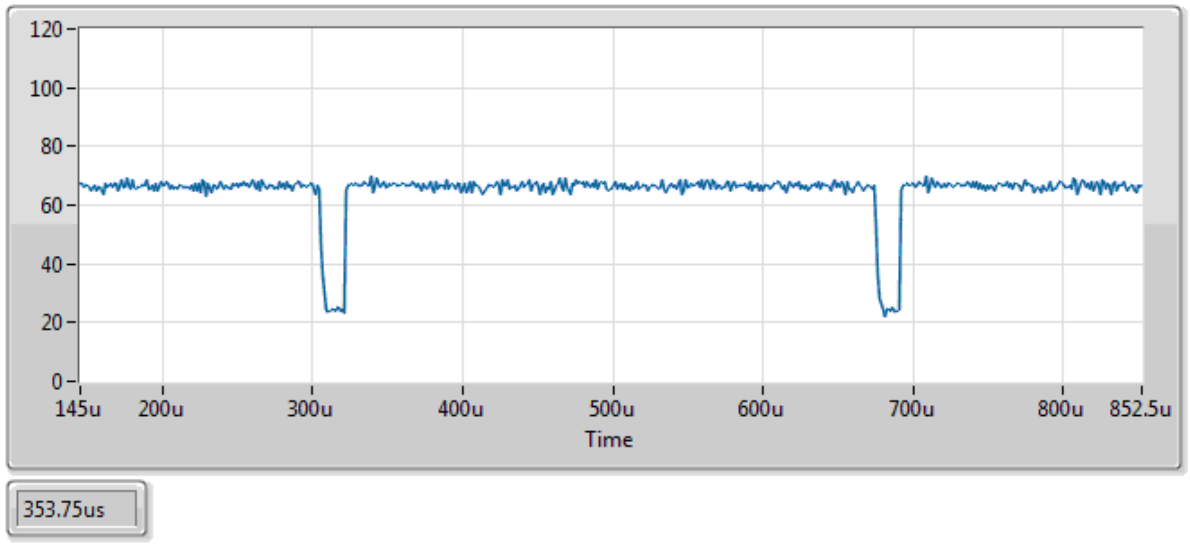




802.11n 40MHz MCS16 / Ant. 1+2+3, 3S3T (SDM)

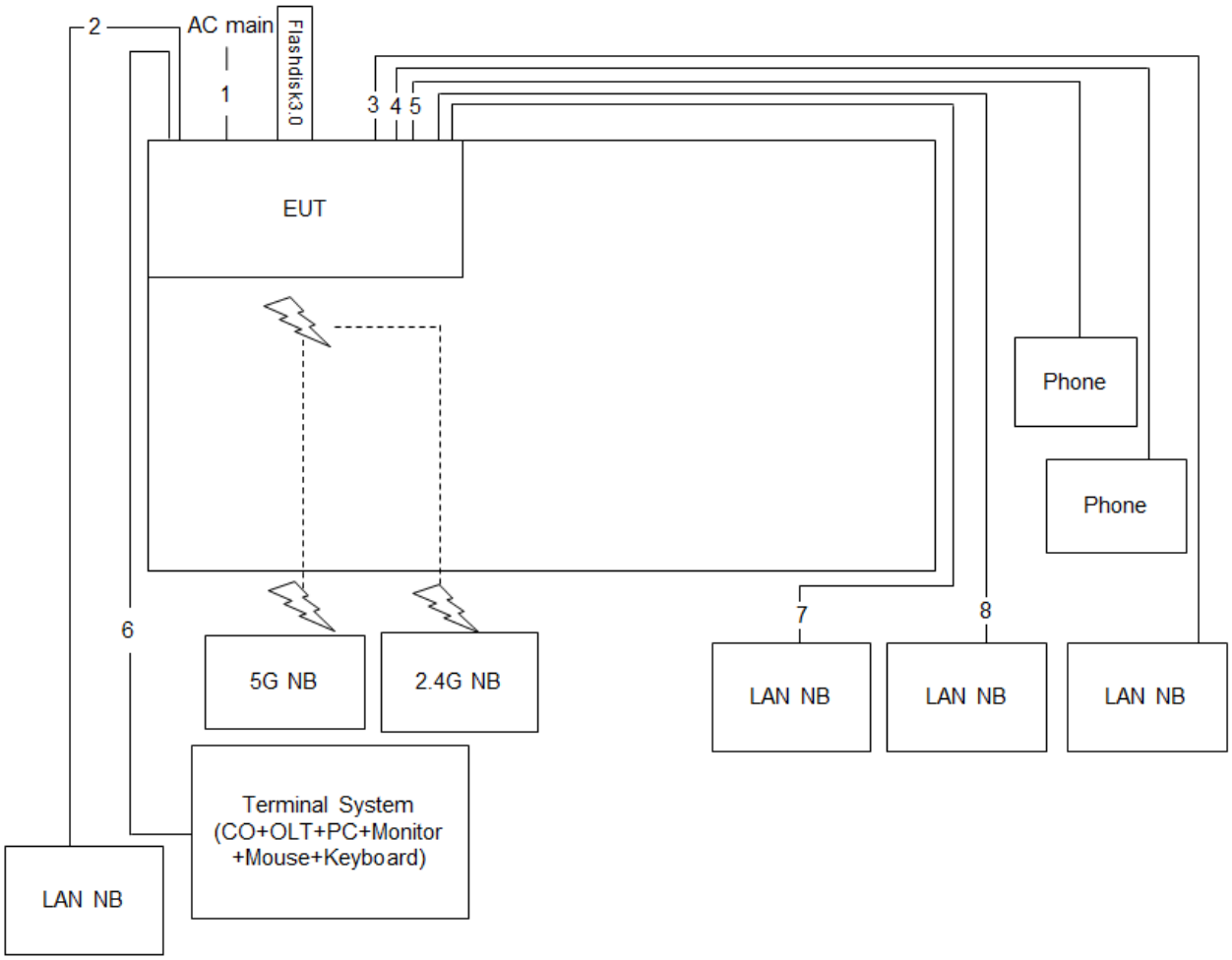


Ch Freq	RBW	VBW	Sweep Time	Total Sample	Sample Time	TX Time	DC
2.412GHz	10MHz	10MHz	10ms	8001	1.25us	9.5375ms	0.954



1.15. Test Configurations

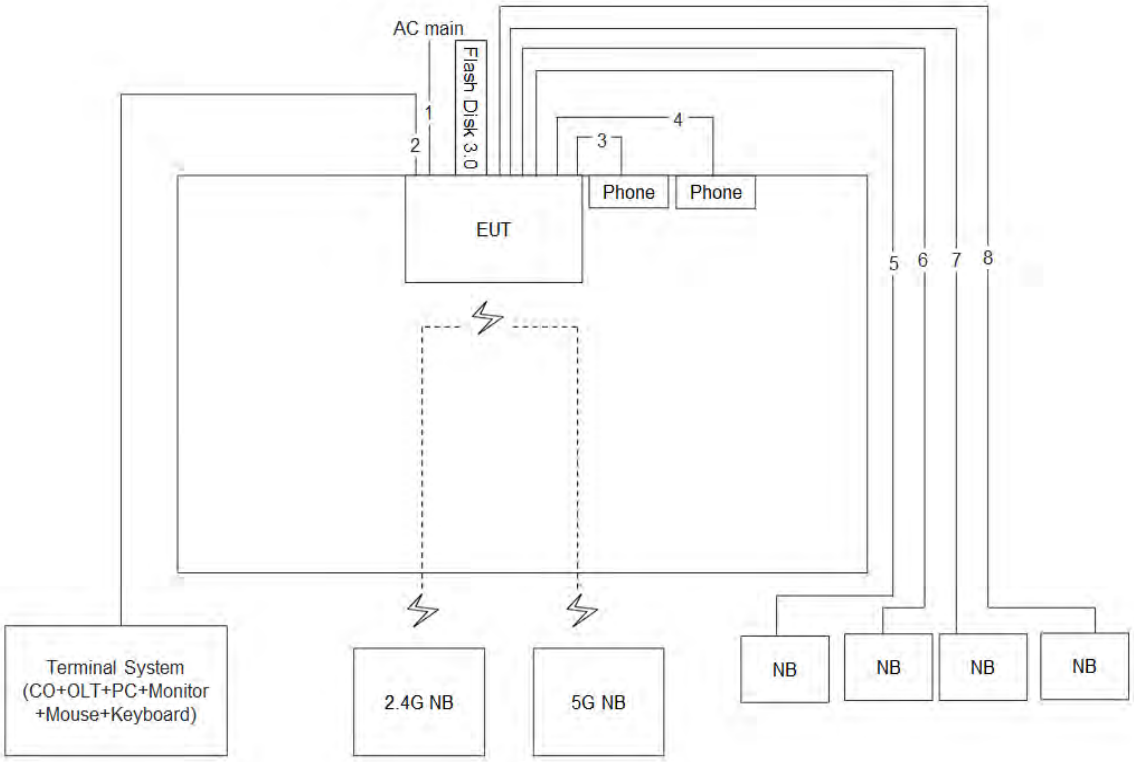
1.15.1. AC Power Line Conduction Emissions Test Configuration



Item	Connection	Shielded	Length
1	Power cable	No	3.1m
2	RJ-45 cable	No	10m
3	RJ-45 cable	No	10m
4	RJ-11 cable	No	10m
5	RJ-11 cable	No	10m
6	Coaxial cable	Yes	10m
7	RJ-45 cable	No	10m
8	RJ-45 cable	No	10m

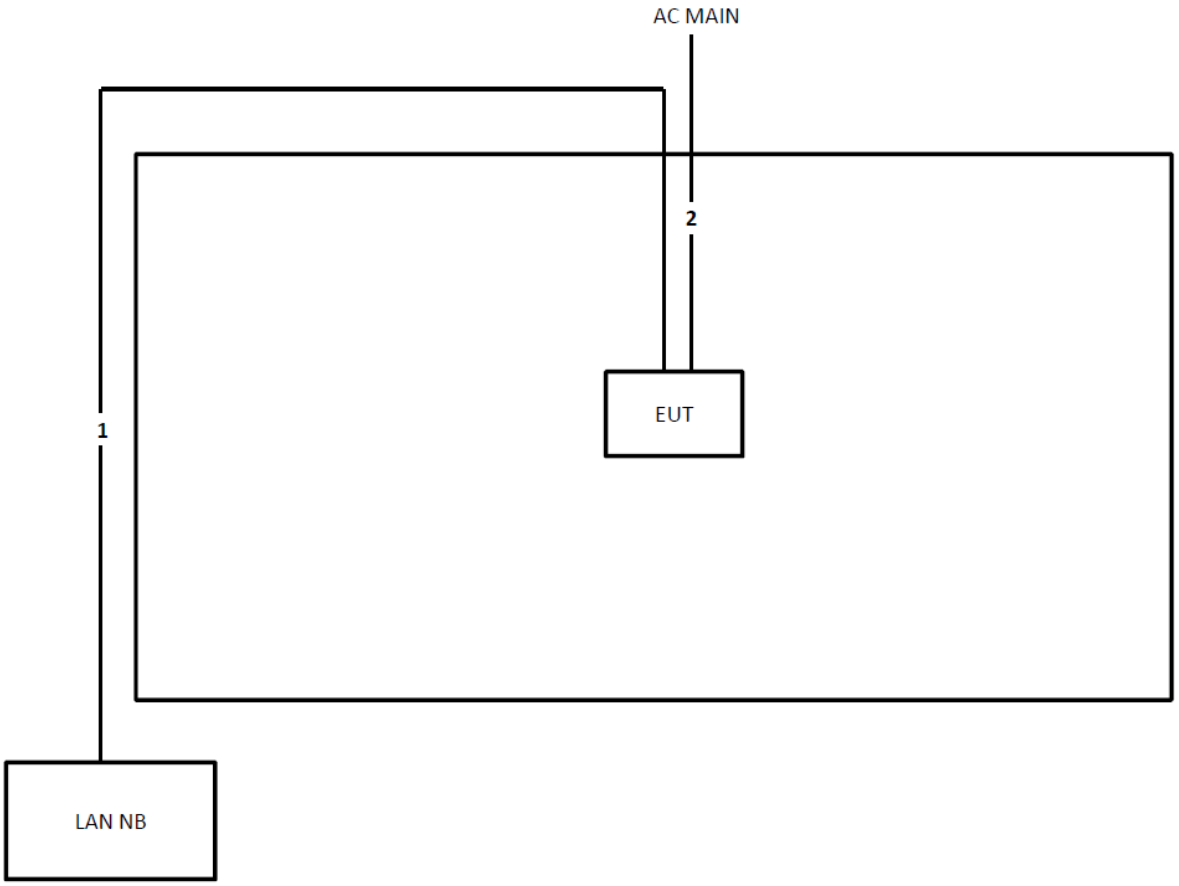
1.15.2. Radiation Emissions Test Configuration

Test Configuration: 30MHz~1GHz



Item	Connection	Shielded	Length
1	Power cable	No	3.1m
2	Coaxial cable	Yes	10m
3	RJ-11 cable	No	1.5m
4	RJ-11 cable	No	1.5m
5	RJ-45 cable	No	10m
6	RJ-45 cable	No	10m
7	RJ-45 cable	No	10m
8	RJ-45 cable	No	10m

Test Configuration: above 1GHz



Item	Connection	Shielded	Length
1	RJ-45 cable	No	10m
2	Power cable	No	3.1m

2. Test Result

2.1. AC Power Line Conducted Emissions Measurement

2.1.1. Limit

For this product which is designed to be connected to the AC power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed below limits table.

Frequency (MHz)	QP Limit (dBuV)	AV Limit (dBuV)
0.15~0.5	66~56	56~46
0.5~5	56	46
5~30	60	50

2.1.2. Measuring Instruments and Setting

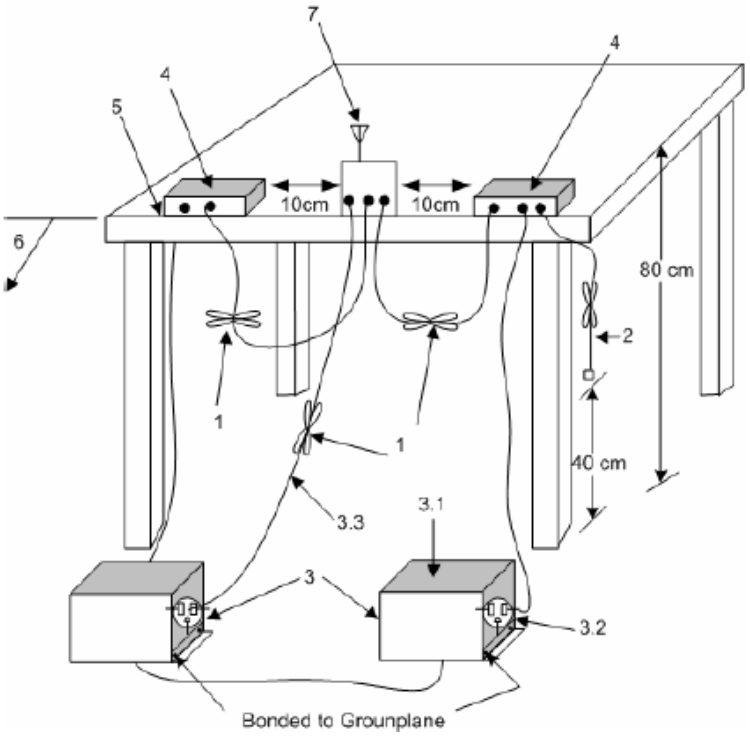
Please refer to section 3 of equipments list in this report. The following table is the setting of the receiver.

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

2.1.3. Test Procedures

1. Configure the EUT according to ANSI C63.10. The EUT or host of EUT has to be placed 0.4 meter far from the conducting wall of the shielding room and at least 80 centimeters from any other grounded conducting surface.
2. Connect EUT or host of EUT to the power mains through a line impedance stabilization network (LISN).
3. All the support units are connected to the other LISNs. The LISN should provide 50uH/50ohms coupling impedance.
4. The frequency range from 150 kHz to 30 MHz was searched.
5. Set the test-receiver system to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
6. The measurement has to be done between each power line and ground at the power terminal.

2.1.4. Test Setup Layout



1—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 cm to 40 cm long.
2—The I/O cables that are not connected to an accessory 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.
3—EUT connected to one LISN. Unused LISN measuring port connectors shall be terminated in 50 Ω loads. LISN may be placed on top of, or immediately beneath, reference ground plane.
3.1—All other equipment powered from additional LISN(s).
3.2—A multiple-outlet strip may be used for multiple power cords of non-EUT equipment.
3.3—LISN at least 80 cm from nearest part of EUT chassis.
4—Non-EUT components of EUT system being tested.
5—Rear of EUT, including peripherals, shall all be aligned and flush with edge of tabletop.
6—Edge of tabletop shall be 40 cm removed from a vertical conducting plane that is bonded to the ground plane.
7—Antenna can be integral or detachable. If detachable, then the antenna shall be attached for this test.

2.1.5. Test Deviation

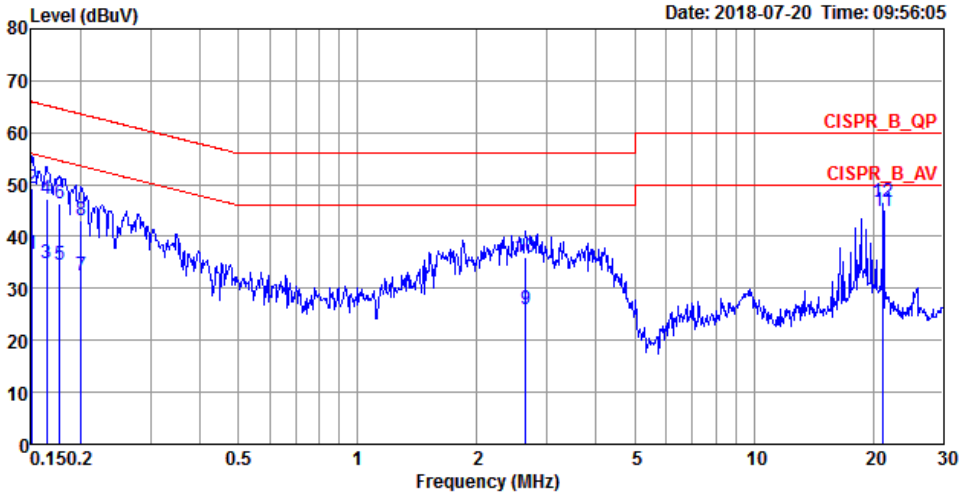
There is no deviation with the original standard.

2.1.6. EUT Operation during Test

The EUT was placed on the test table and programmed in normal function.

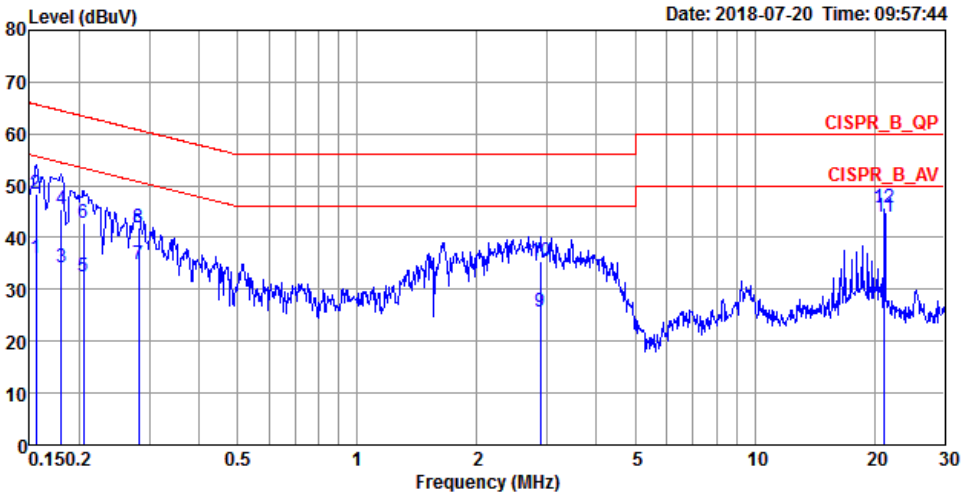
2.1.7. Results of AC Power Line Conducted Emissions Measurement

Temperature	22℃	Humidity	62%
Test Engineer	Max Lin	Phase	Line
Configuration	Normal Link	Test Mode	Mode 1



	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark	Pol/Phase
	MHz	dBuV	dB	dBuV	dBuV	dB	dB		
1	0.1508	36.57	-19.39	55.96	26.50	9.91	0.16	Average	LINE
2	0.1508	49.22	-16.74	65.96	39.15	9.91	0.16	QP	LINE
3	0.1641	34.69	-20.56	55.25	24.62	9.91	0.16	Average	LINE
4	0.1641	47.12	-18.13	65.25	37.05	9.91	0.16	QP	LINE
5	0.1768	34.54	-20.10	54.64	24.48	9.91	0.15	Average	LINE
6	0.1768	46.33	-18.31	64.64	36.27	9.91	0.15	QP	LINE
7	0.2007	32.53	-21.05	53.58	22.48	9.91	0.14	Average	LINE
8	0.2007	43.17	-20.41	63.58	33.12	9.91	0.14	QP	LINE
9	2.6500	25.98	-20.02	46.00	15.82	9.97	0.19	Average	LINE
10	2.6500	35.92	-20.08	56.00	25.76	9.97	0.19	QP	LINE
11	21.1676	44.98	-5.02	50.00	34.35	10.41	0.22	Average	LINE
12	21.1676	46.63	-13.37	60.00	36.00	10.41	0.22	QP	LINE

Temperature	22℃	Humidity	62%
Test Engineer	Max Lin	Phase	Neutral
Configuration	Normal Link	Test Mode	Mode 1

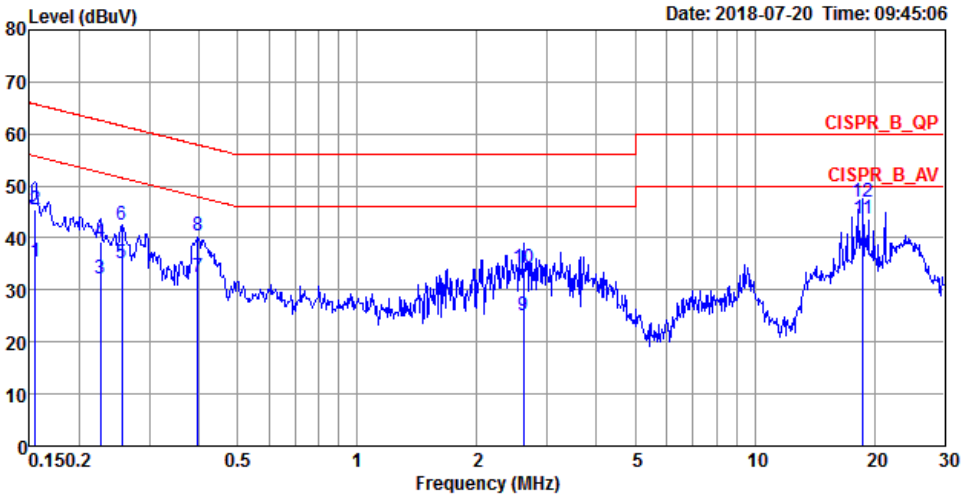


	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark	Pol/Phase
	MHz	dBuV	dB	dBuV	dBuV	dB	dB		
1	0.1557	36.02	-19.67	55.69	25.94	9.92	0.16	Average	NEUTRAL
2	0.1557	48.54	-17.15	65.69	38.46	9.92	0.16	QP	NEUTRAL
3	0.1806	34.26	-20.20	54.46	24.19	9.92	0.15	Average	NEUTRAL
4	0.1806	45.36	-19.10	64.46	35.29	9.92	0.15	QP	NEUTRAL
5	0.2050	32.61	-20.79	53.40	22.55	9.92	0.14	Average	NEUTRAL
6	0.2050	42.78	-20.62	63.40	32.72	9.92	0.14	QP	NEUTRAL
7	0.2818	34.94	-15.82	50.76	24.89	9.92	0.13	Average	NEUTRAL
8	0.2818	41.86	-18.90	60.76	31.81	9.92	0.13	QP	NEUTRAL
9	2.8845	25.63	-20.37	46.00	15.48	9.97	0.18	Average	NEUTRAL
10	2.8845	35.28	-20.72	56.00	25.13	9.97	0.18	QP	NEUTRAL
11	21.1681	43.97	-6.03	50.00	33.48	10.27	0.22	Average	NEUTRAL
12	21.1681	45.68	-14.32	60.00	35.19	10.27	0.22	QP	NEUTRAL

Note:

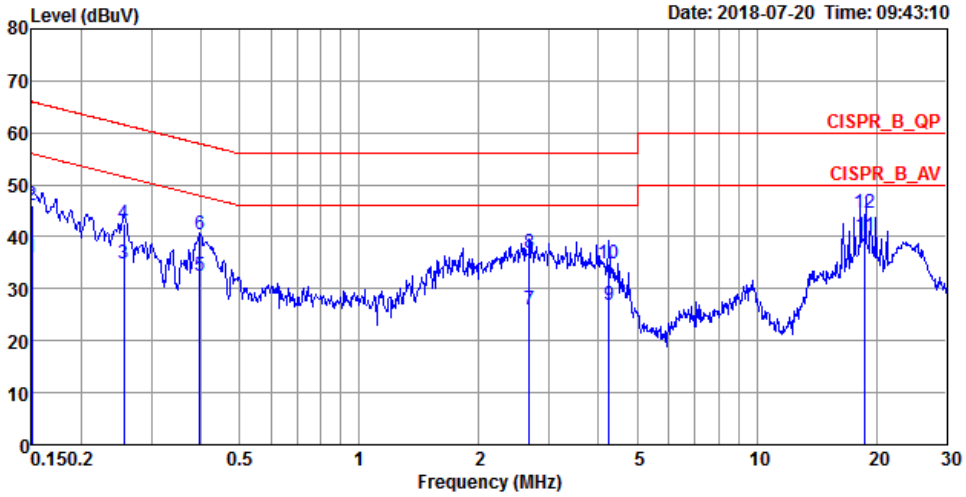
Level = Read Level + LISN Factor + Cable Loss.

Temperature	22℃	Humidity	62%
Test Engineer	Max Lin	Phase	Line
Configuration	Normal Link	Test Mode	Mode 2



	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark	Pol/Phase
	MHz	dBuV	dB	dBuV	dBuV	dB	dB		
1	0.1548	35.34	-20.40	55.74	25.27	9.91	0.16	Average	LINE
2	0.1548	45.49	-20.25	65.74	35.42	9.91	0.16	QP	LINE
3	0.2256	32.28	-20.33	52.61	22.23	9.91	0.14	Average	LINE
4	0.2256	39.30	-23.31	62.61	29.25	9.91	0.14	QP	LINE
5	0.2562	35.01	-16.55	51.56	24.97	9.91	0.13	Average	LINE
6	0.2562	42.55	-19.01	61.56	32.51	9.91	0.13	QP	LINE
7	0.3976	32.47	-15.43	47.90	22.44	9.91	0.12	Average	LINE
8	0.3976	40.45	-17.45	57.90	30.42	9.91	0.12	QP	LINE
9	2.6221	25.22	-20.78	46.00	15.06	9.97	0.19	Average	LINE
10	2.6221	34.31	-21.69	56.00	24.15	9.97	0.19	QP	LINE
11	18.6874	43.68	-6.32	50.00	33.12	10.35	0.21	Average	LINE
12	18.6874	46.88	-13.12	60.00	36.32	10.35	0.21	QP	LINE

Temperature	22℃	Humidity	62%
Test Engineer	Max Lin	Phase	Neutral
Configuration	Normal Link	Test Mode	Mode 2



	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark	Pol/Phase
	MHz	dBuV	dB	dBuV	dBuV	dB	dB		
1	0.1500	35.96	-20.04	56.00	25.88	9.92	0.16	Average	NEUTRAL
2	0.1500	46.08	-19.92	66.00	36.00	9.92	0.16	QP	NEUTRAL
3	0.2562	34.93	-16.63	51.56	24.88	9.92	0.13	Average	NEUTRAL
4	0.2562	42.53	-19.03	61.56	32.48	9.92	0.13	QP	NEUTRAL
5	0.3976	32.59	-15.31	47.90	22.55	9.92	0.12	Average	NEUTRAL
6	0.3976	40.47	-17.43	57.90	30.43	9.92	0.12	QP	NEUTRAL
7	2.6783	26.03	-19.97	46.00	15.87	9.97	0.19	Average	NEUTRAL
8	2.6783	37.03	-18.97	56.00	26.87	9.97	0.19	QP	NEUTRAL
9	4.2466	26.72	-19.28	46.00	16.60	9.99	0.13	Average	NEUTRAL
10	4.2466	34.89	-21.11	56.00	24.77	9.99	0.13	QP	NEUTRAL
11	18.7245	40.20	-9.80	50.00	29.76	10.23	0.21	Average	NEUTRAL
12	18.7245	44.69	-15.31	60.00	34.25	10.23	0.21	QP	NEUTRAL

Note:

Level = Read Level + LISN Factor + Cable Loss.

2.2. Maximum Conducted Output Power Measurement

2.2.1. Limit

For systems using digital modulation in the 2400-2483.5MHz, the limit for peak output power is 30dBm.. The limited has to be reduced by the amount in dB that the gain of the antenna exceed 6dBi. In case of point-to-point operation, the limit has to be reduced by 1dB for every 3dB that the directional gain of the antenna exceeds 6dBi.

2.2.2. Measuring Instruments and Setting

Please refer to section 3 of equipments list in this report. The following table is the setting of the power meter.

Power Meter Parameter	Setting
Filter No.	Auto
Measurement time	0.135 s ~ 26 s
Power Sensor	U2021XA

2.2.3. Test Procedures

1. Test was performed in accordance with Measurement of Digital Transmission Systems Operating under KDB558074 D01 DTS Meas Guidance v05, in section 8.3.2.3 “Measurement using a power meter (PM)”; Subclause under C63.10: 2013 in section11.9.2.3.2 “Method AVGPM-G”.
2. The average power sensor was used on the output port of the EUT. A power meter was used to read the response of the average power sensor and enable the trigger function to get the all on time transmission. Record the average power level.
3. When measuring maximum conducted output power with multiple antenna systems, add every result of the values by mathematic formula.

2.2.4. Test Setup Layout

Maximum Conducted Output Power


2.2.5. Test Deviation

There is no deviation with the original standard.

2.2.6. EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

2.2.7. Test Result of Maximum Conducted Output Power

Test date	Feb. 13, 2018~Jul. 23, 2018	Test Site No.	TH01-CB
Temperature	18.7℃	Humidity	46%
Test Engineer	Brian Sun & Ron Huang	Configuration	802.11b

Configuration IEEE 802.11b

<1Mbps, Ant. 3, 1S1T, SISO>

Channel	Frequency	Conducted Power (dBm)	Antenna Gain (dBi)	Max. Limit (dBm)	Result
1	2412 MHz	26.55	2.35	30.00	PASS
2	2417 MHz	27.43	2.25	30.00	PASS
6	2437 MHz	27.43	1.98	30.00	PASS
11	2462 MHz	26.81	1.80	30.00	PASS

Note:

2412 MHz= Antenna Gain= 2.35dBi <6dBi, so the limit doesn't reduce.

2417 MHz= Antenna Gain= 2.25dBi <6dBi, so the limit doesn't reduce.

2437 MHz= Antenna Gain= 1.98dBi <6dBi, so the limit doesn't reduce.

2462 MHz= Antenna Gain= 1.80dBi <6dBi, so the limit doesn't reduce.

<1Mbps, Ant. 2+3, 1S2T, CDD>

Channel	Frequency	Conducted Power (dBm)		Total Conducted Power (dBm)	Antenna Gain (dBi)	Max. Limit (dBm)	Result
		Ant. 2	Ant. 3				
1	2412 MHz	24.46	23.8	27.15	2.35	30.00	PASS
2	2417 MHz	24.39	25.1	27.77	2.25	30.00	PASS
3	2422 MHz	25.07	25.73	28.42	2.25	30.00	PASS
4	2427 MHz	26.06	26.79	29.45	2.11	30.00	PASS
5	2432 MHz	26.43	26.95	29.71	2.11	30.00	PASS
6	2437 MHz	26.51	27.01	29.78	1.98	30.00	PASS
11	2462 MHz	26.46	27.01	29.75	1.80	30.00	PASS

Note:

2412 MHz= Antenna Gain= 2.35dBi <6dBi, so the limit doesn't reduce.

2417 MHz= Antenna Gain= 2.25dBi <6dBi, so the limit doesn't reduce.

2422 MHz= Antenna Gain= 2.25dBi <6dBi, so the limit doesn't reduce.

2427 MHz= Antenna Gain= 2.11dBi <6dBi, so the limit doesn't reduce.

2432 MHz= Antenna Gain= 2.11dBi <6dBi, so the limit doesn't reduce.

2437 MHz= Antenna Gain= 1.98dBi <6dBi, so the limit doesn't reduce.

2462 MHz= Antenna Gain= 1.80dBi <6dBi, so the limit doesn't reduce.

<1Mbps, Ant. 1+2+3, 1S3T, CDD>

Channel	Frequency	Conducted Power (dBm)			Total Conducted Power (dBm)	Antenna Gain (dBi)	Max. Limit (dBm)	Result
		Ant. 1	Ant. 2	Ant. 3				
1	2412 MHz	25.41	24.55	25.19	29.84	2.35	30.00	PASS
2	2417 MHz	25.39	24.54	25.16	29.82	2.25	30.00	PASS
3	2422 MHz	25.11	24.6	25.26	29.77	2.25	30.00	PASS
4	2427 MHz	25.13	24.62	25.24	29.78	2.11	30.00	PASS
5	2432 MHz	25.16	24.77	25.13	29.79	2.11	30.00	PASS
6	2437 MHz	25.14	24.65	25.15	29.76	1.98	30.00	PASS
11	2462 MHz	25.27	24.75	25.16	29.84	1.80	30.00	PASS

Note:

2412 MHz= Antenna Gain= 2.35dBi <6dBi, so the limit doesn't reduce.

2417 MHz= Antenna Gain= 2.25dBi <6dBi, so the limit doesn't reduce.

2422 MHz= Antenna Gain= 2.25dBi <6dBi, so the limit doesn't reduce.

2427 MHz= Antenna Gain= 2.11dBi <6dBi, so the limit doesn't reduce.

2432 MHz= Antenna Gain= 2.11dBi <6dBi, so the limit doesn't reduce.

2437 MHz= Antenna Gain= 1.98dBi <6dBi, so the limit doesn't reduce.

2462 MHz= Antenna Gain= 1.80dBi <6dBi, so the limit doesn't reduce.

Test date	Feb. 13, 2018~Jul. 23, 2018	Test Site No.	TH01-CB
Temperature	18.7℃	Humidity	46%
Test Engineer	Brian Sun & Ron Huang	Configuration	802.11g

Configuration IEEE 802.11g

<6Mbps, Ant. 1+2+3, 1S3T, CDD>

Channel	Frequency	Conducted Power (dBm)			Total Conducted Power (dBm)	Antenna Gain (dBi)	Max. Limit (dBm)	Result
		Ant. 1	Ant. 2	Ant. 3				
1	2412 MHz	21.27	20.21	20.71	25.52	2.35	30.00	PASS
2	2417 MHz	23.86	22.81	23.61	28.22	2.25	30.00	PASS
3	2422 MHz	24.06	23.08	23.89	28.47	2.25	30.00	PASS
4	2427 MHz	25.34	24.38	25.29	29.8	2.11	30.00	PASS
5	2432 MHz	25.43	24.41	25.23	29.82	2.11	30.00	PASS
6	2437 MHz	25.53	24.59	25.19	29.89	1.98	30.00	PASS
9	2452 MHz	25.45	24.62	25.13	29.85	1.93	30.00	PASS
10	2457 MHz	24.32	23.31	24.18	28.73	1.80	30.00	PASS
11	2462 MHz	22.17	21.08	21.46	26.36	1.80	30.00	PASS

Note:

2412 MHz= Antenna Gain= 2.35dBi <6dBi, so the limit doesn't reduce.

2417 MHz= Antenna Gain= 2.25dBi <6dBi, so the limit doesn't reduce.

2422 MHz= Antenna Gain= 2.25dBi <6dBi, so the limit doesn't reduce.

2427 MHz= Antenna Gain= 2.11dBi <6dBi, so the limit doesn't reduce.

2432 MHz= Antenna Gain= 2.11dBi <6dBi, so the limit doesn't reduce.

2437 MHz= Antenna Gain= 1.98dBi <6dBi, so the limit doesn't reduce.

2452 MHz= Antenna Gain= 1.93dBi <6dBi, so the limit doesn't reduce.

2457 MHz= Antenna Gain= 1.80dBi <6dBi, so the limit doesn't reduce.

2462 MHz= Antenna Gain= 1.80dBi <6dBi, so the limit doesn't reduce.

Test date	Feb. 13, 2018~Jul. 23, 2018	Test Site No.	TH01-CB
Temperature	18.7℃	Humidity	46%
Test Engineer	Brian Sun & Ron Huang	Configuration	802.11n 20MHz

Configuration IEEE 802.11n 20MHz

<MCS0, Ant. 1+2+3, 1S3T, CDD>

Channel	Frequency	Conducted Power (dBm)			Total Conducted Power (dBm)	Antenna Gain (dBi)	Max. Limit (dBm)	Result
		Ant. 1	Ant. 2	Ant. 3				
1	2412 MHz	21.28	20.23	20.73	25.54	2.35	30.00	PASS
2	2417 MHz	23.81	22.85	23.69	28.24	2.25	30.00	PASS
3	2422 MHz	24.08	23.11	23.91	28.49	2.25	30.00	PASS
4	2427 MHz	25.37	24.47	25.26	29.82	2.11	30.00	PASS
5	2432 MHz	25.42	24.54	25.29	29.87	2.11	30.00	PASS
6	2437 MHz	25.51	24.68	25.23	29.92	1.98	30.00	PASS
9	2452 MHz	25.41	24.67	25.24	29.89	1.93	30.00	PASS
10	2457 MHz	24.34	23.40	24.13	28.75	1.80	30.00	PASS
11	2462 MHz	22.11	21.23	21.56	26.42	1.80	30.00	PASS

Note:

2412 MHz= Antenna Gain= 2.35dBi <6dBi, so the limit doesn't reduce.

2417 MHz= Antenna Gain= 2.25dBi <6dBi, so the limit doesn't reduce.

2422 MHz= Antenna Gain= 2.25dBi <6dBi, so the limit doesn't reduce.

2427 MHz= Antenna Gain= 2.11dBi <6dBi, so the limit doesn't reduce.

2432 MHz= Antenna Gain= 2.11dBi <6dBi, so the limit doesn't reduce.

2437 MHz= Antenna Gain= 1.98dBi <6dBi, so the limit doesn't reduce.

2452 MHz= Antenna Gain= 1.93dBi <6dBi, so the limit doesn't reduce.

2457 MHz= Antenna Gain= 1.80dBi <6dBi, so the limit doesn't reduce.

2462 MHz= Antenna Gain= 1.80dBi <6dBi, so the limit doesn't reduce.

<MCS8, Ant. 1+2+3, 2S3T, CDD>

Channel	Frequency	Conducted Power (dBm)			Total Conducted Power (dBm)	Antenna Gain (dBi)	Max. Limit (dBm)	Result
		Ant. 1	Ant. 2	Ant. 3				
1	2412 MHz	20.69	19.59	20.36	25.01	2.35	30.00	PASS
2	2417 MHz	23.37	21.98	22.96	27.58	2.25	30.00	PASS
3	2422 MHz	24.34	23.24	24.12	28.70	2.25	30.00	PASS
4	2427 MHz	25.54	24.52	25.43	29.96	2.11	30.00	PASS
5	2432 MHz	25.61	24.53	25.37	29.97	2.11	30.00	PASS
6	2437 MHz	25.56	24.55	25.47	29.99	1.98	30.00	PASS
9	2452 MHz	25.43	24.57	25.19	29.85	1.93	30.00	PASS
10	2457 MHz	24.34	23.51	24.28	28.83	1.80	30.00	PASS
11	2462 MHz	21.89	20.66	21.55	26.17	1.80	30.00	PASS

Note:

2412 MHz= Antenna Gain= 2.35dBi <6dBi, so the limit doesn't reduce.

2417 MHz= Antenna Gain= 2.25dBi <6dBi, so the limit doesn't reduce.

2422 MHz= Antenna Gain= 2.25dBi <6dBi, so the limit doesn't reduce.

2427 MHz= Antenna Gain= 2.11dBi <6dBi, so the limit doesn't reduce.

2432 MHz= Antenna Gain= 2.11dBi <6dBi, so the limit doesn't reduce.

2437 MHz= Antenna Gain= 1.98dBi <6dBi, so the limit doesn't reduce.

2452 MHz= Antenna Gain= 1.93dBi <6dBi, so the limit doesn't reduce.

2457 MHz= Antenna Gain= 1.80dBi <6dBi, so the limit doesn't reduce.

2462 MHz= Antenna Gain= 1.80dBi <6dBi, so the limit doesn't reduce.

<MCS16, Ant. 1+2+3, 3S3T, SDM>

Channel	Frequency	Conducted Power (dBm)			Total Conducted Power (dBm)	Antenna Gain (dBi)	Max. Limit (dBm)	Result
		Ant. 1	Ant. 2	Ant. 3				
1	2412 MHz	20.51	19.33	20.15	24.80	0.59	30.00	PASS
2	2417 MHz	22.17	20.87	21.81	26.42	0.62	30.00	PASS
3	2422 MHz	23.56	22.32	23.11	27.80	0.62	30.00	PASS
4	2427 MHz	24.52	23.37	24.18	28.82	0.64	30.00	PASS
5	2432 MHz	25.66	24.52	25.29	29.95	0.64	30.00	PASS
6	2437 MHz	25.67	24.61	25.31	29.99	0.66	30.00	PASS
8	2447 MHz	25.47	24.52	25.17	29.84	0.74	30.00	PASS
9	2452 MHz	25.43	24.43	25.06	29.76	0.74	30.00	PASS
10	2457 MHz	23.19	22.19	22.92	27.56	0.78	30.00	PASS
11	2462 MHz	20.96	20.05	20.57	25.31	0.78	30.00	PASS

Note:

2412 MHz= Antenna Gain= 0.59dBi <6dBi, so the limit doesn't reduce.

2417 MHz= Antenna Gain= 0.62dBi <6dBi, so the limit doesn't reduce.

2422 MHz= Antenna Gain= 0.62dBi <6dBi, so the limit doesn't reduce.

2427 MHz= Antenna Gain= 0.64dBi <6dBi, so the limit doesn't reduce.

2432 MHz= Antenna Gain= 0.64dBi <6dBi, so the limit doesn't reduce.

2437 MHz= Antenna Gain= 0.66dBi <6dBi, so the limit doesn't reduce.

2447 MHz= Antenna Gain= 0.74dBi <6dBi, so the limit doesn't reduce.

2452 MHz= Antenna Gain= 0.74dBi <6dBi, so the limit doesn't reduce.

2457 MHz= Antenna Gain= 0.78dBi <6dBi, so the limit doesn't reduce.

2462 MHz= Antenna Gain= 0.78dBi <6dBi, so the limit doesn't reduce.

Test date	Feb. 13, 2018~Jul. 23, 2018	Test Site No.	TH01-CB
Temperature	18.7℃	Humidity	46%
Test Engineer	Brian Sun & Ron Huang	Configuration	802.11n 40MHz

Configuration IEEE 802.11n 40MHz

<MCS0, Ant. 1+2+3, 1S3T, CDD>

Channel	Frequency	Conducted Power (dBm)			Total Conducted Power (dBm)	Antenna Gain (dBi)	Max. Limit (dBm)	Result
		Ant. 1	Ant. 2	Ant. 3				
3	2422 MHz	18.64	17.75	18.60	23.12	2.25	30.00	PASS
4	2427 MHz	19.63	18.47	19.17	23.89	2.11	30.00	PASS
5	2432 MHz	21.61	20.29	21.09	25.80	2.11	30.00	PASS
6	2437 MHz	22.21	21.17	21.78	26.51	1.98	30.00	PASS
7	2442 MHz	21.65	20.68	21.27	25.99	1.98	30.00	PASS
8	2447 MHz	20.86	19.86	20.32	25.14	1.93	30.00	PASS
9	2452 MHz	19.42	18.33	18.93	23.69	1.93	30.00	PASS

Note:

2422 MHz= Antenna Gain= 2.25dBi <6dBi, so the limit doesn't reduce.

2427 MHz= Antenna Gain= 2.11dBi <6dBi, so the limit doesn't reduce.

2432 MHz= Antenna Gain= 2.11dBi <6dBi, so the limit doesn't reduce.

2437 MHz= Antenna Gain= 1.98dBi <6dBi, so the limit doesn't reduce.

2442 MHz= Antenna Gain= 1.98dBi <6dBi, so the limit doesn't reduce.

2447 MHz= Antenna Gain= 1.93dBi <6dBi, so the limit doesn't reduce.

2452 MHz= Antenna Gain= 1.93dBi <6dBi, so the limit doesn't reduce.

<MCS8, Ant. 1+2+3, 2S3T, CDD>

Channel	Frequency	Conducted Power (dBm)			Total Conducted Power (dBm)	Antenna Gain (dBi)	Max. Limit (dBm)	Result
		Ant. 1	Ant. 2	Ant. 3				
3	2422 MHz	18.87	17.89	18.72	23.29	2.25	30.00	PASS
4	2427 MHz	19.81	18.56	19.52	24.10	2.11	30.00	PASS
5	2432 MHz	21.87	20.63	21.61	26.17	2.11	30.00	PASS
6	2437 MHz	22.38	21.43	22.11	26.76	1.98	30.00	PASS
7	2442 MHz	22.31	21.42	21.98	26.69	1.98	30.00	PASS
8	2447 MHz	21.69	20.68	21.25	26.00	1.93	30.00	PASS
9	2452 MHz	19.13	18.29	18.87	23.55	1.93	30.00	PASS

Note:

2422 MHz= Antenna Gain= 2.25dBi <6dBi, so the limit doesn't reduce.

2427 MHz= Antenna Gain= 2.11dBi <6dBi, so the limit doesn't reduce.

2432 MHz= Antenna Gain= 2.11dBi <6dBi, so the limit doesn't reduce.

2437 MHz= Antenna Gain= 1.98dBi <6dBi, so the limit doesn't reduce.

2442 MHz= Antenna Gain= 1.98dBi <6dBi, so the limit doesn't reduce.

2447 MHz= Antenna Gain= 1.93dBi <6dBi, so the limit doesn't reduce.

2452 MHz= Antenna Gain= 1.93dBi <6dBi, so the limit doesn't reduce.

<MCS16, Ant. 1+2+3, 3S3T, SDM>

Channel	Frequency	Conducted Power (dBm)			Total Conducted Power (dBm)	Antenna Gain (dBi)	Max. Limit (dBm)	Result
		Ant. 1	Ant. 2	Ant. 3				
3	2422 MHz	17.92	16.93	17.62	22.28	0.62	30.00	PASS
4	2427 MHz	19.52	18.43	19.21	23.85	0.64	30.00	PASS
5	2432 MHz	21.38	20.13	20.95	25.62	0.64	30.00	PASS
6	2437 MHz	22.36	21.39	22.03	26.72	0.66	30.00	PASS
7	2442 MHz	22.08	21.26	21.57	26.42	0.66	30.00	PASS
8	2447 MHz	19.92	19.17	19.34	24.26	0.74	30.00	PASS
9	2452 MHz	18.24	17.37	17.88	22.62	0.74	30.00	PASS

Note:

2422 MHz= Antenna Gain= 0.62dBi <6dBi, so the limit doesn't reduce.

2427 MHz= Antenna Gain= 0.64dBi <6dBi, so the limit doesn't reduce.

2432 MHz= Antenna Gain= 0.64dBi <6dBi, so the limit doesn't reduce.

2437 MHz= Antenna Gain= 0.66dBi <6dBi, so the limit doesn't reduce.

2442 MHz= Antenna Gain= 0.66dBi <6dBi, so the limit doesn't reduce.

2447 MHz= Antenna Gain= 0.74dBi <6dBi, so the limit doesn't reduce.

2452 MHz= Antenna Gain= 0.74dBi <6dBi, so the limit doesn't reduce.

2.3. Power Spectral Density Measurement

2.3.1. Limit

For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

2.3.2. Measuring Instruments and Setting

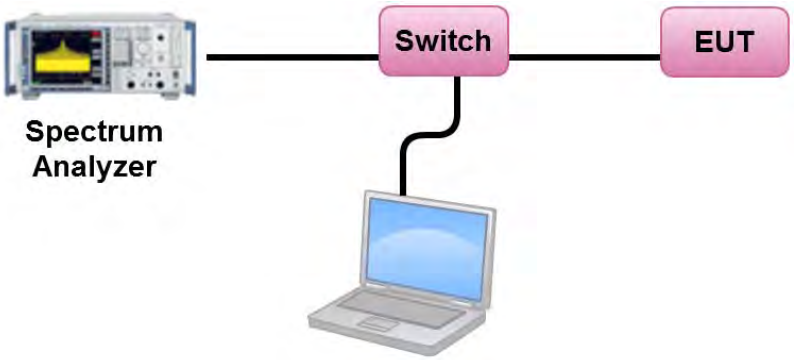
Please refer to section 3 of equipments list in this report. The following table is the setting of the spectrum analyzer.

Spectrum Parameter	Setting
Attenuation	Auto
Span Frequency	Set the span to 1.5 times the DTS channel bandwidth.
RBW	Set the RBW ≥ 3 kHz
VBW	Set the VBW ≥ 3 x RBW
Detector	RMS
Trace	Average sweep count 100
Sweep Time	Auto couple

2.3.3. Test Procedures

1. The transmitter output (antenna port) was connected RF switch to the spectrum analyzer.
2. Test was performed in accordance with Measurement of Digital Transmission Systems Operating under KDB558074 D01 DTS Meas Guidance v05, in section 8.4 “DTS maximum power spectral density level in the fundamental emission”; Subclause under C63.10: 2013 in section 11.10.3 “Method AVGPSD-1”.
3. Multiple antenna systems was performed in accordance KDB 662911 D01 v02r01 in-Band Power Spectral Density (PSD) Measurements (a) Measure and sum the spectra across the outputs (bin-by-bin summing).
4. This procedure may be used when the maximum (average) conducted output power was used to demonstrate compliance to the output power limit. The EUT must be configured to transmit continuously (duty cycle ≥ 98%) to ensure that measurements are made only when the EUT is transmitting at its maximum power control level (no transmitter off time is to be considered).
5. Ensure that the number of measurement points in the sweep ≥ 2 x span/RBW (use of a greater number of measurement points than this minimum requirement is recommended).
   When measuring first spectral bin of output 1 is summed with that in the first spectral bin of output 2 and so on up to the Nth output to obtain the value for the first frequency bin of the summed spectrum. The summed spectrum value for each of the other frequency bins is computed in the same way.

2.3.4. Test Setup Layout

Power Spectral Density


2.3.5. Test Deviation

There is no deviation with the original standard.

2.3.6. EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

2.3.7. Test Result of Power Spectral Density

Test date	Feb. 13, 2018~Jul. 23, 2018	Test Site No.	TH01-CB
Temperature	18.7℃	Humidity	46%
Test Engineer	Brian Sun & Ron Huang	Configuration	802.11b

Configuration IEEE 802.11b

<1Mbps, Ant. 3, 1S1T, SISO>

Channel	Frequency	Duty Factor (dB)	PSD With Duty Factor (dBm/3kHz)	Antenna Gain (dBi)	Limit (dBm/3kHz)	Result
1	2412 MHz	0.01	-4.47	2.35	8.00	PASS
6	2437 MHz	0.01	-2.47	1.98	8.00	PASS
11	2462 MHz	0.01	-2.28	1.80	8.00	PASS

Note 1:

Method 1 of powr density measurement of KDB 662911 is using for calculation totol power density.Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.

Note 2:

Refer to section 1.14 for duty cycle spectroum plot.

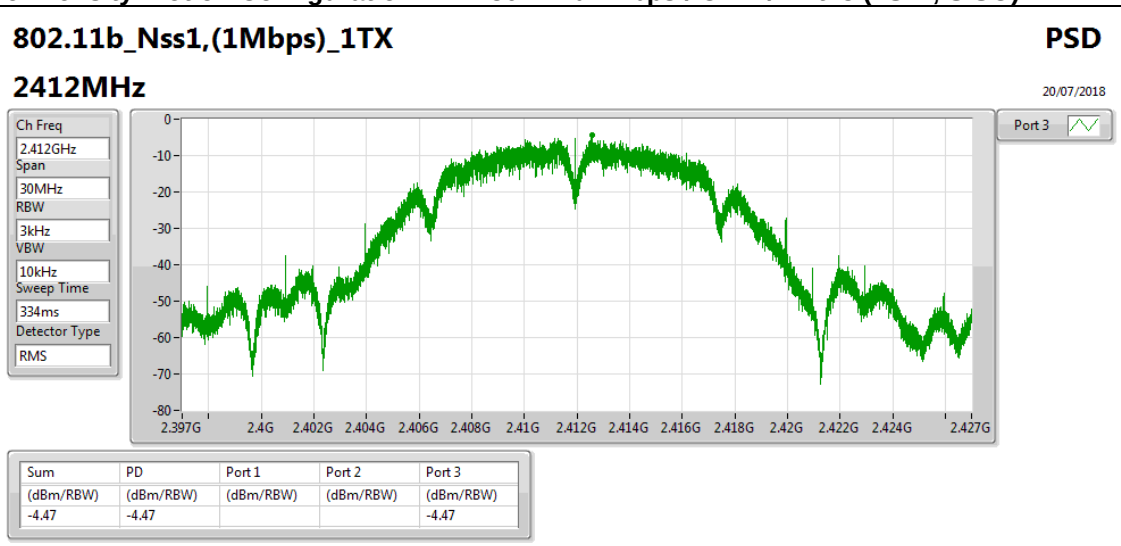
Note 3:

2412 MHz= Antenna Gain= 2.35dBi <6dBi, so the limit doesn't reduce.

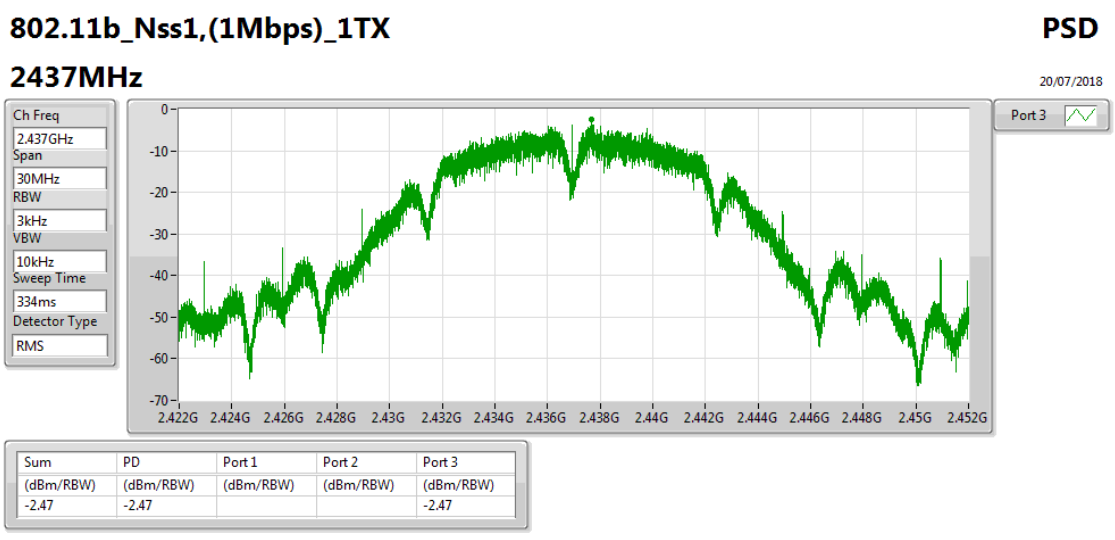
2437 MHz= Antenna Gain= 1.98dBi <6dBi, so the limit doesn't reduce.

2462 MHz= Antenna Gain= 1.80dBi <6dBi, so the limit doesn't reduce.

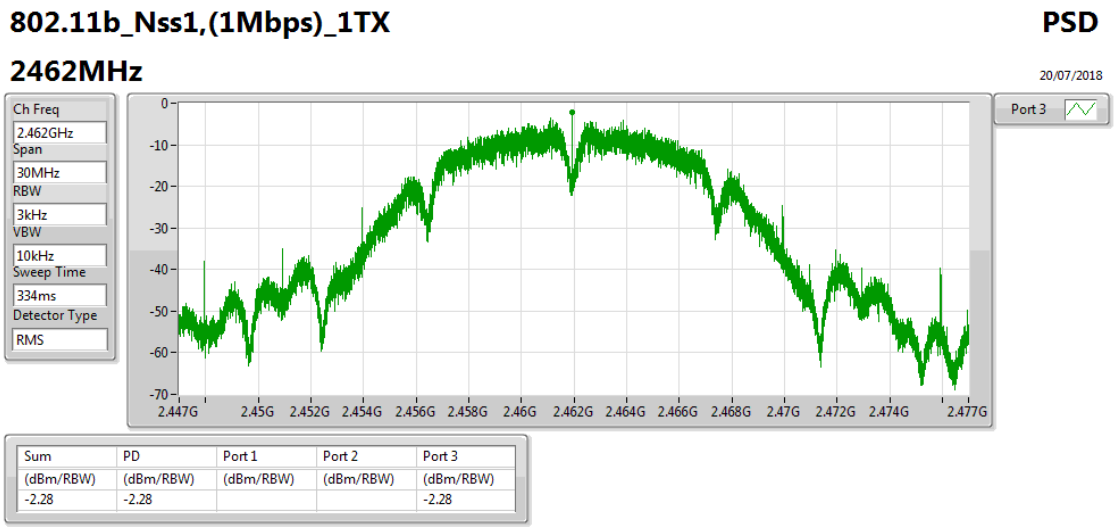
Power Density Plot on Configuration IEEE 802.11b 1Mbps / CH 1 / Ant. 3 (1S1T, SISO)



Power Density Plot on Configuration IEEE 802.11b 1Mbps / CH 6 / Ant. 3 (1S1T, SISO)



Power Density Plot on Configuration IEEE 802.11b 1Mbps / CH 11 / Ant. 3 (1S1T, SISO)



<1Mbps, Ant. 2+3, 1S2T, CDD>

Channel	Frequency	Duty Factor (dB)	PSD With Duty Factor (dBm/3kHz)	Directional Gain (dBi)	Limit (dBm/3kHz)	Result
1	2412 MHz	0.01	-0.49	4.15	8.00	PASS
6	2437 MHz	0.01	1.10	4.05	8.00	PASS
11	2462 MHz	0.01	-1.03	4.21	8.00	PASS

Note 1:

Method 1 of powr density measurement of KDB 662911 is using for calculation totol power density.Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.

Note 2:

Refer to section 1.14 for duty cycle spectroum plot.

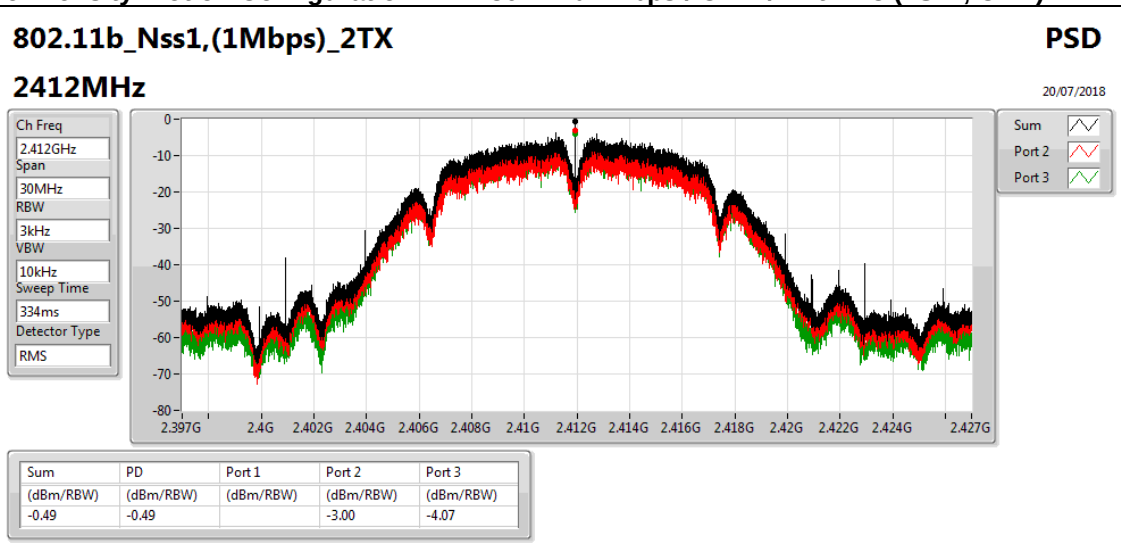
Note 3:

2412 MHz= $Directiona\ lGain = 10 \cdot \log\left[\frac{\sum_{j=1}^{N_{SS}}\left\{\sum_{k=1}^{N_{ANT}} g_{j,k}\right\}^2}{N_{ANT}}\right]$ = 4.15dBi <6dBi, so the limit doesn't reduce.

2437 MHz= $Directiona\ lGain = 10 \cdot \log\left[\frac{\sum_{j=1}^{N_{SS}}\left\{\sum_{k=1}^{N_{ANT}} g_{j,k}\right\}^2}{N_{ANT}}\right]$ = 4.05dBi <6dBi, so the limit doesn't reduce.

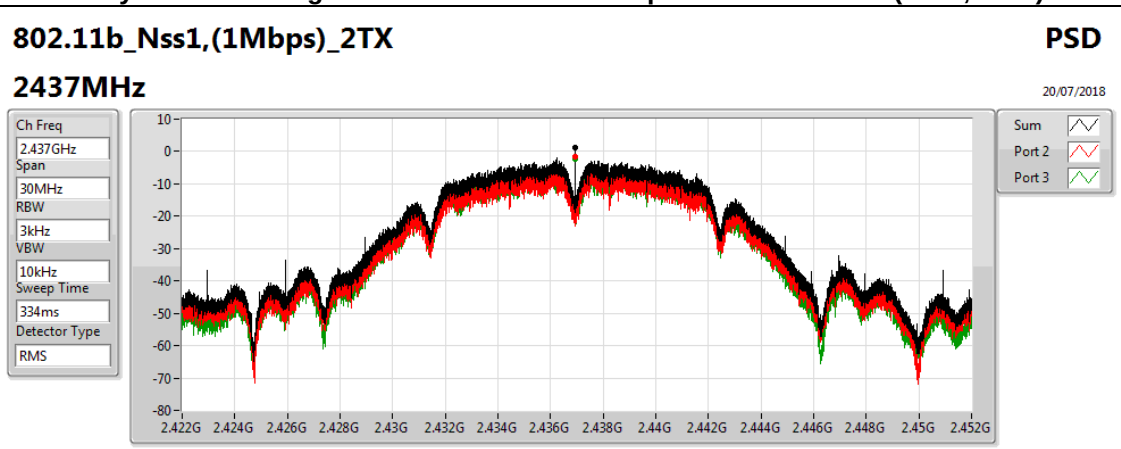
2462 MHz= $Directiona\ lGain = 10 \cdot \log\left[\frac{\sum_{j=1}^{N_{SS}}\left\{\sum_{k=1}^{N_{ANT}} g_{j,k}\right\}^2}{N_{ANT}}\right]$ = 4.21dBi <6dBi, so the limit doesn't reduce.

Power Density Plot on Configuration IEEE 802.11b 1Mbps / CH 1 / Ant. 2+3 (1S2T, CDD)



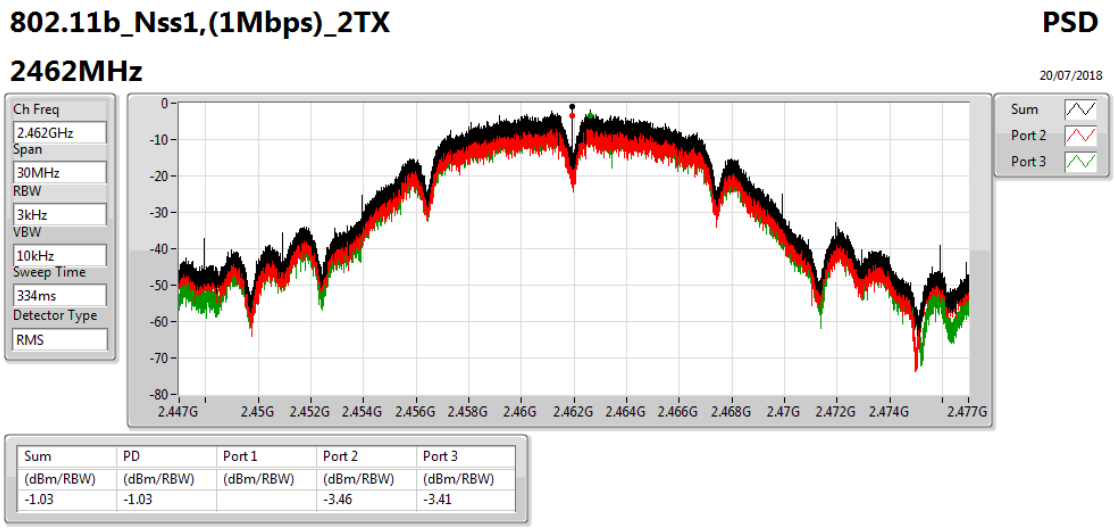
Sum	PD	Port 1	Port 2	Port 3
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-0.49	-0.49		-3.00	-4.07

Power Density Plot on Configuration IEEE 802.11b 1Mbps / CH 6 / Ant. 2+3 (1S2T, CDD)



Sum	PD	Port 1	Port 2	Port 3
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
1.10	1.10		-1.61	-2.23

Power Density Plot on Configuration IEEE 802.11b 1Mbps / CH 11 / Ant. 2+3 (1S2T, CDD)



Sum	PD	Port 1	Port 2	Port 3
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-1.03	-1.03		-3.46	-3.41

<1Mbps, Ant. 1+2+3, 1S3T, CDD>

Channel	Frequency	Duty Factor (dB)	PSD With Duty Factor (dBm/3kHz)	Directional Gain (dBi)	Limit (dBm/3kHz)	Result
1	2412 MHz	0.01	0.39	5.43	8.00	PASS
6	2437 MHz	0.01	-0.46	5.54	8.00	PASS
11	2462 MHz	0.01	-1.38	5.65	8.00	PASS

Note 1:

Method 1 of powr density measurement of KDB 662911 is using for calculation totol power density.Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.

Note 2:

Refer to section 1.14 for duty cycle spectroum plot.

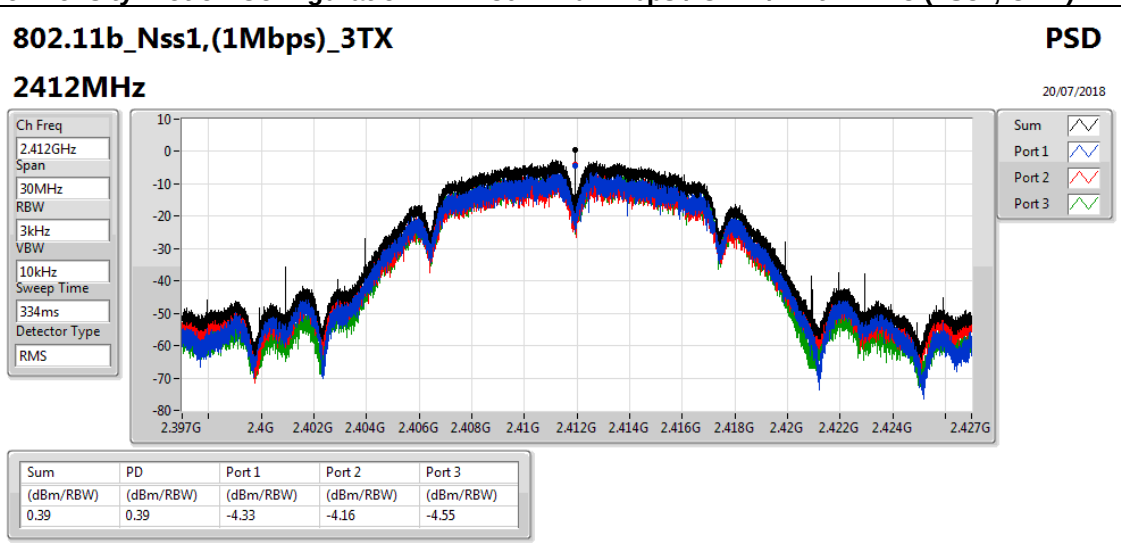
Note 3:

2412 MHz= $Directiona\ lGain = 10 \cdot \log\left[\frac{\sum_{j=1}^{N_{SS}}\left\{\sum_{k=1}^{N_{ANT}} g_{j,k}\right\}^2}{N_{ANT}}\right]$ = 5.43dBi <6dBi, so the limit doesn't reduce.

2437 MHz= $Directiona\ lGain = 10 \cdot \log\left[\frac{\sum_{j=1}^{N_{SS}}\left\{\sum_{k=1}^{N_{ANT}} g_{j,k}\right\}^2}{N_{ANT}}\right]$ = 5.54dBi <6dBi, so the limit doesn't reduce.

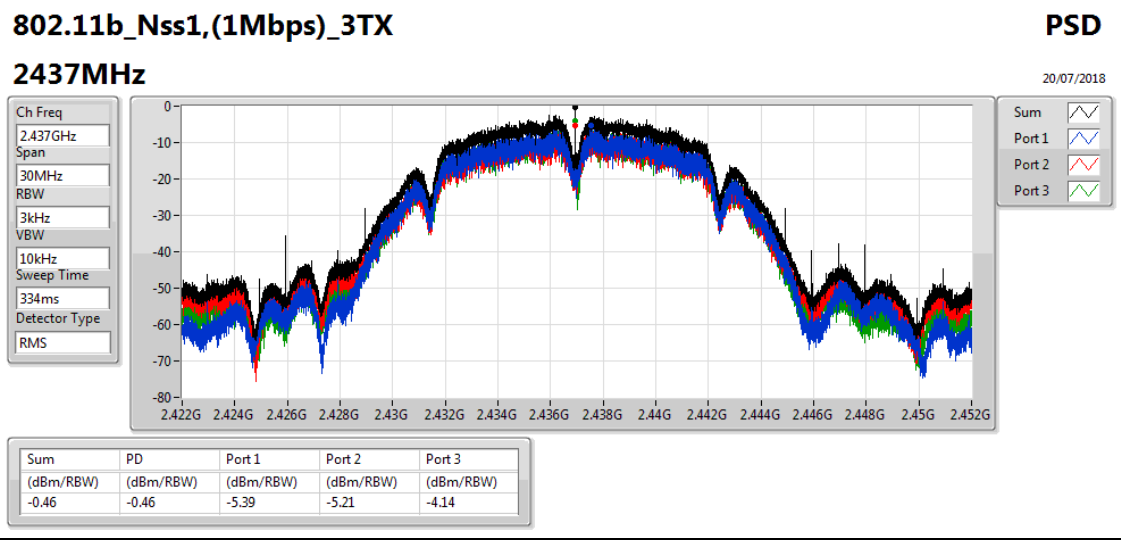
2462 MHz= $Directiona\ lGain = 10 \cdot \log\left[\frac{\sum_{j=1}^{N_{SS}}\left\{\sum_{k=1}^{N_{ANT}} g_{j,k}\right\}^2}{N_{ANT}}\right]$ = 5.65dBi <6dBi, so the limit doesn't reduce.

Power Density Plot on Configuration IEEE 802.11b 1Mbps / CH 1 / Ant. 1+2+3 (1S3T, CDD)



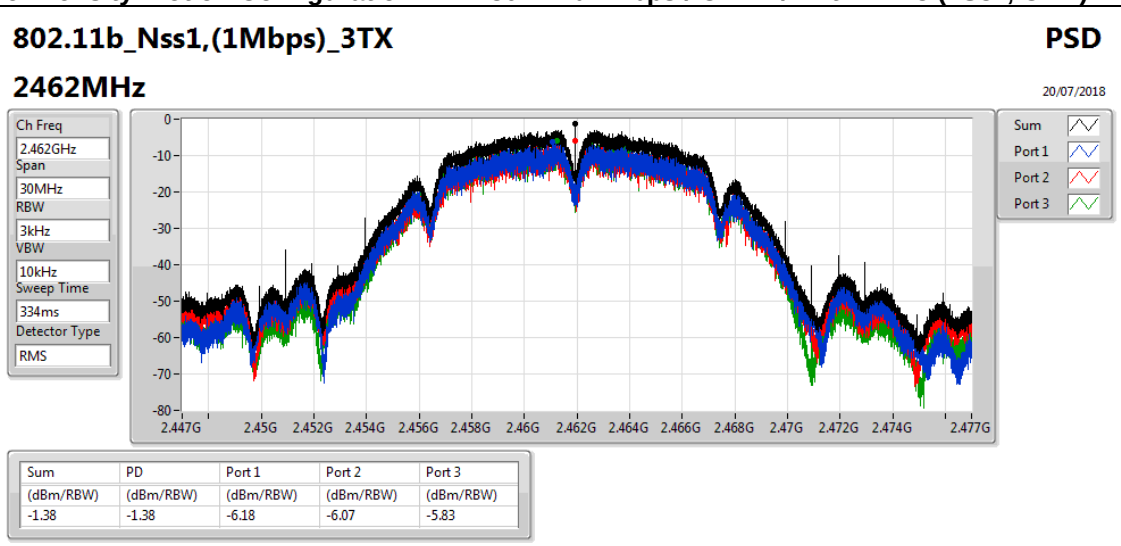
Sum	PD	Port 1	Port 2	Port 3
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
0.39	0.39	-4.33	-4.16	-4.55

Power Density Plot on Configuration IEEE 802.11b 1Mbps / CH 6 / Ant. 1+2+3 (1S3T, CDD)



Sum	PD	Port 1	Port 2	Port 3
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-0.46	-0.46	-5.39	-5.21	-4.14

Power Density Plot on Configuration IEEE 802.11b 1Mbps / CH 11 / Ant. 1+2+3 (1S3T, CDD)



Sum	PD	Port 1	Port 2	Port 3
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-1.38	-1.38	-6.18	-6.07	-5.83

Test date	Feb. 13, 2018~Jul. 23, 2018	Test Site No.	TH01-CB
Temperature	18.7℃	Humidity	46%
Test Engineer	Brian Sun & Ron Huang	Configuration	802.11g

Configuration IEEE 802.11g

<6Mbps, Ant. 1+2+3, 1S3T, CDD>

Channel	Frequency	Duty Factor (dB)	PSD With Duty Factor (dBm/3kHz)	Directional Gain (dBi)	Limit (dBm/3kHz)	Result
1	2412 MHz	0.05	-6.72	5.43	8.00	PASS
6	2437 MHz	0.05	-2.79	5.54	8.00	PASS
11	2462 MHz	0.05	-5.10	5.65	8.00	PASS

Note 1:

Method 1 of powr density measurement of KDB 662911 is using for calculation totol power density.Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.

Note 2:

Refer to section 1.14 for duty cycle spectroum plot.

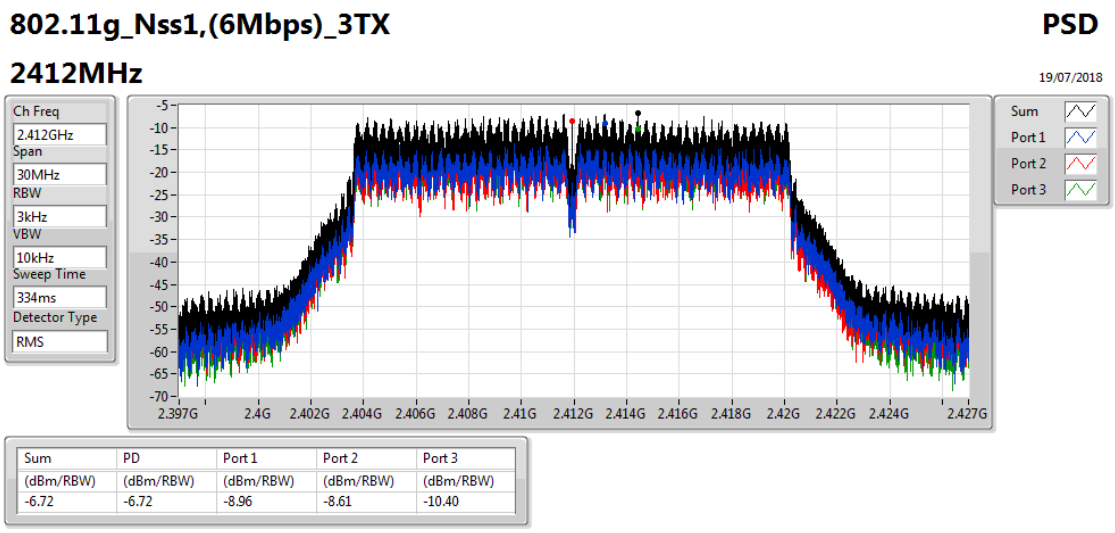
Note 3:

2412 MHz= $Directiona\ lGain = 10 \cdot \log \left[\frac{\sum_{j=1}^{N_{SS}} \left\{ \sum_{k=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right]$ = 5.43dBi <6dBi, so the limit doesn't reduce.

2437 MHz= $Directiona\ lGain = 10 \cdot \log \left[\frac{\sum_{j=1}^{N_{SS}} \left\{ \sum_{k=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right]$ = 5.54dBi <6dBi, so the limit doesn't reduce.

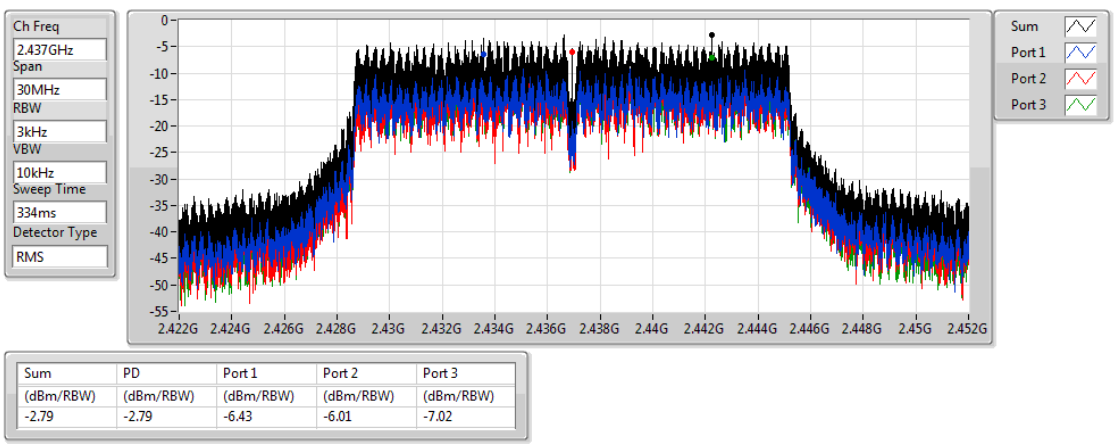
2462 MHz= $Directiona\ lGain = 10 \cdot \log \left[\frac{\sum_{j=1}^{N_{SS}} \left\{ \sum_{k=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right]$ = 5.65dBi <6dBi, so the limit doesn't reduce.

Power Density Plot on Configuration IEEE 802.11g 6Mbps / CH 1 / Ant. 1+2+3 (1S3T, CDD)



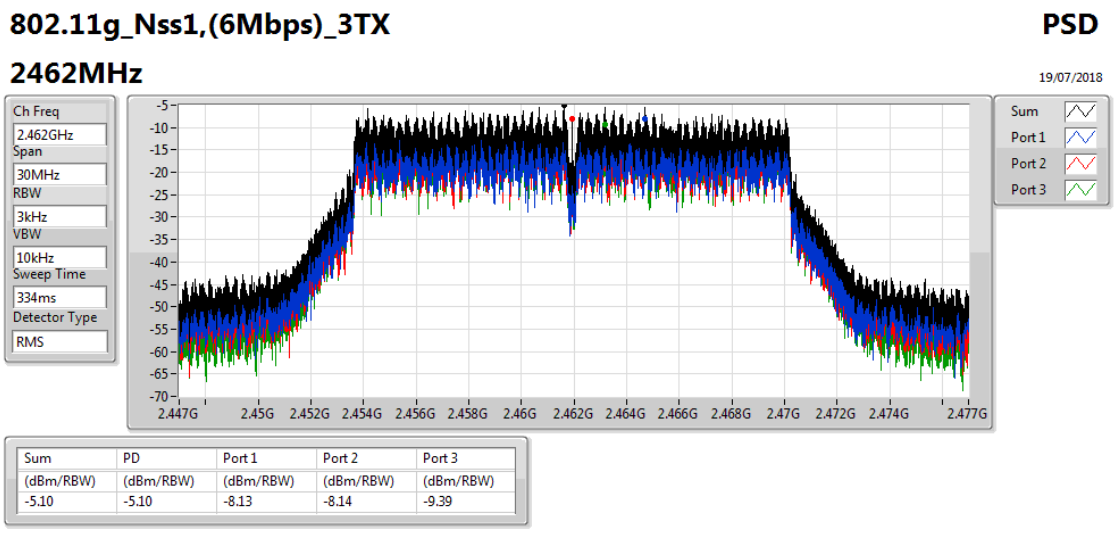
Sum	PD	Port 1	Port 2	Port 3
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-6.72	-6.72	-8.96	-8.61	-10.40

Power Density Plot on Configuration IEEE 802.11g 6Mbps / CH 6 / Ant. 1+2+3 (1S3T, CDD)



Sum	PD	Port 1	Port 2	Port 3
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-2.79	-2.79	-6.43	-6.01	-7.02

Power Density Plot on Configuration IEEE 802.11g 6Mbps / CH 11 / Ant. 1+2+3 (1S3T, CDD)



Sum	PD	Port 1	Port 2	Port 3
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-5.10	-5.10	-8.13	-8.14	-9.39

Test date	Feb. 13, 2018~Jul. 23, 2018	Test Site No.	TH01-CB
Temperature	18.7℃	Humidity	46%
Test Engineer	Brian Sun & Ron Huang	Configuration	802.11n 20MHz

Configuration IEEE 802.11n 20MHz

<MCS0, Ant. 1+2+3, 1S3T, CDD>

Channel	Frequency	Duty Factor (dB)	PSD With Duty Factor (dBm/3kHz)	Directional Gain (dBi)	Limit (dBm/3kHz)	Result
1	2412 MHz	0.04	-7.97	5.43	8.00	PASS
6	2437 MHz	0.04	-3.83	5.54	8.00	PASS
11	2462 MHz	0.04	-8.59	5.65	8.00	PASS

Note 1:

Method 1 of powr density measurement of KDB 662911 is using for calculation totol power density.Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.

Note 2:

Refer to section 1.14 for duty cycle spectroum plot.

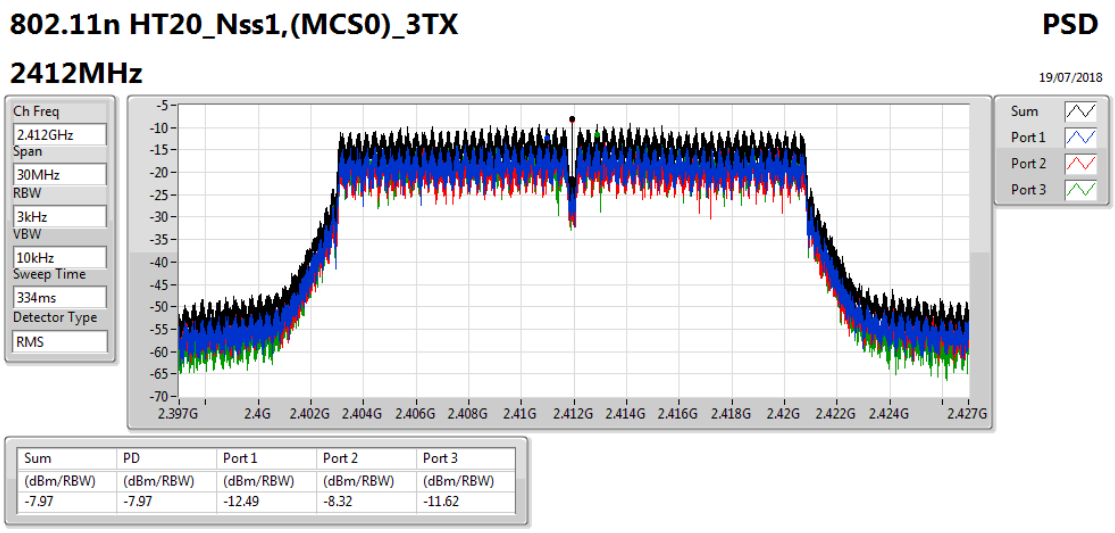
Note 3:

2412 MHz= $Directiona\ lGain = 10 \cdot \log \left[\frac{\sum_{j=1}^{N_{SS}} \left\{ \sum_{k=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right]$ = 5.43dBi <6dBi, so the limit doesn't reduce.

2437 MHz= $Directiona\ lGain = 10 \cdot \log \left[\frac{\sum_{j=1}^{N_{SS}} \left\{ \sum_{k=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right]$ = 5.54dBi <6dBi, so the limit doesn't reduce.

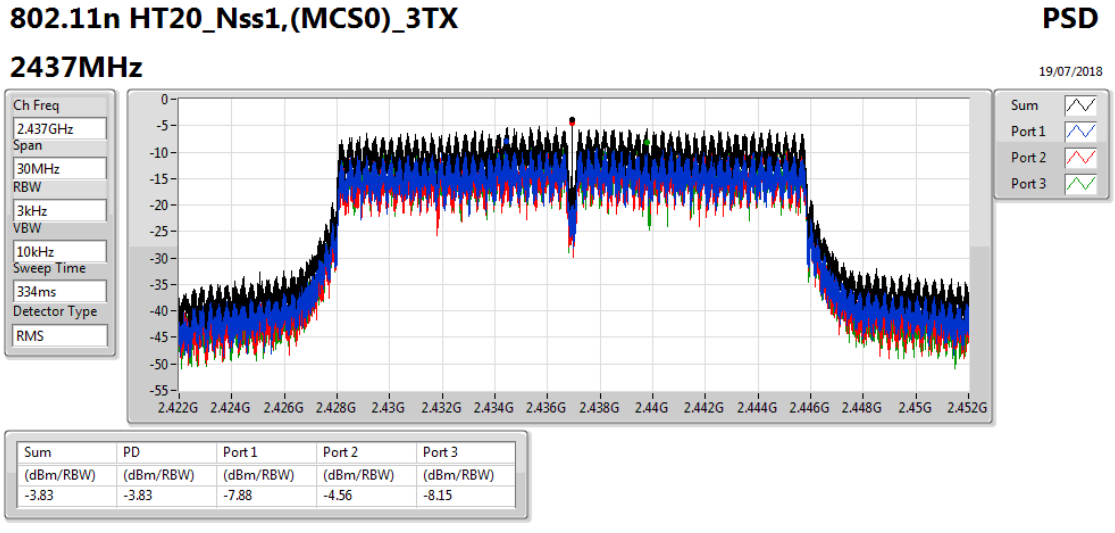
2462 MHz= $Directiona\ lGain = 10 \cdot \log \left[\frac{\sum_{j=1}^{N_{SS}} \left\{ \sum_{k=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right]$ = 5.65dBi <6dBi, so the limit doesn't reduce.

Power Density Plot on Configuration IEEE 802.11n 20MHz MCS0 / CH 1 / Ant. 1+2+3 (1S3T, CDD)



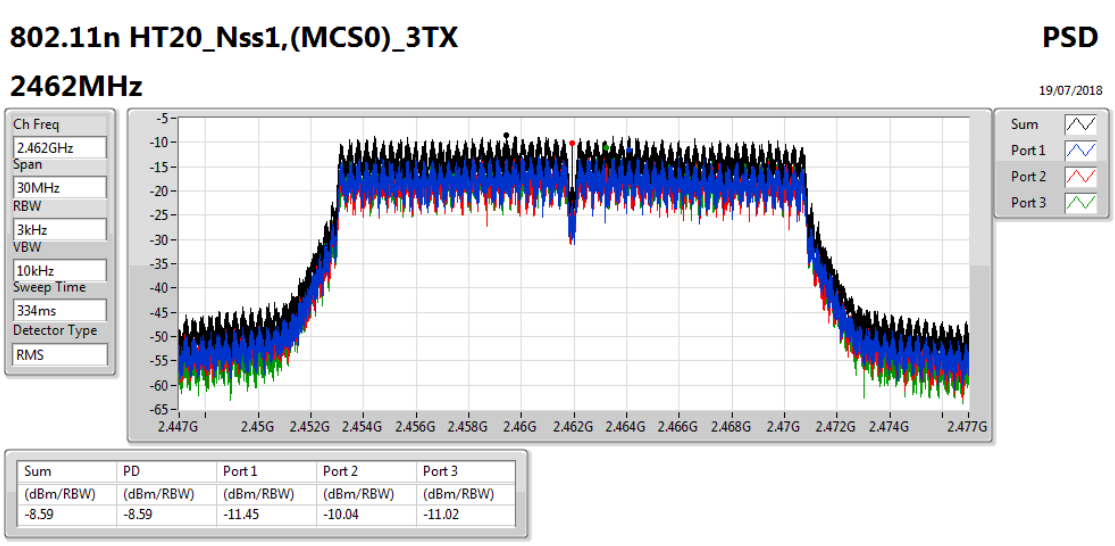
Sum	PD	Port 1	Port 2	Port 3
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-7.97	-7.97	-12.49	-8.32	-11.62

Power Density Plot on Configuration IEEE 802.11n 20MHz MCS0 / CH 6 / Ant. 1+2+3 (1S3T, CDD)



Sum	PD	Port 1	Port 2	Port 3
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-3.83	-3.83	-7.88	-4.56	-8.15

Power Density Plot on Configuration IEEE 802.11n 20MHz MCS0 / CH 11 / Ant. 1+2+3 (1S3T, CDD)



Sum	PD	Port 1	Port 2	Port 3
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-8.59	-8.59	-11.45	-10.04	-11.02

<MCS8, Ant. 1+2+3, 2S3T, CDD>

Channel	Frequency	Duty Factor (dB)	PSD With Duty Factor (dBm/3kHz)	Directional Gain (dBi)	Limit (dBm/3kHz)	Result
1	2412 MHz	0.07	-8.59	2.88	8.00	PASS
6	2437 MHz	0.07	-4.78	2.97	8.00	PASS
11	2462 MHz	0.07	-8.68	3.13	8.00	PASS

Note 1:

Method 1 of powr density measurement of KDB 662911 is using for calculation totol power density.Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.

Note 2:

Refer to section 1.14 for duty cycle spectroum plot.

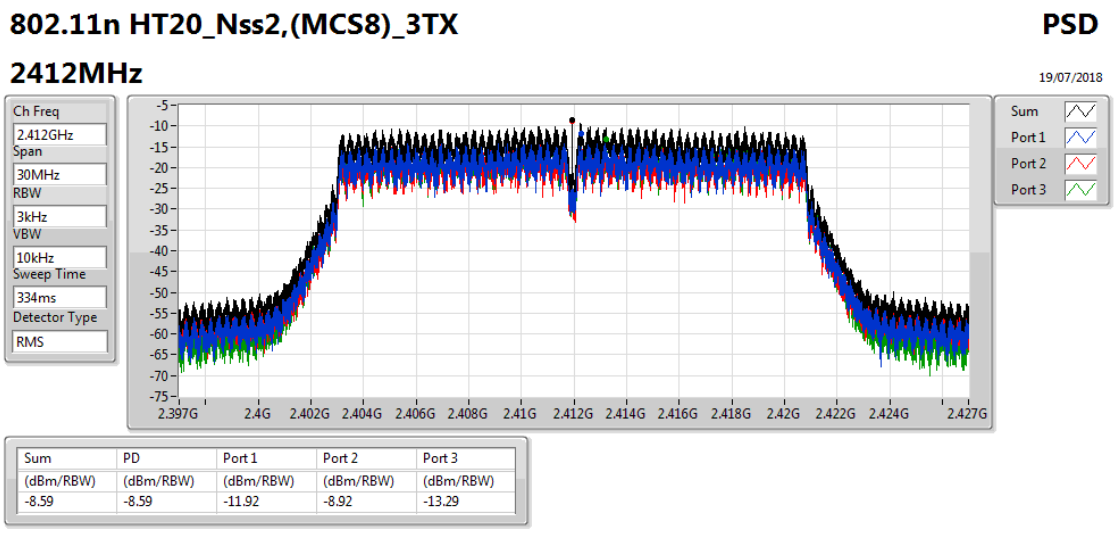
Note 3:

2412 MHz= $Directiona\ lGain = 10 \cdot \log\left[\frac{\sum_{j=1}^{N_{SS}}\left\{\sum_{k=1}^{N_{ANT}} g_{j,k}\right\}^2}{N_{ANT}}\right]$ = 2.88dBi <6dBi, so the limit doesn't reduce.

2437 MHz= $Directiona\ lGain = 10 \cdot \log\left[\frac{\sum_{j=1}^{N_{SS}}\left\{\sum_{k=1}^{N_{ANT}} g_{j,k}\right\}^2}{N_{ANT}}\right]$ = 2.97dBi <6dBi, so the limit doesn't reduce.

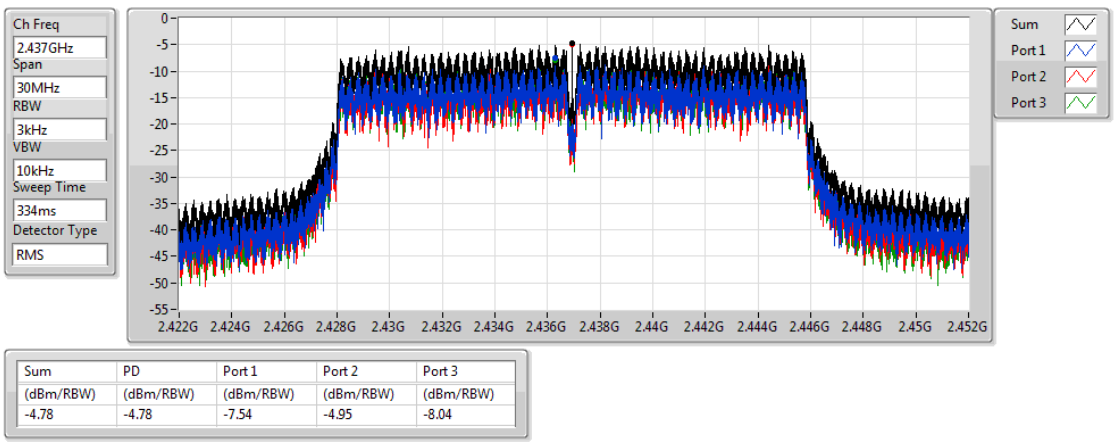
2462 MHz= $Directiona\ lGain = 10 \cdot \log\left[\frac{\sum_{j=1}^{N_{SS}}\left\{\sum_{k=1}^{N_{ANT}} g_{j,k}\right\}^2}{N_{ANT}}\right]$ = 3.13dBi <6dBi, so the limit doesn't reduce.

Power Density Plot on Configuration IEEE 802.11n 20MHz MCS8 / CH 1 / Ant. 1+2+3 (2S3T, CDD)



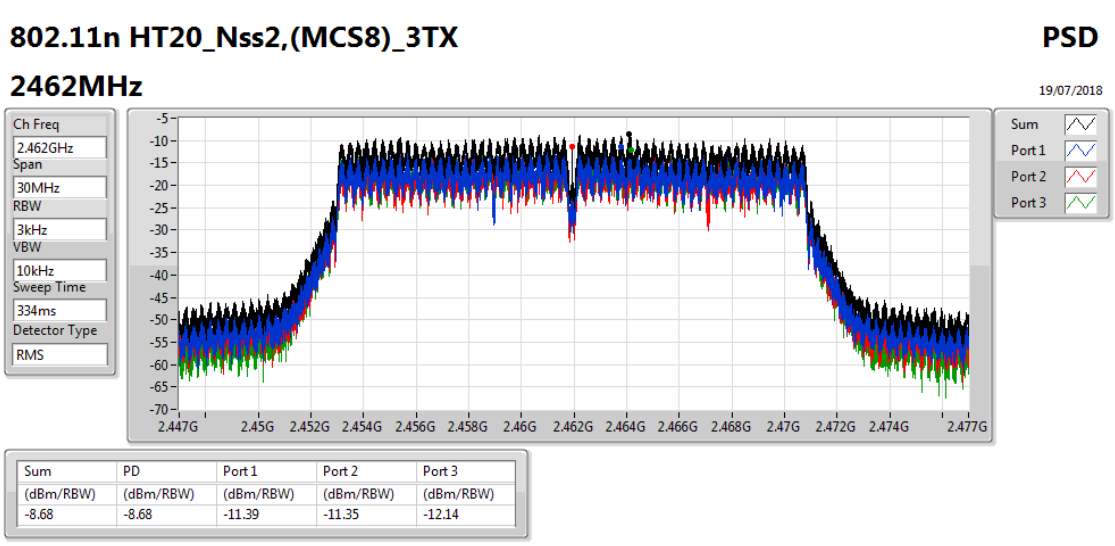
Sum	PD	Port 1	Port 2	Port 3
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-8.59	-8.59	-11.92	-8.92	-13.29

Power Density Plot on Configuration IEEE 802.11n 20MHz MCS8 / CH 6 / Ant. 1+2+3 (2S3T, CDD)



Sum	PD	Port 1	Port 2	Port 3
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-4.78	-4.78	-7.54	-4.95	-8.04

Power Density Plot on Configuration IEEE 802.11n 20MHz MCS8 / CH 11 / Ant. 1+2+3 (2S3T, CDD)



Sum	PD	Port 1	Port 2	Port 3
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-8.68	-8.68	-11.39	-11.35	-12.14

<MCS16, Ant. 1+2+3, 3S3T, SDM>

Channel	Frequency	Duty Factor (dB)	PSD With Duty Factor (dBm/3kHz)	Directional Gain (dBi)	Limit (dBm/3kHz)	Result
1	2412 MHz	0.10	-9.56	0.59	8.00	PASS
6	2437 MHz	0.10	-3.39	0.66	8.00	PASS
11	2462 MHz	0.10	-9.09	0.78	8.00	PASS

Note 1:

Method 1 of powr density measurement of KDB 662911 is using for calculation totol power density.Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.

Note 2:

Refer to section 1.14 for duty cycle spectroum plot.

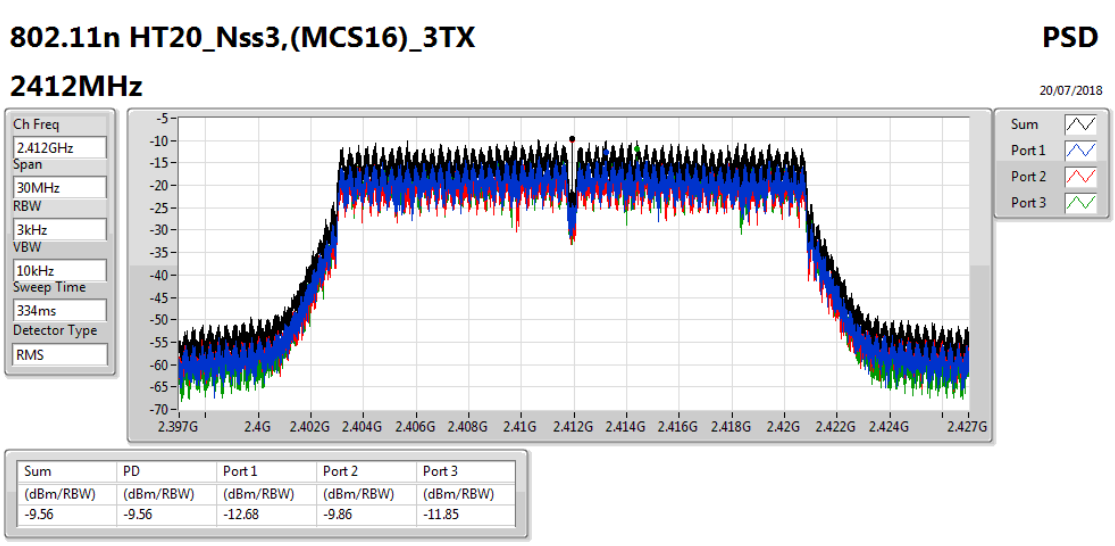
Note 3:

2412 MHz= $Directiona\ lGain = 10 \cdot \log\left[\frac{\sum_{j=1}^{N_{SS}}\left\{\sum_{k=1}^{N_{ANT}} g_{j,k}\right\}^2}{N_{ANT}}\right]$ = 0.59dBi <6dBi, so the limit doesn't reduce.

2437 MHz= $Directiona\ lGain = 10 \cdot \log\left[\frac{\sum_{j=1}^{N_{SS}}\left\{\sum_{k=1}^{N_{ANT}} g_{j,k}\right\}^2}{N_{ANT}}\right]$ = 0.66dBi <6dBi, so the limit doesn't reduce.

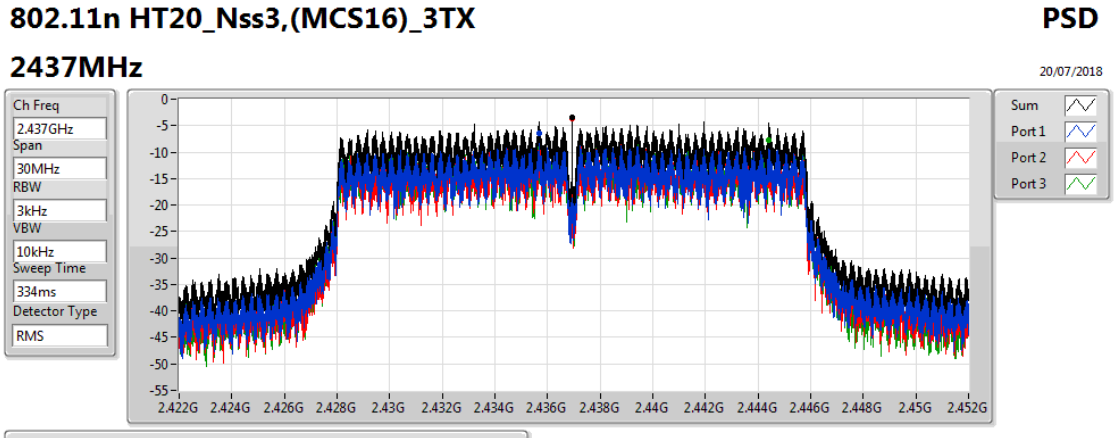
2462 MHz= $Directiona\ lGain = 10 \cdot \log\left[\frac{\sum_{j=1}^{N_{SS}}\left\{\sum_{k=1}^{N_{ANT}} g_{j,k}\right\}^2}{N_{ANT}}\right]$ = 0.78dBi <6dBi, so the limit doesn't reduce.

Power Density Plot on Configuration IEEE 802.11n 20MHz MCS16 / CH 1 / Ant. 1+2+3 (3S3T, SDM)



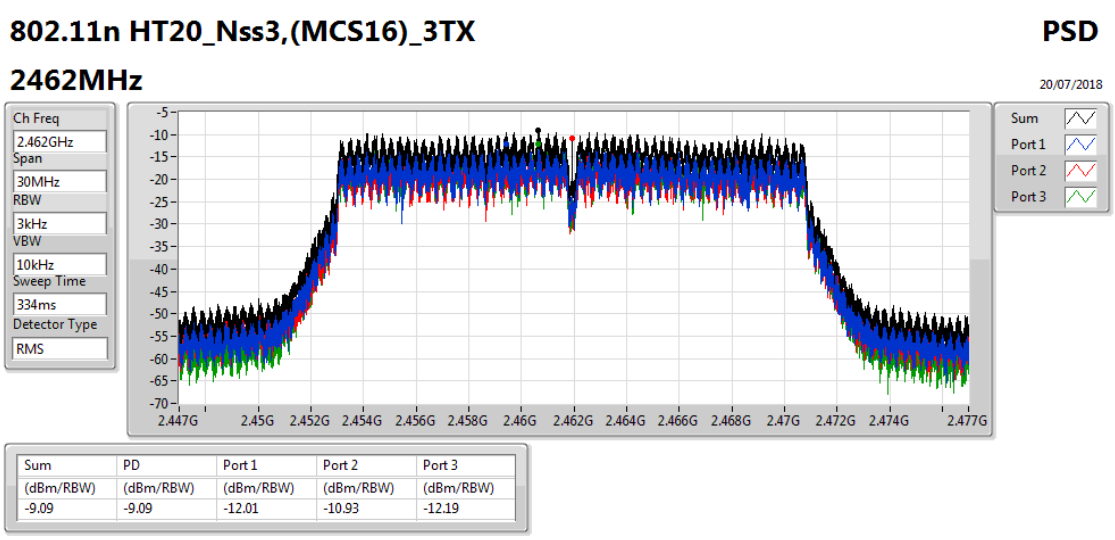
Sum	PD	Port 1	Port 2	Port 3
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-9.56	-9.56	-12.68	-9.86	-11.85

Power Density Plot on Configuration IEEE 802.11n 20MHz MCS16 / CH 6 / Ant. 1+2+3 (3S3T, SDM)



Sum	PD	Port 1	Port 2	Port 3
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-3.39	-3.39	-6.37	-3.69	-7.78

Power Density Plot on Configuration IEEE 802.11n 20MHz MCS16 / CH 11 / Ant. 1+2+3 (3S3T, SDM)



Sum	PD	Port 1	Port 2	Port 3
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-9.09	-9.09	-12.01	-10.93	-12.19

Test date	Feb. 13, 2018~Jul. 23, 2018	Test Site No.	TH01-CB
Temperature	18.7℃	Humidity	46%
Test Engineer	Brian Sun & Ron Huang	Configuration	802.11n 40MHz

Configuration IEEE 802.11n 40MHz

<MCS0, Ant. 1+2+3, 1S3T, CDD>

Channel	Frequency	Duty Factor (dB)	PSD With Duty Factor (dBm/3kHz)	Directional Gain (dBi)	Limit (dBm/3kHz)	Result
3	2422 MHz	0.08	-11.23	5.48	8.00	PASS
6	2437 MHz	0.08	-10.51	5.54	8.00	PASS
9	2452 MHz	0.08	-11.51	5.62	8.00	PASS

Note 1:

Method 1 of powr density measurement of KDB 662911 is using for calculation totol power density.Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.

Note 2:

Refer to section 1.14 for duty cycle spectroum plot.

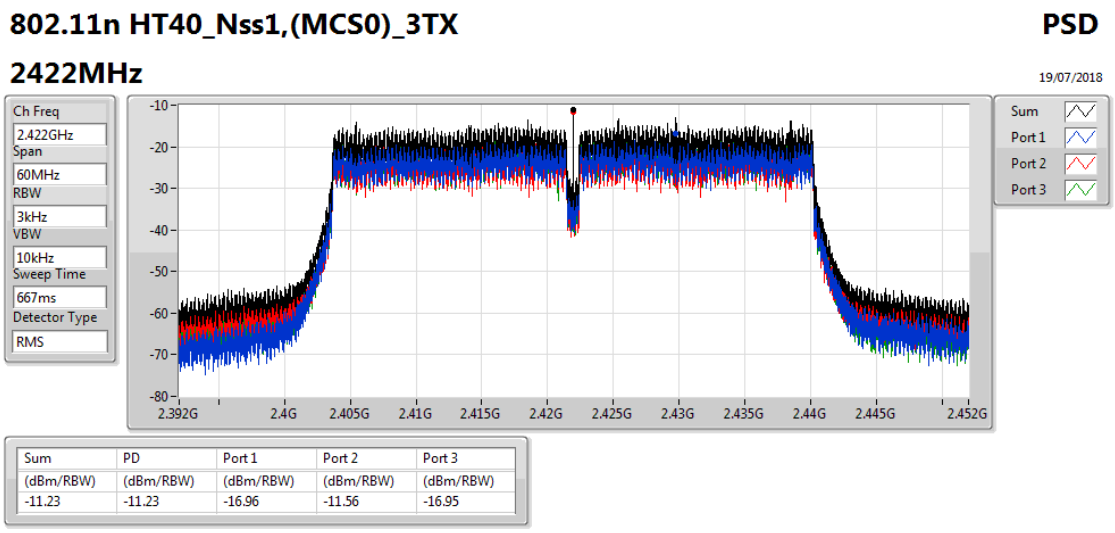
Note 3:

2422 MHz= $Directiona\ lGain = 10 \cdot \log \left[\frac{\sum_{j=1}^{N_{SS}} \left\{ \sum_{k=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right]$ = 5.48dBi <6dBi, so the limit doesn't reduce.

2437 MHz= $Directiona\ lGain = 10 \cdot \log \left[\frac{\sum_{j=1}^{N_{SS}} \left\{ \sum_{k=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right]$ = 5.54dBi <6dBi, so the limit doesn't reduce.

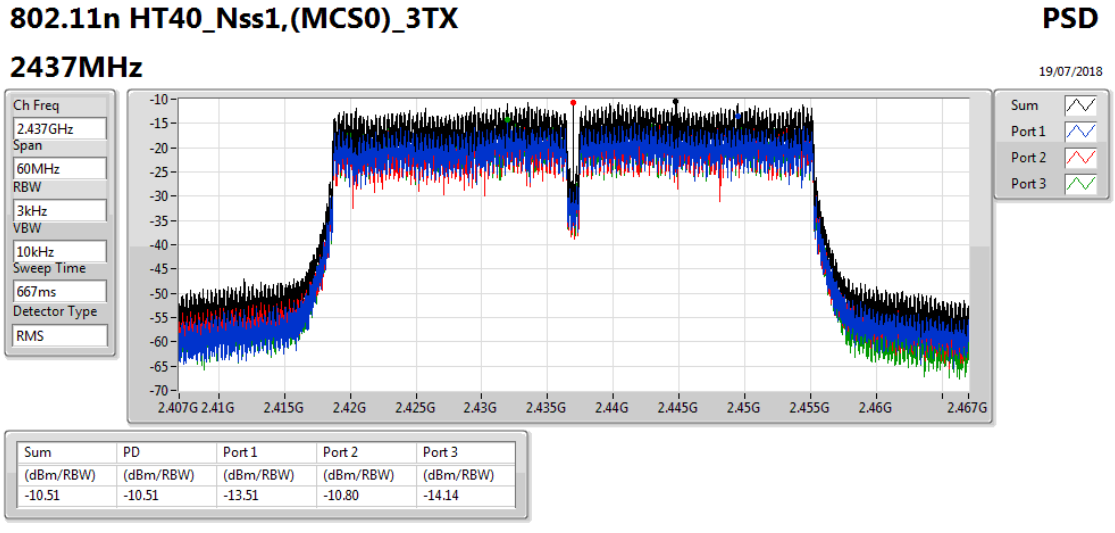
2452 MHz= $Directiona\ lGain = 10 \cdot \log \left[\frac{\sum_{j=1}^{N_{SS}} \left\{ \sum_{k=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right]$ = 5.62dBi <6dBi, so the limit doesn't reduce.

Power Density Plot on Configuration IEEE 802.11n 40MHz MCS0 / CH 3 / Ant. 1+2+3 (1S3T, CDD)



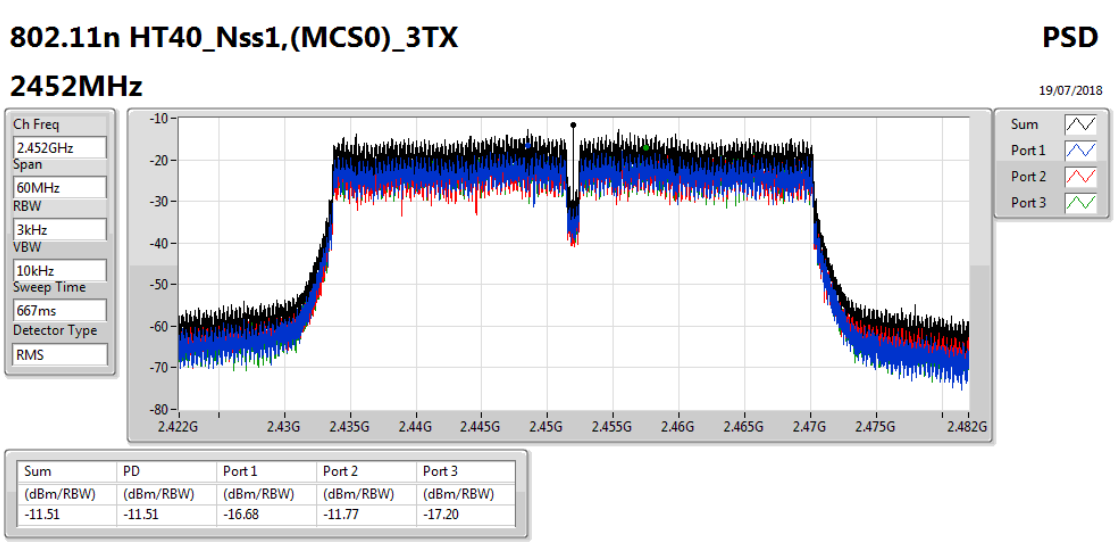
Sum	PD	Port 1	Port 2	Port 3
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-11.23	-11.23	-16.96	-11.56	-16.95

Power Density Plot on Configuration IEEE 802.11n 40MHz MCS0 / CH 6 / Ant. 1+2+3 (1S3T, CDD)



Sum	PD	Port 1	Port 2	Port 3
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-10.51	-10.51	-13.51	-10.80	-14.14

Power Density Plot on Configuration IEEE 802.11n 40MHz MCS0 / CH 9 / Ant. 1+2+3 (1S3T, CDD)



Sum	PD	Port 1	Port 2	Port 3
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-11.51	-11.51	-16.68	-11.77	-17.20

<MCS8, Ant. 1+2+3, 2S3T, CDD>

Channel	Frequency	Duty Factor (dB)	PSD With Duty Factor (dBm/3kHz)	Directional Gain (dBi)	Limit (dBm/3kHz)	Result
3	2422 MHz	0.15	-13.09	2.93	8.00	PASS
6	2437 MHz	0.15	-9.53	2.97	8.00	PASS
9	2452 MHz	0.15	-12.28	3.09	8.00	PASS

Note 1:

Method 1 of powr density measurement of KDB 662911 is using for calculation totol power density.Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.

Note 2:

Refer to section 1.14 for duty cycle spectroum plot.

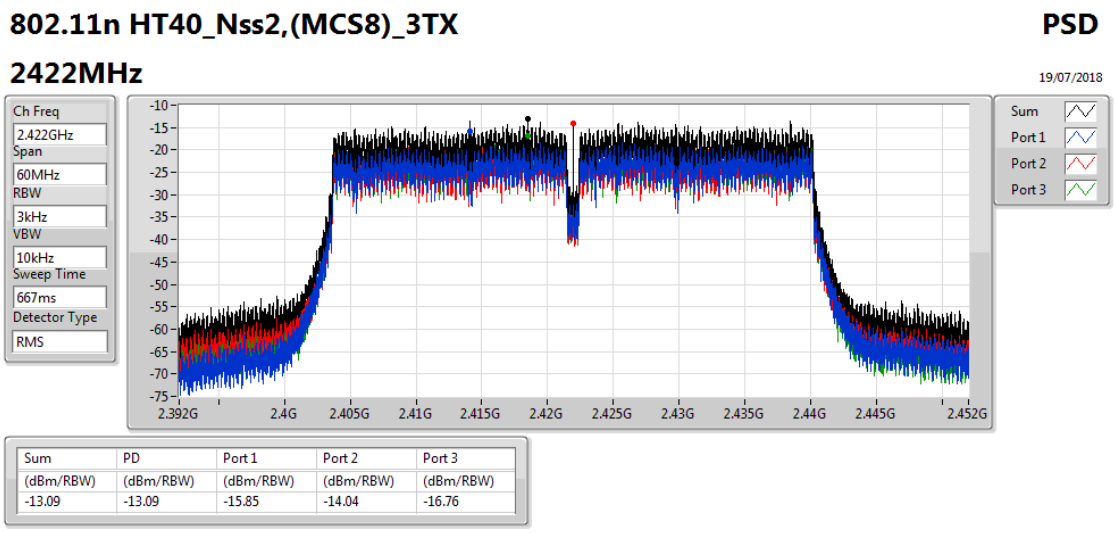
Note 3:

2422 MHz= $Directional\ Gain = 10 \cdot \log\left[\frac{\sum_{j=1}^{N_{SS}}\left\{\sum_{k=1}^{N_{ANT}} g_{j,k}\right\}^2}{N_{ANT}}\right]$ = 2.93dBi <6dBi, so the limit doesn't reduce.

2437 MHz= $Directional\ Gain = 10 \cdot \log\left[\frac{\sum_{j=1}^{N_{SS}}\left\{\sum_{k=1}^{N_{ANT}} g_{j,k}\right\}^2}{N_{ANT}}\right]$ = 2.97dBi <6dBi, so the limit doesn't reduce.

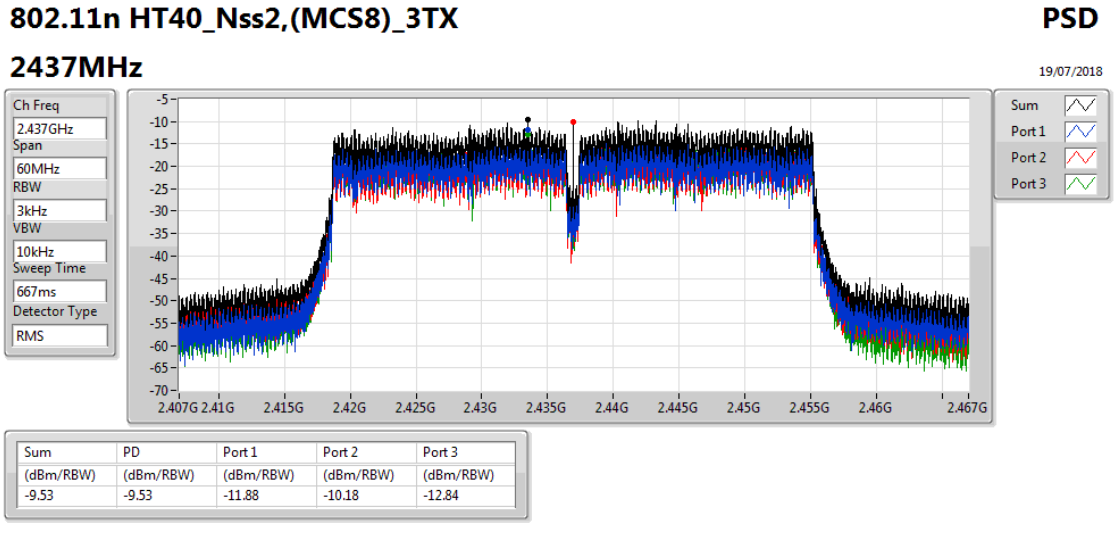
2452 MHz= $Directional\ Gain = 10 \cdot \log\left[\frac{\sum_{j=1}^{N_{SS}}\left\{\sum_{k=1}^{N_{ANT}} g_{j,k}\right\}^2}{N_{ANT}}\right]$ = 3.09dBi <6dBi, so the limit doesn't reduce.

Power Density Plot on Configuration IEEE 802.11n 40MHz MCS8 / CH 3 / Ant. 1+2+3 (2S3T, CDD)



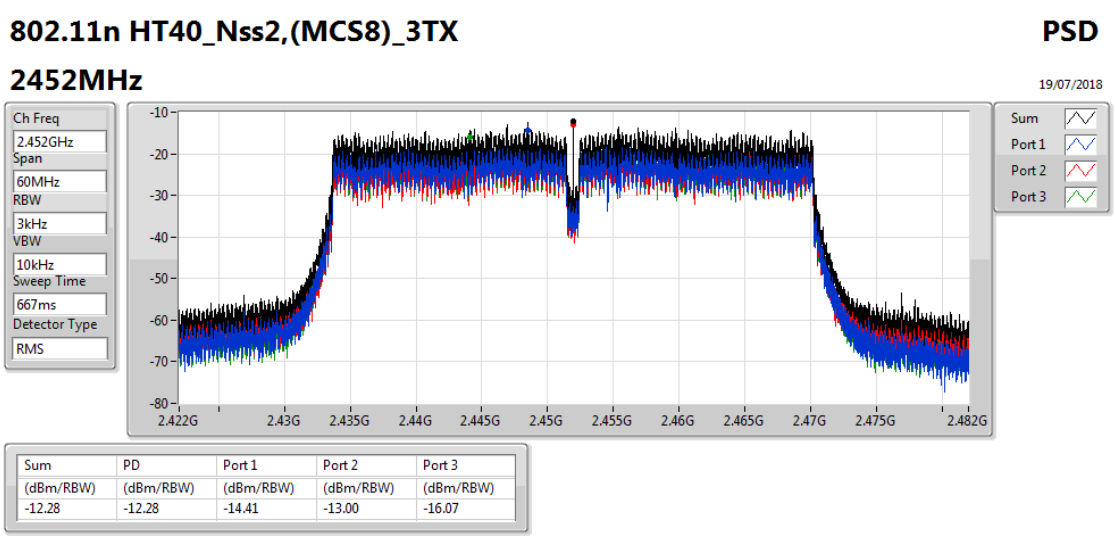
Sum	PD	Port 1	Port 2	Port 3
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-13.09	-13.09	-15.85	-14.04	-16.76

Power Density Plot on Configuration IEEE 802.11n 40MHz MCS8 / CH 6 / Ant. 1+2+3 (2S3T, CDD)



Sum	PD	Port 1	Port 2	Port 3
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-9.53	-9.53	-11.88	-10.18	-12.84

Power Density Plot on Configuration IEEE 802.11n 40MHz MCS8 / CH 9 / Ant. 1+2+3 (2S3T, CDD)



Sum	PD	Port 1	Port 2	Port 3
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-12.28	-12.28	-14.41	-13.00	-16.07

<MCS16, Ant. 1+2+3, 3S3T, SDM>

Channel	Frequency	Duty Factor (dB)	PSD With Duty Factor (dBm/3kHz)	Directional Gain (dBi)	Limit (dBm/3kHz)	Result
3	2422 MHz	0.21	-12.94	0.62	8.00	PASS
6	2437 MHz	0.21	-8.72	0.66	8.00	PASS
9	2452 MHz	0.21	-11.46	0.74	8.00	PASS

Note 1:

Method 1 of powr density measurement of KDB 662911 is using for calculation totol power density.Total power density is summing entire spectra across corresponding frequency bins on the various outputs by computer.

Note 2:

Refer to section 1.14 for duty cycle spectroum plot.

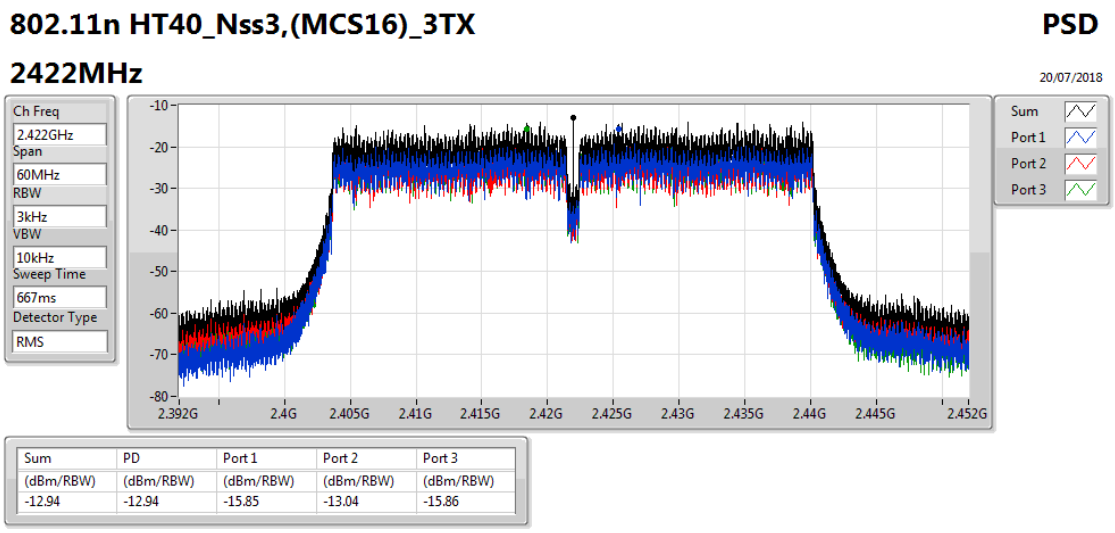
Note 3:

2422 MHz= $Directiona\ lGain = 10 \cdot \log\left[\frac{\sum_{j=1}^{N_{SS}}\left\{\sum_{k=1}^{N_{ANT}} g_{j,k}\right\}^2}{N_{ANT}}\right]$ = 0.62dBi <6dBi, so the limit doesn't reduce.

2437 MHz= $Directiona\ lGain = 10 \cdot \log\left[\frac{\sum_{j=1}^{N_{SS}}\left\{\sum_{k=1}^{N_{ANT}} g_{j,k}\right\}^2}{N_{ANT}}\right]$ = 0.66dBi <6dBi, so the limit doesn't reduce.

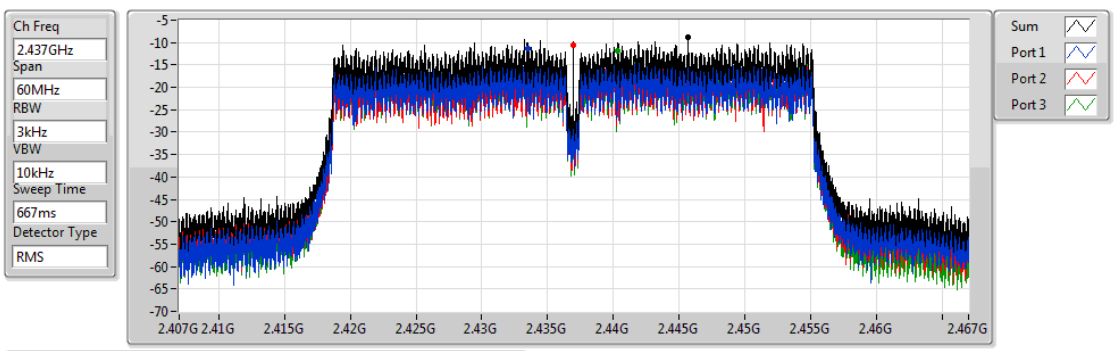
2452 MHz= $Directiona\ lGain = 10 \cdot \log\left[\frac{\sum_{j=1}^{N_{SS}}\left\{\sum_{k=1}^{N_{ANT}} g_{j,k}\right\}^2}{N_{ANT}}\right]$ = 0.74dBi <6dBi, so the limit doesn't reduce.

Power Density Plot on Configuration IEEE 802.11n 40MHz MCS16 / CH 3 / Ant. 1+2+3 (3S3T, SDM)



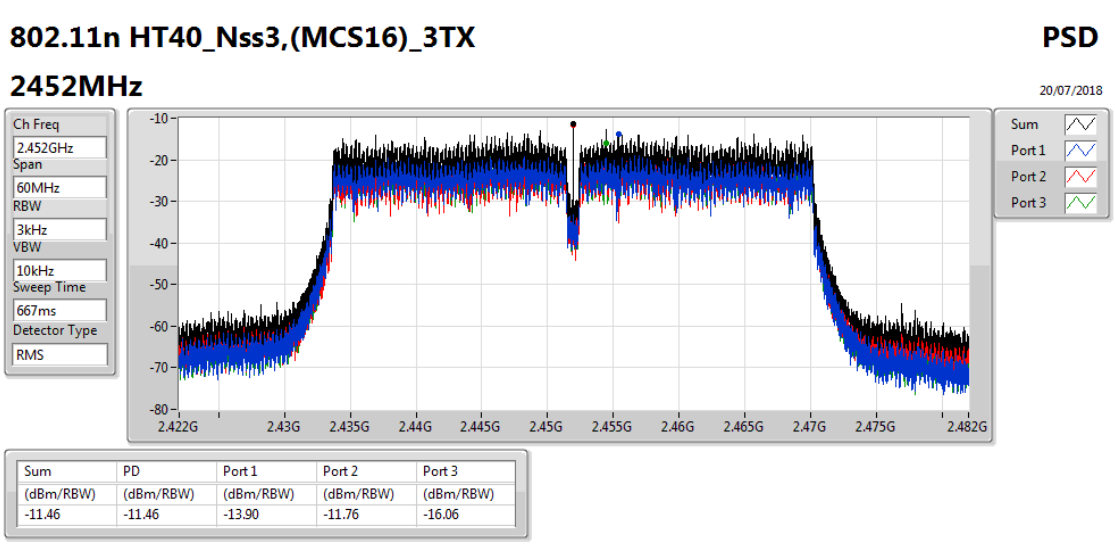
Sum	PD	Port 1	Port 2	Port 3
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-12.94	-12.94	-15.85	-13.04	-15.86

Power Density Plot on Configuration IEEE 802.11n 40MHz MCS16 / CH 6 / Ant. 1+2+3 (3S3T, SDM)



Sum	PD	Port 1	Port 2	Port 3
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-8.72	-8.72	-11.34	-10.61	-11.92

Power Density Plot on Configuration IEEE 802.11n 40MHz MCS16 / CH 9 / Ant. 1+2+3 (3S3T, SDM)



Sum	PD	Port 1	Port 2	Port 3
(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)	(dBm/RBW)
-11.46	-11.46	-13.90	-11.76	-16.06

2.4. 6dB Spectrum and 99% Occupied Bandwidth Measurement

2.4.1. Limit

For digital modulation systems, the minimum 6 dB bandwidth shall be at least 500 kHz.

2.4.2. Measuring Instruments and Setting

Please refer to section 3 of equipments list in this report. The following table is the setting of the Spectrum Analyzer.

6dB Spectrum Bandwidth	
Spectrum Parameters	**Setting**
Attenuation	Auto
Span Frequency	> 6dB Bandwidth
RBW	100kHz
VBW	≥ 3 x RBW
Detector	Peak
Trace	Max Hold
Sweep Time	Auto
99% Occupied Bandwidth	
Spectrum Parameters	**Setting**
Span	1.5 times to 5.0 times the OBW
RBW	1 % to 5 % of the OBW
VBW	≥ 3 x RBW
Detector	Peak
Trace	Max Hold

2.4.3. Test Procedures

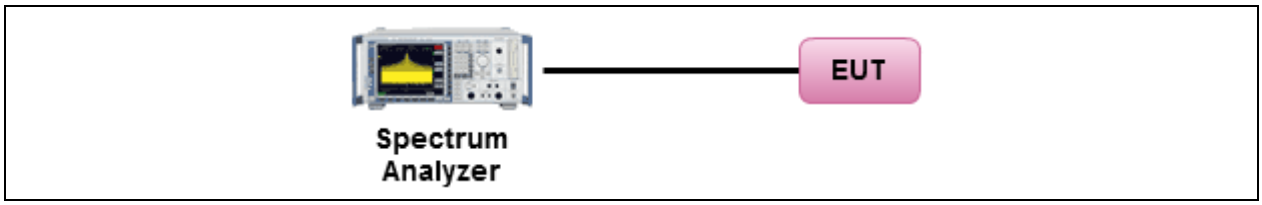
For 6dB Bandwidth Measurement:

1. The transmitter output (antenna port) was connected to the spectrum analyzer in peak hold mode.
2. For each RF output channel investigated, the spectrum analyzer center frequency was set to the channel carrier frequency. A peak reading was taken; two markers were set 6 dB below the maximum level on the right and the left side of the emissions.
3. The 6dB bandwidth is the frequency difference between the two markers.

For 99% Occupied Bandwidth Measurement:

1. The transmitter output (antenna port) was connected to the spectrum analyzer in peak, Max hold mode.
2. For each RF output channel investigated, the spectrum analyzer center frequency was set to the channel carrier frequency. The bandwidth of the fundamental frequency was measured by spectrum analyzer with resolution bandwidth in the range of 1% to 5% of the anticipated emission bandwidth, and a video bandwidth at least 3x the resolution bandwidth and set the detector to peak.
3. The width of a frequency band such that, below the lower and above the upper frequency limits, the mean powers emitted are each equal to a specified percentage 0.5 %of the total mean power of a given emission.

2.4.4. Test Setup Layout



2.4.5. Test Deviation

There is no deviation with the original standard.

2.4.6. EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

2.4.7. Test Result of 6dB Spectrum Bandwidth

Test date	Feb. 13, 2018~Jul. 23, 2018	Test Site No.	TH01-CB
Temperature	18.7℃	Humidity	46%
Test Engineer	Brian Sun & Ron Huang	Configuration	802.11b

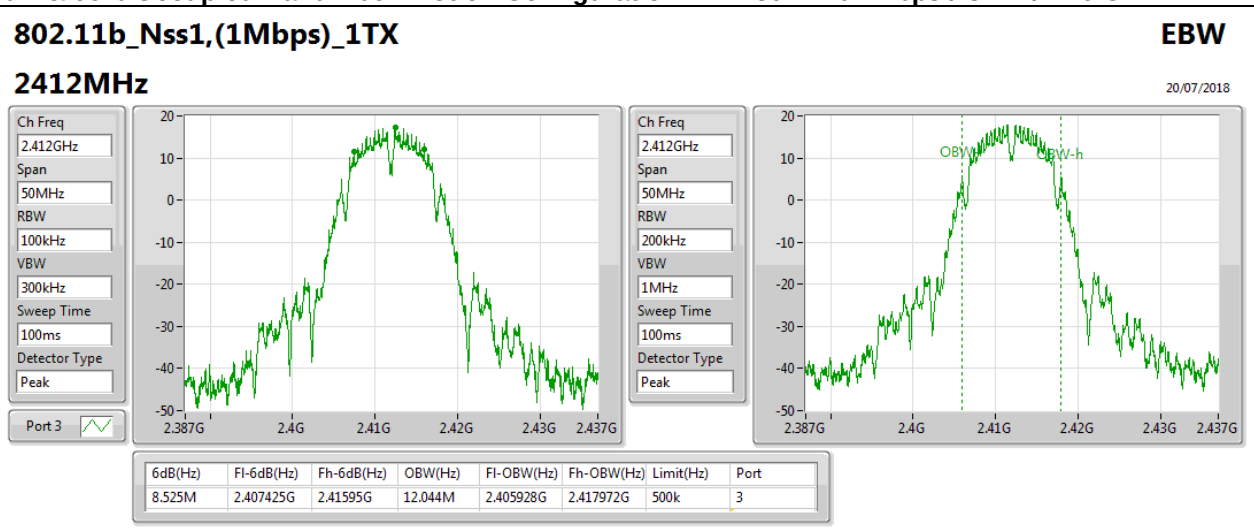
Configuration IEEE 802.11b

<1Mbps, Ant. 3, 1S1T, SISO>

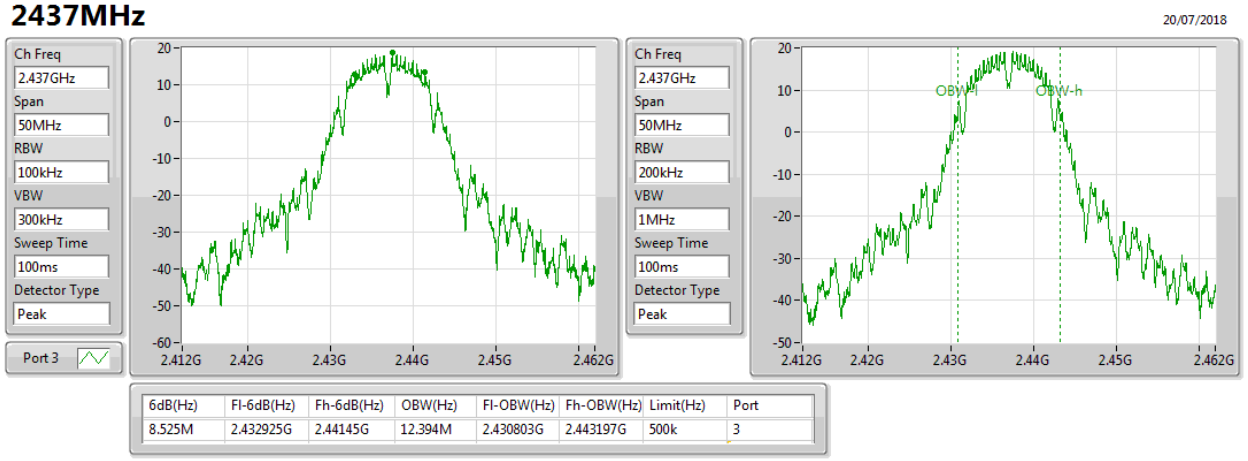
Channel	Frequency	6dB Bandwidth (MHz)	Min. Limit (kHz)	Test Result
1	2412 MHz	8.525	500	PASS
6	2437 MHz	8.525	500	PASS
11	2462 MHz	9.050	500	PASS

Channel	Frequency	99% Occupied Bandwidth (MHz)
1	2412 MHz	12.044
6	2437 MHz	12.394
11	2462 MHz	12.219

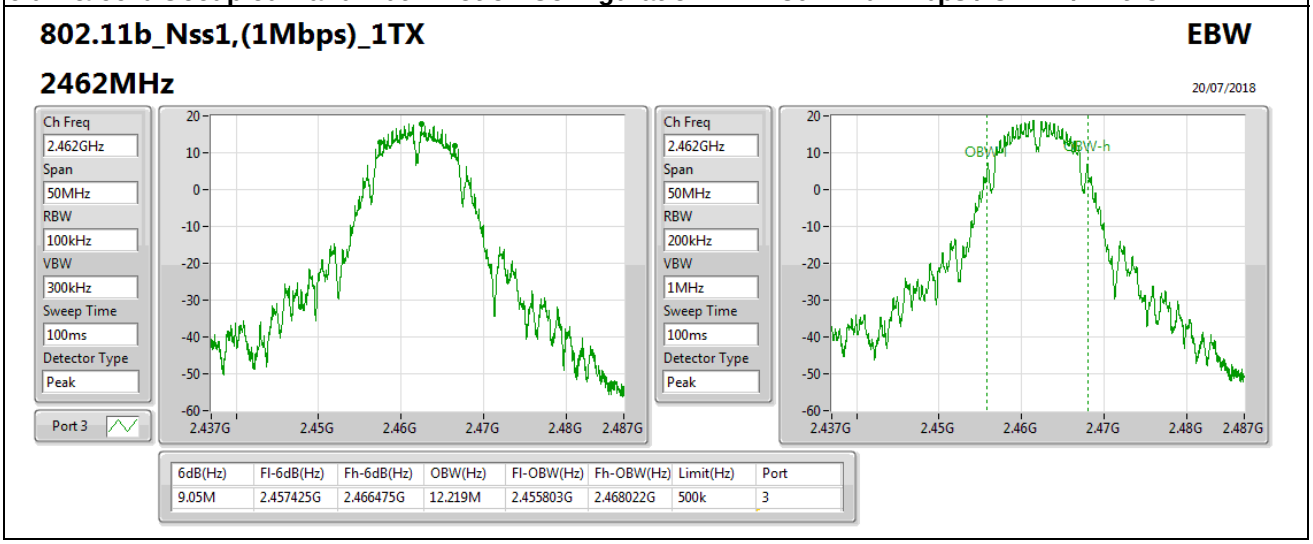
6 dB & 99% Occupied Bandwidth Plot on Configuration IEEE 802.11b 1Mbps / CH 1 / Ant. 3



6 dB & 99% Occupied Bandwidth Plot on Configuration IEEE 802.11b 1Mbps / CH 6 / Ant. 3



6 dB & 99% Occupied Bandwidth Plot on Configuration IEEE 802.11b 1Mbps / CH 11 / Ant. 3

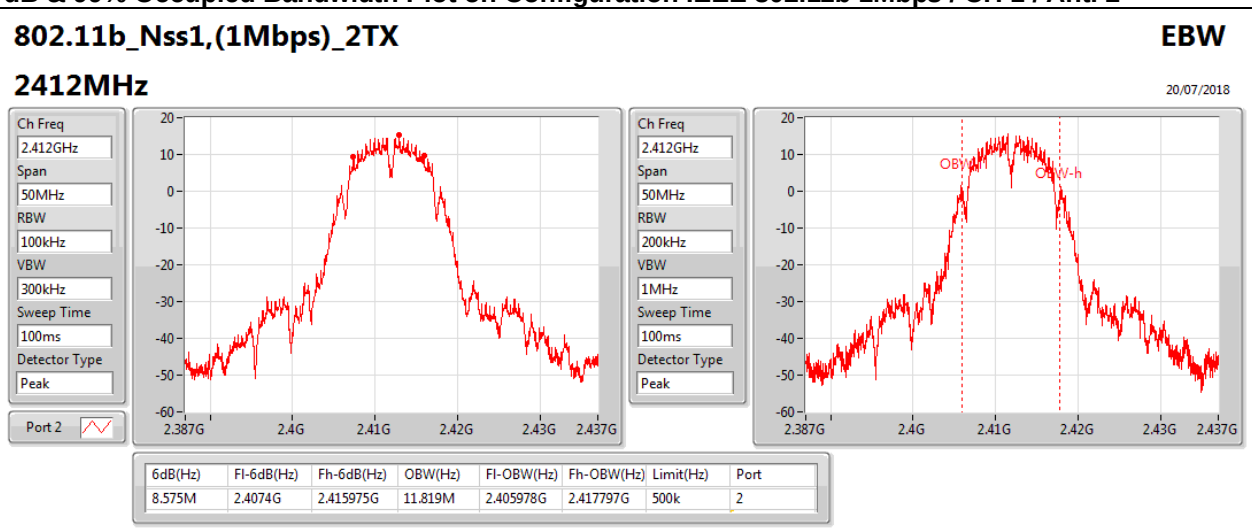


<1Mbps, Ant. 2+3, 1S2T, CDD>

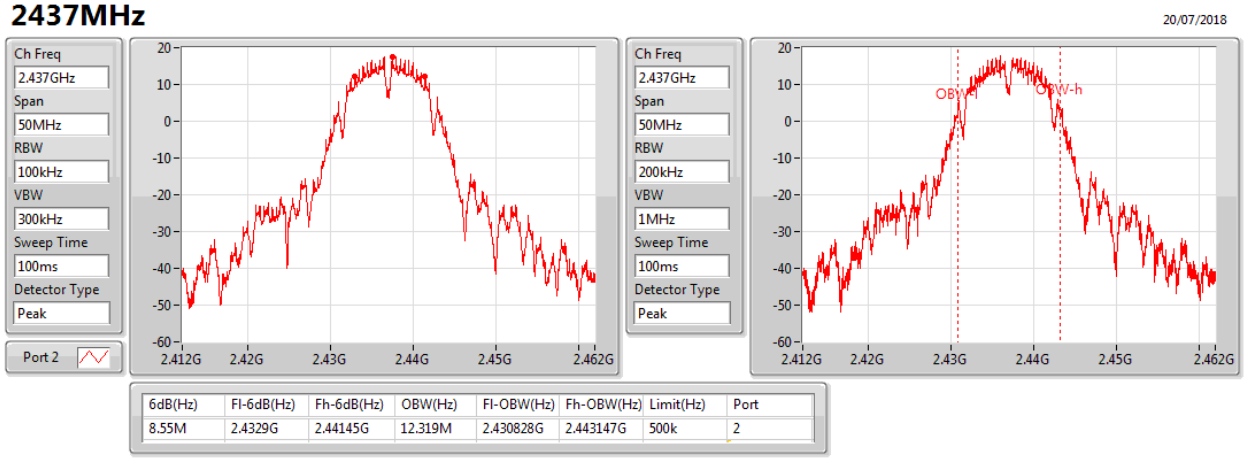
Channel	Frequency	6dB Bandwidth (MHz)		Min. Limit (kHz)	Test Result
		Ant. 2	Ant. 3		
1	2412 MHz	8.575	9.050	500	PASS
6	2437 MHz	8.550	9.025	500	PASS
11	2462 MHz	9.000	8.550	500	PASS

Channel	Frequency	99% Occupied Bandwidth (MHz)	
		Ant. 2	Ant. 3
1	2412 MHz	11.819	11.794
6	2437 MHz	12.319	12.194
11	2462 MHz	12.519	12.319

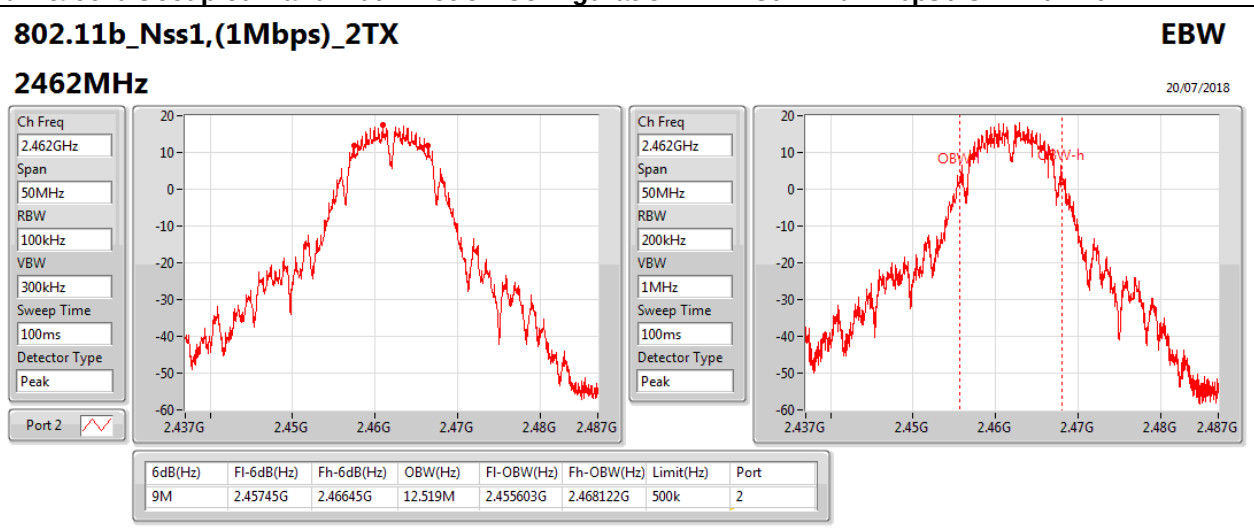
6 dB & 99% Occupied Bandwidth Plot on Configuration IEEE 802.11b 1Mbps / CH 1 / Ant. 2



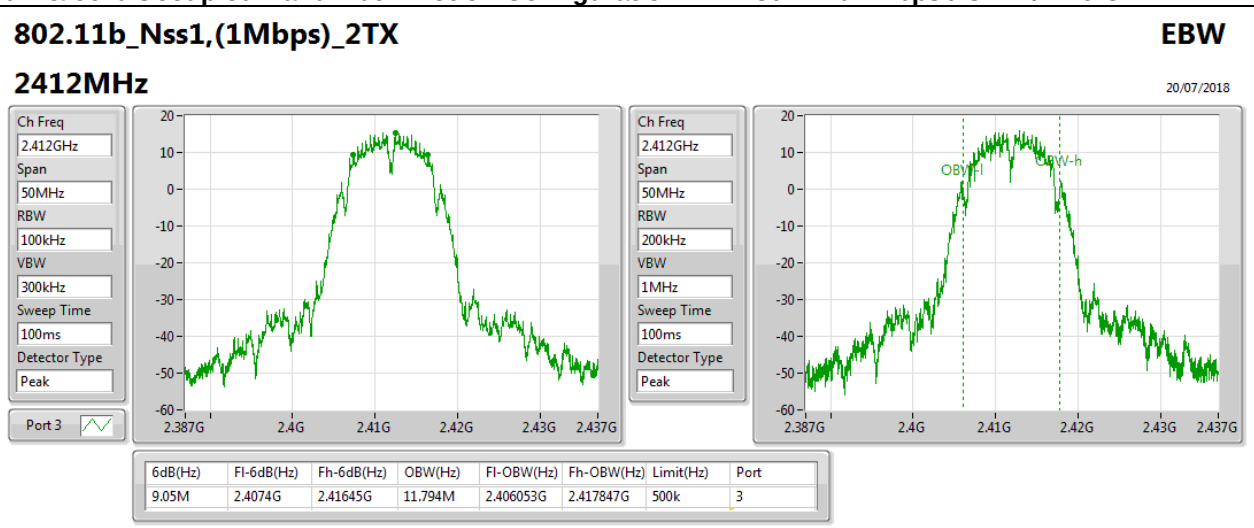
6 dB & 99% Occupied Bandwidth Plot on Configuration IEEE 802.11b 1Mbps / CH 6 / Ant. 2



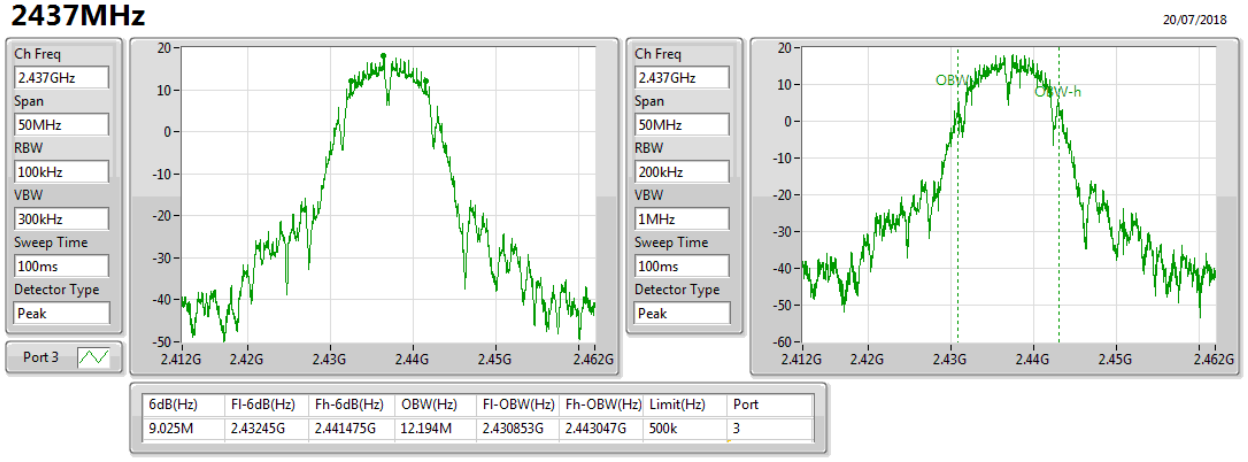
6 dB & 99% Occupied Bandwidth Plot on Configuration IEEE 802.11b 1Mbps / CH 11 / Ant. 2



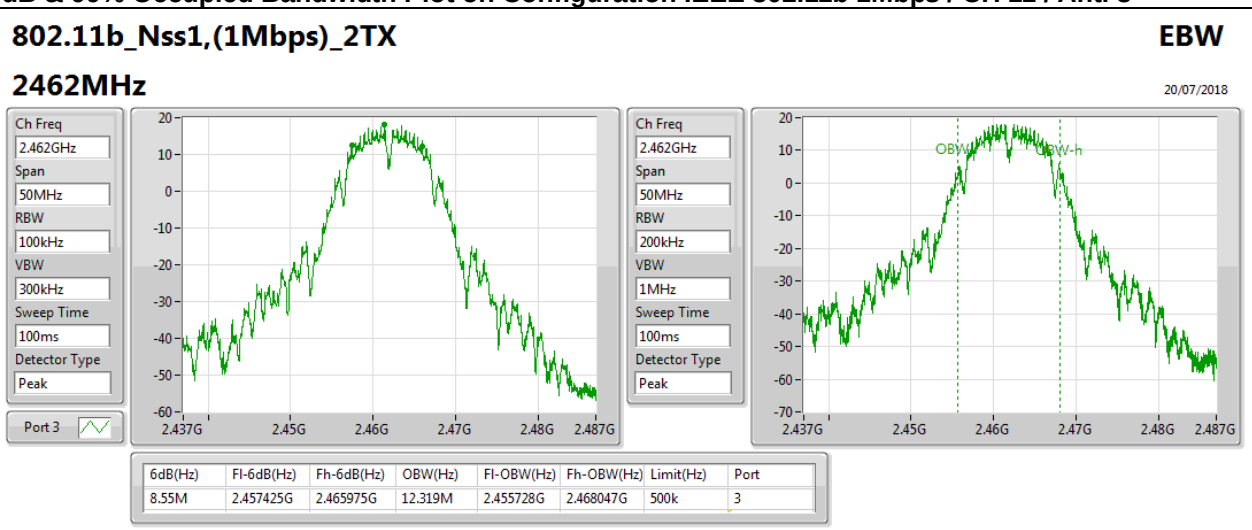
6 dB & 99% Occupied Bandwidth Plot on Configuration IEEE 802.11b 1Mbps / CH 1 / Ant. 3



6 dB & 99% Occupied Bandwidth Plot on Configuration IEEE 802.11b 1Mbps / CH 6 / Ant. 3



6 dB & 99% Occupied Bandwidth Plot on Configuration IEEE 802.11b 1Mbps / CH 11 / Ant. 3

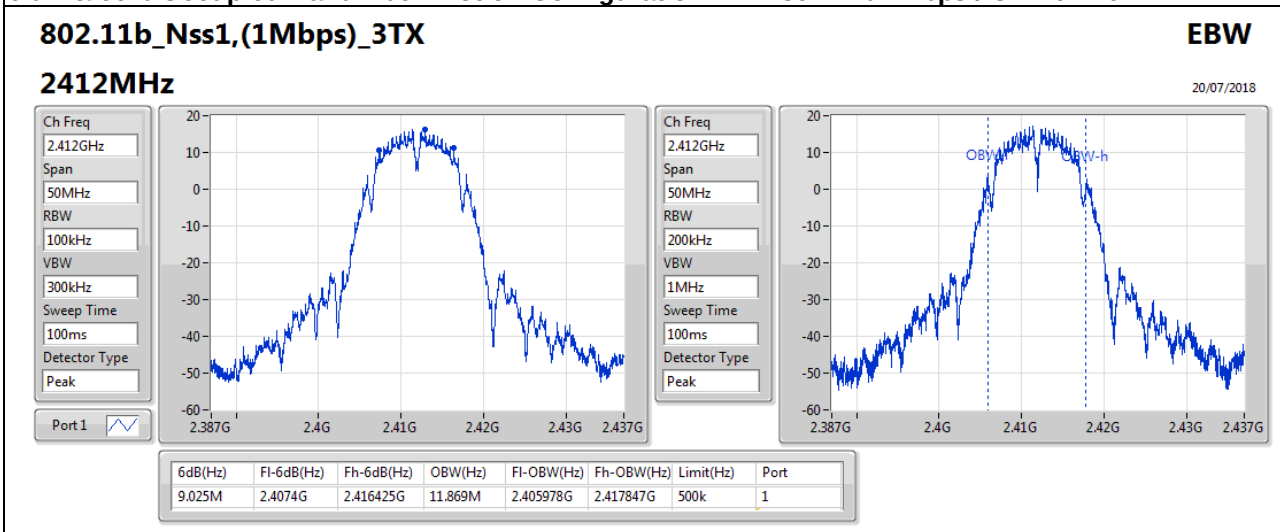


<1Mbps, Ant. 1+2+3, 1S3T, CDD>

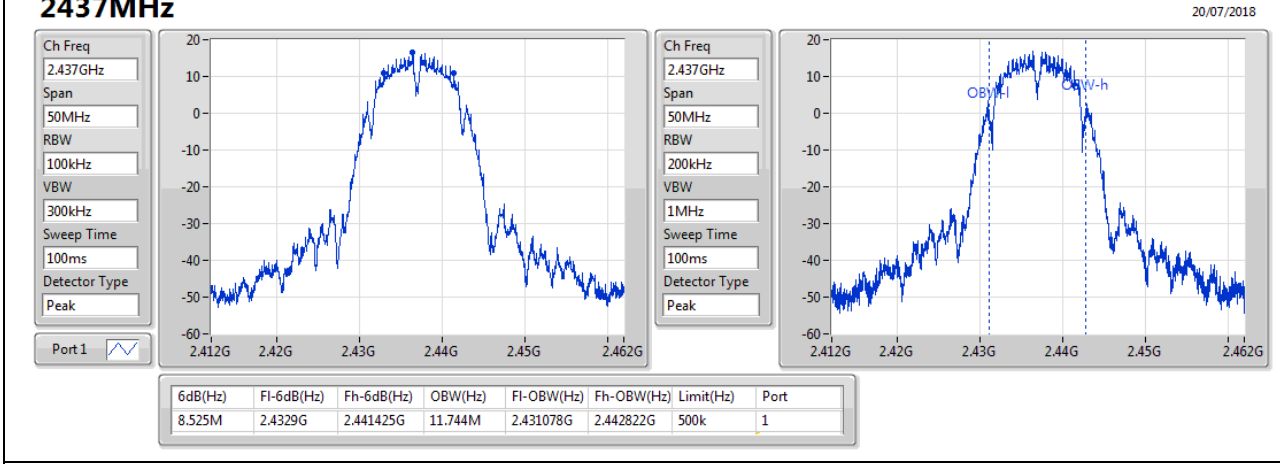
Channel	Frequency	6dB Bandwidth (MHz)			Min. Limit (kHz)	Test Result
		Ant. 1	Ant. 2	Ant. 3		
1	2412 MHz	9.025	8.075	9.025	500	PASS
6	2437 MHz	8.525	8.550	8.050	500	PASS
11	2462 MHz	9.025	8.525	8.975	500	PASS

Channel	Frequency	99% Occupied Bandwidth (MHz)		
		Ant. 1	Ant. 2	Ant. 3
1	2412 MHz	11.869	11.944	11.894
6	2437 MHz	11.744	11.919	11.819
11	2462 MHz	11.969	11.969	11.869

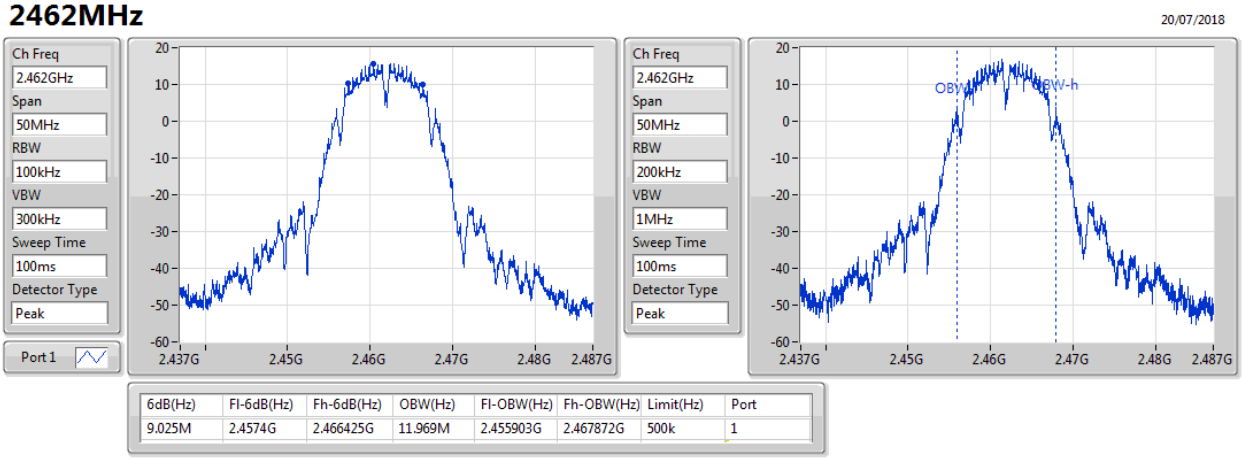
6 dB & 99% Occupied Bandwidth Plot on Configuration IEEE 802.11b 1Mbps / CH 1 / Ant. 1



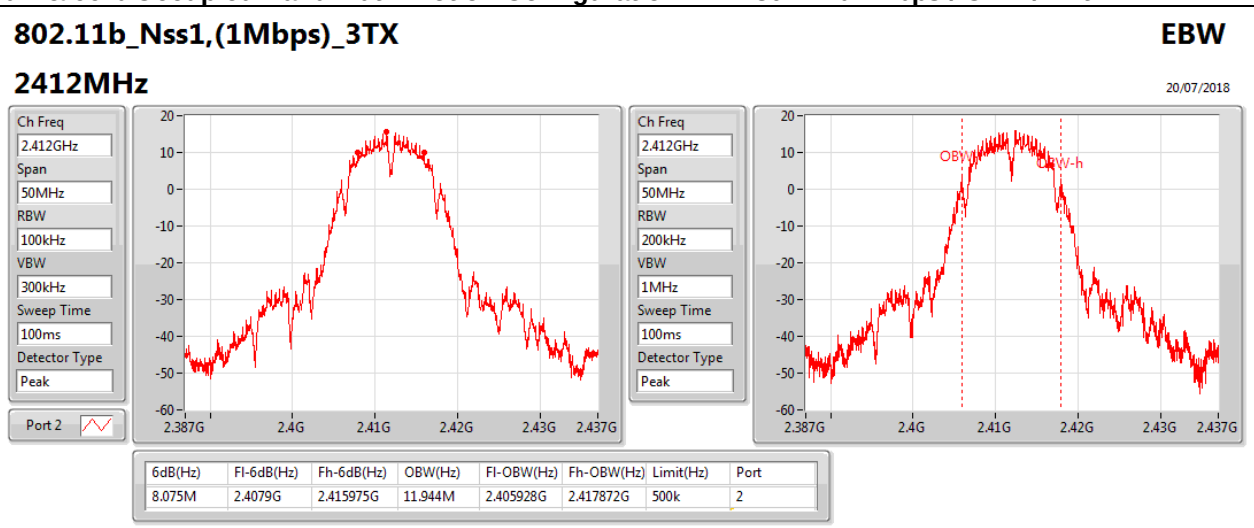
6 dB & 99% Occupied Bandwidth Plot on Configuration IEEE 802.11b 1Mbps / CH 6 / Ant. 1



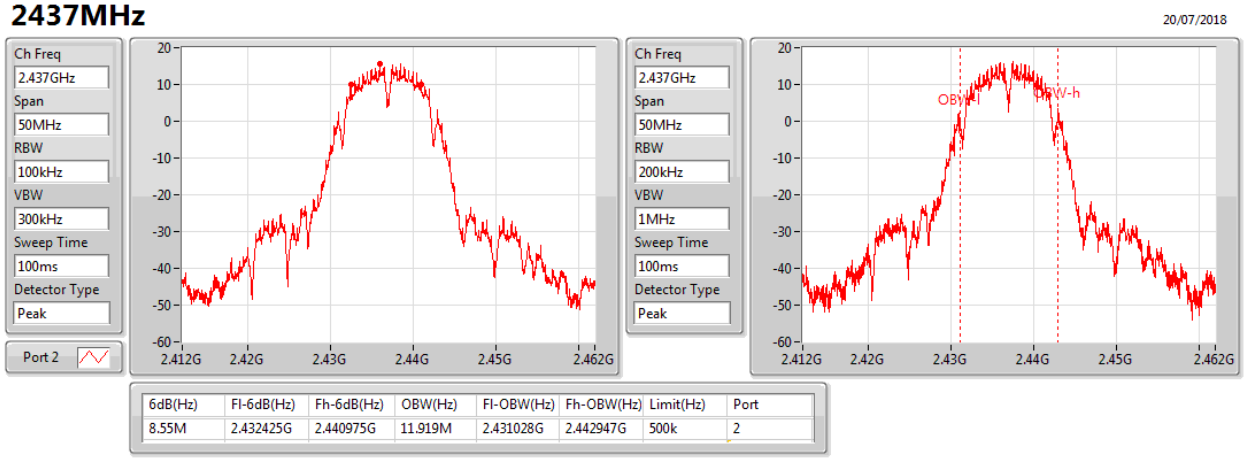
6 dB & 99% Occupied Bandwidth Plot on Configuration IEEE 802.11b 1Mbps / CH 11 / Ant. 1



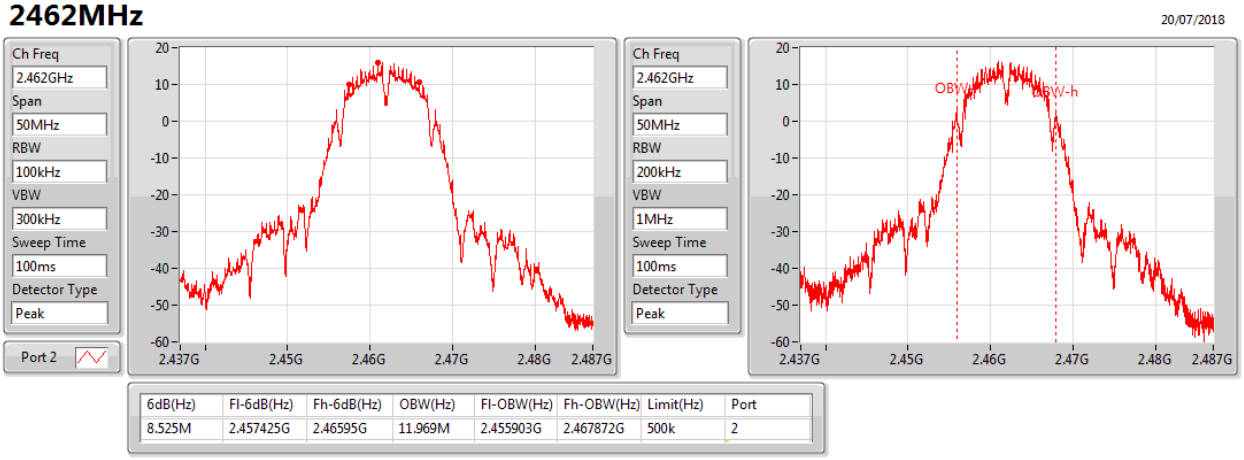
6 dB & 99% Occupied Bandwidth Plot on Configuration IEEE 802.11b 1Mbps / CH 1 / Ant. 2



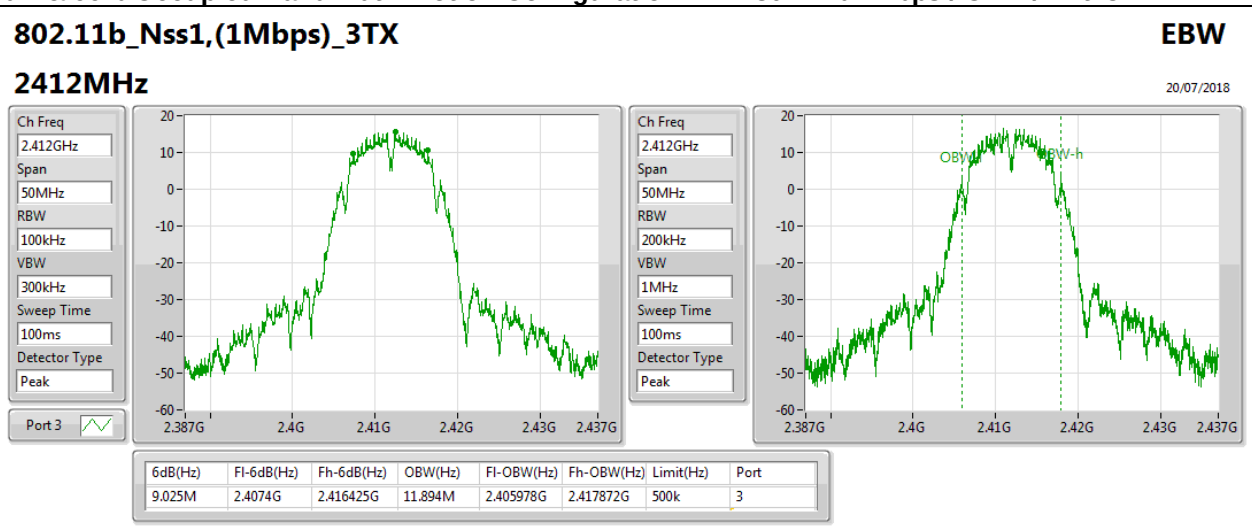
6 dB & 99% Occupied Bandwidth Plot on Configuration IEEE 802.11b 1Mbps / CH 6 / Ant. 2



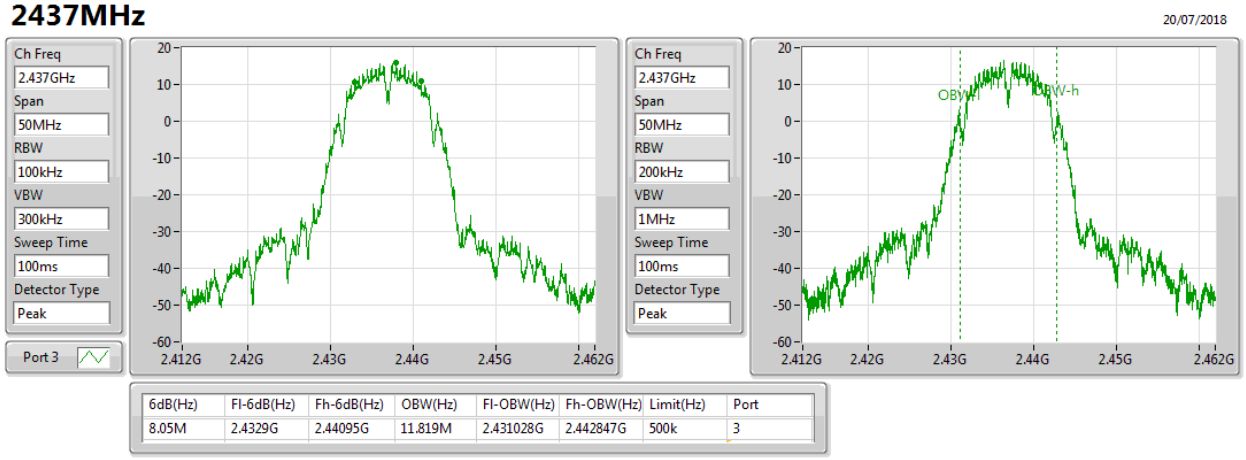
6 dB & 99% Occupied Bandwidth Plot on Configuration IEEE 802.11b 1Mbps / CH 11 / Ant. 2



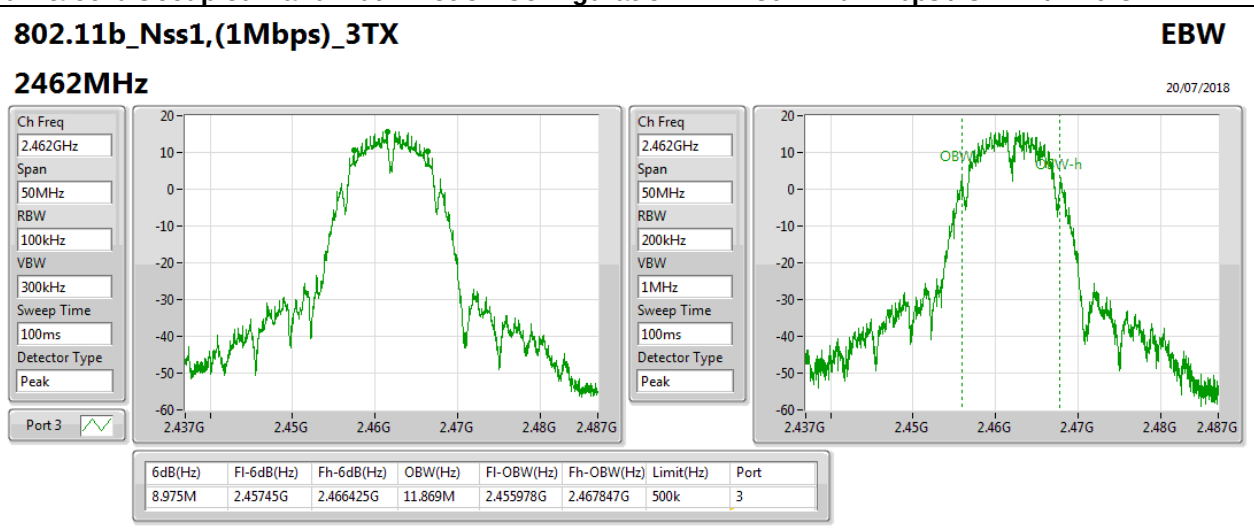
6 dB & 99% Occupied Bandwidth Plot on Configuration IEEE 802.11b 1Mbps / CH 1 / Ant. 3



6 dB & 99% Occupied Bandwidth Plot on Configuration IEEE 802.11b 1Mbps / CH 6 / Ant. 3



6 dB & 99% Occupied Bandwidth Plot on Configuration IEEE 802.11b 1Mbps / CH 11 / Ant. 3



Test date	Feb. 13, 2018~Jul. 23, 2018	Test Site No.	TH01-CB
Temperature	18.7℃	Humidity	46%
Test Engineer	Brian Sun & Ron Huang	Configuration	802.11g

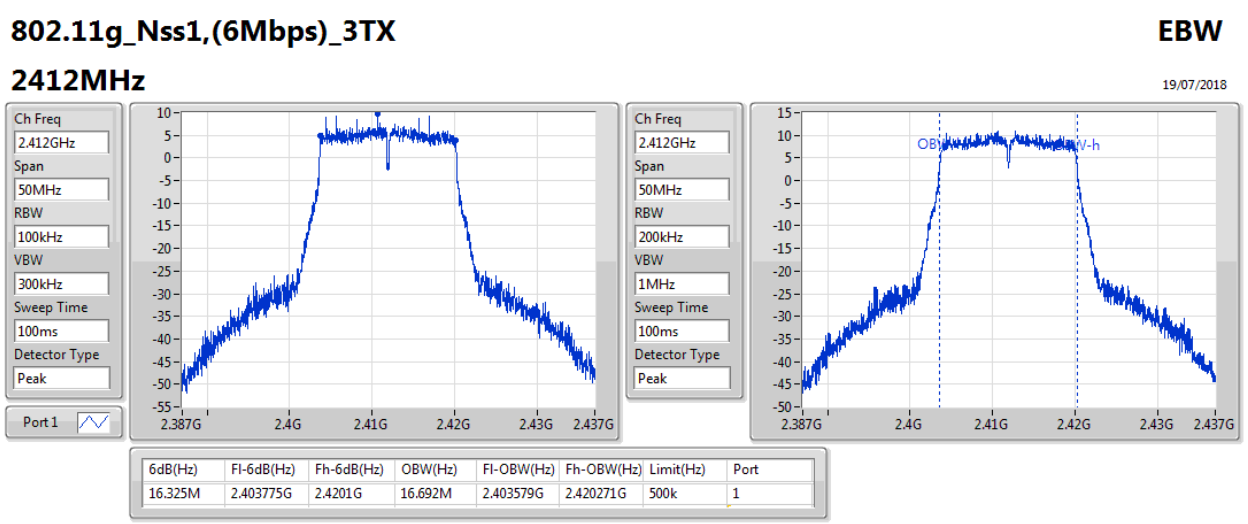
Configuration IEEE 802.11g

<6Mbps, Ant. 1+2+3, 1S3T, CDD>

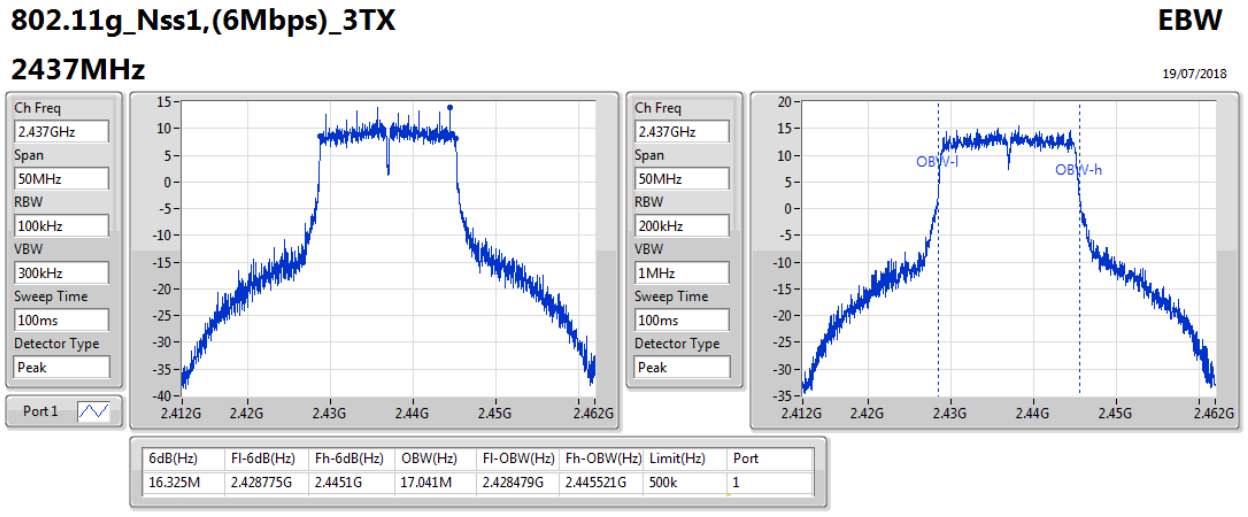
Channel	Frequency	6dB Bandwidth (MHz)			Min. Limit (kHz)	Test Result
		Ant. 1	Ant. 2	Ant. 3		
1	2412 MHz	16.325	16.325	16.350	500	PASS
6	2437 MHz	16.325	16.050	16.325	500	PASS
11	2462 MHz	16.300	16.325	16.325	500	PASS

Channel	Frequency	99% Occupied Bandwidth (MHz)		
		Ant. 1	Ant. 2	Ant. 3
1	2412 MHz	16.692	16.617	16.617
6	2437 MHz	17.041	16.867	16.817
11	2462 MHz	16.717	16.642	16.592

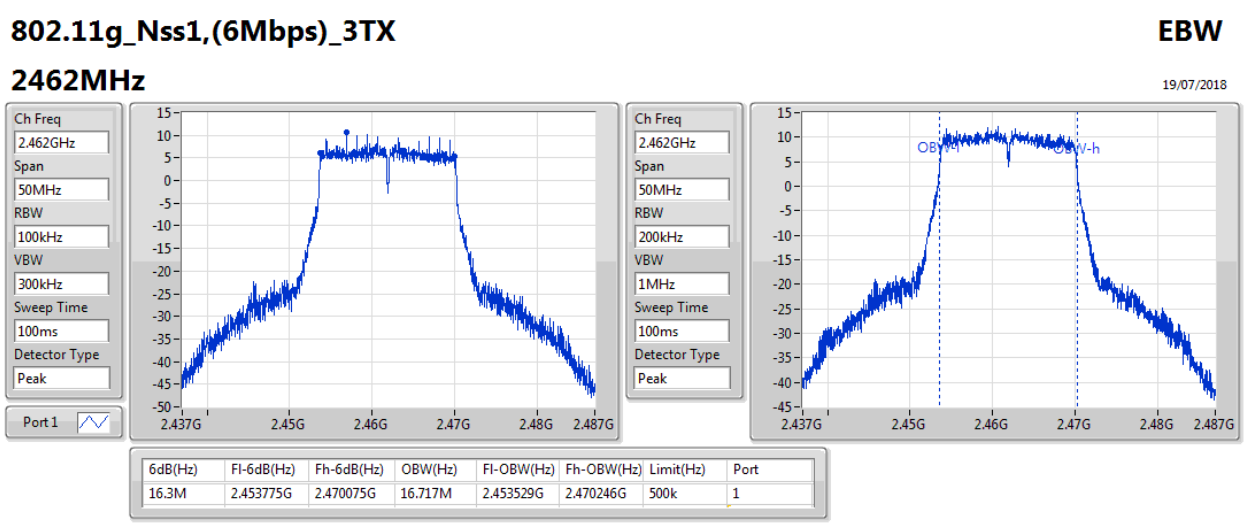
6 dB & 99% Occupied Bandwidth Plot on Configuration IEEE 802.11g 6Mbps / CH 1 / Ant. 1 (1S3T, CDD)



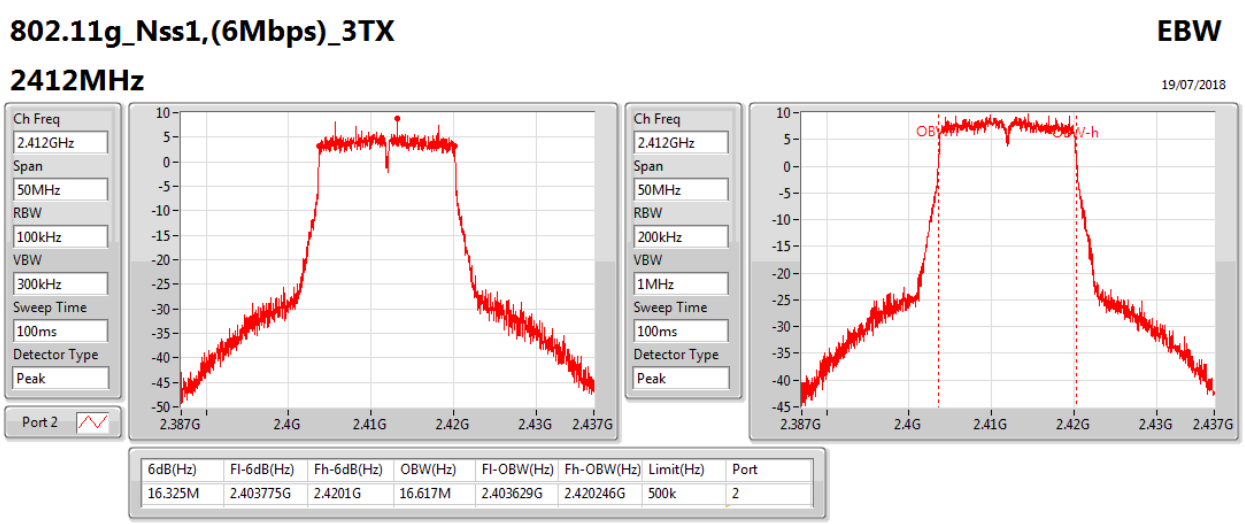
6 dB & 99% Occupied Bandwidth Plot on Configuration IEEE 802.11g 6Mbps / CH 6 / Ant. 1 (1S3T, CDD)



6 dB & 99% Occupied Bandwidth Plot on Configuration IEEE 802.11g 6Mbps / CH 11 / Ant. 1(1S3T, CDD)

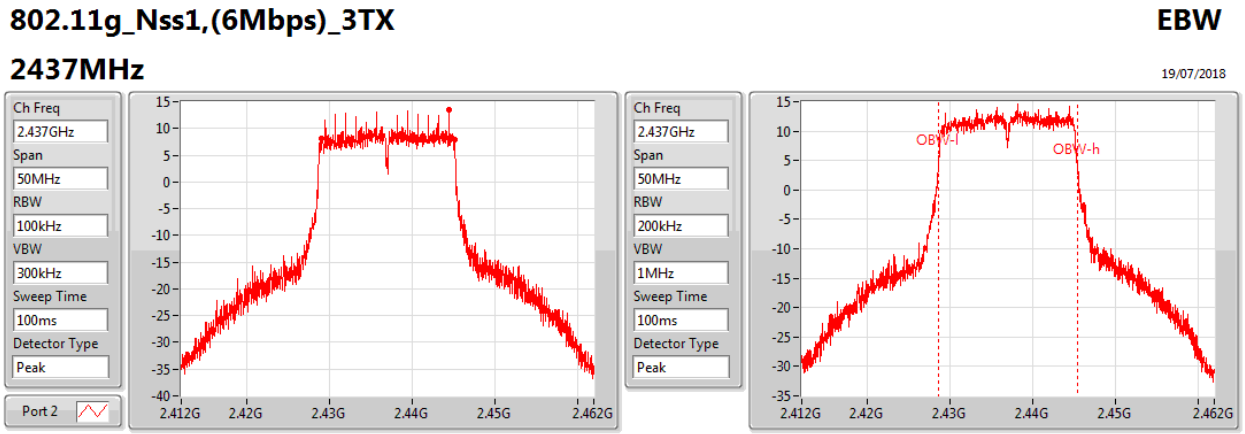


6 dB & 99% Occupied Bandwidth Plot on Configuration IEEE 802.11g 6Mbps / CH 1 / Ant. 2 (1S3T, CDD)



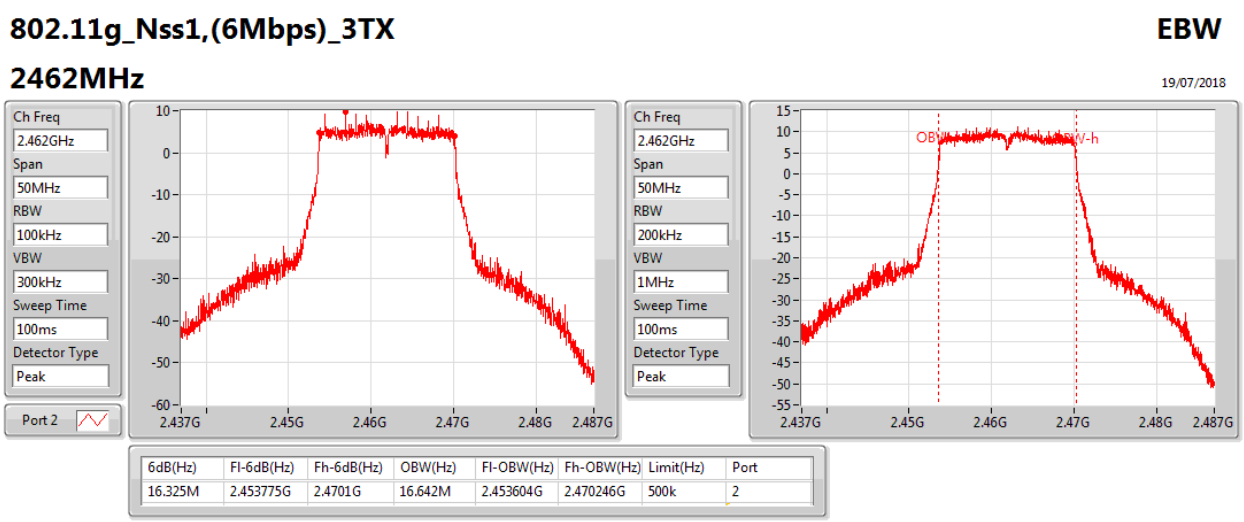
6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
16.325M	2.403775G	2.4201G	16.617M	2.403629G	2.420246G	500k	2

6 dB & 99% Occupied Bandwidth Plot on Configuration IEEE 802.11g 6Mbps / CH 6 / Ant. 2 (1S3T, CDD)



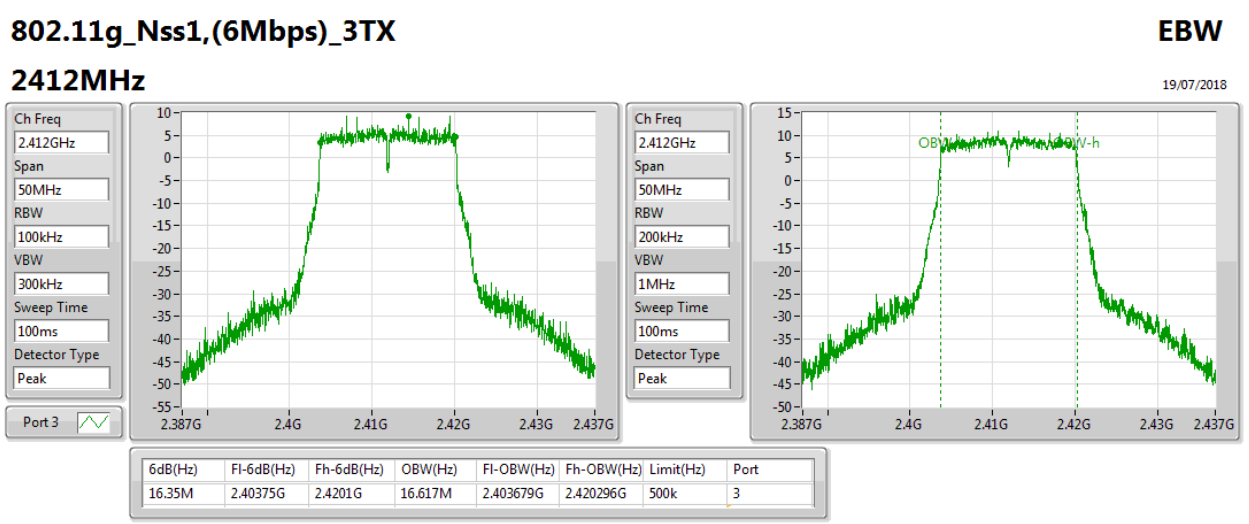
6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
16.05M	2.42905G	2.4451G	16.867M	2.428579G	2.445446G	500k	2

6 dB & 99% Occupied Bandwidth Plot on Configuration IEEE 802.11g 6Mbps / CH 11 / Ant. 2 (1S3T, CDD)

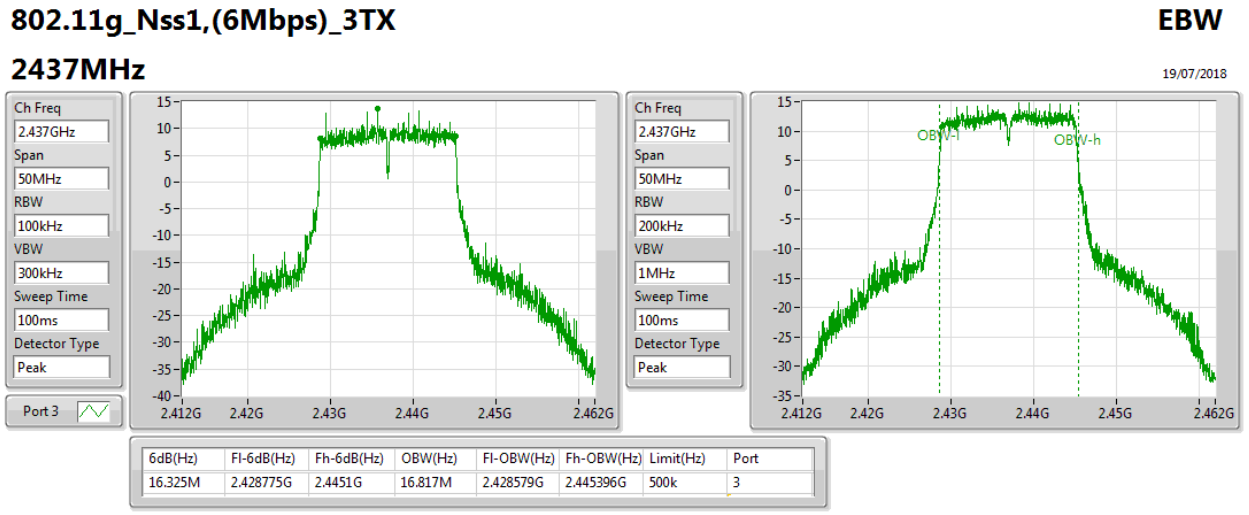


6dB(Hz)	Fl-6dB(Hz)	Fh-6dB(Hz)	OBW(Hz)	Fl-OBW(Hz)	Fh-OBW(Hz)	Limit(Hz)	Port
16.325M	2.453775G	2.4701G	16.642M	2.453604G	2.470246G	500k	2

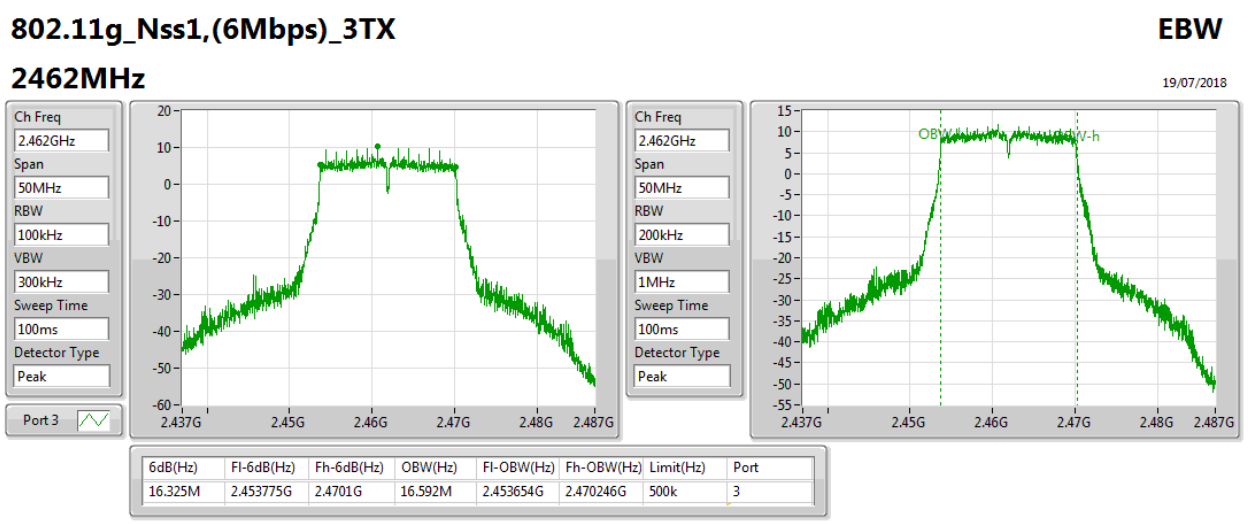
6 dB & 99% Occupied Bandwidth Plot on Configuration IEEE 802.11g 6Mbps / CH 1 / Ant. 3 (1S3T, CDD)



6 dB & 99% Occupied Bandwidth Plot on Configuration IEEE 802.11g 6Mbps / CH 6 / Ant. 3 (1S3T, CDD)



6 dB & 99% Occupied Bandwidth Plot on Configuration IEEE 802.11g 6Mbps / CH 11 / Ant. 3 (1S3T, CDD)



Test date	Feb. 13, 2018~Jul. 23, 2018	Test Site No.	TH01-CB
Temperature	18.7℃	Humidity	46%
Test Engineer	Brian Sun & Ron Huang	Configuration	802.11n 20MHz

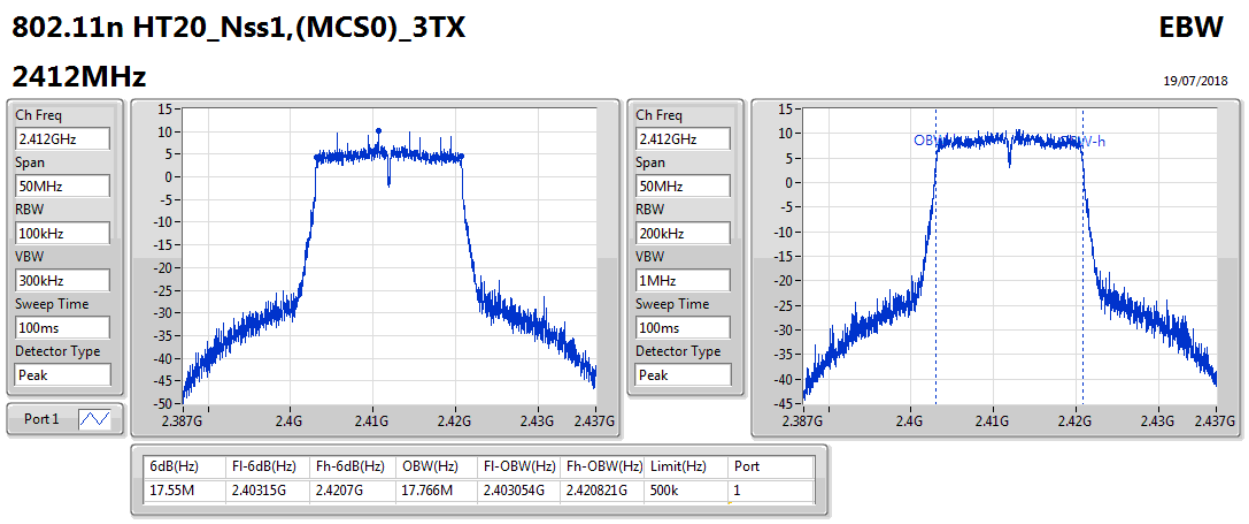
Configuration IEEE 802.11n 20MHz

<MCS0, Ant. 1+2+3, 1S3T, CDD>

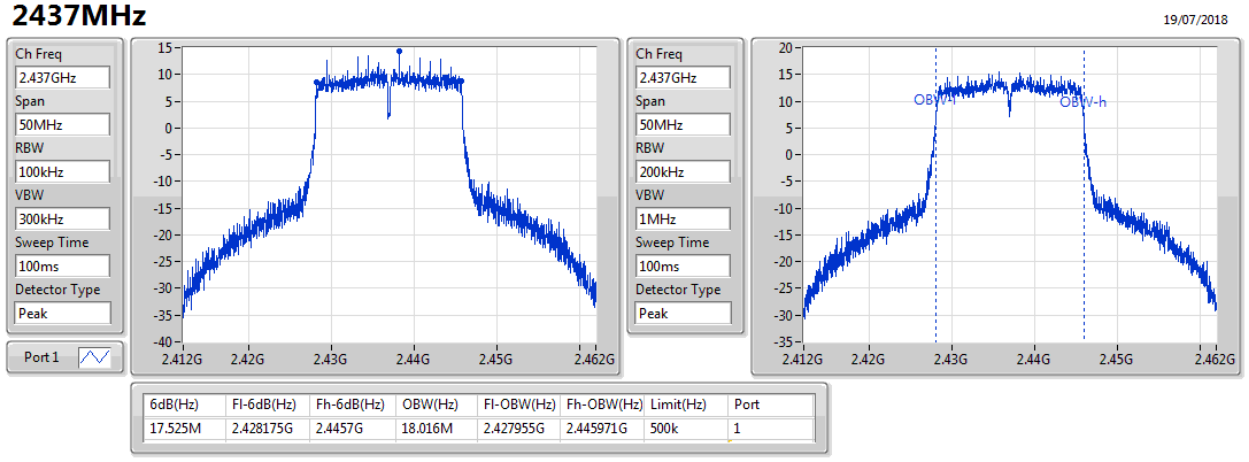
Channel	Frequency	6dB Bandwidth (MHz)			Min. Limit (kHz)	Test Result
		Ant. 1	Ant. 2	Ant. 3		
1	2412 MHz	17.550	17.575	17.550	500	PASS
6	2437 MHz	17.525	17.550	17.550	500	PASS
11	2462 MHz	17.550	17.600	17.550	500	PASS

Channel	Frequency	99% Occupied Bandwidth (MHz)		
		Ant. 1	Ant. 2	Ant. 3
1	2412 MHz	17.766	17.716	17.716
6	2437 MHz	18.016	17.941	17.891
11	2462 MHz	17.791	17.716	17.716

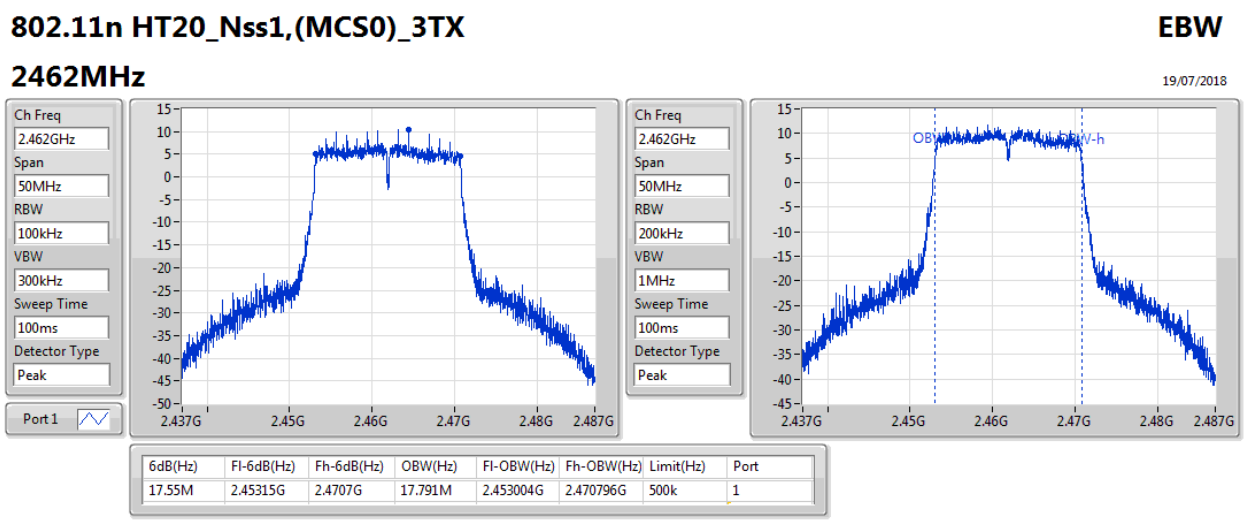
6 dB & 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n 20MHz MCS0 / CH 1 / Ant. 1 (1S3T, CDD)



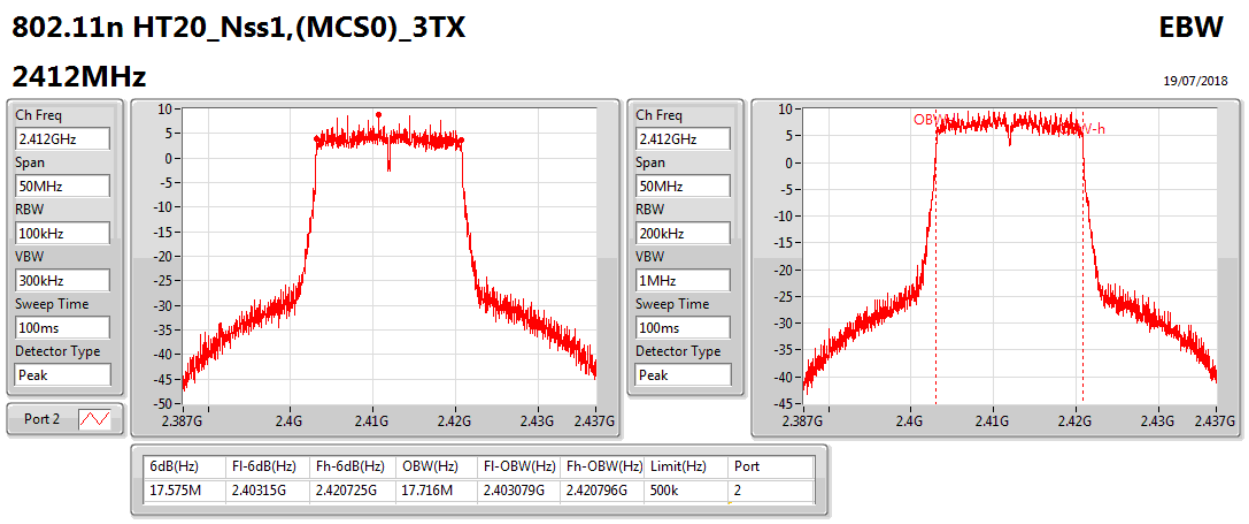
6 dB & 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n 20MHz MCS0 / CH 6 / Ant. 1 (1S3T, CDD)



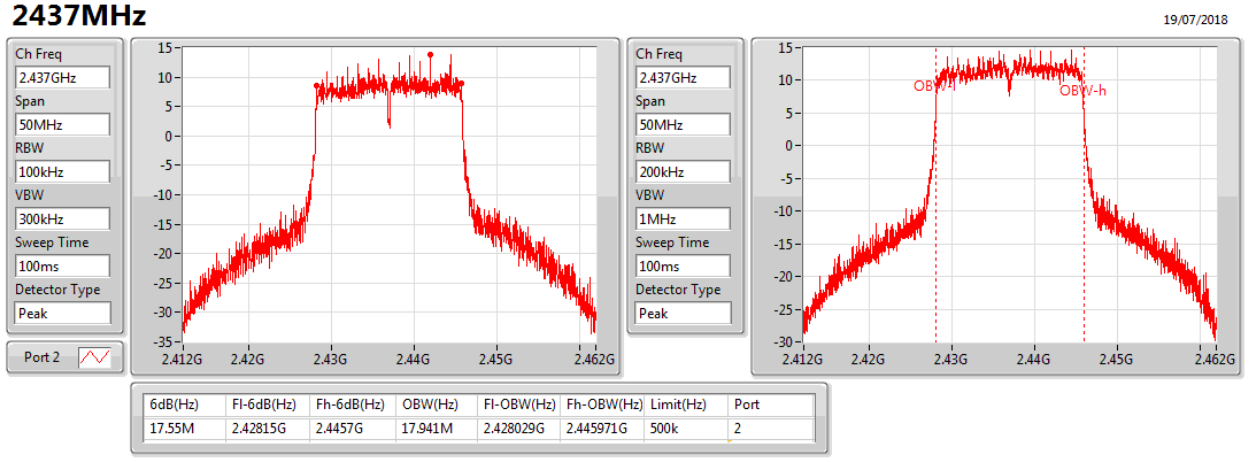
6 dB & 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n 20MHz MCS0 / CH 11 / Ant. 1 (1S3T, CDD)



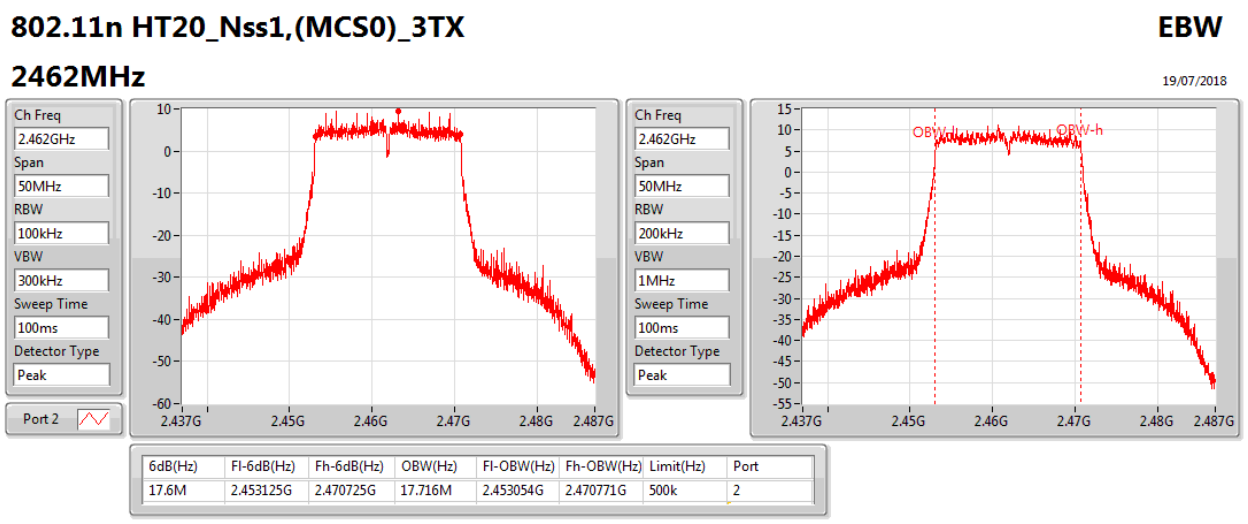
6 dB & 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n 20MHz MCS0 / CH 1 / Ant. 2 (1S3T, CDD)



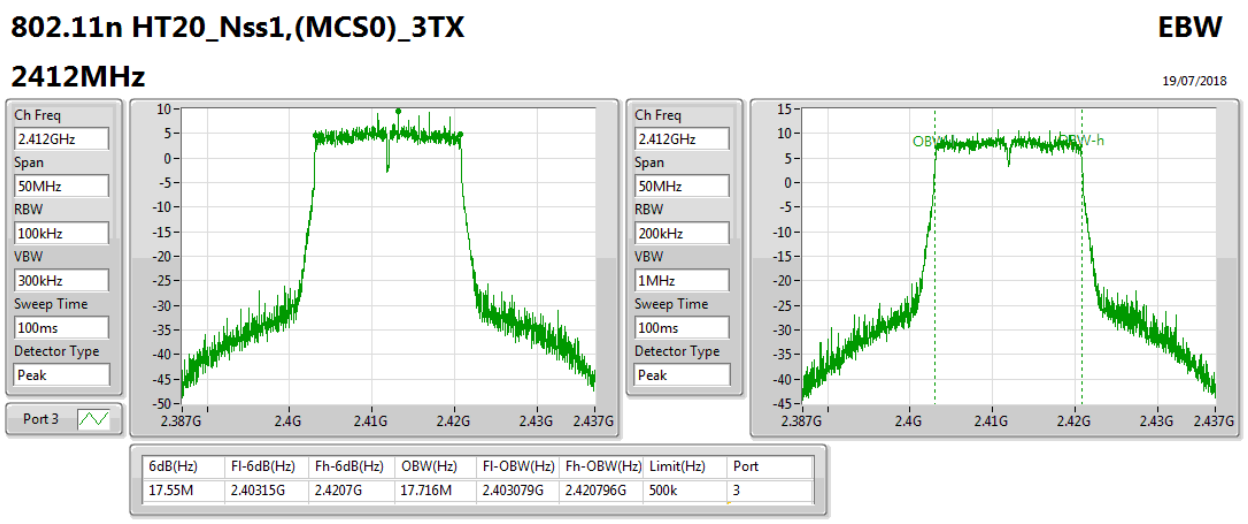
6 dB & 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n 20MHz MCS0 / CH 6 / Ant. 2 (1S3T, CDD)



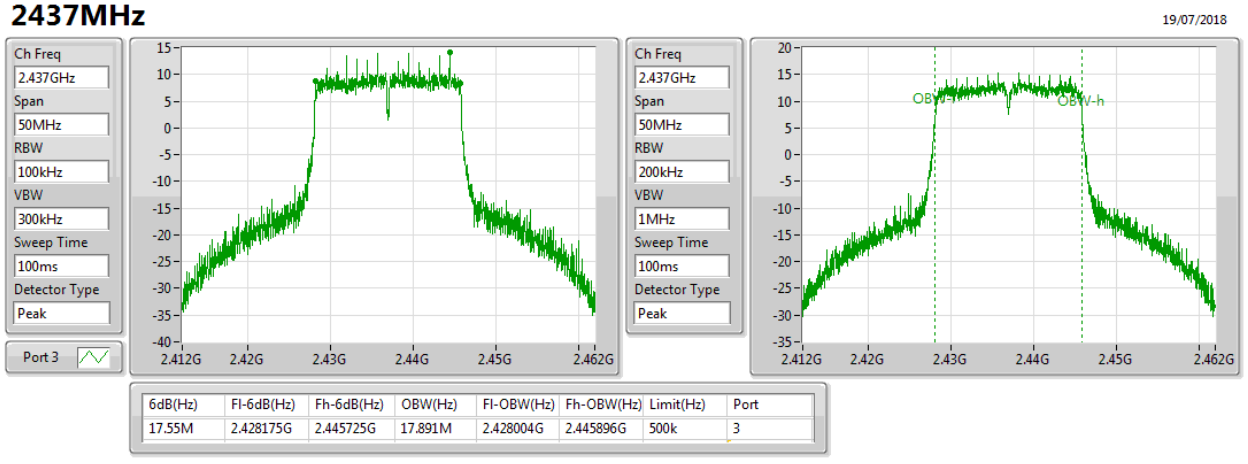
6 dB & 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n 20MHz MCS0 / CH 11 / Ant. 2 (1S3T, CDD)



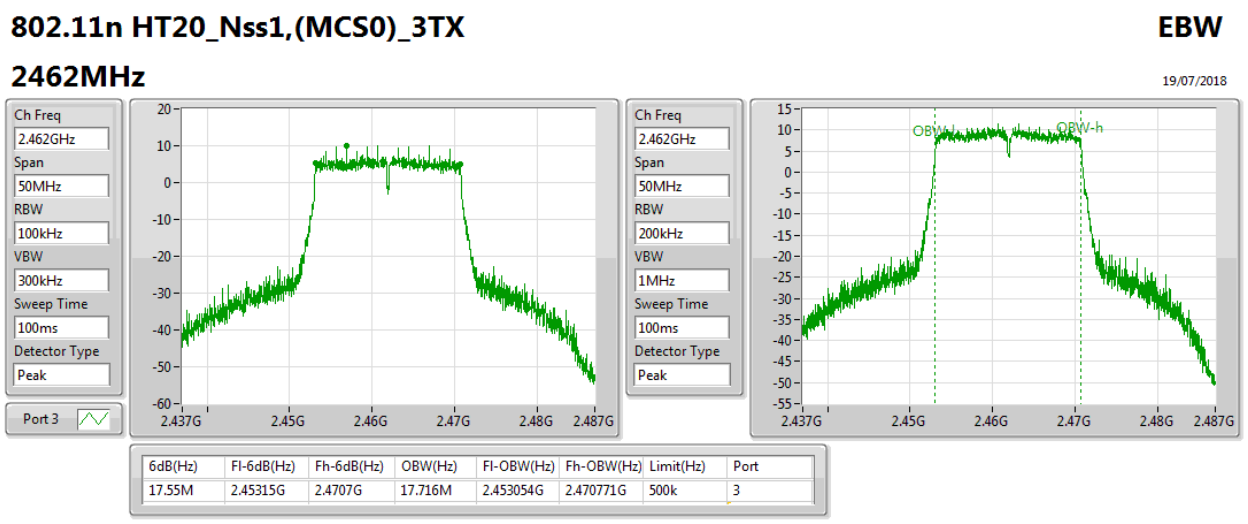
6 dB & 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n 20MHz MCS0 / CH 1 / Ant. 3 (1S3T, CDD)



6 dB & 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n 20MHz MCS0 / CH 6 / Ant. 3 (1S3T, CDD)



6 dB & 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n 20MHz MCS0 / CH 11 / Ant. 3 (1S3T, CDD)

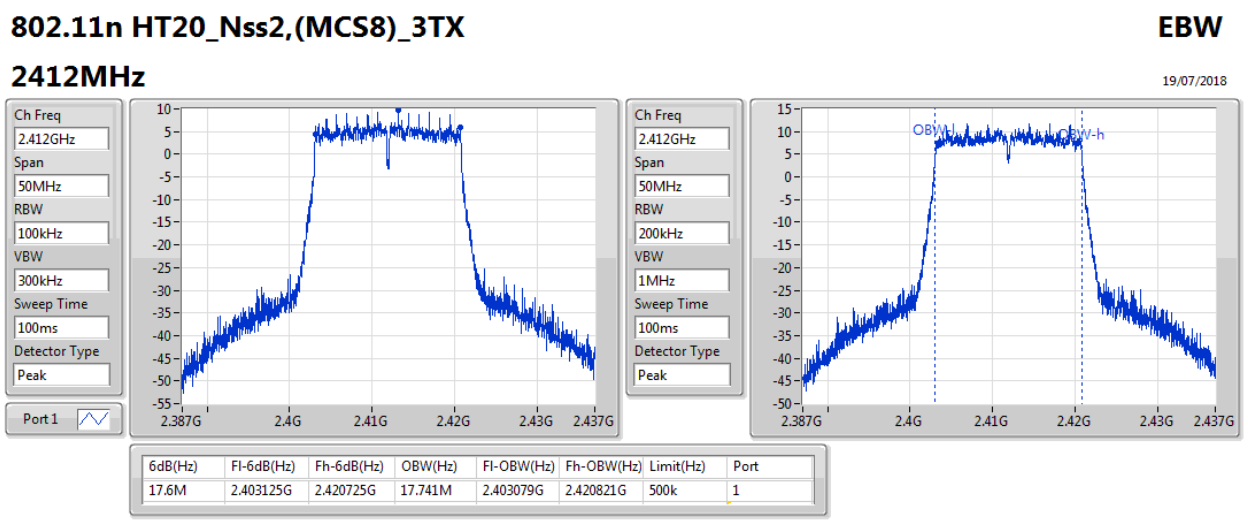


<MCS8, Ant. 1+2+3, 2S3T, CDD>

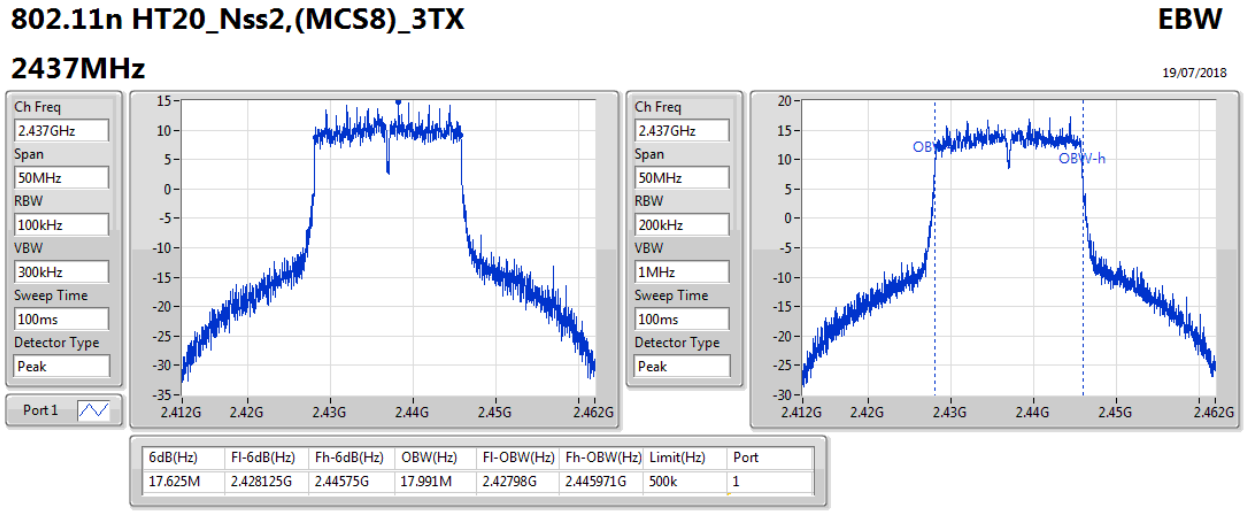
Channel	Frequency	6dB Bandwidth (MHz)			Min. Limit (kHz)	Test Result
		Ant. 1	Ant. 2	Ant. 3		
1	2412 MHz	17.600	17.575	17.600	500	PASS
6	2437 MHz	17.625	16.925	17.600	500	PASS
11	2462 MHz	17.625	17.575	17.625	500	PASS

Channel	Frequency	99% Occupied Bandwidth (MHz)		
		Ant. 1	Ant. 2	Ant. 3
1	2412 MHz	17.741	17.716	17.766
6	2437 MHz	17.991	17.916	17.866
11	2462 MHz	17.766	17.741	17.791

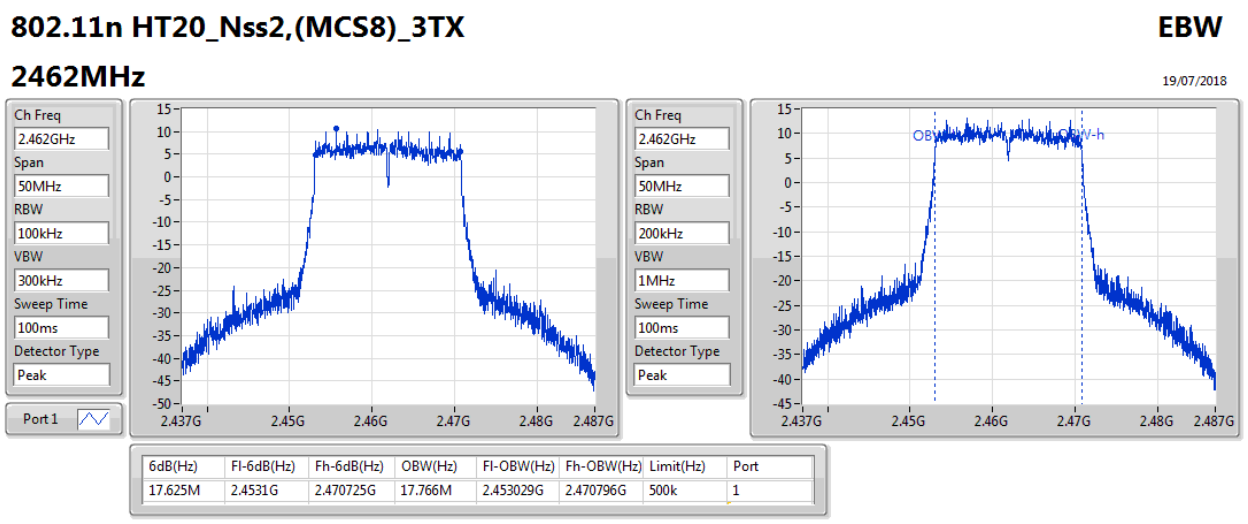
6 dB & 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n 20MHz MCS8 / CH 1 / Ant. 1 (2S3T, CDD)



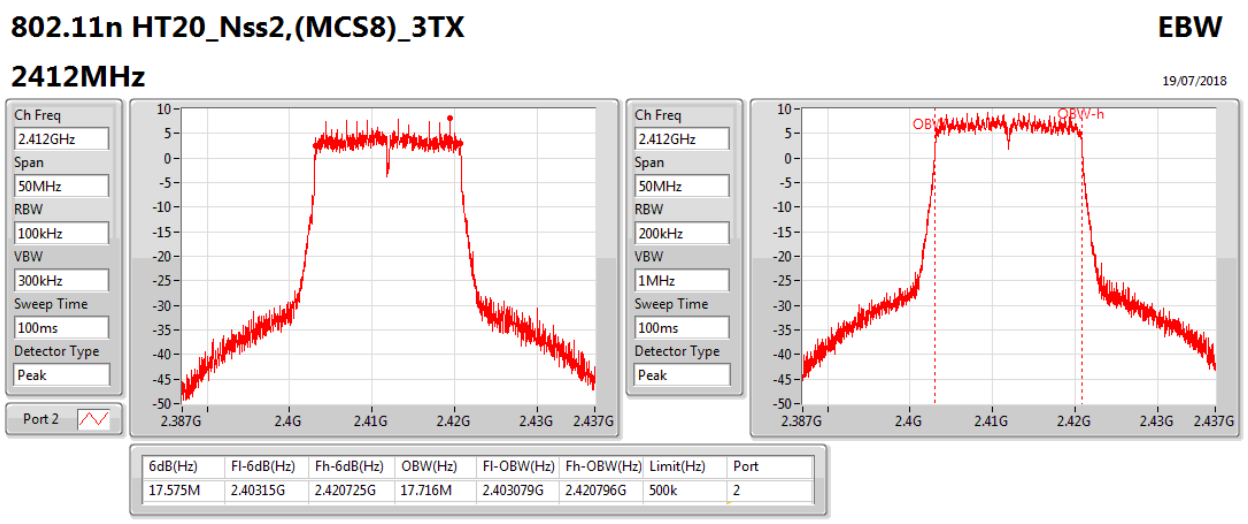
6 dB & 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n 20MHz MCS8 / CH 6 / Ant. 1 (2S3T, CDD)



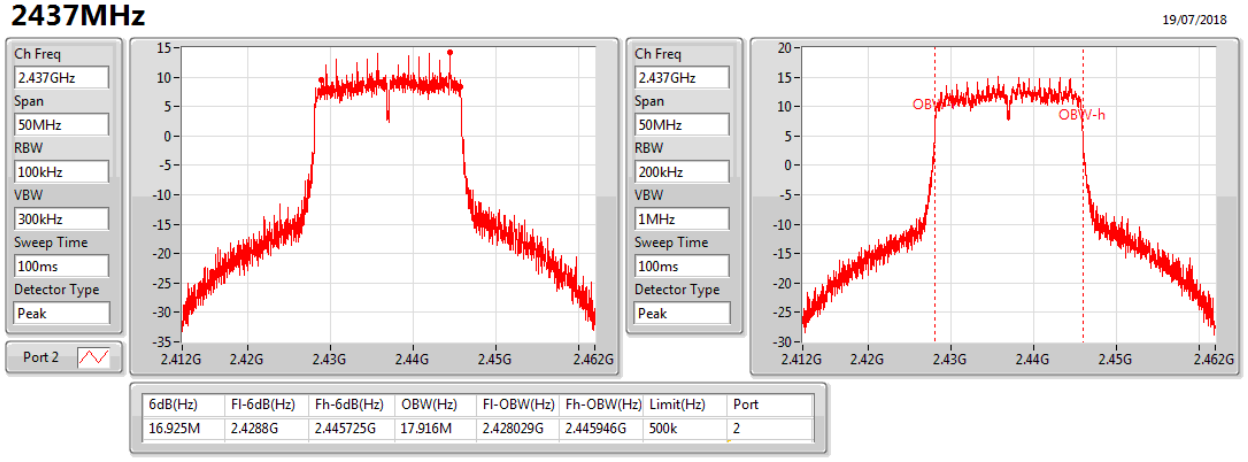
6 dB & 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n 20MHz MCS8 / CH 11 / Ant. 1 (2S3T, CDD)



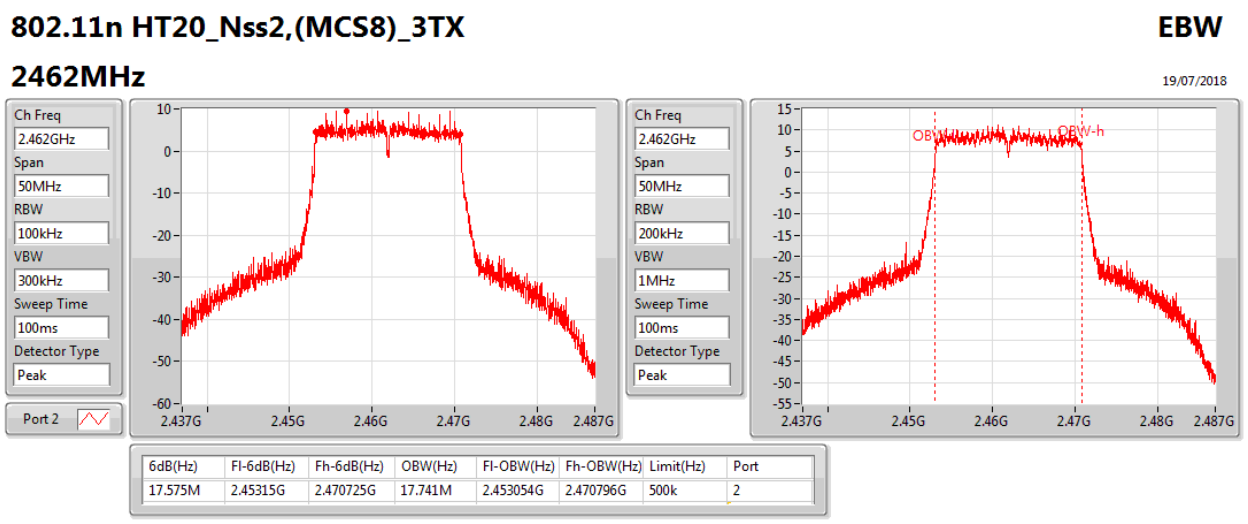
6 dB & 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n 20MHz MCS8 / CH 1 / Ant. 2 (2S3T, CDD)



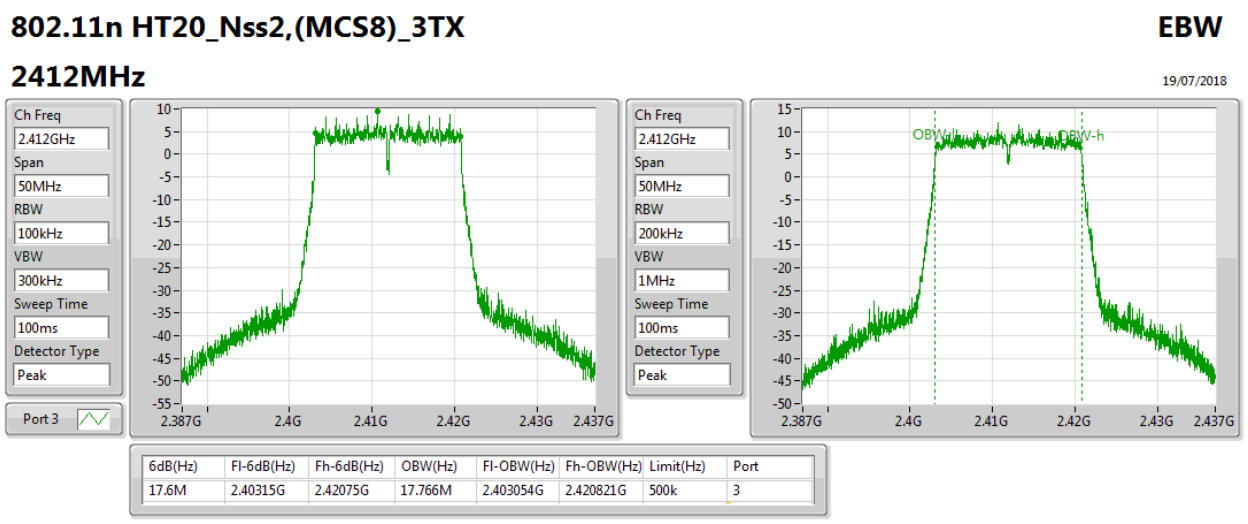
6 dB & 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n 20MHz MCS8 / CH 6 / Ant. 2 (2S3T, CDD)



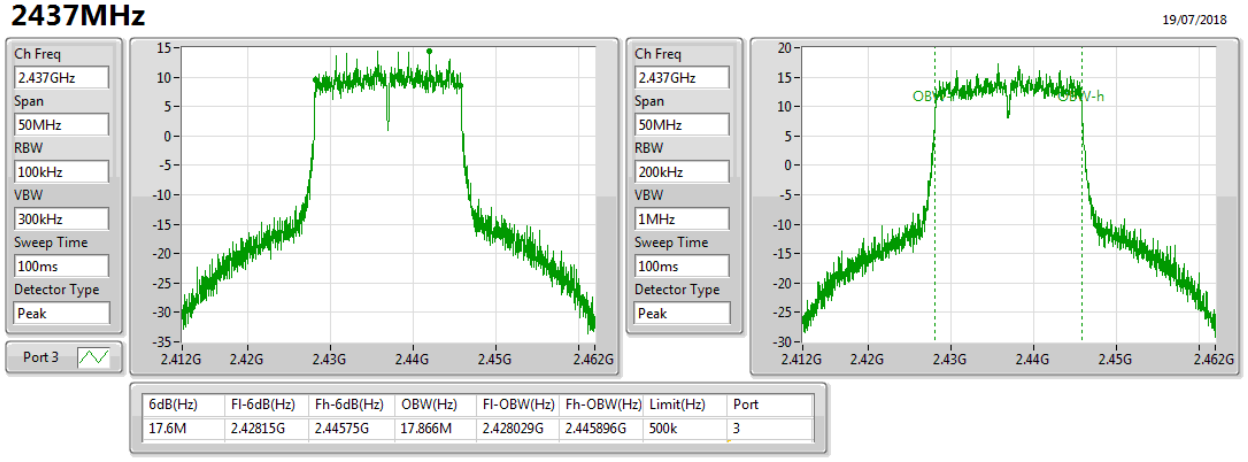
6 dB & 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n 20MHz MCS8 / CH 11 / Ant. 2 (2S3T, CDD)



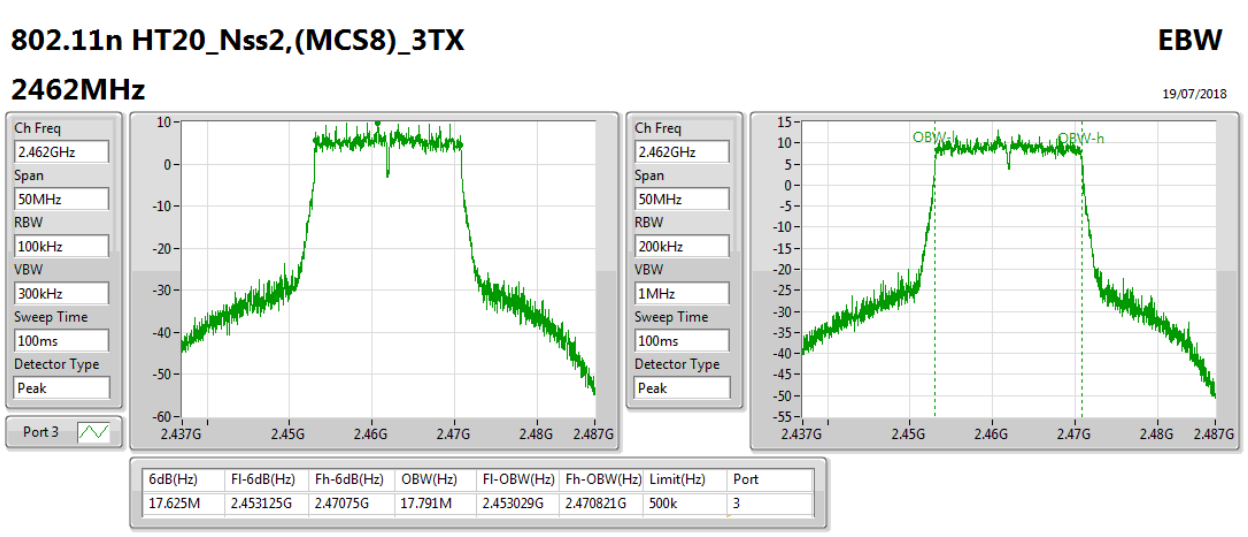
6 dB & 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n 20MHz MCS8 / CH 1 / Ant. 3 (2S3T, CDD)



6 dB & 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n 20MHz MCS8 / CH 6 / Ant. 3 (2S3T, CDD)



6 dB & 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n 20MHz MCS8 / CH 11 / Ant. 3 (2S3T, CDD)

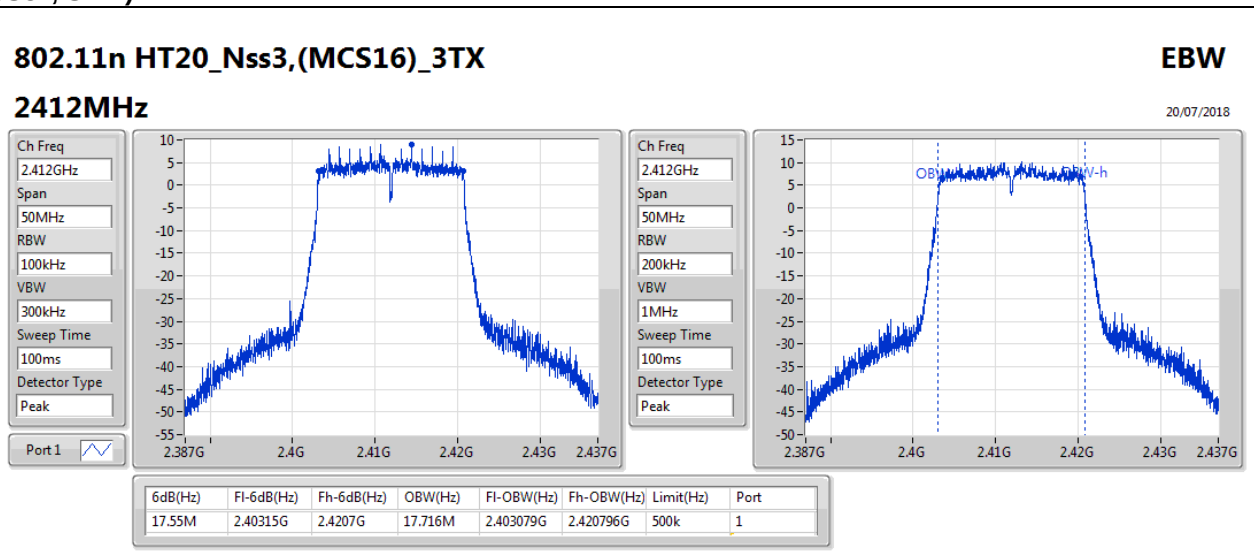


<MCS16, Ant. 1+2+3, 3S3T, SDM>

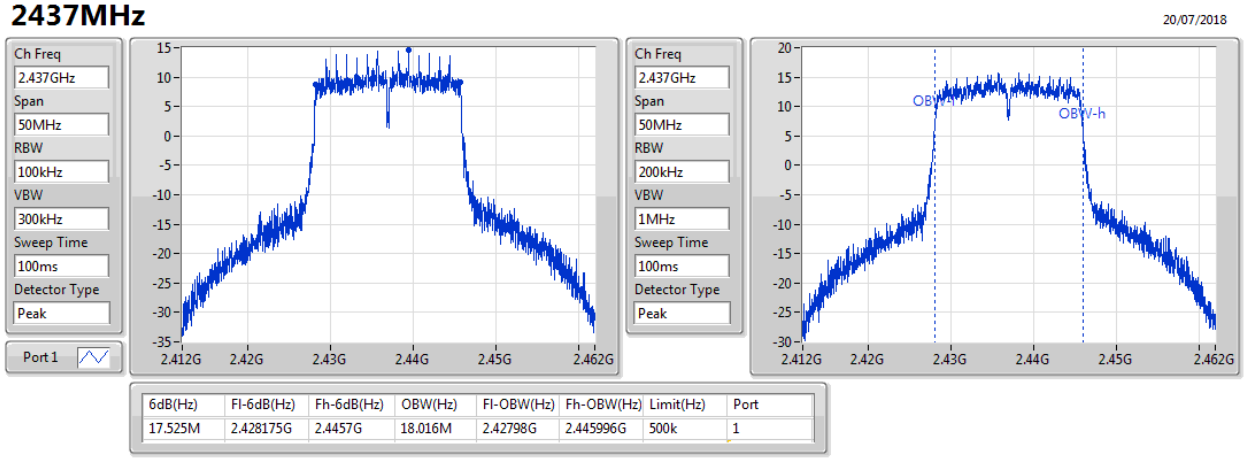
Channel	Frequency	6dB Bandwidth (MHz)			Min. Limit (kHz)	Test Result
		Ant. 1	Ant. 2	Ant. 3		
1	2412 MHz	17.550	17.575	17.575	500	PASS
6	2437 MHz	17.525	17.500	17.550	500	PASS
11	2462 MHz	17.300	17.550	17.550	500	PASS

Channel	Frequency	99% Occupied Bandwidth (MHz)		
		Ant. 1	Ant. 2	Ant. 3
1	2412 MHz	17.716	17.716	17.716
6	2437 MHz	18.016	17.941	17.891
11	2462 MHz	17.741	17.716	17.691

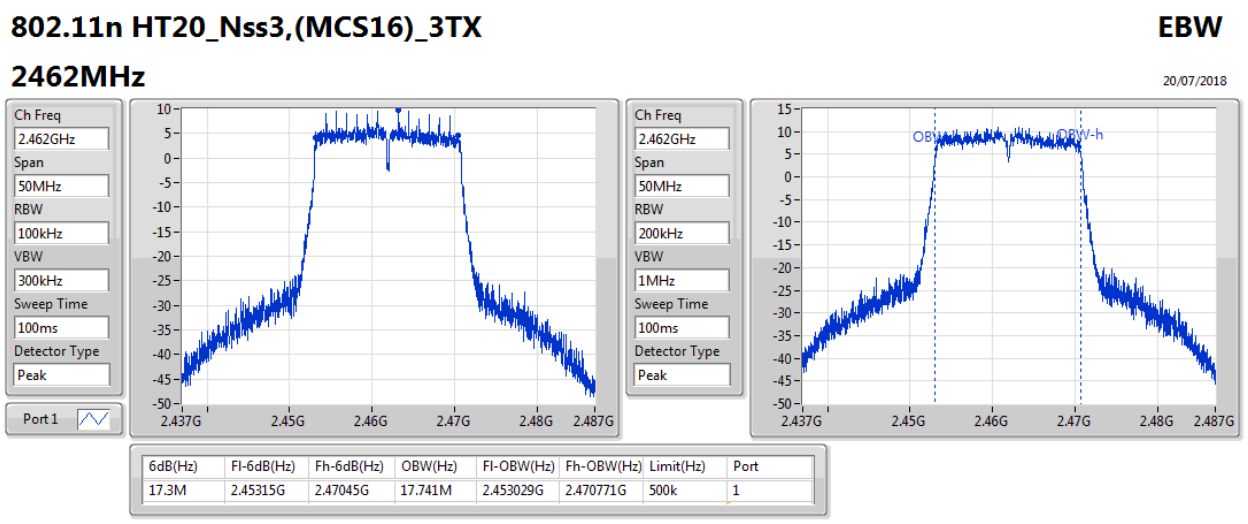
6 dB & 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n 20MHz MCS16 / CH 1 / Ant. 1 (3S3T, SDM)



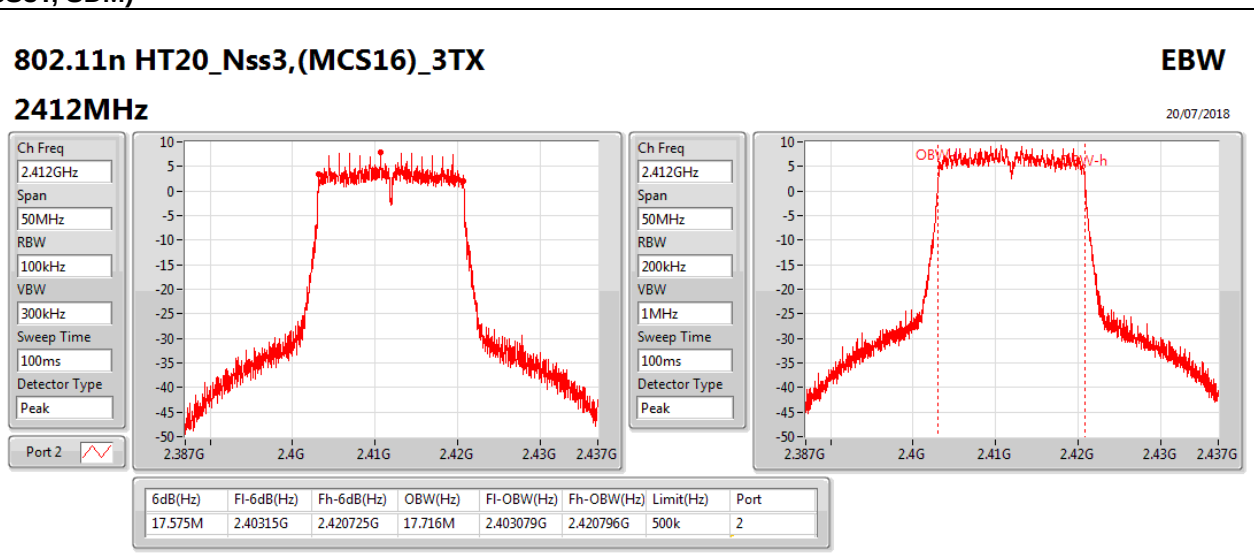
6 dB & 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n 20MHz MCS16 / CH 6 / Ant. 1 (3S3T, SDM)



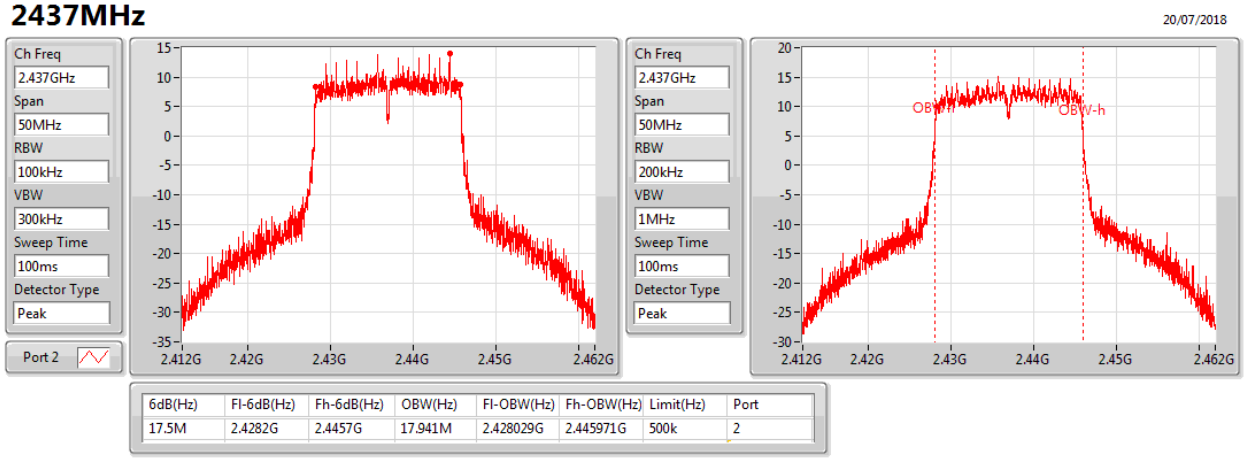
6 dB & 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n 20MHz MCS16 / CH 11 / Ant. 1 (3S3T, SDM)



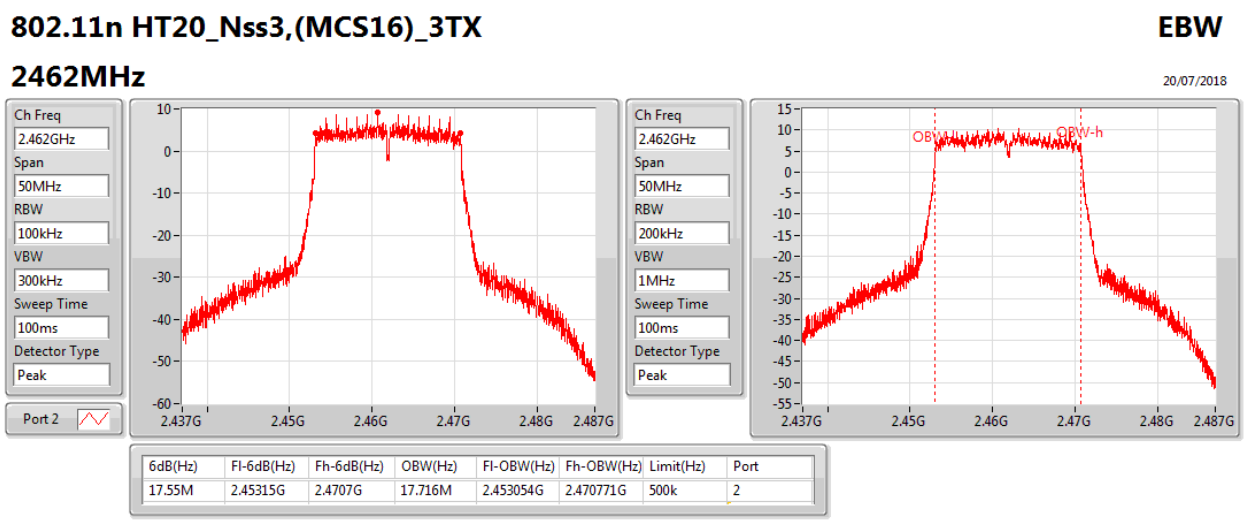
6 dB & 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n 20MHz MCS16 / CH 1 / Ant. 2 (3S3T, SDM)



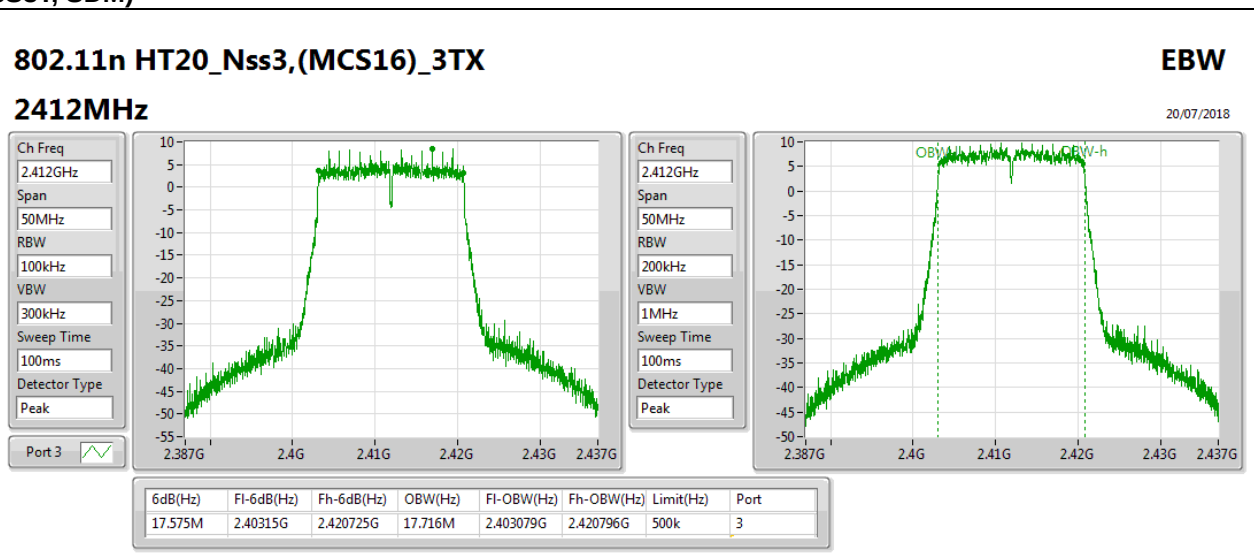
6 dB & 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n 20MHz MCS16 / CH 6 / Ant. 2 (3S3T, SDM)



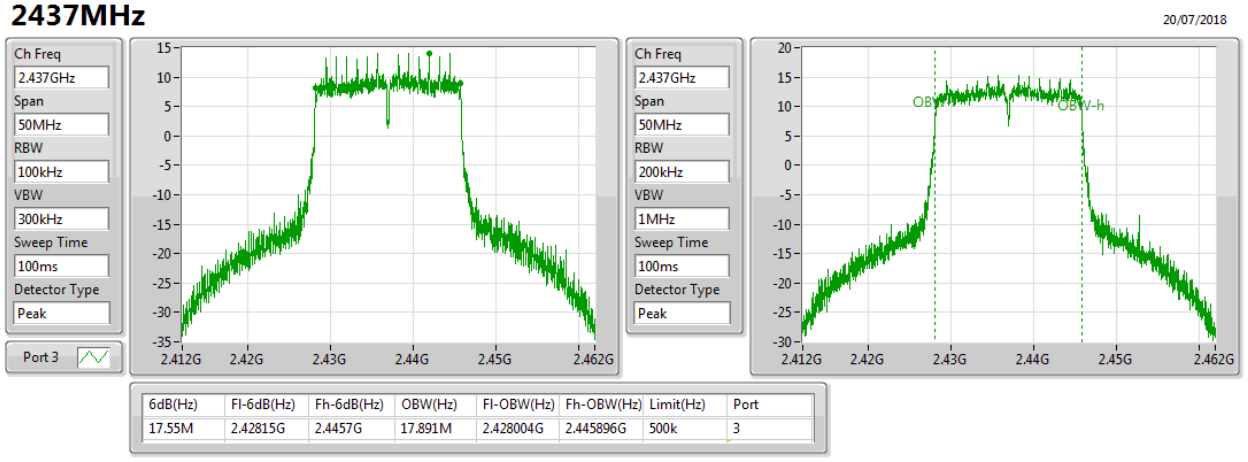
6 dB & 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n 20MHz MCS16 / CH 11 / Ant. 2 (3S3T, SDM)



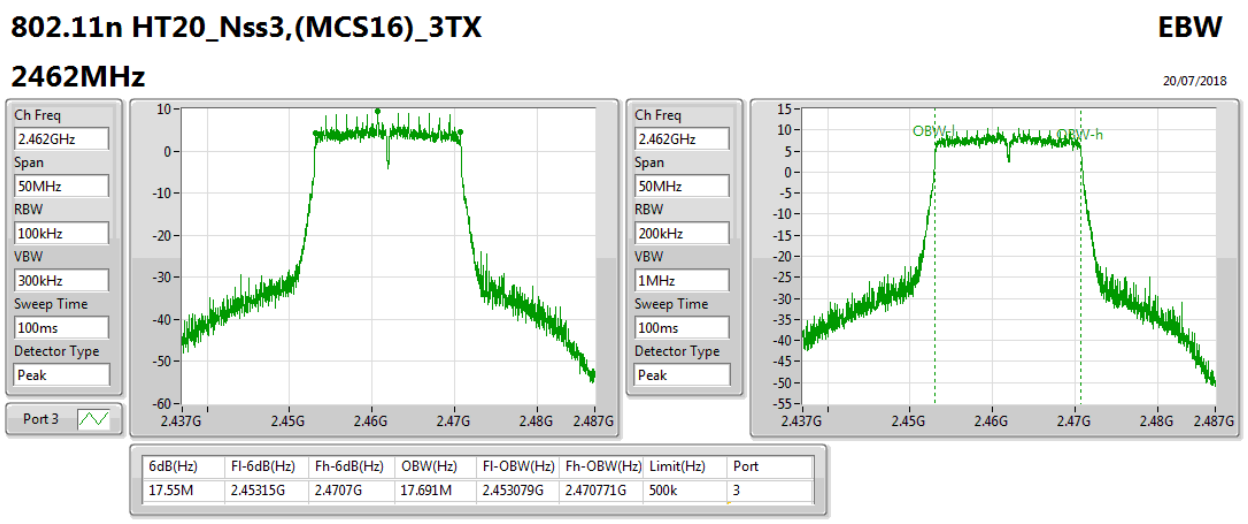
6 dB & 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n 20MHz MCS16 / CH 1 / Ant. 3 (3S3T, SDM)



6 dB & 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n 20MHz MCS16 / CH 6 / Ant. 3 (3S3T, SDM)



6 dB & 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n 20MHz MCS16 / CH 11 / Ant. 3 (3S3T, SDM)



Test date	Feb. 13, 2018~Jul. 23, 2018	Test Site No.	TH01-CB
Temperature	18.7℃	Humidity	46%
Test Engineer	Brian Sun & Ron Huang	Configuration	802.11n 40MHz

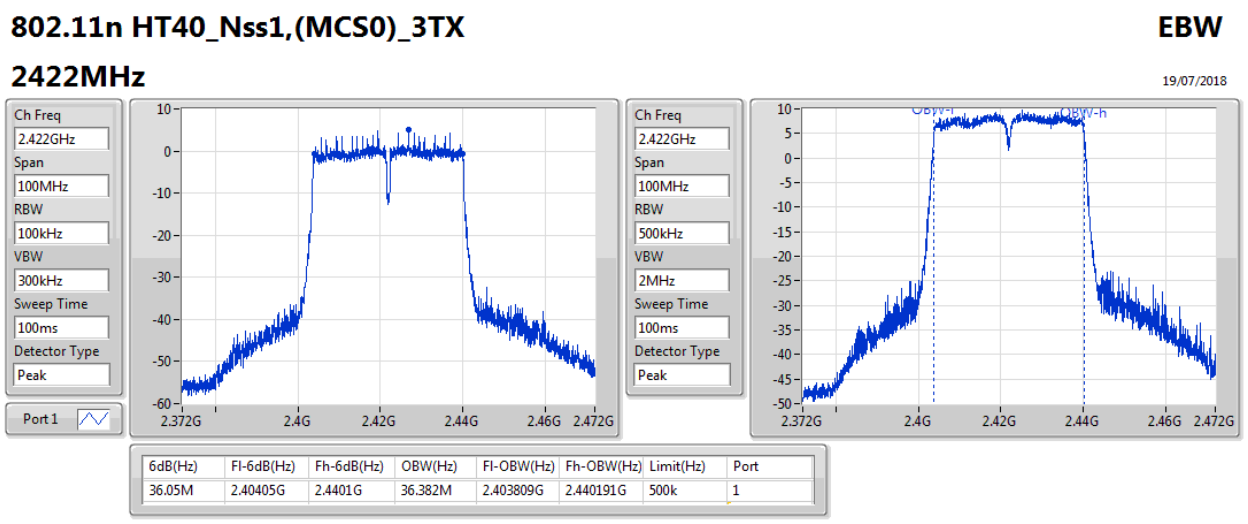
Configuration IEEE 802.11n 40MHz

<MCS0, Ant. 1+2+3, 1S3T, CDD>

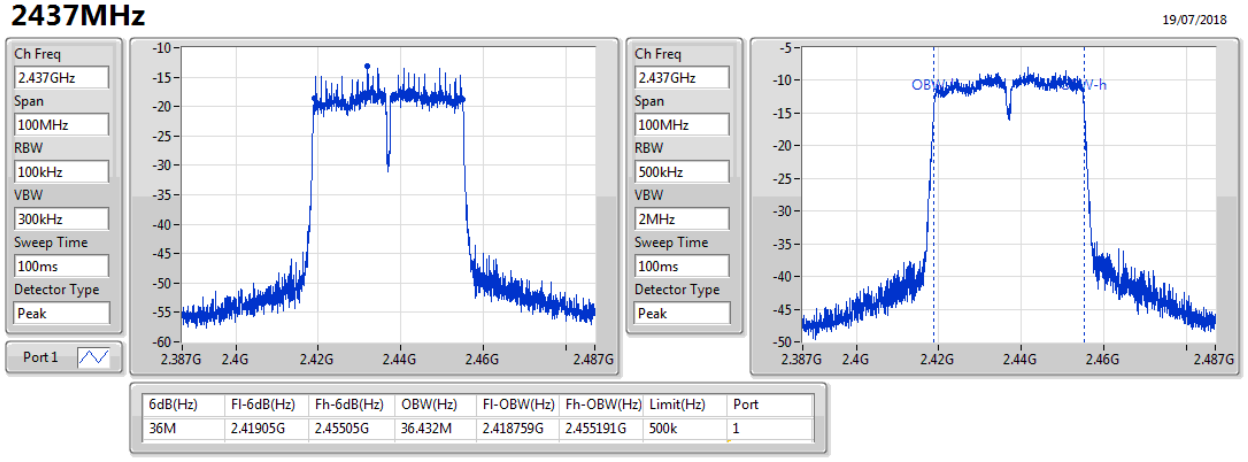
Channel	Frequency	6dB Bandwidth (MHz)			Min. Limit (kHz)	Test Result
		Ant. 1	Ant. 2	Ant. 3		
3	2422 MHz	36.050	36.300	36.300	500	PASS
6	2437 MHz	36.000	36.300	36.300	500	PASS
9	2452 MHz	35.750	35.900	36.350	500	PASS

Channel	Frequency	99% Occupied Bandwidth (MHz)		
		Ant. 1	Ant. 2	Ant. 3
3	2422 MHz	36.382	36.282	36.332
6	2437 MHz	36.432	36.332	36.332
9	2452 MHz	36.332	36.232	36.282

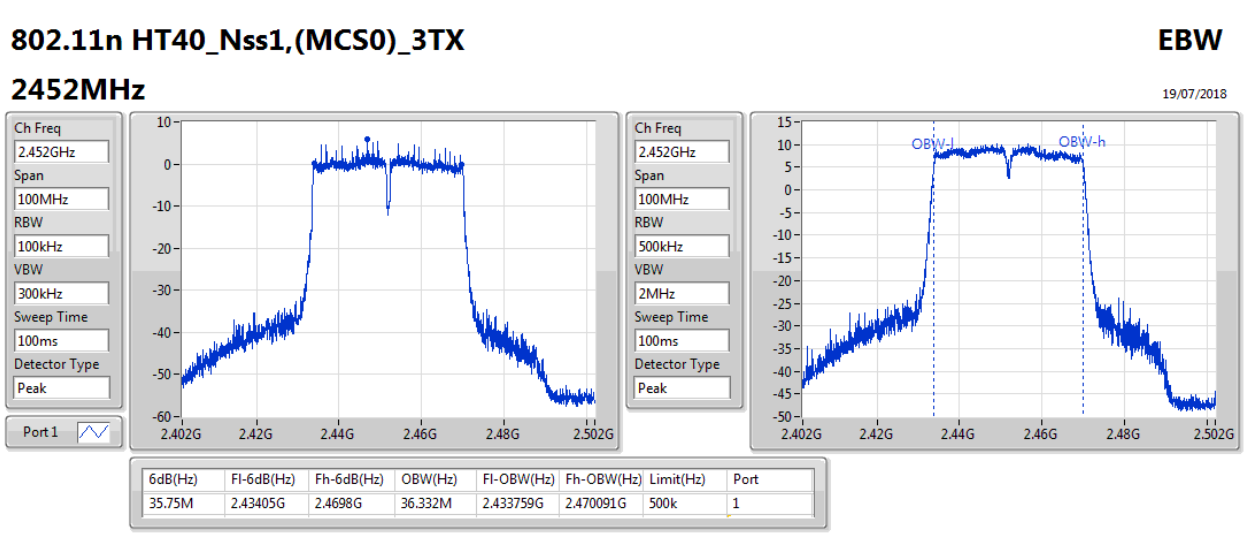
6 dB & 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n 40MHz MCS0 / CH 3 / Ant. 1 (1S3T, CDD)



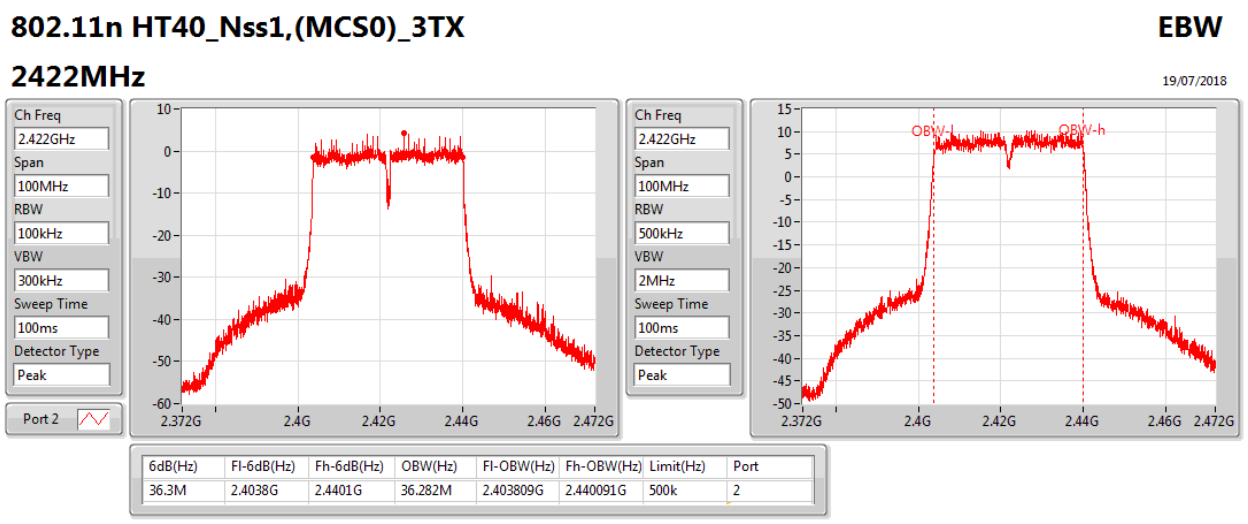
6 dB & 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n 40MHz MCS0 / CH 6 / Ant. 1 (1S3T, CDD)



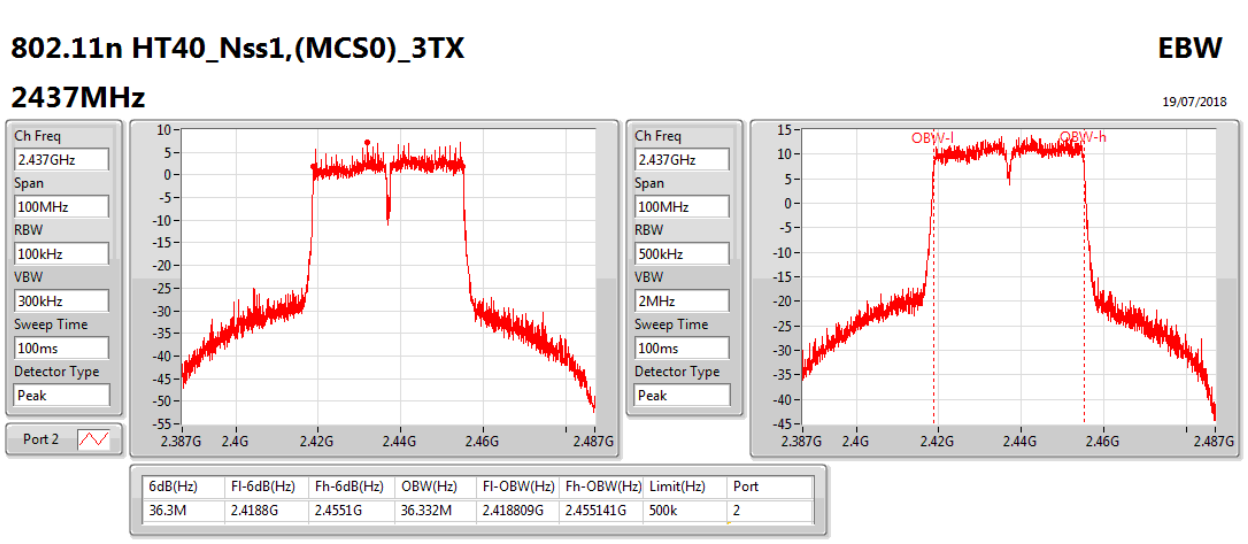
6 dB & 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n 40MHz MCS0 / CH 9 / Ant. 1 (1S3T, CDD)



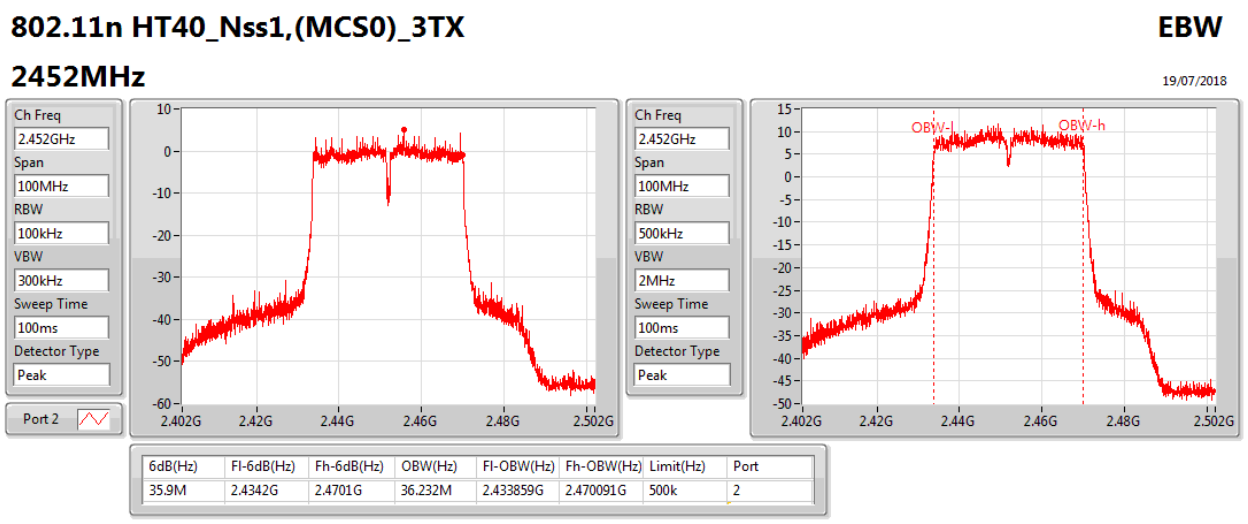
6 dB & 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n 40MHz MCS0 / CH 3 / Ant. 2 (1S3T, CDD)



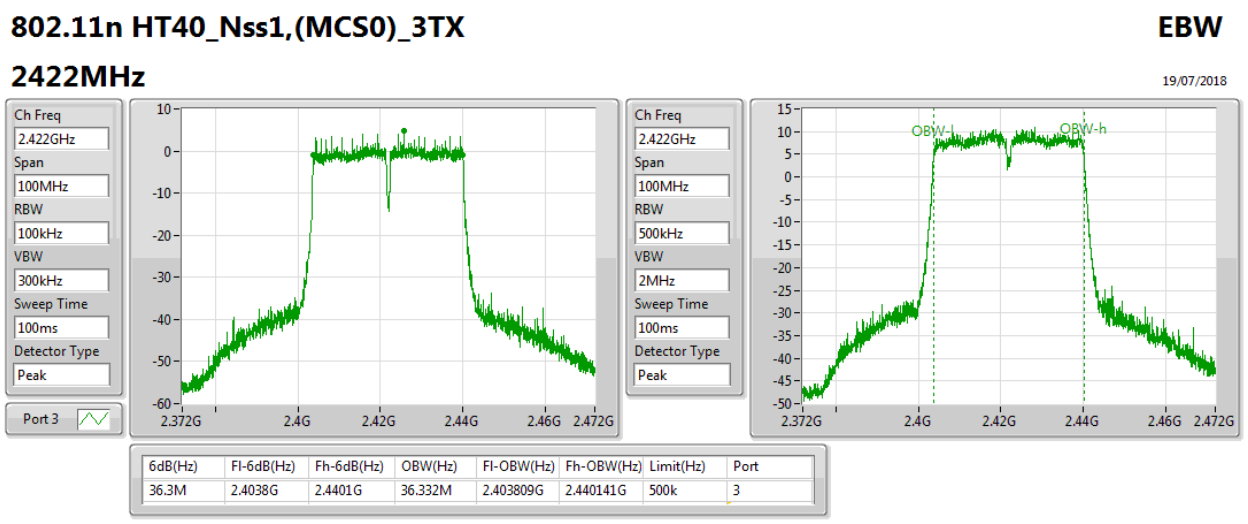
6 dB & 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n 40MHz MCS0 / CH 6 / Ant. 2 (1S3T, CDD)



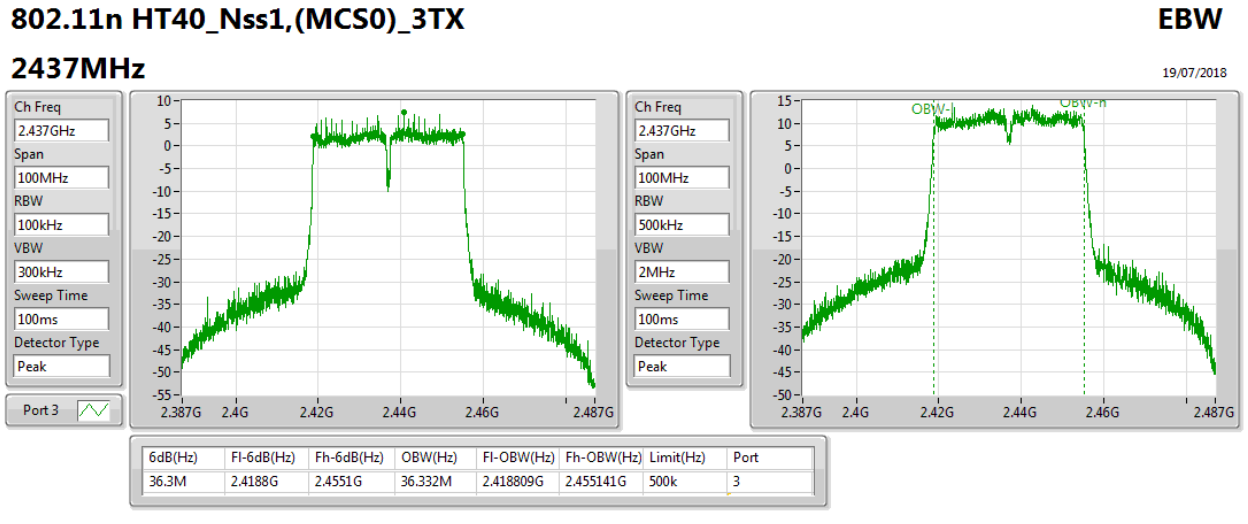
6 dB & 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n 40MHz MCS0 / CH 9 / Ant. 2 (1S3T, CDD)



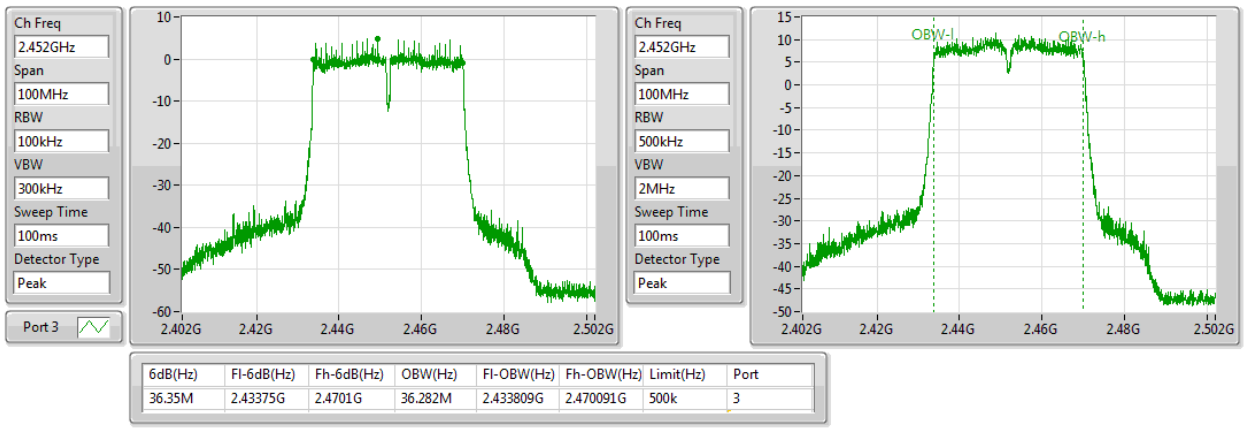
6 dB & 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n 40MHz MCS0 / CH 3 / Ant. 3 (1S3T, CDD)



6 dB & 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n 40MHz MCS0 / CH 6 / Ant. 3 (1S3T, CDD)



6 dB & 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n 40MHz MCS0 / CH 9 / Ant. 3 (1S3T, CDD)

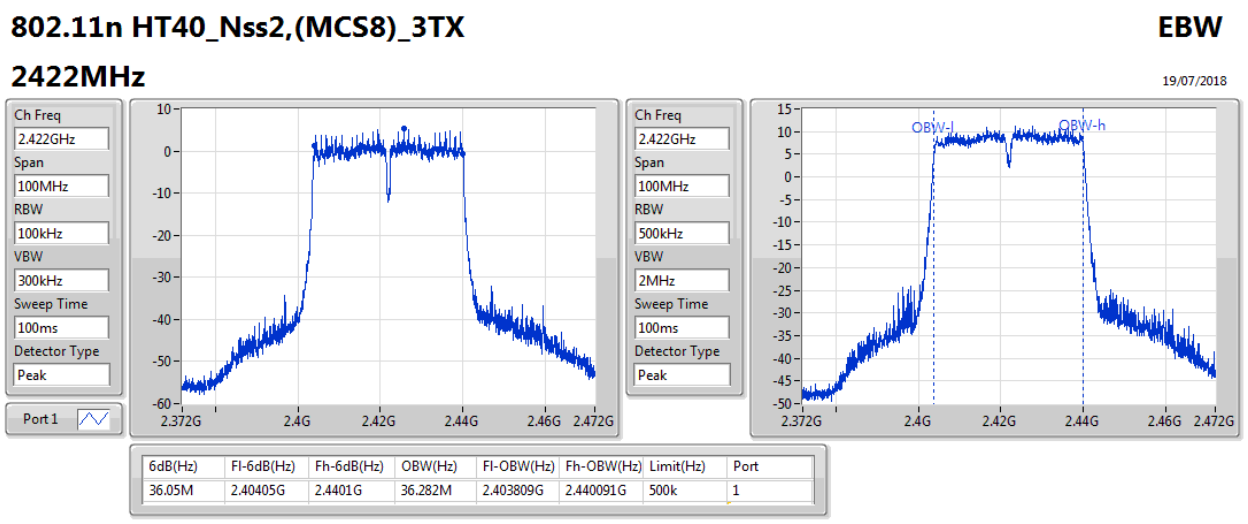


<MCS8, Ant. 1+2+3, 2S3T, CDD>

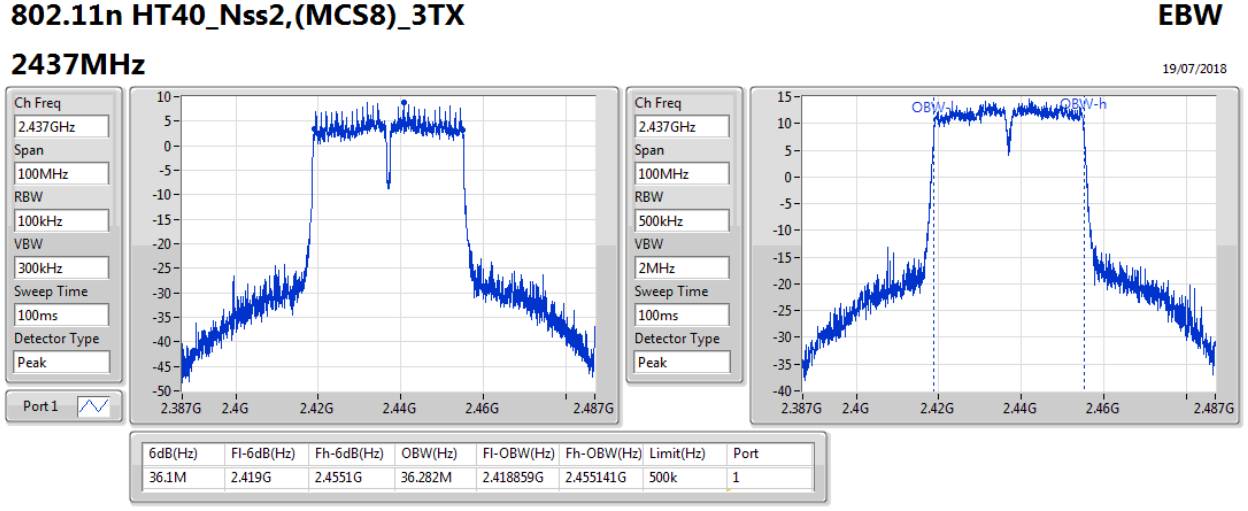
Channel	Frequency	6dB Bandwidth (MHz)			Min. Limit (kHz)	Test Result
		Ant. 1	Ant. 2	Ant. 3		
3	2422 MHz	36.050	36.300	35.800	500	PASS
6	2437 MHz	36.100	35.700	36.300	500	PASS
9	2452 MHz	36.000	35.850	35.800	500	PASS

Channel	Frequency	99% Occupied Bandwidth (MHz)		
		Ant. 1	Ant. 2	Ant. 3
3	2422 MHz	36.282	36.332	36.232
6	2437 MHz	36.282	36.332	36.332
9	2452 MHz	36.282	36.232	36.282

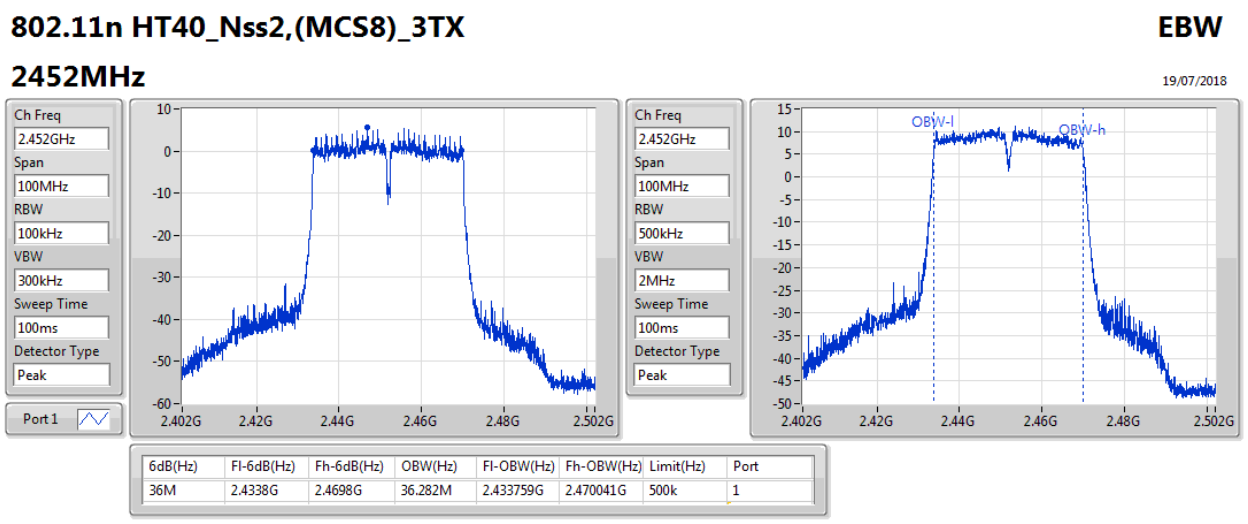
6 dB & 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n 40MHz MCS8 / CH 3 / Ant. 1 (2S3T, CDD)



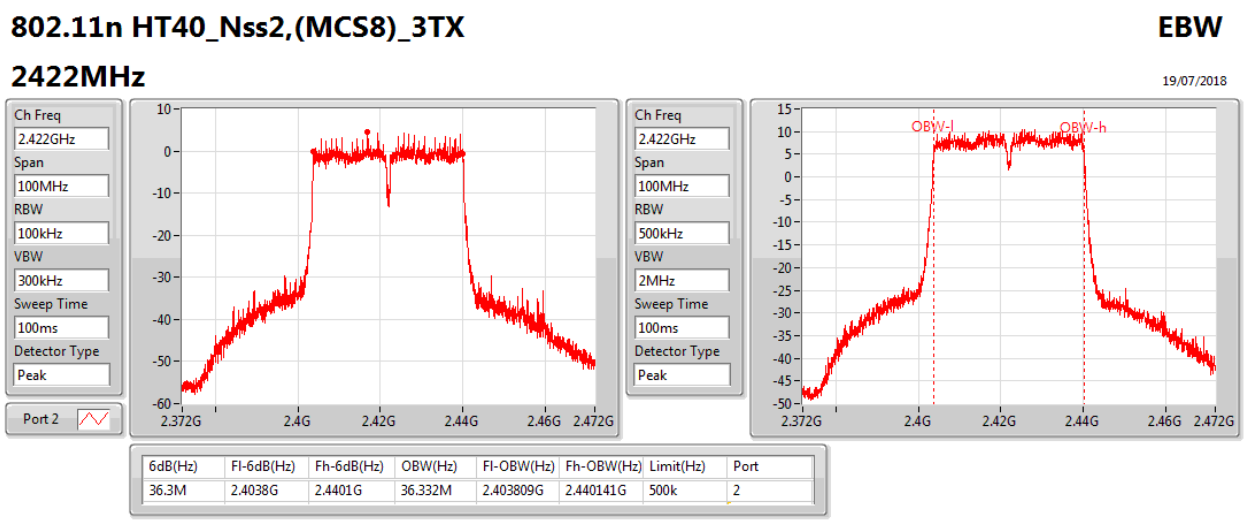
6 dB & 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n 40MHz MCS8 / CH 6 / Ant. 1 (2S3T, CDD)



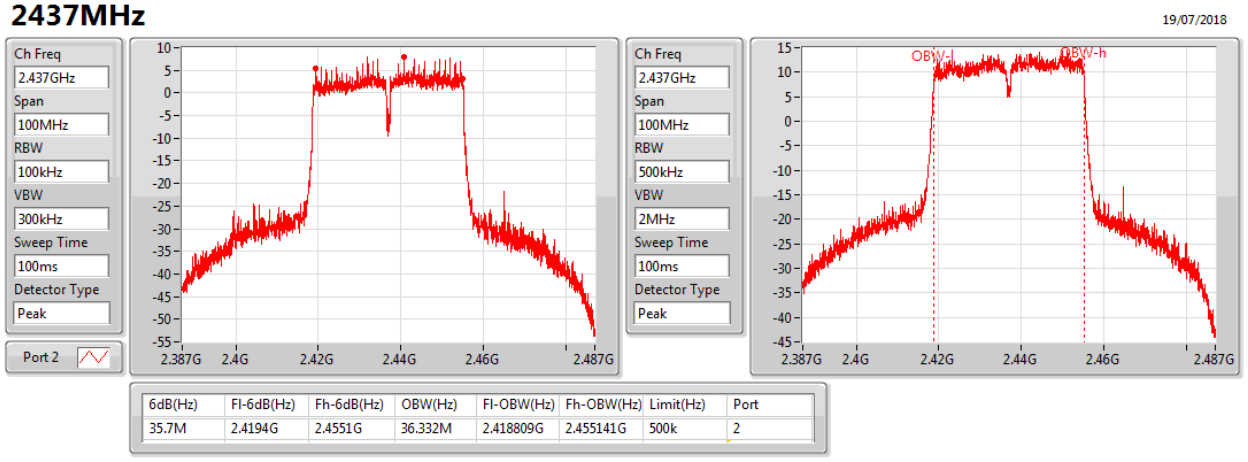
6 dB & 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n 40MHz MCS8 / CH 9 / Ant. 1 (2S3T, CDD)



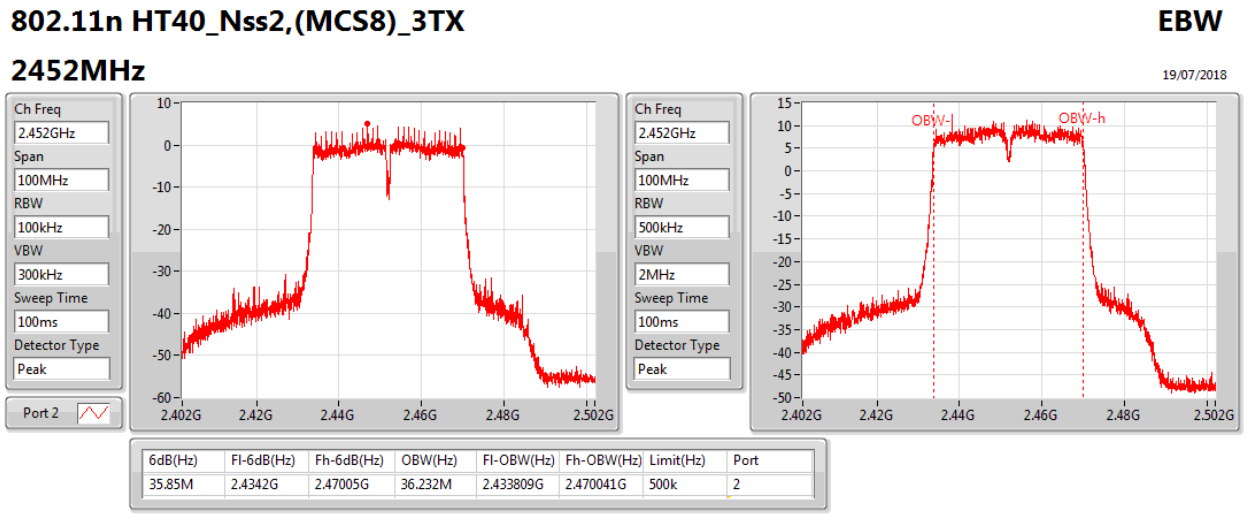
6 dB & 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n 40MHz MCS8 / CH 3 / Ant. 2 (2S3T, CDD)



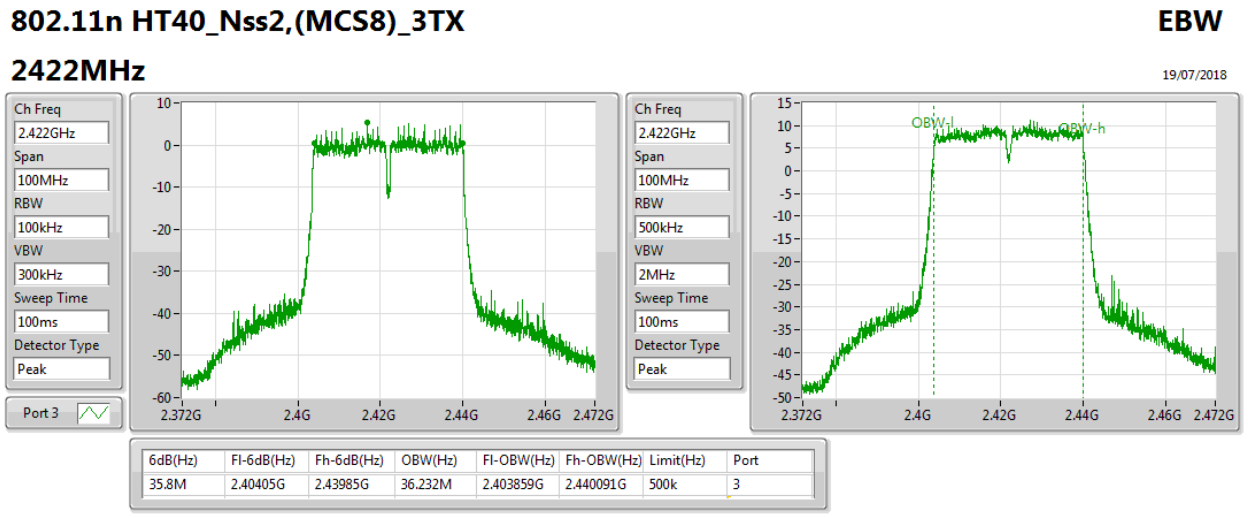
6 dB & 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n 40MHz MCS8 / CH 6 / Ant. 2 (2S3T, CDD)



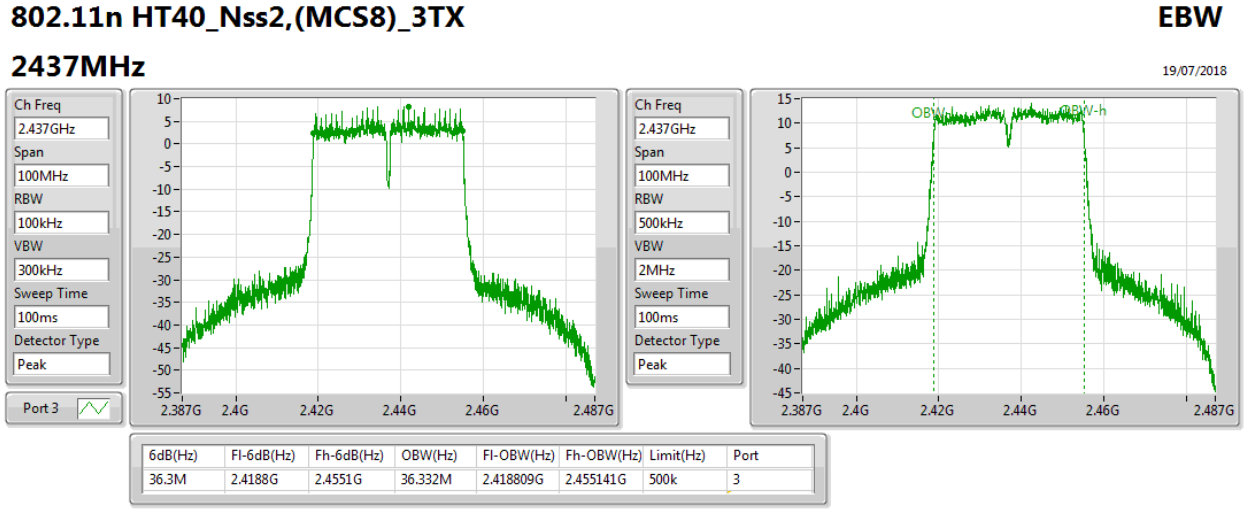
6 dB & 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n 40MHz MCS8 / CH 9 / Ant. 2 (2S3T, CDD)



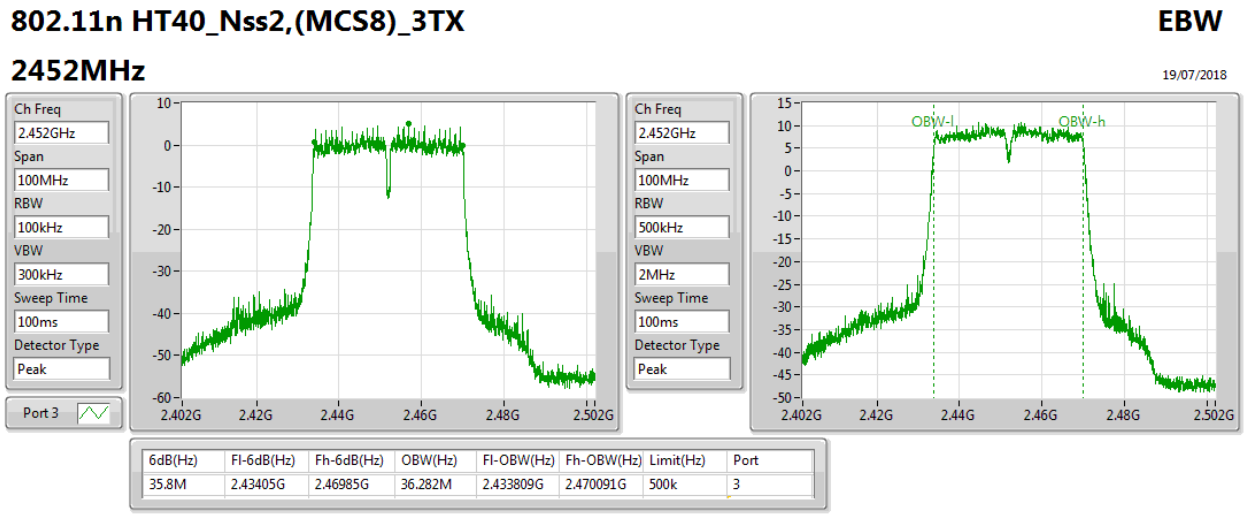
6 dB & 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n 40MHz MCS8 / CH 3 / Ant. 3 (2S3T, CDD)



6 dB & 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n 40MHz MCS8 / CH 6 / Ant. 3 (2S3T, CDD)



6 dB & 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n 40MHz MCS8 / CH 9 / Ant. 3 (2S3T, CDD)

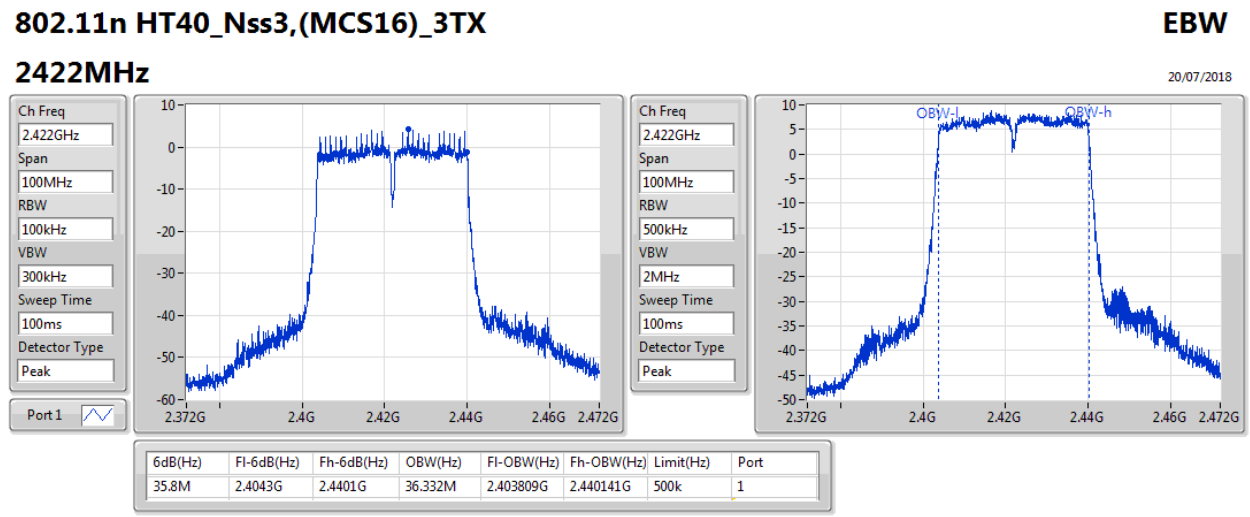


<MCS16, Ant. 1+2+3, 3S3T, SDM>

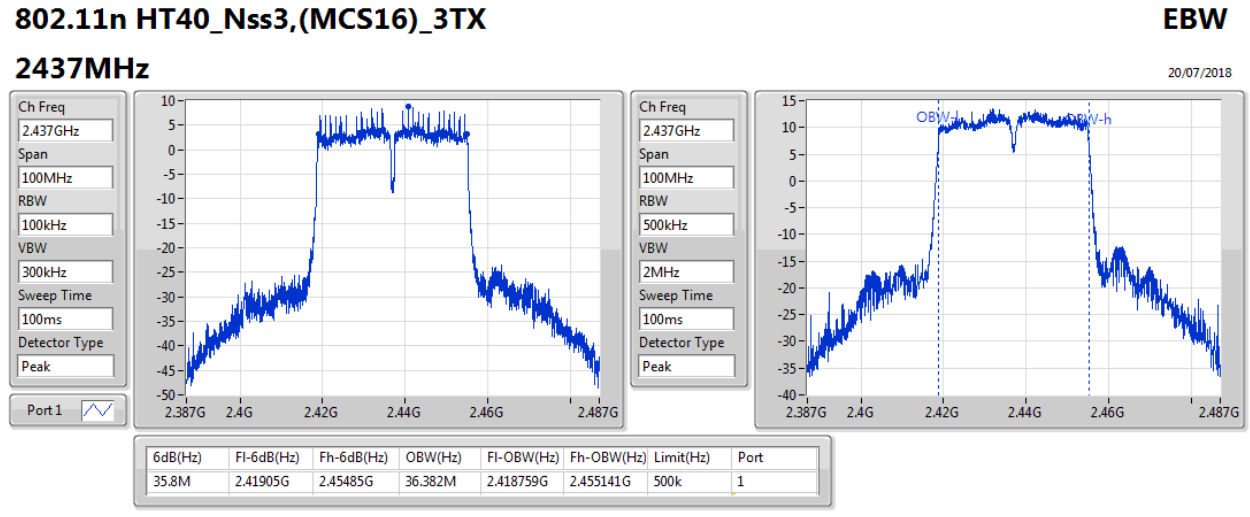
Channel	Frequency	6dB Bandwidth (MHz)			Min. Limit (kHz)	Test Result
		Ant. 1	Ant. 2	Ant. 3		
3	2422 MHz	35.800	36.350	36.000	500	PASS
6	2437 MHz	35.800	36.050	36.000	500	PASS
9	2452 MHz	35.900	36.300	36.300	500	PASS

Channel	Frequency	99% Occupied Bandwidth (MHz)		
		Ant. 1	Ant. 2	Ant. 3
3	2422 MHz	36.332	36.332	36.282
6	2437 MHz	36.382	36.382	36.332
9	2452 MHz	36.382	36.282	36.282

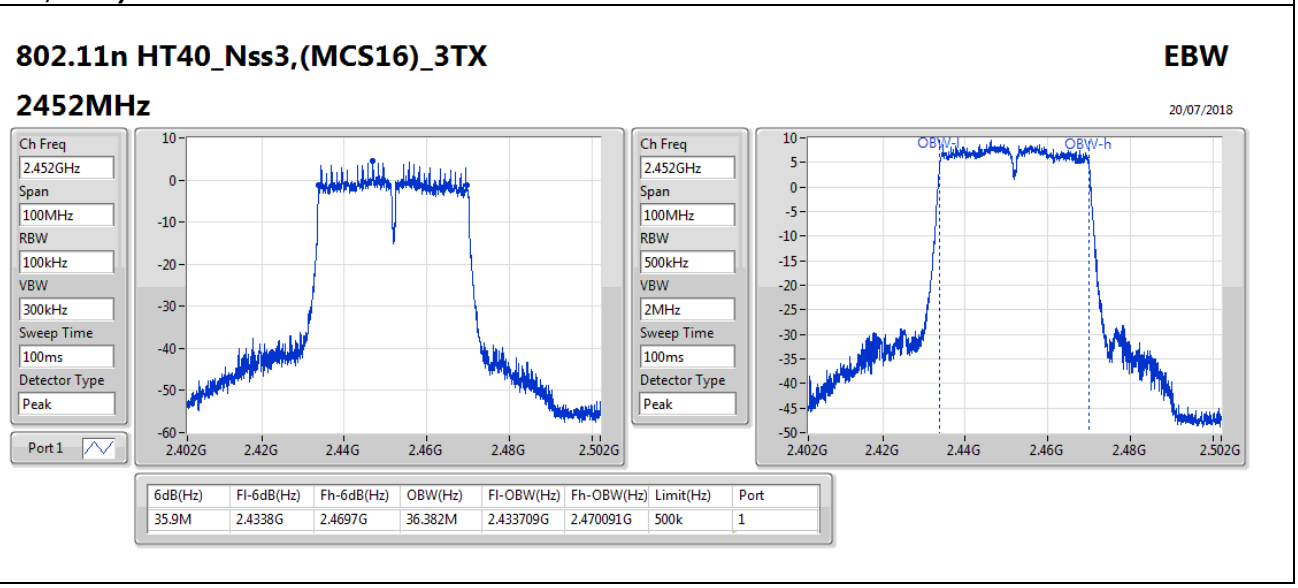
6 dB & 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n 40MHz MCS16 / CH 3 / Ant. 1 (3S3T, SDM)



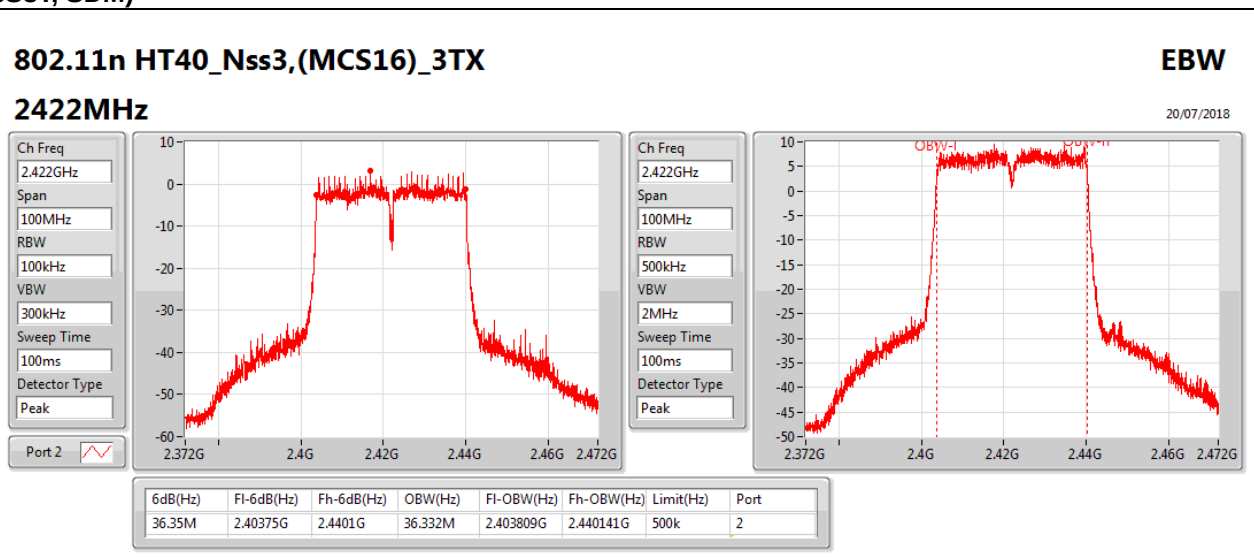
6 dB & 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n 40MHz MCS16 / CH 6 / Ant. 1 (3S3T, SDM)



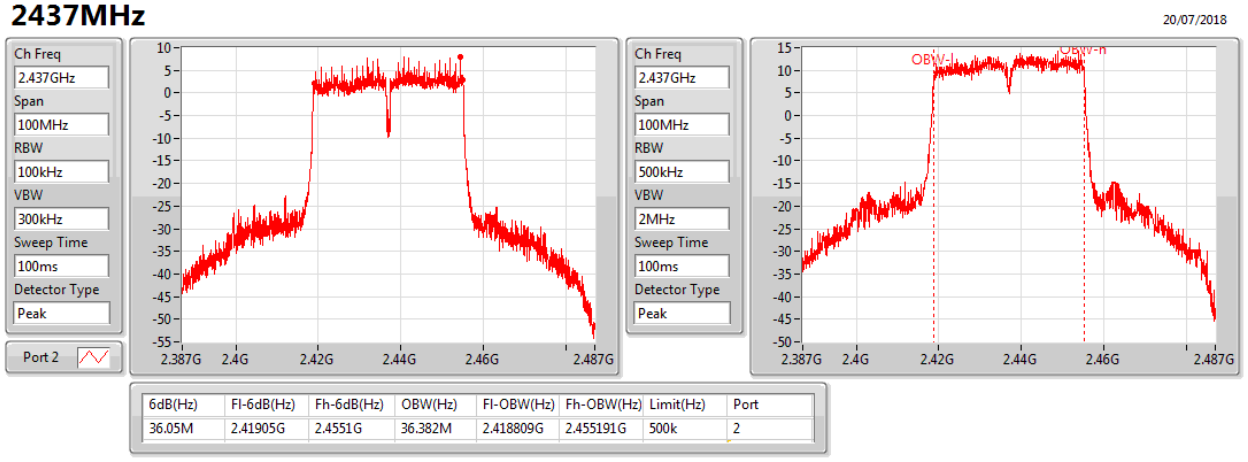
6 dB & 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n 40MHz MCS16 / CH 9 / Ant. 1 (3S3T, SDM)



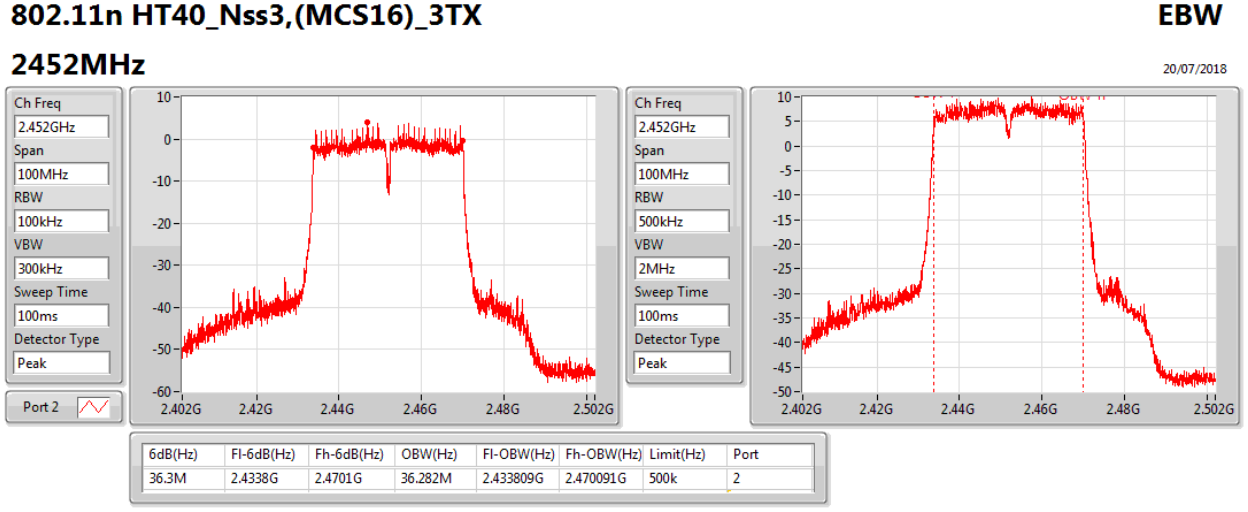
6 dB & 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n 40MHz MCS16 / CH 3 / Ant. 2 (3S3T, SDM)



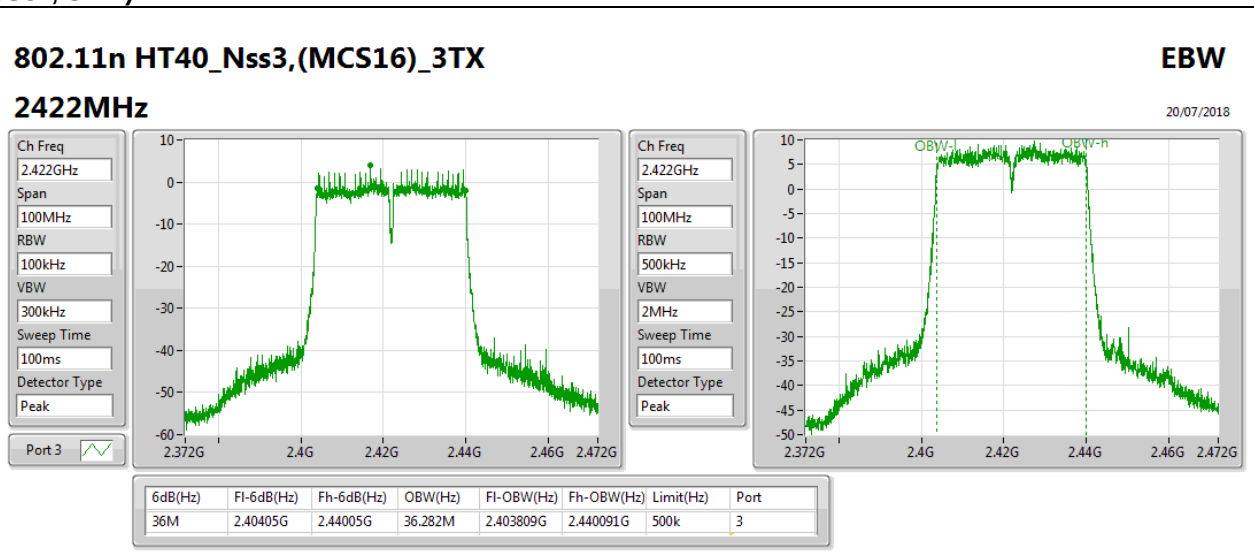
6 dB & 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n 40MHz MCS16 / CH 6 / Ant. 2 (3S3T, SDM)



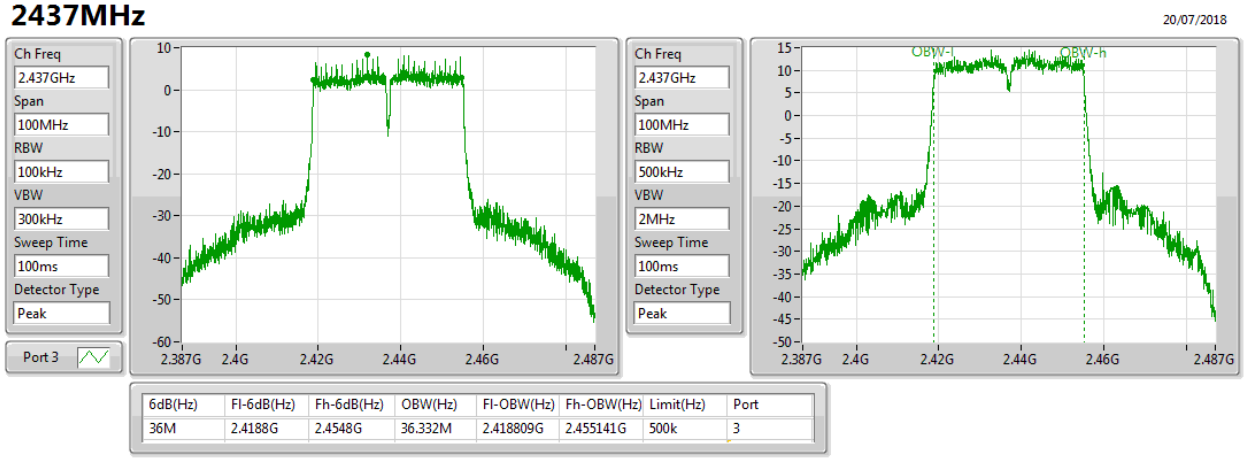
6 dB & 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n 40MHz MCS16 / CH 9 / Ant. 2 (3S3T, SDM)



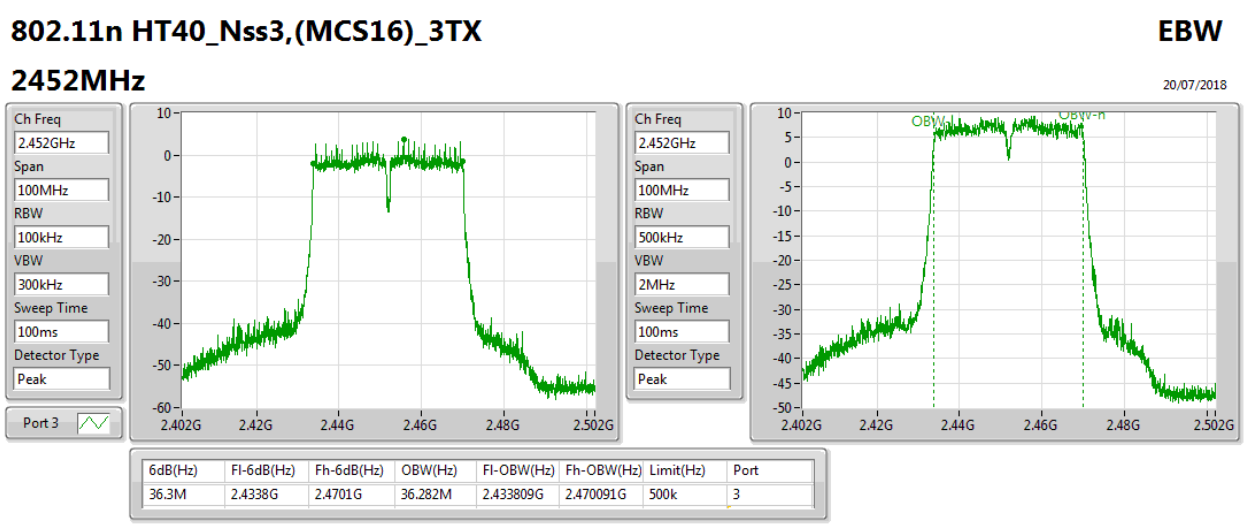
6 dB & 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n 40MHz MCS16 / CH 3 / Ant. 3 (3S3T, SDM)



6 dB & 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n 40MHz MCS16 / CH 6 / Ant. 3 (3S3T, SDM)



6 dB & 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n 40MHz MCS16 / CH 9 / Ant. 3 (3S3T, SDM)



2.5. Radiated Emissions Measurement

2.5.1. Limit

30dBc 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

2.5.2. Measuring Instruments and Setting

Please refer to section 3 of equipments list in this report. The following table is the setting of spectrum analyzer and receiver.

Spectrum Parameter	Setting
Attenuation	Auto
Start Frequency	1000 MHz
Stop Frequency	10th carrier harmonic
RBW / VBW (Emission in restricted band)	1MHz / 3MHz for Peak, 1MHz / 1/T for Average
RBW / VBW (Emission in non-restricted band)	100kHz / 300kHz for peak

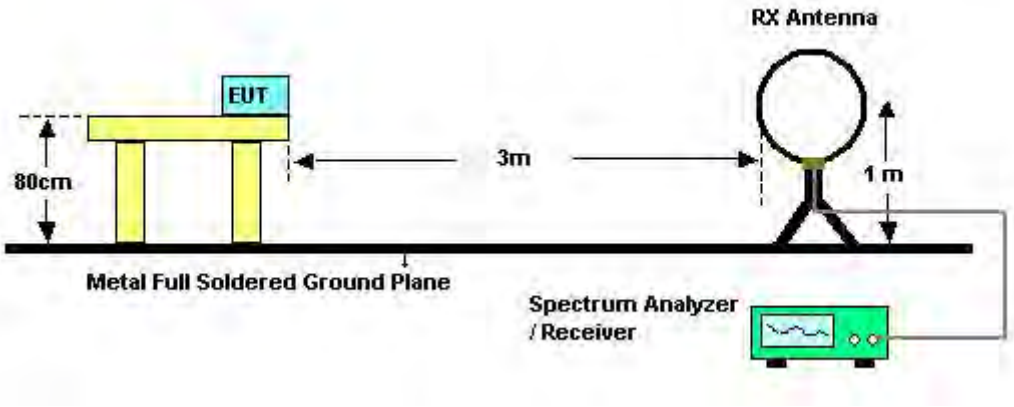
Receiver Parameter	Setting
Attenuation	Auto
Start ~ Stop Frequency	9kHz~150kHz / RBW 200Hz for QP
Start ~ Stop Frequency	150kHz~30MHz / RBW 9kHz for QP
Start ~ Stop Frequency	30MHz~1000MHz / RBW 120kHz for QP

2.5.3. Test Procedures

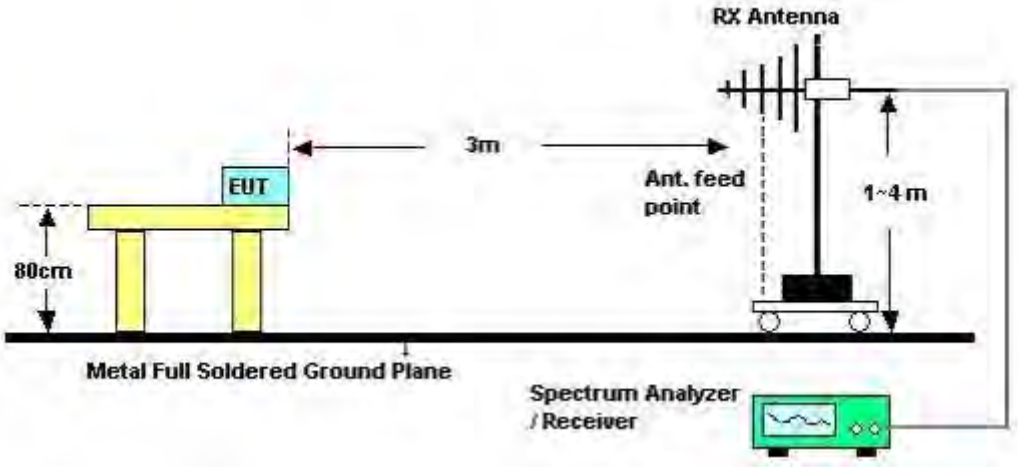
1. Configure the EUT according to ANSI C63.10. The EUT was placed on the top of the turntable 0.8 meter above ground for below 1G and 1.5 meter above ground for above 1G . The phase center of the receiving antenna mounted on the top of a height-variable antenna tower was placed 3 meters far away from the turntable.
2. Power on the EUT and all the supporting units. The turntable was rotated by 360 degrees to determine the position of the highest radiation.
3. The height of the broadband receiving antenna was varied between one meter and four meters above ground to find the maximum emissions field strength of both horizontal and vertical polarization.
4. For each suspected emissions, the antenna tower was scan (from 1 m to 4 m) and then the turntable was rotated (from 0 degree to 360 degrees) to find the maximum reading.
5. Set the test-receiver system to Peak or CISPR quasi-peak Detect Function with specified bandwidth under Maximum Hold Mode.
6. For emissions above 1GHz, use 1MHz VBW and 3MHz RBW for peak reading. Then 1MHz RBW and the VBW is ≥ 1/T(Duty Cycle < 98%) or 10Hz(Duty cycle ≥ 98%) for average reading in spectrum analyzer.
7. When the radiated emissions limits are expressed in terms of the average value of the emissions, and pulsed operation is employed, the measurement field strength shall be determined by averaging over one complete pulse train, including blanking intervals, as long as the pulse train does not exceed 0.1 seconds. As an alternative (provided the transmitter operates for longer than 0.1 seconds) or in cases where the pulse train exceeds 0.1 seconds, the measured field strength shall be determined from the average absolute voltage during a 0.1 second interval during which the field strength is at its maximum value.
8. If the emissions level of the EUT in peak mode was 3 dB lower than the average limit specified, then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions which do not have 3 dB margin will be repeated one by one using the quasi-peak method for below 1GHz.
9. For testing above 1GHz, the emissions level of the EUT in peak mode was lower than average limit (that means the emissions level in peak mode also complies with the limit in average mode), then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.
10. In case the emission is lower than 30MHz, loop antenna has to be used for measurement and the recorded data should be QP measured by receiver. High – Low scan is not required in this case.

2.5.4. Test Setup Layout

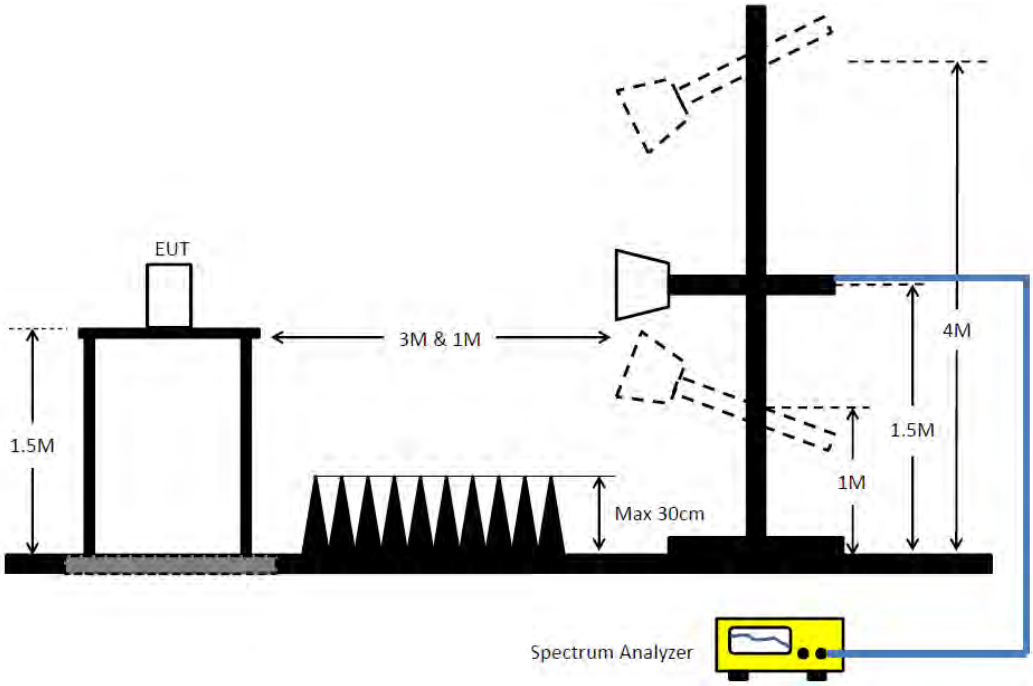
For Radiated Emissions: 9kHz ~30MHz



For Radiated Emissions: 30MHz~1GHz



For Radiated Emissions: Above 1GHz



2.5.5. Test Deviation

There is no deviation with the original standard.

2.5.6. EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

2.5.7. Results of Radiated Emissions (9kHz~30MHz)

Frequency Range	9kHz~30MHz	Test Site No.	03CH01-CB
Temperature	22℃	Humidity	54%
Test Engineer	Cola Fan & Nyle Chang & Stim Sung & Jeff Wu & Zero Chen & Ron Huang	Configurations	Normal Link
Test Date	Jul. 17, 2018	Test Mode	Mode 1~Mode 2

Freq. (MHz)	Level (dBuV)	Over Limit (dB)	Limit Line (dBuV)	Remark
-	-	-	-	See Note

Note:

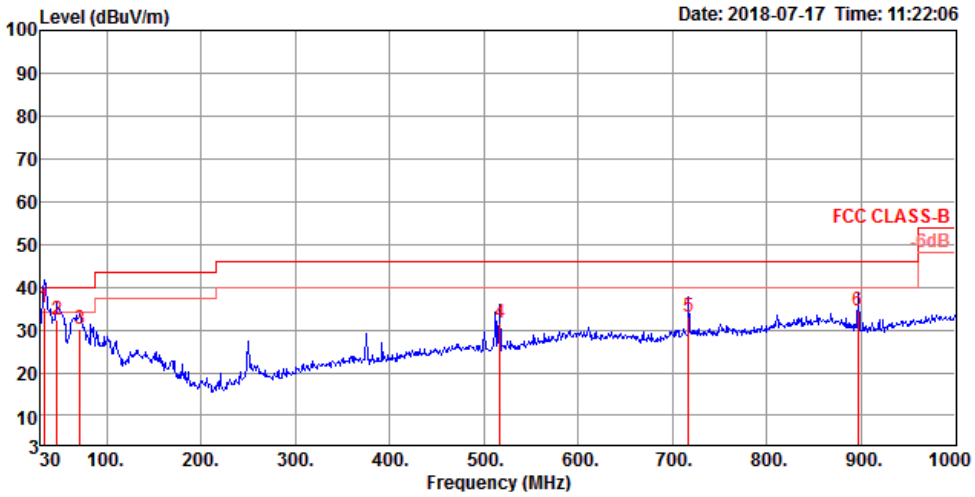
The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.

The radiated emissions were investigated from 9 kHz or the lowest frequency generated within the device, up to the 10 harmonic or 40 GHz, whichever is appropriate.

2.5.8. Results of Radiated Emissions (30MHz~1GHz)

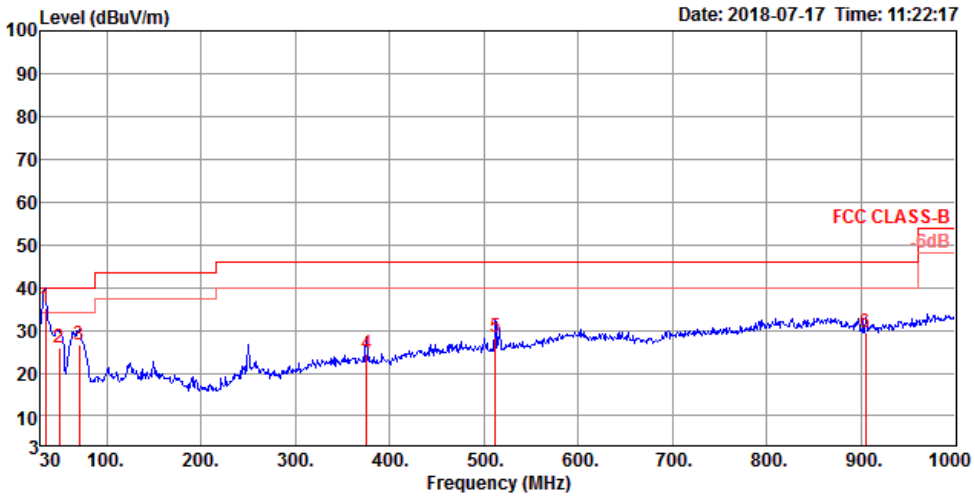
Frequency Range	30MHz~1GHz	Test Site No.	03CH01-CB
Temperature	22℃	Humidity	54%
Test Engineer	Cola Fan & Nyle Chang & Stim Sung & Jeff Wu & Zero Chen & Ron Huang	Configurations	Normal Link
Test Mode	Mode 1		

Vertical



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	33.88	35.15	40.00	-4.85	44.85	0.66	22.24	32.60	100	330	QP	VERTICAL
2	47.46	32.42	40.00	-7.58	48.93	0.98	15.10	32.59	100	143	QP	VERTICAL
3	71.71	30.13	40.00	-9.87	49.25	1.18	12.27	32.57	100	317	QP	VERTICAL
4	516.94	31.68	46.00	-14.32	36.56	4.18	23.40	32.46	125	197	QP	VERTICAL
5	716.76	33.22	46.00	-12.78	35.28	5.29	25.12	32.47	150	358	QP	VERTICAL
6	896.21	34.53	46.00	-11.47	33.56	6.14	26.68	31.85	300	219	QP	VERTICAL

Horizontal



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	34.85	35.18	40.00	-4.82	45.35	0.66	21.77	32.60	150	208	QP	HORIZONTAL
2	49.40	25.82	40.00	-14.18	43.20	0.98	14.23	32.59	150	81	QP	HORIZONTAL
3	70.74	26.71	40.00	-13.29	45.84	1.17	12.27	32.57	150	241	QP	HORIZONTAL
4	375.32	24.30	46.00	-21.70	32.52	3.36	20.86	32.44	100	294	QP	HORIZONTAL
5	512.09	28.35	46.00	-17.65	33.28	4.16	23.36	32.45	100	252	QP	HORIZONTAL
6	904.94	29.33	46.00	-16.67	28.31	6.18	26.63	31.79	100	322	QP	HORIZONTAL

Note:

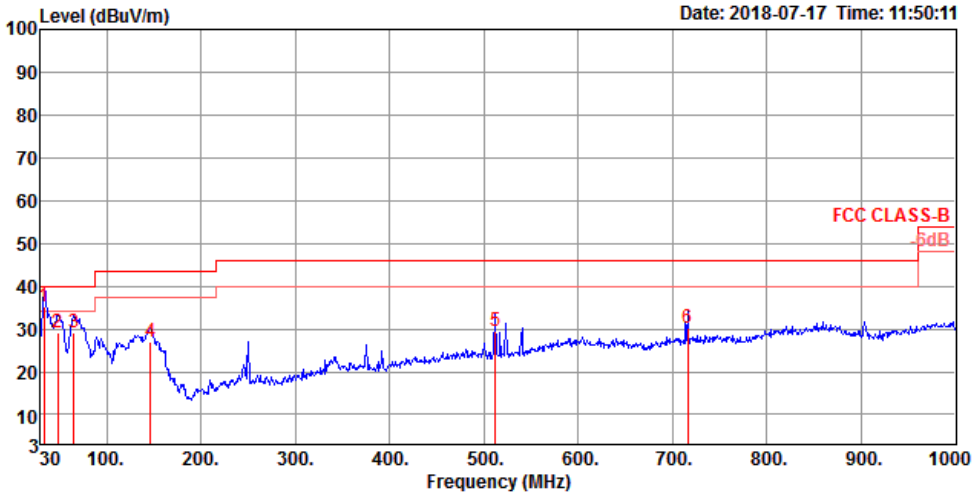
The amplitude of spurious emissions that are attenuated by more than 20dB below the permissible value has no need to be reported.

Emission level (dBuV/m) = 20 log Emission level (uV/m).

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

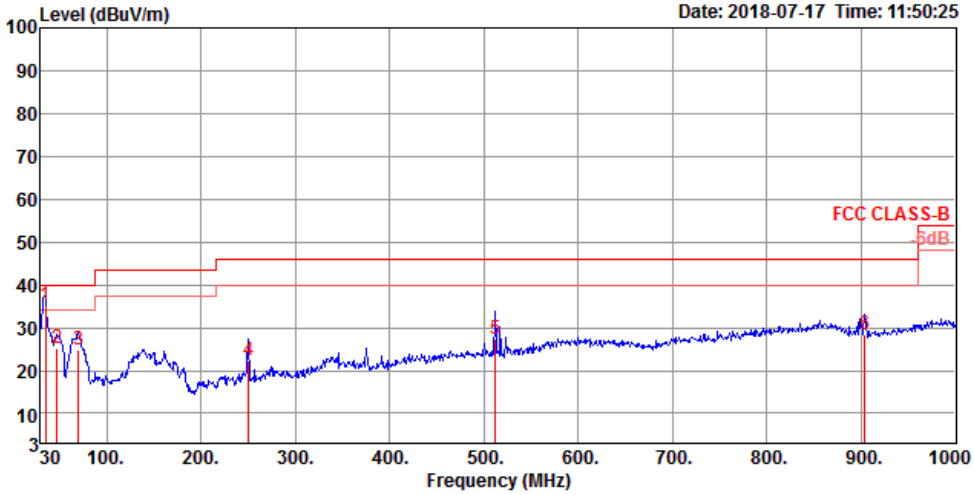
Frequency Range	30MHz~1GHz	Test Site No.	03CH01-CB
Temperature	22℃	Humidity	54%
Test Engineer	Cola Fan & Nyle Chang & Stim Sung & Jeff Wu & Zero Chen & Ron Huang	Configurations	Normal Link
Test Mode	Mode 2		

Vertical



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	33.88	35.14	40.00	-4.86	44.84	0.66	22.24	32.60	100	226	QP	VERTICAL
2	48.43	29.13	40.00	-10.87	46.11	0.98	14.63	32.59	100	113	QP	VERTICAL
3	64.92	29.20	40.00	-10.80	48.51	1.16	12.10	32.57	100	306	QP	VERTICAL
4	146.40	27.06	43.50	-16.44	41.00	1.89	16.68	32.51	100	4	QP	VERTICAL
5	512.09	29.35	46.00	-16.65	34.28	4.16	23.36	32.45	100	178	QP	VERTICAL
6	715.79	30.14	46.00	-15.86	32.21	5.29	25.12	32.48	200	12	QP	VERTICAL

Horizontal



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	34.85	35.06	40.00	-4.94	45.23	0.66	21.77	32.60	150	168	QP	HORIZONTAL
2	47.46	25.05	40.00	-14.95	41.56	0.98	15.10	32.59	125	348	QP	HORIZONTAL
3	69.77	24.78	40.00	-15.22	43.92	1.17	12.26	32.57	150	88	QP	HORIZONTAL
4	250.19	22.26	46.00	-23.74	33.55	2.63	18.54	32.46	200	74	QP	HORIZONTAL
5	512.09	27.33	46.00	-18.67	32.26	4.16	23.36	32.45	100	253	QP	HORIZONTAL
6	903.97	28.31	46.00	-17.69	27.25	6.17	26.68	31.79	100	222	QP	HORIZONTAL

Note:

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

Emission level (dBuV/m) = 20 log Emission level (uV/m).

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

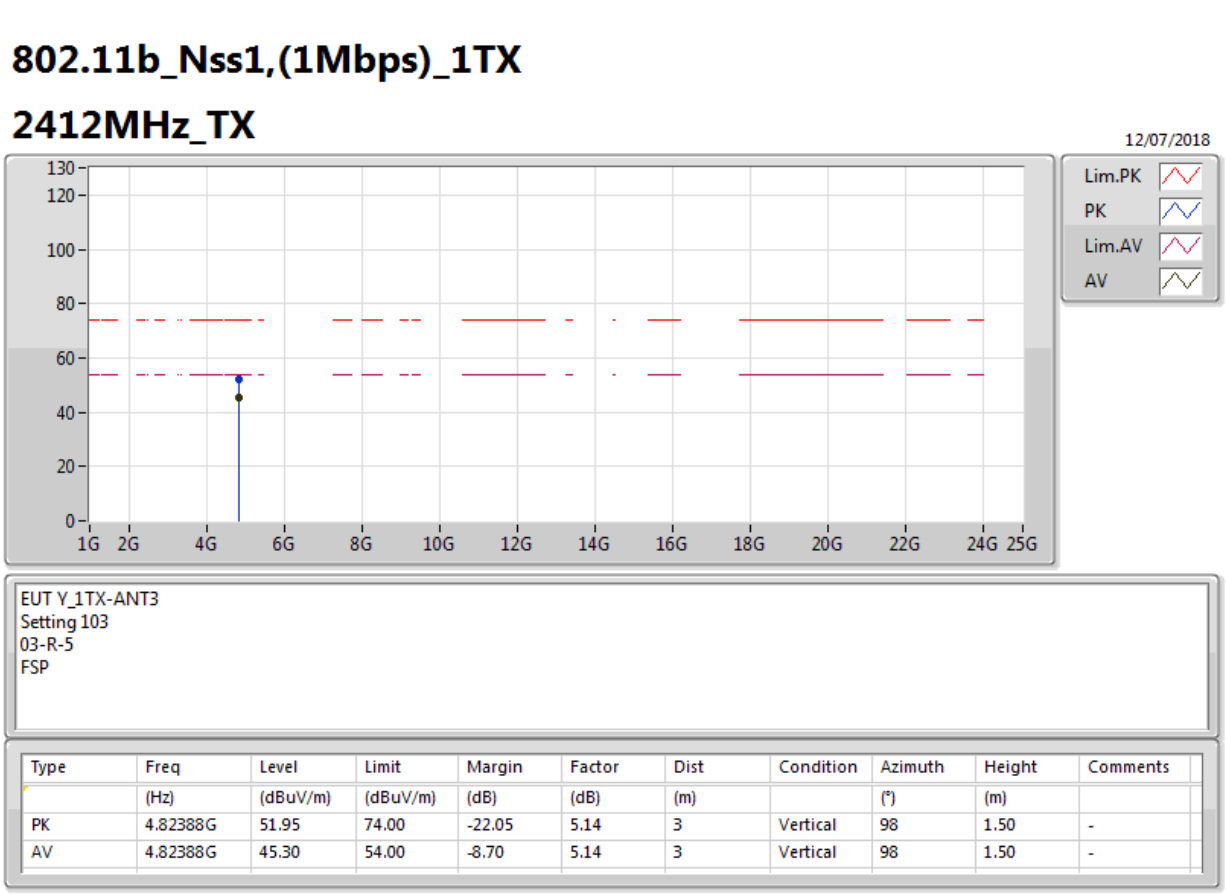
2.5.9. Results for Radiated Emissions (1GHz~10th Harmonic)

Following channel(s) was (were) selected for the final test as listed below.

MODE	TX Chain	TESTED CHANNEL	MODULATION TECHNOLOGY	MODULATION TYPE	DATA RATE (Mbps)
802.11b	Ant. 3, 1S1T (SISO)	1, 6, 11	DSSS	DBPSK	1
802.11b	Ant. 2+3, 1S2T (CDD)	1, 6, 11	DSSS	DBPSK	1
802.11b	Ant. 1+2+3, 1S3T (CDD)	1, 6, 11	DSSS	DBPSK	1
802.11n 20MHz	Ant. 1+2+3, 1S3T (CDD)	1, 6, 11	OFDM	BPSK	MCS0 (6.5)
802.11n 20MHz	Ant. 1+2+3, 2S3T (CDD)	1, 6, 11	OFDM	BPSK	MCS8 (13)
802.11n 20MHz	Ant. 1+2+3, 3S3T (SDM)	1, 6, 11	OFDM	BPSK	MCS16 (19.5)
802.11n 40MHz	Ant. 1+2+3, 1S3T (CDD)	3, 6, 9	OFDM	BPSK	MCS0 (13.5)
802.11n 40MHz	Ant. 1+2+3, 2S3T (CDD)	3, 6, 9	OFDM	BPSK	MCS8 (27)
802.11n 40MHz	Ant. 1+2+3, 3S3T (SDM)	3, 6, 9	OFDM	BPSK	MCS16 (40.5)

Temperature	22℃	Humidity	54%
Test Engineer	Cola Fan & Nyle Chang & Stim Sung & Jeff Wu & Zero Chen & Ron Huang		

Transmitter Radiated Emissions (1GHz~10th Harmonic)			
Operating Mode	802.11b 1Mbps / CH 1 / Ant. 3, 1S1T (SISO)	Polarization	V



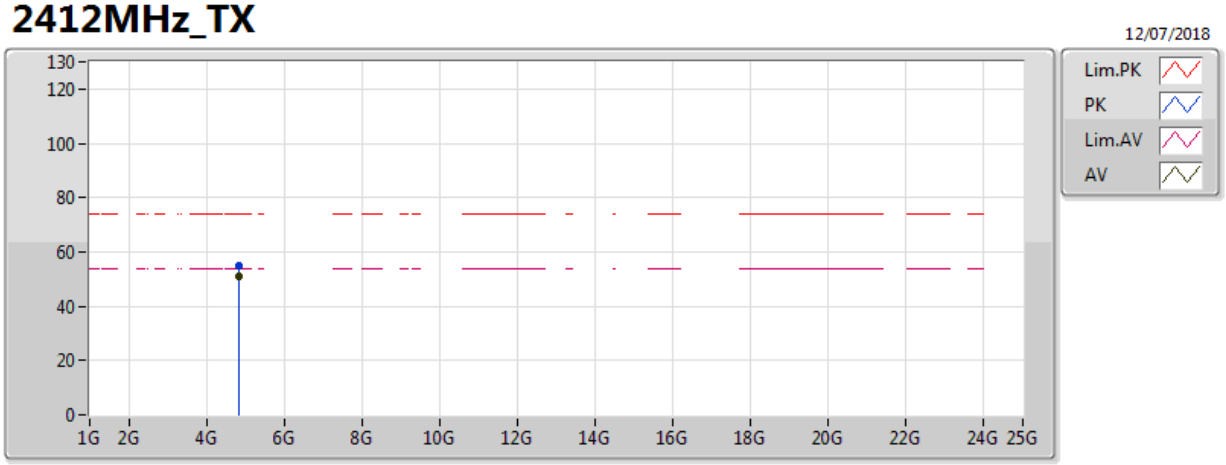
Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	4.82388G	51.95	74.00	-22.05	5.14	3	Vertical	98	1.50	-
AV	4.82388G	45.30	54.00	-8.70	5.14	3	Vertical	98	1.50	-

Note 1: The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.
Note 2: Factor= Antenna Factor + Cable Loss - Preamp Factor
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Transmitter Radiated Emissions (1GHz~10th Harmonic)			
Operating Mode	802.11b 1Mbps / CH 1 / Ant. 3, 1S1T (SISO)	**Polarization**	H

802.11b_Nss1,(1Mbps)_1TX

2412MHz_TX



EUT Y_1TX-ANT3
Setting 103
03-R-5
FSP

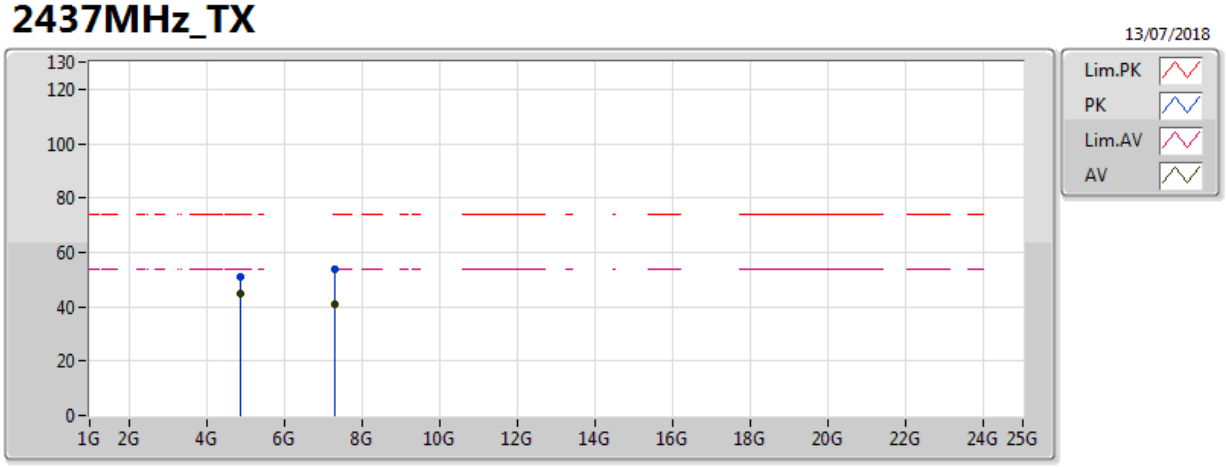
Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
AV	4.82388G	50.87	54.00	-3.13	5.14	3	Horizontal	154	1.86	-
PK	4.82394G	54.69	74.00	-19.31	5.14	3	Horizontal	154	1.86	-

Note 1: The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.
Note 2: Factor= Antenna Factor + Cable Loss - Preamp Factor
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Transmitter Radiated Emissions (1GHz~10th Harmonic)			
Operating Mode	802.11b 1Mbps / CH 6 / Ant. 3, 1S1T (SISO)	**Polarization**	V

802.11b_Nss1,(1Mbps)_1TX

2437MHz_TX



EUT Y_1TX-ANT3
Setting 106
03-C-5
FSP

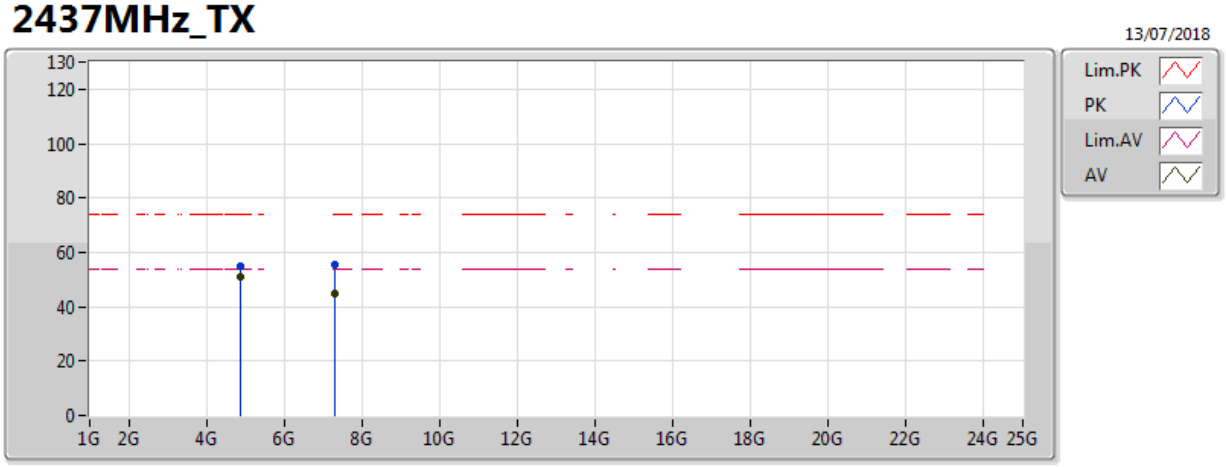
Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	4.873868G	51.08	74.00	-22.92	5.34	3	Vertical	107	1.42	-
AV	4.873886G	44.80	54.00	-9.20	5.34	3	Vertical	107	1.42	-
PK	7.31128G	53.71	74.00	-20.29	9.78	3	Vertical	115	2.99	-
AV	7.31018G	40.90	54.00	-13.10	9.78	3	Vertical	115	2.99	-

Note 1: The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.
Note 2: Factor= Antenna Factor + Cable Loss - Preamp Factor
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Transmitter Radiated Emissions (1GHz~10th Harmonic)			
Operating Mode	802.11b 1Mbps / CH 6 / Ant. 3, 1S1T (SISO)	**Polarization**	H

802.11b_Nss1,(1Mbps)_1TX

2437MHz_TX



EUT Y_1TX-ANT3
Setting 106
03-C-5
FSP

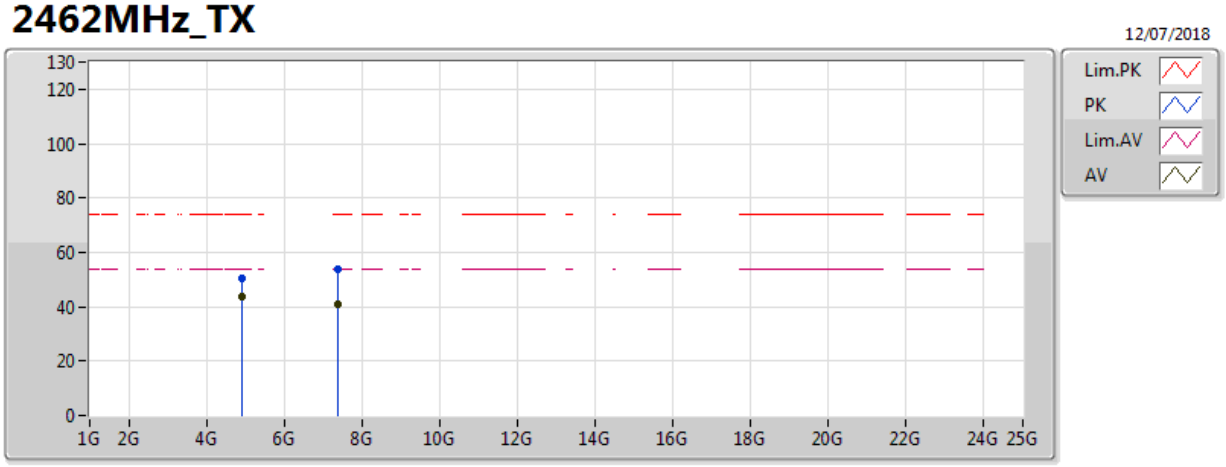
Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	4.87382G	54.98	74.00	-19.02	5.34	3	Horizontal	139	1.67	-
AV	4.87386G	50.95	54.00	-3.05	5.34	3	Horizontal	139	1.67	-
PK	7.31138G	55.34	74.00	-18.66	9.78	3	Horizontal	80	1.50	-
AV	7.3116G	44.76	54.00	-9.24	9.78	3	Horizontal	80	1.50	-

Note 1: The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.
Note 2: Factor= Antenna Factor + Cable Loss - Preamp Factor
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Transmitter Radiated Emissions (1GHz~10th Harmonic)			
Operating Mode	802.11b 1Mbps / CH 11 / Ant. 3, 1S1T (SISO)	**Polarization**	V

802.11b_Nss1,(1Mbps)_1TX

2462MHz_TX



EUT Y_1TX-ANT3
Setting 106
03-R-5
FSP

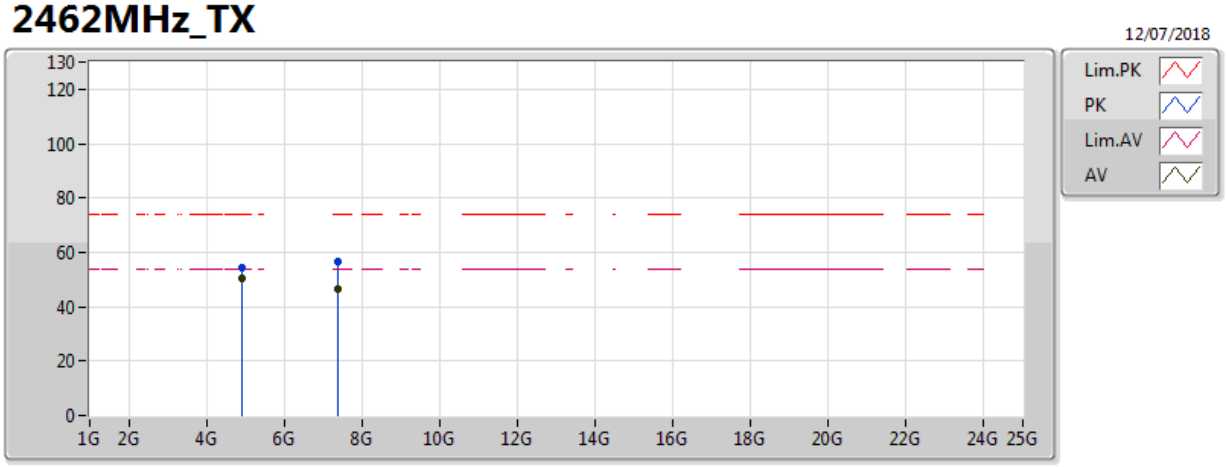
Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	4.92406G	50.42	74.00	-23.58	5.56	3	Vertical	82	1.49	-
AV	4.92388G	43.65	54.00	-10.35	5.56	3	Vertical	82	1.49	-
PK	7.38492G	53.95	74.00	-20.05	9.83	3	Vertical	96	1.97	-
AV	7.3851G	41.04	54.00	-12.96	9.83	3	Vertical	96	1.97	-

Note 1: The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.
Note 2: Factor= Antenna Factor + Cable Loss - Preamp Factor
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Transmitter Radiated Emissions (1GHz~10th Harmonic)			
Operating Mode	802.11b 1Mbps / CH 11 / Ant. 3, 1S1T (SISO)	**Polarization**	H

802.11b_Nss1,(1Mbps)_1TX

2462MHz_TX



EUT Y_1TX-ANT3
Setting 106
03-R-5
FSP

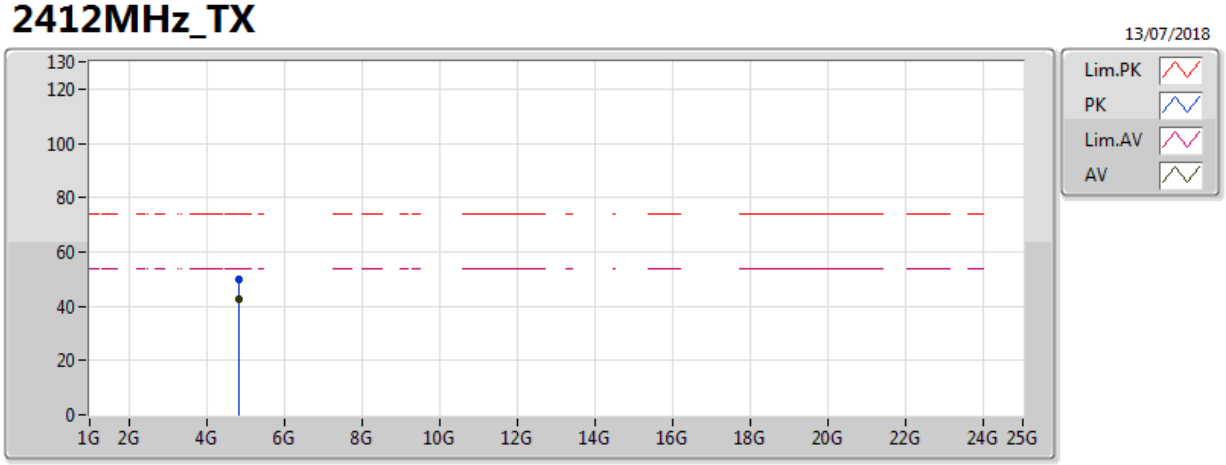
Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	4.92394G	54.18	74.00	-19.82	5.56	3	Horizontal	138	1.74	-
AV	4.92388G	50.42	54.00	-3.58	5.56	3	Horizontal	138	1.74	-
PK	7.3869G	56.59	74.00	-17.41	9.83	3	Horizontal	93	1.49	-
AV	7.3866G	46.58	54.00	-7.42	9.83	3	Horizontal	93	1.49	-

Note 1: The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.
Note 2: Factor= Antenna Factor + Cable Loss - Preamp Factor
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Transmitter Radiated Emissions (1GHz~10th Harmonic)			
Operating Mode	802.11b 1Mbps / CH 1 / Ant. 2+3, 1S2T (CDD)	**Polarization**	V

802.11b_Nss1,(1Mbps)_2TX

2412MHz_TX



EUT Y_2TX ANT2+3
Setting 96
03-C-5
FSP

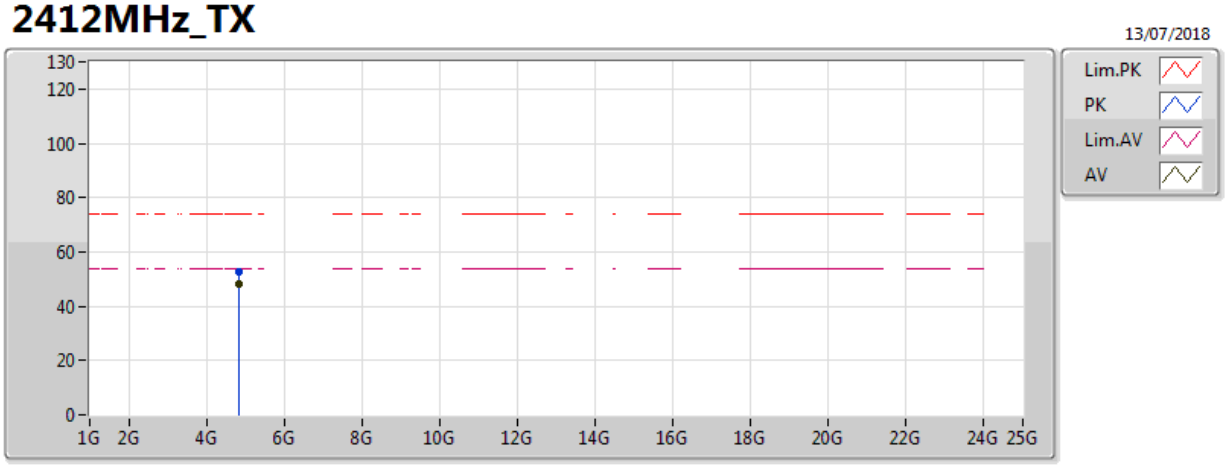
Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	4.82376G	49.69	74.00	-24.31	5.14	3	Vertical	83	1.56	-
AV	4.82386G	42.41	54.00	-11.59	5.14	3	Vertical	83	1.56	-

Note 1: The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.
Note 2: Factor= Antenna Factor + Cable Loss - Preamp Factor
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Transmitter Radiated Emissions (1GHz~10th Harmonic)			
Operating Mode	802.11b 1Mbps / CH 1 / Ant. 2+3, 1S2T (CDD)	**Polarization**	H

802.11b_Nss1,(1Mbps)_2TX

2412MHz_TX



EUT Y_2TX ANT2+3
Setting 96
03-C-5
FSP

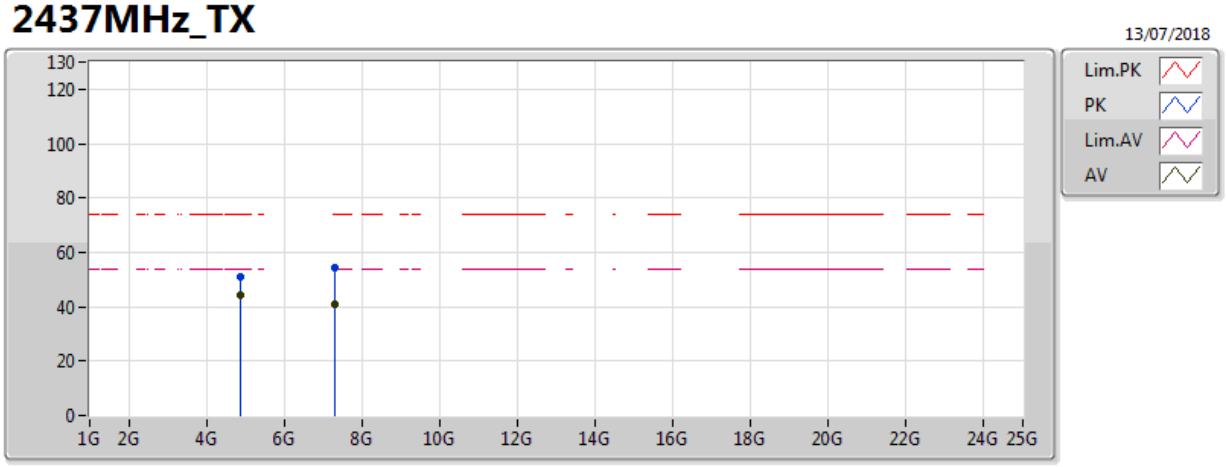
Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	4.82382G	52.95	74.00	-21.05	5.14	3	Horizontal	148	1.78	-
AV	4.82388G	48.19	54.00	-5.81	5.14	3	Horizontal	148	1.78	-

Note 1: The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.
Note 2: Factor= Antenna Factor + Cable Loss - Preamp Factor
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Transmitter Radiated Emissions (1GHz~10th Harmonic)			
Operating Mode	802.11b 1Mbps / CH 6 / Ant. 2+3, 1S2T (CDD)	**Polarization**	V

802.11b_Nss1,(1Mbps)_2TX

2437MHz_TX



EUT Y_2TX ANT2+3
Setting 106
03-C-5
FSP

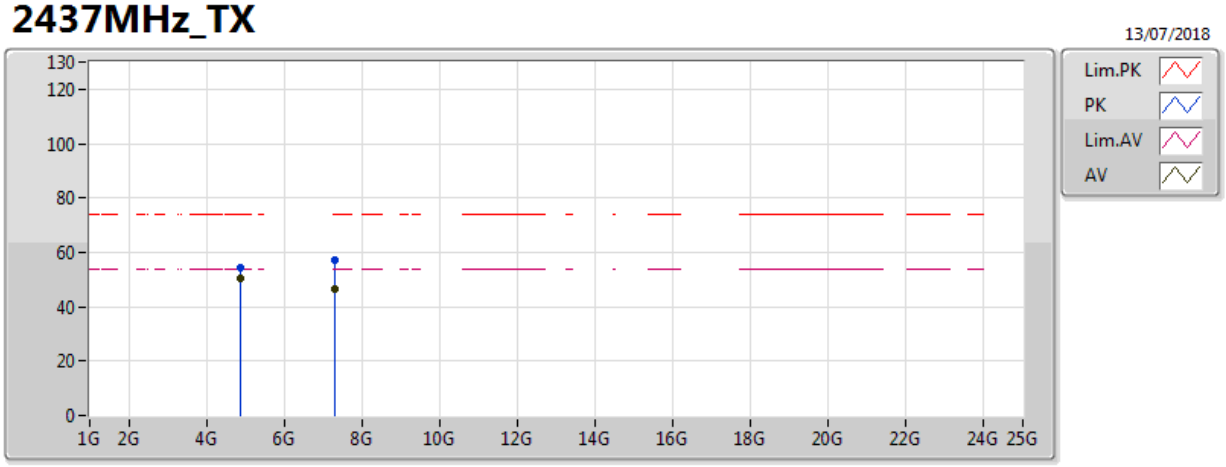
Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	4.87386G	50.88	74.00	-23.12	5.34	3	Vertical	257	1.49	-
AV	4.87388G	44.32	54.00	-9.68	5.34	3	Vertical	257	1.49	-
PK	7.3124G	54.42	74.00	-19.58	9.78	3	Vertical	86	1.71	-
AV	7.31002G	40.72	54.00	-13.28	9.78	3	Vertical	86	1.71	-

Note 1: The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.
Note 2: Factor= Antenna Factor + Cable Loss - Preamp Factor
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Transmitter Radiated Emissions (1GHz~10th Harmonic)			
Operating Mode	802.11b 1Mbps / CH 6 / Ant. 2+3, 1S2T (CDD)	**Polarization**	H

802.11b_Nss1,(1Mbps)_2TX

2437MHz_TX



EUT Y_2TX ANT2+3
Setting 106
03-C-5
FSP

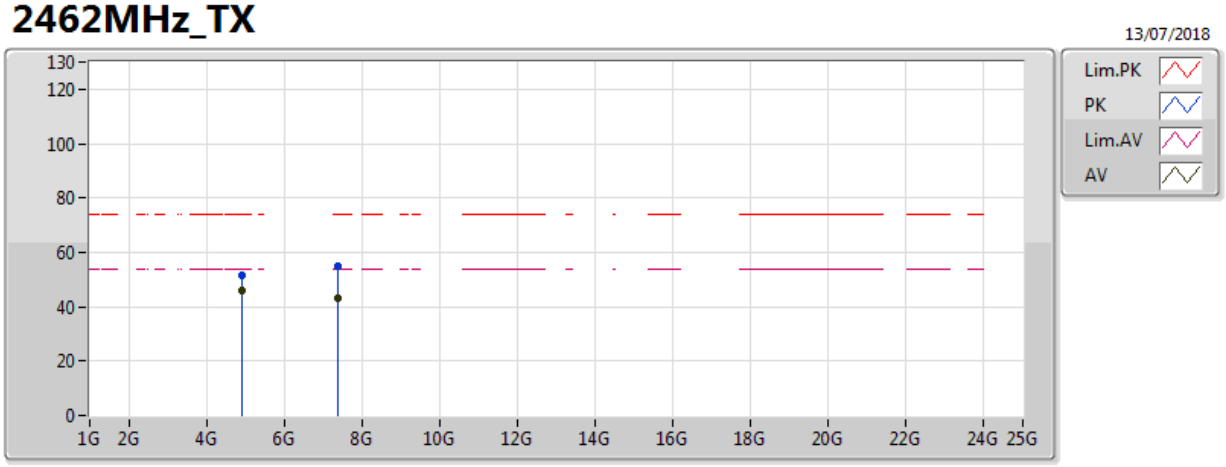
Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	4.87384G	54.48	74.00	-19.52	5.34	3	Horizontal	122	1.72	-
AV	4.87386G	50.42	54.00	-3.58	5.34	3	Horizontal	122	1.72	-
PK	7.31166G	56.91	74.00	-17.09	9.78	3	Horizontal	110	1.46	-
AV	7.31006G	46.68	54.00	-7.32	9.78	3	Horizontal	110	1.46	-

Note 1: The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.
Note 2: Factor= Antenna Factor + Cable Loss - Preamp Factor
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Transmitter Radiated Emissions (1GHz~10th Harmonic)			
Operating Mode	802.11b 1Mbps / CH 11 / Ant. 2+3, 1S2T (CDD)	**Polarization**	V

802.11b_Nss1,(1Mbps)_2TX

2462MHz_TX



EUT Y_2TX ANT2+3
Setting 106
03-C-5
FSP

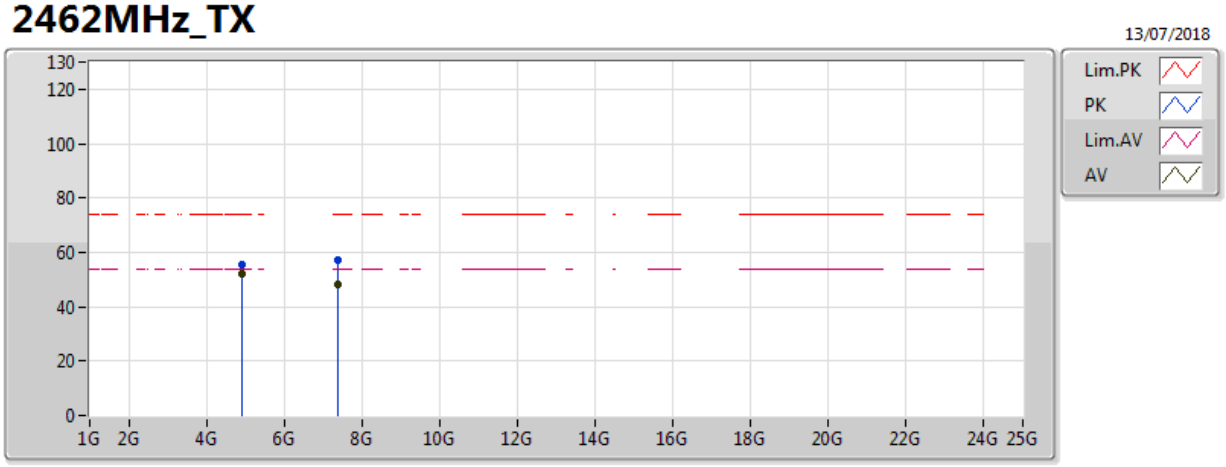
Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	4.92396G	51.65	74.00	-22.35	5.56	3	Vertical	77	1.52	-
AV	4.9239G	45.82	54.00	-8.18	5.56	3	Vertical	77	1.52	-
PK	7.38738G	54.94	74.00	-19.06	9.83	3	Vertical	83	1.48	-
AV	7.38498G	42.94	54.00	-11.06	9.83	3	Vertical	83	1.48	-

Note 1: The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.
Note 2: Factor= Antenna Factor + Cable Loss - Preamp Factor
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Transmitter Radiated Emissions (1GHz~10th Harmonic)			
Operating Mode	802.11b 1Mbps / CH 11 / Ant. 2+3, 1S2T (CDD)	**Polarization**	H

802.11b_Nss1,(1Mbps)_2TX

2462MHz_TX



EUT Y_2TX ANT2+3
Setting 106
03-C-5
FSP

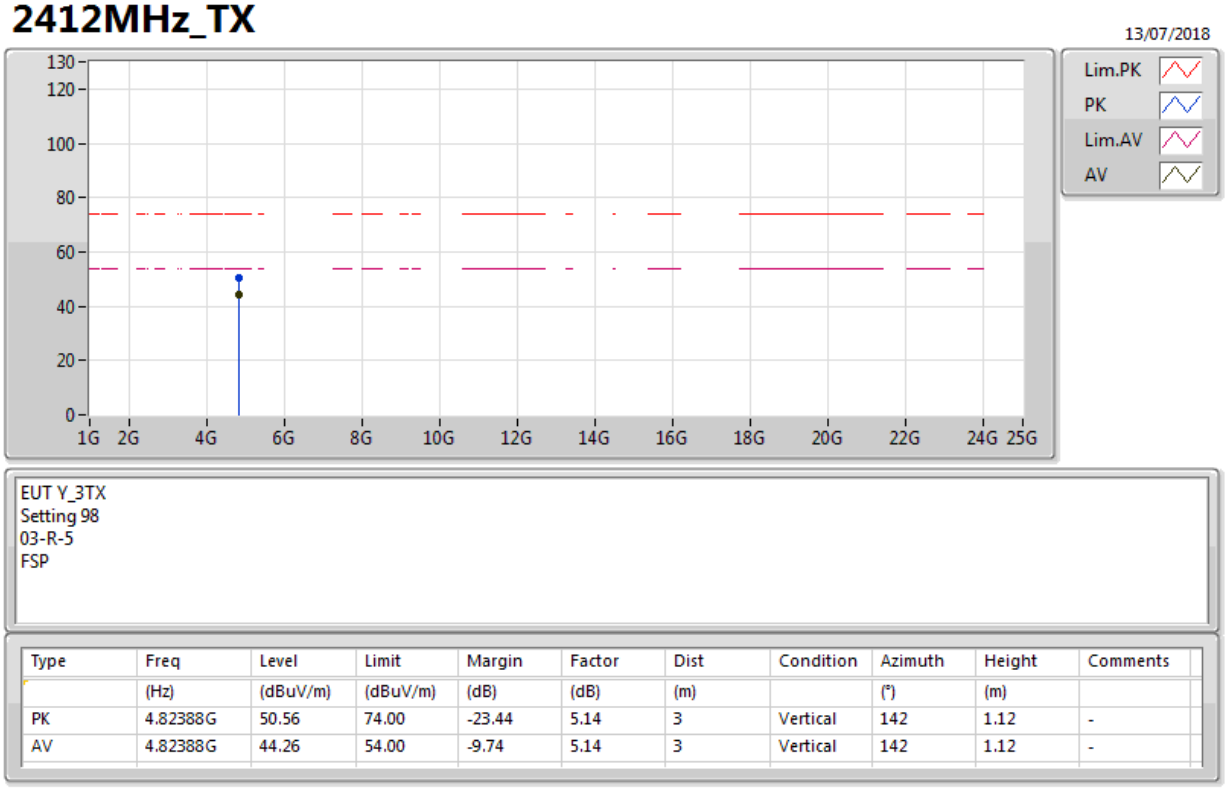
Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	4.92382G	55.30	74.00	-18.70	5.55	3	Horizontal	132	1.72	-
AV	4.92388G	51.93	54.00	-2.07	5.56	3	Horizontal	132	1.72	-
PK	7.38438G	57.07	74.00	-16.93	9.83	3	Horizontal	111	1.49	-
AV	7.38508G	48.15	54.00	-5.85	9.83	3	Horizontal	111	1.49	-

Note 1: The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.
Note 2: Factor= Antenna Factor + Cable Loss - Preamp Factor
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Transmitter Radiated Emissions (1GHz~10th Harmonic)			
Operating Mode	802.11b 1Mbps / CH 1 / Ant. 1+2+3, 1S3T (CDD)	**Polarization**	V

802.11b_Nss1,(1Mbps)_3TX

2412MHz_TX



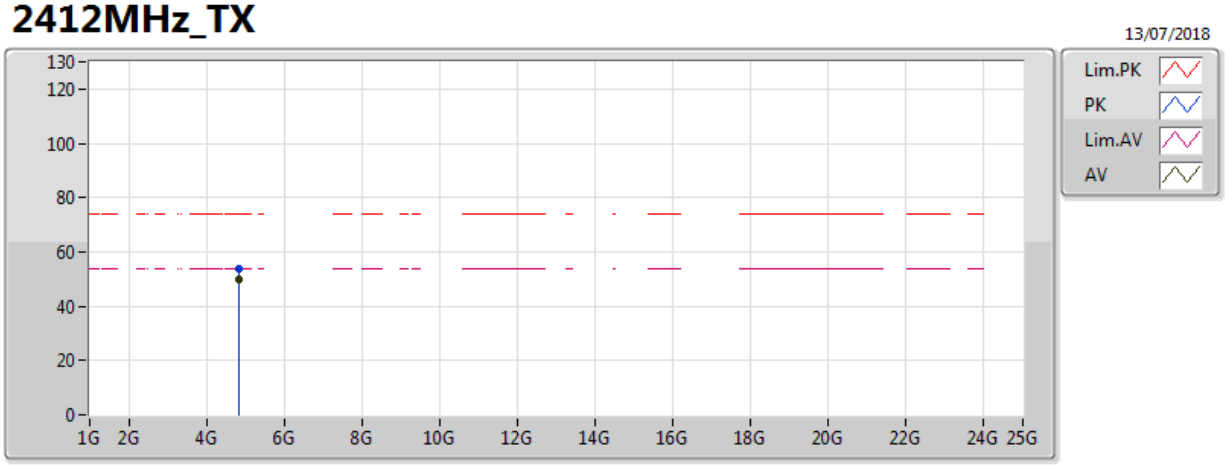
Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	4.82388G	50.56	74.00	-23.44	5.14	3	Vertical	142	1.12	-
AV	4.82388G	44.26	54.00	-9.74	5.14	3	Vertical	142	1.12	-

Note 1: The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.
Note 2: Factor= Antenna Factor + Cable Loss - Preamp Factor
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Transmitter Radiated Emissions (1GHz~10th Harmonic)			
Operating Mode	802.11b 1Mbps / CH 1 / Ant. 1+2+3, 1S3T (CDD)	**Polarization**	H

802.11b_Nss1,(1Mbps)_3TX

2412MHz_TX



EUT Y_3TX
Setting 98
03-R-5
FSP

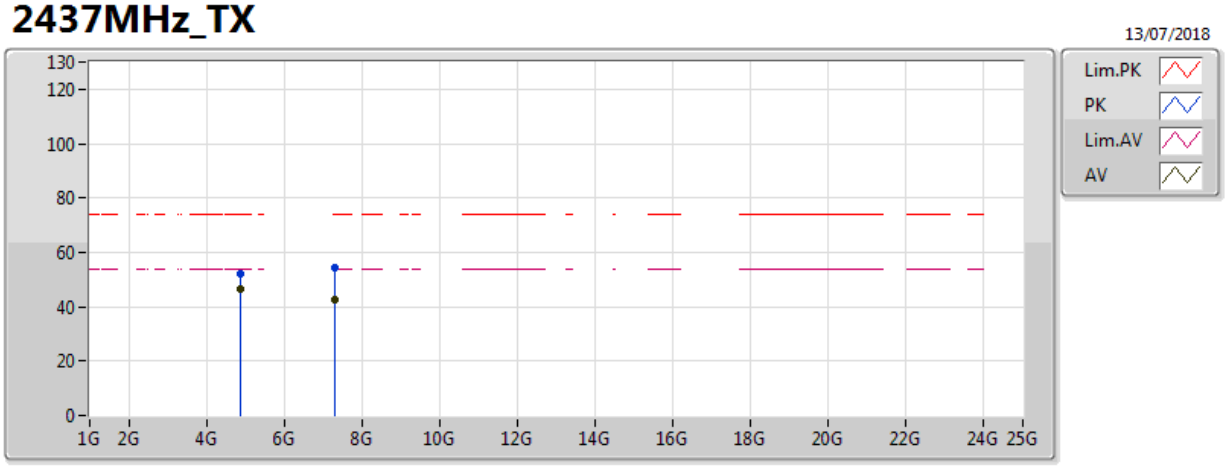
Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	4.82388G	53.71	74.00	-20.29	5.14	3	Horizontal	150	1.78	-
AV	4.82388G	49.70	54.00	-4.30	5.14	3	Horizontal	150	1.78	-

Note 1: The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.
Note 2: Factor= Antenna Factor + Cable Loss - Preamp Factor
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Transmitter Radiated Emissions (1GHz~10th Harmonic)			
Operating Mode	802.11b 1Mbps / CH 6 / Ant. 1+2+3, 1S3T (CDD)	**Polarization**	V

802.11b_Nss1,(1Mbps)_3TX

2437MHz_TX



EUT Y_3TX
Setting 106
03-C-5
FSP

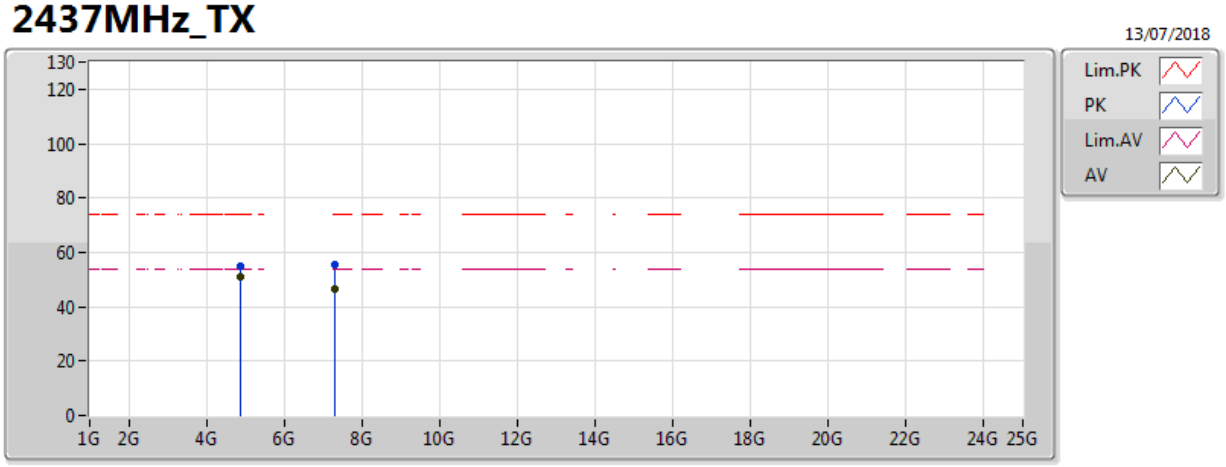
Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	4.8738G	51.91	74.00	-22.09	5.34	3	Vertical	248	1.50	-
AV	4.87384G	46.71	54.00	-7.29	5.34	3	Vertical	248	1.50	-
PK	7.30972G	54.35	74.00	-19.65	9.78	3	Vertical	257	1.21	-
AV	7.31008G	42.61	54.00	-11.39	9.78	3	Vertical	257	1.21	-

Note 1: The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.
Note 2: Factor= Antenna Factor + Cable Loss - Preamp Factor
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Transmitter Radiated Emissions (1GHz~10th Harmonic)			
Operating Mode	802.11b 1Mbps / CH 6 / Ant. 1+2+3, 1S3T (CDD)	**Polarization**	H

802.11b_Nss1,(1Mbps)_3TX

2437MHz_TX



EUT Y_3TX
Setting 106
03-C-5
FSP

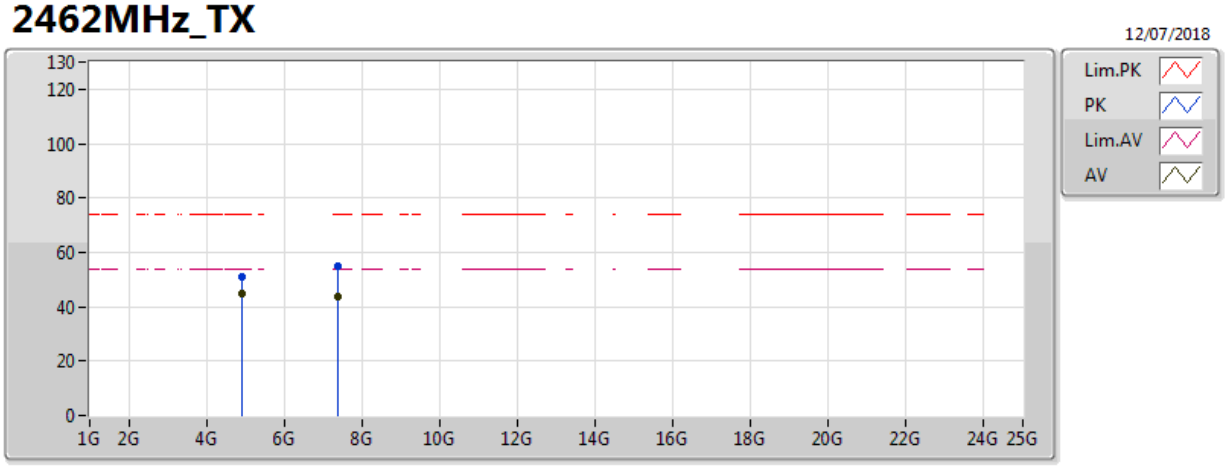
Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	4.8738G	54.79	74.00	-19.21	5.34	3	Horizontal	131	1.67	-
AV	4.87388G	51.13	54.00	-2.87	5.34	3	Horizontal	131	1.67	-
PK	7.31108G	55.56	74.00	-18.44	9.78	3	Horizontal	95	1.33	-
AV	7.31004G	46.28	54.00	-7.72	9.78	3	Horizontal	95	1.33	-

Note 1: The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.
Note 2: Factor= Antenna Factor + Cable Loss - Preamp Factor
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Transmitter Radiated Emissions (1GHz~10th Harmonic)			
Operating Mode	802.11b 1Mbps / CH 11 / Ant. 1+2+3, 1S3T (CDD)	**Polarization**	V

802.11b_Nss1,(1Mbps)_3TX

2462MHz_TX



EUT Y_3TX
Setting 106
03-R-5
FSP

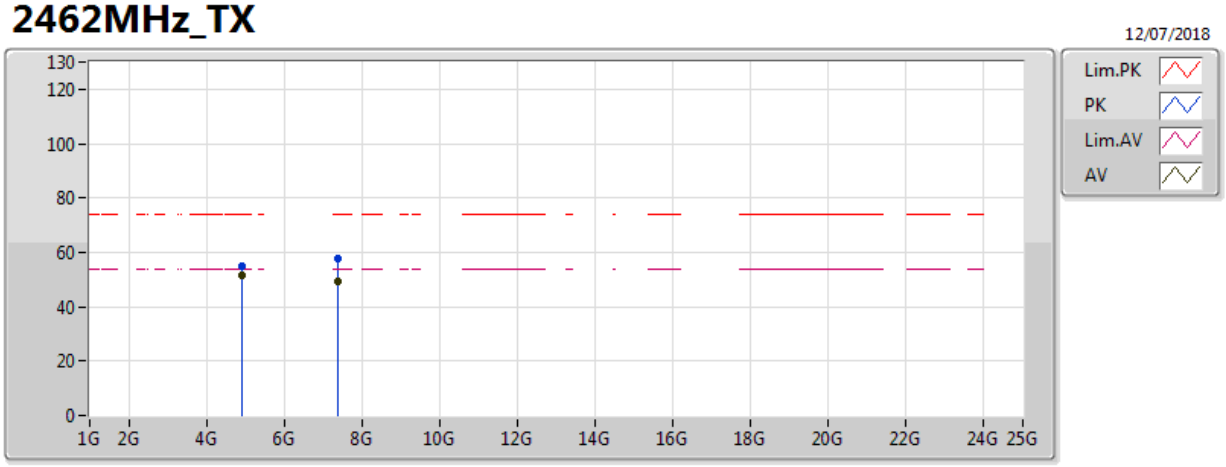
Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	4.92376G	50.92	74.00	-23.08	5.55	3	Vertical	83	1.40	-
AV	4.92388G	45.01	54.00	-8.99	5.56	3	Vertical	83	1.40	-
PK	7.38744G	54.88	74.00	-19.12	9.83	3	Vertical	92	1.49	-
AV	7.38504G	43.77	54.00	-10.23	9.83	3	Vertical	92	1.49	-

Note 1: The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.
Note 2: Factor= Antenna Factor + Cable Loss - Preamp Factor
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Transmitter Radiated Emissions (1GHz~10th Harmonic)			
Operating Mode	802.11b 1Mbps / CH 11 / Ant. 1+2+3, 1S3T (CDD)	**Polarization**	H

802.11b_Nss1,(1Mbps)_3TX

2462MHz_TX



EUT Y_3TX
Setting 106
03-R-5
FSP

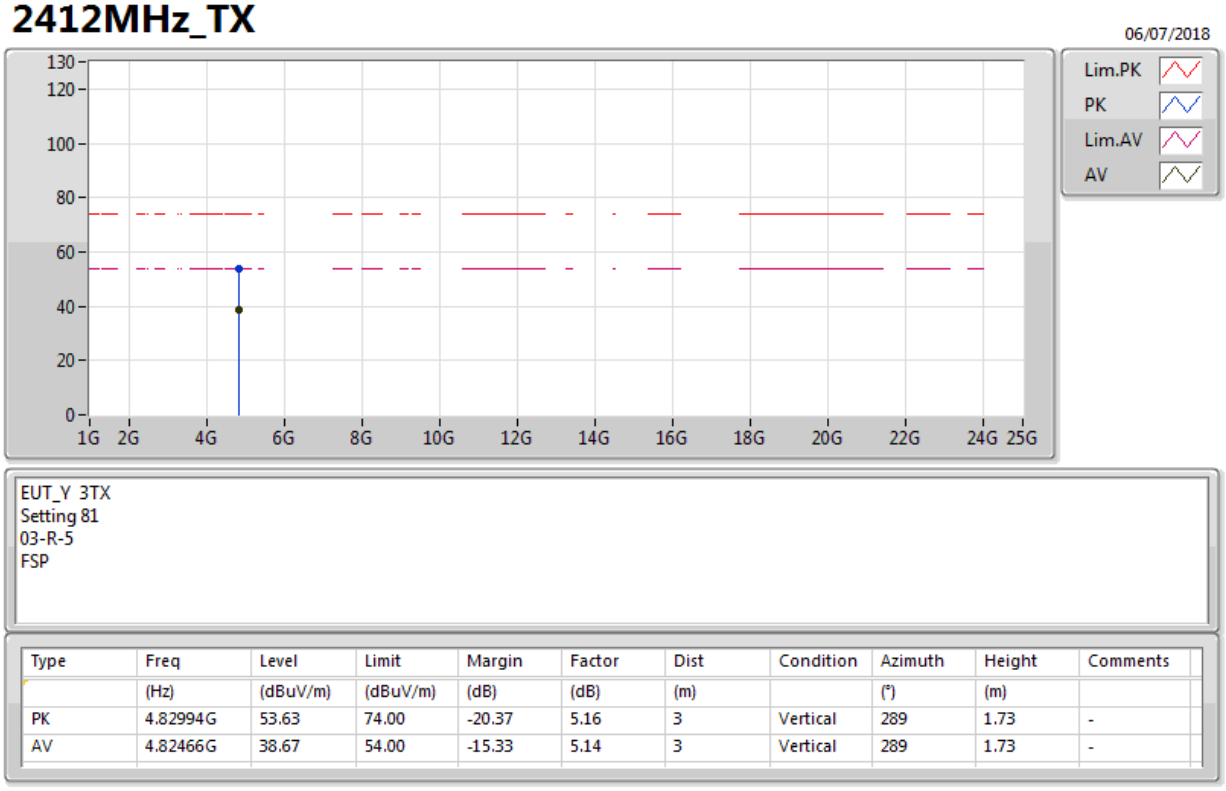
Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	4.92394G	55.05	74.00	-18.95	5.56	3	Horizontal	126	1.49	-
AV	4.92388G	51.62	54.00	-2.38	5.56	3	Horizontal	126	1.49	-
PK	7.38492G	57.62	74.00	-16.38	9.83	3	Horizontal	96	1.29	-
AV	7.38504G	49.47	54.00	-4.53	9.83	3	Horizontal	96	1.29	-

Note 1: The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.
Note 2: Factor= Antenna Factor + Cable Loss - Preamp Factor
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Transmitter Radiated Emissions (1GHz~10th Harmonic)			
Operating Mode	802.11n 20MHz MCS0 / CH 1 / Ant. 1+2+3, 1S3T (CDD)	**Polarization**	V

802.11n HT20_Nss1,(MCS0)_3TX

2412MHz_TX



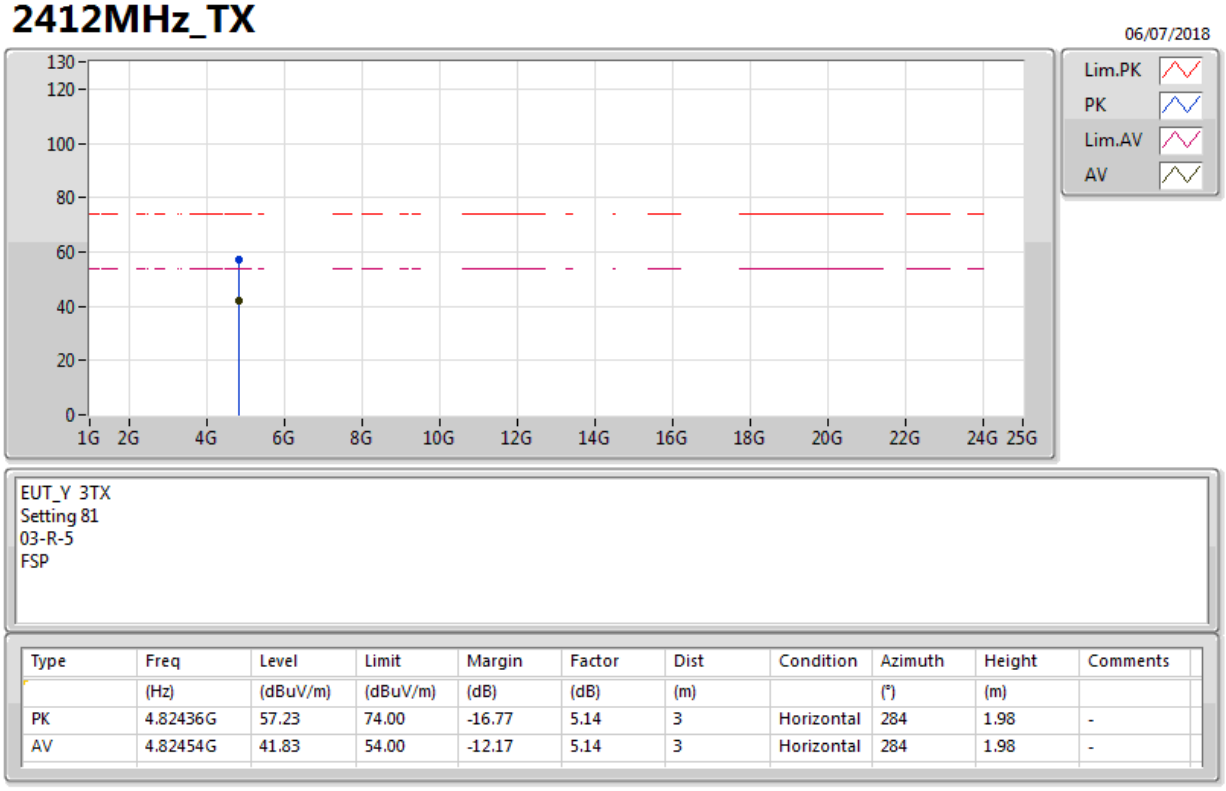
Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	4.82994G	53.63	74.00	-20.37	5.16	3	Vertical	289	1.73	-
AV	4.82466G	38.67	54.00	-15.33	5.14	3	Vertical	289	1.73	-

Note 1: The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.
Note 2: Factor= Antenna Factor + Cable Loss - Preamp Factor
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Transmitter Radiated Emissions (1GHz~10th Harmonic)			
Operating Mode	802.11n 20MHz MCS0 / CH 1 / Ant. 1+2+3, 1S3T (CDD)	**Polarization**	H

802.11n HT20_Nss1,(MCS0)_3TX

2412MHz_TX



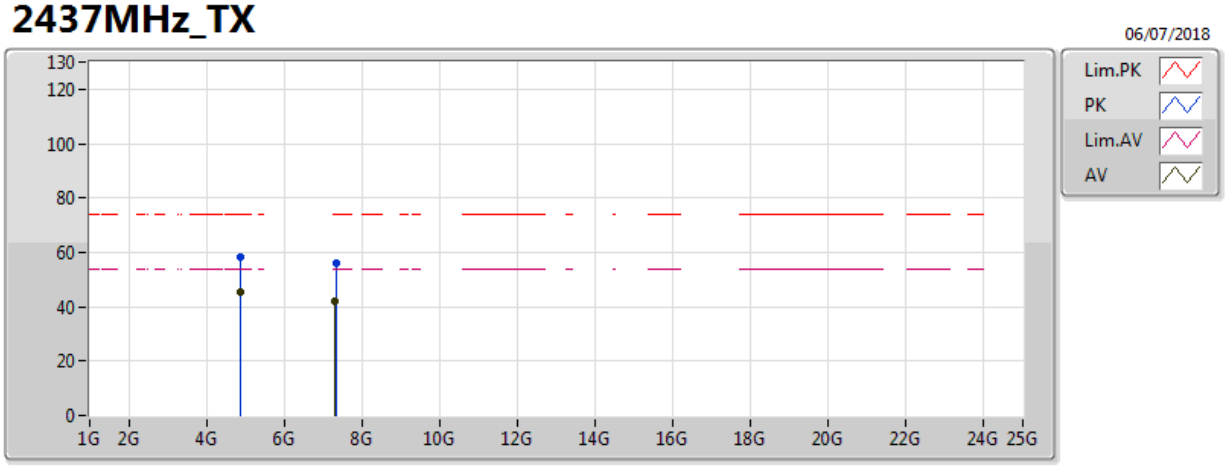
Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	4.82436G	57.23	74.00	-16.77	5.14	3	Horizontal	284	1.98	-
AV	4.82454G	41.83	54.00	-12.17	5.14	3	Horizontal	284	1.98	-

Note 1: The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.
Note 2: Factor= Antenna Factor + Cable Loss - Preamp Factor
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Transmitter Radiated Emissions (1GHz~10th Harmonic)			
Operating Mode	802.11n 20MHz MCS0 / CH 6 / Ant. 1+2+3, 1S3T (CDD)	**Polarization**	V

802.11n HT20_Nss1,(MCS0)_3TX

2437MHz_TX



EUT_Y 3TX
Setting 102
03-R-5
FSP

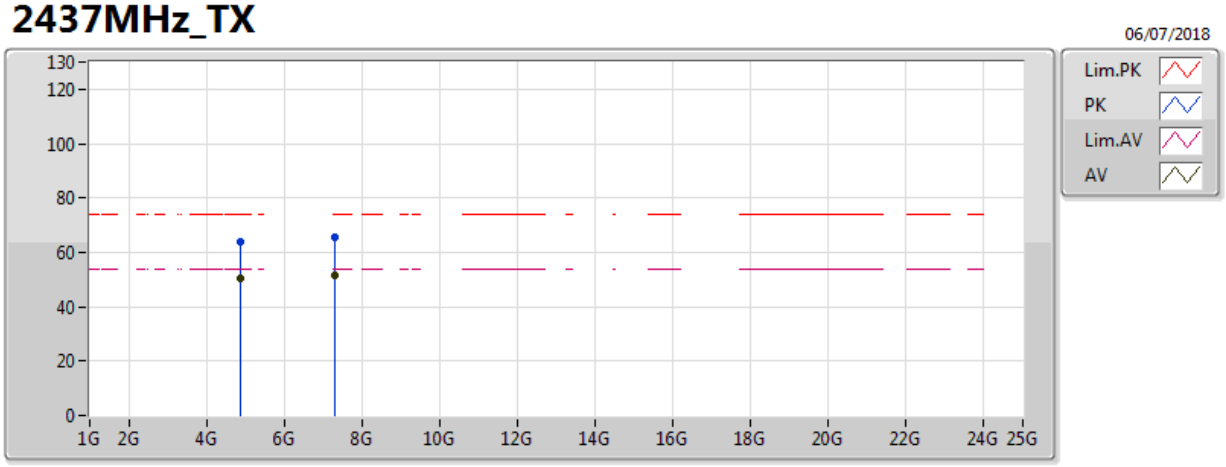
Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	4.8743G	58.28	74.00	-15.72	5.34	3	Vertical	285	1.61	-
AV	4.8746G	45.28	54.00	-8.72	5.35	3	Vertical	285	1.61	-
PK	7.3231G	56.13	74.00	-17.87	9.79	3	Vertical	270	1.50	-
AV	7.3131G	42.05	54.00	-11.95	9.78	3	Vertical	270	1.50	-

Note 1: The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.
Note 2: Factor= Antenna Factor + Cable Loss - Preamp Factor
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Transmitter Radiated Emissions (1GHz~10th Harmonic)			
Operating Mode	802.11n 20MHz MCS0 / CH 6 / Ant. 1+2+3, 1S3T (CDD)	**Polarization**	H

802.11n HT20_Nss1,(MCS0)_3TX

2437MHz_TX



EUT_Y 3TX
Setting 102
03-R-5
FSP

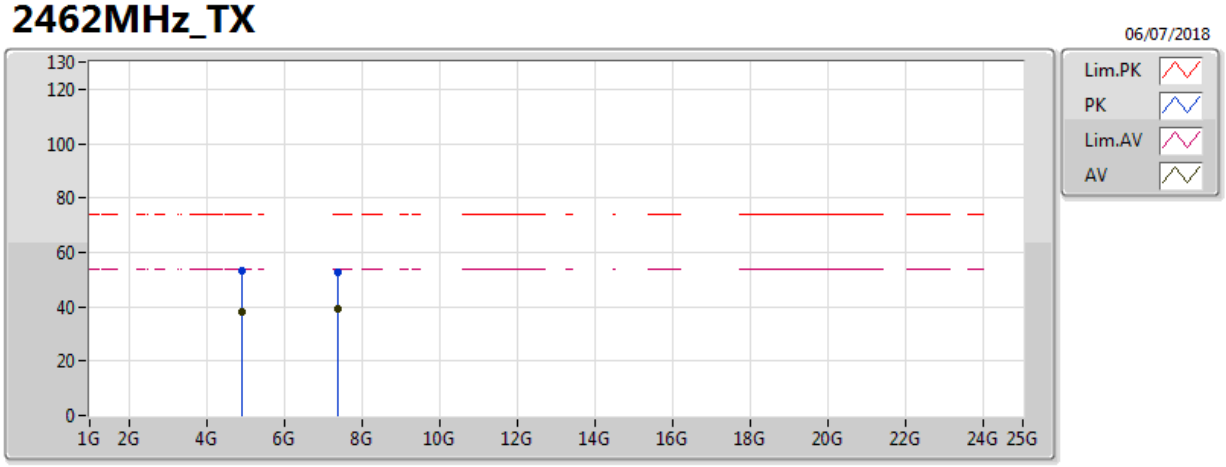
Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	4.8733G	63.81	74.00	-10.19	5.34	3	Horizontal	259	1.46	-
AV	4.8732G	50.43	54.00	-3.57	5.34	3	Horizontal	259	1.46	-
PK	7.3112G	65.50	74.00	-8.50	9.78	3	Horizontal	254	1.48	-
AV	7.3114G	51.68	54.00	-2.32	9.78	3	Horizontal	254	1.48	-

Note 1: The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.
Note 2: Factor= Antenna Factor + Cable Loss - Preamp Factor
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Transmitter Radiated Emissions (1GHz~10th Harmonic)			
Operating Mode	802.11n 20MHz MCS0 / CH 11 / Ant. 1+2+3, 1S3T (CDD)	**Polarization**	V

802.11n HT20_Nss1,(MCS0)_3TX

2462MHz_TX



EUT_Y 3TX
Setting 87
03-R-5
FSP

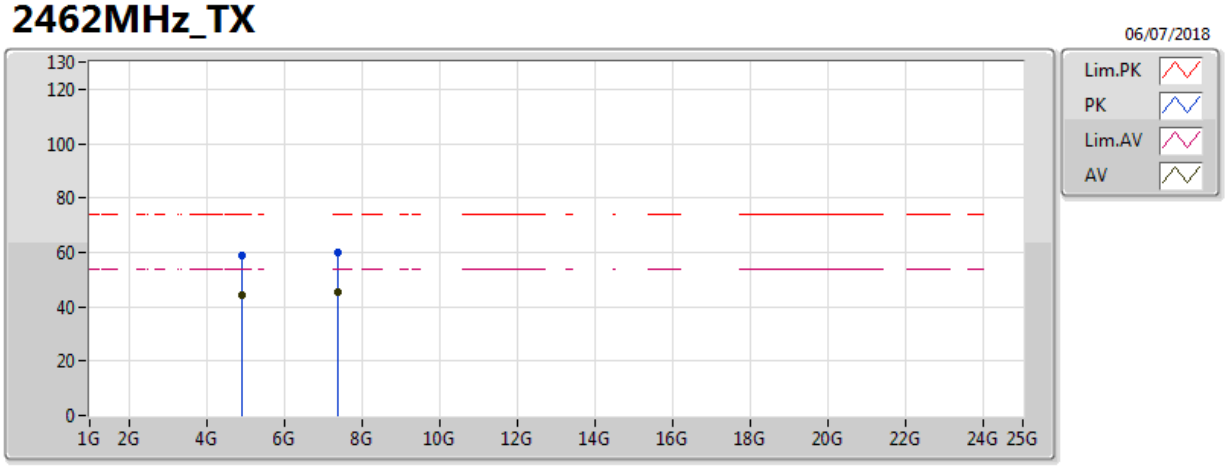
Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	4.92982G	53.37	74.00	-20.63	5.58	3	Vertical	281	1.86	-
AV	4.9243G	38.28	54.00	-15.72	5.56	3	Vertical	281	1.86	-
PK	7.38228G	52.64	74.00	-21.36	9.83	3	Vertical	65	1.50	-
AV	7.3827G	39.08	54.00	-14.92	9.83	3	Vertical	65	1.50	-

Note 1: The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.
Note 2: Factor= Antenna Factor + Cable Loss - Preamp Factor
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Transmitter Radiated Emissions (1GHz~10th Harmonic)			
Operating Mode	802.11n 20MHz MCS0 / CH 11 / Ant. 1+2+3, 1S3T (CDD)	**Polarization**	H

802.11n HT20_Nss1,(MCS0)_3TX

2462MHz_TX



EUT_Y 3TX
Setting 87
03-R-5
FSP

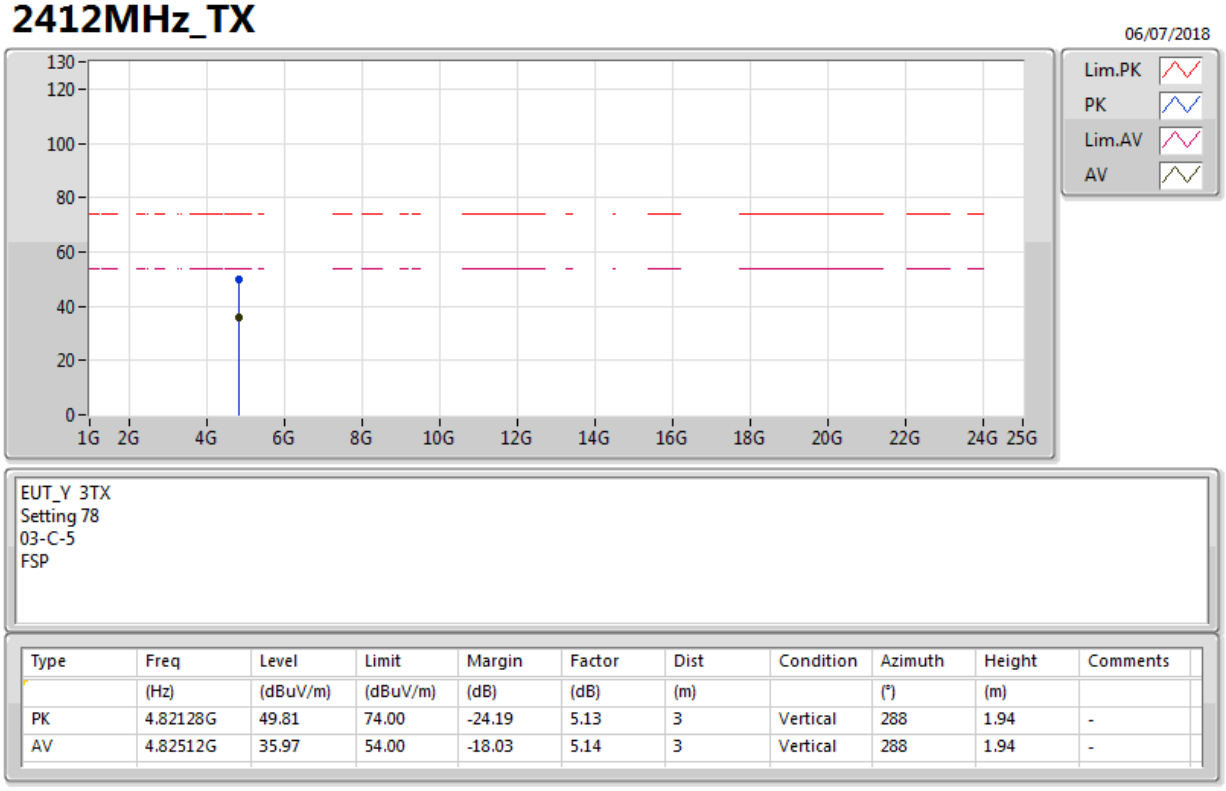
Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	4.92922G	59.08	74.00	-14.92	5.58	3	Horizontal	281	1.50	-
AV	4.92442G	44.22	54.00	-9.78	5.56	3	Horizontal	281	1.50	-
PK	7.38126G	59.92	74.00	-14.08	9.83	3	Horizontal	251	1.50	-
AV	7.38642G	45.35	54.00	-8.65	9.83	3	Horizontal	251	1.50	-

Note 1: The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.
Note 2: Factor= Antenna Factor + Cable Loss - Preamp Factor
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Transmitter Radiated Emissions (1GHz~10th Harmonic)			
Operating Mode	802.11n 20MHz MCS8 / CH 1 / Ant. 1+2+3, 2S3T (CDD)	**Polarization**	V

802.11n HT20_Nss2,(MCS8)_3TX

2412MHz_TX



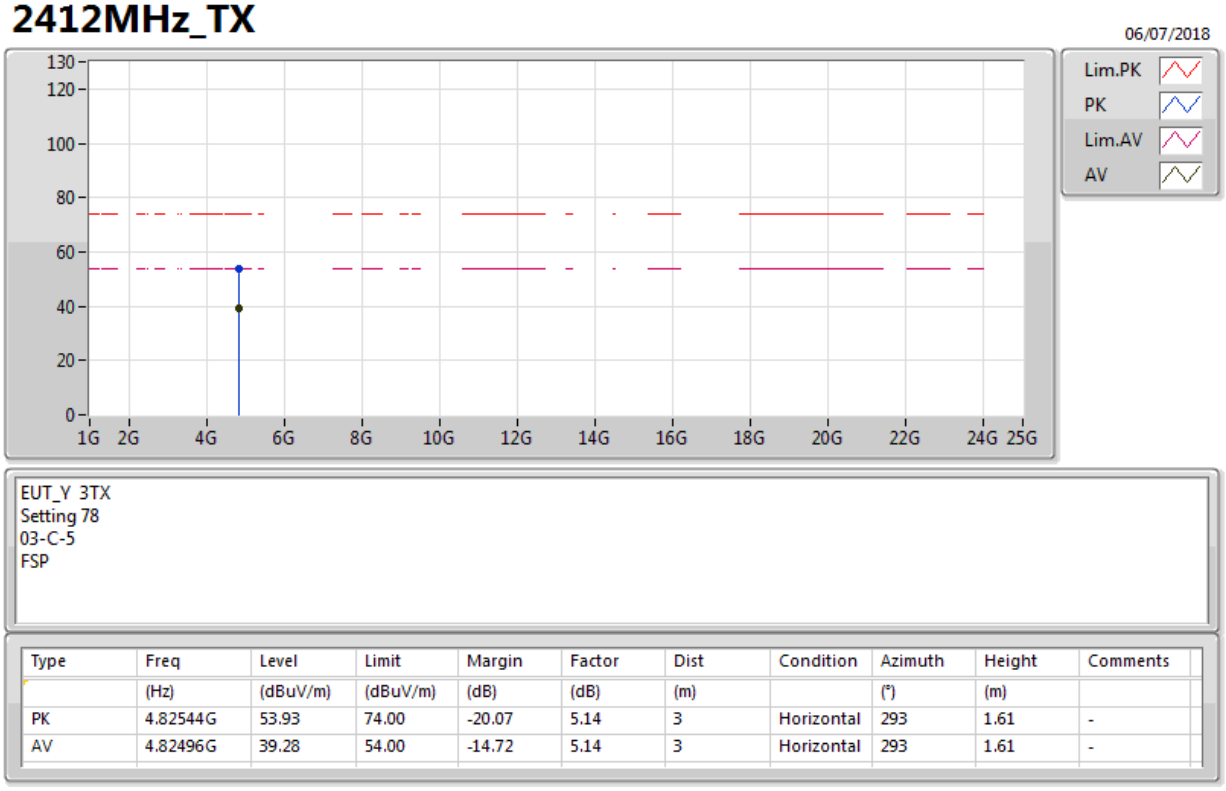
Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	4.82128G	49.81	74.00	-24.19	5.13	3	Vertical	288	1.94	-
AV	4.82512G	35.97	54.00	-18.03	5.14	3	Vertical	288	1.94	-

Note 1: The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.
Note 2: Factor= Antenna Factor + Cable Loss - Preamp Factor
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Transmitter Radiated Emissions (1GHz~10th Harmonic)			
Operating Mode	802.11n 20MHz MCS8 / CH 1 / Ant. 1+2+3, 2S3T (CDD)	**Polarization**	H

802.11n HT20_Nss2,(MCS8)_3TX

2412MHz_TX



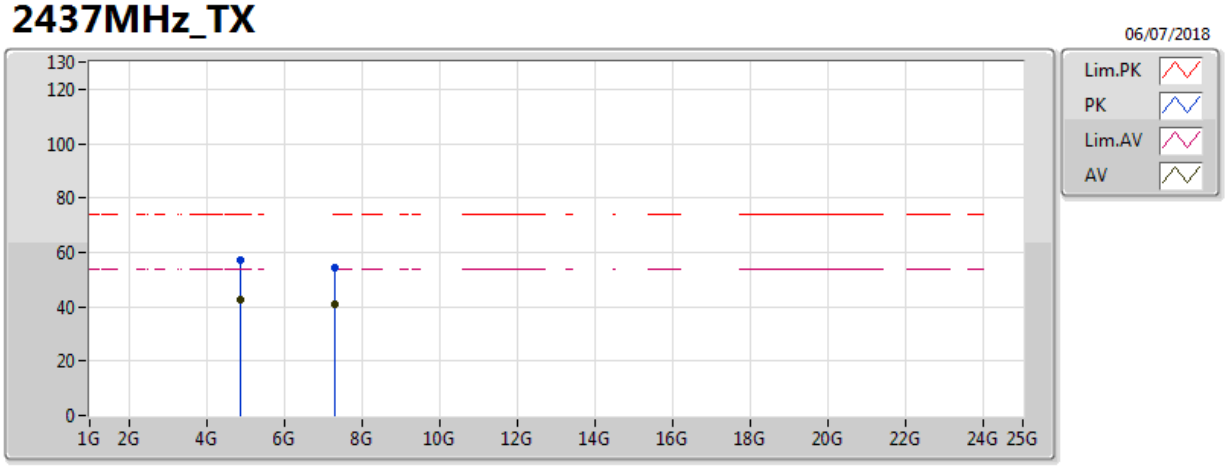
Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	4.82544G	53.93	74.00	-20.07	5.14	3	Horizontal	293	1.61	-
AV	4.82496G	39.28	54.00	-14.72	5.14	3	Horizontal	293	1.61	-

Note 1: The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.
Note 2: Factor= Antenna Factor + Cable Loss - Preamp Factor
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Transmitter Radiated Emissions (1GHz~10th Harmonic)			
Operating Mode	802.11n 20MHz MCS8 / CH 6 / Ant. 1+2+3, 2S3T (CDD)	**Polarization**	V

802.11n HT20_Nss2,(MCS8)_3TX

2437MHz_TX



EUT_Y 3TX
Setting 102
03-C-5
FSP

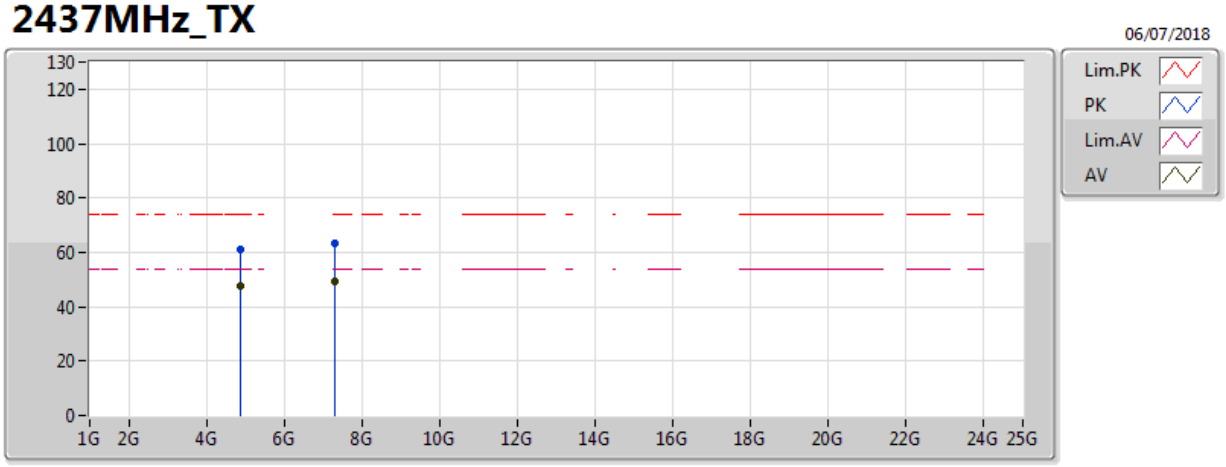
Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	4.87448G	56.97	74.00	-17.03	5.35	3	Vertical	290	1.98	-
AV	4.87496G	42.82	54.00	-11.18	5.35	3	Vertical	290	1.98	-
PK	7.31148G	54.50	74.00	-19.50	9.78	3	Vertical	268	1.40	-
AV	7.31356G	41.04	54.00	-12.96	9.78	3	Vertical	268	1.40	-

Note 1: The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.
Note 2: Factor= Antenna Factor + Cable Loss - Preamp Factor
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Transmitter Radiated Emissions (1GHz~10th Harmonic)			
Operating Mode	802.11n 20MHz MCS8 / CH 6 / Ant. 1+2+3, 2S3T (CDD)	**Polarization**	H

802.11n HT20_Nss2,(MCS8)_3TX

2437MHz_TX



EUT_Y 3TX
Setting 102
03-C-5
FSP

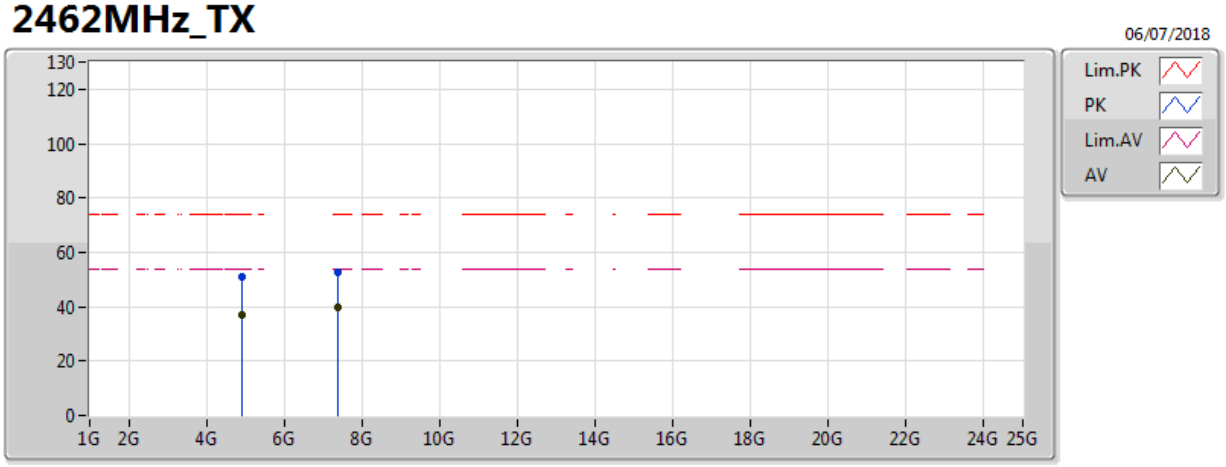
Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	4.87208G	61.26	74.00	-12.74	5.34	3	Horizontal	255	1.48	-
AV	4.87368G	47.71	54.00	-6.29	5.34	3	Horizontal	255	1.48	-
PK	7.30652G	63.10	74.00	-10.90	9.77	3	Horizontal	258	1.39	-
AV	7.311G	49.42	54.00	-4.58	9.78	3	Horizontal	258	1.39	-

Note 1: The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.
Note 2: Factor= Antenna Factor + Cable Loss - Preamp Factor
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Transmitter Radiated Emissions (1GHz~10th Harmonic)			
Operating Mode	802.11n 20MHz MCS8 / CH 11 / Ant. 1+2+3, 2S3T (CDD)	**Polarization**	V

802.11n HT20_Nss2,(MCS8)_3TX

2462MHz_TX



EUT_Y 3TX
Setting 86
03-C-5
FSP

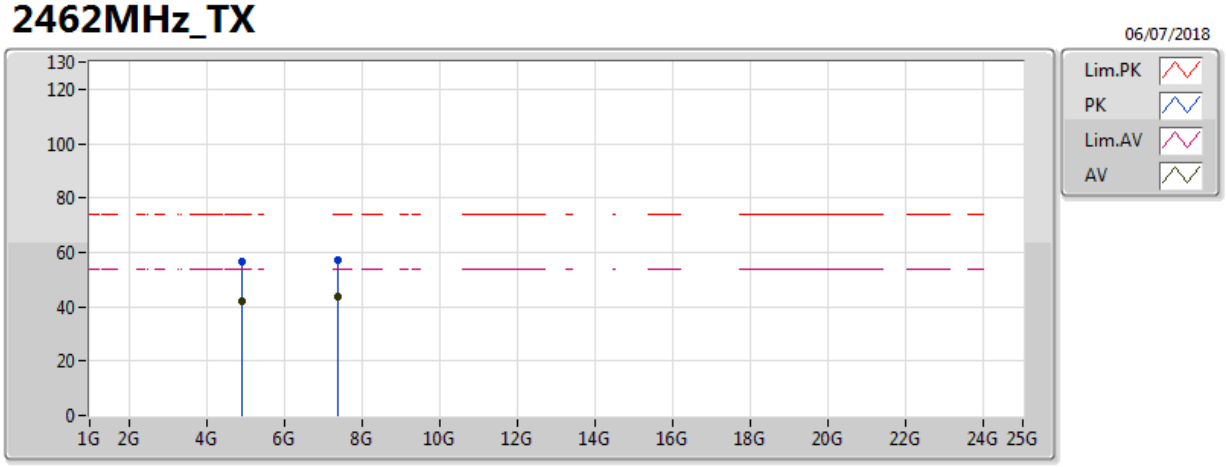
Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	4.9237G	50.83	74.00	-23.17	5.55	3	Vertical	285	1.68	-
AV	4.924G	36.89	54.00	-17.11	5.56	3	Vertical	285	1.68	-
PK	7.3972G	52.85	74.00	-21.15	9.84	3	Vertical	121	1.48	-
AV	7.3856G	39.53	54.00	-14.47	9.83	3	Vertical	121	1.48	-

Note 1: The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.
Note 2: Factor= Antenna Factor + Cable Loss - Preamp Factor
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Transmitter Radiated Emissions (1GHz~10th Harmonic)			
Operating Mode	802.11n 20MHz MCS8 / CH 11 / Ant. 1+2+3, 2S3T (CDD)	**Polarization**	H

802.11n HT20_Nss2,(MCS8)_3TX

2462MHz_TX



EUT_Y 3TX
Setting 86
03-C-5
FSP

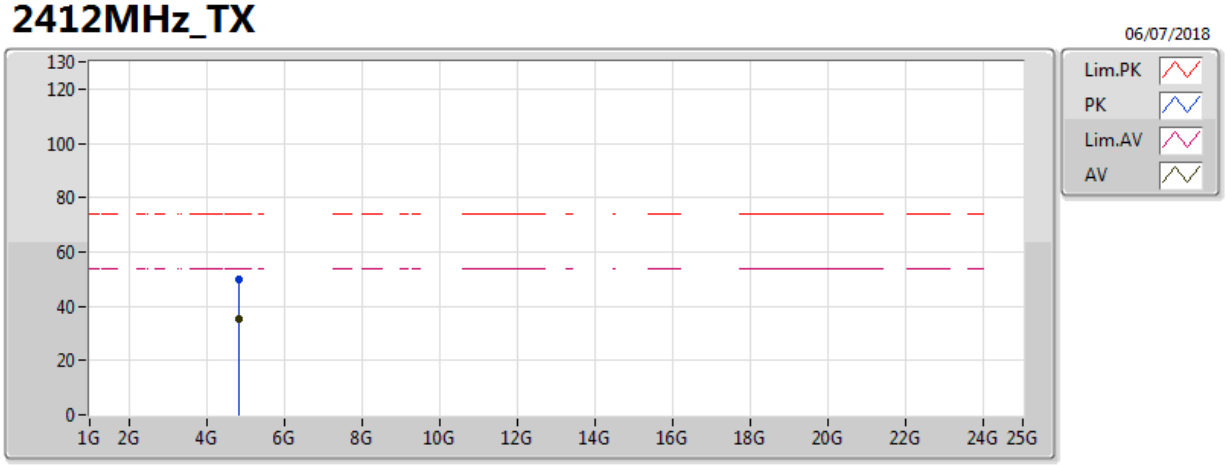
Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	4.9317G	56.83	74.00	-17.17	5.59	3	Horizontal	289	1.50	-
AV	4.924G	41.93	54.00	-12.07	5.56	3	Horizontal	289	1.50	-
PK	7.3837G	57.11	74.00	-16.89	9.83	3	Horizontal	256	1.48	-
AV	7.3857G	43.58	54.00	-10.42	9.83	3	Horizontal	256	1.48	-

Note 1: The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.
Note 2: Factor= Antenna Factor + Cable Loss - Preamp Factor
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Transmitter Radiated Emissions (1GHz~10th Harmonic)			
Operating Mode	802.11n 20MHz MCS16 / CH 1 / Ant. 1+2+3, 3S3T (SDM)	**Polarization**	V

802.11n HT20_Nss3,(MCS16)_3TX

2412MHz_TX



EUT_Y 3TX
Setting 77
03-R-5
FSP

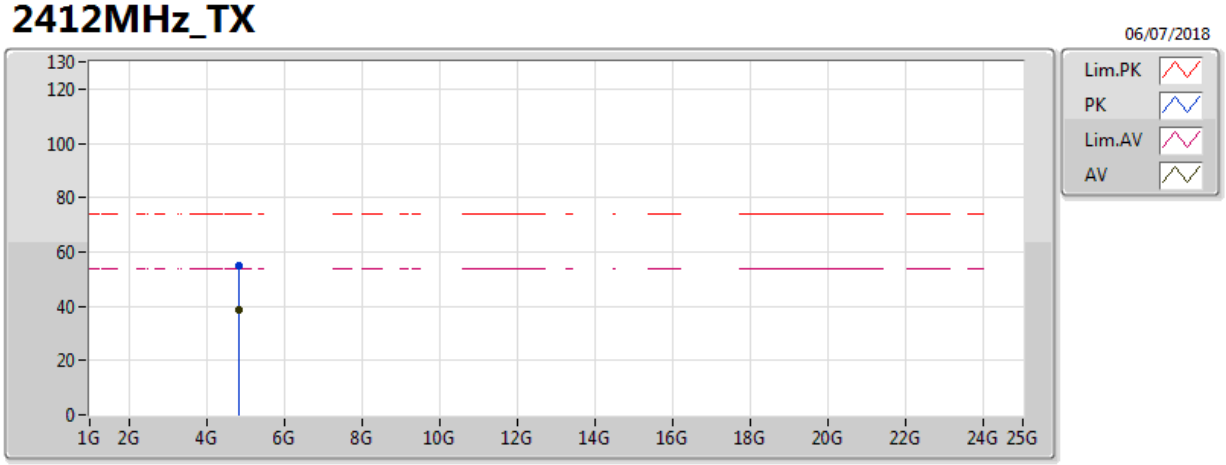
Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	4.82682G	49.92	74.00	-24.08	5.15	3	Vertical	289	1.72	-
AV	4.82388G	35.40	54.00	-18.60	5.14	3	Vertical	289	1.72	-

Note 1: The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.
Note 2: Factor= Antenna Factor + Cable Loss - Preamp Factor
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Transmitter Radiated Emissions (1GHz~10th Harmonic)			
Operating Mode	802.11n 20MHz MCS16 / CH 1 / Ant. 1+2+3, 3S3T (SDM)	**Polarization**	H

802.11n HT20_Nss3,(MCS16)_3TX

2412MHz_TX



EUT_Y 3TX
Setting 77
03-R-5
FSP

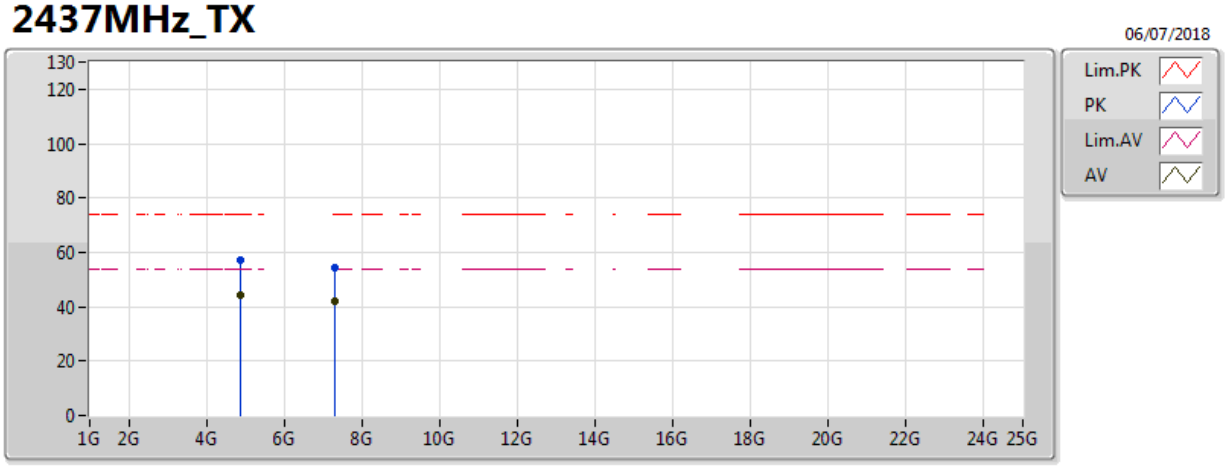
Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	4.82424G	54.95	74.00	-19.05	5.14	3	Horizontal	327	1.65	-
AV	4.82652G	38.67	54.00	-15.33	5.15	3	Horizontal	327	1.65	-

Note 1: The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.
Note 2: Factor= Antenna Factor + Cable Loss - Preamp Factor
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Transmitter Radiated Emissions (1GHz~10th Harmonic)			
Operating Mode	802.11n 20MHz MCS16 / CH 6 / Ant. 1+2+3, 3S3T (SDM)	**Polarization**	V

802.11n HT20_Nss3,(MCS16)_3TX

2437MHz_TX



EUT_Y 3TX
Setting 102
03-R-5
FSP

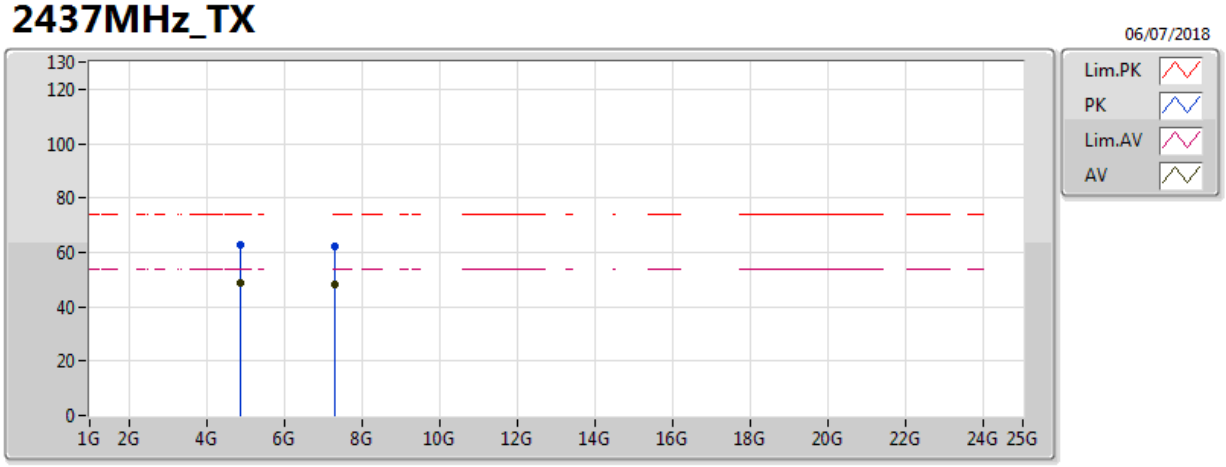
Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	4.8648G	57.20	74.00	-16.80	5.31	3	Vertical	288	1.61	-
AV	4.874G	44.26	54.00	-9.74	5.34	3	Vertical	288	1.61	-
PK	7.3102G	54.56	74.00	-19.44	9.78	3	Vertical	264	1.27	-
AV	7.3112G	42.06	54.00	-11.94	9.78	3	Vertical	264	1.27	-

Note 1: The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.
Note 2: Factor= Antenna Factor + Cable Loss - Preamp Factor
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Transmitter Radiated Emissions (1GHz~10th Harmonic)			
Operating Mode	802.11n 20MHz MCS16 / CH 6 / Ant. 1+2+3, 3S3T (SDM)	**Polarization**	H

802.11n HT20_Nss3,(MCS16)_3TX

2437MHz_TX



EUT_Y 3TX
Setting 102
03-R-5
FSP

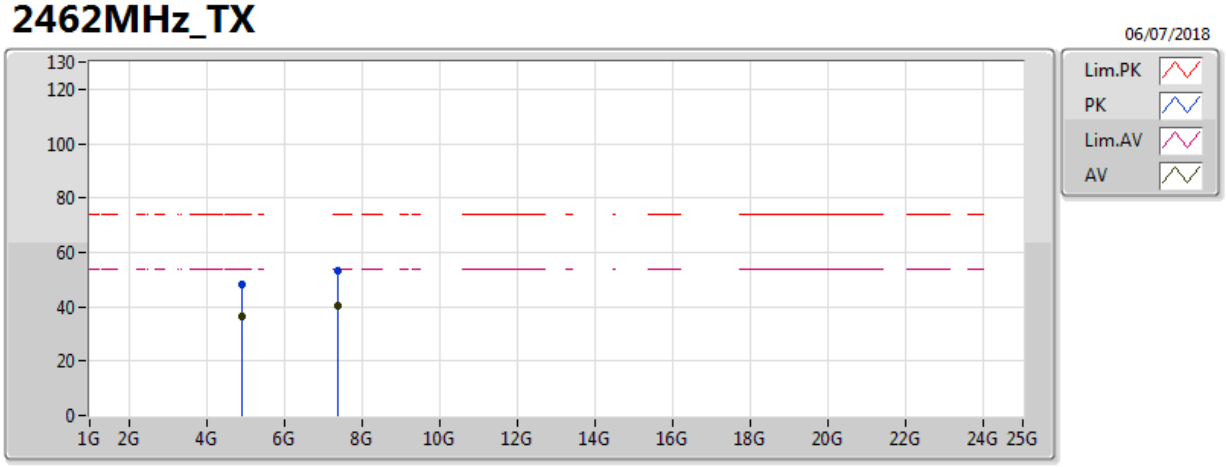
Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	4.87514G	62.69	74.00	-11.31	5.35	3	Horizontal	287	1.47	-
AV	4.87544G	48.95	54.00	-5.05	5.35	3	Horizontal	287	1.47	-
PK	7.30908G	62.27	74.00	-11.73	9.78	3	Horizontal	260	1.40	-
AV	7.31082G	48.43	54.00	-5.57	9.78	3	Horizontal	260	1.40	-

Note 1: The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.
Note 2: Factor= Antenna Factor + Cable Loss - Preamp Factor
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Transmitter Radiated Emissions (1GHz~10th Harmonic)			
Operating Mode	802.11n 20MHz MCS16 / CH 11 / Ant. 1+2+3, 3S3T (SDM)	**Polarization**	V

802.11n HT20_Nss3,(MCS16)_3TX

2462MHz_TX



EUT_Y 3TX
Setting 83
03-R-5
FSP

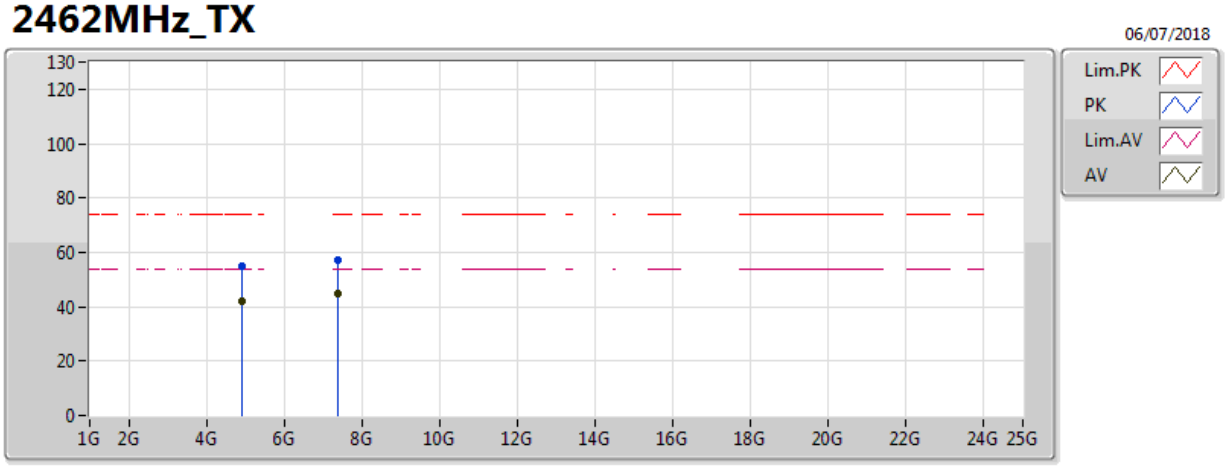
Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	4.9171G	48.33	74.00	-25.67	5.53	3	Vertical	297	1.44	-
AV	4.9256G	36.18	54.00	-17.82	5.56	3	Vertical	297	1.44	-
PK	7.397G	53.11	74.00	-20.89	9.84	3	Vertical	360	1.44	-
AV	7.3857G	40.61	54.00	-13.39	9.83	3	Vertical	360	1.44	-

Note 1: The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.
Note 2: Factor= Antenna Factor + Cable Loss - Preamp Factor
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Transmitter Radiated Emissions (1GHz~10th Harmonic)			
Operating Mode	802.11n 20MHz MCS16 / CH 11 / Ant. 1+2+3, 3S3T (SDM)	**Polarization**	H

802.11n HT20_Nss3,(MCS16)_3TX

2462MHz_TX



EUT_Y 3TX
Setting 83
03-R-5
FSP

Type	Freq	Level	Limit	Margin	Factor	Dist	Condition	Azimuth	Height	Comments
	(Hz)	(dBuV/m)	(dBuV/m)	(dB)	(dB)	(m)		(°)	(m)	
PK	4.9305G	55.18	74.00	-18.82	5.58	3	Horizontal	290	1.58	-
AV	4.9232G	42.14	54.00	-11.86	5.55	3	Horizontal	290	1.58	-
PK	7.3849G	57.33	74.00	-16.67	9.83	3	Horizontal	256	1.34	-
AV	7.3859G	44.74	54.00	-9.26	9.83	3	Horizontal	256	1.34	-

Note 1: The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.
Note 2: Factor= Antenna Factor + Cable Loss - Preamp Factor
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)