Prüfbericht-Nr.: *Test Report No.:*	**50086251 003**	**Auftrags-Nr.:** *Order No.:*	164094535	**Seite 1 von 28** *Page 1 of 28*
Kunden-Referenz-Nr.: *Client Reference No.:*	N/A	**Auftragsdatum:** *Order date:*	24.05.2017	
Auftraggeber: *Client:*	**Sanford, L.P. dba Dymo** 3 Glenlake Parkway, NE Atlanta GA 30328, USA			
Prüfgegenstand: *Test item:*	Label maker			
Bezeichnung / Typ-Nr.: *Identification / Type No.:*	LabelWriter Wireless			
Auftrags-Inhalt: *Order content:*	FCC & IC			
Prüfgrundlage: *Test specification:*	CFR47 FCC Part15: Subpart E Section 15.407 CFR47 FCC Part15: Subpart C Section 15.209 CFR47 FCC Part2: Section 2.1091		RSS-247 Issue 2 February 2017 RSS-GEN Issue 4 November 2014 RSS-102 Issue 5 March 2015	

Wareneingangsdatum: *Date of receipt:*	24.05.2017
Prüfmuster-Nr.: *Test sample No.:*	A000537002-0001 A000537002-0002
Prüfzeitraum: *Testing period:*	24.05.2017 - 10.07.2017
Ort der Prüfung: *Place of testing:*	EMTEK (Shenzhen) Co., Ltd.
Prüflaboratorium: *Testing laboratory:*	TÜV Rheinland (Shenzhen) Co., Ltd.
Prüfergebnis*: *Test result*:*	PASS

Refer to Photo Document

geprüft von / *tested by:*

Datum *Date*	Name / Stellung *Name / Position*	Unterschrift *Signature*
12.07.2017	Lin Lin / Project Manager	

kontrolliert von / *reviewed by:*

Datum *Date*	Name / Stellung *Name / Position*	Unterschrift *Signature*
12.07.2017	Owen Tian / Technical Certifier	

Sonstiges / *Other:*
FCC ID: RGDLWW
IC ID: 11034A-LWW

Zustand des Prüfgegenstandes bei Anlieferung:
Condition of the test item at delivery:
Prüfmuster vollständig und unbeschädigt
Test item complete and undamaged

* Legende:	1 = sehr gut	2 = gut	3 = befriedigend	4 = ausreichend	5 = mangelhaft
	P(ass) = entspricht o.g. Prüfgrundlage(n)		F(ail) = entspricht nicht o.g. Prüfgrundlage(n)	N/A = nicht anwendbar	N/T = nicht getestet
Legend:	*1 = very good*	*2 = good*	*3 = satisfactory*	*4 = sufficient*	*5 = poor*
	P(ass) = passed a.m. test specification(s)		*F(ail) = failed a.m. test specification(s)*	*N/A = not applicable*	*N/T = not tested*

TEST SUMMARY

5.1.1 ANTENNA REQUIREMENT
RESULT: *Pass*

5.1.2 RF OUTPUT POWER
RESULT: *Pass*

5.1.3 POWER SPECTRAL DENSITY
RESULT: *Pass*

5.1.4 FREQUENCY STABILITY
RESULT: *Pass*

5.1.5 26DB BANDWIDTH AND 99% BANDWIDTH
RESULT: *Pass*

5.1.6 6DB BANDWIDTH
RESULT: *Pass*

5.1.7 RADIATED SPURIOUS EMISSION
RESULT: *Pass*

5.1.8 DYNAMIC FREQUENCY SELECTION (DFS)
RESULT: *Pass*

5.1.9 CONDUCTED EMISSION ON AC MAINS
RESULT: *Pass*

Table of Contents

1. General Remarks

1.1 Complementary Materials

All attachments are integral parts of this test report. This applies especially to the following appendixes:
Appendix A: Test data of 5GHz bands WiFi

2. Test Sites

2.1 Test Facilities

EMTEK (Shenzhen) Co., Ltd.
Address: Bldg. 69, Majialong Industry Zone, Nanshan District, Shenzhen, Guangdong, China.

FCC Registration No.: 406365
IC Registration No.: 4480A-2

Note: The tests at the test site have been conducted under the supervision of a TÜV engineer.

2.2 List of Test and Measurement Instruments

Table 1: List of Test and Measurement Equipment

Radio Spectrum						
Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Signal Analyzer	Agilent	N9010A	My53470879	May.27, 2017	1 Year
2.	EMI Test Receiver	Rohde & Schwarz	FSV40	132.1-3008K39-100967-AP	May.27, 2017	1 Year
3.	Power Analyzer	Agilent	PS-X10-200	N/A	May.27, 2017	1 Year
4.	Test Accessories	Agilent	PS-X10-100	N/A	May.27, 2017	1 Year
5.	Cable	Agilent	N/A	3#	May.27, 2017	1 Year
6.	Cable	Agilent	N/A	5#	May.27, 2017	1 Year
7.	Temperature&Humidity test chamber	ESPEC	EL-02KA	12107166	May.27, 2017	1 Year
Spurious Emissions						
Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	EMI Test Receiver	Rohde & Schwarz	ESCI	101414	May.27, 2017	1 Year
2.	Loop Antenna	Schwarzbeck	FMZB 1519	1519-012	May.27, 2017	1 Year
3.	Pre-Amplifier	LUNAR-EM	LNA30M3G-25	J101000000071	May.27, 2017	1 Year
4.	Bilog Antenna	Schwarzbeck	VULB9163	660	May 28, 2017	1 Year
5.	Cable	H+B	NmSm-05-C15052		May 28, 2017	1 Year
6.	Cable	H+B	NmSm-2-C15201		May 28, 2017	1 Year
7.	Cable	H+B	NmNm-7-C15702		May 28, 2017	1 Year
8.	EMI Test Receiver	Rohde & Schwarz	FSV40	132.1-3008K39-100967-AP	May.27, 2017	1 Year
9.	Pre-Amplifier	Lunar EM	LNA1G18-48	J101113101000 1	May.27, 2017	1 Year
10.	Pre-Amplifier	Lunar EM	LNA18G26-40	J101213101000 1	May.27, 2017	1 Year
11.	Horn Antenna	Schwarzbeck	BBHA 9120	1178	May 28, 2017	1 Year
12.	Horn Antenna	Schwarzbeck	BBHA 9170	RS1307229170547	May 28, 2017	1 Year
13.	Horn Antenna	AHS/USA	SAS-573	184	May 28, 2017	1 Year
14.	Cable	H+B	SAC-40G-1	414	May 28, 2017	1 Year

15.	Cable	H+B	SUCOFLEX104	MY14871/4	May 28, 2017	1 Year
16.	Cable	H+B	BLU18A-NmSm-6500	D8501	May 28, 2017	1 Year
17.	Cable	A.H	SAC-40G-1	413	May 28, 2017	1 Year
Conducted Emissions						
Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Test Receiver	Rohde & Schwarz	ESCI	26115-010-0027	May 27, 2017	1 Year
2.	L.I.S.N.	Rohde & Schwarz	ENV216	101161	May 27, 2017	1 Year

2.3 Traceability

All measurement equipment calibrations are traceable to NIM (National Institute of Metrology) or where calibration is performed in other countries, to equivalent nationally recognized standards organizations.

2.4 Calibration

Equipment requiring calibration is calibrated periodically by the manufacturer or according to manufacturer's specifications. Additionally all equipment is verified for proper performance on a regular basis using in house standards or comparisons.

2.5 Uncertainty of Measurement

The value of the measurement uncertainty of each parameter is listed as below:

Table 2: Measurement Uncertainty

Test Item	**Uncertainty**
RF Output Power	±1.5 dB
Power Spectral Density	±3.0 dB
Frequency Error	±3.3%
Occupied Channel Bandwidth	±5%
Conducted Spurious Emissions	±3.0 dB
Radiated Spurious Emissions	±3.7dB (below 30MHz) ±3.78dB (30MHz~1GHz) ±4.46dB (1~6GHz) ±4.96dB (6~18GHz)
Conducted Emissions	±2.9dB
Temperature	±3.2%
Humidity	±2.5%

2.6 Location of Original Data

The original copies of all test data taken during actual testing were attached at Appendix A of this report and delivered to the applicant. A copy has been retained in the TÜV Rheinland (Shenzhen) file for certification follow-up purposes.

2.7 Status of Facility Used for Testing

The EMTEK (Shenzhen) Co., Ltd. Test facility located at Bldg. 69, Majialong Industry Zone, Nanshan District, Shenzhen, Guangdong, China. is listed on the US Federal Communications Commission list of facilities approved to perform measurements.

3. General Product Information

3.1 Product Function and Intended Use

The EUT is a Wireless Label printer which that support IEEE 802.11 a/b/g/n protocols.

Note: This report is for 5GHz Bands only.

For details refer to user manual and circuit diagram.

3.2 Ratings and System Details

Table 3: Technical Specification

Technical Specification	Value
Frequency Bands	2400-2483.5MHz 5150-5350MHz 5470-5725MHz for FCC 5470-5600MHz and 5650-5725MHz for IC 5725-5850MHz
Operating Frequency/Channels/Protocol	2412-2462MHz/11CH/802.11b/g/n-HT20 5180-5320MHz/8CH/802.11a/n-HT20 5500-5700MHz/11CH/802.11a/n-HT20 for FCC 5500-5580MHz/5CH/802.11a/n-HT20 for IC 5660-5700MHz/3CH/802.11a/n-HT20 for IC 5745-5825MHz/5CH/802.11a/n-HT20
Channel Spacing	5 MHz
Extreme Temperature Range	0~+40 ℃
Type of Product	Client Device without Radar Detection
TX Power Control (TPC)	Not Supported
Modulation	CCK, DSSS, OFDM
Antenna Number	1
Antenna Type	Internal antenna
Antenna Gain	2.4GHz band: 2.27dBi 5GHz bands: 5.18dBi
Operation Voltage	AC/DC Adapter operated Model: DYS602-240250W Input: 100-240Vac, 50/60Hz; Output: 24Vdc, 2.5A

Table 4: 5GHz Bands channel and frequency (U-NII-1 and U-NII-2A Bands)

RF Channel	Frequency (MHz)	RF Channel	Frequency (MHz)
36	5180	52	5260
40	5200	56	5280
44	5220	60	5300
48	5240	64	5320

Table 5: 5GHz Bands channel and frequency (U-NII-2C Band)

RF Channel	Frequency (MHz)	RF Channel	Frequency (MHz)
100	5500	124	5620
104	5520	128	5640
108	5540	132	5660
112	5560	136	5680

116	5580	140	5700
120	5600		

Table 6: 5GHz Bands channel and frequency (U-NII-3 Band)

RF Channel	Frequency (MHz)	RF Channel	Frequency (MHz)
149	5745	161	5805
153	5765	165	5825
157	5785		

3.3 Independent Operation Modes

The basic operation modes are:

A. Tx, (5GHz Bands, 802.11a/n)
B. Print, (WiFi operated)
C. Off

3.4 Noise Generating and Noise Suppressing Parts

Refer to the Circuit Diagram.

3.5 Submitted Documents

- Application Form
- Circuit Diagram
- Instruction Manual
- Photo Documents
- Technical Description
- Bill of Material
- Rating Label

4. Test Set-up and Operation Modes

4.1 Principle of Configuration Selection

Radio Spectrum: The equipment under test (EUT) was configured at its highest power output in order to measure its highest possible radiation and conducted level. The test modes were adapted accordingly in reference to the instructions for use.

Emissions: The equipment under test (EUT) was configured to measure its highest possible radiation level. The test modes were adapted accordingly in reference to the instructions for use.

4.2 Test Operation

Test operation refers to test setup in chapter 5. All testing were performed according to the procedures in ANSI C63.10:2013.

Table 7: 5GHz bands Test channels

Test channels	CH36-5180/CH40-5200/CH48-5240MHz CH52-5260/CH56-5280/CH64-5320MHz CH100-5500/CH120-5580/CH132-5660MHz/CH140-5700MHz CH149-5745/CH157-5785/CH165-5825MHz

Table 8: Worst case test modes

Operating Mode	Worst Test Mode	
	Mode	Duty Cycle
802.11a	6 Mbit/s	>98%
802.11n-HT20	MCS0	>98%

4.3 Special Accessories and Auxiliary Equipment

Table 9: List of Accessories and Auxiliary Equipment

Description	**Manufacturer**	**Model**	**S/N**
Notebook	LENOVO	WB0205140E	WB06355728
USB Cable	Dymo	Shielded, Length: 100cm	--
Wireless Access Point	Cisco	AIR-CAP3702E-A-K9	FTX182276QD FCC ID: LDK102087 IC ID: 2461B-102087

4.4 Countermeasures to Achieve ERM Compliance

The test sample which has been tested contained the noise suppression parts as described in the Technical Construction File (TCF). No additional measures were employed to achieve compliance.

4.5 Test Setup Diagram

Diagram of Measurement Configuration for Radiation Test (Below 1GHz)

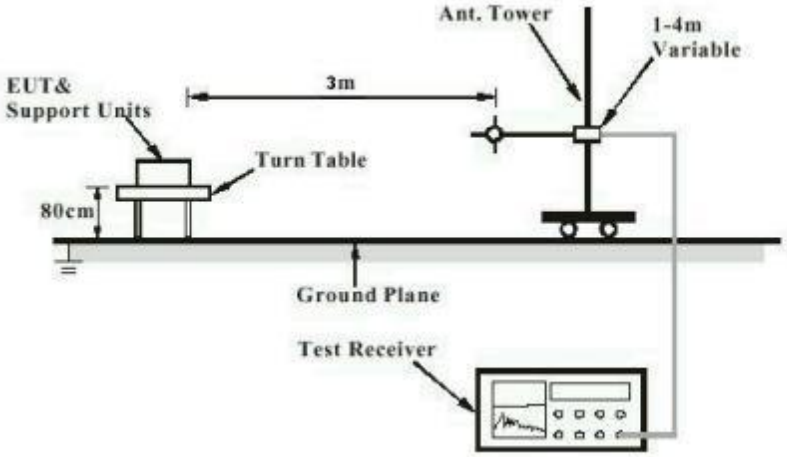


Diagram of Measurement Configuration for Radiation Test (Above 1GHz)

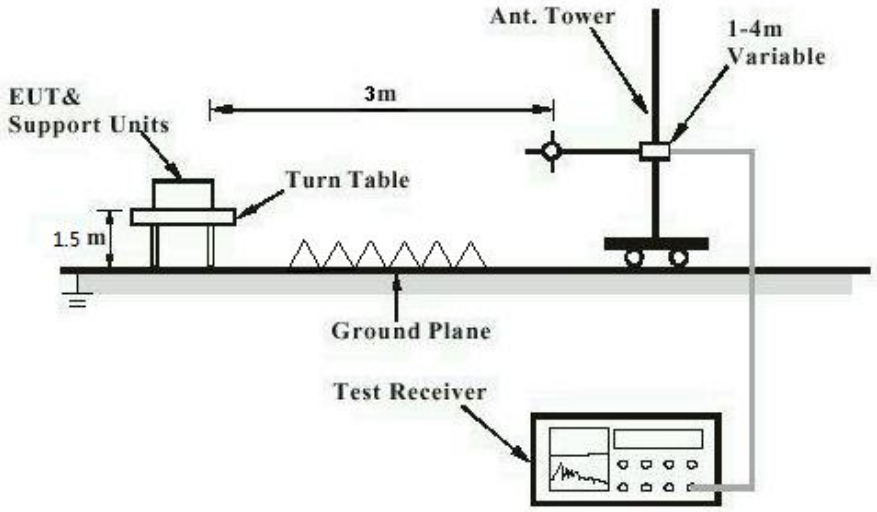


Diagram of Measurement Configuration for Mains Conduction Measurement

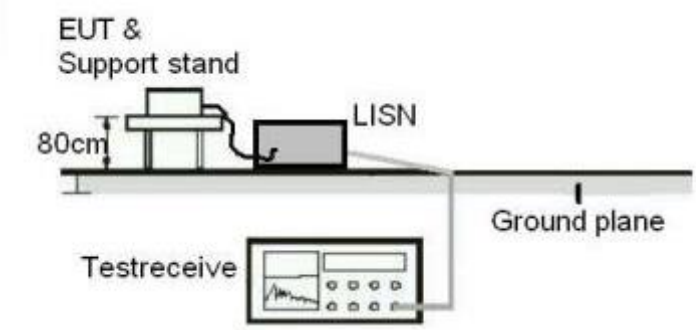


Diagram of Measurement Configuration for Conducted Transmitter Measurement

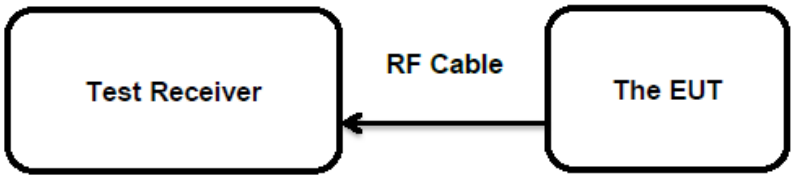
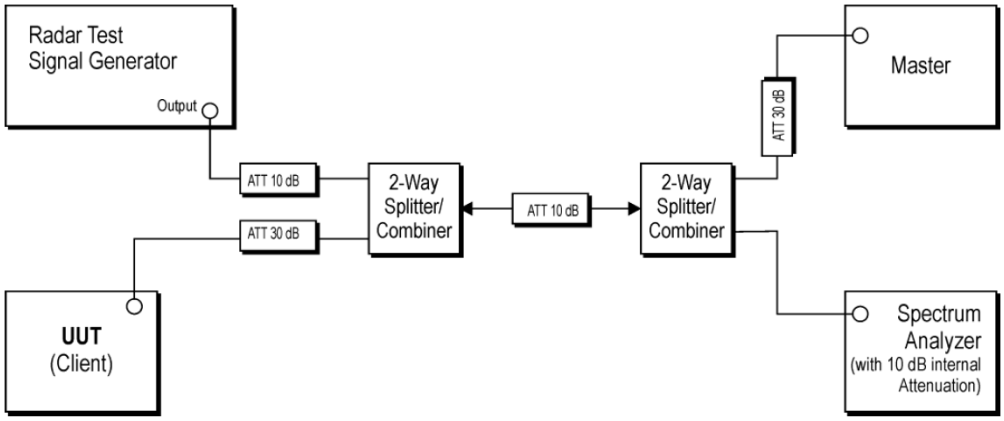


Diagram of Measurement Configuration for Dynamic Frequency Selection (DFS)



5. Test Results

5.1 Radio Test Requirement & Test Suites (5GHz Bands)

5.1.1 Antenna Requirement

RESULT: **Pass**

Test Specification
Test standard : FCC Part 15.203
RSS-GEN Clause8.3

The EUT has an Onboard Omni-directional antenna, the directional gain of antenna is 2.27dBi for 2.4GHz band, 5.18dBi for 5GHz band, and the antenna connector is designed with permanent attachment and no consideration of replacement. Therefore the EUT is considered sufficient to comply with the provision.

Therefore the EUT is considered sufficient to comply with the provision.

Refer to EUT Photo for further details.

5.1.2 RF Output Power

RESULT: **Pass**

Test Specification

Test standard	:	FCC Part 15.407 (a) RSS-247 clause 6.2
Basic standard	:	ANSI C63.10:2013
Limits (FCC)	:	Maximum conducted output power <250mW (24dBm) (5150-5250MHz) *<250mW (24dBm) (5250-5350MHz, 5470-5725MHz) *250 mW (24dBm) or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in MHz, where is lesser. <1W (30dBm) (5725-5850MHz)
Limits (IC)	:	* Max e.i.r.p.<200mW (23dBm) (5150-5250MHz) *200 mW (23dBm) or 10 dBm + 10 logB, where B is the 99% emission bandwidth in MHz, where is lesser. *Max conducted output power < 250mW (24dBm) (5250-5350MHz, 5470-5600MHz, 5650-5725MHz) *250 mW (24dBm) or 11 dBm + 10 logB, where B is the 99% emission bandwidth in MHz, where is lesser. *Max e.i.r.p.<1W (30dBm) (5250-5350MHz, 5470-5600MHz, 5650-5725MHz) *1 W (30dBm) or 17 dBm + 10 log B, where B is the 99% emission bandwidth in MHz, where is lesser. Max conducted output power <1W (30dBm) (5725-5850MHz)
Kind of test site	:	Shielded Room

Test Setup

Date of testing	:	2017-06-15
Input voltage	:	120Vac, 60Hz
Operation mode	:	A
Ambient temperature	:	25 ℃
Relative humidity	:	56 %
Atmospheric pressure	:	101 kPa

Refer to attached Appendix A for details of test data.

5.1.3 Power Spectral Density

RESULT: **Pass**

Test Specification

Test standard	:	FCC Part 15.407 (a) RSS-247 clause 6.2
Basic standard	:	ANSI C63.10:2013
Limits(FCC)	:	<11dBm/MHz (5150-5250MHz 5250-5350MHz, 5470-5725MHz) <30dBm/500KHz (5725-5850MHz)
Limits(IC)	:	e.i.r.p. spectral density <10dBm/MHz (5150-5250MHz) <11dBm/1MHz (5250-5350MHz, 5470-5600MHz, 5650-5725MHz) <30dBm/500KHz (5725-5850MHz)
Kind of test site	:	Shielded Room

Test Setup

Date of testing	:	2017-06-16
Input voltage	:	120Vac, 60Hz
Operation mode	:	A
Ambient temperature	:	25 ℃
Relative humidity	:	56 %
Atmospheric pressure	:	101 kPa

Refer to attached Appendix A for details of test data.

5.1.4 Frequency Stability

RESULT: **Pass**

Test Specification

Test standard	:	FCC Part 15.407 (g) RSS-Gen Clause 6.11
Basic standard	:	ANSI C63.10:2013
Limits	:	Within assigned bands
Kind of test site	:	Shielded Room

Test Setup

Date of testing	:	2017-06-15
Input voltage	:	120Vac, 60Hz
Operation mode	:	A
Ambient temperature	:	25 ℃
Relative humidity	:	56 %
Atmospheric pressure	:	101 kPa

Refer to attached Appendix A for details of test data.

5.1.5 26dB Bandwidth and 99% Bandwidth

RESULT: **Pass**

Test Specification

Test standard	:	FCC Part 15.407 RSS-Gen Clause 6.6
Basic standard	:	ANSI C63.10:2013
Limits	:	N/A
Kind of test site	:	Shielded Room

Test Setup

Date of testing	:	2017-06-16
Input voltage	:	120Vac, 60Hz
Operation mode	:	A
Ambient temperature	:	25 ℃
Relative humidity	:	56 %
Atmospheric pressure	:	101 kPa

Refer to attached Appendix A for details of test data.

5.1.6 6dB Bandwidth

RESULT: **Pass**

Test Specification

Test standard	:	FCC Part 15.407 (e) RSS-247 clause 6.2.4.1
Basic standard	:	ANSI C63.10:2013
Limits	:	At least 500KHz (5725-5850MHz)
Kind of test site	:	Shielded Room

Test Setup

Date of testing	:	2017-06-17
Input voltage	:	120Vac, 60Hz
Operation mode	:	A
Ambient temperature	:	25 ℃
Relative humidity	:	56 %
Atmospheric pressure	:	101 kPa

Refer to attached Appendix A for details of test data.

5.1.7 Radiated Spurious Emission

RESULT: **Pass**

Test Specification

Test standard	:	FCC Part 15.407(b) & FCC Part 15.205 & FCC Part 15.209 RSS-247 clause 6.2 & RSS-GEN clause 8.9 and 8.10
Basic standard	:	ANSI C63.10:2013
Limits	:	• For transmitters operating in the 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz. • For transmitters operating in the 5.25-5.35 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz. • For transmitters operating in the 5.47-5.725 GHz band: All emissions outside of the 5.47-5.725 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz. • For transmitters operating in the 5.725-5.85 GHz band: All emissions shall be limited to a level of −27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge. • Restricted Bands meet the requirement of 15.209 limit and RSS-GEN
Kind of test site	:	3m Semi-Anechoic Chamber (below 1GHz) 3m Anechoic Chamber (above 1GHz)

Test Setup

Date of testing	:	2017-06-16 to 2017-06-18
Input voltage	:	120Vac, 60Hz
Operation mode	:	A
Ambient temperature	:	23 ℃
Relative humidity	:	48 %
Atmospheric pressure	:	101 kPa

Refer to attached Appendix A for details of test data.

5.1.8 Dynamic Frequency Selection (DFS)

RESULT: **Pass**

Test Specification

Test standard	:	FCC Part 15.407(h) RSS-247 clause 6.3 5250-5350MHz, 5470-5725MHz (The device cannot capable of transmitting in the band 5600-5650MHz for IC)
Limits	:	Channel Move Time: Within 10 seconds. Channel Closing Transmission Time: 200ms+aggregate of 60ms over remaining 10s period; Non-Occupancy Period: at least 30 minutes.
Kind of test site	:	Shielded Room

Test Setup

Date of testing	:	2017-06-17
Input voltage	:	120Vac, 60Hz
Operation mode	:	A
Test channel	:	CH64, CH100, CH140
Ambient temperature	:	23 ℃
Relative humidity	:	48 %
Atmospheric pressure	:	101 kPa

Refer to attached Appendix A for details of test data.

5.1.9 Conducted Emission on AC Mains

RESULT: **Pass**

Test Specification

Test standard	:	FCC Part 15.407 RSS-GEN clause 8.8
Basic standard	:	ANSI C63.10:2013
Frequency range	:	0.15 - 30MHz
Limits	:	FCC Part 15.207
Kind of test site	:	Shielded Room

Test Setup

Date of testing	:	2017-06-07
Input voltage	:	120Vac, 60Hz
Operation mode	:	B
Earthing	:	Not connected
Ambient temperature	:	25 ℃
Relative humidity	:	56 %
Atmospheric pressure	:	101 kPa

Refer to attached Appendix A for details of test data.

Table of Contents

1. 26dB Bandwidth and 99% Bandwidth

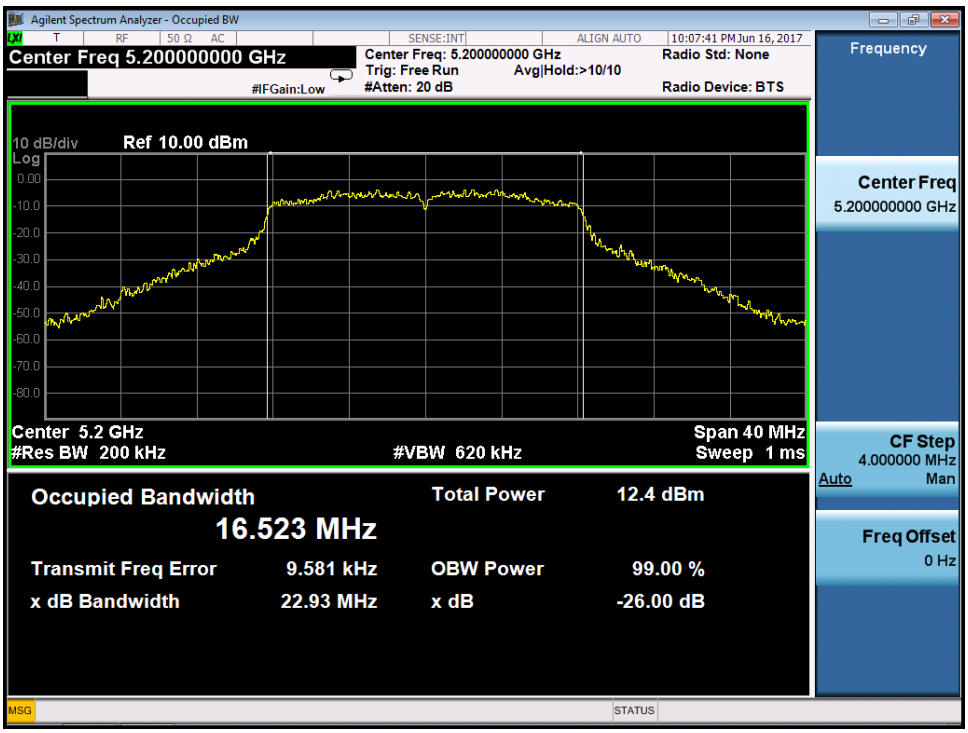
1.1 Test Datas

Channel (mode)	Channel Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
36 (802.11a)	5180	23.36	16.548
40 (802.11a)	5200	23.93	16.523
48 (802.11a)	5240	23.26	16.500
52 (802.11a)	5260	23.36	16.581
56 (802.11a)	5280	22.29	16.500
64 (802.11a)	5320	22.39	16.508
100 (802.11a)	5500	22.51	16.481
116 (802.11a)	5580	22.85	16.534
132 (802.11a)	5660	23.59	16.532
140 (802.11a)	5700	22.32	16.460
149 (802.11a)	5745	22.89	16.499
157 (802.11a)	5785	22.83	16.476
165 (802.11a)	5825	22.61	16.473

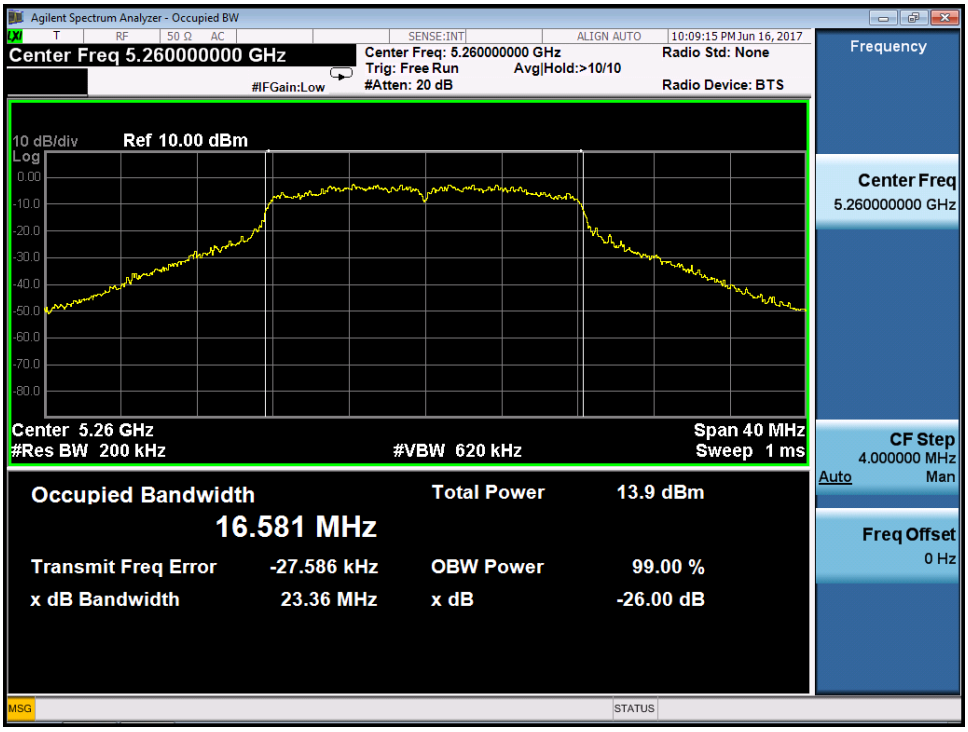
Channel (mode)	Channel Frequency (MHz)	26dB Bandwidth (MHz)	99% Bandwidth (MHz)
36 (802.11n-HT20)	5180	22.68	17.626
40 (802.11n-HT20)	5200	22.91	17.665
48 (802.11n-HT20)	5240	23.05	17.654
52 (802.11n-HT20)	5260	24.18	17.692
56 (802.11n-HT20)	5280	23.19	17.675
64 (802.11n-HT20)	5320	23.50	17.628
100 (802.11n-HT20)	5500	23.41	17.676
116 (802.11n-HT20)	5580	23.42	17.681
132 (802.11n-HT20)	5660	23.68	17.661
140 (802.11n-HT20)	5700	22.63	17.637
149 (802.11n-HT20)	5745	23.21	17.622
157 (802.11n-HT20)	5785	22.08	17.650
165 (802.11n-HT20)	5825	21.93	17.650

1.2 Test Graphs

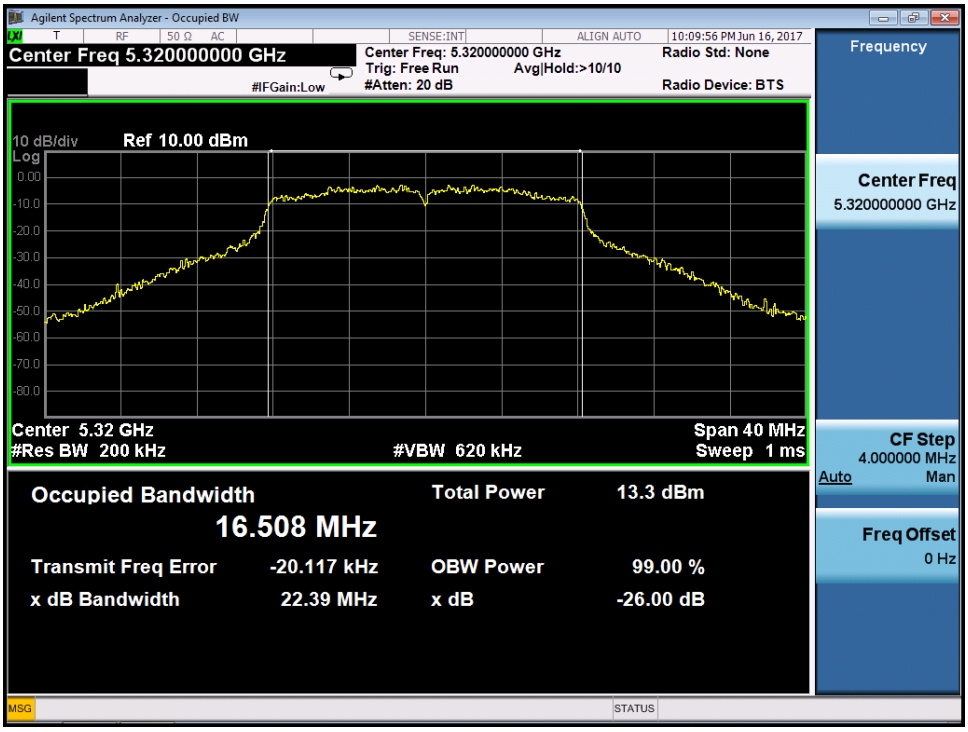
802.11a



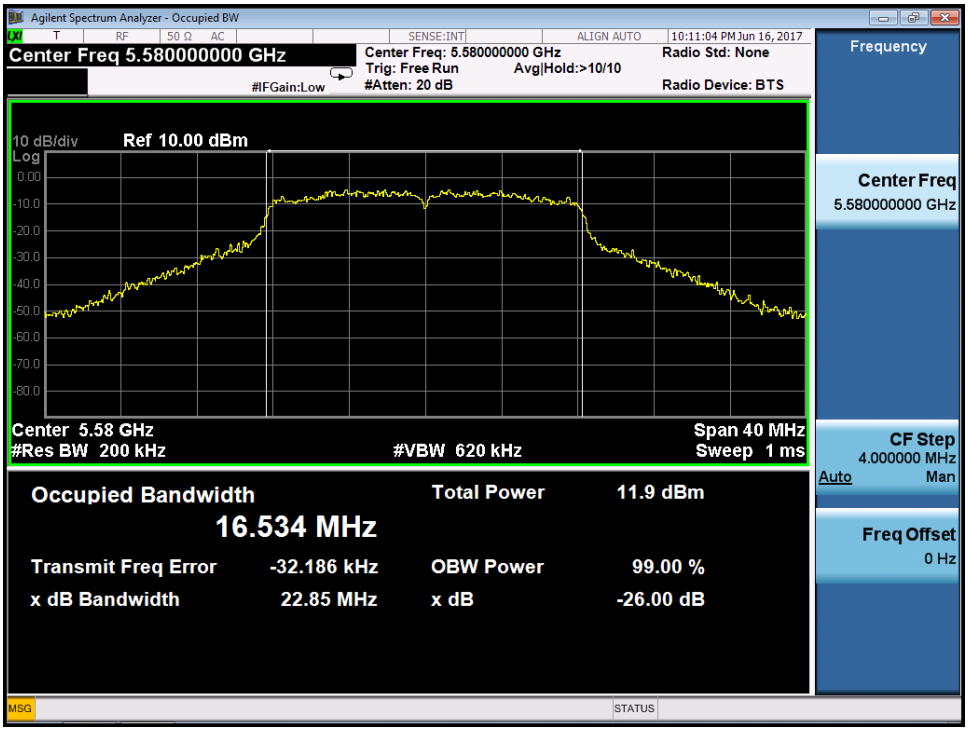

Agilent Spectrum Analyzer - Occupied BW
Center Freq 5.240000000 GHz
Center Freq: 5.240000000 GHz
Trig: Free Run
Avg|Hold:>10/10
#Atten: 20 dB
#IFGain:Low
Radio Std: None
Radio Device: BTS
10:07:55 PM Jun 16, 2017
Frequency
10 dB/div
Ref 10.00 dBm
Log
Center Freq
5.240000000 GHz
Center 5.24 GHz
#Res BW 200 kHz
#VBW 620 kHz
Span 40 MHz
Sweep 1 ms
CF Step
4.000000 MHz
Auto
Man
Occupied Bandwidth
16.500 MHz
Total Power
12.1 dBm
Transmit Freq Error
-15.966 kHz
OBW Power
99.00 %
x dB Bandwidth
23.26 MHz
x dB
-26.00 dB
Freq Offset
0 Hz
MSG
STATUS

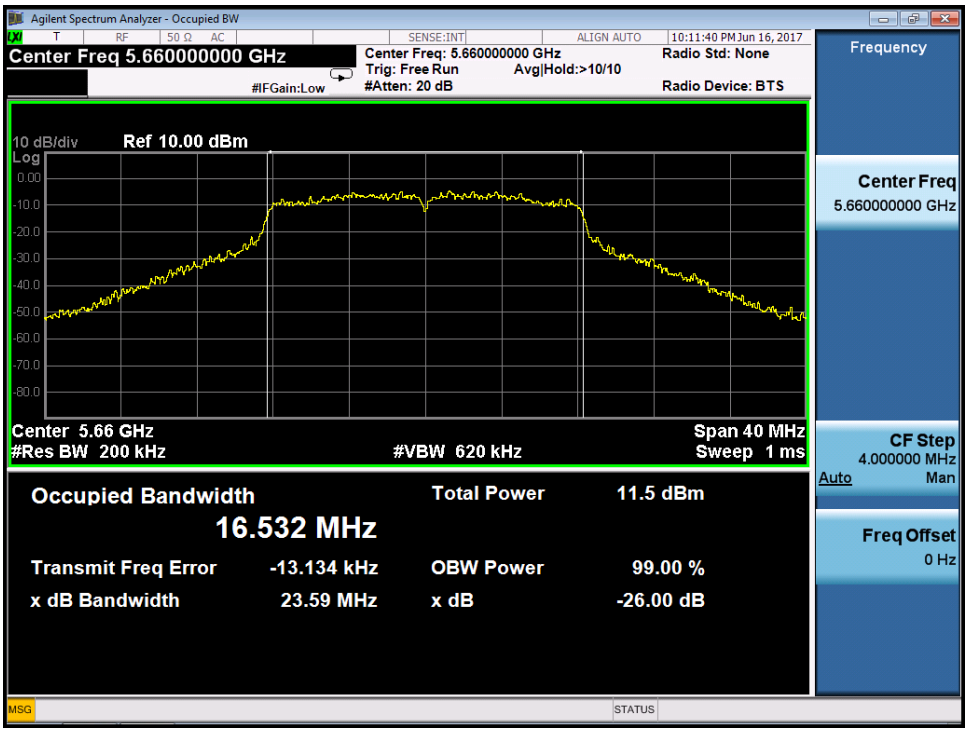

Agilent Spectrum Analyzer - Occupied BW
Center Freq 5.260000000 GHz
Center Freq: 5.260000000 GHz
Trig: Free Run
Avg|Hold:>10/10
#Atten: 20 dB
#IFGain:Low
Radio Std: None
Radio Device: BTS
10:09:15 PM Jun 16, 2017
Frequency
10 dB/div
Ref 10.00 dBm
Log
Center Freq
5.260000000 GHz
Center 5.26 GHz
#Res BW 200 kHz
#VBW 620 kHz
Span 40 MHz
Sweep 1 ms
CF Step
4.000000 MHz
Auto
Man
Occupied Bandwidth
16.581 MHz
Total Power
13.9 dBm
Transmit Freq Error
-27.586 kHz
OBW Power
99.00 %
x dB Bandwidth
23.36 MHz
x dB
-26.00 dB
Freq Offset
0 Hz
MSG
STATUS

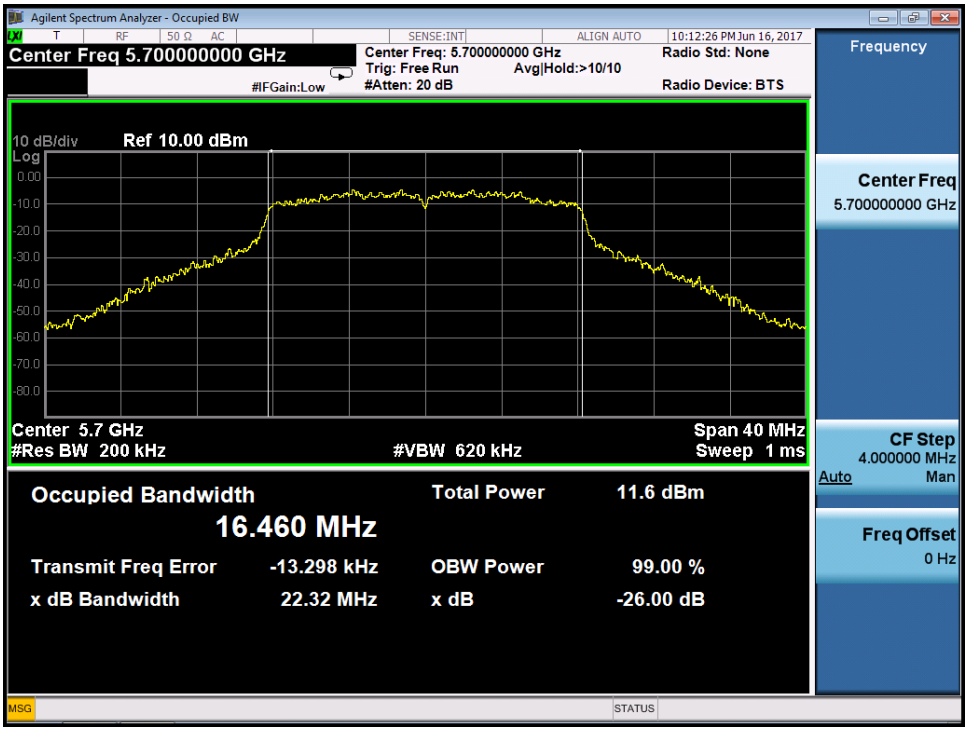

Agilent Spectrum Analyzer - Occupied BW
Center Freq 5.280000000 GHz
Center Freq: 5.280000000 GHz
Trig: Free Run
Avg|Hold:>10/10
#Atten: 20 dB
#IFGain:Low
Radio Std: None
Radio Device: BTS
10:09:36 PM Jun 16, 2017
Frequency
10 dB/div
Log
Ref 10.00 dBm
Center 5.28 GHz
#Res BW 200 kHz
#VBW 620 kHz
Span 40 MHz
Sweep 1 ms
Occupied Bandwidth
16.500 MHz
Total Power
12.6 dBm
Transmit Freq Error
-8.505 kHz
OBW Power
99.00 %
x dB Bandwidth
22.29 MHz
x dB
-26.00 dB
Center Freq
5.280000000 GHz
CF Step
4.000000 MHz
Auto
Man
Freq Offset
0 Hz
MSG
STATUS

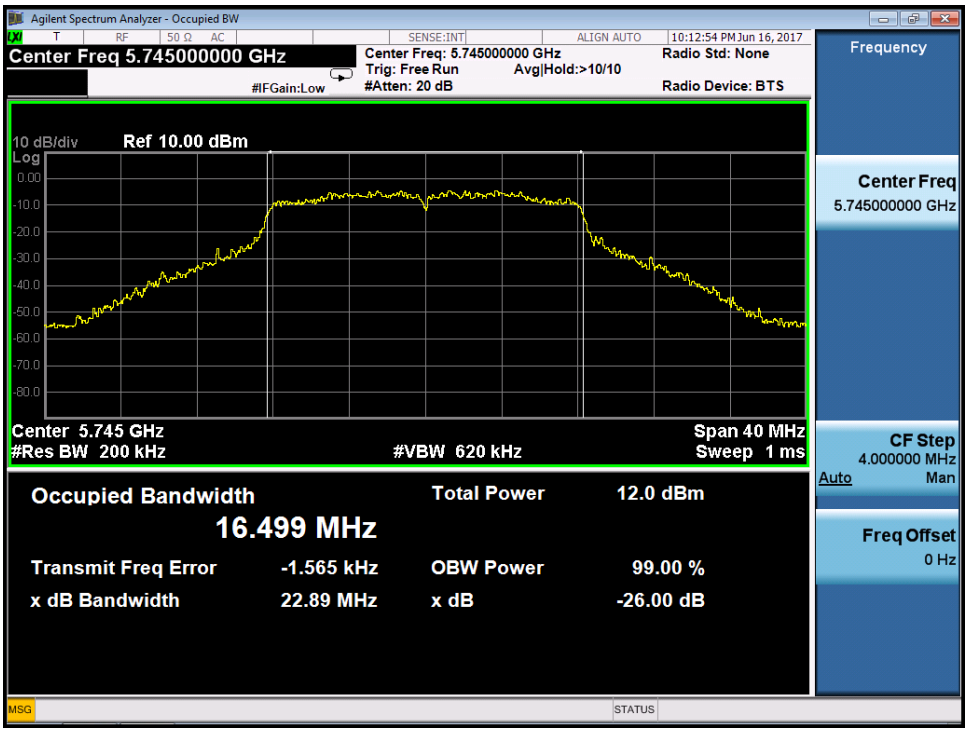

Agilent Spectrum Analyzer - Occupied BW
Center Freq 5.320000000 GHz
Center Freq: 5.320000000 GHz
Trig: Free Run
Avg|Hold:>10/10
#Atten: 20 dB
#IFGain:Low
Radio Std: None
Radio Device: BTS
10:09:56 PM Jun 16, 2017
Frequency
10 dB/div
Log
Ref 10.00 dBm
Center 5.32 GHz
#Res BW 200 kHz
#VBW 620 kHz
Span 40 MHz
Sweep 1 ms
Occupied Bandwidth
16.508 MHz
Total Power
13.3 dBm
Transmit Freq Error
-20.117 kHz
OBW Power
99.00 %
x dB Bandwidth
22.39 MHz
x dB
-26.00 dB
Center Freq
5.320000000 GHz
CF Step
4.000000 MHz
Auto
Man
Freq Offset
0 Hz
MSG
STATUS

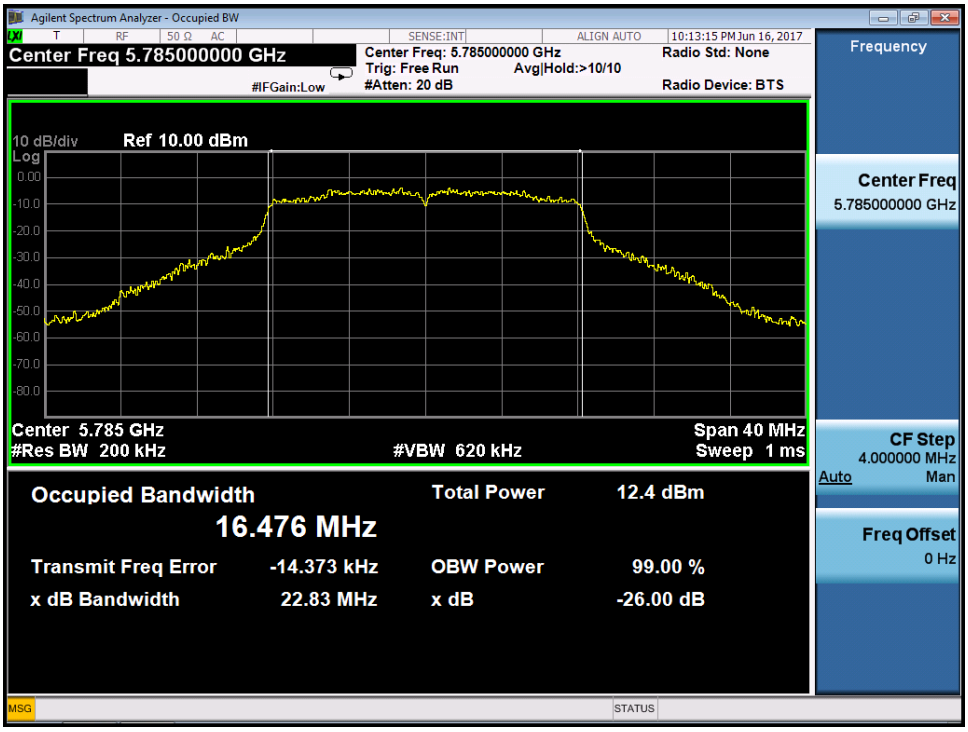

Agilent Spectrum Analyzer - Occupied BW
Center Freq 5.500000000 GHz
Center Freq: 5.500000000 GHz
Trig: Free Run
Avg|Hold:>10/10
#Atten: 20 dB
#IFGain:Low
Radio Std: None
Radio Device: BTS
10:10:22 PM Jun 16, 2017
Frequency
10 dB/div
Log
Ref 10.00 dBm
Center 5.5 GHz
#Res BW 200 kHz
#VBW 620 kHz
Span 40 MHz
Sweep 1 ms
Occupied Bandwidth
16.481 MHz
Total Power
12.8 dBm
Transmit Freq Error
-16.406 kHz
OBW Power
99.00 %
x dB Bandwidth
22.51 MHz
x dB
-26.00 dB
Center Freq
5.500000000 GHz
CF Step
4.000000 MHz
Auto
Man
Freq Offset
0 Hz
MSG
STATUS

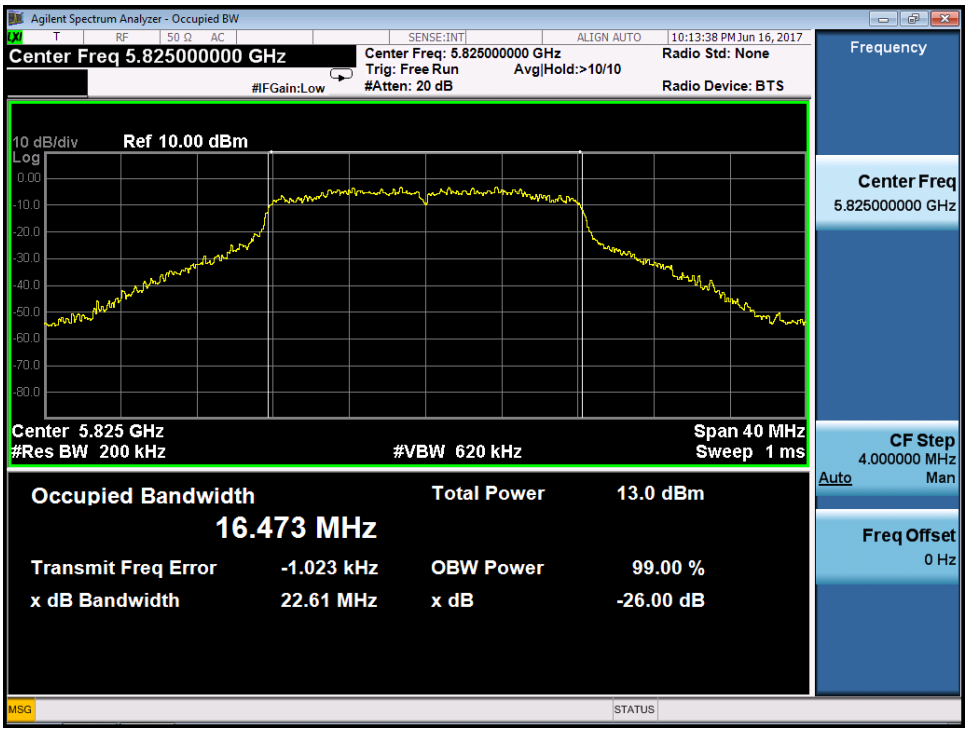

Agilent Spectrum Analyzer - Occupied BW
Center Freq 5.580000000 GHz
Center Freq: 5.580000000 GHz
Trig: Free Run
Avg|Hold:>10/10
#Atten: 20 dB
#IFGain:Low
Radio Std: None
Radio Device: BTS
10:11:04 PM Jun 16, 2017
Frequency
10 dB/div
Log
Ref 10.00 dBm
Center 5.58 GHz
#Res BW 200 kHz
#VBW 620 kHz
Span 40 MHz
Sweep 1 ms
Occupied Bandwidth
16.534 MHz
Total Power
11.9 dBm
Transmit Freq Error
-32.186 kHz
OBW Power
99.00 %
x dB Bandwidth
22.85 MHz
x dB
-26.00 dB
Center Freq
5.580000000 GHz
CF Step
4.000000 MHz
Auto
Man
Freq Offset
0 Hz
MSG
STATUS


Agilent Spectrum Analyzer - Occupied BW
Center Freq 5.660000000 GHz
Center Freq: 5.660000000 GHz
Trig: Free Run
Avg|Hold:>10/10
#Atten: 20 dB
#IFGain:Low
Radio Std: None
Radio Device: BTS
10:11:40 PM Jun 16, 2017
Frequency
10 dB/div
Ref 10.00 dBm
Log
Center 5.66 GHz
#Res BW 200 kHz
#VBW 620 kHz
Span 40 MHz
Sweep 1 ms
Occupied Bandwidth
16.532 MHz
Total Power
11.5 dBm
Transmit Freq Error
-13.134 kHz
OBW Power
99.00 %
x dB Bandwidth
23.59 MHz
x dB
-26.00 dB
Center Freq
5.660000000 GHz
CF Step
4.000000 MHz
Auto
Man
Freq Offset
0 Hz
MSG
STATUS


Agilent Spectrum Analyzer - Occupied BW
Center Freq 5.700000000 GHz
Center Freq: 5.700000000 GHz
Trig: Free Run
Avg|Hold:>10/10
#Atten: 20 dB
#IFGain:Low
Radio Std: None
Radio Device: BTS
10:12:26 PM Jun 16, 2017
Frequency
10 dB/div
Ref 10.00 dBm
Log
Center 5.7 GHz
#Res BW 200 kHz
#VBW 620 kHz
Span 40 MHz
Sweep 1 ms
Occupied Bandwidth
16.460 MHz
Total Power
11.6 dBm
Transmit Freq Error
-13.298 kHz
OBW Power
99.00 %
x dB Bandwidth
22.32 MHz
x dB
-26.00 dB
Center Freq
5.700000000 GHz
CF Step
4.000000 MHz
Auto
Man
Freq Offset
0 Hz
MSG
STATUS

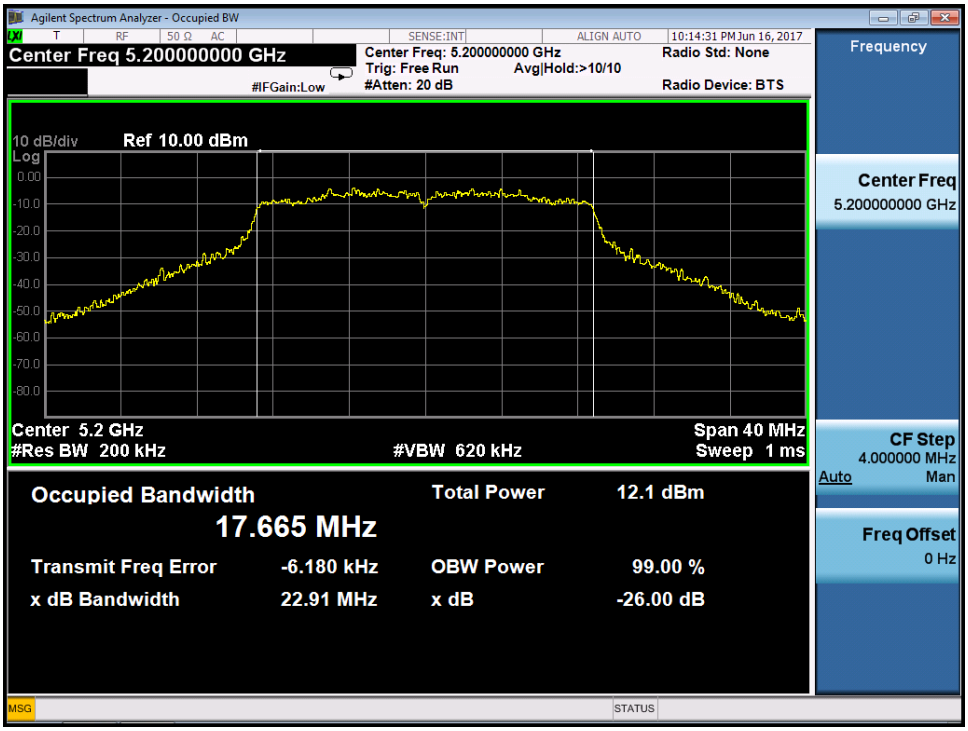

Agilent Spectrum Analyzer - Occupied BW
Center Freq 5.745000000 GHz
Center Freq: 5.745000000 GHz
Trig: Free Run
Avg|Hold:>10/10
#Atten: 20 dB
#IFGain:Low
Radio Std: None
Radio Device: BTS
10:12:54 PM Jun 16, 2017
Frequency
10 dB/div
Ref 10.00 dBm
Log
Center 5.745 GHz
#Res BW 200 kHz
#VBW 620 kHz
Span 40 MHz
Sweep 1 ms
Occupied Bandwidth
16.499 MHz
Total Power
12.0 dBm
Transmit Freq Error
-1.565 kHz
OBW Power
99.00 %
x dB Bandwidth
22.89 MHz
x dB
-26.00 dB
Center Freq
5.745000000 GHz
CF Step
4.000000 MHz
Auto
Man
Freq Offset
0 Hz
MSG
STATUS

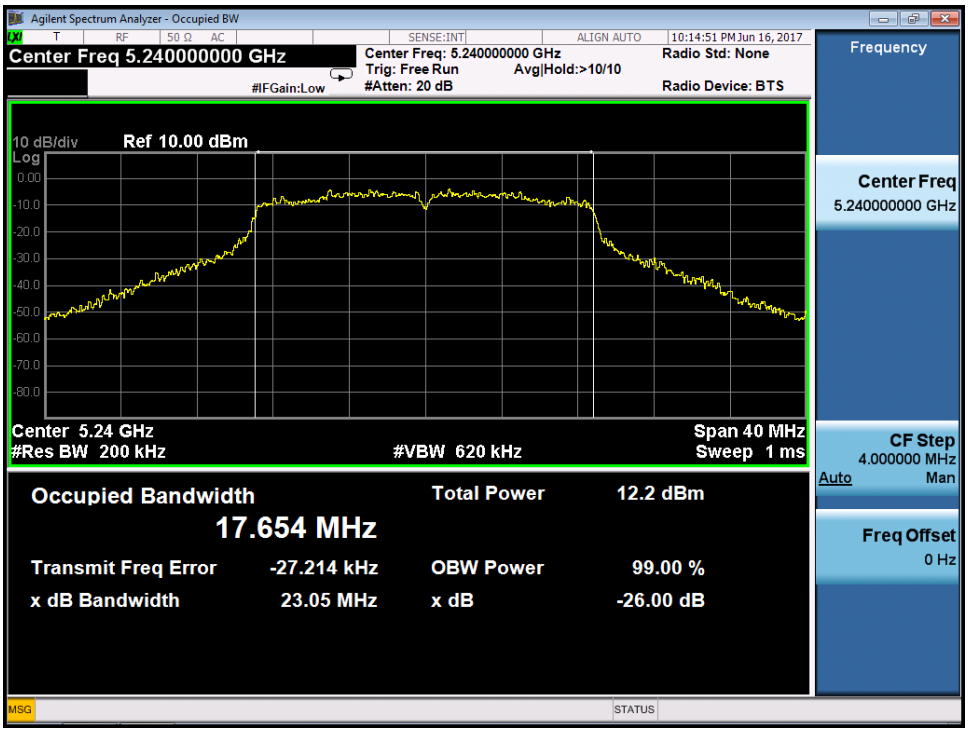

Agilent Spectrum Analyzer - Occupied BW
Center Freq 5.785000000 GHz
Center Freq: 5.785000000 GHz
Trig: Free Run
Avg|Hold:>10/10
#Atten: 20 dB
#IFGain:Low
Radio Std: None
Radio Device: BTS
10:13:15 PM Jun 16, 2017
Frequency
10 dB/div
Ref 10.00 dBm
Log
Center 5.785 GHz
#Res BW 200 kHz
#VBW 620 kHz
Span 40 MHz
Sweep 1 ms
Occupied Bandwidth
16.476 MHz
Total Power
12.4 dBm
Transmit Freq Error
-14.373 kHz
OBW Power
99.00 %
x dB Bandwidth
22.83 MHz
x dB
-26.00 dB
Center Freq
5.785000000 GHz
CF Step
4.000000 MHz
Auto
Man
Freq Offset
0 Hz
MSG
STATUS

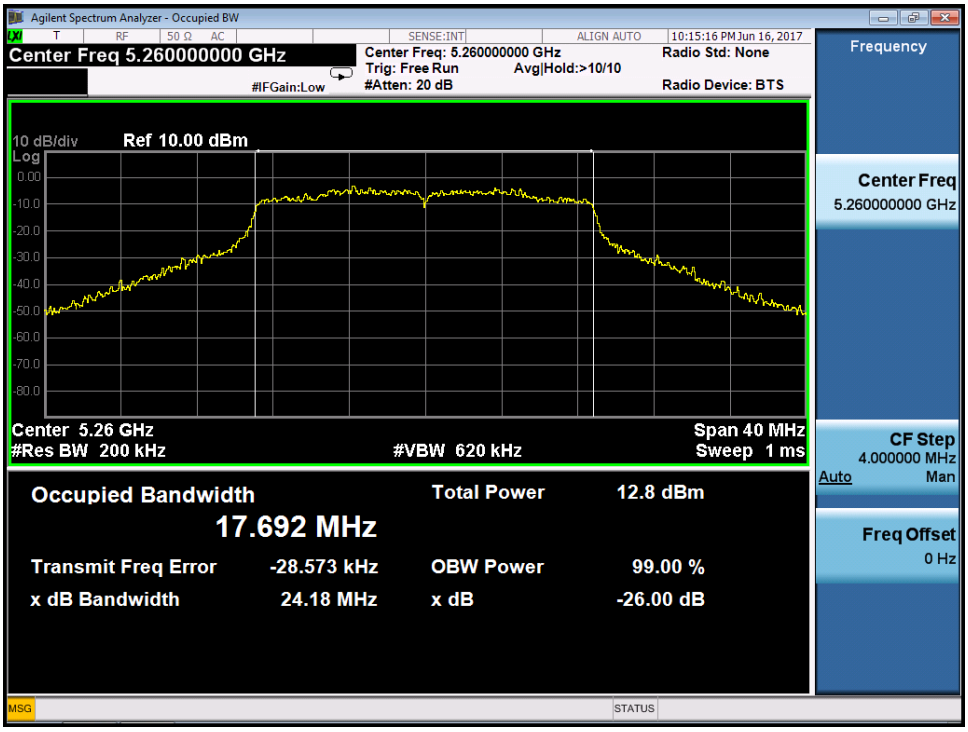

Agilent Spectrum Analyzer - Occupied BW
Center Freq 5.825000000 GHz
Center Freq: 5.825000000 GHz
Trig: Free Run
Avg|Hold:>10/10
#Atten: 20 dB
#IFGain:Low
Radio Std: None
Radio Device: BTS
10:13:38 PM Jun 16, 2017
Frequency
10 dB/div
Log
Ref 10.00 dBm
0.00
-10.0
-20.0
-30.0
-40.0
-50.0
-60.0
-70.0
-80.0
Center 5.825 GHz
#Res BW 200 kHz
#VBW 620 kHz
Span 40 MHz
Sweep 1 ms
Occupied Bandwidth
16.473 MHz
Total Power
13.0 dBm
Transmit Freq Error
-1.023 kHz
OBW Power
99.00 %
x dB Bandwidth
22.61 MHz
x dB
-26.00 dB
Center Freq
5.825000000 GHz
CF Step
4.000000 MHz
Auto
Man
Freq Offset
0 Hz
MSG
STATUS

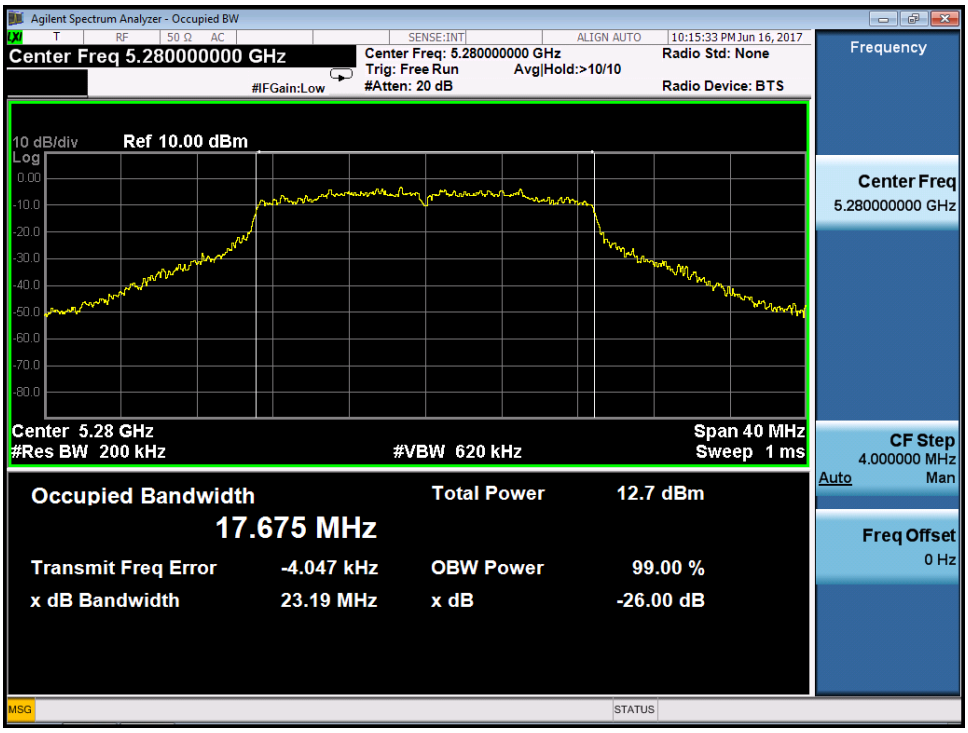
802.11n-HT20

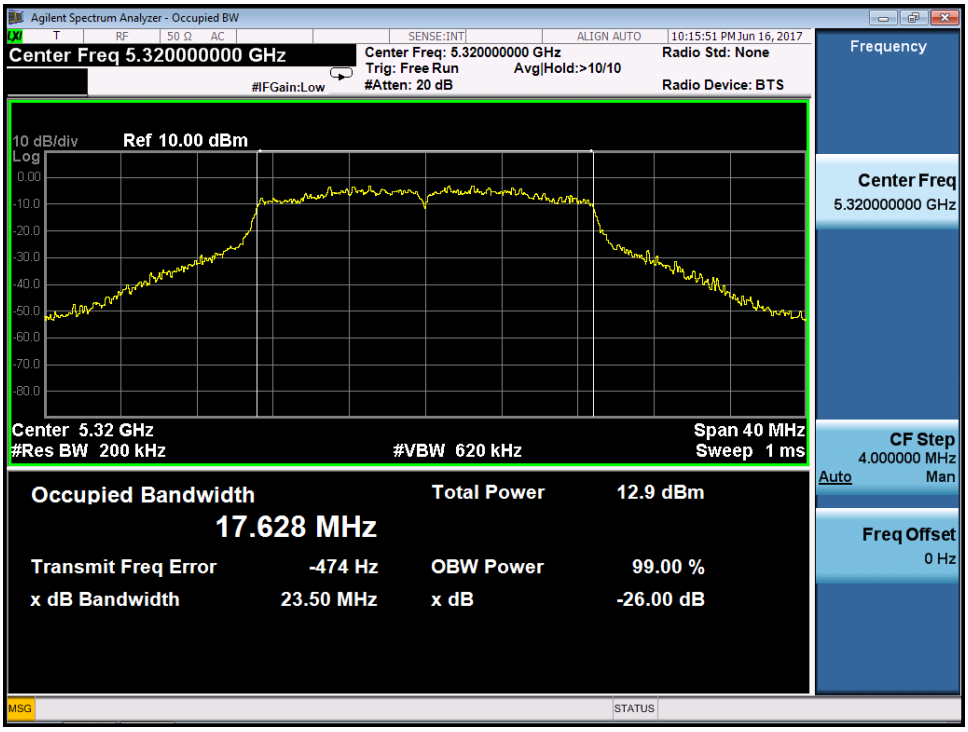

Agilent Spectrum Analyzer - Occupied BW
Center Freq 5.180000000 GHz
Center Freq: 5.180000000 GHz
Trig: Free Run
Avg|Hold:>10/10
#Atten: 20 dB
#IFGain:Low
Radio Std: None
Radio Device: BTS
10:14:12 PM Jun 16, 2017
Frequency
10 dB/div
Ref 10.00 dBm
Log
Center 5.18 GHz
#Res BW 200 kHz
#VBW 620 kHz
Span 40 MHz
Sweep 1 ms
Occupied Bandwidth
17.626 MHz
Total Power
12.5 dBm
Transmit Freq Error
-14.923 kHz
OBW Power
99.00 %
x dB Bandwidth
22.68 MHz
x dB
-26.00 dB
Center Freq
5.180000000 GHz
CF Step
4.000000 MHz
Auto
Man
Freq Offset
0 Hz
Alignment Completed
MSG
STATUS


Agilent Spectrum Analyzer - Occupied BW
Center Freq 5.200000000 GHz
Center Freq: 5.200000000 GHz
Trig: Free Run
Avg|Hold:>10/10
#Atten: 20 dB
#IFGain:Low
Radio Std: None
Radio Device: BTS
10:14:31 PM Jun 16, 2017
Frequency
10 dB/div
Ref 10.00 dBm
Log
Center 5.2 GHz
#Res BW 200 kHz
#VBW 620 kHz
Span 40 MHz
Sweep 1 ms
Occupied Bandwidth
17.665 MHz
Total Power
12.1 dBm
Transmit Freq Error
-6.180 kHz
OBW Power
99.00 %
x dB Bandwidth
22.91 MHz
x dB
-26.00 dB
Center Freq
5.200000000 GHz
CF Step
4.000000 MHz
Auto
Man
Freq Offset
0 Hz
MSG
STATUS


Agilent Spectrum Analyzer - Occupied BW
Center Freq 5.240000000 GHz
Center Freq: 5.240000000 GHz
Trig: Free Run
Avg|Hold:>10/10
#Atten: 20 dB
#IFGain:Low
Radio Std: None
Radio Device: BTS
10:14:51 PM Jun 16, 2017
Frequency
10 dB/div
Log
Ref 10.00 dBm
Center 5.24 GHz
#Res BW 200 kHz
#VBW 620 kHz
Span 40 MHz
Sweep 1 ms
Occupied Bandwidth
17.654 MHz
Total Power
12.2 dBm
Transmit Freq Error
-27.214 kHz
OBW Power
99.00 %
x dB Bandwidth
23.05 MHz
x dB
-26.00 dB
Center Freq
5.240000000 GHz
CF Step
4.000000 MHz
Auto
Man
Freq Offset
0 Hz
MSG
STATUS


Agilent Spectrum Analyzer - Occupied BW
Center Freq 5.260000000 GHz
Center Freq: 5.260000000 GHz
Trig: Free Run
Avg|Hold:>10/10
#Atten: 20 dB
#IFGain:Low
Radio Std: None
Radio Device: BTS
10:15:16 PM Jun 16, 2017
Frequency
10 dB/div
Log
Ref 10.00 dBm
Center 5.26 GHz
#Res BW 200 kHz
#VBW 620 kHz
Span 40 MHz
Sweep 1 ms
Occupied Bandwidth
17.692 MHz
Total Power
12.8 dBm
Transmit Freq Error
-28.573 kHz
OBW Power
99.00 %
x dB Bandwidth
24.18 MHz
x dB
-26.00 dB
Center Freq
5.260000000 GHz
CF Step
4.000000 MHz
Auto
Man
Freq Offset
0 Hz
MSG
STATUS


Agilent Spectrum Analyzer - Occupied BW
Center Freq 5.280000000 GHz
Center Freq: 5.280000000 GHz
Trig: Free Run
Avg|Hold:>10/10
#Atten: 20 dB
#IFGain:Low
Radio Std: None
Radio Device: BTS
10:15:33 PM Jun 16, 2017
Frequency
10 dB/div
Log
Ref 10.00 dBm
Center 5.28 GHz
#Res BW 200 kHz
#VBW 620 kHz
Span 40 MHz
Sweep 1 ms
Occupied Bandwidth
17.675 MHz
Total Power
12.7 dBm
Transmit Freq Error
-4.047 kHz
OBW Power
99.00 %
x dB Bandwidth
23.19 MHz
x dB
-26.00 dB
Center Freq
5.280000000 GHz
CF Step
4.000000 MHz
Auto
Man
Freq Offset
0 Hz
MSG
STATUS


Agilent Spectrum Analyzer - Occupied BW
Center Freq 5.320000000 GHz
Center Freq: 5.320000000 GHz
Trig: Free Run
Avg|Hold:>10/10
#Atten: 20 dB
#IFGain:Low
Radio Std: None
Radio Device: BTS
10:15:51 PM Jun 16, 2017
Frequency
10 dB/div
Log
Ref 10.00 dBm
Center 5.32 GHz
#Res BW 200 kHz
#VBW 620 kHz
Span 40 MHz
Sweep 1 ms
Occupied Bandwidth
17.628 MHz
Total Power
12.9 dBm
Transmit Freq Error
-474 Hz
OBW Power
99.00 %
x dB Bandwidth
23.50 MHz
x dB
-26.00 dB
Center Freq
5.320000000 GHz
CF Step
4.000000 MHz
Auto
Man
Freq Offset
0 Hz
MSG
STATUS