



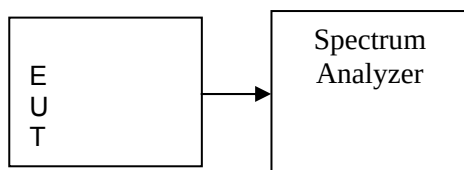
Output power test

LIST OF MEASURING EQUIPMENT:

Name of Equipment	Manufacturer	Model	Serial Number	Calibration Due	Remark
Spectrum Analyzer	RS	FSU26	200789	2014-8-19	Radiation
MIMO Power Measurement Test Set	Aglient	U2021XA	MY53120005	2014-9-13	Conducted

2.4G Conducted output power(dBm):

Test Configuration



TEST PROCEDURE

- 1 Set span to encompass the entire emission bandwidth (EBW) of the signal.
- 2 Set RBW = 1 MHz.
- 3 Set VBW $\geq$ 3 MHz.
- 4 Use sample detector mode if bin width (i.e., span/number of points in spectrum display) < 0.5 RBW. Otherwise use peak detector mode.
- 5 Use a video trigger with the trigger level set to enable triggering only on full power pulses. Transmitter must operate at full control power for entire sweep of every sweep. If the device transmits continuously, with no off intervals or reduced power intervals, the trigger may be set to which free run which.
- 6 Trace average 100 traces in power averaging mode.
- 7 Compute power by integrating the spectrum across the 26 dB EBW of the signal. The integration can be performed using the spectrum analyzer's band power measurement function with band limits set equal to the EBW band edges or by summing power levels in each 1 MHz band in linear power terms. The 1 MHz band power levels to be summed can be obtained by averaging, in linear power terms, power levels in each frequency bin across the 1 MHz.

Mode	Channel	Frequency	Chain0 Peak power(dBm)	Chain1 Peak power (dBm)
802.11 b	1	2412 MHZ	17.65	17.58
	6	2437 MHZ	17.70	17.61
	11	2462 MHZ	17.67	17.55
802.11 g	1	2412 MHZ	17.24	17.27
	6	2437 MHZ	17.27	17.30
	11	2462 MHZ	17.25	17.24
802.11 n HT20	1	2412 MHZ	17.37	17.40
	6	2437 MHZ	17.35	17.42
	11	2462 MHZ	17.33	17.38



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Report No: C140623R01-SF

FCC ID: QDS-BRCM1076

Date of Issue :August 7, 2014

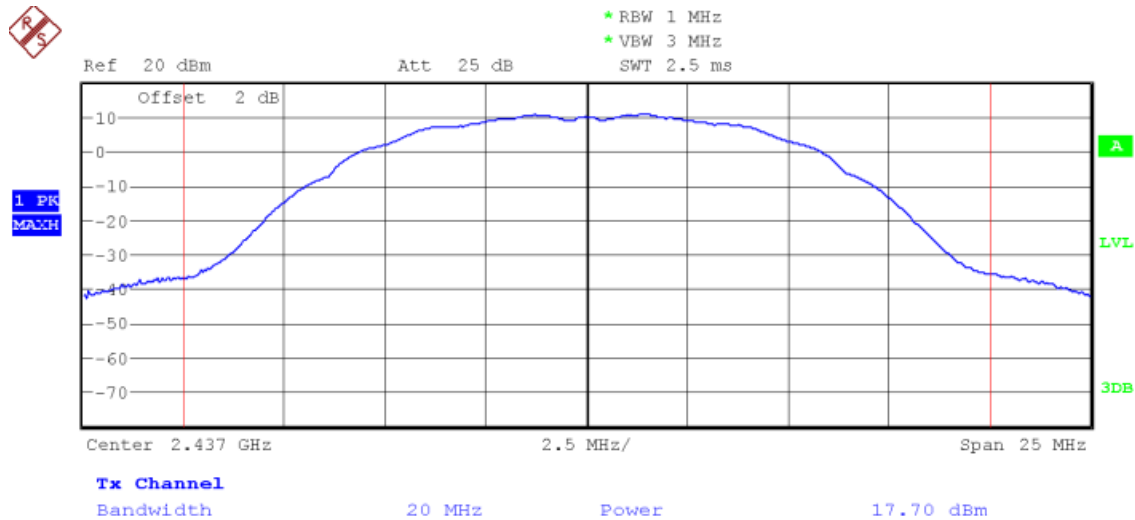
IC: 4324A-BRCM1076

Band 5.8G

Mode	Channel	Frequency	Chain0 output power(dBm)	Chain1 output power(dBm)
802.11 a	149	5745	19.79	19.72
	153	5765	19.67	19.63
	157	5785	19.58	19.59
	161	5805	19.52	19.50
	165	5825	19.56	19.51
802.11 n (HT20)	149	5745	19.41	19.38
	153	5765	19.35	19.34
	157	5785	19.37	19.35
	161	5805	19.32	19.29
	165	5825	19.33	19.31
802.11 n (HT40)	151	5755	19.05	19.02
	159	5795	19.13	19.10
802.11 ac (VHT80)	155	5775	18.41	18.38

DTS Test result plot(worse mode):

802.11b





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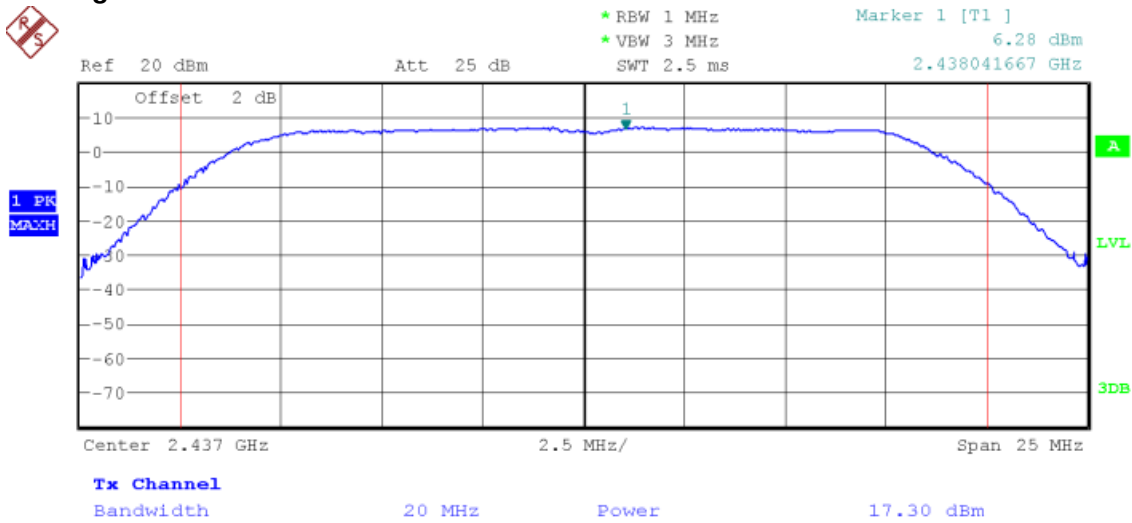
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FCC ID: QDS-BRCM1076

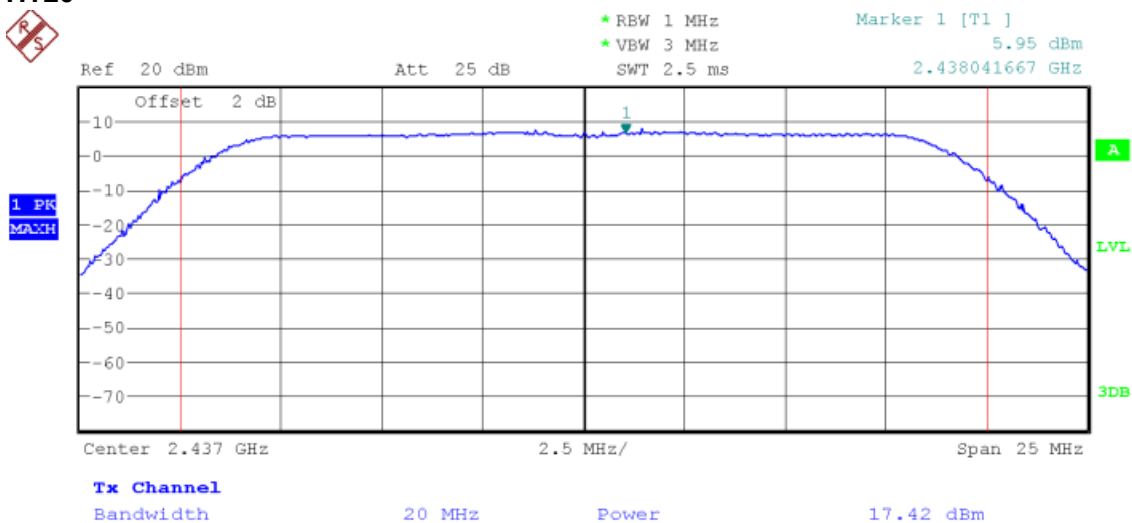
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802.11g



HT20





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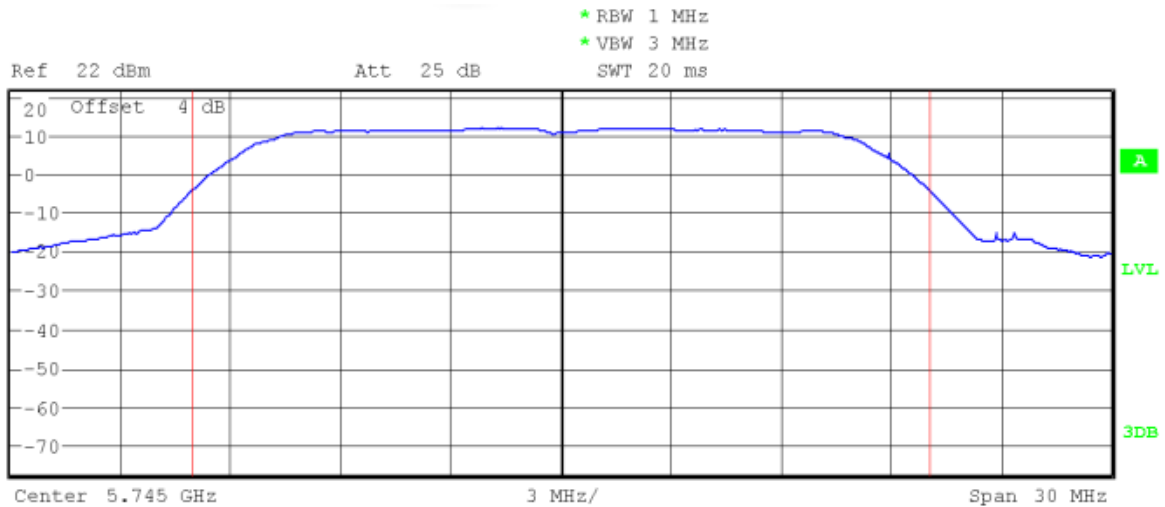
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IC: 4324A-BRCM1076

802.11 5.8G a



1 PK
MAXH



Tx Channel

Bandwidth

20 MHz

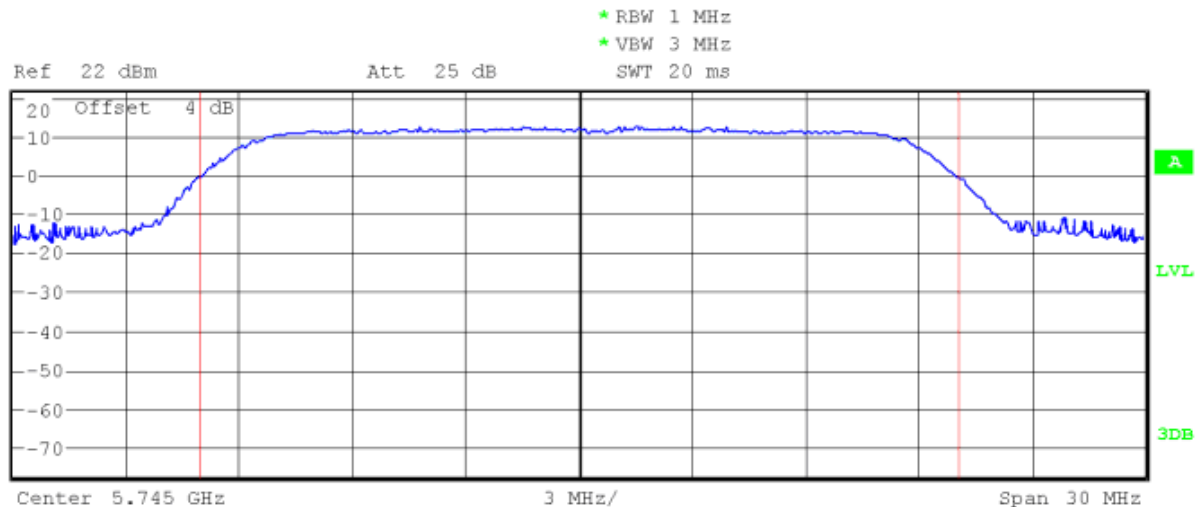
Power

19.79 dBm

802.11 5.8G HT20



1 PK
MAXH



Tx Channel

Bandwidth

20 MHz

Power

19.41 dBm



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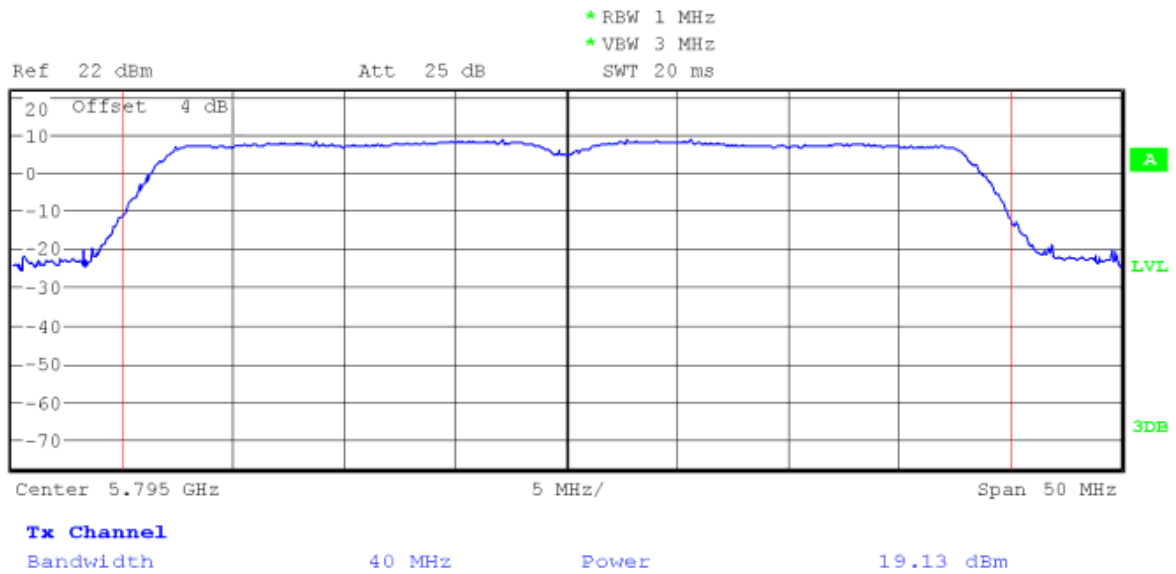
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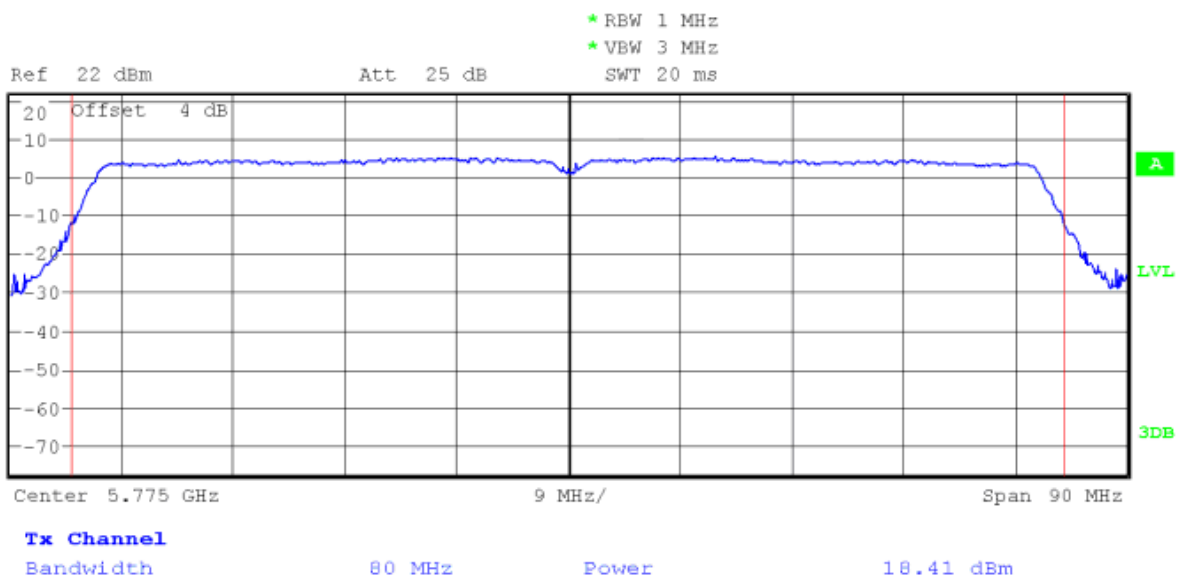
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IC: 4324A-BRCM1076

802.11 5.8Ghz nHT40

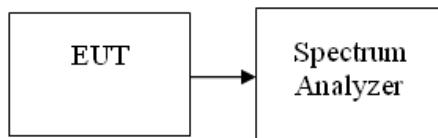


802.11 5.8Ghz ac80





5G WLAN Conducted output power(dBm):



Set span to encompass the entire emission bandwidth (EBW) of the signal.

Set RBW = 1 MHz / Set VBW = 3 MHz. Detector RMS

Trace average 100 traces in power averaging mode. Compute power by integrating the spectrum across the 26 dB EBW of the signal. The integration can be performed using the spectrum analyzer's band power measurement function with band limits set equal to the EBW band edges or by summing power levels in each 1 MHz band in linear power terms. The 1 MHz band power levels to be summed can be obtained by averaging, in linear power terms, power levels in each frequency bin across the 1 MHz.

Band 5.2G

Mode	Channel	Frequency	Chain0 output power(dBm)	Chain1 output power(dBm)
802.11 a	36	5180 MHZ	13.71	13.65
	40	5200 MHZ	13.68	13.62
	44	5220 MHZ	13.69	13.68
	48	5240 MHZ	13.73	13.70
802.11 n (HT20)	36	5180 MHZ	13.58	13.52
	40	5200 MHZ	13.52	13.48
	44	5220 MHZ	13.56	13.50
	48	5240 MHZ	13.60	13.56
802.11 n (HT40)	38	5190 MHZ	13.65	13.54
	46	5230 MHZ	13.70	13.62
802.11 ac (VHT80)	42	5210 MHZ	13.45	13.42

Band 5.3G

Mode	Channel	Frequency	Chain0 output power(dBm)	Chain1 output power(dBm)
802.11 a	52	5260 MHZ	15.02	14.98
	56	5280MHZ	14.96	14.96
	60	5300 MHZ	15.04	14.93
	64	5320 MHZ	15.10	15.02
802.11 n (HT20)	52	5260 MHZ	15.06	14.96
	56	5280MHZ	14.98	14.90
	60	5300 MHZ	14.96	14.92
	64	5320 MHZ	15.13	15.04
802.11 n (HT40)	54	5270 MHZ	14.88	14.87
	62	5310 MHZ	15.02	14.92
802.11 ac (VHT80)	58	5290 MHZ	14.51	14.48



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Report No: C140623R01-SF

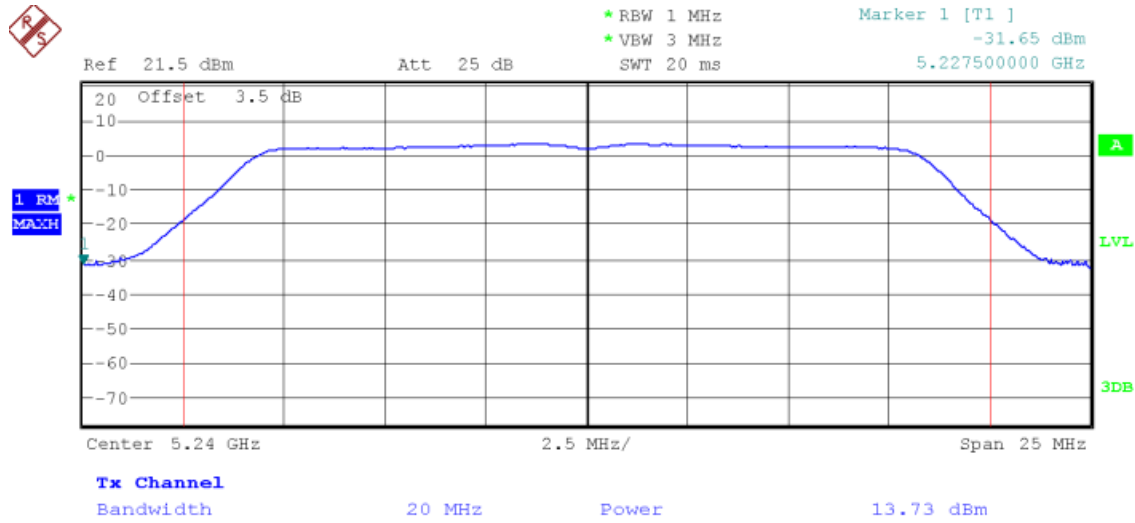
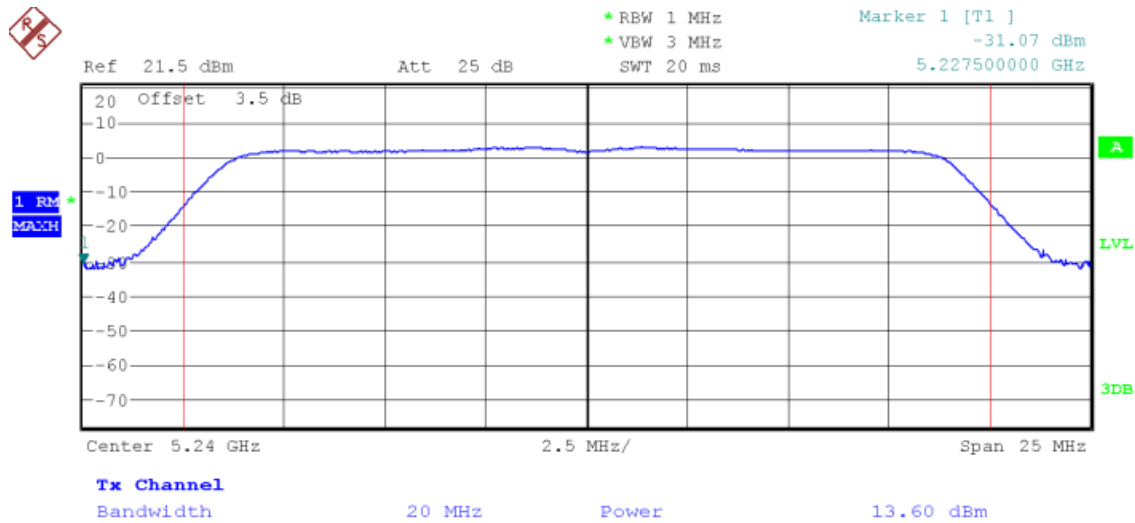
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Date of Issue :August 7, 2014

IC: 4324A-BRCM1076

Band 5.5G

Mode	Channel	Frequency MHZ	Chain0 output power(dBm)	Chain1 output power(dBm)
802.11 a	100	5500	14.53	14.48
	104	5520	14.55	14.53
	108	5540	14.51	14.46
	112	5560	14.48	14.40
	116	5580	14.52	14.45
	120	5600	14.50	14.39
	124	5620	14.44	14.41
	128	5640	14.49	14.43
	132	5660	14.53	14.45
	136	5680	14.60	14.57
	140	5700	14.52	14.52
802.11 n (HT20)	100	5500	14.38	14.32
	104	5520	14.41	14.43
	108	5540	14.43	14.36
	112	5560	14.32	14.33
	116	5580	14.39	14.41
	120	5600	14.24	14.35
	124	5620	14.38	14.30
	128	5640	14.40	14.35
	132	5660	14.48	14.34
	136	5680	14.50	14.48
	140	5700	14.47	14.42
802.11 n (HT40)	102	5510	14.47	14.40
	110	5550	14.45	13.38
	134	5670	14.51	14.43
802.11 ac (VHT80)	106	5530	14.48	14.38
	122	5610	14.56	14.50
	138	5690	14.51	14.47

**UNII Test result plot(worse mode):****802.115.2Ghz a****802.115.2Ghz HT20**



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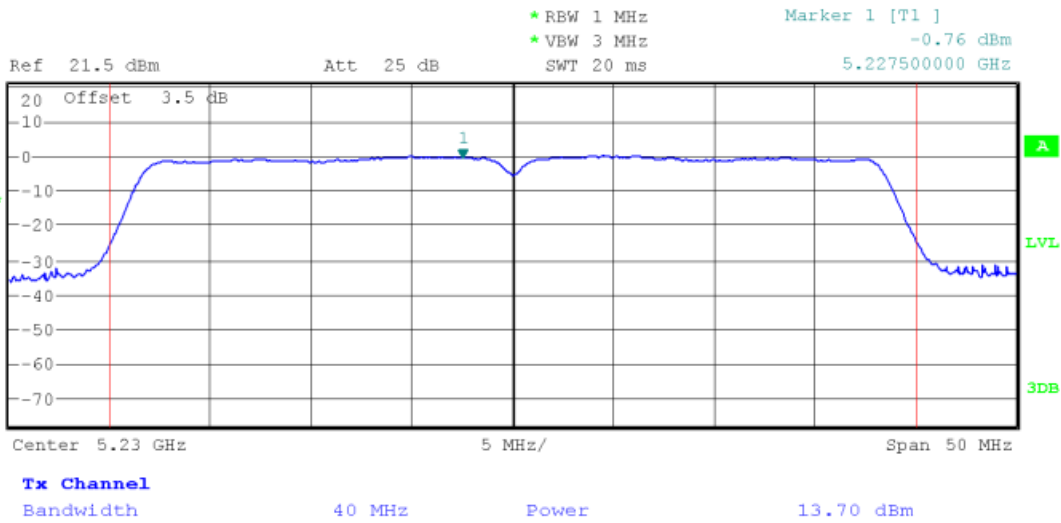
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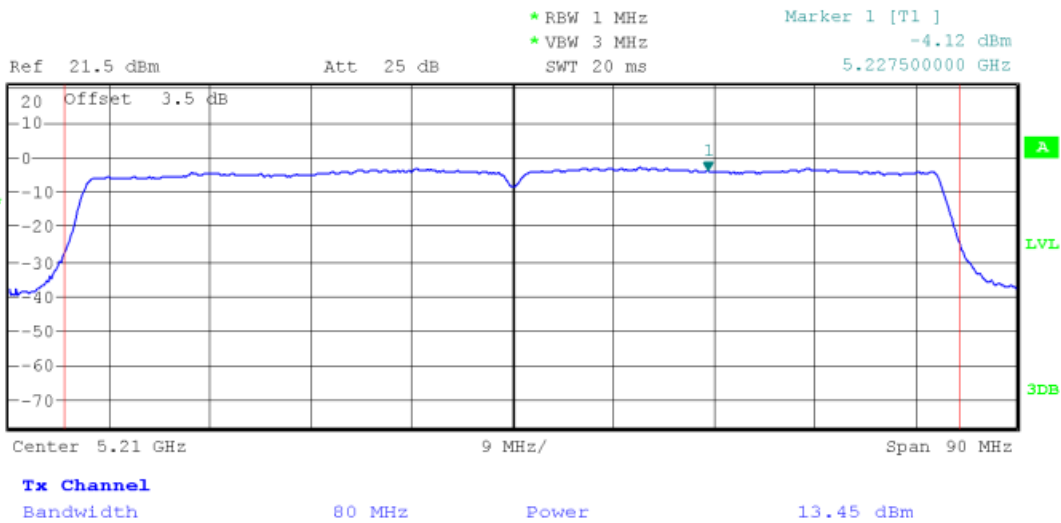
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802.115.2Ghz HT40



802.115.2Ghz ac80





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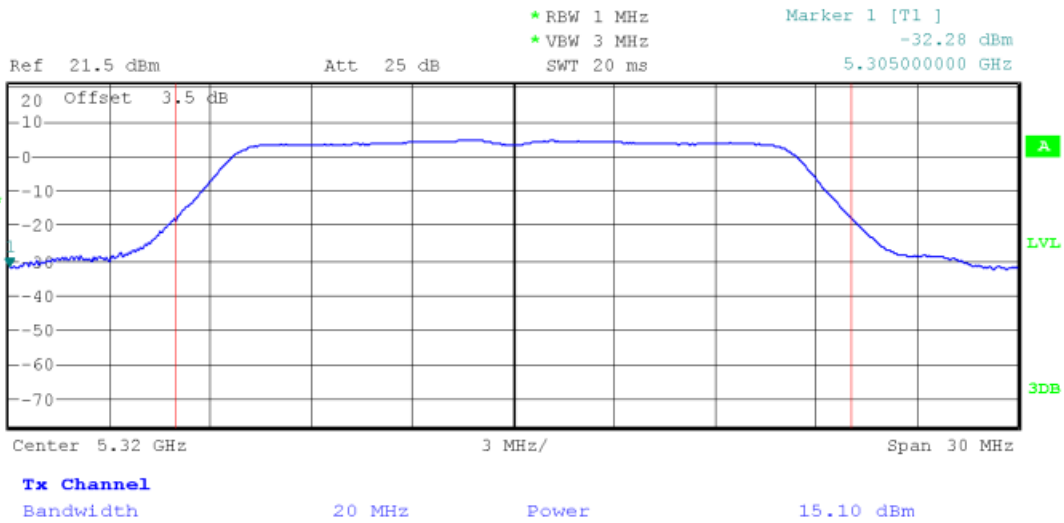
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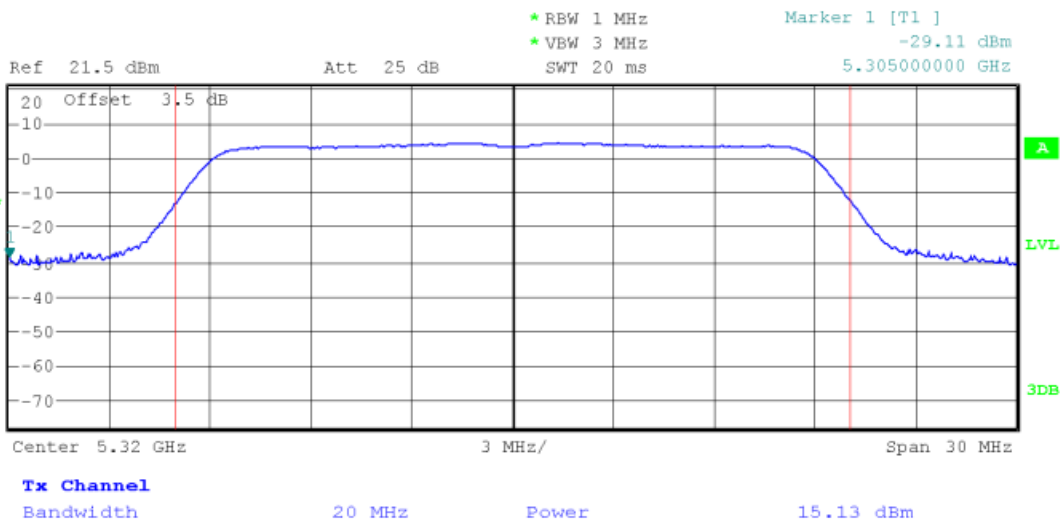
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802.115.3Ghz a



802.115.3Ghz HT20





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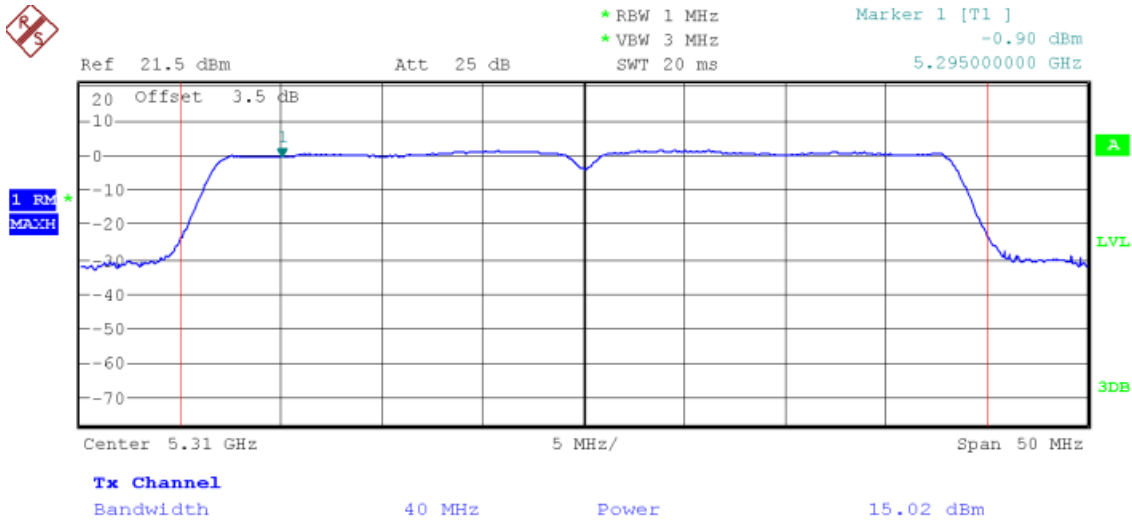
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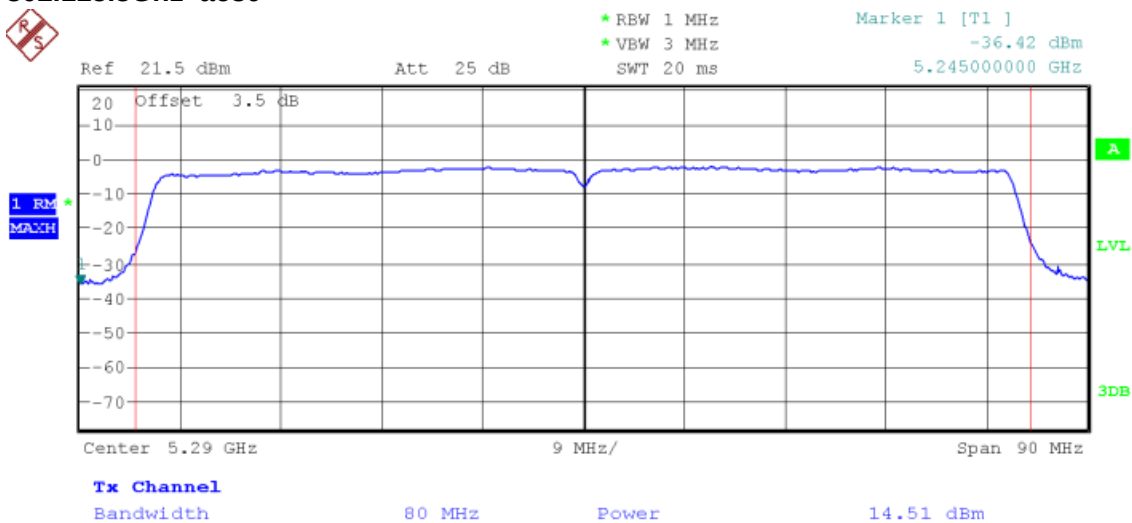
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802.115.3Ghz HT40



802.115.3Ghz ac80





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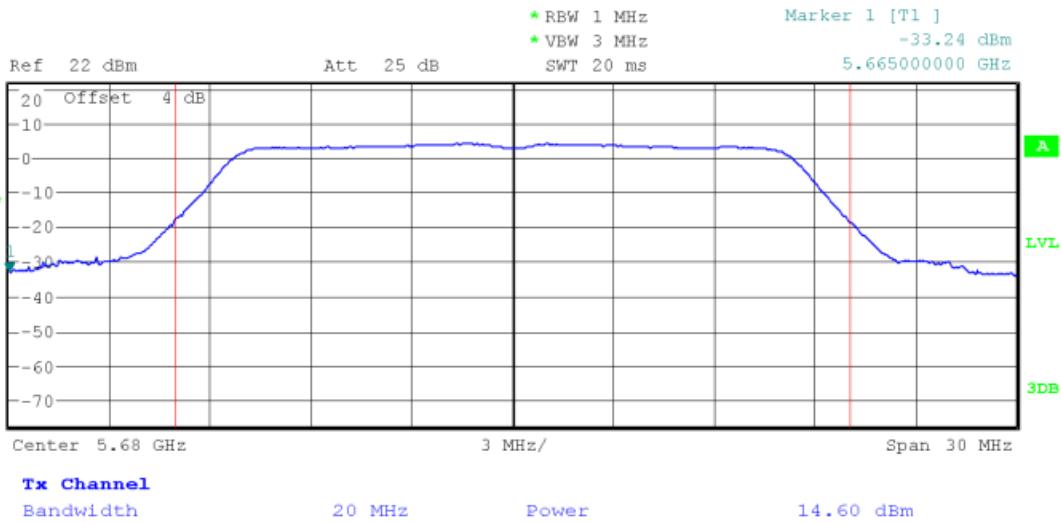
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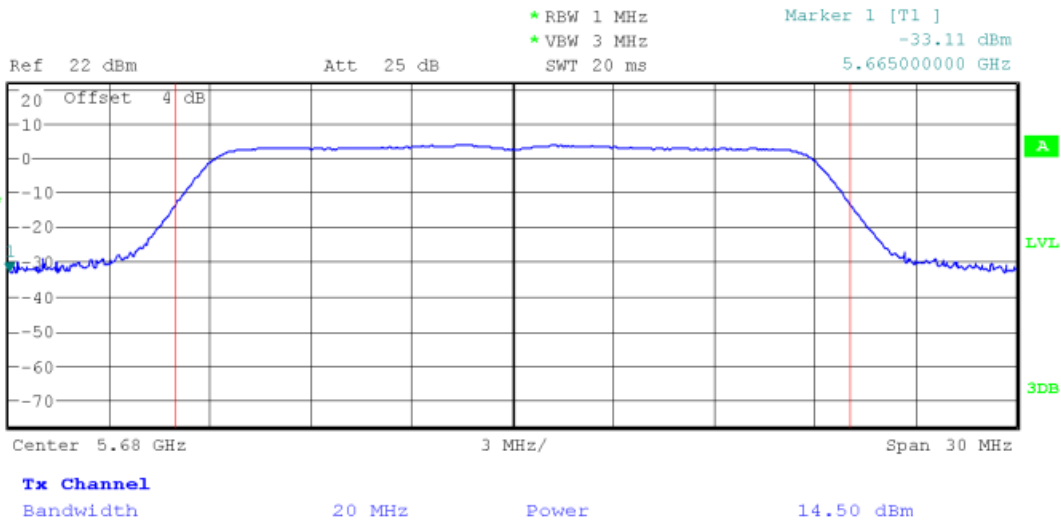
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802.115.5Ghz a



802.115.5Ghz HT20





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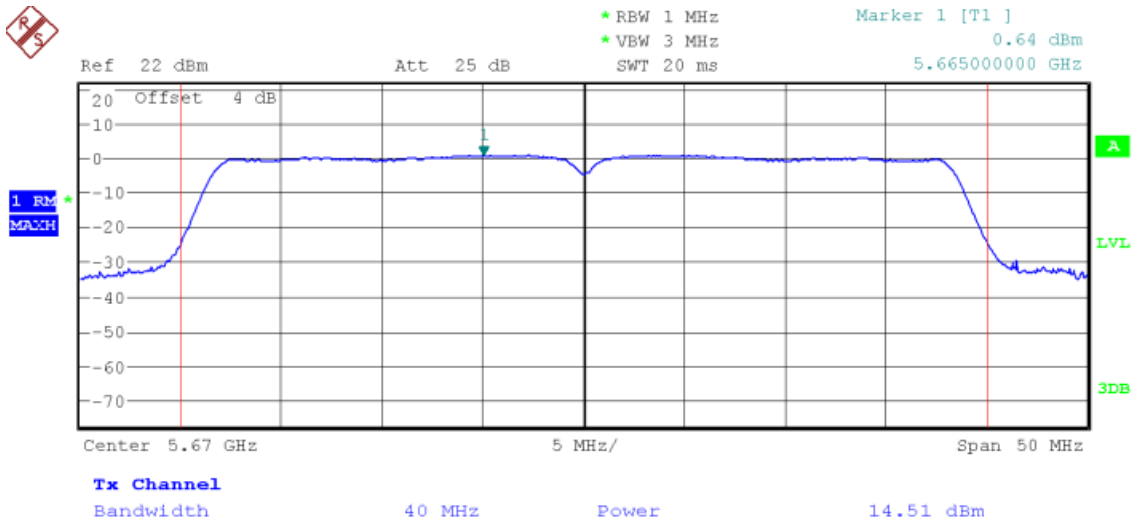
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FCC ID: QDS-BRCM1076

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802.115.5Ghz HT40





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Date of Issue :August 7, 2014

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802.115.5Ghz ac80



* RBW 1 MHz

Marker 1 [T1]

* VBW 3 MHz

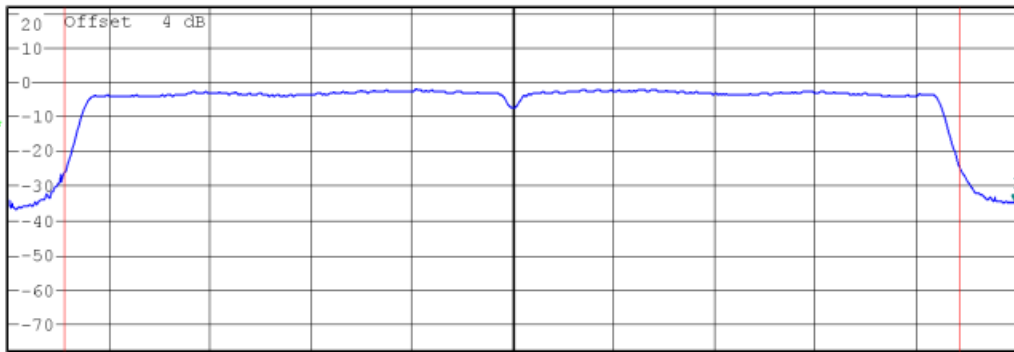
-35.30 dBm

SWT 20 ms

5.655000000 GHz

Ref 22 dBm

Att 25 dB



Center 5.61 GHz

9 MHz/

Span 90 MHz

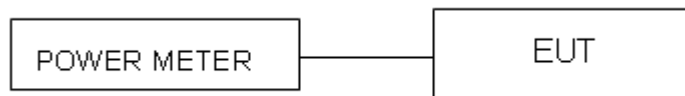
Tx Channel

Bandwidth

80 MHz

Power

14.56 dBm

**Bluetooth3.0 Conducted output power(dBm):****Test Configuration****Test data**

Mode	CH	Frequency	Average power(dBm)	Turn up tolerance (dBm)	Maximum Turn up power (dBm)
V3.0 + EDR, GFSK	CH00	2402MHZ	5.1	4.2+1/-2	5.2
	CH39	2441MHZ	4.9	4.2+1/-2	5.2
	CH78	2480MHZ	4.9	4.2+1/-2	5.2
V3.0 + EDR, 8-DPSK	CH00	2402MHZ	5.2	4.2+1/-2	5.2
	CH39	2441MHZ	5.0	4.2+1/-2	5.2
	CH78	2480MHZ	4.8	4.2+1/-2	5.2

BLE4.0 Conducted output power(dBm):

Mode	CH	Frequency	Average power(dBm)	Turn up tolerance (dBm)	Maximum Turn up power (dBm)
GFSK	CH00	2402MHZ	-2.17	-2+1/-2	-1
	CH19	2440MHZ	-2.46	-2+1/-2	-1
	CH40	2480MHZ	-2.89	-2+1/-2	-1