



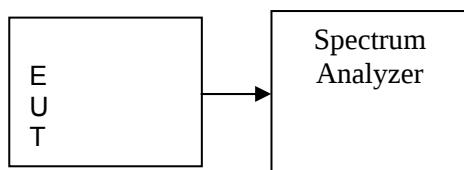
Output power test

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	Agilent	U2021XA	MY53120005	2014-9-13	Conducted

2.4G Conducted output power(dBm):

Test Configuration



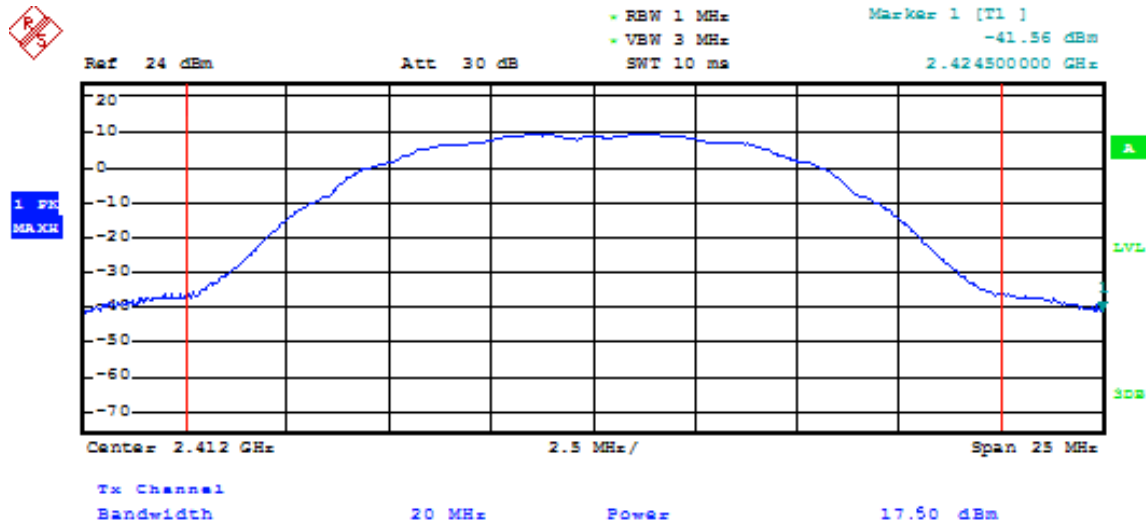
TEST PROCEDURE

- 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	17.50	16.90
	6	2437 MHZ	17.50	16.90
	11	2462 MHZ	17.50	16.90
802.11 g	1	2412 MHZ	17.45	16.83
	6	2437 MHZ	17.47	16.85
	11	2462 MHZ	17.41	16.82
802.11 n HT20	1	2412 MHZ	17.38	16.73
	6	2437 MHZ	17.36	16.75
	11	2462 MHZ	17.37	16.77

**Band 5.8G**

Mode	Channel	Frequency	Chain0 output power(dBm)	Chain1 output power(dBm)
802.11 a	149	5745	17.9	17.8
	153	5765	17.9	17.8
	157	5785	17.9	17.8
	161	5805	17.9	17.8
	165	5825	17.9	17.8
802.11 n (HT20)	149	5745	17.8	17.7
	153	5765	17.8	17.7
	157	5785	17.8	17.7
	161	5805	17.8	17.7
	165	5825	17.8	17.7
802.11 n (HT40)	151	5755	17.8	17.7
	159	5795	17.8	17.7
802.11 ac (VHT80)	155	5755	18.2	18

DTS Test result plot(worse mode):**802.11b**



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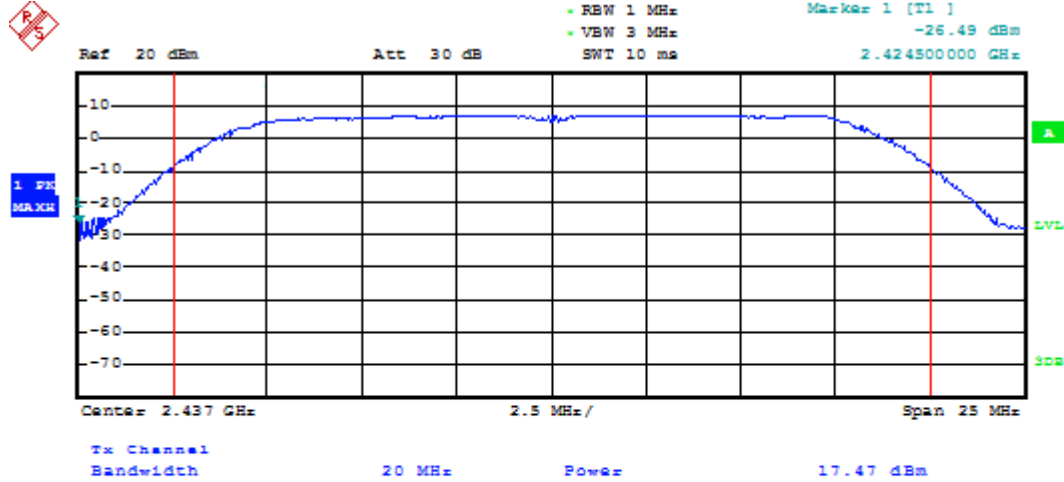
Report No: C140425S02-SF

FCC ID: QDS-BRCM1076

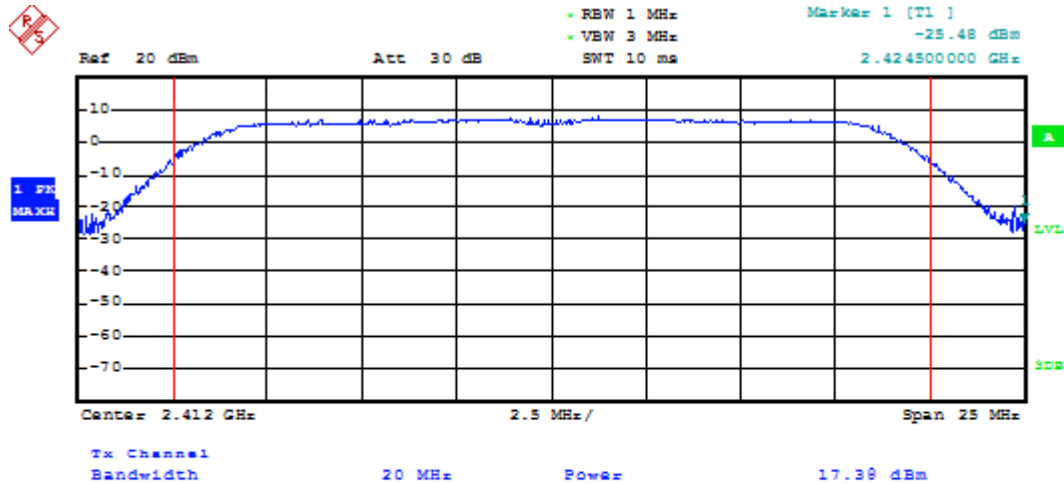
Date of Issue : June 24, 2014

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802.11g



HT20





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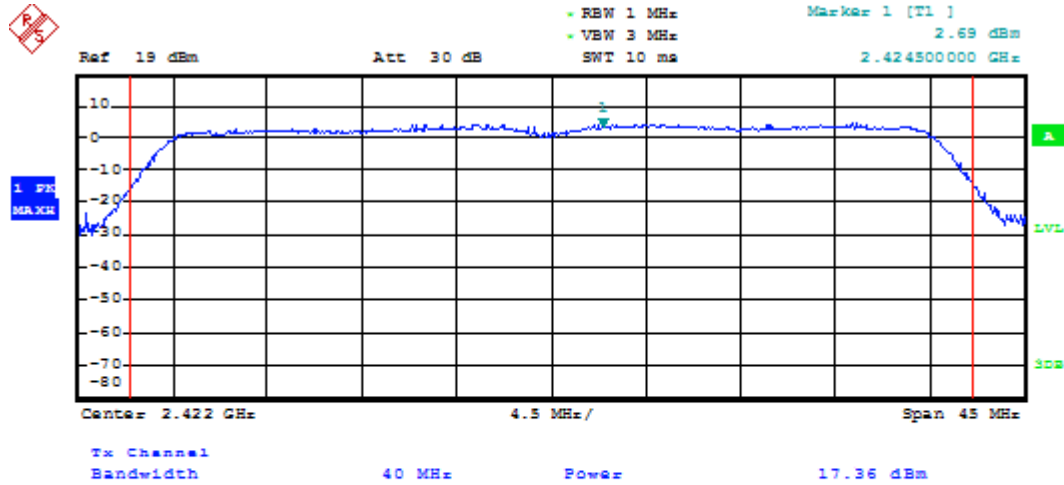
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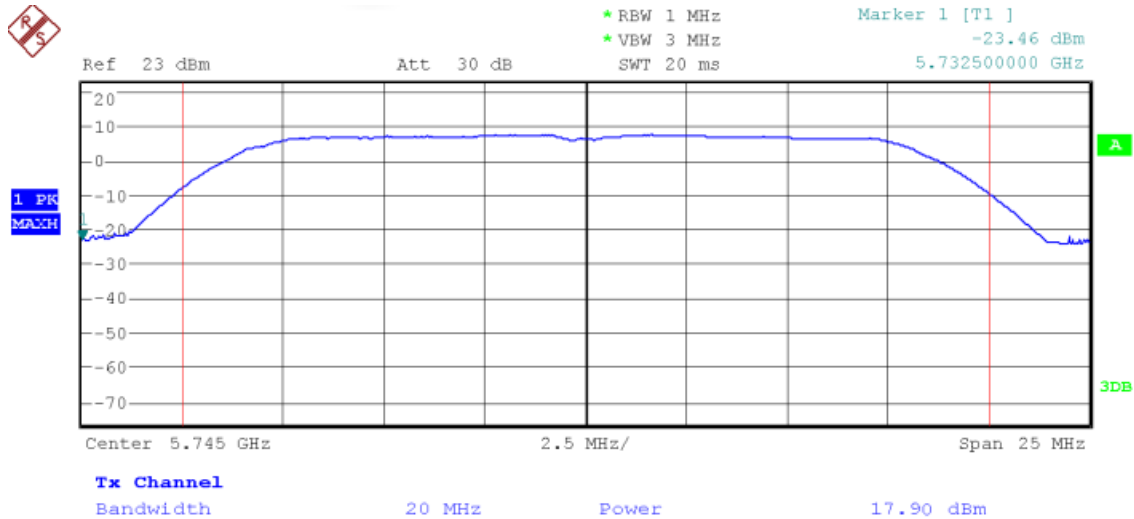
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HT40



802.11a /HT20





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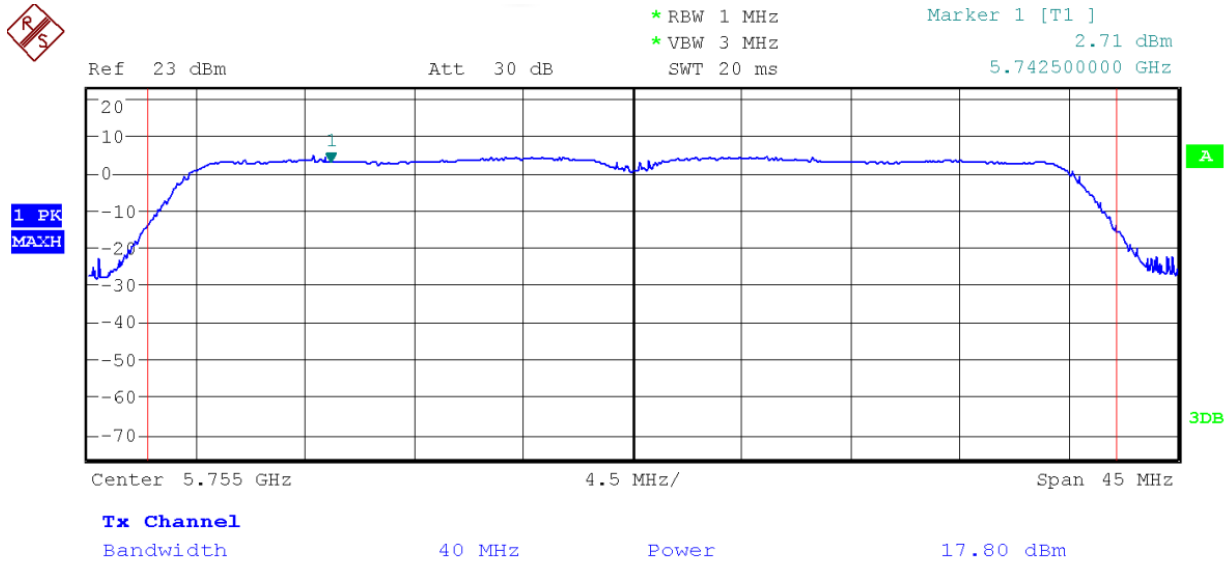
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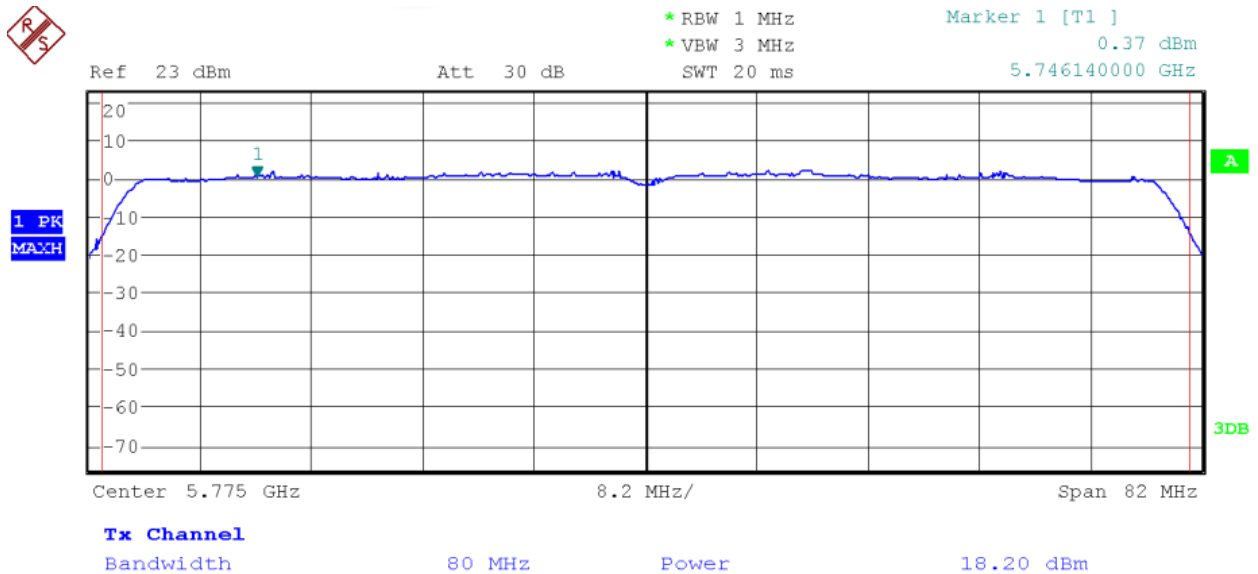
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802.11 5.8Ghz nHT40

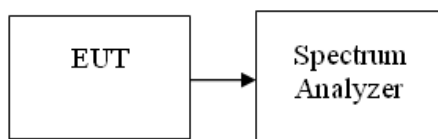


802.11 5.8Ghz nHT80





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	13.12	12.92
	40	5200 MHZ	13.10	12.94
	44	5220 MHZ	13.13	12.91
	48	5240 MHZ	13.08	12.91
802.11 n (HT20)	36	5180 MHZ	13.00	12.80
	40	5200 MHZ	13.00	12.80
	44	5220 MHZ	13.00	12.80
	48	5240 MHZ	13.00	12.80
802.11 n (HT40)	38	5180 MHZ	13.04	12.85
	46	5230 MHZ	13.07	12.87
802.11 ac (VHT80)	42	5210 MHZ	13.50	13.91

Band 5.3G

Mode	Channel	Frequency	Chain0 output power(dBm)	Chain1 output power(dBm)
802.11 a	52	5260 MHZ	12.90	15
	56	5280MHZ	12.90	15
	60	5300 MHZ	12.90	15
	64	5320 MHZ	12.90	15
802.11 n (HT20)	52	5260 MHZ	12.80	14.90
	56	5280MHZ	12.80	14.90
	60	5300 MHZ	12.80	14.90
	64	5320 MHZ	12.80	14.90
802.11 n (HT40)	54	5270 MHZ	12.80	14.90
	62	5310 MHZ	12.80	14.90
802.11 ac (VHT80)	58	5290 MHZ	14.30	14.50



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Band 5.5G

Mode	Channel	Frequency MHZ	Chain0 output power(dBm)	Chain1 output power(dBm)
802.11 a	100	5500	14.5	15
	104	5520	14.5	15
	108	5540	14.5	15
	112	5560	14.5	15
	116	5580	14.5	15
	120	5600	14.5	15
	124	5620	14.5	15
	128	5640	14.5	15
	132	5660	14.5	15
	136	5680	14.5	15
	140	5700	14.5	15
802.11 n (HT20)	100	5500	14.4	14.9
	104	5520	14.4	14.9
	108	5540	14.4	14.9
	112	5560	14.4	14.9
	116	5580	14.4	14.9
	120	5600	14.4	14.9
	124	5620	14.4	14.9
	128	5640	14.4	14.9
	132	5660	14.4	14.9
	136	5680	14.4	14.9
	140	5700	14.4	14.9
802.11 n (HT40)	102	5510	14.4	14.9
	110	5550	14.4	14.9
	134	5670	14.4	14.9
802.11 ac (VHT80)	106	5530	12.3	12.9
	122	5610	12.3	12.9
	138	5690	12.3	12.9



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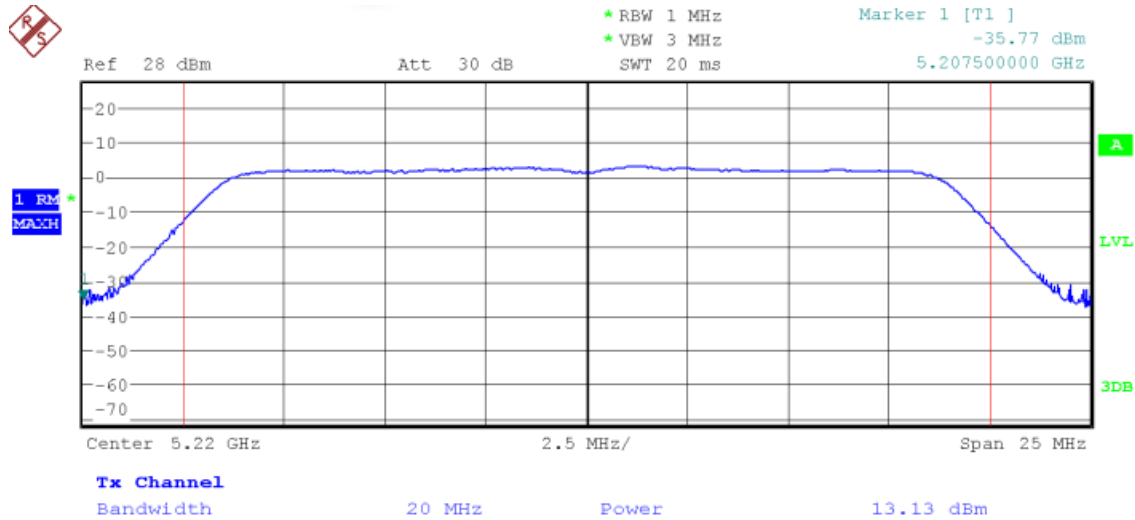
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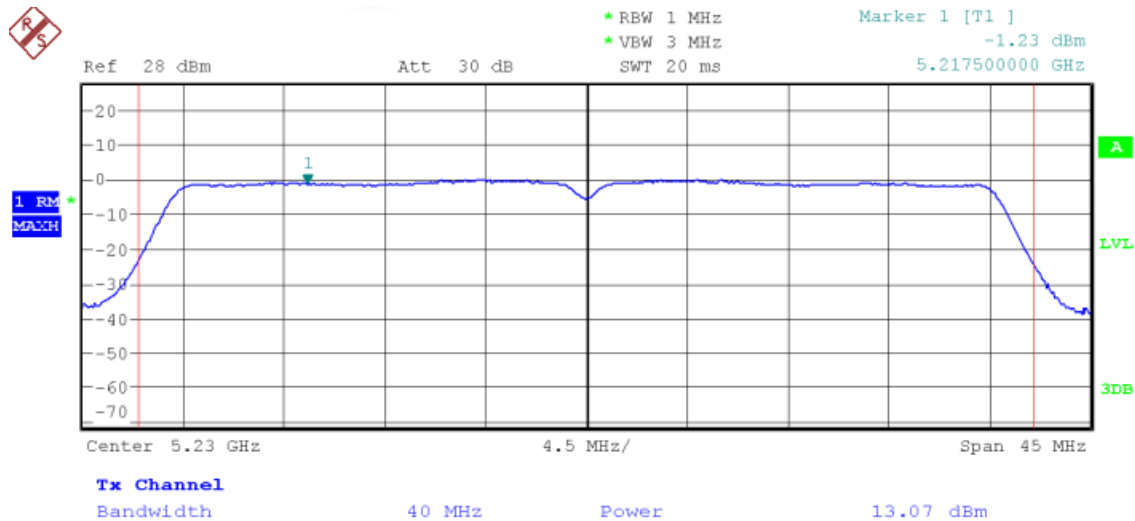
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UNII Test result plot(worse mode):

802.115.2Ghz a/HT20



802.115.2Ghz HT40





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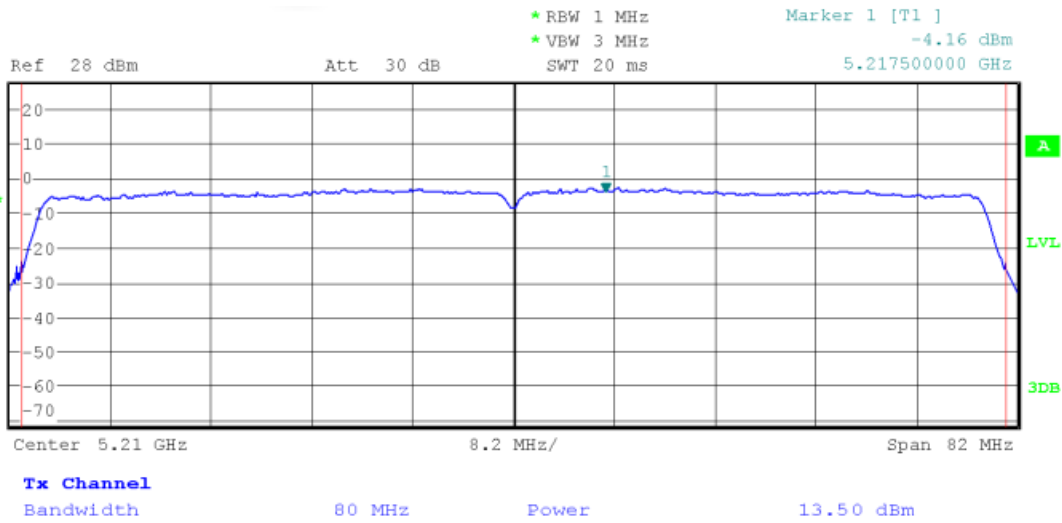
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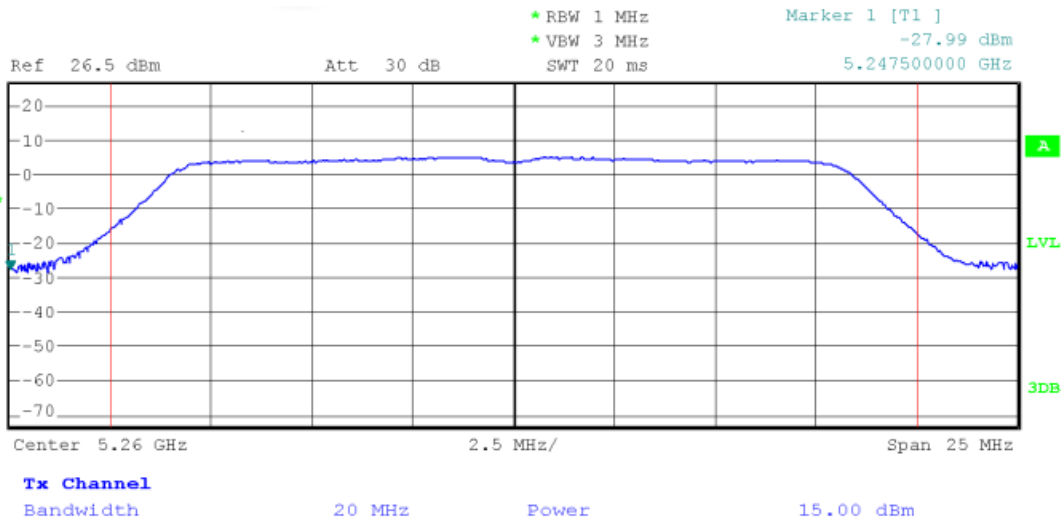
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802.115.2Ghz HT80



802.115.3Ghz a/HT20





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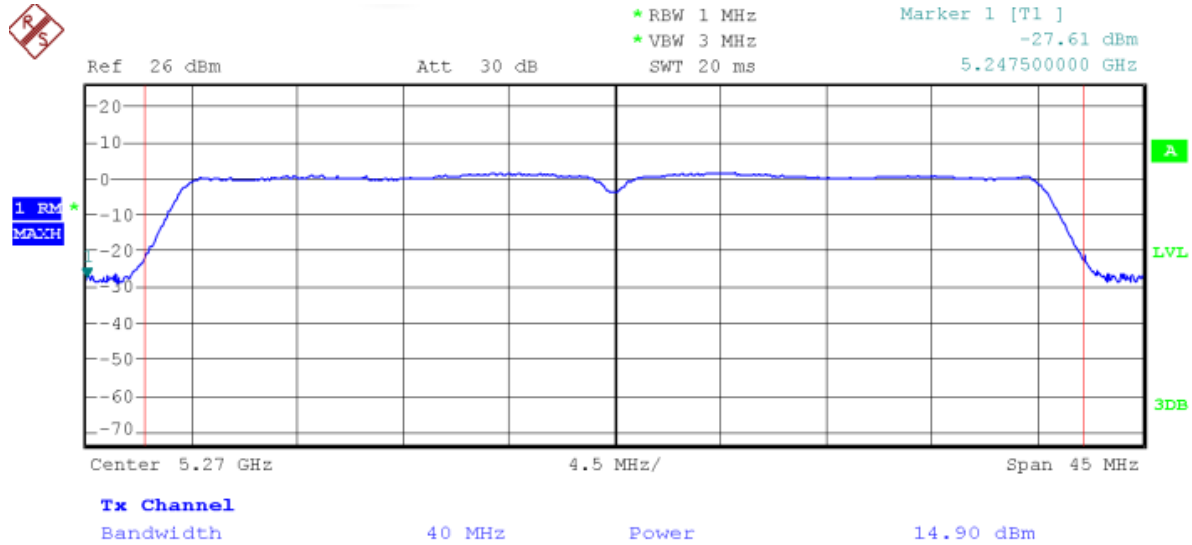
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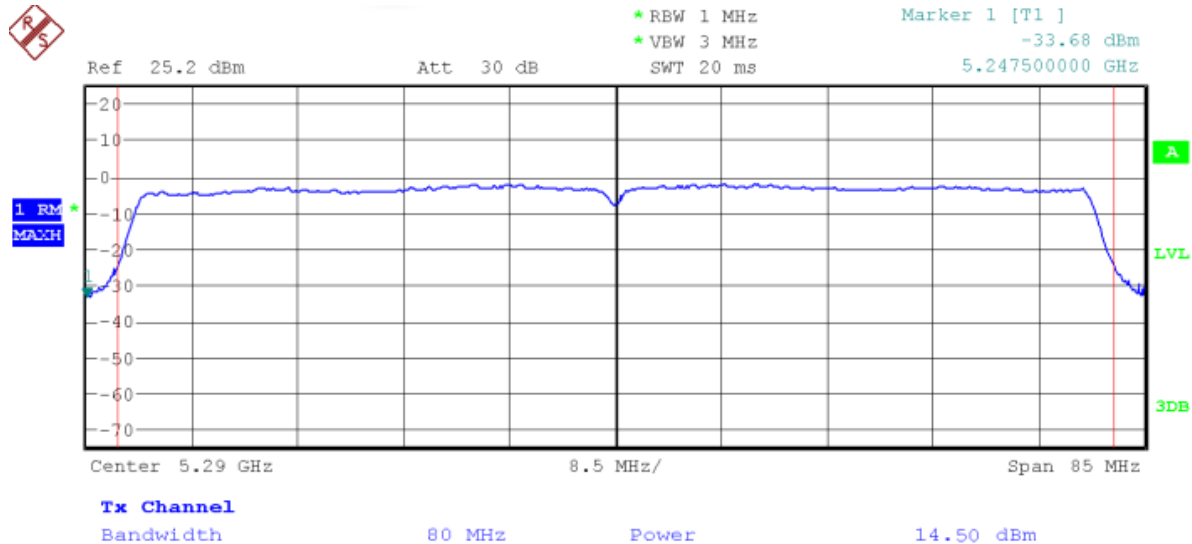
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802.115.3Ghz HT40



802.115.3Ghz HT80





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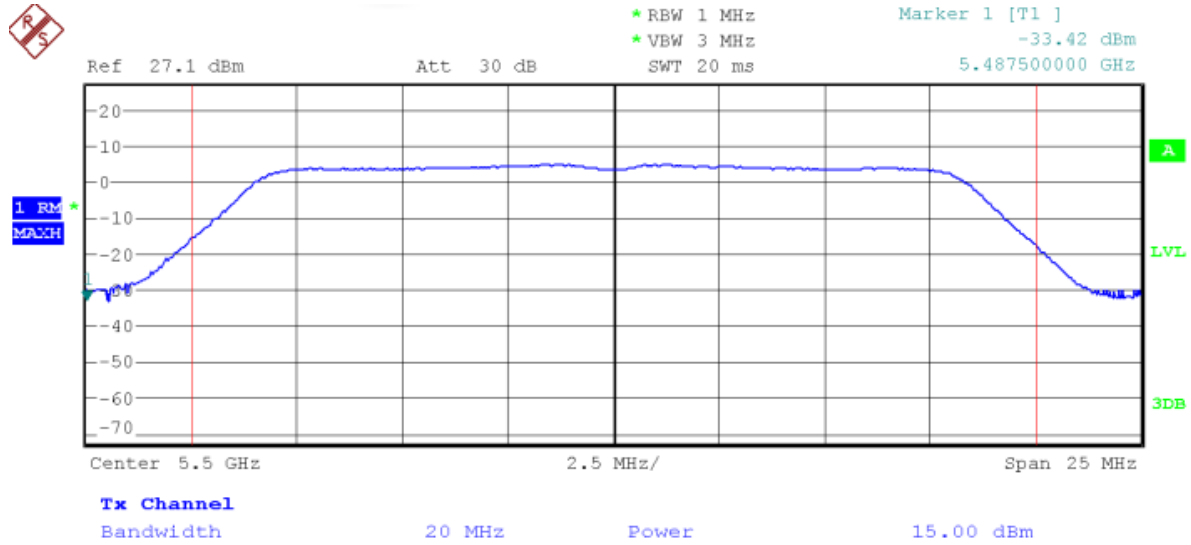
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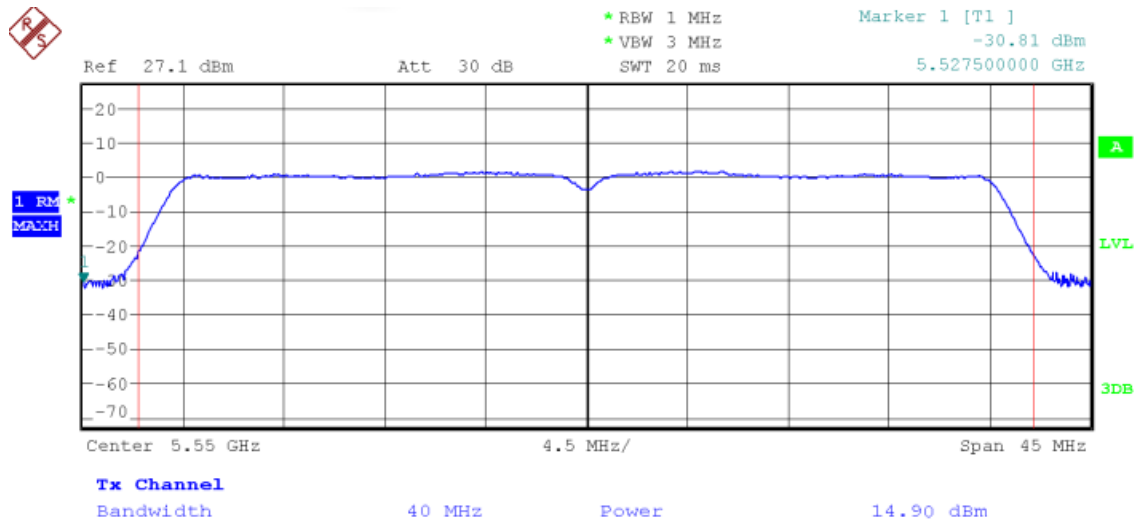
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802.115.5Ghz a/HT20



802.115.5Ghz HT40





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802.115.5Ghz HT80



* RBW 1 MHz

Marker 1 [T1]

* VBW 3 MHz

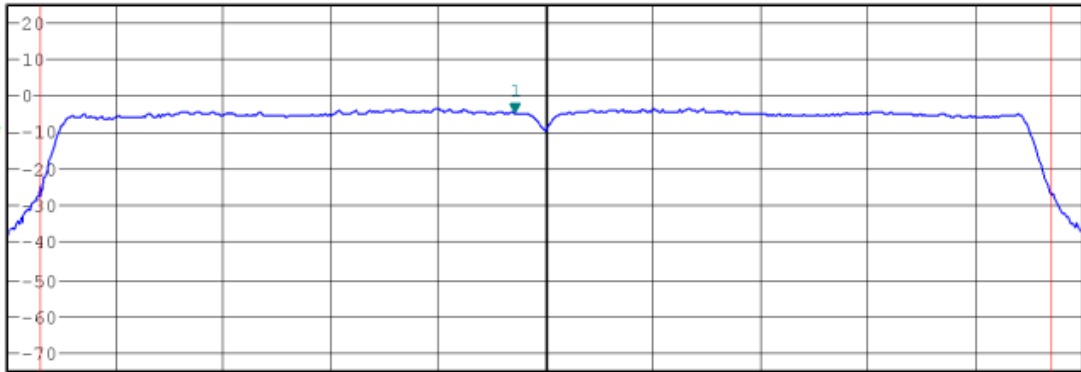
-4.95 dBm

SWT 20 ms

5.527500000 GHz

Ref 24.9 dBm

Att 30 dB



Center 5.53 GHz

8.5 MHz/

Span 85 MHz

Tx Channel

Bandwidth

80 MHz

Power

12.90 dBm



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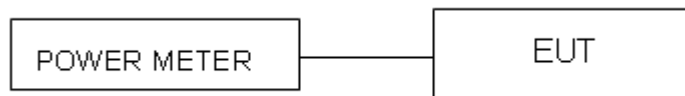
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Bluetooth3.0 Conducted output power(dBm):

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