

# TEST REPORT



EUT Description	WLAN and BT, 2x2 PCIe M.2 adapter card
Brand Name	Intel
Model Name	Intel® Dual-Band Wireless-AC 8260
Serial Number	TA#: H74231-001 / H74231-001 WF MAC: 34:13:E8:36:93:E5 / 34:13:E8:36:93:22 BT MAC: 34:13:E8:36:93:E9 / 34:13:E8:36:93:26 (see section 4)
FCC/IC ID	FCC ID: PD98260NGH / PD98260NGHU IC ID: 1000M-8260NGH
Antenna type	SkyCross WIMAX/WLAN Reference Antenna
Hardware/Software Version	HW: TF5 Test SW: DRTU version 1.8.1-01336 Op SW: 18.10.0.19
Date of Sample Receipt	2015-05-11
Date of Test	2015-05-26
Features	802.11 a/n/ac Wireless LAN + BT 1.2 (see section 5)
Applicant	Intel Mobile Communications
Address	100 Center Point Circle, Suite 200 Columbia, South Carolina 29210 USA
Contact Person	Steven Hackett
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Reference Standards	RSS-210 issue 8, RSS-Gen issue 4 (see section 1)
Test Report number	15051101.TR02
Revision Control	Rev. 00

The test results relate only to the samples tested.

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#### 1. Standards, reference documents and applicable test methods

- 1. FCC 47 CFR part 15 Subpart C §15.247 Operation within the bands 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz.
- 2. FCC 47 CFR part 15 Subpart C §15.209 Radiated emission limits; general requirements.
- 3. FCC OET KDB 558074 D01 DTS Meas Guidance v03r02 Guidance for Performing Compliance Measurements on Digital Transmission Systems (DTS) Operating Under §15.247
- FCC OET KDB 662911 D01 Emissions Testing of Transmitters with Multiple Outputs in the Same Band.
- RSS-210 Issue 8 Licence-exempt Radio Apparatus (All Frequency Bands): Category I Equipment.
- 6. RSS-Gen Issue 4 General Requirements for Compliance of Radio Apparatus.
- 7. ANSI C63.10-2009 American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices.

#### 2. General conditions, competences and guarantees

- ✓ Intel Mobile Communications Wireless RF Lab (Intel WRF Lab) is a testing laboratory accredited by the American Association for Laboratory Accreditation (A2LA).
- ✓ Intel Mobile Communications Wireless RF Lab (Intel WRF Lab) is an Accredited Test Firm listed by the FCC, with Designation Number FR0011.
- ✓ Intel Mobile Communications Wireless RF Lab (Intel WRF Lab) is a Registered Test Site listed by IC, with IC Assigned Code 1000Y.
- Intel WRF Lab only provides testing services and is committed to providing reliable, unbiased test results and interpretations.
- ✓ Intel WRF Lab is liable to the client for the maintenance of the confidentiality of all information related to the item under test and the results of the test.
- ✓ Intel WRF Lab has developed calibration and proficiency programs for its measurement equipment to ensure correlated and reliable results to its customers.
- ✓ This report is only referred to the item that has undergone the test.
- ✓ This report does not imply an approval of the product by the Certification Bodies or competent Authorities.
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#### 3. Environmental Conditions

✓ At the site where the measurements were performed the following limits were not exceeded during the tests:

Temperature	22°C ± 2°C
Humidity	45% ± 2%



#### 4. Test samples

Sample	Control #	Description	Model	Serial #	Date of reception	Note	
#01	15051101.S01	WiFi/BT High End Module	8260NGW H	WF MAC: 34:13:E8:36:93:E5	2015-05-11		
	15051101.S12	Extender board	PCB00495	ASS0495-001, 4950414-064	2015-05-12	Used for	
	15051101.S11	Switching power supply SINPRO 5V 6A	SPU60-102	07990499 1249	2015-05-12	conducted tests	
	15051101.S15	Laptop	DELL E5440	BJSYN32	2015-05-20		
#02	15051101.S04	WiFi/BT High End Module	8260NGW H	WF MAC: 3413E8369322	2015-05-11		
	15051101.S05	Switching power supply SINPRO 5V 6A	SPU60-102	07990495-1249	2015-05-12	Used for	
	15051101.S06	Extender board	PCB00495	ASS0495-001, 4950414-019	2015-05-12	radiated tests	
	15051101.S07	USB Cable	E154336	NA	2015-05-12		
	15051101.S08	PCI Cable	Blue cable 1 meter	NA	2015-05-12		
	15051101.S09	Laptop	Dell E5440	9FSYN32	2015-05-12		
	15051101.S10	AC/DC Adapter	90W 19.5V 4.62A	CN-OJCF3V- 48661-51S-OPIC- A02	2015-05-12	T	

NA: Not Applicable

#### 5. EUT features

These are the detailed bands and modes supported by the Equipment Under Test:

802.11a/n/ac	5.2GHz (5150.0 – 5250.0 MHz)
	5.8GHz (5725.0 – 5850.0 MHz)
BT v1.2	2.4GHz (2400.0 – 2483.5 MHz)

#### 6. Remarks and comments

N/A



#### 7. Test Verdicts summary

#### 7.1. 802.11 a/n/ac

FCC part	RSS part	Test name	Verdict
15.247 (a) (2)	RSS-210 Clause A8.2 (a)	6dB Bandwidth	Р
15.247 (b) (3)	RSS-210 Clause A8.4 (4)	Maximum output power and antenna gain	Р
15.247 (d)	RSS-210 Clause A8.5	Out-of-band Emissions (conducted)	Р
15.247 (e)	RSS-210 Clause A8.2 (b)	Power spectral density	Р
15.247 (d)	RSS 210 Clause AS 5	Out of band Emissions (radiated)	Б
15.209	RSS-210 Clause A0.5		r r

P: Pass F: Fail NM: Not Measured NA: Not Applicable

#### 8. Document Revision History

Revision #	Date	Modified by	Details
Rev. 00	2015-05-26	J.M. Fortes	First Issue



# Annex A. Test & System Description

#### A.1 Test Conditions

For 802.11a mode the EUT can transmit at both CHAIN A and CHAIN B RF outputs individually, but not simultaneously.

For 802.11n20 (20 MHz channel bandwidth), 802.11n40 (40MHz channel bandwidth) and 802.11ac80 (80MHz channel bandwidth) modes the EUT can transmit at both CHAIN A and CHAIN B RF outputs individually, and also simultaneously.

The conducted RF output power at each chain was adjusted according to the client's supplied Target values (see following table) using the Intel DRTU tool and measuring the power by using a calibrated average power meter. Measured values for adjustment were within -0.2 dB/+0.3 dB from the declared Target values.

			Co Ta	onducted Pow rget Value (dB	er m)		
Mode	BW (MHz)	Data Rate	CH #	Freq. (MHz)	SISO Chain A	SISO Chain B	MIMO at both ports A and B
			149	5745	21.0	21.0	-
802.11a	20	6Mbps	157	5785	21.0	21.0	-
			165	5825	21.0	21.0	-
	20	HT0	149	5745	21.0	21.0	18.0
			157	5785	20.5	21.0	18.0
802.11n		1110	165	5825	21.0	21.0	18.0
	40 HT0 HT8*	HT0	151	5755	21.0	21.0	18.0
		HT8*	159	5795	21.0	21.0	18.0
802.11ac	80	VHT0	155	5775	21.0	21.0	16.5

\* Note: HT8 for MIMO modes only.

The following data rates were selected based on preliminary testing that identified those rates as the worst cases for output power and spurious levels at the band edges:

802.11a → 6Mbps 802.11n20 and 802.11n40 (SISO) → HT0 802.11n20 and 802.11n40 (MIMO) → HT8 802.11ac80 (SISO/MIMO) → VHT0



#### A.2 Measurement system

Measurements were performed using the following setups, made in accordance to the general provisions of FCC DTS Measurement KDB 558074 D01 DTS Meas Guidance.

The DUT was installed in a test fixture and this test fixture is connected to a laptop computer and AC/DC power adapter. The laptop computer was used to configure the EUT to continuously transmit at a specified output power using all different modes and modulation schemes, using the Intel proprietary tool DRTU.



Radiated Setup < 1GHz



Radiated Setup > 1GHz



#### A.3 Test Equipment List

Conducted Setup

ID#	Device	Type/Model	Serial Number	Manufacturer	Cal. Date	Cal. Due Date
0310	Spectrum analyzer	FSV40	101425	Rohde & Schwarz	2015-03-25	2017-03-25

#### **Radiated Setup**

ID#	Device	Type/Model	Serial Number	Manufacturer	Cal. Date	Cal. Due Date
0133	Spectrum analyzer	FSV40	101358	Rohde & Schwarz	2014-05-03	2016-05-03
0137	Log antenna 30 MHz – 1 GHz	3142E	00156946	ETS Lindgren	2014-05-03	2016-05-03
0138	Hors antenna 1 GHz – 6.4 GHz	3117	00152266	ETS Lindgren	2014-03-04	2016-03-04
0141	Horn Antenna 6.4 GHz – 18 GHz	3117-PA	00157736	ETS Lindgren	2014-06-03	2016-06-03
0248	Horn Antenna 1 GHz – 18 GHz	3117	00167062	ETS Lindgren	2014-06-23	2016-06-23
0139	Horn Antenna 18GHz – 26GHz	114514	00167100	ETS Lindgren	2014-04-25	2016-04-25
0140	Horn Antenna 26GHz – 40GHz	120722	00169638	ETS Lindgren	2014-06-16	2016-06-16
0135	Anechoic chamber	FACT 3	RFD_FA_100	ETS Lindgren	2014-06-05	2016-06-05

#### A.4 Measurement Uncertainty Evaluation

The system uncertainty evaluation is shown in the below table:

Measurement type	Uncertainty [ ±dB]
Conducted Power	± 1.0
Conducted spurious emission	± 2.9
Radiated test < 1GHz	± 3.8
Radiated test 1GHz - 40 GHz	± 4.7

# Annex B. Test Results

#### B.1 6dB & 99% Bandwidth

#### Test limits

FCC part	RSS part	Limits
	RSS-210	Systems using digital modulation techniques may operate in the
15.247 (a) (2)	Clause A8.2	902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz bands. The
	(a)	minimum 6 dB bandwidth shall be at least 500 kHz.

#### Test procedure

The setup below was used to measure the 6dB & 99% Bandwidth. The antenna terminal of the EUT is connected to the spectrum through an attenuator, and the spectrum analyzer reading is compensated to include the RF path loss.





#### **Results tables**

Mode	Rate	Antenna	Channel	Frequency [MHz]	6dB BW [MHz]	99% BW [MHz]
			149	5745	15.92	25.64
		SISO CHAIN A	157	5785	16.04	21.27
902 110	GMbpa		165	5825	16.66	22.15
002.11a	owops		149	5745	15.12	19.13
		SISO CHAIN B	157	5785	15.12	18.14
			165	5825	15.12	18.93
			149	5745	16.91	25.45
		SISO CHAIN A	157	5785	16.30	24.37
	μтο		165	5825	17.14	23.82
	піо	SISO CHAIN B	149	5745	15.12	18.68
			157	5785	15.12	18.59
802 11-20			165	5825	15.88	18.34
802.1 In20	HT8	MIMO CHAIN A	149	5745	15.12	18.12
			157	5785	15.12	17.99
			165	5825	15.12	17.94
			149	5745	16.91	17.73
		MIMO CHAIN B	157	5785	16.91	17.72
			165	5825	16.91	17.68
	НТО	SISO CHAIN A	151F	5755	35.02	39.48
			159F	5795	35.01	43.57
		SISO CHAIN B	151F	5755	35.07	36.37
902 11p 10			159F	5795	35.07	36.64
002.111140		MIMO CHAIN A	151F	5755	35.07	36.45
			159F	5795	35.07	36.37
	піб		151F	5755	35.07	36.10
			159F	5795	35.07	36.22
		SISO CHAIN A	155ac80	5775	72.51	76.42
802 110090		SISO CHAIN B	155ac80	5775	72.54	75.16
002.118000	VHIU	MIMO CHAIN A	155ac80	5775	75.07	75.52
		MIMO CHAIN B	155ac80	5775	75.06	75.32



#### **Results screenshot**







## 802.11a, 6Mbps – Chain B















## 802.11n20, HT8 (MIMO) – Chain A





## 802.11n20, HT8 (MIMO) – Chain B







## 802.11n40, HT0 (SISO) - Chain A









## 802.11n40, HT8 (MIMO) – Chain A





## 802.11n40, HT8 (MIMO) – Chain B

6dB BW - CH151	99% BW - CH151			
Spectrum 🖈	Spectrum 🗶			
Ref Level 15:00 d8m	Ref Level 15.00 dBm			
SGL TOF	SGL TOF			
10 / Mag	10 dBm         10.62 dBm           10 dBm         5.75363000 GHz           0cc Rw         36.103871754 MHz			
-20 dBar	u dem			
-40 dBm	-10 dBm-			
-60 dBm	-20 dBm			
Sñ dbm	mound			
THE MAIN	∕s0 dBm <sup>V</sup>			
	-40 dBm			
	-50 dBm			
	-60 dBm			
CF 5.755 GHz 10000 pts Span 50.0 MHz	-70 dBm-			
Type Ref Trc X-value Y-value Function Function Result				
D1 M1 1 35.065 MHz 0.17 dB	-80 dBm			
M2 1 5.7499375 GH2 5.59 dbm	CF 5.755 CHz 32001 pts Span 80.0 MHz			
Date: 19 MAT 2015 14 54 59	Late 19 MAT 2010 14:00:10			
6dB BW - CH150				
	33 /0 DW - CH133			
Spectrum *	Spectrum 🖈 🖤			
Spectrum         €         (TTT)           Ref Level 15.00 dBm         ● RBW 100 1Hz         (TTT)           Att         25 dB         SWT 56.9 µs         VBW 300 1Hz           SGL TOF           Node Auto FFT	Spectrum ★         Imm           Ref Level 15.00 dsm         ● RBW 500 HHz           ■ Att         25 dB         SWT 18.9 µs         ♥ VBW         2 MHz         Mode Auto FFT           SGL TOF            W TO			
Spectrum         €         (TTS)           Ref Level 15.00 dBm         ● RBW 100 Hz         ●           Sct. TOF         25 dB         SWT 56.9 µs         • VBW 300 Hz         Mode Auto FFT           Sct. TOF         ● IPK Mas         ●         • VBW 300 Hz         • Militian         • 0.59 µs	Spectrum         #         ####           Ref Level 15.00 dbm         # RBW 500 HHz         Im##           * Att         25 db         SWT 18.9 μs         * VBW 2 MHz         Mode Auto FFT           SGL TOF         • IPK Max         • MI13         10.63 dBm			
Spectrum         (ψ)           Att         25 d6         SWT 56.9 μs         WW 300 1Hz         Mode Auto FFT           SGL TOF         (ψ)         (0,59 μs         WW 300 1Hz         0.5.9 (Hz)           0 dBm         (1,1,2,2,3,3,4,4,4,4,4,4,4,4,4,4,4,4,4,4,4,4	33 // BVV - CITICA           Spectrum #           Ref Level 15.00 dbm         RBW 500 iHz           ext to 25 db SWT 18.9 µc # VBW 2 MHz         Mode Auto FFT         SULTOF           G1/r Max         10.63 dBm         5.706 (B000 GHz)         SULTOF           0 dBm         To www.www.www.www.www.www.www.www.www.ww			
OUD DW- CITI33           Spectrum         (1)         (	33 // BVV - CITICS           Spectrum #           Ref Level 15.00 dBm         RBW 500 kHz           Att         25 db         SWT 18.9 µs e VBW 2 MHz         Mode Auto FFT           SGL TOP         91% Max         10.63 dBm           10 dBm         7.961 8000 GHz         36.223060004 MHz           0 dBm         0 dBm         0.223060004 MHz			
OUD DW - CITI33           Spectrum         Image: Colspan="2">Image: Colspan="2" Image: Colspa=	33 // DW - CHTJ3           Spectrum &           Ref Level 15.00 dBm         RBW 500 kHz           Milling 10.03 dBm           91% Max         10.03 dBm         5.79618000 GHz           10 dBm         10.03 dBm         00c fliw Marking         36.723868004 MHz           -10 dBm         0         0         0         0			
Spectrum         max           Ref Level 15:00 dbm         • RBW 100 H/2           Att         25 db           SWT 56:9 µs         • VBW 300 H/2           Mode Auto FFT         • 0.59 dbm           10 dbm         • 0.59 dbm           30 dbm         • 0.59 dbm	33 // BW - CHTJ3           Spectrum         Image: Colspan="2">Image: Colspan="2" Image: Colspa="" Image: Colspan="2" Image: Colspan="2" Image: Colspa="2" Image: Colspa="" Image: Colspa="2" Image: Colspa="2" Image: Colspa="" Image			
Spectrum         max           Ref Level 15:00 dbm         RBW 100 H4z           Att         25 db           95K Max         Node Auto FFT           10 dbm         10 dbm	33 // DW - CHTJ3           Spectrum         Image: Colspan="2">Image: Colspan="2" Image: Colspa="2" Image: Colspan="2" Image: Colspan="2" Image: Colspa=			
Spectrum         Image: Control of the control of	33 // DW - CHTJ3           Spectrum         Image: Colspan="2">Image: Colspan="2" Image: Colspa="2" Image: Colspan="2" Image: Colspan="2" Image: Colspa=			
Spectrum         Image: Control of the second s	33 // BWY - CHTU3           Spectrum         Image: Colspan="2">Image: Colspan="2">Image: Colspan="2">Image: Colspan="2"           Ref Level 15.00 dbm         # 88W 500 Hz;         Image: Colspan="2">Image: Colspan="2"           Att         25 db         SWT 18.9 µs @ VBW 2 MH2         Mode Auto FFT         Image: Colspan="2">Image: Colspan="2"           ID dbm         Top of the second sec			
OUD DW - CITI33           Spectrum         Image: Colspan="2">Image: Colspan="2"           Spectrum         Image: Colspan="2">Image: Colspan="2"           Spectrum         Image: Colspan="2"         Imad	33 // BWY - CHTU33           Spectrum         Image: Colspan="2">Image: Colspan="2" Image: Colspa="" Image: Colspan="2" Image: Colspan="2" Image: Colspa			
Spectrum         Image: Constraint of the system of th	33 // BWY - CHTI33           Spectrum         Image: Colspan="2">Image: Colspan="2">Image: Colspan="2">Image: Colspan="2">Image: Colspan="2">Image: Colspan="2">Image: Colspan="2" Image: Colspa="2" Image: Colspan="2" Image: Colspan="2" Image: Colsp			
Spectrum         Image: Constraint of the second of th	33 // BWY - CHTI33           Spectrum *           Ref Level 15.00 dBm         Ref Level 15.00 dBm         ID 0.03 dBm           SGL TOP         0 dBm         10.03 dBm         5.796 (B000 GHz)         36.720 (B000 GHz)         36.770 (B000 GHz)			
Out District Control 2           Spectrum #         militian         militian           Ref Level 15.00 dBm         © RBW 100 Hz         Mode Auto FFT           SGL TOP         0 dBm         0.5,9 µs         NI[1]         0.5,9 µs           DIR Man         10 dBm         11,1         0.77741000 GHz         5,37741000 GHz           D dBm         11,27 militian         10,29 µs         5,30 dBm         10           10 dBm         11,27 militian         10,29 µs         5,30 dBm         10           10 dBm         11,27 militian         10,000 GHz         5,30 dBm         10           10 dBm         10,000 GHz         10,000 GHz         10,000 GHz         10,000 GHz           10 dBm         10,000 GHz         10,000 GHz         10,000 GHz         10,000 GHz         10,000 GHz           10 dBm         10,000 GHz	33 // BWY - CHTU33           Spectrum *           Ref Level 15.00 dim * RBW 500 kHz           Att 25.db         SWT 18.9 µc * VBW 2 MHz         Mode Auto FF1           SGL TOP         10.63 dim           0 dBm         5.79618000 GHz           10 dBm         5.79618000 GHz           20 dBm         4           -10 dBm			
Spectrum         Image: Constraint of the second secon	33 // BWY - CHTU33           Spectrum ()           Ref Levis 15.00 dbm         * 88W 500 Hz;           Sci. Tor         25 db SWT 18.9 µs * VBW 2 MHz         Mode Auto FFT           Sci. Tor         5.796 10000 GHz;           D dbm         7 mm         0.20 mm           -10 dbm         7 mm         0.00 mm           -20 dbm         -0 dbm         -0 mm           -0 dbm         -0 dbm         -0 mm           -0 dbm         -0 mm         -0 mm			
OUD DW - CITUS           Spectrum         Image: Colspan="2">Image: Colspan="2">Image: Colspan="2">Image: Colspan="2">Image: Colspan="2">Image: Colspan="2">Image: Colspan="2">Image: Colspan="2" Image: Colspa="	39 // BVV + CHTU39           Spectrum ()           Rof Level 15.00 dm         • 88W 500 Hz           * Att         25 db           SUI TO*         • 88W 200 Hz           * Mt         25 db           SUI TO*         • 88W 10.9 µz           9 JK Max         • 0.03 dbm           10 dbm         • 0 dbm           -0 dbm         • 0 dbm			
OUD DW - CITUSS           Ref Level 15.00 dBm           Ref Level 15.00 dBm           SQL TOF           SQL TOF           ON Max           10 dBm           Mark           Mark <td <="" colspan="2" td=""><td>33 / 0 DW - CTT133           Ref Level 15.00 dbm           Ref Level 15.00 dbm           10 dbm           0 dbm           -0 dbm<!--</td--></td></td>	<td>33 / 0 DW - CTT133           Ref Level 15.00 dbm           Ref Level 15.00 dbm           10 dbm           0 dbm           -0 dbm<!--</td--></td>		33 / 0 DW - CTT133           Ref Level 15.00 dbm           Ref Level 15.00 dbm           10 dbm           0 dbm           -0 dbm </td	





## 802.11ac80, VHT0 (SISO)





## 802.11ac80, VHT0 (MIMO)



#### B.2 Maximum Output Power and antenna gain

#### Test limits

FCC part	RSS part	Limits
15.247 (b) (3)	RSS-210 Clause A8.4 (4)	<ul> <li>(b) The maximum peak conducted output power of the intentional radiator shall not exceed the following:</li> <li>(3) For systems using digital modulation in the 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz bands: 1 Watt. As an alternative to a peak power measurement, compliance with the one Watt limit can be based on a measurement of the maximum conducted output power. Maximum Conducted Output Power is defined as the total transmit power delivered to all antennas and antenna elements averaged across all symbols in the signaling alphabet when the transmitter is operating at its maximum power control level. Power must be summed across all antennas and antenna elements. The average must not include any time intervals during which the transmitter is off or is transmitting at a reduced power level.</li> <li>(4) The conducted output power limit specified in paragraph (b) of this section is based on the use of antennas with directional</li> </ul>
		gains that do not exceed 6 dBi.

#### Test procedure

The Maximum Conducted Output Power was measured using the channel integration method according to Method AVGSA-2, defined in paragraph 9.2.2.4 of FCC KDB 558074 D01 - Guidance for Performing Compliance Measurements on Digital Transmission Systems (DTS) Operating Under §15.247.

For MIMO mode, according to the measure-and-sum approach defined in FCC KDB 662911 - Guidance for Emission Testing of Transmitters with Multiple Outputs in the Same Band, the conducted emission level (e.g., transmit power or power in specified bandwidth) is measured at each antenna port. The measured results at the various antenna ports are then summed mathematically in linear power units to determine the total emission level from the device.

The EIRP power (dBm) is calculated by adding the declared maximum antenna gain to the measured conducted power.

The setup below was used to measure the maximum conducted output power. The antenna terminal of the EUT is connected to the spectrum through an attenuator, and the spectrum analyzer reading is compensated to include the RF path loss.





The declared maximum antenna gain is 5dBi.

#### Results tables

						Power [dBm]									
Mode	Rate	Meas. Duty Cycle [%]	СН	Frequency [MHz]	Antenna	Measured Conducted RMS	Duty cycle Compensated	EIRP							
			140	5745	SISO CHAIN A	20.99	21.06	26.06							
			149	5745	SISO CHAIN B	21.01	21.08	26.08							
902 110	GMbpa	0.98	157	5785	SISO CHAIN A	20.87	20.94	25.94							
002.118	olviops				SISO CHAIN B	20.90	20.97	25.97							
			405	5005	SISO CHAIN A	20.81	20.88	25.88							
			105	3023	SISO CHAIN B	20.86	20.93	25.93							
			1/0	5745	SISO CHAIN A	21.03	21.08	26.08							
			149		SISO CHAIN B	20.84	20.89	25.89							
	HT0	0.99	157	5785	SISO CHAIN A	20.39	20.55	25.55							
					SISO CHAIN B	20.88	21.04	26.04							
802.11n20			165	5825	SISO CHAIN A	20.80	20.85	25.85							
					SISO CHAIN B	20.81	20.86	25.86							
		0.96	149	5745	MIMO CHAIN A	17.97	18.13	23.13							
					MIMO CHAIN B	17.82	17.98	22.98							
	HT8		157	5785	MIMO CHAIN A	17.86	17.91	22.91							
					MIMO CHAIN B	17.92	17.97	22.97							
				5925	MIMO CHAIN A	17.76	17.92	22.92							
												105	0020	MIMO CHAIN B	17.81
		0.97	151E	5755	SISO CHAIN A	21.03	21.17	26.17							
802 11 n 10	цтο				SISO CHAIN B	21.08	21.22	26.22							
	1110		150F	5795	SISO CHAIN A	20.93	21.24	26.24							
			1995	5195	SISO CHAIN B	21.00	21.31	26.31							
002.11140		0.93	151F	5755	MIMO CHAIN A	17.67	17.81	22.81							
	нтя			5755	MIMO CHAIN B	18.12	18.26	23.26							
	пю			159F 5795	MIMO CHAIN A	17.85	18.16	23.16							
			1091		MIMO CHAIN B	17.99	18.30	23.30							



						Power [dBm]		
Mode	Rate	Meas. Duty Cycle [%]	СН	Frequency [MHz]	Antenna	Measured Conducted RMS	Duty cycle Compensated	EIRP
802.11ac80 -	VHT0	0 0.94	155ac80	5775	SISO CHAIN A	21.01	21.30	26.30
					SISO CHAIN B	20.71	21.00	26.00
	VHT8	T8 0.63	155ac80	5775	MIMO CHAIN A	16.32	18.32	23.32
					MIMO CHAIN B	16.52	18.52	23.52

MIMO modes	s – Combi	Power [dBm]				
Mode	Rate	Channel	Frequency (MHz)	Antenna	Combined, Duty Cycle compensated	EIRP
802.11n20 HT8		149	5745	MIMO	21.1	26.1
	HT8	157	5785		21.1	26.1
		165	5825		21.0	26.0
802.11n40 H	ц <del>т</del> о	151F	5755	CHAIN A + CHAIN B	21.2	26.2
	110	159F	5795		21.3	26.3
802.11ac80	VHT8	155ac80	5775		21.3	26.3



#### Results screenshot





## 802.11n20, HT0 (SISO)





## 802.11n20, HT8 (MIMO)





## 802.11n40, HT0 (SISO)





## 802.11n40, HT8 (MIMO)





## 802.11ac80, VHT0 (SISO)



## 802.11ac80, VHT0 (MIMO)





#### B.3 Out-of-band emissions (conducted)

#### Test limits

FCC part	RSS part	Limits
15.247 (d)	RSS-210 Clause A8.5	In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits.

#### Test procedure

The PSD reference values to determine the -20dB compliance are taken from *B.4 Power Spectral Density*.

In case of Band Edge measurements falling in restricted bands, the declared Antenna Gain is also compensated in the graph.

The declared maximum antenna gain is 5dBi.

The setup below was used to measure the maximum peak output power. The antenna terminal of the EUT is connected to the spectrum through an attenuator, and the spectrum analyzer reading is compensated to include the RF path loss.





#### Band Edge results Screenshot

### 802.11a, 6Mbps





## 802.11n20, HT0 (SISO)





## 802.11n20, HT8 (MIMO)





### 802.11n40, HT0 (SISO)





## 802.11n40, HT8 (MIMO)





### 802.11ac80, VHT0 (SISO)









#### **Conducted Spurious results Screenshot**

## 802.11a, 6Mbps – Chain A, CH149





## 802.11a, 6Mbps – Chain A, CH157



Date: 21.MAY 2015 19 19 43



## 802.11a, 6Mbps – Chain A, CH165





## 802.11a, 6Mbps – Chain B, CH149



Range Up

40.000 GHz

X-value 5.32152 GH

36.0 GH 34.080017 GH

Range Low

39.000 GHz

Type Ref Trc

Date: 21.MAY.2015 19:08:49

M1 D1 FDX Power Abs

45.91 dBr

Function Result

Frequency

Function

Y-value

56.62 di



### 802.11a, 6Mbps – Chain B, CH157



Date: 21 MAY 2015 19:20:53



## 802.11a, 6Mbps – Chain B, CH165



Date: 21.MAY.2015 19:28:08



## 802.11n20, HT0 (SISO) – Chain A, CH149



Date: 21.MAY 2015 19:37:51



## 802.11n20, HT0 (SISO) – Chain A, CH157



Date: 21.MAY 2015 20:01:33



## 802.11n20, HT0 (SISO) – Chain A, CH165



Start 36.0 GH ous Emissi Range Low Range Up RBW Frequency 38.84645 39.40140 Power Abs 1 40.000 GHz 46.58 di 99.000 GH Type Ref Trc X-value 5.3215201 G Y-value 10.31 de Function Function Result M1 D1 36.0 GHz 34.079883 GHz FDX 118 64 Date: 22 MAY 2015 08 43 28