



RF EXPOSURE REPORT

REPORT NO.: SA140324E06

MODEL NO.: IPC2100

FCC ID: 2ABTEIPC2100

RECEIVED: Mar. 24, 2014

TESTED: June 13 to 19, 2014

ISSUED: July 18, 2014

APPLICANT: Verizon Online LLC

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United State

ISSUED BY: Bureau Veritas Consumer Products Services
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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
SA140324E06	Original release	July 18, 2014

1. CERTIFICATION

PRODUCT: FiOS™ IPC2100 IP Client
BRAND NAME: Verizon
MODEL NO.: IPC2100
TEST SAMPLE: ENGINEERING SAMPLE
APPLICANT: Verizon Online LLC
TESTED DATE: June 13 to 19, 2014
STANDARDS: FCC Part 2 (Section 2.1091)
FCC OET Bulletin 65, Supplement C (01-01)
IEEE C95.1

The above equipment (Model: IPC2100) has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's EMC characteristics under the conditions specified in this report.

PREPARED BY : Midoli Peng , **DATE:** July 18, 2014
(Midoli Peng, Specialist)

APPROVED BY : May Chen , **DATE:** July 18, 2014
(May Chen, Manager)

2. RF EXPOSURE LIMIT

LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

FREQUENCY RANGE (MHz)	ELECTRIC FIELD STRENGTH (V/m)	MAGNETIC FIELD STRENGTH (A/m)	POWER DENSITY (mW/cm ²)	AVERAGE TIME (minutes)
LIMITS FOR GENERAL POPULATION / UNCONTROLLED EXPOSURE				
300-1500	...	...	F/1500	30
1500-100,000	...	...	1.0	30

F = Frequency in MHz

3. MPE CALCULATION FORMULA

$$P_d = (P_{out} * G) / (4 * \pi * r^2)$$

where

P_d = power density in mW/cm²

P_{out} = output power to antenna in mW

G = gain of antenna in linear scale

π = 3.1416

r = distance between observation point and center of the radiator in cm

4. CLASSIFICATION

The antenna of this product, under normal use condition, is at least 20cm away from the body of the user. So, this device is classified as **Mobile Device**.

5. ANTENNA GAIN

Transmitter Circuit	Gain (dBi) (Include cable loss)	Frequency range (MHz)	Antenna Type	Connector Type
Chain (0) Right antenna	2.63	5150	PCB	i-pex
	2.81	5250		
	2.67	5350		
	1.88	5725		
	1.68	5825		
Chain (1) Front antenna	4.33	5150	PCB	i-pex
	4.22	5250		
	4.20	5350		
	3.40	5725		
	3.18	5825		
Chain (2) Left antenna	3.43	5150	PCB	i-pex
	3.41	5250		
	3.59	5350		
	4.76	5725		
	4.57	5825		

Note: For 1Tx mode will fix transmission on Chain (0).

6. CALCULATION RESULT OF MAXIMUM CONDUCTED POWER

For 15.247(5GHz)

Mode 1(1TX mode)

802.11a

FREQUENCY (MHz)	CONDUCTED POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/ cm ²)	LIMIT (mW/cm ²)
5745 - 5825	292.415	1.88	20	0.08969	1.00

Mode 2(2TX / Beamforming Mode MCS0NSS1)

Mode 4 (2TX / CDD Mode)

802.11ac (VHT20)

FREQUENCY (MHz)	CONDUCTED POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/ cm ²)	LIMIT (mW/cm ²)
5745 - 5825	362.438	7.12	20	0.37150	1.00

NOTE: Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 / 2] = 7.12\text{dBi}$

802.11ac (VHT40)

FREQUENCY (MHz)	CONDUCTED POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/ cm ²)	LIMIT (mW/cm ²)
5755 - 5795	321.141	7.12	20	0.32917	1.00

NOTE: Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 / 2] = 7.12\text{dBi}$

802.11ac (VHT80)

FREQUENCY (MHz)	CONDUCTED POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/ cm ²)	LIMIT (mW/cm ²)
5775	160.526	7.12	20	0.16454	1.00

NOTE: Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 / 2] = 7.12\text{dBi}$

Mode 3 (2TX / Beamforming Mode MCS0NSS2)

Mode 5 (2TX / STBC Mode)

Mode 6 (2TX / SDM)

802.11ac (VHT20)

FREQUENCY (MHz)	CONDUCTED POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/ cm ²)	LIMIT (mW/cm ²)
5745 - 5825	362.438	4.76	20	0.21576	1.00

802.11ac (VHT40)

FREQUENCY (MHz)	CONDUCTED POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/ cm ²)	LIMIT (mW/cm ²)
5755 - 5795	321.141	4.76	20	0.19117	1.00

802.11ac (VHT80)

FREQUENCY (MHz)	CONDUCTED POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/ cm ²)	LIMIT (mW/cm ²)
5775	160.526	4.76	20	0.09556	1.00

Mode 7 (3TX / Beamforming Mode MCS0NSS1)

Mode 10 (3TX / CDD Mode)

802.11ac (VHT20)

FREQUENCY (MHz)	CONDUCTED POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/ cm ²)	LIMIT (mW/cm ²)
5745 - 5825	584.258	8.2	20	0.76795	1.00

NOTE: Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + 10^{G3/20})^2 / 3] = 8.2\text{dBi}$

802.11ac (VHT40)

FREQUENCY (MHz)	CONDUCTED POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/ cm ²)	LIMIT (mW/cm ²)
5755 - 5795	522.05	8.2	20	0.68619	1.00

NOTE: Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + 10^{G3/20})^2 / 3] = 8.2\text{dBi}$

802.11ac (VHT80)

FREQUENCY (MHz)	CONDUCTED POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/ cm ²)	LIMIT (mW/cm ²)
5775	243.894	8.2	20	0.32058	1.00

NOTE: Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + 10^{G3/20})^2 / 3] = 8.2\text{dBi}$

Mode 8 (3TX / Beamforming Mode MCS0NSS2)

802.11ac (VHT20)

FREQUENCY (MHz)	CONDUCTED POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/ cm ²)	LIMIT (mW/cm ²)
5745 - 5825	584.258	6.52	20	0.52171	1.00

NOTE: Directional gain = maximum gain of antennas + $10 \log(3/2) = 6.52\text{dBi}$

802.11ac (VHT40)

FREQUENCY (MHz)	CONDUCTED POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/ cm ²)	LIMIT (mW/cm ²)
5755 - 5795	522.05	6.52	20	0.46616	1.00

NOTE: Directional gain = maximum gain of antennas + $10 \log(3/2) = 6.52\text{dBi}$

802.11ac (VHT80)

FREQUENCY (MHz)	CONDUCTED POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/ cm ²)	LIMIT (mW/cm ²)
5775	512.631	6.52	20	0.45775	1.00

NOTE: Directional gain = maximum gain of antennas + $10 \log(3/2) = 6.52\text{dBi}$

Mode 9 (3TX / Beamforming Mode MCS0NSS3)

Mode 11 (3TX / STBC Mode)

Mode 12 (3TX / SDM)

802.11ac (VHT20)

FREQUENCY (MHz)	CONDUCTED POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/ cm ²)	LIMIT (mW/cm ²)
5745 - 5825	584.258	4.76	20	0.34780	1.00

802.11ac (VHT40)

FREQUENCY (MHz)	CONDUCTED POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/ cm ²)	LIMIT (mW/cm ²)
5755 - 5795	522.05	4.76	20	0.31077	1.00

802.11ac (VHT80)

FREQUENCY (MHz)	CONDUCTED POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/ cm ²)	LIMIT (mW/cm ²)
5775	512.631	4.76	20	0.30516	1.00

For 15.407
Mode 1(1TX mode)

802.11a

FREQUENCY BAND (MHz)	CONDUCTED POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/ cm ²)	LIMIT (mW/cm ²)
5180 - 5240	41.115	2.63	20	0.01499	1.00
5260 - 5320	80.91	2.63	20	0.03074	1.00
5500 -5580 & 5660 - 5720	214.289	2.81	20	0.06572	1.00

Mode 2(2TX / Beamforming Mode MCS0NSS1)

802.11ac (VHT20)

FREQUENCY (MHz)	CONDUCTED POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/cm ²)	LIMIT (mW/cm ²)
5180 - 5240	39.803	6.9	20	0.03878	1.00
5260 - 5320	36.945	6.92	20	0.03616	1.00
5500 -5580 & 5660 - 5720	163.364	7.12	20	0.16745	1.00

NOTE: 1. Band1 : Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 / 2] = 6.9\text{dBi}$
2. Band2 : Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 / 2] = 6.92\text{dBi}$
2. Band3 : Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 / 2] = 7.12\text{dBi}$

802.11ac (VHT40)

FREQUENCY (MHz)	CONDUCTED POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/cm ²)	LIMIT (mW/cm ²)
5190-5230	39.295	6.9	20	0.03829	1.00
5270-5310	51.182	6.92	20	0.05010	1.00
5510 - 5550 & 5670- 5710	153.137	7.12	20	0.15697	1.00

NOTE: 1. Band1 : Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 / 2] = 6.9\text{dBi}$
2. Band2 : Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 / 2] = 6.92\text{dBi}$
2. Band3 : Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 / 2] = 7.12\text{dBi}$

802.11ac (VHT80)

FREQUENCY (MHz)	CONDUCTED POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/cm ²)	LIMIT (mW/cm ²)
5210	39.497	6.9	20	0.03849	1.00
5290	48.905	6.92	20	0.04787	1.00
5530, 5690	131.45	7.12	20	0.13474	1.00

NOTE: 1. Band1 : Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 / 2] = 6.9\text{dBi}$
2. Band2 : Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 / 2] = 6.92\text{dBi}$
2. Band3 : Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 / 2] = 7.12\text{dBi}$

Mode 3 (2TX / Beamforming Mode MCS0NSS2)
Mode 6 (2TX / STBC Mode)

802.11ac (VHT20)

FREQUENCY (MHz)	CONDUCTED POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/cm ²)	LIMIT (mW/cm ²)
5180 - 5240	48.37	4.33	20	0.02608	1.00
5260 - 5320	36.945	4.22	20	0.01942	1.00
5500 -5580 & 5660 - 5720	163.364	4.76	20	0.09725	1.00

802.11ac (VHT40)

FREQUENCY (MHz)	CONDUCTED POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/cm ²)	LIMIT (mW/cm ²)
5190-5230	45.908	4.33	20	0.02475	1.00
5270-5310	51.182	4.22	20	0.02691	1.00
5510 - 5550 & 5670- 5710	173.303	4.76	20	0.10317	1.00

802.11ac (VHT80)

FREQUENCY (MHz)	CONDUCTED POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/cm ²)	LIMIT (mW/cm ²)
5210	47.335	4.33	20	0.02552	1.00
5290	48.905	4.22	20	0.02571	1.00
5530, 5690	156.239	4.76	20	0.09301	1.00

Mode 4 (2TX / CDD Mode)

802.11ac (VHT20)

FREQUENCY (MHz)	CONDUCTED POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/cm ²)	LIMIT (mW/cm ²)
5180 - 5240	39.803	6.9	20	0.03878	1.00
5260 - 5320	36.945	6.92	20	0.03616	1.00
5500 - 5580 & 5660 - 5720	163.364	7.12	20	0.16745	1.00

NOTE: 1. Band1 : Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 / 2] = 6.9\text{dBi}$
 2. Band2 : Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 / 2] = 6.92\text{dBi}$
 2. Band3 : Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 / 2] = 7.12\text{dBi}$

802.11ac (VHT40)

FREQUENCY (MHz)	CONDUCTED POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/cm ²)	LIMIT (mW/cm ²)
5190-5230	45.908	6.9	20	0.04473	1.00
5270-5310	51.182	6.92	20	0.05010	1.00
5510 - 5550 & 5670- 5710	173.303	7.12	20	0.17761	1.00

NOTE: 1. Band1 : Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 / 2] = 6.9\text{dBi}$
 2. Band2 : Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 / 2] = 6.92\text{dBi}$
 2. Band3 : Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 / 2] = 7.12\text{dBi}$

802.11ac (VHT80)

FREQUENCY (MHz)	CONDUCTED POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/cm ²)	LIMIT (mW/cm ²)
5210	47.335	6.9	20	0.04612	1.00
5290	48.905	6.92	20	0.04787	1.00
5530, 5690	156.239	7.12	20	0.16015	1.00

NOTE: 1. Band1 : Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 / 2] = 6.9\text{dBi}$
 2. Band2 : Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 / 2] = 6.92\text{dBi}$
 2. Band3 : Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 / 2] = 7.12\text{dBi}$

Mode 5 (2TX / STBC Mode)

802.11ac (VHT20)

FREQUENCY (MHz)	CONDUCTED POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/cm ²)	LIMIT (mW/cm ²)
5180 - 5240	48.37	4.33	20	0.02608	1.00
5260 - 5320	72.224	4.22	20	0.03797	1.00
5500 -5580 & 5660 - 5720	216.399	4.76	20	0.12882	1.00

802.11ac (VHT40)

FREQUENCY (MHz)	CONDUCTED POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/cm ²)	LIMIT (mW/cm ²)
5190-5230	45.908	4.33	20	0.02475	1.00
5270-5310	129.068	4.22	20	0.06785	1.00
5510 - 5550 & 5670- 5710	192.345	4.76	20	0.11450	1.00

802.11ac (VHT80)

FREQUENCY (MHz)	CONDUCTED POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/cm ²)	LIMIT (mW/cm ²)
5210	47.335	4.33	20	0.02552	1.00
5290	45.615	4.22	20	0.02398	1.00
5530, 5690	156.239	4.76	20	0.09301	1.00

Mode 7 (3TX / Beamforming Mode MCS0NSS1)

802.11ac (VHT20)

FREQUENCY (MHz)	CONDUCTED POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/cm ²)	LIMIT (mW/cm ²)
5180 - 5240	27.869	8.26	20	0.03714	1.00
5260 - 5320	48.282	8.33	20	0.06539	1.00
5500 - 5580 & 5660 - 5720	146.81	8.20	20	0.19297	1.00

NOTE: 1. Band1 : Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 + 10^{G3/20})^2 / 3] = 8.26\text{dBi}$
 2. Band2 : Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 + 10^{G3/20})^2 / 3] = 8.33\text{dBi}$
 2. Band3 : Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 + 10^{G3/20})^2 / 3] = 8.20\text{dBi}$

802.11ac (VHT40)

FREQUENCY (MHz)	CONDUCTED POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/cm ²)	LIMIT (mW/cm ²)
5190-5230	27.252	8.26	20	0.03632	1.00
5270-5310	58.66	8.33	20	0.07945	1.00
5510 - 5550 & 5670- 5710	142.322	8.20	20	0.18707	1.00

NOTE: 1. Band1 : Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 + 10^{G3/20})^2 / 3] = 8.26\text{dBi}$
 2. Band2 : Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 + 10^{G3/20})^2 / 3] = 8.33\text{dBi}$
 2. Band3 : Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 + 10^{G3/20})^2 / 3] = 8.20\text{dBi}$

802.11ac (VHT80)

FREQUENCY (MHz)	CONDUCTED POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/cm ²)	LIMIT (mW/cm ²)
5210	28.288	8.26	20	0.03770	1.00
5290	68.681	8.33	20	0.09302	1.00
5530, 5690	86.99	8.20	20	0.11434	1.00

NOTE: 1. Band1 : Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 + 10^{G3/20})^2 / 3] = 8.26\text{dBi}$
 2. Band2 : Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 + 10^{G3/20})^2 / 3] = 8.33\text{dBi}$
 2. Band3 : Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 + 10^{G3/20})^2 / 3] = 8.20\text{dBi}$

Mode 8 (3TX / Beamforming Mode MCS0NSS2)

802.11ac (VHT20)

FREQUENCY (MHz)	CONDUCTED POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/cm ²)	LIMIT (mW/cm ²)
5180 - 5240	44.598	6.09	20	0.03606	1.00
5260 - 5320	48.282	5.98	20	0.03806	1.00
5500 - 5580 & 5660 - 5720	218.359	6.52	20	0.19494	1.00

NOTE: 1. Band1 : Directional gain = maximum gain of antennas + $10 \log(3/2) = 6.09\text{dBi}$
 2. Band2 : Directional gain = maximum gain of antennas + $10 \log(3/2) = 5.98\text{dBi}$
 2. Band3 : Directional gain = maximum gain of antennas + $10 \log(3/2) = 6.52\text{dBi}$

802.11ac (VHT40)

FREQUENCY (MHz)	CONDUCTED POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/cm ²)	LIMIT (mW/cm ²)
5190-5230	47.159	6.09	20	0.03813	1.00
5270-5310	58.66	5.98	20	0.04625	1.00
5510 - 5550 & 5670- 5710	218.608	6.52	20	0.19516	1.00

NOTE: 1. Band1 : Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 + 10^{G3/20})^2 / 3] = 8.26\text{dBi}$
 2. Band2 : Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 + 10^{G3/20})^2 / 3] = 8.33\text{dBi}$
 2. Band3 : Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 + 10^{G3/20})^2 / 3] = 8.20\text{dBi}$

802.11ac (VHT80)

FREQUENCY (MHz)	CONDUCTED POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/cm ²)	LIMIT (mW/cm ²)
5210	48.238	6.09	20	0.03900	1.00
5290	68.681	5.98	20	0.05415	1.00
5530, 5690	86.99	6.52	20	0.07766	1.00

NOTE: 1. Band1 : Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 + 10^{G3/20})^2 / 3] = 8.26\text{dBi}$
 2. Band2 : Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 + 10^{G3/20})^2 / 3] = 8.33\text{dBi}$
 2. Band3 : Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 + 10^{G3/20})^2 / 3] = 8.20\text{dBi}$

Mode 9 (3TX / Beamforming Mode MCS0NSS3)

802.11ac (VHT20)

FREQUENCY (MHz)	CONDUCTED POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/cm ²)	LIMIT (mW/cm ²)
5180 - 5240	44.598	4.33	20	0.02405	1.00
5260 - 5320	48.282	4.22	20	0.02538	1.00
5500 -5580 & 5660 - 5720	218.359	4.76	20	0.12999	1.00

802.11ac (VHT40)

FREQUENCY (MHz)	CONDUCTED POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/cm ²)	LIMIT (mW/cm ²)
5190-5230	47.159	4.33	20	0.02543	1.00
5270-5310	58.66	4.22	20	0.03084	1.00
5510 - 5550 & 5670- 5710	248.898	4.76	20	0.14817	1.00

802.11ac (VHT80)

FREQUENCY (MHz)	CONDUCTED POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/cm ²)	LIMIT (mW/cm ²)
5210	48.238	4.33	20	0.02601	1.00
5290	68.681	4.22	20	0.03610	1.00
5530, 5690	152.951	4.76	20	0.09105	1.00

Mode 10 (3TX / CDD Mode)

802.11ac (VHT20)

FREQUENCY (MHz)	CONDUCTED POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/cm ²)	LIMIT (mW/cm ²)
5180 - 5240	27.869	8.26	20	0.03714	1.00
5260 - 5320	48.282	8.33	20	0.06539	1.00
5500 - 5580 & 5660 - 5720	146.81	8.20	20	0.19297	1.00

NOTE: 1. Band1 : Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 + 10^{G3/20}] / 3] = 8.26\text{dBi}$
2. Band2 : Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 + 10^{G3/20}] / 3] = 8.33\text{dBi}$
2. Band3 : Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 + 10^{G3/20}] / 3] = 8.20\text{dBi}$

802.11ac (VHT40)

FREQUENCY (MHz)	CONDUCTED POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/cm ²)	LIMIT (mW/cm ²)
5190-5230	47.159	8.26	20	0.06285	1.00
5270-5310	58.66	8.33	20	0.07945	1.00
5510 - 5550 & 5670- 5710	248.898	8.20	20	0.32715	1.00

NOTE: 1. Band1 : Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 + 10^{G3/20}] / 3] = 8.26\text{dBi}$
2. Band2 : Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 + 10^{G3/20}] / 3] = 8.33\text{dBi}$
2. Band3 : Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 + 10^{G3/20}] / 3] = 8.20\text{dBi}$

802.11ac (VHT80)

FREQUENCY (MHz)	CONDUCTED POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/cm ²)	LIMIT (mW/cm ²)
5210	48.238	8.26	20	0.06429	1.00
5290	68.681	8.33	20	0.09302	1.00
5530, 5690	152.951	8.20	20	0.20104	1.00

NOTE: 1. Band1 : Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 + 10^{G3/20}] / 3] = 8.26\text{dBi}$
2. Band2 : Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 + 10^{G3/20}] / 3] = 8.33\text{dBi}$
2. Band3 : Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20})^2 + 10^{G3/20}] / 3] = 8.20\text{dBi}$

Mode 11 (3TX / STBC Mode)

802.11ac (VHT20)

FREQUENCY (MHz)	CONDUCTED POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/cm ²)	LIMIT (mW/cm ²)
5180 - 5240	44.598	4.33	20	0.02405	1.00
5260 - 5320	101.462	4.22	20	0.05334	1.00
5500 -5580 & 5660 - 5720	218.359	4.76	20	0.12999	1.00

802.11ac (VHT40)

FREQUENCY (MHz)	CONDUCTED POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/cm ²)	LIMIT (mW/cm ²)
5190-5230	47.159	4.33	20	0.02543	1.00
5270-5310	125.125	4.22	20	0.06578	1.00
5510 - 5550 & 5670- 5710	237.924	4.76	20	0.14163	1.00

802.11ac (VHT80)

FREQUENCY (MHz)	CONDUCTED POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/cm ²)	LIMIT (mW/cm ²)
5210	48.238	4.33	20	0.02601	1.00
5290	111.946	4.22	20	0.05885	1.00
5530, 5690	142.967	4.76	20	0.08511	1.00

Mode 12 (3TX / SDM)

802.11ac (VHT20)

FREQUENCY (MHz)	CONDUCTED POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/cm ²)	LIMIT (mW/cm ²)
5180 - 5240	44.598	4.33	20	0.02405	1.00
5260 - 5320	48.282	4.22	20	0.02538	1.00
5500 - 5580 & 5660 - 5720	218.359	4.76	20	0.12999	1.00

802.11ac (VHT40)

FREQUENCY (MHz)	CONDUCTED POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/cm ²)	LIMIT (mW/cm ²)
5190-5230	47.159	4.33	20	0.02543	1.00
5270-5310	58.66	4.22	20	0.03084	1.00
5510 - 5550 & 5670- 5710	248.898	4.76	20	0.14817	1.00

802.11ac (VHT80)

FREQUENCY (MHz)	CONDUCTED POWER (mW)	ANTENNA GAIN (dBi)	DISTANCE (cm)	POWER DENSITY (mW/cm ²)	LIMIT (mW/cm ²)
5210	48.238	4.33	20	0.02601	1.00
5290	68.681	4.22	20	0.03610	1.00
5530, 5690	152.951	4.76	20	0.09105	1.00

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