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8.2.1 Applicable Standard

According to FCC Part 15.407(a)(1) for UNII Band I

According to FCC Part 15.407(a)(2) for UNII Band II-A and UNII Band II-C

According to FCC Part 15.407(a)(3) for UNII Band III

According to 789033 D02 Section II(E)

8.2.2 Conformance Limit

■ For the band 5.15-5.25 GHz,

(a) (1) (i) For an outdoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. The maximum e.i.r.p. at any elevation angle above 30 degrees as measured from the horizon must not exceed 125 mW (21 dBm).

(a) (1) (ii) For an indoor access point operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

(a) (1) (iii) For fixed point-to-point access points operating in the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. Fixed point-to-point U-NII devices may employ antennas with directional gain up to 23 dBi without any corresponding reduction in the maximum conducted output power or maximum power spectral density. For fixed point-to-point transmitters that employ a directional antenna gain greater than 23 dBi, a 1 dB reduction in maximum conducted output power and maximum power spectral density is required for each 1 dB of antenna gain in excess of 23 dBi. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations.

(a) (1) (iv) For client devices in the 5.15-5.25 GHz band, the maximum conducted output power over the frequency band of operation shall not exceed 250 mW provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

■ For the 5.25-5.35 GHz and 5.47-5.725 GHz bands

(a) (2) The maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in megahertz. In addition, the maximum power spectral density shall not exceed 11 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

■ For the band 5.725-5.85 GHz

(a) (3) for the band 5.725-5.85 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W. In addition, the maximum power spectral density shall not exceed 30

dBm in any 500-kHz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi. However, fixed point-to-point U-NII devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power. Fixed, point-to-point operations exclude the use of point-to-multipoint systems, omnidirectional applications, and multiple collocated transmitters transmitting the same information. The operator of the U-NII device, or if the equipment is professionally installed, the installer, is responsible for ensuring that systems employing high gain directional antennas are used exclusively for fixed, point-to-point operations

8.2.3 Test Configuration

Test according to clause 6.1 radio frequency test setup

8.2.4 Test Procedure

The maximum average conducted output power can be measured using Method PM-G (Measurement using a gated RF average power meter):

Measurements may be performed using a wideband gated RF power meter provided that the gate parameters are adjusted such that the power is measured only when the EUT is transmitting at its maximum power control level. Since the measurement is made only during the ON time of the transmitter, no duty cycle correction factor is required.

- a. The Transmitter output (antenna port) was connected to the power meter.
- b. Turn on the EUT and power meter and then record the power value.
- c. Repeat above procedures on all channels needed to be tested.

8.2.5 Test Results

Test Mode	Antenna	Frequency [MHz]	Result [dBm]	Limit [dBm]	Gain [dBi]	EIRP [dBm]	EIRP Limit [dBm]	Verdict
11A	Ant1	5180	11.19	≤23.98	2.77	13.96	---	PASS
		5200	11.03	≤23.98	2.77	13.80	---	PASS
		5240	12.15	≤23.98	2.77	14.92	---	PASS
		5260	11.76	≤23.98	2.77	14.53	---	PASS
		5280	11.67	≤23.98	2.77	14.44	---	PASS
		5320	11.21	≤23.98	2.77	13.98	---	PASS
		5500	11.02	≤23.98	2.77	13.79	---	PASS
		5580	12.82	≤23.98	2.77	15.59	---	PASS
		5700	12.78	≤23.98	2.77	15.55	---	PASS
		5745	11.84	≤30.00	2.77	14.61	---	PASS
		5785	11.77	≤30.00	2.77	14.54	---	PASS
		5825	11.50	≤30.00	2.77	14.27	---	PASS
		5180	10.78	≤23.98	2.77	13.55	---	PASS
		5200	11.02	≤23.98	2.77	13.79	---	PASS
		5240	11.01	≤23.98	2.77	13.78	---	PASS
11N20SISO	Ant1	5260	11.69	≤23.98	2.77	14.46	---	PASS
		5280	11.66	≤23.98	2.77	14.43	---	PASS
		5320	11.64	≤23.98	2.77	14.41	---	PASS
		5500	11.10	≤23.98	2.77	13.87	---	PASS
		5580	13.01	≤23.98	2.77	15.78	---	PASS
		5700	12.77	≤23.98	2.77	15.54	---	PASS
		5745	11.68	≤30.00	2.77	14.45	---	PASS
		5785	11.58	≤30.00	2.77	14.35	---	PASS
		5825	11.58	≤30.00	2.77	14.35	---	PASS
		5190	11.66	≤23.98	2.77	14.43	---	PASS
		5230	12.11	≤23.98	2.77	14.88	---	PASS
		5270	12.02	≤23.98	2.77	14.79	---	PASS
		5310	11.68	≤23.98	2.77	14.45	---	PASS
		5510	11.70	≤23.98	2.77	14.47	---	PASS
11N40SISO	Ant1	5550	12.92	≤23.98	2.77	15.69	---	PASS
		5670	13.15	≤23.98	2.77	15.92	---	PASS
		5755	12.04	≤30.00	2.77	14.81	---	PASS
		5795	12.37	≤30.00	2.77	15.14	---	PASS
		5180	11.54	≤23.98	2.77	14.31	---	PASS
		5200	11.80	≤23.98	2.77	14.57	---	PASS
		5240	12.40	≤23.98	2.77	15.17	---	PASS
		5260	12.12	≤23.98	2.77	14.89	---	PASS
		5280	12.24	≤23.98	2.77	15.01	---	PASS
		5320	11.74	≤23.98	2.77	14.51	---	PASS
		5500	11.38	≤23.98	2.77	14.15	---	PASS
		5580	13.12	≤23.98	2.77	15.89	---	PASS
		5700	13.06	≤23.98	2.77	15.83	---	PASS
		5745	12.21	≤30.00	2.77	14.98	---	PASS
		5785	11.97	≤30.00	2.77	14.74	---	PASS
		5825	11.85	≤30.00	2.77	14.62	---	PASS