

Manufacturer: Mikrotiks SIA

Product: LHG XL 52 ac

FCC ID: TV7LHGSHPACD2HPD

MPE limits (§1.1310)

Radio device	Frequency MHz	Duty Cycle %	Power dBm	Antenna		EIRP ¹ dBm	EIRP mW	Distance D cm	PD ² mW/cm²	PD Limit ⁴ mW/cm²	Margin dB	PD/PD Limit
				Gain ³ dBi								
WiFi 2.4 GHz ⁵ (IEEE 802.11b)	2412	100	-5.2	21.5		16.3	43	20	0.008487	1.000	20.71	0.00849
WiFi 2.4 GHz ⁵ (IEEE 802.11g)	2462	100	-7.8	21.5		13.7	23	20	0.004664	1.000	23.31	0.00466
WiFi 2.4 GHz ⁵ (IEEE 802.11n HT20)	2412	100	-7.7	21.5		13.8	24	20	0.004772	1.000	23.21	0.00477
WiFi 2.4 GHz ⁵ (IEEE 802.11n HT40)	2422	100	-9.7	21.5		11.8	15	20	0.003011	1.000	25.21	0.00301
WiFi 5 GHz ⁶ (IEEE 802.11a)	5180	100	-19	30.5		11.5	14	20	0.002810	1.000	25.51	0.00281
WiFi 5 GHz ⁶ (IEEE 802.11n HT20)	5180	100	-19	30.5		11.5	14	20	0.002810	1.000	25.51	0.00281
WiFi 5 GHz ⁶ (IEEE 802.11n HT40)	5230	100	-15.9	30.5		14.6	29	20	0.005738	1.000	22.41	0.00574
WiFi 5 GHz ⁶ (IEEE 802.11ac 80)	5210	100	-15.8	30.5		14.7	30	20	0.005871	1.000	22.31	0.00587
WiFi 5 GHz ⁷ (IEEE 802.11a)	5745	100	-19.8	30.5		10.7	12	20	0.002337	1.000	26.31	0.00234
WiFi 5 GHz ⁷ (IEEE 802.11n HT20)	5825	100	-19.9	30.5		10.6	11	20	0.002284	1.000	26.41	0.00228
WiFi 5 GHz ⁷ (IEEE 802.11n HT40)	5755	100	-20.4	30.5		10.1	10	20	0.002036	1.000	26.91	0.00204
WiFi 5 GHz ⁷ (IEEE 802.11ac 80)	5787	100	-18.7	30.5		11.8	15	20	0.003011	1.000	25.21	0.00301

MPE limits for Innovation, Science and Economic Development Canada, RSS-102 Issue 5

Radio device	Frequency MHz	Duty Cycle %	Power dBm	Antenna		EIRP ¹ dBm	EIRP W	Distance D m	PD ² W/m²	PD Limit ⁴ W/m²	Margin dB	RSS 102 \$2.5.2 Lim. W	RSS 102 \$2.5.2 Marg. dB	PD/PD Limit
				Gain ³ dBi										
WiFi 2.4 GHz ⁵ (IEEE 802.11b)	2412	100	-5.2	21.5		16.3	0.043	0.2	0.08487	5.37	18.0	2.7	18.0	0.01582
WiFi 2.4 GHz ⁵ (IEEE 802.11g)	2462	100	-7.8	21.5		13.7	0.023	0.2	0.04664	5.44	20.7	2.7	20.6	0.00857
WiFi 2.4 GHz ⁵ (IEEE 802.11n HT20)	2412	100	-7.7	21.5		13.8	0.0240	0.2	0.04772	5.37	20.5	2.7	20.5	0.00889
WiFi 2.4 GHz ⁵ (IEEE 802.11n HT40)	2422	100	-9.7	21.5		11.8	0.0151	0.2	0.03011	5.38	22.5	2.7	22.5	0.00560
WiFi 5 GHz ⁶ (IEEE 802.11a)	5180	100	-19	30.5		11.5	0.0141	0.2	0.02810	9.05	25.1	4.5	25.1	0.00311
WiFi 5 GHz ⁶ (IEEE 802.11n HT20)	5180	100	-19	30.5		11.5	0.0141	0.2	0.02810	9.05	25.1	4.5	25.1	0.00311
WiFi 5 GHz ⁶ (IEEE 802.11n HT40)	5230	100	-15.9	30.5		14.6	0.0288	0.2	0.05738	9.11	22.0	4.6	22.0	0.00630
WiFi 5 GHz ⁶ (IEEE 802.11ac 80)	5210	100	-15.8	30.5		14.7	0.0295	0.2	0.05871	9.08	21.9	4.5	21.9	0.00646
WiFi 5 GHz ⁷ (IEEE 802.11a)	5745	100	-19.8	30.5		10.7	0.0117	0.2	0.02337	9.71	26.2	4.9	26.2	0.00241
WiFi 5 GHz ⁷ (IEEE 802.11n HT20)	5825	100	-19.9	30.5		10.6	0.0115	0.2	0.02284	9.80	26.3	4.9	26.3	0.00233
WiFi 5 GHz ⁷ (IEEE 802.11n HT40)	5755	100	-20.4	30.5		10.1	0.0102	0.2	0.02036	9.72	26.8	4.9	26.8	0.00209
WiFi 5 GHz ⁷ (IEEE 802.11ac 80)	5787	100	-18.7	30.5		11.8	0.0151	0.2	0.03011	9.76	25.1	4.9	25.1	0.00309
Canada Co-Location =	0.01582	+	0.06008	+	0.06837	+	0.17297	+	0.35086	+	0.35997	=	0.04915	< 1

¹EIRP = { Power dBm + Antenna Gain dBi } + 10 x Log { Duty Cycle % / 100 }

²PD = EIRP / (4πx D²)

³Antenna Gain: see three Test Reports (p.32 (@2.4GHz) and p.24-28 (@5GHz))

⁴CFR 47 Part 1, §1.1310 (Table 1)

⁵368276-1TRFVL (FCC-15.247 and RSS-247 2.4GHz WiFi)_part1 (p.34)

⁶368276-2TRFVL (FCC-15.407 E and RSS-247 UNII3) (p.27)

⁷368276-3TRFVL (FCC-15.407 and RSS-247 UNII3) (p.30)