

CL-S5 full SATEL LTE VZW

MPE limits for FCC, 1.1310

	Mode	Frequency MHz	Duty Cycle %	Power dBm	Antenna		EIRP ⁷ dBm	EIRP mW	Distance D cm	PD ⁸ mW/cm ²	PD Limit mW/cm ²	Margin dB	2.1091 EIRP	2.1091 EIRP	PD/PD Limit
					Gain dBi	EIRP ⁹ dBm							Limit mW	Margin dB	
LARA-R204	LTE eFDD13 ^{1,2,5}	777	100	24	4.75	28.8	750	30	0.066	0.518	8.93	2455	5.15	0.12800	
LARA-R204	LTE eFDD4 ^{1,2,5}	1710	100	24	3.79	27.8	601	30	0.053	1.00	12.74	4910	9.12	0.05316	
SATEL-TR49	UHF 900 MHz ^{3,6}	902.2	100	29	0	29.0	800	30	0.071	0.601	9.30	N/A	N/A	0.11761	
CLSS ¹⁰	WiFi 2.4GHz ^{4,5}	2412	100	26.9	5.06	32.0	1570	30	0.139	1.00	8.57	N/A	N/A	0.13885	
CLSS ¹⁰	WiFi 5GHz ^{4,5}	5180	100	16.4	5.63	22.0	160	30	0.0141	1.00	18.5	N/A	N/A	0.01411	
CLSS ¹⁰	WiFi 5GHz ^{4,5}	5260	100	17.0	5.63	22.6	183	30	0.0162	1.00	17.9	N/A	N/A	0.01620	
CLSS ¹⁰	WiFi 5GHz ^{4,5}	5500	100	14.6	5.63	20.2	105	30	0.0093	1.00	20.3	N/A	N/A	0.00932	
CLSS ¹⁰	WiFi 5GHz ^{4,5}	5745	100	13.2	5.63	18.8	76.4	30	0.0068	1.00	21.7	N/A	N/A	0.00675	
CLSS ¹⁰	BT Classic ^{4,5}	2402	100	9.4	5.06	14.46	27.9	30	0.00247	1.00	26.1	N/A	N/A	0.00247	
CLSS ¹⁰	BLE ^{4,5}	2402	100	2.5	5.06	7.56	5.70	30	0.00050	1.00	33.0	N/A	N/A	0.00050	
FCC Co-Location =			0.12800	+	0.11761	+	0.13885	+	0.00247	=	0.387	< 1			

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

	Mode	Frequency MHz	Duty Cycle %	Power dBm	Antenna		EIRP ⁷ dBm	EIRP W	Distance D m	PD ⁸ W/m ²	PD Limit W/m ²	Margin dB	RSS 102	RSS 102	PD/PD Limit
					Gain dBi	EIRP ⁹ dBm							\$2.5.2 Lim. W	\$2.5.2 Marg. dB	
LARA-R204	LTE eFDD13 ^{1,2,5}	777	100	24.0	4.75	28.8	0.750	0.3	0.66	2.47	5.72	1.238	2.18	0.26798	
LARA-R204	LTE eFDD4 ^{1,2,5}	1710	100	24.0	3.79	27.8	0.601	0.3	0.53	4.24	9.02	2.122	5.48	0.12531	
SATEL-TR49	UHF 900 MHz ^{3,6}	902.2	100	29.0	0	29.0	0.800	0.3	0.71	2.74	5.88	1.371	2.34	0.25814	
CLSS ¹⁰	WiFi 2.4GHz ^{4,5}	2412	100	26.9	5.06	32.0	1.570	0.3	1.39	5.37	5.87	2.684	2.33	0.25876	
CLSS ¹⁰	WiFi 5GHz ^{4,5}	5180	100	16.4	5.63	22.0	0.160	0.3	0.141	9.05	18.1	4.525	14.53	0.01560	
CLSS ¹⁰	WiFi 5GHz ^{4,5}	5260	100	17.0	5.63	22.6	0.183	0.3	0.162	9.14	17.5	4.573	13.97	0.01772	
CLSS ¹⁰	WiFi 5GHz ^{4,5}	5500	100	14.6	5.63	20.2	0.105	0.3	0.093	9.43	20.0	4.714	16.50	0.00989	
CLSS ¹⁰	WiFi 5GHz ^{4,5}	5745	100	13.2	5.63	18.8	0.0764	0.3	0.068	9.71	21.6	4.857	18.03	0.00696	
CLSS ¹⁰	BT Classic ^{4,5}	2402	100	9.4	5.06	14.46	0.0279	0.3	0.0247	5.35	23.4	2.676	19.82	0.00461	
CLSS ¹⁰	BLE ^{4,5}	2402	100	2.5	5.06	7.56	0.00570	0.3	0.0050	5.35	30.3	2.676	26.72	0.00094	
Canada Co-Location =			0.26798	+	0.25814	+	0.25876	+	0.00461	=	0.789	< 1			

EIRP limits for FCC and Innovation, Science and Economic Development Canada (\$24.132, \$24.232 / RSS 132 \$5.4, RSS 133 \$6.4)

	Mode	Frequency MHz	Power dBm	Gain dBi	Antenna				
					EIRP ⁹ dBm	EIRP W	EIRP Limit W	EIRP Margin dB	
LARA-R204	LTE eFDD13 ^{1,2,5}	777	24.00	4.75	28.75	0.750	4.91	8.16	
LARA-R204	LTE eFDD4 ^{1,2,5}	1710	24.00	3.79	27.79	0.601	1.0	2.21	

¹FCC ID: XPY1EIQN2NN, IC: 8595A-1EIQN2NN, HVIN: LARA-R204

²7layers GmbH, Assessment Reference: MDE_UBLOX_1603_MPEa, Conducted output power values bases on "Tune-up" information provided by manufacturer at page 9 section 3.2.2

³FCC ID: MRBSATEL-TA37, IC: 2422A-SATELTA37, HVIN: SATEL-TR49

⁴FCC ID: 2ASVE-CLSS, IC: 24901-CLSS, HVIN: CLSS (EMMY-W161)

⁵Taoglas Antenna MA245.LBIC.008

⁶ComAnt Antenna CA915H_A, 900 MHz

⁷EIRP = (Power dBm + Antenna Gain dBi) + 10 x Log (Duty Cycle % / 100)

⁸PD = EIRP / (4πr²)

⁹EIRP = Power dBm + Antenna Gain dBi

¹⁰CLSS (EMMY-W161)