

CL-55 full SATEL 3G

MPE limits for FCC, 1.1310

	Mode	Frequency MHz	Duty Cycle %	Power dBm	Antenna		EIRP <sup>7</sup> dBm	EIRP mW	Distance D cm	PD <sup>8</sup> mW/cm <sup>2</sup>	PD Limit mW/cm <sup>2</sup>	Margin dB	2.1091 EIRP	2.1091 EIRP	PD/PD Limit
					Limit	Margin									
SARA-U201	WCDMA <sup>1,2,5</sup>	826.4	100	25	4.94	29.9	986	30	0.087	0.551	8.01	2455	3.96	0.15829	
SARA-U201	WCDMA <sup>1,2,5</sup>	1852.4	100	25	5.40	30.4	1096	30	0.097	1.00	10.13	4910	6.51	0.09695	
SATEL-TR49	UHF 900 MHz <sup>3,6</sup>	902.2	100	29	0	29.0	800	30	0.071	0.601	9.30	N/A	N/A	0.11761	
CL55 <sup>10</sup>	WiFi 2.4GHz <sup>4,5</sup>	2412	100	26.9	5.06	32.0	1570	30	0.139	1.00	8.57	N/A	N/A	0.13885	
CL55 <sup>10</sup>	WiFi 5GHz <sup>4,5</sup>	5180	100	16.4	5.63	22.0	160	30	0.0141	1.00	18.5	N/A	N/A	0.01411	
CL55 <sup>10</sup>	WiFi 5GHz <sup>4,5</sup>	5260	100	17.0	5.63	22.6	183	30	0.0162	1.00	17.9	N/A	N/A	0.01620	
CL55 <sup>10</sup>	WiFi 5GHz <sup>4,5</sup>	5500	100	14.6	5.63	20.2	105	30	0.0093	1.00	20.3	N/A	N/A	0.00932	
CL55 <sup>10</sup>	WiFi 5GHz <sup>4,5</sup>	5745	100	13.2	5.63	18.8	76.4	30	0.0068	1.00	21.7	N/A	N/A	0.00675	
CL55 <sup>10</sup>	BT Classic <sup>4,5</sup>	2402	100	9.4	5.06	14.46	27.9	30	0.00247	1.00	26.1	N/A	N/A	0.00247	
CL55 <sup>10</sup>	BLE <sup>4,5</sup>	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 =			0.15829	+	0.11761	+	0.13885	+	0.00247	=	0.417	< 1			

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

	Mode	Frequency MHz	Duty Cycle %	Power dBm	Antenna		EIRP <sup>7</sup> dBm	EIRP W	Distance D m	PD <sup>8</sup> W/m <sup>2</sup>	PD Limit W/m <sup>2</sup>	Margin dB	RSS 102	RSS 102 §2.5.2	PD/PD Limit
					\$2.5.2 Lim.	Marg.									
SARA-U201	WCDMA <sup>1,2,5</sup>	826.4	100	25.0	4.94	29.9	0.986	0.3	0.87	2.58	4.71	1.291	1.17	0.33791	
SARA-U201	WCDMA <sup>1,2,5</sup>	1852.4	100	25.0	5.40	30.4	1.096	0.3	0.97	4.48	6.65	2.241	3.10	0.21639	
SATEL-TR49	UHF 900 MHz <sup>3,6</sup>	902.2	100	29.0	0	29.0	0.800	0.3	0.71	2.74	5.88	1.371	2.34	0.25814	
CL55 <sup>10</sup>	WiFi 2.4GHz <sup>4,5</sup>	2412	100	26.9	5.06	32.0	1.570	0.3	1.39	5.37	5.87	2.684	2.33	0.25876	
CL55 <sup>10</sup>	WiFi 5GHz <sup>4,5</sup>	5180	100	16.4	5.63	22.0	0.160	0.3	0.141	9.05	18.1	4.525	14.53	0.01560	
CL55 <sup>10</sup>	WiFi 5GHz <sup>4,5</sup>	5260	100	17.0	5.63	22.6	0.183	0.3	0.162	9.14	17.5	4.573	13.97	0.01772	
CL55 <sup>10</sup>	WiFi 5GHz <sup>4,5</sup>	5500	100	14.6	5.63	20.2	0.105	0.3	0.093	9.43	20.0	4.714	16.50	0.00989	
CL55 <sup>10</sup>	WiFi 5GHz <sup>4,5</sup>	5745	100	13.2	5.63	18.8	0.0764	0.3	0.068	9.71	21.6	4.857	18.03	0.00696	
CL55 <sup>10</sup>	BT Classic <sup>4,5</sup>	2402	100	9.4	5.06	14.46	0.0279	0.3	0.0247	5.35	23.4	2.676	19.82	0.00461	
CL55 <sup>10</sup>	BLE <sup>4,5</sup>	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 =			0.33791	+	0.25814	+	0.25876	+	0.00461	=	0.859	< 1			

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

		Frequency MHz	Power dBm	Gain dBi	EIRP <sup>9</sup> dBm	EIRP W	EIRP Limit W	EIRP Margin dB
SARA-U201	WCDMA <sup>1,2</sup>	826.4	25.00	4.94	29.94	0.986	11.5	10.7
SARA-U201	WCDMA <sup>1,2</sup>	1852.4	25.00	5.40	30.40	1.096	2.0	2.61

<sup>1</sup>FCC ID: XPY1CGM5N1N, IC: 8595A-1CGM5N1N, HVIN: SARA-U201

<sup>2</sup>CETECOM GmbH, T E S T R E P O R T, No.: 16-1-0111601T02a-C1, Declared maximum conducted output power and Max. positive tolerance according to manufacturer at page 11 section 4.2.1.1 and page 12 section 4.2.2.1

<sup>3</sup>FCC ID: MRBSATEL-TA37, IC: 2422A-SATELTA37, HVIN: SATEL-TR49

<sup>4</sup>FCC ID: 2ASVE-CL55, IC: 24901-CL55, HVIN: CL55 (EMMY-W161)

<sup>5</sup>Taoglas Antenna MA245.LBIC.008

<sup>6</sup>ComAnt Antenna CA915H\_A, 900 MHz

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

<sup>8</sup>PD = EIRP / (4xπxD<sup>2</sup>)

<sup>9</sup>EIRP = Power dBm + Antenna Gain dBi

<sup>10</sup>CL55 (EMMY-W161)