

6c.3 MOTotalk 900 MHz ISM Band Radiated Spurious Emissions

FCC Limits:

§15.247. In any 100 kHz bandwidth outside the frequency bands, the radio frequency power that is produced by the modulation products of the spreading sequence, the information sequence and the carrier frequency shall be either at least 20 dB below that in any 100 kHz bandwidth within the band that contains the highest level of the desired power or shall not exceed the general levels specified in Sec. 15.209, whichever results in the lesser attenuation. All other emissions outside these bands shall not exceed the general radiated emission limits specified in Sec. 15.209.

§15.35. States the peak of the harmonics shall not exceed 20 dB above the limits specified in 15.209.

Restricted bands specified in 15.205 in the table below:

MHz	MHz	MHz	GHz
0.090–0.110	16.42–16.423	399.9–410	4.5–5.15
¹ 0.495–0.505	16.89475–16.89525	808–814	5.35–5.48
2.1735–2.1905	16.80425–16.80475	960–1240	7.25–7.75
4.125–4.128	25.5–25.67	1300–1427	8.025–8.5
4.17725–4.17775	37.5–38.25	1435–1626.5	9.0–9.2
4.20725–4.20775	73–74.6	1645.5–1646.5	9.3–9.5
6.215–6.218	74.8–75.2	1660–1710	10.6–12.7
6.26775–6.26825	108–121.94	1718.8–1722.2	13.25–13.4
6.31175–6.31225	123–138	2200–2300	14.47–14.5
8.291–8.294	149.9–150.05	2310–2390	15.35–16.2
8.382–8.386	156.52475–156.52525	2483.5–2500	17.7–21.4
8.37625–8.38675	156.7–156.9	2655–2900	22.01–23.12
8.41425–8.41475	162.0125–167.17	3260–3267	23.6–24.0
12.29–12.293	167.72–173.2	3332–3339	31.2–31.8
12.51975–12.52025	240–285	3345.8–3358	36.43–36.5
12.57675–12.57725	322–335.4	3600–4400	(²)
13.36–13.41			

¹ Until February 1, 1999, this restricted band shall be 0.490–0.510 MHz.

² Above 38.6

NOTE 1: Spurious emissions are dependent on the linearity of the Power Amplifier (U2051) and are independent of modulation type or TDM interleaving.

NOTE 2: Spurious emission levels were measured with the non-detachable antenna mounted on the radio product, as in intended use.

NOTE 3: An asterisk (*) in the data indicates the spurious emission could not be detected due to noise limitations or ambients.

NOTE 4: Two asterisks (**) after the frequency indicates the harmonic falls in the restricted bands specified in 47 CFR Part 15.205. Emissions limit is 500 $\mu\text{V/m}$ (54 dB $\mu\text{V/m}$) at 3 meter distance. Emissions not in the restricted band must be 20 dBc.

NOTE 5: The duty cycle correction factor is $20 \log (10.7\text{ms}/100\text{ms}) = -19.4 \text{ dB}$.

NOTE 6: Emissions resulting from intermodulation products possible due to the simultaneous operation of the MOTotalk and Bluetooth transmitters were investigated, and any of significance are shown in the graphs below. All were compliant with Part 15 emissions requirements, including those of the restricted bands.

Motorola Inc.

FCC ID: IHDT56HF1

Transmitter Radiated Spurious Emissions : i876**902.525 MHz****Ch.Sp.: 25kHz****ISM 890 mW | S/N 364AHG00J9**

Frequency (MHz)	FCC Maximum Emission Limit (dBuV/m))	Horizontal Measured Electric Field Intensity (dBuV/m)	Vertical Measured Electric Field Intensity (dBuV/m)
1805.0500	Hor. / Vert.	42.55	39.54
2707.5750	54	49.74	46.68
3610.1000	54	42.30	42.35
4512.6250	54	*	*
5415.1500	54	*	*
6317.6750	54	*	*
7220.2000	54	44.09	*
8122.7250	54	*	*
9025.2500	54	*	*

915.525 MHz**ISM 890 mW | S/N 364AHG00J9**

Frequency (MHz)	FCC Maximum Emission Limit (dBuV/m))	Horizontal Measured Electric Field Intensity (dBuV/m)	Vertical Measured Electric Field Intensity (dBuV/m)
1831.05	Hor. / Vert.	39.42	37.91
2746.5750	54	52.40	46.96
3662.1000	54	42.36	41.11
4577.6250	54	37.65	*
5493.1500	54	*	*
6408.6750	54	*	*
7324.2000	54	*	*
8239.7250	54	*	*
9155.2500	54	*	*

927.475 MHz**Ch.Sp.: 25kHz****ISM 890 mW | S/N 364AHG00J9**

Frequency (MHz)	FCC Maximum Emission Limit (dBuV/m))	Horizontal Measured Electric Field Intensity (dBuV/m)	Vertical Measured Electric Field Intensity (dBuV/m)
1854.9500	Hor. / Vert.	38.19	41.60
2782.4250	54	53.21	46.99
3709.9000	54	40.06	39.44
4637.3750	54	*	*
5564.8500	54	*	*
6492.3250	54	*	*
7419.8000	54	*	*
8347.2750	54	*	*
9274.7500	54	*	*

* Indicates the spurious emission could not be detected due to noise limitations or ambients.

Motorola Plantation EMC Lab – Test Performed by: Frank Baader
 FCC Registration: 91932 / Industry Canada: IC3679A-1

May 8, 2007