6b.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	16.69475–16.69525	608–614	5.35–5.46
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
8.362–8.366	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

Fundamental Frequency: 902.525 MHz

902.525 MHz	S/N 000AFJ003D			
Frequency (MHz)	FCC Limit	Conducted Emissions (dBc)	Radiated Emissions, Horizontal Electric Field strength (dBuV/m)	Radiated Emissions, Vertical Electric Field strength (dBuV/m)
1805.0500	20 dBc	79.8		
2707.5750**	54 dBμV/m		44.72	35.30
3610.1000**	54 dBμV/m		45.50	47.71
4512.6250**	54 dBμV/m		40.41	40.69
5415.1500**	54 dBμV/m		*	*
6317.6750	20 dBc	*		
7220.2000**	54 dBμV/m		*	*
8122.7250**	54 dBμV/m		*	*
9025.2500**	54 dBμV/m		*	*

Table 6b-3.1. Spurious Emissions in MOTOtalk ISM Band at 902.525 MHz , hopping function disabled

Fundamental Frequency: 915.525 MHz

915.525 MHz	S/N 000AFJ003D			
Frequency (MHz)	FCC Limit	Conducted Emissions (dBc)	Radiated Emissions, Horizontal Electric Field strength (dBuV/m)	Radiated Emissions, Vertical Electric Field strength (dBuV/m)
1831.0500	20 dBc	86.41		
2746.5750**	54 dBμV/m		39.18	34.10
3662.1000**	54 dBμV/m		50.72	44.72
4577.6250**	54 dBμV/m		43.03	43.92
5493.1500	54 dBμV/m		*	*
6408.6750	20 dBc	*		
7324.2000**	54 dBμV/m		*	*
8239.7250**	54 dBμV/m		*	*
9155.2500**	54 dBμV/m		*	*

Table 6b-3.2. Spurious Emissions in MOTOtalk ISM Band at 915.525 MHz , hopping function disabled

Fundamental Frequency: 927.475 MHz

927.475 MHz	S/N 000AFJ003D			
Frequency (MHz)	FCC Limit	Conducted Emissions (dBc)	Radiated Emissions, Horizontal Electric Field strength (dBuV/m)	Radiated Emissions, Vertical Electric Field strength (dBuV/m)
1854.9500	20 dBc	96.82		
2782.4250**	54 dBµV/m		38.74	36.15
3709.9000**	54 dBµV/m		51.99	46.68
4637.3750**	54 dBµV/m		45.23	40.64
5564.8500**	54 dBµV/m		*	*
6492.3250	20 dBc	*		
7419.8000**	54 dBµV/m		*	*
8347.2750**	54 dBµV/m		*	*
9274.7500**	54 dBµV/m		*	*

Table 6b-3.3. Spurious Emissions in MOTOtalk ISM Band at 927.475 MHz , hopping function disabled

NOTE 1: Spurious emissions are dependent on the linearity of the Power Amplifier (U501) and are independent of modulation type or TDM interleaving.

NOTE 2: An asterisk (*) in the data indicates the spurious emission could not be detected due to noise limitations or ambients.

NOTE 3: Spurious emission levels were measured with the non-detachable antenna mounted on the radio product, as in intended use.

NOTE 4: Two asterisks (**) after the frequency indicate the harmonic falls in the restricted bands specified in 47 CFR Part 15.205. Emissions limit is 500 uV/m (54 dBuV/m) at 3 meter distance.