# 6a.3 Radiated Spurious Emissions -- Pursuant 47 CFR 2.1053, 2.1057, 90.210(g)(3), 90.691(a)(2)

#### 6a3.1 800-900 MHz Band

#### **FCC Limits**

-Per 90.210(g)(3) and 90.691(a)(2), radiated spurious emissions shall be attenuated below the maximum level of emission of the carrier frequency in accordance with the following formula:

Spurious attenuation in dB = 43 + 10 log<sub>10</sub> (P) (Thus the effective limit is -13 dBm for any transmitter power level).

- NOTE 1: Spurious emissions are dependent on the linearity of the Power Amplifier and are independent of modulation type or TDM interleaving. Thus emissions were tested with the radio set to Quad-16QAM at both maximum and minimum radio output power settings.
- NOTE 2: An asterisk (\*) in the data indicates the spurious emission was less than -33 dBm or 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. Measurement setup is described in Exhibit 7.3.
- NOTE 4: Spurious emissions are dependent on the linearity of the Power Amplifier (U500) and are independent of modulation type or TDM interleaving. Thus, for the Land Mobile Band, emissions were tested with the radio set to Quad-16QAM.
- NOTE 5: Emissions resulting from intermodulation products possible due to the simultaneous operation of the SMR and Bluetooth transmitters were investigated, and any of significance are shown in the graphs below. All were compliant with Part 90 emissions requirements.

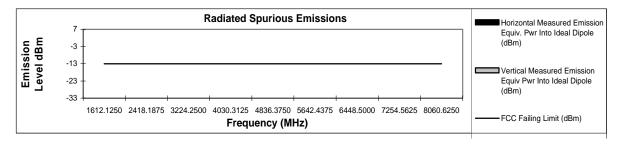
Transmit Radiated Spurious Emissions: i876

Tx Power: 640mW

806.0625 MHz

## Channel Spacing 25kHz | S/N 364AHG00BW

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Frequency (MHz)	FCC Failing Limit (dBm)	Horizontal Measured Emission Equiv. Pwr Into Ideal Dipole (dBm)	Vertical Measured Emission Equiv Pwr Into Ideal Dipole (dBm)
1612.1250	-13	*	*
2418.1875	-13	*	*
3224.2500	-13	*	*
4030.3125	-13	*	*
4836.3750	-13	*	*
5642.4375	-13	*	*
6448.5000	-13	*	*
7254.5625	-13	*	*
8060.6250	-13	*	*



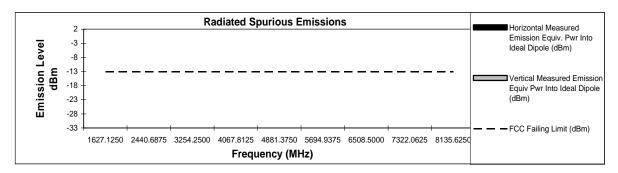
## **Transmit Radiated Spurious Emissions: i876**

Tx Power: 640mW

#### 813.5625 MHz

## Channel Spacing 25kHz | S/N 364AHG00BW

Frequency (MHz)	FCC Failing Limit (dBm)	Horizontal Measured Emission Equiv. Pwr Into Ideal Dipole (dBm)	Vertical Measured Emission Equiv Pwr Into Ideal Dipole (dBm)
1627.1250	-13	*	*
2440.6875	-13	*	*
3254.2500	-13	*	*
4067.8125	-13	*	*
4881.3750	-13	*	*
5694.9375	-13	*	*
6508.5000	-13	*	*
7322.0625	-13	*	*
8135.6250	-13	*	*



<sup>\*</sup> Indicates the spurious emission could not be detected due to noise limitations or ambients.

The data presented here was taken using the substitution method as found in the TIA/EIA-603 document.

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

**April 24, 2007** 

iDEN, Motorola Inc. 600 North US Hwy 45. Libertyville II. 60048, USA Transmit Radiated Spurious Emissions: 1876

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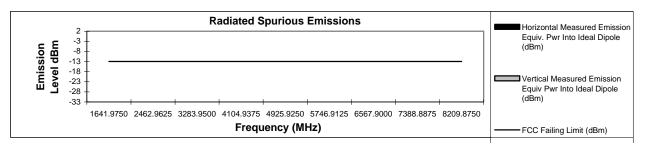
# **Transmit Radiated Spurious Emissions: i876**

Tx Power: 640mW

#### 820.9875 MHz

## Channel Spacing 25kHz | S/N 364AHG00BW

- 444		Horizontal Measured Emission	Vertical Measured Emission Equiv
Frequency (MHz)	FCC Failing Limit (dBm)	Equiv. Pwr Into Ideal Dipole (dBm)	Pwr Into Ideal Dipole (dBm)
1641.9750	-13	*	*
2462.9625	-13	*	*
3283.9500	-13	*	*
4104.9375	-13	*	*
4925.9250	-13	*	*
5746.9125	-13	*	*
6567.9000	-13	*	*
7388.8875	-13	*	*
8209.8750	-13	*	*



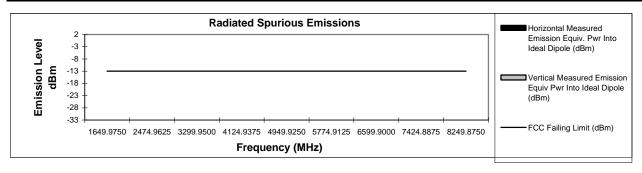
# **Transmit Radiated Spurious Emissions: i876**

Tx Power: 640mW

824.9875 MHz

# Channel Spacing 25kHz | S/N 364AHG00BW

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Frequency (MHz)	FCC Failing Limit (dBm)	Horizontal Measured Emission Equiv. Pwr Into Ideal Dipole (dBm)	Vertical Measured Emission Equiv Pwr Into Ideal Dipole (dBm)
1649.9750	-13	*	*
2474.9625	-13	*	*
3299.9500	-13	*	*
4124.9375	-13	*	*
4949.9250	-13	*	*
5774.9125	-13	*	*
6599.9000	-13	*	*
7424.8875	-13	*	*
8249.8750	-13	*	*



<sup>\*</sup> Indicates the spurious emission could not be detected due to noise limitations or ambients.

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Motorola Plantation EMC Lab – Test Performed by: Frank Baader

April 24, 2007

FCC Registration: 91932 / Industry Canada: IC3679A-1

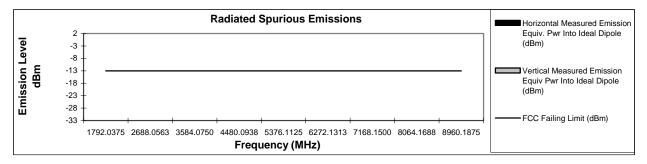
# Transmit Radiated Spurious Emissions: i876

Tx Power: 640 mW

### 896.01875 MHz

### Channel Spacing 25kHz | S/N 364AHG00BW

Frequency (MHz)	FCC Failing Limit (dBm)	Horizontal Measured Emission Equiv. Pwr Into Ideal Dipole (dBm)	Vertical Measured Emission Equiv Pwr Into Ideal Dipole (dBm)
1792.0375	-13	*	*
2688.0563	-13	*	*
3584.0750	-13	*	*
4480.0938	-13	*	*
5376.1125	-13	*	*
6272.1313	-13	*	*
7168.1500	-13	*	*
8064.1688	-13	*	*
8960.1875	-13	*	*



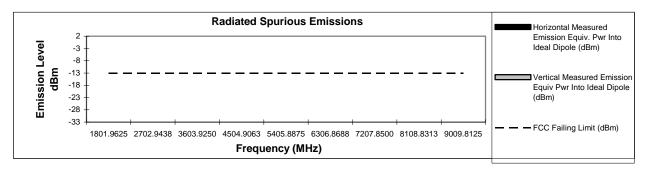
## **Transmit Radiated Spurious Emissions: i876**

Tx Power: 640 mW

#### 900.98125 MHz

## Channel Spacing 25kHz | S/N 364AHG00BW

Frequency (MHz)	FCC Failing Limit (dBm)	Horizontal Measured Emission Equiv. Pwr Into Ideal Dipole (dBm)	Vertical Measured Emission Equiv Pwr Into Ideal Dipole (dBm)
1801.9625	-13	*	*
2702.9438	-13	*	*
3603.9250	-13	*	*
4504.9063	-13	*	*
5405.8875	-13	*	*
6306.8688	-13	*	*
7207.8500	-13	*	*
8108.8313	-13	*	*
9009.8125	-13	*	*



<sup>\*</sup> Indicates the spurious emission could not be detected due to noise limitations or ambients.

The data presented here was taken using the substitution method as found in the TIA/EIA-603 document.

Tx Power: 640 mW

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

April 24, 2007

iDEN, Motorola Inc., 600 North US Hwy 45, Libertyville, IL 60048, USA

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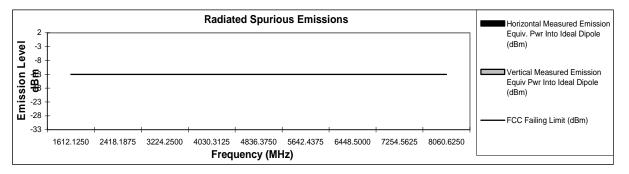
Transmit Radiated Spurious Emissions: i876

Tx Power: Full Cutback

#### 806.0625 MHz

## Channel Spacing 25kHz | S/N 364AHG00BW

Frequency (MHz)	FCC Failing Limit (dBm)	Horizontal Measured Emission Equiv. Pwr Into Ideal Dipole (dBm)	Vertical Measured Emission Equiv Pwr Into Ideal Dipole (dBm)
1612.1250	-13	*	*
2418.1875	-13	*	*
3224.2500	-13	*	*
4030.3125	-13	*	*
4836.3750	-13	*	*
5642.4375	-13	*	*
6448.5000	-13	*	*
7254.5625	-13	*	*
8060.6250	-13	*	*



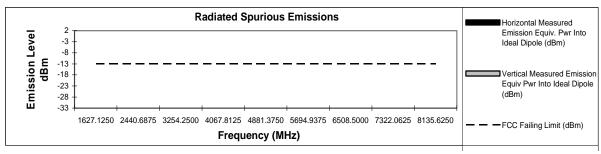
# **Transmit Radiated Spurious Emissions: i876**

Tx Power: Full Cutback

#### 813.5625 MHz

## Channel Spacing 25kHz | S/N 364AHG00BW

Frequency (MHz)	FCC Failing Limit (dBm)	Horizontal Measured Emission Equiv. Pwr Into Ideal Dipole (dBm)	Vertical Measured Emission Equiv Pwr Into Ideal Dipole (dBm)
1627.1250	-13	*	*
2440.6875	-13	*	*
3254.2500	-13	*	*
4067.8125	-13	*	*
4881.3750	-13	*	*
5694.9375	-13	*	*
6508.5000	-13	*	*
7322.0625	-13	*	*
8135.6250	-13	*	*



<sup>\*</sup> Indicates the spurious emission could not be detected due to noise limitations or ambients.

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Motorola Plantation EMC Lab - Test Performed by: Frank Baader

April 25, 2007

FCC Registration: 91932 / Industry Canada: IC3679A-1

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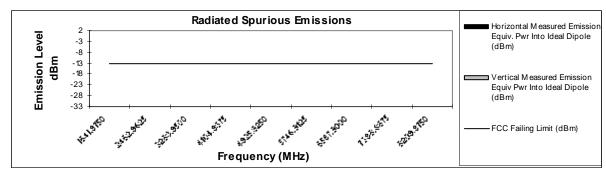
# **Transmit Radiated Spurious Emissions: i876**

**Tx Power: Full Cutback** 

820.9875 MHz

## Channel Spacing 25kHz | S/N 364AHG00BW

Frequency (MHz)	FCC Failing Limit (dBm)	Horizontal Measured Emission Equiv. Pw r Into Ideal Dipole (dBm)	Vertical Measured Emission Equiv Pwr Into Ideal Dipole (dBm)
1641.9750	-13	*	*
2462.9625	-13	*	*
3283.9500	-13	*	*
4104.9375	-13	*	*
4925.9250	-13	*	*
5746.9125	-13	*	*
6567.9000	-13	*	*
7388.8875	-13	*	*
8209.8750	-13	*	*



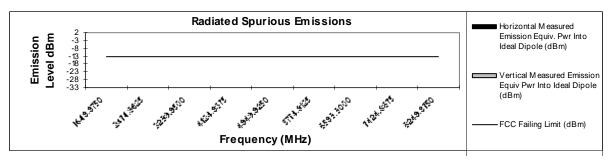
**Transmit Radiated Spurious Emissions: i876** 

**Tx Power: Full Cutback** 

824.9875 MHz

# Channel Spacing 25kHz | S/N 364AHG00BW

Frequency (MHz)	FCC Failing Limit (dBm)	Horizontal Measured Emission Equiv. Pw r Into Ideal Dipole (dBm)	Vertical Measured Emission Equiv Pwr Into Ideal Dipole (dBm)
1649.9750	-13	*	*
2474.9625	-13	*	*
3299.9500	-13	*	*
4124.9375	-13	*	*
4949.9250	-13	*	*
5774.9125	-13	*	*
6599.9000	-13	*	*
7424.8875	-13	*	*
8249.8750	-13	*	*



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Motorola Plantation EMC Lab – Test Performed by: Frank Baader

FCC Registration: 91932 / Industry Canada: IC3679A-1

April 25, 2007

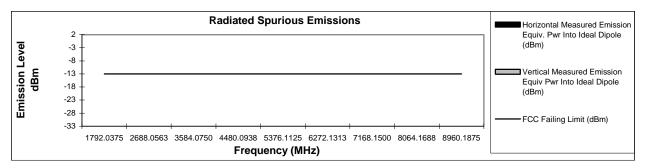
# **Transmit Radiated Spurious Emissions:**

Tx Power: Full Cutback

#### 896.01875 MHz

## Channel Spacing 25kHz | S/N 364AHG00BW

Frequency (MHz)	FCC Failing Limit (dBm)	Horizontal Measured Emission Equiv. Pwr Into Ideal Dipole (dBm)	Vertical Measured Emission Equiv Pwr Into Ideal Dipole (dBm)
1792.0375	-13	*	*
2688.0563	-13	*	*
3584.0750	-13	*	*
4480.0938	-13	*	*
5376.1125	-13	*	*
6272.1313	-13	*	*
7168.1500	-13	*	*
8064.1688	-13	*	*
8960.1875	-13	*	*



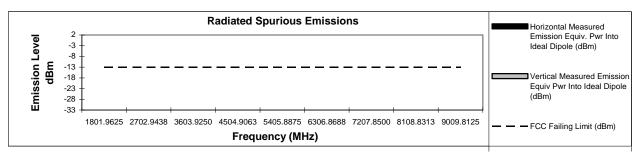
## Transmit Radiated Spurious Emissions: i876

Tx Power : Full Cutback

#### 900.98125 MHz

## Channel Spacing 25kHz | S/N 364AHG00BW

Frequency (MHz)	FCC Failing Limit (dBm)	Horizontal Measured Emission Equiv. Pwr Into Ideal Dipole (dBm)	Vertical Measured Emission Equiv Pwr Into Ideal Dipole (dBm)
1801.9625	-13	*	*
2702.9438	-13	*	*
3603.9250	-13	*	*
4504.9063	-13	*	*
5405.8875	-13	*	*
6306.8688	-13	*	*
7207.8500	-13	*	*
8108.8313	-13	*	*
9009.8125	-13	*	*



<sup>\*</sup> Indicates the spurious emission could not be detected due to noise limitations or ambients.

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April 25, 2007

Transmit Radiated Spurious Emissions: i876
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