Table 1 shows the EMIRR IN+ values for the OPA141 at particular frequencies commonly encountered in real-world applications. Applications listed in Table 1 may be centered on or operated near the particular frequency shown. This information may be of special interest to designers working with these types of applications, or working in other fields likely to encounter RF interference from broad sources, such as the industrial, scientific, and medical (ISM) radio band.

Table 1. OPA141 EMIRR IN+ for Frequencies of Interest

FREQUENCY	APPLICATION/ALLOCATION	EMIRR IN+
400 MHz	Mobile radio, mobile satellite/space operation, weather, radar, UHF	51.6 dB
900 MHz	GSM, radio com/nav./GPS (to 1.6 GHz), ISM, aeronautical mobile, UHF	61.6 dB
1.8 GHz	GSM, mobile personal comm. broadband, satellite, L-band	71.4 dB
2.4 GHz	802.11b/g/n, Bluetooth™, mobile personal comm., ISM, amateur radio/satellite, S-band	83.2 dB
3.6 GHz	Radiolocation, aero comm./nav., satellite, mobile, S-band	91.9 dB
5.0 GHz	802.11a/n, aero comm./nav., mobile comm., space/satellite operation, C-band	109.2 dB

2 EMIRR IN+ Test Configuration

Figure 2 shows the circuit configuration for testing the EMIRR IN+. An RF source is connected to the op amp noninverting input terminal using a transmission line. The op amp is configured in a unity gain buffer topology with the output connected to a low-pass filter (LPF) and a digital multimeter (DMM). Note that a large impedance mismatch at the op amp input causes a voltage reflection; however, this effect is characterized and accounted for when determining the EMIRR IN+. The resulting dc offset voltage is sampled and measured by the multimeter. The LPF isolates the multimeter from residual RF signals that may interfere with multimeter accuracy. Refer to SBOA128 for more details.

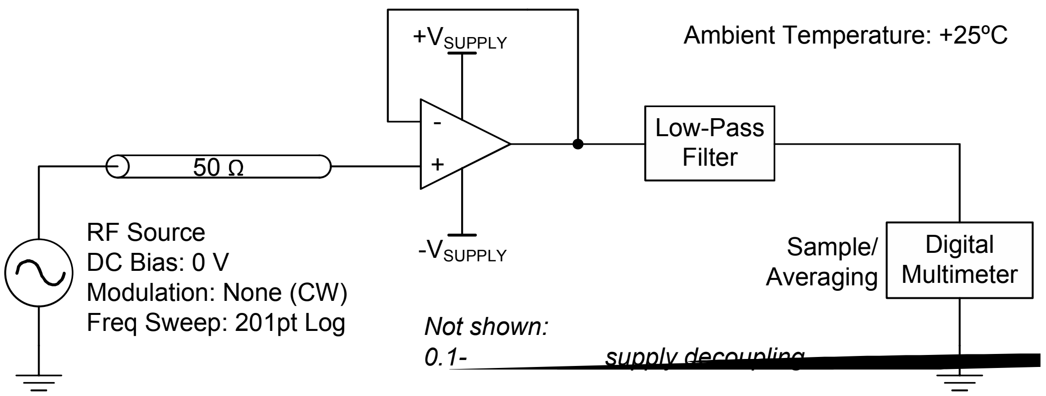

Figure 2. EMIRR IN+ Test Configuration Schematic

References

1. Chris Hall and Thomas Kuehl, "EMI Rejection Ratio of Operational Amplifiers," application report SBOA128, Texas Instruments, August 2011.
2. Gerrit de Wagt and Arie van Staveren, "A Specification for EMI Hardened Operational Amplifiers," application report SNOA497A, Texas Instruments, January 2010.

Table 1 shows the EMIRR IN+ values for the OPA209 at particular frequencies commonly encountered in real-world applications. Applications listed in Table 1 may be centered on or operated near the particular frequency shown. This information may be of special interest to designers working with these types of applications, or working in other fields likely to encounter RF interference from broad sources, such as the industrial, scientific, and medical (ISM) radio band.

Table 1. OPA209 EMIRR IN+ for Frequencies of Interest

FREQUENCY	APPLICATION/ALLOCATION	EMIRR IN+
400 MHz	Mobile radio, mobile satellite/space operation, weather, radar, UHF	24.4 dB
900 MHz	GSM, radio com/nav./GPS (to 1.6 GHz), ISM, aeronautical mobile, UHF	19.9 dB
1.8 GHz	GSM, mobile personal comm. broadband, satellite, L-band	27.6 dB
2.4 GHz	802.11b/g/n, Bluetooth™, mobile personal comm., ISM, amateur radio/satellite, S-band	39.3 dB
3.6 GHz	Radiolocation, aero comm./nav., satellite, mobile, S-band	44.9 dB
5.0 GHz	802.11a/n, aero comm./nav., mobile comm., space/satellite operation, C-band	60.4 dB

2 EMIRR IN+ Test Configuration

Figure 2 shows the circuit configuration for testing the EMIRR IN+. An RF source is connected to the op amp noninverting input terminal using a transmission line. The op amp is configured in a unity gain buffer topology with the output connected to a low-pass filter (LPF) and a digital multimeter (DMM). Note that a large impedance mismatch at the op amp input causes a voltage reflection; however, this effect is characterized and accounted for when determining the EMIRR IN+. The resulting dc offset voltage is sampled and measured by the multimeter. The LPF isolates the multimeter from residual RF signals that may interfere with multimeter accuracy. Refer to SBOA128 for more details.

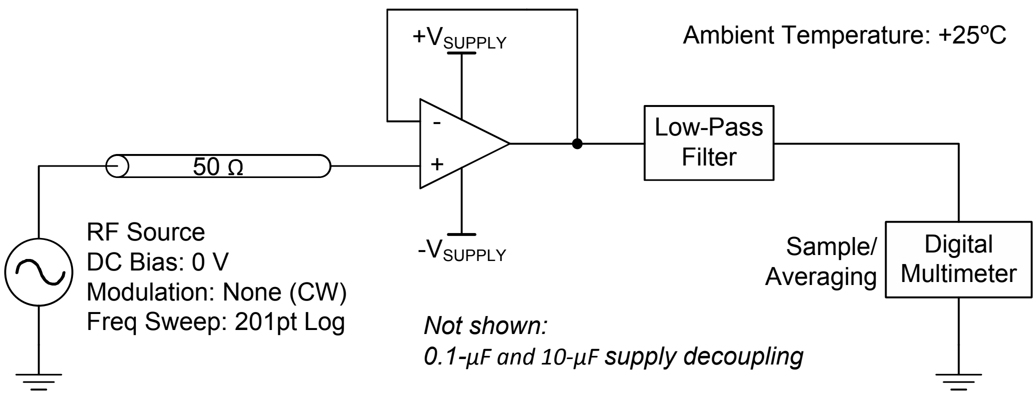

Figure 2. EMIRR IN+ Test Configuration Schematic

References

1. Chris Hall and Thomas Kuehl, "EMI Rejection Ratio of Operational Amplifiers," application report SBOA128, Texas Instruments, August 2011.
2. Gerrit de Wagt and Arie van Staveren, "A Specification for EMI Hardened Operational Amplifiers," application report SNOA497A, Texas Instruments, January 2010.