

10.7.3 CARGO-PRODUCED INTERFERENCE ENVIRONMENT

10.7.3.1 Cargo-Produced Conducted Noise

The Cargo-generated conducted emission limits, applicable to all DC and AC power interfaces, shall be as follows in the subparagraphs below.

10.7.3.1.1 DC Power

The DC power line conducted emissions shall be limited to the levels indicated in Figure 10.7.3.1.1-1. The cargo-generated transients produced on D.C. power lines by switching or other operations shall not exceed +/-30 volts peak as referenced to the line voltage, when fed from a source impedance close to but not less than the values defined in figures 10.7.3.1.1-3 and 10.7.3.1.1-4. (The use of a battery cart is preferable to regulated D.C. power supplies). Rise and fall times shall be greater than 1.0 microsecond.

10.7.3.1.2 (Reserved)

10.7.3.2 Cargo-Produced Radiated Fields

10.7.3.2.1 Magnetic Fields

10.7.3.2.1.1 AC Magnetic Fields

The generated AC magnetic fields (applicable at a distance of 1 meter from any payload equipment) shall not exceed 130 dB above 1 picotesla (30 Hz to 2 kHz) falling 40 dB per decade to 50 kHz.

10.7.3.2.1.2 DC Magnetic Fields

The generated DC magnetic fields shall not exceed 170 dBpT at the payload envelope. This limit applies to electromagnetic and permanent magnetic devices.

10.7.3.2.2 Electric Fields

10.7.3.2.2.1 Unintentional Radiated Electric Fields

The unintentional radiated electric fields shall not exceed the levels defined in Figures 10.7.3.2.2.1-1 and 10.7.3.2.2.1-2 except that the broadband emissions for cargo equipment in the cargo bay shall be limited to 70 dB above 1 microvolt/meter/MHz in the frequency range of 1770 MHz to 2300 MHz. Narrowband emissions shall be limited to 35 dB above 1 microvolt/meter from 1770 MHz to 2300 MHz, excluding any payload intentional transmitters.

10.7.3.2.2.2 Intentional Radiated Electric Fields NOT APPLICABLE

10.7.3.2.2.3 Electrostatic Discharges

Electrostatic discharges shall not occur within the cargo unless they are isolated from the cargo bay gaseous environment (hydrogen-oxygen mixture) and are shielded by the Cargo to satisfy the requirements of Paragraphs 10.7.3.2.1.1, 10.7.3.2.1.2 and 10.7.3.2.2.1.

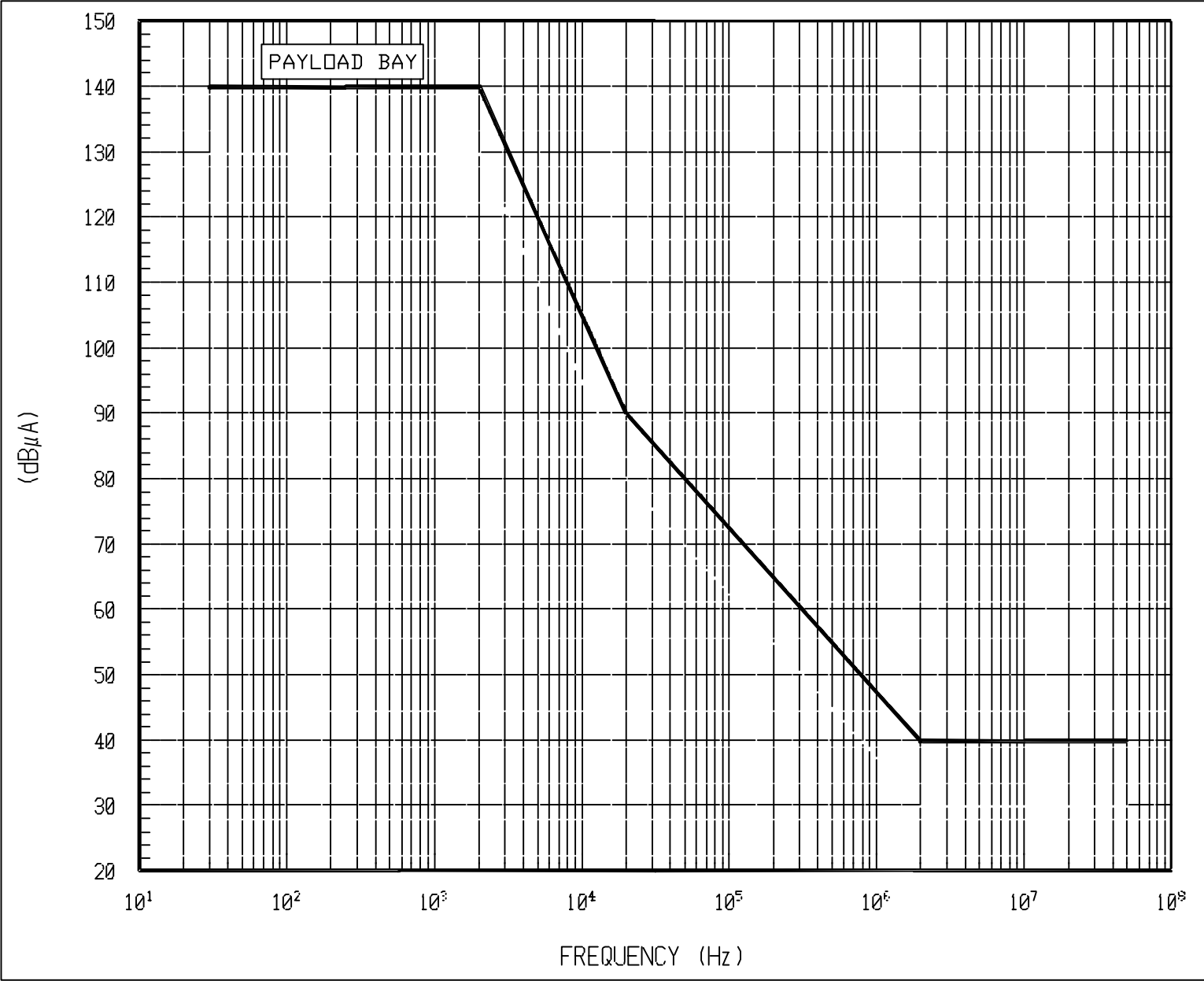


FIGURE 10.7.3.1.1-1 CARGO ALLOWABLE CONDUCTED NARROWBAND EMISSION LIMIT

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FIGURE 10.7.3.1.1-2 LIMIT ENVELOPE OF CARGO GENERATED TRANSIENTS
(LINE-TO-LINE) ON DC POWER BUSES FOR NORMAL ELECTRICAL SYSTEM

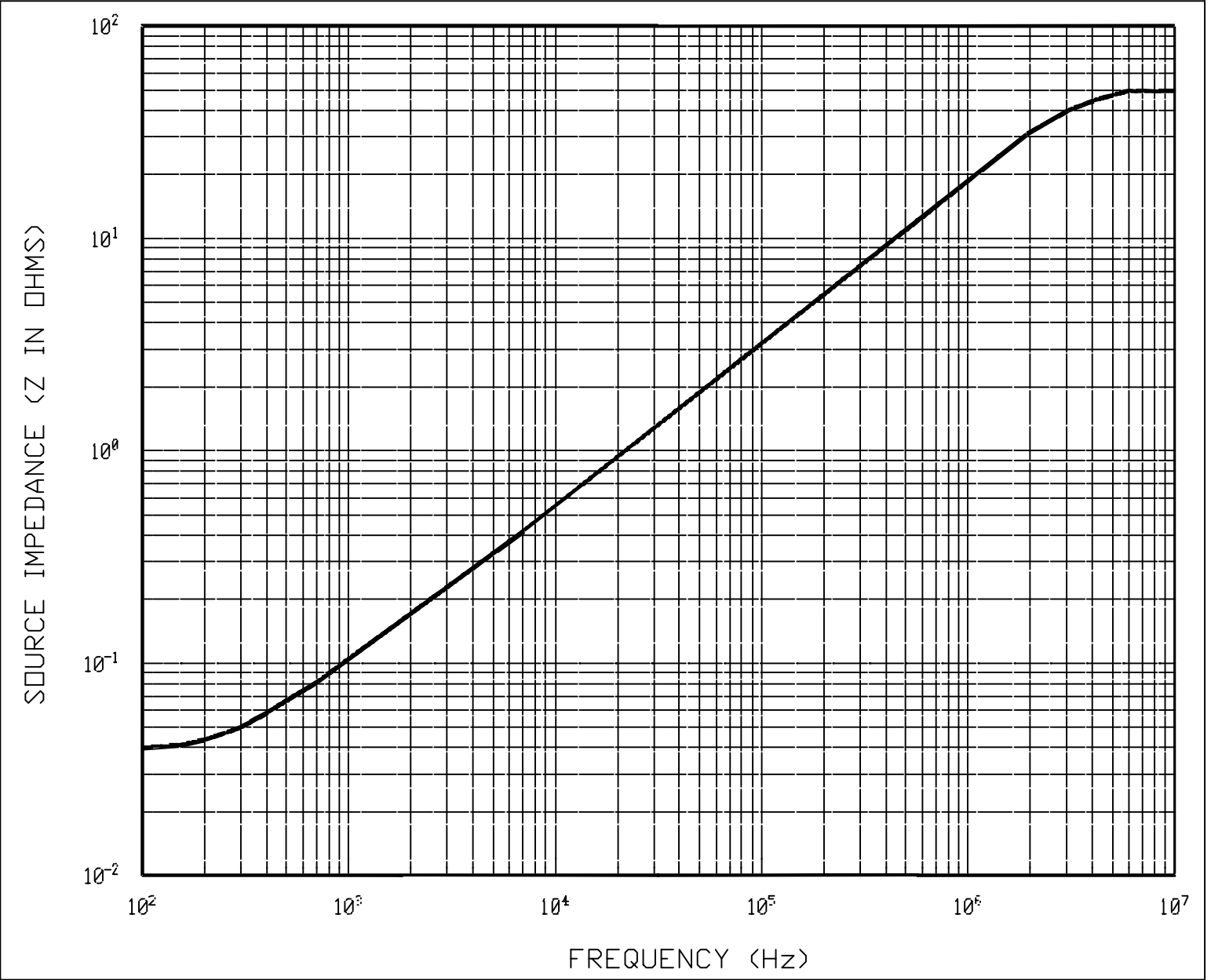


FIGURE 10.7.3.1.1-3 ORBITER DC POWER SOURCE IMPEDANCE (GROUND POWER)

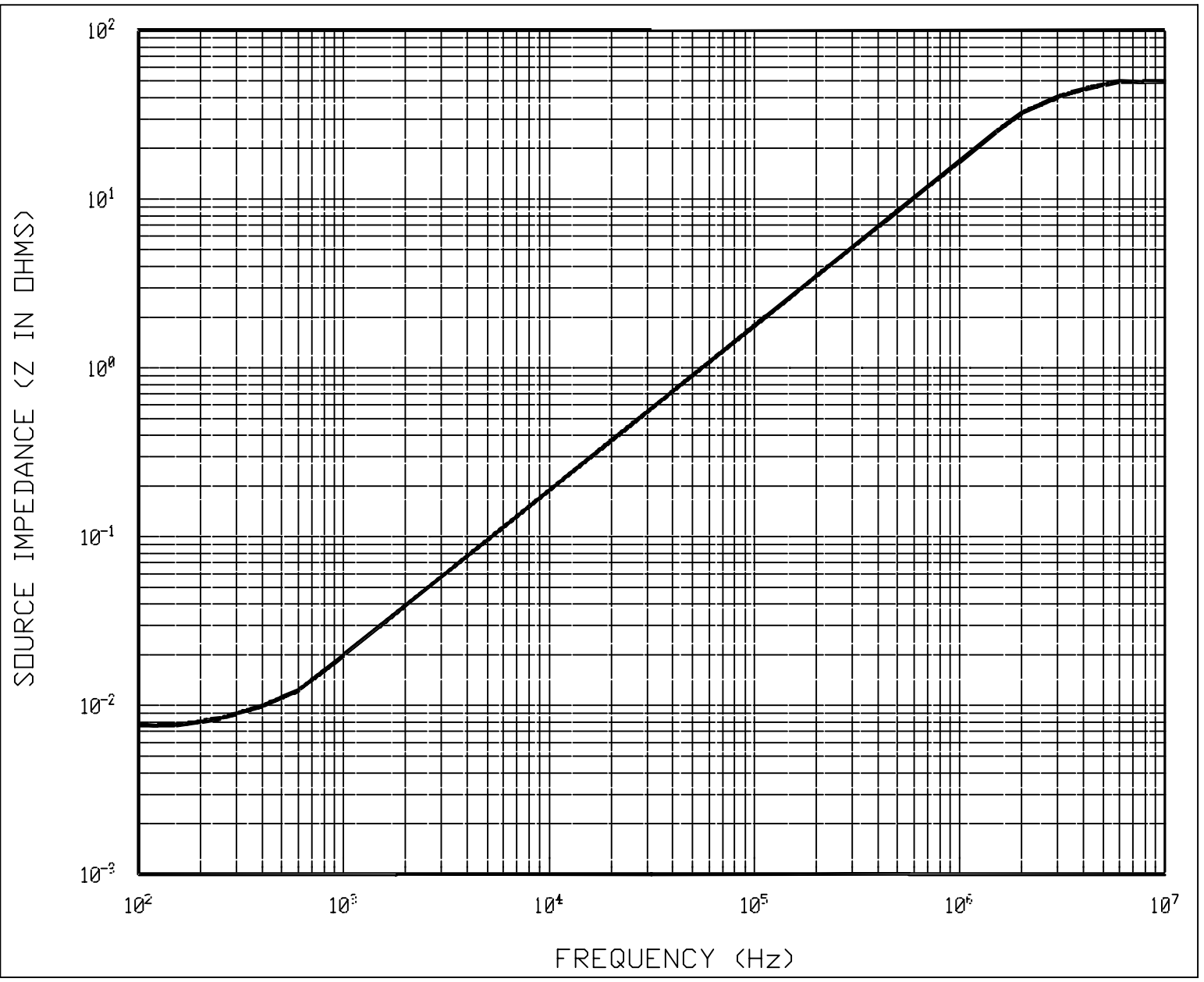


FIGURE 10.7.3.1.1-4 ORBITTER DC POWER SOURCE IMPEDANCE (IN FLIGHT)

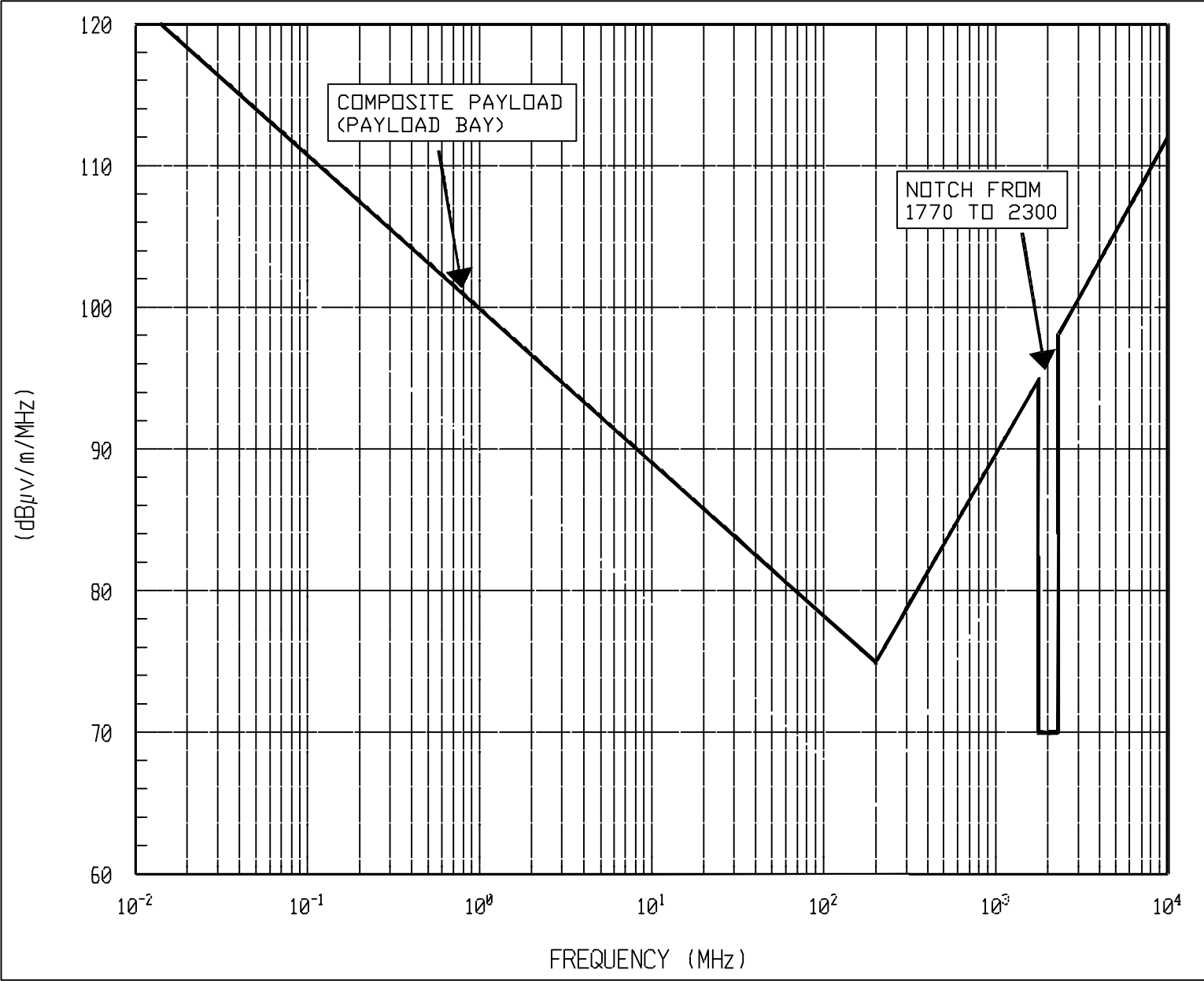


FIGURE 10.7.3.2.2.1-1 CARGO ALLOWABLE UNINTENTIONAL RADIATED BROADBAND EMISSIONS LIMIT

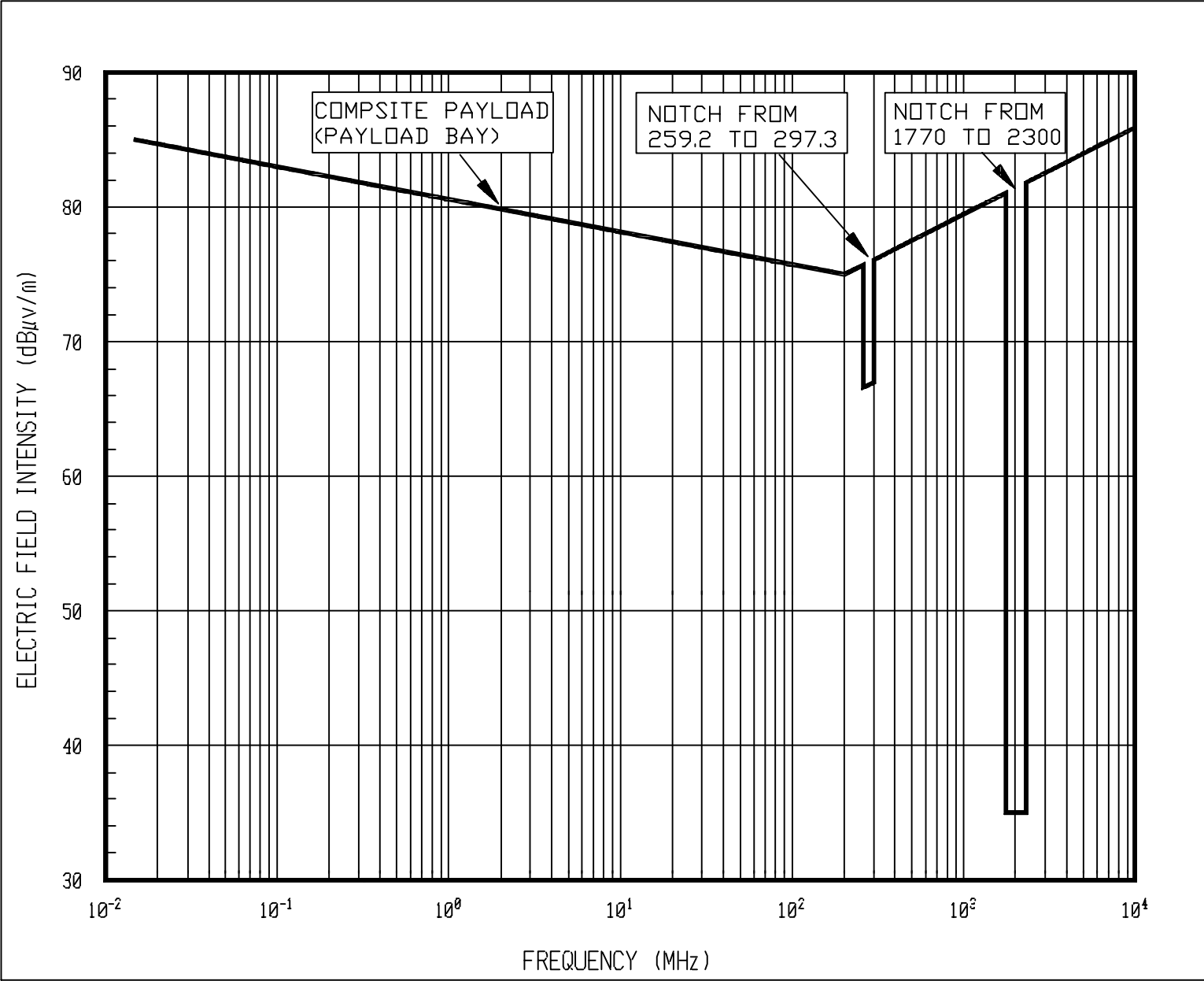


FIGURE 10.7.3.2.2.1-2 CARGO ALLOWABLE UNINTENTIONAL RADIATED NARROWBAND EMISSIONS LIMIT

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