

**BZ5DTR10SC**  
**Application for FCC Certification**  
**10 Watt Digital Television Translator**

**Operational Description:**

This application requests certification for a 10 Watt Digital Television Translator.

The intended use of this digital translator is to rebroadcast a television relay station or other legal source of ATSC digital television signal.

The DTR10SC is a solid state digital regenerative translator designed to receive over-the-air ATSC signals, converting the RF signal to baseband digital format, processing the signal to eliminate noise, and then re-modulating, converting to the new broadcast channel, amplifying and filtering the signal before it is applied to the transmit antenna.

The receive section of the translator and the output modulation format conform to FCC Part 73.682(d), ATSC Digital Television Standards.

The DTR10SC consists of two modules; a front-end digital Translator unit the REGEN unit, which serves to receive, process and re-modulate the signal, and a 10W output amplifier, complete with Mask Filter. The unit is cooled through natural convection. No cooling fans are used.

The translator meets all FCC requirements for both the simple emissions mask and the stringent emissions mask. The output filter and final amplifier frequency response provides more than 85dB of attenuation within the GPS Frequency bands (1164-1240 MHz and 1559-1610 MHz).

Testing results shown in this document were conducted on channel 9 (189 MHz center frequency), except for frequency stability tests which were conducted on channel 7. These test results are representative of performance on any channel in the VHF broadcast spectrum.

Wiring, shielding and construction are in accordance with accepted principles of good engineering practice. The translator's construction is such that all hazardous components are enclosed or protected against accidental contact by operating personnel.