

MicroTransponder Wireless Transmitter model 2000

Why there is no tuning of RF circuitry in production:

The tests in production are performed using a reference set-up. In this set-up, the programmer being tested is placed at certain distances from a reference IPG.

The tests are the following:

- 1) Communication through 8 channels. It must pass for 160 cm between the devices.
- 2) Reception. Distance is 40 cm. IPG transmits a CW through channels 2 and 7, one at a time. Programmer measures signal level in channels 1 to 8 each time. The SNR shall be high enough.
- 3) Transmission. Distance is 40 cm. Programmer transmits a CW through channels 0, 3, 6 and 9, one at a time.
 - a. IPG shall receive the appropriate sequence through those channels.
 - b. SNR at IPG Rx shall be high enough.
 - c. Signal level received by IPG shall be lower than a maximum (about 6 dB higher than the typical value)

The following table tries to explain why there is no need for tuning in production:

Tunable characteristic	Limit	Fact	Test in Production
Tx Power	-16 dBm	-14 dB margin for unit tested in NTS.	Production test #3.
Frequency	100 ppm	Information provided by the manufacturer of the transceiver: < 70 ppm between programmer and IPG frequencies for correct communication.	Production test #1. Regarding frequency stability, the 3.3V voltage regulator is tested.
Spurious emissions	Several requirements	See test results.	Production test #3 checks levels inside the MedRadio band.