2.1) Power Measurement

Power is measured by squaring the voltage. From previous reply: “The digitized IF is quadrature downconverted to I and Q baseband signals. … At each symbol time, the accumulated results are separately squared, and then added. The results of the addition … are also reported externally as the Signal Power.”

2.2) Diagram

The test diagram in the Process Gain measurement document has been revised to show the Signal Power measurement output from the radio.

2.3) Measurement Procedure

The measurement procedure is unchanged. The difference between the Signal Power reported for Spreading Code Turned On and Spreading Code Turned Off is most accurately measured by using a precision attenuator in series with the signals to move the indicated Signal Powers to the same specific value in the middle of the DSP dynamic range. What was a difference between the two Signal Powers thus becomes the difference between the attenuator settings.

3) Direct Sequence System

The FCC ID H6N26061200 Transceiver is a Direct Sequence System. The RF carrier is modulated by a combination of the digital information and a higher speed code sequence. The data symbol rate is 19.266 kilosymbols per second, and the spreading code rate is 1.2137 megachips per second, in both OOK and CCSK operating modes. The spreading code biphase modulates the RF carrier in both of the data modulation operating modes. In the OOK operating mode, the data one’s turn the signal ON, and the data zero’s turn the signal OFF, to produce the On-Off-Keying. In the CCSK operating mode, the data bits are encoded four at a time into one-of-sixteen combinations, and the spreading code jumps to one-of-sixteen starting points in the sequence of 63 chips, and a full sequence of 63 chips spreads the carrier during each symbol duration of the Cyclic-Code-Shift-Keying.

The information data rate during OOK is 19.266 kilobits per second, since there is one bit per symbol. The CCSK information data rate is four bits per symbol, or 77.064 kilobits per second.