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FTS250

Eval Board Quick Start Guide

**CONNOR
WINFIELD**



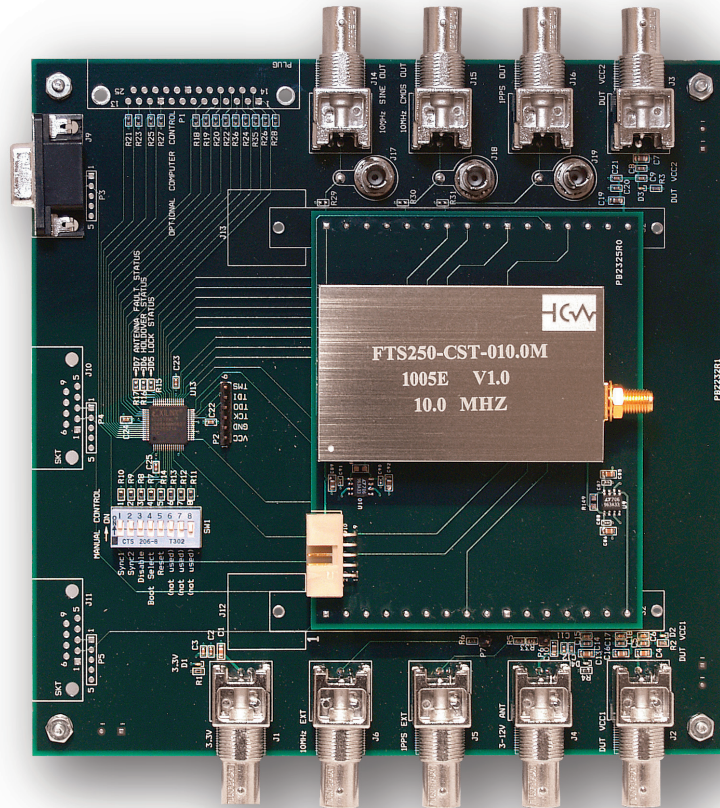
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General Instructions

- 1) Insert the FTS250 unit into the FTS250-Adaptor LIF receptacles
 - The orientation should match the photo shown above.
 - Press the unit down firmly – there should be no metal pins exposed.
- 2) Insert the FTS250-Adaptor into the PB2232R1 test board receptacles
 - The orientation should match the photo shown above.
 - Press the unit down firmly – there should be no metal pins exposed.
- 3) DIP Switch Manual Control Using SW1
 - Verify that all the DIP switches are turned “On” (rightmost position).
 - “Off” position applies a logic low to the unit, “On” position applies a logic high.

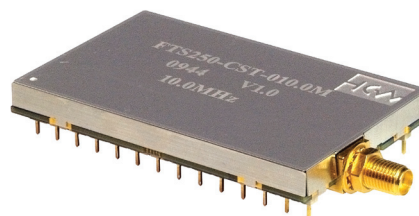
| Switch Label | Function |
|--------------|--|
| Sync1 | Controls DUT pin 20 “SYNC1 Control” |
| Sync2 | Controls DUT pin 19 “SYNC2 Control” |
| Disable | Controls DUT pin 4 (/Disable) |
| Boot Select | Controls DUT pin 12 (/Bootsel)- Only used for Wi125 software updates/revisions |
| Reset | Controls DUT pin 3 (/Reset) |

General Instructions continued

- 4) Connect the BNCs (center positive)
- Do not apply voltages higher than indicated or the DUT and/or test board could be damaged.
 - Connect 3.3V to J1 to power the test board.
 - Connect 5V to both J2 and J3 to power the FTS250. The FTS250-Adaptor has two LDO Regulators (U9, U10), which supply 3.3V to the FTS250. Because of these LDO regulators, J2 "DUT Vcc1" and J3 "DUT Vcc2" may be connected to the same supply without phase noise performance degradation.
 - Connect 3-12V to J4 to power the active antenna through the FTS250's SMA Bulkhead antenna connector. If a different antenna is used other than that supplied with the FTS250 Eval Board, consult that antenna's documentation for the required voltage.

| Designator/Label | Input / Output | Voltage / Logic Type | Function |
|--|----------------|----------------------|--|
| J1: "3.3V" | Input | 3.3V +/- 5% | Eval board power |
| J6: "10MHz Ext" | Input | LVC MOS/LVTTL | External 10MHz reference signal to DUT Pin 7 |
| J5: "1PPS Ext" | Input | LVC MOS/LVTTL | External 1PPS reference signal to DUT Pin 5 |
| J4: "3-12V ANT" | Input | Between 3-12V | Antenna supply voltage for DUT Pin 15 |
| J2: "DUT VCC1" | Input | 5.0V +/- 5% | Supply voltage for DUT Pin 14 |
| J3: "DUT VCC2" | Input | 5.0V +/- 5% | Supply voltage for DUT Pin 1 |
| J16: "1PPS Out" or Probe Jack J19 | Output | LVC MOS | 1PPS signal from DUT Pin 24 |
| J15: "10MHz CMOS Out" or Probe Jack J18 | Output | LVC MOS | 10MHz CMOS signal from DUT Pin 26 |
| J14: "10MHz SINE Out" or Probe Jack J17 | Output | SINE | 10MHz SINE signal from DUT Pin 28 |

- 5) Connect the female DB9 connector "P3" to a computer serial port (optional).
- Used to monitor NMEA 0183 data stream.
 - NS3KView software is recommended for use and can be provided per request.
 - Baud Rate: 38400.
 - Refer to the Wi125 GPS Receiver User Manual for more information on NMEA and the proprietary messages and commands.
- 6) Connect a full sky view GPS antenna to the DUT's female SMA Bulkhead connector.
- 7) Power the unit on.
- 8) LED Function
- **Antenna Fault Status Red LED** (D7) turns on if a fault condition is indicated on DUT Pin 23. An antenna fault condition is defined as an overcurrent on Pin 15 of the DUT (Antenna Supply Voltage). This fault status is self-clearing once the fault condition goes away.
 - **Holdover Status Amber LED** (D6) turns on if the unit is in automatic or forced holdover as indicated by DUT Pin 22 "Holdover Status".
 - **Lock Status Green LED** (D5) turns on if the unit is tightly locked to the selected input as indicated by DUT Pin 21 "Lock Status".



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