



ENGINEERING CHANGE NOTICE

ECIL 5Mhz Conversion

Abstract

Engineering changes required to modify ECIL 1Mhz 1553 cards to 5Mhz cards

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Overview

This document describes the changes for modifying the VME card which supports 1 MHz MIL-1553-STD into a 5 MHz VME board.

This information is confidential, and is supplied under PO#S-6890/M/2504 03.23.2018

Related Documents

- BRD1553VME_TRB_Rev0_BOM_2018_7_18.xlsx
Full BOM for the 5Mhz card

Revision History

- Vn 1.0: Initial Release, 17-Jul-2018
- Vn 1.3: Update release, 31-Jul-2018 (Changes indicated in red)

BRD1553VME_TRB_Rev0_BOM_2018_7_18.xlsx

Changes

1. In order to support 5MHz Mil-1553-STD bus, the on board (XT1) oscillator frequency should be changed to **40MHz**.
 - 1.1 - XT1, On board oscillator frequency was increased from 16 MHz to 40 MHz.
New part: Kyocera, KC7050A40.0000C3GE00, Standard Clock Oscillators 40.0000MHZ 3.3V.
2. Transformer ratio was changed from 1:1.25 to 1:1.79:
 - 2.1 R90,R120,R151,R180,R238,R267, R296, R325,R382, R384,R385,R386,R387,R388,R389,R390 were removed from BOM (do not assemble).
 - 2.2 R78, R89, R107, R119, R137, R150, R168, R179, R226, R237, R255, R266, R284, R295, R313, R324 were added to BOM. Part details: Vishay/Dale, CRCW06030000Z0EB, 0 Ohms, Jumper Resistors / Wire Bridges 1/10watt 0ohms JUMPER
3. The input (Gate) resistors of the transmitting MOSFET were change from 1K Ohms to 475 Ohms, for better signal shape at 5 MHz.
 - 3.1 R91,R92, R121,R122, R152,R153, R183,R184, R239,R240, R268,R269, R297,R298, R326,R327- Resistors values were change to 475 Ohms. Part details: Vishay/Dale, CRCW0603475RFKEA, 475 Ohms, Thick Film Resistors SMD 1/10watt 475ohms 1%

4. Minimum signal detection/short circuit was change due to ratio and transmitting load resistor value changes (next section).
 - 4.1 R98, R128, R159, R217, R246, R275, R304, R333- Resistors values were change to 475 Ohms. Part details: Vishay/Dale, CRCW0603475RFKEA, 475 Ohms, Thick Film Resistors SMD 1/10watt 475ohms 1%
 - 4.2 R99, R129, R160, R218, R247, R276, R305, R334- Resistors values were change to 1.5k Ohms. Part details: Vishay/Dale, CRCW06031K50FKEA, 1.5K, Thick Film Resistors SMD 1/10watt 1.5Kohms 1%
5. Transmitting load resistors value was changed in order to protect the MOSFET from failure in 5 MHz.
 - 5.1 R72, R74, R75, R76, R102, R103, R104, R105, R132, R133, R134, R135, R163, R164, R165, R166, R221, R222, R223, R224, R250, R252, R252, R253, R279, R280, R281, R282, R308, R309, R310, R311 - Resistors values were change to 13 Ohms. Part details: Vishay, CRCW2010130RFKEF, 13 Ohms, Thick Film Resistors - SMD 3/4watt 13 ohms 1%
6. The transmitting MOSFETs part number was changed- to SI1902CDL
 - 6.2 MF1, MF4, MF6, MF9, MF11, MF14, MF16, MF19: New part number Vishay / Siliconix, SI1902CDL-T1-GE3, MOSFET 20V Vds 12V Vgs SC70-6