

ACQ480FMC Advance Product Specification



High Performance Simultaneous Data Acquisition

*Preliminary Product Information
Subject to Change*

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1 Product Description

1. *ACQ480FMC* is an 8 channel simultaneous analog input module.
2. Standard configuration : 8 channels, 40MSPS/channel.
3. Complies with *VITA57 FMC* standard, *LPC* version.
4. Differential input on floating SMSC connector

1.1 Product Variants

- *ACQ480FMC-8-40* : 8 channels, 14 bit resolution, 40MSPS/channel

1.2 Applications

- Radar, Radio Reflectometry, high speed ultrasound and diagnostics..

1.3 Overview

The *FMC* module standard adds user IO to carrier modules fitted with *FPGA* resource. D-TACQ recommends modules based on the *Xilinx ZYNQ* system on chip, combining *FPGA* resource with a dual-core ARM Cortex A9 and gigabit Ethernet. Compatible modules include

- D-TACQ *ACQ1001* : D-TACQ single slot *FMC* carrier, Z7020
- D-TACQ *ACQ2106* : D-TACQ 6 slot *FMC* carrier, Z7030
- D-TACQ *ACQ2206* : D-TACQ 6 slot *FMC* carrier, Z7045

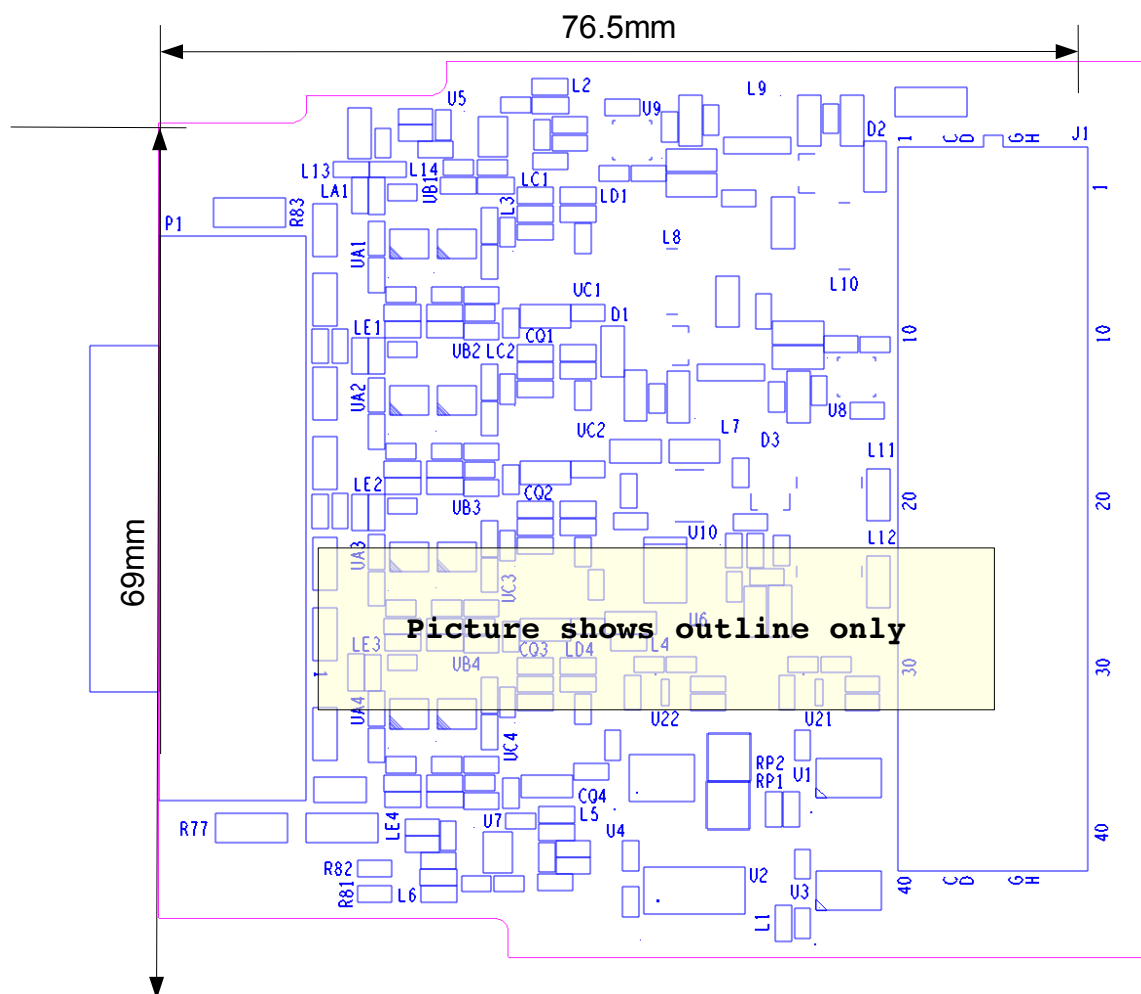
D-TACQ supplies a complete working Intelligent Digitizer appliance including programmable logic and microprocessor system running Linux.

1.4 Glossary

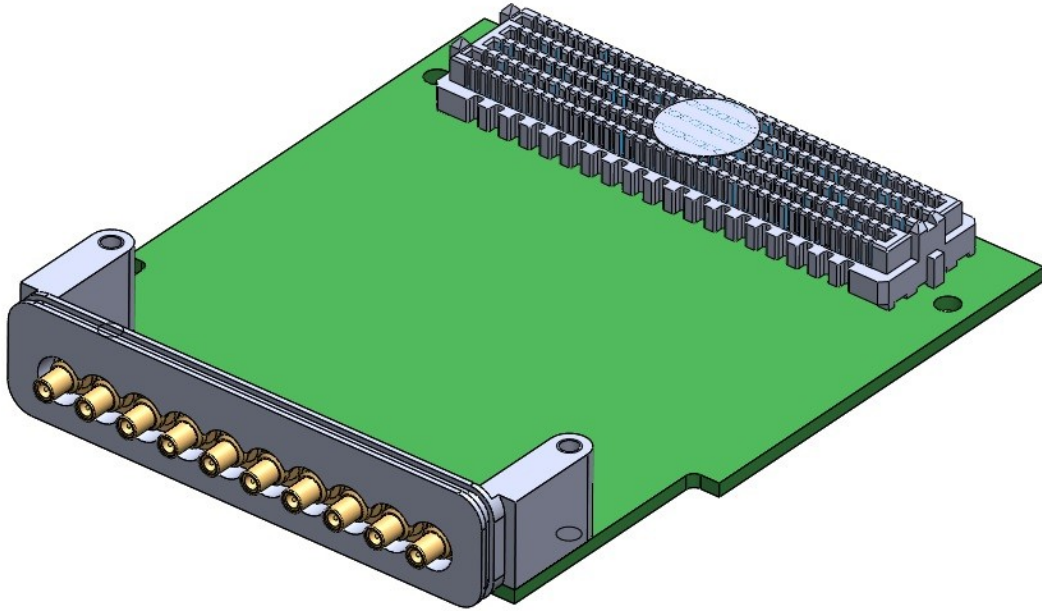
- *FMC*: [VITA57 FPGA Mezzanine Card](#).
- [Xilinx ZYNQ Soc](#)
- *FPGA* : Field Programmable Gate Array.
- *LPC* : *FMC* Low pin count wiring standard.
- *ULPC*: *FMC* Ultra low pin count (D-TACQ).
- *ULPC+* D-TACQ Ultra low pin count with LVDS
- *Extended, E* : *FMC* Extended size module (D-TACQ).

2 Physical

2.1 Dimensions



2.2 Appearance



3 Interface Specification.

3.1 Front Panel Connector

- 10 x SMSC connectors, floating shell.
- 8 channel input
- External CLK, TRG.

4 ACQ480FMC Electrical Specification.

#	Parameter	Value
1	Number of Channels	8
2	Sample Rate	70 MSPS, per channel simultaneous
3	Resolution	14 bits
4	Coupling	DC, Differential Input
5	Input Impedance	1K, [50 Ω option]
6	Input Voltage Range	± 5 (default, other factory options)
7	Input Voltage Withstand	$\pm 15V$
8	Offset Error	± 3 mV
9	Gain Error	± 2 mV
10	INL	± 1 LSB
11	DNL	± 0.5 LSB
12	CMRR	TBD
13	THD	TBD
14	SINAD	71 dB typical
15	SFDR	85 dBc typical
16	SNR	72 dB typical
17	Full Power BW	50 MHz
18	Small Signal BW	100 MHz
	Crosstalk	<90 dB @ 1 kHz FS Input
	Temperature Stability	<25 ppm/C