

FrontierEQ EdgeQAM IP Core Set Overview

Developed in close collaboration with Xilinx® Inc. and available exclusively for Xilinx 7 series FPGAs, the RADX® FrontierEQ™ EdgeQAM IP Core Set is a modular, scalable Intellectual Property (IP) Core Set that enables Cable TV Equipment OEMs to rapidly develop and deploy high-performance, programmable, standards-compliant, cost-effective and power-efficient EdgeQAM systems to meet a wide range of EdgeQAM system requirements— including 32, 64 and 160 Unicast Channel, Single RF Port systems to CCAP configurations with a mix of Broadcast and Unicast Channels (up to 160 Channels per RF Port) and up to 12 RF Ports per blade or 1U subsystem.

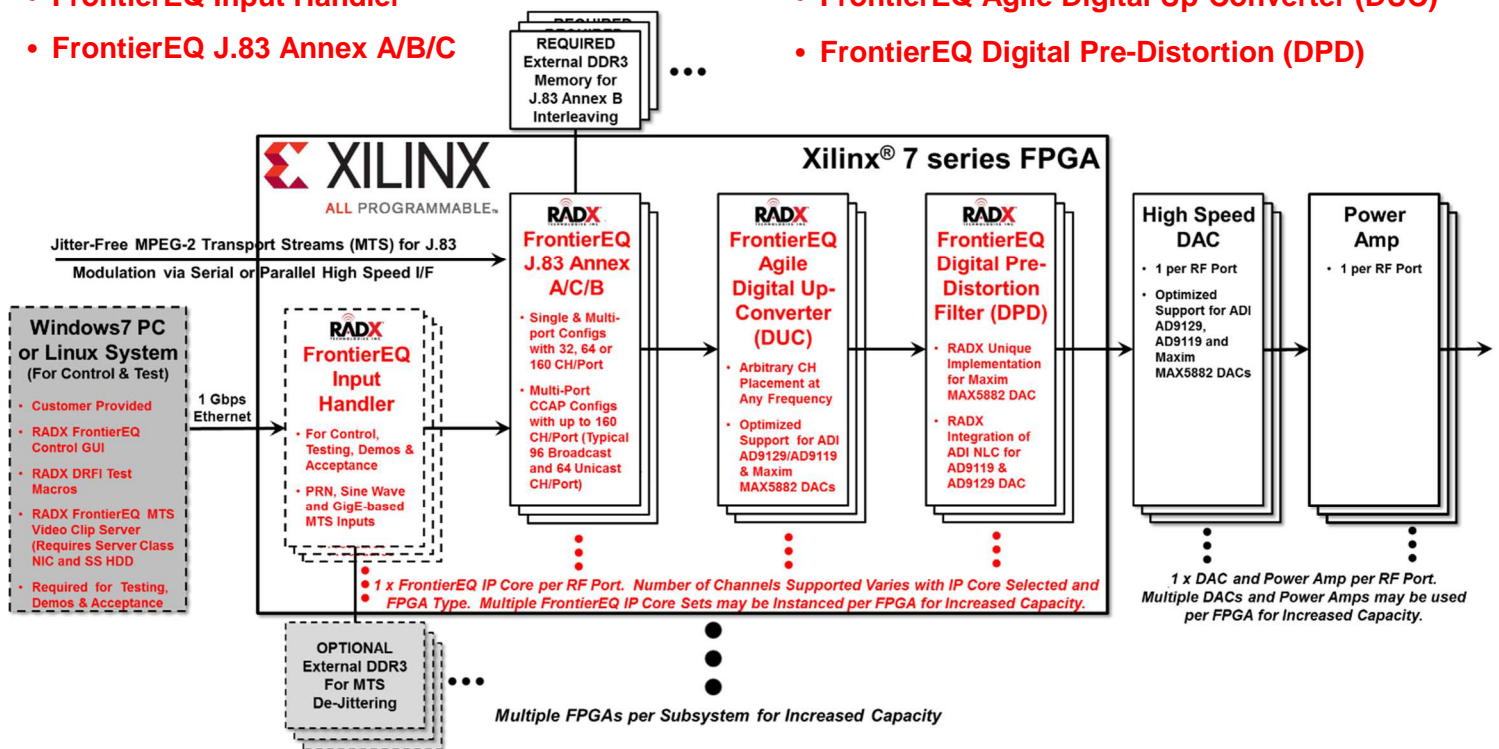
With support for Analog Devices® (ADI) AD9129, AD9119 and Maxim® 5882 DACs, the FrontierEQ EdgeQAM IP Core Set is designed to conform to critical CableLabs® and ITU J.83 Annex A/C/B and DRFI related specifications— which enables OEMs to readily comply with DOCSIS®, CMTS™ and CCAP™ standards. And since the FrontierEQ EdgeQAM IP Cores employ Xilinx 7 series FPGAs, solutions that use them can be field or factory reprogrammed to meet evolving standards and new customer requirements. Key benefits of the RADX FrontierEQ EdgeQAM IP Core Set include the following:

- **High-Performance:** With Average, Equalized MER > 45 dB across the entire CATV Spectrum
- **Low-Power:** With CCAP EdgeQAM Typical Total System Power Less than 135 mW per Channel*
- **Scalable:** 1 to 12 Ports per 1U or Blade and 32 to 160 (Unicast and/or Broadcast) Channels per Port
- **Future Proof:** Programmable Xilinx FPGA-Based Solutions Accommodate Standard and Customer Changes

* Typical Total Power for CCAP EdgeQAM Solution with 2 Port, 96 Broadcast, 64 Unicast Channel per RF Port CCAP Solution with RADX FrontierEQ EdgeQAM IP Core Set, Xilinx Virtex-7 FPGA, DDR3, 2 x ADI AD9129 DACs and 2 x Power Amplifiers.

The FrontierEQ EdgeQAM IP Core Set consists of four (4) interoperable IP Cores optimized for popular Unicast and CCAP (Unicast / Broadcast) configurations that employ Xilinx Kintex®-7 and/or Xilinx Virtex®-7 FPGAs with Analog Devices AD9129 or Maxim MAX5882 DACs:

- FrontierEQ Input Handler
- FrontierEQ J.83 Annex A/B/C
- FrontierEQ Agile Digital Up-Converter (DUC)
- FrontierEQ Digital Pre-Distortion (DPD)



For more info, please visit www.radxtech.com or contact RADX Sales at info@radxtech.com or at +1 (619) 677-1849 x 1

FrontierEQ EdgeQAM IP Core Set Key Features

- **Support for Xilinx Kintex-7, Virtex-7, ADI AD9129, AD9119 and Maxim MAX5882**
 - Optimized for Performance and Power Efficiency
 - Designed to Deliver Maximum Channel Density per Device and Subsystem and Overall Best Value
 - Programmable Solution Supports Factory and Field Reprogramming to Accommodate Future Standards
- **Supported via RADX FrontierEQ Integrated Reference Platforms**
 - Required with Purchase of FrontierEQ IP Cores for Optimal Customer Support, Training, Acceptance and Integration Support for Reduced Time to Market
 - Based on RADX Software Defined Signal Source-- Available with either Xilinx VC707 (Virtex-7) or KC705 (Kintex-7) FPGA Evaluation Boards and ADI AD9129, AD9119, AD91xx CTB or Maxim MAX5882 (VC707 Only) DAC Eval Boards
 - Includes RADX FrontierEQ IP Core Bit Stream, RADX Control GUI for Windows7 PCs or Linux Systems, DRFI Macro Recorder, MTS Video Clip Server, Acceptance Test Suite and DVT Report

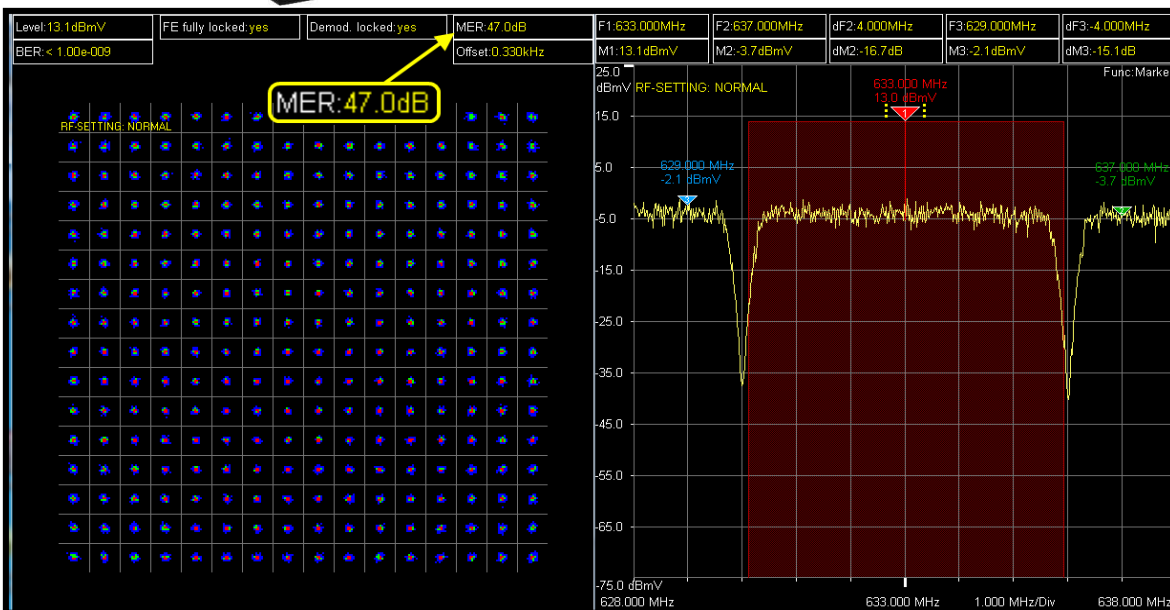


Popular EQ System Configs Standard

- Single (1) RF Configurations with 32, 64 or 160 Unicast Channels per RF Port
 - Models Available for Both Kintex-7 & Virtex-7 FPGAs and AD9129, AD9119 or MAX5882 DACs
 - Multiple EdgeQAM IP Core Sets may be instantiated per FPGA or Multiple FPGAs for Increased Capacity
- Four (4) Port CCAP Configuration with 64 Unicast and 96 Broadcast Channels per RF Port (640 Channels Total)
 - Requires Virtex-7 485T or Larger FPGA
 - Models Available for Both AD9129 or MAX5882 DACs
- Customer Specific Configurations Available—please consult factory for details
- Available in Netlist Format (standard) or Source (option) via RADX License Agreement

Designed to Enable OEMs to Comply with Current (and Future) Standards

- J.83 Annex A/C & B [ITU-T J.83 (12/2007)]
- MPEG Transport Stream Specs [ISO/IEC 13818-1]
- CableLabs DRFI [CM-SP-DRFI-110-100611]
- RADX FrontierEQ IP Cores are Designed to be Compatible with Select Elements of CableLabs DEPI [CMSP-DEPI-I08-100611], DTI [CM-SP-DTI-I05-081209] and CMAP [CM-TRCMAP-V01-10122]



Actual Spectrum Analyzer Screenshot of RADX FrontierEQ Single RF Port, 160 Unicast Channel EdgeQAM IP Core Set on FrontierEQ Reference Platform with Xilinx KC705 (Kintex-7) and Analog Devices AD9129 DAC Showing Constellation and Spectrum with MER = 47

About RADX Technologies, Inc.

RADX Technologies is a technology start up that develops advanced, cost-effective, high-performance DSP-based software, firmware and subsystem products that employ state-of-the-art FPGA, multi-core and GPU-based DSP technologies. With a focus on performance-sensitive wired and wireless communications applications, RADX is a leading supplier of Software Defined Radio (SDR) and Cognitive Radio (CR) Communications Solutions and Synthetic Instrumentation Solutions for RF Measurement and Test for commercial and mil-aerospace customers on a global basis.

For more info, please visit www.radxtech.com or contact RADX Sales at info@radxtech.com or at +1 (619) 677-1849 x 1

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