

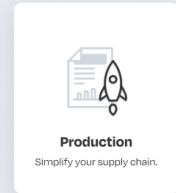
## Company & Product Summary

# ECM1900

FPGA MPSoc Development  
Edge Compute Module

 Opal Kelly

- Founded 2004.
- Leading producer of powerful FPGA modules for high-performance data acquisition, instrumentation, and test & measurement
- Focus on lifecycle-managed modules for prototypes, proof-of-concept, and production use
- Modules include the FrontPanel SDK — a multi-platform, multi-language, FPGA-agnostic framework for professional-grade hardware / software connectivity
- Introduced SYZYGY connectivity standard in 2017
- ISO 9001:2015 QMS, certified 2019



#### OUR CUSTOMERS

Over 2,000 corporate customers

Over 200 Universities worldwide



#### CUSTOMER SEGMENTS

Research Organizations

National Laboratories

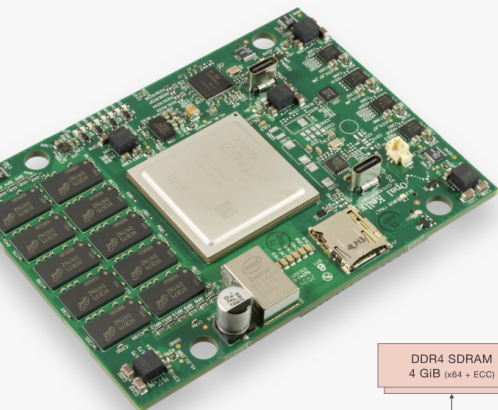
Military / Aerospace

Scientific Instrumentation

Commercial

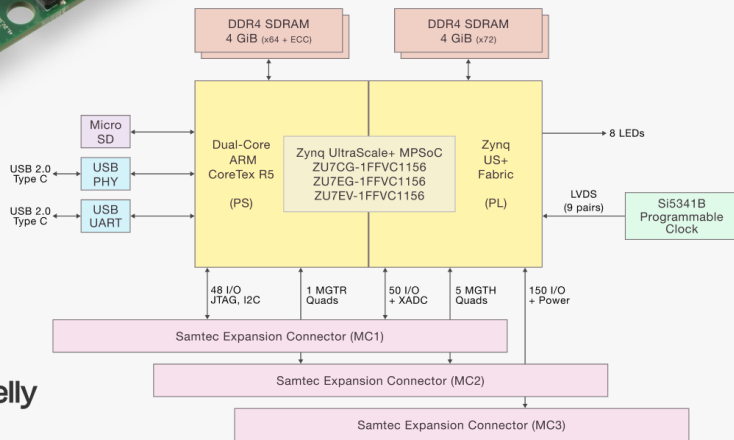


# ECM1900



## Xilinx Zynq UltraScale+ XCZU7CG / 7EG / 7EV

8 GiB DDR4 (4 GiB CPU + 4 GiB FPGA)  
Dual-Core ARM CoreTex R5  
248 I/O  
24 Gigabit Transceivers (up to 16.3 Gb/s)  
Si5341B Programmable Clock Oscillator  
Samtec 0.5mm board-to-board connectors



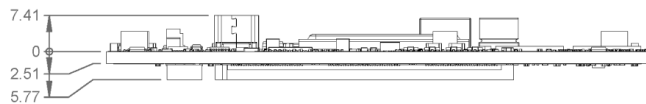
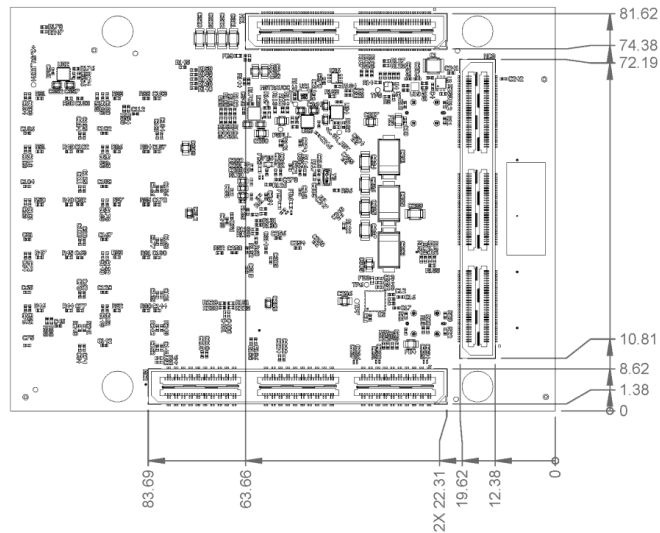
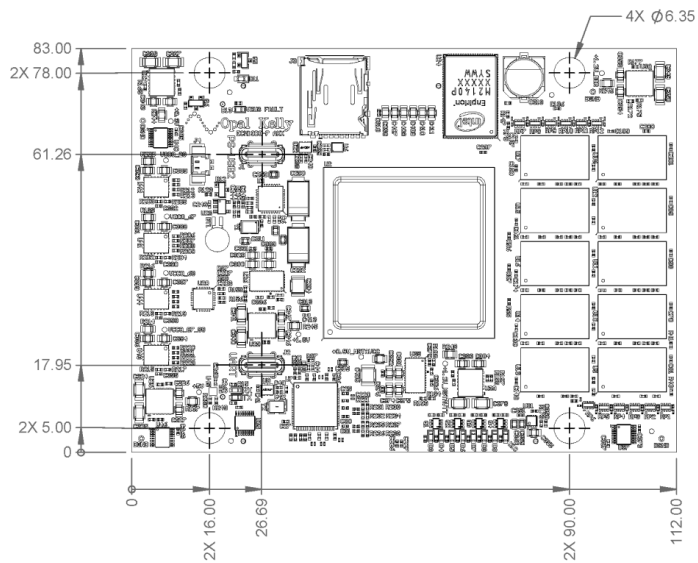
<b>Host Interface</b>	USB 3.0 Type C, SuperSpeed FrontPanel Support
<b>FPGA</b>	XCZU7CG-1FFVC1156E XCZU7EG-1FFVC1156E XCZU7EV-1FFVC1156E
<b>Memory (PS) Memory (PL)</b>	40 GiB DDR4, 72-bit wide data interface (including ECC) 40 GiB DDR4, 72-bit wide data interface (including ECC)
<b>NV Memory</b>	MicroSD Card
<b>Oscillator</b>	Multi-output I <sup>2</sup> C Programmable
<b>FPGA I/O Voltage</b>	Up to +1.8V

	MINIMUM	TYPICAL	MAXIMUM	UNITS
DC Input	+4.5	+5.0	+5.5	VDC
DC Input Ripple	-	-	50	mVp-p
Operating Temperature	0	-	+70	°C
Storage Temperature	-50	-	+100	°C
Weight		TBD		grams
Oscillator Frequency		200		MHz
Oscillator Freq. Stability		± 50		ppm
Oscillator Jitter		2.5		ps RMS

FEATURE	ECM1900-ZU7CG/EG	ECM1900-ZU7EV
Video CODEC	-	Yes
CLB Flip-Flops	460,800	460,800
CLB LUTs	230,400	230,400
Distributed RAM	6.2 Mib	6.2 Mib
Block RAM	11.0 Mib	11.0 Mib
UltraRAM	27.0 Mib	27.0 Mib
DSP Slices	1,728	1,728
Clock Management Tiles	8	8

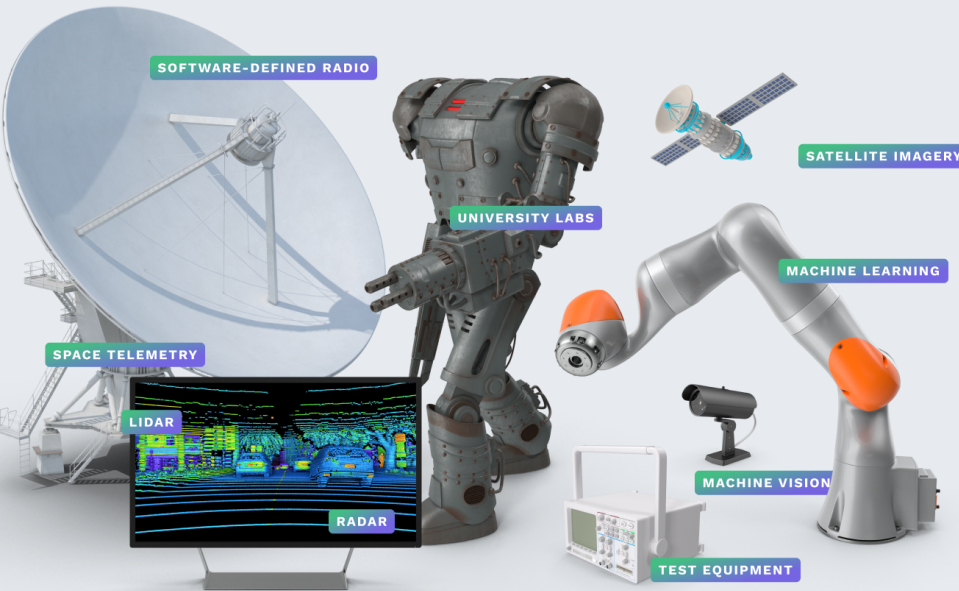
# ECM1900

## Mechanical Drawings



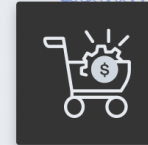
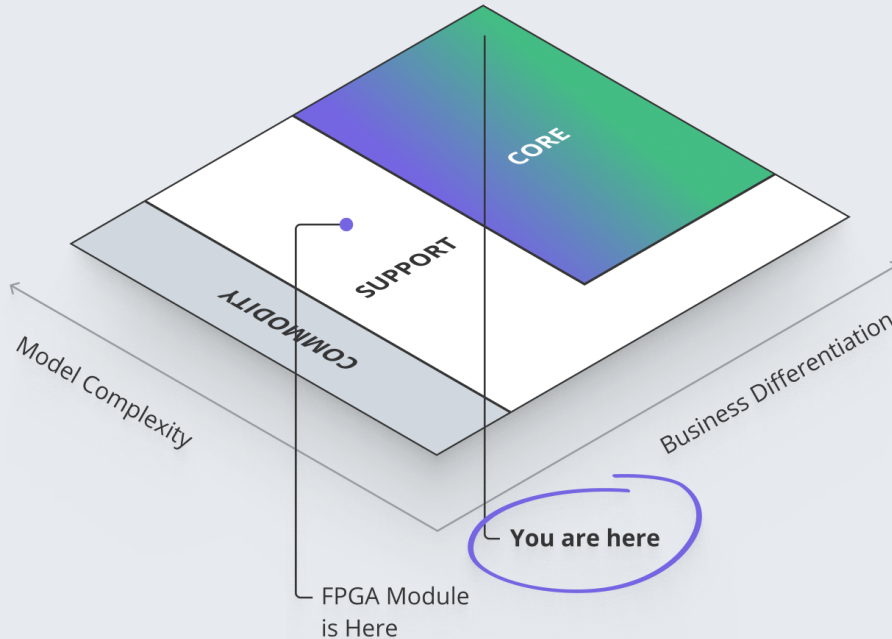
All dimensions in millimeters (mm)

# Applications & Deployments



Data Acquisition  
Instrumentation  
Test & Measurement  
Machine Vision  
Software-Defined Radio  
Education & Research  
Machine Learning / AI  
Networking  
RADAR, LIDAR  
Satellite Imagery  
Advanced / Remote Sensing  
Semiconductor Simulation, Test, and Debug

# Focus on Your Core Expertise



Reduce time to market



Build a team that strengthens your core



Simplify your supply chain