AVR-X410 Rugged weatherproof SDR

Key Features

NI X410 SDR with Zynq US+ RFSoC ZU28DR
4x Rx, 4x Tx , Ref, Trig, PPS, GPS
2x 100GbE optical, 1x 1G Base-T
12-36VDC Input with EMI filter
MIL-STD-810, MIL-STD-461, MIL-STD-1275 Compliant

Optimized size weight and power rugged SDR system includes NI X410 module with rich I/O options. Extended temperature support and all in a ruggedized small form factor embedded system.

Specification

SDR	USRP X410 (4 TX/RX Channels, 400MHz BW, Zynq US+ RFSoC ZU28DR) The NI Ettus USRP X410 is a high-performance, multi-channel, Zynq US+ RFSoC based software defined radio (SDR) designed for frequencies from 1 MHz to 7.2 GHz, tunable up to 8 GHz and features a two-stage superheterodyne architecture. Supports UHD version 4.1 and later.		
38999 I/O Connectors	Ethernet	2x 100GbE Optical MPO 1x 1Gbase-T	
	RF I/O	4x Rx, 4x Tx, Ref In, Trig In, PPS In, GPS ANT	
	JTAG	USB	
	AUX	Digital I/O	
Power Supply	12-36VDC Input (with integrated EMI Filters), MIL-STD-1275 compliant. Maximum 220W		
Environment		Operating	Non-operating
	Temperature	-20 ~ 55° C	-30 ~ 85° C
	IP Rating	IP67	
	Environmental	MIL-STD-810	
	EMI/EMC	MIL-STD-461	
Physical Characteristics	Dimensions (W x H x D) Weight	402 x 302 x 107 mm ~10Kg	

Ordering Information

AVR-X410-C1	Rugged weatherproof X410 SDR with Zynq US+ RFSoC ZU28DR

MIL-STD-461F Compliance

Designed to meet the following:

Requirement	RE102	Radiated emissions, electric field, 2 MHz to 18 GHz
	RS103	Radiated susceptibility, electric field, 2 MHz to 18 GHz, Ground equipment
	CE102	Conducted emissions, power leads, 10 kHz to 10 MHz
	CE106	Conducted emissions, Antenna port
	CS101	Conducted susceptibility, power leads, 30 Hz to 150 kHz
	CS103	Conducted susceptibility, Antenna port, intermodulation
	CS104	Conducted susceptibility, Antenna port, rejection
	CS114	Conducted susceptibility, power cables, 10 kHz to 200 MHz
	CS115	Conducted susceptibility, power cable injection, impulse excitation
	CS116	Conducted susceptibility, damped sinusoidal transients, cables and power leads, 10 kHz to 100 MHz
	CS118	Electrostatic Discharge as per:IEC-61000-4-2

MIL-STD-810G Compliance

Designed to meet the following:

Requirement	High Temperature Operation	Method 501.4, Procedure II +55°C, 3 cycles, 72 hours
	High Temperature Storage	Method 501.4, Procedure I +71°C, 7 cycles, 168 hours
	Low Temperature Operation	Method 502.4, Procedure II -20°C, cold start after 2 hours stabilization
	Low Temperature Storage	Method 502.4, Procedure I -30°C, 4 hours
	Humidity	Method 507.4 Procedure II 85%-95% RH without condensation, 3 cycles of 24hrs
	Blowing Rain	Method 506.4
	Sand and Dust	Method 510.4, Procedure I (dust)< Procedure II (sand) Operational and non-operational
	Vibration – secured cargo	Method 514.7, Category 4 Composite Wheeled Vehicle Method 514.7, Annex C, common carrier
	Vibration – transportation, loose cargo	Method 514.5, Procedure II, in packing case.
	Shock - functional	Method 516.5, Procedure I
	Shock – Bench Handling	Method 516.5, Procedure VI
	Shock – Drop Test	Method 516.5, 26 drops from 1.22m, in packing case
	Salt Fog	Method 509.4 Salt Spray (50±5) g/L, 96 hours

Connectors

J1	D38999/20FC4PN	PWR 12-36VDC Input
J2	D38999/20FE35SN	JTAG USB and AUX GPIO
J3	D38999/20FD4SN	RF DB0
J4	D38999/20FD4SN	RF DB1
J5	D38999/20FD5SN	REF in, TRIG in, PPS in, GPS ANT
J6, J7	MPOFTV20NN	100Gbps Optical MPO
J8	RJFTV21N	1Gbps Base-T Ethernet