

Industrial Cellular Router/Gateway

JetWave 2310/2311-HSPA/LTE Series



- Industrial Slim Size Cellular Router/IP Gateway
- Next Generation Long Term Evolution (LTE) technology, 2x2 DL-MIMO, max. 100MDL/50M UL, compatible with UMTS/HSPA+ (LTE Models)
- Five band UMTS/HSPA+ (3G HSPA models)
- Dual SIM for Carrier Provider Redundant
- Dual Gigabit Ethernet Port Routing/Bridging
- VPN/Firewall/DMZ and Secure VPN Connectivity
- IEEE 802.11n 2.4G WIFI, up to 3T3R MIMO, 450Mbps (2311 Series)
- LAN/WIFI to 3G/LTE Routing
- 3G/LTE and WIFI/WAN Redundant
- SMS Alarm for Ethernet Link up/down
- Auto-offload to reduce cellular communication cost
- OPC UA for Industrial M2M Communication
- Remote management by Web GUI, SNMP, Korenix View, Mobile Manager, Korenix NMS, DDNS
- Dual 24V(12-48V) DC Redundant
- Wide Temperature, Heavy Industrial Grade design



Overview

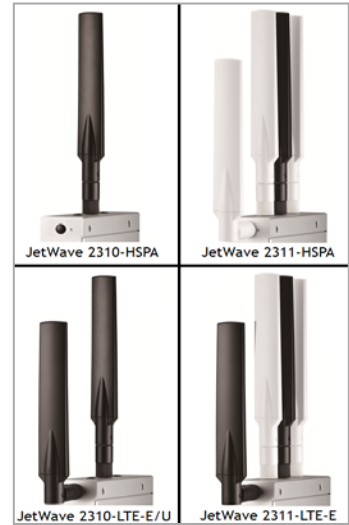
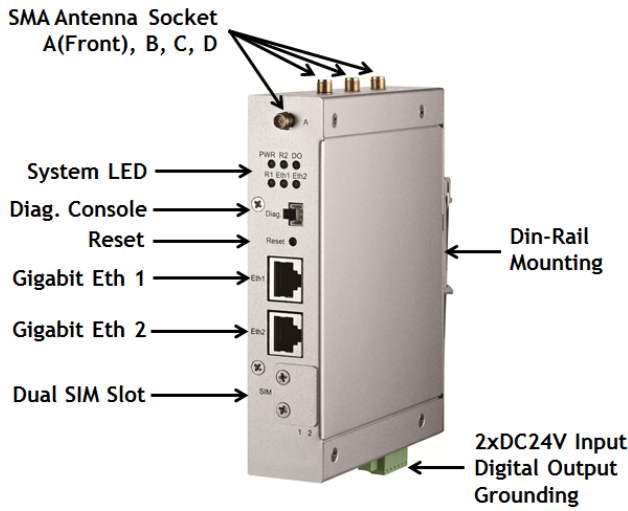
The JetWave 2310/2311 series is a slim size industrial grade secure Cellular Router/IP Gateway for the Ethernet to cellular machine-to-machine (M2M) communication market. The JetWave 2310/2311 Series equips with one embedded 3G or LTE module, dual SIM standby for carrier provider redundant, 2 Gigabit Ethernet ports for routing or switching. With the next generation Long Term Evolution (LTE) technology, it supports up to 100Mbps DL and 50Mbps UL high speed bandwidth for cellular communication.

JetWave 2311 series equips with one additional 802.11n 2.4G WIFI as cellular traffic offload and local access solution, it reduce a lot of connecting cost. The cellular router/gateway also supports remote management, secure connectivity, firewall/NAT features. The OPC UA is designed for industrial M2M communication, a popular protocol for industrial automation and M2M application. The industrial grade design supports dual 24V(12-48V)DC input, Digital Output, wide operating temperature and heavy industrial grade environment protection.

Model Name	3G UMTS/HSPA+	4G LTE	WIFI	Ethernet	DI/DO	SIM	Operating Temp.
JetWave 2310-HSPA	V	-	-	2xGE	1xD0	2	-25~70°C
JetWave 2310-LTE-U	V	LTE-U	-	2xGE	1xD0	2	-25~70°C
JetWave 2310-LTE-E	V	LTE-E	-	2xGE	1xD0	2	-25~70°C
JetWave 2311-HSPA	V	-	2.4G WIFI	2xGE	1xD0	2	-25~70°C
JetWave 2311-LTE-E	V	LTE-E	2.4G WIFI	2xGE	1xD0	2	-25~70°C

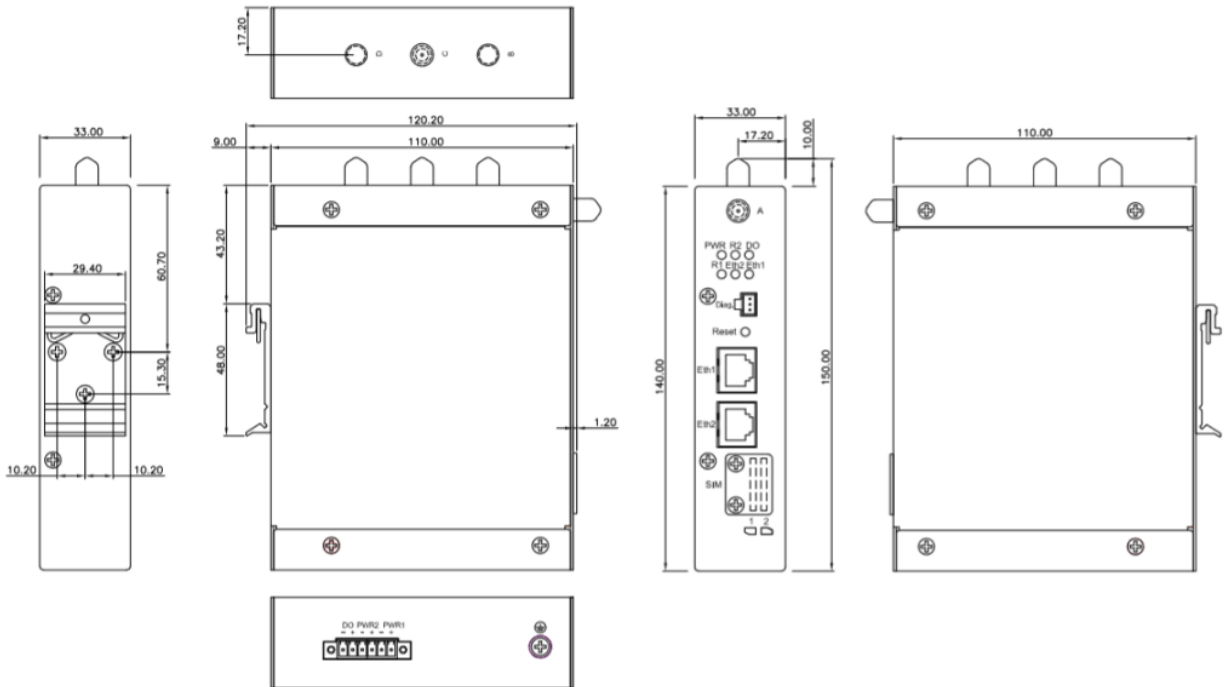
*LTE-E: 800(20)/900(8)/1800(3)/2600(7)MHZ
 *LTE-U: 700(17)/850(5)/AWS(4)/1900(2)MHZ

Appearance



Antenna	2310-HSPA	2310-LTE-E/U	2311-HSPA	2311-LTE-E
A	N.A.	LTE-Aux	WIFI 1-3	LTE-Aux
B	-	-	WIFI 1-1	WIFI 1-1
C	3G	LTE-Main	3G	LTE-Main
D	-	-	WIFI 1-2	WIFI 1-2

Dimension



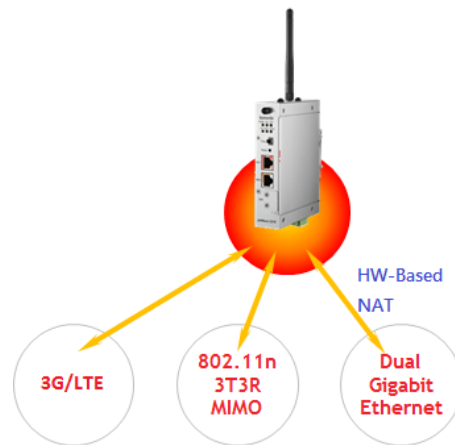
Next Generation Long Term Evolution (LTE)

The product can support the next generation Long Term Evolution (LTE) 2x2 DL MIMO technology to reach up to 100M Downlink and 50M Uplink speed. The embedded LTE module also backward compatible with UMTS/HSPA connection which enables remote and mobile control to the LAN and WIFI interfaces.



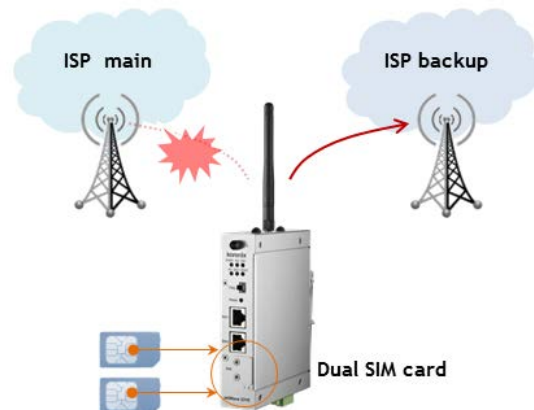
HW NAT Routing

The processor supports 700MHZ speed and two Gigabit Ethernet ports support hardware-based NAT routing. The powerful engine speeds up the routing among the Gigabit Ethernet, Cellular and WIFI interfaces.



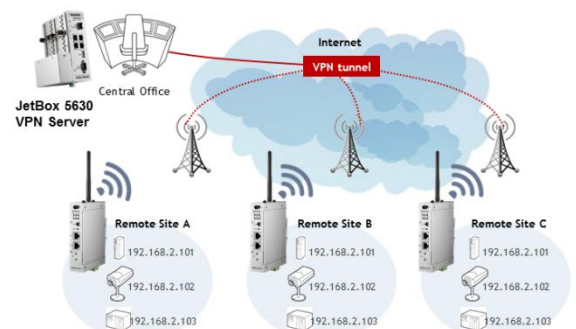
Dual SIM Standby for 3G/LTE Redundancy

The product support dual SIM standby for 3G/LTE Redundant. While the primary SIM connection fails, the second SIM recovers to the other carrier provider.



Secure Remote Connection

The product support VPN for secure remote connection. VPN provides secure communication between the central office and the remote sites through the public Internet. Choose the JetBox 5630 as VPN server, JetWave 2310 series as VPN client is the ideal secure remote connection solution.



Specification

Technology	
Standard	IEEE 802.3 for 10BaseT IEEE 802.3u for 10/100Base-TX IEEE 802.3ab for 1000BaseT IEEE 802.11n/g Wireless LAN IEEE 802.11i Wireless Security 3GPP Release 6, 7, 8 3G UMTS/HSDPA/HSUPA 3GPP Release 9 Long Term Evolution (LTE)
Interface	
Ethernet Port	2x 100/1000Base-T(X) RJ-45
Cellular	3G or LTE for the cellular machine-to-machine (M2M) communication
WIFI	IEEE802.11n, 2.4G Band (JetWave 2311 Series)
SIM Socket	2 (Dual SIM Standby)
Power Input	2x 24VDC (12~48VDC) input
Relay Output	1xRelay Output, 1A@24VDC
Console	3-pin RS-232 Diagnostic console
Reset	Reset Switch, Reset to Default over 7 seconds
LED	PWR, Radio 1, Radio 2, DO, Eth 1, Eth 2
SMA Antenna Socket	1 socket available (JetWave 2310-HSPA, 3G UMTS/HSPA) 2 sockets available (JetWave 2310-LTE-E/U, LTE-Main and LTE-Aux.) 4 sockets available (JetWave 2311 Series, 3G/LTE plus WIFI)
WIFI (JetWave 2311 Series only)	
CPU	Qualcomm Atheros 700MHz
Operating Frequency	FCC : 2.412-2.462GHz CE : 2.412-2.472GHz (Programmable for different country regulations)
MIMO	3T3R (JetWave 2311-HSPA) 2T2R (JetWave 2311-LTE-E)
RF Modulation	802.11g/n: OFDM (BPSK, QPSK, 16-QAM, 64QAM)
RF Output Power	13dBm at 802.11g, 11dBm at 802.11n HT40 (MCS0/8, 2422MHz) <17dB EIRP for CE (ETSI 300 328, include 4dBi default antenna)
RF Sensitivity	802.11g: -82dBm@6Mbps, 1Rx; -65dBm@54Mbps, 1Rx 802.11n HT20: -82dBm@MCS0, 1Rx; -64dBm@MCS7, 1Rx 802.11n HT40: -79dBm@MCS0, 1Rx; -61dBm@MCS7, 1Rx
Cellular	
HSPA (2310/2311-HSPA)	HSPA Band: UMTS/HSPA+: Five band 800/850/900/1900/2100MHz GSM/GPRS/EDGE: Quad band 850/900/1800/1900MHz
LTE Standard	3GPP Release 9 Long Term Evolution (LTE), 2x2 DL-MIMO LTE category 3: max. 100 Mbps DL, 50 Mbps UL
LTE-E Band (2310/2311-LTE-E)	LTE: 800/900/1800/2600 MHz, FDD-Band (20, 8, 3, 7) UMTS/HSPA+: 900/1800/2100 MHz, FDD-Band (8, 3, 1) GSM/GPRS/EDGE: 900/1800 MHz
LTE-U Band (2310-LTE-U)	LTE: 700/850/AWS(1700/2100)/1900 MHz, FDD-Band (17, 5, 4, 2) UMTS/HSPA+: 850/AWS(1700/2100)/1900 MHz, FDD-Band (5, 4, 2) GSM/GRPS/EDGE: 850/900/1800/1900 MHz

Management	
Management	Web GUI, Telnet, SNMP, IP Setup, DDNS Setup, Management VLAN ID, Configuration Backup/Restore, Firmware Upgrade, Reload Default, Ping, DO Events, DO Alarms, SNTP
WLAN Setup (JetWave 2311 Series)	Wireless Basic Settings, Multiple SSID, Radio on/off, SSID Broadcast, Frequency selection, VLAN ID, Advanced Settings; WIFI/Cellular Redundant, WIFI to Cellular Auto Offload
3G/4G LTE	3G/LTE Configuration, SIM Security, Status, Debug Log, Auto IP Report, Watchdog, Mobile Management, Dual SIM Standby/Redundant, Cellular/Eth-WAN Redundant
Router/Gateway	Hardware-based NAT Routing, DHCP Server/Client
SNMP	Simple Network Management Protocol v1/v2c/v3, Function-based MIB, SNMP Trap
SMS	Up to 5 received telephone numbers, Ethernet Link up/down Alarm
OPC UA	OPC UA for Industrial M2M communication
Status	System Information, Bridge Table, ARP Table, DHCP Client List
System Log	System events log
Utility/NMS	Korenix View Utility, Korenix Mobile Manager, Korenix NMS
Security	
Secured Access	HTTPS, SSH, IEEE 802.1X, Radius Server
Firewall	Firewall Setting, DMZ, Port forwarding
VPN	Open VPN Client, 1-1 Open VPN Server, L2TP Client, IPsec
Power Requirement	
Power	Dual DC24V (12~48VDC) input
Power Consumption	Standby Mode: 2.64W (Power on only) Full Load: Max. 6.24 Watts *Suggest to reserve 15% tolerance power in practical installation.
Mechanical	
Enclosure	Aluminum housing
External Antenna	Reverse SMA Female connector
Mounting	Din-Rail, Desktop
Dimension	140 mm(H) x 110 mm(D) x 33 mm(W)
Weight	600g with package
Environmental	
Operating Temperature	-25 ~ 70°C
Operating Humidity	5% ~ 95% (operating)
Storage Temperature	-40 ~ 85 °C
Approvals	
Certification	R&TTE: CE EN55022/55024 EN 61000-6-2/4 Industrial Environment EN 301 489-1/17/24 EN 301 908-1 EN 300 328 V1.8.1 EN50385/EN62311 MPE assessment Safety EN60950-1 FCC Part 15B (JetWave 2316-LTE-U)
Warranty	5 years
Ordering Information	
JetWave 2310-HSPA	Industrial Cellular Router/Gateway, 2xGE, 3G UMTS/HSPA+ Five-Band
JetWave 2310-LTE-E	Industrial Cellular Router/Gateway, 2xGE, LTE 800(20)/900(8)/1800(3)/2600(7)
JetWave 2310-LTE-U	Industrial Cellular Router/Gateway, 2xGE, LTE 700(17)/850(5)/AWS(4)/1900(2)
JetWave 2311-HSPA	Industrial Cellular plus 802.11n 2.4G WIFI IP Gateway, 2xGE, UMTS/HSPA+ Five-Band
JetWave 2311-LTE-E	Industrial Cellular plus 802.11n 2.4G WIFI IP Gateway, 2xGE, LTE 800(20)/900(8)/1800(3)/2600(7)
Includes	Product Unit, Quick Installation Guide Default Antennas (Depends on model, HSPAx1, LTEx2, WIFIX2 or 3) *Please download user manual from Korenix Web Site