

Kite-5000 Series

MOBILE WIRELESS GATEWAY WITH LTE CAT-7 AND WI-FI 5

WESTERMO



KEY FEATURES

- Up to 5x LTE interfaces for channel-bundled WAN access
- Up to 4x SIM cards for each LTE interface
- Up to 2x Wi-Fi 11ac interfaces for dual band mode
- 3x3 MIMO with up to 1300 Mbps
- Dual 1 Gigabit Ethernet on M12 X-coded connectors
- Cold bypass for daisy chaining
- Simultaneous Wi-Fi operation on 2.4 GHz and 5 GHz bands
- Up to 2 sockets for extensions (2.5 GbE, M.2 PCIe SSD)
- Optional internal SSD storage up to 960 GB
- Ultra-wide-range power supply 24 to 110 VDC
- Integrated GNSS
- Built-in cybersecurity
- Maintenance-free design
- -40 °C to +70 °C operating temperature
- EN 50155 compliant

TYPICAL APPLICATIONS

- Passenger Wi-Fi
- Passenger Entertainment
- Passenger Information
- Ticketing System
- Fleet Management
- Video Surveillance

HIGH-END WIRELESS COMMUNICATION

The Kite-5000 series is a robust wireless communication gateway for railway applications. It offers stable, secure, and broadband LTE CAT-7 connections for train-to-ground communication and high-speed internet. The device hosts multiple LTE interfaces for multi-carrier operation and thus maximized throughput, multiple Wi-Fi interfaces to connect to client devices such as mobile phones, as well as dual Gigabit Ethernet ports to attach the device to a backbone network.

MULTIPLE RADIOS

There is mounting space for up to five radio modules depending on model type within the Kite-5000 series. Each LTE module can be provided with up to four SIM cards for an optimal net coverage and maximum provider flexibility. The Wi-Fi interfaces allow for connecting clients at high data rates. The gateway can be equipped with two 11ac 3x3 MIMO modules to boost network efficiency and maximize data throughput.

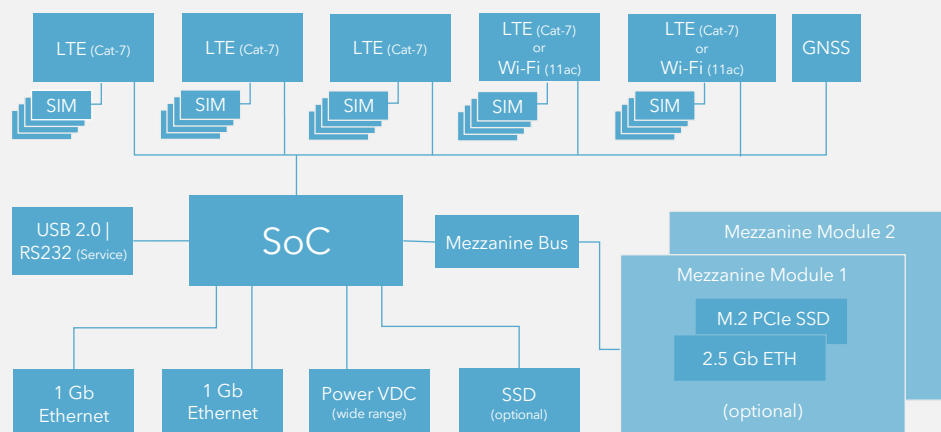
DATA STORAGE

To provide the Kite-5000 series with internal storage, mounting space for a M.2 solid state drive is supplied. It can be used for local content or data storage.

USER-INTERFACE AND SECURITY FEATURES

The Kite-5000 series firmware provides a convenient management interface via a web service. Besides global setup parameters our WeRT OS, based on open source software OpenWrt, allows the configuration of the radio interfaces, including provider information and the login dialog, as well as the setup of the stateful firewall. The access point and router configurations as well as the management firmware can be updated remotely. Furthermore, the built-in fully configurable stateful firewall and multi-VPN support with hardware-accelerated encryption ensures communication security.

BLOCK DIAGRAM



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TECHNICAL DATA

PHYSICAL INTERFACES	
System Architecture	Octa-Core CPU T2081, 1800 MHz 4 GB RAM, 256 MB Flash
Antenna	QLS connectors
LAN	2x 10/100/1000BaseT(X), M12 X-coded
USB/Serial Port	M12 8-pin female A-coded, USB 2.0, RS232
Power Input	M12 4-pin male A-coded
Reset Switch	available on front panel

ELECTRICAL SPECIFICATIONS	
Power Supply	24 to 110 VDC, wide-range power supply (compliant to EN 50155)
Interruptions of Voltage Supply	EN 50155, Class S2
Power Consumption	42 W typ., 52 W max.

ENVIRONMENTAL CONDITIONS	
Ambient Temperature	depending on temperature class of Wi-Fi module Class OT4, -40.. +70 °C (85 °C) operating or Class OT3, -25.. +70 °C (85 °C) operating -40.. +85 °C storage
Humidity	max. 95 % non-condensing operating and storage
Altitude	Class AX, up to +2000 m
PCB Protection	conformal coating

RELIABILITY	
MTBF	approx. ~180.000 h (acc. to IEC 62380)
Mission Profile	40 °C ambient temperature, 75 % working time ratio with 365 days annual cycle

MECHANICAL SPECIFICATIONS	
Dimensions	251 (284) mm x 76 mm x 246 mm (w h d) (incl. mounting points)
Weight	up to 4250 g
Housing	IP40, aluminum, wall-mount, conductive cooling

MODULES

LTE INTERFACE CAT-7 ADVANCED	
Transfer Rates	up to 300 Mbps download / 150 Mbps upload
4G (LTE) Bands	B1, B3, B7, B8, B20, B28, B32, B38, B40, B41, B42, B43
3G Bands	B1, B5, B8
Antenna	2x RF antennas per interface, with Diversity and MIMO

WI-FI INTERFACE IEEE 802.11 a/b/g/n/ac	
Transfer Rates	up to 450 Mbps @ 2.4 GHz, 1300 Mbps @ 5 GHz
Frequency Range	2.412 GHz to 2.472 GHz, or 4.920 GHz to 5.825 GHz, selectable band
RF	3x RF antennas per interface, 3x3 MIMO technology
Operational Feature	up to 128 clients per interface
Security	stateful firewall with multi-level client isolation

GNSS INTERFACE	
Frequency Band	GPS (L1C/A), GLONASS (L1OF), Galileo (E1-B/C) and BeiDou (B1I) plus SBAS and QZSS reception
Protocol Standards	UBX, NMEA 4.11/4.10/4.0/2.3/2.1
Accuracy	up to 1.5 m
Time To First Fix	cold start < 28 s, warm start 2 s

SOFTWARE

OPERATING SYSTEM FEATURES	
OS	WeRT OS based on OpenWrt Linux
Wireless Encryption	OPEN, OWE, AES, WPA2-PSK/EAP, WPA3-PSK/EAP, mixed modes
Remote Management	SNMP V1/V2/V3, telnet, SSH, https
Routing	WLAN bridge, AP mode, Client mode, LACP, DFS support, VLAN 802.1q, LLDP 802.1AB, QoS 802.1p, VRRP redundancy, Hotspot 2.0, 802.11k, 802.11r and 802.11v seamless client roaming
VPN	OpenVPN, IPSec, GRE
SSID's	up to 16 SSID's (effective)
Network Link Mgmt.	link prioritization, load balancing, link aggregation
Security	stateful firewall with multi-level client/AP isolation, rouge AP detection, authentication 802.1x

STANDARDS AND SPECIFICATIONS

Directive (EU) 2016/797	EN 50155 (IEC 60571)
	EN 45545-2 (HL 1 to HL 3)
	EN 61373 (Category 1, Class B)
RED - 2014/53/EU	EMC
	radio spectrum
	health & safety
	cybersecurity

OPTIONS

Modules	various combinations of Wi-Fi and LTE modules
Antenna Connectors	QLS to SMA adapter
Interfaces	2.5 Gb ETH (M12X), M.2 PCIe SSD
Further information on www.westermo.com	