Kona Field Tool User Guide (KonaFT)

The current version of the Kona Field Tool can be found at the following link:
https://knowledgehub.tektelic.com/konaft-application
Download and install on a Windows PC running XP, Win7 or Win10.

Once installed, launch the application and connect your Kona gateway.

General Tab:

Gateway Info:

- Provides OEM information (product code, serial number, gateway ID, MAC, frequency band, etc)

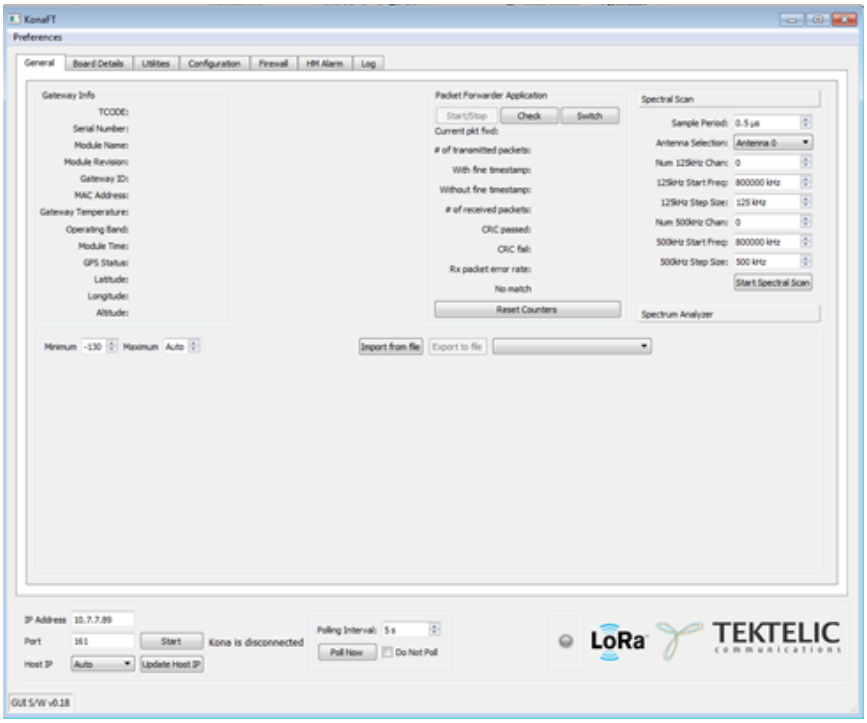
- Provides GPS information (lock status, and position)

Packet Forwarder Statistics

- Describes current packet forwarder installed
- Describes transmit/receive statistics

Spectral Scan/Spectrum Analyzer

- Useful tool to check for interference in the receive band and power level histograms for each operating channel



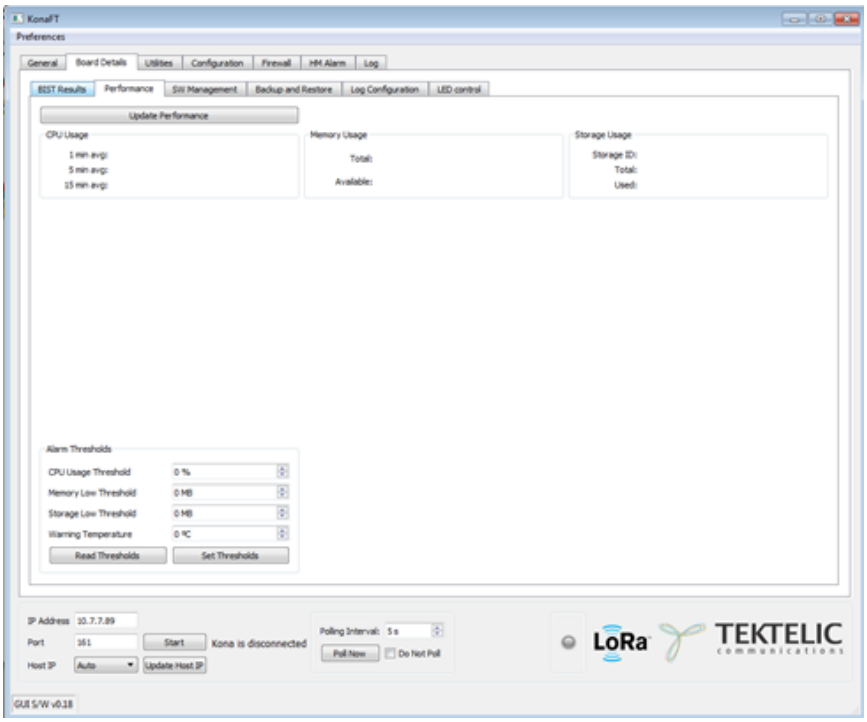
Board Details Tab:

Performance:

Provides Performance Statistics of the Host platform:

- CPU usage
- Memory usage
- Storage usage

Useful to debug if there is CPU over-utilization, memory leak, log rotation leak, etc.

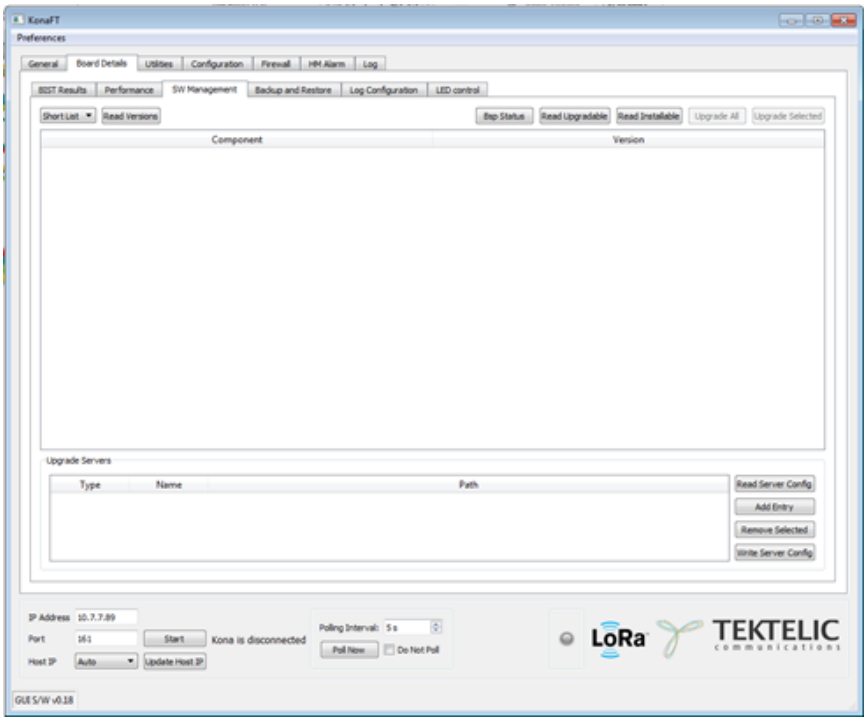


SW Management:

Read Versions (Short List):

- Check BSP version and versions of other Linux packages installed

Sets the location of the upgrade server containing the upgrade files. Can be either external or local on the Gateway
Lists available packages for upgrade/installation
Will prompt the user if a BSP upgrade is available



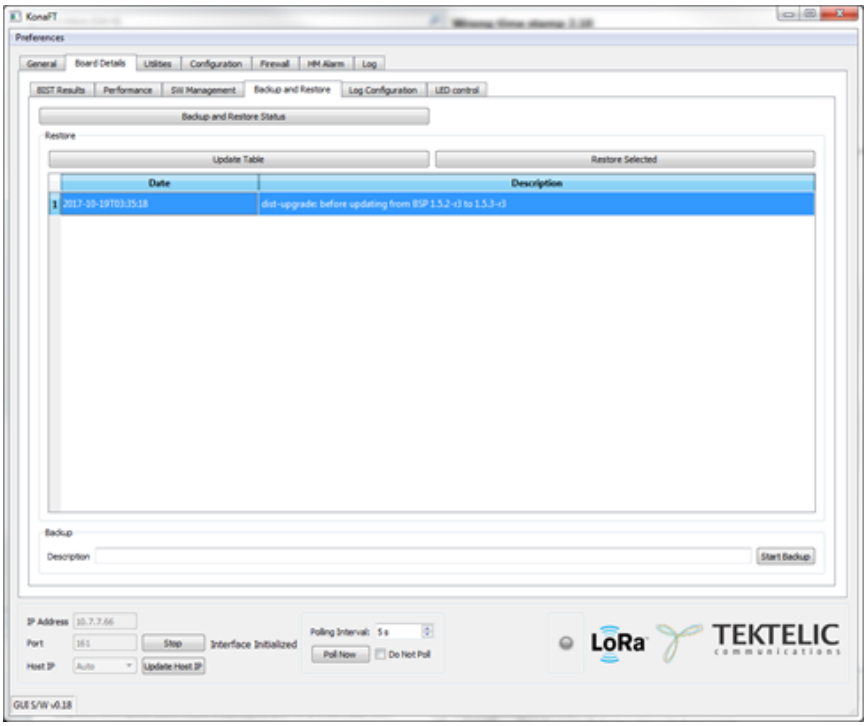
Backup and Restore:

Displays available backups

- A backup is automatically created when a BSP upgrade is initiated

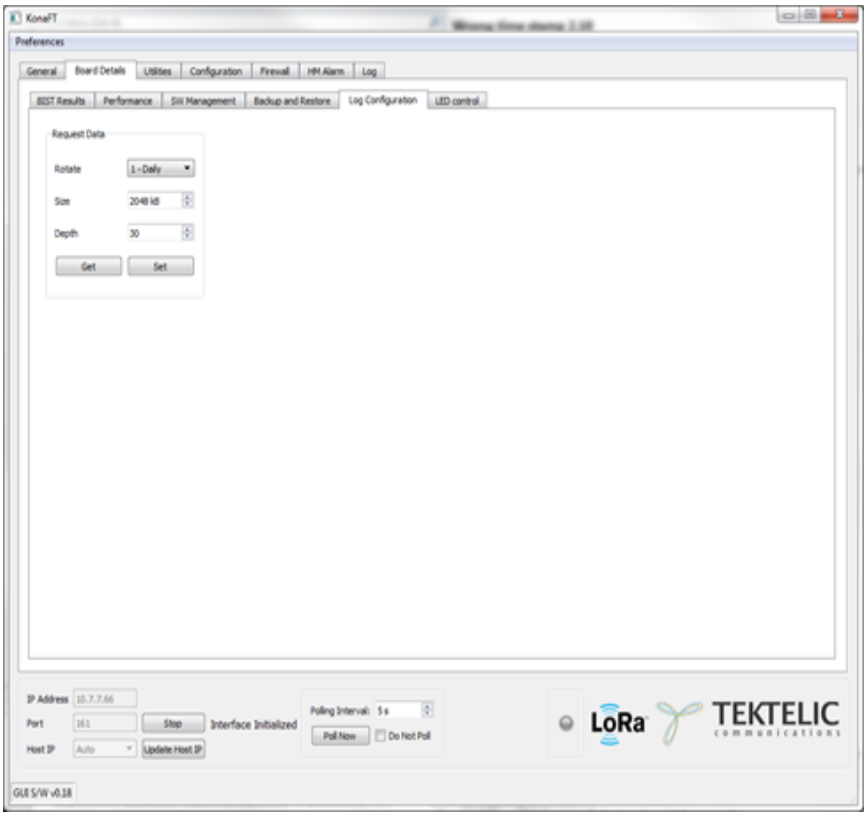
Restore an existing backup

- Reverts the Gateway back to previous backed up state



Log Configuration:

Allows the rate of logging to be changed on the Gateway and the frequency of rotation



Firewall Tab:

Enabling/Disabling Firewall

- Checks the status of the firewall

Enabling/Disabling ICMP

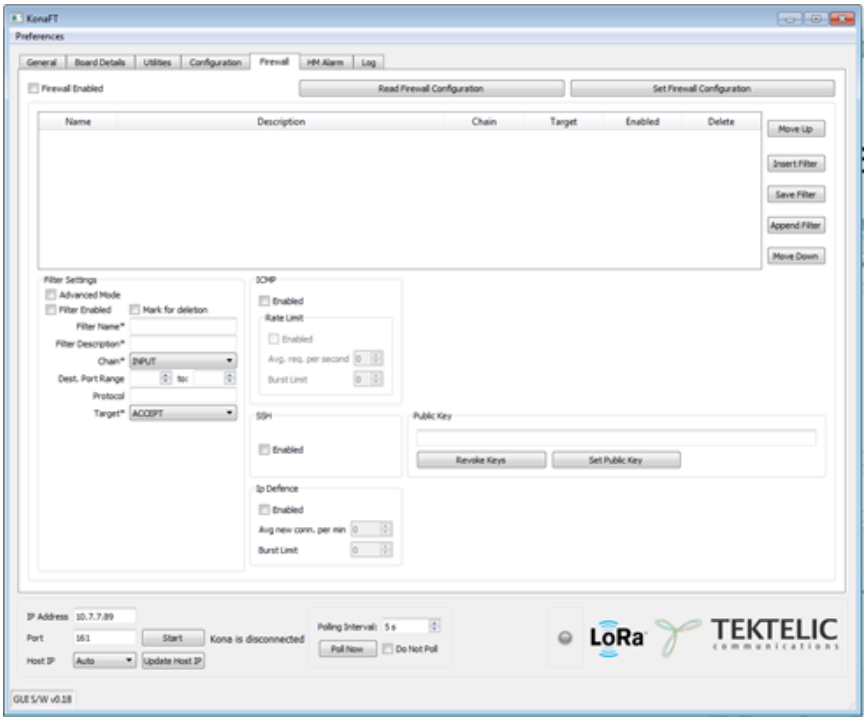
- Allows the Gateway to be pinged

Enabling/Disabling SSH

- Recommended that this is disabled and firewall rules added for trusted connections

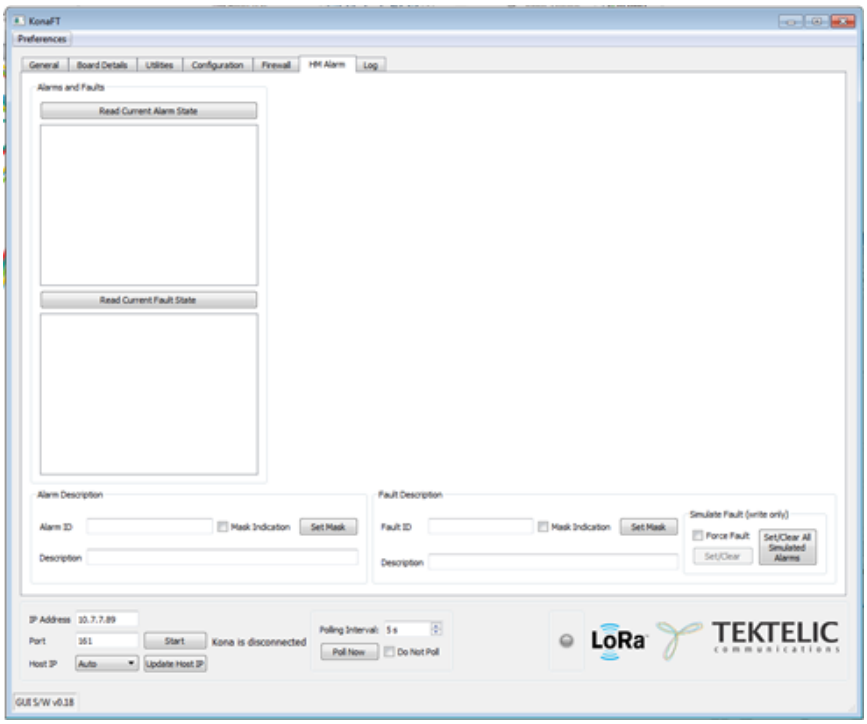
Editing of firewall rules

- Adding/deleting and modifying of firewall rules on the Gateway



HW Alarm:

Displays current alarm and fault status
An alarm will be raised if a specific fault is triggered on the Gateway
List of alarms and faults are available on the next two slides
Allows for fault simulation (only locally on the gateway)



Hardware Faults

Fault	Description	Fault ID	Condition for clearing fault
Radio Startup Fault	HAL configuration alarms ported to the customer visible interface. Asserted prior to the start of the packet forwarder or other LoRa utilities. See 7.1 for more details.	0x01	Cleared when gateway (GW) is reset
Radio Operational Fault	HAL initialization alarms ported to the customer visible interface. Asserted after the packet forwarder, or other LoRa utility, has been started. See 7.2 for more details	0x02	Cleared when GW is reset
GPS Holdover Expiry	Too much time has elapsed since the GPS was last in the locked state. Transmit and Receive performance may be degraded.	0x03	Cleared when condition has ceased or when GW is reset
Cellular Backhaul Fault	If cellular backhaul is the backup link, this condition could be communicated to the customer.	0x04	Cleared when condition has ceased or when GW is reset
Gateway Temperature Warning	Gateway temperature exceeds warning threshold	0x05	Cleared when temperature falls 5°C below warning threshold or when GW is reset
Gateway Temperature Shutdown	Gateway temperature exceeds shutdown threshold	0x06	Cleared when temperature falls 5°C below shutdown threshold or when GW is reset
Network Server Connection	No Network Server Connection	0x07	Cleared when condition has ceased or when GW is reset

Alarm List

Alarm Description	Severity	Fault IDs linked to this alarm	Action to be taken	Associated LED state
Gateway shutdown	Critical	0x01, 0x02,	-Reset the GW. -Execute BIST. -Check software versions and upgrade if required -If condition does not clear, replace the GW	Solid RED
Gateway Interface Alarm	Major	0x03, 0x04 0x07	-Check the gateway interfaces	Blinking RED
Gateway Performance Degradation	Major	0x05	-Check environmental conditions at the GW site	No visual indication available
Gateway high temperature shutdown	Critical	0x06	-Check environmental conditions at the GW site	Solid RED

LED Strategy

LED State	Functional Description	How long is it reasonable to stay in this state?
No LEDs	No Power to GW	Until power is applied
Blinking Green	Module is Initializing	Up to 10 minutes - Includes time for s/w upgrade or recovery. Typical boot time is < 2 minutes
Solid Green	Module is operational with an application running (packet forwarder). LoRaWAN uplink and downlink packets are supported.	Expected long term stable state
Blinking Red	Failure related to interfaces - technician to check connections, run interface BIST, check s/w versions and upgrade if required.	Until the issue is corrected. If the issue can't be corrected in a reasonable amount of time, and after GW power cycle, return GW
Solid Red	Unit is in fault condition and requires service	Undesired stable state – return GW

Was this article helpful? Yes No

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