

Datasheet

The FreedomFi Gateway is an x86 based network appliance that performs the function of an Evolved Packet Core for cellular networks. Software preloaded on the appliance are S-Gateway, P-Gateway and MME components of the network core based on the open source project Magma - github.com/magma



3GPP Feature Specifications

- **3GPP Release:** 15 for LTE, 15 for 5G SA
- **4G Core:** MME, SGW, PGW, HSS-lite
- **5G Core:** AMF, SMF, UPF, UDM-lite
- **Stateless:** Stateless MME and S-GW allow for hitless service updates/restarts
- **User Plane T-put:** 1Gbps
- **Connected Users:** >600
- **QoS Control:** 3GPP standard Quality of Service Class Identifier (QCI)
- **CUPS Support:** native
- **Handover:** S1 & X2 handover

Hardware Specifications

- **CPU:** Intel J1900 (Quad Core, 2.42 Ghz)
- **Storage:** 2.5 inch mSATA 32Gb SSD
- **RAM:** SO-DIMM for DDR3L 1333 Mhz 4GB
- **Ethernet:** 4 x RJ45 Copper Gigabit
- **Console:** RS232 (RJ45 port)
- **Power:** 12v in (adapter provided), 20W max
- **Dimensions:** H x W x D: 45 x 135 x 130mm
- **Operating Temp:** -10° +50° C, +14° +122° F
- **Operating Humidity:** 0 – 95% relative humidity, non-condensing
- **Chassis:** Fanless, Aluminum, Grey

Federation Feature Specifications

- **PCRF:** Gx Diameter signaling to external PCRF (dynamic PCC rule install/remove supported)
- **S8:** Home routed GTP-U support for external P-GW data path
- **OCS:** Gy Diameter signaling to external OCS
- **HSS:** s6a Diameter signaling to external HSS

Networking Feature Specifications

- **UE NAT:** Support for UE IP allocation via NAT pool
- **UE Bridge:** Support for UE IP allocation via DHCP proxy from upstream router
- **UE Static IP:** Support for static IP allocation to UEs based on IMSI and per APN
- **Multi-APN/SGi:** Configurable mapping of APN to SGi with VLAN tagging
- **Port Forwarding:** Configurable port forwarding when in NAT configuration
- **Mgmt Interface:** WAN / SGi interface can be DHCP or static IP allocation with or without VLAN tagging

Operational Feature Specification

- **NMS:** Feature rich cloud based. NMS provides OAM interface across sites
- **Alerting:** Configurable alert rules and external notifications (Slack, Email, Webhooks)
- **Call Tracing:** Native call tracing tool simplifies troubleshooting
- **Performance Metrics:** Prometheus/Grafana dashboard for system and network performance monitoring

Software Specifications

- **OS:** Debian 9.9 (Ubuntu 20.04 coming soon)
- **Cloud based SW Updates:** Major releases quarterly, hot patches monthly
- **Zero-Touch Provisioning:** Easy installation