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Network in Box NIB

APPLICATIONS

IN BUILDING	PUBLIC SPACES	INDUSTRIAL IoT
		
Education Military Hospitality Healthcare Multi-Family Residential Office Space	Entertainment Government Retail	Manufacturing Mining Oil & Gas Power & Utilities Transportation

SPECIFICATIONS

General	Specifications
LTE Modes	FDD
Sectors	1
Users	128
MIMO	2x2
Throughput	110 Mbps DL, 41 Mbps UL
Channel Bandwidth	5, 10, 20 MHz
Synchronization	GPS
UE Support	CAT 4/5/6
Modulation	DL/UL: 64-QAM
Frequency	Any LTE Band
Output power	20 / 40 Watt
3GPP Release	9/10

Electrical	Specifications
Input power	48V
Power consumption	<500W

Environmental	Specifications
Temperature	0 to 55 C
Relative humidity	95%, non-condensing
Protection level	IP66

Mechanical	Specifications
Volume (LxWxH)	650mm x 314mm x 186.5mm
Weight	30 Kg
Network connectivity	2xRJ-45, Gigabit Ethernet
DC Power input connector	C10-694780-02S Amphenol
Antenna connectors	N type
GPS connector	N type
Mounting options	Wall mount Pole mount Roo ftop mount Cabinet install

OAM	Specifications
Logging and debugging Statistics	Flexible, modular logging framework “Log to file / server” feature Key performance indicators (KPIs)
Command Line Interface	Yes

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L2/L3 :

Antenna Configuration: 2T2R

Cyclic Prefix: Normal

Timing: Frequency, Phase

Transmission Mode: 1, 2, 3, 4

Link Adaption (Round Robin, Proportional fair, QCI Based Scheduling)

BLER Based Link Adaptation

Semi Persistent Scheduling (SPS)

Power Control

FDD Physical Channel Dimensioning (PUCCH, PUSCH, PDSCH)

FDD Dynamic switching of HARQ feedback mode

FDD Adaptive SR (Dynamic SR Periodicity)

Logging and debugging:

Flexible, modular logging framework
"Log to file / server" feature Statistics

Key performance indicators (KPIs) Command Line Interface (CLI)

MME

S1-MME/S6a/S10

NAS signaling

NAS signaling security

UE Reachability in ECM-IDLE state (including control and execution of paging retransmission)

Tracking Area list management

PDN GW and Serving GW selection via DNS based on APN/TAC
MME selection for handovers with MME change Authentication
Bearer management functions including dedicated bearer establishment

GTP v2 (Control Plane) standard compliant

GTP path management through Echo Request and Echo

SGW

Support of S1-U/S11/S5 interfaces

The Local Mobility Anchor Point for inter eNodeB handover

ECM-IDLE mode downlink packet buffering and initiation of network triggered service request procedure

Packet routing and forwarding

Transport level packet marking in the uplink and the downlink network triggered service request procedure
(e.g. by rate policing/shaping)

Supports Offline charging data records (CDRs) generation Bearer modification procedures

PGW

Per user-based packet filtering (e.g. by deep packet inspection)

Supports static and dynamic (DHCP based) UE IP address allocation

UL and DL Service Level gating control as defined in TS 23.203 UL and DL Service Level rate enforcement as defined in

TS 23.203 (e.g. by rate policing/shaping per SDF)

DL rate enforcement based on the accumulated MBRs of the aggregate of SDFs with the same GBR QCI

(e.g. by rate policing/shaping)

UL and DL bearer binding as defined in TS 23.203

UL bearer binding verification as defined in TS 23.203 Network initiated dedicated bearer activation

Supports Offline charging data records (CDRs) generation Bearer modification procedures

PCRF

Compliant with PCC logical architecture as proposed in 3GPP Standard

Supports a Gx reference point that allows communication with the PCEF via diameter

Supports configuration of multiple PCC rules per bearer Dedicated bearer activationNumber of users300

Throughput	1 Gbps
Interface	Ethernet
Power	110-220V AC @ 2A
3GPP Release	13

HSS

Maintain and provide subscription data over diameter (S6a interface)

Over Diameter (signaling scalability and performance) Supporting USIM based Authentication and Encryption User Registration management

Maintain knowledge of used PDN GW User profile information & Mobile Management.

Service Profiling Access Authorization, Service Authorization

User Identification, Numbering and address information

User Security information: Network access control information for authentication and authorization

User Location information at inter-system level: the HSS supports the user registration and stores inter-system location information, etc.

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