YF-33K

LTE Outdoor CPE with Indoor Wireless Router

3GPP Release 10/11
CAT6
ALL LTE Bands
PoE
IP67
VoIP/VoLTE
802.11 b/g/n/ac

YF-33K is including a high-performance LTE ODU device and indoor wireless router , ODU can provide strong accessibility to the LTE network, and has been designed to meet industrial-grade IP67 dust-proof and water-proof standard. Indoor wireless router supporting the VoIP function(Optional), which can provide ODU power supply. ODU with IDU in combination is the ideal solution for residential LTE network.

Hardware Specifications

Spec		Description
LTE Chipset		GCT GDM7243QT
LTE standard		3GPP Release 10/11 CAT 6[1]
Host Chipset		MT7621A
Flash		7243QT - 2Gb; MT7621A — 1Gb
RAM		7243QT - 1Gb; MT7621A — 1Gb;
Power Supply		Gigabit PoE, [2] Typical value 24V 1A
Maximum Power Consumption		<14W
IP rating		IP67 (ODU)
LED	ODU	8 LED Indicators (PWR, SYS, NET, SIM, RF Signal*4)
	IDU	Power/Internet/WiFi 2.4G/ WiFi 5G/USIM/TEL/ Signal Strength[4]
USIM		Support 1.8V/3.0V 2FF USIM
Antenna		4 directional antennas
Dimension		ODU:288mm x 288 mm x 88mm IDU:186mm x170mm x 27mm

(1)   Can Support Cat5, Ca6

(2)   IDU is with 2 LAN ports & 1 WAN/POE port, supply +12V DC to ODU

(3)   4 Bars

(4)   4 Bars

Environment Specifications

Feature		Capability
Temperature	Operating	-30℃ ~ 55℃
	Storge	-40℃ ~ 85℃
Humidity	Operating	10 ~ 90%
	Storge	5 ~ 95%

RF Specifications

Feature		Capability
Support Bands		FDD 1/2/3/4/5/7/8/20/28 TDD 38/40/41/42/43/48
CA		Inter/Intra 2CA
MIMO		DL 2*2 , DL 4*4
Tx		1 Tx
Output Power@25℃		23±2 dBm
LTE Antenna		4 directional antennas
LTE Antenna Gain[1]	700M~1G	5dBi
	1.7G~2.7G	8dBi
	3.4G~3.8G	11 dBi

(1)   If the antenna supports all frequency, the antenna gain will be lower than the value in table

Application Diagram
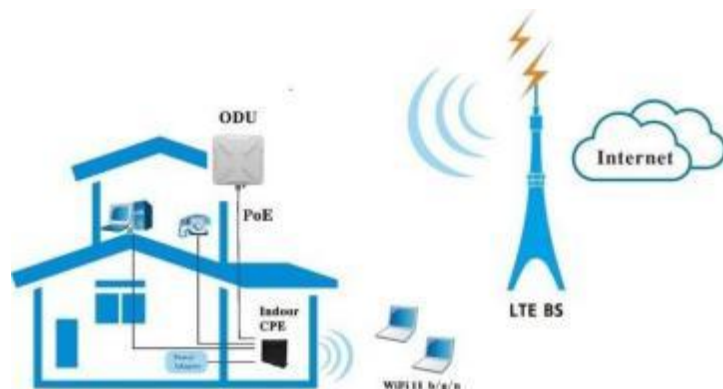
Software Specifications

Language Settings: Simple Chinese, English[1]	
Support NAT/Bridge/Router mode	
Support the http or https web server	
Support two users (admin user and normal user) and different access level and display	
Throughput	TDD DL 260Mbps UL30Mbps
	FDD DL 300Mbps UL50Mbps
LAN	1000Mbit/s
	MDI/MDIX auto-sensing
	IEEE802.3/802.3u is compatible
PIN Management, SIM card Authentication	
Encryption backup current settings and restore the backup settings	
Export current diagnosis results and operation logs	
Statistics	Link Status (LAN)
	Transmit / receive traffic in packets
	Up Time
Support multi-APN	
VPN	L2TP V2/V3
	PPTP
	GRE L2/L3
	GRE over IPSec
	L2TP over IPSec
	IPSec
ipv6/ipv4 dual stack	
Status[2]	Signal strength
	Network type
	Network connection status
	SIM card status
	Operator name, system mode
Support full band or preferred band and frequency	
Support PCI lock (Cell lock)	
Only carrier SIM shall work in the CPE	
Support BIP	

(1) Multiple languages can be customized

(2) Can be customized

Device Management

Integrity Check	Image One Version
	Image One Checksum
	Image Two Version
	Image Two Checksum
Version Rollback	Auto Rollback to previous version when upgrade fail
Software Upgrade HTTP/FTP Auto Upgrade	Full image upgrade
	Firmware upgrade manually
	Enable / Disable Upgrade Firmware
	Upgrade URL
	Version file
	Check new firmware every (hr.: 1~744)
	Start Time
	Random Time
TR069	Supports upload / download the ACS specified file
	Support download CPE configuration file
	Support configure &queries parameters[1]
	Support remote upgrade
	Support CPE version update
	Supports debugging operations
	Support periodic monitor
Port mirror	Can enable or disable the port mirror function
syslog	Support the syslog function can send the log to the PC via LAN.
Diagnostics	Support the Ping and trace route

(1) Can be customized

Bridge Mode

Data traffic forward	Forward the data traffic between the LTE network and PCs.
Maximum 4 PCs support	Each PC connect to the LTE public network via one APN
Module can be managed	One APN can be allocation for the module and the module can be managed via TR069 such remote update version
Public IP allocation	PC get the public IP dynamic from the DHCP server in the CPE. The IP is public CPE get from LTE network.
Multiple APN	Up to 4 APNs support, and can set the static router for each APN

Router Mode

LAN	Can be set 2 IP addresses on the LAN and for 2 different Network.
WAN	Can be set dynamic or static.
Router protocol	Not support current
DNS	Can be set
Multiple APN	Up to 4 APNs support, and can set the static router for each APN

NAT Mode

NAT	Support NAT function
Firewall	Can enable or disable the firewall
Multiple APN	Up to 4 APNs support, and can set the static router for each APN
DMZ	The DMZ can be set.
DHCP server	Support the DHCP server
DNS	Support the auto DNS or manual DNS configuration

WIFI Features

Users can turn on/off WLAN function through two ways, one is touch the WLAN button, the second is Web UI.
Support configuration WLAN functions through Web UI, include: SSID, SSID broadcasting turn on/off, AP Isolate function, Channel, rate and mode
Support encryption: Un-encrypted, WEP-OPEN, WEP-SHARED, WPA-PSK (TKIP), WPA-PSK (AES), WPA2-PSK (TKIP), WPA2-PSK (AES)
Support WPS: Support PBC mode
WiFi protocol support: IEEE 802.11b/g/n/ac 2.4GHz 5GHz
WiFi support max. users: 32
Support SSID broadcasting
Support multi SSID
Support WiFi channel self-adapt and select
Support WDS

Firewall Features

Firewall Configuration	Allow Ping from WAN
	Allow HTTPs login from WAN
	HTTPs Login Port from WAN
	DMZ IP Address
	Redirect ICMP to the Host
Support the IP filter	
Support the MAC Filter	
Support the URL Filter	
Support UPnP	
Support the Port forwarding	

VoIP(Optional)

(Note: VoIP or VoLTE but can't support at the same time.)

Call Features	Call Waiting
	Call Hold /Resume
	Call Forward
	On busy
	No condition
	No answer
	Call Transfer
	Blind transfer
	Attended transfer
	Early attended transfer
	3-Way conferencing
	Digit Map / Dial plan
	Caller ID display/blocking
	RTP monitor
	RTP Redundancy
	SBC (session border control)
	Redundancy
	Session Timer (INVITE/UPDATE)
Codec	G.711 A/Mu Law
	Appendix I
	Appendix II
	G.726(16,24,32,40 Kbps)
	G.729AB
	G.723.1(6.3Kbps / 5.3Kbps)
	AMR-NB
	AMR-WB
	G.722
Echo Canceller	G.167 AEC (Acoustic Echo Cancellation)
	G.168 Line Echo Canceller
Voice Enhancement	Adaptive Jitter Buffer/Fixed Jitter Buffer
	VAD/CNG/SID
	PLC (Packet Lost Concealment)
	LGC (Linear Gain Control)
	Gain calibration
	Mixer
Caller ID	DTMF CID Generation
	Bellcore CID Type I/II
	Generation/Detection
	ETSI CID Type I/II Generation/Detection
	CID CAS/DTAS/SAS Tones generation
DTMF	Generation
	Out-of-band DTMF Relay (RFC2833)
	In-band DTMF relay
	Detection
CPT	Generation
	Detection
FAX/Modem	G3/SG3 Fax pass-through
	T.38 fax relay
	V.22/V.32 modem pass-through

VoLTE(Optional)

(Note: VoIP or VoLTE but can't support at the same time.)

Registration	Registration event package
	Network-initiated de-registration
	IMS Communication Service Identifier (ICSI)
	Public user identity in the first (or only) record in the Elementary File in the ISIM
	Temporary public user identity derived from the IMSI
Authentication	IMS Authentication and Key Agreement (IMS-AKA), Sec-Agree and IPSec
	ISIM based authentication
	USIM based authentication
	Authentication at the Ut reference point
Address	SIP URIs (alphanumeric) and Mobile Subscriber ISDN Number (MSISDN) based IMPU.
	"Phone-context" parameter
	P-Called-Party-ID header field
Basic Call	AMR-NB
	AMR-WB

	Caller ID Name and Number displayed	AMR wideband codec	
Supplementary Call Features	Originating/ Terminating Identification Presentation	Narrowband 8KHz and Wideband 16KHz Frameworks	
	Originating/ Terminating Identification Restriction	DTMF Tone Generation and Detection	
	Communication Forwarding unconditional/ on not Logged/ on Busy/ on not Reachable/ on No Reply	Call Progress Tone Generation	
		Dual-mode Dynamic Adaptive/ Fixed Jitter Buffer	
	Barring of All Incoming/Outgoing Calls	Ad-Hoc 3-Party Conference(server mode)	
	Barring of Outgoing International Calls – ex Home Country	G.711-AlawVoice Compression	
	Barring of Incoming Calls - When Roaming	G.711-MuLaw Voice Compression	
	Communication Hold	Silence Compression	
	Message Waiting Indication	G.168 16ms tail Line Echo Cancellation	
	Communication Waiting	Packet Loss Compensation and Voice Activity Detection	
	Ad-Hoc 3-Party Conference	Caller ID Generation (FXS)	
	Three Way Session creation	10ms, 20ms, 30ms, and 40ms packet size supports	
	Communication Diversion/Forward (CDIV)	FAX Modem Tone Detection	
IMS-SIP	Session Initiated Protocol (SIP) registration procedures	FAX Pass-Through over G.711	

Appendix-Delivers

IMS-SIP	Session Initiated Protocol (SIP) registration procedures		
	SIP preconditions framework		
	Session Description Protocol (SDP) offer/answer for voice media		
	Real Time Protocol (RTP) profile	Outdoor CPE	1 PCS
	RTP over UDP	Indoor router	1 PCS
	RTP Control Protocol (RTCP)	Gigabit POE, Typical value 24V 1.0A	1 PCS
	DTMF		
	Guaranteed Bit Rate (GBR) bearer	Accessories for pole mounting	1 PCS
	IETF RFC 4575	Quick Start Manual	1 PCS
	PDN type: IPv4v6		

(1)   Detail Delivers need to be defined by customer agreement

P-CSCF Discovery	3GPP TS 24.229
	3GPP TS 31.103
DSP Processing	3GPP TS 26.114
	Adaptive Multi-Rate speech codec (AMR)