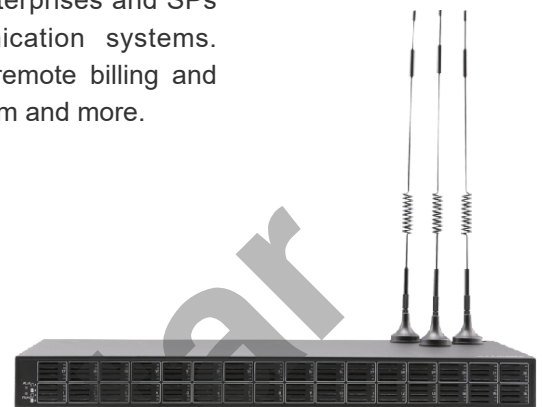## Brief Introduction:

CarpeStar SMG4016/4032 Wireless Gateway, the latest SMG4000 series members, could be compliant with a variety of wireless/mobile protocols (2G/3G/4G), enabling interconnection between GSM/CDMA/WCDMA/LTE network and VoIP network smoothly and safely. It is able to bridge wireless network with IP networks efficiently, regarding to the high-demanding user requirements. SMG4000 adapts self-propelled SIM card slots, advanced built-in VoIP processors and wireless modules, and helps enterprises and SPs launch diverse cost-efficient and flexible Wireless-to-IP communication systems. SMG4000 could also be applied into a range of systems, including remote billing and charge, Mobility PBX, PSTN backup lines, VoIP localization, SMS platform and more.

- **DSP-based Algorithm**
DSP-enabled voice optimization to assure crystal voice quality and maximize bandwidth efficiency;High-speed response and connectivity in the extreme network environments, with better run elco-grade reliability and continuous high performance in fully loaded capacity and in the long run;

- **High security**
High security and privacy for users via automatic-exchange of different SIM cards and Networks. In specific environments, CMG4016/SMG4032 could use and activate multiple SIM cards circularly, improve system security, make full use of bandwidth, and increase ROI.

- **Complete Protocols Range**
Support standard SIP protocols, and could be used worldwide; Support both 2G/3G/4G wireless network (in different versions), including both GSM/CDMA/LTE and More

- **High Voice Optimization Capability**
Adopt Carpestar's homegrown voice optimization technologies to ensure crystal clear communication, including DSP-based 128mc echo cancellation

- **High Flexibility and Scalability**
to-IP transmission, and support a diversity of wireless networks in a single system

- **User-friendly GUI**
Easy-to-use service W
management tools could help accelerate service deployment and simplify platform management

- **High Interoperability with Terminals**
Compliant with all brands of terminal mobile devices and a complete range of SIP trunking worldwide, support auto-provision in complex network environment

- **Telco-Grade Reliability**
Adopts telco-grade standards and components to design and manufacture, and   and approved by most telecom operators worldwide

Functional Description

- **Basic Features:**

GSM: 850/900/1800/1900MHz
CDMA: 800MHz
UMTS: 850/900/1900/2100MHz
LTE 4G: FDD LTE, TDD LTE
Multiple voice encoding formats supported
SMS CODEC: ASCII/UCS2
Open and programmable API
PIN management
Call time restriction: SIM Card/Single Call
Operator locking
BCCH management
Call hold
Call transfer
SMPP

- **Voice**

Silence suppression and detection
CNG (Comfort Noise Generator) support
VAD (Voice Activity Detection) support
Echo cancellation (G.168), up to 128ms
Self-adaptive dynamic buffering
Call progress tone generation
AGC (Automatic Gain Control) support

- **Protocol**

SIP V2.0 RFC3261
SDP RFC2327
Session Timer RFC4028
RTP/RTCP RFC3551
SIP registration
SIP trunk (Point-to-Point)
SIP trunk group
Ringback (Immediate/normal)

DNS SRV/A query
Out-of-stack agent
DTMF mode: Signal/RFC2833
NAT traversal
Dynamic NAT, Static NAT, STUN

- **Physical Interface**

SIM Card Socket: 64/128-port
Ethernet interface: RJ45, 2 ETH, 10/100M Base
CONSOLE: RJ45, RS232, 115200bps
Antenna interface: SMA
Status indicator: PWR, RUN, ALM, Channel state, Signal strength, ACT per network, LINK status.
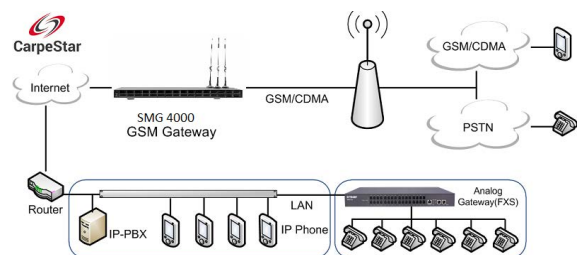Reset button

- **Network Protocol**

IP v4, IP v6, UDP/TCP, PPPoE, DHCP
FTP/TFTP ARP, RARP, NTP
HTTP, Telnet

- **Management**

Interface in Chinese/English
Firmware upgrade via HTTP/TFTP

Factory settings restore
CDR and tracking information output
Syslog
Ping and Tracet tests based on WEB
Transport Protocol Count: TCP, UDP, RTP
VoIP Call Count
PSTN Count: ASR, ACD, PDD
Voice loopback test
IVR Customizable
System Log
Centralized cloud-platform integrated management

Typical Application:

Functional Description

- **Dimensions & Weight**
440×44×200mm
Net: 3.5kg

- **Environment**
Operating temperature: 0℃ —55℃
Storage temperature: -20℃ —85℃
Humidity: 8%— 90% non-condensing
Storage humidity: 8%— 90% non-condensing

- **LAN**
Amount: 2 (10/100 BASE-TX (RJ-45))
Self-adaptive bandwidth supported
Auto MDI/MDIX supported

- **Console Port**
Amount: 1 RJ-45 (RS-232)
Baud rate: 115200bps
Data bits: 8 bits
Stop bit: 1 bit
Parity unsupported
Flow control unsupported

- **Power Requirements**
Input voltage: DC 12V ± 10%
Input current: ≥3A

- **Signaling Protocol:**
SIP V2.0 RFC3261

- **Network Protocol**
IP v4, IP v6, UDP/TCP, PPPoE, DHCP
FTP/TFTP ARP, RARP, NTP
HTTP, Telnet

- **Audio Encoding & Decoding**
G.711A   64 kbps
G.711U   64 kbps
G.729 A/B   8 kbps
G.723   5.3/6.3 kbps
G.722   64 kbps
AMR   4.75 kpbs
iLBC   13.3/15.2 kbps

- **Sampling Rate**
8kHz

- **Wireless Feature**
Frequency band:
GSM: 850/900/1800/1900MHz
SMS CODEC: ASCII/UCS2

Model	Frequency
SMG4016-16G/SMG4032-32G	GSM:850/900/1800/1900MHZ
SMG4016-16C/SMG4032-32C	CDMA:800MHz
SMG4016-16W/SMG4032-32W	GSM:900/1800MHz UMTS:900/2100MHz
SMG4016-16WA/SMG4032-32WA	GSM:850/900/1800/1900MHz UMTS:850/1900MHz
SMG4016-16WT/SMG4032-32WT	GSM:850/900/1800/1900MHz, UMTS:850/2100MHz
SMG4016-16LC/SMG4032-32LC	FDD LTE:B1/B3, TDD LTE:B38/B39/B40/B41 TDSCDMA:B34/B39, WCDMA:B1, CDMA2000:BC0 GSM:1X/EVD, 900/1800MHz
SMG4016-16LE/SMG4032-32LE	FDD LTE:B1/B3/B5/B7/B8/B20, TDD LTE:B38/B40/B41 WCDMA:B1/B5/B8, GSM:B3/B8
SMG4016-16LV/SMG4032-32LV	FDD LTE: B4/B13
SMG4016-16LT/SMG4032-32LT	LTE FDD: B1/B2/B3/B4/B5/B7/B8/B28; LTE TDD: B40 WCDMA: B1/B2/B5/B8; GSM: B2/B3/B5/B8

www.carpestar.com

As a major manufacturer and supplier of communication products and solutions, CarpeStar specializes in providing superior Multimedia Gateway, Integrated Multimedia Switch, Telephony Hardware in use for Telecom communications.

CarpeStar has made multiple offerings to deliver a broad range of TDM and VoIP-based applications worldwide, including Unified Communications, SIP Trunking, Call Center, Mobile VAS, Faxing, Conferencing, Call Recording as well as Asterisk-based Open Source Applications. With dedicated team members and high quality premium services, CarpeStar makes consistent efforts to supply clients with a variety of customizable, high-performance and cost effective voice communications products.