H352-381 5G CPE
V100R001

Product Description

Issue   02

Date   2022-12-05

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About This Document

Summary

This document provides information regarding the features, main functions and services, technical specifications, and technical references of the product.

This document includes:

Chapter	Details
1 Product Overview	Provides an overview of the product.
2 Technical Specifications	Describes the specifications of the product hardware, software, and user interface.
3 Services and Applications	Describes the main functions and applications of the product.
4 System Structure and Scenario Constraints	Describes the product system structure.
5 Technical References	Describes the standards and communication protocols of the product.
6 Packing List	Describes the devices and accessories that comprise the product package

📖 NOTE

The document is an invitation to offer but not an offer. It is intended to describe the general features and functions of a product. The features and functions of certain products may vary with the requirements of customers.

History

Issue	Date	Details
01	2022-10-11	Initial official release.
02	2022-11-03	Refresh EN_DC combination.

Acronyms and Abbreviations

Acronym or Abbreviation	Full Spelling
3GPP	3rd Generation Partnership Project
ACS	Auto Configuration Server
AES	Advanced Encryption Standard
ALG	Application Layer Gateway
AMR-NB	Adaptive Multi-Rate compression - Narrowband
AMR-WB	Adaptive Multi-Rate compression - Wideband
AP	Access Point
APN	Access Point Name
ARP	Address Resolution Protocol
CLAT	Customer-side Translator
CPE	Customer Premises Equipment
CS	Circuit Switched
CSFB	Circuit Switched Fallback
DBDC	Dual Band Dual Concurrent
DL	Downlink
DMZ	Demilitarized Zone
DNS	Domain Name Server
DTMF	Dual-Tone Multi-Frequency
E-UTRA	Evolved Universal Terrestrial Radio Access Network
FDD	Frequency Division Duplex
IEEE	Institute of Electrical and Electronics Engineers
IP	Internet Protocol
IPSec	Internet Protocol Security
IPv4	Internet Protocol version 4
IPv6	Internet Protocol version 6
ICMP	Internet Control Message Protocol
L2TP	Layer Two Tunneling Protocol
LAN	Local Area Network
LED	Light Emitting Diode

Acronym or Abbreviation	Full Spelling
LTE	Long Term Evolution
MAC	Media Access Control
MDI	Medium Dependent Interface
MDIX	Medium Dependent Interface Crossover
MIMO	Multi-input Multi-output
MME	Mobility Management Entity
NAT	Network Address Translation
NAPT	Network Address and Port Translation
PC	Personal Computer
PCC	Primary Component Carrier
PGW	PDN Gateway
PIN	Personal Identification Number
PLAT	Provider-side Translator
PPTP	Point-to-Point Tunneling Protocol
QAM	Quadrature Amplitude Modulation
QR	Quick Response
RFC	Request For Comments
RTCP	Real-time Transport Control Protocol
RTP	Real-time Transport Protocol
SAMBA	System for Advanced Mobile Broadband Applications
SCC	Secondary Component Carrier
SCP	Service Control Point
SDRAM	Synchronous Dynamic Random Access Memory
SDP	Session Description Protocol
SGW	Serving Gateway
SIP	Session Initiation Protocol
SMA	Sub-Miniature-A
SMS	Short Message
SOHO	Small Office Home Office
SSID	Service Set Identifier
TDD	Time Division Duplex

Acronym or Abbreviation	Full Spelling
TKIP	Temporal Key Integrity Protocol
UE	User Equipment
UL	Uplink
UMTS	Universal Mobile Telecommunications System
UPnP	Universal Plug and Play
USB	Universal Serial Bus
USIM	UMTS Subscriber Identity Module
VPN	Virtual Private Network
WAN	Wide Area Network
Wi-Fi®	Wireless Fidelity
WMM	Wi-Fi Multimedia
WPA/WPA2-PSK	Wi-Fi Protected Access/Wi-Fi Protected Access II - Pre-Shared Key
WPA2-PSK	Wi-Fi Protected Access II - Pre-Shared Key
WPS	Wi-Fi Protected Setup

Contents

1 Product Overview

The 5G CPE H352-381 is a 5G wireless gateway for multiple users in household or small office environments. It enables users to access the Internet.

The H352-381 supports 3GPP Release 16 with LTE UE downlink category 20 and uplink category 13. The supported service functions are as follows:

- Data service:

  5G

  SA

  ➢ NR：

    Downlink a maximum of 3CC（300M），4x4 MIMO，256 QAM, peak rate: 5.4Gbps (DL/UL subframe configuration 8:2).

    Uplink a maximum of 2CC（200M）2x2 MIMO，256 QAM, peak rate: 500 Mbps (DL/UL subframe configuration 8:2)

  NSA

  ➢ NR：

    Downlink a maximum of 2CC（200M），4x4 MIMO，256 QAM, peak rate: 3.6 Gbps (DL/UL subframe configuration 8:2)

    Uplink 1CC（100M），1Tx，256 QAM，peak rate: 125 Mbps (DL/UL subframe configuration 8:2)

  ➢ LTE：

    Downlink a maximum of 4CC, 4x4 MIMO (Different frequency bands support different MIMO modes), 256 QAM, peak rate: 1.6 Gbps (FDD frequency bands, 20+20+20+20MHz, 4x4MIMO, a maximum of 16 streams).

    Uplink 1CC, 1Tx, 64 QAM, peak rate: 75 Mbps (FDD frequency bands, 20MHz)

  4G only

    Downlink a maximum of 5CC, 4x4 MIMO (Different frequency bands support different MIMO modes), 256 QAM, peak rate: 2 Gbps (FDD frequency bands, 20+20+20+20+20MHz, 4x4MIMO, a maximum of 20 streams).

    Uplink 2CC，1Tx，64 QAM, peak rate: 150 Mbps (FDD frequency bands, 20+20MHz)

    📖 NOTE

    The actual data rate varies with network configuration.

- Working band:

5G: n1/n3/n5/n7/n8/n20/n28/n38/n40/n41/n75/n77/n78/n79/n80/n81/n82/n83/n84,

LTE:

B1/B3/B5/B7/B8/B18/B19/B20/B26/B28/B32/B34/B38/B39/B40/B41/B42/B43

- Wi-Fi: 2.422 GHz-2.482 GHz，Wi-Fi is used only for user installation and configuration. If the user accesses the Internet through this Wi-Fi, the performance cannot be guaranteed. First connect the indoor router to the H352-381 and then connect the Wi-Fi of the indoor router to access the Internet

- One 2.5GE port for LAN.

- Multi APN function (Customization) for Data, TR-069 services(Customization)

- Routing mode: NAT enable (Default) / IP pass-through

- VPN client service (L2TP, PPTP)

- Customer management via WebUI

- Operator maintenance via TR-069 (Customization) and TR-143 (Customization)

- Firmware Over the Air (FOTA)
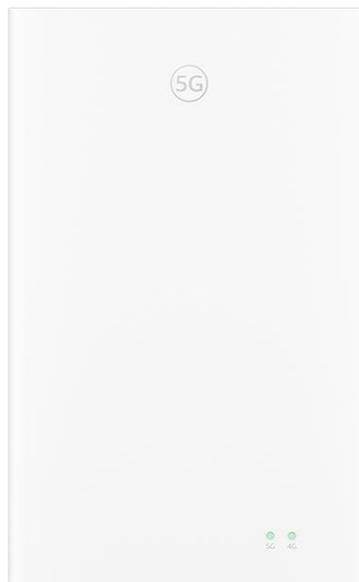
2 Technical Specifications

2.1 Hardware Specifications

Table 2-1 Technical specifications of the H352-381 main unit

| Item	Description	
Technical standard	WAN	3GPP Release 16; LTE DL Cat20/UL Cat13
	LAN	IEEE 802.3/802.3u
	Wi-Fi	IEEE 802.11b/g/n
Working band/frequency	5G	n1/n3/n5/n7/n8/n20/n28/n38/n40/n41/n75/n77/n78/n79/n80/ n81/n82/n83/n84
	LTE	B1/B3/B5/B7/B8/B18/B19/B20/B26/B28/B32/B34/B38/B39/ B40/B41/B42/B43
	DL MIMO	5G 4x4: n1/n3/n7/n38/n40/n41/n77/n78/n79 5G 2x2: n5/n8/n20/n28/n75 LTE 4x4: B1/B3/B7/B38/B39/B40/B41/B42/B43 LTE 2x2: B5/B8/B18/B19/B20/B26/B28/B32/B34
	UL MIMO	5G 2x2: n1/n38/n40/n41/n77/n78/n79
External port	• One 2.5GE LAN port (RJ45) • One SIM card slot (Nano-SIM)	
Antennas	• Built-in 5G/LTE antennas • Built-in Wi-Fi 2.4 GHz antennas	
LED Indicators	• One 5G indicator • One 4G indicator	
Buttons	• One Reset button	
Maximum transmit power	5G	Conform to 3GPP Definition
	LTE	Conform to 3GPP Definition

Item	Description	
Receiving sensitivity	5G	Conform to 3GPP Definition
	LTE	Conform to 3GPP Definition
Power consumption	≤24 W	
AC/DC power supply	• AC (input): 100V-240V 50Hz/60Hz • DC (output): 19V/1.26A	
Dimensions (Maximum)	230 mm (Length) x 142 mm (Width) x 58 mm (Thickness)	
Weight	<1000 g (excluding the power adapter)	
Temperature	• Working temperature: -40°C to +55°C (No solar radiation) • Working temperature: -40°C to +50°C (solar radiation) • Storage temperature: -40°C to +70°C	
Humidity	5% – 95% (non-condensing)	
Certification/Compliance	CE/RoHS/REACH/WEEE/Wi-Fi/ErP certification	

2.2 Antenna Specifications

2.2.1 Build-in 5G/LTE Antenna

Table 2-2 Antenna specifications

Item	Description
Frequency	5G • n1: UL 1920–1980 MHz DL 2110–2170 MHz • n3: UL 1710–1785 MHz DL 1805–1880 MHz • n5: UL 824–849 MHz DL 869–894 MHz • n7: UL 2500–2570 MHz DL 2620–2690 MHz • n8: UL 880 – 915 MHz DL 925 – 960 MHz • n20: UL 832 – 862 MHz DL 791– 821 MHz • n28: UL 703–748 MHz DL 758–803 MHz • n38: UL 2570–2620MHz DL 2570–2620 MHz • n40: UL 2300–2400 MHz DL 2300–2400 MHz • n41: UL 2496–2690 MHz DL 2496–2690 MHz • n75: / DL 1432 – 1517 MHz • n77: UL 3300–4200 MHz DL 3300–4200 MHz • n78: UL 3300–3800 MHz DL 3300–3800 MHz

Item	Description
	• n79: UL 4400–5000 MHz DL 4400–5000 MHz • n80: UL 1710 – 1785 MHz / • n81: UL 880 – 915 MHz / • n82: UL 832 – 862 MHz / • n83: UL 703 – 748 MHz / • n84: UL 1920 – 1980 MHz /

Band	15KHz SCS	15KHz SCS Bandwidths	30KHz SCS	30KHz SCS Bandwidths
n1	Y	5M 10M 15M 20M 25M 30M 40M 50M	N	/
n3	Y	5M 10M 15M 20M 25M 30M 40M	N	/
n5	Y	5M 10M 15M 20M	N	/
n7	Y	5M 10M 15M 20M 25M 30M 40M 50M	N	/
n8	Y	5M 10M 15M 20M	N	/
n20	Y	5M 10M 15M 20M	N	/
n28	Y	5M 10M 15M 20M 30M	N	/
n38	N	/	Y	10M 15M 20M 25M 30M 40M
n40	N	/	Y	10M 15M 20M 25M 30M 40M 50M 60M 80M
n41	N	/	Y	10M 15M 20M 30M 40M 50M 60M 80M 90M 100M
n75	Y	10M 15M 20M 25M 30M 40M 50M	N	/
n77	N	/	Y	10M 15M 20M 25M 30M 40M 50M 60M 70M 80M 90M 100M
n78	N	/	Y	10M 15M 20M 25M 30M 40M 50M 60M 70M 80M 90M 100M
n79	N	/	Y	40M 50M 60M 80M 100M
n80	Y	5M 10M 15M 20M 25M 30M	N	/
n81	Y	5M 10M 15M 20M	N	/

Item	Description				
	n82	Y	5M 10M 15M 20M	N	/
	n83	Y	5M 10M 15M 20M	N	/
	n84	Y	5M 10M 15M 20M	N	/
	LTE • B1: UL 1920–1980 MHz DL 2110–2170 MHz • B3: UL 1710–1785 MHz DL 1805–1880 MHz • B5: UL 824–849 MHz DL 869–894 MHz • B7: UL 2500–2570 MHz DL 2620–2690 MHz • B8: UL 880–915 MHz DL 925–960 MHz • B18: UL 815–830 MHz DL 860–875 MHz • B19: UL 830–845 MHz DL 875–890 MHz • B20: UL 832–862 MHz DL 791–821 MHz • B26: UL 814–849 MHz DL 859–894 MHz • B28: UL 703–748 MHz DL 758–803 MHz • B32: / DL 1452–1496 MHz • B34: UL 2010–2025 MHz DL 2010–2025 MHz • B38: UL 2570–2620MHz DL 2570–2620 MHz • B39: UL 1880–1920 MHz DL 1880–1920 MHz • B40: UL 2300–2400 MHz DL 2300–2400 MHz • B41: UL 2496–2690 MHz DL 2496–2690 MHz • B42: UL 3400–3600 MHz DL 3400–3600 MHz • B43: UL 3600–3800 MHz DL 3600–3800 MHz				
Input impedance	50 Ω				
Standing wave ratio	< 2.5				
Main antenna efficiency (dB)	5G • n1: -2.8 • n3: -2.9 • n5: -2.9 • n7: -2.2 • n8: -2.6 • n20: -2.7 • n28: -3.5 • n38: -2.3 • n40: -2.9 • n41: -2.4 • n75: -2.3				

Item	Description
	• n77: -3.6 • n78: -3.5 • n79: -3.8 • n80: -2.9 • n81: -2.6 • n82: -2.4 • n83: -3.5 • n84: -2.8 LTE • B1: -2.8 • B3: -2.9 • B5: -2.9 • B7: -2.2 • B8: -2.6 • B18: -2.7 • B19: -2.7 • B20: -2.7 • B26: -2.4 • B28: -3.5 • B32: -2.3 • B34: -2.8 • B38: -2.3 • B39: -2.7 • B40: -2.9 • B41: -2.4 • B42: -3.6 • B43: -3.5
Diversity antenna efficiency (dB)	5G • n1: -2.3 • n3: -2.9 • n5: -3 • n7: -2.9 • n8: -2.9 • n20: -3 • n28: -3.5 • n38: -2.8 • n40: -3.0 • n41: -2.8 • n75: -2.5 • n77: -4.1

Item	Description
	• n78: -4.0
	• n79: -4.1
	• n80: -2.9
	• n81: -2.5
	• n82: -2.7
	• n83: -3.5
	• n84: -2.3
	LTE
	• B1: -2.3
	• B3: -2.9
	• B5: -3
	• B7: -2.9
	• B8: -2.9
	• B18: -2.9
	• B19: -2.8
	• B20: -3
	• B26: -2.7
	• B28: -3.5
	• B32: -2.5
	• B34: -2.1
	• B38: -2.8
	• B39: -3.0
	• B40: -3.0
	• B41: -2.8
	• B42: -4.0
	• B43: -4.0
Main antenna gain (dBi)	5G
	• n1: 3.5
	• n3: 3.6
	• n5: 1.9
	• n7: 3.7
	• n8: 1.7
	• n20: 1.8
	• n28: 2.0
	• n38: 9.5
	• n40: 3.8
	• n41: 9.5
	• n75: 3.5
	• n77: 10.5
	• n78: 10.5

Item	Description
	• n79: 10.0
	• n80: 3.6
	• n81: 1.7
	• n82: 1.8
	• n83: 2.0
	• n84: 3.5
	LTE
	• B1: 3.5
	• B3: 3.6
	• B5: 1.9
	• B7: 3.7
	• B8: 1.7
	• B18: 1.8
	• B19: 1.8
	• B20: 1.8
	• B26: 1.7
	• B28: 2.0
	• B32: 3.5
	• B34: 3.9
	• B38: 3.9
	• B39: 3.7
	• B40: 3.8
	• B41: 3.0
	• B42: 3.0
	• B43: 3.0
Diversity antenna gain (dBi)	5G
	• n1: 2.4
	• n3: 1.9
	• n5: 1.5
	• n7: 2.1
	• n8: 1.0
	• n20: 1.2
	• n28: 2.0
	• n38: 9.0
	• n40: 1.5
	• n41: 9.0
	• n75: 2.5
	• n77: 10.5
	• n78: 11.0
	• n79: 10.2

Item	Description
	• n80: 1.5
	• n81: 1.0
	• n82: 1.2
	• n83: 2.0
	• n84: 2.4
	LTE
	• B1: 2.4
	• B3: 1.9
	• B5: 1.5
	• B7: 2.1
	• B8: 1.0
	• B18: 1.1
	• B19: 1.1
	• B20: 1.2
	• B26: 1.6
	• B28: 2.0
	• B32: 2.5
	• B34: 2.0
	• B38: 2.0
	• B39: 1.9
	• B40: 1.5
	• B41: 2.0
	• B42: 2.5
	• B43: 2.7
TX/RX	2T4R
Polarization	Linear polarization

2.2.2 LTE CA combination

Table 2-3 LTE CA combination

Item	Description		
Band combination	LTE	**CA(DL)**	**MIMO**
		CA_1C	4+4
		CA_3C	4+4
		CA_7C	4+4
		CA_8B	2+2
		CA_38C	4+4
		CA_39C	4+4
		CA_40C	4+4
		CA_40D	4+4
		CA_40E	4+4
		CA_41C	4+4

		CA_41D	4+4
		CA_41E	4+4
		CA_42C	4+4
		CA_42D	4+4
		CA_43C	4+4
		CA_1A-1A	4+4
		CA_3A-3A	4+4
		CA_7A-7A	4+4
		CA_40A-40A	4+4
		CA_41A-41A	4+4
		CA_42A-42A	4+4
		CA_42A-42C	4+4
		CA_42C-42C	4+4
		CA_1A-3A	4+4
		CA_1C-3A	4+4
		CA_1A-1A-3A	4+4+4
		CA_1A-3C	4+4
		CA_1A-3A-3A	4+4+4
		CA_1A-1A-3C	4+4+4
		CA_1A-5A	4+2
		CA_1A-7A	4+4
		CA_1A-1A-7A	4+4+4
		CA_1A-7C	4+4
		CA_1A-7A-7A	4+4+4
		CA_1A-8A	4+2
		CA_1A-20A	4+2
		CA_1A-28A	4+2
		CA_1A-1A-28A	4+4+2
		CA_1A-32A	4+2
		CA_1A-38A	4+4
		CA_1A-40A	4+4
		CA_1A-40C	4+4
		CA_1A-41A	4+4
		CA_1A-41C	4+4
		CA_1A-41D	4+4
		CA_1A-42A	4+4
		CA_1A-42C	4+4
		CA_1A-42D	4+4
		CA_1A-42E	4+2
		CA_3A-5A	4+2
		CA_3C-5A	4+2
		CA_3A-7A	4+4
		CA_3C-7A	4+4
		CA_3A-3A-7A	4+4+4
		CA_3A-7C	4+4
		CA_3A-7A-7A	4+4+4
		CA_3C-7C	4+4
		CA_3A-3A-7C	4+4+4
		CA_3A-8A	4+2
		CA_3C-8A	4+2
		CA_3A-3A-8A	4+4+2
		CA_3A-20A	4+2
		CA_3C-20A	4+2
		CA_3A-3A-20A	4+4+2
		CA_3A-28A	4+2
		CA_3C-28A	4+2
		CA_3A-3A-28A	4+4+2
		CA_3A-32A	4+2
		CA_3C-32A	4+2
		CA_3A-38A	4+4
		CA_3C-38A	4+4

		CA_3A-3A-38A	4+4+4
		CA_3A-40A	4+4
		CA_3C-40A	4+4
		CA_3A-40C	4+4
		CA_3A-40A-40A	4+4+4
		CA_3C-40C	4+4
		CA_3A-40D	4+4
		CA_3A-40E	4+4
		CA_3A-41A	4+4
		CA_3C-41A	4+4
		CA_3A-3A-41A	4+4+4
		CA_3A-41C	4+4
		CA_3A-41D	4+4
		CA_3A-42A	4+4
		CA_3A-42C	4+4
		CA_3A-42D	4+4
		CA_3A-42E	4+2
		CA_5A-7A	2+4
		CA_5A-7C	2+4
		CA_5A-40A	2+4
		CA_5A-40A-40A	2+4+4
		CA_5A-41A	2+4
		CA_7A-8A	4+2
		CA_7A-20A	4+2
		CA_7C-20A	4+2
		CA_7A-7A-20A	4+4+2
		CA_7A-28A	4+2
		CA_7C-28A	4+2
		CA_7A-32A	4+2
		CA_7A-40A	4+2
		CA_7A-40C	4+4
		CA_7A-40D	4+4
		CA_7A-40E	4+4
		CA_8A-20A	2+2
		CA_8A-32A	2+2
		CA_8A-38A	2+4
		CA_8A-39A	2+4
		CA_8A-40A	2+4
		CA_8A-40C	2+4
		CA_8A-41A	2+4
		CA_8A-41C	2+4
		CA_8A-41D	2+4
		CA_20A-28A	2+2
		CA_20A-32A	2+2
		CA_20A-38A	2+4
		CA_20A-38C	2+4
		CA_20A-40A	2+4
		CA_20A-40C	2+4
		CA_20A-41A	2+4
		CA_20A-41C	2+4
		CA_20A-41D	2+4
		CA_28A-32A	2+2
		CA_28A-40A	2+4
		CA_28A-40C	2+4
		CA_28A-40D	2+4
		CA_28A-41A	2+4
		CA_28A-41C	2+4
		CA_39A-41A	4+4
		CA_39C-41A	4+4
		CA_39A-41C	4+4
		CA_39C-41C	4+4

		CA_39A-41D	4+4
		CA_40A-42A	4+4
		CA_40A-42C	4+4
		CA_41A-42A	4+4
		CA_41C-42A	4+4
		CA_41A-42C	4+4
		CA_41C-42C	4+4
		CA_41A-42D	4+4
		CA_1A-3A-5A	4+4+2
		CA_1A-3C-5A	4+4+2
		CA_1A-3A-7A	4+4+4
		CA_1A-1A-3A-7A	4+4+4+4
		CA_1A-3C-7A	4+4+4
		CA_1A-3A-7C	4+4+4
		CA_1A-3A-7A-7A	4+2+4+4
		CA_1A-3C-7C	4+4+2
		CA_1A-3A-8A	4+4+2
		CA_1A-3C-8A	4+4+2
		CA_1A-3A-3A-8A	4+4+4+2
		CA_1A-3A-20A	4+4+2
		CA_1A-3C-20A	4+4+2
		CA_1A-3A-3A-20A	4+4+4+2
		CA_1A-3A-28A	4+4+2
		CA_1A-1A-3A-28A	4+4+4+2
		CA_1A-3C-28A	4+4+2
		CA_1A-3A-3A-28A	4+4+4+2
		CA_1A-3A-32A	4+4+2
		CA_1A-3A-38A	4+4+4
		CA_1A-3C-38A	4+4+4
		CA_1A-3A-3A-38A	4+4+4+2
		CA_1A-3A-40A	4+4+4
		CA_1A-3C-40A	4+4+4
		CA_1A-3A-40C	4+4+4
		CA_1A-3C-40C	4+4+4
		CA_1A-3A-41A	4+4+4
		CA_1A-3A-41C	4+4+4
		CA_1A-3A-42A	4+4+4
		CA_1A-3A-42C	4+4+4
		CA_1A-5A-7A	4+2+4
		CA_1A-7A-8A	4+4+2
		CA_1A-7A-20A	4+4+2
		CA_1A-7C-20A	4+4+2
		CA_1A-7A-28A	4+4+2
		CA_1A-7C-28A	4+4+2
		CA_1A-7A-32A	4+4+2
		CA_1A-7A-38A	4+4+4
		CA_1A-7A-40A	4+4+4
		CA_1A-7A-40C	4+4+4
		CA_1A-8A-20A	4+2+2
		CA_1A-8A-38A	4+2+4
		CA_1A-8A-40A	4+2+4
		CA_1A-8A-40C	4+2+4
		CA_1A-20A-28A	4+2+2
		CA_1A-20A-32A	4+2+2
		CA_1A-20A-38A	4+2+4
		CA_1A-28A-40A	4+2+4
		CA_1A-28A-40C	4+2+4
		CA_1A-41A-42A	4+4+4
		CA_1A-41C-42A	4+4+4
		CA_1A-41A-42C	4+4+4
		CA_1A-41C-42C	4+2+4

		CA_3A-5A-7A	4+2+4
		CA_3A-5A-40A	4+2+4
		CA_3A-7A-8A	4+4+2
		CA_3C-7A-8A	4+4+2
		CA_3A-7A-20A	4+4+2
		CA_3C-7A-20A	4+4+2
		CA_3A-3A-7A-20A	4+4+4+2
		CA_3A-7C-20A	4+4+2
		CA_3A-7A-28A	4+4+2
		CA_3C-7A-28A	4+4+2
		CA_3A-7C-28A	4+4+2
		CA_3C-7C-28A	2+4+2
		CA_3A-7A-32A	4+4+2
		CA_3C-7A-32A	4+4+2
		CA_3A-7A-38A	4+4+4
		CA_3A-7A-40A	4+4+4
		CA_3A-7A-40C	4+4+4
		CA_3A-8A-20A	4+2+2
		CA_3A-8A-38A	4+2+4
		CA_3C-8A-38A	4+2+4
		CA_3A-3A-8A-38A	4+4+2+4
		CA_3A-8A-40A	4+2+4
		CA_3A-8A-40C	4+2+4
		CA_3A-8A-41A	4+2+4
		CA_3A-20A-28A	4+2+2
		CA_3C-20A-28A	4+2+2
		CA_3A-20A-32A	4+2+2
		CA_3A-20A-38A	4+2+4
		CA_3A-20A-41A	4+2+4
		CA_3A-28A-40A	4+2+4
		CA_3A-28A-40C	4+2+4
		CA_3A-28A-40D	4+2+4
		CA_3A-28A-41A	4+2+4
		CA_3A-28A-41C	4+2+4
		CA_3A-41A-42A	4+4+4
		CA_3A-41C-42A	4+4+4
		CA_3A-41A-42C	4+4+4
		CA_3A-41C-42C	4+4+4
		CA_7A-8A-20A	4+2+2
		CA_7A-8A-40A	4+2+4
		CA_7A-8A-40C	4+2+4
		CA_7A-20A-28A	4+2+2
		CA_7A-20A-32A	4+2+2
		CA_7A-20A-38A	4+2+4
		CA_7A-28A-40A	4+2+4
		CA_7A-28A-40C	4+2+4
		CA_1A-3A-5A-7A	4+4+2+4
		CA_1A-3A-7A-8A	4+4+4+2
		CA_1A-3C-7A-8A	4+4+4+2
		CA_1A-3A-7A-20A	4+4+4+2
		CA_1A-3C-7A-20A	2+4+4+2
		CA_1A-3A-7C-20A	2+4+4+2
		CA_1A-3A-7A-28A	4+4+4+2
		CA_1A-3C-7A-28A	4+4+4+2
		CA_1A-3A-7C-28A	2+4+4+2
		CA_1A-3A-7A-32A	4+4+4+2
		CA_1A-3A-7A-38A	4+2+4+4
		CA_1A-3A-7A-40A	4+4+4+2
		CA_1A-3A-7A-40C	4+4+4+2
		CA_1A-3A-8A-20A	4+4+2+2
		CA_1A-3A-8A-38A	4+4+2+4

CA_1A-3A-3A-8A-38A	4+4+4+2+2
CA_1A-3A-8A-40A	4+4+2+4
CA_1A-3A-20A-28A	4+4+2+2
CA_1A-3A-20A-32A	4+4+2+2
CA_1A-3A-20A-38A	4+4+2+4
CA_1A-3A-28A-40A	4+4+2+4
CA_1A-3A-28A-40C	4+4+2+4
CA_1A-7A-8A-20A	4+4+2+2
CA_1A-7A-8A-40A	4+4+2+4
CA_1A-7A-8A-40C	4+4+2+4
CA_1A-7A-20A-28A	4+4+2+2
CA_1A-7A-20A-32A	4+4+2+2
CA_1A-7A-28A-40A	4+4+2+4
CA_1A-7A-28A-40C	4+4+2+4
CA_3A-7A-8A-20A	4+4+2+2
CA_3A-7A-8A-40A	4+4+2+4
CA_3A-7A-8A-40C	4+4+2+4
CA_3A-7A-20A-28A	4+2+2+2
CA_3A-7A-20A-32A	4+4+2+2
CA_3A-7A-28A-40A	4+4+2+4
CA_3A-7A-28A-40C	4+4+2+4
CA_1A-3A-7A-8A-20A	4+4+2+2+2
CA_1A-3A-7A-20A-28A	4+2+2+2+2
CA_1A-3A-7A-20A-32A	4+4+4+2+2
CA(UL)	**MIMO**
3C	/
7C	/
39C	/
41C	/
42C	/
1A-3A	/
1A-7A	/
3A-7A	/
1A-8A	/
3A-8A	/
1A-20A	/
3A-20A	/
3A-28A	/
7A-20A	/
7A-28A	/

📖 **NOTE**

All the preceding LTE CA combinations can only represent product capabilities. For details about the carrier's support, see the product configuration.

2.2.3 EN_DC combination

Table 2-4 EN_DC combination

Item	Description		
Band combination	5G	**EN_DC**	**MIMO**
		DC_(n)41AA	4+4
		DC_(n)41CA	4+4
		DC_3A_n3A	4+4
		DC_41A_n41A	4+4
		DC_41C_n41A	4+4
		DC_41D_n41A	4+4

			DC_40A_n40A	2+4
			DC_1A_n5A	4+2
			DC_3A_n1A	4+4
			DC_3C_n1A	4+4
			DC_1A_n3A	4+4
			DC_1C_n3A	4+4
			DC_3A-3A_n1A	4+4+4
			DC_7A_n1A	4+4
			DC_1A_n7A	4+4
			DC_1A-1A_n7A	4+4+4
			DC_7C_n1A	4+4
			DC_1A_n7B	4+4
			DC_7A-7A_n1A	4+4+4
			DC_1A-1A_n7B	4+4+4
			DC_8A_n1A	2+4
			DC_1A_n8A	4+2
			DC_20A_n1A	2+4
			DC_1A_n28A	4+2
			DC_1A_n38A	4+4
			DC_40A_n1A	4+4
			DC_1A_n40A	4+4
			DC_1A_n41A	4+4
			DC_1A_n77A	4+4
			DC_1A_n77(2A)	4+4
			DC_1A_n78A	4+4
			DC_1C_n78A	4+4
			DC_1A_n78C	4+4
			DC_1A_n78(2A)	4+4
			DC_1A_n79A	4+4
			DC_3A_n5A	4+2
			DC_3C_n5A	4+2
			DC_3A_n7A	4+4
			DC_3C_n7A	4+4
			DC_7A_n3A	4+4
			DC_3A-3A_n7A	4+4+4
			DC_3A_n7B	4+4
			DC_7C_n3A	4+4
			DC_3C_n7B	4+4
			DC_3A-3A_n7B	4+4+4
			DC_3A_n8A	4+2
			DC_8A_n3A	2+4
			DC_3A_n20A	4+2
			DC_20A_n3A	2+4
			DC_3A_n28A	4+2
			DC_3C_n28A	4+2
			DC_28A_n3A	2+4
			DC_3A_n38A	4+4
			DC_3C_n38A	4+4
			DC_3A_n40A	4+4
			DC_3A_n41A	4+4
			DC_3C_n41A	4+4
			DC_3A_n77A	4+4
			DC_3A_n77(2A)	4+4

		DC_3A_n78A	4+4
		DC_3C_n78A	4+4
		DC_3A_n78C	4+4
		DC_3A_n78(2A)	4+4
		DC_3C_n78(2A)	4+4
		DC_3A_n79A	4+4
		DC_7A_n5A	4+2
		DC_7C_n5A	4+2
		DC_5A_n78A	2+4
		DC_7A_n8A	2+4
		DC_20A_n7A	2+4
		DC_28A_n7A	2+4
		DC_28A_n7B	2+4
		DC_7A_n28A	4+2
		DC_7C_n28A	4+2
		DC_7A_n77A	4+4
		DC_7A-7A_n77A	4+4+4
		DC_7A_n78A	4+4
		DC_7C_n78A	4+4
		DC_7A-7A_n78A	4+4
		DC_20A_n8A	2+2
		DC_8A_n20A	2+2
		DC_8A_n40A	2+4
		DC_8A_n41A	2+4
		DC_8A_n77A	2+4
		DC_8A_n78A	2+4
		DC_8A_n79A	2+4
		DC_20A_n28A	2+2
		DC_20A_n38A	2+4
		DC_20A_n41A	2+4
		DC_20A_n77A	2+4
		DC_20A_n78A	2+4
		DC_28A_n40A	2+4
		DC_28A_n41A	2+4
		DC_28A_n77A	2+4
		DC_28A_n78A	2+4
		DC_28A_n78C	2+4
		DC_38A_n78A	4+4
		DC_39A_n41A	4+4
		DC_39A_n79A	4+4
		DC_40A_n41A	2+2
		DC_40A_n78A	4+4
		DC_40C_n78A	4+4
		DC_40A_n79A	4+4
		DC_41A_n78A	4+4
		DC_41C_n78A	4+4
		DC_1A_n20A	4+2
		DC_7A_n20A	4+2
		DC_7A_n40A	4+4
		DC_41A_n28A	4+2
		DC_7A_n78(2A)	4+4
		DC_8A_n38A	2+4
		DC_20A_n78(2A)	2+4

		DC_28A_n77(2A)	2+4
		DC_28A_n78(2A)	2+4
		DC_1A-7A_n7A	4+4+4
		DC_1A-41A_n41A	4+4+4
		DC_3A-7A_n1A	4+4+4
		DC_3C-7A_n1A	4+4+4
		DC_3C-7C_n1A	4+4+4
		DC_3A-7A_n7A	4+4+4
		DC_3C-7A_n7A	4+4+4
		DC_3A-41A_n41A	4+4+4
		DC_3A-3A_n77A	4+4+4
		DC_7A-28A_n7A	4+2+4
		DC_7A_n7A-n78A	4+4+4
		DC_8A-41A_n41A	2+4+4
		DC_20A-41A_n41A	2+4+4
		DC_3A-3A_n78A	4+4+4
		DC_41A_n41A-n78A	4+4+4
		DC_1A-3A_n5A	4+4+2
		DC_1A-3C_n5A	4+4+2
		DC_3A-7C_n1A	4+4+4
		DC_1A-7A_n3A	4+4+4
		DC_1A-7C_n3A	4+4+4
		DC_1A-3A_n7A	4+4+4
		DC_1A-1A-3A_n7A	4+4+2+4
		DC_1A-3C_n7A	4+4+4
		DC_1A-3A-7A_n7A	2+4+4+4
		DC_1A-1A-3C_n7A	4+4+2+4
		DC_1A-1A-3A_n7B	4+4+2+4
		DC_3A-3A-7A_n1A	4+4+2+4
		DC_1A-3A-3A_n7A	2+4+4+4
		DC_1A-3A_n7B	4+4+4
		DC_3A-7A-7A_n1A	2+4+4+4
		DC_1A-3C_n7B	4+4+4
		DC_1A-3A-3A_n7B	2+4+4+4
		DC_1A-1A-3C_n7B	4+4+2+4
		DC_1A-8A_n3A	4+2+4
		DC_3A-8A_n1A	4+2+4
		DC_3C-8A_n1A	4+2+4
		DC_3A-3A-8A_n1A	4+4+2+4
		DC_3A-20A_n1A	4+2+4
		DC_3C-20A_n1A	4+2+4
		DC_1A-20A_n3A	4+2+4
		DC_1A-28A_n3A	4+2+4
		DC_1A-3A_n28A	4+4+2
		DC_1A-3C_n28A	4+4+2
		DC_1A-3A_n38A	4+4+4
		DC_1A-3A_n40A	4+4+4
		DC_3A-40A_n1A	4+4+4
		DC_1A-3A_n41A	4+4+4
		DC_1A-3C_n41A	4+4+4
		DC_1A-3A_n77A	4+4+4
		DC_1A-3A_n77(2A)	4+4+4
		DC_1A-3A_n78A	4+4+4

		DC_1A-3C_n78A	4+4+4
		DC_1A-3A_n78C	4+4+4
		DC_1A-3A_n78(2A)	4+4+4
		DC_1A-3C_n78(2A)	4+4+4
		DC_1A-3A_n79A	4+4+4
		DC_1A-7A_n5A	4+4+2
		DC_1A-7C_n5A	4+4+2
		DC_1A-5A_n78A	4+2+4
		DC_1A_n5A-n78A	4+2+4
		DC_7A-8A_n1A	4+2+4
		DC_1A-20A_n7A	4+2+4
		DC_7A-20A_n1A	4+2+4
		DC_7C-20A_n1A	4+2+4
		DC_1A-28A_n7A	4+2+4
		DC_1A-28A_n7B	4+2+4
		DC_1A-7A_n28A	4+4+2
		DC_1A-1A-28A_n7A	4+4+2+4
		DC_1A-7C_n28A	4+4+2
		DC_1A-1A-28A_n7B	4+4+2+4
		DC_1A-7A_n78A	4+4+4
		DC_1A-7C_n78A	4+4+4
		DC_1A_n7A-n78A	4+4+4
		DC_1A-7A-7A_n78A	4+4+4+4
		DC_1A-8A_n41A	4+2+4
		DC_1A-8A_n77A	4+2+4
		DC_1A-8A_n78A	4+2+4
		DC_1A_n8A-n78A	4+2+4
		DC_1A-8A_n79A	4+2+4
		DC_1A-20A_n28A	4+2+2
		DC_1A-20A_n38A	4+2+4
		DC_1A-20A_n41A	4+2+4
		DC_1A-20A_n78A	4+2+4
		DC_1A-28A_n40A	4+2+4
		DC_1A-28A_n77A	4+2+4
		DC_1A-28A_n78A	4+2+4
		DC_1A_n28A-n78A	4+2+4
		DC_1A-28A_n78C	4+2+4
		DC_1A-32A_n78A	4+2+4
		DC_1A_n40A-n78A	4+4+4
		DC_1A-41A_n78A	4+4+4
		DC_1A-41C_n78A	4+4+4
		DC_1A_n41A-n78A	4+4+4
		DC_1A-42A_n78A	4+4+4
		DC_1A-42C_n78A	4+4+4
		DC_3A-7A_n5A	4+4+2
		DC_3C-7A_n5A	4+4+2
		DC_3A-7C_n5A	4+4+2
		DC_3C-7C_n5A	4+4+2
		DC_3A-5A_n78A	4+2+4
		DC_3A_n5A-n78A	4+2+4
		DC_3C_n5A-n78A	4+2+4
		DC_7A-8A_n3A	4+2+4
		DC_7A-20A_n3A	4+2+4

			DC_7C-20A_n3A	4+2+4
			DC_3A-20A_n7A	4+2+4
			DC_3A-28A_n7A	4+2+4
			DC_3C-28A_n7A	4+2+4
			DC_3A-28A_n7B	4+2+4
			DC_3C-28A_n7B	4+2+4
			DC_7A-28A_n3A	4+2+4
			DC_3A-7A_n28A	4+4+2
			DC_3C-7A_n28A	4+4+2
			DC_3A-3A-28A_n7A	4+4+2+4
			DC_3A-7C_n28A	4+4+2
			DC_3C-7C_n28A	4+4+2
			DC_3A-3A-28A_n7B	4+4+2+4
			DC_3A-7A_n77A	4+4+4
			DC_3A-7A_n78A	4+4+4
			DC_3C-7A_n78A	4+4+4
			DC_3A_n7A-n78A	4+4+4
			DC_3C_n7A-n78A	4+4+4
			DC_3A-7A-7A_n78A	4+4+4+4
			DC_3A-3A-7A_n78A	4+4+4+4
			DC_3A-7C_n78A	4+4+4
			DC_3C-7C_n78A	4+4+4
			DC_3A-8A_n41A	4+2+4
			DC_3A-8A_n77A	4+2+4
			DC_3A-8A_n78A	4+2+4
			DC_3C-8A_n78A	4+2+4
			DC_3A_n8A-n78A	4+2+4
			DC_3A-3A-8A_n78A	4+4+2+4
			DC_3A-8A_n79A	4+2+4
			DC_3A-20A_n28A	4+2+2
			DC_3C-20A_n28A	4+2+2
			DC_3A-20A_n38A	4+2+4
			DC_3A-20A_n41A	4+2+4
			DC_3C-20A_n41A	4+2+4
			DC_3A-20A_n78A	4+2+4
			DC_3C-20A_n78A	4+2+4
			DC_3A-28A_n40A	4+2+4
			DC_3A-28A_n41A	4+2+4
			DC_3A-28A_n77A	4+2+4
			DC_3C-28A_n77A	4+2+4
			DC_3A-28A_n78A	4+2+4
			DC_3C-28A_n78A	4+2+4
			DC_3A-28A_n78C	4+2+4
			DC_3A_n28A-n78A	4+2+4
			DC_3C_n28A-n78A	4+2+4
			DC_3A-3A-28A_n78A	4+4+2+4
			DC_3A-32A_n78A	4+2+4
			DC_3C-32A_n78A	4+2+4
			DC_3A-38A_n78A	4+4+4
			DC_3A_n40A-n78A	4+4+4
			DC_3A-41A_n78A	4+4+4
			DC_3A-41C_n78A	4+4+4
			DC_3A_n41A-n78A	4+4+4

		DC_3A-42A_n78A	4+4+4
		DC_3A-42C_n78A	4+4+4
		DC_5A-7A_n78A	2+4+4
		DC_7A_n5A-n78A	4+2+4
		DC_7C_n5A-n78A	4+2+4
		DC_7A-8A_n77A	4+2+4
		DC_7A-8A_n78A	4+2+4
		DC_7A_n8A-n78A	4+2+4
		DC_7A-20A_n28A	4+2+2
		DC_7A-20A_n78A	4+2+4
		DC_7A-28A_n78A	4+2+4
		DC_7C-28A_n78A	4+2+4
		DC_28A_n7A-n78A	2+4+4
		DC_7A_n28A-n78A	4+2+4
		DC_7C_n28A-n78A	4+2+4
		DC_7A-32A_n78A	4+2+4
		DC_8A-20A_n78A	2+2+4
		DC_8A_n41A-n78A	2+4+4
		DC_20A_n28A-n78A	2+2+4
		DC_20A-32A_n78A	2+2+4
		DC_20A-38A_n78A	2+4+4
		DC_20A_n41A-n78A	2+4+4
		DC_28A_n40A-n78A	2+4+4
		DC_28A-41A_n78A	2+4+4
		DC_28A-41C_n78A	2+4+4
		DC_1A-7A_n40A	4+2+4
		DC_3A-7A_n40A	4+2+4
		DC_7A-28A_n40A	4+2+4
		DC_7A-40A_n1A	4+4+4
		DC_1A-3A_n8A	4+4+2
		DC_1A-7A_n8A	4+4+2
		DC_3A-7A_n8A	4+4+2
		DC_7C-28A_n3A	4+2+4
		DC_3A_n1A-n7A	4+4+4
		DC_1A-32A_n78(2A)	4+2+4
		DC_3A-32A_n78(2A)	4+2+4
		DC_20A-32A_n78(2A)	2+2+4
		DC_1A-7A_n78(2A)	4+4+4
		DC_1A-3C-7A_n78(2A)	4+4+2+4
		DC_1A-3A-7C_n78(2A)	2+4+4+4
		DC_3A_n1A-n28A	4+4+2
		DC_3A_n1A-n77A	4+4+4
		DC_3A_n1A-n78A	4+4+4
		DC_3C_n1A-n78A	4+4+4
		DC_1A_n3A-n78A	4+4+4
		DC_3A-3A_n1A-n78A	4+4+4+4
		DC_3A_n1A-n79A	4+4+4
		DC_7A_n1A-n78A	4+4+4
		DC_8A_n1A-n78A	2+4+4
		DC_20A_n1A-n28A	2+4+2
		DC_20A_n1A-n78A	2+4+4
		DC_7A_n3A-n78A	4+4+4
		DC_3A_n20A-n78A	4+2+4

			DC_20A_n3A-n78A	2+4+4
			DC_28A_n3A-n78A	2+4+4
			DC_1A_n3A-n28A	4+4+2
			DC_1A_n28A-n77A	4+2+4
			DC_3A-28A_n77(2A)	4+2+4
			DC_3A_n28A-n77A	4+2+4
			DC_28A_n3A-n77A	2+4+4
			DC_1A-41A_n28A	4+4+2
			DC_3A-41A_n28A	4+4+2
			DC_1A-41C_n28A	4+4+2
			DC_3A-41C_n28A	4+4+2
			DC_3A_n3A-n77A	4+4+4
			DC_3A_n3A-n78A	4+4+4
			DC_7C_n1A-n78A	4+4+4
			DC_7A_n1A-n40A	2+4+4
			DC_3A-7A_n78(2A)	4+4+4
			DC_3C-7A_n1A-n78A	4+4+4+4
			DC_1A-3C-7A_n7A	2+4+4+4
			DC_3A-3A-7A_n1A-n78A	4+4+2+4+4
			DC_3A-7A-7A_n1A-n78A	2+4+4+4+4
			DC_1A-3A-41A_n41A	2+4+4+4
			DC_1A-7A-28A_n7A	4+4+2+4
			DC_1A-7A_n7A-n78A	4+4+4+4
			DC_7A-7A_n1A-n78A	4+4+4+4
			DC_3A-7A-28A_n7A	4+4+2+4
			DC_3C-7A-28A_n7A	4+4+2+4
			DC_3A-7A_n7A-n78A	4+4+4+4
			DC_3C-7A_n7A-n78A	4+4+4+4
			DC_3A-8A-41A_n41A	4+2+4+4
			DC_3A-20A-41A_n41A	4+2+4+4
			DC_7A-28A_n7A-n78A	4+2+4+4
			DC_1A-3A-7A_n5A	4+4+4+2
			DC_1A-3C-7A_n5A	4+4+4+2
			DC_1A-3A-7C_n5A	4+4+4+2
			DC_1A-3A-5A_n78A	4+4+2+4
			DC_1A-3A_n5A-n78A	4+4+2+4
			DC_1A-3C_n5A-n78A	4+4+2+4
			DC_1A-7A-8A_n3A	4+4+2+4
			DC_3A-7A-8A_n1A	4+4+2+4
			DC_1A-3A-20A_n7A	4+4+2+4
			DC_3A-7A-20A_n1A	4+4+2+4
			DC_3C-7A-20A_n1A	4+4+2+4
			DC_3A-7C-20A_n1A	4+4+2+4
			DC_1A-7A-20A_n3A	4+4+2+4
			DC_1A-7C-20A_n3A	4+4+2+4
			DC_1A-3A-28A_n7A	4+4+2+4
			DC_1A-3C-28A_n7A	4+4+2+4
			DC_1A-3A-28A_n7B	4+4+2+4
			DC_1A-3C-28A_n7B	4+4+2+4
			DC_1A-3A-7A_n28A	4+4+4+2
			DC_1A-3C-7A_n28A	4+4+4+2
			DC_1A-1A-3A-28A_n7A	4+4+2+2+4
			DC_1A-3A-3A-28A_n7A	2+4+4+2+4

		DC_1A-3A-7C_n28A	4+4+4+2
		DC_1A-1A-3A-28A_n7B	4+4+4+2+4
		DC_1A-3A-3A-28A_n7B	4+4+4+2+4
		DC_1A-3A-7A_n78A	4+4+4+4
		DC_1A-3C-7A_n78A	4+4+4+4
		DC_1A-7A_n3A-n78A	4+4+4+4
		DC_3A-7A_n1A-n78A	4+4+4+4
		DC_1A-3A_n7A-n78A	4+4+4+4
		DC_1A-3C_n7A-n78A	4+4+4+4
		DC_1A-3A-7A-7A_n78A	4+2+4+4+4
		DC_1A-3A-7C_n78A	4+4+4+4
		DC_1A-3A-8A_n77A	4+4+2+4
		DC_1A-3A-8A_n78A	4+4+2+4
		DC_1A-3C-8A_n78A	4+4+2+4
		DC_3A-8A_n1A-n78A	4+2+4+4
		DC_1A-3A-8A_n79A	4+4+2+4
		DC_1A-3A-20A_n28A	4+4+2+2
		DC_3A-20A_n1A-n28A	4+2+4+2
		DC_1A-3A-20A_n38A	4+4+2+4
		DC_1A-3A-20A_n41A	4+4+2+4
		DC_1A-3A-20A_n78A	4+4+2+4
		DC_1A-3C-20A_n78A	4+4+2+4
		DC_1A-3A-28A_n40A	4+4+2+4
		DC_1A-3A-28A_n77A	4+4+2+4
		DC_1A-3A-28A_n78A	4+4+2+4
		DC_1A-3C-28A_n78A	4+4+2+4
		DC_1A-3A_n28A-n78A	4+4+2+4
		DC_1A-3C_n28A-n78A	4+4+2+4
		DC_1A-28A_n3A-n78A	4+2+4+4
		DC_1A-3A-32A_n78A	4+4+2+4
		DC_1A-3A_n38A-n78A	4+4+4+4
		DC_1A-28A_n40A-n78A	4+2+4+4
		DC_3A-28A_n40A-n78A	4+2+4+4
		DC_1A-3A_n40A-n78A	4+4+4+4
		DC_1A-3A-41A_n78A	4+4+4+4
		DC_1A-3A-41C_n78A	4+4+4+4
		DC_1A-5A-7A_n78A	4+2+4+4
		DC_1A-7A_n5A-n78A	4+4+2+4
		DC_1A-7C_n5A-n78A	4+4+2+4
		DC_1A-7A-8A_n78A	4+4+2+4
		DC_1A-7A-20A_n28A	4+4+2+2
		DC_1A-7A-20A_n78A	4+4+2+4
		DC_1A-7A-28A_n78A	4+4+2+4
		DC_1A-7C-28A_n78A	4+4+2+4
		DC_1A-28A_n7A-n78A	4+2+4+4
		DC_1A-7A_n28A-n78A	4+4+2+4
		DC_1A-7C_n28A-n78A	4+4+2+4
		DC_1A-7A-32A_n78A	4+4+2+4
		DC_1A-8A-20A_n78A	4+2+2+4
		DC_1A-20A_n28A-n78A	4+2+2+4
		DC_1A-20A-32A_n78A	4+2+2+4
		DC_1A-20A-38A_n78A	4+2+4+4
		DC_3A-5A-7A_n78A	4+2+4+4

		DC_3A-7A_n5A-n78A	4+4+2+4
		DC_3C-7A_n5A-n78A	4+4+2+4
		DC_3A-7C_n5A-n78A	4+4+2+4
		DC_3C-7C_n5A-n78A	4+4+2+4
		DC_3A-7A-8A_n78A	4+4+2+4
		DC_3A-7A-20A_n28A	4+4+2+2
		DC_3A-7A-20A_n78A	4+4+2+4
		DC_3C-7A-20A_n78A	4+4+2+4
		DC_3A-7A-28A_n78A	4+4+2+4
		DC_3C-7A-28A_n78A	4+4+2+4
		DC_3A-7C-28A_n78A	4+4+2+4
		DC_3A-28A_n7A-n78A	4+2+4+4
		DC_3A-7A_n28A-n78A	4+4+2+4
		DC_7A-28A_n3A-n78A	4+2+4+4
		DC_3C-7A_n28A-n78A	4+4+2+4
		DC_3A-7C_n28A-n78A	4+4+2+4
		DC_3C-7C_n28A-n78A	4+4+2+4
		DC_3A-7A-32A_n78A	4+4+2+4
		DC_3C-7A-32A_n78A	4+4+2+4
		DC_3A-7A-40A_n1A	4+4+2+4
		DC_3A-8A-20A_n78A	4+2+2+4
		DC_3A-20A_n28A-n78A	4+2+2+4
		DC_3A-20A-32A_n78A	4+2+2+4
		DC_3A-20A-38A_n78A	4+2+4+4
		DC_3A-28A-41A_n78A	4+2+4+4
		DC_3A-28A-41C_n78A	4+2+4+4
		DC_7A-20A_n28A-n78A	4+2+2+4
		DC_7A-20A-32A_n78A	4+2+2+4
		DC_1A-3A-28A_n78C	4+4+2+4
		DC_1A-20A_n3A-n78A	4+2+4+4
		DC_7A-20A_n3A-n78A	4+2+4+4
		DC_1A-3A-32A_n78(2A)	4+4+2+4
		DC_1A-3A-7A_n78(2A)	4+4+2+4
		DC_3A-20A_n38A-n78A	4+2+4+4
		DC_1A-20A_n3A-n38A	4+2+4+4
		DC_7A-8A_n1A-n78A	4+2+4+4
		DC_1A-3A_n28A-n77A	4+4+2+4
		DC_1A-28A_n3A-n77A	4+2+4+4
		DC_1A-3A_n41A-n78A	4+4+4+4
		DC_1A-20A_n41A-n78A	4+2+4+4
		DC_3A-20A_n41A-n78A	4+2+4+4
		DC_1A-3A-7A-28A_n7A	2+4+4+2+4
		DC_3C-28A_n7A-n78A	4+2+4+4
		DC_1A-3A-5A-7A_n78A	4+4+2+4+4
		DC_1A-3A-7A-8A_n78A	4+4+4+2+4
		DC_1A-3A-7A-20A_n28A	4+4+4+2+2
		DC_1A-3A-7A-20A_n78A	4+4+4+2+4
		DC_1A-3A-7A-28A_n78A	4+4+4+2+4
		DC_1A-3A-28A_n7A-n78A	4+4+2+4+4
		DC_1A-3A-7A_n28A-n78A	4+4+4+2+4
		DC_1A-3C-28A_n7A-n78A	4+4+2+4+4
		DC_1A-3A-28A_n40A-n78A	4+4+2+4+4
		DC_1A-3C-7A_n28A-n78A	4+4+4+2+4

		DC_1A-3A-20A_n28A-n78A	4+4+2+2+4
		DC_1A-3A-20A-38A_n78A	4+4+2+4+4
		DC_1A-7A-20A_n28A-n78A	4+4+2+2+4
		DC_3A-7A-20A_n28A-n78A	4+4+2+2+4
		DC_1A-7A-20A_n3A-n78A	4+4+2+4+4
		DC_1A-20A-38A_n3A-n78A	4+2+4+4+4
		DC_1A-3A-20A_n38A-n78A	4+2+4+4+4
		DC_1A-3A-20A_n41A-n78A	4+4+2+4+4
		DC_3C_n40A	4+4
		DC_1A-3C_n40A	4+4+4
		DC_1A-40A_n78A	4+4+4
		DC_1A-40C_n78A	4+4+4
		DC_3C-28A_n40A	4+2+4
		DC_3A-40A_n78A	4+4+4
		DC_3A-40C_n78A	4+4+4
		DC_28A-40A_n78A	2+4+4
		DC_28A-40C_n78A	2+4+4
		DC_1A-3C-28A_n40A	4+4+2+4
		DC_1A-3A-40A_n78A	4+4+4+4
		DC_1A-3A-40C_n78A	4+4+4+4
		DC_1A-28A-40A_n78A	4+2+4+4
		DC_1A-28A-40C_n78A	4+2+4+4
		DC_3A-28A-40A_n78A	4+2+4+4
		DC_3A-28A-40C_n78A	4+2+4+4
		DC_1A-3A-28A-40A_n78A	4+4+2+4+4
		DC_1A-38A_n3A	4+2+4
		DC_1A_n3A-n77A	4+4+4
		DC_1A-38A_n78A	4+4+4
		DC_3A_n38A-n78A	4+2+4
		DC_20A-38A_n3A	2+4+4
		DC_20A_n38A-n78A	2+4+4
		DC_1A_n38A-n78A	4+4+4
		DC_1A_n3A-n38A	4+4+4
		DC_20A_n3A-n38A	2+4+4
		DC_1A-3A-38A_n78A	4+4+4+4
		DC_1A-38A_n3A-n78A	4+4+4+4
		DC_20A-38A_n3A-n78A	2+4+4+4
		DC_1A-20A_n38A-n78A	4+2+4+4
		DC_1A-20A-38A_n3A	4+2+4+4
		DC_1A-3A-28A-40C_n78A	4+4+2+2+4

📖 **NOTE**

All the preceding EN_DC combinations can only represent product capabilities. For details about the carrier's support, see the product configuration.

2.2.4 NR CA combination

Table 2-5 NR CA combination

Item	Description		
Band combination	NR	**NR_CA**	**MIMO**

		CA_n41C	4+4
		CA_n77C	4+4
		CA_n77D	4+4
		CA_n78C	4+4
		CA_n78D	4+4
		CA_n79C	4+4
		CA_n41(2A)	4+4
		CA_n77(2A)	4+4
		CA_n78(2A)	4+4
		CA_n1A-n3A	4+4
		CA_n1A-n7A	4+4
		CA_n1A-n8A	4+2
		CA_n1A-n28A	4+2
		CA_n1A-n40A	4+4
		CA_n1A-n41A	4+4
		CA_n1A-n77A	4+4
		CA_n1A-n78A	4+4
		CA_n3A-n28A	4+2
		CA_n3A-n38A	4+4
		CA_n3A-n40A	4+4
		CA_n3A-n41A	4+4
		CA_n3A-n77A	4+4
		CA_n3A-n78A	4+4
		CA_n3A-n79A	4+4
		CA_n5A-n78A	2+4
		CA_n7A-n28A	4+2
		CA_n7A-n78A	4+4
		CA_n8A-n75A	2+2
		CA_n8A-n78A	2+4
		CA_n8A-n79A	2+4
		CA_n20A-n28A	2+2
		CA_n20A-n75A	2+2
		CA_n20A-n78A	2+4
		CA_n28A-n40A	2+4
		CA_n28A-n41A	2+4
		CA_n28A-n75A	2+2
		CA_n28A-n77A	2+4
		CA_n28A-n78A	2+4
		CA_n38A-n78A	4+4
		CA_n40A-n41A	4+2
		CA_n40A-n78A	4+4
		CA_n41A-n78A	4+4
		CA_n41A-n79A	4+4
		CA_n1A-n78(2A)	4+4
		CA_n1A-n78C	4+4
		CA_n38A-n78(2A)	4+4
		CA_n3A-n78(2A)	4+4
		CA_n7A-n78(2A)	4+4
		CA_n20A-n78(2A)	2+4
		CA_n1A-n3A-n28A	4+4+2
		CA_n1A-n3A-n78A	4+4+4
		CA_n3A-n28A-n78A	4+2+4
		CA_n1A-n3A-n7A	4+4+4
		CA_n1A-n40A-n78A	4+4+4
		CA_n1A-n7A-n28A	4+4+2
		CA_n1A-n7A-n78A	4+4+4
		CA_n3A-n28A-n77A	4+2+4
		CA_n20A-n28A-n78A	2+2+4
		CA_n1A-n28A-n78A	4+2+4
		CA_n3A-n7A-n78A	4+4+4
		SUL_n41A-n83A	4+2

		SUL_n77A-n80A	4+2
		SUL_n77A-n84A	4+2
		SUL_n78A-n80A	4+2
		SUL_n78A-n81A	4+2
		SUL_n78A-n82A	4+2
		SUL_n78A-n83A	4+2
		SUL_n78A-n84A	4+2
		SUL_n79A-n80A	4+2
		SUL_n79A-n81A	4+2

2.3 Software Specifications

Table 2-6 Software specifications

Item	Description	
5G features	DL 256 QAM, UL 256 QAM	
LTE features	DL 4x4 MIMO/5CC (The number of MIMO is related to the specific combination.)	
	DL 256 QAM，UL 64 QAM	
Mobile network	APN management APN auto adapter	
Gateway	Router	• Supports the default route • Supports manual configuration of LAN IP addresses • Supports Address Resolution Protocol (ARP)
	DHCP server	• The DHCP server can be enabled or disabled • The address pool of the DHCP server can be configured • The lease can be configured
	NAT	• Supports NAT and NAPT (compliant with RFC2663, RFC3022, and RFC3027) • Supports cone NAT
	ARP	
	ICMP	
	IPv4v6 dual stack IPv4 only IPv6 only (Customization , CLAT for LAN side IPv4 device access Internet) 📖 NOTE When the CLAT function is enabled, the IPv4 device Internet access service cannot reach the maximum throughput. Under IPv6 only, NAT-base service (such as port forwarding and port triggering) is not available	

Item	Description
	VPN pass-through
VPN client	• Supports L2TP VPN client • Supports PPTP VPN client
SMS	• Writing/sending/receiving • Writing/sending/receiving extra-long messages
Data service	**5G** SA NR: Downlink a maximum of 3CC (300M), 4x4 MIMO, 256 QAM, peak rate: 5.4Gbps (DL/UL subframe configuration 8:2). Uplink a maximum of 2CC (200M) 2x2 MIMO, 256 QAM, peak rate: 500 Mbps (DL/UL subframe configuration 8:2) NSA: NR: Downlink a maximum of 2CC (200M), 4x4 MIMO,256 QAM, peak rate: 3.6 Gbps (DL/UL subframe configuration 8:2) Uplink 1CC (100M), 1Tx，256 QAM，peak rate: 125 Mbps (DL/UL subframe configuration 8:2) LTE: Downlink a maximum of 4CC, 4x4 MIMO (Different frequency bands support different MIMO modes), 256 QAM, peak rate: 1.6 Gbps (FDD frequency bands, 20+20+20+20MHz, 4x4MIMO, a maximum of 16 streams). Uplink 1CC, 1Tx, 64 QAM, peak rate: 75 Mbps (FDD frequency bands, 20MHz) **4G only** Downlink a maximum of 5CC, 4x4 MIMO (Different frequency bands support different MIMO modes), 256 QAM, peak rate: 2 Gbps (FDD frequency bands, 20+20+20+20+20MHz, 4x4MIMO, a maximum of 20 streams). Uplink 2CC, 1Tx, 64 QAM, peak rate: 150 Mbps (FDD frequency bands, 20MHz)
	Wi-Fi 802.11b/g/n
	Supports multi APNs (Customization, one for data, one for TR-069)

Item	Description	
Firewall setup	- Firewall enable/disable - MAC Address Filter - IP Filter - Virtual server - Special Applications - DMZ settings - SIP ALG settings - UPnP settings - NAT settings - Domain Filter	
LAN	10/100/1000/2500 Mbps auto-negotiation - MDI/MDIX auto-sensing - IEEE 802.3/802.3u-compatible	
Operator maintenance (Customization)	- Supports TR-069 Amendment III - Supports TR-098 Amendment II - Supports TR-143 Amendment I	
USIM	PIN management and USIM card authentication	
NTP	Supports daylight saving time (DST) (Customization)	
System requirements	Operating system	Windows 8, Windows 8.1, Windows 10, Windows 11 (Not support Windows RT), MAC OS X 10.12, 10.13, 10.14 and 10.15.
	Web browser	- Microsoft Internet Explorer 9.0 and Microsoft Edge 14.0 with latest updates. - Firefox 60.0 with latest updates. - Chrome 60.0 with latest updates. - Safari 10.0 with latest updates. - Opera 51.2 with latest upgrades.
	Your computer's hardware system should meet or exceed the recommended system requirements for the installed OS version	

3 Services and Applications

3.1 Data Services

The H352-381 can access the Internet through mobile networks.

Figure 3-1 Accessing the Internet through a mobile network
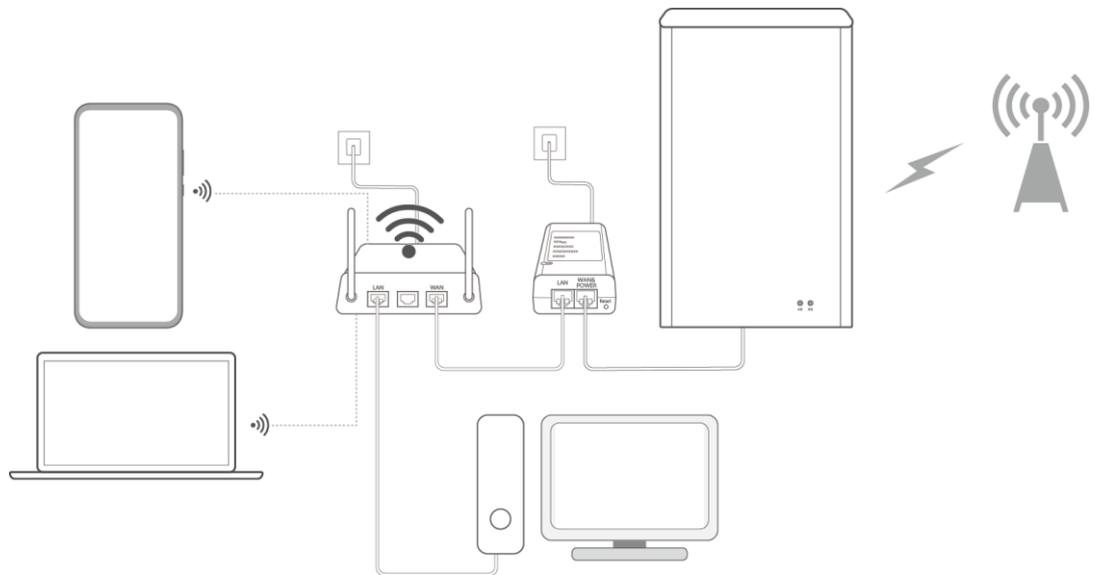
3.2 SMS

The H352-381 supports message writing/sending/receiving and group sending (up to 50 -contacts at a time).

3.3 Security Service

The H352-381 supports comprehensive and robust security services. It provides a firewall function and PIN protection mechanisms. These features allow users to connect their computers to the Internet and simultaneously protect their computers against security threats from the Internet.

3.3.1 Firewall Service

The H352-381 supports the enabling or disabling of a firewall on the network connection, which protects the device and network from attacks by hackers on the Internet and controls access to the Internet.

3.3.2 MAC Filtering

The H352-381 supports configuration of the Media Access Control (MAC) address filtering to restrict network access.

3.3.3 Wi-Fi Authentication

The gateway supports the following user authentication protocols for Wi-Fi:

- No encryption
- WPA2-PSK, WPA/WPA2-PSK.

3.4 VPN Function

3.4.1 VPN Client

VPN tunneling involves establishing and maintaining a logical network connection (that may contain intermediate hops). On this connection, packets constructed in a specific VPN protocol format are first encapsulated within some other base or carrier protocol, then transmitted between the VPN client and server, and finally decapsulated on the receiving side.

The H352-381 supports L2TP and PPTP tunneling protocols.
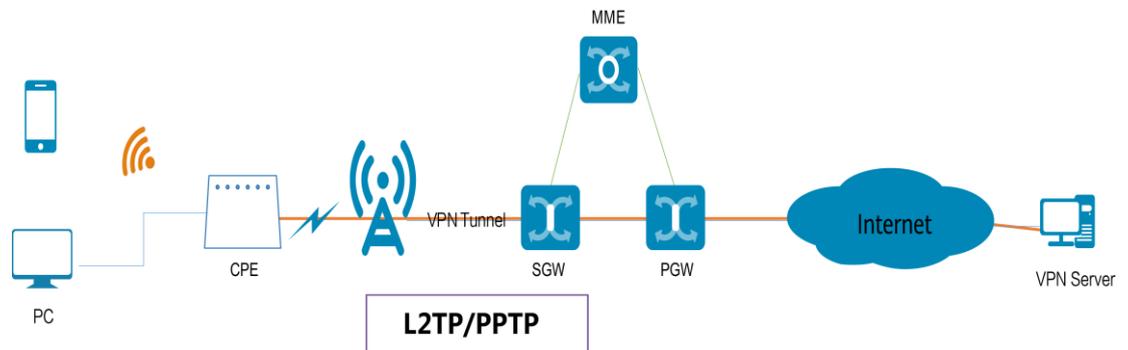
3.4.2 VPN Pass-Through

The H352-381 supports L2TP/PPTP VPN pass-through for the LAN side device. The LAN side device can create a VPN tunnel to the VPN server.
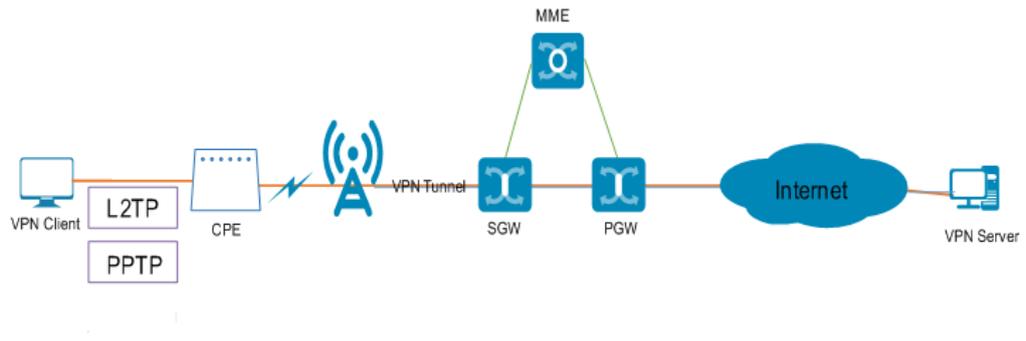
3.5 IP Pass-Through

The H352-381 obtains the WAN IP address and passes it through to the PC (Case 1) or Router (Case 2), and then the PC (Case 1) or Router (Case 2) can directly use the WAP IP address.
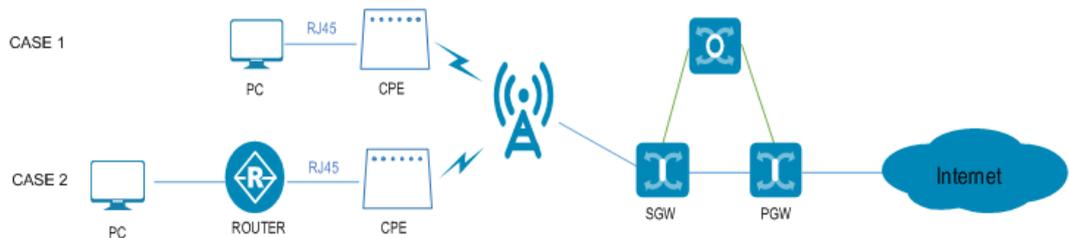
# 3.6 IPv6 Only and IPv4v6 Dual Stack

3.6.1 IPv4v6 Dual Stack

The H352-381 provides dual stack function.
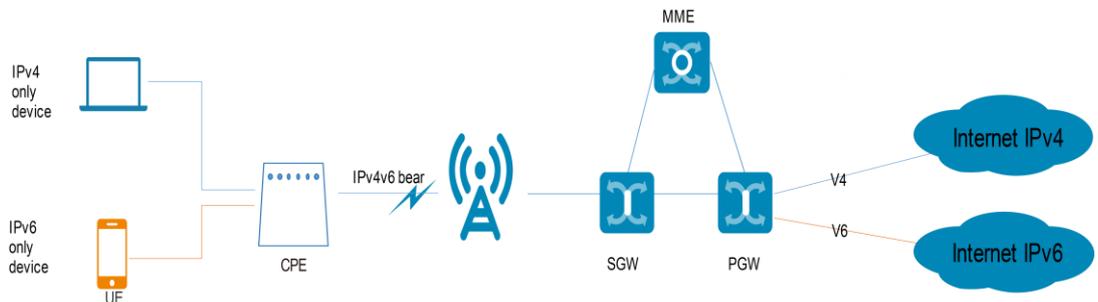
3.6.2 IPv6 Only (CLAT) (Customization)

The H352-381 supports IPv6 only with the transition solution CLAT for IPv4 device.
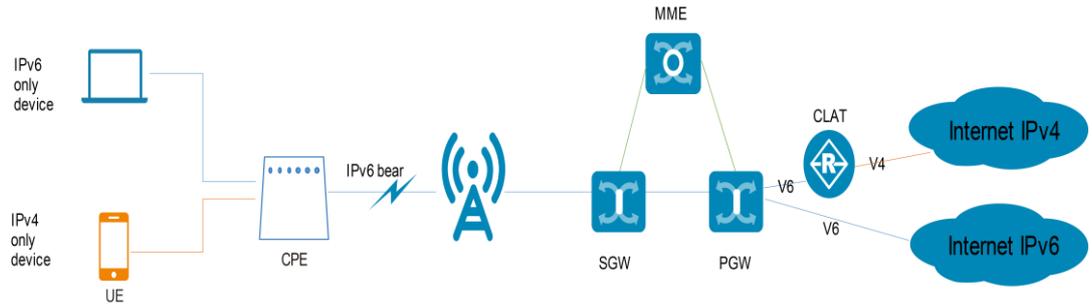
📖 NOTE

When the IPv6 only (CLAT) function is enabled, NAT-based functions (like DMZ/Port Forwarding/Port tigger) cannot be used.

When an IPv4 device accesses the Internet, the performance is degraded because packets need to be packetized and unpacked. However, IPv6 devices are not affected.

3.7 Multi-APN (Customization)

The H352-381 supports the establishment and maintenance of two APNs. These two APN connections isolate data and remote management services on an operator's network.

The H352-381 supports an independent APN for CPE internet/TR-069.
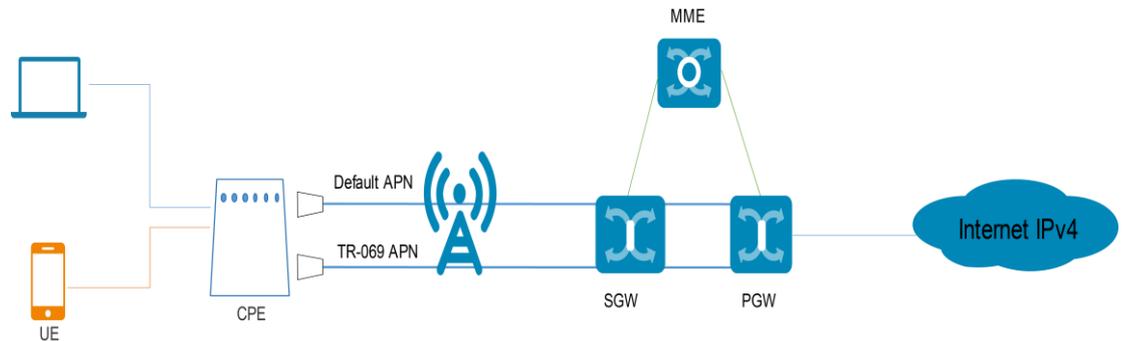
3.8 Customer management

The H352-381 supports local configuration through the Web UI. You can perform device management and network configuration to ensure normal and stable performance.

3.9 Operator maintenance (Customization)

The H352-381 supports Operator maintenance through the TR-069. Operator remote manages the CPE software update/parameters configuration via TR-069.
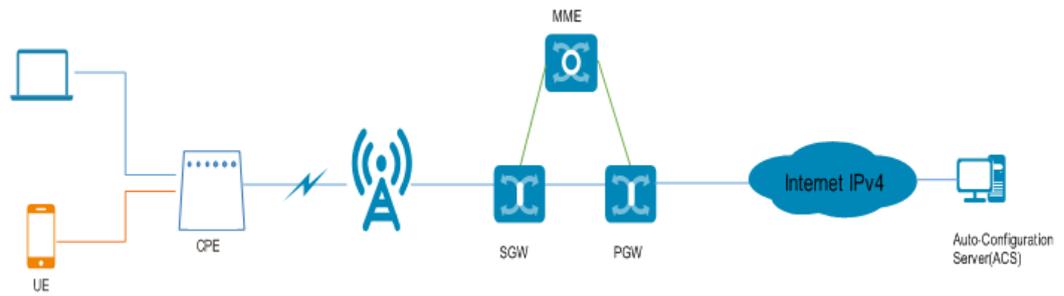
3.10 FOTA

The H352-381 supports the FOTA feature, which allows users to remotely update the device firmware through the FOTA server.

4 System Structure and Scenario Constraints

4.1 System Architecture

Figure 4-1 System structure
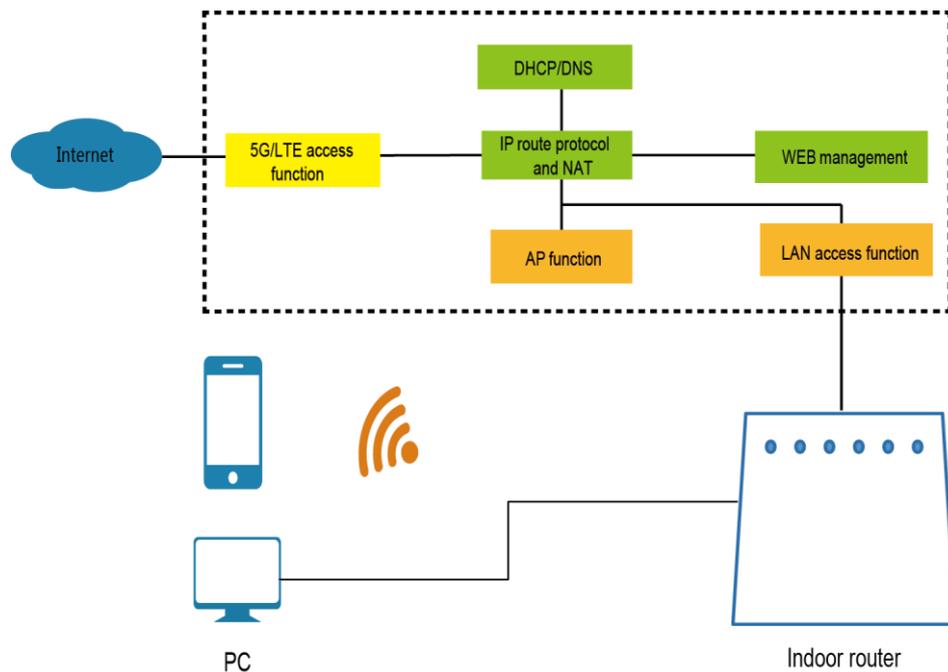
The following describes the modules shown in Figure 4-1.

- 5G/LTE access function: The H352-381 adopts the 5G/LTE access technology at the WAN side.

- LAN access function: One high-speed Ethernet port is provided at the LAN side. The H352-381 provides the switching function for local networking and sharing of the broadband network when it is connected to the router.

- DHCP/DNS: The DHCP server dynamically allocates IP addresses to PCs.

- Web-based management: You can configure the H352-381 and modify and view the configuration of the H352-381.

- IP routing protocol and NAT: The H352-381 has high-speed routing capability. With the built-in NAT, the H352-381, together with terminals, can provide flexible broadband access solutions and networking schemes.

4.2 Scenario Constraints

The H352-381 is a household wireless broadband access product designed for use in scenarios with relatively few network access devices and relatively low network reliability requirements, such as homes or small office and home offices (SOHOs).

The H352-381 is not an enterprise-grade product. It cannot be used by medium- or large-sized enterprises or in scenarios with high network reliability requirements, such as banks, securities agencies, traffic control, and communications device backhaul.

The H352-381 has the following constraints:

- When the L2TP/PPTP VPN client function is enabled, the throughput performance will slow down.

- The Wi-Fi automatically shuts down after two hours without user access.

5 Technical References

5.1 Standards and Communication Protocols

5.1.1 Standards and Communication Protocols of the Product

Table 5-1 Standards and communication protocols of the product

Item	Description
Physical layer	RFC894
ARP	RFC826
IP	RFC791, RFC1122, RFC1071, RFC1141, RFC1624, RFC792, RFC950, RFC1256
ICMP	RFC792, RFC950, RFC1256
TCP	RFC793
UDP	RFC768
NAT	RFC1631, RFC2663, RFC3022, RFC3027
DHCP	RFC1531, RFC1533

5.1.2 Standards and Communication Protocols of the Wireless Uu Interface

This device supports 3GPP Release 16.

6 Packing List

Table 6-1 Packing list

Description	Quantity	Remarks
Wireless Gateway	1	Standard
PSU	1	Standard
PSU power cable	1	Standard
Ethernet cable (Flat, 1.5m)	1	Standard
Network port prompt label	1	Standard
SSID label	1	Standard
Base	1	Standard
Screw	2	Standard
Expansion anchor	2	Standard
Adjustable pole strap	1	Standard
Cable tie	2	Standard
Outdoor Ethernet cable waterproof component	1	Standard
Internal hexagon wrench (φ2.5)	1	Standard
Internal hexagon wrench (φ5.0)	1	Standard
Quick Start	1	Standard
Ethernet cable (Flat, 10m)	1	Optional
Warranty card	1	Optional