

# 5G CPE BOX Specification

Controlled Version Number: V1.0

Release Date: 2021/1

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# 1 Product Overview

5G CPE BOX is a 5G BOX product designed for automotive/industrial applications. It can convert 5G wireless signals into Gigabit Ethernet, USB 3.1 and Wi-Fi 6 signals, providing stable and high speed 5G access for other devices and passengers.

5G CPE BOX is designed based on Qualcomm 5G platform SDX55 and fully complies with 3GPP Release15 standard. 5G CPE BOX supports two network modes SA and NSA and major 5G commercial bands worldwide and downward supports 3G/4G networks to meet the needs of mobile scenarios. At the same time, it also adopts Qualcomm Wi-Fi 6 chipset QCA6391, supports 2×2 MIMO and dual bands of 2.4GHz and 5GHz simultaneously, and can support multi-user connections with DL speed up to 1.8Gbps.

5G CPE BOX supports hardware and software watchdogs, can adapt to input voltage fluctuations of 8V~16V, and adopts a dedicated Gigabit Ethernet interface, which is more reliable and stable under vibration conditions; It can support multiple installation and fixture forms such as screws and viscose. With internal heat sink embedded, 5G CPE BOX can work steadily from -30℃ to 70℃ and can work for a long time in different complex industrial environments.



## 2 Key Technical Features

### 1) 5G Wireless Network; Super high-speed; Super Low latency; Reliable Performance

#### a) Support Latest 5G Networks

Based on Qualcomm SDX55 chipsets, 5G CPE BOX complies with 3GPP Release 15 standard and supports NSA/SA network modes;

The max. DL speed of 5G NR reaches up to 2.12Gbps, and max. UL reaches up to 900Mbps;

Support LTE Cat20 with max. DL up to 2Gbps and max. UL up to 200Mbps;

Support RF MIMO and receiving diversity to improve communication quality and data speed;

*\*The speed mentioned above refer to the physical-layer equipment speed*

#### b) Full Networks connection which also supports with 3G/4G

5G CPE BOX can cover global major 5G commercial bands and downward supports 3G/4G networks and automatic switch between 5G/4G/3G

#### c) Automatic Boot/Dial/plug & play once Power Connected

### 2) The latest Wi-Fi 6 to provide higher speed and lower latency

QCA6391 is Qualcomm's latest generation of Wi-Fi 6 AP chipset. It can support 2x2 MIMO and DL/UL MU-MIMO, OFDMA, TWT, BSS Coloring etc. QCA6391 enables maximum download speed up to 1.8Gbps, 2.4G&5G dual bands with maximum 32 connections simultaneously.

### 3) 1000 Base ETH Port; USB 3.1 Type-C

#### a) Dedicated Gigabit Ethernet interface

5G CPE BOX has a dedicated Gigabit Ethernet interface, using a 10 PIN connection method, which is screened by metals for better preventing electro-magnetic interference. At the same time, the network interface connector is added with a metal elastic buckle, which can be effectively fixed to ensure stable operation under complex industrial environment

#### b) USB3.1 Type-C Interface

5G CPE BOX is equipped with USB3.1 Type-C to enable max. physical-layer speed up to 10Gbps, which can meet the high-speed requirement for 5G products.

#### **4) Hardware and Software Watchdog to Shield Safety**

5G CPE BOX supports hardware and software watchdog to enable self-recovery from malfunctions and realize high usability.

#### **5) User-friendly WEB UI**

WEB UI can easily display and configure the network and safety parameters

#### **6) Multiple Fixture Methods**

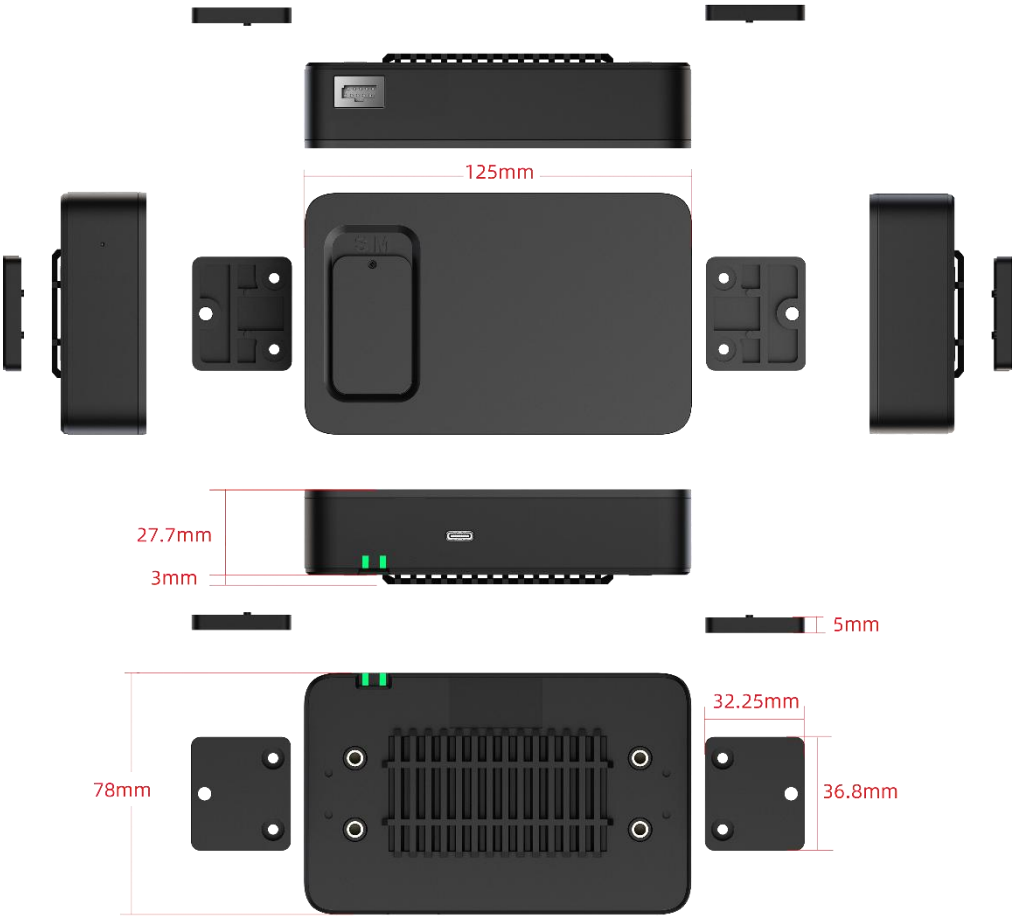
5G CPE BOX is supplied with installation accessories to be easily fixed by screws or gum.

### 3 Product Specification

<b>Product Name</b>	5G CPE BOX	
<b>Chipsets</b>	Modem: Qualcomm SDX55 Wi-Fi : Qualcomm QCA6391	
<b>Dimension</b>	120x78x23mm	
<b>Weight</b>	About 260g	
<b>Technical Standards</b>	Compatible with WCDMA, FDD-LTE, TDD-LTE, 5G NR Sub-6GHz 802.11 a/b/g/n/ac/ax	
<b>Bands</b>	Support Sub-6GHz Support SA/NSA modes  5G NR Sub-6G: N1/N3/N5/N7/N8/N20/N28/N38/N40/N41/N77/N78/N79; LTE: FDD: B1/B3/B5/B7/B8/B18/B19/B20/B28 TDD: B34/B38/B39/B40/B41/B42 WCDMA: B1/B3/B5/B8  Support UL Intra-Band CA	
<b>Speed</b>	Physical layer DL speed at 5G	up to 2.12Gbps
	Physical layer UL speed at 5G	up to 900Mbps
<b>Wi-Fi</b>	Standards	Support Wi-Fi 6 2.4GHz&5GHz DBDC, WIFI 2*2 MIMO, 802.11 a/b/g/n/ac/ax
	Max. Connections	32
<b>Hardware</b>	Memory	4Gb NAND + 4Gb LPDDR4
	Working Voltage	DC 8~16V, 12V Default
	ETH Port	10/100/1000 Base-T

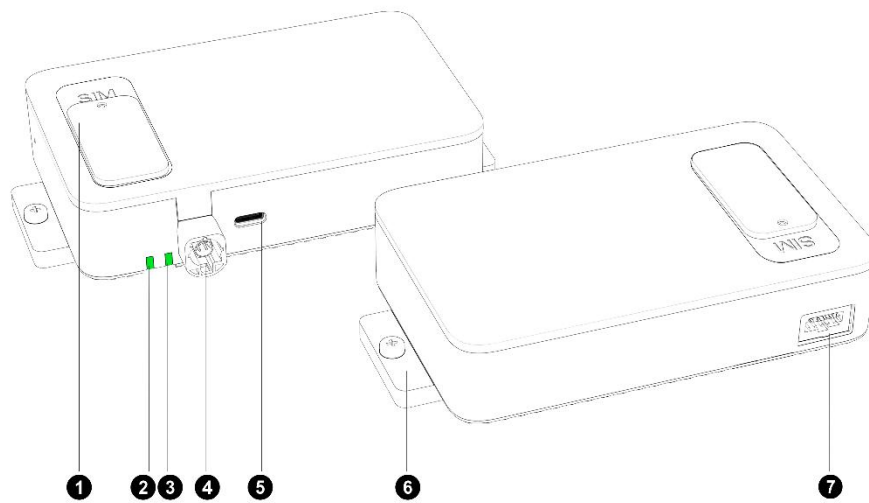
	Indicators	Status Indicators: Power and Network; Interface Indicators: Wi-Fi/ETH port;
	SIM Card	2FF standard SIM card * 1 Lift-cover design
	Antenna	Default Internal antennas: LTE/NR Antenna x6 Wi-Fi x2
	USB	USB3.1 Type-C
	Button	Reserve Reset
	Others	Hardware watchdog
<b>Software</b>	Management	WEB UI (192.168.1.1)
	APN	Global universal APN
	Upgrading	FOTA & Local
	SMS	Support
	Others	Firewall / port forwarding / DHCP server/SNTP
<b>Working Environment</b>	Working Temperature	Normal range: -20°C to 60°C Extended range: -30°C to 70°C
	Storage Temperature	-40° C to +85° C
<b>Certifications</b>	CTA/CCC/SRRC/CE*	

# 4 Product ID





## 5 Product Interface Definition

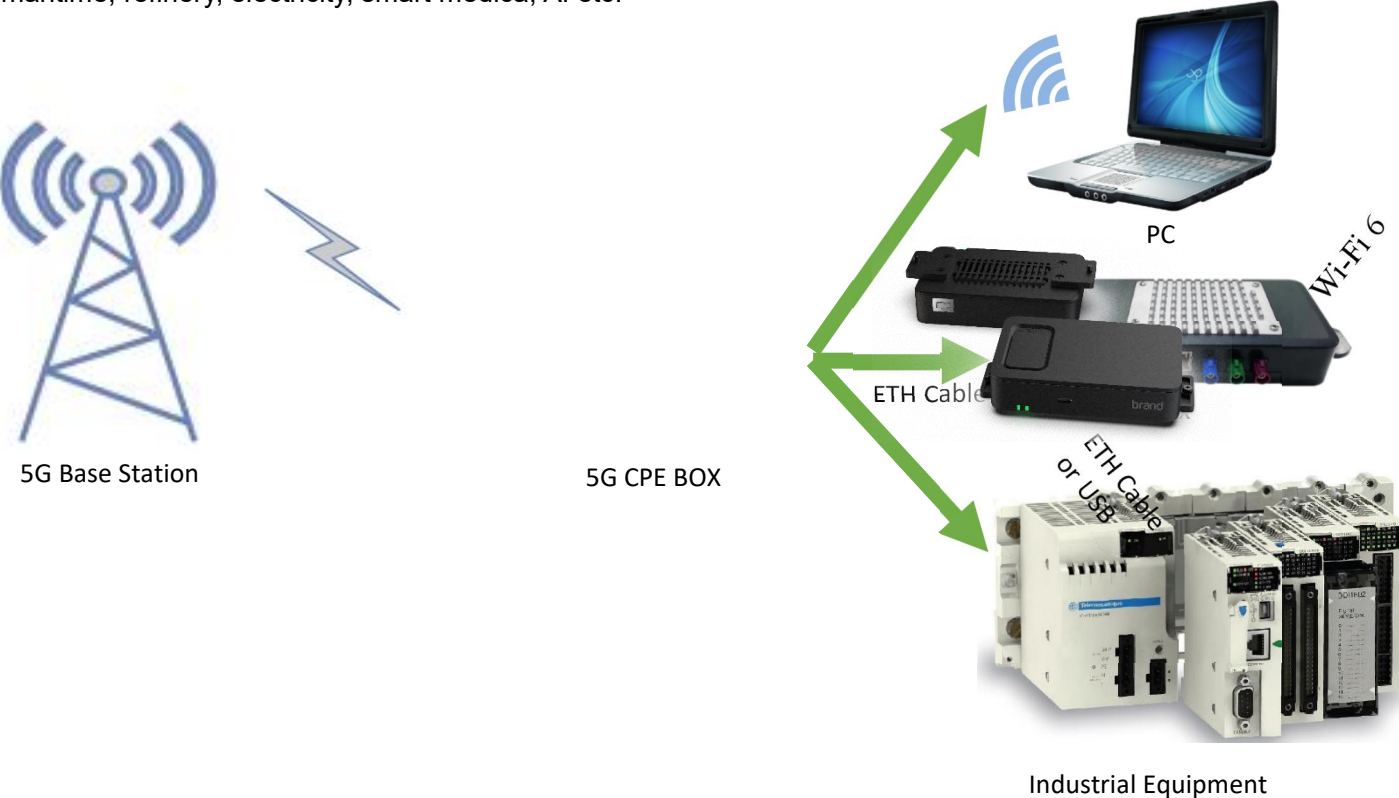


①	SIM card cover, 2FF standard SIM card
②	Status indicators: Power and Network indicators
③	Interface Indicators: Wi-Fi and Network Indicators
④	BMW head interface (compatible design, not reserved by default)
⑤	USB Type-C interface
⑥	Installation Fixture
⑦	dedicated Gigabit Ethernet interface (can switch to RJ45 connector and DC-JACK)

Note: All hardware and software support customization

# 6 Product Applications

5G CPE BOX 5G box can be applied in many scenarios, like personal internet access, Car Box, Industrial automatic control. With durable and reliable industrial-grade design, it can be used for mining, maritime, refinery, electricity, smart medica, AI etc.



Mining



Smart Manufacturing



Industrial AVG



Vehicle-Mounted



Smart Agriculture