



TRIBUTO 5G Dongle **User manual**

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1. Foreword

1.1 Introduction

This document describes the APAL® Tributo 5G Dongle product detail specification and user manual. It helps you quickly retrieve product specifications, electrical, product functions and product usage details.

1.2 Safety Information

The following safety precautions must be observed during all phases of operation, such as usage, service or repair of any cellular terminal or mobile incorporating with 5G Dongle. Manufacturers of the cellular terminal should send the following safety information to users and operating personnel, and incorporate these guidelines into all manuals supplied with the product. If not so, APAL assumes no liability for customers' failure to comply with these precautions.



Full attention must be given to driving at all times in order to reduce the risk of an accident. Using a mobile while driving (even with a hands free kit) causes distraction and can lead to an accident. Please comply with laws and regulations restricting the use of wireless devices while driving.

Switch off the cellular terminal or mobile before boarding an aircraft. The operation of wireless appliances in an aircraft is forbidden to prevent interference with communication systems. If the device offers an Airplane Mode, then it should be enabled prior to boarding an aircraft. Please consult the airline staff for more restrictions on the use of wireless devices on boarding the aircraft.

Wireless devices may cause interference on sensitive medical equipment, so please be aware of the restrictions on the use of wireless devices when in hospitals, clinics or other healthcare facilities.



Cellular terminals or mobiles operating over radio signals and cellular network cannot be guaranteed to connect in all possible conditions (for example, with unpaid bills or with an invalid (U) SIM card). When emergent help is needed in such conditions, please remember using emergency call. In order to make or receive a call, the cellular terminal or mobile must be switched on in a service area with adequate cellular signal strength.





The cellular terminal or mobile contains a transmitter and receiver. When it is ON, it receives and transmits radio frequency signals. RF interference can occur if it is used close to TV set, radio, computer or other electric equipment.



In locations with potentially explosive atmospheres, obey all posted signs to turn off wireless devices such as your phone or other cellular terminals. Areas with potentially explosive atmospheres include fueling areas, below decks on boats, fuel or chemical transfer or storage facilities, areas where the air contains chemicals or particles such as grain, dust or metal powders, etc.



1.3 Device information

Tributo 5G Dongle embedded with COMPAL® 5G RXM-G1 Module is a highly integrated 5G NR FR1 wireless communication module that adopts standard USB 3.1 type-C interface as the dongle device and backward supports with LTE/WCDMA system. It is applicable to most broadband communication networks of the mobile operator across the world.

		Specification		
Platform	QCT SDX55	QCT SDX55 Cortex-A7 up to 1.5 GHz		
Memory	4Gb NAND Flash (ONFI) with 4Gb LPDDR4X(1.8GHz) MCP			
Operating Band	TW	5G : n1, n3, n7, n8, n28, n38, n41, n78, n79		
		4G : B1, B3, B7, B8, B28, B38, B41		
		3G : B1, B8		
	JP	5G : n77,n78, n79		
		4G : B1, B3, B8, B18, B19, B26, B28, B41, B42		
		3G : B1,B8, B9, B19		
	EU	5G : n1, n3, n20, n28, n78		
		4G : B1, B3, B7, B8, B20, B28, B38, B46		
		3G : B1,B2,B4,B5,B8		
	NA	5G : n2, n5, n41, n66, n71		
		4G : B2, B4, B5, B7, B12, B13, B14, B25, B26, B29,		
		B30, B41, B46, B48, B66, B71		
		3G : B2,B4,B5,B8		
Network option	SA	Option 2		
	NSA	Option 3x/3a		
Downlink	LTE	LTE CAT 16		
	5G sub-6	1CC; Max BW 100MHz; MIMO 4x4		
Uplink	LTE	LTE CAT 13		
	5G sub-6	1CC; Max BW 100MHz; MIMO 2x2		
Carrier	ULCA, DLC	A and EN-DC		
aggregation				
SRS antenna	n77/n78/n79	: 1T2R(NSA) + 2T4R(SA)		
switching				
Power Supply	5V ±5%			
Temperature	Operating ten	nperature ^[1] :-10°C \sim +50°C		
	Storage temp	erature: $-40^{\circ}C \sim +85^{\circ}C$		



Physical	Interface: USB Type C, Nano-Sim
characteristics Dimension: 87.5 x 38.9 x 21 mm	
	Weight: 75g
Software	
Driver	Microsoft Windows 10, Mac, 10.15, Ubuntu14.04, Linux 3.13 and later



2. Device ID & IO Positions

2.1 Device LED Status

Tributo Dongle have 2 LEDs for below connection situations shows by tow.



Situations	Red	Green
Power On	Keep On	Off
Search Network	Slow Flash	Off
Connected	OFF, Network	Keen On
Connected	connected	Keep On
Data transmit	Off	Slow Flash
Data transmit > 200Mbps	Off	Fast Flash
Firmware update	Keep On	Flashing
Error	Keep On	Keep On



3. Connectivity

Tributo Dongle use USB 3.1 Type C to Type C cable to link dongle & various host. Need to use the certificated cable in box to retrieve the best performance.

Step 1:Insert Nano-SIM (Push In; Push out)



Step 3: Link to Host ex. PC, Notebook, Router....etc



Notice: Make sure the cable is well-plugged in device side before connected to host I/O.



3.1 Host OS by Windows

3.1.1 Windows UI & Setting

Tributo Dongle will boot and register to network automatically after connect to host. You can check the network status by click "internet access" icon.

ull Co	anected		
in wi	Fi med off		
Turn WiF	i back on		
Manua	lly		V
	& Internet set	tings	no materiad
Network	things such as mak	rion a connectio	
Network Change se	ttings, such as mak	ding a connectio	an mexcreak
Network Change se	fligs, such as mak	all Mobile	(µ) Mobile



← Settings	- ¤ ×
û Home	Status
Find a setting	Network status
Network & Internet	⊕— III. — ₽
🔁 Status	Chunghwa Telecom Public network
& WiFi	You're connected to the Internet
all Mobile	You're on a metered network. Some apps might work differently to help you save on data while on this network.
🕾 Dial-up	Mobile 18 AT&T(5G) 5 MB From the last 30 days
% VPN	Properties Data usage
i Flight mode	Show available networks
010 Mobile hotspot	 view the connection oppoints around you.
Proxy	Advanced network settings
	Change adapter options

In the Network & Internet Settings, you can see the overview of network status.

If you want to create a new APN setting, you can go to "Mobile" -> "Advanced options" to see APN settings.

← Settings	x
	Mobile
Find a setting	Use this SIM for mobile data
Network & Internet	SIM 1 V
🕏 Status	AT&T(5G) Connected
🕷 WiFi	Let Windows keep me connected
adi Mobile	When you're not connected to another kind of network, we'll automatically use mobile data from your data plan.
🕾 Dial-up	Data roaming options
% VPN	Don't roam
🕸 Flight mode	When entering a roaming area, your data connection will be turned off.
⁰ I ⁰ Mobile hotspot	Advanced options
Proxy	Choose apps that can use your mobile data



If you want to add a new APN profile, click "Add an APN" and enter profile data. Remember to "Save" when finished input.

A AT&T(5G) APN settings			×
AP A T& T (SG) APN settings	AT0 T(5C)		
APN settings	ය AT&I(5G)		
Theose the default Internet APN Automatic	APN settings		
Automatic Vell automatically use the best Internet APN that we found. We won't se an APN that you or your organisation might have created. + Add an APN nternet APN (o) Default APN Activated Attach APN Vell E. internet (o) Default APN service iservice iserv	Choose the default Internet APN		
We'll automatically use the best internet APN that we found. We won't see a APN that you or your organisation might have created.	Automatic 🗸		
Attach APN Activated Attach APN PN for ITE internet Settings - C APN PN P	We'll automatically use the best Internet APN that we found. We won't use an APN that you or your organisation might have created. + Add an APN		
(c) Default APN Attach APN WPN for LTE: internet (c) Default APN	nternet APN		
Attach APN VPN for LTE: internet (o) Default APN Settings A APN rofile name VPN Isername Username Username Vsername Vsername Vserna	((o)) Default APN Activated		
APN for LTE internet (o) Default APN Settings - Profile name PN Username Username Username ype of sign-in info None ' 'ype	Attach APN		
Default APN Settings Image: Contract of the name vrofile name VPN Isername Username	APN for LTE: internet		
Settings – – – –	((o)) Default APN		
Profile name VPN Jsername Username verod vassword Password vpe of sign-in info None > type	- Settings		Х
Profile name VPN Username Vassword Password Vassword Vass			
Profile name VPN Jsername Username Vassword Password Password ype of sign-in info None			
NPN Jsername Username vassword Password ype of sign-in info None	ය APN		
NPN Jsername Username Vassword Password ype of sign-in info None	企 APN Profile name		
Jsername Username vassword Password ype of sign-in info None > type	ŵ APN Profile name		
Jsername Username Password Password ype of sign-in info None \checkmark	企 APN Profile name		
Jsername Username Vassword Password ype of sign-in info None > type	APN		
Username Password Password ype of sign-in info None	APN		
Password Password ype of sign-in info None > type	APN Username Username		
Password ype of sign-in info None Ype	APN Username Username		
ype of sign-in info None ~	APN Username Username Password		
ype of sign-in info None Y type	APN Username Username Password Password		
None ~	APN Username Username Password Password		
P type	APN Username Username Password Password Type of sign-in info		
	APN APN Username Username Password Password Type of sign-in info None		
Default V	APN Username Username Password Password Type of sign-in info None		



- Settings		-	×
☆ APN			
Password			
Password			
Type of sign-in info			
None	\sim		
P type			
IPv4v6	\sim		
APN type			
Internet and attach	~		
Apply this profile			
and			
Save			
Get help			

3.1.2 Firmware update

You can use "Windows Update" to find latest firmware for update. Or manually find fota package from <u>https://www.apaltec.com/support/</u> and follow SOP below.

3.1.2.1 Find your dongle firmware

Open command prompt by typing cmd in the search window and open as administrator mode



All Apps Documents Web More	•	
Best match		
Command Prompt App G Run as administrator		5 12
Apps D Open file location ■ Minimal ADB : -▷ Pin to Start Search work and wei -▷ Pin to taskbar	>	Command Prompt App
✓ cmd - See work and web results	>	🖵 Open
Settings (1)		Run as administrator
		Den file location
		-⊐ Pin to Start
		-🏳 Pin to taskbar

Use "netsh mbn show int" for current module firmware information

Command Prompt	
Microsoft Windows [Version (c) 2019 Microsoft Corporat	10.0.18363.1379] ion. All rights reserved.
C:\Users\robert_yu>netsh mb	on show int
There is 1 interface on the	: system:
Name Description GUID Physical Address Additional PDP Context Parent Interface Guid State Device type Cellular class Device Id Manufacturer Model Firmware Version Provider Name Roaming Signal RSSI / RSCP	<pre>: 行動電話 1315 : Generic Mobile Broadband Adapter #1310 : {1B240119-DFDF-4058-A787-A19E22282E21} : 80:8d:85:52:58:59 : No (Physical interface) : No parent : Connected : This is a remote device : GSM : 359047100167467 : Microsoft : Generic Mobile Broadband Adapte : RXMG1.27.00.356_OR09 : Far EasTone : Not roaming : 22% : 7 (-99 dBm)</pre>



3.1.2.2 Download fota package

You can find firmware update driver package from <u>https://www.apaltec.com/support/</u> e.g. latest firmware is v358, just find v356 to v358 0R09 firmware update driver package. Download and unzip it to local directory.

CMB	FWUpdateDriver ~
	gcmbfwupdatedriver.cat
	QCMBFWUpdateDriver.dll
	QCMBFWUpdateDriver.inf
	QCMBFWUpdateDriver.pdb
	Zz update.zip



3.1.2.3 Setup firmware update driver package

Open Device Manager, click "View" to select "Devices by type" and click "Show hidden devices"



Go to "Software devices" session, right click on the "Mobile Broadband Firmware Device" and select "Update driver".





If "Mobile Broadband Firmware Device" doesn't exist, please go to "Firmware" session, right click on the "Qualcomm Mobile Broadband Update Device" and select "Update driver".



Select "Browse my computer for driver software".

X

Update Drivers - Mobile Broadband Firmware Device

How do you want to search for drivers?

→ Search automatically for updated driver software Windows will search your computer and the Internet for the latest driver software for your device, unless you've disabled this feature in your device installation settings.

→ Browse my computer for driver software Locate and install driver software manually.



Select "Let me pick from a list of available driver on my computer".

	Update [Drivers - Mot	oile Broadband	Firmware Device			
B	rowse to	or drivers o	on your com	puter			
Se	arch for d	rivers in this	location:				
4	:\Users\Co	mpal\Docun	nents\FOTA\121_	0E00_To_128_0E00	٣	Browse	
4	Include su	ubfolders					
ſ	→ Let m	ne pick fro	m a list of a	vailable drivers	on my com	puter	
I	This lis catego	t will show av ry as the dev	vailable drivers o ice.	compatible with the	device, and all	drivers in the sa	me
L							
						214	
						Nevt	0
						Next	c
						Next	c
•••	Have D	Disk".				Next	c
	Have D	Disk". Drivers - Mob	ile Broadband F	irmware Device		Next	C
	Have D Update	Disk". Drivers - Mob	ile Broadband F	irmware Device		Next	c
cc ⁻	Have D Update	Disk". Drivers - Mob e device dr	ile Broadband F iver you wan	irmware Device t to install for th	nis hardware	Next	c
	Have D Update elect the	Disk". Drivers - Mob e device dr elect the man	ile Broadband F iver you wan ufacturer and mo	irmware Device It to install for the	nis hardware	Next en dick Next. If ye	C C
s S	Have D Update elect the Si d	Disk". Drivers - Mob e device dr elect the manu isk that conta	ile Broadband F iver you wan ufacturer and mo ins the driver yo	irmware Device It to install for th odel of your hardwar u want to install, dicl	nis hardware re device and the k Have Disk.	Next en dick Next. If ye	Ou have a
S	Have D Update elect the	Disk". Drivers - Mob e device dr elect the manu isk that conta	ile Broadband F iver you wan ufacturer and me ins the driver yo	irmware Device t to install for th odel of your hardwar u want to install, dicl	his hardware The device and the K Have Disk.	Next	ou have a
S	Have D Update elect the d	Disk". Drivers - Mob e device dr elect the man lisk that conta	ile Broadband F iver you wan ufacturer and me ins the driver yo ware	irmware Device t to install for th odel of your hardwar u want to install, did	nis hardware re device and the k Have Disk.	Next	ou have a
S	Have D Update I elect the Si d Show con Model	Disk". Drivers - Mob e device dr elect the manu isk that conta npatible hard	ile Broadband F iver you wan ufacturer and me ins the driver yo ware	irmware Device It to install for the odel of your hardwar u want to install, did	his hardware re device and the k Have Disk.	Next en dick Next. If y	ou have a
S	Have D Update elect the Sind Show com Model	Disk". Drivers - Mob e device dr elect the manu isk that conta	ile Broadband F iver you wan ufacturer and ma ins the driver yo ware	irmware Device It to install for th odel of your hardwar u want to install, did	his hardware re device and the k Have Disk.	Next	ou have a
S	Have D Update elect the Solution d Show con Model Generic	Disk". Drivers - Mob e device dr elect the manu- isk that conta	ile Broadband F iver you wan ufacturer and me ins the driver yo ware	irmware Device It to install for th odel of your hardwar u want to install, dicl	his hardware re device and the k Have Disk.	Next	ou have a
s S	Have D Update elect the Show con Model Generic	Disk". Drivers - Mob e device dr elect the man isk that conta	ile Broadband F iver you wan ufacturer and me ins the driver yo ware	irmware Device t to install for th odel of your hardwar u want to install, did	his hardware re device and the k Have Disk.	Next	ou have a
	Have D Update elect the Si d Show con Model Generic	Disk". Drivers - Mob e device dr elect the manu- isk that conta npatible hard : software dev	ile Broadband F iver you wan ufacturer and me ins the driver yo ware /ice	irmware Device It to install for the odel of your hardwar u want to install, did	his hardware re device and the k Have Disk.	en dick Next. If ye	e Disk



Select "Browse..." to Firmware Update Driver package path.

	Insert the manufacturer's installation disk, and then	OK
	make sure that the correct drive is selected below.	Cancel
ſ	Copy manufacturer's files from:	

Select "Qualcomm Mobile Broadband Update Device" and click Next.



Windows has finished installing the drivers for this device:

Qualcomm Mobile Broadband Update Device



Open Device Manager, click "Network adapters". Wait for Generic Mobile Broadband Adapter becomes hidden device.

🛃 De File	vice Manager Action View Help
(= =)	
3	Computer
2	 Disk drives
2	🕎 Display adapters
×	Firmware
	Qualcomm Mobile Broadband Update Device
	System Firmware
	Human Interface Devices
>	Keyboards
>	Mice and other pointing devices
3	Monitors
*	🕎 Network adapters
	Bluetooth Device (Personal Area Network)
	Generic Mobile Broadband Adapter
	Microsoft Kernel Debug Network Adapter
	🚅 Microsoft Wi-Fi Direct Virtual Adapter
	Microsoft Wi-Fi Direct Virtual Adapter #2
	Cualcomm/R) Wi-Fi B/G/N/AC (2v2) Suc

Wait around 120s Generic Mobile Broadband Adapter will back to normal device and then please reboot PC. During firmware update, you can find red led on and green led blinking.





You can check the updated	firmware version through	windows UI like below
1	0	

Set	tings	
ŵ	Home	Cellular
F	ind a setting \wp	Use this SIM for cellular data
Ne	twork & Internet	SIM 1 V
₿	Status	Far EasTone (LTE) Connected
00	Wi-Fi Cellular	Let Windows manage this connection When you're not connected to another kind of network, we'll automatically use cellular data from your data plan.
Ę	Ethernet	Data roaming options Don't roam
ß	Dial-up	When entering a roaming area, your data connection will be turned off.
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	VPN	Advanced entions
цу.	Airplane mode	Choose apps that can use your cellular data

# Properties

Manufacturer:	Microsoft
Model:	Generic Mobile Broadband Adapte
Firmware:	RXMG1.27.00.358_0R09
Network type:	GSM
Data class:	UMTS, HSDPA, HSUPA, LTE, 1xRTT, 3xRTT, 1xEVDO, 1xEVDO-A, 1xEVDO-B, 5G/TDS
IMEI:	359047100167467
IMSI:	466011801951928
SIM ICCID:	89886018157709442671
Сору	



# 3.2 Host OS by Linux

Dongle will boot and register to network automatically after connect to host. You can see "Connection Established" after dongle boot up and see the connection detail by checking "Connection Information".

Connectio	Ectabliched
You are now	connected to 'Wired connection
2.	
	a second seco
nnection Information	a));
Active Network C	onnections
Wired connection 2 (	default)
Canaral	
General	Ethornet (epo0r36u1u2u2)
Hardware Address	1F-F3-47-5D-29-B3
Driver:	rdc ether
Speed	Unknown
Security:	None
IPv4	
IP Address:	192.168.225.49
Broadcast Address:	192.168.225.255
Subnet Mask:	255.255.255.0
Default Route:	192.168.225.1
Primary DNS:	192.168.225.1
IPv6	
IP Address:	2001:b400:e208:5f6b:81e8:646d:25b8:4dcd/
* More addresses	
* More addresses Default Route:	fe80::543a:4094:ccd9:ea1b
* More addresses Default Route: Primary DNS:	fe80::543a:4094:ccd9:ea1b 2001:b000:168::1



# 3.2.1 Configuration Utility

For connection management, we provide a WEB based configuration utility for users to customize connection configuration.

To access the configuration utility, open a web browser (such as Internet Explorer) and enter the IP address of the router, which is 192.168.225.1 by default.

Once you have reached the configuration utility through your web browser, you will need to log in. Enter admin as the username, and then enter the password. By default, the password is admin.

#### **Click Login to continue**





# 3.2.1.1 APN Settings

APN: Enter your service provider's APN.

User Name/Password: Enter the username and password provided by your service provider. PDP Type: Select PDP type (IPV4/IPV6/IPV4 & IPV6) that provided by your service provider.

	APN Setting - Chromium	~ ^ :
APN Setting × +		
← → C ▲ Not secure   192.168.22	1/01_apn_settings.html	☆ 🔟 🔍 😌 🗄
TRIBUTO 50 WEBSITE		0.1
APN SETTINGS		
WWAN SETTINGS	APN Settings	
FIRMWARE UPGRADE	internet	
ACCOUNT CONFIGURATION     FACTORY RESET	INTERNET	
C LOGOUT	Password	
		ø
	PDP Type	
	IPv4 & IPv6	•
		Update

## 3.2.1.2 SIM PIN Setting

Enter SIM PIN code if your SIM is protected by PIN code You can Disable SIM PIN Lock if you don't need this feature





# 3.2.1.3 WWAN Settings

Airplane Mode: Move the toggle to enable airplane mode.

**Preference Networks:** Select network type (3G/4G/5G) combination that you prefer to use.

Ø WWAN Settings × +		
← → C ▲ Not secure   192.168.	225.1/07_wwan_settings.html	☆ 🔳 🕸 i
TRIBUTO 5G WEBSITE		Ø.*
APN SETTINGS		
T - WWAN SETTINGS	WWAN Settings	
D NAT SETTINGS		
FIRMWARE UPGRADE	Airplane Mode	
	Disable	
TACTORY RESET	Preference Network	
тосонт	36+4G+5G	Uptale



# 3.2.1.4 NAT Settings

**IP Pass-Through:** Move the toggle to enable IP Pass-Through.



Dongle will reboot after enabled IP pass-through.





# 3.2.1.5 Firmware Upgrade

Current Version: Current Firmware version.

**Upgrade From Local:**Select a firmware update package from local.

**Upgrade From Network:** Checking server if there is new Firmware to upgrade. It will start to upgrade Firmware if there has a new version.

During firmware update, you can find red led on and green led blinking.

Firmw	are Upgrade 🛛 🗙	× +	
€-	Э C' 🏠	♥ 💪 https://192.168.225.1/14_firmware_upgrade.html         ♥ ✿	▣ 📽 =
			© -
	APN SETTINGS		
	WWAN SETTINGS	Firmware Upgrade	-
	NAT SETTINGS		
	FIRMWARE UPGRADE	Current Version	
	ACCOUNT CONFIGURATIO	KXMG120.00.290_0R09	
	FACTORY RESET	Upgrade From Local 👒	
	LOGOUT		
		Select File FOTA_250_298_dongle.zip Start Firmware Upgrade	
		Upgrade From Network	

Logout: Logout Dongle settings



# 3.2.2 Host OS by Mac OS

Tributo Dongle will boot and register to network automatically after connect to host. You can see connection detail by checking "Network", and check network configuration on "Advance".

	Location: Automa	tic	0	
Tributo 5G Connected	>	Status:	Connected	
Bluetooth PAN Not Connected			Tributo 5G is currently act address 192.168.225.50.	ive and has the IP
MT65xxeloader Not Configured	Confi	gure IPv4:	Using DHCP	٢
MT65xloader 2	ال	Address:	192.168.225.50	
Not Configured	Sut	onet Mask:	255.255.255.0	
Not Configured		Router:	192.168.225.1	
USB 10/100 LAN Ker		NS Server:	192.168.225.1, 2001	:6000:168::1, 2
AX88772	Search	Domains:		
Not Connected	IPve	6 Address:	2001:b400:e238:dc	6:ac9f:a783:e4be
USB 10/00 LAN K	×			
Wi-Fi G	3			
*				Advanced



TCP	IP DNS WINS 802.1X	Proxies Ha	rdware
Configure IPv4:	Using DHCP	٥	
IPv4 Address:	192.168.225.50		Renew DHCP Lease
Subnet Mask:	255.255.255.0 DH	ICP Client ID:	
Router:	192.168.225.1		(If required)
Configure IPv6:	Automatically	0	
Router:	fe80::600c:64ff:fee0:f75c		
	IPv6 Address		Prefix Length
	2001:b400:e238:db20:cc6:ac9f	:a783:e4be	64
	2001:b400:e238:db20:e9f2:6f6	3:2a71:ccfe	64

We provide WEB based configuration utility for Mac OS, you can refer to configuration utility section on Linux chapter for detail.

