

TSA5G35 API setup procedure

1: Introduce:

TSA5G35 API will be TCP/IP interface. Local PC or remote PC will control the TSA5G35 via TCP/IP channel.

UsbApp shall be update to the V2.3 which will have API function. USB dongle firmware is still work at V1.04.

2: Command format:

2.1 Start command:

Format: \$Start||Freq,Span,Att,Amp,Swp

Freq: 1~5350, if Frequency set to 1500MHz, Freq will be 1500.

Span: 0=1MHz

1=5MHz

2=10MHz

3=20MHz

4=50MHz

5=100MHz

6=500MHz

7=1000MHz

Att: 0=30dB Att is not marked, 1=30dB Att is marked.

Amp: If 30 dB Att is not marked:

0=-60dBm

1=-50dBm

2=-40dBm



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- 3=-30dBm 4=-20dBm

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5=-10dBm

6=0dBm

If 30 dB Att is marked:

0=-30dBm

1=-20dBm

2=-10dBm

3=0dBm

4=10dBm

5=20dBm

6=30dBm

- Swp: 0=x1 (CW Mode)
 - 1=x1.5 (Burst Mode)
 - 2=x2 (Burst Mode)
 - 3=x4 (Burst Mode)
 - 4=x8 (Burst Mode)
 - 5=x16 (Burst Mode)
 - 6=x32 (Burst Mode)

For example: \$Start||1800,1,2,0,1 it means click the start key with setting of freq=1800MHz, span=5MHz,amp=-40dB,Att_off, Swp=x1.5(Burst Mode)

2.2 Stop commend

Format: \$Stop

3: TCP/IP Debugger tool setup



3.1 Open IP port:

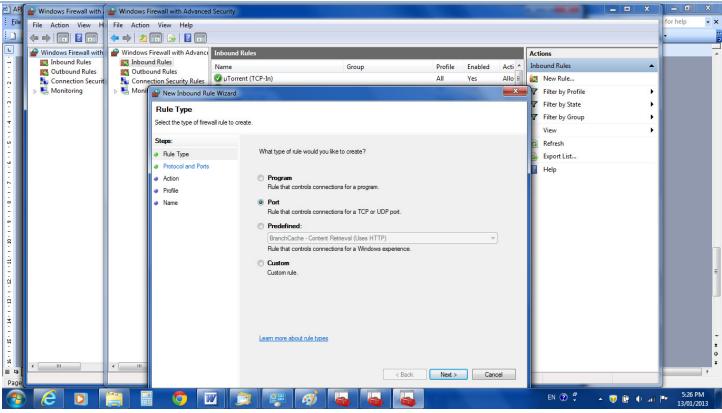
Setup IP port 6666 at your windows firewall for both inbound and outbound.

First go into the Control Panel, then click System and Security, then click Windows Firewall, you can see the following figure:

Control Panel +	System and Security > Windows Firewall - + Sear	rch Control Panel 🔎			
File Edit View Tools Help					
Control Panel Home	Help protect your computer with Windows Firewa	II II			
Allow a program or feature through Windows Firewall	Windows Firewall can help prevent hackers or malicious software from gaining access to your computer through the Internet or a network. These settings are being managed by vendor application Norton Internet Security Learn how you can enable Windows Firewall in your computer				
Change notification settings					
Turn Windows Firewall on or off					
Restore defaults					
Advanced settings	😵 Home or work (private) networks	Connected 🕑			
Troubleshoot my network	Public networks	Not Connected 🕑			

You will find Advance settings at left side, click it go into the advanced setting:





When you go into the advanced setting, you can find inbound rule and outbound rule at left side. Click inbound rule, go into the inbound rule setting.

You will see the New Rule at right side, click it to setup new IP port.

You shall select TCP, and input 6666 for new port number. Follow the instruction to finish all the setting.

After finished the inbound rule setting, you can setup outbound rule, the procedure will be same as the inbound rule, the port number is still 6666.

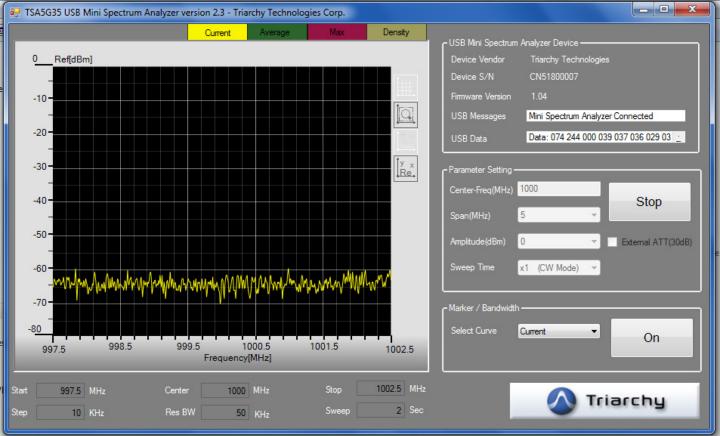
3.2 Setup UsbApp

All the procedure for the UsbApp setup is same as before, it is update UsbApp version to the V2.3, you must use this Version or update version to setup TSA5G35 API.

Please don't forget to add two license files in to program folder.



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3.3 Setup TCP/IP monitor tool

TCP/IP monitor tool will be used to demo the API function. USR-TCP232 Test.exe is one of TCP/IP monitor tool, Any other TCP/IP monitor tool is still working, TCP/IP monitor is only for demo purpose, customer will write code to control to TSA5G35 based in this API.

First you shall find IP address of PC which install the UsbApp,



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File Edit View Tools Advand Organize ▼ Connect To Di	ed Help sable this network device	Diagnose this connect		🗋 🔞
BluetoothConnection Disconnected HDAUDIO Soft Data FaxDisconnected HDAUDIO Soft Data FaxDisconnected Broadcom NetLink (TM)Disconnected WAN Miniport (PPPOE)Disconnected WAN Miniport (PPPOE)Disconnected 	General Connection IPv4 Connectivit IPv6 Connectivit Media State: SSID: Duration: Speed: Signal Quality: Details Activity Bytes: Properties	Network Connection Details Network Connection Details Property Connection-specific DN Description Physical Address DHCP Enabled IPv4 Address IPv4 Subnet Mask Lease Obtained Lease Expires IPv4 Default Gateway IPv4 DHCP Server IPv4 DNS Servers IPv4 WINS Server NetBIOS over Tcpip En Link-local IPv6 Address IPv6 Default Gateway	Value Atheros AR5B93 Wireless Network 70-1A-04-46-8B-34 Yes 192.168.1.66 255.255.255.0 January-13-13 4:01:39 PM January-14-13 4:01:43 PM 192.168.1.254 192.168.1.254 192.168.1.254 192.168.1.254 192.168.1.254 192.168.1.254 192.168.1.254 192.168.1.254 192.168.1.254 192.168.1.254 192.168.1.254 192.168.1.254 192.168.1.254	

You will look for the wireless Network Connection Status, click detail, you can find IPv4 Address:

In this case, it is 192.168.1.66. it shall be different with different PC which will connect different network.

Then you click the USR-TCP232_Test.exe to turn on the TCP/IP monitor tool.



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🔗 USR-TCP232-Test RS232	2 to Ethernet Convert tester		
File(F) Options(O) Help	(H)		
COMSettings	COM port data receive	Network data receive	NetSettings
PortNum COM1 -			(1) Protocol
			TCP Client 💌
BaudR 115200 💌			(2) Server IP
DPaity NONE 💌			192.168.1.66
DataB 8 bit 💌			
			(2) Server Port
StopB 1 bit			6666
🔘 Open			Connect
Recv Options			Recy Options
🔽 Receive to file			🗖 Receive to file
🗖 Add line return			🗖 Add line return
🔽 Receive As HEX			🔽 Receive As HEX
🗖 Receive Pause			🗖 Receive Pause
Save Clear			Save Clear
Send Options			Send Options
🗌 🔲 Data from file			🔽 Data from file
🗖 Auto Checksum			🗖 Auto Checksum
🗖 Auto Clear Input			🗌 Auto Clear Input
🗖 Send As Hex			🔽 Send As Hex
🗌 🗌 Send Recycle	<u> </u>		Send Recycle
Interval 1000 ms	Jinan USR Technology Co.,	http://en.usr.cn	Interval 1000 ms
	Ltd. Ser	nd	Send Load Clear
Load <u>Clear</u>	I		
🍯 Ready!	Send:0 Recv:0 F	leset 📝 Ready!	Send:0 Recv:0 <u>Reset</u>

USR_TCP232 Tester has network monitor and Com port monitor (USR-TCP232-Test.exe). Only the network monitor will be used in this case. First, setup Network Settings: select "TCP Client" in (1)Protocol window, input IP address in (2) Server IP window, input 6666 in the (2) Server Port window.

Then click "Connect" key to setup connection. If the TSA5G35 is working, you will see the spectrum data from the receive data window.

Or you can send Start command to start to TSA5G35 measuring.



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🙀 USR-TCP232-Test RS232	to Ethernet Convert tester				_
File(F) Options(O) Help(H	H)				
COMSettings	COM port data receive		Network data receive		NetSettings
PortNum COM1 -			36 30 2E 30 32 31 39 33 2C 2D	35 39 2E 🔺	(1) Protocol
			35 32 32 30 33 2C 2D 35 38 2E	35 32 32	TCP Client
BaudR 115200 💌			31 33 2C 2D 35 39 2E 35 32 32	32 32 2C	(2) 0 10
DPaity NONE 💌			2D 35 39 2E 30 32 32 33 32 2C	2D 36 30	(2) Server IP
			2E 30 32 32 34 32 2C 2D 36 30	2E 35 32	192.168.1.66
DataB 8 bit 💌			32 35 32 2C 2D 35 39 2E 35 32		(2) Server Port
StopB 1 bit 💌			2C 2D 35 39 2E 35 32 32 37 32		6666
			30 2E 35 32 32 38 33 2C 2D 36		
🔘 Open			32 32 39 33 2C 2D 36 31 2E 30 33 2C 2D 36 30 2E 35 32 33 31		💓 Disconnect
			35 20 2D 36 30 2E 35 32 33 31 36 30 2E 30 32 33 32 32 2C 2D		
Recv Options			30 32 33 33 32 2C 2D 36 31 2E		Recv Options
Receive to file			34 32 2C 2D 35 39 2E 35 32 33		Receive to file
Add line return			2D 35 39 2E 35 32 33 36 32 2C		Add line return
Receive As HEX			2E 35 32 33 37 32 2C 2D 36 30	2E 30 32	Receive As HEX
Receive Pause			33 38 32 2C 2D 35 39 2E 35 32	33 39 32	Receive Pause
j Kecelve rause			2C 2D 36 30 2E 30 32 34 30 32	2C 2D 35	j necelve rause
Save Clear			38 2E 35 32 34 31 32 2C 2D 35	39 2E 30 📃	Save Clear
			32 34 32 32 2C 2D 36 30 2E 35		
Send Options			32 2C 2D 35 39 2E 35 32 34 34		Send Options
🗖 Data from file			36 30 2E 30 32 34 35 32 2C 2D		🔽 Data from file
Auto Checksum			35 32 34 36 32 2C 2D 36 31 2E 37 32 2C 2D 36 30 2E 35 32 34		🗖 Auto Checksum
Auto Clear Input			2D 35 38 2E 35 32 34 39 322D 3		🗖 Auto Clear Input
Send As Hex					Send As Hex
Send Recycle			LocalHost 192.168. 1 .66	Port 53430	Send Recycle
	Time INP Technology Coll	1			
Interval 1000 ms	Jinan USR Technology Co., Ltd.	Send	P.	Send	Interval 1000 ms
Load Clear					Load Clear
🍺 Ready!	Send:0 Recv:0	Reset	💣 Ready!	Send:0	Recv : 39763 Reset

You can input \$Stop, then click send data key. The UsbApp will execute command to stop the scan. You also can send Start command with different setting to implement measurement, the receive data window will show all the data of measurement.



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😜 USR-TCP232-Test RS232	to Ethernet Convert tester	Contraction of the local division of the loc	
File(F) Options(O) Help((H)		
COMSettings	COM port data receive	Network data receive	NetSettings
PortNum COM1 -		39 30 34 2C 2D 37 38 2E 34 38 38 39 39 🔺	(1) Protocol
		2C 2D 37 38 2E 39 38 38 39 34 2C 2D 37	TCP Client 🗨
BaudR 115200 💌		39 2E 34 38 38 38 38 2C 2D 37 39 2E 39	(2) Server IP
DPaity NONE 💌		38 38 38 34 2C 2D 37 38 2E 39 38 38 37	
		38 2C 2D 37 38 2E 34 38 38 37 34 2C 2D	192.168.1.66
		37 37 2E 39 38 38 36 39 2C 2D 37 39 2E	(2) Server Port
StopB 1 bit 💌		34 38 38 36 34 2C 2D 37 39 2E 39 38 38	6666
		35 39 2C 2D 37 38 2E 39 38 38 35 34 2C 2D 37 37 2E 34 38 38 34 39 2C 2D 38 30	1
🔵 Open		2E 34 38 38 34 34 2C 2D 37 39 2E 39 38	💓 Disconnect
		38 33 39 2C 2D 37 38 2E 39 38 38 33 34	
Recv Options		2C 2D 37 38 2E 39 38 38 32 39 2C 2D 37	Recv Options
🔽 🔽 Receive to file		36 2E 39 38 38 32 34 2C 2D 37 37 2E 39	🔽 Receive to file
🗖 Add line return		38 38 31 39 2C 2D 37 38 2E 39 38 38 31	🗖 Add line return
Receive As HEX		34 2C 2D 37 38 2E 34 38 38 30 39 2C 2D	✓ Receive As HEX
Receive Pause		37 39 2E 34 38 38 30 34 2C 2D 37 39 2E	Receive Pause
		34 38 37 39 39 2C 2D 37 39 2E 39 38 37	
<u>Save</u> <u>Clear</u>		39 34 2C 2D 37 39 2E 39 38 37 38 39 2C	<u>Save</u> <u>Clear</u>
		2D 37 38 2E 39 38 37 38 34 2C 2D 37 39	G. 10.1
Send Options		2E 34 38 37 37 39 2C 2D 37 38 2E 34 38 37 37 34 2C 2D 37 37 2E 39 38 37 36 39	Send Options
🗌 🔲 Data from file		2C 2D 37 38 2E 39 38 37 36 34 2C 2D 37	🔲 Data from file
🔲 Auto Checksum		37 2E 34 38 37 35 39 2C 2D 37 38 2E 34	🔲 Auto Checksum
🗖 Auto Clear Input		38 37 35 34	🔲 Auto Clear Input
🔽 Send As Hex			🗖 Send As Hex
Send Recycle		LocalHost 192.168. 1 .66 Port 53430	Send Recycle
	Jinan USR Technology Co.,	\$Stop	
Interval 1000 ms	Ltd. Send	Send	Interval 1000 ms
Load Clear			Load Clear
🎼 Ready!	Send:0 Recv:0 Reset	🕼 Ready! Send: 54	Recv : 447716 Reset

You also can setup another PC with the TCP/IP monitor tool (USR-TCP232-Test.exe), please note: the IP will be will be local PC which install TSA5G35 dongle. After you install it, you can implement remote control.

The remote PC IP address is 192.168.1.170, the IP address which install the TSA5G35 is 192.186.1.66, input the IP address into (2) Server IP window.



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Q USR-TCP232-Test RS232	to Ethernet Convert tester		
File(F) Options(O) Help	(H)		
COMSettings	COM port data receive	Network data receive	NetSettings
PortNum COM1 -		31 33 2E 30 30 34 36 2C 2D 31 31 30 2E	(1) Protocol
		35 30 34 36 2C 2D 31 30 37 2E 35 30 34	TCP Client 📃
		36 2C 2D 31 31 31 2E 30 30 34 37 2C 2D	(2) Server IP
DPaity NONE 💌		31 31 32 2E 30 30 34 37 2C 2D 31 31 32	192.168. 1 .66
DataB 8 bit 💌		2E 35 30 34 37 2C 2D 31 31 31 2E 35 30 34 37 2C 2D 31 30 39 2E 35 30 34 38 2C	132,100, 1,00
		2D 31 30 38 2E 35 30 34 38 2C 2D 31 30	(2) Server Port
StopB 1 bit 💌		38 2E 35 30 34 38 2C 2D 31 31 33 2E 35	6666
🔘 Open		30 34 38 2C 2D 31 31 36 2E 30 30 34 38	🖄 pt
		2C 2D 31 31 33 2E 30 30 34 39 2C 2D 31	💓 Disconnect
Recv Options		31 31 2E 30 30 34 39 2C 2D 31 30 39 2E	Recv Options
-		35 30 34 39 2C 2D 31 31 32 2E 30 30 34	-
Receive to file		39 2C 2D 31 31 33 2E 35 30 34 39 2C 2D	Receive to file
🗌 🗌 Add line return		31 30 39 2E 30 30 35 2C 2D 31 31 30 2E 30 30 35 2C 2D 31 31 31 2E 35 30 35 2C	Add line return
🔽 Receive As HEX		2D 31 31 30 2E 35 30 35 2C 2D 31 31 31 2E 35 30 35 2C	🔽 Receive As HEX
🔲 🔲 Receive Pause		2E 30 30 35 2C 2D 31 31 30 2E 30 30 35	🗖 Receive Pause
Save Clear		31 2C 2D 31 31 30 2E 35 30 35 31 2C 2D	Save Clear
		31 31 30 2E 35 30 35 31 2C 2D 31 30 38	
Send Options		2E 35 30 35 31 2C 2D 31 31 31 2E 30 30	Send Options
🗌 🗌 Data from file		35 31 2C 2D 31 31 33 2E 30 30 35 32 2C	🗖 Data from file
Auto Checksum		2D 31 31 32 2E 35 30 35 32 2C 2D 31 31	Auto Checksum
Auto Clear Input		32 2E 30 30 35 32 2C 2D 31 31 33 2E 30 30 35 32 2C 2D 31 31 33 2E 35 30 35 32	Auto Clear Input
Send As Hex			Send As Hex
Send Recycle	<u> </u>	LocalHost 192.168. 1 .70 Port 55	748 🔲 Send Recycle
Interval 1000 ms	Jinan USR Technology Co.,	\$Start 4500, 0, 0, 0, 0	Interval 1000 ms
Load Clear	Ltd. Sen	Send	Load Clear
💣 NetSettings	Send:0 Recv:0 Re	set Message:FD_CONNECT Send: 0	Recv : 118474 Reset