

HF2111A

Operation Guide

V 1.0





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1. HF2111A

The HF2111A support GRPS netowork.

The HF2111A support TCPIP protocol, with its RS232/RS485 interface, it make traditional UART device easy connecting to IOT.



2. SERIAL SETTING

2.1. Serial Tool SecureCRT

Download adddress: http://www.hi-flying.com/index.php?route=download/category&path=1_4

Decompress file and find executable program, then open. Click quick start button it to create connection.



2.2. Configure Serial Parameter

Protocol: Serial

Port: Actual connection port(search by "My PC"->"Device Manager"->"Port(COM and LPT)". As figure:

File Edit View C	ptions Transfer Script Tools Help 1 🛍 🛍 🔍 🛛 🗟 🗟 🛙 🖀 🟌 🏌 🤋 🖾	
	Quick Connect X Protocol: Serial Flow Control Port: COMI Flow Control Baud rate: IIS200 EXS/CTS Data bits: 8 ZON/XOFF Farity: None V	

Notes: The default serial data is as above and user can modify device working parameter by IOTService.

3. TEST EXAMPLE

3.1. IOTService Tools

IOTService is used for config the module parameters by UART or remotely. Make module easy to use and check status. The download address is as following.

http://www.hi-flying.com/download-center-1/applications-1/download-item-iotservice

				Se	arch			Q 中文	Old Site	
	物联・改变生活	Home	IOT Module	IOT Device	Support	News	Company	Cloud	Mall	
A → Do IOTServi	ownload Center > Applications > IOTServ i ce	ice								
Date: 12	/03/2018 09:35:59									
			I	-ile List						
	Name		File Name		Download	Times	Date Up	date	Download	
	IOTService 2.3.00	10	TService 2.3.00.rar		144		12/03/2018 (09:33:18	*	

After download, click the following to update to latest version.

Software Setting			;
Remote Access		Communication	
Remote Access Enable:	Enable	VirPath UDP Port:	28987
IOTBridge Server Addr:	bridge.iotworkshop.com	VCOM Parameter Synch:	Enable 💌
Service Id:	7fa02726-79a		
Service Name:	Service Name	Language:	English 💌
EMail Alarm		Start up to Tray:	Disable 💌
EMail Alarm Enable:	Disable	Auto Upgrade:	Disable 💌
SMTP Address:		Menu Tools:	Show 💌
SMTP Port:		New Ver:	2.3.04h
EMail Account:			Upgrade
EMail Password:			
EMail Send List (eg. a@a.cor	n;b@b.com):		
		Confirm	Cancel

3.2. IOTService Introduction

Step1: PC connect to device UART. Note that RS232/RS485/TTL UART is different.

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A 设备管理器		-		×
文件(F) 操作(A) 查看(V) 帮助(H)				
* 🗢 🔿 🖂 📓 🖬 🧟				
🖌 🗸 🚔 DESKTOP-IHST023				
> 🔐 DVD/CD-ROM 驱动器				
> 😋 IDE ATA/ATAPI 控制器				
> 💻 Intel(R) Dynamic Platform and Thermal Framework				
> 🦉 安全设备				
> 🔲 处理器				
> 🔜 磁盘驱动器				
> 🗘 存储控制器				
> 🖻 打印队列				
▲ ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ●				
✓ 博 端口 (COM 和 LPT)				
1 USB Serial Port (COM11)				
> 🚊 固件				
> 💻 计算机				
> 🛄 监視器				
> □ 健豊				
> 3 蓝牙				
> 1 局 人体学输入设备				
> 🧕 软件设备				- 1
> 🛶 声音、视频和游戏控制器				
> 🖄 鼠标和其他指针设备				
> 🟺 通用串行总线控制器				
> 🗟 图像设备				•

Step 2: Open IOTService, change the following menu as the picture

Remote Access		Communication	
Remote Access Enable:	Enable	VirPath UDP Port:	28987
IOTBridge Server Addr:	bridge.iotworkshop.com	VCOM Parameter Synch:	Enable 🔻
Service Id:	se-fa95-11e7-b9e9-1bd6fcf8cc21	Others	
Service Name:	Service Name	Language:	English 🔻
Mail Alarm		Start up to Tray:	Disable 🔻
EMail Alarm Enable:	Disable	Auto Upgrade:	Disable 🔻
SMTP Address:		Menu Tools:	Show
SMTP Port:		New Ver:	2.2.01

Step 2: Open IOTService UART tools



Manac	I Service	ettina (C)	Tools (T) H	elp (H)				- u x	
	Begin Stop Connected								
SN D	evType MAC	Address	HostName	IP	Position	VirPath	State	SW Ver	
1 G	10 00076	000208	Eport-G10	112.65.189.244	Remote		Online	1.03.16	
2 E1	10 FOFE6E	3A42FE	Eport-E10	101.88.239.205	Remote		Offline	1.10b	

🔡 Serial-GPRS Tool		– 🗆 ×	AT+ Helper ×
PC Serial Para	SIM Para	SOCKET	RECV:+ok=on,00:00,23:59
COM: COM7 - Pofe	IMFI: 868575026614562	SOCKET Name: A	RECV:+ok=ACCF23FF8888
	80860115831007001458	Protocol: OFF 💌	SEND:A1+GSLQ RECV:+ok=0,20
Baudrate: 115200	000000000000000000000000000000000000000	Server Addr:	SEND:AT+IMEI RECV:+ok=868575026614562
Data Bits: 8	State: Disconnect	Server Port: 0	SEND:AT+ICCID BECV:+ok=89860115831007091458
Parity: NONE 💌	RSSI: 20	Connect Mode: Always	SEND:AT+HEART=1
Stop Bits:		Burst Time: 0	SEND:AT+UARTTM=1
	Refresh	Rout:	RECV:+ok=1,0 SEND:AT+MODBUS=1
Close COM		HeartBeat Time: 0	RECV:+ok=1,off SEND-AT+LIART=1
Read De Clear		HeartBeat Serial:	RECV:+ok=1,115200,8,1,NONE,NFC
Hide AT Helper		Regist Mode: Disable	RECV:+ok=A,1,off
	UART No:	Regist Code:	SEND:AT+NETP=B RECV:+ok=B.0.
EG10 1.4.11(2018-08-09 20:10)	Baudrate: 115200	Data Tag: Disable	SEND:AT+NETP=C
	Data Bits: 8	Data Tag Code:	SEND:AT+VER
Restart Upgrade	Stop Bits:	System	RECV:+ok=1.4.11(2018-08-09 20:10) SEND:AT+SLEEP
Reload	Parity: NONE	ModuleSN: ACCF23FF8888	RECV:+ok=off SEND:AT+SLEEPTM
Confirm Setting	Flow Control: Disable 💌	Welcome: Gport-EG10	RECV:+ok=0
	UART Protocol: NONE	SleepEn: Disable	RECV:+ok=Gport-EG10
Save As Default	HeartBeat Time: 0	Sleep Time: 0	Send
Clear Default Config	HeartBeat Serial:	IOT En: Enable	
		101 Time: 00 : 00 ~ 23 : 59	Clear Close

Main Menu:

Read Detail: Read product information

Clear: Reset the tools read information, this does not affect the product side.

Show AT Helper: Show AT command procedure

Restart: Reset product

Upgrade: Upgrade product

Reload: Reload product, restore parameters to default.

Confirm Setting: Set parameter

Save As Default: Set current setting parameters as default.

Clear Default Config: Clear saved default parameters

Socket Function:

SOCKET Name: Socket name

Protocol: Protocol, TCP/UDP/HTTP

Server Addr: Server address

Server Port: Server port

Connect Mode: short or long connection.



Burst Time: short conection time.

Rout: UART channel

HeartBeat Time: HeartBeat time

HeartBeat Serial: HeartBeat content, support wildcard character.

Regist Mode: Register Mode

Regist Code: Register Content, support wildcard character.

System Information:

Module SN: Product MAC

Welcome: Bootup information.

Sleep En: Reserved

Sleep Time: Reserved.

IOT En: Enable/Disable IOTBridge.

IOT Time: IOTBridge Enable time. Save data flow

UART Information:

Flow Control: hardware flow control.

UART Protoco: UART protocol

HeartBeat Time: UART HeartBeat time

HeartBeat Serial: UART HeartBeat content.

SIM Information:

IMEI: Module IMEI

ICCID: Module ICCID

State: GPRS Status

RSSI: GPRS Strength

3.3. Test Case One: IOTService UART Config

🄡 Serial-GPRS Tool		- 🗆 ×	AT+ Helper ×
PC Serial Para	SIM Para	SOCKET	CV:+ok=ACCF23FF8888
COM: COM7 V Refr	IMEI: 868575026614562	SOCKET Name: A	CV:+ok=0,20 ND:AT+IMEI
Baudrate: 115200	ICCID: 89860115831007091458	Protocol: TCP-CLIENT	CV:+ok=868575026614562 ND:AT+ICCID
Data Bits: 8	State: Disconnect	Server Addr:	CV:+ok=89860115831007091458 ND:AT+HEART=1
	RSSI: 20	Connect Mode: Always	CV;+oh=1,0,IOTWORKSHOP ND:AT+UARTTM=1
Stee Pitry		Burst Time: 0	CV:+ok=1,0 ND:AT+MODBUS=1
	Refresh	Rout:	CV:+ok=1,off ND:AT+UART=1
Close COM		HeartBeat Time: 0	CV:+ok=1,115200,8,1,NONE,NFC ND:AT+NETP=A
Read Dem Clear	UART	Regist Mode: Disable	CV:+ok=A,1,off ND:AT+NETP=B
Hide AT Heiper	UART No: uart1	Regist Code:	CV:+ok=B,0, ND:AT+NETP=C
EG10 1.4.11(2018-08-09 20:10)	Baudrate: 115200 💌	Data Tag: Disable	CV:+ok=C,0, ND:AT+VER
	Data Bits: 8	Data Tag Code:	CV:+ok=1.4.11(2018-08-09 20:10) ND:AT+SLEEP
Restart Upgrade	Stop Bits:	System	CV:+ok=off ND:AT+SLEEPTM
Reload	Parity: NONE	ModuleSN: ACCF23FF8888	CV:+ok=0 ND:AT+WEL
Confirm Setting	Flow Control: Disable	SleepEn: Disable	ND:AT+UPGRADE
Save As Default	UART Protocol:	Sleep Time: 0	•
Clear Default Config	HeartBeat Time: 0	IOT En:	Send
	HeartBeat Serial:	IOT Time: 00: 00 ~ 23: 59	Clear Close

Step 1: Open UART and do as following to read product parameters.

Step 2: The tools show the module parameters. Click [Confirm Setting] to change

parameter. [Save As Default] is used to save current setting to default. Once do reload operation, it will restore to this saved default value. The following set Socket A to our test server. (nat2.iotworkshop.com) and reboot

Test Server: nat2.iotworkshop.com

TCP Port: 3006

UDP Port: 3008

🗟 Serial-GPRS Tool		- 🗆 🗙	🗟 AT+ Helper 🛛 🗙
PC Serial Para	SIM Para	SOCKET	RECV:+ok=0,20
COM: COM7 Refr	IMEI: 868575026614562	SOCKET Name:	RECV:+ok=868575026614562 SEND:AT+ICCID
n l i 115300	ICCID: 89860115831007091458	Protocol: TCP-CLIENT	RECV:+ok=89860115831007091458 SEND:AT+HEART=1
Baudrate: 115200	State: Disconnect	Server Addr: nat2.iotworkshop.com	RECV:+ok=1,0,IOTWORKSHOP
Data Bits: 8		Server Port: 3006	RECV:+ok=1.0
Parity: NONE -	RSSI: 20	Connect Mode: Always	SEND:AT+MODBUS=1
		Barst Time: 0	SEND:AT+UART=1
Stop bits:	Pefeet	Rout: uart 💌	RECV:+ok=1,115200,8,1,NONE,NFC
Close COM	Retresn	HeartBeat Time: 0	SEND:AT+NETP=A RECV:+ok=A,1,off
Read De Clear		HeartBeat Serial:	SEND:AT+NETP=B
Read De Clear	UART	Regist Mode: Disable	SEND:AT+NETP=C
Hide AT Helper	UART No:	Regist Code:	RECV:+ok=C,0, SEND-AT=VER
EG10 1.4.11(2018-08-09 20:10)	Baudrate: 115200	Data Tag: Disable	RECV:+ok=1.4.11(2018-08-09 20:10)
		Data Tag Code:	RECV:+ok=off
	Data Bits: 8	°	SEND:AT+SLEEPTM
Restart Opgrade	St p Bits: 1	System	SEND:AT+WEL
Reload	Parity: NONE	ModuleSN: ACCF23FF8888	RECV:+ok=Gport-EG10
Confirm Setting	Flow Control: Disable	Welcome: Gport-EG10	RECV:
		SleepEn: Disable 💌	SEND:A1+NEIP=A,1,1CP,nat2.iotworkshop.com,3006,long RECV:+ok
Save As Default	UART Protocol:	Sleep Time: 0	
	HeartBeat Time: 0	IOT En: Enable	Send
Clear Default Config	HeartBeat Serial:	IOT Time: 00 : 00 ~ 23 : 59	
			Close

Note: Default UART is 115200,8,N,1.

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Step 3: Wait for network connection OK, then send UART data, the server will response as the following picture. Response with protocol type, port number, and data. The product is in throughput mode by power on, if want to send AT command, need to send "+++" and then "a" to enter command mode, AT+ENTM to change back throughput mod.e.

Serial-COM11 - SecureCRT	-	×
文件(F) 编辑(E) 查看(V) 选项(O) 传输(T) 脚本(S) 工具(L) 帮助(H)		
🖏 🖏 💭 🖏 💫 🐁 🛝 😼 🥦 🍠 😁 🛠 🕴 🞯 🔤 🖕		
Serial-COM11		×
TCP:223.104.254.71:2455 DATA:tcp: 112.64.68.5: 51874		^
UDP:223.104.254.71:22805		
DATA:tcp: 112.64.68.5: 51874		

The following use tools to test server data response format.

थ TCP&UDP测试工具 - [n	at2.iotworksho	p.com:30	06]					-		×
Operate(<u>O</u>) View(<u>V</u>)	Windows(<u>W</u>)	Help(<u>H</u>)	Language							×
🗄 🔄 CreateConnn 🔇 Crea	teServer 🐰	StartServe	er 🔏 🐼 🗟 Cor	nnect 蜜	SisconnAll 👻	💥 DeleteCor	ın 🞇 🔟	'₹ -		
Properties		Ψ×	🎾 nat2.iotwo	orkshop.	:om:3006					4 Þ 🗙
☐- Client Mode Inat2.iotworkshop Server Mode	o.com:3006		DestIP: [at2.iotworkshop. DestPort: 3006 LocalPort 4001 Type TCP AtuoConn Eve 0 AutoSend Eve 0	5 ms	nd AtuoSe Send Hex Sen 111	nd Eve 100	ms Received	Send Clear	Stop Optio	n
			Disconneot Count Send 5 Recv 37 Clear		c StopShow □ Save(In I P:116.231.151.15: TA:11111	Clear S: Sime) 46186	option	Sho	wHex]

3.4. Test Case Two: IOTService Network Config

Step 1: Login IOTBridge(<u>http://bridge.iotworkshop.com/</u>) to register account.



Step 2: Get UserId(device side)and ServiceId(IOTService side)

	1	I.O.T Bridge 首页									
♀ 首页		I.O.T Service	I.O.T Service								
圖 我的 UserID					添加						
全 设备管理											
I.O.T Service			序号	Service ID	操作						
0 2045-000			1	ac9f94ff-b304-11e7-83f2-bf7237dd37c4	直看						
ん 我的信息 シン			2	b4d70190-b304-11e7-83f2-fd3e6d6e9ad5	查若 祭用 翻除						
ひ 退出			3	cbdf75c1-b304-11e7-83f2-bfe0f974d902	章五 美用 翻绘						
			4	e6e863ae-fa95-11e7-b9e9-1bd6fcf8cc21	查若						

Step 3: Input ServiceId in IOTService.

🔝 I.O.T Service					_	-	×
Management (M) Setting (C)	Tools (T) He	lp (H)					
Begin 💥 Stop 🗔	Config	🔪 Status 🖤	VirPath			Connect	tec
SN DevType MAC Address	HostName	IP	Position	VirPath	State	SW Ver	
🔝 Software Setting				'		×	:
Remote Access				Communication			
Remote Access Enable:	Enable		•	VirPath UDP Port:	2898	37	
IOTBridge Server Addr:	bridge.i	otworkshop.com		VCOM Parameter Synch:	Enal	ble 🔻	
Service Id:	ae-fa95-	11e7-b9e9-1bd6fc	:f8cc21	Others			
Service Name:	Service	Name		Language:	Eng	lish 🔻	

Step 4: Insert SIM card and power on device, wait for device connects to network. The UART tools also shows the network status.

Serial-GPRS Tool		- 🗆 🗙	😫 AT+ Helper 🛛 🗙
PC Serial Para COM: COM4 Refr Baudrate: 115200 Data Bits: 8 Parity: NONE Stop Bits: 1	SIM Para IMEI: 869300038724609 ICCID: 89860115831007091458 State: Connected RSSI: 26	SOCKET SOCKET Name: A Protocol: OFF Server Addr: Server Port: Connect Mode: Burst Time: Rout:	RECV:+ok=on,00:00,23:59 SENDAT+WSMAC RECV:+ok=30038724609 SENDAT+GSLQ RECV:+ok=126 SENDAT+162 RECV:+ok=80930038724609 SENDAT+102010 RECV:+ok=80860115381007091458 SENDAT+UARTTM=1 RECV:+ok=1,00 SENDAT+150
Close COM Read De Clear Hide AT Helper HF2411 1.0.5(2018-11-29 15:00)	UART UART No: user1 ~ Baudrate: 115200 ~	HeartBeat Time: 0 HeartBeat Serial:	SENDAT-MODBUS=1 RECV+ok=1.0ff RECV+ok=1.115200,8,1,NONE.NFC SENDAT-HUART=1 RECV+ok=A.1.0ff SENDAT-NETP=A RECV+ok=B.1.0ff SENDAT-NETP=C RECV+ok=C.1.0ff
Restart Upgrade Reload Confirm Setting Save As Default Confirm Setting	Stop Bits: 1 Parity: NONE Flow Control: Disable UART Protocol: NONE HeartBeat Time: 0	System ModuleSN: 300038724609 Welcome: HF2411 SleepEn: SleepEn: SleepEn: 0 IOT En: Enable V	DE NUXAI +VER RECV+-ok=10.5(2018-11-29 15:00) SENDX1+SLEEP RECV+-ok=off SENDX1+SLEEPTM RECV+-ok=0 SENDX1+WEL RECV+-ok=HF2411 Send

Step 5: Add MAC in the tools to bound account. (AT+WSMAC to get MAC address, usually it is the latter 12 character of the IMEI), recommend to use AT+IOTUID command to write UserId into the device. Prevent bounded by the other vicious customer.

<u>18</u>	O.T Servi	ce					- 🗆 X
Mar	agement	(M) Setting (C)) Tools (T) He	elp (H)			
	Begin	💥 Stop	💭 Config 🤇	Status	VirPath		Connected
SN	DevType	MAC Address	HostName	П	Add Device		×
1	HF5111B	ACCF23202222	Eport-HE5111B			MAC Address	Delete
2	HF2211	F0FE6BE0C928	2-2	202.104.2	300038724609		Delete
3	HF2211	F0FE6BE0C100	2-4	221.4.163			
4	HF2211	F0FE6BE0C790	2-3	221.4.163			
5	HF2211	F0FE6BE0C80C	2-1	221,4.163			
6	HF2411	300038724609	Eport-HF2411	112.65.61			
7	HF2421	F0FE6B8832AC	Eport-HF2421	222.65.2			
8	HF2221	F0FE6B5DF84C	Eport-HF2221	180.170.2			
9	HF2211	F0FE6BB82E88	Eport-HF2211	112.246.1			
10	EP20	ACCF23FF4908	Eport-EP20	49.75.219			
11	G10	575023903232	Gport-G10	122.97.17		1	
12	EG10	575028557819	Gport-EG11	112.65.48		\	[
13	EG10	ACCF20123404	Gport-EG10	112.65.61	MAC Addr	200038724609	
14	G11	575026614836	Gport-G10	112.65.61		00000124005	Add
15	EE11	98D86310A555	Eport-EE11	180.170.2			[
16	HF2211	98D863119E08	Eport-HF2211	180.170.2		Confirm	Close
17	EG11	575028556126	Gport-EG10	117.136.8		L.	

Step 6: Double click device entering the config page.

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🔛 I.O.T Service								_	1 2	×
Management (M)	Setting (C)) Tools (T) He	elp (H)							
Begin 💥	Stop {	🔅 Config	🔪 Status 🦞	VirPath					onnect	ed
SN DevType MAG	C Address	HostName	IP	Position		VirPath	State	SW	Ver	
1 HF5111B ACCF	23202222	Eport-HF5111B		Local			Offline	1.32.4		
2 HF2211 F0FE6	5BE0C928	2-2	202.104.28.51	Remote			Online	1.31		_
3 HF2211 F0FE6	5BE0C100	2-4	221.4.163.98	Remote			Online	1.31		_
4 HF2211 F0FE6	5BE0C790	2-3	221.4.163.98	Remote			Online	1.31		_
5 HF2211 F0FE6	5BE0C80C	2-1	221.4.163.98	Remote			Online	1.31		_
6 HF2411 3000	38724609	Eport-HF2411	112.65.61.208	China.Shanghai			Online	1.0.5		J
7 HF2421 F0FE6	5B8832AC	Eport-HF2421	222.65.224.207	Remote			Offline	1.44.05		_
🔝 Device Status										>
System		GSM				SOCKET				
	SPACE AND	Module	eSN:	30003872460	09	SOCKET Name:		А	-	-
	HF2411	ICCID:	8986	011583100709145	58	Protocol:			OF	F
2	AND I	IMEI:		86930003872460	09	Status:		Di	sconne	ct
	3.9	Connec	:t:	DisConne	ct	Server IP:				
	S.	GSLQ:		2	28	Recv Bytes: 0	Rec	v Frames:	0	
		IP Add	ress:	112.65.61.20	80	Send Bytes: 0	Ser	nd Frames:	0	
Product ID:	HE	2411 UART-			_	Fail Bytes: 0	Fail	Frames: 0)	
Software Version:		1.0.5 UART	No:	UART	-					
RTC Time:	NTP Disa	bled Config	: 115200,8,1,NONE							
Up Time:	0-Day 0:	4:25 Recv B	ytes: 4	Recv Frames: 2		Reload				
Longitude:		0.0 Send E	Bytes: 7	Send Frames: 2		Keload		Edit		

Fail Frames: 0



0.0

Fail Bytes: 0

System		SOCKET	
Welcome:	HF2411	SOCKET Name:	A
SleepEn:	Disable 💌	Protocol:	TCP-CLIENT
Sleep Time:		Server Addr:	nat2.iotworkshop.com
Longitude:	0.0	Server Port:	3000
Latitude:	0.0	Connect Mode:	Always
IOT Time:	0:0~23:59	Burst Time:	
UART		Rout:	uart
UART No:	UART 1 💌	HeartBeat Time:	(
Baudrate:	115200 💌	HeartBeat Serial:	
Data Bits:	8 🔻	Regist Mode:	Disable
Stop Bits:	1 💌	Regist Code:	
Parity		Data Tag:	Disable
		Data Tag Code:	
Flow Control:	Disable		
UART Protocol:	NONE	Canfirm	Cancel
HeartBeat Time:	0	Contirn	VirPath
HeartBeat Serial:		Import	t Export

Step 7: Can modify the parameters.

Latitude:

Restart



Step 8: Use our test server to check device function.



3.5. Test Case Three: Throughput Via SecureCRT

Step 1: Open SecureCRT(Baudrate default:115200), Input "+++" (device will response with "a") and then "a" (device will response with "+ok") to enter AT command mode.



AT+UART to query or change setting.

Serial-COM11 - SecureCRT	-	×
文件(F) 编辑(E) 查看(V) 选项(O) 传输(T) 脚本(S) 工具(L) 帮助(H)		
\$\$ \$\$ 🖓 🖓 🖏 🐘 🐍 #\$ 😼 💀 🍠 📅 \$\$ † 1 📀 🔤 💂		
Serial-COM11		×
a+ok		^
AT+UART=1,115200,8,1,NONE,NFC +ok		

Step 2: Input "AT+NETP=A,1,TCP,nat2.iotworkshop.com,3006,Long" to set socket A, and "AT+Z" to reboot.

AT+NETP=A,1,TCP,nat2.iotworkshop.com,3006,Long +ok



Step 3: Wait for network connecting OK. Then send UART data to device, the test server will response with data in defined format(Protocol type, port number and data as following picture).

+++	🞯 a	💿 STA	WSSSID	WSKEY	AT+Z	AT+SS
TCP:112.6	5.48.219	:52011 DATA:E	BBBBBBBBBB			
TCP:112.6	5.48.219	:52011				
AT+ENTM +ok						
AT +ERR=-1						
+ERR=-1						
AT+NETP=A +ok	,1,TCP,n	at2.iotworks	shop.com,300	06,Long		

3.6. Test Case Four: Heartbeat and Resister Packet

Step 1: Set the parameter as following..

AT+HEART=A,10,%IMEI	//Enable heartbeat for 10 seconds upload its IMEI.
AT+NREGEN=A,on	//Enable Register Packet
AT+NREGSND=A,link	//Send Register packet when connection established
AT+NREGDT=A,%VER	//Register content is software version

🔛 Serial-GPRS Tool		- 🗆 ×	😫 AT+ Helper 🛛 🕹
PC Serial Para	SIM Para	SOCKET	RECV:+ok=A,0, SEND:AT+NREGSND=A RECV:+ok=A,link
COM: COM7 Refr Baudrate: 115200	ICCID: 89860115831007091458	Protocol: TCP-CLIENT Server Addr: nat2.iotworkshop.com	SEND:AT+NREGDT=A RECV:+ok=A, SEND:AT+NREGEN=A
Data Bits: 8	State: Connected RSSI: 17	Server Port: 3006 Connect Mode: Always	RECV:+0x=A,0T SEND:AT+NETPID=A RECV:+0x=A, SEND:AT+NETPIDEN=A
Stop Bits: 1	Refresh	Burst Time: 0 Rout: uart 🔽	RECV:+ok=A,off SEND:AT+NETPLK=A RECV:+ok=A,on CEND:AT-VER
Close COM Read De Clear		HeartBeat Time: 10 HeartBeat Serial:	RECV:+ok=14.11(2018-08-09 20:10) SEND:AT+SLEEP RECV:+ok=off
Hide AT Helper	UART No:	Regist Mode: Link Regist Code: %ICCID	SEND:AT+SLEEPTM RECV:+ok=0 SEND:AT+WEL RECV:+ok=Gport-EG10
EG10 1.4.11(2018-08-09 20:10)	Baudrate: 115200 V Data Bits: 8 V	Data Tag Code:	SEND:AT+NETP=A,1,TCP,nat2.iotworkshop.com,3006,long RECV:+ok SEND:AT+HEART=A,10,%IMEI
Restart Upgrade Reload	Stop Bits: 1	System ModuleSN: ACCF20123404	RECV:+ok SEND:AT+NREGEN=A,on RECV:+ok
Confirm Setting	Flow Control: Disable	Welcome: Gport-EG10	SEND:AT+NREGSND=A,link RECV:+ok SEND:AT+NREGDT=A,%ICCID
Save As Default	UART Protocol: NONE HeartBeat Time: 0	Sleep Time:	RECV:+ok
Clear Default Config	HeartBeat Serial:	IOT Time: 00: 00 ~ 23: 59	Clear Close

Step 2: 按上图设置之后重启,数据连接到测试服务器之后按如下的输出显示服务器的回包.

			◆ HF 物联·改变生活
	*巴克磺胺 接收区		×
通信设置 串口号 COM7 ~	2018-08-17 06:39:18.069 47 70 6F 72 74 2D 45 47 31 30上电的对 2018-08-17 06:39:33.127	、迎 Welc	ane information when bootup 揮
液付半 115200 ♥ 校验位 None ♥	54 43 50 3A 31 31 32 2E 36 35 2 <u>E 36 31</u> 2E 3 31 39 31 32 0A 44 41 54 41 3A 01 04 0B 0A 0 2018-08-17 0注册和品容版本号: 1.4.1	3 35 3A 31 1 Regist	er packet version
● · · · · · · · · · · · · · · · · · · ·	1 30 31 32 04 44 41 54 41 3A 38 36 38 35 3 36 36 31 34 35 36 32 0A 00 2018-08-17 06:39:44.680小跳包:TMET码	7 35 30 32	Heartbeat packet IMEI
# 启 接收设置 ☑加入时间戳	54 43 50 3A 31 31 32 2E 36 35 2E 36 31 2E 3 31 39 31 32 0A 44 41 54 41 3A 38 36 38 35 3 36 36 31 34 35 36 32 0A 00	3 35 3A 31 7 35 30 32	
☑ 十六进制显示 □ 根据字符加入时间戳并换行	2016-06-17 06:39:30:466 54 43 50 3A 31 31 32 2E 36 35 2E 36 31 2E 3 31 39 31 32 0A 44 41 54 41 3A 38 36 38 35 3 36 36 31 34 35 36 32 0A 00	3 35 3A 31 7 35 30 32	
 □ 自动换行显示 □ 暂停接收显示 □ 保存数据 - 清除接收区 	2018-08-17 06: 39: 56. 261 54 43 50 3A 31 31 32 2E 36 35 2E 36 31 2E 3 31 39 31 32 0A 44 41 54 41 3A 38 36 38 35 3 36 31 34 35 36 32 0A 00	3 35 3A 31 7 35 30 32	
发送设置 ☑ 十六进制发送 □ 循环发送	发送区	^	
发送间隔 1000 n.s 清除发送区		友)	a.
进制转换 □发送区 □接收区 To 字符串 To 16进制	统计区 RX: 496 TX: 0	更彩 复位 帮 月	F B

Other example:

Register Code Requirement: FFFFFFFFA+IMEI+0F

Setting Parameter: %FF%FF%FF%FF%FA%IMEI%0F

Upload real data: FF FF FF FF FF FA 38 36 38 35 37 35 30 32 36 36 31 34 35 36 32 0F

HF	物联·改变生活
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3.7. UART Upgrade

Load the firmware.

🔛 Serial-GPRS Tool				- 🗆 X
PC Serial Para	SIM Para		SOCKET	
COM: COM7 - Refr	IMEI:	868575026614562	SOCKET Name:	A
Raudrate: 115200	ICCID:	89860115831007091458	Protocol:	OFF
Data Riter 8	State:	Disconnect	Server Addr:	
	RSSI:	20	Server Port: Connect Mode:	0 Always ▼
Chara Dita:	de			×
Close COM	File Name:		Sel	0
Read De Clea				Disable 💌
Hide AT Helper				
EG10 1.4.11(2018-08		Upgrade	Close	Disable
Restart Upgraue	Stop Bits:	1	System	
Reload	Parity:	NONE	ModuleSN:	ACCF23FF8888
Confirm Setting	Flow Control:	Disable 💌	Welcome:	Gport-EG10
	UART Protocol:	NONE	SleepEn:	Disable
Save As Default	HeartBeat Time:	0	IOT En:	Enable
Clear Default Config	HeartBeat Serial:		IOT Time:	00:00 ~ 23:59

Do reboot after upgrade success.

PC Serial Para	a	SIM Para			SOCKET	
COM:	COM7 Refr	IMEI:	868575026614	562	SOCKET Name:	A
Baudrate:	115200	ICCID:	89860115831007091	458	Protocol:	OFF 💌
Data Bits:	8	State:	Discon	nect	Server Addr:	
Parity:	NONE	RSSI:		20	Connect Mode:	Always 💌
Stop Bits:	1 Dpgra	de			>	<0
	Close COM					
Read	De Clea	File Name: Iser	s\Sam\Desktop\EG10_v1.4.11_flash	_ota.bin	Sel	
	Hide AT Helper		8%			Disable
EG10	1.4.11(2018-08					
			Stop		Close	
Rest	tart Upgr aue	Stop Bits:	1	•	System	
	Reload	Parity:	NONE		ModuleSN:	ACCF23FF8888
	Confirm Setting	Flow Control	: Disable	-	Welcome:	Gport-EG10
		UART Protoc	ol: NONE	-	SleepEn:	Disable 💌
	Save As Default	HeartBeat Ti	me:	0	IOT En:	Enable 💌
Cle	ar Default Config	HeartBeat Se	erial:		IOT Time:	00:00 ~ 23: 59



3.8. Remote Upgrade

Step 1: Remote upgrade is using our IOTBridge cloud, download firmware from our IOTBridge. Bound device to account as the previous steps.

Step 2: Login http://bridge.iotworkshop.com/, upload firmware in IOTBridge.

← → C ▲ 不安全 bridge.	.iotworkshop.com/addF	irmware.html		☆ ⊖				
🔛 应用 📕 汉枫 📕 工作 📕 駒橋	🖞 🧧 有人科技 😤 百世	【 🤶 百歳地図 🌔 21	10月27月 🗅 谷歌郎翰 🐧 八八月					
	nut I LO.T Bridge by							
Home	🕢 Firmsare Manage / 📩 Upload Firmsare							
My UserID								
🚨 Device Manage		ModuleType	HF2411	*				
S Firmware Manage		Version	1.0.5					
LO.T Service		Туре	APP	÷				
A₁ My Info ∨		Description	Description					
😃 Exit				h				
		Firmware	HF2411_V1.0.5_UPGARDE.bin Select Firmware					
				Preservation				

Step 3: Copy the download link as following.

нин отверсе	LO.T Bridge			k	yo4229 English	·
D Home	😣 Firmware Manage / 🕮 Firm	ware Info				
My UseriD	FirmwareName	HF2411_V1.0.5_UPGARDE.bin	Туре	APP		
Device Manage	N. 117	15.244				
Firmware Manage	ModuleType	nr2411	OpicadOser	Ky04229		
I.O.T Service	Version	1.0.5	State	扇用		
Ali My Info 🗸 🗸	Time	2018-11-30 15:01:58	MdS	af199ff81e66b7ec879b30c9b1e9d02c		
🕲 Exit					t.	
	FilePath	/alidata/www/download_center/iotbridge/firmwares/HF2411/HF2411_V1. 0.5_UPGARDE_5f2882cdf173aa6c718585261faa9ca3.bin	Description			
	Download	http://download.iotworkshop.com/iotbridge/firmwares/HF2411/HF2411_V1.0.5_UPI	GARDE_5f2882cdf173aa6c718585261faa9ca3.bin	Сору		

Step 4: Copy the download link into the IOTService tools. And do upgrade operation.

I.O.T Service Ianagement (M) Setting (C)	Tools (T) Help	(H)					× .	1	2	1
🕨 Begin 💥 Stop 🕻	Config 🔍	Status 🐺 VirPath				Conn	东 ected	阿里	HF-A2	21
N DevType MAC Address	HostName	IP Pos	sition	VirPath	State	SW Ver	i 🏹	1	15	4
2 HF2211 F0FE6BB82E88 E	port-HF2211	2.246.121.150 China.J	inan		Offline 1	.31			7.0	1
1 EG10 ACCF20123404 0	iport-EG10 11	2.65.61.35 China.9	hanghai		Online 1	.4.11	片	云智易	HF-LPB	3100
3 G10 575023903232 C	iport-G10 12	2.97.179.232 Remote	e		Offline 1	.03.28				
🕌 Customer Firmware Settir	g									
DevType Firmware	Version	Upload Ma	ne			Firmware	URL			
Firmware Info Input URL: Firmware Info						× Submit				
Firmware Info Input URL: Firmware Info Firmware Name:			Type:			Submit				
Firmware Info Input URL: Firmware Info Firmware Name: DevType: Unload Times			Type:			Submit				
Firmware Info Input URL: Firmware Info Firmware Name: DevType: Upload Time:			Type:			Submit				
Firmware Info Input URL: Firmware Info Firmware Name: DevType: Upload Time: Firmware URL:			Type:			X				
Firmware Info Input URL: Firmware Info Firmware Name: DevType: Upload Time: Firmware URL: Descript:			Type:			Submit	Info	Delete	Add	Clo
Firmware Info Input URL: Firmware Info Firmware Name: DevType: Upload Time: Firmware URL: Descript:			Type:		Confirm	Submit Submit	Info	Delete	Add	Clo
Firmware Info Input URL: Firmware Info Firmware Name: DevType: Upload Time: Firmware URL: Descript:			Type:		Confirm	× Submit	i Info	Delete	Add	Clo

	Begin	💥 Stop	💮 Config 🤇	Status 🐺	VirPa	ath				Connected
SN	DevType	MAC Address	HostName 🔺	IP		Position	VirPath		State	SW Ver
2	HF2211	F0FE6BB82E88	Eport-HF2211	112.246.121.150	Chin	a.Jinan			Offline	1.31
1	EG10	ACCF20123404	Gport-EG10	112.65.61.35	Chin	a Shanohai		,	Online	1.4.11
3	G10	575023903232	Gport-G10	122.97.179.232	Rem	Copy Devi	ce MAC		Offline	1.03.28
						Device Tab	ole Filter			
						Refresh				
						Delete Sele	ected Device			
						Upgrade F	irmware Selected			
						Upgrade F	irmware All			
						Upgrade V	Veb Selected			
						F-Setting L	ocal			
						Application	n 🕨			

APPENDIX A: REFERENCES

A.1. Test Tools

IOTService Configure Software: http://www.hi-flying.com/index.php?route=download/category&path=1_4