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Created By	Eric

GIoT Femto Cell User Guide

Modification History

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This GIOT Femto Cell User Guide will assist you in navigating the system with the





1. Open Admin GUI

Connect to Femto Cell via wifi (SSID: AP-last 6 numbers of mac address) Access Femto Cell WebUI via IP address "192.168.55.1". Default username is "admin" and password is "admin".

Figure 1

Authoriz	ation Required
Please enter your user	name and password.
Username	admin
Password	

2. Status

The Status menu consists of the following categories: Overview, Routes, System Log, Kernel Log, Processes and Realtime Graphs. An introduction of each category will be distinctly stated in individual paragraphs.

2.1 Status - Overview

The purpose of this category is to view the following contents: system status, memory usage and network settings.

The contents are exhibited in one single page. Please scroll down the Status page to obtain an overall view. (figure 2.A & figure 2.B & figure 2.C)



An "AUTO REFRESH ON/OFF" button is lodged on the top right of the panel. This function enables the status data to be refreshed every 5 seconds. (figure3.A & figure3.B)

Figure 2.A - Sys	stem Status
Status	

Overview	Status		
Routes			
System Log Kernel Log Processes	System		
Realtime Graphs	Hostname	SODU-AB6D23	
iloT	Model	GIOT Semi-ODU	
system	Firmware Version	Version 2.03.00 Thu Feb 23 13:26:04 CST 2017	
etwork	Kernel Version	3.10.14	
	Local Time	Thu Feb 23 14:16:10 2017	
ogout	Uptime	0h 7m 47s	
	Load Average	0.62, 0.35, 0.19	

Figure 2.B - Memory Usage and Network Settings

latus	Momony	
Overview	Wernory	
Routes System Log	Total Available	105376 kB / 125348 kB (84%)
Kernel Log	Free	84968 kB / 125348 kB (67%)
Processes	Cached	15652 kB / 125348 kB (12%)
Realtime Graphs IoT	Buffered	4756 kB / 125348 kB (3%)
interne		
stem		
etwork	Network	
atwork agout	Network IPv4 WAN Status	Type: dhcp Address: 192.168.11.241 Metmask: 256.256.256.224 eth0.2 Gateway: 192.168.11.254 DNS 1: 192.168.11.254 Connected: 0h 8m 55s

Figure 3.A - Status will auto refresh in 5 secs if "Auto Refresh ON" button is on



Femto-0f0708		UNSAVED CHANGES: 2 AUTO REFRESH ON
Status	O 1 1	
Overview	Status	
Routes		
System Log	Custom	
Kernel Log	System	
Processes Realtime Graphs		E
Realtime Graphs	Hostname	Femto-0f0708
GIOT	Model	GIOT InDoor FemtoCell
System	Firmware Version	Version 2.03.02 Thu Mar 16 21:26:53 CST 2017
Network	Kernel Version	3.10.14
	Local Time	Thu Mar 23 13:11:49 2017
Logout	Uptime	0h 7m 55s
	Load Average	0.82, 1.22, 0.69

Figure 3.B - Click "AUTO REFRESH ON/OFF" button to enable/ disable auto refresh.

Femto-0f0708		UNSAVED CHANGES: 2 AUTO REFRESH OFF
Status Overview Routes	Status	
System Log Kernel Log Processes	System	
Realtime Graphs	Hostname	Femto-0f0708
GloT	Model	GIOT InDoor FemtoCell
System	Firmware Version	Version 2.03.02 Thu Mar 16 21:26:53 CST 2017
Network	Kernel Version	3.10.14
1000 March 10	Local Time	Thu Mar 23 13:12:09 2017
Logout	Uptime	0h 8m 15s
	Load Average	0.59, 1.14, 0.67

2.2 Status - Routes

The purpose of this category is to view the ARP table and active IPv4 routes information.

Figure 4 - ARP table and Active IPv4 Routes



Femto-0f0708				UNSAVED CHANGE
Status Overview	Routes			
Routes System Log	The following rules are currently active on th	is system.		
Renei Log Processes Realtime Graphs	ARP			
GloT	IPv4-Address		MAC-Address	Interface
System	192.168.55.197		bc:77:37:e7:ff.04	br-lan
Network	192.168.1.1		00:50:43:15:07:06	eth0.2
Logout				
	Active IPv4-Route	6		
	Network	Target	IPv4-Gateway	Metric
	wap	0 0 0 0/0	192 168 1 1	0

2.3 Status - System Log

This category is to view system log information.

Figure 5 - System Log

Status	System Log
Overview	
Routes	Thu Feb 23 3:328:40 2017 user-emerg systag: switch neg units offset=2004, value=470003 Thu Feb 23 3:328:40 2017 user-emerg systag: switch neg units offset=204, value=470003
System Log	Thu Feb 23 13:28:49 2017 user.emerg syslog: switch reg write offset=2044, Walue+Feb003 Thu Feb 23 13:28:49 2017 user.emerg syslog: switch reg write offset=2044, Walue+Feb003 Thu Feb 23 13:28:49 2017 user.emerg syslog: switch reg write offset=2044.
Kernel Log	Thu Feb 23 13:23:09 2017 user.emerg systag: satist reg write offset=2004, value=F100030 Thu Feb 23 13:23:09 2017 user.emerg systag: satist reg write offset=2019, value=F10000c0
Processes	Thu Feb 23 13:22:49 2017 vacc-energ syslag: switch reg write offset=2110, value=810000c0 Thu Feb 23 13:22:49 2017 vacc-energ syslag: switch reg write offset=2210, value=810000c0
Realtime Graphs	Thu Feb 23 13:28:50 2017 user-emerg syslog: suitch reg write offset=2310, value=810000c0 Thu Feb 23 13:28:50 2017 user-emerg syslog: suitch reg write offset=2410, value=810000c0
GIoT	Thu fee 23 13:26:50 2017 user-emerg systeg: switch reg write offset=250, walke=81000000 Thu fee 23 13:26:50 2017 user-emerg systeg: switch reg write offset=2510, walke=81000000 Thu feb 23 13:28:50 2017 user-emerg systeg: switch reg write offset=2710, valke=81000000
System	Thu Feo 23 13:28:50 2027 user.emerg syslog: smitch reg write offset20004, walue=20ff0003 Thu Feo 23 13:28:50 2027 user.emerg syslog: smitch reg write offset=2704, value=20ff0003 Thu Feo 23 13:28:50 2027 user.emerg syslog: smitch reg write offset=2704, value=20ff0003
Network	Thu Feb 23 13:28:58 2017 user-emerg syslag: switch reg write offset=2610, value=81000000 Thu Feb 23 13:28:50 2017 user-emerg syslag: switch reg write offset=2014, value=10001 Thu Feb 23 13:28:50 2017 user-emerg syslag: switch reg write offset=2014, value=10001
Logout	Thu Fe 23 31:26:50 2017 user-menra syslog: switch reg write offser=2124, walxe=10001 Thu Fe 23 31:26:50 2017 user-menra syslog: switch reg write offser=214, walxe=10001 Thu Fe 23 31:26:50 2017 user-menra syslog: switch reg write offser=214, walxe=10002 Thu Fe 23 31:26:50 2017 user-menra syslog: switch reg write offser=236, walxe=10002 Thu Fe 23 31:26:50 2017 user-menra syslog: switch reg write offser=236, walxe=10002 Thu Fe 23 31:26:50 2017 user-menra syslog: switch reg write offser=236, walxe=10002 Thu Fe 23 31:26:50 2017 user-menra syslog: switch reg write offser=236, walxe=10002 Thu Fe 23 31:26:50 2017 user-menra syslog: switch reg write offser=236, walxe=10002 Thu Fe 23 31:26:50 2017 user-menra syslog:



2.4 Status - Kernel log

This category is to view kernel log information.

Figure 6 - Kernel Log

Status	Kernel Log
Overview	
Routes	0.0000000 Linux version 3.10.14 (suigPolaris) (grc version 4.8.3 (Openimrt/Linaro GCC 4.8-2014.04 unknown)) #8 Thu Feb 23 13:27:00 CST 2017 0.00000001
System Log	0.000000] The CPU feathure set to 500 HHz 0.0000000] PCIE: bypass PCIE DLL.
Kernel Log	8.000000 PCIE: Elastic Duffer control: Addr:0x68 -> 0x84 8.000000 disable all power about PCTe
Processes	B.000000 [CPU# revision is: 0001558 (MPS 24KEc) B.000000 [Software DNA cache coherency B.000000 [Software DNA cache coherency Software Interview Review R
Realtime Graphs	(0.00000) Intro of 0000000 @ 00000000 (utable) 0.000000] Intro of 6000 e 00000000 (utable) 0.000000 Intro of 6000 - 6000 - 61sabler intro
GIOT	[0.000000] Zone ranges: [0.000000] Normal [nem 0x00000000-0x07fffff]
System	[0.000000] //ovalle zone start for each node [0.000000] environment for each node [0.000000] node 0: [mem 0x000000000-bx07fffff]
Network	1 0.000000] Frequencial_index_index_0_pagat_80010400, node_mem_map_81000000 0.0000000] NormalIzone:35 pages_index_index_memmap 0.0000000] NormalIzone:0 pages_reserved 0.0000000] NormalIzone:0 pages_reserved
ogout	[0.000000] Frimery instruction cache 6440, 4-way, UFT, Linesies 32 Dytes. 0.000000] Primary data cache 5100, 4-way, PUFT, no Allassar, Linesies 12 Dytes 0.000000] propublics: so rd 612768 u12768 alloc-122788 0.000000] propublics: so rd 612768 u12768 alloc-122788 0.000000] friend to 1 accessing the 200 propublic methods and the 201
	[0.000000] kernel command line: consolevity51,5560hd root*/dev/ntdolock5 rootfstype=squashfs.jffs2 running_fw#firmware1 0.0000000 PID hash table entries: 512 (order: -1, 2048 bytes)

2.5 Status - Processes

The purpose of this category is to view the system processes that are in progress. Processes can be hung up, terminated, and killed for each indivFemto Cellal item.

Status Overview Routes System Log	Proc This list give		r currently running system processe	es and their status.				
Kernel Log Processes	PID	Owner	Command	CPU usage (%)	Memory usage (%)	Hang Up	Terminate	Kill
Realtime Graphs	1	root	/sbin/procd	0%	1%	HANG UP	TERMINATE	KILL
System	2	root	[kthreadd]	0%	0%	HANG UP	TERMINATE	KILI
etwork	3	root	[ksoftirqd/0]	0%	0%	HANG UP	TERMINATE	KILI
oqout	4	root	[kworker/0:0]	0%	0%	HANG UP	TERMINATE	KILI
	5	root	[kworker/0:0H]	0%	0%	HANG UP	TERMINATE	KILI
	6	root	[kworker/u2:0]	0%	0%	HANG UP	TERMINATE	KILI
	7	root	[watchdog/0]	0%	0%	HANG UP	TERMINATE	KILI
	8	root	[khelper]	0%	0%	HANG UP	TERMINATE	KILI



2.6 Status - Realtime Graphs

This category is further divided into the following sectors: Load, Traffic, and Connections. These options are lodged and labeled above the graph.

2.6.1 Load

To view the current load value and average of different time intervals.

Figure 8 - Realtime Load

Status	Load Traffic Con	nections				
Overview Routes System Log	Realtime I	_oad				
Kernel Log Processes	310		2m		Im	
Realtime Graphs GloT						
System	0.28				-	
Network	0.14					
Logout						
					G	3 minute window, 3 second interval)
	1 Minute Load:	0.46	Average:	0.46	Pe	ak: 0.50
	5 Minute Load:	0.22	Average:	0.22	Pe	ak: 0.22
	15 Minute Load:	0.24	Average:	0.24	Pe	ak: 0.24

2.6.2 Traffic

To view the network traffic of each interface.

Figure 9 - Realtime Traffic





2.6.3 Connections

To view the currently active network connections.



3. GIoT

The GIoT menu consists of the following categories: Status, Provision, Configuration and GPS MAP.

3.1 GIoT - Status

The purpose of this category is to view GIoT information as in its provision code, gateway type, gateway ID or LoRa modules, channels, spreading factor, and GPS status.

Figure 11 - GloT Info



Status GloT	GIoT Status	
Status Provision Configuration	GloT Info	
GPS MAP	Provisioning Code	00001158 (Provision)
System	Area Code	00001158
Network	Gateway Type	Semi-ODU
	LoRa Module	ON
Logout	Gateway ID	1c497b9628d2
	Radio 0	Ch0: ON 922.625MHz Ch1: ON 922.875MHz Ch2: ON 923.125MHz Ch3: ON 923.375MHz
	Radio 1	Ch4: ON 923.625MHz Ch5: ON 923.875MHz Ch6: ON 924.125MHz

3.2 GIoT - Provision

GIoT provision code can be setup on this page.

Figure 12 - Provision Code

Status	
GIOT	Provision Code
Status	
Provision	System will reboot if activate Provision Code succeed
Configuration GPS MAP	Code 00001158
System	
Network	
Logout	SAVE
A1910	Powired by LuCI Trunk (git-860b4cc) / OpenWit Barrier Breaker unknow



3.3 GIoT - Configuration

Click "PERFORM RESTART" button to restart LoRa server.

The latitude and longitude coordinates can be manually embedded in this page. Click *"SAVE LOCATION"* button after inserting the coordinates or click *"SELECT ON MAP"* button to be redirected to the map in GPS Settings.

Figure 13 - GloT Management

Status GIoT Status	GIoT Management
Provision Configuration GPS MAP	LoRa Management
System Network	LoRa Restart PERFORM RESTART
Logout	GPS Location
	Latitude: Not Config
	SAVE LOCATION SELECT ON MAP

3.4 GIOT - GPS MAP

To setup the GPS location, simply input your address location in the "Location" text field above the map or pinpoint your location on the map by dragging the red marker? to the correct spot.

Once the location is confirmed, the system will verify and apply the new Latitude/Longitude coordinates into its GPS setting.

Figure 14 - GPS Setting







4. LoRaWan

The LoRaWan menu consists of the following categories: OTAA Status, OTAA, ABP and Network Server. The proper provision code has to be in place to reveal and access the LoRaWan features on the system menu. Please contact GIoT personnel if needed.

4.1 LoRaWan - OTAA Status

The purpose of this feature is to view the process status of a node joining Femto Cell via OTAA.

Status	OTAA Statu	•			
System	UTAA Statu	15			
SIOT	The description fot the OTAA	Status.			
.oraWan					
OTAA Status					
OTA A			10 - 2018 D		
UTAA	100000000000000000000000000000000000000				
ABP	DevAddr	Device EUI	App EUI	Group Index	Latest Update Time
ABP Network Server	DevAddr 00fffc0	Device EUI 1122334455667788	App EUI 383531385a347e19	Group Index 0	2016:11:16:20:59:39

Figure 15 - OTAA Status

4.2 LoRaWan - OTAA

Click "ADD" button to create an OTAA rule entry.

To delete entries, select one or more OTAA rule entries and click "DELETE" button. To edit an entry, select a rule entry and click "EDIT" button to proceed.

Please note that 1. The OTAA settings will be cleared after Femto Cell is reset to default.

2. The Aging Out Time must be at least 60 minutes.

Figure 16.A - OTAA - Add



vstem	The second s		
yatem -	The description for the OTAX.		
IoT			
oraWan		(A) and a second a	
OTAA Status	Paremeter	Format	
ΟΤΑΑ	Group Index	INT	0
ABP Network Server	AppEUI Start	16 HEX digits	1122334455667768
etwork	AppEUI Counts	Digit	5
aout	DevEUI Start	16 HEX digits	383531385a347e19
	DevEUI Counts	Digit	4
	DevAddr Start	8 HEX digits	04111100
	DevAddr Counts	Digit	5
	АррКеу	32 HEX digits	53A6B13B1E372D384C57
	Again Out Time	Minute	60
			SAVE C

Figure 16.B - OTAA

Status System	OTA	A								
GIOT	The descrip	tion fot the OT	(A.							
oraWan										
OTAA Status										
OTAA				96						
OTAA ABP Network Server		Group Index	AppEUI Start	App Counts	DevEUI Start	DevEUI Counts	DevAddr Start	DevAddr Counts	АррКеу	Again Out Time (Minutes)

Figure 16.C - OTAA - Edit

tatus	OTA	A								
stem	•									
oT	The descri	ption tot the OT	AA.							
raWan										
TAA Status										
AATC		Group	AppEUI	Арр	DevEUI	DevEUI	DevAddr	DevAddr	AppKau	Again Out Time
\BP		Index	Start	Counts	Start	Counts	Start	Counts	repriney	(Minutes)
Vetwork Server			11000044		20252120		0055		53A6B13B	
twork	. 0	0	55667788	10	5a347e15	10	ffb1	10	4C577BA3	70 EDIT
									F768429C	

4.3 LoRaWan - ABP



The main function of this feature is to add/delete/edit ABP rule entries on this page. The ABP menu consists of the following categories: Individual and NetID Group.

4.3.1 INDIVIDUAL

Click "INDIVIDUAL" button to enter the INDIVIDUAL function page.

Click "ADD" button to create an ABP (INDIVIDUAL) rule entry.

To delete rule entries, select one or more ABP (INDIVIDUAL) rule entries and click "DELETE" button.

To edit a rule entry , select an ABP (INDIVIDUAL) rule entry and click "EDIT" button to proceed.

Please note that the ABP (INDIVIDUAL) settings will be cleared after Femto Cell is reset to default.





InDoor					
Status	ABP				
System	The description follow 1000				
LoraWan	INDIVIDUAL	GROUP			
OTAA Status					1_/1
OTAA					
ABP					
Network Server		DevAddr	NwkSKey	App SKey	
Network					
Logout				DE	LETE ADD

Figure 17.B - Individual – Add

Status	ndividual Lindata	(Add	
System	naividuai-Opdate	Add	
SIOT	The description for the ABP.		
LoraWan	INDIVIDUAL NETID GROUP		
OTAA Status			
OTAA			
ABP	Paremeter	Format	
Network Server	DevAddr	8 HEX digits	
Network	NwkSKey	32 HEX digits	

Figure 17.C - Individual – Edit

Status					
System	ABP				
GIoT	The description	in fot the ABP.			
LoraWan	INDIVIDUA	NETID GROUP			
OTAA Status					1
OTAA					
ABP					
Network Server		DevAddr	NwkSKey	AppSKey	
Network		00#ffaa	1111 111111111111111111111111111111111	111111111111111111111111111111111111111	EDIT
ogout					
					DELETE ADD

4.3.2 NETID GROUP

Click "NETID GROUP" button to enter NETID GROUP function page.

Click "ADD" button to create a ABP (NETID GROUP) rule entry.

To delete rule entries, select one or more ABP (NETID GROUP) rules and click "DELETE" button.

SAVE CANCEL



To edit a rule entry, select a ABP (NETID GROUP) rule entry and click "EDIT" button to proceed. Please note that the ABP (NETID GROUP) settings will be cleared after Femto Cell is reset to default.



Figure 18.A - NETID GROUP



Figure 18.B - NETID GROUP - ADD

1 /
Key
5.8

Figure 18.C - NETID GROUP - EDIT

Status							
System	ABF	,					
GIOT	The desc	ription fot the ABF	£				
LoraWan	INDIVIE	JUAL NETI	D GROUP				
OTAA Status							1
OTAA							
ABP							
Network Server		NwkID	NwkAddr Start	Total number	NwkSKøy	AppSKey	
Network		01	01ffffaa	10	2222222222222222222222 22222222222222	22222222222222222222222 22222222222222	EDIT
ogoul							
							DELETE ADD

4.4 LoRaWan - Network Server

The user can configure Network Server settings on this page.

The Femto Cell connects to the lora data center via CURL or MQTT.

Note that the node data will be sent to Gemtek lora data center if you select CURL.

Figure 19 - Network Server



Status			
System	Network Server		
GIoT	The description lot the Network Server.		
LoraWan			
OTAA Status			
OTAA	Protocol	MQTTS	
ABP	Hostname	MQTTS	
Network Server	Usemame	aunin	
Network	Password	admin	
	Publish topic.	GIOT-GW/DL/	
Longert	Subscribe topic:	GIOT-GW/UL/	
1.0000000	Downlink ACK:	GIOT-GW/DL-report/	
	Port	1883	
			APPLY



5. System

The System menu consists of the following categories: System, Administration, Backup, System Firmware, Reboot. Introduction and input procedures for each category are described in the following paragraphs.

5.1 System - System

Hostname and Timezone can be customized in the system properties.

Click "Sync with Browser" button (figure 20.A) to adjust the local time.

Place a checkmark next to "Enable NTP Client" (figure20.B) to synchronize the time with NTP server.

If you choose to use another NTP server, please place a checkmark next to "*Provide* NTP server" and fill out the "NTP server candidates" text field.

Figure 20.A - System: System Properties

Status	Sustam
GIOT	System
System	Here you can configure the basic aspects of your device like its hostname or the timezone.
System	
Administration	
Backup	System Properties
System Firmware	A CONTROL OF A DECO
Reboot	
Network	Local Time Wed Nov 16 15:59:55 2016 SYNC: WITH BROWSER
Logout	Hostname InDoor
	Timezone Asia/Taipei •

Figure 20.B - System: Time Sychronization

Status	Timezone	Asia/Taipei		
System				
System				
Administration				
Backup Surfam Einmusre	Time Synchronization			
Reboot				
Network	Enable NTP client	*		
Logout	Provide NTP server	10		
	NTP server candidates	0. openwrt. pool. ntp. org		
		1 openwrt pool ntp.org	80	
		2. openwrt. pool. ntp. org	#2	
		3. openwrt. pool. ntp. org	<u>53</u>	





5.2 System - Administration

Gateway login password and SSH accessibility can be configured in this page.

Status GIoT	Router Password		
System	Changes the administrator password for accessing the device		
System			
Administration			
Backup			
System Firmware	Password	3	
Reboot			
Network	Confirmation	0	
Logout			

Figure 21.B - Administration: SSH Access

Status	SSH Access		
GIOT	00117100000		
System	Dropbear offers SSH network shell access and an integ	grated <u>SCP</u> server	
System			
Administration	Drophoor Instance		
Backup	Dropbear instance		
System Firmware			
Reboot			DELETE
Network	Port	22	
		O Specifies the listening port of this Dropbear instance	
Logout			
	Allow root logins with password	2	
		O Allow the root user to login with password	
	Gateway ports		
		Allow remote hosts to connect to local SSH forwarded ports	
	ADD		

5.3 System - Backup

Click "GENERATE ARCHIVE" button to download the configuration file with the current gateway settings.

Figure 22.A - Backup/Restore



Status GIOT	Flash operations
System System Administration	Backup / Restore
Backup	Click "Generate archive" to download a tar archive of the current configuration files. To reset the Immurate to its initial state, click "Perform reset" (only possible with squashts images).
System Firmware Reboot	Download backup: GENERATE ARCHIVE
Network	Reset to defaults: PERFORM RESET
Logout	To restore configuration files, you can upload a previously generated backup archive here.
	Restore backup: 僅僅僅有一個素 UPLOAD ARCHIVE

Click "*PERFORM RESET*" button to reset the firmware to its initial state. Please note that the LoRa provision settings will NOT be reset by this action. *Figure 22.B - Backup/Restore*

Status GloT	Flash operations	192.168.88.1 機示: Really reset all changes?			×				
/stem System Administration	Backup / Restore		đ	Ria					
Backup	Click "Generate archive" to download a	Far archive of the oursest configuration files	To reset the firmwate	e to its initial	state click	Dartorni razal	Inches a second		
	serier warnersten storitte in warnersten a	an archive of the current consignation mer-	the transform minimum		statut, since	-envernmentester	(any passio	e with squasti	is images).
System Firmware Reboot	Download	backup: GENERATE ARCHIVE			and of a second	renven rese	(only possio	e with squasti	s images).
System Firmware Reboot etwork	Download	backup: GENERATE ARCHIVE			and an a server		(only possion	e wan squasni	s images).
System Firmware Reboot etwork Rgout	Download Reset to To restore configuration files, you can up	an another of the Content Content of an of the Content of the Cont	e hete.		and a server		(only possion	e wan squasm	s images).

Choose the most recent backup file and click "UPLOAD ARCHIVE" to restore the configuration file. (figure 22.C & figure 22.D)

2.714.000		O v . tric_Lee-≇§≅ . TR	• 4y 200 TH F
Status GIOT	Flash operations	組合管理 ▼ 新增資料共	E • 🖬 🛛
System System Administration	Backup / Restore	☆ 我的最爱	修改日期 構設 InDoor-2016-11-16.ter.gz 2016/11/16下午_ GZ 獲問
Backup System Firmware Reboot Network	Click "Generate archive" to download a tar archive of the current configuration Download backup: GENERATE ARCHIVE Reset to defaults: PERFORM RESET	fies.7 22 単位の位置 同時間 日 同時間 日 長の5(5)	
ogout	To restore configuration files, you can upload a previously generated backup a	rchive + ()	
	Restore backup: 還獲懂檔案]未强强任何編	度 種素名稱(N):	▼ 所有檔案 ▼ 課款(O) ▼ 取湯



Figure 22.D - Backup/Restore

Status GloT	Flash operations
System System Administration	Backup / Restore
Backup System Firmware	Click: "Generate archive" to download a tar archive of the current configuration files. To reset the firmware to its initial state, click "Perform reset" (only possible with squashts images).
Reboot Network	Download backup: OENERATE ARCHIVE
Logout	Reset to defaults: PERFORM RESET
	Restore backup: 通婚運業) backup-InDoor11-16.tar.gz UPLCAD ARCHIVE.

5.4 System - System Firmware

Click "CHECK NEW FIRMWARE" button to search the OTA server for the latest version of the new system firmware. Once a new system firmware version is detected on the OTA server, click "UPGRADE NOW" button to upgrade the newest system firmware from OTA server.

Figure 23.A - System Firmware

Status GIoT System	System Frimware
System Administration Backup	Firmware Information
System Firmware	Click "Check New Firmware" to check new firmware from OTA server.
Reboot	Cilck "Upgrade Now" to upgrade system Immware from OTA server.
Network	Primary Pirmware: 2 01 03
Logout	Secondary Firmware: -
	Version of OTA Server: 2 00.17
	CHECK NEW FIRMMARE

Figure 23.B - System Firmware



Status GloT System	System Frimware
System Administration Beckup	Firmware Information
System Firmware	Click "Check New Firmware" to check new firmware from OTA server.
Reboot	Click "Upgrade Now" to upgrade system firmware from OTA server.
Network	Primary Firmware: 2.00.01
Logout	Secondary Firmware
	Version of OTA Server: 2.00.17
	LIPORAGE NOW

5.5 System - Reboot

Click "PERFORM REBOOT" to reboot your gateway.

Figure 24 - System Firmwa	re
Status	
GIoT	Reboot
System	Reports the operating system of your device
System	
Administration	PERFORM REBOOT
Backup	
System Firmware	
Reboot	
Network	
Logout	



6 Network

The System menu consists of the following categories: WAN, Wireless, LAN, DHCP, Static Routes and Diagnostics. Introduction and input procedures for each category are described in the following paragraphs.

6.1 Network - WAN

The purpose of this category is to view current WAN settings.

This category is further divided into three sectors: Ethernet Wan, 3G/4G LTE and Wireless Extender. These individual options are lodged and labeled above the main content panel.

Status	Ethernet Wan	3G/4G LTE	Wireless Extender	
GloT				
System	WAN			
letwork				
WAN		Wan Type	DHCP	
Wireless			Herberg Ob 45 - 20-	
LAN		WAN	MAC-Address: 00:49:06:0F:07:09	
DHCP		22	RX: 494.59 KB (5054 Pkts.)	
Static Routes		eth0.2	TX: 546.28 KB (4566 Pkts.)	
Diagnostics			IPV4: 182 108.1.12/124	

6.1.1 Ethernet WAN

This page is to setup the connection type in terms of Static IP, DHCP client or PPPoE. The three different options can be selected in the drop-down menu in "wantype". Please fill in the respective fields exhibited under each selection. Please make sure the Ethernet cable is connected to a WAN port.

Figure 26.A - WAN: Static IP



Status	Ethernet Wan 3G/4G LTE Wire	eless Extender	
GloT			
System			
Network	wantype	Static IP	*
WAN			
Wireless	IP Address		
LAN		055 055 055 0	
DHCP	Subnet Mask	255.255.255.0	•
Static Routes	2000 C 1000		
Diagnostics	Gateway		
Logout	DNS Server		1
	MAC Address	00:49:06:0f:07:09	



Figure 26.B - WAN: DHCP Client

Status	Ethernet Wan	3G/4G LTE Wir	eless Extender		
GIOT					
System					
Network		wantype	DHCP Client	•	
WAN					
Wireless		MAC Address	00:49:06:0f:07:09		
LAN					
DHCP					
Static Routes					
Diagnostics					SAVE
Logout				Powered by L	rCl Trunk (git-ddabd68) / OpenWrt Barrier Breaker unknown

Figure 26.C - WAN: PPPoE

Status	Ethernet Wan 3G/4G LTE W	reless Extender	
GloT			
System			
Network	wantype	PPPoE	-
WAN			
Wireless	Username		
LAN			
DHCP	Password	l	82
Static Routes			
Diagnostics	MAC Address	00:49:06:0f:07:09	
Logout			

6.1.2 3G/4G LTE

This page is to setup required information. Make sure the SIM card is installed.

Figure 27 - WAN: 3G/4G LTE



Status	Ethernet Wan 3G/4G LTE Wire	eless Extender	
GloT			
System			
Network	WAN TYPE	3G/4G LTE •	
WAN			
Wireless	Modem device		
LAN			
DHCP	APN		
Static Routes			
Diagnostics	PIN		8
Logout	Username		
	Password		8

6.1.3 Wireless Extender

This page is to setup the Wireless Extender Mode for WAN connection. To activate the extended wireless connection, please select "*Enable*" from the Extender mode drop-down menu (figure 24.A). Click the "*SCAN*" button to obtain the list of available Access Points within your surrounding vicinity (figure 24.B).

Figure 28.A - WAN: Wireless Extender

Status	Ethernet Wan 30/40 LTE Wintest Extender	
Giot		
System	Wireless Extender	
Network		
WAN	Cick Scan's get Acase Pear Lot	
Weekess	Extender mode Enable +	
LAN	SSO Doubled	
DHCP	Security Internet InCTICP +	
Static Routes	KEY.	
Diagnostics	sow	
Logout		

6.2 Network - Wireless

The Wireless Setting is divided into two sectors in the same page: 2.4G and 5G.

6.2.1 2.4G

2.4G Interface Configuration to setup 2.4G wireless. SSID, encryption type, and channels can be lodged within this sector.



Figure 29.A - Wireless Setting: 2.4G

Status GloT	2.4G Interface Con	figuration		
System Network	WiFi UP/Down	ON	<u>.</u>	
Wireless	SSID	AP-010708		
LAN DHCP Static Routes	Hidden Broadcast	8		
Diagnostics	encryption	None		
Logout				

6.3 Network - LAN LAN IP can be setup in this page.

Figure 30 - L	AN	
Status		
GloT	LAN	
System		
Network	Local Network	
WAN	Loodintotivon	
Wireless		
LAN	IP Address 192.168.55.1	
DHCP		
Static Routes		
Diagnostics		
		SAVE RESET
Logout		

6.4 Network - DHCP

You can manage detailed DHCP server settings, which includes First leased address, the allowed Number of leased addresses and Lease time.

Information on Active Leases can be viewed at the bottom of this page.

Figure 31 - DHCP



Status	D I I O D		
GIOT	DHCP		
System			
Network	DHCP-Server		
WAN			
Wireless			
LAN	enable enable	i	•
Static Routes			
Diagnostics	First leased address 100		
	100		
Logout	Number of leased addresses 102		
	Lease time (hr) 12		

6.5 Network - Static Routes

Static routes can be established by clicking the "ADD" button to enter proper settings. Click "Delete" to erase the entry. Always click the "SAVE" button to apply your settings.

Figure 32 - Static Routes

Status GloT	Routes					
System	Routes specify over which	h interface and gateway a certain host	or network can be reached.			
Network WAN Wireless LAN DHCP	Static IPv4	Routes	IPv4-Netmask	IPv4-Gateway	Metric	MTU
Static Routes		Host-IP or Network	if target is a network			
Diagnostics	ADD		This section contains no values y	et		

6.6 Network - Diagnostic

Diagnostics is divided into three parts on the same page: PING, TRACEROUTE and NSLOOKUP. Please see the following for input guidelines.

6.6.1 PING

Input a specific IP address in the text field above "PING".

29



Click the "PING" button to ping the IP you have specified.

Mus aT	Diagnostics				
stem					
twork VAN Vireless	Network Utilities				
AN	openwit.org	openwit.org	openwitlorg		
HCP	IPv4 - PNIC	TRACLICOUTE	NELOOKUP		
Regnostics		Install iputils-tracerouted for IPv6 traceroute			
cout					
1040	Collecting data				
	FINO openwrt.org (78.24.191.177): 50 data bytes 64 bytes from 76.24.191.177) euge til-4 time-322.300 ms				
	04 bytes from 70.24.191.177; sequel tll+44 tlm=321.507 ms				
	64 bytes from 78.24.191.177; seq-	3 ttl-44 time-322.606 ms			
	64 bytes from 78.24.191.177; seq= 64 bytes from 78.24.101.177; seq= 64 bytes from 78.24.101.177; seq=	2 ttl=44 time=318.709 ms 3 ttl=44 time=322.600 ms 4 ttl=44 time=319.141 ms			
	opensert.org ping statistics -				
	5 packets transmitted, 5 packets	received, 0% packet loss			

6.6.2 TRACEROUTE

Input a specific URL or IP address above "*TRACEROUTE*". Click the "*TRACEROUTE*" button to trace the URL or IP address you have specified.

Figure 33.B - Diagnostics

Status	Diagnostics						
GloT System							
Network	Network Utilities						
Wireless LAN	openwrtorg	openwitorg	openwitlorg				
DHCP Static Routes	IPv4 • PING	Install iputits-traceroute6 for IPv6 traceroute	NBLOCKUP				
Diagnostics							
Logout	Collecting data traceroute to openert.org (7 1 392.108.1.1 0.335 m 2 10.1.61.214 0.641 m 3 10.1.61.214 0.641 m 3 10.2.1.100.322 1.144 m 3 0 7 200.138.0.342 2.135 m 4 200.138.0.434 2.135 m 5 200.138.0.434 2.135 m 10 220.138.0.431 m 11 21.72.108.127 1.61.087	1,24,191.177), 30 hops max, 38 byte packets					

6.6.3 NSLOOKUP

Input a specific URL or IP address above "NSLOOKUP".

Click the "*NSLOOKUP*" button to view the DNS server of the URL or IP address you have specified.

Figure 33.C - Diagnostics



Status GloT	Diagnostics					
System Network WAN	Network Utilities					
Wireless LAN DHCP Static Routes Diagnostics	opernet org IPv4 • PNG	opensitorg TRACERQUTE Install joutis-traceroute6 for IPv6 traceroute	openwrt.org NSLOOKUP			
Logeut	Collecting data					
	Name: openurt.org Address 1: 78.24.191.177 openurt.	org				



Federal Communication Commission Interference Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

IMPORTANT NOTE:

Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Country Code selection feature to be disabled for products marketed to the US/CANADA

Operation of this device is restricted to indoor use only.



Professional installation instruction

Please be advised that due to the unique function supplied by this product, the device is intended for use with our interactive entertainment software and licensed third-party only. The product will be distributed through controlled distribution channel and installed by trained professional and will not be sold directly to the general public through retail store.

1. Installation personal

This product is designed for specific application and needs to be installed by a qualified personal who has RF and related rule knowledge. The general user shall not attempt to install or change the setting.

2. Installation location

The product shall be installed at a location where the radiating antenna can be kept 20cm from nearby person in normal operation condition to meet regulatory RF exposure requirement.

3. External antenna

Use only the antennas which have been approved by Gemtek Technology Co., Ltd.. The non-approved antenna(s) may produce unwanted spurious or excessive RF transmitting power which may lead to the violation of FCC limit and is prohibited.

4. Installation procedure

Please refer to user's manual for the detail.

5. Warning

Please carefully select the installation position and make sure that the final output power does not exceed the limit set force in relevant rules. The violation of the rule could lead to serious federal penalty.