SERIAL-TO-WIFI ADAPTER

COMMAND REFERENCE

FOR 2.4.3/3.4.3

Reference: GS-S2W-CRG

Version: SP-5.15

Date: *7-May-13*

Version	Date	Remarks
5.10	9-Aug-12	No change – Updated rev to match S2W Adapter Guide rev
5.11	18-Sept-12	Updated ATO command for GS1500M Updated AT+WEAPCONF to reflect PEAP with Certificates Updated rev to match S2W Adapter Guide rev
5.12	1-Oct-12	Updated AT+PHYMODE command description Added support for client certificate and client key to AT+SSLOPEN and AT+ HTTPOPEN commands Updated rev to match S2W Adapter Guide rev
5.13	31-Oct-12	No change; Updated rev number to match the S2W Adapter Guide
5.14	12-Feb-13	► Updated to match release 2.4.3/3.4.3 ► Added at+webprovstop command section 4.16.3 ► Updated NCMAuto command (4.15.1) to reflect flag enable/disable parameter
5.15	7-May-13	► Removed section on External flash AT commands as it is not applicable.

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Command	Parameters	Responses / Effects	GS Module
COMMAND INTERFACE			
AT	(none)	"OK"	GS1011M GS1500M
ATEn	n=0 (disable) =1 (enable)	IF 1, echo all input.	GS1011M GS1500M
ATVn	n=0 (disable) =1 (enable)	IF 1 responses are ASCII, else numerical codes.	GS1011M GS1500M
AT?	(none)	No Longer Supported	GS1011M GS1500M
UART / ADAPTER INTERFACE CONFIGURATION			
ATB=	<baudrate>[[,<bitsperchar>][,<parity>][,<stopbits>]]	UART parameters are immediately reset to values provided.	GS1011M GS1500M
AT&Kn	n=0 (disable) =1 (enable)	IF 1, software flow control is enabled.	GS1011M GS1500M
AT&Rn	n=0 (disable) =1 (enable)	IF 1, hardware flow control is enabled.	GS1011M GS1500M
ATSn	Not Supported n=0 to 7; p=(parameter value)	Not Supported Sets various timeout values; 0=Network Connection Timeout 1=Auto Associate Timeout 2=TCP Connection Timeout 3=Association Retry Count 4= Nagle Algorithm Wait Time 5= Scan Time 6= L4 Retry Period 7=L4 Retry Count	GS1011M ONLY
ATIn	n=value	Various Adapter ID information; 0=OEM ID 1=Hardware Version 2=Software Version	GS1011M GS1500M
AT+WST=	<Min scan time>,<Max scan time>	Min scan time is the minimum scan time per channel, Max scan time is the maximum scan time per channel. The Max scan time	GS1011M GS1500M

Command	Parameters	Responses / Effects	GS Module
		should be always greater than or equal to Min scan time. Both parameters are in milliseconds. This command also modifies the scan time configured with the ATS5 command	
AT+WST=?		Displays min/max scan time	GS1011M GS1500M
PROFILE MANAGEMENT			
AT&Wn	n=0 (profile 0) =1 (profile 1)	Save profile specified by n.	GS1011M GS1500M
ATZn	n=0 (profile 0) =1 (profile 1)	Load profile specified by n.	GS1011M GS1500M
AT&Yn	n=0 (profile 0) =1 (profile 1)	Set default profile to the value n.	GS1011M GS1500M
AT&F	(none)	Restore profile to factory default values.	GS1011M GS1500M
AT&V	(none)	Current and saved profile parameter values as ASCII.	GS1011M GS1500M
GS LINK			
AT+WEBSERVER=	<0 = Stop/ 1 =start>, <user name>, <password>, [0 = SSL enable/1 = SSL disable], [idle timeout]	Enables the XML parser on http data send and receive by the adapter	GS1011M GS1500M
AT+XMLSEND=	<CID>, < Type >, <Timeout>, <Page URI>, <Root tag name> [, <N>] <ESC>G<CID><len><tagname>:<value>	XML Data Send	GS1011M GS1500M
AT+URIRECV=	<URI>	Modify the default adapter URI to the new one.	GS1011M GS1500M
WI-FI INTERFACE			
AT+NMAC=	<MAC ADDRESS>	Sets the adapter MAC address (an 8-byte colon-delimited hexadecimal number), and stores the value in flash memory.	GS1011M GS1500M
AT+NMAC2=	<MAC ADDRESS>	Sets the adapter MAC address (an 8-byte colon-delimited hexadecimal	GS1011M GS1500M

Command	Parameters	Responses / Effects	GS Module
		number), and stores the value in non-volatile RAM.	
AT+NMAC=?	(none)	Returns the current adapter MAC address.	GS1011M GS1500M
AT+NMAC2=?	(none)	Returns the current adapter MAC address.	GS1011M GS1500M
AT++WREGDOMAIN=	<Regulatory Domain>	FCC → supported Channel range is 1 to 11. ETSI → supported Channel range is 1 to 13. TELEC → supported Channel range is 1 to 14.	GS1011M GS1500M
AT+WREGDOMAIN=?	(none)	Configured regulatory domain in the Serial2WiFi adaptor	GS1011M GS1500M
AT+WS=	[<SSID>[,<BSSID>][,<Channel>][,<Scan Time>]]	Network scan, returns list of found networks in the format: <SSID>,<BSSID>,<Channel>,<RSSI>,<Mode>,<Security> SSID may be a string of up to 32 ASCii characters in length	GS1011M GS1500M
AT+WM=n	[,beacon interval,disable broadcast ssid] n=0 (infrastructure) 1 (ad hoc) 2 (limited ap) 3 (P2P)	Set 802.11 Station operating mode. If n is 2, the mode is set to limited AP so that the adapter can act as a limited wireless Access Point. If n is 3, the mode is set to P2P. This mode is applicable for GS1500M only. Refer 4.21.1 section for more details.	GS1011M GS1500M
AT+WPHYMODE=n	<PHY mode>	1=802.11 b only 2=802.11b/g/n 3=802.11g only	GS1500M Only
AT+WPHYMODE=?	n	Will return one of these values: 1=802.11 b only 2=802.11b/g/n 3=802.11g only	GS1500M Only
AT+WA=	<SSID>[,[<BSSID>][,<Ch>],[Rssi Flag]]	Associate to specified SSID, BSSID, and channel. Rssi Flag is an optional	GS1011M GS1500M

Command	Parameters	Responses / Effects	GS Module
		parameter with values: 1 - associate to the AP specified by SSID with highest RSSI value. 0 - associate to the AP specified by SSID without considering RSSI value. This is the default settings.	
AT+WD	(none)	Disassociate from the current network.	GS1011M GS1500M
ATH	(none)	Disassociate from the current network.	GS1011M GS1500M
AT+WWPS=	<METHOD>[,PIN]	Associate to an AP using WPS METHOD is push button (1) or pin (2). PIN is the pin for PIN method.	GS1011M GS1500M
AT+NSTAT=?	(none)	Current wireless and network configuration.	GS1011M GS1500M
AT+WSTATUS		Adapter reports the current network configuration to the serial host	GS1011M GS1500M
AT+WRSSI=?	(none)	Current RSSI as ASCII.	GS1011M GS1500M
AT+WRATE=	n	Set transmit rate. 0= Auto (default) 2= 1 MBPS 4= 2 MBPS 11= 5.5 MBPS 22= 11 MBPS	GS1011M GS1500M
AT+WRETRY=	<retrycount>	Value of 802.11 TX retry is reset.	GS1011M GS1500M
AT+APCLIENTINFO=?		Get the information about the clients associated to the adapter when it act as a Limited AP.	GS1011M GS1500M
Wi-Fi SECURITY			
AT+WAUTH=n	n=1 to 2	Authentication mode setting; see 4.7.1 of [1].	GS1011M GS1500M
AT+WWEPn=	n=1 to 4, <key>	WEP key n is set to the value in <key>.	GS1011M GS1500M
AT+WWPA=	<passphrase>	WPA passphrase set to the value in	GS1011M

Command	Parameters	Responses / Effects	GS Module
		<passphrase>.	GS1500M
AT+WPAPSK=	<SSID>,<passphrase>	Computes and stores the WPA2 PSK value.	GS1011M GS1500M
AT+WPSK=	<PSK>	Sets the WPA2 pre-shared key to the <PSK>.	GS1011M GS1500M
AT+ WEAPCONF=	<Outer Authentication>,<Inner Authentication>,<user name>,<password>[,<PEAP with Certificates]	Set the Outer authentication, Inner authentication, user name and password for EAP Security. This command returns the normal response codes. The valid outer authentication values are: Eap-FAST: 43 Eap-TLS: 13 Eap-TTLS: 21 Eap-PEAP: 25 The valid Inner Authentication values are: Eap-MSCHAP: 26 Eap-GTC: 6 For PEAP with Certificates set the [PEAP with certificates] field to "1"	GS1011M GS1500M
AT+WEAP=	<Type>,<Format>,<Size>,<Location><CR><ESC>W<data of size above>	Configure certificate for EAP-TLS	GS1011M GS1500M
AT+TCERTADD=	<Name>,<Format>,<Size>,<Location><CR><ESC>W<data of size above>	Configure the certificate for SSL/HTTPS and EAP/TLS	GS1011M GS1500M
AT+TCERTDEL=	<certificate name>	Delete a certificate from memory	GS1011M GS1500M
AT+WSEC= n	0 – Auto security (All) 1 – Open security 2 – Wep security	The s2w adapter supports either one of the above value with default security configuration as auto. This strict security compliance is not applicable for WPS feature.	GS1011M GS1500M

Command	Parameters	Responses / Effects	GS Module
	4 – Wpa-psk security 8 – Wpa2-psk security 16 – Wpa Enterprise 32 – Wpa2 Enterprise		
WIRELESS CONFIGURATION			
AT+WRXACTIVE=n	n=0 (disable) =1 (enable)	If 1, 802.11 radio is enabled.	GS1011M GS1500M
AT+WIEEEPSPOLL=	<n>,[listen beacon interval]	n=0, to disable (not supported on GS1500M) n=1 to enable If it is enabled then the second parameter listen beacon interval is valid beacons intervals at which the Wlan wakes up for listening to the beacon. Although it's a 16bit value, the maximum recommended is 10. On execution of this command, the adapter will set the listen interval for n beacons. For GS1500M, the use of listen interval for wakeup depends on the multicast parameter. If multicast reception is enabled, then the wakeup is based on DTIM interval. If multicast reception is disabled, then the wakeup is based on listen interval. If not set, the default value of listen interval for GS1500M is 50	GS1011M, GS1500M
AT+WRXPS=n	n=0 (disable) =1 (enable)	If 1, Power Save mode is enabled.	GS1011M GS1500M
AT+MCSTSET=n	n=0 (disable) =1 (enable)	If 1, multicast reception is enabled.	GS1011M GS1500M
AT+WP=n	0 – 19dbm 1 – 17dbm 2 – 15dbm 3 – 13dbm 4 – 11dbm	On reception of this command, the transmit power is set to the supplied value. The desired power level shall be specified in ASCII decimal format. The value of the parameter can range from 0 to 7	GS1011M GS1500M

Command	Parameters	Responses / Effects	GS Module
	5 – 9dbm 6 – 7dbm 7 – 5dbm		
AT+WSYNCINTRL=n	<n> 1 to 65535.	Configure the sync loss interval	GS1011M GS1500M
AT+EXTPA=n	Not Supported n=0 (disable) =1 (enable)	Forces the adapter to standby and comes back immediately and causing all configured parameters and network connection will be lost Enable/disable the external PA	GS1011M Only
AT+PSPOLLINTRL=n	<n> 1 to 65535.	Set the keep-alive time interval	GS1011M Only
NETWORK INTERFACE			
AT+NDHCP=n	n=0 (disable) =1 (enable)	If 1, DHCP is enabled.	GS1011M GS1500M
AT+DHCPSRVR=	<Start/Stop>[,<Dns Option Disable>,<Gateway Option Disable>]	Prior to start the server, the adapter should be configured with a valid static ip address. Start/Stop: 1 is for start the server and 0 is for stop the server. Dns Option Disable: 1 is for disable and 0 is for enable with enable as default. Gateway Option Disable : 1 is for disable and 0 is for enable with enable as default.	GS1011M GS1500M
AT+NSET=	<Src Address>,<Net-mask>,<Gateway>	Static network parameters; overrides previous values.	GS1011M GS1500M
AT+DNS=n,<url>	n=0 (disable) =1 (enable), URL	URL is the DNS name associated to the DNS IP address	GS1011M GS1500M
AT+DNSLOOKUP=	<URL>,[<retry>,[<timeout=S>,<clear cache entry>]]	Query DNS server for address of hostname URL.	GS1011M GS1500M
AT+DNSSET=	<DNS1 IP>,[<DNS2 IP>]	Set the DNS server addresses to be used.	GS1011M GS1500M
AT+STORENWCONN		Store network connection parameters prior to transition to Standby.	GS1011M GS1500M
AT+RESTORENWCONN		Restore network connection parameters after wake from Standby.	GS1011M GS1500M

Command	Parameters	Responses / Effects	GS Module
AT+WKEEPALIVE=	<seconds>	This keep-alive timer will fire for every n seconds once the adapters associated. By default keepalive timer (default 0) is disabled and accepts keep-alive timer intervals from 0 to 255 seconds.	GS1500M Only
AT+MDNSSTART		Starts the mdns module of the adapter.	GS1011M GS1500M
AT+MDNSHNREG=	[<Host name>],<Domain name>	Register the host name for the mdns.	GS1011M GS1500M
AT+MDNSHNDEREG=	<host name>,<Domain name>	De-register the host name.	GS1011M GS1500M
AT+MDNSSRVREG=	<ServiceInstanceName>,[<ServiceSubType>],<ServiceType>, <Protocol>,<Domain>,<port>,<Default Key=Val>,<key 1=val 1>, <key 2=val 2>…..	Register services to the mdns.	GS1011M GS1500M
AT+MDNSSRVDEREG=	<ServiceInstanceName>,[<ServiceSubType>],<ServiceType>, <Protocol>,<Domain>	De-register the mdns services.	GS1011M GS1500M
AT+MDNSANNOUNCE	(none)	Announce the mdns services.	GS1011M GS1500M
AT+MDNSSD=	[<Service sub type>],<Service type>,<Protocol>,<Domain>	Discover the mdns service.	GS1011M GS1500M
AT+NARPCHACHEEN=n	Enable : 1 to start the caching and 0 to stop the caching.	Caching of the arp entries(max 8) in its non volatile memory and available across standby wakeup cycle.	GS1011M GS1500M
AT+NARPCHACHEDEL	(none)	Delete the arp entries from the adapter network stack.	GS1011M GS1500M
AT+NARP=?		List all arp entries present.	GS1011M GS1500M
CONNECTION MANAGEMENT			
AT+NCTCP=	<Dest-Address>,<Port>	Attempt TCP client connection to Destination; CONNECT <CID> if successful.	GS1011M GS1500M
AT+NCUDP=	<Dest-Address>,<Port>	Open UDP client socket to	GS1011M

Command	Parameters	Responses / Effects	GS Module
	[<,Src.Port>]	Destination; CONNECT <CID> if successful. The port range 0xBAC0 to 0xBACF may not be used.	GS1500M
AT+NSTCP=	<Port>	Start a TCP server on Port; CONNECT <CID> if successful.	GS1011M GS1500M
AT+NSUDP=	<Port>	UDP server on Port; CONNECT <CID> if successful. The port range 0xBAC0 to 0xBACF may not be used.	GS1011M GS1500M
AT+CID=?		Returns the current CID configuration.	GS1011M GS1500M
AT+NCLOSE=	<CID>	Close connection identified by CID.	GS1011M GS1500M
AT+NCLOSEALL	(none)	Close all open connections.	GS1011M GS1500M
AT+SETSOCKOPT=	<Cid>,<Type>, <Parameter>,<Value>, <Length>	Configure a socket which is identified by a Cid	GS1011M GS1500M
AT+SSLOPEN=	<cid>,[<certificate name>,<client certificate name >,<client key name>]	Open an SSL connection	GS1011M GS1500M
AT+SSLCLOSE=	<cid>	Close an SSL connection	GS1011M GS1500M
AT+HTTPCONF=	<Param>,<Value>	Configure an HTTP client	GS1011M GS1500M
AT+HTTPCONFDEL=	<param>	The adapter removes the HTTP configuration specified by the param.	GS1011M GS1500M
AT+HTTPOPEN=	<host>,<Port Number>, [<SSL Flag>,<certificate name>,<client certificate name>,<client key name>]	Open an HTTP client connection. This command opens an HTTP client on the adaptor and connects to the server specified by the host name or IP address	GS1011M GS1500M
AT+HTTPSEND=	<cid>,<Type>,<Timeout>, <Page>,[Size of content]	GET/POST HTTP data on the HTTP client connection	GS1011M GS1500M
AT+HTTPCLOSE=	<cid>	Close the HTTP client connection	GS1011M GS1500M
AT+NRAW=n	0 – Disable 1 – Enable NON-SNAP 2 – Enable All	0 Disables Raw Ethernet frame transmission/reception 1 Enables Raw Ethernet frames with NON-SNAP 802.2LLC headers.	GS1011M GS1500M

Command	Parameters	Responses / Effects	GS Module
		2 Enables all Raw Ethernet frames.	
AT+UNSOLICITEDTX=	Not Supported <Frame Control>,<Sequence Cntrl>,<Channel>,<Rate>,<WmmInfo>, <Receiver Mac>,<Bssid of AP>,<Frame Length>	Unsolicited data transmission Rate: is the rate at which the data to be send and the possible values are: RATE_1MBPS = 130, RATE_2MBPS = 132, RATE_5_5MBPS = 139, RATE_11MBPS = 150	GS1011M Only
AT+NCMAUTO=	<Mode>,<Start/Stop>[,Level],[<nvds store flag>] Mode: 0 is for station mode and 1 is for Limited AP mode. Start/Stop : 1 is for start the NCM and 0 is for stop the NCM Level: 0 is for L2+L3 Connection and 1 is for L2+L3+L4 connection. NVDS Store flag: 0 is to enable storage of NCM flag for auto connection (Default) 1 is for not storing NCM flag for auto connection	Starts the NCM by connecting to the AP or create a limited AP with the pre-configured parameters. If flag is not stored, NCM auto will not start automatically on boot up.	GS1011M GS1500M
AT+NCMAUTOCONF=	<Conf Id>,<Value>	Conf Id: is the id corresponding to the NCM configuration parameters. 0 CPU Wait Period 1 Power Save Period(not supported) 2 Know channel scan period 3 Specific channels scan period (not supported) 4 All Channel scan Period 5 L3 Connect Period 8 Known channel scan retry count 9 Specific channels scan retry count (not supported) 10 All Channel scan retry count 11 L3 Connect retry count	GS1011M GS1500M
AT+APCONF=n	Enable: 1 if for limited AP mode and 0 is for station mode, with default value as	NCM AP parameters can be configured using the auto connect.	GS1011M GS1500M

Command	Parameters	Responses / Effects	GS Module
	0.		
AT+FACTORYRESTORE	(none)	Restore the limited AP parameters for the ncm auto command to the values present in the factory default section of the adapter	GS1011M GS1500M
BATTERY CHECK			
AT+BCHKSTRT=	<Batt.chk.freq>	Start checking battery each 0 <Batt.chk.freq ≤ 100 packets transmitted.	GS1011M Only
AT+ BATTLVLSET=	<Warning Level>,<Warning Freq>,<Standby Level>	Set the battery warning/standby level to enable the adaptor's internal battery measuring logic	GS1011M Only
AT+BCHK=	<Batt.chk.freq>	Reset value of battery check frequency.	GS1011M Only
AT+BCHKSTOP		Stop checking battery.	GS1011M Only
AT+BATTVALGET		Retrieve the most recent battery check value.	GS1011M Only
POWER STATE MANAGEMENT			
AT+PSDPSLEEP	(none)	Enable SOC Deep Sleep power saving mode.	GS1011M GS1500M
AT+PSSTBY=	<x>[,<DelayTime>,<Alarm1 pol.>,<Alarm2 pol.>]	Request transition to Standby for x milliseconds.	GS1011M GS1500M
AUTO CONNECTION			
AT+WAUTO=	<mode>,<SSID>,<BSSID>, [channel]	Sets WiFi parameters to be used for Auto Connect.	GS1011M GS1500M
AT+NAUTO=	<Type>,<Protocol>,<Destination IP>,<Destination Port>	Sets network parameters to be used for Auto Connect.	GS1011M GS1500M
ATCn	n=0 (disable) =1 (enable)	IF 1, Auto Connect is enabled on next reboot or AT.	GS1011M GS1500M
ATA	(none)	Start Auto Connect, including association.	GS1011M Only
ATA2	(none)	Initiate auto connection when the Adapter is already associated with an	GS1011M Only

Command	Parameters	Responses / Effects	GS Module
		Access Point	
ATO	(none)	Return to a previous Auto Connect session; returns an error if no such session exists.	GS1011M GS1500M
PROVISIONING			
AT+WEBPROV=	<user name>,<passwd>	Provisioning through web pages	GS1011M GS1500M
AT+WEBPROVSTOP	None	Stops the webserver started with AT+WEBPROV= command	GS1011M GS1500M
AT+WEBLOGOADD=	<size> maximum size is 1788 bytes	Adding the Logo that will appear on the web pages used for provisioning.	GS1011M GS1500M
RF TEST			
AT+RFFRAMETXSTART=	<Channel>,<Power>,<Rate>,<No.Of.Times>,<Fr.Intrvel>,<FrameControl>,<DurationId>,<Sequence Control>,<frameLen>,<Preamble>,<Scrambler>[,<Dst Mac>,<Src Mac>]	Enable the asynchronous frame transmission	GS1011M Only
AT+RFFRAMETXSTART=	<Channel>,<Power>,<Rate>,<No.Of.Times>,<frameLen>,<Preamble>,<Scrambler>,<AIFSN>,<short guard>,<data pattern>	Enables the asynchronous data transmission with the parameter configured	GS1500M Only
AT+RFRXSTART=	<Channel>	Enable the asynchronous frame reception	GS1011M GS1500M
AT+RFWAVETXSTART=	<Unmodulated/TX99/TX100>,<Channel>,<Rate>,<PreambleLong>,<ScamblerOff>,<Power>,<short guard>,<Data Pattern>	Enable the modulated/un-modulated wave transmission	GS1011M GS1500M
AT+RFSTOP		Stop any of the RF tests transmission/reception	GS1011M GS1500M

SPI			
AT+SPICONF=	<clockpolarity>, <clockphase>	If clock polarity is 0, then inactive state of serial clock is low. If clock polarity is 1, then inactive state of serial clock is high.	GS1011M GS1500M

AT+WM=	3	If the P2P mode is being started for the first time, the command AT+WM=3 must be issued after executing AT+P2PSETDEV and AT+P2PSETWPS commands described in the next section. Once the parameters are set, P2P mode can be set directly	GS1500M Only
AT+P2PSETDEV=	<go intent>,<reg class>,<listen channel>,<operating channel>,<config methods>, <country>	*go intent* – 0 to 15, group owner intent value to be used for group negotiation *reg class* 81 – 11g channels 1 to 13 82 – 11g channel 14 115 – 11a channels 36 to 48 124 – 11a channels 149 to 161 *listen channel* – 1 byte value indicating channels 1 to 14 *operating channel* – 1 byte value indicating channels 1 to 14 *config methods* – 2 byte value indicating the WPS config methods supported *country* – indicates the country to operate in and it is a 3 char string.	GS1500M Only
AT+P2PSETWPS=	<device name>,<primary device type category>,<primary device type subcategory>, <uuid>,[Num secondary device types],[secondary dev type category],[secondary dev type subcategory], …up to 5 tuples	Set the important P2P WPS related attributes using single set command *device name* – 32 character string. This is the device name used to uniquely identify the device *primary device type category* – The 2 byte device category value. Refer to P2P specification document for device categories. *primary device type subcategory* – The 2 byte device subcategory value. Refer to P2P specification document for device subcategories. *uuid* – 16 byte UUID	GS1500M Only
AT+P2PSETATTR=	<attribute ID><attribute value>	By default, intra-bss distribution is enabled. 0 – disable 1 – enable	GS1500M Only
AT+P2PFIND=	<timeout>,<type>	*timeout*- If timeout is not specified, then it is considered as infinite	GS1500M Only

		type – 0 (social) or 1 (progressive). social scan only channels 1,6,11. progressive scans all channels. Default is 0	

AT+P2PLISTEN=	[timeout]	Start listening to P2P devices	GS1500M Only
AT+P2PGOSTART=	<channel>,[ssid-postfix],[persistent],[persistent group id]	P2P Group owner start. *channel* - Where the GO must be started *ssidPostfix* - Optional postfix to be used for the ssid *persistentflag* - Indicate if this is a persistent group. *persistent group id* - Identifier of the persistent group. If the persistent group with the given id exists, then it is invoked; otherwise a new persistent group is created and stored with the given id. Currently only 1 persistent group information can be saved.	GS1500M Only
AT+P2PGOSTART		Invoke a persistent group that was created earlier.	GS1500M Only
AT+P2PPD=	<peer address>,<config method>	Sends provisioning discovery request to given peer with the given config method and wait for provisioning discovery response. *peer address*: MAC address of the peer P2P device to send provisioning discovery request. *config method*: Config method to use. 0 – Request peer to push button 1 – request peer to display PIN that we would use for connect/join 2 – request peer to enter PIN we would display	GS1500M Only
AT+P2PGRPFORM=	<peer address>,<channel>,<WPS Method>, ,[PIN],[GO intent],[auth],[persistent]	Group formation includes group owner negotiation, provisioning and establishing data connection. peer address: MAC address of the peer P2P device to connect to. *channel*: channel on which to connect. "*WPS Method*" 4: Use push button for provisioning (PBC) 2: Display configuration information. i.e Display a PIN that peer has to enter	GS1500M Only

		3: Key-in configuration information. Enter the pin *PIN* : WPS pin, if 2 or 3 is selected above. *GO intent*: GO intent value for GO negotiation. *Auth*: If auth is specified as 1, 1500 is in listen mode, and it can respond to GO-Negotiation requests *persistent*: Set if the group should be a persistent group. If not specified, it is taken as zero	
AT+P2PJOIN=	<GO device address or interface address>,<wps method>,[pin]	*GO device address or interface address* – device address or interface address of group owner *wps method* – WPS method to use for WPS procedure 0 – pbc 1 – display 2 – keypad *pin* -Optional. It should be entered in following cases: If wps_method is keypad, then the entered pin is passed (displayed by peer) if wps_method is display, then the pin displayed by us is passed (keyed by peer)	GS1500M Only
AT+P2PINVITE=	<peer address>,[GO device address]	Sends an invitation request to the given peer address to join an active group.	GS1500M
AT+WD	(none)	Disconnect P2P client or Group owner	GS1500M
AT+P2PSTOP	(none)	P2P Stop Operation	GS1500M Only
MISCELLANEOUS			
AT+FWUP=	<SrvIp>,<SrvPort>, <SrcPort>, <retry>	Get a firmware upgrade from the server address/port to the adapter port SrcPort.	GS1011M Only
AT+SOTAFWUPCONF=	<param>,<value>	0,Server IP 1,Server Port 2, Proxy Preset (0|1) 3, Server IP if proxy preset=1 4, Server Port if proxy preset=1	GS1011M GS1500M

		5, SSL Enable (0|1) 6, CA Cert Name 7,WLAN Binary Request URL 8,App 0 Binary Request URL 9,App 1 Binary Request URL Note: In case of HTTP/S through Proxy, the request URL should be Absolute path and not the Relative path.	
AT+SOTAFWUPSTART=	<value>	Using the header configured using at+httpconf command, starts the http connection, download the new images and starts updating the firmware. The <value> indicates which of the 3 binaries need to be upgraded: 3 – Only App0 and App1 4 – Only WLAN 7 – All Three Binaries	GS1011M GS1500M
AT+SETTIME=	<dd/mm/yyyy>, <HH:MM:SS>	Set the adaptor system time	GS1011M GS1500M
AT+GETTIME=?		Provides the current system time followed by the standard command response to the serial interface. The time format comes on the serial interface as follows: =<dd/mm/yyyy>,<HH:MM:SS>,System time in milliseconds since epoch(1970).	GS1011M GS1500M
AT+NTIMESYNC=	<Enable>,<Server IP>,<Timeout>,<Period>,[<frequency>]	This command returns OK/ ERROR/ INVALID INPUT. The time set by this command can be verified using the AT+GETTIME=? Note that the time set will be UTC/GMT.	GS1011M GS1500M
AT+DGPIO=	<GPIO-NO>, <SET/RESET(0/1)>	Set or reset (high/low) a GPIO pin	GS1011M GS1500M
AT+ERRCOUNT=		The error counts include: Watchdog reset counts Software reset counts Wlan abort/assert counts	GS1011M GS1500M

AT+VER=?		Return the current adapter firmware versions.	GS1011M GS1500M
AT+PING=	<IP>,[[Trails],[<Interval>],[<Len>],[<TOS>],[<TTL>],[<PAYLOAD>]]	PING the IP address provided. Trails = 0 will ping until <Esc> C is issued.	GS1011M GS1500M
AT+TRACEROUTE=	<IP>,[[Interval],[<MaxHops>],[<MinHops>],[<TOS>]]	Trace the route to the IP address provided.	GS1011M GS1500M
AT+ASYNCMSGFMT=n	0 – Disable this feature 1 – Enable this feature	S2w Adapter supports an enhanced asynchronous notification method.	GS1011M GS1500M
AT+MEMTRACE		Sends the memory trace information to the serial interface, including: Number Of Allocation Number Of Free Current Used Memory in bytes Peak Memory Usage in bytes Memory Details of currently used allocations in the following format: *<address>,<line number>,<size>,<module name>* Number of Allocations to be freed	GS1011M GS1500M
AT+ANTENNA=n	1 = PCB antenna 2 = UFL Antenna	The value of <n> specifies whether the PCB antenna or the external UFL antenna is selected.	GS1500M Only
AT+RESET	*(none)*	Resets the adapter.	GS1011M GS1500M
AT+WSTAT	*(none)*	Request that the GS1500M send statistics that it maintains, including Rx, Tx and encryption errors.	GS1500M Only
AT+BDATA	1= Enable 0= Disable	Enable bulk data	GS1011M GS1500M

Parameters in [ ] are optional. Values are expressed as ASCII text unless otherwise specified.

Default return messages are:

STATUS	MESSAGE (VERBOSE ENABLED)	MESSAGE (VERBOSE DISABLED)
VALID INPUT	OK	0
INVALID INPUT	ERROR: INVALID INPUT	2

Some commands can return other error messages; see [1] for more information.

Escape Sequence	Description
<Esc>S CID	This escape sequence selects the specified Connection ID as the current connection. This switches the connection to be used without exiting from the Data mode of operation. Use this sequence to send data from a UDP client (must be done before data can be received by that client). Example: <Esc>S10123456789<Esc>E where 1 is the UDP client CID and 012...9 is the data to be sent.
<Esc>U CID remote address: remote port:	This escape sequence is used when sending and receiving UDP data on a UDP server connection. The remote address and remote port is transmitted in ASCII text encoding and terminated with a ':' character. Example: <Esc>U4192.168.1.1:52:<data><Esc>E
<Esc>u CID <remote address> <remote port>	This escape sequence is used when sending and receiving UDP data on a UDP server connection. The remote address and remote port is transmitted in binary encoding with the MSB transmitted first. The following example shows the header to transmit a UDP packet using binary addressing taking up 9 bytes (d denoting decimal value): <Esc>u4<192d><168d><1d><1d><0d><52d><data><Esc>E
<Esc>E	End-of-Data sequence, indicating end of a transmit frame, and start of transmission. The data received is sent on the network, and the interface returns to Command mode.
<ESC><F><fd><file data>	Write the file in to File system. AT+FWRITE will return OK/ERROR.
<Esc>K<CID><Length><type><URI>	This is sent once the URL is fetched by the Remote Http client
<Esc>G <CID><Length><tag name>:<value>	This is sent repeatedly for each tag for the XML data.
<Esc>C	This sequence causes transmission of the data received, after which the currently selected connection is closed, and the interface returns to Command Mode. Any buffered data is sent before the connection is closed.
<Esc>O	"OK": This sequence is sent to the serial host by the Serial2WiFi Adapter upon successful completion of either the <Esc>S or <Esc>E commands.
<Esc>F	"FAILURE": This sequence is sent to the host by the Serial2WiFi Adapter if an <Esc>S or <Esc>E command failed.
<Esc>xxx	If an unknown character 'xxx' is detected after an <Esc> character the <Esc> and the <xxx> character are ignored.

<Esc>R:<Length>:<Dst.Addr><Src.Addr><EtherType><RawPayload>	This sequence is used to transmit or receive a raw Ethernet frame.
<Esc>Z<Cid><Data Length xxxx 4 ascii char><data>	Each escape sequence starts with the ASCII character 27 (0x1B), the equivalent to the ESC key. The contents of < > are a byte or byte stream. ► Cid is connection id (udp, tcp, etc) ► Data Length is 4 ascii char represents decimal value i.e. 1400 byte (0x31 0x34 0x30 0x30). ► Data size must match with specified length. Ignore all command or esc sequence in between data pay load.
<Esc>Y<CID> remote address: remote port:<Data Len 4 digit ascii><Data>	This escape sequence is used when sending UDP data on a UDP server connection. When this command is used, the remote address and remote port is transmitted in ASCII text encoding and terminated with a ':' character. Example: <Esc>Y4192.168.1.1:52:<Data Len><data>
<Esc>y<CID> <remote address> < remote port><Data Len 4 digit ascii><Data>	This escape sequence is used when receiving UDP data on a UDP server connection. When this sequence is used, the remote address and remote port is transmitted in ASCII text encoding and separated be a space( ) character. Example: <Esc>y4192.168.1.1 52<Data Len><Data>

The contents of < > are a byte or byte stream, except for <Esc>; literals outside brackets are ASCII characters.

Reference

1. Serial-to-WiFi Adapter Guide, GS-S2WF-APG, GainSpan Corporation.