Raw IR or IrDA®-to-WiFi Bridge, Battery Powered
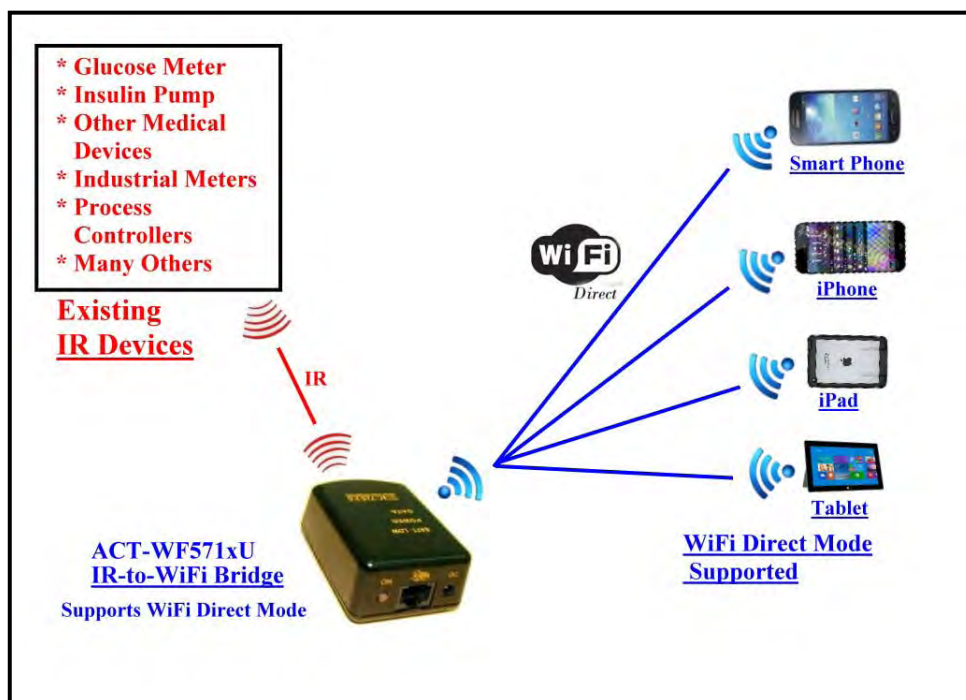
ACT-WF5711U / ACT-WF5712U

ACT-WF571xU provides an easy, direct bridge solution between Raw IR (ACT-WF5711U) or IrDA® (ACT-WF5712U), and WiFi Direct or WiFi Cloud, for data transmission. It is **OS independent**.

It converts data received through Raw IR or IrDA from sender, to WiFi and IoT format, or vice versa. It is battery powered for field application, in addition to optional AC.
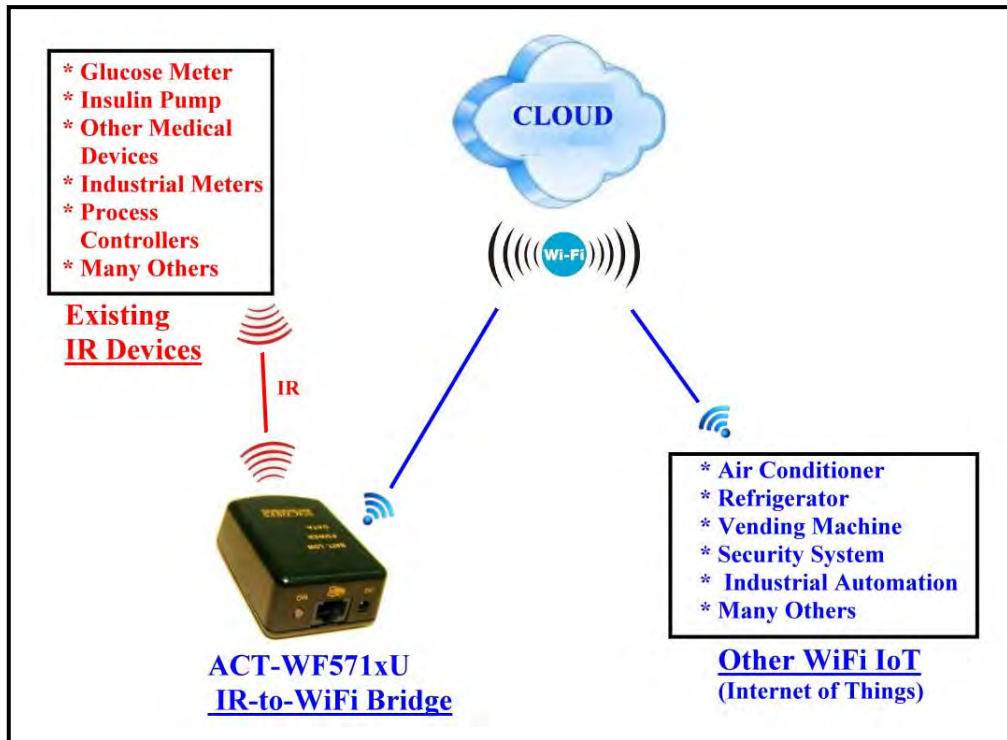
Application:

- ACT-WF5711U (Raw IR) and ACT-WF5712U (IrDA) can be used to link existing IR devices to Internet via WiFi access point. It can upload/download data via IP (Internet Protocols).

- ACT-WF5711U (Raw IR) and ACT-WF5712U (IrDA) support WiFi Direct mode, can send IR Data to smart phone, tablet, iPad, iPhone, WiFi Direct-enabled mobile devices, without Internet.

Application Scenario 1 – WiFi Direct Mode

* Glucose Meter
* Insulin Pump
* Other Medical Devices
* Industrial Meters
* Process Controllers
* Many Others

Existing IR Devices

IR

ACT-WF571xU
IR-to-WiFi Bridge
Supports WiFi Direct Mode

WiFi Direct

Smart Phone

iPhone

iPad

Tablet

WiFi Direct Mode Supported

ACT-WF571xU enables any IR-enabled devices to link with any WiFi Direct-enabled mobile devices, without internet

Application Scenario 2 – WiFi Cloud

* Glucose Meter
* Insulin Pump
* Other Medical Devices
* Industrial Meters
* Process Controllers
* Many Others

Existing IR Devices

IR

CLOUD

Wi-Fi

ACT-WF571xU IR-to-WiFi Bridge

* Air Conditioner
* Refrigerator
* Vending Machine
* Security System
* Industrial Automation
* Many Others

Other WiFi IoT (Internet of Things)

ACT-WF571xU enables any IR-enabled devices to link with the Cloud directly as IoT, via WiFi access point, without PC

Internet of Things (IoT):

- **IoT devices:** Can communicate with each other remotely; as nodes, gateways, and the cloud.
- **Nodes:** Devices used to collect information or control things, typically include processors, sensors, connectivity, power management and some analog signal chain.
- **Gateways:** Bridge the node and the Internet, and contain two technologies: a protocol to connect to the nodes, and the other one to connect to the Internet such as Ethernet or Wi-Fi.
- **The Cloud:** Where information is stored and processed into analytics, can return commands to the nodes or a personal technology device. Cloud servers require "always on" capability.
- **Future IoT devices:** Can analyze the information available and make decisions for themselves.

Raw IR or IrDA-to-WiFi Bridge, Battery Powered

ACT-WF5711U / ACT-WF5712U

Features and Benefits:

- Automatically converts IR (Raw IR or IrDA) data to WiFi Direct, or WiFi IoT formats, and vice versa.
- Completely offloads WiFi and Internet protocols from the Application microcontroller.
- 802.11 b/g/n station, Access point and WiFi Direct modes are supported.
- . BRCM WICED fully compatible
- Management through the local network and the cloud
- Customized cloud solution
- API for Windows, Android APP and iOS APP (custom design)
- Low-power radio and advanced low-power modes.
- In Raw IR mode: Configurable baud rates; 1.2k, 2.4k, 4.8k, 9.6k, 19.2k, 38.4k, 57.6k and 115.2k bps.
- In IrDA mode: Supports IrDA-1.0 (9.6K~115.2K bps). 1.63 μ s IR pulse for Raw IR and IrDA modes.
- Applications: Lighting Control, Precision Agriculture, Smart Home, Building Automation, Toys, Health and Wellness Monitoring, Security, Robots, Smart Grid, Instrument, Industrial Automation.

Specifications		
Standards		WiFi 802.11 b/ g /n (single stream) ; IrDA-1.0 or Raw IR
MCU -WiFi		ARM 32-bit CortexTM-M3
Baud Rate		**IR:** 1.2k, 2.4k, 4.8k, 9.6k (Default), 19.2k, 38.4k, 57.6k and 115.2k bps
		WiFi: 802.11b = 1-11 Mbps; 802.11g = 6-54 Mbps; 802.11n(2.4GHz) = 7.2-72.2 Mbps
WiFi Specification	Frequency Band	2.4 GHz
	Transmit Power	+17.0 dBm @802.1b; +13dBm @802.11g; +11dBm @802.11n
	Min. receiving sensitivity	−80 dBm
	Hardware encryption	WEP, WPA/WPA2
	Antenna	1. On board PCB antenna; 2. External antenna pin, support antenna diversity
	Input/Output	1. UART, 2. GPIO, 3. I2S
Advanced 1x1 802.11n feature	1. full/half guard interval, 2. frame aggregation, 3. space time block coding (STBC), 4. low density parity check (LDPC) encoding	
LED Indicators		Data , Power & Connection Activities LED
Power	(1) 4 x AAA size 1.5V	(2) 7.5 V / 300 mA AC-DC power adapter, 1.3 mm dia. Connector
Physical Dimensions & Environment	Dimensions / Weight	76.5L x 48.5W x 28.0H mm (3.01x1.91x1.10 in); 50 g (1.76 oz) w/o Batt.
	Operating / Storage Temp	0º C ~ 55º C (32º F ~ 131 º F) / -20º C ~ 80º C (-4º F ~ 176º F)

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