

Technical description of the **FASTCHECKER FC01**:



FASTCHECKER FastChecker FC01 is a pocket size device that was designed to verify the performance of a UHF Tag at its power threshold point for each frequency step between 840~960 MHz.

- UHF RFID high performance equipment designed with Impinj INDY R2000 module
- USB interface for power supply and communication, which reaches the most simply connection
- With external 0dBi wideband dipole antenna, tag measurements distance to 3 meters
- LED light and buzzer, to easy control of IO start communication
- Suitable as a desktop device for tag evaluation

O **FASTCHECKER FC01** is not a regular RFID UHF Reader and has not the associated functions of it. Therefore it is not suitable to operate as a RFID UHF reader.

It is used to make comparisons of performance of tags when applied to different products presenting results in function of the whole spectrum of frequencies from 840 to 960 MHz. This way it shows if the tag is with its maximum sensitivity within the range in which a traditional reader will work. This cannot be assessed using a traditional reader - this is the main function of the FASTCHECKER FC01.

Product Marketing

The FASTCHECKER FC01 was developed and is marketed by MB Engenharia (Michel Normanha Bardauil Eletrônico ME) www.mb-engenharia.com through the website www.getfasttag.com. Sales are restricted to RFID companies or professionals.

What's included?

- **FASTCHECKER FC01**
- **Broadband Dipole Antenna**
- **USB cable**
- **Pen drive with Fastchecker Software (FC01 software)**

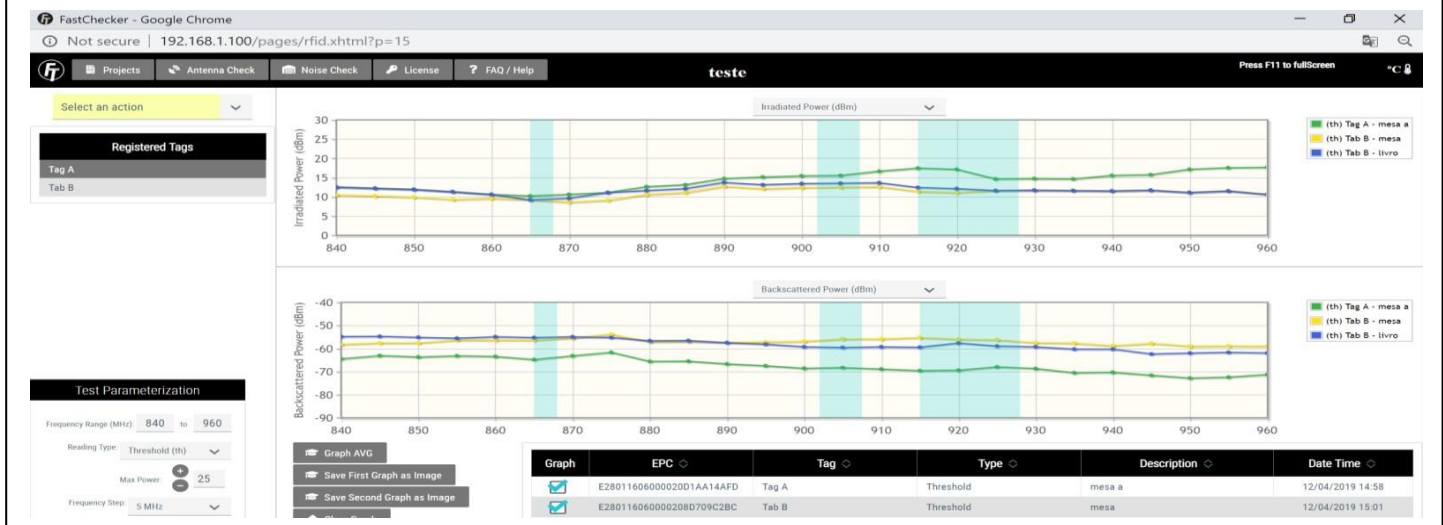
Features

- Compact size.
- Frequency range from 840 MHz to 960 MHz.
- Auto License release
- No power or battery required, powered by USB port
- RoHs compliant
- Antenna match check
- Automatic thermal protection
- Shows module power at Tag threshold operation for each frequency step
- Test results and Analysis Projects easy to view at free FC1 software
- Test Plan Setup - define start and stop frequency from 840~960MHz
- Auto-Save test data
- Maximum of 50% duty cycle during test — reduces RF interference, power consumption, and energy costs.
- Can be operated with any external antenna
- Power over USB port — simplifies deployment and dramatically reduces cost by eliminating the need for external power supply.

Product Operation

For each frequency of 840 to 960 MHz in hops of 5 or 10 MHz it determines the minimum power necessary for a complete conversation between the FASTCHECKER FC01 and the tag using the communication protocol EPC C1G2 / ISO18000-6C.

As an example, the figure below shows the result of the analysis of 3 different tags by FASTCHECKER FC01. The graphs show the minimum power required to access the tag (threshold) as well as the backscattered power value for each of the measurements made. The execution time for testing a tag is approximately 1 minute.

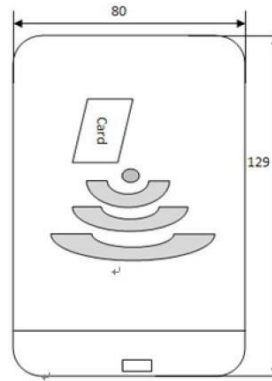
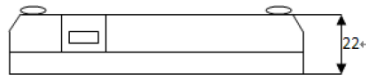


Technical Data

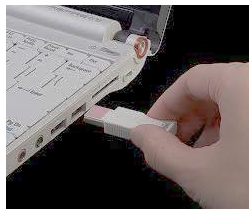
Item	Technical Data	Unit	Remark
Fixed current	380	mA	USB Power supply @15dBm
Standby current	≤100	mA	Connect by USB
Frequency range	840~960	MHz	
Frequency interval	5	MHz	
Maximum power	25	dBm	
Minimum Power	5	dBm	
Power Step	0.5	dBm	
Label protocol	EPC C1G2/ISO18000-6C		
Communication	USB		
Adjacent channel power leaking ratio	≤-40 dB ±1CH ≤-60 dB ±2CH		
Frequency stabilizing ratio	±10 ppm -25°C~+40°C ±20 ppm 40°C~+60		
Overheat Protection	70	°C	
Module Protection (Power + VSWR)	10	-	

Appearance and Structure

- Dimension(Length X Width X Height) : 129x80x22mm
- Weight : 280g



Interface



Pin	Signal name	Signal Direction	Function/compatibility description	Remark
1	VCC	Input	USB supply	
2	GND	Input	USB supply	
3	USB_D+	Bi-direction	USB connect computer	
4	USB_D-	Bi-direction	USB connect computer	
5	GPIO1	Bi-direction	Connect LED, Red	Computer control
6	GPIO2	Bi-direction	Connect to buzzer	Computer control

Environment Requirement



No	Item	Technical data	Unit	Remark
1	Working temp.	-20~+70	℃	
2	Storage temp.	-40~+85	℃	
3	Relative humidity	5%~95%	RH	Non-condensation

IP



First digit:

Ingress of solid objects 5 Limited protection against dust ingress. (no harmful deposit)

Second digit:

Ingress of liquids 4 Protected against splash water from any direction.

Drop Test



No damages after 10 times random drop at 1m high at a carpet floor. This apply to the FC01 product without antenna and cable.