

FASTCHECKER FC01 DATASHEET:



FASTCHECKER FC01 is a laboratory instrument for evaluating the performance of a UHF tag. It provides important information that is hidden when using a conventional UHF reader.

The FASTCHECKER FC01 is not a traditional RFID reader. It does not perform the functions of a reader and thus cannot operate as such.

It serves to make tag performance comparisons when applied to different products delivering results across a limited band of 902-928 MHz frequency spectrum. This shows whether the tag is at its maximum sensitivity within the range that a traditional reader will work out. This cannot be evaluated using a traditional reader - this is the main function of FASTCHECKER FC01.

Easy to connect via a USB cable, its operation is very simple via a computer using the FASTCHECKER FC01 control software.

Product Marketing

The FASTCHECKER FC01 was developed and is marketed by MB Engenharia (Michel Normanha Bardaui ME) www.mb-engenharia.com through the site www.getfasttag.com. Sales are given to UHF RFID companies and RFID professionals.

What are included

- *FASTCHECKER FC01 unit*
- *Wideband Dipole Antenna*
- *USB Cable*
- *Flash Drive with Fastchecker Software (FC01 software)*
- *10 dB Attenuator*



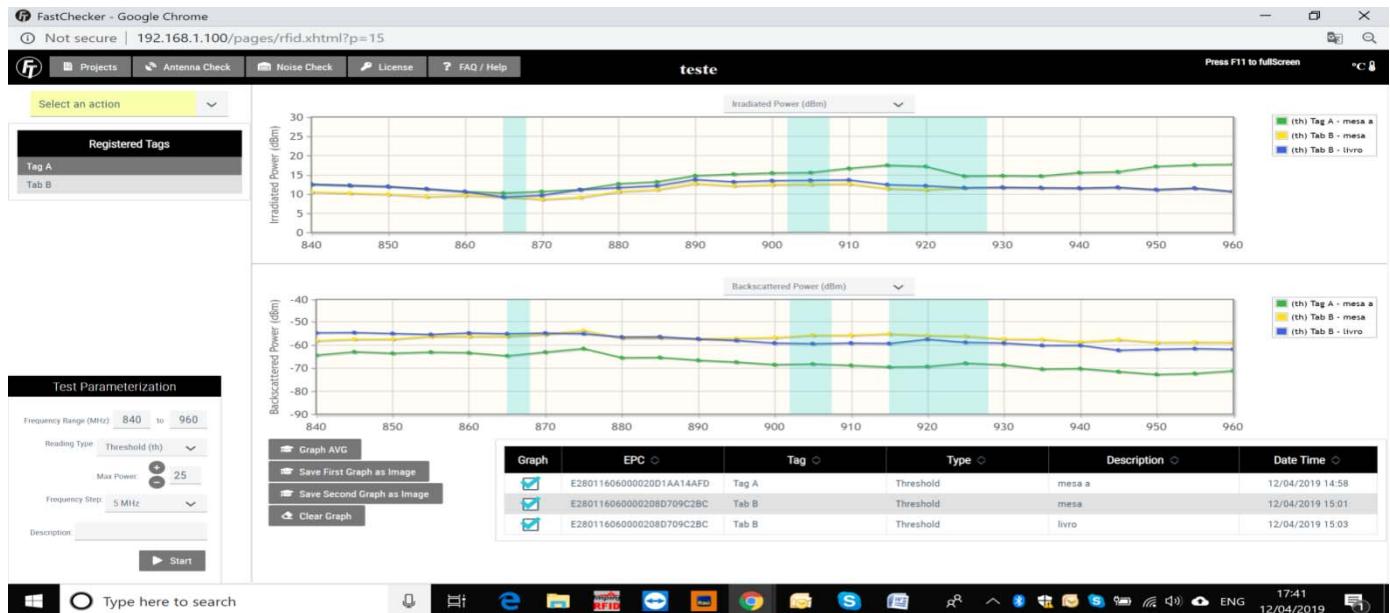
Highlights

- Compact size
- Frequency coverage from 800 to 1000 MHz or from 840 MHz to 960 MHz
- Self-Licensing Function
- Powered by USB port
- RoHS compatible (lead free and other harmful components)
- Antenna Check
- Thermal protection
- Shows the power to reach the operating threshold for each frequency.
- Test plan setup - manually set maximum power and start and end frequencies
- Auto function saves the test data
- Maximum 50% duty cycle during testing

Product Operation

For each frequency from 902-928 MHz in 0.25, 1, 5 or 10 MHz jumps it determines the minimum power required for full conversation between the FASTCHECKER FC01 and the tag using the EPC C1G2 / ISO18000-6C communication protocol.

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 of each of the measurements taken. The execution time of a tag test is approximately 1 minute.

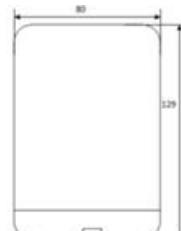
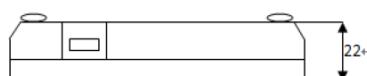


Technical Data

Item	Technical Data	Unit
Operation Voltage	5	V _{DC}
Maximum Operation Current	50	mA
Standby Current	≤20	mA
Operation Frequencies	902-928	MHz
Frequencies Step	0.25 ; 1 ; 5 or 10	MHz
Maximum RF Output Power	25	dBm
Maximum Irradiated Power	27	dBm
Power Step Adjustment	1	dB
Communication Protocol	EPC C1G2/ISO18000-6C	-
Communication Port Control	USB	-
Adjacent Channel Attenuation	≤-40 dB ±1CH ≤-60 dB ±2CH	-
Frequency Stabilization	±10 ppm -25°C~+40°C ±20 ppm 40°C~+60	-
Thermal Protection	70	°C
RF module protection(Power + VSWR)	10	-

Dimensional

- Dimension(Length X Width X Height) : 129×80×22mm
- 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

Environmental



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

IP Rating

IP54 - Protected from limited dust ingress. Protected from water spray from any direction.

Drop Test



No damage after 10 free falls at 1m high on a carpet floor. Applicable to the product without its antenna and cable.

FCC STATEMENT :

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.

Warning: Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE: 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 or more 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 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.