

ANT-010

Dual Band antenna PCS 850/1900 (with FME connector)

Description

Preliminary



Contents

0	INTRODUCTION	3
0.1	GENERAL.....	3
1	SECURITY	4
1.1	GENERAL.....	4
1.1.1	EXPOSURE TO RF ENERGY	4
1.1.2	EFFICIENT OPERATION.....	4
1.1.3	ANTENNA CARE	4
1.1.4	DRIVING	4
1.1.5	ELECTRONIC DEVICES.....	5
1.1.6	VEHICLE ELECTRONIC EQUIPMENT	5
1.1.7	MEDICAL ELECTRONIC EQUIPMENT	5
1.1.8	AIRCRAFT	5
1.1.9	CHILDREN	5
1.1.10	BLASTING AREAS	5
1.1.11	NON-IONISING RADIATION	5
2	INSTALLATION INSTRUCTIONS	6
3	ANTENNA SPECIFICATIONS	7
3.1	ELECTRICAL SPECIFICATION OF PCS 859/1900 ANTENNA	7
4	MECHANICAL SPECIFICATION	8
4.1	ENVIRONMENTAL SPECIFICATION	8
5	HOUSING	9

Version history

Version number	Author	Changes
1.00	Fadil Beqiri	Initial version

Cautions

Information furnished herein by FALCOM are accurate and reliable. However, no responsibility is assumed for its use.

Please read carefully the safety precautions.

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0 Introduction

0.1 General

This manual describes the electrical, mechanical and environmental specifications of the FALCOM device ANT-010. It contains information about purpose and application area of the device.

The ANT-010 represents a dual band PCS 850/1900 antenna with a magnetic base integrated. For optional performance the antenna must be placed on the metal surface, so that a ground plane is formed. The antenna is delivered with 3 m cable set with FME-male connector. The ANT-010 can be used with each type of GSM equipment that provides the proper electrical and mechanical antenna interfaces. A range of cable adapters as an additional accessory is provided by FALCOM too.

Users are advised to quickly proceed to the “Security” chapter and read the hints carefully.

1 Security

IMPORTANT FOR THE EFFICIENT AND SAFE OPERATION OF THIS ANTENNA. READ THIS INFORMATION BEFORE USE !

1.1 GENERAL

The ANT-010 utilises the GSM standard for cellular technology. GSM is a newer radio frequency (« RF ») technology than the current FM technology that has been used for radio communications for decades. The GSM standard has been established for use in the European community and elsewhere.

1.1.1 EXPOSURE TO RF ENERGY

There has been some public concern about possible health effects of using GSM or GSM/GPS equipment. Although research on health effects from RF energy has focused for many years on the current RF technology, scientists have begun research regarding newer radio technologies, such as GSM. After existing research had been reviewed, and after compliance to all applicable safety standards had been tested, it has been concluded that the product is fit for use.

If you are concerned about exposure to RF energy there are things you can do to minimise exposure. Obviously, limiting the duration of your calls will reduce your exposure to RF energy. In addition, you can reduce RF exposure by operating your cellular equipment efficiently by following the below guidelines.

1.1.2 EFFICIENT OPERATION

For your equipment to operate at the lowest power level, consistent with satisfactory call quality:

Extend the antenna cable as long as possible verify.

Do not hold the antenna when it is « IN USE ». Holding the antenna affects call quality and may cause the modem to operate at a higher power level than needed.

1.1.3 ANTENNA CARE

Do not use a damaged antenna. If a damaged antenna comes into contact with the skin, a minor burn may result. Replace a damaged antenna immediately.

1.1.4 DRIVING

Do not install on the front windshields you can impair the sight of the driver.

1.1.5 ELECTRONIC DEVICES

Most electronic devices, for example in hospitals and motor vehicles are shielded from RF energy. However RF energy may affect some malfunctioning or improperly shielded electronic equipment.

1.1.6 VEHICLE ELECTRONIC EQUIPMENT

Check your vehicle manufacturer's representative to determine if any on board electronic equipment is adequately shielded from RF energy.

1.1.7 MEDICAL ELECTRONIC EQUIPMENT

Consult the manufacturer of any personal medical devices (such as pacemakers, hearing aids, etc...) to determine if they are adequately shielded from external RF energy.

Do not use the antenna or turn your connected equipment OFF in health care facilities when any regulations posted in the area instruct you to do so. Hospitals or health care facilities may be using RF monitoring equipment.

1.1.8 AIRCRAFT

Do not use the antenna before boarding any aircraft.

Use it on the ground only with crew permission.

Do not use in the air.

To prevent possible interference with aircraft systems, Federal Aviation Administration (FAA) regulations require you to have permission from a crew member to use the antenna while the plane is on the ground. To prevent interference with cellular systems, local RF regulations prohibit using your device whilst airborne.

1.1.9 CHILDREN

Do not allow children to play with your antenna. It is not a toy. Children could hurt themselves or others (by poking themselves or others in the eye with the antenna, for example). Children could damage the antenna.

1.1.10 BLASTING AREAS

To avoid interfering with blasting operations, turn your unit **OFF** when in a «blasting area» or in areas posted: «turn off two-way radio». Construction crew often use remote control RF devices to set off explosives.

1.1.11 NON-IONISING RADIATION

As with other mobile radio transmitting equipment, users are advised that for satisfactory operation and for the safety of personnel, it is recommended that no part of the human body be allowed to come too close to the antenna during operation of the equipment.

The antenna shall be mounted in such a position that no part of the human body will normally rest close to any part of the antenna.

2 Installation instructions

Determine the mounting location for the ANT-010 antenna. The antenna should be mounted in a horizontal position. The antenna is designed for mounting on a sheet-metal structure.

The bottom side of the ANT-010 has a magnetic base, which should be attached only to a metal sheet.

Extend the antenna cable and connect the FME-male connector of the antenna to the FME-female antenna interface of the GSM equipment.

Hints

- Proper functionality requires on-metal-mounting
- ANT-010 is water resistant.



3 Antenna specifications

3.1 Electrical specification of PCS 859/1900 antenna

Parameter	Specification	
Frequency range	Uplink	824-849 MHz and 1850-1910 MHz
	Downlink	869-895 MHz and 1930-1990 MHz
Gain	3dB	
VSWR	< 1.5 : 1	
Polarization	Vertical	
Impedance	50 Ω	

Figure 1: Electrical specification for PCS 850/1900 antenna

4 Mechanical Specification

Parameter	Specification
Weight	80 gr.
Size	26 x 990 mm (diameter x high)
Cable	3 m RG174 A/U standard
Connector	FME-male
Mounting	magnetic base
Housing Color	Black

Figure 2: Mechanical specification of ANT-010

4.1 Environmental Specification

Parameter	Specification
Operating Temperature	$-30\text{ °C} < T < +80\text{ °C}$
Storage Temperature	$-40\text{ °C} < T < +85\text{ °C}$
Vibration	N/A
Humidity	95% ~ 100% RH

Table 3: Environmental specification of ANT-010

5 Housing

