

RSN-CDMA-23

Description



R-tron Inc.

 CAUTION

This equipment is indoor use and all the communication

Abbreviations

Abbreviations used in this manual, in iDEN Add-On Filter Box.

AC	Alternating Current
ANT	Antenna
ATT	Attenuator / Attenuation
CDMA	Code Division Multiple Access
DC	Direct Current
DL	Downlink
UL	Uplink
GND	Grounding
GUI	Graphic User Interface
LED	Light Emitting Diode
PSU	Power Supply Unit
MCU	Main Control Unit
RF	Radio Frequency
TEMP	Temperature
VSWR	Voltage Standing Wave Ratio

1. Introduction



RSN-CDMA-23-C repeater is used to fill out areas in CDMA mobile systems, such as base station fringe areas, business and industrial buildings, etc.

RSN-CDMA-23-C receives signals from a base station, amplifies and retransmits the signals to mobile stations. Also it receives, amplifies and retransmits signals in the opposite direction. Both directions are served simultaneously with the following features:

- 65MHz bandwidth service
- Band Selection (5MHz , 10MHz , 15MHz , 5MHz+5MHz , 10MHz+5MHz, 15MHz+5MHz) service
- Roll Offs: 45 dBc at 1 MHz outside pass-band

The RSN-CDMA-23-C Repeaters are controlled by powerful microprocessors. Operational status LEDs are visible on the bottom of the repeater.

The repeater works with convection cooling without fan because it has a radiator behind the body of RSN-CDMA-23-C.

Operational parameters, such as gain, power levels, alarm condition, Automatic Gain Control condition, etc. are set using a desktop or notebook and the Hyper Terminal, which communicate, either locally or remotely via the UTP(Unshielded Twisted Pair Wire) cable, with the repeater.

2. Description

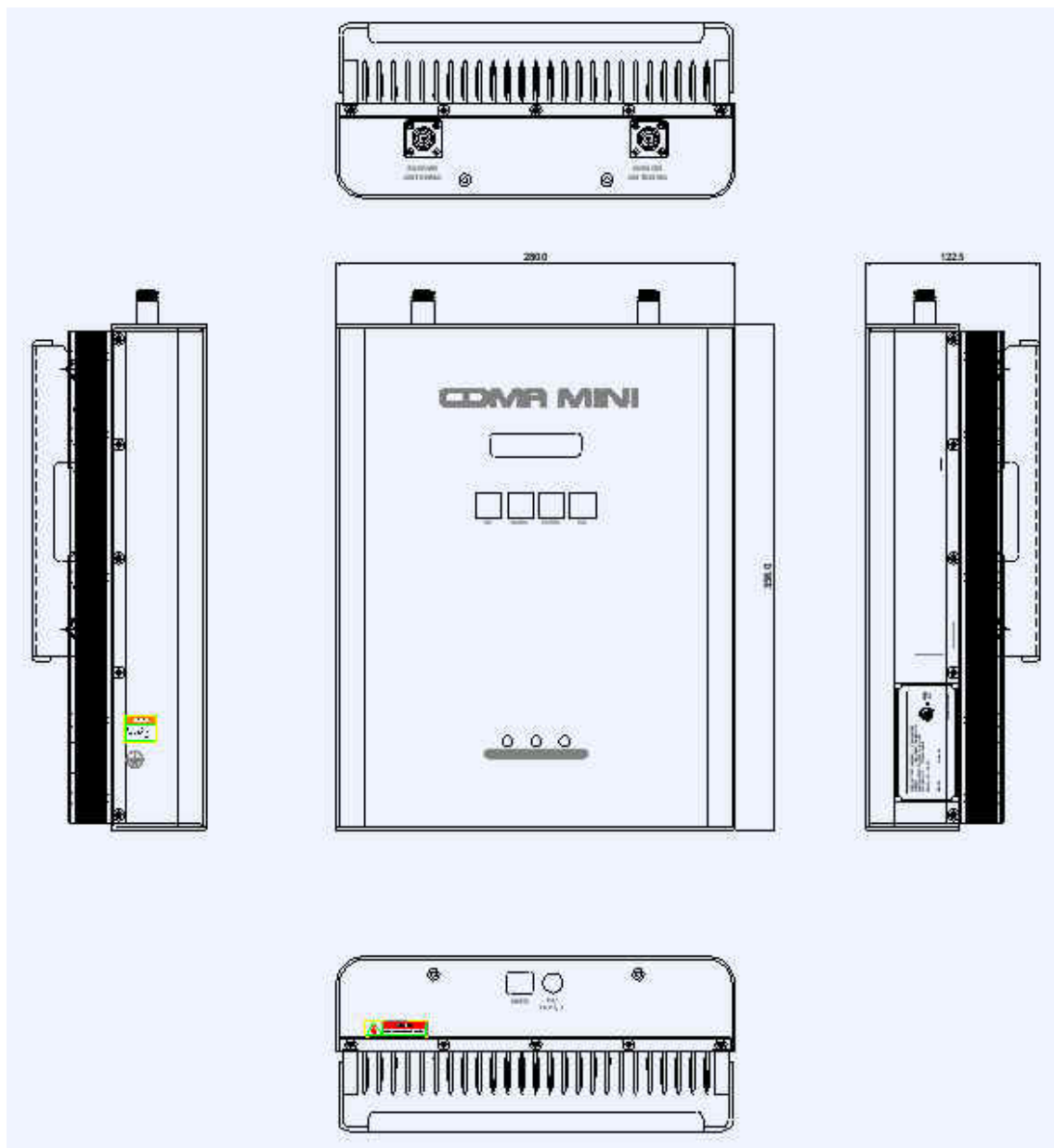
2.1 System Specifications

2.1.1 Electrical Specifications

Parameter		Down Link	Up Link	Remark
Operating Frequency		1930MHz~1995MHz	1850MHz~1915MHz	65MHz
Output Power / total		+23dBm		
Gain		50~80dB±2dB		
Gain Control Range		30dB / 1dB step		
Noise Figure	Max. Gain	5.0dB	5.0dB	
	Min. Gain		12.0dB	
Gain Ripple		2dB		Peak-to-Peak
Roll Offs		Min 45dBc @±1MHz		5/10/15M 5+5/10+5/15+5M
Spurious Emission	±885KHz(30KHz)	45dBc		Pout=23dBm
	±1.98MHz(30KHz)	50dBc		
	±2.25MHz(1MHz)	-13dBm		
Group Delay		MAX 5us		
Return Loss/VSWR		>14dB / <1.5		BW:65MHz
Operating Temp		-10 ~ 50		
Storage temperature		-20 ~ 60		
Band Selection		5MHz, 10MHz, 15MHz, 5+5MHz 10+5MHz, 15+5MHz		

2.1.2 Mechanical Specifications

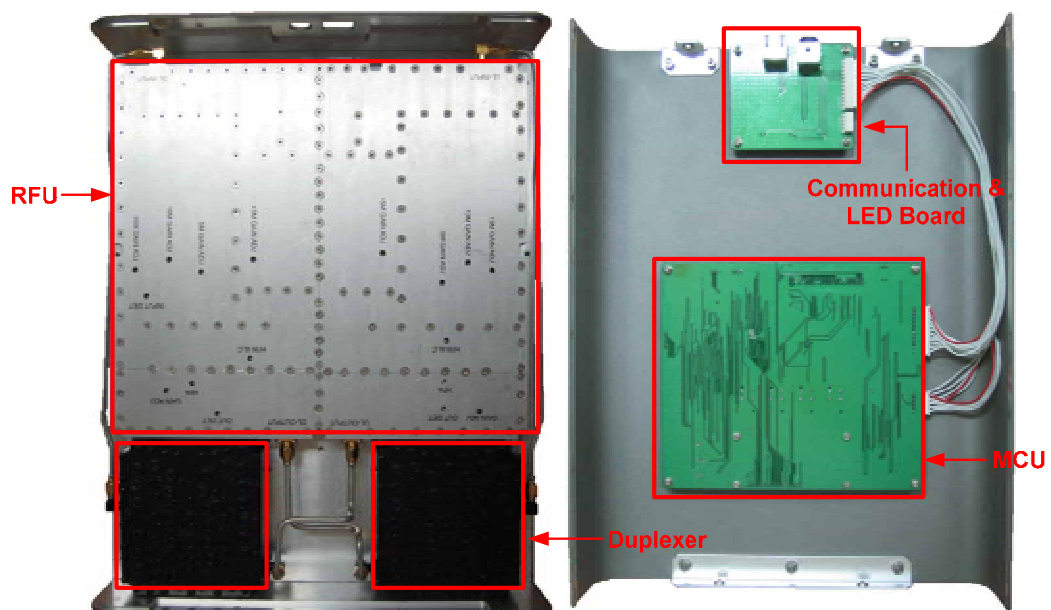
Parameter	Specification
RF connectors	N-female x 2
Size	280 x 356 x 122.5 (mm)
Weight	12.5Kg



2.2 Sub Unit Overview

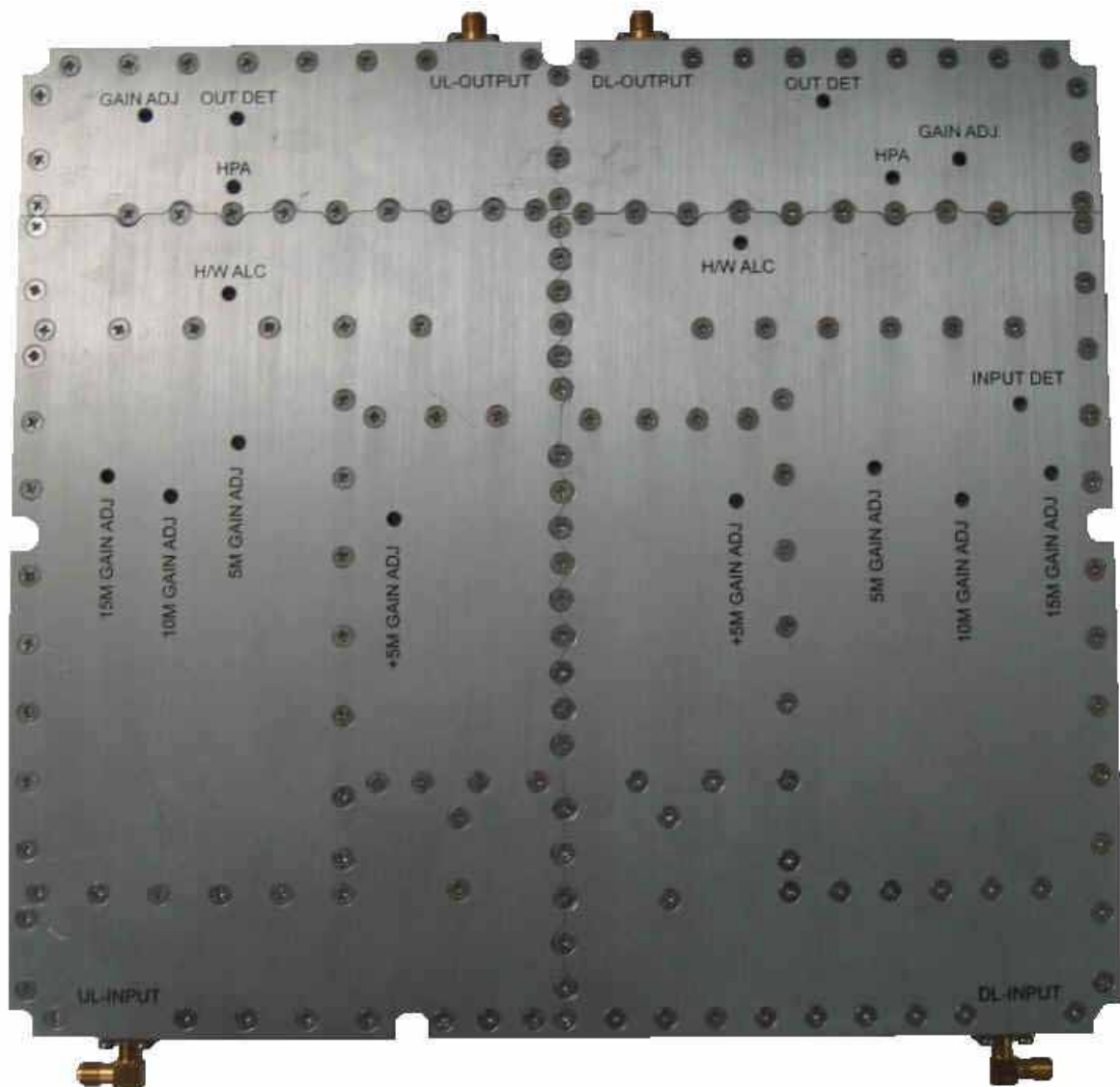
RSN-CDMA-23 is composed of the following sub units:

- RFU(RF Unit)
- Duplexer
- Main Control Unit (MCU)
- Communication & LED Board



2.2.1 RFU (RF Unit)

The RFU is basically a bi-directional amplifier that sharply filters out unwanted noise.



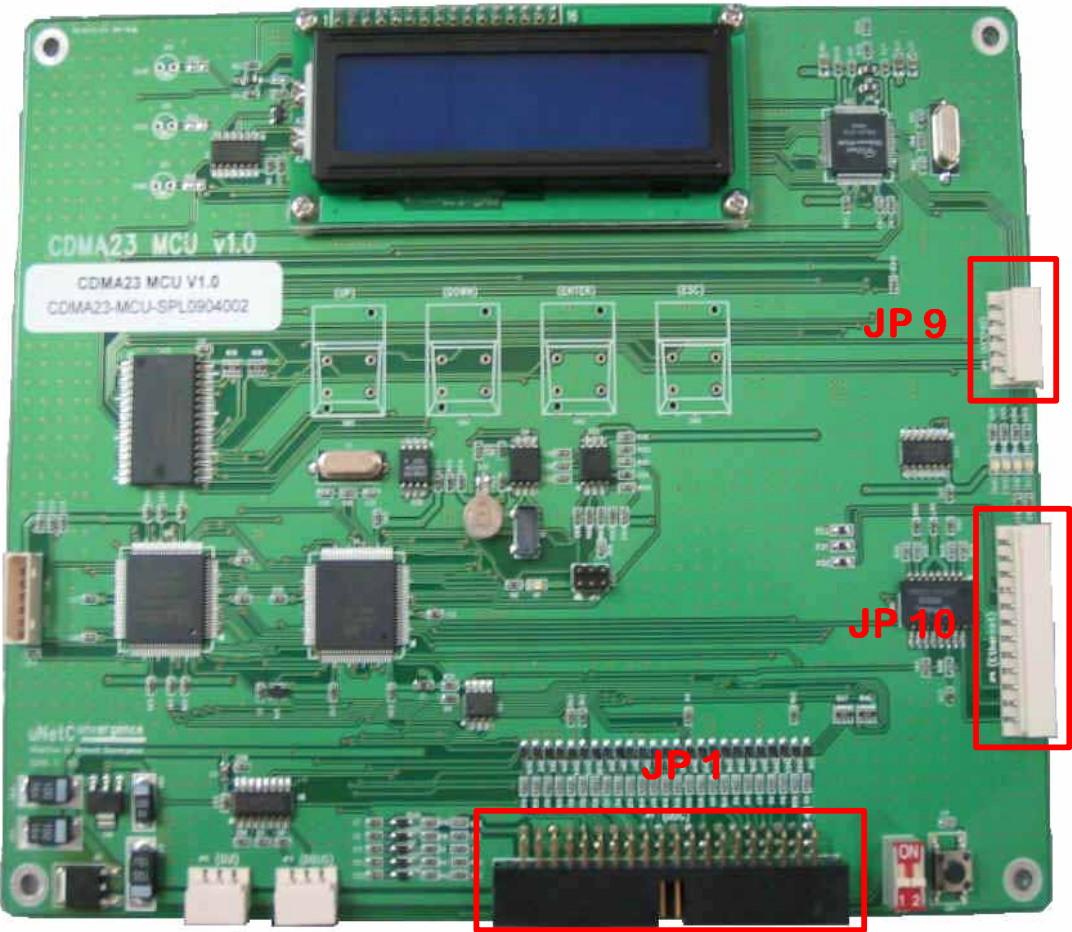
2.2.2 Duplexer

A multiplexer is a device that combines two or more signals onto a common channel or medium to increase its transmission efficiency.



2.2.3 Main Control Unit (MCU)

MCU is the control unit of CDMA-23C. It controls and monitors operational parameters. It is also responsible for generates alarms, keeping an event log and many other functions of the CDMA-23C.



Pin Map

Port	Connected to
JP 1	RFU
JP 6	Ethernet
JP 9	Key PAD

2.2.4 AC-DC Adaptor

The AC-DC adaptor supplies a steady DC power to CDMA-23C equipment by drawing power from the general in-wall AC outlets.



Specification

Item		Specifications
Environmental	Operating Temp	-10 ~50
	Humidity	20%~90%RH
	Cooling method	Convection
Voltage		AC110~240V
Current		+12V / 6.67A (80W)
Frequency		47~63Hz typical
Input Current		1.5mA max @ 90Vac 0.6mA max. @ 265Vac

2.2.5 Key Pad



2.2.6 Communication & LED Board

