

SOHO REPEATER ANTENNA DATA

The system incorporates two antenna types:

- Donor panel antenna: Installed outside the area to be covered
- Coverage antenna(s): One or more antennas installed at the area to be covered

The Donor antenna receives cellular signals (assuming sufficient coverage exists outside the building or near a window). The BDA amplifies the signals transmitted by the Coverage antennas in the coverage areas. The mobile handset signals (uplink channel) are received by the Coverage antennas, amplified by the BDA and transmitted through the Donor antenna back to the cellular base station site. This enables cellular signals to be re-transmitted in some locations in order to extend cellular coverage.

1. DONOR PANEL ANTENNA

In the Repeater kit Cellvine provides, in order to improve the image and dimension of the antenna when installed in private homes or public places, a unique slim and well designed donor antenna instead of a regular Yagi antenna. The solution is based on a dual band panel antenna with a narrow beam pattern of 40° at the cellular band and 30° at the PCS band. The advantages of this antenna are its ascetics, light weight, relative small dimension and simple installation. Although this is a panel antenna, its performance, especially in the pattern band width, is much better compared to other panel antennas with similar measurements. The antenna gain is 6 dBi in both bands.



Figure Error! No text of specified style in document.-1: Panel Donor Antenna



Figure 1 : Donor Antenna Dimensions

Table Error! No text of specified style in document. : **Panel Donor Antenna Unit Specifications**

Name	Value
Frequency range - Down link:	869-894 MHz 1930-1990 MHz
Frequency range - Up link:	824-849 MHz 1850-1910 MHz
Directivity	Above 6dBi
VSWR	2:1 (max)
3dB Beamwidth	30° PCS X 45°CELLULAR
Polarization	Vertical
Input Impedance	50 Ohm
Input power	2W
Size	30 X 33 X 1.2 cm.
Weight	2.5KG

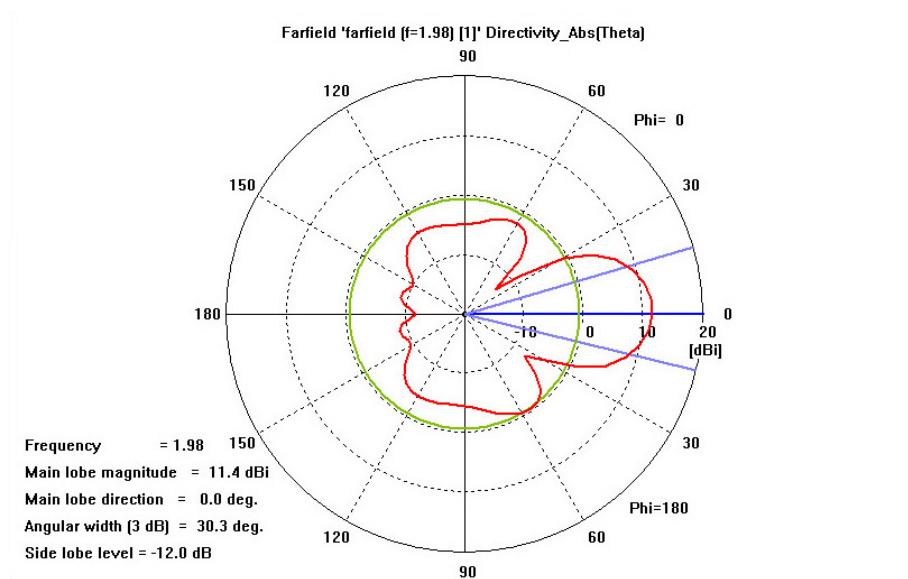


Figure 2 PCS band Antenna pattern

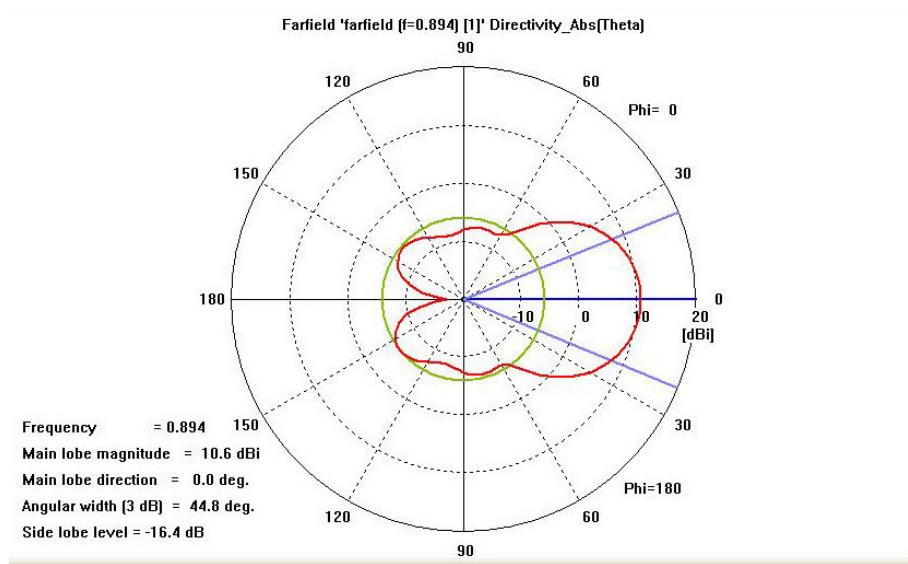


Figure 3 Cellular band Antenna pattern

2. DONOR SIGNAL STRENGTH MEASUREMENT TOOL

The Donor Panel antenna includes a signal level meter indicator for measuring the RSSI signal level from the donor BTS in the neighboring area.

The measurement tool receives a signal from the Repeater controller through the coax cable connected to the Donor antenna. It measures the signal output level of the Repeater output according to the signal received at the Donor antenna from the BTS. This will help the user install the Donor antenna in the optimal direction and at the optimal angle in order to achieve the highest RSSI level signal from the BTS.

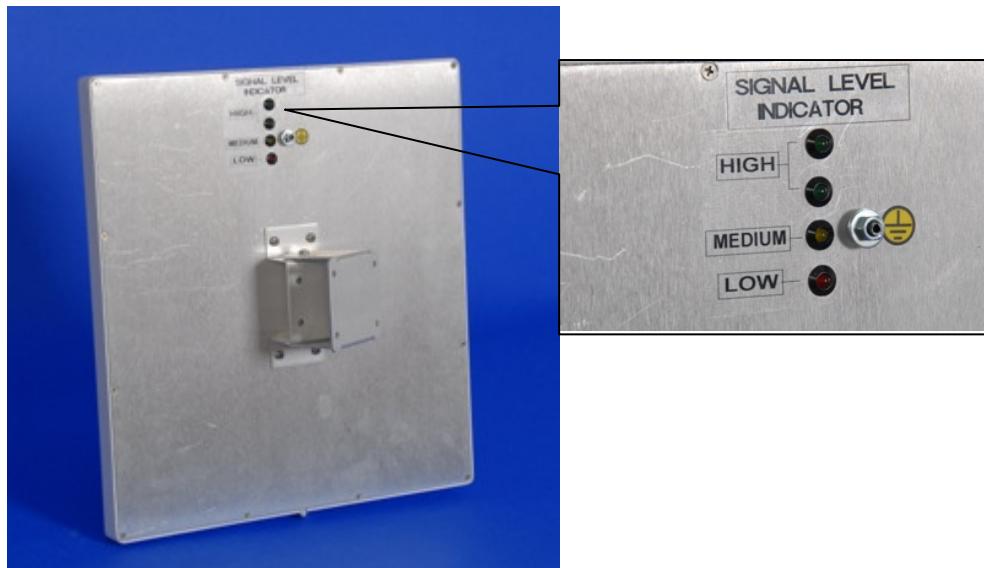


Figure 4 : Signal level measurement Indicator.

INDOOR COVERAGE ANTENNA

Table Error! No text of specified style in document. : **Panel Coverage Antenna Unit Specifications**

Model	TDJ-0825BKM
Frequency Range –MHz	800 ~ 960 1710 ~ 2500
Gain-dBi	7
VSWR	≤1.5
Beamwidth in Hor. Plane - °	70
Beamwidth in Ver. Plane - °	50
Max Power - W	50
Polarization	Vertical
Input Impedance -Ω	50
Connector	N-F
Dimension -mm	210×180×44
Weight -Kg	0.6
Radiating Element Material	Silver-gilt Yellow Copper
Color	White



Figure 5 : Indoor Coverage Antenna