Anten'it Antenna Research Kit for Universities

ACADEMIC VERSION OF ANTEN'IT ANTENNA DESIGN AND PROTOTYPING KIT FOR ANTENNA ENGINEERS

Anten'it Antenna Research Kit is designed for research purposes, graduation projects and term projects. Researchers or students can design their novel antennas by mounting antenna cells into each other. Antenna cells are in brick-form which makes them re-usable.

There are metal cells, 3 different kinds of dielectric cells with different dielectric constants, ground planes, connectors, adaptors, cables and remover in this kit.

You can either model an antenna with a computer electromagnetics (CEM) software program and build it with antenna cells or directly design it in front of a network analyzer. This allows to change antenna parameters instantly by adding or removing cells. How Anten'it kits give similar results with simulation tools is described at the second page of this document.

RE-USABLE ANTENNA CELLS FOR RESEARCH, GRADUATION AND TERM PROJECTS

A typical antenna design needs to prototype the design for more than once. The fabrication of each prototype create a high cost and long design duration.

ANTEN'IT SAVES YOU SPENDING YOUR BUDGET ON FABRICATION AND MATERIAL COSTS

Most universities don't have fabrication infrastructures. Re-usable antenna cells save universities to spend their budget on expensive machining infrastructures and materials. Even if you have a PCB or machining infrastructure, re-usable antenna cells save you to spend your budget on material costs.

DATASHEET BOOKLET AND ANTENNA BUILDING INSTRUCTIONS

There are more than 100 antennas included in the datasheet booklet. You can select the antenna which is appropriate for your electromagnetic requirements from the datasheet booklet. Building steps of each antenna in the datasheet booklet take part in the antenna building instructions. You can follow the steps, build the antenna and use it. After you terminate the project, you can dismount the cells . They are ready to build another antenna in another project.

You can add new cells depending on your new requirements at any time after purchasing one kit.

Anten'it can be ordered via distributors in www.antenit.com or sales@antenit.com
Anten'it is a patent pending product of Antenom Antenna Technologies

Two Typical Applications of Anten'it Antenna Research Kit

1– Design your novel antennas

Design your antenna via analytical calculations or simulation tools

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Build it with Anten'it Antenna Research Kit

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Iterate your design by adding or removing antenna cells

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Dismount the antenna cells and re-use them for another project

2– Build Antennas by following the steps in Antenna Building

Select the antenna type for your application

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Check Antenna Datasheet Booklet to find the appropriate antenna for your application

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Check Antenna Building Instructions and build the antenna by following the steps

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Use the antenna

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Dismount the antenna cells and re-use them for another antenna requirement

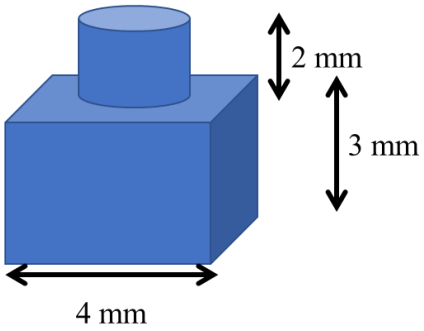
Theoretical Background Behind Anten'it Kits

HARDWARE MESH CELLS

Antenna simulation programs generally include CAD interfaces. When the designers draw a solid structure in CAD interface, simulation programs discretize the solid structure into small pieces called "mesh cells". Maxwell equations are calculated within each mesh cell by using numerical methods such as method of moments (MOM), finite-difference time-domain (FDTD), finite element method (FEM) etc. Each numerical method uses different mesh cell shapes.

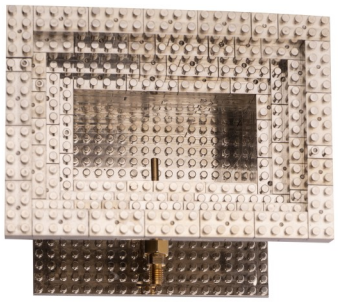
FDTD type of simulation programs use cubic mesh cells. In order to get accurate results, the mesh cell dimensions are selected lower than wavelength/10.

Anten'it Antenna Research Kit uses brick-type hardware cells. Brick type of mesh cells are very similar to cubic shapes. The resolution of Anten'it cells is 4 mm (length) X 4 mm (width) X 3 mm (height). 4 mm corresponds to wavelength/12.5 at 6 GHz. 6 GHz is the highest frequency of Anten'it kits.

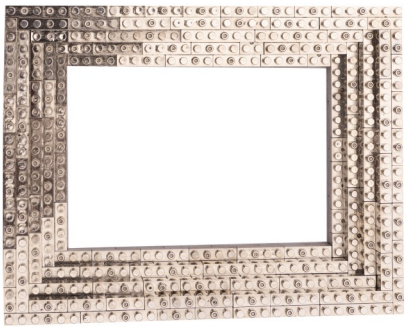


The hardware mesh cells provide students and researchers to design their antennas directly in front of a network analyzer. They can start their design with calculations and iterate by adding or removing cells (bricks). Then, they reach the target design frequency and measure the radiation patterns of the antennas.

CONTENT OF ANTENNA RESEARCH KIT



1. Metal Cells
2. Dielectric Cells with 3 different dielectric constants and colours
3. Ground Planes
4. Connectors
5. Dipole Antenna Balun
6. Cables
7. Adapters
8. 50 ohm Terminations
9. Case
10. Anten'it Datasheet Booklet and Antenna Building Instructions
11. Anten'it User Manual
12. Removers



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