



Microwave Circuits Prototyping and Integration Revolution

The Time to Market Has Finally Arrived!

Initial Release

- **Circuit PCB Cells**
 - ▣ Amplifier Cells (21)
 - ▣ Mixer Cells (16)
 - ▣ Attenuator Cells (11)
 - ▣ VCO Cells (8)
 - ▣ Phase Shifter Cells (2)
 - ▣ Phase Detector Cells (1)
 - ▣ Multiplier Cells (12)
 - ▣ Prescaler Cells (5)
 - ▣ Switch Cells (8)
 - ▣ Splitter and Coupler Cells (5)
 - ▣ Synthesizer Cells (5)
 - ▣ PLL Cells (1)
 - ▣ Detector Cells (7)
 - ▣ Filter Cells (10)
 - ▣ DC Blocks and Bias Tee Cells (2)
 - ▣ Regulator Cells (4)
 - ▣ Transition and Launch Cells (5)
 - ▣ Op-amp Application Cells (6)
 - ▣ Mis. Cells (2)
- **Mechanical Cells**
 - ▣ Single Mechanical Cells (12)
 - ▣ 5x5 Array Mechanical Cells (2)
 - ▣ Dynamic Mechanical Cells (3)
- **Mis. Parts**

RAPID RF/MICROWAVE CIRCUIT PROTOTYPING AND INTEGRATION

Traditional RF and microwave prototyping take weeks to months. MicroWaveCells introduces a completely new and innovative concept to build your desired functions, sub-systems, and systems in just hours and days with a fraction of the traditional prototyping cost. Less cost, better efficiencies. RF and Microwave circuit designs have always been a detailed and tedious process, including many cycles of schematics, layout, PCB fabrication, board mechanics, assembly, and testing. MicroWaveCells offers a fast new RF and Microwave circuit design and prototyping concept (patented) by offering many standard single function PCB cells with MicroWaveCells' unique mechanical cells for use as a single function design or a multi-function sub-system or system design. This rapid and dynamic prototyping concept saves a tremendous amount of time and money compared to the traditional RF/Microwave prototyping cycles.

www.microwavecells.com

ONE BLOCK, UNLIMITED POSSIBILITIES



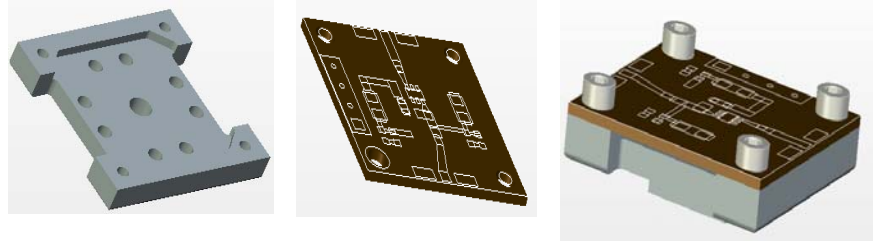
Kapla's Concept

Mechanical Cell Offering:

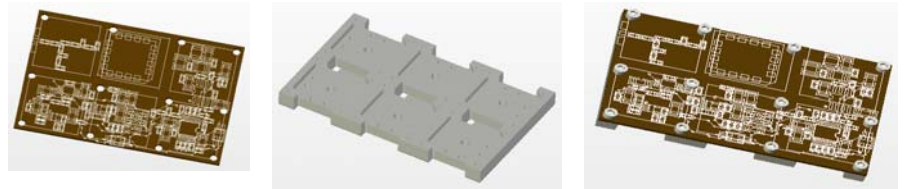
- Single cell base
- Single cell joint
- Half cell base
- Sidewall with SMA
- Sidewall with K connector
- Sidewall with feed-through, GND pole and mounting hole
- Sidewall with mounting hole
- Sidewall
- Cover
- Cover with one DC cut
- Cover with two DC cuts
- Mounting bracket
- 5x5 Array cell
- Array cell joint

Single Cells

MicroWaveCells initially offers a total of 132 single PCB cells, which support more than 100 different device footprints and 11 basic mechanical cell parts. PCB cells cover more than thousands of the most commonly used off-the-shelf RF/Microwave devices from most of the key RF/Microwave device vendors. Customers can use these cells to build and test each cell function with corresponding single cell mechanics. Each cell has a standard cell dimension with $20 \times 20 \text{mm}^2$. Some cells/functions have more than one single cell dimension, such as the synthesizer cell with a 2×3 cell size and VCO with a 1×2 cell size. The single cell supports most of the key RF functions with common footprints. The cell frequency range covers from DC to 40GHz.

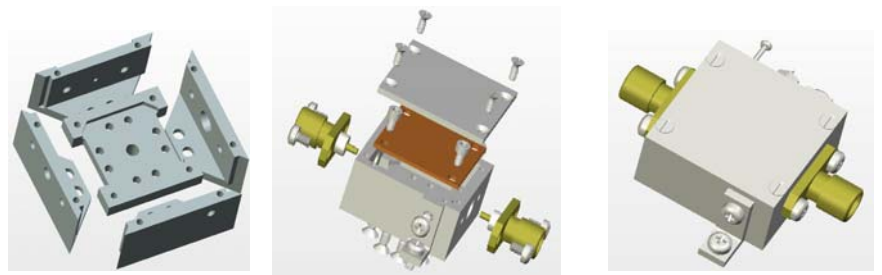


Single (1x1) cell assembly example



Synthesizer (2x3) cell assembly example

MicroWaveCells also introduces a dynamic, single module concept (patented) based on the standard single cell product line. The single mechanical cell is designed to be connected by sidewalls with covers of the customer's choice. By selecting required sidewalls and covers online, customers can easily make their own modules in minutes.



Dynamic module assembly example

Order On-line at:

www.microwavecells.com

Contact Us at:

infor@microwavecells.com

Phone: 1-919-636-4433

www.microwavecells.com

Key PCB Cell Features:

- Standard 20x20mm² PCB cell size
- Common input/output and DC locations
- Multi-cell dimension for large footprint devices and special functions
- Expandable for any customized functions and devices
- Flexibility
- PCB Material: RO4350

Key Mechanical Cell Features:

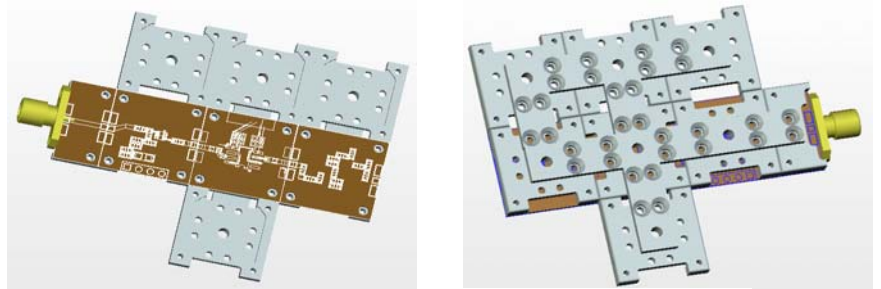
- Standard 20x20mm² single cell size
- With single cell joint, easily expandable to any cell size
- 5x5 array cell for low cost system integration
- Designed for dynamic single module build up

Product Features:

- Unlimited Possibilities
- Dynamic, Flexible and Expandable
- Low Cost
- Time to Market

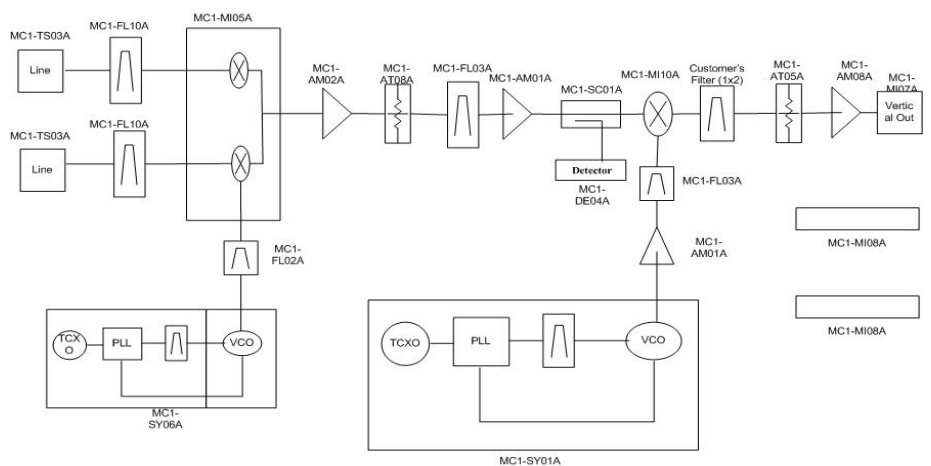
Dynamic Cells

Unlimited possibilities! This single cell can be extended to any dimension and any shape by using the single cell base and single base joint. The half cell base can be added for the side input or output launch.

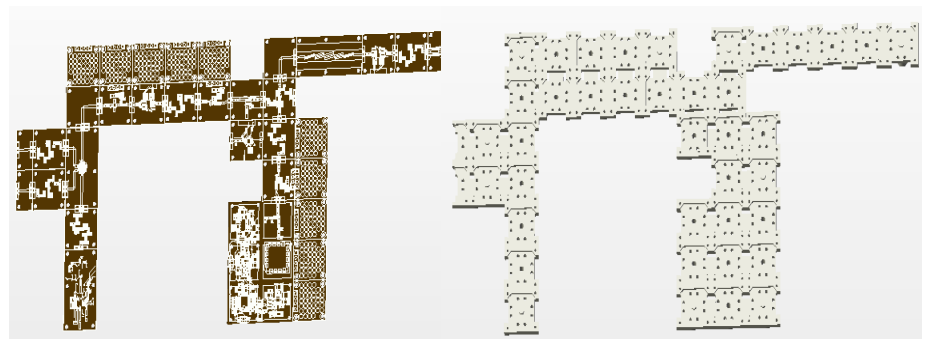


Dynamic cell concept (front and back)

The following example shows how a block diagram selects cell PCB and corresponding cell mechanics to build your desired system in days. For bias and control convenience, MicroWaveCells also offers a 1x5 DC management cell. The output microwave filter is a customized 1x2 cell size filter.



Block diagram of a transmitter

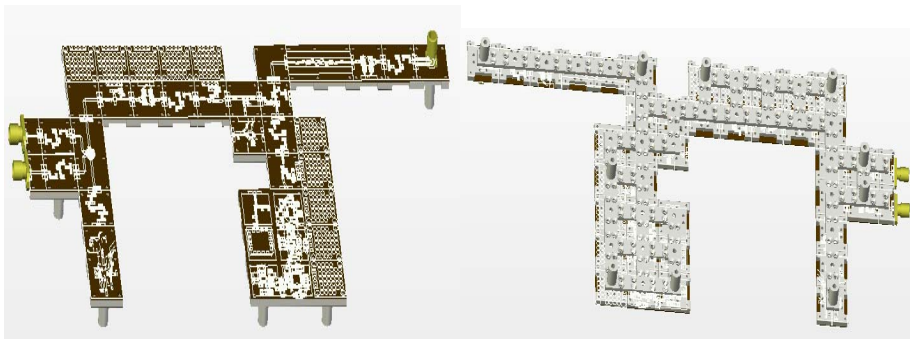


Cell PCB Selection

Cell Mechanics Connection

Applications:

- Rapid RF/Microwave circuit prototypes
- Rapid RF/Microwave sub-system, system prototypes
- Rapid single function module build-up
- Commercial/Military applications
- Education/Self leaning applications

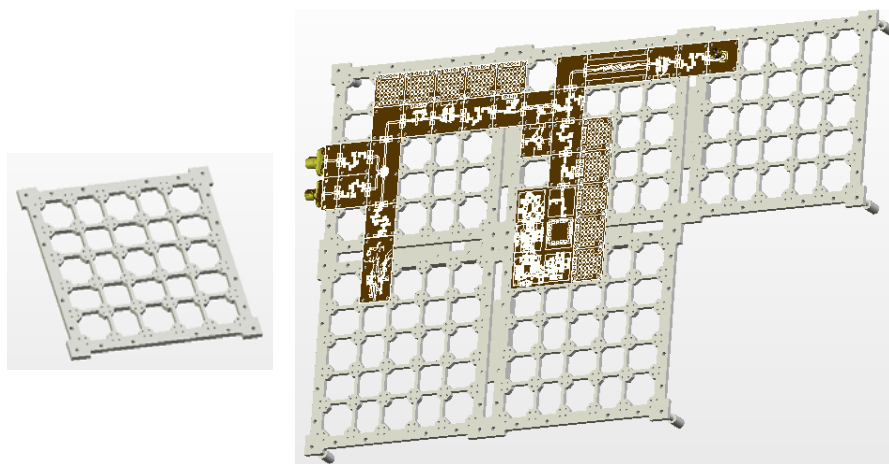


Transmitter made with dynamic cells (front and back sides of the module)

www.microwavecells.com

Array Cells

For the customer's easy integration and low cost consideration, MicroWaveCells also offers a 5x5 array mechanical cell; with the array joint cell, customers can build a very large system in a very short amount of time.



5x5 Array cell and its expansion

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Oct. 14, 2007 by Jenny J. Shen

Customer's Design

MicroWaveCells also offers a design for single or any multiple-sized 20x20mm² cells with the customer's special needs. MicroWaveCells is interested in a partnership with device vendors.

UNLIMITED POSIBILITIES!!!

Order Cells TODAY, Build Systems TOMORROW.

www.microwavecells.com