

**UK specialist in RF, Microwave & mmW Components, Modules & Test Solutions**

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**NEWS - NOVEMBER 2021**



**MELCOM** are very pleased to announce the appointment of **Pauline Laury** as **Account Manager**.

Pauline has 6 years international experience and a strong background in interconnect and wiring systems.

Please join us in wishing her every success during these exciting times at Melcom.

**In this November 2021 Issue:**

- **Wolfspeed** - Latest GaN MMIC Amplifier & Transistors in S & DBS Bands
- **Exxelia** - New MML Capacitors
- **ThinkRF** - New Multi-Band Cellular Power RF Amplifier (H1000A)
- **TennMax** - Latest RF Absorber material (dispensable & sheet material)
- **Misotech** - Filters
- **inTest** - Update to Thermostreams



**Latest GaN MMIC Amplifier and Transistors in S and DBS Bands**

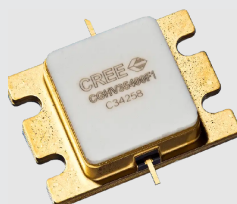
**CGHV31500F1**  
2.7 – 3.1 GHz, 500 W GaN HEMT Transistor



- S Band with long pulse capability
- DBS 17.3 -19.2 GHz MMIC
- Psat: 500 W
- Drain efficiency >65%
- LSG: 13 dB
- 50 V Operation
- 50 ohm input and output matched
- Qualified for longer pulse widths and duty cycle

[Datasheet](#)

**CGHV35400F1**  
400 W, 2.9 - 3.5 GHz, GaN HEMT Power Amplifier



- 500 W Typical PSAT
- >65% Typical drain efficiency
- 13 dB large signal gain
- 50 V operation
- 50 ohm input and output matched
- Qualified for longer pulse widths and duty cycle
- High temperature operation

[Datasheet](#)

**CMPA1H1J050F**  
60W, 17.3-19.2 GHz, GaN MMIC  
Power Amplifier



- Psat: 60 W
- PAE: 32%
- LSG: 28 dB
- S21: 31 dB
- S11: <-4dB
- IM3: <-30 dBc at 44 dBm Pout
- CW operation
- Small footprint

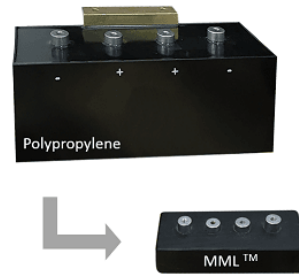
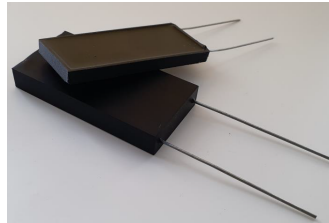
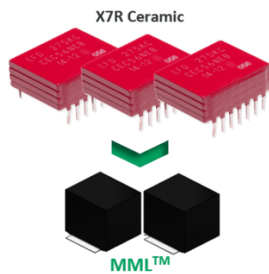
[Datasheet](#)

[Learn More About Wolfspeed](#)

[Contact Melcom - for detailed specification, pricing & availability](#)



## Exxelia Launch New MML Capacitors



### New Advanced Technology:

- Expandable to 100V to 1200V
- Wide capacitance range
- Customisable
- Prelim. design concept in 3-4 weeks

### Benefits:

- Up to 50% reduction in size
- Up to 50% reduction in weight compared to film (>5X reduction compared to ceramic)
- Higher capacitance
- Optimised performance

Please click on flyer below regarding information regarding MML Technology

NEW
MML TECHNOLOGY

A BREAKTHROUGH IN FILM TECHNOLOGY  
HIGHEST CAPACITANCE PER VOLUME

Polypropylene 250µF / 600V<sub>ac</sub> MML™

### Miniature Micro-Layer™ Capacitors

- Up to 5 times lighter
- Up to 10 times smaller
- Up to 140°C
- High-Reliability - 2000h life test
- Ultra-high energy density
- Highly customizable
- Excellent substitute to MLCC

DC Links, Power Converters, Energy Management, Payloads, Flight Controls, Telemetry, SADR, Propulsion Control, Generators, Electric Motors and more

MML TECHNOLOGY

### Miniature Micro-Layer™

Film (MML™) is a breakthrough in film capacitor technology with an energy density up to 4 times superior to other film dielectrics. MML™ innovative technology makes power capacitors smaller, lighter and compatible to higher temperatures. It is perfect for DC link, decoupling, charge-discharge applications.

Parameter	MML™	PP	PET	PEN	PEN HV
Dielectric Constant (ε)	3.2	2.2	3.2	3.0	2.9
Dissipation factor @10Hz	0.005	0.0005	0.005	0.004	0.005
Max. operating temp. (°C)	140	105	125	125	155
Self healing property	Excellent	Excellent	Good	Good	Good
Energy density - (J/dm³)	800	250	120	150	70

### Case Study Wide-Body Commercial Aircraft Air System Control Unit

Specification : 100µF @450V in operation

X7R Ceramic  
3x 47µF 500V  
100µF after drift  
-55°C to +125°C

Total Volume 121cm³  
Total Weight ~650g

PET  
2x 50µF 450V  
No drift  
-55°C to +125°C

Total Volume 130cm³  
Total Weight ~200g

MML™  
2x 50µF 450V  
No drift  
-55°C to +140°C

Total Volume 40cm³  
Total Weight ~65g

3 times smaller  
10 times lighter

[Click here for full range of MML Capacitors provided](#)

[Learn more about Exxelia](#)

Contact Melcom - for detailed specification, pricing & availability



## New Multi-Band Cellular Power RF Amplifier (H1000A)



- 715 MHz - 2.7 GHz
- 10 Watts RF power output
- 23 - 43 dB power gain
- Dual-band architecture (High/Low band)
- IP66 rated enclosure & sealed ports
- Compact & light 267 x 227 x 200 mm (10.5" x 8.9" x 7.9") < 5 kg (< 11 lbs)

[Datasheet](#)

[Learn more about ThinkRF](#)

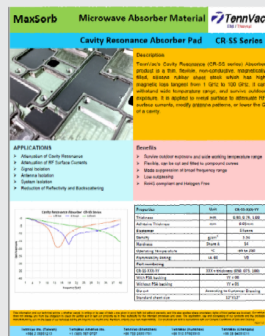
Contact Melcom - for detailed specification, pricing & availability



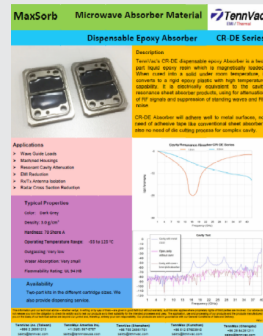
## RF Microwave Absorber

TennMax launch New RF Absorber material, which can be supplied in sheet material or dispensed robotically. It can be incorporated with TennMax's FIP gasket and high performance thermal pads and available fast lead time.

Click below for information on RF Absorber Material, Cavity Resonance Absorber Pad



Click below for information on Dispensable Epoxy Absorber



[Learn more about TennMax](#)

Contact Melcom - for detailed specification, pricing & availability



Melcom Now Supply A Range Of Misotech Filters

### Cavity Filters

Military, Defence & Commercial Applications



- Low loss
- Very high selectivity
- Wide range of bandwidth -0.5% to 70%
- High peak power
- Excellent temperature stability
- Low IMD designs available
- Compliant L Typical performance
- Qualified to MIL standards

[Click here for full range of Cavity Filters provided](#)

### MMIC Filters

Military, Defence & Commercial Applications



- GaAs PD25-00, 100um
- High frequency up to 50 GHz
- Standard MMICs of defence
- Customised MMICs
- RoHS compliant
- Storage Temperature:  $-65 \pm 150$  °C
- Operating Temperature:  $-55 \pm 125$  °C
- Power Range: +30 dBm max
- Qualified to MIL standards

[Click here for full range of MMIC Filters provided](#)

### MEMS Filters

Military, Defence & Commercial Applications



- Precision MEMS process
- High frequency up to 50 GHz
- Silicon substrate
- Au Wire bondin, QFN Package
- RoHS Compliant
- Storage Temperature:  $-55 \pm 125$  °C
- Operating Temperature:  $-55 \pm 85$  °C
- Power Range: +35 dBm Max
- Qualified to MIL standards

[Click here for full range of MEMS Filters provided](#)

### Ceramic Filters

Military, Defence & Commercial Applications



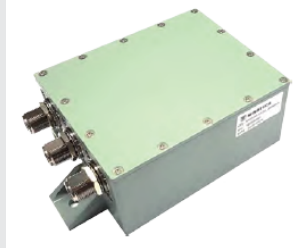
- High Q Factor
- Low Insertion Loss
- Wide Frequency range (200 MHz to 6 GHz)
- High Frequency and Mechanical stability
- Notch Filters available
- Surface mount and thru-hole mount
- 50 Ohm standard, 75 Ohm impedance available
- Custom designs available
- Available in tape and reel packing
- Sealed packages available
- Temperature Range:  $-55$  to  $85$  °C
- Temperature Stability: ( $\pm 5$  ppm/°C)
- Compliant to MIL & RoHS Specs

[Click here for full range of Ceramic Filters provided](#)

### LC Lumped Filters

Military, Defence & Commercial Applications

- Small size, low profile
- Leaded, surface mount, PC mount and connectorised
- Hermetically sealed package available
- Wide range of transfer functions
- 30 kHz to 20 GHz
- Temperature Range:  $-55$  to  $85$  °C
- Temperature Stability: ( $\pm 5$  ppm/°C)
- Compliant to MIL & RoHS Specs



[Click here for full range of LC Lumped Filters provided](#)

### Waveguide Filters

Military, Defence & Commercial Applications



- 0.1 to 20% bandwidth
- Extremely low loss
- High Power handling
- High power capacity
- Compliant to MIL & RoHS Specs

[Click here for full range of Waveguide Filters provided](#)

[Learn more about Misotech](#)

[Contact Melcom - for detailed specification, pricing & availability](#)



inTEST Thermal Solutions  
an inTEST Company

## ThermoStream Upgrade Announcement



**New ThermoStream® OCM Eliminates Windows OS, Reduces Network Security Issues**

High-capacity ECO and ATS Series ThermoStreams will be available as "e" model systems featuring an embedded control system. System performance and operations will remain the same with improved network security.



**NEW OCM FEATURES:**

- Embedded Firmware Eliminates Network Safety Concerns
- In-house Hardware Design, no reliance on commercial PC components
- Increased service lifetime, less expensive repairs
- 100% compatible with legacy programming, IEEE-488, RS232
- Same system performance and operation
- Webserver 2.0 system control and monitoring

The new "e" Series Models will be available for ECO Series systems by October 2021 and ATS Series systems by November 2021. Service upgrades for older models will be available in January 2022. For more information, contact [info@intestthermal.com](mailto:info@intestthermal.com).

**inTEST Thermal Solutions**  
an inTEST Company

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**inTests's ECO series have upgraded Operating System from October 2021:**

- Eliminates Windows OS
- Reduces network security issues
- Fully backward compatible with previous ECO's
- Removed reliance on commercial PC components
- Increased service lifetimes

[Click here for full range of inTest products provided](#)

[Learn more about inTest](#)

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