

2022

TELEPHONE

(315)438-4700 (800)438-1666 **WEBSITE** 

MicrowaveFilter.com



MFCSales@MicrowaveFilter.com

# COMPANY PROFILE

**Featuring 5G Global Mitigation Solutions** 

Innovative, Collaborative, Cutting Edge

"Creating custom solutions for a custom world."

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INNOVATIVE, COLLABORATIVE, CUTTING EDGE

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MFC custom design strategy is second to none.

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Partnering with MFC means you have a dedicated, qualified team of experts to create your solution.

#### 14 CAREER OPPORTUNITIES

MFC has been serving the industry since 1967. Stability, longevity and career opportunities are available.



MicrowaveFilter.com

EMAIL
MFCSales@MicrowaveFilter.com



#### **Certifications**

**Small Business** 

ISO 9001:2015 Registered

**ITAR Registered** 

#### Contact

Sam Fanizzi

Vice President Sales & Marketing

(315) 438-4735

Sam-f@microwavefilter.com

MFC excels at manufacturing, logistics, and collaborative OEM design for our strategic customers.

#### **Core Competencies:**

- Collaborative Design and Manufacture of "High Performance OEM" Passive Electronic Filters
- High Volume Manufacturing
- Bandpass
- Bandstop
- Combiners
- Couplers
- Diplexers
- Highpass/Lowpass
- Adaptors
- Design and Manufacture of Various Topologies:
- Waveguide
- Stripline
- Lumped Element
- Cavity/Coaxial

#### **GENERAL DYNAMICS**

Information Technology



Corporate Alliance Partner







The company occupies a modern 40,000 square foot facility in the heart of Central New York. All products are produced within our fully equipped facility, including an in-house machine shop and fully compliant finishing operation.

#### **Differentiators:**

- Customer Service/Technical Expertise
- In-House Simulation, Design, Machining, Finishing and Test Capabilities
- Prompt Response from Quote to Ship
- From Design to High Volume
   Manufacture of High Power Products
- Component Traceability
- Custom Design
- Contract Manufacturing
- In-House X-Ray & Measurement

Microwave Filter Company's

# **EXECUTIVE SUMMARY**

Microwave Filter Company, Inc. (MFC) is a leader in the design, development and manufacture of high quality filter products since 1967.

The facility is equipped with an impressive complement of analytical and design software, test instrumentation, prototype and manufacturing equipment to create passive filters, components and subsystems.

# The Manufacturing Facility Includes:

- State-of-the-Art CAD-CAM system
- A test department with automated network analyzers to 50 GHz
- A high capacity conveyor soldering oven
- A coating/finishing operation
- A fully compliant TQM/ISO9000
  based quality assurance program
  to insure the intrinsic quality of the
  products produced.

All MFC filters are produced within our modern 40,000 square foot facility by a staff that is "Committed to Excellence".

#### MFC Also Offers:

- Interference Filters for C-Band installations, <u>including</u>
   <u>5G</u>, <u>Satellite & Wireless</u>.
- Our Team has been involved in a number of programs serving:
  - Communications
  - Broadcast and CATV operators and installers
  - Military/Aerospace facilities
  - Universities and Government research labs
  - Wireless cable multichannel, multi-point manufacturers, and Distribution Systems
  - C-band and Ku-band satellite Systems
  - A Complete Line of CATV headend channel deletion filters and networks, bandpass filters and diplexers for wireless and PCS applications.



**Wireless:** Steady growth over the last 10 years. This market is expected to see a continued increase.

**CATV:** Reduced interest in the market primarily due to technology shift towards fully digital CATV systems that require fewer filters.

**Satellite**: Steady growth with some acceleration over the last few years due to mid band deployment in the SATCOM C-Band spectrum.

**RF**: Continues to remain relatively steady as this segment covers many products and services within the industry.

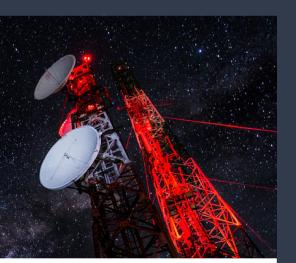




MFC Model	Receive Band (MHz)	
20656	3400-3522	
20626	3400-3525	
7893D (s)	3400-4200	
20255	3500-4200	
20316	3600-4200	
20238-1	3610-4200	
20409	3622-4200	
11383	3625-4200	
20323	3625-4200	
20345	3625-4200	

MFC Model	Receive Band (MHz)
20346	3625-4200
13961WE-I	3625-4200
13961W-I	3625-4200
20239	3700-4100
20726 (s)	3700-4200
13961W	3700-4200
13961WE	3700-4200
20738 (India)	3700-4200
20778 (India)	3700-4200
7893D (s)	3700-4200

# 5G/Satcom (Continued)



MFC Model	Receive Band (MHz)
7894D	3700-4200
20750 (Brazil)	3700-4200
20726 (s)	3720-4200
20402B	3780-4200
20158	3800-4200
20479	3800-4200
20538	3800-4200
20541	3820-4200
20172	3860-4200
20191	3860-4200
13961	3900-4200
20248	3900-4200

MFC Model	Receive Band (MHz)
20401	3900-4200
20523 (s)	3900-4200
20727	3900-4200
7893D (s)	3900-4200
20523 (s)	3950-4200
20523 (s)	4000-4200

\*(S) MFC offers multiple receive bands for that model number

This list is a sampling of our Global filter options. For additional frequency's contact MFC.



At MFC, we are proud to work with partners that support the communications Industry.

- Thales
- Airbus
- AVL Technologies
- C-Com Satellite
- Cobham Satcom
- Data Path
- Geosync Microwave
- Gilat Satellite
- Hughes
- SES
- Northrop Grumman
- Sat-Lite Technologies
- STS Global
- Thinkom
- Toner Cable
- Viking Satcom
- TVC

- Kymeta
- Lockheed Martin
- General Dynamics
- L3Harris
- Leidos
- Sirius XM
- Cubic.com
- Kratos
- Boeing
- Echo Star
- CPI
- Lite Coms
- Mega Hertz
- SAAB
- Broadcasters General Store

# Team MFC

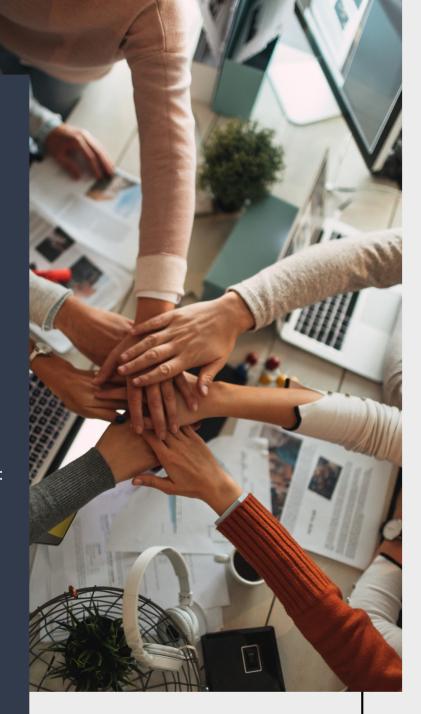
is trained to strive for continuous improvement through the application of "lean manufacturing principles".

Our team will be working hand in hand with your staff to provide quality and timely:

- Design
- Prototyping
- Drawings
- Specification
- Support and Customer Service

MFC has received multiple awards for its outstanding performance in providing excellent customer service, quality product and fast turn-around.

Our custom filter and accessories production team is well-versed in starting at the problem and working collaboratively to design and produce a solution.



"Creating Filters and Components for over 50 years"

# Gustom Designs

COLLABORATE WITH OUR TEAM TO MEET YOUR NEEDS.

We offer a detailed custom design process... "It's unlike any other manufacturer's". Partnering with all Industry stakeholders, executives, and decision makers to deliver a unique, budget friendly solution!

Custom production requires constant hands-on management. When you decide to partner with MFC for your custom filter needs, you get just that:

- A partner, just as invested in the design, production, and end-product as your team.
- A partner that provides
   "Lifetime Value" and is
   prepared for future changes.

# Microwave Filter Company believes in collaborative design.

Contact us to discuss your custom solution options.

#### Phone

(315) 438 - 4700 1 (800) 448 - 1666

#### **Email**

MFCSales@MicrowaveFilter.com



# DISTRIBUTORSHIP

## **Our Goal:**

Microwave Filter
Company is committed
to the support, success,
and growth of our
distributors.

"MFC Offers distributorship to the most qualified companies/individuals in the RF Microwave Industry."

Microwave Filter Company takes pride in setting a high standard for its authorized representatives. We seek individuals and/or businesses that are willing to promote and distribute Microwave Filter Company products. MFC's reach is global as we have deployed filters to every corner of the world.



### <u>For Information on Partnering with MFC Contact:</u>

Sam Fanizzi
Vice President Sales & Marketing
(315) 438-4735
Sam-f@microwavefilter.com



#### Contact

#### **Phone**

(315) 438 - 4700 1 (800) 448 - 1666

#### Email

MFCSales@MircowaveFilter.com

#### **Address**

6743 Kinne Street East Syracuse New York 13057

#### **Certifications**

**Small Business** 

ISO 9001:2015 Registered ITAR Registered

#### **Expertise**

- Existing Products/Projects
- Visual Design
- Wireframes
- Storyboards
- User Flows
- Process Flows

#### Contact Us!

#### Carl Fahrenkrug Jr.

Chief Executive Officer

Phone: (315) 438 - 4726

Email: Carl@microwavefilter.com

### **Partnership**

With Microwave Filter Company

MFC offers Engineering and Industry expertise in the areas of:

- Existing products/projects
- New Projects (Long/Short Term)
- New Products (Custom/Standard)

#### **Experience**

Merrill Weiss Group LLC | San Francisco | 2016

#### **SUTRO Tower**

San Francisco's SUTRO Tower is home to UHF Broadcast TV Antennas and many other Communication Antennas. In 2016 the Federal Communications Commission (FCC) began an "incentive auction" that effectively required that all UHF TV channel move down below 600 MHz (UHF Spectrum Repack). San Francisco was one of the twenty-six locations nationwide that had one of its stations reassigned to channel 14.

Land Mobile Radio (LMR) operate at frequencies below UHF TV with the highest band operating at 460 - 470 MHz which is adjacent to Channel 14 (470-476 MHz). Broadcast TV transmitters outputs are significantly higher power levels than LMR, so the new Channel 14 transmitter would pose a significant interference risk to LMR's operation at the tower.

S. Merrill Weiss (Merrill Weiss Group LLC) reached out to MFC with a design outline to create a RF Filter solution that would prevent interference to LMR receiver collocated on SUTRO Tower. MFC's team of design specialists, along with Merrill and his folks, worked remotely to create the perfect solution. Deployed in 2021, the filter is mitigating interference successfully.



#### Sam Fanizzi

Vice President, Sales & Marketing

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#### **Bob Paul**

Vice President Engineer

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**Email:** Bob-paul@microwavefilter.com



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- User Flows
- Process Flows

#### **Experience**

#### O Kymeta

#### **U8 Mobile Terminal**

In the mobile satellite communications field, Kymeta Corporation leads with innovation. Kymeta selected MFC as their manufacturing partner for the critical KU Band Diplexer, installed in every U8 Terminal.

MFC's team of design specialists and engineers created multiple versions of the KU Band offering through test and simulation, finally introducing MFC 20470 as the correct option for the mobile terminal.

The terminal mounts on vehicles & vessels to provide seamless satellite or hybrid satellite or hybrid satellite/cellular connectivity.

Kymeta was presented with "Land Mobile Innovation Award" at the 2022 Sat Show. The award was given by the Mobile Satellite Users Association, (MSUS).

MFC's 20470 KU Band Diplexer provides:

- Exceptional Electrical performance
- · Low insertion loss
- High mutual isolation

All within a low--profile package size.





#### **Contact Us!**

#### Carl Fahrenkrug Jr.

Chief Executive Officer

Phone: (315) 438 - 4726

Email: Carl@microwavefilter.com

#### Sam Fanizzi

Vice President, Sales & Marketing

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#### **Bob Paul**

Vice President Engineer

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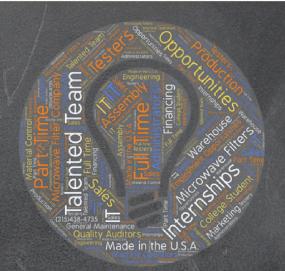
**Email:** Bob-paul@microwavefilter.com

# We want you!

#### Join our talented team!

- Full and Part Time Employment opportunities available.
- Internship opportunities

  available for College Students!



### We're looking for:

- Assembly
- Testers
- Production
- Quality Auditors
- Administrators
- 1
- Warehouse

- · Machine Operators
- General Maintenance
- · Sales
- Marketing
- Financing
- Material Control
- Engineering

Contact Linda Decoursey 315 438-4710, or

Careers@microwavefilter.com







FSC	NIIN	Item Name	Part Number
5985	14339126	Dummy Load, Electrical	1501
5985	5528165	Coupler, Transmission Line	2093
5985	5933211	Attenuator, Variable	2179
5985	8828654	Coupler, Directional	2197
5915	1645120	Filter, Band Pass	2204
6625	4866314	Divider, Power, Radio Frequency	2283
5985	3508239	Attenuator, Fixed	2408
6625	4722543	Divider, Power, Radio Frequency	2486
5915	8792490	Filter, Low Pass	2491
5985	7391212	Attenuator, Fixed	2573
5915	6322375	Filter, Low Pass	2632
5985	10043511	Filter-Coupler Assembly	2770
5985	9596737	Line Section, Radio Frequency Transmission	3048

FSC	NIIN	Item Name	Part Number
5910	10277897	Capacitor, Fixed, Plastic Dielectric	3061
5915	10886166	Filter, Low Pass	3168
5915	4970774	Filter, Low Pass	3543
5915	10691492	Filter, Low Pass	3603
5985	1481143	Coupler, Directional	3670
5985	11294048	Coupler Directional	3692
5915	11219444	Filter, Band Pass	4714
5915	1462387	Filter, Low Pass	4762
5915	9377496	Filter, Low Pass	4810
5985	3606529	Diplexer	4868
5985	9759728	Coupler, Directional	4882
5985	4927921	Coupler, Directional	4916

FSC	NIIN	Item Name	Part Number
5915	3231258	Filter, Band Pass	4927
6625	771814	Absorber, Radio Frequency Radiation	4940
5985	694614	Coupler, Antenna	5471
5985	1352900	Dummy Load, Electrical	5551
5985	3211663	Coupler Directional	5601
5985	3231077	Coupler, Directional	5963
5999	10589421	Delay Line	5993
5915	13307203	Filter, Low Pass	6069
5985	10180815	Diplexer	6280
5985	13514892	Divider, Power, Radio Frequency	6432
5915	14529766	Filter, High Pass	6697
5985	10630450	Coupler, Directional	6873

FSC	NIIN	Item Name	Part Number
5985	3132951	Coupler, Directional	7445
5985	7295374	Adapter, Waveguide	7528
5915	4361425	Filter, High Pass	7575
5985	11547366	Diplexer	7685
5985	4778165	Dummy Load, Electricial	7901
5915	12615354	Filter, Band Pass	8360
5985	10947286	Coupler, Directional (*Series)	8474
5985	4693874	Coupler, Directional	9999
5895	1050813	Multiplexer	10093
5985	7143247	Coupler, Directional	10110
5915	15521469	Filter, Band Suppression	10168
5915	15521469	Filter, Low Pass	15487
5915	1363989	Filter, Band Pass	25551

FSC	NIIN	Item Name	Part Number
5915	4395786	Filter, Band Pass	10549195
5985	11763405	Dummy Load, Electrical	1500TPPMX4-1/2
5915	11334923	Filter, Band Pass	22-10-0627
5895	13770653	Divider, Power, Radio Frequency	22-12-0100
5985	13756794	Coupler, Transmission Line	22-12-0101
5915	4502377	Filter, Low Pass (*Series)	2246-11
5915	11565703	Filter, High Pass	2438A-100
5915	11565703	Filter, High Pass	2438B-100
5915	1974753	Filter, Band Pass	2510-1
5915	4032634	Filter, Band Pass	2510-2
5915	1375578	Filter, Low Pass	2555-2
5985	7601472	Coupler, Directional	2600-1
5985	7601474	Coupler, Directional	2600-

FSC	NIIN	Item Name	Part Number
5915	14246408	Filter Subassembly	2LH31-90.8/R1000- 0/0
5915	12120213	Filter, Low Pass	3071-22
5905	11324089	Attenuator, Fixed	3139C10
5905	11324088	Attenuator, Fixed	3139C20
5915	11410526	Filter, Low Pass	3184L
5915	11415604	Filter, Low Pass	3185Н
5915	15312987	Filter, Band Pass	3303FM-20
5915	8792490	Filter, Low Pass	333-020/1
5915	10968857	Filter, Low Pass	333-020/1
5915	10968857	Filter, Low Pass	3399В
5915	11565702	Filter, Band Pass	3486A-30/76
5915	10961626	Filter Set Assembly	3540-LPF
5915	8122039	Filter, Band Pass	3619-60-1

FSC	NIIN	Item Name	Part Number
5915	11565704	Filter, Low Pass	3640B
5915	10168345	Filter, Low Pass	4676-1
5985	1352900	Dummy Load, Electrical	5551-020
5915	14246407	Filter, Low Pass	5L121-331/R3313-0/0
5915	14246409	Filter Subassembly	6FV50-1402/R257- 0/0
5915	14943837	Filter, Band Suppression (Series)	7568-2705
5915	14934776	Filter, Low Pass	7892D
5985	7221397	Coupler, Directional (Series)	8972-1
5915	12463221	Filter, Low Pass	FIL-C03567N
5985	11547366	Diplexer	M1970-1
5915	10886166	Filter, Low Pass	MFC3168A
5915	12463220	Filter, Low Pass	MFC3773
5985	10507521	Antenna	MN303

FSC	NIIN	Item Name	Part Number
5330	1796161	Gasket	MN656
5330	10721117	Gasket	MN657
5310	00-143- 6415	Nut, Plain, Hexag	MN658
5970	10628168	Insulator, Disk	MN662
5915	1974753	Filter, Band Pass	SK112469-2



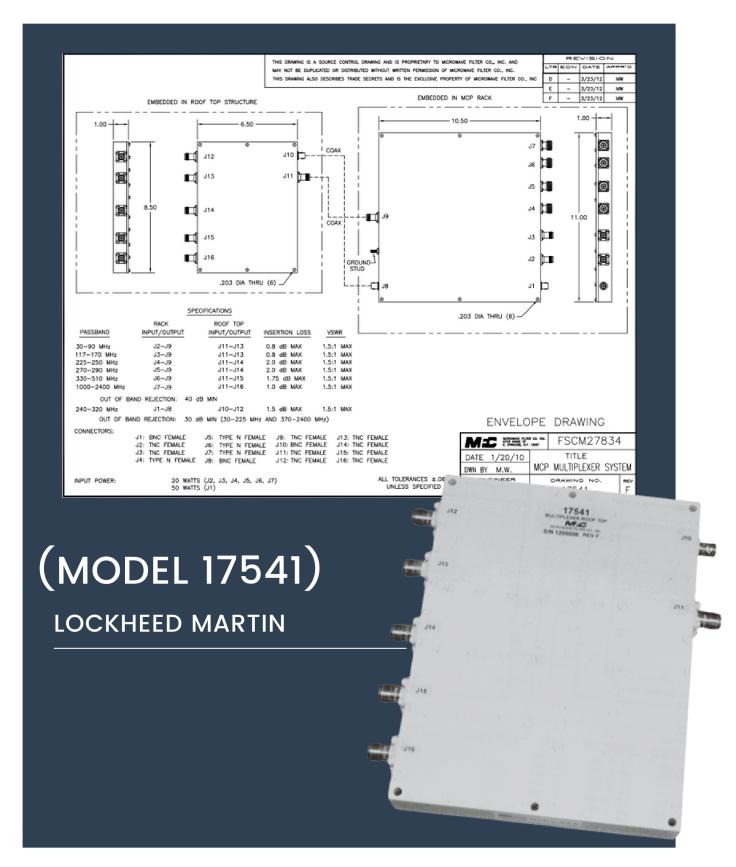
Weapons Group	Weapon System	Nickname	FSC
Aircraft - Fixed Wing	EA-6	PROWLER	Antennas, Waveguides, and Related Equipment
SHIP	SPRUANCE		Antennas, Waveguides, and Related Equipment
SHIP	ARLEIGH BURKE		Antennas, Waveguides, and Related Equipment
SHIP	TICONDEROGA		Antennas, Waveguides, and Related Equipment
SHIP	KIDD		Filters and Networks
SHIP	NIMITZ		Filters and Networks
SHIP	NIMITZ		Antennas, Waveguides, and Related Equipment
SHIP	AUSTIN		Antennas, Waveguides, and Related Equipment
SHIP	EMORY S. LAND		Filters and Networks

Weapons Group	Weapon System	Nickname	FSC
SHIP	FORRESTAL		Antennas, Waveguides, and Related Equipment
ELECTRONICS - RADIO, COMMUNICATION, COMPUTER	AN/TRC-138		Filters and Networks
SHIP	OLIVER PERRY		Filters and Networks
SHIP	OLIVER PERRY		Antennas, Waveguides, and Related Equipment
SHIP	TARAWA		Antennas, Waveguides, and Related Equipment
AIRCRAFT - FIX WING	B-1	BOMBER	Antennas, Waveguides, and Related Equipment
SHIP	WHIDBEY ISLAND		Filters and Networks
AIRCRAFT - FIXED WING	C-130	HERCULES	Antennas, Waveguides, and Related Equipment
AIRCRAFT - FIXED WING	C-135	STARTOLIFTER	Antennas, Waveguides, and Related Equipment

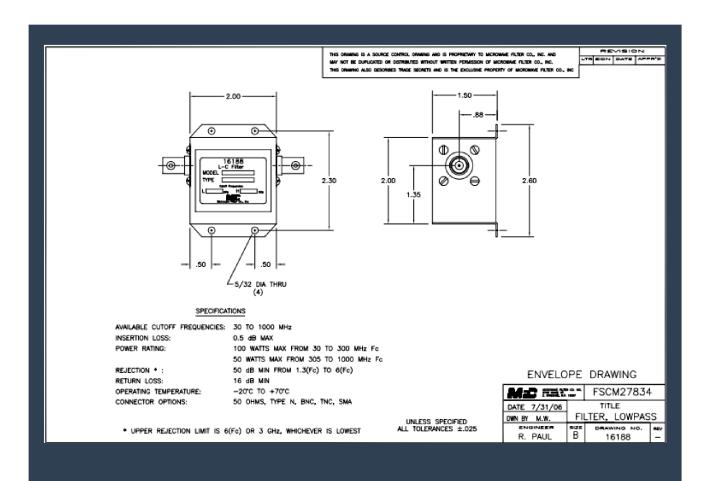
Weapons Group	Weapon System	Nickname	FSC
SHIP	EMORY S. ISLAND		Antennas, Waveguides, and Related Equipment
SHIP	WASP		Antennas, Waveguides, and Related Equipment
ELECTRONICS - RADIO, COMMUNICATION, COMPUTER	AN/FSC-78		Antennas, Waveguides, and Related Equipment
SHIP	LOS ANGELES		Antennas, Waveguides, and Related Equipment
AIRCRAFT - SUPPORT EQUIP - FIXED WING & HELICOPTER	B-52	STATOFORTRESS	Antennas, Waveguides, and Related Equipment
AIRCRAFT- SUPPORT EQUIP - FIXED WING & HELICOPTER	B-1	BOMBER	Antennas, Waveguides, and Equipment
ELECTRONICS - RADIO, COMMUNICATIONS, COMPUTER	485L		Filters and Networks

Weapons Group	Weapon System	Nickname	FSC
SHIP	SEAWOLF		Antennas, Waveguides and Related Equipment
AIRCRAFT - HELICOPTER	MH-53E		Filters and Networks
AIRCRAFT - HELICOPTER	CH-53		Filters and Networks
AIRCRAFT - FIXED WING	P-3	ORION	Filters and Networks
ELECTRONICS - RADIO, COMMUNICATION, COMPUTER	AN/GRC-171		Filters and Networks

### MCP MULTIPLEXER SYSTEM

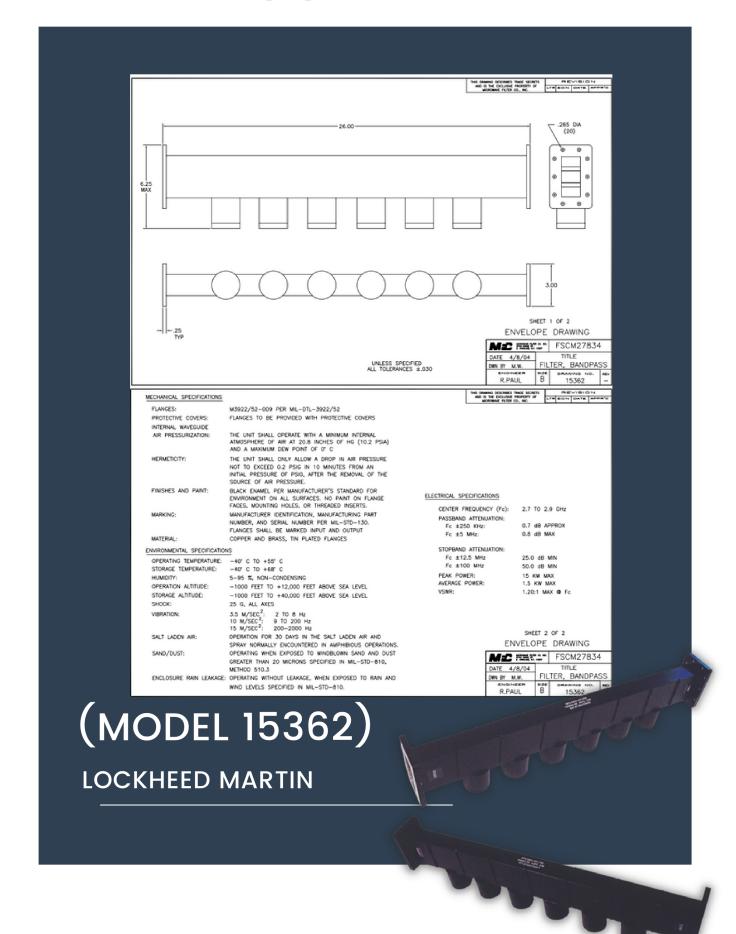


# LOWPASS FILTER

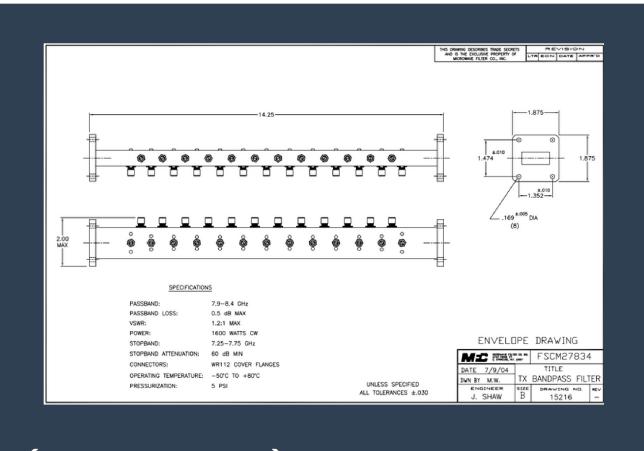




## **BANDPASS FILTER**



## **BANDPASS FILTER**

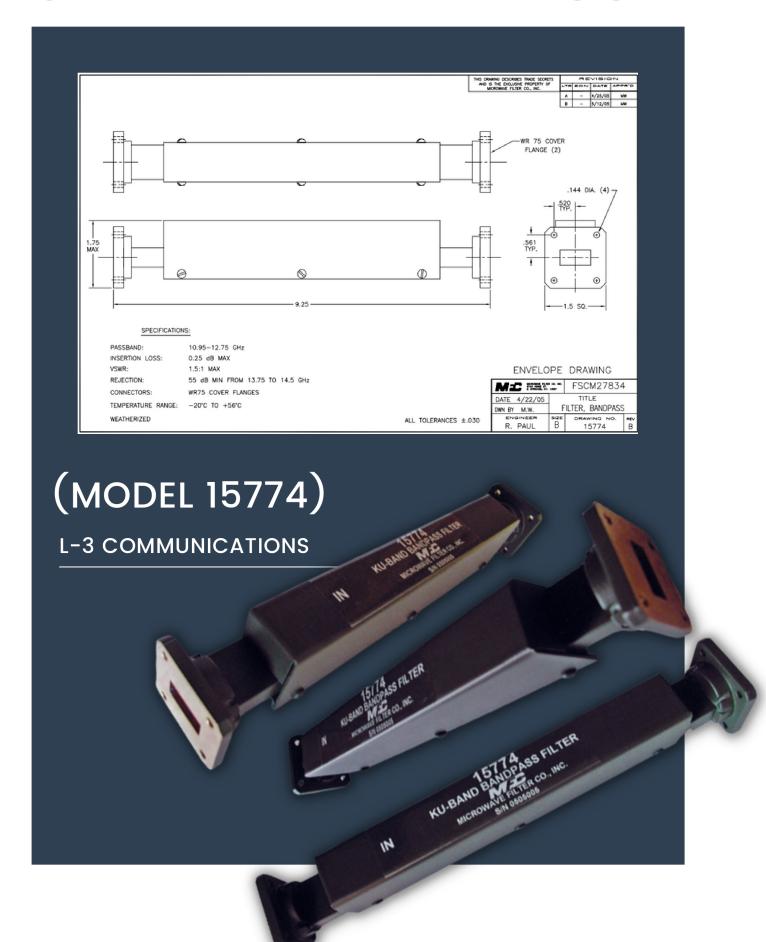


# (MODEL 15216)

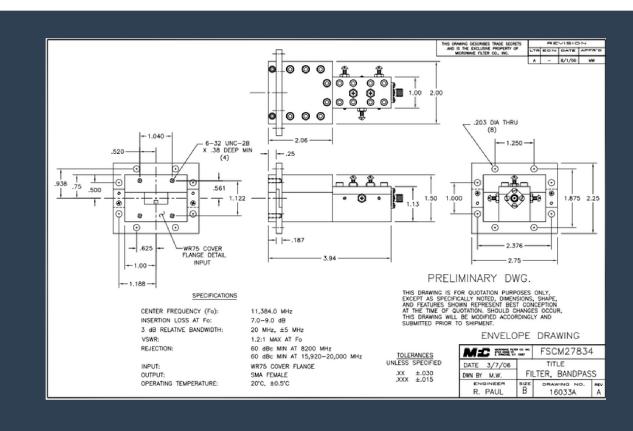
PATRIOT ANTENNA SYSTEMS



# **KU-BAND BANDPASS**

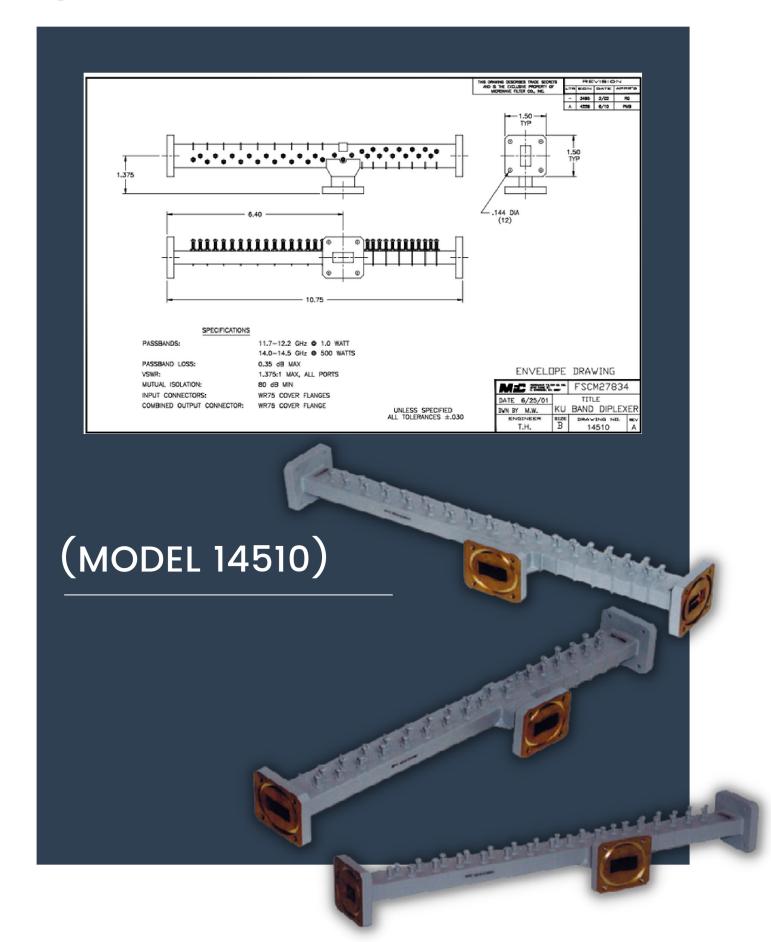


## **BANDPASS FILTER**

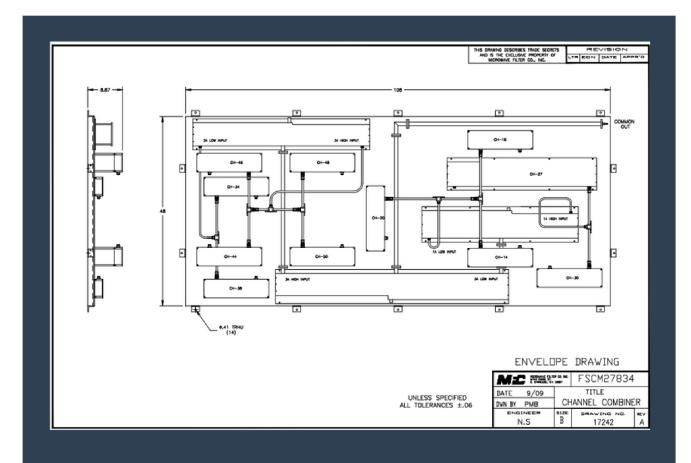




# **KU-BAND DIPLEXER**

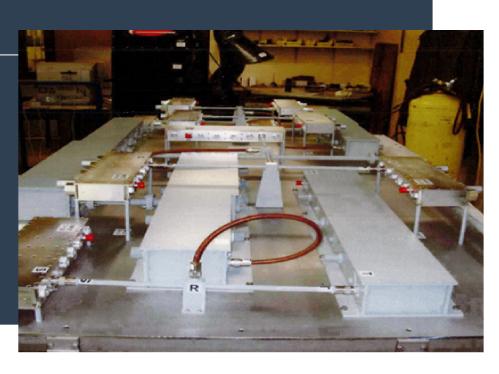


# CHANNEL COMBINER

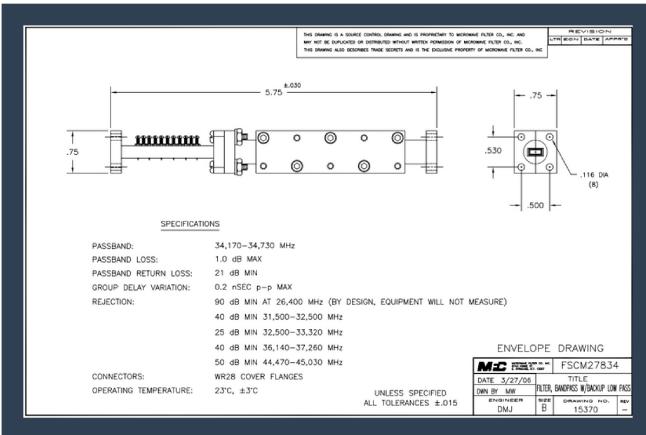


# (MODEL 17242)

MOAPA VALLEY TV

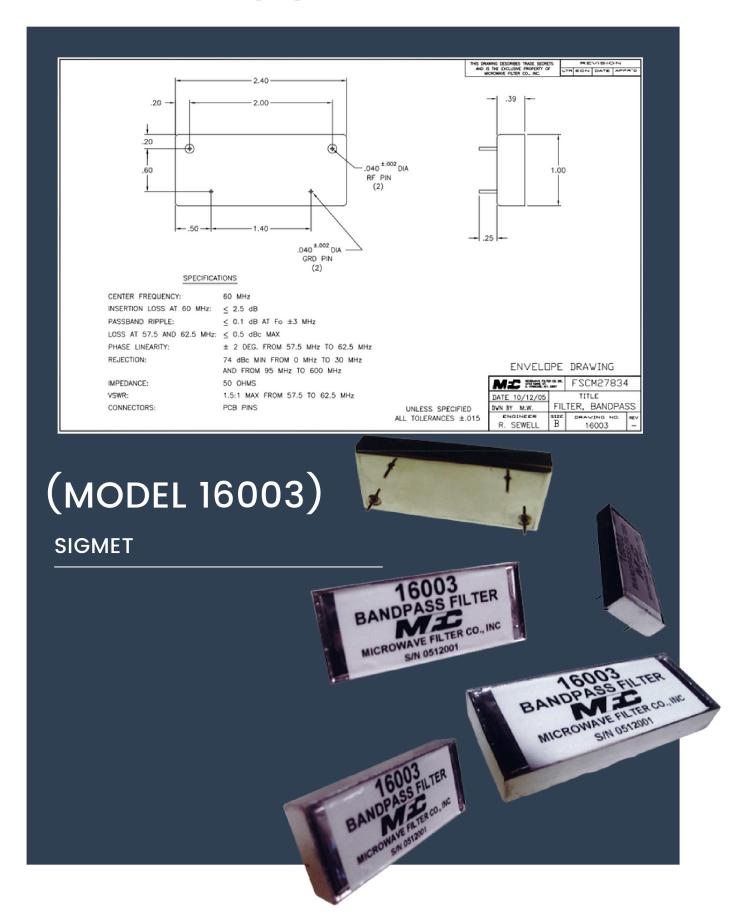


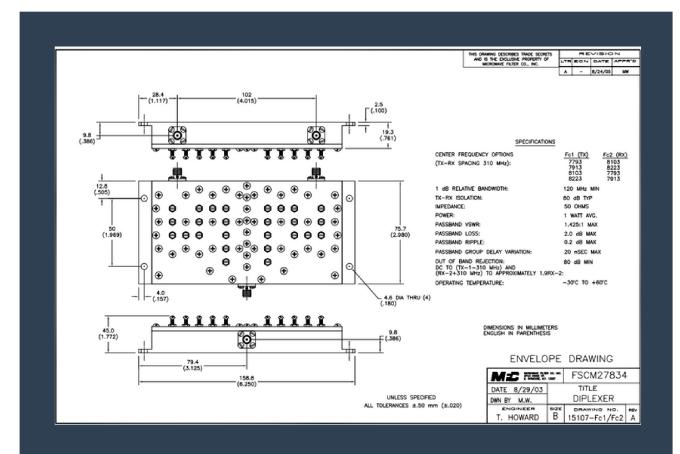
## **BANDPASS FILTER**

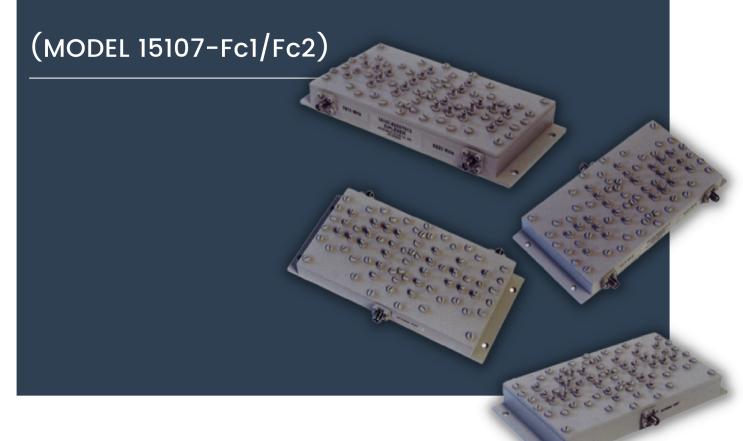




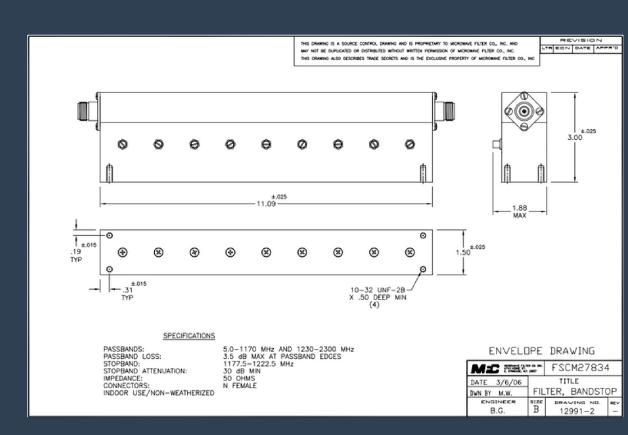
## **BANDPASS FILTER**



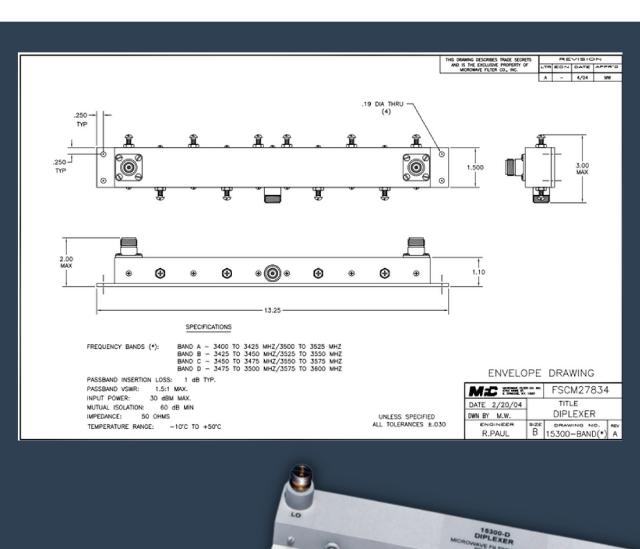




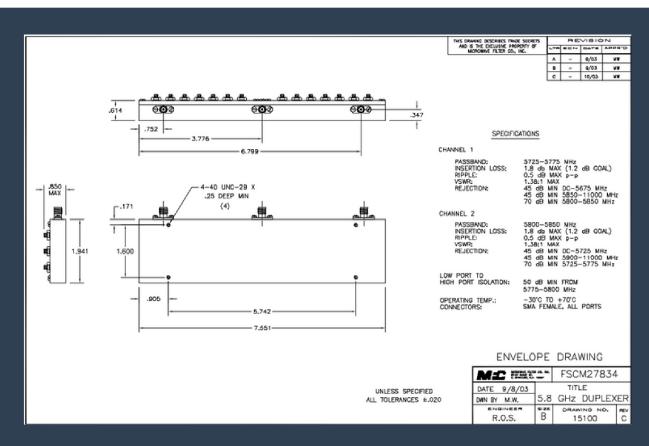
## **BANDSTOP FILTER**

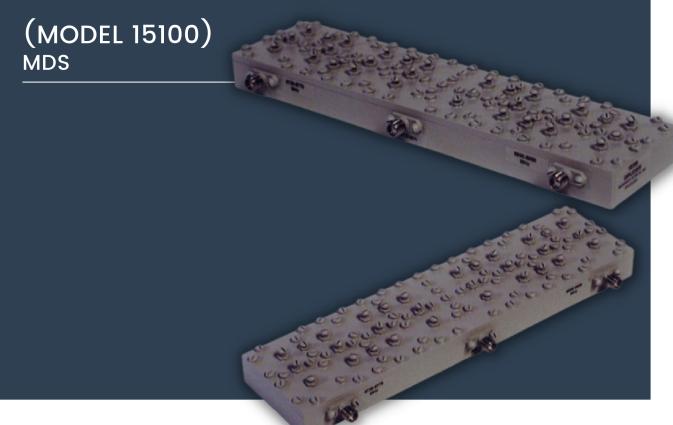


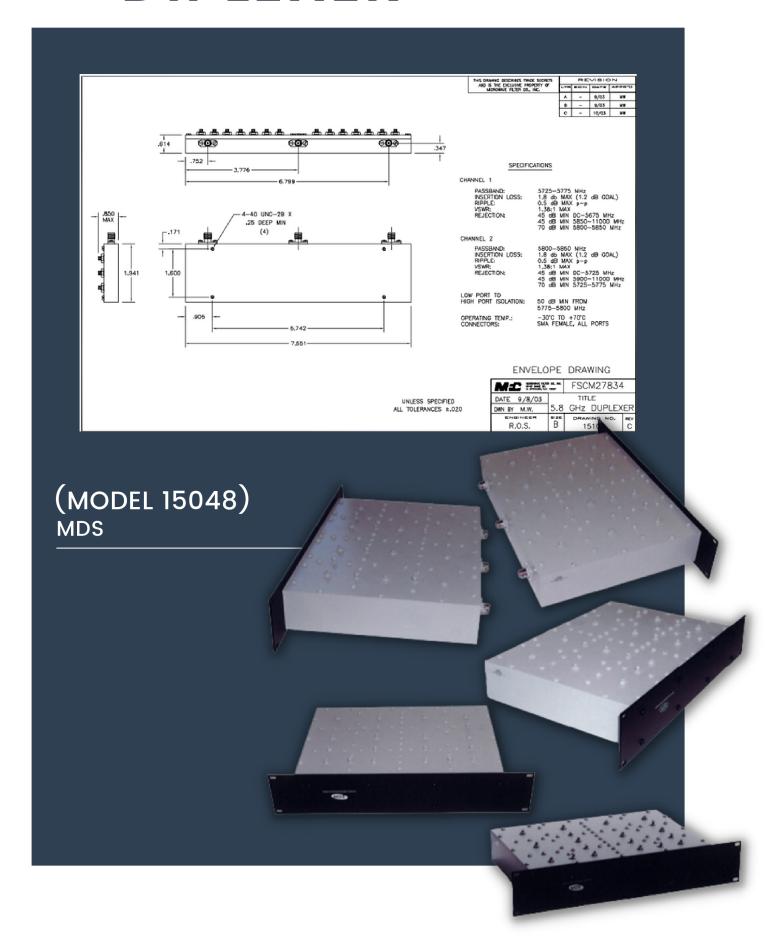


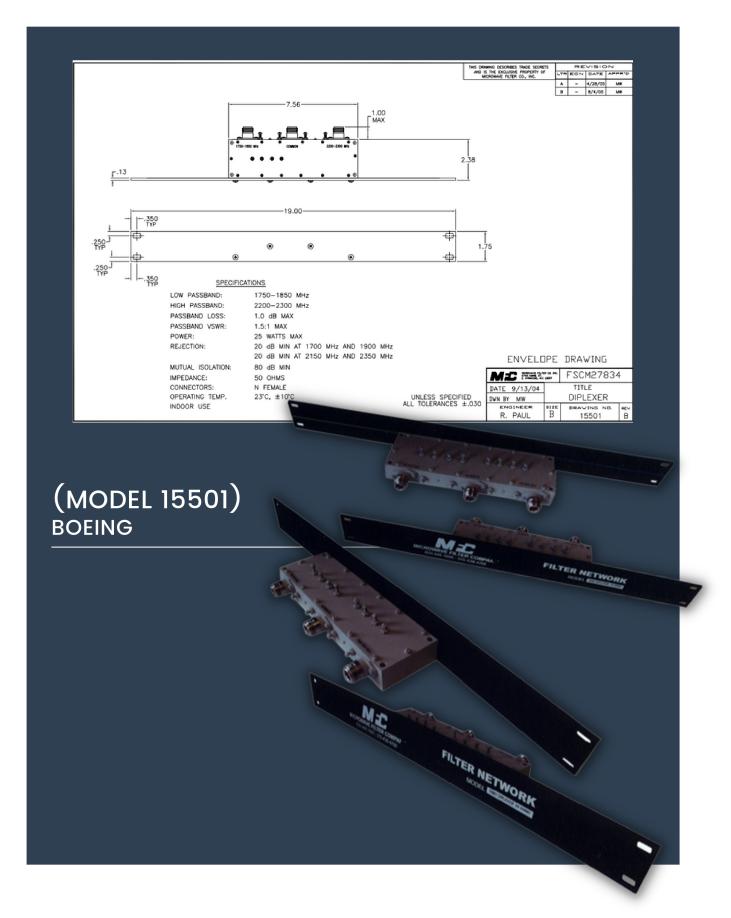




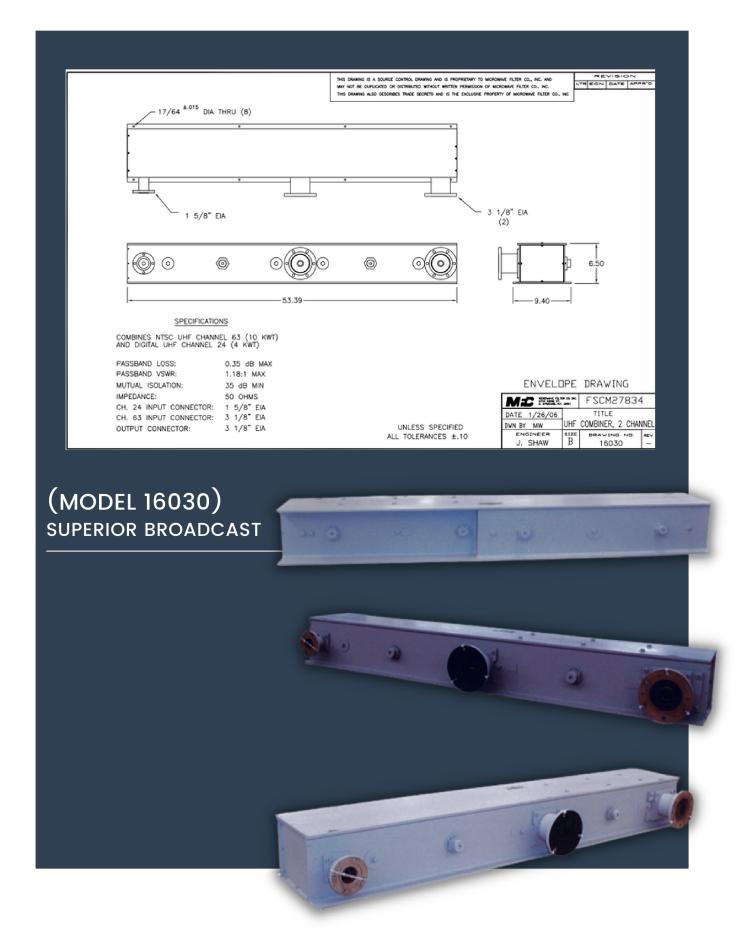




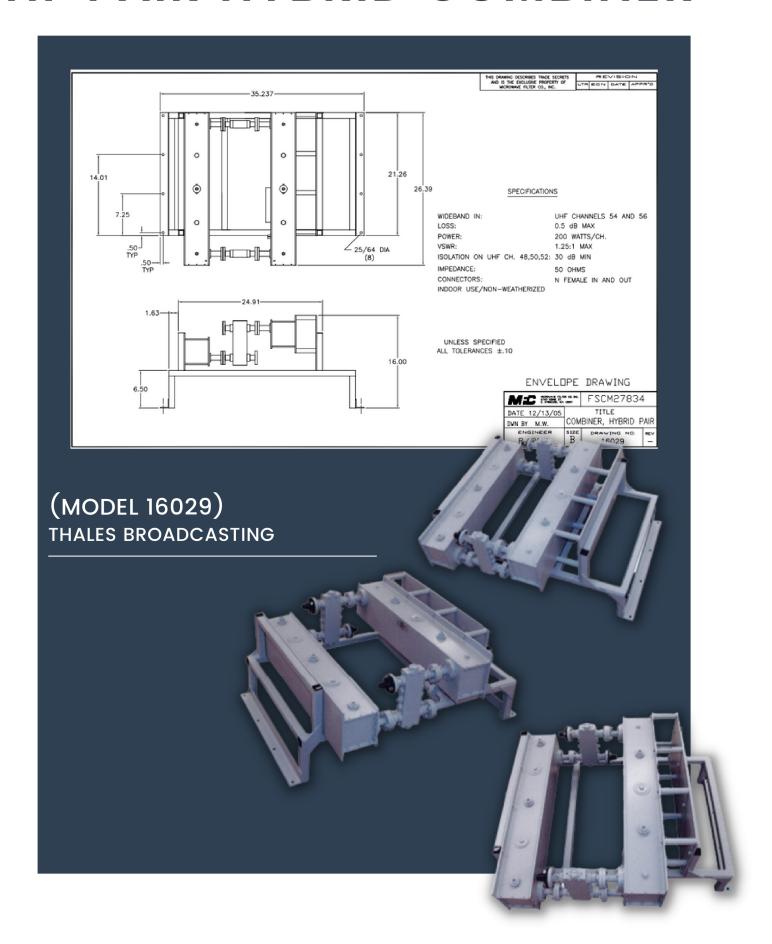




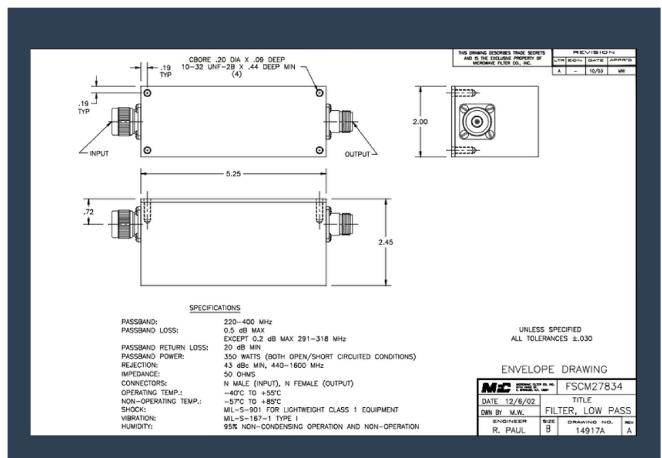
#### **UHF CHANNEL COMBINER**



#### **UHF PAIR HYBRID COMBINER**

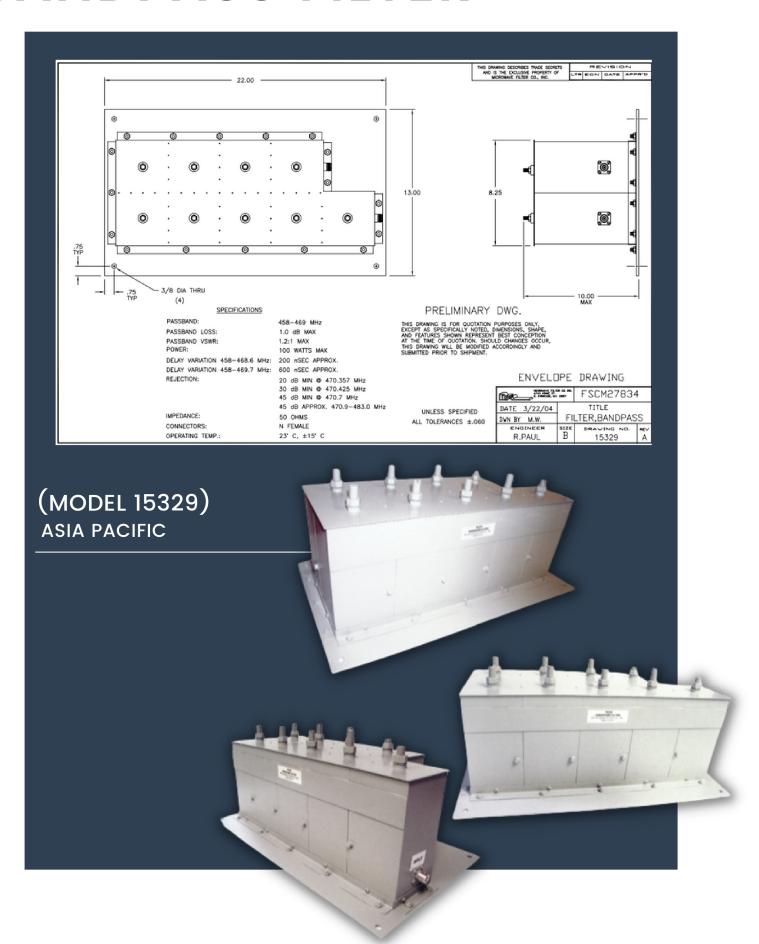


#### LOWPASS FILTER

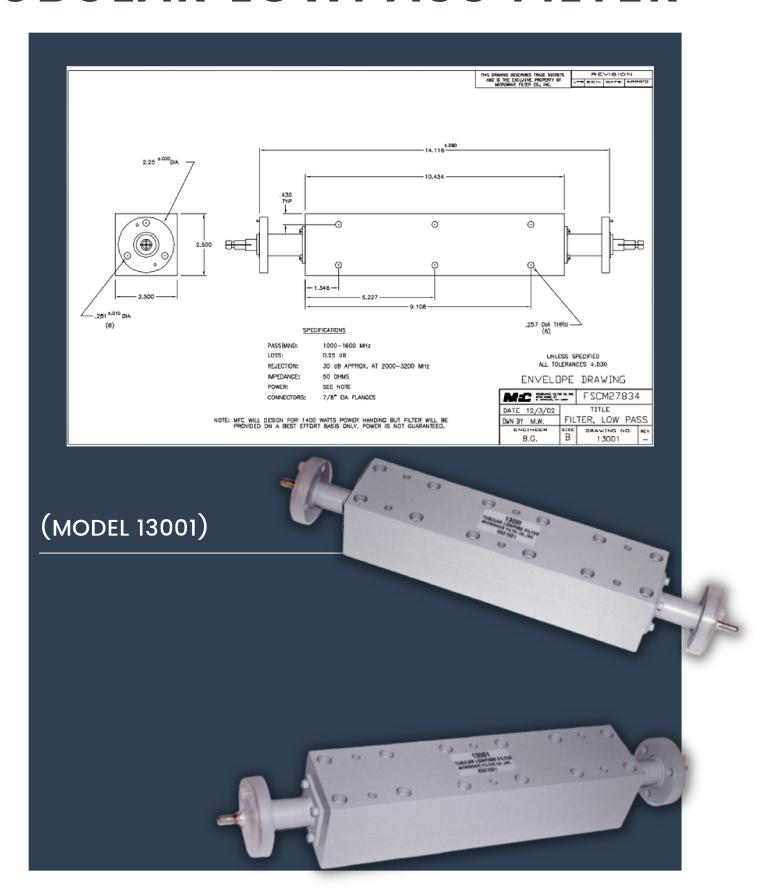




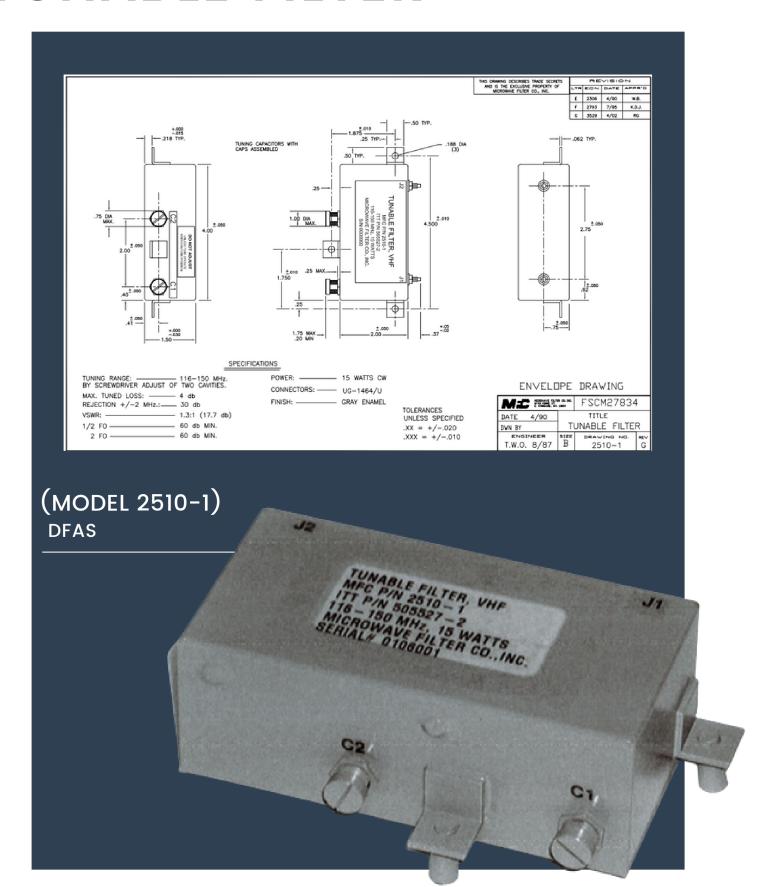
#### **BANDPASS FILTER**



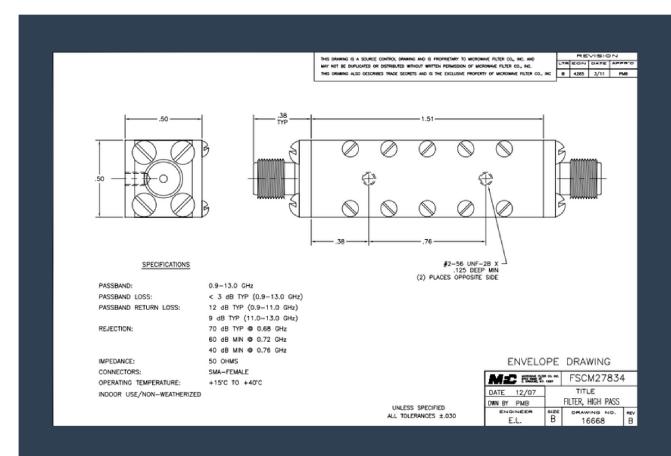
#### **TUBULAR LOWPASS FILTER**

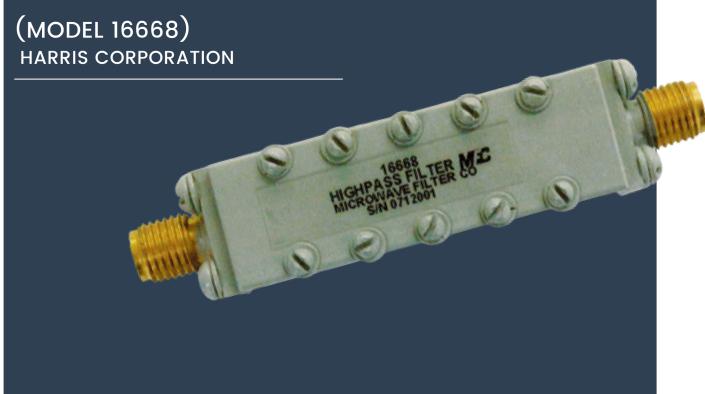


#### **TUNABLE FILTER**

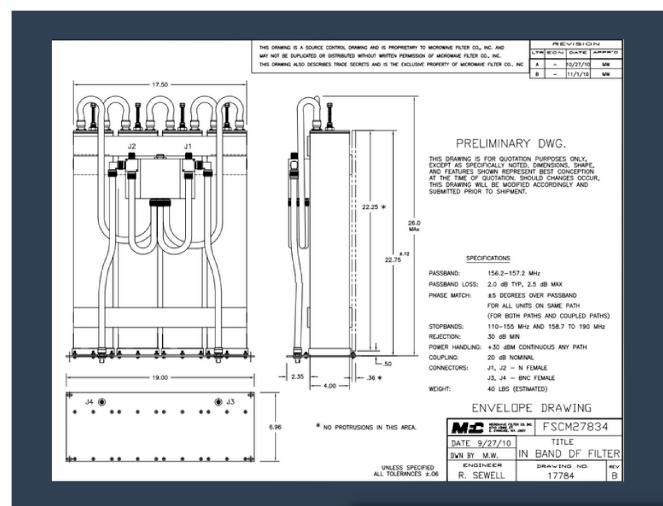


#### HIGHPASS FILTER





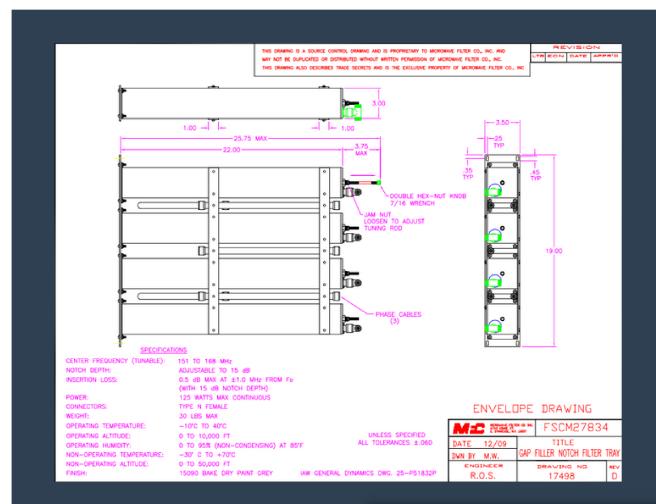
## IN BAND DF FILTER



(MODEL 17784)
GENERAL DYNAMICS



#### **GAP FILLER NOTCH FILTER TRAY**



(MODEL 17498)
GENERAL DYNAMICS



# Notes

