

SignalOn® Series

Passive Modules Splitter/Combiner Modules



5RU Chassis
(front view)

Features

- Available in 5-1002 MHz (equalized) or 5-1218 MHz (non-equalized)
- High passive isolation to support CCAP™/D3.1
- Plain versions available with no port padding or monitor port
- Patented make-before-break attenuator pad design for hitless signal balancing
- Chassis supports both passive and active modules
- Clear chassis door provides protection and clear view of modules
- Clear pad cover for quick inspection of pad/EQ values

D3.1/CCAP™
Compliant

1.2 GHz

- High quality, precision F connectors
- Available in 1RU, 2RU, and 5RU chassis
- One year warranty on all passive modules
- Designed to exceed NEBS requirements for grounding/bonding
- Certifications: FCC Class B, U/L, NEBS Level 3

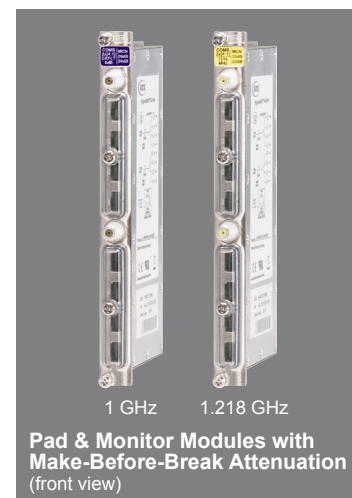
Specifications

Make-Before-Break (MBB) Splitter/Combiner Module

		N-MCF1214M0H		
MEASUREMENT	FREQUENCY	MIN (dB)	NOM (dB)	MAX (dB)
INSERTION LOSS (4-way)	5 MHz	6.3	7.7	8.3
	50 MHz	6.4	7.8	8.4
	550 MHz	6.9	8.4	8.9
	870 MHz	7.3	8.8	9.3
	1002 MHz	7.5	8.9	9.5
	1218 MHz	7.7	9.2	9.7
INSERTION LOSS (2-way)	5 MHz	3.1	3.6	4.1
	50 MHz	3.2	3.7	4.2
	550 MHz	3.8	4.3	4.8
	870 MHz	4.2	4.7	5.2
	1002 MHz	4.3	4.8	5.3
	1218 MHz	4.6	5.1	5.6
FLATNESS	50-1218 MHz		< 0.5	< 0.7
TEST PORT LOSS & FLATNESS	50-1218 MHz	19	20	21
ISOLATION (Min) PORT-TO-PORT	50-1218 MHz	30	32	
RETURN LOSS (Min) ANY PORT	5-50 MHz	16	18	
	5-1002 MHz	20	22	
	1002-1218 MHz	18	20	
RFI (Min)	5-1218 MHz	100		

NOTES:

Device to device isolation >70 dB.
Test point is relative to the common.



Pad & Monitor Modules with
Make-Before-Break Attenuation
(front view)

Specifications

Make-Before-Break (MBB) Splitter/Combiner Module

		8-WAY WITH TP & MBB				DUAL 4-WAY WITH TP & MBB				TRIPLE 2-WAY WITH TP & MBB			
		N-M*F18M0		N-M*F18M0H		N-M*F24M0		N-M*F24M0H		N-M*F32M0		N-M*F32M0H	
FREQUENCY RANGE	$F_{\min} - F_{\max}$	5-1002 MHz		5-1218 MHz		5-1002 MHz		5-1218 MHz		5-1002 MHz		5-1218 MHz	
MEASUREMENT	FREQUENCY	MIN (dB)	MAX (dB)	MIN (dB)	MAX (dB)	MIN (dB)	MAX (dB)	MIN (dB)	MAX (dB)	MIN (dB)	MAX (dB)	MIN (dB)	MAX (dB)
INSERTION LOSS	5 MHz	11.9	12.9	9	11	8.1	9.1	6.3	8.3	4.1	5.1	2.7	4.7
	50 MHz	11.9	12.9	9.1	11.1	8.1	9.1	6.4	8.4	4.1	5.1	2.7	4.7
	550 MHz	11.9	12.9	10.3	12.3	8.1	9.1	6.9	8.9	4.1	5.1	3.2	5.2
	870 MHz	11.9	13.1	11.1	13.1	8.1	9.3	7.3	9.3	4.1	5.3	3.5	5.5
	1002 MHz	11.9	13.1	11.5	13.5	8.1	9.3	7.5	9.5	4.1	5.3	3.6	5.6
	1218 MHz			12	14			7.9	9.7			3.8	5.8
FLATNESS	50- $F_{\max}$ MHz		< 1.0		< 0.7		< 1.0		< 0.6		< 1.0		< 0.5
TEST POINT	5- $F_{\max}$ MHz	19.2	20.8	19	21	19.2	20.8	19	21	19.2	20.8	19	21
RETURN LOSS	5-50 MHz	16		16		16		16		16		16	
	50-1002 MHz	20		20		20		20		20		20	
	1002-1218 MHz			18				18				18	

NOTE:

** - 1st * = S (splitter), C (combiner) or X (one splitter, one combiner).

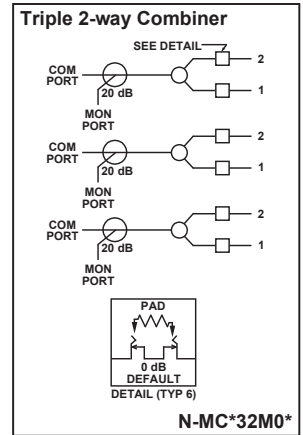
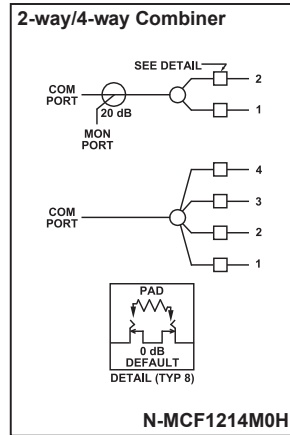
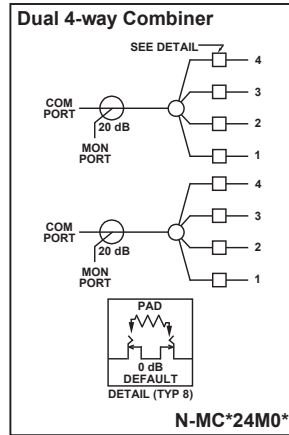
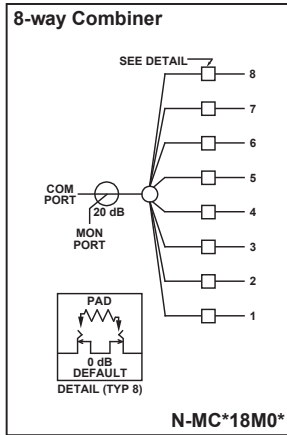
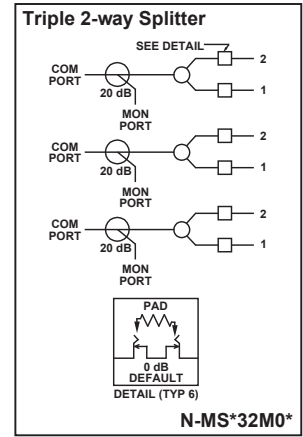
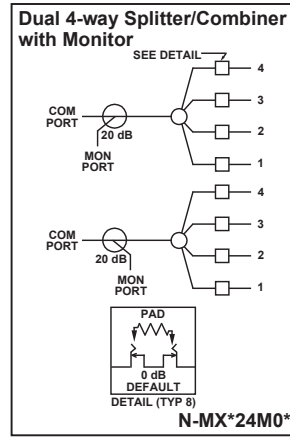
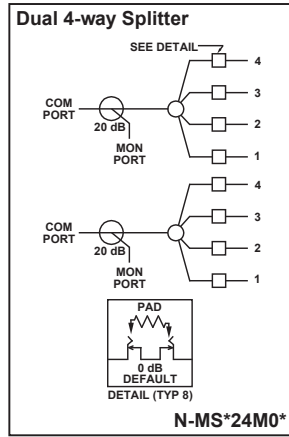
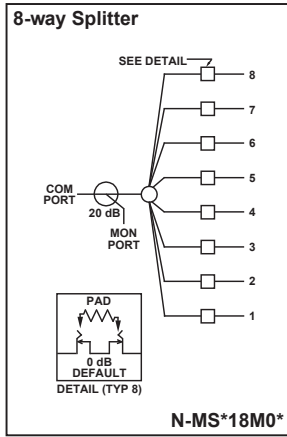
Specifications

Plain Splitter/ Combiner Module

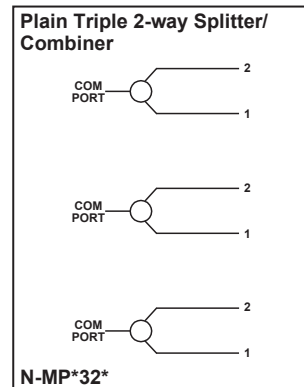
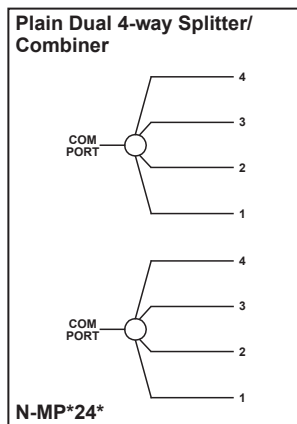
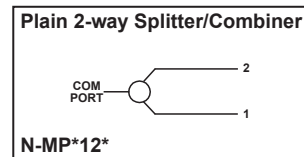
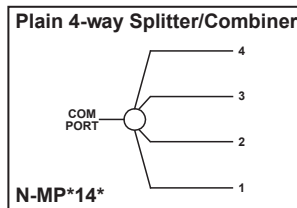
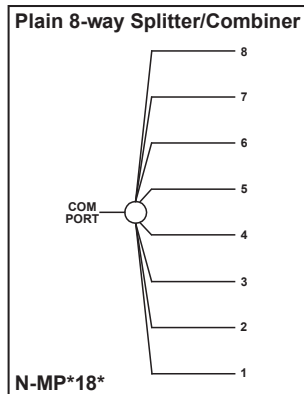
		PLAIN 8-WAY				PLAIN SINGLE/DUAL 4-WAY				PLAIN SINGLE/TRIPLE 2-WAY			
		N-MPF18		N-MPF18H		N-MPF14 / N-MPF24		N-MPF24H		N-MPF12 / N-MPF32		N-MPF32H	
FREQUENCY RANGE	$F_{\min} - F_{\max}$	5-1002 MHz		5-1218 MHz		5-1002 MHz		5-1218 MHz		5-1002 MHz		5-1218 MHz	
MEASUREMENT	FREQUENCY	MIN (dB)	MAX (dB)	MIN (dB)	MAX (dB)	MIN (dB)	MAX (dB)	MIN (dB)	MAX (dB)	MIN (dB)	MAX (dB)	MIN (dB)	MAX (dB)
INSERTION LOSS	5 MHz	11.1	12.1	8.5	10.5	7	7.8	5.5	7.5	3.5	4.3	3	4
	50 MHz	11.1	12.1	8.6	10.6	7	7.8	5.5	7.5	3.5	4.3	3	4
	550 MHz	11.1	12.1	9.4	11.4	7	7.8	5.7	7.7	3.5	4.3	3.3	4.3
	870 MHz	11.1	12.1	9.9	11.9	7	7.8	5.9	7.9	3.5	4.3	3.4	4.4
	1002 MHz	11.1	12.1	10.1	12.1	7	7.8	5.9	7.9	3.5	4.3	3.5	4.5
	1218 MHz			10.5	12.5			6	8			3.6	4.6
FLATNESS	50- $F_{\max}$ MHz		< 1.0		< 0.6		< 1.0		< 0.5		< 1.0		< 0.5
RETURN LOSS	5-50 MHz	20		18		20		18		20		18	
	50-1002 MHz	20		20		20		20		20		20	
	1002-1218 MHz			18				18				18	

NOTE:

* = F connectors.



Functional Schematics
Make-Before-Break (MBB) Splitter/Combiner Module



Functional Schematics
Plain Splitter/Combiner Module

Ordering Information

Make-Before-Break (MBB) Splitter/Combiner Module

Example Part Number: N-M C F 24 M0 H					
	1	2	3	4	5
1: Module Type: C = Combiner with Pad/Monitor S = Splitter with Pad/Monitor X = Splitter and Combiner with Pad/Monitor - 2x4:1 Module only					
2: Connector Type: F = F					
3: Configuration: 18 = 8:1 24 = 2x4:1* 32 = 3x2:1*					
4: Make-Before-Break Attenuation: M0 = 0 dB Default					
5: Frequency: H = 1.218 GHz Blank = 1.002 GHz					
Part Number		Description			
1.218 GHz Splitter/Combiner Modules with Pad & Monitor					
N-MCF24M0H		Combiner with Monitor, 1.218 GHz, F Connector, 2x4:1, 0 dB Default			
N-MSF24M0H		Splitter with Monitor, 1.218 GHz, F Connector, 2x4:1, 0 dB Default			
N-MXF24M0H		Splitter/Combiner with Monitor, 1.218 GHz, F Connector, 2x4:1, 0 dB Default			
N-MCF32M0H		Combiner with Monitor, 1.218 GHz, F Connector, 3x2:1, 0 dB Default			
N-MSF32M0H		Splitter with Monitor, 1.218 GHz, F Connector, 3x2:1, 0 dB Default			
N-MCF18M0H		Combiner with Monitor, 1.218 GHz, F Connector, 8:1, 0 dB Default			
N-MSF18M0H		Splitter with Monitor, 1.218 GHz, F Connector, 8:1, 0 dB Default			
N-MCF1214M0H		Combiner with Monitor, 1.218 GHz, F Connector, 1x2:1, 1x4:1, 0 dB Default			
1 GHz Splitter/Combiner Modules with Pad & Monitor					
N-MCF24M0		Combiner with Monitor, 1 GHz, F Connector, 2x4:1, 0 dB Default			
N-MSF24M0		Splitter with Monitor, 1 GHz, F Connector, 2x4:1, 0 dB Default			
N-MXF24M0		Splitter/Combiner with Monitor, 1 GHz, F Connector, 2x4:1, 0 dB Default			
N-MCF32M0		Combiner with Monitor, 1 GHz, F Connector, 3x2:1, 0 dB Default			
N-MSF32M0		Splitter with Monitor, 1 GHz, F Connector, 3x2:1, 0 dB Default			
N-MCF18M0		Combiner with Monitor, 1 GHz, F Connector, 8:1, 0 dB Default			
N-MSF18M0		Splitter with Monitor, 1 GHz, F Connector, 8:1, 0 dB Default			

NOTE:

* 3x2:1 and 2x4:1 housed in a single module.

Ordering Information

Plain Splitter/Combiner Module

Example Part Number: N-M P F 24 H 1 2 3 4	
1: Module Type: P = Plain Splitter/Combiner	
2: Connector Type: F = F	
3: Configuration: 12 = 2:1 14 = 4:1 18 = 8:1 24 = 2x4:1* 32 = 3x2:1*	
4: Frequency: H = 1.218 GHz Blank = 1.002 GHz	
Part Number	Description
1.218 GHz Plain Splitter/Combiner Modules	
N-MPF18H	Plain, 1.218 GHz, F Connector, 8:1
N-MPF24H	Plain, 1.218 GHz, F Connector, 2x4:1
N-MPF32H	Plain, 1.218 GHz, F Connector, 3x2:1
1 GHz Plain Splitter/Combiner Modules	
N-MPF12	Plain, 1 GHz, F Connector, 2:1
N-MPF14	Plain, 1 GHz, F Connector, 4:1
N-MPF18	Plain, 1 GHz, F Connector, 8:1
N-MPF24	Plain, 1 GHz, F Connector, 2x4:1
N-MPF32	Plain, 1 GHz, F Connector, 3x2:1

NOTE:

* 3x2:1 and 2x4:1 housed in a single module.

Specifications

RF Module

ENVIRONMENTAL	
OPERATING TEMPERATURE	0°C to +50°C (+32°F to +122°F)
STORAGE TEMPERATURE	-40°C to +70°C (-40°F to +158°F)
STORAGE HUMIDITY	5-95% Non-condensing
ELECTRICAL	
EMI (EXTERNAL)	< -100 dBc
INTERNAL ISOLATION OF DUAL/TRIPLE MODULES	< -70 dBc
TEST POINT	Splitter: Measured between COMMON INPUT and TP MONITOR
	Combiner: Measured relative to COMMON OUTPUT
	+/- 1 dB Accuracy from Nominal
RETURN LOSS, IN/OUT	> 20 dB
RETURN LOSS, TP	> 16 dB
ISOLATION, PORT-TO-PORT	> 30 dB
FLATNESS	Defined as MAX +/- dB Deviation from Linear Trend Line
IMPEDANCE	75 Ω Nominal
OTHER	
DIMENSIONS	8.25"H x 0.83"W x 4.1"D (20.96H x 2.1W x 10.4D cm)
WEIGHT	1.43 lbs (0.65 kg)

NOTE:

* Unless otherwise stated by module specific table and applies from F_{min} to F_{max}

SignalOn® Series is a registered trademark of ATX in the United States and/or other countries. Products or features contained herein may be covered by one or more U.S. or foreign patents. Other non-ATX product and company names mentioned in this data sheet are the property of their respective companies.

© 2019 by ATX Networks Corp. and its affiliates (collectively "ATX Networks Corp."). All rights reserved. This material may not be published, broadcast, rewritten, or redistributed. Information in this document is subject to change without notice.
Rev. 10/19 (ANW1096)



ATX Networks

Tel: 289.204.7800 | Toll-Free: 866.YOUR.ATX | support@atx.com