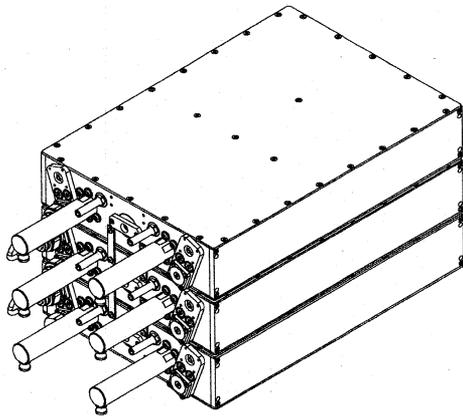


# FM 2-Pole 80 mm Manifold Combiner

## MX2P80KF

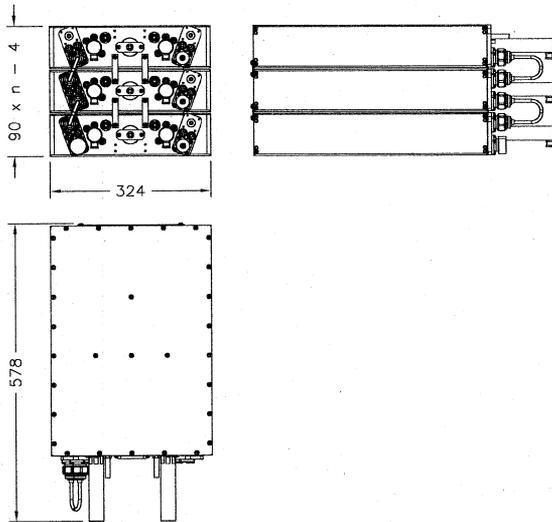


### FEATURES

- 2-Pole
- 80 mm Cavity Size
- EVA-Mode Design
- 2.0 MHz Minimum Frequency Spacing
- Full Band Tunability
- 2U Rack Ready Design
- DC Short
- Interchangeable Connector System

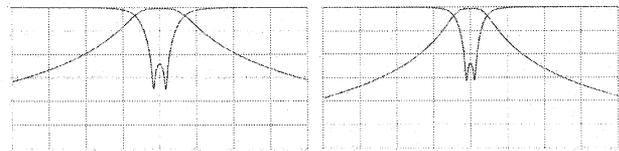
### OPTIONS

- 19" Rack Panel



### SPECIFICATIONS

Code / Revision	B-MX2P80KF / A
Order / Cavity Size	2-Pole / 80 mm
Frequency Range	87.5-108 MHz
Frequency Spacing	≥ 2.0 MHz
Temperature Stability	< 2 kHz/K
Max Operating Temperature (Body)	65°C (149°F)
Environmental Conditions	-5 to +55°C (+23 to +131°F), IP60
Dimensions / Weight <sup>(1)</sup>	324x578x86 mm / 9.5 kg (21 lb.)
Links	SM250 Cable (7-16 Female)
Connectors <sup>(2)</sup>	<b>32 mm Inputs; Output</b>
	D-PC32E 7-16 Female (Default)
	D-PC32G 7/8" FastLine Socket
	D-PC32H 7/8" FastLine Flange
Options <sup>(2)</sup>	O-KP2.02 2U Panel, with Handles



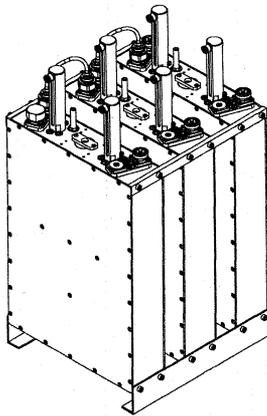
### TUNING DATA <sup>(2)</sup>

Tuning Code / Bandwidth	2.8	2.0
Tuning Code / Bandwidth	T-2F.01 / 2.8 MHz	T-2F.02 / 2.0 MHz
Frequency Spacing	2.8 MHz	2.0 MHz
Max RMS Input Power <sup>(3)</sup>	108 MHz	108 MHz
Default	650 W	470 W
Max RMS Output Power	2.00 kW	2.00 kW
Insertion Loss	87.5 MHz 108 MHz	87.5 MHz 108 MHz
	C.F. < 0.52 dB < 0.52 dB	C.F. < 0.73 dB < 0.73 dB
	±150 kHz < 0.54 dB < 0.54 dB	±150 kHz < 0.80 dB < 0.80 dB
	+ 0.06·(n-1) dB	+ 0.06·(n-1) dB
Selectivity	C.F. ± 2.8 MHz > 26 dB	C.F. ± 2.0 MHz > 26 dB
Return Loss / VSWR	> 26 dB / < 1.1	> 26 dB / < 1.1
Isolation	> 30 dB	> 30 dB
Group Delay Variation	< 40 ns	< 80 ns

<sup>(1)</sup> Default configuration <sup>(2)</sup> Other Connectors/Options/Tunings available <sup>(3)</sup> Altitude < 1500 m (4,900 ft.), free air, standard environmental conditions, non-adjacent channels

# FM 2-Pole 80 mm Manifold Combiner

## MX2P80F

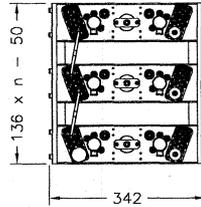
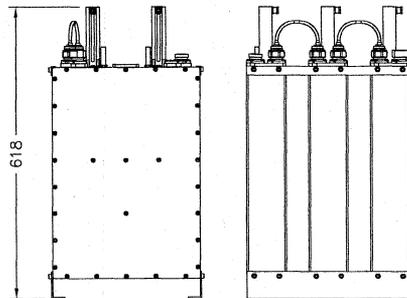


### FEATURES

- 2-Pole
- 80 mm Cavity Size
- EVA-Mode Design
- 2.0 MHz Minimum Frequency Spacing
- Full Band Tunability
- DC Short
- Interchangeable Connector System

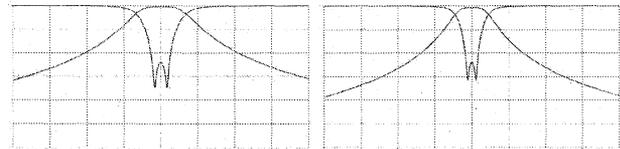
### OPTIONS

- Frame



### SPECIFICATIONS

Code / Revision	B-MX2P80F / A
Order / Cavity Size	2-Pole / 80 mm
Frequency Range	87.5-108 MHz
Frequency Spacing	≥ 2.0 MHz
Temperature Stability	< 2 kHz/K
Max Operating Temperature (Body)	65°C (149°F)
Environmental Conditions	-5 to +55°C (+23 to +131°F), IP60
Dimensions / Weight <sup>(1)</sup>	342x86x618 mm / 9.5 kg (21 lb.)
Links	SM250 Cable (7-16 Female)
Connectors <sup>(2)</sup>	<b>32 mm Inputs; Output</b> D-PC32E 7-16 Female (Default) D-PC32G 7/8" FastLine Socket D-PC32H 7/8" FastLine Flange
Options <sup>(2)</sup>	O-RDM.04 30mm Modular frame



### TUNING DATA <sup>(2)</sup>

	2.8	2.0
Tuning Code / Bandwidth	T-2F.01 / 2.8 MHz	T-2F.02 / 2.0 MHz
Frequency Spacing	2.8 MHz	2.0 MHz
Max RMS Input Power <sup>(3)</sup>	108 MHz 930 W	108 MHz 670 W
Max RMS Output Power	2.00 kW	2.00 kW
Insertion Loss	87.5 MHz < 0.52 dB 108 MHz < 0.52 dB ±150 kHz < 0.54 dB + 0.06·(n-1) dB	87.5 MHz < 0.73 dB 108 MHz < 0.73 dB ±150 kHz < 0.80 dB + 0.06·(n-1) dB
Selectivity	C.F. ± 2.8 MHz > 26 dB	C.F. ± 2.0 MHz > 26 dB
Return Loss / VSWR	> 26 dB / < 1.1	> 26 dB / < 1.1
Isolation	> 30 dB	> 30 dB
Group Delay Variation	< 40 ns	< 80 ns

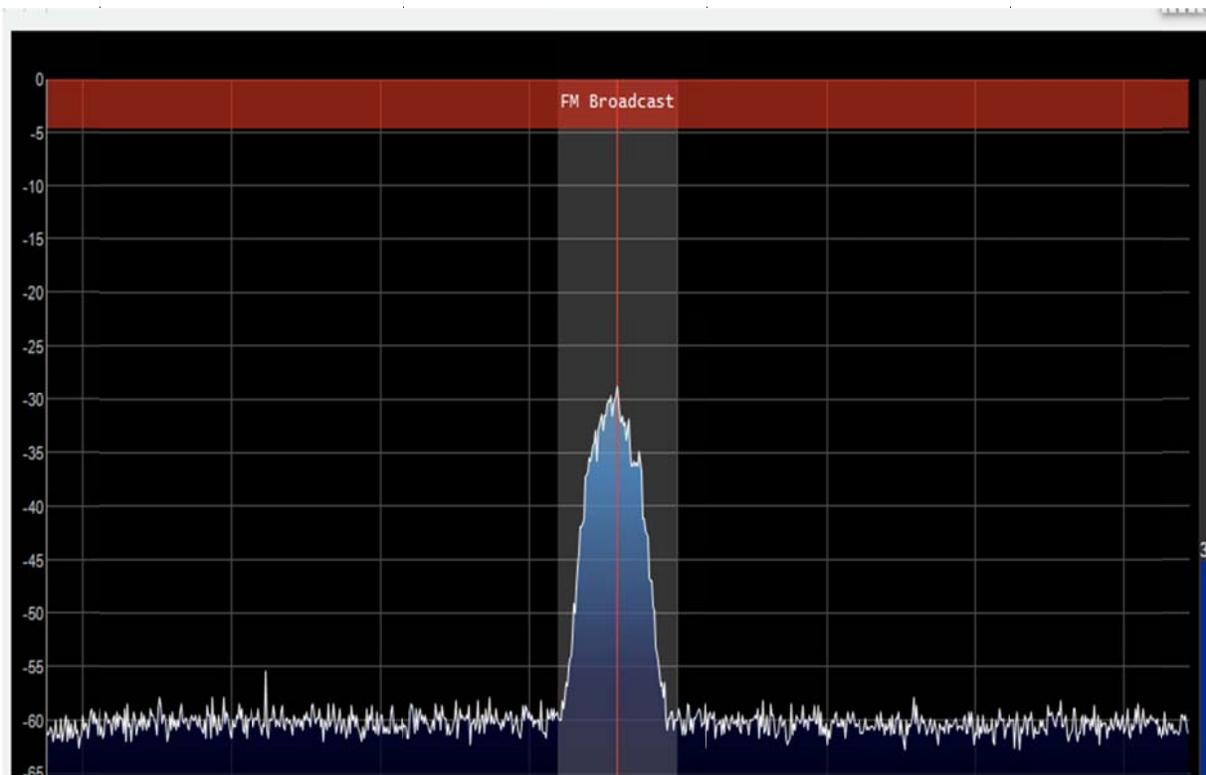
<sup>(1)</sup> Default configuration <sup>(2)</sup> Other Connectors/Options/Tunings available <sup>(3)</sup> Altitude < 1500 m (4,900 ft.), free air, standard environmental conditions, non-adjacent channels

This exhibit is to satisfy Special Operating Condition for Construction Permit BNPFT-20190729ABB for Station W295BJ) to combine with the licensed operation of station W269DS. These measurements comply with the requirements of 47CFR 73.317(b) through 73.317(d).

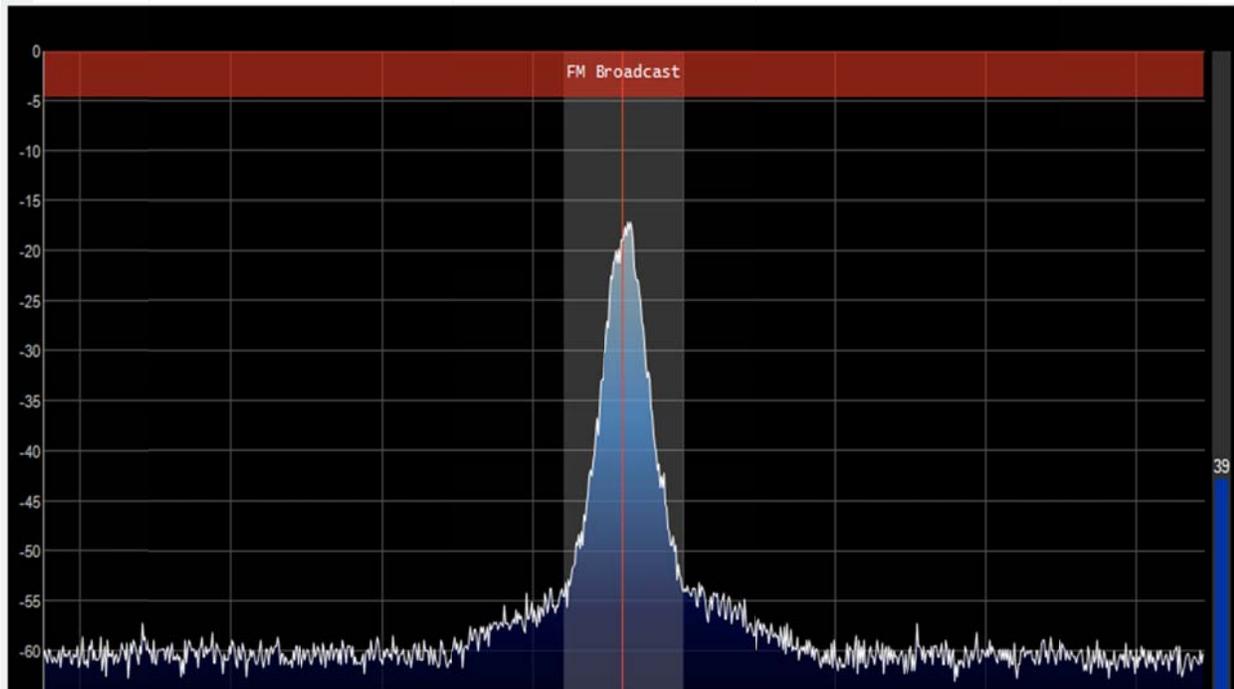
The first requirement in that section is that "Any emission appearing on a frequency removed from the carrier by between 120 kHz and 240 kHz inclusive must be attenuated at least 25 dB below the level of the unmodulated carrier. Compliance with this requirement will be deemed to show the occupied bandwidth to be 240 kHz or less"

The 2 spectral images following demonstrate clearly that both facilities meet this requirement:

101.7 Mhz



106.9 Mhz



The next section of 47CFR 73.317 requires "Any emission appearing on a frequency removed from the carrier by more than 240 kHz and up to and including 600 kHz must be attenuated at least 35 dB below the level of the unmodulated carrier" Again, these spectral images demonstrate compliance with this requirement as well.

Finally, Section 73.318(d) requires that "Any emission appearing on a frequency removed from the carrier by more than 600 kHz must be attenuated at least  $43 + 10 \text{ Log}_{10} (\text{Power, in watts})$  dB below the level of the unmodulated carrier, or 80 dB, whichever is the lesser attenuation"

The licensee installed a PSI 2-port combiner for the operation of the 2 translator facilities. Spurious Emissions measurements for the combined operation were made using a sample of the output of the PSI combiner unit. The following chart of measurements demonstrate compliance with this section of 47CFR 73.317.

Frequency	Reading		Frequency	Reading
88.1	-85.9		93.5	-82.5
88.3	-85.9		93.7	-82.5
88.5	-85.1		93.9	-82.3
88.7	-85.2		94.1	-83.4
88.9	-84.8		94.3	-83.0
89.1	-85.0		94.5	-83.1
89.3	-84.8		94.7	-83.8
89.5	-84.3		94.9	-83.9
89.7	-83.9		95.1	-83.5
89.9	-93.5		95.3	-83.6
90.1	-83.2		95.5	-83.3
90.3	-82.7		95.7	-83.0
90.5	-82.4		95.9	-82.8
90.7	-82.1		96.1	-82.6
90.9	-81.8		96.3	-82.5
91.1	-81.4		96.5	-82.6
91.3	-81.4		96.7	-82.1
91.5	-81.1		96.9	-82.1
91.7	-81.0		97.1	-81.9
91.9	-80.8		97.3	-81.9
92.1	-80.9		97.5	-81.7
92.9	-81.0		97.9	-81.6
93.1	-81.4		98.1	-81.8
93.3	-82.1		98.3	-82.1

Frequency	Reading		Frequency	Reading
98.5	-82.1		104.7	-80.5
98.7	-82.1		104.9	-80.4
98.9	-82.0		105.1	-80.2
99.1	-82.0		105.3	-80.2
99.3	-81.6		105.5	-80.1
99.5	-81.5		105.7	-80.1
99.7	-81.5		105.9	-80.2
99.9	-81.8		106.1	-80.2
100.1-	-----		106.3-	-----
102.3			107.5	
102.5	-82.2		107.7	-80.5
102.7	-82.3		107.9	-80.7
102.9	-82.5			
103.1	-82.8			
103.3	-83.3			
103.5	-82.3			
103.7	-82.4			
103.9	-82.0			
104.1	-82.0			
104.3	-81.5			
104.5	-81.1			
Noise Floor	-67.5			