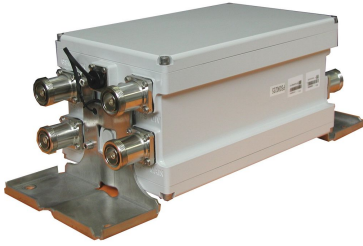# E15R02P10

SpectrumShare Active Filter for GSM 900 and UMTS 900

Product Classification

Product Type   Diplexer

General Specifications

AISG Connector   8-pin DIN Female, circular

AISG Connector Standard   IEC 60130-9

Connector Interface   7-16 DIN Female

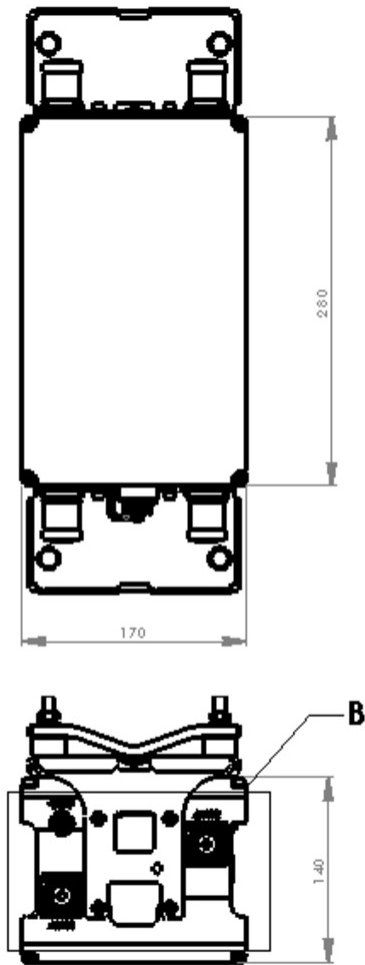**Connector Interface Style**   Long neck

Dimensions

Height   280 mm | 11.024 in

Width   140 mm | 5.512 in

Depth   170 mm | 6.693 in

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Outline Drawing

Electrical Specifications

Input RF CW Power, no damage, maximum	43 dBm @ 1 min
Failure Current Consumption	185 mA ±10 mA @ 10–18 V
Lightning Protection	dc Ground
Lightning Surge Current	5 kA
Lightning Surge Current Waveform	8/20 waveform
Operating Current at Voltage	100 mA ±10 mA @ 10–12 V	140 mA ±15 mA @ 12 V
Overcurrent Protection	2 A
Overcurrent Protection Tolerance	±0.1 A
Power Consumption, maximum	2 W

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Signaling Interface at Frequency	3 dBm @ 2,176 MHz
Signaling Interface Tolerance	±2 dBm
Voltage	0–48 V, survival | 7–30 V, operational

Electrical Specifications, Rx (Uplink)

Filter Attenuation, minimum	45 dB
Frequency Band	880 – 915 MHz
Gain	12 dB
Gain Ripple, maximum, specific	1 dB (UMTS diversity) | 1.5 dB (GSM main)
Gain Tolerance	±1
Group Delay Variation at Frequency, maximum	10 ns @ 240.00 MHz | 70 ns @ 5.00 MHz
Insertion Loss Ripple, Bypass Mode, specific	0.8 dB (UMTS diversity) | 1.3 dB (GSM main)
Insertion Loss, Bypass Mode, typical	6 dB
Return Loss, Bypass Mode, minimum	17 dB
Return Loss, minimum	17 dB
Isolation, minimum, specific	20 dB (GSM main to UMTS diversity) | 36 dB (GSM main to GSM diversity) | 36 dB (GSM main to UMTS main) | 36 dB (UMTS diversity to GSM diversity) | 36 dB (UMTS diversity to UMTS main)
License Band	UMTS 900
Noise Figure, Full Band at Temperature, typical	1.70 dB @ 25 °C
Noise Figure, Mid Band at Temperature, typical	1.20 dB @ 25 °C
Output 1 dB Compression Point, minimum	10 dBm
Output IP3, minimum	23 dBm
Port Designation	Antenna port 1
Total Group Delay, maximum	180 ns

Electrical Specifications 2, Rx (Uplink)

Filter Attenuation, minimum	45 dB
Frequency Band	880 – 915 MHz
Gain	12 dB
Gain Ripple, maximum, specific	1 dB (UMTS diversity) | 1.5 dB (GSM main)
Gain Tolerance	±1
Group Delay Variation at Frequency, maximum	10 ns @ 240.00 MHz | 70 ns @ 5.00 MHz
Isolation, minimum, specific	20 dB (GSM diversity to UMTS main) | 36 dB (GSM diversity to GSM main) | 36 dB (GSM diversity to UMTS diversity) | 36 dB (UMTS

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	main to GSM main)	36 dB (UMTS main to UMTS diversity)
License Band	GSM
Noise Figure, Full Band at Temperature, typical	1.70 dB @ 25 °C
Noise Figure, Mid Band at Temperature, typical	2.00 dB @ 25 °C
Output 1 dB Compression Point, minimum	10 dBm
Output IP3, mimimum	23 dBm
Port Designation	Antenna port 2
Total Group Delay, maximum	180 ns
Insertion Loss Ripple, Bypass Mode, specific	0.8 dB (GSM diversity)	1.3 dB (UMTS main)
Insertion Loss, Bypass Mode, typical	6 dB
Return Loss, Bypass Mode, minimum	17 dB
Return Loss, minimum	17 dB

Electrical Specifications, Tx (Downlink)

3rd Order IMD Test Method	Two +43 dBm carriers
3rd Order IMD, specific	-107 dBm (antenna port 1)	-95 dBm (GSM main)
Filter Attenuation, minimum	50 dB
Frequency Band	925 – 960 MHz
Group Delay Variation at Frequency, maximum	65 ns @ 5.00 MHz
License Band	GSM
Input Power, PEP, maximum	5000 W
Total Group Delay, maximum	110 ns
Insertion Loss Ripple, maximum	0.7 dB
Insertion Loss, maximum	0.85 dB
Return Loss, minimum	18 dB

Electrical Specifications 2, Tx (Downlink)

3rd Order IMD Test Method	Two +43 dBm carriers
3rd Order IMD, specific	-107 dBm (antenna port 2)	-95 dBm (UMTS main)
Filter Attenuation, minimum	80 dBm
Frequency Band	925 – 960 MHz
Group Delay Variation at Frequency, maximum	65 ns @ 5.00 MHz
Input Power, PEP, maximum	5000 W

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Insertion Loss Ripple, maximum	0.7 dB
Insertion Loss, maximum	0.85 dB
License Band	UMTS 900
Return Loss, minimum	18 dB
Total Group Delay, maximum	110 ns

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Block Diagram

BLOCK DIAGRAM
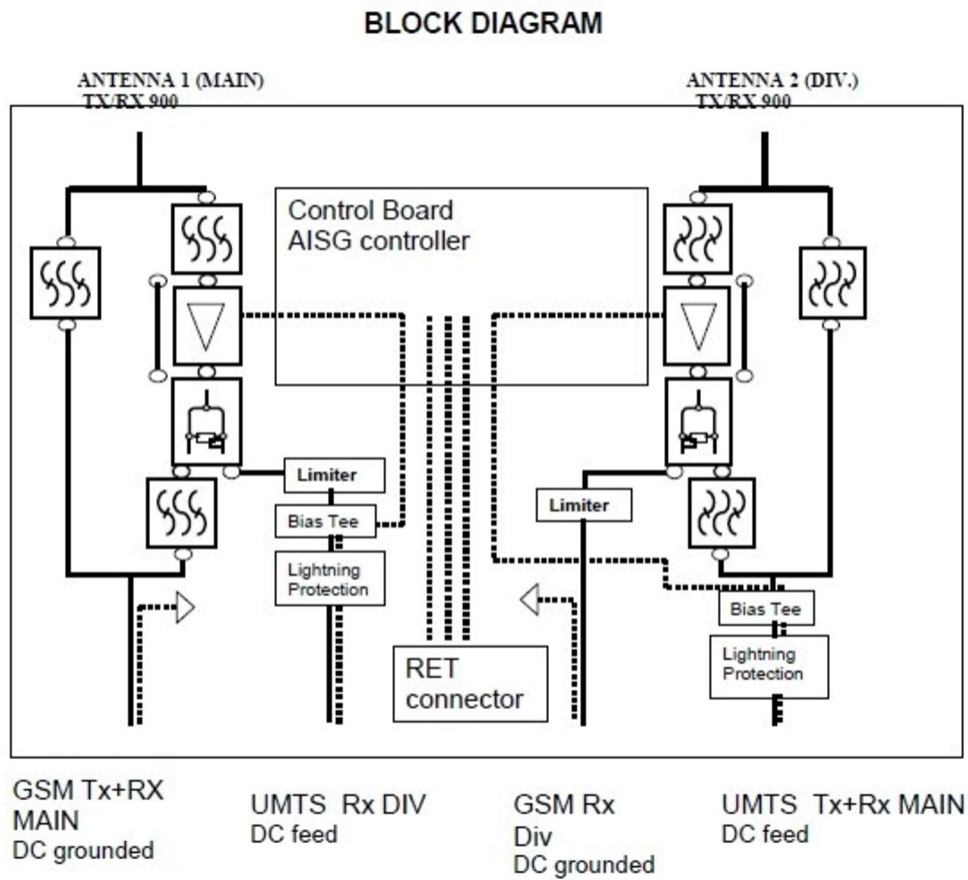
Environmental Specifications

Operating Temperature	-40 °C to +65 °C (-40 °F to +149 °F)
Ingress Protection Test Method	IEC 60529:2001, IP67

Packaging and Weights

Weight, without mounting hardware	8 kg | 17.637 lb

Regulatory Compliance/Certifications

Agency	**Classification**
ISO 9001:2015	Designed, manufactured and/or distributed under this quality management system

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