

DBC0135F1V92-1

TWIN SAME BAND COMBINER 850 A-BAND

Designed to combine two 850MHz base stations, the Kaelus DBC0135 provides a low loss combiner with excellent insertion loss and passive inter-modulation performance.

FEATURES

- Combines UMTS with single 5MHz LTE carrier
- Extremely close (zero guardband) spacing
- Designed for low passive inter-modulation
- DC/AISG autosensing
- Low insertion loss



TECHNICAL SPECIFICATIONS

BAND NAME	R1 (UMTS)	R1 (LTE)
Passband	UARFCN 4385/4160 (DL/UL)	EARFCN 2430/20430 (DL/UL)
Insertion loss	1.0dB typical	1.0dB typical
EVM	8% typical	< 1% typical
Group delay variation	270ns maximum	250ns maximum
Absolute group delay	300ns maximum (band-edge) 100ns typical (mid-band)	250ns maximum (band-edge) 40ns typical (mid-band)
Maximum input power	80W (average) / 800W (PEP)	160W (average) / 1600W (PEP)

ISOLATION COM PORT MUST BE TERMINATED IN 50OHMS

R1 (UMTS) TX frequency range	35dB typical, 30dB minimum
R1 (LTE) TX frequency range	35dB typical, 30dB minimum
R1 (UMTS) RX frequency range	35dB typical, 30dB minimum
R1 (LTE) RX frequency range	35dB typical, 30dB minimum

ELECTRICAL

Impedance	50Ohms
Return loss	20dB minimum, 24dB typical.
Intermodulation products	-157dBc maximum all ports with 2 x 20W carriers (out of band IM testing <3 minutes)

DC / AISG

The DC/AISG path is automatically selected. In bottom of the tower applications (combiner mode), each RF channel port is sequentially checked for the presence of DC voltage. If more than one port has voltage, the port that has the highest (programmed) priority is passed to the common port. If a short circuit is detected on the common port DC/AISG is disabled. In top-of-tower applications (splitter mode), DC/AISG is passed to all ports that do not present a short circuit. If a short circuit is detected, the shorted RF port will be disabled for DC/AISG while other RF ports remain connected.

Input voltage range	8 – 30V DC
DC current rating	2.0A continuous, 2.5A maximum
Compliance	3GPP, TS 37.461
Current consumption	5mA typical, 10mA maximum
Port priority (combiner mode)	R1 (LTE) first, R1 (CDMA) second

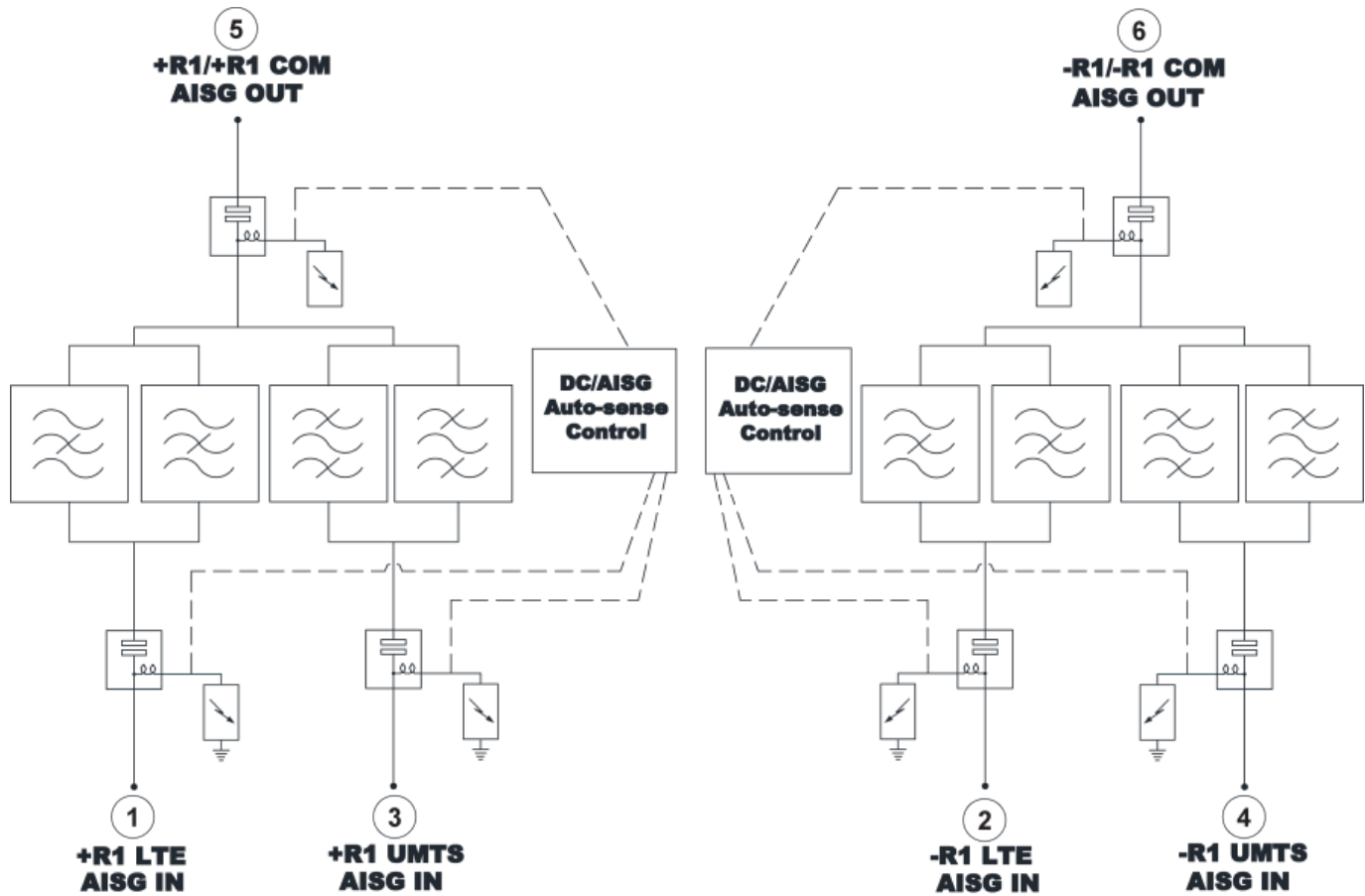
ENVIRONMENTAL	
For further details of environmental compliance, please contact Kaelus.	
Temperature range	-20°C to +65°C +4°F to +149°F
Ingress protection	IP67
Altitude	3,000m 10,000ft maximum
Lightning protection	RF: ±5kA maximum (8/20us)
MTBF	>1,000,000 hours
Compliance	ETSI EN 300 019-1-4 class 4.1, RoHS

MECHANICAL	
Dimensions H x D x W	319 x 257 x 266mm 12.56 x 10.13 x 10.47in
Weight	20.5kg 45.1lbs
Finish	Painted, light grey (RAL7035)
Connectors	4.3/10 (F) x 6 long neck
Mounting	Pole/wall bracket supplied with two metal clamps for 45-178 mm diameter poles

ORDERING INFORMATION

PART NUMBER	R1 (UMTS)	R1 (LTE)	DESCRIPTION
DBC0135F1V92-1	UARFCN 4385/4160 (DL/UL)	EARFCN 2430/20430 (DL/UL)	Twin SBC, A-band DC AUTO R1 (LTE)

ELECTRICAL BLOCK DIAGRAM



MECHANICAL BLOCK DIAGRAM

