

DBC0134F1V72-1

TWIN SAME BAND COMBINER CDMA850 A/B' + LTE700/LTE850 A/B-BANDS

Designed to combine LTE700/LTE850 radio(s) with legacy CDMA850 equipment, the Kaelus DBC0134 is a low loss twin combiner with excellent insertion loss and passive inter-modulation performance.

FEATURES

- Combines/splits legacy CDMA850 & LTE700H/LTE850 A/B-bands
- Supports 10MHz LTE expansion in 850MHz A and/or B-bands
- Allows LTE700/LTE850 & CDMA routing to separate antennas
- Ideal for use with dual band LTE700 & LTE850 radios
- Supports CDMA channels placed in either A' or B'
- Extremely close (zero guardband) spacing
- Designed for low passive inter-modulation
- DC/AISG autosensing with LED status
- Low insertion loss



TECHNICAL SPECIFICATIONS

BAND NAME	R1 (CDMA)	R1 (LTE)
Passband	A' (CH691), B' (CH738/CH779 or CH770)	LTE700, LTE850 (746-844.5, 869-889.5MHz)
Insertion loss	1.1dB typical, 1.9dB maximum	746-798MHz: 0.45dB typical, 0.55dB maximum 824-844.5, 869-889.5MHz: 1.0dB typical, 1.9dB maximum
Return loss	24dB typical, 20dB minimum	24dB typical, 20dB minimum
EVM	3% typical, 7% maximum	0.5% typical, 2% maximum
Group delay variation	250ns maximum	270ns maximum
Absolute group delay	120ns typical (mid-band) 350ns maximum (band-edge)	75ns typical (mid-band) 300ns maximum (band-edge)
Maximum input power	80W (average) / 800W (PEP)	160W (average) / 1600W (PEP)
ISOLATION COM PORT MUST BE TERMINATED IN 50OHMS		
CDMA 850 TX frequency range	35dB typical, 30dB minimum	
LTE 850 TX frequency range	35dB typical, 30dB minimum	
CDMA 850 RX frequency range	35dB typical, 30dB minimum	
LTE 850 RX frequency range	35dB typical, 30dB minimum	
746-806MHz	33dB typical, 28dB minimum	
ELECTRICAL		
Impedance	50Ohms	
Intermodulation products	-160dBc typical / -155dBc 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. To reduce current consumption at low supply voltage, LEDs are sequentially enabled.	
Input voltage range	7.5 – 30V DC
DC current rating	2.5A continuous
Compliance	3GPP, TS 25.461
Current consumption	15mA typical, 25mA maximum
Port priority (combiner mode)	R1 (LTE) first, R1 (CDMA) second
LEDs	1 bi-colour LED per RF port connector
LEDs, bottom of tower application:	
- DC/AISG not present	Off
- DC/AISG pass	Green
- DC/AISG present, not passed	Red
LEDs, top of tower application:	
- DC/AISG pass	Green
- All ports disabled	COM LED red

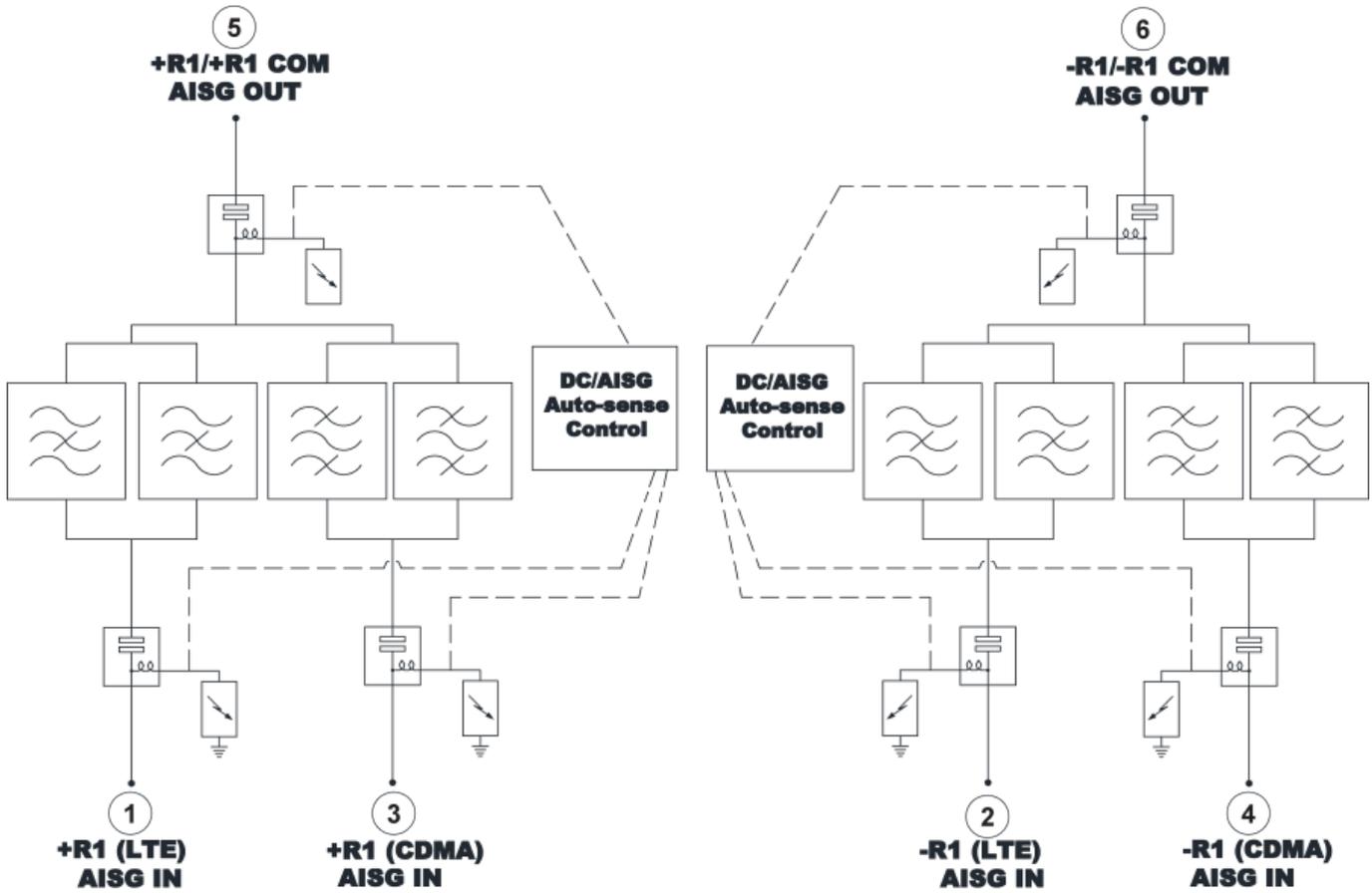
ENVIRONMENTAL	
For further details of environmental compliance, please contact Kaelus.	
Temperature range	-20°C to +65°C +4°F to +149°F
Ingress protection	IP67
Altitude	3,000m 10,000ft maximum
Lightning protection	RF: ±5kA maximum (8/20us)
MTBF	>1,000,000 hours
Compliance	ETSI EN 300 019 class 4.1, RoHS

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 (CDMA)	R1 (LTE)	DESCRIPTION
DBC0134F1V72-1	A' (CH691), B' (CH738/CH779 or CH770)	LTE700, LTE850 (746-844.5, 869-889.5MHz)	Twin SBC, 700, 850 DC AUTO R1 (LTE)

ELECTRICAL BLOCK DIAGRAM



MECHANICAL BLOCK DIAGRAM

