

470 – 960 MHz

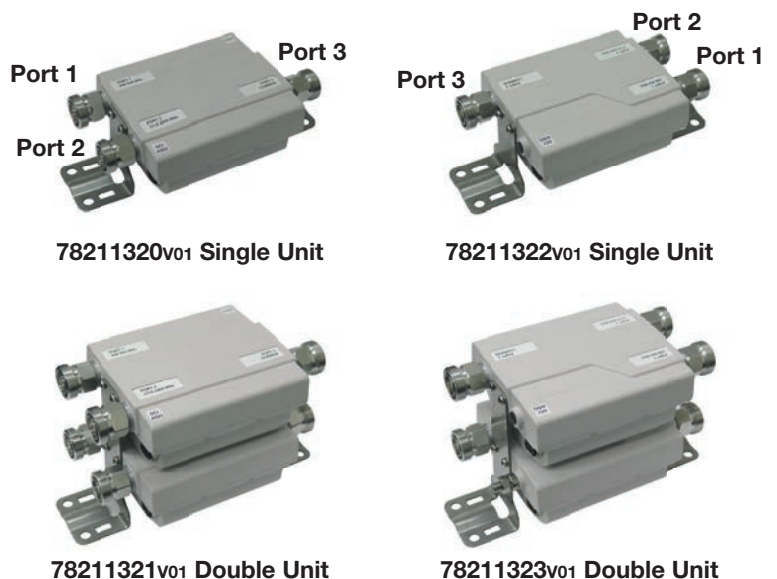
1695 – 2700 MHz

## Technical Data

Type No.		78211320v01 (BTS version) Single Unit	78211322v01 (ANT version) Single Unit
		78211321v01 (BTS version) Double Unit	78211323v01 (ANT version) Double Unit
Pass band			
Band 1	MHz	470 – 960 *	
Band 2	MHz	1695 – 2700 *	
Insertion loss			
Port 1 ↔ Port 3	dB	< 0.1 (470 – 960 MHz)	
Port 2 ↔ Port 3	dB	< 0.1 (1695 – 2700 MHz)	
Port 3 ↔ Test (sniffer) port	dB	-50 ... -28 (470 – 960 / 1695 – 2700 MHz)	
Isolation			
Port 1 ↔ Port 2	dB	> 60 (470 – 894 MHz) / > 50 (894 – 960 / 1695 – 2700 MHz)	
VSWR		< 1.2	
Impedance	Ω	50	
Input power			
Band 1 / Band 2	W	< 500 / < 500	
Intermodulation products	dBc	< -160 (3 <sup>rd</sup> order; with 2 x 20 W)	
Temperature range	°C   °F	-40 ... +60 / -40 ... +140	
Connectors	RF	7-16 female (long neck)	
	AISG	8-pin male, IEC 60130-9 (Pin 3: RS485B, pin 5: RS485A, Pin 6: 10-32 V DC, pin 7: DC return, other pins: not connected)	
	Test (sniffer) port	N female (with protection cap IP 66)	
Application		Indoor or outdoor (IP 66)	
DC/AISG transparency			
Port 1 ↔ Port 3		<b>Auto-sense</b> (max. 2000 mA)	
Port 2 ↔ Port 3		<b>In case of more than one DC/AISG signals see priority table on page 2.</b>	
Port DC/AISG ↔ Port 3		<b>Stop Stop</b> <b>By-pass</b> (max. 2000 mA)	
Lightning protection	kA	3, 10/350 μs pulse	
Mounting		Wall mounting: With 4 screws (max. 8 mm diameter) / Mast mounting: With included clamp set	
Weight	kg   lb	Single Unit: 1.5   3.31 / Double Unit: 2.9   6.40	
Dimensions (w x h x d)	mm   in	Single Unit: 126 x 145 x 62.5   4.96 x 5.71 x 2.46 / Double Unit: 126 x 145 x 128   4.96 x 5.71 x 5.04 (without connectors, without mounting brackets)	

\* supported by hardware version A01 or higher  
Hardware version can be validated by viewing label on device

- Designed for co-siting purposes
- Enables feeder sharing
- Integrated smart bias tee with AISG connector
- **BTS version:**  
DC/AISG auto-sense for low band port or high band port or AISG port. Test (sniffer) port for low band and high band signals -50...-28 dB
- **ANT version:**  
DC stop at low band port and at high band port
- Suitable for indoor or outdoor applications
- Wall or mast mounting
- Available as a single unit, or for XPol antennas as a double unit
- Built-in lightning protection
- **Extremely small dimensions and low weight**
- **Very low insertion loss**
- **High input power**



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1695 – 2700 MHz

### Accessories (included)

Type No.	Clamp set suitable for mast diameter of mm   in
734365	45 – 125   1.77 – 4.92

### Clamp Set



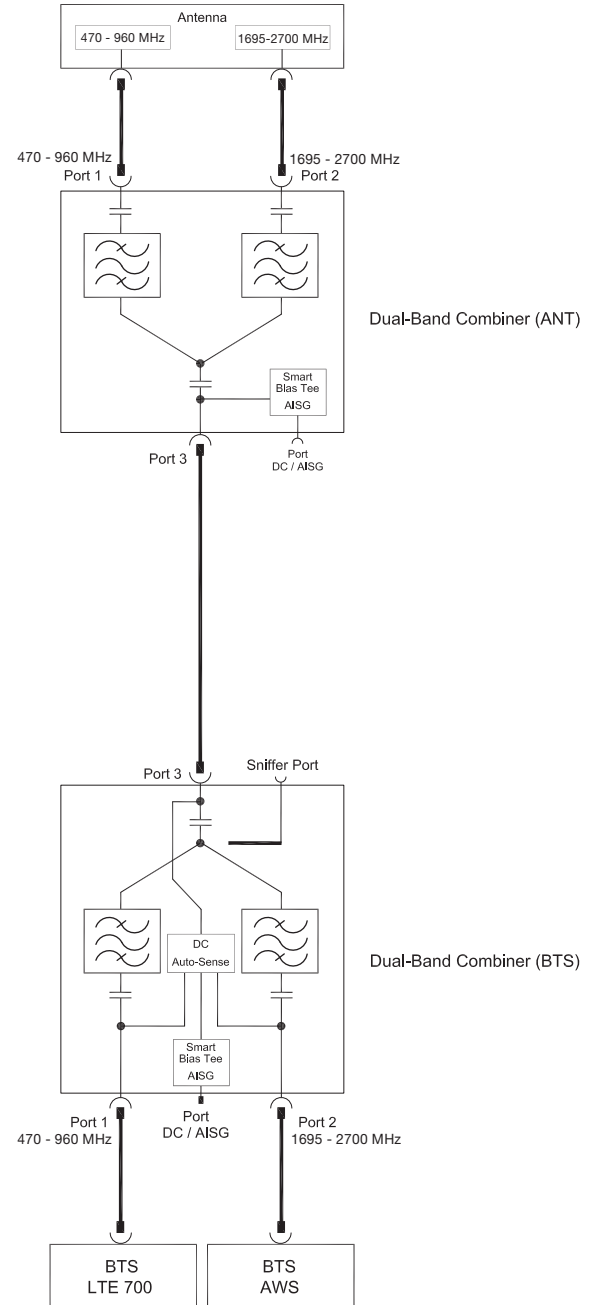
### Accessories (order separately)

Type No.	Description
78410367	50-Ohm load

### 50-Ohm load



### Blockdiagramm



### Typical Attenuation Curves

Diagram I (Port 1 ↔ Port 3 / Port 2 ↔ Port 3)

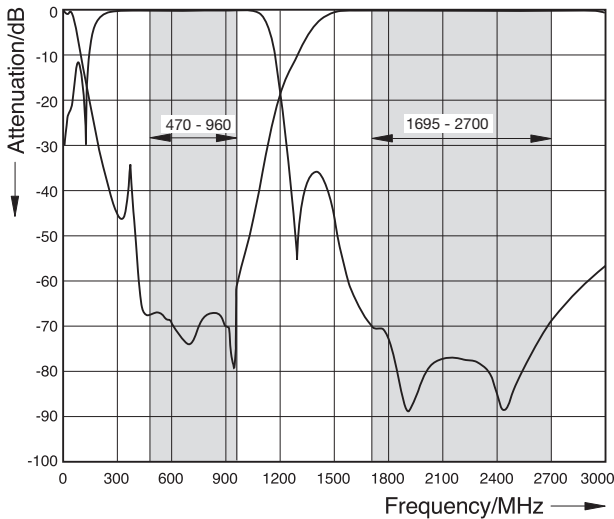
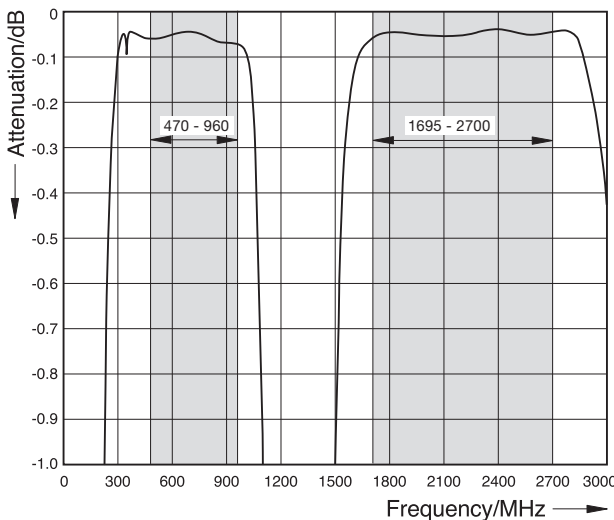


Diagram II (Port 1 ↔ Port 3 / Port 2 ↔ Port 3)



### DC/AISG Auto-sense Priority Table (BTS version)

In case DC/AISG signals are applied to two or even three ports simultaneously then the BTS-combiner gives priority to the signals as follows:

Connector	Priority
Port DC/AISG	1 (highest)
Port 2 (1695 – 2700 MHz)	2
Port 1 (470 – 960 MHz)	3 (lowest)

936.4949/a.1 Subject to alteration.

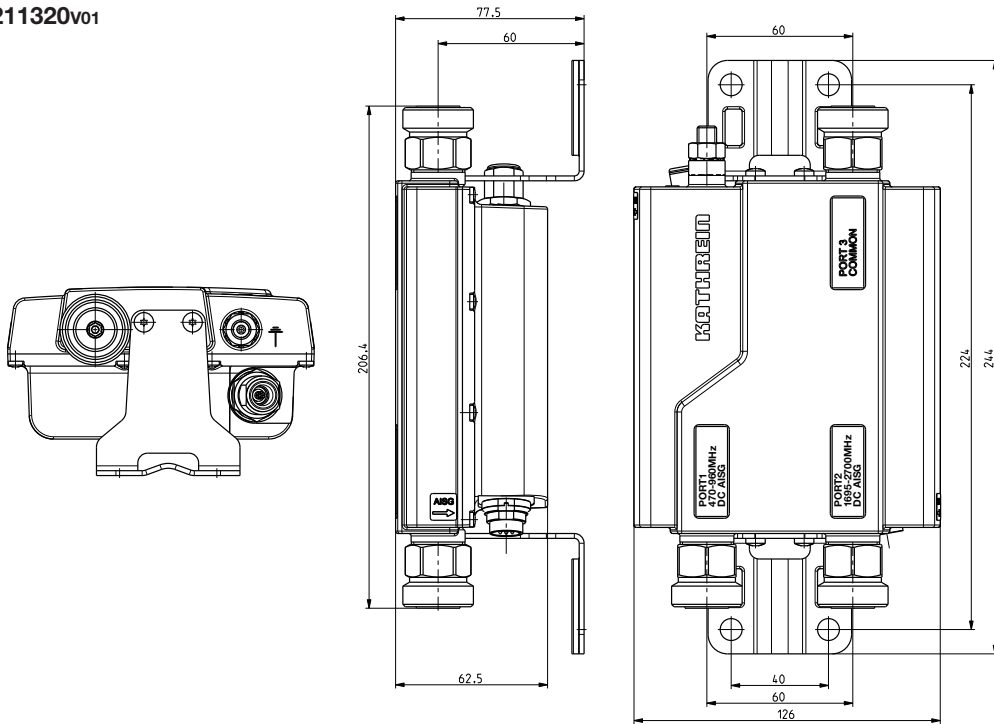
# Dual-Band Combiner

**KATHREIN**

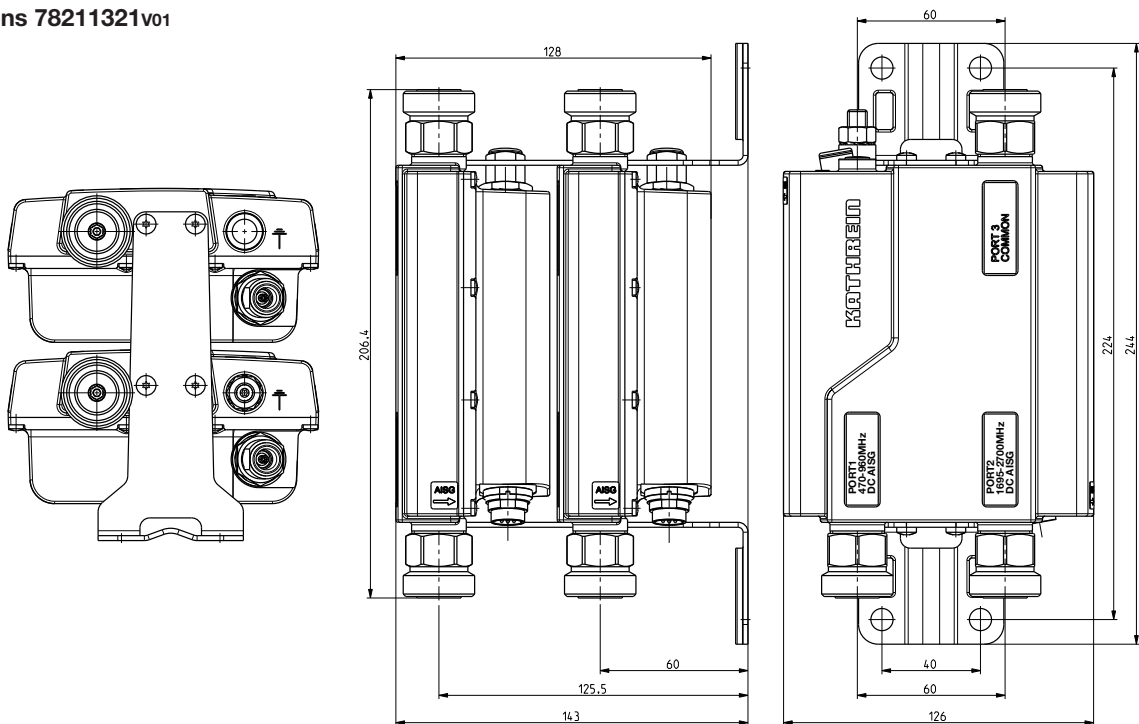
470 – 960 MHz

1695 – 2700 MHz

## Dimensions 78211320v01



## Dimensions 78211321v01



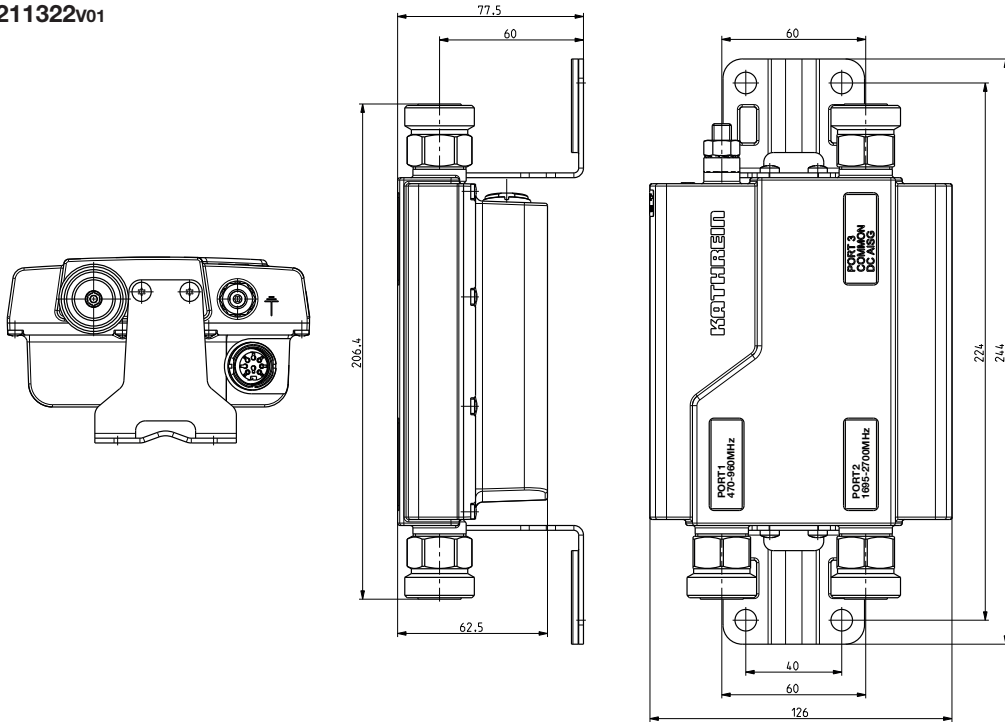
936.4949/a.1 Subject to alteration.

All specifications are subject to change without notice.  
The latest specifications are available at [www.kathreinusa.com](http://www.kathreinusa.com)

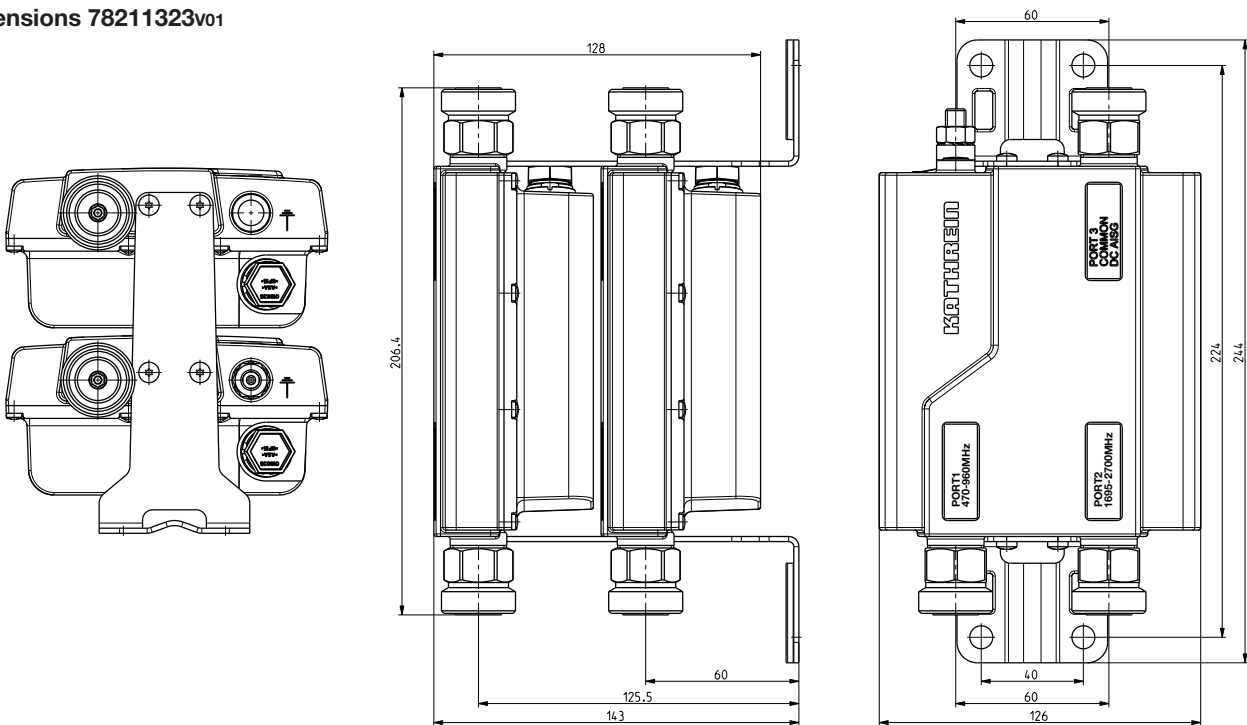
470 – 960 MHz

1695 – 2700 MHz

## Dimensions 78211322v01



## Dimensions 78211323v01



### Please Note:

As a result of more stringent legal regulations and judgements regarding product liability, we are obliged to point out certain risks that may arise when products are used under extraordinary operating conditions.

Extraordinary operating conditions, such as heavy icing or exceptional dynamic stress (e.g. strain caused by oscillating support structures), may result in the breakage of a mast mounted device or even cause it to fall to the ground.

These facts must be considered during the site planning process.

The Dual-band Combiners are designed to operate under the environmental conditions as described in ETS 300 019-1-4 class 4.1 E and have passed environmental tests as recommended in ETS 300 019-2-4.

The installation team must be properly qualified and also be familiar with the relevant national safety regulations.

The details given in our data sheets have to be followed carefully when installing the combiners and accessories.

The limits for the coupling torque of RF connectors, recommended by the connector manufacturers must be obeyed.

Terminate unused inputs with a suitable 50-Ohm load, e.g. 78410367.

Any previous datasheet issues have now become invalid.



936.4949/a.1 Subject to alteration.