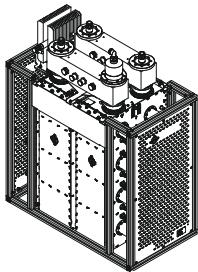
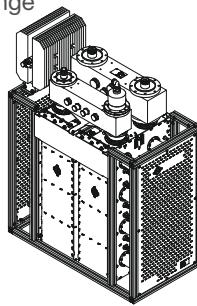


## CCS UHF CIB Combiners

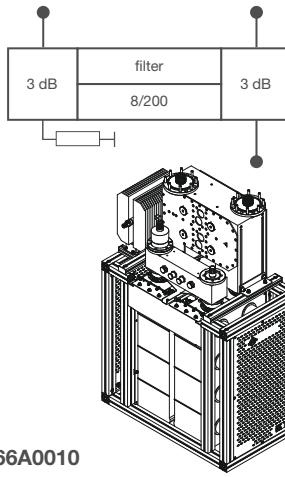
- **CCS** compact design
- Integrated mask filters for DTV
- Adjacent channel operation
- For 6, 7 and 8 MHz channel bandwidth
- Temperature compensated
- Tuneable within the whole UHF range



BN 576065A0010



BN 576066A0010



BN 576067A0020

| Part Number  | BN 576065A0010  | BN 576066A0010                                 | BN 576067A0020                                   |                |               |         |         |       |               |               |                |               |               |                 |               |               |             |                |               |                 |               |               |             |              |             |               |  |              |            |              |            |             |  |              |          |              |             |              |  |              |  |  |          |   |         |         |       |               |                |                 |               |                |                 |  |             |               |  |              |             |  |              |              |  |  |
|--|---|--|--|----------------|---------------|---------|---------|-------|---------------|---------------|----------------|---------------|---------------|-----------------|---------------|---------------|-------------|----------------|---------------|-----------------|---------------|---------------|-------------|--------------|-------------|---------------|--|--------------|------------|--------------|------------|-------------|--|--------------|----------|--------------|-------------|--------------|--|--------------|--|--|----------|---|---------|---------|-------|---------------|----------------|-----------------|---------------|----------------|-----------------|--|-------------|---------------|--|--------------|-------------|--|--------------|--------------|--|--|
| Frequency range  |   | 470 - 800 MHz                                  |  |                |               |         |         |       |               |               |                |               |               |                 |               |               |             |                |               |                 |               |               |             |              |             |               |  |              |            |              |            |             |  |              |          |              |             |              |  |              |  |  |          |   |         |         |       |               |                |                 |               |                |                 |  |             |               |  |              |             |  |              |              |  |  |
| Channel spacing  |   | $\geq 0$                                       |  |                |               |         |         |       |               |               |                |               |               |                 |               |               |             |                |               |                 |               |               |             |              |             |               |  |              |            |              |            |             |  |              |          |              |             |              |  |              |  |  |          |   |         |         |       |               |                |                 |               |                |                 |  |             |               |  |              |             |  |              |              |  |  |
| <b>Narrowband input</b>  |   | 3 1/8" EIA male                                |  |                |               |         |         |       |               |               |                |               |               |                 |               |               |             |                |               |                 |               |               |             |              |             |               |  |              |            |              |            |             |  |              |          |              |             |              |  |              |  |  |          |   |         |         |       |               |                |                 |               |                |                 |  |             |               |  |              |             |  |              |              |  |  |
| Filter type integrated cavities/size   |   | <b>8/200</b> $\equiv$ BN 616544                |  |                |               |         |         |       |               |               |                |               |               |                 |               |               |             |                |               |                 |               |               |             |              |             |               |  |              |            |              |            |             |  |              |          |              |             |              |  |              |  |  |          |   |         |         |       |               |                |                 |               |                |                 |  |             |               |  |              |             |  |              |              |  |  |
| Temperature stability  |   | $\leq 2$ kHz / K                               |  |                |               |         |         |       |               |               |                |               |               |                 |               |               |             |                |               |                 |               |               |             |              |             |               |  |              |            |              |            |             |  |              |          |              |             |              |  |              |  |  |          |   |         |         |       |               |                |                 |               |                |                 |  |             |               |  |              |             |  |              |              |  |  |
| Harmonics attenuation  |   | $\geq 50$ dB for $f \leq 860$ MHz              |  |                |               |         |         |       |               |               |                |               |               |                 |               |               |             |                |               |                 |               |               |             |              |             |               |  |              |            |              |            |             |  |              |          |              |             |              |  |              |  |  |          |   |         |         |       |               |                |                 |               |                |                 |  |             |               |  |              |             |  |              |              |  |  |
| DTV mask filtering   | DVB-T @ 8 MHz<br>( $\hat{U}/U_{rms} = 13$ dB)   | ISDB-T @ 7 MHz<br>( $\hat{U}/U_{rms} = 13$ dB) | ATSC 1.0 @ 6 MHz<br>( $\hat{U}/U_{rms} = 13$ dB) |                |               |         |         |       |               |               |                |               |               |                 |               |               |             |                |               |                 |               |               |             |              |             |               |  |              |            |              |            |             |  |              |          |              |             |              |  |              |  |  |          |   |         |         |       |               |                |                 |               |                |                 |  |             |               |  |              |             |  |              |              |  |  |
| Average input power  | $\leq 8$ kW   | $\leq 6.4$ kW                                  | $\leq 6.4$ kW                                    |                |               |         |         |       |               |               |                |               |               |                 |               |               |             |                |               |                 |               |               |             |              |             |               |  |              |            |              |            |             |  |              |          |              |             |              |  |              |  |  |          |   |         |         |       |               |                |                 |               |                |                 |  |             |               |  |              |             |  |              |              |  |  |
| Tuning instruction   | AS8067  | AS8074   | AS8066   |                |               |         |         |       |               |               |                |               |               |                 |               |               |             |                |               |                 |               |               |             |              |             |               |  |              |            |              |            |             |  |              |          |              |             |              |  |              |  |  |          |   |         |         |       |               |                |                 |               |                |                 |  |             |               |  |              |             |  |              |              |  |  |
| Insertion loss & mask filtering<br>(alternative tuning on request)   | <table border="0"> <tr> <td>470 MHz</td> <td>860 MHz</td> <td>470 MHz</td> <td>803 MHz</td> <td>470 MHz</td> <td>820 MHz</td> </tr> <tr> <td><math>f_0</math></td> <td><math>\leq 0.4</math> dB</td> <td><math>\leq 0.5</math> dB</td> <td><math>\leq 0.45</math> dB</td> <td><math>\leq 0.5</math> dB</td> <td><math>\leq 0.5</math> dB</td> </tr> <tr> <td><math>f_0 \pm 3.805</math></td> <td><math>\leq 1.0</math> dB</td> <td><math>\leq 1.4</math> dB</td> <td><math>\leq 2.79</math></td> <td><math>\leq 1.20</math> dB</td> <td><math>\leq 1.5</math> dB</td> </tr> <tr> <td><math>f_0 \pm 3.885</math></td> <td><math>\leq 1.5</math> dB</td> <td><math>\leq 1.7</math> dB</td> <td><math>\leq 3.15</math></td> <td><math>\geq 15</math> dB</td> <td><math>\leq 2.69</math></td> </tr> <tr> <td><math>f_0 \pm 4.2</math></td> <td></td> <td><math>\geq 15</math> dB</td> <td><math>\leq 4.5</math></td> <td><math>\geq 30</math> dB</td> <td><math>\leq 3.0</math></td> </tr> <tr> <td><math>f_0 \pm 6</math></td> <td></td> <td><math>\geq 40</math> dB</td> <td><math>\leq 9</math></td> <td><math>\geq 55</math> dB</td> <td><math>\geq 3.25</math></td> </tr> <tr> <td><math>f_0 \pm 12</math></td> <td></td> <td><math>\geq 55</math> dB</td> <td></td> <td></td> <td><math>\leq 9</math></td> </tr> </table> | 470 MHz  | 860 MHz  | 470 MHz        | 803 MHz       | 470 MHz | 820 MHz | $f_0$ | $\leq 0.4$ dB | $\leq 0.5$ dB | $\leq 0.45$ dB | $\leq 0.5$ dB | $\leq 0.5$ dB | $f_0 \pm 3.805$ | $\leq 1.0$ dB | $\leq 1.4$ dB | $\leq 2.79$ | $\leq 1.20$ dB | $\leq 1.5$ dB | $f_0 \pm 3.885$ | $\leq 1.5$ dB | $\leq 1.7$ dB | $\leq 3.15$ | $\geq 15$ dB | $\leq 2.69$ | $f_0 \pm 4.2$ |  | $\geq 15$ dB | $\leq 4.5$ | $\geq 30$ dB | $\leq 3.0$ | $f_0 \pm 6$ |  | $\geq 40$ dB | $\leq 9$ | $\geq 55$ dB | $\geq 3.25$ | $f_0 \pm 12$ |  | $\geq 55$ dB |  |  | $\leq 9$ | <table border="0"> <tr> <td>470 MHz</td> <td>820 MHz</td> </tr> <tr> <td><math>f_0</math></td> <td><math>\leq 0.5</math> dB</td> <td><math>\leq 0.55</math> dB</td> </tr> <tr> <td><math>f_0 \pm 3.805</math></td> <td><math>\leq 1.0</math> dB</td> <td><math>\leq 1.30</math> dB</td> </tr> <tr> <td><math>f_0 \pm 3.885</math></td> <td></td> <td><math>\geq 4</math> dB</td> </tr> <tr> <td><math>f_0 \pm 4.2</math></td> <td></td> <td><math>\geq 18</math> dB</td> </tr> <tr> <td><math>f_0 \pm 6</math></td> <td></td> <td><math>\geq 64</math> dB</td> </tr> <tr> <td><math>f_0 \pm 12</math></td> <td></td> <td></td> </tr> </table> | 470 MHz | 820 MHz | $f_0$ | $\leq 0.5$ dB | $\leq 0.55$ dB | $f_0 \pm 3.805$ | $\leq 1.0$ dB | $\leq 1.30$ dB | $f_0 \pm 3.885$ |  | $\geq 4$ dB | $f_0 \pm 4.2$ |  | $\geq 18$ dB | $f_0 \pm 6$ |  | $\geq 64$ dB | $f_0 \pm 12$ |  |  |
| 470 MHz  | 860 MHz   | 470 MHz  | 803 MHz  | 470 MHz        | 820 MHz       |         |         |       |               |               |                |               |               |                 |               |               |             |                |               |                 |               |               |             |              |             |               |  |              |            |              |            |             |  |              |          |              |             |              |  |              |  |  |          |   |         |         |       |               |                |                 |               |                |                 |  |             |               |  |              |             |  |              |              |  |  |
| $f_0$  | $\leq 0.4$ dB   | $\leq 0.5$ dB                                  | $\leq 0.45$ dB                                   | $\leq 0.5$ dB  | $\leq 0.5$ dB |         |         |       |               |               |                |               |               |                 |               |               |             |                |               |                 |               |               |             |              |             |               |  |              |            |              |            |             |  |              |          |              |             |              |  |              |  |  |          |   |         |         |       |               |                |                 |               |                |                 |  |             |               |  |              |             |  |              |              |  |  |
| $f_0 \pm 3.805$  | $\leq 1.0$ dB   | $\leq 1.4$ dB                                  | $\leq 2.79$                                      | $\leq 1.20$ dB | $\leq 1.5$ dB |         |         |       |               |               |                |               |               |                 |               |               |             |                |               |                 |               |               |             |              |             |               |  |              |            |              |            |             |  |              |          |              |             |              |  |              |  |  |          |   |         |         |       |               |                |                 |               |                |                 |  |             |               |  |              |             |  |              |              |  |  |
| $f_0 \pm 3.885$  | $\leq 1.5$ dB   | $\leq 1.7$ dB                                  | $\leq 3.15$                                      | $\geq 15$ dB   | $\leq 2.69$   |         |         |       |               |               |                |               |               |                 |               |               |             |                |               |                 |               |               |             |              |             |               |  |              |            |              |            |             |  |              |          |              |             |              |  |              |  |  |          |   |         |         |       |               |                |                 |               |                |                 |  |             |               |  |              |             |  |              |              |  |  |
| $f_0 \pm 4.2$  |   | $\geq 15$ dB                                   | $\leq 4.5$                                       | $\geq 30$ dB   | $\leq 3.0$    |         |         |       |               |               |                |               |               |                 |               |               |             |                |               |                 |               |               |             |              |             |               |  |              |            |              |            |             |  |              |          |              |             |              |  |              |  |  |          |   |         |         |       |               |                |                 |               |                |                 |  |             |               |  |              |             |  |              |              |  |  |
| $f_0 \pm 6$  |   | $\geq 40$ dB                                   | $\leq 9$   | $\geq 55$ dB   | $\geq 3.25$   |         |         |       |               |               |                |               |               |                 |               |               |             |                |               |                 |               |               |             |              |             |               |  |              |            |              |            |             |  |              |          |              |             |              |  |              |  |  |          |   |         |         |       |               |                |                 |               |                |                 |  |             |               |  |              |             |  |              |              |  |  |
| $f_0 \pm 12$   |   | $\geq 55$ dB                                   |  |                | $\leq 9$      |         |         |       |               |               |                |               |               |                 |               |               |             |                |               |                 |               |               |             |              |             |               |  |              |            |              |            |             |  |              |          |              |             |              |  |              |  |  |          |   |         |         |       |               |                |                 |               |                |                 |  |             |               |  |              |             |  |              |              |  |  |
| 470 MHz  | 820 MHz   |  |  |                |               |         |         |       |               |               |                |               |               |                 |               |               |             |                |               |                 |               |               |             |              |             |               |  |              |            |              |            |             |  |              |          |              |             |              |  |              |  |  |          |   |         |         |       |               |                |                 |               |                |                 |  |             |               |  |              |             |  |              |              |  |  |
| $f_0$  | $\leq 0.5$ dB   | $\leq 0.55$ dB                                 |  |                |               |         |         |       |               |               |                |               |               |                 |               |               |             |                |               |                 |               |               |             |              |             |               |  |              |            |              |            |             |  |              |          |              |             |              |  |              |  |  |          |   |         |         |       |               |                |                 |               |                |                 |  |             |               |  |              |             |  |              |              |  |  |
| $f_0 \pm 3.805$  | $\leq 1.0$ dB   | $\leq 1.30$ dB                                 |  |                |               |         |         |       |               |               |                |               |               |                 |               |               |             |                |               |                 |               |               |             |              |             |               |  |              |            |              |            |             |  |              |          |              |             |              |  |              |  |  |          |   |         |         |       |               |                |                 |               |                |                 |  |             |               |  |              |             |  |              |              |  |  |
| $f_0 \pm 3.885$  |   | $\geq 4$ dB                                    |  |                |               |         |         |       |               |               |                |               |               |                 |               |               |             |                |               |                 |               |               |             |              |             |               |  |              |            |              |            |             |  |              |          |              |             |              |  |              |  |  |          |   |         |         |       |               |                |                 |               |                |                 |  |             |               |  |              |             |  |              |              |  |  |
| $f_0 \pm 4.2$  |   | $\geq 18$ dB                                   |  |                |               |         |         |       |               |               |                |               |               |                 |               |               |             |                |               |                 |               |               |             |              |             |               |  |              |            |              |            |             |  |              |          |              |             |              |  |              |  |  |          |   |         |         |       |               |                |                 |               |                |                 |  |             |               |  |              |             |  |              |              |  |  |
| $f_0 \pm 6$  |   | $\geq 64$ dB                                   |  |                |               |         |         |       |               |               |                |               |               |                 |               |               |             |                |               |                 |               |               |             |              |             |               |  |              |            |              |            |             |  |              |          |              |             |              |  |              |  |  |          |   |         |         |       |               |                |                 |               |                |                 |  |             |               |  |              |             |  |              |              |  |  |
| $f_0 \pm 12$   |   |  |  |                |               |         |         |       |               |               |                |               |               |                 |               |               |             |                |               |                 |               |               |             |              |             |               |  |              |            |              |            |             |  |              |          |              |             |              |  |              |  |  |          |   |         |         |       |               |                |                 |               |                |                 |  |             |               |  |              |             |  |              |              |  |  |
| Group delay variation  | $\Delta\tau \leq 700$ ns  | $\Delta\tau \leq 500$ ns                       | $\Delta\tau \leq 400$ ns                         |                |               |         |         |       |               |               |                |               |               |                 |               |               |             |                |               |                 |               |               |             |              |             |               |  |              |            |              |            |             |  |              |          |              |             |              |  |              |  |  |          |   |         |         |       |               |                |                 |               |                |                 |  |             |               |  |              |             |  |              |              |  |  |
| <b>Wideband input</b>  | 3 1/8" EIA male   | 4 1/2" EIA male                                | 52-120 BT male                                   |                |               |         |         |       |               |               |                |               |               |                 |               |               |             |                |               |                 |               |               |             |              |             |               |  |              |            |              |            |             |  |              |          |              |             |              |  |              |  |  |          |   |         |         |       |               |                |                 |               |                |                 |  |             |               |  |              |             |  |              |              |  |  |
| Average input power  | $\leq 17.5$ kW  | $\leq 33$ kW                                   | $\leq 60$ kW                                     |                |               |         |         |       |               |               |                |               |               |                 |               |               |             |                |               |                 |               |               |             |              |             |               |  |              |            |              |            |             |  |              |          |              |             |              |  |              |  |  |          |   |         |         |       |               |                |                 |               |                |                 |  |             |               |  |              |             |  |              |              |  |  |
| Attention: The power at the wideband input must be reduced by 50 % of the power fed into the narrowband input. |   |  |  |                |               |         |         |       |               |               |                |               |               |                 |               |               |             |                |               |                 |               |               |             |              |             |               |  |              |            |              |            |             |  |              |          |              |             |              |  |              |  |  |          |   |         |         |       |               |                |                 |               |                |                 |  |             |               |  |              |             |  |              |              |  |  |
| DTV mask filtering   |   | No   |  |                |               |         |         |       |               |               |                |               |               |                 |               |               |             |                |               |                 |               |               |             |              |             |               |  |              |            |              |            |             |  |              |          |              |             |              |  |              |  |  |          |   |         |         |       |               |                |                 |               |                |                 |  |             |               |  |              |             |  |              |              |  |  |
| Insertion loss   |   | $\leq 0.1$ dB (non adjacent)                   |  |                |               |         |         |       |               |               |                |               |               |                 |               |               |             |                |               |                 |               |               |             |              |             |               |  |              |            |              |            |             |  |              |          |              |             |              |  |              |  |  |          |   |         |         |       |               |                |                 |               |                |                 |  |             |               |  |              |             |  |              |              |  |  |
| <b>Output</b>  | 3 1/8" EIA male   | 4 1/2" EIA male                                | 52-120 BT male                                   |                |               |         |         |       |               |               |                |               |               |                 |               |               |             |                |               |                 |               |               |             |              |             |               |  |              |            |              |            |             |  |              |          |              |             |              |  |              |  |  |          |   |         |         |       |               |                |                 |               |                |                 |  |             |               |  |              |             |  |              |              |  |  |
| Peak output voltage  | $\leq 12.5$ kV  | $\leq 15.5$ kV                                 | $\leq 19.5$ kV                                   |                |               |         |         |       |               |               |                |               |               |                 |               |               |             |                |               |                 |               |               |             |              |             |               |  |              |            |              |            |             |  |              |          |              |             |              |  |              |  |  |          |   |         |         |       |               |                |                 |               |                |                 |  |             |               |  |              |             |  |              |              |  |  |
| Average output power   | –   | –  | $\leq 60$ kW                                     |                |               |         |         |       |               |               |                |               |               |                 |               |               |             |                |               |                 |               |               |             |              |             |               |  |              |            |              |            |             |  |              |          |              |             |              |  |              |  |  |          |   |         |         |       |               |                |                 |               |                |                 |  |             |               |  |              |             |  |              |              |  |  |
| Isolation between inputs   |   | $\geq 35$ dB                                   |  |                |               |         |         |       |               |               |                |               |               |                 |               |               |             |                |               |                 |               |               |             |              |             |               |  |              |            |              |            |             |  |              |          |              |             |              |  |              |  |  |          |   |         |         |       |               |                |                 |               |                |                 |  |             |               |  |              |             |  |              |              |  |  |
| VSWR (one WB channel)  |   | $\leq 1.06$                                    |  |                |               |         |         |       |               |               |                |               |               |                 |               |               |             |                |               |                 |               |               |             |              |             |               |  |              |            |              |            |             |  |              |          |              |             |              |  |              |  |  |          |   |         |         |       |               |                |                 |               |                |                 |  |             |               |  |              |             |  |              |              |  |  |
| Dimensions (L x W x H) mm  | 900 x 480 x 1200  |  | 900 x 520 x 1400                                 |                |               |         |         |       |               |               |                |               |               |                 |               |               |             |                |               |                 |               |               |             |              |             |               |  |              |            |              |            |             |  |              |          |              |             |              |  |              |  |  |          |   |         |         |       |               |                |                 |               |                |                 |  |             |               |  |              |             |  |              |              |  |  |
| Weight   | $\approx 175$ kg  | $\approx 190$ kg                               | $\approx 240$ kg                                 |                |               |         |         |       |               |               |                |               |               |                 |               |               |             |                |               |                 |               |               |             |              |             |               |  |              |            |              |            |             |  |              |          |              |             |              |  |              |  |  |          |   |         |         |       |               |                |                 |               |                |                 |  |             |               |  |              |             |  |              |              |  |  |
| Environmental conditions   | For limitations see „Environmental Conditions for Broadcast Products“.  |  |  |                |               |         |         |       |               |               |                |               |               |                 |               |               |             |                |               |                 |               |               |             |              |             |               |  |              |            |              |            |             |  |              |          |              |             |              |  |              |  |  |          |   |         |         |       |               |                |                 |               |                |                 |  |             |               |  |              |             |  |              |              |  |  |