

Band 3 DAB CIB Combiners

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CoolingNatural coolingNatural coolingNatural coolingFrequency range $-74 - 240 MHz$ Block spacing $2 0$ Narrowband input -50 Narrowband input -80 Filter type integrated cavities/size $8/200 \equiv BN 617168$ Temperature stability $15/8^{\circ} EIA$ Harmonics attenuation $50 dB fort 1580 MHz$ DAB and T-DMB mask filtering $(UU_{um}=13 dB)$ Average input power $< 6.0 kW$ Tuning instruction $f_0 \le 0.7 dB dB free S0 BH$ Insertion loss & mask filtering (atternative tuning on request) $f_0 \le 0.7 dB dB free S0 BB f$	EN 576820	BN 576821	BN	N 576822
Block spacing> 0Narrowband input1 5/8" EIAFilter type integrated cavities/size8/200 = BN 617168Temperature stability $\leq 1 \text{ kHz} / \text{ K}$ Harmonics attenuation $\leq 50 \text{ dB for f} < 500 \text{ MHz}$ DAB and T-DMB mask filtering $DAB / T-DMB @ 1.54 \text{ MHz} (UU_um=13 \text{ dB})$ Average input power $\leq 6.0 \text{ kW}$ Tuning instruction $Ass181$ Insertion loss & mask filtering $f_0 \pm 0.7 \text{ dB} / f_0 \pm 0.37 \text{ dB} / f_0 \pm 0.37 \text{ dB}$ (atternative tuning on request) $f_0 \pm 1.52 \text{ s0 odB} / f_0 \pm 3.00 \text{ cB} \text{ dB} / f_0 \pm 3.00 \text{ cB} /$				
Narrowband input15/8° EIAFilter type integrated cavities/size $8/200 \equiv BN 617168$ Temperature stability $< 1 \text{ kHz / K}$ Harmonics attenuation $2 50 \text{ dB for f < 500 MHz}$ DAB and T-DMB mask filtering $(U/U_m=13 \text{ dB})$ Average input power $6 0.1 \text{ MWZ}$ Tuning instruction $5_0 = 0.7 \text{ dB}$ Insertion loss & mask filtering $f_0 = 0.7 \text{ dB}$ $\{atternative tuning on request)$ $f_0 = 0.7 \text{ dB}$ $\{b \pm 0.77 \leq 1.4 \text{ dB}$ $f_0 \pm 0.77 \leq 1.4 \text{ dB}$ $f_0 \pm 2.02 \text{ dB}$ $f_0 \pm 1.75 \geq 5.0 \text{ dB}$ $\{b \pm 0.97 \geq 2.02 \text{ dB}$ $f_0 \pm 2.02 \text{ dB}$ $\{b \pm 1.75 \geq 2.03 \text{ dB}$ $f_0 \pm 2.02 \text{ dB}$ $\{b \pm 1.75 \geq 2.03 \text{ dB}$ $f_0 \pm 2.02 \text{ dB}$ $\{b \pm 1.75 \geq 2.03 \text{ dB}$ $f_0 \pm 2.02 \text{ dB}$ $\{b \pm 1.75 \geq 2.03 \text{ dB}$ $f_0 \pm 2.02 \text{ dB}$ $\{b \pm 1.75 \geq 2.03 \text{ dB}$ $f_0 \pm 2.02 \text{ dB}$ $\{b \pm 1.75 \geq 2.03 \text{ dB}$ $f_0 \pm 2.02 \text{ dB}$ $\{b \pm 1.75 \geq 2.03 \text{ dB}$ $f_0 \pm 2.02 \text{ dB}$ $\{b \pm 1.75 \geq 2.03 \text{ dB}$ $f_0 \pm 2.02 \text{ dB}$ $\{b \pm 1.75 \geq 2.03 \text{ dB}$ $f_0 \pm 2.02 \text{ dB}$ $\{b \pm 2.04 \text{ dB}$ $f_0 \pm 2.02 \text{ dB}$ $\{b \pm 2.04 \text{ dB}$ $f_0 \pm 2.02 \text{ dB}$ $\{b \pm 2.04 \text{ dB}$ $f_0 \pm 2.02 \text{ dB}$ $\{b \pm 2.04 \text{ dB}$ $f_0 \pm 2.02 \text{ dB}$ $\{b \pm 2.04 \text{ dB}$ $f_0 \pm 2.02 \text{ dB}$ $\{b \pm 2.04 \text{ dB}$ $f_0 \pm 2.02 \text{ dB}$ $\{b \pm 2.04 \text{ dB}$ $f_0 \pm 2.02 \text{ dB}$ $\{b \pm 2.04 \text{ dB}$ $f_0 \pm 2.02 \text{ dB}$ $\{b \pm 2.04 \text{ dB}$ $f_0 $	Frequency range		174 - 240 MHz	
Filter type integrated cavities/sizeS200 = BN 617168Temperature stability $\leq 1 \text{ KHz / K}$ Harmonics attenuation $\leq 50 \text{ dB for f} < 500 \text{ MHz}$ DAB and T-DMB mask filtering $DAB / T-DMB @ 1.54 \text{ MHz}$ Average input power $\leq 6.0 \text{ kW}$ Tuning instruction $AS8181$ Insertion loss & mask filtering (alternative tuning on request) $f_{9} \pm 0.77 & 1.4 \text{ dB}$ $f_{9} \pm 0.77 & 2.2 \text{ od B}$ $f_{9} \pm 0.77 & 2.2 \text{ od B}$ $f_{9} \pm 0.77 & 5.1 \text{ d. dB}$ $f_{9} \pm 1.15 > 30 \text{ dB}$ $f_{9} \pm 0.077 & 5.2 \text{ od B}$ $f_{9} \pm 1.15 > 30 \text{ dB}$ $f_{9} \pm 0.077 & 5.2 \text{ od B}$ $f_{9} \pm 1.15 > 30 \text{ dB}$ $f_{9} \pm 0.077 & 5.2 \text{ od B}$ $f_{9} \pm 1.15 > 30 \text{ dB}$ $f_{9} \pm 0.077 & 5.2 \text{ od B}$ $f_{9} \pm 1.15 > 30 \text{ dB}$ $f_{9} \pm 0.077 & 5.2 \text{ od B}$ $f_{9} \pm 1.15 > 30 \text{ dB}$ $f_{9} \pm 1.157 > 30 \text{ dB}$ $f_{9} \pm 1.15 > 30 \text{ dB}$ Average input power $15/8^{\circ}$ EIA $31/8^{\circ}$ EIAAverage input power $\leq 14 \text{ kW}$ $\leq 30 \text{ kW}$ Average input power $\leq 14 \text{ kW}$ $\leq 30 \text{ kW}$ Mask filtering $15/8^{\circ}$ EIA $31/8^{\circ}$ EIAInsertion loss $< 1.18 \text{ elion adjacent}$ Pako ubput voltage $\leq 7.7 \text{ kV}$ $\leq 15.8 \text{ kV}$ Average output power $\leq 13.5 \text{ kW}$ $-$ Isolation between inputs $\leq 13.5 \text{ kW}$ $-$ VSWR $\leq 1.1^{\circ}$ $\leq 1.1^{\circ}$ Dimensions (L x W x H) mm $120^{\circ} \text{ s20 x 1420 + 50 \text{ mm motors}$	Block spacing	≥ 0		
Temperature stabilityTemperature stabilityHarmonics attenuation $\leq 50 \text{ dB for } 4 < 500 \text{ MHz}$ DAB and T-DMB mask filtering $DAB / T-DMB @ 1.54 \text{ MHz} (U/U_m=13 \text{ dB})^{-1}$ Average input power $\leq 6.0 \text{ kW}$ Tuning instructionAS8181Insertion loss & mask filtering (alternative tuning on request) $f_0 = 0.77 \text{ dB} / f_0 + 0.77 \text{ dB} / f_0$	Narrowband input	1 5/8" EIA		
Harmonics attenuationHarmonics attenuation $\geq 50 dB for f < 500 MHz$ DAB and T-DMB mask filtering $DAB / T-DMB @ 1.54 MHz$ Average input power $\leq 60 kW$ Tuning instructionAS8181Insertion loss & mask filtering (alternative tuning on request) $f_0 \leq 0.7 dB \\ f_0 \pm 0.77 \leq 2.0 dB \\ f_0 \pm 1.15 \geq 30 dB \\ f_0 \pm 2.20 \geq 65 dB \\ f_0 \pm 2.20 \geq 65 dB \\ f_0 \pm 3.00 \geq 65 dB \\ f_0$	Filter type integrated cavities/size	8/200 ≡ BN 617168		
DAB and T-DMB mask filteringDAB / T-DMB @ 1.54 MHz (U/U _{ma} =13 dB)Average input power ≤ 6.0 kWTuning instructionAS8181Insertion loss & mask filtering (alternative tuning on request) $\int_{0}^{+} \pm 0.77 & 1.4 \ dB \\ f_0 \pm 0.77 & 2 & 20 \ dB \\ f_0 \pm 1.75 & 5 & 50 \ dB \\ f_0 \pm 1.75 & 5 & 50 \ dB \\ f_0 \pm 2.20 & 2 & 65 \ dB \\ f_0 \pm 2.20 & 2 & 65 \ dB \\ f_0 \pm 3.00 & 2 & 65 \ dB \\ f_0 \pm 3.00 & 2 & 65 \ dB \\ f_0 \pm 3.00 & 2 & 65 \ dB \\ f_0 \pm 3.00 & 2 & 65 \ dB \\ To up delay variationWideband input1 5/8° EIA3 1/8° EIA4 1/2° EIAAverage input power1 5/8° EIA3 1/8° EIA4 1/2° EIAAverage input power1 5/8° EIA3 1/8° EIA4 1/2° EIAMask filteringInsertion loss\leq 0.1 \ dB (non adjacent)Sol kW\leq 60 \ kWMask filteringInsertion loss\leq 17.7 \ kV\leq 13.5 \ kVAverage output voltageAverage output voltage\leq 7.7 \ kV\leq 12.7 \ kV\leq 15.5 \ kVVision between inputs\leq 3.7 \ kV\leq 12.7 \ kV\leq 15.5 \ kVVSWR\leq 12.7 \ kV \ H) \ mn120 \ Exp x 1420 \ E50 \ mn \ Lto T \ Exp x 1420 \ E50 \ mn \ Lto T \ Exp \ Lto \ Exp \ Exp \ Lto \ Exp \ Lt$	Temperature stability	< 1 kHz / K		
DAB and I-DMB mask hiteming(U/U _{mm} =13 dB)Average input power ≤ 6.0 kWTuning instructionAS8181Insertion loss & mask filtering (alternative tuning on request) $f_0 \le 0.7$ dB $f_0 \pm 0.97 \ge 20$ dB $f_0 \pm 1.15 \ge 30$ dB. $f_0 \pm 1.75 \ge 50$ dB $f_0 \pm 1.75 \ge 50$ dB $f_0 \pm 1.75 \ge 50$ dB $f_0 \pm 3.00 \ge 65$ dBGroup delay variation $\Delta x \le 1200$ nsWideband input15/8" EIA3 1/8" EIAAverage input power ≤ 14 kW ≤ 30 kWAverage input power ≤ 14 kW ≤ 30 kWMask filtering Insertion lossNoInsertion loss $= 50.1$ dB (non adjacent)Mask filtering Peak output voltage $= 57.7$ kVSolation between inputs $= 53.6$ dBVSWR $= 51.1$ Solation between inputs $= 35.6$ dBVSWR $= 1.1$ Dimensions (L x W x H) mm $120 \times 520 \times 1420 + 50$ mm bottom trueWeight $= 280$ kg	Harmonics attenuation	\geq 50 dB for f < 500 MHz		
Average input power ≤ 6.0 kWTuning instruction ≤ 5.0 kGInsertion loss & mask filtering (alternative tuning on request) $\int_{0}^{1} \pm 0.77 \le 1.4$ dB $f_{0} \pm 0.97 \ge 2.0$ dB $f_{0} \pm 0.97 \ge 2.0$ dB $f_{0} \pm 0.97 \ge 0.0$ dB $f_{0} \pm 1.15 \ge 3.0$ dB. $f_{0} \pm 2.20 \ge 65$ dBGroup delay variation $\Delta \tau \le 1200$ nsWideband input $15/8^{\circ}$ EIA $3.1/8^{\circ}$ EIAAverage input power ≤ 14 kW ≤ 30 kWAverage input power ≤ 1.1 kW ≤ 1.1 Duput voltage ≤ 7.7 kV $\leq 1.2.7$ kVAverage output power $\leq 1.3.5$ kW $-$ VSWR ≤ 1.1 $= 280$ kgVSWR $\leq 1.2.7$ kV kH) mm $= 280$ kg	DAB and T-DMB mask filtering			
AS8181Tuning instructionAS8181Insertion loss & mask filtering (alternative tuning on request) $\int_{0}^{0} = 0.7, dB \\ f_{0} \pm 0.77 &\leq 0.7, dB \\ f_{0} \pm 0.77 &\geq 20, dB \\ f_{0} \pm 1.75 &\geq 50, dB \\ f_{0} \pm 1.75 &\geq 50, dB \\ f_{0} \pm 2.20 &\geq 65, dB \\ f_{0} \pm 2.20 &\geq 65, dB \\ f_{0} \pm 3.00 &\geq 65, dB \\ f_{0} \pm 3.00 &\geq 65, dB \\ f_{0} \pm 3.00 &\geq 65, dB \\ 15/8^{\circ} EIA $ 4 1/2^{\circ} EIA Wideband input1 5/8^{\circ} EIA 3 1/8' EIA 4 1/2' EIA Average input power $\leq 14 \text{ kW}$ $\leq 30 \text{ kW}$ $\leq 60 \text{ kW}$ Mask filtering Insertion lossNoMask filtering Peak output voltage1 5/8' EIA 3 1/8' EIA 4 1/2'' EIA Peak output voltage $\leq 7.7 \text{ kV}$ $\leq 11.7 \text{ kV}$ $\leq 15.5 \text{ kV}$ Average output power $\leq 13.5 \text{ kW}$ $ -$ VSWR $< 12.5 \text{ kJK}$ $ -$ Visition $(L \times W \times H) \text{ mm}$ $120 \times 520 \times 1420 + 50 \text{ mm bottom trame-Weight(2 \times 12.7 \text{ kV} \times H) \text{ mm}(2 \times 12.7 \text{ kD} = 35, dB)-$				
Insertion loss & mask filtering (alternative tuning on request) $f_0 = 0.77 \le 1.4 \ dB$ $f_0 \pm 0.77 \le 1.4 \ dB$ $f_0 \pm 0.77 \le 20 \ dB$ $f_0 \pm 1.15 \ge 20 \ dB$ $f_0 \pm 1.75 \ge 50 \ dB$ $f_0 \pm 3.00 \ge 65 \ dB$ Group delay variation $\Delta \tau \le 1200 \ ns$ Wideband input1 5/8" EIA3 1/8" EIA4 1/2" EIAAverage input power $\le 14 \ kW$ $\le 30 \ kW$ $\le 60 \ kW$ Mask filtering Insertion loss $15/8" EIA$ $31/8" EIA$ 4 1/2" EIAMask filtering Insertion loss $= \sqrt{N0}$ $= \sqrt{N0}$ Output1 5/8" EIA $31/8" EIA$ 4 1/2" EIAPeak output voltage Average output power1 5/8" EIA $31/8" EIA$ 4 1/2" EIAPeak output voltage Isolation between inputs $= \sqrt{11.68} \ (S - 7.7 \ KV)$ $\le 12.7 \ KV$ $\le 15.5 \ KV$ VSWR $= -1$ $= \sqrt{35 \ dB}$ $= \sqrt{11.68} \ (S - 7.7 \ KV)$ $\le 15.5 \ KV$ Visition $Simple Simple Simp$				
(alternative tuning on request) $sigma = 1$ $f_0 \pm 0.77 \le 1.4$ dB $f_0 \pm 0.97 \ge 20$ dB $f_0 \pm 1.75 \ge 50$ dB $f_0 \pm 2.20 \ge 65$ dB $f_0 \pm 3.00 \ge 65$ dBGroup delay variation $\Delta T \le 1200$ nsWideband input1 5/8° EIA3 1/8° EIA4 1/2° EIAAverage input power ≤ 14 kW ≤ 30 kW ≤ 60 kWAttention: The power at the wideband input must be reduced by 50 % of the power fed into the narrowband input. ≤ 60 kWMask filtering Insertion loss > 0.1 dB (non adjacent) > 0.1 dB (non adjacent)Output1 5/8° EIA3 1/8° EIA4 1/2° EIAPeak output voltage (Average output power) ≤ 7.7 kV ≤ 12.7 kV ≤ 15.5 kVVSWR ≤ 13.5 kW $ -$ VSWR ≤ 1.1 ≥ 235 dB ≤ 1.1 Dimensions (L x W x H) mm $1200 \times 520 \times 1420 + 50$ mm bottom t= $-$ Weight 280 kg $= 280$ kg $= 280$ kg	-			
Wideband input1 5/8" EIA3 1/8" EIA4 1/2" EIAAverage input power \leq 14 kW \leq 30 kW \leq 60 kWAttention: The power fed into the narrowband input.Attention: The power fed into the narrowband input.Mask filtering \sim VoInsertion loss \sim 0.1 dB (non adjacent)Output1 5/8" EIA3 1/8" EIAPeak output voltage \leq 7.7 kV \leq 12.7 kVAverage output power \leq 13.5 kW $-$ Isolation between inputs \leq 13.5 kW $-$ VSWR \leq 12.7 kV kH mm \leq 12.7 kV kH mmDimensions (L x W x H) mm $120 \lor 520 \times 1420 + 50 mm bottom frumeWeight\leq 280 kg$		$\begin{array}{rcl} f_0 \pm 0.77 &\leq & 1.4 \ \ dB \\ f_0 \pm 0.97 &\geq & 20 \ \ \ dB \\ f_0 \pm 1.15 &\geq & 30 \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ $		
Average input power \leq 14 kW \leq 30 kW \leq 60 kWAttention: The power at the wideband input must be reduced by 50 % of the narrowbandMask filteringNoInsertion loss \leq 0.1 dB (non adjacent)Output15/8" EIA3 1/8" EIA4 1/2" EIAPeak output voltage \leq 7.7 kV \leq 12.7 kV \leq 15.5 kVAverage output power \leq 13.5 kW $ -$ Isolation between inputs \leq 6 \leq 52 x 1420 + 50 mm bottom $=$ VSWR $12 \times V \times H$) mm $12 \times 520 \times 1420 + 50 \text{ mm bottom}$ $=$ Weight \leq 12.7 kV \leq 280 kg	Group delay variation		$\Delta \tau \le$ 1200 ns	
Attention: The power at the wideband input must be reduced by 50 % of the power fed into the narrowband input.Mask filteringNoInsertion loss $\leq 0.1 dB (non adjacent)$ Output1 5/8" EIA3 1/8" EIA4 1/2" EIAPeak output voltage $\leq 7.7 kV$ $\leq 12.7 kV$ $\leq 15.5 kV$ Average output power $\leq 13.5 kW$ $ -$ Isolation between inputs $\leq 13.5 kW$ $= 35 dB$ ≤ 1.1 VSWR $= 120 \lor 520 x 1420 + 50 mm bottom trume= 280 kg$	Wideband input	1 5/8" EIA	3 1/8" EIA	4 1/2" EIA
Mask filteringNoInsertion loss≤ 0.1 dB (non adjacent)Output1 5/8" EIA3 1/8" EIA4 1/2" EIAPeak output voltage≤ 7.7 kV≤ 12.7 kV≤ 15.5 kVAverage output power≤ 13.5 kW––Isolation between inputs<<> </td <td>Average input power</td> <td>≤ 14 kW</td> <td>≤ 30 kW</td> <td>≤ 60 kW</td>	Average input power	≤ 14 kW	≤ 30 kW	≤ 60 kW
Mask filtering Insertion lossNoOutput $5/8$ EIA $31/8$ EIA $41/2$ EIAPeak output voltage $5/7$ KV 512.7 KV 515.5 KVAverage output power 513.5 KW $ -$ Isolation between inputs $5250 \pm 35 dB$ $ -$ VSWR $120 \pm 520 \pm 1420 \pm 50 mm bottom \pm 520 \pm 1420 \pm 50 mm bottom \pm 500 mm bottom - 520 \pm 500 mm bottom \pm 500 mm bottom + 500 mm$		Attention: The power at the wideband input must be reduced by 50 %		
Insertion loss $\le 0.1 dB (non adjacent)$ Output1 5/8" EIA3 1/8" EIA4 1/2" EIAPeak output voltage $\le 7.7 kV$ $\le 12.7 kV$ $\le 15.5 kV$ Average output power $\le 13.5 kW$ $ -$ Isolation between inputs $= 35 dB$ $= 1.1$ $= 1.1$ VSWR $= 120 \times 520 \times 1420 + 50 mm bottom traves= 280 kg$	Mask filtering			
Output1 5/8" EIA3 1/8" EIA4 1/2" EIAPeak output voltage \leq 7.7 kV \leq 12.7 kV \leq 15.5 kVAverage output power \leq 13.5 kWIsolation between inputs \leq 13.5 kWVSWR \leq 1.1 \leq 1.1 \leq 1.1Dimensions (L x W x H) mm $1200 \times 520 \times 1420 + 50 mm bottom trameWeight\approx 280 kg$				
Peak output voltage $\leq 7.7 \text{ kV}$ $\leq 12.7 \text{ kV}$ $\leq 15.5 \text{ kV}$ Average output power $\leq 13.5 \text{ kW}$ $ -$ Isolation between inputs $\leq 13.5 \text{ kW}$ $ -$ VSWR $\leq 12.7 \text{ kV}$ $\leq 15.5 \text{ kV}$ $-$ Dimensions (L x W x H) mm $1200 \times 520 \times 1420 + 50 \text{ mm bottom travescences}$ $\leq 280 \text{ kg}$		1 5/8" EIA		4 1/2" EIA
Average output power ≤ 13.5 kW $ -$ Isolation between inputs ≥ 35 dB ≥ 35 dBVSWR ≤ 1.1 ≤ 1.1 Dimensions (L x W x H) mm $1200 \times 520 \times 1420 + 50$ mm bottom trameWeight ≈ 280 kg				
Isolation between inputs ≥ 35 dB VSWR ≤ 1.1 Dimensions (L x W x H) mm 1200 x 520 x 1420 + 50 mm bottom frame Weight ≈ 280 kg		≤ 13.5 kW	_	_
Dimensions (L x W x H) mm1200 x 520 x 1420 + 50 mm bottom frameWeight≈ 280 kg		≥ 35 dB		
Weight ≈ 280 kg		≤ 1.1		
Weight ≈ 280 kg	Dimensions (L x W x H) mm	1200 x 520 x 1420 + 50 mm bottom frame		
Environmental conditions For limitations see "Environmental Conditions for Broadcast Products".			≈ 280 kg	
	Environmental conditions	For limitations see "Environmental Conditions for Broadcast Products".		