



ACE amplifiers

# ACE2 SMART 1.2 GHZ AMPLIFIER

Teleste ACE2 makes networks DOCSIS® 3.1 capable on your command. Do not let the compact size fool you. This amplifier is the most advanced amplifier on the market. The ACE2 is fully equipped for distribution or line extender use. It's innovative yet simple design offers outstanding performance and practical functionalities.

The ACE2 solves challenges in network and service availability. It is loaded with great features like new Quattro technology that means remotely managed diplexer filters. Also intelligent manual alignments, remote ingress switching and integrated electrical controls in both up- and downstream are available. It fully stands up to future bandwidth needs with 1.2 GHz downstream frequency band and a unique flexible upstream solution that can be easily upgraded to 204 MHz.

**TELESTE**

# ACE2 COMPACT SMART AMPLIFIER

The ACE2 is a broadband amplifier with one active output and a forward gain up to 44 dB. Based on the latest GaN amplifier technology, the ACE2 offers high output level (U<sub>max</sub> 115 dB $\mu$ V, 112 channels) and wide gain range, both helpful when networks take the next step and become DOCSIS 3.1 compliant.

## 1. Smart features

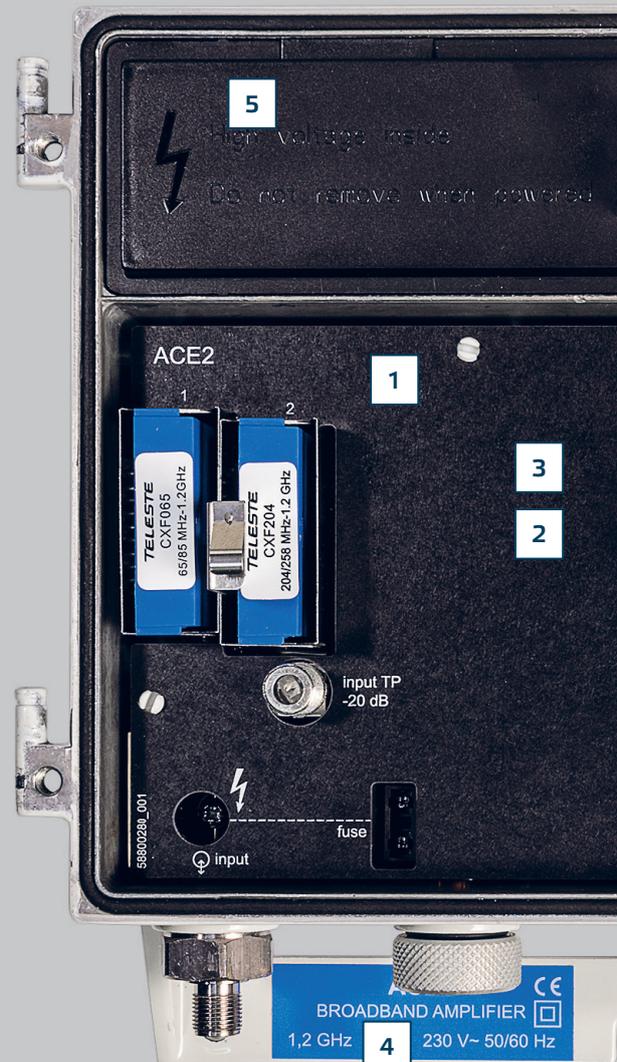
The ACE2 supports intelligent manual alignments. Instead of aligning separate amplifier stages, the technology offers a universal control that automatically aligns gains and levels of amplifier stages in an optimal manner. Besides optimal performance it increases service reliability and cuts down on operational costs over time.

## 2. Innovative diplexer design

The ACE2 supports remotely managed diplexer filters. The key is the Quattro technology, an all-new solution that enables two alternative diplexer filters in the input and output ports.

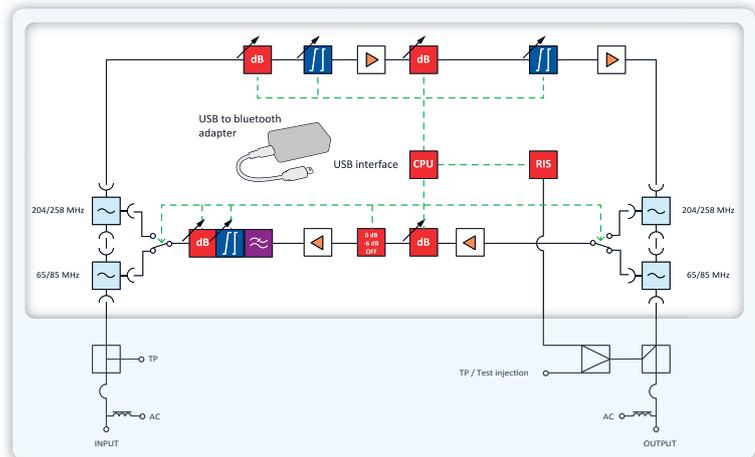
Traditionally a new downstream/upstream frequency split requires new plug-in modules. Although field products support new frequencies already today, their diplexer filters are still upgraded manually, requiring a truck roll. This is laborious and complicated when HFC elements are in unknown or difficult locations behind locked doors.

Quattro technology allows operators to make the upgrade remotely and freely choose the right moment to apply the change. This makes upgrading networks very fast compared to traditional solutions. At the same time, service disruptions caused by the upgrade work for operator's customers will be minimized.



### ACE2 features

- 1218 MHz downstream
- 204 MHz upstream
- Cable simulator at input
- Electrical adjustments in US/DS with temperature compensation
- GaN performance
- Remote ingress switch control
- Remote upstream band upgrade



ACE2 block diagram, smart functionalities are illustrated on the white area.



### 3. Remote ingress switch control

Although ACE2 does not host a transponder, some intelligent features like RIS (Remote Ingress Switching) and Quattro are supported.

Integrated RIS module offers remote ingress switching functions over downstream. RIS offers a cost effective way to tackle ingress. It also enables the use of Argus Smart RIS toolset if Argus NMS is used to manage the network. Smart RIS is the most advanced unidirectional remote ingress switching management system available on markets.

### 4. Easy management even on the site

The amplifier can be accessed locally via a USB port. The USB port also enables wireless local management via Bluetooth® and Teleste Commander application for Android smartphones and tablets.

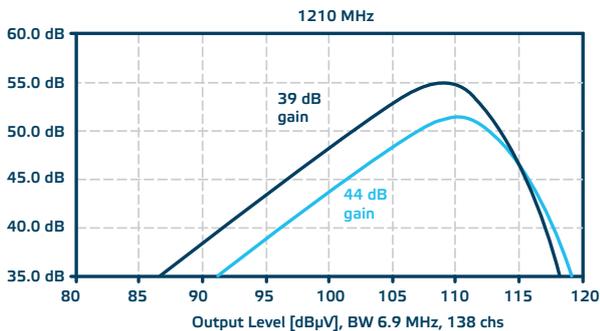
### 5. PSU with active power factor correction

The combination of high output level, 1.2 GHz DS frequency, and smart features can be potentially power-consuming. In the ACE2, this challenge is solved by built-in active power factor correction and clever design that guarantee low power consumption.

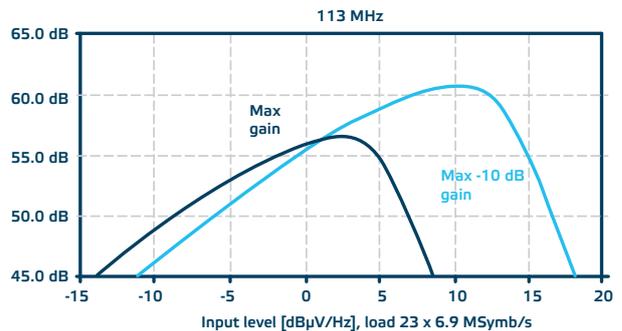
## ACE2 / SMART 1.2 GHZ AMPLIFIER

DOWNSTREAM SIGNAL PATH (values with duplex filters)		UPSTREAM SIGNAL PATH (values with duplex filters)	
Frequency range	85...1218 MHz	Frequency range	5...204 MHz
Maximum gain	44 dB	Return loss	18 dB
Gain control	9...44 dB	Maximum gain	28 dB
Input slope control	-13...20 dB	Ingress switching	0 / -6 / < -40 dB
Input cable simulator	-13 dB	Gain control	0...28 dB
Nominal interstage slope	13 dB	Slope control	0...15 dB
Interstage slope control	8...18 dB	Flatness	± 0.5 dB
Flatness	± 0.5 dB	Noise figure	6.5 dB
Test point	-20 dB	CINR	See curves
Noise figure	8.5 dB		
CTB 41 channels	118 dB $\mu$ V		
CSO 41 channels	119.0 dB $\mu$ V		
Umax (112 QAM channels, @ 1.0 GHz)	115.0 dB $\mu$ V		
Umax (138 QAM channels, @ 1.2 GHz)	112.0 db $\mu$ V		
CINR	See curves		
GENERAL CHARACTERISTICS			
Power consumption	24 W	Operating temperature	-40...+55 °C
Supply voltage	27...65 V AC / 205...255 V AC	Class of enclosure	IP67
Max current feedthrough	7 A / port	Environmental	IEC 60068-2-52, severity 1
Hum modulation	70 dB	Safety	EN60728-11 / EN60065
Output ports	PG11 (several adaptors available)	EMC	EN50083-2
Local service port connections	USB mini-B	ESD	4 kV
Dimensions (h x w x d)	170 (200) mm x 230 mm x 90 mm	Surge	6 kV (EN 60728-3)
Weight	2.3 kg		

CINR (Downstream)



CINR (Upstream)



# TELESTE

TELESTE CORPORATION

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