



Discover the Experience

Air Interface Emulator EB Prosim FE

Single-Box Solution for HF Channel Emulations

Transceiver performance verification systems typically consist of numerous test equipment and accessories. EB Prosim FE air interface emulator is a test solution including the latest radio channel

emulation capabilities and required test system accessories, with advanced test setup configurability in a single box.

EB Prosim FE is a scalable tool for testing all major wireless technologies. With HF fading channel option it can be used for channel emulations in low

frequencies (1-30 MHz). Combined with internal interference generator EB Prosim FE provides easy-to-use one box solution for testing receivers under conditions including fading, noise and interference.

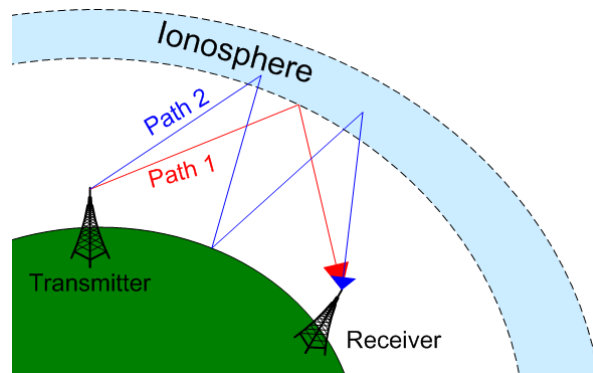


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HF fading channel emulations overview

With HF fading channel option, EB Prosim FE can be used for channel emulations on very low frequencies (1 - 30 MHz). Frequencies like 2 MHz are usually used in maritime, military, aeronautical systems and long distance AM broadcasting systems. EB Prosim FE allows the user to test these long distance links up to almost 4.000 kilometers in laboratory conditions.

Most common channel models for the HF frequency band are ionospheric models. These models are suitable for testing long distance radio communication systems, which are taking advantage of ionosphere bouncing of the radiowave. Ionospheric models consist of two Gaussian distributed fading paths with delay difference up to 10ms. Ionospheric models simulate the propagation condition where the transmitted signal travels to the receiver via two beams: one is reflected from ionosphere only once and the other two times or more.



Device configuration

EB Prosim FE can be equipped with up to four physical HF fading channels. It is also possible to have a mixed configuration of HF channels and RF or ABB channels in a single device.

Supporting EB Prosim FE Options

Internal interference generator

Internal interference generator provides independent interference source for each channel. For HF frequency emulations, each generator can be fitted with AWGN and CW interference types. Internal interference generator option allows user to create the typically needed interfering signals without need of multiple external devices. Signal generation and C/I measurement is implemented digitally to provide best possible emulation accuracy. Rich variety of setting modes to control C/I or S/N make testing straightforward and easy. More information is available in EB Prosim FE internal interference generator option overview.

Fading paths / channel

This option allows optimisation of emulation resources to correspond with used fading channel model requirements by choosing the amount of fading paths per installed channel on the EB Prosim FE. The possibilities are to have 6, 12 or 20 paths per channel.