Electronics, optronics

PREDICTING THE LEVELS OF ACTIVE AND PASSIVE INTERMODULATION PRODUCTS

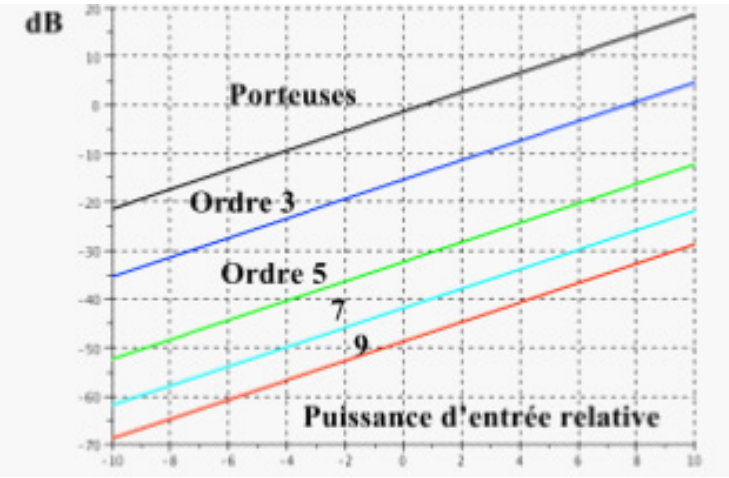
Model capable of predicting with great precision the products of active and passive intermodulation with high input power levels.

Technological advantages

Modelling as closely as possible the results obtained by measurement: Correct prediction of the values of the products in a wide range of measured input powers

Modelling the products of intermodulation with multiple carriers based on measurements from dual carriers

Very short simulation time



Summary of the invention

Modelling passive and active non-linear configurations using non analytical functions with which to predict the products of intermodulation with a minimum number of coefficients and based on a limited number of measurements. This model is highly accurate for a wide range of measurement power levels.

A simple third order measurement with two carriers enables prediction of the levels for all orders with multiple-carrier configurations.

High orders are often difficult to measure with two carrier systems, because their level is low, but they can still contribute significantly in multiple-carrier systems due to their large nmbers. This model provides an easy and effective way of predicting their level.

Potential applications

The field of application includes all manufacturers of passive radio and microwave devices:
mobile telephony, military and aeronautical radiocommunications.

This system can be used to predict the products of intermodulation on active and passive devices, even with very high orders and power levels.

Commercial advantages

Few measurements to be taken: a measurement of the third -order levels can be used to predict the levels of other orders.

The only prediction model on the market capable of accurate modelling of active and passive intermodulation products of a high order and with a wide range of input power levels

TRL : 3/4

Patented invention available under licence

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