



INTERMODULATION PRODUCTS

Method for calculating and predicting the radiation directions of passive intermodulation products

Technological advantages

A more accurate measurement method:

Powerful method for three, five and seven-order intermodulation products (PIMs), or higher

Measurement of PIMs caused by the environment, for onsite testing by the mobile operator and/or an installer

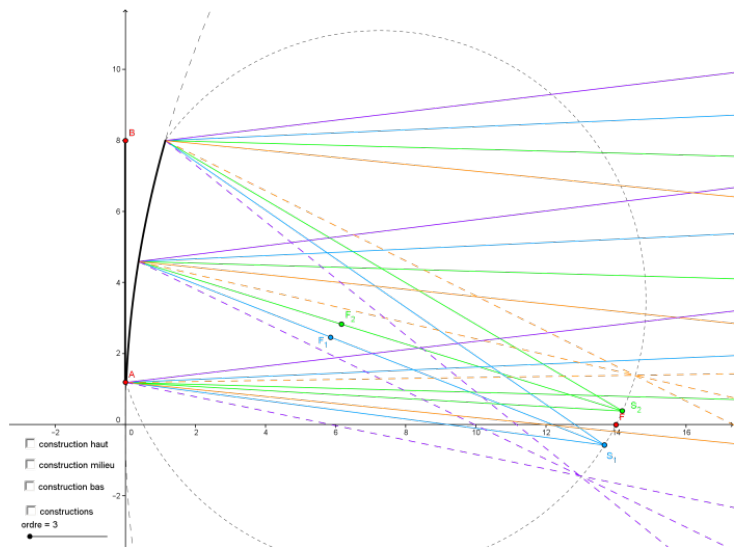
Measurement of PIMs caused by the design of the antenna, for testing in the lab by the antenna manufacturer

A very wide range of applications:

Can be used for the initial design of a set of antennas, transmitters and receivers close to each other, or those of a base station for mobile telephony, an aircraft or a satellite.

Improvement of the design of multi-beam antennas

For mobile networks: ability to locate a source of interference in the environment of the antenna.



Summary of the invention

Measurement methodology for the spatial isolation of intermodulation products in the order they are received. This methodology is based on calculating the radiation diagrams of the intermodulation products generated by a non-linear reflector object from the fields received by it from one or more sources.

Process consisting in creating the conditions for the level of intermodulation to be higher, to improve the quality of its measurements.

Potential applications

Mobile telephony
Antennas
Telecommunications
Radio
Aeronautics
Rail
Defence

Commercial advantages

Detailed characterisation of performance to reduce the margins traditionally added for passive intermodulation products (PIMPs) and therefore the possibility of using less expensive or more practical materials for reflectors and their support structures.

Enables characterisation of high orders, thus enabling prediction of the disturbance induced by high orders for multi-carrier systems.

TRL : 4

Patented invention, available under license