



Keynote speaker:

Name: Dr. Dan Pupeza

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Title of the Presentation: News about RFID Antennas

Short CV

Dan Pupeza received MS, Electronics Engineer/Physicist, from the Polytechnic Institute, Bucharest, Romania in 1968. Till 1978 he was Research engineer and project coordinator for military communications equipment at the Electronic research Institute in Bucharest, Romania. He has designing solid state linear power amplifiers for SSB transmitters, automatic antenna matching units, TCXOs for large temperature ranges, VHF Transmitters for calibration of radar stations. In 1978 has started research activities on Microwave Cavity Stabilized Oscillators intended for satellite communications. Till 1990 was department manager of microwave communications in the electronic research institute in Bucharest, Romania, developing satellite receiving stations, antennas and navigation receivers. In 1990 he received PhD, Radio Communications from the Polytechnic Institute, Bucharest, Romania. After receiving a passport he leaved Romania and established in Germany, Bad Salzdetfurth. He works further in microwave and satellite communications, developing Ku band VSAT Transceivers, low phase noise synthesizer for applications at 13GHz and for CATV, providing technical support in the design of radio relay links at 23GHz and 38GHz, designing GSM repeaters, antennas and cavity filter with quartz-like characteristics as employed in different German companies.

In 2014 he founded its company, Radio Engineering Pupeza. He is doing research and developing activities in the field of microwave communications, antennas, radar, localization and RFID. The company is supported for marketing, mechanical engineering as software experience too. We find most interesting multidisciplinary activities and new ways to achieve strange targets. More than 20 papers are written till 1995 and patents till 1994 are available.

Abstract

There are a lot of Antennas used for RFID Applications. They are characterized according to two important properties, regardless the Gain of them: radiation characteristic and impedance matching. These both properties has to be matched to the application and the selected Tags. I try to present you a special Antenna which is needed to make possible a communication between a RFID Reader and a very special Tag. This Tag is to be used in very hard environment conditions, regarding high Voltage (100's kV), high currents (10's kA) and full metallicity environment. This Tag is used to make Voltage measurements across special fuses. This values may be used to monitor a power line and also the actual state of the active devices (triacs, diodes, etc.) used. There are measured many fuses simultaneously, so for each one is needed a separate Tag. The Reader is using a single Antenna (Lock Field Type) to communicate with all Tags and to supply them with the needed energy. Each Tag has two transponders, one for power harvesting and one for communication with the reader. They have different input impedances. To use the Transponder optimally, we have to match them correspondingly. Therefore we have done this Antenna with two different Outputs, without significant losses between them.