The measurement must be performed at several frequencies where the highest emissions have been detected. So far emission measurement by the extension of the CISPR 11 the first time the APD measuring function is defined in a product standard. The Amplitude Propability Density Function (APD) describes a weighting of the interference according to the statistical distribution of the amplitude. The new standard regulates an APD value to be below 0.1 at an electric field strength of 70dBµV/m over the frequency range from 1 GHz up to 18 GHz, excluding the reserved band at 2.4 GHz. Measurements using APD have been extremely time consuming, because the dwell time has to be more than 30 seconds and the measurement has to be repeated at several frequencies. Further the maximum has to be searched by pre-scanning using Max and Hold function.

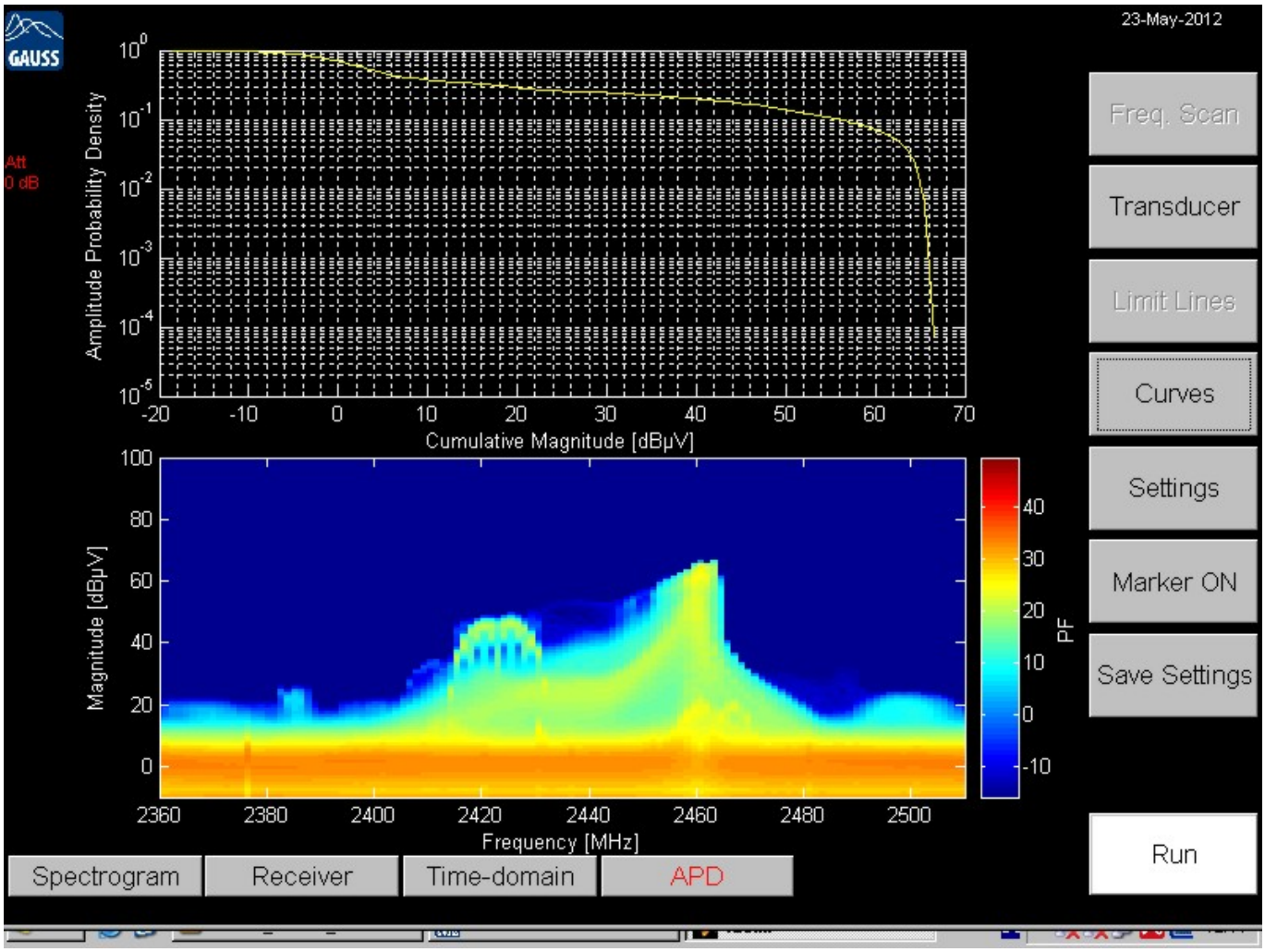


Fig. 1 – **APD measurement of microwave oven at 2.4 GHz.**

The products TDEMI 6G - 40G now offers the APD measurement at 128 frequencies simultaneously. Easy control by setting up a scan and full automated measurements using auto-range function provide a highly efficent tool to perform the measurements of the APD as defined in CISPR 11. After the scan is performed the absolute frequency of the amplitude values are shown in a 2D colour plot. By selecting the frequency with a marker, the APD measuring function as well as the classical values of peak and LOGAVG are shown. An example of such a measurement is shown in Fig. 1. The statistical view of the spectrum can be used for further applications like analysis of disturbance as well as surveillance. By the coloured plot even signals that are masked by other interferences can be made visible. A special calculation algorithm developed by GAUSS INSTRUMENTS allows to visualize the result in True Colors (16.7 Mio). The TDEMI System provides unprecedented amount of information that you can observe at a glance . An example of the analysis of a frequency hopping oscillator is shown in Fig. 3.

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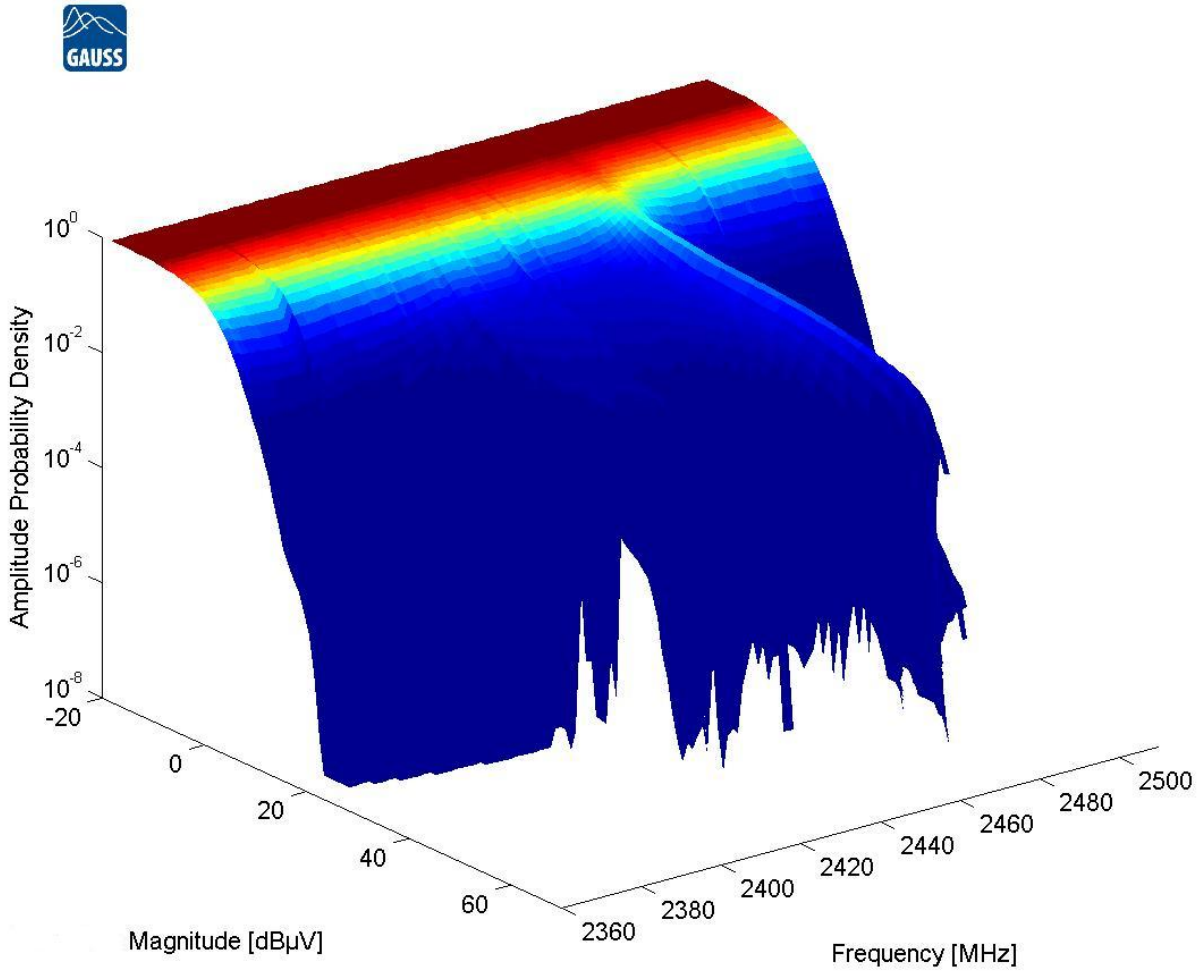


Fig. 2 – **3D Plot of APD measurement of microwave oven at 2.4 GHz.**

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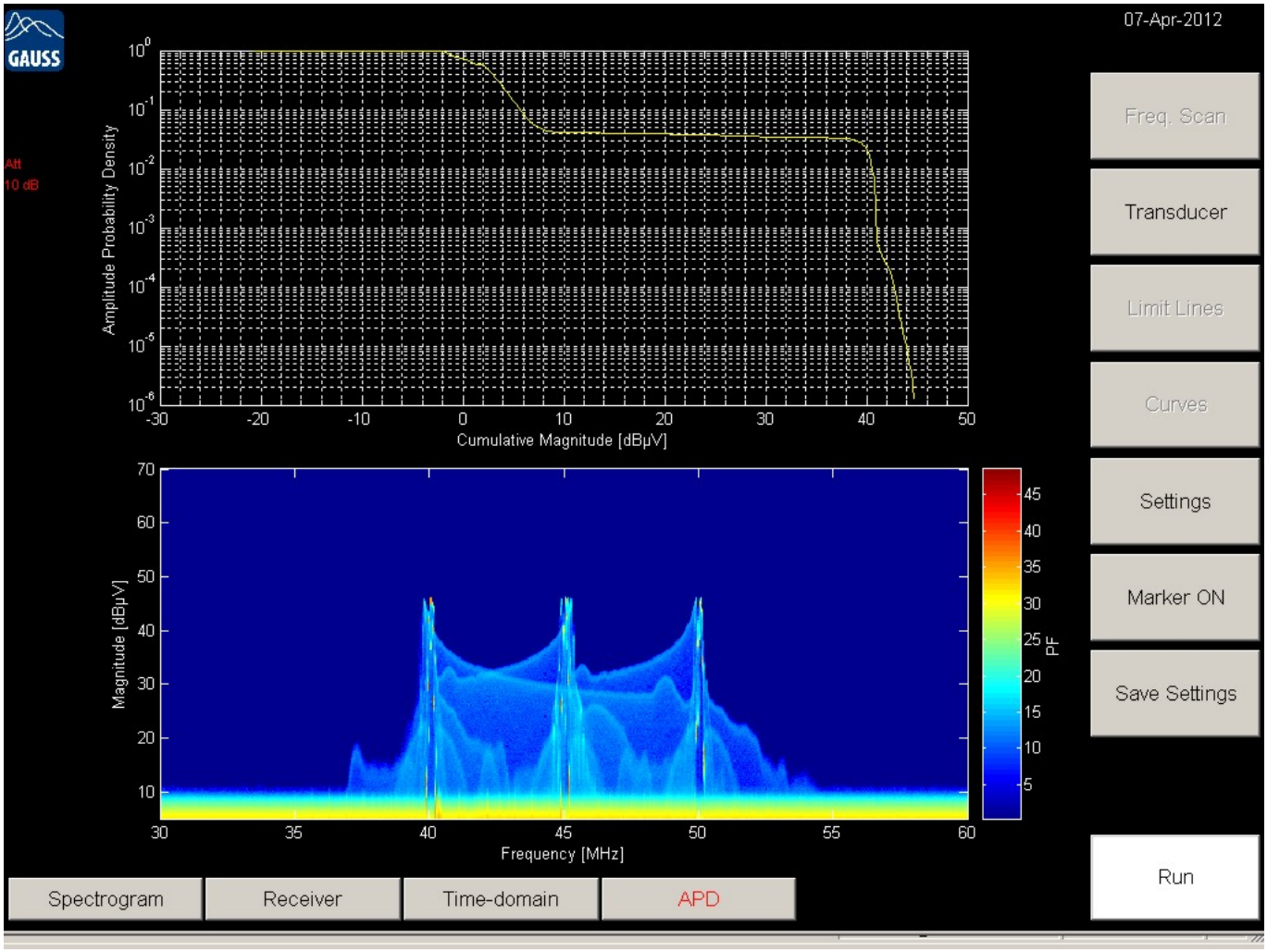


Fig. 3 – **APD measurement of frequency hopping signals.**

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