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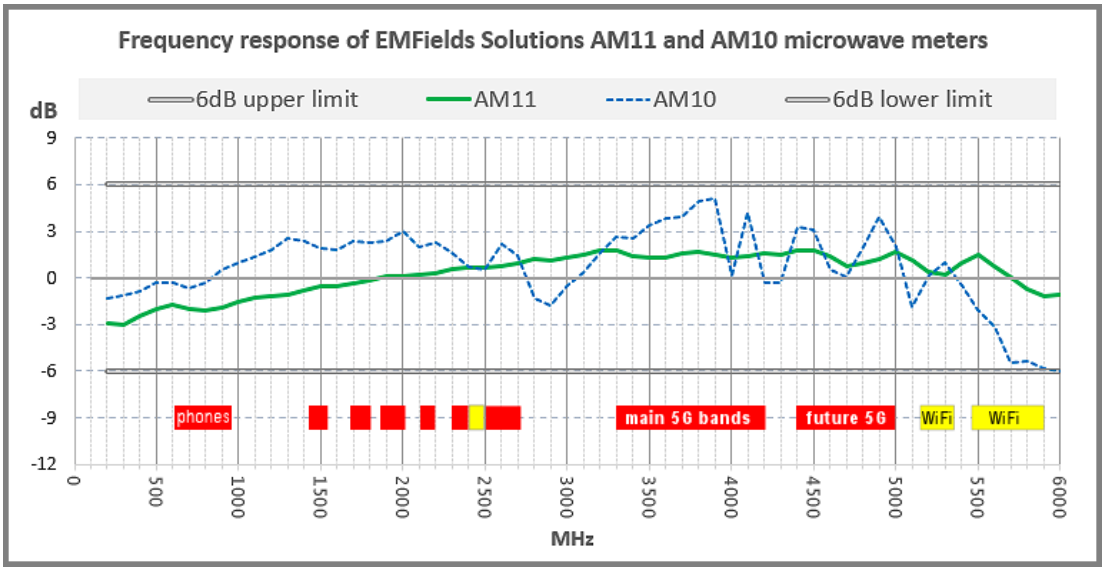
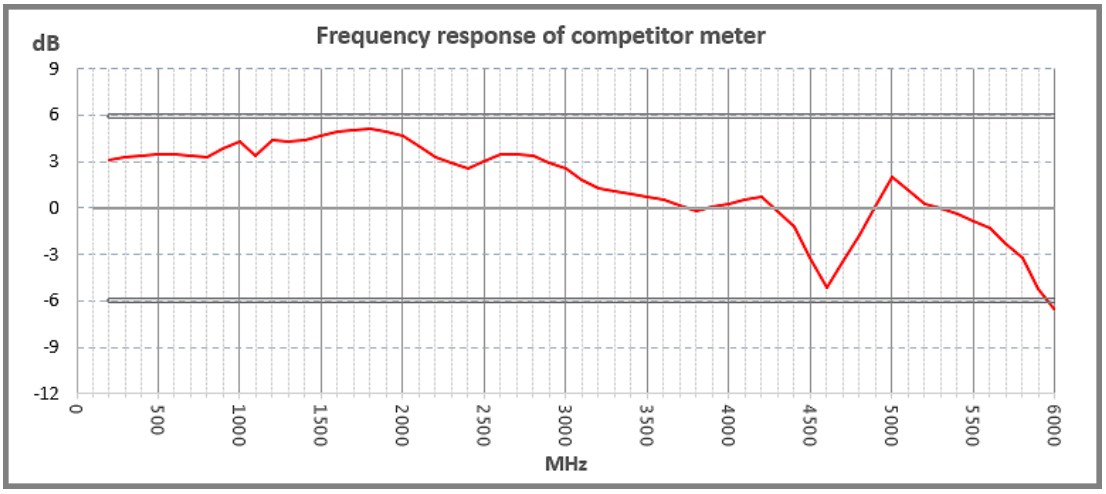
Following the successful release of the first batch of the AM11, some of you may have noticed that the readings are not always the same as the AM10's. In some locations, you may have found slightly higher readings, and in other locations slightly lower readings. In every case, we are confident that the AM11 represents an improvement in detection accuracy. We spent a great deal of time improving the accuracy of the AM11's frequency and pulse response and ensuring it is optimised for measuring all RF signals, including those of the latest technologies (4G and low-band 5G). To achieve this, as well as hardware and software improvements, every AM11 meter goes through individual test and calibration for frequency, measurement level and linearity. We have also managed to significantly improve its accuracy at low electric field strength levels below 0.1 V/m.



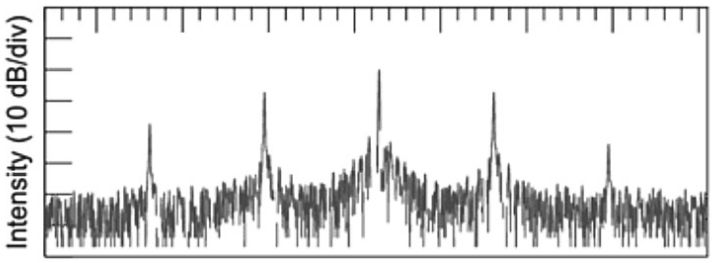
As the graph shows, the AM11 has a very consistent input frequency response, and we are proud of the accuracy we have been able to achieve. It is worth noting that to be within ±6dB is considered to be good accuracy when measuring microwave EMFs with a broad-band microwave meter. The AM11 response extends to 8 GHz. As a comparison, we show, below, an example of another other competitor instrument (name withheld) measured using the same test set-up and technique.



Modern mobile phone network signals use a variety of directional polarisations (vertical, angled and circular) and it remains important to note that that the AM11 needs to be held at the best angle for the optimum signal reading and its position will not be always the same as for the AM10. The instructions in the AM11 manual apply – turn the meter around various angles to find the highest reading at any given location.

However, even when angled for highest reading, there are also other reasons for different readings from the AM10. The frequency response graph shows both the AM10 and the AM11 so that you can see each instrument's response across the frequency spectrum that covers all current mobile phone frequencies (450 MHz to 6 GHz). The AM11 response extends to 8 GHz with a slight fall-off in response. Above the 0dB line represents a slight over-read, and below represents a slight under-read. These differences are usually smaller than local changes in exposure due to reflections of the microwave signals from the ground and from buildings causing "hot spots". Just moving a short distance can result in large changes in actual microwave exposure.

Frequency response graphs do not represent entire picture. The "electrosmog" that now surrounds us is continually evolving and changing. Modern 4G LTE and 5G systems use extremely 'sharp & spiky' phase-modulated signals, which can make them particularly hard to measure correctly. Many older instruments struggle to read them accurately.



The AM11 Acoustimeter has substantial improvements in the electronics and software to enable it to better respond to modern fast-pulsed technologies.

Even the highly respected Gigahertz Solutions company comment on the difficulties of measuring the complex 4G and 5G signals. They describe the difficulties in some helpful detail in their manuals – for example read pages 10-11 of the HF35C manual and pages 30-32 of the more advanced HF59B meter Manual. These are downloadable from the bottom of the following web pages:
https://www.gigahertz-solutions.de/en/measurement/high-frequency/meters/312/hf35c
https://www.gigahertz-solutions.de/en/measurement/high-frequency/meters/338/hf59b

The AM11 does not require any of the post-reading calculations mentioned in these manuals, as we have always aimed to make our instruments as easy to use "out of the box" as possible.

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