



World Meteorological Organization
Organisation météorologique mondiale

Temps • Climat • Eau
Weather • Climate • Water

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To: Mr R. NIEPOLD,
Chairman RSCOM

Subject : Coexistence between Meteorological radiosondes and ULP-AMI in the 400 MHz band

Dear Mr Niepold,

The World Meteorological Organisation (WMO) has been very recently informed about the willingness of the European Commission RSCOM to modify the conditions of use by ULP-AMI in the 402-405 MHz band and not follow the elements of Annex 12 to Recommendation ECC 70-03 in suppressing any reference to a maximum 300 kHz bandwidth in adopting the relevant EC Decision on Short-Range Devices.

As a general preamble and consistently with the EU Report and Opinion on “ a coordinated EU spectrum approach for scientific use of the spectrum”, it is necessary to stress the critical importance of radio-frequencies applications to meteorological activities, organized within WMO, to produce and collect the observations upon which weather, water and climate forecasts and warnings are processed and to disseminate weather, water and climate information and early warnings to various economic sectors and related to public safety.

Among those radio-frequencies allocations, the 400.15-406 MHz band is used for radiosondes providing in-situ atmospheric measurements performed by about 900 stations worldwide and representing more than 1 million launches per year, among of which 20% relates to the use in Europe (without considering all other scientific and military operations).

These in-situ measurements provide crucial data for all meteorological and climatological operations, including calibration for satellite-based passive and active measurements.

WMO is fully aware that the radio-frequency spectrum is a limited resource and has always been working toward possible sharing, provided that meteorological applications are not put at risk.

It was in this spirit that in-force Recommendation ITU-R SA.1346 on sharing between Metoids (Radiosondes) and MICS medical implants (ULP-AMI) in the 401-406 MHz band was developed and adopted, with the support from WMO, providing ULP-AMI technical and operational characteristics to ensure their proper operation and sustainable sharing arrangements as well as to grant minimum risk of possible interference from radiosondes.

WMO would like to reaffirm its commitment on the sharing arrangements as defined in this Recommendation and to emphasize that it put special importance on the related technical and operational characteristics and in particular :

- the limitation of ULP-AMI e.i.r.p. to -16 dBm (25 microwatts) in a 300 kHz reference bandwidth to protect radiosondes operations;
- the use of interference mitigation techniques by ULP-AMI, including channelisation and channel selection, to protect ULP-AMI operations and ensure a sustainable sharing status;

These elements are also given in Annex 1 of ERC Decision (01)17 and already contained in the current Annex 12 of Recommendation ECC 70-03 for the band 402-405 MHz.

WMO believe that, should an EC Decision be adopted on SRD, including Medical Implants in the 402-405 MHz, it should incorporate the same set of parameters.

Together with the other parameters, this 300 kHz maximum bandwidth ensures that the risk of interference between ULP-AMI and radiosondes be minimized, by limiting the probability of co-frequency operation. Hence suppressing this 300 kHz reference would increase the probability of interference from ULP-AMI to radiosondes as well as, probably more significant, from radiosondes to ULP-AMI, noting in particular the omnidirectional nature of the sondes transmissions.

Even though ULP-AMI operate on a “non interference non protection” basis, WMO is and has always been concerned with the risk of a possible future impact on human of radiosondes operations, such as possible detrimental interference to ULP-AMI, if the criteria for sharing arrangements are too much relaxed.

WMO hence urges the European Commission RSCOM and the EU member states to reconsider any modification of the condition of use of the ULP-AMI in the 402-405 MHz and to include in the EC Decision on SRD the whole set of parameters as in ERC Decision (01)17 or Annex 12 to ECC Recommendation 70-03, including the maximum bandwidth of 300 kHz.

Yours sincerely,

Jean-Michel Rainer
Chief, Information Systems and Services

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