

***The Agence Nationale des Fréquences (ANFR) is the body responsible for frequency management in France. Like OFCOM, ANFR has participated actively in the process of development of the ECC Report 64 on the impact of UWB on other services and systems, which is analysed in the OFCOM consultation.***

***ANFR does not wish to respond in details to the questionnaire which is of primary interest for UK stakeholders. However, ANFR wishes to provide elements of response to the following consultation question:***

***Q9: Have we made an accurate assessment of the existing studies?***

ANFR has noted that the consultation document has been issued the 13<sup>rd</sup> January, few days after the end of the public consultation on the ECC report 64 produced by ECC/TG3 (23<sup>rd</sup> December) and during the TG3 “resolution meeting” to analyse these comments (10-14<sup>th</sup> January).

In several cases the OFCOM comments and criticisms are ignoring elements and assumptions which have been discussed in TG3 or are even contradicting positions that UK has taken in this meeting. Several examples are given in the table below and the list is not exhaustive.

ANFR considers that it would have been fruitful to discuss in the framework of ECC/TG3 the elements addressing the ECC report 64.

More generally, it is understood that OFCOM considers a possible national regulatory solutions for UWB. ANFR would like to remind OFCOM that UWB is considered in the framework of an EC mandate which may ultimately imply an alignment of the regulation in all EU countries for UWB. From a practical point of view, UWB equipment will operate on an unlicensed basis and will circulate over all EU countries, thus making inadequate diverging national regulations.

<i>Service</i>	<i>OFCOM statement</i>	<i>Comment</i>
Several services	EMC limits and CEPT/ETSI limits for spurious emitters from unintentional radiators are higher than the proposed UWB limits and hence emission from other, non-UWB, appliances will dominate over the UWB emissions.	This is a common mistake which has been discussed in length in ECC/TG3 and other CEPT bodies. Spurious from radio equipment are only occurring at a limited number of discrete frequency. The probability to find one spurious at the victim frequency is extremely low, while UWB will transmit over all the victim receiver bandwidth. Therefore, spurious emission will not “dominate” UWB emissions
Fixed service	The report has correctly applied existing ITU methodology, however the unexpected reversal of sensitivities of P-P relative to P-MP suggests that detailed interference assessments based on C/(N+I) vs. availability may provide a more appropriate assessment methodology.	This is not correct (see for example F.1108). It is demonstrated that for FS links below 15 GHz, where multipath effect is the dominant fading, the degradation in availability is equal to the degradation in I+N (ie, 10% increase of I+N strictly corresponds to 10% degradation of the availability performance of the link). The reference to C/N+I is a wrong analogy with mobile service.
Mobile Satellite Service	The study identifies the most susceptible MSS terminals as being licence exempt land based mobile earth stations, requiring up to ~60dB additional protection at 20m separation. Ofcom regard these as being a relatively low risk, noting that this is a worse case assessment and that mitigation options include re-positioning to a better location.	The study for MSS was mainly based on UK input to TG3. Mobile earth stations are often operated in situations with high concentration of radio use (major event, emergency HQ, news reporting area...) where 20 m may already be significant.
EESS	The 10.6 GHz band beams have a small footprint and this would limit the loss of measurements if other mitigating factors, including a tighter mask, are insufficient.	Small footprint inherently means higher antenna gain and therefore higher interference level which balances the reduced aggregate effect
EESS	The passive measurements made in the 1400-1427 and 6425-7250 MHz bands	Satellite passive measurements are performed using world wide

	are mainly related to moisture - sea temperature, moisture content, coastal winds, vegetation, soil moisture, etc, which may be less important for the core of densely populated areas during waking-hours where UWB operation would be expected to be highest.	generally using low orbiting satellites. Data availability at those passive bands (including 10.6 GHz) is at least 99.9 % for a limited measurement area over the Earth. Sea, coastal and terrestrial measurements are equally important.
RNSS	Galileo may be in a better position [than GPS] as all its receivers should be designed to operate alongside UWB transmissions if these are permitted.	Galileo signal and receiver processing is constrained by interoperability requirement with GPS and low level of reception.
FSS/Radioastronomy	For FSS : There are very few mitigation options available to earth station operators that do not involve significant cost and/or which may require significant planning permissions. For RAS : Relocation, at a cost, of radio astronomy receivers to areas less affected by UWB emissions. It may not be necessary to relocate the associated research staff.	Relocating FSS station seems to be unacceptable for cost reason while this is envisaged for RAS. In practice, RAS relocation cost is likely to be even more significant.
FSS	The studies are incomplete as they do not consider MB-OFDM UWB sources.	At least 2 studies (including the one which the conclusion is derived) did not make the distinction between various types of UWB sources, assuming in fact that the UWB sources may be considered as white Gaussian noise.
FSS	The analytical results are conservative in that the analyses do not take full account the size of the earth station antenna G/T) or consider the effect of downlink carrier signal to (noise+ interference) on digital signal availability, and are based on the application of ITU criteria of I/N=-20dB for all aggregate sources.[	Assessments have been made with 3 types of antenna size (2.4, 4.8 and 8 m). The interference criteria of I/N=-20 dB for all other systems which are not primary or secondary services is recommended by ITU-R S.1432, and this recommendation is used as a basis for other sharing situations, even for intra-service sharing situation. The reconsideration of this criterion could create unbalanced

		situation with other services or systems that also share the same bands.
Aeronautical	Ofcom considers this paper to be a conservative analysis of what could happen if UWB was introduced, but does not feel it adequately addresses the probability of this happening.	The study for MSS was mainly based on UK input to TG3.
Aeronautical	The minimum range at which a UWB device might intrude into the main beam of the radar could be relaxed to 300m, giving a 20dB mitigation in the protection requirement.	This is UK which has objected in ECC/TG3 and WGSE to relaxation of this value, in particular at 9 GHz. In addition, 20 dB mitigation is far from being sufficient to meet the radar protection requirement.