



28 October 2016

Re: Supplemental Comments of EchoStar Mobile Limited in Response to Notice of Proposal to Make Wireless Telegraphy Exemption Regulations Relating to User Terminals

This summer, EchoStar Mobile Limited (EML) submitted comments supporting the goals of OFCOM in their Notice of Proposal to Make Wireless Telegraphy Exemption Regulations relating to User Terminals (2 GHz Proceeding). EML continues to make progress with the imminent launch of EchoStar XXI and will bring advanced, innovative MSS services, throughout Europe, including to consumers in the United Kingdom, no matter where they are located.

EML continues to support its initial comments made in this proceeding, however a recent proposal made by Inmarsat raises new concerns about EML being able to operate our mobile satellite system free from harmful interference caused by Inmarsat’s aeronautical terminal transmitting to it complimentary ground component (CGC) base station. As we discussed in our initial comments, first and foremost, since this consultation is limited to the mobile satellite service (MSS), we urge Ofcom to defer consideration of any CGC proposals until a future consultation that can properly address the full range of CGC interference issues.

In addition, if we compare the current Inmarsat proposal to ECC Report 233, Inmarsat’s proposal is 4 dBW higher than recommended in order to avoid harmful interference between adjacent systems. This is shown in the table below. As ECC Report 233 recognizes, the same power level required to protect adjacent terrestrial systems, is also required to protect adjacent MSS systems. Accordingly, Inmarsat’s proposed power limit has the potential to cause harmful interference into EML’s MSS and CGC system.

	Reference	Maximum EIRP stated	Maximum EIRP conversion
Inmarsat response to the Ofcom consultation (26 August 2016)	1000 meters or above	40 dBW/5 MHz	-4 dBW/200 kHz
	below 1000 meters	24 dBW/5 MHz	-20 dBW/200 kHz ←
ECC Report 233, Table 6 - Aero Terminal (above 1000 meters) transmitting to Aero CGC Ground Station	ECC Report 233, Table 6	40 dBW/10 MHz	-7 dBW/200 kHz

If above was in 5 MHz BW		40 dBm/5 MHz	-4 dBW/200 kHz
ECC Report 233 - Aero Terminal (at 1000 meters) transmitting to Aero CGC Ground Station Note: Scenario 2 , reduced to e.i.r.p. of 36 dBm/10 MHz and; Scenario 3 , reduced to e.i.r.p. of 23 dBm/10 MHz.	ECC Report 233	23dBm/10 MHz	-24 dBW/200 kHz ←
Updates to EN 302 574-2 (2016-09)	ETSI EN 302 574-2 V2.1.2 (2016-09) 6.2.2 Transmitter Maximum output power	37 dBm + - 2.7 dB = 39.7 dBM Maximum (not EIRP)	

In addition, ETSI EN 302 574-2 V2.1.2 (2016-09), which is the ETSI specifications for aeronautical terminals including in the 2 GHz band, expressly limits the operation of aeronautical terminals to a minimum altitude of 1000 meters. The Inmarsat proposal proposes a power level below 1000 meters for its aeronautical terminals. This proposed scenario has not been studied at ETSI and EML is concerned based on initial technical analysis that it may result in harmful interference into its MSS/CGC system.

As EML is moving forward with the launch of its MSS system, we are very concerned that Inmarsat’s latest proposal will compound the potential for harmful interference from Inmarsat’s aeronautical system that was identified in our initial comments and we ask Ofcom to ensure EML does not suffer interference. We urge Ofcom to defer any action on the latest Inmarsat proposal until appropriate studies and a specific consultation that addresses these interference concerns can be initiated and/or Inmarsat completes coordination with EML for its MSS satellite system.

Respectfully submitted,

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