

Decision
awarding a right of use for frequencies to *Echostar Mobile Limited* for operation of 2 GHz
Mobile-Satellite Service on national territory

1. Framework

1.1. EU selection process

On 27 February 2007, the European Commission adopted **Decision No 2007/98/EC**¹, which aimed to promote European harmonisation of the use of 2 GHz frequency bands by systems providing Mobile-Satellite Services.

Given the cross-border nature of services concerned, the advantages of pan-European coverage were undeniable, as fragmentation of the internal market would be prevented and complex harmful interference situations would be avoided. As such, it was additionally considered that 2 GHz MSS system operators should be selected and authorized at Community level.

The legal framework for this process was laid down in Decision of the European Parliament and of the Council, of 30 June 2008 (**Decision No 626/2008/EC**)², which defined a **Community procedure for the selection of 2 GHz MSS operators** as well as **applicable common obligations**, the authorization of selected operators being subsequently incumbent on each Member State, at national level.

As such, under paragraph 1 of article 7 of Decision No 626/2008/EC, Member States must ensure that selected applicants have the right to use the specific radio frequencies identified in the Commission decision and the right to operate a mobile satellite system, in accordance with the time frame and the service area to which they have committed themselves, in accordance with paragraph 1c) of article 4 and with national and Community law.

Paragraph 2 of the referred provision establishes **common conditions** to which these rights of use are subject, namely:

- a) *selected applicants shall use the assigned radio spectrum for the provision of MSS;*
- b) *selected applicants shall meet milestones six to nine set out in the Annex within 24 months of the selection decision adopted pursuant to Articles 5(2) or 6(3);*
- c) *selected applicants shall honour any commitments they give in their applications or during the comparative selection procedure, irrespective of whether the combined demand for radio spectrum exceeds the amount available;*
- d) *selected applicants shall provide to the competent authorities of all Member States an annual report detailing the status of development of their proposed mobile satellite system;*

¹ On the harmonised use of radio spectrum in the 2 GHz frequency bands for the implementation of systems providing mobile satellite services. Available at <http://eur-lex.europa.eu/legal-content/PT/TXT/?uri=CELEX%3A32007D0098&qid=1405941209457>

² On the selection and authorisation of systems providing mobile satellite services (MSS) - (<http://eur-lex.europa.eu/legal-content/PT/TXT/?uri=CELEX%3A32008D0626>)

- e) Any necessary rights of use and authorisations shall be granted for a duration of eighteen years from the date of the selection decision adopted pursuant to Articles 5(2) or 6(3).

At the end of the selection procedure³, Commission **Decision No 2009/449/EC**⁴, of 13 May 2009, was published, having thus been selected, as a result of the first selection phase, the operators *Inmarsat Ventures Limited* (which was authorized to use in each Member State the sub-bands from 1980 to 1995 MHz for earth to space communications and from 2170 to 2185 MHz for space to earth communications) and **Solaris Mobile Limited (SML)** which was authorized to use in each Member State the sub-bands from 1995 to 2010 MHz for earth to space communications and from 2185 to 2200 MHz for space to earth communications).

1.2. ANACOM's Decision of 10 November 2011

By determination of 10 November 2011, ANACOM approved a **Decision on the authorization regime governing Mobile-Satellite Services (MSS) systems in the 2 GHz band**⁵, in the scope of which the Authority decided:

1. *To make the provision in the national territory of MSS systems in the 1980-2010 MHz and 2170-2200 MHz frequency bands, by applicants which are selected under the terms of Decision No 2009/449/EC, subject to the allocation by ICP-ANACOM of a right of use, covering both the satellite component and the ground component (CGC);*
2. *To make the rights of use to be allocated subject to the following conditions:*
 1. *Conditions resulting from the Community selection procedure;*
 2. *Common conditions laid down in paragraph 2 of article 7 of Decision No 626/2008/EC, regarding MSS;*
 3. *Common conditions defined in paragraph 3 of article 8 of Decision No 626/2008/EC, regarding CGC;*
 4. *Conditions resulting from paragraph 1 of article 27 of ECL, which apply by their nature;*
 5. *Conditions resulting from paragraph 1 of article 32 of ECL, among which the following are identified:*
 - i. *Right to use radio spectrum assigned for the provision of MSS;*
 - ii. *Effective and efficient use of frequencies;*
 - iii. *Compliance with the specific conditions governing the use of radio frequencies included in radio licenses issued pursuant to Decree-Law No 151-A/2000, of 20 July;*

³ The Commission published an announcement on the "Call for applications for pan-European systems providing mobile satellite services (MSS)" in the OJEU C 201 on 7.8.2008 (<http://eur-lex.europa.eu/legal-content/PT/TXT/PDF/?uri=CELEX:C2008/201/03&from=PT>).

⁴ <http://eur-lex.europa.eu/legal-content/PT/TXT/?qid=1405941385740&uri=CELEX%3A32009D0449> .

⁵ [Authorisation regime governing mobile satellite service \(MSS\) systems in the 2 GHz band](#) .

- iv. *Compliance with the technical and operational conditions necessary for the non-production of harmful interference and for the limitation of public exposure to electromagnetic fields in accordance with Decree-Law No 11/2003, of 18 January, and Administrative rule No 1421/2004, of 23 November, as well as with ICP-ANACOM regulations published for the implementation thereof;*
 - v. *Period of validity of the right of use set until 14 May 2027;*
 - vi. *Payment to ICP-ANACOM of fees due under article 105 of ECL and of article 19 of Decree-Law No 151-A/2000, of 20 July, as amended by Decree-Law No 264/2009, of 28 September;*
 - vii. *Compliance with obligations arising from applicable international agreements on the use of frequencies.*
3. *To make the MSS network subject to radio licensing in the form of network licensing, pursuant to paragraph 1 of article 7 and to paragraph 1 of article 8 of Decree-Law No 151-A/2000, of 20 July.*
4. *To amend the National Frequency Allocation Table in accordance herewith.*

2. Application submitted by SML

2.1. Communication of SML

By letter received on 15 April 2014, **SML** submitted to ANACOM a **communication for the provision of electronic communications networks and services under the general authorization regime**, pursuant to article 21 of Law No 5/2004, of 10 February, as amended and republished by Law No 51/2011, of 13 September, and subsequently amended - Electronic Communications Law (ECL).

In the referred communication, **SML** describes the nature, characteristics and operation of its network, including the information that the company had been selected as a pan-European operator of 2 GHz satellite services and that the services included a complementary ground component, in accordance with Decision 2009/449/EC.

SML informed that EML's S band services would be provided via the 2 GHz band capacity of W2A satellite located 10 degrees East, *with an additional capacity planned to become available as from May 2016, following the launch of 2GHz dedicated band Echostar21 satellites*, as well as the company's intention to add complementary ground components to its network infrastructure, to support the provision of its service in Portugal after Echostar21 is rendered operational.

SML indicated the services to be provided, which include low bit rate data, voice and "*other electronic communications services*" through its MSS system, as permitted under Decision No 626/2008/EC, in sub-bands from 1995 to 2100 MHz (for earth to space communications) and from 2185 to 2200 MHz (for space to earth communications), allocated by Decision No 2009/449/EC, declaring that the company intended to provide these services across the territory of Mainland Portugal.

SML added that it planned to develop its activity in Portugal as MSS wholesale provider and in the future also as provider of complementary ground components (hereinafter referred as CGC), joining providers already active in the Portuguese market, forecasting that the offer would begin on 1 May 2016.

2.2. Subsequent clarifications

Taking into account the contents of the received communication, **SML** was requested to provide clarifications, by email dated 5 June 2014, on (i) *Echostar 21* satellite, as regards its designation, orbital position and entry into service; (ii) performance of the service; (iii) coverage area of satellites and (iv) how the MSS wholesale service would be provided to national service providers.

On 12 June 2014, **SML** provided by email the requested clarifications, on the designation of the *Echostar 21* satellite to be used in the MSS provision, as well as on its orbital position, designation and entry into service. **SML** also provided information as requested on the performance of the service, having explained that *Echostar 21* provides 100% coverage of all 28 Member States of the European Union, including Portugal, having also lifted ANACOM's doubts both as to the development and entry into service of the *Echostar 21* satellite, and the general core infrastructure.

As regards its wholesale offer, **SML** referred in its reply that it stands in the market as an infrastructure wholesale provider, enabling service providers to provide a variety of hybrid MSS to their customers and markets, including in the commercial and public administration sectors. The company adds that this approach has two main advantages: flexibility to meet the needs of each market and (ii) alignment with European regulation and market tendencies, as regards the functional separation between companies providing infrastructure and those providing services.

Later, on 4 February 2015, **SML** gave to ANACOM a presentation on its future provision of MSS, which according to the company's expectations will be available in Member States in 2016. **SML** informed this Authority of the most recent developments on the launch of the service, namely as regards the ITU coordination of the *Echostar 21* satellite and the construction of the first access central station and the central database.

Following the above-mentioned meeting, **SML** provided additional clarifications to ANACOM, on 12 February, by email, on the satellite connection capacity (92.8 Mbps) and on spectral efficiency (6.19 Mbps/MHz).

2.3. Change of **SML's** business name

On 20 March 2015, **SML** notified to ANACOM that its business name had changed from *Solaris Mobile Limited* to **EchoStar Mobile Limited (EML)**. According to the company's notification, confirmed by a copy of the registry certificate attesting the change of the business name, in annex, this change occurred on 16 March 2015.

SML, hereinafter **EML**, notified on that occasion also that all other information concerning the company, which remains the same legal body, remained true.

EML added that on 24 February 2015 it had already notified the European Commission of the change in its business name.

3. Analysis

3.1. Examination of requirements for the award of a Right of Use for Frequencies (RUF)

The communication presented by **EML**, on 15 April 2014, corresponds to the model provided by ANACOM for notifying the commencement of activity pursuant to the general authorization regime under article 21 of ECL. The referred communication was completed in Portuguese, and includes the company's identification data, as well as the description of the network and services intended to be provided, being signed by a representative of **EML**, whose signature was authenticated by a notary certifying the respective status.

Taking into account that:

- (i) Under ANACOM's Decision of 10 November 2011, the provision on national territory of MSS systems in the 1980-2010 MHz and 2170-2200 MHz frequency bands by applicants which are selected under the terms of Decision No 2009/449/EC is subject to the award by ANACOM of a right of use, covering both the satellite component and the ground component (CGC);
- (ii) **EML** meets the requirement established in the referred Decision, given that it is one of the operators selected under Decision No 2009/449/EC;
- (iii) The change in the business name of the company, as referred in point 2.3., did not entail a change in any other data or information presented by **EML** in its communication;
- (iv) Under paragraph 2 of article 76 of the Administrative Procedure Code (approved by Decree-Law No 442/91, of 15 November, which applies *ex vi* article 8 of Decree-Law No 4/2015, of 7 January, the statutory instrument that approves the new Administrative Procedure Code), *it is incumbent on this Authority to correct on its own initiative any defects in applications, so as to prevent that interested parties suffer any damage due to simple irregularities or mere imperfections when making applications*;

ANACOM takes the view that **EML** communication constitutes, for the appropriate purposes, an application for the award of rights of use for frequencies, pursuant to and for the purposes of paragraph 6a) of article 30 of ECL, which must now be analysed.

3.2. Technical Analysis

The network description presented by **EML**, although brief, corresponds to what was expected for MSS systems. In fact, the chart used by **EML** to illustrate the network corresponds to the chart used in CEPT REPORT 013, including the architecture of a system known as "NEMO", which was also used in the draft decision submitted to the consultation procedure before ANACOM adopted Decision of 10 November 2011.

EML's additional clarifications, as well as subsequent contacts with the company, were enough to clear up ANACOM's doubts as to the development and entry into service of *Echostar 21* satellite, as well as to the general core infrastructure.

As such, the technical analysis of *EML*'s application focused mainly on operational and technical restrictions/limitations of the RUF or of the radio license to be awarded to *EML*.

The analysis covered the four components of 2 GHz MSS systems:

- Satellite(s);
- Earth stations;
- CGC;
- Terminal equipment (end-users).

3.2.1 Satellites

Satellites of 2 GHz MSS networks must be duly coordinated in compliance with ITU's relevant procedures, thus ensuring that technical conditions that are imposed ensure, in principle, that harmful interference are not caused to radio stations that use the same or adjacent frequency bands.

On the other hand, as referred earlier, Decision of 10 November 2011 establishes that ANACOM must make RUF to be awarded to 2 GHz MSS operators subject to common conditions laid down in paragraph 2 of article 7 of Decision No 626/2008/EC.

In this context, it must be stressed that the common condition defined in point c) of paragraph 2 of article 7 of Decision No 626/2008/EC lays down that "operators must honour any commitments they give in their applications or during the comparative selection procedure".

It is clear from the analysis of the European Selection and Authorisation Process (ESAP) that applications should include a **commitment signed by the applicant**⁶, according to which:

- the mobile satellite system proposed would cover a service area of at least 60 % of the aggregate land area of the Member States, from the time the provision of MSS commences;
- MSS would be available in all Member States and to at least 50% of the population and over at least 60% of the aggregate land area of each Member State by the time stipulated by the applicant but in any event no later than seven years from the date of publication of the Commission's decision adopted pursuant to paragraph 2 of article 5 or paragraph 3 of article 6 of Decision No 626/2008/EC - which became Decision No 2009/449/EC, of 13 May.

It can be observed from the analysis of *EML*'s application and clarifications that this operator intends to exceed values concerning the coverage of the satellite mobile system, having notified the intention to cover 100% of all 28 Member States of the European Union, including Portugal.

As far as satellites are concerned, apart from operational conditions already imposed via the common conditions laid down in paragraph 2 of article 7 of Decision No 626/2008/EC, no other conditions that should be included in the RUF have been identified.

⁶ This commitment was established in point c) of paragraph 1 of article 4 of Decision No 626/2008/EC.

3.2.2. Earth stations

Earth stations of 2 GHz MSS systems shall operate just like any other earth station currently holding a license in the national territory. As such, **(i)** they must be coordinated at national level so as to ensure that harmful interferences are not caused to other licensed users and **(ii)** they must also be coordinated and notified in compliance with ITU's relevant procedures, where appropriate, thus guaranteeing that technical conditions that are imposed on the referred stations ensure, in principle, that harmful interferences are not caused to radio stations used by neighbouring administrations.

In the light of the above, as far as earth stations are concerned, no other conditions that must be included in the RUF have been identified.

3.2.3. CGC

CGC are the ground component of 2 GHz MSS systems that raised the most issues and which, for this reason, are applied more (technical and operational) conditions in the current European regulatory framework.

In fact, CEPT Decision **ECC/DEC/(06)09**, amended on 5 September 2007⁷, on the designation of the bands 1980-2010 MHz and 2170-2200 MHz for use by systems in the Mobile-Satellite Service including those supplemented by a Complementary Ground Component (CGC), imposed the following technical and operational conditions:

1. The CGC must operate in the same portions of spectrum of the Mobile-Satellite Service (1980-2010 MHz and 2170-2200 MHz) authorized for associated space stations;
2. The CGC shall only be deployed in the geographical areas where the mobile Earth stations of the associated mobile-satellite system are also authorised to operate;
3. The same direction of transmission by CGC and the satellite component shall be used so as to decrease the number and complexity of compatibility issues;
4. The CGC shall not operate independently from the satellite resource/network management system;
5. The satellite segment shall be re-established as soon as possible in case of failure of the satellite segment, and no later than 18 months after such a failure, unless justified otherwise on considerations based on reasonableness and/or proportionality. Otherwise, CGC shall cease operation;
6. Compatibility with terrestrial IMT-2000/UMTS operational systems in adjacent bands should be ensured.

These conditions were integrated for the most part in common conditions stipulated in paragraph 3 of article 8 of Decision No 626/2008/EC:

⁷ <http://www.erodocdb.dk/Docs/doc98/official/pdf/ECCDEC0609.PDF>.

- a) operators shall use the assigned radio spectrum for the provision of complementary ground components of mobile satellite systems (**ECC Decision point 1**);
- b) complementary ground components shall constitute an integral part of a mobile satellite system and shall be controlled by the satellite resource and network management mechanism (**ECC Decision point 4**); they shall use the same direction of transmission and the same portions of frequency bands as the associated satellite components and shall not increase the spectrum requirement of the associated mobile satellite system (**ECC Decision points 1 and 3**);
- c) independent operation of complementary ground components in case of failure of the satellite component of the associated mobile satellite system shall not exceed 18 months (**ECC Decision point 5**);
- d) Rights of use and authorisations shall be granted for a period of time ending no later than the expiry of the authorisation of the associated mobile satellite system.

In the light of the above, it is deemed appropriate to specify in the RUF the set of **operational conditions**, referred above, to be imposed on CGC.

In addition, CEPT Decision ECC/DEC/(06)09 sets out in paragraph 5 that mobile satellite systems must ensure compatibility with terrestrial systems operating in the mobile service in the adjacent bands below 1980 MHz and between 2010 MHz and 2170 MHz.

Moreover, harmonised European standard **ETSI EN 302 574** was established in 2010, including three parts that make up the Harmonized Standard for satellite earth stations of mobile satellite systems (MSS) operating in the 1 980 MHz to 2 010 MHz (uplinks) and 2 170 MHz to 2 200 MHz (downlinks), the focus of each part being as follows:

Part 1: “Complementary Ground Component (CGC) for wideband systems: Harmonized EN covering essential requirements of article 3.2 of the R&TTE Directive”;

Part 2: “User Equipment (UE) for wideband systems: Harmonized EN covering essential requirements of article 3.2 of the R&TTE Directive”;

Part 3: “User Equipment (UE) for narrowband systems: Harmonized EN covering essential requirements of article 3.2 of the R&TTE Directive”.

As such, the radio license to be issued must take into consideration compliance by CGC with harmonised European standards, that aim to ensure compatibility with ground systems operating in the scope of the mobile service in adjacent bands, below 1980 MHz and between 2010 MHz and 2170 MHz, namely in the scope of Decree-Law No. 192/2000, of 18 August.

Lastly, CEPT Recommendation **ECC/REC/(10)01** sets out the procedures required to ensure compatibility between complementary ground components operating in the band 2170-2200 MHz and earth stations of the Earth Exploration Satellite Service (EESS), Space Operation Service (SOS) or Space Research Service (SRS), operating in the band 2200-2290 MHz.

In this context, all CGC operating in compliance with the ETSI EN 302 574-1 standard which are at a distance greater than 60 km from receiving earth stations of the Earth Exploration Satellite Service, Space Operation Service or Space Research Service, must be excluded from any coordination.

As such, in the specific case of Portugal, CGC operating in accordance with the standard ETSI EN 302 574-1 are allowed to be installed in the national territory, without requiring any coordination, insofar as they are at a distance greater than 60 km of the following earth stations:

Local	Latitude	Longitude	Country	Operator
Monte da Flores	36° 59' 49" N	25° 08' 09" W	Portugal (Azores)	ESA
Sintra-Negrais	38° 52' 07" N	09° 16' 52" W	Portugal	PT Comunicações, S.A. (EUTELSAT)
Canical	32° 44' 39" N	16° 44' 05" W	Portugal (Madeira)	Eutelsat Madeira

Table 2 - List of EESS, SOS and SRS receiving earth stations to be taken into account in Portugal.

Therefore, the issue of the radio license must take into consideration the limitation arising from CEPT Recommendation **ECC/REC/(10)01**.

3.2.4. Terminal equipment

As referred above, ETSI's European harmonized standards EN 302 574-2 and EN 302 574-3 were issued in 2010, applying respectively to "broadband" and narrowband" terminal equipment (or user equipment).

Moreover, ECC Report 233 (which was recently under public consultation) concluded that aeronautical CGC or «aero-CGC» (installed on the ground) must not cause interference to other services/systems. However, this Report concludes also that **it is possible that interference is caused by aeronautical terminals that communicate with aero-CGC** - where operated at high power and low altitude - to DA2GC⁸ ground stations and base stations of the terrestrial electronic communications service network (ECN) that operate in adjacent bands, or even to other CGC of 2 GHz MSS systems.

In order to mitigate these interferences, ECC Report 233⁹ proposes the adoption of out-of-band PFD¹⁰ masks:

- One for the 1920 - 1980 MHz band (protection to ECN base stations) that may also be applied to CGC of the other 2 GHz MSS system (insofar as these CGC have similar characteristics to ECN BS);

$$PFD(\delta) = 2 * \delta - 125.5 \quad \text{dB} \left(\frac{W}{m^2} \right) \quad \text{for } 0^\circ \leq \delta \leq 5^\circ$$

$$PFD(\delta) = \frac{13}{85} * \delta - 116.3 \quad \text{dB} \left(\frac{W}{m^2} \right) \quad \text{for } 5^\circ < \delta \leq 90^\circ$$

where δ is the angle of arrival at the Earth's surface (degrees above the horizontal) and the PFD is calculated in a reference of 5 MHz in any part of the 1920 - 1980 MHz band.

- Another for the 2010 - 2025 MHz band (protection to DA2GC ground stations)

$$PFD(\delta) = -\frac{23}{7} * \delta - 105 \quad \text{dB} \left(\frac{W}{m^2} \right) \quad \text{for } 0^\circ \leq \delta \leq 7^\circ$$

⁸ Direct Air to Ground Communications.

⁹ "Adjacent band compatibility studies for aeronautical CGC systems operating in the bands 1980-2010 MHz and 2170-2200 MHz" – Approved May 2015.

¹⁰ In the terminology of the report "out-of-band power flux density (PFD)".

$$PFD(\delta) = -128 \text{ dB} \left(\frac{W}{m^2} \right) \quad \text{for } 7^\circ < \delta \leq 12^\circ$$

$$PFD(\delta) = \frac{29}{78} * \delta - 132.5 \text{ dB} \left(\frac{W}{m^2} \right) \quad \text{for } 12^\circ < \delta \leq 90^\circ$$

where δ is the angle of arrival at the Earth's surface (degrees above the horizontal) and the PFD is calculated in a reference bandwidth of 10 MHz in any part of the 2010 - 2025 MHz band.

In the light of the above, the radio license to be issued must include a **technical condition** on terminal equipment, in order to ensure compliance with the relevant ETSI European harmonized standards.

On the other hand, given that technical limitations applicable to terminal equipment are still subject to some uncertainty, as referred above, any additional limitation that is specified within the European regulatory framework must be taken into consideration and thus also set out in the radio license.

3.2.5 Conclusions of the technical analysis

In brief, in addition to operational conditions already imposed via common conditions defined in paragraph 2 of article 7 of Decision No 626/2008/EC, no other conditions that should be included in the RUF have been identified.

3.3. Characteristics of the provision

EML's position as a wholesale operator and the characteristics of the respective provision are deserving of more in-depth analysis.

In fact, **EML** is still in an early stage, searching potential partnerships with national service providers so as to ensure the provision of its services, as for this reason this Authority does not yet know how the service will be provided to end users, in the allocated frequencies. However, under ECL (articles 108 and 109), ANACOM is entitled to request from **EML** all information related to its activity, and this company must provide such information within the time limits, and in the form and to the level of detail required by the Regulatory Authority, the requests of which must be proportional and duly substantiated. This information duty, which in fact **EML**, informally and on its own initiative, immediately undertook to fulfil, will allow the Regulatory Authority to monitor the development of **EML's** business partnerships, as well as how retail services will be provided, albeit indirectly.

Retail service providers are also necessarily bound to the general authorization regime, being required to declare their activity to ANACOM.

The fact that **EML** aims only to provide a wholesale offer is thus not considered to be a deterrent factor for the award of a RUF. On the one hand, Decision No 626/2008/EC, as regards the supply of MSS in the territory of Member States - last milestone to be met, under paragraph 2b) of article 7 of the Directive - establishes that *the applicant shall provide clear evidence that it is effectively providing the continuous commercial MSS within the territories of the Member States*. A wholesale offer is undoubtedly a commercial offer. On the other hand, ECL does not prevent the award of a RUF for an exclusively wholesale provision of electronic communications services.

Moreover, **EML** intends to use the same business model in all Member States, holding already, according to the information provided by the company, authorization to provide services in 26 of these countries, a factor which must be taken into consideration, given that this is a pan-European service.

In this context, a RUF is awarded for the purpose of the wholesale activity declared by **EML**, and this is reflected in general conditions that apply to the respective activity. Where **EML** wishes later to commence the provision of retail services, it must inform ANACOM of this intention, and comply with the procedures provided for in article 21 of ECL.

3.4. Conditions attached to the RUF

Being fulfilled the requirements for the award to **EML** of the corresponding right of use for frequencies for the provision of MSS systems on the national territory, in sub-bands of the 1995-2010 MHz and 2185-2200 MHz frequencies, it must nevertheless be subject to the following conditions:

- Conditions resulting from the Community selection procedure;
- Common conditions laid down in paragraph 2 of article 7 of Decision No 626/2008/EC regarding the MSS;
- Common conditions defined in paragraph 3 of article 8 of Decision No 626/2008/EC regarding the CGC;
- Conditions resulting from paragraph 1 of article 27 of ECL, which apply by their nature;
- Conditions resulting from paragraph 1 of article 32 of ECL.

Taking into account that **EML** must abide by common conditions provided for in Decision No 626/2008/EC, the award of a RUF is without prejudice to any proceedings for failure to comply therewith under article 100 of ECL, according to the procedure provided for in Decision No 2011/667/EU, of 10 October, which establishes the modalities for the coordinated application of Member States' rules on enforcement applicable to an authorised operator of mobile satellite systems in the event of an alleged breach of the common conditions attached to its authorisation.

4. Decision

In the light of the above, the Management Board of ANACOM, pursuant to its Decision of 10 November 2011, to articles 15, 16, 16-A, 27, 30 and 32, all of the Electronic Communications Law, and under point q) of paragraph 1 of article 26 of its Statutes, approved by Decree-Law No. 39/2015, of 16 March, hereby determines:

1. To award to **EML** a right of use for frequencies for the Mobile Satellite Service (MSS) on the national territory, in sub-bands of the 1995-2010 MHz and 2185-2200 MHz frequencies, covering both the satellite component and the ground component (CGC).

2. To establish the conditions to which **EML** is subject in the scope of its activity and conditions attached to the awarded right of use, under the draft certificate in **annex** to this determination, which is deemed to be an integral part hereof.
3. To submit the draft certificate of the right of use for frequencies in **annex** hereto to the prior hearing of **EML**, under article 100 *et seq.* of the Administrative Procedure Code (approved by Decree-Law No. 442/91, of 15 November), setting a deadline of 10 working days for the company to assess the matter in writing.
4. To amend the National Frequency Allocation Table (NFAT) in force so as bring it in line with this determination.

ANNEX

Draft

RIGHT OF USE FOR FREQUENCIES

ANACOM NO --/2015

The Management Board of ANACOM, pursuant to its Decision of 10 November 2011 and to articles 15, 16, 16-A, 27, 30 and 32, all of Law No 5/2004, of 10 February, as amended and republished by Law No 51/2011, of 13 September, and subsequently amended (Electronic Communications Law), and under point q) of paragraph 1 of article 26 of its Statutes, approved by Decree-Law No 39/2015, of 16 March, hereby determines to issue this certificate, which is governed by the following clauses:

Part I

General part

1. Subject-Matter

1.1. This certificate defines the conditions that apply to the right of use for frequencies awarded to “Echostar Mobile Limited” (hereinafter referred as **EML** for short), with its seat in 25/28 North Wall Quay, Dublin1, Ireland, for the provision of 2 GHz Mobile Satellite Services (MSS), in sub-bands of the 1995-2010 MHz (earth to space) and 2185-2200 MHz (space to earth) frequencies, without prejudice to compliance with obligations identified in the scope of the Radio Regulations of the International Telecommunication Union (ITU) and in the National Frequency Allocation Table (NFAT).

1.2. The right of use covers the wholesale provision of the satellite component and of the complementary ground component (stations - hereinafter referred to as CGC).

2. Applicable Regime

2.1. The right of use for frequencies shall be governed by the following statutory instruments:

- a) Decision 2007/98/EC of the European Commission, of 14 February 2007 (Decision No 2007/98/EC);
- b) Decision No 626/2008/EC of the European Parliament and of the Council, of 30 June 2008 (Decision No 626/2008/EC);
- c) Decision No 2009/449/EC of the European Commission, of 13 May 2009 (Decision No 2009/449/EC);
- d) Decision No 2011/667/EU of the European Commission, of 10 October 2011 (Decision No 2011/667/EU);
- e) Electronic Communications Law;

- f) Decree-Law No. 151-A/2000, of 20 July, as amended and republished by Decree-Law No 264/2009, of 28 September, and subsequently amended by Laws No 20/2012, of 14 May and No 82-B/2014, of 31 December (Decree-Law No 151-A/2000);
- g) Other legislation related to the electronic communications sector.

Part II

General Conditions

3. EML is subject to compliance with the following conditions provided for in points a), d), e), f), g), h), m), n), o), q), r), s) and t) of paragraph 1 of article 27 of the Electronic Communications Law:

- a) Interoperability of services and interconnection of networks;
- b) Maintenance of the integrity of public networks, namely through conditions to prevent electromagnetic interference between electronic communications networks and/or services, in accordance with Decree-Law No 325/2007, of 28 September, as amended by Decree-Law No 20/2009, of 19 January;
- c) Terms of use for communications from public authorities to the general public for warning the public of imminent threats and for mitigating the consequences of major catastrophes, as well as terms of use during major disasters or national emergencies to ensure communications between emergency services and authorities;
- d) Security of public networks against unauthorised access according to legislation governing personal data and privacy protection in respect of electronic communications;
- e) Environmental and town and country planning requirements, as well as requirements and conditions linked to the granting of access to public or private land and conditions linked to co-location and facility sharing, including, where applicable, any financial or technical guarantees necessary to ensure the proper execution of infrastructure works;
- f) Personal data and privacy protection with specific respect to electronic communications, in accordance with legislation governing personal data and privacy protection;
- g) Measures regarding the limitation of exposure of the general public to electromagnetic fields caused by electronic communications networks in accordance with applicable law;
- h) Measures designed to ensure compliance with the standards and/or specifications referred to in article 29 of the Electronic Communications Law;
- i) Installation, at the undertaking's own expense, and provision of systems of legal interception to competent national authorities, as well as the supply of means of decryption or decoding where these facilities are present, in accordance with legislation governing personal data and privacy protection within the scope of electronic communications;

- j) Restrictions on the transmission of illegal content, in accordance with Decree-Law No 7/2004, of 7 January, as amended by Decree-Law No 62/2009, of 10 March, and by Law No 46/2012, of 29 August, and the transmission of harmful content, in accordance with Law No 27/2007, of 30 July, as amended by Law No 8/2011, of 11 April, and by Law No 40/2014, of 9 July;
- l) Financial contributions to the funding of the universal service in accordance with articles 95 to 97 of the Electronic Communications Law;
- m) Payment of the following fees:
 - (i) The fee due for the exercise of the activity of electronic communications networks and services provider, pursuant to point b) of paragraph 1 of article 105 of the Electronic Communications Law and under the provisions laid down in Administrative Rule No 1473-B/2008, of 17 December, as amended and republished by Administrative Rule No 291-A/2011, of 4 November, and subsequently amended by Administrative Rules No 296-A/2013, of 2 October and No 378-D/2013, of 31 December (Administrative Rule No 1473-B/2008);
 - (ii) The fee due for the assignment of rights of use for frequencies, pursuant to point c) of paragraph 1 of article 105 of the Electronic Communications Law and under the provisions laid down in Administrative Rule No 1473-B/2008;
 - (iii) Fees due for the use of radio spectrum, pursuant to point f) of paragraph 1 of article 105 of the Electronic Communications Law and article 19 of Decree-Law No 151-A/2000, of 20 July, in the amount set out in Administrative Rule No 1473-B/2008.
- n) Information to be provided under the notification procedure set out in article 21 and for the purposes set forth in article 109, both of the Electronic Communications Law.

Part III

Conditions associated to the right of use for frequencies

Chapter I

Conditions resulting from the Community selection procedure

4. Common conditions laid down in Decision No 626/2008/EC

Under Title III of Decision No 626/2008/EC, and further to the Community selection procedure, **EML** is subject to common conditions provided for in the following points, which for all purposes fall under points a), b), d) and g) of paragraph 1 of article 32 of the Electronic Communications Law.

4.1. As far as the **MSS** is concerned, **EML** is subject to compliance with the following conditions defined in paragraph 2 of article 7 of Decision No 626/2008/EC:

- a) To use the assigned radio spectrum for the provision of MSS;
- b) To meet milestones six to nine set out in the Annex to Decision No 626/2008/EC within 24 months of Decision No 2009/449/EC, of 13 May 2009 (13 May 2011);
- c) To honour any commitments given in its applications or during the comparative selection procedure;
- d) To provide to ANACOM an annual report detailing the status of development of its mobile satellite system, the first report being due within one year from the date of issue of this certificate.

4.2. As regards **CGC**, **EML** is subject to compliance with the following conditions defined in paragraph 3 of article 8 of Decision No 626/2008/EC:

- a) To use the radio spectrum assigned for the provision of CGC of mobile satellite systems;
- b) To use CGC so that they constitute an integral part of a mobile satellite system, are controlled by the resource management mechanism and the satellite communications network mechanism, use the same direction of transmission and the same portions of frequency bands as the associated satellite components and do not increase the spectrum requirement of the associated mobile satellite system;
- c) Independent CGC operation in case of failure of the satellite component of the associated mobile satellite system must not exceed 18 months.

4.3. As regards the **period of validity**:

The right of use is assigned for a period of eighteen years from the publication of Decision No 2009/449/EC, of 13 May 2009, expiring on 14 May 2027.

Chapter II

Conditions resulting from the Electronic Communications Law

5. Services and systems

For the purpose of point a) of paragraph 1 of article 32 of the Electronic Communications Law, the right of use for the following frequencies:

- 1995 to 2010 MHz for earth to space communications or communications between terminal equipment and complementary ground components (CGC), and
- 2185 to 2200 MHz for space to earth communications or communications between CGC and terminal equipment (space to earth),

on national territory, is assigned for the wholesale provision of mobile satellite services by systems capable of providing radio services (i) between a mobile earth station and one or

more space stations, (ii) between mobile earth stations through one or more space stations or (iii) between a mobile earth station and one or more CGC used at fixed locations.

6. Effective and efficient use

In accordance with point b) of paragraph 1 of article 32 of the Electronic Communications Law, **EML** must ensure an effective and efficient use of assigned frequencies, in compliance with article 15 of the same Law, subject to the specific conditions of use of frequencies set out in the radio network license to be issued pursuant to Decree-Law No 151-A/2000.

7. International agreements

Under point h) of paragraph 1 of article 32 of the Electronic Communications Law, **EML** must fulfil its obligations arising from international agreements relating to the use of frequencies, namely those associated to the coordination of the use of frequencies in border areas.

Lisbon, 12 June 2015.