

# Additional spectrum for wireless broadband electronic communications services

700 MHz, 3.6 GHz and 26 GHz bands

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# 1 INTRODUCTION

## 1.1 Purpose

The purpose of this document is to inform the public on the assignment process that will be adopted in respect of spectrum in the 700 MHz, 3.6 GHz and 26 GHz bands and the conditions that will be attached to the resulting rights of use.

The Malta Communications Authority ('MCA' or 'Authority'), having regard to:

- the laws as administered by the Malta Communications Authority;
- Directive (EU) 2018/1972 establishing the European Electronic Communications Code ('EECC');
- Decision (EU) 2017/899 on the use of the 470 - 790 MHz frequency band in the Union;
- Recommendation (EU) 2019/534 on the cybersecurity of 5G networks and (NIS) CG 01/2020 on Cybersecurity of 5G Networks – EU toolbox of risk mitigating measures.

is establishing the framework for the assignment of spectrum within these bands and the applicable obligations and license conditions thereof.

### 1.3 Principles underpinning spectrum authorisation

The assignment of spectrum is based on a set of fundamental principles:

- spectrum is a limited national resource and must be used efficiently and effectively;
- operators have time-bound rights of use of spectrum and NOT ownership;
- if demand exceeds supply, a fair, transparent and non-discriminatory competitive assignment process is necessary to determine who is entitled to hold the rights of use; and
- a competitive selection process for the award of radio spectrum can be based on qualitative (beauty contest) and/or quantitative (auction) criteria depending on circumstances.

The above principles underpin the assignment methodology and the license conditions that are being put forward in this decision.

## 2 SPECTRUM TO BE MADE AVAILABLE

## 2.1 Available spectrum

The spectrum bands that are the subject of this framework are the following:

- 700 MHz band : 703 - 733 MHz / 758 - 788 MHz
- 3.6 GHz band : 3400 - 3800 MHz
- 26 GHz band : 24.25 - 27.5 GHz

The frequency spectrum being made available shall be utilised in accordance with the European Union legislation described below, which establishes the technical implementing measures for “terrestrial systems capable of providing wireless broadband electronic communication services”.

- **700 MHz band:** Commission Implementing Decision (EU) 2016/687 of 28 April 2016;
- **3.6 GHz band:** Commission Decision 2008/411/EC of 21 May 2008 as amended by Commission Implementing Decision 2014/276/EU of 2 May 2014 and Commission Implementing Decision (EU) 2019/235 of 24 January 2019;
- **26 GHz band:** Commission Implementing Decision (EU) 2019/784 of 14 May 2019 as amended by Commission Implementing Decision (EU) 2020/590 of 24 April 2020.

## 2.2 Channelling plan

The channelling plan for the 700 MHz, 3.6 GHz and 26 GHz bands will be as follows:

**The 700 MHz Band:** The MCA will adopt the channelling arrangement established in Commission Implementing Decision (EU) 2016/687.

694-703	703-708	708-713	713-718	718-723	723-728	728-733	733-758	758-763	763-768	768-773	773-778	778-783	783-788	788-791
Guard band	Uplink						Gap + national options	Downlink						Guard band
9 MHz	30 MHz (6 blocks of 5 MHz)						25 MHz	30 MHz (6 blocks of 5 MHz)						3 MHz

Figure 2.2(1) Channelling plan for the 700 MHz band

- a) the mode of operation is Frequency Division Duplex (FDD);
- b) the assigned block sizes are in multiples of 5 MHz;
- c) the duplex spacing is 55 MHz with terminal station transmission (FDD uplink) located in the lower frequency band 703 - 733 MHz and base station transmission (FDD downlink) located in the upper frequency band 758 - 788 MHz;
- d) the lower frequency limit of an assigned block is aligned with or spaced at multiples of 5 MHz from the band edge of 703 MHz;
- e) the entire band or a subset thereof shall not be used for PPDR radiocommunications services in line with the MCA publication MCA/O/18-3256 concerning the National Roadmap for the UHF band between 470 – 790 MHz.



**The 3.6 GHz Band:** The MCA will adopt the channelling arrangement established in Commission Decision (EU) 2008/411, as amended.

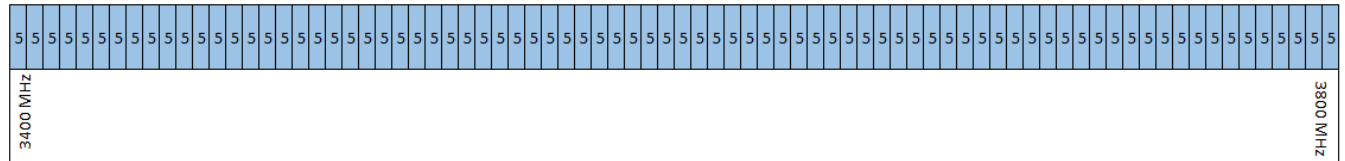


Figure 2.2(2) *Channelling plan for the 3.6 GHz band*

- a) the duplex mode of operation is Time Division Duplex (TDD);
- b) the assigned block sizes are in multiples of 5 MHz. The lower frequency limit of an assigned block is aligned with or spaced at multiples of 5 MHz from the lower band edge of 3400 MHz.

**The 26 GHz Band:** The MCA will adopt the channelling arrangement established in the Commission Implementing Decision (EU) 2019/784 as amended.

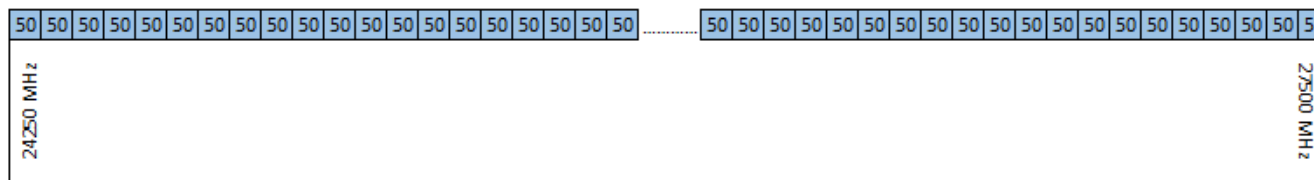


Figure 2.2(3) *Channelling plan for 26 GHz band*

- a) the duplex mode of operation in the 24.25 - 27.5 GHz frequency band is Time Division Duplex (TDD);
- b) the assigned block sizes are a multiple of 200 MHz. A smaller block size of 50 MHz or 100 MHz, adjacent to the assigned block of another spectrum user, is also possible to ensure efficient use of the full frequency band.

## 2.3 Lot definition

*Q2.3a Do you agree with MCA's proposed lot structure? Duly justify any disagreements.*

*Q2.3b Market use cases for the 26GHz are still in early development. How do you expect this will affect demand and timeframes?*

*Q2.3c In your views, and with reference to Figure 2.2(3), which 26 GHz sub-band should be designated for the purposes of this assignment?*

A 'lot' is the minimum amount of spectrum an interested party can apply for and is defined in terms of the spectrum band, the amount of spectrum and the technical conditions linked to the spectrum use. Lots with different technical characteristics will be classified in separate lot categories. In view of this, the MCA establishes the following:

Band	Lot
700 MHz	Each 5 MHz paired channel will be considered a single lot; <u>six</u> (6) lots in total will be made available in the band.
3.6 GHz	A contiguous block of <u>sixteen</u> (16) 5 MHz channels, for a total of 80 MHz will be considered as the minimum initial lot within this band. Four (4) such lots will be made available in this band.  Each 5 MHz channel above the established minimum initial lot will be considered an additional lot; <u>sixteen</u> (16) such lots are available in the band.
26 GHz	Four (4) 50 MHz channels will be considered a single lot; <u>six</u> (6) lots in total will be made available in the band.  The remaining spectrum within the band will be reserved for future use.

Table 2.3 Lot structure

## 2.4 Spectrum caps

*Q2.4a Do you agree with the proposed band-specific spectrum caps?*

In order to safeguard competition and ensure fair access to radio spectrum, a cap shall be placed on the total number of frequency blocks that an interested party may express interest for. The MCA is therefore proposing the following spectrum caps:

Band	Cap
700 MHz	Two (2) 5 MHz <b>contiguous</b> paired channels
3.6 GHz	Twenty (20) 5 MHz <b>contiguous</b> channels
26 GHz	A cap equivalent to a <b>contiguous</b> frequency block size of 400 MHz will apply for electronic communications networks deployed in publicly accessible areas

Table 2.4 *Spectrum caps*

The caps in Table 2.4 apply jointly to the license-holder and to all other related companies that are authorised to use these frequencies. For the purposes of this framework, a relation is considered to include the following:

- The license holder has a decisive influence, directly or indirectly, over another company that is authorised to use frequencies in the band in question;
- A single natural or legal person has a decisive influence, directly or indirectly, over the license holder and over one or several other companies authorised to use frequencies in the band in question.

## Overall cap

*Q2.4b Are you in agreement with the overall spectrum caps proposed? Duly justify any disagreements.*

New radio technologies are designed to operate over significantly wide channel bandwidths. Through this framework the MCA is hence proposing to extend the applicable overall spectrum cap by the greater of 120 MHz or the relaxed spectrum caps in the 700 MHz and the 3.6 GHz band as per Table 2.4. For the avoidance of doubt this includes also unpaired spectrum and the applicant's spectrum holdings at the time of the call of applications. For the purposes of the spectrum cap calculation or spectrum already assigned, a paired 5 MHz channel will be considered as 10 MHz.

Assignments in the 26 GHz band shall not count towards the overall spectrum cap.

The applicable spectrum caps, whether relaxed or otherwise, will also apply following the finalisation of the assignment process and no person shall at any point in time, hold rights of use of spectrum in these bands in excess of these caps, unless otherwise established by the MCA. Thus, the amount of spectrum awarded to any one single applicant will not exceed the spectrum caps established above.

## 2.5 Relaxation of spectrum Caps

*Q2.5a The MCA invites stakeholders to submit their opinion on the proposed mechanisms in relaxing the respective spectrum caps.*

*Q2.5b What in your views are justifiable conditions which may merit the relaxation of caps and the issue of any spectrum which has remained unassigned or reserved? These could include, for example spectrum trading, national infrastructure sharing, access obligations for verticals etc.*

If following the submission of the applications, it results that:

- there is still unassigned spectrum in either of the 700 MHz or the 3.6 GHz bands; and
- there is no excess demand for spectrum as expressed by the applicants based on the unrelaxed spectrum caps in any of the lot categories; and
- duly justified conditions are in place ensuring the efficient and effective use of spectrum.

then the MCA at its discretion, may relax the spectrum caps in the band/s in question as follows:

- A cap of three (3) 5 MHz paired channels will apply in the 700 MHz band;
- A spectrum cap which shall not exceed forty (40) % of the unutilised spectrum, and with a total maximum cap of one hundred and forty (140) MHz in the 3.6 GHz band.

### 3 SPECTRUM AWARD PROCEDURES

## 3.1 Spectrum award process

### *Q3.1 What are your views on the proposed spectrum award procedure?*

The spectrum award procedure for individually licensed spectrum bands will consist of 5 stages, namely:

#### **Stage 1 – Expression of market demand**

The MCA will initiate the assignment process if it receives a *formal expression of interest to acquire the rights of use for spectrum*. This request could be for any spectrum in any of the bands under consideration.

At this point, the MCA will publish a notice announcing the receipt of this request and will invite any other interested parties to come forward within a reasonable timeframe. Moreover, considering that the spectrum bands are complementary, the MCA may also request interested parties to indicate demand for spectrum in any of the other bands under consideration or any other unassigned spectrum.

The MCA may, in the absence of market demand and based on proportionate, objective and transparent reasons, reserve the right to issue an invitation for expressions of interest for the assignment of the right of use in any of the spectrum bands in this document.

#### **Stage 2 – Formal submission to acquire the rights of use for spectrum**

The process will launch a *formal Call for Applications* ('Call'). Interested stakeholders, in presenting their formal call for applications will be required to submit the following:

- a non-refundable application fee;
- an appropriate bid bond/performance guarantee. The bid bond is intended to ensure an applicant's commitment to the assignment process, lasting up to the award of a grant of rights of use. In the case of unsuccessful applicants, the bid bond will be released at the end of the assignment process and once the successful applicants have



been announced. In the case of successful applicants, the bid bond will be maintained as a performance guarantee. The performance guarantee will serve as evidence of good faith, to guarantee that the licensee will honour the winning bids and will abide by the license conditions; and

- an appropriate deposit which will be reflective of the first-year spectrum fees and the applicant's spectrum requirements; and
- necessary documentation relevant for the assessment criteria as established by the MCA in the Call.

During this stage, applicants **will not apply for specific frequencies in the different bands but for a number of lots in each lot category**. The Call shall establish the details which would need to be submitted by the applicants with regard to their interest for the spectrum band in question, namely: (i) maximum lot interest in line with the established spectrum caps, (ii) preferred lot and frequency options, and (iii) alternative lot and frequency options. All information submitted in the call will be used in confidence by the MCA during the assignment process.

### **Stage 3 – Qualification Phase**

The *qualification process* will assess whether applicants have the necessary standing to fulfil the license obligations should they be successful in acquiring the spectrum rights. It will not rank applicants. The outcome of this phase will be a pass/fail result based on a set of criteria including but not be limited to:

- the applicant's credentials;
- the applicant's experience in the establishment, operation and commercialisation of electronic communications networks;
- the applicant's business plan; and
- access to adequate financing for the venture.

The MCA reserves the right to, based on objective and transparent criteria, carry out the qualification assessment in part on an abridged set of the aforementioned criteria as deemed fit and appropriate for the circumstances.

#### **Stage 4 – Competitive Assignment Process**

At the end of the Qualification Phase an assessment of the demand for spectrum by the qualifying applicants will be carried out. If demand does not exceed supply, then the rights of use of spectrum will be granted directly to the applicants. If demand exceeds supply, then the rights of use of spectrum will be granted to the applicants through an auction. The auction design will take due account of the characteristics of the spectrum bands in question.

The MCA will reserve the option to publish the auction rules only if, following the qualification phase, demand exceeds supply. In this case, the MCA will publish the said rules and the applicants will be given the opportunity to withdraw their applications at that stage. Qualifying applicants who at that stage do not withdraw their application will be obliged to take part in at least the first round of any eventual auction. Failure to do so will result in the forfeiture of the bank guarantee.

On completion of this stage, the MCA will establish the number of lots in each lot category awarded to each successful applicant. The channels assigned to each applicant within a given band will be contiguous. Contiguity of channels sitting in different bands will not be guaranteed.

#### **Stage 5 – Grant Stage**

The MCA will have the sole and unlimited discretion to award the particular channels in the way it deems best in the interest of spectrum efficiency and effectiveness. Once the outcome of the Assignment Stage is known, the MCA will *proceed to the award of the specific contiguous*

*swathes* of spectrum to each successful applicant, as may be possible when taking into consideration existing spectrum assignments. Should there be no way to easily reconcile the applicants' preferences, then the band assignments will be assigned through an auction process.

#### **Brokered meetings**

The MCA reserves the right, at its own discretion and without binding itself to do so, to carry out brokered meetings with the qualifying applicants during any stage of the assignment process as deemed necessary and pursue the efficient and effective use of spectrum. The objective of these meetings will be to reach an agreement on an assignment plan that addresses the requirements of all the qualifying applicants. In order to protect commercial interests, the meetings will be held separately with each qualifying applicant. In developing the proposals, cognisance will be taken of the spectrum requests put forward by the applicants, the preferences indicated, their business and technical plans and the outcome of the discussions during the meetings.

If the proposal so developed is accepted by all the interested parties, then the MCA will proceed with the granting of rights of use in accordance with the agreement reached.

Any proposed solution reached between the MCA and each of the qualifying applicants will be binding on the individual applicants but not on the MCA since the Authority will first have to ensure that the proposed solution reached fits within an overall solution acceptable to all the qualifying applicants.

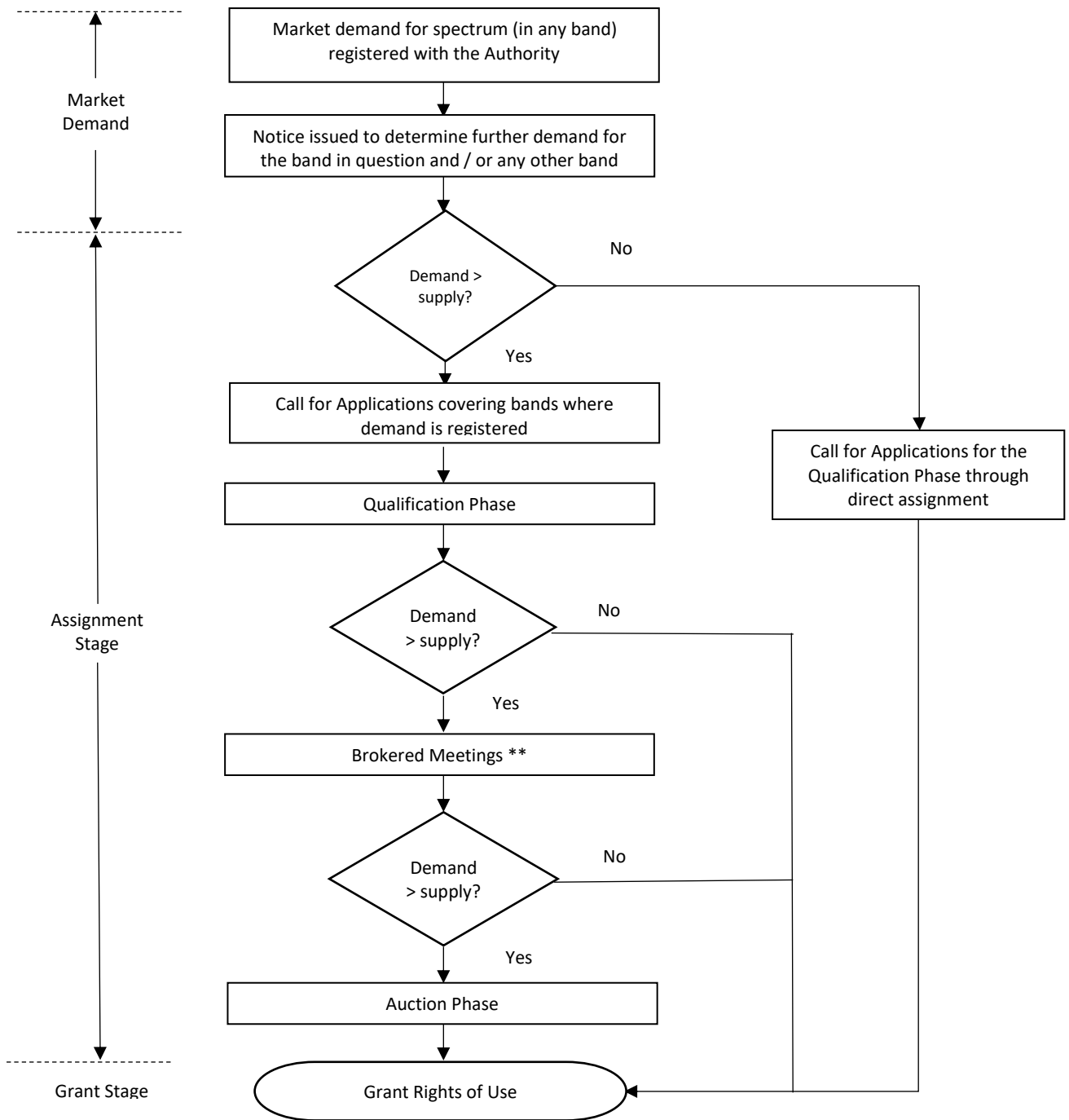


Figure 3.1(1) Assignment process

\*\* Brokered meetings are held at the MCA's discretion at any point during process.

## 4 CONDITIONS FOR THE RIGHTS OF USE

## 4.1 License Duration

*Q4.1 The MCA invites stakeholders to express their views on the proposed license durations.*

The grants for the right of use of spectrum will be allocated for a fifteen (15) year period, with the possibility to extend the license term for an additional five (5) years and amending the licensees' terms and conditions of use in an objective and proportionate manner. The proposed mechanism shall be in line with Article 49(2) of the EECC.

At least two years before the license expiry date, licensees will be informed about the intent of the MCA on renewing or not the respective licenses beyond the 20-year period, the conditions for renewing the license, or the reasons for the refusal to renew the said license. The renewal of the individual rights of use for the respective radio spectrum shall be in line with the provisions of Article 50 of the EECC.

The MCA may, in order to harmonise the termination dates of the respective spectrum and to establish common expiry date, issue additional extensions thereof on the basis of the prevailing license conditions. The proposed mechanism is in line with Article 49(4) of the EECC.

## 4.2 Service and technology neutrality

Spectrum licenses are awarded on a Technology and Service neutral basis, with the primary objective of promoting wider availability of wireless broadband services for the benefit of end-users of electronic communications services.

### **Technology neutrality**

In line with the principles established in the EECC, the spectrum shall be assigned on a technology neutral basis. Therefore, licensees will be free to deploy any technology as long as they comply with the relevant license and the decisions of the MCA, including the National Frequency Plan.

### **Service neutrality**

In line with the principles established in the EECC, no limitations with respect to the services that may be offered over the spectrum acquired in this process will be imposed. However, in conformity with its powers at law, the MCA reserves the right to impose duly justified service obligations in line with Article 45(5) of the EECC.

## 4.3 Roll-out and coverage obligations

*Q4.3 The MCA invites stakeholders to express their views on the roll-out and coverage obligations proposed, in particular the general obligation approach being adopted.*

In order to ensure maximum benefits for all the users, licensees will be required to make any technology and services they offer available on a nationwide basis on an uninterrupted coverage basis. Licensees will have up to twenty-four (24) months from the date of assignment to come in line with this obligation, and subsequently to maintain it for the whole duration of the license. Such an obligation can be met collectively with any other licensed spectrum bands.

Specifically, licensees will be required to make use of all the spectrum assigned to them within a twenty-four (24) month timeframe from the date of assignment.

In addition, whenever a new technology or service is launched throughout the term of the license, the licensee will be bound to offer this technology or service nationwide within a twenty-four (24) month timeframe from the said launch.

**The nationwide scope of these obligations is limited to technologies and services made available to the general public and does not extend to specialised services. Furthermore, due to the nature and characteristics of the 26 GHz band, obligations for uninterrupted nationwide coverage do not apply to this band.**



## 4.4 Coverage and quality information

*Q4.4 What are your views on the coverage and quality information obligations?*

The licensee shall publish in an accessible and relevant format and maintain up to date a map of the coverage area showing details relevant to the fulfilment of the foregoing coverage obligations by technology. The map should include, as a minimum, the following information:

- a) coverage level and technology;
- b) nominal download and upload data rates available to end users;
- c) the applicable latency; and
- d) the minimum and maximum data rate.

The map should specify whether the information pertains to outdoor or indoor measurements and the last date of publication.

The MCA reserves the right to prescribe the format and any additional information to ensure that end users are properly informed on the coverage and quality of the service and for comparative purposes.

## 4.5 Transparency over network failures

*Q4.5 The MCA invites stakeholders to express their views on the obligation to inform the network subscribers on network failures in real time.*

The licensee shall publish on its website and maintain updated, a list and a visual representation of the locations or relevant areas where mobile access service to the public is unavailable, or degraded due to maintenance or failure.

The information provided to the public shall include the following details:

- location;
- service and technology affected;
- date and time of the incident; and
- expected resolution date.

The MCA retains the right to prescribe the format and any additional information to ensure that end users are properly informed on service impairments.

## 4.6 Obligations pertaining to indoor coverage

*Q4.6 What, in your views, are the optimal conditions conducive of sharing indoor infrastructure?*

Licensees shall, within six (6) months of being awarded the spectrum license, agree on a common set of technical specifications and economical and operational procedures to follow for the installation and shared use of indoor Distributed Antenna Systems (DAS). The DAS shall in particular guarantee compliance with the applicable electromagnetic fields (EMF) exposure standards, as well as the quality-of-service standards.

The MCA reserves the right to mandate non-discriminatory access to indoor non-replicable elements of the access network on the basis of fair and reasonable commercial terms, in particular where suitable coverage cannot be provided from outdoor locations.

The foregoing is without prejudice to the applicable provisions of European Commission Implementing Regulation (EU) 2020/1070 specifying the characteristics of small area wireless access points.

## 4.7 Pricing

The spectrum fees established by Government in the Eighth Schedule of the Electronic Communications Networks and Services (General) Regulations (S.L. 399.28 of the Laws of Malta) at the time of assignment shall apply.

In addition to these spectrum fees and in the event of an auction, the reserve price shall be the fee for the right of use of such spectrum as established at law. Successful bidders shall pay the difference between the reserve price and their final bid price immediately upon the conclusion of the auction.

In line with the EECC, fees for spectrum rights of use take into account:

- a) the need to ensure the effective and efficient use of the radio spectrum concerned;
- b) pursuing wireless broadband coverage of the national territory and population at high quality and speed;
- c) facilitating the rapid development of new wireless communications technologies and applications; and
- d) the need to ensure undistorted competition.

The MCA has proposed the following fee structures:

<b>Band</b>	<b>Annual fee</b>
700 MHz	€ 224,000 per 5 MHz of paired spectrum
3.6 GHz	€ 9,000 per 5 MHz of unpaired spectrum
26 GHz	Business models and use cases in this band are still emergent and the spectrum pricing analysis is still underway

Table 4.7 *Spectrum fees*

## 4.8 Hand back

A licensee may, on providing the MCA with objective and justified reasons, request the hand back of all or part of the spectrum assignment in a given band. The MCA shall review any such requests on a case-by-case basis taking into utmost consideration the current state of play for the spectrum band in question, the market conditions, as well as any other criteria that the MCA deems appropriate.

The MCA shall in deciding whether to accept or to reject any such request state its reasons thereof. If the MCA decides to accept a request, it may in doing so provide for any such terms and/or conditions which will be binding on the licensee as it may consider appropriate in the circumstances. Such terms and/or conditions may include:

- a) the immediate payment of the applicable fees due until the expiry date of the license, as determined on assignment and in line with the prevailing license conditions;
- b) the partial waiver of the applicable fees due until the expiry date of the license, as determined on assignment and considering amongst others, the overall demand expressed during the assignment procedure and the risk premium on spectrum fees due inherent in the shorter license duration.

In taking any decision under this section the MCA shall take into utmost consideration the current state of play for the spectrum in question, the market conditions, and any other criteria that it considers relevant.

The hand back provision does not exonerate the licensee in question from honouring its roll-out obligations in accordance with the license awarded to it. In the event that the licensee fails to comply with these obligations, regulatory measures including, but not limited to, a forfeit of the bank guarantee, will apply.

Any hand back request and subsequent decision shall be made public by the MCA.

## 4.9 Sanctions

In the case of any departure or non-compliance with any condition or obligations as set out in the rights of use for the respective spectrum band, the MCA has the right to take regulatory action in accordance with its powers as prescribed at law, including the imposition of administrative fines and the revocation of the rights of use.

## 4.10 Future of unassigned spectrum

In the event that any spectrum remains unassigned, this will become available to any interested party under the conditions being established in the respective assignment framework. Any request by an interested party will be published, and should further interest be expressed this will trigger the respective assignment process.

## 4.11 Sharing, national roaming and joint roll-outs

In line with the provisions of Article 61 (4) and 44 (1) of the EECC, and in particular with a view to ensuring effective and efficient use of radio spectrum or promoting coverage, the right of use for the respective spectrum bands shall allow for the following possibilities:

- sharing of passive or active infrastructure which relies on radio spectrum or radio spectrum in itself;
- commercial roaming agreements; and
- joint roll-out of infrastructures for the provision of networks or services which rely on the use of radio spectrum.

This is without prejudice to any applicable requirements as prescribed at law.

## 4.12 Spectrum Trading

*Q4.12 What are your views on the potential for spectrum trading and the related obligations?*

Spectrum Trading shall be allowed under the provisions as established in Article 51 of the EECC, Article 45 of the Electronic Communications (Regulation) Act (Chapter. 399), Part X of the Electronic Communications Networks and Services (General) Regulations (S.L. 399.28) or any other applicable provisions at law.

The MCA, in addition to the respective trading obligations, is proposing the following conditions within the spectrum assignment and management framework: -

- Spectrum trading can concern all or only a portion of the frequencies rights of use, whether in terms of spectrum (a share of the assigned frequency swathe), time (an allotment of the license period) or geography (a percentage limited only to a specific geographical area).
- The rights and obligations attached to the rights of use of the radio spectrum continue to apply to the licensee. The licensee shall remain the sole party responsible for honouring its obligations in compliance with the spectrum license conditions and any other provisions at law.

The MCA shall only approve the arrangement in case where spectrum trading does not undermine the conditions for fair and effective competition over radio spectrum use.



## 4.13 Technical conditions ensuring the efficient use of radio spectrum

*Q4.13 What are your views on the power limit established?*

Pursuant to technical studies undertaken by the European Conference of Postal and Telecommunications Administrations ('CEPT'), the European Commission adopted Decisions to harmonise the technical conditions for the availability and efficient use of radio spectrum in the 700 MHz, 3.6 GHz and 26 GHz bands for terrestrial systems capable of providing wireless broadband electronic communications services.

### **The 700 MHz band**

The technical conditions associated with the use of radio spectrum in the 700 MHz shall be in compliance with European Commission Implementing Decision (EU) 2016/687.

In line with this Decision, the technical conditions for base stations operating in the FDD downlink band shall be based on a 'block edge mask' (BEM) to ensure coexistence between neighbouring networks and protection of other services and applications in adjacent bands. The base station BEM consists of in-block and out-of-block power limits. The in-block power limit is applied to a block assigned to an operator. The out-of-block power limits are applied to spectrum within or outside the 700 MHz frequency band, which is outside the block assigned.

With regards to the in-block power limit, the MCA is proposing to set a value of 60 dBm/5 MHz per antenna. This value is equivalent to the in-block power limit applied to the adjacent 800 MHz band.

### **The 3.6 GHz band**

European Commission Decision 2008/411/EC, as amended, establishes the harmonised framework for the use of the 3400 - 3800 MHz band for terrestrial systems capable of providing electronic communications services. In accordance with Article 54 of the EECC, usage of this frequency band in Member States is subject to compliance with this Decision.

In line with this Decision, the technical conditions for base stations shall be based on a BEM to ensure coexistence between neighbouring networks. The MCA will consider the adoption of less stringent technical parameters other than those set out in European Commission Decision 2008/411/EC, as amended, if so agreed between all holders of the rights of use in the 3.6 GHz band. This is however subject to ensuring compliance with the applicable provisions set out in national legislation, the rights of use as well as in any other regulatory instrument adopted by the MCA.

With regards to the additional baseline power limits described in Table 6 of the Annex to Commission Decision 2008/411/EC, the MCA would like to confirm that the case number applicable to Malta is Case C.

### **The 26 GHz band**

The European Commission Implementing Decision (EU) 2019/784, as amended, sets out the harmonised technical conditions for terrestrial systems capable of providing wireless broadband electronic communications services in the 26 GHz band. The technical conditions are in line with the technical studies undertaken by CEPT and reflect decisions taken in the framework of the International Telecommunication Union (ITU) at the 2019 World Radiocommunication Conference. In accordance with Article 54 of the EECC, usage of this frequency band in Member States is subject to compliance with this Decision.

The technical conditions contained in the Annex to the aforesaid Decision are intended to address the mutual coexistence of terrestrial systems capable of providing wireless broadband electronic communication services with various satellite systems, in the form of limits on unwanted emissions into the 23.6 - 24 GHz frequency band as well as with space station receivers. The BEM approach is also applied to base stations operating in the 26 GHz band to ensure coexistence between neighbouring wireless broadband electronic communications networks.

It should be underlined that in line with the aforesaid Decision, the use of the 26 GHz band for communications with unmanned aerial vehicles shall be limited to the communication link from the terminal station on board the unmanned aerial vehicle to a base station of the terrestrial wireless broadband electronic communications network. The use of the 26 GHz band to establish communication link between the base station to the terminal station on board the unmanned aerial vehicle is therefore not permitted.

The MCA will consider the adoption of less stringent technical parameters other than those set out in European Commission Implementing Decision (EU) 2019/784, as amended, if so agreed between holders of the rights of use in the 26 GHz band. This is however subject to ensuring compliance with the applicable provisions set out in national legislation, the rights of use as well as in any other regulatory instrument adopted by the MCA.

#### **Small-area wireless access points (small cells)**

Holders of rights of use of radio spectrum, including these spectrum bands, are allowed to deploy small area wireless access points (or small cells) in line with European Commission Implementing Regulation (EU) 2020/1070 and the conditions as specified therein.

It should be stressed that in line with this Regulation, the use of small-area wireless access points with an active antenna system are not permitted.

## 4.14 Synchronisation and IP routing protocol obligations

*Q4.14 What are your views on the synchronization and IP routing protocol obligations?*

### **Synchronisation of TDD networks using the default frame structure.**

The mode of operation for the 3.6 GHz and 26 GHz bands, is set exclusively for time division duplex (TDD) in synchronised operation. This requires the alignment of all downlink and uplink transmissions for all TDD networks involved as well as synchronising the beginning of the frame across all networks. The requirement for synchronisation is however only applicable for the deployment of outdoor TDD networks and indoor TDD networks intended for mass events.

On the basis of technical studies undertaken by the Electronic Communications Committee (ECC) within the European Conference for Postal and Telecommunications Administrations (CEPT), the MCA considers that the frame structures to be used for synchronised TDD networks shall be in accordance with 'Frame 'A' of ECC/Rec(20)03. Frame A shall therefore be considered as the default synchronisation frame structure for both the 3.6 GHz and 26 GHz frequency bands.

The MCA will consider the adoption of a frame structure different from the above-mentioned default synchronisation frame, subject to agreement reached between licensees enjoying rights of use of radio spectrum in the 3.6 GHz and 26 GHz bands within the first six (6) months from the date of the grant of the rights of use.

It should be underlined that in the event that harmful interference is present at any indoor site where synchronisation is not deployed, the concerned mobile network operators shall be required to implement any of the interference mitigation measures described in ECC Report 307.

### **Obligation to support IPv6**

The licensee must make its mobile network IPv6 enabled and ready to provide IPv6 capabilities.

## 4.15 Interference mitigation

All wireless network operators are legally bound to ensure that their networks do not create any undue interference to other networks providing similar services or services of other nature provided in the same or adjacent spectrum bands.

### **The 700 MHz band**

The deployment of mobile services in the 700 MHz band, as indicated in the studies carried out by CEPT, **may** give rise to interference with the broadcasting services of neighbouring countries. In view of the isolated likelihood of interference, the MCA will therefore include the following mitigation measures in the rights of use for the 700 MHz spectrum band.

### **Technical conditions included in Rights of Use**

As outlined above, the MCA will adopt the harmonised technical conditions for the deployment of electronic communication services in the 700 MHz band established in the European Commission Implementing Decision (EU) 2016/687.

### **Interference Mitigation Obligation – Establishment of a Fund**

From the knowledge gained with regard to the implementation and operation of the 800 MHz Interference Management Fund, the MCA is proposing to adopt a similar interference mitigation mechanism for the 700 MHz spectrum band.

*Q4.15 The MCA invites stakeholders to express their opinions on the proposed set and operation of the 700 MHz Interference Mitigation Fund.*

A fund will be established between the 700 MHz band licensees post assignment or as agreed otherwise between the MCA and the potential candidates for the radio spectrum band in question prior to the assignment and under the oversight of the MCA. The fund will cover the costs related to the mitigation measures that may be required to solve interference issues to aerial television reception installations resulting from the deployment of outdoor base stations operating in the 700 MHz band to the detriment of the various viewers making use of such aerials.

Holders of rights of use of radio spectrum in the 700 MHz band will be required to contribute to this fund in proportion with the number of assigned channels, irrespective of their individual roll-out and coverage plans for the band or specific channels within the band.

The licensees in question will not be required to deposit the full fund instalment immediately. Instead, a system of periodic instalments will be established. If not all channels are assigned simultaneously and a subsequent assignment of spectrum in the 700 MHz band takes place, there will be a recalculation of the maximum contribution due by each licensee. In this case, the new licensee will be required to pay an upfront contribution proportionate to the number of channels acquired and to the fund paid to date, calculated as per the example above.

This fund will be capped to cover only the costs for any interference issues suffered by aerial television reception installations that were already in place as at the date of completion of the 700 MHz band assignment. Thereafter the necessary equipment required to avoid interference problems should be installed as part of any new installation and funded by the installation owner.

The fund will be operative for the entire duration of the 700 MHz rights of use or up to such time that national coverage on all six (6) channels in the band is achieved. The MCA reserves the right to terminate the fund earlier, as a result of developments which render it redundant.

Once the fund is terminated any residual funds will be redistributed amongst the contributing licensees, pro-rata on the basis of their contribution.

Unless agreed otherwise between the MCA and the potential candidates for the radio spectrum band in question, it will be the responsibility of the 700 MHz band licensees to establish a fund management plan. Licensees will have a period of three months from the date of grant of rights of use to present a fund management plan. In this respect the MCA will specify *a priori* a number of aspects that will need to be addressed in this plan which will include, but not be limited to:

- consumer complaint handling process that includes active participation of any DTTV operators and that establishes resolution timeframes;
- payment terms of the periodic fund instalments; and
- audit measures to ensure proper administration of the fund.

In all instances, the MCA will remain an escalation point to resolve any outstanding issues/disputes. In this respect the MCA will reserve the right to take any measures it deems appropriate for the case in accordance with its powers at law and under the license.

Should the 700 MHz licensees fail to present an adequate management plan within the stipulated timeframes, the MCA reserves the right to manage the fund (or outsource it) on their behalf. In this case, the relevant costs will be borne by the licensees in question and will be in addition to the fund cap and the license fees.

Furthermore, the establishment of the fund, the management plan and the deposit of the first fund instalment, will be preconditions for the licensees to start using their 700 MHz spectrum holdings. The mobile deployments in the 700 MHz band may constitute a level of interference to the reception of the local DTTV transmissions. The MCA may therefore request the license holders to carry out trials in selected regions around Malta as well as may require a staggered and managed roll-out unless it determines otherwise.

### **3.6 GHz and 26 GHz bands**

In line with the applicable European legislation described above, the MCA may impose additional measures to mitigate cases of harmful interference or the aggregate impact of base stations operating in radio spectrum adjacent to the 3.6 GHz and 26 GHz band. Such measures shall, as far as possible, be in line with instruments adopted by the ITU and CEPT/ECC.



## 4.16 Exposure to Electromagnetic Fields

The licensee shall comply with any obligations as specified at law and in any decisions issued by the MCA or any other national competent authority in relation to electromagnetic radiation and the installation or use of radiocommunications apparatus, including S.L.399.40.

The licensee shall also take into utmost consideration any guidelines, as may from time to time be issued by the MCA. Moreover, the MCA may refuse the bringing into service and use of radiocommunication apparatus and associated transmission systems at any or all sites if it considers that the measurement methodology or procedure proposed by the licensee is not adequate in ensuring compliance with exposure to electromagnetic fields.

## 4.17 Radio Access Network Security and Integrity

*Q4.17 The MCA invites stakeholders to express their views and opinions with regard to the additional security measures being introduced in the spectrum licenses.*

The licensee shall comply with any obligations as specified at law and in any decisions issued by the MCA or any other national competent authority in relation to the security and integrity of electronic communications networks.

Licensees shall also provide to the MCA, and maintain updated, a list of the key infrastructure assets that are relevant to the electronic communications network and service making use of this spectrum, including details on the relevant current and potential future suppliers.

The licensee shall take into utmost consideration any relevant guidelines, including those related to identified threats, as may from time to time be issued by the MCA, any other national competent authority or the EU Cybersecurity Agency (ENISA).

## 5 INVITATIONS TO COMMENTS

In accordance with its obligations under Article 4A of the Malta Communications Authority Act [Cap. 418 of the Laws of Malta], the MCA invites written submissions from interested stakeholders during the consultation period, which shall run from the 05/02/2021 to the 26/02/2021.

The MCA appreciates that respondents may provide confidential information in their feedback to this consultation document. This information is to be included in a separate annex and should be clearly marked as **confidential**. Respondents are also requested to state the reasons why the information should be treated as confidential.

For the sake of transparency, the MCA reserves the right to publish a list of all respondents to this consultation. The MCA will take the necessary steps to protect the confidentiality of all such material submitted in accordance with the MCA's confidentiality guidelines and procedures. Respondents are however encouraged to avoid confidential markings wherever possible.

All responses should be submitted electronically to the MCA on [consultations@mca.org.mt](mailto:consultations@mca.org.mt), and addressed to the Chief Executive Officer MCA. The consultation period will run until 13:00 hrs of the 26/02/2021.

Extensions to the consultation deadline shall only be considered in exceptional circumstances and then only where the MCA deems fit. The MCA reserves the right to grant or refuse any such request at its sole discretion. Requests for extensions are to be made in writing within the first ten (10) working days of the consultation period. Any other requests shall not be considered.