



EUWENA recognised the urgent need to promote the greater uptake of 3GPP-based private mobile broadband networks and to speed up the regulation processes for the availability and harmonisation of sufficient frequency spectrum dedicated for today's industry users.

EUWENA is aware of the difficulty for private individuals to understand the complex environment around private local use spectrum availability in their country. Harder still to fathom out are the licencing conditions, pricing schemes and the complicated application process. Therefore, EUWENA has tasked itself to simplify this process by compiling a spectrum information observatory. This observatory will be updated annually with a concise overview of the available European frequency spectrums, for private corporate and industry individuals who wish to implement their own private local mobile network.

This information is presented per country across three bands:

LOW < 1 GHz

Typically used in the utilities industry for IoT services that require very wide penetrative coverage with low infrequent data rates, with a range of bandwidths from 1.3 MHz typically up to 10 MHz.

Medium 1 GHz to 6 GHz

Bands typically used by public mobile operators, from data rates with 25 Mbps* and wide coverage, to very local or confined, short-range coverage with high data rates over 300 Mbps*. Bandwidths range from 5 MHz to 100 MHz (*SiSo).

HIGH > 6 GHz

High frequency bands with very high data rates up to 1 Gbps, Typical applications are very local short range such as point to point links.

For each country, we provide the reader with high-level summary overview, spectrum availability, bandwidths, pricing schemes, applications, and other useful links. In addition, we will publish annually this information and continue to include additional countries both European and international. To keep you updated, we will post news of ongoing or planned consultations relating to licencing changes or new spectrum availability for private users.

Furthermore, EUWENA will be available to support your outstanding questions related to the spectrum policies.

EUWENA a reconnu l'urgence de promouvoir l'adoption à plus grande échelle des réseaux mobiles privés à large bande basés sur le 3GPP et d'accélérer les processus de réglementation portant sur la disponibilité et l'harmonisation d'un spectre de fréquences suffisant pour les utilisateurs industriels d'aujourd'hui.

EUWENA est consciente de la difficulté pour les particuliers de comprendre l'environnement complexe encadrant la disponibilité du spectre pour une utilisation locale privée dans leur pays. Les conditions d'octroi des licences, les systèmes de tarification et la complexité de la procédure de demande sont encore plus difficiles à appréhender. EUWENA s'est donc donnée pour mission de simplifier ce processus en compilant un observatoire des informations sur les spectres. Cet observatoire sera mis à jour annuellement et offrira un aperçu concis des bandes de fréquence disponibles à l'échelle européenne, à l'intention des entreprises et des particuliers qui souhaitent mettre en place leur propre réseau mobile privé.

Ces informations sont présentées par pays pour les trois bandes de fréquences :

Basses fréquences < 1 GHz

Adaptées aux usages d'internet des objets (IoT) qui requièrent une couverture très large ainsi que des débits faibles ou moyens pour une canalisation s'étendant de 1,5 à 10 MHz.

Moyennes fréquences 1 GHz à 6 GHz

Bandes typiquement utilisées par les opérateurs mobiles publics, allant de débits de données de 25 Mbps* avec des couvertures étendues à des couvertures très locales ou confinées à courte portée avec des débits de données élevés et supérieurs à 300 Mbps*. Les canalisations s'étendent de 5 MHz à 100 MHz (*SiSo).

Hautes fréquences > 6 GHz

Bandes de fréquences élevées avec des débits de données très élevés; les applications sont très locales et à courte portée, telles que des liaisons point à point.

Pour chaque pays, nous fournissons au lecteur un résumé de haut niveau, la disponibilité des spectres, les largeurs de bande, les systèmes de calcul de redevances, les applications et d'autres liens utiles. En outre, nous publierons ces informations annuellement et continuerons d'ajouter des pays supplémentaires, tant européens qu'internationaux. Afin de vous tenir informés, nous publierons des informations sur les consultations en cours ou prévues concernant des changements de licence ou de nouvelles disponibilités de spectre pour les utilisateurs privés.

De plus, EUWENA sera disponible pour répondre à vos questions portant sur les politiques relatives au spectre.

Für EUWENA ist es dringend notwendig, die stärkere Verbreitung privater mobiler 3GPP-Breitbandnetze zu fördern und die Regulierungsprozesse für die Verfügbarkeit und Harmonisierung ausreichender Frequenzspektren für die heutigen industriellen Nutzer zu beschleunigen.

EUWENA ist sich bewusst, dass es für Privatpersonen schwierig ist, das komplexe Thema der Verfügbarkeit von Frequenzen für die private lokale Nutzung in ihrem Land zu verstehen. Hinzu kommen die Lizenzbedingungen, die Preisgestaltung und das komplizierte Antragsverfahren, die noch schwieriger zu verstehen sind. Aus diesem Grund möchte EUWENA diesen Prozess vereinfachen und wird daher eine Beobachtungsstelle für Frequenzinformationen einrichten. Diese Beobachtungsstelle wird jährlich aktualisiert und wird Privatunternehmen und Industriekunden, die ihr eigenes privates lokales Mobilfunknetz einrichten möchten, einen präzisen Überblick über die verfügbaren europäischen Frequenzspektren geben.

Diese Informationen werden pro Land und jeweils drei Bänder dargestellt:

Niedrige Frequenzen: < 1 GHz

Wird typischerweise in der Versorgungswirtschaft mit SMART-Zählern verwendet, die eine sehr breite Abdeckung mit niedrigen, unregelmäßigen Datenübertragungsraten erfordern, mit einer Bandbreite von 1,3 MHz bis typischerweise 10 MHz.

Mittlere Frequenzen: 1 GHz bis 6 GHz

Normalerweise von öffentlichen Mobilfunkbetreibern genutzte Bänder, für Datenübertragungsraten ab 25 Mbps* und breiter Abdeckung bis hin zu sehr lokaler oder eingeschränkter Kurzstreckenabdeckung mit hohen Datenübertragungsraten von 300 Mbps* oder höher. Die Bandbreiten reichen von 5 MHz bis 100 MHz (*SiSo).

Hohe Frequenzen: > 6 GHz

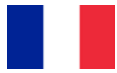
Hochfrequenzbänder mit sehr hohen Datenübertragungsraten, Anwendungen mit sehr kurzer Reichweite wie die Punkt-zu-Punkt-Verbindungen.

Für jedes Land erhält der Leser eine hochwertige Zusammenfassung über die Verfügbarkeit von Frequenzen, Bandbreiten, Preissystemen, Anwendungen und andere nützliche Links. Darüber hinaus werden wir diese Informationen jährlich veröffentlichen und weiterhin europäische und internationale Länder hinzufügen. Um Sie auf dem Laufenden zu halten, werden wir Neuigkeiten über aktuelle oder geplante Konsultationen zu Änderungen bei der Lizenzvergabe oder der Verfügbarkeit neuer Frequenzen für private Nutzer veröffentlichen.

Darüber hinaus beantwortet EUWENA Ihnen gerne Ihre offenen Fragen in Bezug auf die Frequenzpolitik.

INFORMATION AND TERMINOLOGY

2G/3G	A digital mobile communications standard allowing for voice calls and limited data transmission. "3G handles both voice and data much more efficiently than 2G"
4G	4 th Generation of 3GPP digital mobile communications standard replacing 3G, allowing wireless internet access at a much higher speed
5G	5 th generation 3GPP digital mobile network replacing 4G. 5G is important as it is changing the way the world connects and communicates. Enabling a new kind of network that is designed to connect virtually everyone and everything together including machines, objects, and devices.
LTE	Long-Term Evolution is a standard for wireless broadband communication for mobile devices and data terminals
NR	5G NR is a new radio access technology developed by 3GPP for the 5G mobile network. It was designed to be the global standard for the air interface of 5G networks
3GPP	3 rd Generation Partnership Project (3GPP) unites seven telecommunications standard development organizations (ARIB, ATIS, CCSA, ETSI, TSDSI, TTA, TTC), known as "Organizational Partners" and provides their members with a stable environment to produce the Reports and Specifications that define 3GPP technologies
FREE SPECTRUM	Spectrum which can be utilised by a user, without the need to obtain specific licence
PMN	A private mobile radio network also called "PMN" (private mobile network) is an essential means of communication that can be dedicated to users with sensitive uses that require safety, security and reliability
QOS	Quality of service (QoS) is the description or measurement of the overall performance of a service or network
MNO	Mobile Network Operator
TDD	Time Division Duplex is a technique where the transmitter and receiver operate on the same frequency band but transmit and receive at different times
FDD	Frequency Division Duplex is a technique where the transmitter and receiver operate at different carrier frequencies
BANDWIDTH	A range of frequencies (hertz) within a given band, in particular that are used for transmitting a signal
BAND 28	700 MHz FDD: 703 – 748, Downlink: 758 – 803 (MHz)
BAND 38	2600 MHz TDD 2570 – 2620 (MHz)
BAND 42	3700 MHz TDD: 3400 – 3600 (MHz)
BAND 43	3700 MHz TDD: 3600 – 3800 (MHz)
MHZ	Megahertz. A unit of frequency in hertz x 1 million
GHZ	Gigahertz. A unit of frequency in hertz x 1 billion



INFORMATION ON EUROPEAN LICENCED FREQUENCY SPECTRUM FOR PRIVATE WIRELESS NETWORKS

SUMMARY COMMENTS	<p>Current Information relating to Broadband Private Wireless Network licence for LTE/4G or 5G Broadband technology</p> <p>Low Band < 1GHz 700 MHz: Subject to the agreement of the Ministry of the Interior</p> <p>Medium Band 1 Ghz – 6 Ghz 26 GHz: 5G Pilots counter open in 2018 3.4-3.8 GHz: Delegation requests must be made directly to the MNOs 3.8-4.2 GHz: Experimental frequency counter open in March 2022 for a period of three years</p> <p>High Band > 6 GHz</p>		
DETAILS	LOW < 1 GHz	MEDIUM 1 GHz to 6 GHz	HIGH > 6 GHz
AVAILABLE BANDS	<p>400 MHz: 414,5/424,5 – 420/430 MHz to 453/463 – 460/470 MHz</p> <p>700 MHz: 733/788 – 736/791 MHz and 698/753 – 703/758 MHz</p>	<p>2.6 GHz: 2575 – 2615 MHz</p> <p>3.4-3.8 GHz: 3490-3800 MHz</p> <p>3.8-4.2 GHz: 3800-4000 MHz</p>	<p>26 GHz: 26.5 – 27.5 GHz</p>
BANDWIDTH	<p>400 MHz: Narrow band</p> <p>700 MHz: 2* 3 MHz FDD (LTE B28) & 2* 5 MHz (LTE B68 FDD)</p>	<p>2.6 GHz: 5, 10, 15, 20 or 40 MHz in TDD (LTE B38/5G N38)</p> <p>3.4-3.8 GHz: MNO channels in TDD (5G N77)</p> <p>3.8-4.2 GHz: up to 100 MHz in TDD (5G N78)</p>	<p>26 GHz: up to 1 GHz of spectrum (N257 and N258 wband) in TDD</p>
SUPPORTING INFORMATION/LINKS			
PRICE: INITIAL/YEAR/HZ	<p>2.6 GHz: Annual fee related to area size assigned (min 100 km²) and bandwidth utilised (ex: 70 000 € per year for 20 MHz and 100 km²)</p>		
KEY NOTES			
ONGOING WORKS	<p>Arcep plans to issue a consultation 2022 to review spectrum in destination of PMN. The review will include the 400 MHz in the aim of reorganising the 453/463 – 460/470 MHz frequency band in order to enable the medium-term deployment of high-speed PMN (LTE 31 band) in FDD mode (possible channels 2*1.4 - 2*3 and 2*5 MHz)</p> <p>DGE plans to issue a consultation in 2022 to review the annual fee related to spectrum use</p>		
APPLICATION LINKS	<p>2.6 GHz: Access to counter https://dali.arcep.fr/frontend/pmr_2_6/#/view</p> <p>3.8-4.2 GHz: Applications for experimental use https://www.arcep.fr/demarches-et-services/professionnels/transformation-numerique-des-entreprises/plateformes-experimentation-5g-bande-38-40-ghz.html#:~:text=This%20counter%20will%20be%20open%20for%20the%20r%C3%A9ception%20of%20file</p> <p>26 GHz: Applications for 5G Pilots https://www.arcep.fr/actualites/les-communiqués-de-presse/detail/n/frequences-5g.html</p>		
CONTACTS/LINKS	<p>Arcep: www.arcep.fr Agurre: www.agurre.fr</p>		



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SUMMARY COMMENTS	<p>Current Information relating to Broadband Private Wireless Network licence for LTE/4G or 5G Broadband technology.</p> <p>Low Band < 1 Ghz & Medium Band 1 Ghz – 6 Ghz 700 MHz, 900 MHz, 1400 MHz, 1800 MHz, 2100 MHz and 3600 MHz Public auctioned bands but not offered as “private radio communication licenses”. See https://auction2022.be/sites/default/files/2022-01/Memorandum_EN.pdf. However, BIPT issues licenses (per radio site) for the use of private radio networks. With regards to potential use in PMNs, the following categories could be applicable:</p> <ul style="list-style-type: none"> ● Category 1: private mobile radio communications networks except the ones under Category 3. These include private mobile radio communications networks used for professional ends, for instance by taxi companies, factories, etc. (permanent licence) or at construction sites, events, etc. (temporary licence) ● Category 3: mobile radio networks set up by governmental bodies, companies active in transportation by railways and public transport companies, hospitals and bodies for medical or social help for strictly humanitarian and non-profit purposes. This category aims at a similar use as category 1 licences, only the licence holder has a different capacity ● Category 9: private radio networks or stations <ul style="list-style-type: none"> a) use for trials or testing – such as 5G test licenses <p>The above license categories and the framework to authorise them are not deemed practical or cost effective for a real PMN deployment. That’s the reason why the Royal decree project below in 3.8-4.2 GHz specific for the PMN case is ongoing to set an appropriate framework.</p> <p>High Band > 6 GHz 3.8-4.2 GHz royal decree project ongoing https://www.bipt.be/operators/publication/consultation-at-the-request-of-the-minister-of-telecommunications-regarding-a-draft-bill-and-three-draft-royal-decrees-regarding-mobile-networks. Current proposal is:</p> <ul style="list-style-type: none"> ● Authorisation for private local networks with radio sites in an area of minimum 100 m radius ● Maximum 40 MHz per authorised person/group in a particular location 		
DETAILS	LOW < 1 GHz	MEDIUM 1 Ghz to 6 GHz	HIGH > 6 GHz
AVAILABLE BANDS	<p>700 MHz, 900 MHz It is possible to apply for private radio communications licences in these bands with the BIPT. These are not the subject of public country auction rules.</p>	<p>1800 MHz, 2100 MHz ² It is possible to apply for private radio communications licences in these bands with the BIPT. These are not the subject of public country auction rules.</p> <p>3.8-4.2 GHz: Maximum 40 MHz¹ per authorised person/group in a particular location a per ongoing draft Royal Decree project for PMN as per consultation of 29th January 2020</p>	<p>26 GHz: as a result of a consultation from 2019 the BIPT conclusion was that up to 6 blocks of 200 MHz could be dedicated and authorised for 5G without restrictions. Consultation ongoing, reactions closed 21-09-22 Test licenses are possible.</p>
BANDWIDTH	Subject to request	² Subject to request, ¹ 40 MHz	Subject to request
SUPPORTING INFORMATION/LINKS			
PRICE: INITIAL/YEAR/HZ	3.8-4.2 GHz: 1000 € initial plus yearly fee 0.00001 x (R/100) 2 € /Hz where R is the site radius in metres		
KEY NOTES			
ONGOING WORKS	<p>Ongoing consultation on 3.8-4.2 GHz for PMN.</p> <p>In May 2022 BIPT provided the results of a global study on 5G implementation abroad commissioned to CAP Gemini: https://www.bipt.be/operators/publication/communication-of-4-may-2022-regarding-the-global-study-on-5g-implementation-abroad. study may lead and influence BIPT decisions on the consultation for the use of spectrum for private deployments.</p>		
APPLICATION LINKS	<p>In BIPT a test licence can be issued for private radio networks or stations for experiments, trials or testing as indicated in https://www.bipt.be/operators/publication/request-form-to-obtain-a-licence-for-experiments-or-tests and https://www.bipt.be/operators/tests-rd</p>		
CONTACTS/LINKS	https://www.bipt.be/operatorsen/algemene-machtigingen-voor-radiospectrumgebruik		



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SUMMARY COMMENTS	<p>Current Information relating to Broadband Private Wireless Network licence for LTE/4G or 5G Broadband technology</p> <p>Low Band < 1 GHz 450 MHz Has been allocated to “450connect GmbH”, the course is set for the digitization of the energy and transport transition 800 MHz, 900 MHz: Federal Network Agency currently reviewing their position paper available for public consultation closes Nov 2022</p> <p>Medium Band 1 GHz – 6 GHz 2600 MHz: Federal Network Agency currently reviewing their position paper available for public consultation closes Nov 2022 3.7 GHz: local spectrum usages, including in particular assignments for business/commercial/industrial premises and will be assigned on a technology-neutral basis</p> <p>High Band > 6 GHz 26 GHz TDD spectrum assignments for local broadband spectrum Test and Trial News:</p>		
DETAILS	LOW < 1 GHz	MEDIUM 1 GHz to 6 GHz	HIGH > 6 GHz
AVAILABLE BANDS	<p>450 MHz in 2020 made available nationwide for wireless network access, primarily for critical infrastructure applications</p> <p>800 MHz, 900 MHz: usage rights for frequencies expire at the end of 2025</p>	<p>3.7 GHz: 3.700 3.800 MHz local spectrum usages</p>	<p>26 GHz: 24,25 27,5 GHz TDD spectrum assignments for local broadband spectrum</p>
BANDWIDTH	NA	100 MHz or as required	325 MHz Blocks in multiples of 50 MHz up to 150 MHz will be assigned for individual spectrum usages requiring less bandwidth
SUPPORTING INFORMATION/LINKS	<p>Details can be found in following link: https://www.bundesnetzagentur.de/DE/Fachthemen/Telekommunikation/Frequenzen/OeffentlicheNetze/LokaleNetze/lokalenetze-node.html</p>		
PRICE: INITIAL/YEAR/HZ	<p>Fee = 1000 + B * t * 0.63 * (6a1 + a2).</p> <ul style="list-style-type: none"> • 1,000 indicates the basic amount in euros, • B denotes the bandwidth in MHz (min. 50 MHz), • t the term of the allocation in years (e.g. 15 years), • a is the area in km² with a differentiation between settlement and traffic areas (a1) and other areas (a2). <p>Note: Applicable for both MEDIUM and HIGH frequency pricing. A fee as set out in the BNetzA BNetzA-BNetzA-FreqZut will be imposed for spectrum assignment on the basis of section 223(1) TKG</p>		
KEY NOTES			
ONGOING WORKS	Not known		
APPLICATION LINKS	<p>For MEDIUM: https://www.bundesnetzagentur.de/SharedDocs/Downloads/DE/Sachgebiete/Telekommunikation/Unternehmen_Institutionen/Frequenzen/OffentlicheNetze/LokaleNetze/Antragsformblaetter3.7-3.8GHz_zip.zip?__blob=publicationFile&v=7 226.lokalbreitband@bnetza.de</p> <p>For HIGH: https://www.bundesnetzagentur.de/SharedDocs/Downloads/DE/Sachgebiete/Telekommunikation/Unternehmen_Institutionen/Frequenzen/OffentlicheNetze/LokaleNetze/Antragsformbl%C3%A4tter26GHz_zip.zip?__blob=publicationFile&v=2 226.lokalbreitband@bnetza.de</p>		
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INFORMATION ON EUROPEAN LICENCED FREQUENCY SPECTRUM FOR PRIVATE WIRELESS NETWORKS

SUMMARY COMMENTS	<p>Current Information relating to Broadband Private Wireless Network licence for LTE/4G or 5G Broadband technology</p> <p>Low Band < 1 GHz Local access licenses are available for limited periods up to 3 years (possibly longer on request) using bands (700 MHz, 800 MHz, 900 MHz), licensed to the UK's Mobile Network Operators (MNOs), but not used in a local area</p> <p>Medium Band 1 GHz – 6 GHz Local access licenses are available for limited periods up to 3 years (possibly longer on request) using bands (1400 MHz, 1800 MHz, 1900 MHz, 2100 MHz, 2300 MHz, 2600 MHz), licensed to the UK's Mobile Network Operators (MNOs), but not used or planned for use in a particular local area within the next three years</p> <p>Ofcom is also making spectrum in the 3.8-4.2 GHz spectrum bands available through local licences. £950 per licence (3 Years Valid)</p> <p>High Band > 6 GHz Further 24.25-26.5 GHz band has been added to the spectrum sharing framework for indoor-only deployment</p>		
DETAILS	LOW < 1 GHz	MEDIUM 1 GHz to 6 GHz	HIGH > 6 GHz
AVAILABLE BANDS	<p>410 - 420 MHz Responsibility for assigning frequencies to this Allocation rests with Ofcom</p> <p>700 MHz, 800 MHz, 900 MHz Local Access spectrum</p> <p>People can apply to Ofcom for coordinated access to these bands on a first come, first served basis and will pay a licence fee that reflects Ofcom's cost of issuing the licence</p>	<p>1400 MHz, 1900 MHz, 2100 MHz, 2600 MHz Local Access</p> <p>1800 MHz, 2300 MHz 3800 – 4200 MHz shared spectrum</p> <p>People can apply to Ofcom local access for coordinated access to these bands on a first come, first served basis and will pay a licence fee that reflects Ofcom's cost of issuing the licence</p>	<p>24.25-26.5 GHz Shared Access band added to spectrum sharing framework for indoor-only deployment. This is part of the 26 GHz band, identified as a European pioneer 5G band, and could provide additional spectrum options for new applications</p>
BANDWIDTH	Bandwidth in Local/shared spectrum is subject to that available in declared local area	Bandwidth in Local/shared spectrum is subject to that available in declared local area	Bandwidth in shared spectrum is subject to that available in declared local area; available 2.25 GHz
SUPPORTING INFORMATION/LINKS	<p>Upper 26 GHz band: Coordinating with Ministry of Defence in the 26.5 GHz-27.5 GHz to make this band available in the future.</p> <p>2300 MHz to be compatible with TD-LTE special subframe configuration 6, also known as 9:3:2;</p>		
PRICE: INITIAL/YEAR/HZ	<p>3800 – 4200 MHz shared spectrum: £80 per 10 MHz</p> <p>2300 MHz shared spectrum: £80 for 2300 MHz</p> <p>24.25-26.5 GHz : A licence fee of £320 will be applicable per licence, payable annually for 50 MHz, 100 MHz or 200 MHz channels</p>		
KEY NOTES			
ONGOING WORKS			
APPLICATION LINKS	<p>https://www.ofcom.org.uk/_data/assets/pdf_file/0021/158232/local-access-licence-application.pdf</p>		
CONTACTS/LINKS	<p>www.euwena.eu Kerim.Agdaci@opticoms.de</p>		



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SUMMARY COMMENTS	<p>Current Information relating to Broadband Private Wireless Network licence for LTE/4G or 5G Broadband technology</p> <p>Low Band < 1 GHz 450 MHz Only a very local use licence for temporary event available</p> <p>Medium Band 1 GHz – 6 GHz 1800 MHz extended DECT band free license mainly for inbuilding low power small cell coverage up to 5 MHz</p> <p>3600 - 3800 MHz Band 43 Reserved for local industry/enterprise use , geographical restrictions apply, no use allowed in the country above Amsterdam, due to satellite communication stations located in the north</p> <p>High Band > 6 GHz 26 GHz licenses are still under consultation</p> <p>Test and Trial News:</p>		
DETAILS	LOW < 1 GHz	MEDIUM 1 GHz to 6 GHz	HIGH > 6 GHz
AVAILABLE BANDS	400 MHz: 446 MHz ¹ (PMR 446) 450-460 MHz LMR ¹	1800 MHz ¹ : DECT guard band, 1780–1785 MHz and 1875–1880 MHz License free 3600 - 3800 MHz Band 43 Reserved for local industry/enterprise use	26 GHz in consultation
BANDWIDTH	400 MHz narrow band	1800 MHz Dect guard band 2x2,8 MHz FDD ¹ 3600 - 3800 MHz TDD 40 MHz per license	
SUPPORTING INFORMATION/LINKS	<p>https://www.agentschaptelecom.nl/onderwerpen/vergunningen-en-registraties/documenten/formulieren/2017/april/4/aanvraag-vergunning-frequentieruimte-lokaal-breedbandnetwerk</p> <p>3600 - 3800 MHz License only available in areas south below a line between towns Amsterdam-Zwolle</p>		
PRICE: INITIAL/YEAR/HZ	<p>Free Licence¹, TBD²</p> <p>https://www.agentschaptelecom.nl/onderwerpen/portofoons-en-mobilofoons/tarieven-landmobiele-communicatie https://zoek.officielebekendmakingen.nl/stcrt-2021-45605.html</p>		
KEY NOTES			
ONGOING WORKS	<p>The ministry of Economic Affairs and Climate is preparing the auction of the 3.5 GHz band. Planned in Q1 of 2023. In the 3.5 GHz band 100 MHz TDD is expected to be assigned to local/private networks.</p> <p>In the 3.8-4.2 GHz band a DSMS (dynamic spectrum management and sharing) pilot is planned to gain information how to protect the present users (Satcom operators) in this band.</p> <p>In the 400 MHz band, the PAMR band, 1.5 MHz will become available for critical communication nationwide usage.</p>		
APPLICATION LINKS	Ministerie van Economische Zaken		
CONTACTS/LINKS	<p>Ministry of Economic Affairs : https://www.rijksoverheid.nl/onderwerpen/telecommunicatie/nationaal-frequentiebeleid Agentschap Telecom : https://www.agentschaptelecom.nl/onderwerpen/vergunningen-en-registraties</p>		



INFORMATION ON EUROPEAN LICENCED FREQUENCY SPECTRUM FOR PRIVATE WIRELESS NETWORKS

SUMMARY COMMENTS	<p>Currently in Ireland it is not possible to apply for a Broadband Private Wireless Network licence for LTE/4G or 5G Broadband technology. Only narrowband PMR/DMR/ Trunked/Tetra radio licences can be applied for.</p> <p>The National regulator (www.comreg.ie) have recently consulted on their work plan for 2022 to 2024 and have concluded by making the following statements:</p> <p>BB-PPDR: “Having due regard to the advice of LS telcom, and cognisant that Ireland has yet to make decisions on its BB-PPDR deployment model and may therefore require spectrum for BB-PPDR, ComReg proposed to make spectrum available for BB-PPDR in the 400 MHz Band and in the 700 MHz Duplex Gap and 700 MHz Guard Bands as detailed below.” Source: https://www.comreg.ie/?d1m_download=broadband-public-protection-and-disaster-relief-bb-ppdr-spectrum-options-october-2020-update</p> <p>400 MHz Band Spectrum Award – Smart Grid – Awarded to the Electricity Supply Board (ESB) Part A consisted of one 2 x 3 MHz Lot (410 – 413 MHz / 420 – 423 MHz) for the provision of wireless communications for Smart Grids; and Part B consisted of ten Lots of 2 x 100 kHz (413 – 414 MHz / 423 – 424 MHz) on a technology and service neutral basis. These Lots may be used to support Smart Grid, or for a range of other uses including Business Radio type applications.</p> <p>3800-4200 MHz frequency band “ComReg has received a number of enquiries related to private networks use of spectrum in the 3800-4200 MHz band. Therefore, ComReg intends to monitor and input to the development of any draft EC and ECC harmonising decisions on the use of the 3800-4200 MHz frequency band by terrestrial wireless broadband systems providing local-area network connectivity which could serve both private (e.g. enterprise) and public (e.g. community-type) networks.” Source: https://www.comreg.ie/publication/radio-spectrum-management-strategy-statement-2022-to-2024</p> <p>3.6 GHz and 26 GHz The 3.6 GHz and 26 GHz spectrum have been awarded to economic operators.</p> <p>Test and Trial: ComReg also encourage users to apply for test and Trail spectrum for Proof of Concepts to prove technology and use cases. These licences are available for 12 months. The spectrum ranges from 8.3 kHz to 300 GHz</p>		
DETAILS	LOW < 1 GHz	MEDIUM 1 GHz to 6 GHz	HIGH > 6 GHz
AVAILABLE BANDS	<p>400 MHz BB-PPDR 414 – 417 MHz / 424 – 427 MHz part of the 400 MHz Band. This is 3GPP Band 88 in the 3GPP E-UTRA specifications</p> <p>700 MHz BB-PPDR In the 700 MHz Duplex Gap and 700 MHz Guard Bands, ComReg noted that spectrum in these bands could be made available for BB-PPDR in line with the flexibility afforded under Decision (EU)2016/687 (the “EC 700 MHz Decision”). ComReg proposed that it could make available:</p> <ul style="list-style-type: none"> • 2 x 5 MHz in the frequency range 698 – 703 MHz / 753 – 758 MHz band (i.e. 3GPP Band 68); and • 2 x 3 MHz in the frequency range 733 – 736 MHz / 788 – 791 MHz (i.e. 3GPP Band 28B). 	<p>3800 – 4200 MHz ComReg intends to monitor and input to the development of any draft EC and ECC harmonising decisions on the use of the 3800-4200 MHz frequency band by terrestrial wireless broadband systems providing local-area network connectivity which could serve both private (e.g. enterprise) and public (e.g. community-type) networks.</p> <p>Teat and Trail spectrum is available for</p>	<p>No details available on any band above 6 GHz being considered for Private Wireless Network Use</p>

AVAILABLE BANDS	When considering these BB-PPDR spectrum options, ComReg also noted that the EC 700 MHz Decision also provides for alternative uses for some or all this spectrum. These alternative uses are supplemental downlink ("SDL"), wireless audio Programme Making and Special Events ("PMSE") equipment and Machine-to-Machine ("M2M") radio communications.		
BANDWIDTH	2 × 3 MHz in the 400 MHz Band 2 × 5 MHz plus 2 × 3 MHz 700 MHz Duplex Gap and 700 MHz Guard Bands		
SUPPORTING INFORMATION/LINKS	https://www.comreg.ie/?dml_download=broadband-public-protection-and-disaster-relief-bb-ppdr-spectrum-options-october-2020-update https://www.comreg.ie/publication/radio-spectrum-management-strategy-statement-2022-to-2024 https://www.testandtrial.ie/		
PRICE: INITIAL/YEAR/HZ	From €100 for test and trial spectrum for a 12 month period.		
KEY NOTES			
ONGOING WORKS	As per the statements above and contained in document: https://www.comreg.ie/publication/radio-spectrum-management-strategy-statement-2022-to-2024		
APPLICATION LINKS	https://www.testandtrial.ie/ There are no other current active application forms open with the regulator for Broadband Private Spectrum -other than Test and detailed above.		
CONTACTS/LINKS	www.comreg.ie		