ICT 2024 – 1 - Consultation
Short Range Licence Exempt Devices

Launch Date: 27 May 2024

Closing Date for comments: 27 June 2024

Contents

A. Introduction

1. The Utility Regulation and Competition Office (the **'Office**' or '**OfReg**') is the independent regulator for the electricity, information and communications technology ('**ICT**'), water, wastewater and fuels sectors in the Cayman Islands. The Office also regulates the use of electromagnetic spectrum and manages the .ky Internet domain.

2. Different decisions by the Office will affect persons and organisations throughout the country in different ways. It is therefore important that the Office makes decisions with the appropriate input from persons with sufficient interest or who are likely to be affected by the outcome of such decisions. Consultation is an essential aspect of regulatory accountability and transparency and provides the formal mechanism for these persons to express their views in this manner. The requirement for the Office to consult is mandated in its enabling legislation.

3. The purpose of this consultation is to seek the views of affected stakeholders, the general public, and other interested parties, regarding proposed changes to the technologies and frequencies which can be used on a licence-exempt basis for certain short-range devices.

B. Legal Framework

4. Section 9(2) of the Information and Communication Technology Act (the '**ICT Act**') permits the Office to:

> (b) determine methods for assigning the electromagnetic spectrum.

5. The Office believes that the appropriate method for assigning certain frequency bands, for specified short-range devices is to do so on a license exempt basis (i.e. requiring no individual license from the Office).

6. Section 6(2) of the Utility Regulation and Competition Act (the '**URC Act**') gives the Office the power to:

> (d) make administrative determinations, decisions, orders and regulations.

7. The office is proposing to identify and define those devices which may operate on a licence exempt basis.

8. Currently the only frequencies which are available for licence-exempt, short-range devices are those specified in Annex 2 the section 23(2) notice published by the Office[1].

9. This purpose of this document is to consult interested stakeholders on the proposed modifications to Annex 2 of the section 23(2) notice.

10. For each short-range device application type, a review of the frequencies and operating parameters used in the USA and Europe is provided, and a view of which, if either, of these should be adopted in the Cayman Islands is presented.

11. In addition, proposals for permission to use low-power FM transmitters in vehicles is also presented.

C. Short-Range Device Proposals (Draft Determination)

12. This section contains the proposed Short-Range Device parameters and frequencies which will modify Annex 2 of the current section 23(2) notice.

13. The proposed changes we are consulting on are to be considered the draft determination in this matter and the Office welcomes feedback on these proposals which the Office will consider when making a final determination.

Operating Parameters for License Exempt Short-Range Devices

Section 9(2) of the Information and Communication Technology Act[2] (as amended) (the "**ICT Act**") permits the Utility Regulation and Competition Office ("**the Office**" or "**OfReg**") to:

> (b) determine methods for assigning the electromagnetic spectrum.

The Office has determined that the appropriate method for assigning certain frequency bands, for certain short-range devices (SRD) is to do so on a license exempt basis (i.e. users require no individual license from the Office). In addition to no individual licence being required, no fee is payable for usage as long as usage complies with the parameters set out in this regulation.

[1] https://www.ofreg.ky/viewPDF/documents/application-forms-fees/2021-04-23-06-35-33-1511333826Section23Notice20November2017.PDF
[2] https://www.ofreg.ky/viewPDF/documents/legislation/2021-04-15-01-39-56-Information-and-Communications-Technology-Law-2019-Revision.pdf

This following sets out the relevant operating parameters and specifications which apply to the use of certain frequencies for a range of short-range devices. No specific license is required if, in addition to the meeting the defined operating frequencies and technical specifications detailed below, the following additional criteria (the "**additional criteria**") are also met:

- the use of these frequencies is solely for a Person's own use, and
- the equipment used is fully Certified.

Note that it is a serious offence to use radio equipment without a licence and section 82 of the ICT Act provides for a person or organization so caught to be fined, imprisoned and have their equipment confiscated. To be clear: Any use of frequencies not identified herein, commercial use of any of these applications or frequencies, or the or use of these frequencies that do not conform to the specified technical criteria will require a licence from the Office.

The requirement for equipment to be Certified does not imply that equipment meeting the parameters identified herein exempts it from type approval. However, equipment which can be demonstrated to meet the parameters and either the relevant FCC or European standard will be able to be type approved upon application to the Office.

The frequencies set out below are not assigned exclusively for short-range devices and are provided on a non-interference basis: Short-range devices must accept interference from other users of these frequencies and must not cause harmful interference to other users.

Non-Specific Short Range Devices

Any short range device may be used on a license-exempt basis subject to the additional criteria and compliance with the frequency range, power levels and technical standards detailed below.

Frequency Range	Maximum Power	FCC Standard	European Standard	Notes
6765 – 6795 kHz	42 dBµA/m at 10m	N/A	EN 300 330	Inductive applications only
13553 – 13567 kHz	10 mW e.r.p.	Part 15.225	EN 300 330	
26957 – 27283 kHz	10 mW e.r.p.	Part 15.227	EN 300 220	
40.66 – 40.7 MHz	10 mW e.r.p.	Part 15.229	EN 300 220	

Frequency Range	Maximum Power	FCC Standard	European Standard	Notes
433.05 – 434.79 MHz	10 mW e.r.p.	Part 15.240	EN 300 220	
902 – 928 MHz	10 mW e.r.p.	Part 15.249	EN 300 220	
2400 – 2483.5 MHz	10 mW e.i.r.p.	Part 15.249	EN 300 440	
5725 – 5875 MHz	25 mW e.i.r.p.	Part 15.249	EN 300 440	
24 – 24.25 GHz	100 mW e.i.r.p.	Part 15.249	EN 300 440	
61 – 61.5 GHz	100 mW e.i.r.p.	Part 15.255	EN 305 550	
122 – 123 GHz	10 W e.i.r.p.	Part 15.258	EN 305 550	
244 – 246 GHz	10 W e.i.r.p.	Part 15.258	EN 305 550	

Your attention is drawn to the Notice of Compliance for the Industrial, Scientific and Medical Radio Band issued by the Office on 1 April 2020[3].

In addition to the use of the frequencies listed above, this document also defines the operating parameters and technical requirements relating to the following specific applications:

- Wireless LAN (WiFi)
- Wireless Audio Applications
- FM Modulators
- Radio Frequency Identification (RFID)
- Transport and Traffic Telematics (T&TT)
- Model Remote Control
- Medical Applications
- Inductive Applications
- Radiodetermination Applications
- Low-power hand-held radios

The tables below contain:

- The lower and upper bounds of the frequency range in which equipment may be operated
- The maximum power level which may be used on those frequencies
- Technical specifications and standards for the associated service
- Any specific notes on the usage of the frequencies

[3] https://www.ofreg.ky/viewPDF/documents/news/2022-04-07-07-39-34-NOTICE-OF-COMPLIANCE-for-the-Industrial-Scientific-and-Medical-Radio-Band-IBM.pdf

Where both FCC and European standards are given, the FCC standard should be adhered to for equipment carrying the FCC type approval mark, and the European standard should be adhered to for equipment carrying the CE type approval mark.

Wireless LAN

Wireless LAN (WiFi) may be used on a license exempt basis subject to the additional criteria and compliance with the frequency range, power levels and technical standards detailed below.

Frequency Range	FCC Standard	European Standard
902 – 928 MHz	Part 15.247	Not applicable
2400 – 2483.5 MHz	Part 15.247	EN 300 328
5150 – 5250 MHz	Part 15.407	EN 301 893
5250 – 5350 MHz	Part 15.407	EN 301 893
5470 – 5725 MHz	Part 15.407	EN 301 893
5725 – 5850 MHz	Part 15.407	EN 300 440 ERC Report 70-03, Annex 1, Band j (25 mW eirp)
5850 – 5875 MHz	Part 15.407	EN 300 440 ERC Report 70-03, Annex 1, Band j (25 mW eirp)
5925 – 6425 MHz * see note	Part 15.407	EN 303 687
57 – 71 GHz	Part 15.255	EN 302 567 40 dBm e.i.r.p.

* In the frequency band 5925 – 6425 MHz, the maximum e.i.r.p. is 250 mW for indoor use (Low Power Indoor, LPI) and 25 mW for outdoor use (Very Low Power, VLP).

Wireless Audio Applications

Wireless audio applications (radio microphones and in-ear monitors) may be used on a license exempt basis subject to the additional criteria and compliance with the frequency range, power levels and technical standards detailed below.

Frequency Range	Maximum Power	FCC Standard	European Standard
174 – 216 MHz	50 mW e.r.p.	Part 15.236	EN 300 422
470 – 608 MHz	50 mW e.r.p.	Part 15.236	EN 300 422

Radio Frequency Identification (RFID)

Radio Frequency Identification (RFID) equipment may be used on a license exempt basis subject to the additional criteria and compliance with the frequency range, power levels and technical standards detailed below.

Frequency Range	Maximum Power	FCC Standard	European Standard
119 – 135 kHz	66 dBµA/m at 10 m	Part 15.209	EN 300 330
13553 – 13567 kHz	500 mW e.r.p.	Part 15.225	EN 300 330
865.5 – 867.6 MHz *see note	2 Watts e.i.r.p.	Not applicable	EN 302 208
902 – 928 MHz	4 Watts e.i.r.p.	Part 15.247	EN 302 208
2400 – 2483.5 MHz	4 Watts e.i.r.p.	Part 15.247	EN 300 440

* Interrogator transmissions are only permitted within the four channels centred at 865.7 MHz, 866.3 MHz, 866.9 MHz and 867.5 MHz with a maximum bandwidth of 200 kHz. RFID tags shall respond at a very low power level (-20 dBm e.r.p.) in a frequency range around the RFID interrogator channels.

Transport and Traffic Telematics

Transport and Traffic Telematics (T&TT) equipment may be used on a license exempt basis subject to the additional criteria and compliance with the frequency range, power levels and technical standards detailed below.

Frequency Range	Maximum Power	FCC Standard	European Standard	Notes
24.05 – 24.25 GHz	100 mW e.i.r.p.	Part 15.245	EN 302 858	Vehicular radar use only
76 – 81 GHz	55 dBm e.i.r.p.	Part 95, Subpart M	EN 301 091 (76 – 77 GHz) EN 302 264 (77 – 81 GHz)	Vehicular radar use only

Model Remote Control

Model remote control equipment may be used on a license exempt basis subject to the additional criteria and compliance with the frequency range, power levels and technical standards detailed below.

Frequency Range	Power Limit	Maximum channel bandwidth	FCC Standard	European Standard	Notes
26.995, 27.045, 27.095, 27.145, 27.195, 27.255 MHz	4 Watts e.r.p.	10 kHz	Part 95, Subpart C	EN 300 220	
34.995 – 35.225 MHz	100 mW e.r.p.	10 kHz	N/A	EN 300 220	Aircraft Only
40.665, 40.675, 40.685, 40.695 MHz	100 mW e.r.p.	10 kHz	N/A	EN 300 220	
72 – 73 MHz	750 mW e.r.p.	20 kHz	Part 95, Subpart C	EN 300 220	Aircraft Only
75.4 - 76 MHz	750 mW e.r.p.	20 kHz	Part 95, Subpart C	EN 300 220	Surface Models Only
2400 – 2483.5 MHz	100 mW e.r.p.	Not applicable	N/A	EN 300 440	If WiFi technology is used, the WiFi rules apply.

The use of these frequencies for the control of airborne models (including drones) does not exempt the user from the need to follow the rules for flying Small Unmanned Aircraft as published by the Civil Aviation Authority of the Cayman Islands[4].

[4] https://www.caacayman.com/air-safety-regulation/flight-operations/small-unmanned-aircraft/

Medical Applications

Medical applications may be used on a license exempt basis subject to the additional criteria and compliance with the frequency range, power levels and technical standards detailed below.

Frequency Range	Maximum Power	FCC Standard	European Standard	Notes
9 – 315 kHz	30 dBµA/m at 10m	Part 15.209	EN 302 195	
30 – 37.5 MHz	1 mW e.r.p.	Part 15.209	EN 302 510	
401 – 406 MHz	25 µW e.r.p.	Part 95, Subpart I	EN 301 839 EN 302 537	
413 – 419 MHz	1 mW e.i.r.p.	Part 95, Subpart I	N/A	
426 – 432 MHz	1 mW e.i.r.p.	Part 95, Subpart I	EN 303 520	
432 – 438 MHz	< -40 dBm e.i.r.p.	N/A	EN 303 520	Measured outside the patient's body.
438 – 444 MHz	1 mW e.i.r.p.	Part 95, Subpart I	EN 303 520	
451 – 457 MHz	1 mW e.i.r.p.	Part 95, Subpart I	N/A	
2483.5 – 2500 MHz	10 mW e.i.r.p.	N/A	EN 301 559 EN 303 203	

Inductive Applications

Inductive applications may be used on a license exempt basis subject to the additional criteria and compliance with the frequency range, power levels and technical standards detailed below.

Frequency Range	Maximum Power	FCC Standard	European Standard	Notes
100 Hz – 9 kHz	82 dBµA/m at 10m	N/A	EN 303 447 EN 303 454	
9 kHz – 90 kHz	72 dBµA/m at 10m	Part 15.209	EN 303 447 EN 303 454 EN 300 330	
90 – 119 kHz	42 dBµA/m at 10m	Part 15.205 Part 15.213	EN 303 447 EN 303 454 EN 300 330	

Frequency Range	Maximum Power	FCC Standard	European Standard	Notes
119 – 135 kHz	66 dBµA/m at 10m	Part 15.205 Part 15.213	EN 303 447 EN 303 454 EN 300 330	See also RFID
135 – 140 kHz	42 dBµA/m at 10m	Part 15.205 Part 15.213	EN 303 447 EN 303 454 EN 300 330	
140 – 148.5 kHz	37.7 dBµA/m at 10m	Part 15.205 Part 15.213	EN 303 447 EN 303 454 EN 300 330	
3155 – 3400 kHz	30 dBµA/m at 10m	Part 15.209 Part 15.223	EN 300 330	Primarily intended for Wireless Hearing Aids.
7400 – 8800 kHz	9 dBµA/m at 10m	Part 15.209 Part 15.223	EN 300 330	
10200 – 11000 kHz	9 dBµA/m at 10m	Part 15.209	EN 300 330	

Radiodetermination Applications

Radiodetermination applications may be used on a license exempt basis subject to the additional criteria and compliance with the frequency range, power levels and technical standards detailed below.

Frequency Range	Maximum Average Power	FCC Standard	European Standard	Notes
4500 – 5925 MHz	-41.3 dBm/MHz e.i.r.p. measured outside the test tank	N/A	EN 302 372	Tank Level Probing Radar only
5925 – 8500 MHz	-33 dBm/MHz	Part 15.250	EN 302 372	

Frequency Range	Maximum Average Power	FCC Standard	European Standard	Notes
8500 – 10600 MHz	-41.3 dBm/MHz e.i.r.p. measured outside the test tank	N/A	EN 302 372	Tank Level Probing Radar only
17.1 – 17.3 GHz	26 dBm e.i.r.p.	N/A	EN 300 440	Ground Based Synthetic Aperture Radar only
24.05 – 29 GHz	-14 dBm/MHz e.i.r.p.	Part 15.252	EN 302 372	
57 – 64 GHz	-2 dBm/MHz	Part 15.255	EN 302 372	
75 – 85 GHz	-3 dBm/MHz	Part 95, Subpart M	EN 302 372	
76 – 77 GHz	55 dBm e.i.r.p.	Part 95, Subpart M	EN 303 661	High Definition Ground Based Synthetic Aperture Radar only

Low Power Hand-Held Radios

Low Power Hand-Held (‘walkie talkie’) radios may be used on a license exempt basis subject to the additional criteria and compliance with the frequency range and technical standards detailed below.

Service	Standard	Channel	Frequency (MHz)	Maximum Transmitter Power
Family Radio Service (FRS)	FCC Part 95 Subpart B	1	462.5625	2 Watts
		2	462.5875	2 Watts
		3	462.6125	2 Watts
		4	462.6375	2 Watts
		5	462.6625	2 Watts
		6	462.6875	2 Watts
		7	462.7125	2 Watts
		8	467.5625	0.5 Watts
		9	467.5875	0.5 Watts

Service	Standard	Channel	Frequency (MHz)	Maximum Transmitter Power
		10	467.6125	0.5 Watts
		11	467.6375	0.5 Watts
		12	467.6625	0.5 Watts
		13	467.6875	0.5 Watts
		14	467.7125	0.5 Watts
		15	462.5500	2 Watts
		16	462.5750	2 Watts
		17	462.6000	2 Watts
		18	462.6250	2 Watts
		19	462.6500	2 Watts
		20	462.6750	2 Watts
		21	462.7000	2 Watts
		22	462.7250	2 Watts

Service	Standard	Channel	Frequency (MHz)	Maximum Transmitter Power
PMR446	ETSI EN 303 405	1	446.00625	0.5 Watts
		2	446.01875	0.5 Watts
		3	446.03125	0.5 Watts
		4	446.04375	0.5 Watts
		5	446.05625	0.5 Watts
		6	446.06875	0.5 Watts
		7	446.08125	0.5 Watts
		8	446.09375	0.5 Watts
		9	446.10625	0.5 Watts
		10	446.11875	0.5 Watts
		11	446.13125	0.5 Watts
		12	446.14375	0.5 Watts
		13	446.15625	0.5 Watts
		14	446.16875	0.5 Watts
		15	446.18125	0.5 Watts
		16	446.19375	0.5 Watts

For clarity, any hand-held radio which has an antenna that can be removed requires a licence. This does not mean that every radio which has an integrated antenna is licence-exempt, however it does provide a means of distinguishing those which unquestionably do require licensing.

Cordless Phones

Only cordless phones which operate in the frequency bands and technical parameters defined for Non-Specific Short Range Devices are permitted to be used in the Cayman Islands. For clarity, DECT cordless phones are not permitted.

D. Rationale

14. From the perspective of everyday citizens, besides cellular and broadcasting, Short-Range Devices (SRD) represent some of the most commonly used applications of the radio spectrum: Remote control toys, radio microphones, wireless car keyfobs and of course WiFi represent some typical SRD applications. Usually SRD are permitted to use the radio spectrum on a licence-exempt basis (i.e. without the need for the user to obtain an individual spectrum licence from a regulator).

15. Currently, the only equipment which can be operated without a licence in the Cayman Islands is that which uses the frequencies set out in Annex 2 of the section 23(2) notice, or WiFi in certain bands subject to footnotes in the Table of Frequency Allocations and Assignments (TFAA).

16. The frequencies listed in the section 23(2) notice are those designated by the International Telecommunications Union (ITU), the body responsible for setting global rules on the use of radio spectrum, for Industrial, Scientific and Medical (ISM) purposes meaning that they are the home of things such as microwave ovens and various industrial machines. ISM frequencies are often subject to high levels of interference which is the reason why they have been globally accepted as somewhere in which licence-exempt SRD can operate relatively freely. However, not all SRD applications are suited to operating in noisy spectrum, some (such as the remote control of model aircraft) may require certainty when it comes to levels of interference.

17. SRD are typically very low power in comparison to other radio services, and in addition to the ISM bands, most jurisdictions also permit the use of other frequencies where SRD can operate. These are usually carefully chosen so as not to cause interference to the services which are shared with the SRD, and in many cases operating parameters and techniques are imposed on SRD to try and minimize their impact and to allow multiple applications to share the limited available spectrum. Techniques such as listen-before-transmit, dynamic frequency selection and transmitter power control aim to ensure that SRD use frequencies, or power levels, low enough to avoid causing interference to other users and to each other.

18. There is no present framework for SRD in the Cayman Islands (other than the aforementioned ISM bands and WiFi) and the Office intends to rectify this by modifying Annex 2 of the Section 23(2) notice. Specifying licence-exempt SRD parameters brings a number of benefits, including:

- providing clarity to those wishing to import devices as to which are allowed, and on what basis;
- enabling users to purchase and use a range of wireless devices safely and legally;
- ensuring that equipment which could cause interference to licensed users is not imported, sold and used;
- helping users recognize that not all equipment is 'licence-exempt' which in some circumstances may have led them to not applying for licences when it is necessary to do so.

19. It is therefore important to set out the frequencies and operational parameters which are permitted to be used for SRD. This brings much needed clarity for users, for those wishing to import and sell equipment, and to regulatory and type approval staff.

20. Any equipment which is used which does not meet the requirements in the proposed SRD regulation will require a licence from the Office.

21. Below we consider the most common SRD applications. We set out the frequencies and operating parameters applied in the USA (under the FCC rules) and in Europe (under CEPT rules) and discuss which or whether these are suitable for adoption by the Cayman Islands.

D.1 Non-Specific Short-Range Devices

22. Non-specific SRD are devices which use the radio spectrum, based on a set of pre-defined technical criteria, but for which any application is permitted as long as it meets those technical criteria. Such devices are usually only permitted within the ISM bands.

23. The table below identifies the ISM bands applicable in ITU Region 2 (the Caribbean and the Americas) as well as those used in Europe, together with the permitted operating parameters for each region.

Frequency	FCC limits	EU limits	Notes
6765 – 6795 kHz	Not allocated	42 dBuA/m at 10m	Inductive only
13553 – 13567 kHz	5 mW erp	10 mW erp	
26957 – 27283 kHz	0.02 mW erp	10 mW erp	
40.66 – 40.70 MHz	0.03 mW erp	10 mW erp	

Frequency	FCC limits	EU limits	Notes
433.05 – 434.79 MHz	0.1 mW erp (433.5 – 434.5 MHz only)	10 mW erp	The full band is only available in Europe.
902 – 928 MHz	0.9 mW erp	Not allocated	Allocated in the Americas only
2400 – 2483.5 MHz	0.9 mW eirp	10 mW eirp	
5725 – 5875 MHz	0.9 mW eirp	25 mW eirp	
24 – 24.25 GHz	20 mW eirp	100 mW eirp	
61 – 61.5 GHz	20 mW eirp	100 mW eirp	
122 – 123 GHz	10 Watts eirp	100 mW eirp	
244 – 246 GHz	10 Watts eirp	100 mW eirp	

24. Note that the frequency ranges 6765 – 6795 kHz and 433.05 – 434.79 MHz, whilst listed in the section 23(2) notice, are not ISM bands in ITU Region 2 (the Americas) in which the Cayman Islands is situated. According to the ITU Radio Regulations (Footnote 5.138) they are only ISM bands in ITU Region 1 (Europe, the Middle East and Africa). Notwithstanding this, the Office may permit use nationally, as long as such use does not cause undue interference to licensed users and it is on this basis that these frequencies have already been included in the section 23(2) notice.

25. It is proposed that the least restrictive of either the FCC or European power limits for each frequency band are adopted for use in the Cayman Islands. This would then permit devices from either region to operate here.

D.2 Wireless Audio

26. Wireless audio applications include radio microphones, in-ear monitors, and cordless loudspeakers.

27. Radio microphones are an essential part of many aspects of life and in addition to use in broadcast situations are also commonly used in churches, hotels, schools and entertainment venues. Internationally, the use of radio microphones is usually permitted on a license-exempt basis, subject to frequency and power level restrictions. In addition to radio microphones, in-ear monitors (which allow a performer to hear themselves over the noise of any crowd) are also licensed on the same basis.

28. Some countries (including the UK and USA) also offer dedicated frequencies for radio microphones (and in-ear monitors) on a licensed basis to organizations or at events requiring a higher level of protection from interference, especially in areas where there is likely to be a high density of licence-exempt use. Given the low level of use in the Cayman Islands, we do not believe it is necessary to licence these devices, as there is unlikely to be excess demand at any given time or location.

29. The table below sets out the frequencies and power levels which are applied for radio microphones and in-ear monitors in the USA and Europe.

Frequency	FCC limits	EU limits	Notes
29.7 – 47 MHz	Not available	10 mW erp	Specific sub-bands within this range only
174 – 216 MHz	50 mW erp	50 mW erp	VHF television band
470 – 608 MHz	50 mW erp	50 mW erp	UHF television band
614 – 698 MHz	Limited availability	50 mW erp	Unavailable (licensed to Logic)
863 – 865 MHz	Not available	10 mW erp	Unavailable (licensed to various users)

30. The bands which are common to both the USA and Europe are the VHF and UHF television broadcasting bands. These are the most regular ranges for radio microphones and comprise the frequencies where the majority of both professional and semi-professional equipment is available.

31. It is therefore proposed that radio microphones (and in-ear monitors) which operate in the following frequency ranges, based on a maximum transmitter power of 50 mW erp, are made licence-exempt:

- 174 – 216 MHz
- 470 – 608 MHz

32. Historically cordless loudspeakers included analogue devices, however these have limited quality and have been superseded by devices using either Bluetooth or WiFi technology. As such they do not need a separate SRD category.

D.3 WiFi

33. The recent Wireless LAN (WiFi) document published by the Office outlines those frequencies available for WiFi which have already been identified for use either through the section 23(2) notice, or in the footnotes to the Table of Frequency Allocations and Assignments (TFAA) as set out below.

Frequency Range	FCC Reference	EU Reference
902 – 928 MHz	Part 15.247	-
2400 – 2483.5 MHz	Part 15.247	EN 300 328
5150 – 5250 MHz	Part 15.407	EN 301 893
5250 – 5350 MHz	Part 15.407	EN 301 893
5470 – 5725 MHz	Part 15.407	EN 301 893
5725 – 5850 MHz	Part 15.407	EN 300 440 ERC Report 70-03, Annex 1, Band j (25 mW eirp)
5850 – 5875 MHz	Part 15.407	EN 300 440 ERC Report 70-03, Annex 1, Band j (25 mW eirp)

34. In addition to these bands, some countries also make additional spectrum available for WiFi, as indicated below.

Frequency	FCC	EU	Notes
5945 – 6425 MHz	LPI[5]/VLP[6]/Standard	LPI/VLP Only	Used for fixed point-to-point links in the Sister Islands.
6425 – 7125 MHz	LPI/Standard	Not permitted	Used for fixed point-to-point links in Grand Cayman
57 – 71 GHz	40 dBm e.i.r.p.	40 dBm e.i.r.p.	

35. The frequency ranges 5945 – 6425 MHz (the lower 6 GHz band) and 6425 – 7125 MHz (the upper 6 GHz band) are used for fixed point-to-point links in the Cayman Islands. This is also true in the USA, where the FCC has implemented a complex database system to allow access to the band. Known as Automated Frequency Control (AFC) the database assesses applications and only permits licensing in areas sufficiently removed from fixed links (and other users of the band) that no interference would be caused. Such a system would be overkill where only a few fixed links are licensed.

36. The lower 6 GHz band is only used for fixed links in the Sister Islands. Studies have indicated that sharing between fixed links and LPI/VLP is possible and therefore this band could therefore be made available for WiFi.

[5] Low Power Indoor
[6] Very Low Power

37. The 2023 ITU World Radiocommunications Conference (WRC) identified the frequency range 6425 – 7125 MHz for IMT (e.g. 5G or 6G) services in Europe, Africa, the Middle East, Brazil and Mexico. It is feasible that as the ecosystem of mobile technologies develops in this band, more countries adopt it for IMT use including those in the Caribbean. It is therefore prudent that for the time being OfReg reserves the band for possible future mobile use and keeps a watching brief on developments rather than assigning it for WiFi at the current time.

38. The 57 – 71 GHz band is used for, amongst other things, a technology called 'WiGig' (Wireless Gigabit). It is a very short range, very high bandwidth version of WiFi. Other technologies can also use this band as long as they follow the same technical parameters including devices aiming, for example, at replacing wired connections between computers and monitors (wireless HDMI) and similar applications. The technical sharing studies undertaken internationally suggest that licence-exempt use at the power levels suggested will not cause harmful interference to any licensed use of the band.

39. The 57 – 71 GHz band is also identified for 5G services (3GPP Band n263). At present, it is anticipated that use of the band for 5G will be based on licence-exempt use on similar terms to other licence-exempt usage. Thus using the band for WiFi/WiGig services does not preclude its future use for 5G (or 6G) rather it enables it.

40. There are no impediments to the introduction of the 57 – 71 GHz band for licence-exempt use, and as such it is proposed that it should be made available.

D.4 Radio Frequency Identification (RFID)

41. Radio Frequency Identification (RFID) uses radio frequencies to emit signals which are used to interrogate tags which are attached to various objects. Common uses include tagging clothes and goods (to prevent theft), cars (for road tolling), cargo and luggage (to retrieve stored information), passports (to store biometric data) and key fobs (for tag-based door entry).

42. RFID interrogators use relatively high powers compared to many short-range devices, but are limited to low duty cycles (i.e. they only transmit for a few % of time). The table below sets out the frequency and power values for RFID devices in the USA and Europe.

Frequency	FCC	EU
119 – 135 kHz (centre frequencies of 125 and 134.2 kHz)	2400/f (kHz) uV/m at 300 m	66 dBuA/m at 10 m Reduces by 3dB per octave above 119 kHz
400 – 600 kHz		-8 dBuA/m at 10 m
13553 – 13567 kHz	5 mW e.r.p.	60 dBuA/m at 10 m
865 – 865.5 MHz	Not available	100 mW e.r.p.
865.5 – 867.6 MHz	Not available	2W e.r.p.
867.6 – 868 MHz	Not available	500 mW e.r.p.
902 – 915 MHz	4W e.i.r.p.	Not available
915 – 921 MHz	4W e.i.r.p.	4 W e.r.p.
921 – 928 MHz	4W e.i.r.p.	Not available
2400 – 2483.5 MHz	4W e.i.r.p.	500 mW outdoors 4W indoors 2446 – 2454 MHz

43. Within the frequency range 865.5 – 867.6 MHz, the frequencies between 865.5 and 866.2 MHz are assigned to various users in the Cayman Islands however the specific channels on which RFID is permitted to operate are not assigned and could therefore be used for RFID purposes. The frequency ranges 865 – 865.5 and 867.6 – 868 MHz are not available. The other frequency ranges are available and thus can be used for RFID purposes.

D.5 Transport and Traffic Telematics (T&TT)

44. This category of SRD covers the use of the radio spectrum for traffic management and mobility management on land, covering road, rail and river vehicles, though practically speaking only use on road is commonplace (and the Cayman Islands currently has no rail or inland waterways). Typical uses include vehicle radars (for anti-collision control) and vehicle-to-vehicle (V2V), and vehicle-to-infrastructure (V2I) communication (e.g. for road tolling and the provision of traffic and weather information) though RFID is also used for some road tolling applications.

45. The table below sets out the frequency ranges and technologies (Intelligent Transport Systems, ITS, or Discrete Short Range Communication, DSRC) which are employed for T&TT devices. Frequencies in use in Japan are included as many of the vehicles in the country are imported directly from there and may have equipment fitted which corresponds to those standards.

Frequency	FCC	EU	Japan
755 – 765 MHz	Not available	Not available	ITS
5770 – 5850 MHz	Not available	Not available	DSRC
5875 – 5895 MHz	Not available	ITS	Not available
5895 – 5925 MHz	ITS	ITS	Not available
24.05 – 24.25 GHz	Radar	Radar	Radar
76 – 81 GHz	Radar 55 dBm peak e.i.r.p.	Radar 55 dBm peak e.i.r.p.	Radar 55 dBm peak e.i.r.p.

46. The 700 MHz frequency range used in Japan is partially used by Digicel and thus its use for T&TT services can not be authorised in the Cayman Islands. However, the nature of the technology employed in Japan is such that it will not transmit unless it comes into contact with an ITS base-station (in the same way that mobile phones will not transmit unless they sense a mobile base-station). As no such ITS base stations exist in the country, there is no likelihood that these devices will cause interference, even if installed and active in cars which are imported. As they are already integrated into some vehicles, their import will therefore be permitted, but their use will not.

47. Frequencies in the 5.8 GHz range have been set-aside for various ITS related technologies for almost 20 years in some cases. The USA originally made a range of frequencies available but in 2022 reduced the amount of spectrum due to lack of uptake. There is now competition for ITS/DSRC technologies from 5G which now includes vehicle-to-everything (V2X) connectivity, sometimes also called cellular V2X (C-V2X). Given the lack of take-up of ITS technologies, it seems increasingly likely that it will be 5G (which many car manufacturers are already building into new cars) that will become the *de facto* standard for transport-related wireless telecommunications. These 5G services will not require the spectrum that has been dedicated to ITS as they will employ standard mobile frequency bands. There is thus much international stiction with respect to the roll-out of ITS/DSRC technologies (despite a number of trials having taken place) or to include the technology in new vehicles. The most likely outcome is that the technology does not take off, and that the spectrum will be reassigned to other uses at some, as yet undefined, future date.

48. Until the ITS vs 5G C-V2X debate is resolved, the only frequency ranges which would therefore be logical to make licence-exempt are 24 – 24.25 GHz and 76 – 81 GHz which are commonly used for front-facing radars to provide anti-collision control on some vehicles.

D.6 Model Remote Control

49. Remote control models typically include boats, cars and aircraft (including drones). Other devices, such as robots, may also have their movement remotely controlled. Devices range from inexpensive toys, to larger, commercial drones and sizeable model aircraft.

50. Some of the frequencies already available for remote control are the ISM bands. As these bands are subject to high levels of interference, for some applications (most notably anything airborne where loss of control could lead to injury to persons or damage to property) regulators usually identify dedicated spectrum. Further, channels are usually made available for land-based models which are operated by hobbyists which are separate from those which are used by everyday toys and by airborne models. This ensures that where airborne and land-based models are used in close proximity (such as at an enthusiasts' get-together), any potential for interference between them is minimized which helps prevent loss of control of devices.

51. The table below sets out the power limits and frequencies which are made available on a licence-exempt basis for model control in the USA and Europe.

Frequencies	FCC limits	EU limits	Notes
26.995, 27.045, 27.095, 27.145, 27.195, 27.255 MHz	4 Watts	100 mW	10 kHz channel bandwidth.
34.995 – 35.225 MHz	Not allocated.	100 mW	Aircraft only. Some EU countries permit 1 Watt. 10 kHz channel bandwidth.
40.665, 40.675, 40.685, 40.695 MHz	Not allocated	100 mW	10 kHz channel bandwidth.
72 – 73 MHz	750 mW	Not allocated	Aircraft Only Also partially licensed in France, Italy, Japan, New Zealand, Guatemala, Argentina. 20 kHz channel bandwidth.

Frequencies	FCC limits	EU limits	Notes
75.4 - 76 MHz	750 mW	Not allocated	Surface Models Only. Also licensed in Canada, Guatemala. 20 kHz channel bandwidth.
2.4 GHz	100 mW	10 mW	These limits apply to proprietary technology. If WiFi is used to communicate with a remote control model, the WiFi limits apply.

52. Given the benefits of having dedicated spectrum for the control of airborne models in particular, it would be sensible to provide suitable frequencies for them. In addition, providing dedicated channels for land-based models will provide an additional level of safety for their use.

53. The following table therefore sets out the frequencies which it is proposed will be made available for model remote control and the associated technical parameters.

Frequencies	Power Limit	Maximum channel bandwidth	Notes
26.995, 27.045, 27.245, 27.195, 27.255 MHz	4 Watts	10 kHz	
34.995 – 35.225 MHz	100 mW	10 kHz	Aircraft Only
40.66 – 40.70 MHz	100 mW	10 kHz	
72 – 73 MHz	750 mW	20 kHz	Aircraft Only
75.4 – 76 MHz	750 mW	20 kHz	Surface Models Only
2400 – 2483.5 MHz	100 mW	Not Applicable	If WiFi technology is used, the WiFi power limits apply.

D.7 Medical Applications

54. There are two types of medical application which are commonly permitted to operate on a licence-exempt basis:

- Active Medical Implants, and
- Medical Data Acquisition.

55. The frequencies and power levels which are used in the USA and Europe for these devices are listed in the table below.

Frequency	FCC	EU	Notes
9 – 315 kHz	2400/f (kHz) uV/m at 300 m	30 dBµA/m at 10 m < 10% duty cycle	
30 – 37.5 MHz	0.02 mW erp	1 mW e.r.p. < 10% duty cycle	
401 – 406 MHz	25 µW e.i.r.p.	25 µW e.i.r.p.	
413 – 419 MHz	1 mW e.i.r.p.	Not available	
426 – 430 MHz	1 mW e.i.r.p.	Not available	
430 – 432 MHz	1 mW e.i.r.p.	-50 dBm/100 kHz, not to exceed -40dBm	EU value measured outside patient's body
432 – 438 MHz	Not available	-50 dBm/100 kHz, not to exceed -40dBm	EU value measured outside patient's body
438 – 440 MHz	1 mW e.i.r.p.	-50 dBm/100 kHz, not to exceed -40dBm	EU value measured outside patient's body
440 – 444 MHz	1 mW e.i.r.p.	Not available	
451 – 457 MHz	1 mW e.i.r.p.	Not available	
2360 – 2390 MHz	1 mW e.i.r.p.	Not available	
2390 – 2400 MHz	20 dBm e.i.r.p.	Not available	
2483.5 – 2500 MHz	Not available	10 mW e.i.r.p.	

56. The 2360 – 2390 MHz frequency range is licensed to, and used by, Digicel and would not be suitable for medical use. In addition, the use of the frequency range 2360 – 2400 MHz in the USA is required to follow a registration process, which currently does not exist in the Cayman Islands. As such, it is not recommended that this frequency range be used for medical services in the country.

57. Some of the other frequency ranges are already in use in the country and thus may not be suitable assignments for this service. Specifically:

- The band 426 – 430 MHz is licensed to Amateur radio services
- Frequencies in the range 451 – 457 MHz are heavily used by a variety of LMR licensees

58. These frequencies are also in use in the USA where they are also available for medical use, and the equipment specification requires that it has inbuilt mechanisms which check that a frequency is clear of any transmissions before using any particular channel. That, in addition to the very low powers involved is intended to ensure that medical equipment does not cause interference to licensed users. As such, they could still be licensed in the Cayman Islands without causing any difficulties to existing users.

D.8 Inductive Applications

59. Inductive applications cover the use of the radio spectrum by magnetic instead of electric fields, and are only suited for near field communication (NFC) type applications (which includes metal detectors which operate on the same principle).

60. The following table sets out the frequency and power limits applied to these uses in the USA and Europe.

Frequency	FCC	EU	Notes
100 Hz – 9 kHz	2400/f (kHz) uV/m at 300 m	82 dBµA/m at 10 m	
9 – 90 kHz	2400/f (kHz) uV/m at 300 m	72 dBµA/m at 10 m	
90 – 119 kHz	Forbidden	42 dBµA/m at 10 m	
119 – 135 kHz	2400/f (kHz) uV/m at 300 m	66 dBµA/m at 10 m	Also used for RFID
135 – 140 kHz	2400/f (kHz) uV/m at 300 m	42 dBµA/m at 10 m	Secondary Amateur Radio use
140 – 148.5 kHz	2400/f (kHz) uV/m at 300 m	37.7 dBµA/m at 10 m	
3155 – 3400 kHz	30 uV/m at 30m	13.5 dBµA/m at 10 m	Primarily intended for Hearing Aids
7400 – 8800 kHz	Forbidden above 8290 kHz	9 dBµA/m at 10 m	
10200 – 11000 kHz	30 uV/m at 30m	9 dBµA/m at 10 m	

61. The limits in the USA are more restrictive than the European limits. To provide maximum flexibility, it is therefore proposed that the European limits should be adopted.

62. Other than secondary Amateur Radio use from 135.7 to 137.8 kHz, there are no frequency assignments on any of these frequencies in the country, and as such, there is no necessity to restrict their use and all can be made available for inductive applications.

D.9 Radiodetermination Applications

63. The primary use for licence exempt radiodetermination (radar) applications is for tank level probing. Some use of synthetic aperture radar (SAR) is also

found internationally. Note that this category excludes automotive radar which are categorized under transport telematics.

Frequency	FCC	EU	Notes
4500 – 5925 MHz	Not available	-41.3 dBm/MHz e.i.r.p. measured outside the test tank	Tank Level Probing Radar
5925 – 6000 MHz	-33 dBm/MHz	-41.3 dBm/MHz e.i.r.p. measured outside the test tank	Tank Level Probing Radar
6000 – 7250 MHz	-33 dBm/MHz	Maximum mean e.i.r.p of -33 dBm/MHz. Maximum peak e.i.r.p. of 7 dBm/50 MHz.	ECC Decision (11)02
7250 – 8500 MHz	Not available	Maximum mean e.i.r.p of -33 dBm/MHz. Maximum peak e.i.r.p. of 7 dBm/50 MHz.	ECC Decision (11)02
8500 – 10600 MHz	Not available	-41.3 dBm/MHz e.i.r.p. measured outside the test tank	Tank Level Probing Radar
17.1 – 17.3 GHz	Not available	26 dBm e.i.r.p.	GBSAR only
24.05 – 26.5 GHz	-14 dBm/MHz	Maximum mean e.i.r.p of -14 dBm/MHz. Maximum peak e.i.r.p. of 26 dBm/50 MHz.	ECC Decision (11)02
26.5 GHz – 27 GHz	-14 dBm/MHz	-41.3 dBm/MHz e.i.r.p. measured outside the test tank	
27 – 29 GHz	-14 dBm/MHz	Not available	Tank Level Probing Radar
57 – 64 GHz	Maximum mean e.i.r.p. of 10 dBm . Maximum peak e.i.r.p. of 13 dBm.	Maximum mean e.i.r.p of -2 dBm/MHz. Maximum peak	ECC Decision (11)02

Frequency	FCC	EU	Notes
		e.i.r.p. of 35 dBm/50 MHz.	
64 – 71 GHz	Maximum mean e.i.r.p. of 10 dBm . Maximum peak e.i.r.p. of 13 dBm.	Not available.	
75 – 85 GHz	-3 dBm/MHz	Maximum mean e.i.r.p of -3 dBm/MHz. Maximum peak e.i.r.p. of 34 dBm/50 MHz.	ECC Decision (11)02
76 – 77 GHz	55 dBm e.i.r.p. Limited to airports	48 dBm e.i.r.p.	HD-GBSAR

64. It is proposed that the least restrictive value is taken from the FCC and EU thresholds to provide the widest possible scope for these devices to be operated.

D.10 Low Power Hand-Held Radio

65. In Europe and the USA various frequency channels are made available on a licence exempt basis for low power Land Mobile Radio services. This includes PMR446 in Europe and Family Radio Service (FRS) in the USA.

66. The Office is aware that FRS and PMR446 radios are used by some local organisations as well as tourists visiting the Islands. Given the utility of these devices for both business and personal purposes, it is proposed to make PMR446 and FRS radios licence exempt. In both cases, the equipment which can be used for these services is restricted to those with antennas which are a non-removable integral part of the transmitter. Any device which has a detachable antenna cannot conform to the FRS or PMR446 specifications and thus requires a licence from OfReg.

Example of a radio with an integrated antenna.

Example of a radio with a removable antenna

67. General Mobile Radio Service (GMRS) radios, whilst sharing some common frequencies with FRS radios require licensing in the USA and the same will be true for the Cayman Islands (where a Type P Land Mobile Radio licence will be required).

68. It is therefore proposed to make the following radio services licence exempt in the Cayman Islands.

Service	Standard	Channel	Frequency (MHz)	Maximum Transmitter Power
PMR446	ETSI EN 303 405	1	446.00625	0.5 Watts
		2	446.01875	0.5 Watts
		3	446.03125	0.5 Watts
		4	446.04375	0.5 Watts
		5	446.05625	0.5 Watts
		6	446.06875	0.5 Watts
		7	446.08125	0.5 Watts
		8	446.09375	0.5 Watts
		9	446.10625	0.5 Watts
		10	446.11875	0.5 Watts
		11	446.13125	0.5 Watts
		12	446.14375	0.5 Watts
		13	446.15625	0.5 Watts
		14	446.16875	0.5 Watts
		15	446.18125	0.5 Watts
		16	446.19375	0.5 Watts

Service	Standard	Channel	Frequency (MHz)	Maximum Transmitter Power
Family Radio Service (FRS)	FCC Part 95 Subpart B	1	462.5625	2 Watts
		2	462.5875	2 Watts
		3	462.6125	2 Watts
		4	462.6375	2 Watts
		5	462.6625	2 Watts
		6	462.6875	2 Watts
		7	462.7125	2 Watts
		8	467.5625	0.5 Watts
		9	467.5875	0.5 Watts
		10	467.6125	0.5 Watts
		11	467.6375	0.5 Watts
		12	467.6625	0.5 Watts
		13	467.6875	0.5 Watts
		14	467.7125	0.5 Watts
		15	462.5500	2 Watts
		16	462.5750	2 Watts
		17	462.6000	2 Watts
		18	462.6250	2 Watts
		19	462.6500	2 Watts
		20	462.6750	2 Watts
		21	462.7000	2 Watts
		22	462.7250	2 Watts

D.10.1 Land-Mobile Radio Amnesty

69. In addition to permitting the use of ‘family radios’ as described above, the Office further intends to ensure that all non-compliant hand-held radios are fully licensed. To this end, it is proposed that the Office will:

- Reach-out to all known former licensees to ensure that their licenses are fully up to date;
- Produce a guidance notes highlighting the requirements for hand-held radios to be licensed;
- Offer an amnesty to those who operate such radios but have not previously applied for a licence. This amnesty will run for 3 months and anyone who has not been previously licensed will be able to apply for a licence which will commence on the date of the application (even if the Office has evidence to suggest that the radios were in use before that date);
- Following the end of the amnesty period, anyone found using hand-held radios which require a licence, but who have not applied for or renewed a licence, will be dealt with using the powers provided for in the ICT and URC Acts.

D.11 Devices which will not be made licence exempt

70. There are a number of technologies which the office has considered making licence exempt but for which there is either no available radio spectrum or no demand or for which other approaches have been deemed necessary. For completeness, these are identified below.

D.11.1 FM Modulators

71. Ultra-low power FM transmitters (also called 'FM Modulators') are typically used in vehicles which do not have Bluetooth built-in as a means of playing sound from a mobile device through a vehicle's loudspeakers. They operate as low power FM radio transmitters and the in-built car radio is tuned to their output frequency. They can be used to play music from a phone, or to use the vehicle's speakers as a hands-free extension.

Example of an FM Modulator

72. These devices are permitted in many countries in the FM band (87.5 – 108.0 MHz) with a power level not exceeding 50 nW (nano Watts) e.i.r.p. which is sufficient to provide a range of up to 8 feet and thus more than enough for use in a vehicle. These devices, however, have the potential to cause significant interference to licensed FM stations and the Office has monitored widespread usage, including on frequencies which are causing direct and harmful interference to licensed broadcasters.

73. The power limit under which the devices are supposed to operate provides some protection against causing interference, however many devices far exceed the permitted regulatory restrictions. Devices set on the same (or adjacent) channels to broadcasters have been shown to cause significant interference to nearby receivers and can also lead to people overhearing others' conversations when they pull-up alongside someone who is using one as a hands-free adapter.

74. Although these devices are permitted to be used in Europe, the USA and more widely and clearly have some utility, the Office is concerned about the levels of interference they cause. As a result OfReg has considered a number approaches to try and overcome the significant interference being caused to licensed broadcasters:

- To make them licence exempt;
- To ban all future sales of these devices;
- To make them licenced radio devices and identify a set of frequencies on which these devices will be permitted to operate.

75. As these devices are primarily used in older cars which do not have Bluetooth (or other wireless adapters) built-in, it is likely that their use will decline over the coming years as such vehicles become less common. It may thus be expected that the levels of interference caused by these devices will reduce over time. A ban on sales may therefore be unnecessary as they will slowly become obsolete with the introduction of newer vehicles. In addition, a ban on sales would be difficult for the Office to enforce, without significant additional resource which may be unjustified in comparison to other monitoring and enforcement activities which have to be conducted.

76. Making these devices licence exempt would normalise their continued operation and the large interference problems they represent. This approach would do nothing to rectify the current difficulties and as such is not one which OfReg deems satisfactory.

77. To try and minimize interference to licensed broadcasters and prevent private conversations from being accidentally overheard, the Office has therefore decided to propose a set of permitted operating frequencies for these devices. These frequencies will be determined following an analysis of the use of the FM band.

78. Historically, OfReg has permitted the use of certain FM frequencies as part of a Low Power Open Radio licence (formerly 88.7 MHz). It is therefore proposed that this Open Licence be updated to include the frequencies that will be identified for FM modulators and that the updated licence makes it

clear that these are also the permitted operating frequencies for these FM modulators. This enables the operation of FM modulators on a limited set of frequencies carefully chosen so as not to cause interference to existing licensees. It also makes them licensed ICT devices. This will provide an added level of regulatory control and scope for enforcement action should it prove necessary.

D.11.2 Tracking, Tracing and Data Acquisition

79. The majority of uses of these applications are for purposes which do not currently apply in the Cayman Islands (for example factory automation or avalanche victim detection). The main application which would be covered under this category of use is remote meter reading, however CUC have a separate network for this purpose which does not rely on licence-exempt spectrum.

80. There is thus, currently, no requirement to identify spectrum for these applications.

D.11.3 Citizens Band Radio

81. Citizens Band (CB) radio was popularised in the 1970s in movies and TV shows. It is a short-range radio service designed to provide communication primarily amongst those on long road journeys, and in some cases is used as an alternative to Land Mobile Radio to support basic business needs. The Office has received no requests for the licensing of Citizens Band radio and therefore has no evidence of demand for it. As such, it is not proposed to make CB radio available on a licence exempt basis. This does not preclude the use of CB radio in the Cayman Islands, as applications can be made as Land Mobile Radio devices.

D.11.4 DECT Cordless Phones

82. Analogue cordless phones are no longer permitted to be sold in the USA and Europe because they had very poor security and commonly suffered from interference and their use is dwindling. Digital cordless phones are now the *de facto* approach.

83. A cordless phone technology which is common is Digital Enhanced Cordless Telecommunications (DECT).

84. DECT was originally a European standard but has been adopted around the world, in slightly different frequency ranges adapted to take account of local variations in spectrum use. In particular the original European DECT frequency range would cause interference to mobile services in the

Americas. As such a different frequency range was defined for the Americas (known as DECT 6.0) and these would cause interference if used in Europe.

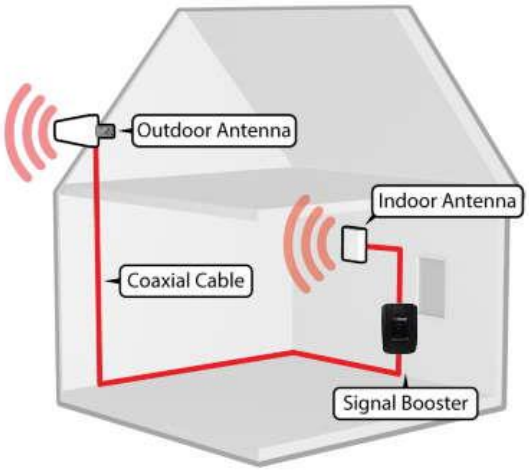
Frequency	FCC	EU	Notes
1880 – 1900 MHz	Not allocated	ERC/DEC/(94)03, ERC/DEC/(98)22	DECT
1920 – 1930 MHz	ETSI TS 102 497	Not allocated	DECT 6.0

85. In the Cayman Islands, a mix of European and US mobile frequency bands are used by the various mobile operators. As such, none of the frequencies used by DECT are suitable for use as they can cause interference to these operators' services. OfReg has already had to deal with a case in which DECT phones were causing interference to a licensed mobile operator and it is thus clear that the use of DECT on any of the frequencies on which it is designed to operate is problematic. As such, the use of DECT phones cannot be authorized in the Cayman Islands.

86. This does not mean that the use of all cordless phones is unauthorized. There are other digital cordless phone technologies, which use the bands specified for Non-Specific Short Range devices and these will continue to be acceptable and permissible.

D.11.5 Cell Phone Signal Booster

87. Cell phone signal boosters typically operate by having an antenna external to a building which receives the signal from a cell tower, a signal booster amplifier and an indoor antenna which transmits the boosted signal inside a property.



88. Signal boosters are used in situations where indoor cell coverage may be poor. Installed correctly they can provide useful improvements in coverage, however if installed incorrectly, or in cases where the installation degrades with time (e.g. due to water ingress or cables fraying) they can malfunction and cause significant interference to mobile operators, and to mobile phones in the immediate neighbourhood. OfReg has already had cause to track down a malfunctioning signal booster which was causing interference to one of the Islands' mobile operators.

89. To correctly install these devices requires a significant amount of skill and knowledge and the only organisations with the necessary skills are the mobile operators themselves. They can also tailor the system to provide the necessary level of boost and ensure that the antennas and any cabling are correctly installed.

90. The Office is therefore proposing that the sale and installation of these devices shall only be handled by licensed mobile operators (ICT service providers) and that other than through the operators their sale, installation or use is prohibited.

E. Consultation Questions

91. Based on the above, the Office invites all interested parties to submit their comments, with supporting evidence, on the following question:

Question 1: Are there any other Short-Range Devices or Applications which should be considered?

Question 2: Are there any other frequency ranges for the identified Applications which should be considered?

Question 3: Do you have any comments on OfReg's proposed approach to combatting interference to FM broadcasters from ultra-low power FM transmitters (FM modulators)?

Question 4: Do you have any other comments on the proposals?

F. How to Respond to This Consultation

92. This consultation is conducted in accordance with the Consultation Procedure Guidelines determined by the Office and found on the Office's website here: http://www.ofreg.ky/upimages/commonfiles/1507893545OF20171DeterminationandConsultationProcedureGuidelines.pdf

93. The Office considers that because the proposed changes are published as part of this consultation, this consultation will be conducted as a single-phase consultation over a period of **thirty (30) days**.

94. All submissions on this consultation should be made in writing, and must be received by the Office by **5 p.m. on 27 June 2024** at the latest.

95. The Office will post any comments received by **5 p.m. on 11 July 2024.**

96. Submissions may be filed as follows:

By e-mail to:
consultations@ofreg.ky

Or by post to:
Utility Regulation and Competition Office
P.O. Box 10189
Grand Cayman KY1- 1002
CAYMAN ISLANDS

Or by courier to:
Utility Regulation and Competition Office
3rd Floor, Monaco Towers II
11 Dr Roy's Drive
George Town
Grand Cayman
CAYMAN ISLANDS