

Frequency sharing arrangements between civil and military services



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Introduction

This document provides information on frequency sharing arrangements between civil and military users of the radio spectrum in the United Kingdom.

Amateur Radio

Amateur radio use of certain frequency bands is possible due to the Ministry of Defence (MoD) sharing frequency allocations that it uses. Where Amateur radio use of a band is made available on this basis it is on the condition that the Amateur use does not interfere with military services and can claim no protection from interference. Amateur radio use of certain frequency bands is also subject to additional restrictions; these are detailed in the table below.

Frequency	Location	Comments
28-29.7 MHz	Within 50 km of SK 985 640.	Use of Unattended Beacons is not permitted.
144-146 MHz	Within 50 km of TA 012869.	Use of Unattended Beacons is not permitted.
431-432 MHz	Not within 100 km of London (Charing Cross).	The following frequencies may not be used 431.85 MHz \pm 6.25 kHz, 431.9 MHz \pm 6.25 kHz, 431.5 MHz \pm 12.5 kHz and 431.65 MHz \pm 12.5 kHz.
1298-1299 MHz	Not in Northern Ireland or within 50 km of SS 206127 and SE 202577.	Use of Unattended Beacons is not permitted.
2310–2350 MHz	Boscome Down, St Kilda and Aberporth	Power restrictions apply at each site during business day daylight hours.
2392-2450 MHz	Within 50 km of SS 206127 and SE 202577.	Use of Unattended Beacons is not permitted.
5670-5680 MHz	Within 50 km of SS 206127 and SE 202577.	Use of Unattended Beacons is not permitted.
10-1.0125 GHz	Within 50 km SO 916223, SS 206127, SK 985640 and SE 202577.	Use of Unattended Beacons is not permitted.
24-24.05 GHz	Within 50 km of SK 985640 and SE 202577.	Use of Unattended Beacons is not permitted.
47-47.2 GHz	Within 50 km of SK 985640 and SE 202577.	Use of Unattended Beacons is not permitted.

Business Radio

The sub-bands in which civil land mobile may share with MoD uses are:

- 425 - 429 MHz;
- 431 - 432 MHz;
- 440.0 - 443.5 MHz; and
- 445.5 - 449.5 MHz.

Sharing between civil and military uses in these bands is limited to certain frequency assignments agreed between Ofcom and the MoD. Civil land mobile use is limited geographically to the areas set out in the table below. Military uses operating outside the areas described in the table will be protected from interference caused by civil land mobile uses. Civil land mobile use can be permitted outside of these areas and on other frequencies in the band 424 - 450 MHz where these are agreed between Ofcom and the MoD.

Frequency	Location	Comments
425 – 450 MHz	UK	<p>All Radio assignments must be co-ordinated with the Ministry of Defence. This co-ordination does not permit an increase in the total received interference power at the radar site at RAF Fylingdales beyond a pre-specified limit and essentially means any new assignment has to be considered against the interference level to ensure it does not cause an increase.</p> <p>Any deployment and/or change to the characteristics of a radio system will need to be undertaken through the UHF1 co-ordination process.</p> <p>All potential technical changes to existing systems must be requested and these will be considered as part of the Ofcom validation process for any amendments within the UHF1 band.</p>
425 – 450 MHz	40 km of RAF Fylingdales	No assignments are permitted.
425 – 429 MHz 431 – 432 MHz 440.0 – 443.5 MHz 445.5 – 449.5 MHz	56 km of London (Charing Cross).	Use of these frequencies is only permitted at these locations with the exception of the following frequencies 431.85 MHz \pm 6.25 kHz, 431.9 MHz \pm 6.25 kHz, 431.5 MHz \pm 12.5 kHz and 431.65 MHz \pm 12.5 kHz.
425 – 429 MHz 440.0 – 443.5 MHz 445.5 – 449.5 MHz	50 km of the centre of Warrington and Cheshire.	Use of these frequencies is only permitted at these locations.

Frequency	Location	Comments
425 – 429 MHz 440.0 – 443.5 MHz 445.5 – 449.5 MHz	40 km of the centre of Birmingham and Glasgow.	Use of these frequencies is only permitted at these locations.
425 – 429 MHz 440.0 – 443.5 MHz 445.5 – 449.5 MHz	32 km of the centres of Aberdeen, Bradford, Derby, Edinburgh, Halifax, Leeds, Leicester, Middlesbrough, Nottingham, Preston, Sheffield and Tyneside.	Use of these frequencies is only permitted at these locations with the exception of the following frequencies 443.5 MHz, 447.7 MHz \pm 6.25 kHz, 447.75 MHz \pm 12.5 kHz, 448.25 MHz \pm 6.25 kHz, 448.75 MHz \pm 6.25 kHz may not be used. 425.025 MHz may not be used in Leicester or Worcester.
425 – 429 MHz 440.0 – 443.5 MHz 445.5 – 449.5 MHz	10 km of Coventry (SP 330 790), Bristol (ST 600 740), Swansea (SS 650 950), Newport (ST 310 880) and Cardiff (ST 190 760).	Use of these frequencies is only permitted at these locations.

The MoD undertakes not to introduce new services which will affect civil land mobile services operating within 410 – 429 MHz or those areas described in the table above and will effect co-ordination of proposals for new military assignments which may affect civil land mobile services operating within 32 km of the centres of Aberdeen, Bradford, Derby, Edinburgh, Halifax, Leeds, Leicester, Middlesbrough, Nottingham, Preston, Sheffield and Tyneside.

Fixed Links

Frequency	Location	Comments
1698 – 1700 MHz	50 km of Lasham	Services are subject to prior co-ordination with the MoD.

Mobile and Spectrum Access

Frequency	Location	Comments
2025 – 2110 MHz	Oakhanger, Colerne and Menwith	Co-ordination of mobile assignments close to MoD earth stations will be required to avoid interference to those stations.
2350 – 2390 MHz	225km from St Kilda four 10km squares around Aberporth 5km of Oakhanger, Colerne and Menwith Hill 10km of Boscombe Down and Warton Coastal areas around Portland (expires 2020) and BUTEC (Applecross) (expires 2023) Throughout Northern Ireland and Hebrides.	Co-ordination of base station deployments close to MoD earth stations will be required to avoid interference to those stations.
3410 – 3600 MHz	25km of Bude 8km from three sites around Portsmouth Coastal areas around Portland (expires 2020) and BUTEC (Applecross) (expires 2023) At 13 airborne radar locations around the UK (expires 2018) At certain military ATC radars and air defence radars sites.	Co-ordination of base station deployments close to MoD earth stations will be required to avoid interference to those stations.
10.0 - 10.5 GHz	South West and North West coasts of the UK	Used by visiting non-UK naval vessels. These vessels use the spectrum for active phased array radar which has an operating bandwidth of approximately 500 MHz. Ofcom expects that this use will have no more than an occasional and localised impact on civil use of spectrum available in the National 10 GHz Band.

Programme Making and Special Events (PMSE)

Frequency	Location	Comment
78.18375 - 78.25875 MHz	West Wales and Outer Hebrides.	No transmissions allowed within the bands 78.18375-78.19625 MHz in West Wales and 78.51875-78.53125 MHz in the Outer Hebrides.
425.3125 - 425.5625 MHz	UK	Geographic restrictions apply.
427.7625- 428.0125 MHz	UK	Geographic restrictions apply.
442.2625- 442.5125 MHz	UK	Geographic restrictions apply.
446.425- 446.5125 MHz	UK	Geographic restrictions apply.
446.5125- 447.5125 MHz	UK	Geographic restrictions apply.
2025-2110 MHz	UK	Geographic restrictions apply and access is granted on the basis of no protection from and no interference to MoD services.
2200-2290 MHz	UK	Geographic restrictions apply.
2390-2410 MHz	UK	Geographic restrictions apply.
10300-10360 MHz	Ascot, Bath, Epsom, Goodwood, Kempton Park, Newbury, Salisbury, Sandown Park, Wincanton and Windsor.	Geographic restrictions apply. Operations must not exceed 3 dBW.

Emergency Services

Frequency	Location	Comment
410 – 412 MHz	Abbeywood Aldermaston Bristol DBA Liverpool Gosport Lakenheath Mildenhall Molesworth Welford	Within certain channels, at the boundary of and within 35 km radius of the locations listed, an eirp of -116dBm is not to be exceeded.
420 – 422 MHz	Ashchurch Ft. Tregentle Hullavington Upavon Wilton	Within certain channels at the boundary of and within 35 km radius of the locations listed an eirp of -116dBm not to be exceeded.
2310 – 2340 MHz	UK	Access subject to MoD agreement for wideband Mobile for emergency services.
8340 – 8360 MHz	Within M25 only	Access subject to MoD agreement for Mobile for emergency services.
10.25 – 10.27 GHz	UK	Access subject to MoD agreement for Mobile for emergency services.
10.36 – 10.4 GHz	UK	Access subject to MoD agreement for Mobile for emergency services.
10.4 – 10.46 GHz	Within M25 only	Access subject to MoD agreement for Mobile for emergency services.

Military

Frequency	Location	Comments
1.5 – 30 MHz	UK	The MoD requires at times to activate stations of the land mobile service, employing low power for voice communications, in the range 1.5 - 30.0 MHz. Temporary assignments will be negotiated directly with Ofcom and the Departments concerned or likely to be affected. In certain bands however this general but qualified agreement to MILITARY out of band usage cannot be permitted. These bands are annotated by the footnote UK9 in the UKFAT.
3100 MHz 7075 – 7110 MHz 12.0 GHz 19.0 GHz 24.27 GHz 27.25 GHz 32.6 GHz	UK	Used for the calibration of EMC equipment by MoD and is permitted non-interference basis to other users.
11 GHz 11.5 GHz	Portland and BUTEC	Electronic warfare calibration facilities operate of 11 and 11.5 GHz.
138 – 141.9 MHz 143 – 144 MHz 146 – 152 MHz 154 – 156.4875 MHz 156.5625 – 156.7625 MHz	Northern Ireland	Residual service use.
606 – 790 MHz	UK	Subject to agreement with Ofcom limited access is permitted to the frequency for testing and development of military equipment for emergency operation. Such access shall not in any way interfere with or restrict the planning or operation of television broadcasting, OB services, or any transmissions for testing and developed associated with television services.
1750 – 1850 MHz	Oakhanger, Colerne, and Menwith Hill	The MoD will ensure that the use of Space Operation will take all practical steps to minimise the impact on other services.
2350 – 2360 MHz	Hebrides Test Range	The MoD is able to use Aeronautical Mobile in this area and has protection from civil use.
2350 – 2390 MHz	Northern Ireland	Residual service use.
2700 – 2900 MHz	UK	Radio Navigation and Radio Location coordinated between MoD, MCA and CAA.
3410 - 3600	Portland and BUTEC (Applecross)	Residual service use.

Frequency	Location	Comments
5850 – 7075 MHz	UK	Existing MoD radiolocation systems may continue to operate on a non-interference basis to essential civil services in accordance with T(F)(N)(80)5.
8400 – 8500 MHz	UK	Residual service use.
10.5 – 10.6 GHz	UK	Military low power devices and MoD Doppler radar permitted subject to prior coordination with Ofcom.
11.7 – 13.25 GHz	UK	Radiolocation may operate in the band subject to prior approval of NFPG.

Frequencies for the operation of Sonobuoys

Sonobuoys may be operated in the band 136-174 MHz, subject to the following conditions:

- a) During normal peacetime exercises, sonobuoys operating below 162 MHz would not be deployed within 50 miles of the United Kingdom coast.
- b) Sonobuoys would not normally be used within a radius of 5 nautical miles of any oil rig or platform.
- c) Should the operation of Sonobuoys cause harmful interference to radio services operating in accordance with the UK Frequency Allocation Table, geographical or frequency assignment restrictions would be imposed on the Sonobuoy operations.

Sonobuoys are covered by Footnotes UK40 (for the band 136.0-162.0 MHz) and UK48 (for the band 162.0-174.0 MHz and permitting use near UK coasts on a non-interference basis). The assignments agreed for Sonobuoys operations in the band 136-174 MHz are listed below.

Channel numbers	Frequency	Channel numbers	Frequency
1	162.25 MHz	47	141.625 MHz
2	163.0 MHz	48	142.0 MHz
3	163.75 MHz	49	142.375 MHz
4	164.5 MHz	50	142.75 MHz
5	165.25 MHz	51	143.125 MHz
6	166.0 MHz	52	143.5 MHz
7	166.75 MHz	53	143.875 MHz
8	167.5 MHz	54	144.250 MHz
9	168.25 MHz	55	144.625 MHz
10	169.0 MHz	56	145.0 MHz
11	169.75 MHz	57	145.375 MHz
12	170.5 MHz	58	145.75 MHz
13	171.25 MHz	59	146.125 MHz
14	172.0 MHz	60	146.5 MHz
15	172.75 MHz	61	146.875 MHz
16	173.5 MHz	62	147.25 MHz

Channel numbers	Frequency	Channel numbers	Frequency
17	Not used	63	147.625 MHz
18	163.375 MHz	64	148.0 MHz
19	164.125 MHz	65	148.375 MHz
20	164.875 MHz	66	148.75 MHz
21	165.625 MHz	67	149.125 MHz
22	166.375 MHz	68	149.5 MHz
23	167.125 MHz	69 - 77	Not used
24	167.875 MHz	78	153.25 MHz
25	168.625 MHz	79	153.625 MHz
26	169.375 MHz	80	154.0 MHz
27	170.125 MHz	81	154.375 MHz
28	170.875 MHz	82	154.75 MHz
29	171.625 MHz	83	155.125 MHz
30	172.375 MHz	84	155.5 MHz
31	173.125 MHz	85	155.875 MHz
32 - 37	Not used	86-89	Not used
38	138.25 MHz	90	157.75 MHz
39	138.625 MHz	91	158.125 MHz
40	139.0 MHz	92	158.5 MHz
41	139.375 MHz	93	158.875 MHz
42	139.75 MHz	94	159.25 MHz
43	140.125 MHz	95	159.625 MHz
44	140.5 MHz	96	160.0 MHz
45	140.875 MHz	97	160.375 MHz
46	141.25 MHz	98-104	Not used