RF Safety at Sites

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1. Introduction

Cellnex UK owns and manages a large number of sites, rooftops and structures with a variety of antennas. It is essential that the Radio Frequency (RF) hazards these represent are properly considered at the planning stage for each visit. Cellnex UK provides the means by which relevant safety information can be accessed at the planning stage for each site visit. Hence the responsibility for RF safety rests with the contractor. This guide outlines more details on all these aspects to ensure that all contractors understand their responsibilities and how to access all the correct information.

The majority of reported “near misses” and “unexpected alarms” are due to poor planning on the part of the contractor or lack of experience or training of staff. These notes are issued to try to improve both those aspects, when accessing Cellnex UK sites.

It is important to note that Cellnex UK assets are also installed on ARQIVA Broadcast structures. False RF alarms frequently occur on these structures when using FieldSENSE personal RF warning devices. Therefore, the use of FieldSENSE is restricted on broadcast structures equipped with FM and DAB radio systems. Cellnex will not accept liability for aborted costs if RF alarms are triggered by these devices. The list of approved personal RF warning devices is provided in paragraph 11 of this document.

2. Roles & Responsibilities

The responsibility for risk assessment lies with the contractor. A site and task specific risk assessment and method statement must be carried out.

All climbers must be equipped with a personal RF monitor of a type accepted by Cellnex UK. The frequency range must be suitable for the frequencies found on Cellnex UK sites. Cellnex UK publishes a list of monitors that have been assessed as suitable.

For work on most Cellnex UK managed rooftops a minimum of one personal monitor per team is required (depending on the risk assessment for the task and site). The exception to this is some BT rooftop sites for which access is tightly controlled, reducing the probability of pirate antennas.

Appendix A details the RF monitors that are accepted for use on Cellnex UK sites.

2.1. Reporting Company

All companies approved for rooftop or structural access must have an RF policy and provide RF awareness training to their employees. Within their policy and training they must make employees aware of how personal RF monitors can create an alarm and the action to take.

Any alarms reported must be fully investigated by the company prior to reporting and escalation to Cellnex UK.

If the unexpected alarm is coming from a Fieldsense monitor, the alarm must be verified during the same visit by a secondary reading from another Cellnex UK accepted personal monitor or survey meter prior to reporting to Cellnex UK, refer to Appendix A for details.

2.2. Cellnex UK Site Access Team

If the Site Access Team receives a report of unexpected alarms they should request the reporter to submit a Near Miss form via Jira. This can be reached via the Jira Service desk.

2.3. Cellnex UK RF Safety Team (RFST)

The Cellnex UK RF Safety Team (RFST) will be responsible for the investigation of all unexpected alarms. NB This assumes all conditions given in this document have been met.

2.4. Training

All contractors who access Cellnex UK structures or rooftops must be trained in RF Safety awareness via a course that has been assessed as suitable. A list of Cellnex UK approved training providers is available separately.

3. Information provided by Cellnex UK for risk assessment

Prior to planning any task on site, the Risk Register and RF Safety Noticeboard for the site should be consulted; also the Antenna Information Report (AIR). For Cellnex sites, these can be downloaded from Agora via the Access Module. For Arqiva sites, Agora does not hold all antenna information and so those must be obtained from Arqiva.

4. Instructions: Where to find the AIR, Risk Register and RF Safety Noticeboard

The Antenna Information Report (AIR) is generated for each download request whereas the Risk Register and RF Safety Noticeboard is a saved document. For Cellnex sites, both can be obtained via the Agora Access Module.

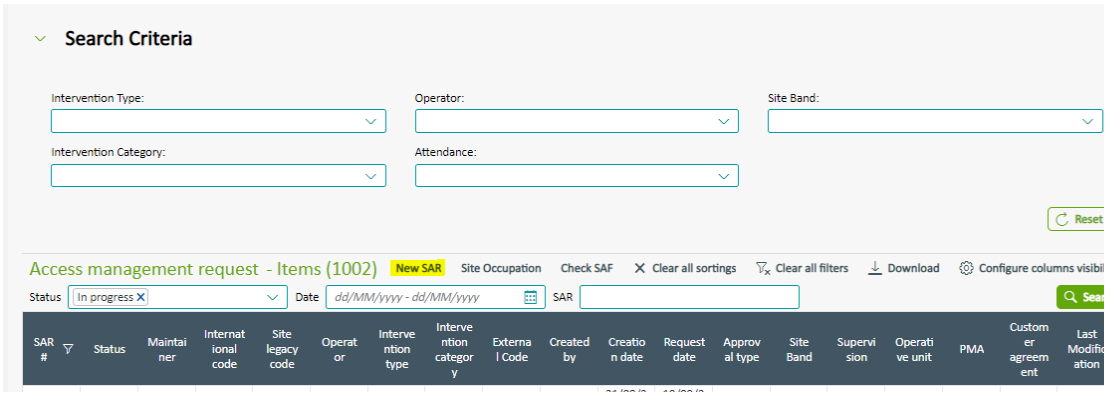


Figure 4-1

One way to do this is to start as if you were creating a new Site Access Request (SAR).

NB You do not need to complete and submit the request in order to obtain the information.

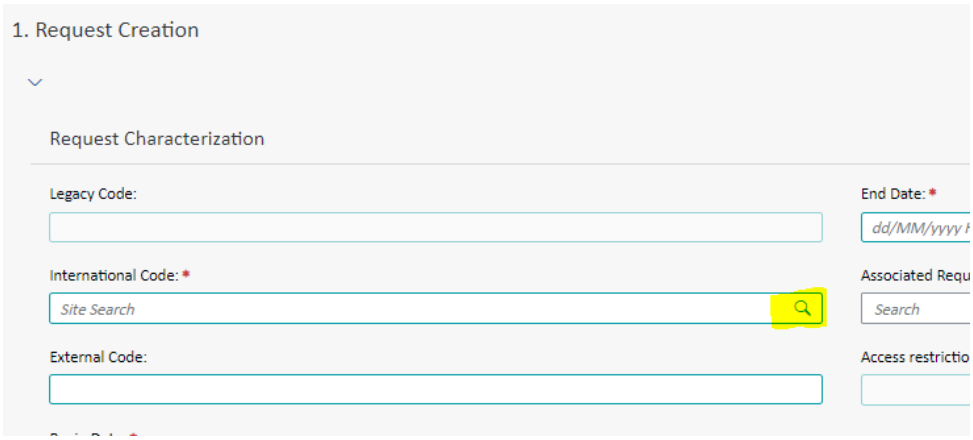


Figure 4-2

Click to find the site – you can search by name as well as by the site code.

Then, click on the right hand arrow to navigate to that site.

At the top of the page, is a button to download the AIR.

NB This is greyed out if the site is an Arqiva site as Agora does not hold all the antenna information; therefore the AIR and RF Safety Noticeboard information must come from Siterra the Arqiva systems.

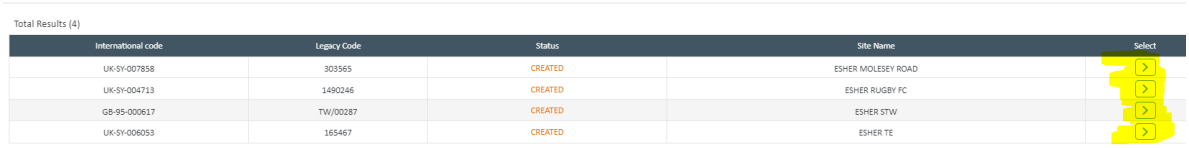


Figure 4-3

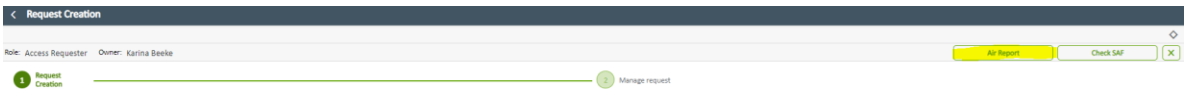


Figure 4-4

At the bottom of the page is a list of the documents associated with the site – including the Risk Register and RF Safety Noticeboard.

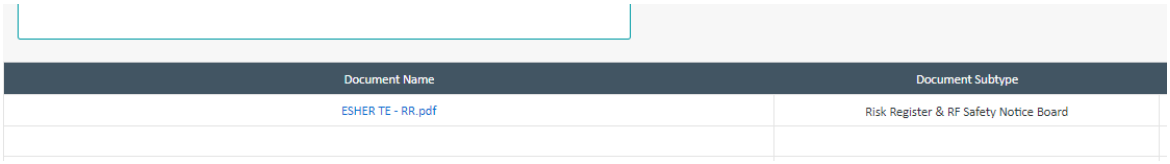


Figure 4-5

5. Risk Register: What it includes and how to use it

The Risk Register includes the following information:

6.1. Risk Register Note

The Risk Register lists risks unique to the site. If the supplier during the visit notices a new risk or that an old risk is no longer there please report it to RFST.

6.2. RF Safety Noticeboard

The RF Safety Noticeboard lists **ONLY** issues within the climbing zone (ladder and rest platforms). The supplier should risk assess their visit and contact the Site Access team to arrange necessary work.

6.3. RF Risk Note

This section lists known RF Risks and the necessary planned works/outages required for mitigating them.

For an example of a Risk Register document refer to **Appendix A**

6. Sites with Broadcast Radio, TV, and Paging Transmitters

Before scheduling a climbing visit for an MSV, an installation or a maintenance inspection at sites with these transmitters, the supplier must assess if stepping off the ladder will be necessary to measure steelwork or check rigging points. In such cases the supplier should notify RFST via email and provide a clear SOW. RFST will confirm any required planned works/outages. Failure to comply may trigger RF alarms and abort visits.

Note: Arqiva and their Broadcast customers typically require at least 2 weeks notice for planned works/outages.

7. Antenna Information Report (AIR)

The AIR Report lists all antennas by height and indicates whether they are Broadcast or Paging. The supplier should consult this document to identify antennas near the proposed work area and report any errors found.

For **Cellnex** sites, download this information from Agora.

For **Arqiva (PMA)** sites, request it from Arqiva.

8. Use of RF Safe System of Work

When you are working on your customer's antenna you must have in place a process to ensure that you or your customer removes the power to the antenna prior to your work. When your task requires that other services need to be reduced in power or shutdown to give you safe access then all the parties involved (the climbing team, the Cellnex UK representative and any engineers attending site to switch transmitters) must have a discussion about what is to be done and how and by whom, and document it before any work commences on site.

For Arqiva (PMA) sites the Arqiva safe system of work procedure must be followed.

9. False alarms and Minimum measurement distance

In situations where there is a significant level of RF, personal monitors will alarm constantly. The occasional bleep, especially in areas where the personal monitor touches the ladder as it is climbed, are not usually considered to be real alarms.

When a monitor alarms, site staff should first ascertain how close they are to metal work, latch way bonds, feeders, etc. If it is closer than 100 mm then re-position to a distance where the monitor is more than 100 mm away from metal (in free space) and see if the alarm continues. If the alarm continues, refer to paragraph 10.

10. Reporting Unexpected RF Alarms

Following an unexpected personal monitor alarms the contractor should carry out their own investigation. Only when any immediate obvious causes have been ruled out should the issue be reported via Jira to the Cellnex RF Safety Team (RFST) for investigation. Alarms will not be investigated unless this form has been completed and submitted. Other incidents and near misses must be reported immediately to the Site Access Team on 020 4526 8561 whilst still on site.

Unexpected RF Alarms must be reported via this link:

UK Service Desk - Raise a request - Jira Service Management ; Select the option RF Safety (Report Unexpected RF alarms)

Or scan the QR code shown below.

SCAN ME

If there has been an incidence of a suspected RF overexposure, ring Site Access on 020 4526 8561. The Site Access team will arrange to send RF information for doctors to the medical facility that the individual is attending. Most doctors do not fully understand the effects of RF and it is important that they receive this information, so they can accurately diagnose any health implications and provide the correct treatment.

10.1. Example of the RF Safety (Report Unexpected RF alarms) form

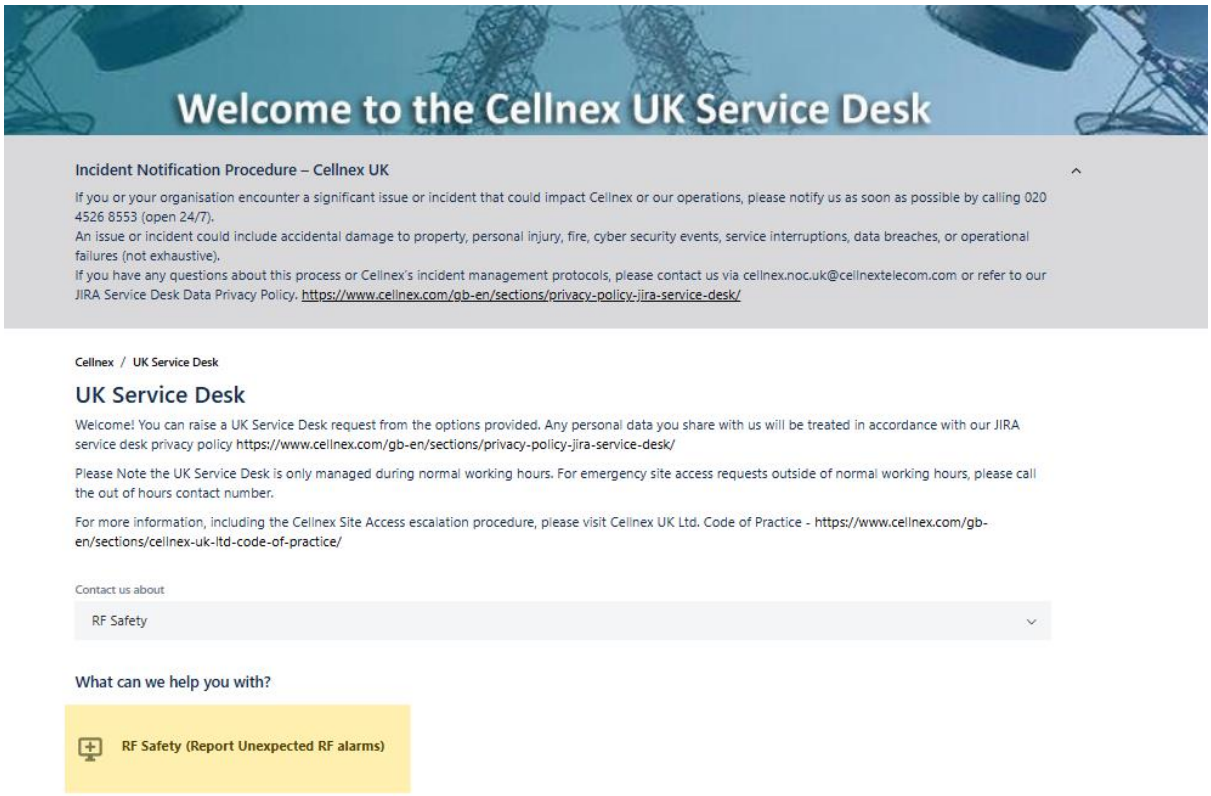


Figure 10-1 Navigating to the RF Safety (Report Unexpected RF alarms) form – Selectthe form and fill it with as much information as possible

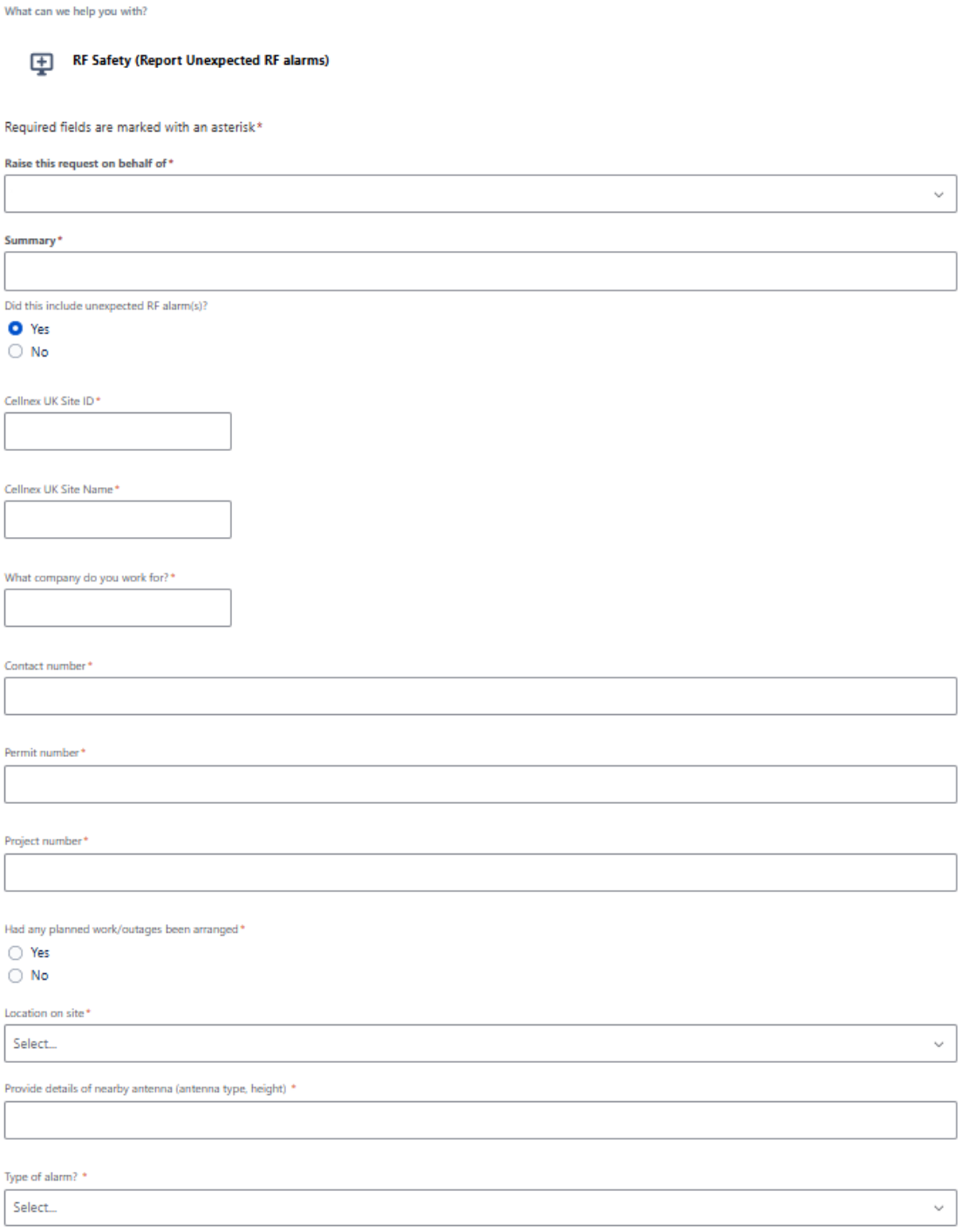


Figure 10-2 RF Safety (Report Unexpected RF alarms) form - continued

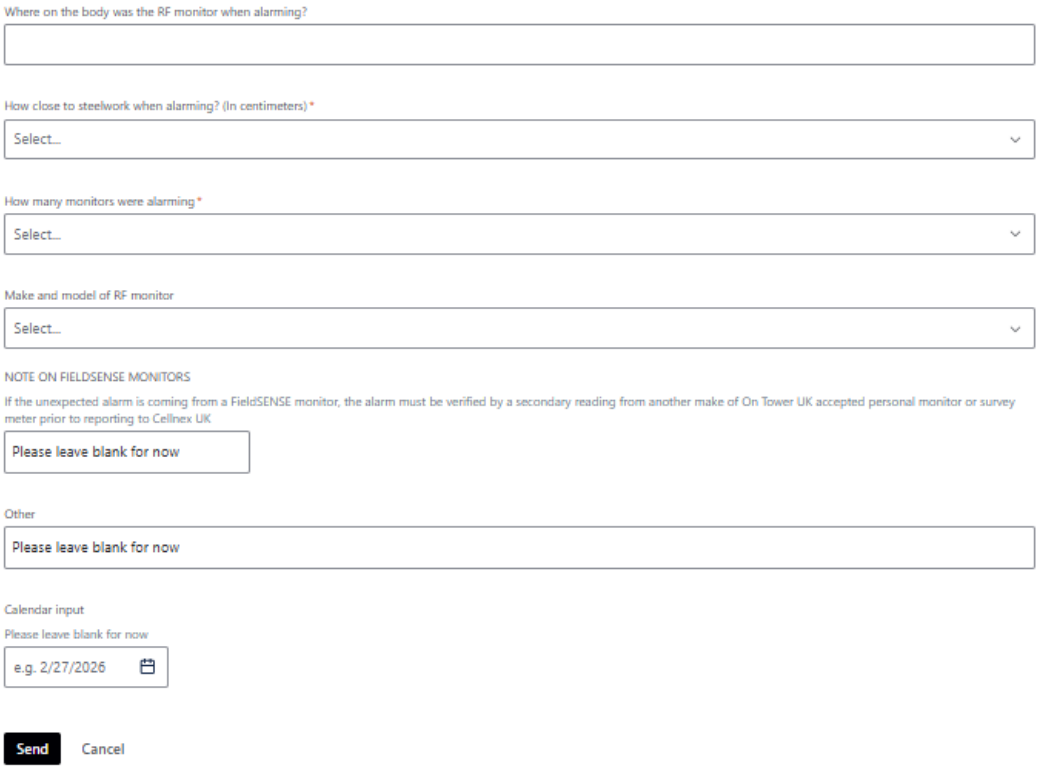


Figure 10-3 RF Safety (Report Unexpected RF alarms) form - continued

11. Warning devices for safety in electromagnetic fields - Cellnex UK Approved devices

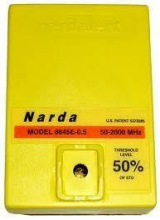
The following rules apply:

- A Cellnex UK approved RF warning device must be used at all times when accessing a structure.
- The RF warning device (monitor) must be suitable for the site in question. Broadcast sites with Arqiva FM and DAB radio transmitters must be accessed only by personnel equipped with the correct monitor.
- Evidence that this check has been carried out must be included in the RAMS (risk assessment & method statement) for the task. This must include:
  1) Frequencies at the site
  2) Name of person that carried out the check
- Visitors ascending a structure must ensure that they do not stray outside the area specified on the access authorisation for that site.
- Cellnex UK specifies that all climbers on structures must use a personal monitor. On rooftops one personal monitor per team must be used (as a minimum) in any given area. These monitors must be set to the Cellnex UK Working limits which are 50% and 90% (equivalent to the Action Levels of the Control of EMF at work Regs 2016). This is because of the broad range of broadcasting and telecommunications systems found on Cellnex and Arqiva sites.

Name of Monitor	Manufacturer		Frequency Range[1] / Constraints
S3	Narda		100 kHz - 100 GHz Not to be used where levels of fields at 50 Hz are above 100 kV/m
Radman 2LT (50 MHz to 8 GHz) **Radman 2XT** (900 kHz to 60 GHz)	Narda		Radman **2LT**: 50 MHz – 8 GHz **Do not** use this monitor in the following sites: 1. LF/MF sites 2. Satellite earth station sites 3. Pylon sites - Sites where levels of fields at 50 Hz are above 37 kV/m Radman **2XT**: 900 kHz – 60 GHz 1. LF sites 2. MF sites with frequencies below 900 KHz 3. Pylon sites - Sites where levels of fields at 50 Hz are above 37 kV/m

Name of Monitor	Manufacturer		Frequency Range[1] / Constraints
FieldSENSE 2.0	FieldSENSE		50 MHz – 6 GHz **Do not** use at the following sites: 1. LF/MF sites 2. Satellite earth station sites 3. FM Radio sites 4. DAB Radio sites 5. Pylon sites - Sites where levels of fields at 50 Hz are above 37 kV/m
WaveMon RF-8 (ICN or EUD)	WaveMon		300 kHz – 8 GHz **Do not** use at the following sites: 1. LF sites 2. Satellite earth station sites 3. Pylon sites - Sites where levels of fields at 50 Hz are above 37 kV/m
WaveMon RF-60 (ICN or EUD)	WaveMon		100 kHz – 60 GHz **Do not** use at the following sites: Pylon sites - Sites where levels of fields at 50 Hz are above 37 kV/m

11.1. Obsolete devices – May still be in use.

Name of Monitor	Manufacturer		Frequency Range[1] / Constraints
XT (D-8860 & D-8862)	Narda		100 kHz - 100 GHz **Do not** use where levels of fields at 50 Hz are above 6 kV/m
8845E-0.5	Narda		50 MHz – 2 GHz **Do not** use at the following sites: 1. LF/MF sites 2. Satellite earth station sites 3. Not to be used on cellular sites with frequencies in the 2100 MHz band or above 4. Not to be used on sites with high levels of 50 Hz fields, eg Pylon sites
ESM20/**Radman XT**	Narda		1 MHz – 40 GHz **Do not** use at the following sites: 1. LF sites 2. MF sites with frequencies below 1 MHz

Notes

1. Where other services are included on a site, and a limitation is given in the table above, an assessment must be carried out to ensure that the monitor is appropriate. Evidence that this assessment has been carried out must be documented in the RAMS for the work, including details of the frequencies for the site and the person who has carried out the assessment.
2. Where monitors include both E and H-field sensors, the frequency range quotes relates to the E-field – generally the H-field sensor frequency range is narrower.

12. Change Control

This document is controlled as part of the Cellnex UK IMS via the Engage platform which maintains history of changes / version control. Downloaded or printed copies are uncontrolled.

Appendix A

Example of Risk Register document

Risk Register – NEWCASTLE (NI) - UK-DW-003674

Risk Register Note
Prior to any work commencing a dynamic risk assessment of the site and the work area should be undertaken. Any hazards identified should be reported back through the post work report and if it is deemed too hazardous to continue, work should not commence until the risks can be adequately controlled

Type	Comments	Date Identified
Asbestos	Cellnex do not have a legal duty to manage the asbestos. If there is a requirement to undertake intrusive works on this site then a copy of the asbestos survey must be reviewed prior to any intrusive works commencing. Please contact the SHE team via Jira *SHE Reporting Form* should a survey be required. Please understand this information is not held by Cellnex and will be requested from a third party.	09/05/2025

Structure	RF Safety Notice Board
47282	**Please refer also to the Arqiva Risk Register + AIR report** **Occupational non-compliance** – The CTIL sector antenna at 28m on 120° is currently splaying into the ladder and climbing aperture between 26m and 30m. Cellnex will resolve this issue with the next upgrade for the MNO. MM 09/05/2025

RF Risk Note
Site NOT Occupationally compliant – Working on or around the CTIL system (26m – 30m) will require an outage of the CTIL system. All other apertures on the structure are safe and accessible as normal.