**RIS implementation conditions for use of the radio spectrum by Ground- and Wall- Probing Radar (GPR/WPR) imaging systems**

Foreword

The ECC has decided that RIS implementations of ECC deliverables should be uploaded to the ECO website in order to help administrations fill out the EFIS database.

This RIS implementation is limited to frequency arrangements for Ground- and Wall- Probing Radar (GPR/WPR) imaging systems in the 30 MHz to 12.4 GHz bands.

**RIS II Template for the use of the 30 MHz to 12.4 GHz frequency band for Ground- and Wall- Probing Radar (GPR/WPR) imaging systems**

**Radio Interface Notification by an administration**

**Normative part**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Nr** | **Parameter** | **Description** | | **Comments** |
| **1** | **Radiocommunication Service** | Not applicable | |  |
| **2** | **Application** | GPR/WPR | | Ground Probing Radar / Wall Probing Radar |
| **3** | **Frequency band** | 30 MHz to 12.4 GHz | |  |
| **4** | **Channelling** | - | |  |
| **5** | **Modulation /  Occupied bandwidth** | - | |  |
| **6** | **Direction /  Separation** | GPR imaging system may only operate when in contact with, or within one meter of, the ground for the purpose of detecting or obtaining the images of buried objects or determining the physical properties within the ground. The energy from the GPR is intentionally directed down into the ground for this purpose.  WPR imaging system may only operate to detect the location of objects contained within a “wall” or to determine the physical properties within the “wall”. The “wall” is a concrete structure, the side of a bridge, the wall of a mine or another physical structure that is dense enough and thick enough to absorb the majority of the signal transmitted by the imaging system. | |  |
| **7** | **Transmit power / Power density** | Frequency Range (MHz | Maximum mean e.i.r.p. density (dBm/MHz) | A maximum mean e.i.r.p. density of -75 dBm/kHz also applies in 1164-1215 MHz and 1559-1610 MHz frequency ranges. |
| <230 | -65 |
| 230-1000 | -60 |
| 1000-1600 | -65 |
| 1600-3400 | -51.3 |
| 3400-5000 | -41.3 |
| 5000-6000 | -51.3 |
| >6000 | -65 |
| **8** | **Channel access and occupation rules** | GPR/WPR equipment shall have a deactivation mechanism of the equipment which is a function to deactivate the equipment when normal use is interrupted. This mechanism shall fulfil the following requirements:   * Manually operated GPR and WPR, which is intended to be used as handheld equipment, shall contain a manually operated non-locking switch (e.g., it may be a sensor for the presence of the operators hand or a movement sensor) which ensures that the equipment de-activates (i.e. the transmitter switches off) within 10 seconds of being released by the operator * In the case of remotely/computer controlled imaging equipment, the equipment is de-activated via the control system provided that de-activation takes place within 10 seconds of the control system being switched off or released by the operator * There are particular cases where the equipment is mounted in a vehicle for the collection of data where the deactivation time required is 60 seconds. | |  |
| **9** | **Authorisation regime** | Individual Authorisation | | The use of GPR/WPR imaging systems shall be subject to an appropriate licensing regime |
| **10** | **Additional essential requirements** | None | |  |
| **11** | **Frequency planning assumptions** | - | |  |

**Informative Part**

|  |  |  |  |
| --- | --- | --- | --- |
| **Nr** | **Parameter** | **Description** | **Comments** |
| **12** | **Planned changes** | - |  |
| **13** | **Reference** | ECC/DEC/(06)08  EN 302 066 |  |
| **14** | **Notification number** | - |  |
| **15** | **Remarks** | - | ITU‐R RR Article number 4.4 |