



STATUTORY INSTRUMENTS.

**S.I. No. 283 of 2018**



WIRELESS TELEGRAPHY ACT 1926 (SECTION 3) (EXEMPTION OF  
MOBILE PHONE REPEATERS) ORDER 2018

## WIRELESS TELEGRAPHY ACT 1926 (SECTION 3) (EXEMPTION OF MOBILE PHONE REPEATERS) ORDER 2018

The Commission for Communications Regulation, in exercise of the powers conferred on it by section 3(6)(a) of the Wireless Telegraphy Act 1926 (No. 45 of 1926), (inserted by section 11(c) of the Wireless Telegraphy Act 1972 (No. 5 of 1972)), transferred to the Commission for Communications Regulation by section 4(2) of the Communications Regulation (Amendment) Act 2007 (No. 22 of 2007), hereby makes the following Order:

*Citation*

1. This Order may be cited as the Wireless Telegraphy Act 1926 (section 3) (Exemption of Mobile Phone Repeaters) Order 2017.

*Interpretation*

2. In this Order—

“Apparatus for Wireless Telegraphy” has the same definition herein as in the Wireless Telegraphy Act 1926 (No. 45 of 1926);

“dB” means a unit of transmission giving the ratio of two powers: if P1 and P2 represent two values of power and n the number of decibels representing their ratio then  $n=10 \log_{10} P1/P2$ . If the two powers are dissipated in equal resistive impedances their ratio in decibels may be expressed by  $n=20 \log_{10} V1/V2$  where V1 and V2 are the voltages across the two resistive impedances;

“dBm” means decibels of power referenced to one milliWatt;

“Hertz” means Unit of Frequency;

“EIRP” means the Effective Isotropic Radiated Power that is the measured radiated power in a single direction;

“ETSI” means the European Telecommunications Standards Institute;

“GHz” means gigahertz (1,000,000,000 Hertz);

“kHz” means kilohertz (1,000 Hertz);

“MHz” means megahertz (1,000,000 Hertz);

“Mobile Device” means a portable electronic device such as a mobile phone or tablet computer;

*Notice of the making of this Statutory Instrument was published in “Iris Oifigiúil” of 27th July, 2018.*

“Mobile Base Station” means Apparatus for Wireless Telegraphy connected to a backhaul network, which provides a Radiocommunication Service to Mobile Devices;

“Mobile Phone Repeater” means apparatus for wireless telegraphy, which is used specifically to amplify signals between a Mobile Device and a network operator’s Mobile Base Station, either indoors or in-vehicle;

“Radio Equipment Directive” means Directive 2014/53/EU of the European Parliament and of the Council, of 16 April 2014, on the harmonisation of the laws of the Member States relating to the making available on the market of radio equipment and repealing Directive 1999/5/EC on radio equipment and telecommunications terminal equipment and the mutual recognition of their conformity;

“Radio Equipment Regulations” means the European Union (Radio Equipment) Regulations 2017 (S.I. No. 248 of 2017).

“TRP” means Total Radiated Power that is a measure of how much power is radiated by an antenna when the antenna is connected to an actual radio (or transmitter);

#### *Limitation*

3. This Order only applies within the jurisdiction of the State and only applies to Mobile Phone Repeaters which are in conformance with the Radio Equipment Directive and the Radio Equipment Regulations.

#### *Applicability*

4. Section 3 of the Wireless Telegraphy Act 1926 (No. 45 of 1926) does not apply to classes of Mobile Phone Repeaters described as, and fulfilling the requirements set out in, this Order.

#### *Conditions*

5. Mobile Phone Repeaters to which this Order applies shall comply with the following conditions:

- (a) The Mobile Phone Repeater shall comply with ETSI standards EN 303 609, EN 301 908-11 and EN 301 908-15, and any revisions to those standards;
- (b) When the Mobile Phone Repeater is no longer serving an active Mobile Device connection, it must, after no longer than 1 minute, reduce its power to no more than  $-70$  dBm/MHz;
- (c) The Mobile Phone Repeater must detect and mitigate (by automatic gain reduction or shutdown) any oscillations in uplink and downlink bands, and such detection and mitigation must occur within 0.3 seconds in the uplink band, and 1 second in the downlink;
- (d) ComReg reserves the right to inspect the Mobile Phone Repeater at the owners expense prior to and during operation if necessary;

- (e) The frequencies which the Mobile Phone Repeater is capable of using shall be limited to those amplified frequencies that are used in the State for mobile phone services, namely:

800 MHz — 791-821 MHz (Downlink) 832-862 MHz (Uplink);  
 900 MHz — 880-915 MHz (Uplink) 925-960 MHz (Downlink);  
 1800 MHz — 1710-1785 MHz (Uplink) 1805-1880 MHz (Downlink);  
 and  
 2100 MHz — 1920-1980 MHz (Uplink) 2110-2170 MHz (Downlink);

- (f) The Mobile Phone Repeater may amplify frequencies associated with multiple mobile services or multiple mobile operators;

- (g) The transmit power of the Mobile Phone Repeater for indoor use is limited to the following:

| Band | Technology | Maximum Uplink | Maximum Downlink |
|------|------------|----------------|------------------|
| 800  | LTE/UMTS   | 23 dBm EIRP    | 17 dBm EIRP      |
| 900  | GSM        | 33 dBm EIRP    | 17 dBm EIRP      |
| 900  | UMTS       | 23 dBm EIRP    | 17 dBm EIRP      |
| 1800 | GSM        | 24 dBm EIRP    | 17 dBm EIRP      |
| 1800 | LTE        | 23 dBm EIRP    | 17 dBm EIRP      |
| 2100 | UMTS       | 24 dBm EIRP    | 17 dBm EIRP      |

- (h) The transmit power of the Mobile Phone Repeater for in-vehicle use is limited to the following:

| Band | Technology | Maximum Uplink | Maximum Downlink |
|------|------------|----------------|------------------|
| 800  | LTE/UMTS   | 23 dBm TRP     | 17 dBm TRP       |
| 900  | GSM        | 33 dBm TRP     | 17 dBm TRP       |
| 900  | UMTS       | 23 dBm TRP     | 17 dBm TRP       |
| 1800 | GSM        | 24 dBm TRP     | 17 dBm TRP       |
| 1800 | LTE        | 23 dBm TRP     | 17 dBm TRP       |
| 2100 | UMTS       | 24 dBm TRP     | 17 dBm TRP       |

- (i) The maximum gain of the Mobile Phone Repeater is limited to 100 dB for indoor use and 20 dB for in-vehicle use;
- (j) The Mobile Phone Repeater must have automatic gain control to protect against excessive input signals that would produce output power emissions that would cause interference to a Mobile Base Station;
- (k) The Mobile Phone Repeater must adjust its gain in accordance to the strongest signal present in the downlink per band of operation;
- (l) The Mobile Phone Repeater must adjust its gain so that the maximum uplink noise is less than:

-103 dBm/MHz — RSSI

where RSSI is the measure of Received Signal Strength (dBm) per band of operation at the input ports of the Mobile Phone Repeater; and

- (m) The Mobile Phone Repeater must cease transmitting and shut off automatically if it cannot meet this specification.



GIVEN under the official seal of the Commission for  
Communications Regulation,  
18 July 2018.

GERRY FAHY,  
For and on Behalf of the Commission for Communications  
Regulation.

EXPLANATORY NOTE

*(This note is not part of the Instrument and does not purport to be a legal interpretation.)*

This Order provides for the exemption of certain wireless telegraphy apparatus, namely mobile phone repeaters, which meet certain conditions stated in the face of the order, from the requirement to be licensed under the Wireless Telegraphy Act 1926.

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