



Voice Coverage Obligation  
Notice of Compliance  
Methodology

Statement

Publication date: 30 January 2015

## Section 1

# Introduction

1.1 The licensees of the 900MHz and 1800MHz spectrum bands (referred to in this document variously as the MNOs or the Licensee(s)) have agreed with HM Government that each will achieve a 90% geographic coverage of the UK for voice calls. The Statement of Commitment dated 17 December and signed by the MNOs and HM Government states:

1.1.1 “That each MNO undertakes to enter into a binding commitment to implement 90 percent geographic voice coverage throughout the UK by no later than 31 December 2017. This binding commitment will be given effect through a voluntary variation of the MNOs spectrum licences issued by Ofcom. Each MNO and Ofcom will use reasonable endeavours to agree the variation by 31 January 2015.

1.1.2 That the 90 percent geographic voice coverage licence variation will require that the following signal strength thresholds be met in the 90 percent area as described in the coverage obligation:

**Table 1: Signal Strength Thresholds**

Technology and Band	Signal Threshold
GSM900	-93 dBm
GSM1800	-93 dBm
UMTS2100	-103 dBm
LTE800	-115 dBm

1.1.3 Ofcom will carry out its usual procedures to measure compliance against these signal strength thresholds. The MNOs acknowledge that in the event of non-implementation of their licence variation, Ofcom has powers available to it to enforce the licence condition.”

1.2 The licences held by the MNOs which cover frequencies in the 900 MHz and 1800 MHz bands will be varied to include the following coverage obligation:

### **Coverage Obligation**

*The Licensee shall by no later than 31 December 2017 provide and thereafter maintain an electronic communications network that is capable of providing mobile voice telecommunications services to an area covering at least 90% of the geographic landmass of the United Kingdom at at least one of the minimum signal strengths set out in Table 1 of this condition. For the avoidance of doubt the Licensee shall be permitted to meet the obligation set out in this condition using any frequencies and technologies available to the Licensee.*

Table 1

Technology and Band	Minimum Signal Threshold
GSM900	-93 dBm
GSM1800	-93 dBm
UMTS2100	-103 dBm
LTE800	-115 dBm

**Compliance with Coverage Obligation**

*Ofcom will assess the Licensee's compliance with the Coverage Obligation by reference to the document "Voice Coverage Obligation Notice of Compliance Methodology" published by Ofcom.*

- 1.3 Below we summarise our approach to compliance with this coverage obligation.
- 1.4 Compliance shall be based on a service provided using current GSM, UMTS or LTE technology in the bands specified in Table 1, noting however that the obligation holder may use any of its portfolio of licensed mobile spectrum, and any technology, to meet the obligation. Should any Licensee request that further technologies and bands be added we will seek to agree a relevant compliance methodology for that technology / band combination, consistent with the principles applied above.

## Section 2

# Approach

- 2.1 In order for the mobile service in a particular location to be treated as meeting the agreed requirement, the following condition needs to be met:
- the signal strength of the relevant channel at any given location must be greater than or equal to the required Signal Threshold for at least one of the technology and band combinations in Table 2. We set out below how this will be assessed.

**Table 2: Signal Strength Requirements**

Technology and Band (network layer)	Signal Threshold	Channel
GSM900	-93 dBm	GSM BCCH
GSM1800	-93 dBm	GSM BCCH
UMTS2100	-103 dBm	UMTS CPICH
LTE800	-115 dBm	LTE Reference Signals

- 2.2 The signal level of the relevant channel described in Table 2 shall be determined by the Licensee at each of the relevant locations using its own tools.

### Certification of Compliance

- 2.3 On or before 31 December 2017 the Licensee will provide written confirmation to Ofcom from a Board member of the Licensee that the Licensee considers, on the basis of its assessment, that it has met the coverage obligation as specified in the Licence.
- 2.4 In addition, the Licensee must provide to Ofcom the information on which it has based its assessment of its compliance with the above targets in Table 2. This information, which at the Licensee's discretion may include, but need not be limited to, the operator's predictive radio planning tools or measurements, (including, the signal strength of the relevant channel in each relevant location) shall be provided to Ofcom in the form of regularly spaced locations. Ofcom may require the Licensee to provide such underlying data and materials as Ofcom reasonably considers necessary to enable Ofcom to check the Licensee's information and assessment.

### Locations

- 2.5 The Licensee must consider in its assessment and provide information for any location that is on the landmass of the United Kingdom. For the avoidance of doubt locations on islands that are part of the UK and are inhabited are included but islands that are part of the UK and are uninhabited are excluded.
- 2.6 The extent of the UK landmass shall be defined based on vector lines that define the extent of the UK. The version of each source dataset that is current at the 31<sup>st</sup> December 2016 shall be used. For any subsequent compliance verification exercises, the version of the dataset that is current one calendar year prior to the

date of the verification shall be used. The vector lines shall be taken from the following source datasets:

- 2.6.1 for Great Britain: Ordnance Survey Boundary Line
- 2.6.2 for Northern Ireland: OSNI 1:50,000 Northern Ireland outline
- 2.7 The Licensee shall provide information as set out in paragraph 2.4 with a resolution less than or equal to 100m between locations which are on the same landmass.
- 2.8 Information provided in relation to the above targets shall be made using the tools with associated parameters and assumptions (which may include but need not be limited to signal strength predictions) that the Licensee uses for its own coverage planning purposes.
- 2.9 The Licensee shall use its own clutter, terrain and other input data sources in order to undertake its analysis.