

# Nobi Ceiling

## Appliance sheet | Product requirements



The following parameters must be met to ensure smooth operation for Nobi:

### Ideal installation height

For optimal performance and safety, it is recommended to install the Nobi smart lamp at a sensor height (=height of the black dot on the lamp) ranging between 2.1m and 2.3m. This installation height ensures that Nobi's artificial intelligence operates at its best.

### Internet volume & Bandwidth

Data Usage per 100 devices:  
400 GB (upload and download combined)

Bandwidth requirements per 100 devices:  
Download: 60 Mbps - Upload: 30 Mbps

Note: Internet volume and Bandwidth scale linearly with the number of devices. Please ensure a minimum upload bandwidth of 5 Mbps regardless of the number of devices.

### Firewall settings

The following ports should be opened

# Cloud connection

\*.nobi.cloud and nobi.cloud: port 443 (TCP)  
\*.nobi.cloud: port 5671 (TCP)

# NTP

time1.google.com, time2.google.com, time3.google.com, time4.google.com:  
port 123 (UDP)

# Debugging

\*.nobi.cloud: port 2222

# SIP signalling

nobi.sip.us1.twilio.com: port 5060 (TCP + UDP)  
nobi.sip.us1.twilio.com: port 5061 (TCP)

# SIP media

168.86.128.0/18: port range 10.000-60.000 (UDP)

# Software updates

hosted.mender.io: port 443 (TCP)  
s3.amazonaws.com: port 443 (TCP)  
c271964d41749feb10da762816c952ee.r2.cloudflarestorage.com: port 443 (TCP)

### The WLAN must

Not be publicly accessible without a password (security consideration).  
Ideally be uniform across the entire department.

### The WLAN may

Not require any usage terms to be accepted.

### The signal strength must be

Between -30 dBm and -67 dBm in decibel milliwatt (refer to the reference table).

Affected by structural measures, where different wall thicknesses can absorb different signal levels. Therefore, the signal must be measured in each room.

### Reference table signal strength



**30 dBm**

Maximum signal strength.

At this measurement level, an AccessPoint is likely to be nearby.



**50 dBm**

Excellent signal strength.



**60 dBm**

Good signal strength.



**67 dBm**

Minimal signal strength required

for applications that need a consistently stable WLAN signal.



**70 dBm**

Not a strong signal.

It may be sufficient for checking emails.



**80 dBm**

Unreliable signal strength.

You can probably connect to the network, but it will be insufficient for most online applications.



**90 dBm**

Weak signal strength.