

uXciter

User Manual

NX-UXC-2000-LB/ NX-UXC-2000-HB

March 2025



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Introduction

The Nexite merchandise platform provides insight into customer behavior patterns by monitoring the interaction between customers and merchandise in real-time.

With the Nexite platform, every item of merchandise is tracked from factory floor to showroom floor, providing total shelf awareness, with major benefits in store management and customer service. Nexite tags are battery less and are being charged remotely by uXciter.

The main components of the system are:

- Nexite Management Console (cloud-based)
- uXciter - Charging Nexite tags
- Nexite tags
- Network switches, Wi-Fi router and wiring

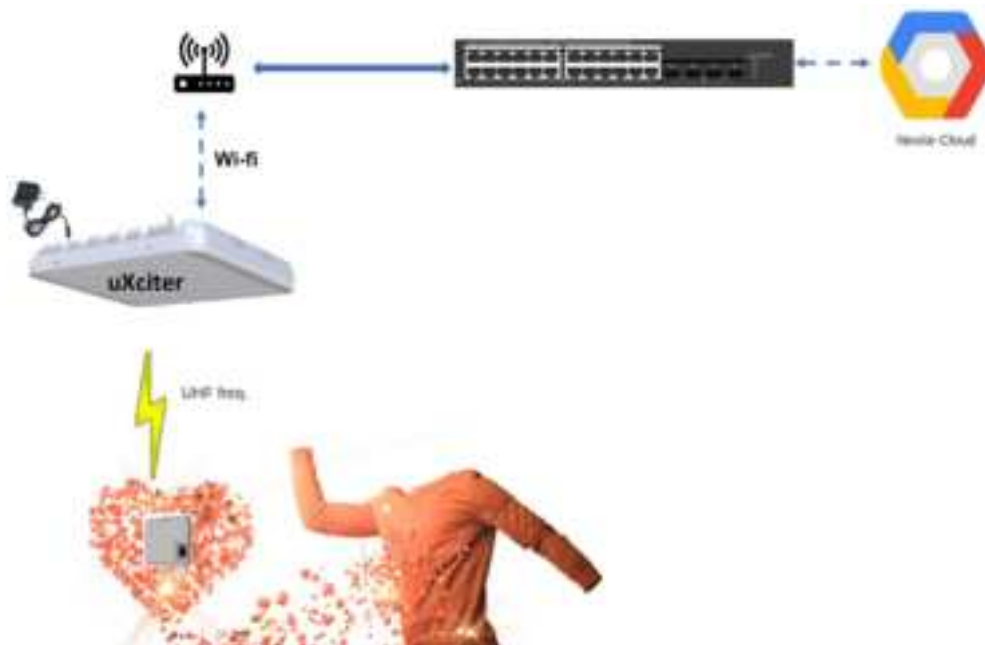


Figure 1 - Illustration - Nexite system with uXciter

Product Overview

uXciter's Functional Description

The uXciter main function is transmitting RF energy in the UHF band to charge Nexite's tags.



Figure 2 – uXciter's functionality

The transmission section includes RF generator (Synthesizer), power amplifier and antenna. The uXciter can work at a wide range of frequencies, power levels and waveforms, to comply with regional regulations. The actual operating parameters are defined by software, based on a configuration message received from the cloud.

Appearance



Figure 3 – uXciter (Front view)

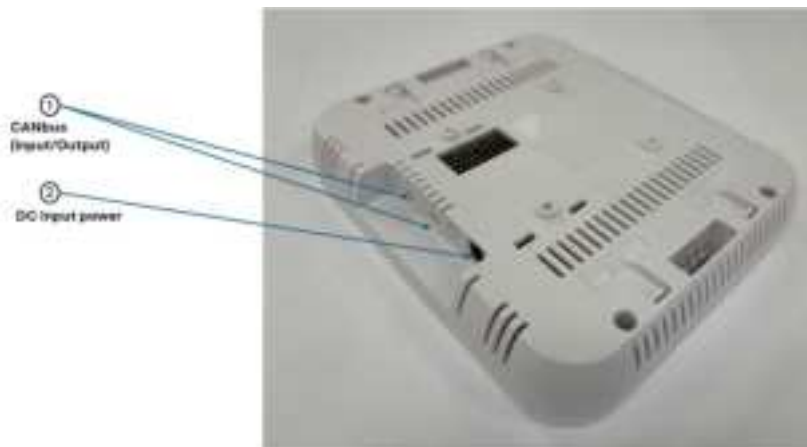


Figure 4 – uXciter (Rear view)

Applicable standards

- ETSI EN 302 308 V3.3.1 Harmonized European Standard Radio Frequency Identification Equipment operating in the band 865 MHz to 868 MHz with power levels up to 2 W and in the band 915 MHz to 921 MHz with power levels up to 4 W
- FCC Section 18 Title 47 – UHF Wireless Power Transmission (WPT), a Frequency Hopping Spread Spectrum (FHSS) system or a Hybrid system.

Technical parameters

Technical parameters – ETSI EN 302 208 configuration

Parameter	Value		Comments
Operating frequency	Lower band 865MHz – 868MHz	Upper band 915MHz – 921MHz	Refer to appendix A – Operational frequencies ETSI EN 302 308
Output power	20 – 30dBm	20 – 32dBm	Conducted power into the antenna port *
Spectrum usage*	Fixed frequency, Frequency hopping		
Waveform	Constant wave (CW) Intermittent (Duty-cycle)		Software - controllable
UHF Antenna	6.5dBiC	6dBiC	
Wi-fi antenna	5.5dBi		Receive only
Input power	12 VDC		External power supply from AC adapter
Power consumption	7 Watt Max.		
Communication interface	WLAN CANbus		2.4GHz only b/g/n
Physical dimensions	195 x 165 x 40 mm		Mounting bracket excluded
Weight	550 gr.		Mounting bracket excluded
Temperature range	5°C to 35°C		

* In accordance with EN 302 208

Technical parameters – FCC section 18 title 47 configuration

Parameter	Value	Comments
Operating frequency Note1	902.5MHz – 927.5MHz	
Output power Note1	+16.69 dBm	Max. Conducted power into the antenna port *
Spectrum usage/waveform Note1 , Note 2	Frequency hopping spread spectrum (FHSS) modulation	1. Software controllable 2. At least 50 hopping frequencies
UHF Antenna	5.32 dBiC Max.	
Wi-Fi antenna	5.96 dBi	
Input power	12 VDC	External power supply from AC adapter
Power consumption	7 Watt Max.	
Communication interface	WLAN CAN bus	2.4GHz only b/g/n
Physical dimensions	195 x 165 x 40 mm	Mounting bracket excluded
Weight	550 gr.	Mounting bracket excluded
Temperature range	5°C to 35°C	

This device complies with part 18 of the FCC Rules.

Note 1 - Those parameters of the product cannot be changed; only the manufacturer or anyone on his behalf can change these features.

Note 2 - The UHF transmission is FHSS only.

Mounting Nexite uXciter

The installation process starts with preparing the relevant parts for mounting the uXciter. Parts required vary between different locations and mounting types.

Installation options:

- Fixed mounting kit below the ceiling or on the wall (refer to Appendix B – Fixed mounting kit)
- Adjustable mounting kit (refer to Appendix C – Adjustable mounting kit)

FCC compliance notice

FCC ID: 2A6MX13EA2BCXF

FCC Caution:

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference, and
- (2) This device must accept any interference received, including interference that may cause undesired operation.

Important Note –

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Important Note –

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance of 20cm between the radiator and your body.

IC Warnings, Radiation Exposure

This device complies with Innovation, Science, and Economic Development Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions:

- (1) this device may not cause interference, and
- (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Innovation, Sciences et Développement économique Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :

- (1) l'appareil n' doit pas produire de brouillage, et*
- (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.*

This equipment complies with FCC/ISED radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

L'appareil est conforme aux limites d'exposition aux rayonnements spécifiées par la FCC/ISED pour les environnements non contrôlés. La distance entre le radiateur et le corps doit être d'au moins 20 cm lors de l'installation et du fonctionnement de l'appareil.

Cet émetteur ne doit pas coexister ou fonctionner conjointement avec toute autre antenne ou

Appendix A- Operational frequencies according to ETSI EN 302 208

According to ETSI regulation EN 302-208 there are two designated frequency bands -

- Lower band -
 - 865MHz to 868MHz
 - The UHF transmitter shall use any of the four specified high-power channels illustrated in the following figure
 - Channel band-width – 200KHz

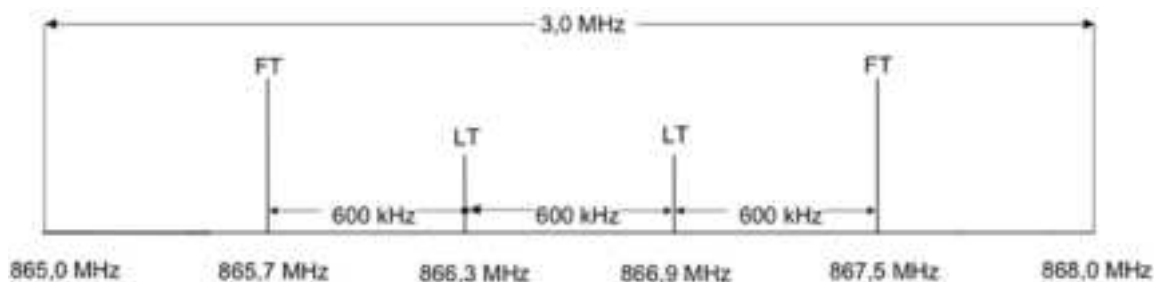


Figure 5 – EN 302 308 Lower band designated frequencies

- Upper band
 - 915MHz to 921MHz
 - The UHF transmitter shall use any of the four specified high-power channels illustrated in the following figure. Note - Some countries/regions may limit the operation to a specific frequency.
 - Channel band-width – 400KHz

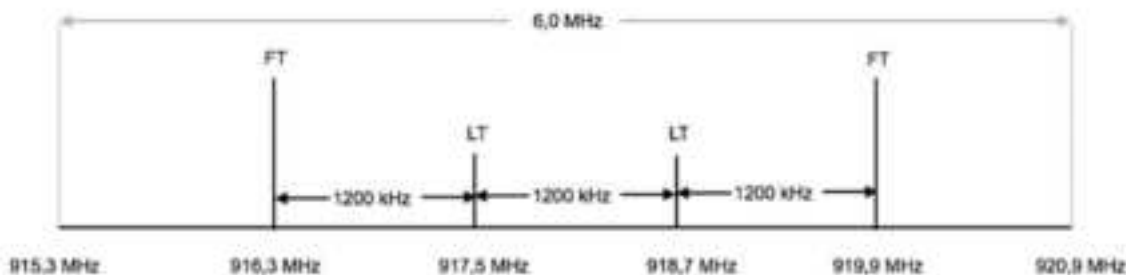


Figure 6 – EN 302 308 Upper band designated frequencies

Appendix B – Fixed mounting kit

When using a flat mounting kit is not possible, and no pan/tilt angle is required, use the fixed mounting bracket to mount the uXciter below the ceiling. The following figures illustrate the fixed mounting kit parts -

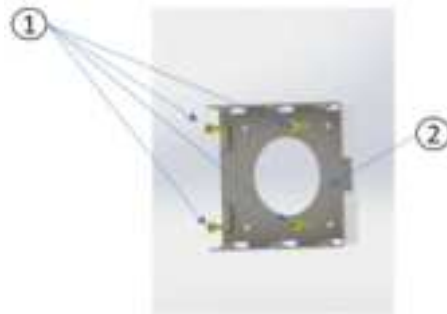


Figure 10 – Fixed mounting kit – Installation concept 1

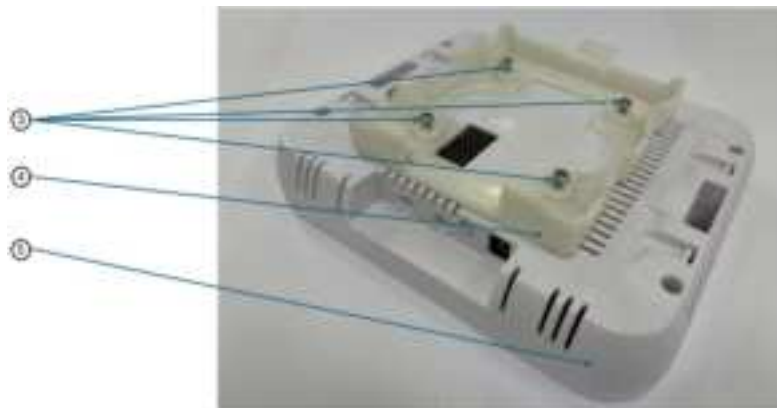


Figure 11 – Fixed mounting kit – Installation concept 2

Item #	Part Number	Quantity
1	Screws (Wall bracket side)	4
2	Sliding bracket – Wall	1
3	Screws (uXciter bracket side)	4
4	Sliding bracket – uXciter	1
5	uXciter	1