



Safety and Handling Guide

For KyWay™ terminal, mTenna^{u7} ASM, and all parts and accessories

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1 About this document

This document describes general safety precautions that must be observed during all phases of operation, service, and repair of Kymeta products. Failure to comply with these precautions or with specific warnings elsewhere in this document violates safety standards of design, manufacture, and intended use of the equipment. Kymeta assumes no liability for the customer's failure to comply with these requirements.

2 Handling


Take special care when handling and installing the Kymeta™ KyWay™ terminal, mTenna^{u7} antenna subsystem module, and Kymeta parts and accessories.

mTenna^{u7} ASM

- » Use proper lifting technique and safety precautions for handling heavy or bulky objects; Kymeta recommends lifting the ASM with a minimum of two people.
- » Do not drop the ASM.
- » Do not bump the edges or the face of the ASM.
- » Do not apply pressure to the radiating face of the ASM.
- » Protect the ASM against excessive shock and vibration.
- » Never apply paint or put stickers on the ASM.
- » Never put any metal over the front or in close proximity of the ASM, in order to avoid interference with the RF function.

KyWay terminal components

- » Never block the BUC fan. It requires 10.16 cm (4 in.) of clearance for air circulation and ventilation.
- » Provide the specified voltage for all components.
- » Never lift the ODU by any mounted RF components or cables.

 Note: The ODU in standard configuration weighs 24 kg (53 lbs.). Contact your Kymeta representative for details.

3 Electrostatic discharge (ESD) precautions

Do not open the mTenna^{u7} ASM housing, transceiver component housings, mTenna I/O housing, or modem housing. Doing any of the above will void the warranty.

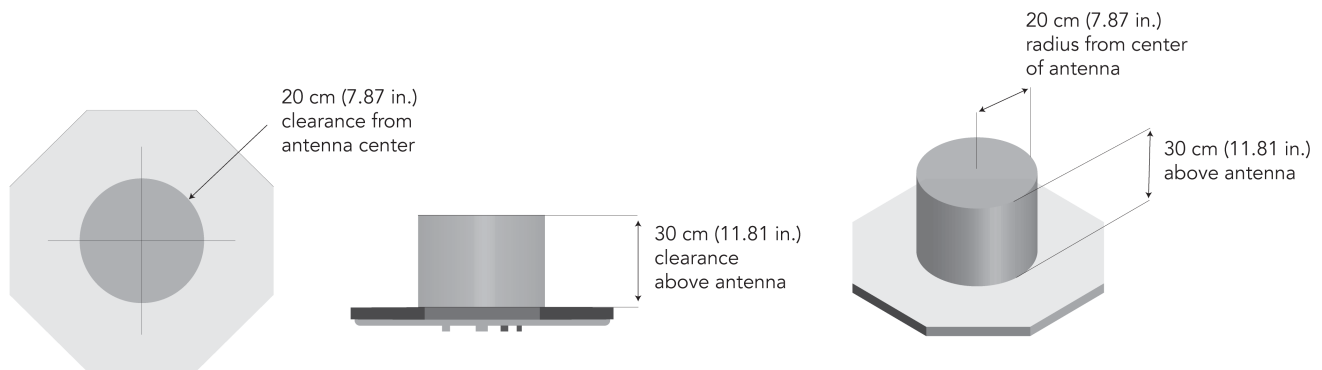
Opening or removing the enclosure may cause exposure to high voltages, electric shock, and other hazards. In addition, electronic components contained within the enclosure are sensitive to ESD and could be damaged if ESD precautions are not observed.

4 RF energy exposure

The KyWay terminal complies with FCC guidelines for protecting individuals from harmful levels of RF exposure.

Power density measurements in the 8 W terminal configuration show full compliance with the general population/uncontrolled minimum permissible exposure (MPE) level of 1 mW/cm² in all scan conditions and measurement points around the ASM regardless of the use case considered. Therefore, there are no concerns with RF exposure with the 8 W configuration.

Power density measurements in the 16 W terminal configuration show full compliance with the occupational/controlled MPE of 5 mW/cm². When operating the KyWay terminal in a 16 W configuration, to avoid exposure, do not place your head or other body parts near the top and sides of the satellite antenna when the system is operational. Maintain a distance of 30 cm or more from the face and within 20 cm from the center of the antenna. The figure below identifies the keep out region (gray cylinder) and safe region (the area outside the cylinder) for a 16 W KyWay terminal.



5 Information for operators and maintenance technicians

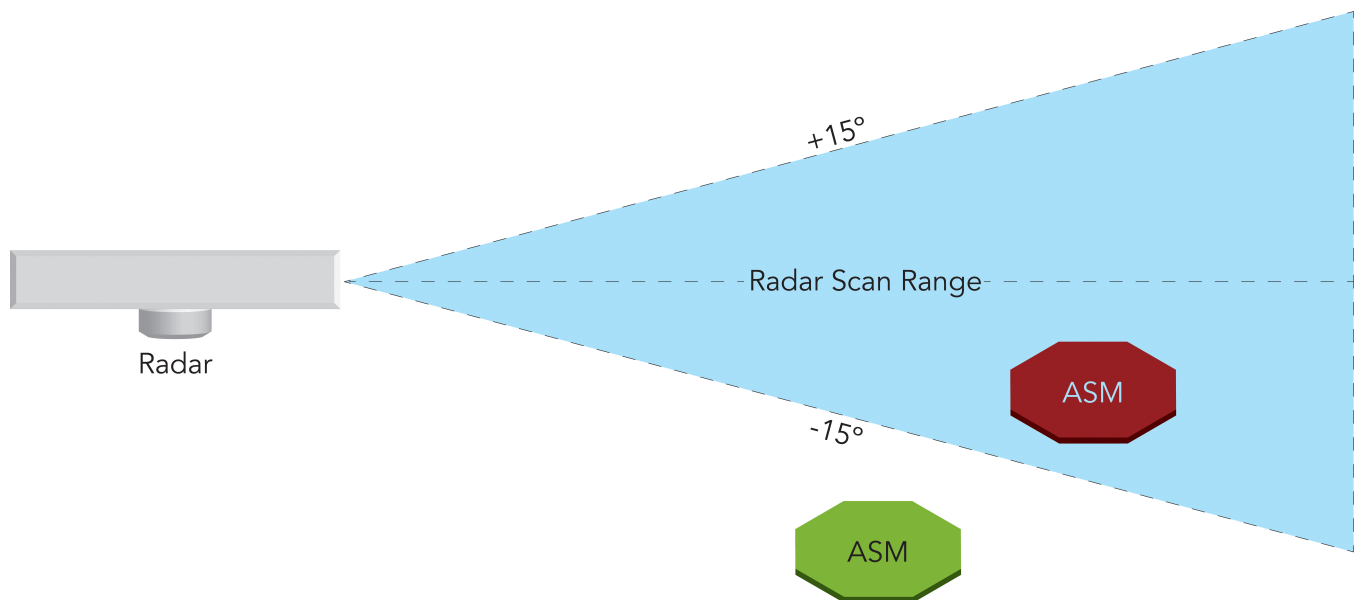
Operators and maintenance technicians requiring access to the ASM and its immediate surroundings should be properly trained on the potential for exposure and the time-averaging considerations specified in [FCC OET Bulletin 65](#) or other relevant national regulations. To conduct maintenance requiring access to this region, technicians must either ensure the ASM is in non-transmit (receive-only) mode or switch off the ODU power.

If operating the terminal in the 16 W configuration, post one or more signs around the antenna stating "NOTICE - Radiofrequency fields may exceed FCC limits for the public within 20 cm of the center of the antenna" (or substantially similar wording).

In any case where a 16 W terminal is not in a secured area inaccessible to the public, install an indicative barrier a safe distance around the antenna.

7 Distance to other equipment

Radars and other high-power transmitters affect the performance of the ASM installed within the beam path. To mitigate the risk of interference and damage, install the KyWay terminal ODU or the ASM as far from the radar/transmitter as possible and outside of the beam width, typically $\pm 15^\circ$ elevation range, as shown in the image below:



Evaluate the performance of the KyWay terminal ODU or ASM with all radar and transmitters operating normally before finalizing the installation.

8 Declaration of conformity

Kymeta Corp., of 12277 134th Ct NE, Suite 100, Redmond, WA 98052, USA, declares under our sole responsibility that the product mTenna^{u7} antenna to which this declaration relates, is in conformity with the following standards and/or other normative documents: ETSI EN 301 428, ETSI EN 302 340, ETSI EN 302 448, ETSI EN 302 977, ETSI EN 301 489-1, ETSI EN 301 489-12, ETSI EN 301 489-20, IEC 60950-1, IEC 62368, Council Recommendation 1999/519/EC. We hereby declare that all essential radio test suites have been carried out and that the above-named product is in conformity to all the essential requirements of R&TTE Directive 1999/5/EC, IC/FCC Class A Part 15. Kymeta Corp. declares that this Satellite Antenna is in compliance with the essential requirements and other relevant provisions of Directive 2014/53/EU. These limits are designed to provide a reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. To ensure regulatory and safety compliance, use power and interface cables according to the guidelines in this manual. The technical documentation relevant to the above equipment will be held at:

Kymeta Corp, 12277 134th Ct NE, Suite 100, Redmond, WA 98052, USA

9 Revision history

Revision	Change	Date
A	Initial document	19 September 2017
B	Added sections "Cleaning", "Declaration of conformity", and "FCC regulatory information". Updated section "RF energy exposure".	20 October 2017
C	Updated the RF safety distance.	20 November 2017
D	Updated sections "Handling," "Information for operators and maintenance technicians," and "RF energy exposure." Removed "Cleaning" section.	9 March 2018

10 Legal disclaimer

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