



# **Aprisa XE User Manual**

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## RoHS and WEEE compliance

The Aprisa XE is fully compliant with the European Commission's RoHS (Restriction of Certain Hazardous Substances in Electrical and Electronic Equipment) and WEEE (Waste Electrical and Electronic Equipment) environmental directives.

### Restriction of hazardous substances (RoHS)

The RoHS Directive prohibits the sale in the European Union of electronic equipment containing these hazardous substances: lead\*, cadmium, mercury, hexavalent chromium, polybrominated biphenyls (PBBs), and polybrominated diphenyl ethers (PBDEs).

4RF Communications has worked with its component suppliers to ensure compliance with the RoHS Directive which came into effect on the 1<sup>st</sup> July 2006.

\*The European Commission Technical Adaptation Committee (TAC) has exempted lead in solder for high-reliability applications for which viable lead-free alternatives have not yet been identified. The exemption covers communications network infrastructure equipment, which includes 4RF Communications' Aprisa XE microwave radios.

### End-of-life recycling programme (WEEE)

The WEEE Directive concerns the recovery, reuse, and recycling of electronic and electrical equipment. Under the Directive, used equipment must be marked, collected separately, and disposed of properly.

4RF Communications has instigated a programme to manage the reuse, recycling, and recovery of waste in an environmentally safe manner using processes that comply with the WEEE Directive (EU Waste Electrical and Electronic Equipment 2002/96/EC).

4RF Communications invites questions from customers and partners on its environmental programmes and compliance with the European Commission's Directives ([sales@4RF.com](mailto:sales@4RF.com)).

## Compliance ETSI

The terminal is designed to comply with the European Telecommunications Standards Institute (ETSI) specifications as follows:

Radio performance	EN 302 217 Parts 1, 2.1, and 2.2
EMC	EN 301 489 Parts 1 & 4
Environmental	EN 300 019, Class 3.2
Safety	EN 60950



A terminal operating in the following frequency bands / channel sizes has been tested and is compliant to the ETSI radio specifications and suitably displays the CE logo.

Other bands are compliant to the same radio performance specifications as adapted by 4RF and therefore may be used in regions where compliance requirements demand CE performance at other frequencies.

Frequency band	Channel size	Power input	Notified body
300 MHz 400 MHz	25 kHz, 50 kHz, 75 kHz, 150 kHz, 250 kHz, 500 kHz, 1.0 MHz, 1.75 MHz, 3.50 MHz	12 VDC, 24 VDC, 48 VDC, 115/230 VAC	Notified Body 0678
600 MHz 700 MHz 800 MHz 900 MHz	500 kHz	12 VDC, 24 VDC, 48 VDC, 115/230 VAC	Notified Body 0678
1400 MHz	75 kHz, 150 kHz, 250 kHz, 500 kHz, 1.0 MHz, 1.75 MHz, 3.50 MHz	12 VDC, 24 VDC, 48 VDC, 115/230 VAC	
2000 MHz 2500 MHz	250 kHz, 500 kHz, 1.0 MHz, 1.75 MHz, 3.50 MHz, 7 MHz, 14 MHz	12 VDC, 24 VDC, 48 VDC, 115/230 VAC	

## Compliance FCC

The terminal is designed to comply with the Federal Communications Commission (FCC) specifications as follows:

Radio performance / EMC (dependant on variant)	47CFR part 90 Private Land Mobile Radio Services 47CFR part 101 Fixed Microwave Services 47CFR part 15 Radio Frequency Devices
Safety	EN 60950

Available in 1Q 2007

Frequency band	Channel size	Power input	FCC ID
400 MHz	25 kHz	48 VDC	
900 MHz	100 kHz	48 VDC	
900 MHz	200 kHz	48 VDC	Verified part 101

## Informal declaration of conformity

<b>Dansk</b>	Undertegnede 4RF Communications Ltd erklærer herved, at følgende udstyr Aprisa™ Radio overholder de væsentlige krav og øvrige relevante krav i direktiv 1999/5/EF.
<b>Deutsch</b>	Hiermit erklärt 4RF Communications Ltd, dass sich dieses Aprisa™ Radio in Übereinstimmung mit den grundlegenden Anforderungen und den anderen relevanten Vorschriften der Richtlinie 1999/5/EG befindet. (BMW i)
<b>Dutch</b>	Hierbij verklaart 4RF Communications Ltd dat het toestel Aprisa™ Radio in overeenstemming is met de essentiële eisen en de andere relevante bepalingen van richtlijn 1999/5/EG.
<b>English</b>	Hereby, 4RF Communications Ltd, declares that this Aprisa™ Radio equipment is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.
<b>Español</b>	Por medio de la presente 4RF Communications Ltd declara que el Aprisa™ Radio cumple con los requisitos esenciales y cualesquiera otras disposiciones aplicables o exigibles de la Directiva 1999/5/CE.
<b>Σλληνας</b>	ΜΕ ΤΗΝ ΠΑΡΟΥΣΑ 4RF Communications Ltd ΔΗΛΩΝΕΙ ΟΤΙ Aprisa™ Radio ΣΥΜΜΟΡΦΩΝΤΑΙ ΠΡΟΣ ΤΙΣ ΟΥΣΙΩΔΕΙΣ ΑΠΑΙΤΗΣΕΙΣ ΚΑΙ ΤΙΣ ΔΟΙΠΕΣ ΣΧΕΤΙΚΕΣ ΔΙΑΤΑΞΕΙΣ ΤΗΣ ΟΤΗΓΙΑΣ 1999/5/ΚΕ.
<b>Français</b>	Par la présente 4RF Communications Ltd déclare que l'appareil Aprisa Radio est conforme aux exigences essentielles et aux autres dispositions pertinentes de la directive 1999/5/CE.
<b>Italiano</b>	Con la presente 4RF Communications Ltd dichiara che questo Aprisa™ Radio è conforme ai requisiti essenziali ed alle altre disposizioni pertinenti stabilite dalla direttiva 1999/5/CE.
<b>Português</b>	4RF Communications Ltd declara que este Aprisa™ Radio está conforme com os requisitos essenciais e outras provisões da Directiva 1999/5/CE.
<b>Suomalainen</b>	4RF Communications Ltd vakuuttaa täten että Aprisa™ Radio tyyppinen laite on direktiivin 1999/5/EY oleellisten vaatimusten ja sitä koskevien direktiivin muiden ehtojen mukainen.
<b>Svensk</b>	Härmed intygar 4RF Communications Ltd att denna Aprisa™ Radio står i överensstämmelse med de väsentliga egenskapskrav och övriga relevanta bestämmelser som framgår av direktiv 1999/5/EG.

A formal Declaration of Conformity document is shipped with each Aprisa XE terminal.



## RF exposure warning

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**Warning:**

The installer and / or user of Aprisa XE radio terminals shall ensure that a separation distance as given in the following table is maintained between the main axis of the terminal's antenna and the body of the user or nearby persons.

Minimum separation distances given are based on the Maximum Permissible Exposure non-occupational limit (B or general public) of 47 CFR 1.1310 and the methodology of FCC's OST/OET Bulletin Number 65.

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Frequency (MHz)	Maximum power (dBm)	Maximum antenna gain (dBi)	Maximum power density (mW/cm <sup>2</sup> )	Minimum separation distance (m)
400	35	15	1.33	0.8
512	35	15	1.71	0.7
715	34	15	2.38	0.5
806	34	28	2.69	2.2
890	34	28	2.97	2.1
960	34	28	3.20	2.0
1550	34	33	1.00	6.3
2300	34	37	1.00	10.0
2700	34	38	1.00	11.2