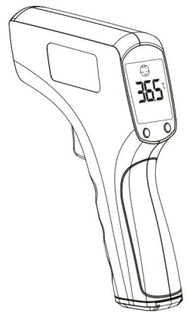
ALPHAMED

Instruction manual

Infrared Forehead Thermometer

Model:UFR103



Introduction

▲Your new Infrared forehead thermometer uses advanced infrared (IR) technology to measure temperature instantly and accurately on the forehead or object.

▲Easy to use and less measurement time

This thermometer does not need to contact body or object to ensure the safety and hygiene. Its ergonomic design makes this thermometer be simple and very easy to check the temperature. It only takes 1 second to take measurement and reading.

▲Body and object modes

This thermometer supports to measure temperature of body and object. Measuring range of object mode is 0.0 to 100.0°C (32.0°F~199.9°F). That means except to take body temperature,it also supports to take the surface temperature of object as below,

Suirface temperature of milk in the bottle;

Surface temperature of baby bath;

Environment temperature.

▲Alarm sounds

When body temperature is over 37.5°C, an alarm sounds for 10 times.

▲Memory function

It stores up to 20 sets recent measurement data.

▲Auto power off

Automatically power off if left idle for Approx 60s.

▲Measurement

Measurement time interval in 1s and the measurement distance is within 1~3cm.

Please read the manual carefully before you use the unit,and keep for future reference.

▲Intended use :

The Infrared Thermometer is intended for the intermittent measurement and monitoring of human body temperature from forehead or object. The device is indicated for use by people of all ages at homecare and in hospital.

Safety Information

To assure the correct use of the product, basic safety measures should always be followed including the warning and the caution listed in the instruction manual :

Symbol descriptions
The following symbols may appear in this manual, on the label,on the device, or on it's accessories. Some of the symbols represent standards and compliances associated with the device and its use.

⚠	WARNING: This alert identifies hazards that may cause serious personal injury or death.
⚠	CAUTION: This alert identifies hazards that may causeminor personal injury, product damage, or property damage.
	Type BF applied part
	Manufacturer
SN	Specifies serial number
EC REP	Authorized Representative in the European Community
CE 0123	CE Mark: conforms to essential requirements of the Medical Device Directive 93/42/EEC.
	DISPOSAL: Do not dispose this product as unsorted municipal waste. Collection of such waste separately for special treatment is necessary.
⎓	Direct current
	Follow instructions for use
⚠	CAUTION: Consult accompanying documents

⚠This thermometer is not intended to substitute for a consultation with your physician.The forehead scan temperature serves as a reference only. It cannot be a judgment on fever.

⚠Basic safety precautions should always be observed, especially when the thermometer is used on or near children and disabled persons.

⚠Please place the device unreachable by young.

⚠Avoid direct sunlight.

⚠Do not touch the lens.

⚠No modification of this device is allowed.

⚠The swallowing of small parks like packing bag, battery,battery cover and so on may cause the suffocation. .

⚠Please do not use a dilution agent, alcohol or petrol to clean the unit. Please ⚠treat is gently and prevent the falling from a high place.

⚠Please do not immersed it in liquid.

Never leave battery in the battery compartment for a long time without use, as they may leak and cause damage to the unit.

⚠Please take off the battery if you do not intend to use within 3 months. Replace with new batteries if the unit display a low battery symbol.

⚠Do not mix the old and new batteries together.

⚠Do not use during the transportation.

⚠ WARNING:

Do not dispose of electrical appliances as unsorted municipal waste, use separate collection facillities.Contact you local government for information regarding the collection systems available. If electrical appliances are disposed of in landfills or dumps, hazardous substances can leak into the groundwater and get into the food chain, damaging your health and well-being.

Classification

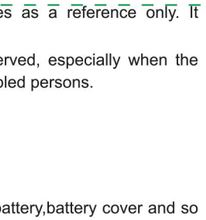
1. Internally powered equipment;
2. Type BF applied part; .
3. Protection against ingress of water or Particulate matter: IP21;
4. Not category AP /APG equipment;
5. Mode of operation:Continuous operation.

⚠The user must check that the equipment functions safely and see that it is in proper working condition before being used.

Product Structure

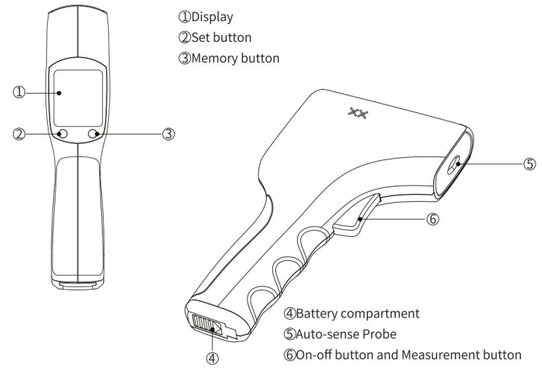
-Display

①Object mode
②Forehead temperature mode
③Ambient temperature mode
④Temperature unit（℃/℉）
⑤Temperature reading
⑥Memory symbol
⑦Battery symbol
⑧Horn symbol
⑨Number of memory groups
⑩Bluetooth symbol



-Body

①Display
②Set button
③Memory button
④Battery compartment
⑤Auto-sense Probe
⑥On-off button and Measurement button



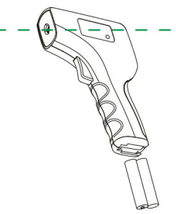
Battery Installation

Remove the battery cover from the battery compartment,insert the battery.

1. Remove the battery cover from .the battery compartment as the arrow direction accordingly.

2. Insert 2 AAA powerful batteries into the compartment and ensure each battery is in the proper direction, Positive (+) and Negative (-) are displayed on the back of battery cover.

3. Close the battery cover.



Low battery and replacement

When power on, the low battery symbol will display once the unit start to work, and you must replace with new batteries, otherwise the unit can' t work.

Battery type and replacement

Please use 2pcs AAA identical 1. 5V alkaline batteries.

Do not use the batteries beyond their expiry date.

Please remove the batteries if you do not need to use for long time.

WARNING

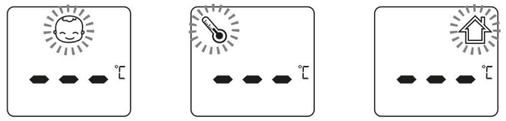
Dispose of the battery in accordance with all federal, state and local laws. To avoid fire and explosion hazard, do not burn or incinerate the battery.

Setting Mode

How To Set

1. Mode setting:

The display all shows for one second after turning on the On-off key, the default setting is “Body mode”after turning on . Short press the setting button once to switch to “Object mode”, and then press the setting button again to switch to “Ambient temperature mode”. If you press the setting button again, it will return to the "Body mode".



Body mode　Object mode　Ambient mode

Note: The Body Mode is used to measure the forehead temperature, and the Object Mode is used to measure the object temperature, then the Ambient mode is used to measure the Ambient temperature.

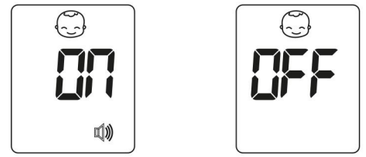
2. Unit setting and sound switch settings:

Long press the setting button for 3 seconds to enter the ℃/℉ and sound switch settings.

Step 1: Enter ℃ / ℉ switch: the interface displays ℃ or ℉, press the memory key to switch the temperature unit, press the set key to confirm the selection, at the same time enter the sound setting selection mode（Restart, the unit will default to "℃"）.

Celsius/℃　Fahrenheit/℉

Step 2: Enter the sound switch setting: the interface displays On or OFF, press the memory key to switch. If you select on, the horn symbol is displayed on the screen. If you select OFF, the horn symbol is not displayed on the side. Press the set button to confirm the selection. The setting is completed automatically. After setting, it will automatically return to the measure mode and wait for measurement.（Restart, the sound will default to on）



Proper Use Of The Unit

Pre-measurement

About Normal Body Temperature&Fever

The temperature in the forehead and temple area differs from the internal temperature, which is taken orally or rectally. Vasoconstriction, an effect which constricts the blood vessels and cools the skin, can occur during the early stages of a fever.In this case, the temperature measured by the Infrared thermometer may be unusually low. If the measurement therefore does not match the patient's own perception or is unusually low, re peat the measurement every 15 minutes. As a reference, you can also measure the internal body temperature using a conventional oral or rectal thermometer.

Body temperature can vary from one individual/person to next.

It also varies by location on the body and time of day. Below shows the statistical normal ranges from different sites.

Please keep in mind that temperatures measured from different sites, even at the same time, should not be directly compared. Fever indicates that the body temperature is higher than normal. This symptom may be caused by infection,overdressing or immunization. Some people may not experience fever even when they are ill.

These include, but are not limited to, infants younger than 3 months old, persons with compromised immune systems, persons taking antibiotics, steroids or antipyretics (aspirin,ibuprofen,acetaminophen), or persons with certain chronic illnesses. Please consult your physician when you feel ill even if you do not have fever.

Table*1 Body Site Normal Temperature Range

Body Site	Normal Temperature Range
Oral	0.6℃ (1℉) or more above or below 37℃ (98.6℉)
Rectal/ear	0.3℃ to 0.6℃ (0.5℉ to 1℉) higher than oral temperature
Axillary (armpit)	0.3℃ to 0.6℃ (0.5℉ to 1℉) lower than oral temperature

Note: Body Temperature at WebMD;
website: http://firstaid.webmd.com/body-temperature;retrieved at 2010 Jan 7.

As a Body Thermometer

Press the On-off button ,after the display is fully displayed for 1 second, the measurement preparation screen is displayed. The 〇 icon lights up. Align the unit with the center of the forehead and let the infrared thermometer probe be 1cm away from the forehead,measurement completion prompts measurement results.(Buzzer: One long beep Voice)

Note:

●If the reading is≥37.5°C(99.5°F)and＜43°C(109.4°F), the buzzer ten short beeps.

●After the measurement is completed, the measurement can be continued after 1 second.

●As the forehead measurement temperature is likely to be affected by sweat, oil and the surroundings, the reading shall be taken as a reference only.

●If the probe is placed at an angle close to the forehead measurement, the reading will be affected by surrounding temperature.

●Babies' skin reacts very quickly in the ambient temperature. Therefore, do not take their temperature with the non-contact thermometer during/after breastfeeding, because the skin temperature maybe lower than the internal body temperature.

As a Object Thermometer

Press the On-off button, after the display is fully displayed for 1 second, switch to the object mode and display the measurement preparation screen. The ℃ icon will light up, Point the infrared thermometer at the object to be measured, and press On-off button to measure, measurement completion prompts measurement results.(Buzzer: One long beep Voice)

Note:

●As the object scan temperature is likely to be affected by the surroundings, the reading shall be taken as a reference only.

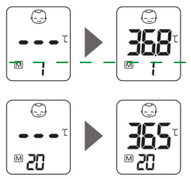
●If the probe is placed at an angle close the object scan, the reading will be affected by surrounding temperature.

As a Ambient Thermometer

Press the On-off button, after the display is fully displayed for 1 second, switch to the ambient temperature mode, display the measurement preparation screen, the ℃ icon lights up, press the On-off key measurement, measurement completion prompts measurement results.(Buzzer: One long beep Voice)

Memory–recall of measurements

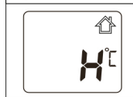
When the device is off, press the "memory button" to enter the read memory mode,the memory icon Ⓜ and"the first group of memory values"appear, Each time you press the key in sequence, 20 groups of memories are read in sequence, and the first group of memories The value is the latest measurement reading, and so on. When reading the 20th group of memory, if you press the memory key again, the first group of readings will be re-read.



Memory-clear Of Measurements

In the shutdown state, long press the memory button for about 8 seconds, the LCD screen displays CL, press the On-off key to confirm, CL flashes 3 times to clear all memories, and the buzzer beeps 3 times continuously

Exceptional Situation

Symbol	Correction
	In Body Mode, Measured temperature is above Measuring range of 43°C/109.4°F it is shown on the LCD.
	In Body Mode, Measured temperature is below the Measuring range of 32°C/89.6°F, it is shown on the LCD.
	In Object Mode, Measured temperature is above Measuring range 100.0°C/199.9°F or environmental temperature is above system Operating range 40°C/104.0°F, it is shown on the LCD .
	In Object Mode, Measured temperature is below Measuring range 0.0°C/32.0°F or environmental temperature is be low system operating range 5°C/41.0°F, it is shown on the LCD.
	In Ambient Mode, Measured temperature is above Measuring range 40.0°C/104.0°F, it is shown on the LCD .
	In Ambient Mode, Measured temperature is below Measuring range 0.0°C/32.0°F, it is shown on the LCD.
	Low battery, replace all the worn batteries with new ones.
Err	~~Thermometer system fails or affected by electric magnetic field~~

⚠ Please contact the distributor if you can not solve the problem, do not disassemble the unit by yourself!

Care And Maintenance

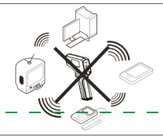
Care for the main unit

●Keep the unit in the storage case when not in use.

●Clean the unit with a soft dry cloth. Do not use any abrasive or volatile cleaners.

●Never immerse the unit or any of its' component in water.

Maintenance

Do not clean the unit with naphtha, thinner or gasoline etc.	Store the unitin a clean and dry location. not subject the unit to extreme hot or cold temperature, humidity and direct sunlight.
Remove the batteries if the unit will notbe used in 3 months or longer.	Do not use the unit under the influence of electromagnetic interference (nearby cellphones, microwave etc.)
	

Note: We will not be responsible for any quality problem if you do not care and maintain the product as instructed.

Specification

Description	Non-contact Infrared Forehead Thermometer
Display	LCD digital display
Measuring localization	Forehead and object surface
Measurement range	Body mode：32.0℃~43.0℃(89.6℉~109.4℉) Object mode：0.0℃~100.0℃(32.0℉~199.9℉) Ambient temperature：0.0℃～40.0℃(32.0℉~104.0℉)
Temperature unit	℃/℉
Display resolution	0.1℃/0.1℉
Accuracy	±0.2℃/±0.4℉ (within 35.0℃~42.0C/ 95.0℉~107.6℉)
Memory function	20 sets memory of measurement values
Buzzer function (or voice reading)	(1)Turn on the device：1short beep (2) Measurement completed: 1 long beep (3) Fever> 37.5 ℃ or 99.5 °F: 10 short beeps
Backlight	Green
Power source	2*1.5V AAA (2 pcs AAA alkaline battery)
Automatic power-off	In 60±5s
Main unit weight	Approx.115 g (batteries not included)
Main unit size	L152mm*W103mm*H39mm
Battery life	Coud be used for 300 times for normal condition
Accessories	Instruction manual
Operating environment	Body mode: 10~40℃ (50℉ to 104℉) Object mode: 5℃~40℃(41℉ to 104℉) Relative humidity range：≤85%RH; Atmospheric pressure range：70kPa～106kPa.
Storage environment	Ambient temperature range：-20℃～+50℃; Relative humidity range：15%～95%RH; Atmospheric pressure range：70kPa～106kPa.

Clinical Measurement Accuracy And Safety Verification:

The product has passed clinical trials. The measured results of the infrared forehead thermometer was compared with the measured results of mercury thermometers, the deviation average Δt_b = 0.011°C not exceeding 0.3°C; the clinical repeatability of the infrared forehead thermometer ŜR =0.100°C, not exceeding 0.3°C. The measured results up to the laboratory standard and the clinical standard.Therefore, the deviation average and the clinical repeatability of the infrared forehead thermometer are complied with the regulatory requirement ISO 80601-2-56. The conclusions are drawn from the clinical trials, the accuracy and safety are compliedwith the regulatory requirement.

Warranty Information

▲The unit is guaranteed to be free of defects in workmanship and materials under normal use for a period of 1 Year from the date of purchase.

▲~~For repair under this warranty. Our authorized service agent must be advised~~ of the fault within the period of the warranty. This warranty only covers parts and labor service under normal operations. Any defect resulting

from natural causes, eg. flood, hurricane etc, is not covered in this guarantee. This guarantee also does not cover damage incurred by use of the unit notin accordance with the instructions, accidental damage, or being tampered or serviced by unauthorized service agents.

▲The fllowing will be excluded from this warranty-if the thermometer has been misused, abused, or neglect in following the manual's instructions on purpose and unauthorized repair or modifications.

▲The device requires no calibration.

▲The device is not repairable and contains no user serviceable parts.

EMC

Table 1

Guidance and manufacturer's declaration-electromagnetic emissions

The Infrared forehead thermometer is intended for use in the electromagnetic environment specified below. The customer or the user of the Infrared forehead thermometer should assure that it is used in such an environment

Emissions test	Compliance	Electromagnetic environment - guidance
RF emissions CISPR 11	Group 1	The Infrared forehead thermometer uses RF energy only for its internal function.Therefore, its RF emissions are very low and are not likely to cause any interference in nearby electronic equipment.
RF emissions CISPR 11	Class [B]	The Infrared forehead thermometer is suitable for use in all establishments other than domestic and those directly connected to the public low-voltage power supply network that supplies buildings used for domestic purposes.
Harmonic emissions IEC 61000-3-2	Class A	
Voltage fluctuations/ flicker emissions IEC 61000-3-3	Complies	

Table 2

Guidance and manufacturer's declaration-electromagnetic emissions

The Infrared forehead thermometer is intended for use in the electromagnetic environment specified below. The customer or the user of the Infrared forehead thermometer should assure that it is used in such an environment

Immunity Test	IEC 60601 Test level	Compliance level	Electromagnetic environment - guidance
Electrostatic discharge (ESD) IEC 61000-4-2	±8 kV contact ±15 kV air	±8 kV contact ±15 kV air	Floors should be wood, concrete or ceramic tile. If floors are covered with synthetic material, the relative humidity should be at least 30 %
Electrical fast transient/burst IEC 61000-4-4	Power supply lines：±2 kV input/output lines：±1 kV	Power supply lines：±2 kV input/output lines：±1 kV	Mains power quality should be that of a typica commercial or hospital environment.
Surge IEC 61000-4-5	line(s) to line(s)：±1 kV. line(s) to earth：±2 kV. 100 kHz repetition frequency	line(s) to line(s)：±1 kV. line(s) to earth：±2 kV. 100 kHz repetition frequency	Mains power quality should be that of a typica commercial or hospital environment.
Voltage dips, short interruptions and voltage variations on power supply input lines IEC 61000-4-11	0% 0.5 cycle At 0°, 45 °, 90 °,135 °, 180 °, 225 °, 270° and 315 ° 0% 1 cycle And 70% 25/30 cycles Single phase: at 0 0% 300 cycle	0% 0.5 cycle At 0°, 45 °, 90 °,135 °, 180 °, 225 °, 270° and 315 ° 0% 1 cycle And 70% 25/30 cycles Single phase: at 0 0% 300 cycle	Mains power quality should be that of a typica commercial or hospital environment.
Power frequency (50/60Hz) magnetic field IEC 61000-4-8	30 A/m 50Hz/60Hz	30 A/m 50Hz/60Hz	Power frequency magnetic fields should be at levels characteristic of a typical location in a typical commercial or hospital environment.

NOTE U_T is the a.c. mians voltage prior to application of the test level.

Table 3

Guidance and manufacturer's declaration-electromagnetic emissions

The Infrared forehead thermometer is intended for use in the electromagnetic environment specified below. The customer or the user of the Infrared forehead thermometer should assure that it is used in such an environment

Immunity Test	IEC 60601 Test level	Compliance level	Electromagnetic environment - guidance
Conduced RF IEC61000-4-6	150KHz to 80MHz：3Vrms 6Vrms (in ISM and amateur radio bands) 80% Am at 1kHz	150KHz to 80MHz：3Vrms 6Vrms (in ISM and amateur radio bands) 80% Am at 1kHz	Portable and mobile RF communications equipment should be used no closer to any part of the Infrared forehead thermometer, including cables, than the recommended separation distance calculated from the equation appropriate for the frequency of the transmitter. Recommended separation distances: d=0.35√P; d=1.2√P;
Radiated RF IEC61000-4-3	10V/m, 80% Am at 1kHz	10V/m, 80% Am at 1kHz	80MHz to 800MHz：d=1.2√P; 800MHz to 2.7GHz：d=2.3√P; Where, P is the maximum output power rating of the transmitter in watts (W)according to the transmitter manufacturer, d is the recommended separation distance in meters (m) Field strengths from fixed RF transmitters, as determined by an electromagnetic site survey, should be less than the compliance level in each frequency range.Interference may occur in the vicinity of equipment marked with the following symbol:

NOTE 1 At 80 MHz and 800 MHz, the higher frequency range applies.
NOTE 2 These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.

[a] Field strengths from fixed transmitters, such as base stations for radio (cellular/cordless) telephones and land mobile radios, amateur radio, AM and FM radio broadcast and TV broadcast cannot be predicted theoretically with accuracy. To assess the electromagnetic environment due to fixed RF transmitters, an electromagnetic site survey should be considered. If the measured field strength in the location in which the Infrared forehead thermometer is used exceeds the applicable RF compliance level above, the Infrared forehead thermometer should be observed to verify normal operation. If abnormal performance is observed, additional measures may be necessary, such as re-orienting or relocating the Infrared forehead thermometer.

[b] Over the frequency range 150 kHz to 80 MHz, field strengths should be less than 3 V/m.

Table 4

Recommended separation distances between portable and mobile RF communications equipment and the

The Infrared forehead thermometer is intended for use in an electromagnetic environment in which radiated RF disturbances are controlled. The customer or the user of the Infrared forehead thermometer can help prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF communications equipment (transmitters) and the Infrared forehead thermometer as recommended below, according to the maximum output power of the communications equipment.

Rated maximum output power of transmitter W	Separation distance according to frequency of transmitter m		
	150 kHz to 80 MHz d=3.5√P;	80MHz to 800MHz d=1.2√P;	800MHz to 2.7GHz d=2.3 √P;
0,01	/	0.12	0.23
0,1	/	0.38	0.73
1	/	1.2	2.3
10	/	3.8	7.3
100	/	12	23

For transmitters rated at a maximum output power not listed above, the recommended separation distance d in meters (m) can be estimated using the equation applicable to the frequency of the transmitter, where P is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer.
NOTE 1 At 80 MHz and 800 MHz, the separation distance for the higher frequency range applies.
NOTE 2 These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.

Table 5

Guidance and manufacturer's declaration-electromagnetic emissions

The Infrared forehead thermometer is intended for use in the electromagnetic environment specified below. The customer or the user of the Infrared forehead thermometer should assure that it is used in such an environment

	Test Frequency (MHz)	Band a) (MHz)	Service a)	Modulation b)	Modulation b) (W)	Distance (m)	IMMUNITY TEST LEVEL (V/m)
Radiated RF IEC61000-4-3 (Test specifications for ENCLOSURE PORT IMMUNITY to RF wireless communications equipment)	385	380～390	TETRA 400	Pulse modulation b) 18 Hz	1,8	0,3	27
	450	380～390	GMRS 460, FRS 460	FM c) ± 5 kHz deviation 1 kHz sine	2	0,3	28
	710	704～787	LTE Band 13, 17	Pulse modulation b) 217 Hz	0,2	0,3	9
	745						
	780						
	810	800～960	GSM 800/900, TETRA 800, iDEN 820, CDMA 850, LTE Band 5	Pulse modulation b) 18 Hz	2	0,3	28
	870						
	930						
	1720	1700～1990	GSM 1800; CDMA 1900; GSM 1900; DECT; LTE Band 1, 3, 4, 25; UMTS	Pulse modulation b) 217 Hz	2	0,3	28
	1845						
	1970						
	2450	2400～2570	Bluetooth, WLAN, 802.11 b/g/n,RFID 2450, LTE Band 7	Pulse modulation b) 217 Hz	2	0,3	28
	5240	5100～5800	WLAN 802.11 a/n	Pulse modulation b) 217 Hz	0,2	0,3	9
	5240						
	5785						

NOTE If necessary to achieve the IMMUNITY TEST LEVEL, the distance between the transmitting antenna and the ME EQUIPMENT or ME SYSTEM may be reduced to 1 m. The 1 m test distance is permitted by IEC 61000-4-3.

a) For some services, only the uplink frequencies are included.
b) The carrier shall be modulated using a 50 % duty cycle square wave signal.
c) As an alternative to FM modulation, 50 % pulse modulation at 18 Hz may be used because while it does not represent actual modulation, it would be worst case.

The MANUFACTURER should consider reducing the minimum separation distance, based on RISK MANAGEMENT, and using higher IMMUNITY TEST LEVELS that are appropriate for the reduced minimum separation distance. Minimum separation distances for higher IMMUNITY TEST LEVEL .S shall be calculated using the following equation:

The MANUFACTURER should consider reducing the minimum separation distance, based on RISK MANAGEMENT, and using higher IMMUNITY TEST LEVELS that are appropriate for the reduced minimum separation distance. Minimum separation distances for higher IMMUNITY TEST LEVEL .S shall be calculated using the following equation: $E=\frac{6}{d}\sqrt{P}$

Where P is the maximum power in W, d is the minimum separation distance in m, and E is the IMMUNITY TEST LEVEL in V/m.

Manufacturer
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