

IEEE N42.59-2024:

Reference link: [IEEE N42.59-2024 - IEEE Standard for Measuring the Imaging Performance of Active Millimeter-Wave Systems for Security Screening of Humans](#)

IEEE Standard for Measuring the Imaging Performance of Active Millimeter-Wave Systems for Security Screening of Humans

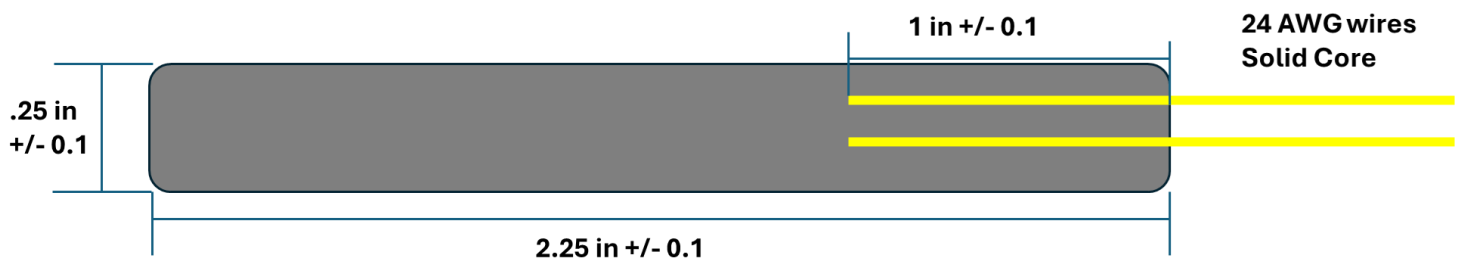
Description:

Established in this standard are test methods and test objects for measuring the imaging performance of active millimeter wave (MMW) radio frequency systems for security screening of humans. This standard applies to security screening systems that inspect people who are not inside vehicles, containers, or enclosures. Specifically, this standard applies to systems used to detect objects carried on the body of the individual being screened. The purpose of this standard is to provide standard test objects and methods of evaluating and reporting imaging quality characteristics. The quality of the data that is used for automated threat recognition is the primary concern.

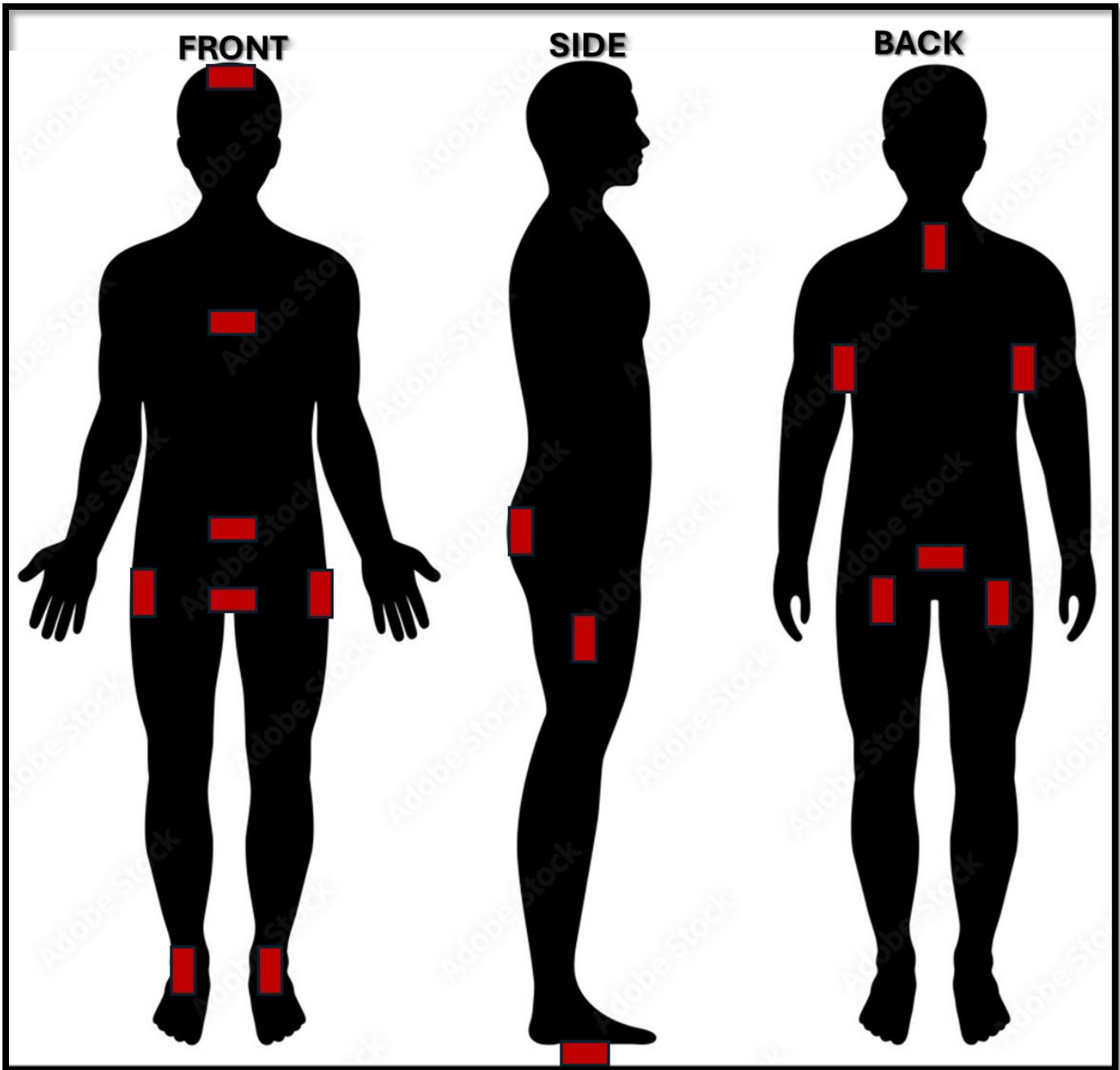


IBDOCIED: The following are the additional requirements for IED detection verification of any millimeter wave (active or passive).

- a. This IEEE standard and testing method can also be used for passive millimeter wave screening systems.
- b. IED Detection: Detection of the IED threat for verification of the system will be done using the following test objects:
 - Inert Electrical Detonator: The inert electrical detonator will be .25 diameter aluminium tube with a .016 wall thickness and be 2.25 inches in length. The inert detonator will have 2 wires that are 21 awg solid core wire with one inch inserted into the aluminium tube and locked into place. The 21 awg wires will extend from the tube at a minimum of 6 inches.



- c. The Inert Electrical Detonator will be tested in the following locations under the clothing of the tester:
 - 1) Front of Body
 - Top of head (under hat, in hair, etc.)
 - Center of chest
 - Center of waist at pant line
 - Left Pocket
 - Right Pocket
 - Groin
 - 2) Back of Body
 - Back of waist at pants line
 - Back pocket left and right side
 - In the back of collar of shirt
 - Bottom of inside of shoe
 - 3) Side of Body
 - Side of leg (cargo pocket)
 - Side of shoe left and right
 - Under left and right arm pit



- d. To pass the IED detection IBDOCIED standard all of the required testing areas must alarm of the first attempt.
- e. To obtain an IBDOCIED IED Detection certification letter you must send the test sheet below along with a video file showing the test being conducted and each alarm.
- f. The form below must be completed with all the required information, or it will not be accepted. If your system cannot pass the test do not even bother sending a test sheet.



International Bomb Disposal & Counter IED Organization

Full Body Millimeter Wave IED Detection Test Sheet

Testing Location	PASS	FAIL
Front of Body		
Top of Head (under hat, in hair, etc.)		
Center of Chest		
Center of Waist at pants waist line		
Left Pocket		
Right Pocket		
Groin		
Back of Body		
Back of waist at Pants Waist line		
Back pocket left and right side		
In the back of collar of shirt		
Bottom of inside of shoe		
Side of Body		
Side of leg (cargo pocket)		
Side of shoe left and right		
Under left and right arm pit		
Manufacture		
Product Model Number		
Software Version		
Detection Sensitivity Setting		
Date of Testing		
Manufacture of Test Object		
Name of Tester		
Signature of Tester		
Date Received by IBDOCIED		
Status:		