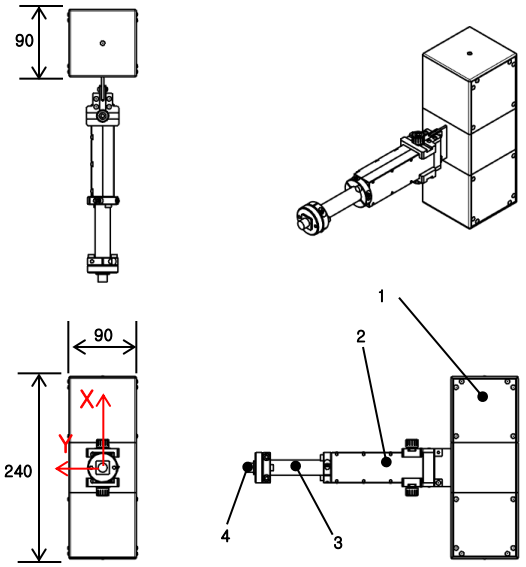
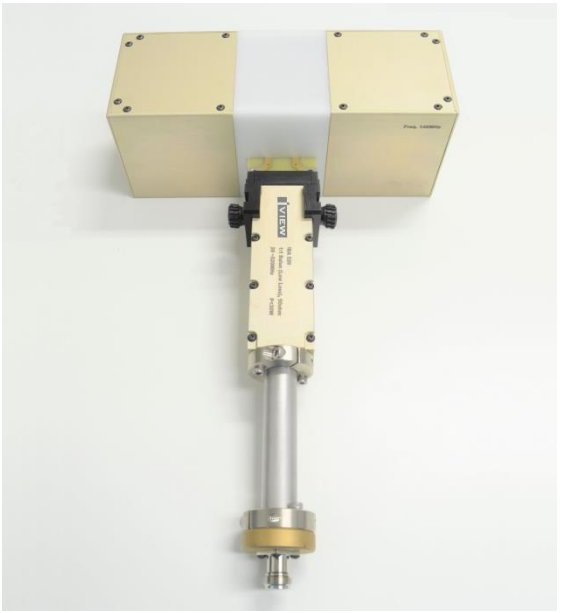
Folded Dipole Antennas on ISO11452-9

IMDA Set

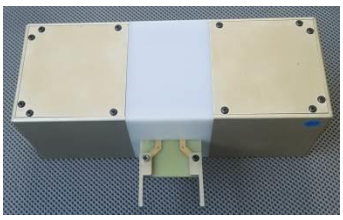
The IMDA series is an ISO 11452-9 compliant Folded Dipole Antennas and consists of five antennas and baluns for evaluating the electromagnetic immunity of automotive electronic components.



1. Radiation element (IMDA)
2. Broadband low loss balun 1:1(IBA520)
3. ∅20 mm tube for handling or fixture
4. N-female connector



IMDA + IBA520



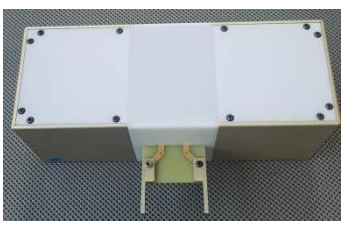
IMDA146 (146MHz)

IBA520 (Balun)

IMDA155 (155MHz)

IMDA165 (165MHz)

IMDA174 (174MHz)



IMDA222 (222MHz)

IMDA Set

IMDA Set (IMDA146, IMD155, IMDA165, IMDA174, IMDA222 + IBA520)

Folded Dipole Antennas on ISO11452-9 IMDA Set

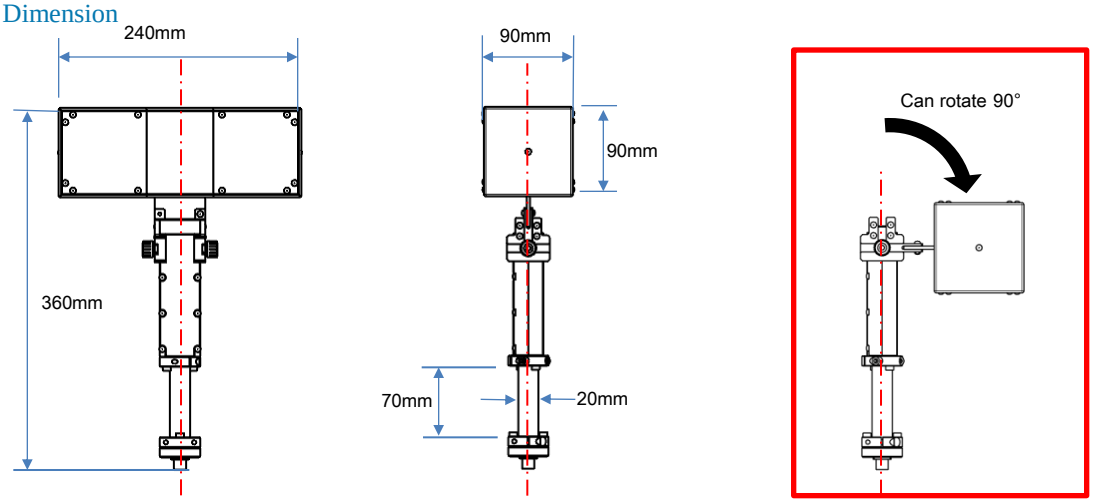
Description

It can be used in the frequency range from 146 MHz to 222 MHz by using the flat portion of a single antenna for the evaluation of electromagnetic immunity of near-field automotive electrical components. Antenna Radiator is powered by 1: 1 Balun.

It consists of one balun and five Radiation Elements. You can unlock the knob and replace the Radiation Element.

The Radiation Element can be mounted orthogonally to the Balun.

Dimension



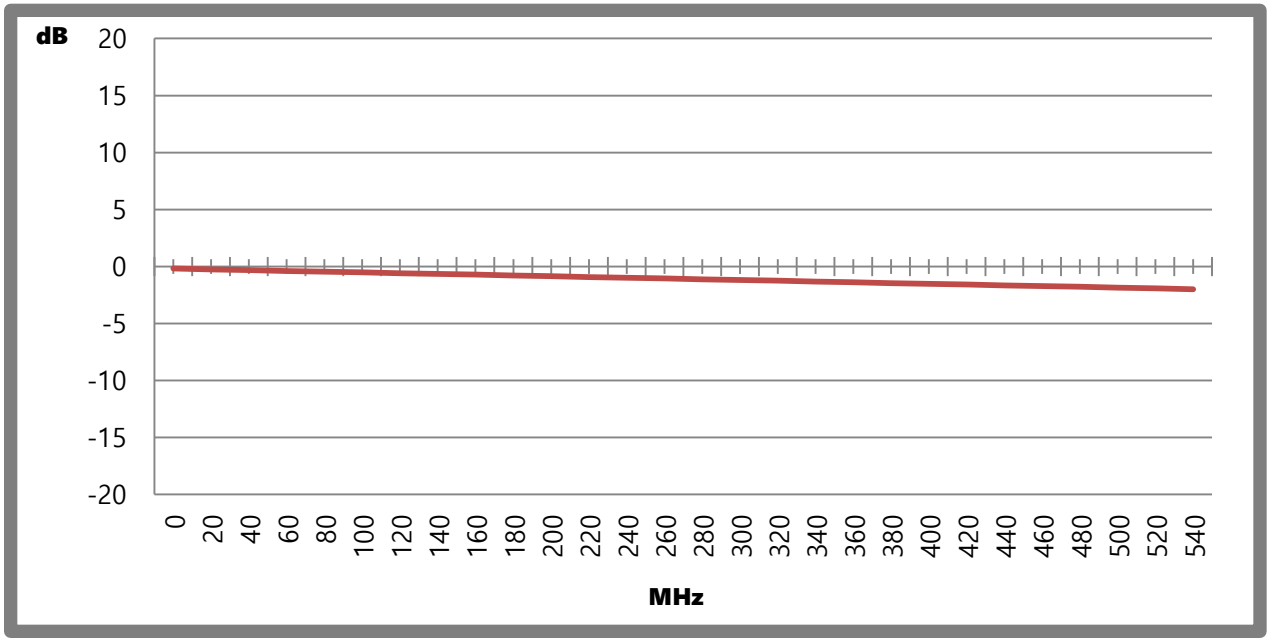
Electrical/Physical Characteristics

Category		Item		Specification	Unit	Conditions
Folded Dipole With Balun	Electrical	Frequency		146 ~ 222	MHz typ.	@Total 5 Antenna (146,155,165,174,222MHz)
		Bandwidth		≒5	%	
		Gain	146MHz	-1.85	dBi typ.	@Antenna Factor (15.36dB/m)
			155MHz	-1.15		@Antenna Factor (15.18dB/m)
			165MHz	-0.85		@Antenna Factor (15.42dB/m)
			174MHz	-1.17		@Antenna Factor (16.21dB/m)
			222MHz	-0.42		@Antenna Factor (17.56dB/m)
		Impedance		50	Ω	
		Input Power		30	W	@Max.
		Polarization		Linear		
		VSWR		≤ 2.0		@ center
				≤ 3.0		@ 5% BW of center
	Physical	Dimension		240 X 90 X 360	mm	
		Tube for Handle		20	mm	@Diameter
		Weight		900	g	@IMDA Set Total 12kg
		Port		N Female	type	

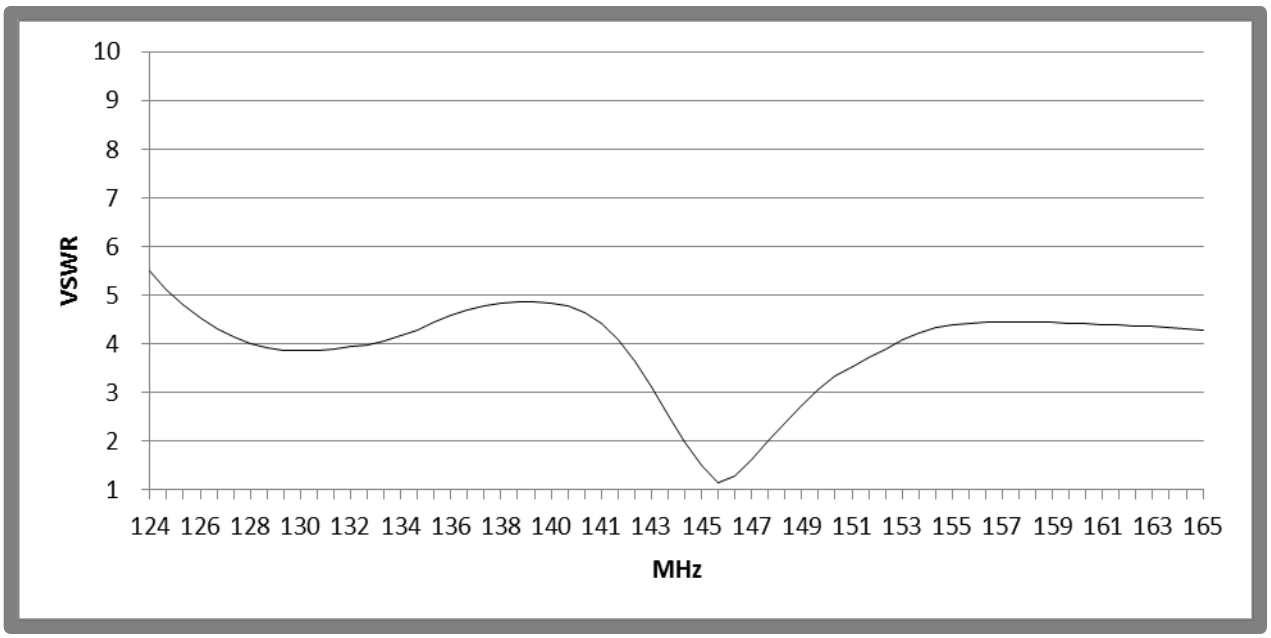
Electrical/Physical Characteristics (IBA520)

Category		Item	Specification	Unit	Conditions
Balun	Electrical	Frequency	20 ~ 520	MHz typ.	
		Insertion Loss	< 2.0	dB	@20 ~ 520MHz Max.
		Impedance	50	Ω	
	Physical	Dimension	250X50X43	mm	@Except Nobe
		Tube for Handle	20	mm	@Diameter
		Weight	520	g	
		Port	N Female	type	

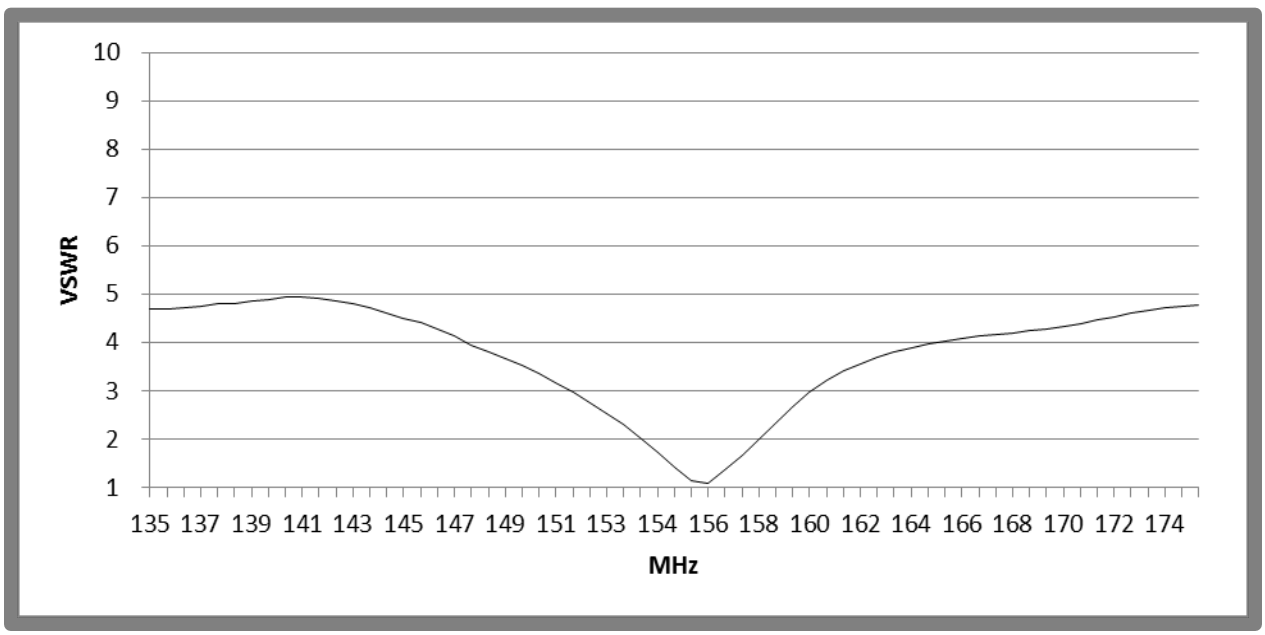
Insertion Loss (IBA-520)



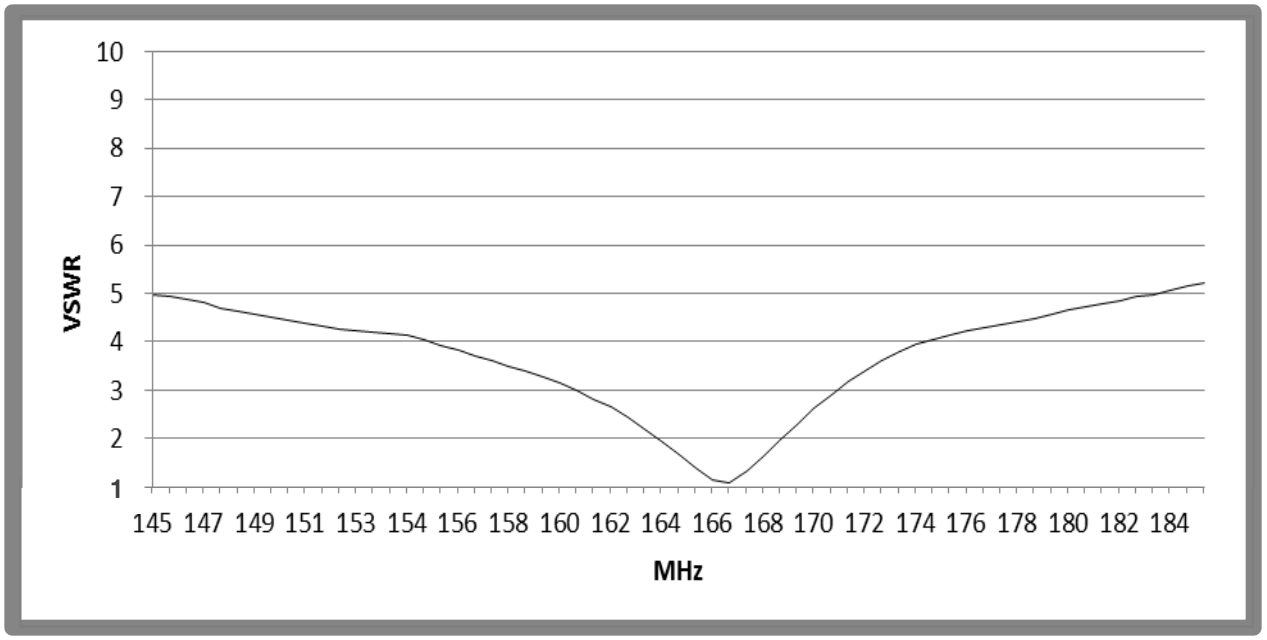
- Typical Passive Performance Curves (IMDA146 VSWR)



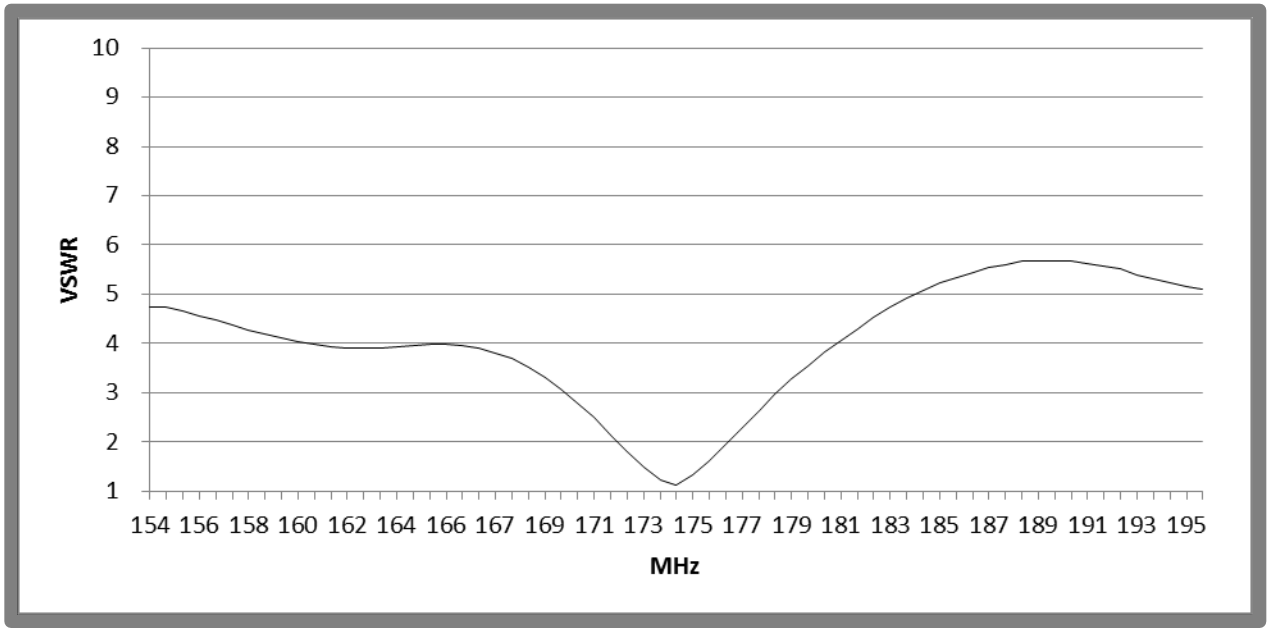
- Typical Passive Performance Curves (IMDA155 VSWR)



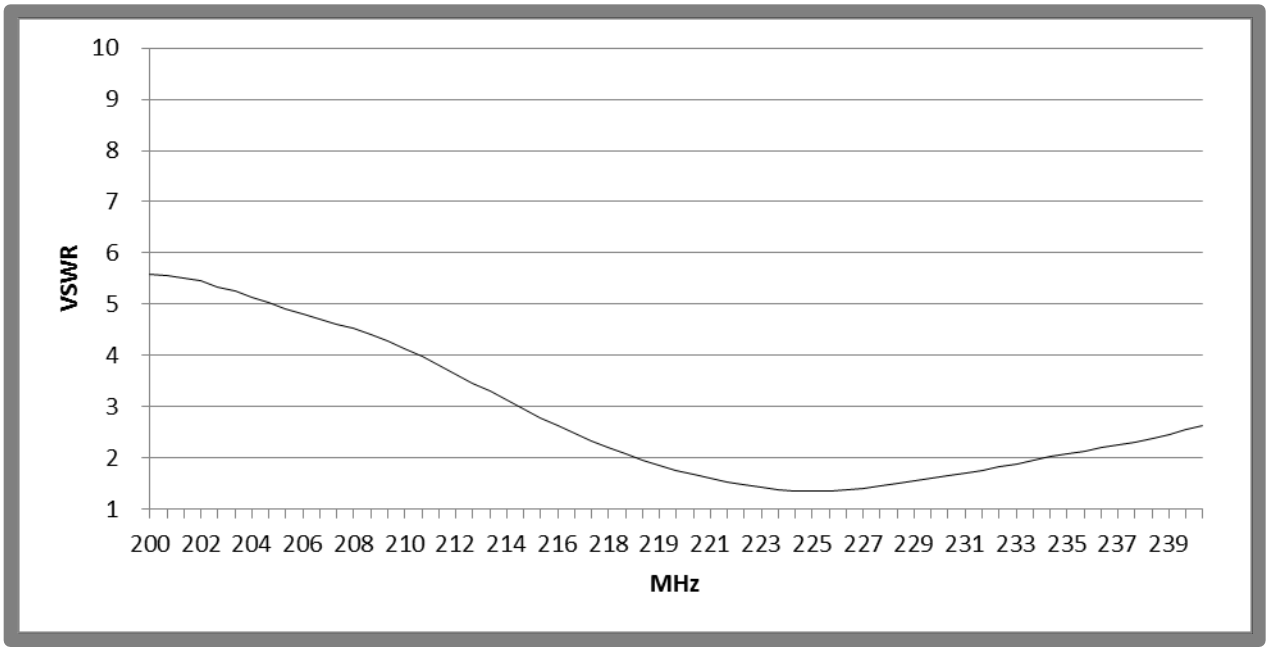
- Typical Passive Performance Curves (IMDA165 VSWR)



- Typical Passive Performance Curves (IMDA174 VSWR)



- Typical Passive Performance Curves (IMDA222 VSWR)

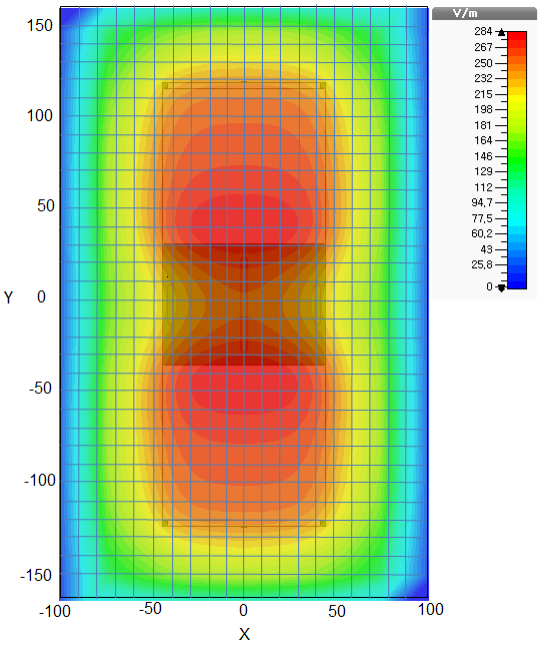


Field Uniformity

Field uniformity measurements were estimated using simulations. Consists of a plane above the area separated by a constant distance d = 50 mm. All diagrams come with the same color scale normalized to 0 dB.

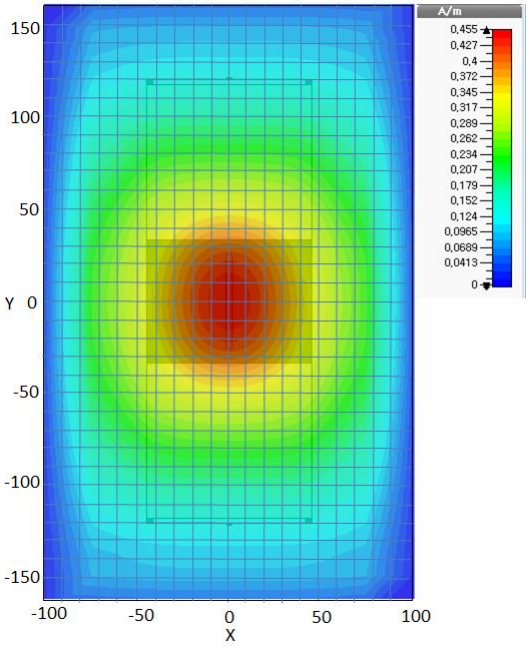
Simulated for each frequency at d = 50 mm. The reference plane of distance d is the WBD3656 surface facing the EUT.

Electric Field (V/M)



146 MHz: 1 W net input
Field strength: 284 V/m

Magnetic Field (A/M)



146 MHz; 1 W net input;
Field strength: 0.46 A/m

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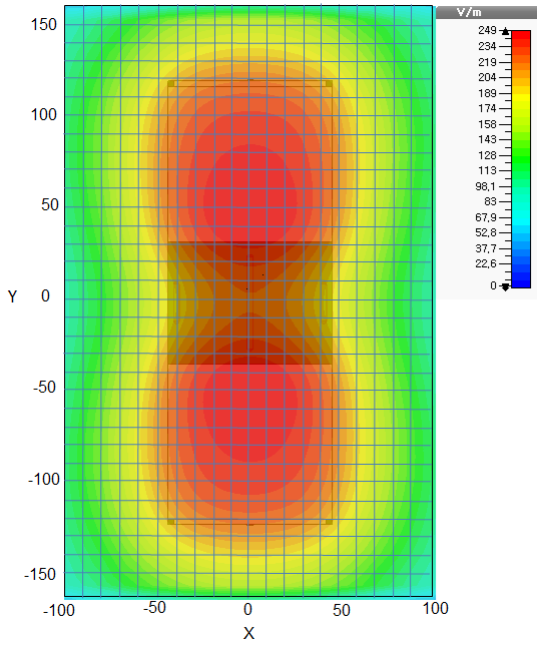
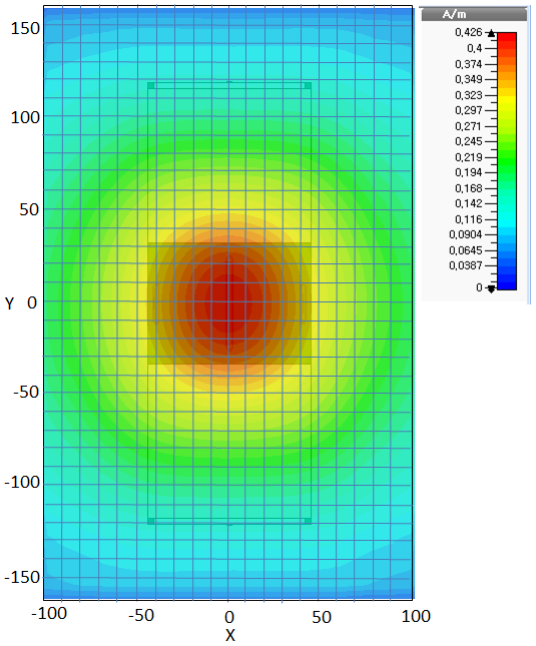
IMDA Set

■ Electric Field (V/M)

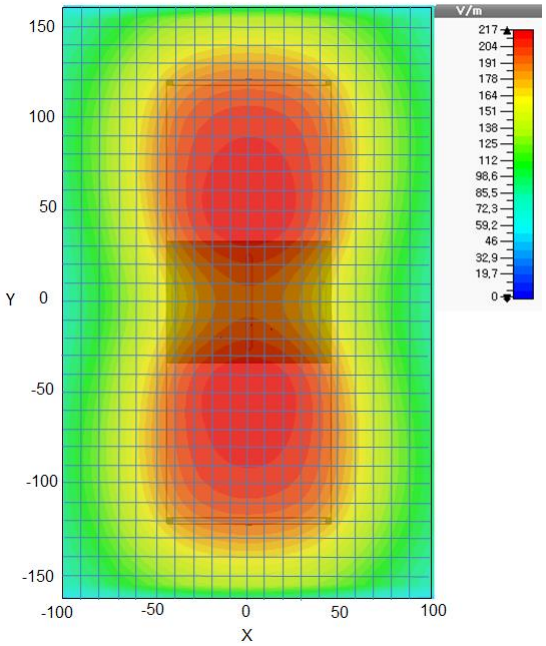


155 MHz; 1 W net input
Field strength:265 V/m

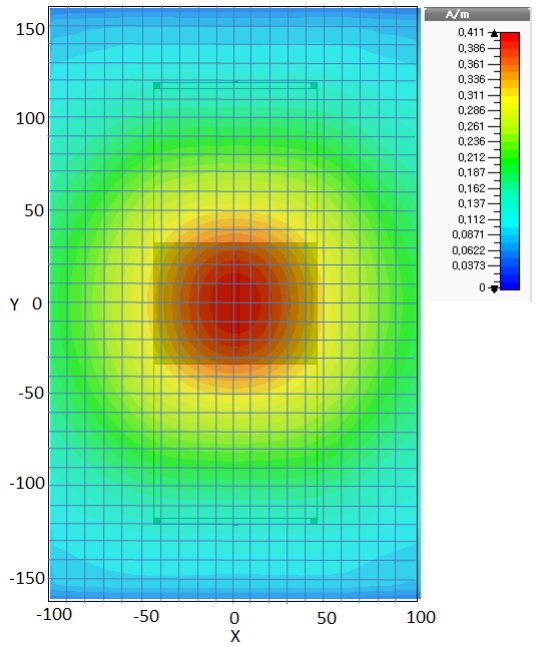
■ Magnetic Field (A/M)



155 MHz; 1 W net input;
Field strength: 0.43 A/m

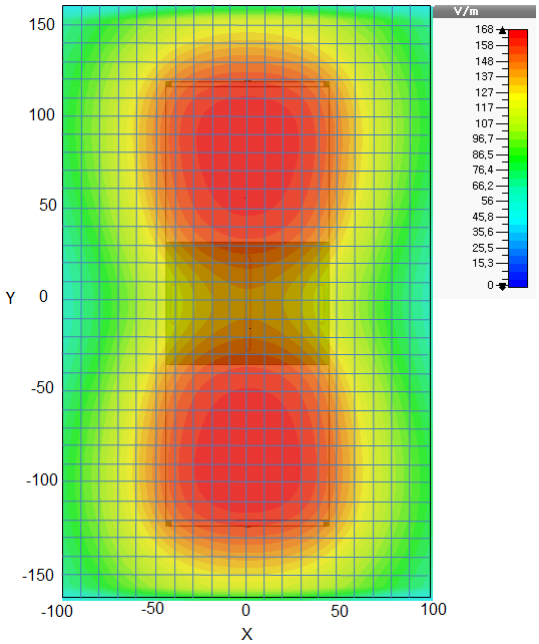


165 MHz; 1 W net input
Field strength: 249 V/m



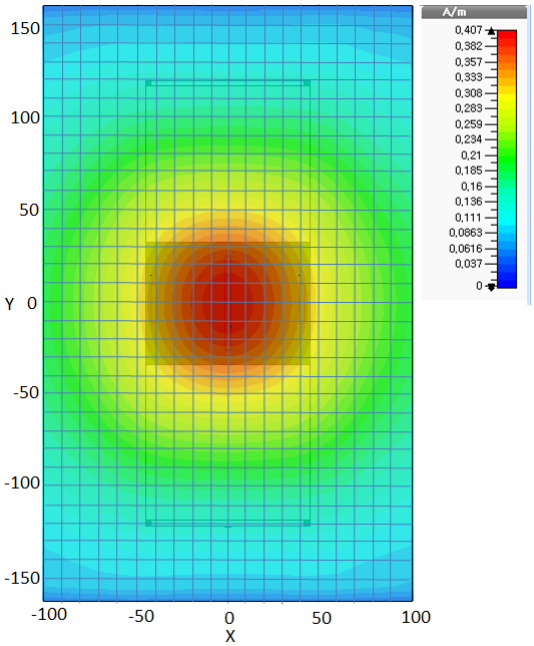
165 MHz; 1 W net input;
Field strength: 0.41A/m

■ Electric Field (V/M)

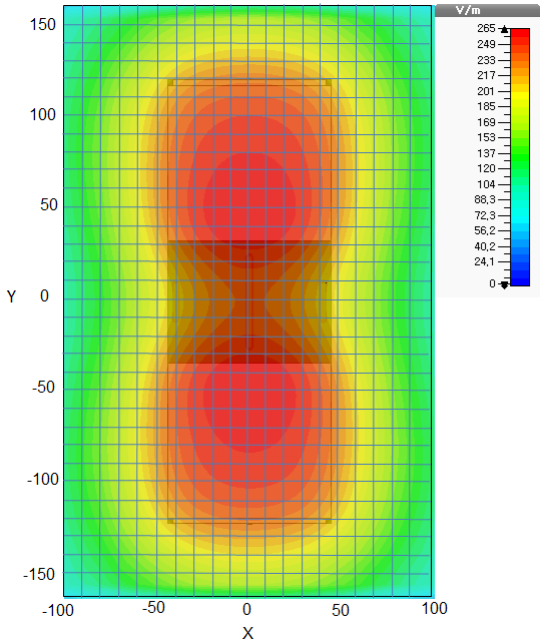


174 MHz; 1 W net input
Field strength: 217 V/m

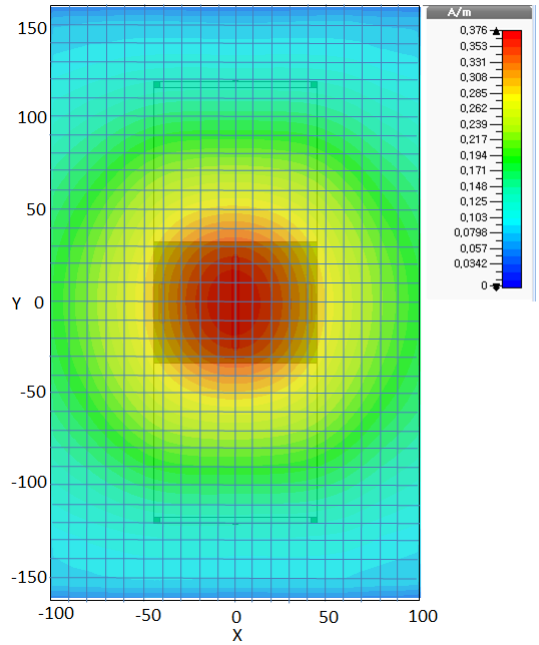
■ Magnetic Field (A/M)



174 MHz; 1 W net input;
Field strength: 0.41 A/m



222 MHz; 1 W net input
Field strength:168 V/m



222 MHz; 1 W net input;
Field strength: 0.38 A/m