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Issued : Kunihiro Nakajima

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## **VRX785BT Antenna Description**

Antenna specification for dipole antenna via PCB pattern.

Product 1DIN DVD AUDIO-VISUAL UNIT  
Model VRX785BT  
FCC ID AX2QC6827B1  
IC ID 419C-QC6827

Craion Co.,Ltd.

Visual System Development  
R&D Division  
ENGINEER

Craion Co.,Ltd.

Visual System Development  
R&D Division  
MANAGER

1. Range to apply

This specification applies to Antenna via PCB pattern.

2. Structure

Refer to a photo1,2.

Part equipped with Antenna



\* There is Antenna in the PCB Installed.

Photo1

Photograph of Aantenna via PCB pattern

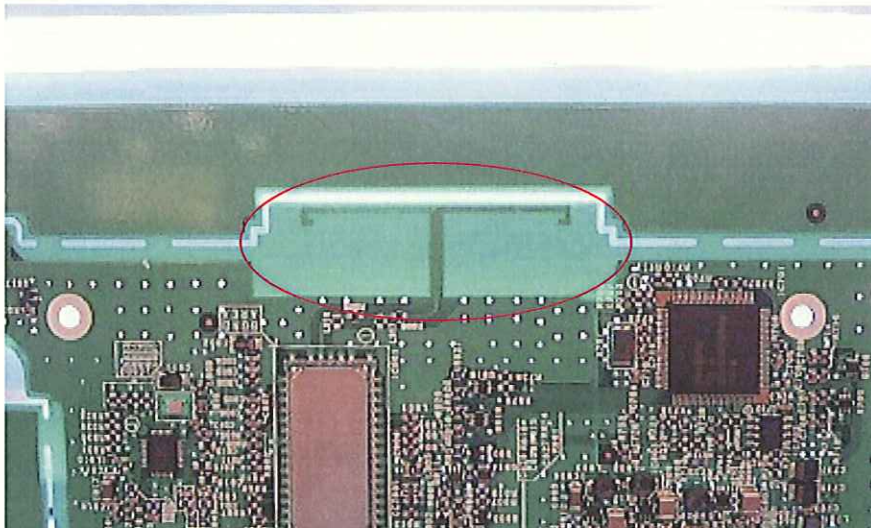


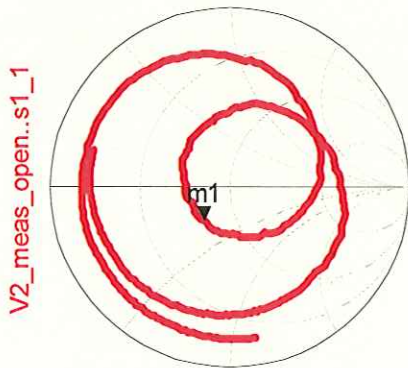
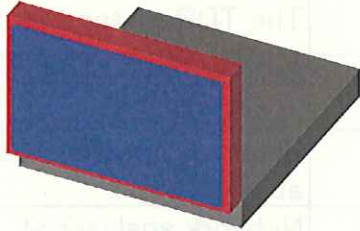
Photo2

### 3.Characteristic

Contents	Unit	Standard	Remarks
Frequency Range	MHz	2400 to 2485	
Characterristic Resistance	$\Omega$	$50 \pm 5$	The TDR method
Gain 'Rerernce' value'	dBi	-2.3	Shielded Anechoic Chamber at VRX785BT
MAX Gain 'Rerernce value'	dBi	0.35	Shielded Anechoic Chamber at VRX785BT
V.S.W.R.-UNIT		3 or less at 2.400 to 2.485GHz	Network analyzer at VRX785BT

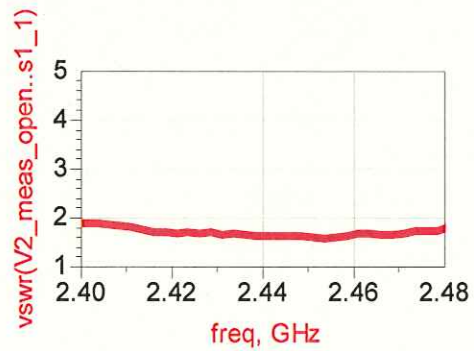
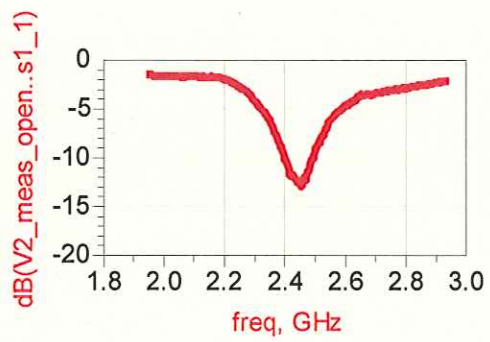
#### 4. Reference value (Characteristics of assembly)

##### 4-1.V.S.W.R-UNIT ( Monitor part is opened)



freq (1.941GHz to 2.941GHz)

m1  
freq=2.441GHz  
V2\_meas\_open..s1\_1=0.236 / -128.623  
impedance = Z0 \* (0.700 - j0.273)

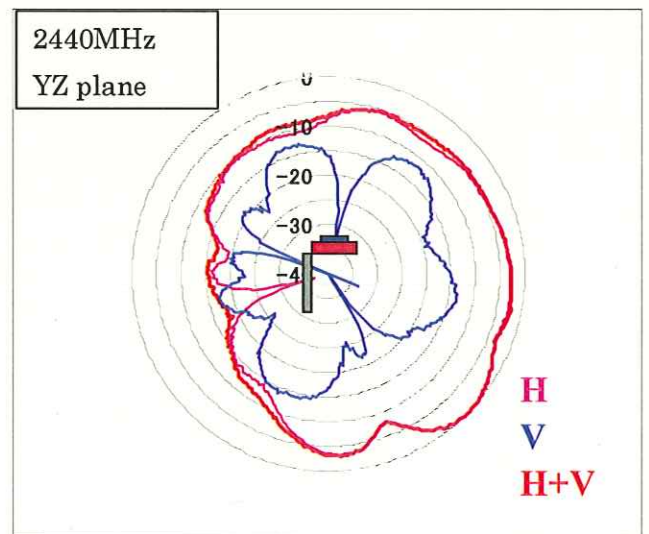
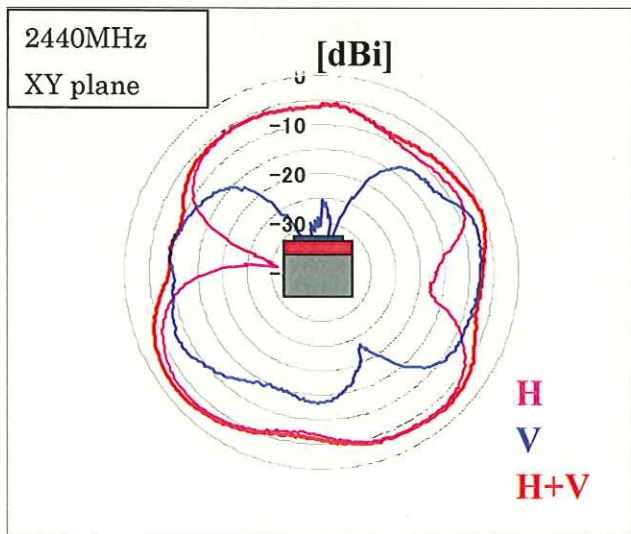
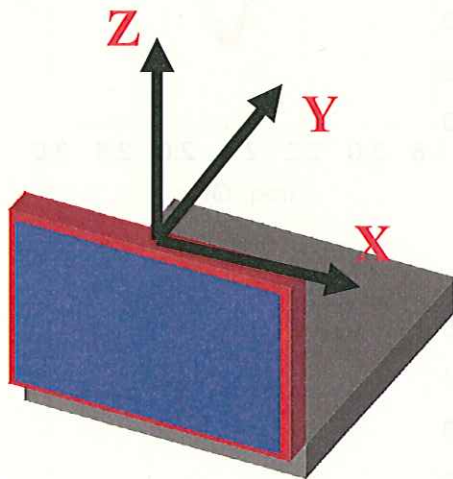


4-2. Antenna GAIN and Directivity (Monitor part is opened)

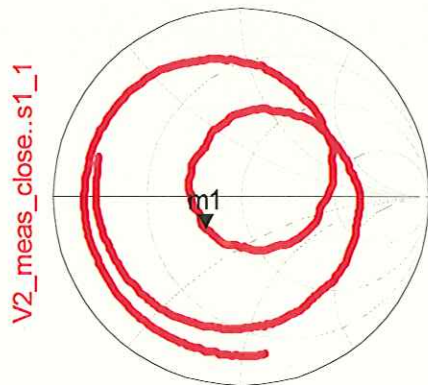
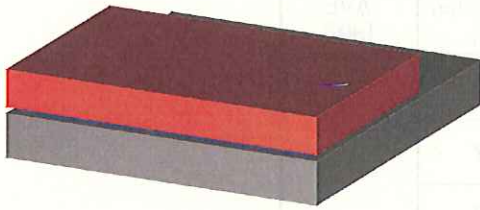
GAIN

Frequency [MHz]	Plane	Polarization	$\pm 55$ Average [dBi]	Composition [dBi]	AVE [dBi]
2400	XY	H Polarization	-6.8	-6.5	-7.5
		V Polarization	-24.4		
	YZ	H Polarization	-8.6	-7.7	
		V Polarization	-17.1		
2440	XY	H Polarization	-7.3	-6.7	
		V Polarization	-23.4		
	YZ	H Polarization	-8.4	-7.5	
		V Polarization	-16.7		
2480	XY	H Polarization	-8.4	-7.7	
		V Polarization	-21.9		
	YZ	H Polarization	-9.8	-8.8	
		V Polarization	-17.5		

Directivity

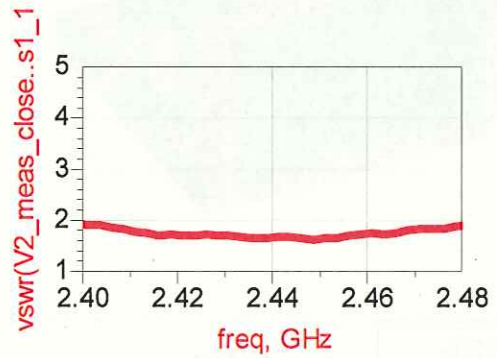
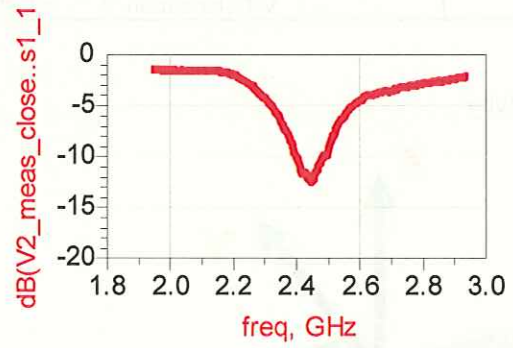


### 4-3.V.S.W.R-UNIT ( Monitor part is closed)



freq (1.941GHz to 2.941GHz)

m1  
freq=2.441GHz  
V2\_meas\_close..s1\_1=0.256 / -137.768  
impedance = Z0 \* (0.647 - j0.238)



4- 4 .Antenna GAIN and Directivity (Monitor part is opened)

GAIN

Frequency [MHz]	Plane	Polarization	$\pm 55$ Average [dBi]	Composition [dBi]	AVE [dBi]
2400	XY	H Polarization	-1.8	-1.7	-2.3
		V Polarization	-20.3		
	YZ	H Polarization	-1.9	-1.9	
		V Polarization	-22.2		
2440	XY	H Polarization	-1.6	-1.5	
		V Polarization	-18.9		
	YZ	H Polarization	-2.5	-2.4	
		V Polarization	-22.8		
2480	XY	H Polarization	-2.9	-2.7	
		V Polarization	-19.9		
	YZ	H Polarization	-3.7	-3.6	
		V Polarization	-24.5		

Directivity

