

Documnet Name	CCAB32ST01	P/N	GPS-Active Antenna Unit	No. 1
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# PRODUCT SPECIFICATIONS

## PRELIMINARY

COMPANY		MATSUSHITA ELECTRIC WORKS,LTD
MODEL		CCAB32ST01
PRODUCT NAME		GPS ACTIVE ANTENNA

NOTE:

NEW                       REVISED

PRELIMINARY

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RELEASE  
 NOV. 11. 1997  
 MATSUSHITA ELECTRIC WORKS, LTD.  
 IPD

*K. Tsukamoto.*



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 Telecommunication Products Department  
 Packaging Materials Division

## 1. Application:

This application shall apply for an antenna unit which shall be used with an engine for an marine ship .

## 2. Appearance:

Antenna Unit (with radome,connector,and cable - refer to an attached drawing)

Dimensions  $\Phi 90 \times 60$  mm

Weight  $160 \pm 10$  g

Color white

## 3. Operating Condition:

Tempreture -30 to +80 deg. C

Humidity 40 to 95 % RH (Below Dew Point)

## 4. Storage Condition:

Tempreture -40 to +85 deg. C

Humidity 40 to 95 % RH (Below Dew Point)

## 5. Output Terminal:

Connector TNC (J) connector

## 6. Electrical Specifications :

\* All value are defined at  $25 \pm 15$  deg.C , 65 20 % RH unless otherwise noted.

\* Antenna characteristics are measured in an anechoic chamber

### 6-1) GPS Antenna (Reference)

#### 6-1-1) Antenna Element

Gain 5.5 dBi (Typical)  
-10 dBi minimum at elevation angle 0 deg.

Axial Ratio 3 dB (Typical)

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**6-1-2) Filter/LNA (reference)**

Band Width	1575.42	$1.023_{\pm}$ MHz(Typical)
Variation	1.0 dB	(Maximum)
Gain	30 dB	(Typ.)
Noise Figure	2.0 dB	(Maximum)

**6-2) Antenna Overall Characteristic**

Polarization	Right hand circular polarization	
Band Width	$1575.42 \pm 1.023$ MHz	
Power Supply	DC $5 \pm 0.5$	V
Current	$27 \pm 5$	mA
Total Gain	30 dBi	(Minimum)
Output VSWR	2.5	(Maximum)

**7. Electrical Specification After Environmental Test**

Measured at  $25 \pm 15$  deg.C ,  $65 \pm 20$  % RH

DC Current	$27 \pm 6$ mA
Total Gain	25 dBi (Minimum)
Output VSRW	3.0 (Maximum)

**8. Outgoing Inspection**

Visual inspection and performance(overall gain and output VSWR) inspection are made in accordance with the Matsushita Product Inspection Standard and the test result are enclosed in the carton box.

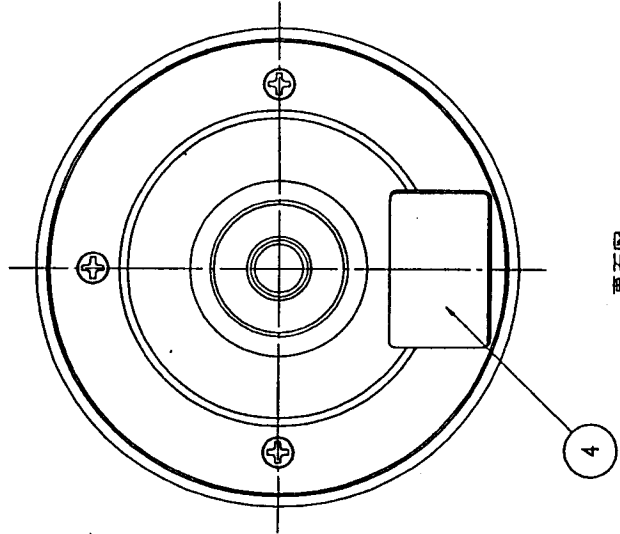
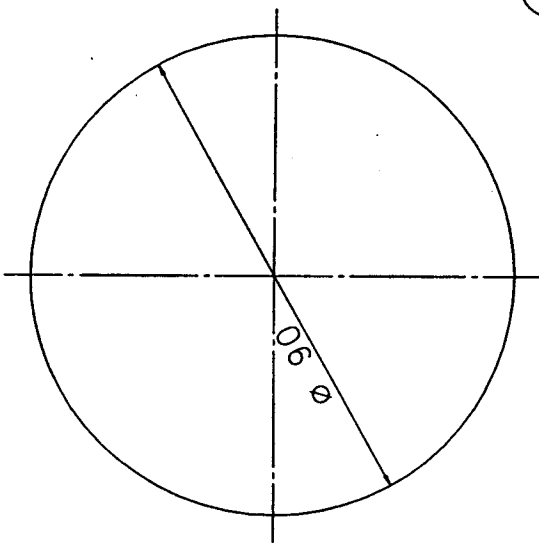
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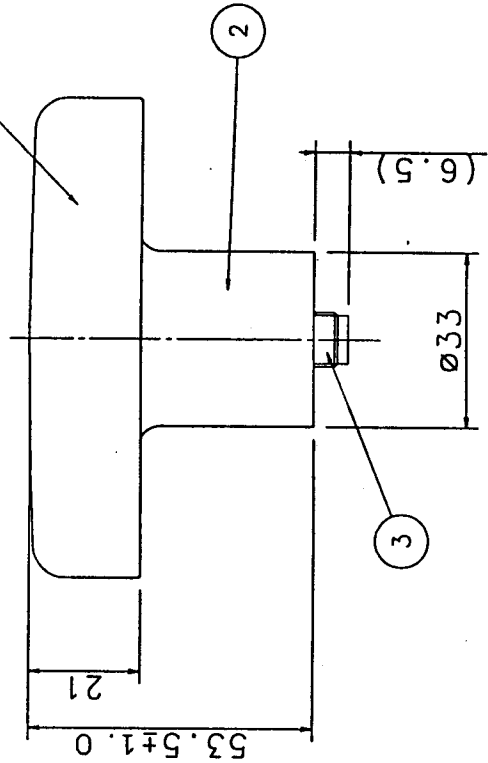
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裏面図



4	銘板	ポリエステル	29x18.5	1		t=0.05
3	コネクタ	C3604		1	NIMツキ	
2	フレッド	AES		1		
1	上フレッド	ノリル (ガラス膜入り)		1		
番号	部品名	材質	寸法	個数	処理	備考
通用明細表図番		通用商品名/品番		公差	尺度	
1995.10.30		GPSアンテナユニット CCAB32ST01.		±0.5	1:1	
承認	許	検	図	材	相	寸
印	印	印	印	相	照	度
				上	照	重
				160		理
				±10g		個
型	仕	図	外	図	名	更
式	様	形	形	形	更	定

DOCUMENT NAME	Environment Test Condition	
PRODUCT NAME	GPS Antenna	
TYPE NUMBER	AU53022GPS, CC AB32ST01	

TEST ITEMS	Test Condition	Evaluation Item
Weather Resistance Test	The specimens are subject to below conditions (according to JISD) in a sunshine weather meter, then stored at standard evaluation condition for more than 2 hours.  Temperature of black panel: 63+/-3°C Rain: 12 minutes/60 minutes Nozzle: φ1mm Water pressure at the nozzle: 0.8 to 1.3kg/ sq. cm. Light radiation time: 1200 hours	Standard Item According to Note 2
Salt atmosphere test	Spray 5+/-1% NaCl solvent(35°C+/-2°C) to the specimens for 16 then stop spraying 8 hours. 20 cycles.	Standard Item According to Note 2
Package drop test	Packaged specimens are dropped on a cement floor from 1 m height in each direction along 6 surfaces, 3 mutually perpendicular and one corner.	Standard Item According to Note 2
High Temperature Test(Operating)	The specimens are subject to DC 6.0V at 75°C for 120 hours, then stored at standard evaluation condition for more than 2 hours.	Standard Item According to Note 2
Low Temperature Test(Operation)	The specimens are subject to DC 4.5V at -30°C for 72hours, then stored at standard evaluation condition for more than 2 hours.	Standard Item According to Note 2
Long Time Operating Test	The specimens are subject to DC5V for more than 1,000 hrs, then stored at standard evaluation condition.	Standard Item According to Note 2
Static Electricity Resistance Test	Adding +/-10kV to every touchable place at 10 times, then stored at standard evaluation condition.	Standard Item According to Note 2

Note 1: Standard evaluation condition

Temperature: 25+/-15°C

Humidity: 65+/-20%RH

✕ Note 2: Standard evaluation Items

- Appearance
- Gain
- VSWR
- Electric Power Consumption

Document Name	Environment Test Result
Product Name	GPS Antenna
Type Number	AU53022GPS, CCAB32ST01

Test Item Requirement	Total Gain (dBi)		Current (mA)		VSWR (-)		Appearance	Final Result
	Before	After	Before	After	Before	After		
	$\geq 30$	$\geq 30$	$27 \pm 5$	$27 \pm 5$	$\leq 2.5$	$\leq 2.5$		
Oil Resistance Test	--	--	--	--	--	--	○	○
	--	--	--	--	--	--	○	○
Weather Resistance Test	--	--	--	--	--	--	○	○
	--	--	--	--	--	--	○	○
Salt Atmosphere Test	--	--	--	--	--	--	○	○
	--	--	--	--	--	--	○	○
Packaging Drop Test	38.4	37.8	25.9	26.0	1.7	1.6	○	○
High Temperature Test (Performance)	36.9	35.9	26.6	28.4	2.5	2.4	○	○
	38.0	36.9	25.6	27.9	1.7	1.4	○	○
Low Temperature Test (Performance)	37.1	38.3	25.7	24.8	1.8	1.9	○	○
	36.2	36.8	25.3	24.4	1.5	1.5	○	○
High Temperature Test (Storage)	34.7	36.1	25.7	26.1	1.4	1.4	○	○
	35.9	37.9	26.3	26.8	1.4	1.5	○	○
	36.6	38.1	26.6	27.1	1.7	1.4	○	○
Low Temperature Test (Storage)	34.6	35.3	25.8	26.3	1.2	1.3	○	○
	38.4	40.3	27.0	27.4	1.1	1.1	○	○

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