

表面実装型誘電体チップアンテナは、豊富な実績を持つ当社の高周波セラミックス技術と、最新の高周波設計技術とを融合させた、高性能な誘電体アンテナです。小型・薄型で、広帯域特性を有しています。小型携帯機器や通信モジュールへの搭載に適しています。

AH11DG-244ST01 (旧形名: AHD1103-244ST01)  
AH14DG-ST01 (旧形名: AHD1403-ST01)

### 特長

- 小型・低背の無指向性アンテナ
- 携帯型無線機器に最適
- 外部調整回路が不用
- 周波数シリーズ品を準備しており、実装条件に最適な特性のアンテナを、迅速に提供可能

AM11DG-ST01 (旧形名: AMD1103-ST01)  
AM03DG-ST01/ST02 (旧形名: AMD0302-ST01/ST02)

### 特長

- 小型・低背アンテナ
- 高利得
- 無指向性
- 外部調整回路により、適用周波数帯へ容易に調整可能
- AM11DG-ST01 : 400MHz ~ 1000MHzの範囲
- AM03DG-ST01/ST02 : 2.4GHz帯

Surface mountable dielectric chip antennas are result of harmonizing our long experience in ceramic material & process technologies for high frequency applications together with cutting-edge RF design technologies. It is very small with low profile, but has a wide range of frequency band. It is suitable for compact mobile equipment and communication modules.

AH11DG-244ST01 (Old part number : AHD1103-244ST01)  
AH14DG-ST01 (Old part number : AHD1403-ST01)

### ■Features

- Very small and thin, omni-directional antenna.
- Due to its compact size, suitable for equipment like cellular phone with a limited mounting space.
- No external tuning circuit
- By applying series of items with certain step of center frequency, it is easy to provide the most suitable antenna for your application quickly.

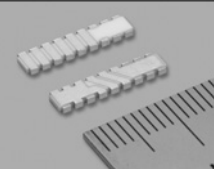
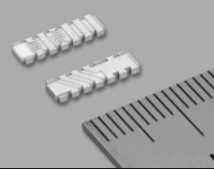
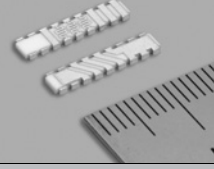
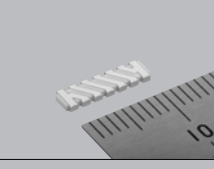
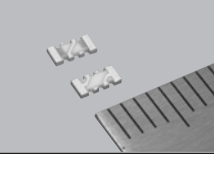
AM11DG-ST01 (Old part number : AMD1103-ST01)  
AM03DG-ST01/ST02 (Old part number : AMD0302-ST01/ST02)

### ■Features

- Very small
- High gain
- Omni-directional
- With an external tuning circuit, the adjustment to an application frequency range is possible.
- AM11DG-ST01 : 400 MHz ~ 1000MHz.
- AM03DG-ST01/ST02 : 2.4GHz Band.

## 製品ラインナップ

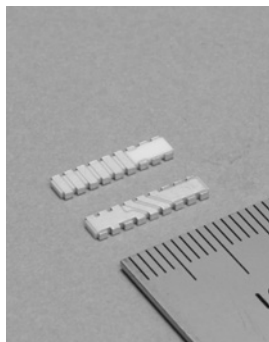
## Products Line up

形名 Part number	形状 Style	周波数範囲 Frequency range	用途 Applications	サイズ(TYP) Size	頁 Page
AH14DG-244ST01 (AHD1403-244ST01)		2400-2484MHz	<ul style="list-style-type: none"> <li>Bluetooth</li> <li>ZigBee</li> <li>無線LAN</li> <li>Wireless LAN</li> </ul>	13.5□3.0□0.8mm	84
AH11DG-244ST01 (AHD1103-244ST01)		2400-2484MHz	<ul style="list-style-type: none"> <li>Bluetooth</li> <li>ZigBee</li> <li>無線LAN</li> <li>Wireless LAN</li> </ul>	10.5□3.0□0.8mm	84
AH14DG-191ST01 (AHD1403-191ST01)		1880-1920MHz	<ul style="list-style-type: none"> <li>PHS</li> <li>DECT</li> </ul>	13.5□3.0□0.8mm	86
AM11DG-ST01 (AMD1103-ST01)		外部調整回路により、 400 ~ 1000 MHzの範囲で、 適用周波数帯へ調整可能  With an external tuning circuit, frequency range is applicable from 400 MHz to 1000 MHz.	<ul style="list-style-type: none"> <li>テレメータ(産業用、医療用)、テレコン、データ通信、キーレスエントリー、イモビライザー、カーセキュリティ音声通信</li> <li>Telemeter(Industrial &amp; medical use), Telemetry, Telecontroller, Data communication, Keyless entry system, Immobilizer system, Car security system, Voice communication terminal</li> </ul>	10.5□3.0□0.8mm	87 90
AM03DG-ST01 (AMD0302-ST01)  新製品 AM03DG-ST02 (AMD0302-ST02)		外部調整回路により、 2400 MHz帯へ調整可能  With an external tuning circuit, the adjustment is possible to 2400 MHz band.	<ul style="list-style-type: none"> <li>Bluetooth</li> <li>ZigBee</li> <li>無線LAN</li> <li>Wireless LAN</li> </ul>	ST01 : 3.0x1.5x0.5(max)mm ST02 : 3.0x1.5x0.4(max)mm	85

注：( )内の表示は旧形名です。

## 2.4GHz帯用 For 2.4GHz Band

## AH14DG-244ST01 (旧形名: AHD1403-244ST01)



## 特長

小型・低背の無指向性アンテナ  
携帯電話等、実装スペースの限られた用途に最適  
カード状の機器への実装にも適している  
広帯域特性なので、実装条件、使用条件による中心周波数  
が変動しても、通信帯域をカバー可能  
外部調整回路が不要  
周波数シリーズ品を準備しており、実装条件に最適な特性の  
アンテナを迅速に提供可能

## 用途

無線LAN、Bluetooth™ 等

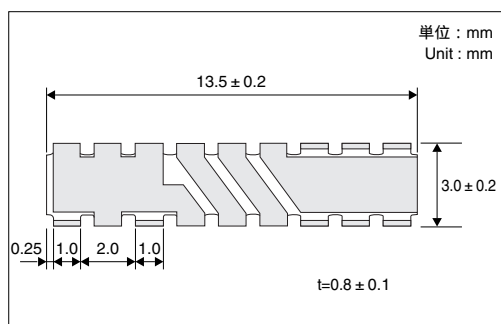
## ■Features

- Very small and thin, omni-directional antenna.
- Due to its compact size, suitable for equipment like cellular phone with a limited mounting space.
- Suitable for card shaped equipment due to its low profile.
- Wide frequency band allows a big margin to cover the required range even in case of center frequency shift with mounting condition and other environmental factors.
- A matching circuit is unnecessary.
- By applying series of item with certain step of center frequency, it is easy to provide the most suitable antenna for your application quickly.

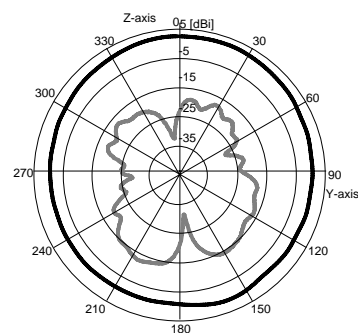
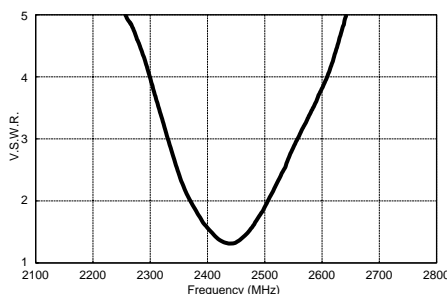
## ■Applications

- Wireless LAN, Bluetooth™ etc.

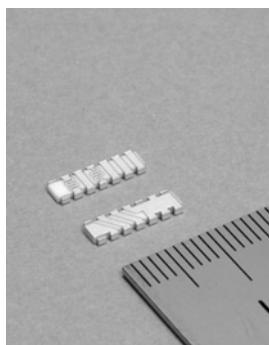
## 形状・寸法 Dimensions



## AH14DG-244ST01の特性 Characteristics of AH14DG-244ST01



## AH11DG-244ST01 (旧形名: AHD1103-244ST01)



## 特長

AH14DG-244ST01(旧形名:AHD1403-244ST01)の小型版  
携帯電話等、実装スペースの限られた用途に最適  
カード状の機器への実装にも適している  
広帯域特性なので、実装条件、使用条件による中心周波数  
が変動しても、通信帯域をカバー可能  
外部調整回路が不要  
周波数シリーズ品を準備しており、実装条件に最適な特性  
のアンテナを迅速に提供可能

## 用途

無線LAN、Bluetooth™ 等

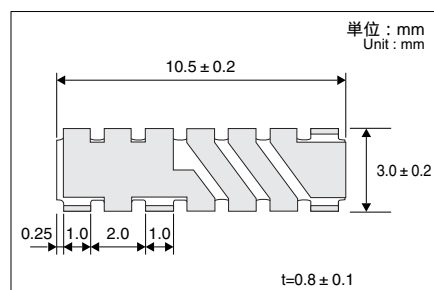
## ■Features

- Down sized version of AH14series.
- Due to its compact size, suitable for equipment like cellular phone with a limited mounting space.
- Suitable for card shaped equipment due to its low profile.
- Wide frequency band allows a big margin to cover the required range even in case of center frequency shift with mounting condition and other environmental factors.
- A matching circuit is unnecessary.
- By applying series of item with certain step of center frequency, it is easy to provide the most suitable antenna for your application quickly.

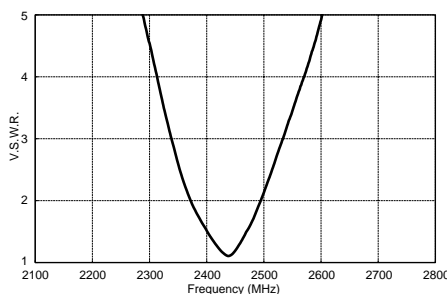
## ■Applications

- Wireless LAN, Bluetooth™ etc.

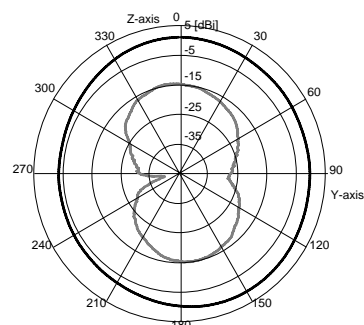
## 形状・寸法 Dimensions



## AH14DG-244ST01の特性

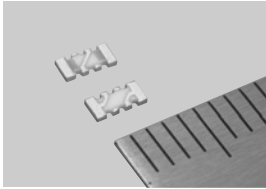


## Characteristics of AH11DG-244ST01



2.4GHz帯用 For 2.4GHz Band

AM03DG-ST01/ST02 (旧形名 : AMD0302-ST01/ST02)



特長

小型・低背アンテナ  
高利得  
無指向性  
外部調整回路により、機器毎の調整が容易

■Features

- Very small
- High gain
- Omini-directional
- With an external tuning circuit, the adjustment to an application frequency range is possible.

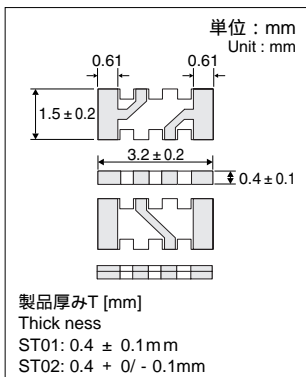
用途

無線LAN、Bluetooth™ 等  
ST02 : 小型、薄型カード用 (microSIM等) に最適

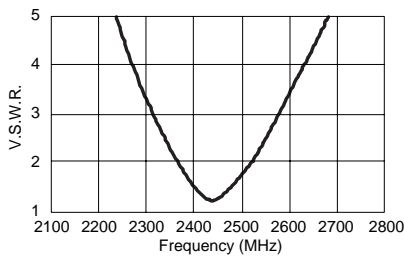
■Applications

- Wireless LAN, Bluetooth™ etc.
- ST02: Suitable for small & thin card application (microSIM etc)

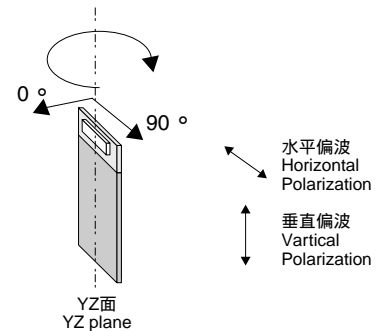
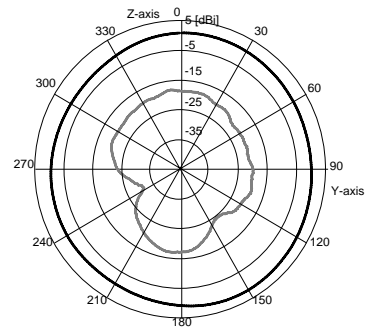
形状・寸法 Dimensions



V.S.W.R.特性および放射特性(参考): 2440 MHz調整



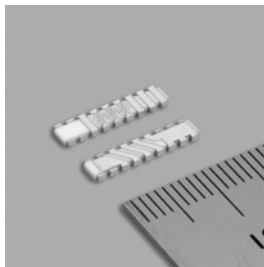
V.S.W.R. & radiation characteristics (Reference) : 2440 MHz



\* これらの特性は代表特性であり、保証特性ではありません。  
\* These characteristics are not guaranteed ones ,but typical ones.

1.9GHz帯用 For 1.9GHz Band

## AH14DG-191ST01 (旧形名: AHD1403-191ST01)



## 特長

小型・低背の無指向性アンテナ  
 携帯電話等、実装スペースの限られた用途に最適  
 カード状の機器への実装にも適している  
 広帯域特性なので、実装条件、使用条件による中心周波数が変動しても、通信帯域をカバー可能  
 外部調整回路が不要  
 周波数シリーズ品を準備しており、実装条件に最適な特性のアンテナを迅速に提供可能

## 用途

PHS, DECT等

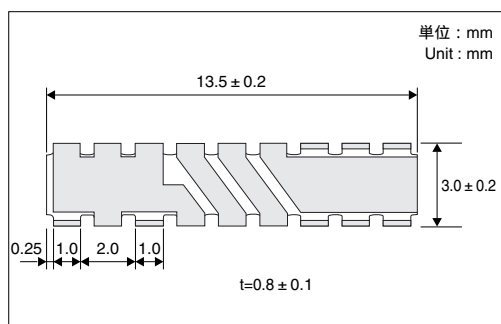
## ■Features

- Very small and thin, omni-directional antenna.
- Due to its compact size, suitable for equipment like cellular phone with a limited mounting space.
- Suitable for card shaped equipment due to its low profile.
- Wide frequency band allows a big margin to cover the required range even in case of center frequency shift with mounting condition and other environmental factors.
- A matching circuit is unnecessary.
- By applying series of item with certain step of center frequency, it is easy to provide the most suitable antenna for your application quickly.

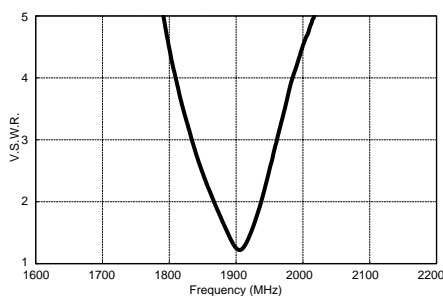
## ■Applications

- PHS, DECT, etc

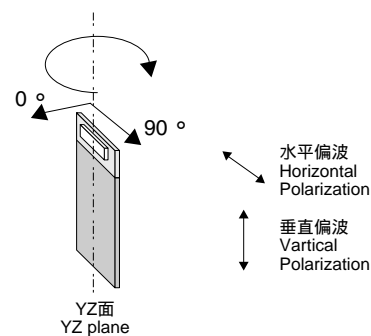
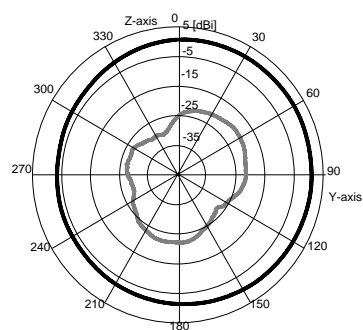
## 形状・寸法 Dimensions



## AH14DG-191ST01の特性



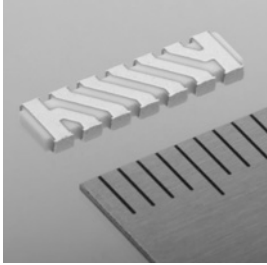
## Characteristics of AH14DG-191ST01



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 \* These characteristics are not guaranteed ones, but typical ones.

950MHz帯用 For 950MHz Band

AM11DG-ST01 (旧形名 : AMD1103-ST01)



特長

小型・低背アンテナ  
 高利得  
 無指向性  
 外部調整回路により、適用周波数帯へ調整可能  
 400 MHz ~ 1000 MHzの範囲  
 (例) 430 MHz、868MHz、915MHz、950MHz

用途

スマートメータ、アクティブタグ等

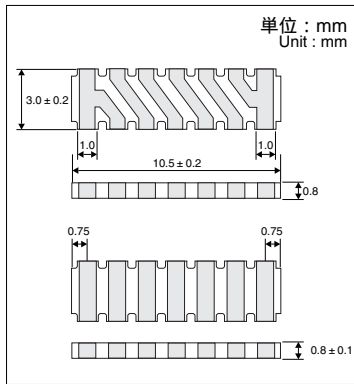
■Features

- Very small
- High gain
- Omini-directional
- With an external tuning circuit, the adjustment to an application frequency range is possible.  
 Frequency range : 400 MHz ~ 1000 MHz.  
 (Ex) 430MHz, 868MHz, 915MHz, 950MHz

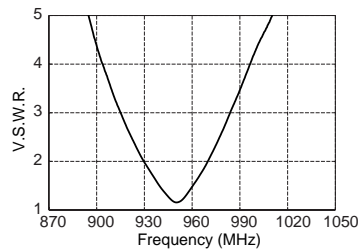
■Applications

- Smart Meter, Active Tag, etc

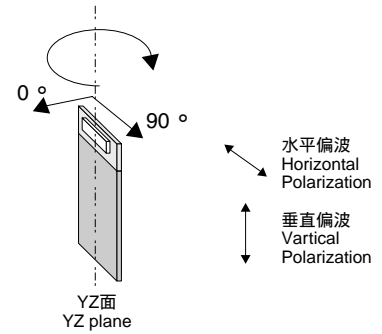
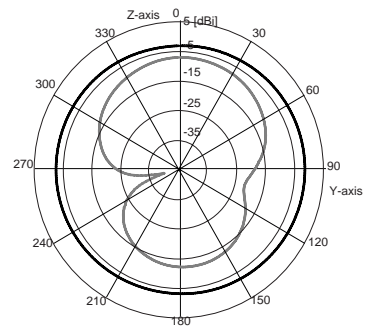
形状・寸法 Dimensions



V.S.W.R.特性および放射特性(参考): 950 MHz調整

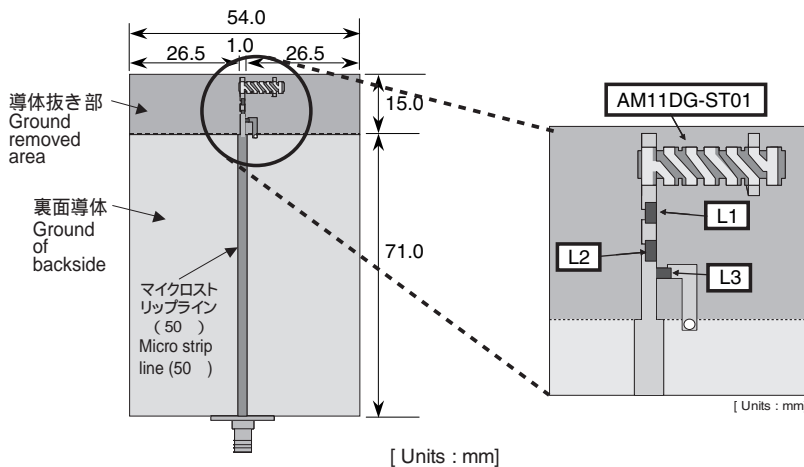


V.S.W.R. & radiation characteristics (Reference) : 950 MHz



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チップアンテナ  
 CHIP ANTENNAS

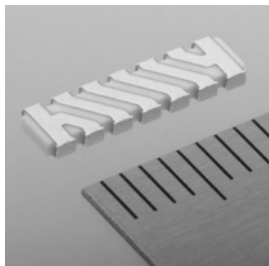


弊社評価基板での調整例 (Ex) 950MHz

f <sub>c</sub> [MHz]	インダクタンス [nH]		
	L1	L2	L3
950	11	33	6.8

915MHz帯用 For 915MHz Band

AM11DG-ST01 (旧形名 : AMD1103-ST01)



特長

- 小型・低背アンテナ
- 高利得
- 無指向性
- 外部調整回路により、適用周波数帯へ調整可能  
400 MHz ~ 1000 MHzの範囲  
(例) 430 MHz、868MHz、915MHz、950MHz

用途

北米向け無線機器

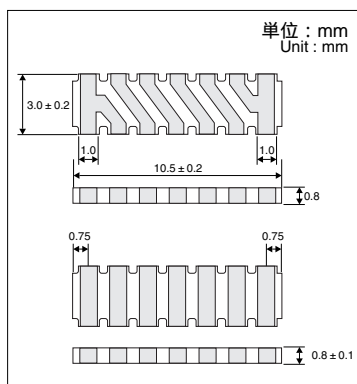
■Features

- Very small
- High gain
- Omni-directional
- With an external tuning circuit, the adjustment to an application frequency range is possible.  
Frequency range : 400 MHz ~ 1000 MHz.  
(Ex) 430MHz, 868MHz, 915MHz, 950MHz

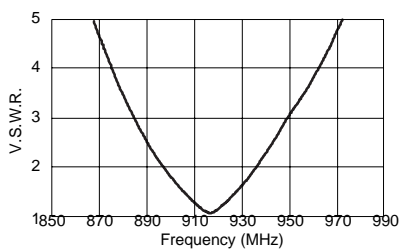
■Applications

- Wireless equipment for North America, etc

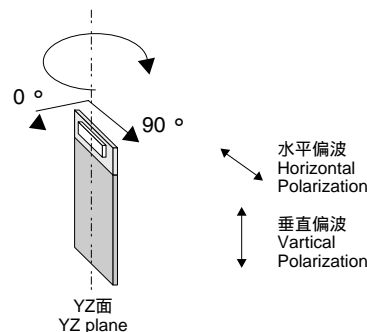
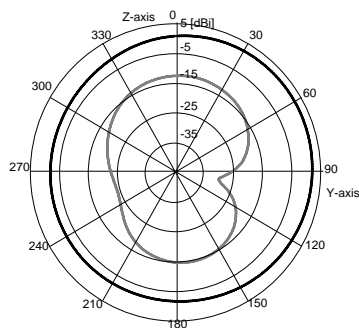
形状・寸法 Dimensions



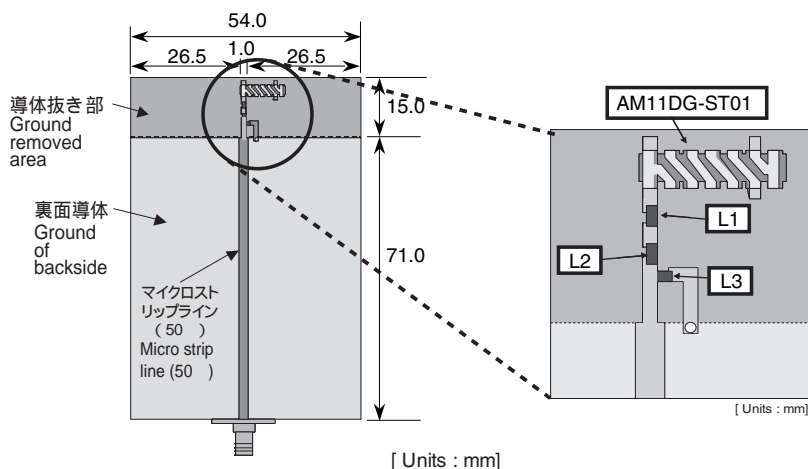
V.S.W.R.特性および放射特性(参考): 915 MHz調整



V.S.W.R. & radiation characteristics (Reference) : 915 MHz



\* これらの特性は代表特性であり、保証特性ではありません。  
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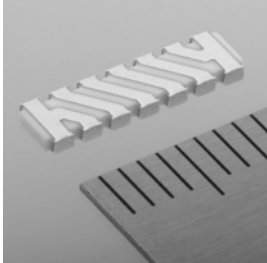
弊社評価基板での調整例 (Ex) 915MHz

fc [ MHz ]	インダクタンス [ nH ]		
915	L1	L2	L3
	8.7	39	7.5

チップアンテナ  
CHIP ANTENNAS

868MHz帯用 For 868MHz Band

AM11DG-ST01 (旧形名 : AMD1103-ST01)



特長

小型・低背アンテナ  
 高利得  
 無指向性  
 外部調整回路により、適用周波数帯へ調整可能  
 400 MHz ~ 1000 MHzの範囲  
 (例) 430 MHz、868MHz、915MHz、950MHz

用途

欧州向け無線機器

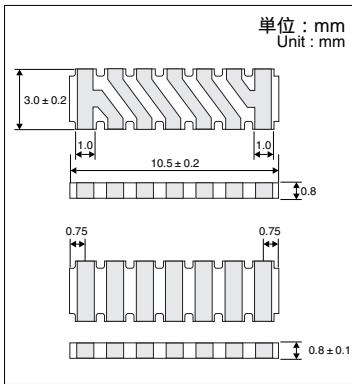
■Features

- Very small
- High gain
- Omini-directional
- With an external tuning circuit, the adjustment to an application frequency range is possible.  
 Frequency range : 400 MHz ~ 1000 MHz.  
 (Ex) 430MHz, 868MHz, 915MHz, 950MHz

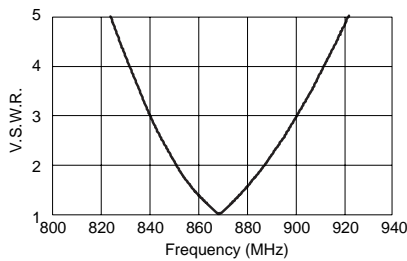
■Applications

- Wireless equipment for Europe, etc

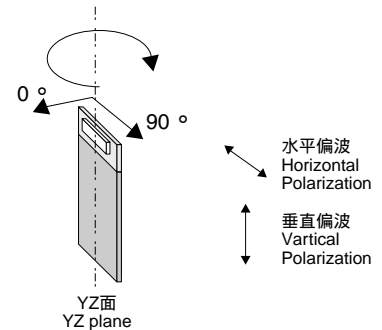
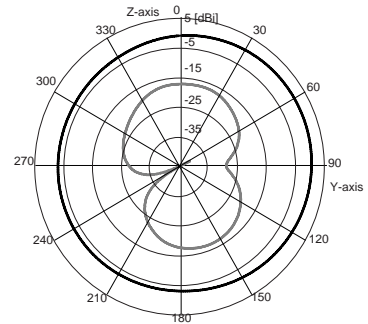
形状・寸法 Dimensions



V.S.W.R.特性および放射特性(参考): 868 MHz調整

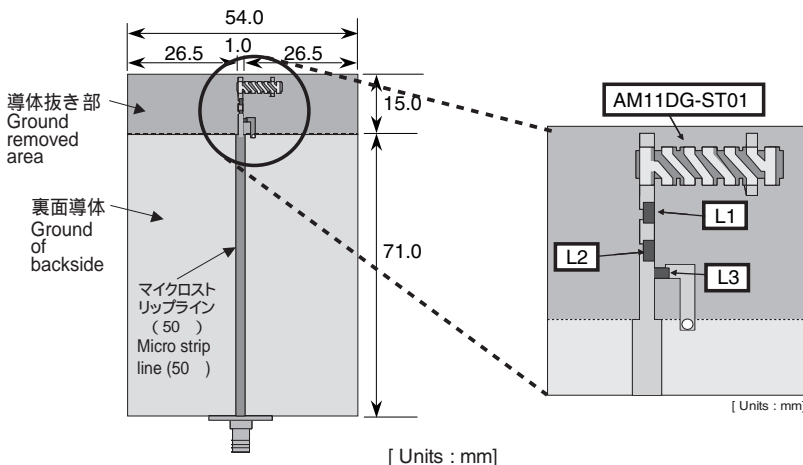


V.S.W.R. & radiation characteristics (Reference) : 868 MHz



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 \* These characteristics are not guaranteed ones, but typical ones.

チップアンテナ  
 CHIP ANTENNAS

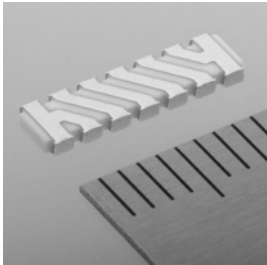


弊社評価基板での調整例 (Ex) 868MHz

fc [ MHz ]	インダクタンス [ nH ]		
868	L1	L2	L3
	4.3	47	8.2

430MHz帯用 For 430MHz Band

AM11DG-ST01 (旧形名 : AMD1103-ST01)



特長

- 小型・低背アンテナ
- 高利得
- 無指向性
- 外部調整回路により、適用周波数帯へ調整可能  
400 MHz ~ 1000 MHzの範囲  
(例) 430 MHz, 868MHz, 915MHz, 950MHz

用途

テレメータ、テレコン、データ通信等

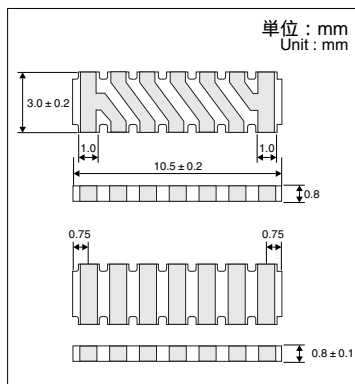
■Features

- Very small
- High gain
- Omni-directional
- With an external tuning circuit, the adjustment to an application frequency range is possible.  
Frequency range : 400 MHz ~ 1000 MHz.  
(Ex) 430MHz, 868MHz, 915MHz, 950MHz

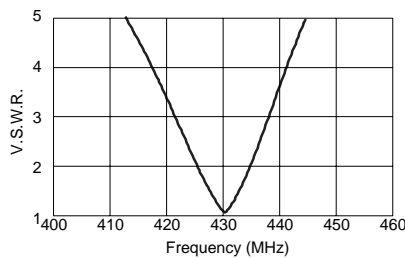
■Applications

- Telemeter,  
Telecontroller, Data communication, etc

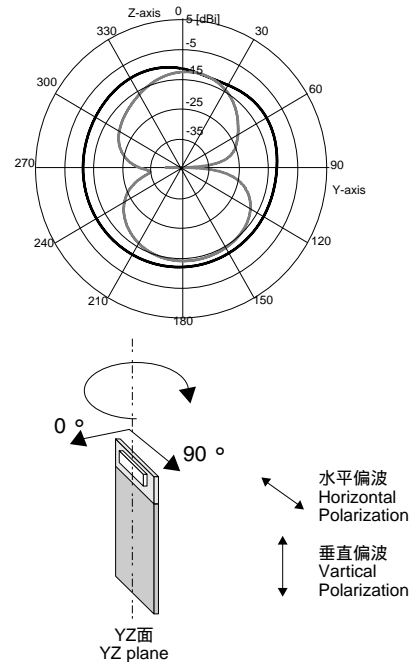
形状・寸法 Dimensions



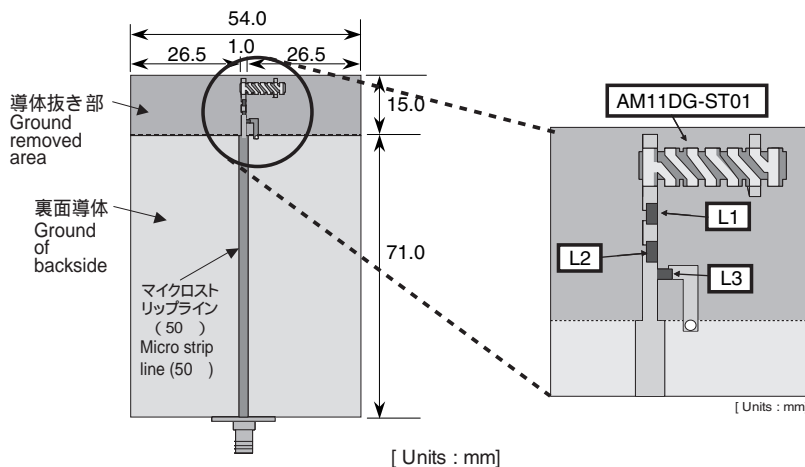
V.S.W.R.特性および放射特性(参考): 430 MHz調整



V.S.W.R. & radiation characteristics (Reference) : 430 MHz



\* これらの特性は代表特性であり、保証特性ではありません。  
\* These characteristics are not guaranteed ones, but typical ones.



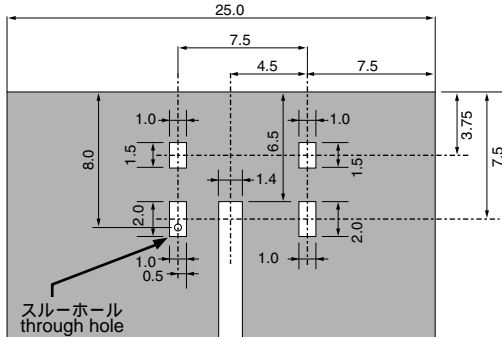
弊社評価基板での調整例 (Ex) 430MHz

fc [ MHz ]	インダクタンス [ nH ]		
430	L1	L2	L3
	30	220	16



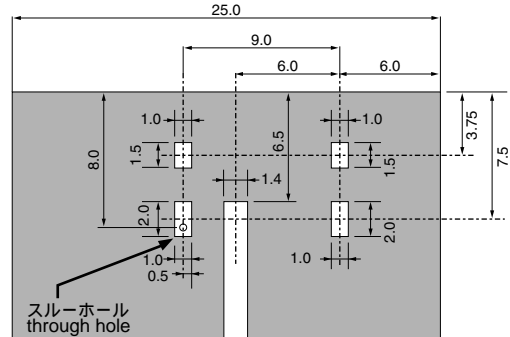
## 推奨ランドパターン(参考) Recommended Land Pattern (Reference)

電極パターン(基板表面): AH11DG-244ST01  
Land pattern (Surface of the Substrate)

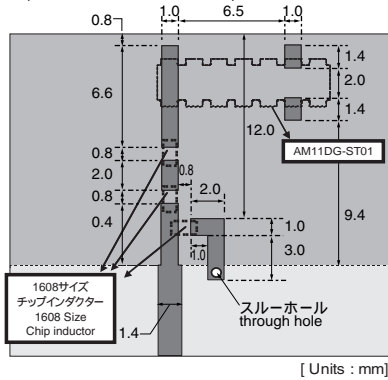


スルーホール( 0.4mm )で裏面GNDと表面ランドを接続  
Connection to ground pattern via through hole ( 0.4mm ) recommended.

電極パターン(基板表面): AH14DG-ST01  
Land pattern (Surface of the Substrate)

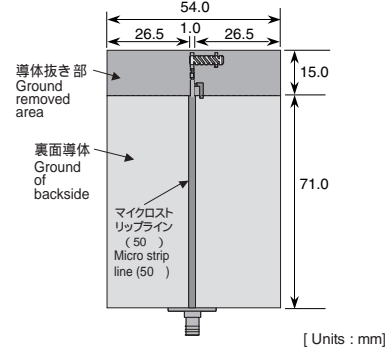


電極パターン(基板表面): AM11DG-ST01  
Land pattern (Surface of the Substrate)



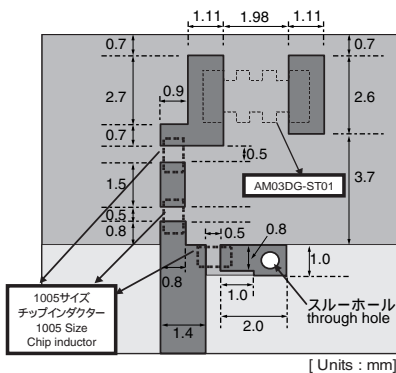
[ Units : mm ]

基板全体図(基板表面): AM11DG-ST01  
Evaluated board (Surface of the Substrate)



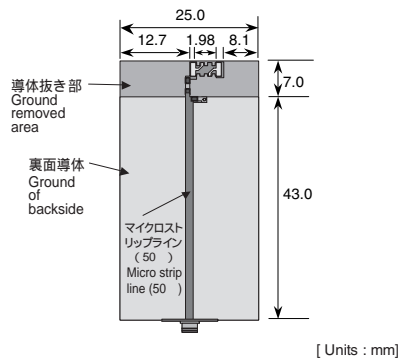
[ Units : mm ]

電極パターン(基板表面): AM03DG-ST01/ST02  
Land pattern (Surface of the Substrate)



[ Units : mm ]

基板全体図(基板表面): AM03DG-ST01/ST02  
Evaluated board (Surface of the Substrate)



[ Units : mm ]

単位 : mm  
Unit : mm

包装形態 Packing form

包装記号 Packing code	形名 Part number	包装数量 Packing Qty.	包装形態 Packing form																																																				
T	AH14 AH11 AM11	4,000	<table border="1"> <tr><th>A</th><th>B</th><th>C</th><th>D</th><th>E</th><th>W<sub>1</sub></th><th>W<sub>2</sub></th><th>r</th></tr> <tr><td>330 +0 -3</td><td>80 +1 -0</td><td>13.0 ±0.2</td><td>R10.5 ±0.4</td><td>2.0 ±0.5</td><td>24.4 ±0.6</td><td>30.4</td><td>0.5</td></tr> </table> <table border="1"> <tr><th>対応</th><th>A</th><th>B</th><th>E</th><th>F</th><th>P0</th><th>P1</th><th>W</th><th>装着穴 Loading hole</th></tr> <tr><td>AHD1403</td><td>3.3 ±0.1</td><td>13.8 ±0.1</td><td>1.75 ±0.1</td><td>11.5 ±0.1</td><td>4.0 ±0.1</td><td>8.0 ±0.1</td><td>24 ±0.3</td><td>くぼみ角穴 Rectangular hole</td></tr> <tr><td>AHD1103</td><td>3.3 ±0.1</td><td>10.8 ±0.1</td><td>1.75 ±0.1</td><td>11.5 ±0.1</td><td>4.0 ±0.1</td><td>8.0 ±0.1</td><td>24 ±0.3</td><td>くぼみ角穴 Rectangular hole</td></tr> <tr><td>AMD1103</td><td>3.3 ±0.1</td><td>10.8 ±0.1</td><td>1.75 ±0.1</td><td>11.5 ±0.1</td><td>4.0 ±0.1</td><td>8.0 ±0.1</td><td>24 ±0.3</td><td>くぼみ角穴 Rectangular hole</td></tr> </table>	A	B	C	D	E	W <sub>1</sub>	W <sub>2</sub>	r	330 +0 -3	80 +1 -0	13.0 ±0.2	R10.5 ±0.4	2.0 ±0.5	24.4 ±0.6	30.4	0.5	対応	A	B	E	F	P0	P1	W	装着穴 Loading hole	AHD1403	3.3 ±0.1	13.8 ±0.1	1.75 ±0.1	11.5 ±0.1	4.0 ±0.1	8.0 ±0.1	24 ±0.3	くぼみ角穴 Rectangular hole	AHD1103	3.3 ±0.1	10.8 ±0.1	1.75 ±0.1	11.5 ±0.1	4.0 ±0.1	8.0 ±0.1	24 ±0.3	くぼみ角穴 Rectangular hole	AMD1103	3.3 ±0.1	10.8 ±0.1	1.75 ±0.1	11.5 ±0.1	4.0 ±0.1	8.0 ±0.1	24 ±0.3	くぼみ角穴 Rectangular hole
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B	全品種 All types	100	<p>ポリ袋 Poly bag</p>																																																				

使用上の注意 Precautions

適用温度範囲  
使用温度範囲 : -40 ~ +85  
保存温度範囲 : -40 ~ +85

取り扱い上の注意  
製品はセラミック製品であり、過度の衝撃、荷重の印加等により素子が破壊する場合があります。  
単体及び基板搭載後の取り扱い、輸送等については十分ご注意ください。

保管方法  
テーピング状態（カバーテープ未開封状態）にて、常温常湿中に保管してください。ただし、下記環境での保管は製品特性を劣化させる恐れがありますのでご注意ください。

- ・ 特殊ガス雰囲気（SO<sub>x</sub>、NO<sub>x</sub>、Cl<sub>2</sub>、NH<sub>3</sub> など）
- ・ ほこりの多い場所、多湿により結露しやすい場所

納入後3か月以内にご使用下さい。また、カバーテープ開封後はすみやかにご使用ください。

保管期間が3か月を超える場合は、ご使用前に半田づけ性をご確認ください。

推奨保管条件  
温度 : -10 ~ +40  
湿度 : 15%R.H ~ 85%R.H

- Operating temperature range  
Operating temperature range : -40 ~ +85  
Storage temperature range : -40 ~ +85

●Handling  
Excessive stress or mechanical shock may damage to products, therefore, please be careful in handling or transporting products and assemblies with this product.

●Storage  
Products should be stored as it packaged (as sealed up) under normal temperature and humidity. To avoid degradation or destruction of products, please do not store under conditions below.

- ・ In an atmosphere containing corrosive gas (SO<sub>x</sub>, NO<sub>x</sub>, Cl<sub>2</sub>, NH<sub>3</sub> etc.)
- ・ Dusty Place
- ・ Humid place, where water condenses

Stored products should be used within 3 months of receipt (If once the seal of covertape is broken, please use immediately).

If this period is exceeded please verify solderability of products.

[Recommended storage condition]  
Temperature: -10 ~ +40  
Humidity: 15%R.H ~ 85%R.H