

Tuneable Mobile TV Antenna

Antenna's **Tuneable Mobile TV** antenna is an internal antenna designed for the reception of digital UHF TV services on small mobile devices such as handheld TVs, smart phones, portable navigation devices (PNDs) and personal digital assistants (PDAs). It is designed to tune over the UHF 470–860MHz band, so it covers the UHF frequencies used for DVB-T, DVB-H, ATSC and ISDB-T.

The internal Mobile TV antenna has been designed to provide as much efficiency possible when mounted on small mobile platforms. The antenna's operating frequency is tuned interactively using a pulse-width modulation (PWM) output from the receiver to ensure that it delivers the best possible signal quality on any platform.

Applications:

- Handheld TVs
- Smart phones
- Portable Navigation Devices (PNDs)
- Personal Digital Assistants (PDAs)
- Portable Media Players (PMPs)

Features:

- Internal antenna
- Small size
- High Efficiency
- Low current consumption
- High rejection of out-of-band signals
- Provision for integration with the TV receiver

Preliminary Draft



Tuneable Mobile TV Antenna

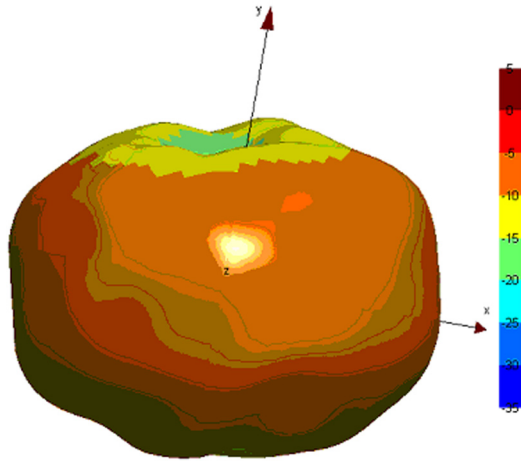
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electrical

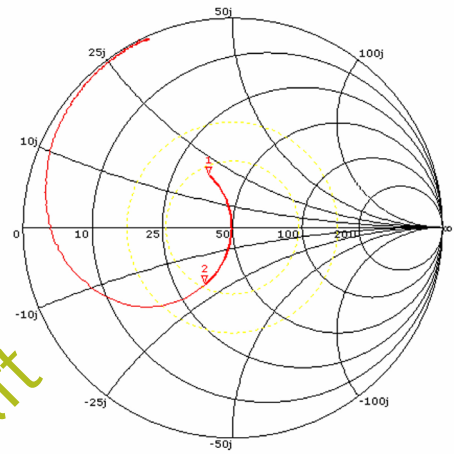
Frequency: 470 - 860 MHz
 Gain: >7dBi at 470MHz, rising to -3dBi at 860MHz
 VSWR (after tuning): <1.2:1
 Impedance: 50Ω
 Tuning Voltage: Typically 2.8V PWM signal from receiver to indicate RF signal level
 DC Supply Voltage: 4.5V max / 3.5V min
 DC Current: TBD

mechanical

Dimensions : 50mm x 15 mm
 (incl 10mm x 11mm area for receiver chip)
 Element Substrate: 0.9mm FR4
 Mounting: Integrated with host device PCB
 Groundplane: 125mm x 60mm
 *Also suitable for use on platforms up to notebook or TV set dimensions

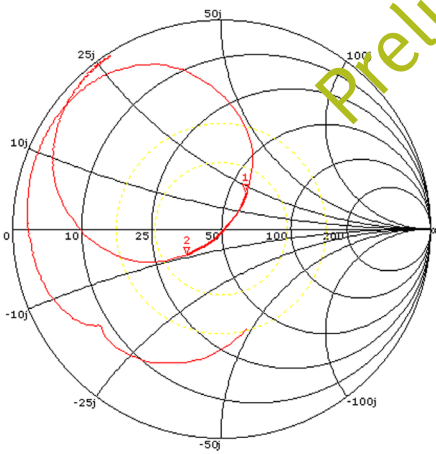


Measured Radiation Pattern at 600MHz



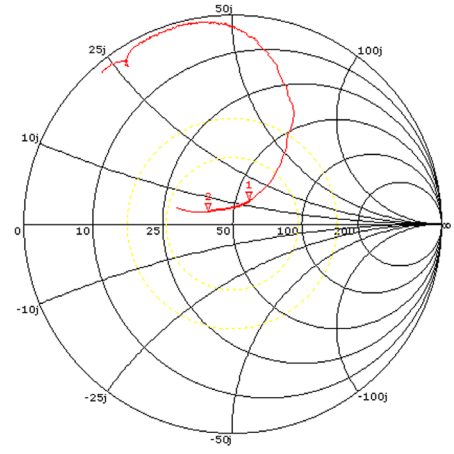
MARKERS:	MHz	Ω
CH21.S1P	1: 470	36.2+19.3i
	2: 478	33.6-20.2i

Impedance Plot Tuned to Channel 21 (470-478MHz)



MARKERS:	MHz	Ω
CH44B.S1P	1: 654	59.7+21.4i
	2: 662	35.1-9.2i

Impedance Plot Tuned to Channel 21 (654-662 MHz)



MARKERS:	MHz	Ω
CH68.S1P	1: 846	58.2+13.3i
	2: 854	39.5+4.6i

Impedance Plot Tuned to Channel 21 (846-854 MHz)



Certificate No: 4598

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The information provided in this document was correct at the time of going to print