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Antenna Specification

Name and address of the antenna manufacturer :	Microchip Technology 2355 West Chandler Blvd. CHANDLER, AZ 85224-6199, United States
Model number :	ATWILC1000
max. Gain :	-0.3 dBi, PCB Antenna.
Antenna patterns preferred :	see Antenna_patterns.pdf

The following figures illustrate the antenna radiation pattern. During the measurement, the printed antenna is placed in the XZ plane with the Y axis being perpendicular to the module and pointing to the back of the module.

Figure 12-3. Antenna Radiation Pattern when Phi = 0 Degree

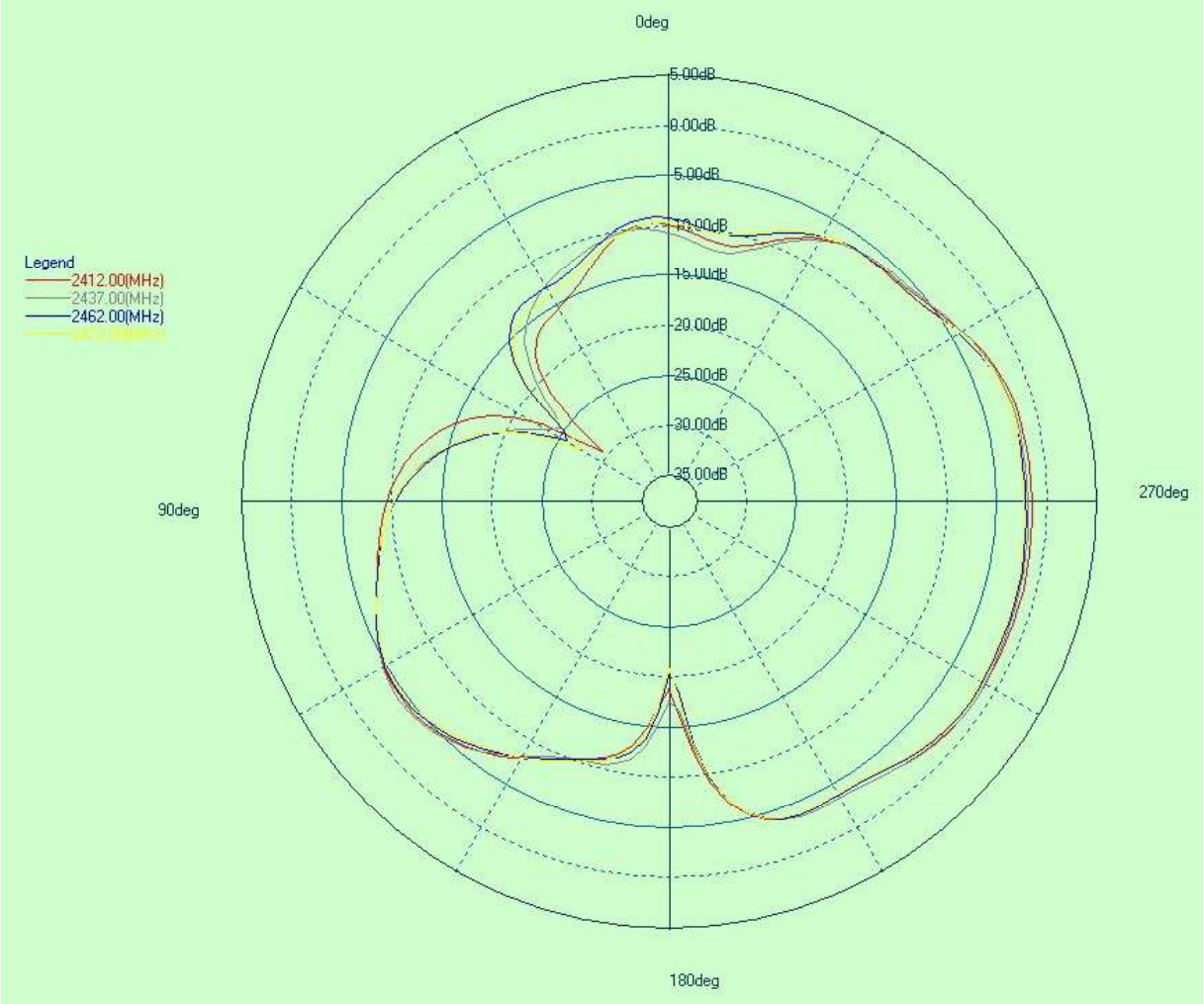


Figure 12-4. Antenna Radiation Pattern when Phi = 90 Degree

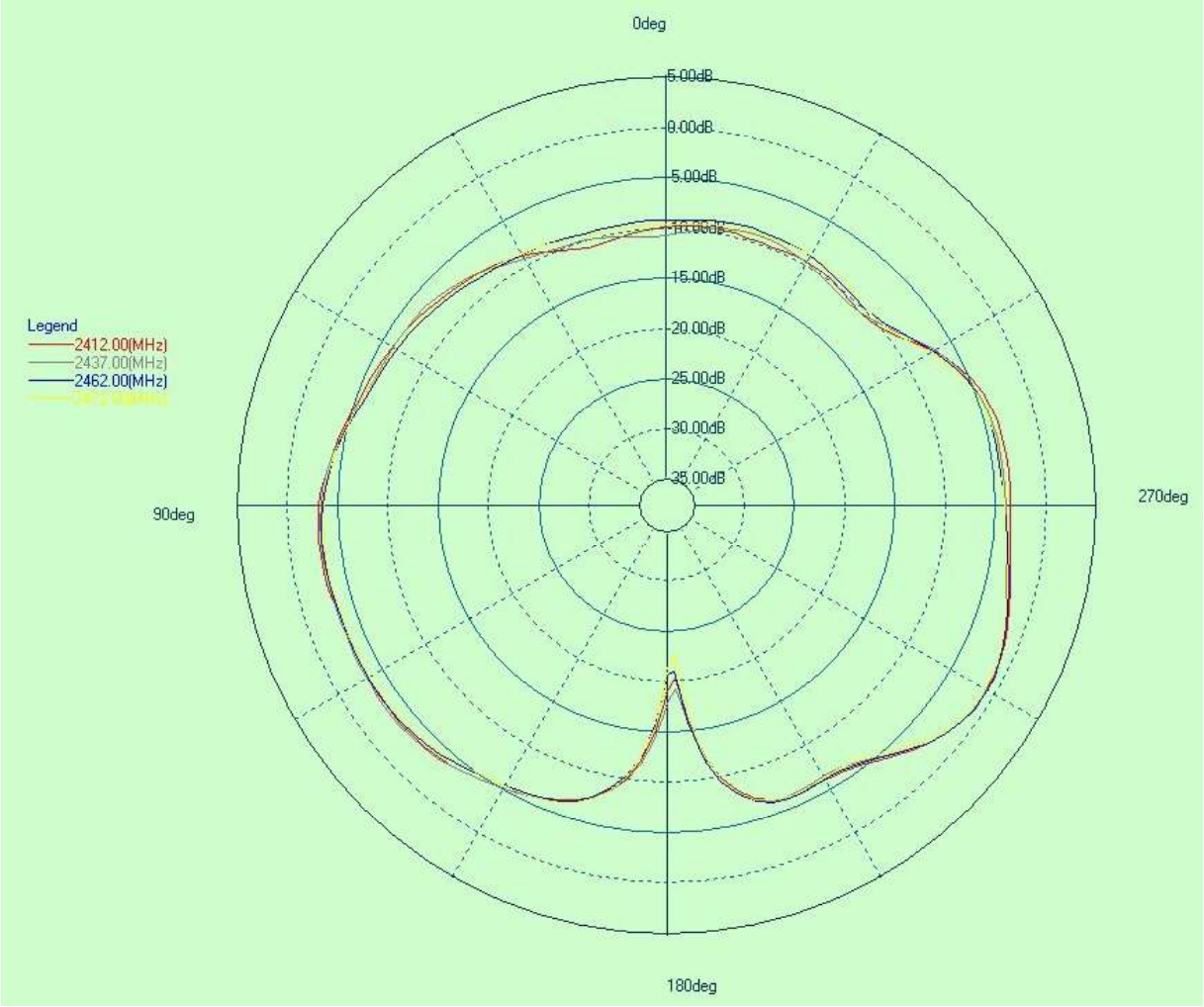
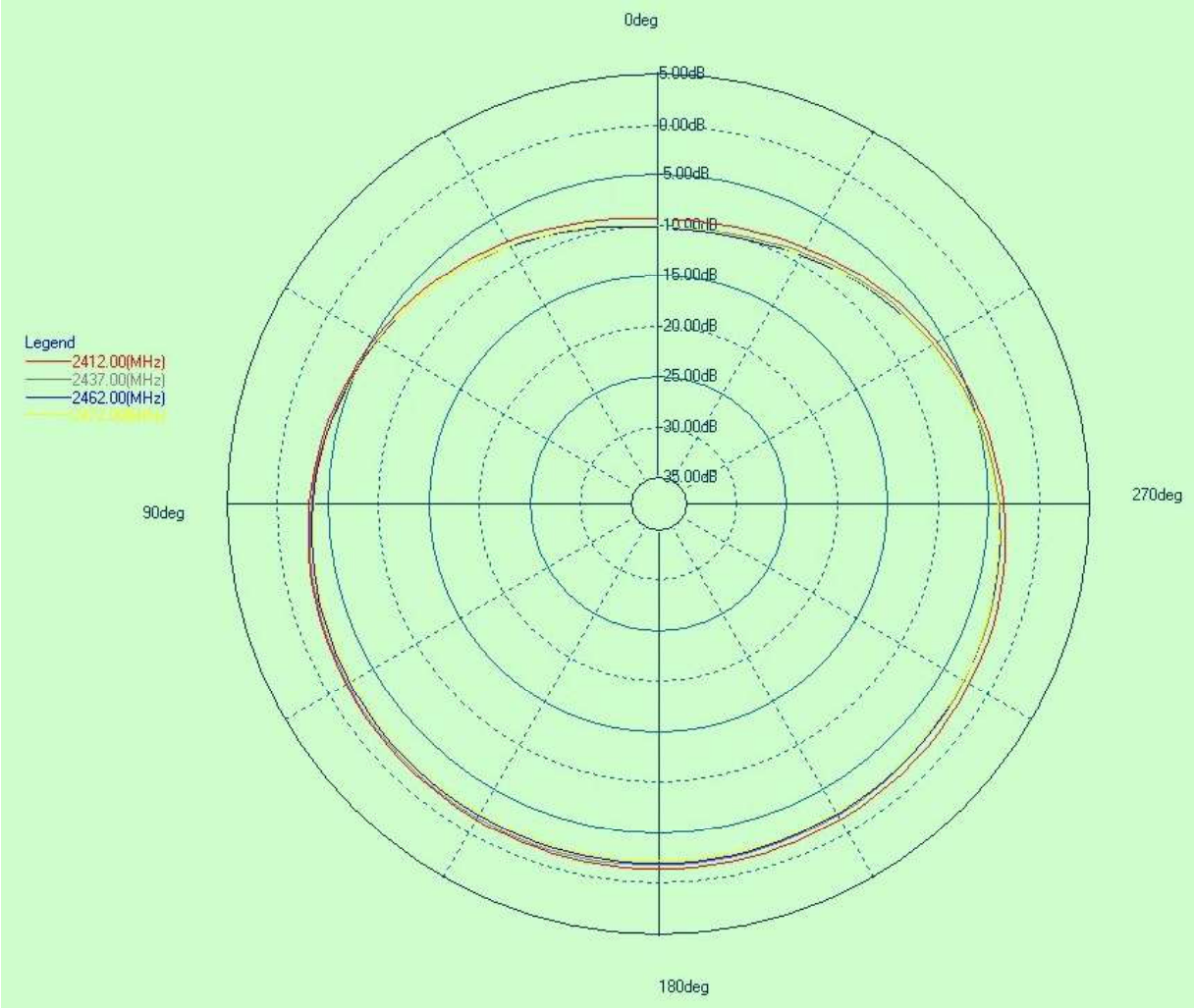


Figure 12-5. Antenna Radiation Pattern when Theta = 90 Degree



12.3 ATWILC1000-MR110UB Placement and Routing Guidelines

The ATWILC1000-MR110UB module has an Ultra Small Miniature RF Connector (U.FL) for the external antenna.

The choice of antenna is limited to the antenna types that the module was tested and approved for. For a list of tested and approved antennas that may be used with the module, refer to the respective country in the Regulatory Approval section.

An approved list of external antennas tested and certified with ATWILC1000-MR110UB module is shown in Table 12-1.

It is critical to follow the recommendations listed below to achieve the best RF performance:

1. Avoid routing any traces on the top layer of the host board, which is directly below the module area.
2. Place the GND polygon pour below the complete module area. Do not have any breaks in this GND plane.
3. Place sufficient GND vias in the GND polygon pour below the module area for better RF performance.
4. It is recommended to have a 3 x 3 grid of GND vias solidly connecting the exposed GND paddle of the module to the inner layer ground plane of the host board. This will act as a good ground