



**AUBURN**

UNIVERSITY

**TAGGED CATEGORY PERFORMANCE SPECIFICATION**

**CATEGORY C**

**VERSION 1.3**

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## 1. TEST SPECIFICATION

### 1.1 Test Overview

Equipment	ARC Benchmarking Equipment Document
Test process	ARC Benchmarking Methodology Document
Frequency	902 Mhz to 928 MHz in steps of 1 MHz
Distance between antennas and inlay	Antenna 1: 1.5 meter Antenna 2: 1.5 meter Antenna 3: 1.5 meter Antenna 4: 1.5 meter
Sensitivity at Receiver	-70 dBm
Standard test configurations	Single Inlay on Cardboard  (Please refer ARC Benchmarking Methodology)



## **1.2 Inlay Performance Specification**

The inlay should meet the following read sensitivity requirements in the following test configurations through the frequency range. All of the inlay samples tested should meet the minimum requirements. It is noted that the sensitivity is calculated at the tag by calibrating the measured power at the transmitter with the loss during transmission. For all the measurements, the sensitivity at the receiver was -80 dBm.



### 1.3 Standard Test - Single Inlay on Cardboard

Position 0 Ant 1	Position 0: Ant 2	Position 0: Ant 3	Position 0: Ant 4
-13	-13	-13.5	-13.5
Position 30: Ant 1	Position 30: Ant 2	Position 30: Ant 3	Position 30: Ant 4
-11.5	-11.5	-12	-12
Position 60: Ant 1	Position 60: Ant 2	Position 60: Ant 3	Position 60: Ant 4
-5	-5	-5	-2
Position 120: Ant 1	Position 120: Ant 2	Position 120: Ant 3	Position 120: Ant 4
-5	-5	-5	-2
Position 150: Ant 1	Position 150: Ant 2	Position 150: Ant 3	Position 150: Ant 4
-11.5	-11.5	-12	-12
Position 180: Ant 1	Position 180: Ant 2	Position 180: Ant 3	Position 180: Ant 4
-13	-13	-13.5	-13.5
Position 210: Ant 1	Position 210: Ant 2	Position 210: Ant 3	Position 210: Ant 4
-11.5	-11.5	-12	-12
Position 240: Ant 1	Position 240: Ant 2	Position 240: Ant 3	Position 240: Ant 4
-5	-5	-5	-2
Position 300: Ant 1	Position 300: Ant 2	Position 300: Ant 3	Position 300: Ant 4
-5	-5	-5	-2
Position 330 Ant 1	Position 330: Ant 2	Position 330: Ant 3	Position 330: Ant 4
-11.5	-11.5	-12	-12

*Confidentiality: This document is intended solely for the individual or entity to whom it was directly provided by ARC.*



## **APPENDIX A: TEST MATERIAL USED IN TEST CONFIGURATIONS**

Single walled corrugated cardboard

Size: 45.72 cm x 30.48 cm (18 inch x 12 inch)

<http://www.lowes.com/ProductDisplay?productId=3265419>



## **APPENDIX B: FINISHED PRODUCT TAGGING RECOMMENDATION**

For optimum performance, the packaged product should be tagged on the face of the package that has the smallest surface area. The tag should also be placed as close as possible to the edge of the product.