



**THE DATASHEET OF
AA.105.301111**





TAOGLAS®



Datasheet

Titan GPS/Galileo Active Antenna

Part No:
AA.105.301111

Description

GPS/GALILEO Magnetic Mount Antenna with 3M RG-174 and SMA(M)

Features:

- Magnetic Mount
- Covert stylish design
- Wide band input voltage
- Gain can be adjusted for your application (10dB~31dB)
- IP67 Waterproof
- Dimensions: 43.3 x 32.7 x 14mm
- Cable: 3m RG174
- Connector: SMA (M) Straight
- Cable and connector customizable
- RoHS and REACH Compliant

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1. Introduction



The Titan AA.105 is a small magnetic mount external active GPS/Galileo antenna. The Titan AA.105 is ideal for robust, covert installations where durability and small size is paramount. It is fully IP67 waterproof rated for installations where water ingress may be an issue. With a small footprint of just 43.3 x 32.7 mm, the Titan AA.105 can be used in applications where space may be a constraint, and with its magnetic mounting style it is perfect for use in transportation applications.

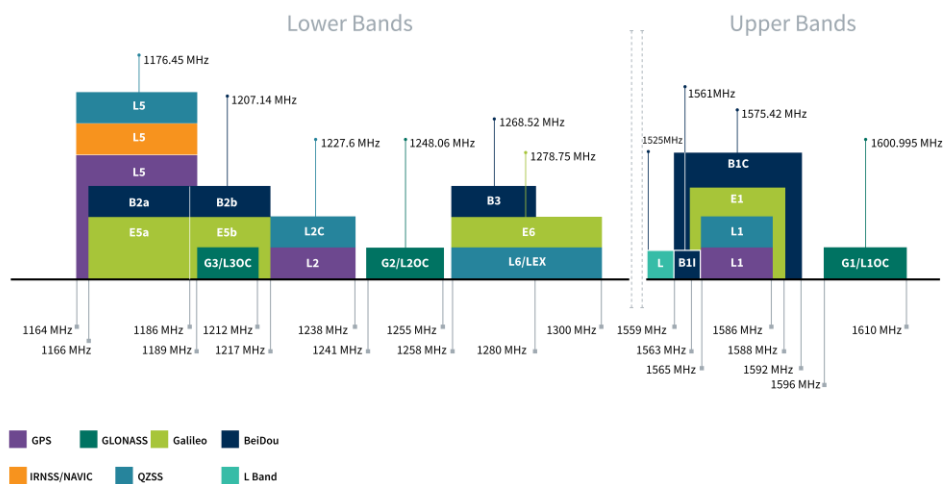
Typical Applications Include:

- Commercial Transportation
- E-Scooters/Electric Vehicles
- Robotics and Autonomous Vehicles
- Asset Tracking

The Titan is also available in an adhesive mount version – AA.108. For further information, please contact your regional Taoglas customer support team.

2. Specification

GNSS Frequency Bands					
GPS	L1 1575.42 MHz	L2 1227.6 MHz	L5 1176.45 MHz		
	■	□	□		
GLONASS	G1 1602 MHz	G2 1248 MHz	G3 1207 MHz		
	□	□	□		
Galileo	E1 1575.24 MHz	E5a 1176.45 MHz	E5b 1201.5 MHz	E6 1278.75 MHz	
	■	□	□	□	
BeiDou	B1C 1575.42 MHz	B1I 1561 MHz	B2a 1176.45 MHz	B2b 1207.14 MHz	B3 1268.52 MHz
	■	□	□	□	□
L-Band	L-Band 1542 MHz				
	□				
QZSS (Regional)	L1 1575.42 MHz	L2C 1227.6 MHz	L5 1176.45 MHz	L6 1278.75e6	
	■	□	□	□	
IRNSS (Regional)	L5 1176.45 MHz				
	□				
SBAS	L1/E1/B1 1575.42 MHz	L5/B2a/E5a 1176.45 MHz	G1 1602 MHz	G2 1248 MHz	G3 1207 MHz
	■	□	□	□	□



GNSS Bands and Constellations

GNSS Electrical

Frequency (MHz)	1575.42
VSWR (max.)	2:1
Efficiency (%)	50.51
Peak Gain (dBi)	0.99
Average Gain (dB)	-2.97
Axial Ratio (dB)	3dB Typ.
Polarization	RHCP
Impedance	50 Ω

LNA and Filter Electrical Properties

Frequency (MHz)	1575.42
Gain (dB)	29.55
Noise Figure (dB)	1.89
P1dB (dBm)	35.51
Current Consumption (mA)	6
Vin	1.8~5.5V

Mechanical

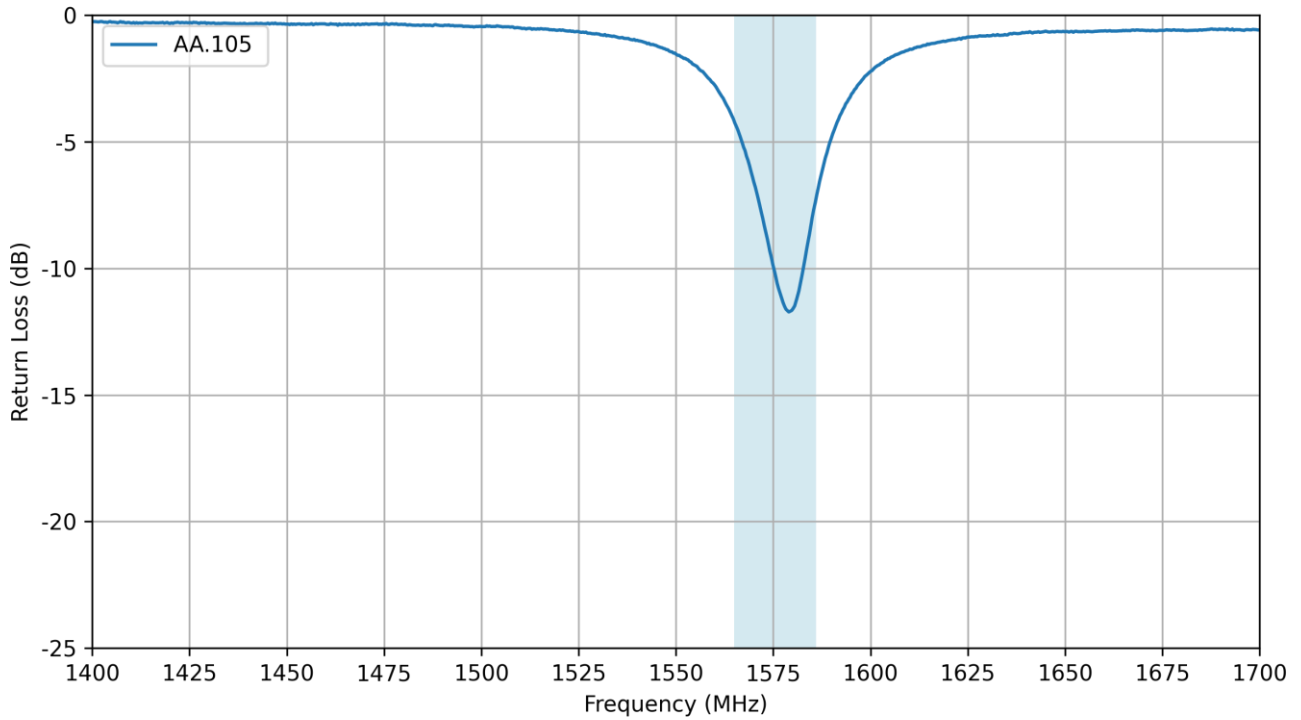
Dimensions	43.3 x 32.7 x 14 mm
Weight	64g
Cable	3m RG-174
Connector	SMA Male Straight

Environmental

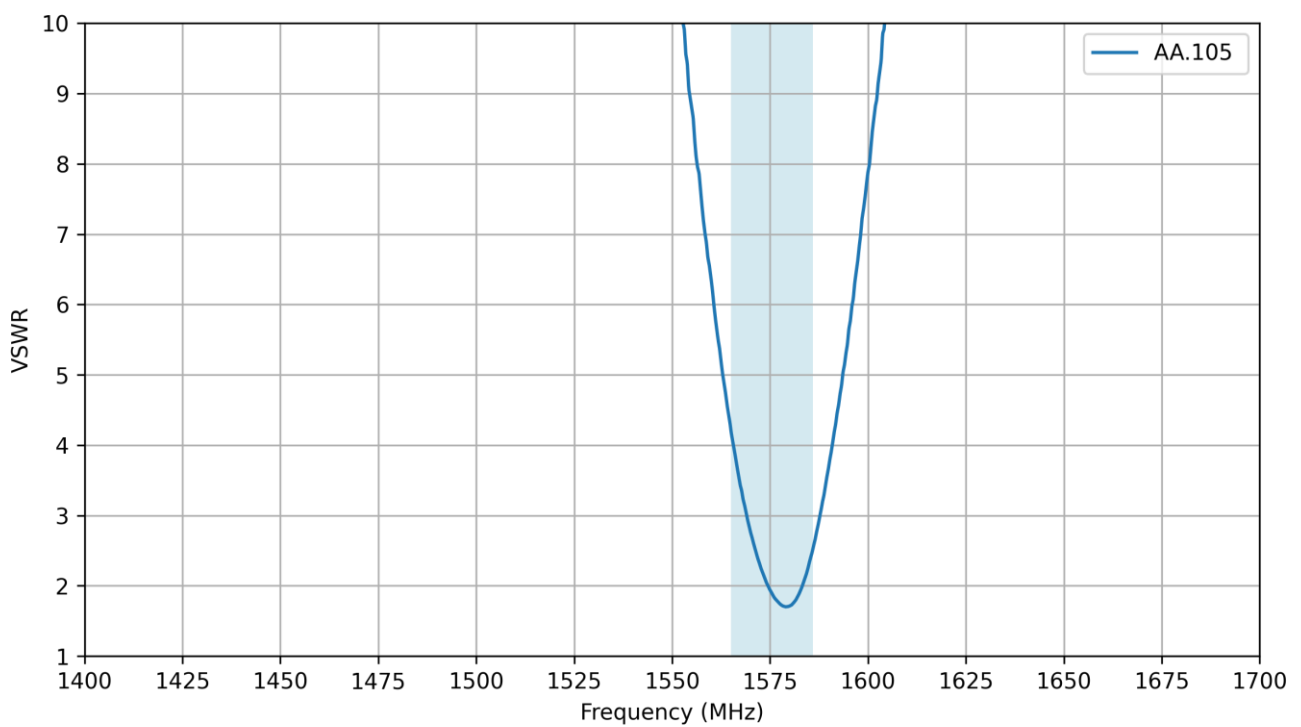
Operation Temperature	-40°C ~ +85°C
Storage Temperature	-40°C ~ +85°C

3. Antenna Characteristics

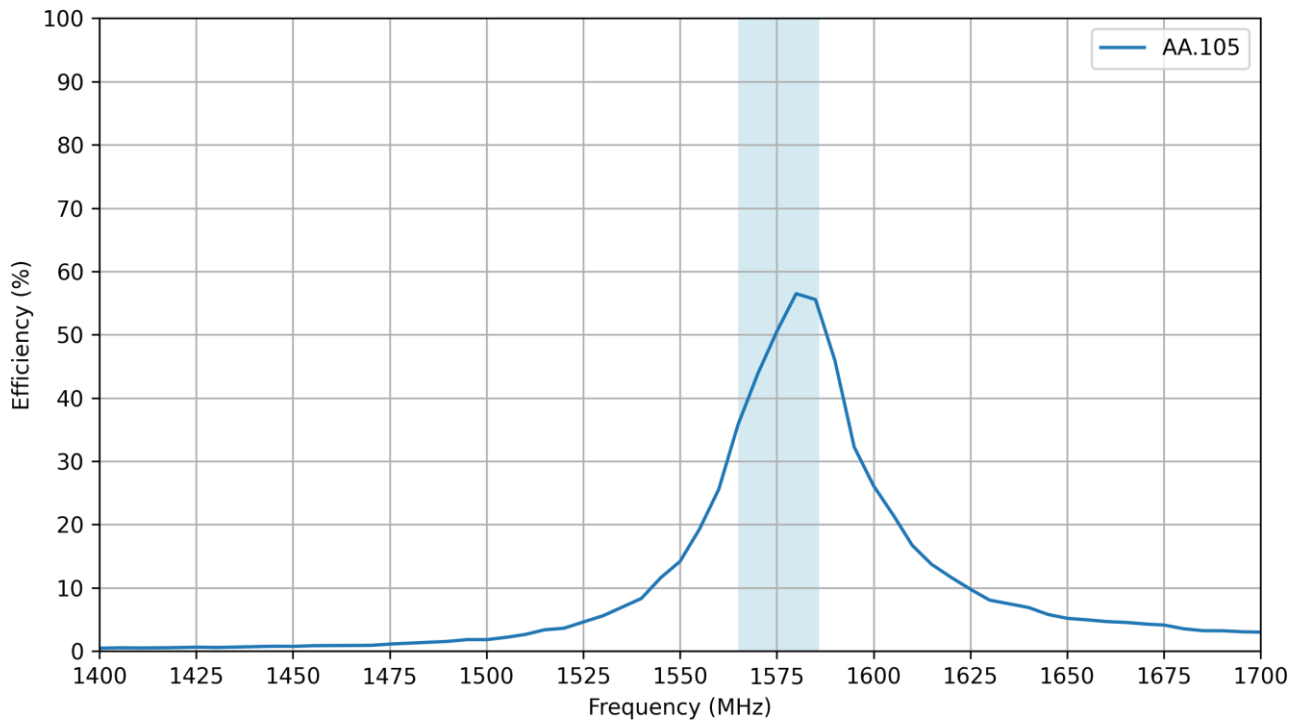
3.1 Return Loss



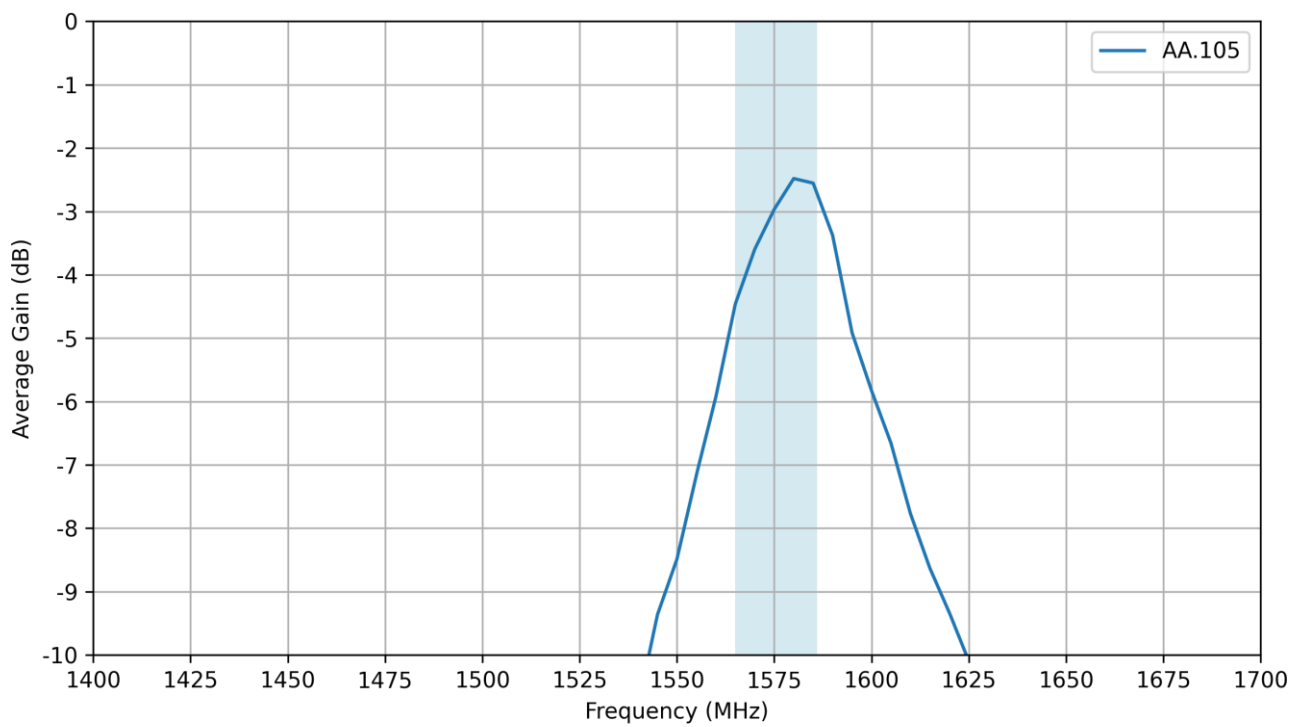
3.2 VSWR



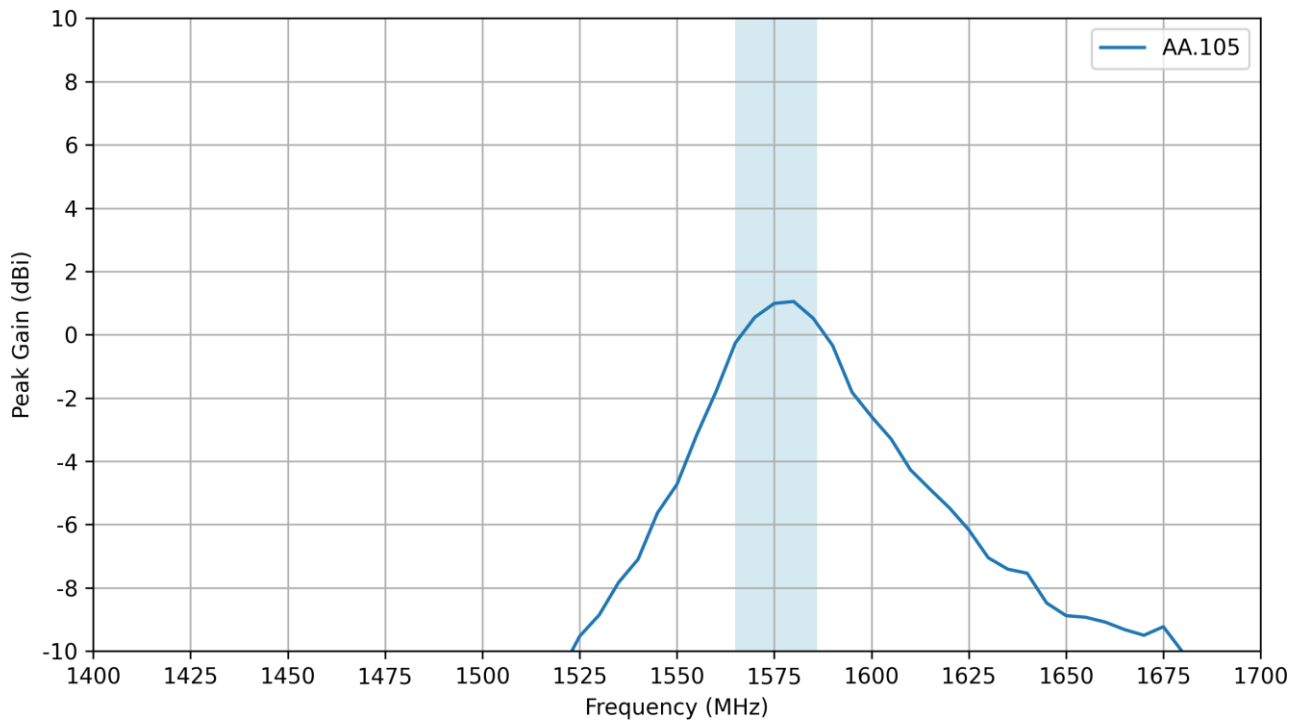
3.3 Efficiency



3.4 Average Gain

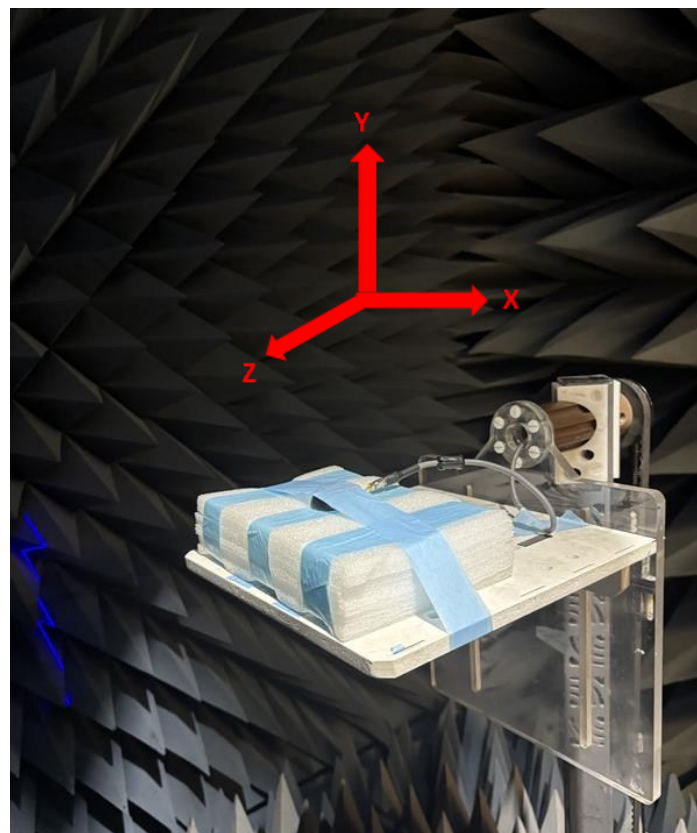
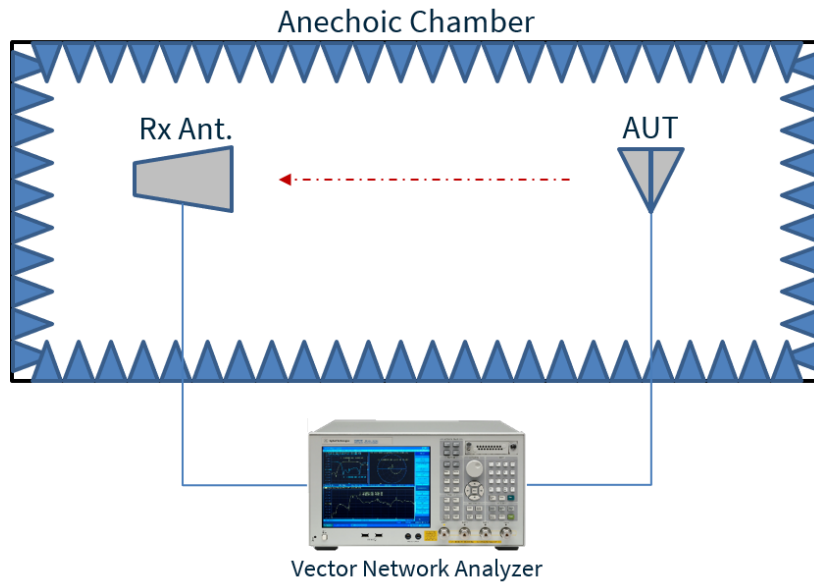


3.5 Peak Gain



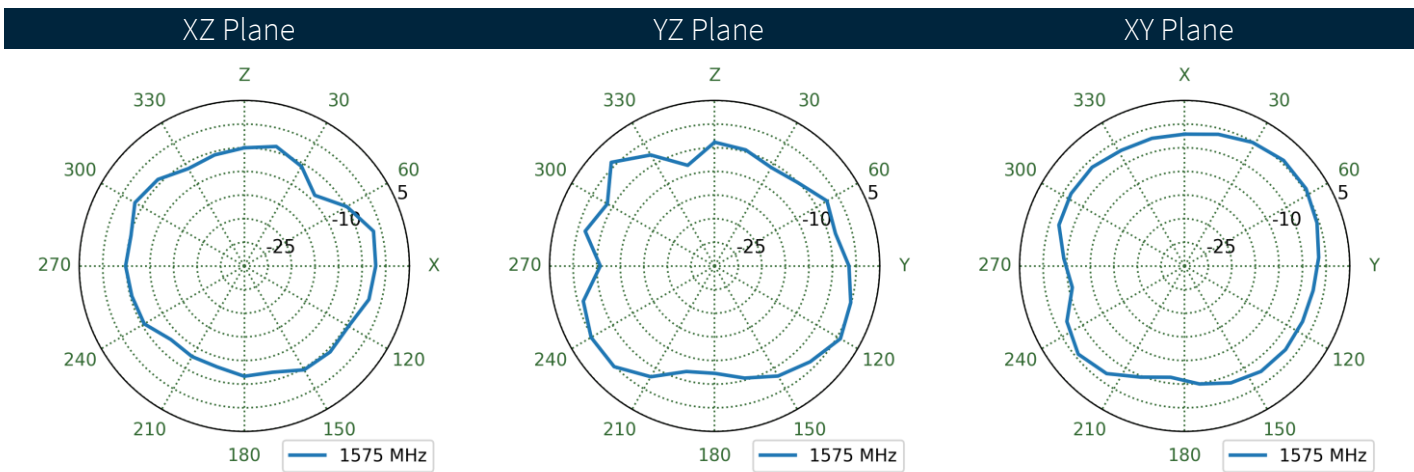
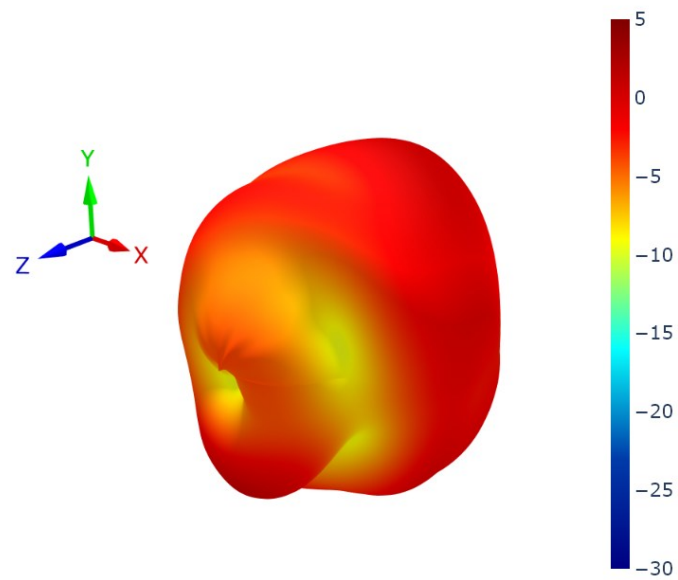
4. Radiation Patterns

4.1 Test Setup



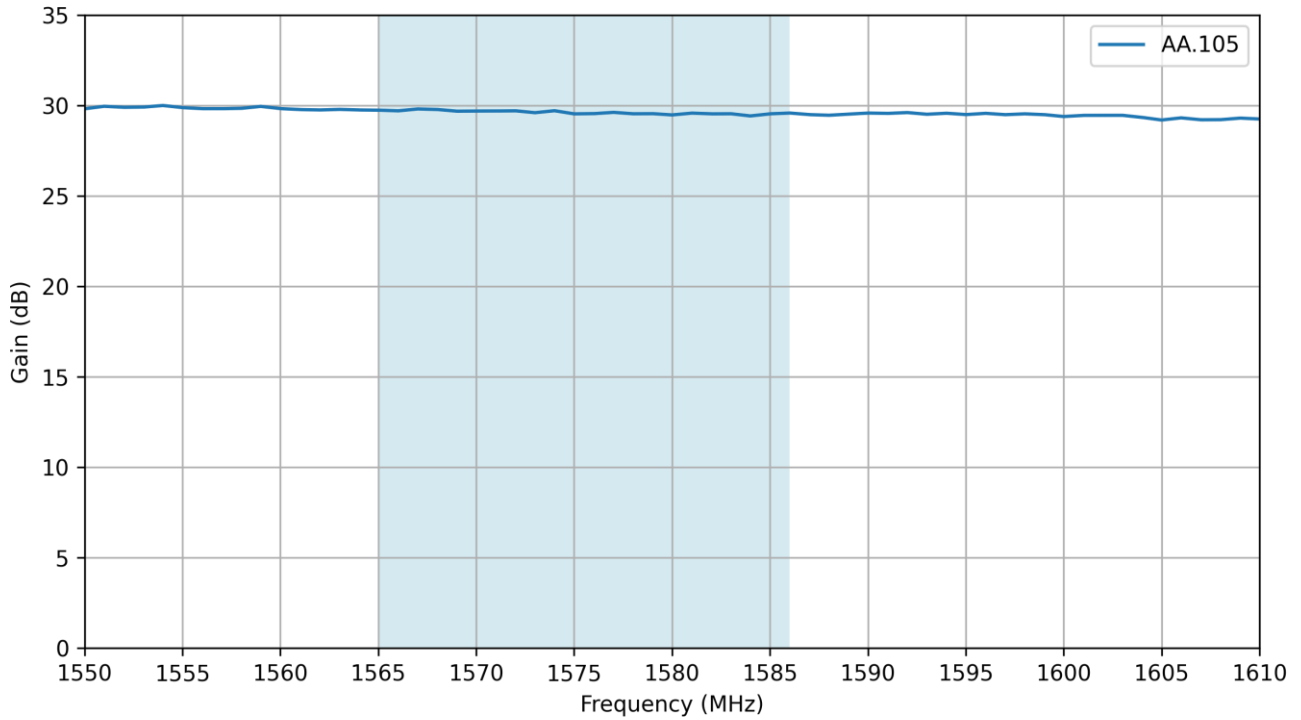
Chamber Test Set-up

4.2 Patterns at 1575 MHz

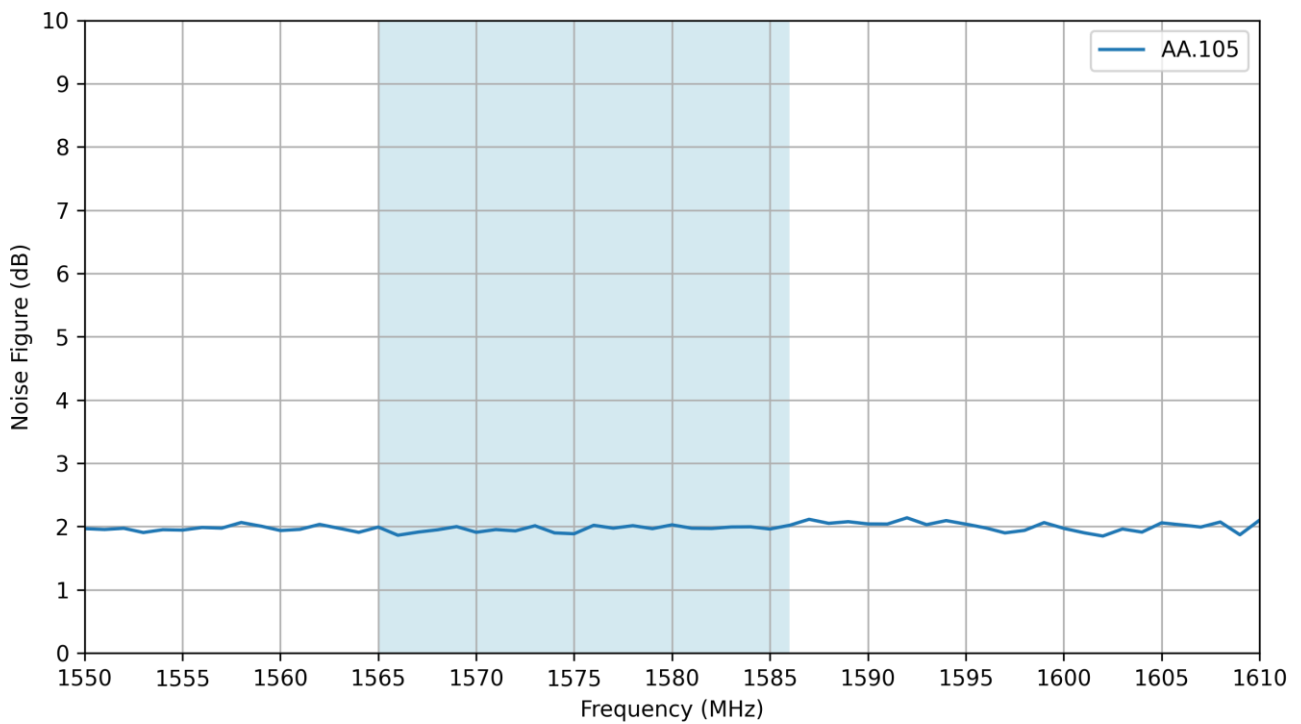


5. LNA Characteristics

5.1 Gain



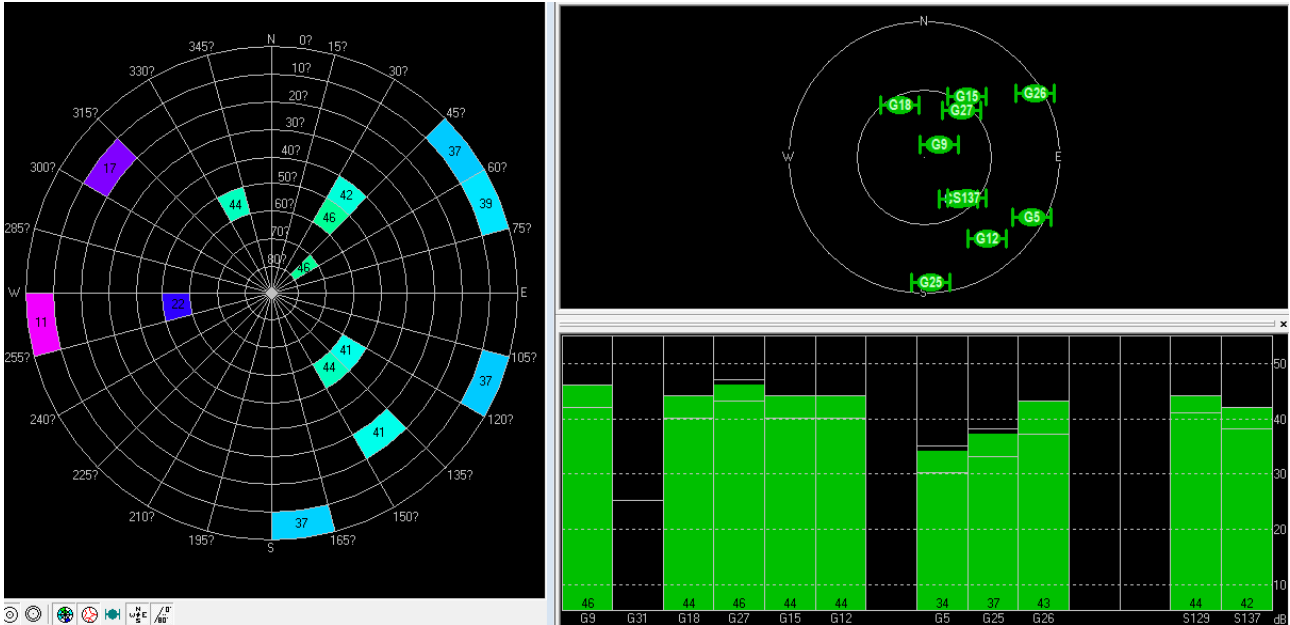
5.2 Noise Figure



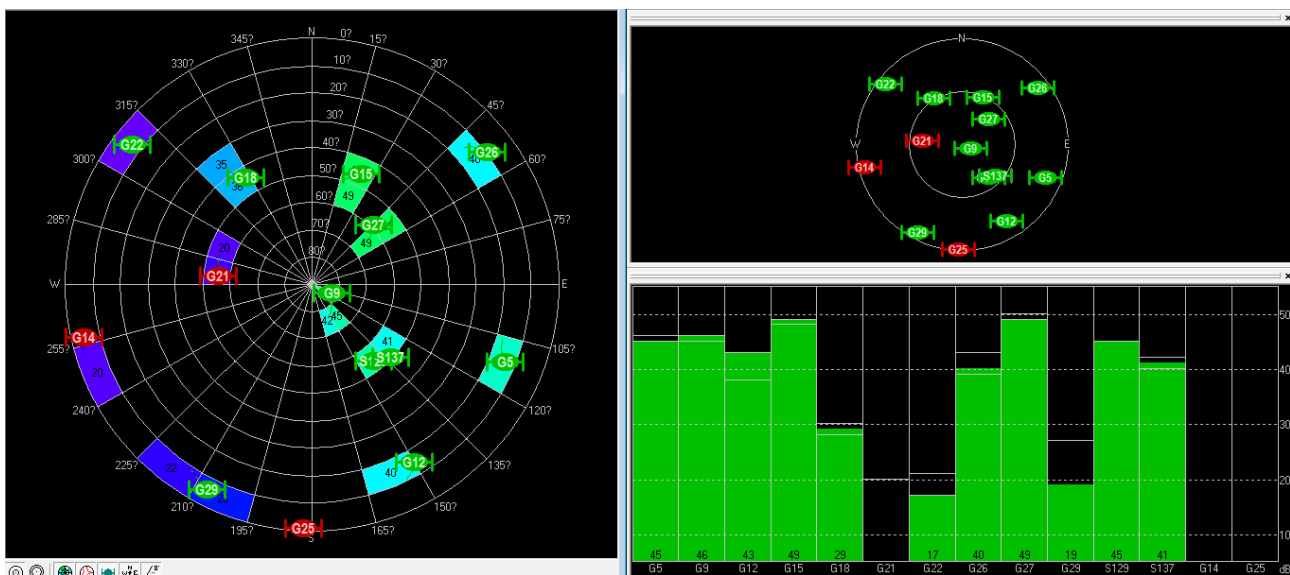
6. Field Test Results

Antenna was connected to a U-blox EVK-6H evaluation kit under open sky conditions.

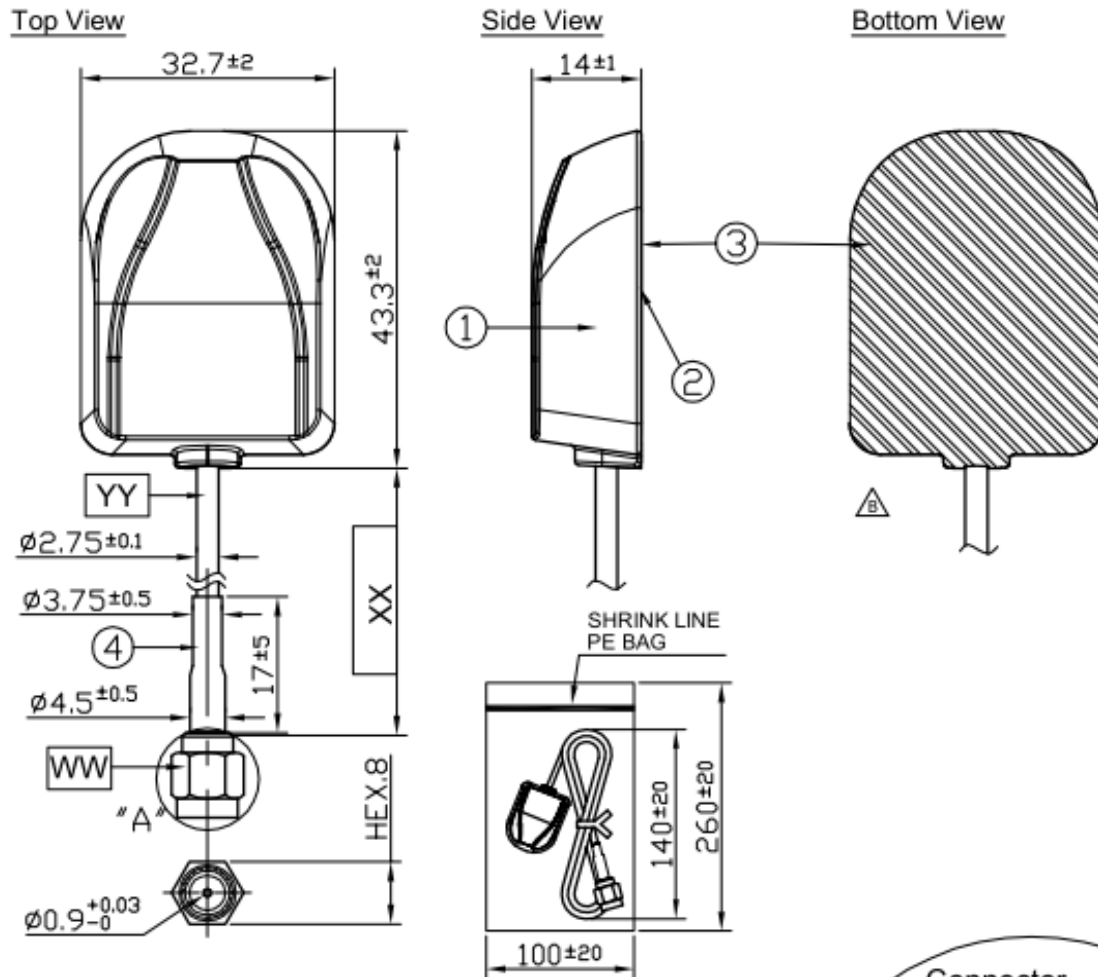
- 1.8 V- Cold Start needs typically 40 seconds.



- 3.3V - Cold Start needs typically 40 seconds.



7. Mechanical Drawing

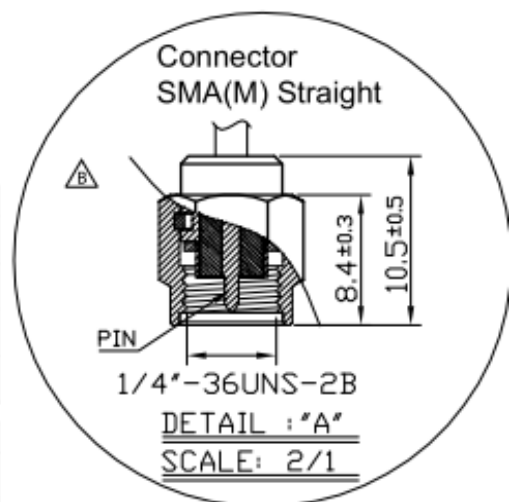


NOTES:

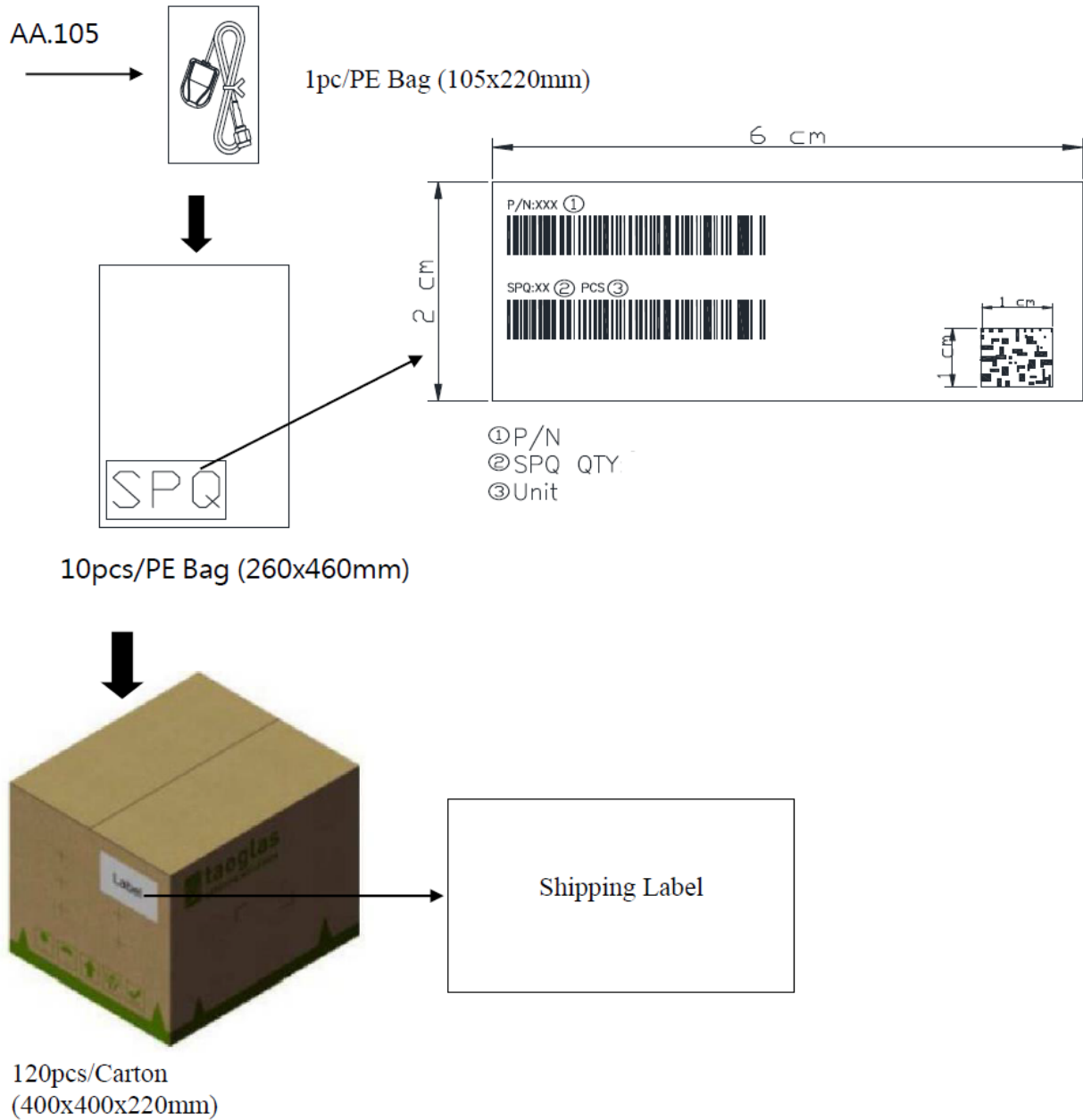
1. Sticker area.

	Name	Material	Finish	QTY
1	GPS Antenna Top	PC	Black	1
2	GPS Antenna Bottom	PC	Black	1
3	Sticker	Matte Silver PET	Silver	1
4	Heat Shrink Tube	PE	Black	1

	Name	Spec	Finish	QTY
WW	Connector Type	SMA(M) Straight	Gold	1
XX	Cable Length	3000±30mm	Black	1
YY	Cable Type	RG174	Black	1



8. Packaging



Changelog for the datasheet

SPE-12-8-024 – AA.105.301111

Revision: I (Current Version)

Date:	2025-04-01
Changes:	Updated graphics
Changes Made by:	Gary West

Previous Revisions

Revision: H

Date:	2021-11-17
Changes:	Full datasheet template update & added P1dB Point.
Changes Made by:	Gary West

Revision: C

Date:	2012-06-11
Changes:	
Changes Made by:	Technical Writer

Revision: G

Date:	2019-10-22
Changes:	
Changes Made by:	Jack Conroy

Revision: B

Date:	2012-03-21
Changes:	
Changes Made by:	Technical Writer

Revision: F

Date:	2017-07-10
Changes:	Updated as per PCN -17-8-083
Changes Made by:	Andy Mahoney

Revision: A (Original First Release)

Date:	2012-03-08
Notes:	
Author:	Technical Writer

Revision: E

Date:	2013-07-18
Changes:	
Changes Made by:	Technical Writer

Revision: D

Date:	2012-08-01
Changes:	
Changes Made by:	Technical Writer



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