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TrellisWare Limo Communications Package Tray Drawing Package

by Steven Callaway

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by Steven Callaway
Computational and Information Sciences Directorate, CCDC Army Research Laboratory

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14. ABSTRACT

The TrellisWare Limo Communications Package (LCP) Tray is used in a mobile ad hoc network (MANET) within the confines of an LCP chassis. Providing communications on the move capability, the system interfaces with the LCP chassis within the required envelope.

15. SUBJECT TERMS

radio, LCP, Limo, radio, communications

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1. Introduction

The TrellisWare Limo Communications Package (LCP) Tray delivers a mobile ad hoc network (MANET) within the confines of the LCP chassis. This allows for communications on the move capabilities without the need for fixed infrastructure. The small allowable footprint is accommodated by stacking tray components in the two-rack unit (RU) space. This maintains dual radio capabilities, while interfacing to the existing LCP chassis. An isometric view of the tray assembly is seen in Fig. 1.

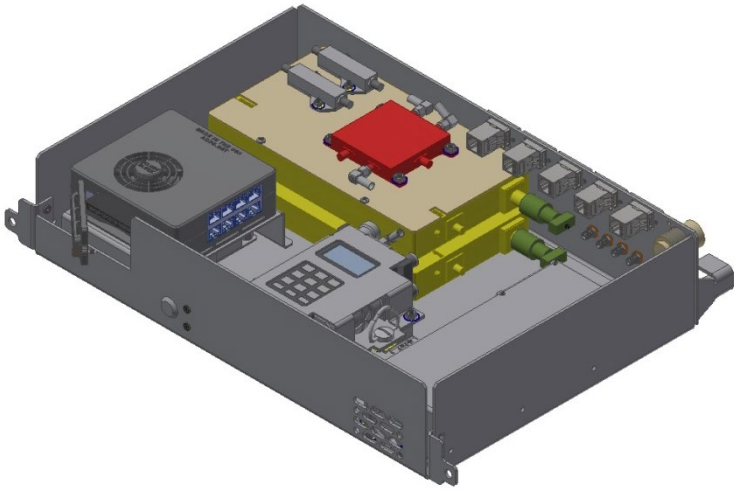

Fig. 1 TrellisWare LCP tray assembly

2. Design Requirements

The TrellisWare LCP system is required to interface with the existing LCP chassis, which set the maximum dimensions and general design of the tray to be used. The maximum allowed footprint of the tray is 11.285 inches deep and 16.750 inches wide, to fit in a 2-RU space.

This limited usable area required for the TrellisWare radios and radio amplifiers to be stacked on the tray to conserve space. A hinged chassis was used for the TrellisWare radio stack (Fig. 2). This allows the user to access both radios to make configuration adjustments, if necessary.

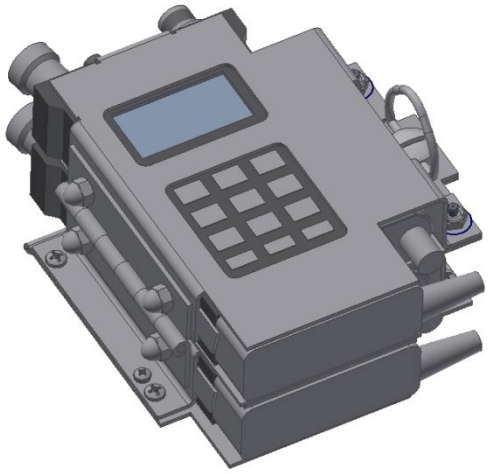

Fig. 2 Stacked TrellisWare radio configuration

To accommodate two different rack configurations, a modular tray layout is used. Rack ears (dash number -11011 and -11012) are used for a standard 19-inch rack, while side spacers (dash number -11013 and -11014) are used to interface with the slides used in the LCP chassis.

A BioDigital R8000 chassis was used to handle the network processing for the radios. Existing threaded features on the chassis are used for mounting, while cutouts were used on the bracket to allow for proper air circulation.

3. Drawing Package

The following drawing number index (Table 1) was used for the fabrication of the TrellisWare LCP Tray. These drawings were consulted by US Army Combat Capabilities Development Command Army Research Laboratory technicians and engineers for the assembly of parts. The individual drawings are provided in the Appendix.

Table 1 TrellisWare LCP Tray drawing number index

SK549532	
Drawing title	**Dash no.**
LCP Tray	-11001
Wifi Router Bracket	-11002
BioDigital Bracket	-11003
Amplifier Nutplate - LCP	-11004
Filter Slide Plate	-11005
Dual TW Bracket 1	-11006
Dual TW Bracket 2	-11007
TW Floor Bracket	-11008
Dual TW Bottom Plate	-11009
Tray Ear 1	-11011
Tray Ear 2	-11012
Side Spacer 1	-11013
Side Spacer 2	-11014

4. Conclusion

Utilizing a hinged radio chassis and stacked configuration for the remaining equipment, the TrellisWare LCP tray maximizes capability while minimizing required space. The chassis interfaces with the previously used LCP chassis, while providing MANET capability to the end user.

Appendix. LCP Tray Drawings

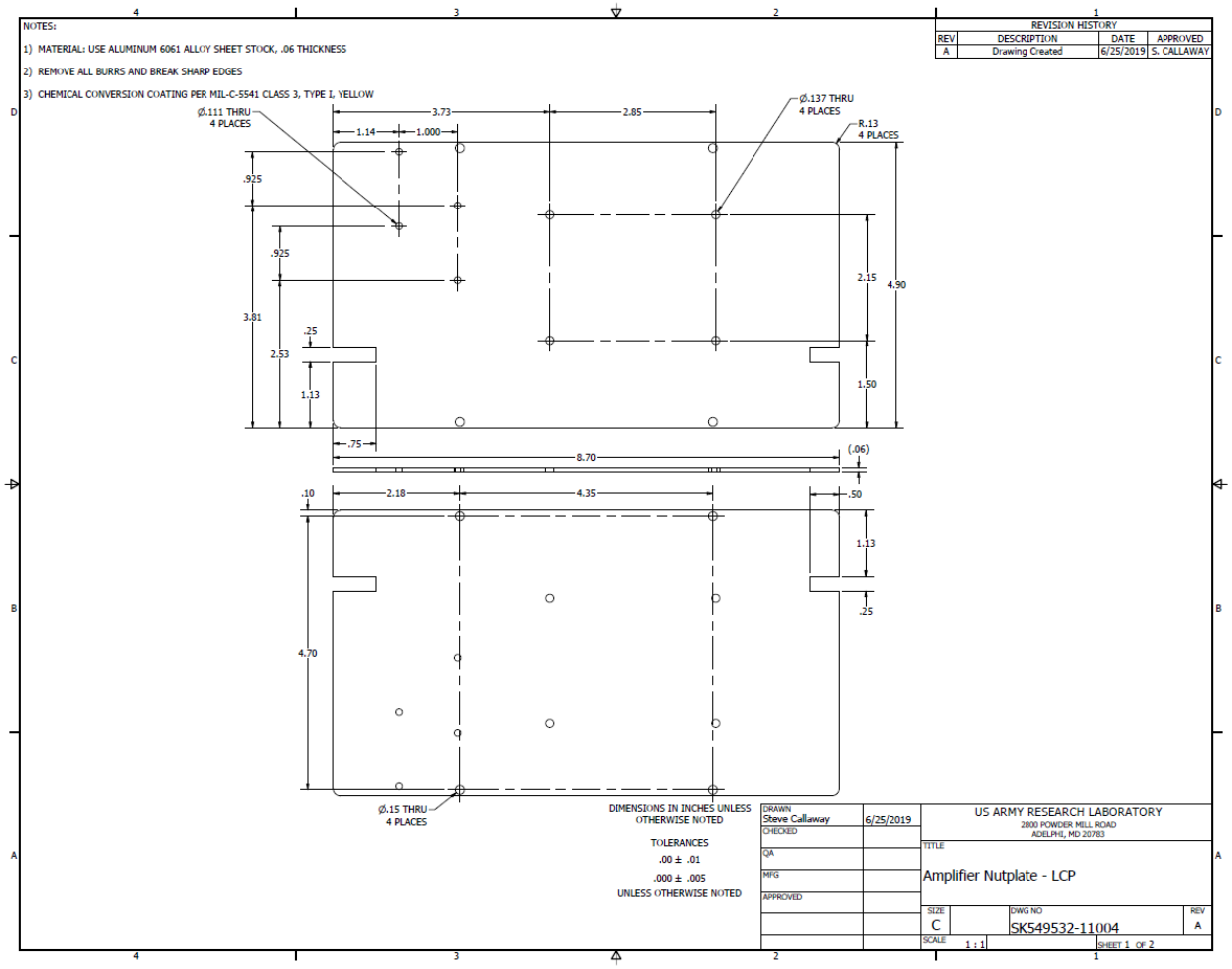

Fig. A-1 Amplifier_nutplate_-_LCP

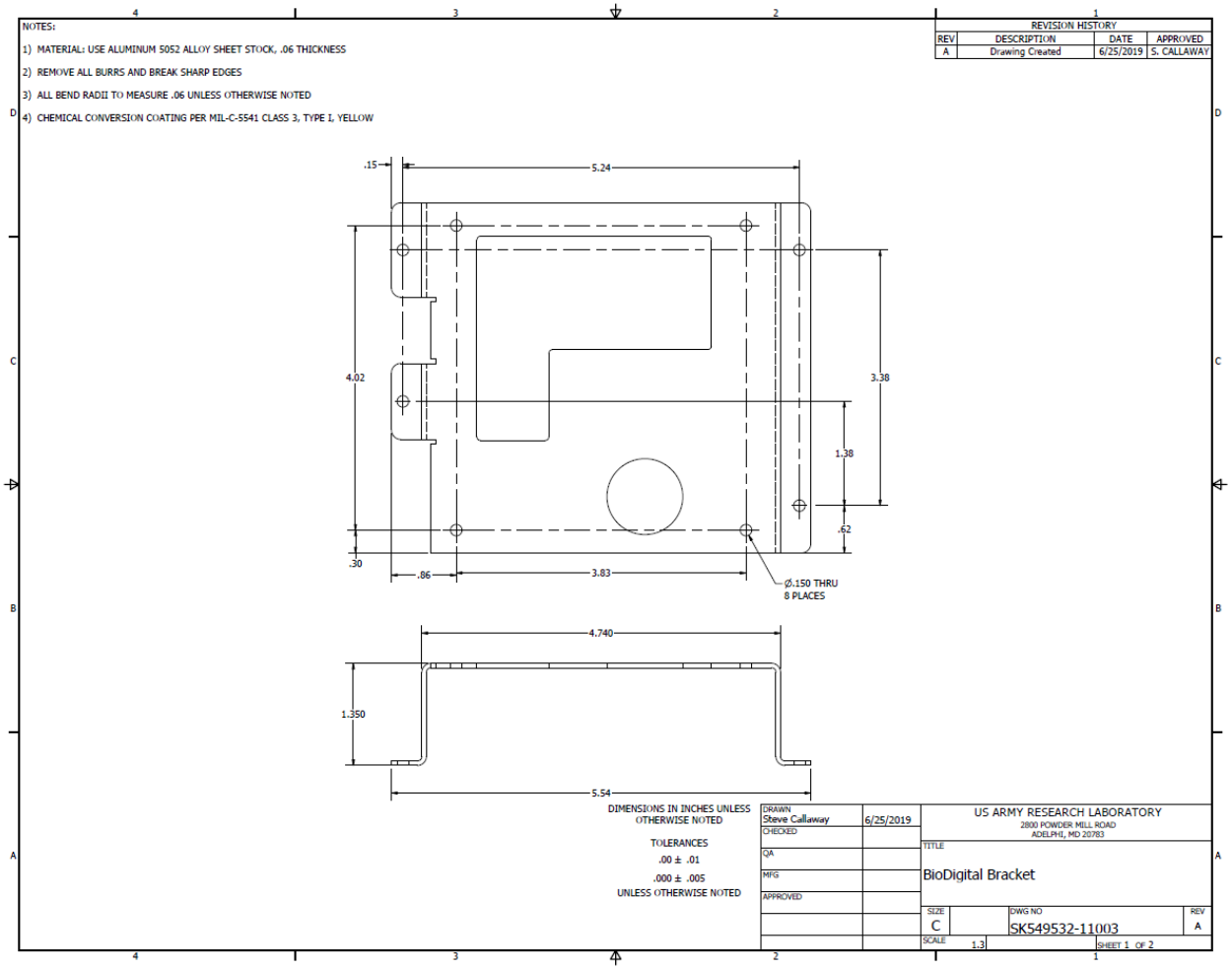

Fig. A-2 BioDigital bracket

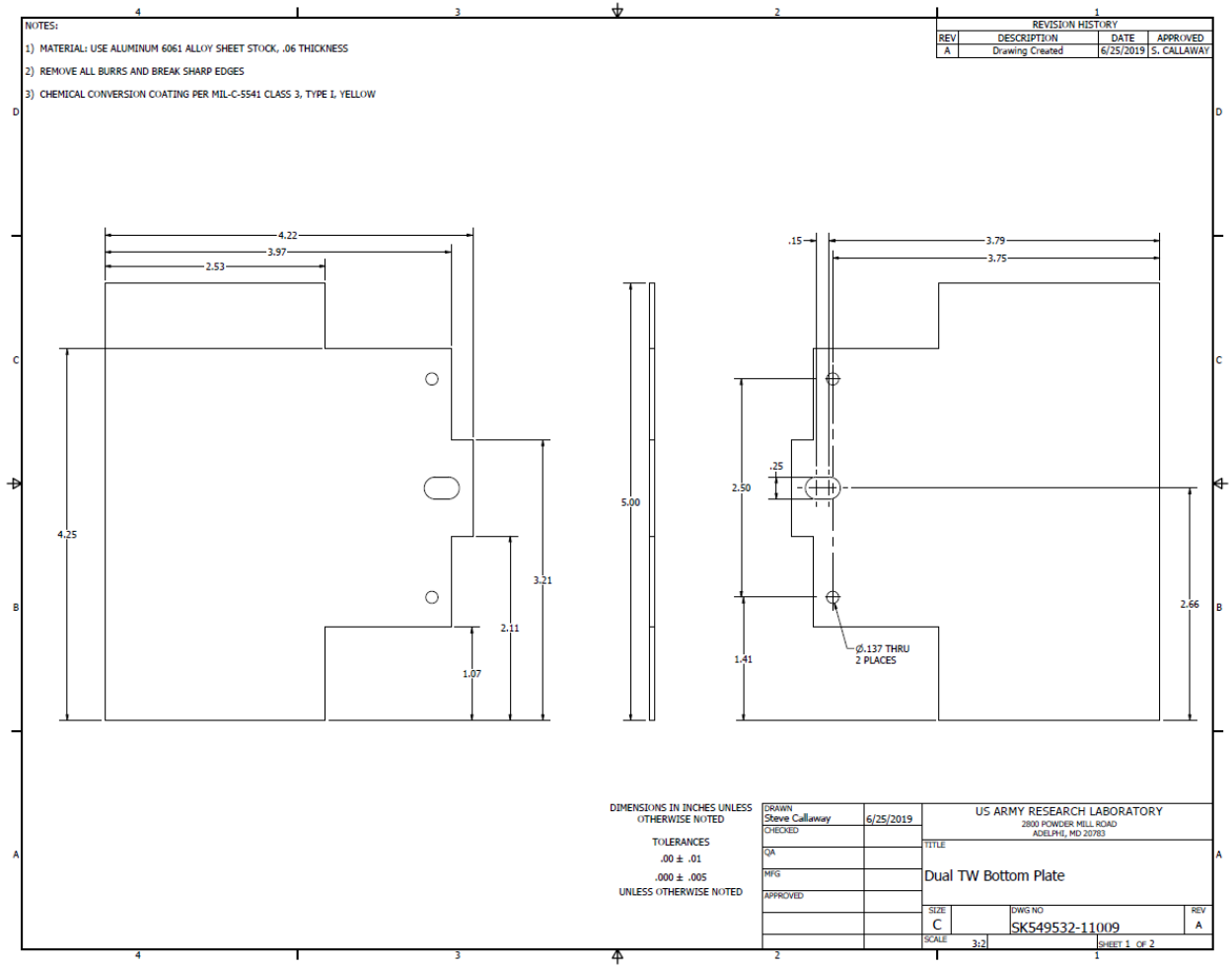

Fig. A-3 Dual TW bottom plate

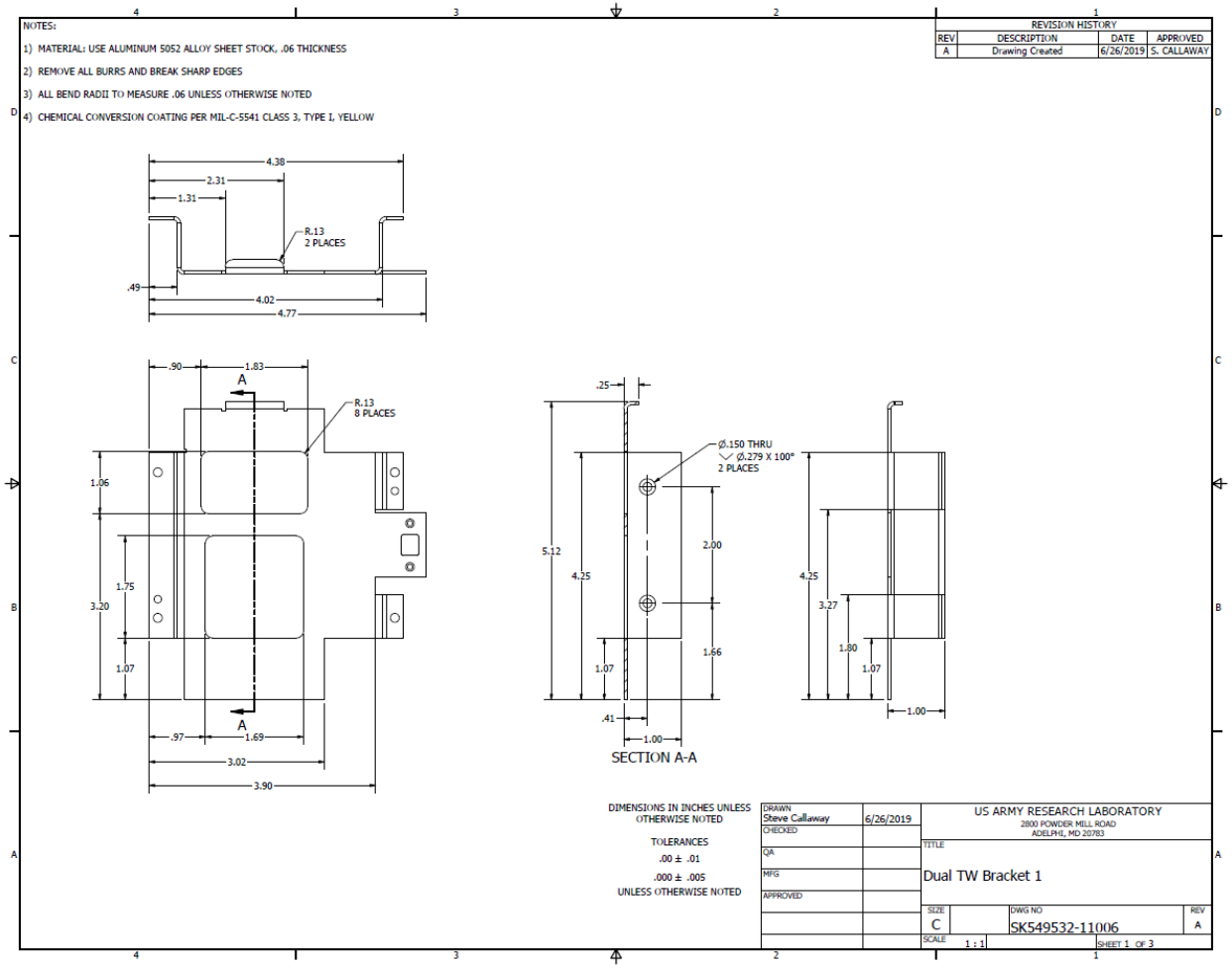

Fig. A-4 Dual TW bracket 1

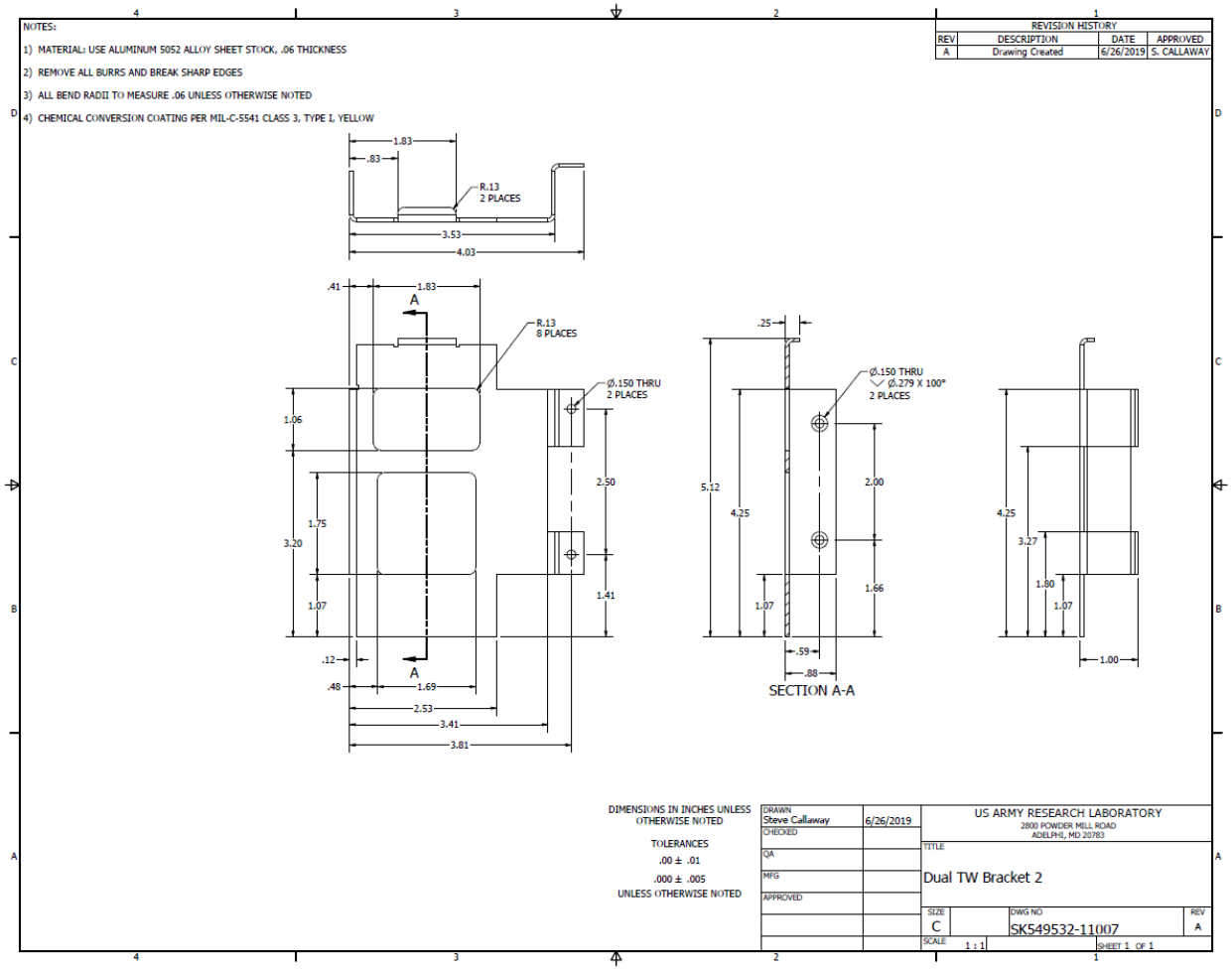

Fig. A-5 Dual TW bracket 2

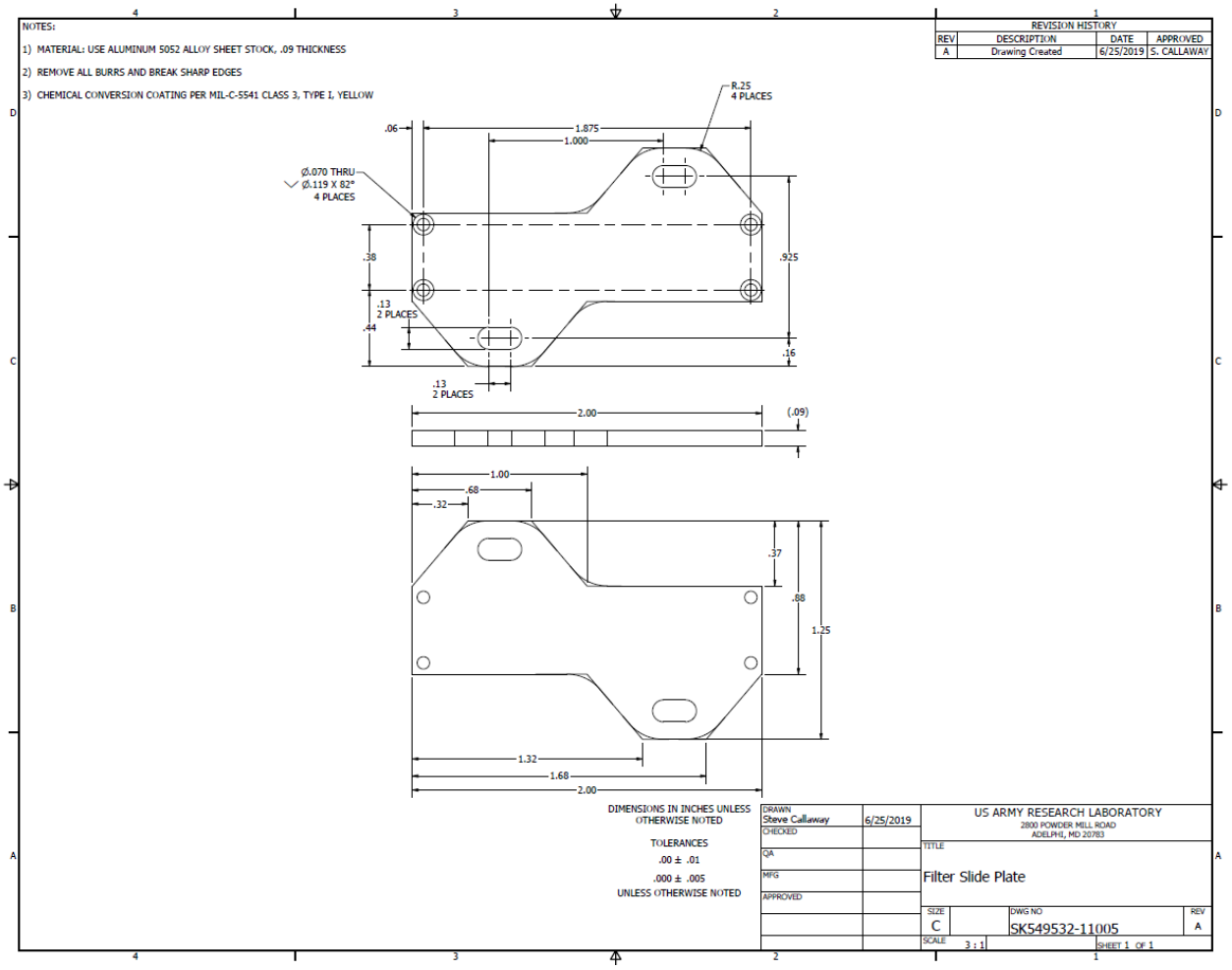

Fig. A-6 Filter slide plate

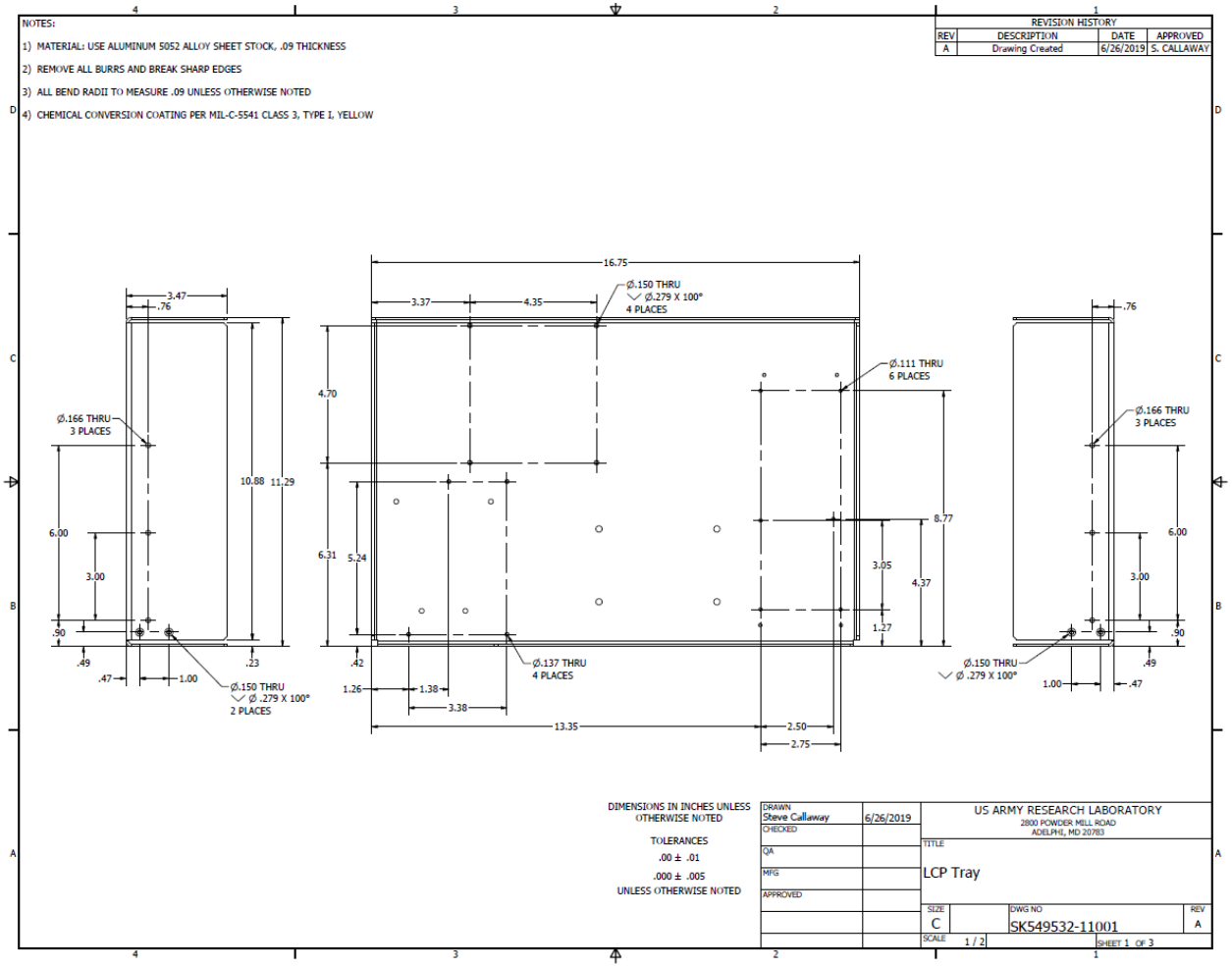

Fig. A-7 LCP tray

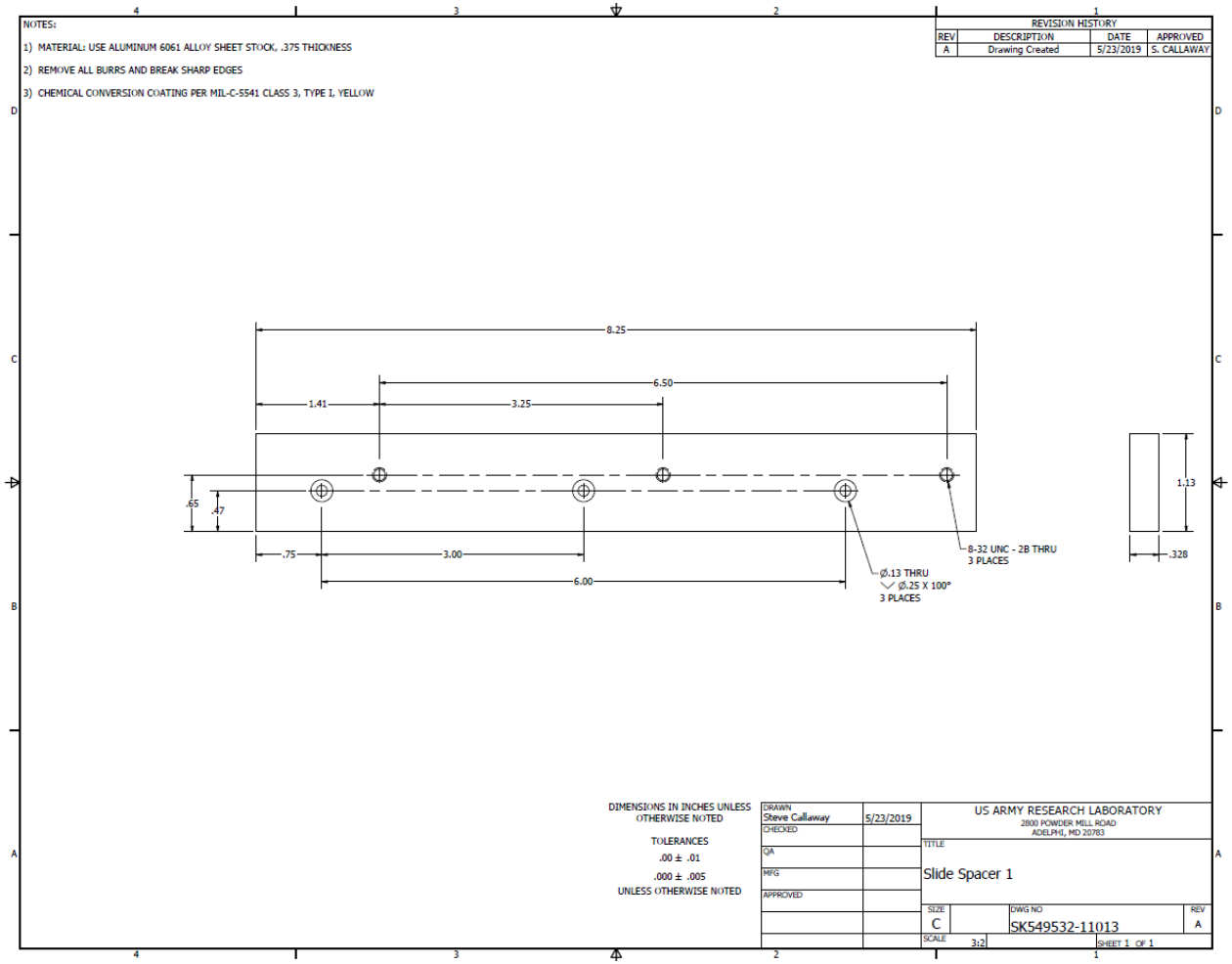

Fig. A-8 Slide spacer 1

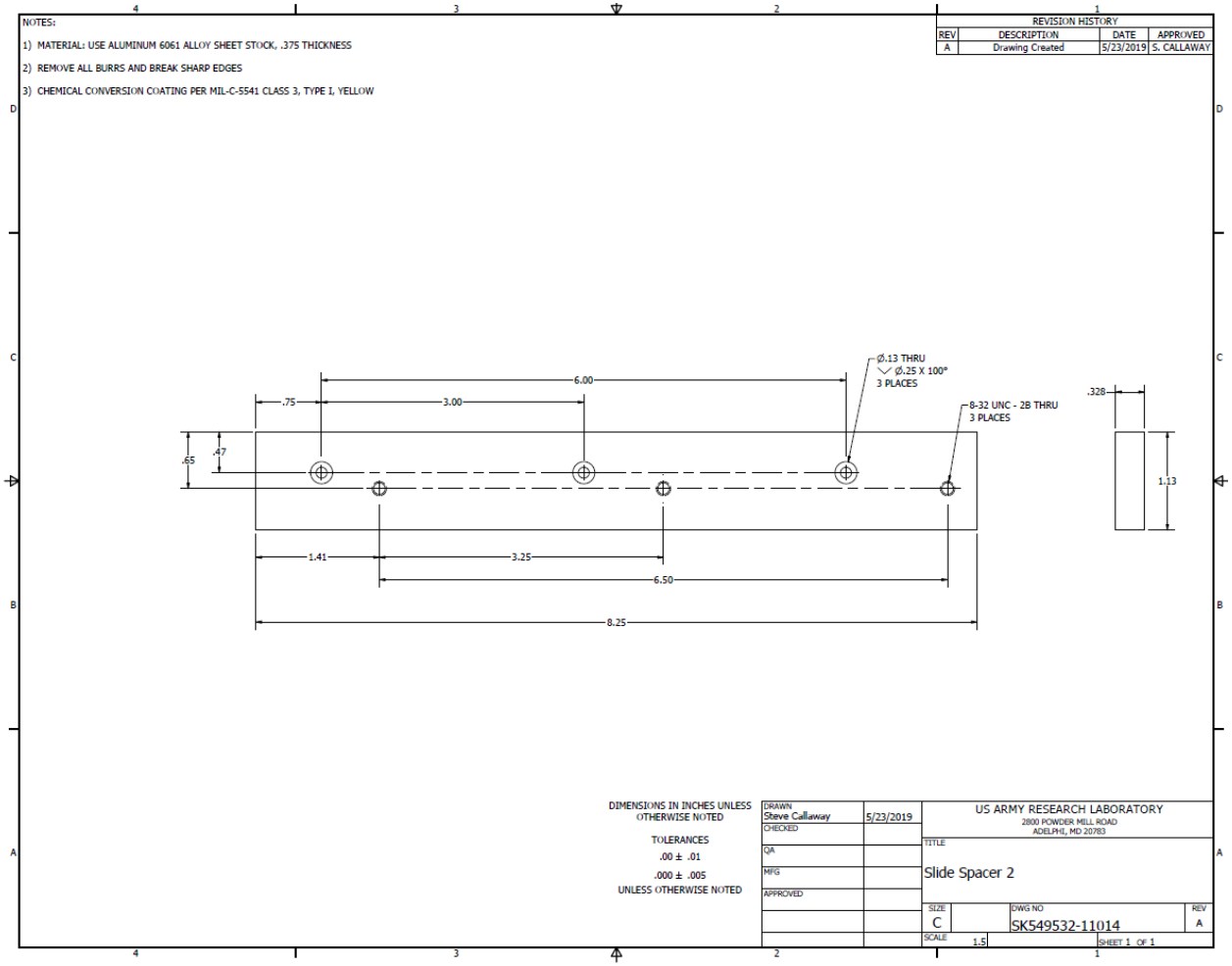

Fig. A-9 Slide spacer 2

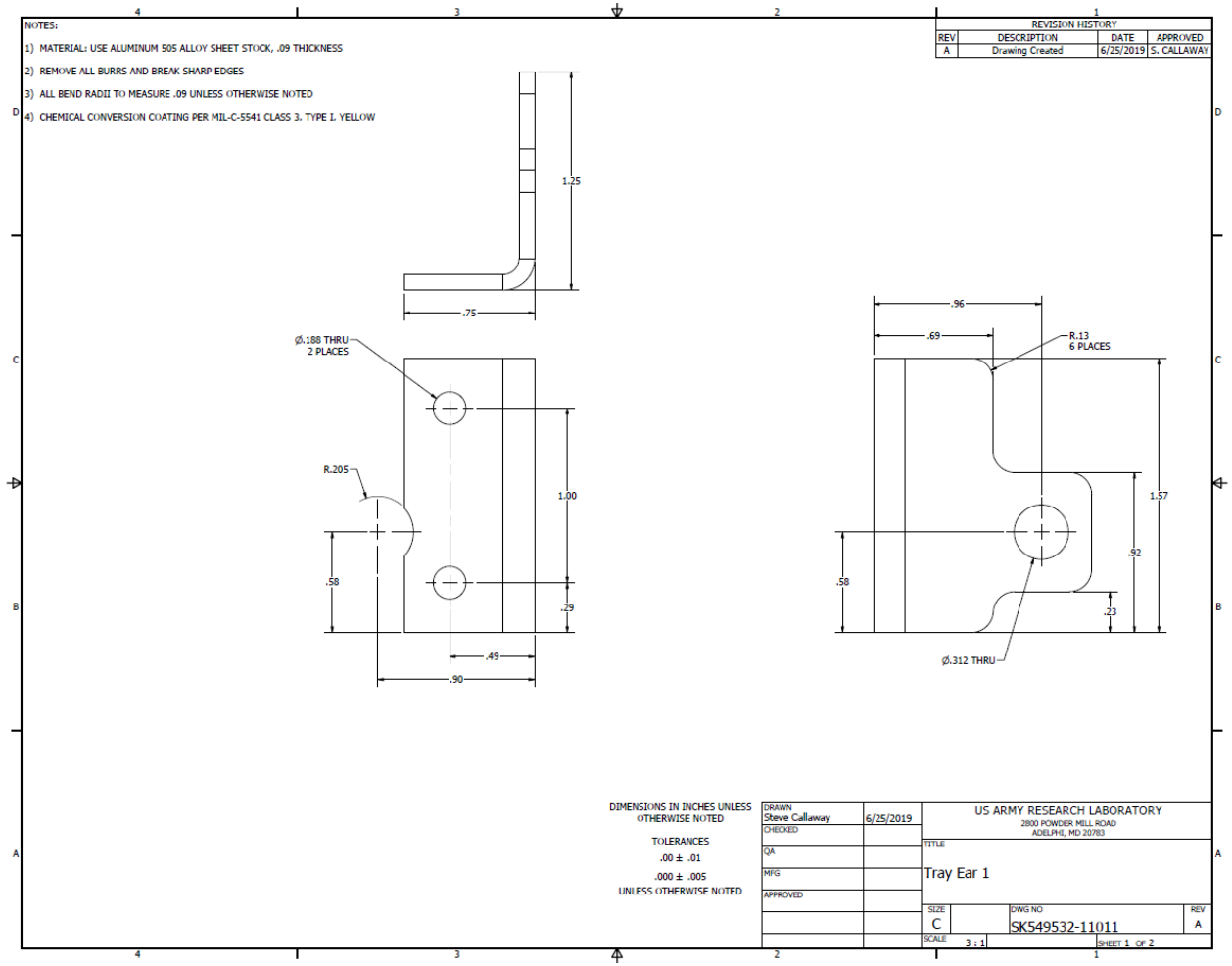

Fig. A-10 Tray ear 1

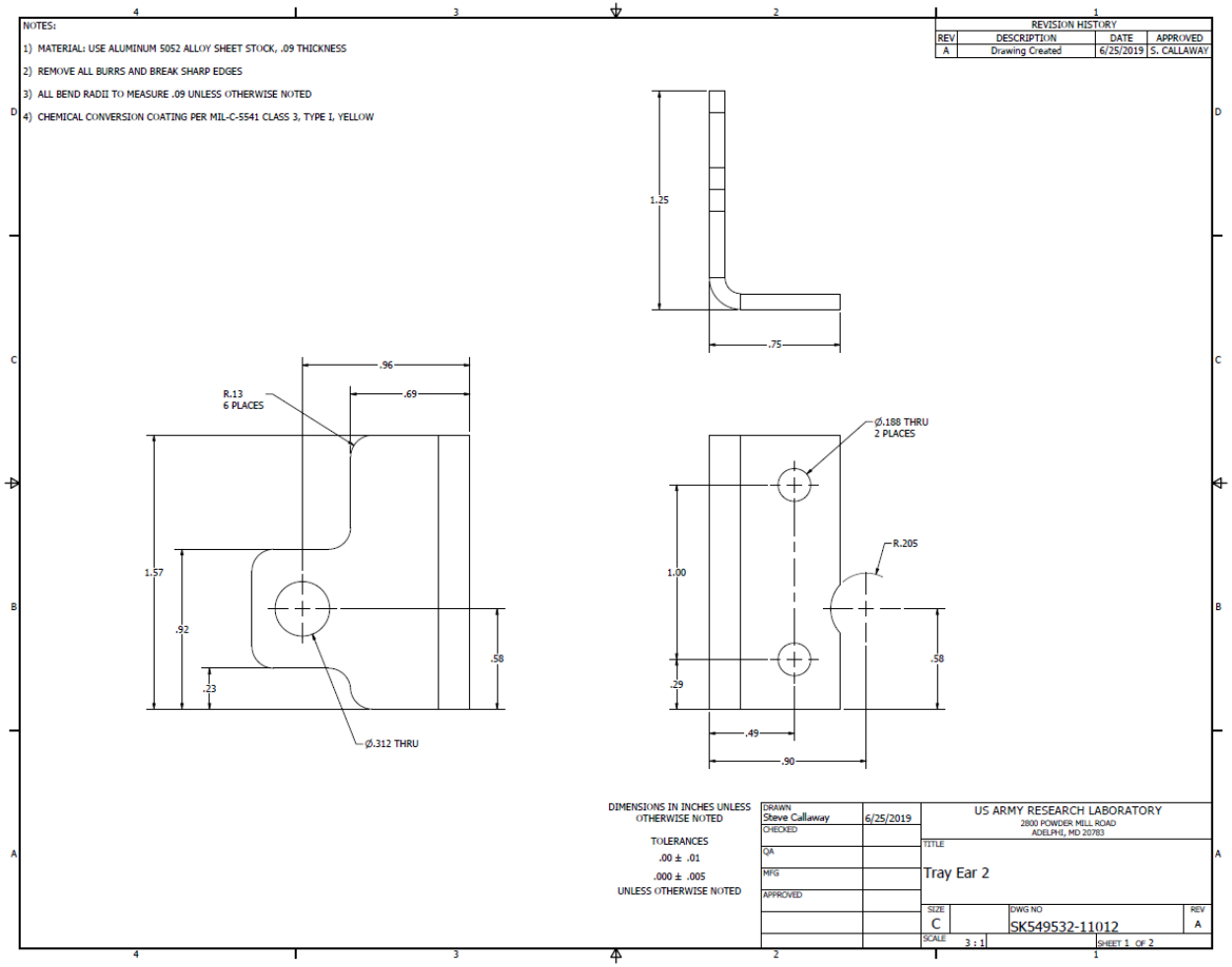

Fig. A-11 Tray ear 2

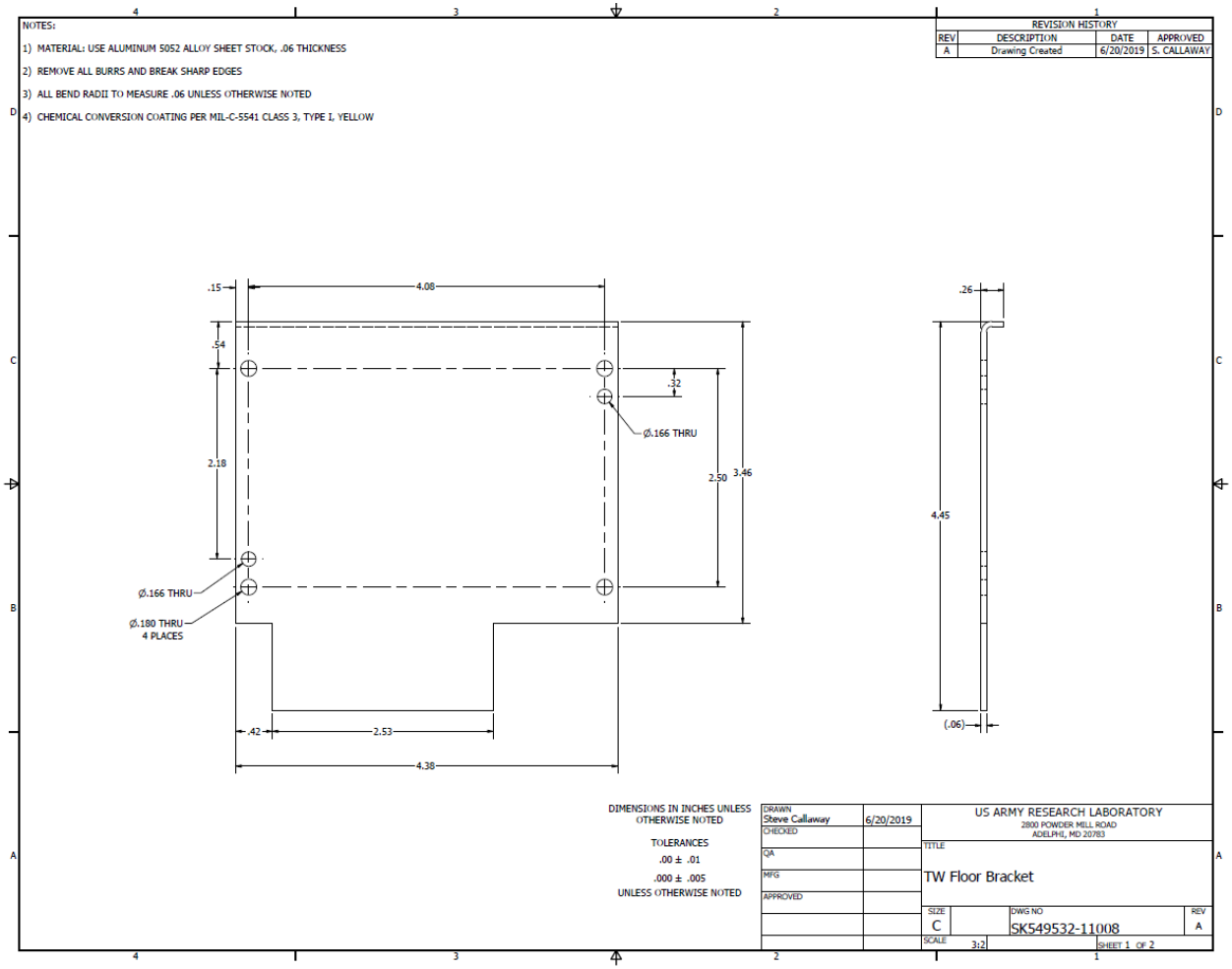

Fig. A-12 TW floor bracket

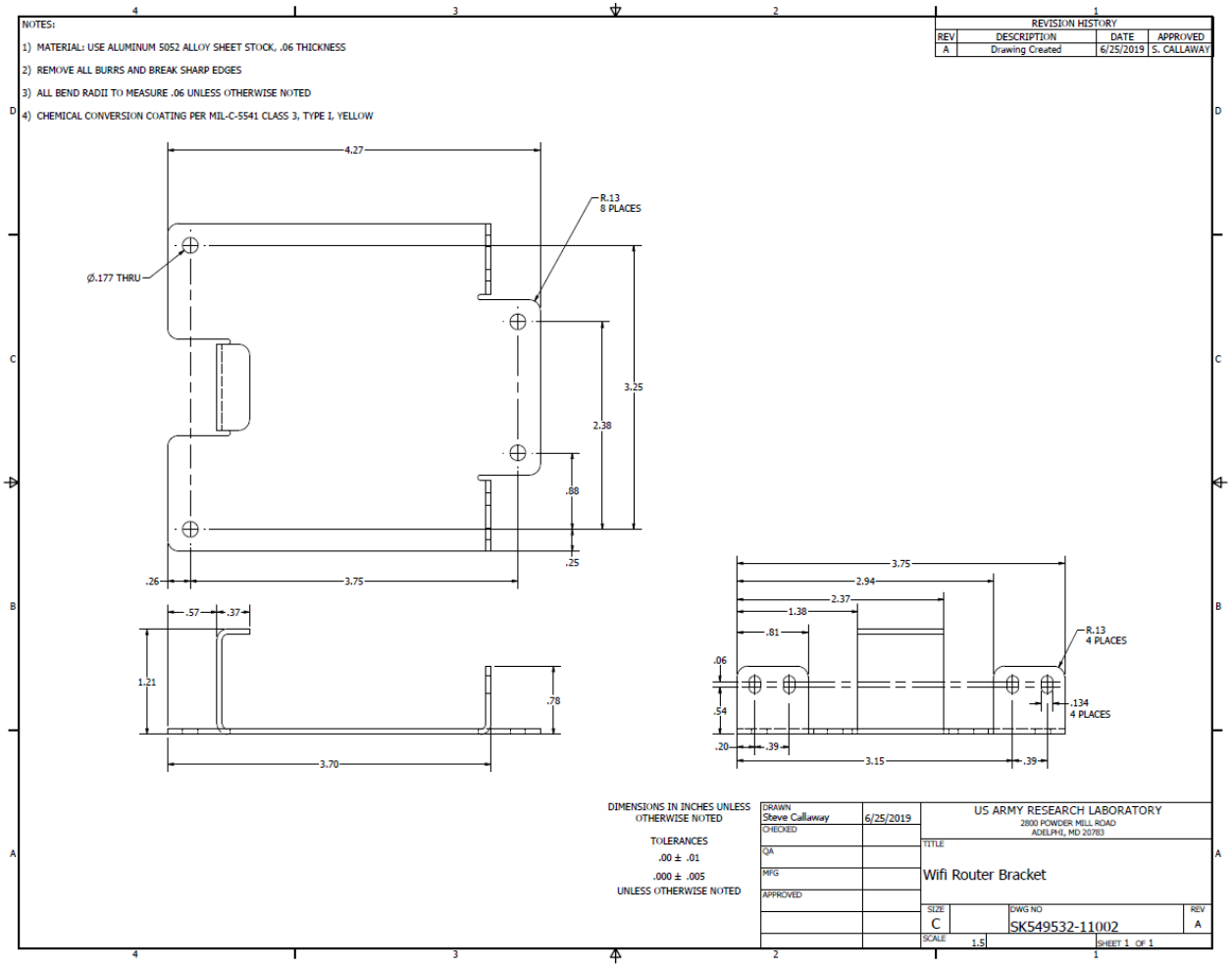

Fig. A-13 Wifi router bracket

List of Symbols, Abbreviations, and Acronyms

LCP	Limo Communications Package
MANET	mobile ad hoc network
RU	rack unit

1 (PDF)	DEFENSE TECHNICAL INFORMATION CTR DTIC OCA
1 (PDF)	CCDC ARL FCDD RLD CL TECH LIB
1 (PDF)	GOVT PRINTG OFC A MALHOTRA
3 (PDF)	CCDC ARL FCDD RLC IB S CALLAWAY M ROSE S RUSSELL