ARINC Project Initiation/Modification (APIM)

1.0 Name of Proposed Project

APIM 17-013

Supplement 8 to ARINC Specification 628 Part 1: Cabin Equipment Interfaces,
Definition of Cell Phone Modem Standards for IFE

1.1 Name of Originator and/or Organization

Rolf Goedecke, Airbus

2.0 Subcommittee Assignment and Project Support

2.1 Suggested AEEC Group and Chairman

Cabin System Subcommittee (CSS)
Dale Freeman, Delta Air Lines

2.2 Support for the activity (as verified)

Airlines: Delta, TAP Portugal, United
Airframe Manufacturers: Airbus, Boeing
Suppliers: Rockwell-Collins, Thales, ZII
Others:

2.3 Commitment for Drafting and Meeting Participation (as verified)

Airlines: Delta
Airframe Manufacturers: Airbus, Boeing
Equipment Suppliers: Rockwell-Collins, Thales, ZII
Others:

2.4 Recommended Coordination with other groups

NIS, SAI

3.0 Project Scope (why and when standard is needed)

The airframe manufacturers are increasingly installing cell modems for
communication of cabin systems with ground infrastructure (e.g., WLAN, UMTS,
LTE). There is a high effort necessary to integrate the cell modems, as all cell
modems from various suppliers are different in size, mounting method, interface
location and installation location. Standardization of form and fit of the cell
modem will enable a particular installation location to be used for cell modems
available from different suppliers. This project aims to:

- Define the form factor for a cell modem.
- Define mounting method for a cell modem.

3.1 Description

The harmonization of form and fit of cell modems from different suppliers allows
the airframe manufacturers to define a dedicated location in each aircraft type for
such equipment.
3.2 Planned usage of the envisioned specification

New aircraft developments planned to use this specification
Yes ☒ no ☐
Specify: All Airbus A/c

Modification/retrofit requirement
Yes ☐ no ☒
Specify: Airlines are retrofitting wireless networks into their existing fleets to provide passenger and crew connectivity.

Needed for airframe manufacturer or airline project
Yes ☒ no ☐
Specify:

Mandate/regulatory requirement
Yes ☐ no ☒
Program and date: No mandate

Is the activity defining/changing an infrastructure standard?
Yes ☐ no ☒
Specify:

When is the ARINC Standard required? TBD

3.3 Issues to be worked

- Form and fit of the cell modem.
- Max weight and max heat dissipation.
- Switching logics.
- Battery requirements.
- Antenna location(s).
- Network security considerations (coordinate with NIS).

4.0 Benefits

4.1 Basic benefits

Operational enhancements
Yes ☒ no ☐
For equipment standards:
(a) Is this a hardware characteristic?
Yes ☒ no ☐
(b) Is this a software characteristic?
Yes ☐ no ☒
(c) Interchangeable interface definition?
Yes ☒ no ☐
(d) Interchangeable function definition?
Yes ☐ no ☒

If not fully interchangeable, please explain: ________________________

Is this a software interface and protocol standard?
Yes ☐ no ☒
Product offered by more than one supplier
Yes ☒ no ☐
Identify: ZII, others TBI

4.2 **Specific project benefits (Describe overall project benefits.)**
The purpose of the project is to develop and standardize the form and fit of cell modem.

4.2.1 **Benefits for Airlines**
Airlines will benefit by reduction of lead time and lower integration cost.

4.2.2 **Benefits for Airframe Manufacturers**
Standardized products from a variety of suppliers allow for dedicated installation locations and provisions independent of the suppliers.

4.2.3 **Benefits for Avionics Equipment Suppliers**
The equipment suppliers get a predefined interface definition and avoid late equipment changes and requalifications.

4.3 **Meetings and Expected Document Completion**
The following table identifies the number of meetings and meeting days for the overall Cabin Systems Subcommittee effort.

<table>
<thead>
<tr>
<th>Activity</th>
<th>Mtgs</th>
<th>Mtg-Days (Total)</th>
<th>Expected Start Date</th>
<th>Expected Completion Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supplement 8 to ARINC 628P1</td>
<td>6</td>
<td>18</td>
<td>Oct 2017</td>
<td>April 2019</td>
</tr>
</tbody>
</table>

Reflects all CSS meetings responsible for several APIMs in work. In addition to the meetings identified above, the CSS will have virtual meetings to develop preliminary pin assignments and connector definitions.

5.0 **Comments**
None.

5.1 **Expiration Date for the APIM**
October 2019

*Completed forms should be submitted to the AECC Executive Secretary.*