



# COLLINS AEROSPACE

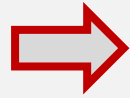
## SATVOICE TRIAL RESULTS

*Prepared for ISPACG 2026*

# SATVOICE TEST/IMPLEMENTATION ROADMAP



Engineering Test



2023: Inmarsat-Viasat  
Callback Checks

670 calls



2024: Iridium  
Callback Checks

Over 1000 calls



Air Traffic Control Trial

Feb-Jun 2025

~13,000 calls

Share results with FAA, PARC/CWG, DCIWG,  
OPDLWG, other regulators and stakeholders



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# 2026 IRIDIUM DATA COLLECTION

## Rebaseline Iridium Performance

- Rebaseline Collins-Iridium path performance after the replacement of the Iridium voice switch in late 2025
- Data collection began on 14 Jan and ran through end of March 2026
- Southwest and JetBlue Airlines participated
- 4155 Call attempts made
- Viasat had no planned improvements since the 2025 SatVoice Trial and were thusly not included



# SATVOICE TRIAL OBJECTIVES FROM SARPS

Characteristic	Objective	Measurement Method	Comments
<b>Ground to Air Call Setup Time</b>	<ul style="list-style-type: none"> <li>• 95% &lt; 25 sec with a recommendation for &lt; 12 sec</li> <li>• 99% &lt; 30 sec with a recommendation for &lt; 15 sec</li> </ul>	Manual analysis of network events	Analyze a sample of calls to manually measure call setup time
<b>Air to Ground Call Setup Time</b>	<ul style="list-style-type: none"> <li>• 95% &lt; 10 sec</li> <li>• 99% &lt; 15 sec</li> </ul>	Manual analysis of network events	Analyze a sample of calls to manually measure call setup time
<b>Audio Intelligibility</b>	Diagnostic Rhyme Test score of 85 or better	Conduct Diagnostic Rhyme Test	Will involve a test participant in the aircraft
<b>Voice Latency (round trip time divided by two)</b>	1.5 sec or better	Collection and analysis of sender and receiver audio timestamped to 0.001 sec	Will involve instrumented audio collection in the aircraft and on the ground
<b>Dropped Call Rate</b>	1% or less during a 120 sec call	Statistical analysis of call records and/or recorded audio	Analyze 100% of calls to calculate dropped call rate
<b>Grade of Service (blocked or delayed connections)</b>	1% or less	Statistical analysis of call records and/or recorded audio	Analyze 100% of call attempts to calculate Grade of Service
<b>Failover from VoIP network to PSTN</b>	Automatic failover in the event of a VoIP network fault	Manually fail VoIP connectivity	
<b>Emergency Call routing to Emergency line</b>	Calls with Priority 1 should bypass call directors and be routed to an EMERGENCY line	Perform AtG test calls at EMERGENCY priority	

# FAA SATVOICE TRIAL – CALL SUCCESS RATE

SatVoice Call Success and Failure Categories			
	Viasat Data from Apr-Jun 2025 Iridium Data from Jan-Mar 2026		
<b>Total Call Attempts</b>	<b>7066</b>		
Successful	89.8%	96.3%	Explainable
AtG Received via PSTN	0.3%		
RO Dial Error	1.3%		
GtA Ring No Answer	3.8%		
Subscriber Unavailable	0.1%		
AtG Callback Never Received	1.1%		
Dropped Calls	0.2%	3.7%	Unexplained / Defect
GtA Call Fail	1.1%		
AtG Call Fail	0.3%		
Spurious Audio	0.0%		
One-Way Audio, Strength/Readability Issues	1.5%		
Other/Misc	0.6%		

# FAA SATVOICE TRIAL OBJECTIVES

Characteristic	Objective	Result
Ground to Air Call Setup Time	<ul style="list-style-type: none"> <li>95% &lt; 25 sec with a recommendation for &lt; 12 sec</li> <li>99% &lt; 30 sec with a recommendation for &lt; 15 sec</li> </ul>	<p>3-9 sec</p> <p><b>PASS</b></p>
Air to Ground Call Setup Time	<ul style="list-style-type: none"> <li>95% &lt; 10 sec</li> <li>99% &lt; 15 sec</li> </ul>	
Audio Intelligibility	Diagnostic Rhyme Test score of 85 or better *	<p><b>PROBABLY PASSED</b></p> <p>3 of 4 test scenarios passed</p> <p>Signal quality issue in SFO has been diagnosed and awaiting resolution - will be retested</p>
Voice Latency (round trip time divided by two)	1.5 sec or better *	<b>PASS</b>
Dropped Call Rate	1% or less during a 120 sec call	< 1% <b>PASS</b>
Grade of Service (blocked or delayed connections)	1% or less – Used GtA and AtG failure numbers	1.4% <b>FAIL</b>
Failover from VoIP network to PSTN	Automatic failover in the event of a VoIP network fault	<b>PASS</b>
Emergency Call routing to Emergency line	Calls with Priority 1 should bypass call directors and be routed to an EMERGENCY line	<b>PASS</b>

\* Required a test participant in the aircraft cockpit

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# FAA SATVOICE TRIAL – INFRASTRUCTURE

- Network Redundancy, Server Redundancy, Alarm Management – Complete, business continuity testing is being scheduled to exercise redundancies
- Call Transaction Accounting – Complete

With Network and Server Redundancy improvements complete, the SatVoice call paths over Iridium and Inmarsat-Viasat are calculated to be 99.90% based on 2025 outage data

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# FAA SATVOICE TRIAL – OBSERVATIONS AND ACTIONS

- Aircraft Phonebooks have varying degree of cleanup required
  - Collins facilities should be listed as NY Radio and SFO Radio in accordance with SVOM
  - Entries should use designated Short Codes and not PSTN telephone numbers
  - Open dialing of short codes should be permitted
- Aircraft data in Collins VCS was not 100% correct – SWIM feed was accurate
  - Continue implementation of new VCS, replace 2 keystroke dialer, implement SWIM database
- Collins to repeat the SFO-Iridium Audio Intelligibility Test
- Radio Operator and Pilot Training
- Phased implementation of SatVoice...
  - FAA PARC/CWG is creating a project team to draft the implementation plan recommendations

# QUESTIONS?

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