



ICAO

International Civil Aviation Organization

Twelfth Meeting of the FANS Interoperability Team – Asia (FIT-Asia/12)

Video Teleconference, 25 – 28 July 2022

Agenda Item 4: Review of ADS/CPDLC Operations and Performance

DATA LINK PERFORMANCE REPORT FOR SRI LANKA

(Presented by SRI LANKA)

SUMMARY

This paper presents data link performance of the ADS-C/CPDLC data in Colombo FIR (VCCF) for the period January to December 2021.

1. INTRODUCTION

1.1 **Tables 1 to 4** summarize Automatic Dependent Surveillance – Contract (ADS-C) and Controller-Pilot Data Link Communications (CPDLC) performance measured against the appropriate Required Surveillance Performance (RSP) and Required Communications Performance (RCP) criteria stipulated in ICAO documents.

1.2 Media type data (SATCOM/VHF) was not recorded separately. Both SATCOM and VHF data were presented as a single data. Measures have been taken to integrate separate media data to the system with the help of system manufacturer and SITA.

2. DISCUSSION

VCCF FIR ADS-C RSP180 Performance – Media Type, RGS and GES

2.1 **Table 1** summarizes overall ADS-C performance using downlinks sent within the VCCF FIR during 2021, where the messages sent met the RSP 180, 95% criterion but marginally fall below the 99.9% criterion during first six months. ADS-C is provided through FANS 1/A service by SITA. Media type data (SATCOM/VHF) was not available separately. Both SATCOM and VHF data were presented as a single data.

FIR	VCCF					
Criteria	RSP180					
Period	Jan-June 2021			July-December 2021		
Colour Key Meets Criteria 99.0%-99.84% Under Criteria	Message Counts	95%	99.90%	Message Counts	95%	99.90%
		% <= 90sec	% <= 180sec		% <= 90sec	% <= 180sec
By Media Type						
SATCOM + VHF	256657	98.69	99.71	251687	98.89	99.91
VHF	This Data is not available separately.					
HF						
ALL	256657	98.69	99.71	251687	98.89	99.91

By Remote Ground Station (RGS) Ground Earth Station (GES)		
Designator	Type	(only RGS/GES with message counts >100 recorded)
ADS-C Provided through FANS 1/A Service by SITA. Mechanism to fulfill this requirement through system manufacturer is underway.		

Table 1: VCCF FIR ADS-C Downlink Latency per Media Type, RGS and GES

2.2 **Table 2** summarizes overall ADS-C performance per Aircraft Operator/Type for downlinks sent within the VCCF FIR during 2021.

FIR	VCCF					
Criteria	RSP180					
Period	Jan-June 2021			July-December 2021		
Colour Key ■ Meets Criteria ■ 99.0%-99.84% ■ Under Criteria	Message Counts	95%	99.90%	Message Counts	95%	99.90%
		% <= 90sec	% <= 180sec		% <= 90sec	% <= 180sec
By Aircraft Operator / Type (only message counts >100 recorded)						
ALK/A320N	102	99.21%	99.91%	518	99.35%	99.94%
ALK/A321N	2888	99.12%	99.95%	2470	99.37%	99.97%
ALK/A332	3446	98.81%	99.77%	5320	98.19%	99.48%
ALK/A333	13506	98.84%	99.86%	17484	98.62%	99.55%
CCA/B77W	2289	97.66%	99.33%	634	98.79%	99.75%
CES/A332	844	98.52%	99.79%	355	98.60%	99.81%
CES/A333	1447	97.35%	99.11%	180	98.82%	99.92%
CSN/A333	327	98.04%	99.05%	172	98.89%	100.00%
ETD/B77W	741	98.78%	99.91%	616	99.12%	99.94%
ETD/B789	31193	98.88%	99.92%	30254	98.92%	99.97%
ETH/B788	2023	98.83%	99.25%	1015	98.64%	99.79%
ETH/B789	1331	99.12%	100.00%	4613	98.95%	100.00%
GIA/B77W	630	98.72%	99.81%	1559	98.78%	99.90%
LNI/A333	386	99.23%	99.92%			
QTR/A359	13380	98.73%	99.89%	13710	98.65%	99.96%
QTR/A35K	13525	98.88%	99.87%	5659	98.82%	100.00%
QTR/B77L	477	98.08%	99.21%	343	99.33%	99.87%
QTR/B77W	35000	98.83%	99.18%	23549	98.88%	99.96%
QTR/B788	5838	98.79%	99.91%	13837	98.85%	99.97%
SIA/A359	17550	98.87%	99.93%	13866	98.94%	99.91%
SIA/B744	9337	97.87%	99.02%	1553	98.62%	99.69%
SIA/B77W				244	98.45%	99.67%
SLK/B738	1891	98.68%	99.59%			
SVA/B77W	3194	97.84%	99.34%	4960	98.89%	99.98%
SVA/B789	415	97.65%	99.55%	6068	98.54%	99.77%
THY/A332	915	99.25%	99.85%	1042	98.88%	99.87%
THY/A333	1913	98.70%	99.83%	3115	99.15%	99.93%

THY/B77W	1580	98.49%	99.94%	2630	98.00%	99.63%
UAE/A388	190	99.36%	100.00%	2538	99.12%	99.95%
UAE/B77L				459	99.27%	100.00%
UAE/B77W	40216	99.29%	99.91%	35386	99.36%	99.87%

Table 2: VCCF FIR ADS-C Downlink Latency per Aircraft Operator/Type

VCCF FIR CPDLC RCP240 Performance – Media Type, RGS and GES

2.3 **Tables 3A and 3B** summarize overall CPDLC performance per Media Type, messages sent within the VCCF FIR during 2021. CPDLC is provided through FANS 1/A service by SITA. Media type data (SATCOM/VHF) was not available separately. Both SATCOM and VHF data were presented as a single data.

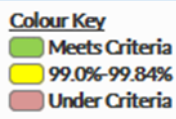
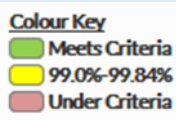
FIR		VCCF				
Criteria		RCP240				
Period		Jan - Jun 2021				
	Message Counts	95% benchmark		99.9% Benchmark		95%
		ACP	ACTP	ACP	ACTP	PORT
		% <= 180sec	% <= 120sec	% <= 210sec	% <= 150sec	% < 60secs
By Media Type						
SATCOM+VHF	8037	98.68	99.26	99.70	99.91	97.31
VHF	This Data is not available separately.					
HF	-	-	-	-	-	
ALL	8037	98.68	99.26	99.70	99.91	97.31
By Remote Ground Station (RGS) Ground Earth Station (GES)						
Designator	Type	(RGS/GES with message counts >100)				
CPDLC Provided through FANS 1/A Service by SITA. Mechanism to fulfill this requirement through system manufacturer is underway.						

Table 3A: VCCF FIR CPDLC Performance Latency per Media Type, RGS and GES – Jan-June 2021

FIR		VCCF				
Criteria		RCP240				
Period		Jul - Dec 2021				
	Message Counts	95% benchmark		99.9% Benchmark		95%
		ACP	ACTP	ACP	ACTP	PORT
		% < =180sec	% <= 120sec	% <= 210sec	% <= 150sec	% < 60secs
By Media Type						
SATCOM+VHF	8360	98.27	99.21	99.57	99.89	97.17
VHF	N/A	N/A	N/A	N/A	N/A	

HF	-	-	-	-	-	-
ALL	8360	98.27	99.21	99.57	99.89	97.17
By Remote Ground Station (RGS) Ground Earth Station (GES)						
Designator	Type	Designator	Type	(RGS/GES with message counts >100)		
CPDLC Provided through FANS 1/A Service by SITA. Mechanism to fulfill this requirement through system manufacturer is underway.						

Table 3B: VCCF FIR CPDLC Performance Latency per per Media Type, RGS and GES – July-Dec 2021

VCCF FIR CPDLC RCP240 Performance – Aircraft Operator/Type

2.4 **Tables 4A and 4B** summarize overall CPDLC performance per Aircraft Operator/Type for messages sent within the VCCF FIR during 2021, where performance did not meet the RCP240 performance criteria.

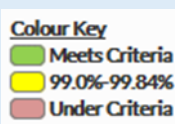
FIR	VCCF					
Criteria	RCP240					
Period	Jan - Jun 2021					
	Message Counts	95% benchmark		99.9% Benchmark		95%
		ACP	ACTP	ACP	ACTP	PORT
		% <= 180sec	% <= 120sec	% <= 210sec	% <= 150sec	% < 60secs
By Aircraft Operator / Type (only message counts >100 recorded)						
ALK/A333	328	97.37%	99.51%	99.59%	99.89%	97.55%
ETD/B789	1158	99.46%	99.62%	99.91%	99.91%	97.14%
QTR/A359	646	98.78%	98.97%	99.59%	99.91%	98.25%
QTR/35K	597	99.14%	99.38%	99.89%	99.90%	98.77%
QTR/B77W	1195	98.92%	99.78%	99.95%	100.00%	98.82%
QTR/B788	292	98.59%	99.38%	99.80%	99.91%	98.12%
SIA/A359	707	98.38%	98.86%	99.53%	99.75%	97.54%
SIA/B744	339	98.56%	98.85%	99.52%	99.79%	97.28%
SVA/B77W	149	98.32%	98.68%	99.47%	99.63%	96.85%
THY/B789	217	98.37%	98.76%	99.35%	99.58%	96.07%
UAE/B77W	1367	99.23%	99.43%	99.68%	99.91%	98.65%

Table 4A: VCCF FIR CPDLC Performance Latency per Aircraft Operator/Type – Jan-June 2021

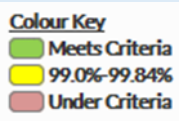
FIR	VCCF					
Criteria	RCP240					
Period	Jul - Dec 2021					
	Message Counts	95% benchmark		99.9% Benchmark		95%
		ACP	ACTP	ACP	ACTP	PORT
		% <= 180sec	% <= 120sec	% <= 210sec	% <= 150sec	% < 60secs
By Aircraft Operator / Type (only message counts >100 recorded)						
ALK/A332	348	97.81%	99.69%	99.27%	99.91%	98.14%
ALK/A333	690	96.15%	99.47%	99.51%	99.94%	98.61%
ETD/B789	1255	98.66%	99.14%	99.51%	99.34%	98.57%
QTR/A359	691	97.52%	98.64%	99.47%	99.85%	98.35%
QTR/35K	376	98.75%	99.13%	99.45%	99.89%	98.89%
QTR/B77W	886	98.98%	99.81%	99.59%	100.00%	99.40%
QTR/B788	484	97.95%	99.15%	99.66%	99.77%	98.22%
SIA/A359	551	98.49%	98.55%	99.51%	99.83%	98.57%
SVA/B77W	474	98.79%	98.71%	99.55%	99.69%	98.26%
UAE/B77W	1259	99.11%	99.18%	99.66%	99.81%	98.91%

Table 4B: VCCF FIR CPDLC Performance Latency per Aircraft Operator/Type – July-Dec 2021

3. ACTION BY THE MEETING

- 3.1 The meeting is invited to:
- a) note the information contained in this paper; and
 - b) discuss any relevant matters as appropriate.

.....