



International Civil Aviation Organization

The 11th Meeting of the Future Air Navigation Systems Interoperability Team-Asia (FIT-Asia/11)

Video Teleconference, 23 – 27 August 2021

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 2020.

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 for downlinks sent within the VCCF FIR during 2020, where the messages sent met the RSP 180 95% criterion but marginally fall below the 99.9% criterion. 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 2020			July-December 2020		
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	445521	99.19	99.67	251687	99.13	99.63
VHF	This data is not available					
HF	-	-	-	-	-	-

ALL	445521	99.19	99.67	251687	99.13	99.63
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. These details were not available						

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

VCCF FIR ADS-C RSP180 Performance – Aircraft Operator/Type

2.2 **Table 2** summarizes overall ADS-C performance per Aircraft Operator/Type for downlinks sent within the VCCF FIR during 2020.

FIR	VCCF					
Criteria	RSP180					
Period	Jan-June 2020			July-December 2020		
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	1939	98.91%	99.34%			
ALK/A321N	7447	98.72%	99.39%	123	99.17%	99.67%
ALK/A332	4648	99.81%	99.93%	2442	99.79%	99.98%
ALK/A333	4563	99.88%	99.98%	3205	99.72%	99.93%
CPA/B77W	3965	97.93%	99.38%	233	97.95%	99.31%
ETD/A332	1429	98.97%	99.63%	1639	97.92%	99.17%
ETD/A388	4124	99.65%	100.00%			
ETD/B77W	2481	99.81%	99.92%			
ETD/B789	10545	99.85%	99.94%	8564	99.82%	99.91%
ETH/B788	895	99.35%	99.70%	214	98.48%	99.65%
GIA/B77W	682	99.53%	99.89%	117	99.70%	100.00%
LNI/A333	452	99.63%	99.79%			
MAS/B738	4173	99.73%	99.82%			
QTR/A359	4502	99.83%	99.87%	3124	99.05%	99.26%
QTR/A388	4714	99.85%	99.92%			
QTR/A35K	5458	99.86%	99.95%	3987	99.82%	99.97%
QTR/B77L	3065	97.85%	99.40%			
QTR/B77W	8107	98.73%	99.68%	7423	98.22%	99.36%
QTR/B788	7246	99.63%	99.91%	4908	98.81%	99.71%
SIA/A359	2062	98.98%	99.65%	2825	99.64%	99.91%
SIA/B744	1295	98.56%	99.12%	1488	98.72%	99.10%
SIA/B77W	2132	99.28%	99.86%	971	99.55%	100.00%
SLK/B738	11965	99.68%	99.79%	299	99.77%	99.89%
SVA/B77W	9756	99.23%	99.77%	2957	99.24%	99.79%
SVA/B789	1230	99.50%	99.91%			
THY/A333	823	97.70%	99.23%	302	99.15%	99.93%

THY/B77W	943	99.39%	99.80%			
UAE/A388	15517	99.86%	99.89%			
UAE/B77L	3152	99.45%	99.89%			
UAE/B77W	9362	99.59%	99.91%	8762	99.75%	99.96%

Table 2: VCCF FIR ADS-C Downlink Latency per Aircraft Operator/TypeVCCF 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 2020, where performance met RCP240 95% criterion but marginally fall below the 99.9% criterion. 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 2020				
Colour Key   	Message Counts	95% benchmark		99.9% Benchmark		95%
		ACP	ACTP	ACP	ACTP	PORT
		% <= 180sec	% <= 120sec	% <= 210sec	% <= 150sec	% < 60secs
By Media Type						
SATCOM + VHF	24214	98.45	99.28	99.53	99.78	98.48
VHF	This data is not available					
HF	-	-	-	-	-	
ALL	24214	98.45	99.28	99.53	99.78	98.48
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. These details were not available.						

Table 3A: VCCF FIR CPDLC Performance Latency per Media Type, RGS and GES – Jan-Jun 2020

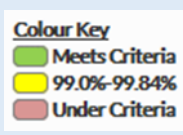
FIR		VCCF				
Criteria		RCP240				
Period		Jul - Dec 2020				
Colour Key   	Message Counts	95% benchmark		99.9% Benchmark		95%
		ACP	ACTP	ACP	ACTP	PORT
		% <= 180sec	% <= 120sec	% <= 210sec	% <= 150sec	% < 60secs
By Media Type						
SATCOM + VHF	16601	98.37	99.17	99.39	99.76	98.57
VHF	This data is not available					

HF	-	-	-	-	-	
ALL	16601	98.37	99.17	99.39	99.76	98.57
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. These details were not available.						

Table 3B: VCCF FIR CPDLC Performance Latency per Media Type, RGS and GES – Jul-Dec 2020

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 2020, where performance met the RCP240 95% criterion but marginally fall below the 99.9% criterion.

FIR	VCCF					
Criteria	RCP240					
Period	Jan - Jun 2020					
	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/A320N	168	99.10%	99.40%	99.89%	99.92%	97.96%
ALK/A321N	428	98.89%	99.58%	99.72%	99.93%	97.86%
ALK/A332	239	97.75%	99.52%	99.13%	99.89%	97.15%
ALK/A333	337	95.77%	99.35%	99.39%	99.85%	98.42%
CPA/B77W	163	96.50%	98.85%	99.10%	99.21%	97.53%
ETD/A332	115	99.51%	99.85%	99.91%	99.95%	98.49%
ETD/A388	289	98.75%	99.29%	99.30%	99.95%	98.53%
ETD/B77W	703	97.23%	98.97%	99.02%	99.85%	98.84%
ETD/B789	1373	99.26%	99.52%	99.98%	99.83%	98.49%
ETH/B788	113	98.89%	99.05%	99.07%	99.51%	98.89%
LNI/A333	183	97.35%	99.09%	99.10%	99.87%	97.65%
MAS/B738	348	98.75%	99.29%	99.58%	99.84%	98.78%
QTR/A359	585	97.87%	98.77%	99.25%	99.46%	98.52%
QTR/A388	474	98.75%	98.87%	99.87%	99.93%	98.88%
QTR/35K	1907	98.97%	99.54%	99.91%	99.96%	99.27%
QTR/B77L	319	97.26%	98.56%	99.21%	99.23%	98.68%
QTR/B77W	669	98.72%	99.84%	99.87%	100.00%	99.42%
QTR/B788	381	98.79%	99.58%	99.88%	99.93%	99.14%
SIA/A359	327	98.15%	98.46%	99.23%	99.05%	98.41%
SIA/B744	296	98.56%	98.85%	99.32%	99.89%	98.12%
SIA/B77W	212	98.44%	98.95%	99.52%	99.44%	97.85%
SLK/B738	757	98.67%	99.31%	99.29%	99.79%	98.25%

SVA/B77W	622	99.28%	99.86%	99.77%	99.95%	98.35%
SVA/B789	194	98.57%	99.54%	99.32%	99.97%	99.12%
UAE/A388	1437	99.51%	99.52%	99.95%	99.92%	99.39%
UAE/B77L	247	98.65%	98.95%	99.25%	99.75%	98.73%
UAE/B77W	1909	99.31%	99.55%	99.53%	99.88%	98.91%

Table 4A: VCCF FIR CPDLC Performance Latency per Aircraft Operator/Type – Jan-Jun 2020

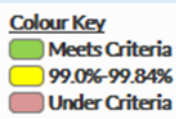
FIR	VCCF					
Criteria	RCP240					
Period	Jul - Dec 2020					
	Message Counts	95% benchmark		99.9% Benchmark		95%
		ACP	ACTP	ACP	ACTP	PORT
		% <= 180sec	% <= 120sec	% <= 210sec	% <= 150sec	% < 60secs
By Aircraft Operator / Type (only message counts >100 recorded)						
ALK/A332	176	97.81%	99.69%	99.27%	99.91%	98.14%
ALK/A333	707	96.15%	99.47%	99.51%	99.94%	98.61%
ETD/A332	132	99.78%	100.00%	99.93%	100.00%	99.14%
ETD/B789	943	98.66%	99.14%	99.31%	99.34%	98.57%
QTR/A359	425	97.52%	98.64%	99.47%	99.85%	98.35%
QTR/35K	789	98.75%	99.13%	99.15%	99.89%	98.89%
QTR/B77W	565	98.98%	99.81%	99.59%	100.00%	99.40%
QTR/B788	345	97.95%	99.15%	99.36%	99.77%	98.22%
SIA/A359	305	98.49%	98.55%	99.31%	99.63%	98.57%
SIA/B744	354	98.73%	98.97%	99.45%	99.93%	98.87%
SIA/B77W	115	98.51%	99.21%	99.67%	99.68%	98.28%
SVA/B77W	167	98.79%	98.71%	99.35%	99.69%	98.26%
UAE/B77W	979	99.11%	99.18%	99.56%	99.81%	98.91%

Table 4B: VCCF FIR CPDLC Performance Latency per Aircraft Operator/Type – Jan-Jun 2020

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.

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