



ICAO

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

**DATALINK PERFORMANCE REPORT FOR MANILA FIR**

(Presented by PHILIPPINES)

**SUMMARY**

This paper presents the data link performance data for **MANILA FIR** for year 2021

**1. INTRODUCTION**

1.1 This paper presents the data link performance for Manila(RPHI) FIR for the period January to December 2021

1.2 Since the migration of air traffic control operation to Philippine Air Traffic Management Center from the old Airways Facilities Complex in the Philippines, ADS-C/CPDLC communication were being used extensively. However, the Distance-based lateral and longitudinal separation being employed by Manila ACC are still supported by radar surveillance in most part of Manila FIR.

1.3 The use of ADS-C/CPDLC communication were being implemented in both the West Philippine Sea and West Pacific airspace in Manila FIR but the distance-based lateral and longitudinal separation were not yet employed in most of the category R airspace.

1.4 HF voice communication and ADS-C/CPDLC run in parallel as some other aircraft are not ADS-C/CPDLC equipped.

**2. DISCUSSION**

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




FIR	RPHI					
Criteria	RSP180					
Period	Jan-June 2021			July-December 2021		
<b>Colour Key</b> Meets Criteria 99.0%-99.84% Under Criteria	Message Counts	95%	99.90%	Message Counts	95%	99.90%
		% <= 90sec	% <= 180sec		% <= 90sec	% <= 180sec
<b>By Media Type</b>						
SATCOM	88395	98.16%	99.78%	97740	98.15%	99.83%

		VHF	HF	ALL			
		132901	99.55%	99.86%	175348	99.49%	99.84%
		373	84.72%	94.47%	189	79.97%	90.20%
		221669	99.29%	99.83%	273277	99.25%	99.83%
By Remote Ground Station (RGS) Ground Earth Station (GES)							
Designator	Type	(only RGS/GES with message counts =>100 recorded)					
H16	HF	282	86.52%	95.52%	124	88.17%	94.51%
IG1	SAT	2160	96.06%	98.89%	4710	95.07%	98.98%
CXR1	VHF	360	97.08%	98.15%	418	98.74%	99.29%
OKA1	VHF	462	89.73%	98.85%	509	98.71%	100.00%

**Table 1:** Manila FIR ADS-C performance by Media Type, RGS and GES- Jan-Dec2021

2.1 **Table 1** above summarizes the ADS-C performance by media type and RGS of which four stations were monitored under criteria. As usual, under HF media did not totally meet the criteria. The three other stations have to be verified to the CSP if some time last year this stations reported low transmission performance.

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

FIR	RPHI					
Criteria	RSP180					
Period	Jan-June 2021			July-December 2021		
<b>Colour Key</b>  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)						
ETH/B788	339	96.66%	98.88%	321	98.23%	99.43%
GIA/A333	1492	98.74%	99.03%	1013	97.87%	98.38%
GIA/B77W	802	95.89%	98.88%	630	96.72%	98.27%
OMA/A332				117	98.50%	98.85%
PAL/A321	734	93.44%	94.91%	1417	90.93%	92.84%
UAL/B77W	706	96.23%	98.51%	1364	98.75%	99.73%

**Table 2:** Manila FIR ADS-C performance by Aircraft Operator/Type-Jan-Dec2021

2.2 **Table 2** above summarizes ADS-C performance by aircraft operator/type of which there are six aircraft operator/type monitored under criteria. Out of the six only one (PAL) has totally did not met both the 95% and 99.9 % criteria and the other aircraft operator/type has failed only in the 99.9% criteria. Those aircraft operator have to be notified by Manila.

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

FIR		RPHI												
CRITERIA		RCP240												
Period		Jan-Jun2021					Jul-Dec2021							
Colour Key Meets Crite 99.0%-99.8 Under Crite	Msg Counts	95%		99.9%		95%	Msg Counts	95%		99.9%		95%		
		ACP %<= 180s	ACTP %<= 120s	ACP %<= 210s	ACTP %<= 150s	PORT %<= 60s		ACP %<= 180s	ACTP %<= 120s	ACP %<= 210s	ACTP %<= 150s	PORT %<= 150s		
By Media Type(only messages counts => 100 recorded)														
	SATCOM	2551	98.68%	100.00%	98.71%	100.00%	94.99%	6518	99.03%	99.92%	99.11%	99.53%	95.17%	
	VHF	2880	98.67%	99.13%	98.80%	99.21%	97.26%	4978	98.97%	99.42%	99.09%	99.44%	97.02%	
	SV	826	99.22%	100.00%	99.36%	100.00%	98.31%	1176	99.23%	99.92%	99.31%	99.93%	98.07%	
	HF	155	88.76%	84.84%	92.19%	91.15%	84.52%	301	88.37%	85.94%	90.93%	92.69%	79.73%	
	ALL	6412	98.48%	99.02%	98.67%	99.24%	96.74%	12973	98.75%	99.24%	98.91%	99.41%	96.36%	
By Remote Ground Station(RGS)/Ground Earth Station(GES)														
	APK1	SAT	1430	97.37%	98.54%	97.59%	98.74%	95.24%	3405	98.68%	99.15%	98.83%	99.19%	96.30%
	APK2	SAT	143	97.90%	99.50%	97.99%	99.68%	96.50%	524	98.28%	100.00%	98.49%	100.00%	94.56%
	H16	HV							198	86.87%	86.80%	89.14%	92.42%	77.78%
	IG1	SAT							208	98.25%	100.00%	98.68%	100.00%	91.35%
	PPS	VHF	111	95.83%	98.34%	96.15%	98.74%	92.28%	313	97.98%	99.18%	98.14%	99.23%	96.11%
	SYX	VHF							263	97.38%	97.42%	97.65%	97.55%	93.79%
	XXP	SAT	207	98.56%	100.00%	98.61%	100.00%	93.96%	497	99.20%	100.00%	99.33%	100.00%	93.56%

**Table 3:** Manila FIR CPDLC performance by Media Type, RGS and GES – Jan-Dec 2021.

2.3 **Table 3** above summarizes the CPDLC performance by MEDIA and RGS from January to December 2021. As observed media under HF consistently failed in all criteria while SATCOM and VHF marginally failed in the 99.9% criteria for the period Jan-June 2021.

2.4 Under Remote Ground Station (RGS) four SAT stations marginally failed in the 99.9% criteria specifically in the ACP and also failed in the pilot operational response has been observed on the above depicted stations. Verifying with the performance on those stations to the CSP is deemed necessary by Manila.

MANILA FIR CPDLC RCP240 Performance – Aircraft Operator/Type

FIR		RPHI											
CRITERIA		RCP240											
Period		Jan-Jun2021					Jul-Dec2021						
Colour Key Meets Crite 99.0%-99.8 Under Crite	Msg Counts	95%		99.9%		95%	Msg Counts	95%		99.9%		95%	
		ACP %<= 180s	ACTP %<= 120s	ACP %<= 210s	ACTP %<= 150s	PORT %<= 60s		ACP %<= 180s	ACTP %<= 120s	ACP %<= 210s	ACTP %<= 150s	PORT %<= 150s	
By Aircraft Operator/Type (only message counts => 100 recorded)													
	AAR/A333						122	94.00%	97.02%	95.60%	98.36%	88.29%	
	ANA/B789	116	99.43%	99.64%	99.52%	99.84%	99.14%	335	98.85%	98.45%	98.88%	98.85%	98.06%
	CAL/A359	217	99.84%	98.32%	99.00%	98.57%	98.09%	229	97.02%	94.30%	97.31%	95.20%	92.58%
	CPA/B77W	135	99.02%	99.99%	99.39%	100.00%	95.31%	160	99.41%	100.00%	99.49%	100.00%	92.26%

CSN/A333	143	98.67%	98.41%	98.75%	98.63%	97.81%	292	99.01%	99.41%	99.13%	99.71%	96.40%
CSN/B789	319	97.70%	96.36%	98.57%	96.93%	96.55%	408	97.86%	96.55%	98.08%	96.97%	96.84%
MAS/A333	105	95.49%	100.00%	95.58%	100.00%	94.74%	318	99.18%	100.00%	99.38%	100.00%	97.25%
PAL/A333							137	91.47%	100.00%	91.54%	100.00%	89.91%
SIA/A359	538	96.02%	96.89%	96.70%	97.61%	94.67%	1046	96.58%	97.39%	96.87%	98.11%	94.86%
SIA/B78X	267	97.09%	95.11%	97.37%	96.65%	94.92%	569	96.23%	96.68%	97.04%	97.54%	94.79%

**Table 4:** Manila FIR CPDLC performance by Aircraft Operator/Type – Jan-Dec2021

2.5 **Table 4** above summarizes the CPDLC performance by aircraft operator/type from January to December 2021. As observed only three operators marginally failed in the 95% criterion for the period 2021 while two operator with different aircraft type consistently failed in the 99.9% criterion

2.6 On those above mentioned operator it has been observed also that it has consistently failed in the pilot operational response time criteria which some operator also reflects on the table.

### 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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