



ICAO

International Civil Aviation Organization

Eleventh Meeting of the South China Sea Traffic Flow Review Group (SCSTFRG/11)

Bangkok Thailand, 04 – 06 July 2023

**Agenda Item 2: Review of the Current and Planned CNS/ATM Capabilities and Identifying Associated Reduced Horizontal Separation**

**APPLICATION OF ATC SEPARATION MINIMUMS**

(Presented by Secretariat)

**SUMMARY**

This paper presents information on the Seamless ANS survey conducted to determine which Air Traffic Control (ATC) separation minimums were being applied within the Asia/Pacific Region.

**1. INTRODUCTION**

1.1 In an endeavour to track the effectiveness of the Seamless Air Navigation Services (ANS) element implementation related to the use of tactical (ATC surveillance-based and datalink-supported) ATC separation minimums, the ICAO Regional Office issued State Letters since 2017 subsequently supported by Conclusion ATM/SG 6-1: ATC Separations Standards Survey. On 27 January 2023, another state letter T 3/10.1 – AP019/23 (ATM), with a response date of 03 March 2023 (**Attachment A**) was sent to States to submit the survey.

1.2 The survey requested respondents to advise the minimum horizontal separation minimums authorized for use by controllers within Category R (remote), Category T (terminal operations serviced by direct ATS communications and surveillance) and Category S (surveilled by radar, Automatic Dependent Surveillance-Broadcast [ADS-B] or Multilateration [MLAT]), and the minimum horizontal spacing authorized by Air Traffic Services Letter of Agreement (ATS LOA) or other instruments on each of your Flight Information Region (FIR) inbound transfer of Control (TOC) points. Surveying the TOC points' spacing parameter is a step forward in helping to identify the 'bottleneck' FIR Boundary TOC points in the region. In addition, it was asked whether your Administration applied a Flight Level Allocation Scheme within its FIR(s) [no closer than 50NM to the FIR boundary]. The survey is at **Attachment B**.

1.3 The specific parts from the *Asia/Pacific Seamless ANS Plan* being referred to in the survey were:

7.34 All ATC units should authorise the use of the horizontal separation minima stated in ICAO Doc 4444 (PANS ATM), or as close to the separation minima as practicable, taking into account such factors as:

- a) the automation of the ATM system, including automated hand-off between sectors;
- b) the capability of the ATC communications system;
- c) the performance of the ATS surveillance system, including data-sharing or

*overlapping coverage at TOC points; and*

- d) *ensuring the competency of air traffic controllers to apply the full tactical capability of ATS surveillance systems.*

*Note 1: the delivery of ATC services should be based primarily on the CNS/ATM capability. When using Annex 10 compliant ATS surveillance, 5NM (enroute) or 3NM (terminal) surveillance-based separations should be authorised within ATC sectors. At the TOC points in such environments, 5-10NM should be authorised with auto hand-off and surveillance data-sharing or overlapping coverage at the TOC point, and 5-20NM without auto hand-off, as determined by an appropriate safety assessment.*

*Note 2: the efficacy, continuity and availability of ATM services should be supported by adherence with regional planning and guidance material regarding ATM automation and ATM contingency systems (regarding ATM contingency operations, refer to the Regional ATM Contingency Plan).*

7.35 *Priority for FLAS level allocations should be given to higher density ATS routes over lower density ATS routes. FLAS should comply with Annex 2, Appendix 3a unless part of an OTS. FLAS other than OTS should only be utilised for safety and efficiency reasons within:*

- a) *Category R airspace with the agreement of all ANSPs that provide services:*

- *within the airspace concerned; and*
- *within adjacent airspace which is affected by the FLAS; or*

- b) *Category S airspace with the agreement of all ANSPs that provide services:*

- *where crossing track conflicts occur within 50NM of the FIRB; and*
- *ATS surveillance coverage does not overlap the FIRB concerned, or ATS surveillance data is not exchanged between the ATC units concerned.*

## 2. DISCUSSION

### Survey

2.1 The survey questions circulated were expected to provide greater clarity on the separation minimums used in the region. Q1 surveyed Remote, Surveillance and Terminal airspace separations within the airspace of APAC Administrations, Q2 captured the separation minimums for only inbound flights at FIR TOC points and Q3 covered FLAS. This analysis is focused on SCSTFRG States/administrations.

2.2 The latest responses from Asia/Pacific Administrations to the latest survey are provided in **Attachment C** and **Attachment D**. The data in **Attachment C** shows the responses from Q1 & Q3 of the survey, the green text indicates compliance with the *Asia/Pacific Seamless ANS Plan*'s expectations, while red text represents non-compliance. Whereas **Attachment D** shows all reported inbound TOC points from Q2 and its compliance to the Seamless ANS Plan.

2.3 As of June 2023, the total number of responses from APAC States/administrations to the latest survey has increased from 21 to 25 (compared to last reporting period). **Table 1** presents the list of submission by SCSTFRG States from 2017 to 2023.

State/Administration	2017	2018	2019	2020	2021	2022	2023
China			Yes				Yes
Hong Kong, China	Yes	Yes	Yes	Yes	Yes	Yes	Yes

State/Administration	2017	2018	2019	2020	2021	2022	2023
Indonesia	Yes	Yes	Yes	Yes		Yes	Yes
Lao PDR	Yes	Yes	Yes				
Macao, China				Yes	Yes	Yes	Yes
Malaysia			Yes		Yes	Yes	Yes
Philippines	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Singapore	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Thailand	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Viet Nam			Yes	Yes	Yes	Yes	Yes

**Table 1:** Responses for ATC separation survey, 2017- 2023

2.4 States and Administrations that did not respond as at June 2023 were as follows:

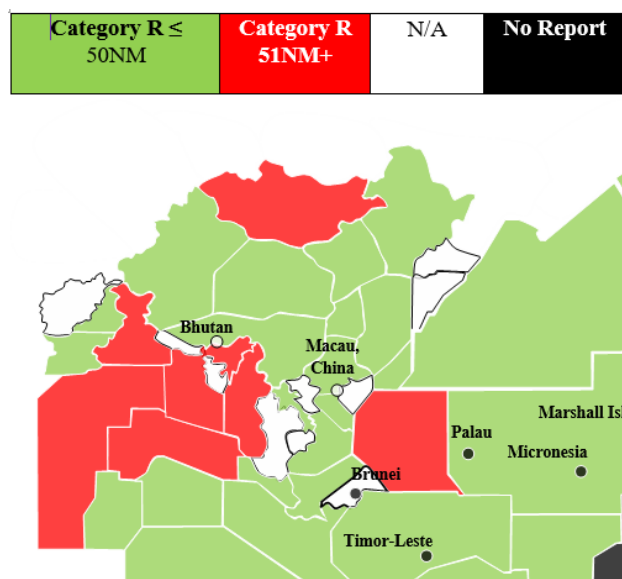
- Lao PDR

#### Analysis

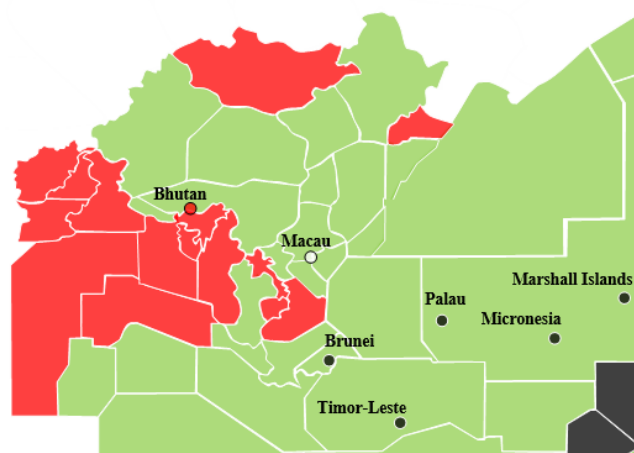
2.5 The analysis of Q1 of the survey are presented separately for the three categories of airspaces namely Category R, Category S and Category T in **Figure 1, Figure 2 and Figure 3** respectively. The figures provide an indication, as at June 2023, of the efficiency of ATC spacing between aircraft at the same level as it is theoretically being applied within FIRs. The criteria used the analysis of Q1 are as follows:

- Category R - Acceptable minimums:  $\leq 50$  NM
- Category S - Acceptable minimums: 5 NM
- Category T - Acceptable minimums: 5 NM

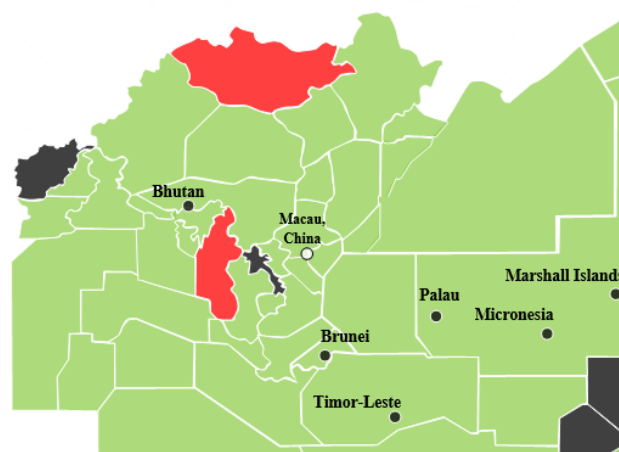
**DISCLAIMER:** The presentation of material in this paper does not imply the expression of any opinion whatsoever on the part of ICAO, APANPIRG, the ATM Sub-Group of APANPIRG or its contributing bodies concerning the legal status of any country, territory, city or area of its authorities, or concerning the delimitation of its frontiers or boundaries.



**Figure 1:** Category R Horizontal Separation Minimums within the FIR



**Figure 2:** Category S Horizontal Separation Minimums within the FIR



**Figure 3:** Category T Horizontal Separation Minimums within the FIR

2.6 Q1 requested the minimum horizontal separation standard within State/administration's FIR namely Category R, Category S and Category T airspace. 36% (16 of 44) of APAC States and Administrations have all categories of airspace within the FIR with minimum separation compliant with the APAC Seamless ANS Plan.

2.7 States that utilize more than 5NM in Category S airspace:  
 Lao PDR, Vietnam.

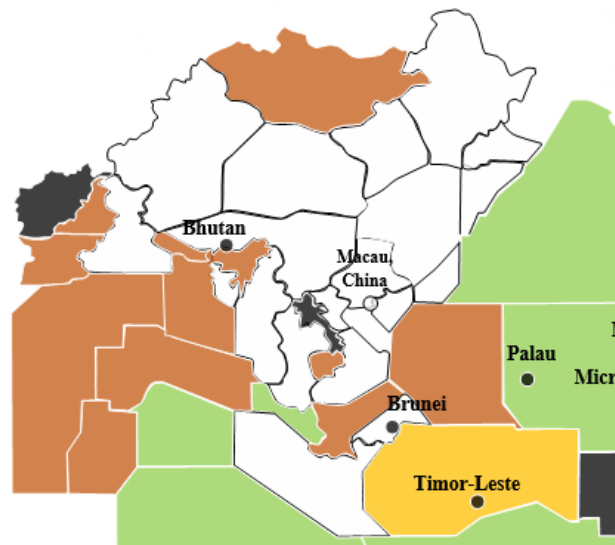
2.8 States that utilize more than 5NM in Category T airspace:  
 Nil

2.9 Q2 of the survey looked at three of categories of separations at Inbound FIR TOC points shown below and the total number of TOC points surveyed this year. After a review, the criteria for Category R→ S TOC has been revised from 10 NM to 50NM. The analysis of Q2 of the survey are presented separately for the three categories in **Figure 4**, **Figure 5** and **Figure 6** respectively.

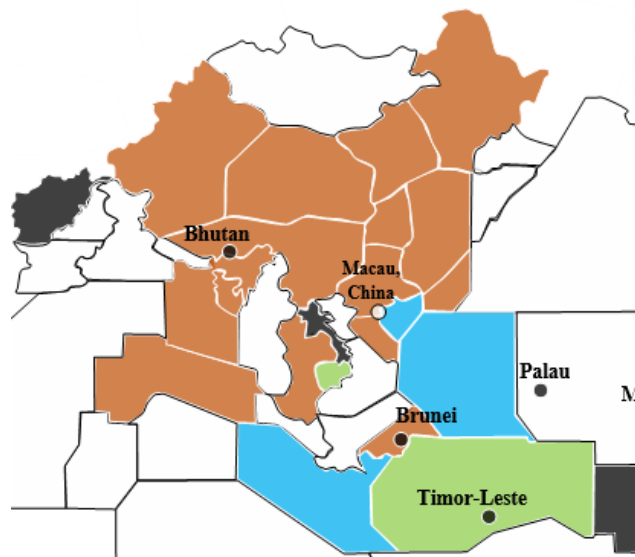
**Q2 Criteria**

- Category R/S → R TOC- Acceptable minimums:  $\leq 50$  NM
- Category R → S TOC - Acceptable minimums:  $\leq 50$  NM
- Category S → S TOC - Acceptable minimums:  $\leq 10$  NM

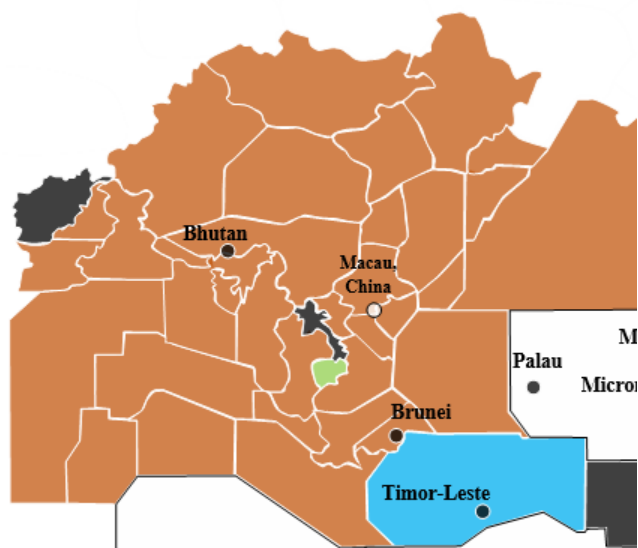
Q2 Analysis					
No. TOC compliant with Seamless ANS Plan, more than & equals to 90%	No. of TOC compliant with Seamless ANS Plan, between 89 to 50%	No. of TOC compliant with Seamless ANS Plan, between 49 to 25%	No. of TOC compliant with Seamless ANS Plan, less than 25%	N/A	No Report



**Figure 4:** Category R/S → R TOC ATC Horizontal Spacing at Inbound FIR TOC points

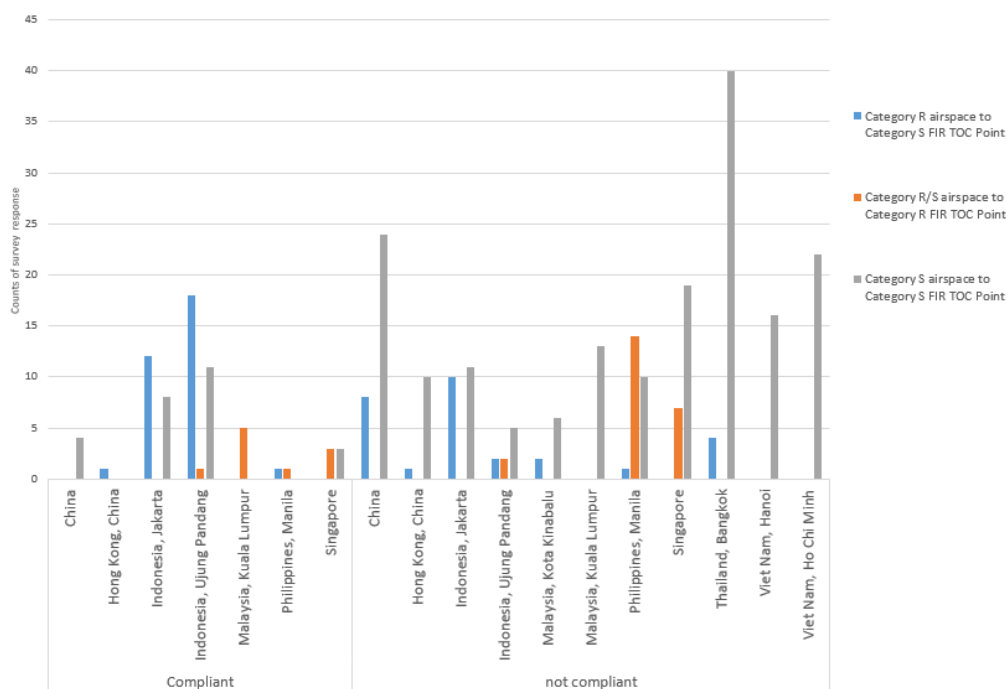


**Figure 5:** Category R → S TOC ATC Horizontal Spacing at Inbound FIR TOC points



**Figure 6:** Category S → S TOC ATC Horizontal Spacing at Inbound FIR TOC points

2.10 The further analysis of the compliance of the three categories of inbound TOC by States is shown in **Figure 7**.



**Figure 7:** Analysis of Inbound TOC categories by Administration.

2.11 **Table 2** showed the comparison of Inbound TOC points, there are 176 non-compliant FIR TOC Points in Category S to Category S airspace. Even with surveillance coverage, the separation minimum of more than 10NM are currently implemented at TOC points in the APAC region.

	Number of Category R airspace to Category S FIR TOC Point	Number of Category R/S airspace to Category R FIR TOC Point	Number of Category S airspace to Category S FIR TOC Point	Total
Compliant	32	10	26	68

Not compliant	28	23	176	227
Total	60	33	202	295

**Table 2:** Comparison of compliance of inbound TOC points

### Conclusions

2.12 ICAO's latest analysis<sup>1</sup> revealed the strong recovery in air passenger demand has resulted in 2022 passenger numbers reaching an estimated 74% of pre-pandemic levels. The number of passenger aircraft in service in 2022 mirrors the overall traffic recovery, with current estimates suggesting 75% of pre-pandemic levels. In addition, IATA expects full recovery of air travel in Asia Pacific in the 2024 - 2026 time period<sup>2</sup>. ICAO urges all APAC States and Administrations to address this key aspect of capacity and efficiency within their National Air Navigation Plans.

### **3. ACTION BY THE MEETING**

3.1 The meeting is invited to:

- a) note the information contained in this paper;
- b) urge all Administrations that have not done so to implement separation minimums to update their ATS LOAs, where necessary, to meet the expectations of the Asia/Pacific Seamless ANS Plan; and
- c) discuss any relevant matters as appropriate.

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<sup>1</sup> ICAO press release Feb 2023

<sup>2</sup> IATA Tourism Economics Air Passenger Forecast



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гражданской  
авиации

منظمة الطيران  
المدني الدولي

国际民用  
航空组织

Reference: T 3/10.1 – AP019/23 (ATM)

27 January 2023

Subject: **Annual ATC Separation Standards Survey**

Action required: To complete the survey and reply no later than **03 March 2023**

Sir/Madam,

I wish to draw your attention to the outcomes of the Ninth Meeting of the Air Traffic Management Sub-Group of APANPIRG (ATM/SG/9, 01 – 05 November 2021) relating to a revised annual ATC Separation Standards survey. The original survey was initiated by the ICAO APAC Regional Office in January 2017 and has been analyzed at all subsequent meetings of the ATM/SG. It provides the means for ATM/SG, APANPIRG and the ICAO Regional Office to gauge and encourage the regional implementation of separation minimums provided in ICAO Doc 4444 *Procedures for Air Navigation Services – Air Traffic Management* (PANS-ATM), as expected by APANPIRG in accordance with the performance objectives of the *Asia/Pacific Seamless ANS Plan*.

Guidance material to assist States in the interpretation of the survey is provided in **Attachment A**. With regard to the spacing applied at Transfer of Control (TOC) points, States are reminded that this relates only to inbound flights at Flight Information Region (FIR) TOC points.

Accordingly, States are urged to submit their completed ATC Separation Standards Survey (**Attachment B**) to the ICAO Asia/Pacific Regional Office ([apac@icao.int](mailto:apac@icao.int)) by **no later than 03 March 2023**.

Yours sincerely,

for Tao Ma  
Regional Director

**Enclosures:**

A – Guidance Material

B – ATC Separation Standards Survey

## Guidance Material

### Why is the survey necessary (including benefits if known)?

In general, some APAC Administrations were not applying ATC standards as provided in ICAO Doc 4444 – *Procedures for Air Navigation Services (PANS-ATM)*, opting instead to use larger, less efficient separations. The application of these larger separations not only affects airspace capacity and efficiency, but also affects safety due to the increased ATC workload in managing larger spacing, and more conflicts. Effectively, these States have not optimized service levels in line with PANS-ATM, the *Asia/Pacific Seamless ANS Plan*, and the capability of contemporary ATM systems

The Ninth Meeting of the APANPIRG ATM Sub-Group (ATM/SG/9, Video Teleconference, 01 – 05 November 2021) had been concerned that less than 30% of administrations had responded to the 2021 survey of ATC separation standards.

### Who is affected by the survey?

The survey applies to all Asia/Pacific Administrations that have an Air Traffic Control (ATC) unit providing area (en-route) or approach control services.

### What needs to be done?

State regulators should determine what horizontal separation standards are approved and/or applied in coordination with the Air Navigation Service Provider (ANSP), and in accordance with the survey attached to the State Letter. The horizontal separations include those within Category R (remote), Category S (surveilled by radar, Automatic Dependent Surveillance-Broadcast [ADS-B] or Multilateration [MLAT]) and Category T (terminal operations serviced by direct ATS communications and surveillance). Once the data is assembled to answer the survey, it should be transmitted to the ICAO Regional Office as detailed in the State Letter.

When responding to the question on spacing applied at FIR boundary Transfer of Control (TOC) points, information should be provided on the spacing at *inbound* TOC points only.

### Who do you contact if you have more questions, or if you would like to offer assistance to other States on this matter?

Contact (in order of precedence):

1. Mr. Shane Sumner, Regional Officer ATM ([ssumner@icao.int](mailto:ssumner@icao.int)); or
2. ICAO Asia/Pacific Regional Office, attention ATM Section ([apac@icao.int](mailto:apac@icao.int)).

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Instructions: For each FIR administered by your State or Administration, complete the survey below:

Q1: Noting the categorization of airspace in the Asia/Pacific Seamless ANS Plan paragraph 1.4 and the performance expectation in paragraph 7.34 (link provided below) what minimum horizontal separation standard has been authorized for controllers to use within your Category R, Category S and Category T airspace?

Category R (remote) airspace: NM

Category S (surveillance) airspace: NM

Category T (terminal) airspace (international airports): NM

Remarks:

Q2: What minimum horizontal spacing has been authorized by Air Traffic Services Letter of Agreement (ATS LOA) or other instrument on each of your Flight Information Region (FIR) inbound transfer of Control (TOC) points?

Please fill in the table in Sheet 2. Example as shown:

S/No.	TOC Points	ATS Routes	Category of Airspace to FIR TOC Point (Inbound only)	Minimum horizontal separation standard	Inbound Transferring FIR	Remarks/Route Restrictions
01	ARAMA	A464	Category S airspace to Category S FIR TOC Point	10nm	Kuala Lumpur	
02	AKMON	M768	Category R/S airspace to Category R FIR TOC Point	10 minutes MNT	Ho Chi Minh / Kota Kinabalu	
03	TEGID	M767	Category R/S airspace to Category R FIR TOC Point	50nm	Manila	Based on RNP10 operations

*(Note: This question only applies to inbound flights entering the FIRs. If for example your State applies 10NM inbound at the TOC point and the neighbouring State applies 30NM, then respond '10NM').*

Remarks:

Q3: Noting the expectations of the Asia/Pacific Seamless ANS Plan paragraph 7.35 (link below), does your Administration apply a Flight Level Allocation Scheme within its FIR(s) [no closer than 50NM to the FIR boundary]?

If so, please provide details.

YES / NO

Details/Remarks:

The Asia/Pacific Seamless ANS Plan and this survey form (in MS Excel format for ease of use) are available on the ICAO Asia/Pacific Regional Office eDocuments web-page (ATM Section, Seamless ANS Plan Sub-Section, <https://www.icao.int/APAC/Pages/eDocs.aspx>)

	Q1: Minimum horizontal separation standard			Q3: FLAS	
	Expected standard: ≤ 50 NM	Expected standard: 5 NM	Expected standard: 5 NM	Expected standard: No	
States/Administration	Category R Horizontal Separation	Category S Horizontal Separation	Category T Horizontal Separation	FLAS	FLAS remarks
China	30NM	5 NM	3 NM	Yes	In Sanya FIR
Hong Kong, China	N/A	5 NM	2.5/2.7/3/5 NM	No	While FLAS is applied at the FIR boundary, it does not apply within Hong Kong FIR.
Indonesia (Jakarta)	50NM	5NM	5NM	No	NO , Jakarta FIR not implemented Flight Level Allocation Scheme , but our adjacent especially in South China Sea area has implemented FLAS/FLOS so we have to implement FLAS/FLOS before entering adjacent boundary considering implementation FLAS/FLOS on its FIR
Indonesia (Ujung Pandang)	50NM	5NM	5NM	No	
Lao PDR	10 NM	10 NM	No Report	Yes	
Macao, China	N/A	N/A	N/A	N/A	
Malaysia (Kota Kinabalu)	N/A	5 NM	5 NM	Yes	OSANU (M646) : 50NM with conditions effective on March 15, 2020 (ref: ATS Coordination Procedures between Manila ACC and Kota Kinabalu ACC). OKADA, MAMOK, ASISU, OLKIT, GULIB, VIMAG, AGSON, VINIK : more that 50NM or 10 minutes MNT with no closing speed
Malaysia (Kuala Lumpur)	50 NM	5 NM	3 NM	No	
Philippines	80NM/10 mins MNT	5 NM	5 NM	Yes	
Singapore	30 NM	5 NM	3 NM	Yes	The following flight level arrangements are applicable for flights entering and leaving the Western Pacific/South China Sea area: <ul style="list-style-type: none"> <li>• Single alternate Flight Level Orientation Scheme (FLOS) [i.e. 'east odd flight levels, west even flight levels'] in compliance with the Table "RVSM-FEET" of Appendix 3 of ICAO Annex 2 and in accordance with the FLOC in surrounding areas;</li> <li>• Special high capacity arrangements for six unidirectional parallel ATS routes (L642, M771, N892, L625, N884 and M767) that involve use of odd and even flight levels in the same direction of flight; and</li> <li>• An associated Flight Level Allocation Scheme (FLAS) agreed between affected ACCs to facilitate ATC 'No-PDC' operations.</li> </ul>
Thailand	N/A	5 NM	3- 5 NM	No	
Viet Nam (Ho Chi Minh FIR)	30 NM	10 NM	3 NM	Yes	Q1, Q2, W1, W2 G221, M765, N891, L628, G474, R588, R468, M755, M753, M505, N891, M510, R334, N892, N500, L625, L642, M771, M768, L644, B202
Viet Nam (Hanoi FIR)	N/A	5 NM	5 NM	Yes	A1; A202; A206; B214; B468; B465; R328; R335; R471; R474; G221; N639; W1; W2; Q1; Q2

S/No.	TOC Points	ATS Routes	Category of Airspace to FIR TOC Point (Inbound only)	Minimum horizontal separation standard	Inbound Transferring FIR	Remarks/Route Restrictions	Accepting FIR	Seamless ANS Plan compliance?
1	NOMAN	A461/M501	Category S airspace to Category S FIR TOC Point	30NM	Hong Kong	30NM spacing requires RNP4 and CPDLC	Philippines, Manila	not compliant
2	SABNO	A583	Category R/S airspace to Category R FIR TOC Point	50NM	Hong Kong	50NM spacing requires RNP10 and CPDLC	Philippines, Manila	Compliant
3	ARESI	L625	Category R/S airspace to Category R FIR TOC Point	80NM or 10 minutes MNT	HoChiMinh		Philippines, Manila	not compliant
4	ARESI	L628	Category R/S airspace to Category R FIR TOC Point	80NM or 10 minutes MNT	HoChiMinh		Philippines, Manila	not compliant
5	PANDI	M765	Category R/S airspace to Category R FIR TOC Point	80NM or 10 minutes MNT	HoChiMinh		Philippines, Manila	not compliant
6	LAXOR	N884	Category R airspace to Category S FIR TOC Point	30NM	Singapore	30NM spacing requires RNP4, ADS-C/CPDLC	Philippines, Manila	Compliant
7	LAXOR	M772	Category R/S airspace to Category R FIR TOC Point	80NM or 10 minutes MNT	Singapore		Philippines, Manila	not compliant
8	VINIK	M754	Category S airspace to Category S FIR TOC Point	80NM or 10 minutes MNT	Kota Kinabalu		Philippines, Manila	not compliant
9	OSANU	M646	Category S airspace to Category S FIR TOC Point	50NM	Kota Kinabalu	50NM spacing requires RNP10	Philippines, Manila	not compliant
10	VIMAG	A341	Category S airspace to Category S FIR TOC Point	50NM	Kota Kinabalu	50NM spacing requires RNP10	Philippines, Manila	not compliant
11	GORAI	G578	Category S airspace to Category S FIR TOC Point	50NM	Ujung Pandang	50NM spacing requires RNP10	Philippines, Manila	not compliant
12	MOLLY	A461	Category S airspace to Category S FIR TOC Point	50NM	Ujung Pandang	50NM spacing requires RNP10	Philippines, Manila	not compliant
13	SELSE	B472	Category S airspace to Category S FIR TOC Point	50NM	Ujung Pandang	50NM spacing requires RNP10	Philippines, Manila	not compliant
14	PEDNO	R590	Category S airspace to Category S FIR TOC Point	80NM or 10 minutes MNT	Ujung Pandang	50NM spacing not adopted due conflict with B472 inbound and A461 outbound	Philippines, Manila	not compliant
15	SADAN	B473	Category R/S airspace to Category R FIR TOC Point	80NM or 10 minutes MNT	Ujung Pandang		Philippines, Manila	not compliant
16	BIDOR	B462	Category R/S airspace to Category R FIR TOC Point	80NM or 10 minutes MNT	Ujung Pandang		Philippines, Manila	not compliant
17	BOLUG	A339	Category R/S airspace to Category R FIR TOC Point	80NM or 10 minutes MNT	Ujung Pandang		Philippines, Manila	not compliant
18	SHREE	A339	Category R/S airspace to Category R FIR TOC Point	80NM or 10 minutes MNT	Oakland		Philippines, Manila	not compliant
19	ISGOG	R337	Category R/S airspace to Category R FIR TOC Point	80NM or 10 minutes MNT	Oakland		Philippines, Manila	not compliant
20	ENDAX	G467	Category R/S airspace to Category R FIR TOC Point	80NM or 10 minutes MNT	Oakland		Philippines, Manila	not compliant
21	LIMLE	M501	Category R/S airspace to Category R FIR TOC Point	80NM or 10 minutes MNT	Oakland		Philippines, Manila	not compliant
22	GURAG	A590	Category R/S airspace to Category R FIR TOC Point	80NM or 10 minutes MNT	Fukuoka		Philippines, Manila	not compliant
23	GURAG	G578	Category R/S airspace to Category R FIR TOC Point	80NM or 10 minutes MNT	Fukuoka		Philippines, Manila	not compliant
24	BISIG	A582	Category R/S airspace to Category R FIR TOC Point	80NM or 10 minutes MNT	Fukuoka		Philippines, Manila	not compliant
25	MEVIN	B462	Category R airspace to Category S FIR TOC Point	80NM or 10 minutes MNT	Fukuoka		Philippines, Manila	not compliant
26	POTIB	M646	Category S airspace to Category S FIR TOC Point	30NM	Taibei	At least one aircraft in the pair will land in airport within Manila FIR or Taibei FIR	Philippines, Manila	not compliant
27	KABAM	N892	Category S airspace to Category S FIR TOC Point	80NM or 10 minutes MNT	Taibei		Philippines, Manila	not compliant
223	NOMAN	A461	Category S airspace to Category S FIR TOC Point	30NM	Manila	1. RNP4 Compliant 2. CPDLC equipped 3. F290 or above 4. Distance is constant or increasing 5. 50NM/10min applies if all of the conditions above cannot be fulfilled	Hong Kong, China	not compliant
224	SABNO	A583	Category R airspace to Category S FIR TOC Point	50NM	Manila	1. RNP10 compliant 2. CPDLC equipped 3. F290 or above 4. Distance is constant or increasing 5. 10min applies if all of the conditions above cannot be fulfilled	Hong Kong, China	Compliant
225	ASOBA	M772	Category R airspace to Category S FIR TOC Point	10 mins	Manila	If preceding aircraft is faster, can apply MNT to reduce the longitudinal separation	Hong Kong, China	not compliant
226	ELATO	A1	Category S airspace to Category S FIR TOC Point	20NM	Taipei	40NM if succeeding aircraft is faster	Hong Kong, China	not compliant
227	KAPLI	G86	Category S airspace to Category S FIR TOC Point	20NM	Taipei	40NM if succeeding aircraft is faster	Hong Kong, China	not compliant
228	TAMOT	B330	Category S airspace to Category S FIR TOC Point	30NM (joining different routes within HK FIR) 50NM (others)	Guangzhou		Hong Kong, China	not compliant
229	DOTMI	A470	Category S airspace to Category S FIR TOC Point	30NM (one landing at VHHH or joining different routes within HK FIR) 10 mins with MNT (others)	Shanghai / Xiamen / Shantou ATCU		Hong Kong, China	not compliant
230	LELIM	M503	Category S airspace to Category S FIR TOC Point	10 min	Shanghai		Hong Kong, China	not compliant

S/No.	TOC Points	ATS Routes	Category of Airspace to FIR TOC Point (Inbound only)	Minimum horizontal separation standard	Inbound Transferring FIR	Remarks/Route Restrictions	Accepting FIR	Seamless ANS Plan compliance?
231	SIERA	R473	Category S airspace to Category S FIR TOC Point	16NM (one or both aircraft is/are landing at VHHH) 20NM (traffic from Zhuhai Approach) 30NM (joining different routes within HK FIR) 10 mins with MNT (others)	Guangzhou/ Zhuhai Approach		Hong Kong, China	not compliant
232	SIKOU	A202	Category S airspace to Category S FIR TOC Point	20NM	Sanya FIR / Zhangjiang ATCU	40NM if succeeding aircraft is faster	Hong Kong, China	not compliant
233	IKELA	A1/P901	Category S airspace to Category S FIR TOC Point	20NM	Sanya FIR	40NM if succeeding aircraft is faster	Hong Kong, China	not compliant
234	DOSUT	M771	Category S airspace to Category S FIR TOC Point	50NM	Sanya FIR	Distance is constant or increasing	Hong Kong, China	not compliant
301	ARAMA	A464	Category S airspace to Category S FIR TOC Point	10NM	Kuala Lumpur		Singapore	not compliant
302	DUDIS	L644	Category S airspace to Category S FIR TOC Point	10 minutes Mach Number Technique	Ho Chi Minh	Route transit multiple FIRs. Singapore able to reduce longitudinal separation at TOC point.	Singapore	not compliant
303	ESPOB	L642	Category S airspace to Category S FIR TOC Point	20NM	Ho Chi Minh		Singapore	not compliant
304	IGARI	N891	Category S airspace to Category S FIR TOC Point	10 minutes Mach Number Technique	Ho Chi Minh	Singapore able to reduce longitudinal separation at TOC point.	Singapore	not compliant
305	IGARI	M765	Category S airspace to Category S FIR TOC Point	N/A	Ho Chi Minh	Portion of M765 within the Singapore FIR delegated to Kuala Lumpur ACC for provision of ATS.	Singapore	N/A
306	IGARI	R208	Category S airspace to Category S FIR TOC Point	N/A	Ho Chi Minh	Portion of R208 within the Singapore FIR released to Kuala Lumpur ACC daily subject to coordination between Singapore ACC and Lumpur ACC.	Singapore	N/A
307	IKUKO	R208	Category S airspace to Category S FIR TOC Point	N/A	Kuala Lumpur	Portion of R208 within the Singapore FIR released to Kuala Lumpur ACC daily subject to coordination between Singapore ACC and Lumpur ACC.	Singapore	N/A
308	IPRIX	M753	Category S airspace to Category S FIR TOC Point	20NM	Ho Chi Minh		Singapore	not compliant
309	KADAR	M774	Category S airspace to Category S FIR TOC Point	50NM based on RNP10 operations	Jakarta	Singapore able to reduce longitudinal separation at TOC point.	Singapore	not compliant
310	MELAS	N892	Category S airspace to Category S FIR TOC Point	20NM	Ho Chi Minh		Singapore	not compliant
311	MIBEL	L762	Category S airspace to Category S FIR TOC Point	20NM	Jakarta		Singapore	not compliant
312	PARDI	G579	Category S airspace to Category S FIR TOC Point	20NM	Jakarta		Singapore	not compliant
313	PIDON	W22	Category S airspace to Category S FIR TOC Point	20NM	Jakarta		Singapore	not compliant
314	REKOP	A576	Category S airspace to Category S FIR TOC Point	10NM	Kuala Lumpur		Singapore	Compliant
315	SUKRI	M630	Category S airspace to Category S FIR TOC Point	10NM	Kuala Lumpur		Singapore	Compliant
316	SURGA	M635	Category S airspace to Category S FIR TOC Point	50NM based on RNP10 operations	Jakarta	Singapore able to reduce longitudinal separation at TOC point.	Singapore	not compliant
317	TAROS	R469	Category S airspace to Category S FIR TOC Point	20NM	Jakarta		Singapore	not compliant
318	TIDAR	M904	Category S airspace to Category S FIR TOC Point	10 minutes Mach Number Technique	Bangkok	Singapore able to reduce longitudinal separation at TOC point.	Singapore	not compliant
319	VPK	L629	Category S airspace to Category S FIR TOC Point	20NM	Kuala Lumpur		Singapore	not compliant
320	VPK	M758	Category S airspace to Category S FIR TOC Point	20NM	Kuala Lumpur		Singapore	not compliant
321	VPK	M761	Category S airspace to Category S FIR TOC Point	20NM	Kuala Lumpur		Singapore	not compliant
322	NUFFA	Y514	Category S airspace to Category S FIR TOC Point	40NM	Kuala Lumpur	Singapore able to reduce longitudinal separation at TOC point.	Singapore	not compliant
323	108E Longtiude (SABIP)	M761	Category S airspace to Category S FIR TOC Point	10 minutes Mach Number Technique	Kota Kinabalu		Singapore	not compliant
324	108E Longtiude (NIMIX)	G580	Category S airspace to Category S FIR TOC Point	10 minutes Mach Number Technique	Kota Kinabalu		Singapore	not compliant
325	AKMON	M768	Category R/S airspace to Category R FIR TOC Point	10 minutes Mach Number Technique	Ho Chi Minh	Singapore able to reduce longitudinal separation at TOC point.	Singapore	not compliant
326	ARUPA	N875	Category R/S airspace to Category R FIR TOC Point	10 minutes Mach Number Technique	Jakarta		Singapore	not compliant
327	ASISU	M768	Category R/S airspace to Category R FIR TOC Point	10 minutes Mach Number Technique	Kota Kinabalu	Singapore able to reduce longitudinal separation at TOC point.	Singapore	not compliant

S/No.	TOC Points	ATS Routes	Category of Airspace to FIR TOC Point (Inbound only)	Minimum horizontal separation standard	Inbound Transferring FIR	Remarks/Route Restrictions	Accepting FIR	Seamless ANS Plan compliance?
328	ASISU	M772	Category R/S airspace to Category R FIR TOC Point	10 minutes Mach Number Technique	Kota Kinabalu		Singapore	not compliant
329	BAVUS	L504	Category R/S airspace to Category R FIR TOC Point	10 minutes Mach Number Technique	Jakarta		Singapore	not compliant
330	DAKIX	L649	Category R/S airspace to Category R FIR TOC Point	10 minutes Mach Number Technique	Kota Kinabalu		Singapore	not compliant
331	GULIB	L517	Category R/S airspace to Category R FIR TOC Point	10 minutes Mach Number Technique	Kota Kinabalu		Singapore	Compliant
332	KAMIN	M646	Category R/S airspace to Category R FIR TOC Point	10 minutes Mach Number Technique	Kota Kinabalu		Singapore	Compliant
333	NODIN	M522	Category R/S airspace to Category R FIR TOC Point	N/A	Kota Kinabalu	Portion of M522 within Singapore FIR delegated to Kota Kinabalu ACC for provision of ATS.	Singapore	N/A
334	OLKIT	M758	Category R/S airspace to Category R FIR TOC Point	10 minutes Mach Number Technique	Kota Kinabalu		Singapore	not compliant
335	SUMLA	M754	Category R/S airspace to Category R FIR TOC Point	N/A	Kota Kinabalu	Portion of M754 within Singapore FIR delegated to Kota Kinabalu ACC for provision of ATS.	Singapore	N/A
336	TEGID	M767	Category R/S airspace to Category R FIR TOC Point	30NM based on RNP4 operations	Manila	Implemented: 21 Apr 2022.	Singapore	Compliant
337	VINIK	M754	Category R/S airspace to Category R FIR TOC Point	N/A	Ho Chi Minh	Portion of M754 within Singapore FIR delegated to Kota Kinabalu ACC for provision of ATS.	Singapore	N/A
691	BOMPA	B202	Category S airspace to Category S FIR TOC Point	20NM	VIENTIANE		Viet Nam, Ho Chi Minh	not compliant
692	EXOTO	L642	Category S airspace to Category S FIR TOC Point	50NM	SANYA		Viet Nam, Ho Chi Minh	not compliant
693	MIGUG	N892	Category S airspace to Category S FIR TOC Point	30NM	MANILA		Viet Nam, Ho Chi Minh	not compliant
694	ARESI	L628	Category S airspace to Category S FIR TOC Point	30NM			Viet Nam, Ho Chi Minh	not compliant
695	PANDI	M765,N500	Category S airspace to Category S FIR TOC Point	30NM	MANILA		Viet Nam, Ho Chi Minh	not compliant
696	AKMON	L625	Category S airspace to Category S FIR TOC Point	30NM	SINGAPORE		Viet Nam, Ho Chi Minh	not compliant
697	DUDIS	M771	Category S airspace to Category S FIR TOC Point	30NM	SINGAPORE		Viet Nam, Ho Chi Minh	not compliant
698	IPRIX	M753	Category S airspace to Category S FIR TOC Point	30NM	SINGAPORE		Viet Nam, Ho Chi Minh	not compliant
699	IGARI	M765	Category S airspace to Category S FIR TOC Point	20NM	SINGAPORE	Delegation of the responsibility for the provision of ATS by Kuala Lumpur ACC	Viet Nam, Ho Chi Minh	not compliant
700	DADEM	M510	Category S airspace to Category S FIR TOC Point	20NM	PHNOMPENH		Viet Nam, Ho Chi Minh	not compliant
701	MULAD	M505	Category S airspace to Category S FIR TOC Point	20NM	PHNOMPENH		Viet Nam, Ho Chi Minh	not compliant
702	NUMDI	R334	Category S airspace to Category S FIR TOC Point	20NM	PHNOMPENH		Viet Nam, Ho Chi Minh	not compliant
703	XONAN	N891	Category S airspace to Category S FIR TOC Point	20NM	PHNOMPENH		Viet Nam, Ho Chi Minh	not compliant
704	OSOTA	M753	Category S airspace to Category S FIR TOC Point	20NM	PHNOMPENH		Viet Nam, Ho Chi Minh	not compliant
705	KISAN	M755	Category S airspace to Category S FIR TOC Point	20NM	PHNOMPENH		Viet Nam, Ho Chi Minh	not compliant
706	SAPEN	R468	Category S airspace to Category S FIR TOC Point	20NM	PHNOMPENH		Viet Nam, Ho Chi Minh	not compliant
707	GONLY	R588	Category S airspace to Category S FIR TOC Point	20NM	PHNOMPENH		Viet Nam, Ho Chi Minh	not compliant
708	ANINA	G474	Category S airspace to Category S FIR TOC Point	20NM	PHNOMPENH		Viet Nam, Ho Chi Minh	not compliant
709	SADIN	Q1	Category S airspace to Category S FIR TOC Point	20NM	HOCHIMINH	Delegation of the responsibility for the provision of ATS by HA NOI ACC	Viet Nam, Ho Chi Minh	not compliant
710	VILOT	W1	Category S airspace to Category S FIR TOC Point	20NM	HOCHIMINH	Delegation of the responsibility for the provision of ATS by HA NOI ACC	Viet Nam, Ho Chi Minh	not compliant
711	CQ	W2	Category S airspace to Category S FIR TOC Point	20NM	HOCHIMINH	Delegation of the responsibility for the provision of ATS by HA NOI ACC	Viet Nam, Ho Chi Minh	not compliant
712	ASUKU	G221	Category S airspace to Category S FIR TOC Point	20NM	HOCHIMINH	Delegation of the responsibility for the provision of ATS by HA NOI ACC	Viet Nam, Ho Chi Minh	not compliant
713	PAPRA	A1	Category S airspace to Category S FIR TOC Point	20NM	Vientiane		Viet Nam, Hanoi	not compliant
714	BUNTA	A1/G221	Category S airspace to Category S FIR TOC Point	20NM	Sanya		Viet Nam, Hanoi	not compliant
715	VILAO	A202/N639	Category S airspace to Category S FIR TOC Point	20NM	Vientiane		Viet Nam, Hanoi	not compliant
716	ASSAD	A202/A206	Category S airspace to Category S FIR TOC Point	20NM	Sanya		Viet Nam, Hanoi	not compliant
717	NALAO	A206	Category S airspace to Category S FIR TOC Point	20NM	Vientiane		Viet Nam, Hanoi	not compliant
718	LADON	B214	Category S airspace to Category S FIR TOC Point	20NM	Vientiane		Viet Nam, Hanoi	not compliant
719	LAPON	B465	Category S airspace to Category S FIR TOC Point	20NM	Vientiane		Viet Nam, Hanoi	not compliant
720	TORED	R328	Category S airspace to Category S FIR TOC Point	20NM	Vientiane		Viet Nam, Hanoi	not compliant
721	IDOTA	R335	Category S airspace to Category S FIR TOC Point	20NM	Vientiane		Viet Nam, Hanoi	not compliant
722	KATBO	R471	Category S airspace to Category S FIR TOC Point	20NM	Kunming		Viet Nam, Hanoi	not compliant

S/No.	TOC Points	ATS Routes	Category of Airspace to FIR TOC Point (Inbound only)	Minimum horizontal separation standard	Inbound Transferring FIR	Remarks/Route Restrictions	Accepting FIR	Seamless ANS Plan compliance?
723	LAVOS	R474	Category S airspace to Category S FIR TOC Point	20NM	Vientiane		Viet Nam, Hanoi	not compliant
724	TEBAK	R474	Category S airspace to Category S FIR TOC Point	20NM	Nanning		Viet Nam, Hanoi	not compliant
725	LATOM	Q2	Category S airspace to Category S FIR TOC Point	20NM	HoChiMinh		Viet Nam, Hanoi	not compliant
726	CQ	W2	Category S airspace to Category S FIR TOC Point	20NM	HoChiMinh		Viet Nam, Hanoi	not compliant
727	VILOT	W1	Category S airspace to Category S FIR TOC Point	20NM	HoChiMinh		Viet Nam, Hanoi	not compliant
728	ASUKU	G221	Category S airspace to Category S FIR TOC Point	20NM	HoChiMinh		Viet Nam, Hanoi	not compliant
729	MEMAK	N563	Category R airspace to Category S FIR TOC Point	50 NM	Chennai	Based on RNP10 operations	Indonesia, Jakarta	Compliant
730	TOPIN	M300	Category S airspace to Category S FIR TOC Point	50 NM	Colombo	Based on RNAV 10 operations	Indonesia, Jakarta	not compliant
731	NIXUL	P627,P570	Category S airspace to Category S FIR TOC Point	50 NM	Colombo	Based on RNAV 10 operations	Indonesia, Jakarta	not compliant
732	NISOK	P756,L896	Category R airspace to Category S FIR TOC Point	50 NM	Colombo	Based on RNAV 10 operations	Indonesia, Jakarta	Compliant
733	SELSU	M766	Category R airspace to Category S FIR TOC Point	50 NM	Colombo	Based on RNAV 10 operations	Indonesia, Jakarta	Compliant
734	KETIV	L744,N628,L897	Category R airspace to Category S FIR TOC Point	50 NM	Colombo	Based on RNAV 10 operations	Indonesia, Jakarta	Compliant
735	POSOD	N663	Category R airspace to Category S FIR TOC Point	10 Minute MNT	Melbourne		Indonesia, Jakarta	not compliant
736	AKUKO	B325	Category R airspace to Category S FIR TOC Point	10 Minute MNT	Melbourne		Indonesia, Jakarta	not compliant
737	XMX	L897,G337,G209,R206	Category R airspace to Category S FIR TOC Point	50 NM	Melbourne	Based on RNP10 operations	Indonesia, Jakarta	Compliant
738	ATMAL	N646,N752	Category R airspace to Category S FIR TOC Point	50 NM	Melbourne	Based on RNP10 operations	Indonesia, Jakarta	Compliant
739	LAMOB	B469,L764	Category R airspace to Category S FIR TOC Point	50 NM	Melbourne	Based on RNP10 operations	Indonesia, Jakarta	Compliant
740	SAPDA	L896,A585,L895	Category R airspace to Category S FIR TOC Point	50 NM	Melbourne	Based on RNP10 operations	Indonesia, Jakarta	Compliant
741	MADIN	M766,W16,W13	Category S airspace to Category S FIR TOC Point	10 NM	Ujung Pandang		Indonesia, Jakarta	Compliant
742	KALUT	T6	Category S airspace to Category S FIR TOC Point	10 NM	Ujung Pandang		Indonesia, Jakarta	Compliant
743	SPIKO	W18	Category S airspace to Category S FIR TOC Point	10 NM	Ujung Pandang		Indonesia, Jakarta	Compliant
744	TAVIP	W15,M635	Category S airspace to Category S FIR TOC Point	10 NM	Ujung Pandang		Indonesia, Jakarta	Compliant
745	TANUR	M766	Category S airspace to Category S FIR TOC Point	10 NM	Ujung Pandang		Indonesia, Jakarta	Compliant
746	SUGIK	G464	Category S airspace to Category S FIR TOC Point	10 NM	Ujung Pandang		Indonesia, Jakarta	Compliant
747	NOMAD	W35	Category S airspace to Category S FIR TOC Point	10 NM	Ujung Pandang		Indonesia, Jakarta	Compliant
748	OSRUT	L504	Category S airspace to Category S FIR TOC Point	10 NM	Ujung Pandang		Indonesia, Jakarta	Compliant
749	ARUPA	N875	Category R airspace to Category S FIR TOC Point	10 Minute MNT	Singapore		Indonesia, Jakarta	not compliant
750	BAVUS	L504	Category R airspace to Category S FIR TOC Point	10 Minute MNT	Singapore		Indonesia, Jakarta	not compliant
751	KADAR	M744	Category R airspace to Category S FIR TOC Point	50 NM	Singapore	Based on RNP10 operations	Indonesia, Jakarta	Compliant
752	KIKOR	L644	Category R airspace to Category S FIR TOC Point	10 Minute MNT	Singapore		Indonesia, Jakarta	not compliant
753	SURGA	M635	Category R airspace to Category S FIR TOC Point	50 NM	Singapore	Based on RNP10 operations	Indonesia, Jakarta	Compliant
754	KIRDA	W26	Category S airspace to Category S FIR TOC Point	20 NM	Singapore		Indonesia, Jakarta	not compliant
755	ANITO	B470	Category S airspace to Category S FIR TOC Point	20 NM	Singapore		Indonesia, Jakarta	not compliant
756	NE	W24,B469	Category S airspace to Category S FIR TOC Point	20 NM	Singapore		Indonesia, Jakarta	not compliant
757	TUSNU	W22	Category S airspace to Category S FIR TOC Point	20 NM	Singapore		Indonesia, Jakarta	not compliant
758	TAROS	R469	Category S airspace to Category S FIR TOC Point	20 NM	Singapore		Indonesia, Jakarta	not compliant
759	MIBEL	L762	Category S airspace to Category S FIR TOC Point	50 NM	Singapore	Based on RNP10 operations	Indonesia, Jakarta	not compliant
760	OKADA	P468	Category R airspace to Category S FIR TOC Point	10 Minute MNT	Kota Kinabalu		Indonesia, Jakarta	not compliant
761	ANIPU	M772	Category R airspace to Category S FIR TOC Point	80 NM	Kota Kinabalu	Based on RNAV 10 operations	Indonesia, Jakarta	not compliant
762	PAPSA	R455	Category S airspace to Category S FIR TOC Point	10 Minute MNT	Kota Kinabalu		Indonesia, Jakarta	not compliant
763	SALAX	N633,M300,N563	Category S airspace to Category S FIR TOC Point	20 NM	Kuala Lumpur		Indonesia, Jakarta	not compliant
764	PUGER	R461	Category S airspace to Category S FIR TOC Point	20 NM	Kuala Lumpur		Indonesia, Jakarta	not compliant
765	GOTLA	G468	Category R airspace to Category S FIR TOC Point	20 NM	Kuala Lumpur		Indonesia, Jakarta	Compliant
766	TASEK	B466	Category R airspace to Category S FIR TOC Point	10 Minute MNT	Kuala Lumpur		Indonesia, Jakarta	not compliant

S/No.	TOC Points	ATS Routes	Category of Airspace to FIR TOC Point (Inbound only)	Minimum horizontal separation standard	Inbound Transferring FIR	Remarks/Route Restrictions	Accepting FIR	Seamless ANS Plan compliance?
767	TOSOK	B466	Category R airspace to Category S FIR TOC Point	10 Minute MNT	Kuala Lumpur		Indonesia, Jakarta	not compliant
768	ANSAX	P574,L762	Category R airspace to Category S FIR TOC Point	50 NM	Kuala Lumpur	Based on RNP10 operations	Indonesia, Jakarta	Compliant
769	POVUS	P627	Category R airspace to Category S FIR TOC Point	10 Minute MNT	Kuala Lumpur		Indonesia, Jakarta	not compliant
770	VANKA	B456	Category S airspace to Category S FIR TOC Point	50NM	Port Moresby		Indonesia, Ujung Pandang	not compliant
771	KADAB	B462	Category S airspace to Category S FIR TOC Point	50NM	Port Moresby		Indonesia, Ujung Pandang	not compliant
772	OSERO	A215	Category S airspace to Category S FIR TOC Point	50NM	Port Moresby		Indonesia, Ujung Pandang	not compliant
773	BEGMI	G459	Category R airspace to Category S FIR TOC Point	50NM	Brisbane		Indonesia, Ujung Pandang	Compliant
774	OPABA	B473/B588	Category R airspace to Category S FIR TOC Point	50NM	Brisbane		Indonesia, Ujung Pandang	Compliant
775	TOREX	B472	Category R airspace to Category S FIR TOC Point	50NM	Brisbane		Indonesia, Ujung Pandang	Compliant
776	GUTEV	R340	Category R airspace to Category S FIR TOC Point	50NM	Brisbane		Indonesia, Ujung Pandang	Compliant
777	BUTPA	A461	Category R airspace to Category S FIR TOC Point	50NM	Brisbane		Indonesia, Ujung Pandang	Compliant
778	ELBIS	M768/A339	Category R airspace to Category S FIR TOC Point	50NM	Brisbane		Indonesia, Ujung Pandang	Compliant
779	KIKEM	A464/M774	Category R airspace to Category S FIR TOC Point	50NM	Brisbane		Indonesia, Ujung Pandang	Compliant
780	SPRIG	J199	Category R airspace to Category S FIR TOC Point	50NM	Brisbane		Indonesia, Ujung Pandang	Compliant
781	ALEGO	A458	Category R airspace to Category S FIR TOC Point	50NM	Brisbane		Indonesia, Ujung Pandang	Compliant
782	SATNA	M766	Category R airspace to Category S FIR TOC Point	50NM	Brisbane		Indonesia, Ujung Pandang	Compliant
783	ANOXA	A587/G426	Category R airspace to Category S FIR TOC Point	50NM	Brisbane		Indonesia, Ujung Pandang	Compliant
784	ATMAP	A576/M635	Category R airspace to Category S FIR TOC Point	50NM	Brisbane		Indonesia, Ujung Pandang	Compliant
785	EGATU	G578	Category R airspace to Category S FIR TOC Point	50NM	Brisbane		Indonesia, Ujung Pandang	Compliant
786	TARUN	T20/B349	Category R airspace to Category S FIR TOC Point	50NM	Brisbane		Indonesia, Ujung Pandang	Compliant
787	PUPIT	R592	Category R airspace to Category S FIR TOC Point	50NM	Brisbane		Indonesia, Ujung Pandang	Compliant
788	PROGO	T1	Category S airspace to Category S FIR TOC Point	10NM	Jakarta		Indonesia, Ujung Pandang	Compliant
789	ANY	W45/T3	Category S airspace to Category S FIR TOC Point	10NM	Jakarta		Indonesia, Ujung Pandang	Compliant
790	TELET	T5	Category S airspace to Category S FIR TOC Point	10NM	Jakarta		Indonesia, Ujung Pandang	Compliant
791	MADIN	W16/M766	Category S airspace to Category S FIR TOC Point	10NM	Jakarta		Indonesia, Ujung Pandang	Compliant
792	RUPKA	L511	Category S airspace to Category S FIR TOC Point	10NM	Jakarta		Indonesia, Ujung Pandang	Compliant
793	SPIKO	W18	Category S airspace to Category S FIR TOC Point	10NM	Jakarta		Indonesia, Ujung Pandang	Compliant
794	TAVIP	W15/M635	Category S airspace to Category S FIR TOC Point	10NM	Jakarta		Indonesia, Ujung Pandang	Compliant
795	TANUR	M774	Category S airspace to Category S FIR TOC Point	10NM	Jakarta		Indonesia, Ujung Pandang	Compliant
796	SUGIK	G464	Category S airspace to Category S FIR TOC Point	10NM	Jakarta		Indonesia, Ujung Pandang	Compliant
797	NOMAD	W35	Category S airspace to Category S FIR TOC Point	10NM	Jakarta		Indonesia, Ujung Pandang	Compliant
798	OSRUD	W36/L504	Category S airspace to Category S FIR TOC Point	10NM	Jakarta		Indonesia, Ujung Pandang	Compliant
799	AGSON	R223	Category S airspace to Category S FIR TOC Point	10 Minutes (MNT)	Kinabalu		Indonesia, Ujung Pandang	not compliant
800	MAMOK	M522/M768	Category S airspace to Category S FIR TOC Point	10 Minutes (MNT)	Kinabalu		Indonesia, Ujung Pandang	not compliant
801	GORAI	G578	Category R airspace to Category S FIR TOC Point	50 NM	Manila		Indonesia, Ujung Pandang	Compliant
802	MOLLY	A461	Category R airspace to Category S FIR TOC Point	50 NM	Manila		Indonesia, Ujung Pandang	Compliant
803	PEDNO	R342/R590	Category R airspace to Category S FIR TOC Point	10 Minutes (MNT)	Manila		Indonesia, Ujung Pandang	not compliant
804	SELSO	B472	Category R airspace to Category S FIR TOC Point	50 NM	Manila		Indonesia, Ujung Pandang	Compliant
805	SADAN	B473	Category R airspace to Category S FIR TOC Point	10 Minutes (MNT)	Manila		Indonesia, Ujung Pandang	not compliant
806	BOLUG	A339	Category R/S airspace to Category R FIR TOC Point	10 Minutes (MNT)	Manila		Indonesia, Ujung Pandang	not compliant
807	BIDOR	B462	Category R/S airspace to Category R FIR TOC Point	10 Minutes (MNT)	Manila		Indonesia, Ujung Pandang	not compliant
808	CAHYO	A450	Category R/S airspace to Category R FIR TOC Point	50 NM	Oakland Sec.5		Indonesia, Ujung Pandang	Compliant
978	AGAVO	W209	Category S airspace to Category S FIR TOC Point	10NM	Incheon		China	Compliant
979	ARGUK	P175	Category S airspace to Category S FIR TOC Point	30KM	Kharbarovsk		China	not compliant
980	ASSAD	A206	Category S airspace to Category S FIR TOC Point	20NM	Ha Noi		China	not compliant
981	BEKOL	XX0179	Category S airspace to Category S FIR TOC Point	30NM (垂直)	Hong Kong		China	not compliant

S/No.	TOC Points	ATS Routes	Category of Airspace to FIR TOC Point (Inbound only)	Minimum horizontal separation standard	Inbound Transferring FIR	Remarks/Route Restrictions	Accepting FIR	Seamless ANS Plan compliance?
982	BISUN	B451	Category S airspace to Category S FIR TC	30KM	Kharbarovsk		China	not compliant
983	BUNTA	G221	Category S airspace to Category S FIR TC	20NM	Ho Chi Minh		China	not compliant
984	DONDA	M771	Category S airspace to Category S FIR TC	50NM	Ho Chi Minh		China	not compliant
985	DOSUT	M771	Category S airspace to Category S FIR TC	50NM (垂直)	Hong Kong		China	not compliant
986	EXOTO	L642	Category S airspace to Category S FIR TC	50NM	Ho Chi Minh		China	not compliant
987	GOLOT	L461	Category R airspace to Category S FIR TC	10 min	Pyongyang		China	not compliant
988	IKELA	P901	Category S airspace to Category S FIR TC	20NM (垂直)	Hong Kong		China	not compliant
989	INTIK	W32	Category S airspace to Category S FIR TC	30KM	Ulaan baatar		China	not compliant
990	LANDA	W130	Category S airspace to Category S FIR TC	20NM	Hong Kong		China	not compliant
991	LELIM	V591	Category R airspace to Category S FIR TC	10分钟	Hong Kong		China	not compliant
992	LINSO	A599	Category R airspace to Category S FIR TC	10分钟	Yangon		China	not compliant
993	MAGIT	T634	Category S airspace to Category S FIR TC	30KM	Kharbarovsk		China	not compliant
994	MIGUG	N892	Category S airspace to Category S FIR TC	20NM	Manila		China	not compliant
995	MORIT	B480	Category S airspace to Category S FIR TC	30KM	Ho Chi Minh		China	not compliant
996	NIXAL	V674	Category S airspace to Category S FIR TC	30KM	Ulaan baatar		China	not compliant
997	OLDID	X85	Category S airspace to Category S FIR TC	30NM (垂直)	Taipei		China	not compliant
998	POLHO	G218	Category S airspace to Category S FIR TC	30KM	Ulaan baatar		China	not compliant
999	PURPA	B215	Category R airspace to Category S FIR TC	10分钟	Lahore		China	not compliant
1000	RULAD	M610	Category S airspace to Category S FIR TC	30KM	Almaty		China	not compliant
1001	SAGAG	A581	Category S airspace to Category S FIR TC	20NM	Vientiane		China	Compliant
1002	SARIN	A368	Category S airspace to Category S FIR TC	30KM	Almaty		China	not compliant
1003	SARUL	Y165	Category R airspace to Category S FIR TC	10分钟	Ulaan baatar		China	not compliant
1004	SIERA	XX0244	Category S airspace to Category S FIR TC	30NM (垂直)	Hong Kong		China	not compliant
1005	SIKOU	XX0266	Category S airspace to Category S FIR TC	20NM (垂直)	Hong Kong		China	not compliant
1006	SIMLI	M160	Category S airspace to Category S FIR TC	20KM	Kharbarovsk		China	Compliant
1007	TAMOT	W68	Category S airspace to Category S FIR TC	30NM (垂直)	Hong Kong		China	not compliant
1008	TEBAK	XX9993	Category S airspace to Category S FIR TC	10NM	Hanoi		China	Compliant
1009	TEBUS	G588	Category R airspace to Category S FIR TC	10分钟	Ulaan baatar		China	not compliant
1010	TELOK	G492	Category S airspace to Category S FIR TC	30KM	Ulaan baatar		China	not compliant
1011	TOMUK	M443	Category R airspace to Category S FIR TC	10分钟	Pyongyang		China	not compliant
1012	VASRO	R224	Category R airspace to Category S FIR TC	10分钟	Pyongyang		China	not compliant
1013	DOTMI	A470	Category S airspace to Category S FIR TC	30NM (垂直)	Hong Kong		China	not compliant
1021	OLKIT	M758	Category R airspace to Category S FIR TC	10 MIN MNT	SINGAPORE		Malaysia, Kota Kinabalu	not compliant
1022	ASISU	M768	Category R airspace to Category S FIR TC	10 MIN MNT	SINGAPORE		Malaysia, Kota Kinabalu	not compliant
1023	VINIK	M522 & M7	Category S airspace to Category S FIR TC	10 MIN MNT	MANILA		Malaysia, Kota Kinabalu	not compliant
1024	OSANU	M646	Category S airspace to Category S FIR TC	10 MIN MNT	MANILA	OSANU - 50 NM applicable only to aircraft landing at KK FIR and 10 minutes for overflight aircraft. (ref: ATS Coordination Procedures between Manila ACC and Kota Kinabalu ACC)	Malaysia, Kota Kinabalu	not compliant
1025	VIMAG	A341	Category S airspace to Category S FIR TC	10 MIN MNT	MANILA		Malaysia, Kota Kinabalu	not compliant
1026	MAMOK	M768 & M5	Category S airspace to Category S FIR TC	10 MIN MNT	UJUNG		Malaysia, Kota Kinabalu	not compliant
1027	AGSON	R223	Category S airspace to Category S FIR TC	10 MIN MNT	UJUNG		Malaysia, Kota Kinabalu	not compliant
1028	OKADA	P648	Category S airspace to Category S FIR TC	10 MIN MNT	JAKARTA		Malaysia, Kota Kinabalu	not compliant
1029	NOPEK	P574	Category R/S airspace to Category R FIR	50NM	CHENNAI OCC		Malaysia, Kuala Lumpur	Compliant
1030	ANOKO	B466	Category R/S airspace to Category R FIR	50NM	Hong Kong		Malaysia, Kuala Lumpur	Compliant
1031	IGOGU	N571	Category R/S airspace to Category R FIR	50NM	Hong Kong		Malaysia, Kuala Lumpur	Compliant
1032	SAMAK	L645	Category R/S airspace to Category R FIR	50NM	Hong Kong		Malaysia, Kuala Lumpur	Compliant
1033	EMRAN	L510	Category R/S airspace to Category R FIR	50NM	Hong Kong	EASTBOUND ONLY	Malaysia, Kuala Lumpur	Compliant
1034	DALAN	B579	Category S airspace to Category S FIR TC	30NM	BANGKOK ACC	EASTBOUND ONLY	Malaysia, Kuala Lumpur	not compliant
1035	TAMOS	A457	Category S airspace to Category S FIR TC	30NM	BANGKOK ACC		Malaysia, Kuala Lumpur	not compliant
1036	KARMI	M757	Category S airspace to Category S FIR TC	30NM	BANGKOK ACC	EASTBOUND ONLY	Malaysia, Kuala Lumpur	not compliant
1037	PASVA	Y514	Category S airspace to Category S FIR TC	30NM	BANGKOK ACC	EASTBOUND ONLY	Malaysia, Kuala Lumpur	not compliant
1038	TAXUL	M763	Category S airspace to Category S FIR TC	20NM	SINGAPORE ACC	WESTBOUND ONLY	Malaysia, Kuala Lumpur	not compliant
1039	VPK	G582	Category S airspace to Category S FIR TC	20NM	SINGAPORE ACC		Malaysia, Kuala Lumpur	not compliant
1040	PADLI	Y343	Category S airspace to Category S FIR TC	20NM	SINGAPORE ACC	WESTBOUND ONLY	Malaysia, Kuala Lumpur	not compliant
1041	90DME PU	B469	Category S airspace to Category S FIR TC	30NM	SINGAPORE ACC		Malaysia, Kuala Lumpur	not compliant
1042	AROSO	Y339	Category S airspace to Category S FIR TC	15NM	SINGAPORE ACC	WESTBOUND ONLY	Malaysia, Kuala Lumpur	not compliant
1043	SABKA	A457	Category S airspace to Category S FIR TC	15NM	SINGAPORE ACC	WESTBOUND ONLY	Malaysia, Kuala Lumpur	not compliant
1044	SALAX	N633	Category S airspace to Category S FIR TC	20NM	JAKARTA ACC		Malaysia, Kuala Lumpur	not compliant
1045	PUGER	R461	Category S airspace to Category S FIR TC	20NM	JAKARTA ACC		Malaysia, Kuala Lumpur	not compliant
1046	GOTLA	G468	Category S airspace to Category S FIR TC	20NM	JAKARTA ACC		Malaysia, Kuala Lumpur	not compliant