Cybershuttle FAQ

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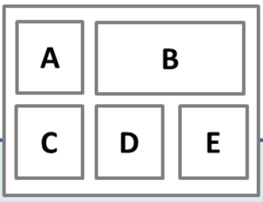
1. Introduction

1.1 What is CyberShuttle, how do I benefit from it?

CyberShuttle provides a regularly launched test vehicle for various customers to share a mask set for fast prototyping.



CyberShuttle (MPW, "Multi-Project Wafer“)

➢ **Features & Advantages**

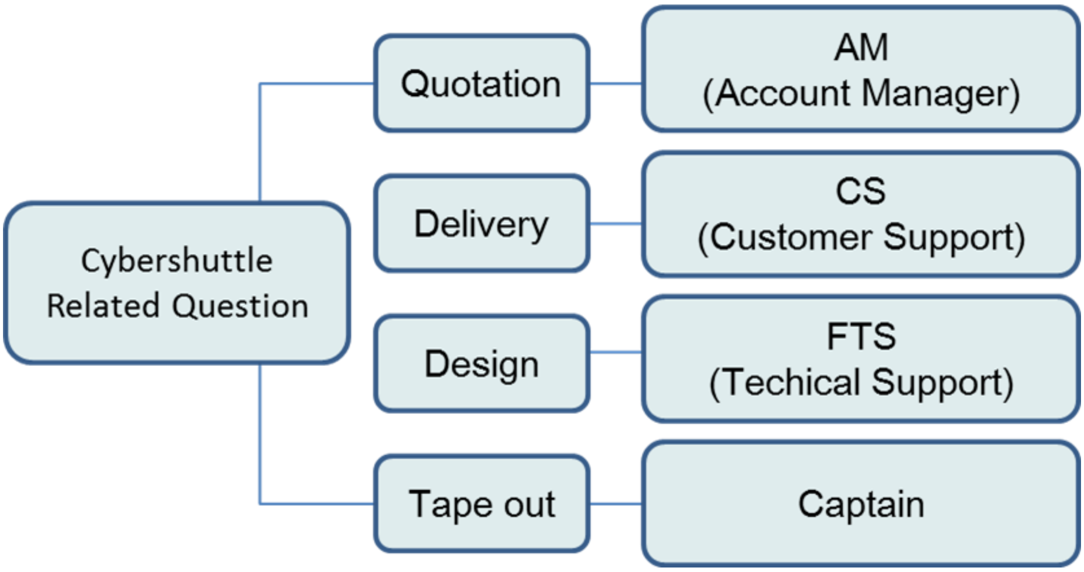
- ✓ Shuttle launch time is pre-scheduled. (announce semi-annually; Mar. & Sep.)
- ✓ Fast prototyping speed. (masks and wafers are processed at the priority of higher than normal pilot run.)
- ✓ TSMC’s leading technologies are available.
- ✓ Reduced prototyping mask cost. (various customers to share a mask set)
- ✓ Reduced wafer cost. (accepts >= 40 dice (i.e. one 8’’ wafer) or 100 dice (i.e. one 12’’ wafer).
- ✓ Bare dice, whole sample wafers, or ceramic packaged samples are deliverables.

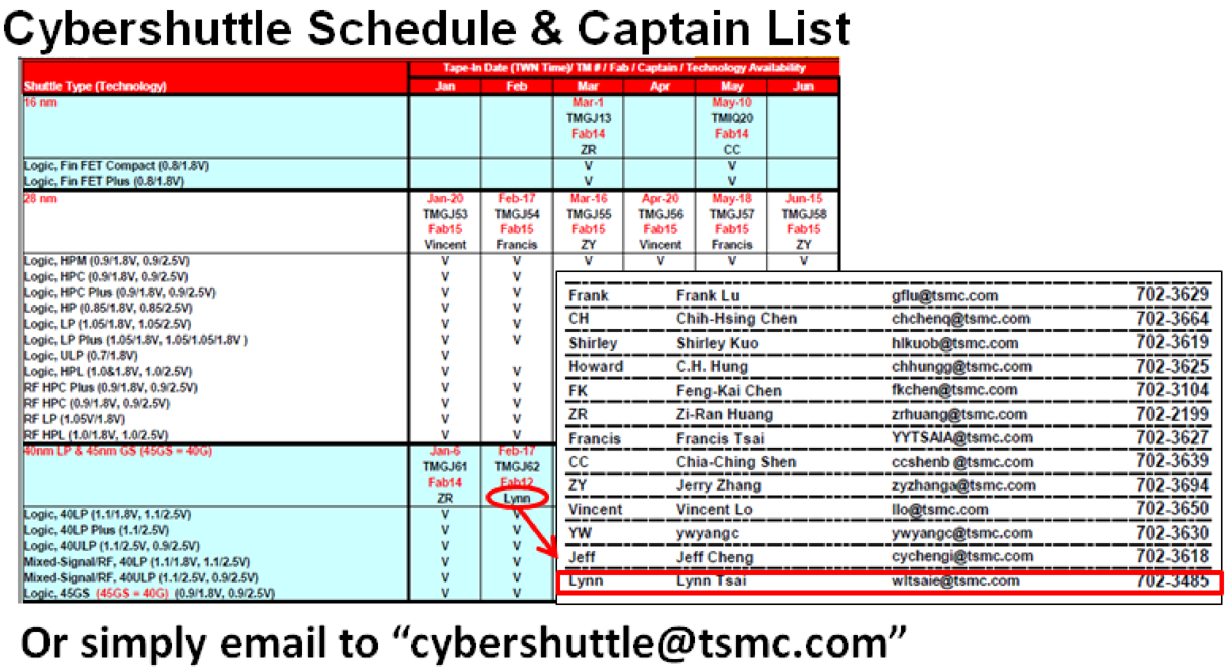
Remark: NTO process is default to run TSMC standard POR. Non-standard process condition on Cybershuttle is for experiment only. If customers have request of non-standard processes, please discuss with TSMC for production availability before running Cybershuttle.

1.2 Whom should I contact for CyberShuttle related questions?

Below diagram shows the contact person you can consult with for cybershuttle related question. The name list of each captain is available on TSMC-Online. “TSMC on-line➔ Tape out and mask service➔ iTapeout (cybershuttle) ➔ information center ➔Shuttle Schedule & Captain List “ .
Or, simply email to “**cybershuttle@tsmc.com”**

Cybershuttle FAQ





Cybershuttle Schedule & Captain List

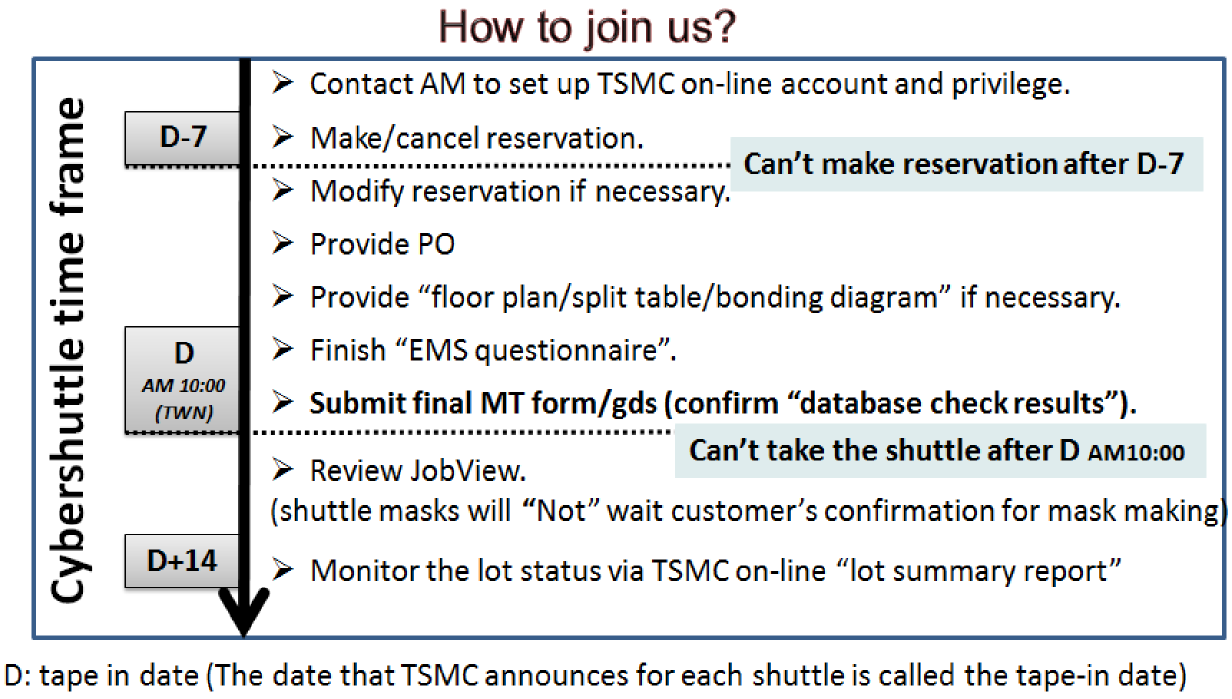
Shuttle Type (Technology)	Tape-In Date (TWN Time)/ TM # / Fab / Captain / Technology Availability					
	Jan	Feb	Mar	Apr	May	Jun
16 nm			Mar-1 TMGJ13 Fab14 ZR		May-10 TMIQ20 Fab14 CC	
Logic, Fin FET Compact (0.8/1.8V)			V		V	
Logic, Fin FET Plus (0.8/1.8V)			V		V	
28 nm	Jan-20 TMGJ53 Fab15 Vincent	Feb-17 TMGJ54 Fab15 Francis	Mar-16 TMGJ55 Fab15 ZY	Apr-20 TMGJ56 Fab15 Vincent	May-18 TMGJ57 Fab15 Francis	Jun-15 TMGJ58 Fab15 ZY
Logic, HPM (0.9/1.8V, 0.9/2.5V)	V	V	V	V	V	V
Logic, HPC (0.9/1.8V, 0.9/2.5V)	V	V				
Logic, HPC Plus (0.9/1.8V, 0.9/2.5V)	V	V				
Logic, HP (0.85/1.8V, 0.85/2.5V)	V	V				
Logic, LP (1.05/1.8V, 1.05/2.5V)	V	V				
Logic, LP Plus (1.05/1.8V, 1.05/1.05/1.8V)	V	V				
Logic, ULP (0.7/1.8V)	V					
Logic, HPL (1.0&1.8V, 1.0/2.5V)	V	V				
RF HPC Plus (0.9/1.8V, 0.9/2.5V)	V	V				
RF HPC (0.9/1.8V, 0.9/2.5V)	V	V				
RF LP (1.05V/1.8V)	V	V				
RF HPL (1.0/1.8V, 1.0/2.5V)	V	V				
40nm LP & 45nm GS (45GS = 40G)	Jan-6 TMGJ61 Fab14 ZR	Feb-17 TMGJ62 Fab12 Lynn				
Logic, 40LP (1.1/1.8V, 1.1/2.5V)	V	V				
Logic, 40LP Plus (1.1/2.5V)	V	V				
Logic, 40ULP (1.1/2.5V, 0.9/2.5V)	V	V				
Mixed-Signal/RF, 40LP (1.1/1.8V, 1.1/2.5V)	V	V				
Mixed-Signal/RF, 40ULP (1.1/2.5V, 0.9/2.5V)	V	V				
Logic, 45GS (45GS = 40G) (0.9/1.8V, 0.9/2.5V)	V	V				

Frank	Frank Lu	gflu@tsmc.com	702-3629
CH	Chih-Hsing Chen	chchenq@tsmc.com	702-3664
Shirley	Shirley Kuo	hlkuob@tsmc.com	702-3619
Howard	C.H. Hung	chhungg@tsmc.com	702-3625
FK	Feng-Kai Chen	fkchen@tsmc.com	702-3104
ZR	Zi-Ran Huang	zrhuang@tsmc.com	702-2199
Francis	Francis Tsai	YYTSAIA@tsmc.com	702-3627
CC	Chia-Ching Shen	ccshenb @tsmc.com	702-3639
ZY	Jerry Zhang	zyzhanga@tsmc.com	702-3694
Vincent	Vincent Lo	llo@tsmc.com	702-3650
YW	ywyangc	ywyangc@tsmc.com	702-3630
Jeff	Jeff Cheng	cychengi@tsmc.com	702-3618
Lynn	Lynn Tsai	wltsaie@tsmc.com	702-3485

Or simply email to “cybershuttle@tsmc.com”

1.3 How do I sign up and use CyberShuttle?

If you would like to join us, please find the related actions and deadline as below. You can contact the shuttle captain for help if necessary.



How to join us?

- Contact AM to set up TSMC on-line account and privilege.
- Make/cancel reservation.

Can't make reservation after D-7

- Modify reservation if necessary.
- Provide PO
- Provide "floor plan/split table/bonding diagram" if necessary.
- Finish "EMS questionnaire".
- **Submit final MT form/gds (confirm "database check results").**

Can't take the shuttle after D AM10:00

- Review JobView.

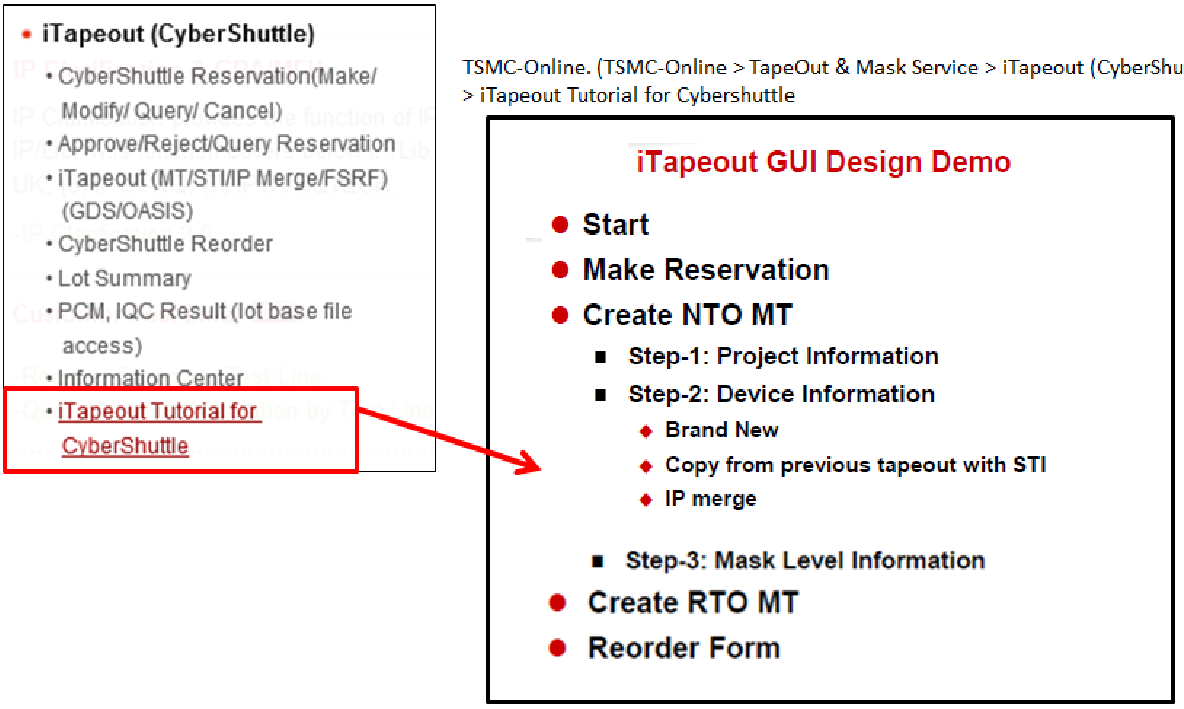
(shuttle masks will "Not" wait customer's confirmation for mask making)

- Monitor the lot status via TSMC on-line "lot summary report"

D: tape in date (The date that TSMC announces for each shuttle is called the tape-in date)

1.4 I am not familiar with the tape out system, where to find out the guideline?

You can find the iTapeout GUI design demo from below path: “TSMC on-line➔ Tape out and mask service➔ iTapeout (cybershuttle)➔iTapeout Tutorial for Cybershuttle”.



- **iTapeout (CyberShuttle)**
  - CyberShuttle Reservation(Make/ Modify/ Query/ Cancel)
  - Approve/Reject/Query Reservation
  - iTapeout (MT/STI/IP Merge/FSRF) (GDS/OASIS)
  - CyberShuttle Reorder
  - Lot Summary
  - PCM, IQC Result (lot base file access)
  - Information Center
  - iTapeout Tutorial for CyberShuttle

TSMC-Online. (TSMC-Online > TapeOut & Mask Service > iTapeout (CyberShuttle) > iTapeout Tutorial for Cybershuttle

iTapeout GUI Design Demo

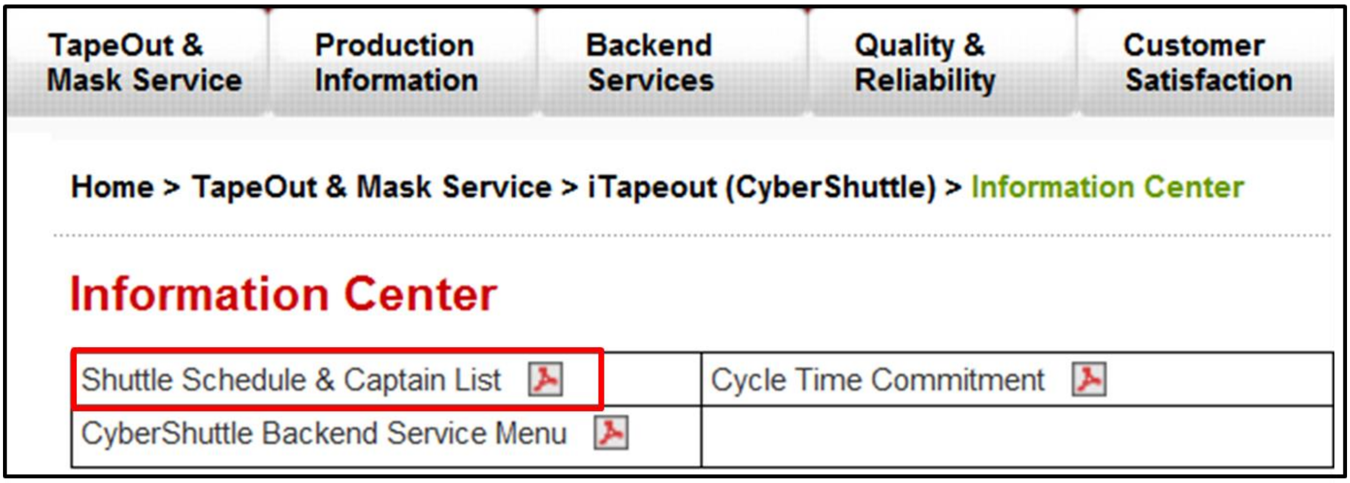
- **Start**
- **Make Reservation**
- **Create NTO MT**
  - **Step-1: Project Information**
  - **Step-2: Device Information**
    - **Brand New**
    - **Copy from previous tapeout with STI**
    - **IP merge**
  - **Step-3: Mask Level Information**
- **Create RTO MT**
- **Reorder Form**

2. Before taking the shuttle, you have to know

2.1 Schedule related

2.1.1 When is CyberShuttle schedule announced? Where to get it?

Shuttle tape-in schedules are announced semi-annually. Every March, shuttle schedules for the second half of the year will be given. Every September, shuttle schedules for the first half of next year will be given.



Home > TapeOut & Mask Service > iTapeout (CyberShuttle) > Information Center

Information Center

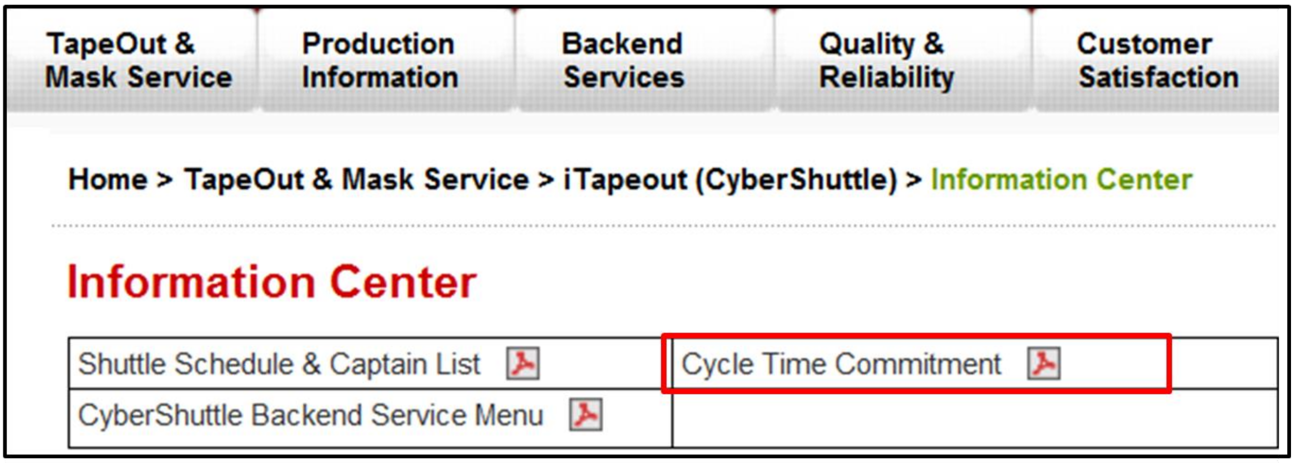
Shuttle Schedule & Captain List	Cycle Time Commitment
CyberShuttle Backend Service Menu	

2.1.2 When can I get the samples for my CyberShuttle tape-out?

The cycle time commitment from tape-in to sample shipping can be found at “Cycle Time Commitment”. When the CyberShuttle wafers are started, you will receive an email notice to indicate the committed delivery date. Also, you are able to see the progress of the wafers at “TSMC-Online > TapeOut & Mask Service > iTapeout (CyberShuttle) > Lot Summary”

Cybershuttle FAQ

Before tape out ➔ “ cycle time commitment”

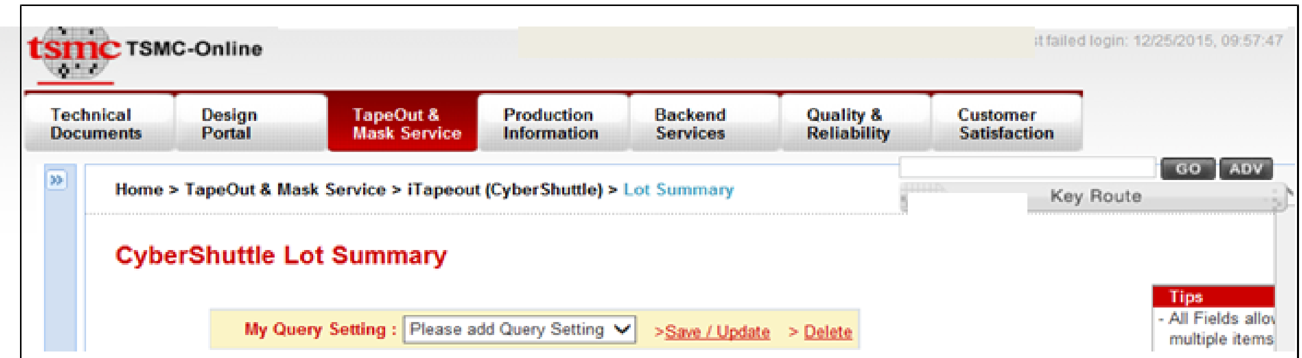


Home > TapeOut & Mask Service > iTapeout (CyberShuttle) > Information Center

Information Center

Shuttle Schedule & Captain List	Cycle Time Commitment
CyberShuttle Backend Service Menu	

After tape out ➔ “ lot summary” to monitor the lot status (available after tape in date +2 weeks)



Home > TapeOut & Mask Service > iTapeout (CyberShuttle) > Lot Summary

CyberShuttle Lot Summary

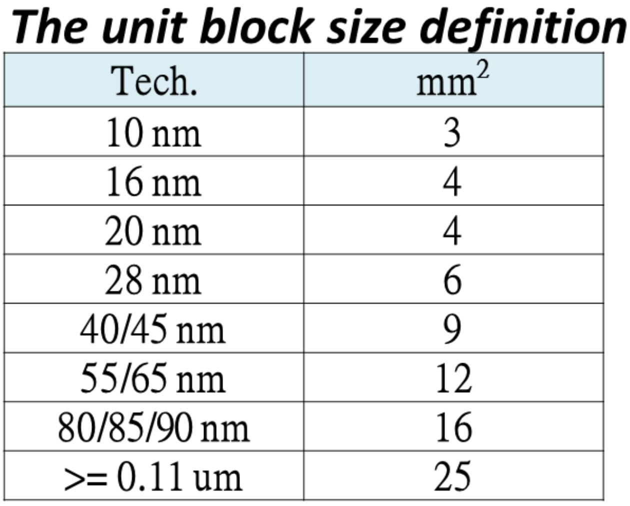
My Query Setting : Please add Query Setting >Save / Update > Delete

- If your shuttle tape-out needs SHR (super hot run), please contact TSMC Account Manager or Customer Support. Please note that SHR is subject to an additional charge and not always available due to limited quota.

2.2 Cost & Block related

2.2.1 What's the block size? How to calculate it?

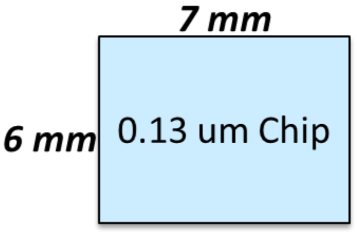
CyberShuttle is a prototyping service based on mask sharing by multiple customers. The reticle is divided into many unit blocks, which are taken by various customers to carry out the designs.



The unit block size definition for each tech.

Tech.	mm^2
10 nm	3
16 nm	4
20 nm	4
28 nm	6
40/45 nm	9
55/65 nm	12
80/85/90 nm	16
>= 0.11 um	25

For example, 0.13um chip with chip size of 7 mm x 6 mm is calculated as 1.68 blocks



*Area=(7 mm*6 mm)/25 mm^2=1.68 blocks*

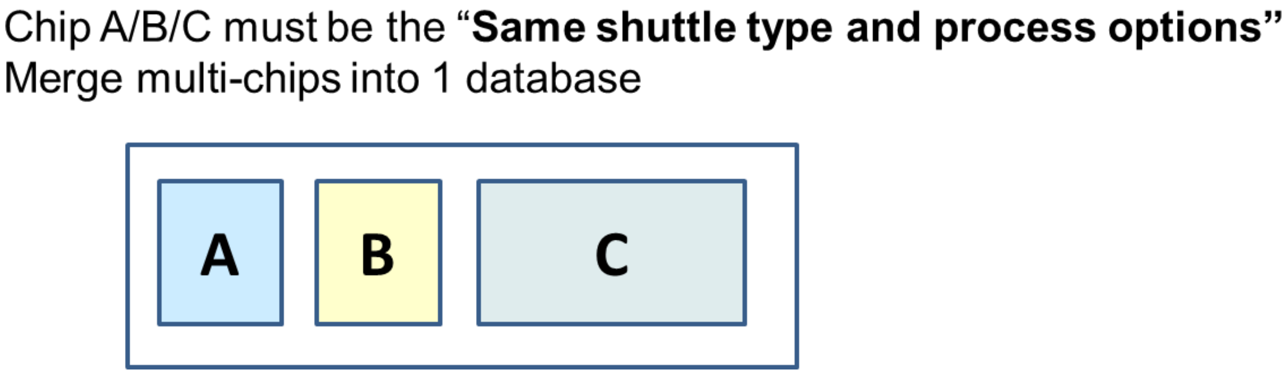
1 reservation needs to order at least 1 block.

- Chip size <= 1 block➔ calculate as 1 block. (unit block size for pricing only)
- Chip size > 1 block ➔ the block number is calculated by chip area, regardless of the dimensions in length and width

2.2.2 Can I have >1 chip in one reservation?

Customer can merge multi-chips into 1 reservation (1 database) with the same shuttle type and process options.

- The shuttle type and process options of each sub-chips must be the same.
- Customers need to merge those multi-chips into 1 gds (1 database).
- If need extra die saw, need to refer to Q.2.2.3 for floor plan in advance

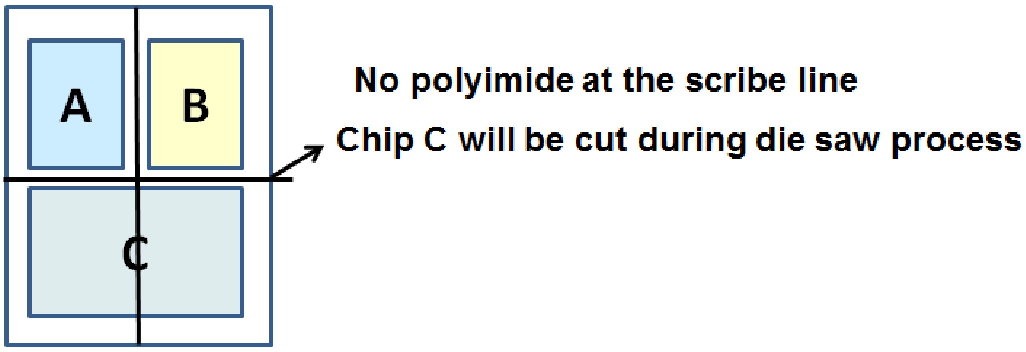

Chip A/B/C must be the "**Same shuttle type and process options**"
Merge multi-chips into 1 database

2.2.3 Can TSMC perform die saw for multiple designs in one reservation?

TSMC CyberShuttle offers an extra dicing service. There is a question about extra dicing on the reservation form along with detailed explanations.

Reminder for "extra die saw"

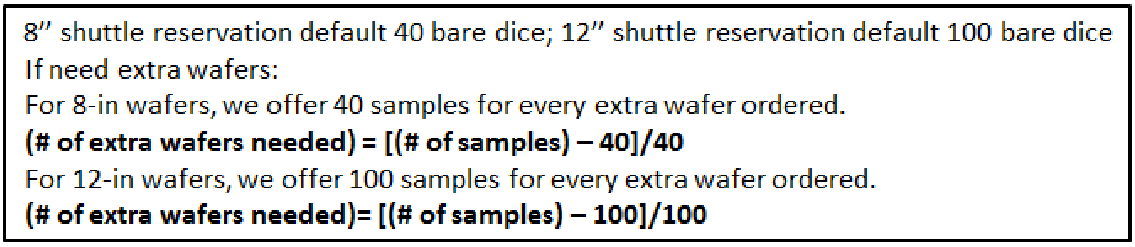
- Is there any subchip cut by the extra die saw line ? (see below diagram)
- Need to add the seal ring for each subchip, respectively.
- Not allow polyimide in the scribe line.
- Perform DRC check and dummy utility for whole gds (include all sub-ships and scribe line) to avoid pattern density error.
- In between each sub-chip, there should be >=80 um (after shrinkage) scribe line.
- Extra die saw is a paid service.
- Please confirm with your captain in advance for the floor plan arrangement.


No polyimide at the scribe line

Chip C will be cut during die saw process

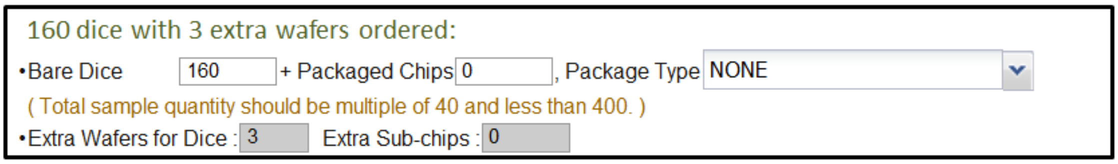
2.2.4 How many chips can I order for my CyberShuttle tape-out?

When you pay the price of mask blocks, you are entitled to get 40 bare dice from an 8-inch shuttle, or 100 bare dice from a 12-inch shuttle. The samples beyond 40 (or 100) need surcharge for extra wafers.



8" shuttle reservation default 40 bare dice; 12" shuttle reservation default 100 bare dice
If need extra wafers:
For 8-in wafers, we offer 40 samples for every extra wafer ordered.
(# of extra wafers needed) = [(# of samples) – 40]/40
For 12-in wafers, we offer 100 samples for every extra wafer ordered.
(# of extra wafers needed)= [(# of samples) – 100]/100

Take 8'' shuttle as example:



160 dice with 3 extra wafers ordered:

•Bare Dice 160 + Packaged Chips 0 , Package Type NONE

(Total sample quantity should be multiple of 40 and less than 400.)

•Extra Wafers for Dice : 3 Extra Sub-chips : 0

A surcharge for backend option, ceramic packaging, shuttle wafer form delivery, extra die-saw and super hot run will be added if applicable.

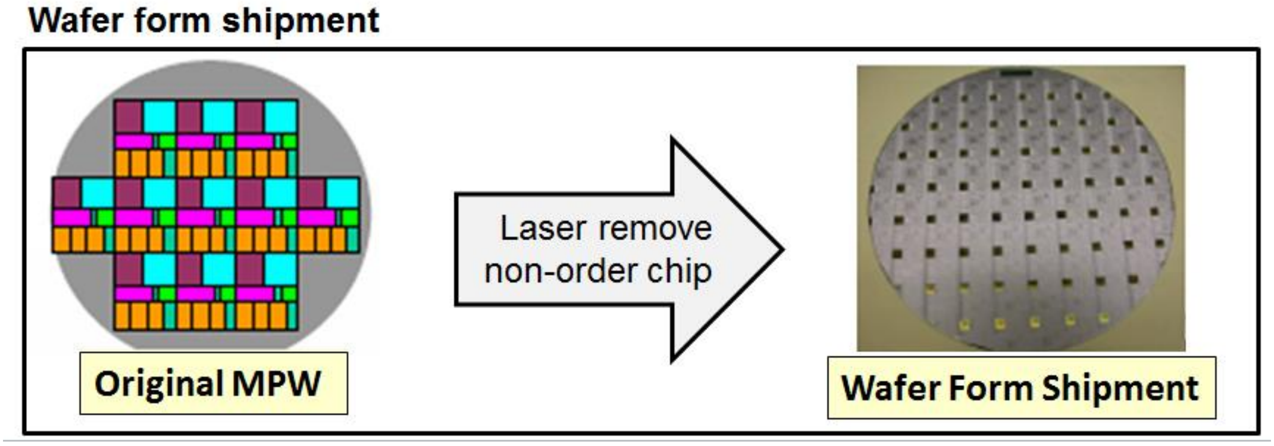
2.3 Sample related

2.3.1 Can I have my CyberShuttle chips delivered in wafer form?

TSMC can provide the wafer form shipment by using laser to erase other customer's pattern. You can request the "whole sample wafers" in the reservation form.

Wafer form limitation: (The wafer form sample is not applicable to <=28nm processes)

- TSMC will remove other customers' patterns on the wafer. The wafer condition is only suitable for CP test in room temperature.
- Further processes such as thermal treatment, backside grinding, die-saw, bumping, WLCSP, etc are not applicable for samples in wafer form.
- Wafer with bumping, back-lapping and polyimide are not available for samples in wafer form.
- Ink dots will be performed if the dice on wafer are out of visual inspection.
- This service will incur extra charge. Please contact your account manager for quotation.
- Seal ring is required for samples in wafer form.
- Such wafers are fragile. For handling such wafers, please use vacuum system and forbid the use of hand-held tweezers.



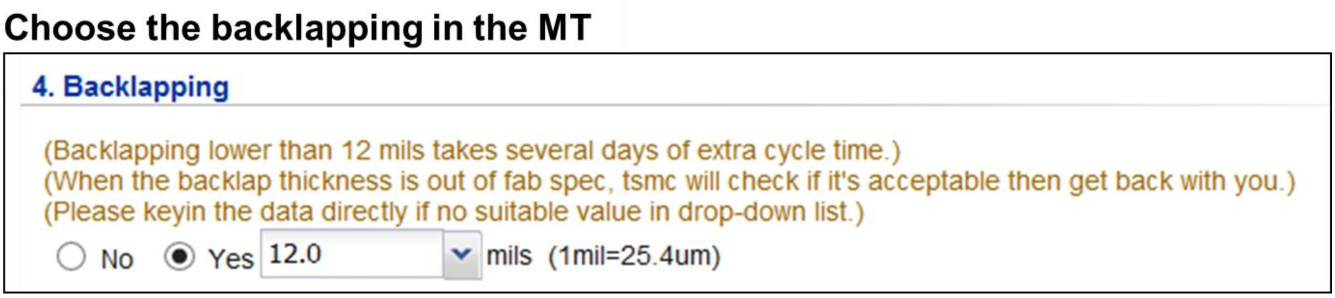
2.3.2 Can I have my CyberShuttle chips packaged at TSMC?

Bare dice or packaged samples are CyberShuttle deliverables. We ship packaged parts or bare dice at your choice. Please just select the package type you need when you fill out the reservation form. TSMC only provides ceramic packages for CyberShuttle tape-outs.

Please refer to "TSMC online➔Tape out & mask service➔iTapeout (cybershutle)➔Information center ➔ Cybershuttle backend service menu" for available package table.

2.3.3 What is the minimum die thickness?

The standard CyberShuttle die thickness after backside grinding is 12 mils regardless of technology and wafer size. If you need thinner chips, please contact the captains first for a risk assessment.



Choose the backlapping in the MT

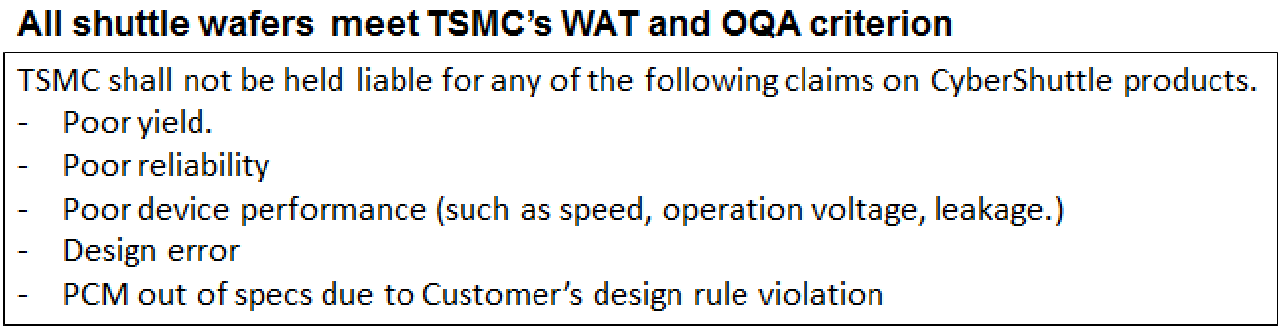
4. Backlapping

(Backlapping lower than 12 mils takes several days of extra cycle time.)
(When the backlap thickness is out of fab spec, tsmc will check if it's acceptable then get back with you.)
(Please keyin the data directly if no suitable value in drop-down list.)

○ No ● Yes 12.0 mils (1mil=25.4um)

2.3.4 Is there any guarantee on yield for my CyberShuttle tape-out?

TSMC CyberShuttle guarantees all delivered samples meet the requirements of TSMC's WAT (wafer acceptance test) and OQA (outgoing quality assurance). However, CyberShuttle customers cannot claim compensation from TSMC for those are not due to TSMC's errors in mask making or wafer processing.



All shuttle wafers meet TSMC's WAT and OQA criterion

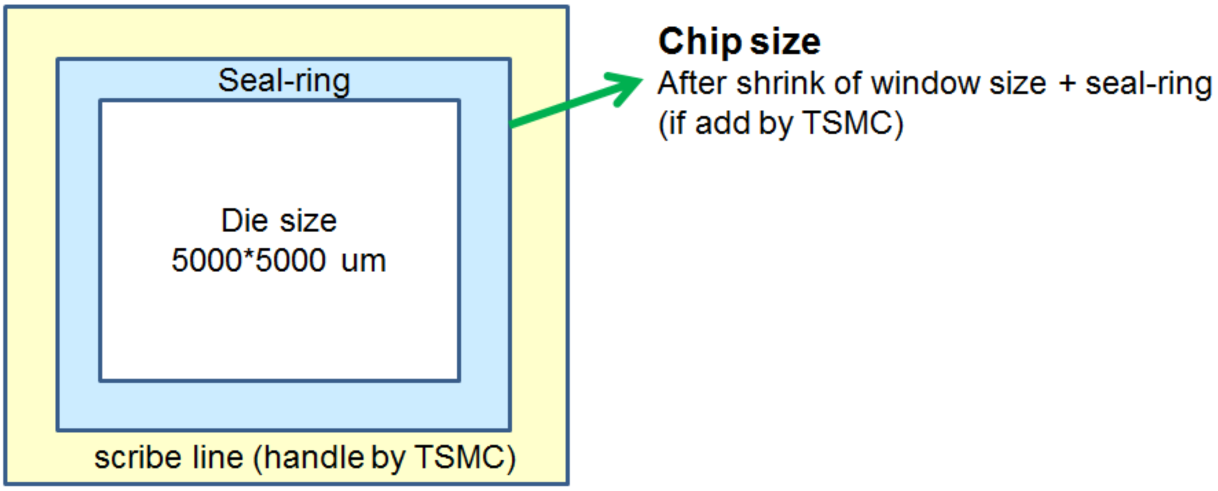
TSMC shall not be held liable for any of the following claims on CyberShuttle products.

- Poor yield.
- Poor reliability
- Poor device performance (such as speed, operation voltage, leakage.)
- Design error
- PCM out of specs due to Customer's design rule violation

2.3.5 What is the CyberShuttle die size after die-saw?

It will be slightly larger than your design due to the addition of the seal ring and the scribe line.

The final die size after die saw will be:
Min.: chip size
Max: chip size + 90 um.



Chip size
After shrink of window size + seal-ring
(if add by TSMC)

2.3.6 Can I have my CyberShuttle chips smaller than one block size after die-saw?

Yes. Unit block size is for the purpose of pricing only. We cut the dice according to the window size stated on the online tape-out form. Please contact with shuttle captain in advance If the width X or length Y of your dice (or sub-chip) is <=1000um, X/Y>3 or Y/X>3.

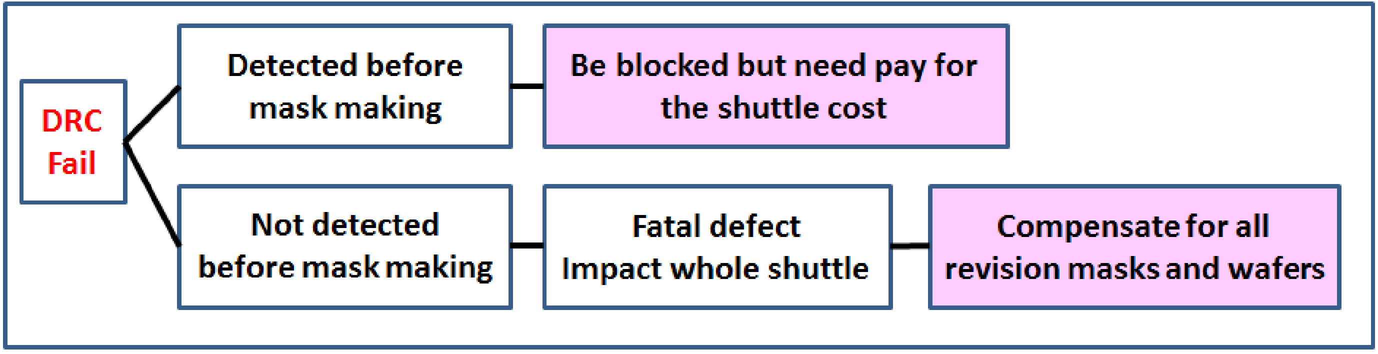
2.4 Design/corner related

2.4.1 Will TSMC run DRC/LVS check for my CyberShuttle tape-out?

No, TSMC does not provide DRC/LVS check services for CyberShuttle tapeouts. Customers must complete DRC/LVS checks by themselves and ensure that their designs are DRC/LVS clean before tape-in. If you have problem meeting this requirement, please contact your TSMC account manager at least 7 days prior to the tape-in date.

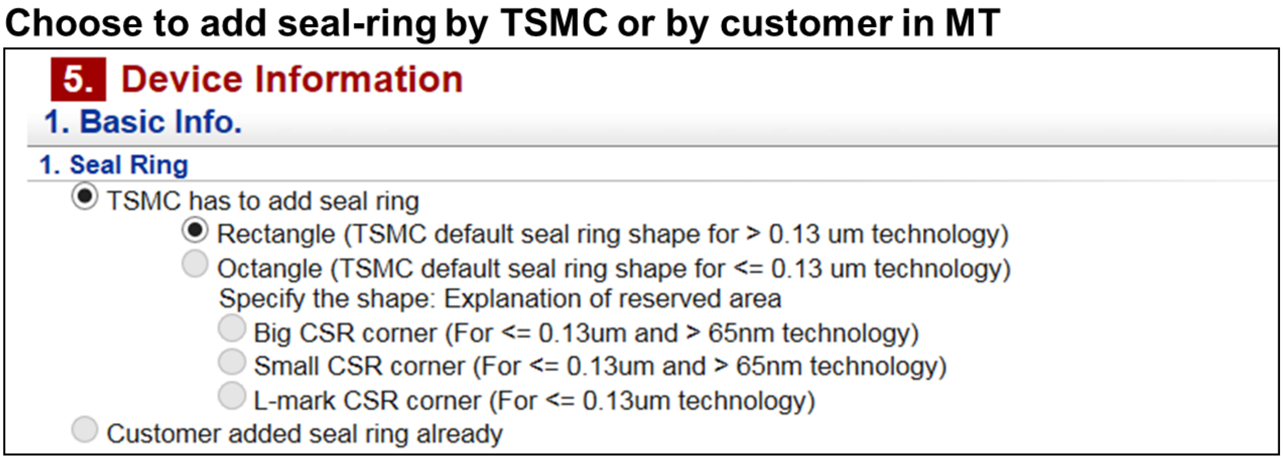
In order to ensure mask and process quality of all customers' CyberShuttle tapeouts, CyberShuttle captains will reject the tapeouts with unclarified DRC failure.In worst case, the customer needs to pay all the extra cost for revison mask if the DRC violations impact whole the other chips while processing.

“DRC clean” is shuttle’s policy to protect all customer’s tape outs



2.4.2 Do I need to add seal ring around my CyberShuttle design by myself?

You may choose to add seal ring by yourself or ask TSMC to do it for you by following the Design rule. Just specify what you want on the online tape-out form (MT form). However, if you include multiple designs in one tape-out, you need to add seal ring and scribe line in between those designs by yourself to prevent from die crack.



Choose to add seal-ring by TSMC or by customer in MT

5. Device Information

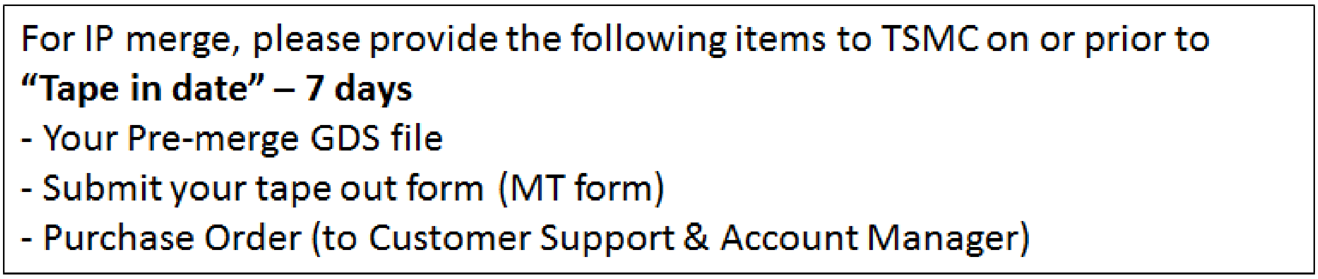
1. Basic Info.

1. Seal Ring

- ● TSMC has to add seal ring
  - ● Rectangle (TSMC default seal ring shape for > 0.13 um technology)
  - ○ Octangle (TSMC default seal ring shape for <= 0.13 um technology)
    Specify the shape: Explanation of reserved area
    - ○ Big CSR corner (For <= 0.13um and > 65nm technology)
    - ○ Small CSR corner (For <= 0.13um and > 65nm technology)
    - ○ L-mark CSR corner (For <= 0.13um technology)
- ○ Customer added seal ring already

2.4.3 What if I need TSMC IP/libraries for a CyberShuttle tape-out?

Please contact your TSMC account manager, and deliver your GDS to TSMC for IP/library merge in advance so that the merged GDS file can meet the tape-in deadline. Normally it takes 7 working days for IP/library merge. Please mail to **G_IPMERGE@TSMC.com** for IP/library merge questions.

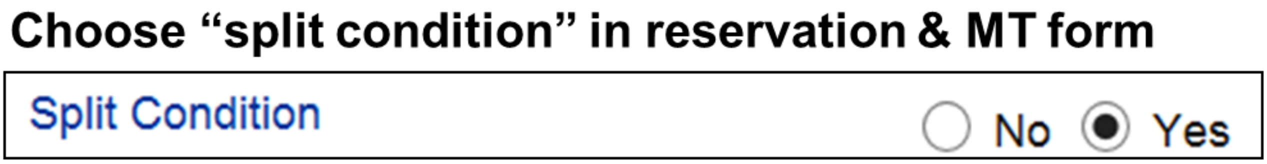


For IP merge, please provide the following items to TSMC on or prior to **"Tape in date" – 7 days**

- Your Pre-merge GDS file
- Submit your tape out form (MT form)
- Purchase Order (to Customer Support & Account Manager)

2.4.4 May I have corner split on my CyberShuttle tape-out?

Yes, TSMC provides a split service for all CyberShuttle. On the CyberShuttle reservation form, there is a question regarding the split services. Once you specify to have the process split, the shuttle captain will confirm with you whether the split conditions are feasible and then follow them accordingly. (No “corner split” service for the shuttle of <= N10 technology)



Choose “split condition” in reservation & MT form

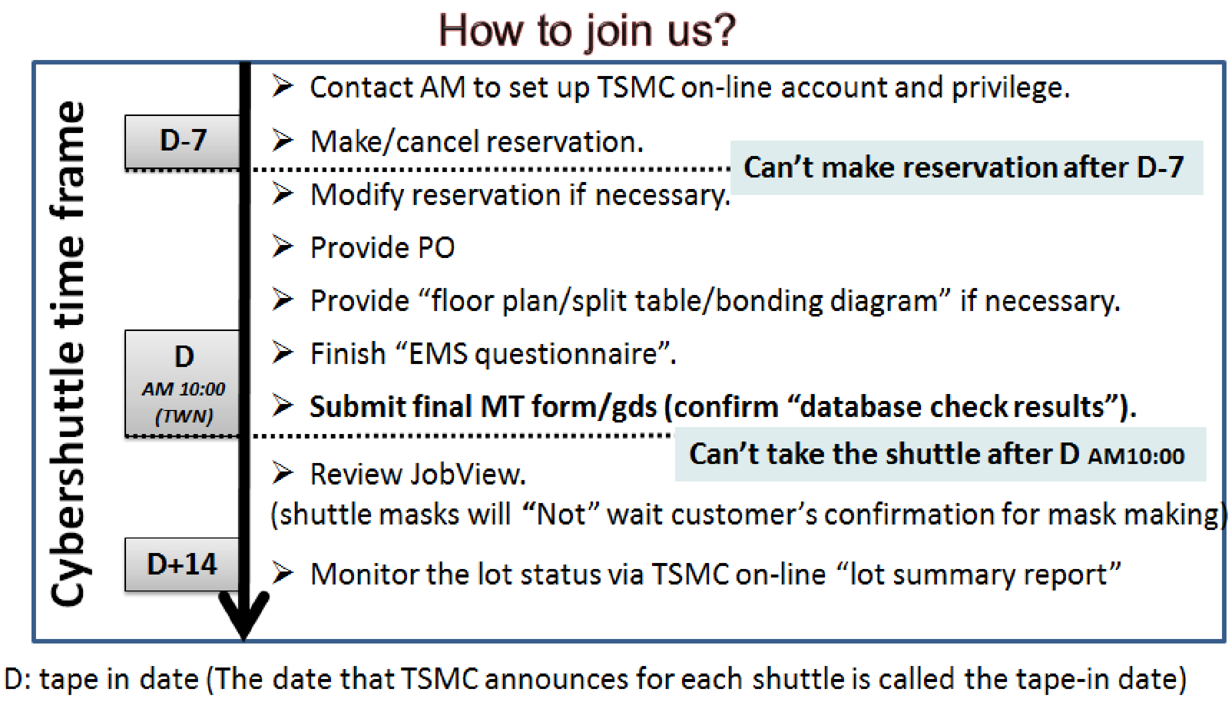
Split Condition ○ No ● Yes

3. Tape out procedure

3.1 Reservation

3.1.1 When can I make, modify or cancel CyberShuttle reservations?

The date that TSMC announces for each shuttle is called the tape-in date, which is the deadline for customers to deliver their PO, designs and tape-out forms. Please make or cancel your reservations at least 7 days before the tape-in date. After reservation, you may modify it until the tape-in date, however, if you increase the device area and there is not enough space available, the status of your approved reservation will go back to pending for approval.



How to join us?

- Contact AM to set up TSMC on-line account and privilege.
- Make/cancel reservation.

Can't make reservation after D-7

- Modify reservation if necessary.
- Provide PO
- Provide "floor plan/split table/bonding diagram" if necessary.
- Finish "EMS questionnaire".
- **Submit final MT form/gds (confirm "database check results").**

Can't take the shuttle after D AM10:00

- Review JobView.

(shuttle masks will "Not" wait customer's confirmation for mask making)

- Monitor the lot status via TSMC on-line "lot summary report"

D: tape in date (The date that TSMC announces for each shuttle is called the tape-in date)

3.1.2 What if there is no block available for my CyberShuttle reservation?

When there is no block available, you can still make reservations. The only difference is that your account manager cannot approve your reservation request and secure a slot on the shuttle right away. You will have to wait until someone cancels its approved reservation. Nevertheless, captains will always try their best to squeeze every pending reservations. You may pass on your concerns to your account manager for a pending reservation if you want to be sure.

3.1.3 Why I cannot make CyberShuttle reservations?

You will be not able to make a reservation only when the shuttle cut-off date for reservation is due, that is the shuttle tape-in date is less than 7 days away from the current date. Please contact your account manager or the shuttle captain immediately if you have such problems.

3.1.4 When should I submit EMS questionnaire?

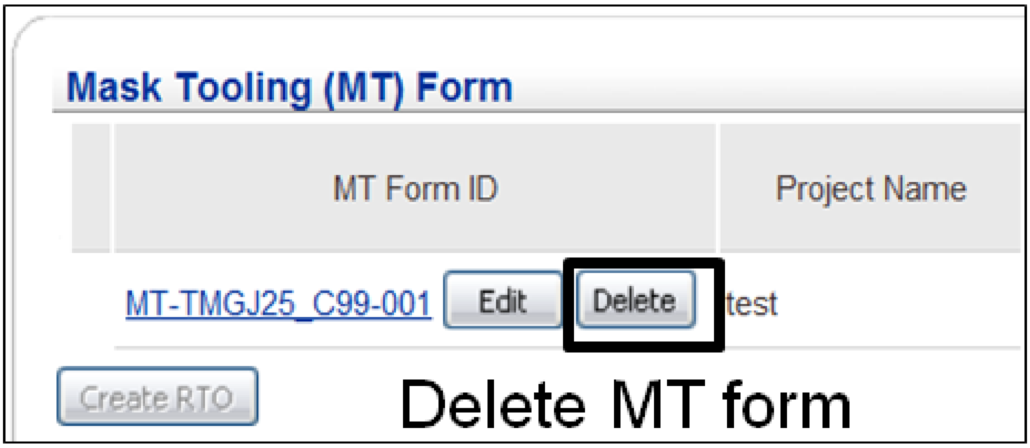
EMS questionnaire (TSMC-Online > TapeOut & Mask Service > Export Control Management > EMS Questionnaire) is available for editing as soon as shuttle reservations are successfully made and must be submitted before customers submit the tape-out forms. Please note that the tape-out form submitting process will be stopped if the questionnaire has not been submitted.

3.1.5 How to change the shuttle type?

If you don't edit the MT form yet, please follow step 2 as below to modify the shuttle type directly. If you edit the MT form already, please follow bellow steps to modify the reservation.

Step 1: Delete MT form

Path: TSMC on-line➔ Tape out & Mask service=> i-tape out (cybershuttle)
➔iTapeout (MT/STI/IP Merge/FSRF)



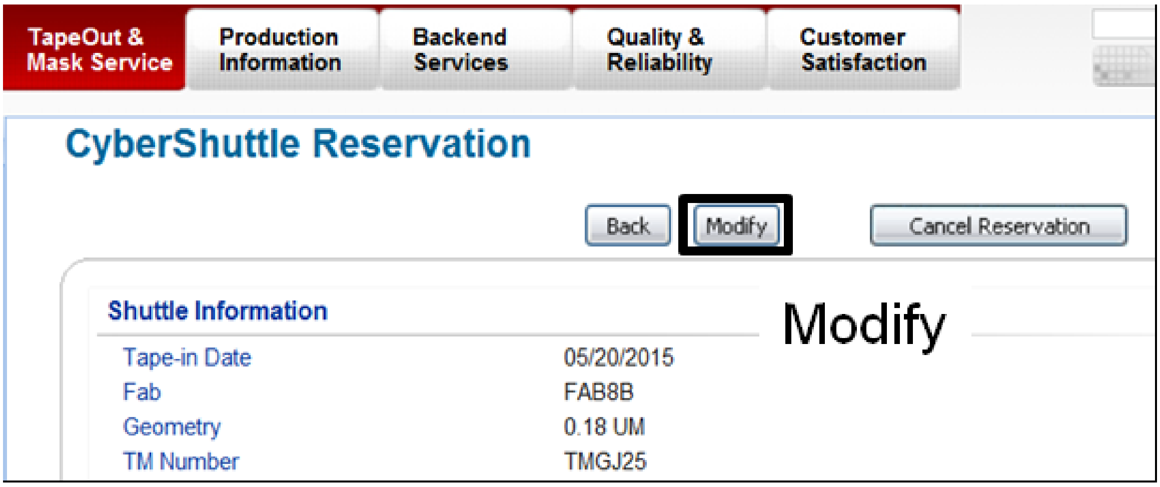
Mask Tooling (MT) Form

	MT Form ID	Project Name
	MT-TMGJ25_C99-001 Edit Delete	test

Step 2: Modify Reservation

Path: TSMC on-line➔ Tape out & Mask service➔ i-tape out (cybershuttle)
➔ Cybershuttle Reservation (Make/Modify/Query/cancel)

Cybershuttle FAQ



CyberShuttle Reservation

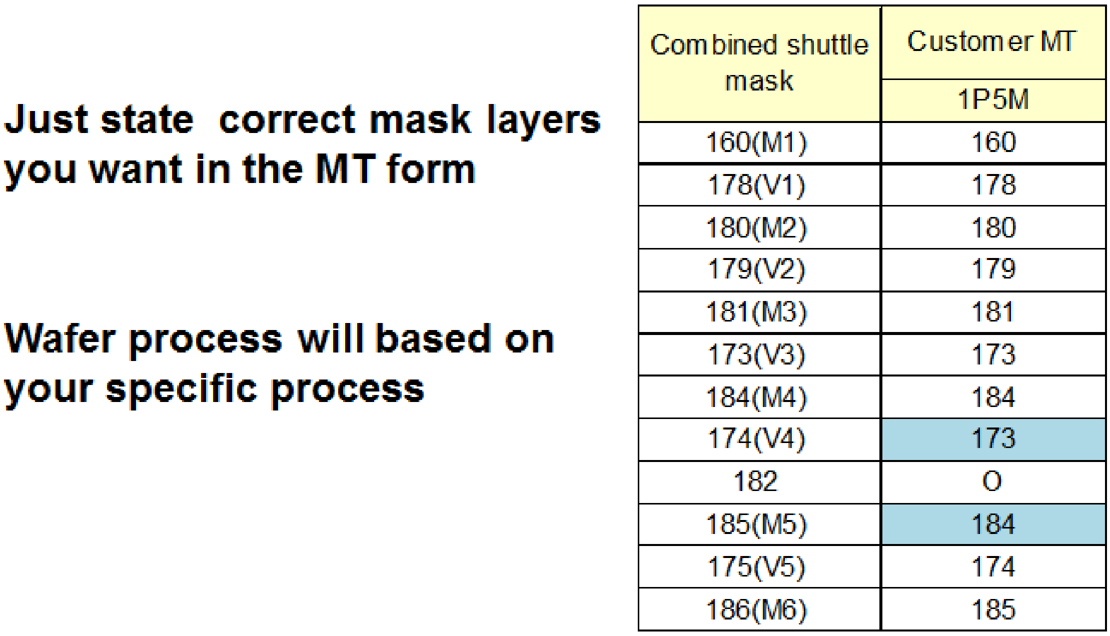
Shuttle Information

Tape-in Date	05/20/2015
Fab	FAB8B
Geometry	0.18 UM
TM Number	TMGJ25

3.2 Tape out Form

3.2.1 What if my tape-out has fewer metal layers?

Please just state how many metal layers are required and which optional mask layers (like medium/low VT, ESD) are needless, captains will make the arrangement. Take 0.18 um Logic for example. The maximum metal layer number is 6, and we accept 1P3M, 1P4M, 1P5M and 1P6M designs. If your design has 5M, in order to meet the requested metal density for each metal mask layer, we cannot leave blank area on Metal-6. Therefore, we will copy your Metal-5 pattern on Metal-6 mask. However, your wafers will be run separately from 1P6M wafers to ensure that only 5 metals are deposited.



Just state correct mask layers you want in the MT form

Wafer process will based on your specific process

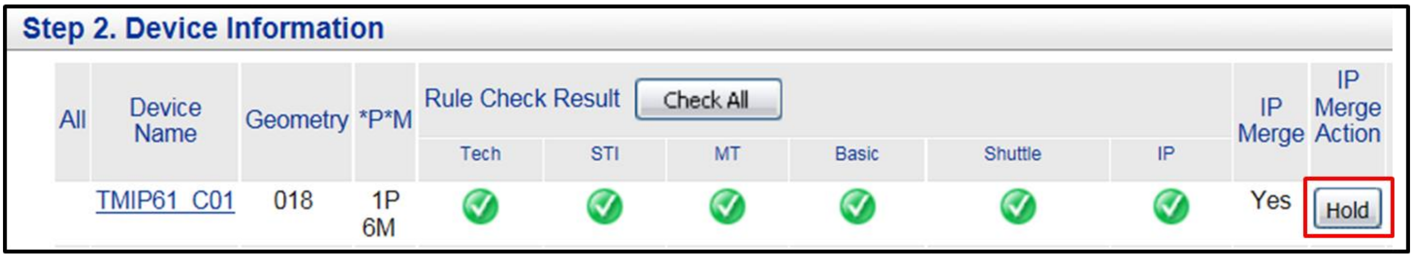
Combined shuttle mask	Customer MT
	1P5M
160(M1)	160
178(V1)	178
180(M2)	180
179(V2)	179
181(M3)	181
173(V3)	173
184(M4)	184
174(V4)	173
182	O
185(M5)	184
175(V5)	174
186(M6)	185

3.2.2 How to hold the IP merge process after submitting IP merge request?

Please follow below steps to hold the IP merge temporarily.

When can you perform “hold IP merge” function?
Customers can perform “hold IP merge” function when tape out form (MT form) is submitted and under IP merge process.

Where is “hold” key?
Enter the tape put form (MT form) and press device level; then you can see “hold” icon

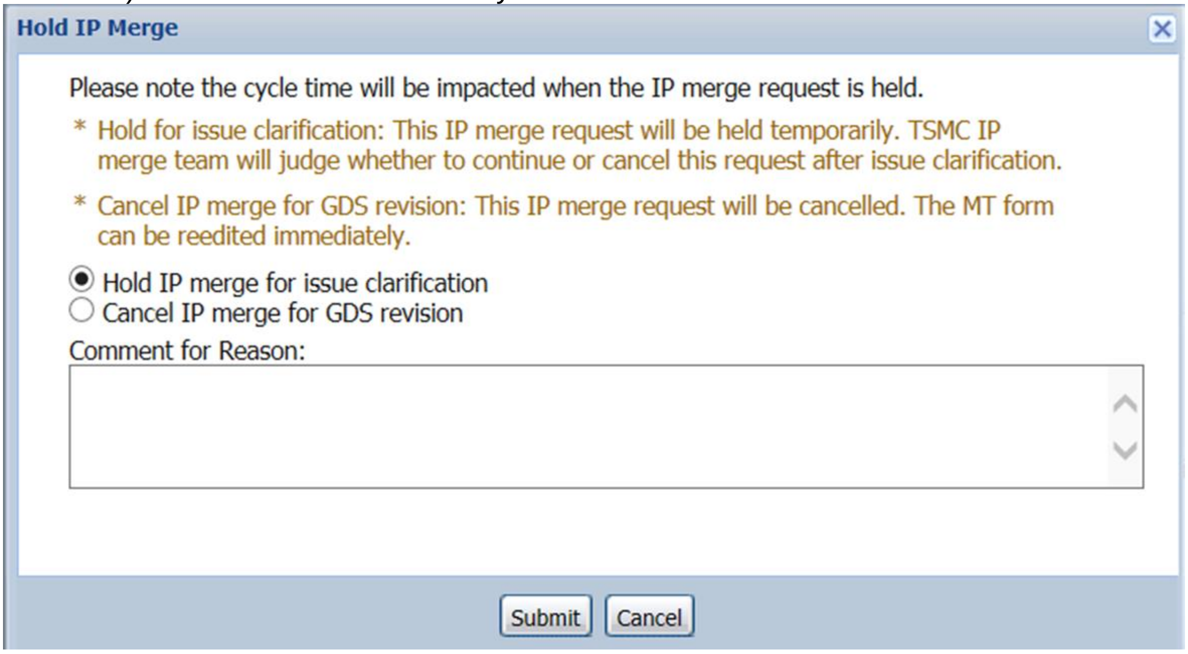


Step 2. Device Information

All	Device Name	Geometry	*P*M	Rule Check Result Check All						IP Merge	IP Merge Action
				Tech	STI	MT	Basic	Shuttle	IP		
	TMIP61_C01	018	1P 6M	✓	✓	✓	✓	✓	✓	Yes	Hold

“Hold” IP merge function (Need to fill “comment for Reason”)

- Hold for IP issue clarification: This IP merge request will be held temporarily. TSMC IP merge team will judge whether to continue or cancel this request after issue be clarified.
- Cancel IP merge for GDS revision: This IP merge request will be cancelled. The tape out (MT form) can be reedited immediately.



Hold IP Merge

Please note the cycle time will be impacted when the IP merge request is held.

* Hold for issue clarification: This IP merge request will be held temporarily. TSMC IP merge team will judge whether to continue or cancel this request after issue clarification.

* Cancel IP merge for GDS revision: This IP merge request will be cancelled. The MT form can be reedited immediately.

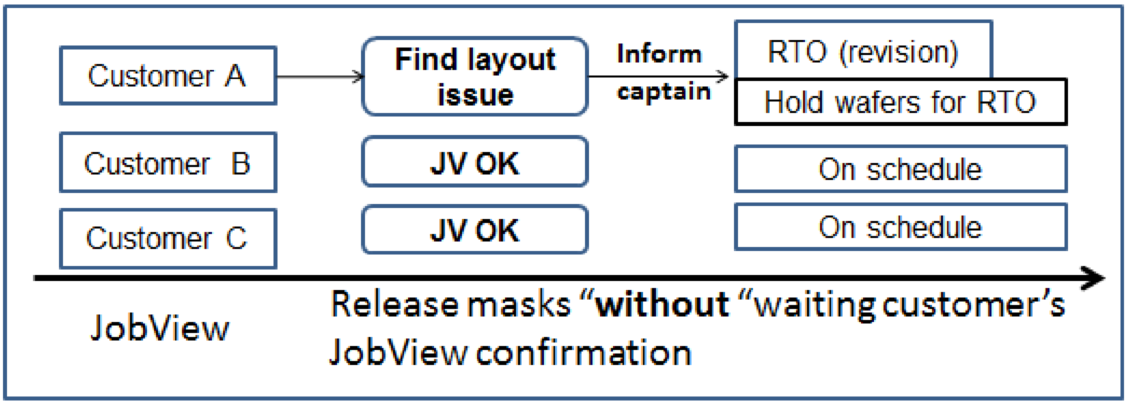
● Hold IP merge for issue clarification
○ Cancel IP merge for GDS revision

Comment for Reason:

3.3 JobView

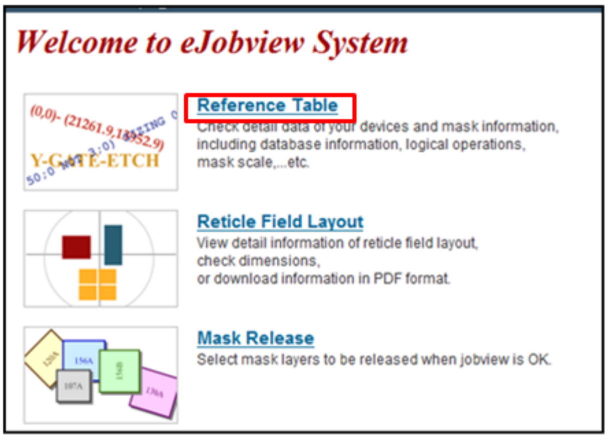
3.3.1 Can I do a mask JobView for my Cybershuttle tape out?

If you specify on the online tape-out form that eJobView is needed, you will receive an eJobView email notice from our system when the eJobView is ready. Since the CyberShuttle needs to accommodate many customers and is always running at high priority, it is not possible to wait for confirmation from all customers before mask making. If you should find a need to change the GDS file, please make a request to the shuttle captain as soon as possible. You will need to pay for extra masks and wafers if they have already been made.



3.3.2 Why I see some undesired mask layers in the e-JobView notice?

CyberShuttle e-JobView notice may include some layers that are not desired by your product. We add them for pattern density and other engineering considerations. These mask layers added by captains will not be used on the wafers for your product. When performing e-jobview, please review only those layers that appear on the online tape-out form of your shuttle product.

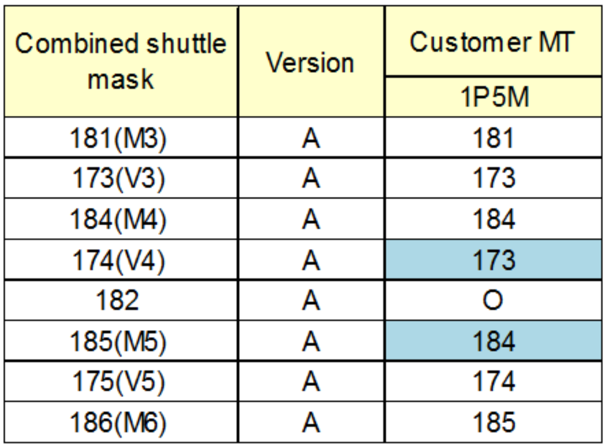


Welcome to eJobview System

Reference Table
Check detail data of your devices and mask information, including database information, logical operations, mask scale,...etc.

Reticle Field Layout
View detail information of reticle field layout, check dimensions, or download information in PDF format.

Mask Release
Select mask layers to be released when jobview is OK.



Combined shuttle mask	Version	Customer MT
		1P5M
181(M3)	A	181
173(V3)	A	173
184(M4)	A	184
174(V4)	A	173
182	A	O
185(M5)	A	184
175(V5)	A	174
186(M6)	A	185

3.3.3 I can’t see the JobView

Please mail to **MSCS@tsmc.com** if you suffer Jobview issue.

3.4 Samples/wafers handling

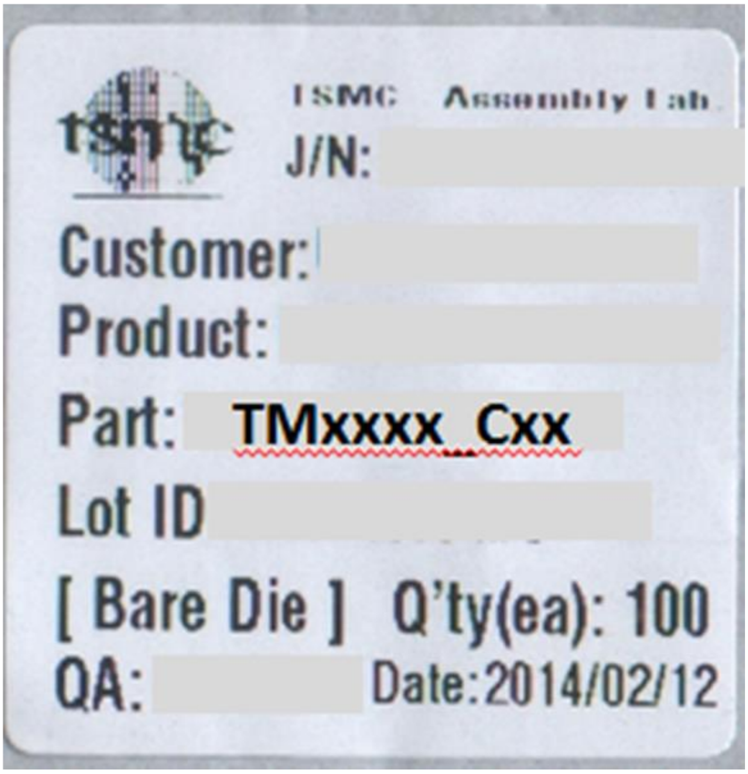
3.4.1 Is it possible to hold the wafers and wait for mask revision?

Yes, you can contact your shuttle captain directly to hold the wafer at the suitable stage.

3.4.2 Label information when sample shipping

The label example is as below. Customer name/product information will be shown in the label. In addition, TSMC part name,Lot ID and qty. are also be mentioned.

Cybershuttle label



TSMC Assembly Lab

J/N: [redacted]

Customer: [redacted]

Product: [redacted]

Part: TMxxxx_Cxx

Lot ID [redacted]

[Bare Die] Q’ty(ea): 100

QA: [redacted] Date:2014/02/12

4. Getting the samples, you may want to know

4.1 Repeat Order (RO)

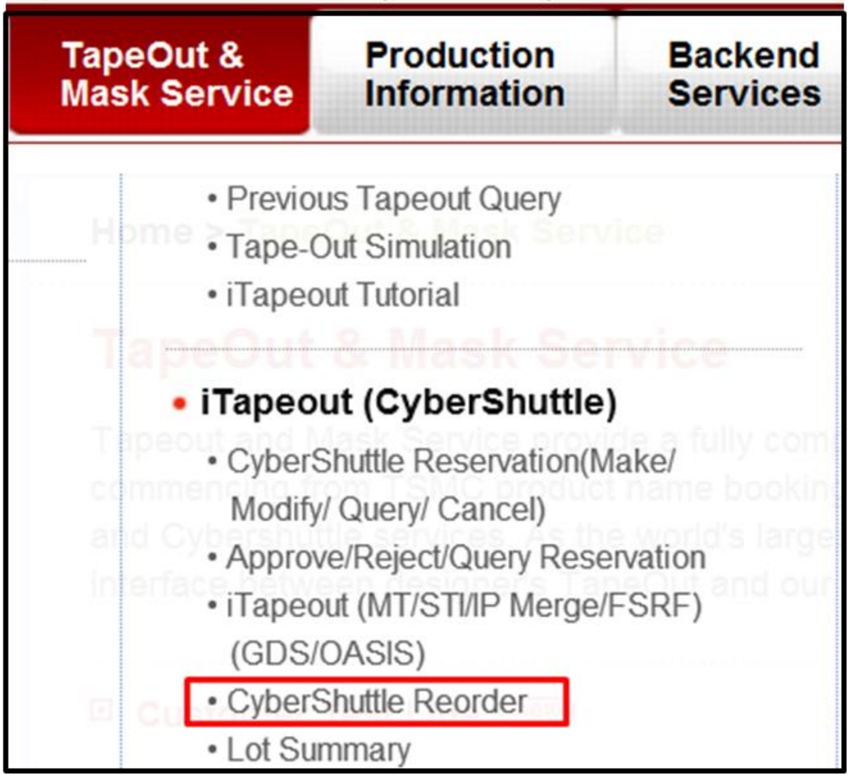
4.1.1 Can I place repeat orders?

We do accept repeat orders from customers based on the following rules. You can contact your customer support for the PO and shuttle captain for the RO (reorder form).You may specify what you want on the online reorder form.

Deadline:
Repeat orders must be placed no later than 6 months after shipment of the first batch of samples, as the masks and backup wafers will be scrapped after this deadline.

Order Quantity:
The minimum wafer quantity need follow the current production Small-Size lot rule (>=4 wafers). You will need to order at least 160 dice (i.e. 4 pieces) of 8” wafers or 400 dice (i.e. 4 pieces) of 12” wafers.

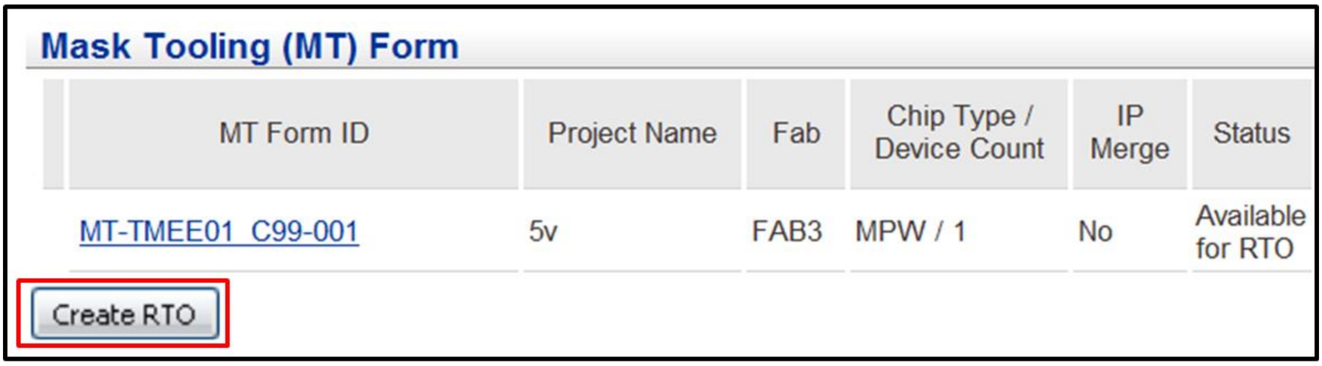
Cybershuttle RO (reorder) form



4.2 Revised Tape Out (RTO)

4.2.1 Can I ask for mask revision for a CyberShuttle tape-out?

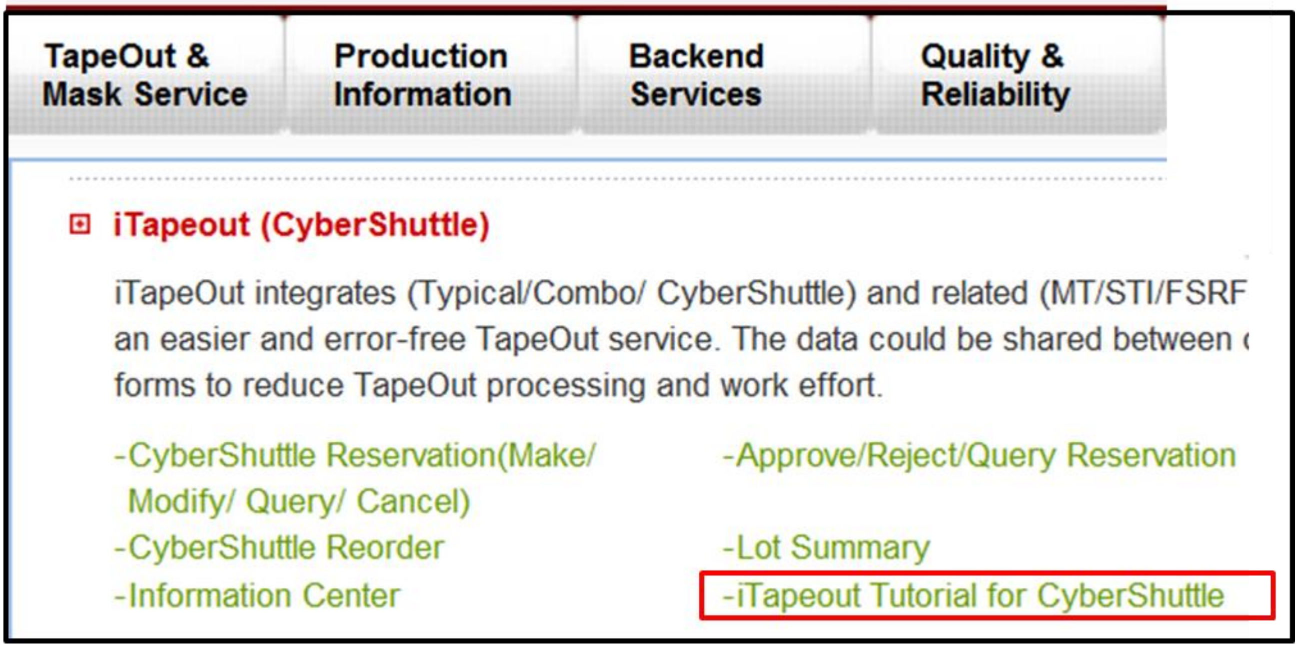
Yes, you can contact your account manager and the shuttle captain for the revision request. However, please discuss with your account manager the RTO (revised tape out) plan before taking the shuttle if the mask revision is in your plan.



Mask Tooling (MT) Form

MT Form ID	Project Name	Fab	Chip Type / Device Count	IP Merge	Status
MT-TMEE01_C99-001	5v	FAB3	MPW / 1	No	Available for RTO

To fill-in RTO form, you can refer to TSMC on-line iTapeout Tutorial for Cybershuttle



iTapeOut integrates (Typical/Combo/ CyberShuttle) and related (MT/STI/FSRF an easier and error-free TapeOut service. The data could be shared between forms to reduce TapeOut processing and work effort.

- -CyberShuttle Reservation(Make/ Modify/ Query/ Cancel)
- -CyberShuttle Reorder
- -Information Center
- -Approve/Reject/Query Reservation
- -Lot Summary
- -iTapeout Tutorial for CyberShuttle

5. Others

5.1 Can I have my CyberShuttle chips tested at TSMC?

No, TSMC does not offer either chip probing (CP) or final testing (FT) for CyberShuttle samples.

5.2 What if my CyberShuttle tape-out is mis-operated by TSMC? What is the compensation?

When there is mis-operation by TSMC, TSMC will be responsible for the making of new masks and wafers, and compensate customers with another batch of good samples at a super hot run priority.

5.3 When will TSMC scrap CyberShuttle masks/wafers?

CyberShuttle masks and wafers do not belong to any customer. They are owned by TSMC for the purpose of protecting all customers' intellectual properties. Six months after the shipping of samples, the masks and backup wafers will be scrapped.