Semiconductor Product Analysis and Design Enhancement (SPADE) Center

Charging Scheme

EQUIPMENT LIST	BASIC RATE (HK$)
Manual Decapsulation	$160 - $920 / device †
Wet Etch	$150 - $320 / layer ††
ESD Tester	$980 / hour
Confocal Microscope	$980 / hour
Stereomicroscope	$200 / hour *
Liquid Crystal Thermal Analysis	$1,410 / hour
Mechanical Cross-section	$1,050 / hour
Grinding and Polishing	$1,050 / hour
Probe Station	$800 / hour
Active Probe Arm	$350 / hour
General Electrical Instrument (Oscilloscope, Signal Generator, etc.)	$280 / hour *
Curve Tracer	$230 / hour *
Ultrasonic Cleaner	$115 / hour *
Consultation	$575 / hour
Labour **	$400 / hour
Encapsulation	$820 / hour
Manual Wire Bonding (Aluminum)	$460 / hour
Burn-in Oven	$500 (first hour), $30 / hour (subsequent hours)

* No technical assistance provided (self-operate by user)

** Labour charge refers to the technical assistance of using Stereomicroscope, General Electrical Instrument, Curve Tracer and Ultrasonic Cleaner.

Please note that technical assistance will be provided to the above equipment without a "*" or "**".

† Charging rates for manual decapsulation:

COG package – HK$920 / device (remove die from glass panel)
COF package – HK$460 / device (remove die from film)
COB, TAB packages – HK$460 / device
TQFP package (pin count less than 100) – HK$230 / device
QFP package (pin count less than 100) – HK$230 / device
SOIC, DIP, PLCC packages – HK$230 / device
TSOP package (pin count more than 18) – HK$230 / device
SSOP package (pin count more than 20) – HK$230 / device
QFN-5x6 package – HK$310 / device
QFN-3x3 package – HK$460 / device
Micro-8, Micro-10 packages – HK$160 / device

Please note that BGA package and extremely small size packages cannot be successfully decapsulated manually.
Packages not listed above are subject to charge evaluation.
Packages with copper bonding wires are subject to charge evaluation.

†† Charging rates for wet etch delayering (limited to two layer metal device):

Delayering polyimide – HK$320 / layer / device
Delayering dielectric – HK$320 / layer / device
Delayering polysilicon – HK$320 / layer / device
Delayering metal – HK$150 / layer / device

Note:

1. The new charging rate will be effective from **1 Jul 2024**.
2. Office hours of the SPADE Center:
   9:00 a.m. to 5:30 p.m. (Mondays to Fridays) and 9:00 a.m. to 12:00 p.m. (Saturdays)
3. Jobs performed on Sundays and public holidays will be charged at 2 × Basic Rate.
4. Jobs performed during non-office hours (except Sundays and public holidays) of the SPADE Center will be charged at 1.5 × Basic Rate.
5. Except Sundays and public holidays, jobs preempting other jobs on queue will be charged at 1.5 × Basic Rate.
6. All hourly-charged services are charged per 15-minute or part thereof, with a minimum charge of one hour, for each individual service performed within a single day.

Last updated: 1 Jul 2024

SPADE Center webpage: www.ust.hk/spade