

Pin association of next page die photo exactly reflects the die position mounted on the island of the base ribbon.

9 1a	19 2a	29 3a	39 4a	49 5a	59 6a	
8 19	18 29	28 39	38 49	48 59	58 69	
7 18	17 28	27 38	37 48	47 58	57 68	
6 17	16 27	26 37	36 47	46 57	56 67	
5 16	15 26	25 36	35 46	45 56	55 66	
4 15	14 25	24 35	34 45	44 55	54 65	
3 14	13 24	23 34	33 44	43 54	53 64	
2 13	12 23	22 33	32 43	42 53	52 63	
1 12	11 22	21 32	31 42	41 52	51 62	
0 11	10 21	20 31	30 41	40 51	50 61	
Hugin Stack# vs. Coordinate						
(18  MP x  60 (6  x  10)  Sectional Photos)						

## Micrograph Library

I am introducing total 25 die micrographs I made.

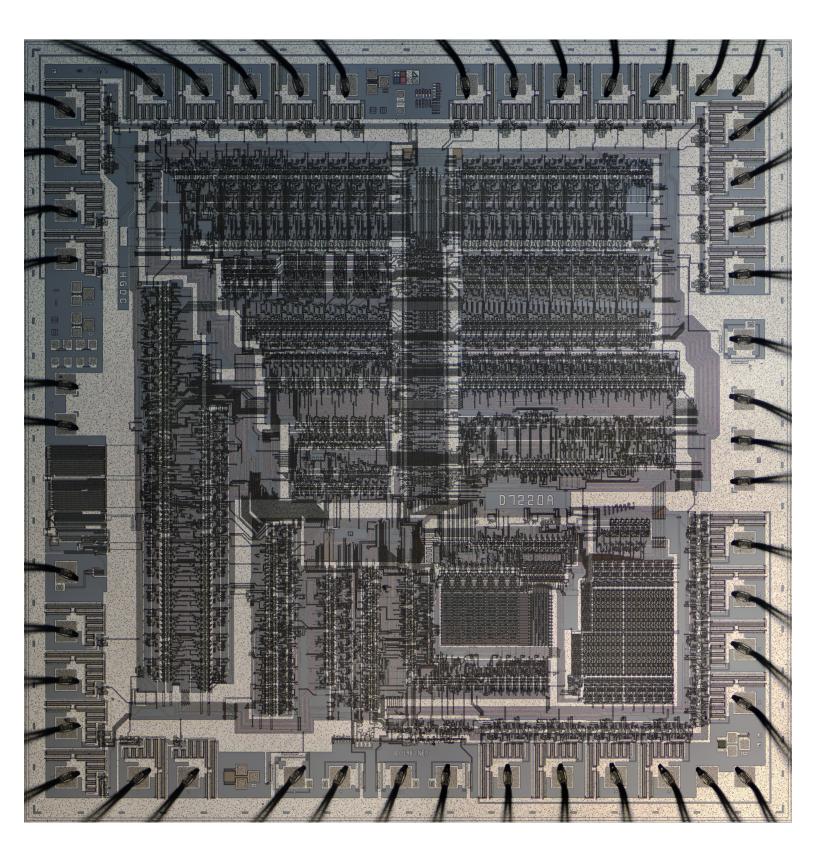
When zooming die micrograph using a smart phone or tablet, you possibly experience limited maximum available zoom factor (up to 2x), slow zooming speed, and sometimes freeze because of the factors such as slow CPU, insufficient main memory capacity, and simplified PDF viewer installed.

I recommend using a desk-top PC with large monitor TV (40''), fast CPU (i7), big capacity of main memory (32/16 GB), and fast GPU (8 GB) if possible.

Design company	Manufacturing company	Product name	Function	
NEC		<u>µPD282D</u>	12 Digit Desk-top Calculator (ALU, Registers, etc. ) <tetsuji oguchi=""></tetsuji>	
		<u>µPD941C</u>	Single-chip 8 Digit 0 memory Desk-top Calculator <tetsuji oguchi=""></tetsuji>	
		<u>µPD946C</u>	Single-chip 8 Digit 1 memory Desk-top Calculator	
		µPD1201C	Single-chip 12 Digit 1 memory Desk-top Calculator with Printer Con <tetsuji oguchi=""></tetsuji>	
		<u>µPD777D</u>	Single-chip Television Game Processor <tetsuji &="" oguchi="" oura="" toshio=""></tetsuji>	
		<u>µPD777C</u>		
		<u>µPD7220AD</u>	Graphics Display Controller (GDC) <tetsuji oguchi=""></tetsuji>	
NEC	Intel	<u>iD82720</u>	Graphics Display Controller (GDC) - License manufacturing (Second source) of µPD7220	
NEC		<u>µPD72120L</u>	Advanced Graphics Display Controller (AGDC) < Tetsuji Oguchi, et al.>	
		<u>µPD765C</u>	Floppy Disk Controller {NEC Fuchu Peripheral Equipment Division}	
		<u>µPD7720AD</u>	Signal Processor {NEC Central Research}	
		μPD277	Single-chip 8 Digit 1 memory Desk-top Calculator <toshio oura=""></toshio>	
Casio	NEC	<u>µPD977</u>	Single-chip 8 Digit 1 memory Desk-top Calculator	
		<u>µPD871B</u>	Digital watch	
		<u>µPD873G</u>		
Intel		<u>8080A</u>	8 bit Microprocessor	
		<u>8085A</u>		
		<u>iD8086</u>	16 bit Microprocessor	
Intel -	NEC	µPD8086D	16 bit Microprocessor - Reverse engineering of iD8086	
	Oki	<u>80C86A</u>	16 bit Microprocessor - License manufacturing (Second source) of iD8086	
Zilog		<u>84C00</u>	8 bit Microprocessor (Z80)	
Nintendo	Ricoh	<u>RP2C02</u>	Television Game Processor (Family Computer with RP2A03)	
Motorola	Ricoh	<u>RP2A03</u>	8 bit Microprocessor - Reverse engineering of Motorola 6800	
	Motorola	<u>68000</u>	16 bit Microprocessor (Apple Macintosh)	
	TI <u>TMS991</u>		Television Game Processor (Multiple chips)	

{}; Architectural design by

<>; Architectural & Logic design by



µPD7220A 20x Die Photo 15709 x 16000 (251MP) 6400% (64x) Tolerant Synthesized by Hugin