

IRM selection guide

2022/04/20

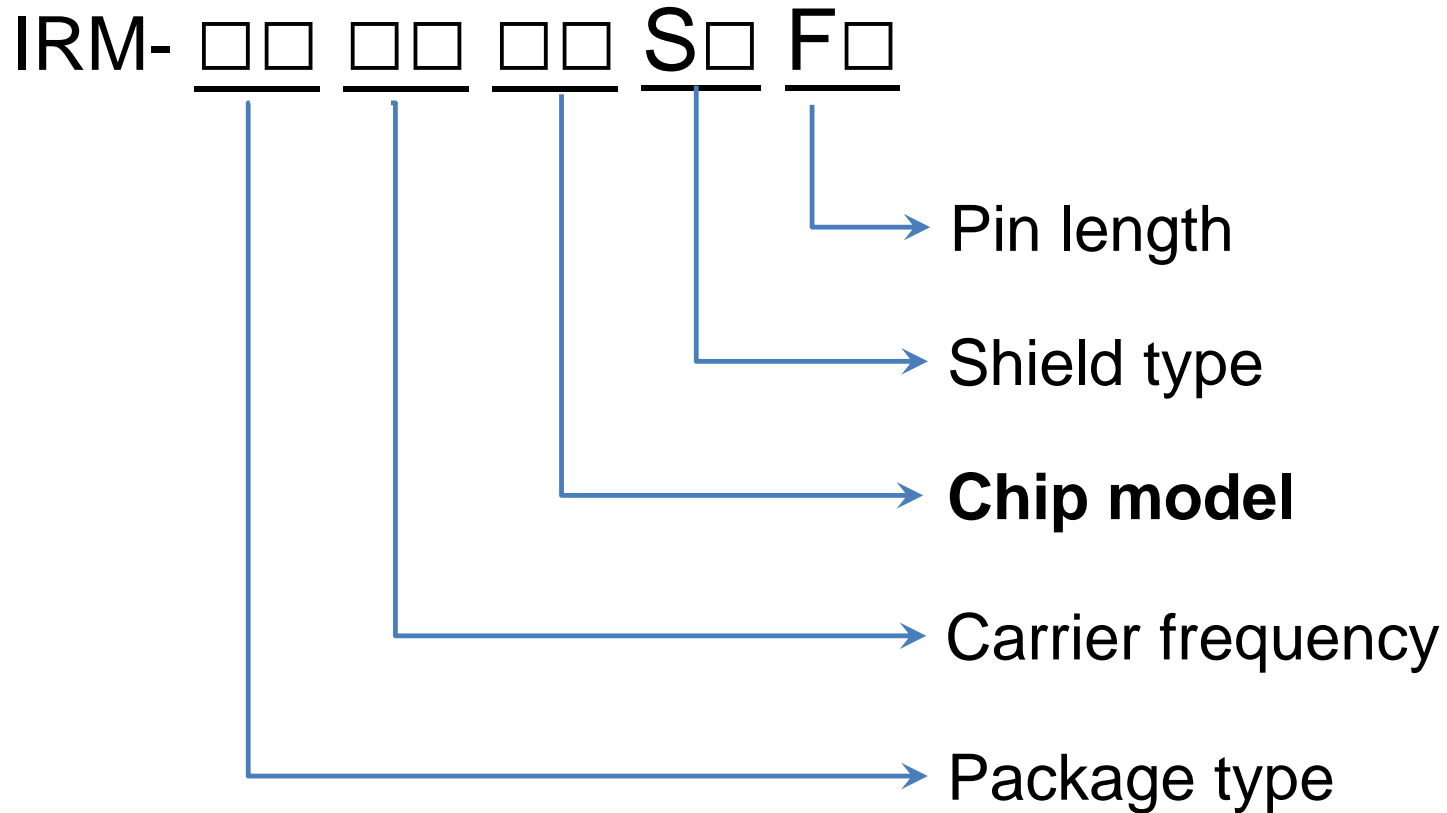
RDOEFA

Ver: 1.8

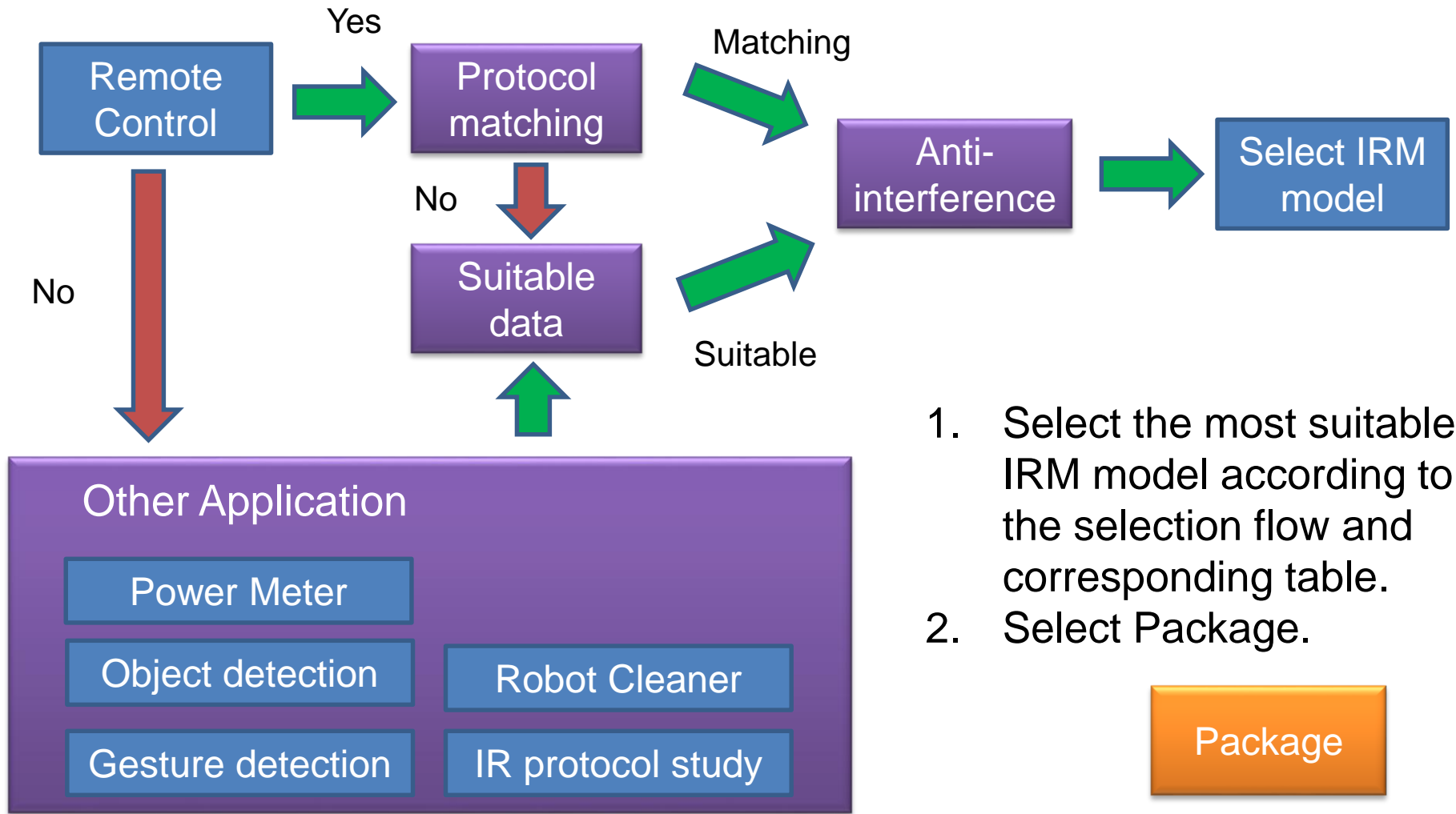
www.everlight.com

EVERLIGHT

IRM Naming Rule



Chip Model Selection Flow



Protocol matching (1/3)

Protocol \ chip model	J	J2	J7	J8	J9
NEC	O	O	O	O	O
Toshiba	O	O	O	O	O
RCA	X	X	O	X	X
RC5 / RC6	O	O	O	O	O
Sony 12 Bit	O	O	O	O	X
Sony 15/20 Bit	X	O	O	X	X
Sharp	O	O	O	O	X
RCMM ¹⁾	X	X	X	X	X
XMPX1 ¹⁾	X	X	X	X	X
RECS-80	X	O	X	X	X
Xiaomi (Mi)	X	X	O	X	X
Continuous Data (Condition)	X	X	O >0.8 x actual_Burst	X	X

O...suitable, X...not recommended

1) Due to tight decoding margin, issues might occur under short or far distance

Protocol matching (2/3)

Protocol \ chip model	J10	J11	J12	J13	J14	JF
NEC	O	O	O	O	O	O
Toshiba	O	O	O	O	O	O
RCA	O	O	O	O	O	O
RC5 / RC6	O	O	O	O	O	O
Sony 12 Bit	O	X	O	X	X	O
Sony 15/20 Bit	O	X	O	X	X	O
Sharp	O	O	X	O	O	O
RCMM ¹⁾	X	X	X	X	O	X
XMPX1 ¹⁾	X	X	X	X	O	O
RECS-80	X	O	X	X	O	X
Xiaomi (Mi)	O	X	O	X	O	O
Continuous Data (Condition)	O >0.8 x actual_Burst	O Burst ≤ 700us	O >0.5 x actual_Burst	O Burst ≤ 700us	O Burst ≤ 700us	O Unlimited

O...suitable, X...not recommended

1) Due to tight decoding margin, issues might occur under short or far distance

Protocol matching (3/3)

Protocol \ chip model	J15	J16	T	M	M2	M3	M6
NEC	O	O	O	O	O	O	O
Toshiba	O	O	O	O	O	O	O
RCA	X	O	X	O	X	X	O
RC5 / RC6	O	O	O	O	O	O	O
Sony 12 Bit	O	O	O	O	O	O	O
Sony 15/20 Bit	X	O	X	X	O	X	O
Sharp	O	O	O	X	X	O	O
RCMM ¹⁾	X	X	X	X	X	X	X
XMPX1 ¹⁾	X	X	X	X	X	X	X
RECS-80	X	X	X	O	X	X	O
Xiaomi (Mi)	X	O	X	X	O	X	O
Continuous Data (Condition)	X	O >0.8 x actual_Burst	X	O Burst ≤ 500us	O Burst ≤ 1.2ms	X	X

O...suitable, X...not recommended

1) Due to tight decoding margin, issues might occur under short or far distance

Suitable data (1/2)

	J	J2	J7	J8	J9
Min. burst time (us)	300	150	300	250	300
Min. gap time (us)	350	275	350	300	350
Min. pause time (ms)	25	9	1 ($>0.8 \times$ actual_Burst)	25	40

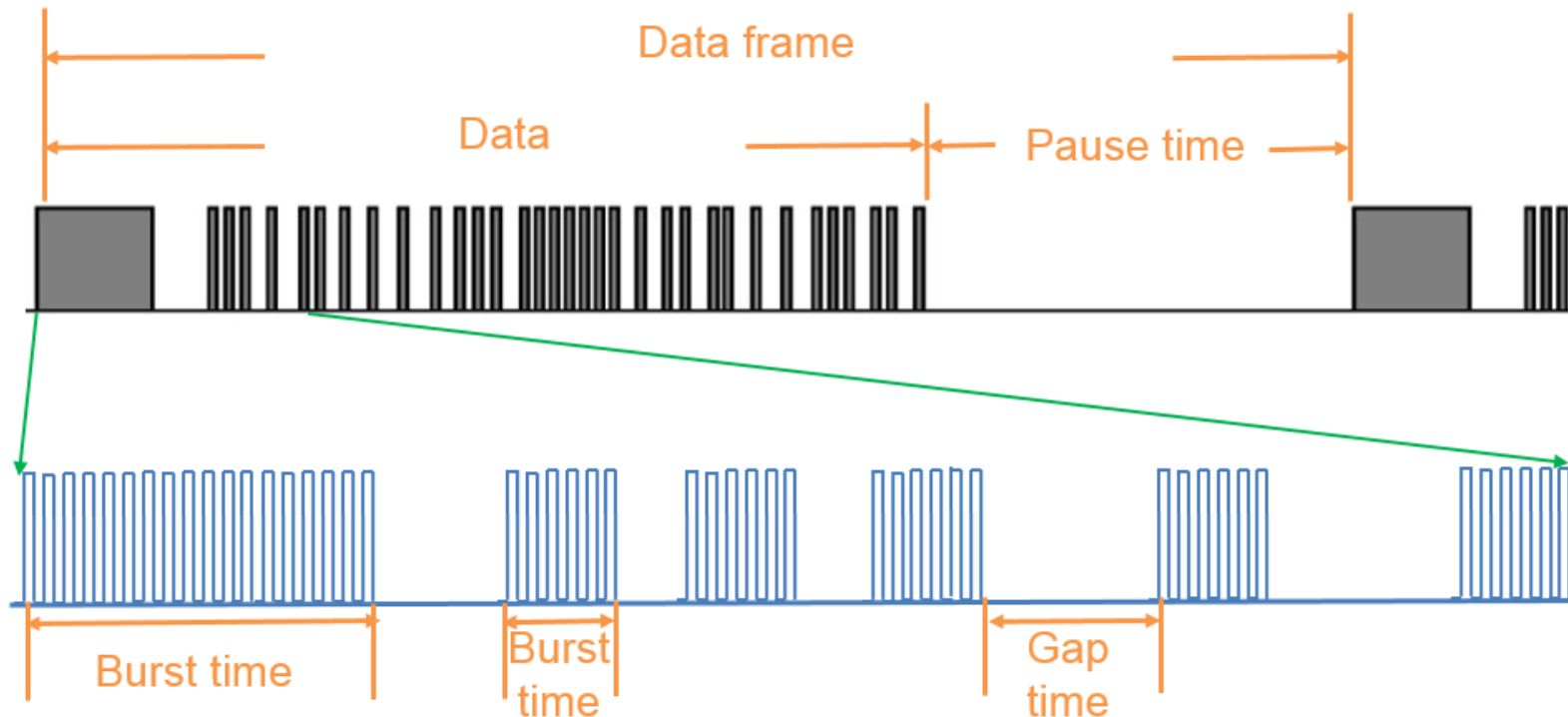
	J10	J11	J12	J13	JF
Min. burst time (us)	350	150	350	300	200
Min. gap time (us)	400	300	400	350	300
Min. pause time (ms)	1 ($>0.8 \times$ actual_Burst)	>0.3 (Burst \leq 700us)	>0.83 ($>0.5 \times$ actual_Burst)	>0.35 (Burst \leq 700us)	0

Suitable data (2/2)

	J14	J15	J16
Min. burst time (us)	150	300	300
Min. gap time (us)	275	350	350
Min. pause time (ms)	>0.275 (Burst ≤ 700us)	25	(>0.8 x actual_Burst)

	T	M	M2	M3	M6
Min. burst time (us)	265	160	265	210	160
Min. gap time (us)	370	265	370	320	265
Min. pause time (ms)	22	1 (Burst ≤ 500us)	1 (Burst ≤ 1.2ms)	22	30 (Burst ≤ 1.2ms)

Noun definition



For detailed instructions, please refer to the IRM application Note.

Anti-interference(1/2)

interference	J	J2	J7	J8	J9
Incandescent	-	-	++	-	+
Fluorescent	+	+	+	+	+
Wifi	++	-	++	++	++
VCC Ripple	++	++	++	++	++

interference	J10	J11	J12	J13	JF
Incandescent	++	+	+	+	-
Fluorescent	+	+	++	++	+
Wifi	++	-	++	++	++
VCC Ripple	-	+	++	+	-

++ : Best suppression, + : suppression in most case , - : possibility of noise pulses

Anti-interference(2/2)

interference	J14	J15	J16
Incandescent	+	+	+
Fluorescent	+	++	++
Wifi	++	++	++
VCC Ripple	++	++	++

interference	T	M	M2	M3	M6
Incandescent	+	-	+	-	++
Fluorescent	+	+	+	++	-
Wifi	+	+	++	+	-
VCC Ripple	++	-	-	+	-

++ : Best suppression, + : suppression in most case , - : possibility of noise pulses

Other Application

Application	Chip model	Note
Power Meter (Continuous transmission)	J12, JF	JF: needn't Pause time J12 : High sensitivity
Object/Gesture detection	J, JF	JF: Better consistency and needn't Pause time.
Robot Cleaner	J10, JF	JF: Better consistency.
IR protocol study	JW, JF	JW : Carrier wave output(without Demodulator) JF : With Demodulator

Package of IRM

Selection
Flow

Dip

IRM-36xx / 35xx series

- IRM-36xx (Vout-GND-Vcc)
- IRM-35xx (Vout-Vcc-GND)

IRM-66xx series

- IRM-66xx (Vout-GND-Vcc)

IRM-86xx series

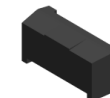
- IRM-86xx (Vout-GND-Vcc)



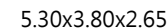
SMD

IRM-V Series : side view

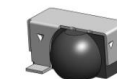
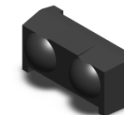
- IRM-V3xx



- IRM-V5xx



- IRM-V8xx

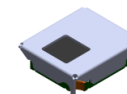


6.60x3.00x3.20

IRM-H Series : top view

- IRM-H2xx

5.10x4.60x1.45



- IRM-H3xx



6.60x3.00x2.50

- IRM-H5xx

5.30x2.90x3.65



- IRM-H6xx



5.00x4.00x4.00

- IRM-H8xx

6.60x3.00x3.20



- IRM-H9xx



5.00x4.00x2.00