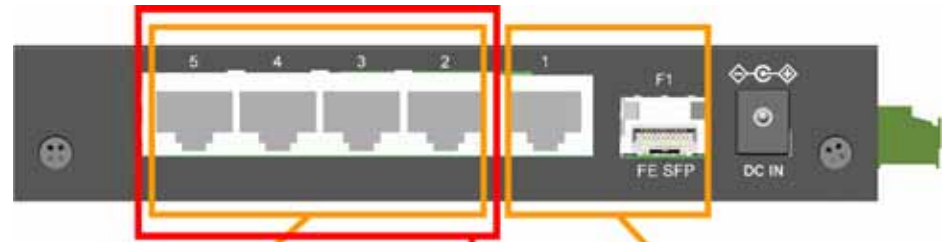


KSD-541-P

NEMA TS 2-2003 Environment Test



Copper Ports

- 10/100 Mbps RJ-45 support
- Auto-negotiation, Auto-MDI/MDI-X

Fiber Port (combo with RJ-45)

- 100 Mbps SFP support
- Far End Fault

PSE Ports (KSD-541-P only)

- Power delivery 15.4W max.

NEMA TS 2-2003 Environment

NEMA TS2 Standard sets the environmental requirements for traffic control equipment.

Temperature & Humidity Test (TS 2-2003 v02.06 by 2.1.5)

Temperature range: -34 ~ +74oC, Humidity: 10% ~ 90%

Input power voltage: depending on device design (KSD-541-P +6 ~ 60V)

Vibration Test (TS 2-2003 v02.06 by 2.2.3)

Frequency: 5 ~ 30Hz, Displacement: 0.015", X Y Z axis

Frequency: 5 ~ 30Hz, Acceleration: 0.5G, X Y Z axis

Mechanical shock Test (TS 2-2003 v02.06 by 2.2.4)

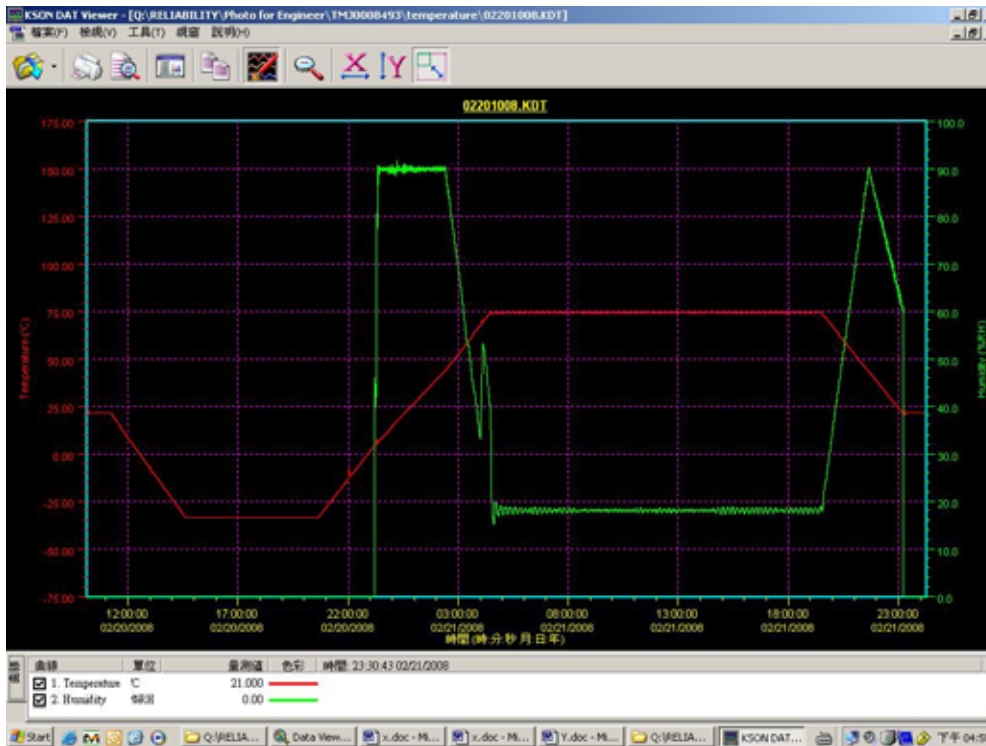
Acceleration: 10G, X Y Z axis, 3 shocks

Temperature & Humidity Test

*KSD-541-P is tested under full load operating.

*Standard by TS 2-2003 v02.06 2.2.7.3-2.2.7.7

*The operating voltage range is defined as max.=60V, min.=6V.

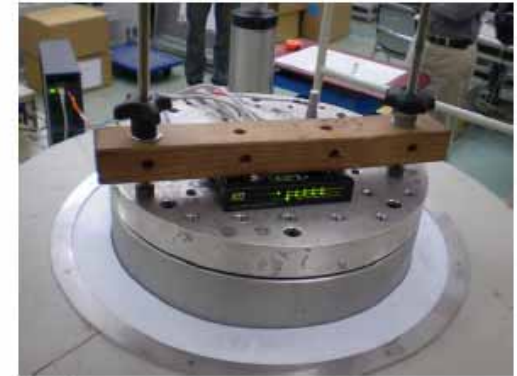
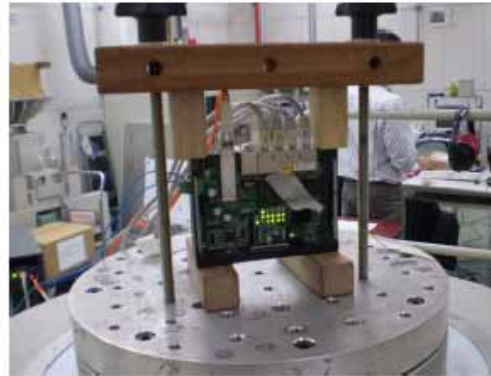


TEST	TEMPERATURE (°C)	HUMIDITY (%RH)	INPUT VOLTAGE	DURATION (HOUR)
1	21	OFF	7.5V	1.00
2	21 to -34	OFF	6V	3.24
3	-34	OFF	6V	5.00
4	-34	OFF	60V	1.00
5	-34 to 74	4.4 °C / 75% 43.3 °C / 90% 73.9 °C / 18%	60V	6.50
6	74	18%	60V	15.00
7	74 to 21	73.9 °C / 18% 43.3 °C / 90% 21.0 °C / 60%	6V	3.70
8	ROOM	OFF	7.5V	1.00

Vibration Test

*KSD-541-P is tested under full load operating.

*Standard by TS 2-2003 v02.06 2.2.7.8



TEST 1 :

- PULSE SHAPE : SINE WAVE
- FREQUENCY RANGE : 5 Hz TO 30 Hz
- DURATION : 12.5 MINUTE / AXIS
- NUMBER OF CYCLE : 1 CYCLE / AXIS
- DIRECTION : X, Y AND Z AXES
- FREQUENCY RANGE / DISPLACEMENT :

FREQUENCY(Hz)	5	30
DISPLACEMENT(inch)	0.015	0.015

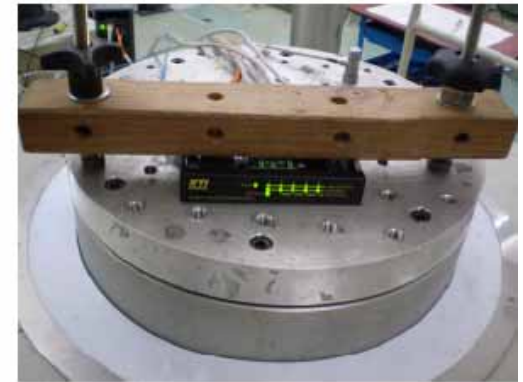
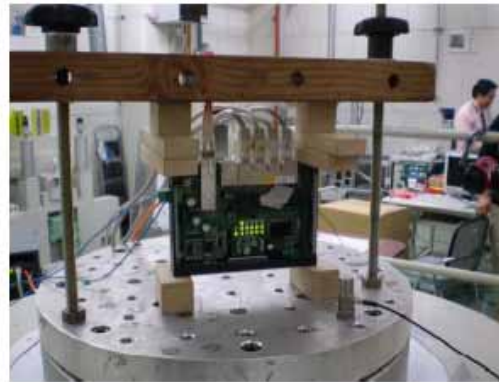
TEST 2 :

- PULSE SHAPE : SINE WAVE
- FREQUENCY RANGE : 5 Hz TO 30 Hz
- ACCELERATION : 0.5 G
- SWEEP RATE : 1 OCTAVE / MINUTE
- DURATION : 60 MINUTE / AXIS
- DIRECTION : X, Y AND Z AXES

Mechanical Shock Test

*KSD-541-P is tested under full load operating.

*Standard by TS 2-2003 v02.06 2.2.7.9



- PULSE SHAPE : HALF-SINE WAVE
- ACCELERATION : 10 G
- PULSE DURATION : 11 ms
- TEST STEP :

TEST STEP	TESTED FACE	SHOCK TIMES
1	X AXIS	3
2	Y AXIS	3
3	Z AXIS	3

Test Result

Test	Result
Temperature & Humidity Test	PASS*
Vibration Test	PASS
Mechanical Shock Test	PASS

*One packet transmission error was found during step 2 test on the fiber port. However, the BER(Bit Error Rate) is still less than KTI's acceptance level 10^{-12} .

Web Information

Product information

(Specifications, Datasheet, Manual, Notes)

Benefits & application

(KSD-541 benefits & application)

Need detailed test report, call Tech Support

(e-mail to : tsd@ktinet.com.tw)