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Please find attached the related material

For your convenience, the below describes the related updates:

For revised/new documentation, please reference 2022-03-04 in the page headings

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E158873-20191202-CertificateofCompliance
E158873-A6001-DescriptionUL
Figure-19-Total
E158873-A6001-TestRecordUL

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Product Type	Model/Type Reference	Report Reference #	Status
Digital Video Recorder	SVR-430	E158873-A2-UL	
Video Presenter	UF-80, UF-80DX, UF-80ST	E158873-A4-UL	
Video Presenter	SVP-5300N	E158873-A5-UL	
Video Presenter	SDP-900DXAN, SDP-950DXAN, SDP-950STAN	E158873-A6-UL	
Video Presenter	SDP-850, SDP-850DX	E158873-A9-UL	
Digital Video Recorder	SVR-1650, SVR-1650E, SVR-1640, SVR-1640E, SVR-950, SVR-950E and SVR-1640A	E158873-A11-UL	
Video Presenter	SDP-6500DXA	E158873-A12-UL	
Video Presenter	UF-130DX	E158873-A14-UL	
Video Presenter	UF-130ST	E158873-A15-UL	
Network Video Recorder	SNR-6400, SNR-3200, SRN-3250, SRN-6450	E158873-A16-UL	
Digital Video Recorder.	SVR-480	E158873-A17-UL	Withdrawn
Video Presenter	SDP-860	E158873-A18-UL	
Digital Video Recorder.	SVR-1670	E158873-A19-UL	
UTP Power Supply Unit	SPU-400	E158873-A20-UL	Withdrawn
Digital Presenter	SDP-760	E158873-A44-UL	
Network Camera	SNP-5300H*, SNP-6201H* (* is Blank or N or P: N = NTSC, P=PAL)	E158873-A45-UL	
Network Camera	SND-7011*, SND-5011*, SND-5061*, SND-7061*, SNV-5010*, SNZ-5200* (* is blank or N or P: N = NTSC, P=PAL)	E158873-A46-UL	
Network Camera	SNP-5300*, SNP-6201* (* is blank or N or P: N = NTSC, P=PAL)	E158873-A47-UL	
Digital Color Camera	SCP-3371H*, SCP-2371H*, SCP-2271H*, SCP-2373H*, SCP-2273H* (* is blank or N or P: N = NTSC, P=PAL)	E158873-A48-UL	
Digital Color Camera	SCP-3371*, SCP-2371*, SCP-2271*, SCP-2373*, SCP-2273* (* is blank or N or P: N = NTSC, P=PAL)	E158873-A49-UL	
Network Camera	SND-7082*, SND-7082F*, SNV-7082* (* is blank or N or P: N = NTSC, P=PAL)	E158873-A50-UL	
Network Camera	SNB-7001*, SNB-5001*, SNB-3002* (* is blank or N or P: N = NTSC, P=PAL)	E158873-A51-UL	
Network Camera	SNO-7082R* (* is blank or N or P: N = NTSC, P=PAL)	E158873-A52-UL	
Network Camera	SNB-7002* (* is blank or N or P: N = NTSC, P=PAL)	E158873-A53-UL	

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DIGITAL COLOR CAMERA	SCV-2010F*, SCD-1020R*, SCD-2080R*, SCD-2020R*, SCD-2010*, SCD-2010B*, SCD-2010F*, SCB-3020*, SCB-3021*, SCB-2010*, SCO-1020R* (* is blank or N or P: N=NTSC, P=PAL)	E158873-A54-UL	
Network Camera	SNB-6004*, SNB-6003*, SNB-5004*, SNB-5003*, SNB-7004*, SNB-6005* (* is blank or N or P: N = NTSC, P=PAL)	E158873-A55-UL	
Network Camera	SND-6084*, SND-6083*, SND-5084*, SND-5083*, SND-7084* (* is blank or N or P: N = NTSC, P=PAL)	E158873-A56-UL	
DIGITAL COLOR CAMERA	SCD-2022*, SCD-2022R*, SCD-2042R* (* is blank or N or P: N = NTSC, P=PAL)	E158873-A58-UL	
Digital Color Camera	SCB-2004*, SCB-2005* (* is blank or N or P: N = NTSC, P=PAL);	E158873-A59-UL	
Digital Color Camera	SCD-2082*, SCV-2082R*, SCV-3083*, SCD-3083* (* is blank or N or P: N = NTSC, P=PAL)	E158873-A60-UL	
Network Camera	SND-6084R*, SND-7084R*, SND-5084R* (* is blank or N or P: N = NTSC, P=PAL)	E158873-A61-UL	
NETWORK CAMERA	SNO-6084R*. SNO-7084R* (* is blank or N or P: N = NTSC, P=PAL)	E158873-A62-UL	
Network Camera	SNV-6084R*, SNV-6084*, SNV-5084*, SNV-7084*, SNV-7084R*, SNV-5084R*, SNV-6084T* (* is blank or N or P: N = NTSC, P=PAL)	E158873-A63-UL	
Digital Color Camera	SCO-2081R* (* is blank or N or P: N = NTSC, P=PAL)	E158873-A64-UL	
DIGITAL COLOR CAMERA	SCB-2004*D, SCB-2005*D (* is blank or N or P: N = NTSC, P=PAL)	E158873-A65-UL	
DIGITAL VIDEO RECORDER	SRD-1673D*, SRD-1654D*, SRD-854D*, SRD-852D*, SRD-1673*, SRD-1653*, SRD-873*, SRD-1640*, SRD-840*(* is blank or N or P, N=NTSC / P=PAL)	E158873-A66-UL	
Network Camera	SNP-6200RH*, SCP-2370RH* (* is blank or N or P: N=NTSC,P=PAL)	E158873-A67-UL	
Network Camera	SNV-6012M* (* is blank or N or P: N = NTSC, P=PAL)	E158873-A68-UL	
Network Camera	SNF-7010*, SNF-7010V*, SNF-7010VM* (* is blank or N or P: N = NTSC, P=PAL)	E158873-A69-UL	

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Network Camera	SNO-6011R* (* is blank or N or P: N = NTSC, P=PAL)	E158873-A72-UL	
Network Camera	SND-6011R* (* is blank or N or P: N = NTSC, P=PAL)	E158873-A73-UL	
Digital Video Recorder	SRD-1680D*, SRD-880D* (* is blank or N or P : N=NTSC, P=PAL)	E158873-A74-UL	
DIGITAL COLOR CAMERA	SCZ-2373*, SCZ-2273* (* is blank or N or P: N = NTSC, P=PAL)	E158873-A75-UL	
NETWORK CAMERA	SCO-6081R* (* is blank or N or P: N = NTSC, P=PAL)	E158873-A76-UL	
DIGITAL COLOR CAMERA	SCV-6081R* and SCD-6081R* (* is blank or N or P: N = NTSC, P=PAL)	E158873-A77-UL	
NETWORK VIDEO RECORDER	SRN-4000	E158873-A78-UL	
DIGITAL COLOR CAMERA	SCD-6021* (* is blank or N or P: N = NTSC, P=PAL)	E158873-A81-UL	
NETWORK CAMERA	SNV-6013* (* is blank or N or P: N = NTSC, P=PAL)	E158873-A83-UL	
NETWORK CAMERA	SNB-6010*, SNB-6010A*, SNB-6011*, SNB-6010B*, SNB-6011B* (* is blank or N or P: N = NTSC, P=PAL)	E158873-A85-UL	
NETWORK CAMERA	SNP-6320H*, SNP-5430H* (* is blank or N or P: N = NTSC, P=PAL)	E158873-A86-UL	
NETWORK CAMERA	SNP-6320*, SNP-5430* (* is blank or N or P: N = NTSC, P=PAL)	E158873-A87-UL	
Network Video Recorder	SRN-472S, XRN-810S* (* is blank or N or P: N = NTSC, P=PAL)	E158873-A88-UL	
Digital Video Recorder	SRD-1676D*, SRD-1656D*, SRD-876D* (* is blank or N or P, N=NTSC/ P=PAL)	E158873-A89-UL	
DIGITAL COLOR CAMERA	SCB-5000* (* is blank or N or P: N = NTSC, P=PAL)	E158873-A90-UL	
DIGITAL COLOR CAMERA	SCB-5000*D (* is blank or N or P: N = NTSC, P=PAL)	E158873-A91-UL	
DIGITAL COLOR CAMERA	SCD-5080* (* is blank or N or P: N = NTSC, P=PAL)	E158873-A92-UL	
DIGITAL COLOR CAMERA	SCB-5003*, SCB-5005*, HCB-6001* (* is blank or N or P: N = NTSC, P=PAL)	E158873-A94-UL	
DIGITAL COLOR CAMERA	SCV-5082* (* is blank or N or P: N = NTSC, P=PAL)	E158873-A95-UL	
DIGITAL COLOR CAMERA	SCD-5083*, SCD-5083R*, SCD-5082*, SCD-5083B*, SCD-5081R* (* is blank or N or P: N = NTSC, P=PAL)	E158873-A96-UL	
DIGITAL COLOR CAMERA	SCV-5083* (* is blank or N or P: N = NTSC, P=PAL)	E158873-A97-UL	

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	SCV-5083R* (* is blank or N or P: N = NTSC, P=PAL) SCV-5081R* (* is blank or N or P: N = NTSC, P=PAL)		
NETWORK CAMERA	SNF-8010VM*, SNF-8010* (* is blank or N or P: N = NTSC, P=PAL)	E158873-A98-UL	
DIGITAL COLOR CAMERA	SCD-5030*, SCD-5020* (* is blank or N or P: N = NTSC, P=PAL)	E158873-A99-UL	
NETWORK CAMERA	SNO-5084R* (* is blank or N or P: N = NTSC, P=PAL)	E158873-A100-UL	
DIGITAL COLOR CAMERA	SCO-5083R*, SCO-5081R* (* is blank or N or P: N = NTSC, P=PAL)	E158873-A101-UL	
NETWORK CAMERA	SNP-6321*, SNP-L6233* (* is blank or N or P: N = NTSC, P=PAL)	E158873-A102-UL	
NETWORK CAMERA	SNP-6321H*, SNP-L6233H* (* is blank or N or P: N = NTSC, P=PAL)	E158873-A103-UL	
DIGITAL COLOR CAMERA	SCV-5085* (* is blank or N or P: N = NTSC, P=PAL)	E158873-A104-UL	
NETWORK CAMERA	SNB-8000* (* is blank or N or P: N = NTSC, P=PAL)	E158873-A105-UL	
NETWORK CAMERA	SNV-8080* (* is blank or N or P: N = NTSC, P=PAL)	E158873-A106-UL	
NETWORK CAMERA	SNZ-6320	E158873-A107-UL	
NETWORK CAMERA	SNP-6320RH*, SNP-L6233RH* (* is blank or N or P: N=NTSC,P=PAL)	E158873-A108-UL	
NETWORK CAMERA	SNP-5321H*, SNP-L5233H* (* is blank or N or P: N = NTSC, P=PAL)	E158873-A109-UL	
NETWORK CAMERA	SNP-5321*, SNP-L5233* (* is blank or N: NTSC or P:PAL)	E158873-A110-UL	
NETWORK CAMERA	SND-L6013R*, SND-L6013*, SND-L6012*, SND-L5013* (* is blank or N or P: N:NTSC/P:PAL)	E158873-A111-UL	
NETWORK CAMERA	SNO-L6083R*, SNO-L5083R* (* is blank or N or P: N = NTSC, P=PAL)	E158873-A113-UL	
Network Video Recorder	SRN-1673S*(* is blank or N or P: N = NTSC, P=PAL)	E158873-A115-UL	
NETWORK CAMERA	SNO-L6013R* (* is blank or N or P: N = NTSC, P=PAL)	E158873-A118-UL	
NETWORK CAMERA	SND-L6083R*, SND-L5083R* (* is blank or N or P: N = NTSC, P=PAL)	E158873-A119-UL	
Network Video Recorder	SRN-873S* (* is blank or N or P: N = NTSC, P=PAL)	E158873-A120-UL	

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NETWORK CAMERA	SNV-L6083R*, SNV-L5083R* (* is blank or N or P: N = NTSC, P=PAL)	E158873-A121-UL	
NETWORK CAMERA	SNB-9000* (* is blank or N or P: N = NTSC, P=PAL)	E158873-A122-UL	
Optical PTZ Accessary	SBP-301HF	E158873-A125-UL	
Optical PTZ Accessary	SBP-300HF	E158873-A126-UL	
NETWORK CAMERA	SNV-8081R* (* is Blank or N or P: N = NTSC, P=PAL)	E158873-A127-UL	
NETWORK CAMERA	SNO-8081R* (* is blank or N or P: N = NTSC, P=PAL)	E158873-A128-UL	
NETWORK CAMERA	SNV-6085R* (* is blank or N or P: N = NTSC, P=PAL) SNV-6085* (* is blank or N or P: N = NTSC, P=PAL)	E158873-A129-UL	
DIGITAL COLOR CAMERA	SCB-6003* (* is blank or N or P: N = NTSC, P=PAL)	E158873-A130-UL	
DIGITAL COLOR CAMERA	SCO-6023R* (* is blank or N or P: N = NTSC, P=PAL)	E158873-A132-UL	
DIGITAL COLOR CAMERA	SCV-6083R* (* is blank or N or P: N = NTSC, P=PAL)	E158873-A133-UL	
DIGITAL COLOR CAMERA	SCV-6023R* (* is blank or N or P: N = NTSC, P=PAL)	E158873-A135-UL	
DIGITAL COLOR CAMERA	SCD-6023R*, SCD-6013* (* is blank or N or P: N = NTSC, P=PAL)	E158873-A136-UL	
DIGITAL COLOR CAMERA	SCD-6083R* (* is blank or N or P: N = NTSC, P=PAL)	E158873-A137-UL	
DIGITAL COLOR CAMERA	SCO-6083R*(* is blank or N or P: N = NTSC, P=PAL)	E158873-A138-UL	
NETWORK CAMERA	SNV-L6014RM*, SNV-L6013R* (* is blank or N or P: N = NTSC, P=PAL)	E158873-A139-UL	
DIGITAL COLOR CAMERA	PNO-9080R* (* is blank or N or P: N = NTSC, P=PAL)	E158873-A140-UL	
NETWORK CAMERA	PNV-9080R* (* is blank or N or P: N = NTSC, P=PAL)	E158873-A141-UL	
NETWORK CAMERA	PND-9080R* (* is blank or N or P: N = NTSC, P=PAL)	E158873-A142-UL	
Digital Video Recorder	SRD-1685*, SRD-894*, HRD-842* (* is blank or N or P, N=NTSC/ P=PAL)	E158873-A143-UL	
Digital Video Recorder	SRD-1694*, HRD-1642* (* is blank or N or P, N=NTSC/ P=PAL)	E158873-A144-UL	
Network Video Recorder (NVR)	XRN-2011*, XRN-2010*, XRN-3010*, XRN-1610* (* is blank or N or P: N=NTSC, P=PAL) XRN-2010P/DM, XRN-3010P/DM, XRN-3010A, XRN-2011A, XRN-2010A, XRN-1610A	E158873-A146-UL	
NETWORK CAMERA	QNO-7030R*, QNO-7020R*, QNO-7010R*, QNO-6030R*,	E158873-A147-UL	

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	QNO-6020R*, QNO-6010R*, QNO-6070R*, QNO-7080R*, QNO-6071R* (* is blank or N or P: N = NTSC, P=PAL)		
NETWORK CAMERA	QND-7030R*, QND-7020R*, QND-7010R*, QND-6030R*, QND-6020R*, QND-6010R*, QND-6070R*, QND-7080R* (* is blank or N or P: N = NTSC, P=PAL)	E158873-A148-UL	
NETWORK CAMERA	QNV-7030R*, QNV-7020R*, QNV-7010R*, QNV-6030R*, QNV-6020R*, QNV-6010R*, QNV-6070R*, QNV-7080R* (* is blank or N or P: N = NTSC, P=PAL)	E158873-A149-UL	
Network Video Recorder	XRN-1610S* (* is blank or N or P: N=NTSC, P=PAL) XRN-1610SP/DM, XRN-1610SA	E158873-A150-UL	
NETWORK CAMERA	PNF-9010RV*, PNF-9010R*, PNF-9010RVM* (* is blank or N or P: N = NTSC, P=PAL)	E158873-A151-UL	
NETWORK CAMERA	PNM-9020V* (* is blank or N or P: N = NTSC, P=PAL)	E158873-A152-UL	
Network Video Recorder	PRN-4011* (* is blank or N or P: N=NTSC, P=PAL)	E158873-A153-UL	
DIGITAL COLOR CAMERA	HCP-6320*, HCP-6320A*, HCP- 6230* (* is blank or N or P: N = NTSC, P=PAL)	E158873-A154-UL	
DIGITAL COLOR CAMERA	HCP-6320H*, HCP-6320HA*, HCP-6230H* (* is blank or N or P: N = NTSC, P=PAL)	E158873-A155-UL	
NETWORK CAMERA	PNP-9200RH*, XNP-6370RH*, XNP-6330RH* (* is blank or N or P: N=NT, P=PAL)	E158873-A156-UL	
NETWORK CAMERA	XNB-8000*, XNB-6000* (* is blank or N or P: N = NTSC, P=PAL)	E158873-A157-UL	
NETWORK CAMERA	XNO-8080R*, XNO-6080R*, XNO-6120R* (* is blank or N or P: N = NTSC, P=PAL)	E158873-A158-UL	
NETWORK CAMERA	XNV-8040R*, XNV-8030R*, XNV-8020R*, XNV-6020*, XNV- 6010*, XNV-6020R* (* is blank or N or P: N = NTSC, P=PAL)	E158873-A159-UL	
NETWORK CAMERA	XND-8040R*, XND-8030R*, XND-8020R*, XND-6020*, XND- 6010*, XND-6020R* (* is blank or N or P: N = NTSC, P=PAL)	E158873-A160-UL	
NETWORK CAMERA	XNV-8080R*, XNV-6080R*, XNV-6080*, XNV-6120R*, XNV- 6120* (* is blank or N or P: N = NTSC, P=PAL), XNV-8080RS, XNV-6080RS, XNV-6120RS,	E158873-A161-UL	

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	XNV-6120RSA, XNV-6080RSA, XNV-8080RSA		
NETWORK CAMERA	XND-8080RV*, XND-8080R*, XND-6080RV*, XND-6080R*, XND-6080V*, XND-6080* (* is blank or N or P: N = NTSC, P=PAL)	E158873-A162-UL	
AHD Multi Directional Camera	HCM-9020VQ* (* is blank or N or P: N = NTSC, P=PAL)	E158873-A163-UL	
NETWORK CAMERA	XNO-8020R*, XNO-8030R*, XNO-8040R*, XNO-6010R*, XNO-6020R* (* is blank or N or P: N = NTSC, P=PAL)	E158873-A164-UL	
NETWORK CAMERA	XNV-6011* (* is blank or N or P: N = NTSC, P=PAL)	E158873-A165-UL	
DIGITAL COLOR CAMERA	HCD-6080R*, HCD-6070R*, SCD-6085R* (* is blank or N or P: N = NTSC, P=PAL)	E158873-A167-UL	
DIGITAL COLOR CAMERA	HCV-6080R*, HCV-6070R*, SCV-6085R* (* is blank or N or P: N = NTSC, P=PAL)	E158873-A168-UL	
NETWORK CAMERA	XNP-6120H* (* is blank or N or P: N = NTSC, P=PAL)	E158873-A169-UL	
NETWORK CAMERA	XND-8020F*, XND-6011F* (* is blank or N or P: N = NTSC, P=PAL)	E158873-A170-UL	
NETWORK CAMERA	PNM-9080VQ* (* is blank or N or P: N = NTSC, P = PAL)	E158873-A172-UL	
Network Storage	SRB-160S	E158873-A173-UL	
NETWORK CAMERA	TNB-6030* (* is blank or N or P: N = NTSC, P = PAL)	E158873-A174-UL	
NETWORK CAMERA	PNM-9081VQ* (* is blank or N or P: N = NTSC, P = PAL)	E158873-A176-UL	
NETWORK CAMERA	XNO-6085R* (* is blank or N or P: N = NTSC, P=PAL)	E158873-A177-UL	
NETWORK CAMERA	XNB-6005* (* is blank or N or P: N = NTSC, P=PAL)	E158873-A178-UL	
NETWORK VIDEO RECORDER	SNR-D5401N	E158873-A179-UL	
NETWORK CAMERA	XND-6085*, XND-6085V* (* is blank or N or P: N = NTSC, P=PAL)	E158873-A180-UL	
NETWORK CAMERA	XNV-6085* (* is blank or N or P: N = NTSC, P=PAL)	E158873-A181-UL	
NETWORK CAMERA	XNP-6040H* (* is blank or N or P: N = NTSC, P=PAL)	E158873-A182-UL	
NETWORK VIDEO DECODER	SPD-150* (* is blank or N or P: N = NTSC, P=PAL), SPD-151	E158873-A184-UL	
DIGITAL COLOR CAMERA	HCB-6000*, HCB-7000*, SCB-6005* (* is blank or N or P: N = NTSC, P=PAL)	E158873-A185-UL	
DIGITAL COLOR CAMERA	HCZ-6320*, HCZ-6321* (* is blank or N or P: N = NTSC, P=PAL)	E158873-A186-UL	

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NETWORK CAMERA	XNF-8010RVM*, XNF-8010RV*, XNF-8010R*, XNF-8010RW, XNF-8010RVMNB (* is blank or N or P: N = NTSC, P=PAL)	E158873-A187-UL	
DIGITAL COLOR CAMERA	HCO-6070R*, HCO-6080R* (* is blank or N or P: N = NTSC, P=PAL)	E158873-A188-UL	
NETWORK CAMERA	XNB-6001* (* is blank or N or P: N = NTSC, P=PAL)	E158873-A189-UL	
DIGITAL COLOR CAMERA	HCO-7070R* (* is blank or N or P: N = NTSC, P=PAL)	E158873-A190-UL	
LENS MODULE	SLA-T2480*, SLA-T2480V*, SLA-T4680*, SLA-T4680V*, SLA-T4680D, SLA-T4680DW, SLA-T4680DS, SLA-T2415, SLA-T2815B, SLA-T2480A, SLA-T2480VA, SLA-T4680A, SLA-T4680VA (* is blank or N or P: N = NTSC, P=PAL)	E158873-A191-UL	
DIGITAL COLOR CAMERA	HCD-7070R* (* is blank or N or P: N = NTSC, P=PAL)	E158873-A192-UL	
DIGITAL COLOR CAMERA	HCV-7070R* (* is blank or N or P: N = NTSC, P=PAL)	E158873-A193-UL	
NETWORK VIDEO RECORDER	TRM-1610S	E158873-A194-UL	
LENS MODULE	SLA-T1080F*, SLA-T1080FA (* is blank or N or P: N = NTSC, P=PAL)	E158873-A195-UL	
NETWORK SWITCH	SPN-10080P, SPN-10080PM	E158873-A196-UL	
ANALOG CAMERA	HCV-7010R*, HCV-7020R*, HCV-7030R* (* is blank or N or P: N = NTSC, P=PAL)	E158873-A197-UL	
DIGITAL COLOR CAMERA	HCD-7010R*, HCD-7020R*, HCD-7030R* (* is blank or N or P: N = NTSC, P=PAL)	E158873-A198-UL	
DIGITAL COLOR CAMERA	HCO-7010R*, HCO-7020R*, HCO-7030R* (* is blank or N or P: N = NTSC, P=PAL)	E158873-A199-UL	
NETWORK CAMERA	XNP-6320, QNP-6230, XNP-6321	E158873-A200-UL	
NETWORK CAMERA	XNP-6320H, XNP-6320HS, QNP-6230H, XNP-6321H	E158873-A201-UL	
NETWORK THERMAL CAMERA	TNO-4050T, TNO-4030T, TNO-4040T	E158873-A202-UL	
NETWORK THERMAL CAMERA	TNO-4051T, TNO-4041T	E158873-A204-UL	
NETWORK CAMERA	XNV-6013M	E158873-A205-UL	
NETWORK CAMERA	XNV-6012M, XNV-6012	E158873-A206-UL	
NETWORK CAMERA	XNV-6022R, XNV-6022RM	E158873-A207-UL	
NETWORK CAMERA	LNO-6070R, LNO-6071R	E158873-A208-UL	
NETWORK CAMERA	LNO-6030R, LNO-6020R, LNO-6010R, LNO-6031R, LNO-	E158873-A209-UL	

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	6021R, LNO-6011R, LNO-6011RW		
NETWORK CAMERA	LVN-6070R, LVN-6071R	E158873-A210-UL	
NETWORK CAMERA	LND-6070R, LND-6071R	E158873-A213-UL	
NETWORK CAMERA	LVN-6030R, LVN-6020R, LVN-6010R, LVN-6031R, LVN-6021R, LVN-6011R	E158873-A214-UL	
NETWORK CAMERA	LND-6030R, LND-6020R, LND-6010R, LND-6031R, LND-6021R, LND-6011R.	E158873-A215-UL	
NETWORK CAMERA	XNV-L6080R, XNV-L6080	E158873-A216-UL	
NETWORK CAMERA	XND-L6080RV, XND-L6080R, XND-L6080V	E158873-A217-UL	
NETWORK CAMERA	XNO-L6080R	E158873-A218-UL	
NETWORK CAMERA	PNM-7000VD	E158873-A220-UL	
NETWORK VIDEO ENCODER	SPE-410, SPE-410A* (* is Blank or N or P, N = NTSC, P = PAL)	E158873-A222-UL	
NETWORK VIDEO ENCODER	SPE-1610, SPE-1610A* (* is Blank or N or P, N = NTSC, P = PAL), NVE3016	E158873-A223-UL	
NETWORK POSITIONING CAMERA	TNU-6320, TNU-6321	E158873-A224-UL	
Network Video Recorder	QRN-1610S, QRN-1620S, LRN-1610S	E158873-A225-UL	
NETWORK CAMERA	QNE-7080RV, QNE-6080RV	E158873-A226-UL	
NETWORK CAMERA	PNM-9000VQ	E158873-A227-UL	
Network Camera	XNP-6550RH, XNP-6320RH, XNP-6250RH, QNP-6230RH	E158873-A229-UL	
NETWORK CAMERA	PNM-9320VQP, PNM-9321VQP.	E158873-A230-UL	
NETWORK CAMERA	XNZ-6320	E158873-A231-UL	
NETWORK ENCODER	SPE-110N, SPE-110A* (* is Blank or N or P, N = NTSC, P = PAL)	E158873-A232-UL	
THERMAL POSITIONING CAMERA	TNU-4041T, TNU-4051T	E158873-A233-UL	
NETWORK CAMERA	PNM-9030V	E158873-A234-UL	
NETWORK CAMERA	TNV-7010RC	E158873-A235-UL	
NETWORK CAMERA	XND-8081VZ, XND-8081FZ, XND-6081VZ, XND-6081FZ	E158873-A236-UL	
DIGITAL COLOR CAMERA	HCF-8010V	E158873-A239-UL	
ANALOG CAMERA	HCO-6020R	E158873-A241-UL	
NETWORK CAMERA	XNV-6081, XNV-6081R, XNV-8081R	E158873-A242-UL	
NETWORK VIDEO RECORDER	TRM-810S, TRM-410S	E158873-A243-UL	
ANALOG CAMERA	HCD-6020R, HCD-6010	E158873-A244-UL	

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NETWORK CAMERA	XND-6081V, XND-6081F, XND-6081RV, XND-6081RF, XND-8081RV, XND-8081RF	E158873-A245-UL	
NETWORK CAMERA	XND-L6080	E158873-A246-UL	
NETWORK CAMERA	TNO-6010M	E158873-A247-UL	
ANALOG CAMERA	SCO-6085R	E158873-A248-UL	
NETWORK CAMERA	PNM-9000VD, PNM-7002VD	E158873-A249-UL	
NETWORK CAMERA	QND-6083R, QND-6082R, QND-6073R, QND-6072R, QND-6032R, QND-6022R, QND-6012R, QND-6012R1, QND-6022R1, QND-6032R1, QND-6072R1, QND-6082R1	E158873-A250-UL	
NETWORK CAMERA	QNE-8021R, QNE-8011R	E158873-A251-UL	
NETWORK CAMERA	QND-8021, QND-8011	E158873-A252-UL	
NETWORK CAMERA	QNO-8080R, QNO-8010R, QNO-8020R, QNO-8030R	E158873-A253-UL	
NETWORK CAMERA	QND-6021, QND-6011	E158873-A254-UL	
NETWORK CAMERA	QNO-6083R, QNO-6082R, QNO-6012R, QNO-6022R, QNO-6032R, QNO-6072R, QNO-6073R, QNO-6012R1, QNO-6022R1, QNO-6032R1, QNO-6072R1, QNO-6082R1	E158873-A255-UL	
NETWORK CAMERA	QNV-6083R, QNV-6082R, QNV-6073R, QNV-6072R, QNV-6012R, QNV-6022R, QNV-6032R, QNV-6012RA, QNV-6012R1, QNV-6022R1, QNV-6032R1, QNV-6072R1, QNV-6082R1	E158873-A256-UL	
NETWORK CAMERA	QNV-8080R, QNV-8010R, QNV-8020R, QNV-8030R	E158873-A257-UL	
NETWORK CAMERA	QND-8080R, QND-8010R, QND-8020R, QND-8030R	E158873-A258-UL	
NETWORK CAMERA	QNF-8010	E158873-A259-UL	
NETWORK CAMERA	LNV-6012R, LNV-6022R, LNV-6032R	E158873-A260-UL	
NETWORK CAMERA	LNV-6072R	E158873-A261-UL	
NETWORK CAMERA	LND-6012R, LND-6022R, LND-6032R	E158873-A262-UL	
NETWORK CAMERA	LND-6072R	E158873-A263-UL	
NETWORK CAMERA	QNV-6024RM, QNV-6023R, ANV-L6023R	E158873-A264-UL	
NETWORK CAMERA	LNO-6012R, LNO-6022R, LNO-6032R	E158873-A265-UL	
NETWORK CAMERA	LNO-6072R	E158873-A266-UL	
Digital Video Recorder	HRX-1621* (* is Blank or N or P : P=PAL, N=NTSC)	E158873-A267-UL	
Digital Video Recorder	HRX-821* (* is Blank or N or P : P=PAL, N=NTSC)	E158873-A268-UL	
NETWORK THERMAL CAMERA	TNO-3010T, TNO-3020T, TNO-3030T	E158873-A269-UL	

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NETWORK CAMERA	PNM-9084QZ, PNM-9084QZ1	E158873-A270-UL	
NETWORK CAMERA	XNP-6371RH	E158873-A275-UL	
NETWORK CAMERA	XNZ-L6320	E158873-A276-UL	
NETWORK CAMERA	PNM-9084RQZ*, PNM-9085RQZ*, PNM-9084RQZ1, PNM-9085RQZ1 (* is Blank or N or P : P=PAL, N=NTSC)	E158873-A6001-UL	
NETWORK VIDEO RECORDER	WRN-1610S	E158873-A6002-UL	
NETWORK VIDEO RECORDER	WRN-810S* (* is Blank or N or P : P=PAL, N=NTSC)	E158873-A6003-UL	
NETWORK CAMERA	PNB-A9001, PNB-A9001LP, PNB-A9001OP	E158873-A6005-UL	
NETWORK CAMERA	TNB-9000	E158873-A6006-UL	
NETWORK CAMERA	PNO-A9081R, PNO-A9081RLP, PNO-A9081ROP	E158873-A6007-UL	
NETWORK CAMERA	PNV-A9081R, PNV-A9081RLP, PNV-A9081ROP	E158873-A6008-UL	
NETWORK CAMERA	PND-A9081RF	E158873-A6009-UL	
NETWORK CAMERA	QNB-8002	E158873-A6010-UL	
NETWORK CAMERA	QNB-6002	E158873-A6011-UL	
NETWORK CAMERA	PND-A9081RV	E158873-A6012-UL	
NETWORK CAMERA	QNF-9010	E158873-A6013-UL	
NETWORK CAMERA	XNV-8081RE, XNV-6081RE, XND-8081REV, XND-6081REV	E158873-A6014-UL	
NETWORK CAMERA	XNB-9002, XNB-8002	E158873-A6022-UL	
NETWORK CAMERA	XNV-9082R, XNV-8082R	E158873-A6023-UL	
NETWORK CAMERA	XNO-9082R, XNO-8082R	E158873-A6024-UL	
NETWORK CAMERA	XND-9082RV, XND-8082RV, XND-9082RF, XND-8082RF	E158873-A6025-UL	

CERTIFICATE OF COMPLIANCE

Certificate Number UL-CA-L158873-28X1A6001-20219102-1
Report Reference E158873-20191202
Date 7-Mar-2022

Issued to: Hanwha Techwin Co Ltd
6, Pangyo-ro 319beon-gil, Bundang-gu Seongnam-si,
Gyeonggi-do 13488
Republic of Korea

**This is to certify that
representative samples of** NWGQ7 - Information Technology Equipment Including
Electrical Business Equipment Certified for Canada
See Addendum Page for Product Designation(s).

Have been investigated by UL in accordance with the
Standard(s) indicated on this Certificate.

Standard(s) for Safety: CSA C22.2 No. 60950-1, 2nd Ed., Issue Date: 2007-03-27,
Revision Date: 2014-10-01, Reaffirmed 2021

Additional Information: See the UL Online Certifications Directory at
<https://iq.ulprospector.com> for additional information

This Certificate of Compliance does not provide authorization to apply the UL Mark. Only the UL Follow-Up Services Procedure provides authorization to apply the UL Mark.

Only those products bearing the UL Mark should be considered as being UL Certified and covered under UL's Follow-Up Services.

Look for the UL Certification Mark on the product.



Bruce Mahrenholz, Director North American Certification Program

UL LLC

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CERTIFICATE OF COMPLIANCE

Certificate Number UL-CA-L158873-28X1A6001-20219102-1
Report Reference E158873-20191202
Date 7-Mar-2022

This is to certify that representative samples of the product as specified on this certificate were tested according to the current UL requirements

Model	Category Description
PNM-9084RQZ*, (* is Blank or N or P : P=PAL, N=NTSC)	NETWORK CAMERA
PNM-9084RQZ1	NETWORK CAMERA
PNM-9085RQZ*, (* is Blank or N or P : P=PAL, N=NTSC)	NETWORK CAMERA
PNM-9085RQZ1	NETWORK CAMERA



Bruce Mahrenholz, Director North American Certification Program

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CERTIFICATE OF COMPLIANCE

Certificate Number UL-US-L158873-26X1A6001-20219102-1
Report Reference E158873-20191202
Date 7-Mar-2022

Issued to: Hanwha Techwin Co Ltd
6, Pangyo-ro 319beon-gil, Bundang-gu Seongnam-si,
Gyeonggi-do 13488
Republic of Korea

**This is to certify that
representative samples of** NWGQ - Information Technology Equipment Including
Electrical Business Equipment
See Addendum Page for Product Designation(s).

Have been investigated by UL in accordance with the
Standard(s) indicated on this Certificate.

Standard(s) for Safety: UL 60950-1, 2nd Ed, Issue Date: 2007-03-27, Revision
Date: 2019-05-09

Additional Information: See the UL Online Certifications Directory at
<https://iq.ulprospector.com> for additional information

This Certificate of Compliance does not provide authorization to apply the UL Mark. Only the UL Follow-Up Services Procedure provides authorization to apply the UL Mark.

Only those products bearing the UL Mark should be considered as being UL Certified and covered under UL's Follow-Up Services.

Look for the UL Certification Mark on the product.



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CERTIFICATE OF COMPLIANCE

Certificate Number UL-US-L158873-26X1A6001-20219102-1
Report Reference E158873-20191202
Date 7-Mar-2022

This is to certify that representative samples of the product as specified on this certificate were tested according to the current UL requirements

Model	Category Description
PNM-9084RQZ*, (* is Blank or N or P : P=PAL, N=NTSC)	NETWORK CAMERA
PNM-9084RQZ1	NETWORK CAMERA
PNM-9085RQZ*, (* is Blank or N or P : P=PAL, N=NTSC)	NETWORK CAMERA
PNM-9085RQZ1	NETWORK CAMERA



Bruce Mahrenholz, Director North American Certification Program

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UL TEST REPORT AND PROCEDURE

Standard:	UL 60950-1, 2nd Edition, 2019-05-09 (Information Technology Equipment - Safety - Part 1: General Requirements) CAN/CSA C22.2 No. 60950-1-07, 2nd Edition, 2014-10 (Information Technology Equipment - Safety - Part 1: General Requirements)
Certification Type:	Listing
CCN:	NWGQ, NWGQ7 (Information Technology Equipment Including Electrical Business Equipment)
Complementary CCN:	N/A
Product:	NETWORK CAMERA
Model:	PNM-9084RQZ*, PNM-9085RQZ*, PNM-9084RQZ1, PNM-9085RQZ1 (* is Blank or N or P : P=PAL, N=NTSC)
Rating:	12 Vdc, 3.2 A or PoE (55 Vdc), 0.77 A (for Model PNM-9084RQZ*, PNM-9084RQZ1) 12 Vdc, 3.5 A or PoE (55 Vdc), 0.82 A (for Model PNM-9085RQZ*, PNM-9085RQZ1)
Applicant Name and Address:	HANWHA TECHWIN CO LTD 6, PANGYO-RO 319BEON-GIL, BUNDANG-GU SEONGNAM-SI KOREA, REPUBLIC OF KOREA, REPUBLIC O

This is to certify that representative samples of the products covered by this Test Report have been investigated in accordance with the above referenced Standards. The products have been found to comply with the requirements covering the category and the products are judged to be eligible for Follow-Up Service under the indicated Test Procedure. The manufacturer is authorized to use the UL Mark on such products which comply with this Test Report and any other applicable requirements of UL LLC ('UL') in accordance with the Follow-Up Service Agreement. Only those products which properly bear the UL Mark are considered as being covered by UL's Follow-Up Service under the indicated Test Procedure.

The applicant is authorized to reproduce the referenced Test Report provided it is reproduced in its entirety.

UL authorizes the applicant to reproduce the latest pages of the referenced Test Report consisting of the first page of the Specific Technical Criteria through to the end of the Conditions of Acceptability.

Any information and documentation involving UL Mark services are provided on behalf of UL LLC (UL) or any authorized licensee of UL.

Prepared By: Lawrence Lee / Project Handler Reviewed By: SeulKi Park / Reviewer

Supporting Documentation

The following documents located at the beginning of this Procedure supplement the requirements of this Test Report:

A. Authorization - The Authorization page may include additional Factory Identification Code markings.

B. Generic Inspection Instructions -

- i. Part AC details important information which may be applicable to products covered by this Procedure. Products described in this Test Report must comply with any applicable items listed unless otherwise stated in the body of this Test Report.
- ii. Part AE details any requirements which may be applicable to all products covered by this Procedure. Products described in this Test Report must comply with any applicable items listed unless otherwise stated in the body of each Test Report.
- iii. Part AF details the requirements for the UL Certification Mark which is not controlled by the technical standard used to investigate these products. Products are permitted to bear only the Certification Mark(s) corresponding to the countries for which it is certified, as indicated in each Test Report.

Product Description

NETWORK CAMERA with 4 lens modules for indoor use.

Electronic components were mounted on PWB and housed in plastic and metal enclosure and supplied by SELV and LPS.

Model Differences

- Basic model is PNM-9085RQZ* (5 M resolution)

- Model PNM-9084RQZ* is identical to basic model PNM-9085RQZ* except for lens module (2 M resolution)

- Model PNM-9084RQZ1, PNM-9085RQZ1 are identical to basic model except for GYRO SENSOR (without).

Test Item Particulars

Equipment mobility	Fixed
Connection to the mains	N/A
Operating condition	continuous
Access location	operator accessible
Over voltage category (OVC)	OVC I
Mains supply tolerance (%) or absolute mains supply values	No direct connection
Tested for IT power systems	No
IT testing, phase-phase voltage (V)	N/A
Class of equipment	Class III (supplied by SELV)
Considered current rating of protective device as part of the building installation (A)	N/A
Pollution degree (PD)	PD 2
IP protection class	IP 66
Altitude of operation (m)	less than 2000 meters
Altitude of test laboratory (m)	less than 2000 meters
Mass of equipment (kg)	4.9

Technical Considerations

- ☐ The product was submitted and evaluated for use at the maximum ambient temperature (Tma) permitted by the manufacturer's specification of : 55 °C
- ☐ The product was investigated to the following additional standards : IEC 62471
- ☐ The following are available from the Applicant upon request : Installation (Safety) Instructions / Manual

Additional Information

Original (4789194491)

- Maximum normal load: Continuous operation with every IR LEDs and heater resistors on located in lens modules.

4790306358

- Add model name PNM-9084RQZ1, PNM-9085RQZ1.

Additional Standards

The product fulfills the requirements of: IEC 62471:2006

Markings and Instructions

Clause Title	Marking or Instruction Details
Power rating - Ratings	
Power rating - Company identification	Listee's or Recognized companys name, Trade Name, Trademark or File Number
Power rating - Model	Model Number
Fuses - Rating	Rated current and voltage and type located on or adjacent to fuse or fuseholder.
Replaceable batteries	"CAUTION: Risk of Explosion if Battery is replaced by an Incorrect Type. Dispose of Used Batteries According to the Instructions."
Website Manual -1	This product is intended to be supplied by a Listed Power Supply Unit marked "Class 2" or "LPS" and rated from 12 Vdc, 3.2 A or PoE(55 Vdc), 0.77 A. (PNM-9084RQZ*, PNM-9084RQZ1) This product is intended to be supplied by a Listed Power Supply Unit marked "Class 2" or "LPS" and rated from 12 Vdc, 3.5 A or PoE(55 Vdc), 0.82 A. (PNM-9085RQZ*, PNM-9085RQZ1)
Website Manual -2	The wired LAN hub providing power over the Ethernet (PoE) in accordance with IEEE 802-3bt shall be a UL Listed device with the output evaluated as a Limited Power Source as defined in UL60950-1.

Website Manual -3	ITE is to be connected only to PoE networks without routing to the outside plant. Unit is intended for installation in a Network Environment 0 as defined in IEC TR 62102. As such, associated Ethernet wiring shall be limited to inside the building.
Hard Copy	A. IMPORTANT B. See Installation Instructions Before Connecting to the Supply C. Company website URL (https://www.~~)
Special Instructions to UL Representative N/A	

BD1.0	TABLE: Production-Line Testing Requirements					
BD1.1	Electric Strength Test Special Constructions – Refer to Generic Inspection Instructions, Part AC for further information.					
Model	Component	Removable parts	Test probe location	Test V rms	Test V dc	Test Time, s
N/A	N/A	N/A	N/A	N/A	N/A	N/A
BD1.2	Earthing Continuity Test Exemptions – This test is not required for the following models:					
	All models					
BD1.3	Electric Strength Test Exemptions – This test is not required for the following models:					
	All models					
BD1.4	Electric Strength Test Component Exemptions – The following solid-state components may be disconnected from the remainder of the circuitry during the performance of this test:					
	All models					

BE1.0	Sample and Test Specifics for Follow-Up Tests at UL				
Model	Component	Material	Test	Sample (s)	Test Specifics
-	-	-	-	-	-

1.5.1	TABLE: List of critical components					Pass
Object / part No.	Manufacturer/ trademark	Type / model	Technical data	Product Category CCN(s)	Mark(s) of conformity	Supplement ID
Power Supply (Optional)	CREATIVE LIANJIE NETWORK TECHNOLOGY CO LTD	PT-PSE109GBRO- AH	Rated Input: 100-240 Vac, 2.0 A, 50/60 Hz, Rated output: 55 Vdc, 1.5A, complied with LPS	NWGQ/7	UL (E487558)	
Power Supply (Optional)	Interchangeable	Interchangeable	Rated output DC 12 V, Min. 3.5 A, marked "LPS" or "Class 2"	QQGQ or EPBU	UL	
Cover- Dome(Plastic)	MITSUBISHI ENGINEERING- PLASTICS CORP	S-2000V+(f1), S-2001V+(f1), S-2003V+(f1)	Min. 2.0 mm thickness, rated Min. V-2, 115 deg.C, see enclosure for dimension.	QMFZ2/8	UL (E41179)	
Cover-Dome Center (Plastic)	LOTTE ADVANCED MATERIALS CO LTD	NH-1035(+)	Min. 2.0 mm thickness, rated Min. V-0, 80 deg.C, see enclosure for dimension.	QMFZ2/8	UL (E115797)	
External Side Enclosure (Metal)	Interchangeable	Interchangeable	Aluminium, Min. 2.5 mm thickness, see enclosure for dimension.	-	-	
External Bottom Enclosure (Metal)	Interchangeable	Interchangeable	Aluminium, Min. 2.5 mm thickness, see enclosure for dimension.	-	-	
Internal Plastic Part Materials	LOTTE ADVANCED MATERIALS CO LTD	NH-1035(+)	Min. 1.5 mm thickness, rated Min. V-0, 80 deg.C.	QMFZ2/8	UL (E115797)	
Fuse (F1)	ORISEL CO LTD	OS5	250Vac, T6.3AL	JDYX2/8	UL (E126056)	
Fuse (F1) - (Alternate)	COOPER BUSSMANN LLC	SS-5	250Vac, T6.3AL	JDYX2/8	UL (E19180)	

Line Filter (LF1)	TNC CO LTD	CV620180SH	Rated Min. 18.0 mH, Base: V-0, RTI 130 deg.C	-	-	
Line Filter (CT1)	DONG HEUNG ELECTRONICS CO LTD	SNP-6320RH-CT1	Rated Min. 0.5 uH, Base: V-0, RTI 150 deg.C	-	-	
Line Filter (CT1) - (Alternate)	DONG IN SYSTEM CO LTD	SNP-6320RH-CT1	Rated Min. 0.5 uH, Base: V-0, RTI 130 deg.C	-	-	
Transformer (T1)	DONG HEUNG ELECTRONICS CO LTD	SNP-6320RH-T1	CLASS B, marked with "DHB-001", 130 deg.C, see enclosure for detail.	OBJY2	UL (E141730)	
Transformer (T1) – (Alternate)	DONG IN SYSTEM CO LTD	SNP-6320RH-T1	CLASS B, marked with "DIS-10B", 130 deg.C, see enclosure for detail.	OBJY2	UL (E242921)	
Line Filter (L32)	DONG HEUNG ELECTRONICS CO LTD	SNP-6320RH-L32	CLASS B, marked with "DHB-001", 130 deg. C	OBJY2	UL (E141730)	
Line Filter (L32) – (Alternate)	DONG IN SYSTEM CO LTD	SNP-6320RH-L32	CLASS B, marked with "DIS-10B", 130 deg. C	OBJY2	UL (E242921)	
Opto-coupler (PC1, PC2, PC3)	LITE-ON TECHNOLOGY CORP	LTV-816	Isolation Voltage: 5 300. Max. Operation Temperature: 115 deg.C	FPQU2/8	UL (E113898)	
Motor (Tilt, Pan Motor)	Minebea (Cambodia) Co.,Ltd.	EP08-002492A	Operation Voltage DC 5.0V, 200mA Max. starting pulse rate 2400 pps	-	-	
Motor (Rotate)	NMB TECHNOLOGIES CORP	EP08-000101	Operation Voltage DC 5.0V, 200mA Max. starting pulse rate 2400 pps	-	-	

LEDs (LD1, LD2, LD3, LD4) for each module	Lite-on technology	LTE-R38386A-S-SS	Vf: Max 2.5 V, If: 1A	-	-	
Heater resisters (24 ea, R1 to R24) for each module	Interchangeable	Interchangeable	10 ohm, 1/4 W	-	-	
Lithium Battery (BAT1, BAT2, BAT3, BAT4, BAT5)	SEIKO INSTRUMENTS INC MICRO-ENERGY DIV	ML414H	Lithium (Coin), Rechargeable, Max. Charging Voltage: 3.4 Vdc, Max. Charging Current: 300 mAh	BBCV2	UL (MH15628)	
Thermal Pad	KOMOTECH CO LTD	KGP-1(a)	Min. 0.2 mm thickness, rated V-0, 150 deg.C	QMFZ2/8	UL (E245303)	
Internal Wiring (Secondary)	Interchangeable	Interchangeable	FEP, PTFE, PVC, TFE, neoprene, polyimide or marked VW-1; Min. 30 V, 80 deg.C	AVLV2	UL	
Connectors and Receptacles (Secondary circuits)	Interchangeable	Interchangeable	-	ECBT2 or RTRT2	UL	
Connectors and Receptacles (Secondary circuits) - (Alternate)	Interchangeable	Interchangeable	Copper alloy pins housed in bodies of plastic rated Min. V-2	QMFZ2	UL	
Cable	Interchangeable	Interchangeable	FEP, PTFE, PVC, TFE, neoprene, polyimide or marked VW-1; Min. 30 V, 80 deg. C	AVLV2	UL	
FPWB	Interchangeable	Interchangeable	Min. V-0, 80 deg.C.	QMFZ2 or QMTS2	UL	
PWB	EXPRESS ELECTRONICS LTD	14MV0	Min. V-0, 130 deg.C.	ZPMV2/8	UL (E157925)	
PWB - (Alternate)	Interchangeable	Interchangeable	Min. V-0, 130 deg.C.	ZPMV2/8	UL	

Issue Date: 2019-12-02

Page 9 of 10

Report Reference #

E158873-A6001-UL

Revision Date: 2022-03-03

Label	Interchangeable	Interchangeable	Min. 55 deg.C if max. surface temperature not specified.	PGDQ2 or PGJI2	UL	
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Enclosures

Type	Supplement Id	Description
Photographs	03-01	Overall -1
Photographs	03-02	Overall -2
Photographs	03-03	Internal -1
Photographs	03-04	Internal -2
Photographs	03-05	Power board (Top)
Photographs	03-06	Power board (Bottom)
Photographs	03-07	Main board (Top)
Photographs	03-08	Main board (Bottom)
Manuals	06-01	Manual
Miscellaneous	07-01	Enclosure dimension
Miscellaneous	07-02	Line Filter (LF1) spec
Miscellaneous	07-03	Line Filter (CT1) spec by DONG HEUNG ELECTRONICS CO LTD
Miscellaneous	07-04	Line Filter (CT1) spec by DONG IN SYSTEM CO LTD
Miscellaneous	07-05	Transformer (T1) spec by DONG HEUNG ELECTRONICS CO LTD
Miscellaneous	07-06	Transformer (T1) spec by DONG IN SYSTEM CO LTD
Miscellaneous	07-07	Line Filter (L32) spec by DONG HEUNG ELECTRONICS CO LTD
Miscellaneous	07-08	Line Filter (L32) spec by DONG IN SYSTEM CO LTD
Miscellaneous	07-09	Dual language safety labeling CRD
Miscellaneous	07-10	Label

OVERVIEW

IMPORTANT SAFETY INSTRUCTIONS

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean the contaminated area on the product surface with a soft, dry cloth or a damp cloth.
(Do not use a detergent or cosmetic products that contain alcohol, solvents or surfactants or oil constituents as they may deform or cause damage to the product.)
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Only use attachments/ accessories specified by the manufacturer.
12. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/ apparatus combination to avoid injury from tip-over.
13. Unplug this apparatus during lightning storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
15. This product is intended to be supplied by a Listed Power Supply Unit marked "Class 2" or "LPS" and rated from 12 Vdc, 3.2 A or PoE(55 Vdc), 0.77 A. (PNM-9064RQZ)
16. This product is intended to be supplied by a Listed Power Supply Unit marked "Class 2" or "LPS" and rated from 12 Vdc, 3.5 A or PoE(55 Vdc), 0.82 A. (PNM-9085RQZ)
17. Do not use DC power and HPoE injector at the same time.
18. This product is intended to be supplied by isolation power
19. If you use excessive force when installing the product, the camera may be damaged and malfunction.
If you forcibly install the product using non-compliant tools, the product may be damaged.
20. Do not install the product in a place where chemical substances or oil mist exists or may be generated. As edible oils such as soybean oil may damage or warp the product, do not install the product in the kitchen or near the kitchen table.
This may cause damage to the product.
21. When installing the product, be careful not to allow the surface of the product to be stained with chemical substance.
Some chemical solvents such as cleaner or adhesives may cause serious damage to the product's surface.



22. If you install/disassemble the product in a manner that has not been recommended, the production functions/ performance may not be guaranteed.
Install the product by referring to "Installation & connection" in the user manual.
23. Installing or using the product in water can cause serious damage to the product.

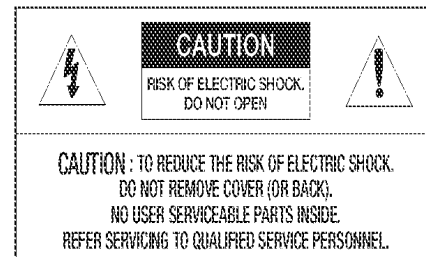
WARNING

TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS PRODUCT TO RAIN OR MOISTURE. DO NOT INSERT ANY METALLIC OBJECT THROUGH THE VENTILATION GRILLS OR OTHER OPENINGS ON THE EQUIPMENT.

Apparatus shall not be exposed to dripping or splashing and that no objects filled with liquids, such as vases, shall be placed on the apparatus.

To prevent injury, this apparatus must be securely attached to the Wall/ceiling in accordance with the installation instructions.

CAUTION



EXPLANATION OF GRAPHICAL SYMBOLS



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.

overview

Class I construction

An apparatus with CLASS I construction shall be connected to a MAINS socket outlet with a protective earthing connection.

Battery

Batteries(battery pack or batteries installed) shall not be exposed to excessive heat such as sunshine, fire or the like.

Disconnection Device

Disconnect the main plug from the apparatus, if it's detected. And please call a repair man in your location.

When used outside of the U.S., it may be used HAR code with fittings of an approved agency is employed.

CAUTION

RISK OF EXPLOSION IF BATTERY IS REPLACED BY AN INCORRECT TYPE.
DISPOSE OF USED BATTERIES ACCORDING TO THE INSTRUCTIONS.

ATTENTION

IL Y A RISQUE D'EXPLOSION SI LA BATTERIE EST REMPLACÉE PAR UNE BATTERIE DE TYPE INCORRECT.
METTRE AU REBUT LES BATTERIES USAGÉES CONFORMÉMENT AUX INSTRUCTIONS.

These servicing instructions are for use by qualified service personnel only.
To reduce the risk of electric shock do not perform any servicing other than that contained in the operating instructions unless you are qualified to do so.

Please use the input power with just one camera and other devices must not be connected.

The ITE is to be connected only to PoE networks without routing to the outside plant.

The wired LAN hub providing power over the Ethernet (PoE) in accordance with IEEE 802.3bt shall be a UL Listed device with the output evaluated as a Limited Power Source as defined in UL60950-1.

Unit is intended for installation in a Network Environment 0 as defined in IEC TR 62102.
As such, associated Ethernet wiring shall be limited to inside the building.

Please read the following recommended safety precautions carefully.

- Do not place this apparatus on an uneven surface.
- Do not install on a surface where it is exposed to direct sunlight, near heating equipment or heavy cold area.
- Do not place this apparatus near conductive material.
- Do not attempt to service this apparatus yourself.
- Do not place a glass of water on the product.
- Do not install near any magnetic sources.
- Do not block any ventilation openings.
- Do not place heavy items on the product.
- Please wear protective gloves when installing/removing the camera.
The high temperature of the product surface may cause a burn.
- Do not adjust or move the lens directly with your hands. Doing so could damage the lens or degrade its performance.
- The life expectancy of driving the lens motor is 200 rotations.
- To move the location of your camera, privacy masking needs to be reset.

User's Manual is a guidance book for how to use the products.

The meaning of the symbols are shown below.

- Reference : In case of providing information for helping of product's usages
- Notice : If there's any possibility to occur any damages for the goods and human caused by not following the instruction
- ✕ Please read this manual for the safety before using of goods and keep it in the safe place.

WARNING

To Prevent damage which may caused by IR LED, don't stare at operating lamp.

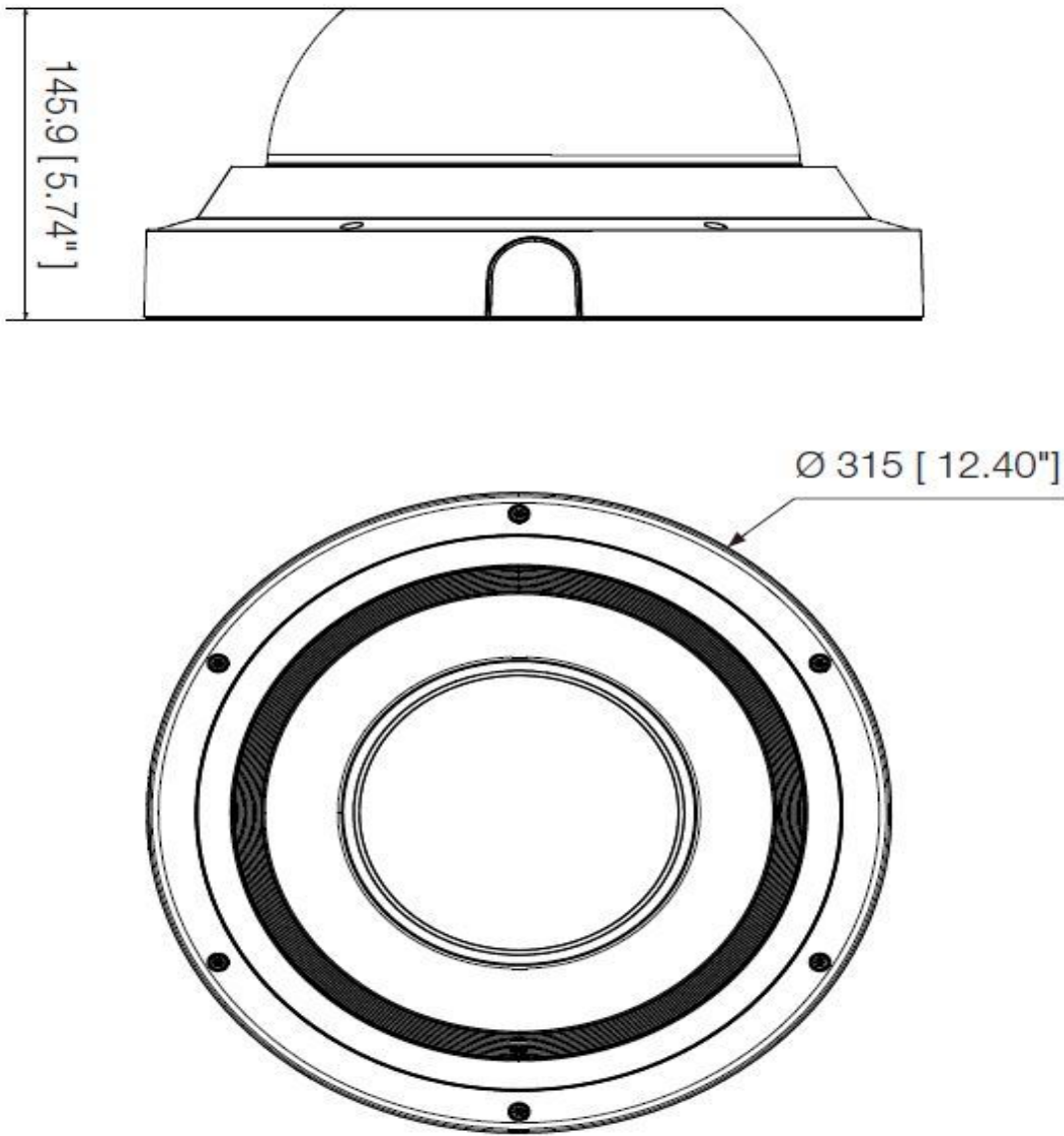
For below models only.

PNM-9084RQZ/PNM-9085RQZ

Risk Group 1
WARNING IR emitted from this product. Do not stare at operating lamp.
Product tested against IEC 62471

PNM-9084RQZ/PNM-9085RQZ

Unit : mm [inch]



NO	TC-0544-10
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SPECIFICATIONS

TO MESSRS : IM 전자

CUSTOMERS MODEL :

CUSTOMERS PART NO :

ITEM : LINE FILTER

TNC SPEC NO. : CV620180SH

APPROVED	REFERENCE

DATE : 2012. 02. 20

TNC (株)TNC

#304-29 Asan Valley, DunPo-Myeon, Asan-Si, Chung Cheong
Nam-Do, KOREA 336-871
TEL : 82-41-530-9600
FAX : 82-41-530-9697

NOTICE : After received this approval sheet and finished it's approval,
please return back one copy. In case of you don't any reply until
initial order date, this approval sheet is to be standard approval
and initial order date is to be approved date for concerning item.

SPECIFICATIONS	ITEM		LINE FILTER			Rev
	TNC SPEC NO		CV620180SH			0

2. ELECTRICAL CHARACTERISTIC

NO	ITEM	TERMINAL	SPECIFICATION			REMARKS
1	RATED VOLTAGE	LINE TO LINE	AC 250V			
2	RATED CURRENT	START-FINISH	2.0A			
3	INDUCTANCE	START-FINISH	16KHz	18.0mH	+50%, -30%	HP-4194A 1V (25°C±2°C)
4	TEMPERATURE RISE	AT RATED CURRENT	55°C MAX			
5	DC RESISTANCE	START-FINISH	163.0 mΩ MAX			HIOKI 3540 (25°C±2°C)
6	WITHSTANDING VOLTAGE	LINE TO LINE	AC 1,500V 1 MINUTE.			TOS-5101 CUT OFF CURRENT (5mA)
7	INSULATION RESISTANCE	LINE TO COVER	DC 500V, 300MΩ MIN.			TOS-8850

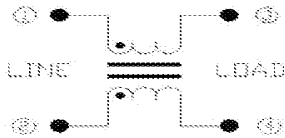
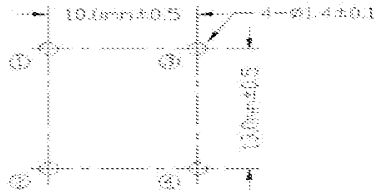
3. OPERATING TEMPERATURE

-25°C TO +130°C INCLUDING TEMPERATURE RISE.

4. KEEP TEMPERATURE RANGE

-25°C TO +60°C

5. CIRCUIT DIAGRAM

Minimum PCB Piercing HOLE

 TNC CO.,LTD	DESIGN	CHECK	APPROVAL	PAGE
	 KWAK.S.B. 11.05.02 R&D	 CHO.B.O. 11.05.02 R&D	 PARK.J.W. 11.05.02 R&D	3/15

SPECIFICATIONS	ITEM		LINE FILTER		Rev
	TNC SPEC NO		CV620180SH		0

6. WINDING SPECIFICATION

NO	TERMINAL		WIRE	TURNS	WINDING METHOD	UNBALANCE SPECIFICATION
	START	FINISH				
L1	1	3	UEW 0.50Φ	53 ±3Ts	HANDMADE	BETWEEN L1 AND L2 (0.4mH MAX)
L2	2	4				

7. SHAPE AND DIMENSION

TOP VIEW

FRONT VIEW

BOTTOM VIEW

③

④

①

②

620180S

①

②

③

④

⑤

⑥

13.0±0.5mm

10.0±0.5mm

0.7±0.1mm

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SPECIFICATIONS		ITEM	LINE FILTER	Rev
		TNC SPEC NO	CV620180SH	0

8. MATERIAL LIST

No.	NAME	SPECIFICATION		MANUFACTURER	COLOR	UL No.
1/2	Core Cover / Coil Separator	PBT LUPOX GP-2156F		LG Chemical Ltd	WHITE	E67171
		PBT 1500GN-(k)		SAM YANG Corporotion	WHITE	E121254
		PET FR530		E I DUPONT DE NEMOURS & CO INC	WHITE	E41938
3	Enamel Wire	UEW 0.5Φ / 53±3T	UEW	TAIHAN COPPER TECH CO LTD	YELLOW	E231719
			NUW	Hwa Il Electronics Co.,Ltd	YELLOW	E140246
4	Ferrite Core	MA100 R-16-10-7 HM5A T 1607		JFE Ferrite Corp TODA ISU Ceramics Co.,Ltd	BLACK	
5	Insulation tube	P.T.F.E Tube (Teflon Tube) NOT HEAT-SHRINKABLE PTFE TUBING		SHENZHEN WOER HEAT-SHRINKABLE MATERIAL CO.,LTD	Transparent	E203950
6	Coil Base	Phenolic (PF2736) UL 94 V-0 Class		MOMENTIVE Specialty Chemical Gmbh	BLACK	E61040
		Phenolic (T375HF) UL 94 V-0 Class		CHANG CHUN Plastics Co.,Ltd	BLACK	E59481

9. MARKING

MODEL	LABEL	COLOR
CV620180SH	620180S	black letters on transparent

TNC TNC CO.,LTD	DESIGN	CHECK	APPROVAL	PAGE
	KWAK.S.B 11.05.02 R&D	CHO.B.O 11.05.02 R&D	PARK.J.W 11.05.02 R&D	5/15

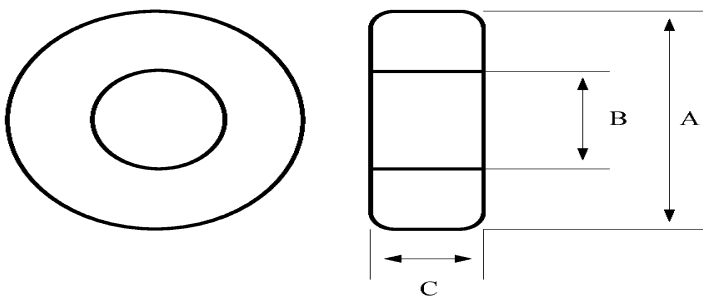
SPECIFICATIONS	ITEM	LINE FILTER		Rev
	TNC SPEC NO	CV620180SH		0

15. FERRITE CORE SPECIFICATION

- Characteristics

Symbol	Unit	MA100 R-16/10/7	HM5A T 1607
μ_i	-	10,000 $\pm$ 30%	10,000 $\pm$ 30%
Bms	mT	415	410
Hcms	A/m	3.0	3.0
Brms	mT	76	80
Tc	°C	>115	>115
TAN δ / μ iac	$\times 10^{-6}$	<1.9	<6.0
$\alpha_{\mu r}$	$\times 10^{-6}$ /°C	-0.5~2.0	-0.15~1.0
ρ	$\Omega \cdot m$	0.1	0.13
d	g/cm ³	5.0	4.9

- Dimension



The drawing shows a toroidal ferrite core. The top view is a circle with an inner hole. The side view is a rectangle with rounded corners. Dimension A is the outer diameter, B is the inner diameter, and C is the thickness.

A: 16.0 $\pm$ 0.35 B: 10.0 $\pm$ 0.3 C: 7.0 $\pm$ 0.3

TNC TNC CO.,LTD	DESIGN	CHECK	APPROVAL	PAGE
	KWAK.S.B 11.05.02 R&D	CHO.B.O 11.05.02 R&D	PARK.J.W 11.05.02 R&D	9/15

USTOMER : Manufacturing Solution Provide CO., Ltd.

NO : 20141013-191

S P E C I F I C A T I O N

APPLICATION FOR APPROVAL OF

ITEM	: LINE FILTER
DESCRIPTION	: UU 10x14mm
CODE NO	: LFU10-0104R5
MODEL NO	: SNP-6320RH-CT1

This space is used for customer's approval

DONG HEUNG ELECTRONICS CO., LTD.

36, BAEKSEOKGONGDAN 6-GIL, SEOBUK-GU,
CHEONAN-SI, CHUNGCHEONGNAM-DO, KOREA

TEL : (041)552-1106-9

FAX : (041)552-3784

BAZHOU DONGXING

LAO DICUN, BAZHOU, HEIBEI PROVINCE, CHINA

YANTAI

SHENG QUAN INDUSTRIAL, LAISHAN DISTRICT,
YANTAI, SHANDONG PROVINCE, CHINA

DATE : 2014. 10. 14

DRAWN BY S. J. PARK		DATE 2014. 10. 14.
CHECKED BY J. C. JI		DATE 2014. 10. 14.
APPROVED BY Y. S. KIM		DATE 2014. 10. 14.

0705-00양식03

CUSTOMER : Manufacturing Solution Provide CO., Ltd.

SPECIFICATION		SHEET NO.	1 OF 11	
		DATE	2014. 10. 14	
PART NAME	LINE FILTER	MODEL NAME	SNP-6320RH-CT1	
CODE NO.	LFU10-0104R5	DESCRIPTION	UU 10x14	

1. APPEARANCE & DIMENSION (UNIT:mm)

- TOP VIEW -

- SIDE VIEW -

※ MARKING (BLACK)

010 0000

PRODUCTION LINE
WEEK
YEAR

※ PRODUCTION LINE
A : CHUN AN
B : BAZHOU
Y : YANTAI

- FRONT VIEW -

※. PIN PLATING SPEC

※ PIN LENGTH : BEFORE SOLDERING

NO	REVISION	DATE	CHECK	DRAWN	CHECKED	APPROVED
1						
2						
3						
4						

CUSTOMER : Manufacturing Solution Provide CO., Ltd.

SPECIFICATION		SHEET NO.	2 OF 11	
		DATE	2014. 10. 14	
PART NAME	LINE FILTER	MODEL NAME	SNP-6320RH-CT1	
CODE NO.	LFU10-0104R5	DESCRIPTION	UU 10x14	

2. SCHEMATIC DIAGRAM

WINDING	BOTTOM VIEW	C.C.W
REMOVED PIN		
CUT PIN		
TUBE		

3. WINDING SPECIFICATION

WINDING ORDER	NAME	TERMINAL NO. (S - F)	W I R E	TURNS	WINDING METHOD
W1	L1	1 - 2	UEW 0.80Ø	1Ts	SOLENOID WINDING
W2	L2	4 - 3	UEW 0.25Ø	70Ts REF.	SOLENOID WINDING

NO	REVISION	DATE	CHECK	DRAWN	CHECKED	APPROVED
1						
2						
3						
4						

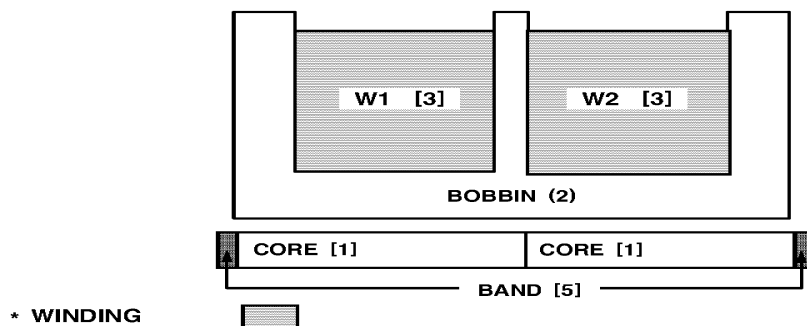
CUSTOMER : Manufacturing Solution Provide CO., Ltd.

SPECIFICATION		SHEET NO.	4 OF 11
		DATE	2014. 10. 14
PART NAME	LINE FILTER	MODEL NAME	SNP-6320RH-CT1
CODE NO.	LFU10-0104R5	DESCRIPTION	UU 10x14

6. ELECTRICAL CHARACTERISTICS

NO.	CLOSURE	TERMINAL	ELECTRICAL CHARACTERISTICS	TOLERANCE	TEST CONDITION
1	INDUCTANCE	1 - 2 4 - 3	0.5 [μ H] 4.0 [mH]	MIN MIN	HP-4284A at 1KHz, 1Vrms
2	DC RESISTANCE	1 - 2 4 - 3	3.0 [Ω] 1.0 [Ω]	MAX MAX	WHEATSTONE BRIDGE YEW TYPE 2755 HIOKI TYPE RM3544
3	LAYER SHORT	AC 1.5KV, 60 Hz			
4	WITHSTANDING VOLTAGE	AC 1.2KV, 1 MINUTE. 5mA (PRIMARY TO SECONDARY) AC 1.2KV, 1 MINUTE. 5mA (COIL TO CORE)			
5	INSULATION RESISTANCE	DC 500V, 100M OHM MIN. (COIL TO COIL, ANY COIL TO CORE)			

7. INTERNAL CONSTRUCTION



NO	REVISION	DATE	CHECK	DRAWN	CHECKED	APPROVED
1						
2						
3						
4						

0705-00양식04

DONGHEUNG ELECTRONICS CO., LTD.

CUSTOMER : Manufacturing Solution Provide CO., Ltd.

SPECIFICATION		SHEET NO.	5 OF 11			
		DATE	2014. 10. 14			
PART NAME	LINE FILTER	MODEL NAME	SNP-6320RH-CT1			
CODE NO.	LFU10-0104R5	DESCRIPTION	UU 10x14			
8. INTERNAL CONSTRUCTION						
NO	ITEM	MATERIALS & DIMENSIONS	MANUFACTURER	REMARK		
1	CORE	UU10x14mm SM-100,R10K,R12K,TS-10,A10 or Equiv.	SAM HWA ELECTRONICS CO., LTD. ZHEJING DONGYANG DMEGC MAGNETIC CO.,LTD ZIBO YANGGUANG ELECTRONICS CO., LTD TDG HOLDING CO., LTD. ACME CO.,LTD or Equiv.			
2	BOBBIN	UU 10 x 14mm [4P] PHENOL (94V - 0)	MOMENTIVE SPECIALTY CHEMICALS GMBH. SUMITOMO BAKELITE CO., LTD. CHANG CHUN PLASTICS CO LTD.	E61040 E41429 E59481		
3	WIRE	UEW 0.25Ø UEW 0.80Ø	DONG YANG ELECTRONICS IND CO.,LTD. SHANDONG PENGTAI STOCK CO., LTD. ZHEJIANG XIANDENG ELECTRICAL APPLIANCES CO., LTD JIANGSU DARTONG M&E CO.,LTD HANGZHOU WEIFENG ELECTRONIC CO LTD	E102761 E166187 E218270 E237377 E229341		
4	IMPREGNATION	SR-337A, SR-337B 319-5	SE KYE CHEMICAL CO., LTD. JIANG CITY DENG FENG ELETRICAL METERIAL CO., LTD.	E257443 E236421		
5	BAND	UU 10 x 14mm STAINLESS STEEL	DAE HEUNG CO., LTD. BOO KYOUNG ELECTRONICS CO.,LTD. ZIBO YANGGUANG ELECTRONICS CO., LTD SUNG WOO BOBBIN CO., LTD. or Equiv.			
NO	REVISION	DATE	CHECK	DRAWN	CHECKED	APPROVED
1						
2						
3						
4						

0705-00양식04

DONGHEUNG ELECTRONICS CO., LTD.



TO MESSRS : M S P

(**LINE FILTER**) **SPECIFICATION**

MODEL NAME :

PART NO : SNP-6320RH-CT1

CUSTOMER'S SPEC. NO :

DI SPEC. NO : UU1014"V"4PIN

APPROVED	REFERENCE

DATE : 2014. 11. 07.



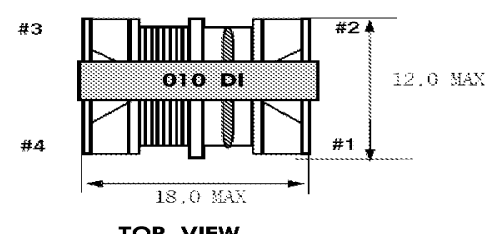
DONG IN SYSTEM CO.,LTD.



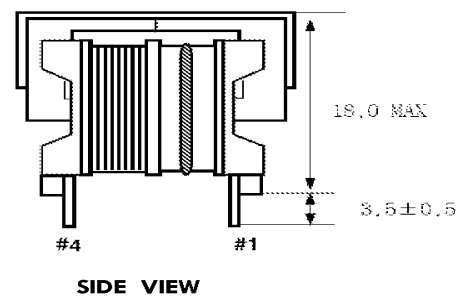
HEAD OFFICE	124-116 SUNG-EU DONG NAM-KU , INCHEON , KOREA TEL : 82-32-887-0040 FAX : 82-32-887-0111
CHINA PLANT	GANGTOU VILLAGE YANGTING TOWN HUANCUI ZONE WEIHAI CITY CHINA TEL : 86-631-5763828 FAX : 86-631-5763925

APPROVAL SHEET			DATE	2014. 11. 07
			PAGE	OF
CUSTOMER	M S P			
PART NAME	LINE FILTER	MODEL NO.		
PART NO.	SNP-6320RH-CT1	DESCRIPTION	UU1014"V"4PIN	

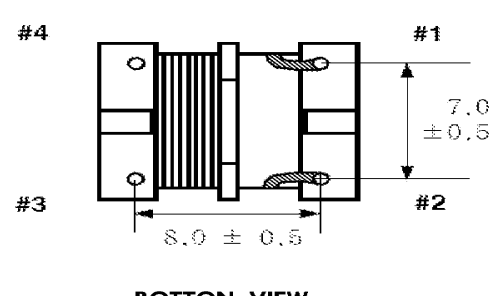
1. DIMENSIONS (UNIT:mm)



TOP VIEW



SIDE VIEW

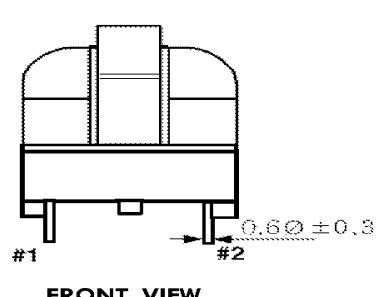


BOTTOM VIEW

* MARKING *

010 DI ← PART NO

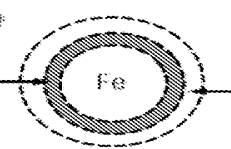
MARKING	
PART NO.	010
MAKER	DI



FRONT VIEW

* PIN 도금 사양

Cu →

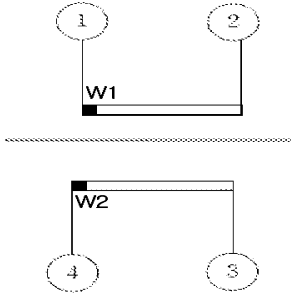
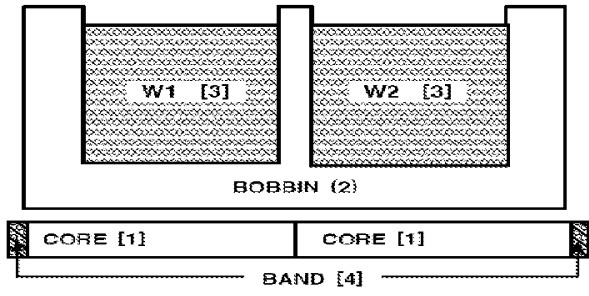


← Sn

DRAWN BY	CHECK BY	APPR. BY	REVISION		DATE
				Safety	



DONG - IN SYSTEM CO.,LTD.

APPROVAL SHEET				DATE		2014. 11. 07																																
				PAGE		OF																																
CUSTOMER		M S P																																				
PART NAME		LINE FILTER			MODEL NO.																																	
PART NO.		SNP-6320RH-CT1			DESCRIPTION		UU1014"V"4PIN																															
2. CONNECTION  3. WINDING SPECIFICATION <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th rowspan="2">NO</th> <th colspan="2">TERMINAL</th> <th rowspan="2">WIRE</th> <th colspan="2" rowspan="2">Ts</th> <th rowspan="2">WINDING METHOD</th> <th colspan="2">INSULATION</th> </tr> <tr> <th>S</th> <th>F</th> <th>MATERIAL (t / mm)</th> <th>Ts</th> </tr> </thead> <tbody> <tr> <td>W1</td> <td>1</td> <td>2</td> <td>UEW 0.80Ø</td> <td>1 TS</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>W2</td> <td>4</td> <td>3</td> <td>UEW 0.25Ø</td> <td>70 TS (ref)</td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table> 4. CONSTRUCTION 								NO	TERMINAL		WIRE	Ts		WINDING METHOD	INSULATION		S	F	MATERIAL (t / mm)	Ts	W1	1	2	UEW 0.80Ø	1 TS					W2	4	3	UEW 0.25Ø	70 TS (ref)				
NO	TERMINAL		WIRE	Ts		WINDING METHOD	INSULATION																															
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DRAWN BY	CHECK BY	APPR. BY	REVISION			DATE																																
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DONG - IN SYSTEM CO.,LTD.

APPROVAL SHEET				DATE	2014. 11. 07																								
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PART NAME	LINE FILTER		MODEL NO.																										
PART NO.	SNP-6320RH-CT1		DESCRIPTION	UU1014"V"4PIN																									
5. ELECTRICAL CHARACTERISTICS																													
NO	ITEM	TERMINAL	SPEC	REMARK																									
1	INDUCTANCE	1 - 2	0.5uH MIN	LCR METER AG 4304 HP-4274A at 1KHz 1V																									
		4 - 3	4.0 mH MIN																										
2	DC RESISTANCE (20℃)	1 - 3 6 - 4	3.0 ohm MAX 1.0 ohm MAX	WHEATSTONE BRIDGE HIOKI 3540 (mΩ METER)																									
3	WITHSTANDING VOLTAGE	COIL - CORE	AC 1.5 KV RMS 1 SEC. CC=10mA	KIKUSUI TOS-5050 , TOS-8750																									
		COIL - COIL	AC 1.5 KV RMS 1 SEC. CC=10mA																										
4	INSULATION RESISTANCE	COIL - COIL COIL - CORE	100 Mohm MIN at DC 500V	MEGOHM METER (SM-5E)																									
6. MATERIAL LIST																													
NO	ITEM	MATERIAL	MANUFACTURER	FILE NO.																									
1	CORE	SM-100 UU1014 R10K UU1014 P12K UU1014	SAM WHA CORPORATION. JI SHUN MAGNETIC CO.,LTD. NANTONG HUAXING MAGNETIC MATERIAL CO.,LTD																										
2	BOBBIN	PHENOL 94V-0 UU1014 "V" TYPE 4PIN	SUMITOMO BAKELITE CO., LTD.	E41429																									
3	WIRE	POLYURETHANE ENAMELED COPPER WIRE 2UEV 0.80Ø 2UEW 0.25Ø	DONG YANG ELECTRONICS IND CO LTD.	E102761																									
4	PIN TERMINAL	SOLDER COATED COPPER	DAE-A LEAD CO.,LTD.																										
5	VARNISH	SR-337A,B	SEKYE CHEMICAL CO.,LTD.	E257443																									
6	SOLDER	Sn99.3 / Cu0.7 or EQV.	ALPHA METALS CO.,LTD or EQV.																										
7	MARKING	INK (BON MARQUE) or EQV.	ATL CO.,LTD or EQV.																										
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 15%;">DRAWN BY</th> <th style="width: 15%;">CHECK BY</th> <th style="width: 15%;">APPR. BY</th> <th style="width: 30%;">REVISION</th> <th style="width: 15%;"></th> <th style="width: 10%;">DATE</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;"></td> <td></td> <td style="text-align: center;"></td> <td></td> <td style="text-align: center;"></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>						DRAWN BY	CHECK BY	APPR. BY	REVISION		DATE																		
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DONG - IN SYSTEM CO.,LTD.

CUSTOMER : Manufacturing Solution Provide CO., Ltd.

NO :20141013-189

S P E C I F I C A T I O N

APPLICATION FOR APPROVAL OF

ITEM	: TRANS
DESCRIPTION	: RM10 5+3P
CODE NO	: MSS10-404C
MODEL NO	: SNP-6320RH-T1

This space is used for customer's approval

DESIGN	CHECK	APPROVAL
A TERM OF VALIDITY	YEAR	

DONG HEUNG ELECTRONICS CO., LTD.

36, BAEKSEOKGONGDAN 6-GIL, SEOBUK-GU,
CHEONAN-SI, CHUNGCHEONGNAM-DO, KOREA

TEL : (041)552-1106-9

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BAZHOU DONGXING

LAO DICUN, BAZHOU, HEIBEI PROVINCE, CHINA

YANTAI

SHENG QUAN INDUSTRIAL, LAISHAN DISTRICT, YANTAI,
SHANDONG PROVINCE, CHINA

DATE : 2014. 10. 14.

DRAWN BY S. J. PARK	DATE 2014. 10. 14.
CHECKED BY J. C. JI	DATE 2014. 10. 14.
APPROVED BY Y. S. KIM	DATE 2014. 10. 14.

0705-00양식03

CUSTOMER : Manufacturing Solution Provide CO., Ltd.

SPECIFICATION		SHEET NO.	1 OF 16	
		DATE	2014. 10. 14.	
PART NAME	TRANS	MODEL NAME	SNP-6320RH-T1	
CODE NO.	MSS10-404C	DESCRIPTION	RM10	

1. APPEARANCE & DIMENSION (UNIT:mm)

<< TOP VIEW >>

<< FRONT VIEW >>

<< BOTTOM VIEW >>

* MARKING (BLACK)

SNP-6320RH-T1 ← MODEL NO.

DH 0000 DHB-001 ← CLASS B

→ PRODUCTION LINE

→ WEEK

→ YEAR

→ PRODUCTION MAKER

※ PRODUCTION LINE

1. A : CHUN AN

2. B : BAZHOU

3. Y : YANTAI

<< SIDE VIEW >>

Cu

Fe

Sn

※ PIN LENGTH: BEFORE SOLDERING

NO	REVISION	DATE	CHECK	DRAWN	CHECKED	APPROVED
1						
2						
3						
4						

CUSTOMER : Manufacturing Solution Provide CO., Ltd.

SPECIFICATION				SHEET NO.		2 OF 16																																																															
PART NAME				TRANS		DATE																																																															
CODE NO.				MSS10-404C		MODEL NAME																																																															
						SNP-632ORH-T1																																																															
				DESCRIPTION		RM10																																																															
2. WINDING SPECIFICATION ■ * START MARK.				<table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <tr> <td>WINDING</td> <td>BOTTOM VIEW</td> <td>C.C.W</td> </tr> <tr> <td>REMOVED PIN</td> <td>#3,7</td> <td></td> </tr> <tr> <td>CUT PIN</td> <td></td> <td></td> </tr> <tr> <td>N.C PIN</td> <td></td> <td></td> </tr> <tr> <td>TUBE</td> <td></td> <td></td> </tr> </table>				WINDING	BOTTOM VIEW	C.C.W	REMOVED PIN	#3,7		CUT PIN			N.C PIN			TUBE																																																	
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NO	TERMINAL		WIRE	TURNS	WINDING METHOD	INSULATION			BARRIER																																																												
	S	F				MATERIAL	T/W	TS	TOP	BOTTOM																																																											
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0705-00양식04

DONG HEUNG ELECTRONICS CO., LTD.

CUSTOMER : Manufacturing Solution Provide CO., Ltd.

SPECIFICATION			SHEET NO.	4 OF 16		
			D A T E	2014. 10. 14.		
PART NAME	TRANS		MODEL NAME	SNP-632ORH-T1		
CODE NO.	MSS10-404C		DESCRIPTION	RM10		
6. TEST SPECIFICATION AT 25℃						
NO.	ITEM	TERMINAL	SPECIFICATION	REMARKS		
1	INDUCTANCE	1,2 - 4,5	400 uH MIN	HP-4284A at 1KHz, 1Vrms		
2	DC RESISTANCE	1,2 - 4,5	0.05 [Ω] MAX	WHEATSTONE BRIDGE YEW TYPE 2755 HIOKI TYPE RM3544		
3	WITHSTANDING VOLTAGE	COIL - CORE	AC 1.50KV, 1 MINUTE	KIKUSUI : TOS-9200 (1MINUTE CURRENT 5mA)		
4	INSULATION RESISTANCE	COIL - CORE	100M Ω MIN at DC 500V	KIKUSUI : TOS-9200		
5	IMPULSE TEST (SURGE TEST)	AC 1.5KV / 3PULSE				
NO	REVISION	DATE	CHECK	DRAWN	CHECKED	APPROVED
1						Shik
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0705-00양식04

DONG HEUNG ELECTRONICS CO., LTD.

CUSTOMER : Manufacturing Solution Provide CO., Ltd.

SPECIFICATION		SHEET NO.	5 OF 16			
		D A T E	2014. 10. 14.			
PART NAME	TRANS	MODEL NAME	SNP-632ORH-T1			
CODE NO.	MSS10-404C	DESCRIPTION	RM10			

7. INTERNAL CONSTRUCTION

TOP
BOTTOM

3 LAYERS
0.025tx7.0mm{Y} [5]

* WINDING

* P.S TAPE

NO	REVISION	DATE	CHECK	DRAWN	CHECKED	APPROVED
1						
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4						

CUSTOMER : Manufacturing Solution Provide CO., Ltd.

SPECIFICATION		SHEET NO.	6 OF 16			
		D A T E	2014. 10. 14.			
PART NAME	TRANS	MODEL NAME	SNP-632ORH-T1			
CODE NO.	MSS10-404C	DESCRIPTION	RM10			
8. MATERIAL LIST						
NO	I T E M	MATERIALS & DIMENSIONS	MANUFACTURER	REMARK		
1	CORE	RM 10 PL-7,KP-4,DMR40, K2.3P,NH2B,JP4,KP4,TY40 or Equiv.	SAM HWA ELECTRONICS CO., LTD. ZAOZHUNG KINGTECH ELECTRONICS CO.,LTD. ZHEJING DONGYANG DMGC MAGNETIC CO.,LTD. ZHEJIANG LINAN HE SHUN MAGNETIC FLUX ELECTRONIC CO.,LTD. ZHEJIANG HAINING LIANFENG MAGNET INDUSTRY CO., LTD. WUXI SPINEL MAGNETICS CO.,LTD. SHANGHAI KANGSHUN MAGNETIC COMPONENT CO., LTD. Guangzhou Tongyang Electronics Co., Ltd or Equiv.			
2	BOBBIN	RM10 [8P] PHENOL (94V-0)	SUMITOMO BAKELITE CO., LTD. HITACHI CHEMICAL CO LTD	E41429 E42926		
3	COPPER WIRE	USTC 0.10 Ø x30# USTC 0.10 Ø x40#	DONG YANG ELECTRONICS IND CO.,LTD. SHANDONG PENGTAI STOCK CO., LTD. ZHEJIANG XIANDENG ELECTRICAL APPLIANCES CO., LTD JIANGSU DARTONG M&E CO.,LTD HANGZHOU WEIFENG ELECTRONIC CO LTD	E102761 E166187 E218270 E237377 E229341		
4	INSULATION TAPE	POLYESTER TAPE 0.025t x 10.5mm 0.025t x 10.5mm {YELLOW}	DUCK SUNG HITECH CO., LTD. JINGJIANG YAHUA PRESSURE SENSITIVE GLUE CO., LTD. METAL LINE CO., LTD.	E105147 E165111 E162848		
5	CORE FIXING TAPE	POLYESTER TAP 0.025t x 7.0mm {YELLOW}				
6	IMPREGNATION	EPOXY	HITACHI CHEMICAL CO., LTD. KYOCERA CHEMICAL CORP SE KYE CHEMICAL CO LTD NOROO PAINT & COATINGS CO LTD	E72979 E83702 E257443 E93947		
7	SOLDER BAR	SN98CU2-B20	SAMWOO METAL CO., LTD. YUNNAN TIN CO.,LTD. ASIA GENERAL ELECTRONICS CO.,LTD			
8	INK	JP-K12,K33 BON MARQUE MS-6853	HITACHI INDUSTRIAL EQUIPMENT CO.,LTD T&K TOKA CO.,LTD SHANGHAI LEADJET INKJET PRINTER TECHNIQUE CO., LTD.			
9	FLUX	SV-PBF-304 FC-113	KOKI SANEI KOREA CO.,LTD TAMURA KAKEN CORPORATION			
NO	REVISION	DATE	CHECK	DRAWN	CHECKED	APPROVED
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0705-00양식04

DONG HEUNG ELECTRONICS CO., LTD.



TO MESSRS : M S P

(SWITCHING TRANS) SPECIFICATION

MODEL NAME :

PART NO : SNP-6320RH-T1

CUSTOMER'S SPEC. NO :

DI SPEC. NO : RM10 5+3P

APPROVED	REFERENCE

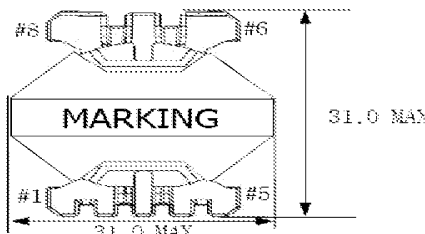
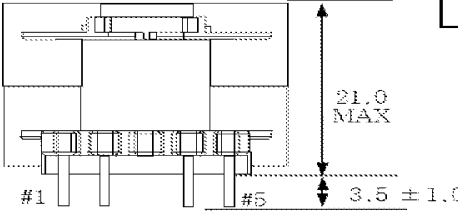
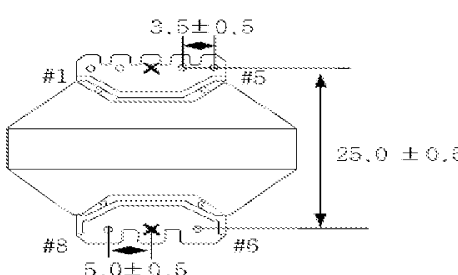
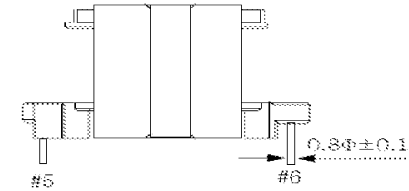
DATE : 2014. 11. 07.



DONG IN SYSTEM CO.,LTD.

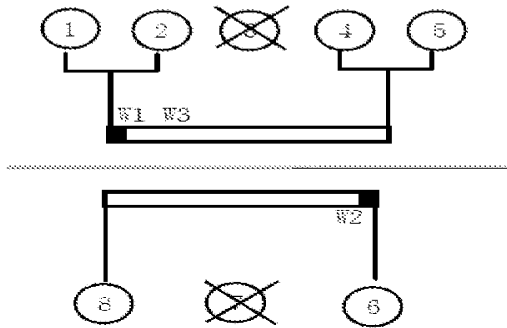


HEAD OFFICE	124-116 SUNG-EU DONG NAM-KU , INCHEON , KOREA TEL : 82-32-887-0040 FAX : 82-32-887-0111
CHINA PLANT	GANGTOU VILLAGE YANGTING TOWN HUANCUI ZONE WEIHAI CITY CHINA TEL : 86-631-5763828 FAX : 86-631-5763925

APPROVAL SHEET			DATE	2014. 11. 07.													
			PAGE	OF													
CUSTOMER	M S P																
PART NAME	SWITCHING TRANS		MODEL NO.														
PART NO.	SNP-6320RH-T1		DESCRIPTION	RM10 5+3P													
1. DIMENSIONS (UNIT:mm)  ◎TOP VIEW◎  ◎FRONT VIEW◎  ◎BOTTOM VIEW◎ * MARKING * PART NO → SNP-6320RH-T1 DONGIN AA BB MONTH YEAR MAKER DIS-10B ← INSULATION SYSTEM LOT NO <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <thead> <tr> <th colspan="2" style="text-align: center;">MARKING</th> </tr> </thead> <tbody> <tr> <td>PART NO.</td> <td>SNP-6320RH-T1</td> </tr> <tr> <td>(LOT NO)</td> <td>AA : YEAR</td> </tr> <tr> <td></td> <td>BB : MONTH</td> </tr> <tr> <td>MAKER</td> <td>DONG IN SYSTEM</td> </tr> <tr> <td>DIS-10B</td> <td>INSULATION SYSTEM</td> </tr> </tbody> </table>  ◎SIDE VIEW◎ ★. PIN 도금 사양 						MARKING		PART NO.	SNP-6320RH-T1	(LOT NO)	AA : YEAR		BB : MONTH	MAKER	DONG IN SYSTEM	DIS-10B	INSULATION SYSTEM
MARKING																	
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(LOT NO)	AA : YEAR																
	BB : MONTH																
MAKER	DONG IN SYSTEM																
DIS-10B	INSULATION SYSTEM																
DRAWN BY	CHECK BY	APPR. BY	REVISION		DATE												
				Safety													



DONG - IN SYSTEM CO.,LTD.

APPROVAL SHEET				DATE		2014. 11. 07.																																																															
				PAGE		OF																																																															
CUSTOMER		M S P																																																																			
PART NAME		SWITCHING TRANS			MODEL NO.																																																																
PART NO.		SNP-6320RH-T1			DESCRIPTION		RM10 5+3P																																																														
2. CONNECTION (BOTTOM VIEW)  <table border="1" style="border-collapse: collapse; text-align: center;"> <tr><td>REMOVED PIN</td><td>#3,7</td></tr> <tr><td>CUT PIN</td><td>#</td></tr> <tr><td>N.C PIN</td><td>#</td></tr> <tr><td>TEFLON TUBE</td><td>#</td></tr> <tr><td>FLUX BAND</td><td>#</td></tr> <tr><td>DOT MARK</td><td>■ START OF WINDING</td></tr> </table>								REMOVED PIN	#3,7	CUT PIN	#	N.C PIN	#	TEFLON TUBE	#	FLUX BAND	#	DOT MARK	■ START OF WINDING																																																		
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DONG - IN SYSTEM CO.,LTD.

APPROVAL SHEET				DATE	2014. 11. 07.
				PAGE	OF
CUSTOMER	M S P				
PART NAME	SWITCHING TRANS		MODEL NO.		
PART NO.	SNP-6320RH-T1		DESCRIPTION	RM10 5+3P	
6. ELECTRICAL CHARACTERISTICS					
NO	ITEM	TERMINAL	SPECIFICATION	REMARKS	
1	INDUCTANCE	1,2 - 4,5	400 μ H $\pm$ MIN (NO GAP)	HP 4284A LCR-METER AT 1kHz 1V	
2	DC RESISTANCE	1,2 - 4,5	0.09ohm MAX	HIOKI-3540 m Ω TESTER	
3	WITHSTANDING VOLTAGE	P COIL - CORE	AC 1,5 KV RMS 10mA 60 SEC.	KIKUSUI TOS8850	
4	INSULATION RESISTANCE	P COIL - S COIL	100Mohm MIN DC 500V	KIKUSUI TOS8850	
5	SURGE TEST	PRI. - SEC.	AC 1.5 KV 1SEC.		
7. CONSTRUCTION					
TOP BOTTOM					
* WINDING * P.S TAPE NO GAP FERRITE CORE [1] NO GAP FERRITE CORE [1]					
DRAWN BY	CHECK BY	APPR. BY	REVISION	Safety	DATE



DONG - IN SYSTEM CO.,LTD.

APPROVAL SHEET				DATE	2014. 11. 07.
				PAGE	OF
CUSTOMER		M S P			
PART NAME		SWITCHING TRANS		MODEL NO.	
PART NO.		SNP-6320RH-T1		DESCRIPTION	RM10 5+3P
8. MATERIAL LIST					
NO	ITEM	MATERIAL	MANUFACTURER	FILE NO.	
1	CORE	PC-40 RM10 HX-4P RM10	JI SHUN MAGNETIC CO.,LTD. NANTONG HUAXING MAGNETIC MATERIAL CO.,LTD		
2	BOBBIN	PHENOL 94V-0 RM10 8PIN	SUMITOMO BAKELITE CO., LTD.	E41429	
3	WIRE	POLYURETHANE ENAMELED COPPER WIRE USTC 0.10Ø X 30P USTC 0.10Ø X 40P	DONG YANG ELECTRONICS IND CO LTD.	E102761	
4	INSULATION TAPE	POLYESTERS TAPE T = 0.025mm , T = 0.050mm W = 10.5mm (YELLOW)	DUCK SUNG HITECH CO LTD.	E105147	
5	CORE FIXING TAPE	POLYESTERS TAPE T = 0.025mm , W=7.0mm (YELLOW)			
6	PIN TERMINAL	SOLDER COATED COPPER	DAE-A LEAD CO.,LTD.		
7	VARNISH	SR-337A,B	SEKYE CHEMICAL CO.,LTD.	E257443	
8	SOLDER	Sn99.3 / Cu0.7 or EQV.	ALPHA METALS CO.,LTD or EQV.		
9	MARKING	INK (BON MARQUE) or EQV.	ATL CO.,LTD or EQV.		
10	FLUX	EF9301, DP-500K	ALPHA METALS CO.,LTD DUIYUAN TECH(HUIZHOU)CO.,LTD		
DRAWN BY		CHECK BY	APPR. BY	REVISION	DATE



DONG - IN SYSTEM CO.,LTD.

CUSTOMER : Manufacturing Solution Provide CO., Ltd.

NO :20141013-190

S P E C I F I C A T I O N

APPLICATION FOR APPROVAL OF

ITEM : TRANS

DESCRIPTION : RM10 5+3P

CODE NO : MSS10-405C

MODEL NO : SNP-6320RH-L32

This space is used for customer's approval

DESIGN	CHECK	APPROVAL
A TERM OF VALIDITY	YEAR	

DONG HEUNG ELECTRONICS CO., LTD.

36, BAEKSEOKGONGDAN 6-GIL, SEOBUK-GU,
CHEONAN-SI, CHUNGCHEONGNAM-DO, KOREA

TEL : (041)552-1106-9

FAX : (041)552-3784

BAZHOU DONGXING

LAO DICUN, BAZHOU, HEIBEI PROVINCE, CHINA

YANTAI

SHENG QUAN INDUSTRIAL, LAISHAN DISTRICT, YANTAI,
SHANDONG PROVINCE, CHINA

DATE : 2014. 10. 14.

DRAWN BY S. J. PARK		DATE 2014. 10. 14.
CHECKED BY J. C. JI		DATE 2014. 10. 14.
APPROVED BY Y. S. KIM		DATE 2014. 10. 14.

0705-00양식03

CUSTOMER : Manufacturing Solution Provide CO., Ltd.

SPECIFICATION		SHEET NO.	1 OF 16	
		DATE	2014. 10. 14.	
PART NAME	TRANS	MODEL NAME	SNP-6320RH-L32	
CODE NO.	MSS10-405C	DESCRIPTION	RM10	

1. APPEARANCE & DIMENSION (UNIT:mm)

*** MARKING (BLACK)**

SNP-6320RH-L32 ← MODEL NO.

DH 0000 DHB-001 ← CLASS B

→ PRODUCTION LINE

→ WEEK

→ YEAR

→ PRODUCTION MAKER

※ PRODUCTION LINE

1. A : CHUN AN

2. B : BAZHOU

3. Y : YANTAI

<< TOP VIEW >>

<< FRONT VIEW >>

<< BOTTOM VIEW >>

<< SIDE VIEW >>

※ PIN LENGTH: BEFORE SOLDERING

CUSTOMER : Manufacturing Solution Provide CO., Ltd.

SPECIFICATION				SHEET NO.		2 OF 16																																																				
PART NAME				TRANS		DATE																																																				
CODE NO.				MSS10-405C		MODEL NAME																																																				
				DESCRIPTION		SNP-632ORH-L32																																																				
						RM10																																																				
2. WINDING SPECIFICATION ■ * START MARK.				<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>WINDING</td> <td>BOTTOM VIEW</td> <td>C.C.W</td> </tr> <tr> <td>REMOVED PIN</td> <td>#1,3,5,7</td> <td></td> </tr> <tr> <td>CUT PIN</td> <td></td> <td></td> </tr> <tr> <td>N.C PIN</td> <td></td> <td></td> </tr> <tr> <td>TUBE</td> <td></td> <td></td> </tr> </table>				WINDING	BOTTOM VIEW	C.C.W	REMOVED PIN	#1,3,5,7		CUT PIN			N.C PIN			TUBE																																						
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0705-00양식04

DONG HEUNG ELECTRONICS CO., LTD.

CUSTOMER : Manufacturing Solution Provide CO., Ltd.

SPECIFICATION			SHEET NO.	4 OF 16		
			D A T E	2014. 10. 14.		
PART NAME	TRANS		MODEL NAME	SNP-632ORH-L32		
CODE NO.	MSS10-405C		DESCRIPTION	RM10		
6. TEST SPECIFICATION AT 25℃						
NO.	ITEM	TERMINAL	SPECIFICATION	REMARKS		
1	INDUCTANCE	6 - 8	25.0 uH $\pm$ 12%	HP-4284A at 1KHz, 1Vrms		
2	DC RESISTANCE	6 - 8	0.06 [Ω] MAX	WHEATSTONE BRIDGE YEW TYPE 2755 HIOKI TYPE RM3544		
3	WITHSTANDING VOLTAGE	COIL - CORE	AC 1.50KV, 1 MINUTE	KIKUSUI : TOS-9200 (1MINUTE CURRENT 5mA)		
4	INSULATION RESISTANCE	COIL - CORE	100M Ω MIN at DC 500V	KIKUSUI : TOS-9200		
5	IMPULSE TEST (SURGE TEST)	AC 1.5KV / 3PULSE				
NO	REVISION	DATE	CHECK	DRAWN	CHECKED	APPROVED
1						
2						
3						
4						

0705-00양식04

DONG HEUNG ELECTRONICS CO., LTD.

CUSTOMER : Manufacturing Solution Provide CO., Ltd.

SPECIFICATION		SHEET NO.	5 OF 16			
		D A T E	2014. 10. 14.			
PART NAME	TRANS	MODEL NAME	SNP-632ORH-L32			
CODE NO.	MSS10-405C	DESCRIPTION	RM10			

7. INTERNAL CONSTRUCTION

* WINDING

* P.S TAPE

NO	REVISION	DATE	CHECK	DRAWN	CHECKED	APPROVED
1						
2						
3						
4						

CUSTOMER : Manufacturing Solution Provide CO., Ltd.

SPECIFICATION		SHEET NO.	6 OF 16			
		D A T E	2014. 10. 14.			
PART NAME	TRANS	MODEL NAME	SNP-632ORH-L32			
CODE NO.	MSS10-405C	DESCRIPTION	RM10			
8. MATERIAL LIST						
NO	I T E M	MATERIALS & DIMENSIONS	MANUFACTURER	REMARK		
1	CORE	RM 10 PL-7,KP-4,DMR40, K2.3P,NH2B,JP4,KP4,TY40 or Equiv.	SAM JIWA ELECTRONICS CO., LTD. ZAOZHUNG KINGTECH ELECTRONICS CO.,LTD. ZHEJING DONGYANG DMEGC MAGNETIC CO.,LTD. ZHEJIANG LINAN HE SHUN MAGNETIC FLUX ELECTRONIC CO.,LTD. ZHEJIANG HAINING LIANFENG MAGNET INDUSTRY CO., LTD. WUXI SPINEL MAGNETICS CO.,LTD. SHANGHAI KANGSHUN MAGNETIC COMPONENT CO., LTD. Guangzhou Tongyang Electronics Co., Ltd or Equiv.			
2	BOBBIN	RM10 [8P] PHENOL (94V-0)	SUMITOMO BAKELITE CO., LTD. HITACHI CHEMICAL CO LTD	E41429 E42926		
3	COPPER WIRE	UEW 0.40Ø USTC 0.10 Ø x50#	DONG YANG ELECTRONICS IND CO.,LTD. SHANDONG PENGTAI STOCK CO., LTD. ZHEJIANG XIANDENG ELECTRICAL APPLIANCES CO., LTD JIANGSU DARTONG M&E CO.,LTD HANGZHOU WEIFENG ELECTRONIC CO LTD	E102761 E166187 E218270 E237377 E229341		
4	INSULATION TAPE	POLYESTER TAPE 0.025t x 10.5mm 0.025t x 10.5mm {GREEN}	DUCK SUNG HITECH CO., LTD. JINGJIANG YAHUA PRESSURE SENSITIVE GLUE CO., LTD. METAL LINE CO., LTD.	E105147 E165111 E162848		
5	CORE FIXING TAPE	POLYESTER TAP 0.025t x 7.0mm {YELLOW}				
6	EPOXY	UN1-BOND #812 SK-015B H-907	GREENSTAR CO.,LTD. SE KYE CHEMICAL CO., LTD. DONG GUAN SHI PAI HUA CHUANG MATERIAL FTY.			
7	IMPREGNATION	EPOXY	HITACHI CHEMICAL CO., LTD. KYOCERA CHEMICAL CORP SE KYE CHEMICAL CO LTD NOROO PAINT & COATINGS CO LTD	E72979 E83702 E257443 E93947		
8	SOLDER BAR	SN98CU2-B20	SAMWOO METAL CO., LTD. YUNNAN TIN CO.,LTD. ASIA GENERAL ELECTRONICS CO.,LTD			
9	INK	JP-K12,K33 BON MARQUE MS-6853	HITACHI INDUSTRIAL EQUIPMENT CO.,LTD T&K TOKA CO.,LTD SHANGHAI LEADJET INKJET PRINTER TECHNIQUE CO., LTD.			
10	FLUX	SV-PBF-304 FC-113	KOKI SANEI KOREA CO.,LTD TAMURA KAKEN CORPORATION			
NO	REVISION	DATE	CHECK	DRAWN	CHECKED	APPROVED
1						
2						
3						
4						

0705-00양식04

DONG HEUNG ELECTRONICS CO., LTD.



TO MESSRS : M S P

(SWITCHING TRANS) SPECIFICATION

MODEL NAME : PART NO : SNP-6320RH-L32

CUSTOMER'S SPEC. NO : DI SPEC. NO : RM10 5+3P

APPROVED	REFERENCE

DATE : 2014. 11. 07.



DONG IN SYSTEM CO.,LTD.



HEAD OFFICE	124-116 SUNG-EU DONG NAM-KU , INCHEON , KOREA TEL : 82-32-887-0040 FAX : 82-32-887-0111
CHINA PLANT	GANGTOU VILLAGE YANGTING TOWN HUANCUI ZONE WEIHAI CITY CHINA TEL : 86-631-5763828 FAX : 86-631-5763925

APPROVAL SHEET			DATE	2014. 11. 07.	
			PAGE	OF	
CUSTOMER	M S P				
PART NAME	SWITCHING TRANS		MODEL NO.		
PART NO.	SNP-6320RH-L32		DESCRIPTION	RM10 5+3P	

1. DIMENSIONS (UNIT:mm)

31.0 MAX

31.0 MAX

◎TOP VIEW◎

21.0 MAX

3.5 ± 1.0

◎FRONT VIEW◎

3.5 ± 0.5

25.0 ± 0.5

5.0 ± 0.5

◎BOTTOM VIEW◎

* MARKING *

PART NO. → SNP-6320RH-L32	DIS-10B ← INSULATION SYSTEM	LOT NO
DONGIN	AA	BB
	↑	↑
	MONTH	YEAR
	MAKER	

MARKING	
PART NO.	SNP-6320RH-L32
(LOT NO)	AA : YEAR
	BB : MONTH
MAKER	DONG IN SYSTEM
DIS-10B	INSULATION SYSTEM

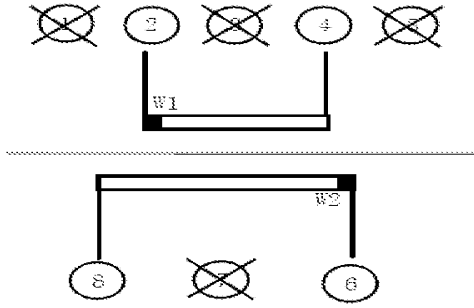
0.80 ± 0.1

◎SIDE VIEW◎

★. PIN 도금 사양

DRAWN BY	CHECK BY	APPR. BY	REVISION	DATE
[Signature]		[Signature]		

Safety

APPROVAL SHEET				DATE		2014. 11. 07.																																																				
				PAGE		OF																																																				
CUSTOMER		M S P																																																								
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2. CONNECTION (BOTTOM VIEW)  <table border="1" style="margin-left: 20px;"> <tr><td>REMOVED PIN</td><td>#1,3,5,7</td></tr> <tr><td>CUT PIN</td><td>#</td></tr> <tr><td>N.C PIN</td><td>#</td></tr> <tr><td>TEFLON TUBE</td><td>#</td></tr> <tr><td>FLUX BAND</td><td>#6</td></tr> <tr><td>DOT MARK</td><td>#START OF WINDING</td></tr> <tr><td colspan="2">* CORE CENTER BOND</td></tr> </table>								REMOVED PIN	#1,3,5,7	CUT PIN	#	N.C PIN	#	TEFLON TUBE	#	FLUX BAND	#6	DOT MARK	#START OF WINDING	* CORE CENTER BOND																																						
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DONG - IN SYSTEM CO.,LTD.

APPROVAL SHEET				DATE	2014. 11. 07.
				PAGE	OF
CUSTOMER	M S P				
PART NAME	SWITCHING TRANS	MODEL NO.			
PART NO.	SNP-6320RH-L32	DESCRIPTION	RM10 5+3P		
6. ELECTRICAL CHARACTERISTICS					
NO	ITEM	TERMINAL	SPECIFICATION	REMARKS	
1	INDUCTANCE	6 - 8	25.0uH $\pm$ 12%	HP 4284A LCR-METER AT 1kHz 1V	
2	DC RESISTANCE	6 - 8	0.06ohm MAX	HIOKI-3540 m Ω TESTER	
3	WITHSTANDING VOLTAGE	P COIL - CORE	AC 1,5 KV RMS 10mA 60 SEC.	KIKUSUI TOS8850	
4	INSULATION RESISTANCE	P COIL - S COIL	100Mohm MIN DC 500V	KIKUSUI TOS8850	
5	SURGE TEST	PRI. - SEC.	AC 1.5 KV 1SEC.		
7. CONSTRUCTION					
TOP BOTTOM * WINDING * P.S TAPE					
DRAWN BY	CHECK BY	APPR. BY	REVISION	DATE	
			Safety		



DONG - IN SYSTEM CO.,LTD.

APPROVAL SHEET				DATE	2014. 11. 07.
				PAGE	OF
CUSTOMER	M S P				
PART NAME	SWITCHING TRANS		MODEL NO.		
PART NO.	SNP-6320RH-L32		DESCRIPTION	RM10 5+3P	
8. MATERIAL LIST					
NO	ITEM	MATERIAL	MANUFACTURER	FILE NO.	
1	CORE	PC-40 RM10 HX-4P RM10	JI SHUN MAGNETIC CO.,LTD. NANTONG HUAXING MAGNETIC MATERIAL CO.,LTD		
2	BOBBIN	PHENOL 94V-0 RM10 8PIN	SUMITOMO BAKELITE CO., LTD.	E41429	
3	WIRE	POLYURETHANE ENAMELED COPPER WIRE UEW 0.40Ø USTC 0.10Ø X 50P	DONG YANG ELECTRONICS IND CO LTD.	E102761	
4	INSULATION TAPE	POLYESTERS TAPE T = 0.025mm , T = 0.050mm W = 10.5mm(GREEN)	DUCK SUNG HITECH CO LTD.	E105147	
5	CORE FIXING TAPE	POLYESTERS TAPE T = 0.025mm , W=7.0mm (YELLOW)			
6	PIN TERMINAL	SOLDER COATED COPPER	DAE-A LEAD CO.,LTD.		
7	ADHESIVE	SK-015B	SEKYE EPOXY RESIN CO., LTD.		
8	VARNISH	SR-337A,B	SEKYE CHEMICAL CO.,LTD.	E257443	
9	SOLDER	Sn99.3 / Cu0.7 or EQV.	ALPHA METALS CO.,LTD or EQV.		
10	MARKING	INK (BON MARQUE) or EQV.	ATL CO.,LTD or EQV.		
11	FLUX	EF9301, DP-500K	ALPHA METALS CO.,LTD DUIYUAN TECH(HUIZHOU)CO.,LTD		
DRAWN BY	CHECK BY	APPR. BY	REVISION		DATE
					



DONG - IN SYSTEM CO.,LTD.

Miscellaneous-09 Page-1

Project No. 4789194491 File E158873 Page 1
 Compliance Review Conducted by: _____ Date _____
 Printed Name Signature

Standard SCC Requirements and Guidance - Product Certification Body Accreditation Program Edition/ Revision Date 2016-04-06

Clause/Par. Reference and Construction Requirement	Comply			Comments/Measurements	Inst. ID No.
	Yes	No	N/A		
9.2.3 CBs shall include dual language safety labeling within their product certification requirements, if so required by the standard or by the authority having jurisdiction.					
The manufacturer has confirmed they have the ability to include English and French safety labeling exactly as specified in the product standard; or, if NOT specified in the product standard, the ability to include English and French safety labelling consisting of markings associated with the signal words DANGER, WARNING, and CAUTION when required.	X			The ability of the manufacturer to include these markings was verified by either (1) visual inspection of the markings on the actual product or (2) draft of labels that will be applied to the product or (3) written confirmation from the customer of the markings that will appear on the product. If the product standard provides the exact translation, the evidence must match the exact translation. If the product standard does NOT provide the exact translation, the evidence must simply include both the English and French text (no verification of translation is required).	N/A

Miscellaneous-09 Page-2

Project No. 4789194491

File E158873

Page 2

Compliance

Review

Conducted by:

Printed Name

Signature

Date

Clause/Par. Reference and Construction Requirement	Comply			Comments/Measurements	Inst. ID No.
	Yes	No	N/A		
Manufacturer has a method to manage distribution of products, IF all products with the Canadian certification mark are NOT going to include the dual language.	X			Evaluation staff are to only verify that the manufacturer has a method to control distribution. Evaluation staff do not have to record the method of control nor are the evaluation staff expected to verify the effectiveness of the method of control. This requirement to verify that a method exists will be noted in the FUS Procedure. The UL Field Engineer will verify the method during surveillance. If the manufacturer is going to include the dual language on all products with the Canadian certification mark, then this item is N/A; no further action required.	N/A

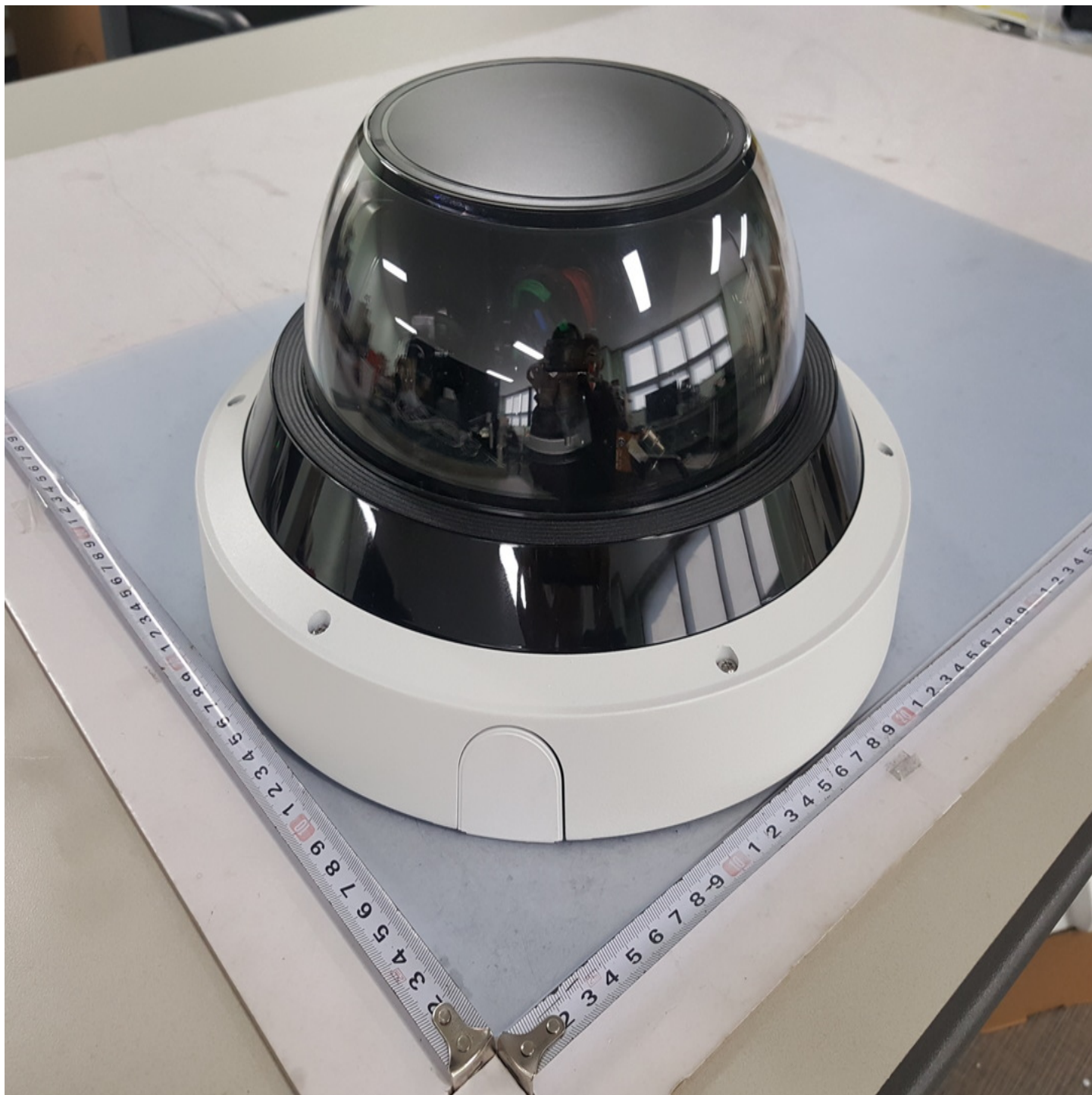


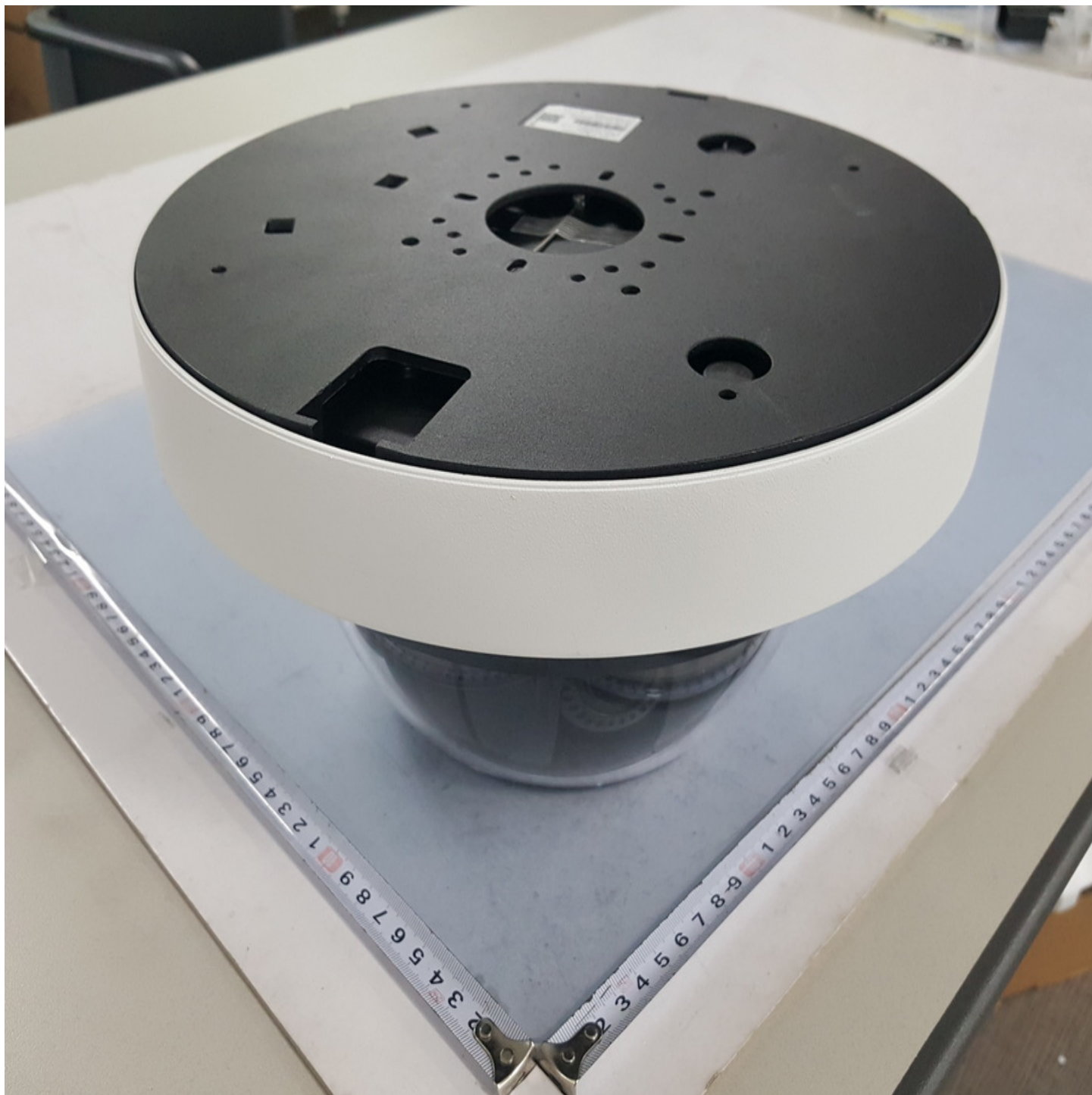
NETWORK CAMERA
MODEL: PNM-9085RQZ
DC 12V $\overline{\text{---}}$ 3.5A
PoE(55V $\overline{\text{---}}$) 0.82A
M/C: PNM-9085RQZ/KUS Fac. ID: D
DATE S/N: Serial No.
MAC ADDRESS: XX-XX-XX-XX-XX-XX
CAN ICES-3(A)/NMB-3(A)
HANWHA TECHWIN CO.,LTD.
MADE IN KOREA



NETWORK CAMERA
MODEL: PNM-9084RQZ
DC 12V $\overline{\text{---}}$ 3.2A
PoE(55V $\overline{\text{---}}$) 0.77A
M/C: PNM-9084RQZ/KUS Fac. ID: D
DATE S/N: Serial No.
MAC ADDRESS: XX-XX-XX-XX-XX-XX
CAN ICES-3(A)/NMB-3(A)
HANWHA TECHWIN CO.,LTD.
MADE IN KOREA

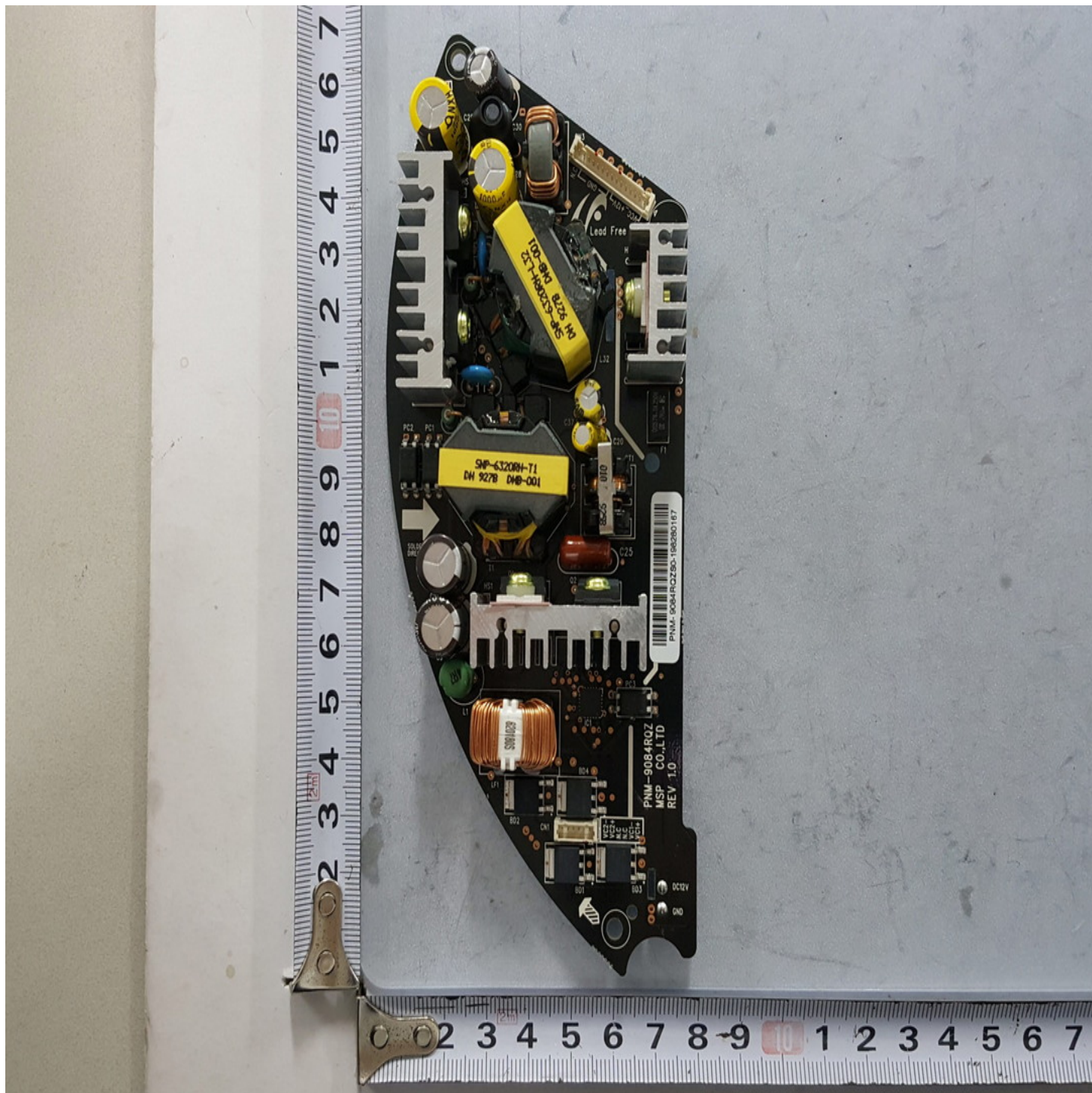


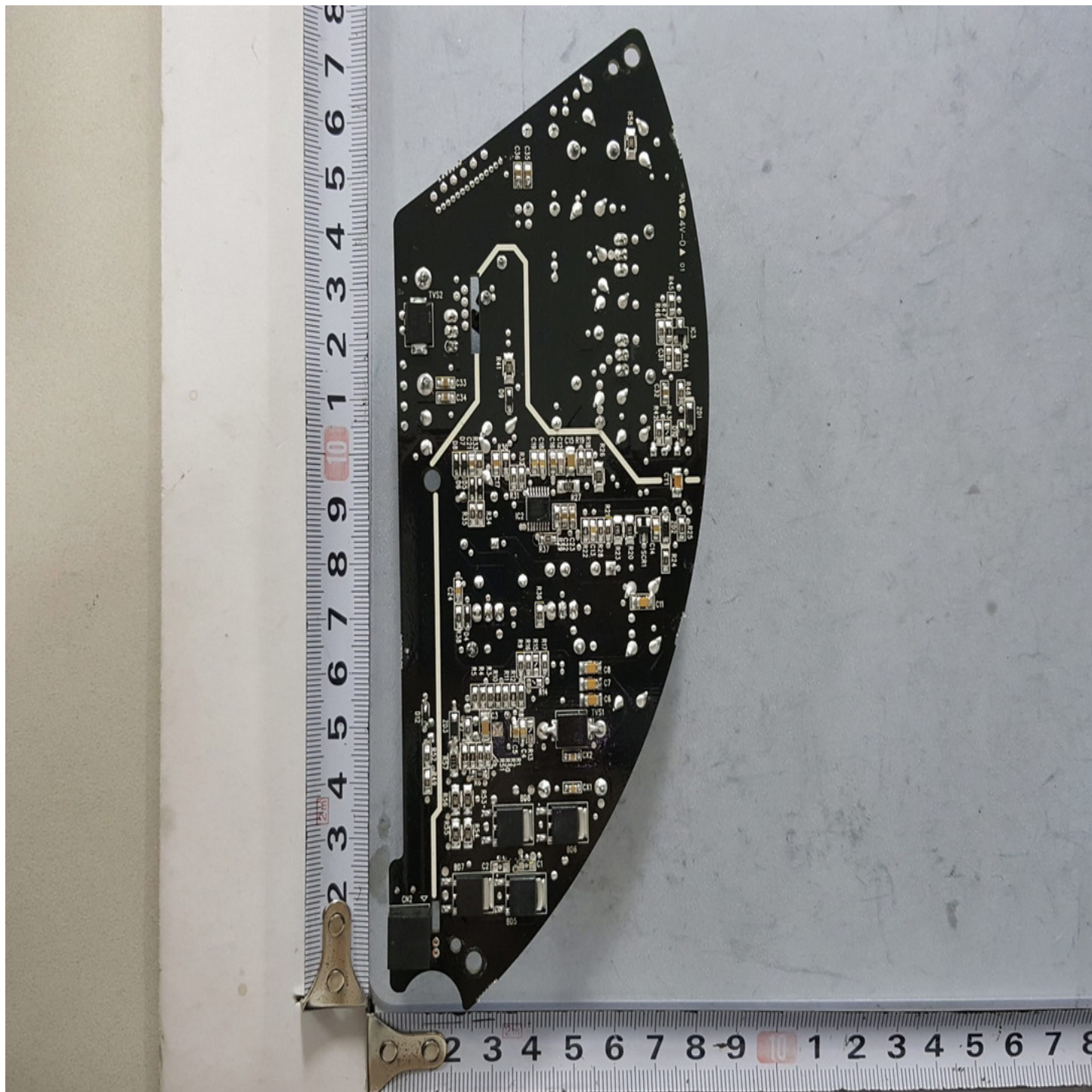


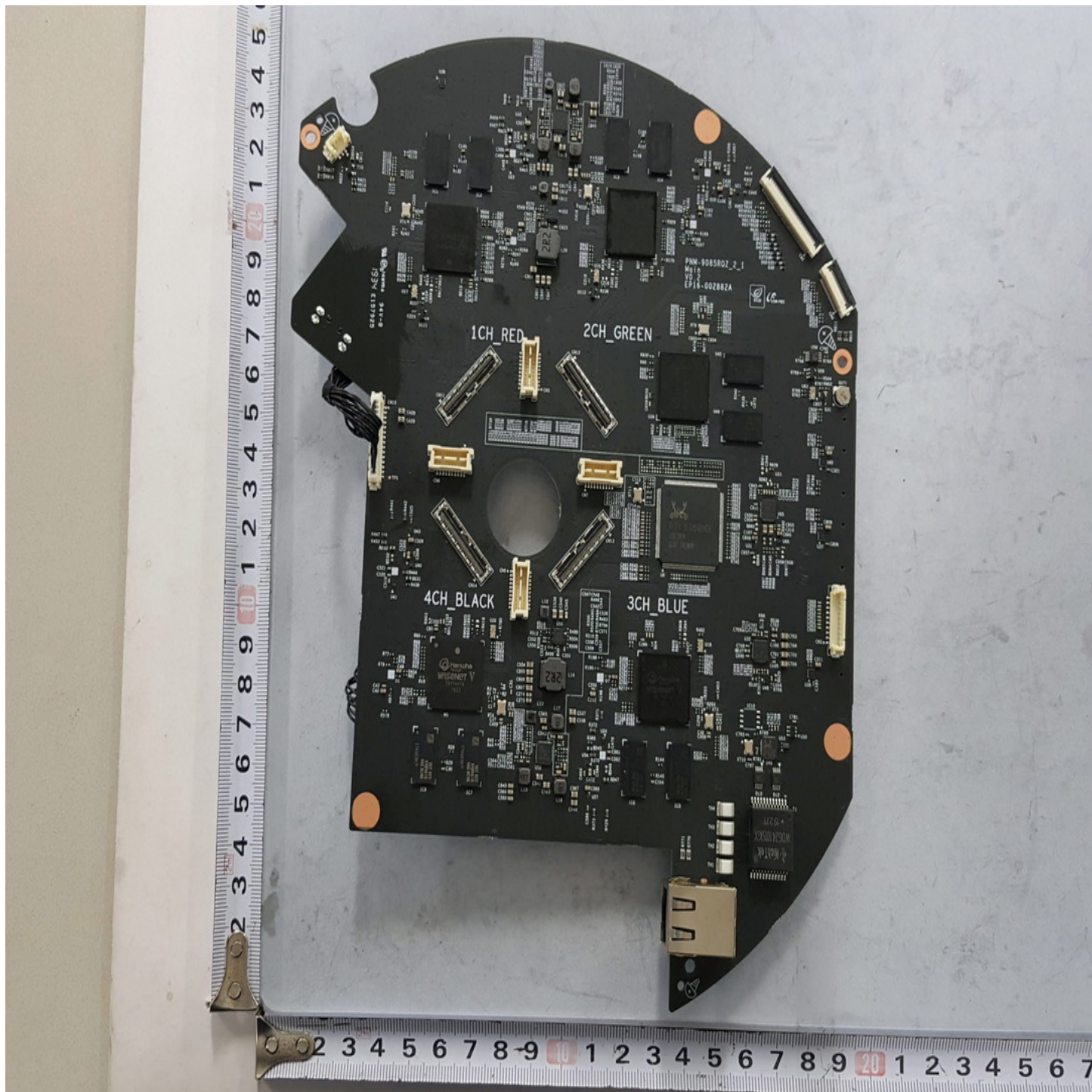


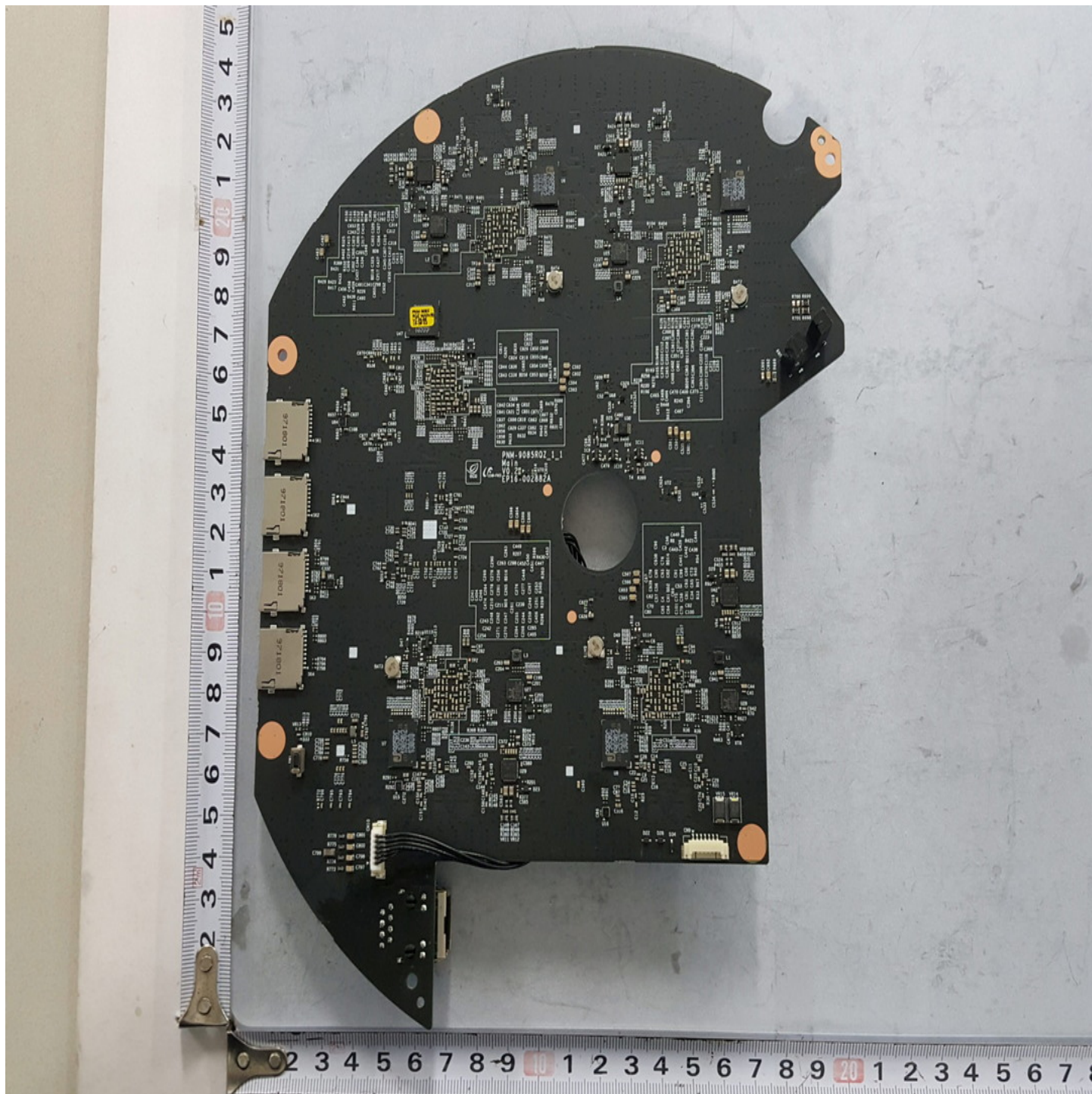












Revision Date: 2022-03-03

Test Record No. 1

1. Test result relate only to the items tested.
2. The manufacturer submitted representative production samples of NETWORK CAMERA, Model PNM-9084RQZ and PNM-9085RQZ.
3. Only the test listed were considered necessary.

The following tests were conducted:

Tests performed (name of test and test clause):	Testing location: None (CBTL), None
Input: Single-Phase (1.6.2)	
SELV Reliability Test Including Hazardous Voltage Measurements (2.2.2, 2.2.3, 2.2.4, Part 22 6.1)	
Determination of Working Voltage; Working Voltage Measurement (2.10.2)	
Loading - Wall and Ceiling Mounted Equipment (4.2.10)	
Battery (4.3.8)	
Heating (4.5.1, 1.4.12, 1.4.13)	
Component Failure (5.3.1, 5.3.4, 5.3.7)	
The following tests were waived:	Rationale for Waiving
Limited Power Source Measurements (2.5)	Supplied by LPS

Test results are valid only for the tested equipment. These tests are considered representative of the products covered by this Test Report. The test methods and results of the above tests have been reviewed and found to be in accordance with the requirements in the Standard(s) referenced at the beginning of this Test Report.

The following supplements are provided as part of this Test Record. NOTE: These supplements are only available to the Applicant via the myUL™ Client Portal.

Type	Supplement Id	Description
Attachment	02-01	Datasheet

Revision Date: 2022-03-03

Test Record No. 2

No test was considered necessary in order to below revision.

- Add model name PNM-9084RQZ1, PNM-9085RQZ1.

The following tests were conducted:

Tests performed (name of test and test clause): None	Testing location: None
The following tests were waived: None	Rationale for Waiving

Test results are valid only for the tested equipment. These tests are considered representative of the products covered by this Test Report. The test methods and results of the above tests have been reviewed and found to be in accordance with the requirements in the Standard(s) referenced at the beginning of this Test Report.

The following supplements are provided as part of this Test Record. NOTE: These supplements are only available to the Applicant via the myUL™ Client Portal.

Type	Supplement Id	Description