

TEST REPORT

TEST REPORT NUMBER : TURT190050518 DATE: 25 March, 2019

APPLICANT: Mega Radar Elektrik Elektronik İnşaat Sanayi ve Ticaret A.Ş.

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SAMPLE DESCRIPTION

Sample 1 : One sample of Blue plastic item
Sample 2 : One sample of Green plastic item
Sample 3 : One sample of Orange plastic item
Sample 4 : One sample of Kontak (Silver coated) (metal item)
Sample 5 : One sample of Square (nickel coated) (metal item)
Sample 6 : One sample of Steel screw (metal item)

DATE IN : 19 March, 2019 (11:11)

DATE OUT : 26 March, 2019

REQUEST : RoHS Test was performed according to 2015/863/EU Directive.

COUNTRY OF ORIGIN : TURKEY

MANUFACTURERS NAME : MEGA RADAR A.Ş.

RESULTS : SEE ATTACHMENT

CONCLUSION

Testing Item	Conclusion
Sample 1	PASS
Sample 2	PASS
Sample 3	PASS
Sample 4	PASS
Sample 5	PASS
Sample 6	PASS

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Merve Aydoğan
Customer Care Executive



Zeynep Akın
Chemical Laboratory Manager

(A)TEST RESULT SUMMARY ACCORDING TO IEC 62321

TESTING ITEM	RESULT		
	Sample		
	1	2	3
Cadmium (Cd) Content	ND	ND	ND
Chromium VI (Cr+6) Content (ppm) (for non metal)	ND	ND	ND
Chromium VI (Cr+6) Content (µg/cm ²) (for metal)	NA	NA	NA
Lead (Pb) Content	ND	ND	ND
Mercury (Hg) Content	ND	ND	ND
Flame Retardants			
Polybrominated Biphenyls (PBB)	ND	ND	ND
Monobromobiphenyl (MonoBB)	ND	ND	ND
Dibromobiphenyl (DiBB)	ND	ND	ND
Tribromobiphenyl (TriBB)	ND	ND	ND
Tetrabromobiphenyl (TetraBB)	ND	ND	ND
Pentabromobiphenyl (PentaBB)	ND	ND	ND
Hexabromobiphenyl (HexaBB)	ND	ND	ND
Heptabromobiphenyl (HeptaBB)	ND	ND	ND
Octabromobiphenyl (OctaBB)	ND	ND	ND
Nonabromobiphenyl (NonaBB)	ND	ND	ND
Decabromobiphenyl (DecaBB)	ND	ND	ND
Polybrominated Diphenyl Ethers (PBDE)	ND	ND	ND
Monobromodiphenyl Ether (MonoBDE)	ND	ND	ND
Dibromodiphenyl Ether (DiBDE)	ND	ND	ND
Tribromodiphenyl Ether (TriBDE)	ND	ND	ND
Tetrabromodiphenyl Ether (TetraBDE)	ND	ND	ND
Pentabromodiphenyl Ether (PentaBDE)	ND	ND	ND
Hexabromodiphenyl Ether (HexaBDE)	ND	ND	ND
Heptabromodiphenyl Ether (HeptaBDE)	ND	ND	ND
Octabromodiphenyl Ether (OctaBDE)	ND	ND	ND
Nonabromodiphenyl Ether (NonaBDE)	ND	ND	ND
Decabromodiphenyl Ether (DecaBDE)	ND	ND	ND
Phthalates			
Dibutyl Phthalate (DBP)	ND	ND	ND
Diethyl Hexyl Phthalate (DEHP)	ND	ND	ND
Benzyl Butyl Phthalate (BBP)	ND	ND	ND
Diisobutyl Phthalate (DIBP)	ND	ND	ND

Remarks : ppm=Parts per million based on dry weight of sample
 µg/cm²=Microgram per square centimetre
 mg/kg with 50 cm²=Milligram per kilogram with 50 square centimetre
 ND =Not detected NA =Not applicable NR =Not requested
 *=Exceeded Limit

Estimated Total Uncertainty = ((Heavy Metal: ±7% , PBB/PBDE: ±6%, Phthalates: ±6%))

(A)TEST RESULT SUMMARY ACCORDING TO IEC 62321

TESTING ITEM	RESULT		
	Sample		
	4	5	6
Cadmium (Cd) Content	ND	ND	ND
Chromium VI (Cr+6) Content (ppm) (for non metal)	NA	NA	NA
Chromium VI (Cr+6) Content (µg/cm ²) (for metal)	ND	ND	ND
Lead (Pb) Content	ND	ND	ND
Mercury (Hg) Content	ND	ND	ND
Flame Retardants			
Polybrominated Biphenyls (PBB)	NA	NA	NA
Monobromobiphenyl (MonoBB)	NA	NA	NA
Dibromobiphenyl (DiBB)	NA	NA	NA
Tribromobiphenyl (TriBB)	NA	NA	NA
Tetrabromobiphenyl (TetraBB)	NA	NA	NA
Pentabromobiphenyl (PentaBB)	NA	NA	NA
Hexabromobiphenyl (HexaBB)	NA	NA	NA
Heptabromobiphenyl (HeptaBB)	NA	NA	NA
Octabromobiphenyl (OctaBB)	NA	NA	NA
Nonabromobiphenyl (NonaBB)	NA	NA	NA
Decabromobiphenyl (DecaBB)	NA	NA	NA
Polybrominated Diphenyl Ethers (PBDE)	NA	NA	NA
Monobromodiphenyl Ether (MonoBDE)	NA	NA	NA
Dibromodiphenyl Ether (DiBDE)	NA	NA	NA
Tribromodiphenyl Ether (TriBDE)	NA	NA	NA
Tetrabromodiphenyl Ether (TetraBDE)	NA	NA	NA
Pentabromodiphenyl Ether (PentaBDE)	NA	NA	NA
Hexabromodiphenyl Ether (HexaBDE)	NA	NA	NA
Heptabromodiphenyl Ether (HeptaBDE)	NA	NA	NA
Octabromodiphenyl Ether (OctaBDE)	NA	NA	NA
Nonabromodiphenyl Ether (NonaBDE)	NA	NA	NA
Decabromodiphenyl Ether (DecaBDE)	NA	NA	NA
Phthalates			
Dibutyl Phthalate (DBP)	NA	NA	NA
Diethyl Hexyl Phthalate (DEHP)	NA	NA	NA
Benzyl Butyl Phthalate (BBP)	NA	NA	NA
Diisobutyl Phthalate (DIBP)	NA	NA	NA

Remarks : ppm=Parts per million based on dry weight of sample
 µg/cm²=Microgram per square centimetre
 mg/kg with 50 cm²=Milligram per kilogram with 50 square centimetre
 ND =Not detected NA =Not applicable NR =Not requested
 *=Exceeded Limit

Estimated Total Uncertainty = ((Heavy Metal: ±7% , PBB/PBDE: ±6%, Phthalates: ±6%))

(B) REQUIREMENT:

SUBSTANCE	LIMITS
Cadmium (Cd)Content	0.01 % (100 ppm)
Chromium VI (Cr+6)Content(ppm)(for non metal)	0.1 % (1000 ppm)
Chromium VI (Cr+6)Content($\mu\text{g}/\text{cm}^2$)for metal)	Colorimetric result $< 0.10 \mu\text{g}/\text{cm}^2$ $\geq 0.10 \mu\text{g}/\text{cm}^2$ and $\leq 0.13 \mu\text{g}/\text{cm}^2$ $> 0.13 \mu\text{g}/\text{cm}^2$ Qualitative Result Negative Inconclusive Positive
Lead (Pb) Content	0.1 % (1000 ppm)
Mercury (Hg) Content	0.1 % (1000 ppm)
Flame Retardants	0.1 % (1000 ppm)
Dibutyl Phthalate (DBP)	0.1 % (1000 ppm)
Diethyl Hexyl Phthalate (DEHP)	0.1 % (1000 ppm)
Benzyl Butyl Phthalate (BBP)	0.1 % (1000 ppm)
Diisobutyl Phthalate (DIBP)	0.1 % (1000 ppm)

(C) TEST METHOD :

Testing Item	Testing Method	Reporting Limit
Cadmium (Cd)Content	With reference to IEC 62321-5:2013,by microwave or acid digestion and determined by ICP-OES	Plastic : 2.5 ppm, Metal : 5 ppm, Ceramic : 1.25 ppm
Lead (Pb)Content	With reference to IEC 62321-5:2013,by microwave or acid digestion and determined by ICP-OES	Plastic : 5 ppm, Metal : 10 ppm, Ceramic : 2.5 ppm
Mercury (Hg)Content	With reference to IEC 62321-4:2017,by microwave or acid digestion and determined by ICP-OES	Plastic : 5 ppm, Metal : 10 ppm, Ceramic : 2.5 ppm
Chromium VI (Cr6+) (For non-metal)	With reference to IEC 62321-7-2:2017,by alkaline digestion and determined by UV-VIS spectrophotometer	Plastic : 25 ppm (PVC based) /8.33 ppm (other), Ceramic : 8.33 ppm
Chromium VI (Cr6+) (For metal)	With reference to IEC 62321-7-1:2015 ,by boiling water extraction and determined by UV-VIS spectrophotometer	0.1 mg/kg with 50 cm ² (IN TESTING SOLUTION)
PBBs/PBDEs	With reference to IEC 62321-6:2015,by solvent extraction and determined by GC/MS and HPLC	5 ppm
Phthalates	With reference to IEC 62321-8 (111/321/CD), by solvent extraction and determined by GC-MS.	50 ppm

Sample 1



Sample 2



Sample 3



Sample 4



Sample 5



Sample 6



END OF TEST REPORT