LIST OF PAPERS PUBLISHED OR PRESENTED

Publications:

- Published an article titled "**Growing Scenario in Healthcare Textile**" in the "Asian Journal of Research in Social Science and Humanities", December,2011
- Published an article titled "**Comparing the Effectiveness of Conductive Yarns Woven into Textile Structure by Electrical And Mechanical Analysis"** in the "International Journal of Engineering Technology Science and Research", volume 4,issue 10, October 2017
- Published an article titled "**A Survey on Awareness of Innovative Smart Wearable Health Monitoring System"** in the "Asian Journal of Multidimensional Research", volume 7, issue 2, February 2018

Presentations:

- Presented paper in National Conference in the title "**GROWING SCENARIO IN HEALTHCARE TEXTILE"** at **Avinashilingam Institute for Home Science & Higher education for Women, Coimbatore** on 15.12.11.
- Presented paper in ATNT International Conference in the title "**SMART TEXTILES AND WEARABLE ELECTRONIC TEXTILES"** at **KCT, Coimbatore** on 15.12.11 to 17.12.11.

- Presented paper in UGC sponsored National Conference in the title "**SMART TEXTILES – THE NEW GENERATION OF TEXTILES"** at **Mount Carmel College, Bangalore** on 02.02.12 & 03.02.12.
- Presented paper in UGC sponsored National Conference on "Eco-Textiles and Green Consumerism"ETGC-2016 in the title**"AWARENESS OF SMART WEARABLE KIDS HEALTH MONITORING SYSTEM"** at **Avinashilingam Institute for Home Science & Higher education for Women, Coimbatore** on 9th and 10th March 2016.
- Presented paper in UGC sponsored 7th International Conference on Development Policy in the title **"INNOVATIONS IN MANUFACTURING AND CONSTRUCION TECHNOLOGY "** at **Avinashilingam Institute for Home Science & Higher education for Women, Coimbatore** on 15th &16th December, 2016

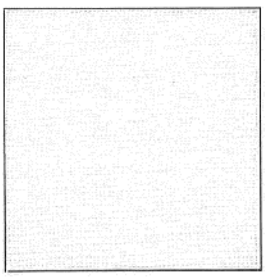
ANNENDIX-I

TO ELECT INFORMATION ON THE ON AWARENESS OF SMART WEARABLE KIDS HEALTH MONITORING SYSTEM

1. Do you find difficulty in monitoring the baby's Body temperature during fever or illness? : **Yes / No**
2. Are you aware of the Smart Textiles -Wearable Electronics? : **Yes / No**
3. Have you heard that Body temperature can be monitored through Wearable Electronics? : **Yes / No**
4. Do you know the Smart Textiles can continuously monitor Heart Beat? : **Yes / No**
5. Dou you prefer using safe electronic garments to your infant for monitoring their temperature and Heart Rate ? : **Yes / No**
6. Select the key features regarding the garment design of Wearable Electronics system for infants.
   a) Reusable & washable b) disposable c) Removable Electronic device d) Attached electronic device
7. Thorough which communication medium do you prefer for monitoring?
   a) PC b) LCD Display c)Mobile d) Laptop
8. The cost of the wearable electronics garments should be
   a) Less Cost b) Average Cost c) High Cost d) Don't Matter
9. Have you used any Wearable Electronics before?
10. Do you like to buy such Wearable Electronics garments for home use to monitoring your infants during sick? : **Yes / No**

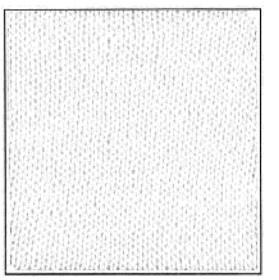
APPENDIX II

Plain cotton woven fabric



OW

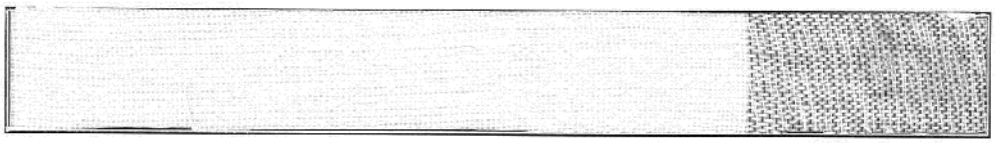
Plain cotton knitted fabric



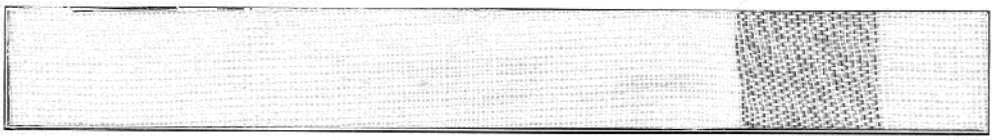
OK

APPENDIX III

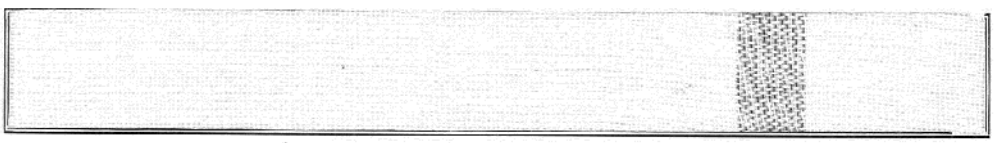
Aluminium conductive woven fabrics



AA (15 cm cotton yarns with 5 cm aluminium conductive yarns)



AB (15 cm cotton yarns with 2 cm aluminium conductive yarns)

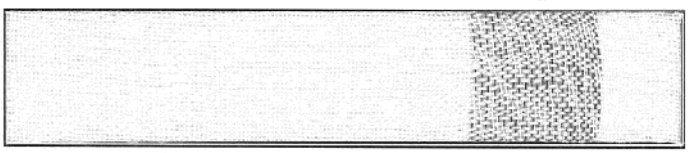


AC (15 cm cotton yarns with 1 cm aluminium conductive yarns)

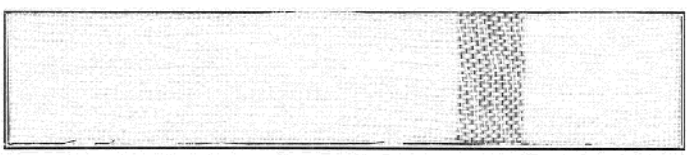
APPENDIX IV

Aluminium conductive woven fabrics

AD (10 cm cotton yarns with 5 cm aluminium conductive yarns)



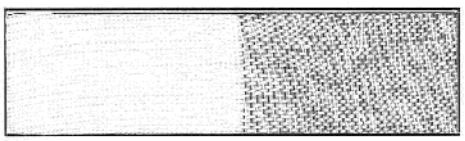
AE (10 cm cotton yarns with 2 cm aluminium conductive yarns)



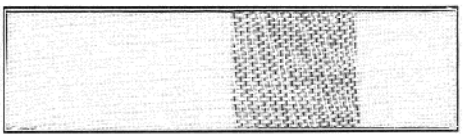
AF (10 cm cotton yarns with 1 cm aluminium conductive yarns)

APPENDIX V

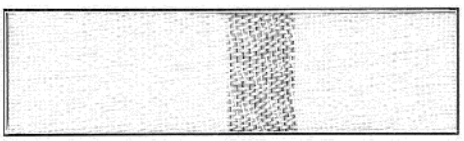
Aluminium conductive woven fabrics



AG (5 cm cotton yarns with 5 cm aluminium conductive yarns)



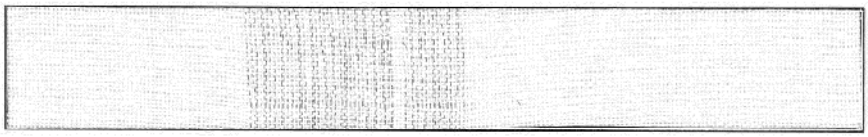
AH (5 cm cotton yarns with 2 cm aluminium conductive yarns)



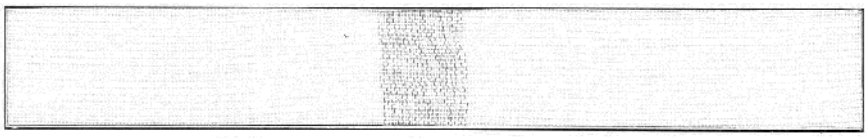
AI (5 cm cotton yarns with 1 cm aluminium conductive yarns)

APPENDIX VI

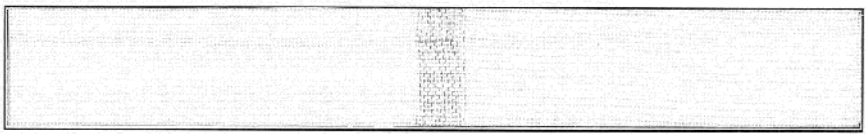
Copper conductive woven fabrics



CA (15 cm cotton yarns with 5 cm copper conductive yarns)



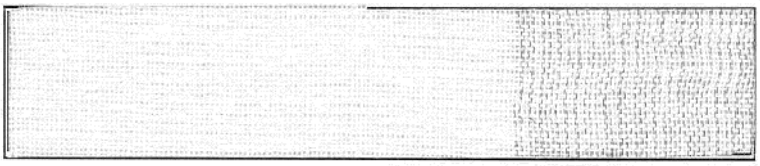
CB (15 cm cotton yarns with 2 cm copper conductive yarns)



CC (15 cm cotton yarns with 1 cm copper conductive yarns)

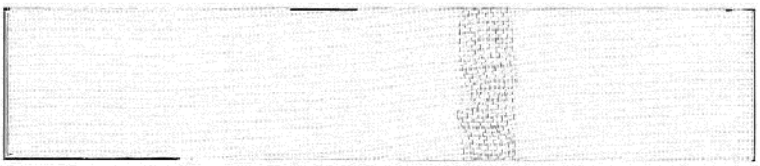
APPENDIX VII

Copper conductive woven fabrics



CD (10 cm cotton yarns with 5 cm copper conductive yarns)

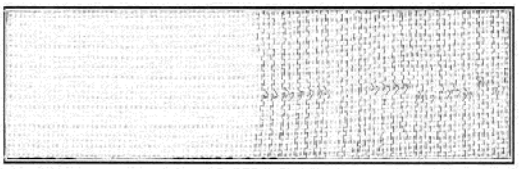
CE (10 cm cotton yarns with 2 cm copper conductive yarns)



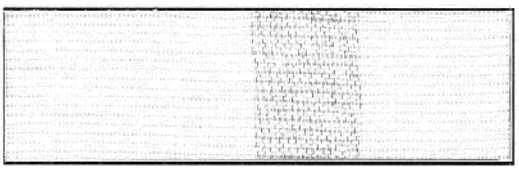
CF (10 cm cotton yarns with 1 cm copper conductive yarns)

APPENDIX VIII

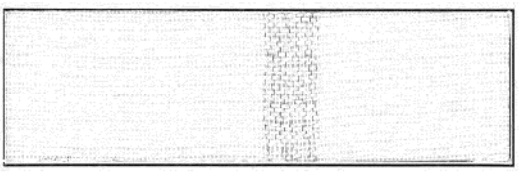
Copper conductive woven fabrics



CG (5 cm cotton yarns with 5 cm copper conductive yarns)



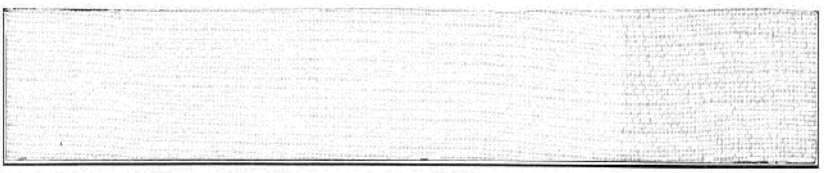
CH (5 cm cotton yarns with 2 cm copper conductive yarns)



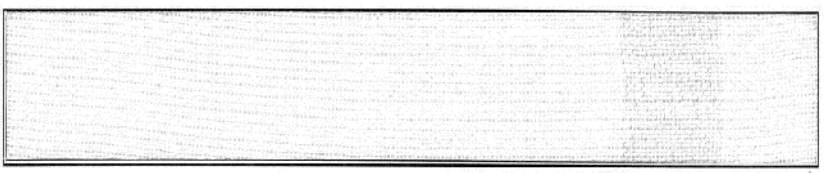
CI (5 cm cotton yarns with 1 cm copper conductive yarns)

APPENDIX IX

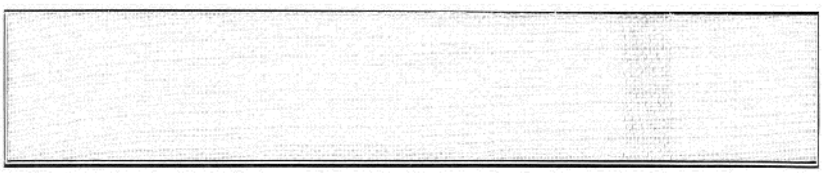
Silver conductive woven fabrics



SA (15 cm cotton yarns with 5 cm silver conductive yarns)



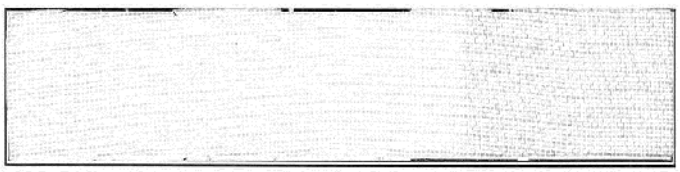
SB (15 cm cotton yarns with 2 cm silver conductive yarns)



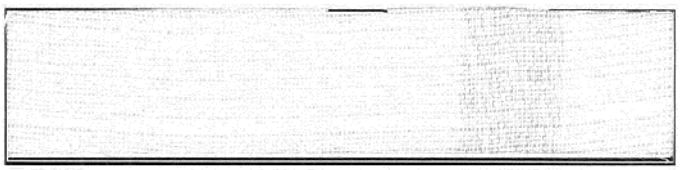
SC (15 cm cotton yarns with 1 cm silver conductive yarns)

APPENDIX X

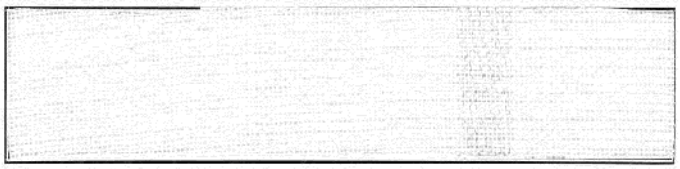
Silver conductive woven fabrics



SD (10 cm cotton yarns with 5 cm silver conductive yarns)



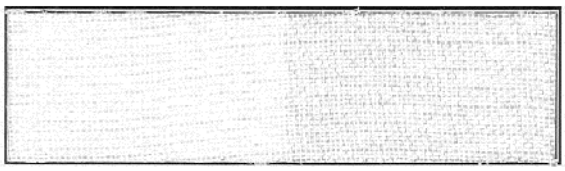
SE (10 cm cotton yarns with 2 cm silver conductive yarns)



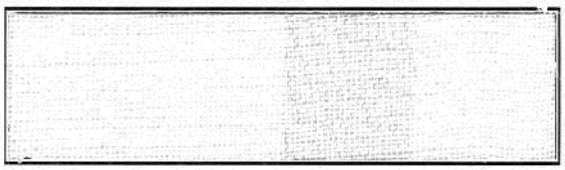
SF (10 cm cotton yarns with 1 cm silver conductive yarns)

APPENDIX XI

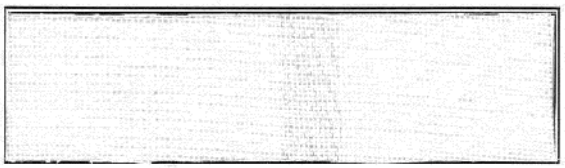
Silver conductive woven fabrics



SG (5 cm cotton yarns with 5 cm silver conductive yarns)



SH (5 cm cotton yarns with 2 cm silver conductive yarns)



SI (5 cm cotton yarns with 1 cm silver conductive yarns)

APPENDIX XII

Aluminium conductive knitted fabric

AK

Copper conductive knitted fabric

CK

Silver conductive knitted fabric

SK

ANNENDIX-XIII

FORM NO : NTH/CHN/F5

भारत सरकार Government of India
राष्ट्रीय परीक्षण शाला (द.क्षे.)
NATIONAL TEST HOUSE (SR)
तरमणी, चेन्नई - 600 113. Taramani, Chennai - 600 113.
Phone : 22432374, 22431157 Fax : 22433158 email : nthsr@tn.nic.in

350319

Annexure

Test Certificate No.	Date of Issue	Code No.	Page	No. of Pages
NTH(SR)/EL(C)/2017/00137	22.06.2017	1498112194999	01	02

1. Description of the sample:

a. Nomenclature : Smart textiles –Wearable electronics
b. Material composition of Smart Textile : Cotton Yarn, Silk Yarn, Copper Yarn & Enameled coated Aluminium Yarn.
c. Quantity : Cut length piece of weaving cloth of 1 m each.
d. Packing : Sample received in a Packed cover.
e. Dimensions of Yarn :Silk Yarn, copper Yarn ,Enameled coated Aluminium yarn of width of weaving approximately 1.2cm, 2.2cm, 5.2cm respectively.
f. Purpose : To Partially fulfill the requirement of the Phd Research.

As requested, the sample was subjected to the following tests as per IS 10810 (part-1,5 & 43):1984 and the results are noted below:-

2. Tests

Sl. No.	Name of the test	Silk Yarn	Copper Yarn	Enameled Coated Aluminum Yarn
		Observed Values		
1	Resistance	---	1719.2 m Ω /Mtr	376.4 m Ω/Mtr
2	Conductivity	-	63.29 mho/milli meter	29.88 mho/milli meter
3.	Surface Resistance			
	Weaving Width: 1.2cm	14.5K Ω	34.3 K Ω	47M Ω
	Weaving Width:2.2cm	Morethan 17 K Ω	54.7 K Ω	495M Ω
	Weaving Width:5.2cm	Morethan 17 K Ω	189 K Ω	576M Ω
4.	Yarn elongation	18%	20%	22%
5	Yarn Thickness(diameter)	0.08 to0.09mm	0.11 to0.12mm	0.332to 0.353mm

Tested By
L Jayanthi
SO(Electrical)

Checked By
Poluri Rajanikanth
Scientist SB(Electrical)

Approved By
Poluri Rajanikanth
Scientist SB(Electrical)

ANNENDIX-XIV

Avinashilingam Institute for Home Science and Higher Education for Women
(Deemed to be University under Category 'A' by MHRD, Estd. u/s 3 of UGC Act, 1956)
Re-accredited with 'A' grade by NAAC, Recognised by UGC under Section 12 B
Coimbatore – 641 043, Tamil Nadu, India
(Reg. No. *623/PO/ReBi/S/02/CPCSEA*)

Certificate

This is certify that the project title ..Smart Nano textiles for Clothing

.....

has been approved by the IAEC.

Proposal Number: IAEC/17-18/07

Approval date: 02-12-2017, Approval No. AIW:IAEC.2017:TC:01

No. of animals approved: 12 Rats **Gender:** Male/Female

Expiry date (Termination of the project):

	Name	Signature with date
IAEC Chairperson/ ~~Member Secretary~~:	Dr. P.R. Padma	2/12/17
CPCSEA nominee:	Dr. Ganesan Arihara Sivakumar	G. Sivakumar 2/12/17

Institutional Animal Ethics Committee, Avinashilingam Institute for Homescience and Higher Education for Women, Reg. No. 623/PO/ReBi/S/02/CPCSEA, Coimbatore - 641 043

APPENDIX – XV

Wiedemann–Franz law

The ratio of the electronic contribution of the thermal conductivity (κ) to the electrical conductivity (σ) of a metal is proportional to the temperature. In fact, the thermal conductivity is directly proportional to the product of the mean free path and thermal speed. Both thermal and electrical conductivity depend in the same way on not just the mean free path, but also on other properties such as electron mass and even the number of free electrons per unit volume.

URKUND

Urkund Analysis Result

Analysed Document:	Chapter-1.doc (D40452621)
Submitted:	6/29/2018 10:44:00 AM
Submitted By:	library@avinuty.ac.in
Significance:	11 %

Sources included in the report:

http://llufb.llu.lv/conference/REEP/2014/Latvia-Univ-Agricult-REEP-2014proceedings-150-161.pdf
https://www.theseus.fi/bitstream/handle/10024/140584/AWP_6-2017_Tana_Forss_Hellsten.pdf?sequence=2

Instances where selected sources appear:

6

URKUND

Urkund Analysis Result

Analysed Document:	Chapter-2.doc (D40436280)
Submitted:	6/28/2018 1:11:00 PM
Submitted By:	library@avinuty.ac.in
Significance:	14 %

Sources included in the report:

https://tutcris.tut.fi/portal/en/publications/textilebased-sensors-and-smart-clothing-system-for-respiratory-monitoring(8a836761-3a48-4285-8a59-96112c1f1e57).html
https://aaltodoc.aalto.fi/handle/123456789/4761
http://www.uttu-textiles.com/Home/Intorduction_to_Smart_Textiles.html
https://en.wikipedia.org/wiki/E-textiles
https://www.slideshare.net/SifulIslamBulbul/smart-textile-presentation-by-bulbul
http://textilelearner.blogspot.com/2013/06/electronic-textiles-current.html
https://tectexntu.wordpress.com/2010/02/11/introduction/
https://www.slideshare.net/vigneshdhanabalan/advancement-in-sport-textiles-by-vignesh-dhanabalan
https://www.researchnester.com/reports/smart-wearable-device-market-global-demand-analysis-opportunity-outlook-2024/380
http://www.ptj.com.pk/Web%202004/08-2004/Smart%20Textiles.html
http://www.mdpi.com/1424-8220/14/7/11957/htm
https://www.omicsonline.org/open-access/smart-textiles-and-nanotechnology-a-general-overview-2165-8064.1000181.pdf
https://www.chemarc.com/content/conductive-yarns---a-great-scope-in-technical-textiles/588891ba67856525c8448e5d

Instances where selected sources appear:

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URKUND

Urkund Analysis Result

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Significance:	2 %

Sources included in the report:

https://juniperpublishers.com/ctftte/CTFTTE.MS.ID.555601.php
http://www.ofseth.org/IMG/pdf/OFSETH-CEN-D1.3-Annex1-PU-a.pdf
http://textileinsight.blogspot.com/2014/08/weft-knitting.html
http://dspace.daffodilvarsity.edu.bd:8080/bitstream/handle/20.500.11948/1379/P04816.pdf?sequence=1&isAllowed=y
https://www.irjet.net/archives/V2/i9/IRJET-V2I9171.pdf
https://juniperpublishers.com/ctftte/pdf/CTFTTE.MS.ID.555614.pdf
http://www.fibre2fashion.com/industry-article/3343/different-types-of-weaves

Instances where selected sources appear:

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Sources included in the report:

http://www.ijetsr.com/images/short_pdf/1509082714_847-852-bbec101_ijetsr.pdf

Instances where selected sources appear:

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URKUND

Urkund Analysis Result

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Submitted By:	library@avinuty.ac.in
Significance:	5 %

Sources included in the report:

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