Department of Hygiene of non-ionizing radiation with the laboratory Moscow
19 Varshavskoe shosse str ., t. 954-06-86 fax: 954-03-10

## ABOUT TOK OL NO. $/ 4 / 19$

measurements of the electromagnetic field strength, the electrostatic potential and the electrostatic field of the Orion TV without the Neutronics protective device dated 05/16/2002

Place of measurement: Federaleenter of the GSEN, hall.
The source of radiation is the Orion TV
Measuring instruments and information on state verification:
-electric and magnetic field strength meter, BE -METER- AT002, factory. No. 36497, verification certificate No. 00/1213 dated 12/21/2001

## -electrostatic field

 verification certificate No. 01/1311 dated 12/24/2001Regulatory and technical documentation, in accordance with which the measurements and the conclusion was given: Sanitary rules and regulations. Hygienic requirements $\overrightarrow{\text { for }}$ wideo display terminals, personal electronic computers and work organization". SanPiN 2.2.2. 542-96.

| $\begin{aligned} & \mathrm{N} / 2 \\ & \mathrm{r} / \mathrm{h} \end{aligned}$ | Location of the event <br> Measurements $\qquad$ | 1 lane, <br> \| $\mathrm{n} / \mathrm{m} \mathrm{I}$ | 2 lanes, <br> In/m1 $\qquad$ | 1 lane, mkTl | $\begin{aligned} & \text { Band 2, } \\ & \text { nTi } \end{aligned}$ | $\begin{aligned} & \text { ESp, } \\ & \text { sq. } \end{aligned}$ | $\begin{aligned} & E_{D P} \\ & \mathrm{sQ} / \mathrm{m} 1 \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | are extremelyacceptable levels. | 25 | 2,5 | 0,25 | 25 | 0,5 | $\overbrace{15}^{\text {sQ/m }}$ |
| 1 | Background, distance 0.5 m 9 |  | 0 |  |  |  |  |
| 2 | Slave. TV, <br> distance 0.5 m | 24 | 0,17 | 0,03 | 0 | 4,42 | 1,24 |
|  |  |  |  | 0,03 | 5 | 18,5 | 2.77 |
| 3 | $\left\lvert\, \begin{aligned} & \text { Slackround, distance } 1 \mathrm{~m} \\ & \text { distance } 1 \mathrm{~m}\end{aligned}\right.$ | 0 | 0 | 0.03 |  |  |  |
| 4 |  | 5 | 0,12 | 0,03 | 0 | $\cdot$ | 0,347 |
|  |  |  | 0,12 | 0,04 | 3 | - | 0,613 |

Note: ESP - electrostatic potential at a distance of 10 cm from the screen EP - electrostatic field



## ORO TOK OL NO. $20 / 14$

 measurements of the electromagnetic field strength, the electrostatic potential and the electrostatic field of the Orion TV without the Neutronics protective device dated 05/17/2002Place of measurement: Federal Center of the GSEN, hall.
The source of the radiation is the Orion TV.
Measuring instruments and information on state verification:
-electric and magnetic field strength meter, VE -METER- AT-
002 , factory. No. 36497, verification certificate No. 00/1213 dated 12/21/2001
-electrostatic field strength meter, ST-01, factory No. 08599,
Verification certificate No. 01/1311 dated 12/24/2001
Regulatory and technical documentation, in accordance with which the measurements and the conclusion was given:

Sanitary berths and poop. Hygienic requirements for
4 video display terminals, personal electronic computers and work organization". SanPiN 2.2.2. 542-96.

| № <br> n/a! | Place of measurement | 1 lane, In/mi | 2 lanes, <br> In/m! $\qquad$ | 1 lane, mkTI | $2 \text { lanes, }$ $1 \mathrm{~T}$ | $\begin{aligned} & \text { ESP, } \\ & \mathrm{kV}, \end{aligned}$ | $\begin{aligned} & \mathrm{EP}, \\ & \mathrm{sQ} / \mathrm{m} \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Maximum permissible levels | 25 | 2,5 | 0,25 | 25 | 0,5 | 15 |
| 1 | Background, distance 0.5 m |  | 0 | 0,04 | 0 | 5,38 | 1.31 |
| 2 | Working TV, distance 0.5 m | 26 | 0,43 | 0.07 | 6 | 11.1 | 1.82 |
| 3 | Background, distance 1 ml | 0 | 0 | 0,03 | 0 | - | 0,115 |
| 4 | Slave. TV, <br> distance 1 m | 7 | 0,16 | 0,06 | 3 | - | 0,512 |

Note: $\quad$ ESP is the electrostatic potential at a distance of 10 cm from the screen. $E P$ is an electrostatic field.


Lysenko V.N. Sterlikov A.V.


## ABOUT TOK OL NO. is $24 / 14$

 measurements of the electromagnetic field strength, the electrostatic potential and the electrostatic field of the Orion TV without the Neutronics protective device from 05/18/2002Place of measurement: Federal Center of the GSEN, hall.
The source of radiation is the Orion TV,
measuring instruments and information on state verification.
-electric and magnetic field strength meter, BE -METER- AT-
002 , factory. No. 36497, verification certificate No. 00/1213 dated 21.12.2001
-electrostatic field strength meter, ST-01, factory.
208599,
Verification certificate No. 61/1511 dated 12/24/2001
Normative and technical documentation, according to which
measurements were carried out and a conclusion was given:
Sanitary rules and regulations. Hygienic requirements for video display terminals, personal electronic computers and work organization". SanPiN 2.2.2. 542-96.


Note ESP - electrostatic potential at a distance of 10 cm from the screen of the EP - electrostatic field.

The person who made the measurement is san. doctor Head of the Department


Lysenko In N.


## ABOUT TOK OL No. $2 / 19$

 measurements of the electromagnetic field strength, the electrostatic potential and the electrostatic field of the Orion TV with the use of the Neutronic protective device (installed 05/18/02) dated 05/20/2002Place of measurement: The Federal Center of the GSEN, hall. The source of radiation is the Orion TV , measuring instruments and information on state verification:

- electric and magnetic field strength meter, BE -METER-

002 , factory. No. 36497, certificate of verification No. 00/1213 dated 12/21/2001

- electric voltage meters
fields, ST"O1, vavod. No. Oa509,
Verification certificate No. 01/1311 dated 12/24/2001
Regulatory and technical documentation, in accordance with which the measurements and the conclusion was given:
Sanitary rules and regulations. Hygienic requirements for video display terminals, personal electronic computers and work organization". SanPiN 2.2.2. 542-96 .

| $\begin{aligned} & \mathrm{Ne} \\ & \mathrm{n} / \mathrm{a} \end{aligned}$ | Place of measurement | 1 lane, <br> In/m! $\qquad$ | 2 lanes, <br> $\mathrm{m} / \mathrm{m}$ | 1 lane, mkTI: | $\left[\begin{array}{l} \text { Band 2, } \\ \mathrm{n} \overline{\mathrm{~T}} \end{array}\right.$ | $\begin{aligned} & \text { EsP, } \\ & \text { sq } \end{aligned}$ | Ep, sQ/mi |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Maximum permissible levels | 25 | 2,5 | 0,25 | 25 | 0,5 | 15 |
| 1 | Background, distance 0.5 m | 1 | 0 | 0,06 | 0 | 6,8 | 0,672 |
| 2 | Slave. TV, <br> distance 0.5 m | I2 | 0,13 | 0,15 | 4 | 18,1 | 1,19 |
| 3 | Background, distance of 1 m ! | 0 | 0 | 0, 06, | 0 | - | 0,347 |
| 4 | Working TV. <br> distance of 1 m | 5 | 0,12 | 0.64 | 3 | - | 0.469 |

Note: ESP is the electrostatic potential at a distance of 10 cm from the screen. EP is an electrostatic field.

The person who made the measurement is san. doctor Lysenko V.N. Sterlikov A.V.

Simplex wearable radios HX270 of the VHP/UHP band and G×1608 of
the VHF/UHF band.

|  | 88 Code $\qquad$ acoording to OKUD $\qquad$ <br> Code establishment. According to OKPO. |
| :---: | :---: |
| $\qquad$ Ministry of Health of the Russian Federation' $\qquad$ <br> Federal Center for State Sanitary and Epidemiological Supervision | Certificate of accreditation of the testing laboratory laboratory (center) No. GSEN.RU. 01 |
| Non-ionizing Radiation Hygiene Department with laboratory <br> Moscow <br> Virshavskoe shosse str., 19-A , <br> I 954-06-86 ax: 954-03-10 $\qquad$ | Registered in the State Register No. <br> POCC.RU .0001.510127 <br> Valid until 01.012004 |

## ABOUT TOKOL No. $25 / 19$

measurements of the strengthof the electromagnetic field, the electrostatic potential and the electrostatic field of the Orion TV with the use of the Neutronic protective device (installed 180502 )
from05/21/2002

Place of measurement: The Federal Center of the GSEN, hall
Radiation source - Orion TV Measuring
instruments and information on state verification
-electric and magnetic field strength meter, VE -METER- AT-
002, factory. No. 36497, verification certificate No. 00/1213 dated December 21, 2001
-electrostatic field strength meter, ST-01, factory No. 08599. verification certificate No. 01/1311 dated 12/24/2001,

Regulatory and technical documentation, in accordance with which the following were carried out measurements and the conclusion was given:
Sanitary rules and regulations. Hȳgienic requirements for 1 video display terminals, personal electronic computers and work organization". SanPiN 2.2.2. 542-96.

| N¢ P/1! | Location of the event Measurements $\qquad$ | 1 lane, In/m\| | 2 lanes, In/m! $\qquad$ | 1 lane, mkTI | $\begin{gathered} \text { Band } 2, \\ 11 \mathrm{~T} .1 \\ \hline \end{gathered}$ | $\begin{aligned} & \text { ESP, } \\ & \text { kV } \end{aligned}$ | ep, <br> sQ/mi |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | are extremelyacceptable levels | 25 | 2,5 | $0,25$ | 25 | 0,5 | 1S; |
| 1 | Background, distance 0.5 m | 0 | 官 | 0.04 | U1 | 7.1 | 751 |
| 2 | Working teleswizor, distance 0.5 m | $\begin{gathered} 12 \text { sinne } \\ 24 \end{gathered}$ | 0,07 | 0.11 | 5 | 19.7 | 1.01 |
| 3 | - Background, distance 1 ml | 0 | 0 | 0,113 | 11 | - | (1) +ik |
| 4 | Working teleswizor, distance \| m | 4 | 0.16 | 0.03 | 3 | $\bullet$ | U,523 |

Note: ESP is the electrostatic potential at a distance of 10 cm from the screen. $\overline{E P}$ is an electrostatic field.



## ABOUT TOK OL NO. i \& $4 / 14$

measurements of the electromagnetic field strength, the electrostatic potential and the electrostatic field of the Orion TV. with the use of the Neutronicus protective device (installed on 05/18/02) dated 05/22/2002.

## Place of measurement: Federal Center

GSEN, hall
The source of radiation is the Orion TV
Measuring instruments and information on state verification.
-electric and magnetic field strength meter, VE-METER- AT- 002, factory. No. 36497, verification certificate No. 00/1213 dated December 21 , 2001
-electrostatic field strength meter, ST-O1, factory.№ 08599 , verification certificate No. 01/1311 dated 12/24/2001, Regulatory
and technical documentation, in accordance with which the following were carried out measurements and the conclusion was given:
Sanitary rules and regulations. Hygienic requirements for video display terminals, personal electronic computers and work organization". SanPiN 2.2.2 542-96


Note: ESP - electrostatic potential at a distance of 10 cm from the screen of the EP - electrostatic field.

The person who made the measurement is a doctor Lysenko In N.


## ABOUT TOK OL NO．： $25 / 19$

measurements of the electromagnetic field strength， the electrostatic potential and the electrostatic field of the Orion TV with the use of the Neutronic protective device（installed 05／18／02） dated 05／24／2002

Place of measurement：Federal Center of GS＂EN，Holya．
The source of the radiation is the Orion TV．
Measuring instruments and information about the state verification．
－electric and magnetic field strength
meter，VE－METER－AT－
002 ，factory．No．36497，verification certificate No．00／1213 dated 12／21／2001
－electrostatic field strength meter，ST－01，factory．№ 08599，
according to the certificate No．01／1311 dated 12／24／2001，
Regulatory and technical documentation was carried out in accordañce with which，

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Sanitary rules and regulations．Hÿgienic requirements in video display terminals，personal electronic computing devices and work organization＂．San1in 2．2．2．542－90．

| Ne <br> H／II | The place of measurement I | 1 lanes， I／NI | 2 lanes， $\mathrm{In} / \mathrm{m}$ | $\begin{gathered} 1 \text { strip, } \\ \text { mkT॥ } \end{gathered}$ | 2 lane， pG̈॥ | $\overline{\mathrm{E}} \hat{\mathrm{S}} \overline{\mathrm{P}}$, <br> kV $\qquad$ | EP， sQ／mi |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Maximum maximum levels | 25 | 2，5 | 0，25 | 25 | 0，5 | 15 |
| 1 | Background，setilement 0．5 Al | $!$ | i） | （1，12－1 | 11 | 5,8 | 11，くれ |
| 2 | Slave．telenchor， distance 4.5 m | 14 | 0，1リ | （1，0） | 7 | 17.6 | 1，46 |
| 3 | Background，distance of 1 m | （） | 0 | 0， 117 | 1 | － | $0,+28$ |
| 4 | Slave．TV anchor， part－time m | I！ | 0,13 | 0，07 | 4 | － | 0.501 |

Note－electrostatic potential at a distance of 10 cm from the screen ＇） 1 －the tisctrosthetic field．


## Conclusion:

The measurement of electromagnetic radiation levels in the 1st range of $5-2000 \mathrm{~Hz}$ and the 2 nd range of $2000^{\prime \prime}-400000 \mathrm{~Hz}$ was carried out within 3 days from the Orion TV without the Neutronicus protective device and 5 days after installationnew "Neutronics" in the lower left corner of the TV.

The results obtained indicate that after the installation of the Neutronic protective device on the TV, the levels of the electric field in the range $5-2000 \mathrm{~Hz}$ are reduced by $\overline{2}-3$ times.

Head of the Department


Sterlikov A.V.

