



Wojewódzki Inspektorat Ochrony Środowiska w Katowicach
Pracownia Analiz Manualnych, Instrumentalnych, Hydrobiologicznych
oraz Pomiarów Terenowych i Pobierania Próbek



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SPRAWOZDANIE Z BADAŃ NR 1752/2015

Nr sprawy: LC.7071.51.2015
Porozumienie Nr: 1/2012

Klient: **Wydział Monitoringu Środowiska WIOŚ w Katowicach**

**Pomiary monitoringowe poziomów pól elektromagnetycznych
w przedziale częstotliwości
100 kHz – 3 GHz
(składowej elektrycznej E)
w środowisku,
wykonane dnia 27 sierpień 2015 r.
na terenie zabudowy mieszkaniowej,
w SOSNOWCU
- Dzielnica Zagórze,
Miasto (powiat) – Sosnowiec,
województwo śląskie.**

Wyniki badań dotyczą tylko badanego obiektu.

Sprawozdanie z badań nie może być powielone inaczej niż w całości bez pisemnej zgody Kierownika Laboratorium.

Laboratorium jest akredytowane przez Polskie Centrum Akredytacji i posiada certyfikat nr AB 480.

Wykonujący badania:

1. Agnieszka Turek – Specjalista	2. Wojciech Klama – Specjalista
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Osoba autoryzująca sprawozdanie:

Tomasz Danecki – Główny specjalista

Pieczęć i podpis

Zatwierdził:

Pieczęć i podpis

Częstochowa, 23.12.2015

1. PODSTAWA BADAŃ

Podstawę realizacji przedmiotowych badań monitoringowych poziomów pól elektromagnetycznych w przedziale częstotliwości 100 kHz – 3 GHz w środowisku stanowi Rozporządzenie Ministra Środowiska z dnia 12 listopada 2007 r. w sprawie zakresu i sposobu prowadzenia okresowych badań poziomów pól elektromagnetycznych w środowisku (Dz. U. Nr 221, Poz. 1645) oraz Umowa nr 01/2012 Wydziału Monitoringu Środowiska WIOŚ w Katowicach z Laboratorium WIOŚ w Katowicach /Pracownią Analiz w Częstochowie, 42-200 Częstochowa, ul. Rząsawska 24/28, w przedmiocie realizacji ww. badań.

2. CEL BADAŃ

Celem badań jest określenie poziomów pól elektromagnetycznych w przedziale częstotliwości 100 kHz – 3 GHz (składowej *elektrycznej* E) w środowisku, w miejscach dostępnych dla ludności, na terenie obszaru zabudowy mieszkaniowej wielorodzinnej, położonej w Dzielnicy Zagórze, w Sosnowcu, w rozumieniu wytycznych Rozporządzenia Ministra Środowiska z dnia 12 listopada 2007 r. (Dz. U. Nr 221, Poz. 1645), w ramach programu Państwowego Monitoringu Środowiska, 2015 r.

3. TEREN BADAŃ

Punkt pomiarowy P-2 poziomów pól elektromagnetycznych w środowisku zlokalizowano w granicach administracyjnych miasta Sosnowiec - Dzielnica Zagórze, na wysokości h: 2 m n.p.t. przy ul. Koszalińskiej. W sąsiedztwie punktu pomiarowego zagospodarowanie terenu stanowi wielokondygnacyjna zabudowa mieszkaniowa wielorodzinna oraz parkingi osiedlowe. Najbliższy budynek mieszkalny nr 52 - 60, znajduje się w kierunku zachodnim, w odległości 29 m od punktu pomiarowego. W dalszej odległości od punktu pomiarowego P-2, w kierunku południowym i wschodnim, zlokalizowane są obiekty przemysłowo-handlowe oraz tereny zieleni miejskiej. W promieniu $d \leq 300$ m od punktu pomiarowego nie znajdują się żadne instalacje radiokomunikacyjne, radiolokacyjne, radionawigacyjne, emitujące pola elektromagnetyczne do środowiska.

Klasyfikacja rodzaju terenu wg wytycznych przedmiotowego Rozporządzenia:

Dzielnica (osiedle) miasta o liczbie mieszkańców powyżej 50 tys.

Nomenklatura jednostki terytorialnej (NTS):

Sosnowiec 5.2.24.50.75.01.1

Współrzędne geogr. (GPS) punktu pomiarowego poziomów pól elektromagnetycznych w środowisku:

N 50°16'60.0";

E 19°11'26.6";

Wysokość lokalizacji punktu pomiarowego:

h: 2,0 [m] n.p.t.;

Odległości punktu pomiarowego od elewacji najbliższych obiektów mieszkalnych ternu zabudowy mieszkaniowej - wielorodzinnej, zlokalizowanych wzdłuż realizowanego przekroju pomiarowego poziomów pól w środowisku:

l = 29 [m] - od elewacji budynku mieszkalnego wielorodzinnego przy ul. Koszalińskiej 52-60

Lokalizacja punktu pomiarowego – pas zieleni pomiędzy parkingiem samochodowym, a budynkiem mieszkalnym nr 52-60.

4. METODYKA BADAŃ

Rozporządzenie Ministra Środowiska z dnia 12 listopada 2007 r. w sprawie zakresu i sposobu prowadzenia okresowych badań poziomów pól elektromagnetycznych w środowisku (Dz. U. Nr 221, Poz. 1645).

5. WYPOSAŻENIE POMIAROWE

Pomiarów poziomów pól elektromagnetycznych częstotliwości 100 kHz - 3 GHz (składowej elektrycznej) w środowisku dokonano przy użyciu szerokopasmowego miernika natężenia pola elektromagnetycznego Narda Broadband Field Meter NBM-550, prod. Narda Safety Test Solutions GmbH, Niemcy;

Pomiarów oraz analizy widma promieniowania elektromagnetycznego w środowisku dokonano przy pomocy Selektynnego Analizatora Pola Elektromagnetycznego SRM - 3006, wraz z sondą pola, oprzyrządowaniem oraz oprogramowaniem, wg wzoru, prod. Narda Safety Test Solutions GmbH, Niemcy;

Pomiarów warunków meteorologicznych dokonano przy pomocy automatycznej stacji meteorologicznej MAWS – 201C, Vaisala, Finlandia;

Szczegółowe dane identyfikacyjne przyrządów przedstawiono w tabeli 1.

Tabela 1

Pomiary poziomów pól elektromagnetycznych częstotliwości 100 kHz – 3 GHz (składowej elektrycznej) w środowisku		Pomiary warunków meteorologicznych w środowisku	
Przyrząd pomiarowy	Typ: Broadband Field Meter NBM-550 P/N: 2401/01 S/N: B-0507 Producent: Narda Safety Test Solutions GmbH, Niemcy;	Przyrząd pomiarowy	Typ: MAWS – 201C S. no.: G131055 Producent: Vaisala, Finlandia
Sonda pomiarowa	Typ: EF0391, E-Field P/N: 2402/01 S/N: A-0636 Producent: j.w. Zakres: 100 kHz – 3 GHz Charakterystyka częstotliwościowa czułości: +/- 1 dB (1MHz – 1 GHz) +/- 1,25dB (1GHz – 2,45 GHz)		
Przyrząd Pomiarowy:	Rodzaj/Typ: Selective Radiation Meter Typ: SRM - 3006		

Sonda Pomiarowa:	P/N: 3006/01 S/N: H-0007 Producent: Narda Safety Test Solutions GmbH, Germany;		
RF - cable:	Typ: Three-Axes-Antenna E-Field P/N: 23501/03 S/N: K-0560 Producent: j.w. Zakres: 27 MHz – 3 GHz		
Measurement principle:	Typ: RF - cable SRM Zakres: 9 kHz - 6 GHz Impedancja: N 50 Ohm Długość, L: 1,5 m P/N: 3602/01 S/N: AA-0583 <i>Spectrum Analysis Mode</i>		
Data i czasokres pomiarów	27-08-2015 r. 10:15:10–12:15:00	Wyniki pomiarów:	
		T [°C]	24,4 – 26,6
		RH [%]	41,1 – 43,3
Częstotliwość próbkowania	f: 10 sec.	UWAGI: Pogodnie; Brak opadów atmosferycznych	

Gdzie:

- T – temperatura powietrza w [°C];
RH – wilgotność względna powietrza w [%].

Zastosowany przyrząd pomiarowy poziomów pól oraz sonda pomiarowa poziomów pól posiadają stosowne świadectwa wzorcowania, tj.:

- Narda Broadband Field Meter NBM-550, P/N 2401/01, S/N B-0507:
 - *Calibration Certificate No. NBM-550-B-0507-150610-1068*,
Narda STS GmbH, D-72793 Pfullingen, Germany, 2015-06-10;
- Probe EF0391, *E-Field*, P/N 2402/01, S/N A-0636:
 - *Calibration Certificate No. 240201-A0636-201506-00571*,
Narda STS GmbH, D-72793 Pfullingen, Germany, 2015-06-15;
- Narda Selective Radiation Meter, Basic Unit, SRM-3006, P/N 3006/01, S/N H-0007:
 - *Calibration Certificate No. 300061-H0007-20141111-249*
Narda STS GmbH, D-72793 Pfullingen, Germany, 2014-11-11;
- Antenna, Three-Axis, E-Filed, 27 MHz to 3 GHz, P/N 3501/03, S/N K-0560:
 - *Calibration Certificate No. 350103-K0560-141111*

Narda STS GmbH, D-72793 Pfullingen, Germany, 2014-11-11;

- Automatyczna stacja meteorologiczna MAWS – 201C, Vaisala, Finlandia, s. no. G131055:

Świadectwa wzorcowania nr:

- 0537/AH/14 z dnia 08 kwietnia 2014 r. termohigrometr
- 0194/AC/14 z dnia 07 kwietnia 2014 r. barometr

wydane przez Laboratorium Pomiarowe „MUTECH” Tadeusz Mucha i Wspólnicy Sp. J. w Łowiczu (AP 106);

- 175/A/14 z dnia 11 kwietnia 2014 r. anemometr stacji meteo

wydane przez Laboratorium Wzorcujące Wentylacyjne Przyrządy Pomiarowe, Instytut Mechaniki Górotworu PAN w Krakowie (AP 118).

Zastosowana sonda pomiarowa poziomów pól posiada sferyczną charakterystykę kierunkową, a w trakcie realizacji badań znajdowała się na wysokości 2 [m] n.p.t., na dielektrycznym statywie, w odległości $d > 100$ [m] od rzutu anten instalacji radiokomunikacyjnych na powierzchnię terenu, zgodnie z wymaganiami przedmiotowego Rozporządzenia.

6. INFORMACJE NA TEMAT INSTALACJI

RADIOKOMUNIKACYJNYCH, RADIOŁOKACYJNYCH, RADIONAWIGACYJNYCH REJONU BADAŃ PÓL ELEKTROMAGNETYCZNYCH ^{*)}

(- w rozumieniu wymagań przedmiotowego Rozporządzenia)*

Nie dotyczy. W promieniu $d \leq 300$ m od P-2, nie są zlokalizowane żadne instalacje radiokomunikacyjne, radiolokacyjne, radionawigacyjne, emitujące pola elektromagnetyczne do środowiska.

7. WYNIKI BADAŃ

**Wyniki pomiarów poziomów pól elektromagnetycznych
częstotliwości
100 kHz – 3 GHz
(składowej *elektrycznej* E)
w środowisku**

Tabela 2

Lp.	Punkt pomiarowy poziomów pól elektromagnetycznych w środowisku	Natężenie pola elektrycznego E **) [V/m]	Niepewność pomiaru U_{E 0,95} [V/m]
1.	P-2 ul. Koszalińska Dzielnica - Zagórze Miasto – Sosnowiec	1,63	± 0,41

Objaśnienia:

E **) [V/m] - średnia wartość arytmetyczna wartości skutecznych natężeń pól elektrycznych promieniowania elektromagnetycznego w zakresie częstotliwości 100 kHz – 3 GHz, w danym punkcie obserwacji, w środowisku.

8. ZAŁĄCZNIKI

1. Raport pomiarowy

- w postaci elektronicznej, zarchiwizowany w siedzibie Laboratorium WIOŚ
w Katowicach;

2. Fotografie rejonu badań, szt. 4;

3. Szkic sytuacyjny rejonu badań;

*4. Analiza widma promieniowania elektromagnetycznego, SRM - 3006, Narda STS GmbH,
Germany, w przedmiotowym zakresie (Ryc. 1).*

KONIEC SPRAWOZDANIA

Meter	Probe	
Model: NBM-550 S/N: B-0507	Model: EF0391 S/N: A-0636	
Calibration Due Date 06.10.2017	Calibration Due Date 06.15.2017	

Site	Coordinates
P-2, ul. Koszalińska Dzielnica - Zagórze Miasto (powiat) - Sosnowiec województwo - śląskie	Latitude: 50°16'60.0" N Longitude: 19°11'26.6" E

Comment
Pomiary poziomów pól elektromagnetycznych 100 kHz - 3 GHz (składowej elektrycznej E) w środowisku; 27.08.2015 r., Sosnowiec, woj. śląskie; Ryc. Wykres zależności zmian natężenia składowej elektrycznej pola w funkcji czasu, marker - wartość średnia max elementarna interwału dT: 10 sec, w przedziale czasokresu obserwacji T: 2.00 h, w środowisku, Program Państwowego Monitoringu Środowiska 2015 rok.

Timer: Start Time 10:15:00 AM, Period 2h 0' 0", Interval 10s

Index	Date/Time	Zero	Max (E-Field)	Avg (E-Field)	Min (E-Field)
1	08/27/2015 10:15:10 AM		1.627 V/m	1.533 V/m	1.460 V/m
2	08/27/2015 10:15:20 AM		1.673 V/m	1.554 V/m	1.449 V/m
3	08/27/2015 10:15:30 AM		1.693 V/m	1.562 V/m	1.447 V/m
4	08/27/2015 10:15:40 AM		1.792 V/m	1.674 V/m	1.540 V/m
5	08/27/2015 10:15:50 AM		1.761 V/m	1.689 V/m	1.623 V/m
6	08/27/2015 10:16:00 AM		1.743 V/m	1.593 V/m	1.517 V/m
7	08/27/2015 10:16:10 AM		1.646 V/m	1.573 V/m	1.503 V/m
8	08/27/2015 10:16:20 AM		1.699 V/m	1.602 V/m	1.517 V/m
9	08/27/2015 10:16:30 AM		1.710 V/m	1.587 V/m	1.521 V/m
10	08/27/2015 10:16:40 AM		1.693 V/m	1.597 V/m	1.523 V/m
11	08/27/2015 10:16:50 AM		1.711 V/m	1.605 V/m	1.506 V/m
12	08/27/2015 10:17:00 AM		1.796 V/m	1.701 V/m	1.594 V/m
13	08/27/2015 10:17:10 AM		1.861 V/m	1.763 V/m	1.695 V/m
14	08/27/2015 10:17:20 AM		1.839 V/m	1.717 V/m	1.582 V/m
15	08/27/2015 10:17:30 AM		1.686 V/m	1.595 V/m	1.510 V/m
16	08/27/2015 10:17:40 AM		1.693 V/m	1.586 V/m	1.502 V/m
17	08/27/2015 10:17:50 AM		1.672 V/m	1.600 V/m	1.522 V/m
18	08/27/2015 10:18:00 AM		1.802 V/m	1.646 V/m	1.564 V/m
19	08/27/2015 10:18:10 AM		1.672 V/m	1.601 V/m	1.522 V/m
20	08/27/2015 10:18:20 AM		1.704 V/m	1.607 V/m	1.535 V/m
21	08/27/2015 10:18:30 AM		1.727 V/m	1.637 V/m	1.575 V/m
22	08/27/2015 10:18:40 AM		1.686 V/m	1.593 V/m	1.519 V/m
23	08/27/2015 10:18:50 AM		1.664 V/m	1.575 V/m	1.518 V/m
24	08/27/2015 10:19:00 AM		1.776 V/m	1.671 V/m	1.562 V/m
25	08/27/2015 10:19:10 AM		1.733 V/m	1.648 V/m	1.578 V/m
26	08/27/2015 10:19:20 AM		1.773 V/m	1.648 V/m	1.567 V/m
27	08/27/2015 10:19:30 AM		1.772 V/m	1.653 V/m	1.563 V/m
28	08/27/2015 10:19:40 AM		1.710 V/m	1.629 V/m	1.546 V/m
29	08/27/2015 10:19:50 AM		1.818 V/m	1.661 V/m	1.593 V/m
30	08/27/2015 10:20:00 AM		1.752 V/m	1.630 V/m	1.533 V/m
31	08/27/2015 10:20:10 AM		1.741 V/m	1.624 V/m	1.524 V/m
32	08/27/2015 10:20:20 AM		1.668 V/m	1.591 V/m	1.518 V/m
33	08/27/2015 10:20:30 AM		1.698 V/m	1.597 V/m	1.529 V/m
34	08/27/2015 10:20:40 AM		1.693 V/m	1.572 V/m	1.519 V/m
35	08/27/2015 10:20:50 AM		1.686 V/m	1.574 V/m	1.516 V/m
36	08/27/2015 10:21:00 AM		1.588 V/m	1.536 V/m	1.494 V/m
37	08/27/2015 10:21:10 AM		1.618 V/m	1.550 V/m	1.493 V/m
38	08/27/2015 10:21:20 AM		1.677 V/m	1.585 V/m	1.516 V/m
39	08/27/2015 10:21:30 AM		1.649 V/m	1.545 V/m	1.488 V/m
40	08/27/2015 10:21:40 AM		1.647 V/m	1.555 V/m	1.504 V/m
41	08/27/2015 10:21:50 AM		1.603 V/m	1.544 V/m	1.490 V/m
42	08/27/2015 10:22:00 AM		1.598 V/m	1.533 V/m	1.477 V/m
43	08/27/2015 10:22:10 AM		1.662 V/m	1.548 V/m	1.492 V/m
44	08/27/2015 10:22:20 AM		1.590 V/m	1.536 V/m	1.481 V/m
45	08/27/2015 10:22:30 AM		1.635 V/m	1.529 V/m	1.483 V/m
46	08/27/2015 10:22:40 AM		1.662 V/m	1.573 V/m	1.491 V/m
47	08/27/2015 10:22:50 AM		1.693 V/m	1.547 V/m	1.491 V/m
48	08/27/2015 10:23:00 AM		1.613 V/m	1.538 V/m	1.479 V/m
49	08/27/2015 10:23:10 AM		1.611 V/m	1.554 V/m	1.487 V/m
50	08/27/2015 10:23:20 AM		1.553 V/m	1.520 V/m	1.481 V/m
51	08/27/2015 10:23:30 AM		1.647 V/m	1.582 V/m	1.512 V/m
52	08/27/2015 10:23:40 AM		1.609 V/m	1.565 V/m	1.518 V/m
53	08/27/2015 10:23:50 AM		1.613 V/m	1.567 V/m	1.502 V/m
54	08/27/2015 10:24:00 AM		1.628 V/m	1.535 V/m	1.486 V/m



55	08/27/2015 10:24:10 AM	1.654 V/m	1.597 V/m	1.523 V/m
56	08/27/2015 10:24:20 AM	1.652 V/m	1.565 V/m	1.502 V/m
57	08/27/2015 10:24:30 AM	1.595 V/m	1.538 V/m	1.489 V/m
58	08/27/2015 10:24:40 AM	1.633 V/m	1.554 V/m	1.495 V/m
59	08/27/2015 10:24:50 AM	1.683 V/m	1.556 V/m	1.496 V/m
60	08/27/2015 10:25:00 AM	1.692 V/m	1.606 V/m	1.510 V/m
61	08/27/2015 10:25:10 AM	1.675 V/m	1.573 V/m	1.501 V/m
62	08/27/2015 10:25:20 AM	1.606 V/m	1.540 V/m	1.490 V/m
63	08/27/2015 10:25:30 AM	1.610 V/m	1.544 V/m	1.498 V/m
64	08/27/2015 10:25:40 AM	1.620 V/m	1.557 V/m	1.489 V/m
65	08/27/2015 10:25:50 AM	1.664 V/m	1.577 V/m	1.352 V/m
66	08/27/2015 10:26:00 AM	1.661 V/m	1.597 V/m	1.530 V/m
67	08/27/2015 10:26:10 AM	1.696 V/m	1.579 V/m	1.505 V/m
68	08/27/2015 10:26:20 AM	1.614 V/m	1.577 V/m	1.539 V/m
69	08/27/2015 10:26:30 AM	1.680 V/m	1.610 V/m	1.535 V/m
70	08/27/2015 10:26:40 AM	1.668 V/m	1.584 V/m	1.512 V/m
71	08/27/2015 10:26:50 AM	1.668 V/m	1.588 V/m	1.539 V/m
72	08/27/2015 10:27:00 AM	1.681 V/m	1.627 V/m	1.560 V/m
73	08/27/2015 10:27:10 AM	1.695 V/m	1.619 V/m	1.528 V/m
74	08/27/2015 10:27:20 AM	1.739 V/m	1.653 V/m	1.562 V/m
75	08/27/2015 10:27:30 AM	1.607 V/m	1.556 V/m	1.489 V/m
76	08/27/2015 10:27:40 AM	1.712 V/m	1.597 V/m	1.538 V/m
77	08/27/2015 10:27:50 AM	1.657 V/m	1.590 V/m	1.537 V/m
78	08/27/2015 10:28:00 AM	1.607 V/m	1.535 V/m	1.439 V/m
79	08/27/2015 10:28:10 AM	1.726 V/m	1.591 V/m	1.498 V/m
80	08/27/2015 10:28:20 AM	1.714 V/m	1.625 V/m	1.558 V/m
81	08/27/2015 10:28:30 AM	1.608 V/m	1.559 V/m	1.493 V/m
82	08/27/2015 10:28:40 AM	1.624 V/m	1.548 V/m	1.496 V/m
83	08/27/2015 10:28:50 AM	1.632 V/m	1.558 V/m	1.465 V/m
84	08/27/2015 10:29:00 AM	1.715 V/m	1.603 V/m	1.504 V/m
85	08/27/2015 10:29:10 AM	1.746 V/m	1.576 V/m	1.475 V/m
86	08/27/2015 10:29:20 AM	1.764 V/m	1.649 V/m	1.526 V/m
87	08/27/2015 10:29:30 AM	1.738 V/m	1.613 V/m	1.549 V/m
88	08/27/2015 10:29:40 AM	1.648 V/m	1.588 V/m	1.539 V/m
89	08/27/2015 10:29:50 AM	1.781 V/m	1.659 V/m	1.609 V/m
90	08/27/2015 10:30:00 AM	1.808 V/m	1.651 V/m	1.559 V/m
91	08/27/2015 10:30:10 AM	1.822 V/m	1.691 V/m	1.621 V/m
92	08/27/2015 10:30:20 AM	1.741 V/m	1.607 V/m	1.505 V/m
93	08/27/2015 10:30:30 AM	1.731 V/m	1.665 V/m	1.601 V/m
94	08/27/2015 10:30:40 AM	1.752 V/m	1.677 V/m	1.607 V/m
95	08/27/2015 10:30:50 AM	1.749 V/m	1.670 V/m	1.595 V/m
96	08/27/2015 10:31:00 AM	1.696 V/m	1.645 V/m	1.571 V/m
97	08/27/2015 10:31:10 AM	1.727 V/m	1.620 V/m	1.528 V/m
98	08/27/2015 10:31:20 AM	1.703 V/m	1.635 V/m	1.576 V/m
99	08/27/2015 10:31:30 AM	1.704 V/m	1.606 V/m	1.555 V/m
100	08/27/2015 10:31:40 AM	1.738 V/m	1.593 V/m	1.486 V/m
101	08/27/2015 10:31:50 AM	1.716 V/m	1.555 V/m	1.489 V/m
102	08/27/2015 10:32:00 AM	1.663 V/m	1.595 V/m	1.537 V/m
103	08/27/2015 10:32:10 AM	1.620 V/m	1.551 V/m	1.487 V/m
104	08/27/2015 10:32:20 AM	1.607 V/m	1.552 V/m	1.517 V/m
105	08/27/2015 10:32:30 AM	1.589 V/m	1.548 V/m	1.498 V/m
106	08/27/2015 10:32:40 AM	1.688 V/m	1.598 V/m	1.520 V/m
107	08/27/2015 10:32:50 AM	1.729 V/m	1.581 V/m	1.486 V/m
108	08/27/2015 10:33:00 AM	1.742 V/m	1.630 V/m	1.524 V/m
109	08/27/2015 10:33:10 AM	1.896 V/m	1.707 V/m	1.571 V/m
110	08/27/2015 10:33:20 AM	1.832 V/m	1.686 V/m	1.575 V/m
111	08/27/2015 10:33:30 AM	1.671 V/m	1.562 V/m	1.498 V/m
112	08/27/2015 10:33:40 AM	1.746 V/m	1.559 V/m	1.476 V/m
113	08/27/2015 10:33:50 AM	1.817 V/m	1.686 V/m	1.602 V/m
114	08/27/2015 10:34:00 AM	1.761 V/m	1.710 V/m	1.671 V/m
115	08/27/2015 10:34:10 AM	1.812 V/m	1.703 V/m	1.615 V/m
116	08/27/2015 10:34:20 AM	1.694 V/m	1.633 V/m	1.585 V/m
117	08/27/2015 10:34:30 AM	1.716 V/m	1.667 V/m	1.633 V/m



118	08/27/2015 10:34:40 AM	1.703 V/m	1.610 V/m	1.523 V/m
119	08/27/2015 10:34:50 AM	1.718 V/m	1.652 V/m	1.609 V/m
120	08/27/2015 10:35:00 AM	1.671 V/m	1.609 V/m	1.561 V/m
121	08/27/2015 10:35:10 AM	1.648 V/m	1.588 V/m	1.547 V/m
122	08/27/2015 10:35:20 AM	1.692 V/m	1.584 V/m	1.516 V/m
123	08/27/2015 10:35:30 AM	1.648 V/m	1.599 V/m	1.534 V/m
124	08/27/2015 10:35:40 AM	1.679 V/m	1.626 V/m	1.567 V/m
125	08/27/2015 10:35:50 AM	1.707 V/m	1.638 V/m	1.560 V/m
126	08/27/2015 10:36:00 AM	1.636 V/m	1.577 V/m	1.520 V/m
127	08/27/2015 10:36:10 AM	1.731 V/m	1.592 V/m	1.490 V/m
128	08/27/2015 10:36:20 AM	1.729 V/m	1.622 V/m	1.558 V/m
129	08/27/2015 10:36:30 AM	1.680 V/m	1.631 V/m	1.537 V/m
130	08/27/2015 10:36:40 AM	1.827 V/m	1.624 V/m	1.562 V/m
131	08/27/2015 10:36:50 AM	1.729 V/m	1.602 V/m	1.546 V/m
132	08/27/2015 10:37:00 AM	1.669 V/m	1.560 V/m	1.533 V/m
133	08/27/2015 10:37:10 AM	1.699 V/m	1.603 V/m	1.509 V/m
134	08/27/2015 10:37:20 AM	1.683 V/m	1.582 V/m	1.514 V/m
135	08/27/2015 10:37:30 AM	1.628 V/m	1.589 V/m	1.526 V/m
136	08/27/2015 10:37:40 AM	1.666 V/m	1.564 V/m	1.497 V/m
137	08/27/2015 10:37:50 AM	1.648 V/m	1.560 V/m	1.502 V/m
138	08/27/2015 10:38:00 AM	1.682 V/m	1.580 V/m	1.532 V/m
139	08/27/2015 10:38:10 AM	1.598 V/m	1.556 V/m	1.509 V/m
140	08/27/2015 10:38:20 AM	1.653 V/m	1.576 V/m	1.510 V/m
141	08/27/2015 10:38:30 AM	1.651 V/m	1.590 V/m	1.534 V/m
142	08/27/2015 10:38:40 AM	1.715 V/m	1.561 V/m	1.498 V/m
143	08/27/2015 10:38:50 AM	1.603 V/m	1.554 V/m	1.495 V/m
144	08/27/2015 10:39:00 AM	1.571 V/m	1.535 V/m	1.483 V/m
145	08/27/2015 10:39:10 AM	1.647 V/m	1.560 V/m	1.510 V/m
146	08/27/2015 10:39:20 AM	1.608 V/m	1.555 V/m	1.488 V/m
147	08/27/2015 10:39:30 AM	1.585 V/m	1.546 V/m	1.506 V/m
148	08/27/2015 10:39:40 AM	1.630 V/m	1.571 V/m	1.517 V/m
149	08/27/2015 10:39:50 AM	1.621 V/m	1.550 V/m	1.499 V/m
150	08/27/2015 10:40:00 AM	1.648 V/m	1.576 V/m	1.502 V/m
151	08/27/2015 10:40:10 AM	1.706 V/m	1.585 V/m	1.521 V/m
152	08/27/2015 10:40:20 AM	1.647 V/m	1.582 V/m	1.526 V/m
153	08/27/2015 10:40:30 AM	1.664 V/m	1.588 V/m	1.533 V/m
154	08/27/2015 10:40:40 AM	1.678 V/m	1.603 V/m	1.524 V/m
155	08/27/2015 10:40:50 AM	1.683 V/m	1.584 V/m	1.533 V/m
156	08/27/2015 10:41:00 AM	1.724 V/m	1.654 V/m	1.557 V/m
157	08/27/2015 10:41:10 AM	1.748 V/m	1.654 V/m	1.596 V/m
158	08/27/2015 10:41:20 AM	1.661 V/m	1.620 V/m	1.562 V/m
159	08/27/2015 10:41:30 AM	1.703 V/m	1.626 V/m	1.567 V/m
160	08/27/2015 10:41:40 AM	1.762 V/m	1.638 V/m	1.591 V/m
161	08/27/2015 10:41:50 AM	1.724 V/m	1.649 V/m	1.583 V/m
162	08/27/2015 10:42:00 AM	1.725 V/m	1.682 V/m	1.607 V/m
163	08/27/2015 10:42:10 AM	1.729 V/m	1.678 V/m	1.624 V/m
164	08/27/2015 10:42:20 AM	1.726 V/m	1.652 V/m	1.585 V/m
165	08/27/2015 10:42:30 AM	1.725 V/m	1.644 V/m	1.590 V/m
166	08/27/2015 10:42:40 AM	1.713 V/m	1.662 V/m	1.608 V/m
167	08/27/2015 10:42:50 AM	1.730 V/m	1.652 V/m	1.595 V/m
168	08/27/2015 10:43:00 AM	1.648 V/m	1.617 V/m	1.586 V/m
169	08/27/2015 10:43:10 AM	1.692 V/m	1.648 V/m	1.588 V/m
170	08/27/2015 10:43:20 AM	1.743 V/m	1.669 V/m	1.606 V/m
171	08/27/2015 10:43:30 AM	1.683 V/m	1.613 V/m	1.570 V/m
172	08/27/2015 10:43:40 AM	1.683 V/m	1.626 V/m	1.570 V/m
173	08/27/2015 10:43:50 AM	1.740 V/m	1.670 V/m	1.577 V/m
174	08/27/2015 10:44:00 AM	1.751 V/m	1.649 V/m	1.573 V/m
175	08/27/2015 10:44:10 AM	1.745 V/m	1.686 V/m	1.606 V/m
176	08/27/2015 10:44:20 AM	1.758 V/m	1.677 V/m	1.579 V/m
177	08/27/2015 10:44:30 AM	1.773 V/m	1.664 V/m	1.590 V/m
178	08/27/2015 10:44:40 AM	1.795 V/m	1.677 V/m	1.588 V/m
179	08/27/2015 10:44:50 AM	1.704 V/m	1.647 V/m	1.583 V/m
180	08/27/2015 10:45:00 AM	1.789 V/m	1.685 V/m	1.587 V/m



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181	08/27/2015 10:45:10 AM	1.701 V/m	1.621 V/m	1.567 V/m
182	08/27/2015 10:45:20 AM	1.663 V/m	1.598 V/m	1.554 V/m
183	08/27/2015 10:45:30 AM	1.699 V/m	1.617 V/m	1.549 V/m
184	08/27/2015 10:45:40 AM	1.682 V/m	1.619 V/m	1.548 V/m
185	08/27/2015 10:45:50 AM	1.758 V/m	1.591 V/m	1.534 V/m
186	08/27/2015 10:46:00 AM	1.687 V/m	1.579 V/m	1.536 V/m
187	08/27/2015 10:46:10 AM	1.651 V/m	1.587 V/m	1.526 V/m
188	08/27/2015 10:46:20 AM	1.738 V/m	1.644 V/m	1.579 V/m
189	08/27/2015 10:46:30 AM	1.681 V/m	1.628 V/m	1.587 V/m
190	08/27/2015 10:46:40 AM	1.708 V/m	1.642 V/m	1.594 V/m
191	08/27/2015 10:46:50 AM	1.685 V/m	1.621 V/m	1.549 V/m
192	08/27/2015 10:47:00 AM	1.663 V/m	1.570 V/m	1.509 V/m
193	08/27/2015 10:47:10 AM	1.668 V/m	1.599 V/m	1.532 V/m
194	08/27/2015 10:47:20 AM	1.712 V/m	1.597 V/m	1.539 V/m
195	08/27/2015 10:47:30 AM	1.629 V/m	1.566 V/m	1.503 V/m
196	08/27/2015 10:47:40 AM	1.652 V/m	1.582 V/m	1.535 V/m
197	08/27/2015 10:47:50 AM	1.701 V/m	1.609 V/m	1.507 V/m
198	08/27/2015 10:48:00 AM	1.722 V/m	1.604 V/m	1.560 V/m
199	08/27/2015 10:48:10 AM	1.620 V/m	1.548 V/m	1.505 V/m
200	08/27/2015 10:48:20 AM	1.653 V/m	1.574 V/m	1.505 V/m
201	08/27/2015 10:48:30 AM	1.638 V/m	1.541 V/m	1.483 V/m
202	08/27/2015 10:48:40 AM	1.735 V/m	1.583 V/m	1.481 V/m
203	08/27/2015 10:48:50 AM	1.602 V/m	1.553 V/m	1.514 V/m
204	08/27/2015 10:49:00 AM	1.616 V/m	1.562 V/m	1.523 V/m
205	08/27/2015 10:49:10 AM	1.705 V/m	1.608 V/m	1.549 V/m
206	08/27/2015 10:49:20 AM	1.697 V/m	1.619 V/m	1.541 V/m
207	08/27/2015 10:49:30 AM	1.683 V/m	1.609 V/m	1.544 V/m
208	08/27/2015 10:49:40 AM	1.669 V/m	1.603 V/m	1.530 V/m
209	08/27/2015 10:49:50 AM	1.620 V/m	1.557 V/m	1.504 V/m
210	08/27/2015 10:50:00 AM	1.658 V/m	1.549 V/m	1.492 V/m
211	08/27/2015 10:50:10 AM	1.635 V/m	1.568 V/m	1.514 V/m
212	08/27/2015 10:50:20 AM	1.693 V/m	1.609 V/m	1.542 V/m
213	08/27/2015 10:50:30 AM	1.609 V/m	1.570 V/m	1.531 V/m
214	08/27/2015 10:50:40 AM	1.666 V/m	1.570 V/m	1.497 V/m
215	08/27/2015 10:50:50 AM	1.630 V/m	1.574 V/m	1.515 V/m
216	08/27/2015 10:51:00 AM	1.651 V/m	1.593 V/m	1.539 V/m
217	08/27/2015 10:51:10 AM	1.709 V/m	1.627 V/m	1.586 V/m
218	08/27/2015 10:51:20 AM	1.636 V/m	1.582 V/m	1.524 V/m
219	08/27/2015 10:51:30 AM	1.667 V/m	1.585 V/m	1.523 V/m
220	08/27/2015 10:51:40 AM	1.642 V/m	1.575 V/m	1.497 V/m
221	08/27/2015 10:51:50 AM	1.759 V/m	1.574 V/m	1.496 V/m
222	08/27/2015 10:52:00 AM	1.613 V/m	1.554 V/m	1.483 V/m
223	08/27/2015 10:52:10 AM	1.685 V/m	1.566 V/m	1.511 V/m
224	08/27/2015 10:52:20 AM	1.661 V/m	1.564 V/m	1.519 V/m
225	08/27/2015 10:52:30 AM	1.604 V/m	1.567 V/m	1.518 V/m
226	08/27/2015 10:52:40 AM	1.702 V/m	1.573 V/m	1.520 V/m
227	08/27/2015 10:52:50 AM	1.624 V/m	1.566 V/m	1.508 V/m
228	08/27/2015 10:53:00 AM	1.655 V/m	1.603 V/m	1.553 V/m
229	08/27/2015 10:53:10 AM	1.619 V/m	1.589 V/m	1.551 V/m
230	08/27/2015 10:53:20 AM	1.687 V/m	1.600 V/m	1.521 V/m
231	08/27/2015 10:53:30 AM	1.716 V/m	1.637 V/m	1.561 V/m
232	08/27/2015 10:53:40 AM	1.686 V/m	1.624 V/m	1.569 V/m
233	08/27/2015 10:53:50 AM	1.683 V/m	1.593 V/m	1.547 V/m
234	08/27/2015 10:54:00 AM	1.650 V/m	1.571 V/m	1.509 V/m
235	08/27/2015 10:54:10 AM	1.632 V/m	1.577 V/m	1.510 V/m
236	08/27/2015 10:54:20 AM	1.714 V/m	1.634 V/m	1.559 V/m
237	08/27/2015 10:54:30 AM	1.753 V/m	1.623 V/m	1.565 V/m
238	08/27/2015 10:54:40 AM	1.804 V/m	1.678 V/m	1.586 V/m
239	08/27/2015 10:54:50 AM	1.684 V/m	1.622 V/m	1.571 V/m
240	08/27/2015 10:55:00 AM	1.727 V/m	1.628 V/m	1.575 V/m
241	08/27/2015 10:55:10 AM	1.757 V/m	1.643 V/m	1.519 V/m
242	08/27/2015 10:55:20 AM	1.741 V/m	1.589 V/m	1.529 V/m
243	08/27/2015 10:55:30 AM	1.696 V/m	1.600 V/m	1.516 V/m



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244	08/27/2015 10:55:40 AM	1.755 V/m	1.645 V/m	1.531 V/m
245	08/27/2015 10:55:50 AM	1.847 V/m	1.658 V/m	1.575 V/m
246	08/27/2015 10:56:00 AM	1.768 V/m	1.626 V/m	1.526 V/m
247	08/27/2015 10:56:10 AM	1.785 V/m	1.632 V/m	1.505 V/m
248	08/27/2015 10:56:20 AM	1.646 V/m	1.574 V/m	1.519 V/m
249	08/27/2015 10:56:30 AM	1.736 V/m	1.578 V/m	1.519 V/m
250	08/27/2015 10:56:40 AM	1.628 V/m	1.562 V/m	1.500 V/m
251	08/27/2015 10:56:50 AM	1.716 V/m	1.567 V/m	1.502 V/m
252	08/27/2015 10:57:00 AM	1.704 V/m	1.629 V/m	1.572 V/m
253	08/27/2015 10:57:10 AM	1.748 V/m	1.659 V/m	1.583 V/m
254	08/27/2015 10:57:20 AM	1.912 V/m	1.716 V/m	1.587 V/m
255	08/27/2015 10:57:30 AM	1.837 V/m	1.691 V/m	1.582 V/m
256	08/27/2015 10:57:40 AM	1.717 V/m	1.653 V/m	1.577 V/m
257	08/27/2015 10:57:50 AM	1.734 V/m	1.657 V/m	1.590 V/m
258	08/27/2015 10:58:00 AM	1.726 V/m	1.663 V/m	1.604 V/m
259	08/27/2015 10:58:10 AM	1.696 V/m	1.639 V/m	1.540 V/m
260	08/27/2015 10:58:20 AM	1.732 V/m	1.665 V/m	1.540 V/m
261	08/27/2015 10:58:30 AM	1.830 V/m	1.686 V/m	1.535 V/m
262	08/27/2015 10:58:40 AM	1.729 V/m	1.646 V/m	1.538 V/m
263	08/27/2015 10:58:50 AM	1.729 V/m	1.636 V/m	1.541 V/m
264	08/27/2015 10:59:00 AM	1.725 V/m	1.635 V/m	1.521 V/m
265	08/27/2015 10:59:10 AM	1.648 V/m	1.587 V/m	1.510 V/m
266	08/27/2015 10:59:20 AM	1.765 V/m	1.653 V/m	1.566 V/m
267	08/27/2015 10:59:30 AM	1.789 V/m	1.680 V/m	1.555 V/m
268	08/27/2015 10:59:40 AM	1.852 V/m	1.731 V/m	1.540 V/m
269	08/27/2015 10:59:50 AM	1.679 V/m	1.615 V/m	1.545 V/m
270	08/27/2015 11:00:00 AM	1.760 V/m	1.638 V/m	1.561 V/m
271	08/27/2015 11:00:10 AM	1.792 V/m	1.630 V/m	1.527 V/m
272	08/27/2015 11:00:20 AM	1.752 V/m	1.634 V/m	1.544 V/m
273	08/27/2015 11:00:30 AM	1.850 V/m	1.723 V/m	1.603 V/m
274	08/27/2015 11:00:40 AM	1.841 V/m	1.747 V/m	1.684 V/m
275	08/27/2015 11:00:50 AM	1.775 V/m	1.706 V/m	1.641 V/m
276	08/27/2015 11:01:00 AM	1.766 V/m	1.712 V/m	1.647 V/m
277	08/27/2015 11:01:10 AM	1.726 V/m	1.596 V/m	1.495 V/m
278	08/27/2015 11:01:20 AM	1.797 V/m	1.626 V/m	1.543 V/m
279	08/27/2015 11:01:30 AM	1.797 V/m	1.612 V/m	1.511 V/m
280	08/27/2015 11:01:40 AM	1.646 V/m	1.570 V/m	1.517 V/m
281	08/27/2015 11:01:50 AM	1.631 V/m	1.540 V/m	1.426 V/m
282	08/27/2015 11:02:00 AM	1.878 V/m	1.682 V/m	1.496 V/m
283	08/27/2015 11:02:10 AM	1.608 V/m	1.556 V/m	1.487 V/m
284	08/27/2015 11:02:20 AM	1.692 V/m	1.565 V/m	1.483 V/m
285	08/27/2015 11:02:30 AM	1.570 V/m	1.519 V/m	1.466 V/m
286	08/27/2015 11:02:40 AM	1.808 V/m	1.676 V/m	1.567 V/m
287	08/27/2015 11:02:50 AM	1.647 V/m	1.548 V/m	1.503 V/m
288	08/27/2015 11:03:00 AM	1.612 V/m	1.538 V/m	1.477 V/m
289	08/27/2015 11:03:10 AM	1.607 V/m	1.548 V/m	1.511 V/m
290	08/27/2015 11:03:20 AM	1.645 V/m	1.569 V/m	1.498 V/m
291	08/27/2015 11:03:30 AM	1.641 V/m	1.593 V/m	1.533 V/m
292	08/27/2015 11:03:40 AM	1.748 V/m	1.654 V/m	1.596 V/m
293	08/27/2015 11:03:50 AM	1.778 V/m	1.604 V/m	1.535 V/m
294	08/27/2015 11:04:00 AM	1.825 V/m	1.651 V/m	1.555 V/m
295	08/27/2015 11:04:10 AM	1.763 V/m	1.642 V/m	1.551 V/m
296	08/27/2015 11:04:20 AM	1.760 V/m	1.612 V/m	1.506 V/m
297	08/27/2015 11:04:30 AM	1.783 V/m	1.643 V/m	1.533 V/m
298	08/27/2015 11:04:40 AM	1.855 V/m	1.733 V/m	1.573 V/m
299	08/27/2015 11:04:50 AM	1.707 V/m	1.639 V/m	1.588 V/m
300	08/27/2015 11:05:00 AM	1.651 V/m	1.604 V/m	1.544 V/m
301	08/27/2015 11:05:10 AM	1.651 V/m	1.576 V/m	1.510 V/m
302	08/27/2015 11:05:20 AM	1.662 V/m	1.605 V/m	1.529 V/m
303	08/27/2015 11:05:30 AM	1.744 V/m	1.642 V/m	1.543 V/m
304	08/27/2015 11:05:40 AM	1.747 V/m	1.669 V/m	1.567 V/m
305	08/27/2015 11:05:50 AM	1.727 V/m	1.643 V/m	1.553 V/m
306	08/27/2015 11:06:00 AM	1.676 V/m	1.608 V/m	1.519 V/m



307	08/27/2015 11:06:10 AM	1.615 V/m	1.570 V/m	1.499 V/m
308	08/27/2015 11:06:20 AM	1.626 V/m	1.561 V/m	1.499 V/m
309	08/27/2015 11:06:30 AM	1.617 V/m	1.561 V/m	1.479 V/m
310	08/27/2015 11:06:40 AM	1.607 V/m	1.534 V/m	1.494 V/m
311	08/27/2015 11:06:50 AM	1.629 V/m	1.577 V/m	1.516 V/m
312	08/27/2015 11:07:00 AM	1.775 V/m	1.626 V/m	1.529 V/m
313	08/27/2015 11:07:10 AM	1.782 V/m	1.632 V/m	1.523 V/m
314	08/27/2015 11:07:20 AM	1.721 V/m	1.606 V/m	1.535 V/m
315	08/27/2015 11:07:30 AM	1.700 V/m	1.584 V/m	1.473 V/m
316	08/27/2015 11:07:40 AM	1.701 V/m	1.566 V/m	1.479 V/m
317	08/27/2015 11:07:50 AM	1.636 V/m	1.581 V/m	1.501 V/m
318	08/27/2015 11:08:00 AM	1.689 V/m	1.578 V/m	1.523 V/m
319	08/27/2015 11:08:10 AM	1.690 V/m	1.587 V/m	1.523 V/m
320	08/27/2015 11:08:20 AM	1.619 V/m	1.552 V/m	1.487 V/m
321	08/27/2015 11:08:30 AM	1.598 V/m	1.541 V/m	1.465 V/m
322	08/27/2015 11:08:40 AM	1.689 V/m	1.598 V/m	1.514 V/m
323	08/27/2015 11:08:50 AM	1.741 V/m	1.637 V/m	1.573 V/m
324	08/27/2015 11:09:00 AM	1.720 V/m	1.625 V/m	1.558 V/m
325	08/27/2015 11:09:10 AM	1.675 V/m	1.581 V/m	1.484 V/m
326	08/27/2015 11:09:20 AM	1.653 V/m	1.568 V/m	1.486 V/m
327	08/27/2015 11:09:30 AM	1.664 V/m	1.570 V/m	1.524 V/m
328	08/27/2015 11:09:40 AM	1.681 V/m	1.587 V/m	1.516 V/m
329	08/27/2015 11:09:50 AM	1.787 V/m	1.616 V/m	1.509 V/m
330	08/27/2015 11:10:00 AM	1.694 V/m	1.615 V/m	1.539 V/m
331	08/27/2015 11:10:10 AM	1.723 V/m	1.577 V/m	1.504 V/m
332	08/27/2015 11:10:20 AM	1.659 V/m	1.571 V/m	1.503 V/m
333	08/27/2015 11:10:30 AM	1.619 V/m	1.551 V/m	1.504 V/m
334	08/27/2015 11:10:40 AM	1.654 V/m	1.561 V/m	1.499 V/m
335	08/27/2015 11:10:50 AM	1.608 V/m	1.540 V/m	1.492 V/m
336	08/27/2015 11:11:00 AM	1.666 V/m	1.551 V/m	1.488 V/m
337	08/27/2015 11:11:10 AM	1.705 V/m	1.583 V/m	1.501 V/m
338	08/27/2015 11:11:20 AM	1.640 V/m	1.599 V/m	1.560 V/m
339	08/27/2015 11:11:30 AM	1.632 V/m	1.597 V/m	1.564 V/m
340	08/27/2015 11:11:40 AM	1.709 V/m	1.625 V/m	1.566 V/m
341	08/27/2015 11:11:50 AM	1.775 V/m	1.616 V/m	1.532 V/m
342	08/27/2015 11:12:00 AM	1.700 V/m	1.613 V/m	1.555 V/m
343	08/27/2015 11:12:10 AM	1.655 V/m	1.592 V/m	1.542 V/m
344	08/27/2015 11:12:20 AM	1.701 V/m	1.618 V/m	1.576 V/m
345	08/27/2015 11:12:30 AM	1.632 V/m	1.590 V/m	1.560 V/m
346	08/27/2015 11:12:40 AM	1.720 V/m	1.646 V/m	1.557 V/m
347	08/27/2015 11:12:50 AM	1.717 V/m	1.621 V/m	1.546 V/m
348	08/27/2015 11:13:00 AM	1.646 V/m	1.573 V/m	1.521 V/m
349	08/27/2015 11:13:10 AM	1.749 V/m	1.606 V/m	1.555 V/m
350	08/27/2015 11:13:20 AM	1.754 V/m	1.651 V/m	1.570 V/m
351	08/27/2015 11:13:30 AM	1.760 V/m	1.636 V/m	1.582 V/m
352	08/27/2015 11:13:40 AM	1.827 V/m	1.686 V/m	1.586 V/m
353	08/27/2015 11:13:50 AM	1.889 V/m	1.723 V/m	1.601 V/m
354	08/27/2015 11:14:00 AM	1.854 V/m	1.681 V/m	1.576 V/m
355	08/27/2015 11:14:10 AM	1.713 V/m	1.628 V/m	1.584 V/m
356	08/27/2015 11:14:20 AM	1.715 V/m	1.628 V/m	1.571 V/m
357	08/27/2015 11:14:30 AM	1.777 V/m	1.640 V/m	1.578 V/m
358	08/27/2015 11:14:40 AM	1.736 V/m	1.652 V/m	1.582 V/m
359	08/27/2015 11:14:50 AM	1.762 V/m	1.666 V/m	1.581 V/m
360	08/27/2015 11:15:00 AM	1.746 V/m	1.662 V/m	1.600 V/m
361	08/27/2015 11:15:10 AM	1.806 V/m	1.663 V/m	1.551 V/m
362	08/27/2015 11:15:20 AM	1.875 V/m	1.787 V/m	1.651 V/m
363	08/27/2015 11:15:30 AM	1.898 V/m	1.808 V/m	1.708 V/m
364	08/27/2015 11:15:40 AM	1.801 V/m	1.728 V/m	1.539 V/m
365	08/27/2015 11:15:50 AM	1.694 V/m	1.633 V/m	1.580 V/m
366	08/27/2015 11:16:00 AM	1.889 V/m	1.775 V/m	1.595 V/m
367	08/27/2015 11:16:10 AM	1.812 V/m	1.696 V/m	1.619 V/m
368	08/27/2015 11:16:20 AM	1.887 V/m	1.744 V/m	1.585 V/m
369	08/27/2015 11:16:30 AM	1.851 V/m	1.762 V/m	1.611 V/m



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370	08/27/2015 11:16:40 AM	1.884 V/m	1.757 V/m	1.584 V/m
371	08/27/2015 11:16:50 AM	1.903 V/m	1.750 V/m	1.605 V/m
372	08/27/2015 11:17:00 AM	1.874 V/m	1.769 V/m	1.691 V/m
373	08/27/2015 11:17:10 AM	1.961 V/m	1.755 V/m	1.624 V/m
374	08/27/2015 11:17:20 AM	1.888 V/m	1.784 V/m	1.631 V/m
375	08/27/2015 11:17:30 AM	1.880 V/m	1.751 V/m	1.628 V/m
376	08/27/2015 11:17:40 AM	1.792 V/m	1.679 V/m	1.598 V/m
377	08/27/2015 11:17:50 AM	1.784 V/m	1.709 V/m	1.580 V/m
378	08/27/2015 11:18:00 AM	1.780 V/m	1.618 V/m	1.549 V/m
379	08/27/2015 11:18:10 AM	1.767 V/m	1.659 V/m	1.565 V/m
380	08/27/2015 11:18:20 AM	1.661 V/m	1.604 V/m	1.555 V/m
381	08/27/2015 11:18:30 AM	1.756 V/m	1.629 V/m	1.568 V/m
382	08/27/2015 11:18:40 AM	1.687 V/m	1.627 V/m	1.558 V/m
383	08/27/2015 11:18:50 AM	1.750 V/m	1.659 V/m	1.595 V/m
384	08/27/2015 11:19:00 AM	1.694 V/m	1.593 V/m	1.480 V/m
385	08/27/2015 11:19:10 AM	1.726 V/m	1.592 V/m	1.477 V/m
386	08/27/2015 11:19:20 AM	1.722 V/m	1.620 V/m	1.537 V/m
387	08/27/2015 11:19:30 AM	1.632 V/m	1.583 V/m	1.520 V/m
388	08/27/2015 11:19:40 AM	1.762 V/m	1.659 V/m	1.509 V/m
389	08/27/2015 11:19:50 AM	1.796 V/m	1.639 V/m	1.504 V/m
390	08/27/2015 11:20:00 AM	1.875 V/m	1.701 V/m	1.536 V/m
391	08/27/2015 11:20:10 AM	1.829 V/m	1.732 V/m	1.594 V/m
392	08/27/2015 11:20:20 AM	1.777 V/m	1.718 V/m	1.650 V/m
393	08/27/2015 11:20:30 AM	1.862 V/m	1.671 V/m	1.523 V/m
394	08/27/2015 11:20:40 AM	1.837 V/m	1.729 V/m	1.594 V/m
395	08/27/2015 11:20:50 AM	1.731 V/m	1.609 V/m	1.528 V/m
396	08/27/2015 11:21:00 AM	1.865 V/m	1.678 V/m	1.516 V/m
397	08/27/2015 11:21:10 AM	1.807 V/m	1.673 V/m	1.554 V/m
398	08/27/2015 11:21:20 AM	1.837 V/m	1.665 V/m	1.521 V/m
399	08/27/2015 11:21:30 AM	1.895 V/m	1.703 V/m	1.526 V/m
400	08/27/2015 11:21:40 AM	1.804 V/m	1.694 V/m	1.561 V/m
401	08/27/2015 11:21:50 AM	1.774 V/m	1.662 V/m	1.577 V/m
402	08/27/2015 11:22:00 AM	1.840 V/m	1.708 V/m	1.601 V/m
403	08/27/2015 11:22:10 AM	1.806 V/m	1.695 V/m	1.601 V/m
404	08/27/2015 11:22:20 AM	1.787 V/m	1.676 V/m	1.591 V/m
405	08/27/2015 11:22:30 AM	1.707 V/m	1.629 V/m	1.563 V/m
406	08/27/2015 11:22:40 AM	1.698 V/m	1.615 V/m	1.544 V/m
407	08/27/2015 11:22:50 AM	1.809 V/m	1.648 V/m	1.551 V/m
408	08/27/2015 11:23:00 AM	1.831 V/m	1.720 V/m	1.582 V/m
409	08/27/2015 11:23:10 AM	1.859 V/m	1.747 V/m	1.687 V/m
410	08/27/2015 11:23:20 AM	1.864 V/m	1.799 V/m	1.636 V/m
411	08/27/2015 11:23:30 AM	1.886 V/m	1.731 V/m	1.569 V/m
412	08/27/2015 11:23:40 AM	1.786 V/m	1.732 V/m	1.579 V/m
413	08/27/2015 11:23:50 AM	1.815 V/m	1.752 V/m	1.677 V/m
414	08/27/2015 11:24:00 AM	1.765 V/m	1.698 V/m	1.606 V/m
415	08/27/2015 11:24:10 AM	1.765 V/m	1.670 V/m	1.566 V/m
416	08/27/2015 11:24:20 AM	1.814 V/m	1.721 V/m	1.588 V/m
417	08/27/2015 11:24:30 AM	1.771 V/m	1.629 V/m	1.545 V/m
418	08/27/2015 11:24:40 AM	1.736 V/m	1.623 V/m	1.486 V/m
419	08/27/2015 11:24:50 AM	1.766 V/m	1.621 V/m	1.538 V/m
420	08/27/2015 11:25:00 AM	1.709 V/m	1.644 V/m	1.572 V/m
421	08/27/2015 11:25:10 AM	1.759 V/m	1.611 V/m	1.518 V/m
422	08/27/2015 11:25:20 AM	1.817 V/m	1.709 V/m	1.544 V/m
423	08/27/2015 11:25:30 AM	1.787 V/m	1.657 V/m	1.586 V/m
424	08/27/2015 11:25:40 AM	1.833 V/m	1.725 V/m	1.539 V/m
425	08/27/2015 11:25:50 AM	1.670 V/m	1.596 V/m	1.528 V/m
426	08/27/2015 11:26:00 AM	1.707 V/m	1.593 V/m	1.502 V/m
427	08/27/2015 11:26:10 AM	1.641 V/m	1.586 V/m	1.518 V/m
428	08/27/2015 11:26:20 AM	1.683 V/m	1.603 V/m	1.542 V/m
429	08/27/2015 11:26:30 AM	1.807 V/m	1.660 V/m	1.547 V/m
430	08/27/2015 11:26:40 AM	1.821 V/m	1.611 V/m	1.536 V/m
431	08/27/2015 11:26:50 AM	1.823 V/m	1.646 V/m	1.555 V/m
432	08/27/2015 11:27:00 AM	1.766 V/m	1.691 V/m	1.599 V/m



433	08/27/2015 11:27:10 AM	1.755 V/m	1.679 V/m	1.600 V/m
434	08/27/2015 11:27:20 AM	1.729 V/m	1.656 V/m	1.591 V/m
435	08/27/2015 11:27:30 AM	1.730 V/m	1.641 V/m	1.530 V/m
436	08/27/2015 11:27:40 AM	1.684 V/m	1.576 V/m	1.496 V/m
437	08/27/2015 11:27:50 AM	1.739 V/m	1.593 V/m	1.491 V/m
438	08/27/2015 11:28:00 AM	1.784 V/m	1.635 V/m	1.526 V/m
439	08/27/2015 11:28:10 AM	1.942 V/m	1.776 V/m	1.657 V/m
440	08/27/2015 11:28:20 AM	1.661 V/m	1.597 V/m	1.534 V/m
441	08/27/2015 11:28:30 AM	1.650 V/m	1.598 V/m	1.519 V/m
442	08/27/2015 11:28:40 AM	1.644 V/m	1.566 V/m	1.495 V/m
443	08/27/2015 11:28:50 AM	1.708 V/m	1.616 V/m	1.495 V/m
444	08/27/2015 11:29:00 AM	1.638 V/m	1.555 V/m	1.487 V/m
445	08/27/2015 11:29:10 AM	1.637 V/m	1.573 V/m	1.502 V/m
446	08/27/2015 11:29:20 AM	1.657 V/m	1.585 V/m	1.502 V/m
447	08/27/2015 11:29:30 AM	1.652 V/m	1.573 V/m	1.516 V/m
448	08/27/2015 11:29:40 AM	1.650 V/m	1.582 V/m	1.520 V/m
449	08/27/2015 11:29:50 AM	1.745 V/m	1.668 V/m	1.597 V/m
450	08/27/2015 11:30:00 AM	1.643 V/m	1.584 V/m	1.540 V/m
451	08/27/2015 11:30:10 AM	1.783 V/m	1.631 V/m	1.532 V/m
452	08/27/2015 11:30:20 AM	1.795 V/m	1.623 V/m	1.513 V/m
453	08/27/2015 11:30:30 AM	1.671 V/m	1.585 V/m	1.534 V/m
454	08/27/2015 11:30:40 AM	1.637 V/m	1.592 V/m	1.542 V/m
455	08/27/2015 11:30:50 AM	1.638 V/m	1.551 V/m	1.492 V/m
456	08/27/2015 11:31:00 AM	1.739 V/m	1.576 V/m	1.514 V/m
457	08/27/2015 11:31:10 AM	1.704 V/m	1.615 V/m	1.532 V/m
458	08/27/2015 11:31:20 AM	1.740 V/m	1.646 V/m	1.580 V/m
459	08/27/2015 11:31:30 AM	1.753 V/m	1.664 V/m	1.573 V/m
460	08/27/2015 11:31:40 AM	1.847 V/m	1.695 V/m	1.580 V/m
461	08/27/2015 11:31:50 AM	1.750 V/m	1.647 V/m	1.564 V/m
462	08/27/2015 11:32:00 AM	1.671 V/m	1.593 V/m	1.499 V/m
463	08/27/2015 11:32:10 AM	1.689 V/m	1.602 V/m	1.515 V/m
464	08/27/2015 11:32:20 AM	1.707 V/m	1.589 V/m	1.507 V/m
465	08/27/2015 11:32:30 AM	1.691 V/m	1.581 V/m	1.532 V/m
466	08/27/2015 11:32:40 AM	1.654 V/m	1.600 V/m	1.564 V/m
467	08/27/2015 11:32:50 AM	1.630 V/m	1.581 V/m	1.537 V/m
468	08/27/2015 11:33:00 AM	1.732 V/m	1.635 V/m	1.561 V/m
469	08/27/2015 11:33:10 AM	1.653 V/m	1.588 V/m	1.550 V/m
470	08/27/2015 11:33:20 AM	1.708 V/m	1.606 V/m	1.551 V/m
471	08/27/2015 11:33:30 AM	1.717 V/m	1.597 V/m	1.524 V/m
472	08/27/2015 11:33:40 AM	1.639 V/m	1.604 V/m	1.536 V/m
473	08/27/2015 11:33:50 AM	1.698 V/m	1.623 V/m	1.537 V/m
474	08/27/2015 11:34:00 AM	1.705 V/m	1.631 V/m	1.555 V/m
475	08/27/2015 11:34:10 AM	1.751 V/m	1.660 V/m	1.565 V/m
476	08/27/2015 11:34:20 AM	1.688 V/m	1.616 V/m	1.562 V/m
477	08/27/2015 11:34:30 AM	1.709 V/m	1.627 V/m	1.566 V/m
478	08/27/2015 11:34:40 AM	1.785 V/m	1.690 V/m	1.618 V/m
479	08/27/2015 11:34:50 AM	1.701 V/m	1.624 V/m	1.584 V/m
480	08/27/2015 11:35:00 AM	1.667 V/m	1.618 V/m	1.541 V/m
481	08/27/2015 11:35:10 AM	1.730 V/m	1.637 V/m	1.595 V/m
482	08/27/2015 11:35:20 AM	1.765 V/m	1.702 V/m	1.636 V/m
483	08/27/2015 11:35:30 AM	1.790 V/m	1.678 V/m	1.595 V/m
484	08/27/2015 11:35:40 AM	1.812 V/m	1.700 V/m	1.608 V/m
485	08/27/2015 11:35:50 AM	1.756 V/m	1.684 V/m	1.604 V/m
486	08/27/2015 11:36:00 AM	1.694 V/m	1.610 V/m	1.526 V/m
487	08/27/2015 11:36:10 AM	1.738 V/m	1.620 V/m	1.565 V/m
488	08/27/2015 11:36:20 AM	1.688 V/m	1.613 V/m	1.569 V/m
489	08/27/2015 11:36:30 AM	1.711 V/m	1.617 V/m	1.547 V/m
490	08/27/2015 11:36:40 AM	1.693 V/m	1.625 V/m	1.554 V/m
491	08/27/2015 11:36:50 AM	1.691 V/m	1.609 V/m	1.542 V/m
492	08/27/2015 11:37:00 AM	1.682 V/m	1.582 V/m	1.529 V/m
493	08/27/2015 11:37:10 AM	1.752 V/m	1.657 V/m	1.573 V/m
494	08/27/2015 11:37:20 AM	1.713 V/m	1.624 V/m	1.541 V/m
495	08/27/2015 11:37:30 AM	1.688 V/m	1.578 V/m	1.520 V/m



496	08/27/2015 11:37:40 AM	1.698 V/m	1.590 V/m	1.527 V/m
497	08/27/2015 11:37:50 AM	1.635 V/m	1.576 V/m	1.528 V/m
498	08/27/2015 11:38:00 AM	1.652 V/m	1.586 V/m	1.538 V/m
499	08/27/2015 11:38:10 AM	1.744 V/m	1.627 V/m	1.557 V/m
500	08/27/2015 11:38:20 AM	1.730 V/m	1.612 V/m	1.542 V/m
501	08/27/2015 11:38:30 AM	1.688 V/m	1.623 V/m	1.571 V/m
502	08/27/2015 11:38:40 AM	1.780 V/m	1.717 V/m	1.615 V/m
503	08/27/2015 11:38:50 AM	1.695 V/m	1.607 V/m	1.517 V/m
504	08/27/2015 11:39:00 AM	1.702 V/m	1.609 V/m	1.555 V/m
505	08/27/2015 11:39:10 AM	1.700 V/m	1.613 V/m	1.560 V/m
506	08/27/2015 11:39:20 AM	1.643 V/m	1.595 V/m	1.494 V/m
507	08/27/2015 11:39:30 AM	1.616 V/m	1.563 V/m	1.484 V/m
508	08/27/2015 11:39:40 AM	1.659 V/m	1.577 V/m	1.518 V/m
509	08/27/2015 11:39:50 AM	1.657 V/m	1.570 V/m	1.513 V/m
510	08/27/2015 11:40:00 AM	1.765 V/m	1.665 V/m	1.501 V/m
511	08/27/2015 11:40:10 AM	1.777 V/m	1.620 V/m	1.512 V/m
512	08/27/2015 11:40:20 AM	1.707 V/m	1.626 V/m	1.522 V/m
513	08/27/2015 11:40:30 AM	1.630 V/m	1.576 V/m	1.521 V/m
514	08/27/2015 11:40:40 AM	1.717 V/m	1.622 V/m	1.568 V/m
515	08/27/2015 11:40:50 AM	1.800 V/m	1.708 V/m	1.566 V/m
516	08/27/2015 11:41:00 AM	1.667 V/m	1.601 V/m	1.543 V/m
517	08/27/2015 11:41:10 AM	1.710 V/m	1.624 V/m	1.574 V/m
518	08/27/2015 11:41:20 AM	1.875 V/m	1.733 V/m	1.599 V/m
519	08/27/2015 11:41:30 AM	1.774 V/m	1.628 V/m	1.566 V/m
520	08/27/2015 11:41:40 AM	1.741 V/m	1.673 V/m	1.599 V/m
521	08/27/2015 11:41:50 AM	1.714 V/m	1.630 V/m	1.536 V/m
522	08/27/2015 11:42:00 AM	1.745 V/m	1.661 V/m	1.550 V/m
523	08/27/2015 11:42:10 AM	1.663 V/m	1.578 V/m	1.523 V/m
524	08/27/2015 11:42:20 AM	1.714 V/m	1.591 V/m	1.497 V/m
525	08/27/2015 11:42:30 AM	1.707 V/m	1.604 V/m	1.498 V/m
526	08/27/2015 11:42:40 AM	1.674 V/m	1.600 V/m	1.531 V/m
527	08/27/2015 11:42:50 AM	1.678 V/m	1.587 V/m	1.529 V/m
528	08/27/2015 11:43:00 AM	1.666 V/m	1.587 V/m	1.509 V/m
529	08/27/2015 11:43:10 AM	1.717 V/m	1.624 V/m	1.550 V/m
530	08/27/2015 11:43:20 AM	1.695 V/m	1.597 V/m	1.535 V/m
531	08/27/2015 11:43:30 AM	1.700 V/m	1.637 V/m	1.577 V/m
532	08/27/2015 11:43:40 AM	1.840 V/m	1.705 V/m	1.580 V/m
533	08/27/2015 11:43:50 AM	1.689 V/m	1.605 V/m	1.549 V/m
534	08/27/2015 11:44:00 AM	1.693 V/m	1.627 V/m	1.586 V/m
535	08/27/2015 11:44:10 AM	1.713 V/m	1.588 V/m	1.524 V/m
536	08/27/2015 11:44:20 AM	1.676 V/m	1.611 V/m	1.540 V/m
537	08/27/2015 11:44:30 AM	1.692 V/m	1.612 V/m	1.517 V/m
538	08/27/2015 11:44:40 AM	1.813 V/m	1.711 V/m	1.582 V/m
539	08/27/2015 11:44:50 AM	1.720 V/m	1.618 V/m	1.524 V/m
540	08/27/2015 11:45:00 AM	1.867 V/m	1.646 V/m	1.554 V/m
541	08/27/2015 11:45:10 AM	1.845 V/m	1.688 V/m	1.597 V/m
542	08/27/2015 11:45:20 AM	1.792 V/m	1.656 V/m	1.557 V/m
543	08/27/2015 11:45:30 AM	1.675 V/m	1.573 V/m	1.522 V/m
544	08/27/2015 11:45:40 AM	1.751 V/m	1.654 V/m	1.553 V/m
545	08/27/2015 11:45:50 AM	1.744 V/m	1.623 V/m	1.545 V/m
546	08/27/2015 11:46:00 AM	1.657 V/m	1.567 V/m	1.515 V/m
547	08/27/2015 11:46:10 AM	1.720 V/m	1.603 V/m	1.516 V/m
548	08/27/2015 11:46:20 AM	1.704 V/m	1.593 V/m	1.525 V/m
549	08/27/2015 11:46:30 AM	1.815 V/m	1.670 V/m	1.585 V/m
550	08/27/2015 11:46:40 AM	1.689 V/m	1.616 V/m	1.545 V/m
551	08/27/2015 11:46:50 AM	1.781 V/m	1.672 V/m	1.576 V/m
552	08/27/2015 11:47:00 AM	1.824 V/m	1.657 V/m	1.568 V/m
553	08/27/2015 11:47:10 AM	1.705 V/m	1.641 V/m	1.586 V/m
554	08/27/2015 11:47:20 AM	1.775 V/m	1.647 V/m	1.585 V/m
555	08/27/2015 11:47:30 AM	1.857 V/m	1.700 V/m	1.603 V/m
556	08/27/2015 11:47:40 AM	1.820 V/m	1.697 V/m	1.587 V/m
557	08/27/2015 11:47:50 AM	1.794 V/m	1.665 V/m	1.588 V/m
558	08/27/2015 11:48:00 AM	1.846 V/m	1.709 V/m	1.572 V/m



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559	08/27/2015 11:48:10 AM	1.879 V/m	1.727 V/m	1.592 V/m
560	08/27/2015 11:48:20 AM	1.864 V/m	1.723 V/m	1.628 V/m
561	08/27/2015 11:48:30 AM	1.841 V/m	1.711 V/m	1.619 V/m
562	08/27/2015 11:48:40 AM	1.840 V/m	1.683 V/m	1.591 V/m
563	08/27/2015 11:48:50 AM	1.725 V/m	1.616 V/m	1.525 V/m
564	08/27/2015 11:49:00 AM	1.842 V/m	1.688 V/m	1.558 V/m
565	08/27/2015 11:49:10 AM	1.776 V/m	1.620 V/m	1.534 V/m
566	08/27/2015 11:49:20 AM	1.876 V/m	1.727 V/m	1.643 V/m
567	08/27/2015 11:49:30 AM	1.858 V/m	1.735 V/m	1.602 V/m
568	08/27/2015 11:49:40 AM	1.757 V/m	1.630 V/m	1.543 V/m
569	08/27/2015 11:49:50 AM	1.702 V/m	1.602 V/m	1.517 V/m
570	08/27/2015 11:50:00 AM	1.843 V/m	1.696 V/m	1.554 V/m
571	08/27/2015 11:50:10 AM	1.882 V/m	1.732 V/m	1.621 V/m
572	08/27/2015 11:50:20 AM	1.746 V/m	1.656 V/m	1.576 V/m
573	08/27/2015 11:50:30 AM	1.831 V/m	1.691 V/m	1.611 V/m
574	08/27/2015 11:50:40 AM	1.855 V/m	1.652 V/m	1.550 V/m
575	08/27/2015 11:50:50 AM	1.692 V/m	1.613 V/m	1.538 V/m
576	08/27/2015 11:51:00 AM	1.722 V/m	1.604 V/m	1.503 V/m
577	08/27/2015 11:51:10 AM	1.788 V/m	1.636 V/m	1.503 V/m
578	08/27/2015 11:51:20 AM	1.774 V/m	1.675 V/m	1.558 V/m
579	08/27/2015 11:51:30 AM	1.735 V/m	1.634 V/m	1.563 V/m
580	08/27/2015 11:51:40 AM	1.747 V/m	1.640 V/m	1.582 V/m
581	08/27/2015 11:51:50 AM	1.789 V/m	1.705 V/m	1.645 V/m
582	08/27/2015 11:52:00 AM	1.835 V/m	1.740 V/m	1.624 V/m
583	08/27/2015 11:52:10 AM	1.767 V/m	1.679 V/m	1.594 V/m
584	08/27/2015 11:52:20 AM	1.693 V/m	1.586 V/m	1.519 V/m
585	08/27/2015 11:52:30 AM	1.742 V/m	1.600 V/m	1.529 V/m
586	08/27/2015 11:52:40 AM	1.766 V/m	1.576 V/m	1.500 V/m
587	08/27/2015 11:52:50 AM	1.751 V/m	1.596 V/m	1.502 V/m
588	08/27/2015 11:53:00 AM	1.756 V/m	1.602 V/m	1.544 V/m
589	08/27/2015 11:53:10 AM	1.705 V/m	1.616 V/m	1.532 V/m
590	08/27/2015 11:53:20 AM	1.829 V/m	1.653 V/m	1.507 V/m
591	08/27/2015 11:53:30 AM	1.853 V/m	1.769 V/m	1.712 V/m
592	08/27/2015 11:53:40 AM	1.838 V/m	1.691 V/m	1.550 V/m
593	08/27/2015 11:53:50 AM	1.842 V/m	1.672 V/m	1.565 V/m
594	08/27/2015 11:54:00 AM	1.799 V/m	1.639 V/m	1.526 V/m
595	08/27/2015 11:54:10 AM	1.858 V/m	1.591 V/m	1.489 V/m
596	08/27/2015 11:54:20 AM	1.748 V/m	1.638 V/m	1.521 V/m
597	08/27/2015 11:54:30 AM	1.736 V/m	1.615 V/m	1.505 V/m
598	08/27/2015 11:54:40 AM	1.767 V/m	1.672 V/m	1.556 V/m
599	08/27/2015 11:54:50 AM	1.713 V/m	1.603 V/m	1.527 V/m
600	08/27/2015 11:55:00 AM	1.840 V/m	1.679 V/m	1.479 V/m
601	08/27/2015 11:55:10 AM	1.827 V/m	1.737 V/m	1.647 V/m
602	08/27/2015 11:55:20 AM	1.930 V/m	1.757 V/m	1.545 V/m
603	08/27/2015 11:55:30 AM	1.709 V/m	1.620 V/m	1.572 V/m
604	08/27/2015 11:55:40 AM	1.766 V/m	1.602 V/m	1.505 V/m
605	08/27/2015 11:55:50 AM	1.686 V/m	1.559 V/m	1.479 V/m
606	08/27/2015 11:56:00 AM	1.657 V/m	1.578 V/m	1.509 V/m
607	08/27/2015 11:56:10 AM	1.675 V/m	1.601 V/m	1.516 V/m
608	08/27/2015 11:56:20 AM	1.666 V/m	1.586 V/m	1.521 V/m
609	08/27/2015 11:56:30 AM	1.655 V/m	1.564 V/m	1.491 V/m
610	08/27/2015 11:56:40 AM	1.749 V/m	1.630 V/m	1.530 V/m
611	08/27/2015 11:56:50 AM	1.722 V/m	1.645 V/m	1.561 V/m
612	08/27/2015 11:57:00 AM	1.788 V/m	1.687 V/m	1.553 V/m
613	08/27/2015 11:57:10 AM	1.864 V/m	1.700 V/m	1.559 V/m
614	08/27/2015 11:57:20 AM	1.855 V/m	1.687 V/m	1.535 V/m
615	08/27/2015 11:57:30 AM	1.786 V/m	1.654 V/m	1.528 V/m
616	08/27/2015 11:57:40 AM	1.758 V/m	1.659 V/m	1.549 V/m
617	08/27/2015 11:57:50 AM	1.753 V/m	1.679 V/m	1.604 V/m
618	08/27/2015 11:58:00 AM	1.782 V/m	1.656 V/m	1.558 V/m
619	08/27/2015 11:58:10 AM	1.801 V/m	1.682 V/m	1.588 V/m
620	08/27/2015 11:58:20 AM	1.818 V/m	1.717 V/m	1.546 V/m
621	08/27/2015 11:58:30 AM	1.744 V/m	1.646 V/m	1.538 V/m

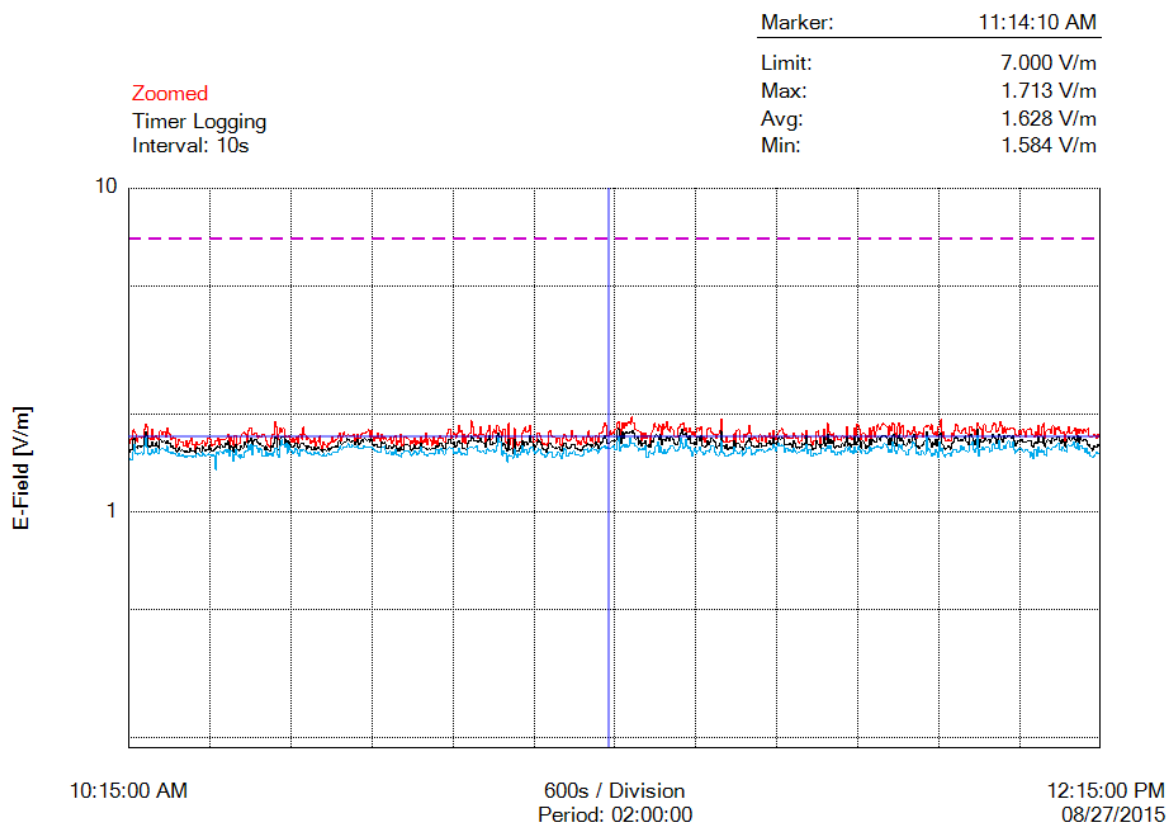


622	08/27/2015 11:58:40 AM	1.719 V/m	1.608 V/m	1.532 V/m
623	08/27/2015 11:58:50 AM	1.830 V/m	1.718 V/m	1.607 V/m
624	08/27/2015 11:59:00 AM	1.837 V/m	1.739 V/m	1.607 V/m
625	08/27/2015 11:59:10 AM	1.778 V/m	1.700 V/m	1.650 V/m
626	08/27/2015 11:59:20 AM	1.797 V/m	1.659 V/m	1.557 V/m
627	08/27/2015 11:59:30 AM	1.737 V/m	1.612 V/m	1.523 V/m
628	08/27/2015 11:59:40 AM	1.780 V/m	1.673 V/m	1.566 V/m
629	08/27/2015 11:59:50 AM	1.882 V/m	1.802 V/m	1.725 V/m
630	08/27/2015 12:00:00 PM	1.840 V/m	1.590 V/m	1.483 V/m
631	08/27/2015 12:00:10 PM	1.813 V/m	1.670 V/m	1.562 V/m
632	08/27/2015 12:00:20 PM	1.793 V/m	1.648 V/m	1.564 V/m
633	08/27/2015 12:00:30 PM	1.685 V/m	1.638 V/m	1.592 V/m
634	08/27/2015 12:00:40 PM	1.859 V/m	1.664 V/m	1.553 V/m
635	08/27/2015 12:00:50 PM	1.853 V/m	1.692 V/m	1.582 V/m
636	08/27/2015 12:01:00 PM	1.770 V/m	1.666 V/m	1.584 V/m
637	08/27/2015 12:01:10 PM	1.767 V/m	1.677 V/m	1.583 V/m
638	08/27/2015 12:01:20 PM	1.762 V/m	1.635 V/m	1.535 V/m
639	08/27/2015 12:01:30 PM	1.789 V/m	1.679 V/m	1.546 V/m
640	08/27/2015 12:01:40 PM	1.852 V/m	1.735 V/m	1.616 V/m
641	08/27/2015 12:01:50 PM	1.889 V/m	1.709 V/m	1.622 V/m
642	08/27/2015 12:02:00 PM	1.864 V/m	1.688 V/m	1.578 V/m
643	08/27/2015 12:02:10 PM	1.767 V/m	1.634 V/m	1.576 V/m
644	08/27/2015 12:02:20 PM	1.779 V/m	1.668 V/m	1.566 V/m
645	08/27/2015 12:02:30 PM	1.824 V/m	1.741 V/m	1.654 V/m
646	08/27/2015 12:02:40 PM	1.900 V/m	1.711 V/m	1.559 V/m
647	08/27/2015 12:02:50 PM	1.847 V/m	1.668 V/m	1.562 V/m
648	08/27/2015 12:03:00 PM	1.752 V/m	1.639 V/m	1.565 V/m
649	08/27/2015 12:03:10 PM	1.828 V/m	1.728 V/m	1.600 V/m
650	08/27/2015 12:03:20 PM	1.759 V/m	1.689 V/m	1.573 V/m
651	08/27/2015 12:03:30 PM	1.812 V/m	1.701 V/m	1.628 V/m
652	08/27/2015 12:03:40 PM	1.795 V/m	1.726 V/m	1.653 V/m
653	08/27/2015 12:03:50 PM	1.808 V/m	1.714 V/m	1.590 V/m
654	08/27/2015 12:04:00 PM	1.813 V/m	1.690 V/m	1.588 V/m
655	08/27/2015 12:04:10 PM	1.816 V/m	1.722 V/m	1.641 V/m
656	08/27/2015 12:04:20 PM	1.800 V/m	1.663 V/m	1.558 V/m
657	08/27/2015 12:04:30 PM	1.743 V/m	1.597 V/m	1.522 V/m
658	08/27/2015 12:04:40 PM	1.727 V/m	1.633 V/m	1.541 V/m
659	08/27/2015 12:04:50 PM	1.719 V/m	1.652 V/m	1.551 V/m
660	08/27/2015 12:05:00 PM	1.788 V/m	1.667 V/m	1.573 V/m
661	08/27/2015 12:05:10 PM	1.742 V/m	1.655 V/m	1.577 V/m
662	08/27/2015 12:05:20 PM	1.793 V/m	1.677 V/m	1.552 V/m
663	08/27/2015 12:05:30 PM	1.798 V/m	1.641 V/m	1.535 V/m
664	08/27/2015 12:05:40 PM	1.762 V/m	1.647 V/m	1.540 V/m
665	08/27/2015 12:05:50 PM	1.705 V/m	1.641 V/m	1.558 V/m
666	08/27/2015 12:06:00 PM	1.798 V/m	1.652 V/m	1.560 V/m
667	08/27/2015 12:06:10 PM	1.800 V/m	1.658 V/m	1.533 V/m
668	08/27/2015 12:06:20 PM	1.811 V/m	1.659 V/m	1.481 V/m
669	08/27/2015 12:06:30 PM	1.734 V/m	1.605 V/m	1.524 V/m
670	08/27/2015 12:06:40 PM	1.731 V/m	1.579 V/m	1.463 V/m
671	08/27/2015 12:06:50 PM	1.702 V/m	1.628 V/m	1.558 V/m
672	08/27/2015 12:07:00 PM	1.773 V/m	1.640 V/m	1.554 V/m
673	08/27/2015 12:07:10 PM	1.719 V/m	1.630 V/m	1.494 V/m
674	08/27/2015 12:07:20 PM	1.851 V/m	1.704 V/m	1.587 V/m
675	08/27/2015 12:07:30 PM	1.732 V/m	1.639 V/m	1.535 V/m
676	08/27/2015 12:07:40 PM	1.715 V/m	1.646 V/m	1.551 V/m
677	08/27/2015 12:07:50 PM	1.836 V/m	1.634 V/m	1.532 V/m
678	08/27/2015 12:08:00 PM	1.878 V/m	1.703 V/m	1.547 V/m
679	08/27/2015 12:08:10 PM	1.686 V/m	1.589 V/m	1.502 V/m
680	08/27/2015 12:08:20 PM	1.780 V/m	1.639 V/m	1.495 V/m
681	08/27/2015 12:08:30 PM	1.793 V/m	1.666 V/m	1.582 V/m
682	08/27/2015 12:08:40 PM	1.807 V/m	1.662 V/m	1.571 V/m
683	08/27/2015 12:08:50 PM	1.751 V/m	1.626 V/m	1.552 V/m
684	08/27/2015 12:09:00 PM	1.840 V/m	1.686 V/m	1.578 V/m



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685	08/27/2015 12:09:10 PM	1.844 V/m	1.685 V/m	1.592 V/m
686	08/27/2015 12:09:20 PM	1.737 V/m	1.666 V/m	1.589 V/m
687	08/27/2015 12:09:30 PM	1.818 V/m	1.671 V/m	1.600 V/m
688	08/27/2015 12:09:40 PM	1.799 V/m	1.709 V/m	1.621 V/m
689	08/27/2015 12:09:50 PM	1.837 V/m	1.701 V/m	1.632 V/m
690	08/27/2015 12:10:00 PM	1.789 V/m	1.665 V/m	1.560 V/m
691	08/27/2015 12:10:10 PM	1.758 V/m	1.632 V/m	1.550 V/m
692	08/27/2015 12:10:20 PM	1.749 V/m	1.672 V/m	1.584 V/m
693	08/27/2015 12:10:30 PM	1.768 V/m	1.646 V/m	1.563 V/m
694	08/27/2015 12:10:40 PM	1.661 V/m	1.591 V/m	1.537 V/m
695	08/27/2015 12:10:50 PM	1.746 V/m	1.648 V/m	1.534 V/m
696	08/27/2015 12:11:00 PM	1.773 V/m	1.682 V/m	1.609 V/m
697	08/27/2015 12:11:10 PM	1.840 V/m	1.707 V/m	1.606 V/m
698	08/27/2015 12:11:20 PM	1.748 V/m	1.661 V/m	1.598 V/m
699	08/27/2015 12:11:30 PM	1.775 V/m	1.684 V/m	1.616 V/m
700	08/27/2015 12:11:40 PM	1.776 V/m	1.709 V/m	1.643 V/m
701	08/27/2015 12:11:50 PM	1.819 V/m	1.681 V/m	1.588 V/m
702	08/27/2015 12:12:00 PM	1.741 V/m	1.651 V/m	1.573 V/m
703	08/27/2015 12:12:10 PM	1.805 V/m	1.725 V/m	1.631 V/m
704	08/27/2015 12:12:20 PM	1.747 V/m	1.631 V/m	1.560 V/m
705	08/27/2015 12:12:30 PM	1.805 V/m	1.697 V/m	1.600 V/m
706	08/27/2015 12:12:40 PM	1.786 V/m	1.666 V/m	1.598 V/m
707	08/27/2015 12:12:50 PM	1.752 V/m	1.661 V/m	1.569 V/m
708	08/27/2015 12:13:00 PM	1.797 V/m	1.674 V/m	1.571 V/m
709	08/27/2015 12:13:10 PM	1.775 V/m	1.671 V/m	1.532 V/m
710	08/27/2015 12:13:20 PM	1.796 V/m	1.660 V/m	1.577 V/m
711	08/27/2015 12:13:30 PM	1.810 V/m	1.605 V/m	1.513 V/m
712	08/27/2015 12:13:40 PM	1.711 V/m	1.622 V/m	1.535 V/m
713	08/27/2015 12:13:50 PM	1.700 V/m	1.573 V/m	1.485 V/m
714	08/27/2015 12:14:00 PM	1.707 V/m	1.546 V/m	1.477 V/m
715	08/27/2015 12:14:10 PM	1.743 V/m	1.604 V/m	1.489 V/m
716	08/27/2015 12:14:20 PM	1.726 V/m	1.585 V/m	1.506 V/m
717	08/27/2015 12:14:30 PM	1.685 V/m	1.581 V/m	1.532 V/m
718	08/27/2015 12:14:40 PM	1.742 V/m	1.619 V/m	1.519 V/m
719	08/27/2015 12:14:50 PM	1.704 V/m	1.602 V/m	1.519 V/m
720	08/27/2015 12:15:00 PM	1.718 V/m	1.610 V/m	1.517 V/m



Number of Sub Indices	720
Storing Date	08/27/2015
Storing Time	10:15:00 AM
Dataset Type	TIM
Voice Comment Available	NO
Dataset Fine Type	T1
GPS Flag	NO
Device Product Name	NBM-550
Device Serial Number	B-0507
Device Cal Due Date	06/10/2017
Probe Product Name	EF0391
Probe Serial Number	A-0636
Probe Cal Due Date	06/15/2017
Probe Field Type	E
Probe Connection Type	A
Probe Lower Frequency Limit A	100 kHz
Probe Upper Frequency Limit A	3 GHz
Probe Lower Frequency Limit B	100 kHz
Probe Upper Frequency Limit B	3 GHz
Probe Emin A	185.0 mV/m
Probe Emax A	300.0 V/m
Probe Emin B	185.0 mV/m
Probe Emax B	300.0 V/m
Shaped Probe	NO
Standard ID	1
Standard Name	FCC 1997 Occupational
Apply Standard	OFF
Frequency	100 kHz
Apply Correction Frequency	OFF
Eref_E(f)	614.0 V/m
Eref_H(f)	614.5 V/m
Combi Probe Use	E_H
Unit	V/m
Results Format	FIXED
Auto-Zero Interval	OFF
Result Type	-
Averaging Time	-
Average Progress	-
Spatial AVG Mode	-
Store Condition	-
Storing Range	-
Cond. Stop Time	-
Upper Threshold	-
Lower Threshold	-
Timer Interval	10 sec
Timer Duration	02:00:00
History Time Scale	-
Time progress of current segment	-

FOTOGRAFIE REJONU BADAŃ:



Fot. 1. Rejon badań, widok w kierunku południowo-wschodnim



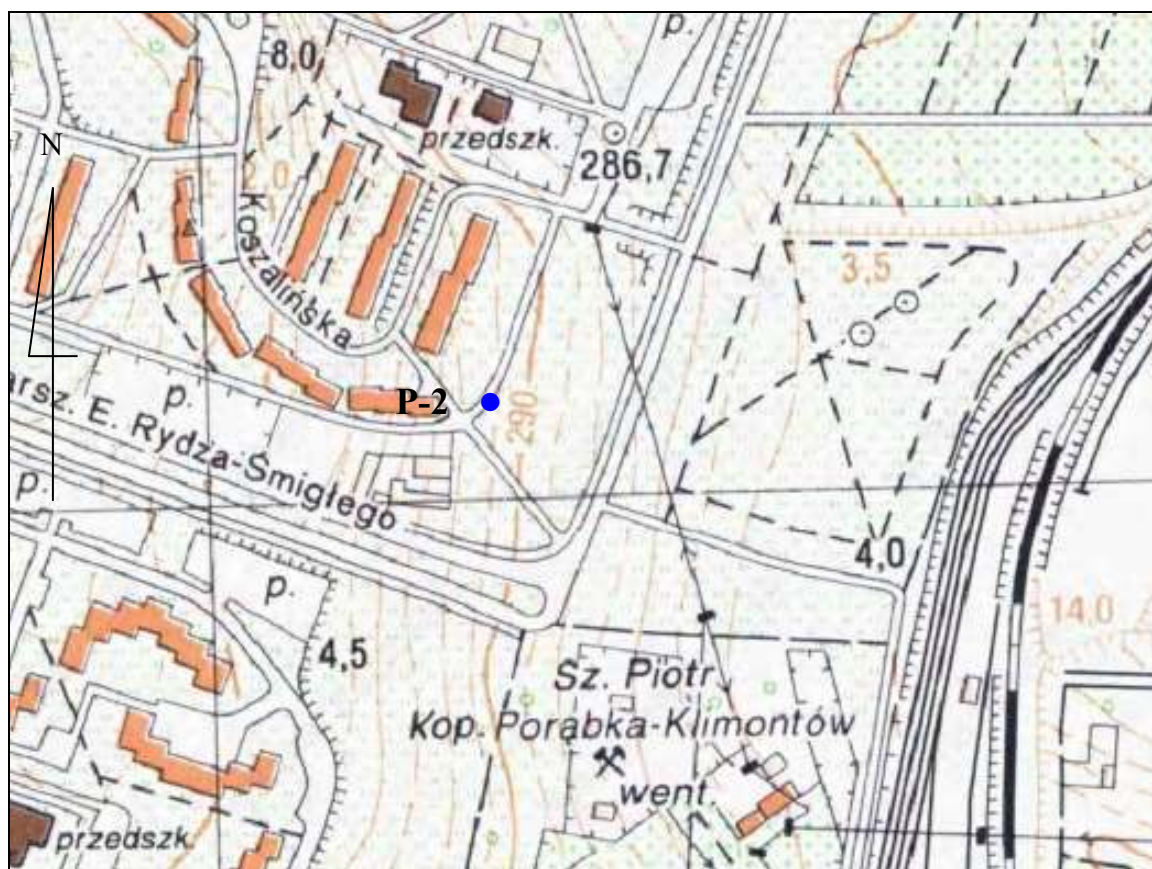
Fot. 2. Rejon badań, widok w kierunku północno-zachodnim



Fot. 3. Rejon badań, widok w kierunku północnym



Fot. 4. Przyrząd pomiarowy w trakcie wykonywanego badania



SOSNOWIEC

Oznaczenia:

- P-2 – punkt pomiarowy poziomów pól elektromagnetycznych w środowisku

Ryc. Szkic sytuacyjny rejonu badań.

**Analiza widma promieniowania
elektromagnetycznego
w środowisku**

Wyniki pomiarów i analiz widma pól elektromagnetycznych w zakresie częstotliwości od 27 MHz do 3 GHz, składowej elektrycznej E, V/m, w punkcie pomiarowym P-2 Sosnowiec Zagórze:

1. E, V/m, wartość maksymalna określona w paśmie częstotliwości 27 MHz - 3 GHz

$$E = 642,7 \text{ mV/m; } (N)^*$$

na poziomie częstotliwości f: 1843,813 MHz

(Ryc. 1: **Marker A**);

2. E, V/m, scałkowana wartość szerokopasmowa (wraz z szumami),
w paśmie częstotliwości 27 MHz - 3 GHz

$$E = 1,546 \text{ V/m; } (N)^*$$

3. E, V/m, wartość maksymalna określona w paśmie częstotliwości 27 MHz - 108 MHz,

$$E = 7,341 \text{ mV/m; } (N)^*$$

4. E, V/m, scałkowana wartość szerokopasmowa (wraz z szumami),
w paśmie częstotliwości 27 MHz - 108 MHz,

$$E = 51,68 \text{ mV/m; } (N)^*$$

5. E, V/m, wartość maksymalna określona w paśmie częstotliwości 108 MHz - 450 MHz,

$$E = 3,887 \text{ mV/m; } (N)^*$$

6. E, V/m, scałkowana wartość szerokopasmowa (wraz z szumami),
w paśmie częstotliwości 108 MHz - 450 MHz,

$$E = 42,42 \text{ mV/m; } (N)^*$$

7. E, V/m, wartość maksymalna określona w paśmie częstotliwości 450 MHz - 850 MHz,

$$E = 98,49 \text{ mV/m; } (N)^*$$

na poziomie częstotliwości f: 817,418 MHz

8. E, V/m, scałkowana wartość szerokopasmowa (wraz z szumami),
w paśmie częstotliwości 450 MHz - 850 MHz,

$$E = 150,6 \text{ mV/m; } (N)^*$$

9. E, V/m, wartość maksymalna określona w paśmie częstotliwości 850 MHz - 3 GHz,

$$E = 644,3 \text{ mV/m; } (N)^*$$

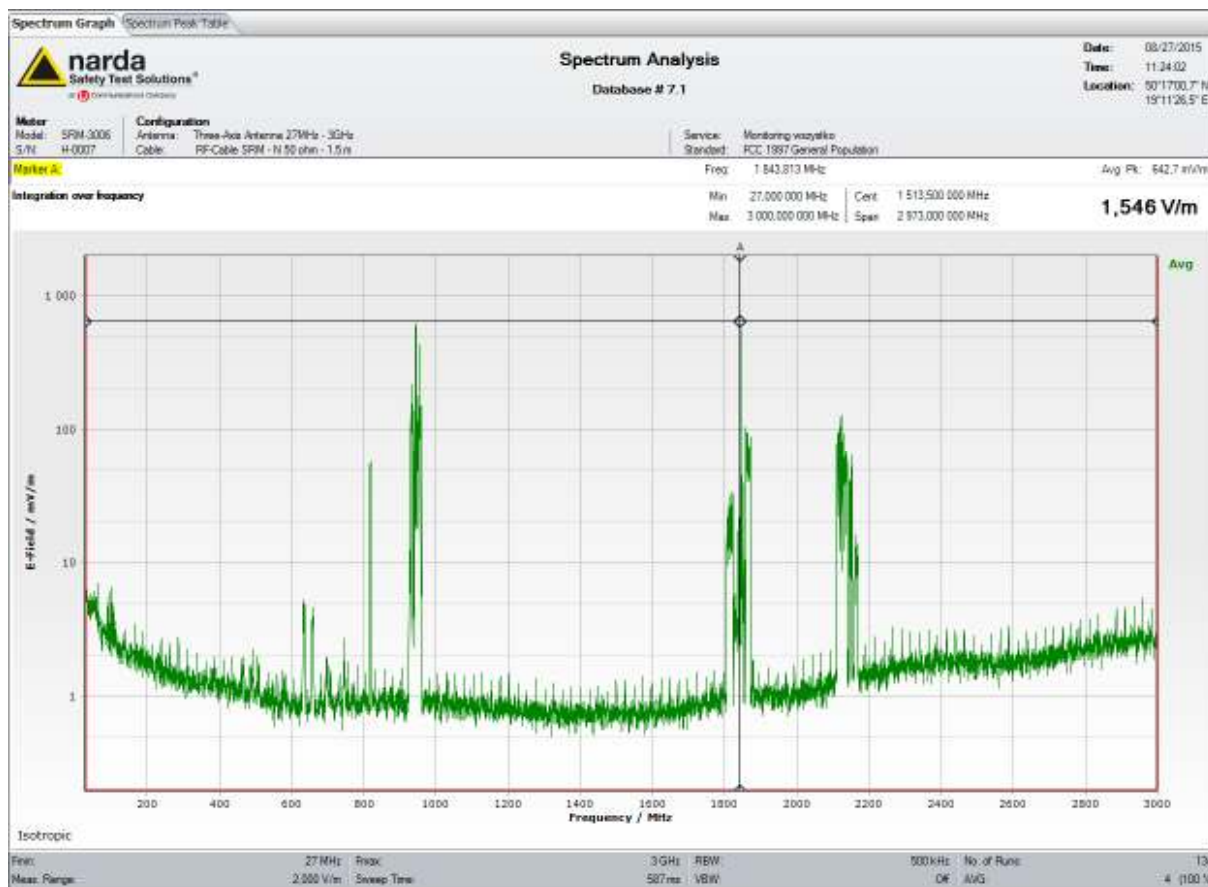
na poziomie częstotliwości f: 1843,834 MHz

10. E, V/m, scałkowana wartość szerokopasmowa (wraz z szumami),
w paśmie częstotliwości 850 MHz - 3 GHz,

$$E = 1,545 \text{ mV/m; } (N)^*$$

Objaśnienia:

*) Oznaczenie symboliczne, N - status wyniku badania: wynik badania spoza zakresu akredytacji.



Ryc. 1. SRM - 3006, Narda STS GmbH, Germany, Analiza widma promieniowania elektromagnetycznego w środowisku, punkt pomiarowy P-2 Sosnowiec Zagórze.

INTERPRETACJE I WNIOSKI

W rejonie przedmiotowych pomiarów w badanym zakresie częstotliwości od 27 MHz do 3 GHz dominującymi źródłami PEM wysokiej częstotliwości, są stacje bazowe telefonii komórkowych, pracujące w paśmie 900 MHz, 1800 MHz i 2100 MHz. Maksymalne poziomy w paśmie telefonii ruchomej osiągają 10% wartości dopuszczalnej (7 V/m) dla tego zakresu częstotliwości. Poza stacjami bazowymi w badanym punkcie zarejestrowano sygnały pochodzące z nadajników DVBT, jednak ich wpływ na poziom całkowity w badanym paśmie jest znikomy.