



Another EMC resource  
from EMC Standards

Indexes for the first 855 EMI stories

*Helping you solve your EMC problems*

## **Indexes for the first 855 EMI stories**

### **By their type of application**

**Aids for the disabled: wheelchairs, hearing aids, audio induction loops**

11, 92, 96, 219, 220, 239, 445, 454, 492, 494, 514, 583, 636, 798, 807

**Amateur Radio**

30, 210, 274, 276, 348, 351, 457, 493, 596, 646, 818, 836

**Alternative power generation (e.g. PhotoVoltaic) and active infeed converters (AICs)**

633, 696, 726, 727

**Broadband over power lines (also known as Power Line Communications, PLC, or Power Line Telecommunications, PLT)**

208, 272, 343, 549, 616, 732, 786, 818

**Cable TV (CATV)**

85, 135, 826

**Computers, PCs, laptops, PDAs, servers, monitors, office equipment, business machines, information technology equipment (ITE), photocopiers, data centres, wired datacomms (Ethernet, USB, CAN, etc.) etc.**

2, 4, 10, 13, 14, 18, 34, 46, 48, 62, 64, 89, 94, 101, 133, 140, 146, 154, 161, 173, 189, 199, 202, 203, 206, 243, 274, 278, 309, 310, 337, 338, 339, 401, 431, 443, 451, 457, 460, 479, 487, 497, 545, 551, 571, 572, 645, 665, 742, 750, 758, 759, 806, 821, 833, 852

**Consumer electronics (Hi-Fi, Radio, TV, CD, DVD, MP3, wristwatches, cameras, games, etc.)**

28, 31, 32, 33, 58, 68, 69, 76, 77, 81, 132, 143, 153, 160, 171, 180, 189, 203, 222, 236, 237, 238, 265, 274, 285, 286, 302, 322, 330, 344, 353, 355, 360, 363, 364, 379, 389, 399, 422, 428, 443, 471, 484, 488, 493, 511, 513, 528, 529, 538, 548, 550, 552, 556, 558, 561, 579, 580, 610, 659, 667, 672, 675, 682, 683, 689, 713, 714, 726, 730, 731, 742, 747, 755, 777, 778, 780, 808, 825, 834, 840, 846, 849

**Detailed design issues: hardware/circuits, software, filters, shields, printed-circuit-boards (PCBs), etc.**

150, 156, 205, 206, 525, 567, 583, 584, 585, 586, 587, 588, 591, 592, 594, 598, 599, 602, 609, 645, 657, 663, 664, 666, 696, 776, 777, 778, 784, 792, 814, 847

**Elevators and lifts, moving stairways, pavements, etc.**

401, 402, 403, 410, 542, 571

**EMC compliance, standards and Regulations**

48, 64, 76, 103, 109, 147, 199, 206, 283, 286, 309, 361, 408, 437, 485, 503, 505, 515, 516, 537, 559, 560, 614, 615, 616, 617, 630, 633, 667, 675, 683, 708, 726, 754, 755, 759, 777, 780, 795, 805, 806, 819, 841, 842, 843, 844

**Emergency Services (Police, Fire, Ambulance, paramedics, search & rescue, etc.)**

3, 39, 121, 122, 123, 179, 321, 325, 330, 342, 353, 385, 409, 414, 432, 434, 534, 547

**Entertainment, sport, exercise, restaurants, pubs, professional audio, video and lighting**

12, 39, 61, 71, 105, 106, 172, 205, 337, 372, 413, 434, 438, 454, 484, 489, 540, 589, 600, 641, 686, 692, 745, 793

**Financial or cost issues**

49, 50, 51, 52, 73, 89, 101, 120, 133, 147, 151, 156, 167, 170, 176, 177, 178, 191, 192, 239, 280, 284, 286, 309, 346, 352, 361, 362, 371, 372, 421, 433, 437, 448, 490, 515, 516, 522, 530, 531, 536, 590, 591, 614, 618, 655, 658, 660, 740, 742, 752, 813, 838

(Note: GPS EMI Issues are not included here, although it is used to generate accurate time clocks for control of financial transactions and so is arguably very important for the finance industry. See the entry on Global Navigation Space Systems, below)

**Global navigation space systems (GNSS) e.g. GPS, Galileo**

29, 98, 119, 134, 207, 222, 223, 224, 227, 228, 229, 230, 231, 232, 238, 278, 291, 357, 363, 371, 388, 415, 420, 491, 623, 625, 626, 647, 653, 668, 692, 698, 719, 720, 762, 782, 804

**High Voltage (HV) electrical power distribution**

87, 88, 114, 426, 448, 536, 548, 607, 623, 624, 632, 638, 639, 650, 748, 753, 801, 843

**Household (domestic, residential) appliances, garage door openers, fire detectors, burglar alarms, etc.**

2, 4, 8, 19, 30, 31, 35, 40, 56, 77, 79, 142, 148, 182, 190, 202, 203, 213, 274, 307, 308, 310, 312, 322, 349, 355, 360, 374, 385, 390, 391, 404, 414, 416, 444, 464, 493, 498, 502, 513, 517, 528, 535, 538, 539, 674, 694, 760, 767, 788, 789, 797, 815

**Industrial and process control, machinery, robotics**

18, 24, 25, 27, 37, 43, 45, 47, 48, 51, 52, 53, 82, 103, 108, 118, 120, 141, 163, 164, 165, 168, 169, 215, 279, 340, 407, 417, 425, 431, 433, 440, 441, 442, 483, 485, 499, 512, 595, 602, 604, 618, 642, 655, 693, 707, 736, 739, 820, 835

**Instrumentation and measurement equipment, inc. scientific**

48, 59, 156, 165, 169, 210, 248, 249, 278, 284, 287, 338, 425, 619, 708, 709, 770, 803, 851

**Intelligent ('smart') buildings, access control, security, HVAC, etc.**

144, 399

**Intentional electromagnetic interference (IEMI) including for criminal purposes, EM weapons, EM 'bombs', EM pulse 'guns', EM pulse, HEMP, Information Warfare, Jammers, etc.**

14, 29, 91, 145, 184, 207, 212, 224, 227, 232, 321, 448, 508, 607, 608, 624, 635, 648, 668, 704, 725, 756, 782, 804, 829, 838, 839

**Lamps, luminaires and lighting**

19, 40, 58, 81, 86, 101, 102, 158, 159, 171, 198, 219, 271, 274, 344, 374, 386, 431, 438, 569, 579, 597, 628, 659, 672, 714, 715, 716, 734, 738, 754, 761, 780, 789, 796, 815, 817, 834, 836

**Medical, healthcare**

3, 16, 20, 26, 38, 55, 65, 66, 67, 72, 80, 83, 121, 124, 129, 137, 156, 174, 175, 197, 219, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 323, 332, 338, 345, 347, 377, 387, 417, 422, 423, 432, 435, 436, 446, 449, 450, 451, 452, 453, 459, 470, 471, 481, 501, 505, 506, 520, 541, 573, 574, 575, 576, 577, 578, 706, 709, 711, 712, 715, 723, 724, 731, 740, 741, 761, 764, 787, 789, 791, 823, 828, 832, 837

**Military, weapons, and security (both personal and national)**

6, 14, 56, 91, 99, 125, 139, 145, 181, 224, 227, 235, 240, 243, 269, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 301, 318, 348, 368, 427, 449, 463, 466, 477, 492, 495, 507, 519, 551, 582, 593, 598, 608, 627, 629, 695, 701, 725, 750, 779, 797, 802, 836, 854

**Mobile radio transmitters and receivers:**

**Hand-helds, including: cellphones, walkie-talkies, cordless phones, DECT, CB radio, pagers, RFID, Machine-to-machine (M2M), etc.**

26, 33, 34, 38, 54, 65, 70, 74, 78, 84, 86, 92, 93, 95, 96, 107, 108, 112, 113, 121, 122, 123, 124, 126, 148, 169, 170, 173, 175, 179, 187, 193, 197, 201, 204, 214, 219, 237, 252, 255, 273, 277, 281, 285, 302, 395, 306, 326, 347, 350, 357, 363, 375, 377, 378, 383, 387, 402, 419, 423, 429, 430, 435, 436, 446, 450, 451, 452, 453, 462, 470, 472, 482, 490, 501, 507, 524, 529, 561, 564, 573, 574, 576, 577, 578, 603, 620, 634, 636, 649, 651, 661, 676, 678, 684, 693, 702, 706, 708, 709, 710, 711, 712, 713, 717, 719, 723, 740, 759, 762, 768, 781, 789, 798, 806, 807, 809, 810, 812, 819, 825, 826, 828, 837

**Vehicle-mounted radio transmitters (e.g. taxicabs, police, ambulance, fire tenders, cars, trucks, aircraft, boats and ships, etc.)**

3, 32, 93, 110, 111, 116, 130, 278, 285, 288, 289, 291, 331, 411, 429, 478, 479, 676

**Basestations for the above**

250, 320, 351, 367, 403, 446, 469, 534, 612, 676, 729, 794, 817

**Oil, gas, coal – extraction (e.g. mining) and refining**

17, 117, 214, 431, 526, 618, 691, 812, 855

**Power control (e.g. thyristors, triacs)**

162, 164, 165, 166

**Power generation and LV distribution, including portable and standby generation, AC and DC**

44, 55, 116, 161, 354, 396, 418, 522, 603, 639, 651, 661, 691, 822

**Radar (military, marine, weather, etc.)**

63, 181, 240, 241, 289, 292, 313, 356, 381, 382, 394, 424, 427, 466, 518, 535, 572, 589, 677, 695, 758, 832

**Radio Astronomy**

272, 343, 728, 773

**Radiocommunications, including broadcasting (TV and radio): shortwave; AM; FM; VHF; UHF; microwave, satellite, etc. (Note: mobile radiocomm's has a separate entry)**

5, 20, 28, 34, 60, 61, 67, 90, 104, 115, 135, 136, 142, 143, 190, 191, 192, 196, 198, 208, 216, 226, 249, 265, 270, 271, 273, 284, 313, 325, 329, 369, 380, 405, 434, 444, 478, 493, 498, 513, 518, 521, 527, 669, 673, 697, 699, 714, 715, 721, 722, 732, 742, 743, 774, 788, 793, 794

**Retailing, shops, electronic article surveillance (EAS)**

43, 70, 80, 96, 137, 174, 247, 253, 398, 445

**Smart meters, smart grid, etc.**

703, 726, 732, 786, 805

**Switch-mode electronic power converters (e.g. AC-DC, DC-DC, DC-AC, AC-AC, etc.) including PWM and variable speed motor drives (DC and AC) including VFDs ASDs and traction**

1, 18, 50, 101, 162, 168, 233, 274, 278, 279, 282, 324, 433, 438, 455, 469, 483, 511, 512, 605, 609, 644, 699, 705, 737, 787, 803, 805

**Telecommunications using wires (telephones, modems, fax, ISDN, broadband, xDSL, etc.)**

90, 109, 136, 211, 226, 233, 274, 276, 339, 352, 393, 395, 515, 516, 556, 557, 601

**Transport (vehicles and infrastructure)**

**Aircraft, aviation, avionics, airplanes, aerospace, helicopters (rotorcraft), both military and civilian**

22, 23, 60, 63, 68, 69, 84, 99, 112, 113, 129, 135, 149, 155, 170, 186, 187, 188, 189, 194, 195, 196, 201, 204, 225, 277, 289, 290, 294, 295, 298, 301, 350, 357, 358, 363, 364, 365, 378, 381, 382, 383, 397, 428, 447, 458, 462, 467, 468, 474, 487, 496, 502, 504, 517, 518, 523, 527, 530, 544, 549, 550, 564, 568, 581, 589, 593, 621, 640, 648, 649, 671, 678, 679, 680, 694, 695, 697, 702, 735, 740, 744, 766, 785, 789, 804, 809, 814, 839, 850, 853

**Automobiles, motor cars, motorcycles, scooters, trucks, tractors and buses – internal combustion, hybrid or electric, both military and civilian**

9, 15, 35, 54, 57, 58, 93, 97, 110, 111, 125, 129, 130, 144, 152, 170, 180, 183, 184, 217, 235, 265, 273, 283, 284, 304, 305, 306, 313, 320, 321, 324, 331, 356, 359, 366, 373, 376, 381, 382, 385, 386, 394, 411, 412, 416, 429, 430, 431, 456, 459, 465, 466, 480, 482, 521, 524, 525, 532, 534, 546, 553,



562, 563, 596, 598, 606, 610, 612, 621, 637, 677, 682, 710, 717, 718, 740, 757, 758, 765, 772, 783, 824, 845

**Ships, boats, other vessels, both military and civilian**

36, 74, 75, 213, 222, 223, 240, 269, 278, 318, 348, 354, 472, 473, 690, 691, 716, 775, 782, 813, 831

**Railways, subway trains, trams**

12, 41, 42, 72, 94, 115, 262, 263, 264, 282, 326, 375, 384, 431, 461, 486, 510, 543, 567, 570, 584, 613, 620, 632, 652, 705, 749, 751, 771, 827, 841, 842, 843, 844, 851, 855

**Spacecraft, launch vehicles and satellites, both military and civilian**

221, 266, 267, 275, 405, 406, 421, 424, 458, 460, 611, 622, 666, 669, 673, 685, 733, 735, 767, 774, 799, 811, 816, 848

**Toys**

10, 58, 307

**Wireless datacomm's, Wi-Fi, Bluetooth, WLAN, UWB, etc.**

119, 131, 132, 244, 245, 260, 327, 390, 391, 392, 409, 412, 451, 467, 504, 555, 564, 585, 595, 631, 654, 681, 687, 747, 749, 756, 795, 844, 850

*For every 100<sup>th</sup> Banana Skin we try to find an amusing or off-beat item.*

## **Stories with significant safety implications**

*(includes GPS EMI because GPS is often relied upon for safety-critical purposes (such as navigation) even though it is unsuitable for this purpose, being too unreliable)*

16, 17, 20, 24, 25, 27, 36, 37, 41, 45, 55, 63, 66, 68, 69, 73, 74, 75, 78, 93, 98, 99, 110, 113, 114, 115, 116, 117, 118, 119, 124, 126, 129, 135, 137, 170, 179, 181, 182, 185, 193, 194, 195, 196, 197, 201, 207, 214, 219, 220, 222, 223, 224, 225, 227, 228, 229, 230, 231, 232, 233, 238, 239, 240, 241, 244, 246, 247, 251, 253, 255, 260, 267, 268, 269, 273, 281, 282, 289, 293, 296, 297, 298, 299, 301, 303, 305, 306, 307, 312, 318, 331, 350, 357, 363, 371, 374, 377, 378, 388, 394, 401, 404, 411, 415, 418, 420, 423, 427, 429, 434, 448, 452, 453, 458, 467, 468, 472, 477, 480, 487, 491, 495, 496, 498, 501, 502, 505, 506, 507, 508, 510, 518, 519, 520, 522, 523, 524, 525, 526, 527, 530, 536, 537, 539, 541, 543, 544, 547, 549, 562, 564, 565, 567, 570, 573, 574, 575, 576, 577, 578, 580, 581, 602, 604, 606, 607, 613, 618, 620, 621, 622, 623, 624, 625, 626, 627, 629, 640, 643, 646, 649, 650, 651, 671, 677, 679, 680, 681, 684, 686, 689, 690, 693, 695, 698, 702, 703, 704, 705, 706, 709, 710, 711, 712, 716, 717, 719, 720, 722, 724, 729, 740, 741, 744, 749, 751, 753, 761, 765, 771, 774, 779, 783, 785, 789, 791, 802, 804, 807, 809, 812, 813, 823, 824, 827, 828, 831, 832, 837, 841, 848, 850, 853

## **By the type of coupling of electromagnetic disturbance**

**Power Quality interference (for either AC or DC supplies)**

55, 89, 101, 102, 176, 177, 178, 396, 407, 438, 511, 640, 752

**Harmonics and interharmonics (currents, and voltage waveform distortion)**

1, 7, 59, 104, 354, 417, 455, 522, 597, 600, 618, 632, 660, 699, 831

**Dips, dropouts, sags, swells, interruptions, brownouts and blackouts**

21, 53, 73, 280, 283, 433, 464, 639, 686, 690, 767, 822

**Overvoltages: transients and surges**

8, 19, 24, 37, 40, 45, 47, 62, 87, 161, 162, 163, 166, 168, 182, 202, 203, 211, 275, 283, 288, 303, 306, 311, 312, 360, 404, 426, 440, 441, 442, 460, 486, 534, 545, 604, 637, 655, 724, 746, 748, 765, 801, 824, 851

**Low frequency (down to DC) magnetic or electric fields**

12, 13, 46, 88, 94, 114, 129, 146, 153, 185, 243, 256, 264, 287, 337, 445, 454, 461, 470, 497, 520, 546 (probably), 601, 613, 638, 658 (probably), 791

**Radiated RF and spectrum management issues**

2, 3, 11, 20, 29, 30, 38, 39, 54, 56, 61, 63, 65, 68, 69, 70, 74, 78, 84, 92, 93, 96, 108, 111, 112, 115, 116, 119, 121, 122, 123, 124, 126, 129, 130, 131, 134, 135, 136, 137, 139, 142, 143, 144, 149, 152, 169, 170, 173, 174, 175, 179, 180, 181, 184, 190, 193, 196, 201, 204, 207, 208, 209, 219, 222, 224, 225, 235, 236, 237, 239, 240, 241, 242, 244, 250, 252, 255, 260, 265, 270, 271, 272, 276, 277, 281, 285, 288, 289, 291, 297, 299, 302, 305, 306, 318, 320, 321, 330, 331, 343, 349, 350, 353, 355, 356, 357, 358, 359, 363, 364, 365, 367, 369, 371, 375, 377, 378, 379, 380, 381, 382, 383, 385, 387, 389, 390, 391, 392, 394, 397, 398, 405, 408, 409, 411, 413, 414, 416, 419, 423, 424, 427, 428, 429, 430, 431, 434, 435, 436, 443, 444, 446, 447, 449, 450, 451, 452, 453, 456, 459, 462, 465, 467, 468, 469, 470, 472, 478, 479, 480, 481, 484, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 498, 499, 501, 502, 503, 504, 507, 513, 517, 518, 519, 521, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 540, 547, 548, 549, 550, 551, 552, 553, 555, 558, 560, 561, 562, 563, 564, 568, 569, 572, 573, 574, 576, 577, 578, 593, 595, 596, 603, 605, 606, 608, 610, 611, 612, 617, 625, 626, 631, 634, 636, 641, 644, 645, 647, 651, 654, 659, 661, 668, 672, 673, 674, 675, 676, 678, 679, 680, 681, 682, 683, 685, 687, 689, 693, 695, 697, 698, 702, 706, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 719, 729, 731, 732, 733, 740, 742, 743, 744, 749, 756, 761, 762, 763, 764, 766, 768, 769, 772, 773, 774, 775, 779, 780, 781, 782, 785, 788, 789, 793, 794, 795, 797, 798, 802, 806, 807, 809, 812, 818, 823, 825, 826, 828, 829, 834, 837, 838, 839, 840, 844, 845, 847, 848, 849, 850, 853, 854, 855

**Conducted RF on power or signal cables, or other conductors, transient or continuous**

41, 117, 118, 141, 165, 211, 215, 262, 283, 288, 340, 342, 352, 426, 505, 506, 512, 514, 515, 516, 517, 542, 551, 556, 557, 567, 571, 582, 584, 609, 615, 616, 633, 667, 691, 696, 701, 705, 726, 727, 730, 734, 736, 738, 739, 747, 751, 778, 786, 787, 796, 803, 805, 814, 835

**Lightning, including LEMP**

17, 106, 127, 128, 290, 346, 473, 475, 476, 509, 566, 662, 671, 771, 808

**Electromagnetic pulse: EMP, HEMP, NEMP, etc., and other EM weapons**

14, 91, 145, 184, 212, 321, 448, 508, 607, 624, 627, 648, 704, 725, 750

**Electrostatic discharge (ESD) of all types**

22, 23, 129, 138, 154, 170, 194, 195, 206, 275, 293, 294, 295, 296, 298, 319, 366, 410, 417, 432, 458, 474, 580, 590, 591, 642, 665, 707, 770, 799, 810, 821, 852

**Solar wind, solar storms, space weather, coronal mass ejections, northern lights, cosmic rays, single-event-upsets (SEUs), geomagnetism, etc.**

73, 275, 388, 420, 460, 536, 554, 565, 607, 621, 622, 623, 650, 653, 669, 720, 721, 735, 753, 769, 811, 816