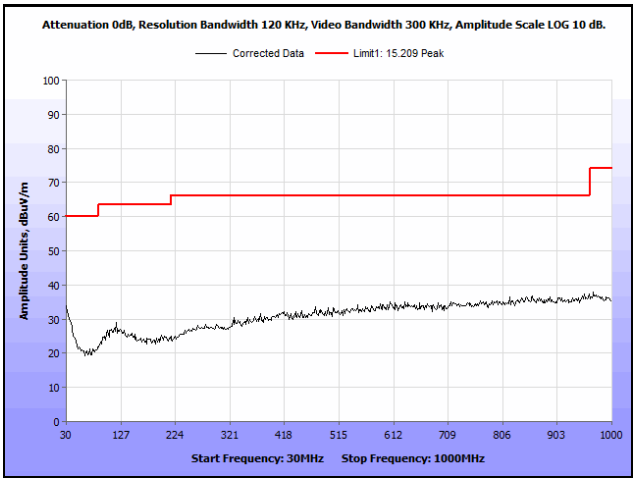
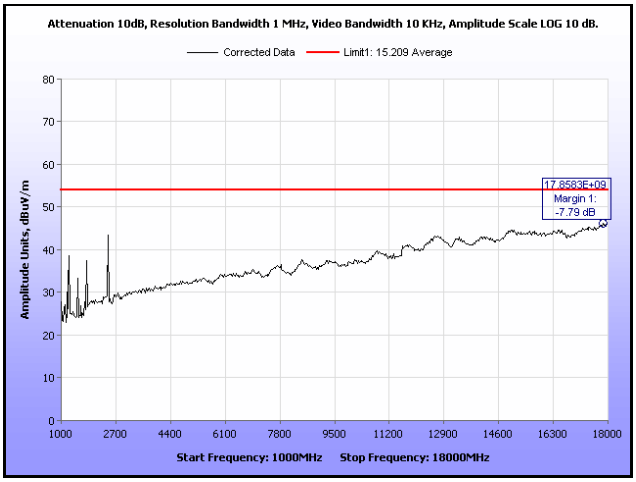
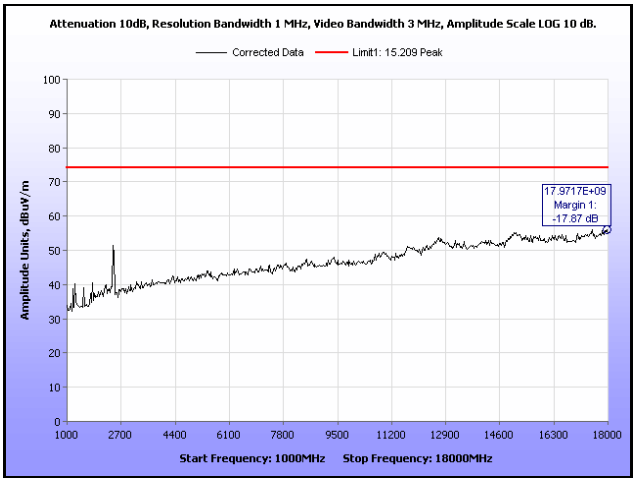


Plot 420. Radiated Spurious Emissions, High Channel, 802.11g 40 MHz, Yagi Antenna, 30 MHz – 1 GHz

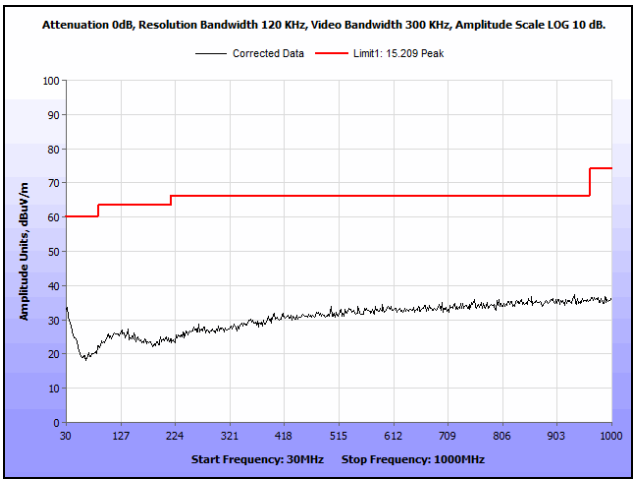


Plot 421. Radiated Spurious Emissions, High Channel, 802.11g 40 MHz, Yagi Antenna, 1 GHz – 18 GHz, Average

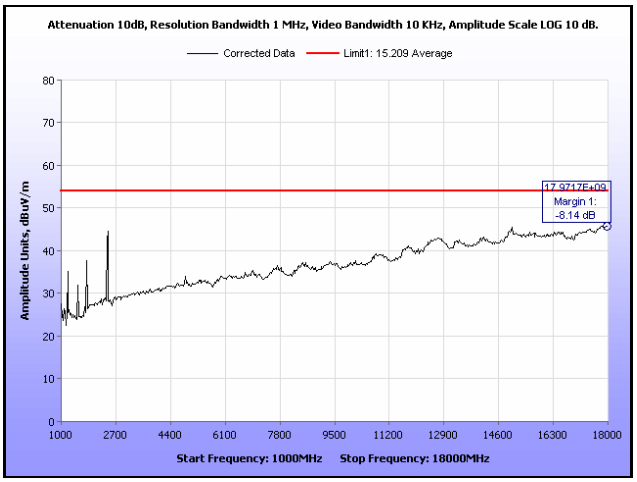


Plot 422. Radiated Spurious Emissions, High Channel, 802.11g 40 MHz, Yagi Antenna, 1 GHz – 18 GHz, Peak

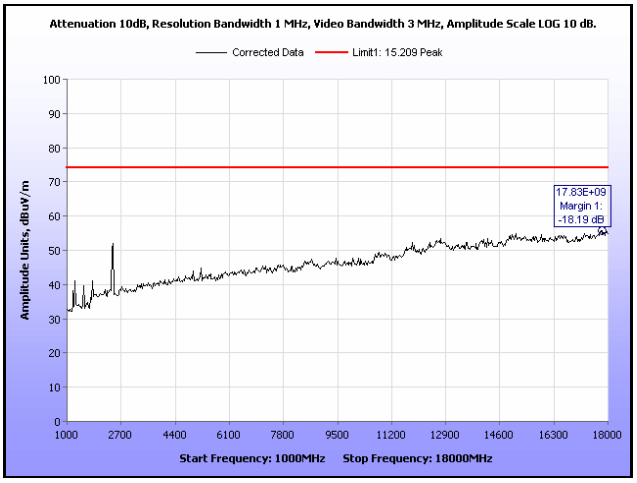
Radiated Spurious Emissions Test Results, 802.11n 40 MHz, Yagi Antenna



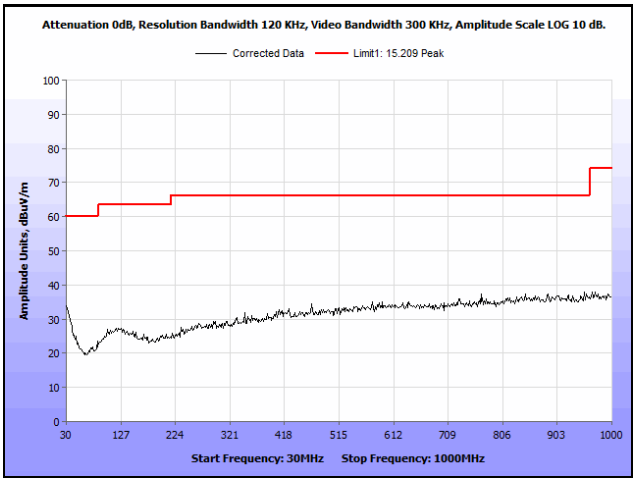
Plot 423. Radiated Spurious Emissions, Low Channel, 802.11n 40 MHz, Yagi Antenna, 30 MHz – 1 GHz



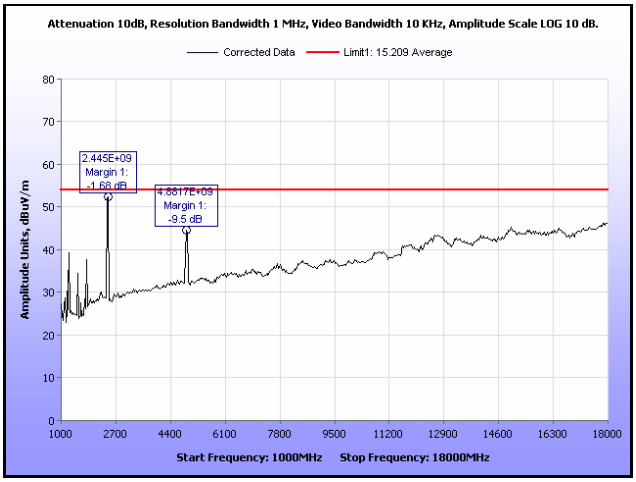
Plot 424. Radiated Spurious Emissions, Low Channel, 802.11n 40 MHz, Yagi Antenna, 1 GHz – 18 GHz, Average



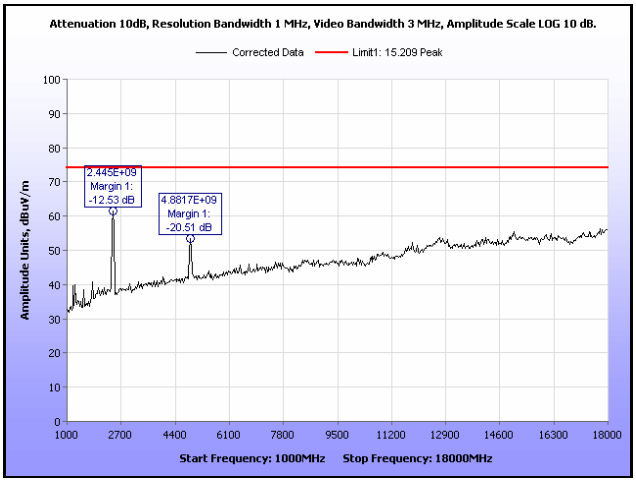
Plot 425. Radiated Spurious Emissions, Low Channel, 802.11n 40 MHz, Yagi Antenna, 1 GHz – 18 GHz, Peak



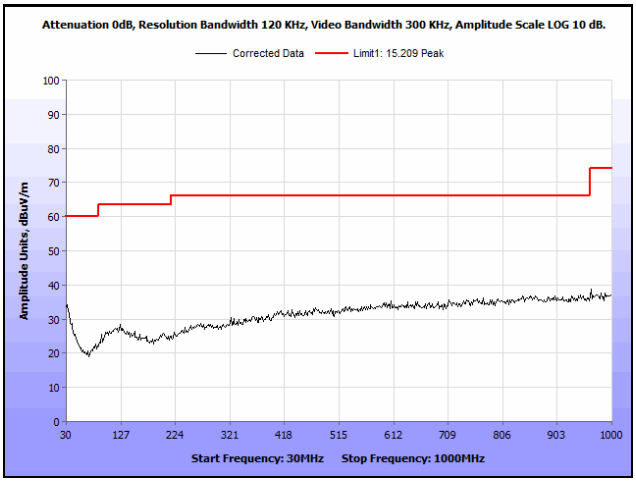
Plot 426. Radiated Spurious Emissions, Mid Channel, 802.11n 40 MHz, Yagi Antenna, 30 MHz – 1 GHz



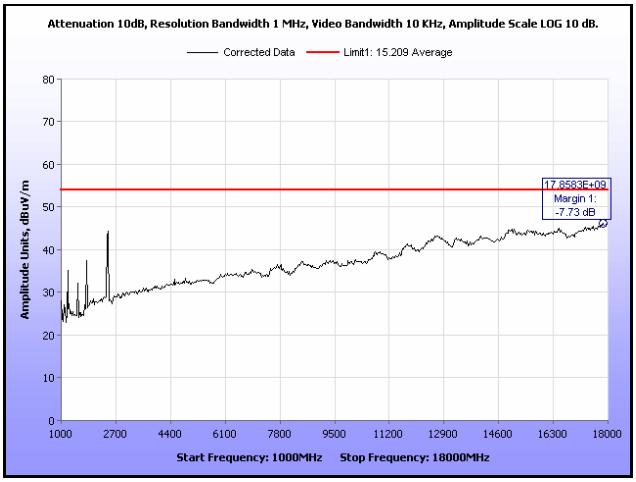
Plot 427. Radiated Spurious Emissions, Mid Channel, 802.11n 40 MHz, Yagi Antenna, 1 GHz – 18 GHz, Average



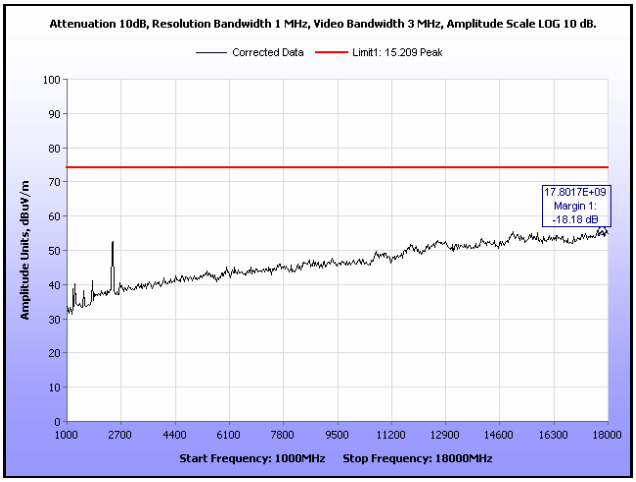
Plot 428. Radiated Spurious Emissions, Mid Channel, 802.11n 40 MHz, Yagi Antenna, 1 GHz – 18 GHz, Peak



Plot 429. Radiated Spurious Emissions, High Channel, 802.11n 40 MHz, Yagi Antenna, 30 MHz – 1 GHz

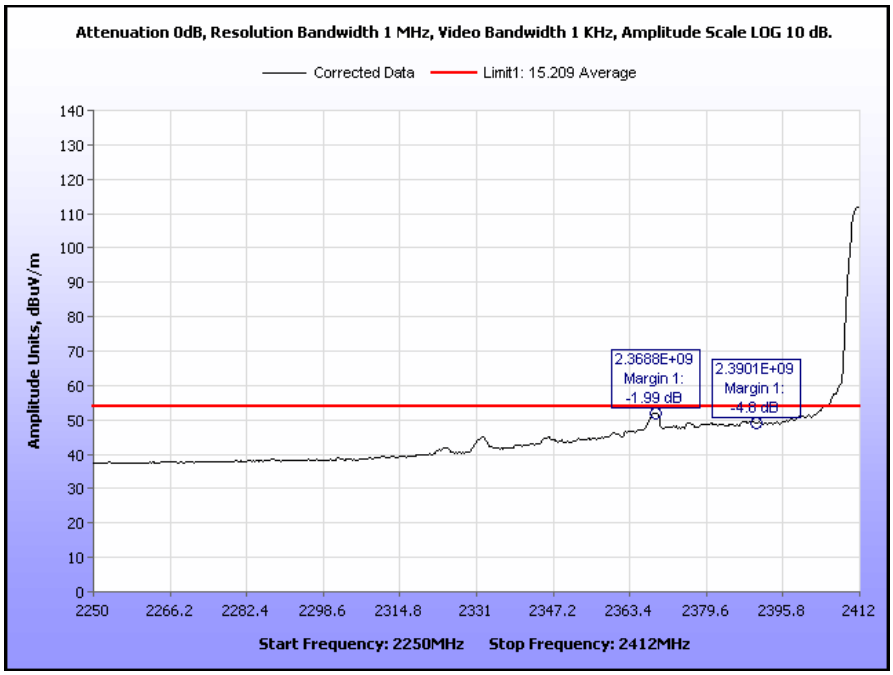


Plot 430. Radiated Spurious Emissions, High Channel, 802.11n 40 MHz, Yagi Antenna, 1 GHz – 18 GHz, Average

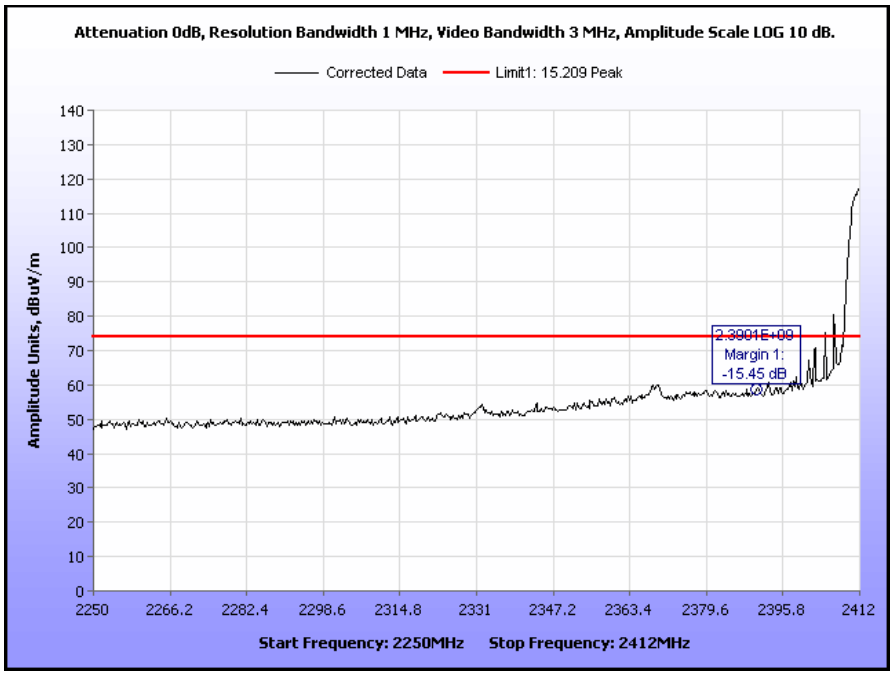


Plot 431. Radiated Spurious Emissions, High Channel, 802.11n 40 MHz, Yagi Antenna, 1 GHz – 18 GHz, Peak

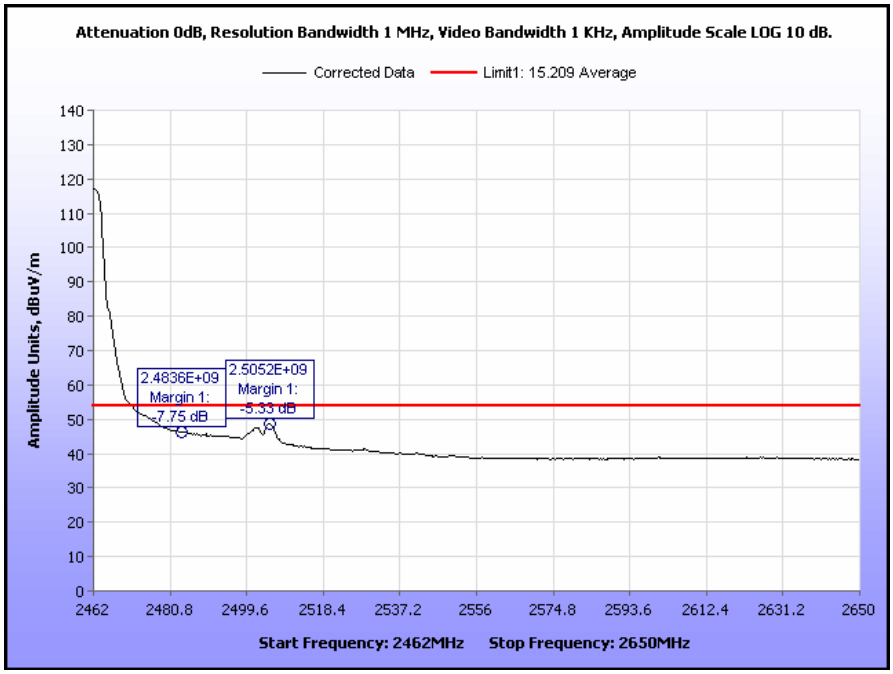
Radiated Band Edge Measurements, 802.11b 5 MHz, Omni Antenna



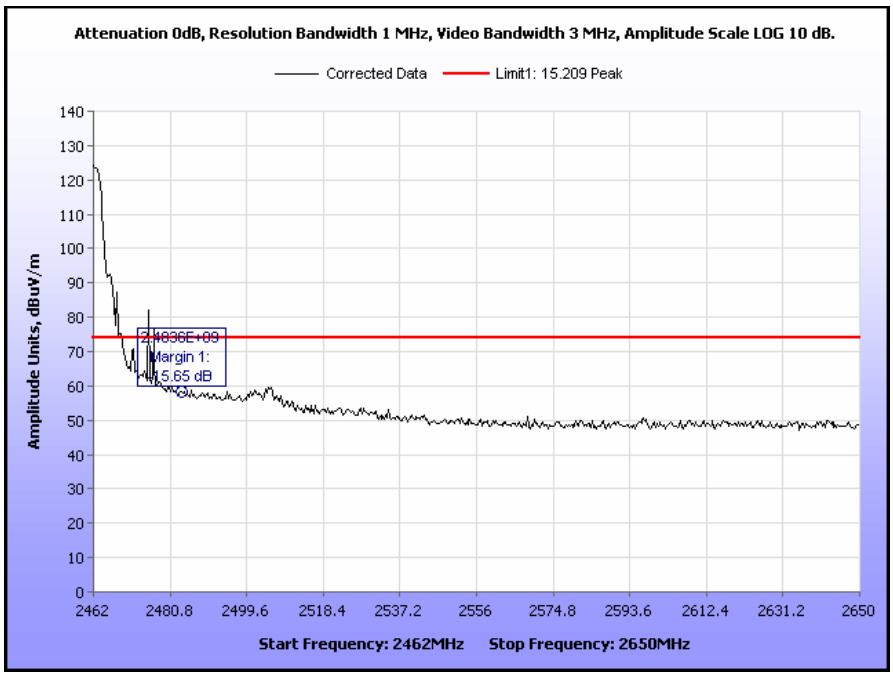
Plot 432. Radiated Restricted Band Edge, Low Channel, 802.11b 5 MHz, Omni Antenna, Average



Plot 433. Radiated Restricted Band Edge, Low Channel, 802.11b 5 MHz, Omni Antenna, Peak

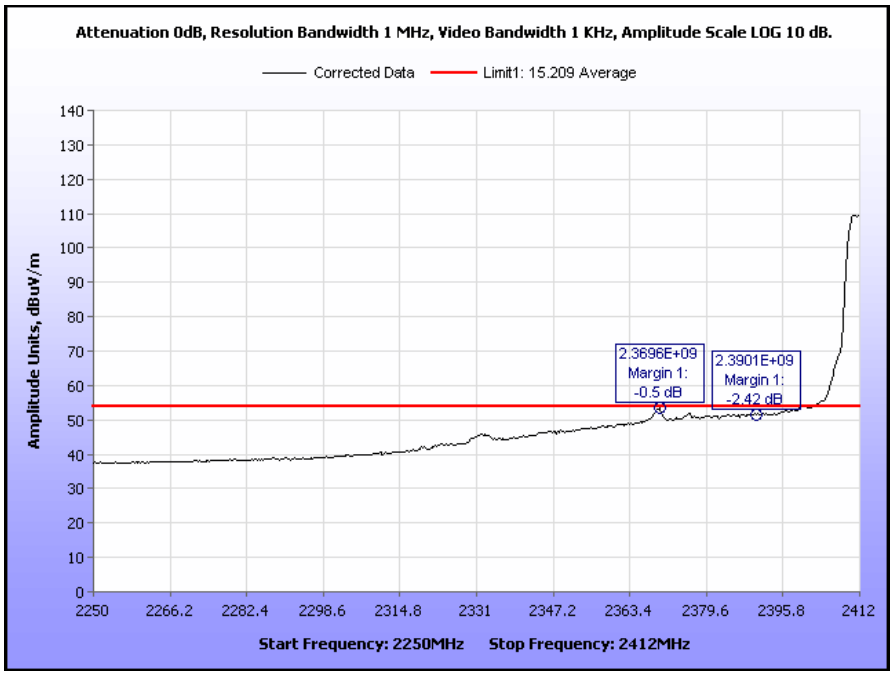


Plot 434. Radiated Restricted Band Edge, High Channel, 802.11b 5 MHz, Omni Antenna, Average

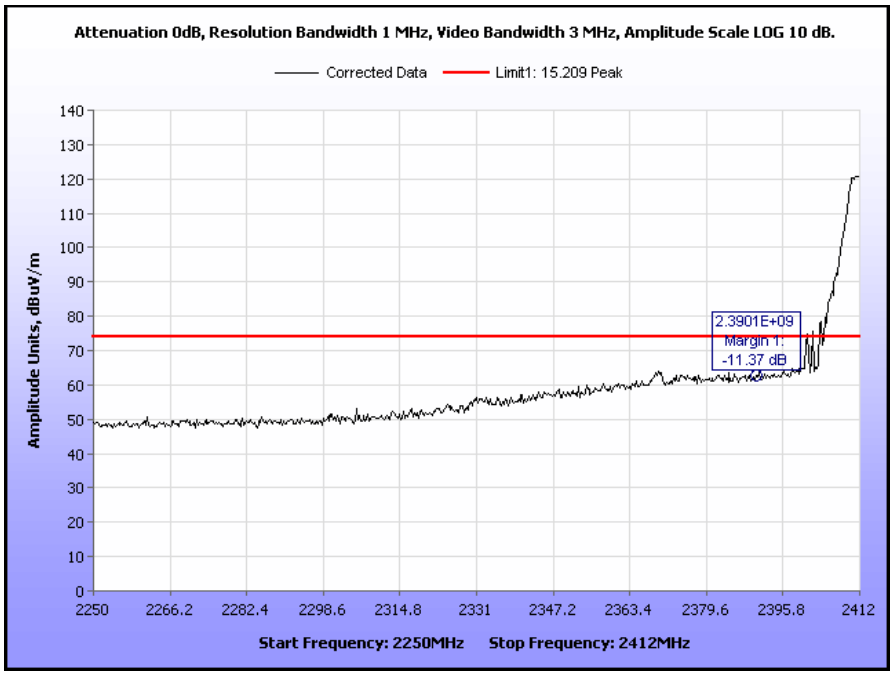


Plot 435. Radiated Restricted Band Edge, High Channel, 802.11b 5 MHz, Omni Antenna, Peak

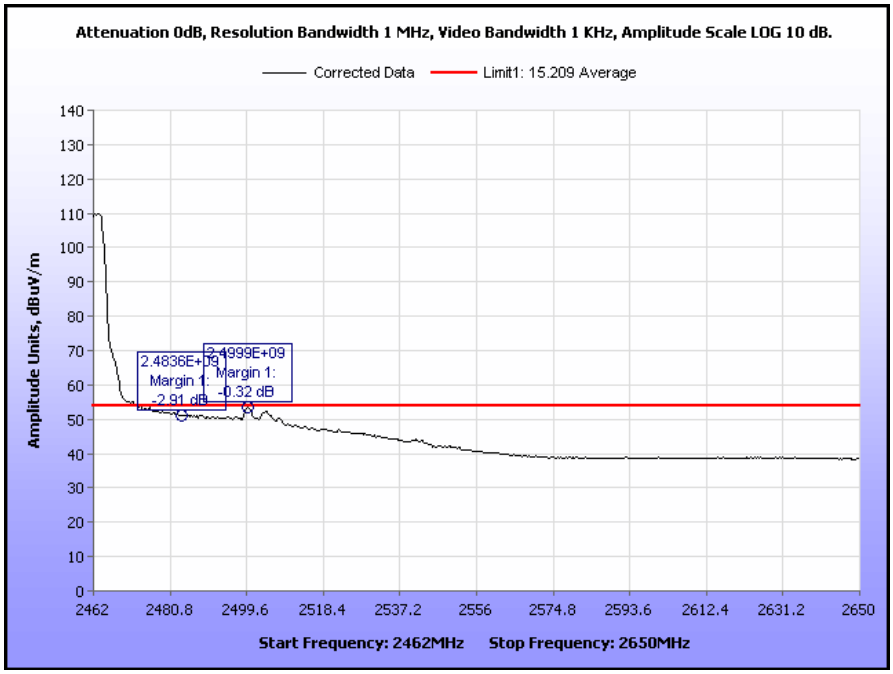
Radiated Band Edge Measurements, 802.11g 5 MHz, Omni Antenna



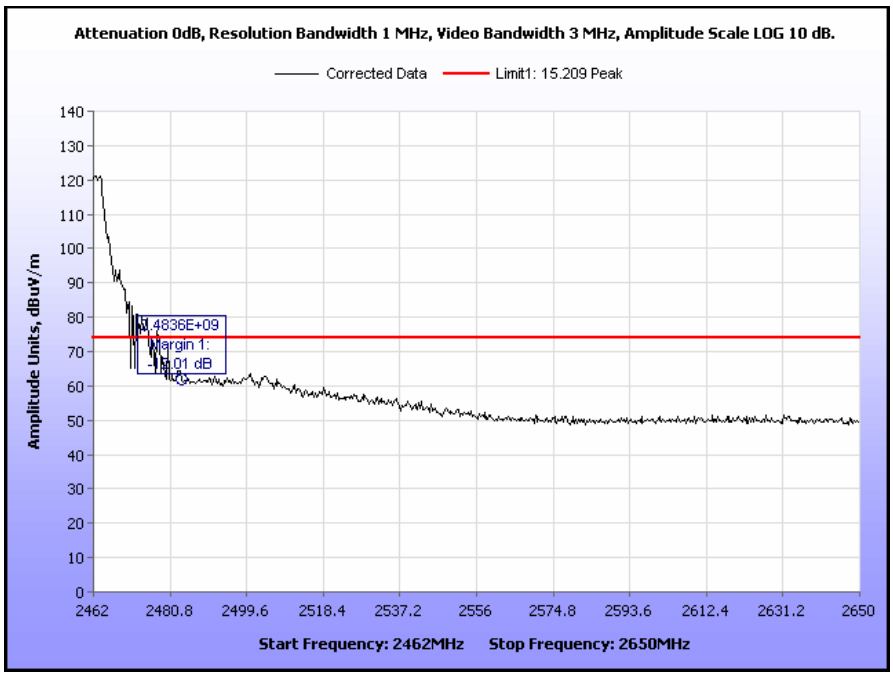
Plot 436. Radiated Restricted Band Edge, Low Channel, 802.11g 5 MHz, Omni Antenna, Average



Plot 437. Radiated Restricted Band Edge, Low Channel, 802.11g 5 MHz, Omni Antenna, Peak

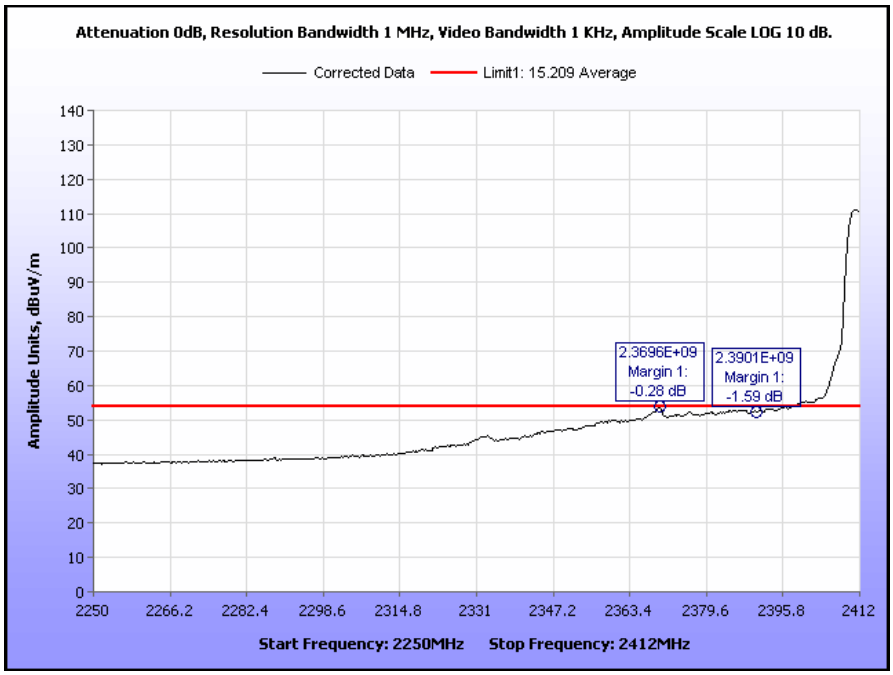


Plot 438. Radiated Restricted Band Edge, High Channel, 802.11g 5 MHz, Omni Antenna, Average

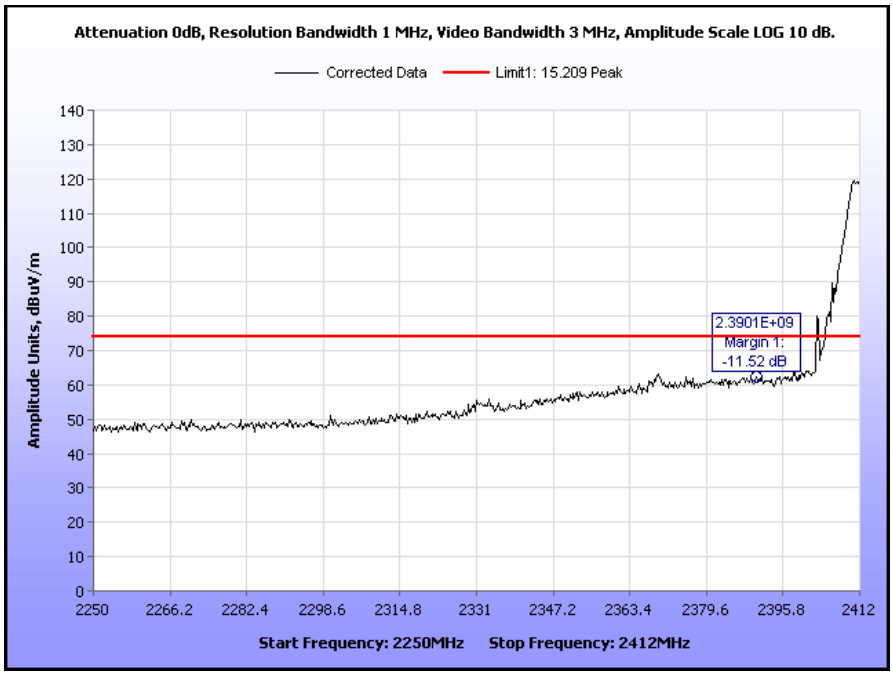


Plot 439. Radiated Restricted Band Edge, High Channel, 802.11g 5 MHz, Omni Antenna, Peak

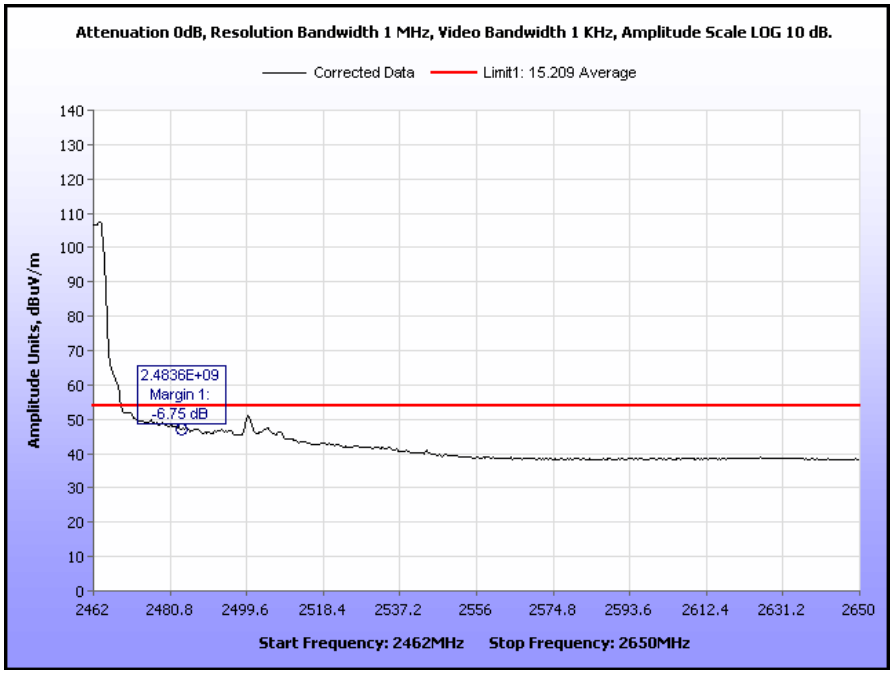
Radiated Band Edge Measurements, 802.11n 5 MHz, Omni Antenna



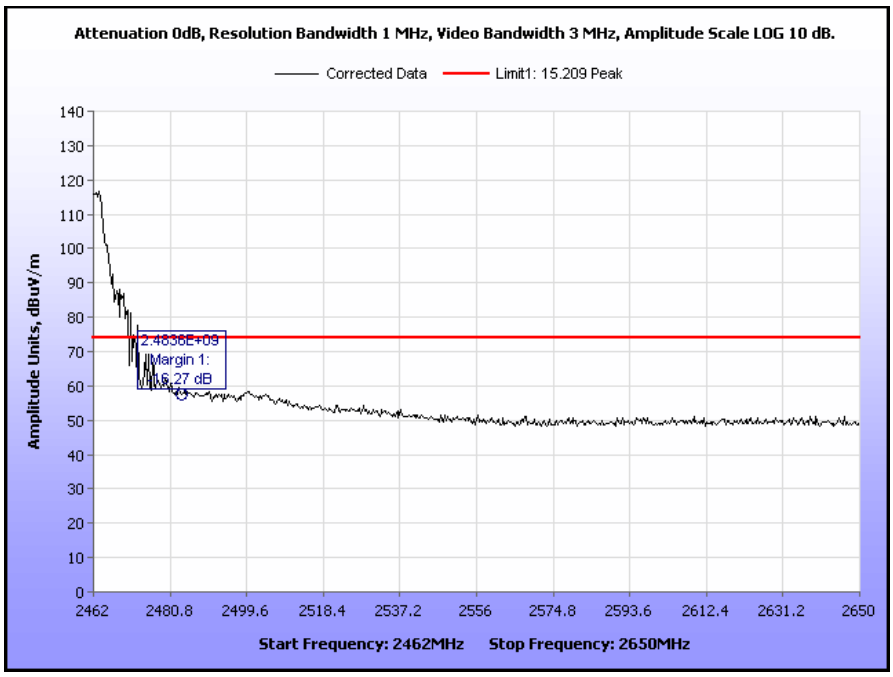
Plot 440. Radiated Restricted Band Edge, Low Channel, 802.11n 5 MHz, Omni Antenna, Average



Plot 441. Radiated Restricted Band Edge, Low Channel, 802.11n 5 MHz, Omni Antenna, Peak

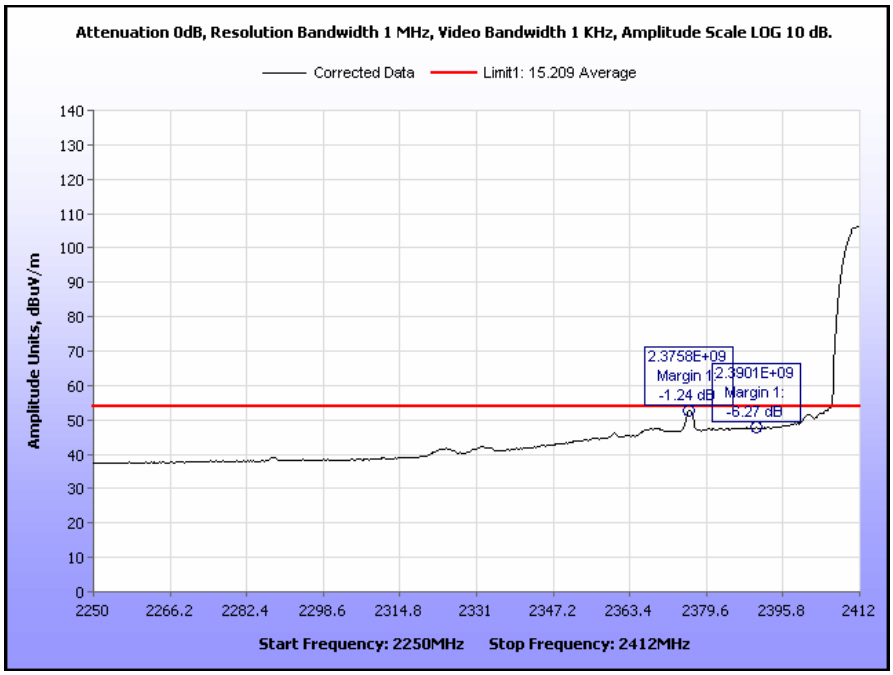


Plot 442. Radiated Restricted Band Edge, High Channel, 802.11n 5 MHz, Omni Antenna, Average

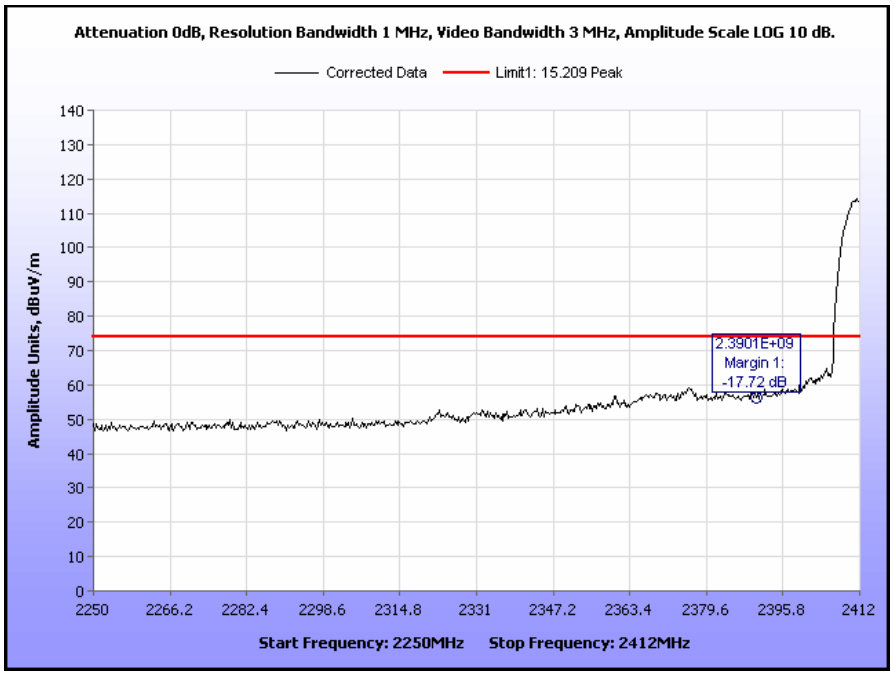


Plot 443. Radiated Restricted Band Edge, High Channel, 802.11n 5 MHz, Omni Antenna, Peak

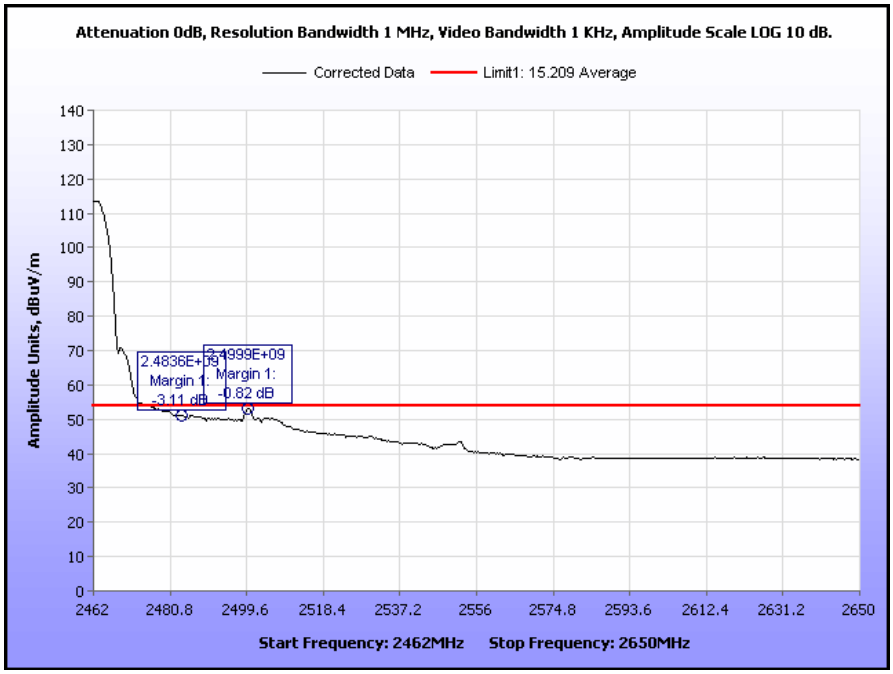
Radiated Band Edge Measurements, 802.11b 10 MHz, Omni Antenna



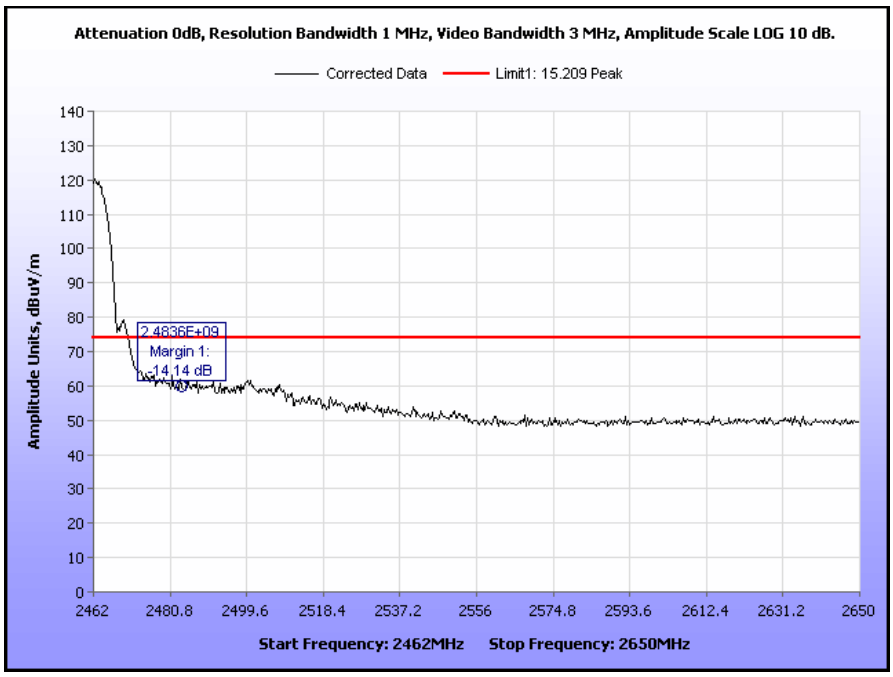
Plot 444. Radiated Restricted Band Edge, Low Channel, 802.11b 10 MHz, Omni Antenna, Average



Plot 445. Radiated Restricted Band Edge, Low Channel, 802.11b 10 MHz, Omni Antenna, Peak

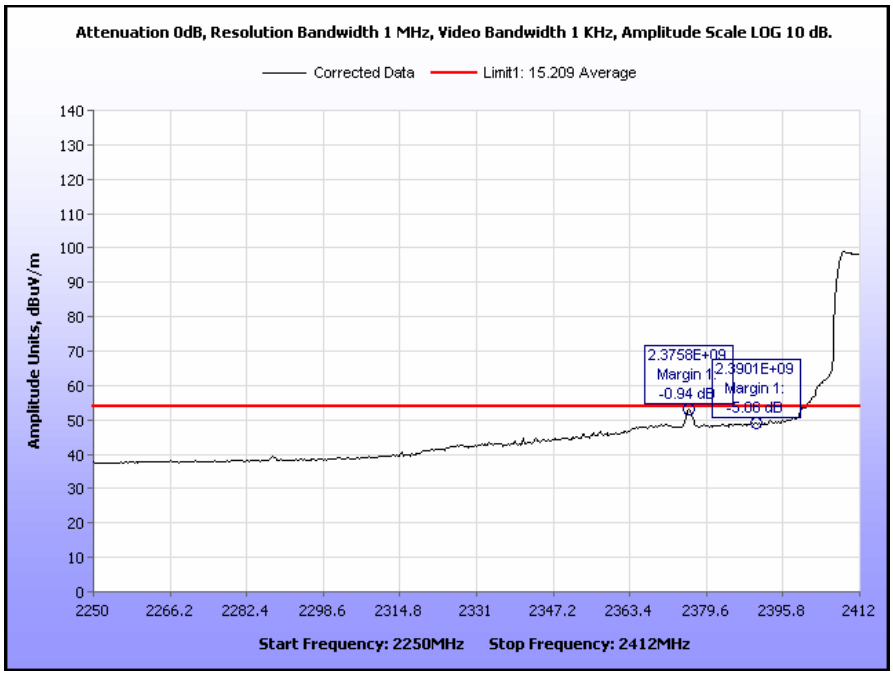


Plot 446. Radiated Restricted Band Edge, High Channel, 802.11b 10 MHz, Omni Antenna, Average

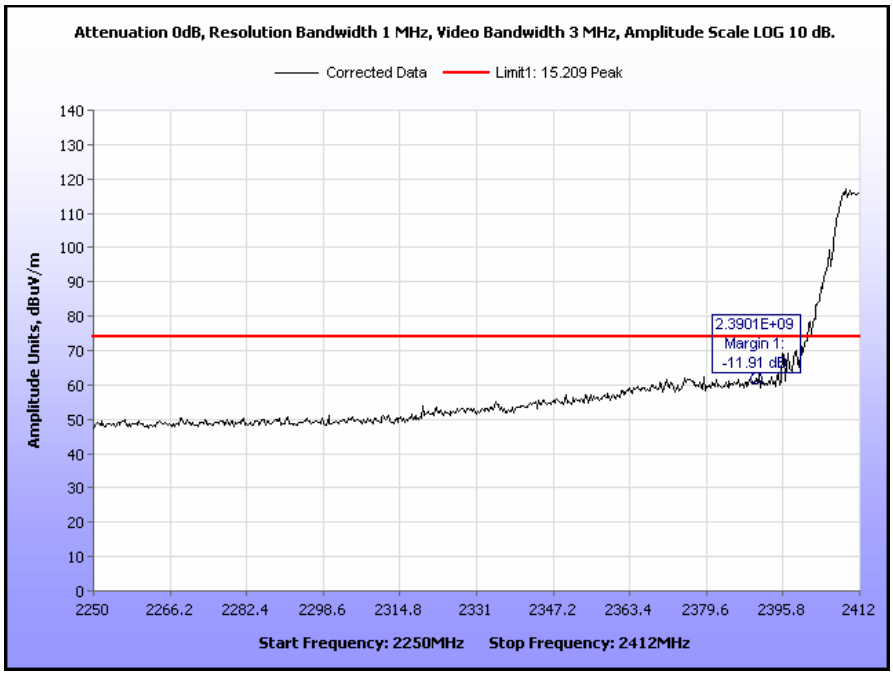


Plot 447. Radiated Restricted Band Edge, High Channel, 802.11b 10 MHz, Omni Antenna, Peak

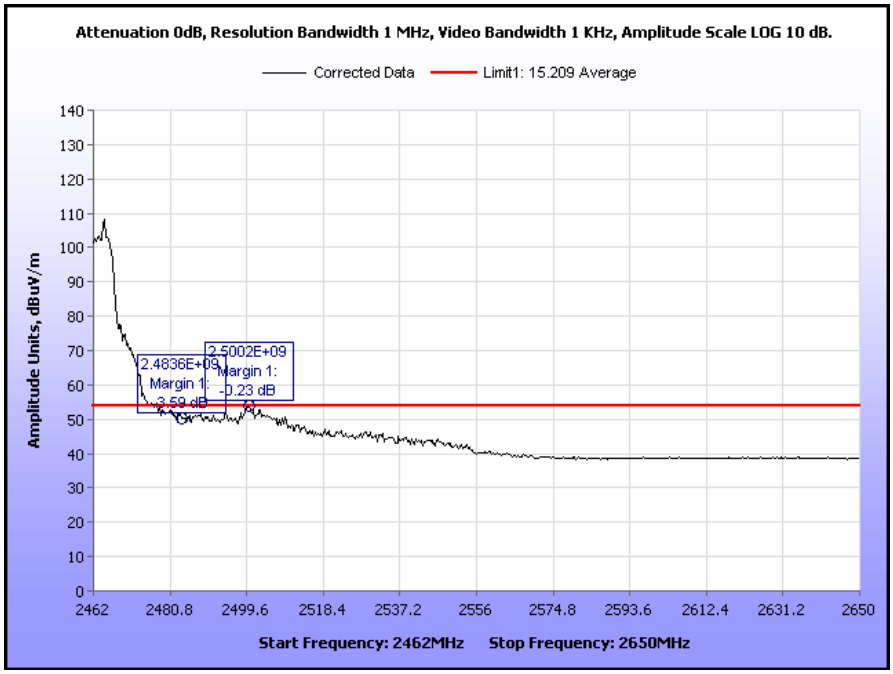
Radiated Band Edge Measurements, 802.11g 10 MHz, Omni Antenna



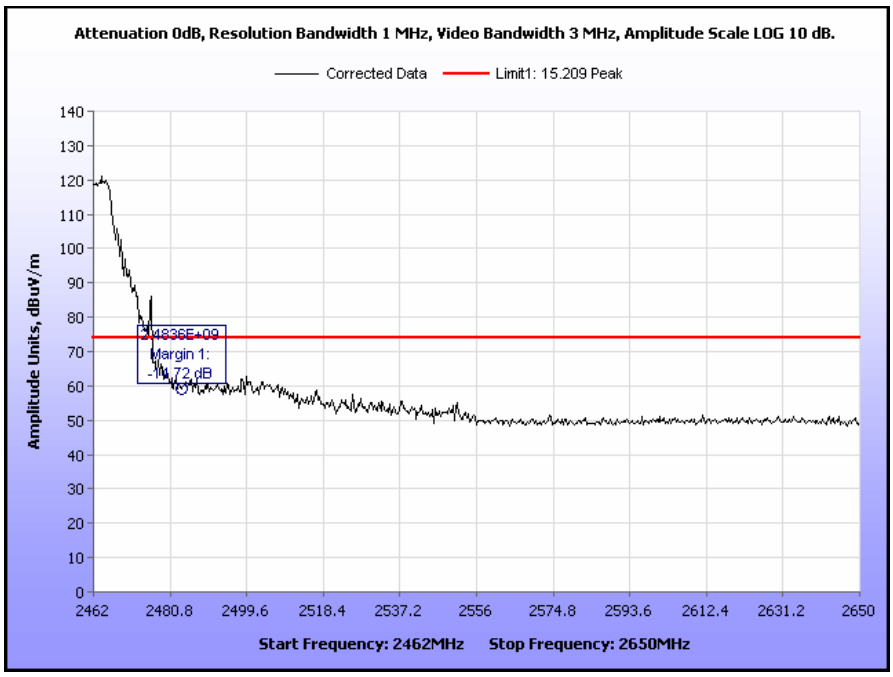
Plot 448. Radiated Restricted Band Edge, Low Channel, 802.11g 10 MHz, Omni Antenna, Average



Plot 449. Radiated Restricted Band Edge, Low Channel, 802.11g 10 MHz, Omni Antenna, Peak

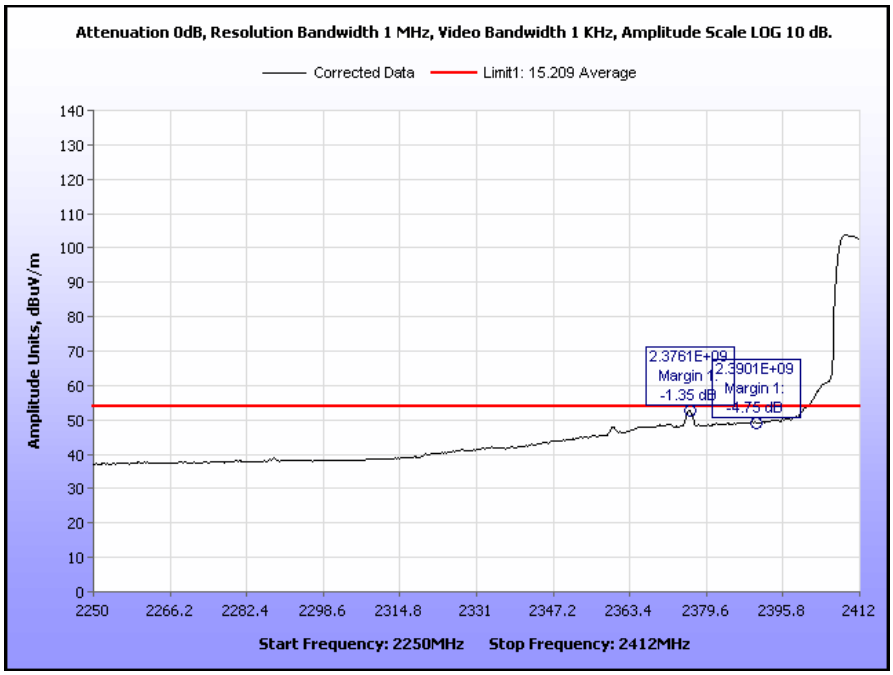


Plot 450. Radiated Restricted Band Edge, High Channel, 802.11g 10 MHz, Omni Antenna, Average

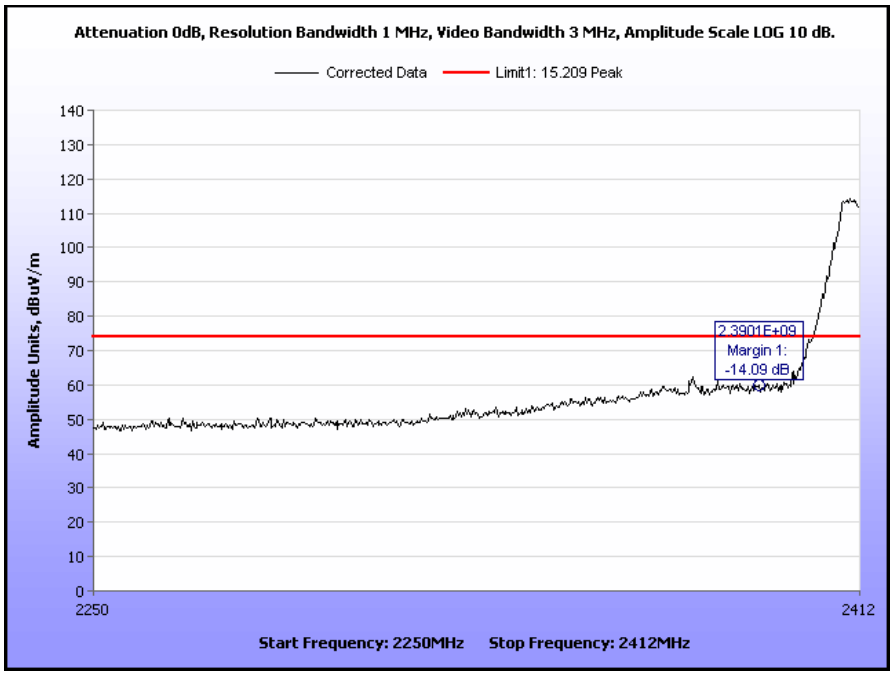


Plot 451. Radiated Restricted Band Edge, High Channel, 802.11g 10 MHz, Omni Antenna, Peak

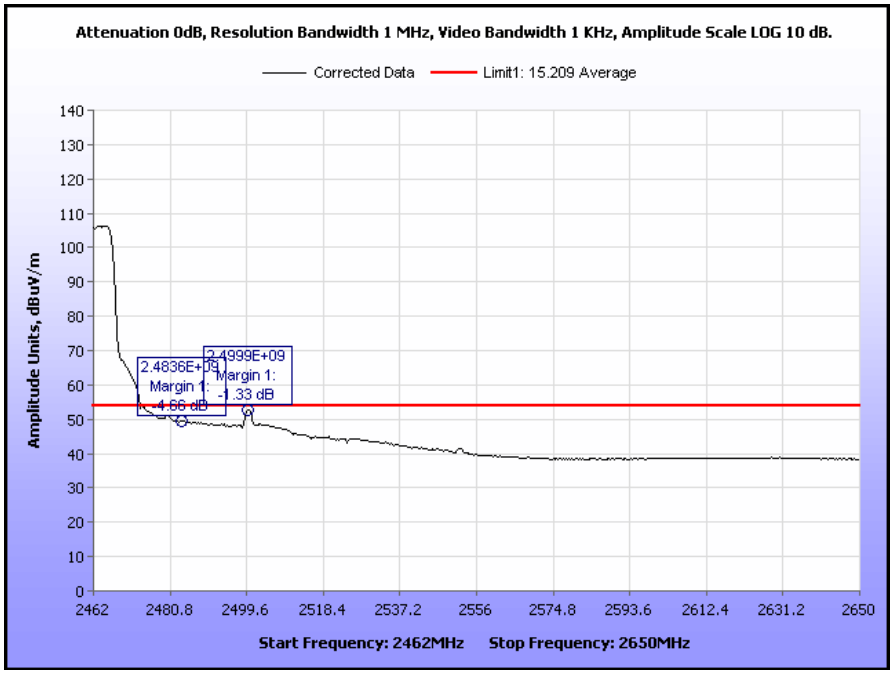
Radiated Band Edge Measurements, 802.11n 10 MHz, Omni Antenna



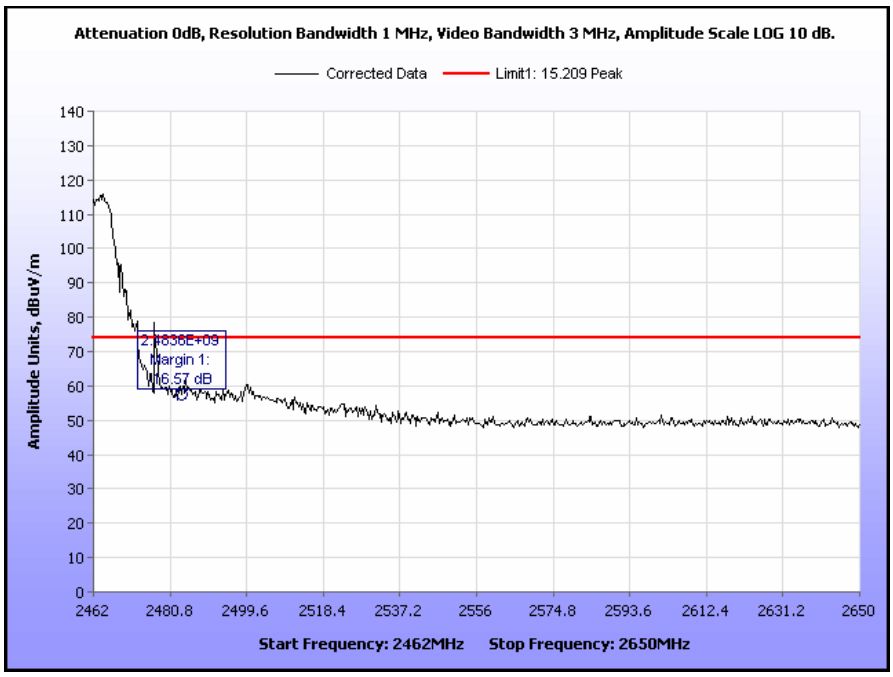
Plot 452. Radiated Restricted Band Edge, Low Channel, 802.11n 10 MHz, Omni Antenna, Average



Plot 453. Radiated Restricted Band Edge, Low Channel, 802.11n 10 MHz, Omni Antenna, Peak

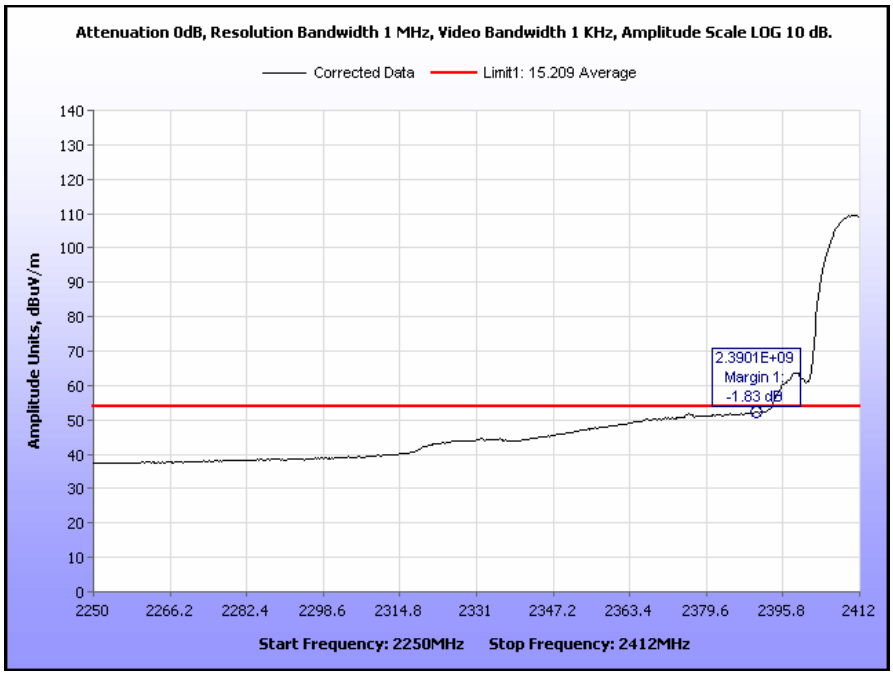


Plot 454. Radiated Restricted Band Edge, High Channel, 802.11n 10 MHz, Omni Antenna, Average

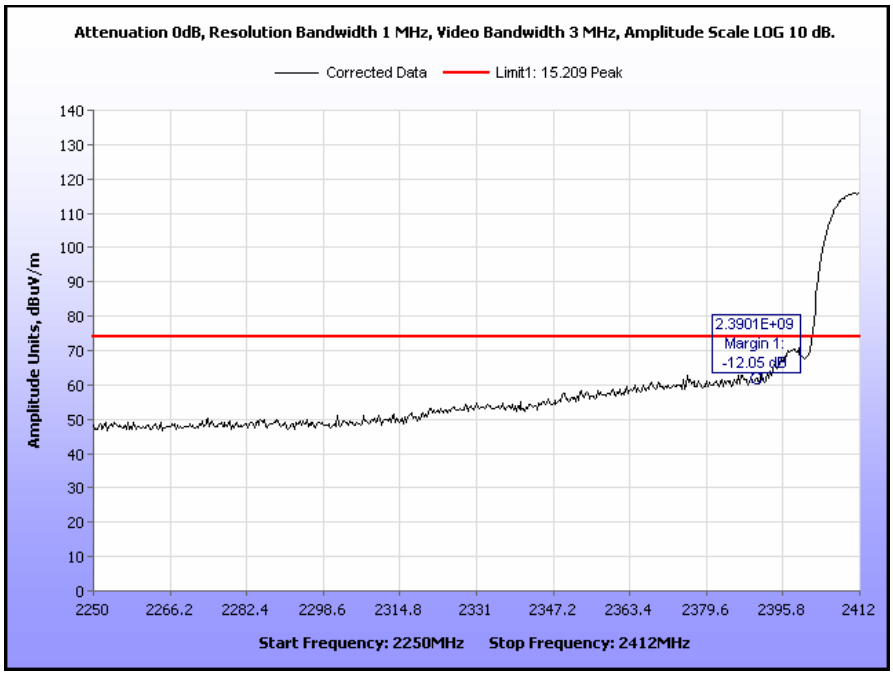


Plot 455. Radiated Restricted Band Edge, High Channel, 802.11n 10 MHz, Omni Antenna, Peak

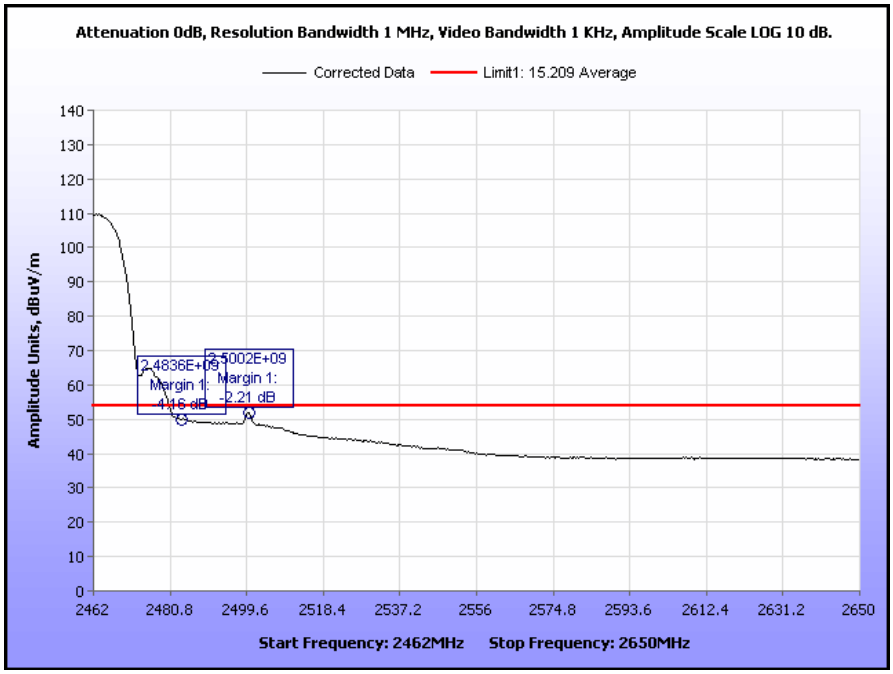
Radiated Band Edge Measurements, 802.11b 20 MHz, Omni Antenna



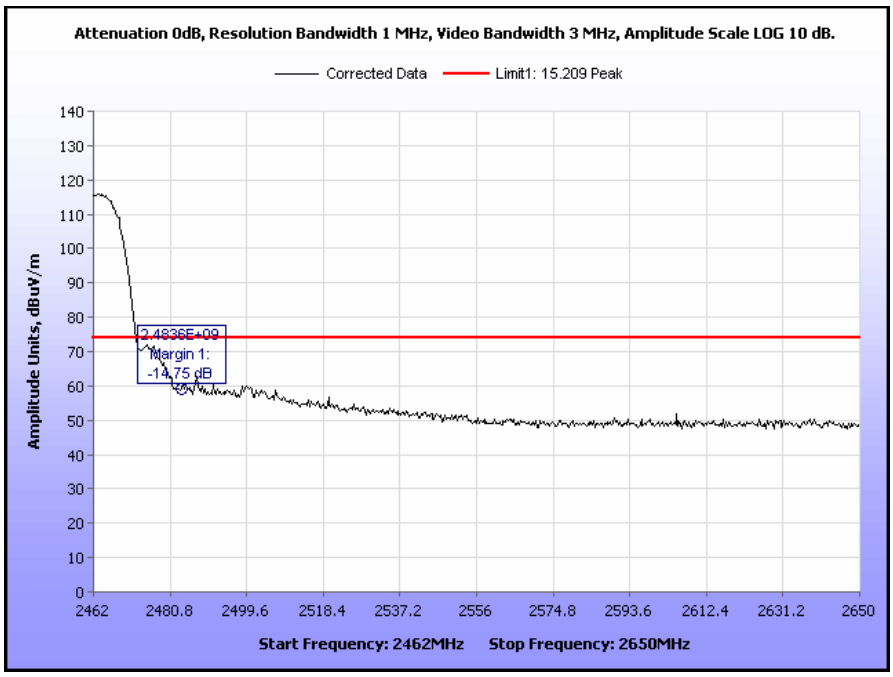
Plot 456. Radiated Restricted Band Edge, Low Channel, 802.11b 20 MHz, Omni Antenna, Average



Plot 457. Radiated Restricted Band Edge, Low Channel, 802.11b 20 MHz, Omni Antenna, Peak

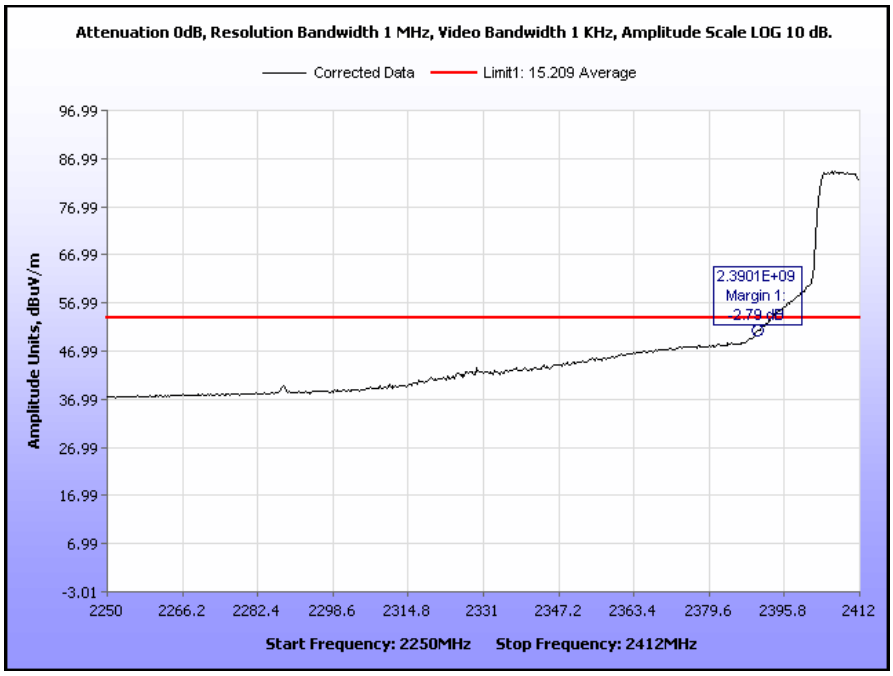


Plot 458. Radiated Restricted Band Edge, High Channel, 802.11b 20 MHz, Omni Antenna, Average

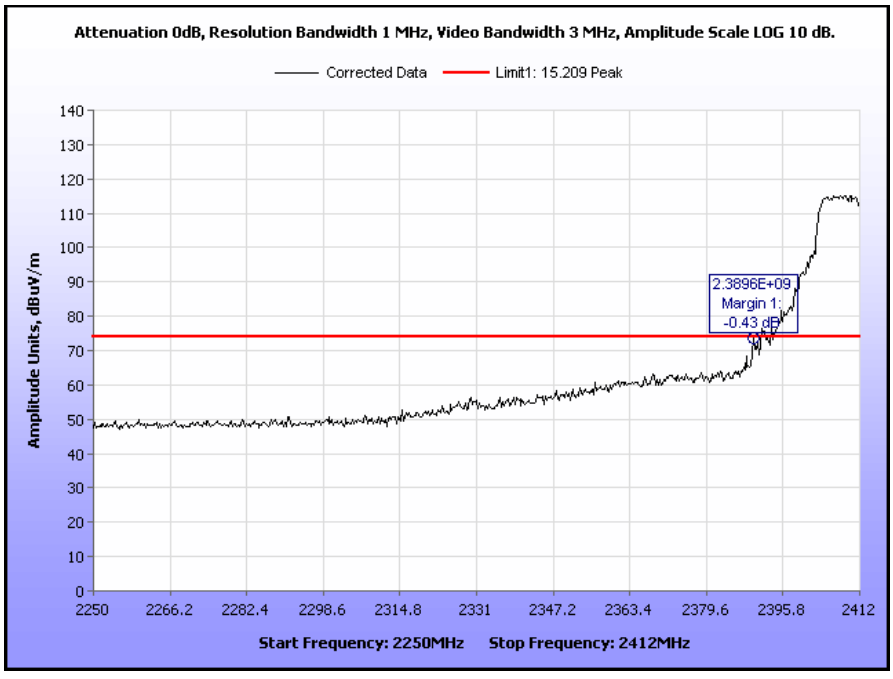


Plot 459. Radiated Restricted Band Edge, High Channel, 802.11b 20 MHz, Omni Antenna, Peak

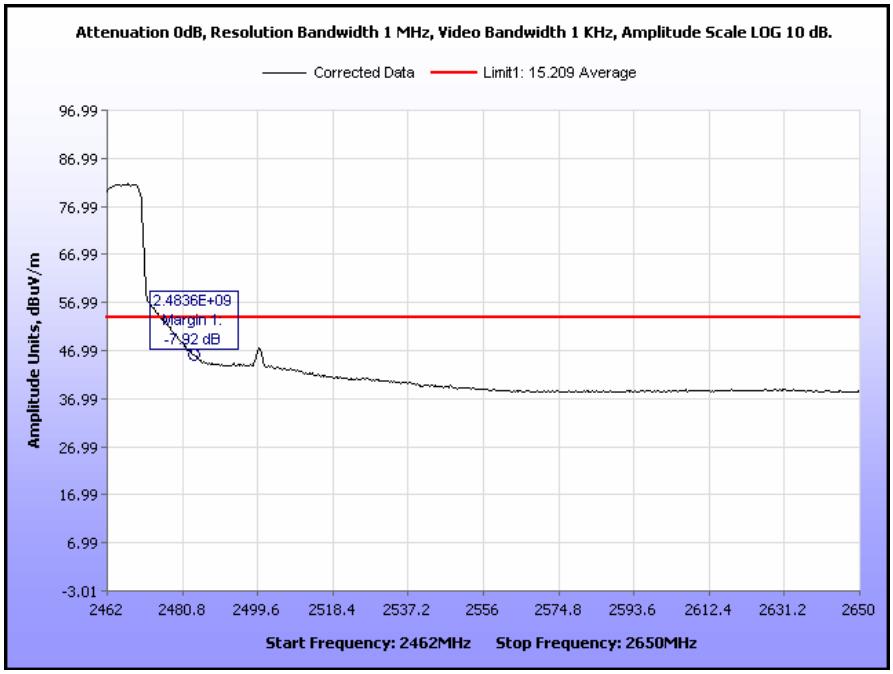
Radiated Band Edge Measurements, 802.11g 20 MHz, Omni Antenna



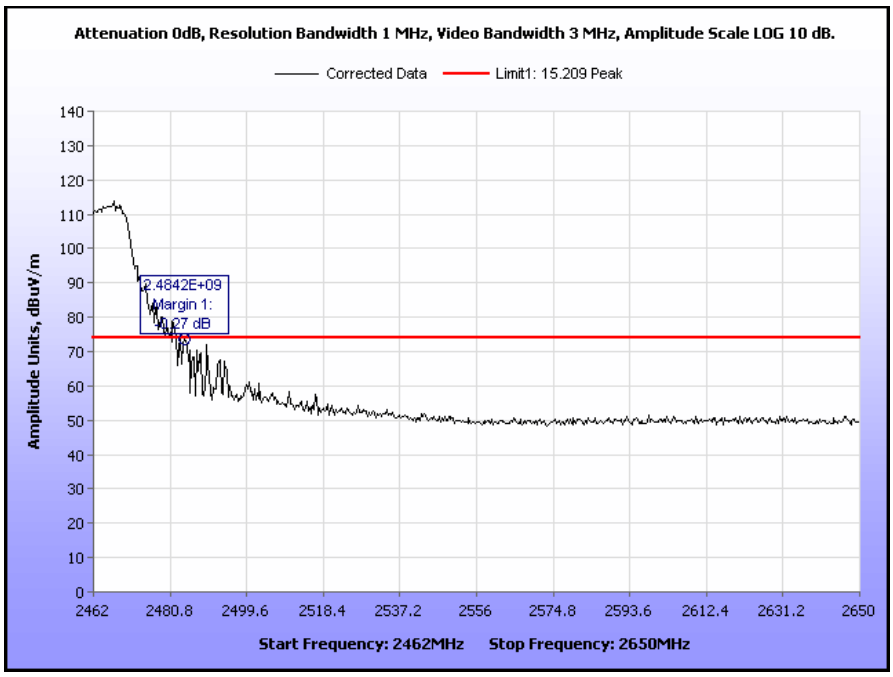
Plot 460. Radiated Restricted Band Edge, Low Channel, 802.11g 20 MHz, Omni Antenna, Average



Plot 461. Radiated Restricted Band Edge, Low Channel, 802.11g 20 MHz, Omni Antenna, Peak

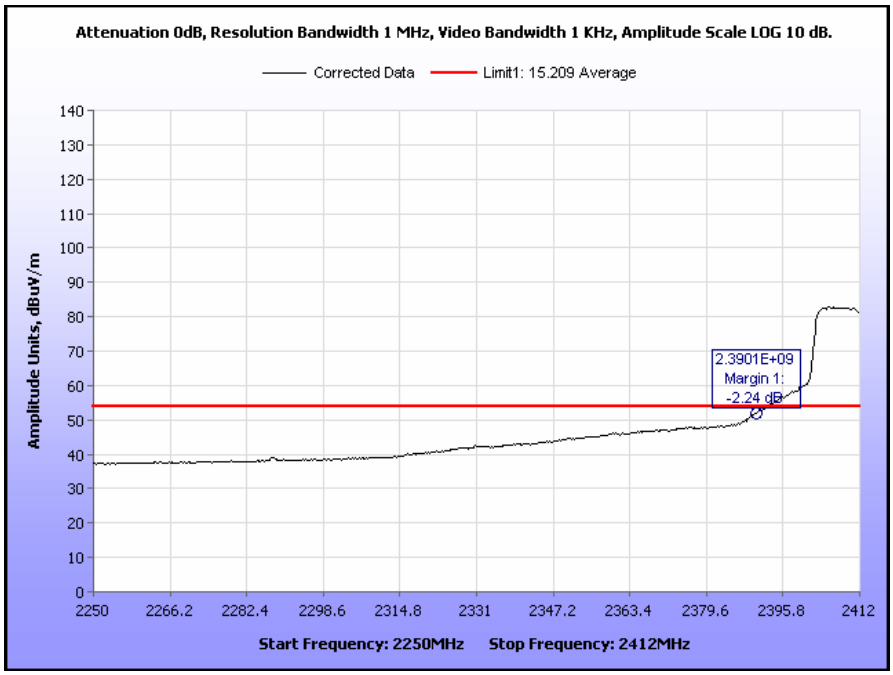


Plot 462. Radiated Restricted Band Edge, High Channel, 802.11g 20 MHz, Omni Antenna, Average

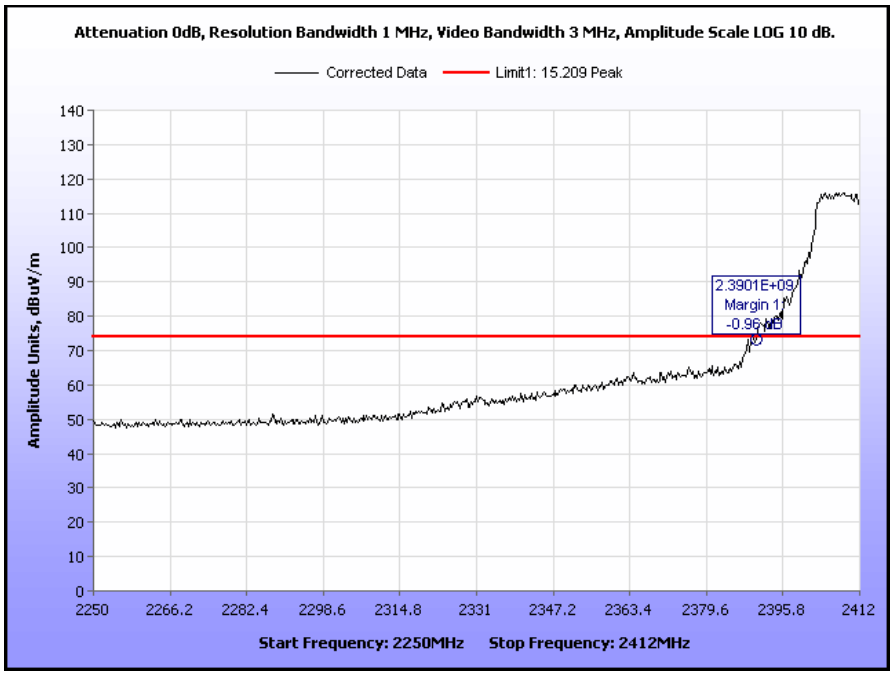


Plot 463. Radiated Restricted Band Edge, High Channel, 802.11g 20 MHz, Omni Antenna, Peak

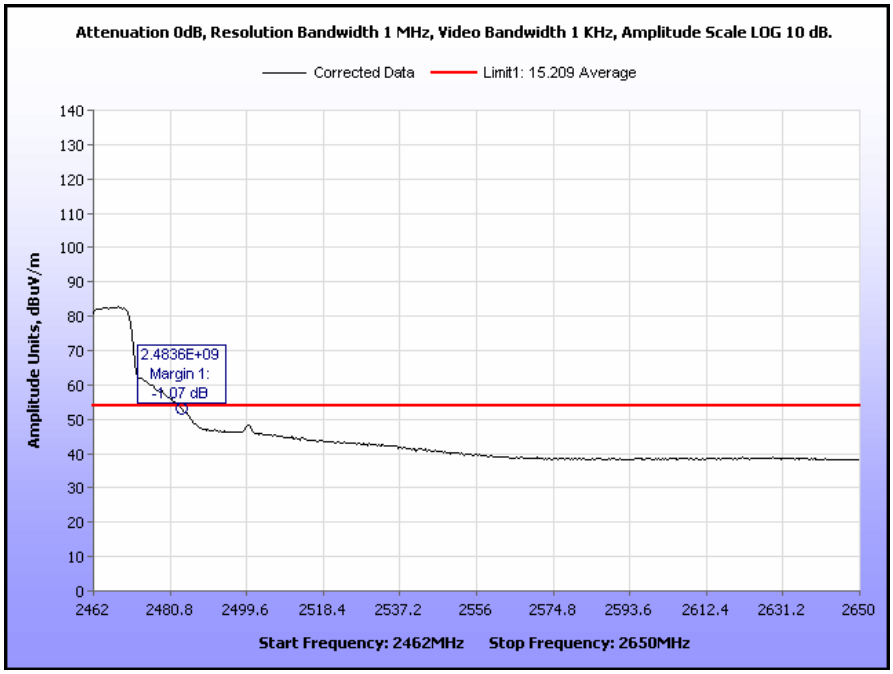
Radiated Band Edge Measurements, 802.11n 20 MHz, Omni Antenna



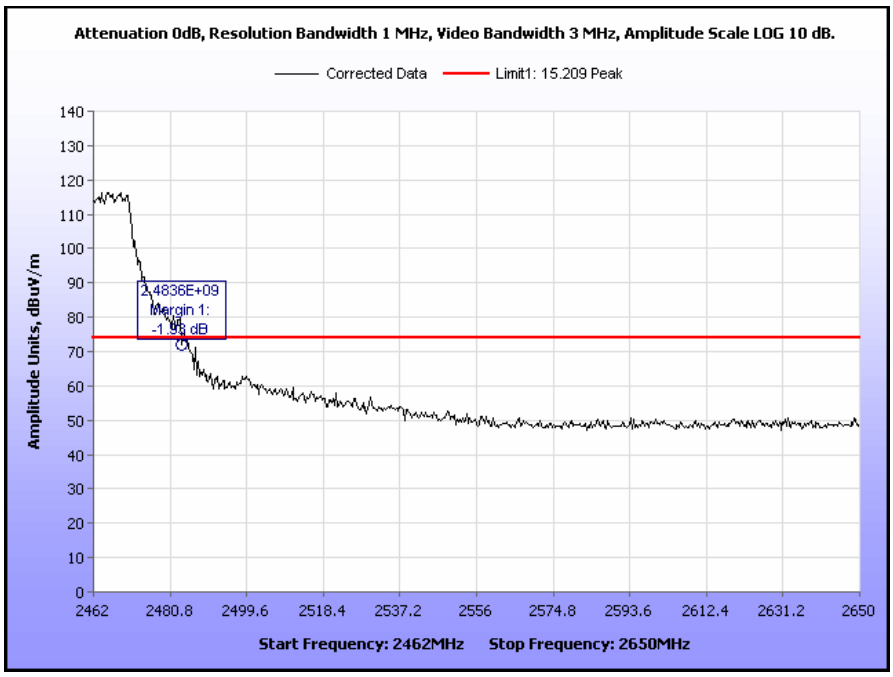
Plot 464. Radiated Restricted Band Edge, Low Channel, 802.11n 20 MHz, Omni Antenna, Average



Plot 465. Radiated Restricted Band Edge, Low Channel, 802.11n 20 MHz, Omni Antenna, Peak

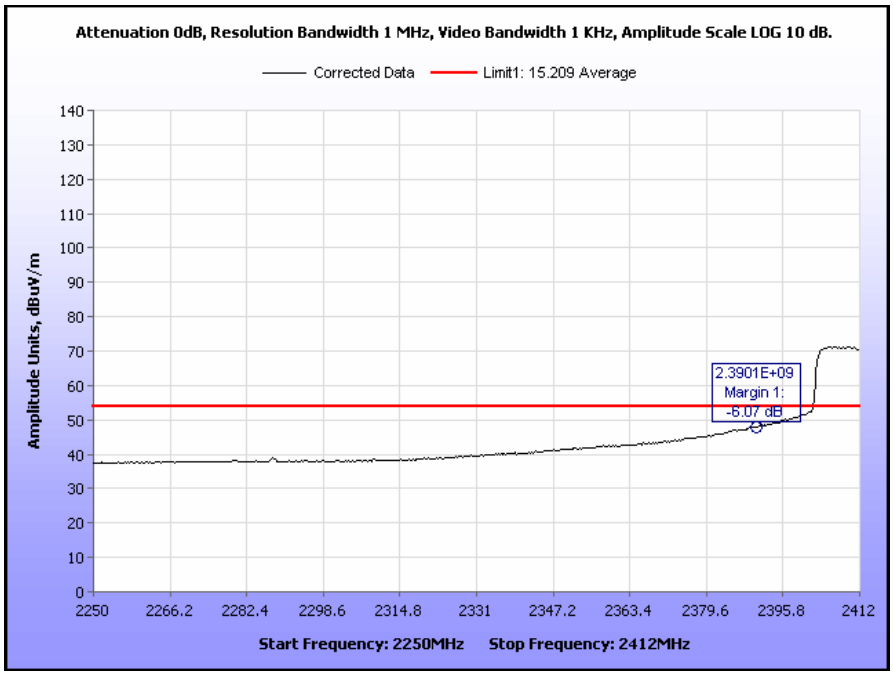


Plot 466. Radiated Restricted Band Edge, High Channel, 802.11n 20 MHz, Omni Antenna, Average

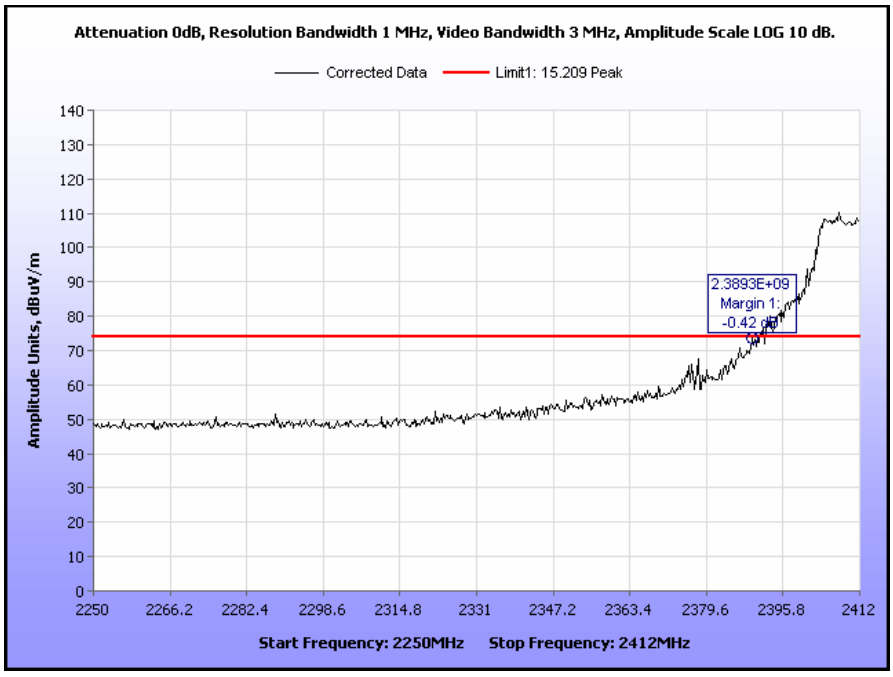


Plot 467. Radiated Restricted Band Edge, High Channel, 802.11n 20 MHz, Omni Antenna, Peak

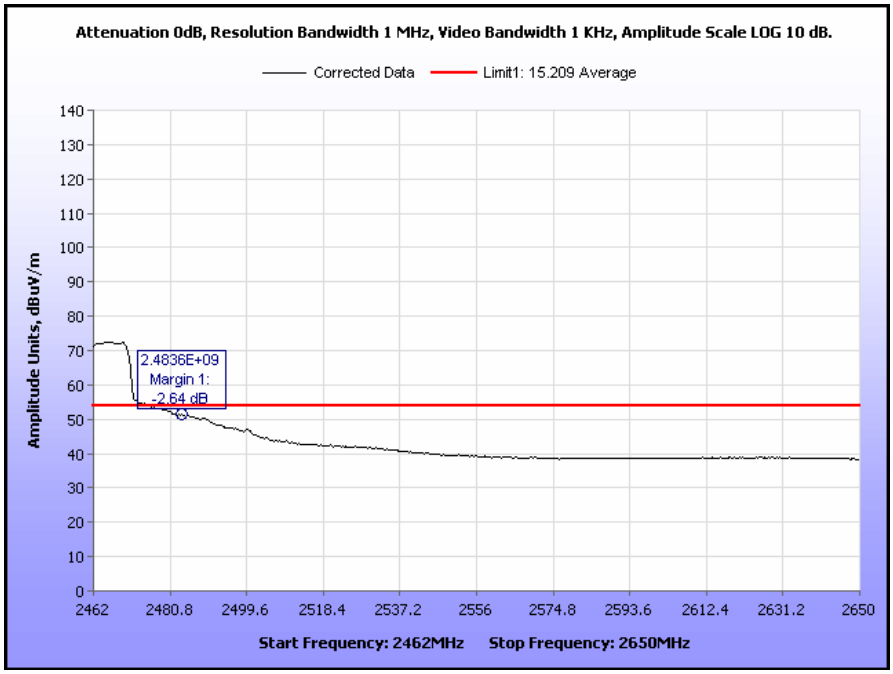
Radiated Band Edge Measurements, 802.11g 40 MHz, Omni Antenna



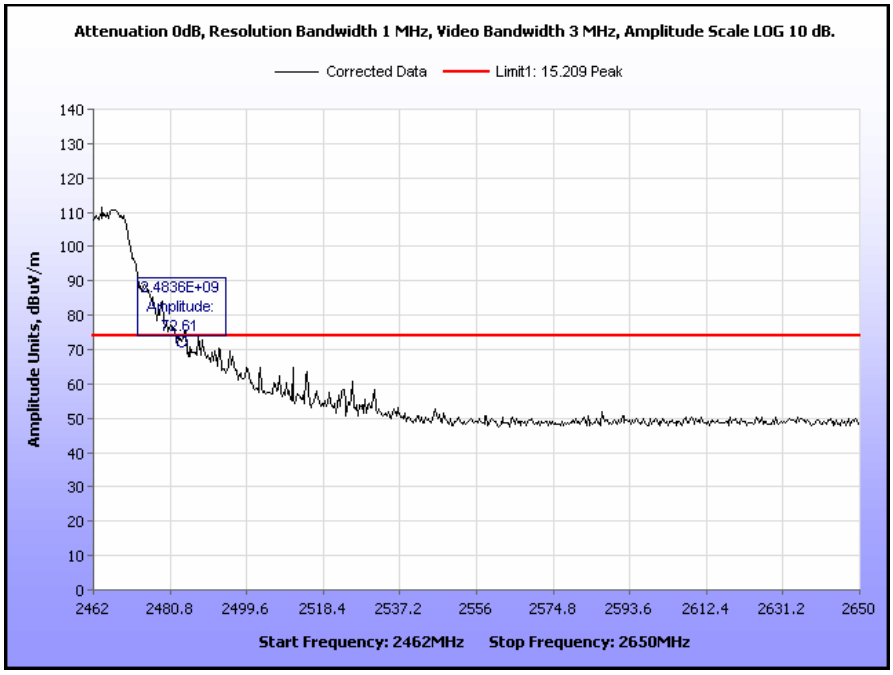
Plot 468. Radiated Restricted Band Edge, Low Channel, 802.11g 40 MHz, Omni Antenna, Average



Plot 469. Radiated Restricted Band Edge, Low Channel, 802.11g 40 MHz, Omni Antenna, Peak

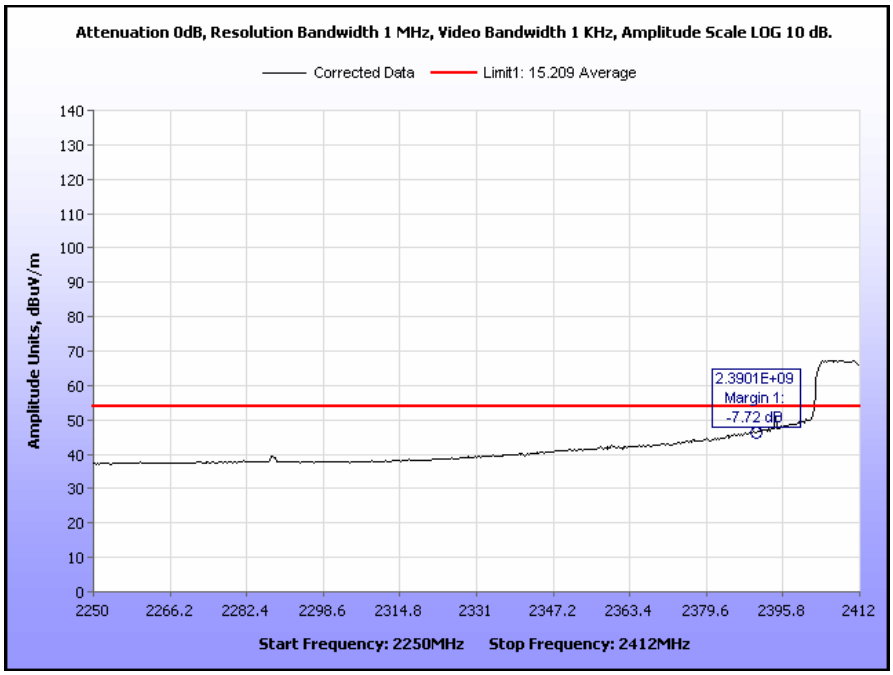


Plot 470. Radiated Restricted Band Edge, High Channel, 802.11g 40 MHz, Omni Antenna, Average

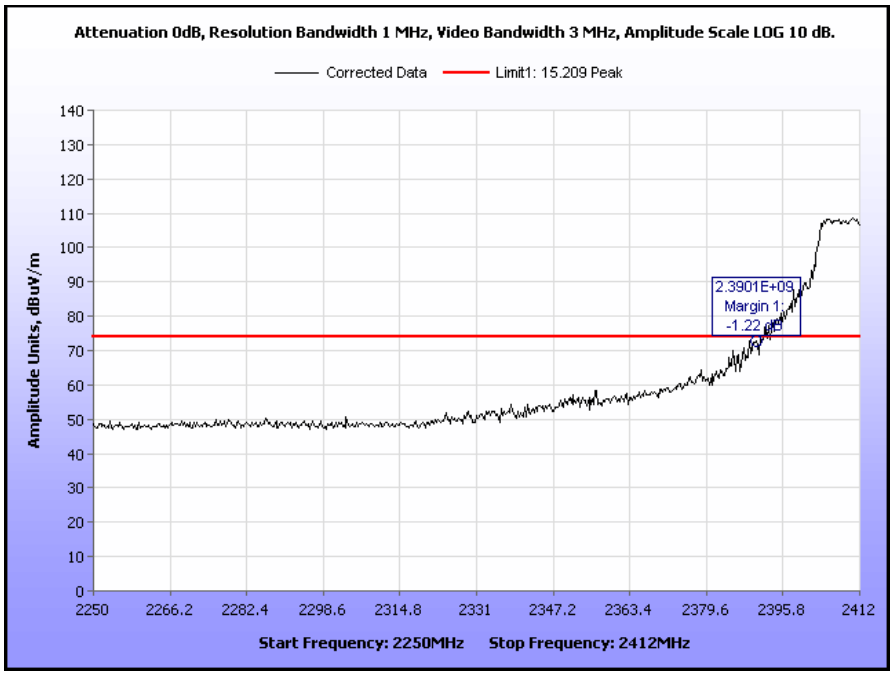


Plot 471. Radiated Restricted Band Edge, High Channel, 802.11g 40 MHz, Omni Antenna, Peak

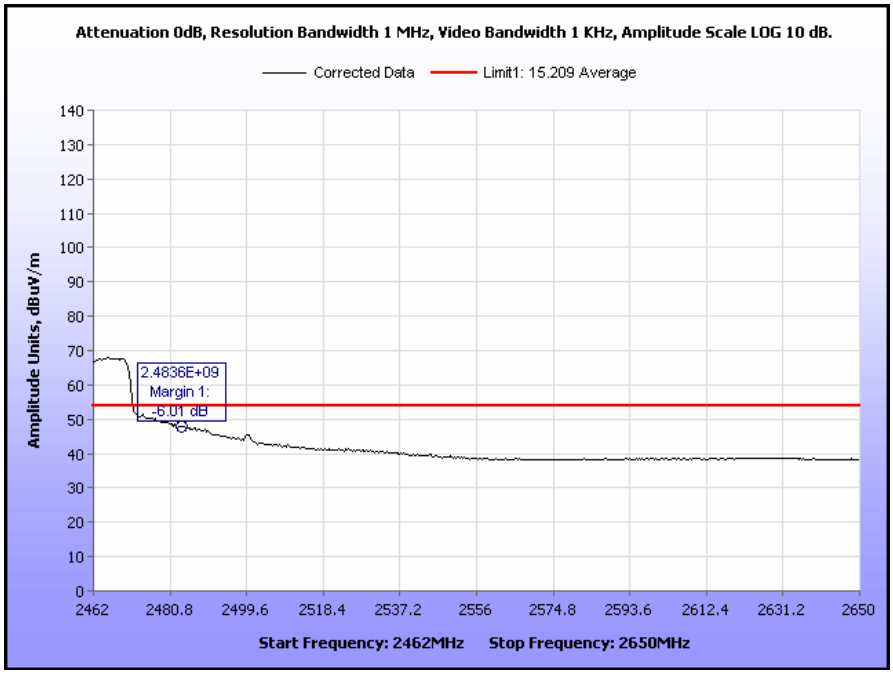
Radiated Band Edge Measurements, 802.11n 40 MHz, Omni Antenna



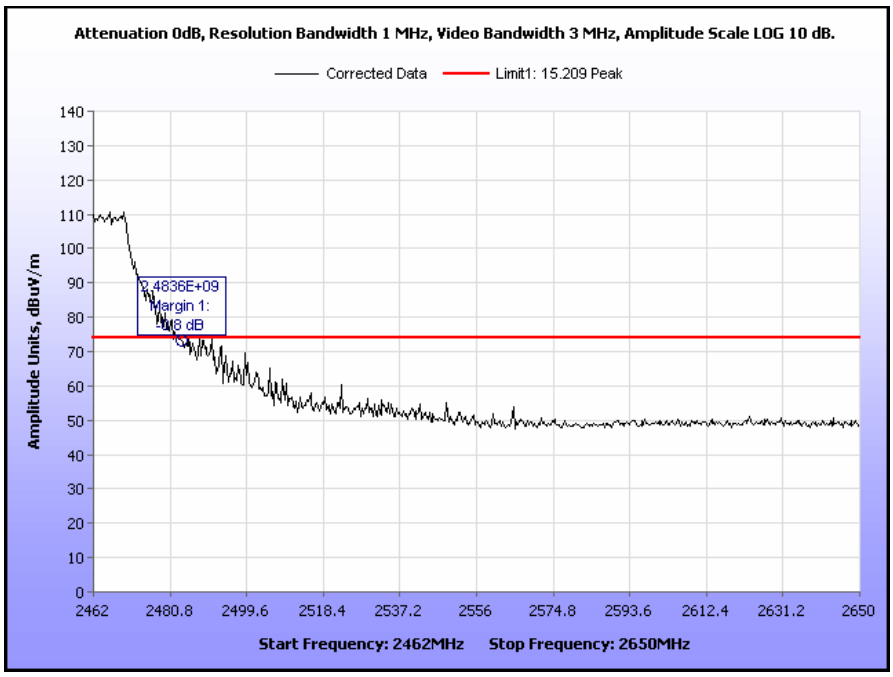
Plot 472. Radiated Restricted Band Edge, Low Channel, 802.11n 40 MHz, Omni Antenna, Average



Plot 473. Radiated Restricted Band Edge, Low Channel, 802.11n 40 MHz, Omni Antenna, Peak

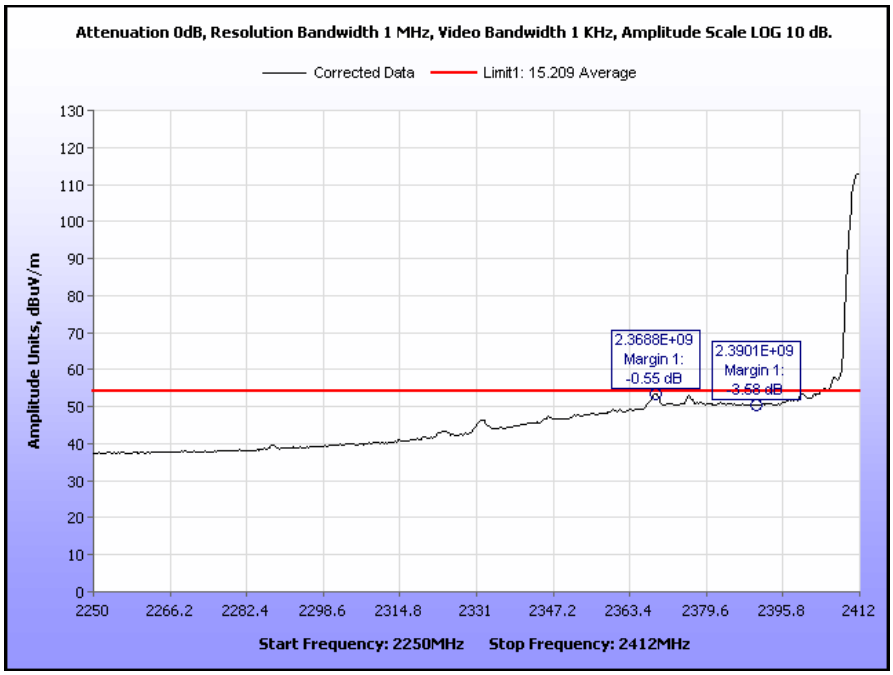


Plot 474. Radiated Restricted Band Edge, High Channel, 802.11n 40 MHz, Omni Antenna, Average

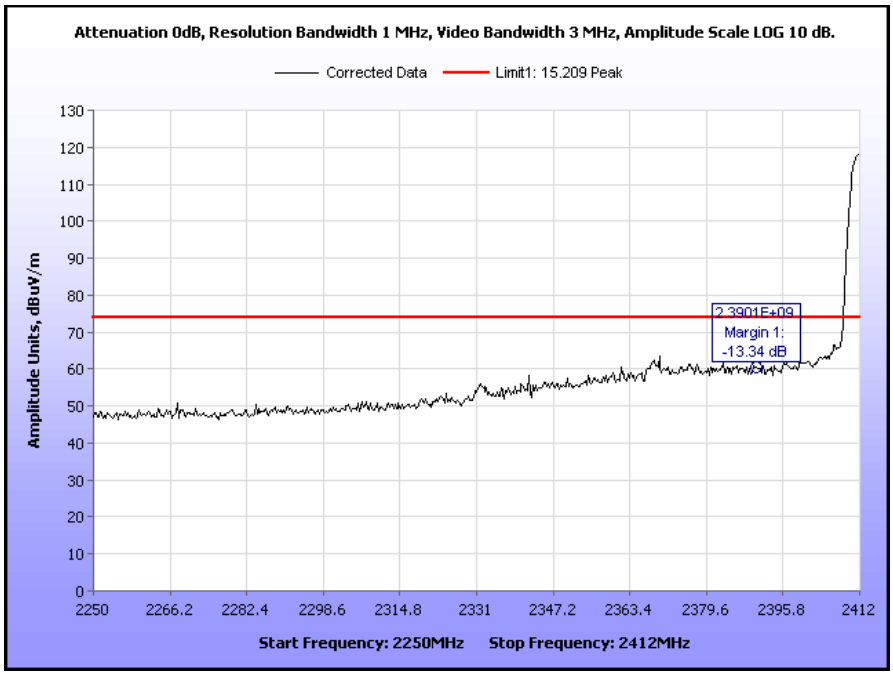


Plot 475. Radiated Restricted Band Edge, High Channel, 802.11n 40 MHz, Omni Antenna, Peak

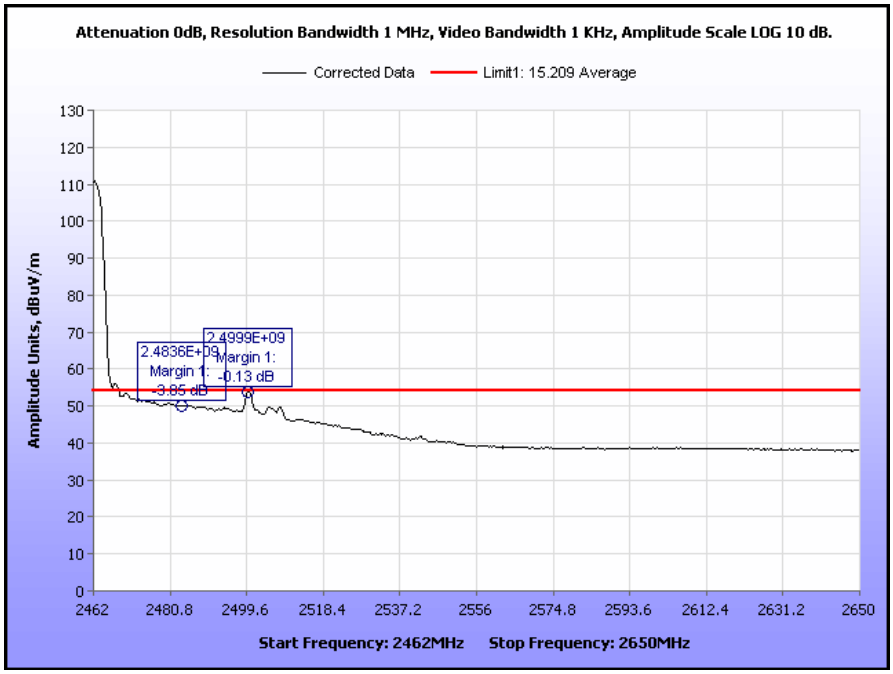
Radiated Band Edge Measurements, 802.11b 5 MHz, Parabolic Antenna



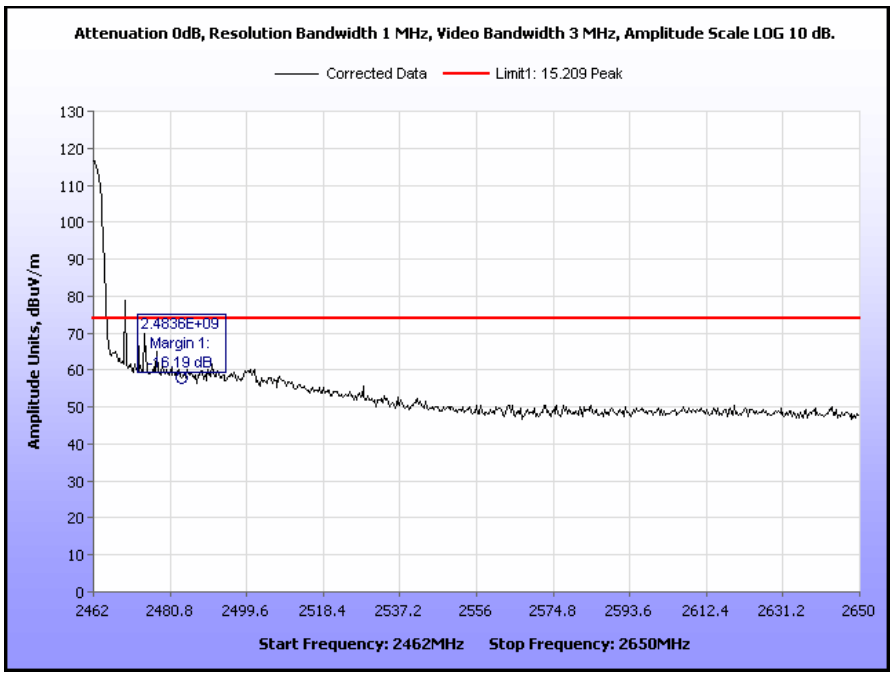
Plot 476. Radiated Restricted Band Edge, Low Channel, 802.11b 5 MHz, Parabolic Antenna, Average



Plot 477. Radiated Restricted Band Edge, Low Channel, 802.11b 5 MHz, Parabolic Antenna, Peak

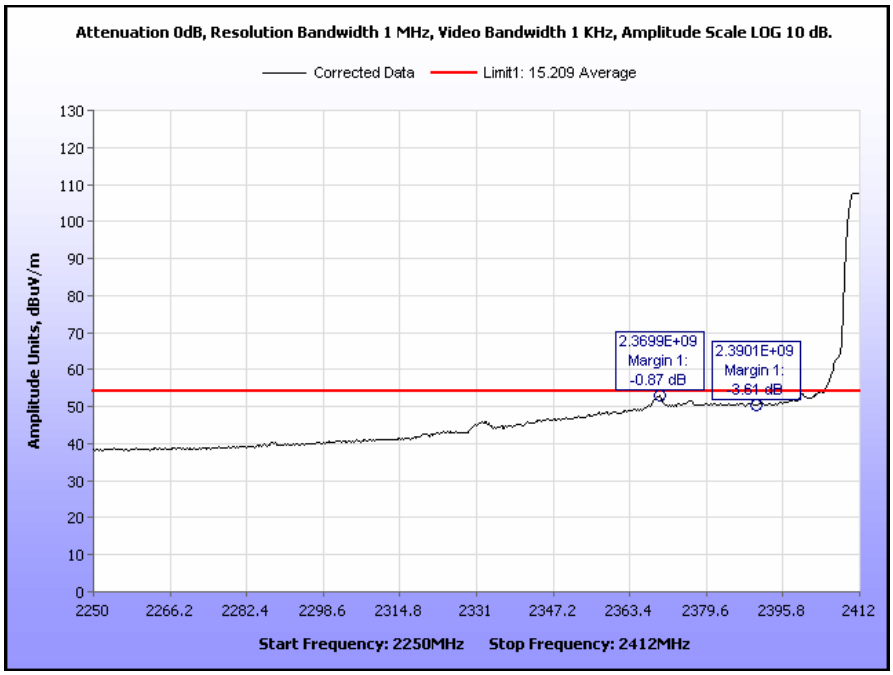


Plot 478. Radiated Restricted Band Edge, High Channel, 802.11b 5 MHz, Parabolic Antenna, Average

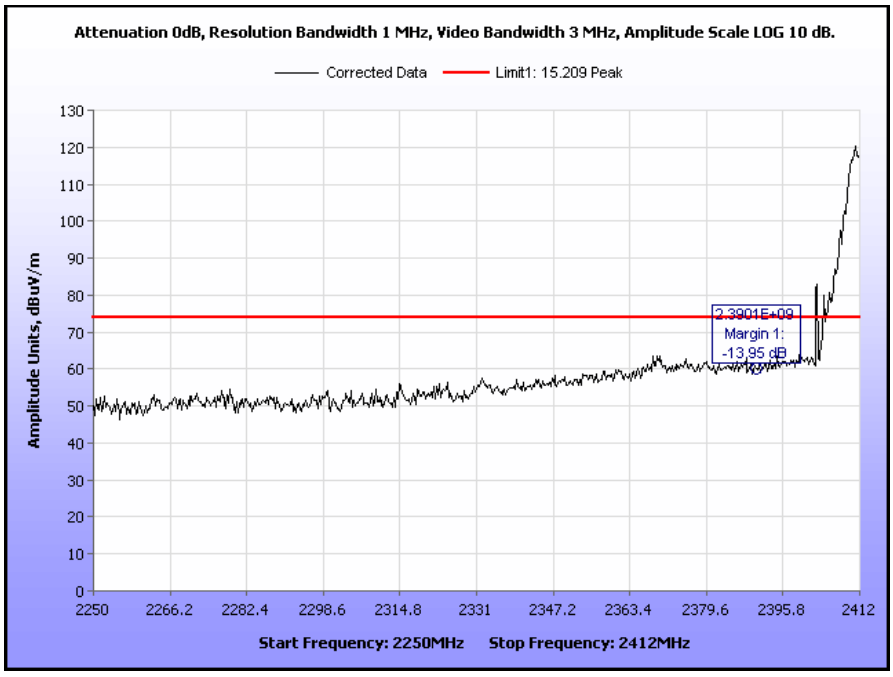


Plot 479. Radiated Restricted Band Edge, High Channel, 802.11b 5 MHz, Parabolic Antenna, Peak

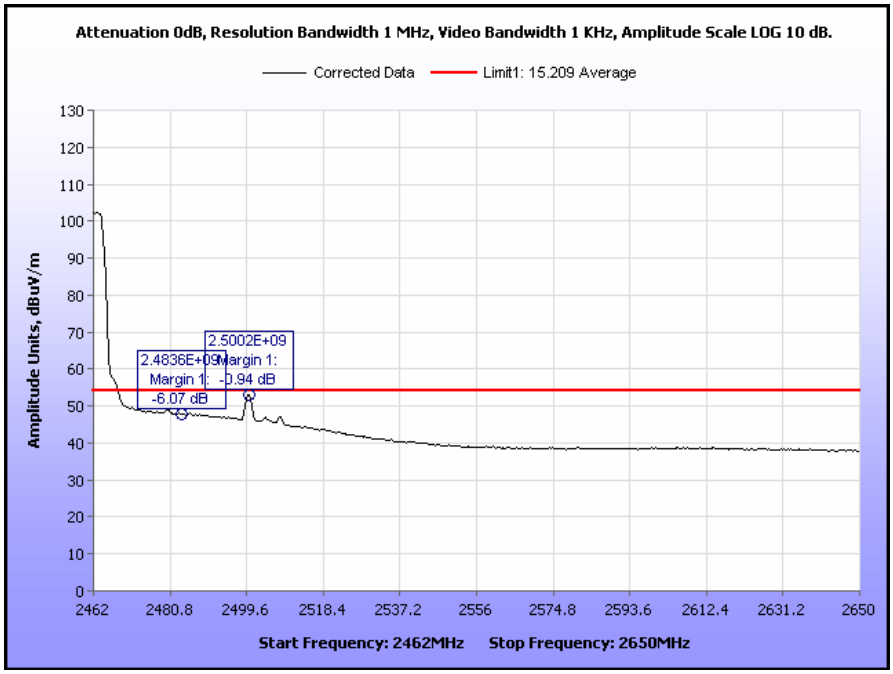
Radiated Band Edge Measurements, 802.11g 5 MHz, Parabolic Antenna



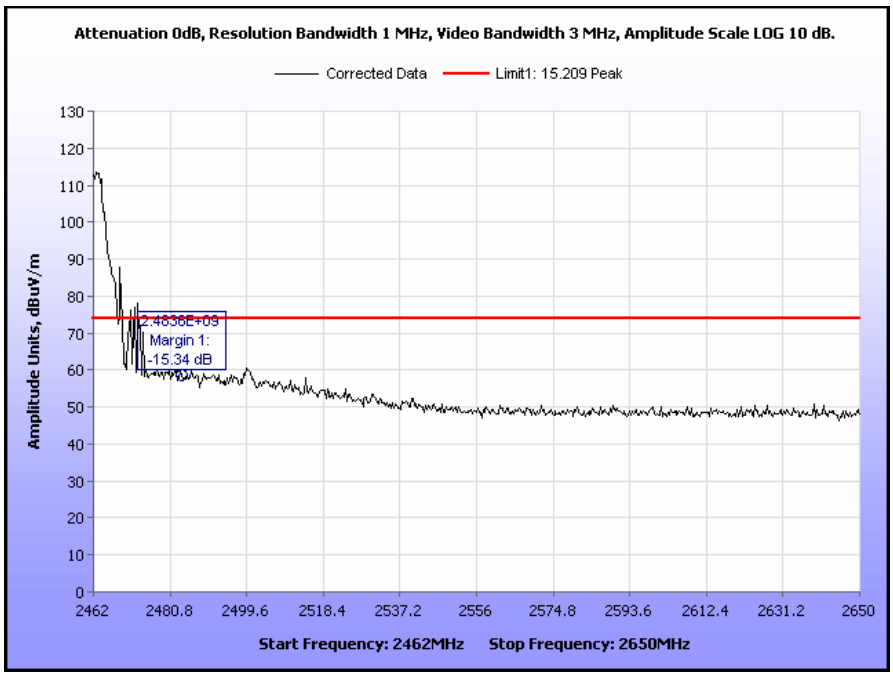
Plot 480. Radiated Restricted Band Edge, Low Channel, 802.11g 5 MHz, Parabolic Antenna, Average



Plot 481. Radiated Restricted Band Edge, Low Channel, 802.11g 5 MHz, Parabolic Antenna, Peak

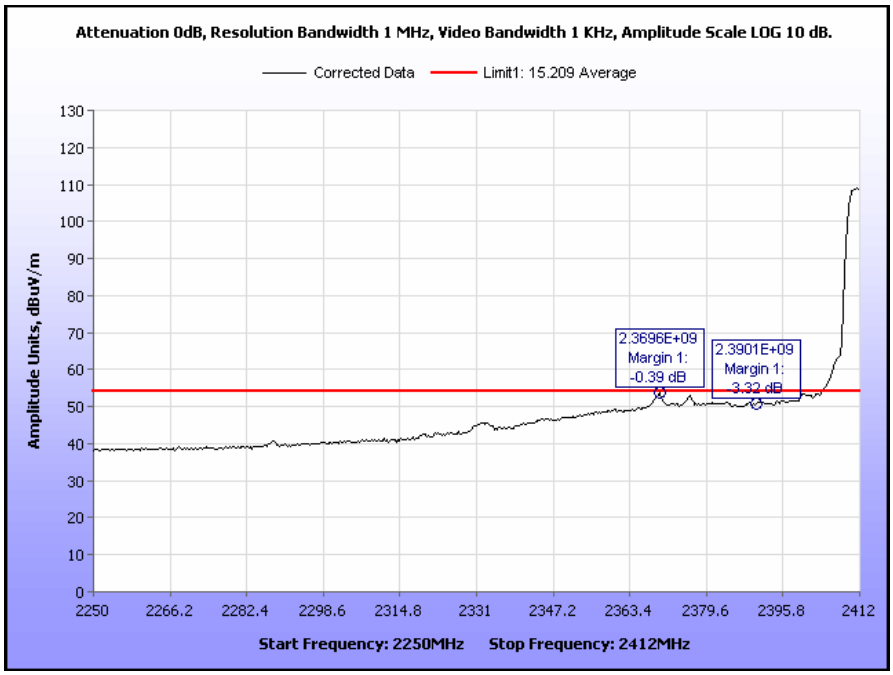


Plot 482. Radiated Restricted Band Edge, High Channel, 802.11g 5 MHz, Parabolic Antenna, Average

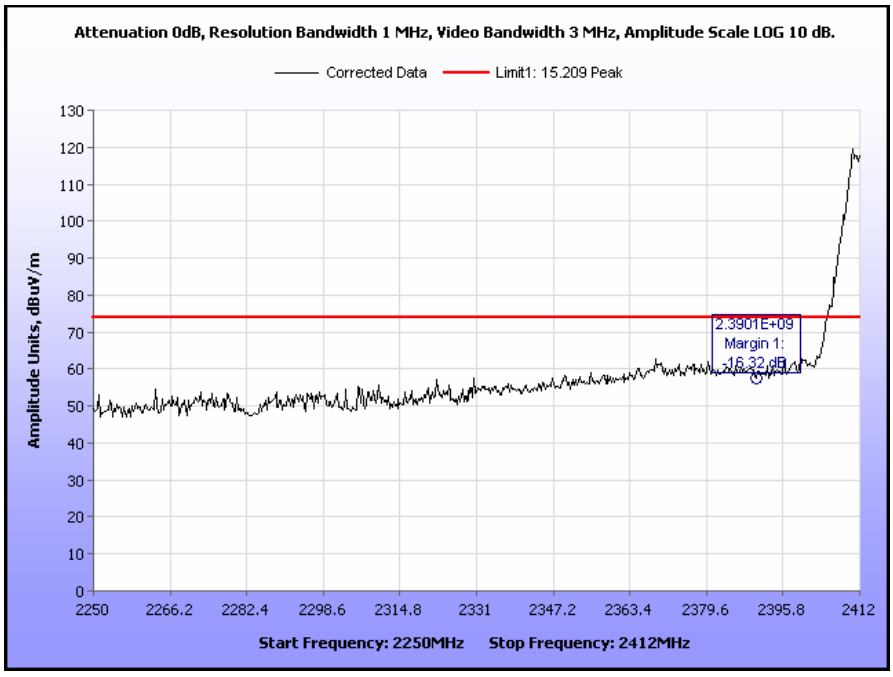


Plot 483. Radiated Restricted Band Edge, High Channel, 802.11g 5 MHz, Parabolic Antenna, Peak

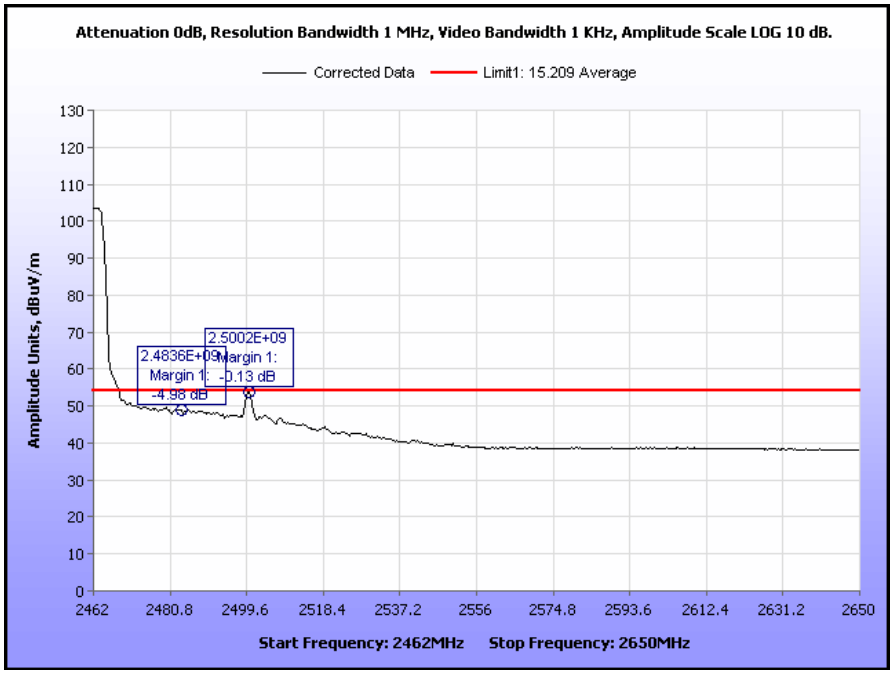
Radiated Band Edge Measurements, 802.11n 5 MHz, Parabolic Antenna



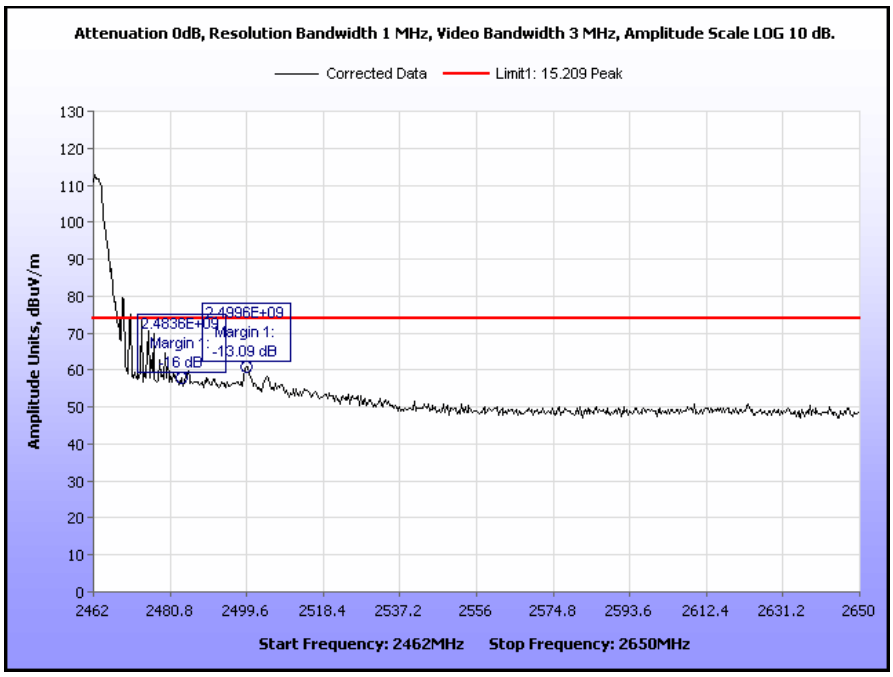
Plot 484. Radiated Restricted Band Edge, Low Channel, 802.11n 5 MHz, Parabolic Antenna, Average



Plot 485. Radiated Restricted Band Edge, Low Channel, 802.11n 5 MHz, Parabolic Antenna, Peak

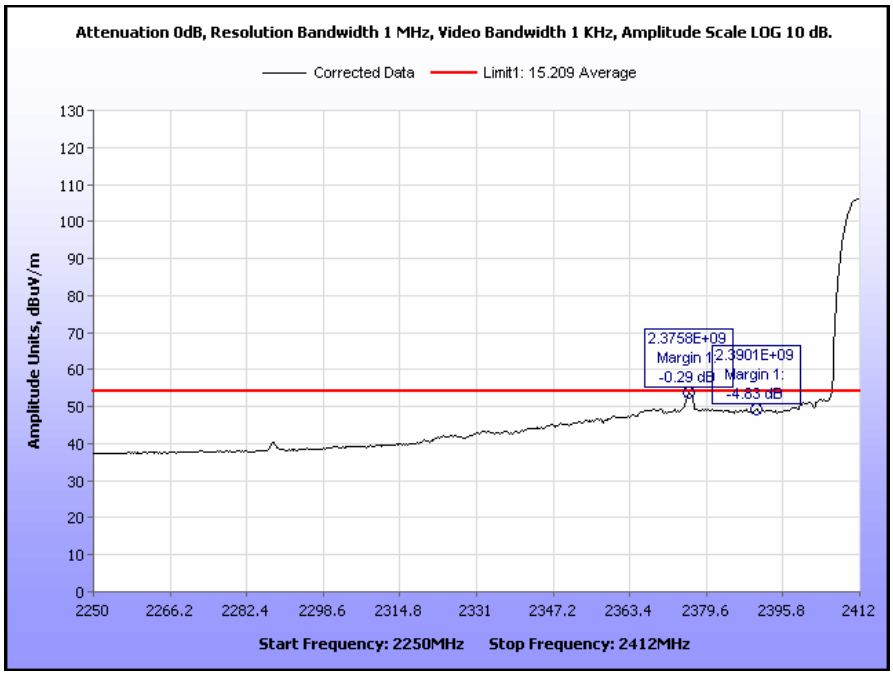


Plot 486. Radiated Restricted Band Edge, High Channel, 802.11n 5 MHz, Parabolic Antenna, Average

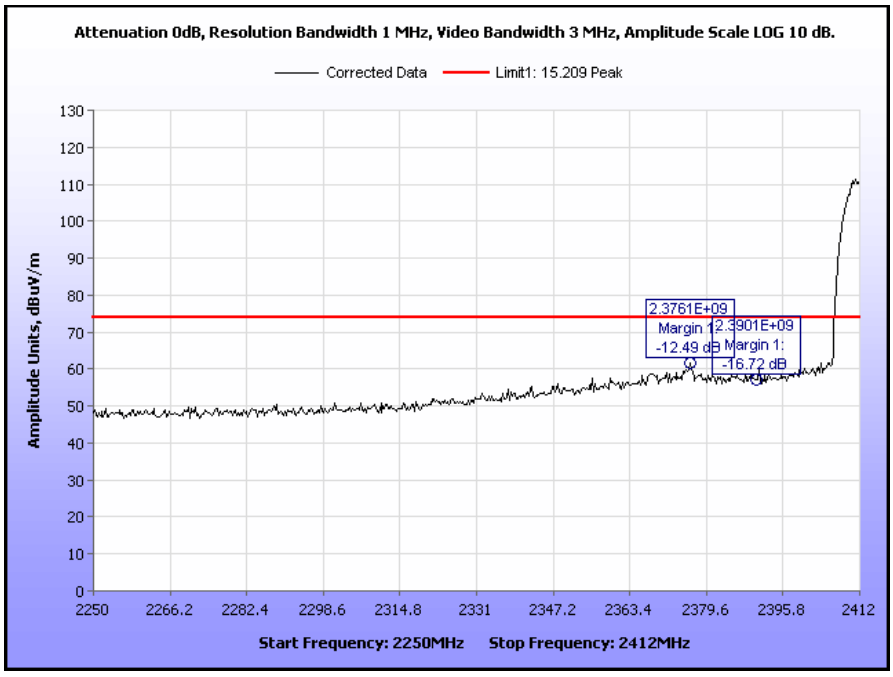


Plot 487. Radiated Restricted Band Edge, High Channel, 802.11n 5 MHz, Parabolic Antenna, Peak

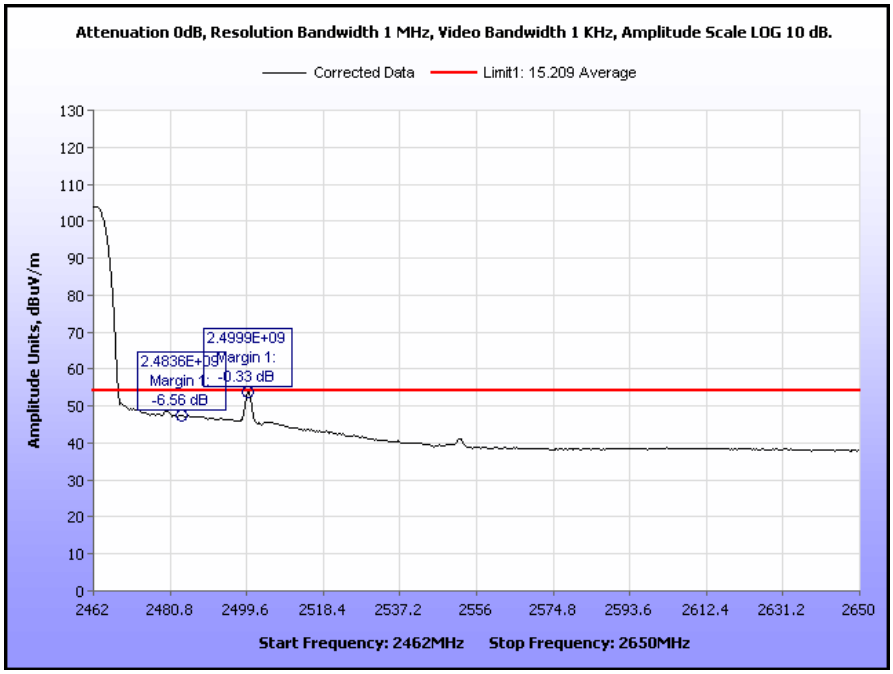
Radiated Band Edge Measurements, 802.11b 10 MHz, Parabolic Antenna



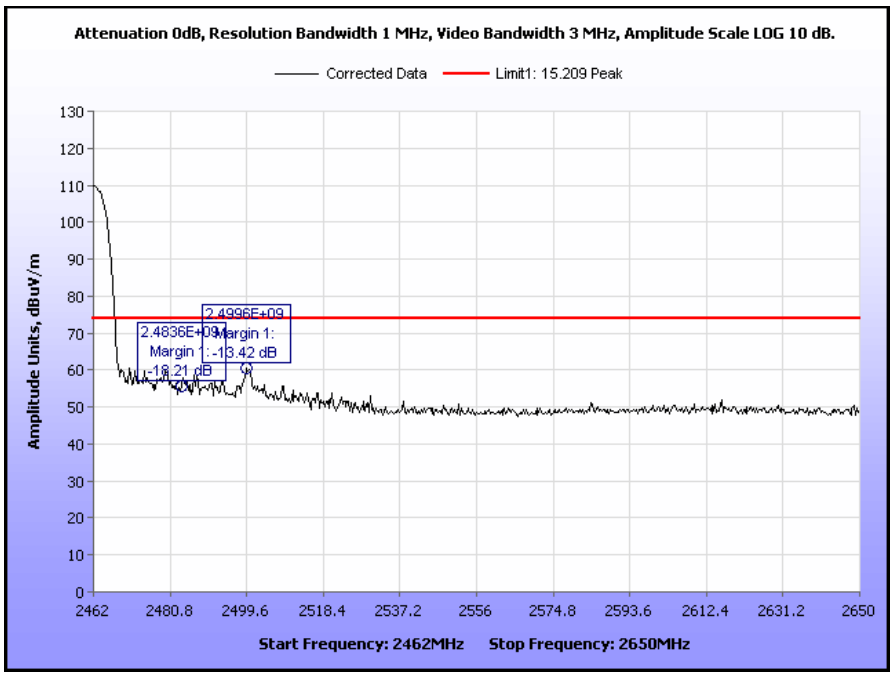
Plot 488. Radiated Restricted Band Edge, Low Channel, 802.11b 10 MHz, Parabolic Antenna, Average



Plot 489. Radiated Restricted Band Edge, Low Channel, 802.11b 10 MHz, Parabolic Antenna, Peak

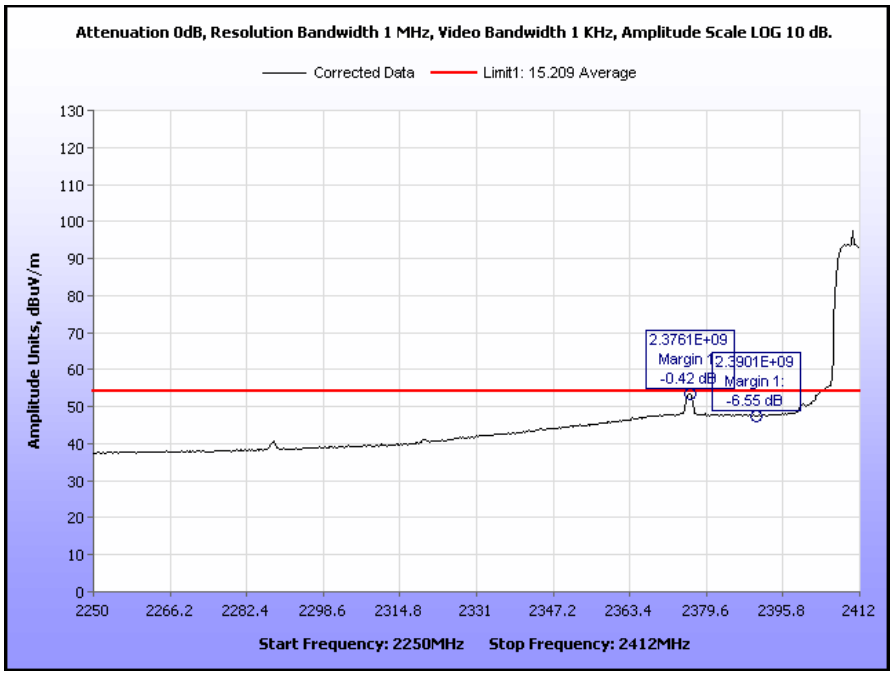


Plot 490. Radiated Restricted Band Edge, High Channel, 802.11b 10 MHz, Parabolic Antenna, Average

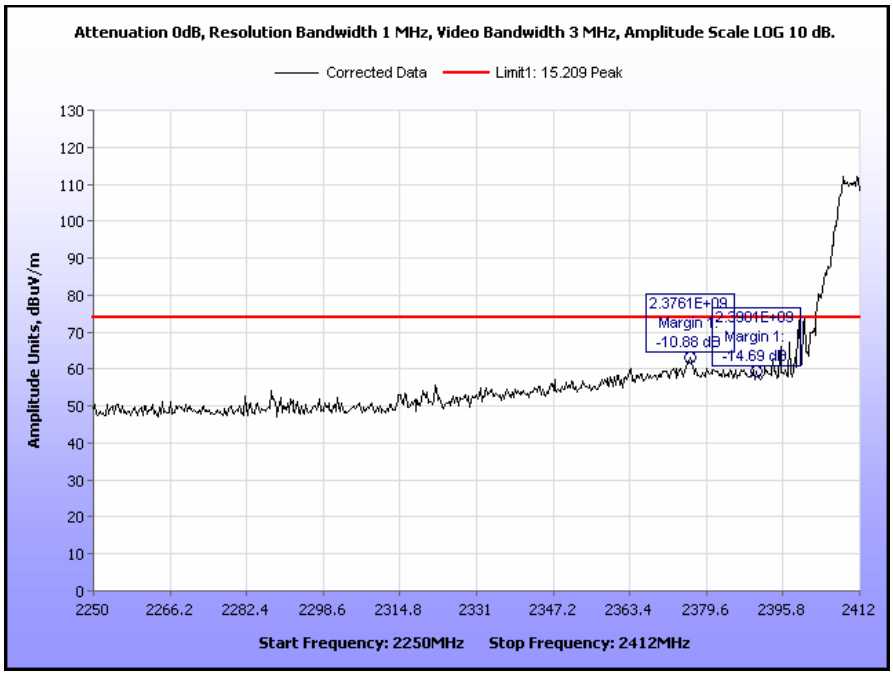


Plot 491. Radiated Restricted Band Edge, High Channel, 802.11b 10 MHz, Parabolic Antenna, Peak

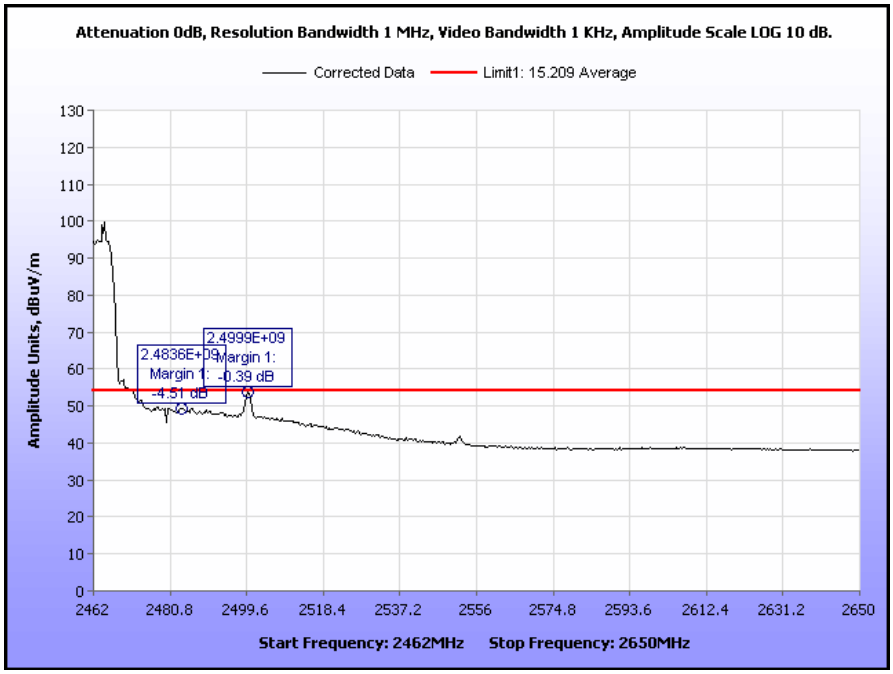
Radiated Band Edge Measurements, 802.11g 10 MHz, Parabolic Antenna



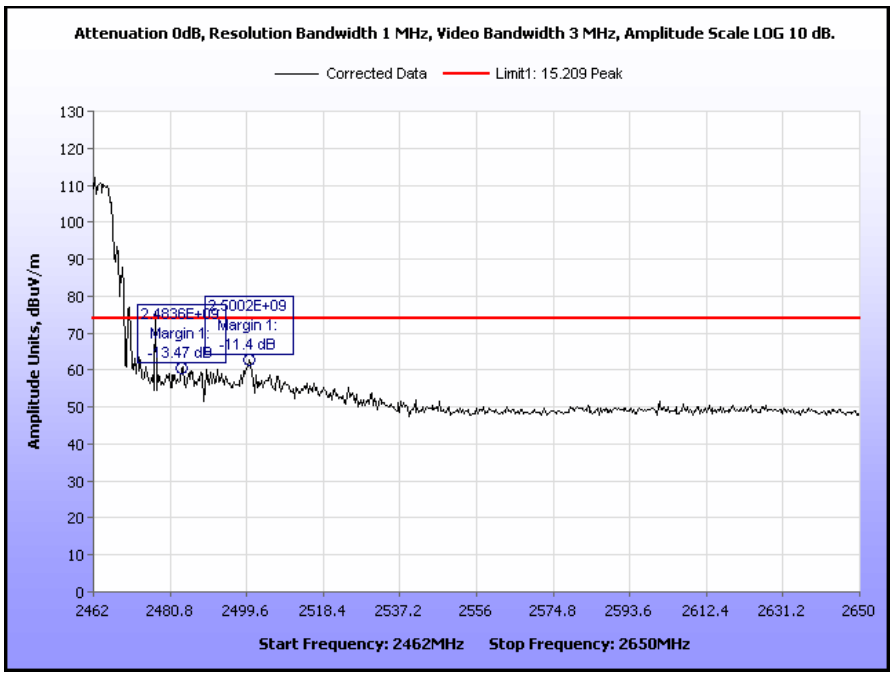
Plot 492. Radiated Restricted Band Edge, Low Channel, 802.11g 10 MHz, Parabolic Antenna, Average



Plot 493. Radiated Restricted Band Edge, Low Channel, 802.11g 10 MHz, Parabolic Antenna, Peak

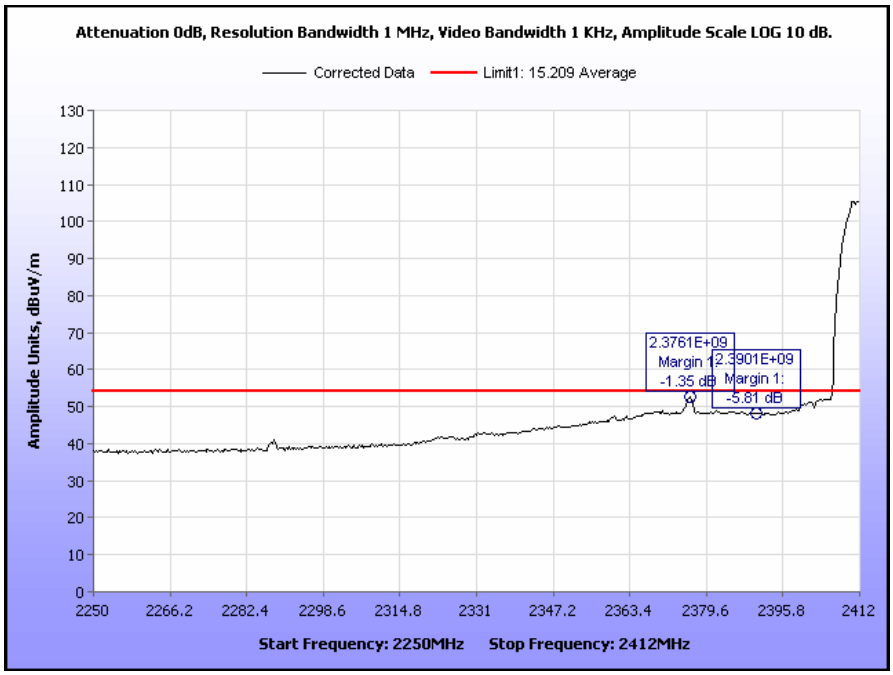


Plot 494. Radiated Restricted Band Edge, High Channel, 802.11g 10 MHz, Parabolic Antenna, Average

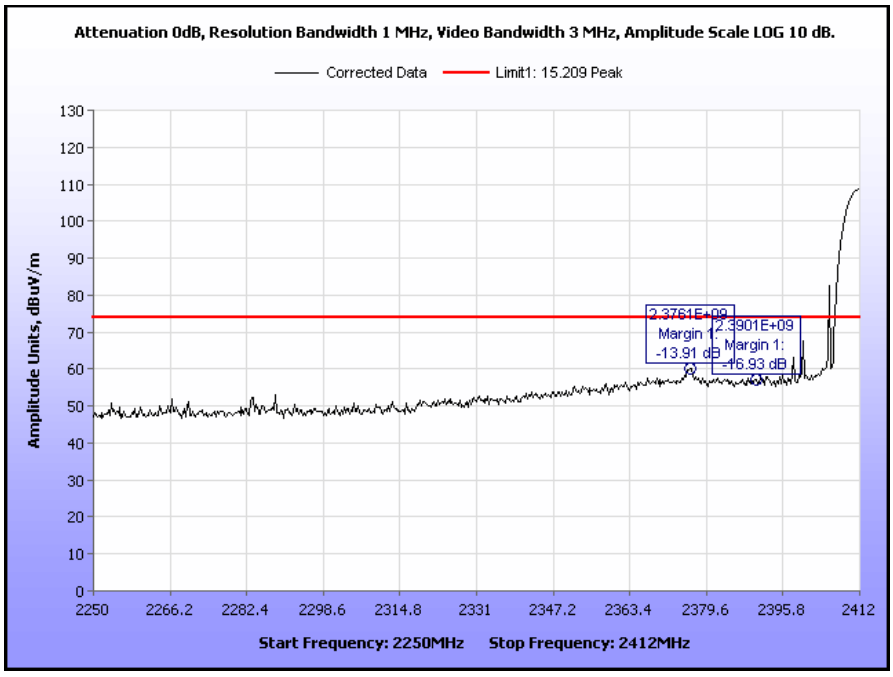


Plot 495. Radiated Restricted Band Edge, High Channel, 802.11g 10 MHz, Parabolic Antenna, Peak

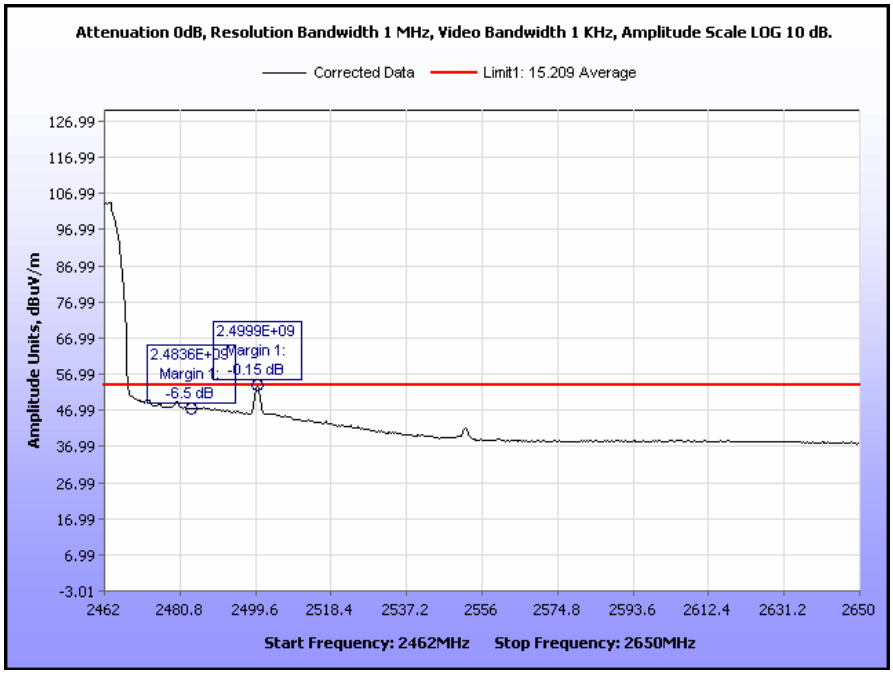
Radiated Band Edge Measurements, 802.11n 10 MHz, Parabolic Antenna



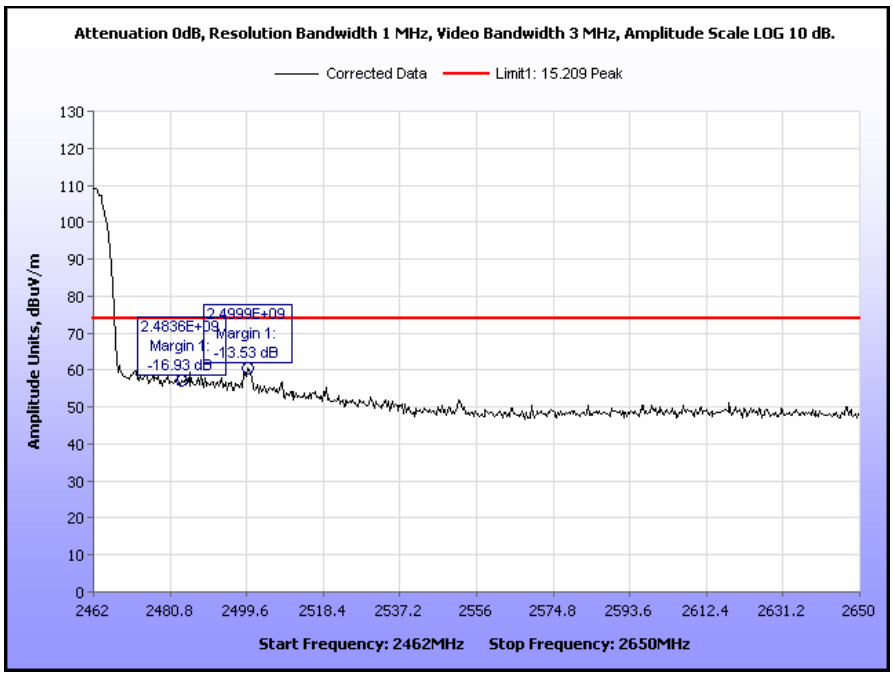
Plot 496. Radiated Restricted Band Edge, Low Channel, 802.11n 10 MHz, Parabolic Antenna, Average



Plot 497. Radiated Restricted Band Edge, Low Channel, 802.11n 10 MHz, Parabolic Antenna, Peak

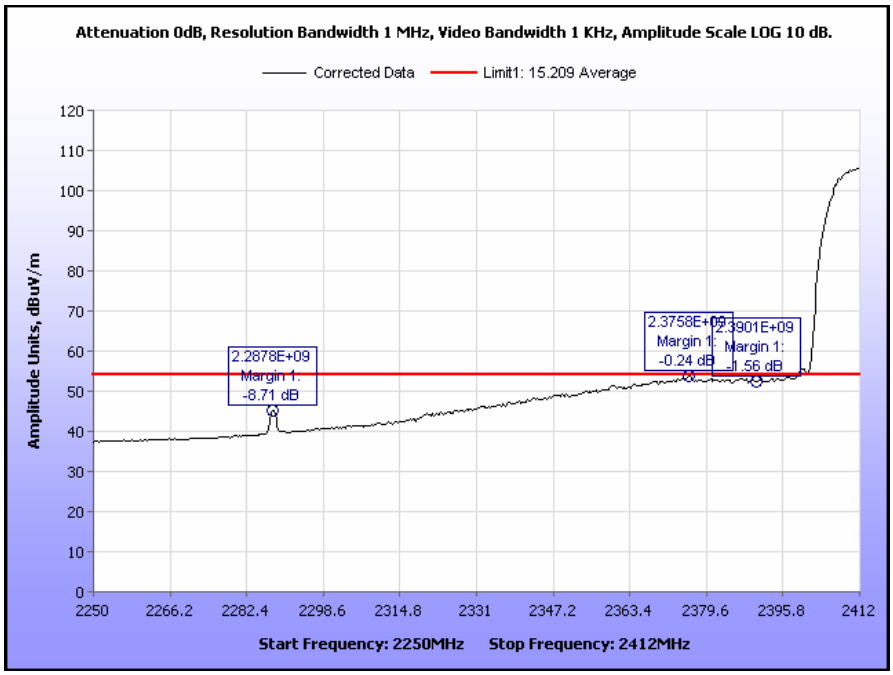


Plot 498. Radiated Restricted Band Edge, High Channel, 802.11n 10 MHz, Parabolic Antenna, Average

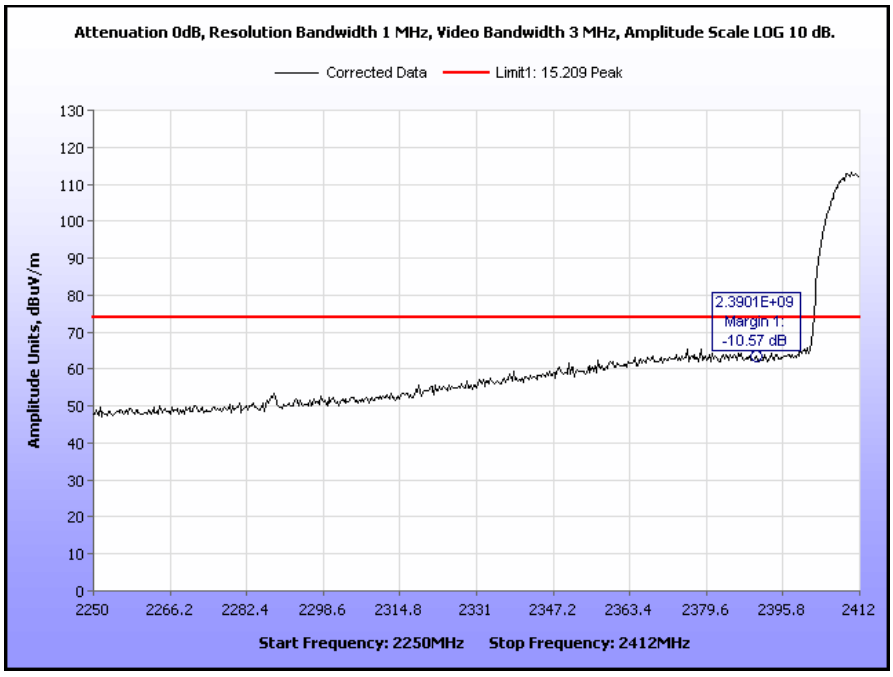


Plot 499. Radiated Restricted Band Edge, High Channel, 802.11n 10 MHz, Parabolic Antenna, Peak

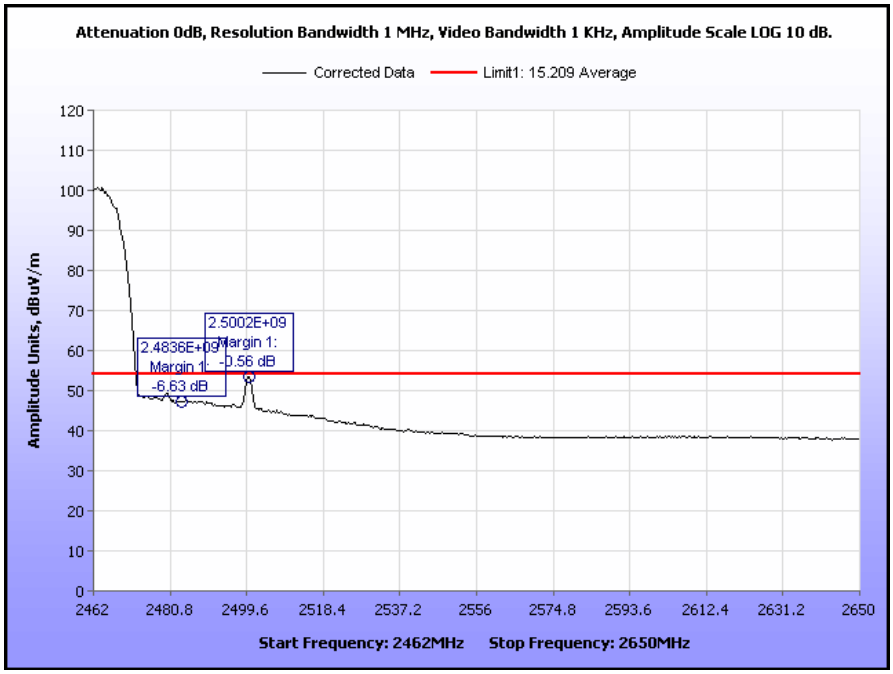
Radiated Band Edge Measurements, 802.11b 20 MHz, Parabolic Antenna



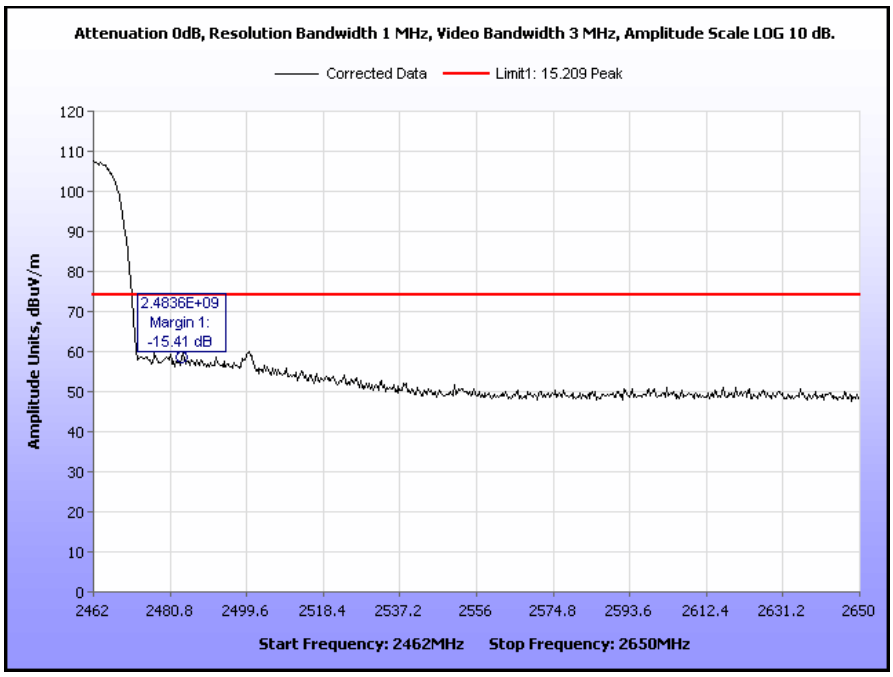
Plot 500. Radiated Restricted Band Edge, Low Channel, 802.11b 20 MHz, Parabolic Antenna, Average



Plot 501. Radiated Restricted Band Edge, Low Channel, 802.11b 20 MHz, Parabolic Antenna, Peak

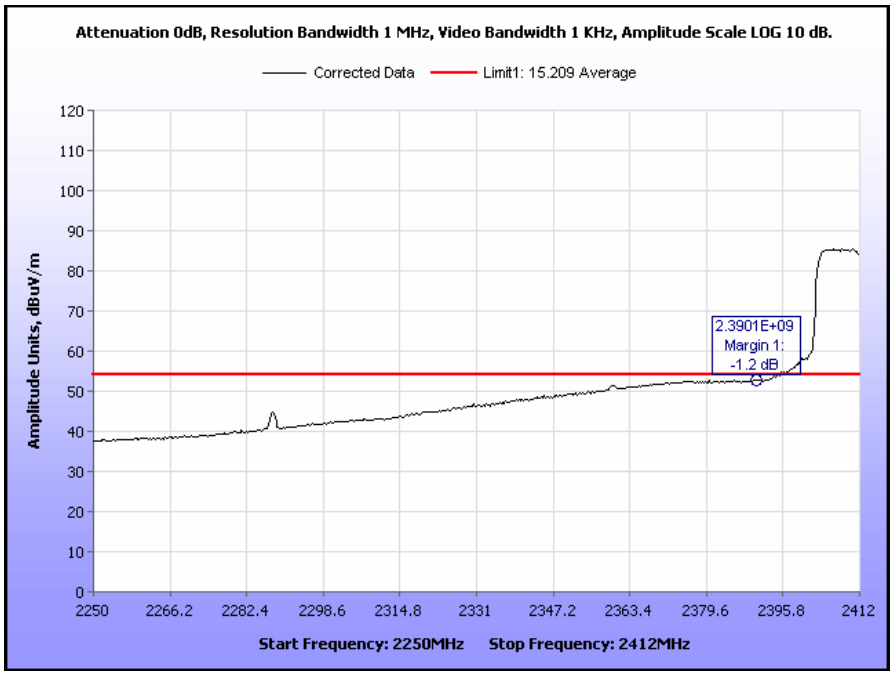


Plot 502. Radiated Restricted Band Edge, High Channel, 802.11b 20 MHz, Parabolic Antenna, Average

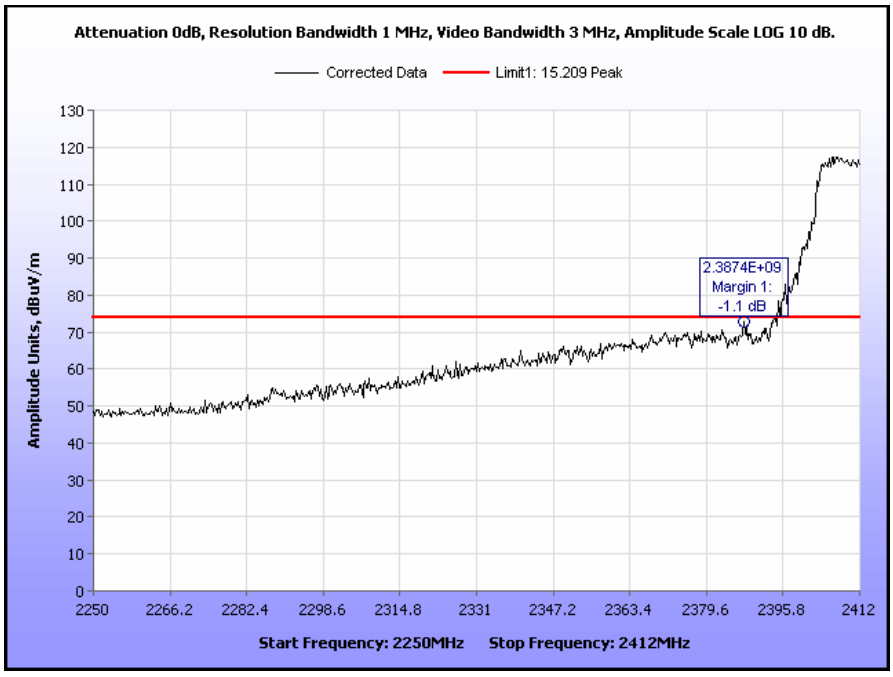


Plot 503. Radiated Restricted Band Edge, High Channel, 802.11b 20 MHz, Parabolic Antenna, Peak

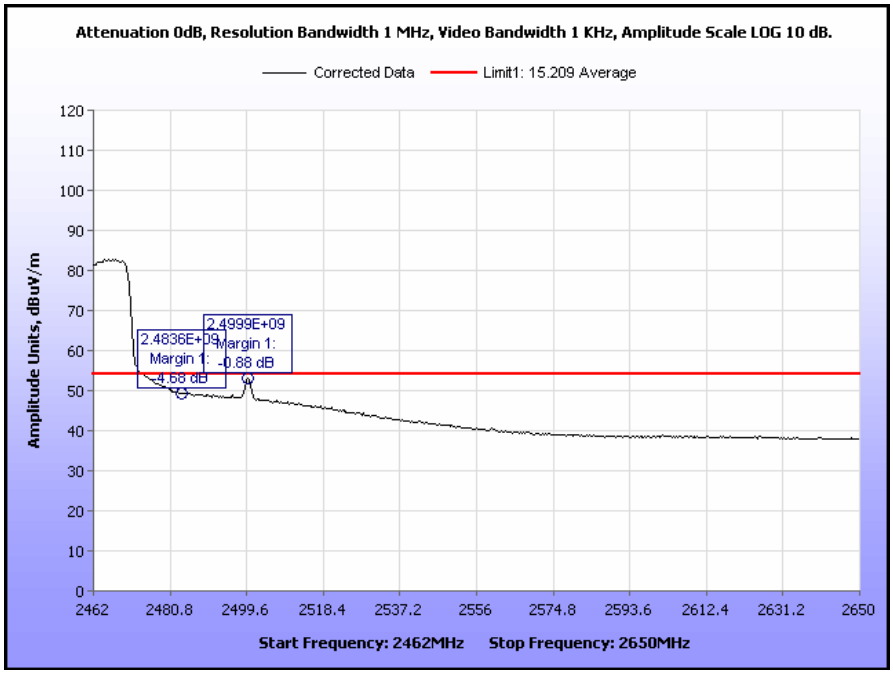
Radiated Band Edge Measurements, 802.11g 20 MHz, Parabolic Antenna



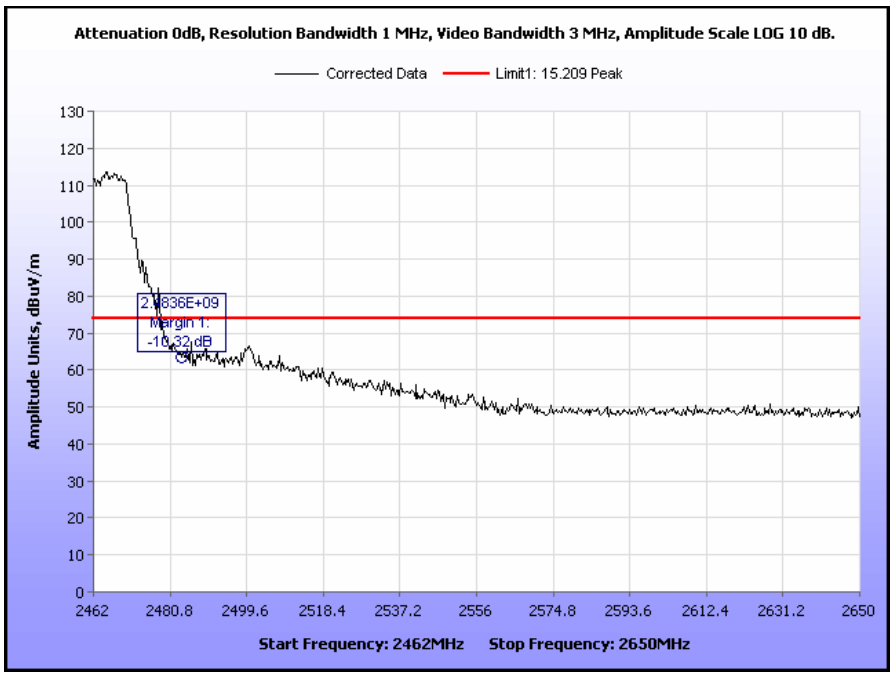
Plot 504. Radiated Restricted Band Edge, Low Channel, 802.11g 20 MHz, Parabolic Antenna, Average



Plot 505. Radiated Restricted Band Edge, Low Channel, 802.11g 20 MHz, Parabolic Antenna, Peak

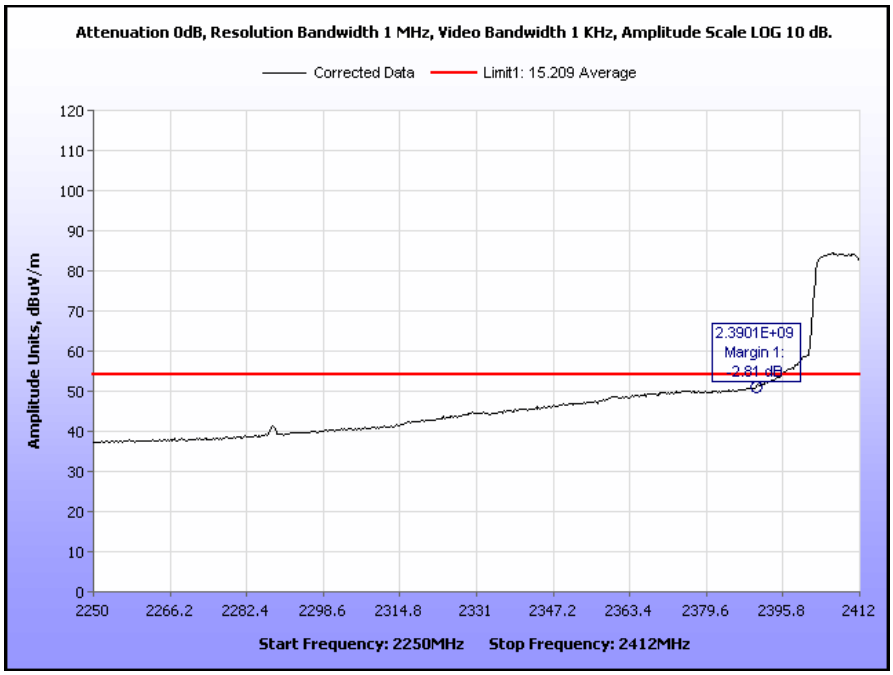


Plot 506. Radiated Restricted Band Edge, High Channel, 802.11g 20 MHz, Parabolic Antenna, Average

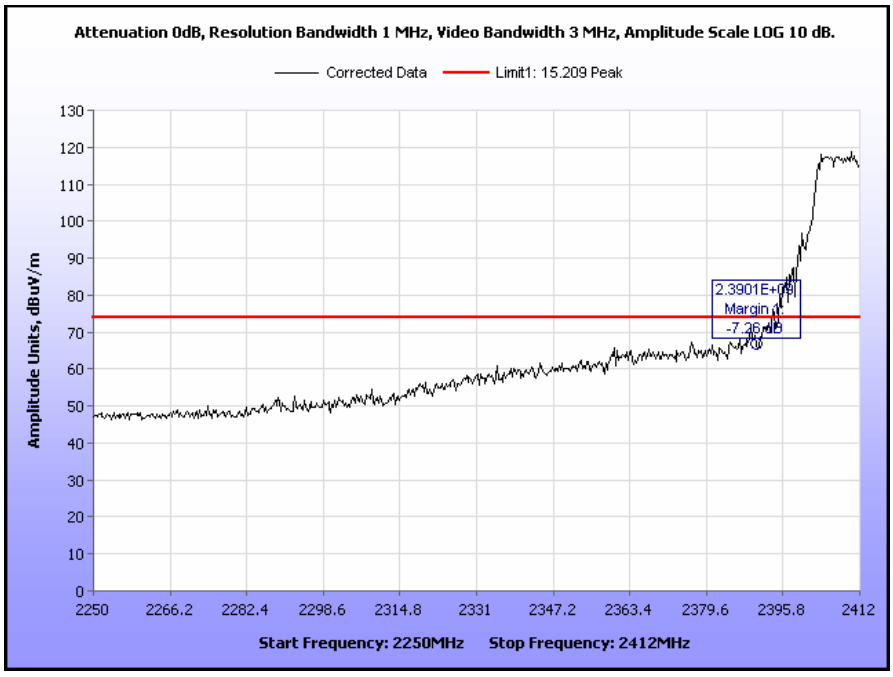


Plot 507. Radiated Restricted Band Edge, High Channel, 802.11g 20 MHz, Parabolic Antenna, Peak

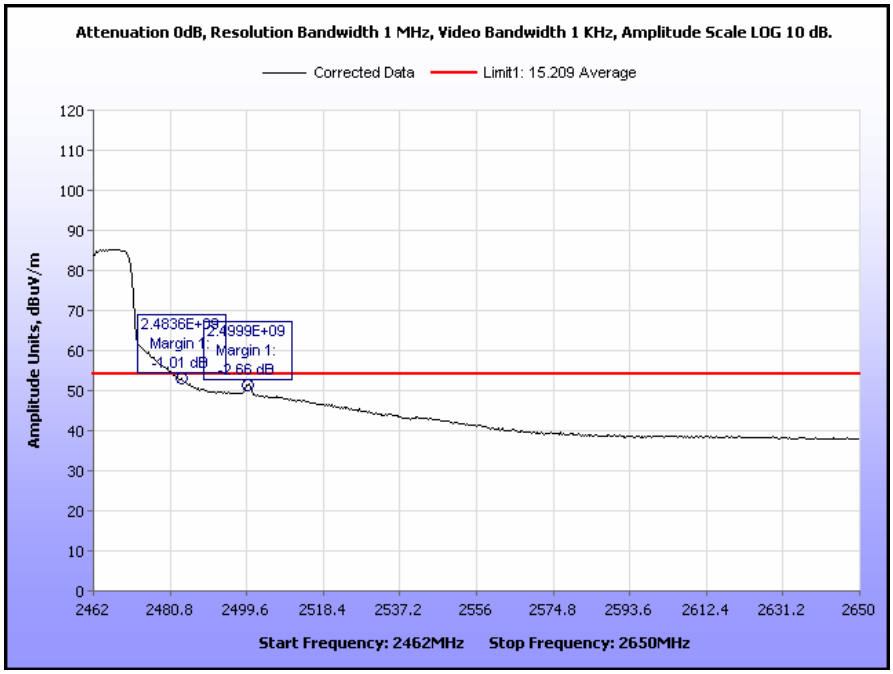
Radiated Band Edge Measurements, 802.11n 20 MHz, Parabolic Antenna



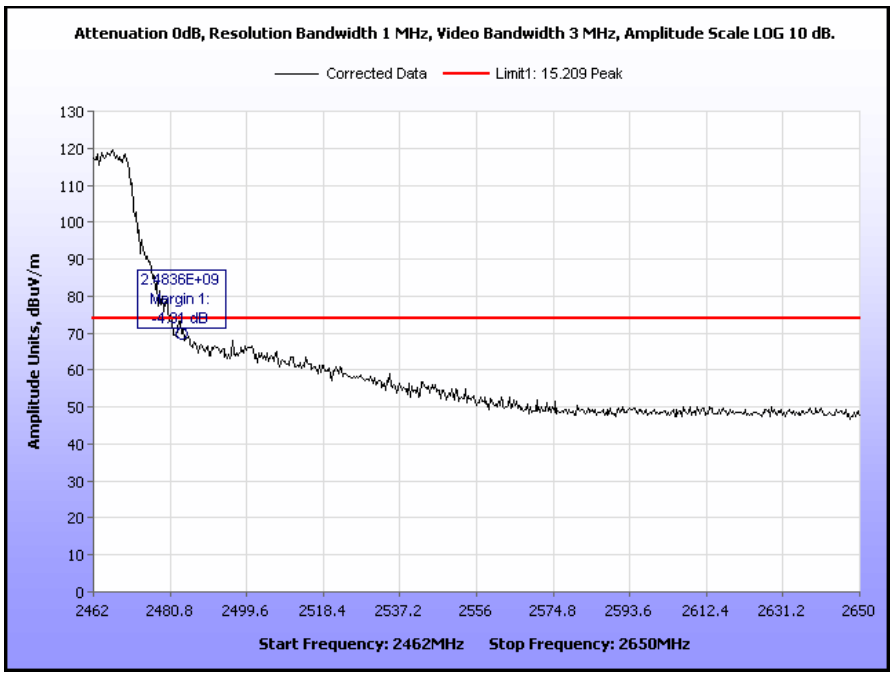
Plot 508. Radiated Restricted Band Edge, Low Channel, 802.11n 20 MHz, Parabolic Antenna, Average



Plot 509. Radiated Restricted Band Edge, Low Channel, 802.11n 20 MHz, Parabolic Antenna, Peak

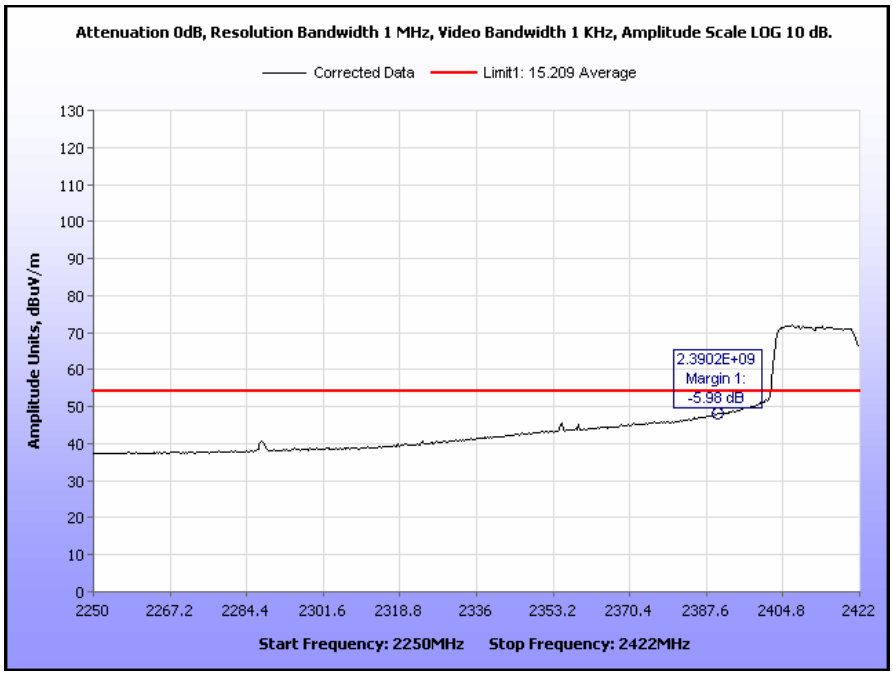


Plot 510. Radiated Restricted Band Edge, High Channel, 802.11n 20 MHz, Parabolic Antenna, Average

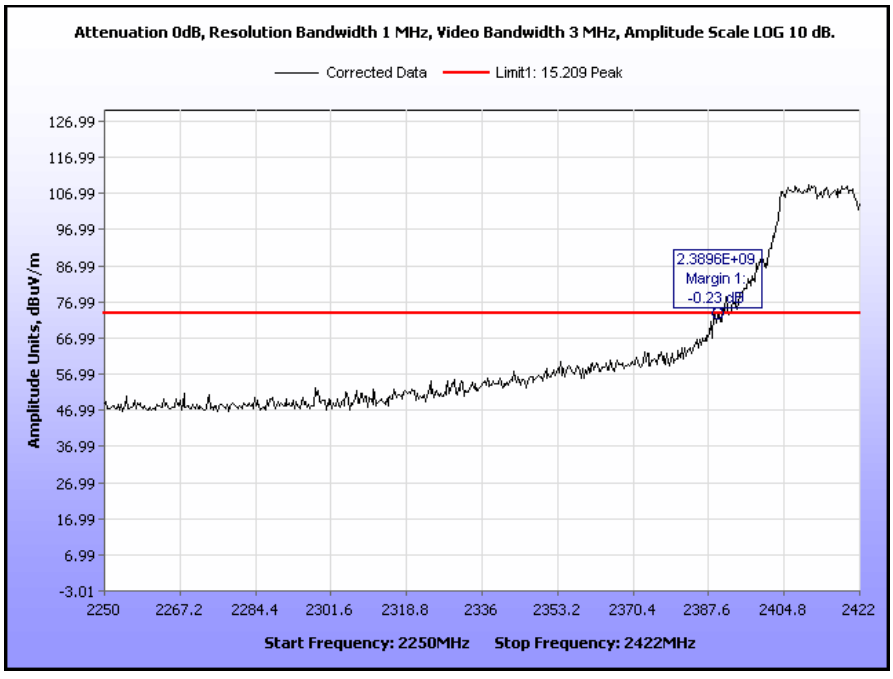


Plot 511. Radiated Restricted Band Edge, High Channel, 802.11n 20 MHz, Parabolic Antenna, Peak

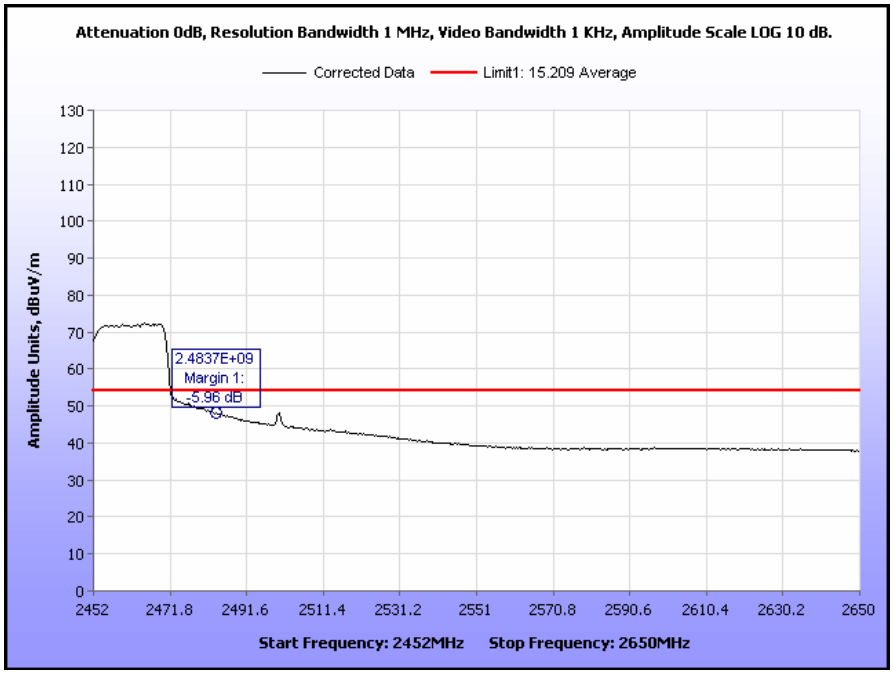
Radiated Band Edge Measurements, 802.11g 40 MHz, Parabolic Antenna



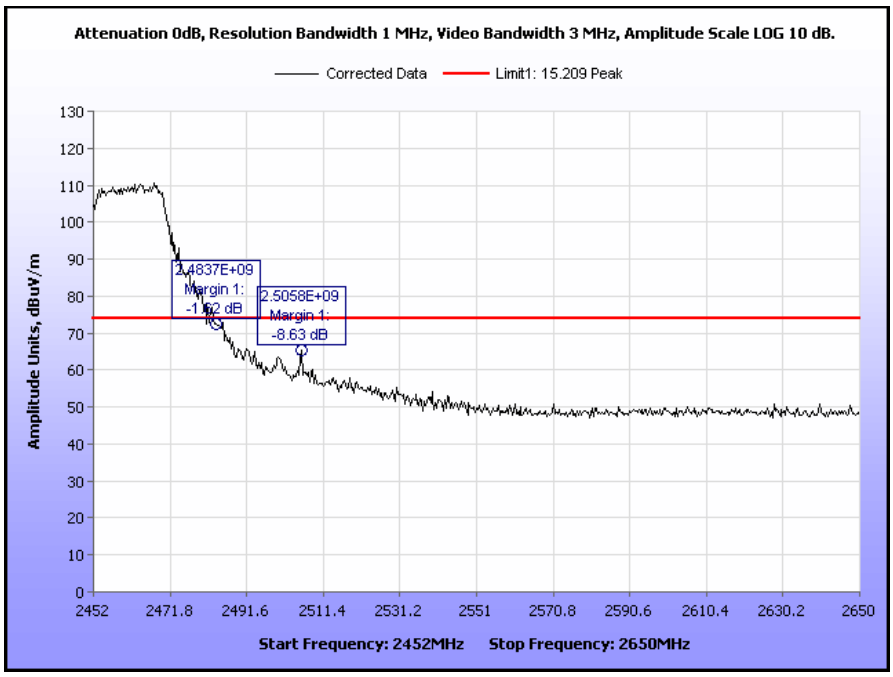
Plot 512. Radiated Restricted Band Edge, Low Channel, 802.11g 40 MHz, Parabolic Antenna, Average



Plot 513. Radiated Restricted Band Edge, Low Channel, 802.11g 40 MHz, Parabolic Antenna, Peak

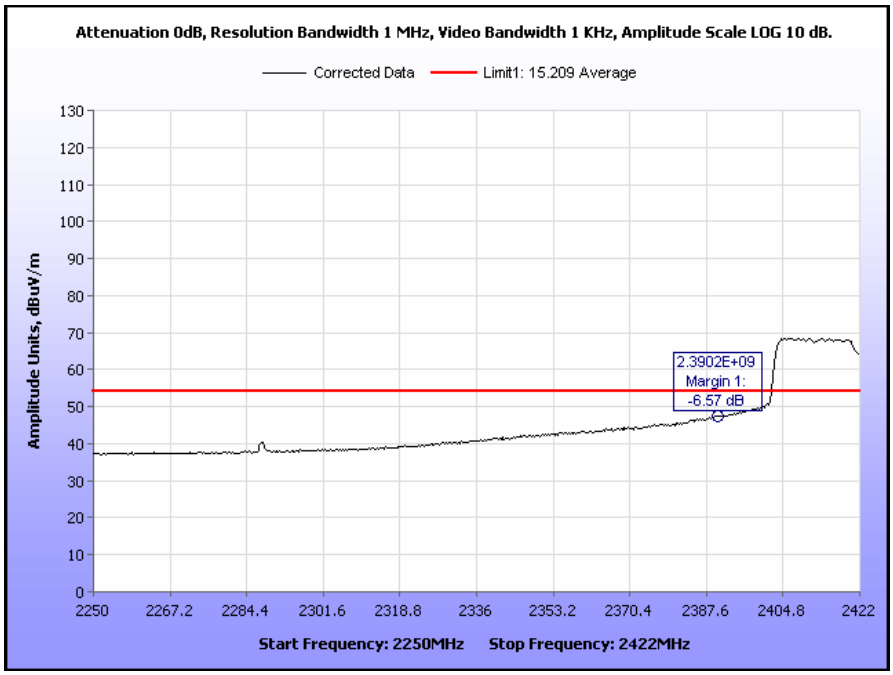


Plot 514. Radiated Restricted Band Edge, High Channel, 802.11g 40 MHz, Parabolic Antenna, Average

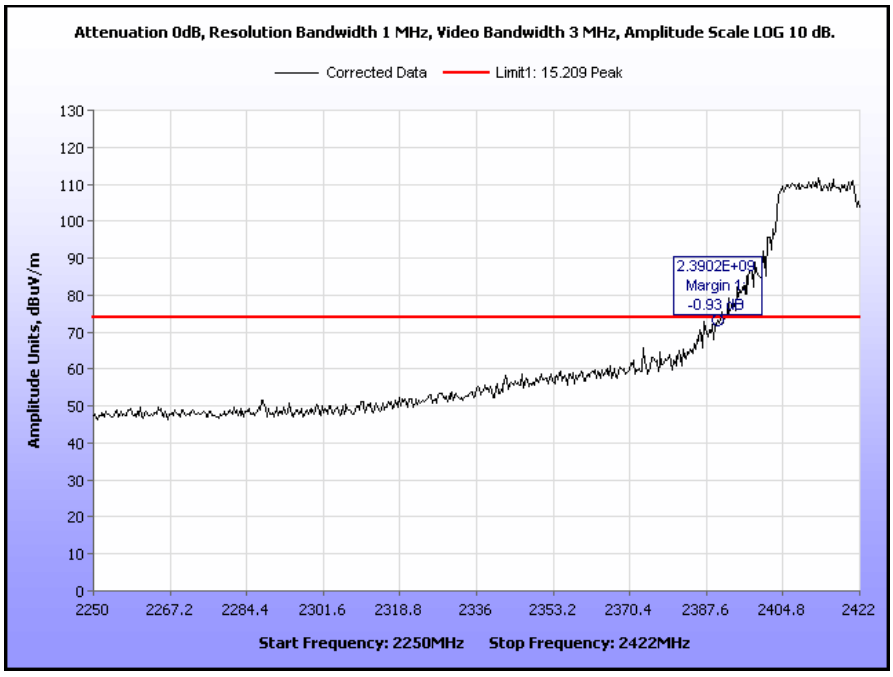


Plot 515. Radiated Restricted Band Edge, High Channel, 802.11g 40 MHz, Parabolic Antenna, Peak

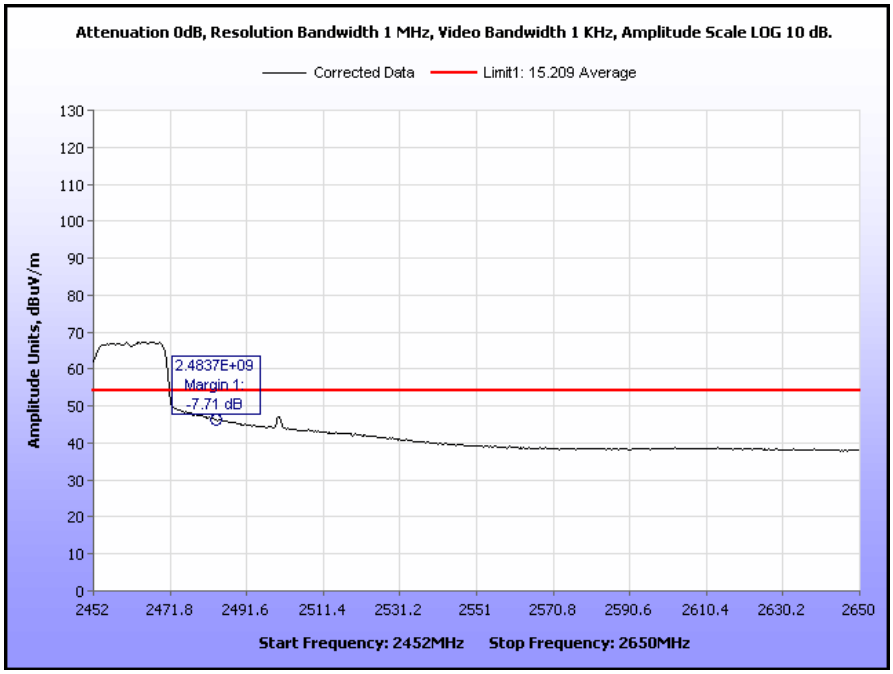
Radiated Band Edge Measurements, 802.11n 40 MHz, Parabolic Antenna



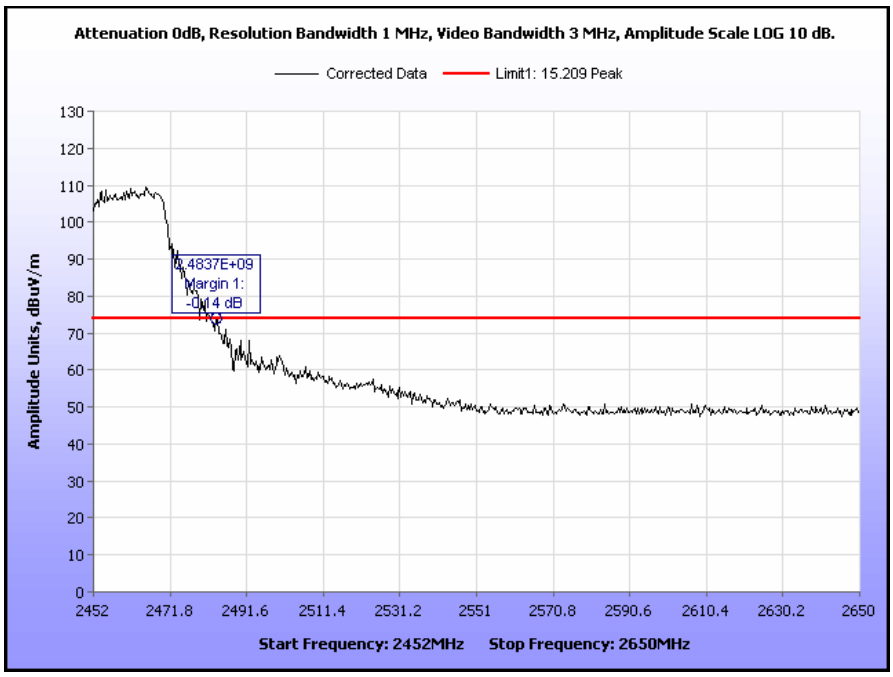
Plot 516. Radiated Restricted Band Edge, Low Channel, 802.11n 40 MHz, Parabolic Antenna, Average



Plot 517. Radiated Restricted Band Edge, Low Channel, 802.11n 40 MHz, Parabolic Antenna, Peak

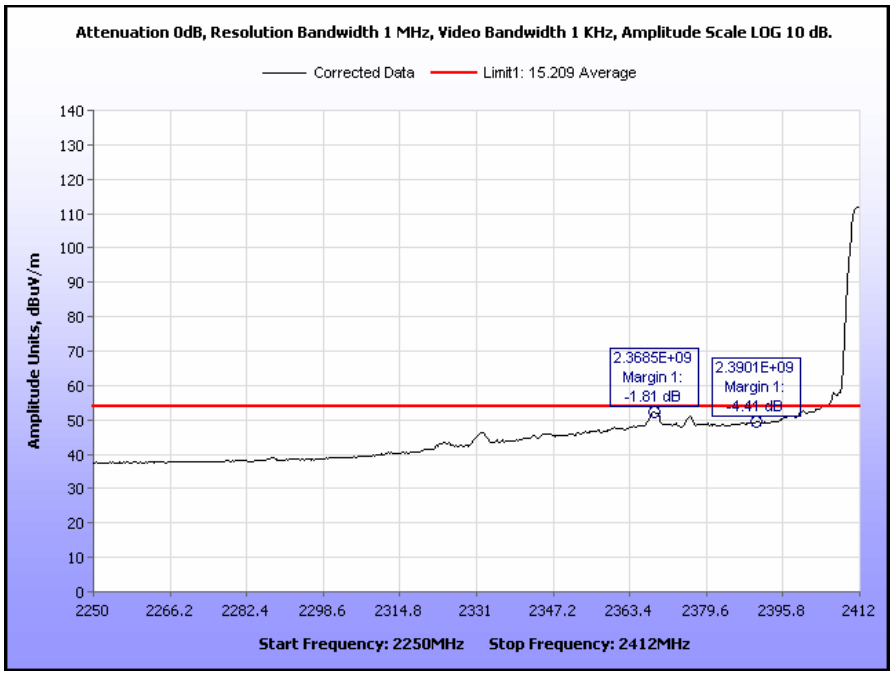


Plot 518. Radiated Restricted Band Edge, High Channel, 802.11n 40 MHz, Parabolic Antenna, Average

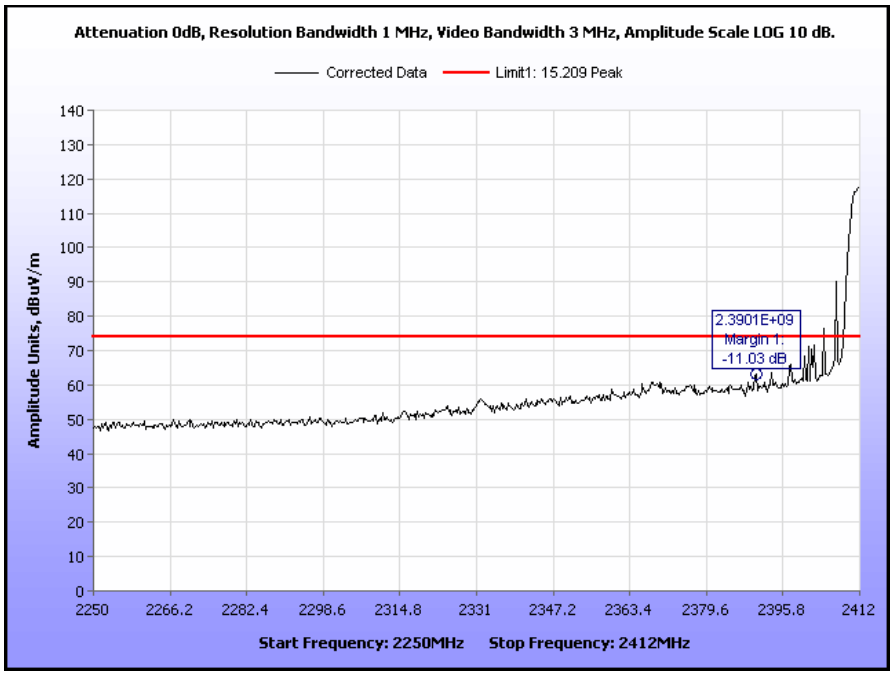


Plot 519. Radiated Restricted Band Edge, High Channel, 802.11n 40 MHz, Parabolic Antenna, Peak

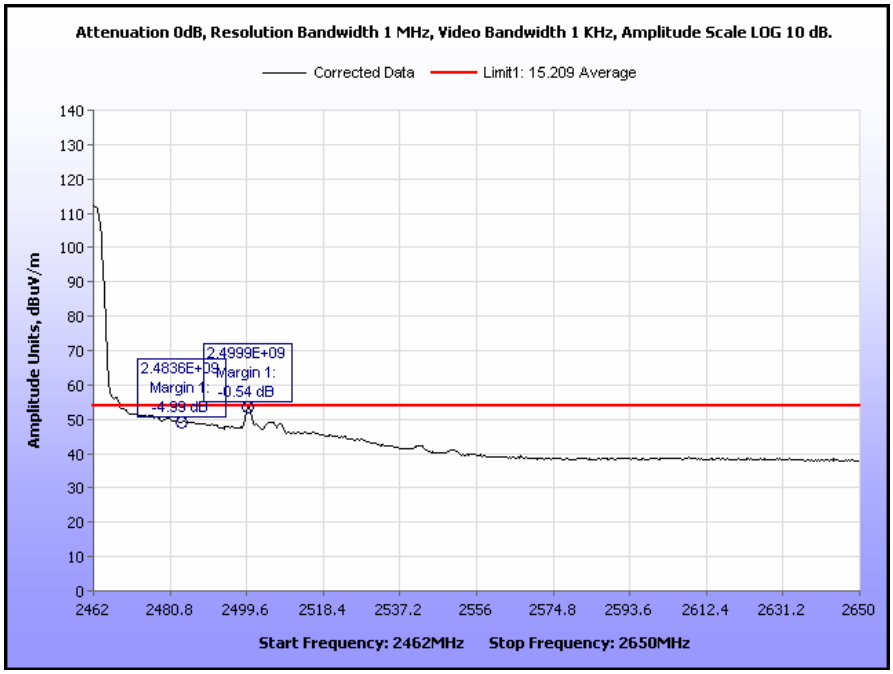
Radiated Band Edge Measurements, 802.11b 5 MHz, Yagi Antenna



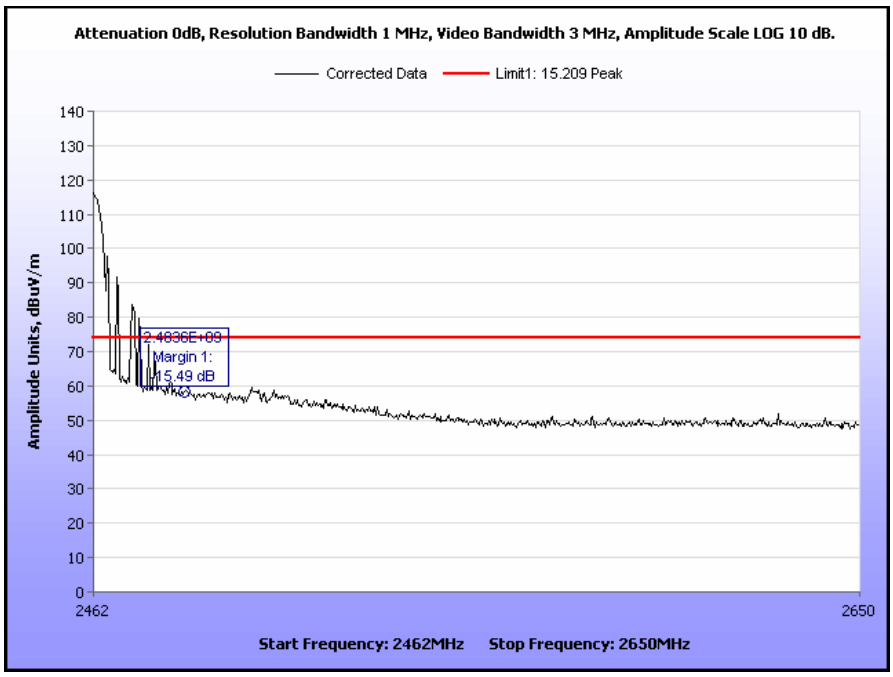
Plot 520. Radiated Restricted Band Edge, Low Channel, 802.11b 5 MHz, Yagi Antenna, Average



Plot 521. Radiated Restricted Band Edge, Low Channel, 802.11b 5 MHz, Yagi Antenna, Peak

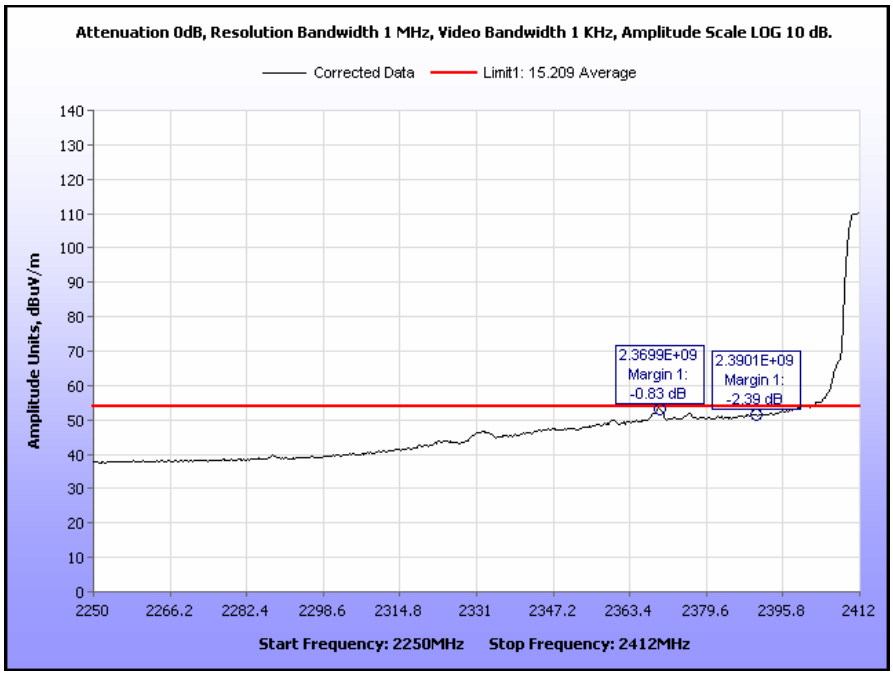


Plot 522. Radiated Restricted Band Edge, High Channel, 802.11b 5 MHz, Yagi Antenna, Average

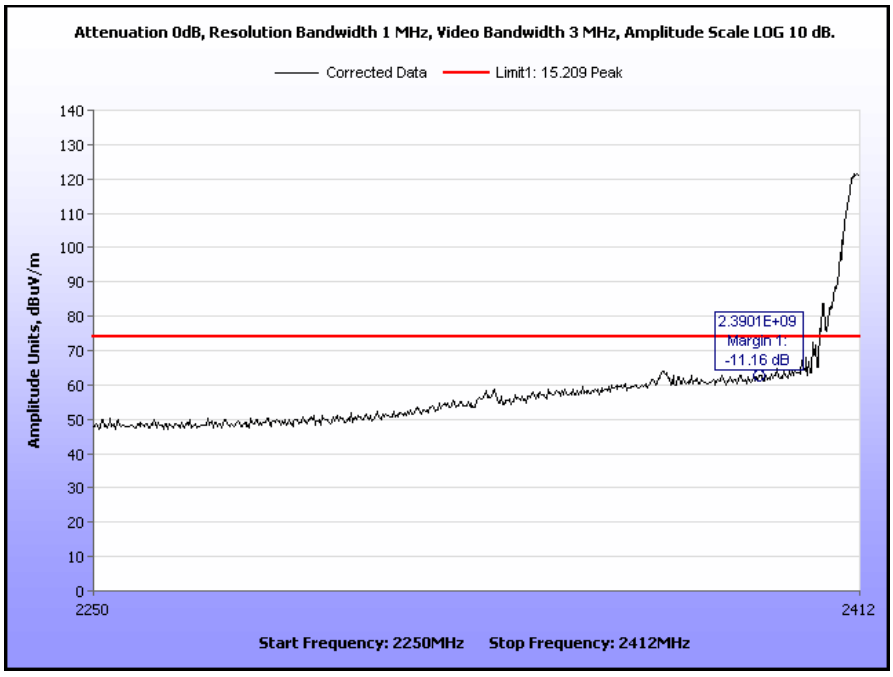


Plot 523. Radiated Restricted Band Edge, High Channel, 802.11b 5 MHz, Yagi Antenna, Peak

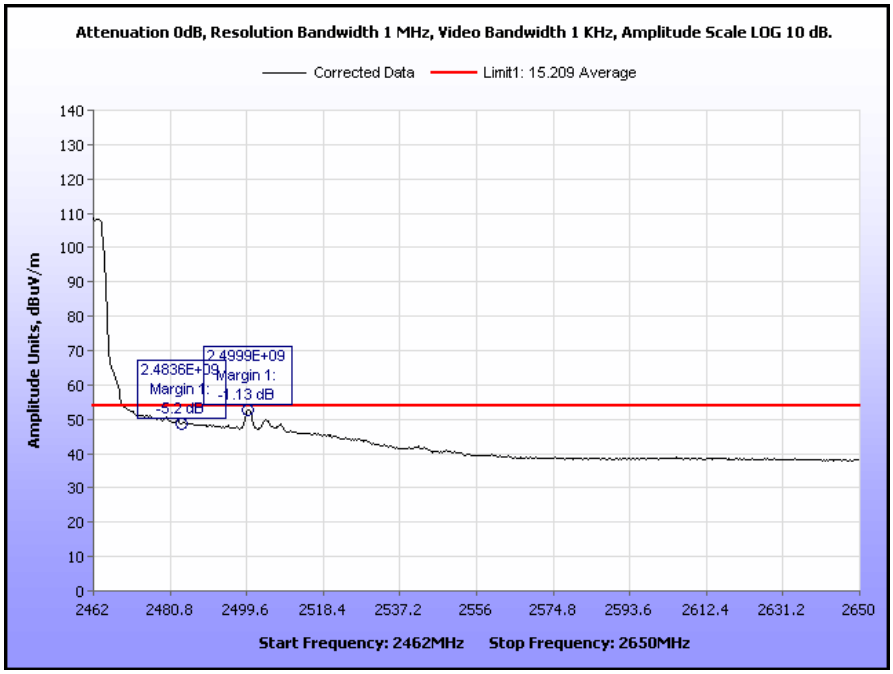
Radiated Band Edge Measurements, 802.11g 5 MHz, Yagi Antenna



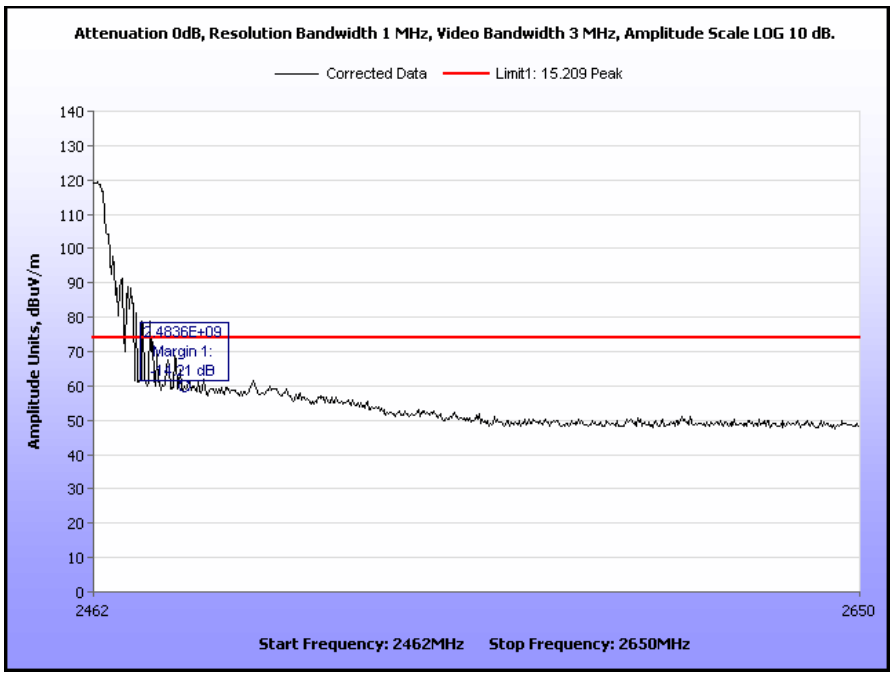
Plot 524. Radiated Restricted Band Edge, Low Channel, 802.11g 5 MHz, Yagi Antenna, Average



Plot 525. Radiated Restricted Band Edge, Low Channel, 802.11g 5 MHz, Yagi Antenna, Peak

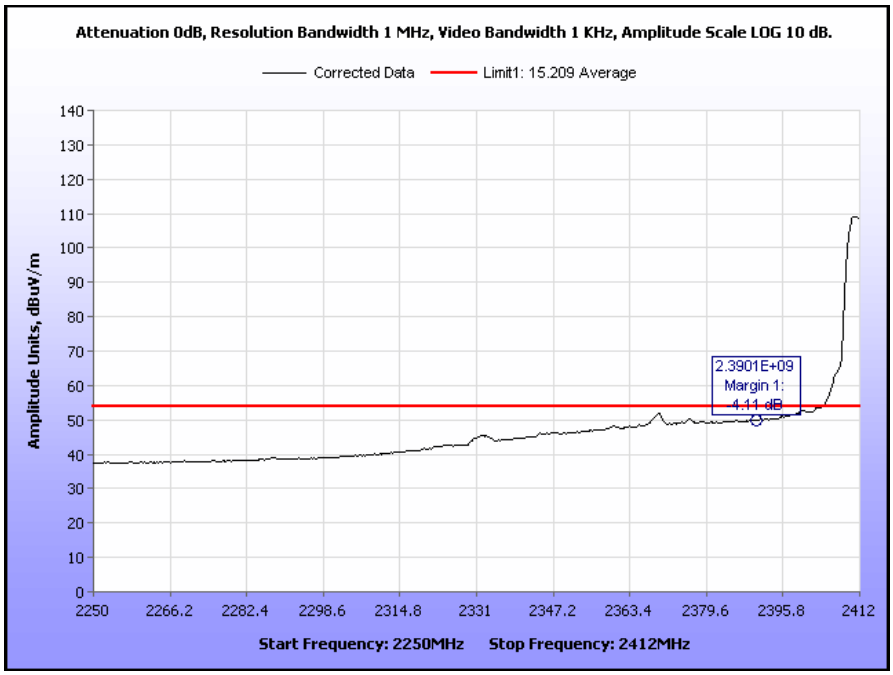


Plot 526. Radiated Restricted Band Edge, High Channel, 802.11g 5 MHz, Yagi Antenna, Average

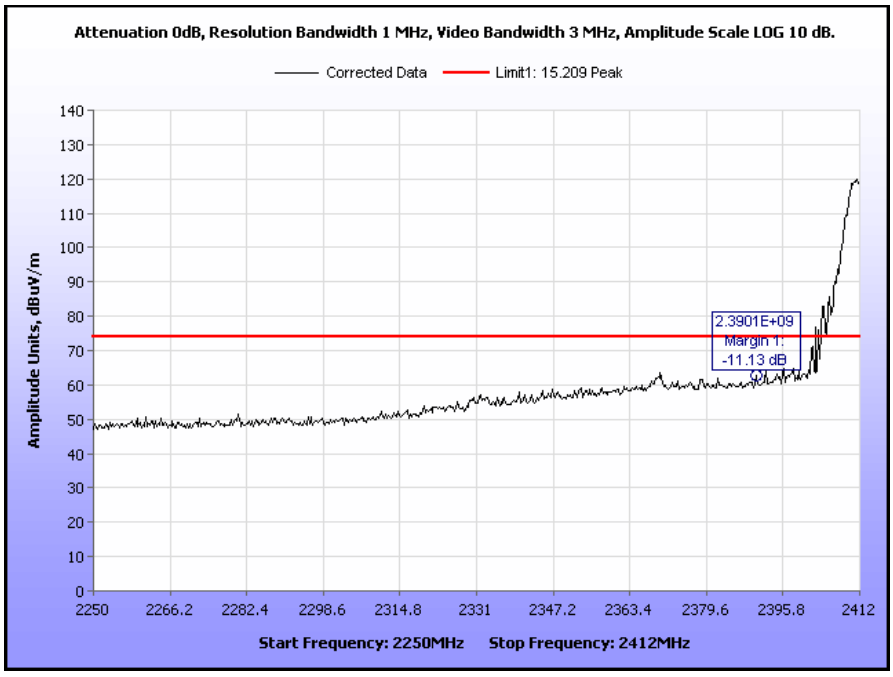


Plot 527. Radiated Restricted Band Edge, High Channel, 802.11g 5 MHz, Yagi Antenna, Peak

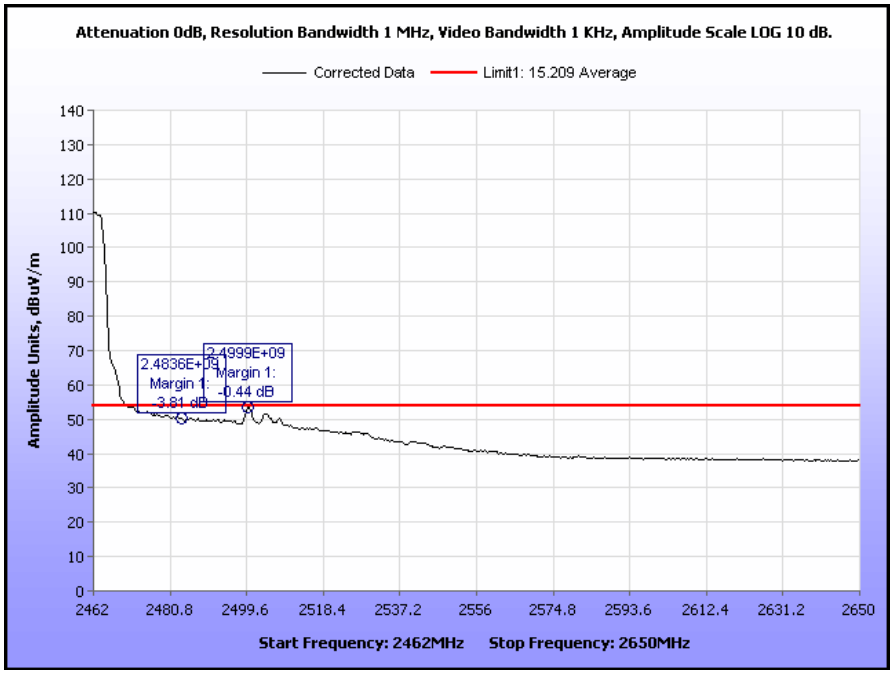
Radiated Band Edge Measurements, 802.11n 5 MHz, Yagi Antenna



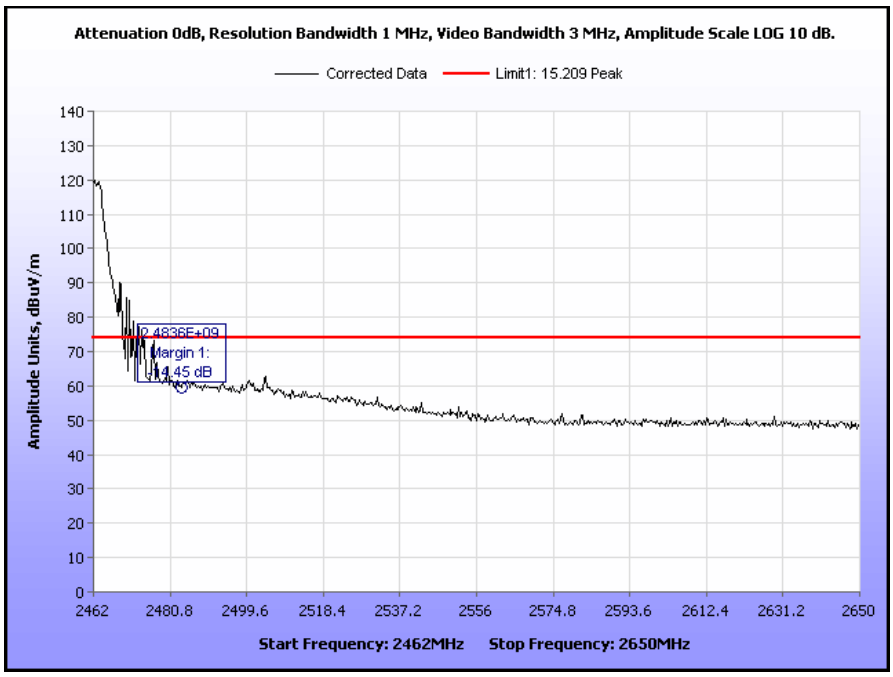
Plot 528. Radiated Restricted Band Edge, Low Channel, 802.11n 5 MHz, Yagi Antenna, Average



Plot 529. Radiated Restricted Band Edge, Low Channel, 802.11n 5 MHz, Yagi Antenna, Peak

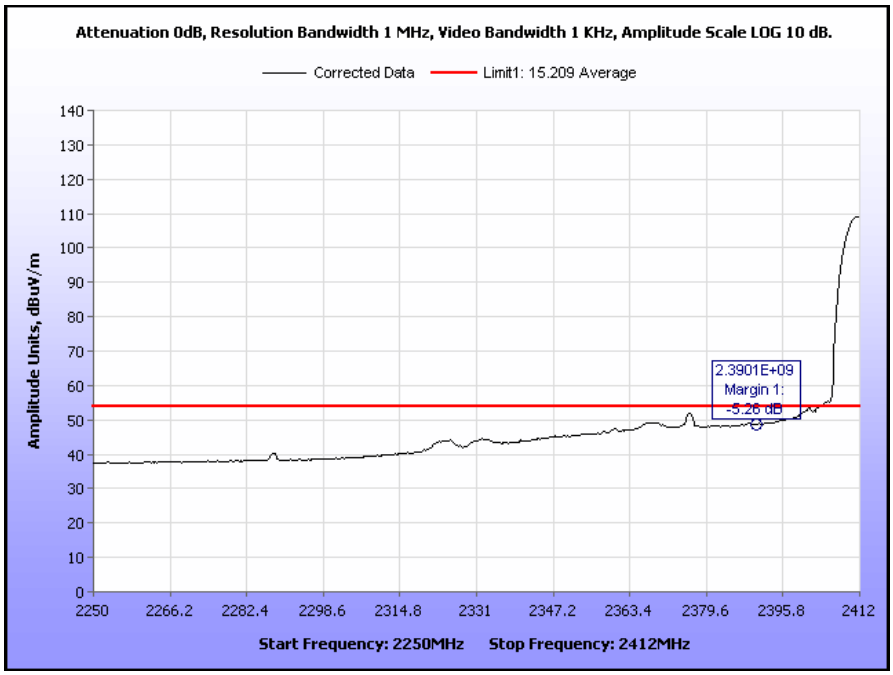


Plot 530. Radiated Restricted Band Edge, High Channel, 802.11n 5 MHz, Yagi Antenna, Average

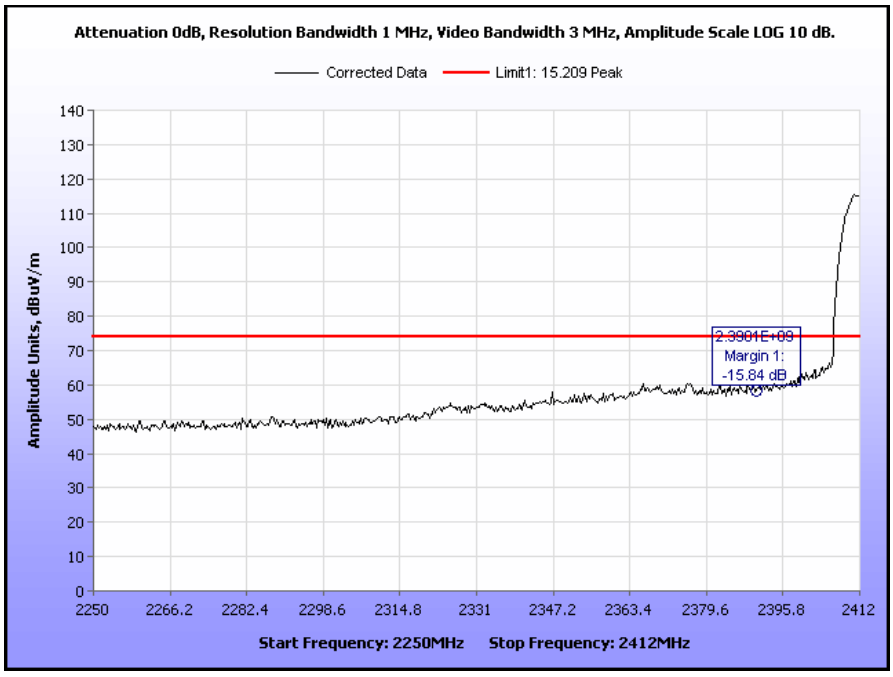


Plot 531. Radiated Restricted Band Edge, High Channel, 802.11n 5 MHz, Yagi Antenna, Peak

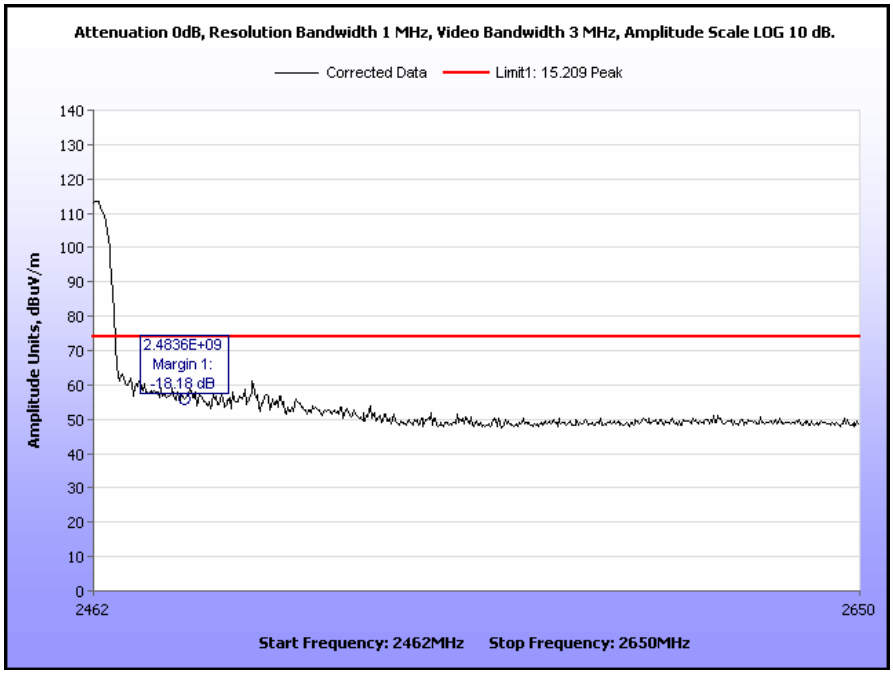
Radiated Band Edge Measurements, 802.11b 10 MHz, Yagi Antenna



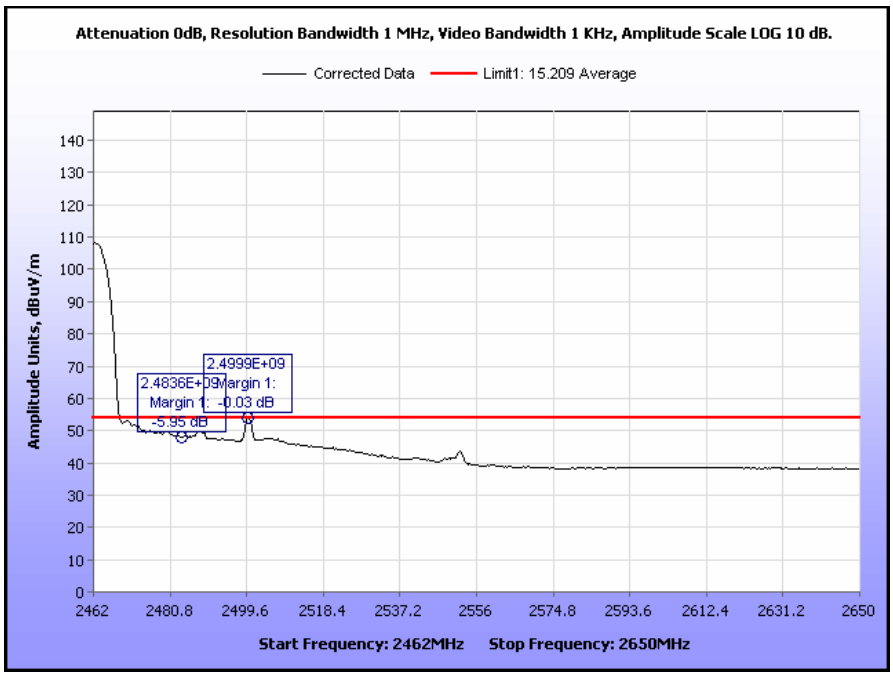
Plot 532. Radiated Restricted Band Edge, Low Channel, 802.11b 10 MHz, Yagi Antenna, Average



Plot 533. Radiated Restricted Band Edge, Low Channel, 802.11b 10 MHz, Yagi Antenna, Peak

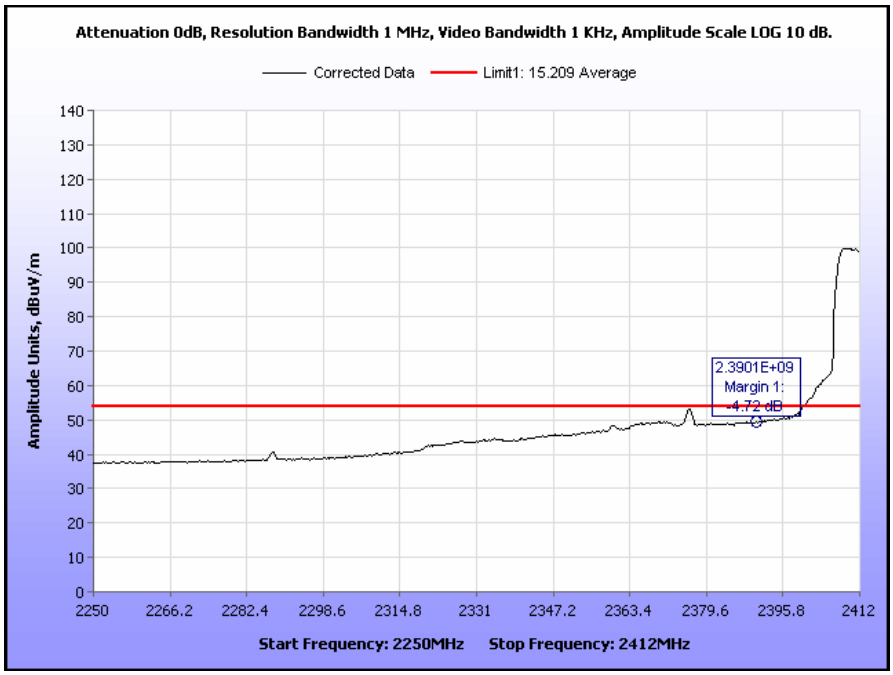


Plot 534. Radiated Restricted Band Edge, High Channel, 802.11b 10 MHz, Yagi Antenna, Average

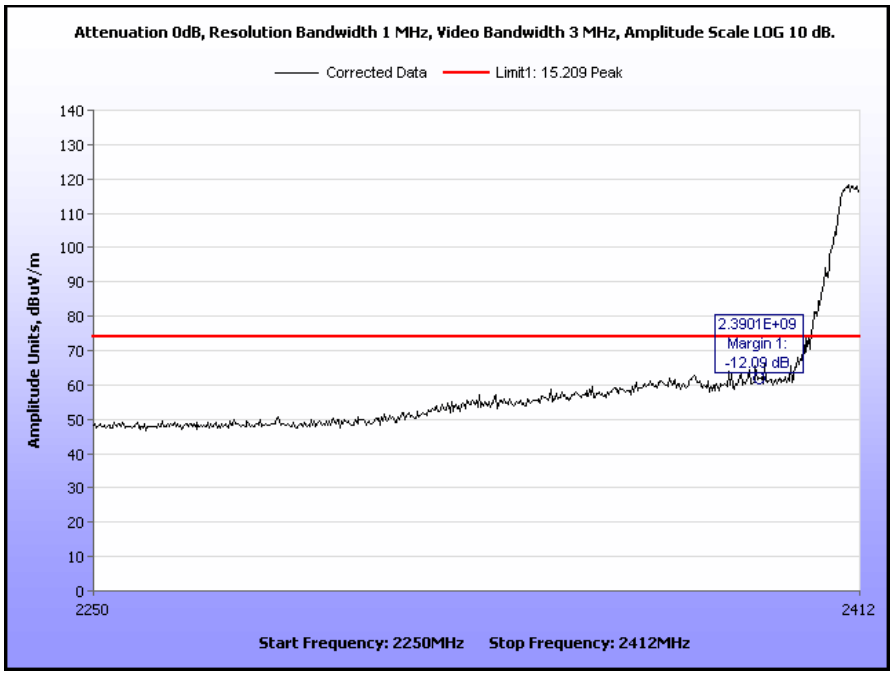


Plot 535. Radiated Restricted Band Edge, High Channel, 802.11b 10 MHz, Yagi Antenna, Peak

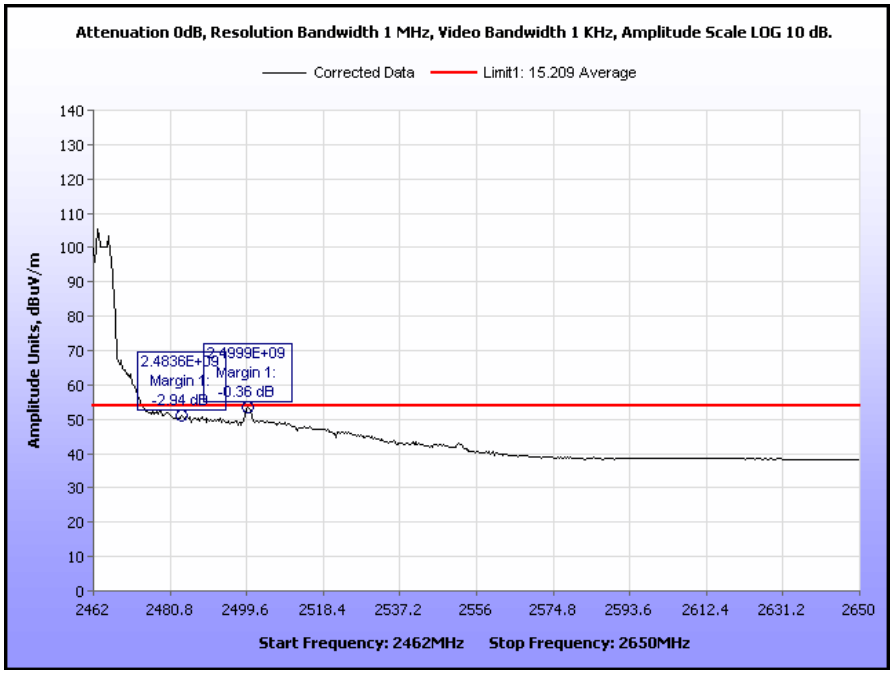
Radiated Band Edge Measurements, 802.11g 10 MHz, Yagi Antenna



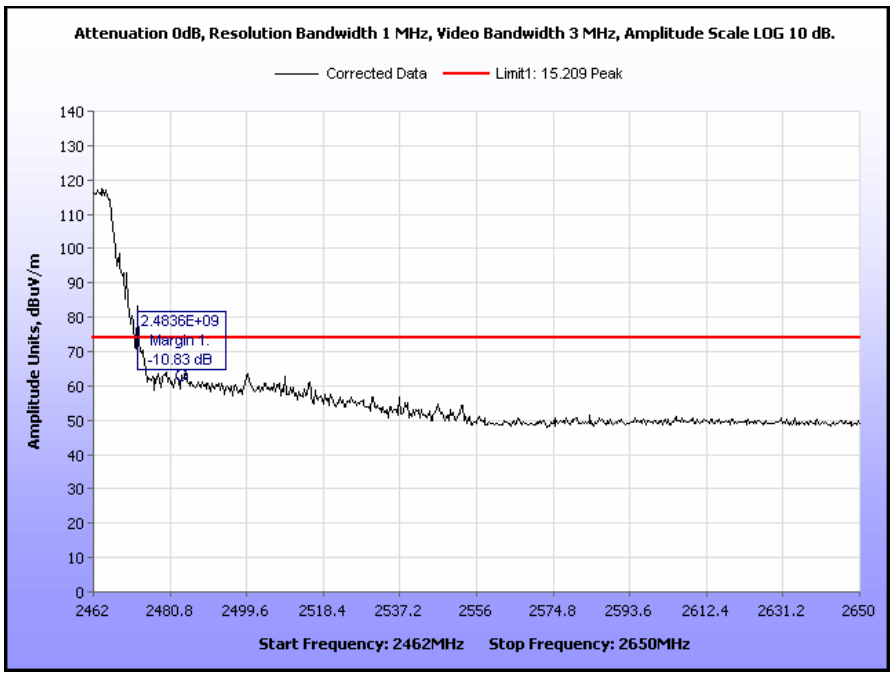
Plot 536. Radiated Restricted Band Edge, Low Channel, 802.11g 10 MHz, Yagi Antenna, Average



Plot 537. Radiated Restricted Band Edge, Low Channel, 802.11g 10 MHz, Yagi Antenna, Peak

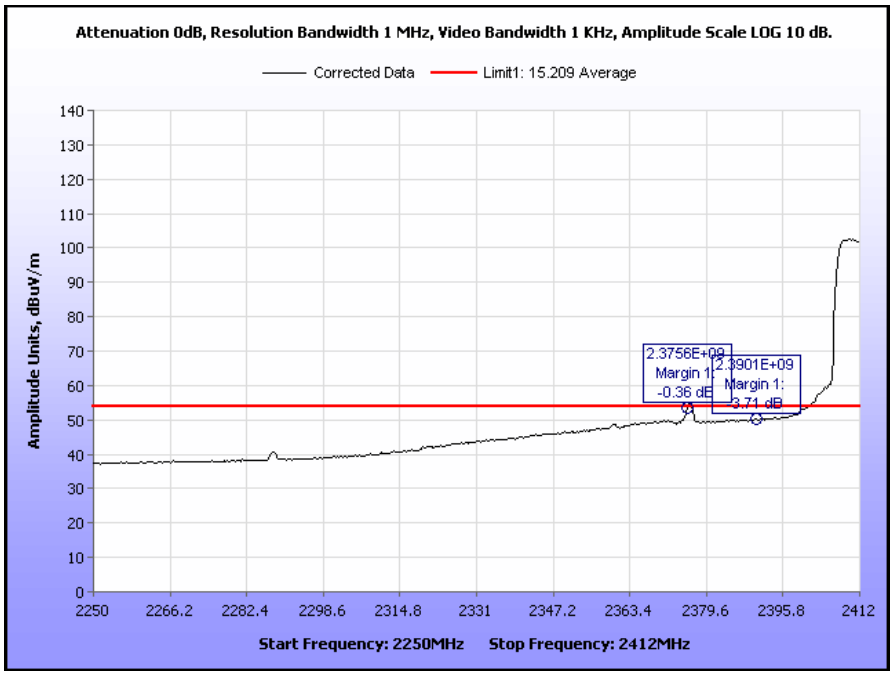


Plot 538. Radiated Restricted Band Edge, High Channel, 802.11g 10 MHz, Yagi Antenna, Average

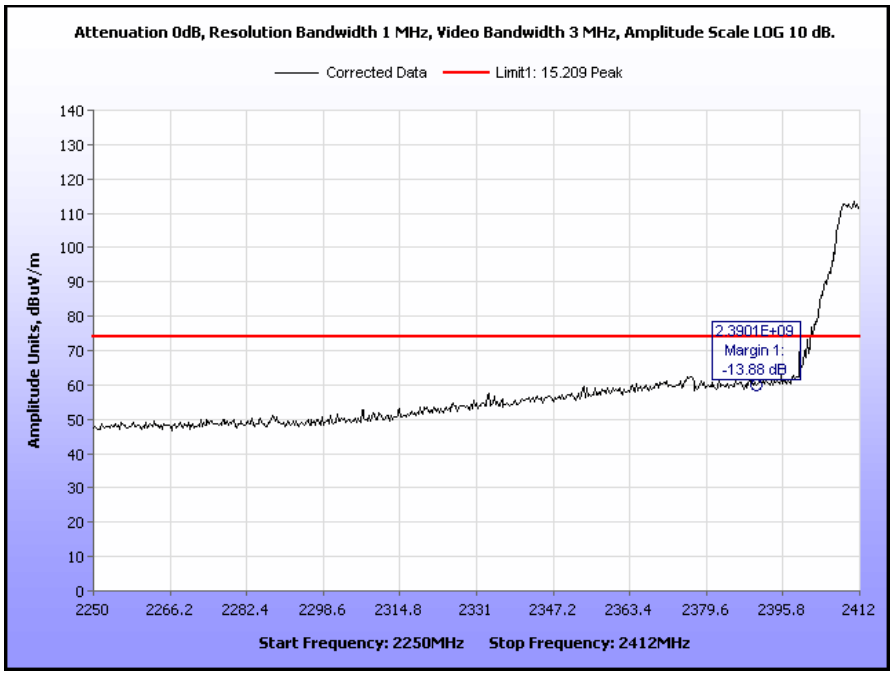


Plot 539. Radiated Restricted Band Edge, High Channel, 802.11g 10 MHz, Yagi Antenna, Peak

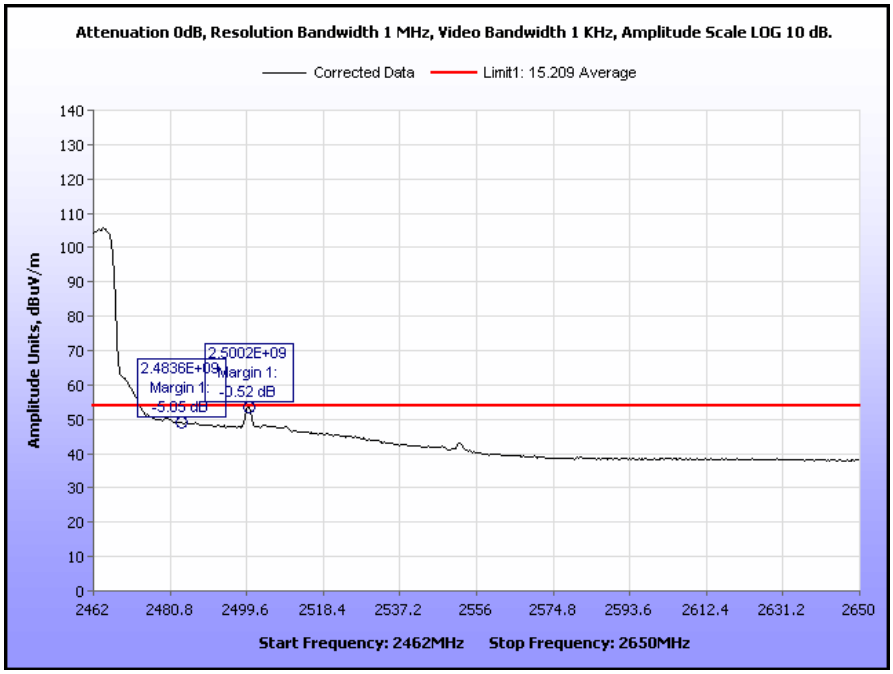
Radiated Band Edge Measurements, 802.11n 10 MHz, Yagi Antenna



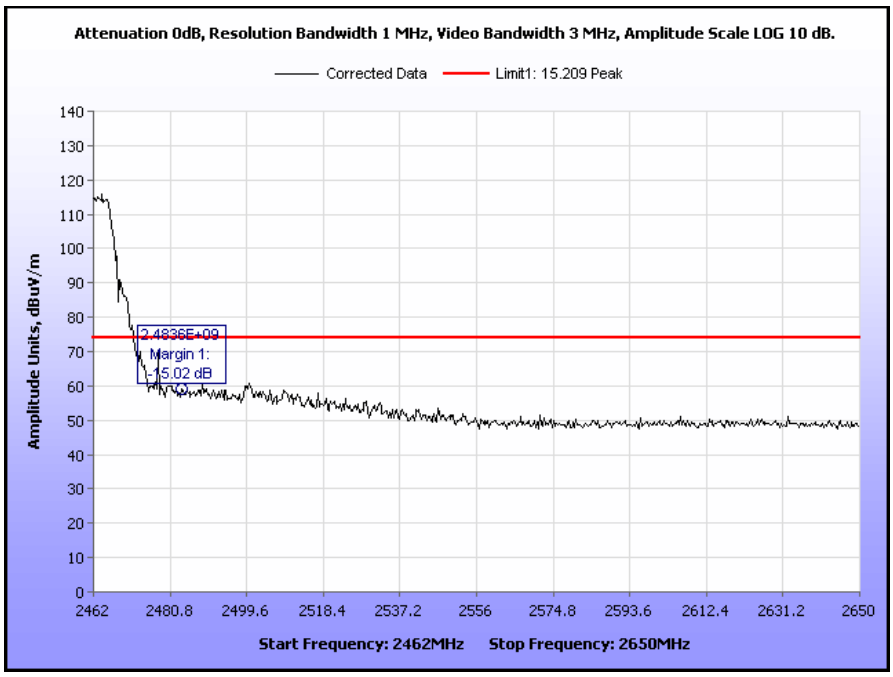
Plot 540. Radiated Restricted Band Edge, Low Channel, 802.11n 10 MHz, Yagi Antenna, Average



Plot 541. Radiated Restricted Band Edge, Low Channel, 802.11n 10 MHz, Yagi Antenna, Peak

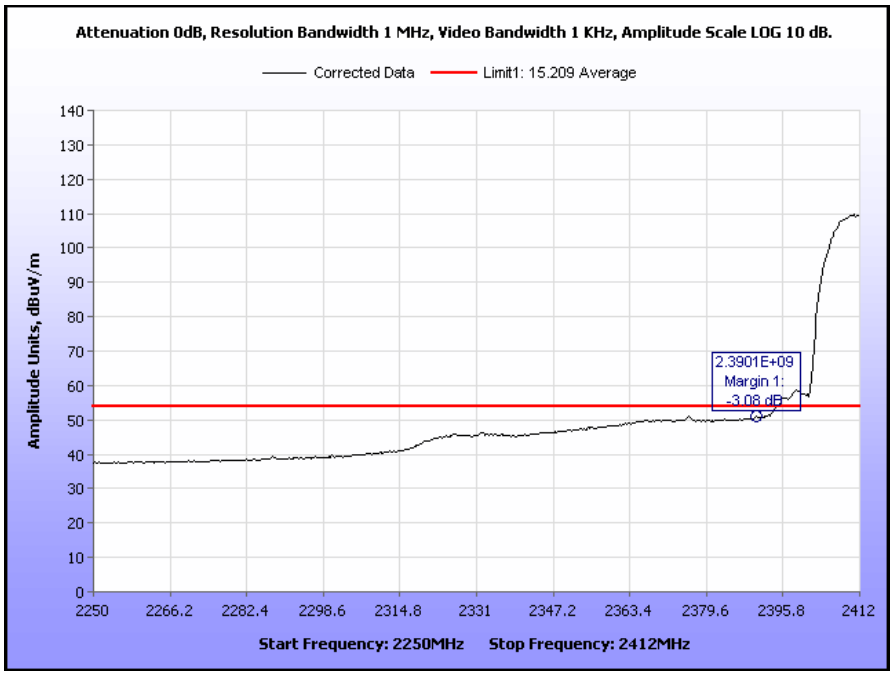


Plot 542. Radiated Restricted Band Edge, High Channel, 802.11n 10 MHz, Yagi Antenna, Average

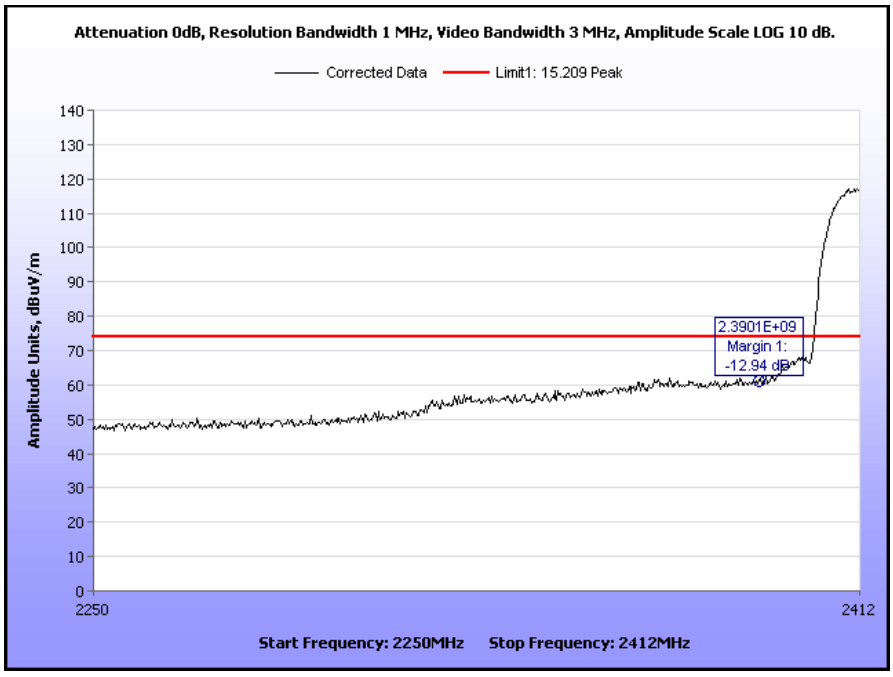


Plot 543. Radiated Restricted Band Edge, High Channel, 802.11n 10 MHz, Yagi Antenna, Peak

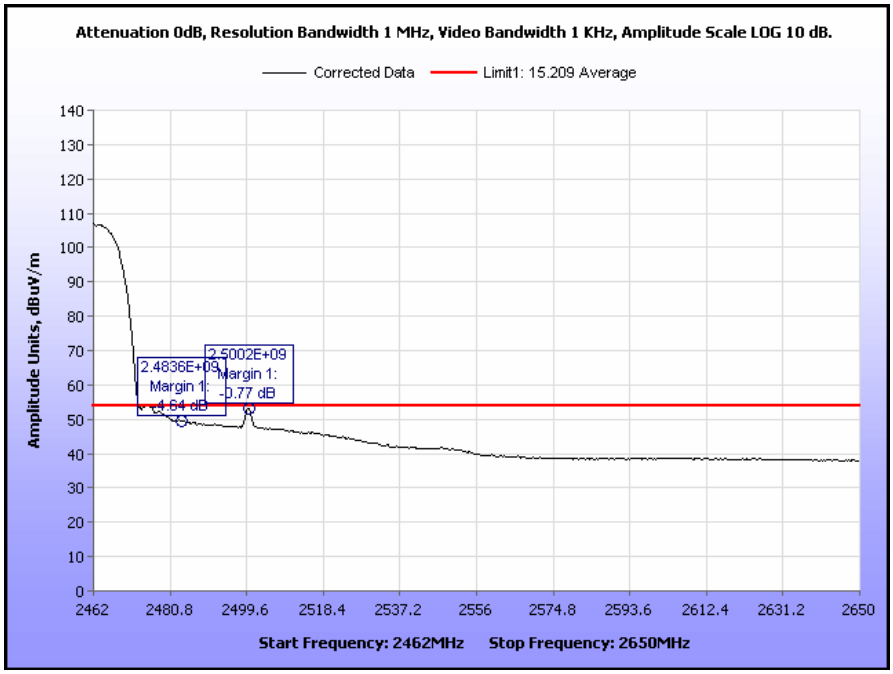
Radiated Band Edge Measurements, 802.11b 20 MHz, Yagi Antenna



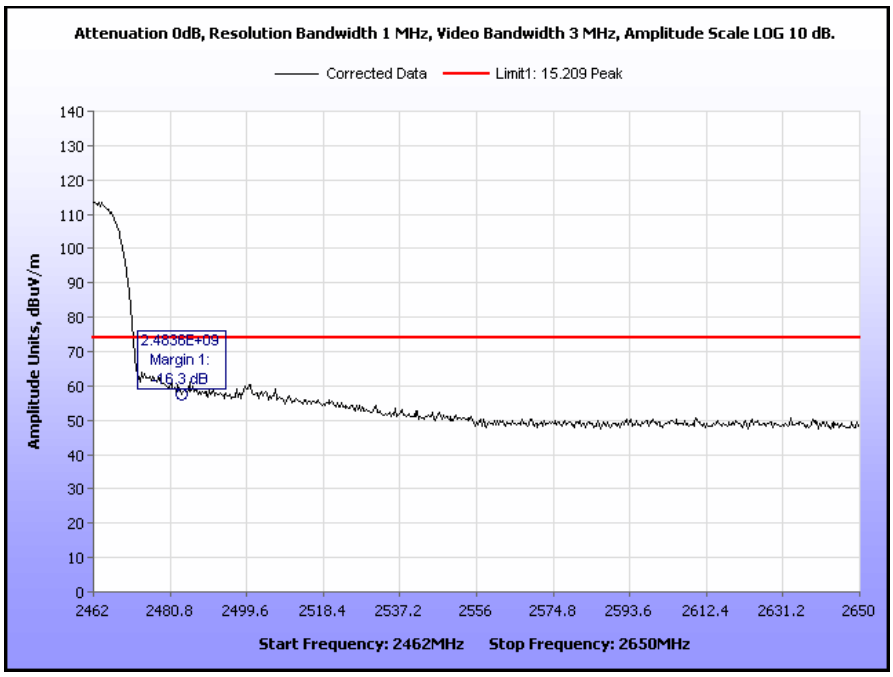
Plot 544. Radiated Restricted Band Edge, Low Channel, 802.11b 20 MHz, Yagi Antenna, Average



Plot 545. Radiated Restricted Band Edge, Low Channel, 802.11b 20 MHz, Yagi Antenna, Peak

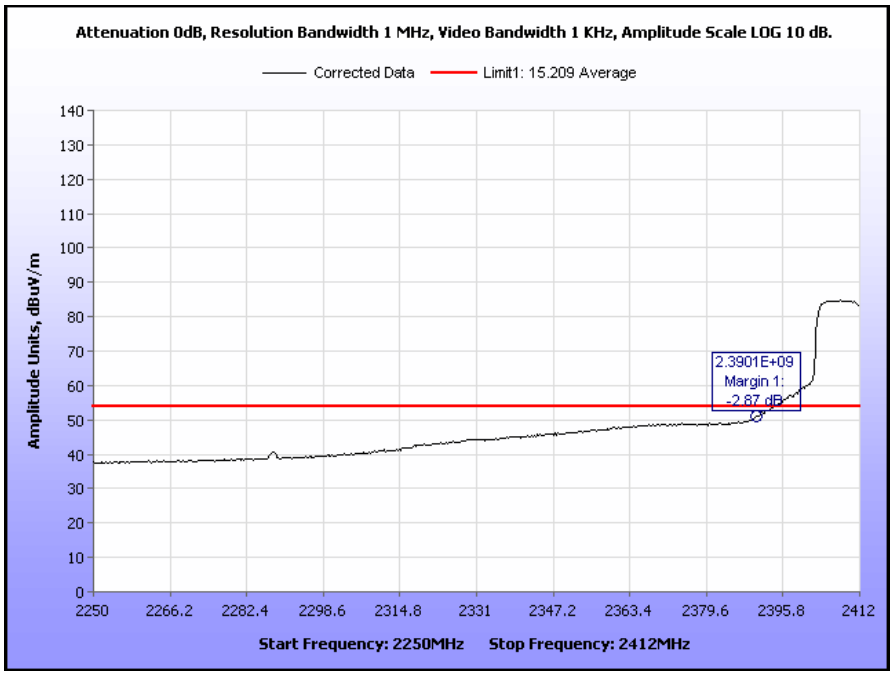


Plot 546. Radiated Restricted Band Edge, High Channel, 802.11b 20 MHz, Yagi Antenna, Average

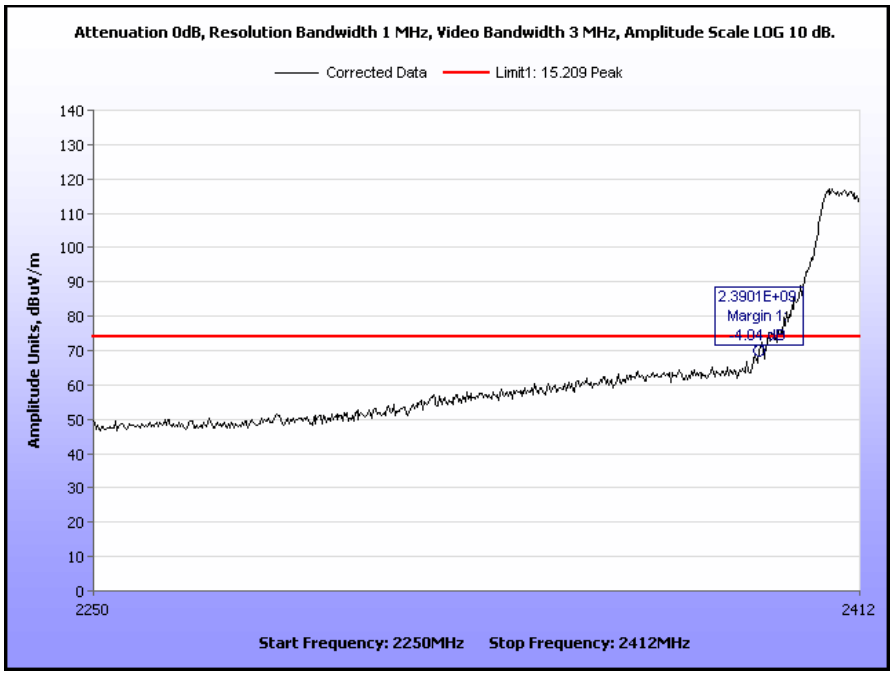


Plot 547. Radiated Restricted Band Edge, High Channel, 802.11b 20 MHz, Yagi Antenna, Peak

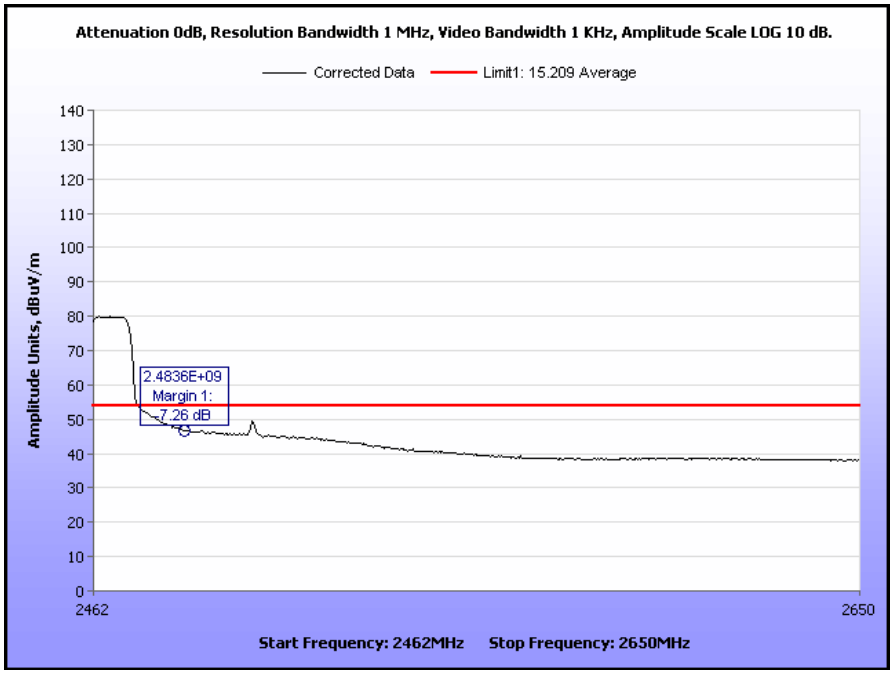
Radiated Band Edge Measurements, 802.11g 20 MHz, Yagi Antenna



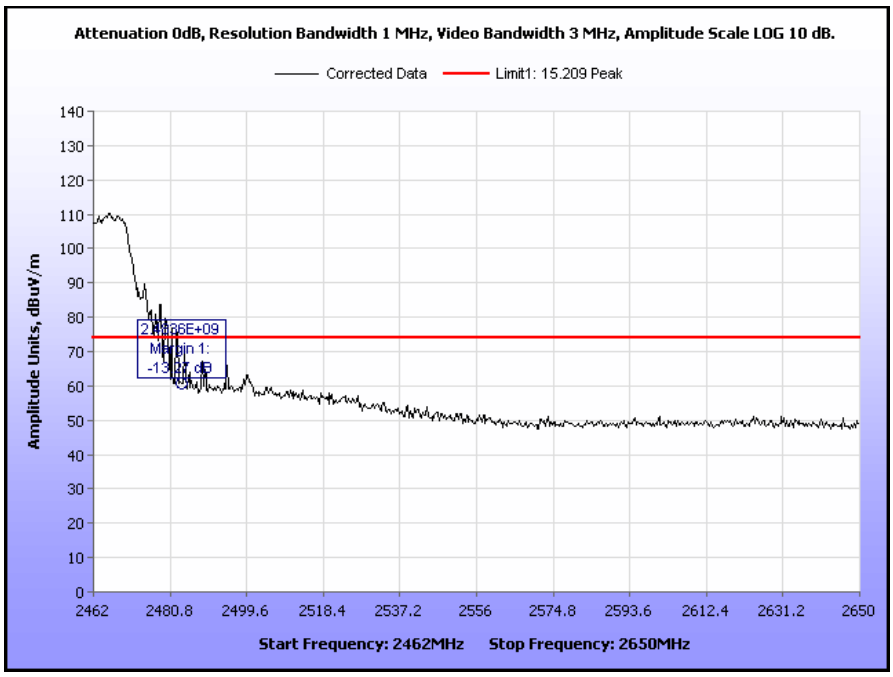
Plot 548. Radiated Restricted Band Edge, Low Channel, 802.11g 20 MHz, Yagi Antenna, Average



Plot 549. Radiated Restricted Band Edge, Low Channel, 802.11g 20 MHz, Yagi Antenna, Peak

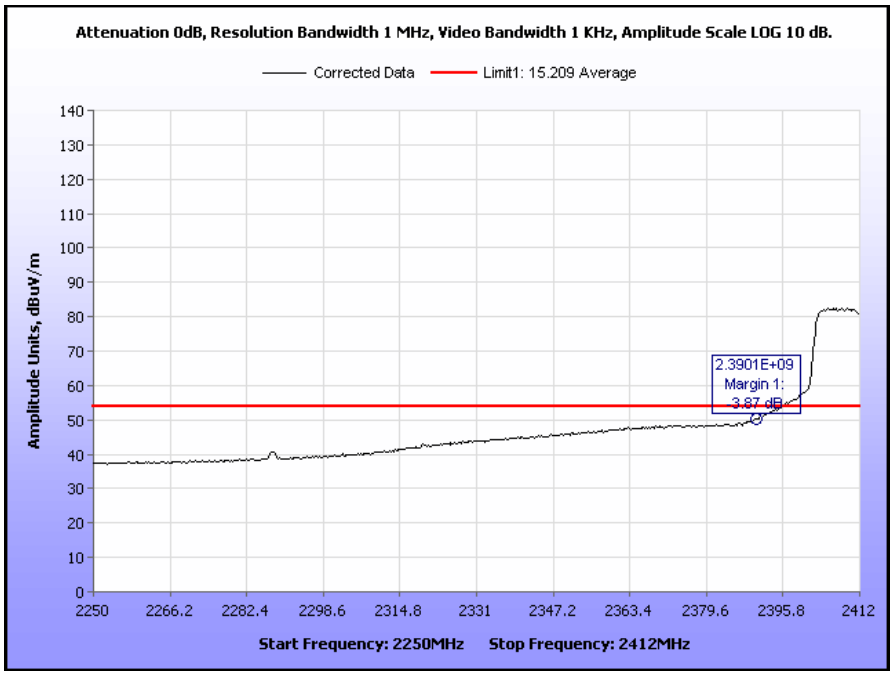


Plot 550. Radiated Restricted Band Edge, High Channel, 802.11g 20 MHz, Yagi Antenna, Average

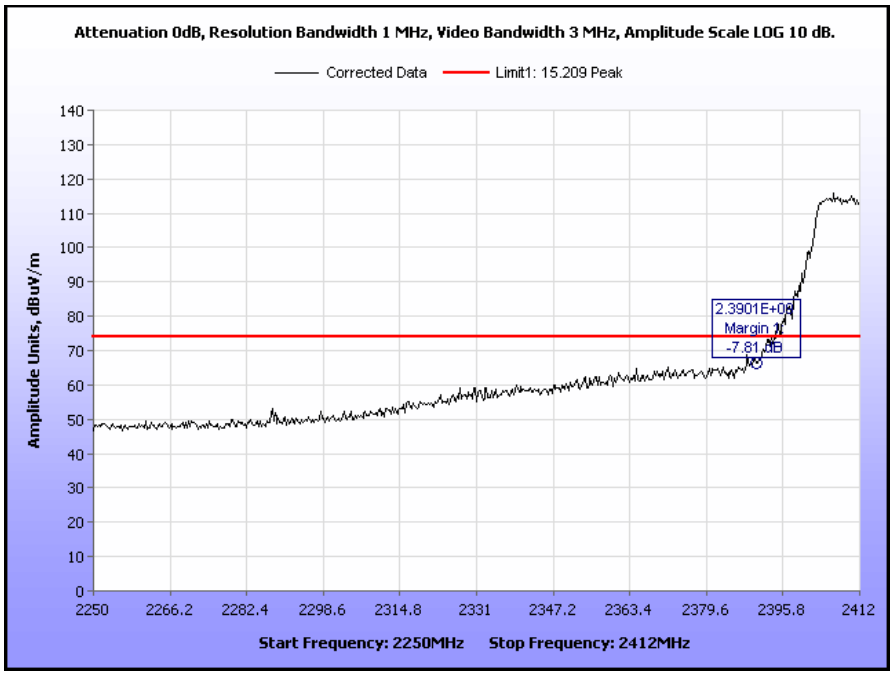


Plot 551. Radiated Restricted Band Edge, High Channel, 802.11g 20 MHz, Yagi Antenna, Peak

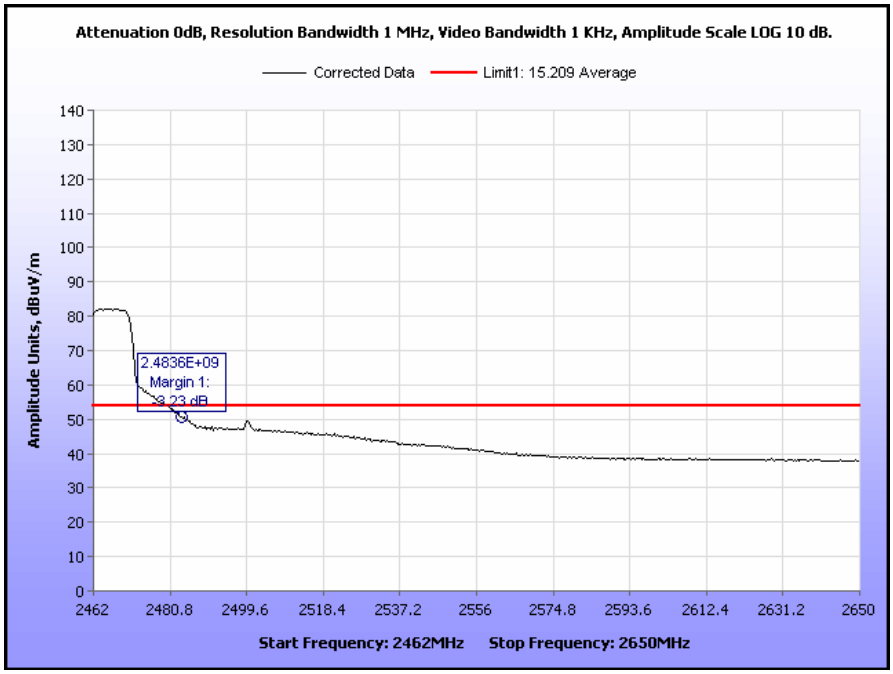
Radiated Band Edge Measurements, 802.11n 20 MHz, Yagi Antenna



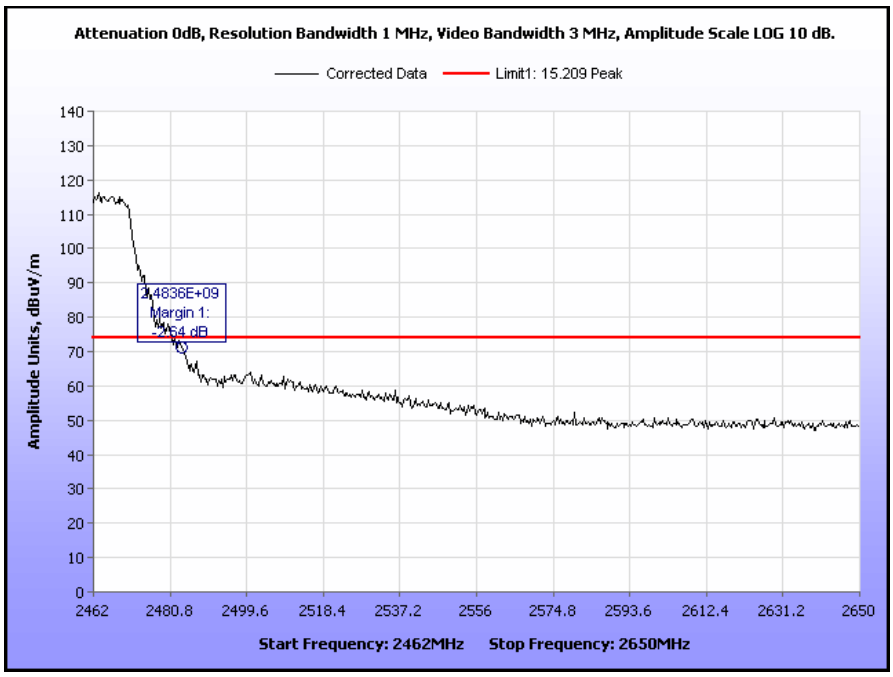
Plot 552. Radiated Restricted Band Edge, Low Channel, 802.11n 20 MHz, Yagi Antenna, Average



Plot 553. Radiated Restricted Band Edge, Low Channel, 802.11n 20 MHz, Yagi Antenna, Peak

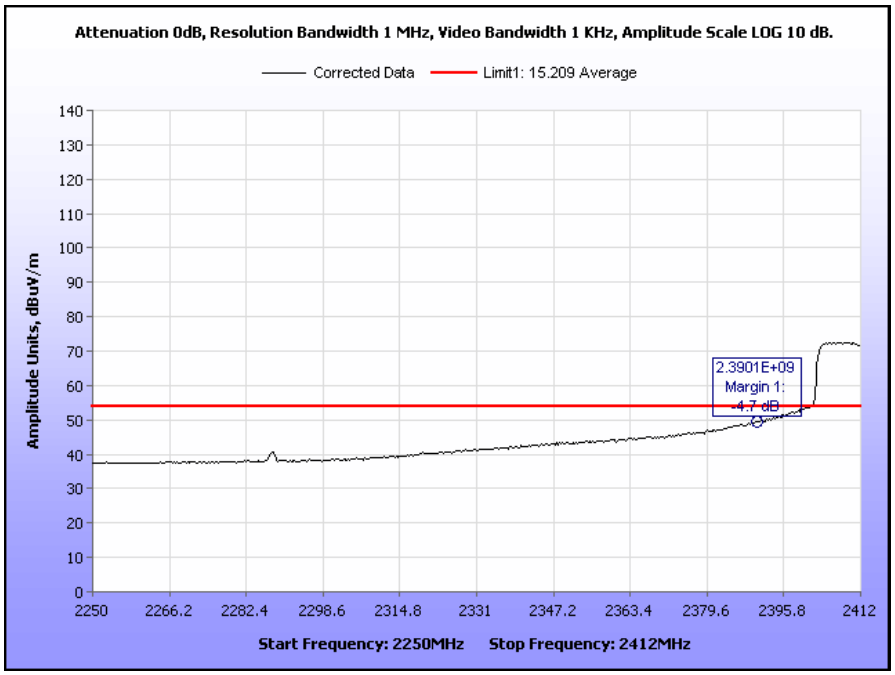


Plot 554. Radiated Restricted Band Edge, High Channel, 802.11n 20 MHz, Yagi Antenna, Average

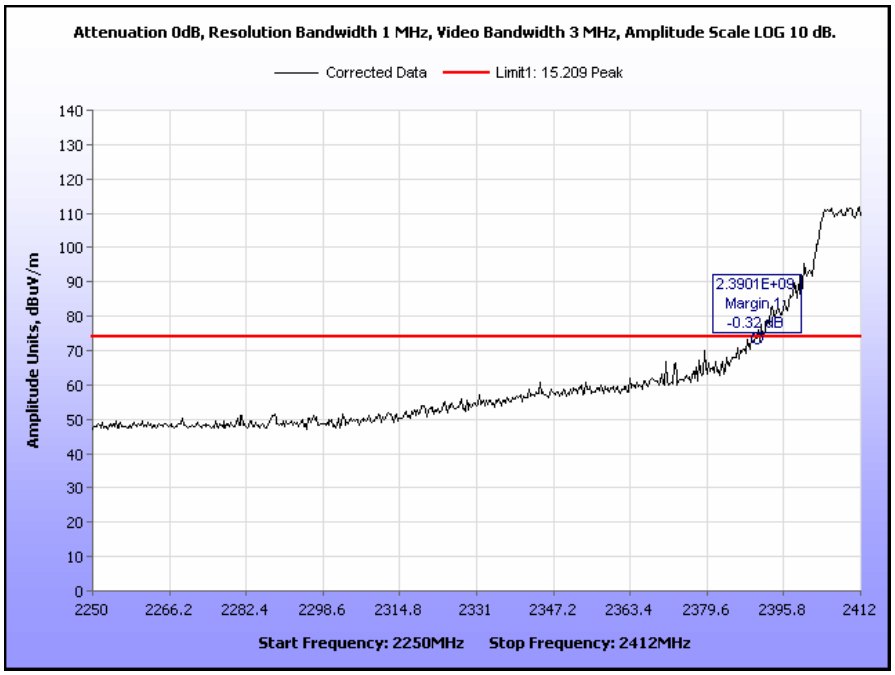


Plot 555. Radiated Restricted Band Edge, High Channel, 802.11n 20 MHz, Yagi Antenna, Peak

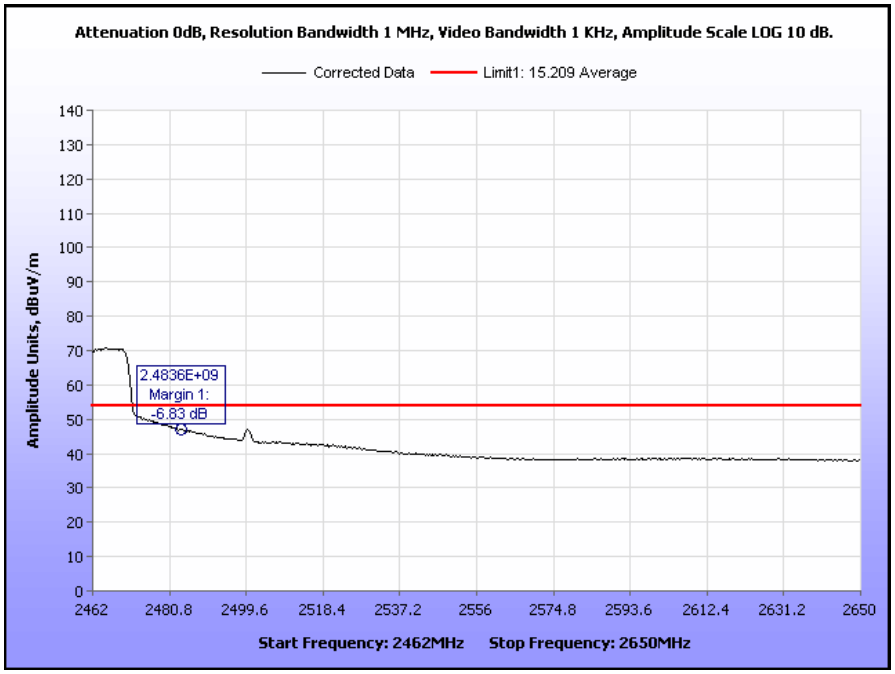
Radiated Band Edge Measurements, 802.11g 40 MHz, Yagi Antenna



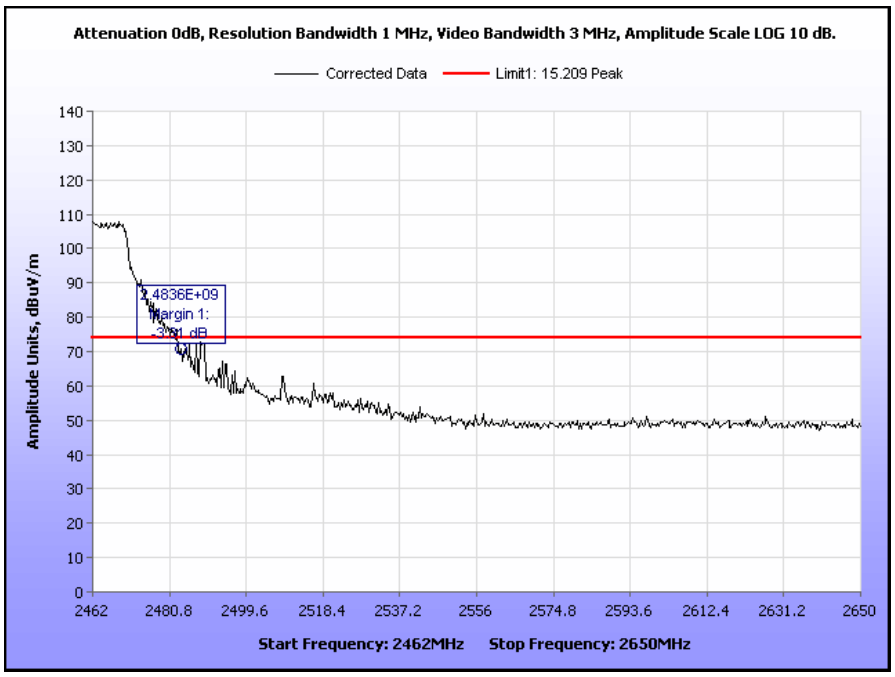
Plot 556. Radiated Restricted Band Edge, Low Channel, 802.11g 40 MHz, Yagi Antenna, Average



Plot 557. Radiated Restricted Band Edge, Low Channel, 802.11g 40 MHz, Yagi Antenna, Peak

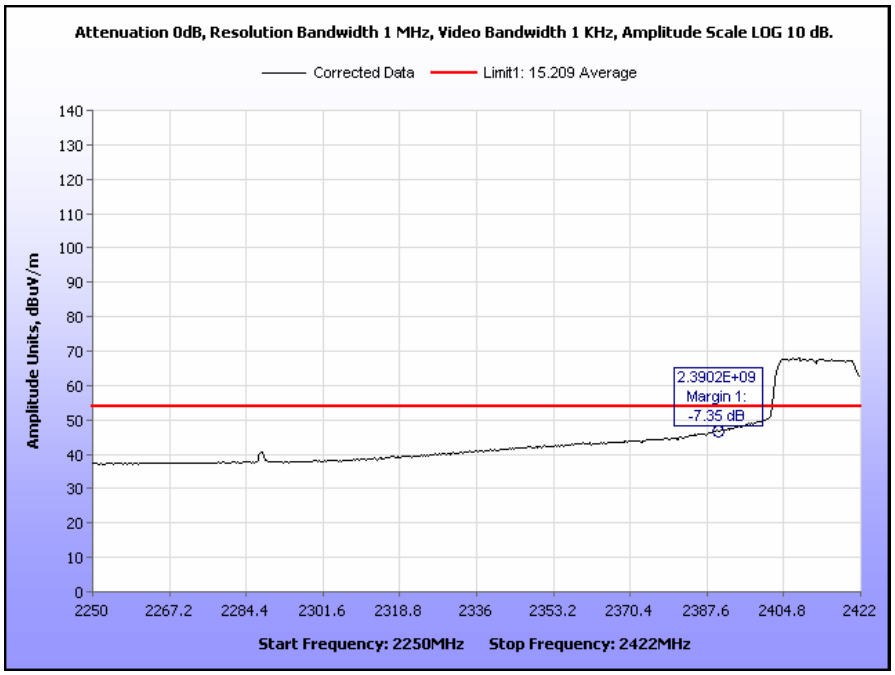


Plot 558. Radiated Restricted Band Edge, High Channel, 802.11g 40 MHz, Yagi Antenna, Average

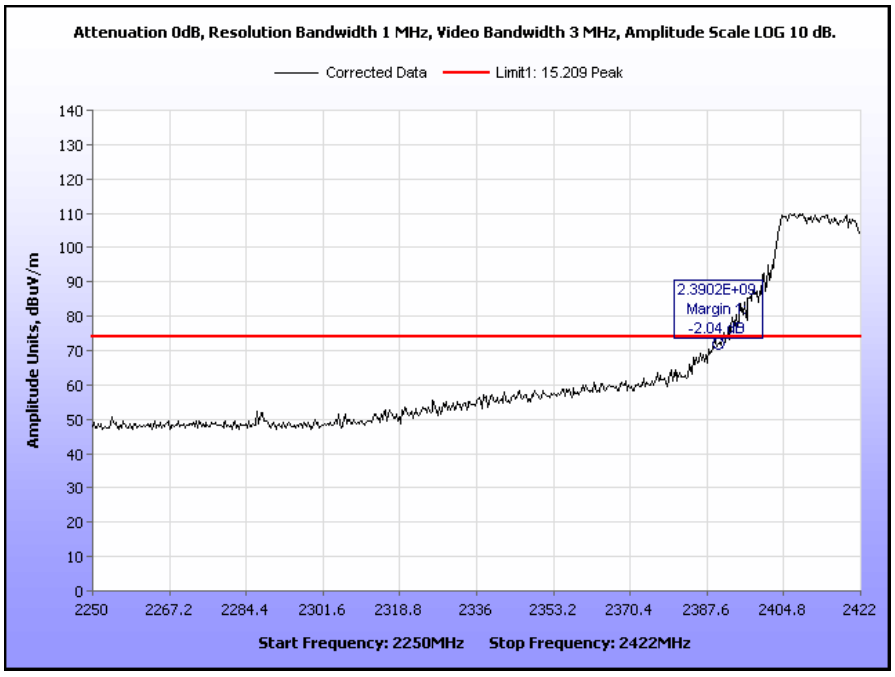


Plot 559. Radiated Restricted Band Edge, High Channel, 802.11g 40 MHz, Yagi Antenna, Peak

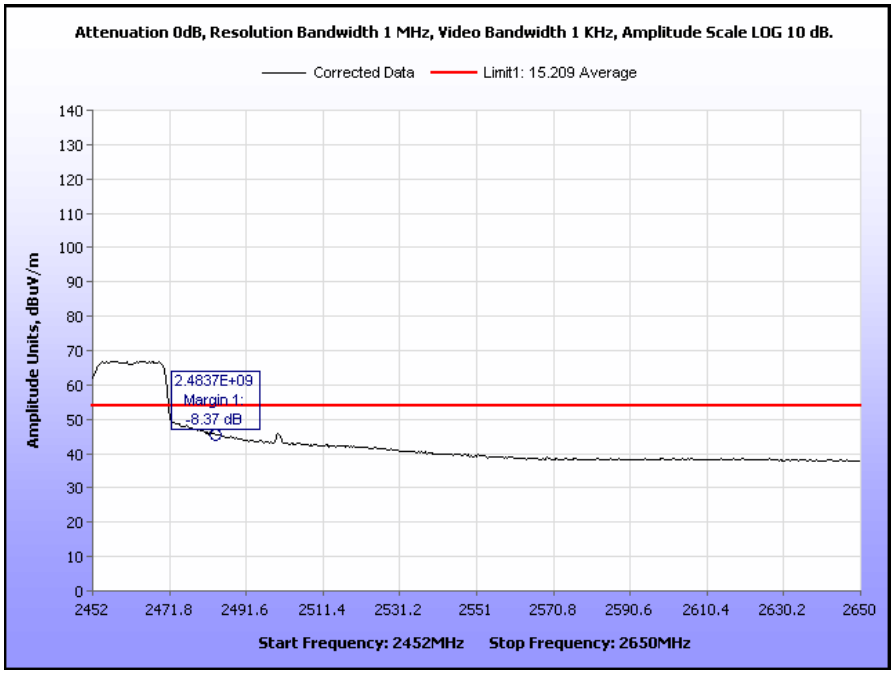
Radiated Band Edge Measurements, 802.11n 40 MHz, Yagi Antenna



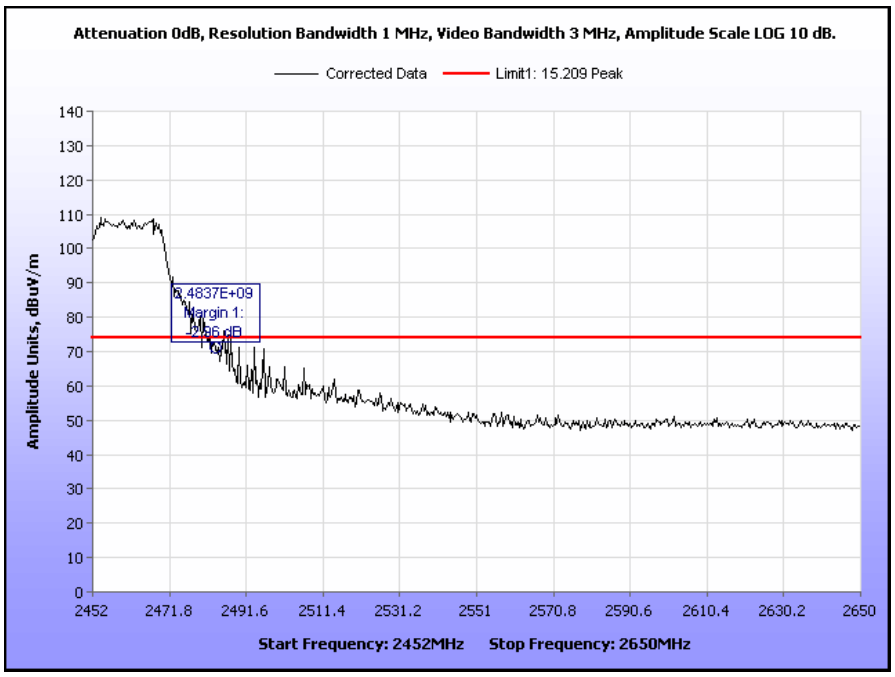
Plot 560. Radiated Restricted Band Edge, Low Channel, 802.11n 40 MHz, Yagi Antenna, Average



Plot 561. Radiated Restricted Band Edge, Low Channel, 802.11n 40 MHz, Yagi Antenna, Peak

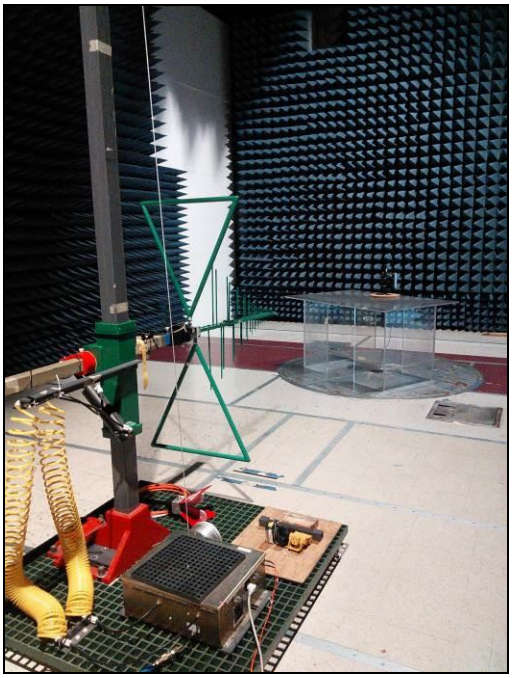


Plot 562. Radiated Restricted Band Edge, High Channel, 802.11n 40 MHz, Yagi Antenna, Average

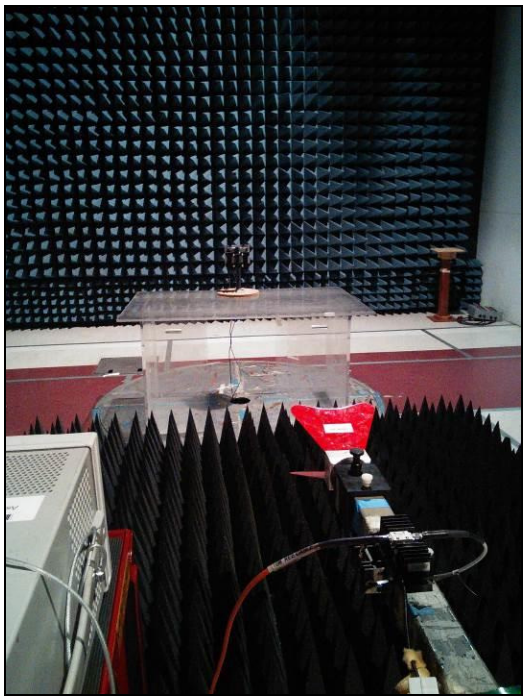


Plot 563. Radiated Restricted Band Edge, High Channel, 802.11n 40 MHz, Yagi Antenna, Peak

Radiated Spurious Emissions Test Setup



Photograph 5. Radiated Spurious Emissions, Test Setup, 30 MHz – 1 GHz



Photograph 6. Radiated Spurious Emissions, Test Setup, Above 1 GHz

Electromagnetic Compatibility Criteria for Intentional Radiators

§ 15.247(d) RF Conducted Spurious Emissions Requirements and Band Edge

Test Requirement: **15.247(d)** In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB.

Test Procedure: For intentional radiators with a digital device portion which operates below 10 GHz, the spectrum was investigated as per §15.33(a)(1) and §15.33(a)(4); i.e., the lowest RF signal generated or used in the device up to the 10th harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower.

Since the EUT had an integral antenna, conducted measurements could not be performed. Measurements needed to be taken radiated. An antenna was located 3 m away from the EUT and plots were taken. The EUT was rotated through all three orthogonal axes. The plots were corrected for both antenna correction factor and cable lost.

See following pages for detailed test results with RF Conducted Spurious Emissions.

Test Results: The EUT was compliant with the Conducted Spurious Emission limits of **§15.247(d)**.

Test Engineer(s): Arsalan Hasan

Test Date(s): 02/15/16

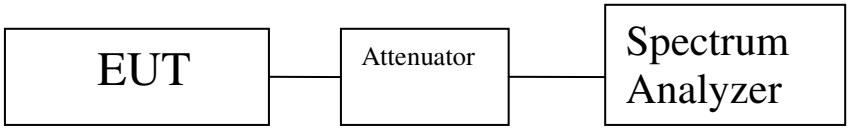
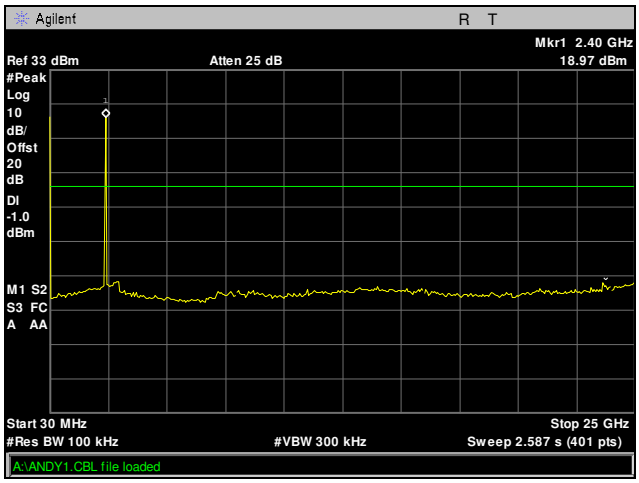
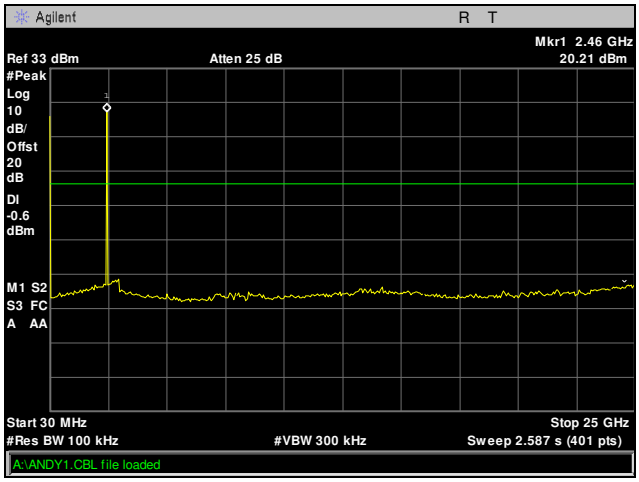


Figure 4. Block Diagram, Conducted Spurious Emissions Test Setup

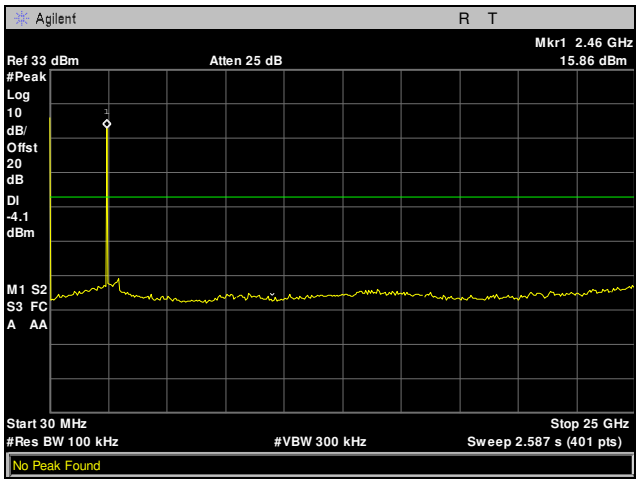
Conducted Spurious Emissions Test Result, 802.11b 5 MHz, Omni Antenna



Plot 564. Conducted Spurious Emissions, Low Channel, 802.11b 5 MHz, Omni Antenna, 30 MHz – 25 GHz

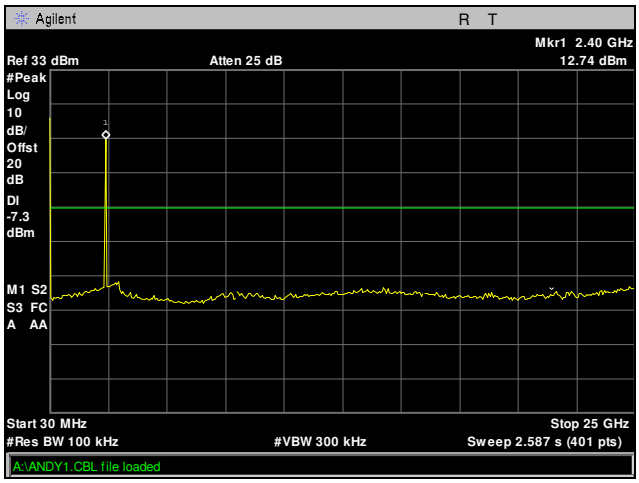


Plot 565. Conducted Spurious Emissions, Mid Channel, 802.11b 5 MHz, Omni Antenna, 30 MHz – 25 GHz

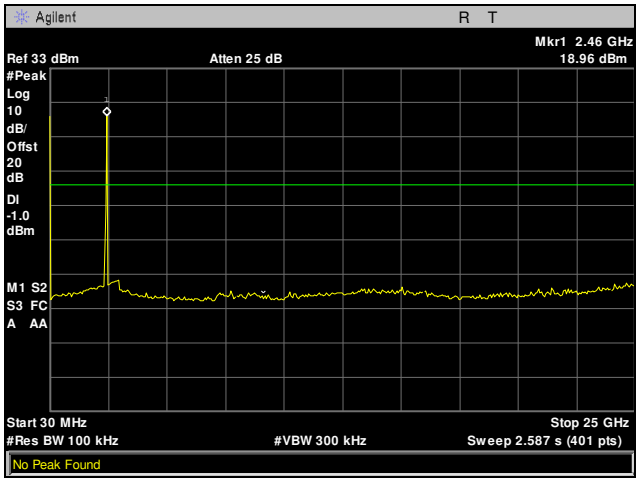


Plot 566. Conducted Spurious Emissions, High Channel, 802.11b 5 MHz, Omni Antenna, 30 MHz – 25 GHz

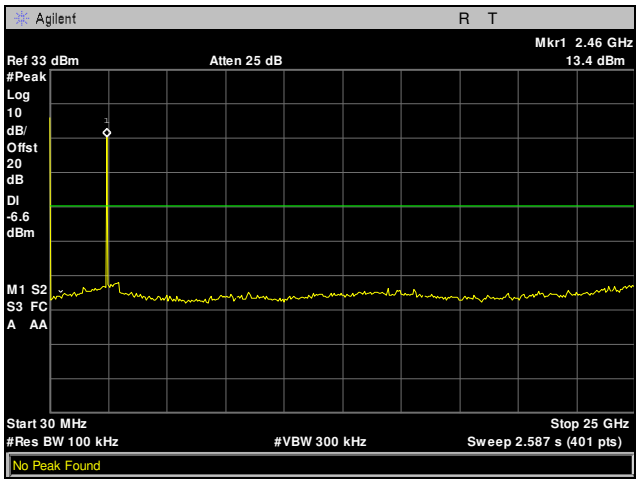
Conducted Spurious Emissions Test Result, 802.11g 5 MHz, Omni Antenna



Plot 567. Conducted Spurious Emissions, Low Channel, 802.11g 5 MHz, Omni Antenna, 30 MHz – 25 GHz

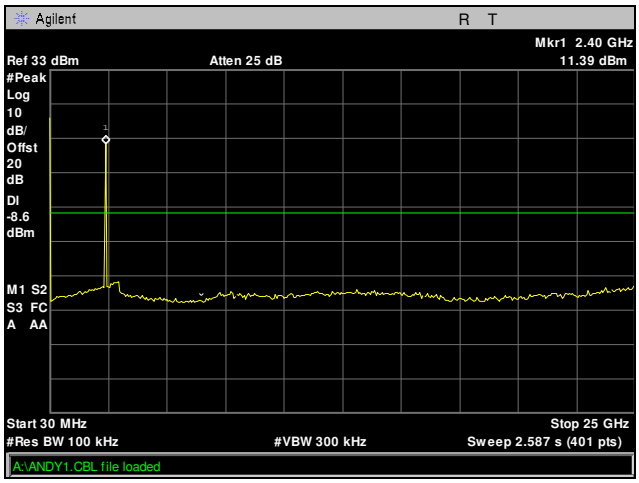


Plot 568. Conducted Spurious Emissions, Mid Channel, 802.11g 5 MHz, Omni Antenna, 30 MHz – 25 GHz

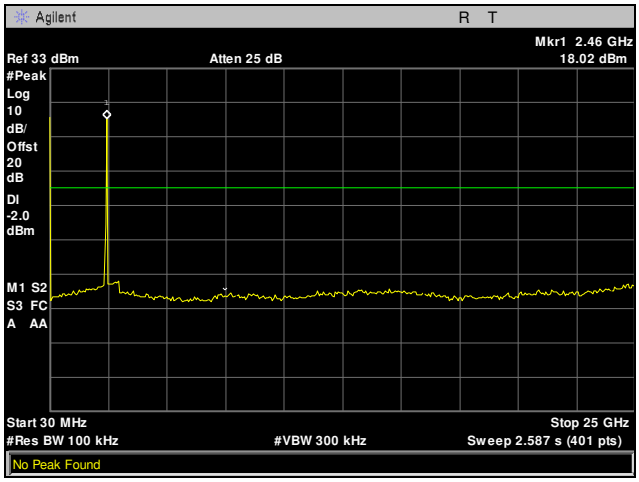


Plot 569. Conducted Spurious Emissions, High Channel, 802.11g 5 MHz, Omni Antenna, 30 MHz – 25 GHz

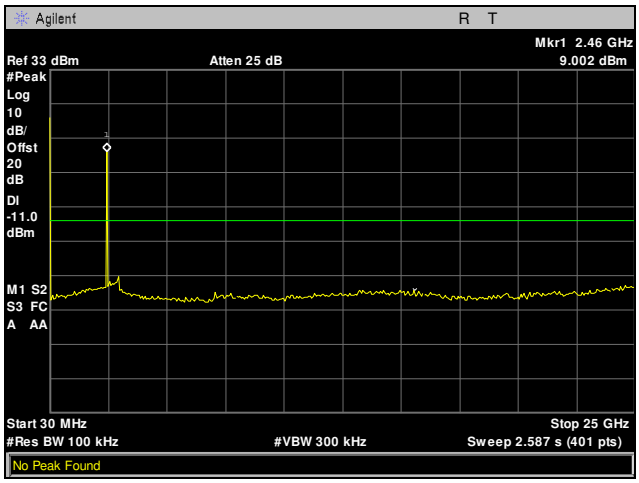
Conducted Spurious Emissions Test Result, 802.11n 5 MHz, Omni Antenna



Plot 570. Conducted Spurious Emissions, Low Channel, 802.11n 5 MHz, Omni Antenna, 30 MHz – 25 GHz

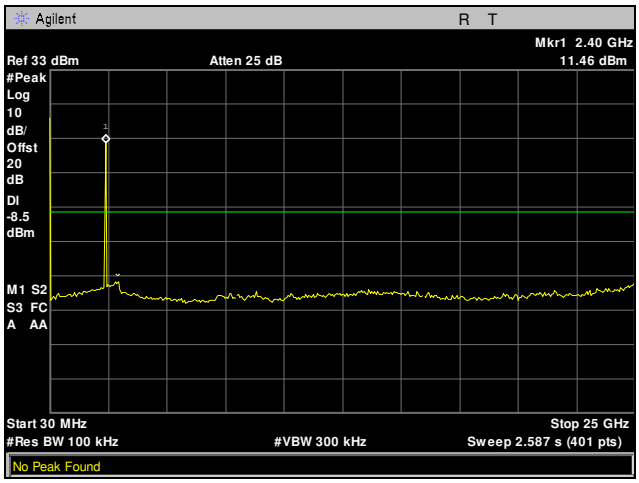


Plot 571. Conducted Spurious Emissions, Mid Channel, 802.11n 5 MHz, Omni Antenna, 30 MHz – 25 GHz

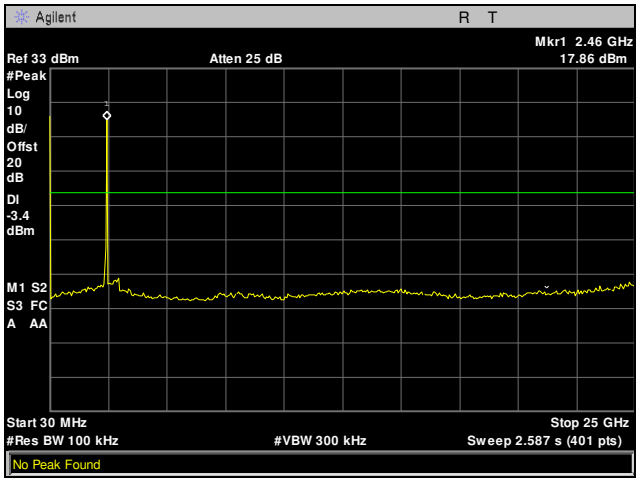


Plot 572. Conducted Spurious Emissions, High Channel, 802.11n 5 MHz, Omni Antenna, 30 MHz – 25 GHz

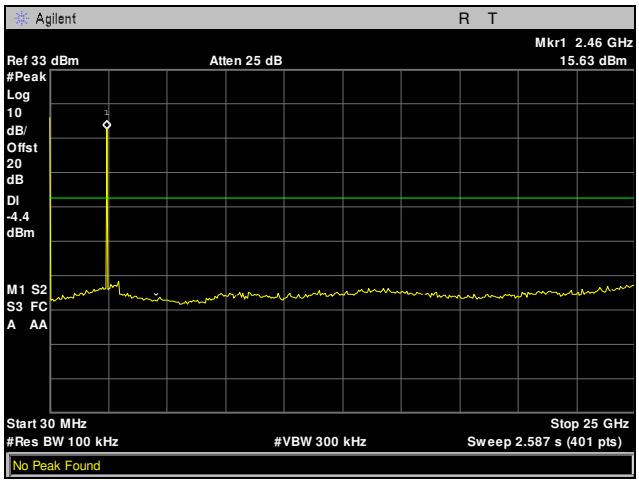
Conducted Spurious Emissions Test Result, 802.11b 10 MHz, Omni Antenna



Plot 573. Conducted Spurious Emissions, Low Channel, 802.11b 10 MHz, Omni Antenna, 30 MHz – 25 GHz

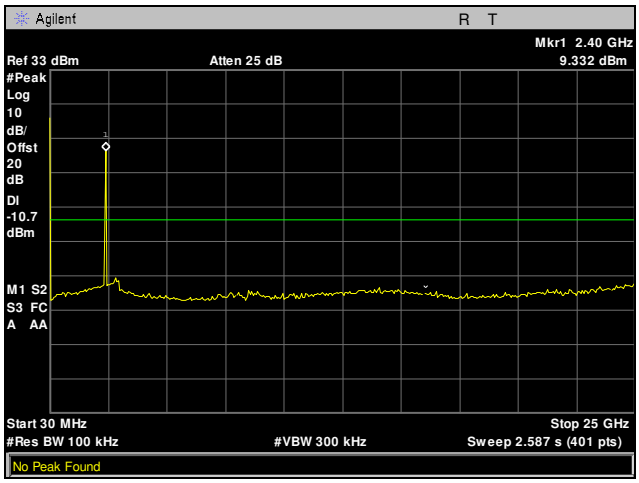


Plot 574. Conducted Spurious Emissions, Mid Channel, 802.11b 10 MHz, Omni Antenna, 30 MHz – 25 GHz

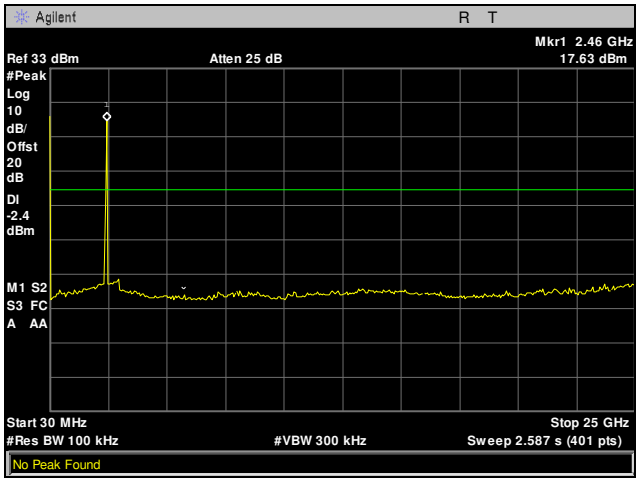


Plot 575. Conducted Spurious Emissions, High Channel, 802.11b 10 MHz, Omni Antenna, 30 MHz – 25 GHz

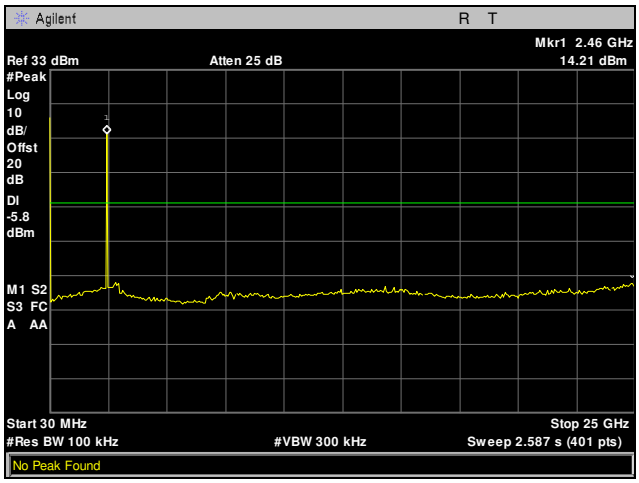
Conducted Spurious Emissions Test Result, 802.11g 10 MHz, Omni Antenna



Plot 576. Conducted Spurious Emissions, Low Channel, 802.11g 10 MHz, Omni Antenna, 30 MHz – 25 GHz

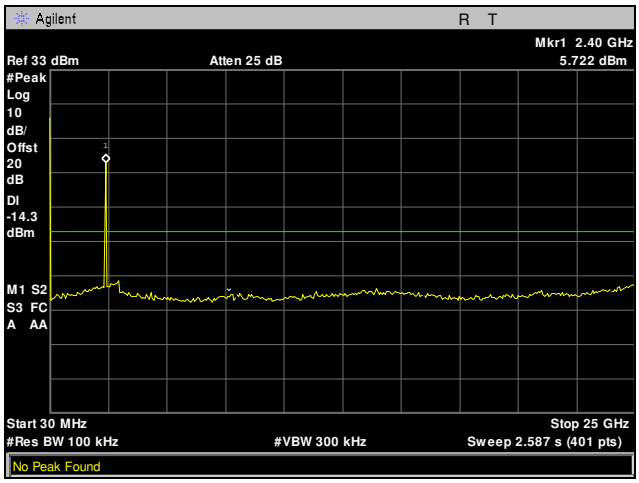


Plot 577. Conducted Spurious Emissions, Mid Channel, 802.11g 10 MHz, Omni Antenna, 30 MHz – 25 GHz

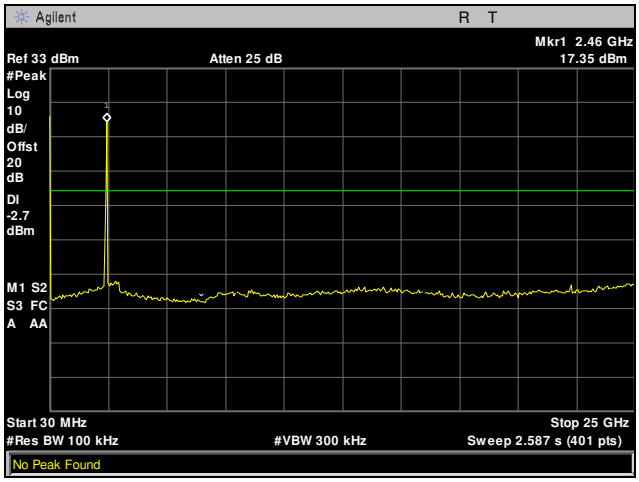


Plot 578. Conducted Spurious Emissions, High Channel, 802.11g 10 MHz, Omni Antenna, 30 MHz – 25 GHz

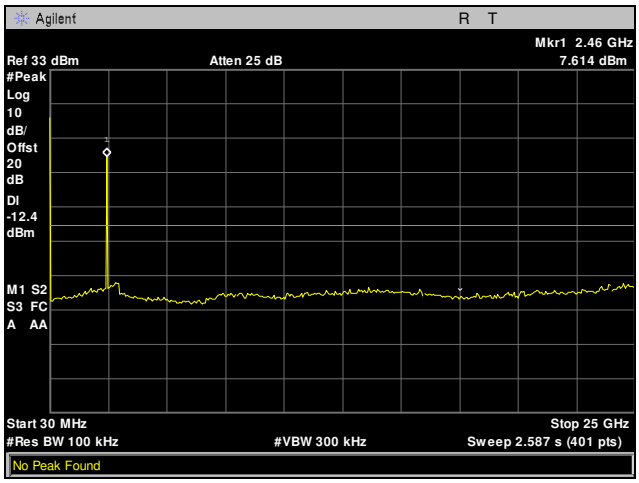
Conducted Spurious Emissions Test Result, 802.11n 10 MHz, Omni Antenna



Plot 579. Conducted Spurious Emissions, Low Channel, 802.11n 10 MHz, Omni Antenna, 30 MHz – 25 GHz

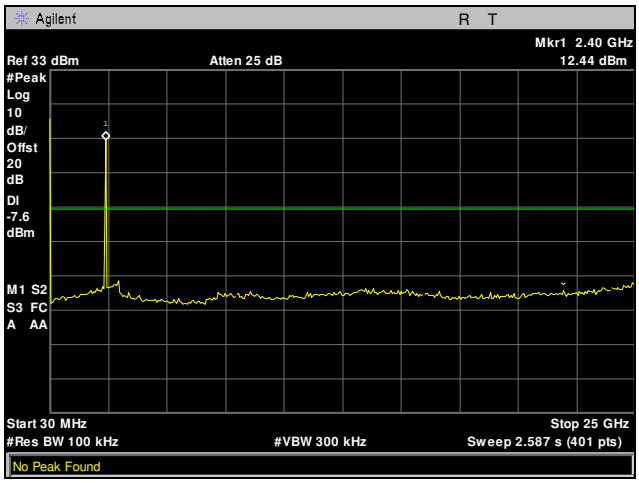


Plot 580. Conducted Spurious Emissions, Mid Channel, 802.11n 10 MHz, Omni Antenna, 30 MHz – 25 GHz

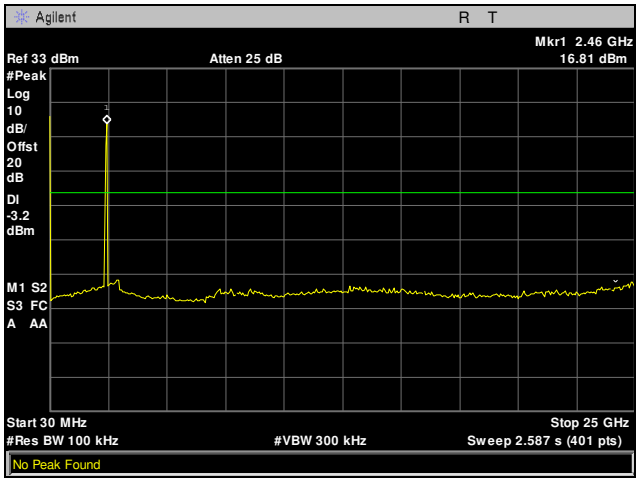


Plot 581. Conducted Spurious Emissions, High Channel, 802.11n 10 MHz, Omni Antenna, 30 MHz – 25 GHz

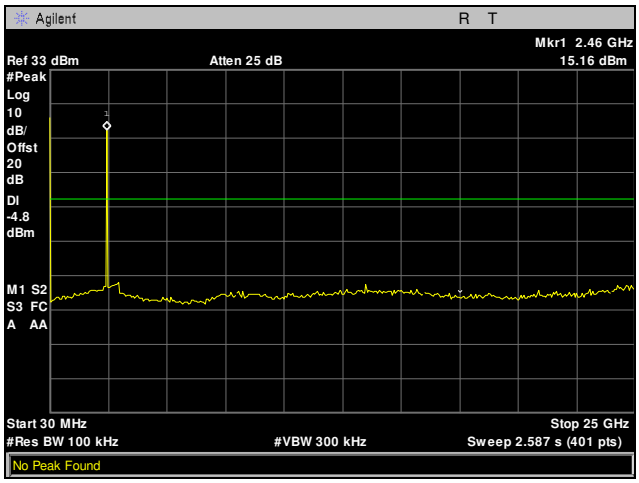
Conducted Spurious Emissions Test Result, 802.11b 20 MHz, Omni Antenna



Plot 582. Conducted Spurious Emissions, Low Channel, 802.11b 20 MHz, Omni Antenna, 30 MHz – 25 GHz

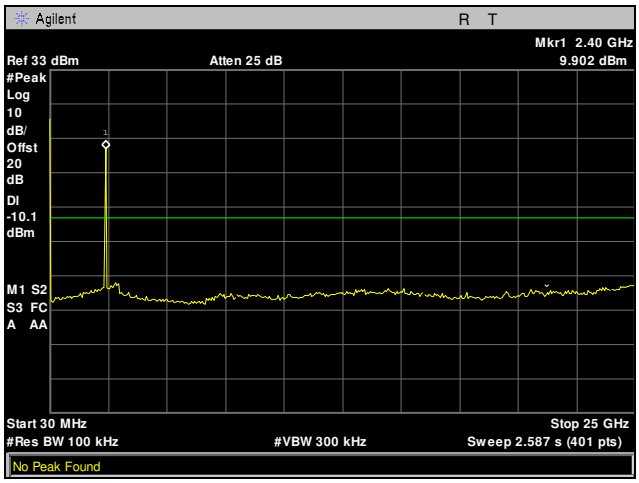


Plot 583. Conducted Spurious Emissions, Mid Channel, 802.11b 20 MHz, Omni Antenna, 30 MHz – 25 GHz

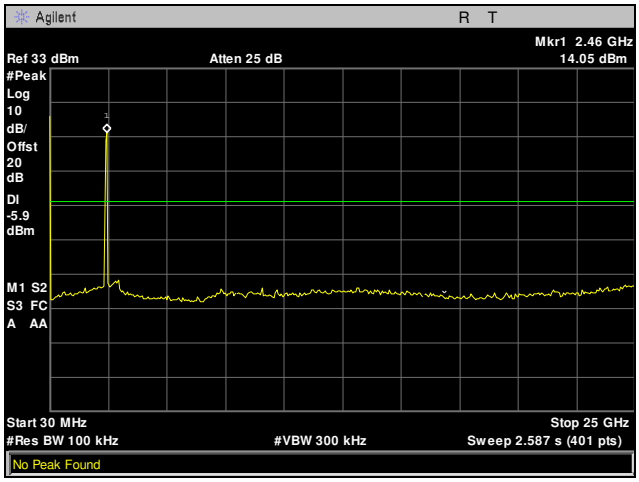


Plot 584. Conducted Spurious Emissions, High Channel, 802.11b 20 MHz, Omni Antenna, 30 MHz – 25 GHz

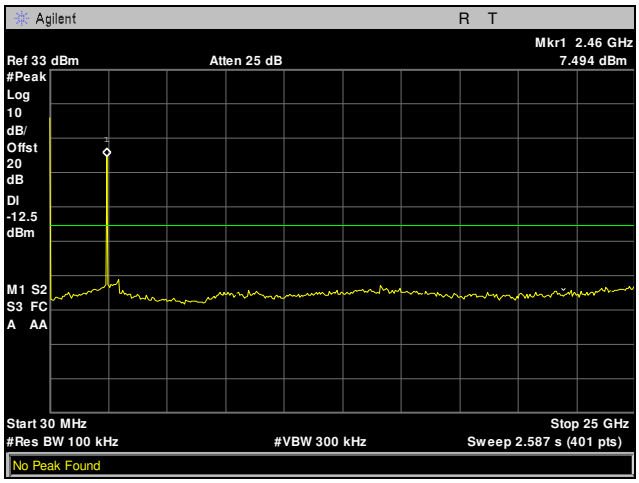
Conducted Spurious Emissions Test Result, 802.11g 20 MHz, Omni Antenna



Plot 585. Conducted Spurious Emissions, Low Channel, 802.11g 20 MHz, Omni Antenna, 30 MHz – 25 GHz

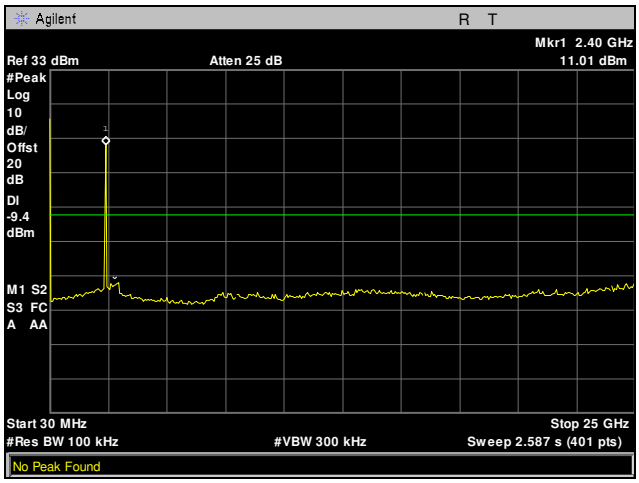


Plot 586. Conducted Spurious Emissions, Mid Channel, 802.11g 20 MHz, Omni Antenna, 30 MHz – 25 GHz

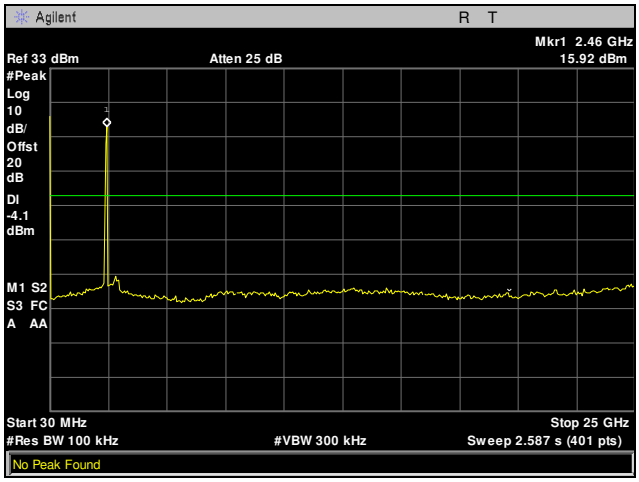


Plot 587. Conducted Spurious Emissions, High Channel, 802.11g 20 MHz, Omni Antenna, 30 MHz – 25 GHz

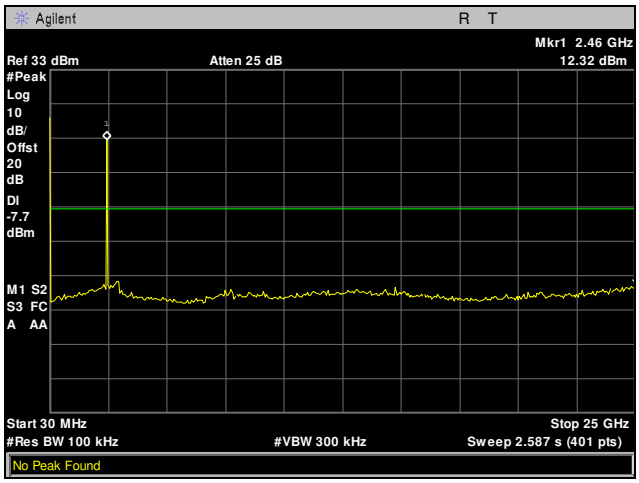
Conducted Spurious Emissions Test Result, 802.11n 20 MHz, Omni Antenna



Plot 588. Conducted Spurious Emissions, Low Channel, 802.11n 20 MHz, Omni Antenna, 30 MHz – 25 GHz

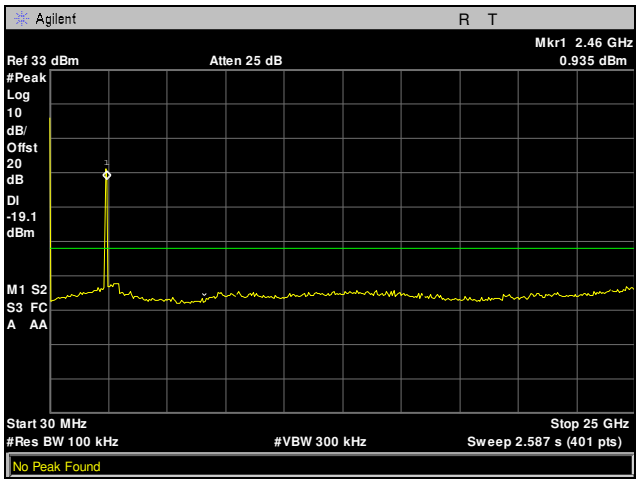


Plot 589. Conducted Spurious Emissions, Mid Channel, 802.11n 20 MHz, Omni Antenna, 30 MHz – 25 GHz

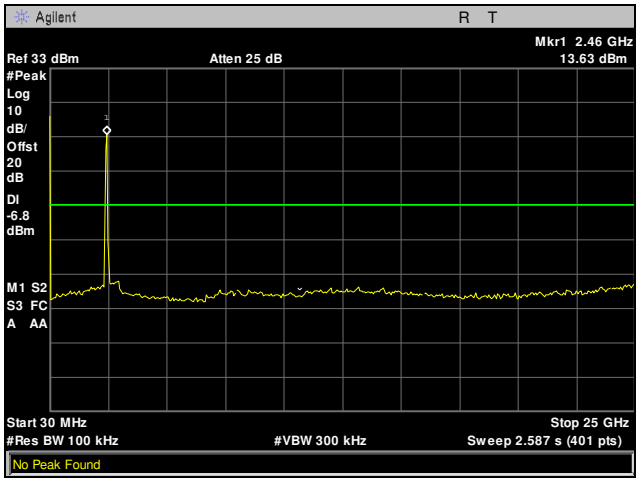


Plot 590. Conducted Spurious Emissions, High Channel, 802.11n 20 MHz, Omni Antenna, 30 MHz – 25 GHz

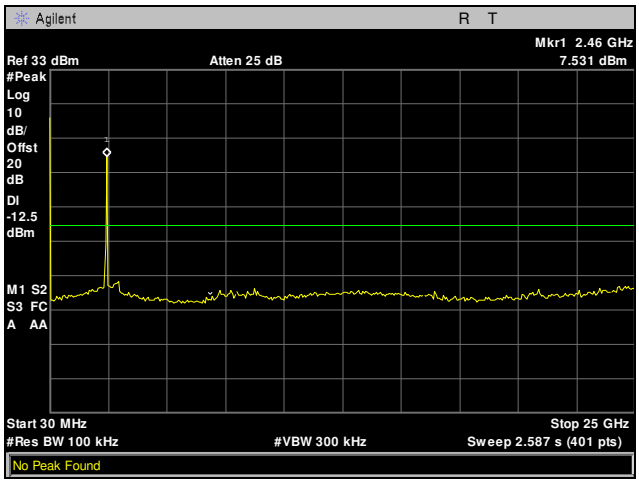
Conducted Spurious Emissions Test Result, 802.11g 40 MHz, Omni Antenna



Plot 591. Conducted Spurious Emissions, Low Channel, 802.11g 40 MHz, Omni Antenna, 30 MHz – 25 GHz

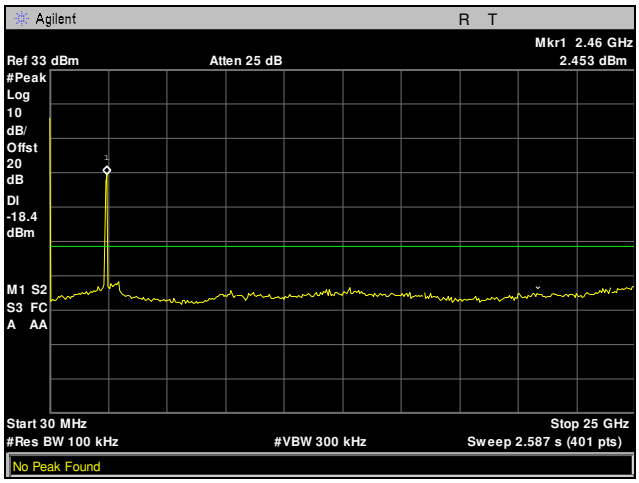


Plot 592. Conducted Spurious Emissions, Mid Channel, 802.11g 40 MHz, Omni Antenna, 30 MHz – 25 GHz

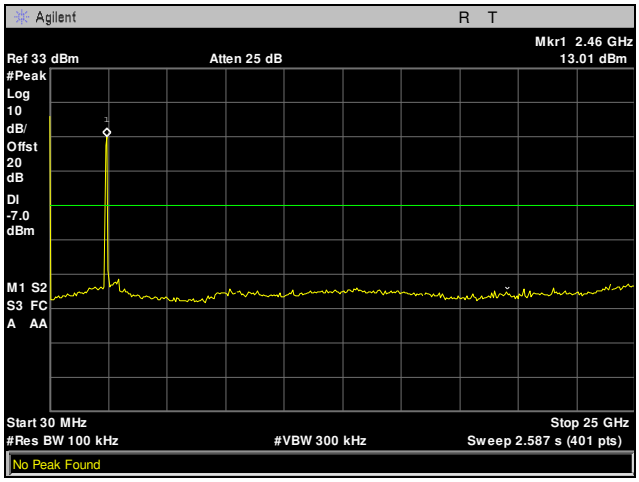


Plot 593. Conducted Spurious Emissions, High Channel, 802.11g 40 MHz, Omni Antenna, 30 MHz – 25 GHz

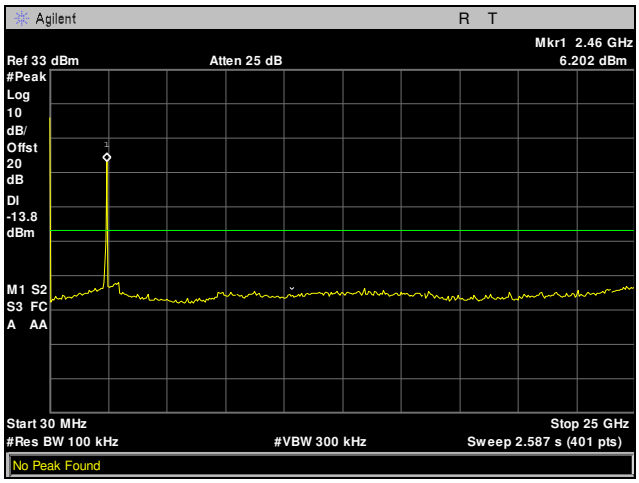
Conducted Spurious Emissions Test Result, 802.11n 40 MHz, Omni Antenna



Plot 594. Conducted Spurious Emissions, Low Channel, 802.11n 40 MHz, Omni Antenna, 30 MHz – 25 GHz

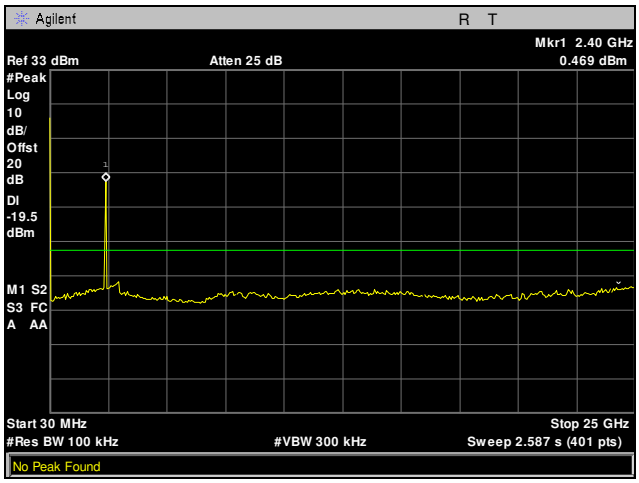


Plot 595. Conducted Spurious Emissions, Mid Channel, 802.11n 40 MHz, Omni Antenna, 30 MHz – 25 GHz

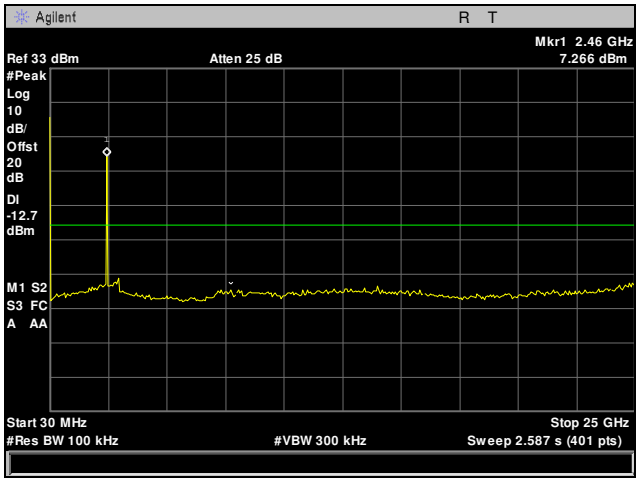


Plot 596. Conducted Spurious Emissions, High Channel, 802.11n 40 MHz, Omni Antenna, 30 MHz – 25 GHz

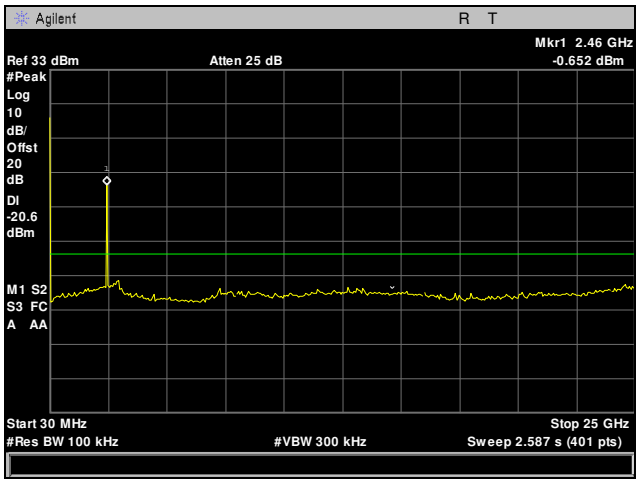
Conducted Spurious Emissions Test Result, 802.11b 5 MHz, Parabolic Antenna



Plot 597. Conducted Spurious Emissions, Low Channel, 802.11b 5 MHz, Parabolic Antenna, 30 MHz – 25 GHz

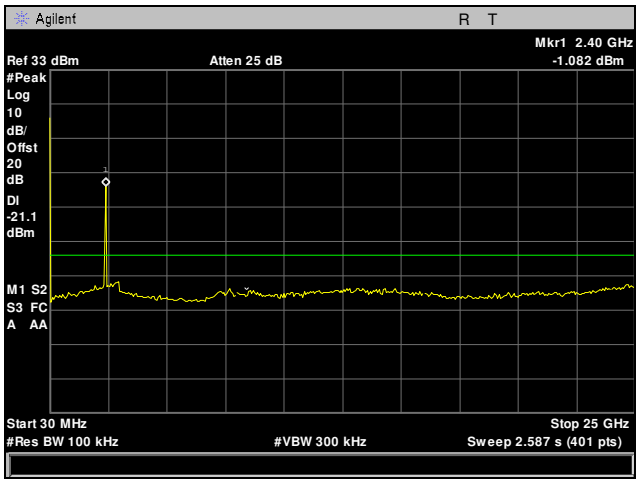


Plot 598. Conducted Spurious Emissions, Mid Channel, 802.11b 5 MHz, Parabolic Antenna, 30 MHz – 25 GHz

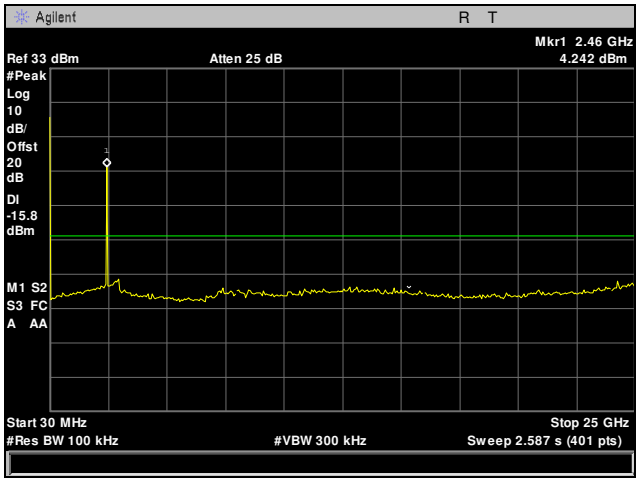


Plot 599. Conducted Spurious Emissions, High Channel, 802.11b 5 MHz, Parabolic Antenna, 30 MHz – 25 GHz

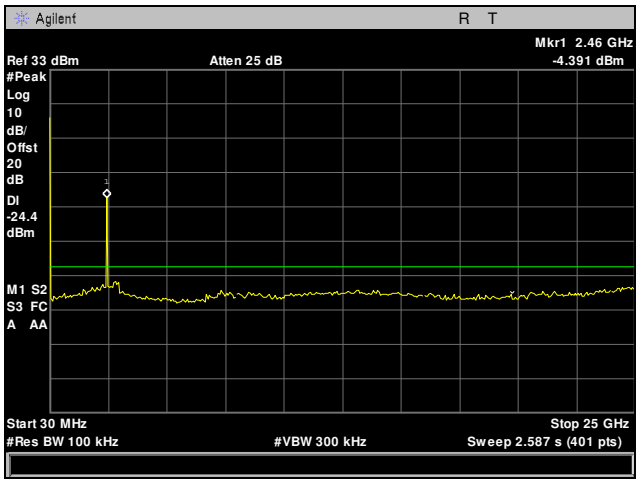
Conducted Spurious Emissions Test Result, 802.11g 5 MHz, Parabolic Antenna



Plot 600. Conducted Spurious Emissions, Low Channel, 802.11g 5 MHz, Parabolic Antenna, 30 MHz – 25 GHz

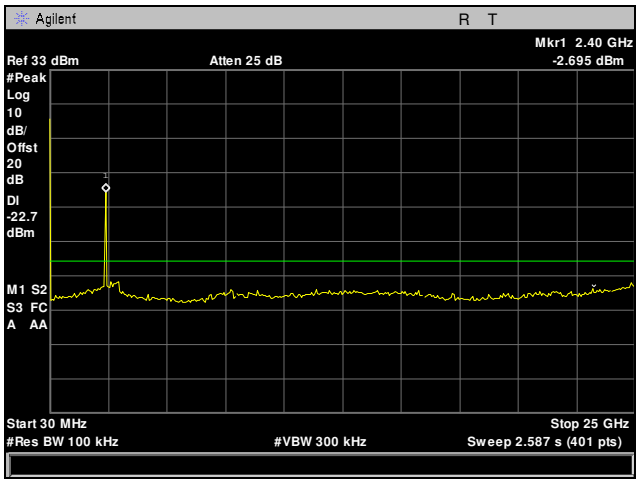


Plot 601. Conducted Spurious Emissions, Mid Channel, 802.11g 5 MHz, Parabolic Antenna, 30 MHz – 25 GHz

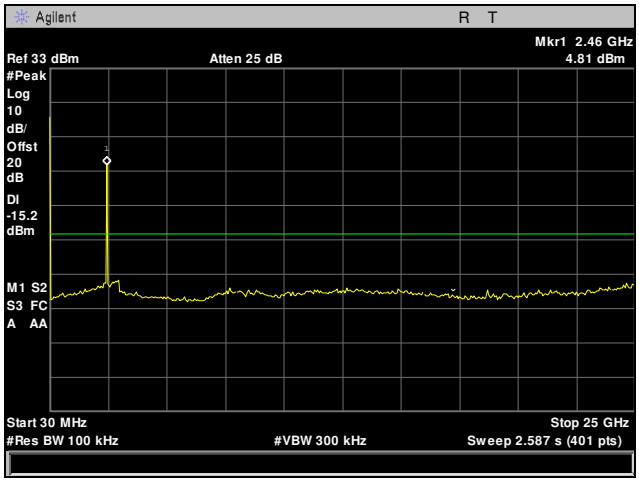


Plot 602. Conducted Spurious Emissions, High Channel, 802.11g 5 MHz, Parabolic Antenna, 30 MHz – 25 GHz

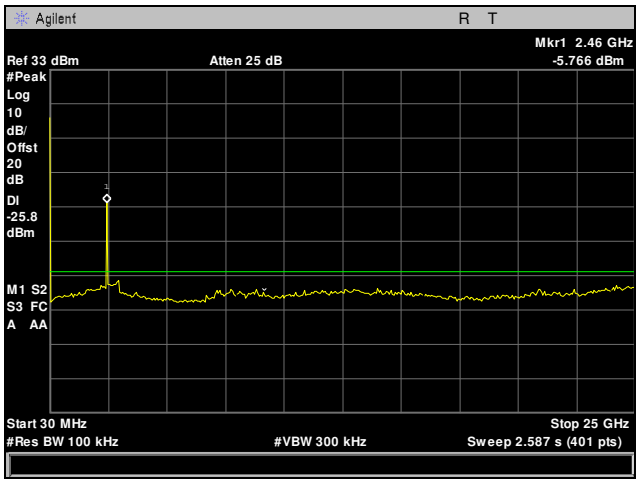
Conducted Spurious Emissions Test Result, 802.11n 5 MHz, Parabolic Antenna



Plot 603. Conducted Spurious Emissions, Low Channel, 802.11n 5 MHz, Parabolic Antenna, 30 MHz – 25 GHz

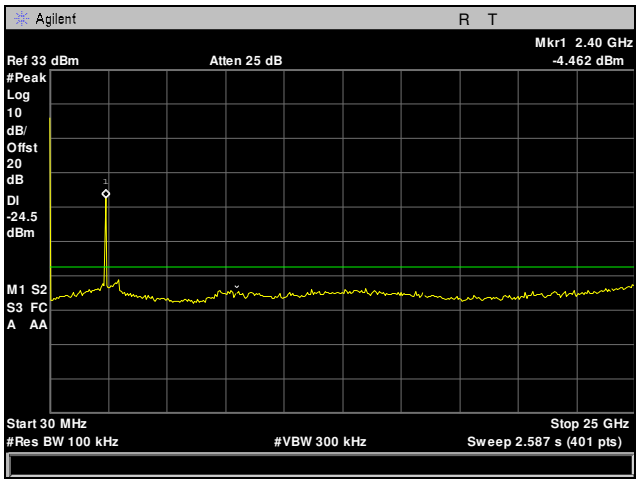


Plot 604. Conducted Spurious Emissions, Mid Channel, 802.11n 5 MHz, Parabolic Antenna, 30 MHz – 25 GHz

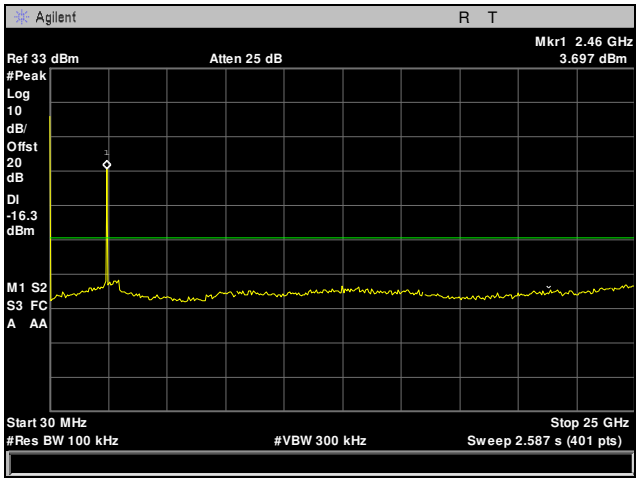


Plot 605. Conducted Spurious Emissions, High Channel, 802.11n 5 MHz, Parabolic Antenna, 30 MHz – 25 GHz

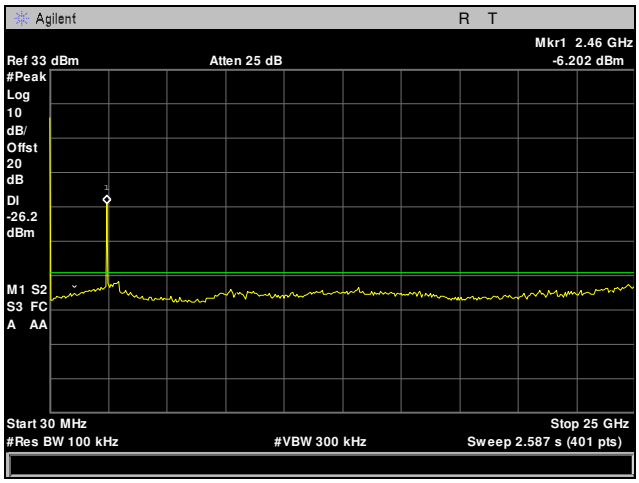
Conducted Spurious Emissions Test Result, 802.11b 10 MHz, Parabolic Antenna



Plot 606. Conducted Spurious Emissions, Low Channel, 802.11b 10 MHz, Parabolic Antenna, 30 MHz – 25 GHz

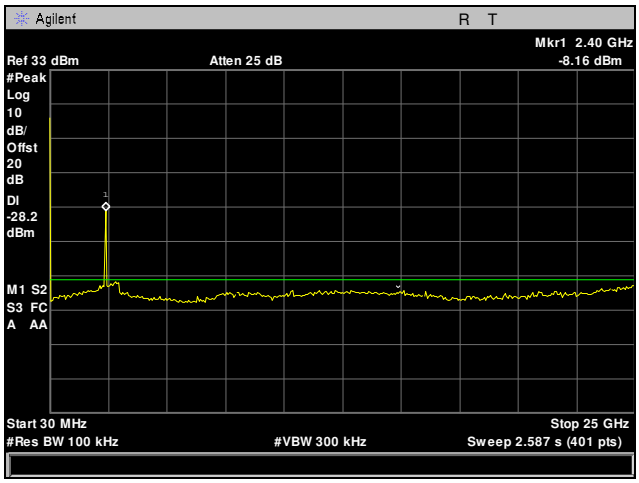


Plot 607. Conducted Spurious Emissions, Mid Channel, 802.11b 10 MHz, Parabolic Antenna, 30 MHz – 25 GHz

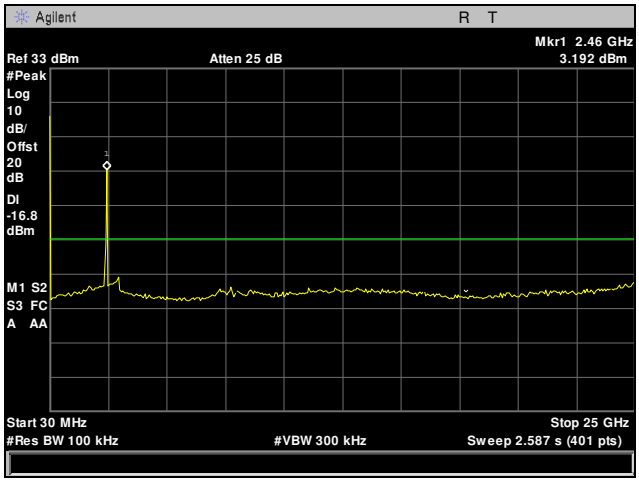


Plot 608. Conducted Spurious Emissions, High Channel, 802.11b 10 MHz, Parabolic Antenna, 30 MHz – 25 GHz

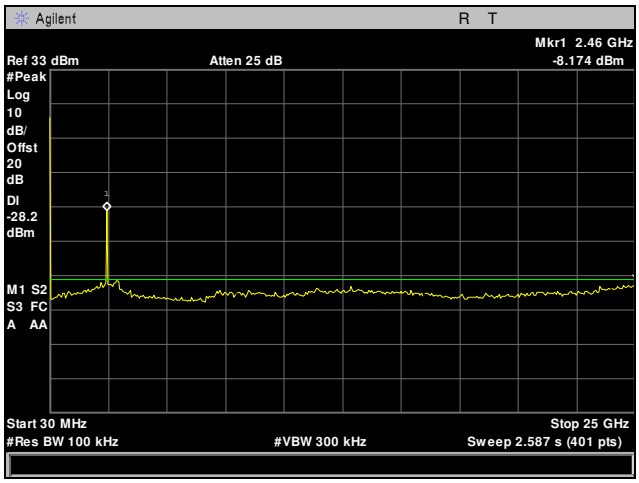
Conducted Spurious Emissions Test Result, 802.11g 10 MHz, Parabolic Antenna



Plot 609. Conducted Spurious Emissions, Low Channel, 802.11g 10 MHz, Parabolic Antenna, 30 MHz – 25 GHz

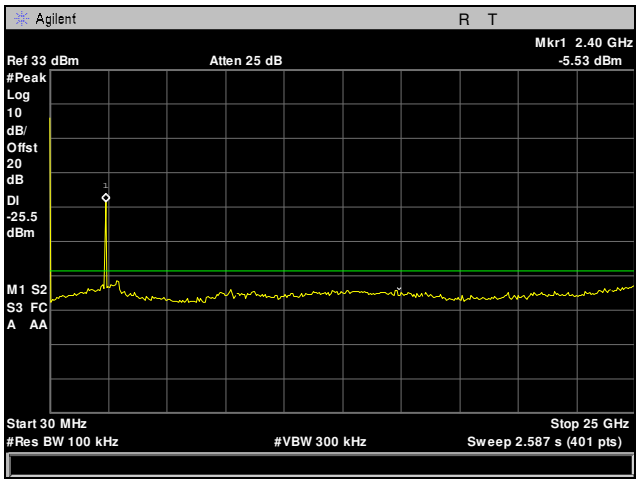


Plot 610. Conducted Spurious Emissions, Mid Channel, 802.11g 10 MHz, Parabolic Antenna, 30 MHz – 25 GHz

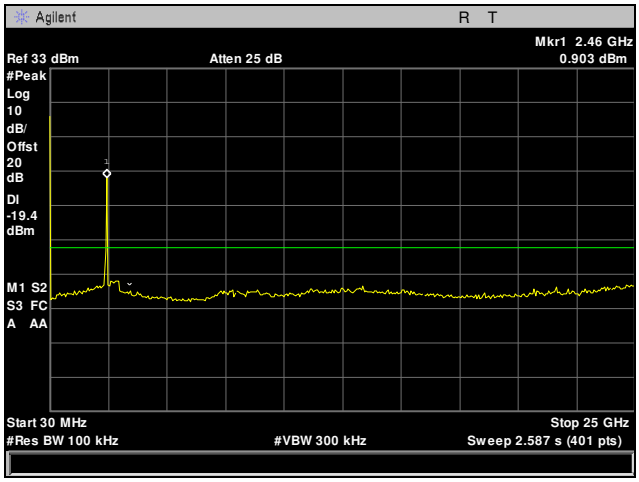


Plot 611. Conducted Spurious Emissions, High Channel, 802.11g 10 MHz, Parabolic Antenna, 30 MHz – 25 GHz

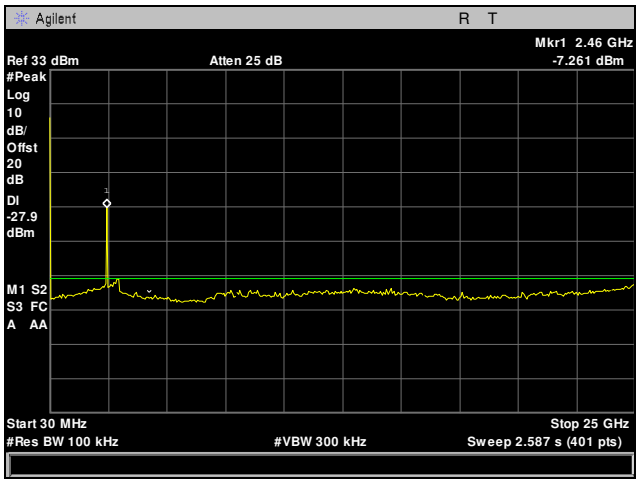
Conducted Spurious Emissions Test Result, 802.11n 10 MHz, Parabolic Antenna



Plot 612. Conducted Spurious Emissions, Low Channel, 802.11n 10 MHz, Parabolic Antenna, 30 MHz – 25 GHz

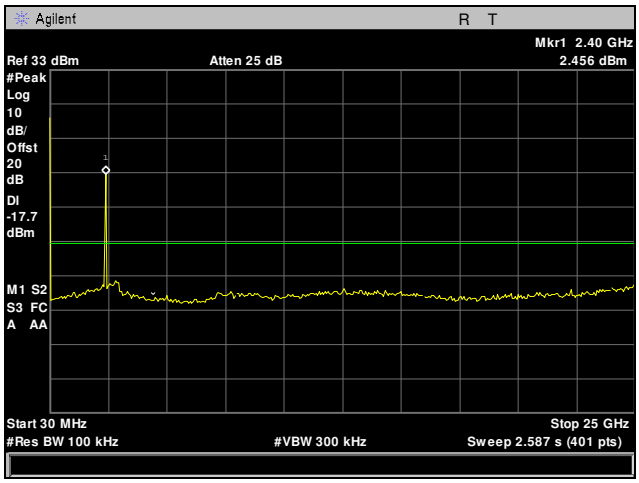


Plot 613. Conducted Spurious Emissions, Mid Channel, 802.11n 10 MHz, Parabolic Antenna, 30 MHz – 25 GHz

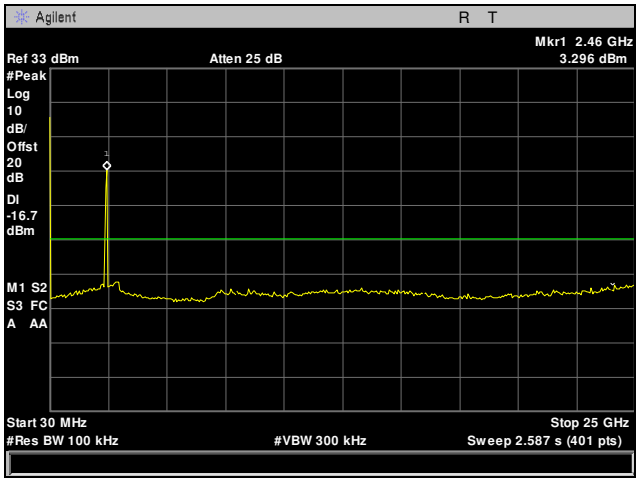


Plot 614. Conducted Spurious Emissions, High Channel, 802.11n 10 MHz, Parabolic Antenna, 30 MHz – 25 GHz

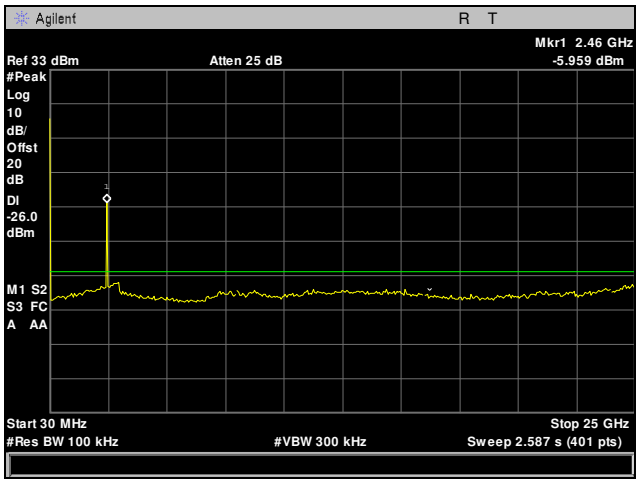
Conducted Spurious Emissions Test Result, 802.11b 20 MHz, Parabolic Antenna



Plot 615. Conducted Spurious Emissions, Low Channel, 802.11b 20 MHz, Parabolic Antenna, 30 MHz – 25 GHz

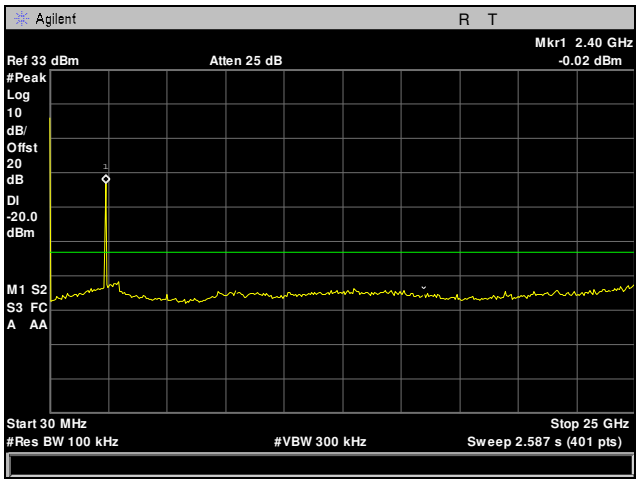


Plot 616. Conducted Spurious Emissions, Mid Channel, 802.11b 20 MHz, Parabolic Antenna, 30 MHz – 25 GHz

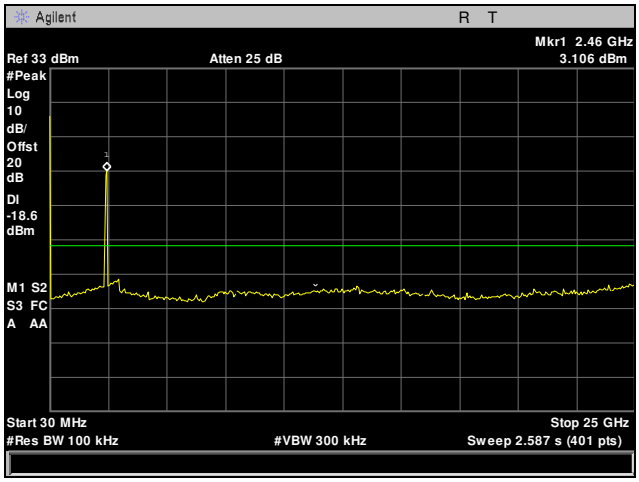


Plot 617. Conducted Spurious Emissions, High Channel, 802.11b 20 MHz, Parabolic Antenna, 30 MHz – 25 GHz

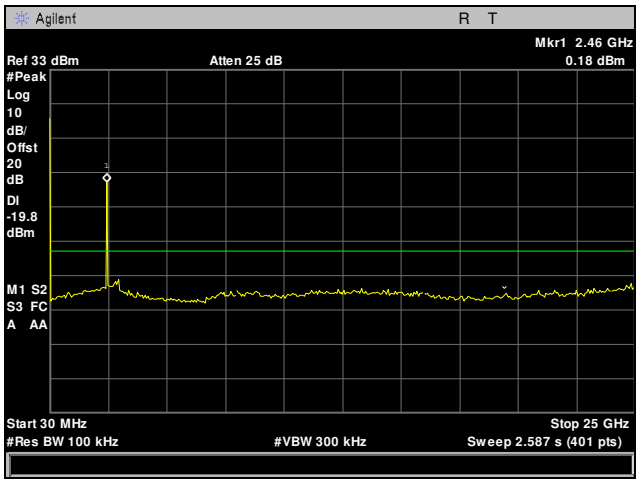
Conducted Spurious Emissions Test Result, 802.11g 20 MHz, Parabolic Antenna



Plot 618. Conducted Spurious Emissions, Low Channel, 802.11g 20 MHz, Parabolic Antenna, 30 MHz – 25 GHz

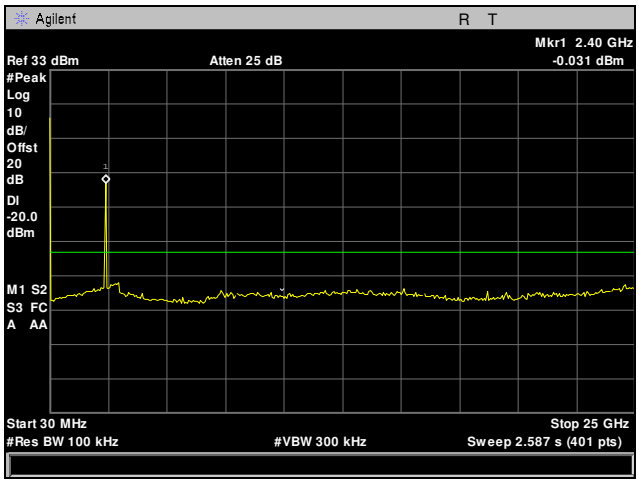


Plot 619. Conducted Spurious Emissions, Mid Channel, 802.11g 20 MHz, Parabolic Antenna, 30 MHz – 25 GHz

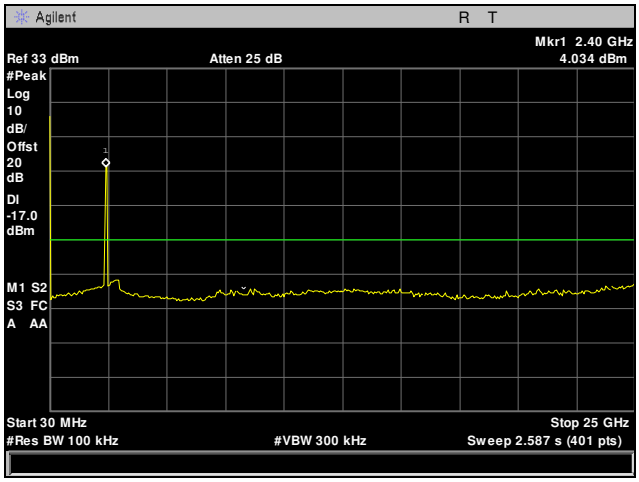


Plot 620. Conducted Spurious Emissions, High Channel, 802.11g 20 MHz, Parabolic Antenna, 30 MHz – 25 GHz

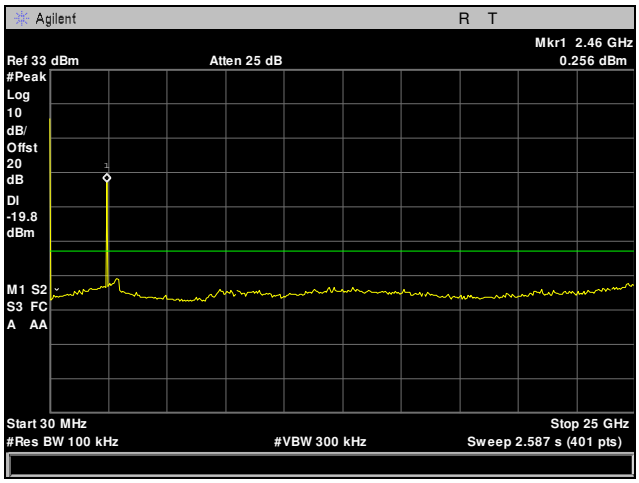
Conducted Spurious Emissions Test Result, 802.11n 20 MHz, Parabolic Antenna



Plot 621. Conducted Spurious Emissions, Low Channel, 802.11n 20 MHz, Parabolic Antenna, 30 MHz – 25 GHz

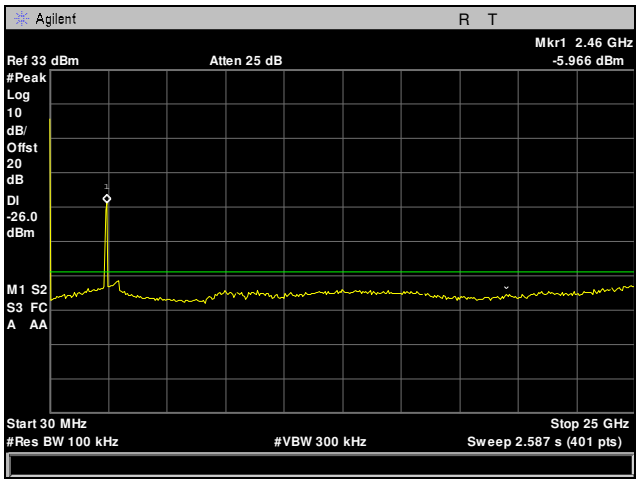


Plot 622. Conducted Spurious Emissions, Mid Channel, 802.11n 20 MHz, Parabolic Antenna, 30 MHz – 25 GHz

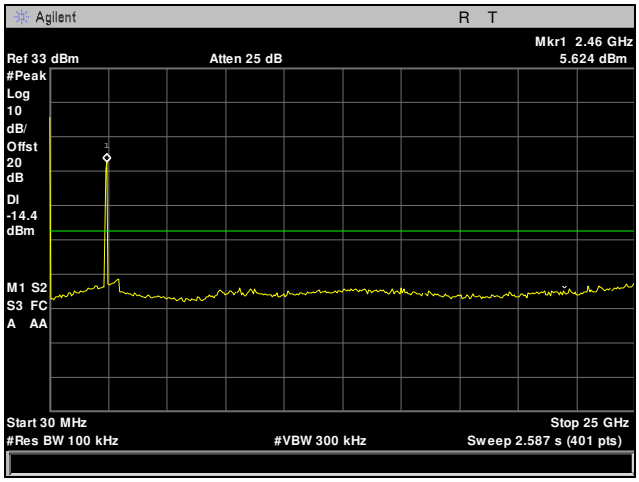


Plot 623. Conducted Spurious Emissions, High Channel, 802.11n 20 MHz, Parabolic Antenna, 30 MHz – 25 GHz

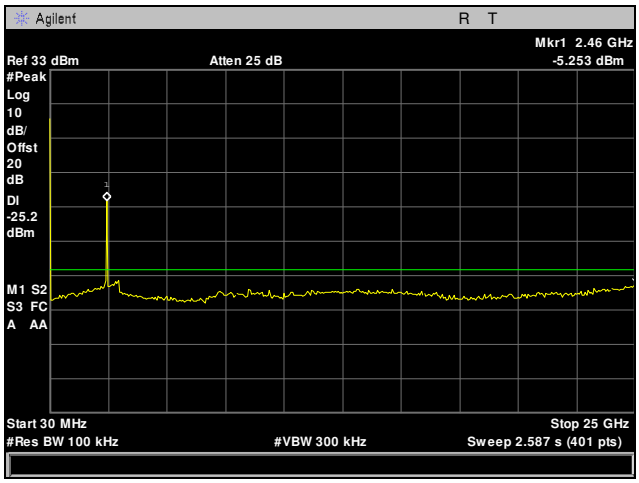
Conducted Spurious Emissions Test Result, 802.11g 40 MHz, Parabolic Antenna



Plot 624. Conducted Spurious Emissions, Low Channel, 802.11g 40 MHz, Parabolic Antenna, 30 MHz – 25 GHz

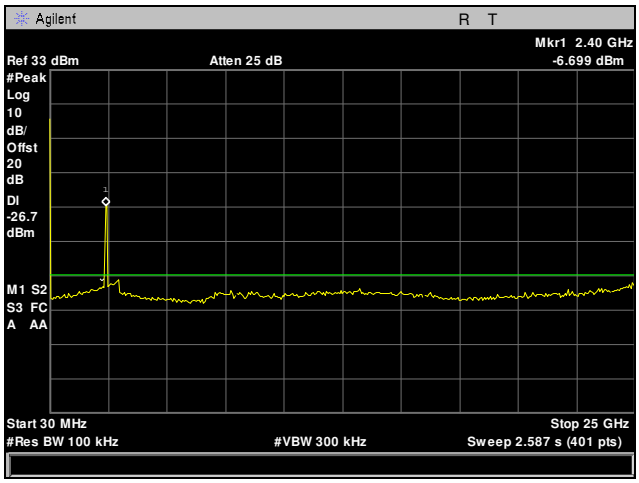


Plot 625. Conducted Spurious Emissions, Mid Channel, 802.11g 40 MHz, Parabolic Antenna, 30 MHz – 25 GHz

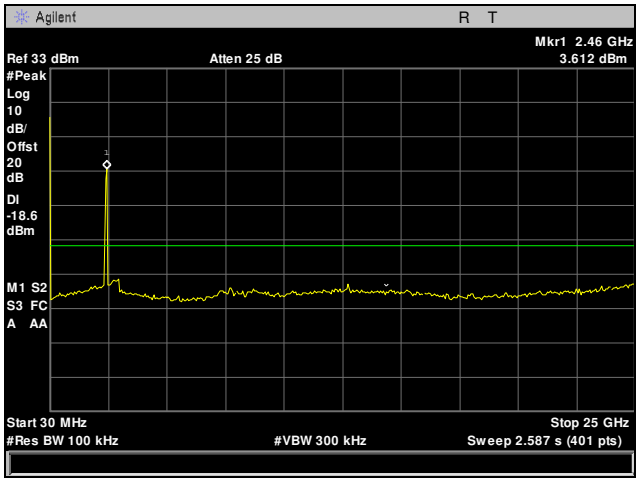


Plot 626. Conducted Spurious Emissions, High Channel, 802.11g 40 MHz, Parabolic Antenna, 30 MHz – 25 GHz

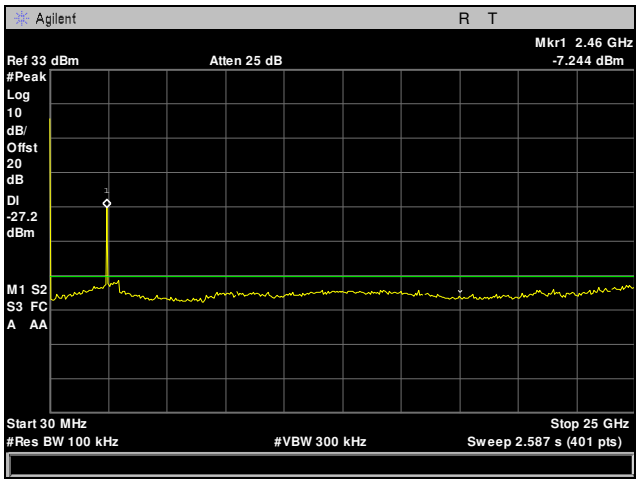
Conducted Spurious Emissions Test Result, 802.11n 40 MHz, Parabolic Antenna



Plot 627. Conducted Spurious Emissions, Low Channel, 802.11n 40 MHz, Parabolic Antenna, 30 MHz – 25 GHz

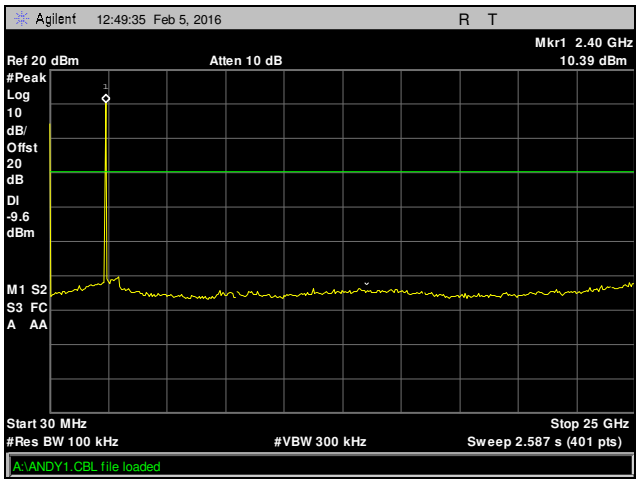


Plot 628. Conducted Spurious Emissions, Mid Channel, 802.11n 40 MHz, Parabolic Antenna, 30 MHz – 25 GHz

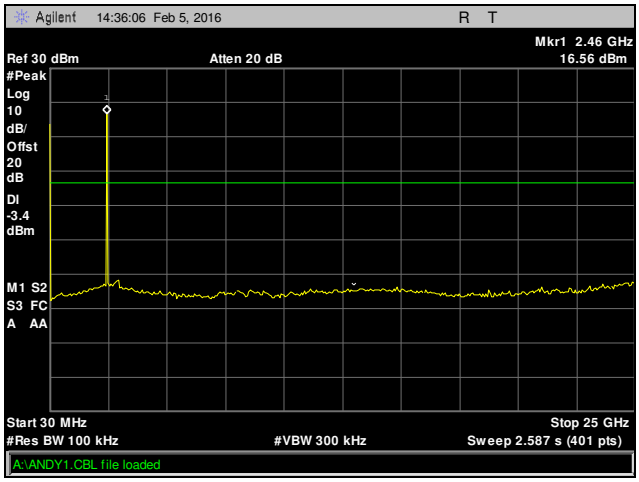


Plot 629. Conducted Spurious Emissions, High Channel, 802.11n 40 MHz, Parabolic Antenna, 30 MHz – 25 GHz

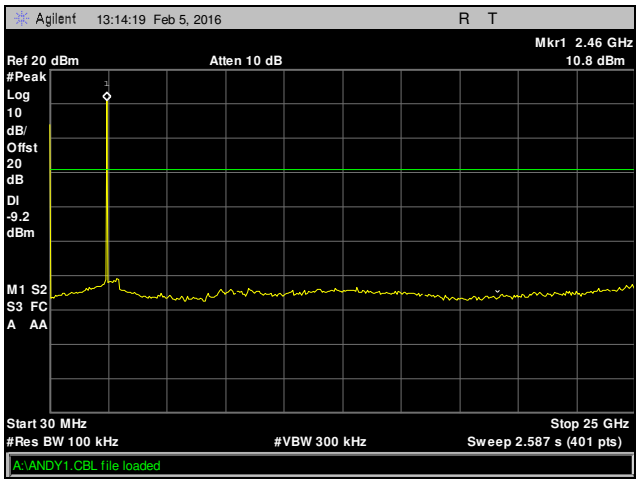
Conducted Spurious Emissions Test Result, 802.11b 5 MHz, Yagi Antenna



Plot 630. Conducted Spurious Emissions, Low Channel, 802.11b 5 MHz, Yagi Antenna, 30 MHz – 25 GHz

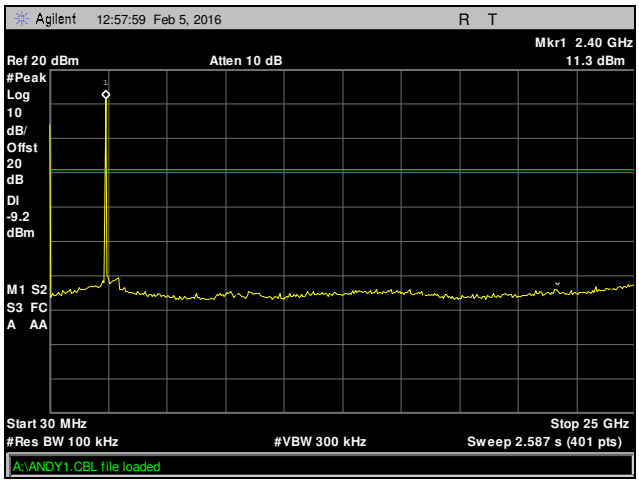


Plot 631. Conducted Spurious Emissions, Mid Channel, 802.11b 5 MHz, Yagi Antenna, 30 MHz – 25 GHz

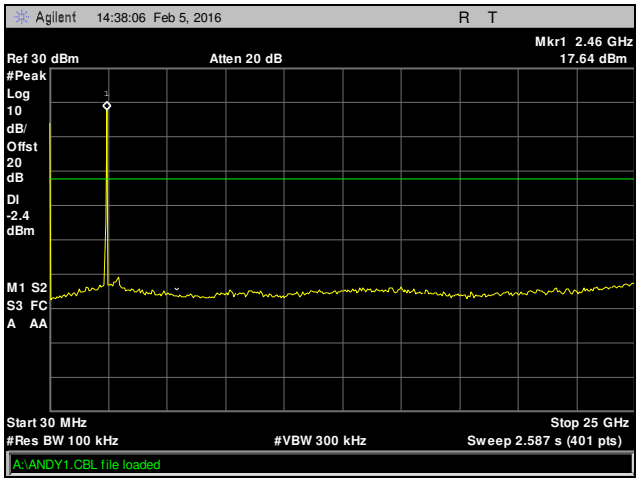


Plot 632. Conducted Spurious Emissions, High Channel, 802.11b 5 MHz, Yagi Antenna, 30 MHz – 25 GHz

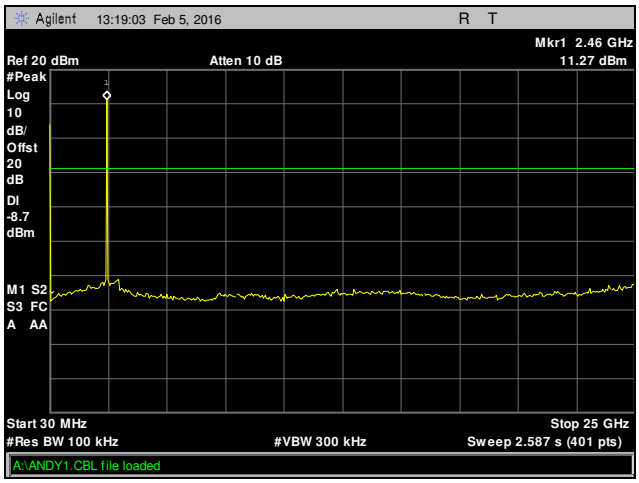
Conducted Spurious Emissions Test Result, 802.11g 5 MHz, Yagi Antenna



Plot 633. Conducted Spurious Emissions, Low Channel, 802.11g 5 MHz, Yagi Antenna, 30 MHz – 25 GHz

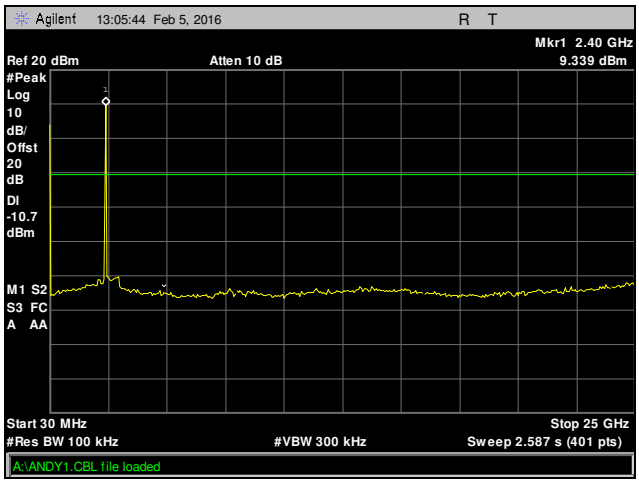


Plot 634. Conducted Spurious Emissions, Mid Channel, 802.11g 5 MHz, Yagi Antenna, 30 MHz – 25 GHz

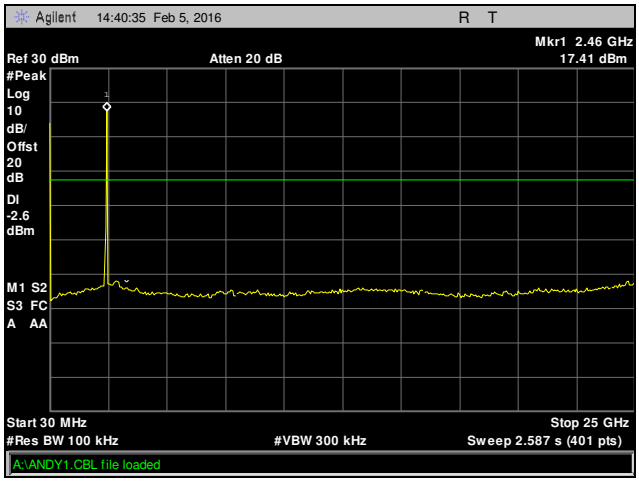


Plot 635. Conducted Spurious Emissions, High Channel, 802.11g 5 MHz, Yagi Antenna, 30 MHz – 25 GHz

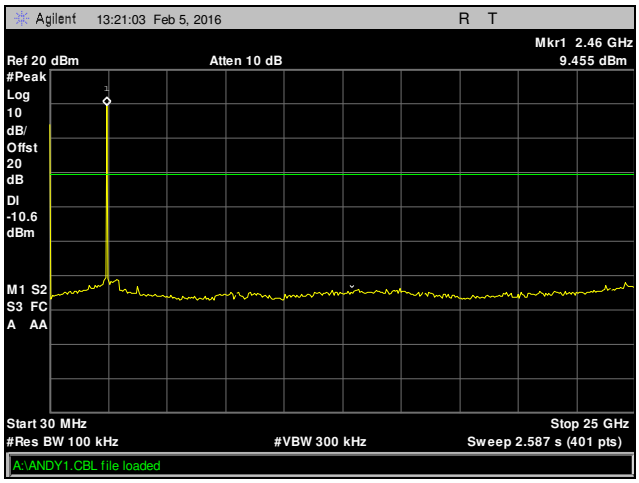
Conducted Spurious Emissions Test Result, 802.11n 5 MHz, Yagi Antenna



Plot 636. Conducted Spurious Emissions, Low Channel, 802.11n 5 MHz, Yagi Antenna, 30 MHz – 25 GHz

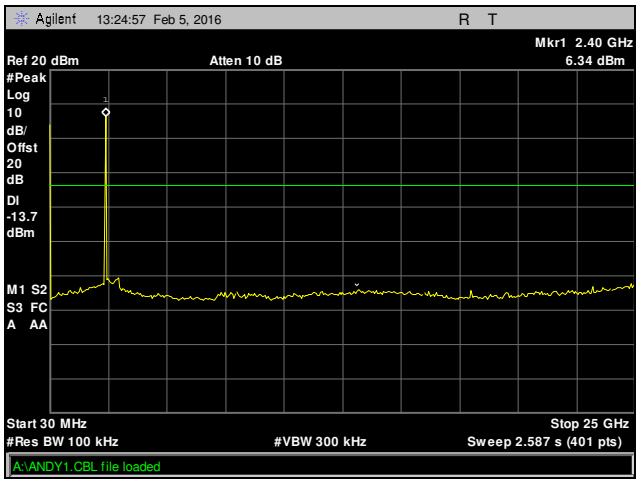


Plot 637. Conducted Spurious Emissions, Mid Channel, 802.11n 5 MHz, Yagi Antenna, 30 MHz – 25 GHz

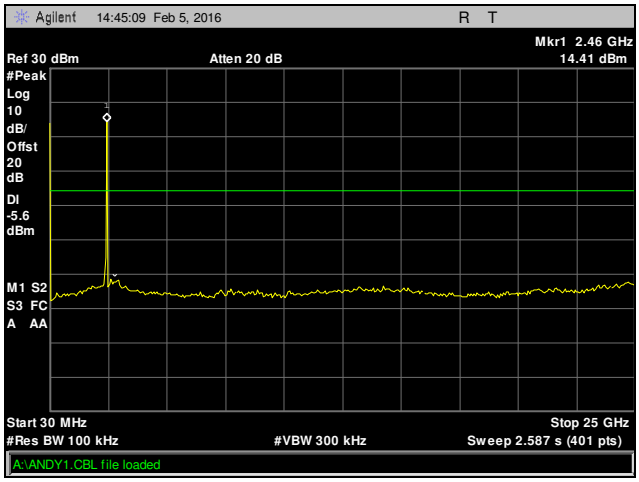


Plot 638. Conducted Spurious Emissions, High Channel, 802.11n 5 MHz, Yagi Antenna, 30 MHz – 25 GHz

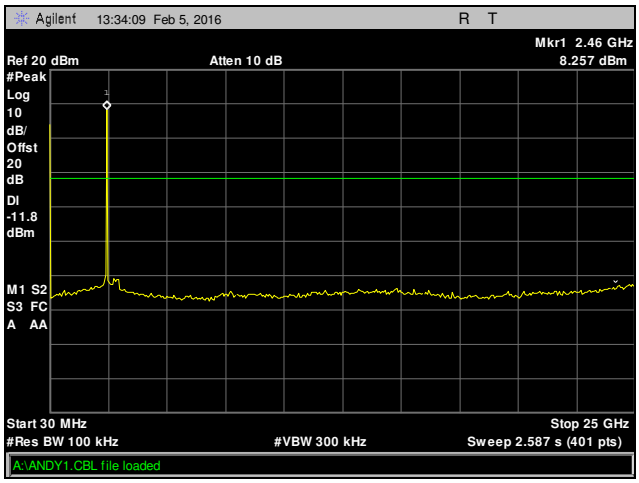
Conducted Spurious Emissions Test Result, 802.11b 10 MHz, Yagi Antenna



Plot 639. Conducted Spurious Emissions, Low Channel, 802.11b 10 MHz, Yagi Antenna, 30 MHz – 25 GHz

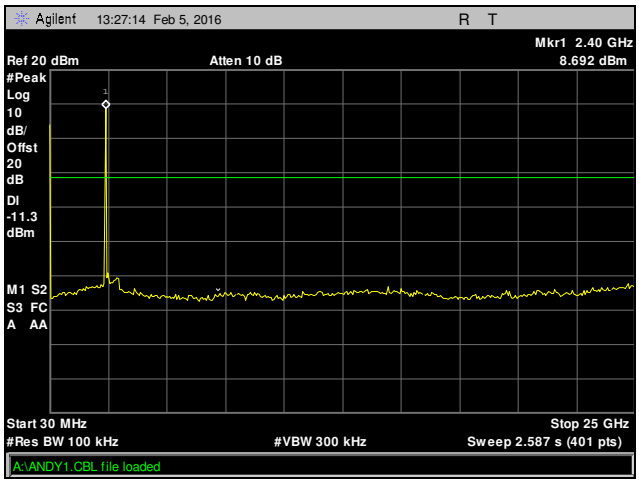


Plot 640. Conducted Spurious Emissions, Mid Channel, 802.11b 10 MHz, Yagi Antenna, 30 MHz – 25 GHz

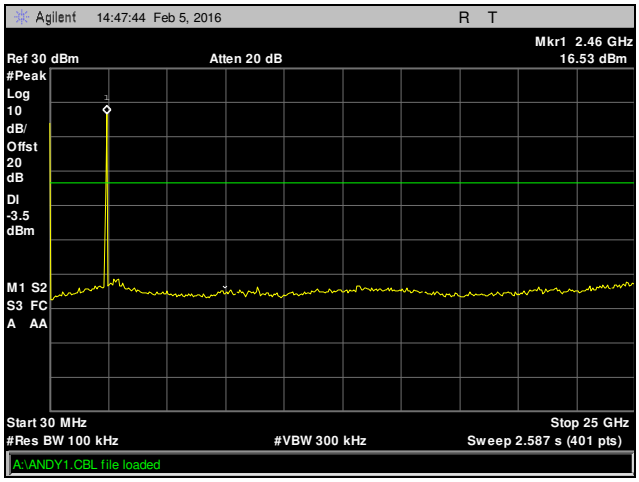


Plot 641. Conducted Spurious Emissions, High Channel, 802.11b 10 MHz, Yagi Antenna, 30 MHz – 25 GHz

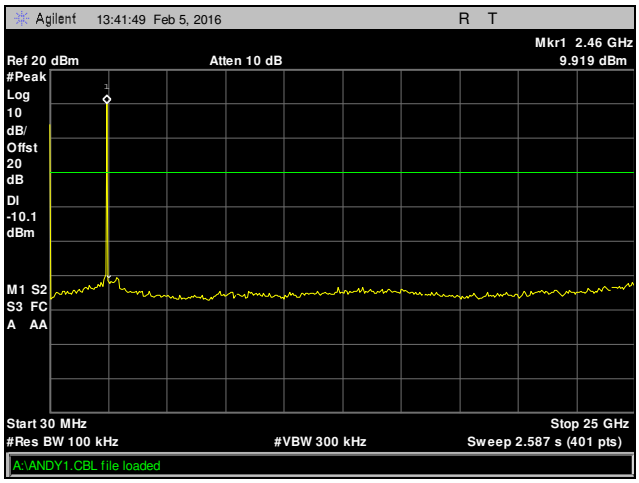
Conducted Spurious Emissions Test Result, 802.11g 10 MHz, Yagi Antenna



Plot 642. Conducted Spurious Emissions, Low Channel, 802.11g 10 MHz, Yagi Antenna, 30 MHz – 25 GHz

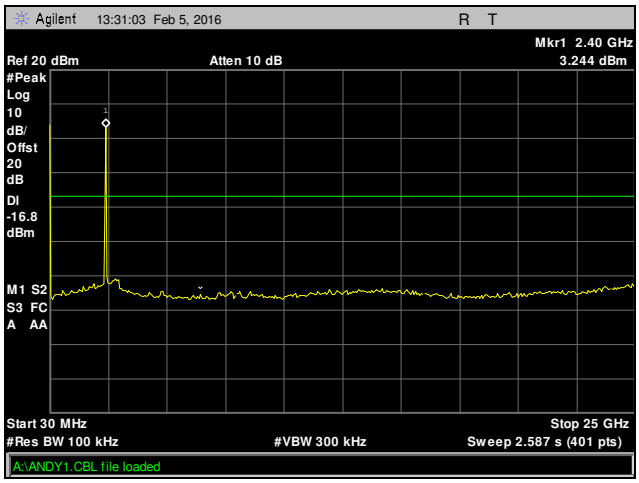


Plot 643. Conducted Spurious Emissions, Mid Channel, 802.11g 10 MHz, Yagi Antenna, 30 MHz – 25 GHz

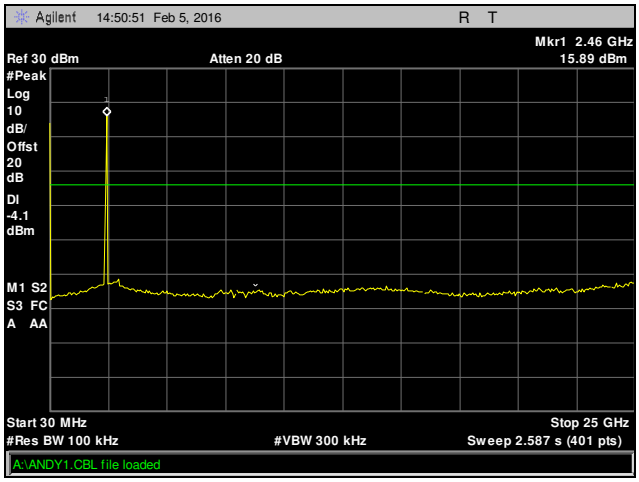


Plot 644. Conducted Spurious Emissions, High Channel, 802.11g 10 MHz, Yagi Antenna, 30 MHz – 25 GHz

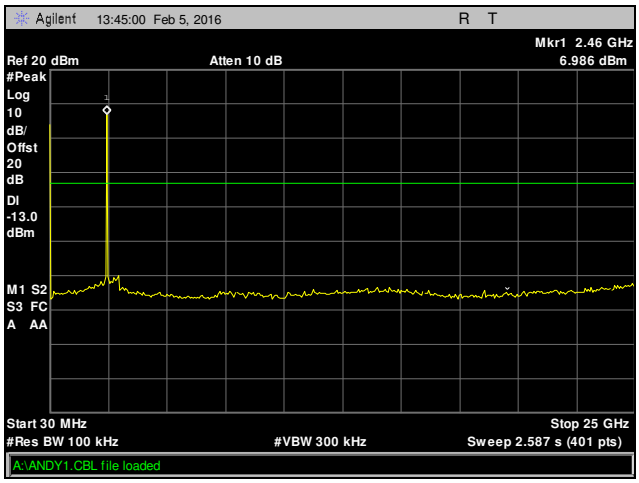
Conducted Spurious Emissions Test Result, 802.11n 10 MHz, Yagi Antenna



Plot 645. Conducted Spurious Emissions, Low Channel, 802.11n 10 MHz, Yagi Antenna, 30 MHz – 25 GHz

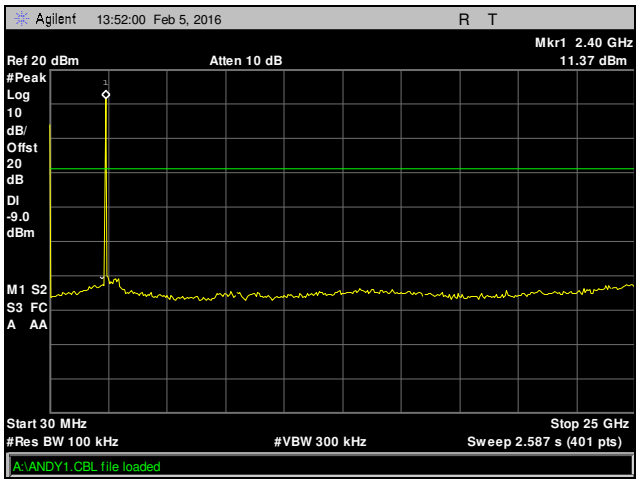


Plot 646. Conducted Spurious Emissions, Mid Channel, 802.11n 10 MHz, Yagi Antenna, 30 MHz – 25 GHz

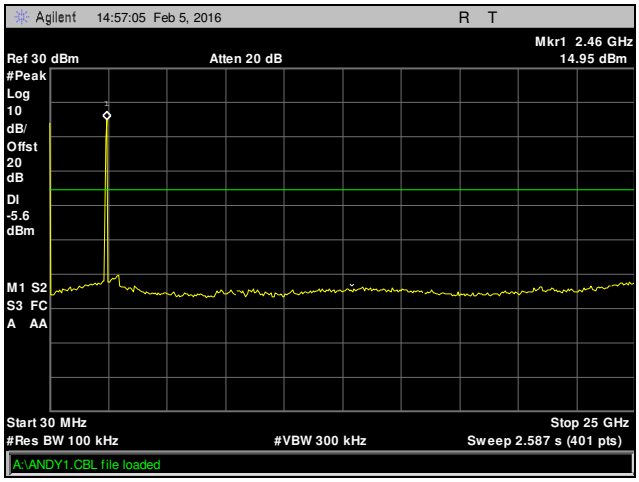


Plot 647. Conducted Spurious Emissions, High Channel, 802.11n 10 MHz, Yagi Antenna, 30 MHz – 25 GHz

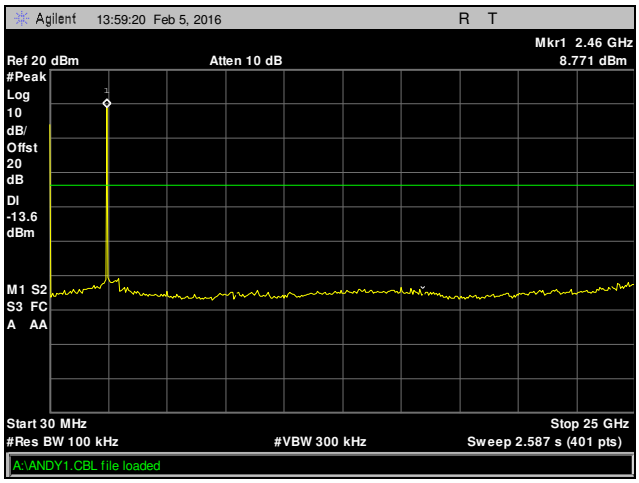
Conducted Spurious Emissions Test Result, 802.11b 20 MHz, Yagi Antenna



Plot 648. Conducted Spurious Emissions, Low Channel, 802.11b 20 MHz, Yagi Antenna, 30 MHz – 25 GHz

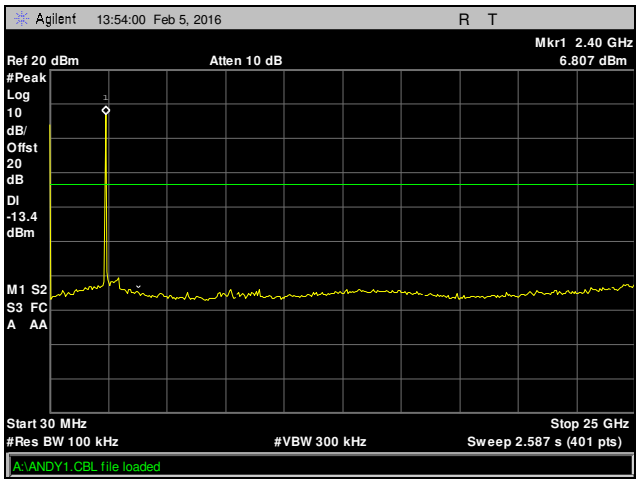


Plot 649. Conducted Spurious Emissions, Mid Channel, 802.11b 20 MHz, Yagi Antenna, 30 MHz – 25 GHz

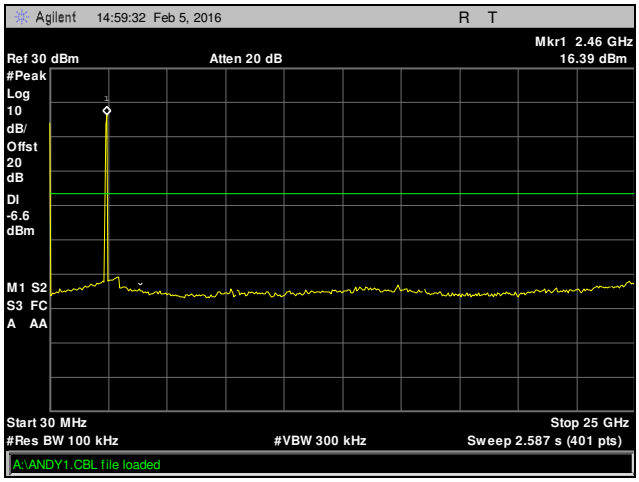


Plot 650. Conducted Spurious Emissions, High Channel, 802.11b 20 MHz, Yagi Antenna, 30 MHz – 25 GHz

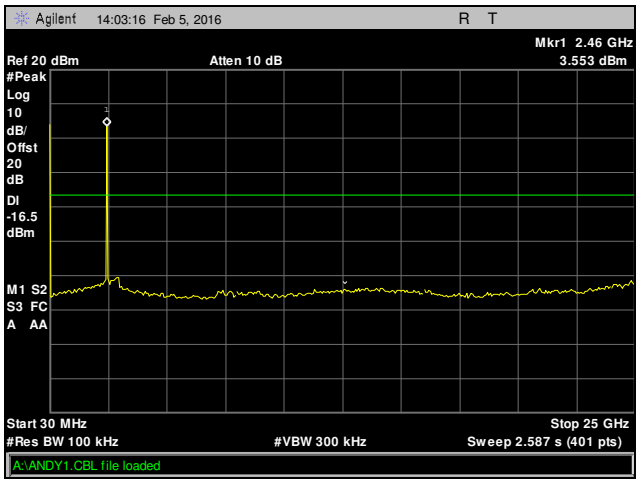
Conducted Spurious Emissions Test Result, 802.11g 20 MHz, Yagi Antenna



Plot 651. Conducted Spurious Emissions, Low Channel, 802.11g 20 MHz, Yagi Antenna, 30 MHz – 25 GHz

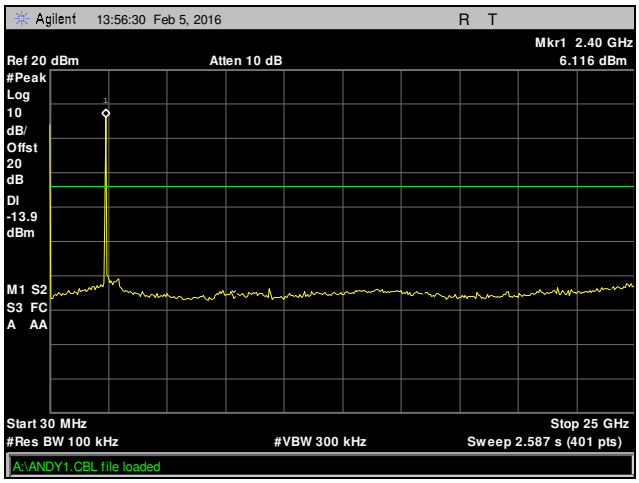


Plot 652. Conducted Spurious Emissions, Mid Channel, 802.11g 20 MHz, Yagi Antenna, 30 MHz – 25 GHz

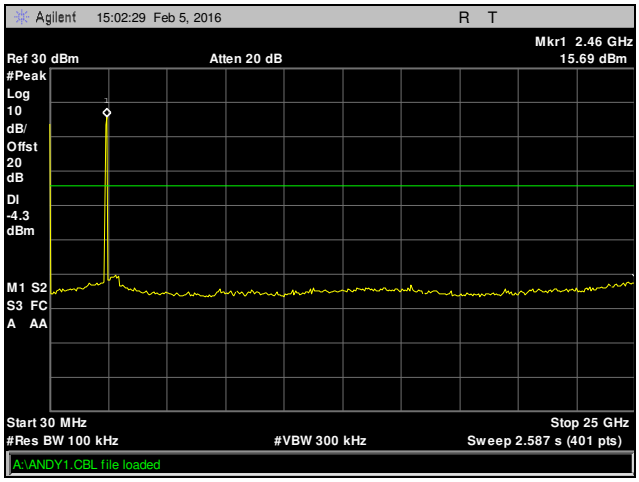


Plot 653. Conducted Spurious Emissions, High Channel, 802.11g 20 MHz, Yagi Antenna, 30 MHz – 25 GHz

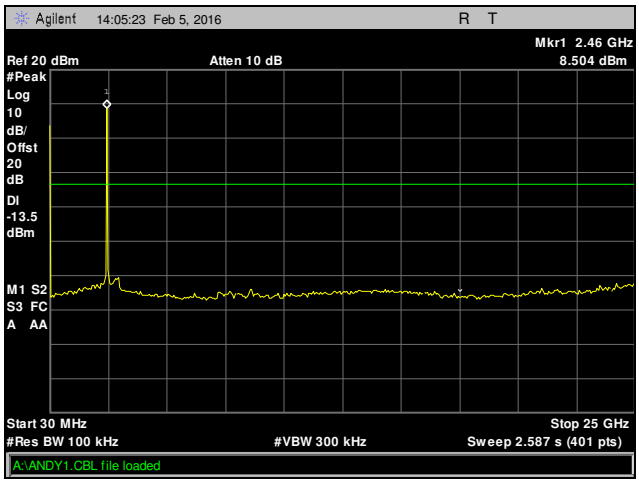
Conducted Spurious Emissions Test Result, 802.11n 20 MHz, Yagi Antenna



Plot 654. Conducted Spurious Emissions, Low Channel, 802.11n 20 MHz, Yagi Antenna, 30 MHz – 25 GHz

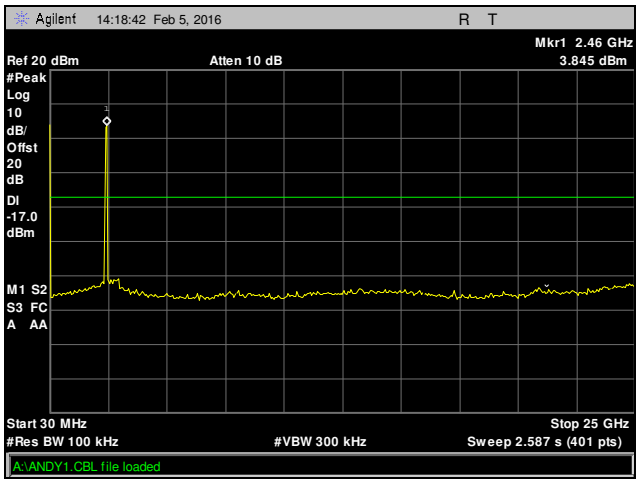


Plot 655. Conducted Spurious Emissions, Mid Channel, 802.11n 20 MHz, Yagi Antenna, 30 MHz – 25 GHz

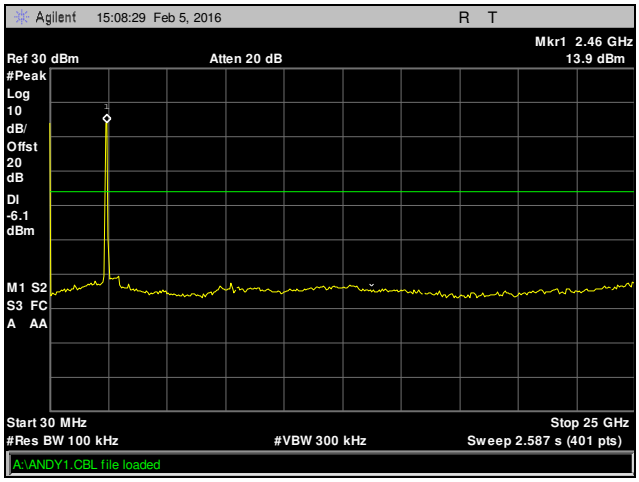


Plot 656. Conducted Spurious Emissions, High Channel, 802.11n 20 MHz, Yagi Antenna, 30 MHz – 25 GHz

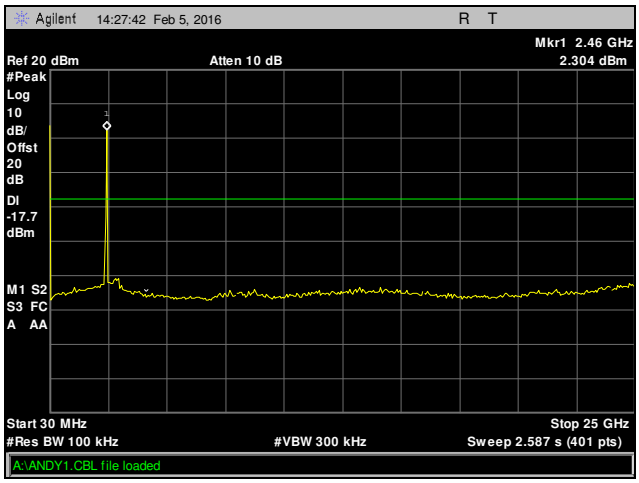
Conducted Spurious Emissions Test Result, 802.11g 40 MHz, Yagi Antenna



Plot 657. Conducted Spurious Emissions, Low Channel, 802.11g 40 MHz, Yagi Antenna, 30 MHz – 25 GHz

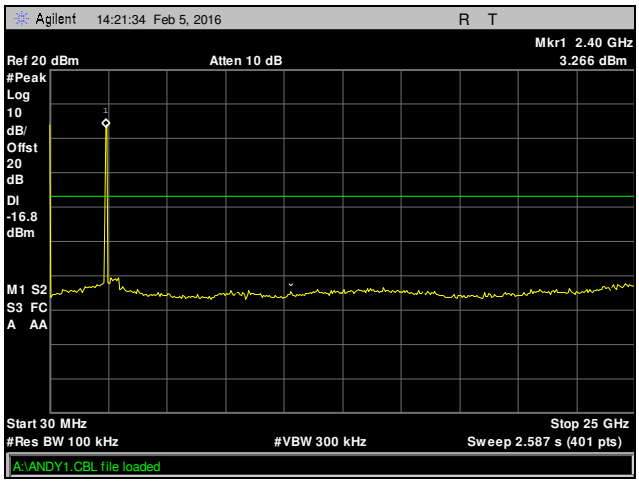


Plot 658. Conducted Spurious Emissions, Mid Channel, 802.11g 40 MHz, Yagi Antenna, 30 MHz – 25 GHz

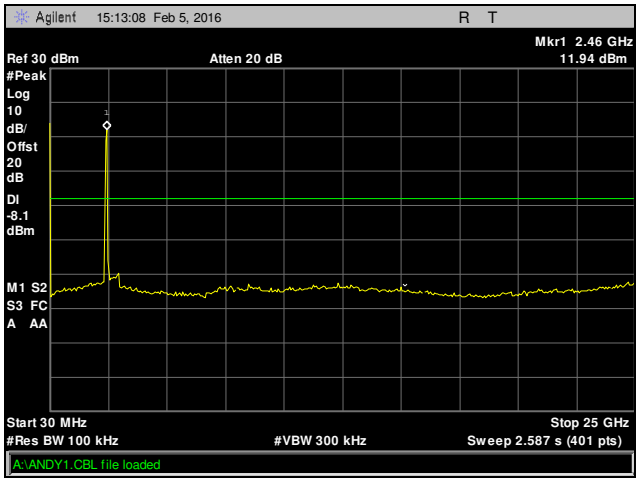


Plot 659. Conducted Spurious Emissions, High Channel, 802.11g 40 MHz, Yagi Antenna, 30 MHz – 25 GHz

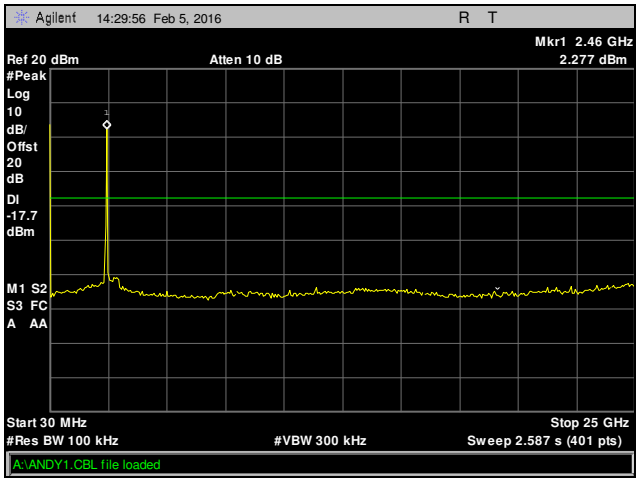
Conducted Spurious Emissions Test Result, 802.11n 40 MHz, Yagi Antenna



Plot 660. Conducted Spurious Emissions, Low Channel, 802.11n 40 MHz, Yagi Antenna, 30 MHz – 25 GHz

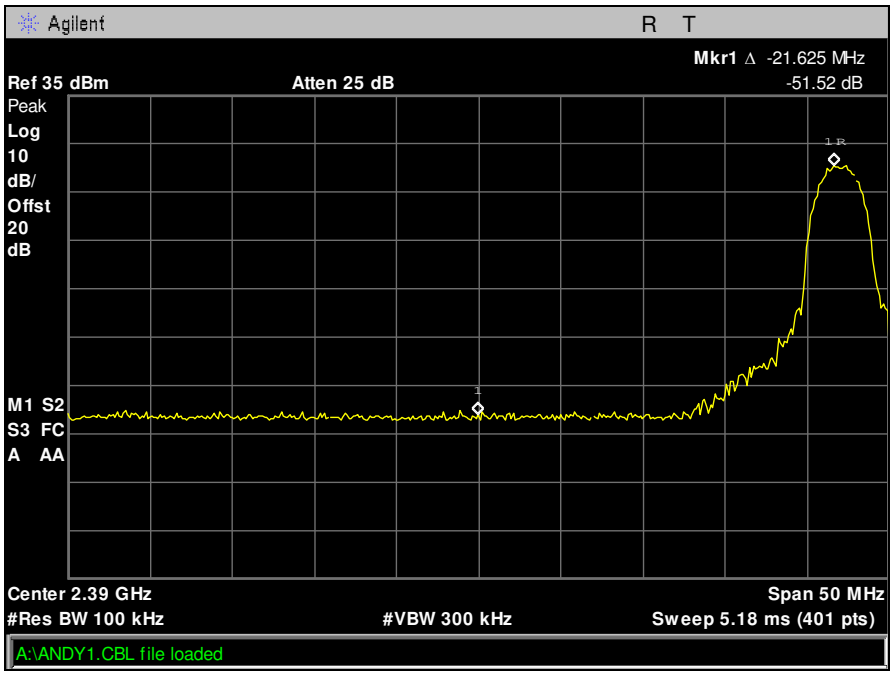


Plot 661. Conducted Spurious Emissions, Mid Channel, 802.11n 40 MHz, Yagi Antenna, 30 MHz – 25 GHz

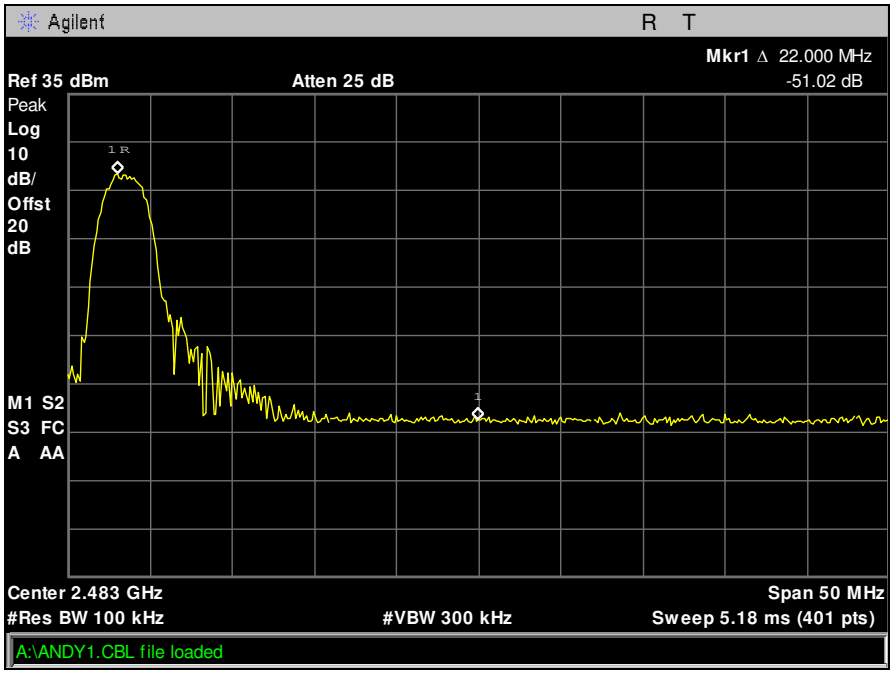


Plot 662. Conducted Spurious Emissions, High Channel, 802.11n 40 MHz, Yagi Antenna, 30 MHz – 25 GHz

Conducted Band Edge Test Results, 802.11b 5 MHz, Omni Antenna

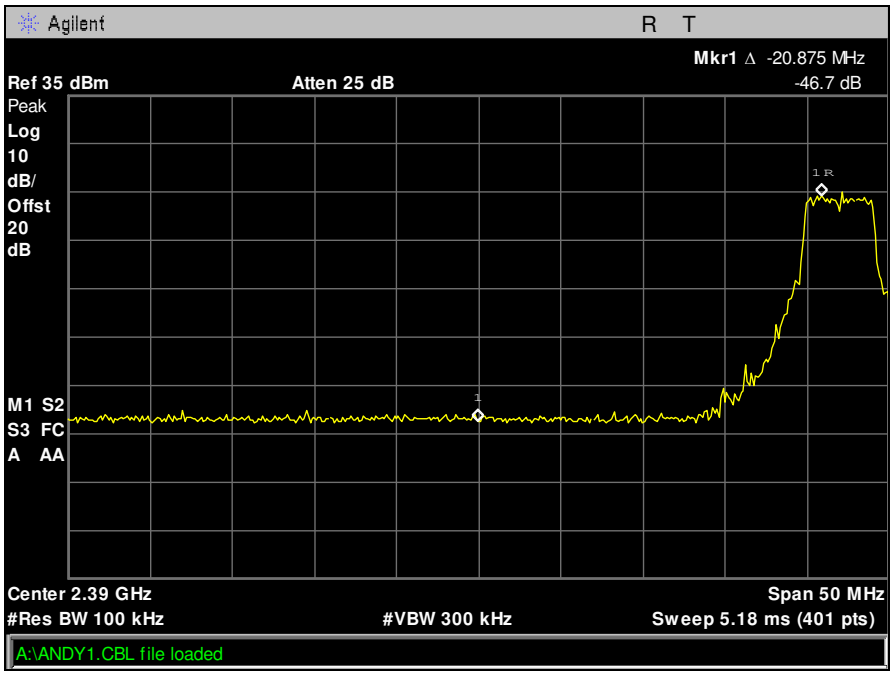


Plot 663. Conducted Band Edge, Low Channel, 802.11b 5 MHz, Omni Antenna

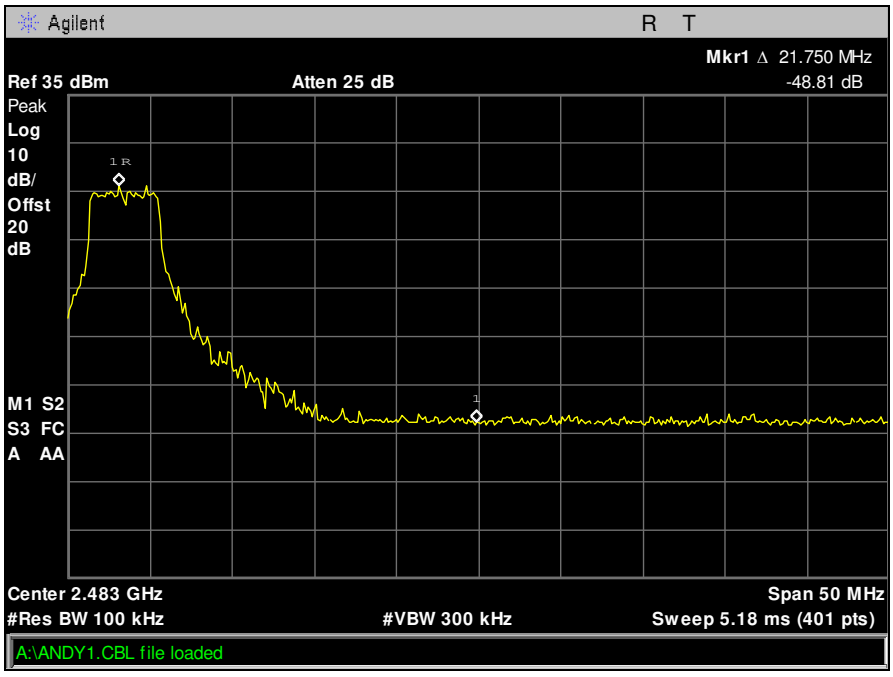


Plot 664. Conducted Band Edge, High Channel, 802.11b 5 MHz, Omni Antenna

Conducted Band Edge Test Results, 802.11g 5 MHz, Omni Antenna

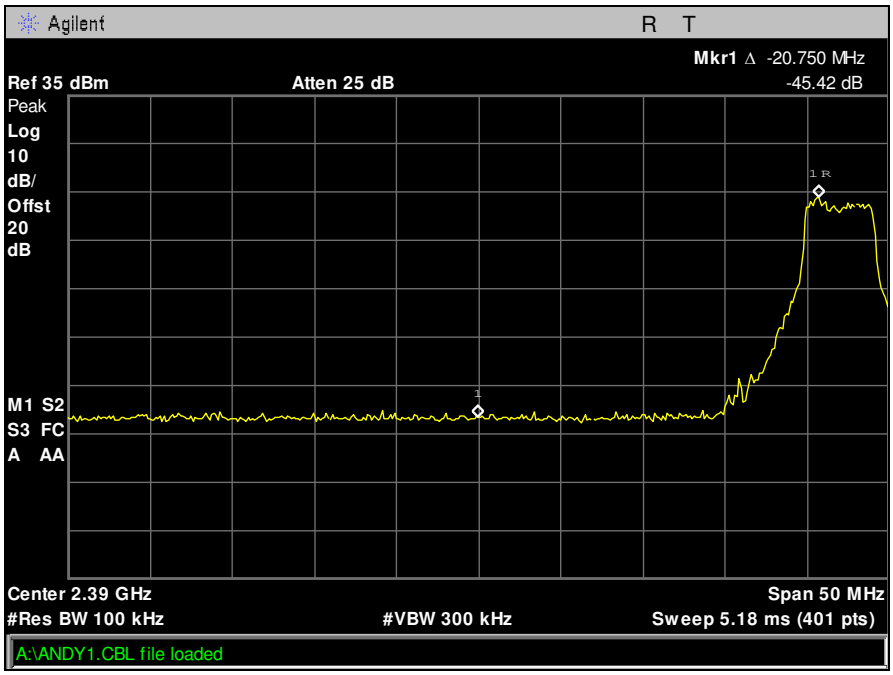


Plot 665. Conducted Band Edge, Low Channel, 802.11g 5 MHz, Omni Antenna

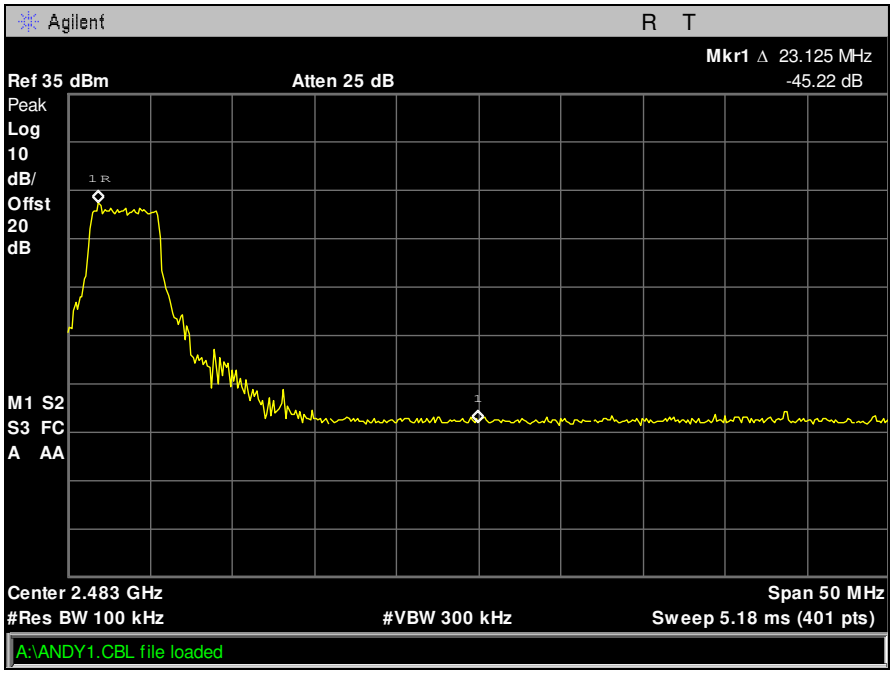


Plot 666. Conducted Band Edge, High Channel, 802.11g 5 MHz, Omni Antenna

Conducted Band Edge Test Results, 802.11n 5 MHz, Omni Antenna

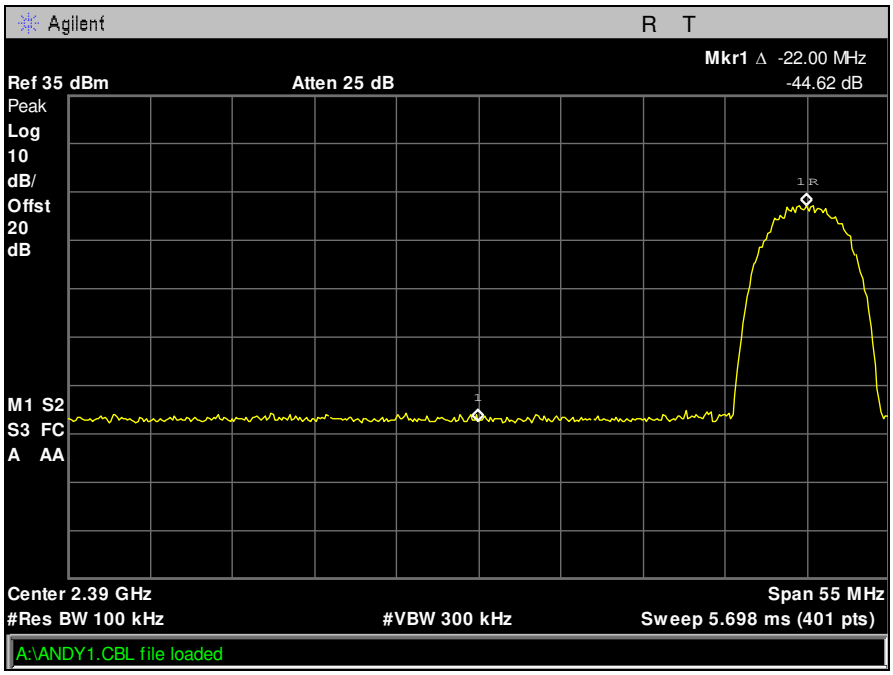


Plot 667. Conducted Band Edge, Low Channel, 802.11n 5 MHz, Omni Antenna

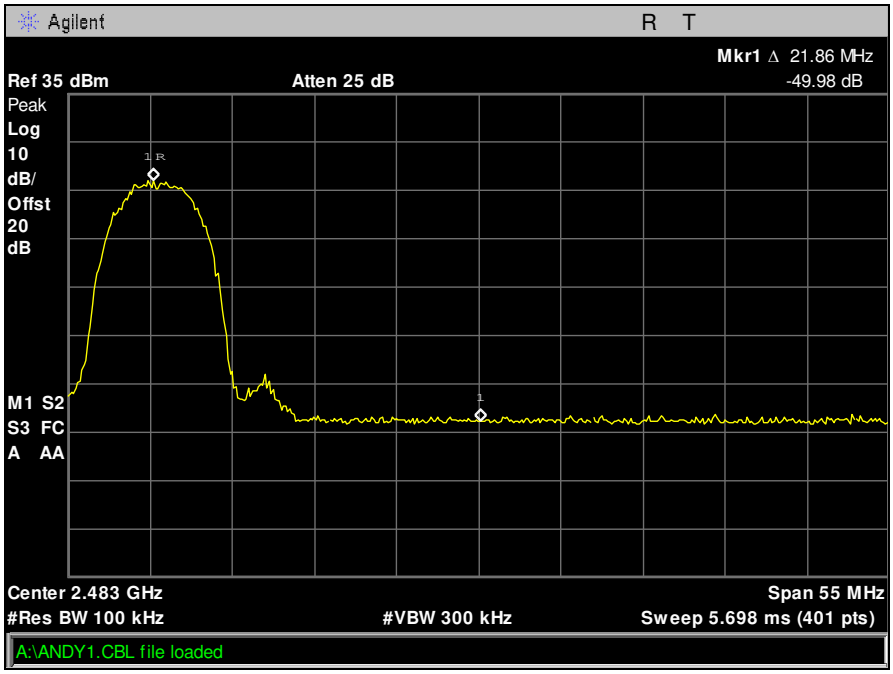


Plot 668. Conducted Band Edge, High Channel, 802.11n 5 MHz, Omni Antenna

Conducted Band Edge Test Results, 802.11b 10 MHz, Omni Antenna

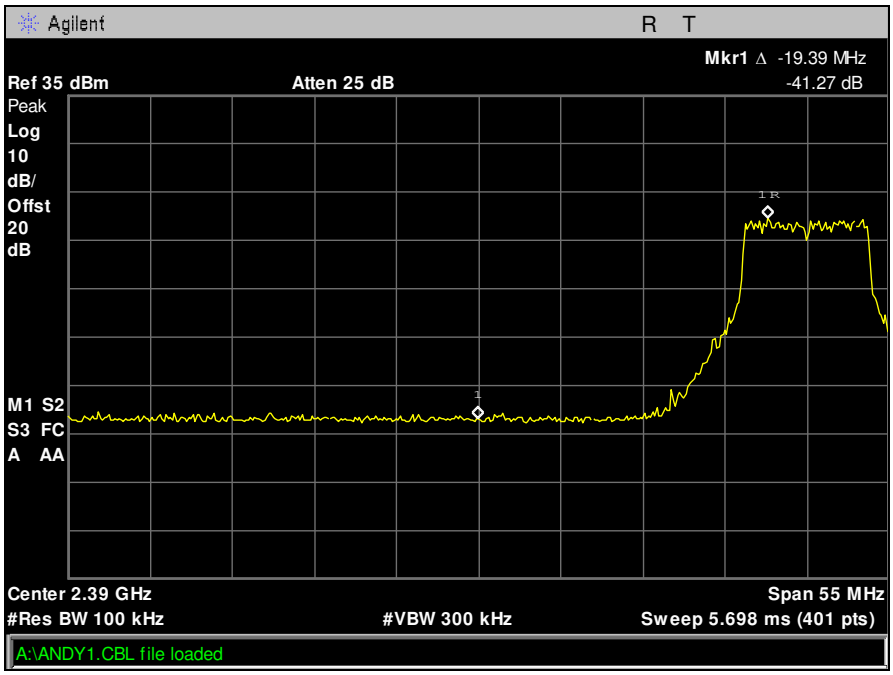


Plot 669. Conducted Band Edge, Low Channel, 802.11b 10 MHz, Omni Antenna

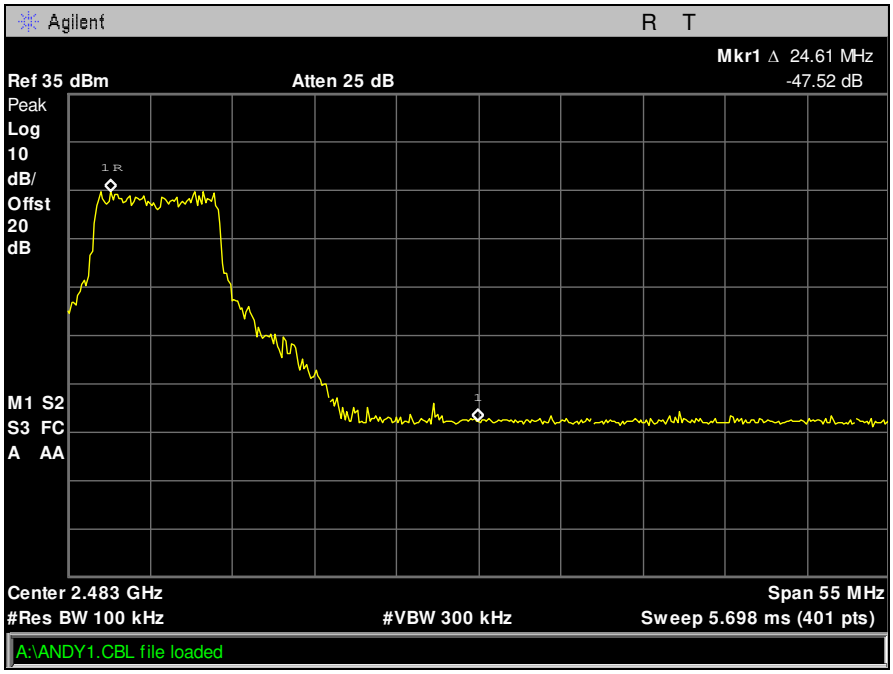


Plot 670. Conducted Band Edge, High Channel, 802.11b 10 MHz, Omni Antenna

Conducted Band Edge Test Results, 802.11g 10 MHz, Omni Antenna

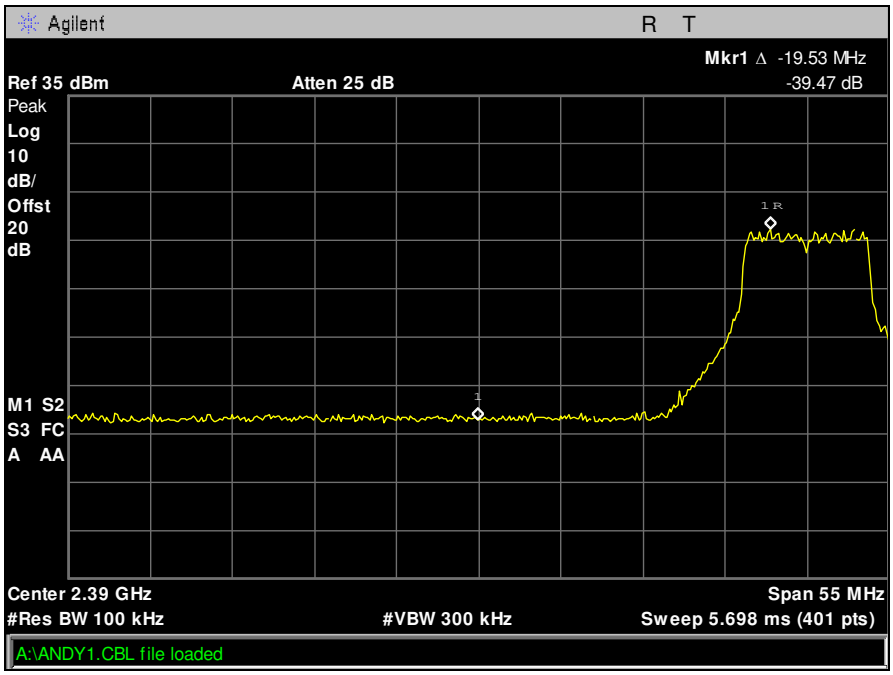


Plot 671. Conducted Band Edge, Low Channel, 802.11g 10 MHz, Omni Antenna

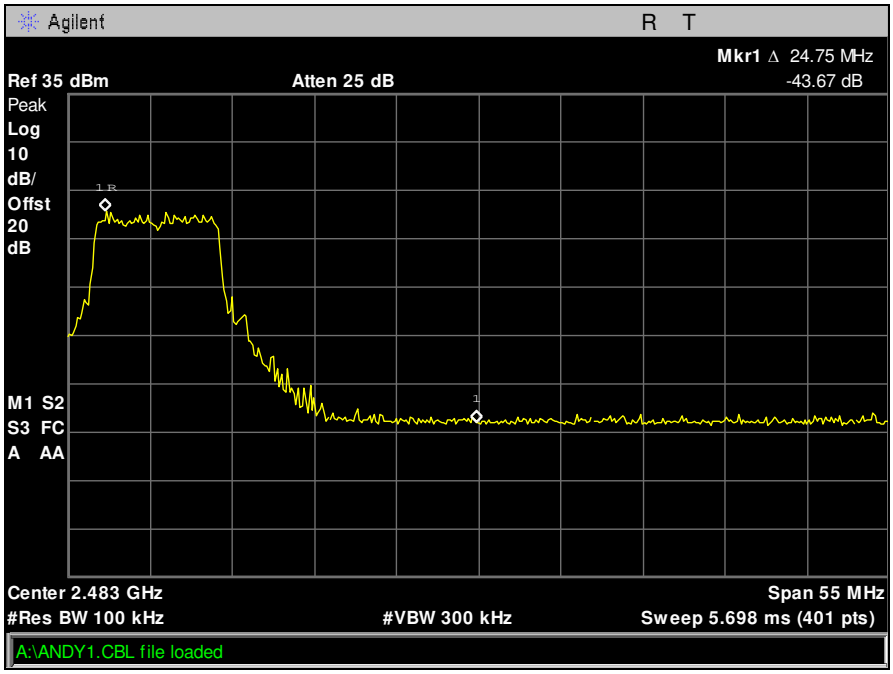


Plot 672. Conducted Band Edge, High Channel, 802.11g 10 MHz, Omni Antenna

Conducted Band Edge Test Results, 802.11n 10 MHz, Omni Antenna

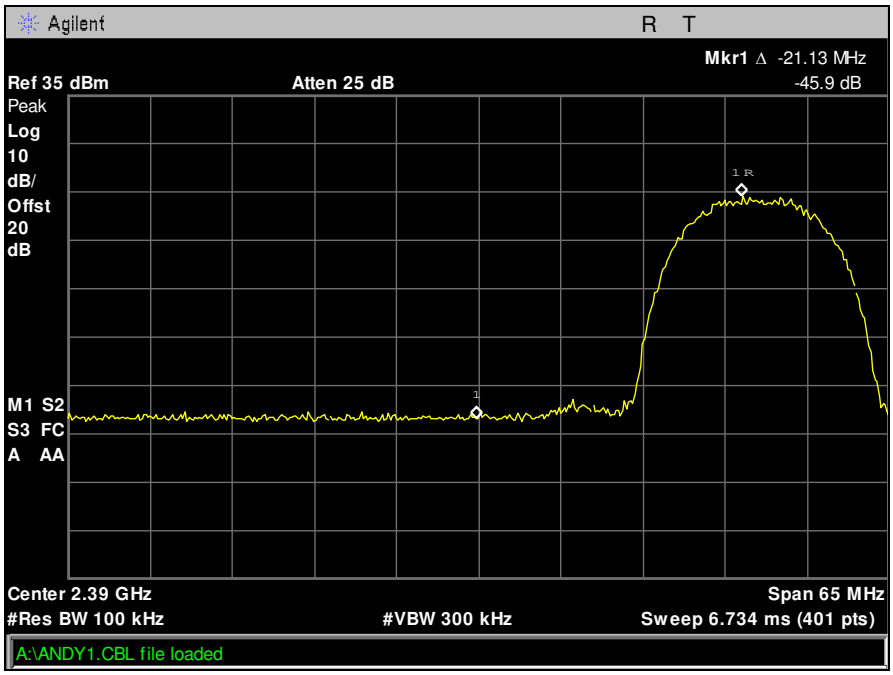


Plot 673. Conducted Band Edge, Low Channel, 802.11n 10 MHz, Omni Antenna

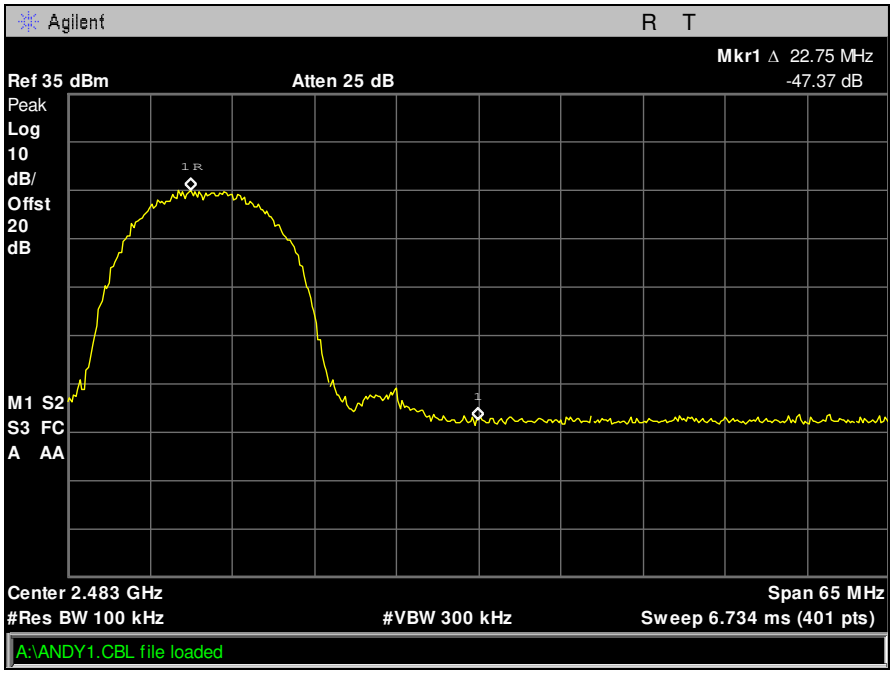


Plot 674. Conducted Band Edge, High Channel, 802.11n 10 MHz, Omni Antenna

Conducted Band Edge Test Results, 802.11b 20 MHz, Omni Antenna

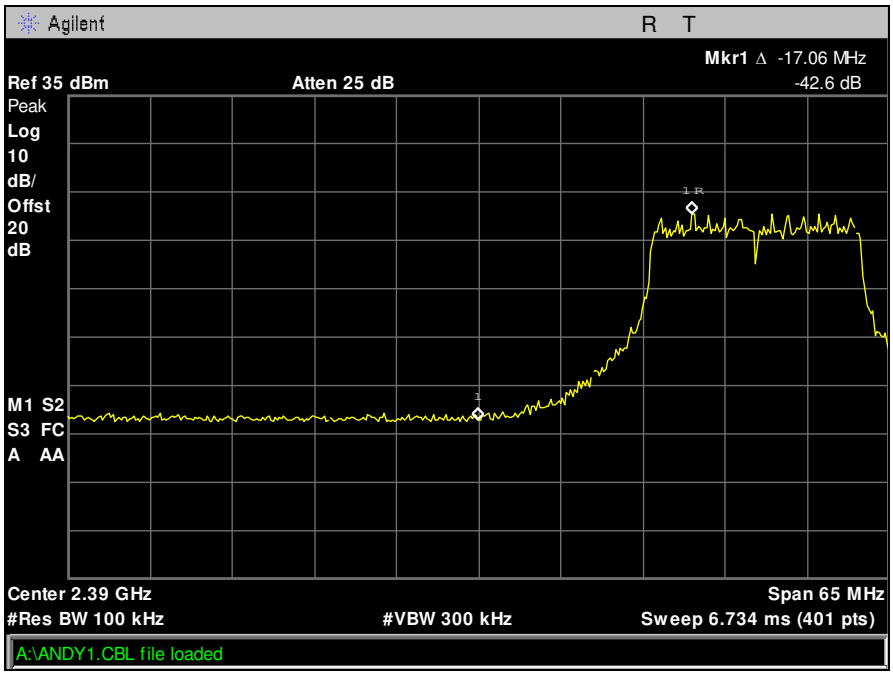


Plot 675. Conducted Band Edge, Low Channel, 802.11b 20 MHz, Omni Antenna

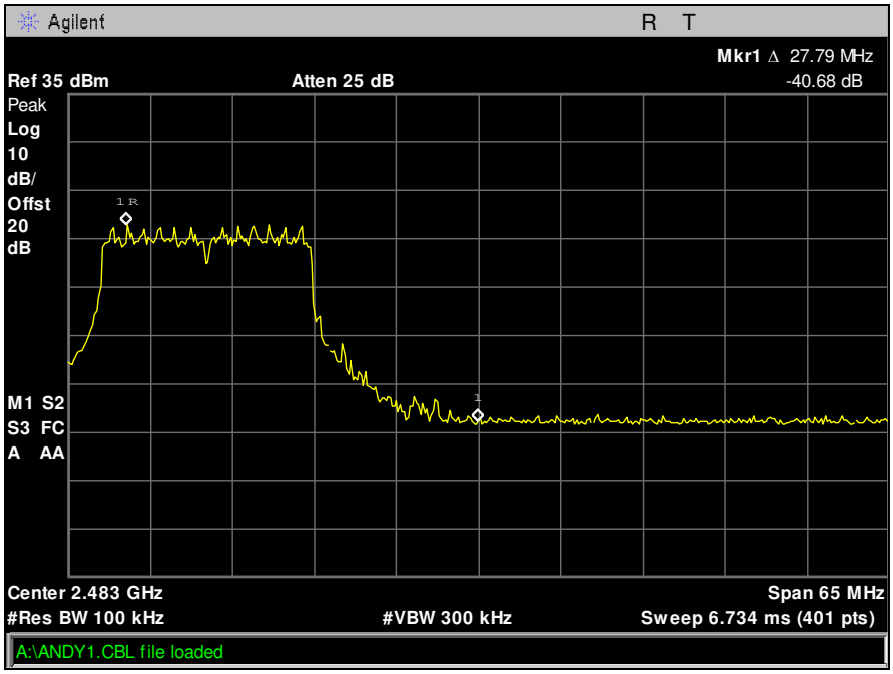


Plot 676. Conducted Band Edge, High Channel, 802.11b 20 MHz, Omni Antenna

Conducted Band Edge Test Results, 802.11g 20 MHz, Omni Antenna

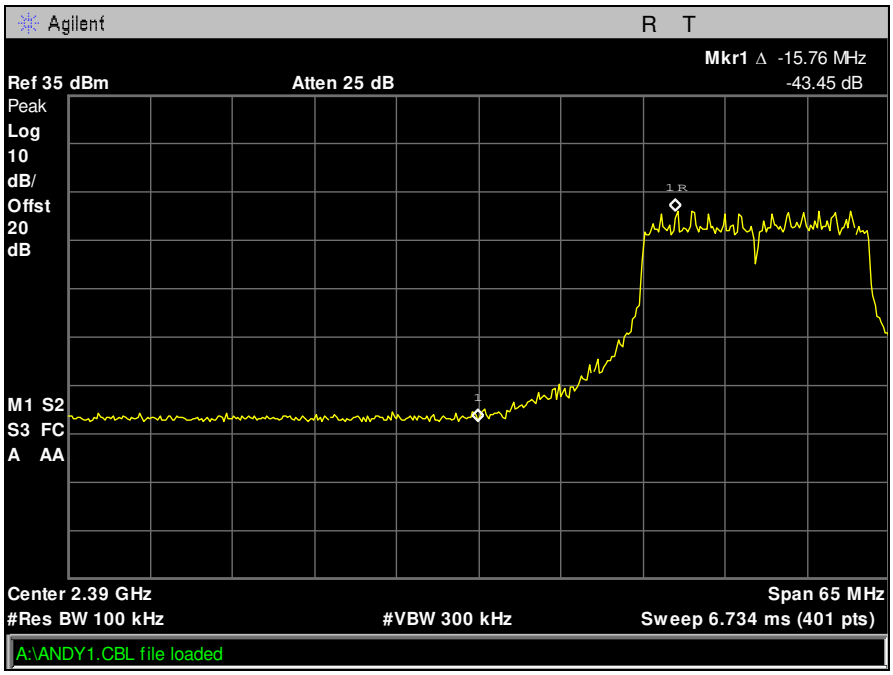


Plot 677. Conducted Band Edge, Low Channel, 802.11g 20 MHz, Omni Antenna

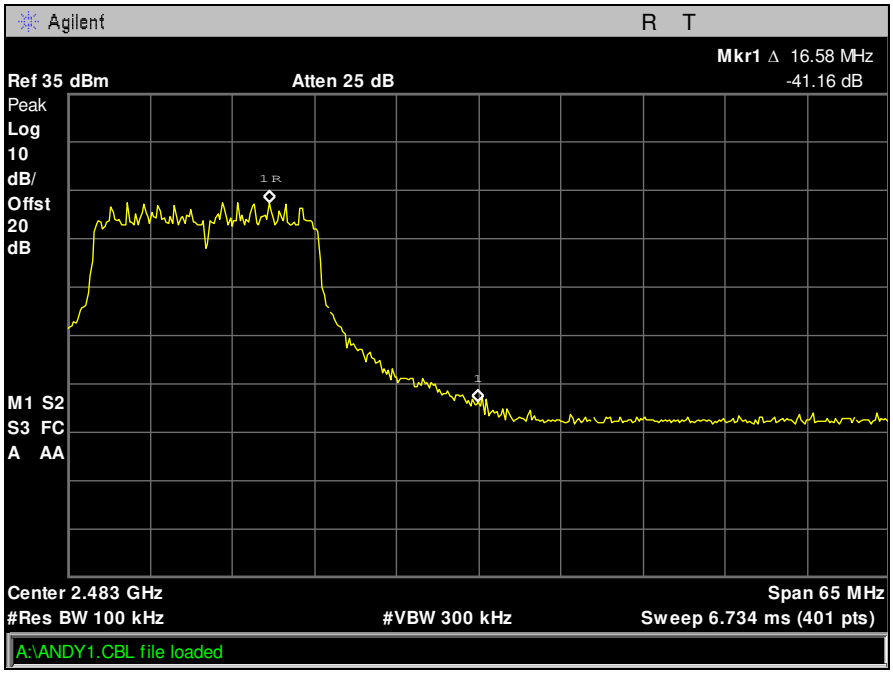


Plot 678. Conducted Band Edge, High Channel, 802.11g 20 MHz, Omni Antenna

Conducted Band Edge Test Results, 802.11n 20 MHz, Omni Antenna

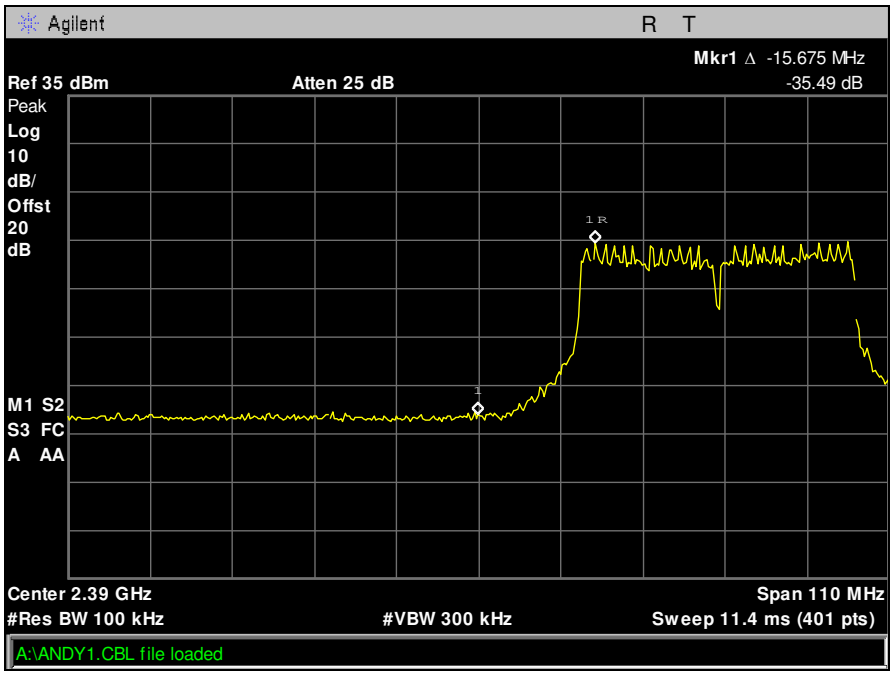


Plot 679. Conducted Band Edge, Low Channel, 802.11n 20 MHz, Omni Antenna

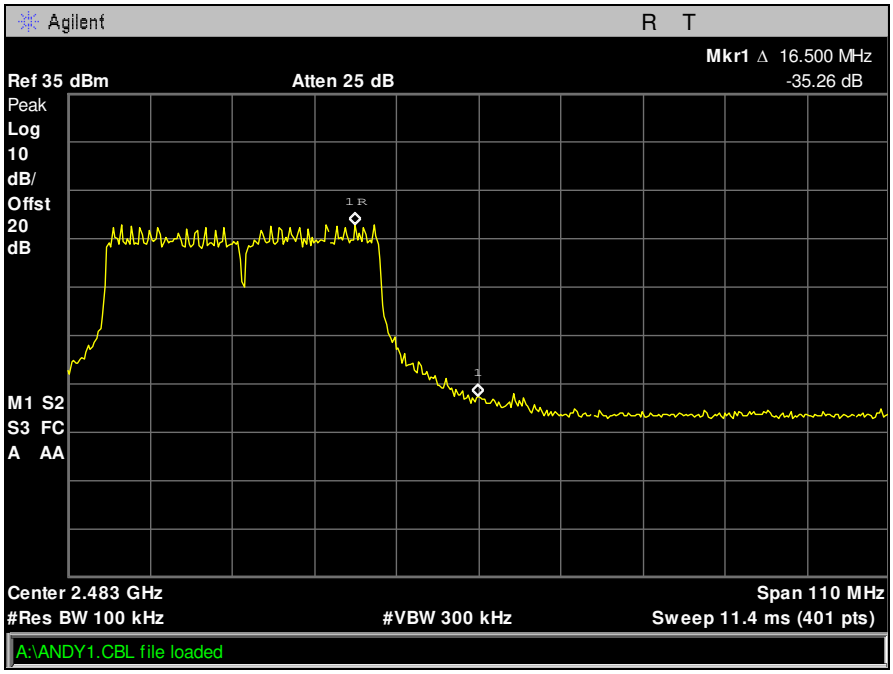


Plot 680. Conducted Band Edge, High Channel, 802.11n 20 MHz, Omni Antenna

Conducted Band Edge Test Results, 802.11g 40 MHz, Omni Antenna

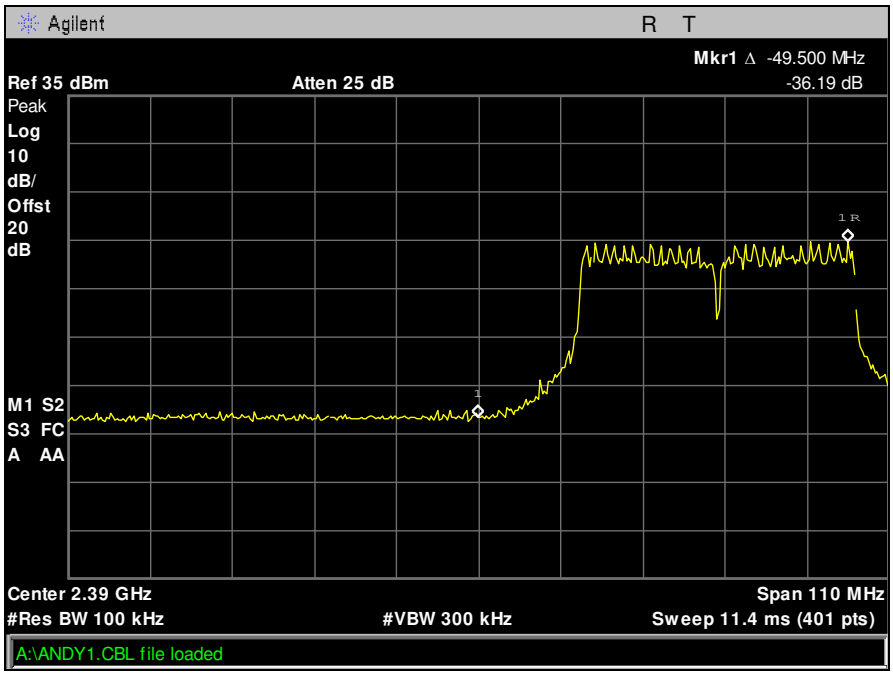


Plot 681. Conducted Band Edge, Low Channel, 802.11g 40 MHz, Omni Antenna

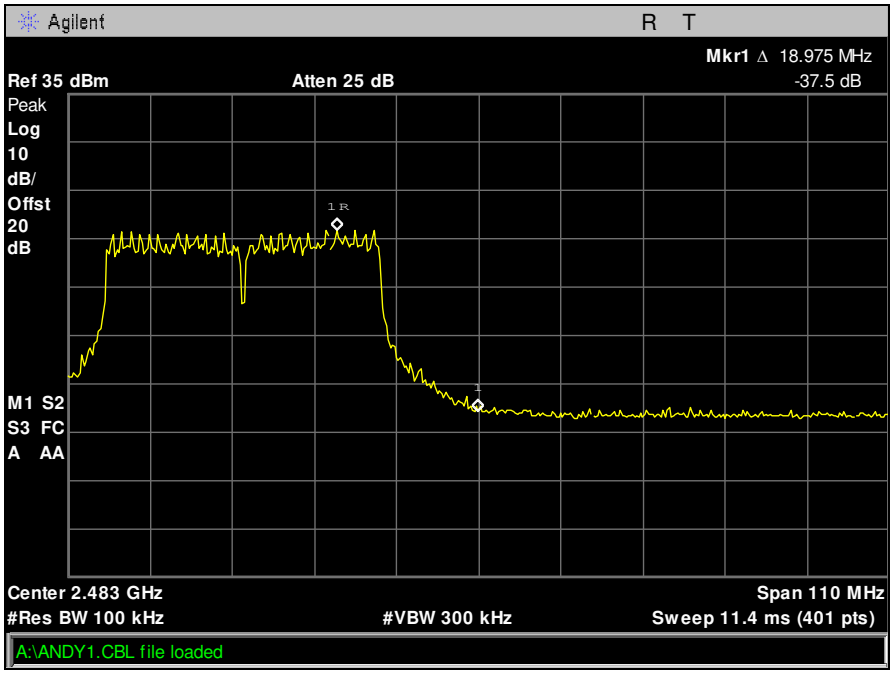


Plot 682. Conducted Band Edge, High Channel, 802.11g 40 MHz, Omni Antenna

Conducted Band Edge Test Results, 802.11n 40 MHz, Omni Antenna

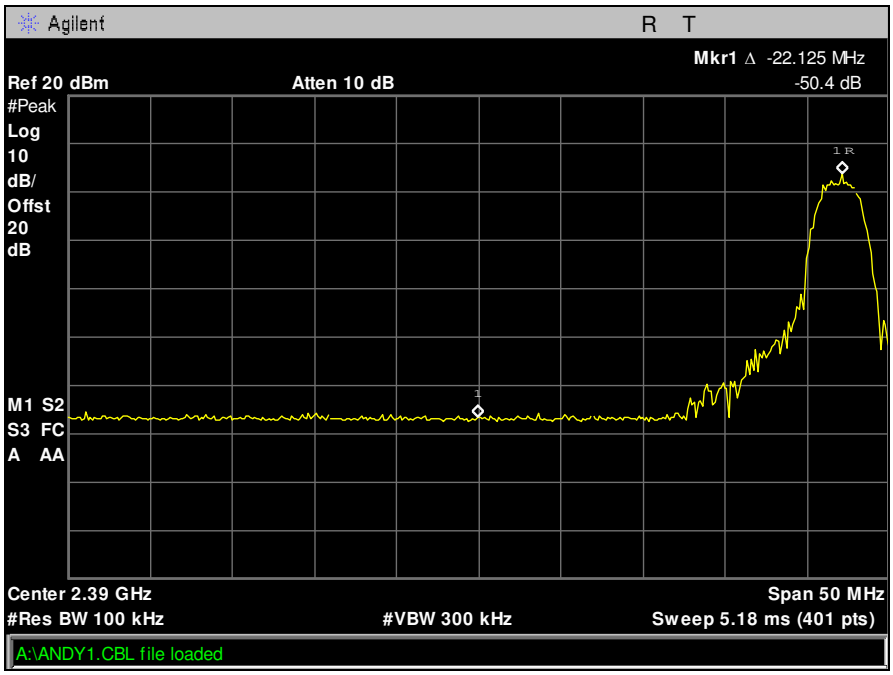


Plot 683. Conducted Band Edge, Low Channel, 802.11n 40 MHz, Omni Antenna

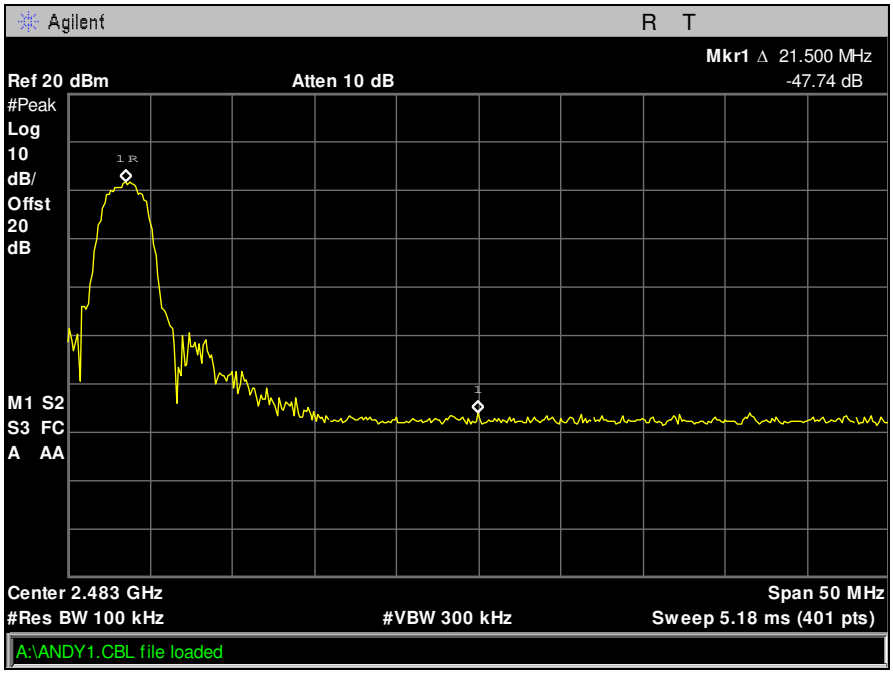


Plot 684. Conducted Band Edge, High Channel, 802.11n 40 MHz, Omni Antenna

Conducted Band Edge Test Results, 802.11b 5 MHz, Parabolic Antenna

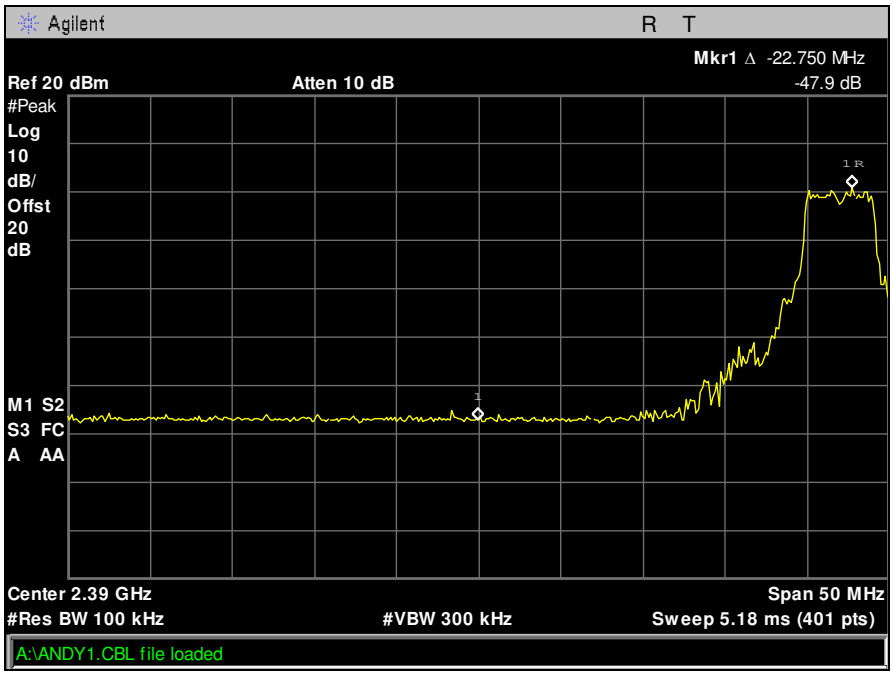


Plot 685. Conducted Band Edge, Low Channel, 802.11b 5 MHz, Parabolic Antenna

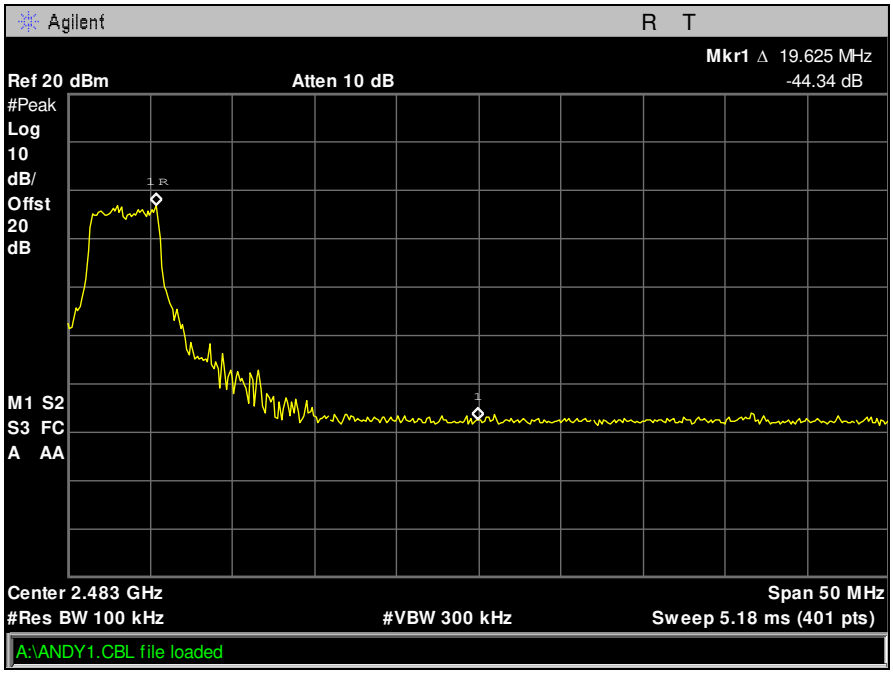


Plot 686. Conducted Band Edge, High Channel, 802.11b 5 MHz, Parabolic Antenna

Conducted Band Edge Test Results, 802.11g 5 MHz, Parabolic Antenna

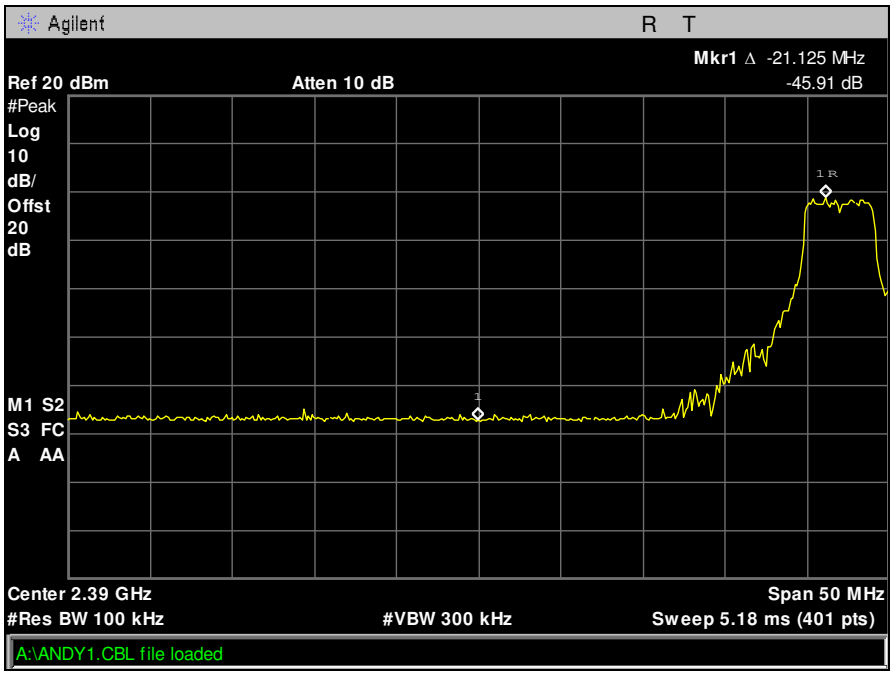


Plot 687. Conducted Band Edge, Low Channel, 802.11g 5 MHz, Parabolic Antenna

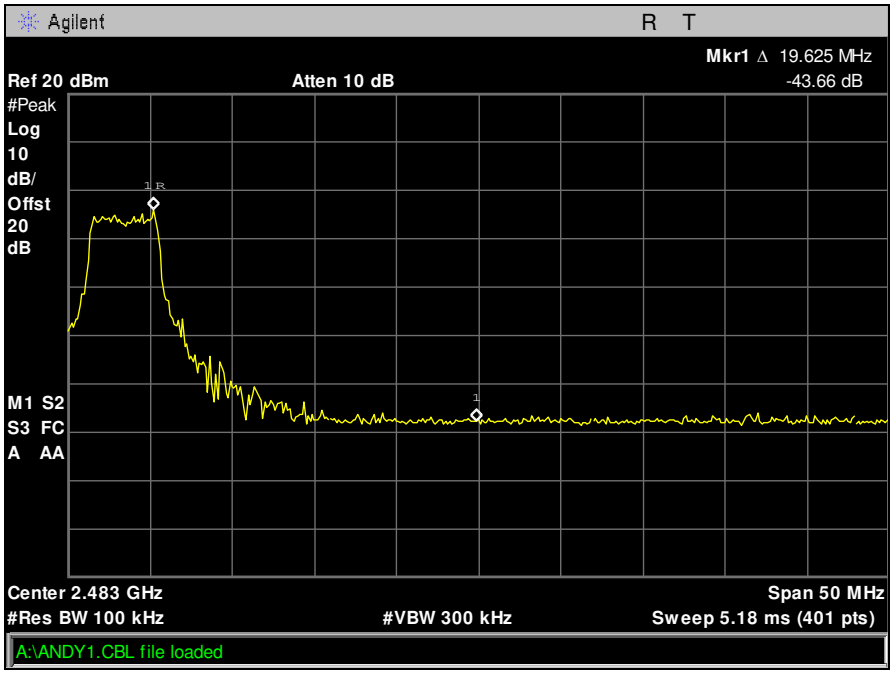


Plot 688. Conducted Band Edge, High Channel, 802.11g 5 MHz, Parabolic Antenna

Conducted Band Edge Test Results, 802.11n 5 MHz, Parabolic Antenna

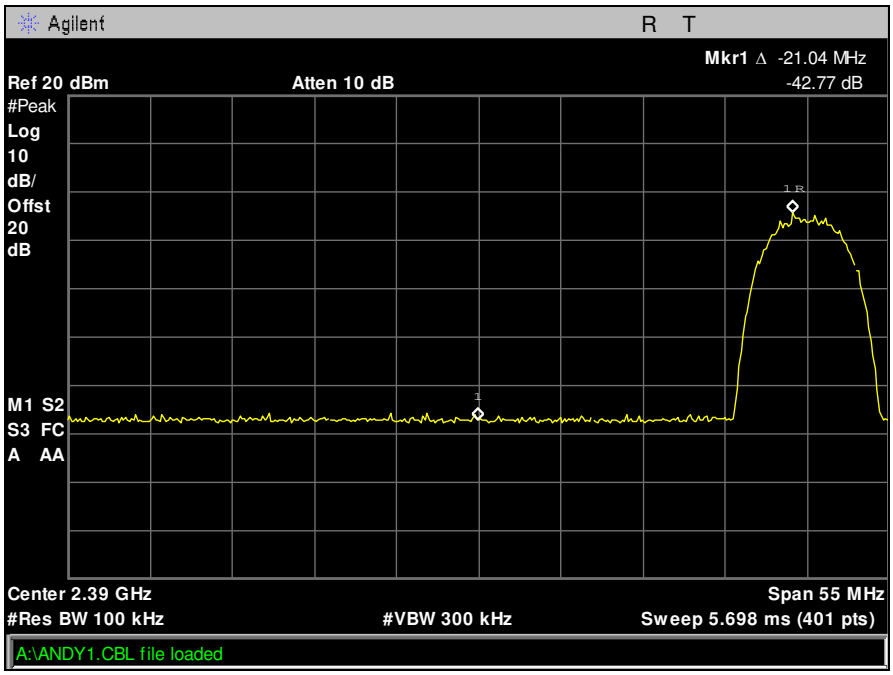


Plot 689. Conducted Band Edge, Low Channel, 802.11n 5 MHz, Parabolic Antenna

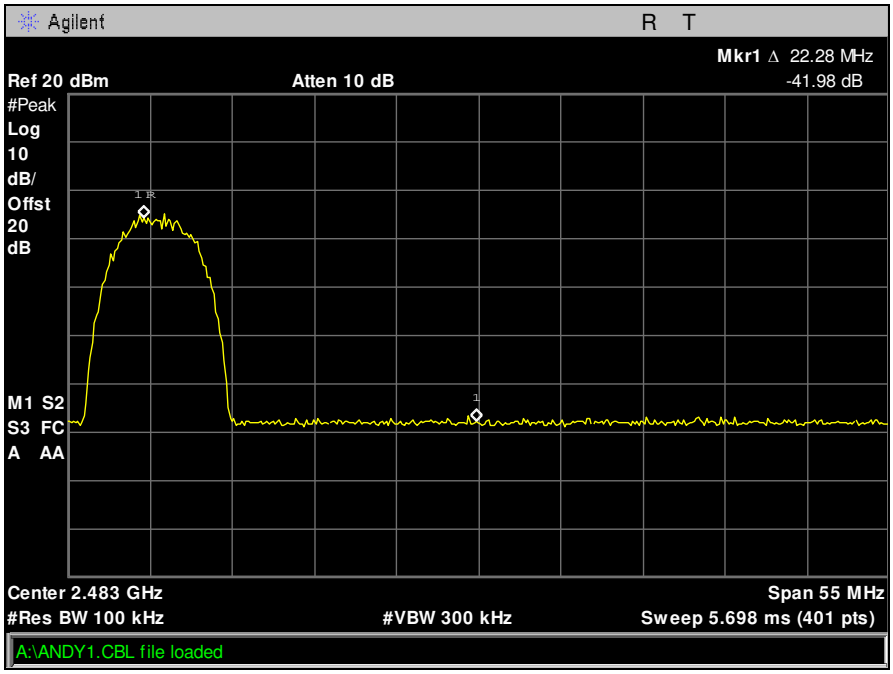


Plot 690. Conducted Band Edge, High Channel, 802.11n 5 MHz, Parabolic Antenna

Conducted Band Edge Test Results, 802.11b 10 MHz, Parabolic Antenna

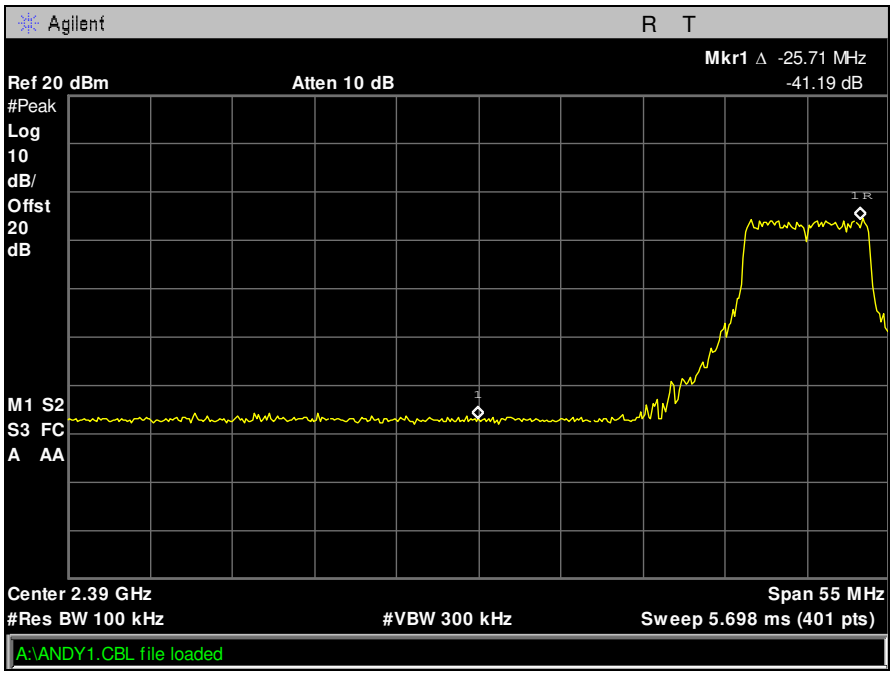


Plot 691. Conducted Band Edge, Low Channel, 802.11b 10 MHz, Parabolic Antenna

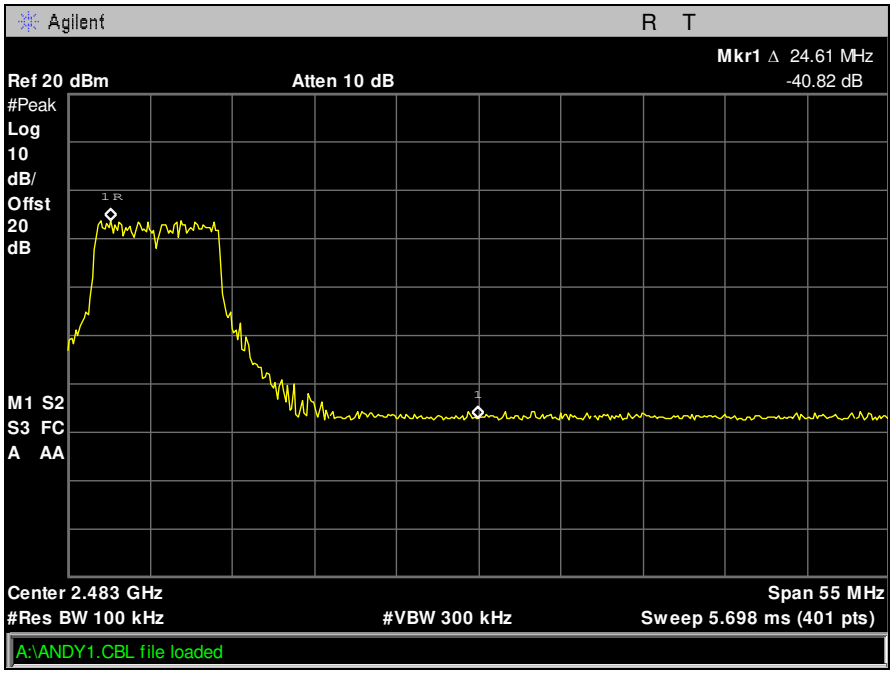


Plot 692. Conducted Band Edge, High Channel, 802.11b 10 MHz, Parabolic Antenna

Conducted Band Edge Test Results, 802.11g 10 MHz, Parabolic Antenna

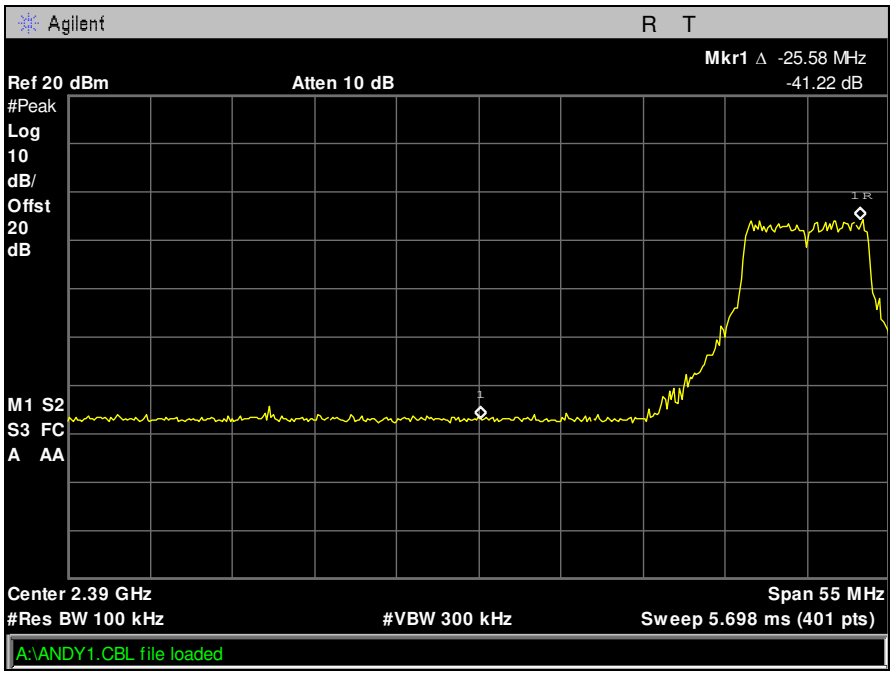


Plot 693. Conducted Band Edge, Low Channel, 802.11g 10 MHz, Parabolic Antenna

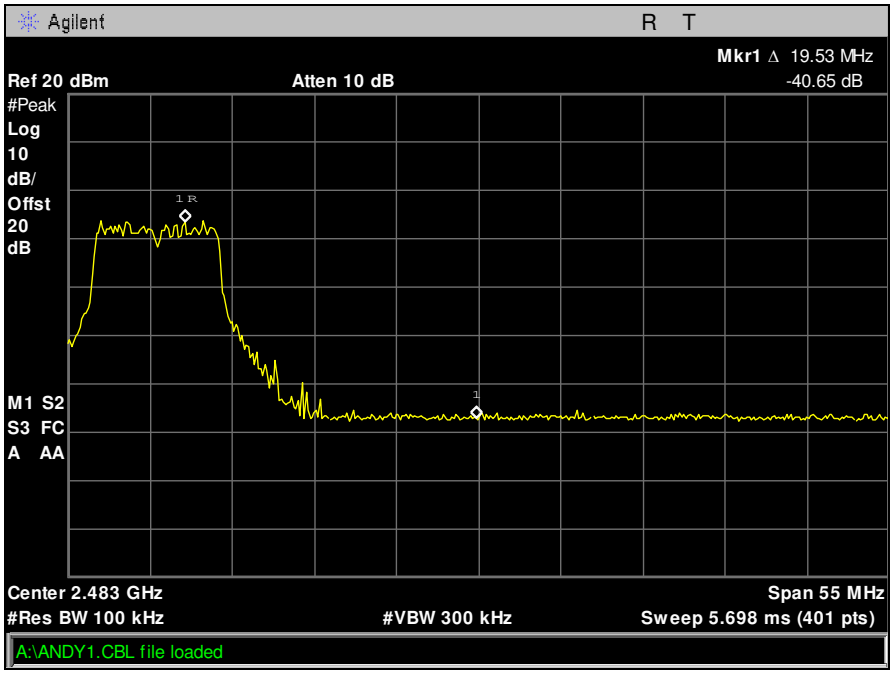


Plot 694. Conducted Band Edge, High Channel, 802.11g 10 MHz, Parabolic Antenna

Conducted Band Edge Test Results, 802.11n 10 MHz, Parabolic Antenna

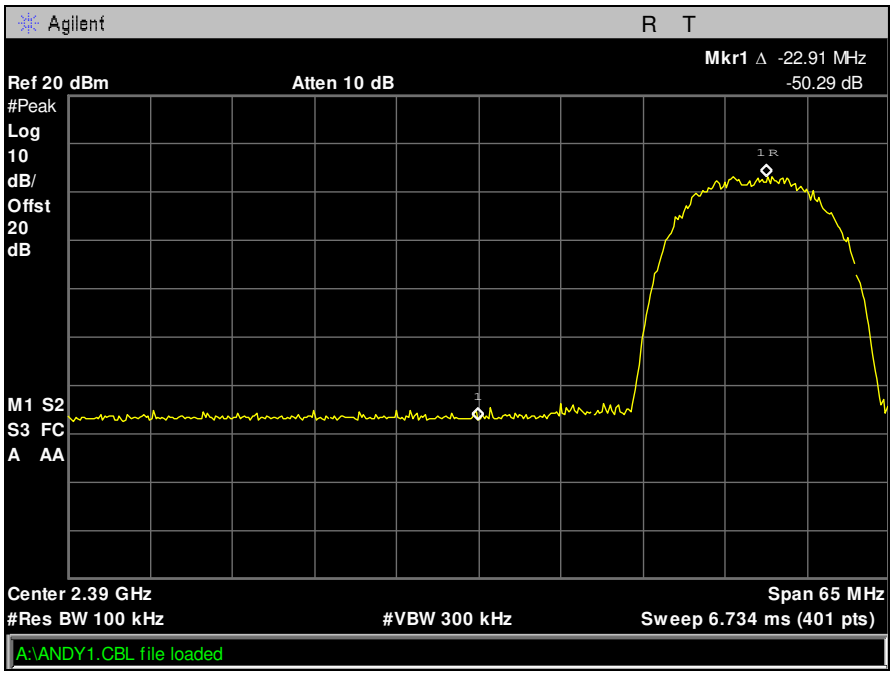


Plot 695. Conducted Band Edge, Low Channel, 802.11n 10 MHz, Parabolic Antenna

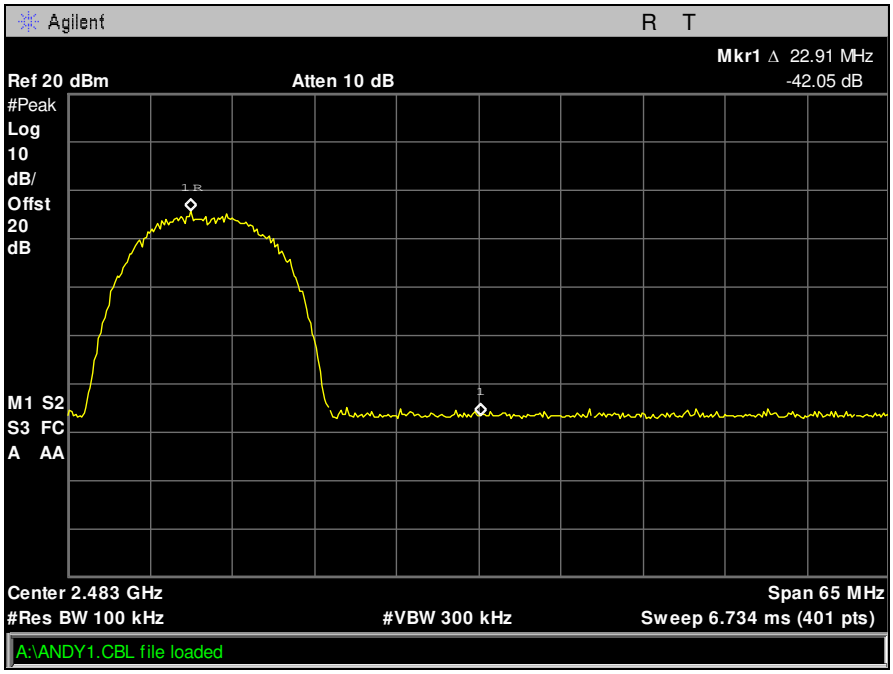


Plot 696. Conducted Band Edge, High Channel, 802.11n 10 MHz, Parabolic Antenna

Conducted Band Edge Test Results, 802.11b 20 MHz, Parabolic Antenna

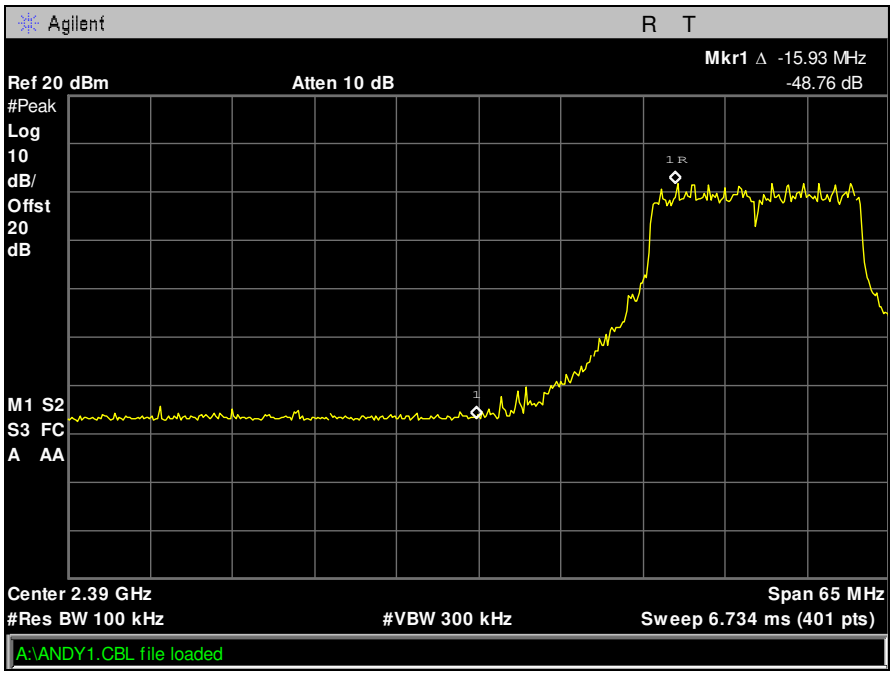


Plot 697. Conducted Band Edge, Low Channel, 802.11b 20 MHz, Parabolic Antenna

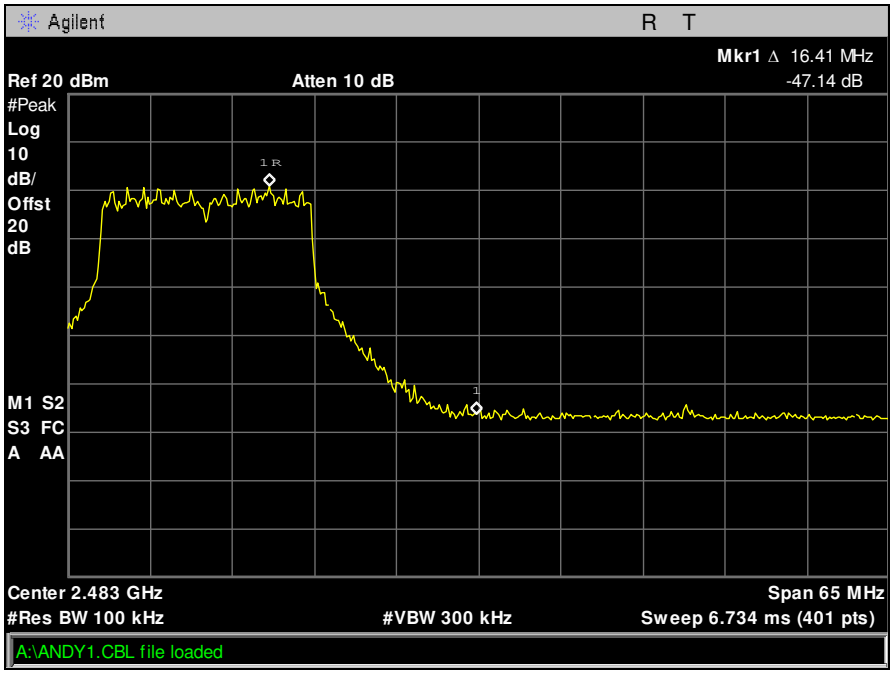


Plot 698. Conducted Band Edge, High Channel, 802.11b 20 MHz, Parabolic Antenna

Conducted Band Edge Test Results, 802.11g 20 MHz, Parabolic Antenna

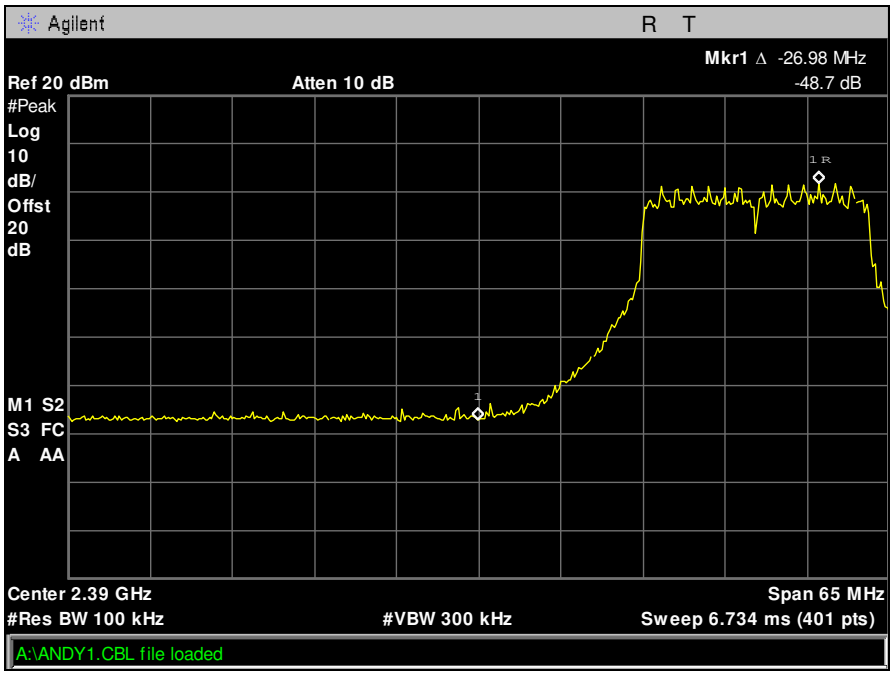


Plot 699. Conducted Band Edge, Low Channel, 802.11g 20 MHz, Parabolic Antenna

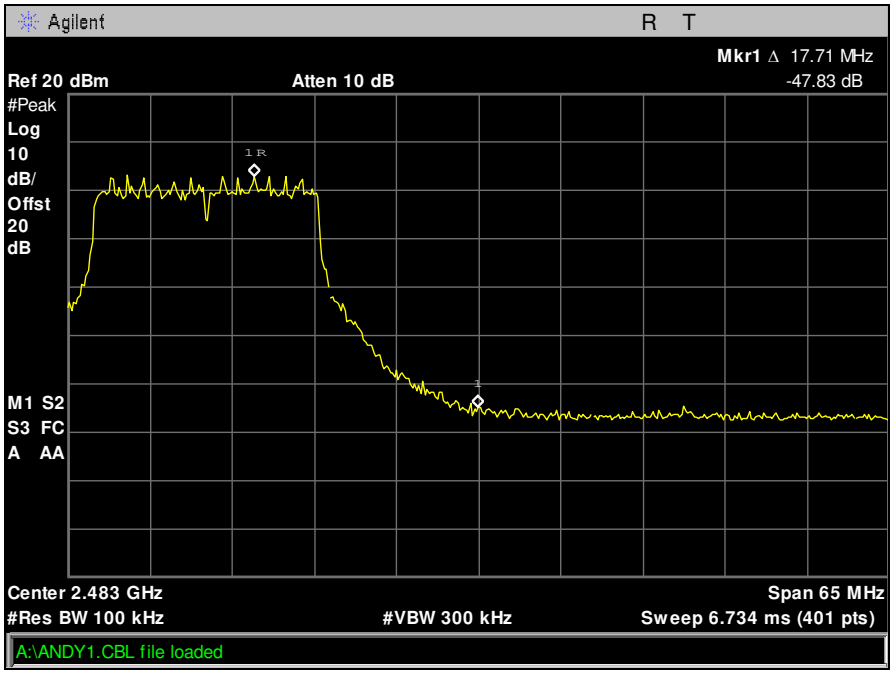


Plot 700. Conducted Band Edge, High Channel, 802.11g 20 MHz, Parabolic Antenna

Conducted Band Edge Test Results, 802.11n 20 MHz, Parabolic Antenna

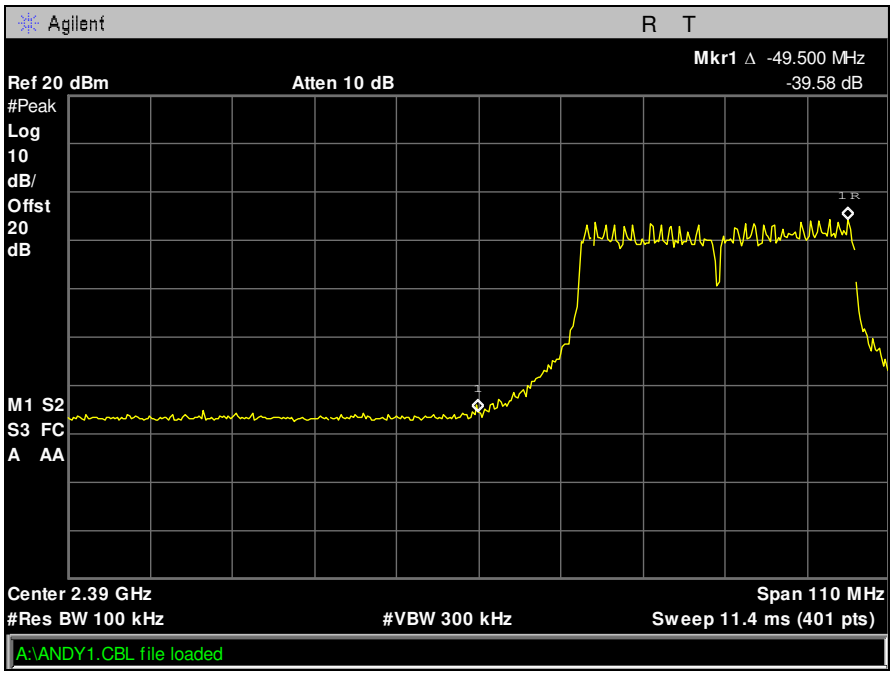


Plot 701. Conducted Band Edge, Low Channel, 802.11n 20 MHz, Parabolic Antenna

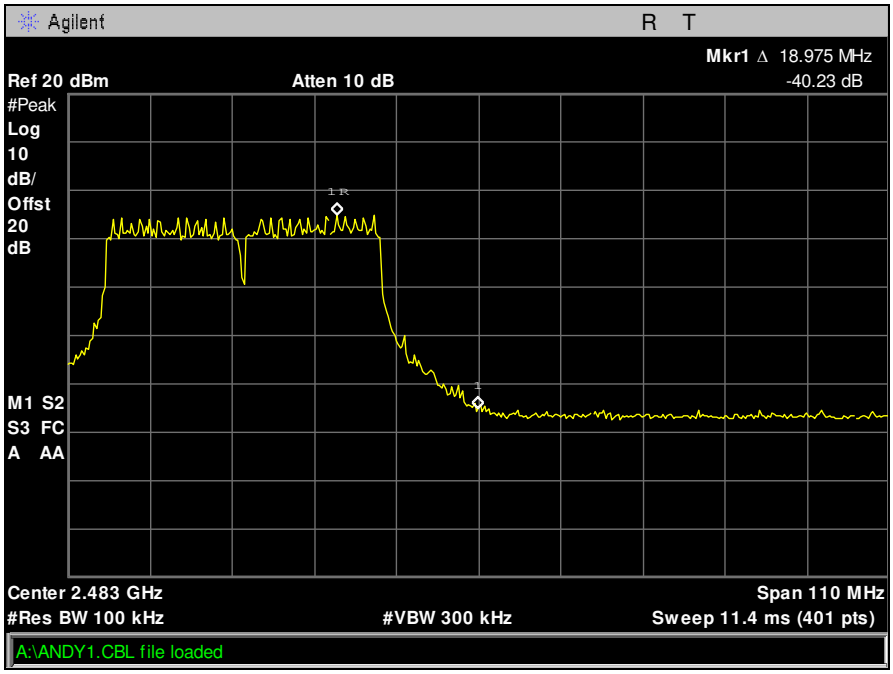


Plot 702. Conducted Band Edge, High Channel, 802.11n 20 MHz, Parabolic Antenna

Conducted Band Edge Test Results, 802.11g 40 MHz, Parabolic Antenna

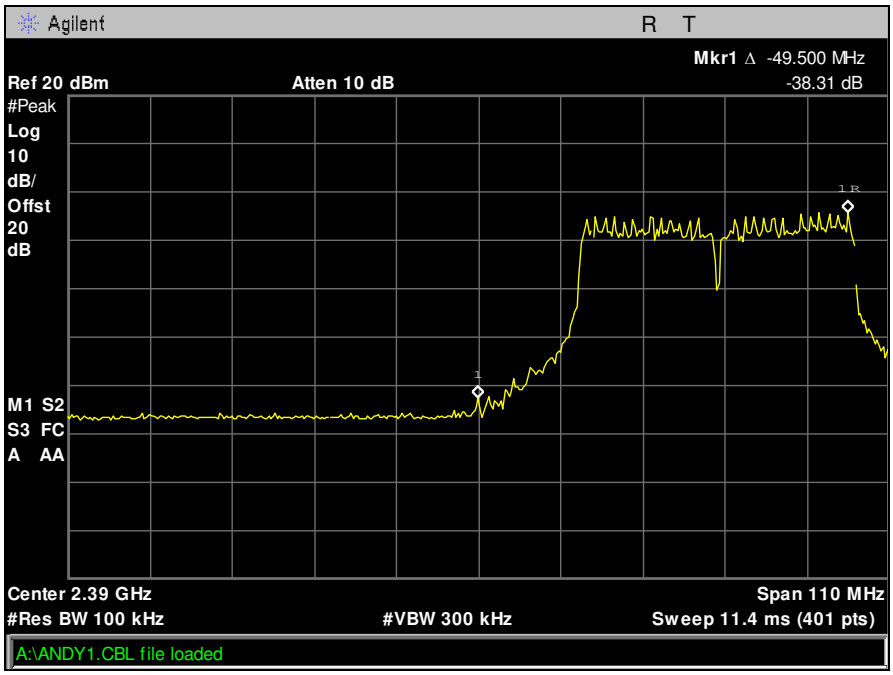


Plot 703. Conducted Band Edge, Low Channel, 802.11g 40 MHz, Parabolic Antenna

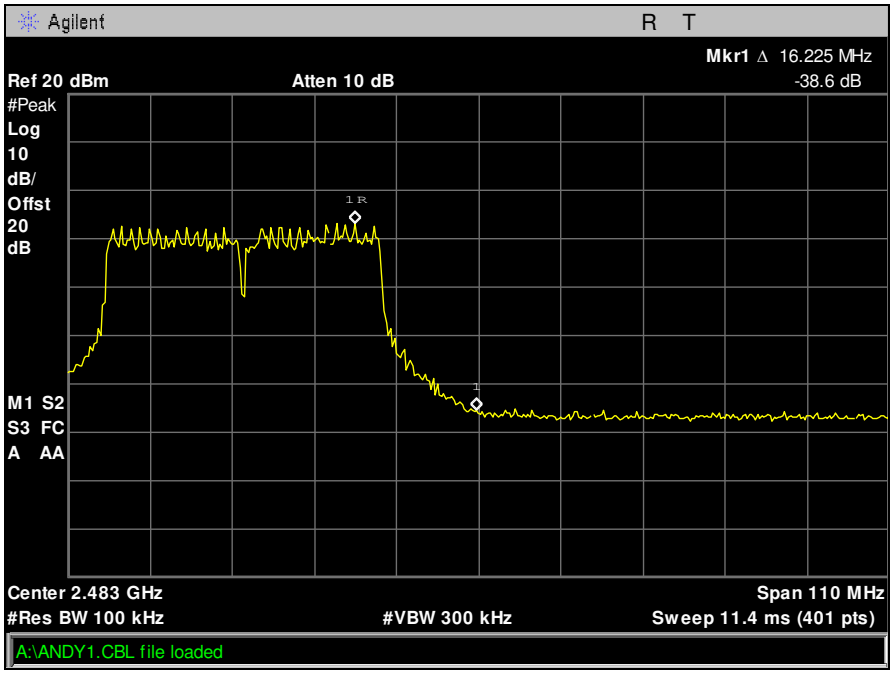


Plot 704. Conducted Band Edge, High Channel, 802.11g 40 MHz, Parabolic Antenna

Conducted Band Edge Test Results, 802.11n 40 MHz, Parabolic Antenna

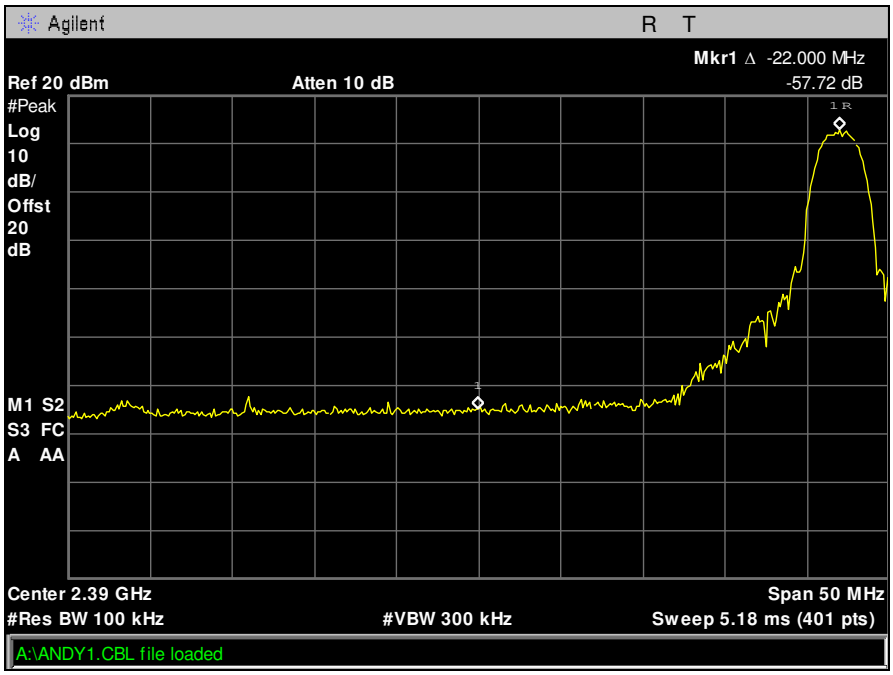


Plot 705. Conducted Band Edge, Low Channel, 802.11n 40 MHz, Parabolic Antenna

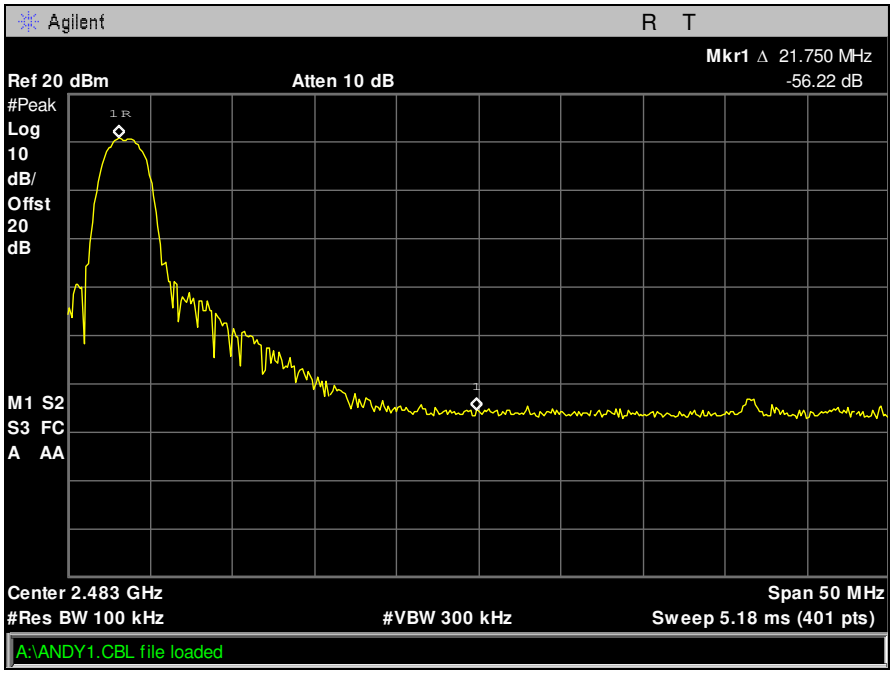


Plot 706. Conducted Band Edge, High Channel, 802.11n 40 MHz, Parabolic Antenna

Conducted Band Edge Test Results, 802.11b 5 MHz, Yagi Antenna

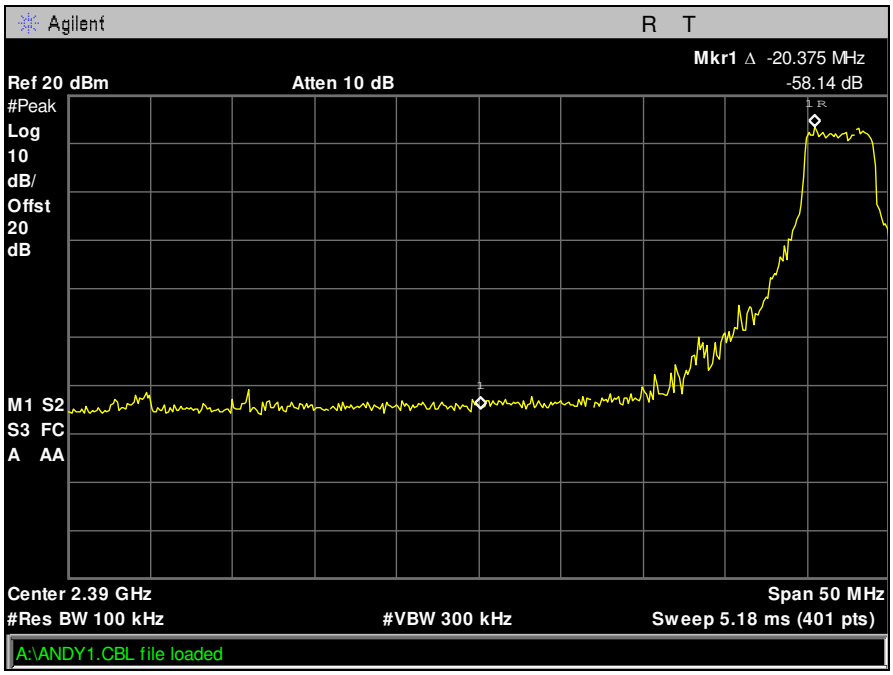


Plot 707. Conducted Band Edge, Low Channel, 802.11b 5 MHz, Yagi Antenna

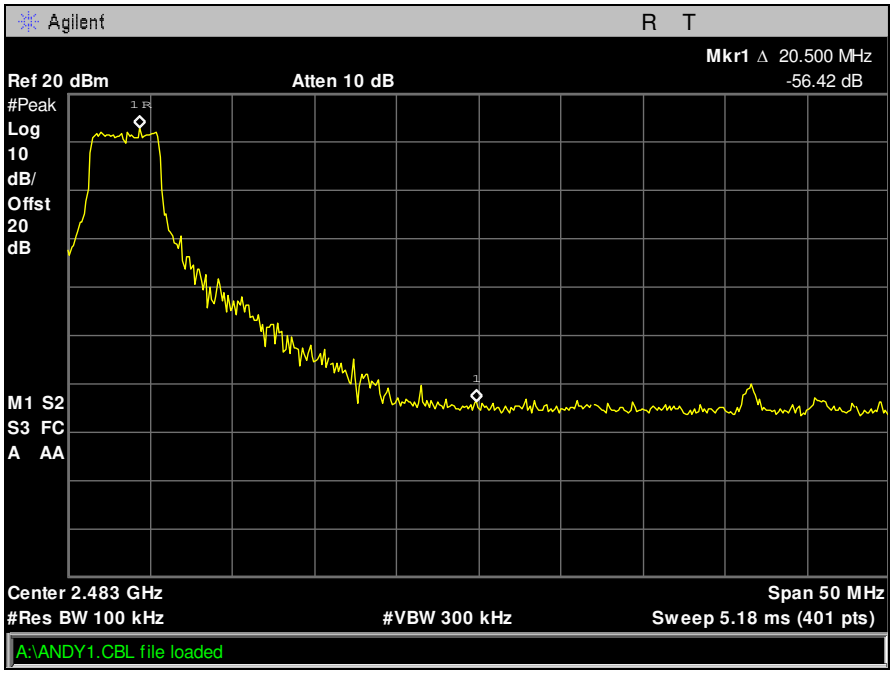


Plot 708. Conducted Band Edge, High Channel, 802.11b 5 MHz, Yagi Antenna

Conducted Band Edge Test Results, 802.11g 5 MHz, Yagi Antenna

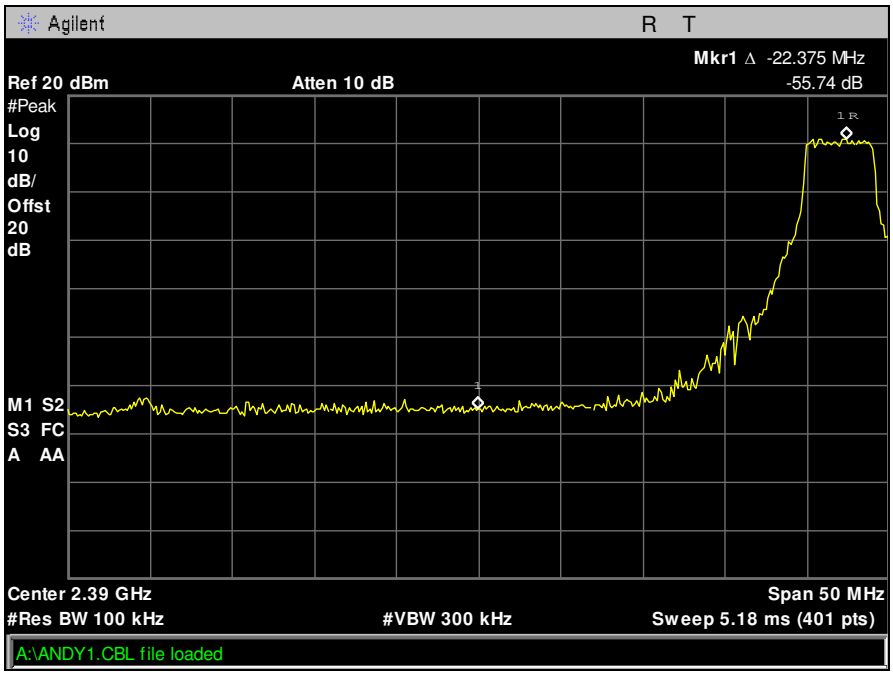


Plot 709. Conducted Band Edge, Low Channel, 802.11g 5 MHz, Yagi Antenna

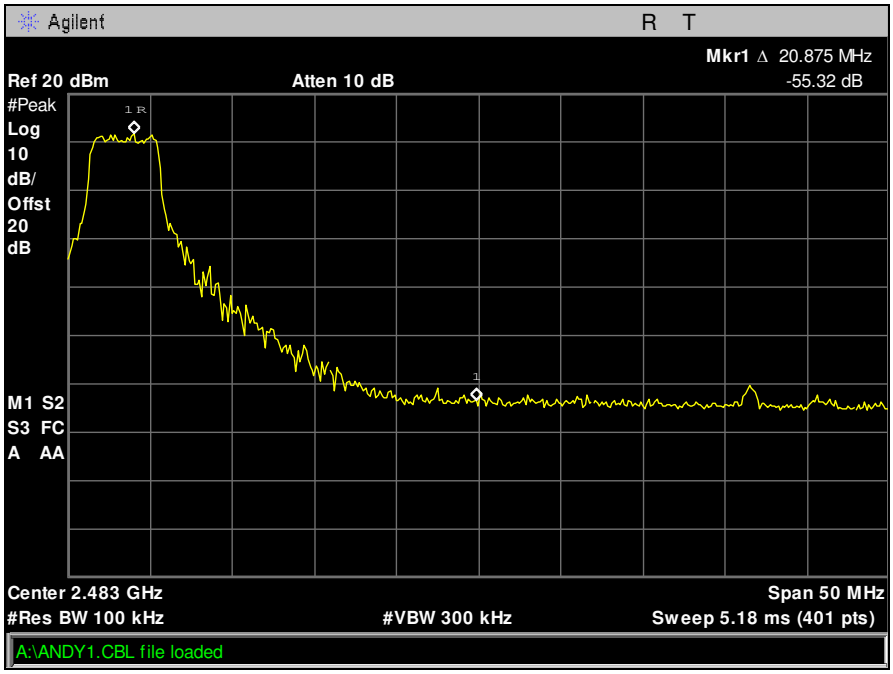


Plot 710. Conducted Band Edge, High Channel, 802.11g 5 MHz, Yagi Antenna

Conducted Band Edge Test Results, 802.11n 5 MHz, Yagi Antenna

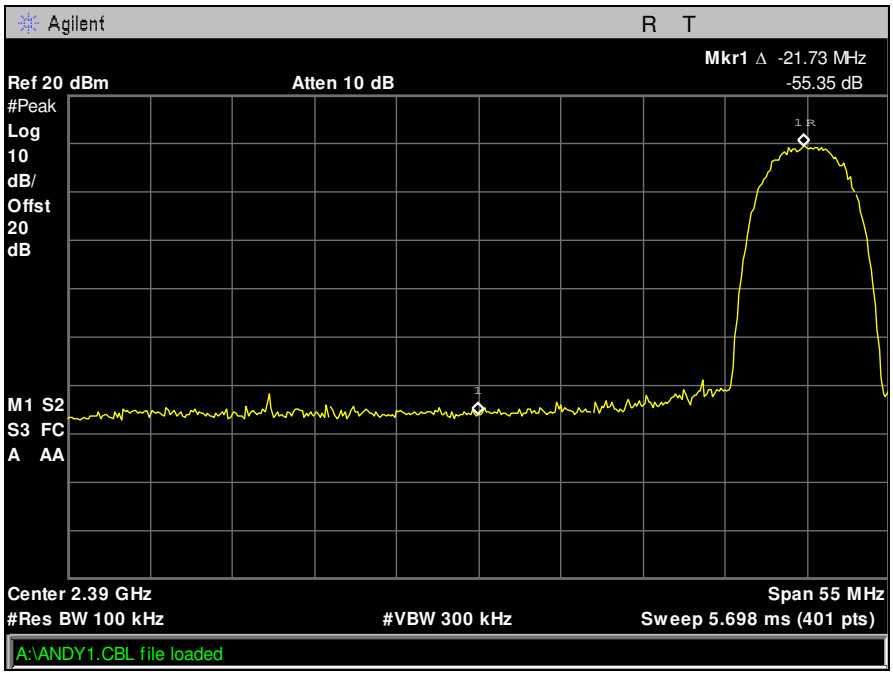


Plot 711. Conducted Band Edge, Low Channel, 802.11n 5 MHz, Yagi Antenna

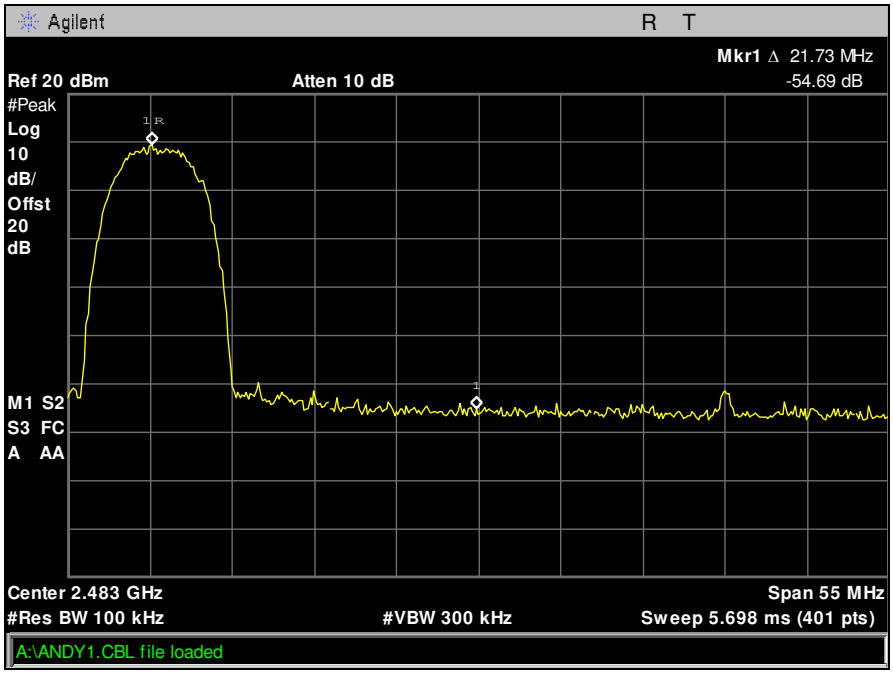


Plot 712. Conducted Band Edge, High Channel, 802.11n 5 MHz, Yagi Antenna

Conducted Band Edge Test Results, 802.11b 10 MHz, Yagi Antenna

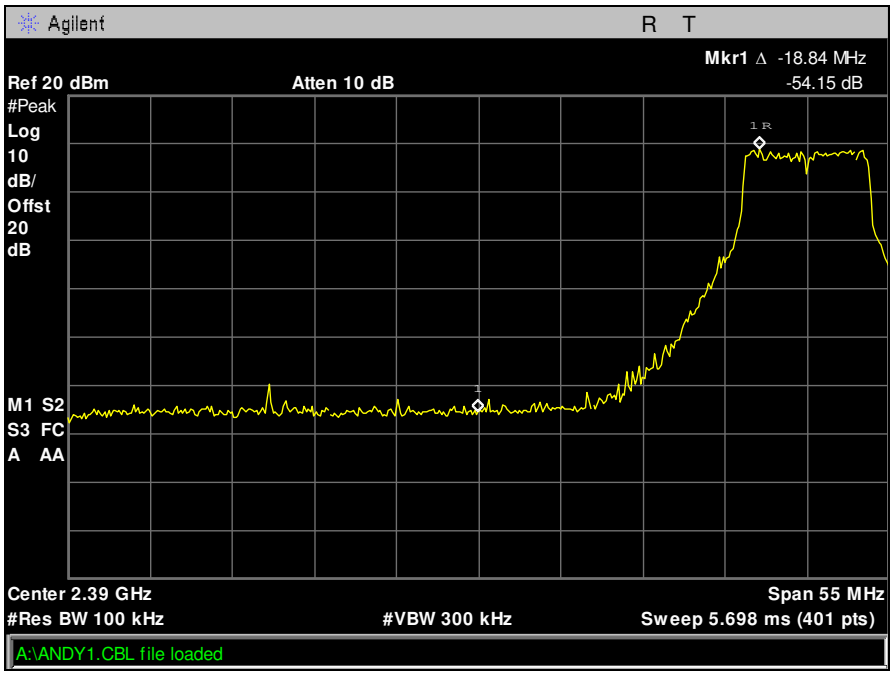


Plot 713. Conducted Band Edge, Low Channel, 802.11b 10 MHz, Yagi Antenna

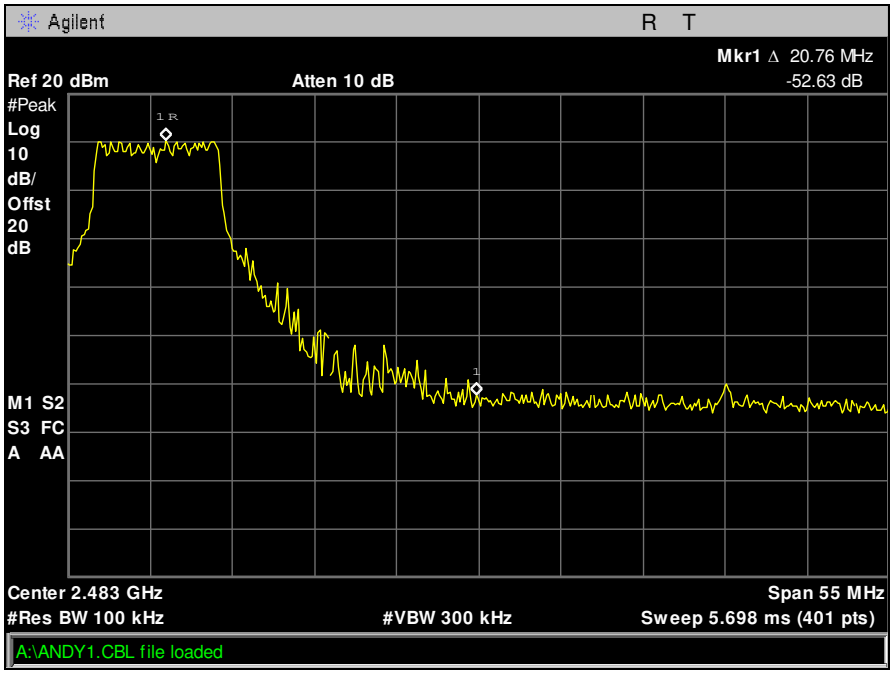


Plot 714. Conducted Band Edge, High Channel, 802.11b 10 MHz, Yagi Antenna

Conducted Band Edge Test Results, 802.11g 10 MHz, Yagi Antenna

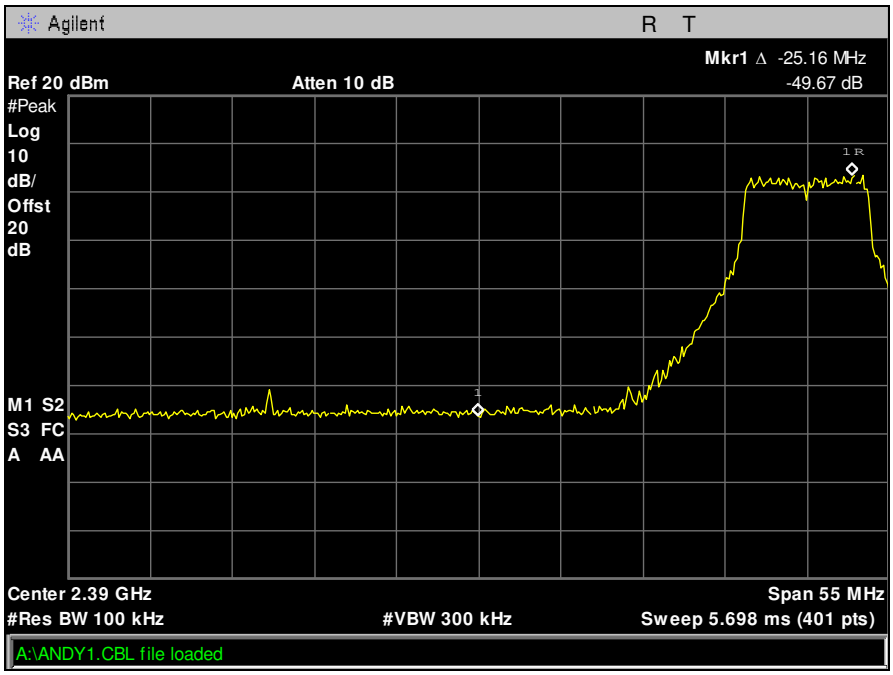


Plot 715. Conducted Band Edge, Low Channel, 802.11g 10 MHz, Yagi Antenna

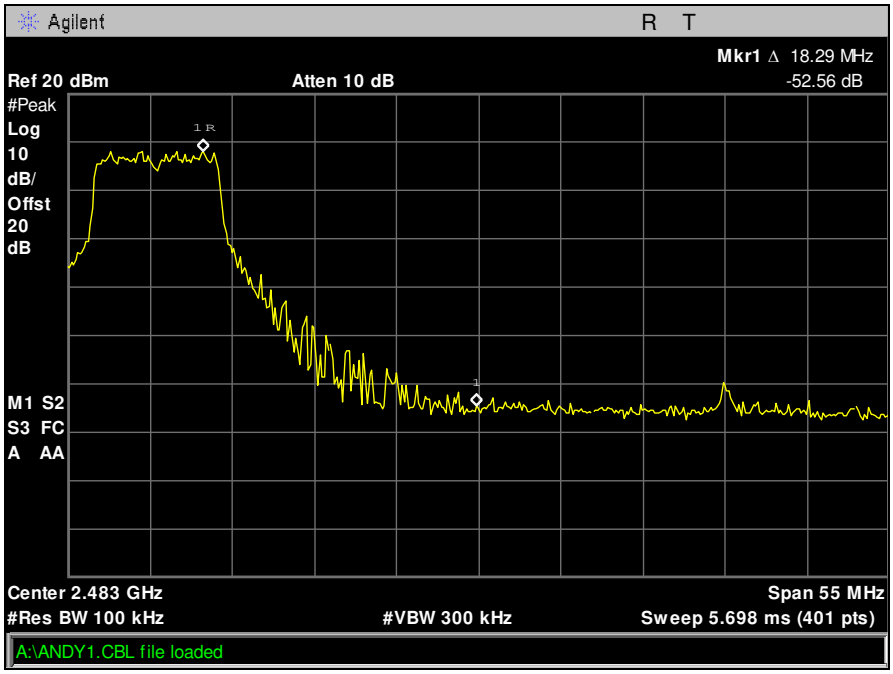


Plot 716. Conducted Band Edge, High Channel, 802.11g 10 MHz, Yagi Antenna

Conducted Band Edge Test Results, 802.11n 10 MHz, Yagi Antenna

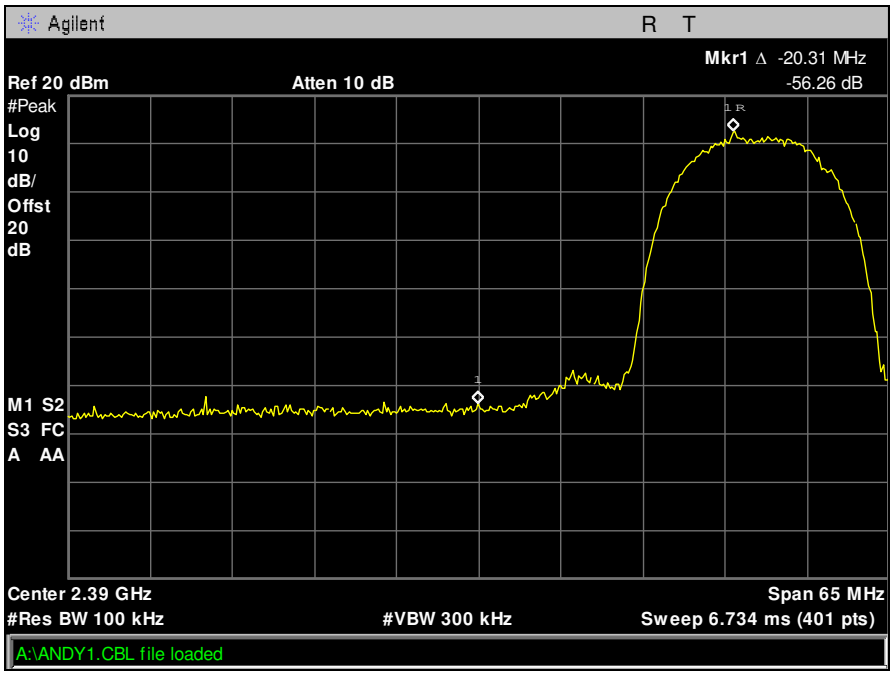


Plot 717. Conducted Band Edge, Low Channel, 802.11n 10 MHz, Yagi Antenna

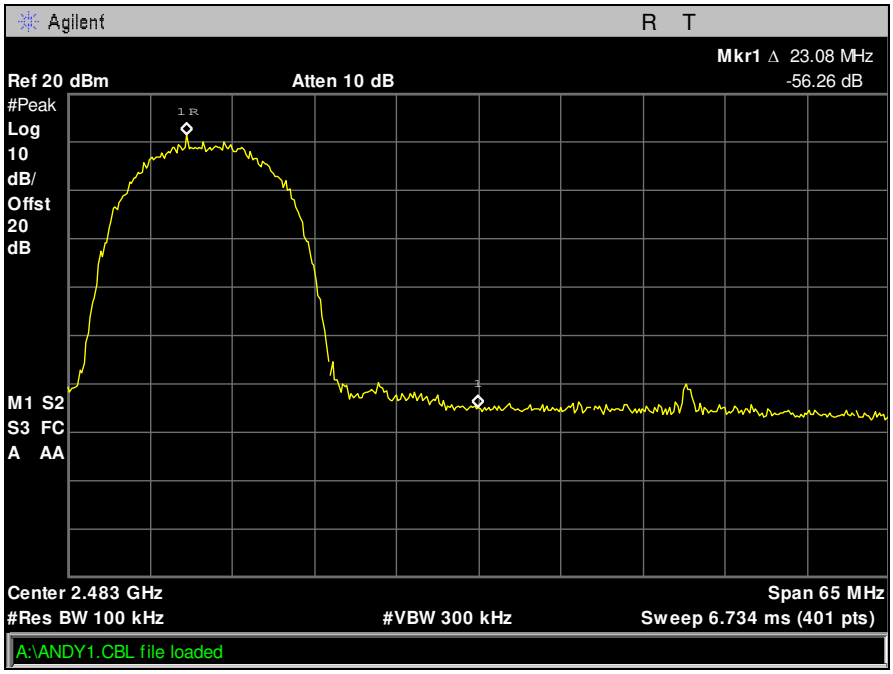


Plot 718. Conducted Band Edge, High Channel, 802.11n 10 MHz, Yagi Antenna

Conducted Band Edge Test Results, 802.11b 20 MHz, Yagi Antenna

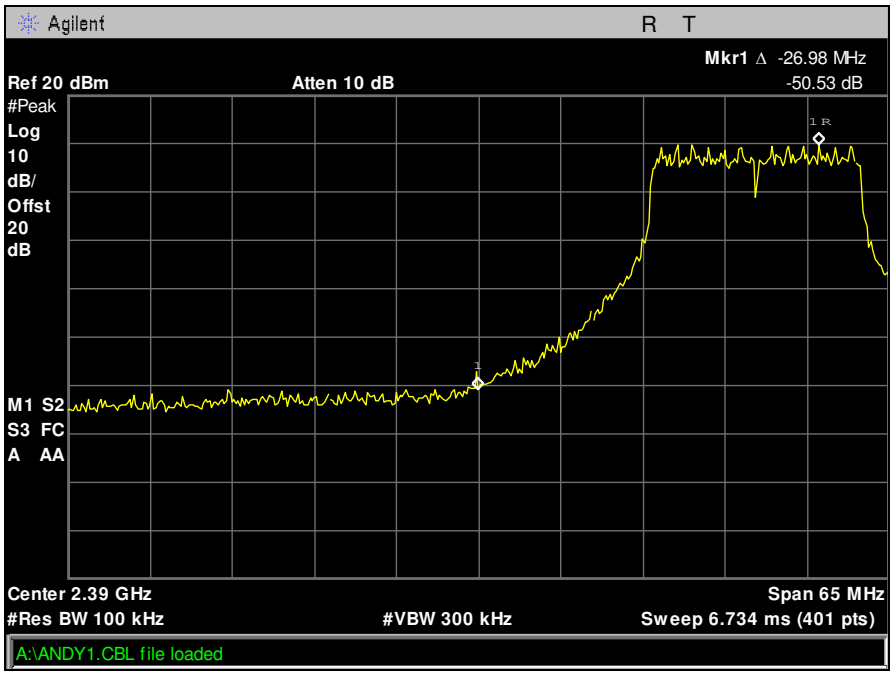


Plot 719. Conducted Band Edge, Low Channel, 802.11b 20 MHz, Yagi Antenna

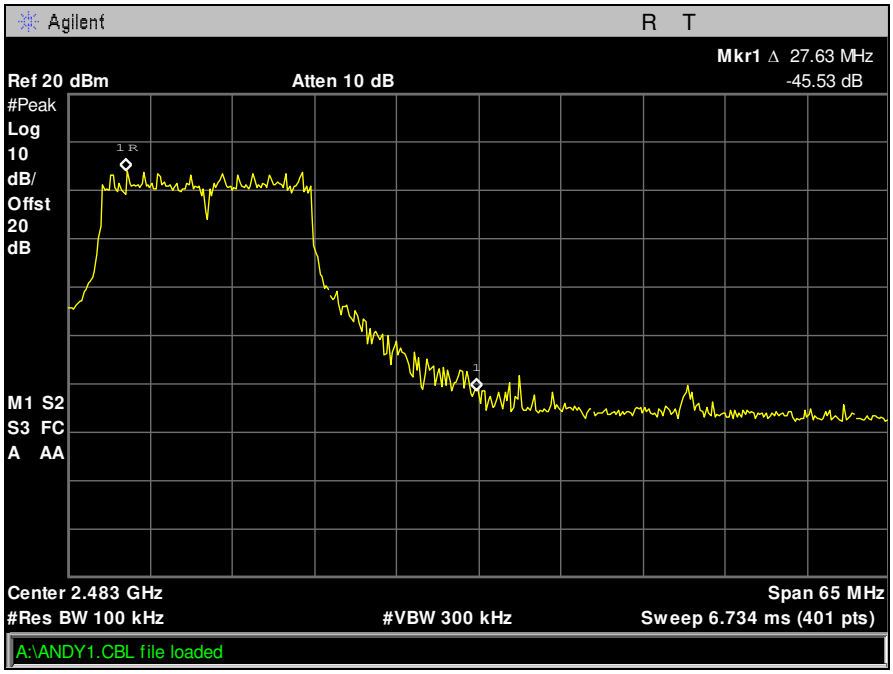


Plot 720. Conducted Band Edge, High Channel, 802.11b 20 MHz, Yagi Antenna

Conducted Band Edge Test Results, 802.11g 20 MHz, Yagi Antenna

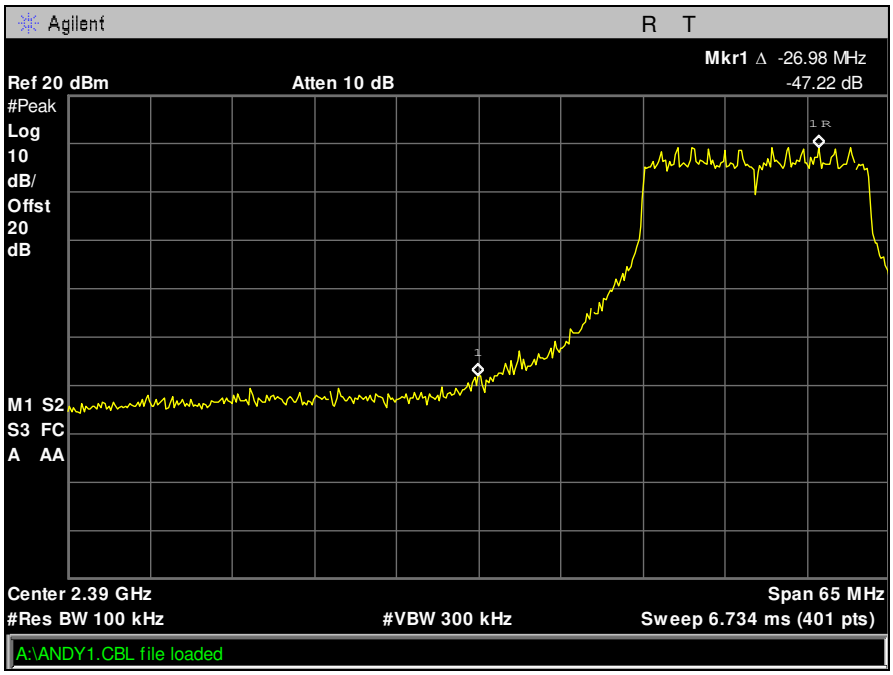


Plot 721. Conducted Band Edge, Low Channel, 802.11g 20 MHz, Yagi Antenna

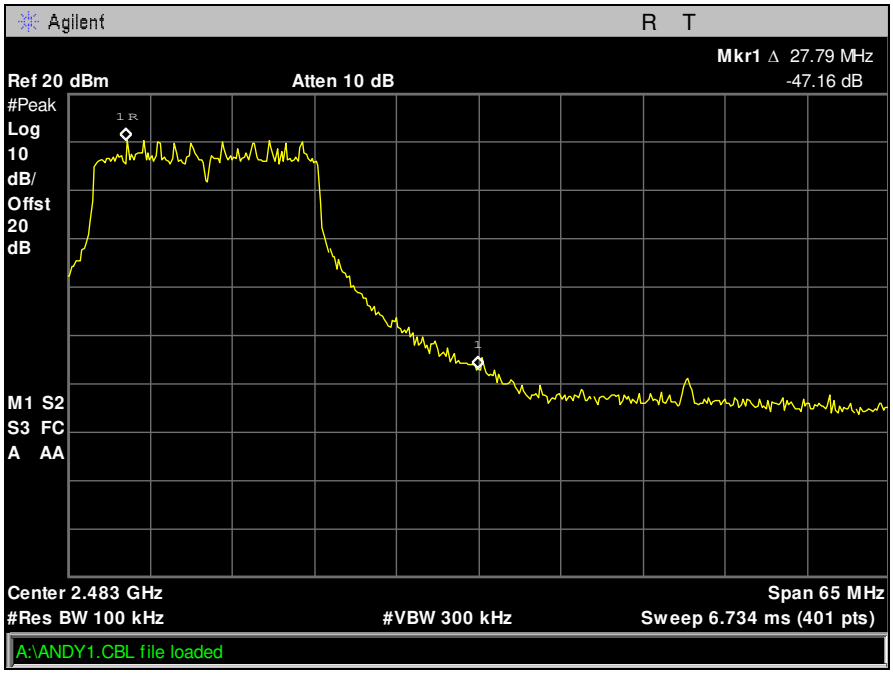


Plot 722. Conducted Band Edge, High Channel, 802.11g 20 MHz, Yagi Antenna

Conducted Band Edge Test Results, 802.11n 20 MHz, Yagi Antenna

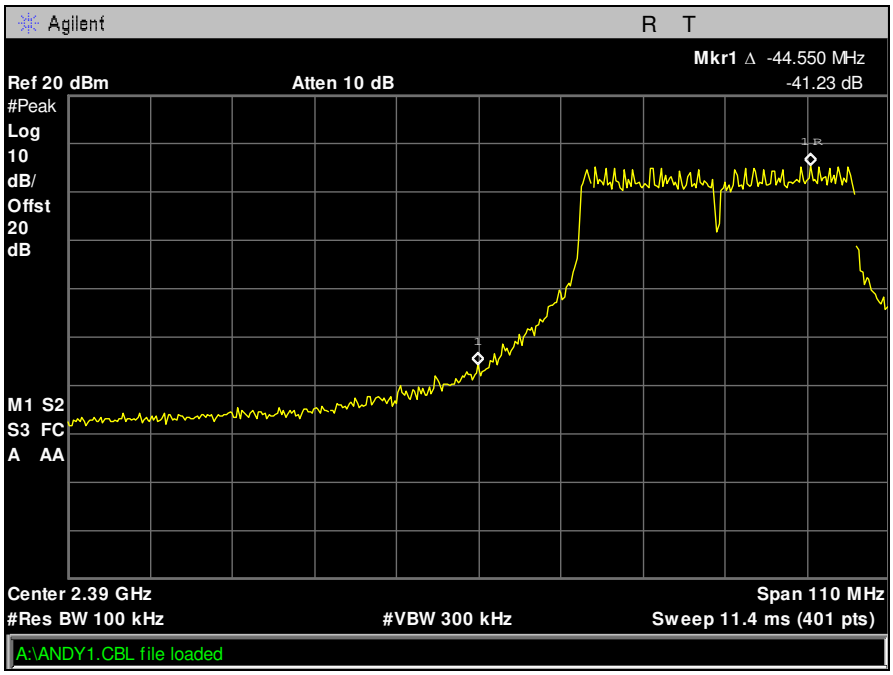


Plot 723. Conducted Band Edge, Low Channel, 802.11n 20 MHz, Yagi Antenna

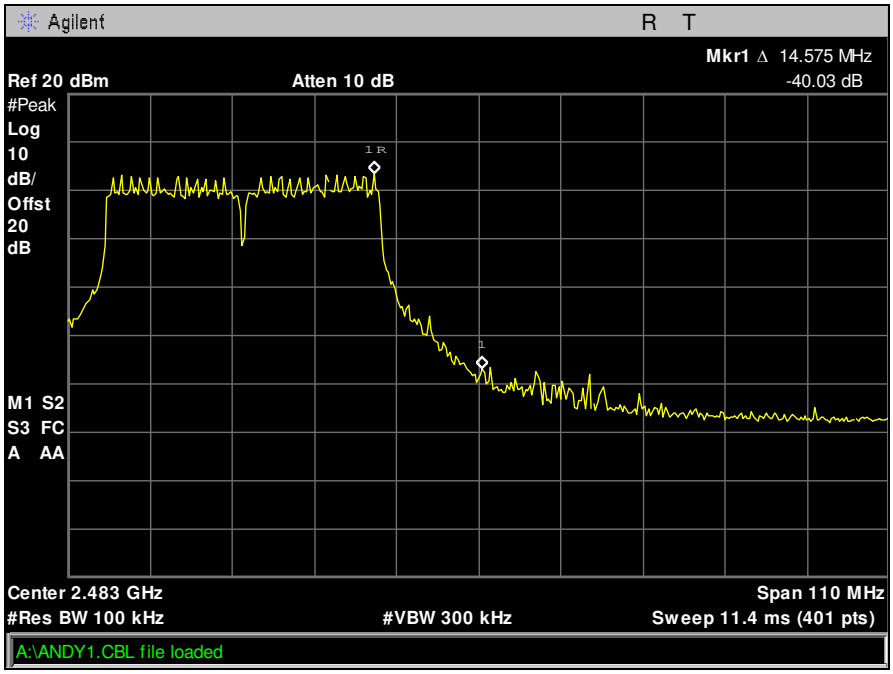


Plot 724. Conducted Band Edge, High Channel, 802.11n 20 MHz, Yagi Antenna

Conducted Band Edge Test Results, 802.11g 40 MHz, Yagi Antenna

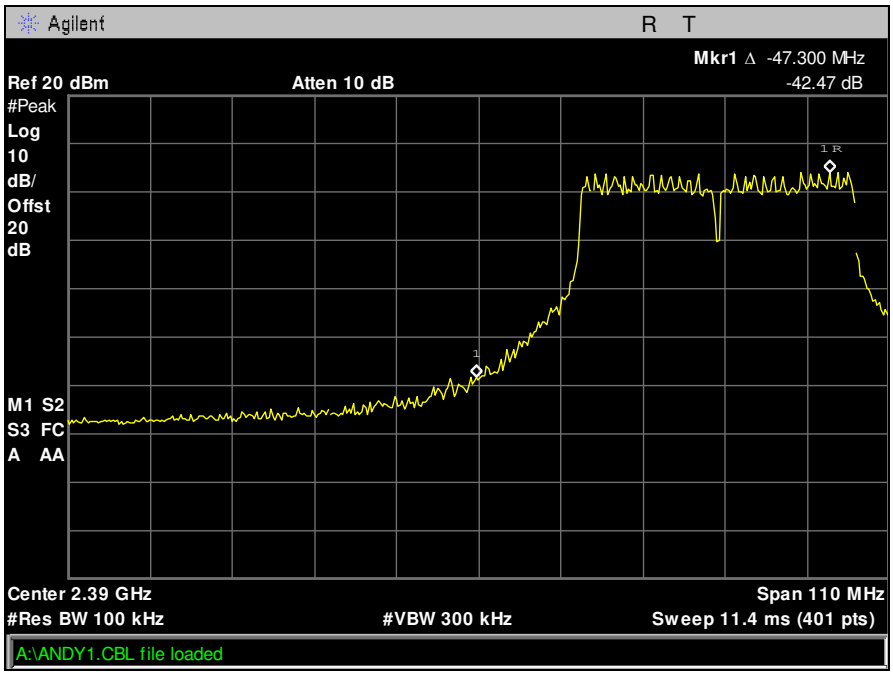


Plot 725. Conducted Band Edge, Low Channel, 802.11g 40 MHz, Yagi Antenna

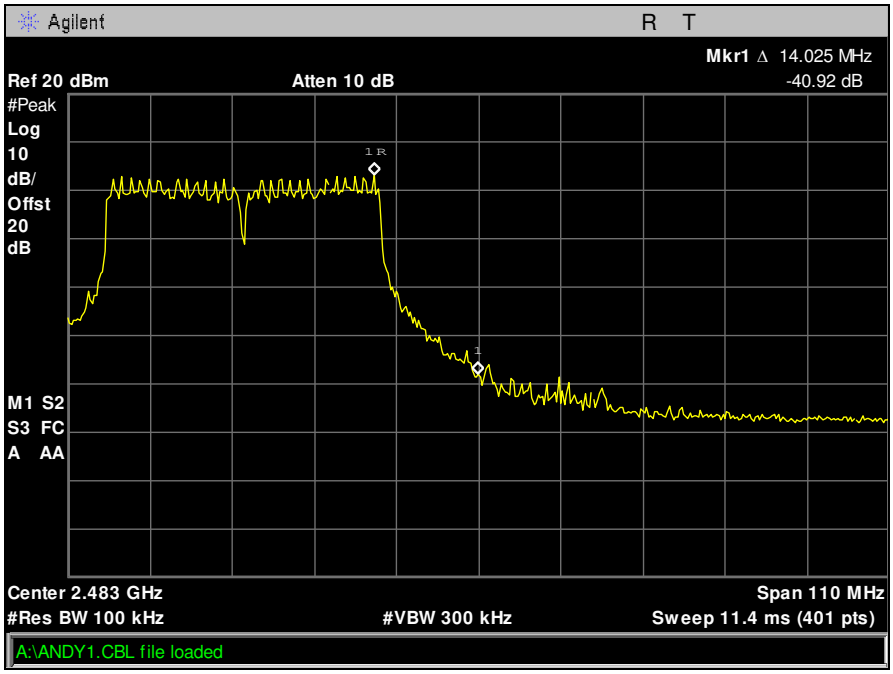


Plot 726. Conducted Band Edge, High Channel, 802.11g 40 MHz, Yagi Antenna

Conducted Band Edge Test Results, 802.11n 40 MHz, Yagi Antenna



Plot 727. Conducted Band Edge, Low Channel, 802.11n 40 MHz, Yagi Antenna



Plot 728. Conducted Band Edge, High Channel, 802.11n 40 MHz, Yagi Antenna

Electromagnetic Compatibility Criteria for Intentional Radiators

§ 15.247(e) Peak Power Spectral Density

Test Requirements: **§15.247(e):** For digitally modulated systems, the peak power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8dBm in any 3 kHz band during any time interval of continuous transmission.

Test Procedure: The transmitter was connected directly to a Spectrum Analyzer through an attenuator. The power level was set to the maximum level throughout each of the 100 sweeps of power averaging. The RBW was set to 3 kHz and a VBW set to 9 kHz or greater. The spectrum analyzer was set to an auto sweep time and a peak detector was used. Measurements were carried out at the low, mid and high channels.

Test Results: The EUT was compliant with the peak power spectral density limits of **§ 15.247 (e)**.

The peak power spectral density was determined from plots on the following page(s).

Test Engineer: Arsalan Hasan

Test Date: 02/15/16

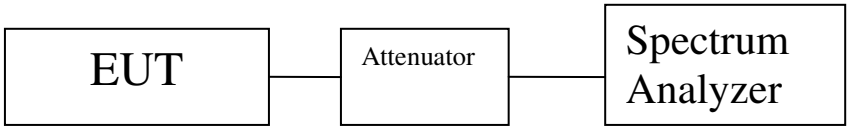


Figure 5. Block Diagram, Peak Power Spectral Density Test Setup

Peak Power Spectral Density Test Results

Omni Antenna Peak Power Spectral Density						
Mode	**Bandwidth (MHz)**	**Carrier Channel**	**Frequency (MHz)**	**Measured PPSD (dBm)**	**Limit (dBm)**	**Margin (dB)**
802.11b	5	Low	2412	7.972	8.00	-0.028
		Mid	2437	5.618	8.00	-2.382
		High	2462	4.338	8.00	-3.662
	10	Low	2412	0.173	8.00	-7.827
		Mid	2437	4.659	8.00	-3.341
		High	2462	3.366	8.00	-4.634
	20	Low	2412	-0.261	8.00	-8.261
		Mid	2437	4.157	8.00	-3.843
		High	2462	-0.026	8.00	-8.026
802.11g	5	Low	2412	4.271	8.00	-3.729
		Mid	2437	8.074	8.00	0.074
		High	2462	2.096	8.00	-5.904
	10	Low	2412	-1.865	8.00	-9.865
		Mid	2437	4.433	8.00	-3.567
		High	2462	1.447	8.00	-6.558
	20	Low	2412	-4.43	8.00	-12.43
		Mid	2437	1.442	8.00	-6.558
		High	2462	-6.755	8.00	-14.755
	40	Low	2422	-9.727	8.00	-17.727
		Mid	2447	-2.000	8.00	-10.00
		High	2452	-7.943	8.00	-15.943
802.11n	5	Low	2412	2.002	8.00	-5.998
		Mid	2437	7.001	8.00	-0.999
		High	2462	-1.301	8.00	-9.301
	10	Low	2412	-5.858	8.00	-13.858
		Mid	2437	4.163	8.00	-3.837
		High	2462	-2.888	8.00	-10.888
	20	Low	2412	-8.869	8.00	-16.869
		Mid	2437	0.121	8.00	-7.879
		High	2462	-3.183	8.00	-11.183
	40	Low	2422	-9.727	8.00	-17.727
		Mid	2447	-2.000	8.00	-10.00
		High	2452	-7.943	8.00	-15.943

Table 21. Peak Power Spectral Density, Test Results, Omni Antenna

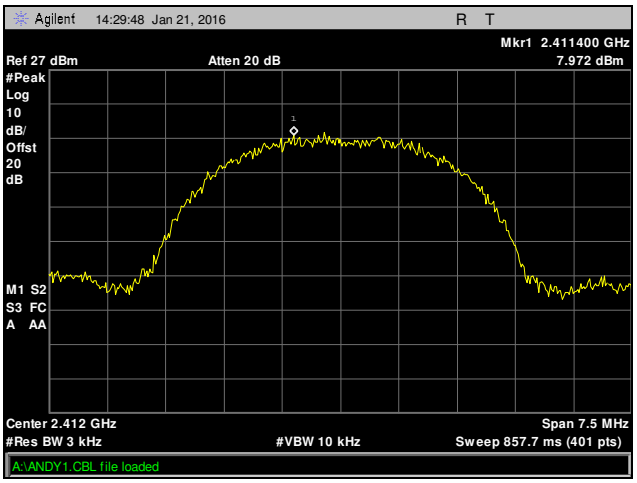
Omni Antenna Peak Power Spectral Density						
Mode	**Bandwidth (MHz)**	**Carrier Channel**	**Frequency (MHz)**	**Measured PPSD (dBm)**	**Limit (dBm)**	**Margin (dB)**
802.11b	5	Low	2412	-9.678	-1.00	-8.678
		Mid	2437	-5.68	-1.00	-4.68
		High	2462	-9.979	-1.00	-8.979
	10	Low	2412	-19.27	-1.00	-18.27
		Mid	2437	-9.937	-1.00	-8.937
		High	2462	-18.89	-1.00	-17.89
	20	Low	2412	-12.06	-1.00	-11.06
		Mid	2437	-9.31	-1.00	-8.31
		High	2462	-19.67	-1.00	-18.67
802.11g	5	Low	2412	-12.29	-1.00	-11.29
		Mid	2437	-7.552	-1.00	-6.552
		High	2462	-16.59	-1.00	-15.59
	10	Low	2412	-20.5	-1.00	-19.5
		Mid	2437	-0.977	-1.00	0.023
		High	2462	-19.5	-1.00	-18.5
	20	Low	2412	-14.00	-1.00	-13.00
		Mid	2437	-11.12	-1.00	-10.12
		High	2462	-13.64	-1.00	-12.64
	40	Low	2422	-21.31	-1.00	-20.31
		Mid	2447	-11.14	-1.00	-10.14
		High	2452	-20.24	-1.00	-19.24
802.11n	5	Low	2412	-12.86	-1.00	-11.86
		Mid	2437	-7.302	-1.00	-6.302
		High	2462	-16.76	-1.00	-15.76
	10	Low	2412	-18.37	-1.00	-17.37
		Mid	2437	-10.37	-1.00	-9.37
		High	2462	-18.49	-1.00	-17.49
	20	Low	2412	-14.23	-1.00	-13.23
		Mid	2437	-10.02	-1.00	-9.02
		High	2462	-11.97	-1.00	-10.97
	40	Low	2422	-20.18	-1.00	-19.18
		Mid	2447	-12.30	-1.00	-11.30
		High	2452	-24.30	-1.00	-23.30

Table 22. Peak Power Spectral Density, Test Results, Parabolic Antenna

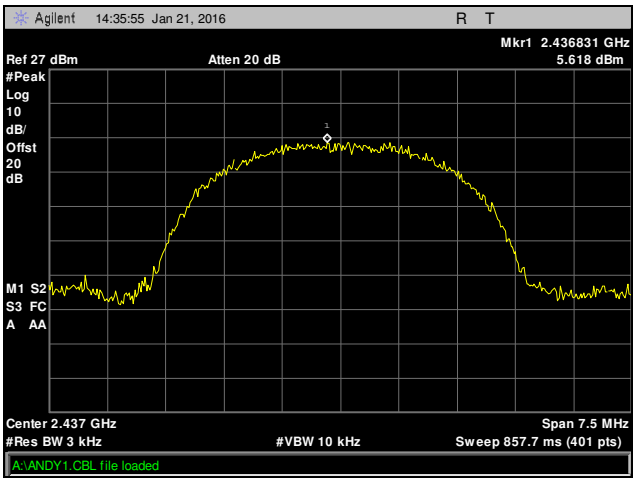
Omni Antenna Peak Power Spectral Density						
Mode	**Bandwidth (MHz)**	**Carrier Channel**	**Frequency (MHz)**	**Measured PPSD (dBm)**	**Limit (dBm)**	**Margin (dB)**
802.11b	5	Low	2412	-2.319	8.00	-10.319
		Mid	2437	7.777	8.00	-0.223
		High	2462	-0.361	8.00	8.361
	10	Low	2412	-3.481	8.00	-11.481
		Mid	2437	4.454	8.00	-3.546
		High	2462	-4.055	8.00	-12.055
	20	Low	2412	-3.646	8.00	-11.646
		Mid	2437	4.07	8.00	-3.93
		High	2462	-4.914	8.00	-12.914
802.11g	5	Low	2412	-0.179	8.00	-8.179
		Mid	2437	7.846	8.00	-0.154
		High	2462	-1.836	8.00	-9.836
	10	Low	2412	-4.311	8.00	-12.311
		Mid	2437	3.233	8.00	-4.767
		High	2462	-1.956	8.00	-9.956
	20	Low	2412	-4.669	8.00	-12.669
		Mid	2437	0.15	8.00	-7.85
		High	2462	-11.78	8.00	-19.78
	40	Low	2422	-10.68	8.00	-18.68
		Mid	2447	-2.794	8.00	-10.794
		High	2452	-12.56	8.00	-20.56
802.11n	5	Low	2412	-1.761	8.00	-9.761
		Mid	2437	6.087	8.00	-1.913
		High	2462	-0.155	8.00	-8.155
	10	Low	2412	-9.331	8.00	-17.331
		Mid	2437	3.159	8.00	-4.841
		High	2462	-5.153	8.00	-13.153
	20	Low	2412	-7.264	8.00	-15.264
		Mid	2437	-1.275	8.00	-9.275
		High	2462	-6.066	8.00	-14.066
	40	Low	2422	-11.13	8.00	-19.13
		Mid	2447	-2.067	8.00	-10.067
		High	2452	-13.54	8.00	-21.54

Table 23. Peak Power Spectral Density, Test Results, Yagi Antenna

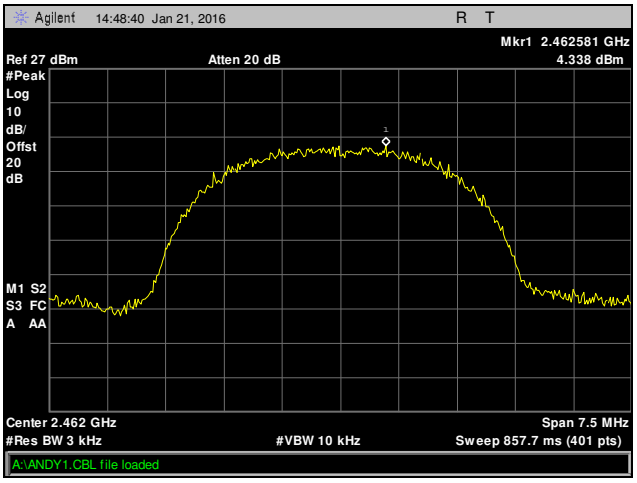
Peak Power Spectral Density, 802.11b 5 MHz, Omni Antenna



Plot 729. Peak Power Spectral Density, Low Channel, 802.11b 5 MHz, Omni Antenna

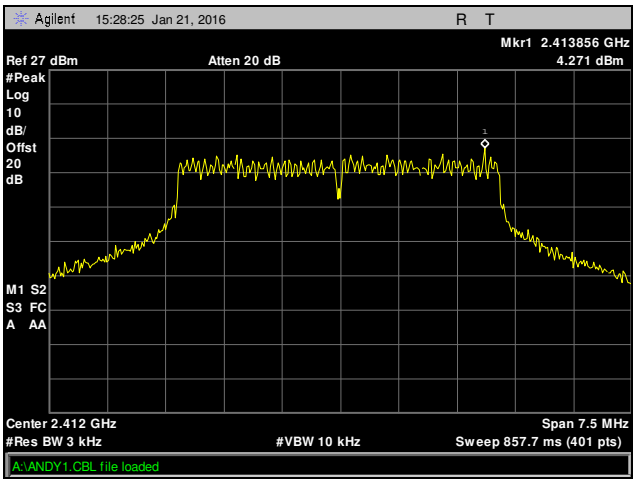


Plot 730. Peak Power Spectral Density, Mid Channel, 802.11b 5 MHz, Omni Antenna

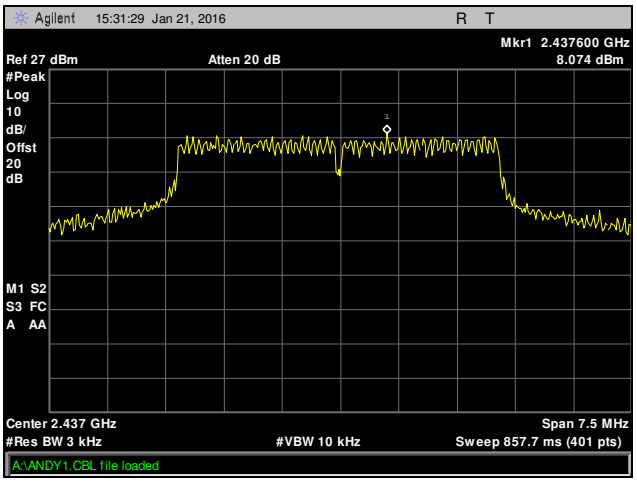


Plot 731. Peak Power Spectral Density, High Channel, 802.11b 5 MHz, Omni Antenna

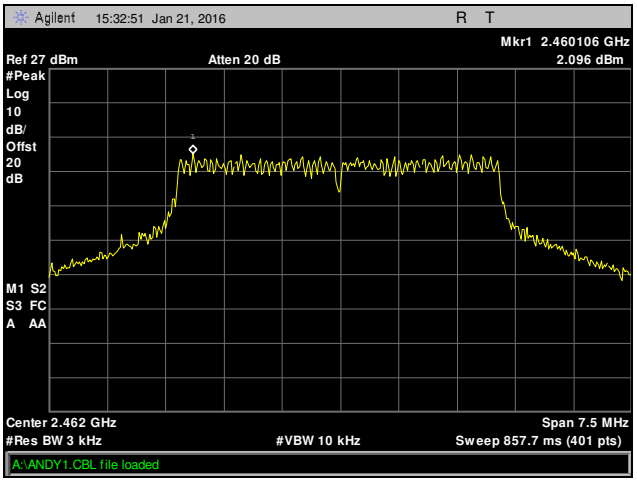
Peak Power Spectral Density, 802.11g 5 MHz, Omni Antenna



Plot 732. Peak Power Spectral Density, Low Channel, 802.11g 5 MHz, Omni Antenna

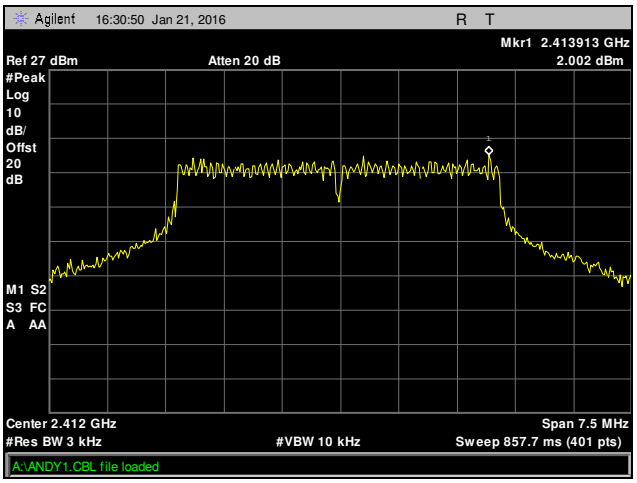


Plot 733. Peak Power Spectral Density, Mid Channel, 802.11g 5 MHz, Omni Antenna

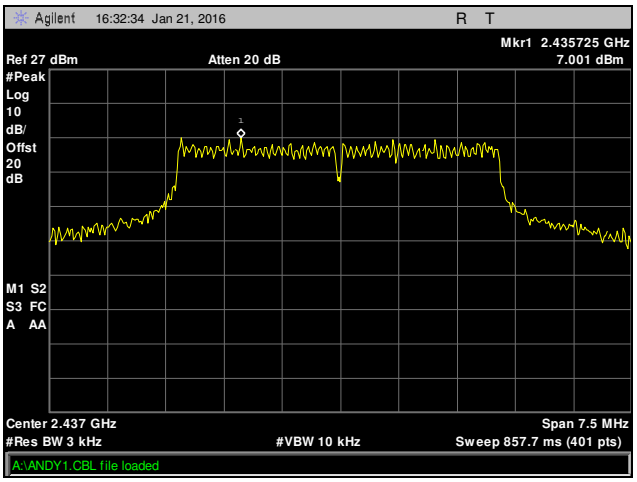


Plot 734. Peak Power Spectral Density, High Channel, 802.11g 5 MHz, Omni Antenna

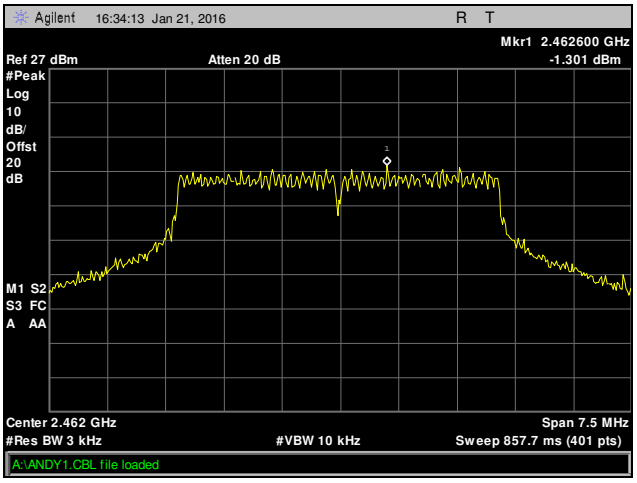
Peak Power Spectral Density, 802.11n 5 MHz, Omni Antenna



Plot 735. Peak Power Spectral Density, Low Channel, 802.11n 5 MHz, Omni Antenna

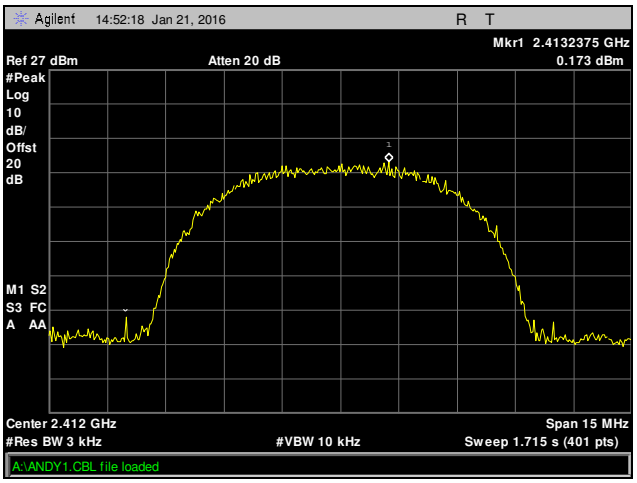


Plot 736. Peak Power Spectral Density, Mid Channel, 802.11n 5 MHz, Omni Antenna

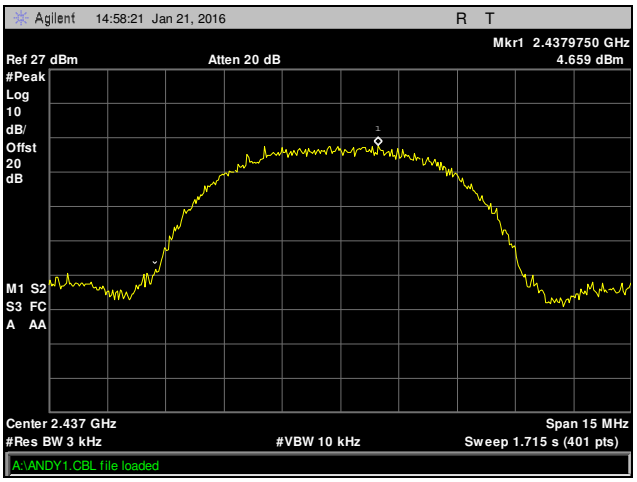


Plot 737. Peak Power Spectral Density, High Channel, 802.11n 5 MHz, Omni Antenna

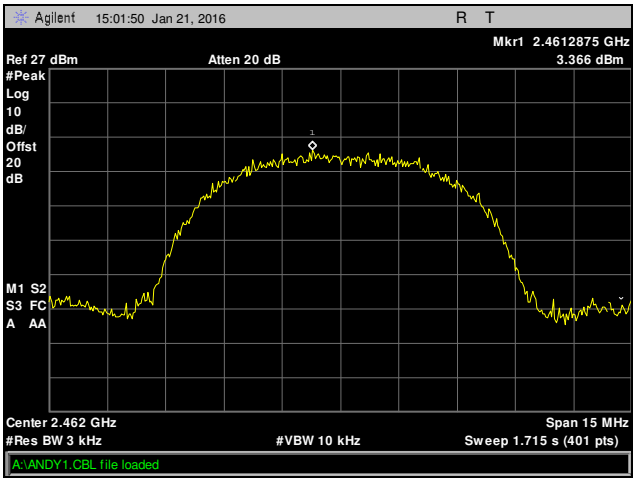
Peak Power Spectral Density, 802.11b 10 MHz, Omni Antenna



Plot 738. Peak Power Spectral Density, Low Channel, 802.11b 10 MHz, Omni Antenna

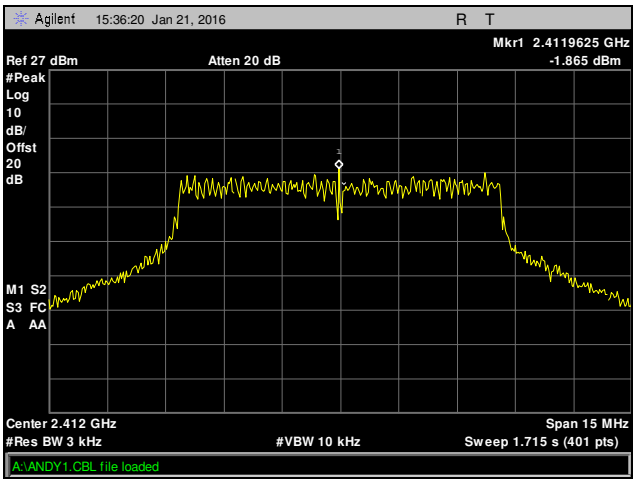


Plot 739. Peak Power Spectral Density, Mid Channel, 802.11b 10 MHz, Omni Antenna

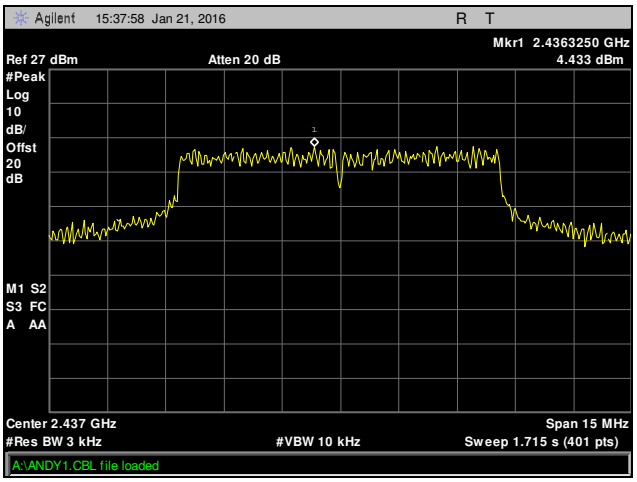


Plot 740. Peak Power Spectral Density, High Channel, 802.11b 10 MHz, Omni Antenna

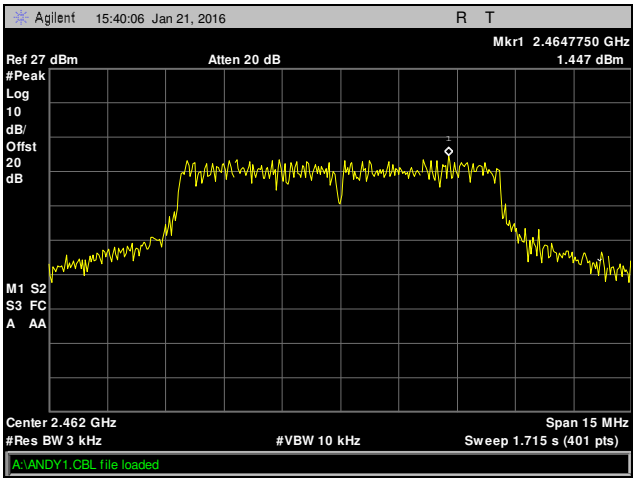
Peak Power Spectral Density, 802.11g 10 MHz, Omni Antenna



Plot 741. Peak Power Spectral Density, Low Channel, 802.11g 10 MHz, Omni Antenna

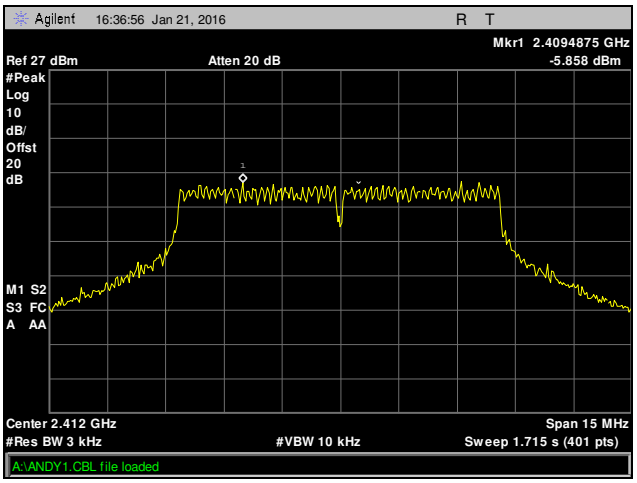


Plot 742. Peak Power Spectral Density, Mid Channel, 802.11g 10 MHz, Omni Antenna

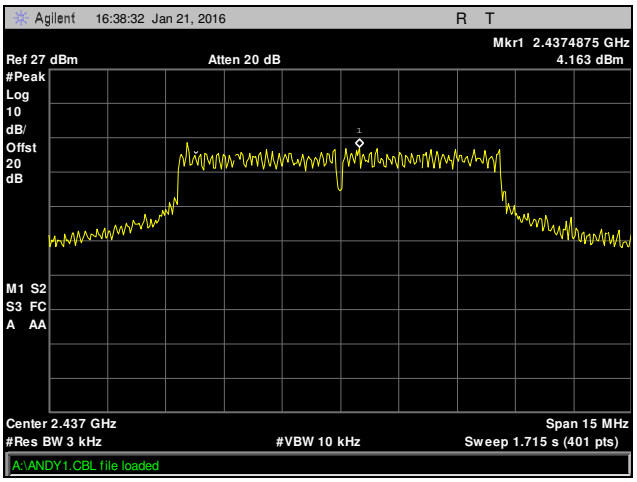


Plot 743. Peak Power Spectral Density, High Channel, 802.11g 10 MHz, Omni Antenna

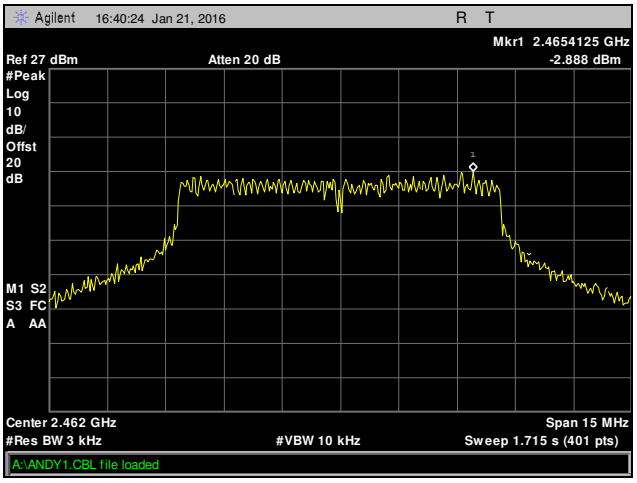
Peak Power Spectral Density, 802.11n 10 MHz, Omni Antenna



Plot 744. Peak Power Spectral Density, Low Channel, 802.11n 10 MHz, Omni Antenna

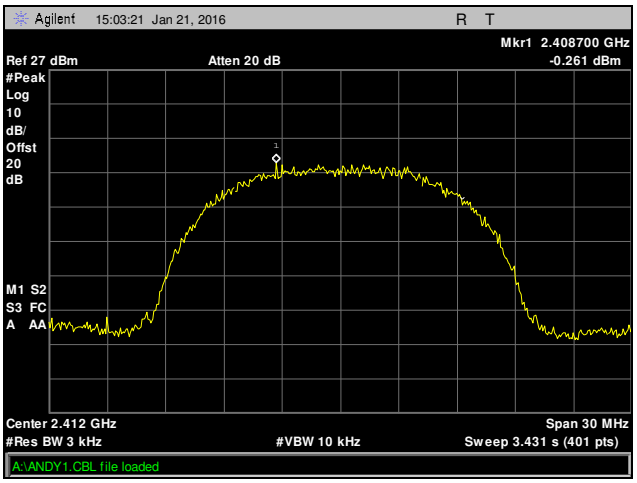


Plot 745. Peak Power Spectral Density, Mid Channel, 802.11n 10 MHz, Omni Antenna

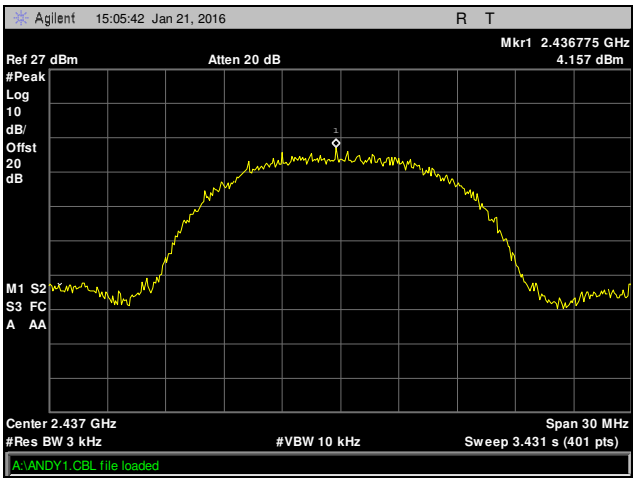


Plot 746. Peak Power Spectral Density, High Channel, 802.11n 10 MHz, Omni Antenna

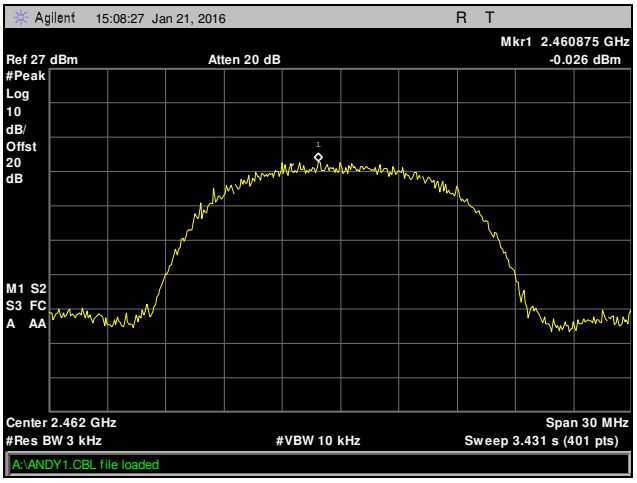
Peak Power Spectral Density, 802.11b 20 MHz, Omni Antenna



Plot 747. Peak Power Spectral Density, Low Channel, 802.11b 20 MHz, Omni Antenna

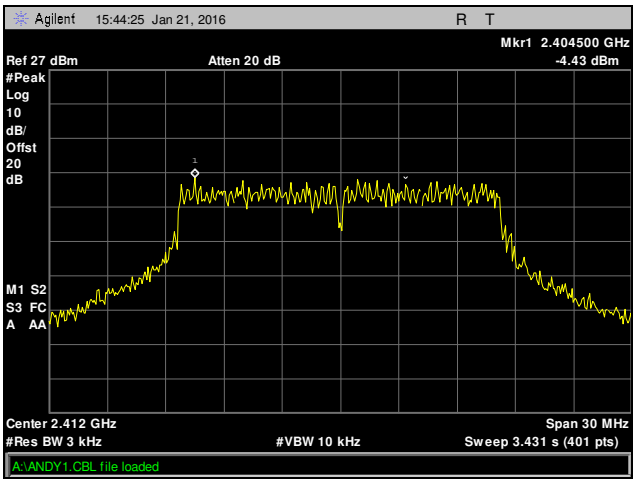


Plot 748. Peak Power Spectral Density, Mid Channel, 802.11b 20 MHz, Omni Antenna

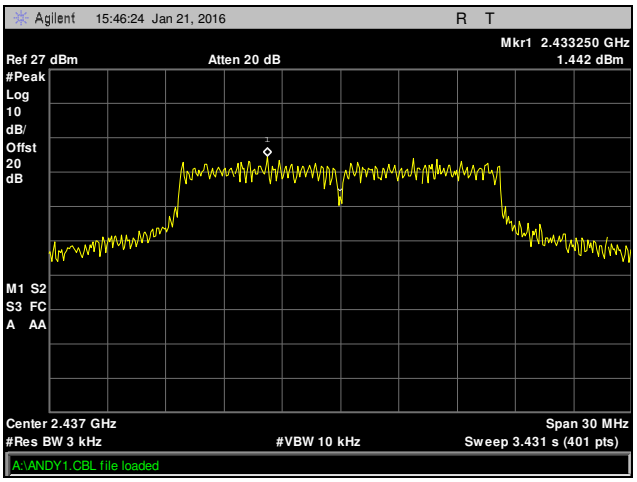


Plot 749. Peak Power Spectral Density, High Channel, 802.11b 20 MHz, Omni Antenna

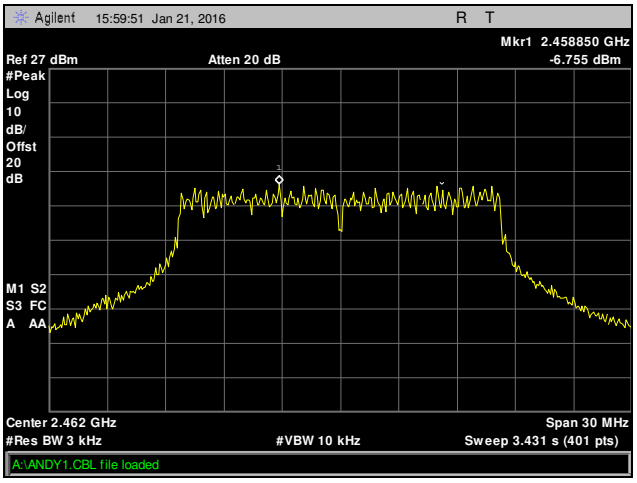
Peak Power Spectral Density, 802.11g 20 MHz, Omni Antenna



Plot 750. Peak Power Spectral Density, Low Channel, 802.11g 20 MHz, Omni Antenna

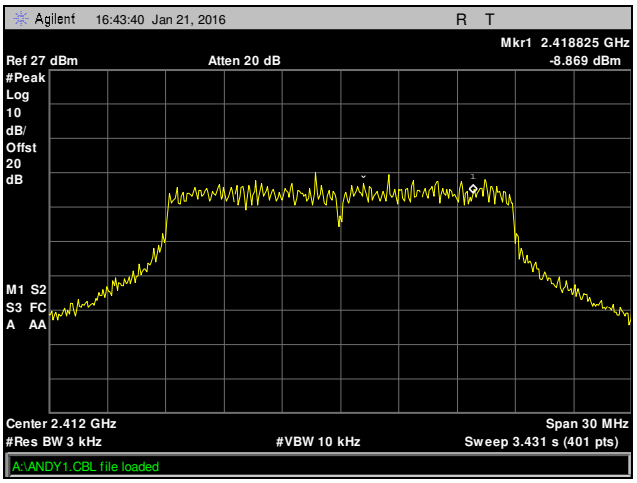


Plot 751. Peak Power Spectral Density, Mid Channel, 802.11g 20 MHz, Omni Antenna

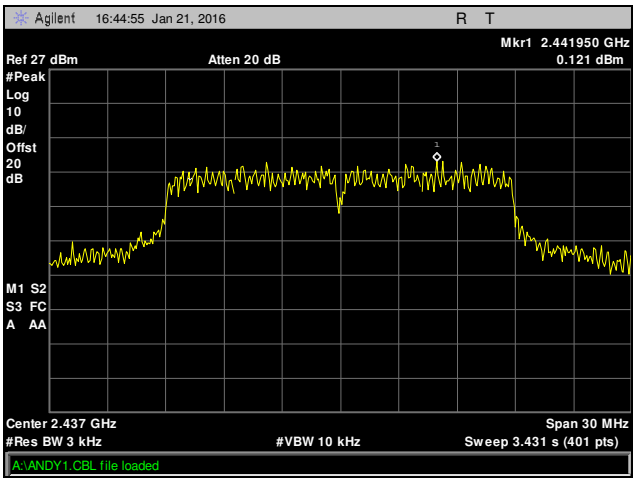


Plot 752. Peak Power Spectral Density, High Channel, 802.11g 20 MHz, Omni Antenna

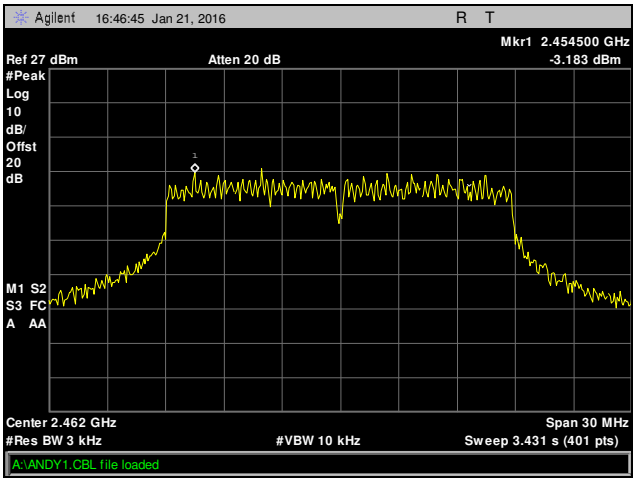
Peak Power Spectral Density, 802.11n 20 MHz, Omni Antenna



Plot 753. Peak Power Spectral Density, Low Channel, 802.11n 20 MHz, Omni Antenna

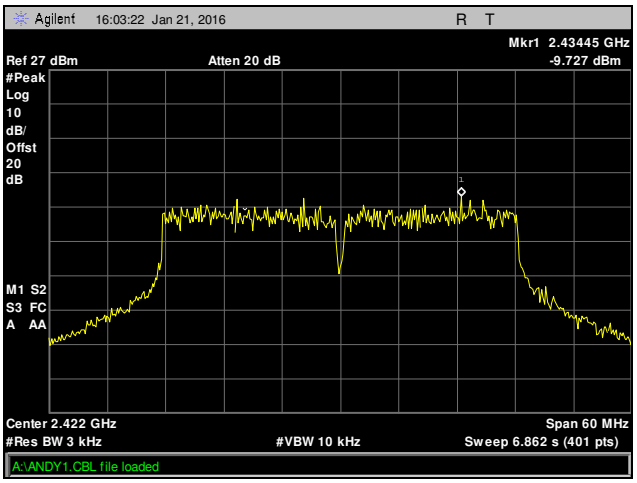


Plot 754. Peak Power Spectral Density, Mid Channel, 802.11n 20 MHz, Omni Antenna

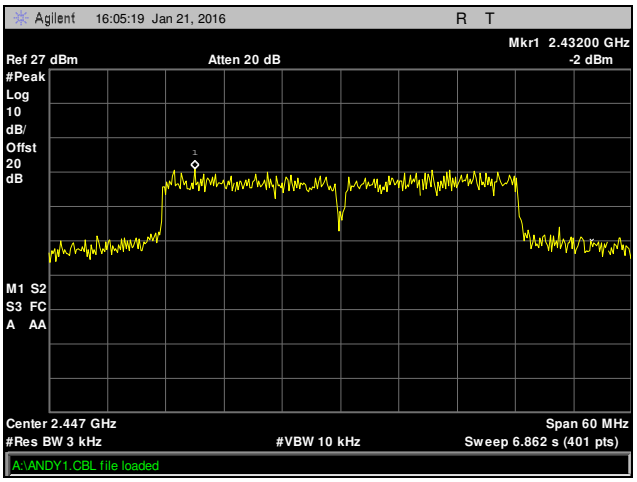


Plot 755. Peak Power Spectral Density, High Channel, 802.11n 20 MHz, Omni Antenna

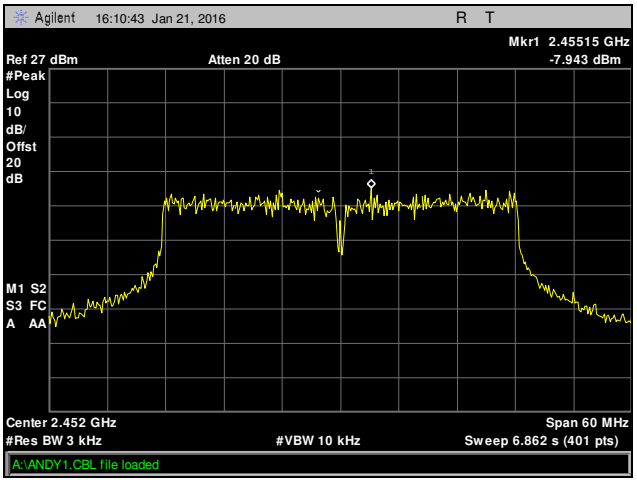
Peak Power Spectral Density, 802.11g 40 MHz, Omni Antenna



Plot 756. Peak Power Spectral Density, Low Channel, 802.11g 40 MHz, Omni Antenna

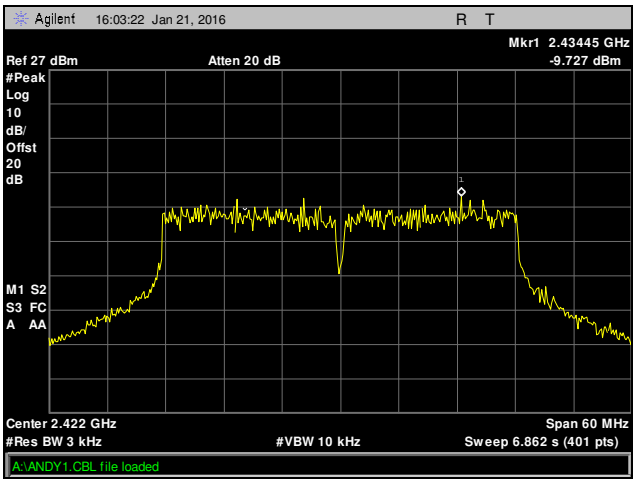


Plot 757. Peak Power Spectral Density, Mid Channel, 802.11g 40 MHz, Omni Antenna

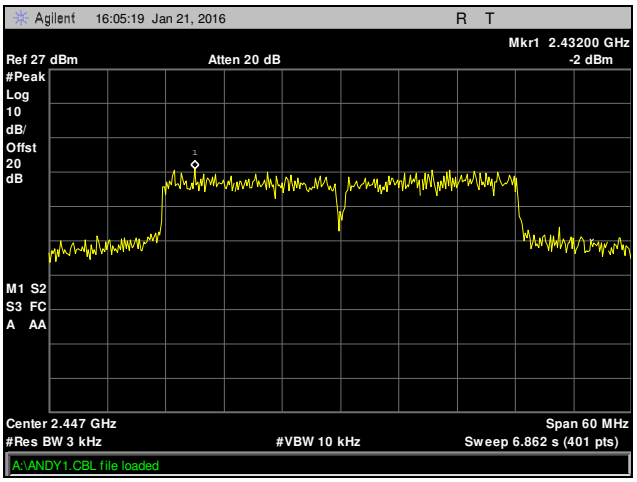


Plot 758. Peak Power Spectral Density, High Channel, 802.11g 40 MHz, Omni Antenna

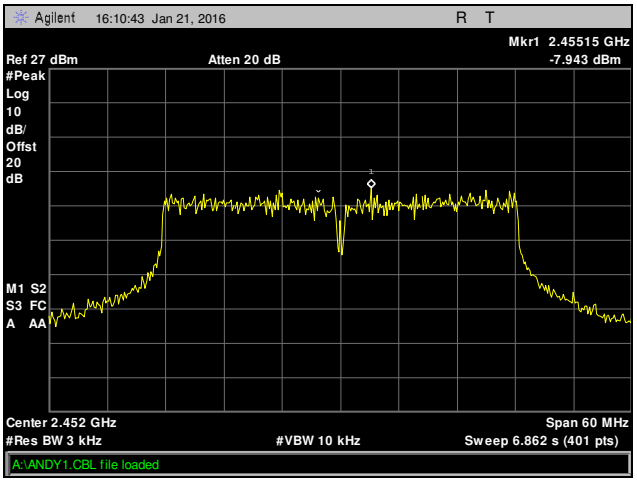
Peak Power Spectral Density, 802.11n 40 MHz, Omni Antenna



Plot 759. Peak Power Spectral Density, Low Channel, 802.11n 40 MHz, Omni Antenna

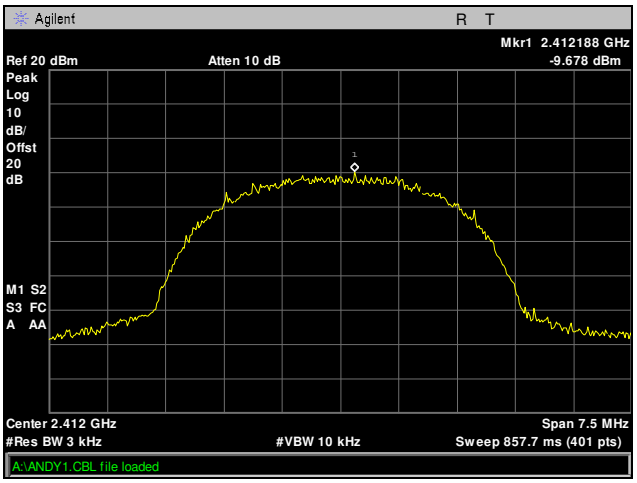


Plot 760. Peak Power Spectral Density, Mid Channel, 802.11n 40 MHz, Omni Antenna

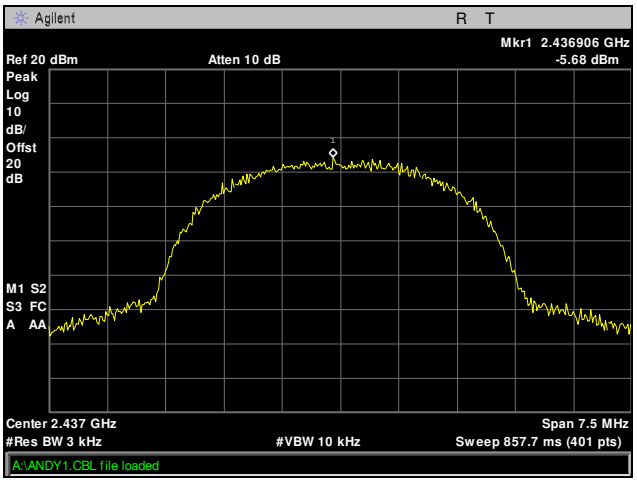


Plot 761. Peak Power Spectral Density, High Channel, 802.11n 40 MHz, Omni Antenna

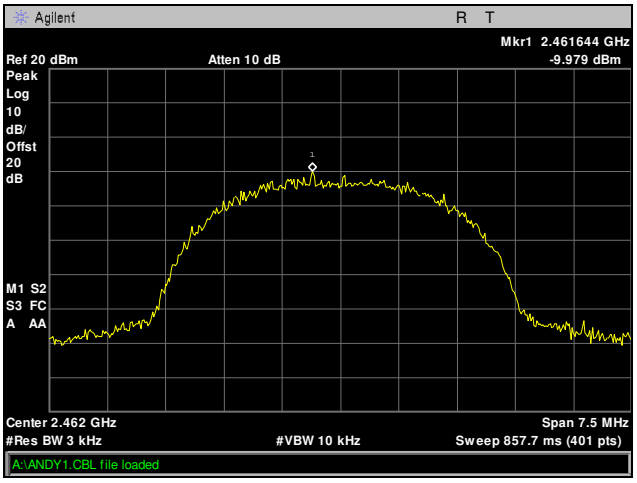
Peak Power Spectral Density, 802.11b 5 MHz, Parabolic Antenna



Plot 762. Peak Power Spectral Density, Low Channel, 802.11b 5 MHz, Parabolic Antenna

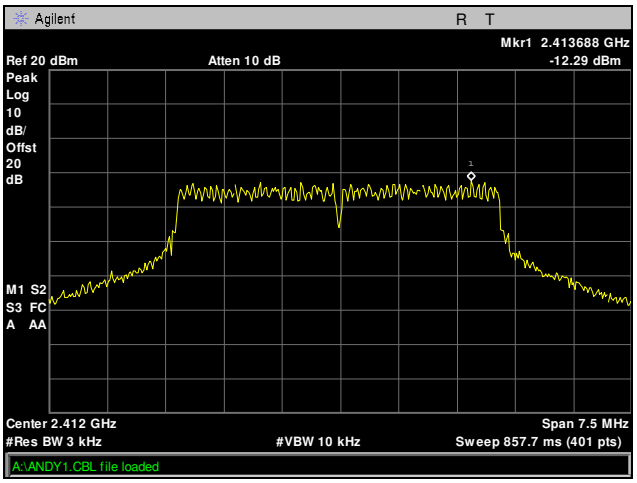


Plot 763. Peak Power Spectral Density, Mid Channel, 802.11b 5 MHz, Parabolic Antenna

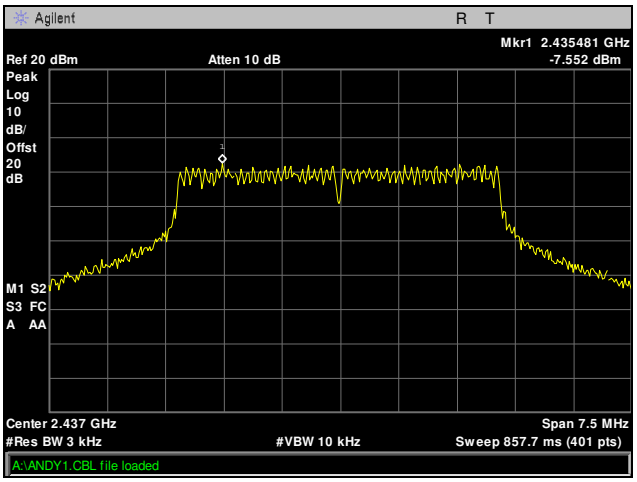


Plot 764. Peak Power Spectral Density, High Channel, 802.11b 5 MHz, Parabolic Antenna

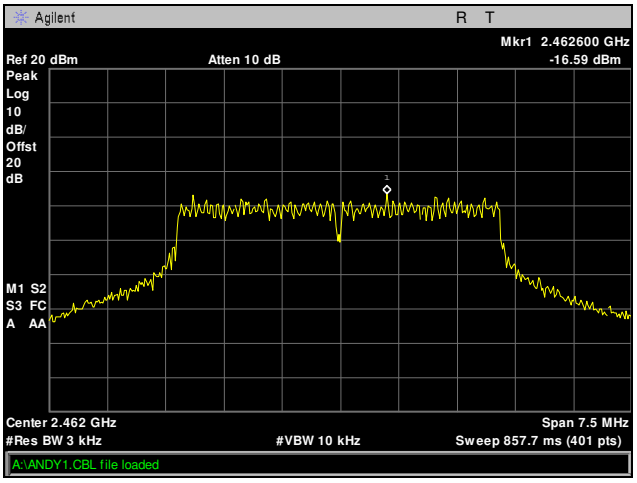
Peak Power Spectral Density, 802.11g 5 MHz, Parabolic Antenna



Plot 765. Peak Power Spectral Density, Low Channel, 802.11g 5 MHz, Parabolic Antenna

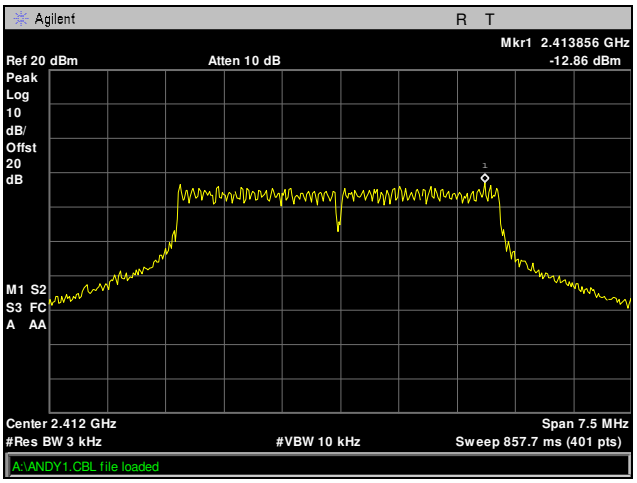


Plot 766. Peak Power Spectral Density, Mid Channel, 802.11g 5 MHz, Parabolic Antenna

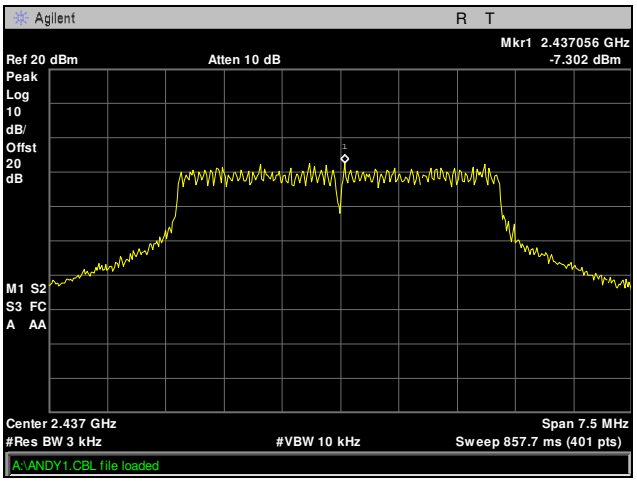


Plot 767. Peak Power Spectral Density, High Channel, 802.11g 5 MHz, Parabolic Antenna

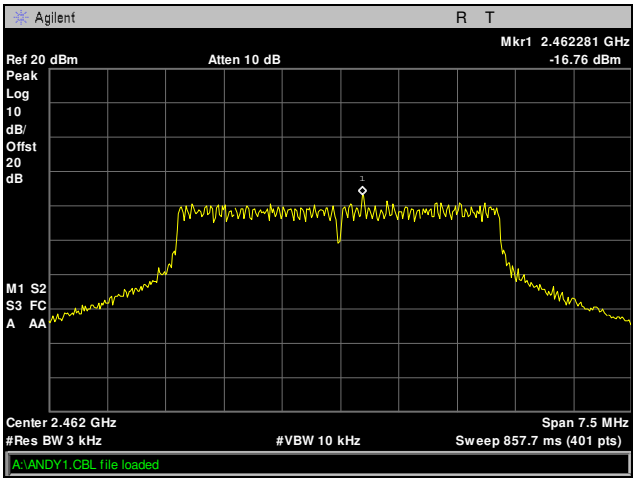
Peak Power Spectral Density, 802.11n 5 MHz, Parabolic Antenna



Plot 768. Peak Power Spectral Density, Low Channel, 802.11n 5 MHz, Parabolic Antenna

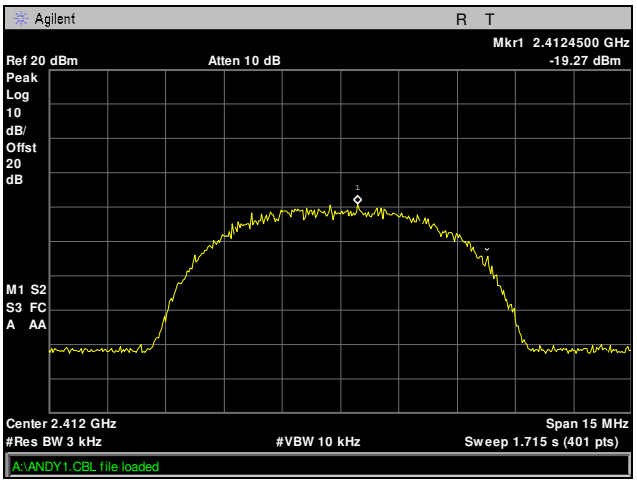


Plot 769. Peak Power Spectral Density, Mid Channel, 802.11n 5 MHz, Parabolic Antenna

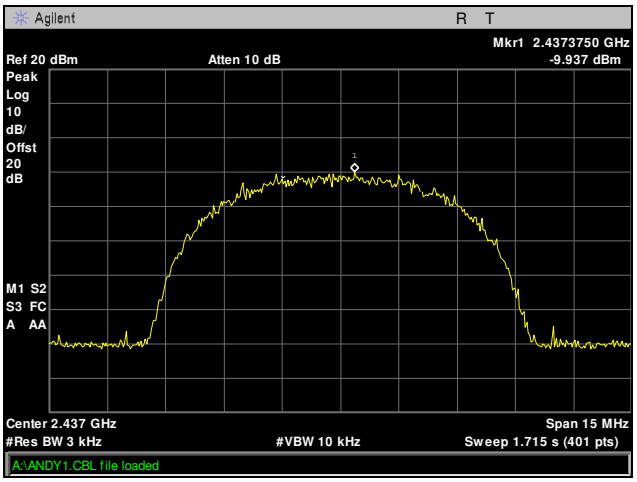


Plot 770. Peak Power Spectral Density, High Channel, 802.11n 5 MHz, Parabolic Antenna

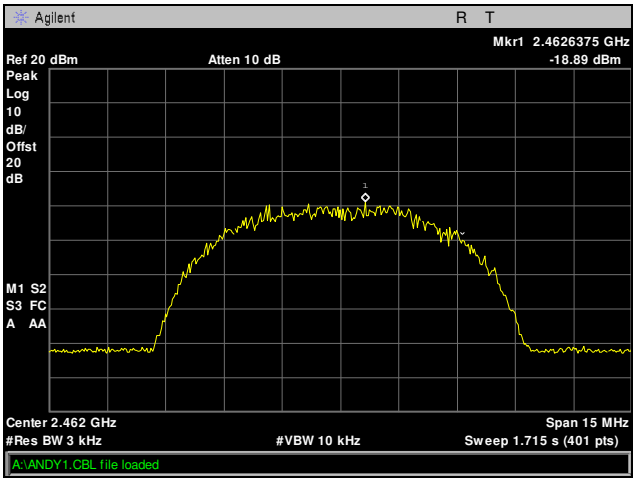
Peak Power Spectral Density, 802.11b 10 MHz, Parabolic Antenna



Plot 771. Peak Power Spectral Density, Low Channel, 802.11b 10 MHz, Parabolic Antenna

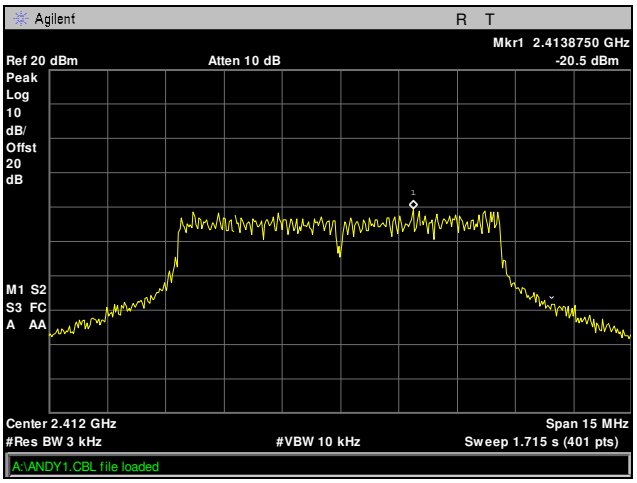


Plot 772. Peak Power Spectral Density, Mid Channel, 802.11b 10 MHz, Parabolic Antenna

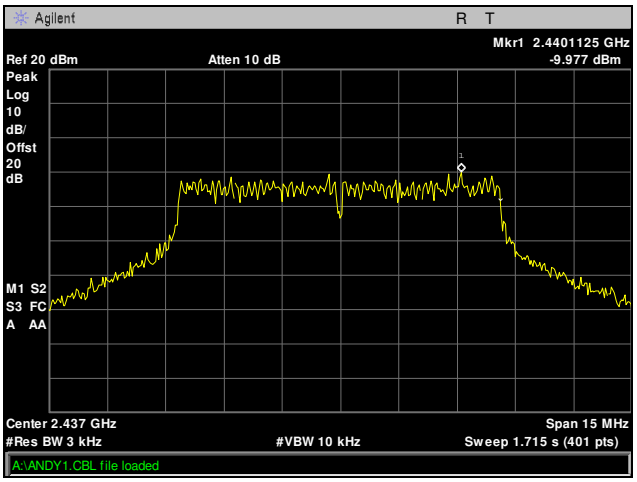


Plot 773. Peak Power Spectral Density, High Channel, 802.11b 10 MHz, Parabolic Antenna

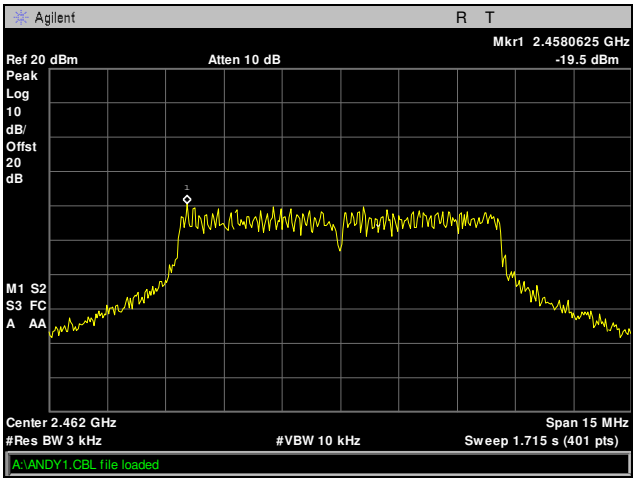
Peak Power Spectral Density, 802.11g 10 MHz, Parabolic Antenna



Plot 774. Peak Power Spectral Density, Low Channel, 802.11g 10 MHz, Parabolic Antenna

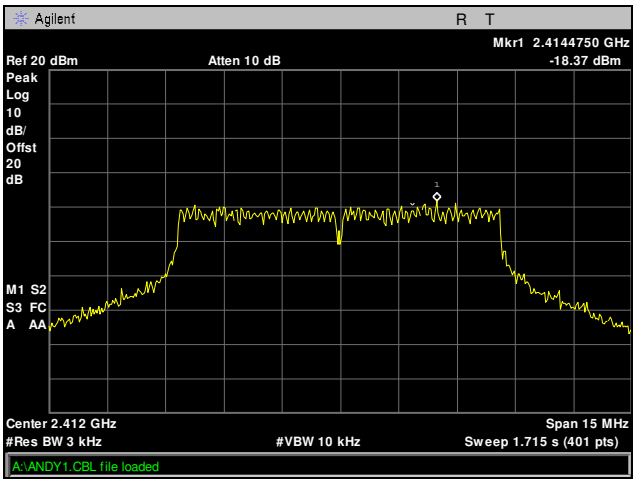


Plot 775. Peak Power Spectral Density, Mid Channel, 802.11g 10 MHz, Parabolic Antenna

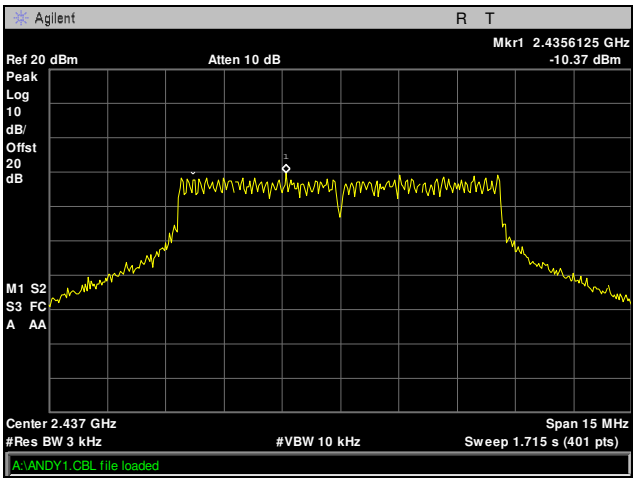


Plot 776. Peak Power Spectral Density, High Channel, 802.11g 10 MHz, Parabolic Antenna

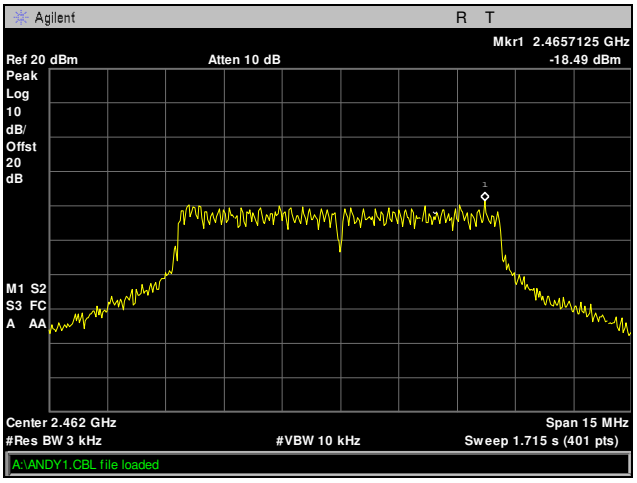
Peak Power Spectral Density, 802.11n 10 MHz, Parabolic Antenna



Plot 777. Peak Power Spectral Density, Low Channel, 802.11n 10 MHz, Parabolic Antenna

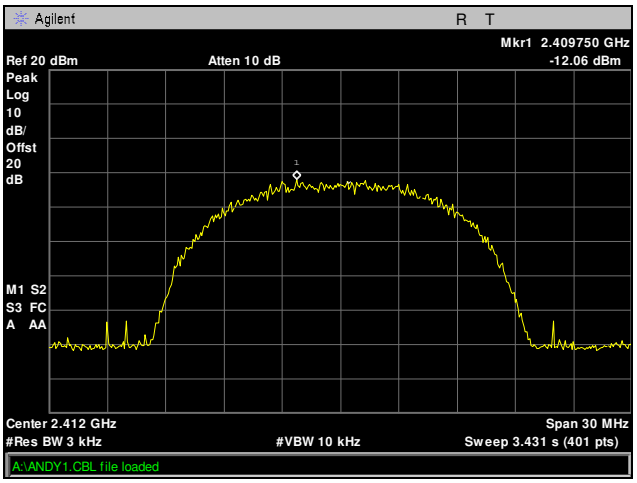


Plot 778. Peak Power Spectral Density, Mid Channel, 802.11n 10 MHz, Parabolic Antenna

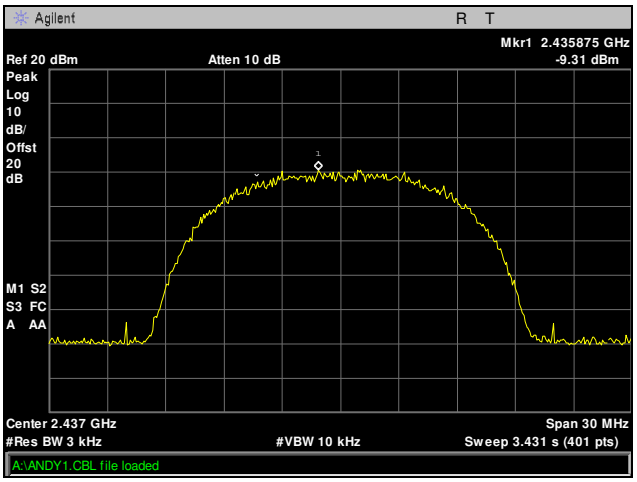


Plot 779. Peak Power Spectral Density, High Channel, 802.11n 10 MHz, Parabolic Antenna

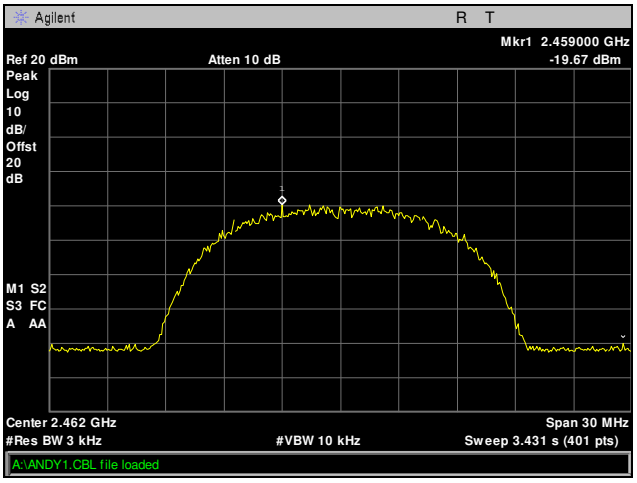
Peak Power Spectral Density, 802.11b 20 MHz, Parabolic Antenna



Plot 780. Peak Power Spectral Density, Low Channel, 802.11b 20 MHz, Parabolic Antenna

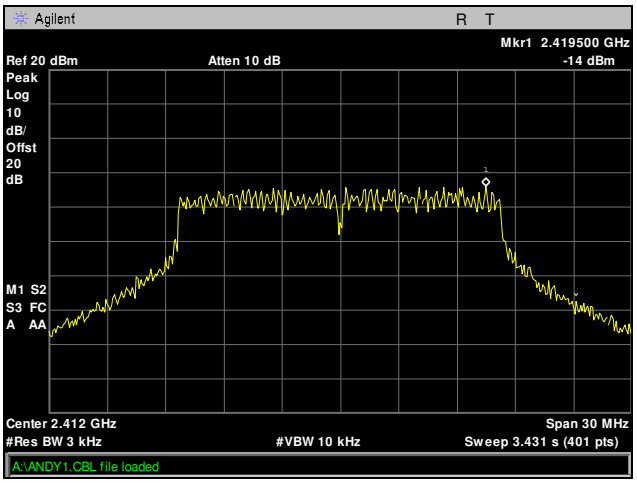


Plot 781. Peak Power Spectral Density, Mid Channel, 802.11b 20 MHz, Parabolic Antenna

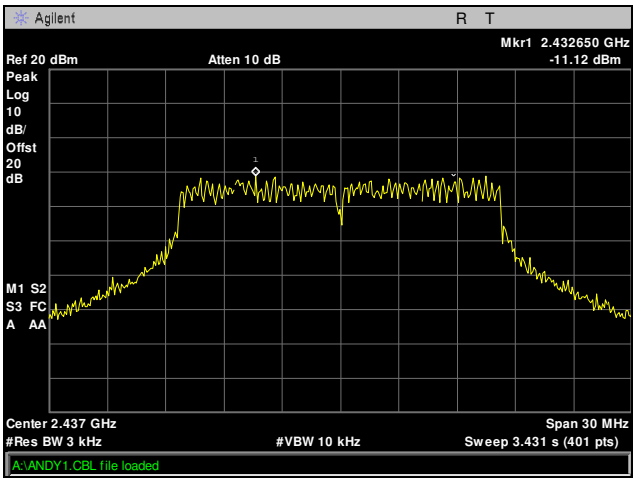


Plot 782. Peak Power Spectral Density, High Channel, 802.11b 20 MHz, Parabolic Antenna

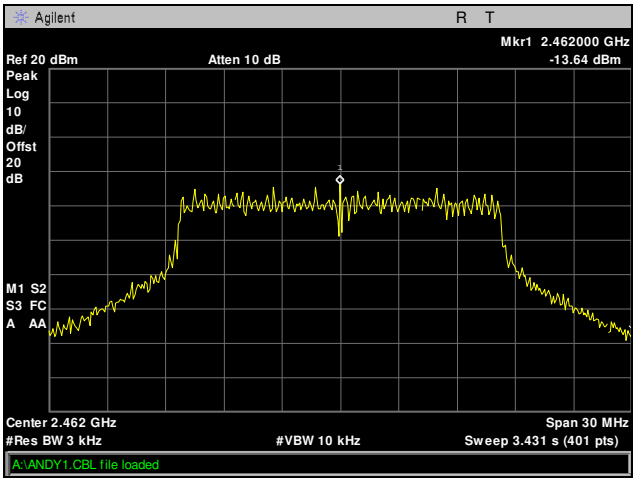
Peak Power Spectral Density, 802.11g 20 MHz, Parabolic Antenna



Plot 783. Peak Power Spectral Density, Low Channel, 802.11g 20 MHz, Parabolic Antenna

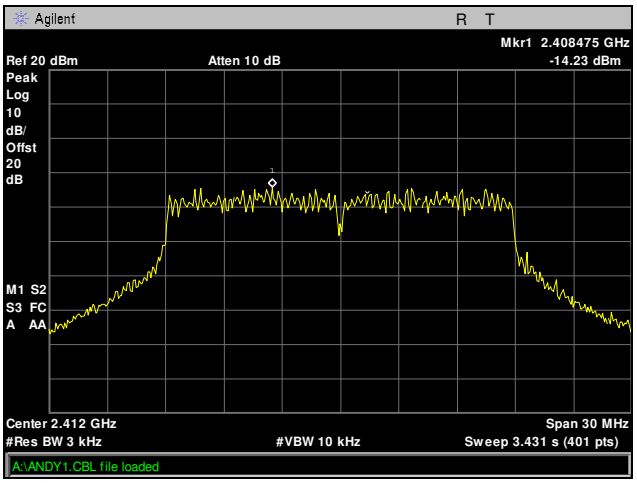


Plot 784. Peak Power Spectral Density, Mid Channel, 802.11g 20 MHz, Parabolic Antenna

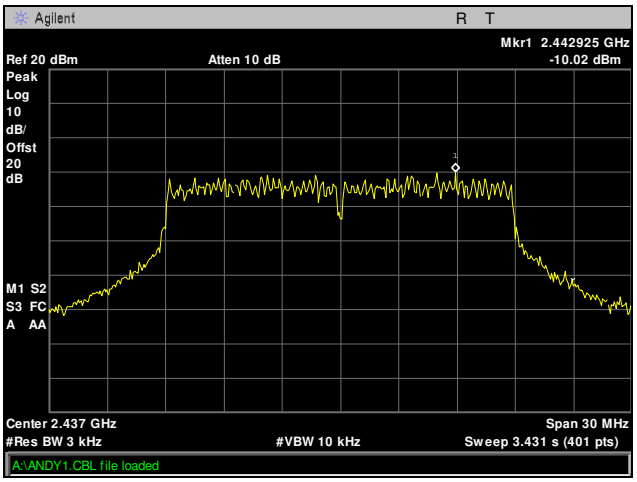


Plot 785. Peak Power Spectral Density, High Channel, 802.11g 20 MHz, Parabolic Antenna

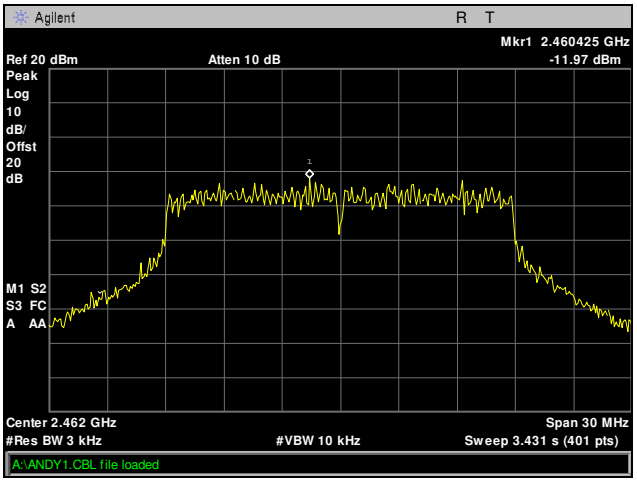
Peak Power Spectral Density, 802.11n 20 MHz, Parabolic Antenna



Plot 786. Peak Power Spectral Density, Low Channel, 802.11n 20 MHz, Parabolic Antenna

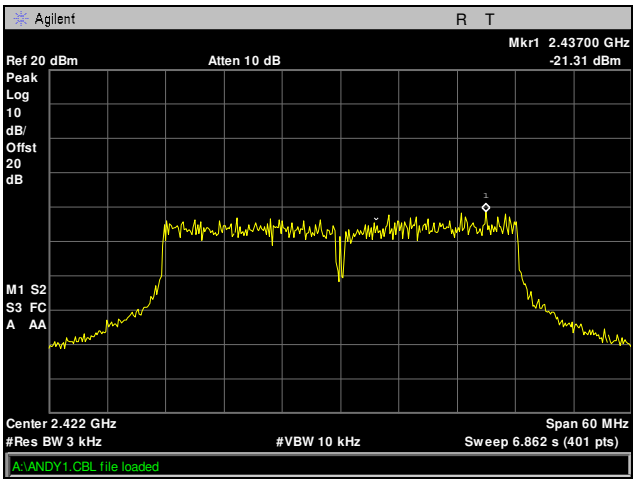


Plot 787. Peak Power Spectral Density, Mid Channel, 802.11n 20 MHz, Parabolic Antenna

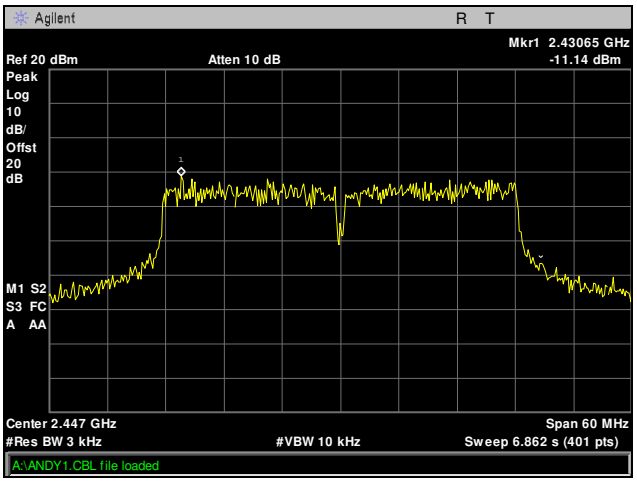


Plot 788. Peak Power Spectral Density, High Channel, 802.11n 20 MHz, Parabolic Antenna

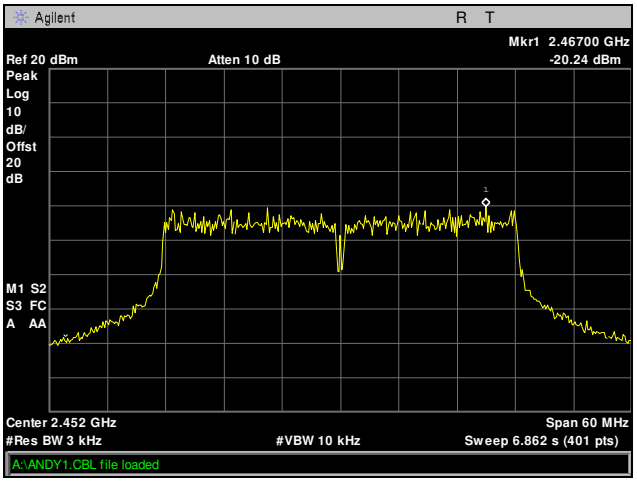
Peak Power Spectral Density, 802.11g 40 MHz, Parabolic Antenna



Plot 789. Peak Power Spectral Density, Low Channel, 802.11g 40 MHz, Parabolic Antenna

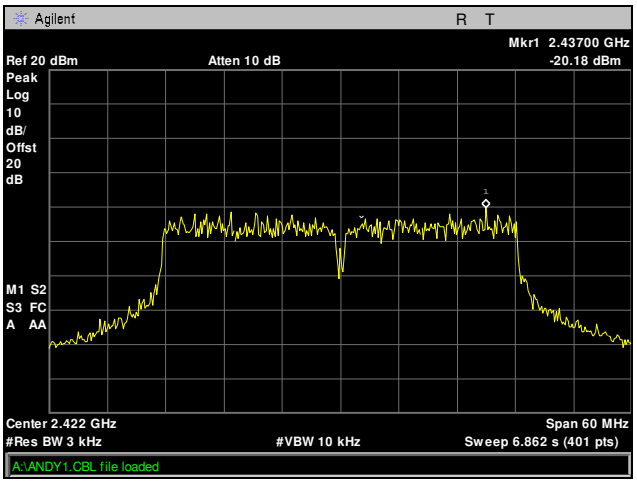


Plot 790. Peak Power Spectral Density, Mid Channel, 802.11g 40 MHz, Parabolic Antenna

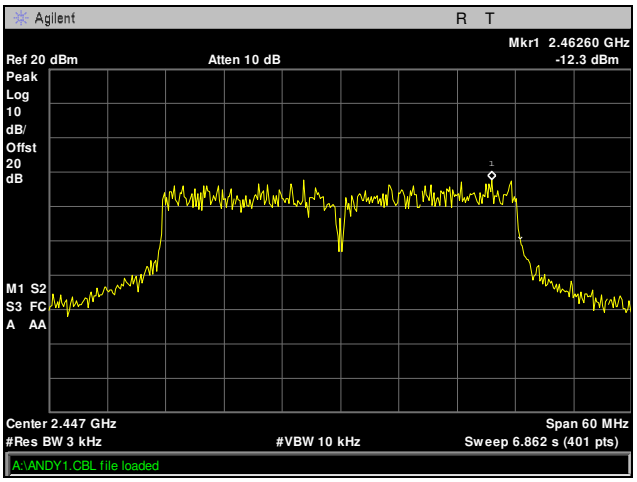


Plot 791. Peak Power Spectral Density, High Channel, 802.11g 40 MHz, Parabolic Antenna

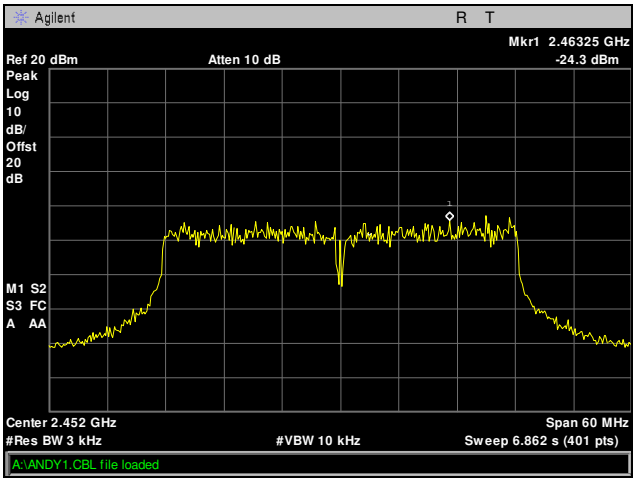
Peak Power Spectral Density, 802.11n 40 MHz, Parabolic Antenna



Plot 792. Peak Power Spectral Density, Low Channel, 802.11n 40 MHz, Parabolic Antenna

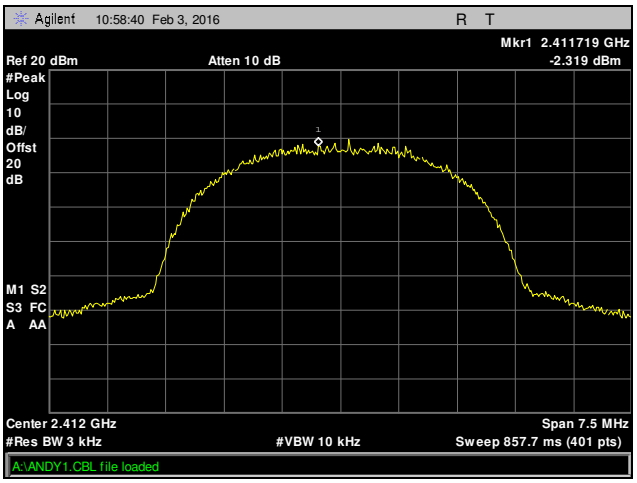


Plot 793. Peak Power Spectral Density, Mid Channel, 802.11n 40 MHz, Parabolic Antenna

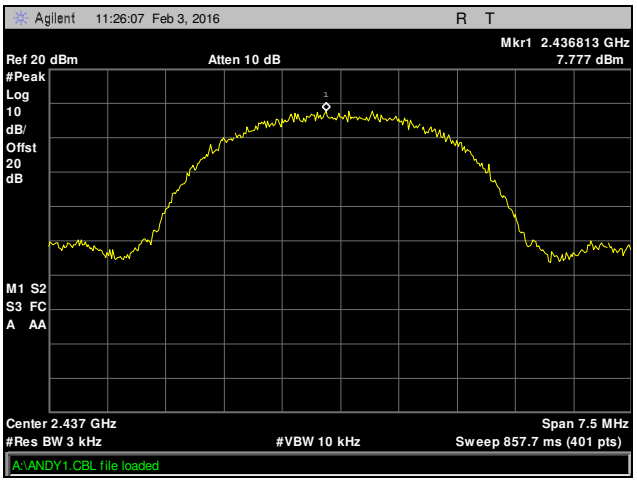


Plot 794. Peak Power Spectral Density, High Channel, 802.11n 40 MHz, Parabolic Antenna

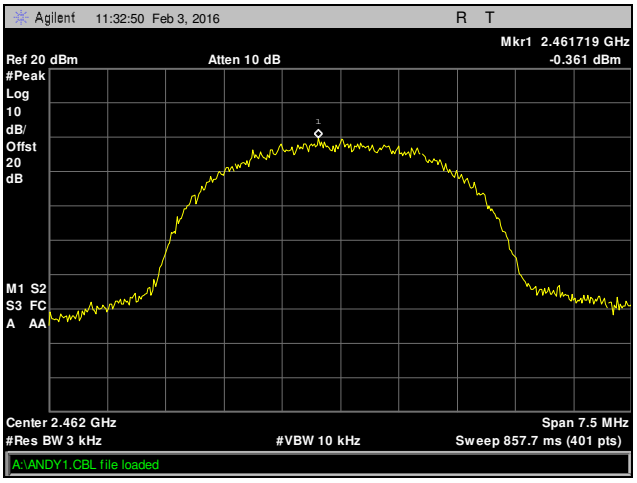
Peak Power Spectral Density, 802.11b 5 MHz, Yagi Antenna



Plot 795. Peak Power Spectral Density, Low Channel, 802.11b 5 MHz, Yagi Antenna

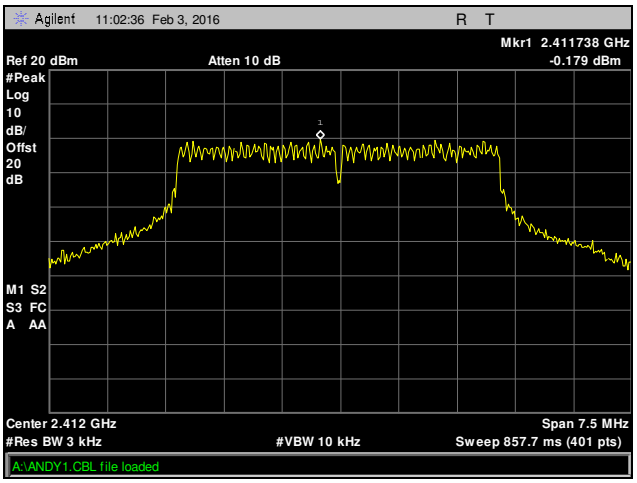


Plot 796. Peak Power Spectral Density, Mid Channel, 802.11b 5 MHz, Yagi Antenna

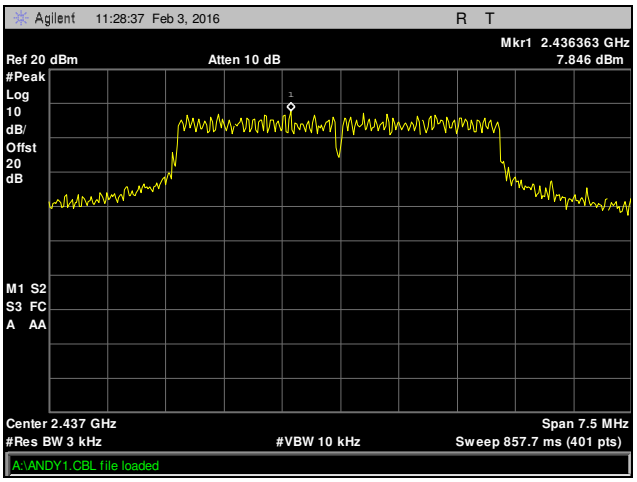


Plot 797. Peak Power Spectral Density, High Channel, 802.11b 5 MHz, Yagi Antenna

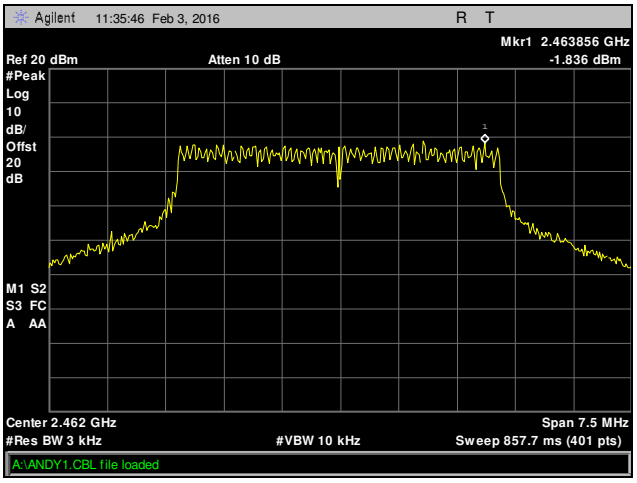
Peak Power Spectral Density, 802.11g 5 MHz, Yagi Antenna



Plot 798. Peak Power Spectral Density, Low Channel, 802.11g 5 MHz, Yagi Antenna

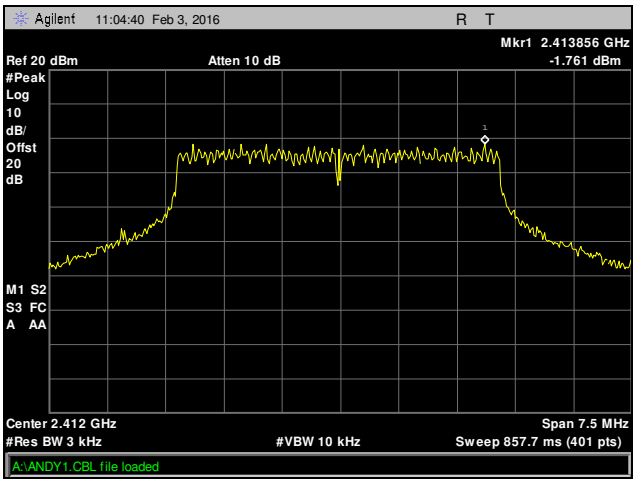


Plot 799. Peak Power Spectral Density, Mid Channel, 802.11g 5 MHz, Yagi Antenna

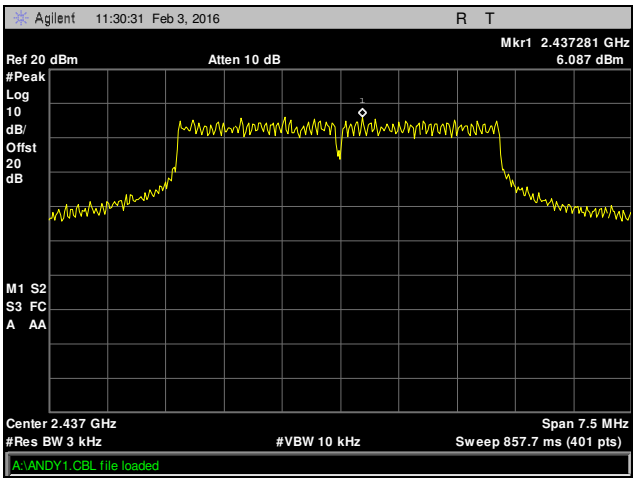


Plot 800. Peak Power Spectral Density, High Channel, 802.11g 5 MHz, Yagi Antenna

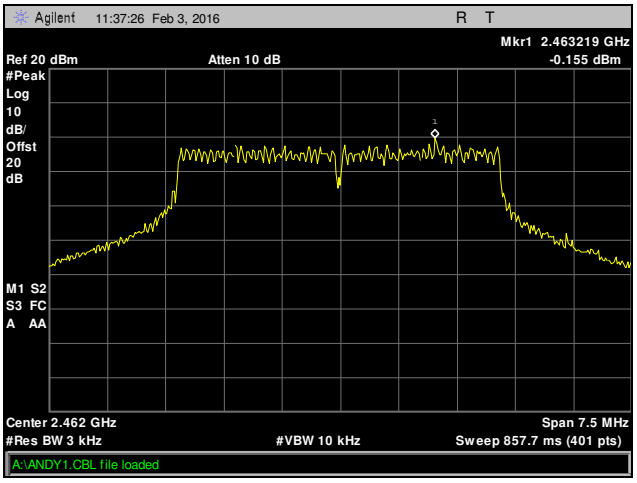
Peak Power Spectral Density, 802.11n 5 MHz, Yagi Antenna



Plot 801. Peak Power Spectral Density, Low Channel, 802.11n 5 MHz, Yagi Antenna

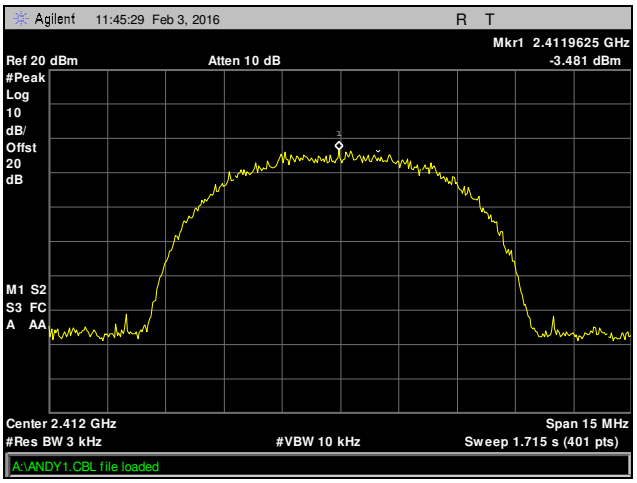


Plot 802. Peak Power Spectral Density, Mid Channel, 802.11n 5 MHz, Yagi Antenna

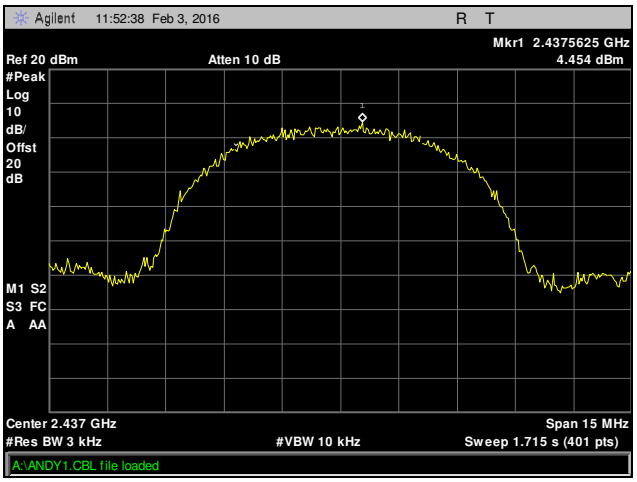


Plot 803. Peak Power Spectral Density, High Channel, 802.11n 5 MHz, Yagi Antenna

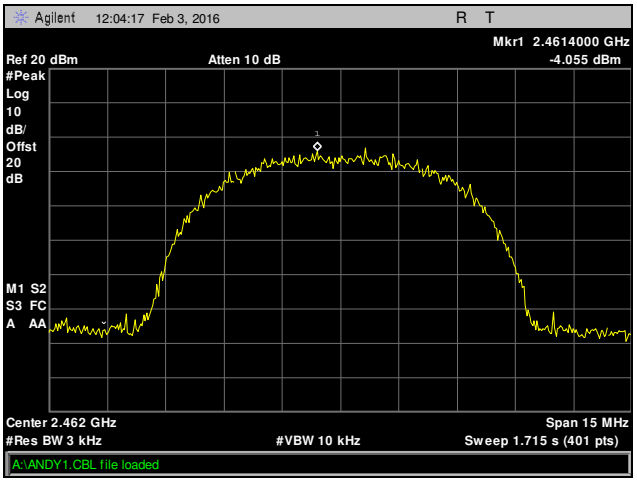
Peak Power Spectral Density, 802.11b 10 MHz, Yagi Antenna



Plot 804. Peak Power Spectral Density, Low Channel, 802.11b 10 MHz, Yagi Antenna

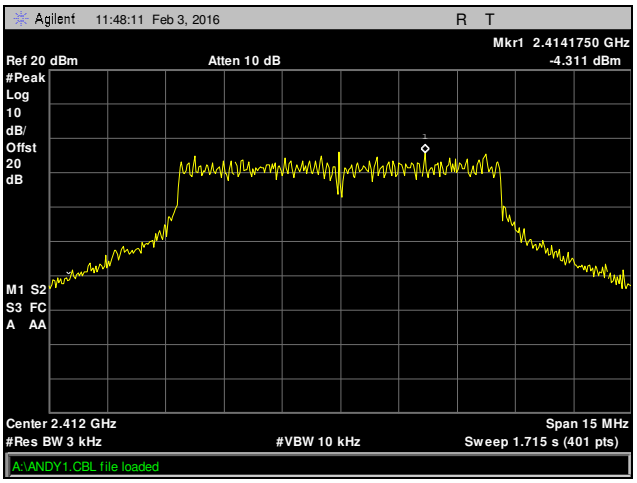


Plot 805. Peak Power Spectral Density, Mid Channel, 802.11b 10 MHz, Yagi Antenna

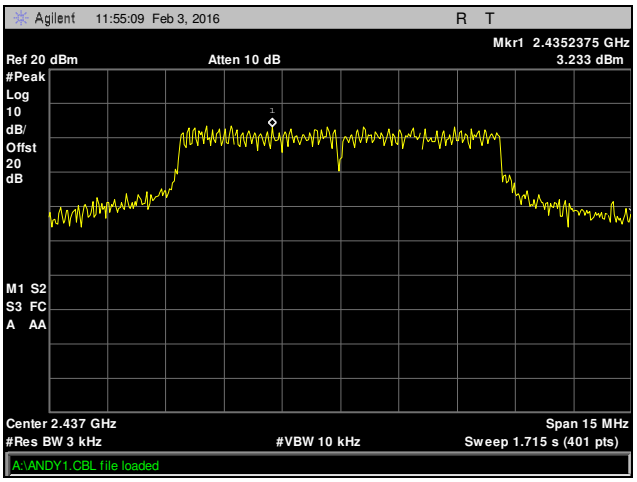


Plot 806. Peak Power Spectral Density, High Channel, 802.11b 10 MHz, Yagi Antenna

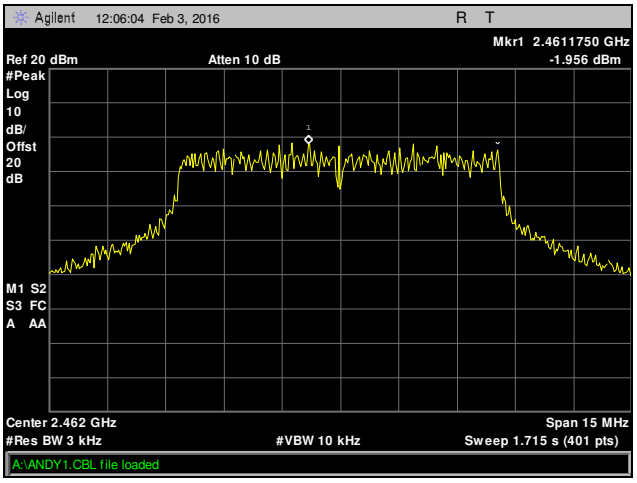
Peak Power Spectral Density, 802.11g 10 MHz, Yagi Antenna



Plot 807. Peak Power Spectral Density, Low Channel, 802.11g 10 MHz, Yagi Antenna

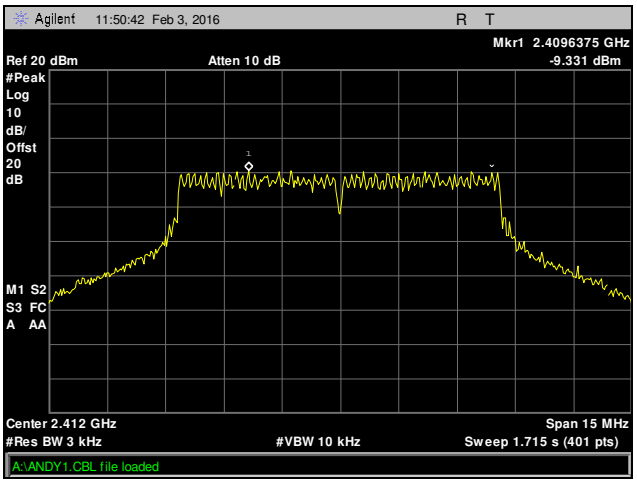


Plot 808. Peak Power Spectral Density, Mid Channel, 802.11g 10 MHz, Yagi Antenna

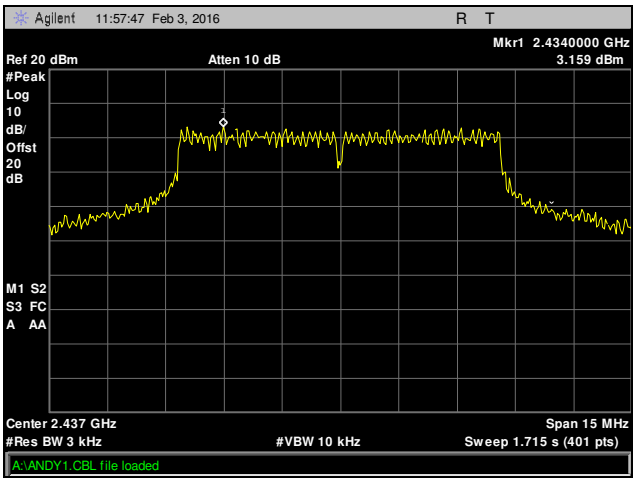


Plot 809. Peak Power Spectral Density, High Channel, 802.11g 10 MHz, Yagi Antenna

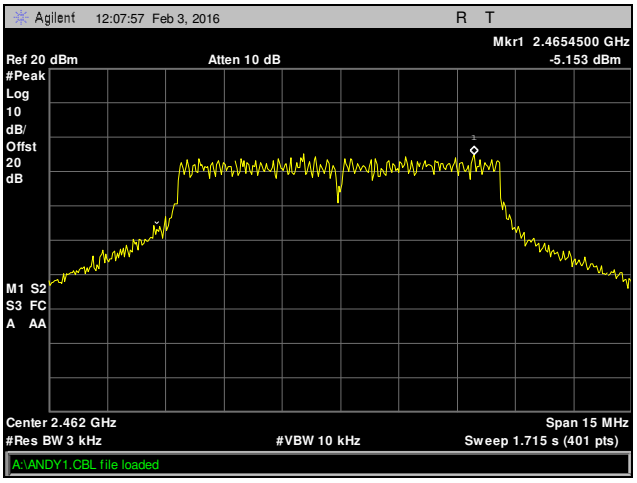
Peak Power Spectral Density, 802.11n 10 MHz, Yagi Antenna



Plot 810. Peak Power Spectral Density, Low Channel, 802.11n 10 MHz, Yagi Antenna

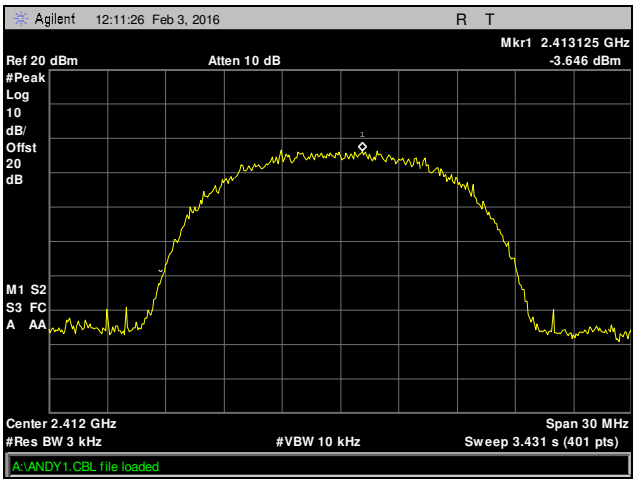


Plot 811. Peak Power Spectral Density, Mid Channel, 802.11n 10 MHz, Yagi Antenna

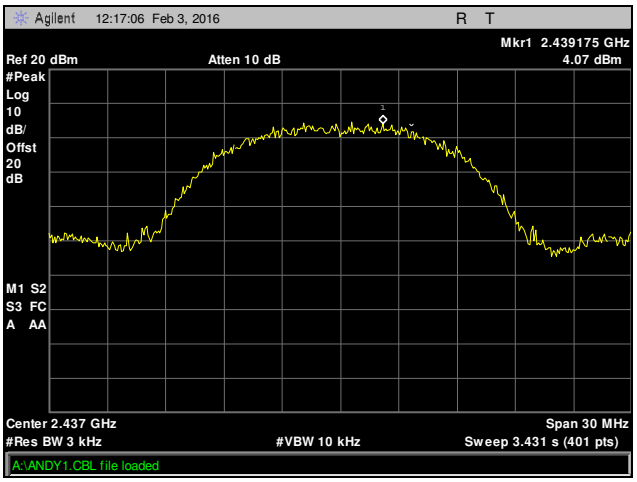


Plot 812. Peak Power Spectral Density, High Channel, 802.11n 10 MHz, Yagi Antenna

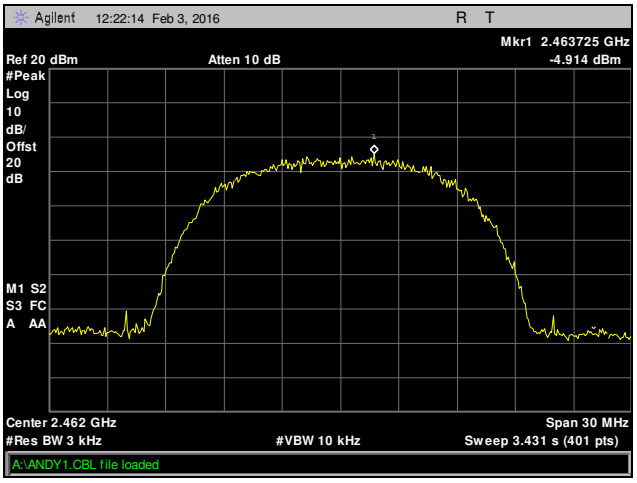
Peak Power Spectral Density, 802.11b 20 MHz, Yagi Antenna



Plot 813. Peak Power Spectral Density, Low Channel, 802.11b 20 MHz, Yagi Antenna

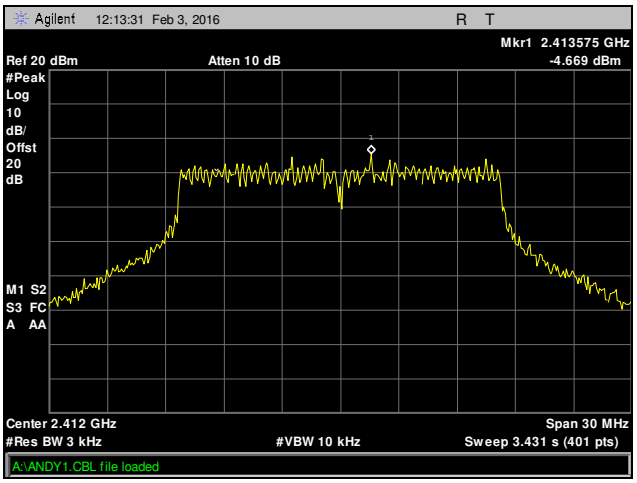


Plot 814. Peak Power Spectral Density, Mid Channel, 802.11b 20 MHz, Yagi Antenna

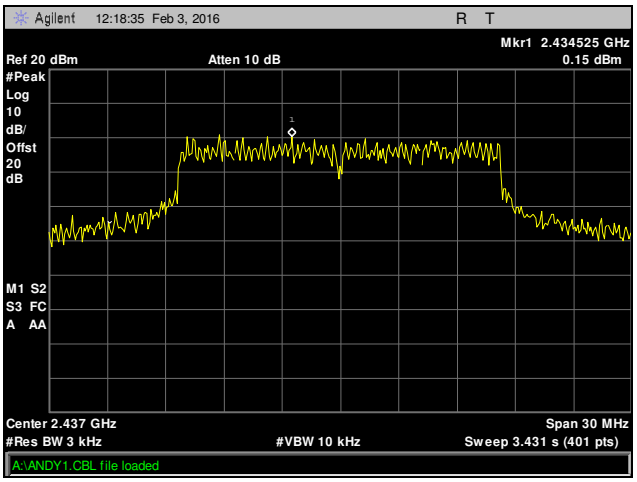


Plot 815. Peak Power Spectral Density, High Channel, 802.11b 20 MHz, Yagi Antenna

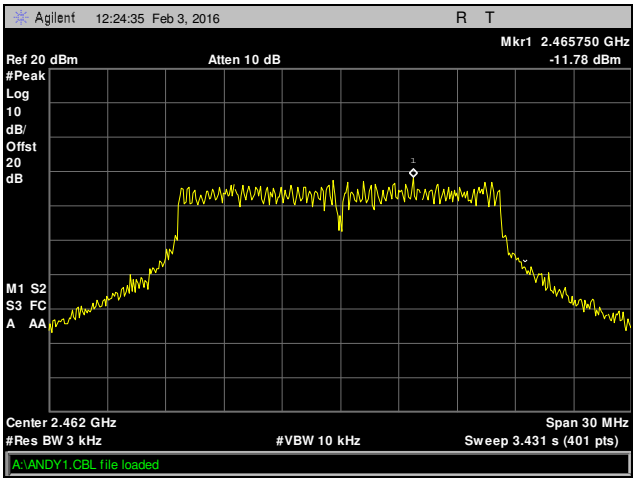
Peak Power Spectral Density, 802.11g 20 MHz, Yagi Antenna



Plot 816. Peak Power Spectral Density, Low Channel, 802.11g 20 MHz, Yagi Antenna

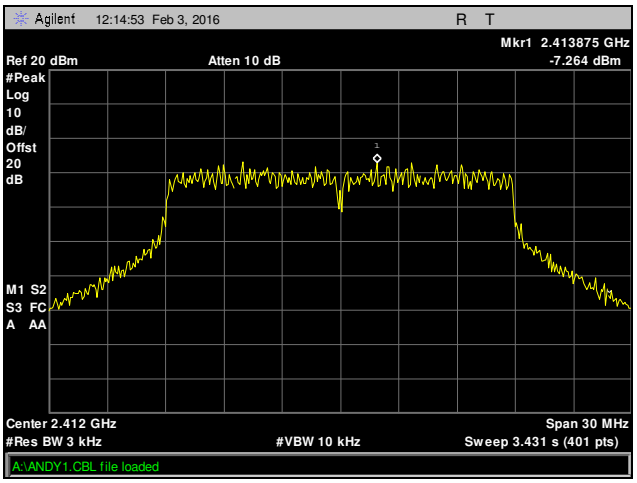


Plot 817. Peak Power Spectral Density, Mid Channel, 802.11g 20 MHz, Yagi Antenna

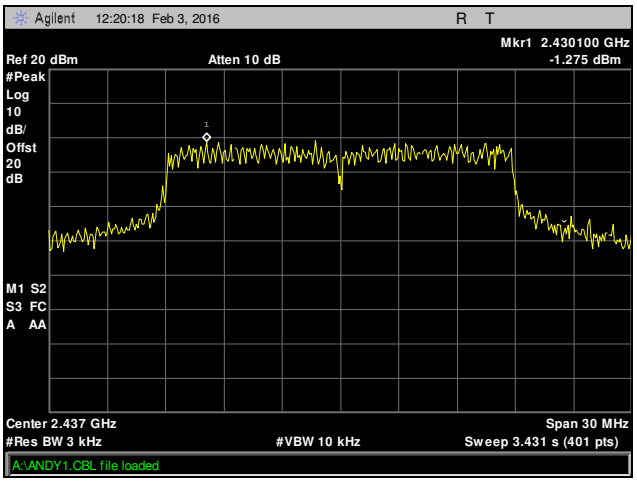


Plot 818. Peak Power Spectral Density, High Channel, 802.11g 20 MHz, Yagi Antenna

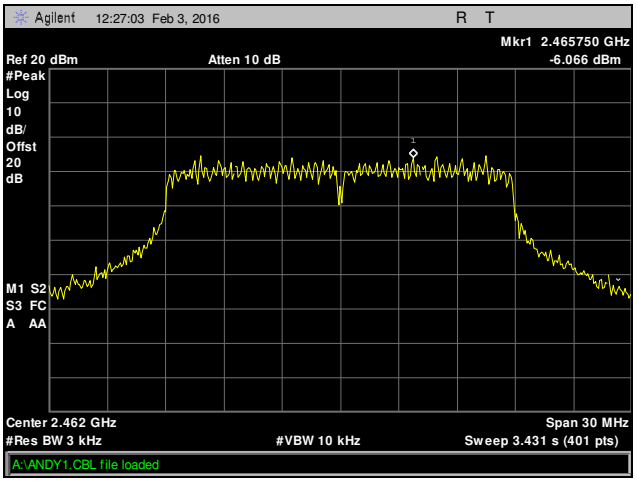
Peak Power Spectral Density, 802.11n 20 MHz, Yagi Antenna



Plot 819. Peak Power Spectral Density, Low Channel, 802.11n 20 MHz, Yagi Antenna

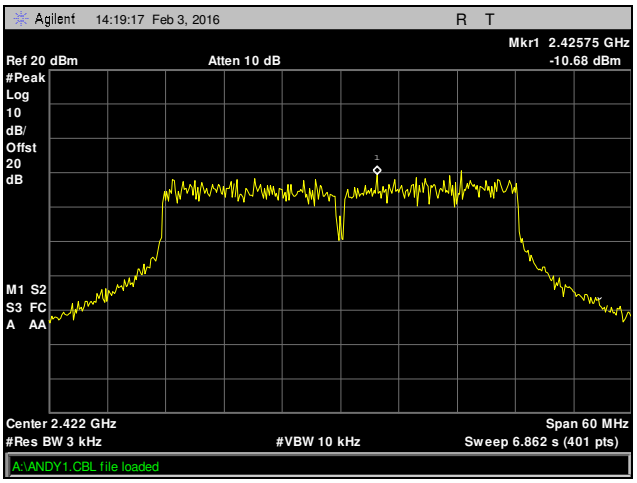


Plot 820. Peak Power Spectral Density, Mid Channel, 802.11n 20 MHz, Yagi Antenna

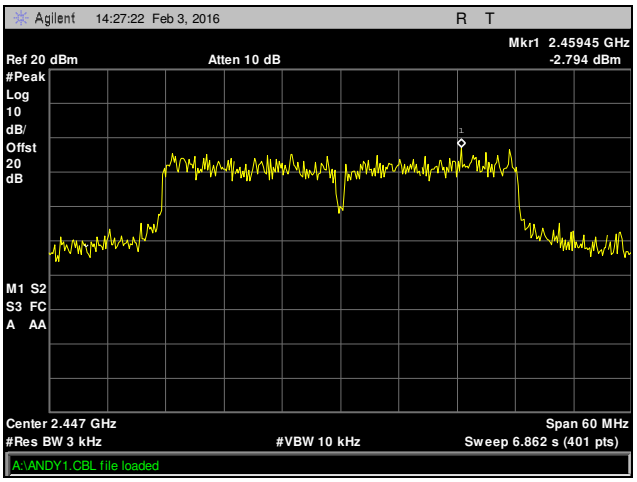


Plot 821. Peak Power Spectral Density, High Channel, 802.11n 20 MHz, Yagi Antenna

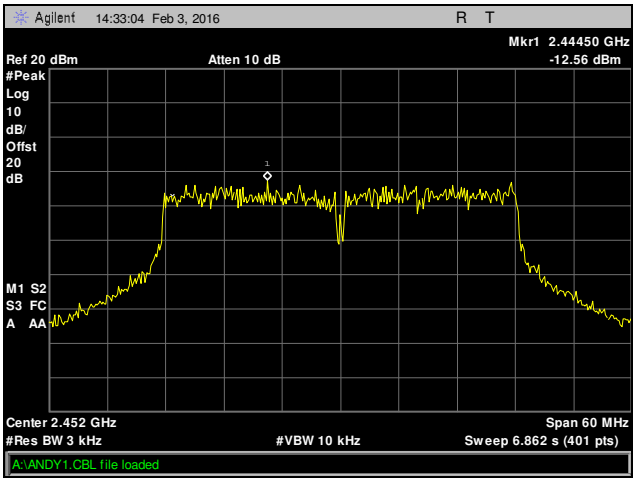
Peak Power Spectral Density, 802.11g 40 MHz, Yagi Antenna



Plot 822. Peak Power Spectral Density, Low Channel, 802.11g 40 MHz, Yagi Antenna

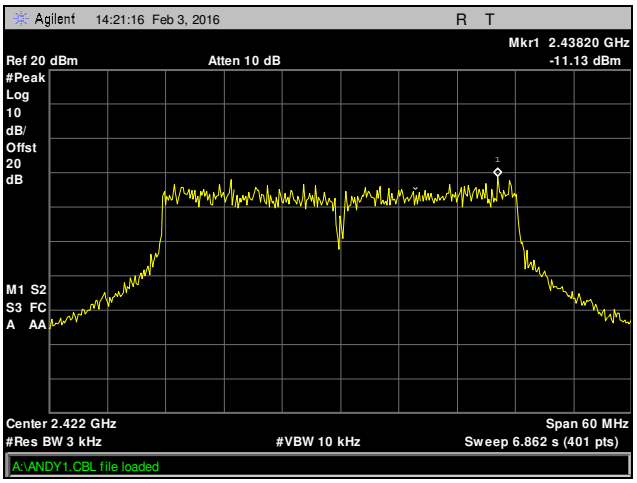


Plot 823. Peak Power Spectral Density, Mid Channel, 802.11g 40 MHz, Yagi Antenna

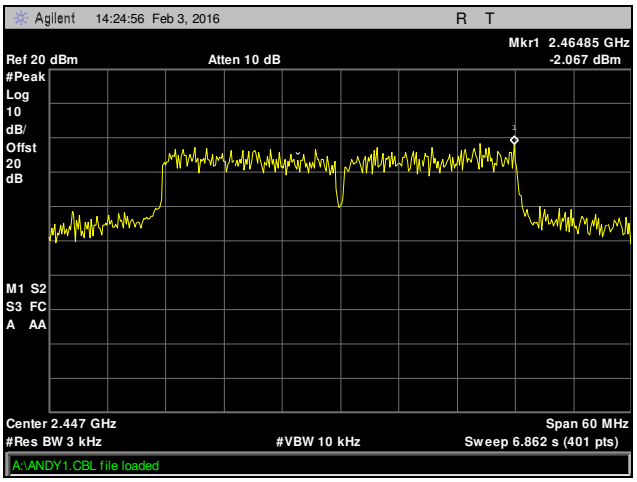


Plot 824. Peak Power Spectral Density, High Channel, 802.11g 40 MHz, Yagi Antenna

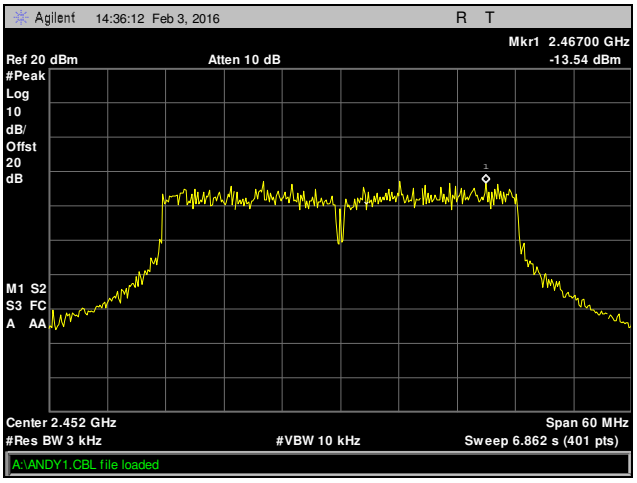
Peak Power Spectral Density, 802.11n 40 MHz, Yagi Antenna



Plot 825. Peak Power Spectral Density, Low Channel, 802.11n 40 MHz, Yagi Antenna



Plot 826. Peak Power Spectral Density, Mid Channel, 802.11n 40 MHz, Yagi Antenna



Plot 827. Peak Power Spectral Density, High Channel, 802.11n 40 MHz, Yagi Antenna

Electromagnetic Compatibility Criteria for Intentional Radiators

§ 15.247(i) Maximum Permissible Exposure

RF Exposure Requirements: **§1.1307(b)(1) and §1.1307(b)(2):** Systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy levels in excess of the Commission's guidelines.

RF Radiation Exposure Limit: **§1.1310:** As specified in this section, the Maximum Permissible Exposure (MPE) Limit shall be used to evaluate the environmental impact of human exposure to radiofrequency (RF) radiation as specified in Sec. 1.1307(b), except in the case of portable devices which shall be evaluated according to the provisions of Sec. 2.1093 of this chapter.

MPE Limit: EUT's operating frequencies @ 2400-2483.5 MHz; **Limit for Uncontrolled exposure: 1 mW/cm^2 or 10 W/m^2**

Equation from page 18 of OET 65, Edition 97-01

$$S = PG / 4\pi R^2 \quad \text{or} \quad R = \sqrt{(PG / 4\pi S)}$$

where, S = Power Density (mW/cm^2)
P = Power Input to antenna (mW)
G = Antenna Gain (numeric value)
R = Distance (cm)

Test Results:

FCC									
Frequency (MHz)	**Con. Pwr. (dBm)**	**Con. Pwr. (mW)**	**Ant. Gain (dBi)**	**Ant. Gain numeric**	**Pwr. Density (mW/cm^2)**	**Limit (mW/cm^2)**	**Margin**	**Distance (cm)**	**Result**
2437	29.65	922.571	6	3.981	0.73068	1	0.26932	20	Pass

The safe distance where Power Density is less than the MPE Limit listed above was found to be 20 cm.

Note: For worst case only. Yagi antenna with gain of 6dBi had the maximum conducted power.

IV. Test Equipment

Test Equipment

Calibrated test equipment utilized during testing was maintained in a current state of calibration per the requirements of ISO/IEC 17025:2005.

MET Asset #	Equipment	Manufacturer	Model	Last Cal Date	Cal Due Date
1S3835	PSA SPECTRUM ANALYZER	AGILENT TECHNOLOGIES	E4448A	11/20/2015	11/20/2017
1S2501	EMI TEST RECEIVER 20HZ-40GHZ	ROHDE & SCHWARZ	ESU40	10/27/2015	10/27/2016
1S2399	TURNTABLE CONTROLLER	SUNOL SCIENCE	SC99V	NOT REQUIRED	
1S3858	THERM/CLOCK/HUMIDITY	CONTROL COMPANY	06.662-4	NOT REQUIRED	
1S2676	EMI CISPR RECEIVER	NARDA SAFETY TEST SOLUTIONS	PMM 9010	10/6/2015	4/6/2017
1S2691	DUAL-LINE V-LISN	TESEQ	NNB-51	12/5/2015	12/5/2016
1S3856	THERM/CLOCK/HUMIDITY MONITOR	CONTROL COMPANY	06,662-4, FB70258	10/3/2015	10/3/2016
1S2488	SCREEN ROOM	UNIVERSAL	CUSTOM MADE	NOT REQUIRED	
1S2603	DOUBLE RIDGED WAVEGUIDE HORN	ETS-LINDGREN	3117	5/11/2015	5/11/2017
1S2482	5 METER CHAMBER (NSA)	PANASHIELD	5 METER SEMI-ANECHOIC CHAMBER	3/12/2015	9/12/2016
1S2600	BILOG ANTENNA	TESEQ	CBL6112D	10/5/2015	10/5/2016
1S3892	SPECTRUM ANALYZER	ALIGENT TECHNOLOGIES	E4407B	10/27/2015	10/27/2016
1S2121	PRE-AMPLIFIER	HEWLETT-PACKARD	84498	9/25/2015	9/25/2016

Table 24. Test Equipment List

Note: Functionally tested equipment is verified using calibrated instrumentation at the time of testing.

V. Certification & User's Manual Information

Certification & User's Manual Information

A. Certification Information

The following is extracted from Title 47 of the Code of Federal Regulations, Part 2, Subpart I — Marketing of Radio frequency devices:

§ 2.801 Radio-frequency device defined.

As used in this part, a radio-frequency device is any device which in its operation is capable of Emitting radio-frequency energy by radiation, conduction, or other means. Radio- frequency devices include, but are not limited to:

(a) The various types of radio communication transmitting devices described throughout this chapter.

(b) The incidental, unintentional and intentional radiators defined in Part 15 of this chapter.

(c) The industrial, scientific, and medical equipment described in Part 18 of this chapter.

(d) Any part or component thereof which in use emits radio-frequency energy by radiation, conduction, or other means.

§ 2.803 Marketing of radio frequency devices prior to equipment authorization.

(a) Except as provided elsewhere in this chapter, no person shall sell or lease, or offer for sale or lease (including advertising for sale or lease), or import, ship or distribute for the purpose of selling or leasing or offering for sale or lease, any radio frequency device unless:

(1) In the case of a device subject to certification, such device has been authorized by the Commission in accordance with the rules in this chapter and is properly identified and labeled as required by §2.925 and other relevant sections in this chapter; or

(2) In the case of a device that is not required to have a grant of equipment authorization issued by the Commission, but which must comply with the specified technical standards prior to use, such device also complies with all applicable administrative (including verification of the equipment or authorization under a Declaration of Conformity, where required), technical, labeling and identification requirements specified in this chapter.

(d) Notwithstanding the provisions of paragraph (a) of this section, the offer for sale solely to business, commercial, industrial, scientific or medical users (but not an offer for sale to other parties or to end users located in a residential environment) of a radio frequency device that is in the conceptual, developmental, design or pre-production stage is permitted prior to equipment authorization or, for devices not subject to the equipment authorization requirements, prior to a determination of compliance with the applicable technical requirements *provided* that the prospective buyer is advised in writing at the time of the offer for sale that the equipment is subject to the FCC rules and that the equipment will comply with the appropriate rules before delivery to the buyer or to centers of distribution.

(e)(1) Notwithstanding the provisions of paragraph (a) of this section, prior to equipment authorization or determination of compliance with the applicable technical requirements any radio frequency device may be operated, but not marketed, for the following purposes and under the following conditions:

(i) Compliance testing;

(ii) Demonstrations at a trade show provided the notice contained in paragraph (c) of this section is displayed in a conspicuous location on, or immediately adjacent to, the device;

(iii) Demonstrations at an exhibition conducted at a business, commercial, industrial, scientific or medical location, but excluding locations in a residential environment, provided the notice contained in paragraphs (c) or (d) of this section, as appropriate, is displayed in a conspicuous location on, or immediately adjacent to, the device;

(iv) Evaluation of product performance and determination of customer acceptability, provided such operation takes place at the manufacturer's facilities during developmental, design or pre-production states; or

(v) Evaluation of product performance and determination of customer acceptability where customer acceptability of a radio frequency device cannot be determined at the manufacturer's facilities because of size or unique capability of the device, provided the device is operated at a business, commercial, industrial, scientific or medical user's site, but not at a residential site, during the development, design or pre-production stages.

(e)(2) For the purpose of paragraphs (e)(1)(iv) and (e)(1)(v) of this section, the term *manufacturer's facilities* includes the facilities of the party responsible for compliance with the regulations and the manufacturer's premises, as well as the facilities of other entities working under the authorization of the responsible party in connection with the development and manufacture, but not the marketing, of the equipment.

(f) For radio frequency devices subject to verification and sold solely to business, commercial, industrial, scientific and medical users (excluding products sold to other parties or for operation in a residential environment), parties responsible for verification of the devices shall have the option of ensuring compliance with the applicable technical specifications of this chapter at each end user's location after installation, provided that the purchase or lease agreement includes a proviso that such a determination of compliance be made and is the responsibility of the party responsible for verification of the equipment.

Certification & User's Manual Information

The following is extracted from Title 47 of the Code of Federal Regulations, Part 2, Subpart J — Equipment Authorization Procedures:

§ 2.901 Basis and Purpose

(a) In order to carry out its responsibilities under the Communications Act and the various treaties and international regulations, and in order to promote efficient use of the radio spectrum, the Commission has developed technical standards for radio frequency equipment and parts or components thereof. The technical standards applicable to individual types of equipment are found in that part of the rules governing the service wherein the equipment is to be operated.[1] *In addition to the technical standards provided, the rules governing the service may require that such equipment be verified by the manufacturer or importer*, be authorized under a Declaration of Conformity, or receive an equipment authorization from the Commission by one of the following procedures: certification or registration.

(b) The following sections describe the verification procedure, the procedure for a Declaration of Conformity, and the procedures to be followed in obtaining certification from the Commission and the conditions attendant to such a grant.

§ 2.907 Certification.

(a) Certification is an equipment authorization issued by the Commission, based on representation and test data submitted by the applicant.

(b) Certification attaches to all units subsequently marketed by the grantee which are identical (see Section 2.908) to the sample tested except for permissive changes or other variations authorized by the Commission pursuant to Section 2.1043.

[1] In this case, the equipment is subject to the rules of Part 15. More specifically, the equipment falls under Subpart B (of Part 15), which deals with unintentional radiators.

Certification & User's Manual Information

§ 2.948 Description of measurement facilities.

(a) Each party making measurements of equipment that is subject to an equipment authorization under Part 15 or Part 18 of this chapter, regardless of whether the measurements are filed with the Commission or kept on file by the party responsible for compliance of equipment marketed within the U.S. or its possessions, shall compile a description of the measurement facilities employed.

(1) If the measured equipment is subject to the verification procedure, the description of the measurement facilities shall be retained by the party responsible for verification of the equipment.

(i) If the equipment is verified through measurements performed by an independent laboratory, it is acceptable for the party responsible for verification of the equipment to rely upon the description of the measurement facilities retained by or placed on file with the Commission by that laboratory. In this situation, the party responsible for the verification of the equipment is not required to retain a duplicate copy of the description of the measurement facilities.

(ii) If the equipment is verified based on measurements performed at the installation site of the equipment, no specific site calibration data is required. It is acceptable to retain the description of the measurement facilities at the site at which the measurements were performed.

(2) If the equipment is to be authorized by the Commission under the certification procedure, the description of the measurement facilities shall be filed with the Commission's Laboratory in Columbia, Maryland. The data describing the measurement facilities need only be filed once but must be updated as changes are made to the measurement facilities or as otherwise described in this section. At least every three years, the organization responsible for filing the data with the Commission shall certify that the data on file is current.

Certification & User's Manual Information

1. Label and User's Manual Information

The following is extracted from Title 47 of the Code of Federal Regulations, Part 15, Subpart A — General:

§ 15.19 Labeling requirements.

(a) In addition to the requirements in Part 2 of this chapter, a device subject to certification or verification shall be labeled as follows:

(1) Receivers associated with the operation of a licensed radio service, e.g., FM broadcast under Part 73 of this chapter, land mobile operation under Part 90, etc., shall bear the following statement in a conspicuous location on the device:

This device complies with Part 15 of the FCC Rules. Operation is subject to the condition that this device does not cause harmful interference.

(2) A stand-alone cable input selector switch, shall bear the following statement in a conspicuous location on the device:

This device is verified to comply with Part 15 of the FCC Rules for use with cable television service.

(3) All other devices shall bear the following statement in a conspicuous location on the device:

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

(4) Where a device is constructed in two or more sections connected by wires and marketed together, the statement specified under paragraph (a) of this section is required to be affixed only to the main control unit.

(5) When the device is so small or for such use that it is not practicable to place the statement specified under paragraph (a) of this section on it, the information required by this paragraph shall be placed in a prominent location in the instruction manual or pamphlet supplied to the user or, alternatively, shall be placed on the container in which the device is marketed. However, the FCC identifier or the unique identifier, as appropriate, must be displayed on the device.

§ 15.21 Information to user.

The user's manual or instruction manual for an intentional or unintentional radiator shall caution the user that changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Verification & User's Manual Information

The following is extracted from Title 47 of the Code of Federal Regulations, Part 15, Subpart B — Unintentional Radiators:

§ 15.105 Information to the user.

(a) For a Class A digital device or peripheral, the instructions furnished the user shall include the following or similar statement, placed in a prominent location in the text of the manual:

Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at own expense.

(b) For a Class B digital device or peripheral, the instructions furnished the user shall include the following or similar statement, placed in a prominent location in the text of the manual:

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a residential environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

– Reorient or relocate the receiving antenna.

– Increase the separation between the equipment and receiver.

– Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

– Consult the dealer or an experienced radio/TV technician for help.

End of Report

