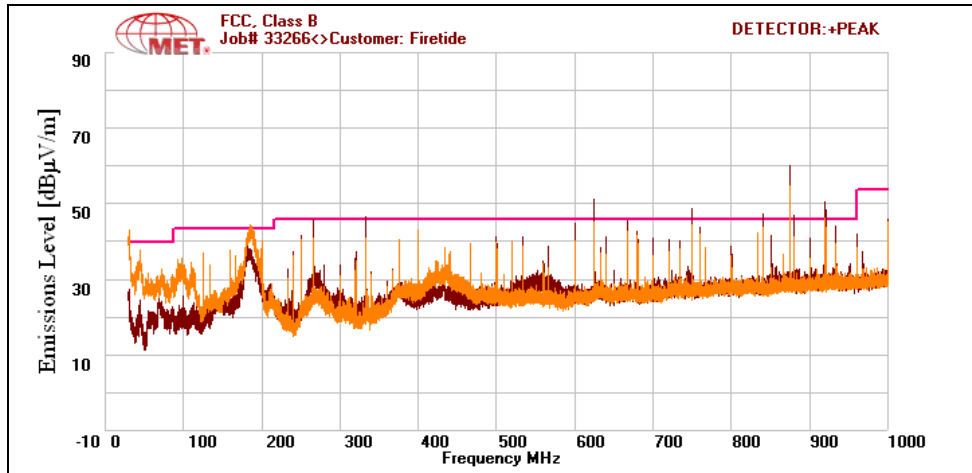
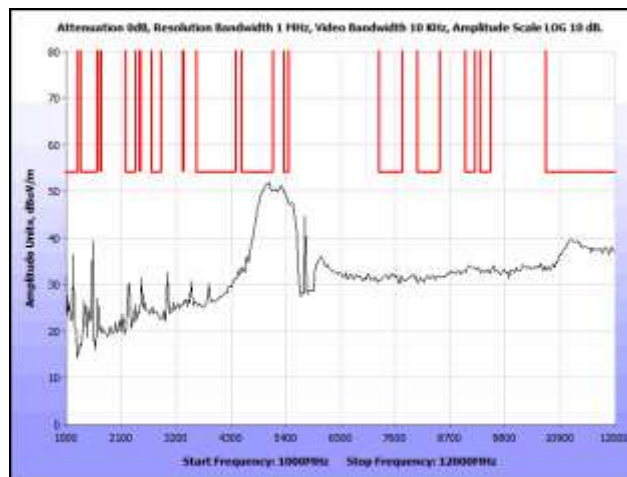


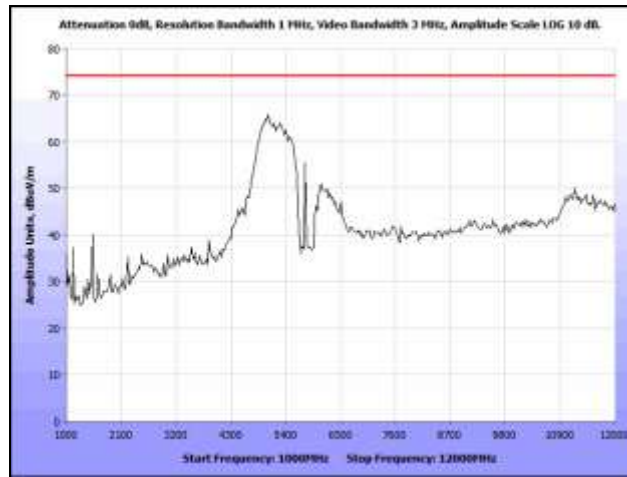
Plot 374. Radiated Spurs, Low Channel, 12 GHz – 18 GHz, 802.11a, 9 dBi Omni, 5.8 GHz



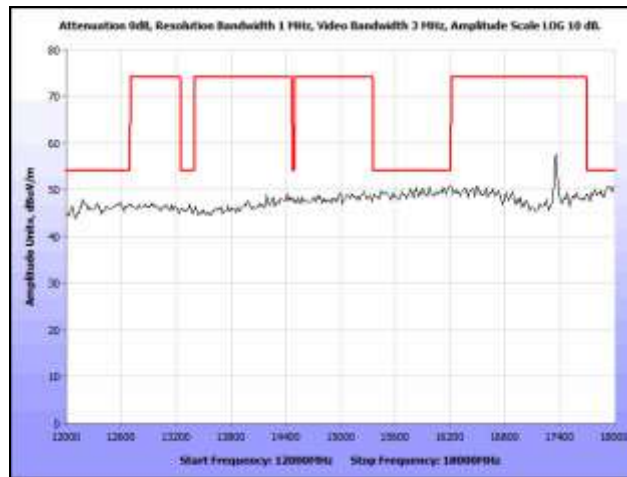
Plot 375. Radiated Spurs, Mid Channel, 30 MHz – 1 GHz, 802.11a, 9 dBi Omni, 5.8 GHz



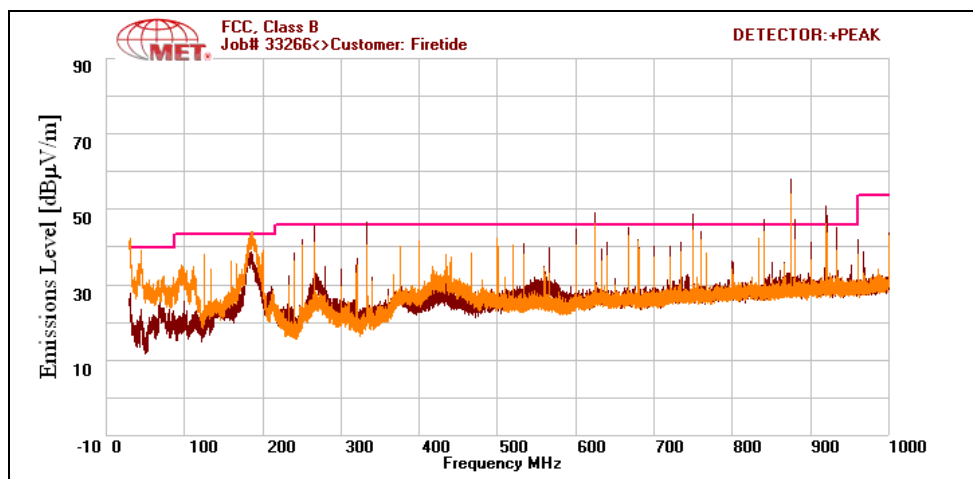
Plot 376. Radiated Spurs, Mid Channel, 1 GHz – 12 GHz, Average, 802.11a, 9 dBi Omni, 5.8 GHz



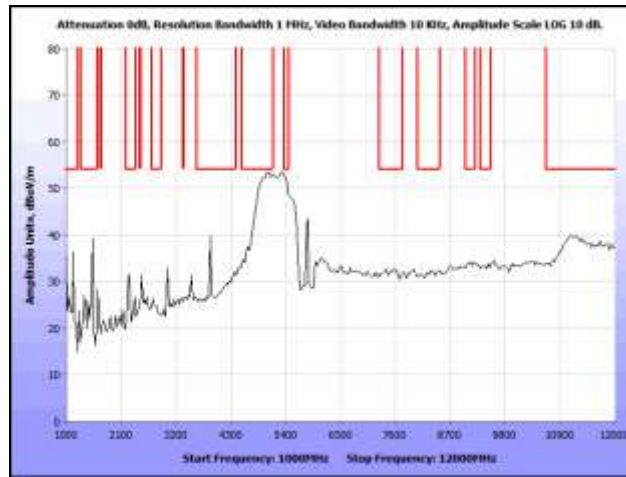
**Plot 377. Radiated Spurs, Mid Channel, 1 GHz – 12 GHz, Peak, 802.11a, 9 dBi Omni, 5.8 GHz**



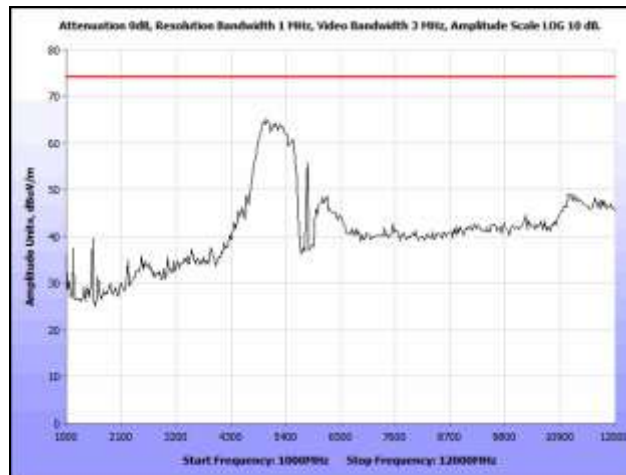
**Plot 378. Radiated Spurs, Mid Channel, 12 GHz – 18 GHz, Peak, 802.11a, 9 dBi Omni, 5.8 GHz**



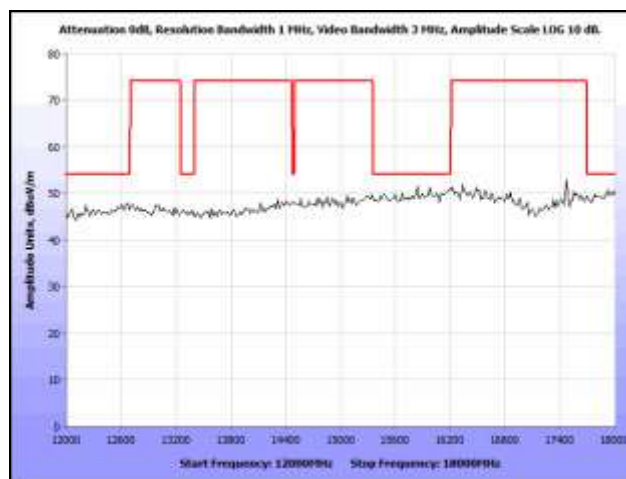
**Plot 379. Radiated Spurs, High Channel, 30 MHz – 1 GHz, Peak, 802.11a, 9 dBi Omni, 5.8 GHz**



Plot 380. Radiated Spurs, High Channel, 1 GHz – 12 GHz, Average, 802.11a, 9 dBi Omni, 5.8 GHz

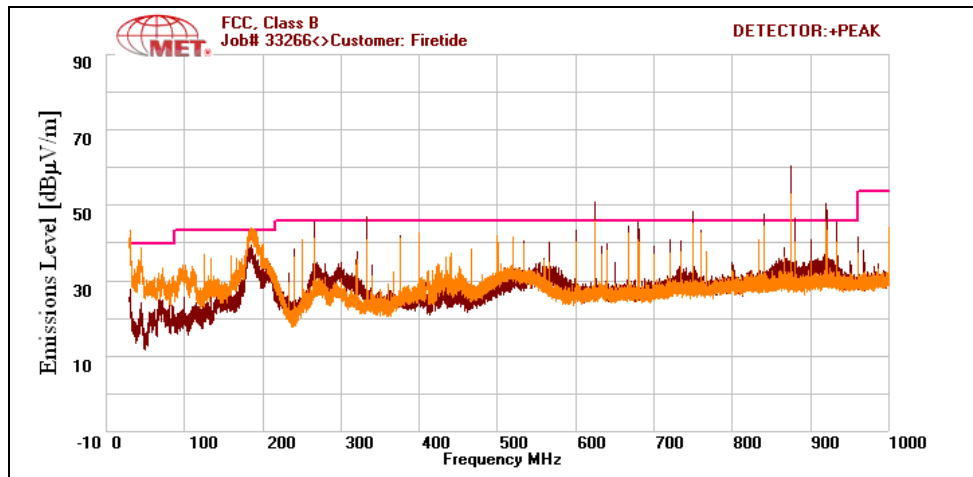


Plot 381. Radiated Spurs, High Channel, 1 GHz – 12 GHz, Peak, 802.11a, 9 dBi Omni, 5.8 GHz

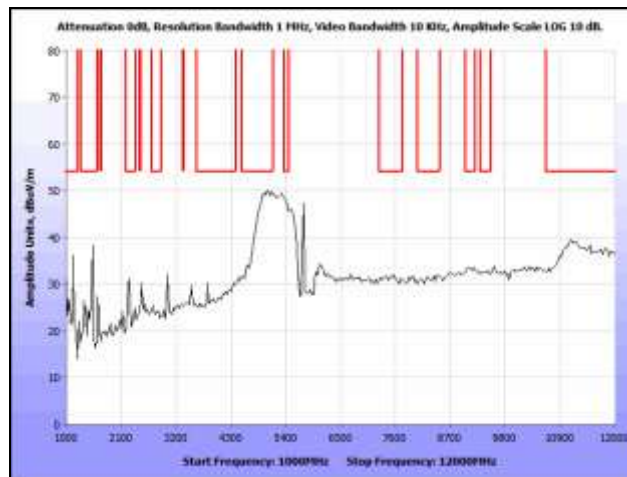


Plot 382. Radiated Spurs, High Channel, 12 GHz – 18 GHz, 802.11a, 9 dBi Omni, 5.8 GHz

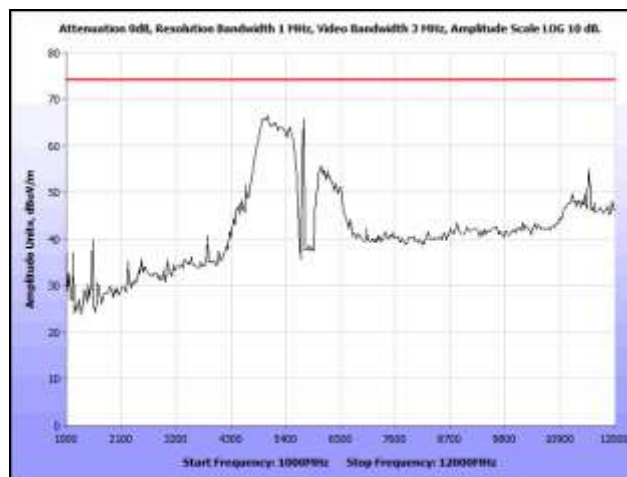
**Radiated Spurious Emissions Test Results, 802.11n 5 MHz, 9 dBi Omni, 5.8 GHz**



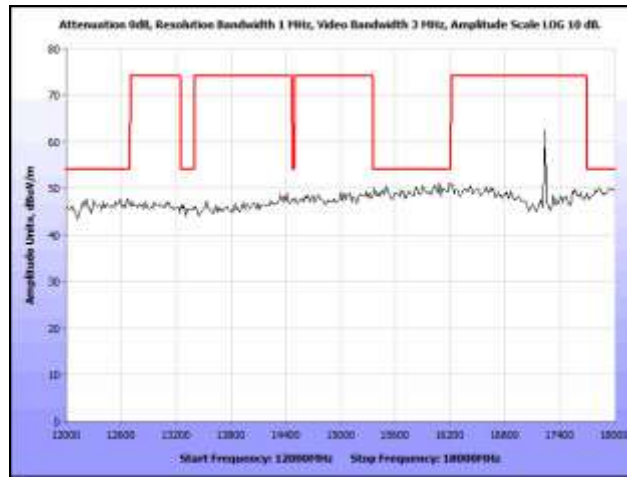
**Plot 383. Radiated Spurs, Low Channel, 30 MHz – 1 GHz, 802.11n 5 MHz, 9 dBi Omni, 5.8 GHz**



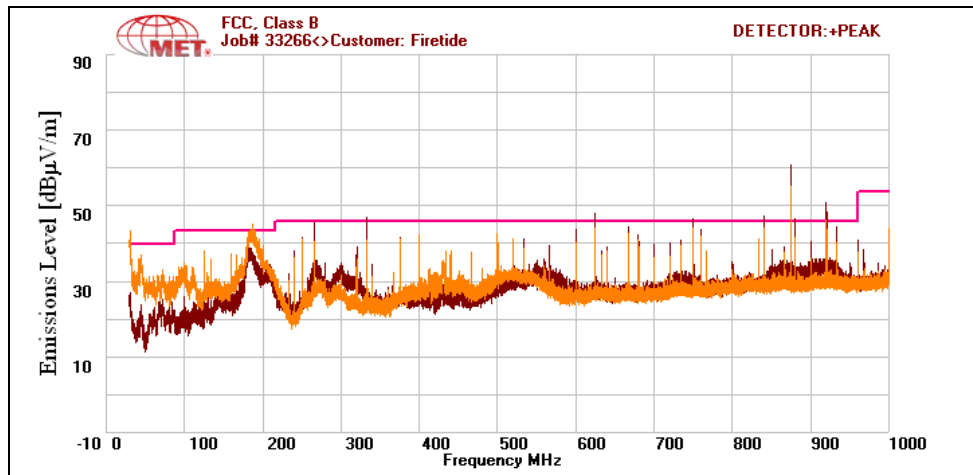
**Plot 384. Radiated Spurs, Low Channel, 1 GHz – 12 GHz, Average, 802.11n 5 MHz, 9 dBi Omni, 5.8 GHz**



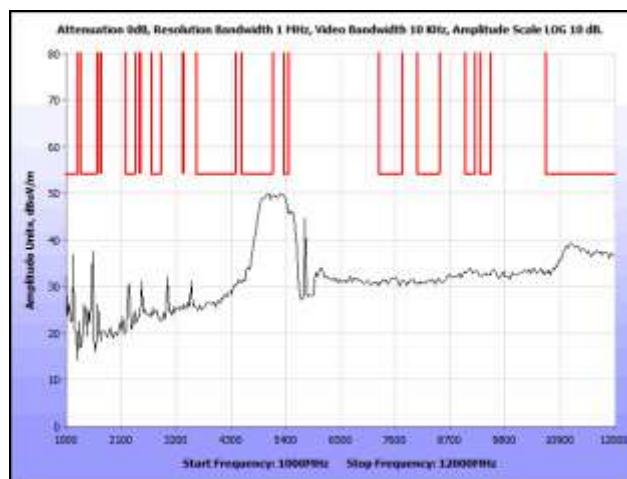
**Plot 385. Radiated Spurs, Low Channel, 1 GHz – 12 GHz, Peak, 802.11n 5 MHz, 9 dBi Omni, 5.8 GHz**



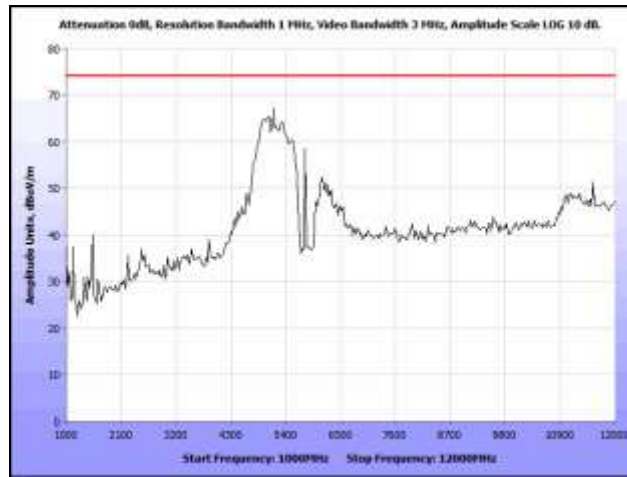
Plot 386. Radiated Spurs, Low Channel, 12 GHz – 18 GHz, 802.11n 5 MHz, 9 dBi Omni, 5.8 GHz



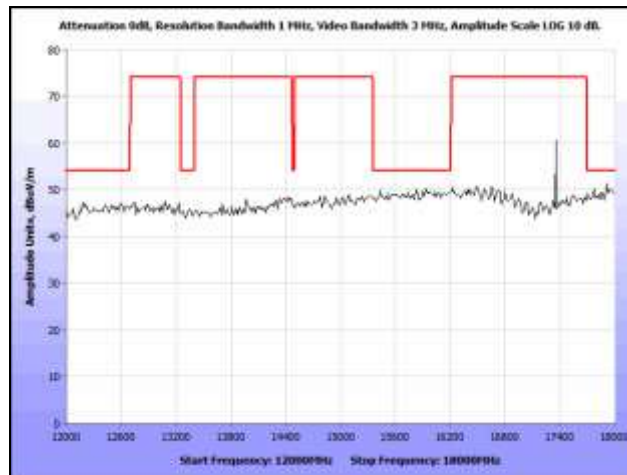
Plot 387. Radiated Spurs, Mid Channel, 30 MHz – 1 GHz, 802.11n 5 MHz, 9 dBi Omni, 5.8 GHz



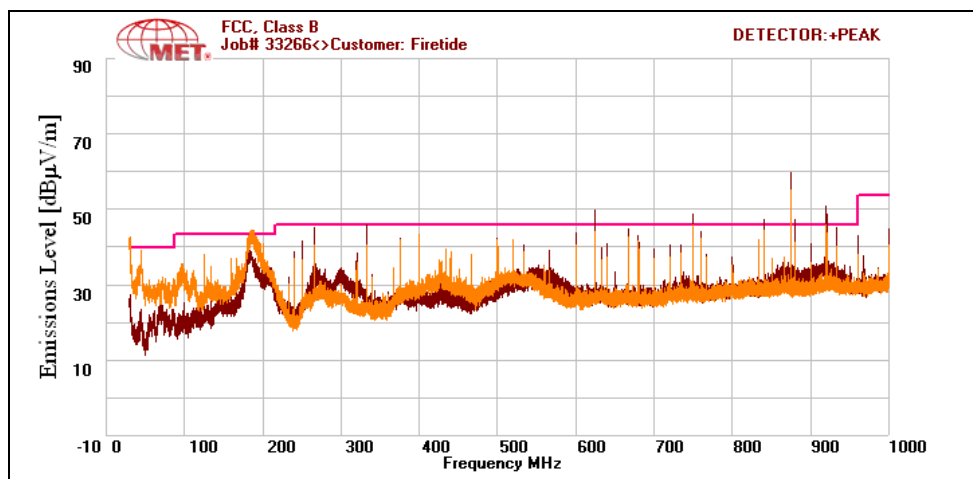
Plot 388. Radiated Spurs, Mid Channel, 1 GHz – 12 GHz, Average, 802.11n 5 MHz, 9 dBi Omni, 5.8 GHz



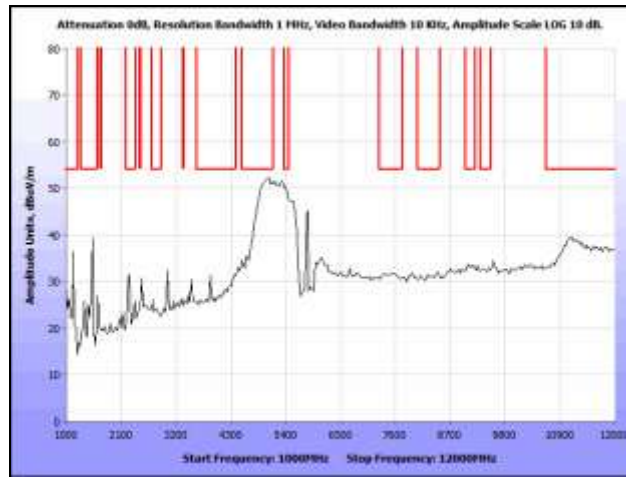
Plot 389. Radiated Spurs, Mid Channel, 1 GHz – 12 GHz, Peak, 802.11n 5 MHz, 9 dBi Omni, 5.8 GHz



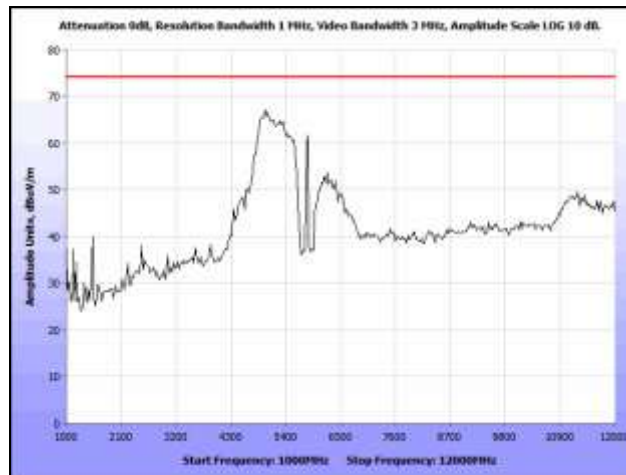
Plot 390. Radiated Spurs, Mid Channel, 12 GHz – 18 GHz, 802.11n 5 MHz, 9 dBi Omni, 5.8 GHz



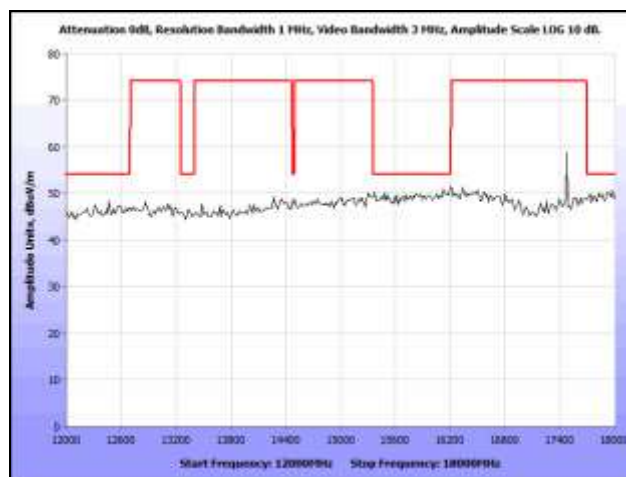
Plot 391. Radiated Spurs, High Channel, 30 MHz – 1 GHz, 802.11n 5 MHz, 9 dBi Omni, 5.8 GHz



**Plot 392. Radiated Spurs, High Channel, 1 GHz – 12 GHz, Average, 802.11n 5 MHz, 9 dBi Omni, 5.8 GHz**

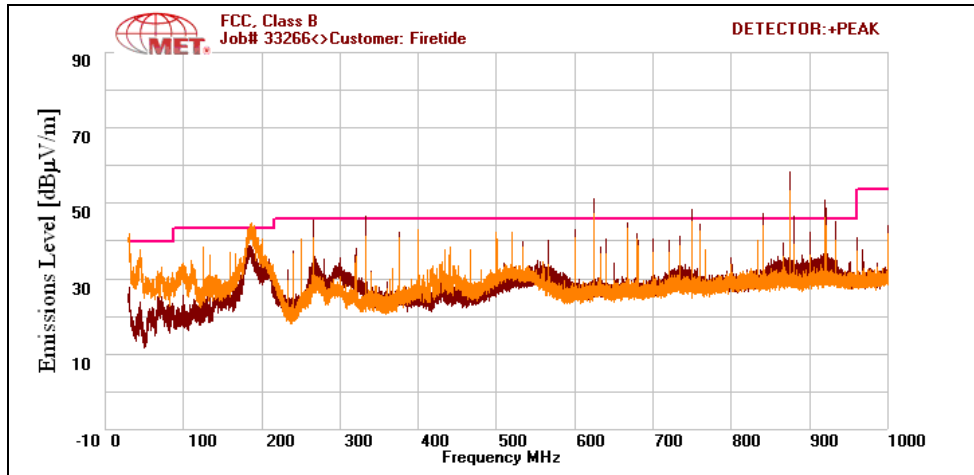


**Plot 393. Radiated Spurs, High Channel, 1 GHz – 12 GHz, Peak, 802.11n 5 MHz, 9 dBi Omni, 5.8 GHz**

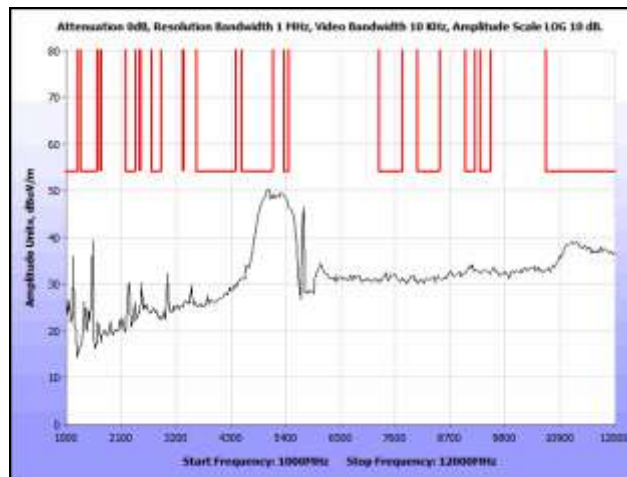


**Plot 394. Radiated Spurs, High Channel, 12 GHz – 18 GHz, 802.11n 5 MHz, 9 dBi Omni, 5.8 GHz**

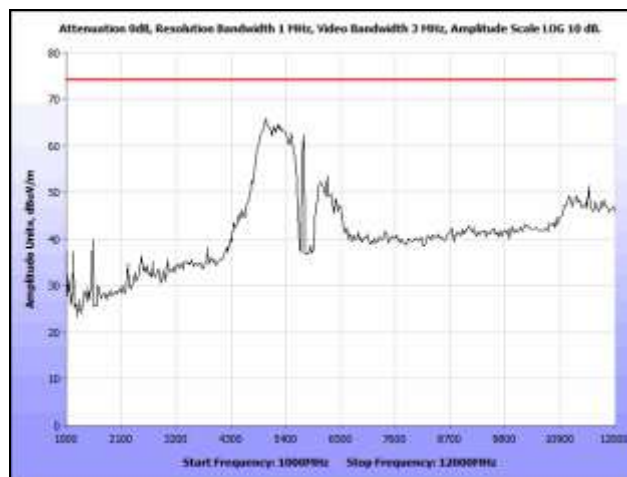
**Radiated Spurious Emissions Test Results, 802.11n 10 MHz, 9 dBi Omni, 5.8 GHz**



**Plot 395. Radiated Spurs, Low Channel, 30 MHz – 1 GHz, 802.11n 10 MHz, 9 dBi Omni, 5.8 GHz**

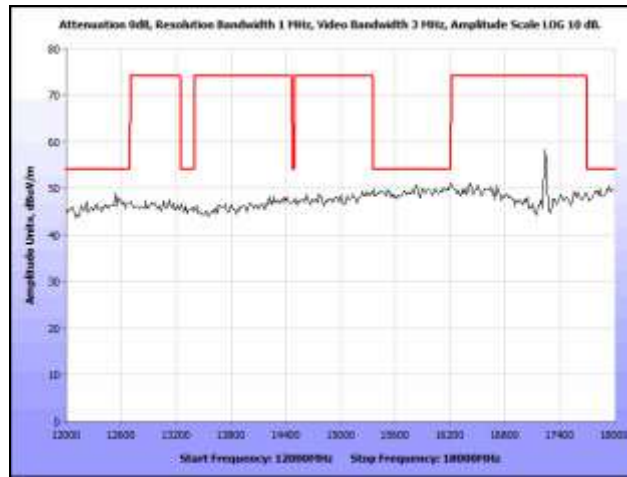


**Plot 396. Radiated Spurs, Low Channel, 1 GHz – 12 GHz, Average, 802.11n 10 MHz, 9 dBi Omni, 5.8 GHz**

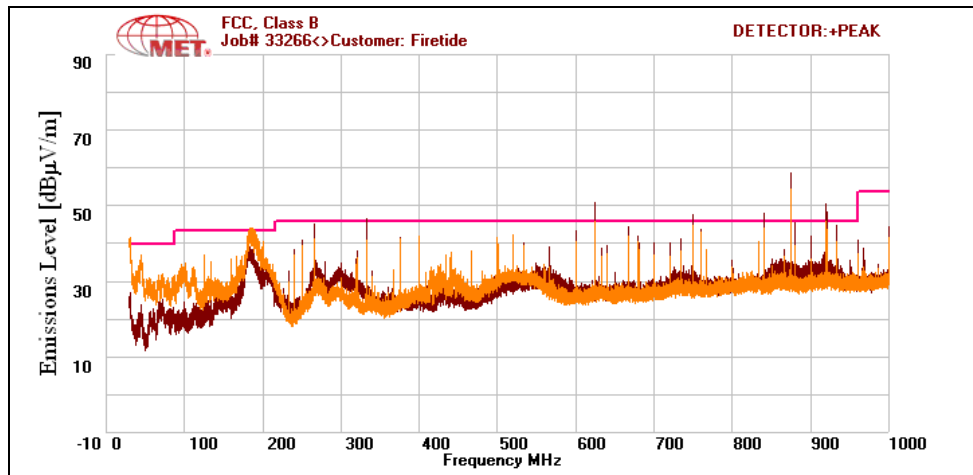


**Plot 397. Radiated Spurs, Low Channel, 1 GHz – 12 GHz, Peak, 802.11n 10 MHz, 9 dBi Omni, 5.8 GHz**

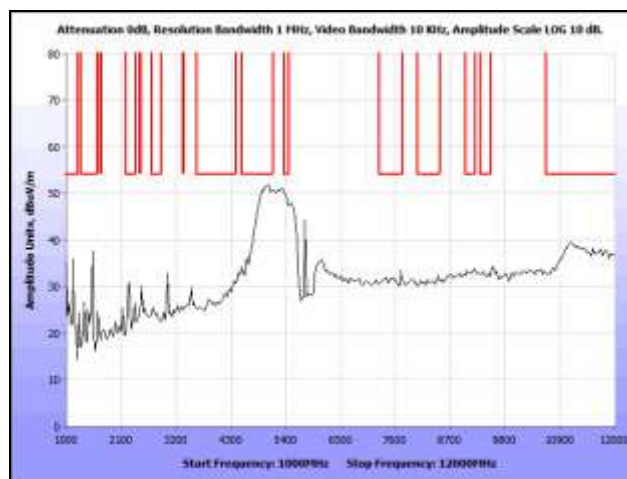




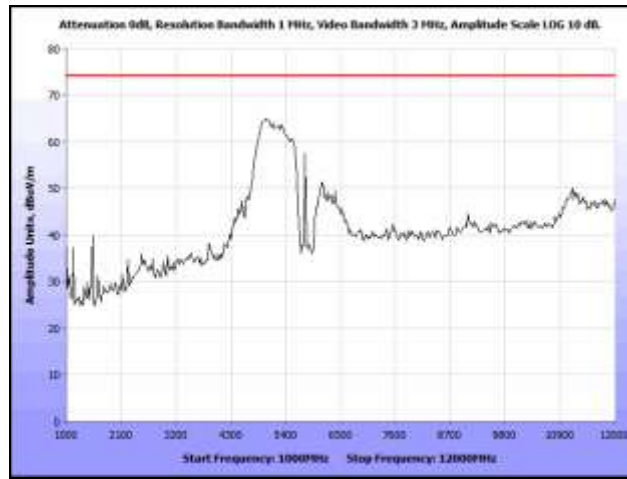
Plot 398. Radiated Spurs, Low Channel, 12 GHz – 18 GHz, 802.11n 10 MHz, 9 dBi Omni, 5.8 GHz



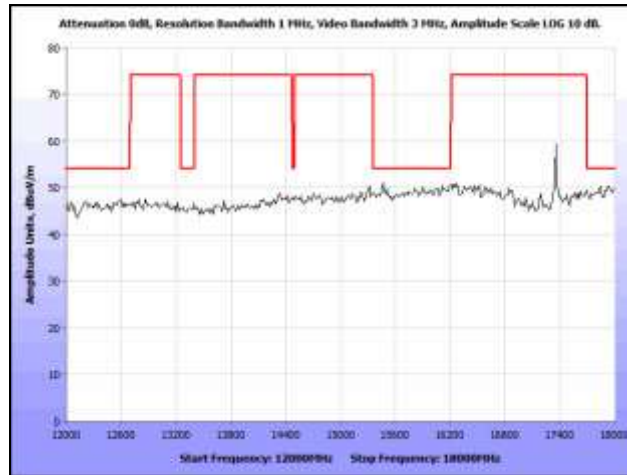
Plot 399. Radiated Spurs, Mid Channel, 30 MHz – 1 GHz, 802.11n 10 MHz, 9 dBi Omni, 5.8 GHz



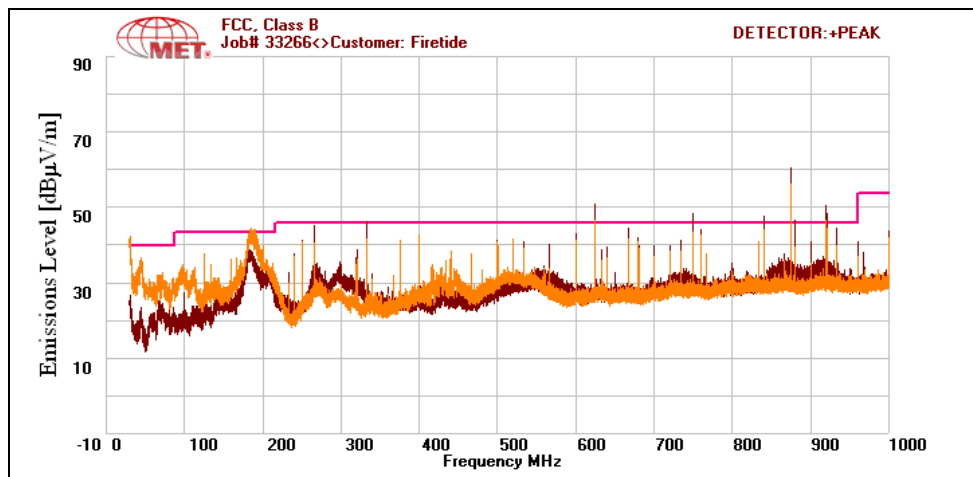
Plot 400. Radiated Spurs, Mid Channel, 1 GHz – 12 GHz, Average, 802.11n 10 MHz, 9 dBi Omni, 5.8 GHz



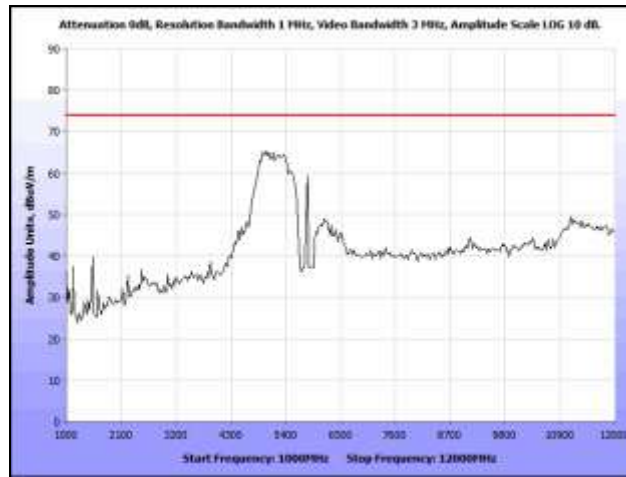
Plot 401. Radiated Spurs, Mid Channel, 1 GHz – 12 GHz, Peak, 802.11n 10 MHz, 9 dBi Omni, 5.8 GHz



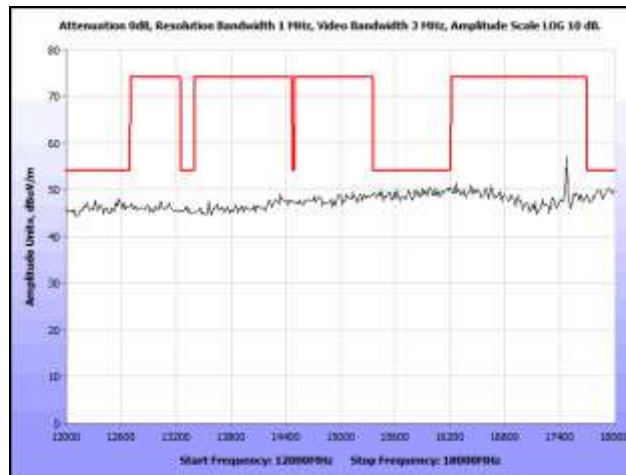
Plot 402. Radiated Spurs, Mid Channel, 12 GHz – 18 GHz, 802.11n 10 MHz, 9 dBi Omni, 5.8 GHz



Plot 403. Radiated Spurs, High Channel, 30 MHz – 1 GHz, 802.11n 10 MHz, 9 dBi Omni, 5.8 GHz

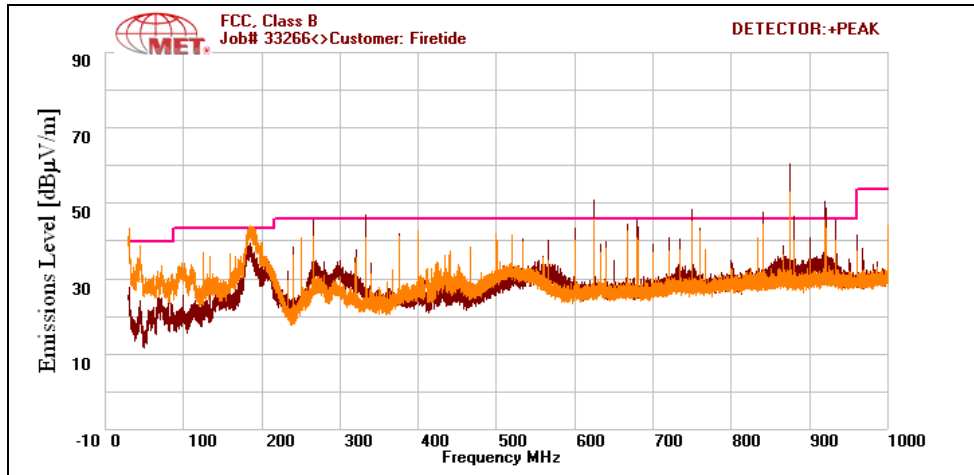


**Plot 404. Radiated Spurs, High Channel, 1 GHz – 12 GHz, Peak, 802.11n 10 MHz, 9 dBi Omni, 5.8 GHz**

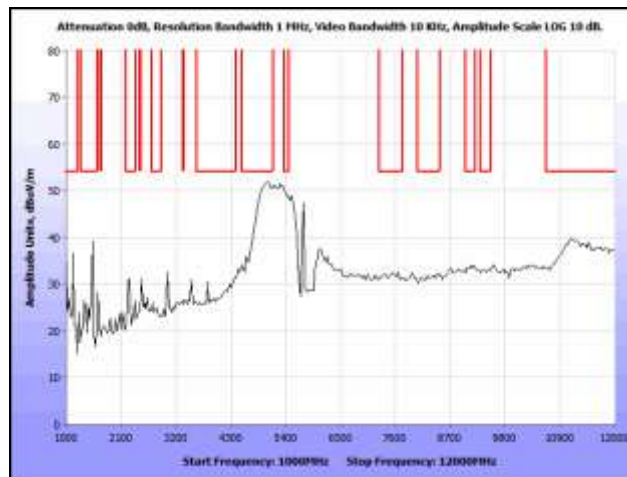


**Plot 405. Radiated Spurs, High Channel, 12 GHz – 18 GHz, 802.11n 10 MHz, 9 dBi Omni, 5.8 GHz**

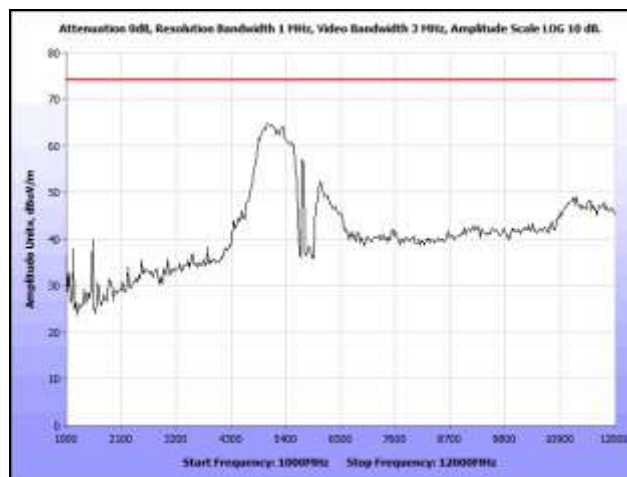
**Radiated Spurious Emissions Test Results, 802.11n 20 MHz, 9 dBi Omni, 5.8 GHz**



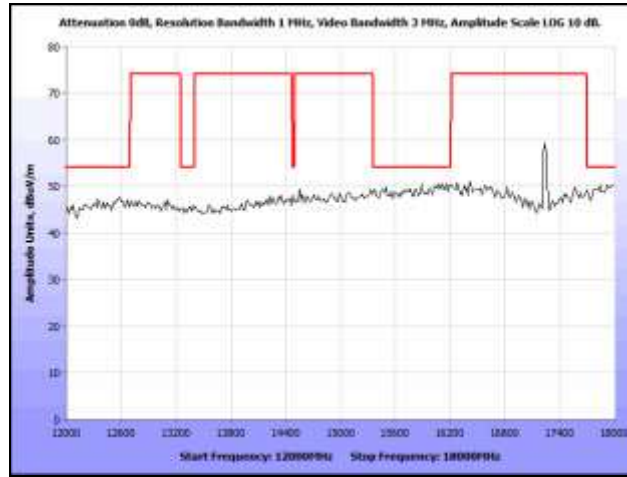
**Plot 406. Radiated Spurs, Low Channel, 30 MHz – 1 GHz, 802.11n 20 MHz, 9 dBi Omni, 5.8 GHz**



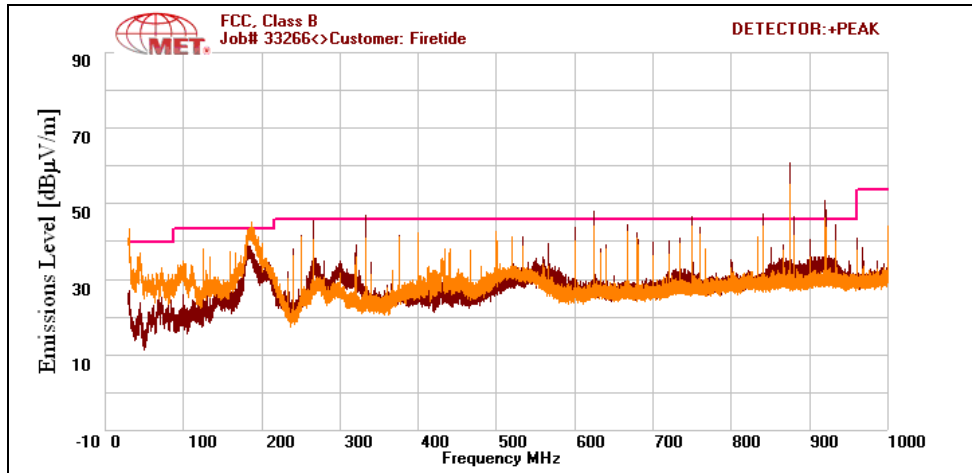
**Plot 407. Radiated Spurs, Low Channel, 1 GHz – 12 GHz, Average, 802.11n 20 MHz, 9 dBi Omni, 5.8 GHz**



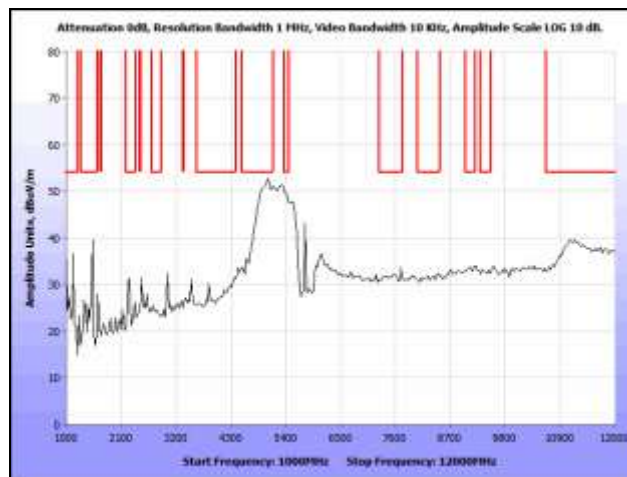
**Plot 408. Radiated Spurs, Low Channel, 1 GHz – 12 GHz, Peak, 802.11n 20 MHz, 9 dBi Omni, 5.8 GHz**



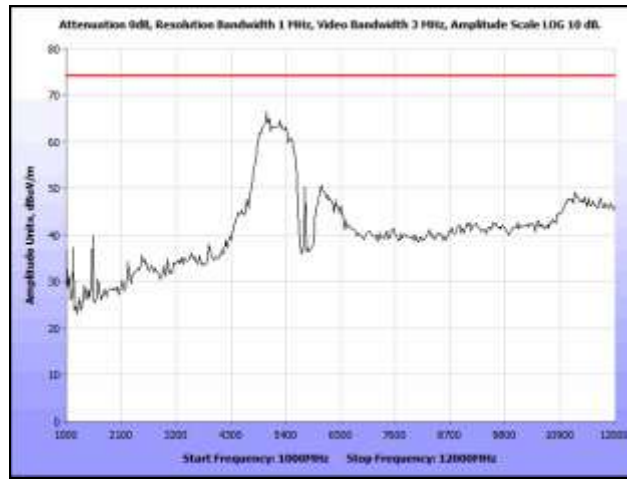
Plot 409. Radiated Spurs, Low Channel, 12 GHz – 18 GHz, 802.11n 20 MHz, 9 dBi Omni, 5.8 GHz



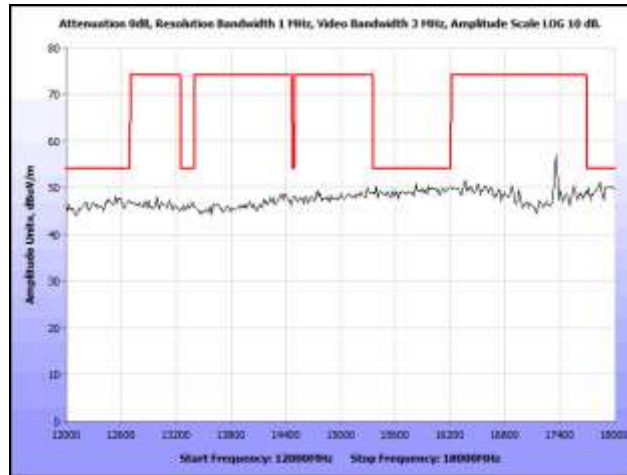
Plot 410. Radiated Spurs, Mid Channel, 30 MHz – 1 GHz, 802.11n 20 MHz, 9 dBi Omni, 5.8 GHz



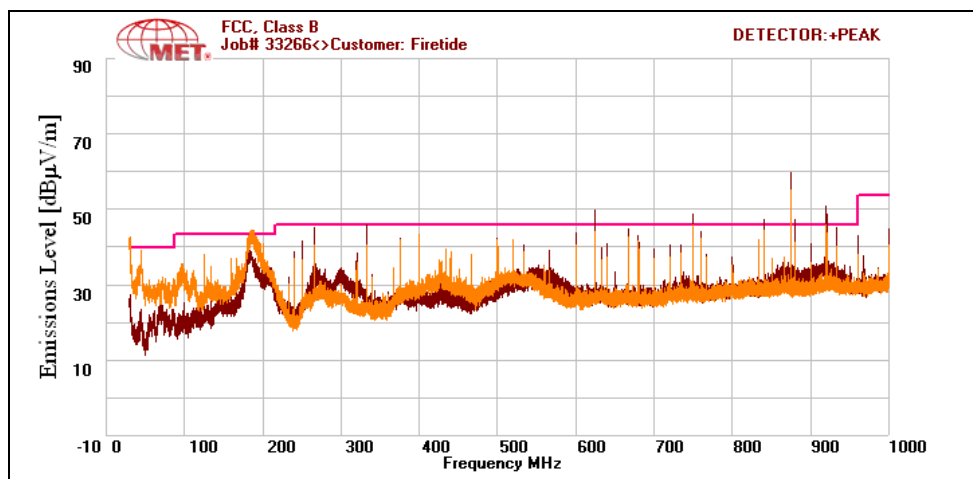
Plot 411. Radiated Spurs, Mid Channel, 1 GHz – 12 GHz, Average, 802.11n 20 MHz, 9 dBi Omni, 5.8 GHz



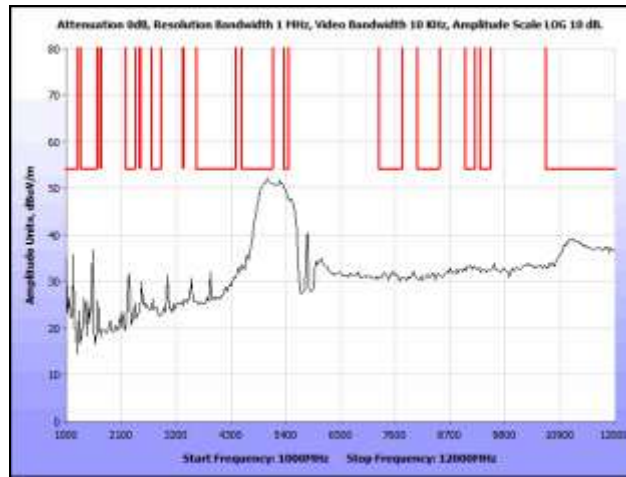
Plot 412. Radiated Spurs, Mid Channel, 1 GHz – 12 GHz, Peak, 802.11n 20 MHz, 9 dBi Omni, 5.8 GHz



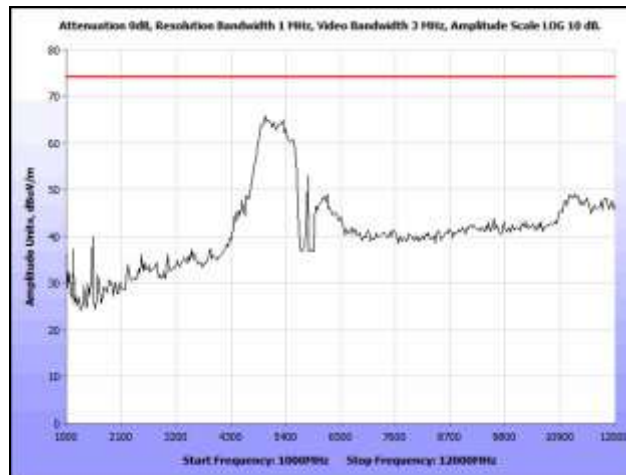
Plot 413. Radiated Spurs, Mid Channel, 12 GHz – 18 GHz, 802.11n 20 MHz, 9 dBi Omni, 5.8 GHz



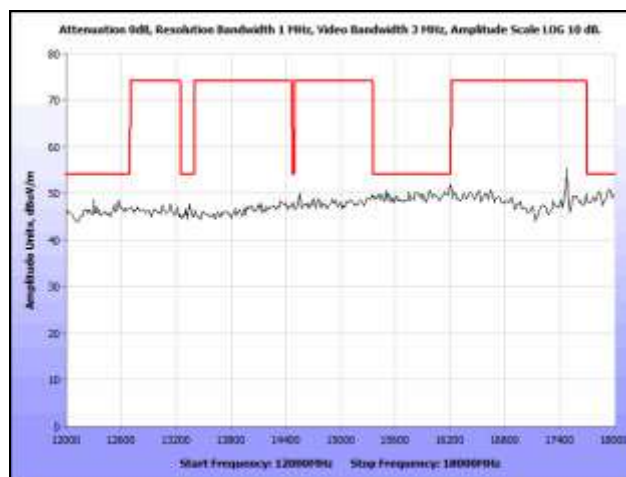
Plot 414. Radiated Spurs, High Channel, 30 MHz – 1 GHz, 802.11n 20 MHz, 9 dBi Omni, 5.8 GHz



Plot 415. Radiated Spurs, High Channel, 1 GHz – 12 GHz, Average, 802.11n 20 MHz, 9 dBi Omni, 5.8 GHz

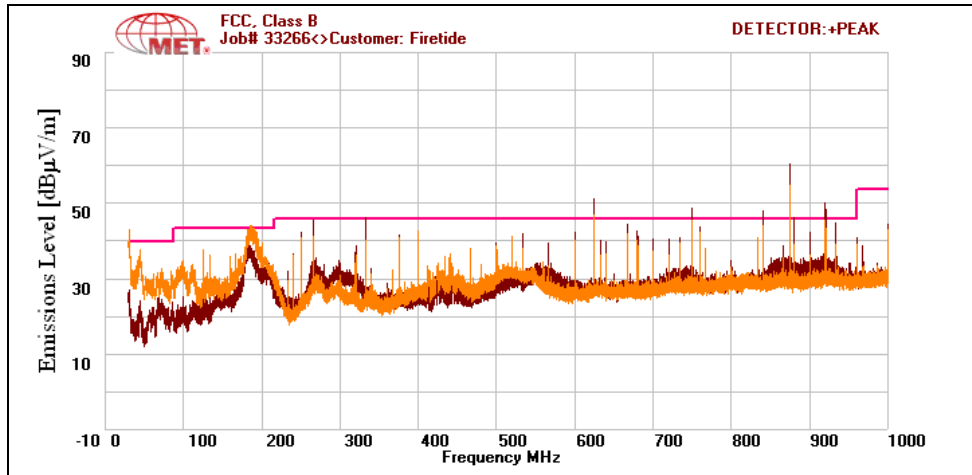


Plot 416. Radiated Spurs, High Channel, 1 GHz – 12 GHz, Peak, 802.11n 20 MHz, 9 dBi Omni, 5.8 GHz

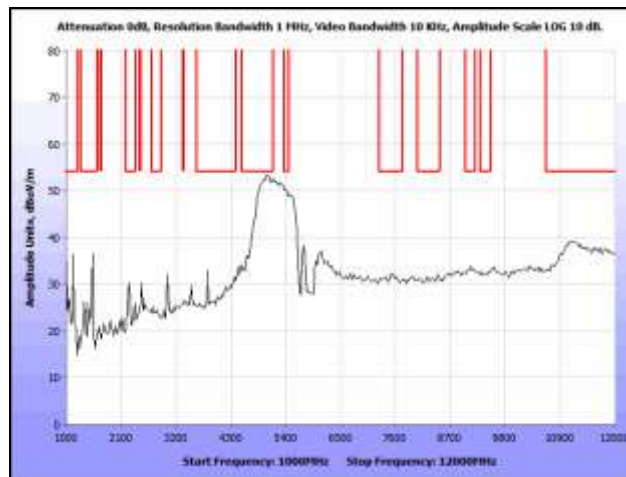


Plot 417. Radiated Spurs, High Channel, 12 GHz – 18 GHz, 802.11n 20 MHz, 9 dBi Omni, 5.8 GHz

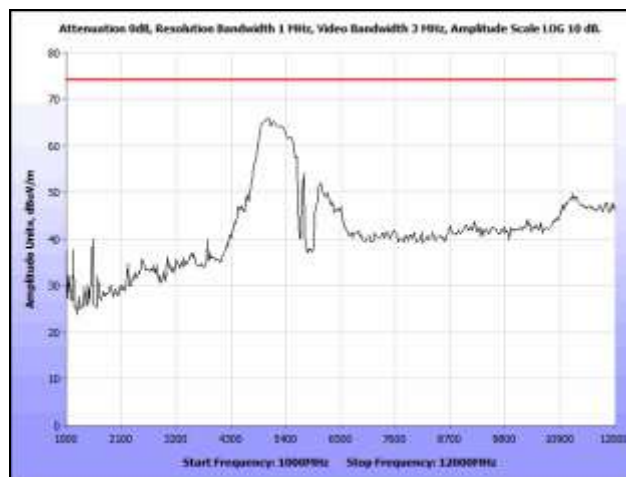
**Radiated Spurious Emissions Test Results, 802.11n 40 MHz, 9 dBi Omni, 5.8 GHz**



Plot 418. Radiated Spurs, Low Channel, 30 MHz – 1 GHz, 802.11n 40 MHz, 9 dBi Omni, 5.8 GHz

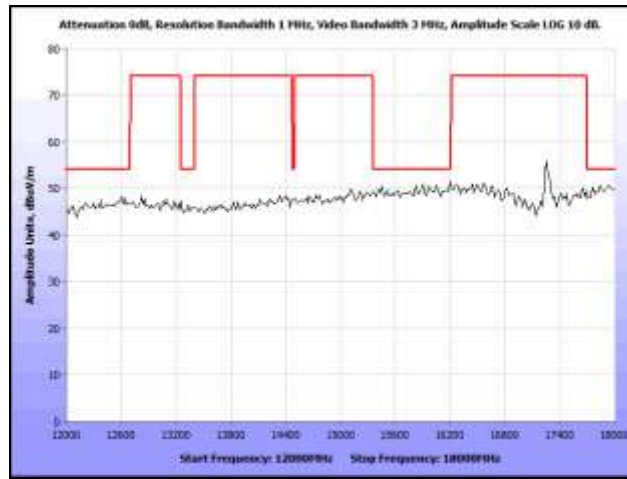


Plot 419. Radiated Spurs, Low Channel, 1 GHz – 12 GHz, Average, 802.11n 40 MHz, 9 dBi Omni, 5.8 GHz

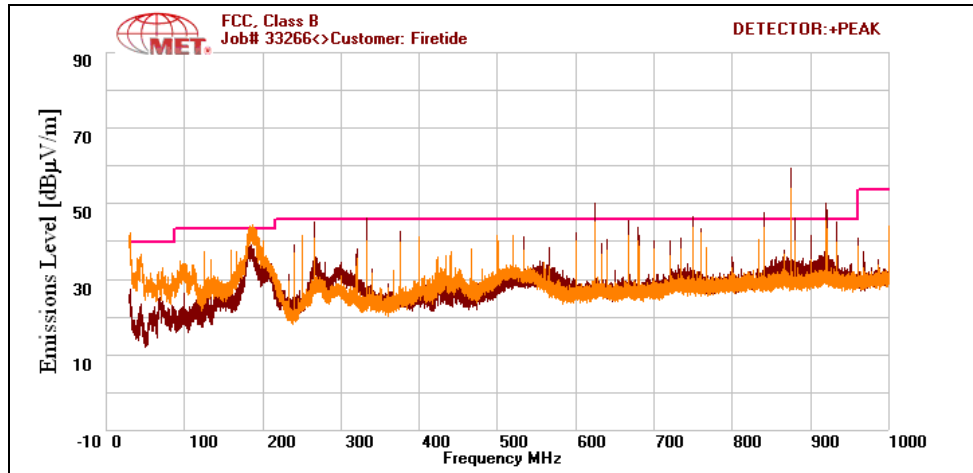


Plot 420. Radiated Spurs, Low Channel, 1 GHz – 12 GHz, Peak, 802.11n 40 MHz, 9 dBi Omni, 5.8 GHz

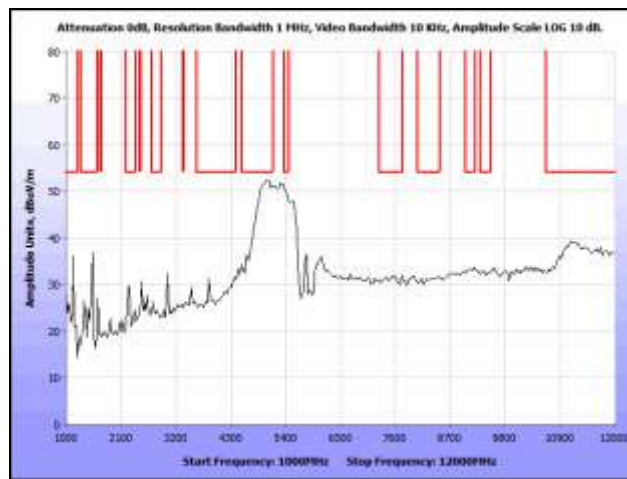




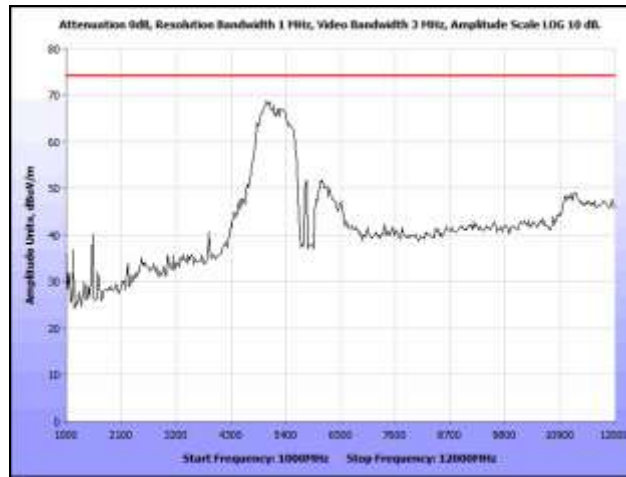
Plot 421. Radiated Spurs, Low Channel, 12 GHz – 18 GHz, 802.11n 40 MHz, 9 dBi Omni, 5.8 GHz



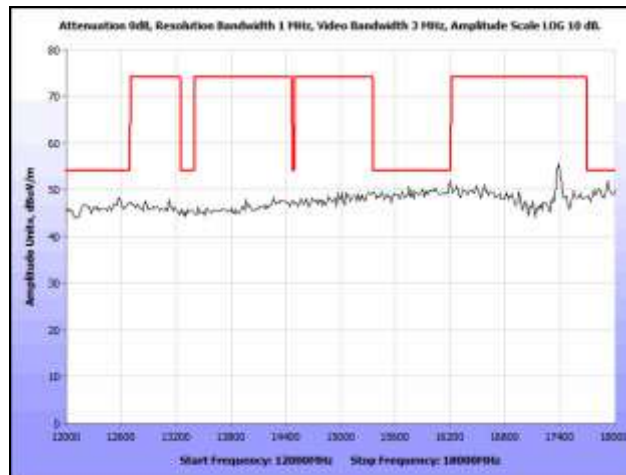
Plot 422. Radiated Spurs, High Channel, 30 MHz – 1 GHz, 802.11n 40 MHz, 9 dBi Omni, 5.8 GHz



Plot 423. Radiated Spurs, High Channel, 1 GHz – 12 GHz, Average, 802.11n 40 MHz, 9 dBi Omni, 5.8 GHz

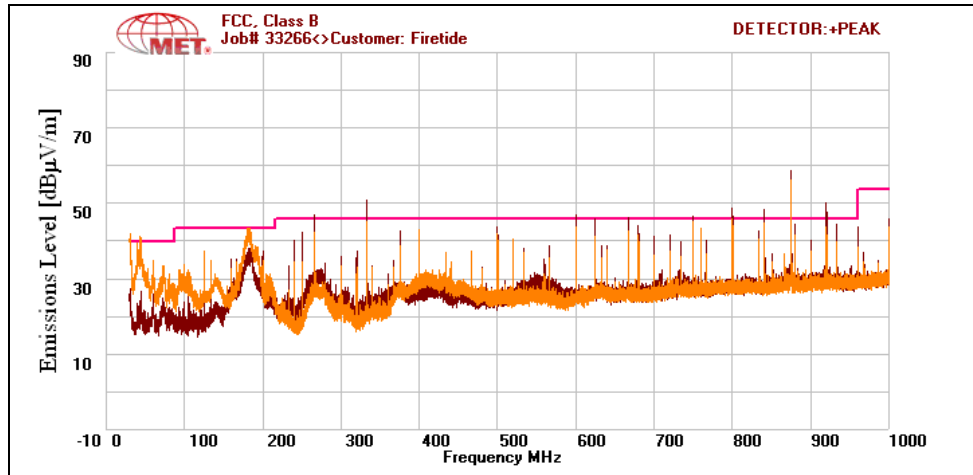


Plot 424. Radiated Spurs, High Channel, 1 GHz – 12 GHz, Peak, 802.11n 40 MHz, 9 dBi Omni, 5.8 GHz

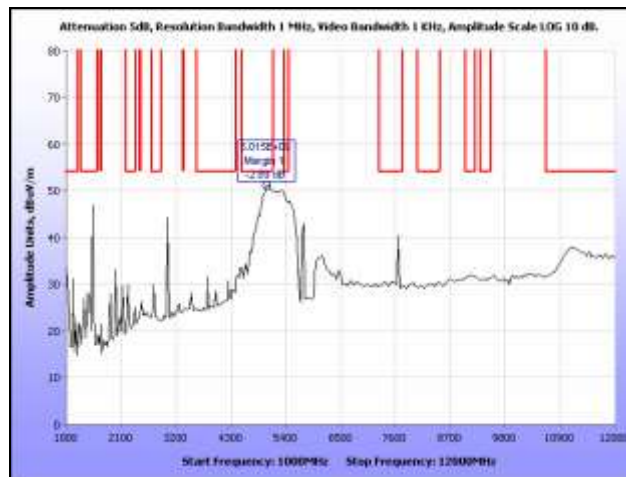


Plot 425. Radiated Spurs, High Channel, 12 GHz – 18 GHz, 802.11n 40 MHz, 9 dBi Omni, 5.8 GHz

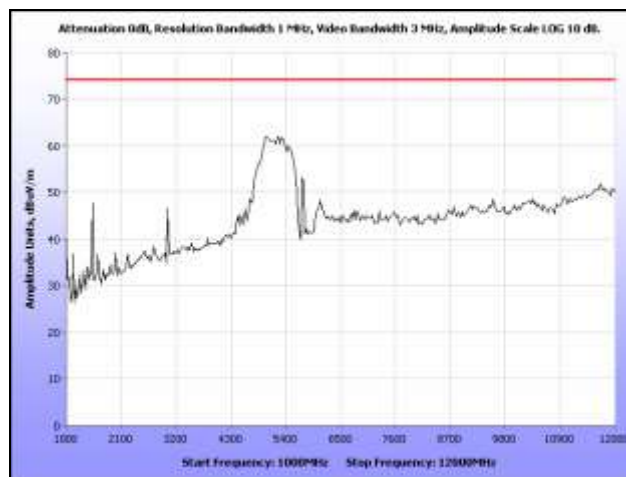
**Radiated Spurious Emissions Test Results, 802.11a, 15 dBi Sector, 5.8 GHz**



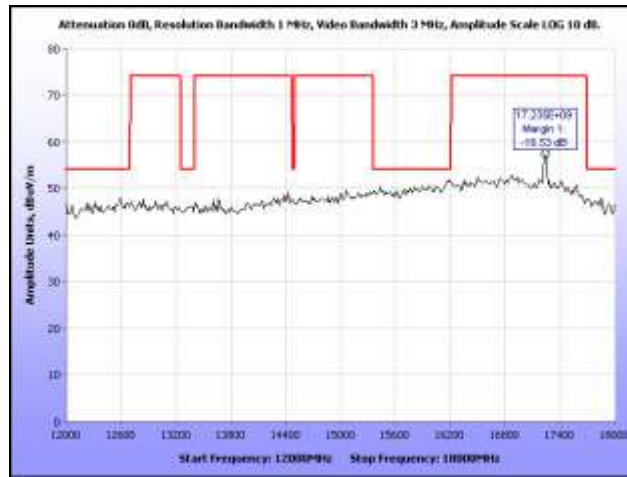
**Plot 426. Radiated Spurs, Low Channel, 30 MHz – 1 GHz, 802.11a, 15 dBi Sector, 5.8 GHz**



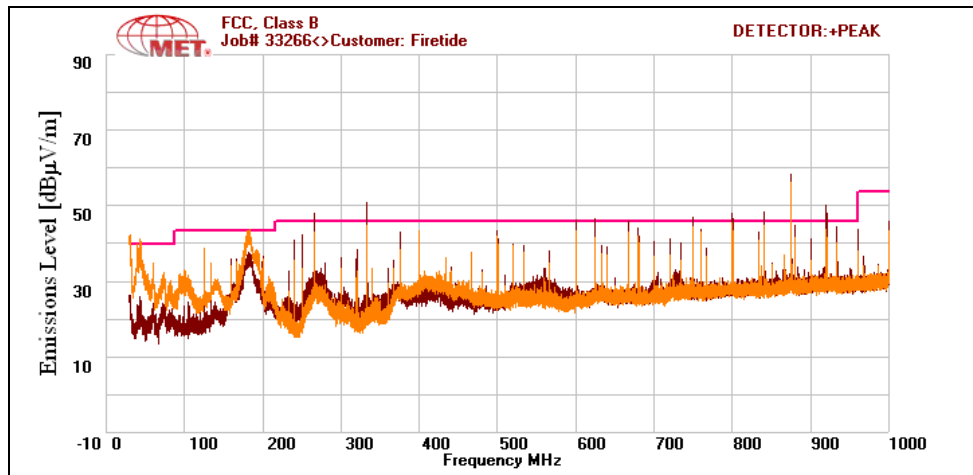
**Plot 427. Radiated Spurs, Low Channel, 1 GHz – 12 GHz, Average, 802.11b, 15 dBi Sector, 5.8 GHz**



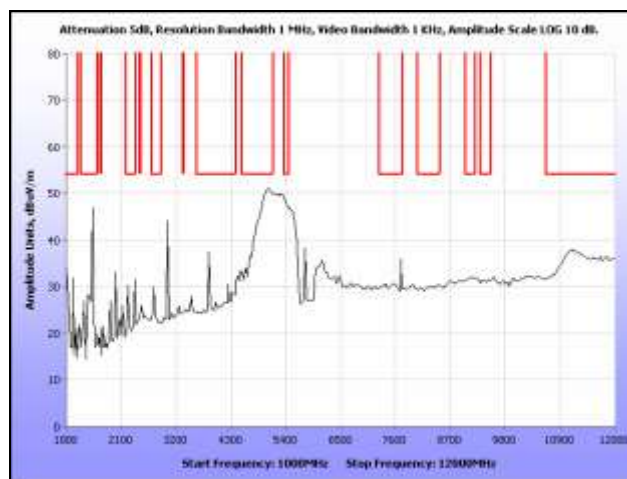
**Plot 428. Radiated Spurs, Low Channel, 1 GHz – 12 GHz, Peak, 802.11b, 15 dBi Sector, 5.8 GHz**



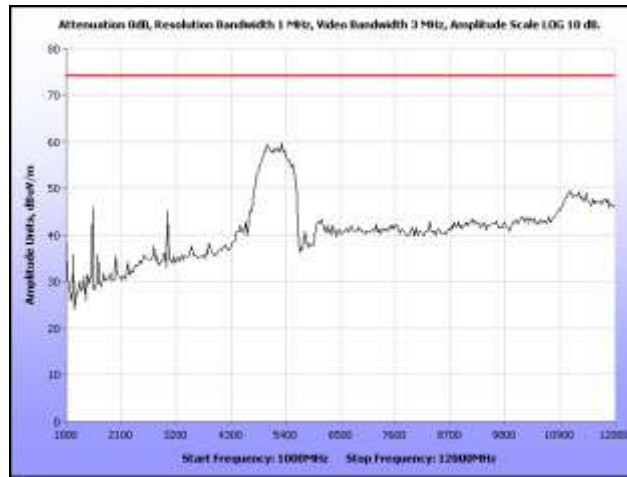
Plot 429. Radiated Spurs, Low Channel, 12 GHz – 18 GHz, 802.11b, 15 dBi Sector, 5.8 GHz



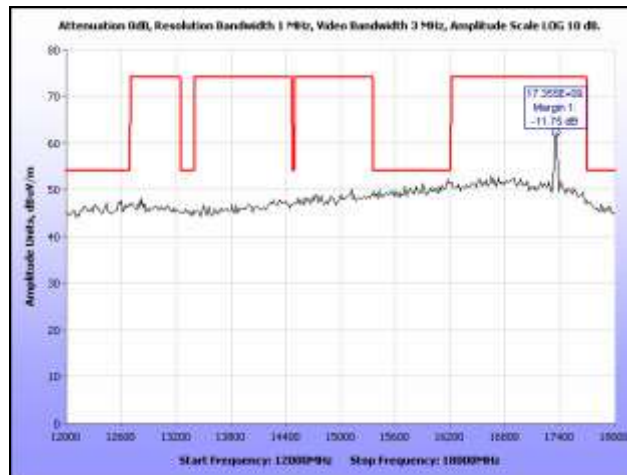
Plot 430. Radiated Spurs, Mid Channel, 30 MHz – 1 GHz, 802.11a, 15 dBi Sector, 5.8 GHz



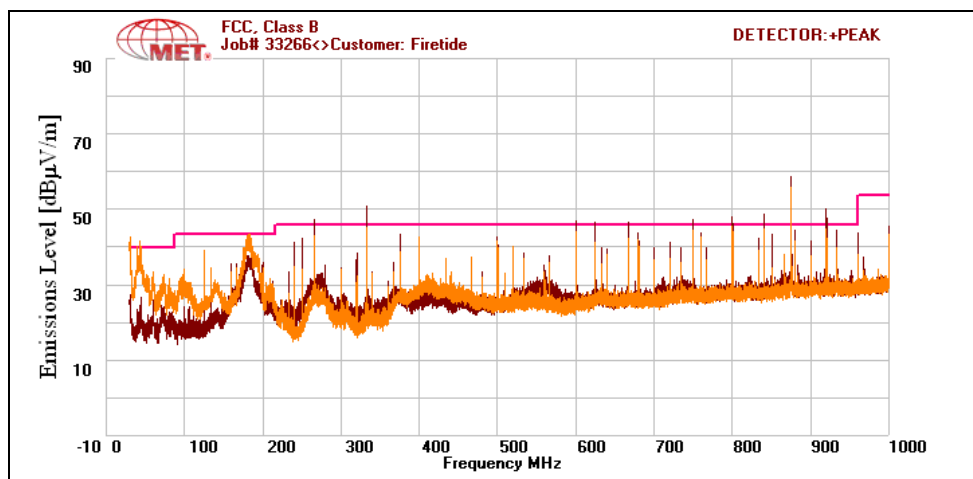
Plot 431. Radiated Spurs, Mid Channel, 1 GHz – 12 GHz, Average, 802.11b, 15 dBi Sector, 5.8 GHz



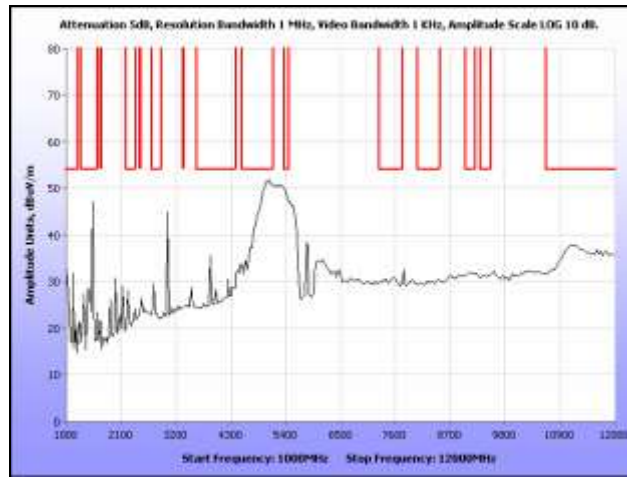
Plot 432. Radiated Spurs, Mid Channel, 1 GHz – 12 GHz, Peak, 802.11b, 15 dBi Sector, 5.8 GHz



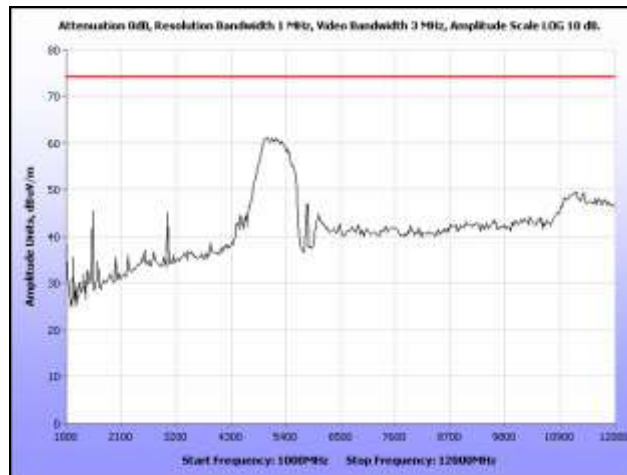
Plot 433. Radiated Spurs, Mid Channel, 12 GHz – 18 GHz, 802.11b, 15 dBi Sector, 5.8 GHz



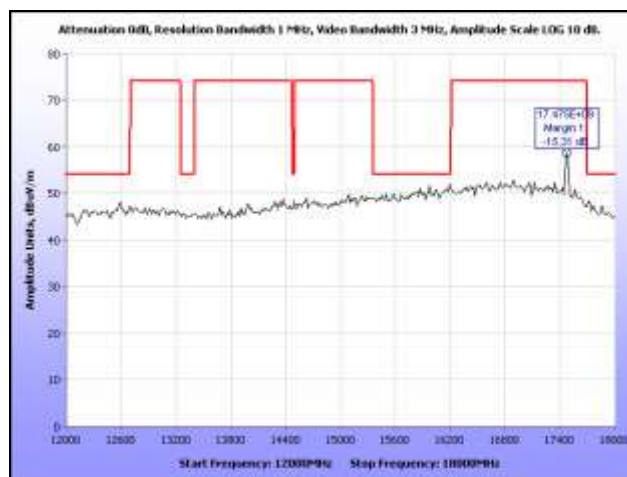
Plot 434. Radiated Spurs, High Channel, 30 MHz – 1 GHz, 802.11a, 15 dBi Sector, 5.8 GHz



Plot 435. Radiated Spurs, High Channel, 1 GHz – 12 GHz, Average, 802.11b, 15 dBi Sector, 5.8 GHz

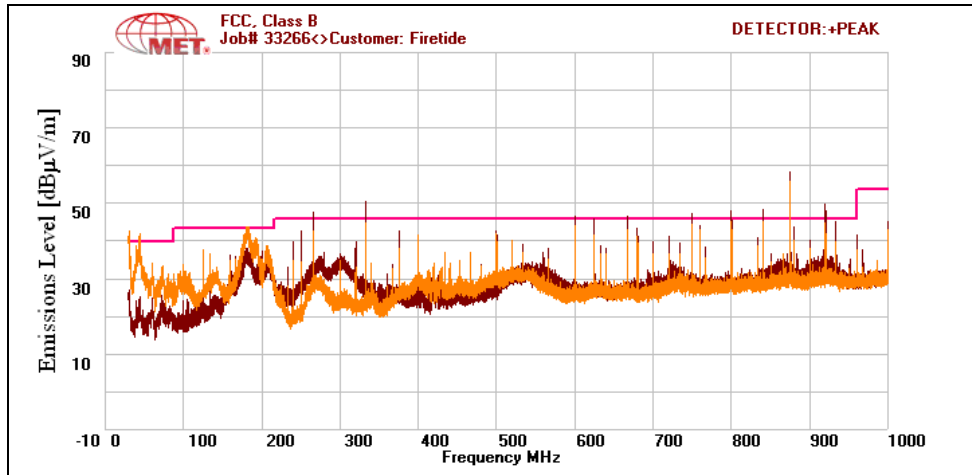


Plot 436. Radiated Spurs, High Channel, 1 GHz – 12 GHz, Peak, 802.11b, 15 dBi Sector, 5.8 GHz

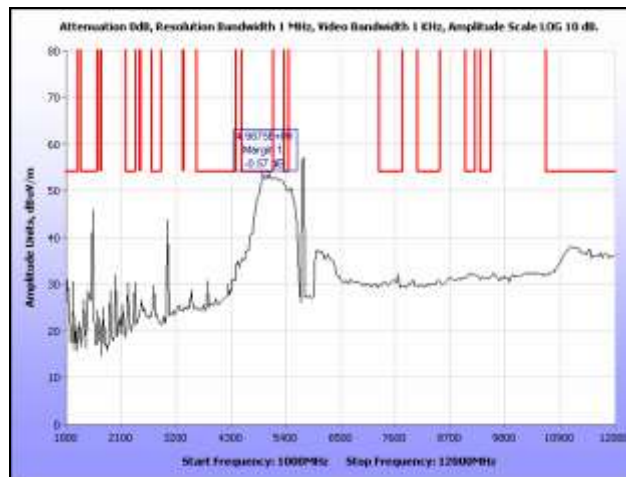


Plot 437. Radiated Spurs, High Channel, 12 GHz – 18 GHz, 802.11b, 15 dBi Sector, 5.8 GHz

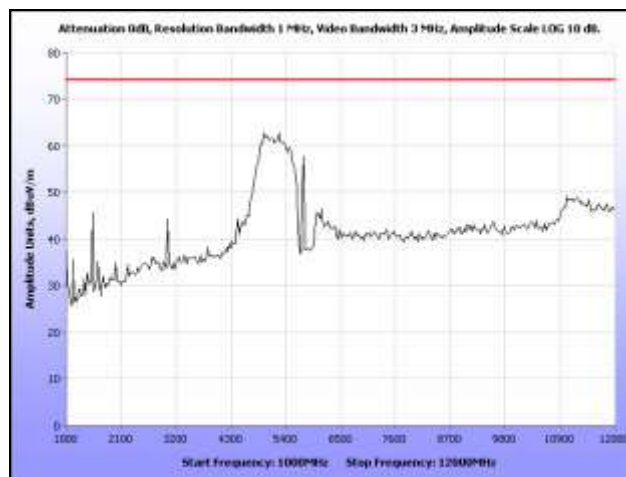
**Radiated Spurious Emissions Test Results, 802.11n 5 MHz, 15 dBi Sector, 5.8 GHz**



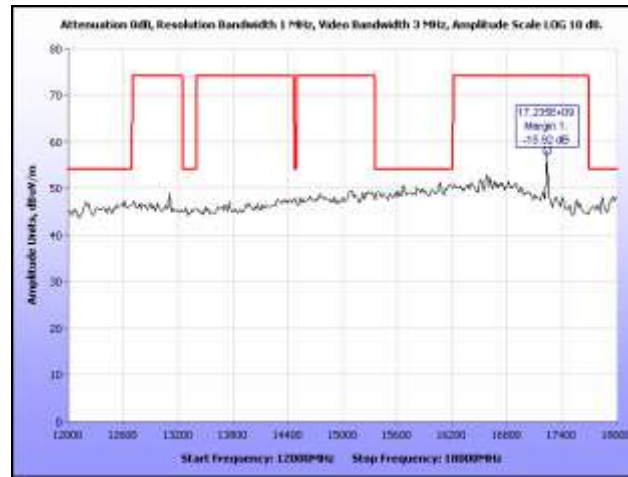
**Plot 438. Radiated Spurs, Low Channel, 30 MHz – 1 GHz, 802.11n 5 MHz, 15 dBi Sector, 5.8 GHz**



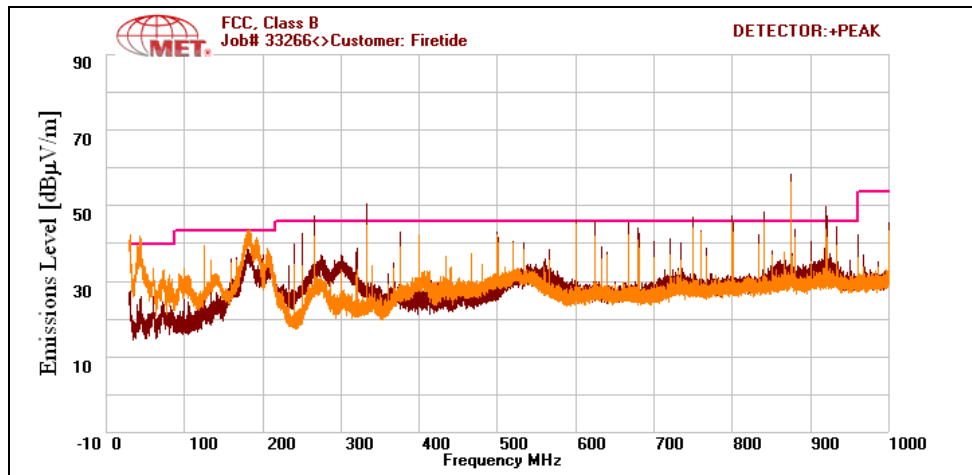
**Plot 439. Radiated Spurs, Low Channel, 1 GHz – 12 GHz, Average, 802.11n 5 MHz, 15 dBi Sector, 5.8 GHz**



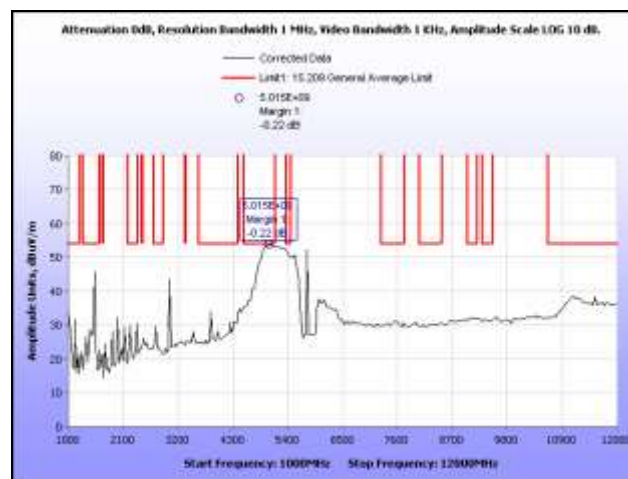
**Plot 440. Radiated Spurs, Low Channel, 1 GHz – 12 GHz, Peak, 802.11n 5 MHz, 15 dBi Sector, 5.8 GHz**



Plot 441. Radiated Spurs, Low Channel, 12 GHz – 18 GHz, 802.11n 5 MHz, 15 dBi Sector, 5.8 GHz

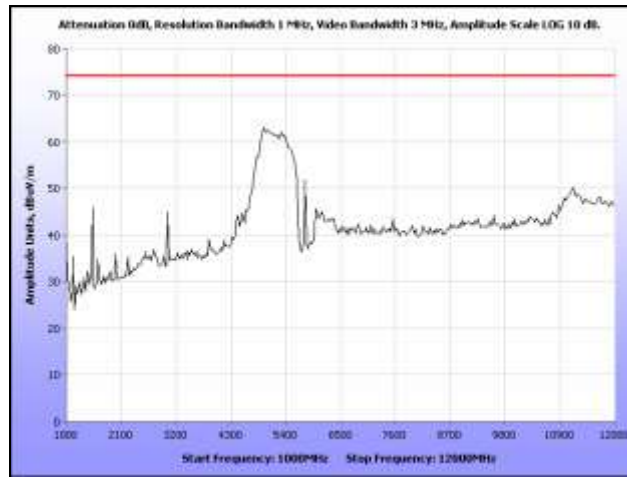


Plot 442. Radiated Spurs, Mid Channel, 30 MHz – 1 GHz, 802.11n 5 MHz, 15 dBi Sector, 5.8 GHz

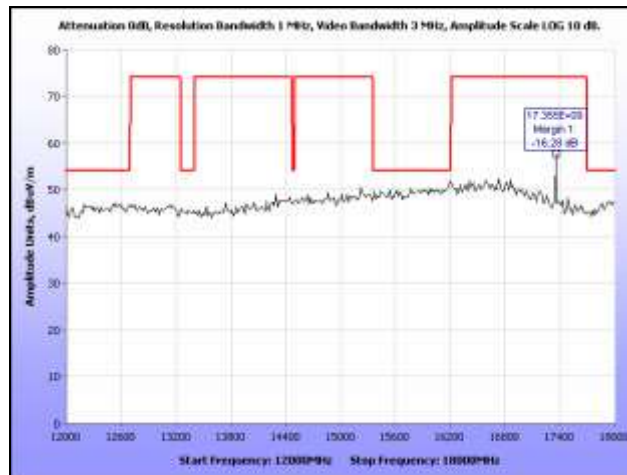


Plot 443. Radiated Spurs, Mid Channel, 1 GHz – 12 GHz, Average, 802.11n 5 MHz, 15 dBi Sector, 5.8 GHz

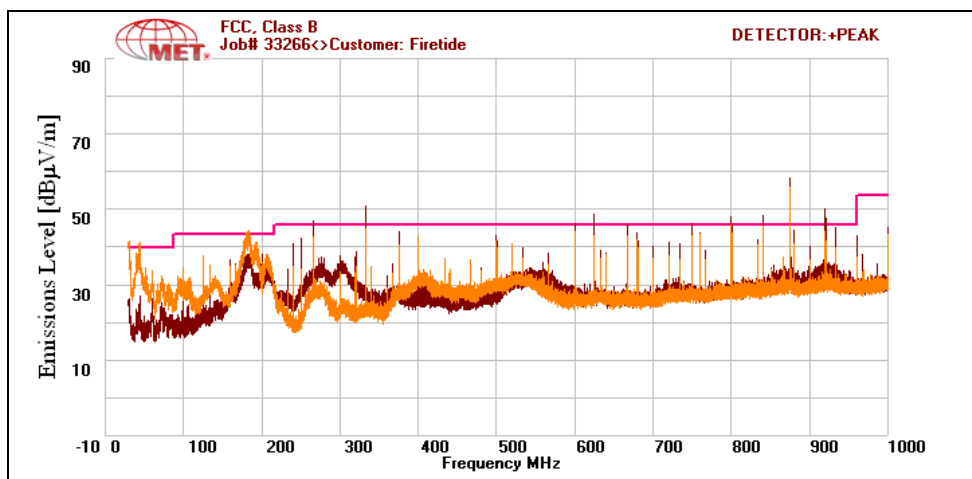




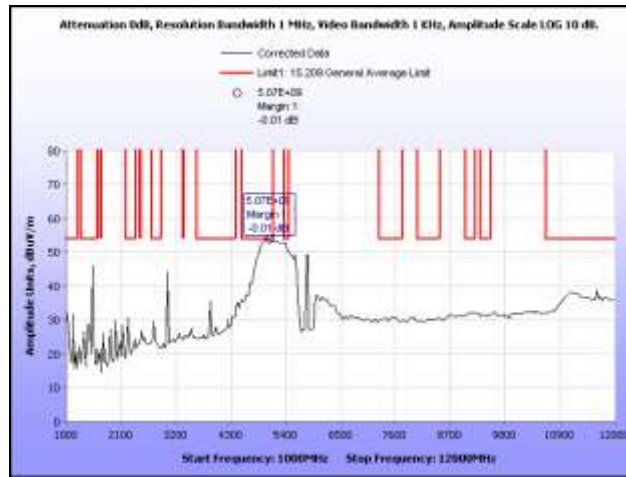
Plot 444. Radiated Spurs, Mid Channel, 1 GHz – 12 GHz, Peak, 802.11n 5 MHz, 15 dBi Sector, 5.8 GHz



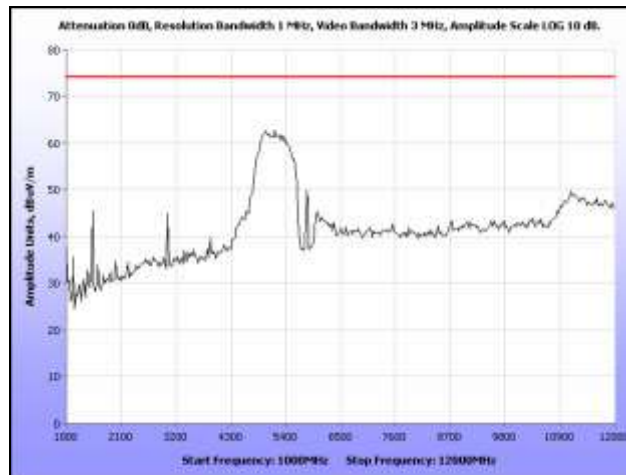
Plot 445. Radiated Spurs, Mid Channel, 1 GHz – 18 GHz, 802.11n 5 MHz, 15 dBi Sector, 5.8 GHz



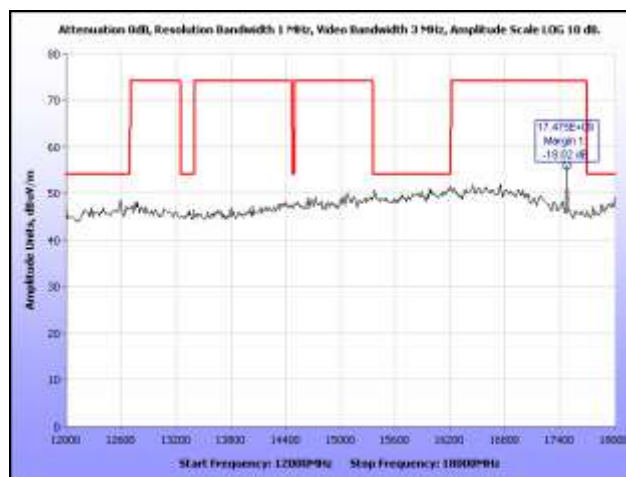
Plot 446. Radiated Spurs, High Channel, 30 MHz – 1 GHz, 802.11n 5 MHz, 15 dBi Sector, 5.8 GHz



Plot 447. Radiated Spurs, High Channel, 1 GHz – 12 GHz, Average, 802.11n 5 MHz, 15 dBi Sector, 5.8 GHz

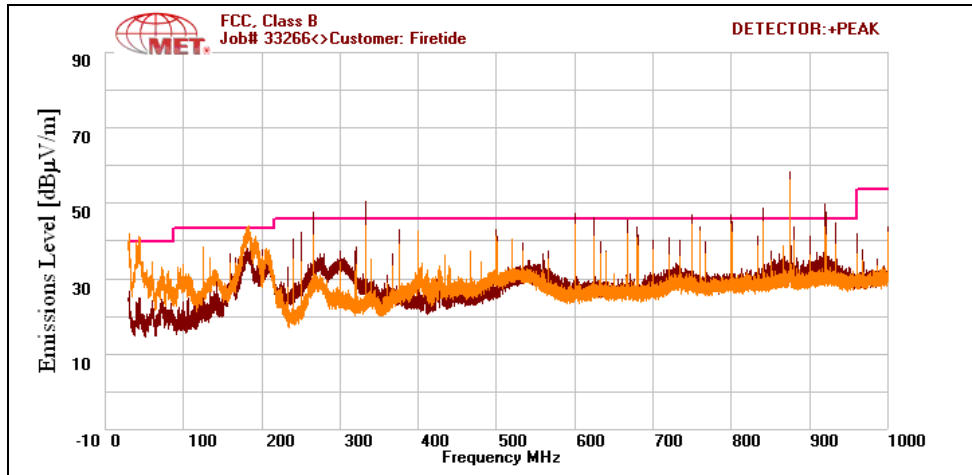


Plot 448. Radiated Spurs, High Channel, 1 GHz – 12 GHz, Peak, 802.11n 5 MHz, 15 dBi Sector, 5.8 GHz

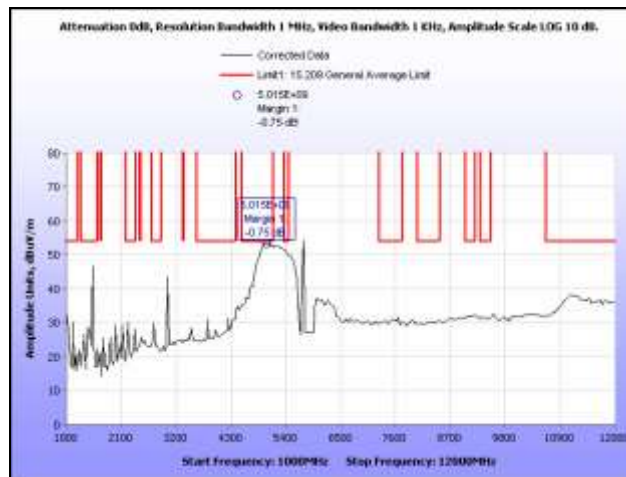


Plot 449. Radiated Spurs, High Channel, 12 GHz – 18 GHz, 802.11n 5 MHz, 15 dBi Sector, 5.8 GHz

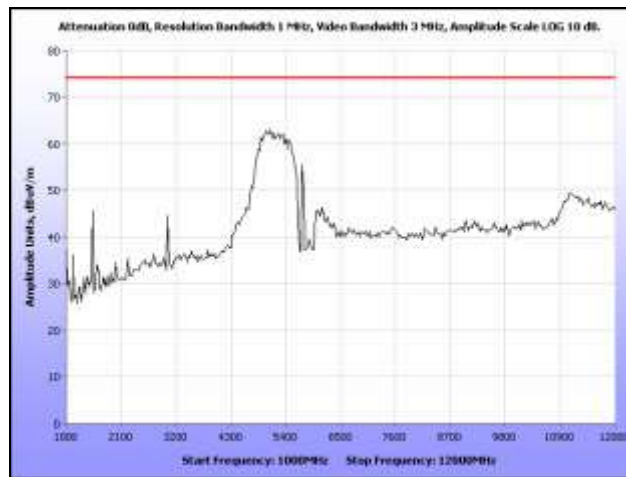
**Radiated Spurious Emissions Test Results, 802.11n 10 MHz, 15 dBi Sector, 5.8 GHz**



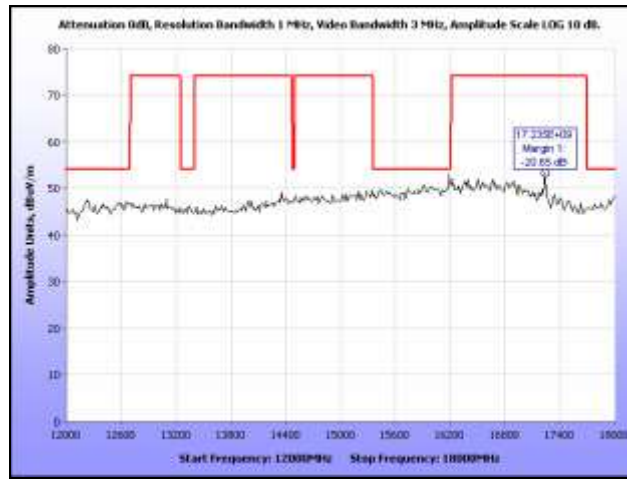
**Plot 450. Radiated Spurs, Low Channel, 30 MHz – 1 GHz, 802.11n 10 MHz, 15 dBi Sector, 5.8 GHz**



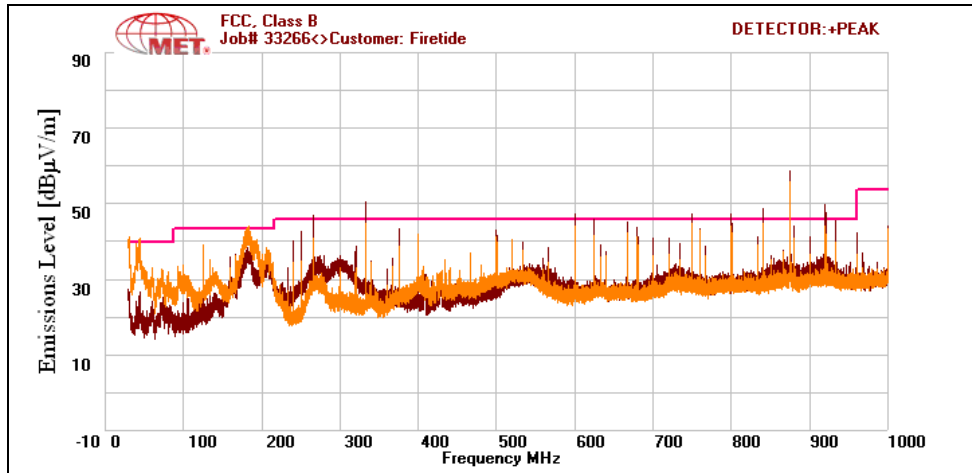
**Plot 451. Radiated Spurs, Low Channel, 1 GHz – 12 GHz, Average, 802.11n 10 MHz, 15 dBi Sector, 5.8 GHz**



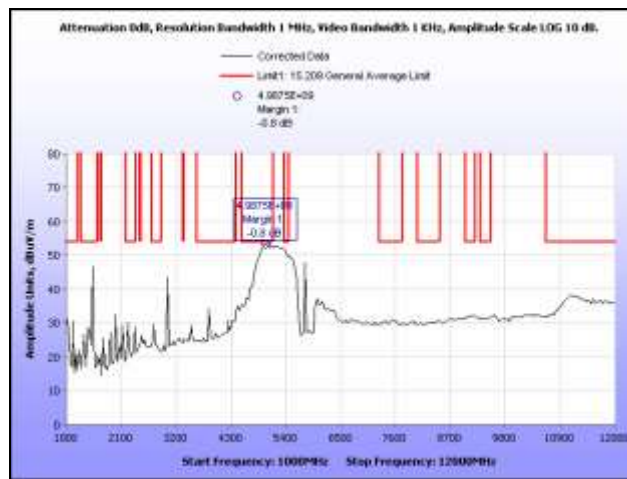
**Plot 452. Radiated Spurs, Low Channel, 1 GHz – 12 GHz, Peak, 802.11n 10 MHz, 15 dBi Sector, 5.8 GHz**



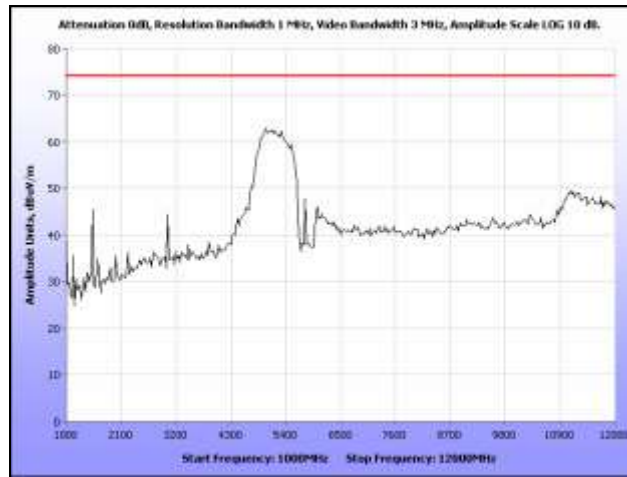
Plot 453. Radiated Spurs, Low Channel, 12 GHz – 18 GHz, 802.11n 10 MHz, 15 dBi Sector, 5.8 GHz



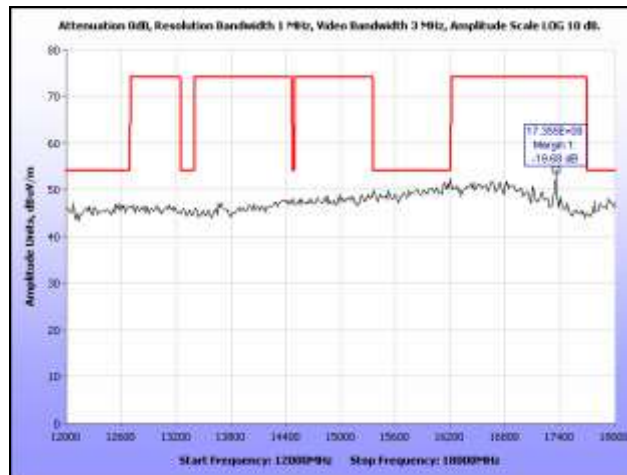
Plot 454. Radiated Spurs, Mid Channel, 30 MHz – 1 GHz, 802.11n 10 MHz, 15 dBi Sector, 5.8 GHz



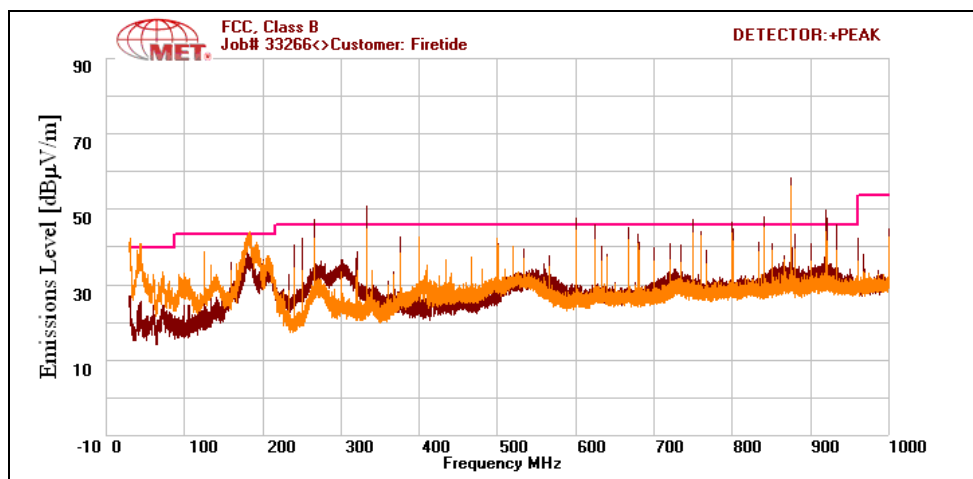
Plot 455. Radiated Spurs, Mid Channel, 1 GHz – 12 GHz, Average, 802.11n 10 MHz, 15 dBi Sector, 5.8 GHz



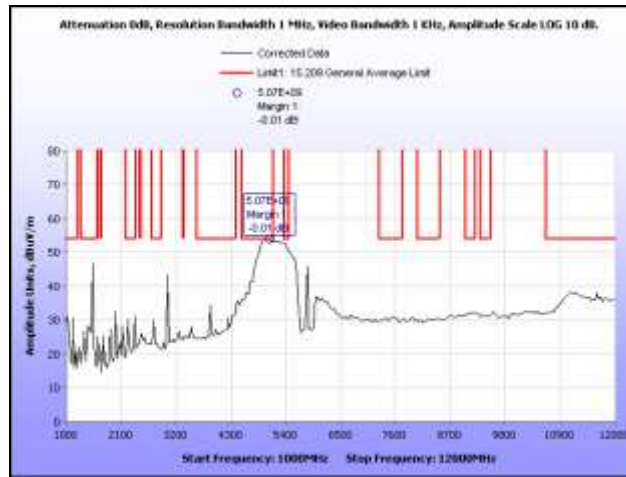
**Plot 456. Radiated Spurs, Mid Channel, 1 GHz – 12 GHz, Peak, 802.11n 10 MHz, 15 dBi Sector, 5.8 GHz**



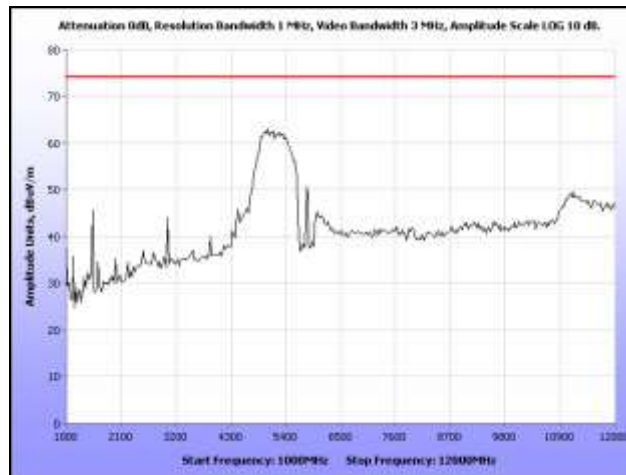
**Plot 457. Radiated Spurs, Mid Channel, 12 GHz – 18 GHz, 802.11n 10 MHz, 15 dBi Sector, 5.8 GHz**



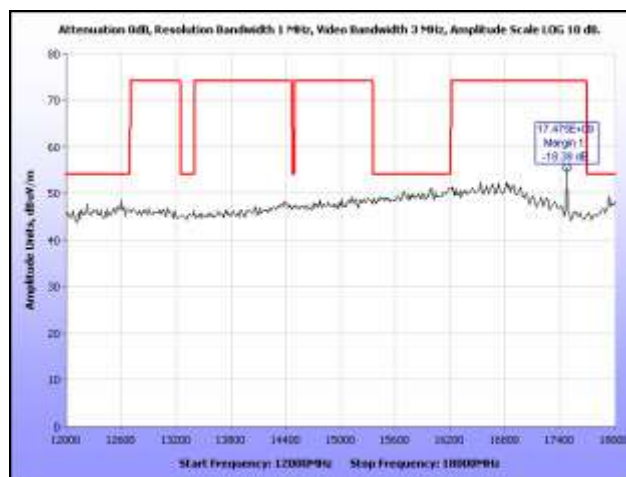
**Plot 458. Radiated Spurs, High Channel, 30 MHz – 1 GHz, 802.11n 10 MHz, 15 dBi Sector, 5.8 GHz**



**Plot 459. Radiated Spurs, High Channel, 1 GHz – 12 GHz, Average, 802.11n 10 MHz, 15 dBi Sector, 5.8 GHz**

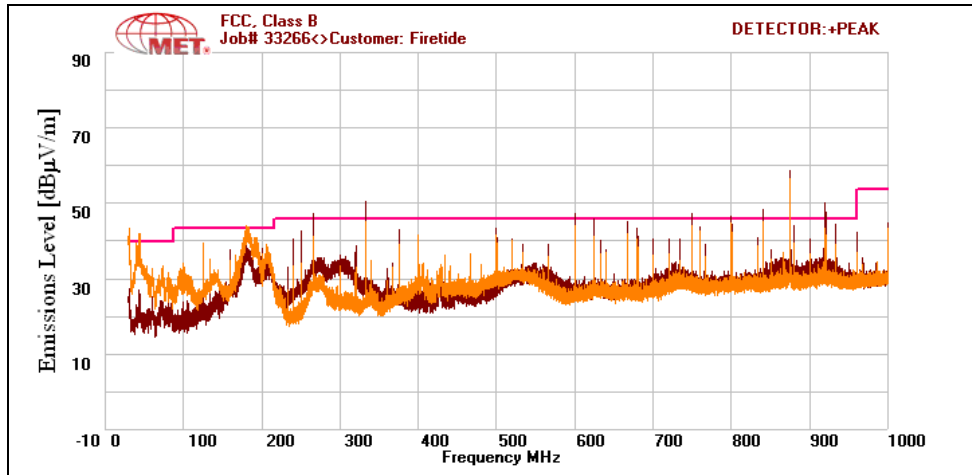


**Plot 460. Radiated Spurs, High Channel, 1 GHz – 12 GHz, Peak, 802.11n 10 MHz, 15 dBi Sector, 5.8 GHz**

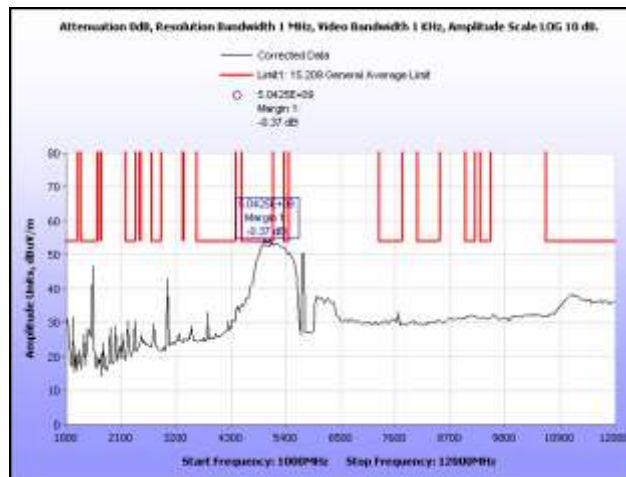


**Plot 461. Radiated Spurs, High Channel, 12 GHz – 18 GHz, 802.11n 10 MHz, 15 dBi Sector, 5.8 GHz**

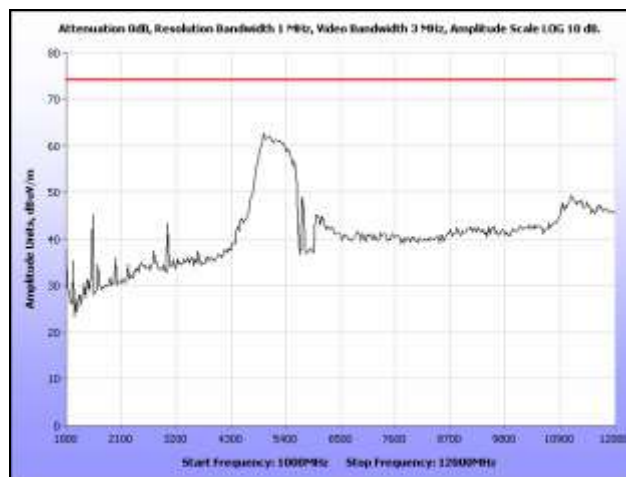
**Radiated Spurious Emissions Test Results, 802.11n 20 MHz, 15 dBi Sector, 5.8 GHz**



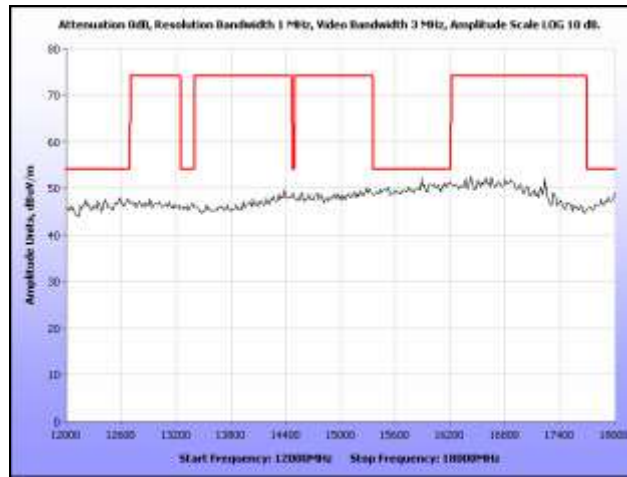
**Plot 462. Radiated Spurs, Low Channel, 30 MHz – 1 GHz, 802.11n 20 MHz, 15 dBi Sector, 5.8 GHz**



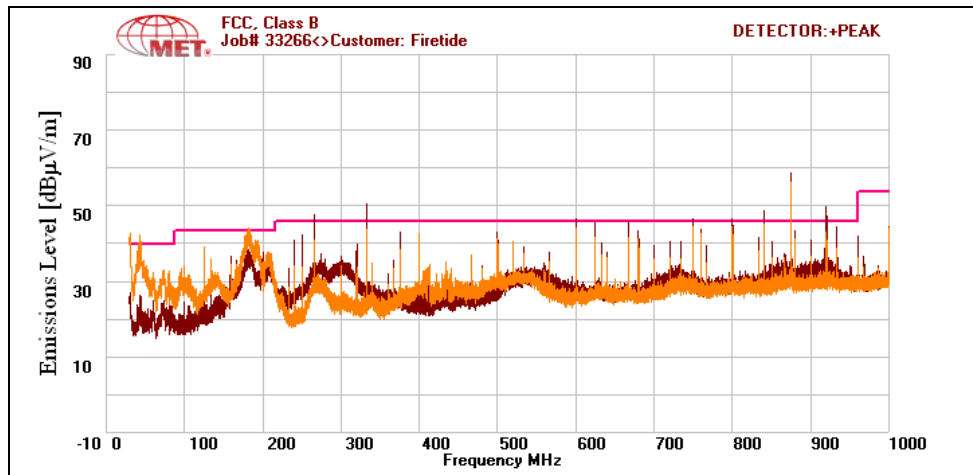
**Plot 463. Radiated Spurs, Low Channel, 1 GHz – 12 GHz, Average, 802.11n 20 MHz, 15 dBi Sector, 5.8 GHz**



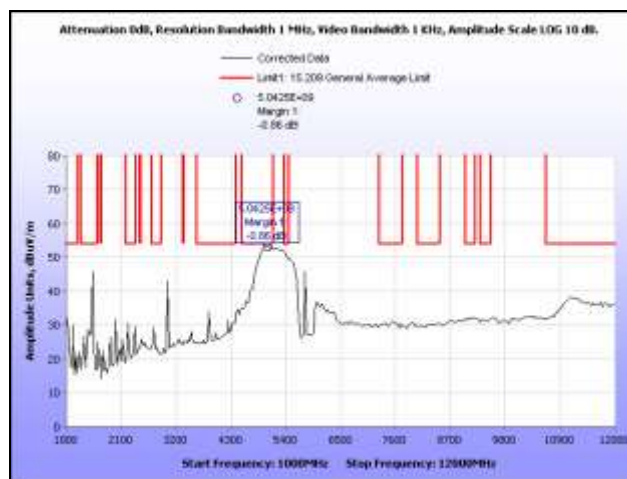
**Plot 464. Radiated Spurs, Low Channel, 1 GHz – 12 GHz, Peak, 802.11n 20 MHz, 15 dBi Sector, 5.8 GHz**



Plot 465. Radiated Spurs, Low Channel, 12 GHz – 18 GHz, 802.11n 20 MHz, 15 dBi Sector, 5.8 GHz

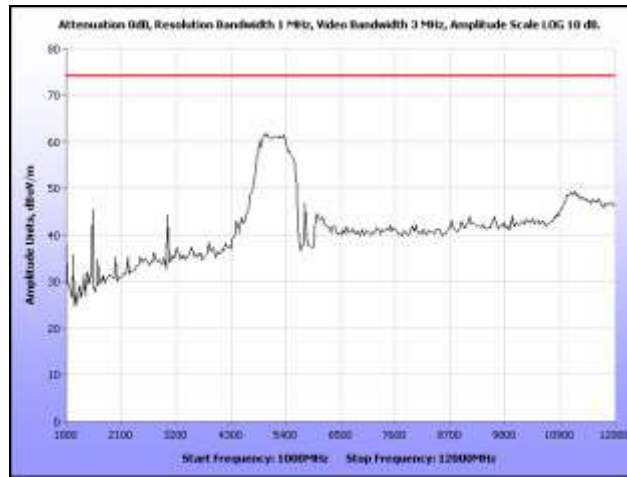


Plot 466. Radiated Spurs, Mid Channel, 30 MHz – 1 GHz, 802.11n 20 MHz, 15 dBi Sector, 5.8 GHz

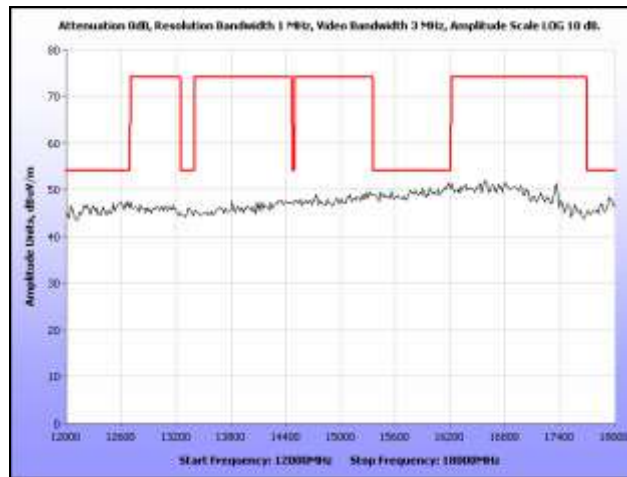


Plot 467. Radiated Spurs, Mid Channel, 1 GHz – 12 GHz, Average, 802.11n 20 MHz, 15 dBi Sector, 5.8 GHz

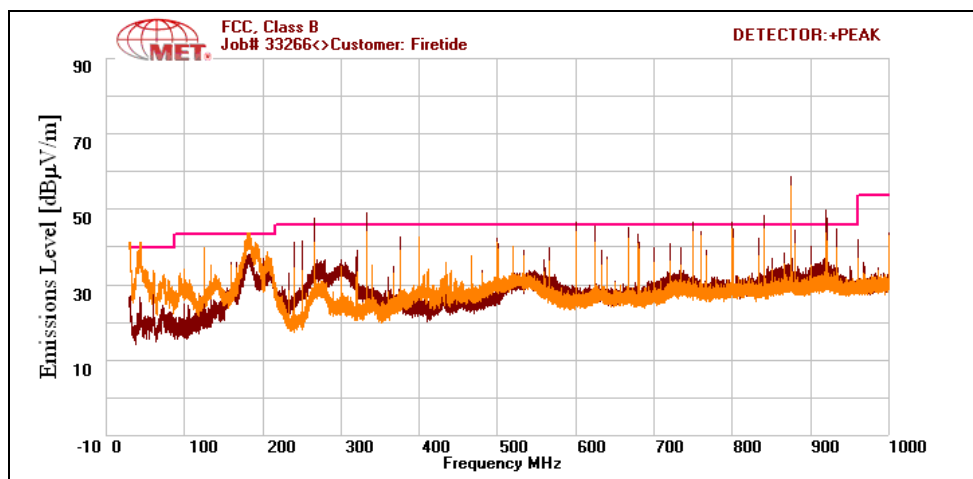




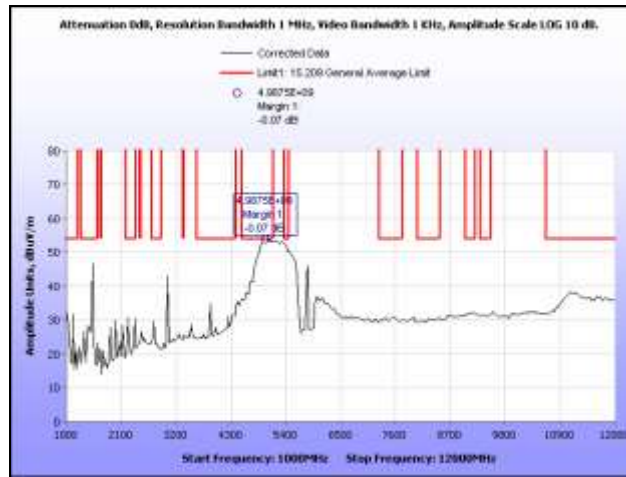
**Plot 468. Radiated Spurs, Mid Channel, 1 GHz – 12 GHz, Peak, 802.11n 20 MHz, 15 dBi Sector, 5.8 GHz**



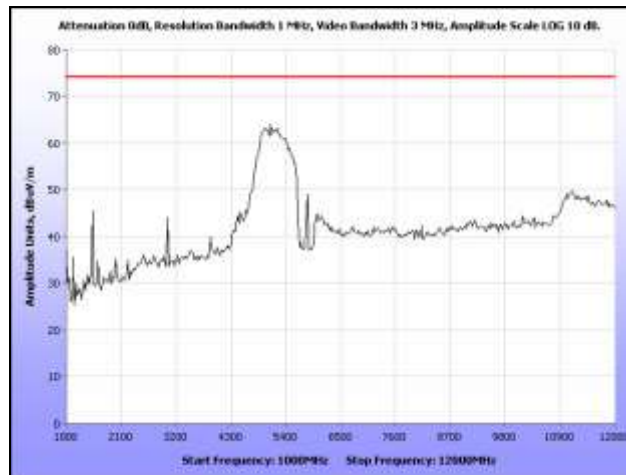
**Plot 469. Radiated Spurs, Mid Channel, 12 GHz – 18 GHz, 802.11n 20 MHz, 15 dBi Sector, 5.8 GHz**



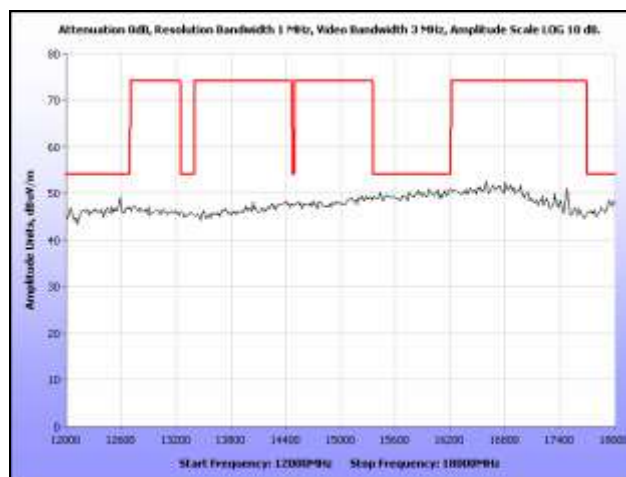
**Plot 470. Radiated Spurs, High Channel, 30 MHz – 1 GHz, 802.11n 20 MHz, 15 dBi Sector, 5.8 GHz**



**Plot 471. Radiated Spurs, High Channel, 1 GHz – 12 GHz, Average, 802.11n 20 MHz, 15 dBi Sector, 5.8 GHz**

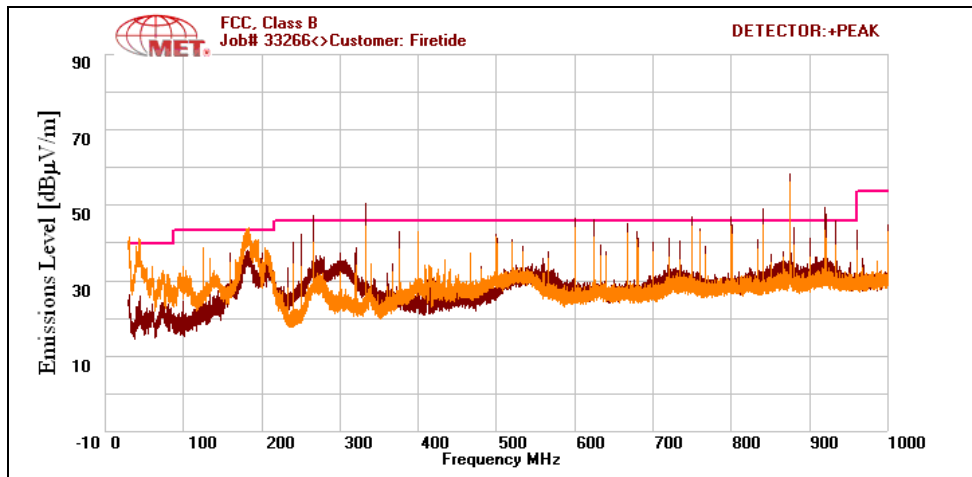


**Plot 472. Radiated Spurs, High Channel, 1 GHz – 12 GHz, Peak, 802.11n 20 MHz, 15 dBi Sector, 5.8 GHz**

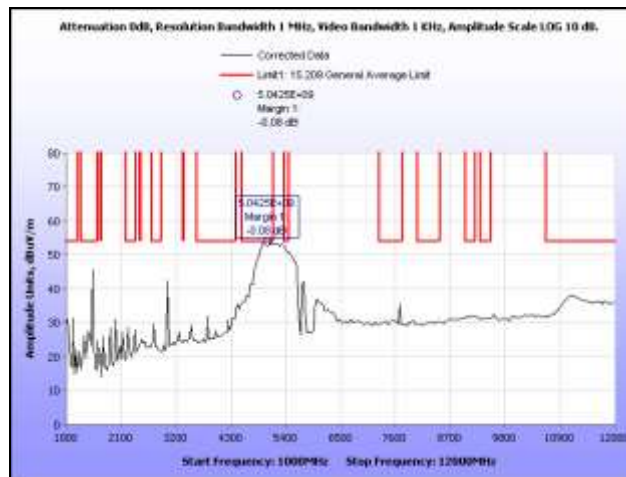


**Plot 473. Radiated Spurs, High Channel, 12 GHz – 18 GHz, 802.11n 20 MHz, 15 dBi Sector, 5.8 GHz**

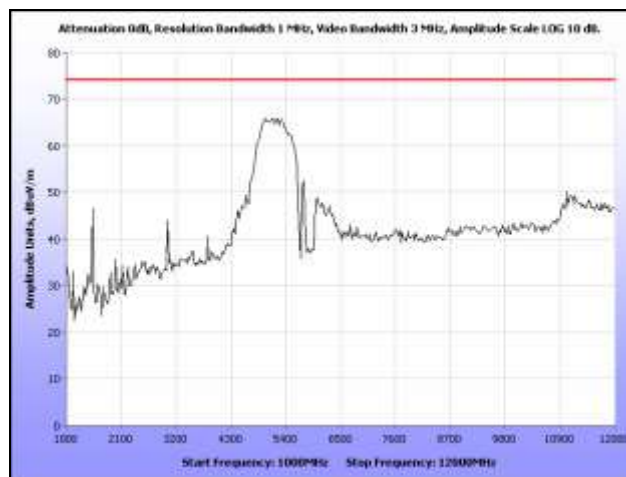
**Radiated Spurious Emissions Test Results, 802.11n 40 MHz, 15 dBi Sector, 5.8 GHz**



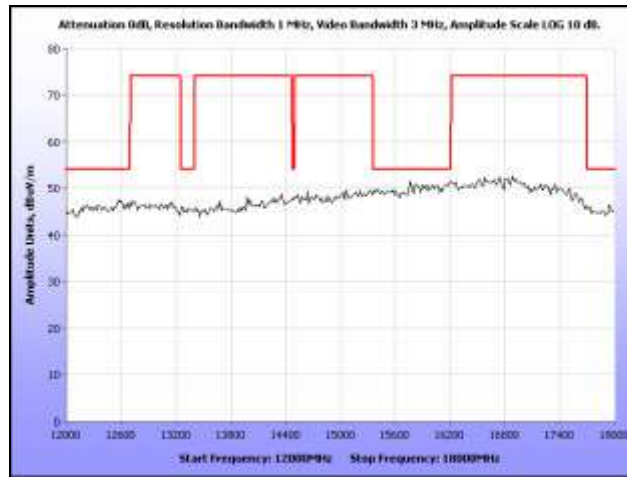
**Plot 474. Radiated Spurs, Low Channel, 30 MHz – 1 GHz, 802.11n 40 MHz, 15 dBi Sector, 5.8 GHz**



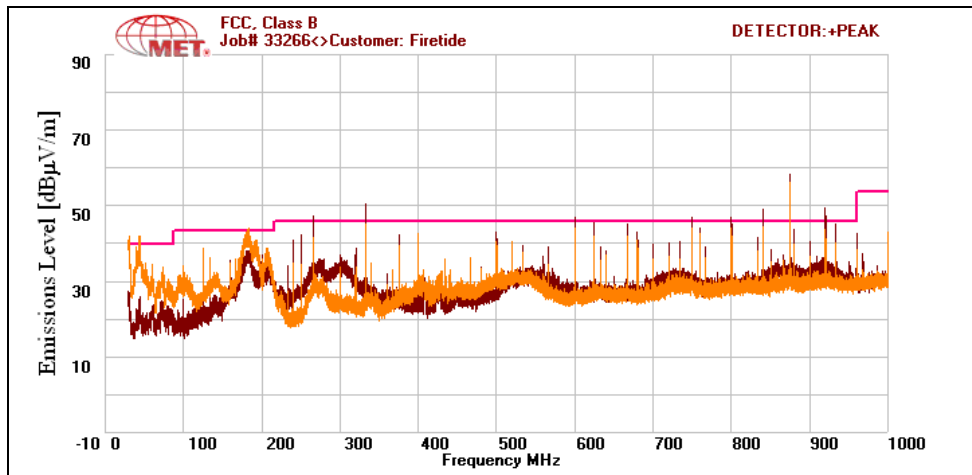
**Plot 475. Radiated Spurs, Low Channel, 1 GHz – 12 GHz, Average, 802.11n 40 MHz, 15 dBi Sector, 5.8 GHz**



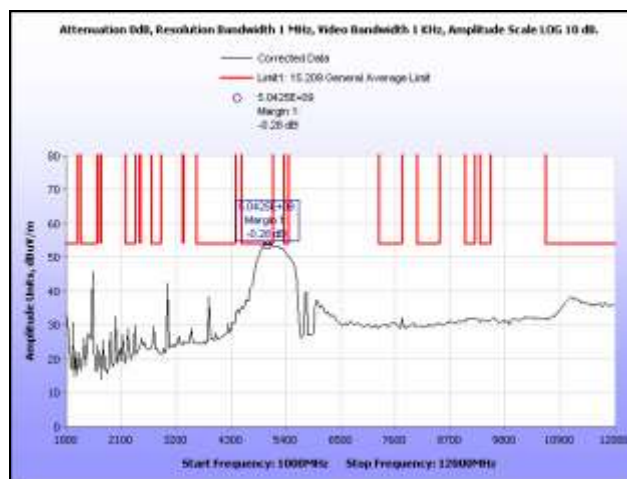
**Plot 476. Radiated Spurs, Low Channel, 1 GHz – 12 GHz, Peak, 802.11n 40 MHz, 15 dBi Sector, 5.8 GHz**



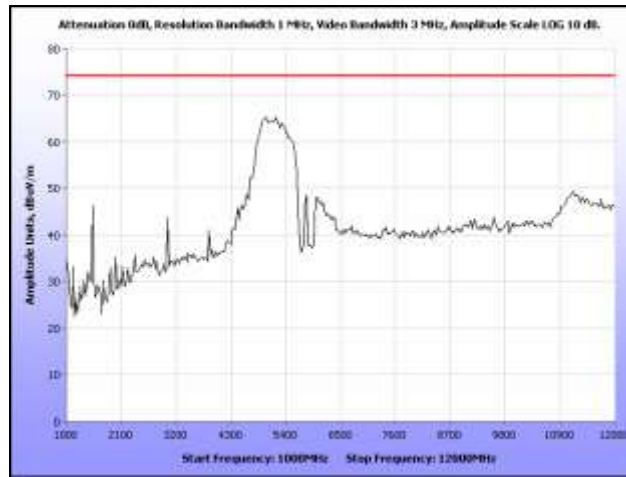
Plot 477. Radiated Spurs, Low Channel, 12 GHz – 18 GHz, 802.11n 40 MHz, 15 dBi Sector, 5.8 GHz



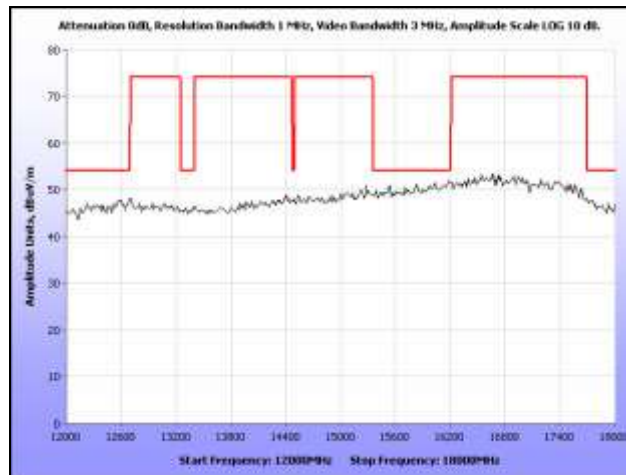
Plot 478. Radiated Spurs, High Channel, 30 MHz – 1 GHz, 802.11n 40 MHz, 15 dBi Sector, 5.8 GHz



Plot 479. Radiated Spurs, High Channel, 1 GHz – 12 GHz, Average, 802.11n 40 MHz, 15 dBi Sector, 5.8 GHz

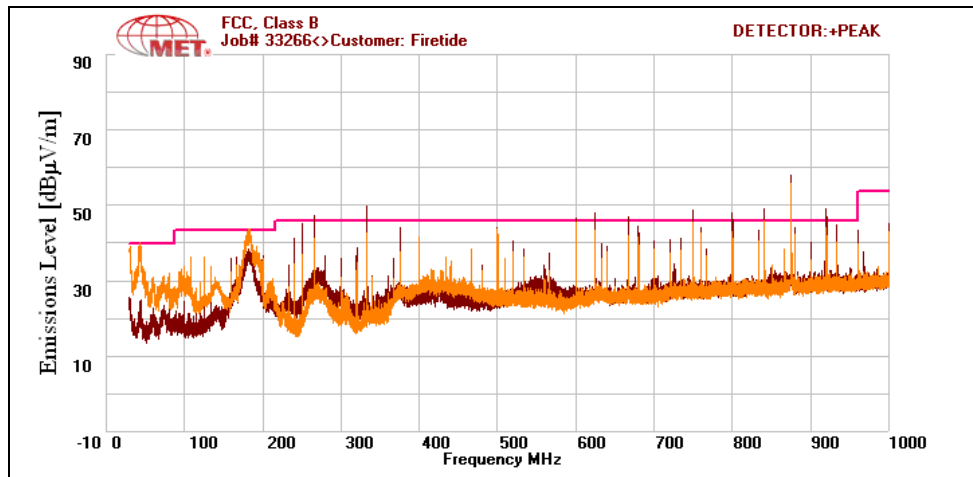


**Plot 480. Radiated Spurs, High Channel, 1 GHz – 12 GHz, Peak, 802.11n 40 MHz, 15 dBi Sector, 5.8 GHz**

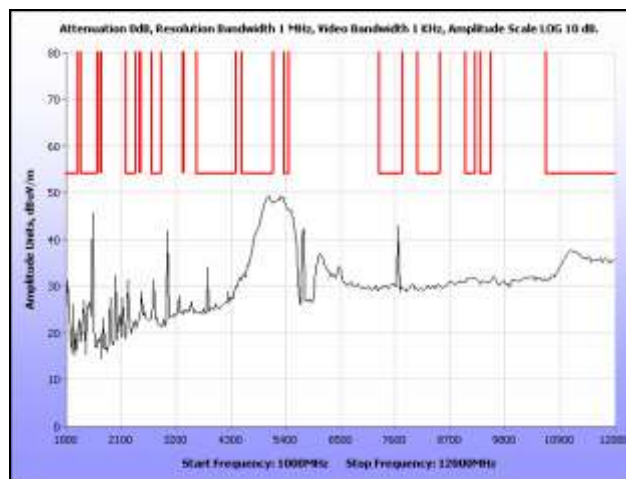


**Plot 481. Radiated Spurs, High Channel, 12 GHz – 18 GHz, 802.11n 40 MHz, 15 dBi Sector, 5.8 GHz**

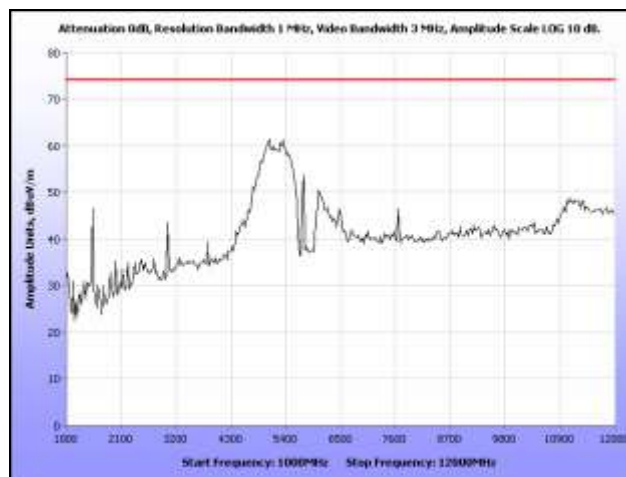
**Radiated Spurious Emissions Test Results, 802.11a, 16 dBi Panel, 5.8 GHz**



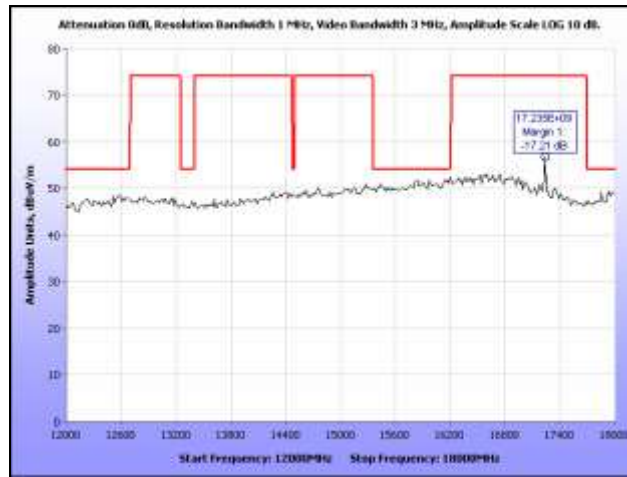
**Plot 482. Radiated Spurs, Low Channel, 30 MHz – 1 GHz, 802.11a, 16 dBi Panel, 5.8 GHz**



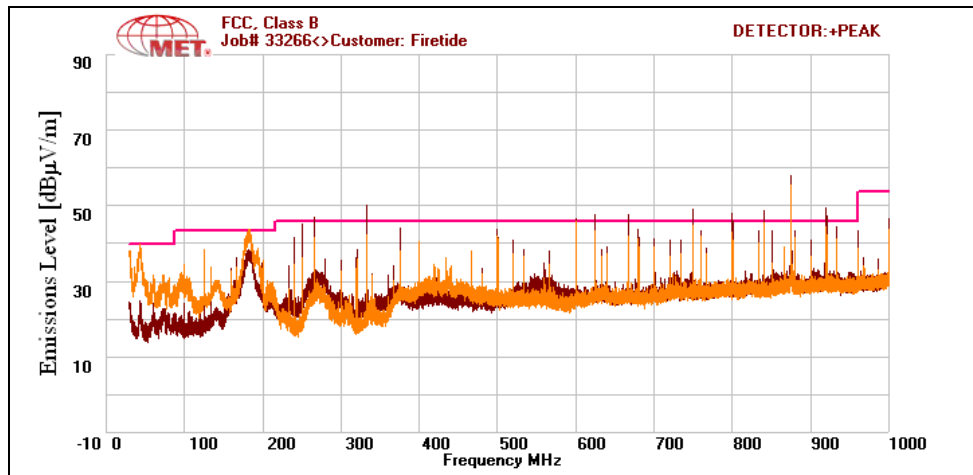
**Plot 483. Radiated Spurs, Low Channel, 1 GHz – 12 GHz, Average, 802.11a, 16 dBi Panel, 5.8 GHz**



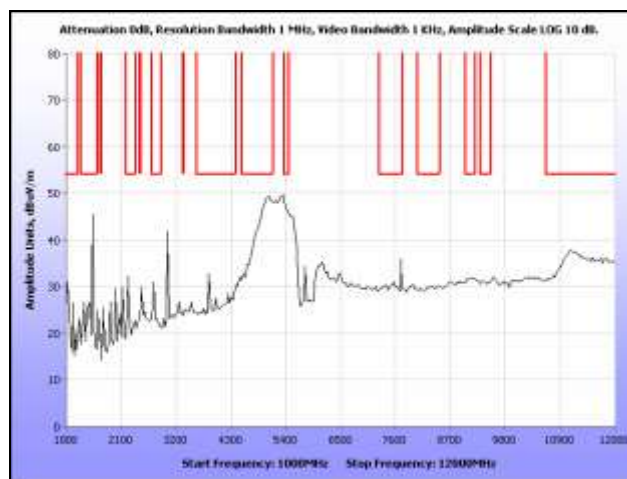
**Plot 484. Radiated Spurs, Low Channel, 1 GHz – 12 GHz, Peak, 802.11a, 16 dBi Panel, 5.8 GHz**



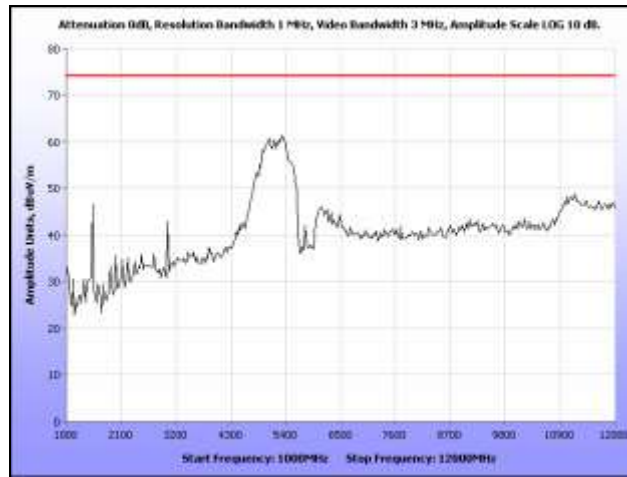
Plot 485. Radiated Spurs, Low Channel, 12 GHz – 18 GHz, 802.11a, 16 dBi Panel, 5.8 GHz



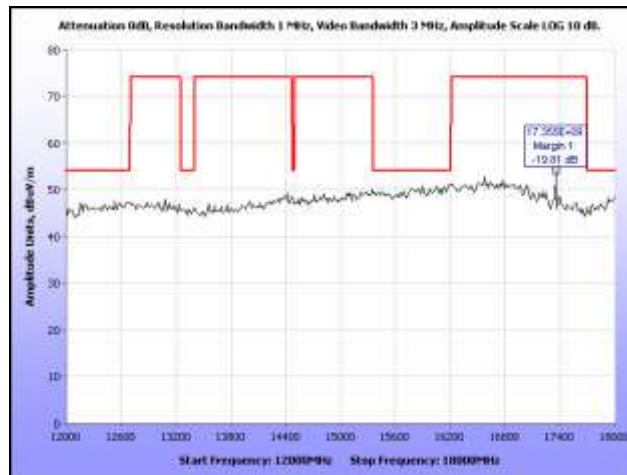
Plot 486. Radiated Spurs, Mid Channel, 30 MHz – 1 GHz, 802.11a, 16 dBi Panel, 5.8 GHz



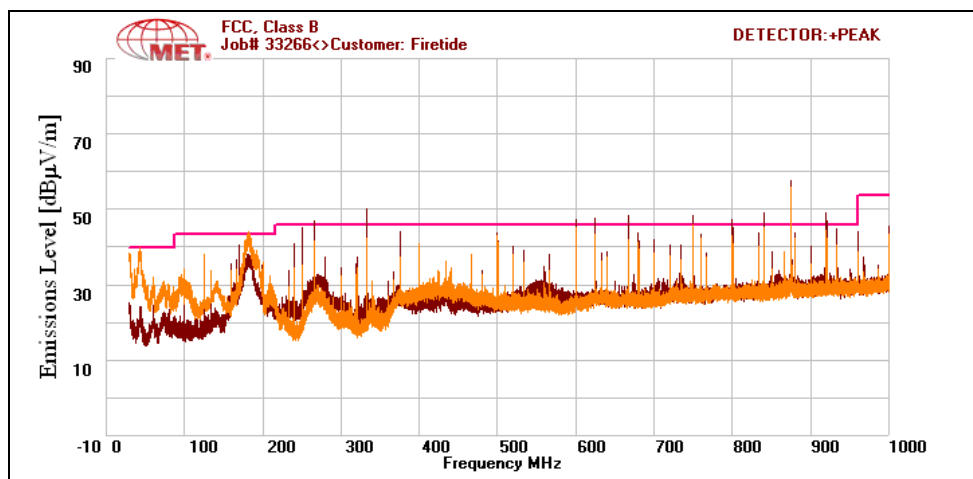
Plot 487. Radiated Spurs, Mid Channel, 1 GHz – 12 GHz, Average, 802.11a, 16 dBi Panel, 5.8 GHz



Plot 488. Radiated Spurs, Mid Channel, 1 GHz – 12 GHz, Peak, 802.11a, 16 dBi Panel, 5.8 GHz

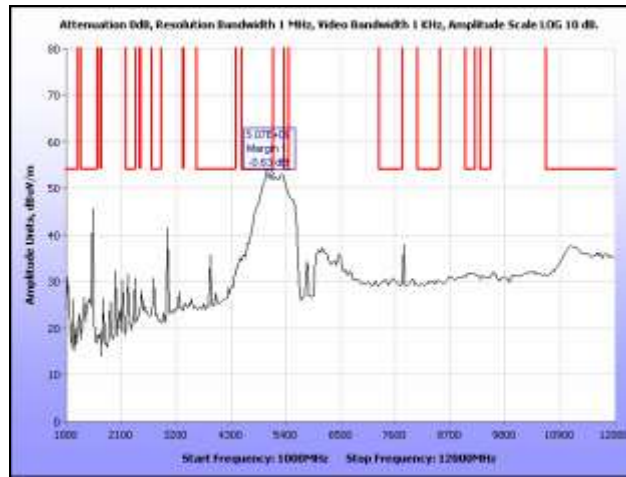


Plot 489. Radiated Spurs, Mid Channel, 12 GHz – 18 GHz, 802.11a, 16 dBi Panel, 5.8 GHz

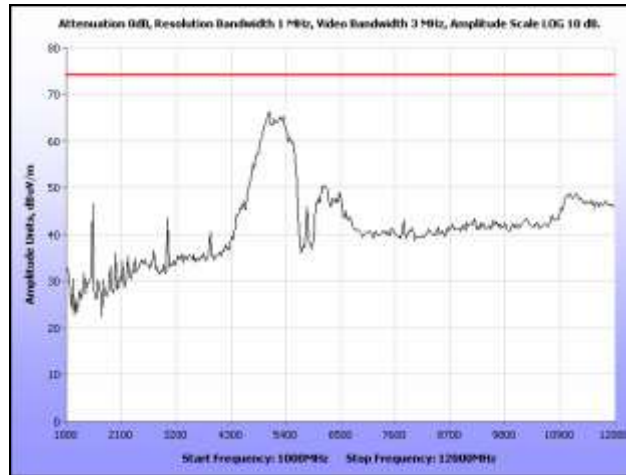


Plot 490. Radiated Spurs, High Channel, 30 MHz – 1 GHz, 802.11a, 16 dBi Panel, 5.8 GHz

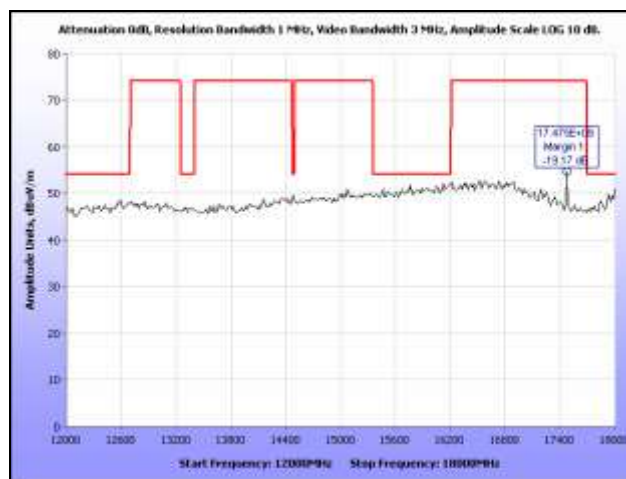




**Plot 491. Radiated Spurs, High Channel, 1 GHz – 12 GHz, Average, 802.11a, 16 dBi Panel, 5.8 GHz**

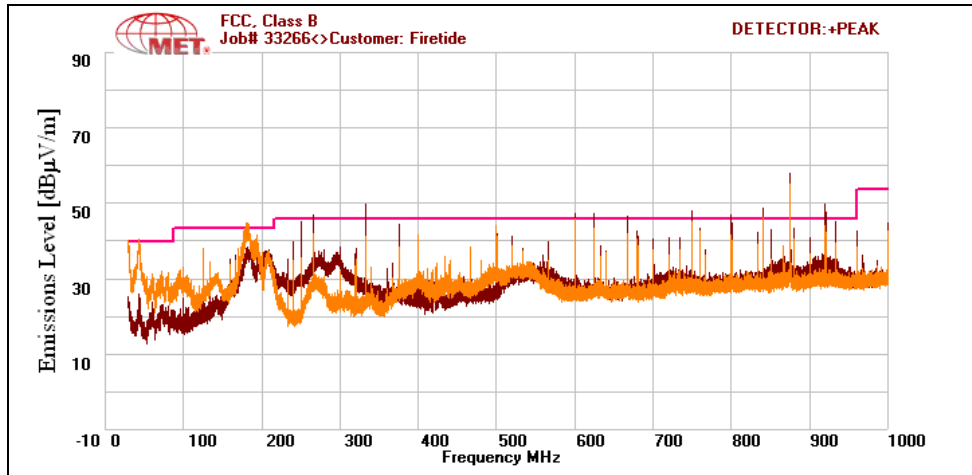


**Plot 492. Radiated Spurs, High Channel, 1 GHz – 12 GHz, Peak, 802.11a, 16 dBi Panel, 5.8 GHz**

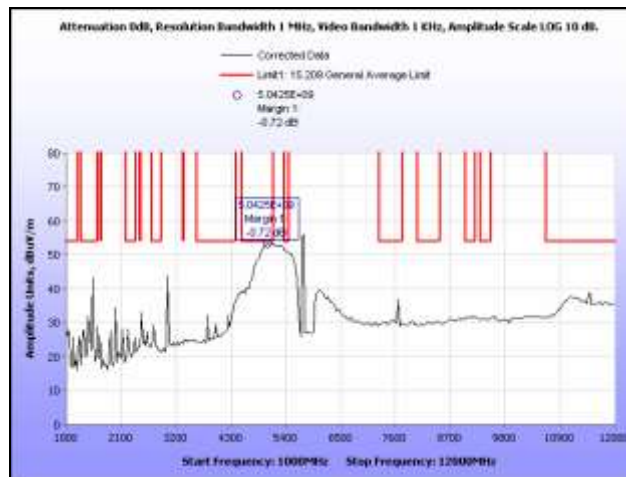


**Plot 493. Radiated Spurs, High Channel, 12 GHz – 18 GHz, 802.11a, 16 dBi Panel, 5.8 GHz**

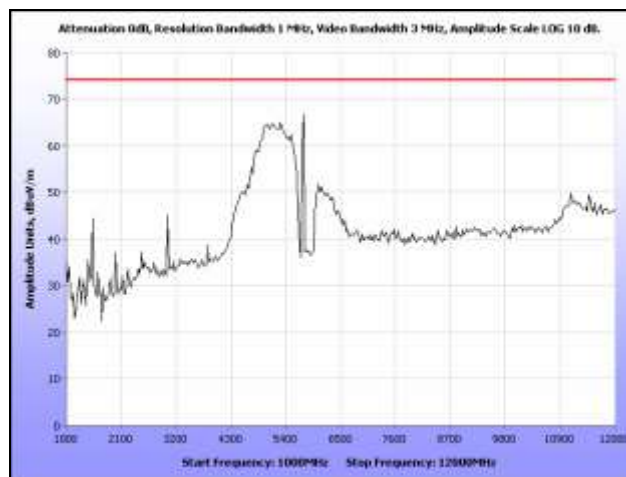
**Radiated Spurious Emissions Test Results, 802.11n 5 MHz, 16 dBi Panel, 5.8 GHz**



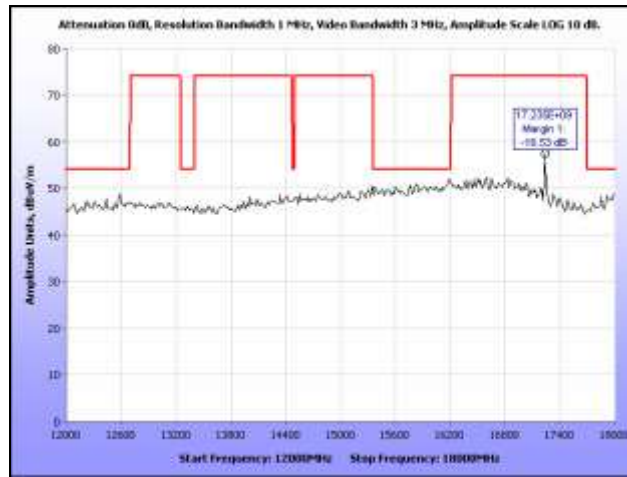
**Plot 494. Radiated Spurs, Low Channel, 30 MHz – 1 GHz, 802.11n 5 MHz, 16 dBi Panel, 5.8 GHz**



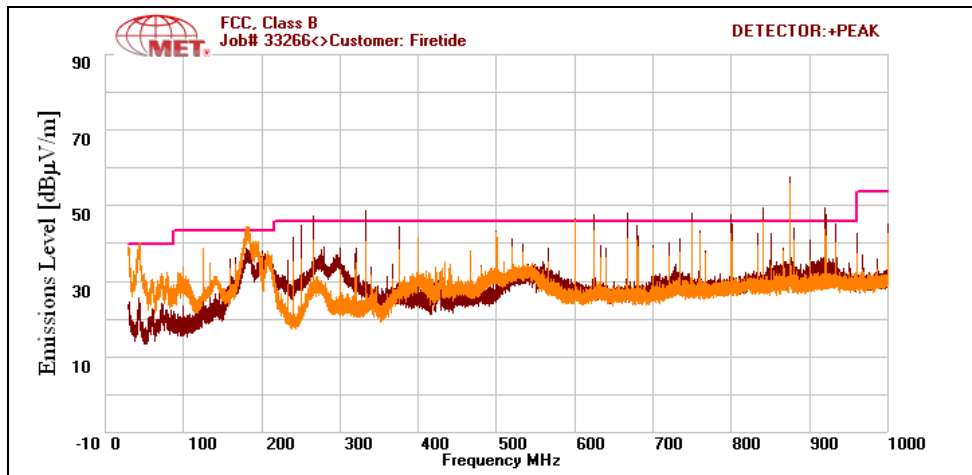
**Plot 495. Radiated Spurs, Low Channel, 1 GHz – 12 GHz, Average, 802.11n 5 MHz, 16 dBi Panel, 5.8 GHz**



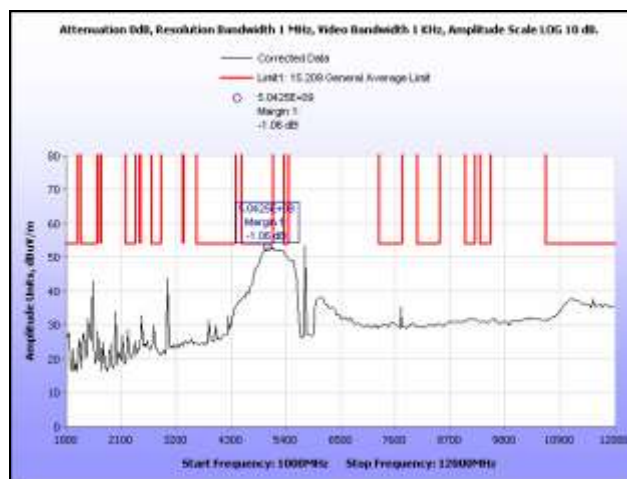
**Plot 496. Radiated Spurs, Low Channel, 1 GHz – 12 GHz, Peak, 802.11n 5 MHz, 16 dBi Panel, 5.8 GHz**



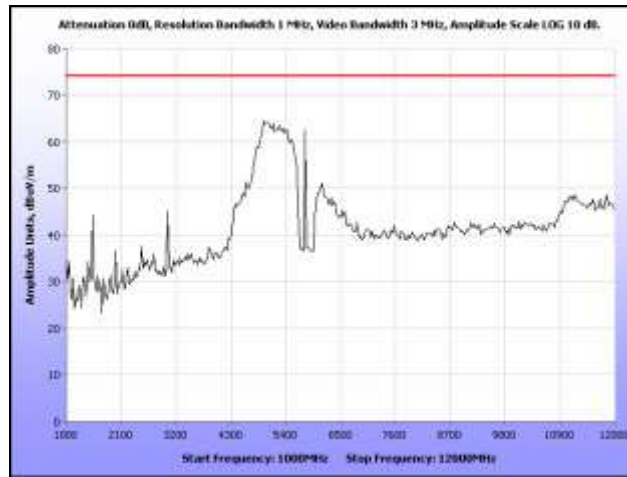
Plot 497. Radiated Spurs, Low Channel, 12 GHz – 18 GHz, 802.11n 5 MHz, 16 dBi Panel, 5.8 GHz



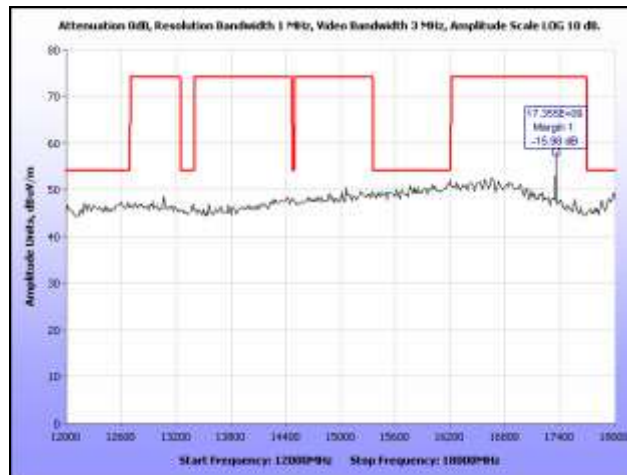
Plot 498. Radiated Spurs, Mid Channel, 30 MHz – 1 GHz, 802.11n 5 MHz, 16 dBi Panel, 5.8 GHz



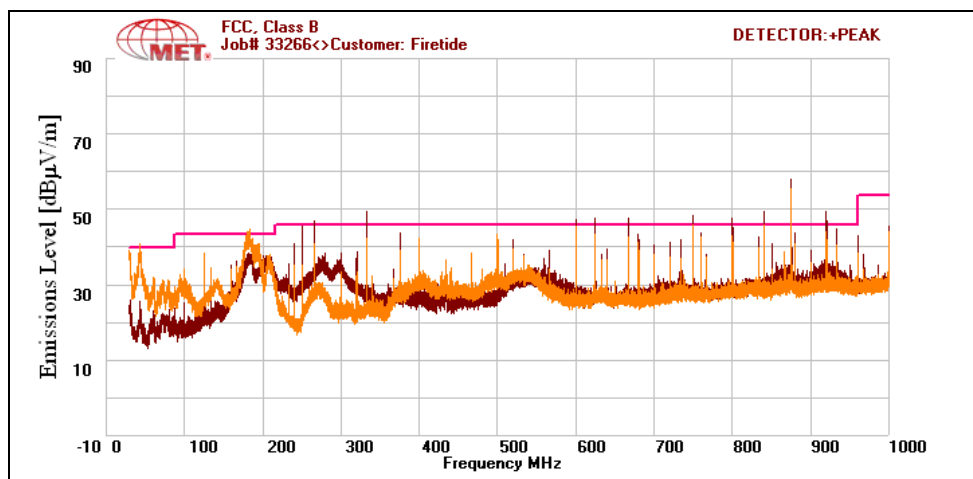
Plot 499. Radiated Spurs, Mid Channel, 1 GHz – 12 GHz, Average, 802.11n 5 MHz, 16 dBi Panel, 5.8 GHz



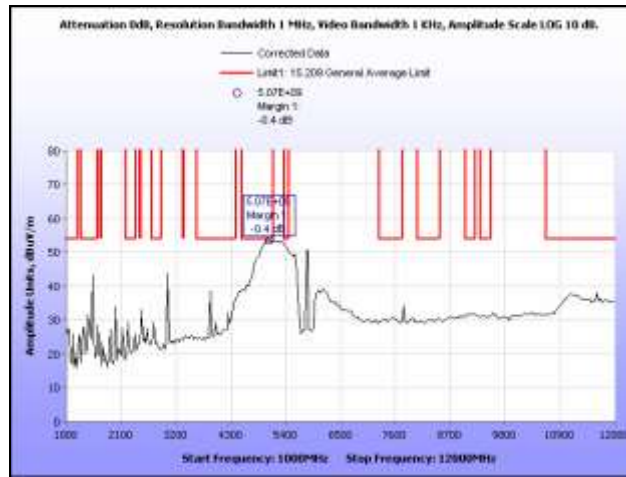
Plot 500. Radiated Spurs, Mid Channel, 1 GHz – 12 GHz, Peak, 802.11n 5 MHz, 16 dBi Panel, 5.8 GHz



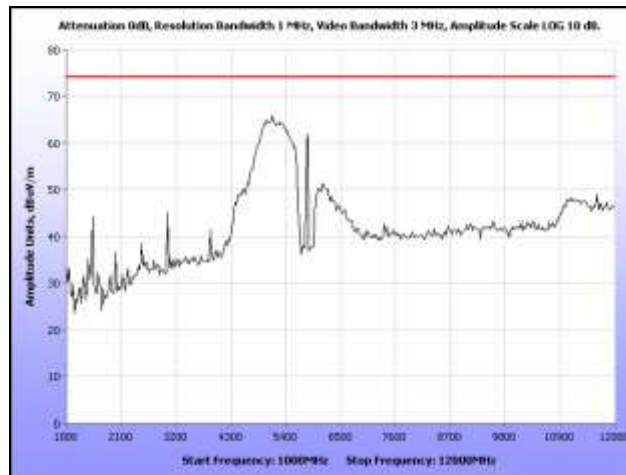
Plot 501. Radiated Spurs, Mid Channel, 12 GHz – 18 GHz, 802.11n 5 MHz, 16 dBi Panel, 5.8 GHz



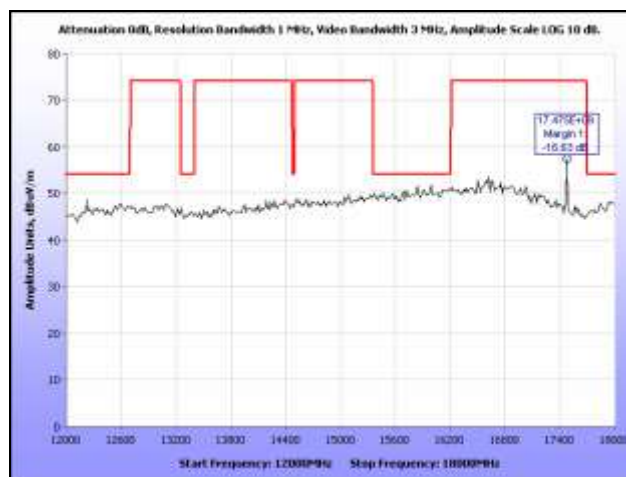
Plot 502. Radiated Spurs, High Channel, 30 MHz – 1 GHz, 802.11n 5 MHz, 16 dBi Panel, 5.8 GHz



Plot 503. Radiated Spurs, High Channel, 1 GHz – 12 GHz, Average, 802.11n 5 MHz, 16 dBi Panel, 5.8 GHz

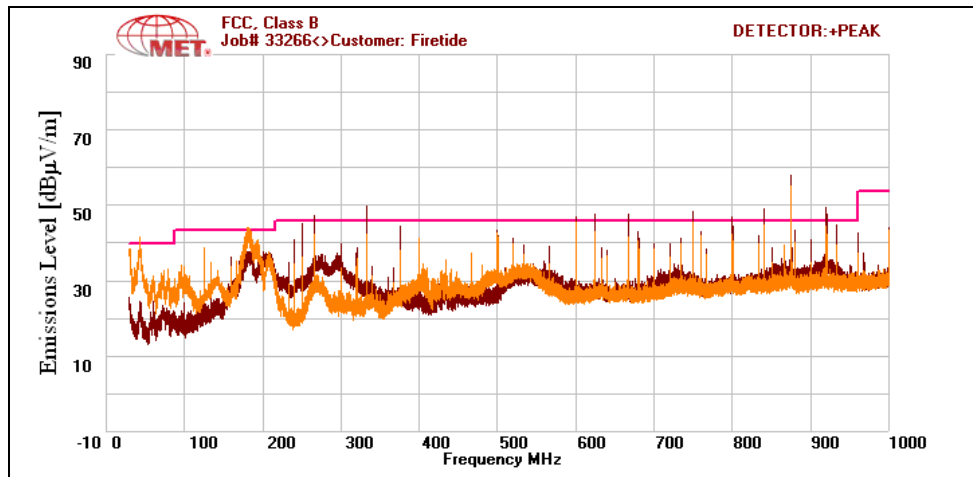


Plot 504. Radiated Spurs, High Channel, 1 GHz – 12 GHz, Peak, 802.11n 5 MHz, 16 dBi Panel, 5.8 GHz

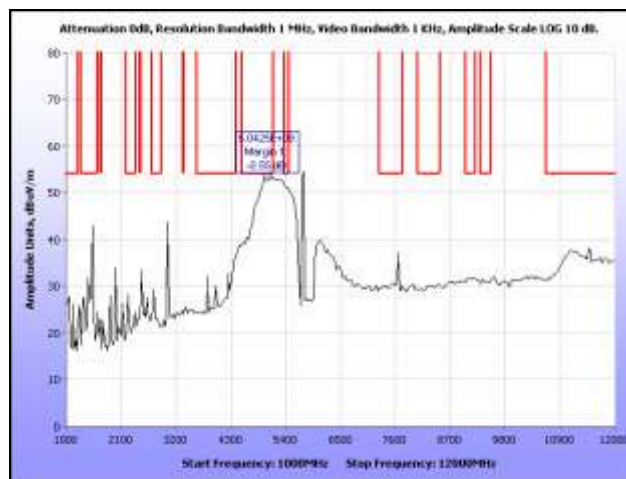


Plot 505. Radiated Spurs, High Channel, 12 GHz – 18 GHz, 802.11n 5 MHz, 16 dBi Panel, 5.8 GHz

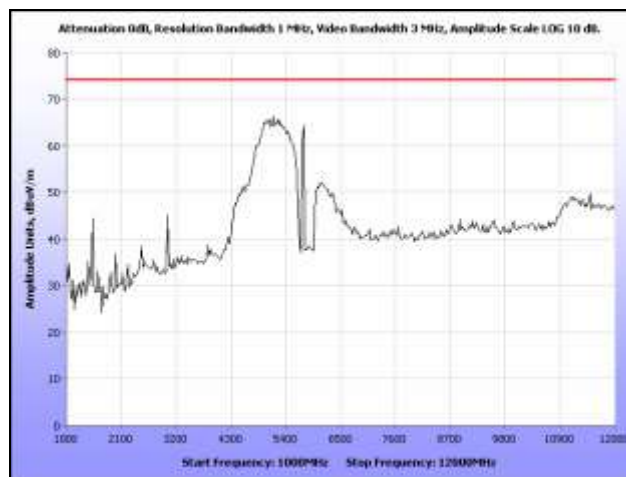
**Radiated Spurious Emissions Test Results, 802.11n 10 MHz, 16 dBi Panel, 5.8 GHz**



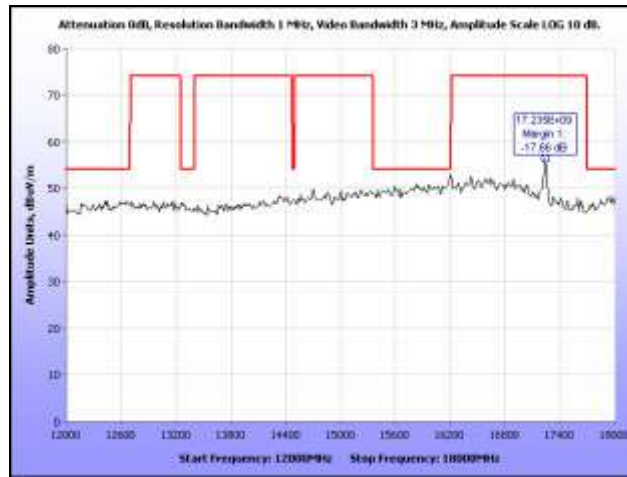
**Plot 506. Radiated Spurs, Low Channel, 30 MHz – 1 GHz, 802.11n 10 MHz, 16 dBi Panel, 5.8 GHz**



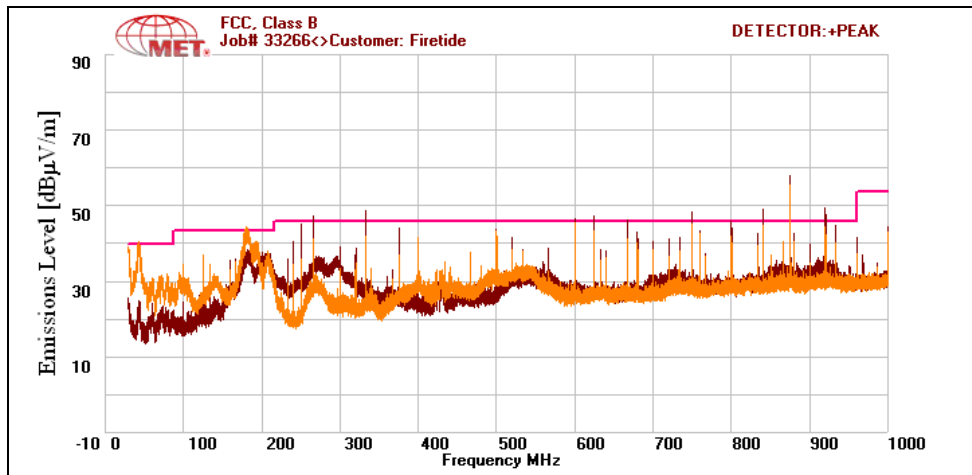
**Plot 507. Radiated Spurs, Low Channel, 1 GHz – 12 GHz, Average, 802.11n 10 MHz, 16 dBi Panel, 5.8 GHz**



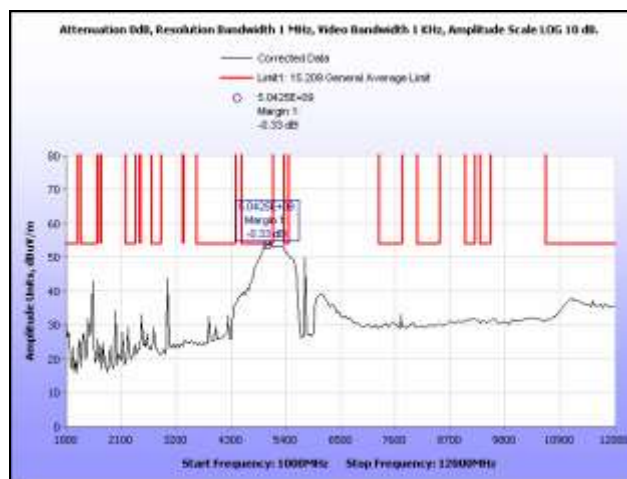
**Plot 508. Radiated Spurs, Low Channel, 1 GHz – 12 GHz, Peak, 802.11n 10 MHz, 16 dBi Panel, 5.8 GHz**



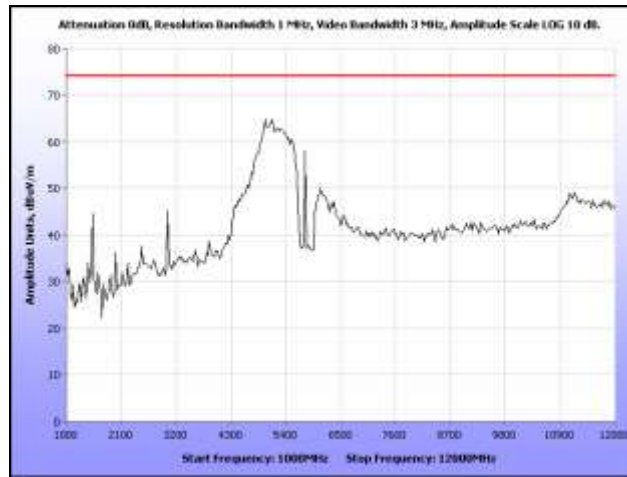
Plot 509. Radiated Spurs, Low Channel, 12 GHz – 18 GHz, 802.11n 10 MHz, 16 dBi Panel, 5.8 GHz



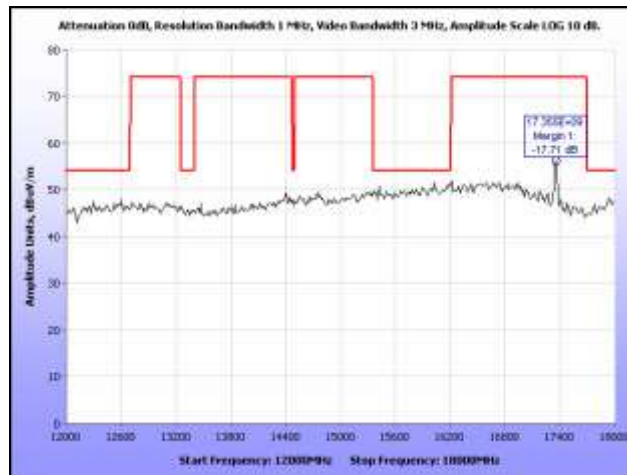
Plot 510. Radiated Spurs, Mid Channel, 30 MHz – 1 GHz, 802.11n 10 MHz, 16 dBi Panel, 5.8 GHz



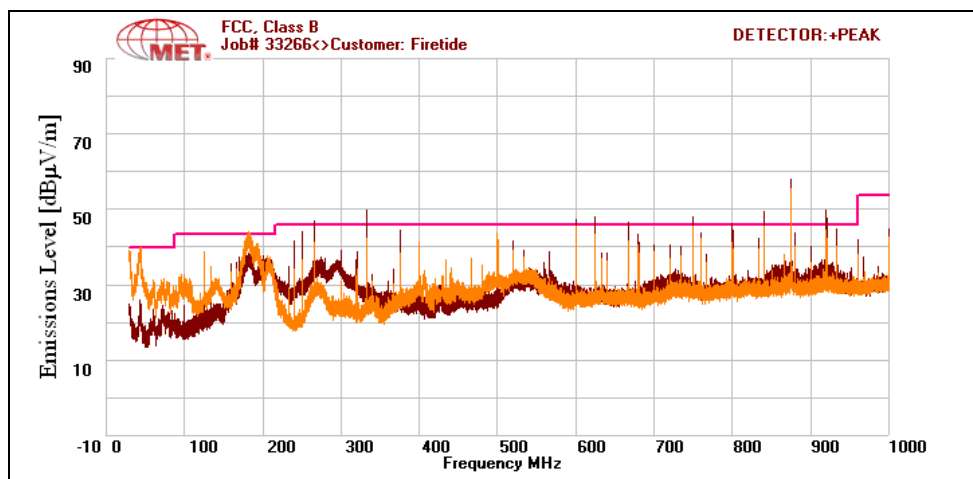
Plot 511. Radiated Spurs, Mid Channel, 1 GHz – 12 GHz, Average, 802.11n 10 MHz, 16 dBi Panel, 5.8 GHz



Plot 512. Radiated Spurs, Mid Channel, 1 GHz – 12 GHz, Peak, 802.11n 10 MHz, 16 dBi Panel, 5.8 GHz

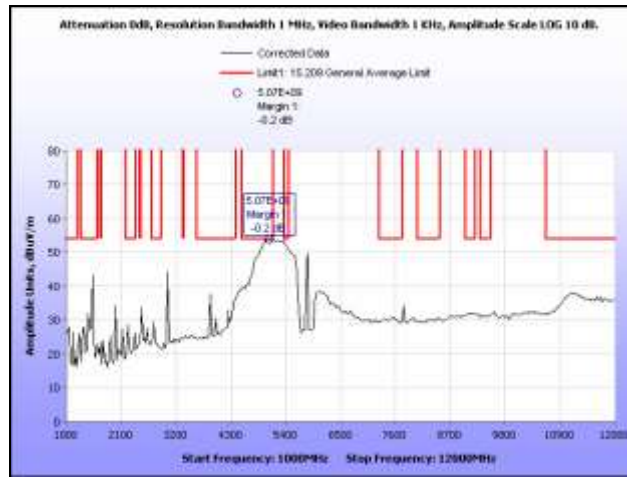


Plot 513. Radiated Spurs, Mid Channel, 12 GHz – 18 GHz, 802.11n 10 MHz, 16 dBi Panel, 5.8 GHz

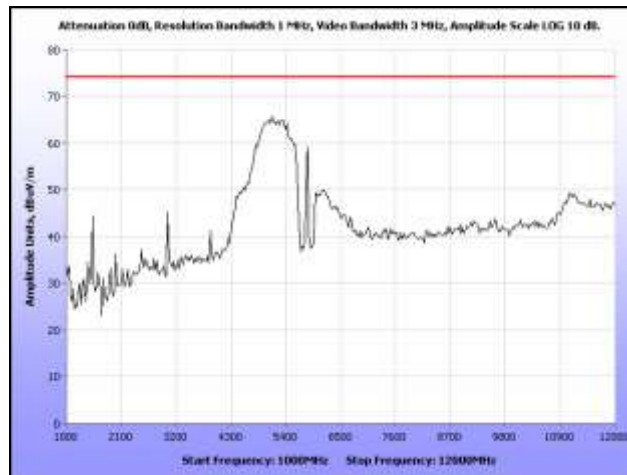


Plot 514. Radiated Spurs, High Channel, 30 MHz – 1 GHz, 802.11n 10 MHz, 16 dBi Panel, 5.8 GHz

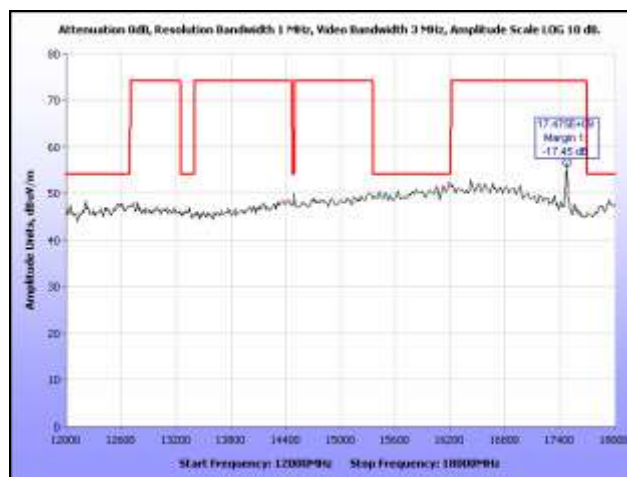




Plot 515. Radiated Spurs, High Channel, 1 GHz – 12 GHz, Average, 802.11n 10 MHz, 16 dBi Panel, 5.8 GHz

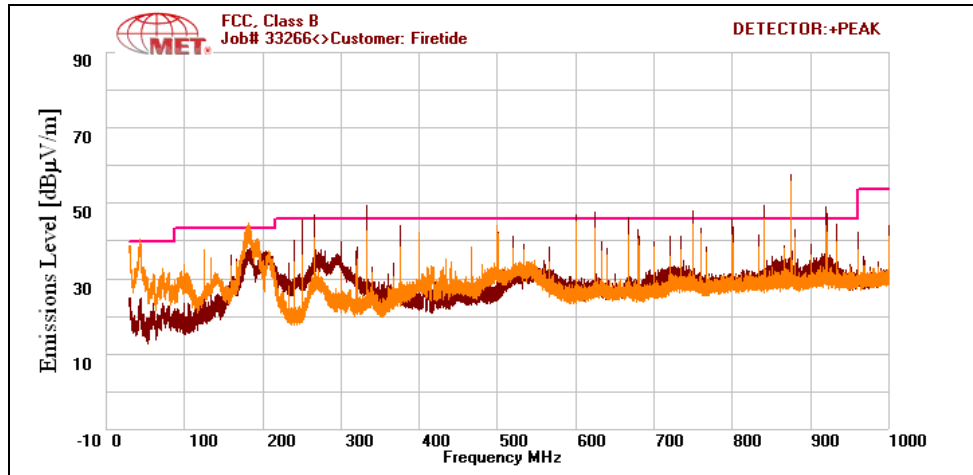


Plot 516. Radiated Spurs, High Channel, 1 GHz – 12 GHz, Peak, 802.11n 10 MHz, 16 dBi Panel, 5.8 GHz

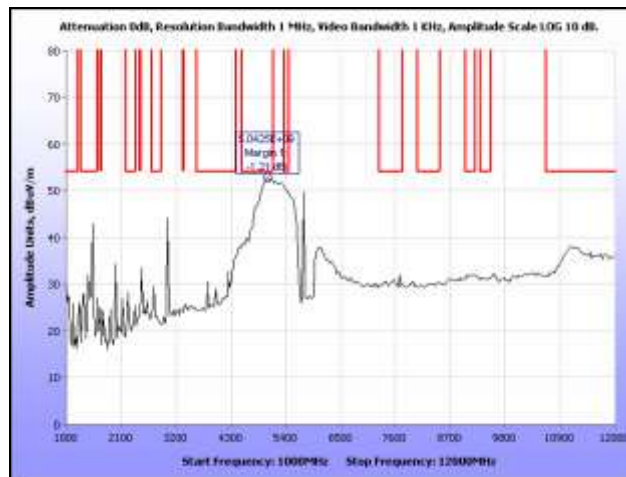


Plot 517. Radiated Spurs, High Channel, 12 GHz – 18 GHz, 802.11n 10 MHz, 16 dBi Panel, 5.8 GHz

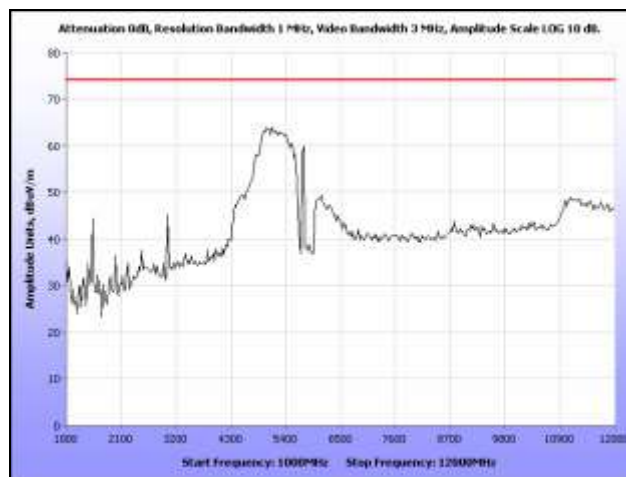
**Radiated Spurious Emissions Test Results, 802.11n 20 MHz, 16 dBi Panel, 5.8 GHz**



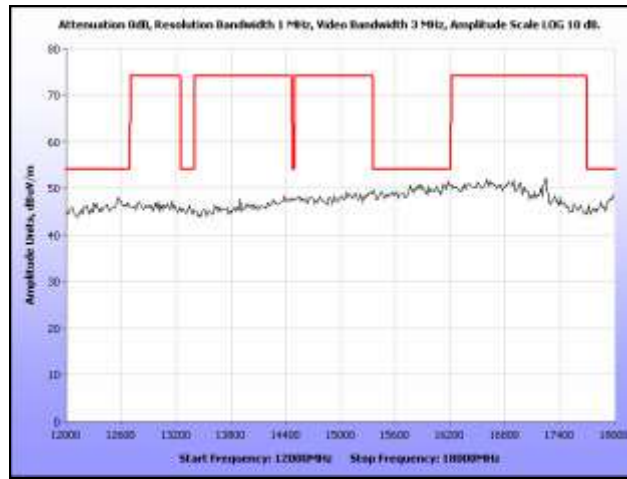
**Plot 518. Radiated Spurs, Low Channel, 30 MHz – 1 GHz, 802.11n 20 MHz, 16 dBi Panel, 5.8 GHz**



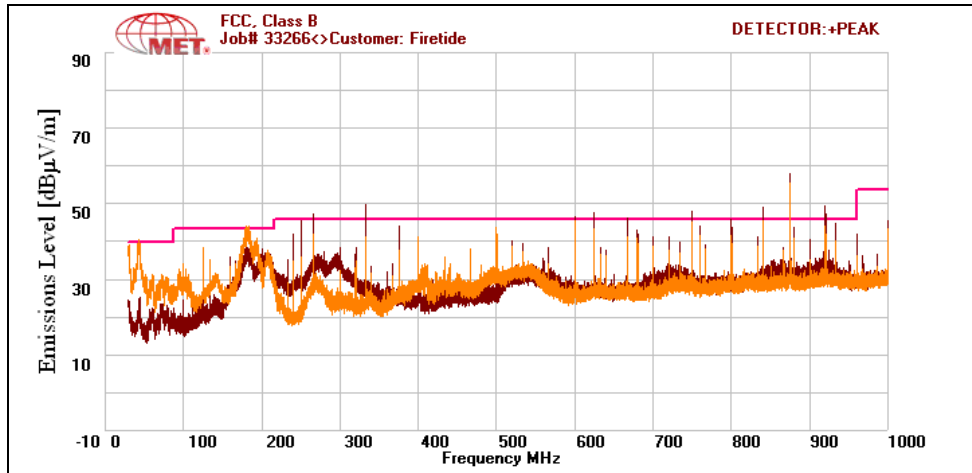
**Plot 519. Radiated Spurs, Low Channel, 1 GHz – 12 GHz, Average, 802.11n 20 MHz, 16 dBi Panel, 5.8 GHz**



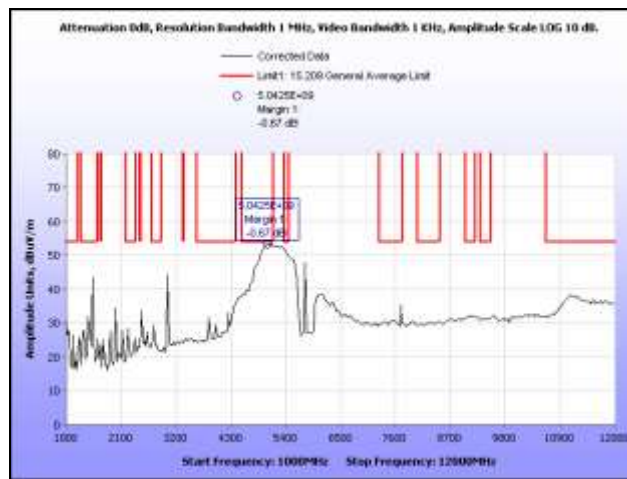
**Plot 520. Radiated Spurs, Low Channel, 1 GHz – 12 GHz, Peak, 802.11n 20 MHz, 16 dBi Panel, 5.8 GHz**



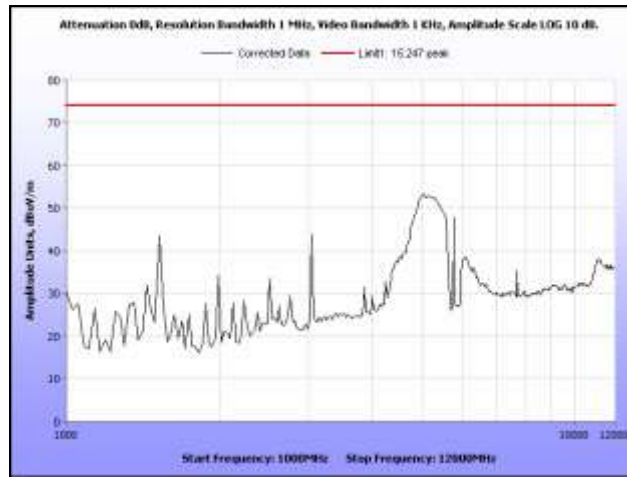
Plot 521. Radiated Spurs, Low Channel, 12 GHz – 18 GHz, 802.11n 20 MHz, 16 dBi Panel, 5.8 GHz



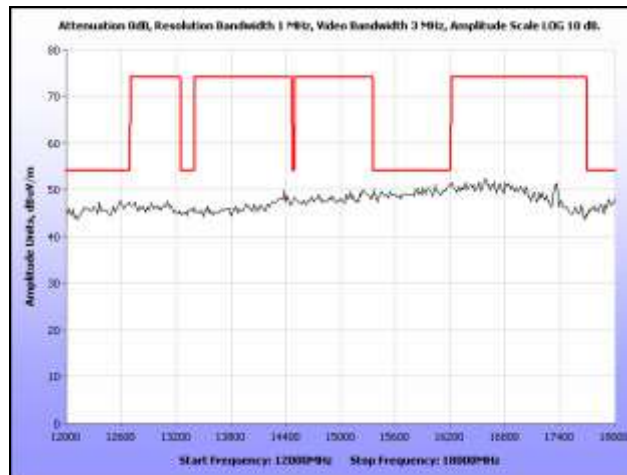
Plot 522. Radiated Spurs, Mid Channel, 30 MHz – 1 GHz, 802.11n 20 MHz, 16 dBi Panel, 5.8 GHz



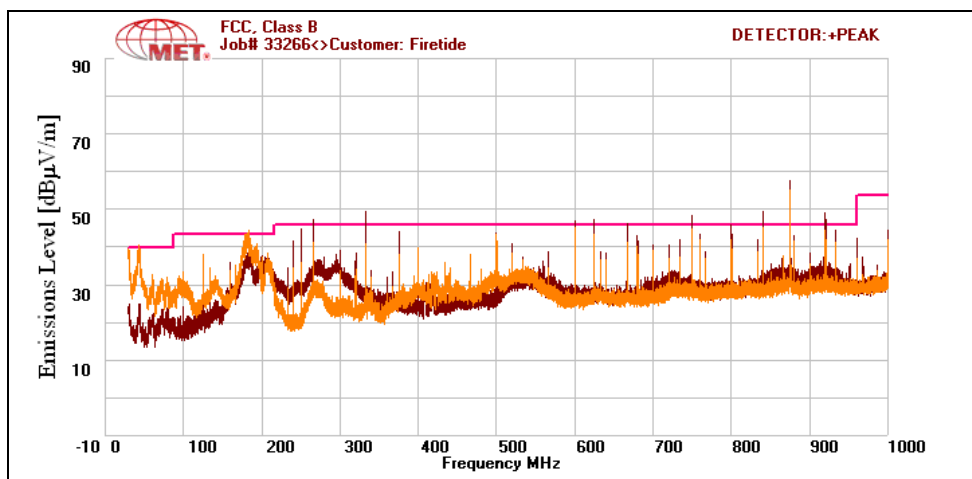
Plot 523. Radiated Spurs, Mid Channel, 1 GHz – 12 GHz, Average, 802.11n 20 MHz, 16 dBi Panel, 5.8 GHz



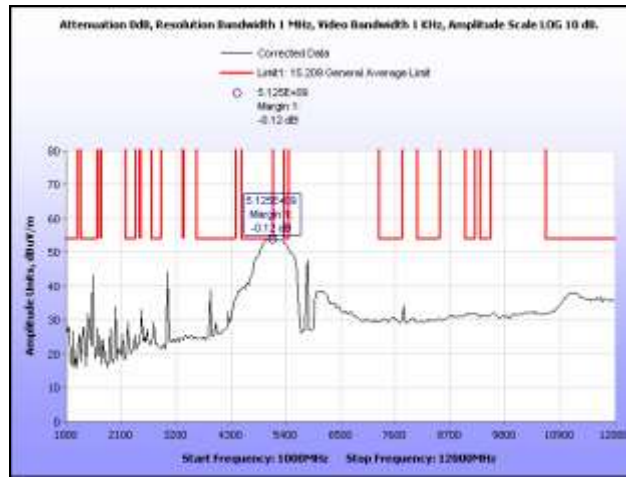
Plot 524. Radiated Spurs, Mid Channel, 1 GHz – 12 GHz, Peak, 802.11n 20 MHz, 16 dBi Panel, 5.8 GHz



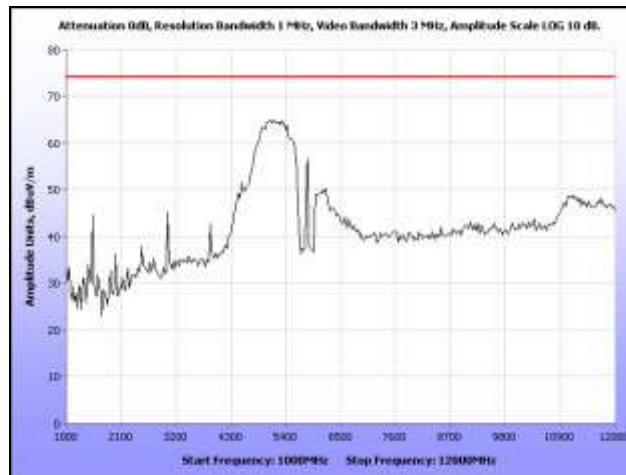
Plot 525. Radiated Spurs, Mid Channel, 12 GHz – 18 GHz, 802.11n 20 MHz, 16 dBi Panel, 5.8 GHz



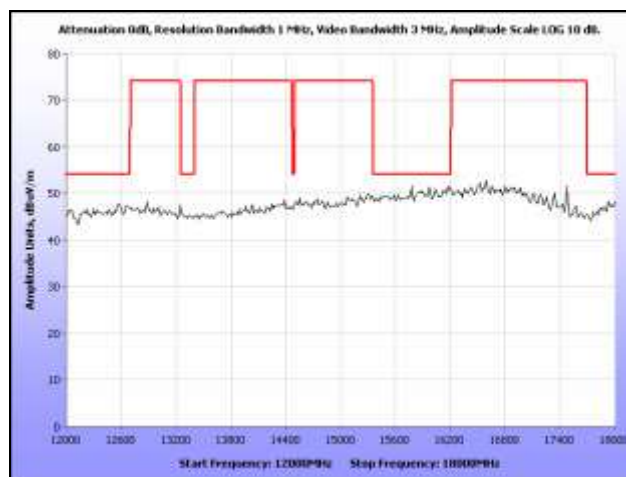
Plot 526. Radiated Spurs, High Channel, 30 MHz – 1 GHz, 802.11n 20 MHz, 16 dBi Panel, 5.8 GHz



Plot 527. Radiated Spurs, High Channel, 1 GHz – 12 GHz, Average, 802.11n 20 MHz, 16 dBi Panel, 5.8 GHz

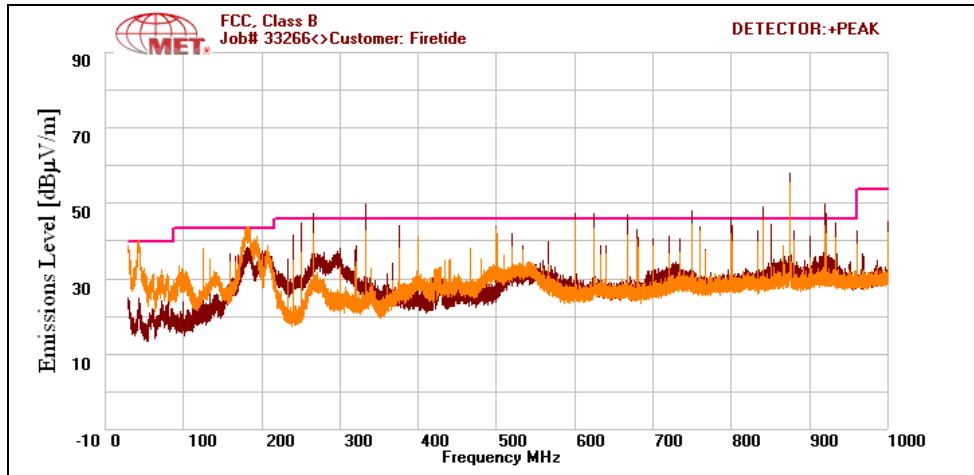


Plot 528. Radiated Spurs, High Channel, 1 GHz – 12 GHz, Peak, 802.11n 20 MHz, 16 dBi Panel, 5.8 GHz

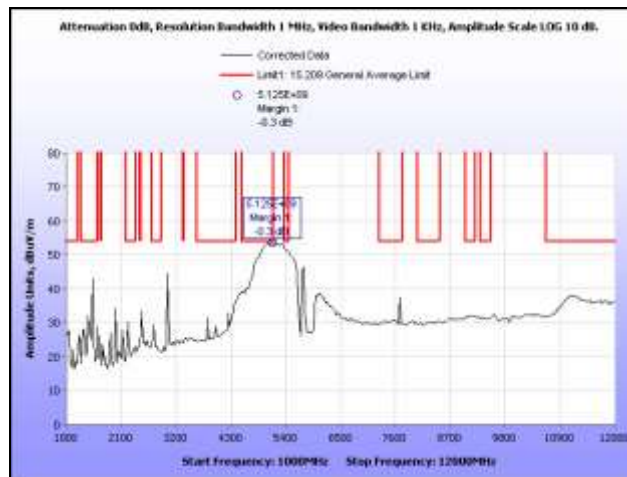


Plot 529. Radiated Spurs, High Channel, 12 GHz – 18 GHz, 802.11n 20 MHz, 16 dBi Panel, 5.8 GHz

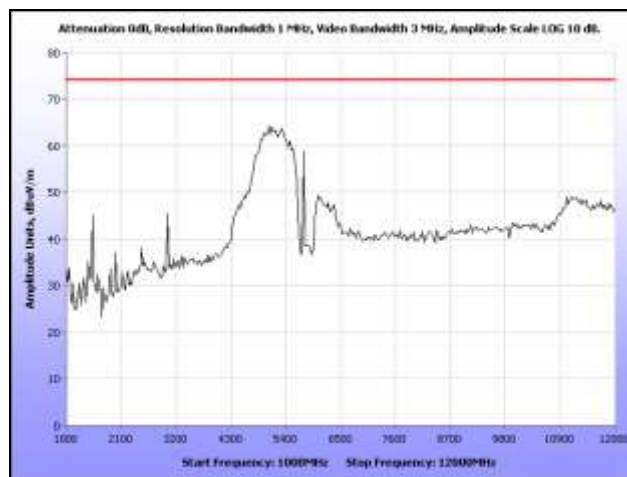
**Radiated Spurious Emissions Test Results, 802.11n 40 MHz, 16 dBi Panel, 5.8 GHz**



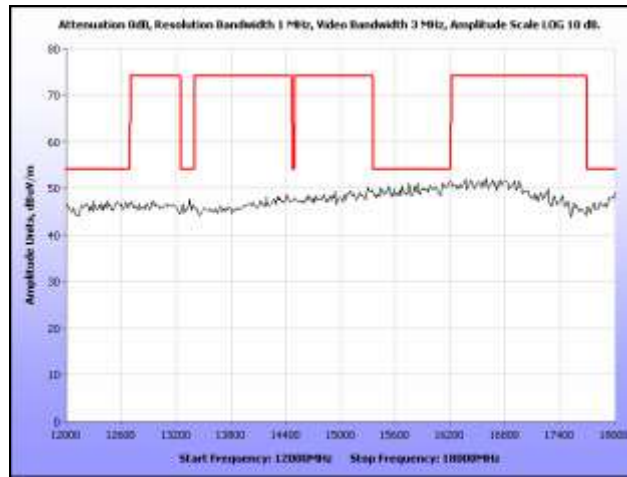
**Plot 530. Radiated Spurs, Low Channel, 30 MHz – 1 GHz, 802.11n 40 MHz, 16 dBi Panel, 5.8 GHz**



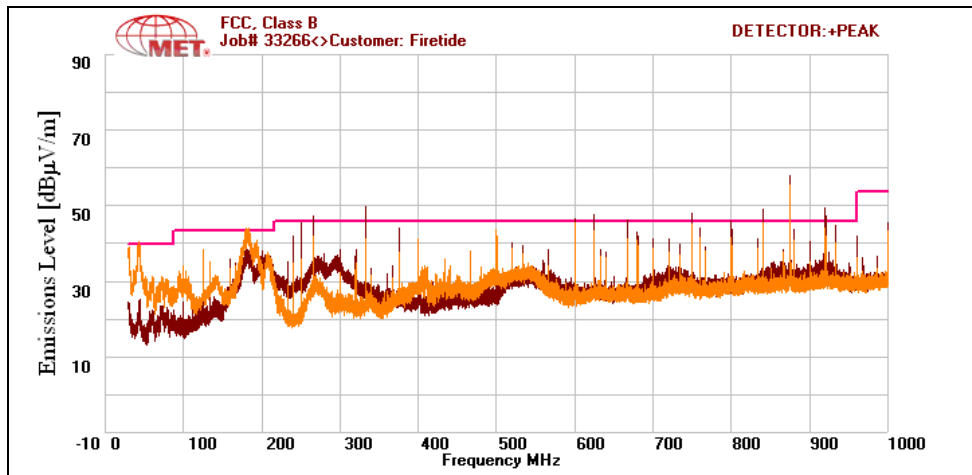
**Plot 531. Radiated Spurs, Low Channel, 1 GHz – 12 GHz, Average, 802.11n 40 MHz, 16 dBi Panel, 5.8 GHz**



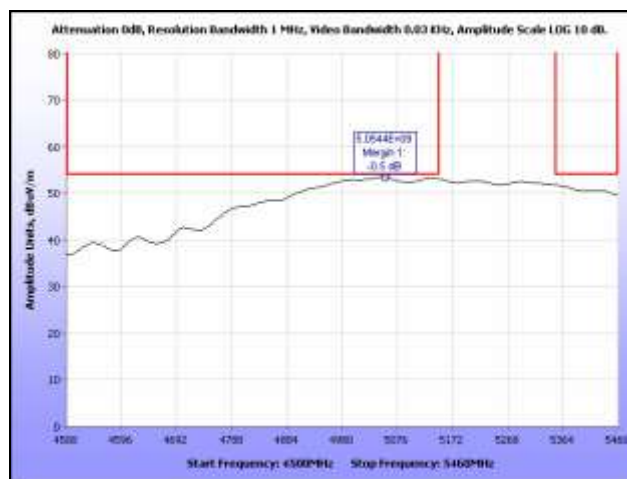
**Plot 532. Radiated Spurs, Low Channel, 1 GHz – 12 GHz, Peak, 802.11n 40 MHz, 16 dBi Panel, 5.8 GHz**



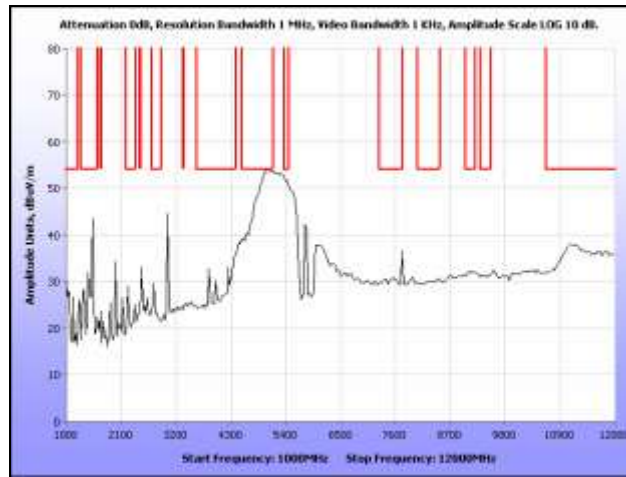
Plot 533. Radiated Spurs, Low Channel, 12 GHz – 18 GHz, 802.11n 40 MHz, 16 dBi Panel, 5.8 GHz



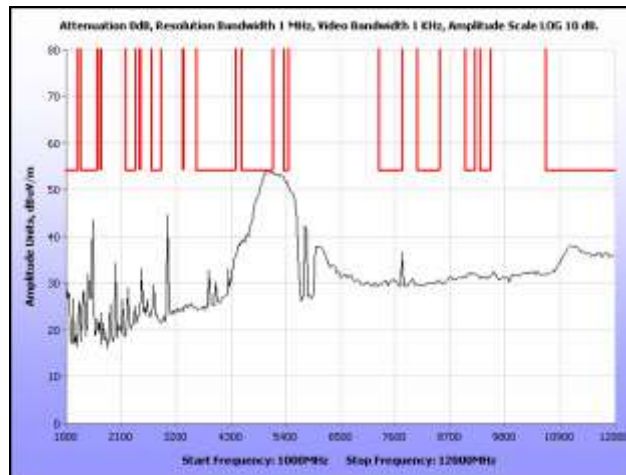
Plot 534. Radiated Spurs, High Channel, 30 MHz – 1 GHz, 802.11n 40 MHz, 16 dBi Panel, 5.8 GHz



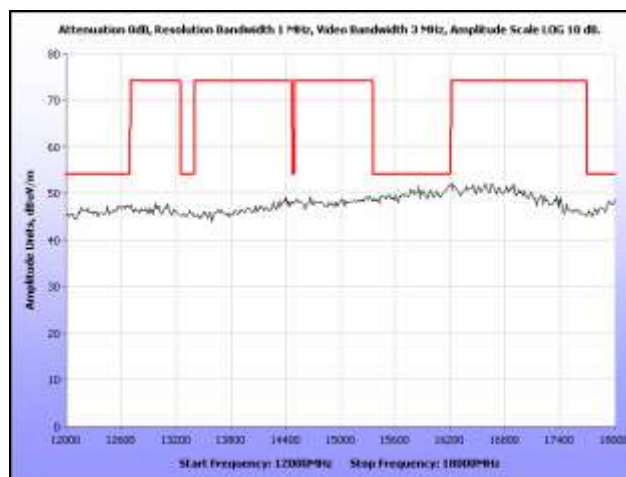
Plot 535. Radiated Spurs, High Channel, 1 GHz – 12 GHz, Average, Zoom, 802.11n 40 MHz, 16 dBi Panel, 5.8 GHz



**Plot 536. Radiated Spurs, High Channel, 1 GHz – 12 GHz, Average, 802.11n 40 MHz, 16 dBi Panel, 5.8 GHz**



**Plot 537. Radiated Spurs, High Channel, 1 GHz – 12 GHz, Peak, 802.11n 40 MHz, 16 dBi Panel, 5.8 GHz**



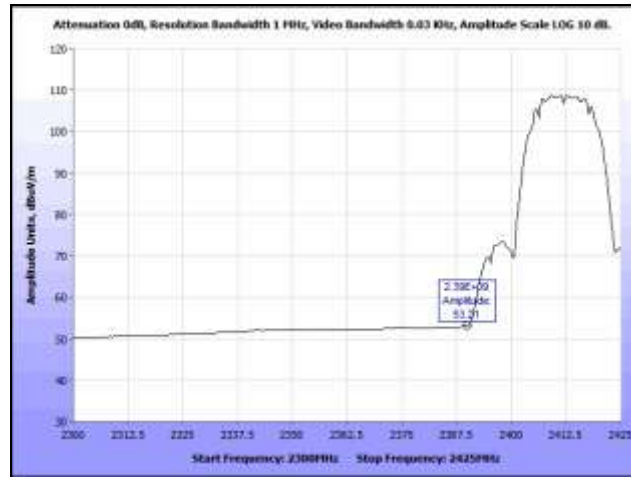
**Plot 538. Radiated Spurs, High Channel, 12 GHz – 18 GHz, 802.11n 40 MHz, 16 dBi Panel, 5.8 GHz**



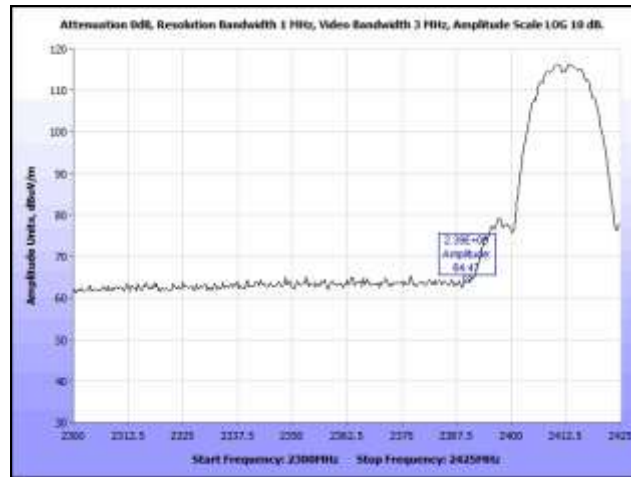
## Radiated Band Edge Measurements

**Test Procedures:** The transmitter was turned on. Measurements were performed of the low, mid and high Channels. The EUT was rotated orthogonally through all three axes. Plots shown are corrected for both antenna correction factor and distance and compared to a 3 m limit line.

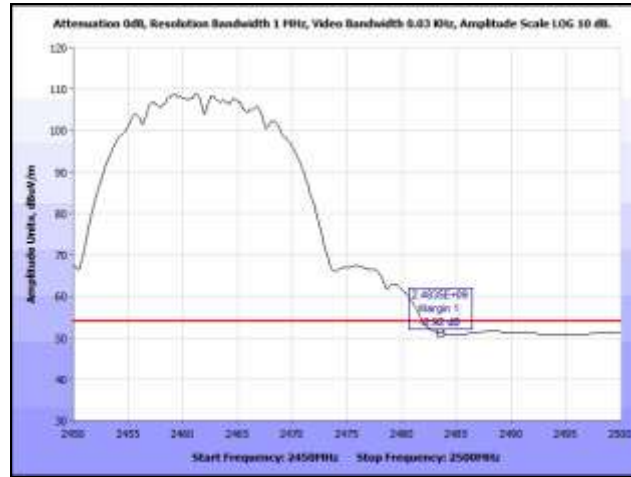
### Radiated Band Edge Measurements, 802.11b, 5 dBi Omni, 2.4 GHz



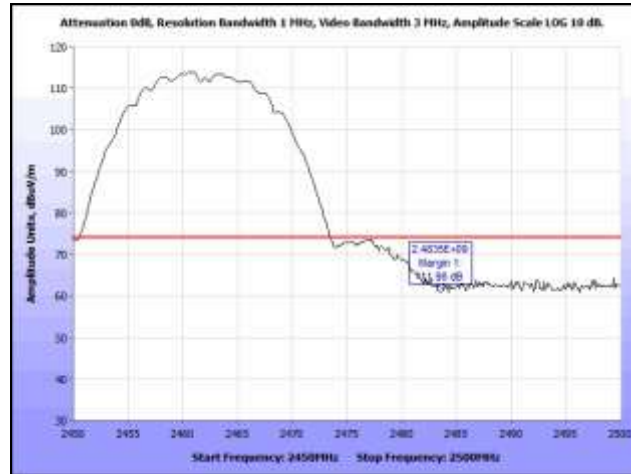
Plot 539. Radiated Restricted Band Edge, Low Channel, Average, 802.11b, 5 dBi Omni, 2.4 GHz



Plot 540. Radiated Restricted Band Edge, Low Channel, Peak, 802.11b, 5 dBi Omni, 2.4 GHz

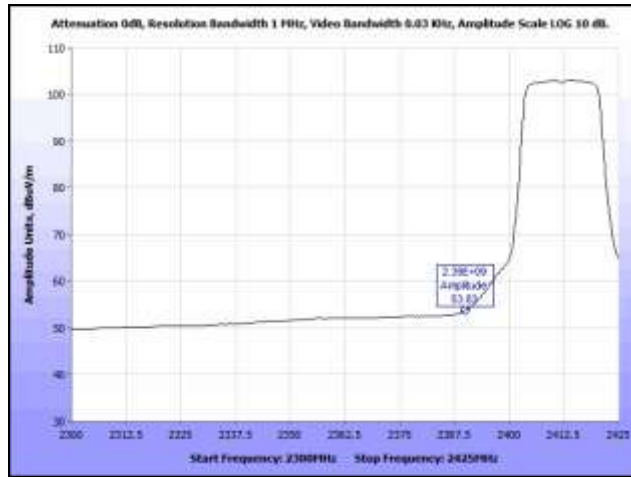


**Plot 541. Radiated Restricted Band Edge, High Channel, Average, 802.11b, 5 dBi Omni, 2.4 GHz**

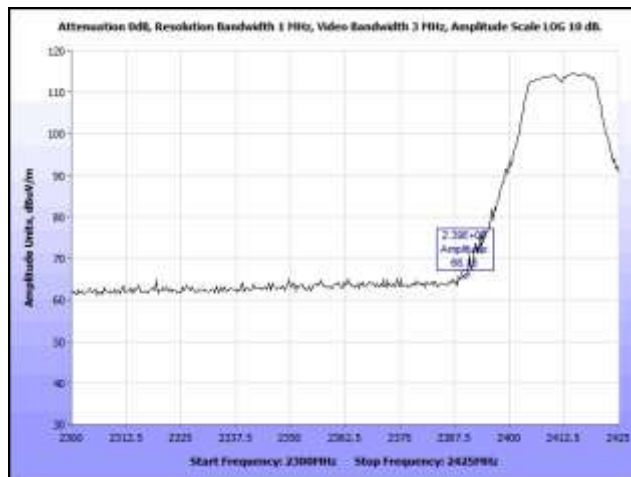


**Plot 542. Radiated Restricted Band Edge, High Channel, Peak, 802.11b, 5 dBi Omni, 2.4 GHz**

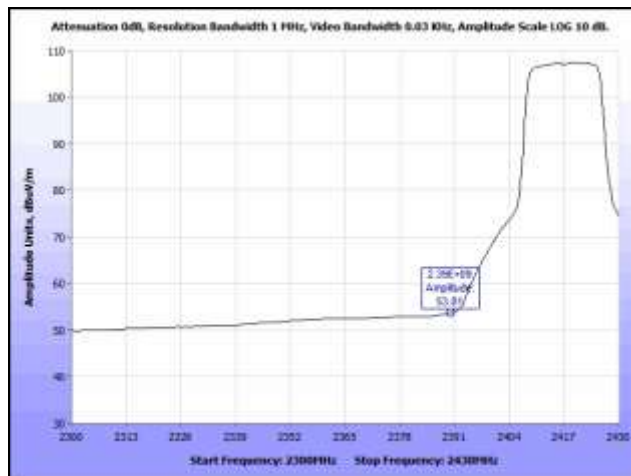
**Radiated Band Edge Measurements, 802.11g, 5 dBi Omni, 2.4 GHz**



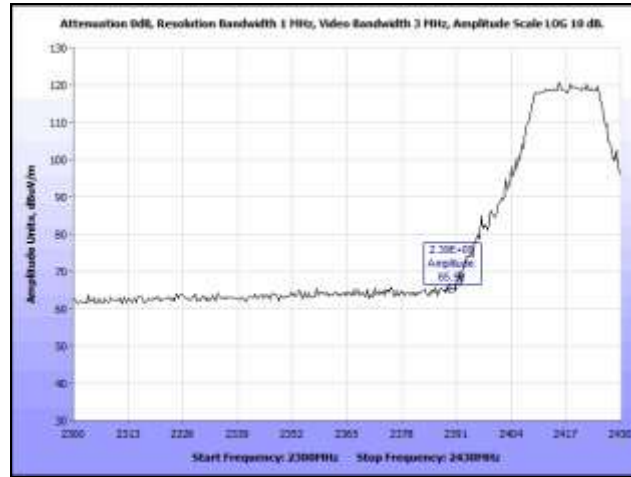
**Plot 543. Radiated Restricted Band Edge, Low Channel (2412 MHz), Average, 802.11g, 5 dBi Omni, 2.4 GHz**



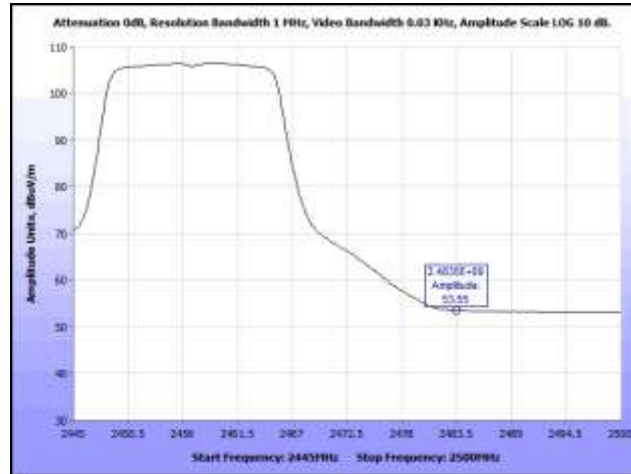
**Plot 544. Radiated Restricted Band Edge, Low Channel (2412 MHz), Peak, 802.11g, 5 dBi Omni, 2.4 GHz**



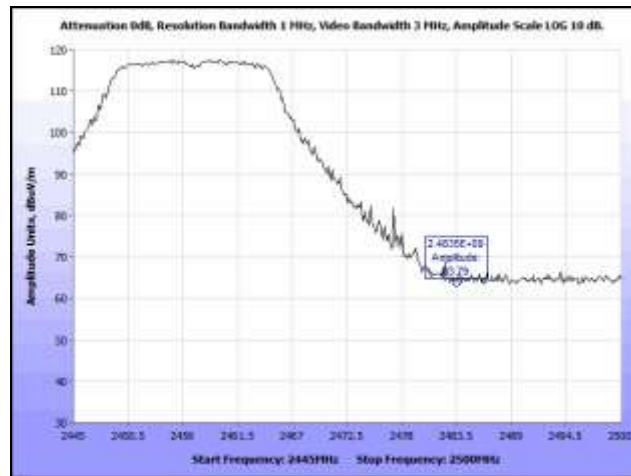
**Plot 545. Radiated Restricted Band Edge, Low Channel (2417 MHz), Average, 802.11g, 5 dBi Omni, 2.4 GHz**



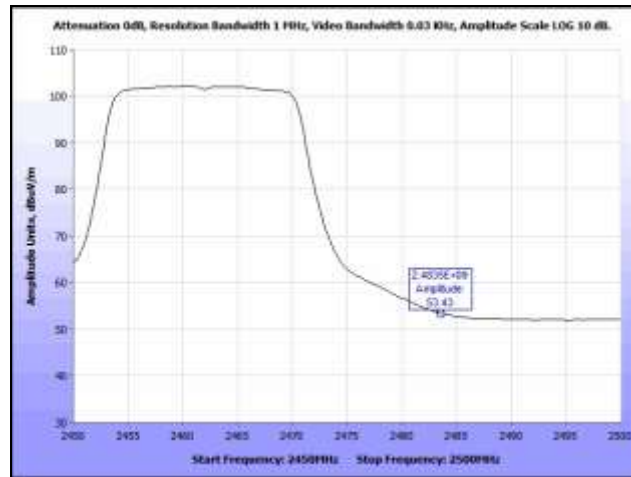
**Plot 546. Radiated Restricted Band Edge, Low Channel (2417 MHz), Peak, 802.11g, 5 dBi Omni, 2.4 GHz**



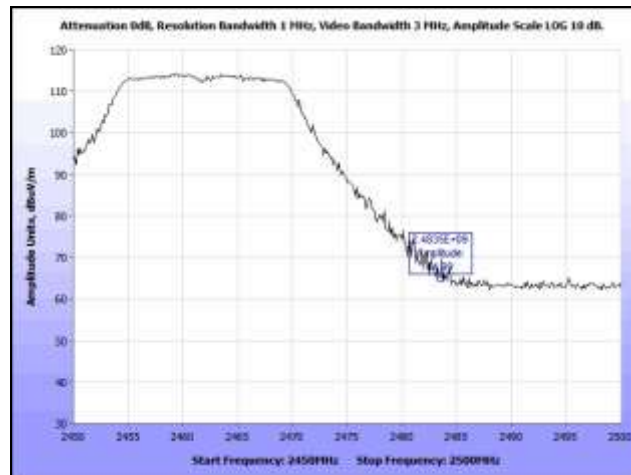
**Plot 547. Radiated Restricted Band Edge, High Channel (2457 MHz), Average, 802.11g, 5 dBi Omni, 2.4 GHz**



**Plot 548. Radiated Restricted Band Edge, High Channel (2457 MHz), Peak, 802.11g, 5 dBi Omni, 2.4 GHz**

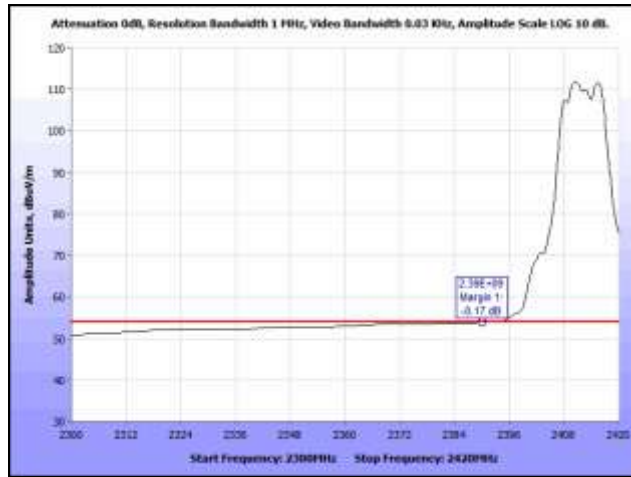


**Plot 549. Radiated Restricted Band Edge, High Channel (2462 MHz), Average, 802.11g, 5 dBi Omni, 2.4 GHz**

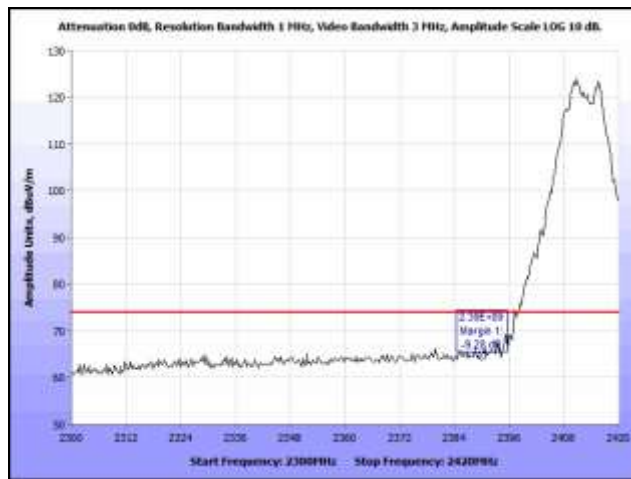


**Plot 550. Radiated Restricted Band Edge, High Channel (2462 MHz), Peak, 802.11g, 5 dBi Omni, 2.4 GHz**

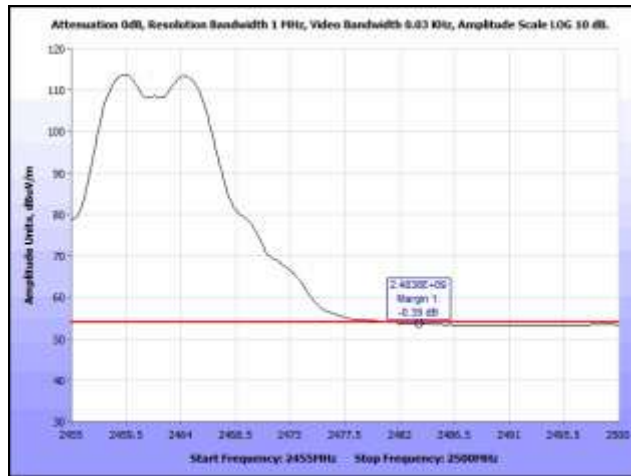
**Radiated Band Edge Measurements, 802.11n 10 MHz, 5 dBi Omni, 2.4 GHz**



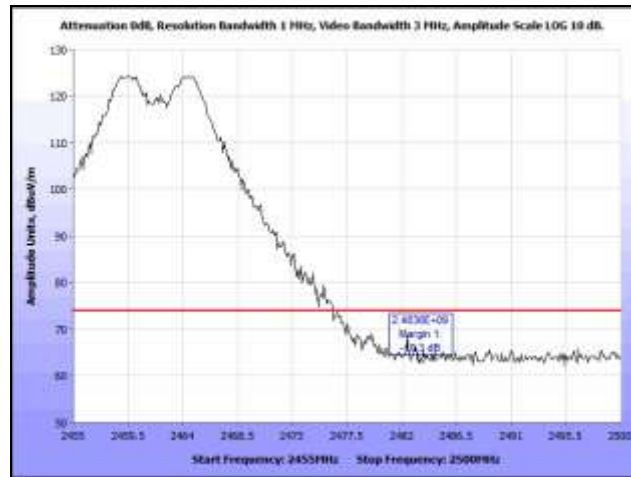
**Plot 551. Radiated Restricted Band Edge, Low Channel, Average, 802.11n 10 MHz, 5 dBi Omni, 2.4 GHz**



**Plot 552. Radiated Restricted Band Edge, Low Channel, Peak, 802.11n 10 MHz, 5 dBi Omni, 2.4 GHz**

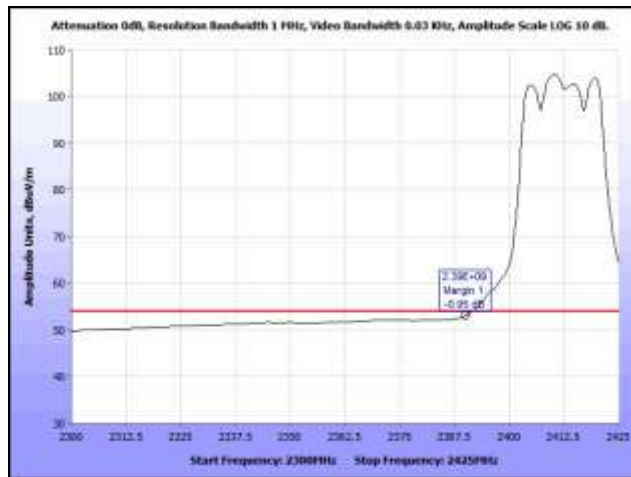


**Plot 553. Radiated Restricted Band Edge, High Channel, Average, 802.11n 10 MHz, 5 dBi Omni, 2.4 GHz**

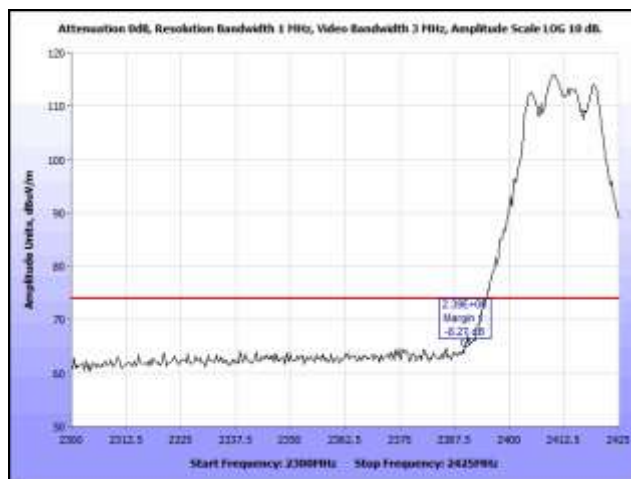


**Plot 554. Radiated Restricted Band Edge, High Channel, Peak, 802.11n 10 MHz, 5 dBi Omni, 2.4 GHz**

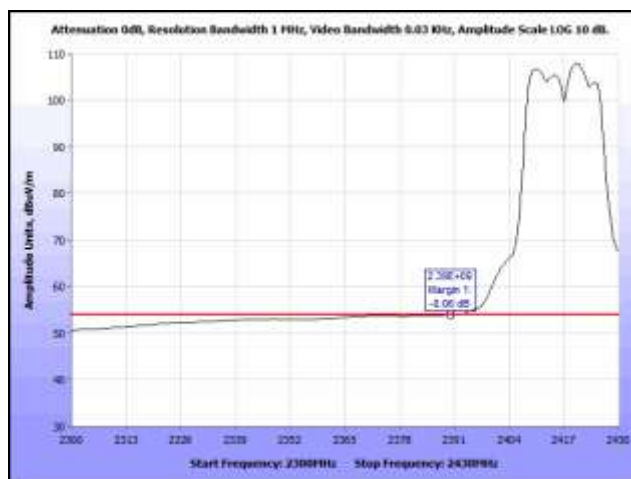
**Radiated Band Edge Measurements, 802.11n 20 MHz, 5 dBi Omni, 2.4 GHz**



**Plot 555. Radiated Restricted Band Edge, Low Channel (2412 MHz), Average, 802.11n 20 MHz, 5 dBi Omni, 2.4 GHz**

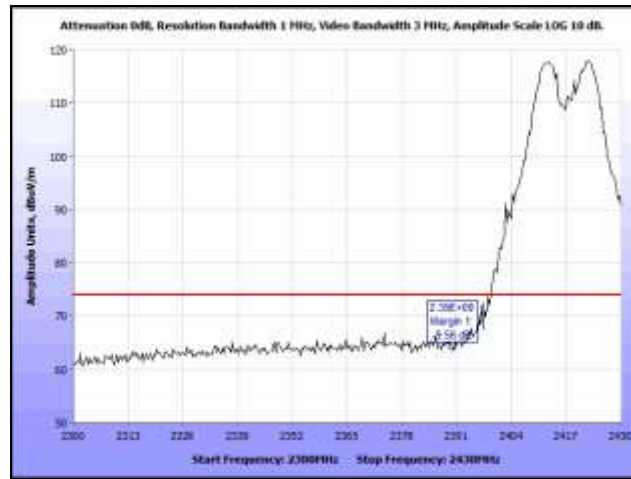


**Plot 556. Radiated Restricted Band Edge, Low Channel (2412 MHz), Peak, 802.11n 20 MHz, 5 dBi Omni, 2.4 GHz**

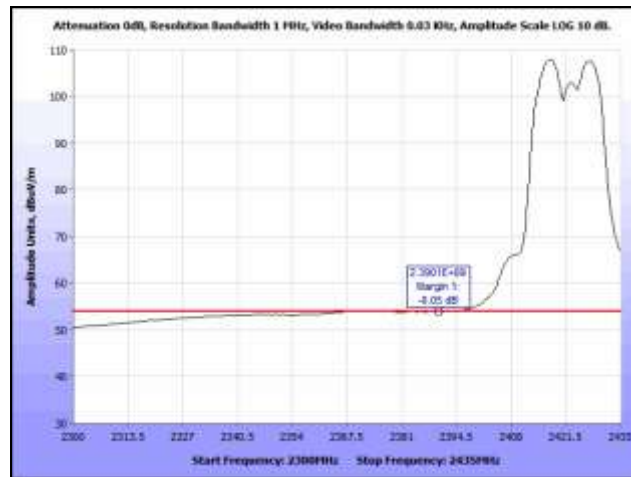


**Plot 557. Radiated Restricted Band Edge, Low Channel (2417 MHz), Average, 802.11n 20 MHz, 5 dBi Omni, 2.4 GHz**

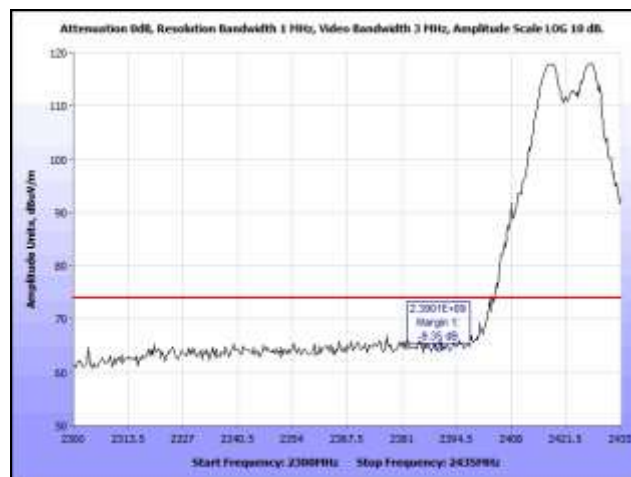




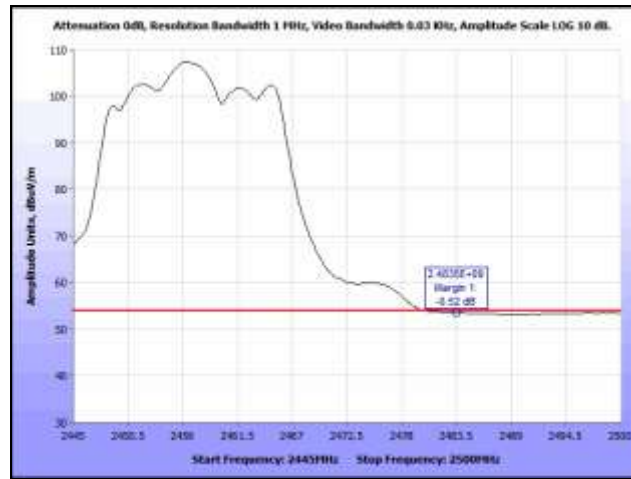
Plot 558. Radiated Restricted Band Edge, Low Channel (2417 MHz), Peak, 802.11n 20 MHz, 5 dBi Omni, 2.4 GHz



Plot 559. Radiated Restricted Band Edge, Low Channel (2422 MHz), Average, 802.11n 20 MHz, 5 dBi Omni, 2.4 GHz



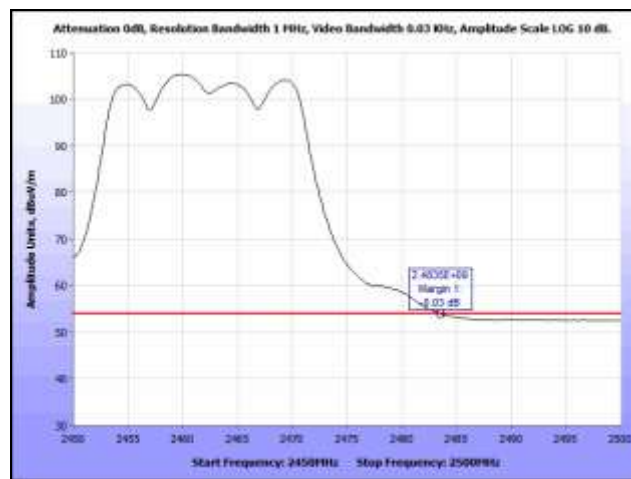
Plot 560. Radiated Restricted Band Edge, Low Channel (2422 MHz), Peak, 802.11n 20 MHz, 5 dBi Omni, 2.4 GHz



Plot 561. Radiated Restricted Band Edge, High Channel (2457 MHz), Average, 802.11n 20 MHz, 5 dBi Omni, 2.4 GHz



Plot 562. Radiated Restricted Band Edge, High Channel (2457 MHz), Peak, 802.11n 20 MHz, 5 dBi Omni, 2.4 GHz

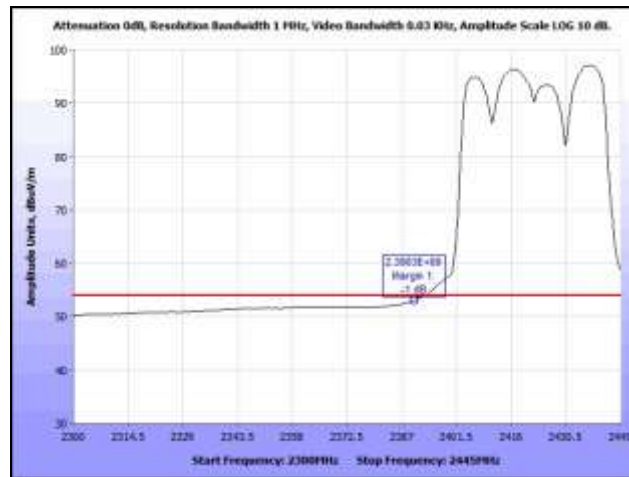


Plot 563. Radiated Restricted Band Edge, High Channel (2462 MHz), Average, 802.11n 20 MHz, 5 dBi Omni, 2.4 GHz

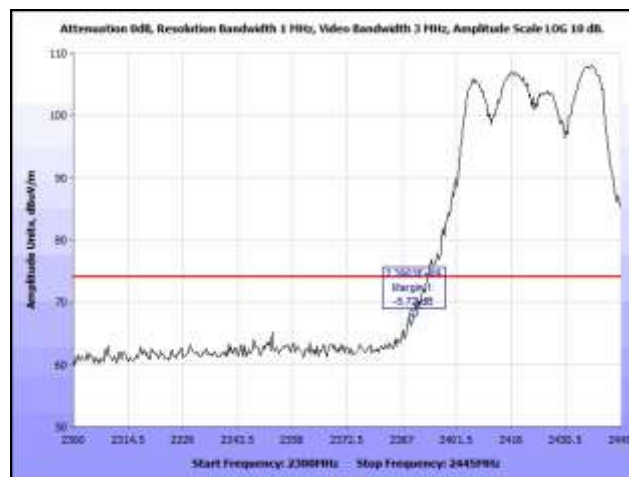


**Plot 564. Radiated Restricted Band Edge, High Channel (2462 MHz), Peak, 80.21n 20 MHz, 5 dBi Omni, 2.4 GHz**

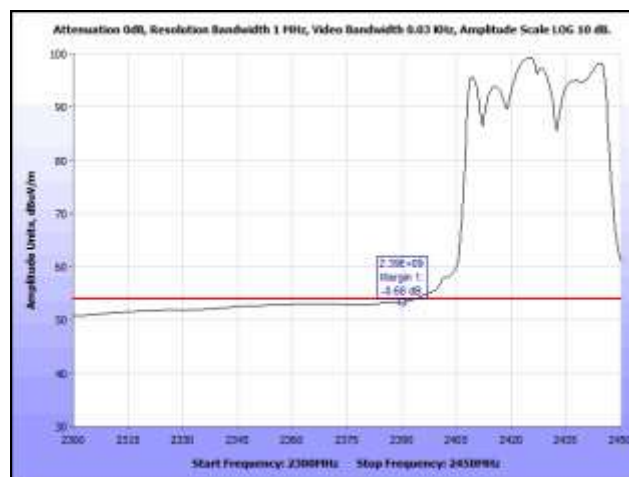
### Radiated Band Edge Measurements, 802.11n 40 MHz, 5 dBi Omni, 2.4 GHz



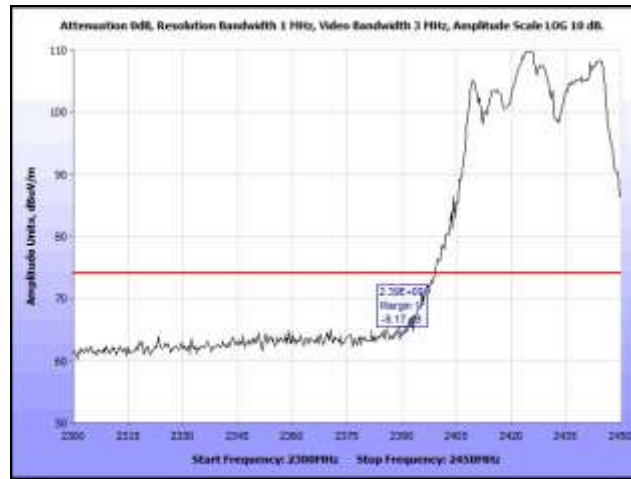
Plot 565. Radiated Restricted Band Edge, Low Channel (2422 MHz), Average, 802.11n 40 MHz, 5 dBi Omni, 2.4 GHz



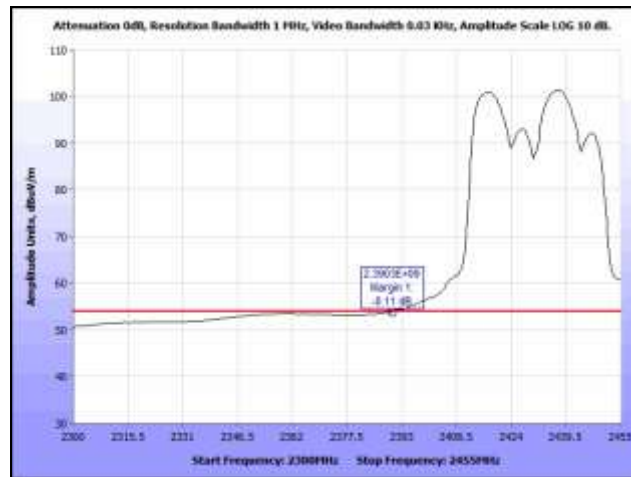
Plot 566. Radiated Restricted Band Edge, Low Channel (2422 MHz), Peak, 802.11n 40 MHz, 5 dBi Omni, 2.4 GHz



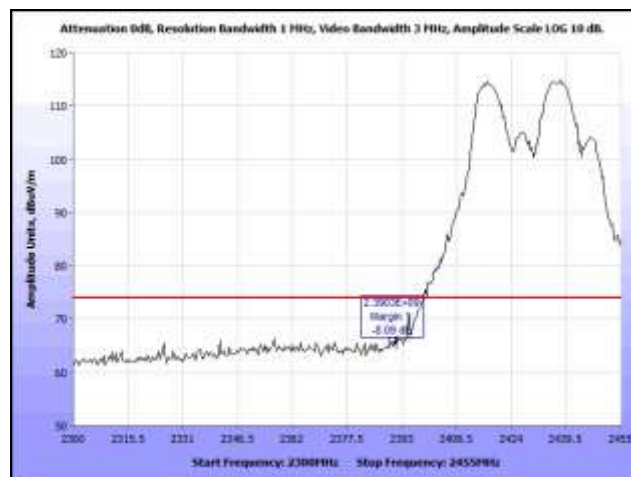
Plot 567. Radiated Restricted Band Edge, Low Channel (2427 MHz), Average, 802.11n 40 MHz, 5 dBi Omni, 2.4 GHz



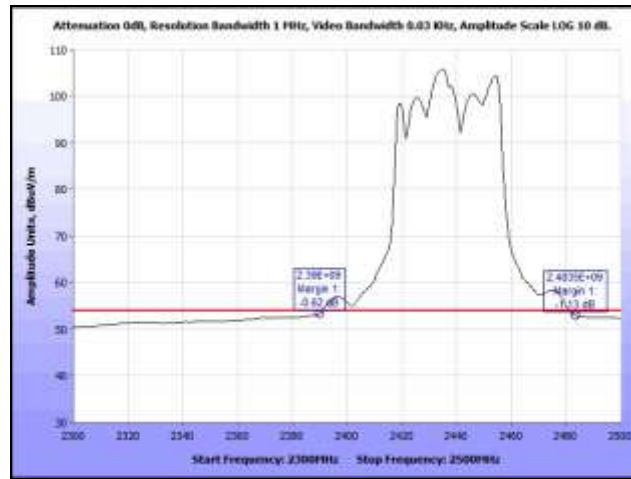
**Plot 568. Radiated Restricted Band Edge, Low Channel (2427 MHz), Peak, 802.11n 40 MHz, 5 dBi Omni, 2.4 GHz**



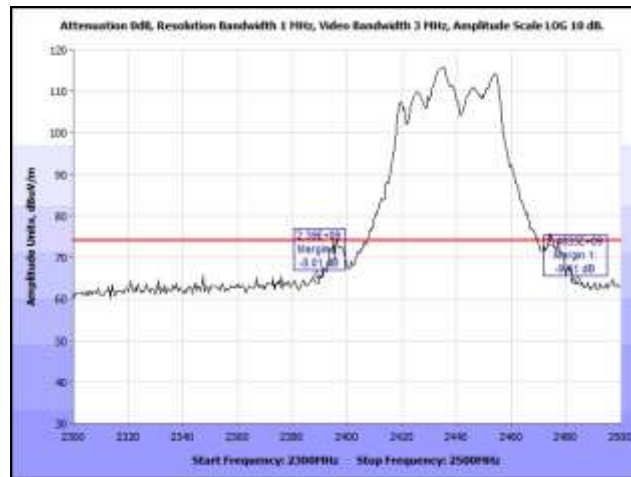
**Plot 569. Radiated Restricted Band Edge, Low Channel (2432 MHz), Average, 802.11n 40 MHz, 5 dBi Omni, 2.4 GHz**



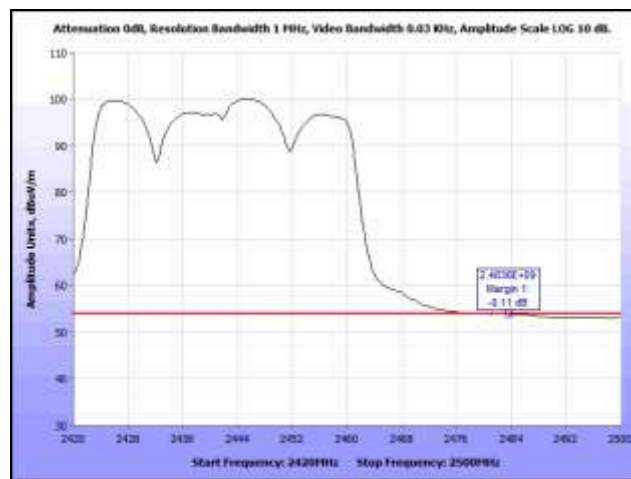
**Plot 570. Radiated Restricted Band Edge, Low Channel (2432 MHz), Peak, 802.11n 40 MHz, 5 dBi Omni, 2.4 GHz**



Plot 571. Radiated Restricted Band Edge, Mid Channel (2437 MHz), Average, 802.11n 40 MHz, 5 dBi Omni, 2.4 GHz



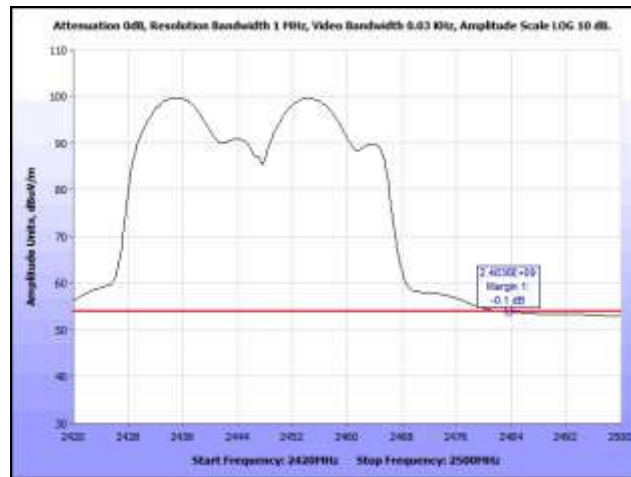
Plot 572. Radiated Restricted Band Edge, Mid Channel (2437 MHz), Peak, 802.11n 40 MHz, 5 dBi Omni, 2.4 GHz



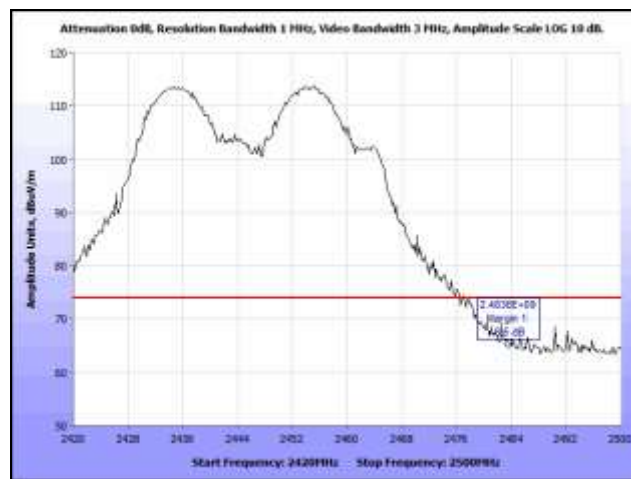
Plot 573. Radiated Restricted Band Edge, High Channel (2442 MHz), Average, 802.11n 40 MHz, 5 dBi Omni, 2.4 GHz



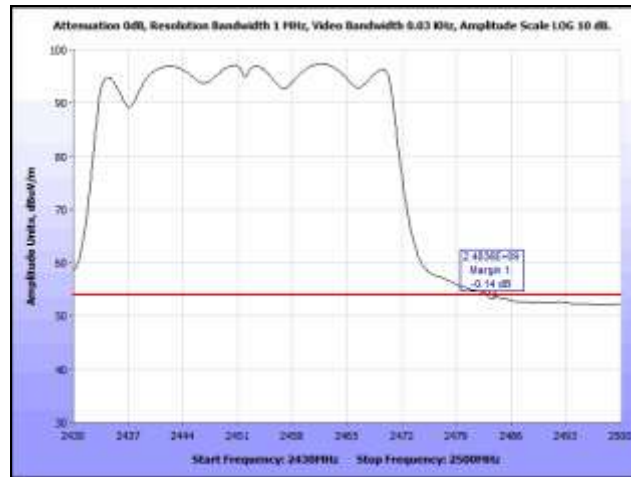
Plot 574. Radiated Restricted Band Edge, High Channel (2442 MHz), Peak, 802.11n 40 MHz, 5 dBi Omni, 2.4 GHz



Plot 575. Radiated Restricted Band Edge, High Channel (2447 MHz), Average, 802.11n 40 MHz, 5 dBi Omni, 2.4 GHz



Plot 576. Radiated Restricted Band Edge, High Channel (2447 MHz), Peak, 802.11n 40 MHz, 5 dBi Omni, 2.4 GHz



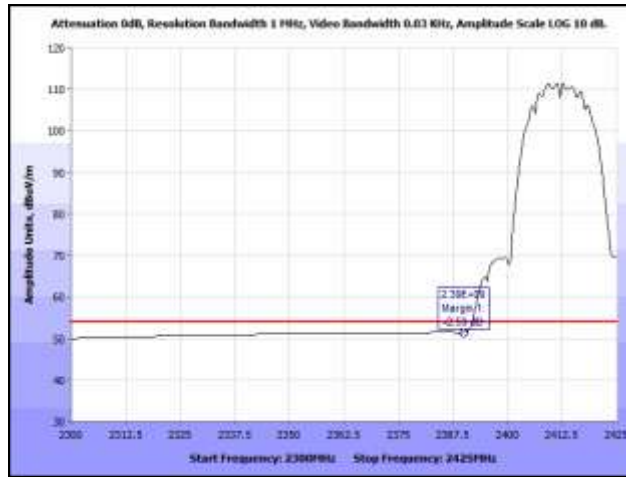
**Plot 577. Radiated Restricted Band Edge, High Channel (2452 MHz), Average, 802.11n 40 MHz, 5 dBi Omni, 2.4 GHz**



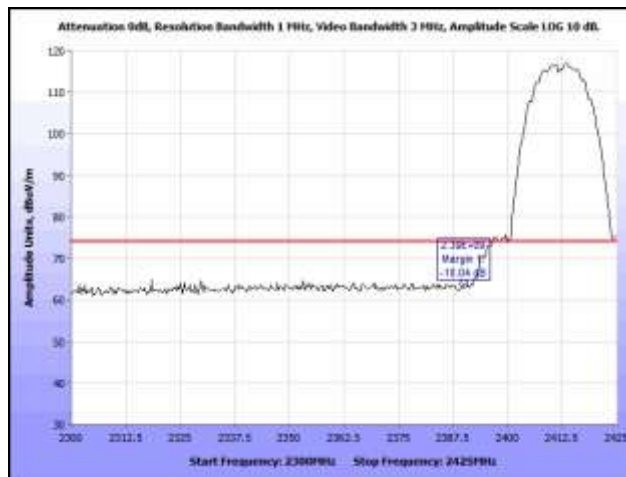
**Plot 578. Radiated Restricted Band Edge, High Channel (2452 MHz), Peak, 802.11n 40 MHz, 5 dBi Omni, 2.4 GHz**



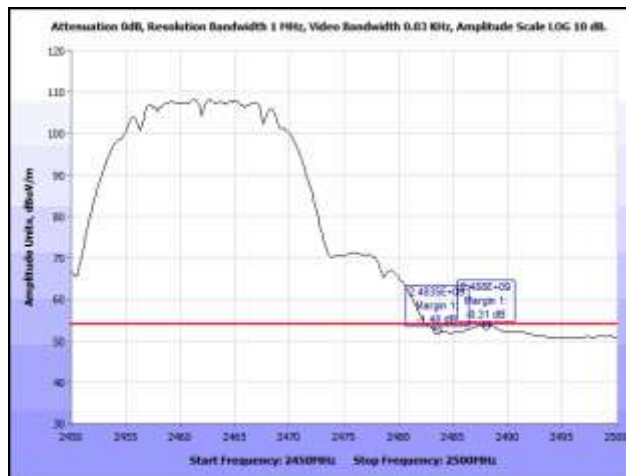
### Radiated Band Edge Measurements, 802.11b, 8 dBi Omni, 2.4 GHz



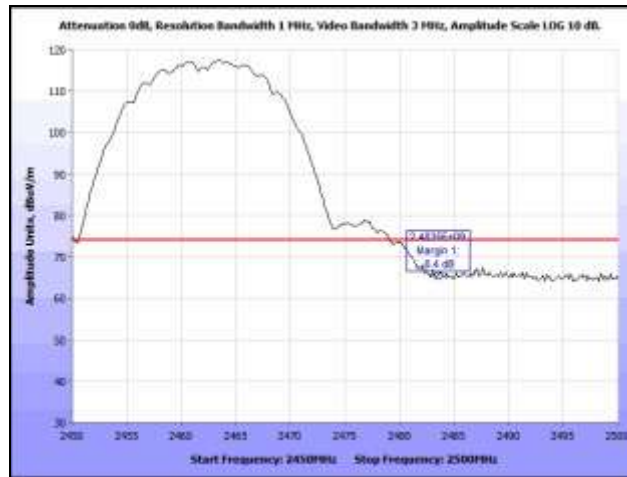
Plot 579. Radiated Restricted Band Edge, Low Channel, Average, 802.11b, 8 dBi Omni, 2.4 GHz



Plot 580. Radiated Restricted Band Edge, Low Channel, Peak, 802.11b, 8 dBi Omni, 2.4 GHz

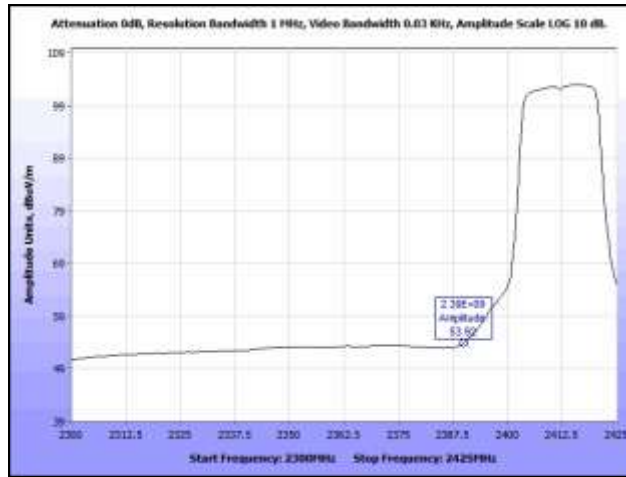


Plot 581. Radiated Restricted Band Edge, High Channel, Average, 802.11b, 8 dBi Omni, 2.4 GHz

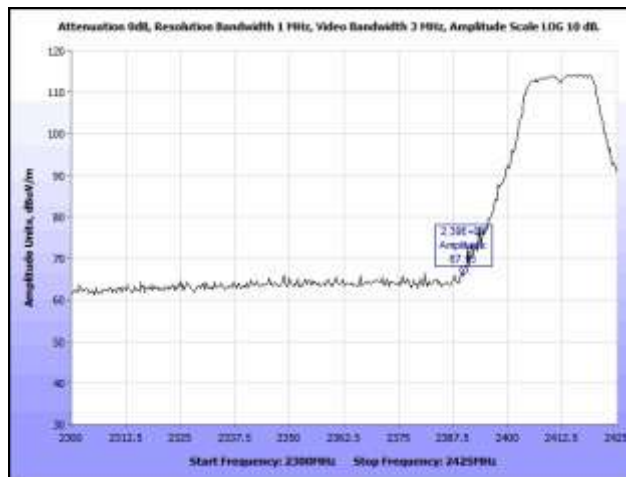


**Plot 582. Radiated Restricted Band Edge, High Channel, Peak, 802.11b, 8 dBi Omni, 2.4 GHz**

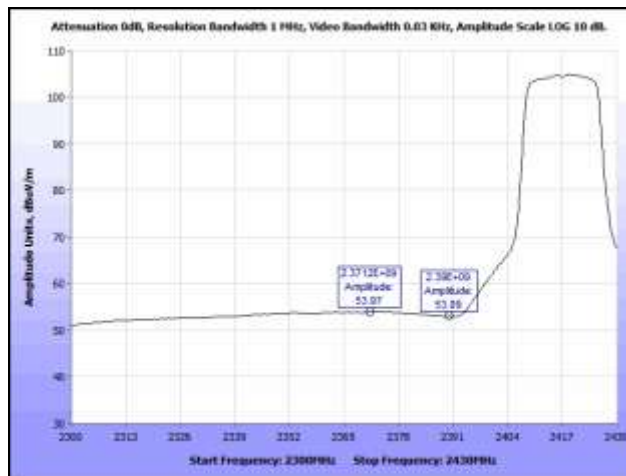
**Radiated Band Edge Measurements, 802.11g, 8 dBi Omni, 2.4 GHz**



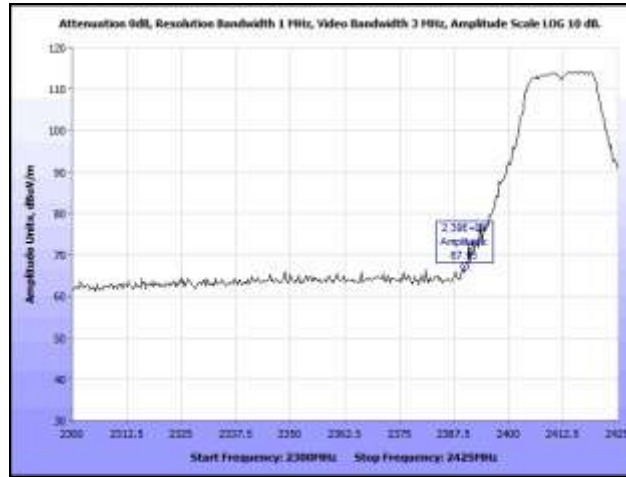
**Plot 583. Radiated Restricted Band Edge, Low Channel (2412 MHz), Average, 802.11g, 8 dBi Omni, 2.4 GHz**



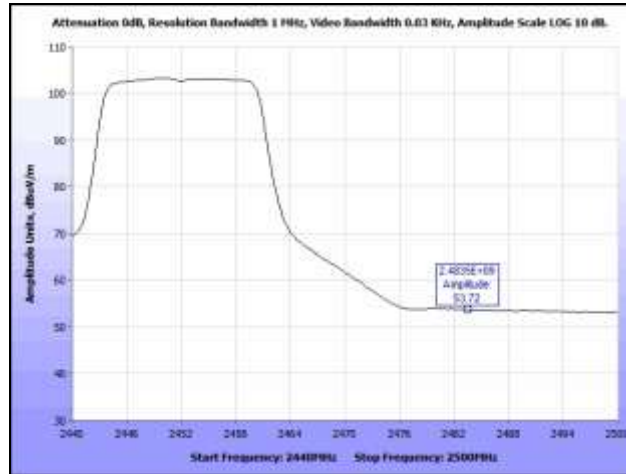
**Plot 584. Radiated Restricted Band Edge, Low Channel (2412 MHz), Peak, 802.11g, 8 dBi Omni, 2.4 GHz**



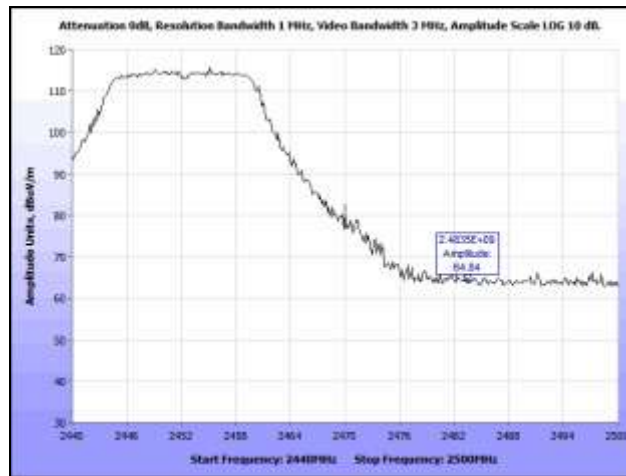
**Plot 585. Radiated Restricted Band Edge, Low Channel (2417 MHz), Average, 802.11g, 8 dBi Omni, 2.4 GHz**



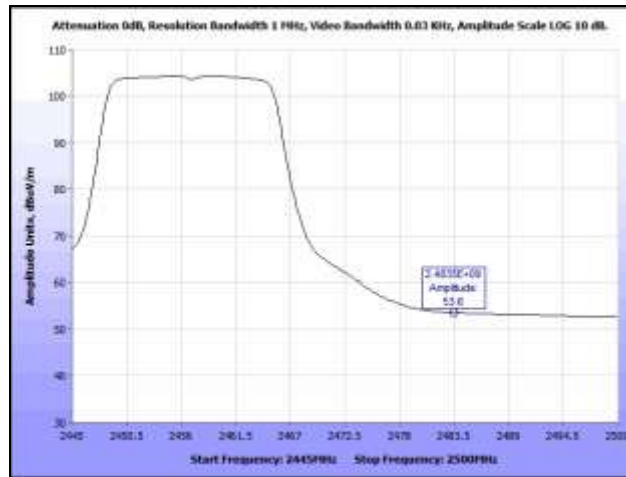
**Plot 586. Radiated Restricted Band Edge, Low Channel (2417 MHz), Peak, 802.11g, 8 dBi Omni, 2.4 GHz**



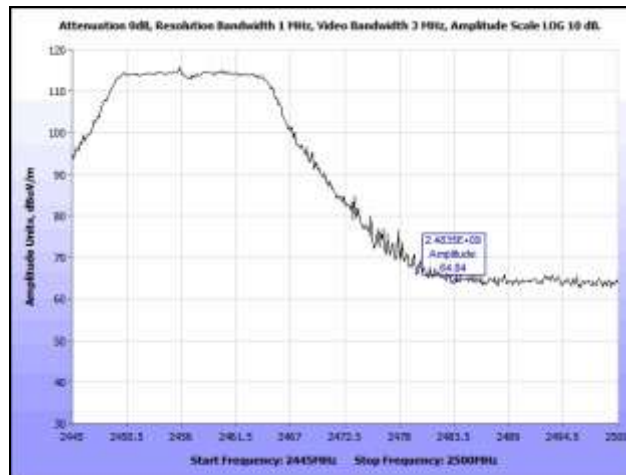
**Plot 587. Radiated Restricted Band Edge, High Channel (2452 MHz), Average, 802.11g, 8 dBi Omni, 2.4 GHz**



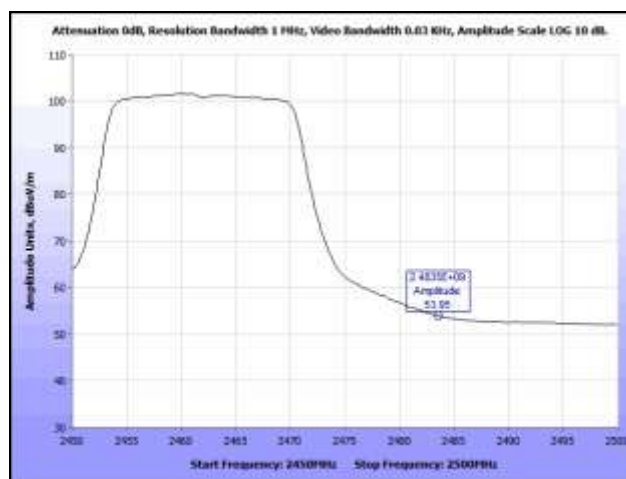
**Plot 588. Radiated Restricted Band Edge, High Channel (2452 MHz), Peak, 802.11g, 8 dBi Omni, 2.4 GHz**



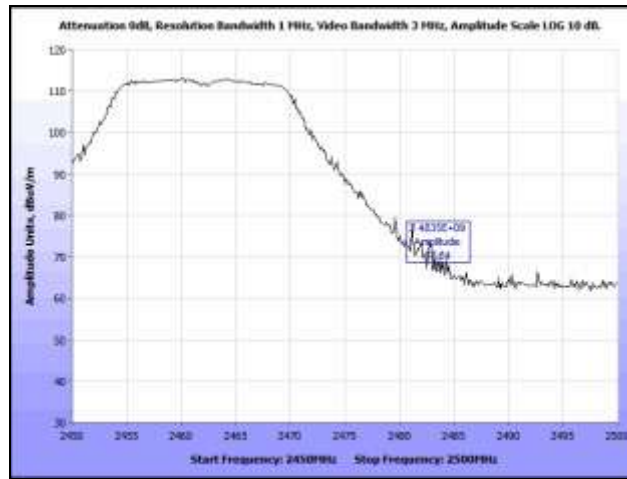
**Plot 589. Radiated Restricted Band Edge, High Channel (2457 MHz), Average, 802.11g, 8 dBi Omni, 2.4 GHz**



**Plot 590. Radiated Restricted Band Edge, High Channel (2457 MHz), Peak, 802.11g, 8 dBi Omni, 2.4 GHz**

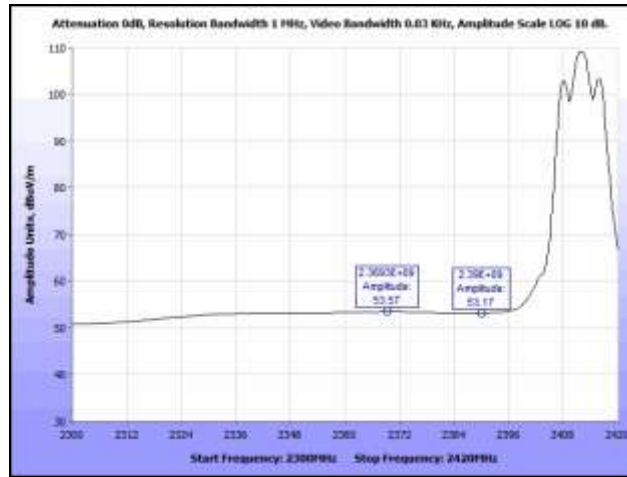


**Plot 591. Radiated Restricted Band Edge, High Channel (2462 MHz), Average, 802.11g, 8 dBi Omni, 2.4 GHz**

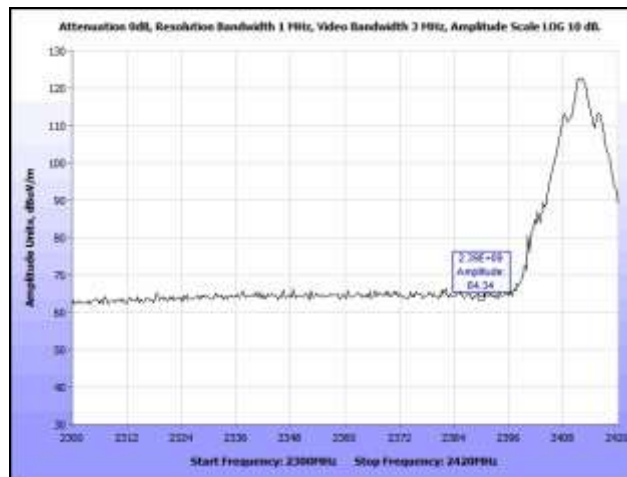


**Plot 592. Radiated Restricted Band Edge, High Channel (2462 MHz), Peak, 802.11g, 8 dBi Omni, 2.4 GHz**

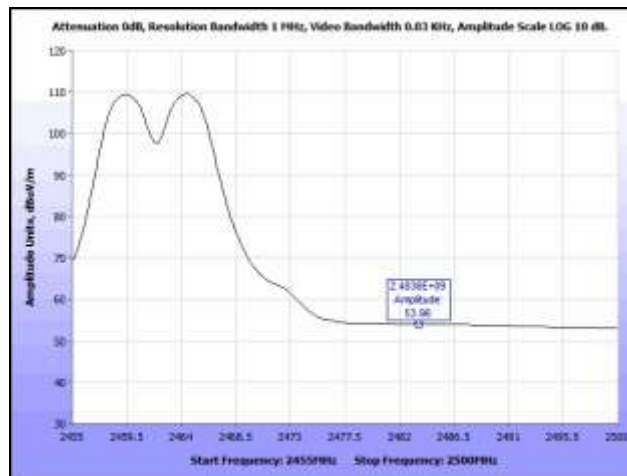
**Radiated Band Edge Measurements, 802.11n 10 MHz, 8 dBi Omni, 2.4 GHz**



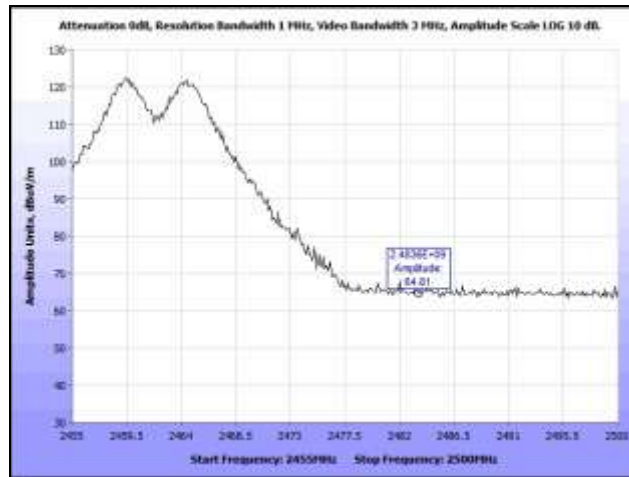
**Plot 593. Radiated Restricted Band Edge, Low Channel, Average, 802.11n 10 MHz, 8 dBi Omni, 2.4 GHz**



**Plot 594. Radiated Restricted Band Edge, Low Channel, Peak, 802.11n 10 MHz, 8 dBi Omni, 2.4 GHz**



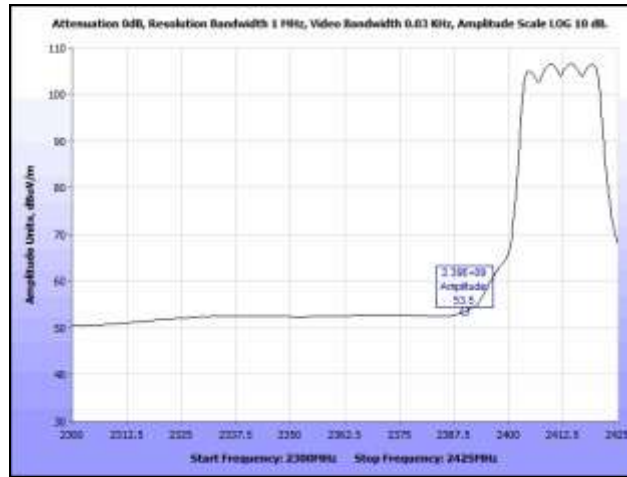
**Plot 595. Radiated Restricted Band Edge, High Channel, Average, 802.11n 10 MHz, 8 dBi Omni, 2.4 GHz**



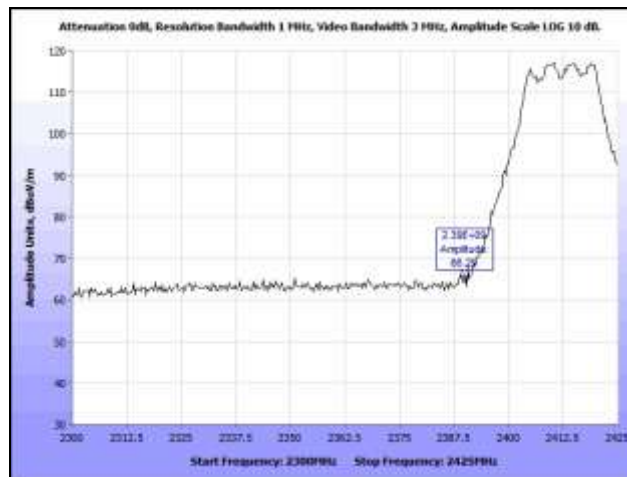
**Plot 596. Radiated Restricted Band Edge, High Channel, Peak, 802.11n 10 MHz, 8 dBi Omni, 2.4 GHz**



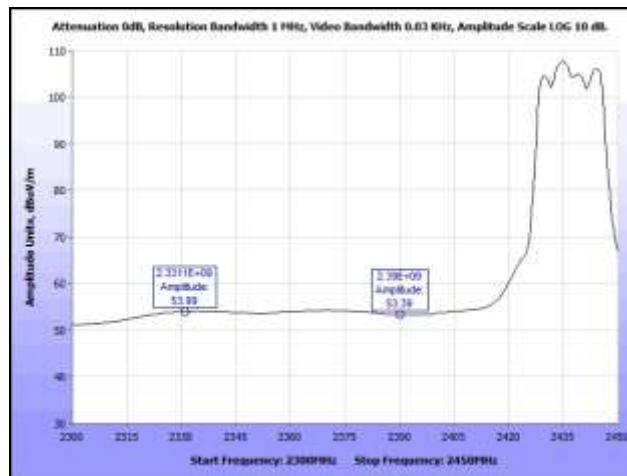
**Radiated Band Edge Measurements, 802.11n 20 MHz, 8 dBi Omni, 2.4 GHz**



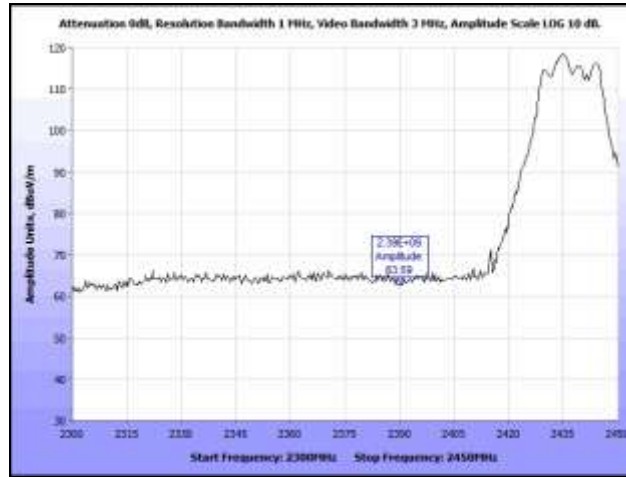
**Plot 597. Radiated Restricted Band Edge, Low Channel, Average, 802.11n 20 MHz, 8 dBi Omni, 2.4 GHz**



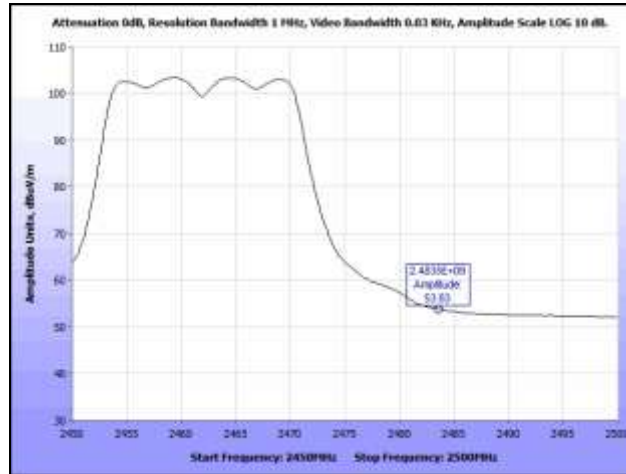
**Plot 598. Radiated Restricted Band Edge, Low Channel, Peak, 802.11n 20 MHz, 8 dBi Omni, 2.4 GHz**



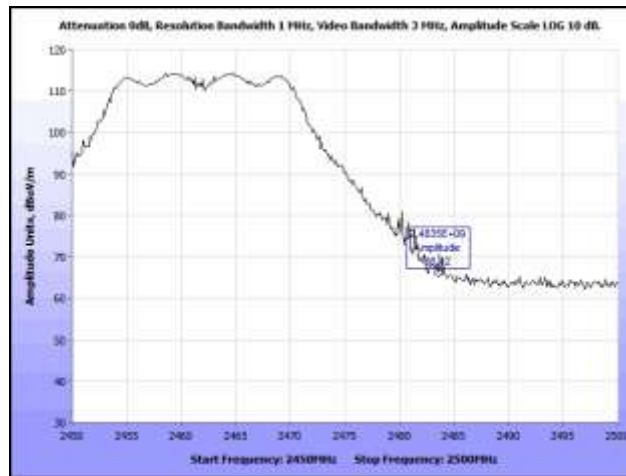
**Plot 599. Radiated Restricted Band Edge, Mid Channel, Average, 802.11n 20 MHz, 8 dBi Omni, 2.4 GHz**



Plot 600. Radiated Restricted Band Edge, Mid Channel, Peak, 802.11n 20 MHz, 8 dBi Omni, 2.4 GHz

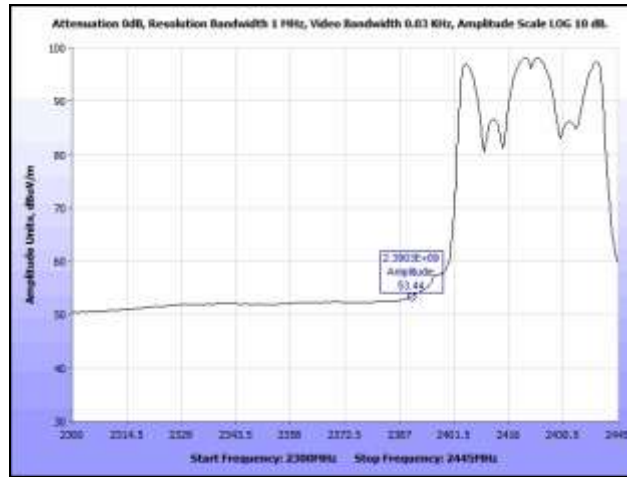


Plot 601. Radiated Restricted Band Edge, High Channel, Average, 802.11n 20 MHz, 8 dBi Omni, 2.4 GHz



Plot 602. Radiated Restricted Band Edge, High Channel, Peak, 802.11n 20 MHz, 8 dBi Omni, 2.4 GHz

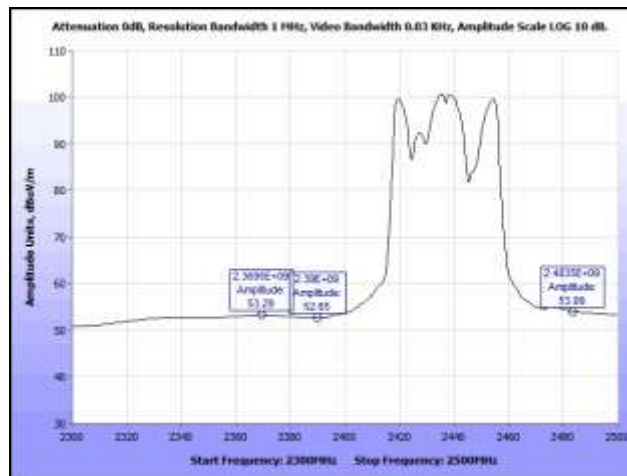
**Radiated Band Edge Measurements, 802.11n 40 MHz, 8 dBi Omni, 2.4 GHz**



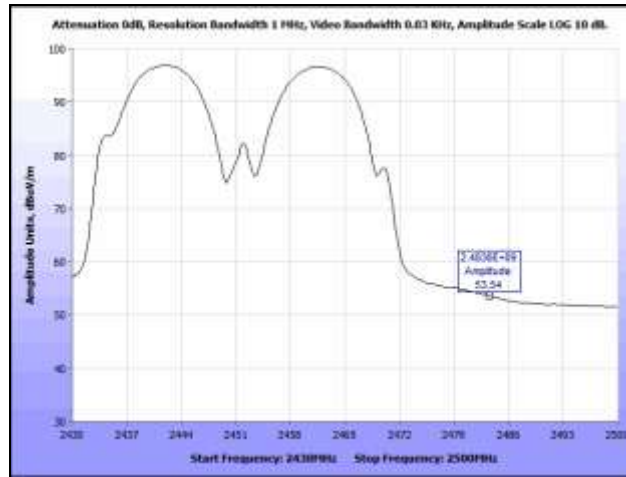
**Plot 603. Radiated Restricted Band Edge, Low Channel, Average, 802.11n 40 MHz, 8 dBi Omni, 2.4 GHz**



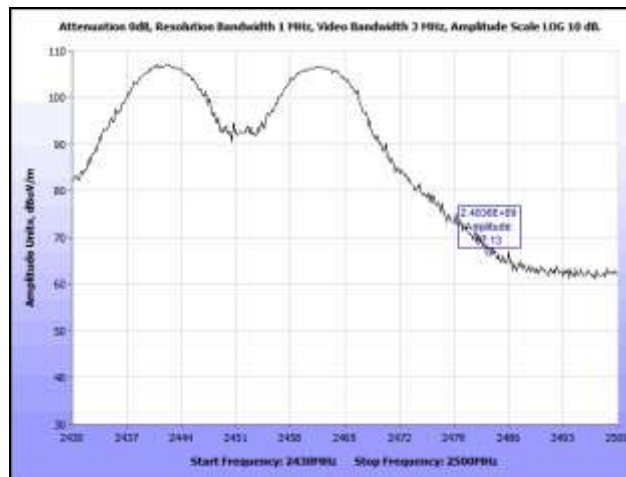
**Plot 604. Radiated Restricted Band Edge, Low Channel, Peak, 802.11n 40 MHz, 8 dBi Omni, 2.4 GHz**



**Plot 605. Radiated Restricted Band Edge, Mid Channel, Average, 802.11n 40 MHz, 8 dBi Omni, 2.4 GHz**



Plot 606. Radiated Restricted Band Edge, High Channel, Average, 802.11n 40 MHz, 8 dBi Omni, 2.4 GHz



Plot 607. Radiated Restricted Band Edge, High Channel, Peak, 802.11n 40 MHz, 8 dBi Omni, 2.4 GHz

## Radiated Spurious Emissions Test Setup



**Photograph 6. Radiated Spurious Emissions, 30MHz – 1GHz, Test Setup**



**Photograph 7. Radiated Spurious Emissions, 1GHz – 18GHz, Test Setup**

## 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.

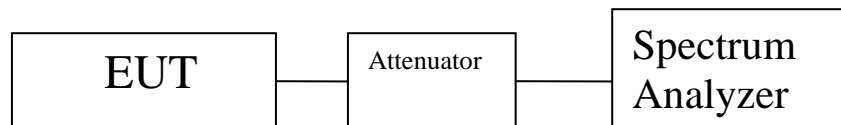
**Test Procedure:** For intentional radiators with a digital device portion which operates below 10 GHz, the spectrum was investigated as per §15.33(a)(1) and §15.33(a)(4); i.e., the lowest RF signal generated or used in the device up to the 10<sup>th</sup> harmonic of the highest fundamental frequency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

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).

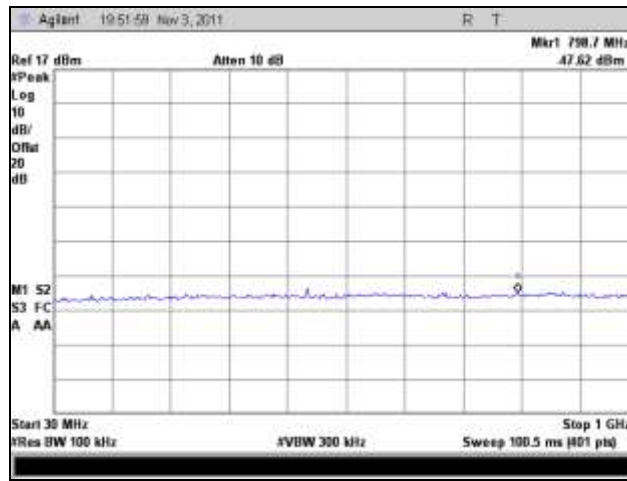
**Test Engineer(s):** Anderson Soungpanya

**Test Date(s):** 11/07/11

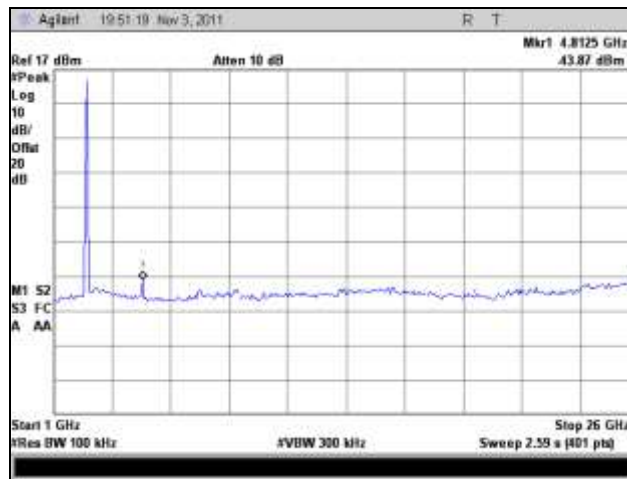


**Figure 4. Block Diagram, Conducted Spurious Emissions Test Setup**

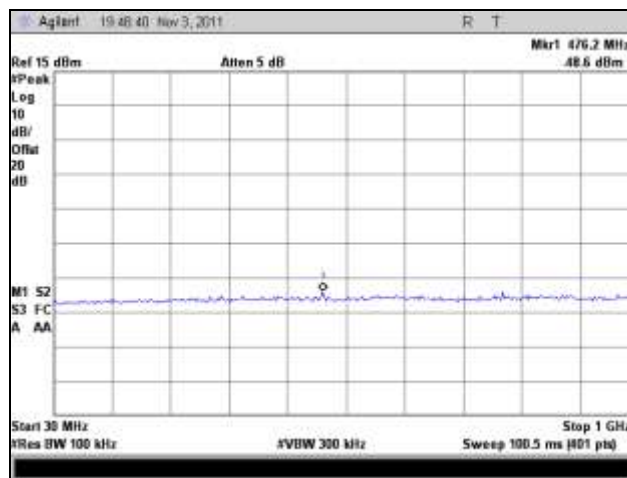
### Conducted Spurious Emissions Test Results, 802.11b, 2.4 GHz



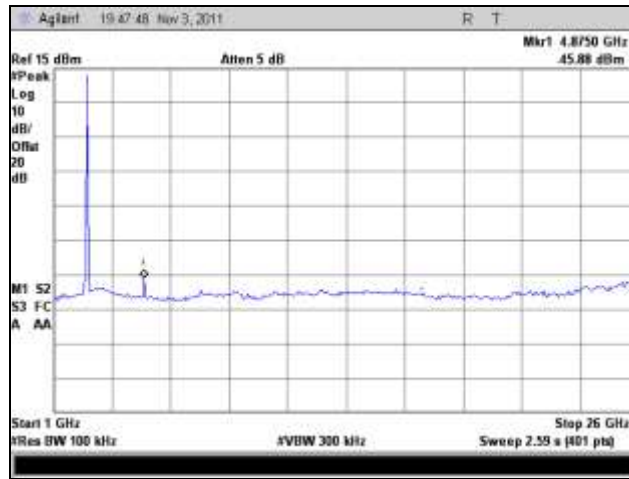
Plot 608. Conducted Spurs, Low Channel, 30 MHz – 1 GHz, 802.11b, 2.4 GHz



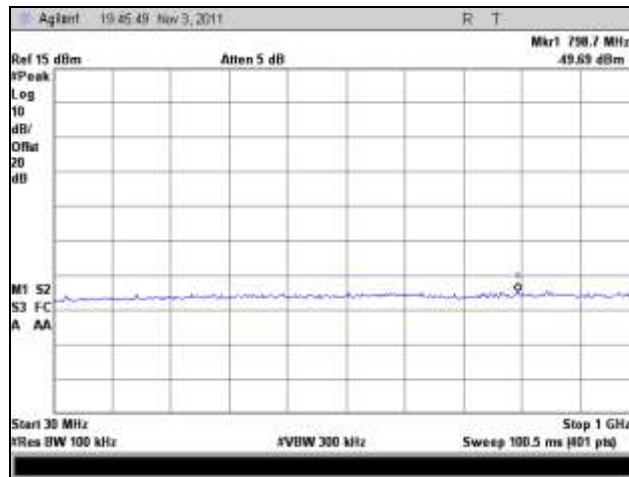
Plot 609. Conducted Spurs, Low Channel, 1 GHz – 26 GHz, 802.11b, 2.4 GHz



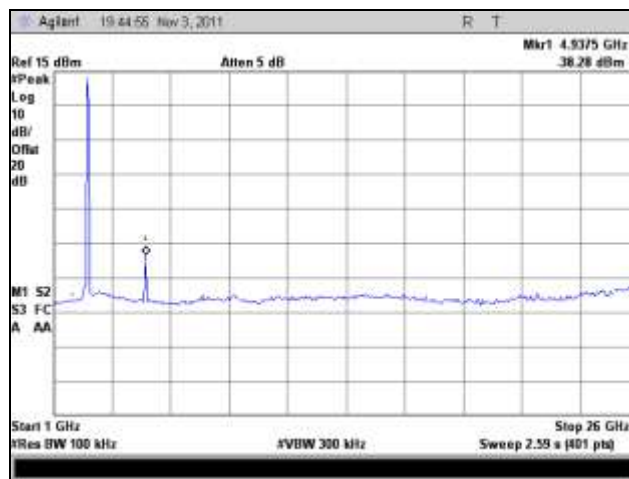
Plot 610. Conducted Spurs, Mid Channel, 30 MHz – 1 GHz, 802.11b, 2.4 GHz



Plot 611. Conducted Spurs, Mid Channel, 1 GHz – 26 GHz, 802.11b, 2.4 GHz



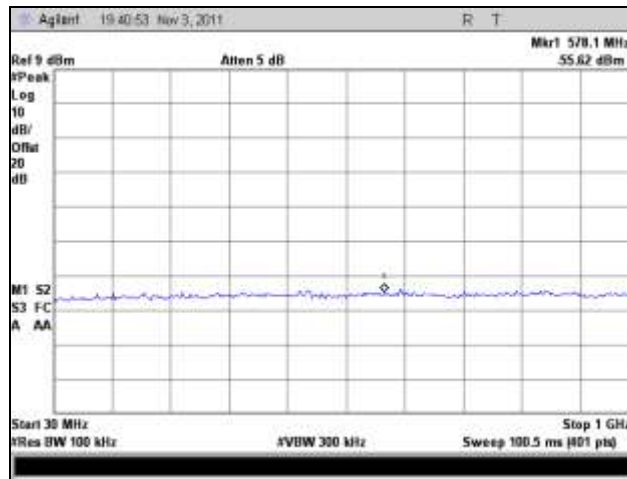
Plot 612. Conducted Spurs, High Channel, 30 MHz – 1 GHz, 802.11b, 2.4 GHz



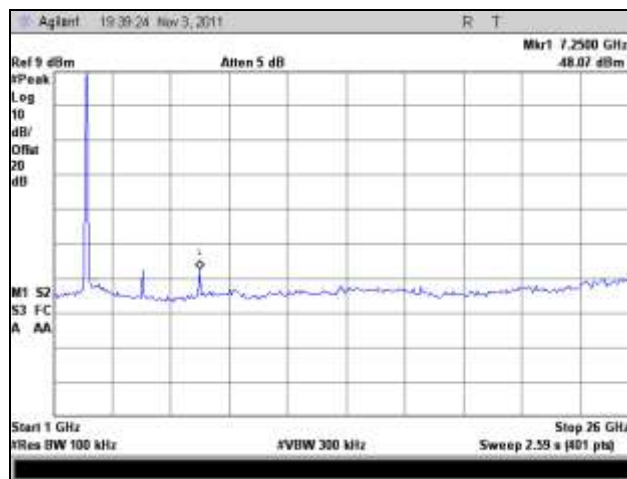
Plot 613. Conducted Spurs, High Channel, 1 GHz – 26 GHz, 802.11b, 2.4 GHz



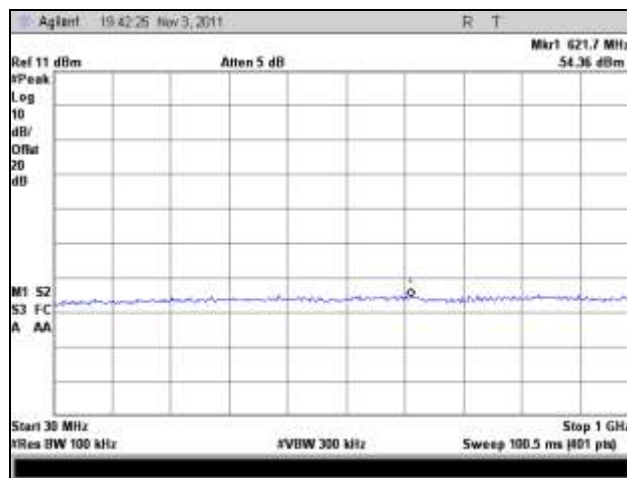
### Conducted Spurious Emissions Test Results, 802.11g, 2.4 GHz



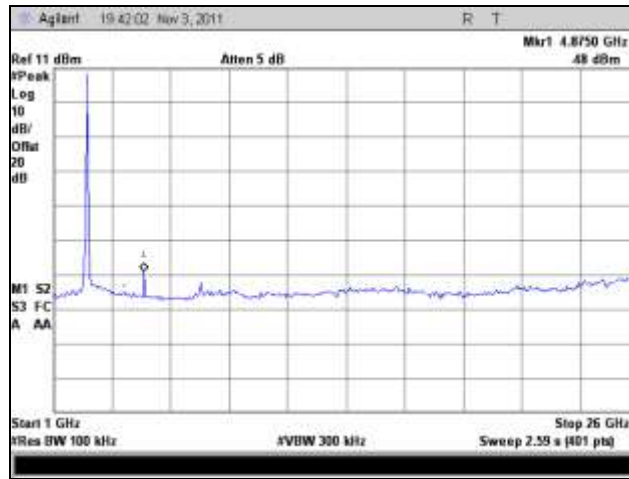
Plot 614. Conducted Spurs, Low Channel, 30 MHz – 1 GHz, 802.11g, 2.4 GHz



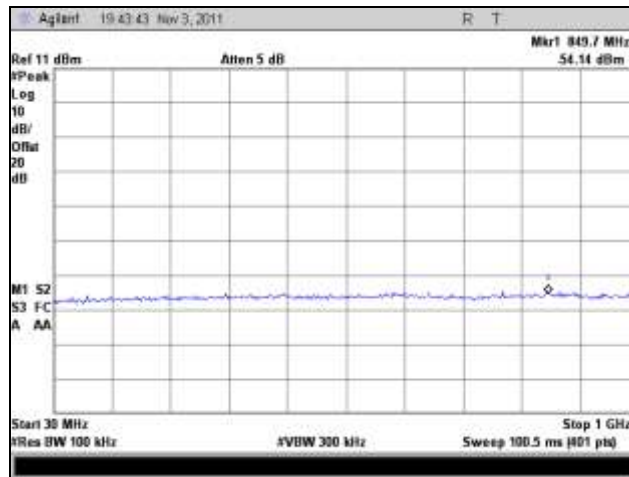
Plot 615. Conducted Spurs, Low Channel, 1 GHz – 26 GHz, 802.11g, 2.4 GHz



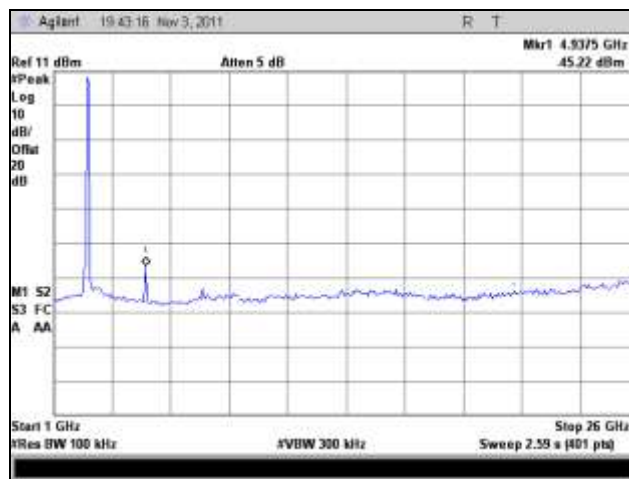
Plot 616. Conducted Spurs, Mid Channel, 30 MHz – 1 GHz, 802.11g, 2.4 GHz



Plot 617. Conducted Spurs, Mid Channel, 1 GHz – 26 GHz, 802.11g, 2.4 GHz

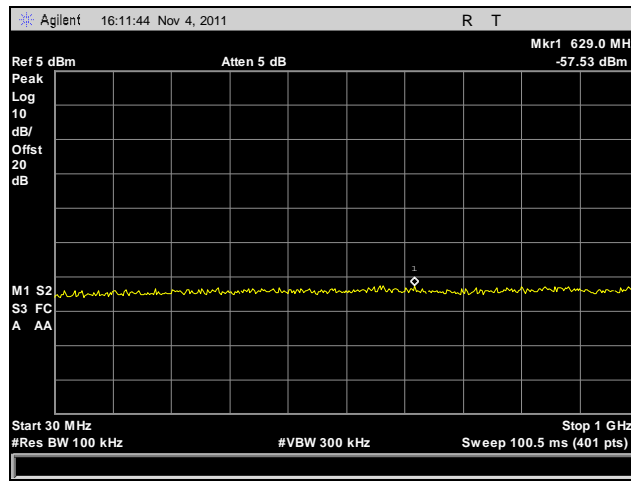


Plot 618. Conducted Spurs, High Channel, 30 MHz – 1 GHz, 802.11g, 2.4 GHz

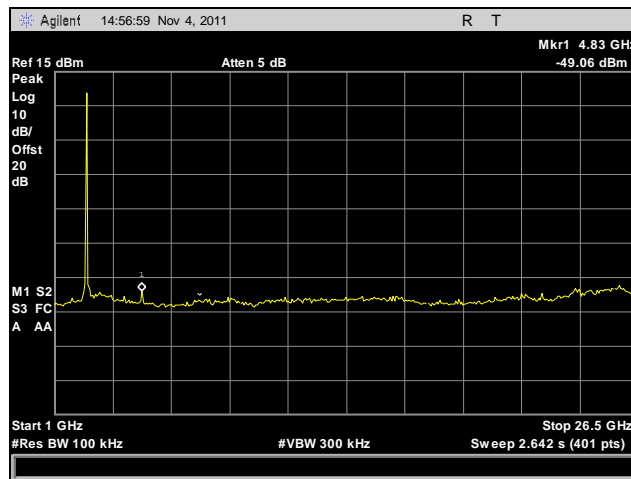


Plot 619. Conducted Spurs, High Channel, 1 GHz – 26 GHz, 802.11g, 2.4 GHz

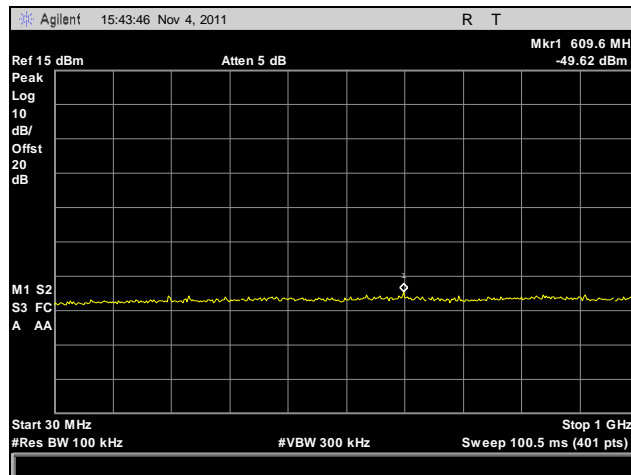
### Conducted Spurious Emissions Test Results, 802.11n 5 MHz, Port 1, 2.4 GHz



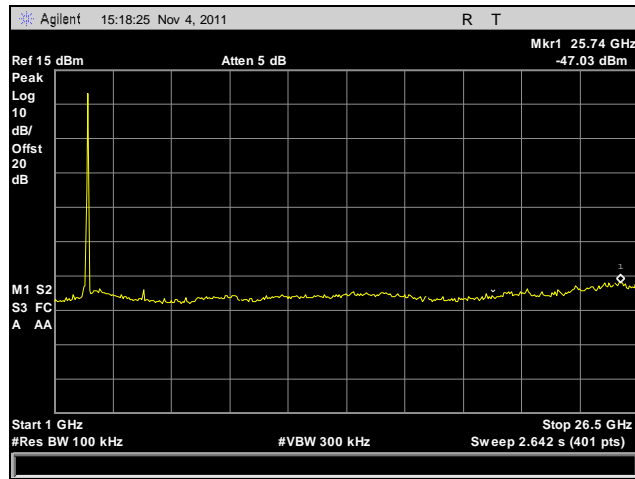
Plot 620. Conducted Spurs, Low Channel, 30 MHz – 1 GHz, 802.11n 5 MHz, Port 1, 2.4 GHz



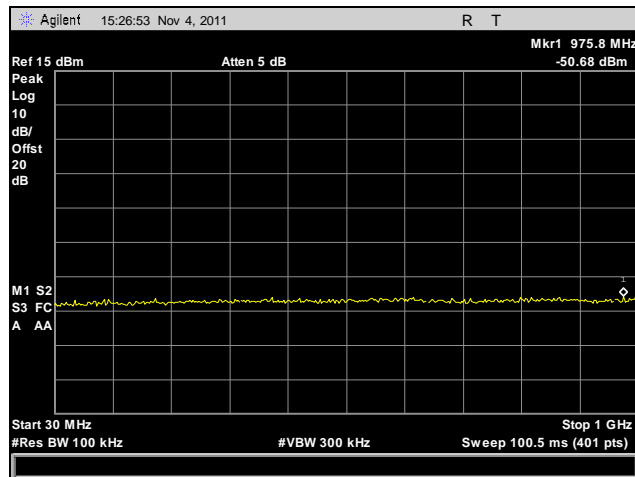
Plot 621. Conducted Spurs, Low Channel, 1 GHz – 26 GHz, 802.11n 5 MHz, Port 1, 2.4 GHz



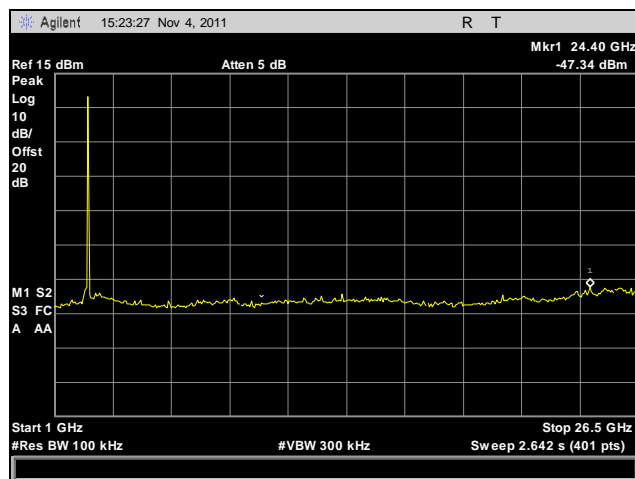
Plot 622. Conducted Spurs, Mid Channel, 30 MHz – 1 GHz, 802.11n 5 MHz, Port 1, 2.4 GHz



Plot 623. Conducted Spurs, Mid Channel, 1 GHz – 26 GHz, 802.11n 5 MHz, Port 1, 2.4 GHz

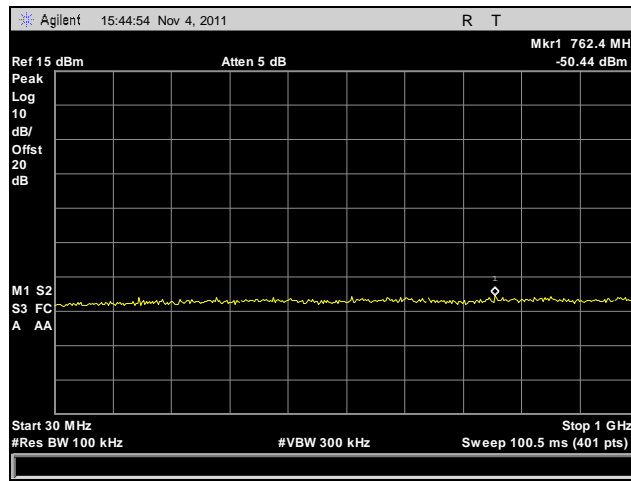


Plot 624. Conducted Spurs, High Channel, 30 MHz – 1 GHz, 802.11n 5 MHz, Port 1, 2.4 GHz

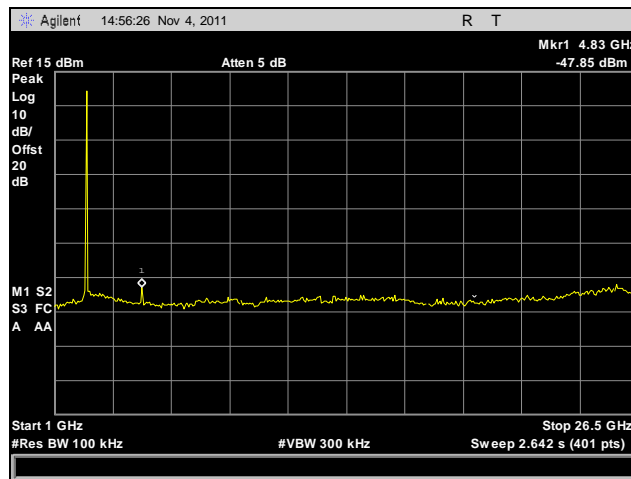


Plot 625. Conducted Spurs, High Channel, 1 GHz – 26 GHz, 802.11n 5 MHz, Port 1, 2.4 GHz

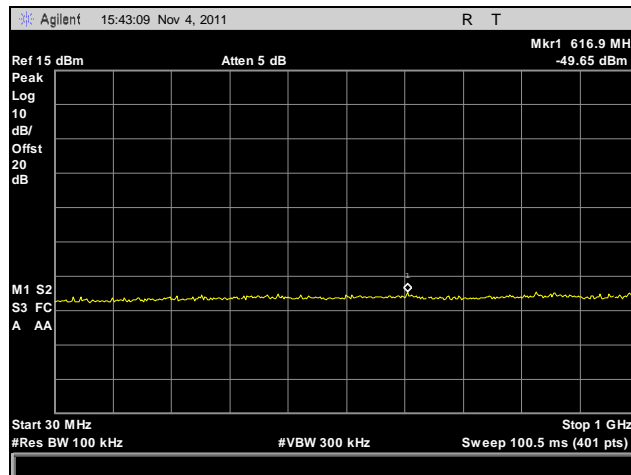
### Conducted Spurious Emissions Test Results, 802.11n 5 MHz, Port 2, 2.4 GHz



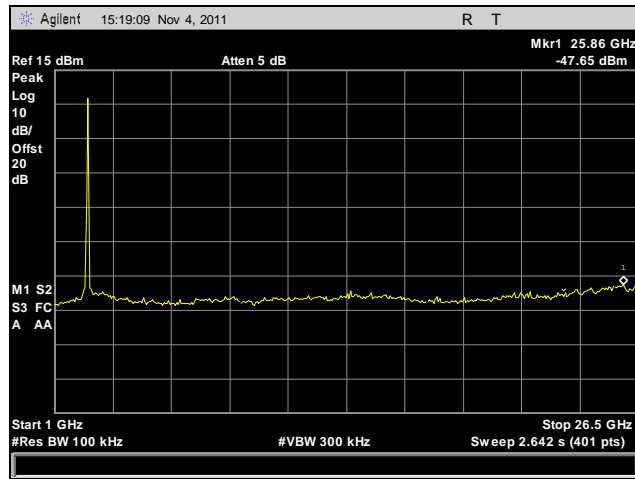
Plot 626. Conducted Spurs, Low Channel, 30 MHz – 1 GHz, 802.11n 5 MHz, Port 2, 2.4 GHz



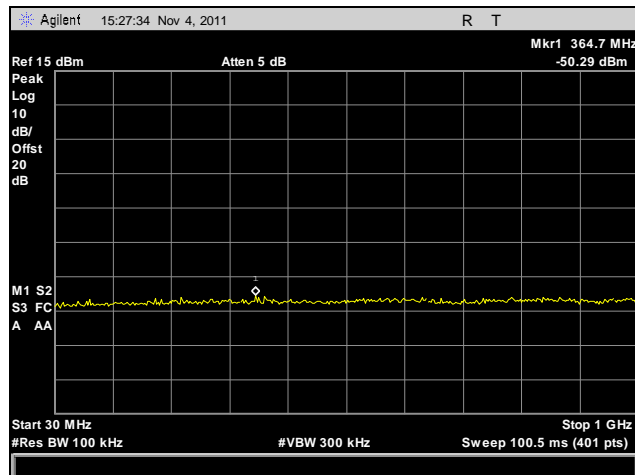
Plot 627. Conducted Spurs, Low Channel, 1 GHz – 26 GHz, 802.11n 5 MHz, Port 2, 2.4 GHz



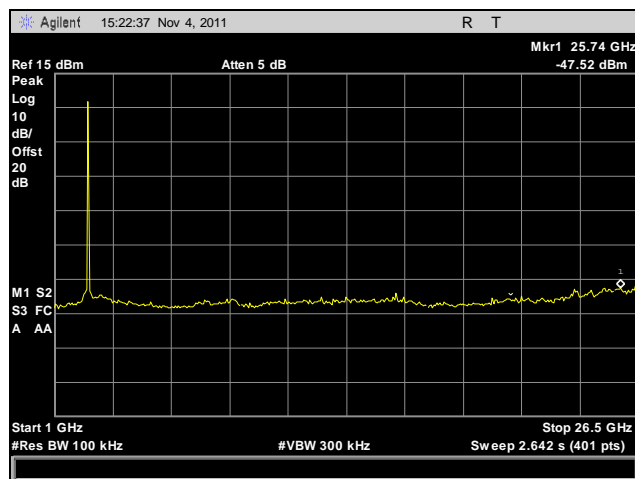
Plot 628. Conducted Spurs, Mid Channel, 30 MHz – 1 GHz, 802.11n 5 MHz, Port 2, 2.4 GHz



Plot 629. Conducted Spurs, Mid Channel, 1 GHz – 26 GHz, 802.11n 5 MHz, Port 2, 2.4 GHz

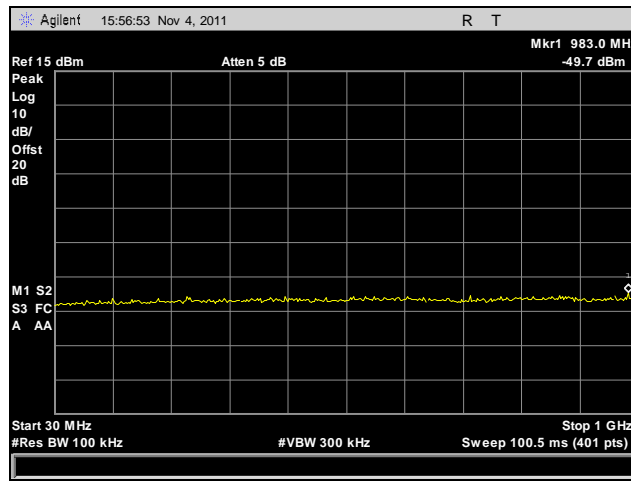


Plot 630. Conducted Spurs, High Channel, 30 MHz – 1 GHz, 802.11n 5 MHz, Port 2, 2.4 GHz

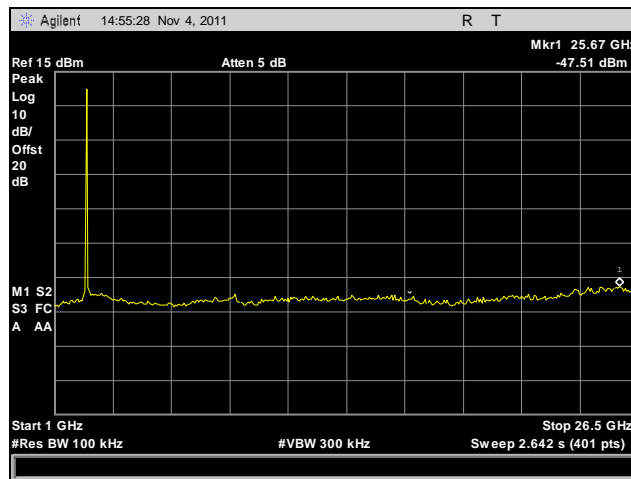


Plot 631. Conducted Spurs, High Channel, 1 GHz – 26 GHz, 802.11n 5 MHz, Port 2, 2.4 GHz

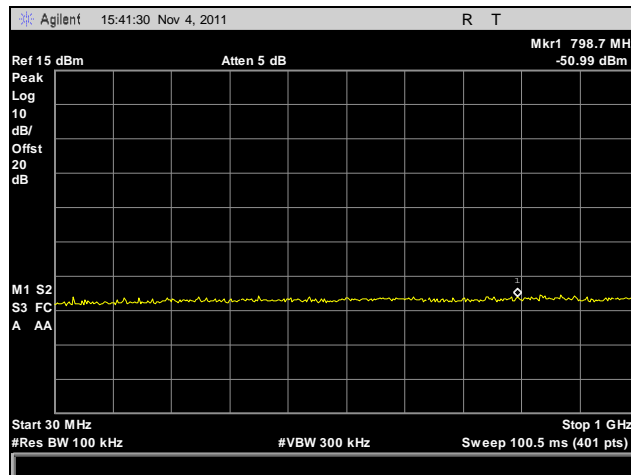
### Conducted Spurious Emissions Test Results, 802.11n 5 MHz, Port 3, 2.4 GHz



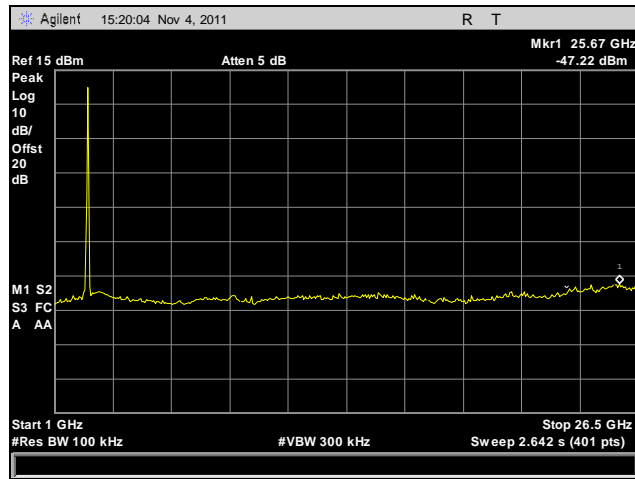
Plot 632. Conducted Spurs, Low Channel, 30 MHz – 1 GHz, 802.11n 5 MHz, Port 3, 2.4 GHz



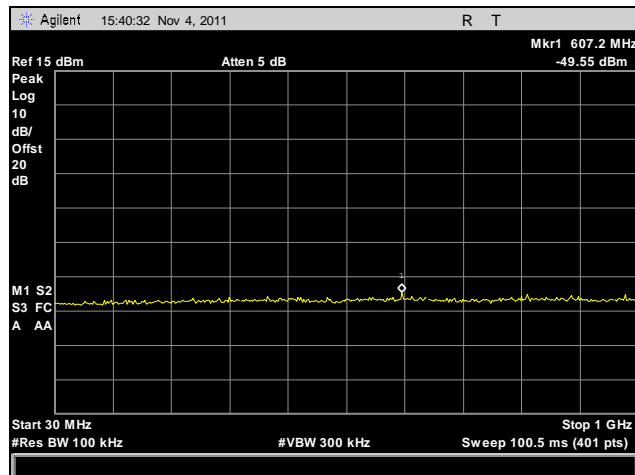
Plot 633. Conducted Spurs, Low Channel, 1 GHz – 26 GHz, 802.11n 5 MHz, Port 3, 2.4 GHz



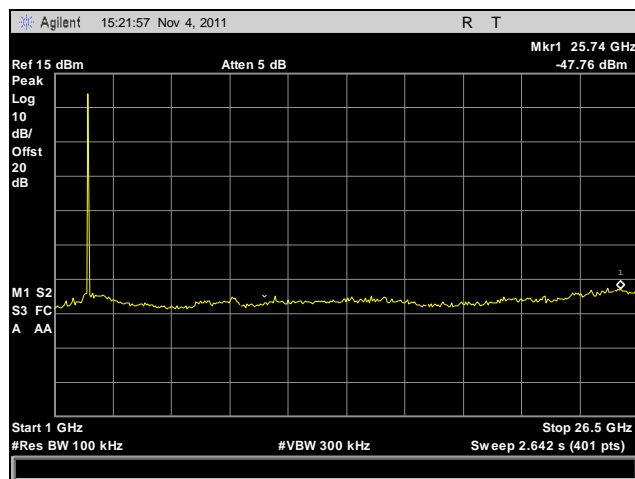
Plot 634. Conducted Spurs, Mid Channel, 30 MHz – 1 GHz, 802.11n 5 MHz, Port 3, 2.4 GHz



Plot 635. Conducted Spurs, Mid Channel, 1 GHz – 26 GHz, 802.11n 5 MHz, Port 3, 2.4 GHz



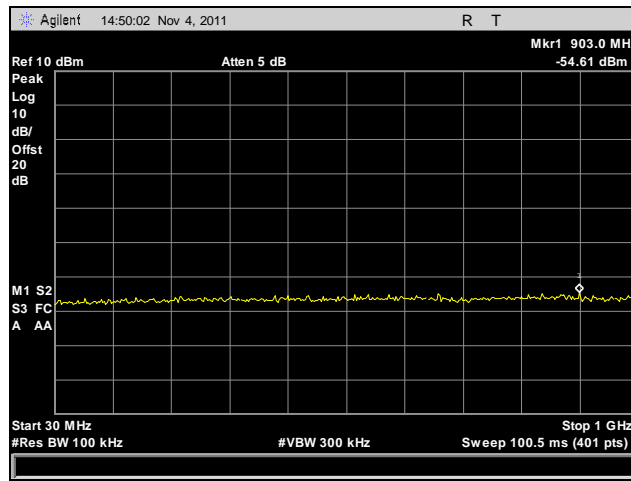
Plot 636. Conducted Spurs, High Channel, 30 MHz – 1 GHz, 802.11n 5 MHz, Port 3, 2.4 GHz



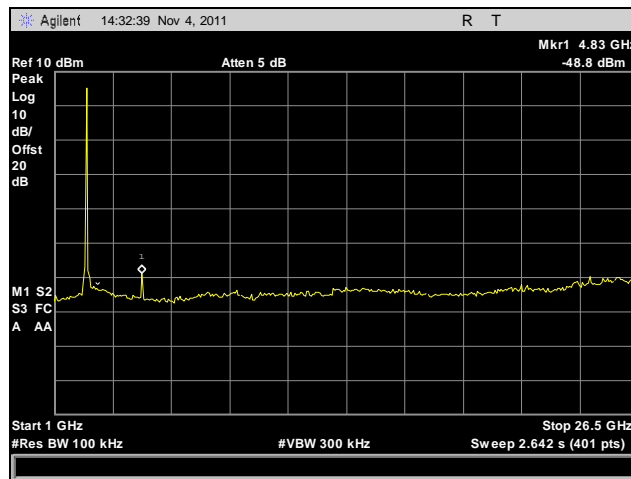
Plot 637. Conducted Spurs, High Channel, 1 GHz – 26 GHz, 802.11n 5 MHz, Port 3, 2.4 GHz



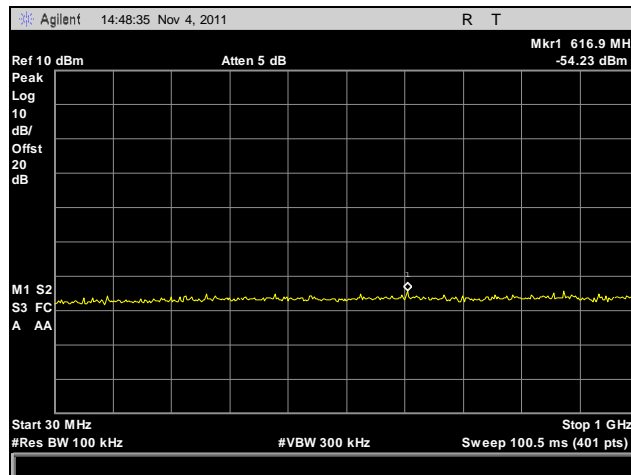
### Conducted Spurious Emissions Test Results, 802.11n 10 MHz, Port 1, 2.4 GHz



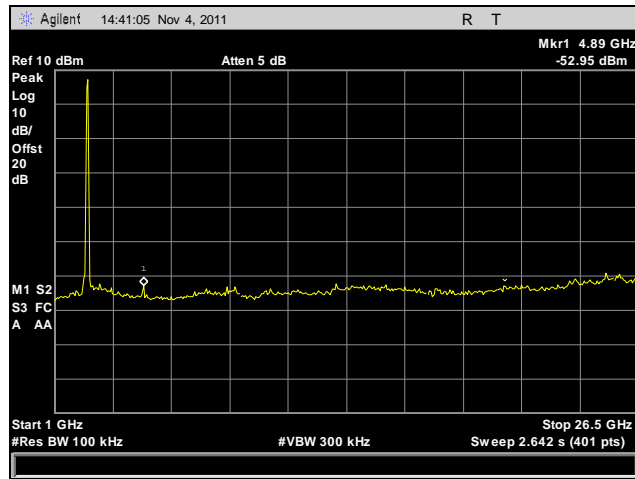
Plot 638. Conducted Spurs, Low Channel, 30 MHz – 1 GHz, 802.11n 10 MHz, Port 1, 2.4 GHz



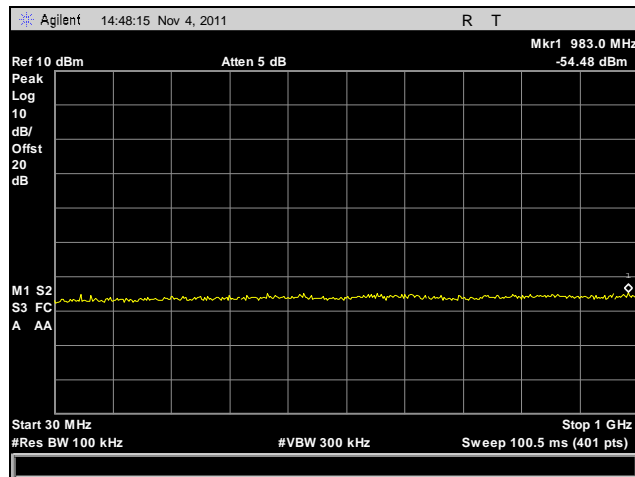
Plot 639. Conducted Spurs, Low Channel, 1 GHz – 26 GHz, 802.11n 10 MHz, Port 1, 2.4 GHz



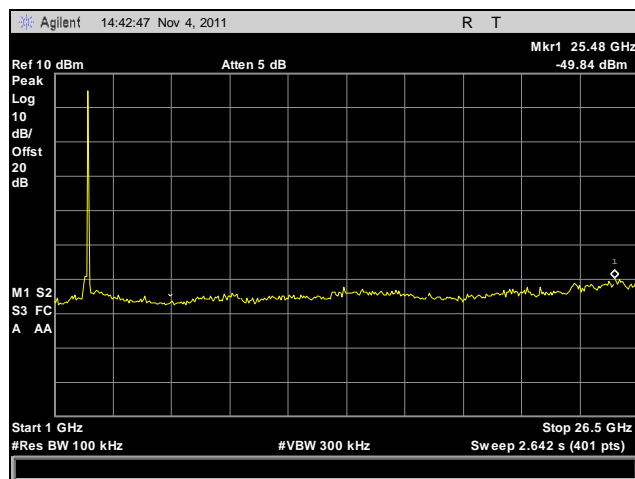
Plot 640. Conducted Spurs, Mid Channel, 30 MHz – 1 GHz, 802.11n 10 MHz, Port 1, 2.4 GHz



Plot 641. Conducted Spurs, Mid Channel, 1 GHz – 26 GHz, 802.11n 10 MHz, Port 1, 2.4 GHz

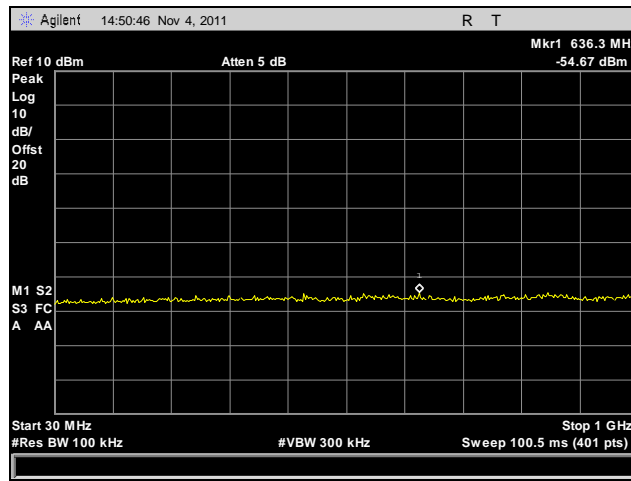


Plot 642. Conducted Spurs, High Channel, 30 MHz – 1 GHz, 802.11n 10 MHz, Port 1, 2.4 GHz

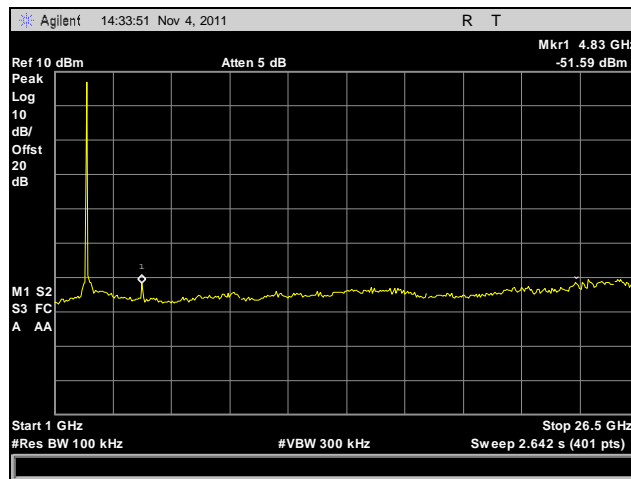


Plot 643. Conducted Spurs, High Channel, 1 GHz – 26 GHz, 802.11n 10 MHz, Port 1, 2.4 GHz

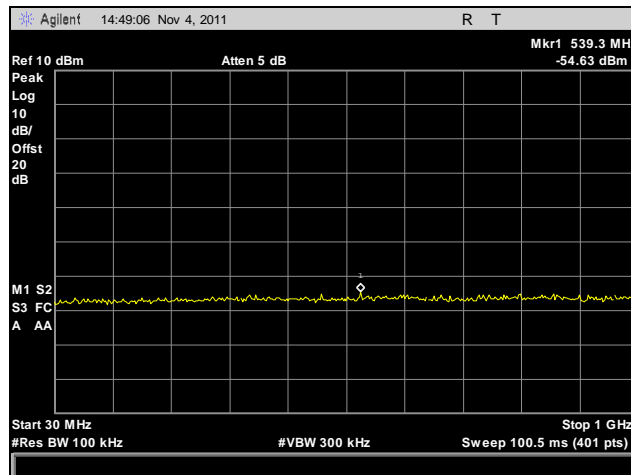
### Conducted Spurious Emissions Test Results, 802.11n 10 MHz, Port 2, 2.4 GHz



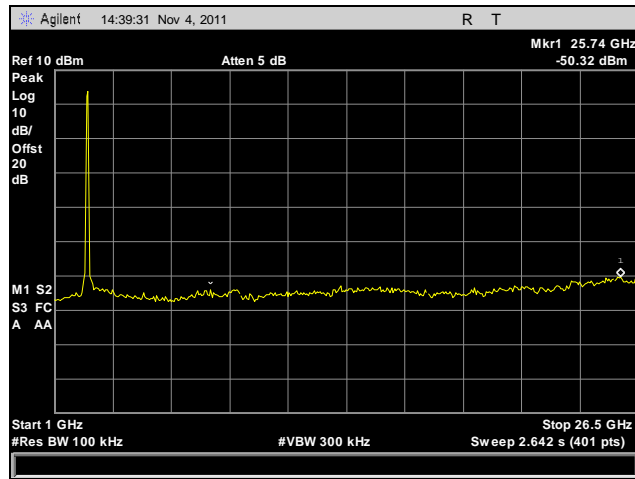
Plot 644. Conducted Spurs, Low Channel, 30 MHz – 1 GHz, 802.11n 10 MHz, Port 2, 2.4 GHz



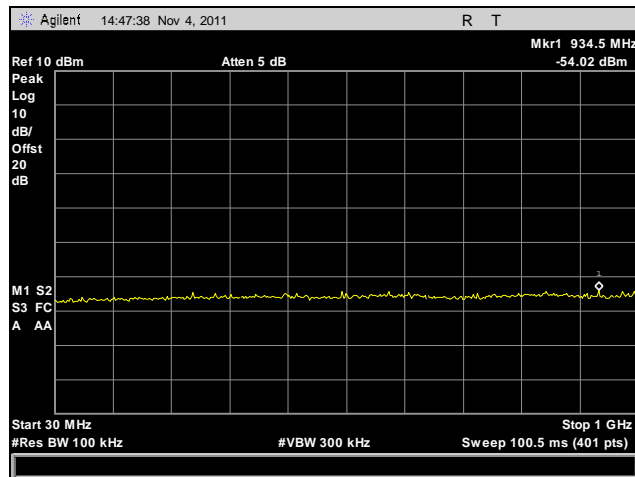
Plot 645. Conducted Spurs, Low Channel, 1 GHz – 26 GHz, 802.11n 10 MHz, Port 2, 2.4 GHz



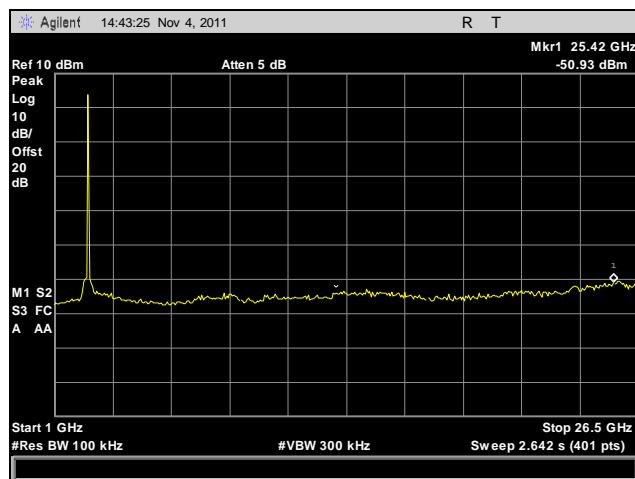
Plot 646. Conducted Spurs, Mid Channel, 30 MHz – 1 GHz, 802.11n 10 MHz, Port 2, 2.4 GHz



**Plot 647. Conducted Spurs, Mid Channel, 1 GHz – 26 GHz, 802.11n 10 MHz, Port 2, 2.4 GHz**

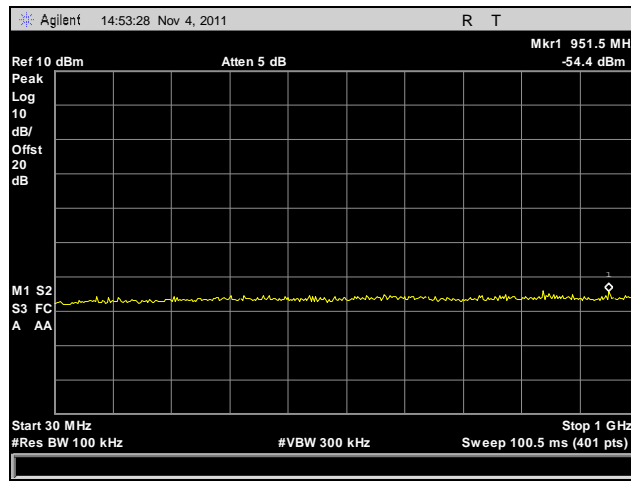


**Plot 648. Conducted Spurs, High Channel, 30 MHz – 1 GHz, 802.11n 10 MHz, Port 2, 2.4 GHz**

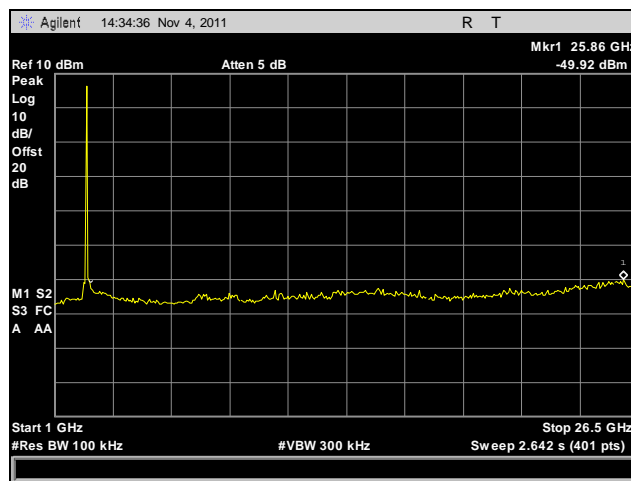


**Plot 649. Conducted Spurs, High Channel, 1 GHz – 26 GHz, 802.11n 10 MHz, Port 2, 2.4 GHz**

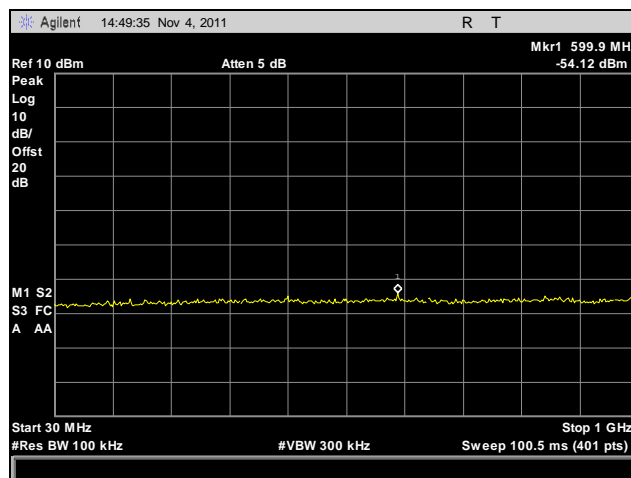
**Conducted Spurious Emissions Test Results, 802.11n 10 MHz, Port 3, 2.4 GHz**



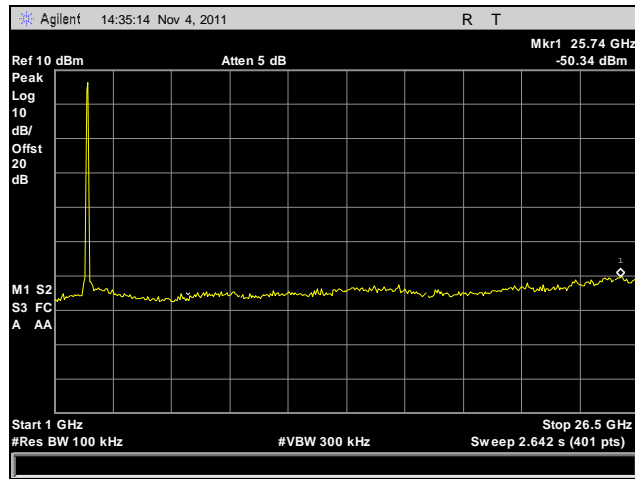
**Plot 650. Conducted Spurs, Low Channel, 30 MHz – 1 GHz, 802.11n 10 MHz, Port 3, 2.4 GHz**



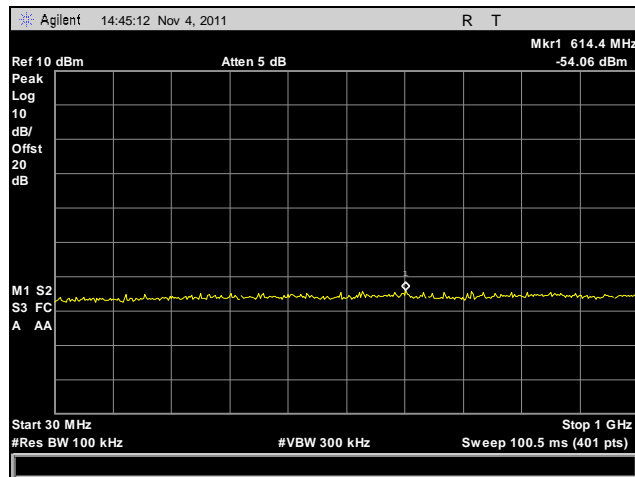
**Plot 651. Conducted Spurs, Low Channel, 1 GHz – 26 GHz, 802.11n 10 MHz, Port 3, 2.4 GHz**



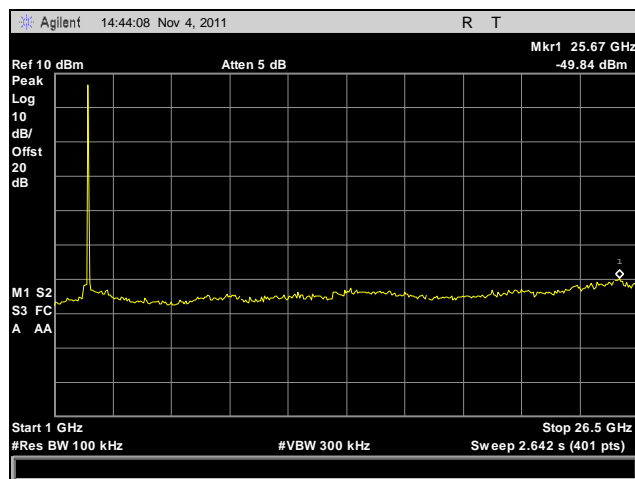
**Plot 652. Conducted Spurs, Mid Channel, 30 MHz – 1 GHz, 802.11n 10 MHz, Port 3, 2.4 GHz**



Plot 653. Conducted Spurs, Mid Channel, 1 GHz – 26 GHz, 802.11n 10 MHz, Port 3, 2.4 GHz

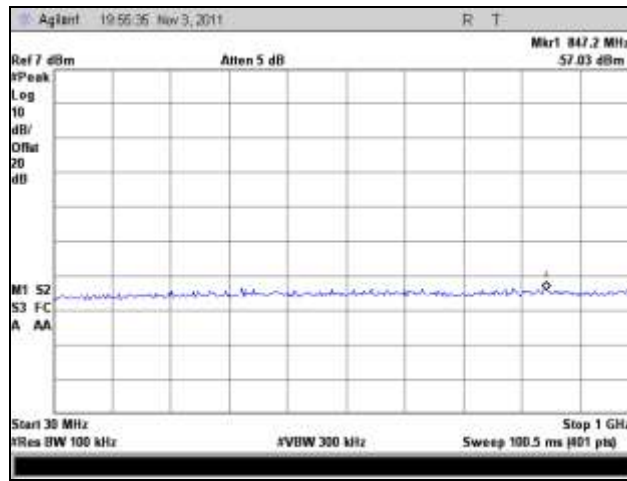


Plot 654. Conducted Spurs, High Channel, 30 MHz – 1 GHz, 802.11n 10 MHz, Port 3, 2.4 GHz

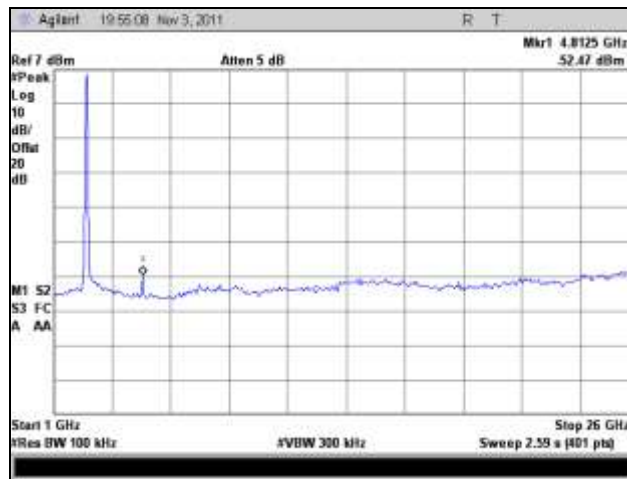


Plot 655. Conducted Spurs, High Channel, 1 GHz – 26 GHz, 802.11n 10 MHz, Port 3, 2.4 GHz

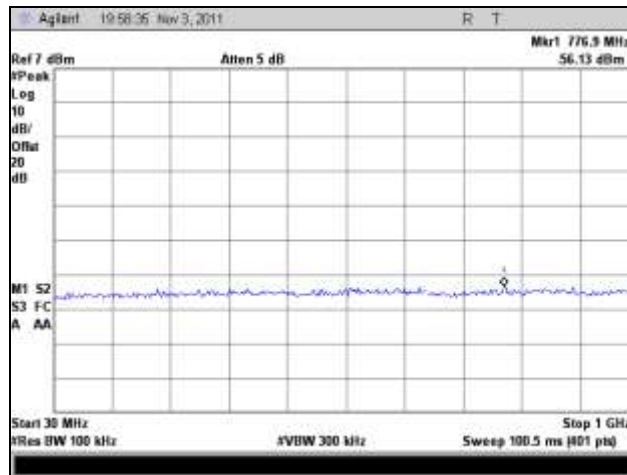
### Conducted Spurious Emissions Test Results, 802.11n 20 MHz, Port 1, 2.4 GHz



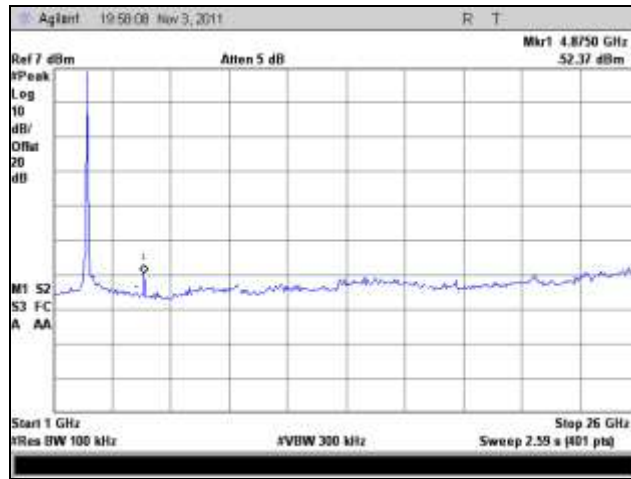
Plot 656. Conducted Spurs, Low Channel, 30 MHz – 1 GHz, 802.11n 20 MHz, Port 1, 2.4 GHz



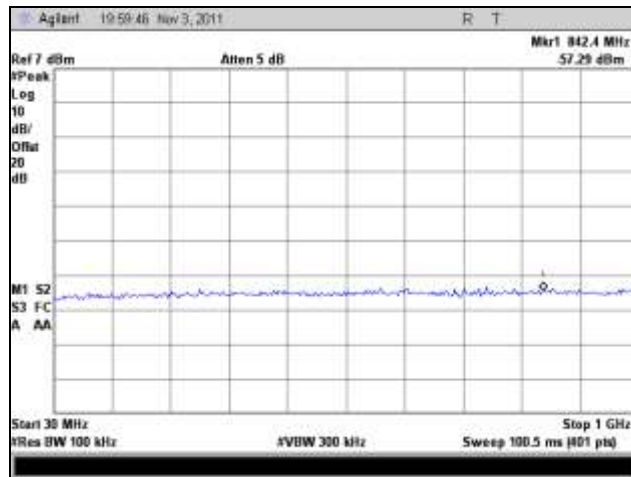
Plot 657. Conducted Spurs, Low Channel, 1 GHz – 26 GHz, 802.11n 20 MHz, Port 1, 2.4 GHz



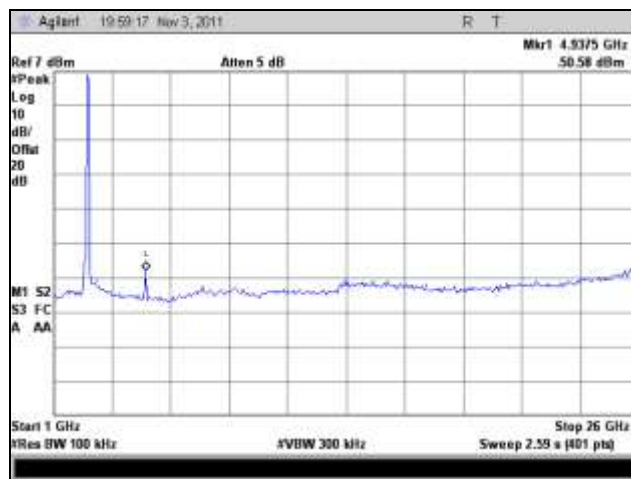
Plot 658. Conducted Spurs, Mid Channel, 30 MHz – 1 GHz, 802.11n 20 MHz, Port 1, 2.4 GHz



Plot 659. Conducted Spurs, Mid Channel, 1 GHz – 26 GHz, 802.11n 20 MHz, Port 1, 2.4 GHz



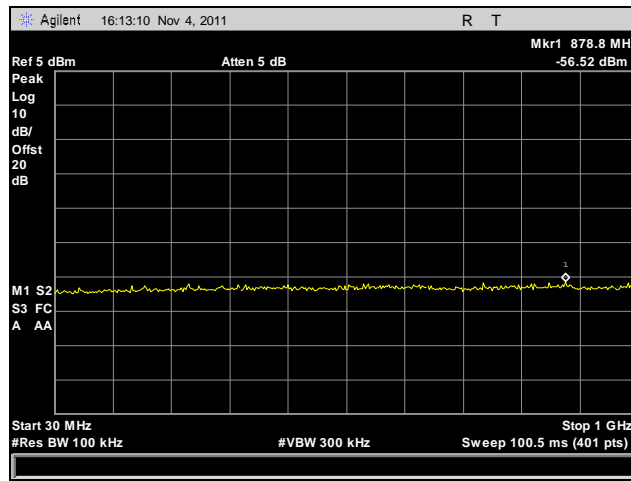
Plot 660. Conducted Spurs, High Channel, 30 MHz – 1 GHz, 802.11n 20 MHz, Port 1, 2.4 GHz



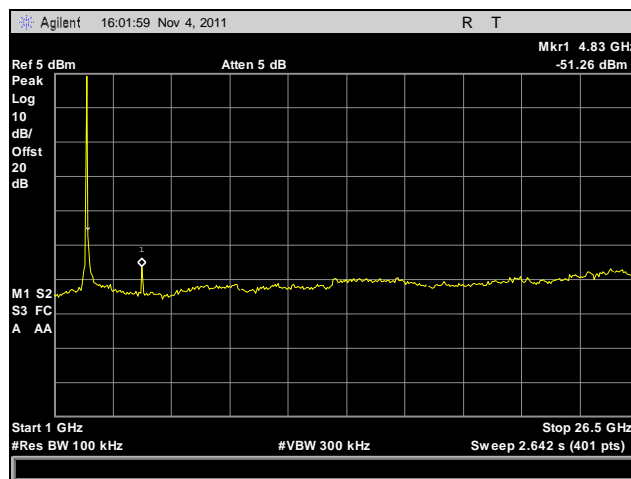
Plot 661. Conducted Spurs, High Channel, 1 GHz – 26 GHz, 802.11n 20 MHz, Port 1, 2.4 GHz



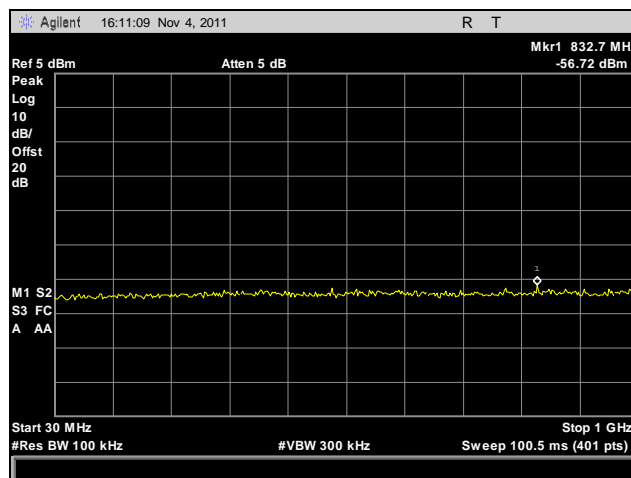
### Conducted Spurious Emissions Test Results, 802.11n 20 MHz, Port 2, 2.4 GHz



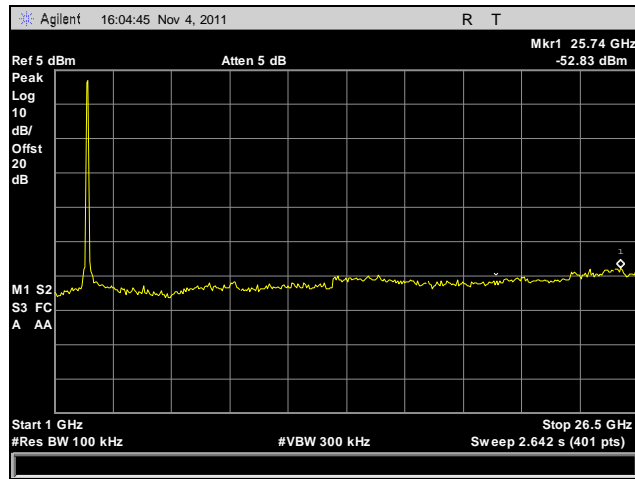
Plot 662. Conducted Spurs, Low Channel, 30 MHz – 1 GHz, 802.11n 20 MHz, Port 2, 2.4 GHz



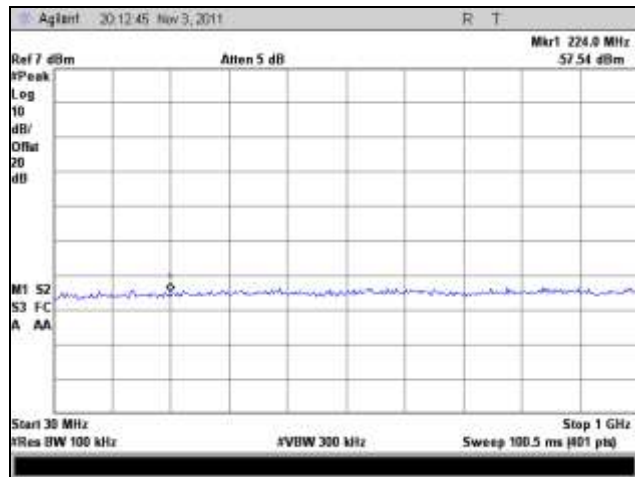
Plot 663. Conducted Spurs, Low Channel, 1 GHz – 26 GHz, 802.11n 20 MHz, Port 2, 2.4 GHz



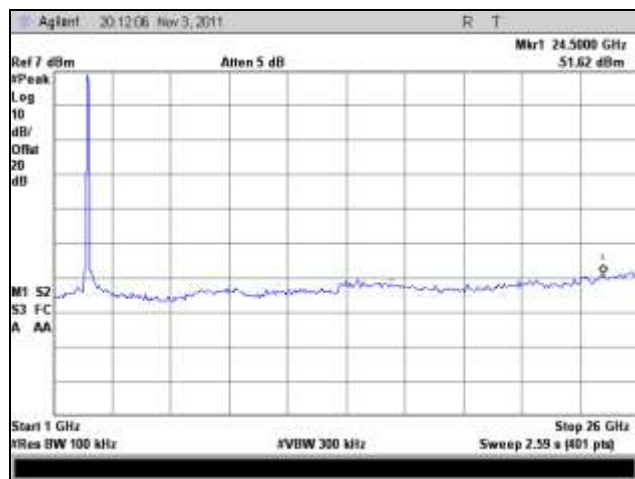
Plot 664. Conducted Spurs, Mid Channel, 30 MHz – 1 GHz, 802.11n 20 MHz, Port 2, 2.4 GHz



Plot 665. Conducted Spurs, Mid Channel, 1 GHz – 26 GHz, 802.11n 20 MHz, Port 2, 2.4 GHz

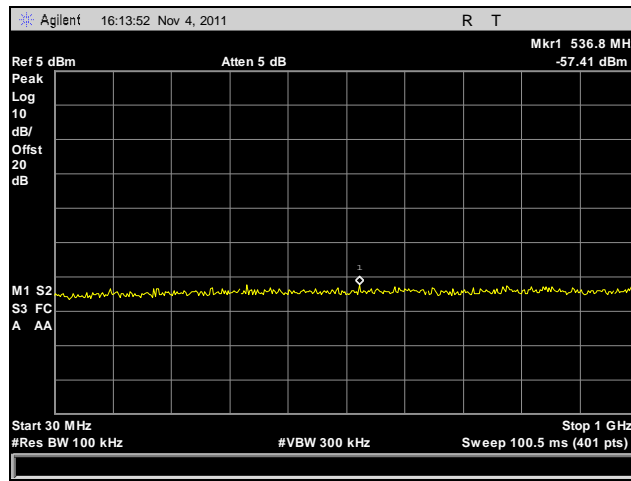


Plot 666. Conducted Spurs, High Channel, 30 MHz – 1 GHz, 802.11n 20 MHz, Port 2, 2.4 GHz

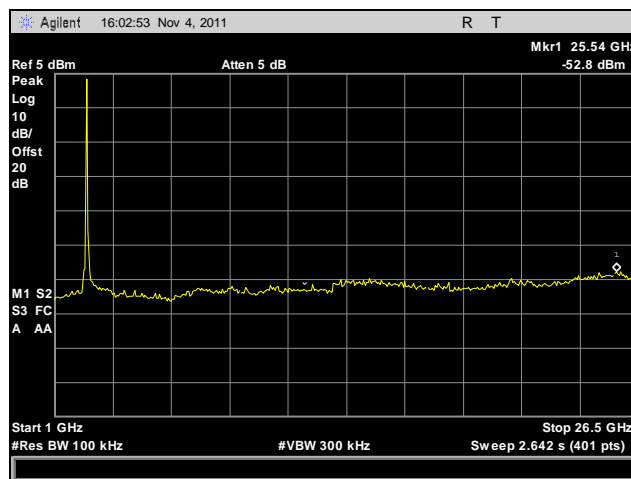


Plot 667. Conducted Spurs, High Channel, 1 GHz – 26 GHz, 802.11n 20 MHz, Port 2, 2.4 GHz

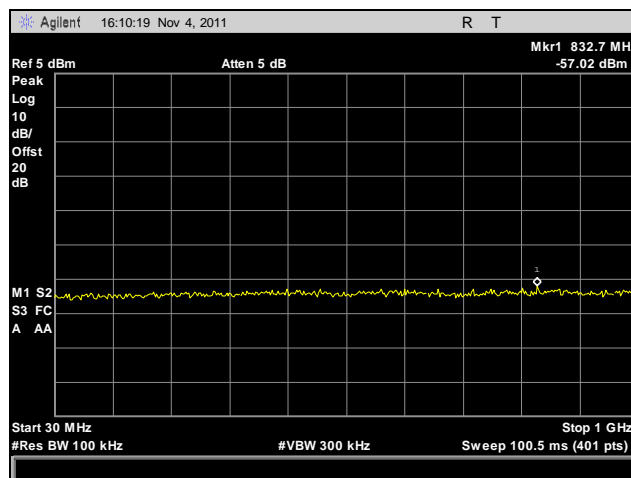
### Conducted Spurious Emissions Test Results, 802.11n 20 MHz, Port 3, 2.4 GHz



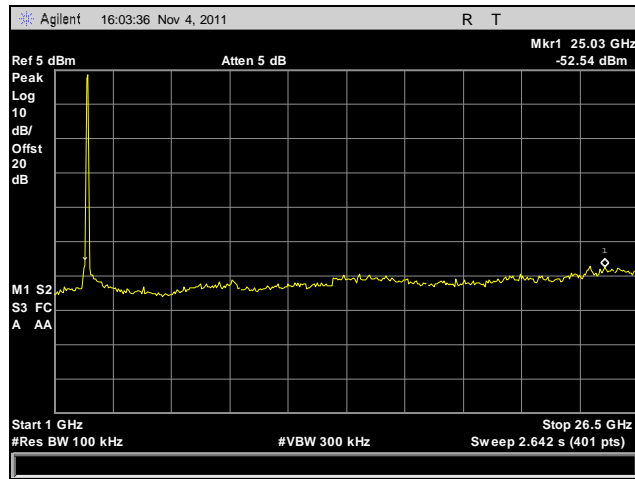
Plot 668. Conducted Spurs, Low Channel, 30 MHz – 1 GHz, 802.11n 20 MHz, Port 3, 2.4 GHz



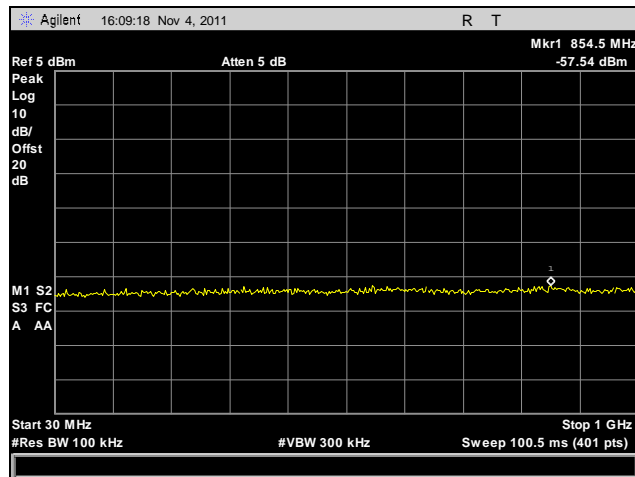
Plot 669. Conducted Spurs, Low Channel, 1 GHz – 26 GHz, 802.11n 20 MHz, Port 3, 2.4 GHz



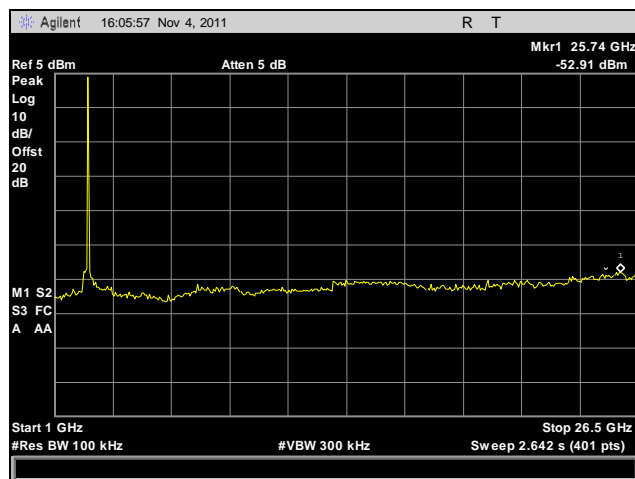
Plot 670. Conducted Spurs, Mid Channel, 30 MHz – 1 GHz, 802.11n 20 MHz, Port 3, 2.4 GHz



Plot 671. Conducted Spurs, Mid Channel, 1 GHz – 26 GHz, 802.11n 20 MHz, Port 3, 2.4 GHz

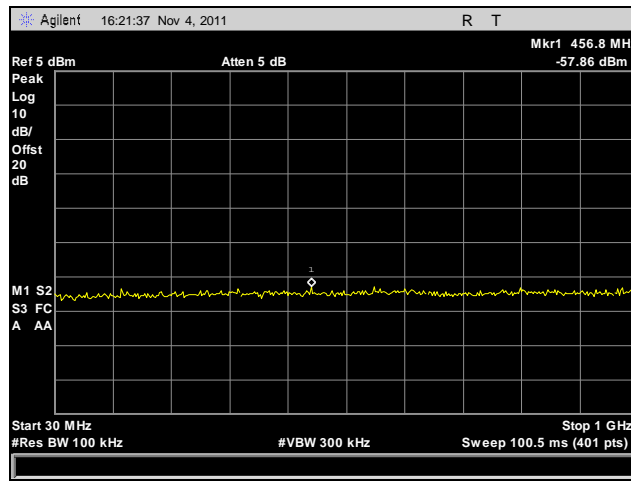


Plot 672. Conducted Spurs, High Channel, 30 MHz – 1 GHz, 802.11n 20 MHz, Port 3, 2.4 GHz

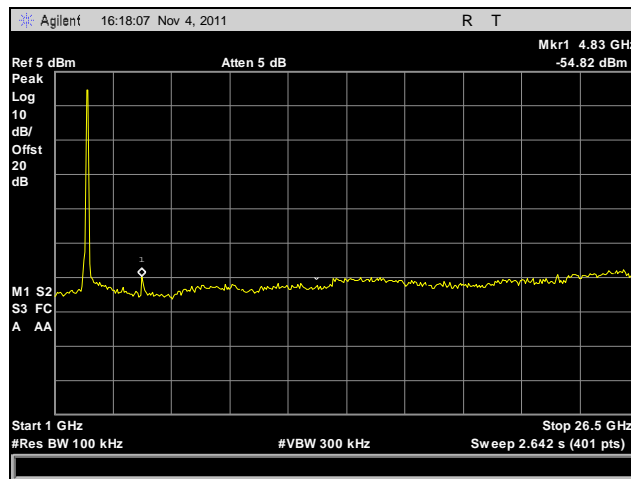


Plot 673. Conducted Spurs, High Channel, 1 GHz – 26 GHz, 802.11n 20 MHz, Port 3, 2.4 GHz

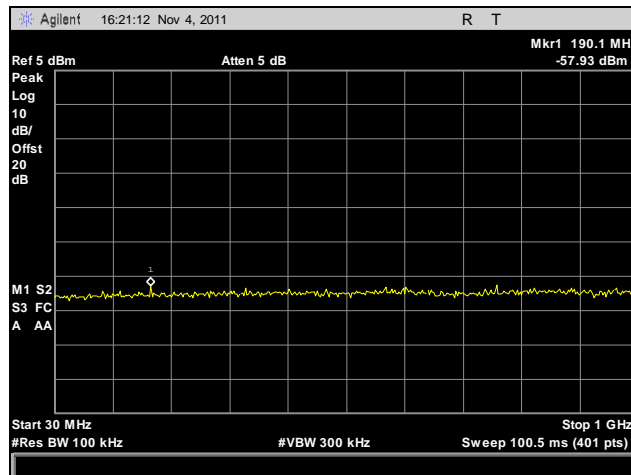
### Conducted Spurious Emissions Test Results, 802.11n 40 MHz, Port 1, 2.4 GHz



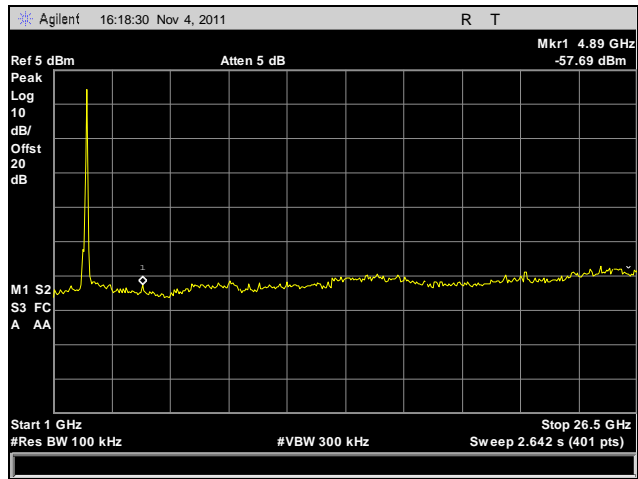
Plot 674. Conducted Spurs, Low Channel, 30 MHz – 1 GHz, 802.11n 40 MHz, Port 1, 2.4 GHz



Plot 675. Conducted Spurs, Low Channel, 1 GHz – 26 GHz, 802.11n 40 MHz, Port 1, 2.4 GHz



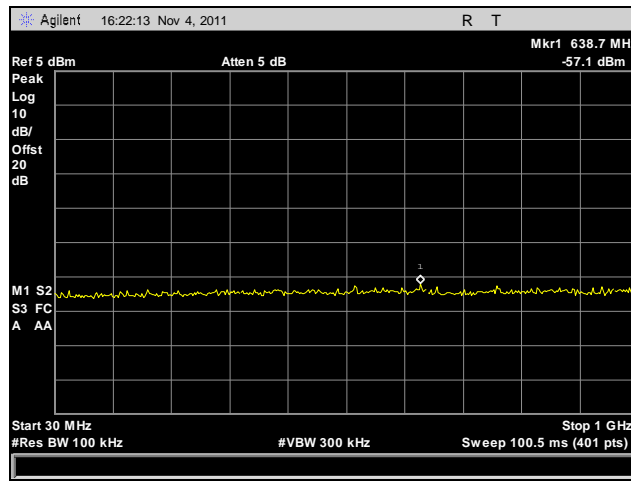
Plot 676. Conducted Spurs, High Channel, 30 MHz – 1 GHz, 802.11n 40 MHz, Port 1, 2.4 GHz



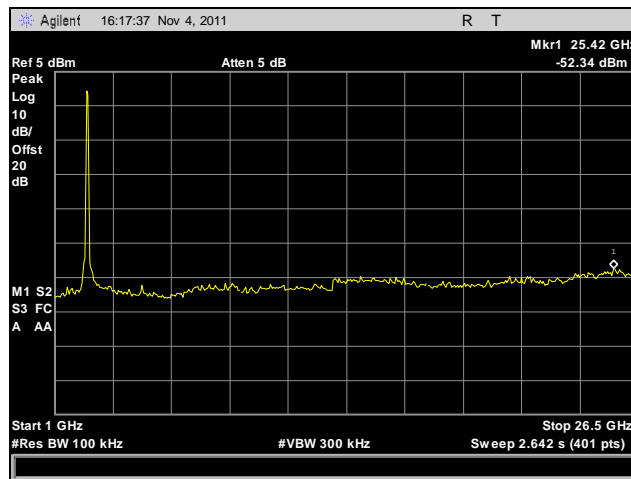
**Plot 677. Conducted Spurs, High Channel, 1 GHz – 26 GHz, 802.11n 40 MHz, Port 1, 2.4 GHz**



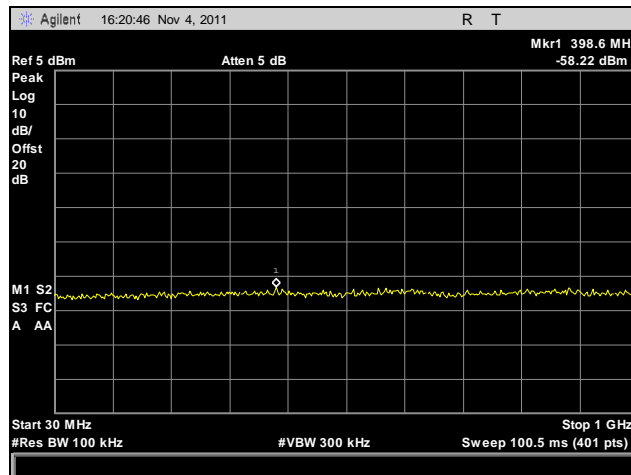
### Conducted Spurious Emissions Test Results, 802.11n 40 MHz, Port 2, 2.4 GHz



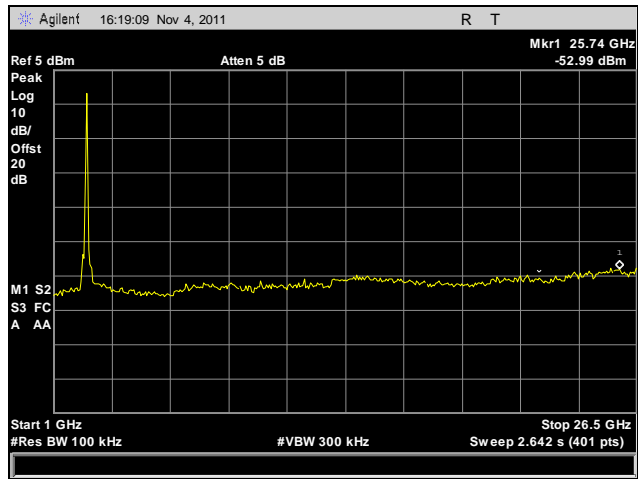
Plot 678. Conducted Spurs, Low Channel, 30 MHz – 1 GHz, 802.11n 40 MHz, Port 2, 2.4 GHz



Plot 679. Conducted Spurs, Low Channel, 1 GHz – 26 GHz, 802.11n 40 MHz, Port 2, 2.4 GHz



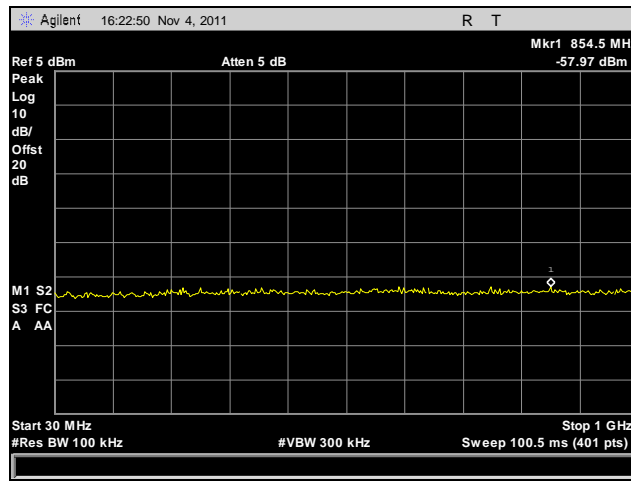
Plot 680. Conducted Spurs, High Channel, 30 MHz – 1 GHz, 802.11n 40 MHz, Port 2, 2.4 GHz



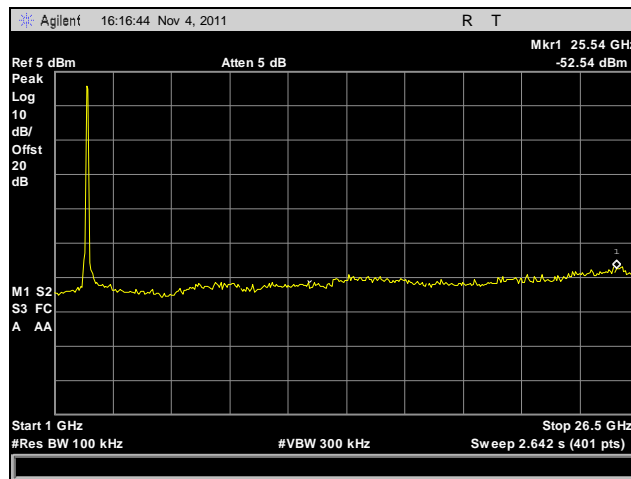
**Plot 681. Conducted Spurs, High Channel, 1 GHz – 26 GHz, 802.11n 40 MHz, Port 2, 2.4 GHz**



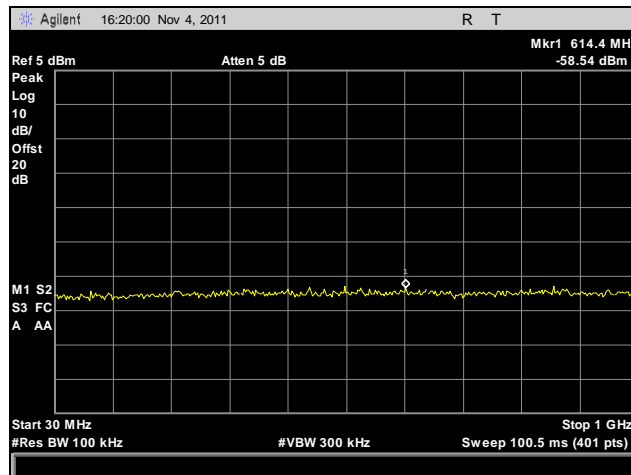
### Conducted Spurious Emissions Test Results, 802.11n 40 MHz, Port 3, 2.4 GHz



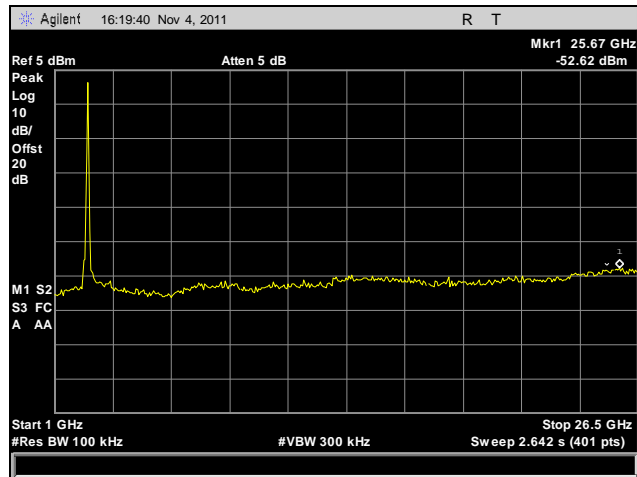
Plot 682. Conducted Spurs, Low Channel, 30 MHz – 1 GHz, 802.11n 40 MHz, Port 3, 2.4 GHz



Plot 683. Conducted Spurs, Low Channel, 1 GHz – 26 GHz, 802.11n 40 MHz, Port 3, 2.4 GHz

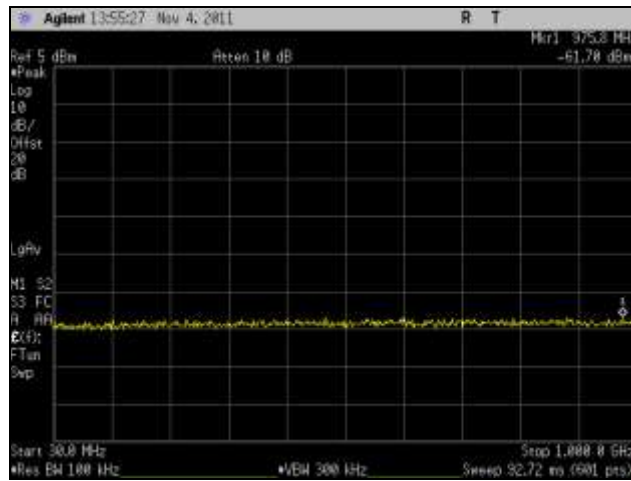


Plot 684. Conducted Spurs, High Channel, 30 MHz – 1 GHz, 802.11n 40 MHz, Port 3, 2.4 GHz

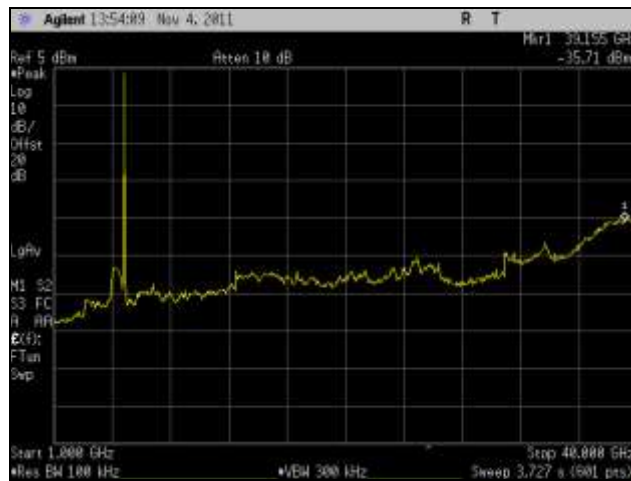


Plot 685. Conducted Spurs, High Channel, 1 GHz – 26 GHz, 802.11n 40 MHz, Port 3, 2.4 GHz

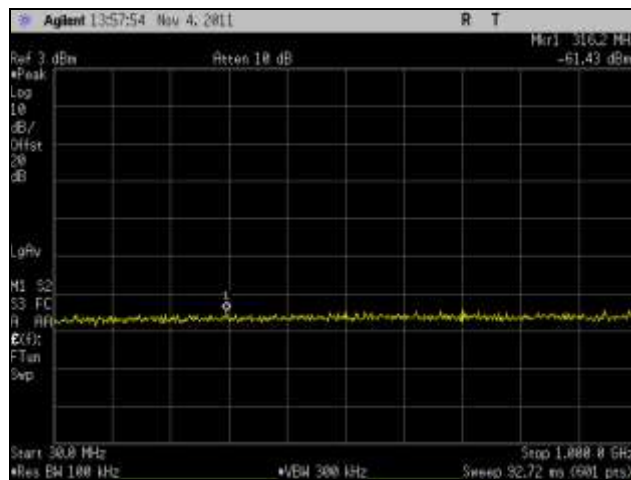
### Conducted Spurious Emissions Test Results, 802.11a, 5.8 GHz



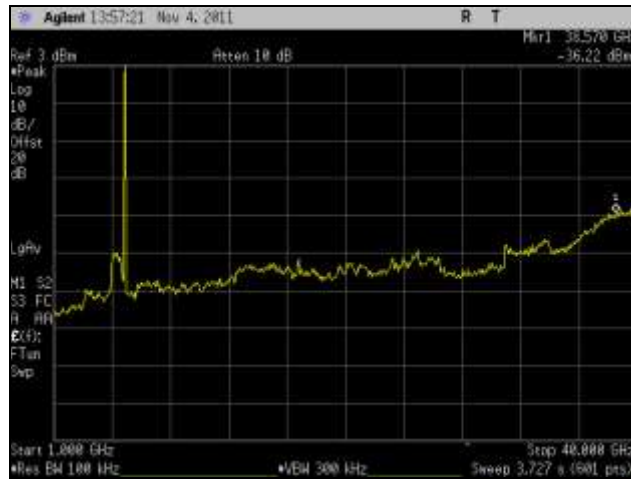
Plot 686. Conducted Spurs, Low Channel, 30 MHz – 1 GHz, 802.11a, 5.8 GHz



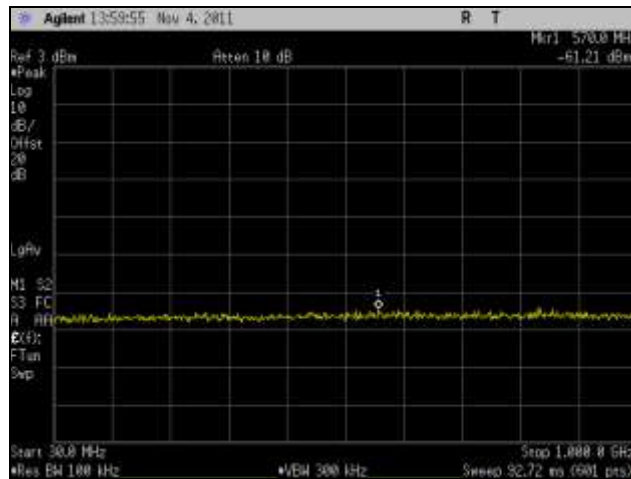
Plot 687. Conducted Spurs, Low Channel, 1 GHz – 40 GHz, 802.11a, 5.8 GHz



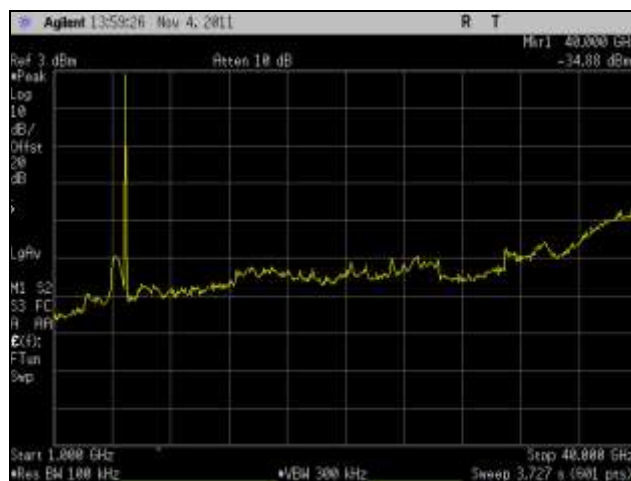
Plot 688. Conducted Spurs, Mid Channel, 30 MHz – 1 GHz, 802.11a, 5.8 GHz



**Plot 689. Conducted Spurs, Mid Channel, 1 GHz – 40 GHz, 802.11a, 5.8 GHz**

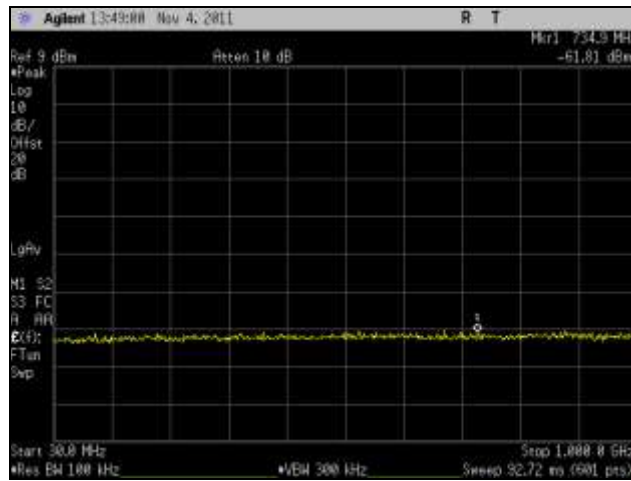


**Plot 690. Conducted Spurs, High Channel, 30 MHz – 1 GHz, 802.11a, 5.8 GHz**

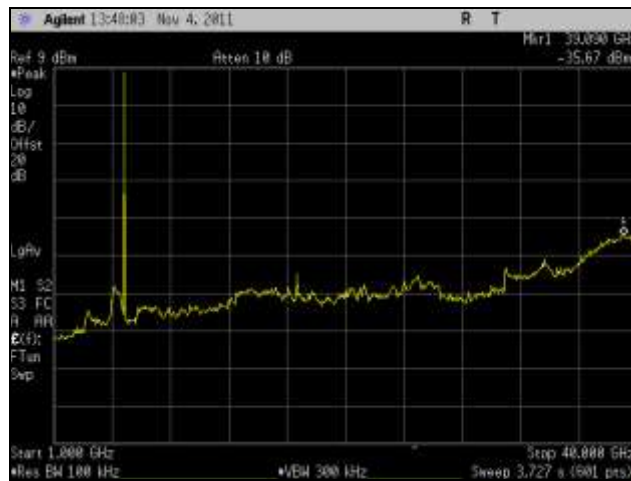


**Plot 691. Conducted Spurs, High Channel, 1 GHz – 40 GHz, 802.11a, 5.8 GHz**

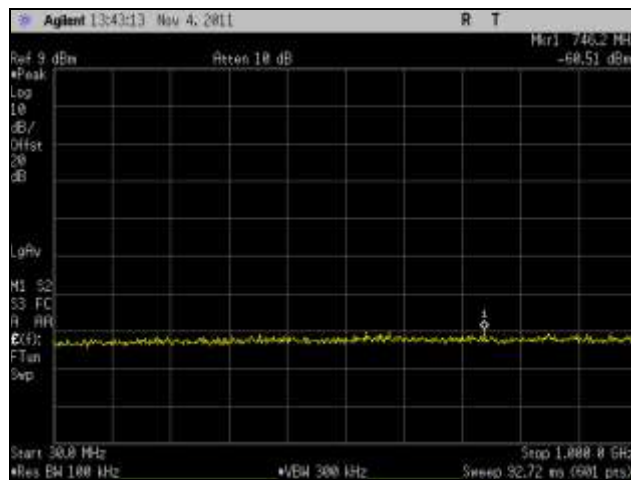
**Conducted Spurious Emissions Test Results, 802.11n 5 MHz, Port 1, 5.8 GHz**



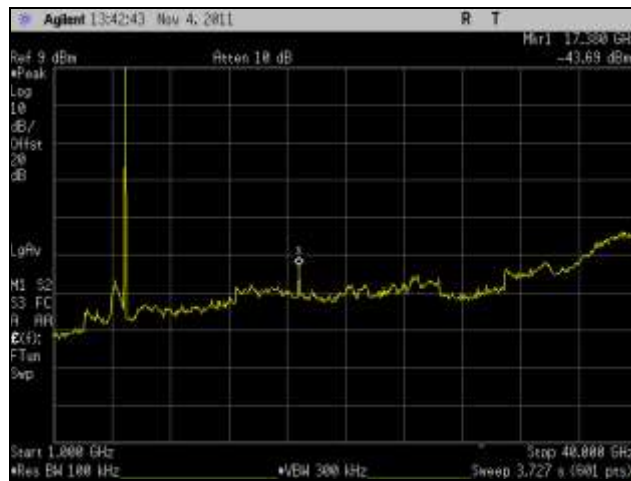
**Plot 692. Conducted Spurs, Low Channel, 30 MHz – 1 GHz, 802.11n 5 MHz, Port 1, 5.8 GHz**



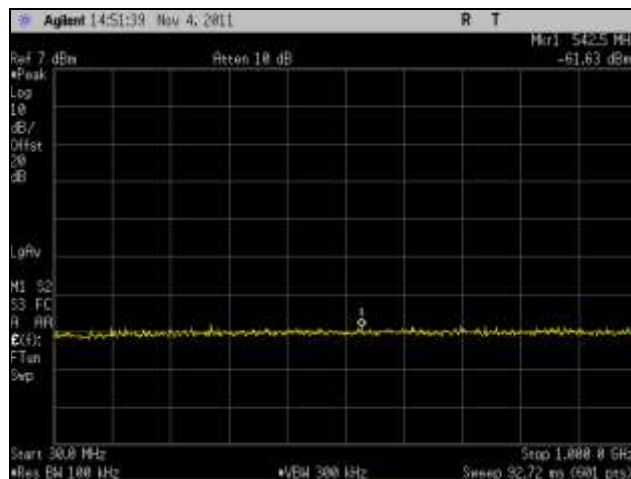
**Plot 693. Conducted Spurs, Low Channel, 1 GHz – 40 GHz, 802.11n 5 MHz, Port 1, 5.8 GHz**



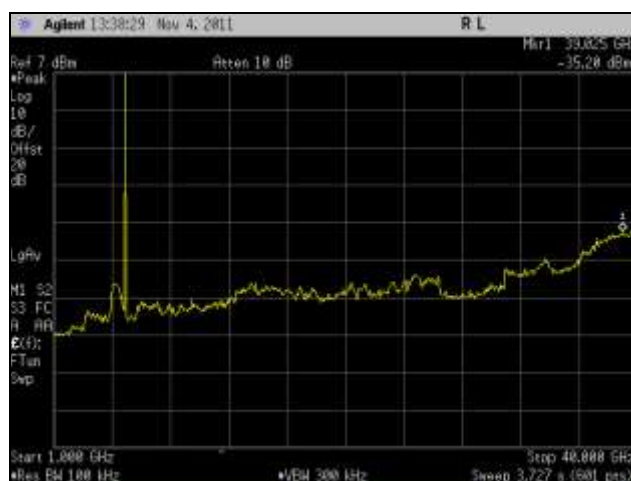
**Plot 694. Conducted Spurs, Mid Channel, 30 MHz – 1 GHz, 802.11n 5 MHz, Port 1, 5.8 GHz**



Plot 695. Conducted Spurs, Mid Channel, 1 GHz – 40 GHz, 802.11n 5 MHz, Port 1, 5.8 GHz



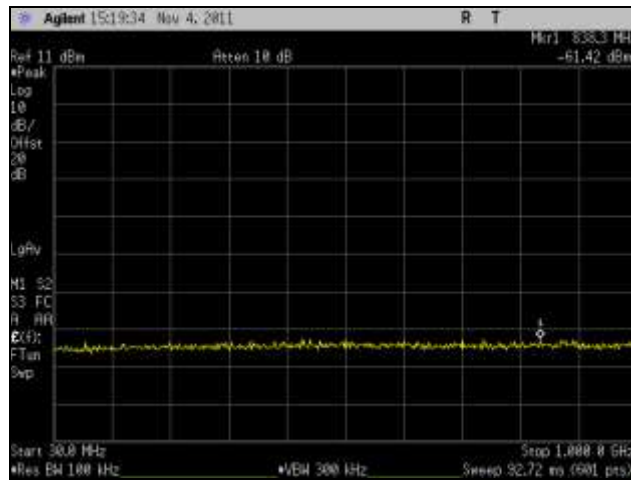
Plot 696. Conducted Spurs, High Channel, 30 MHz – 1 GHz, 802.11n 5 MHz, Port 1, 5.8 GHz



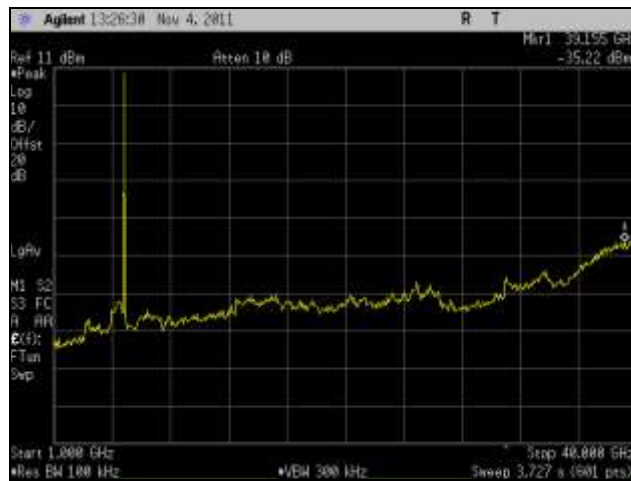
Plot 697. Conducted Spurs, High Channel, 1 GHz – 40 GHz, 802.11n 5 MHz, Port 1, 5.8 GHz



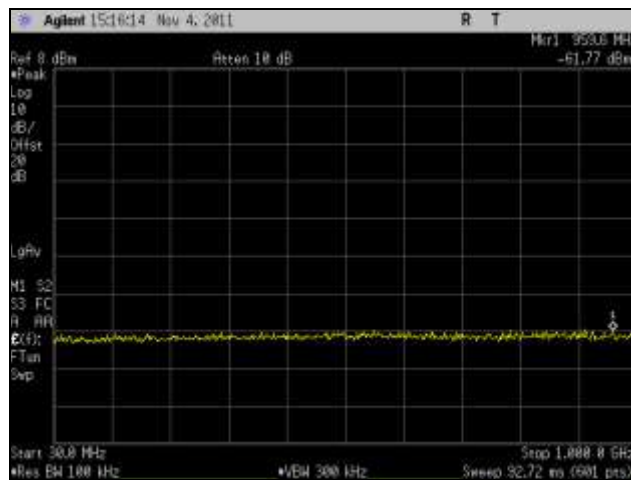
### Conducted Spurious Emissions Test Results, 802.11n 5 MHz, Port 2, 5.8 GHz



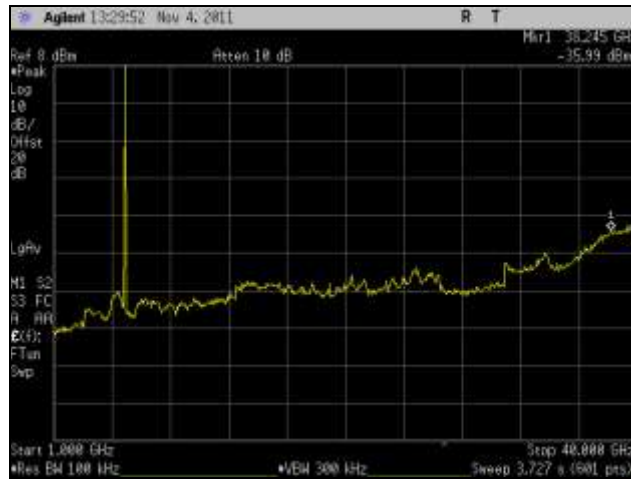
Plot 698. Conducted Spurs, Low Channel, 30 MHz – 1 GHz, 802.11n 5 MHz, Port 2, 5.8 GHz



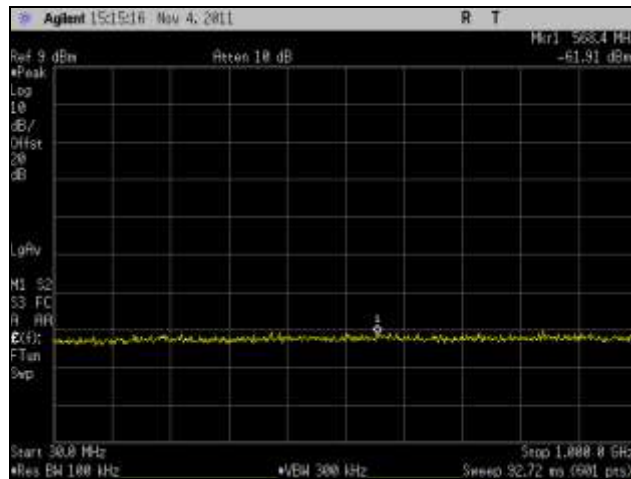
Plot 699. Conducted Spurs, Low Channel, 1 GHz – 40 GHz, 802.11n 5 MHz, Port 2, 5.8 GHz



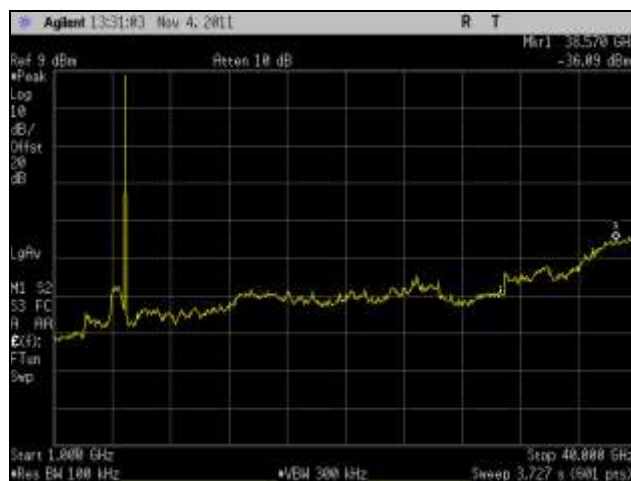
Plot 700. Conducted Spurs, Mid Channel, 30 MHz – 1 GHz, 802.11n 5 MHz, Port 2, 5.8 GHz



**Plot 701. Conducted Spurs, Mid Channel, 1 GHz – 40 GHz, 802.11n 5 MHz, Port 2, 5.8 GHz**



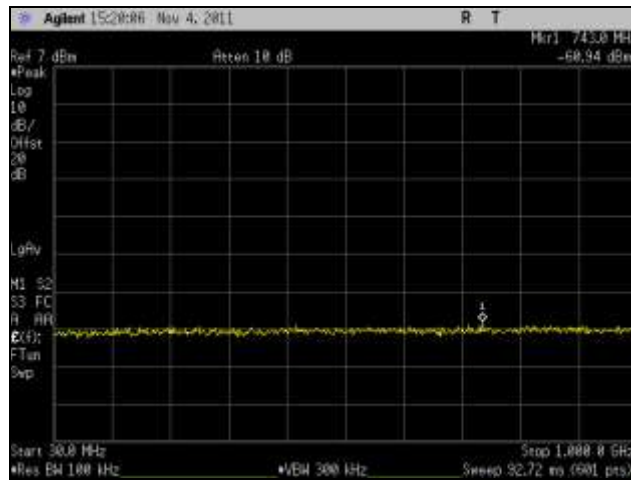
**Plot 702. Conducted Spurs, High Channel, 30 MHz – 1 GHz, 802.11n 5 MHz, Port 2, 5.8 GHz**



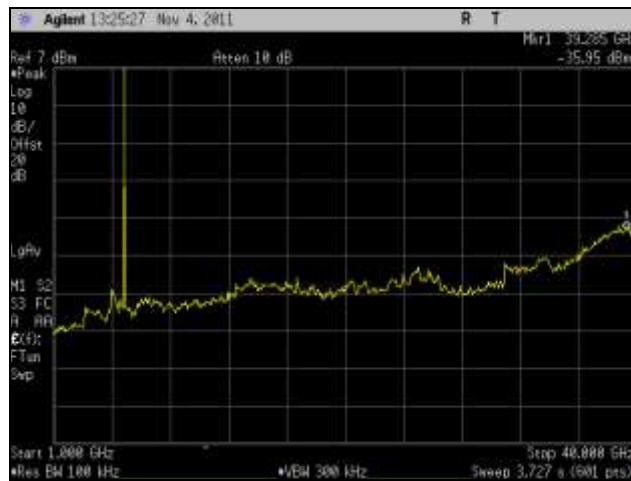
**Plot 703. Conducted Spurs, High Channel, 1 GHz – 40 GHz, 802.11n 5 MHz, Port 2, 5.8 GHz**



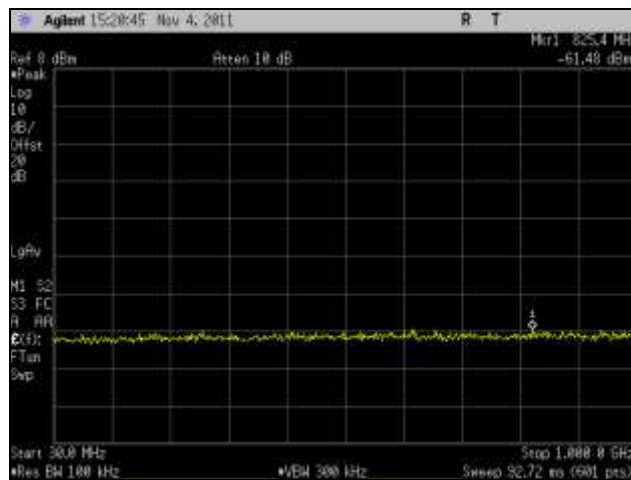
**Conducted Spurious Emissions Test Results, 802.11n 5 MHz, Port 3, 5.8 GHz**



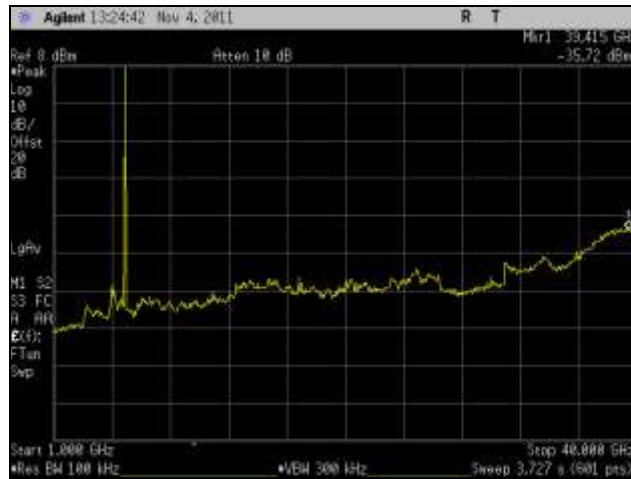
**Plot 704. Conducted Spurs, Low Channel, 30 MHz – 1 GHz, 802.11n 5 MHz, Port 3, 5.8 GHz**



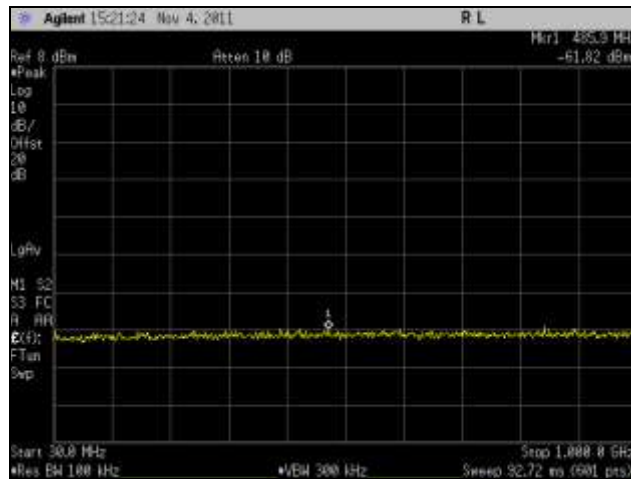
**Plot 705. Conducted Spurs, Low Channel, 1 GHz – 40 GHz, 802.11n 5 MHz, Port 3, 5.8 GHz**



**Plot 706. Conducted Spurs, Mid Channel, 30 MHz – 1 GHz, 802.11n 5 MHz, Port 3, 5.8 GHz**



**Plot 707. Conducted Spurs, Mid Channel, 1 GHz – 40 GHz, 802.11n 5 MHz, Port 3, 5.8 GHz**



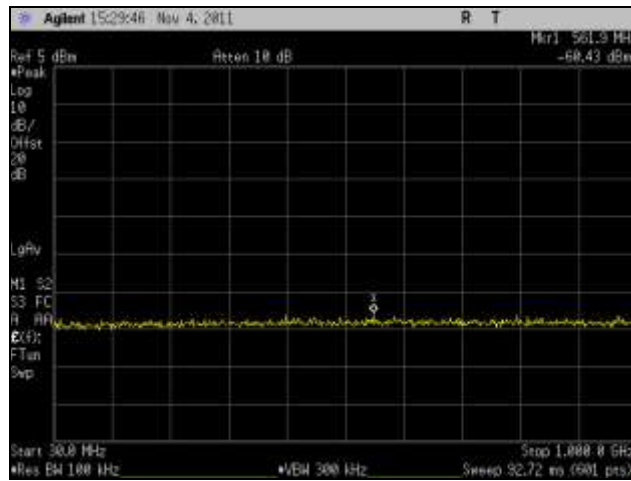
**Plot 708. Conducted Spurs, High Channel, 30 MHz – 1 GHz, 802.11n 5 MHz, Port 3, 5.8 GHz**



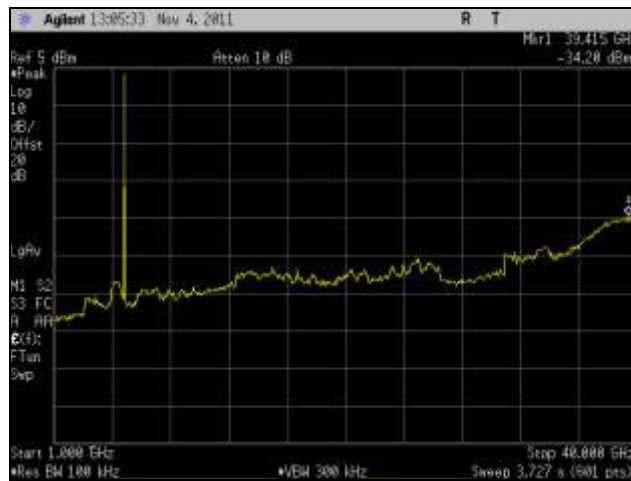
**Plot 709. Conducted Spurs, High Channel, 1 GHz – 40 GHz, 802.11n 5 MHz, Port 3, 5.8 GHz**



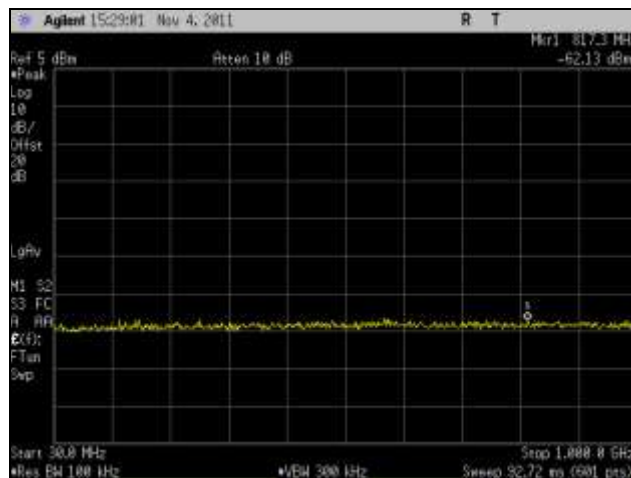
### Conducted Spurious Emissions Test Results, 802.11n 10 MHz, Port 1, 5.8 GHz



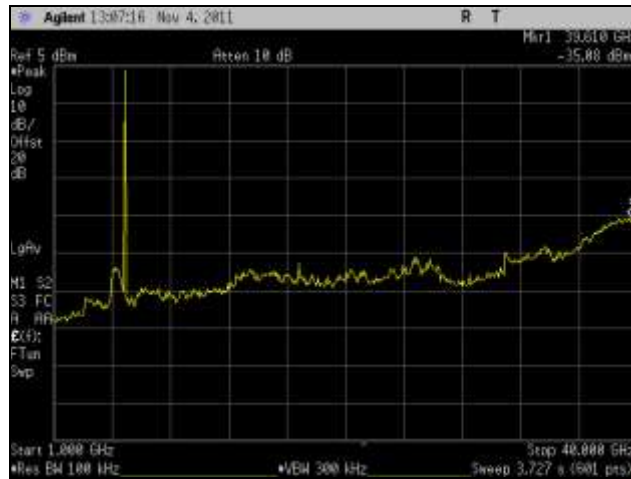
Plot 710. Conducted Spurs, Low Channel, 30 MHz – 1 GHz, 802.11n 10 MHz, Port 1, 5.8 GHz



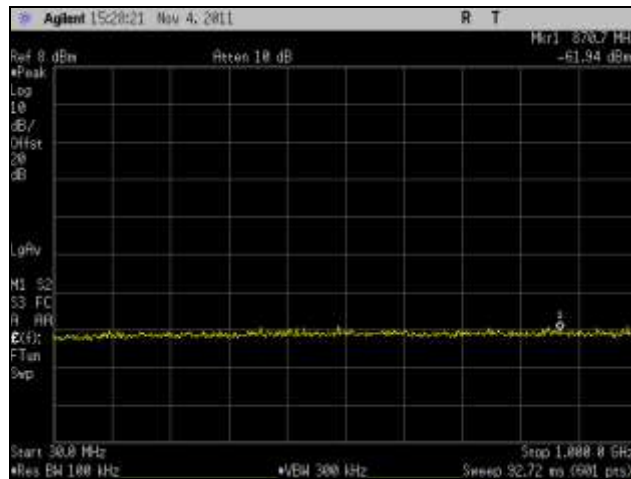
Plot 711. Conducted Spurs, Low Channel, 1 GHz – 40 GHz, 802.11n 10 MHz, Port 1, 5.8 GHz



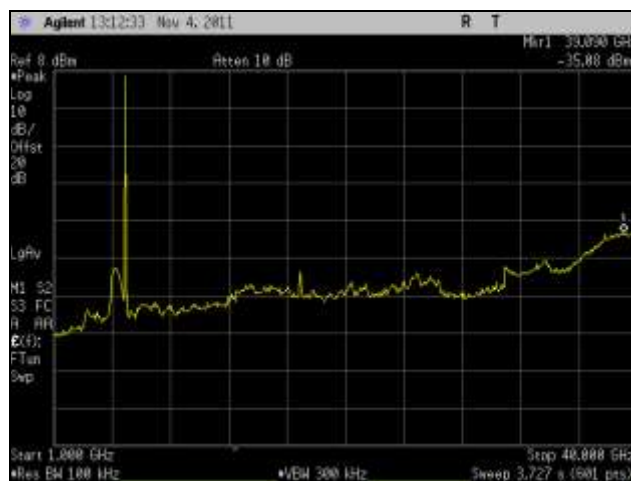
Plot 712. Conducted Spurs, Mid Channel, 30 MHz – 1 GHz, 802.11n 10 MHz, Port 1, 5.8 GHz



Plot 713. Conducted Spurs, Mid Channel, 1 GHz – 40 GHz, 802.11n 10 MHz, Port 1, 5.8 GHz

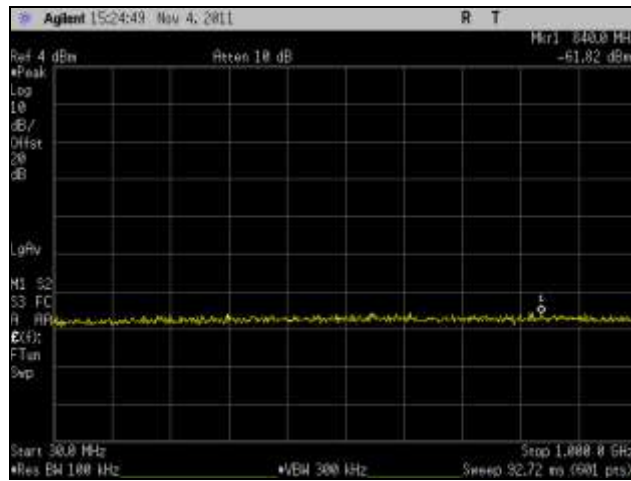


Plot 714. Conducted Spurs, High Channel, 30 MHz – 1 GHz, 802.11n 10 MHz, Port 1, 5.8 GHz

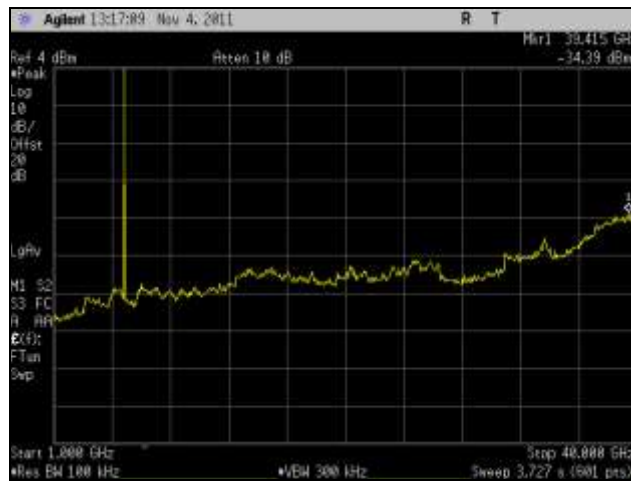


Plot 715. Conducted Spurs, High Channel, 1 GHz – 40 GHz, 802.11n 10 MHz, Port 1, 5.8 GHz

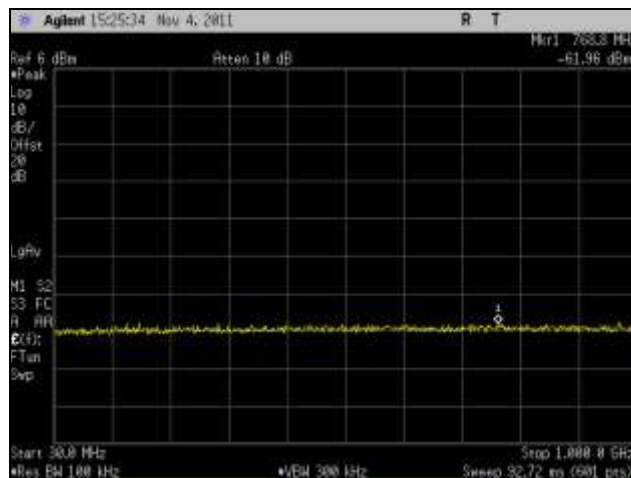
**Conducted Spurious Emissions Test Results, 802.11n 10 MHz, Port 2, 5.8 GHz**



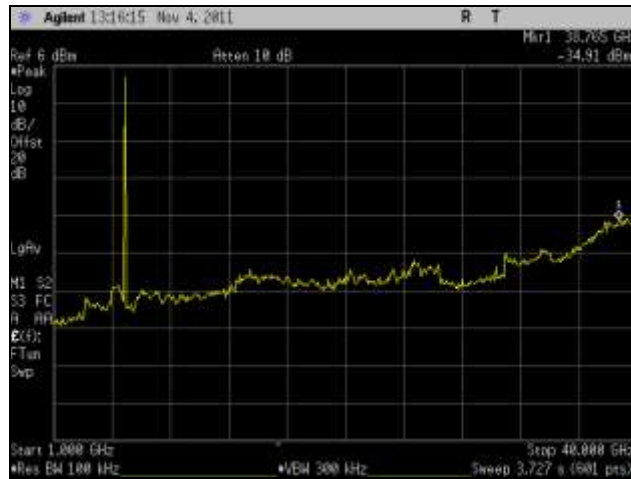
**Plot 716. Conducted Spurs, Low Channel, 30 MHz – 1 GHz, 802.11n 10 MHz, Port 2, 5.8 GHz**



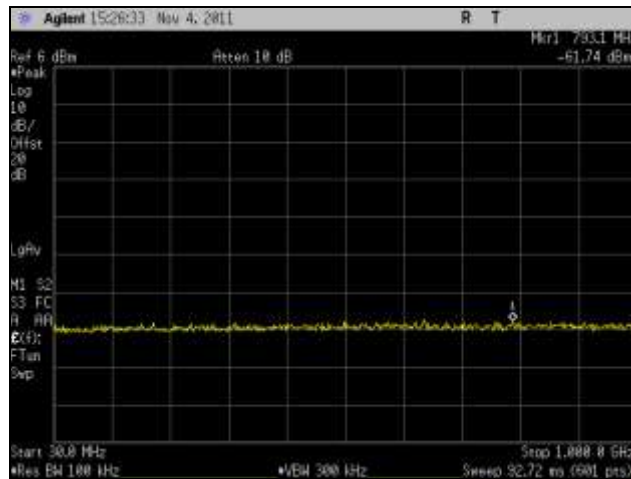
**Plot 717. Conducted Spurs, Low Channel, 1 GHz – 40 GHz, 802.11n 10 MHz, Port 2, 5.8 GHz**



**Plot 718. Conducted Spurs, Mid Channel, 30 MHz – 1 GHz, 802.11n 10 MHz, Port 2, 5.8 GHz**



**Plot 719. Conducted Spurs, Mid Channel, 1 GHz – 40 GHz, 802.11n 10 MHz, Port 2, 5.8 GHz**

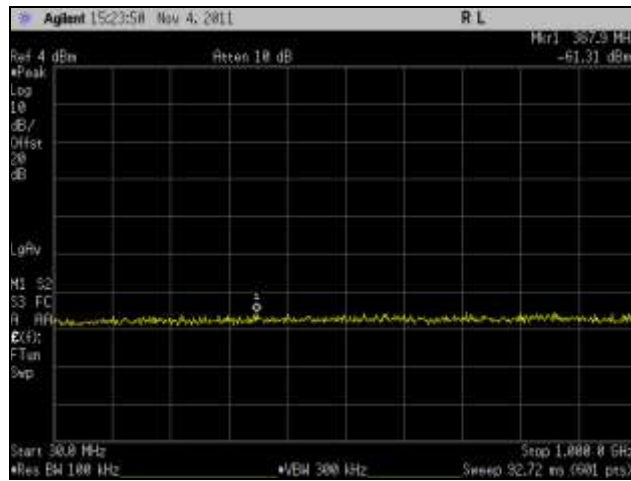


**Plot 720. Conducted Spurs, High Channel, 30 MHz – 1 GHz, 802.11n 10 MHz, Port 2, 5.8 GHz**

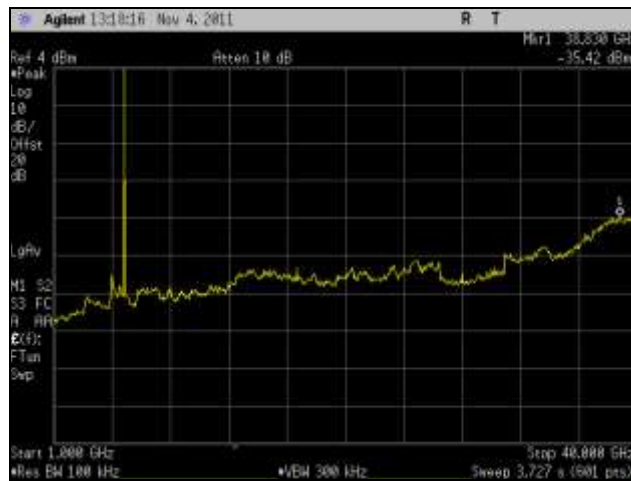


**Plot 721. Conducted Spurs, High Channel, 1 GHz – 40 GHz, 802.11n 10 MHz, Port 2, 5.8 GHz**

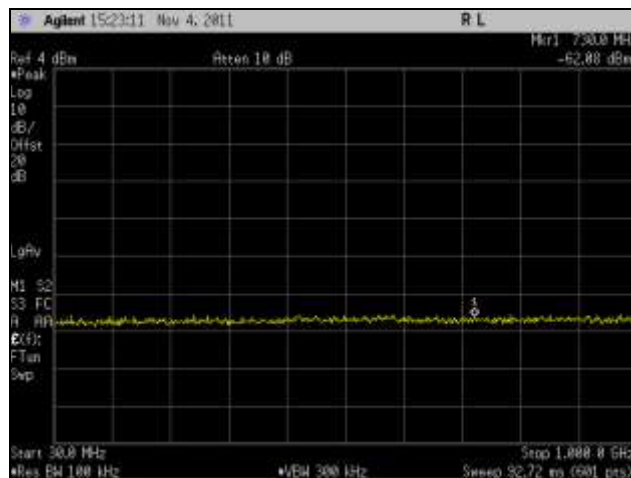
### Conducted Spurious Emissions Test Results, 802.11n 10 MHz, Port 3, 5.8 GHz



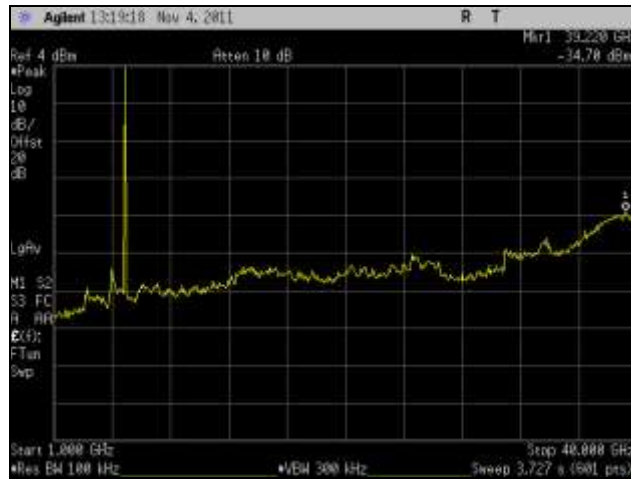
Plot 722. Conducted Spurs, Low Channel, 30 MHz – 1 GHz, 802.11n 10 MHz, Port 3, 5.8 GHz



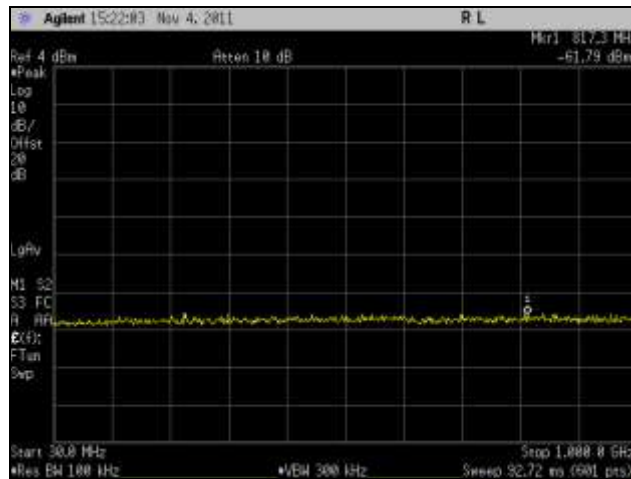
Plot 723. Conducted Spurs, Low Channel, 1 GHz – 40 GHz, 802.11n 10 MHz, Port 3, 5.8 GHz



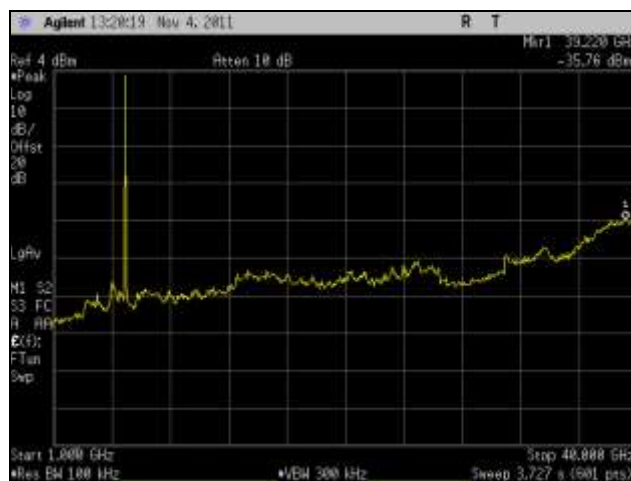
Plot 724. Conducted Spurs, Mid Channel, 30 MHz – 1 GHz, 802.11n 10 MHz, Port 3, 5.8 GHz



**Plot 725. Conducted Spurs, Mid Channel, 1 GHz – 40 GHz, 802.11n 10 MHz, Port 3, 5.8 GHz**



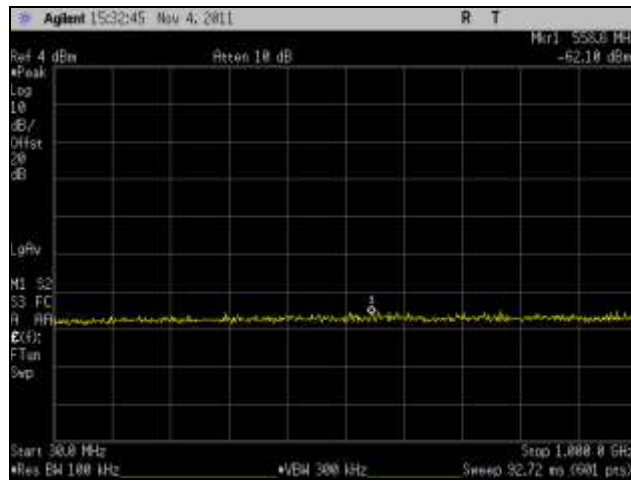
**Plot 726. Conducted Spurs, High Channel, 30 MHz – 1 GHz, 802.11n 10 MHz, Port 3, 5.8 GHz**



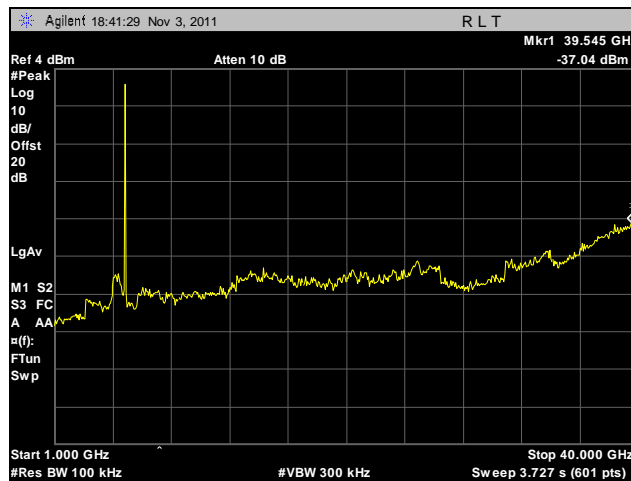
**Plot 727. Conducted Spurs, High Channel, 1 GHz – 40 GHz, 802.11n 10 MHz, Port 3, 5.8 GHz**



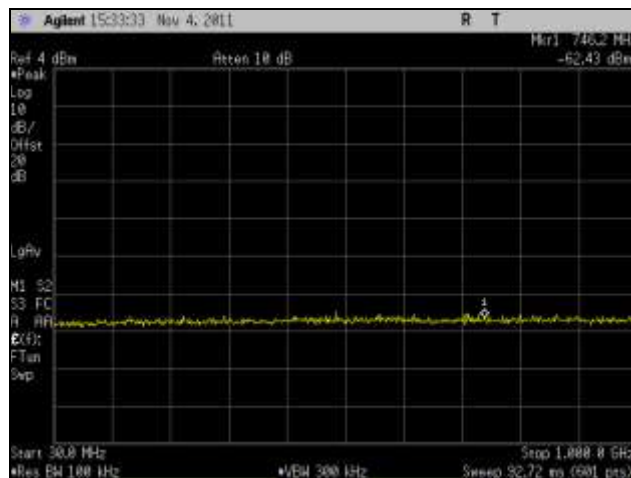
### Conducted Spurious Emissions Test Results, 802.11n 20 MHz, Port 1, 5.8 GHz



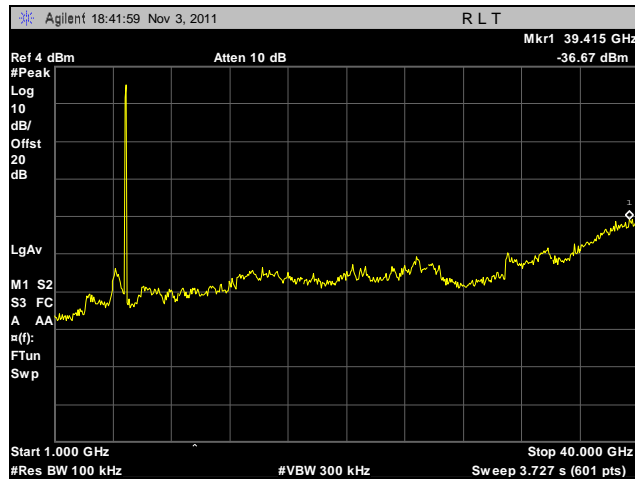
Plot 728. Conducted Spurs, Low Channel, 30 MHz – 1 GHz, 802.11n 20 MHz, Port 1, 5.8 GHz



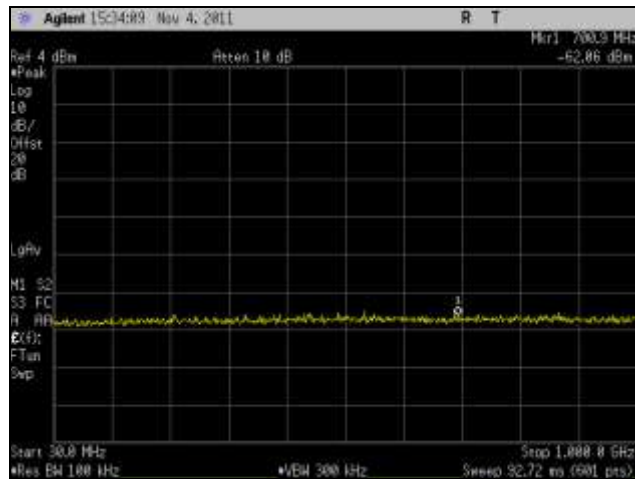
Plot 729. Conducted Spurs, Low Channel, 1 GHz – 40 GHz, 802.11n 20 MHz, Port 1, 5.8 GHz



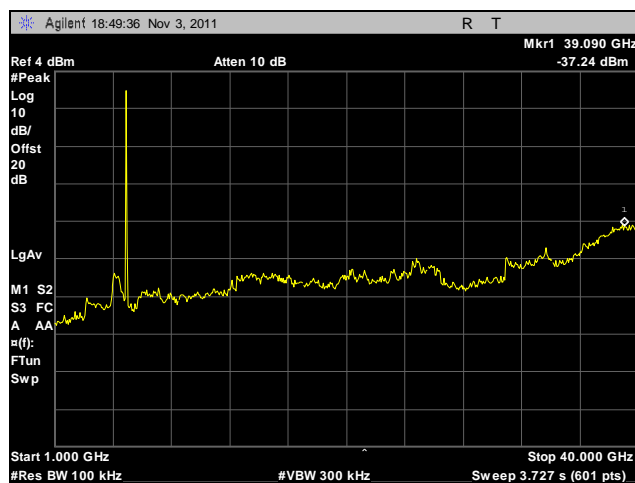
Plot 730. Conducted Spurs, Mid Channel, 30 MHz – 1 GHz, 802.11n 20 MHz, Port 1, 5.8 GHz



Plot 731. Conducted Spurs, Mid Channel, 1 GHz – 40 GHz, 802.11n 20 MHz, Port 1, 5.8 GHz

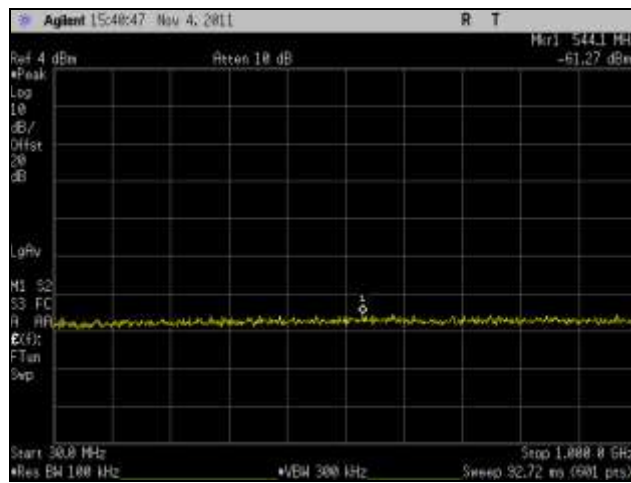


Plot 732. Conducted Spurs, High Channel, 30 MHz – 1 GHz, 802.11n 20 MHz, Port 1, 5.8 GHz

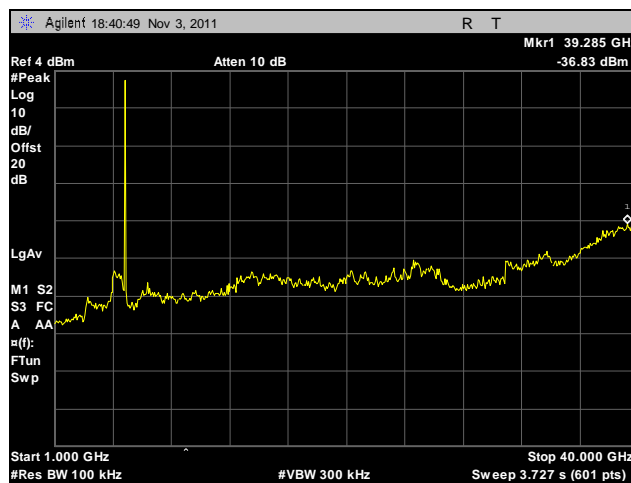


Plot 733. Conducted Spurs, High Channel, 1 GHz – 40 GHz, 802.11n 20 MHz, Port 1, 5.8 GHz

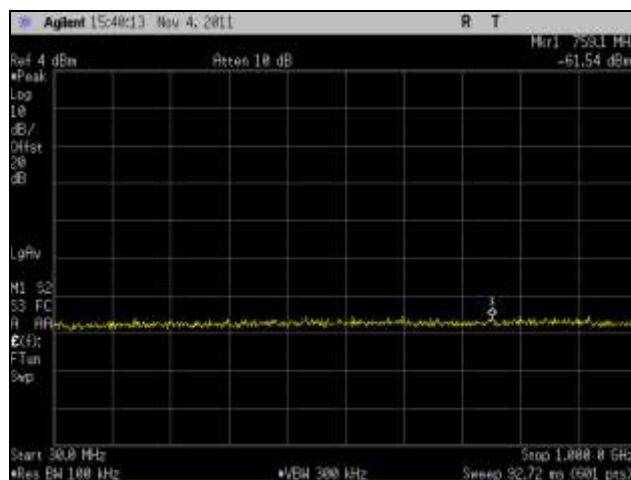
### Conducted Spurious Emissions Test Results, 802.11n 20 MHz, Port 2, 5.8 GHz



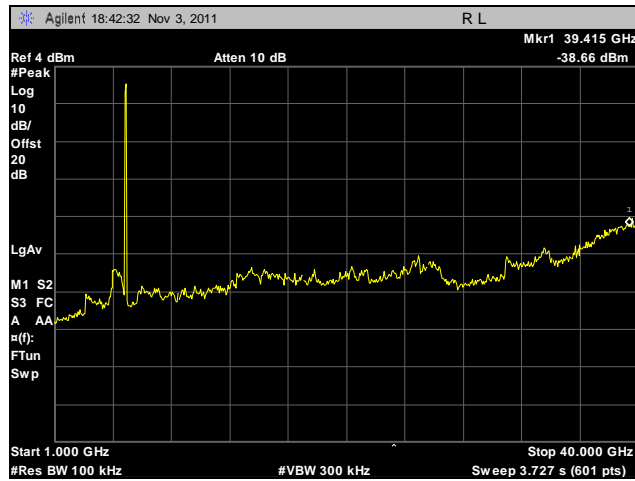
Plot 734. Conducted Spurs, Low Channel, 30 MHz – 1 GHz, 802.11n 20 MHz, Port 2, 5.8 GHz



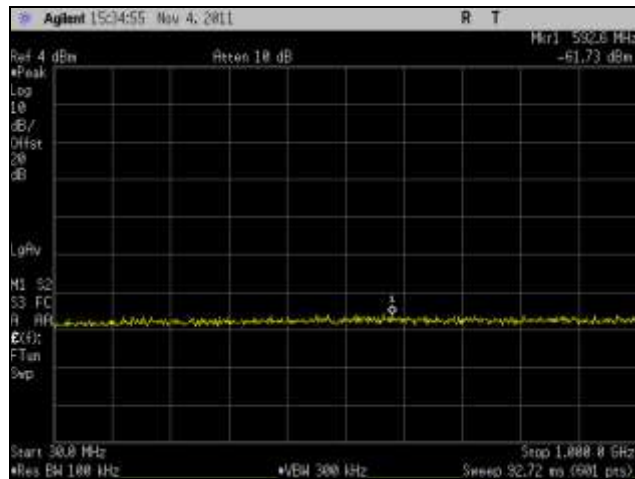
Plot 735. Conducted Spurs, Low Channel, 1 GHz – 40 GHz, 802.11n 20 MHz, Port 2, 5.8 GHz



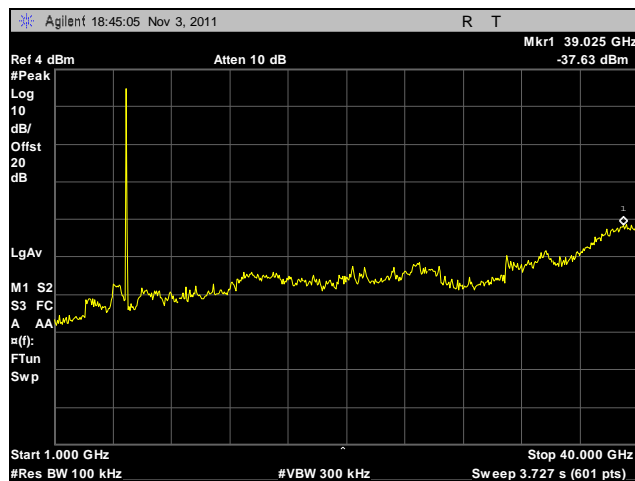
Plot 736. Conducted Spurs, Mid Channel, 30 MHz – 1 GHz, 802.11n 20 MHz, Port 2, 5.8 GHz



Plot 737. Conducted Spurs, Mid Channel, 1 GHz – 40 GHz, 802.11n 20 MHz, Port 2, 5.8 GHz



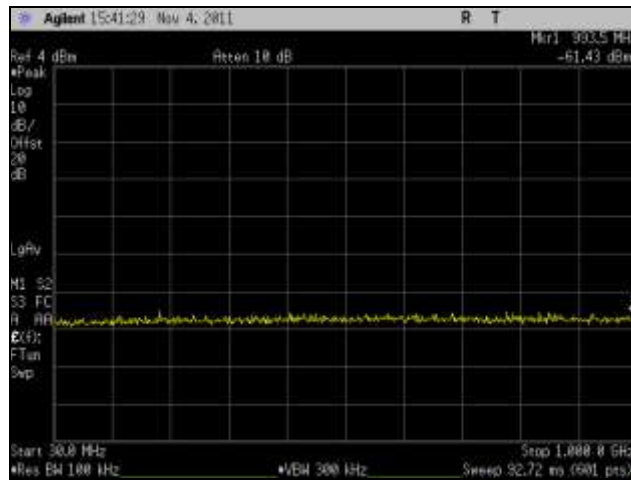
Plot 738. Conducted Spurs, High Channel, 30 MHz – 1 GHz, 802.11n 20 MHz, Port 2, 5.8 GHz



Plot 739. Conducted Spurs, High Channel, 1 GHz – 40 GHz, 802.11n 20 MHz, Port 2, 5.8 GHz



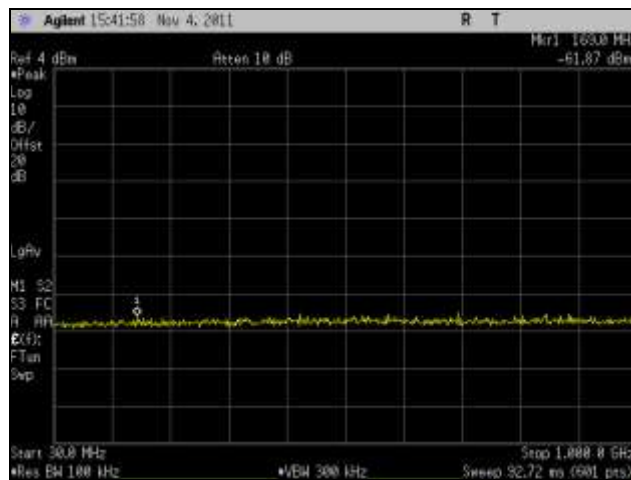
### Conducted Spurious Emissions Test Results, 802.11n 20 MHz, Port 3, 5.8 GHz



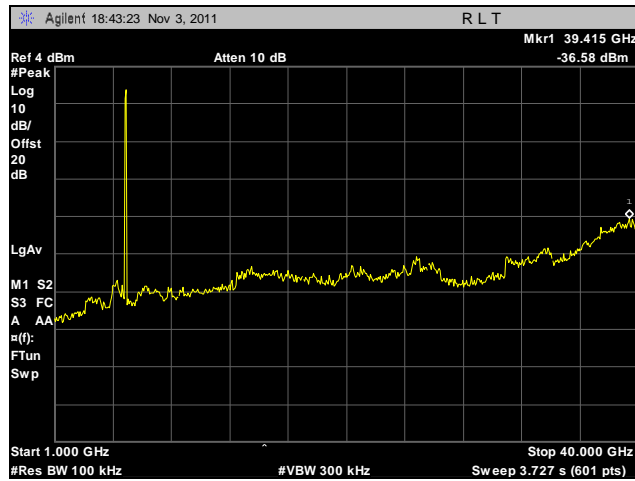
Plot 740. Conducted Spurs, Low Channel, 30 MHz – 1 GHz, 802.11n 20 MHz, Port 3, 5.8 GHz



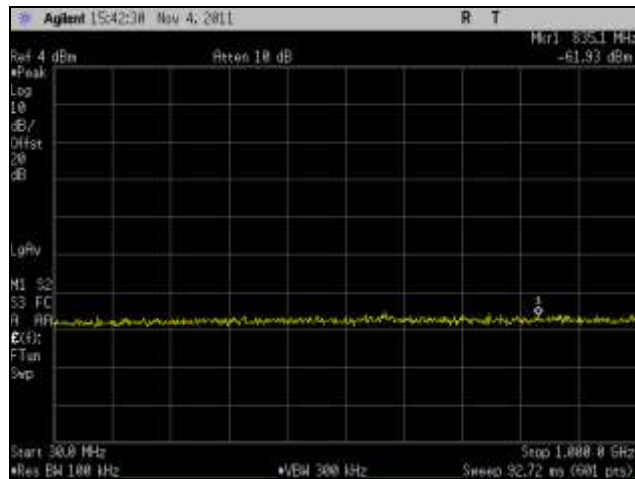
Plot 741. Conducted Spurs, Low Channel, 1 GHz – 40 GHz, 802.11n 20 MHz, Port 3, 5.8 GHz



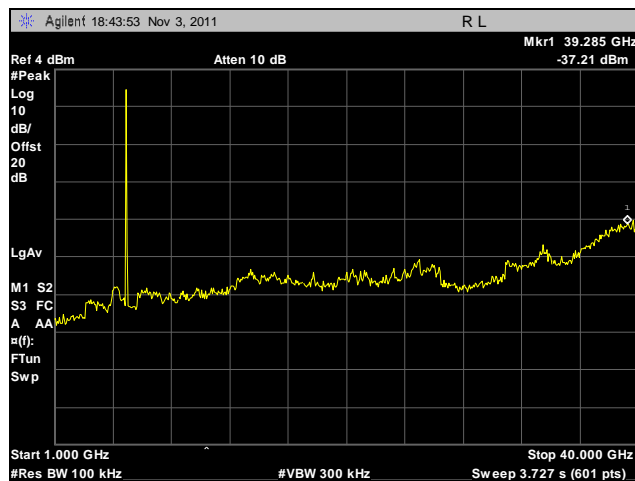
Plot 742. Conducted Spurs, Mid Channel, 30 MHz – 1 GHz, 802.11n 20 MHz, Port 3, 5.8 GHz



Plot 743. Conducted Spurs, Mid Channel, 1 GHz – 40 GHz, 802.11n 20 MHz, Port 3, 5.8 GHz



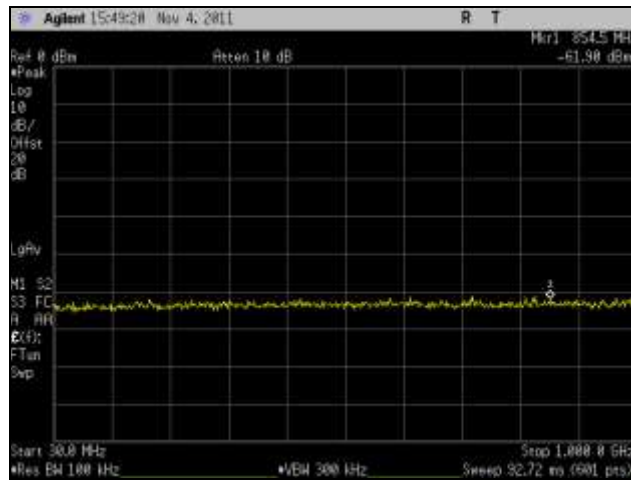
Plot 744. Conducted Spurs, High Channel, 30 MHz – 1 GHz, 802.11n 20 MHz, Port 3, 5.8 GHz



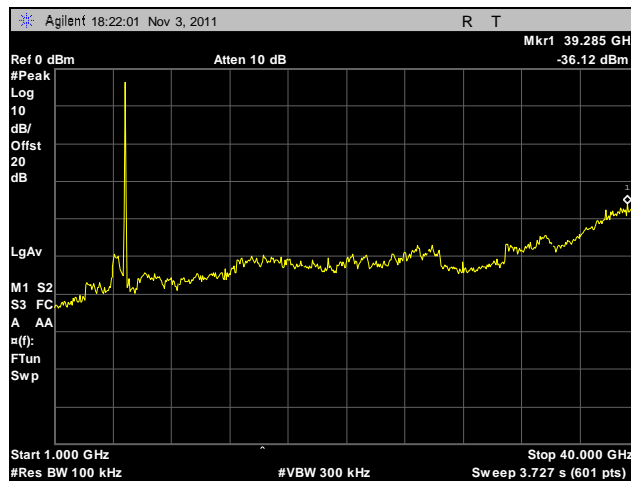
Plot 745. Conducted Spurs, High Channel, 1 GHz – 40 GHz, 802.11n 20 MHz, Port 3, 5.8 GHz



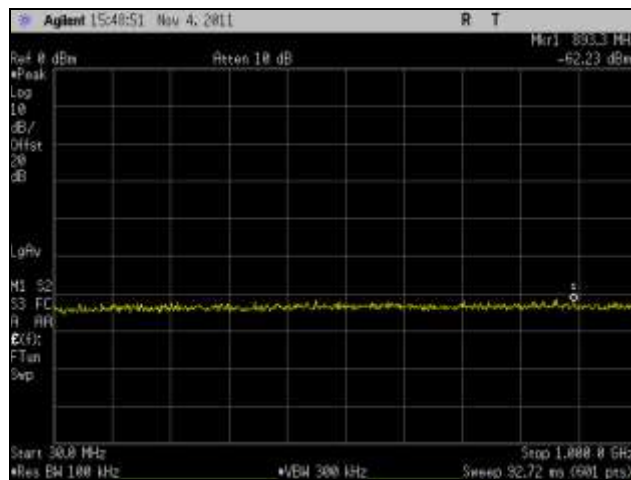
### Conducted Spurious Emissions Test Results, 802.11n 40 MHz, Port 1, 5.8 GHz



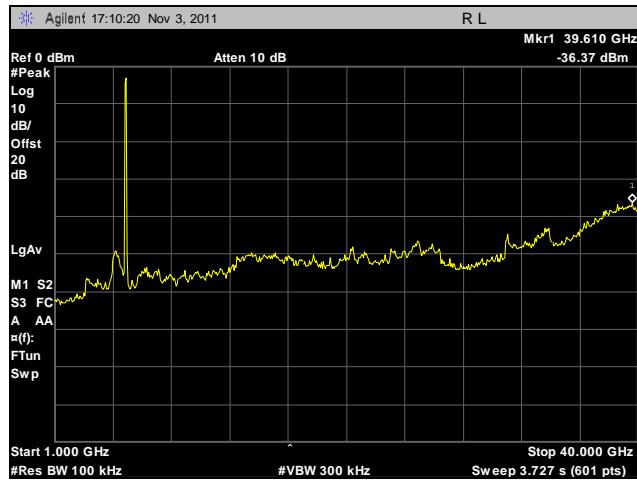
Plot 746. Conducted Spurs, Low Channel, 30 MHz – 1 GHz, 802.11n 40 MHz, Port 1, 5.8 GHz



Plot 747. Conducted Spurs, Low Channel, 1 GHz – 40 GHz, 802.11n 40 MHz, Port 1, 5.8 GHz



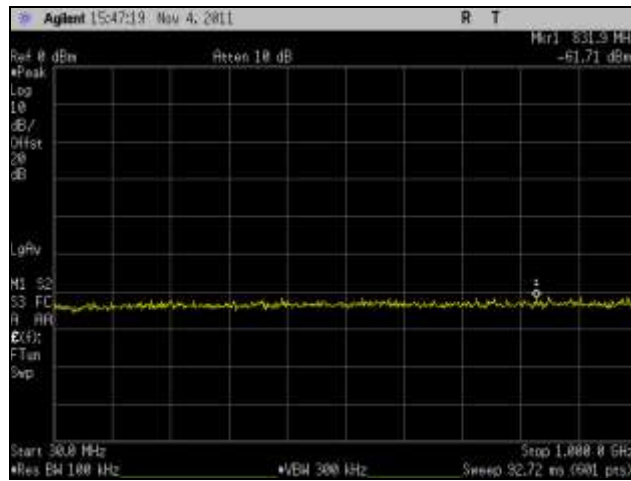
Plot 748. Conducted Spurs, High Channel, 30 MHz – 1 GHz, 802.11n 40 MHz, Port 1, 5.8 GHz



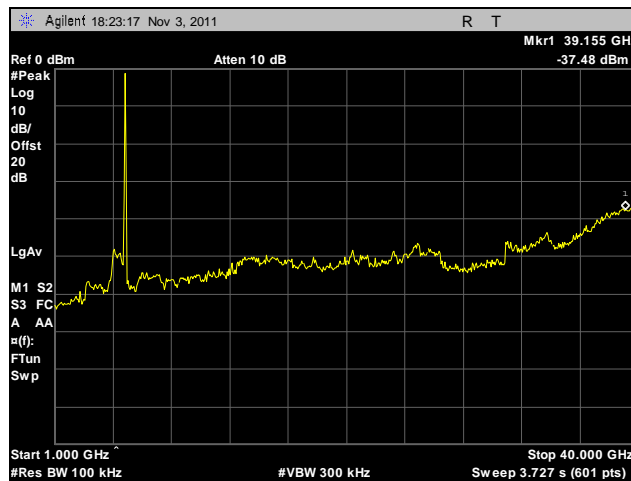
**Plot 749. Conducted Spurs, High Channel, 1 GHz – 40 GHz, 802.11n 40 MHz, Port 1, 5.8 GHz**



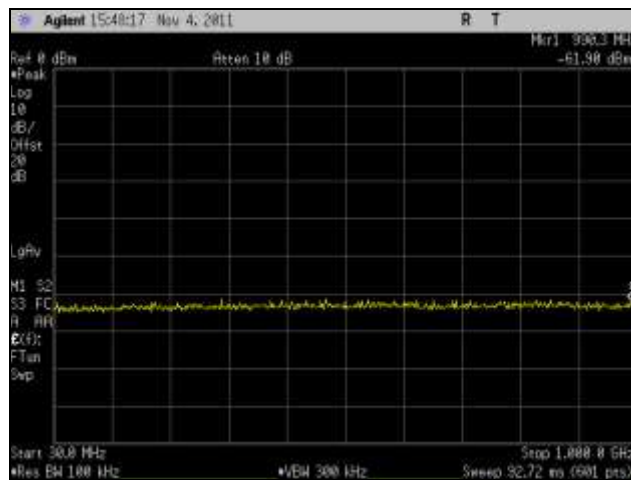
### Conducted Spurious Emissions Test Results, 802.11n 40 MHz, Port 2, 5.8 GHz



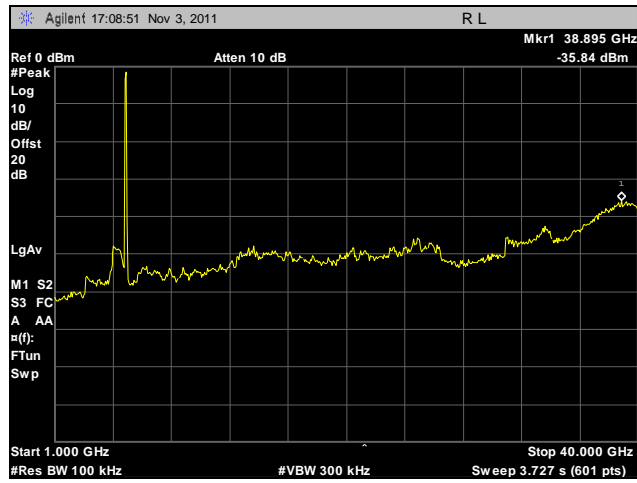
Plot 750. Conducted Spurs, Low Channel, 30 MHz – 1 GHz, 802.11n 40 MHz, Port 2, 5.8 GHz



Plot 751. Conducted Spurs, Low Channel, 1 GHz – 40 GHz, 802.11n 40 MHz, Port 2, 5.8 GHz

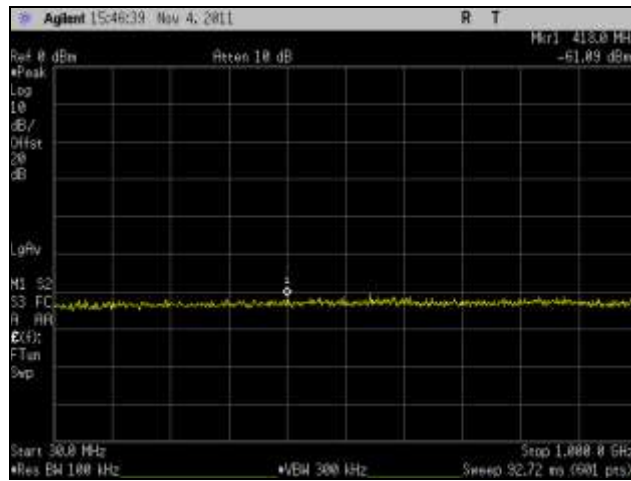


Plot 752. Conducted Spurs, High Channel, 30 MHz – 1 GHz, 802.11n 40 MHz, Port 2, 5.8 GHz

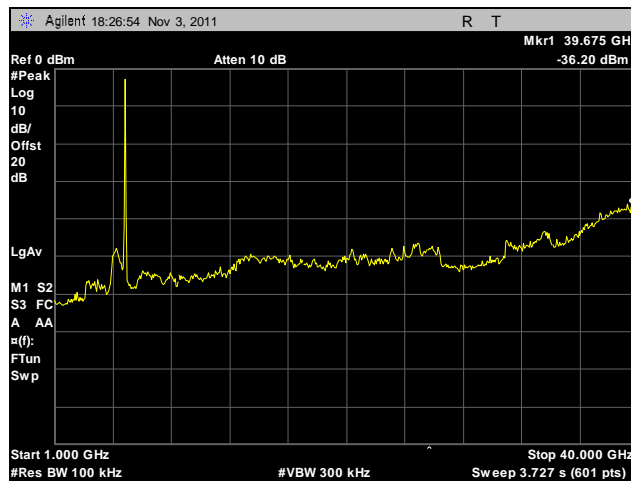


**Plot 753. Conducted Spurs, High Channel, 1 GHz – 40 GHz, 802.11n 40 MHz, Port 2, 5.8 GHz**

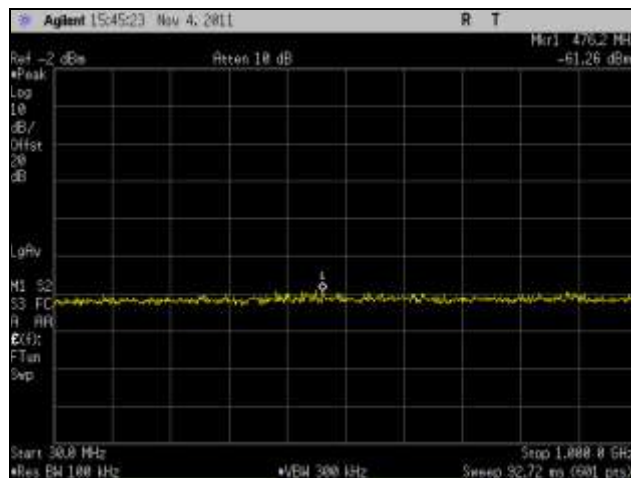
**Conducted Spurious Emissions Test Results, 802.11n 40 MHz, Port 3, 5.8 GHz**



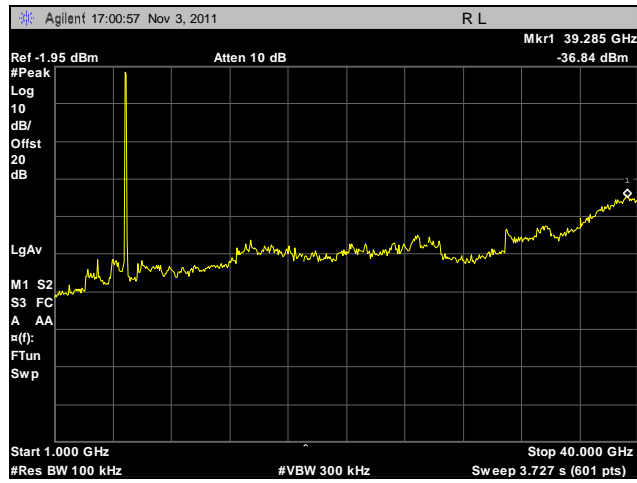
**Plot 754. Conducted Spurs, Low Channel, 30 MHz – 1 GHz, 802.11n 40 MHz, Port 3, 5.8 GHz**



**Plot 755. Conducted Spurs, Low Channel, 1 GHz – 40 GHz, 802.11n 40 MHz, Port 3, 5.8 GHz**

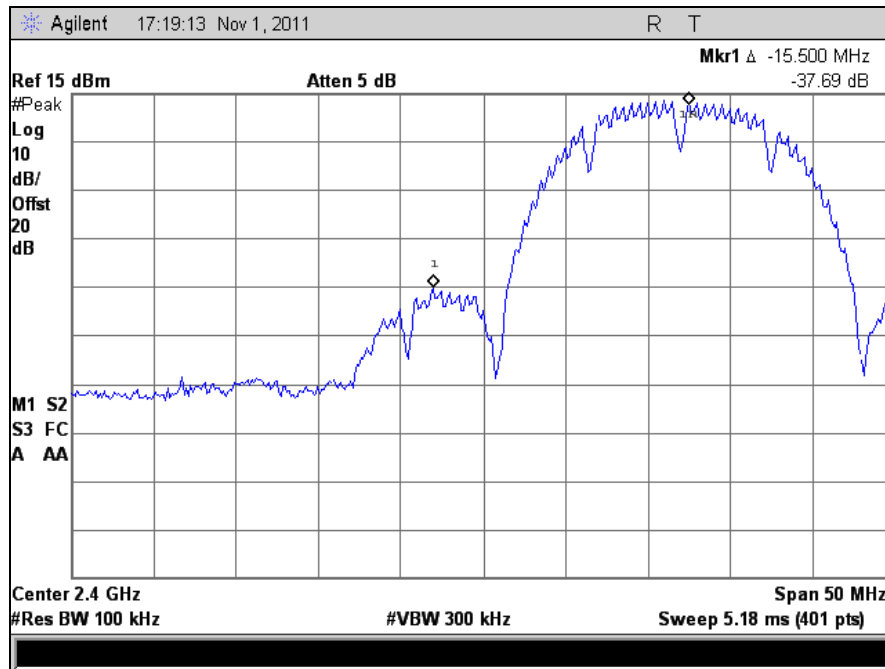


**Plot 756. Conducted Spurs, High Channel, 30 MHz – 1 GHz, 802.11n 40 MHz, Port 3, 5.8 GHz**



**Plot 757. Conducted Spurs, High Channel, 1 GHz – 40 GHz, 802.11n 40 MHz, Port 3, 5.8 GHz**

### Conducted Band Edge Test Results, 802.11b, 2.4 GHz

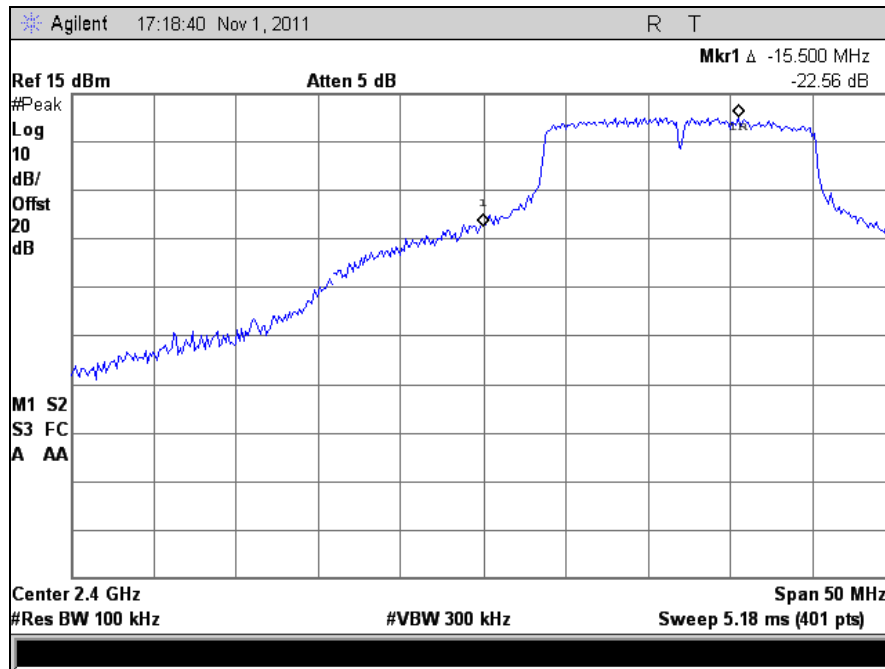


Plot 758. Conducted Band Edge, Low Channel, 802.11b, 2.4 GHz

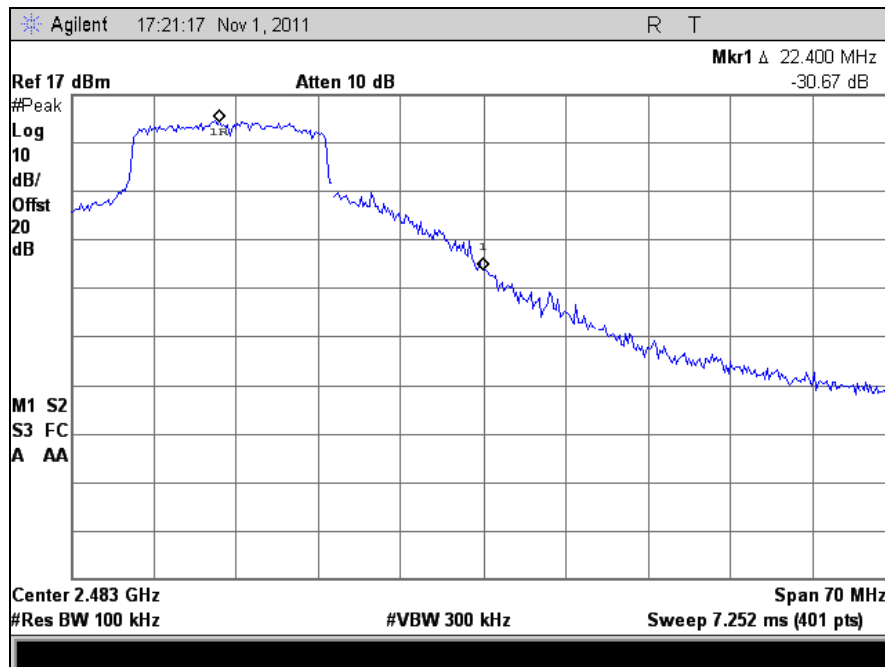


Plot 759. Conducted Band Edge, High Channel, 802.11b, 2.4 GHz

**Conducted Band Edge Test Results, 802.11g, 2.4 GHz**

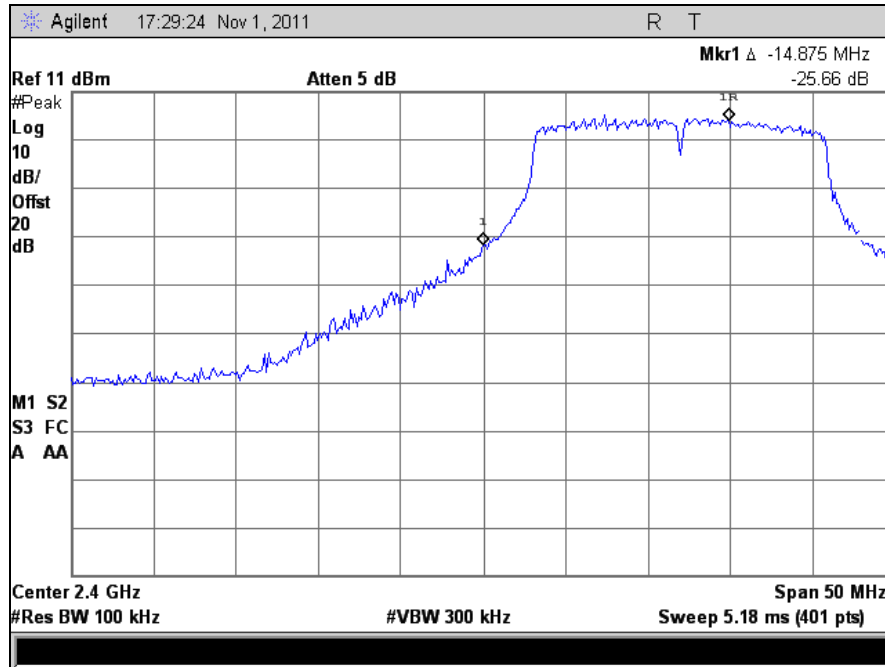


**Plot 760. Conducted Band Edge, Low Channel, 802.11g, 2.4 GHz**

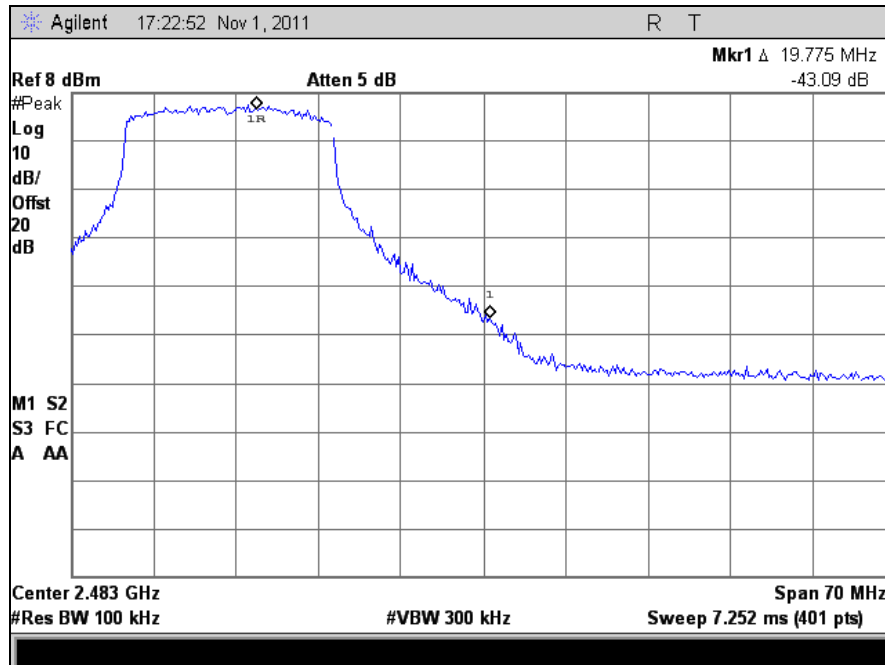


**Plot 761. Conducted Band Edge, High Channel, 802.11g, 2.4 GHz**

**Conducted Band Edge Test Results, 802.11n 20 MHz, Port 1, 2.4 GHz**

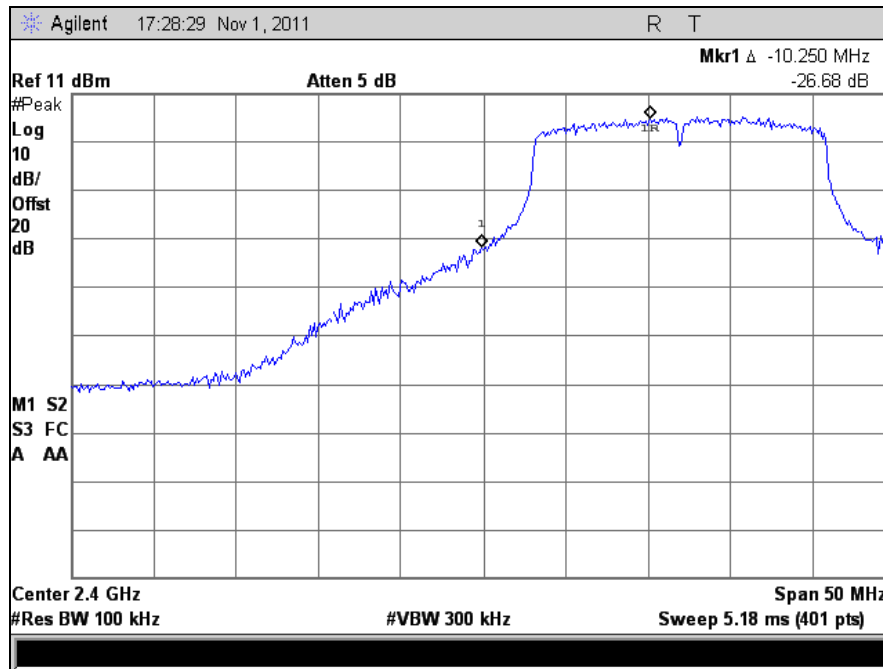


Plot 762. Conducted Band Edge, Low Channel, 802.11n 20 MHz, Port 1, 2.4 GHz

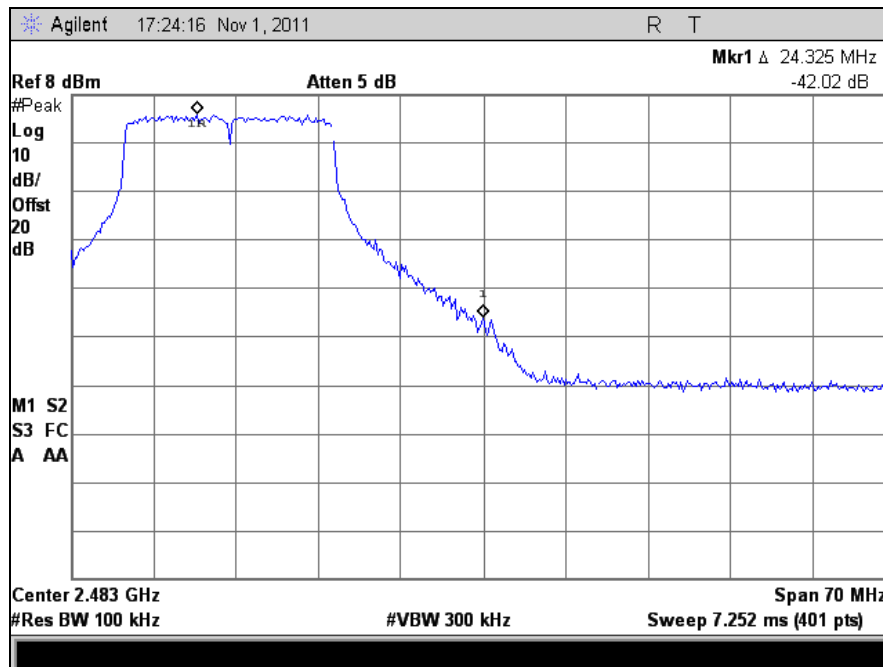


Plot 763. Conducted Band Edge, High Channel, 802.11n 20 MHz, Port 1, 2.4 GHz

**Conducted Band Edge Test Results, 802.11n 20 MHz, Port 2, 2.4 GHz**



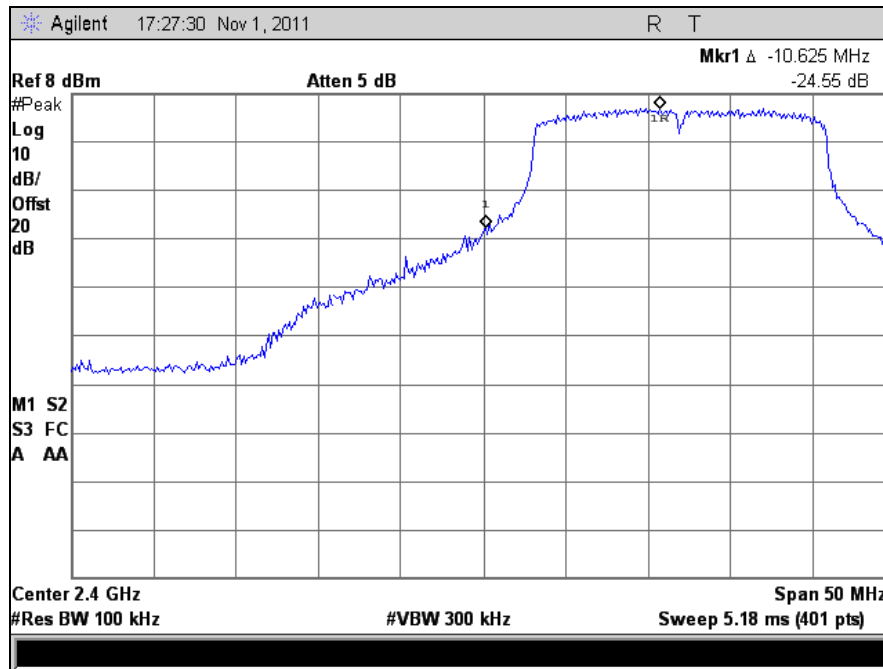
**Plot 764. Conducted Band Edge, Low Channel, 802.11n 20 MHz, Port 2, 2.4 GHz**



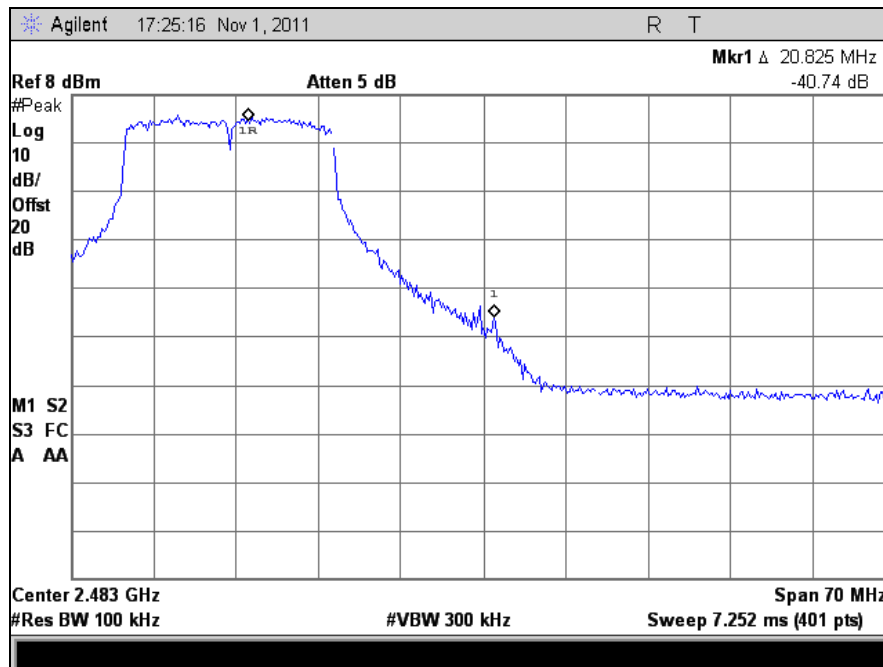
**Plot 765. Conducted Band Edge, High Channel, 802.11n 20 MHz, Port 2, 2.4 GHz**



**Conducted Band Edge Test Results, 802.11n 20 MHz, Port 3, 2.4 GHz**

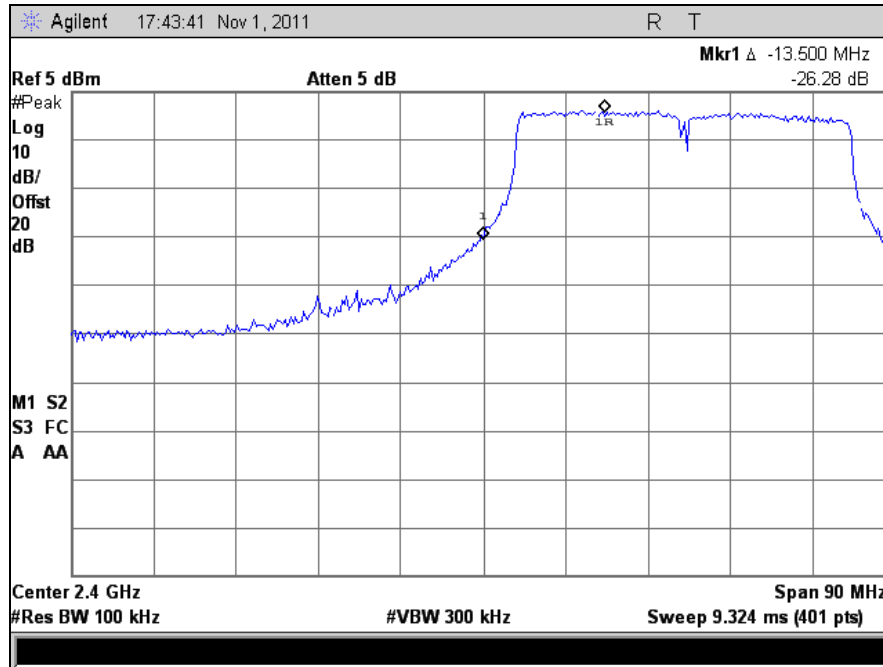


Plot 766. Conducted Band Edge, Low Channel, 802.11n 20 MHz, Port 3, 2.4 GHz

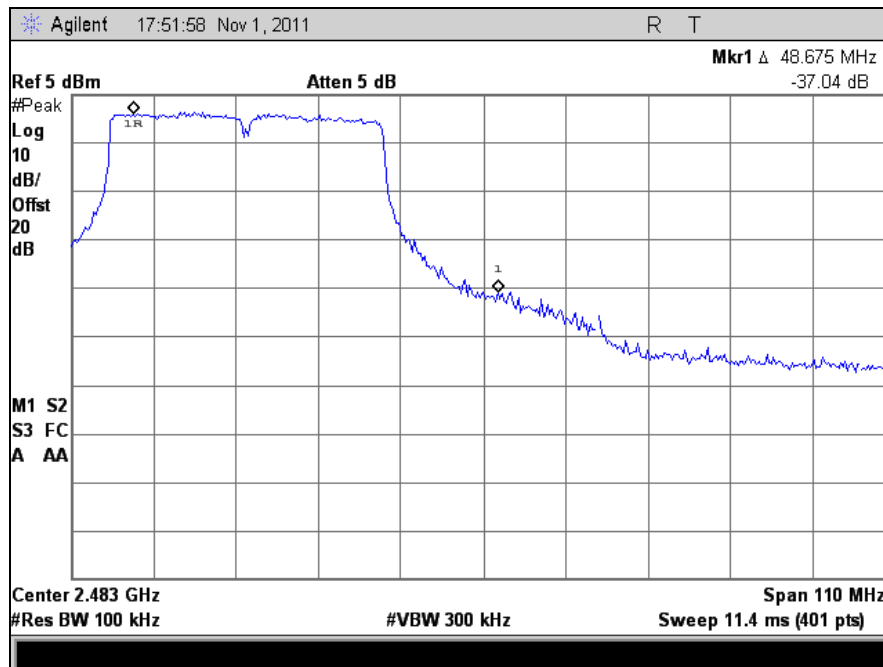


Plot 767. Conducted Band Edge, High Channel, 802.11n 20 MHz, Port 3, 2.4 GHz

**Conducted Band Edge Test Results, 802.11n 40 MHz, Port 1, 2.4 GHz**

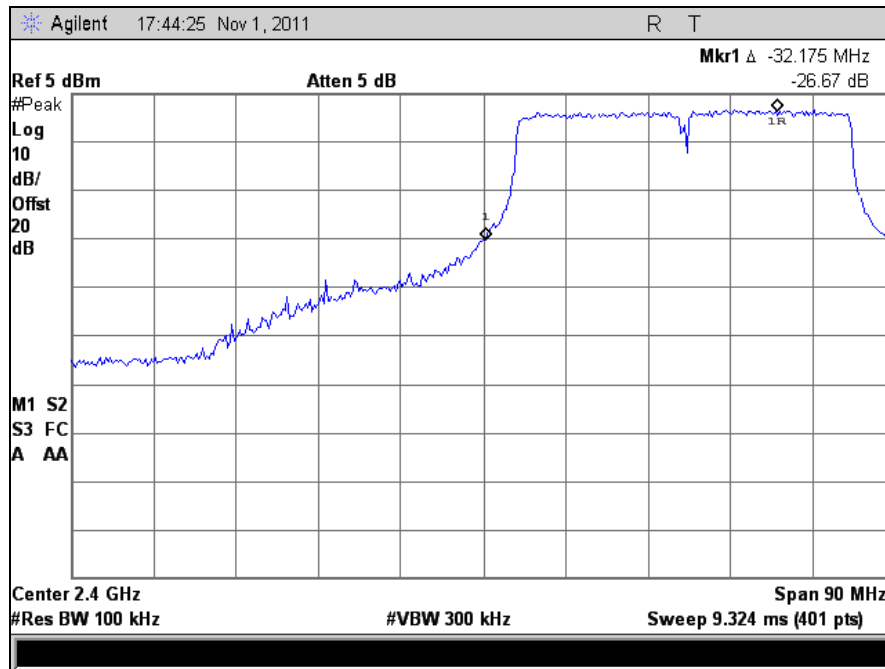


**Plot 768. Conducted Band Edge, Low Channel, 802.11n 40 MHz, Port 1, 2.4 GHz**

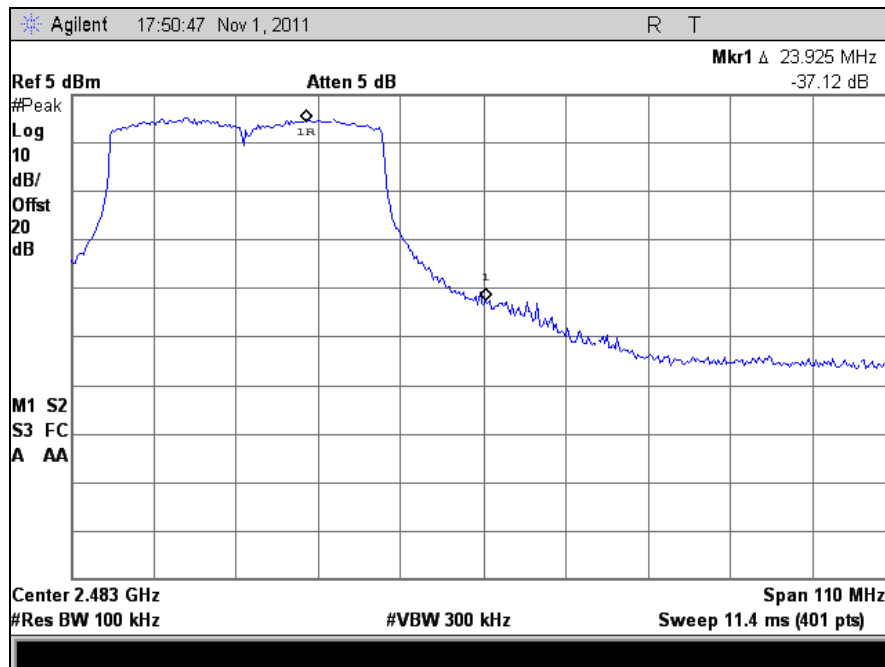


**Plot 769. Conducted Band Edge, High Channel, 802.11n 40 MHz, Port 1, 2.4 GHz**

**Conducted Band Edge Test Results, 802.11n 40 MHz, Port 2, 2.4 GHz**

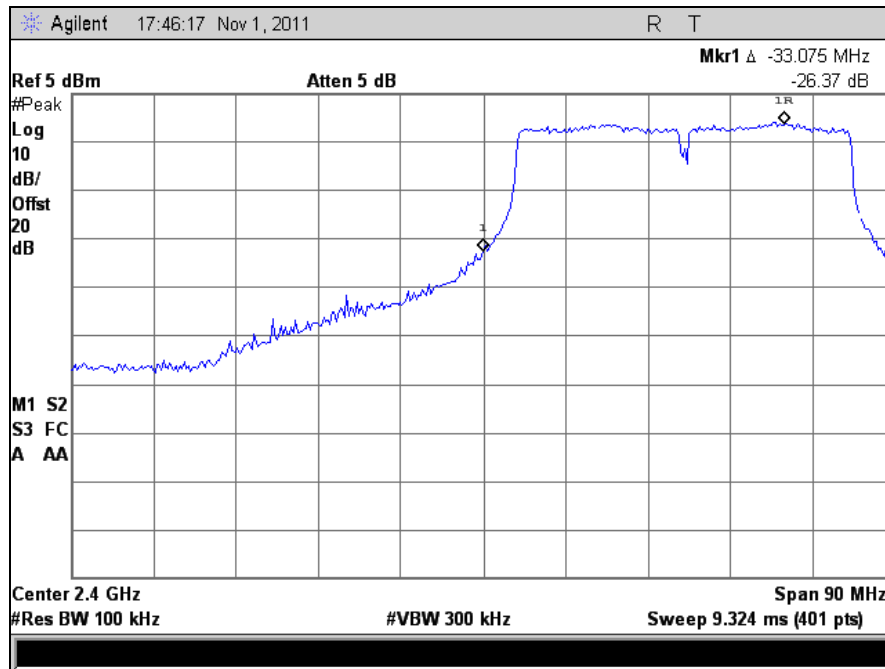


Plot 770. Conducted Band Edge, Low Channel, 802.11n 40 MHz, Port 2, 2.4 GHz

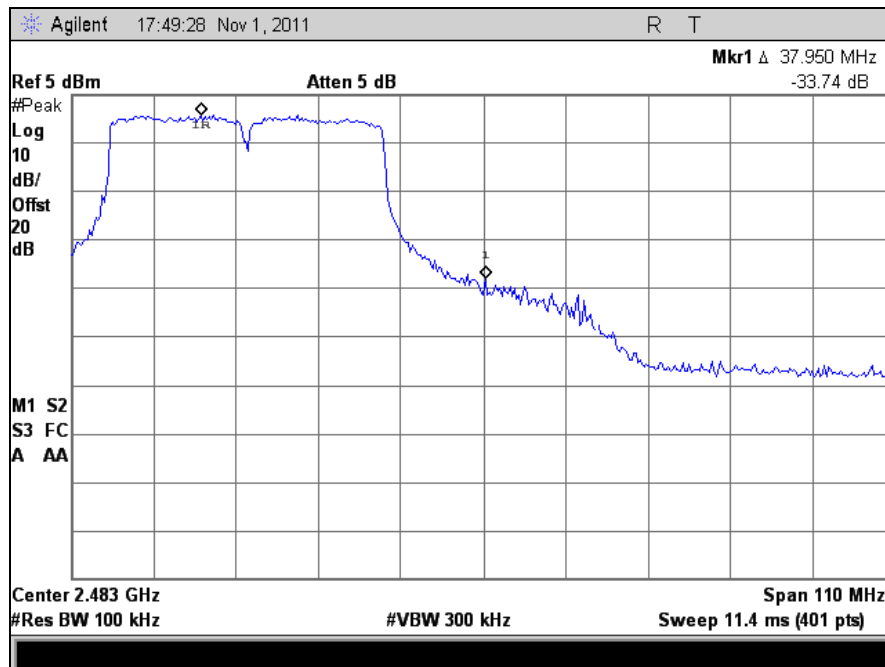


Plot 771. Conducted Band Edge, High Channel, 802.11n 40 MHz, Port 2, 2.4 GHz

**Conducted Band Edge Test Results, 802.11n 40 MHz, Port 3, 2.4 GHz**

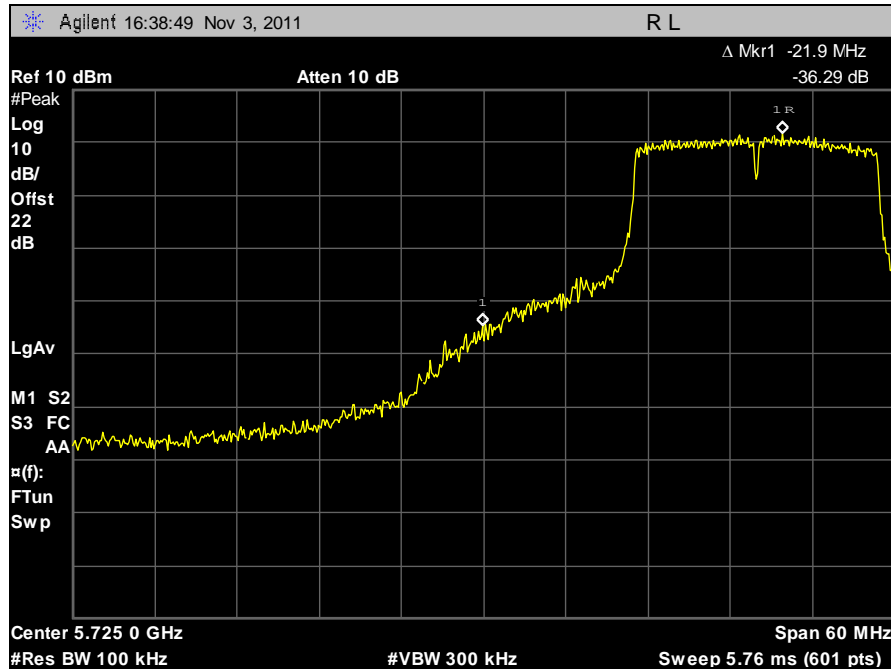


Plot 772. Conducted Band Edge, Low Channel, 802.11n 40 MHz, Port 3, 2.4 GHz

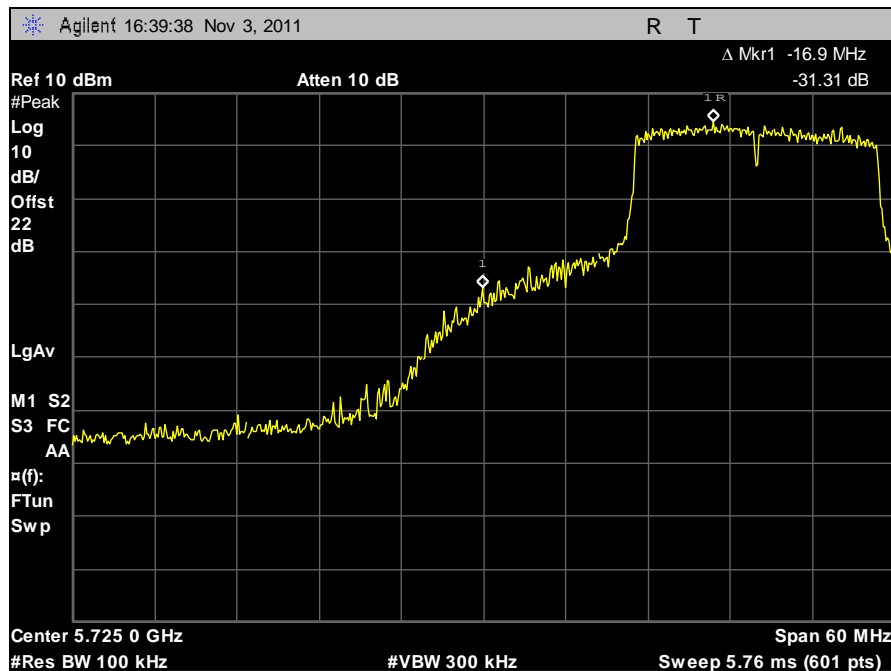


Plot 773. Conducted Band Edge, High Channel, 802.11n 40 MHz, Port 3, 2.4 GHz

**Conducted Band Edge Test Results, 802.11n 20 MHz, Port 1, 5.8 GHz**

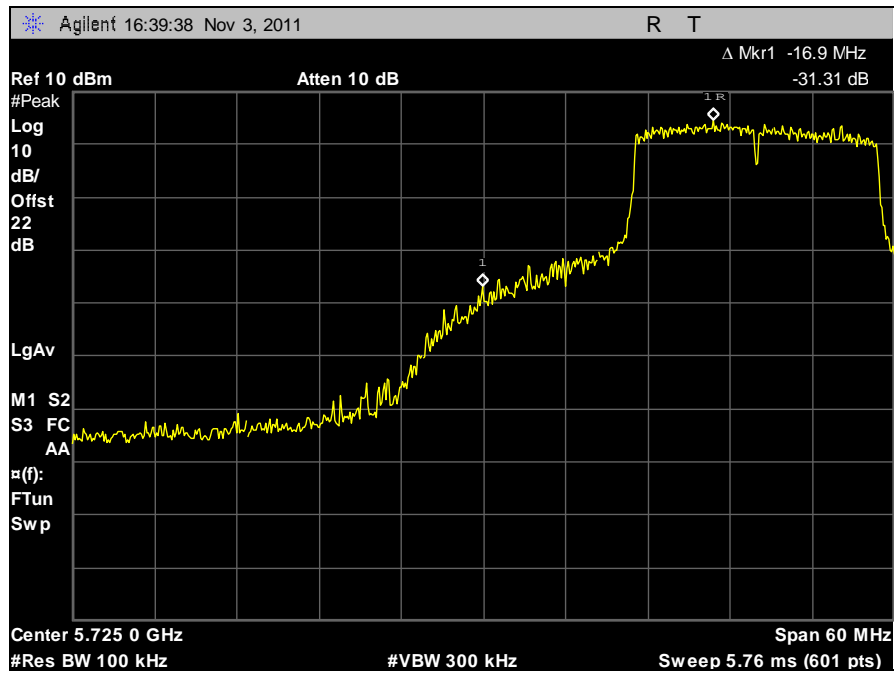


**Plot 774. Conducted Band Edge, Low Channel, 802.11n 20 MHz, Port 1, 5.8 GHz**

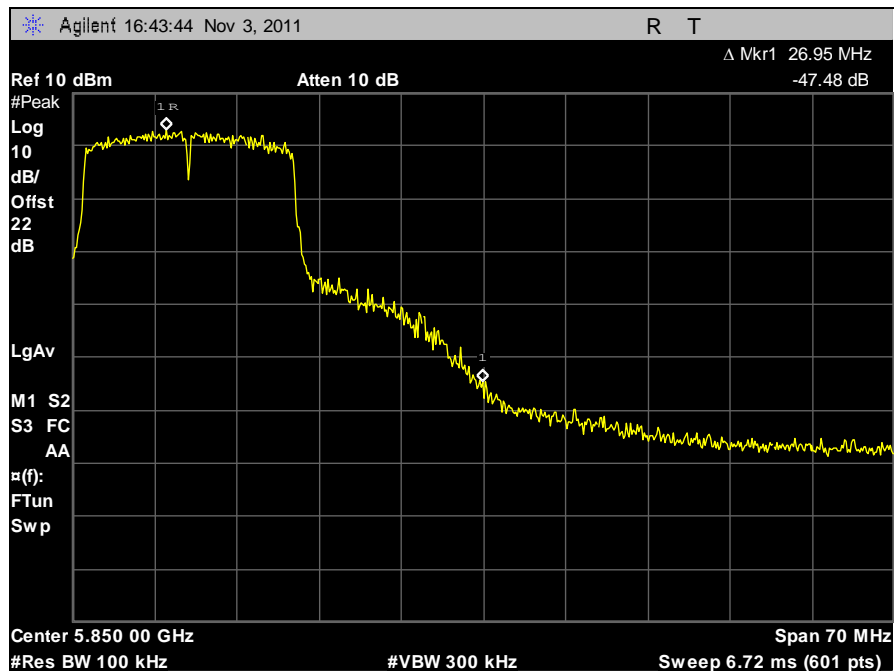


**Plot 775. Conducted Band Edge, High Channel, 802.11n 20 MHz, Port 1, 5.8 GHz**

### Conducted Band Edge Test Results, 802.11n 20 MHz, Port 2, 5.8 GHz

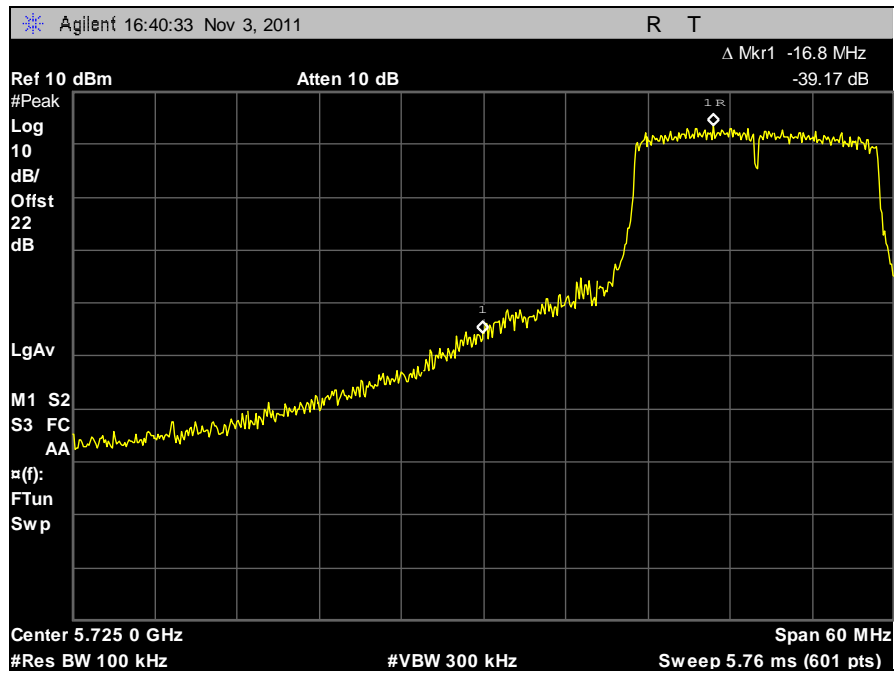


Plot 776. Conducted Band Edge, Low Channel, 802.11n 20 MHz, Port 2, 5.8 GHz

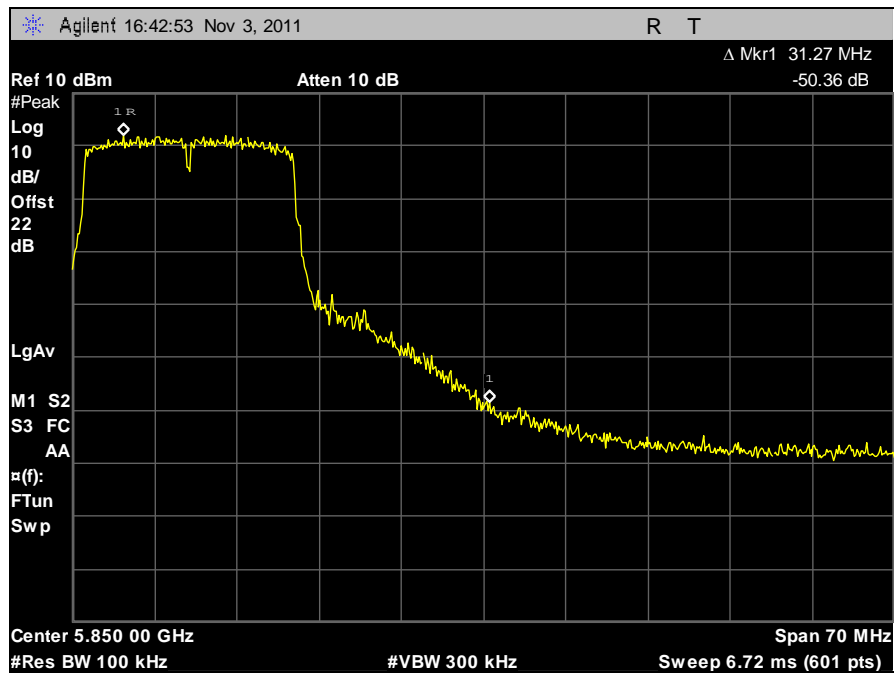


Plot 777. Conducted Band Edge, High Channel, 802.11n 20 MHz, Port 2, 5.8 GHz

**Conducted Band Edge Test Results, 802.11n 20 MHz, Port 3, 5.8 GHz**

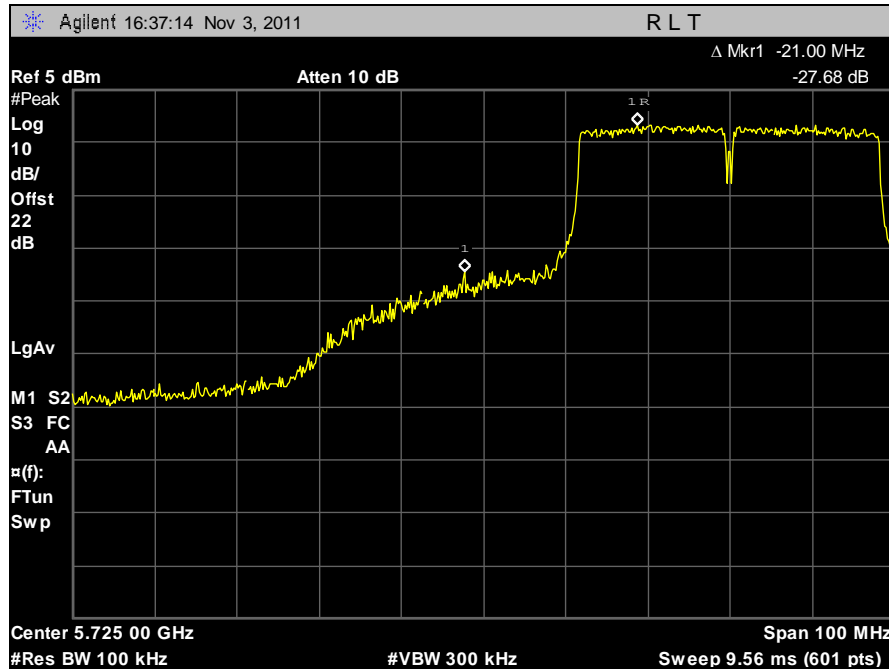


**Plot 778. Conducted Band Edge, Low Channel, 802.11n 20 MHz, Port 3, 5.8 GHz**

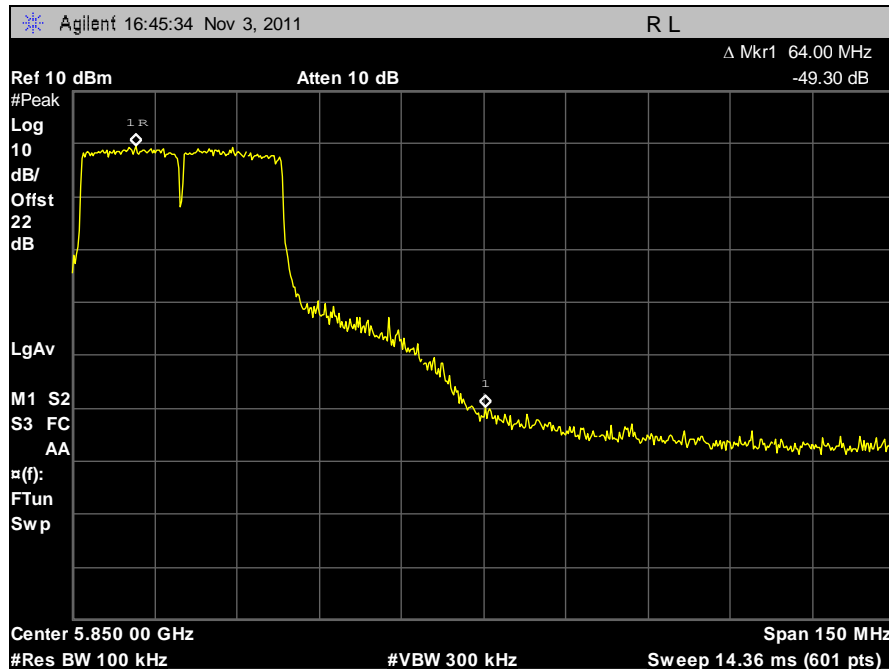


**Plot 779. Conducted Band Edge, High Channel, 802.11n 20 MHz, Port 3, 5.8 GHz**

**Conducted Band Edge Test Results, 802.11n 40 MHz, Port 1, 5.8 GHz**



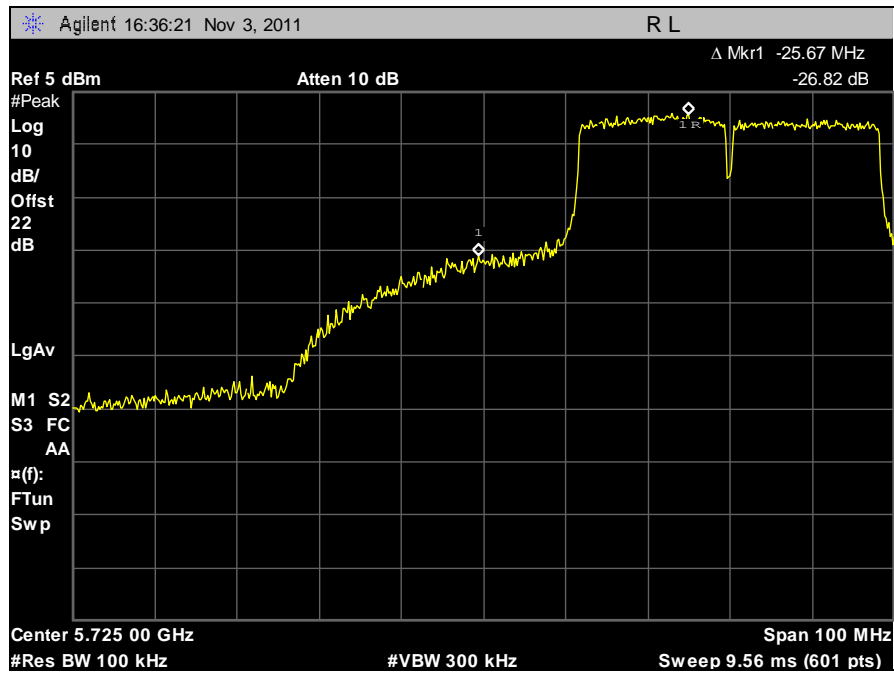
**Plot 780. Conducted Band Edge, Low Channel, 802.11n 40 MHz, Port 1, 5.8 GHz**



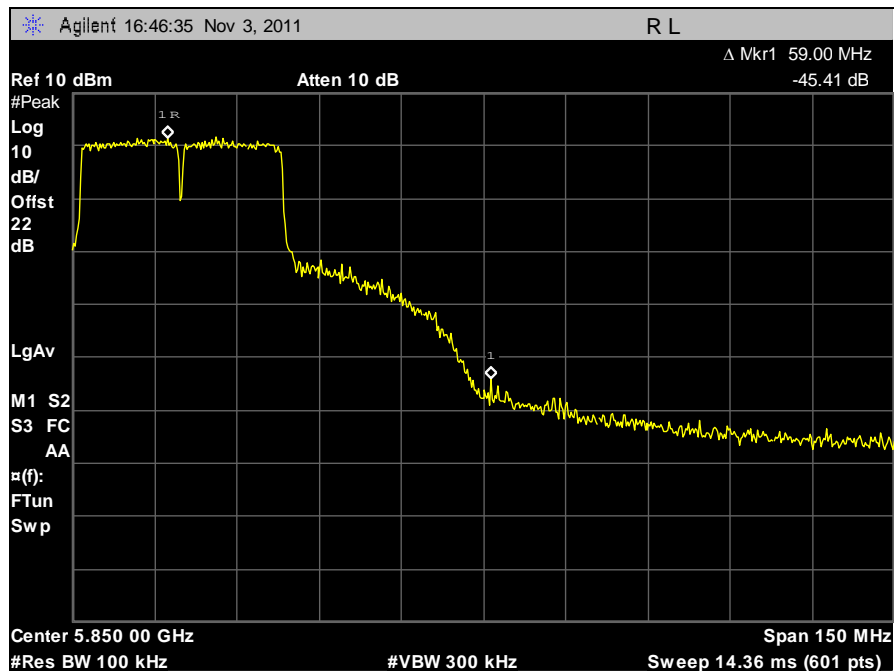
**Plot 781. Conducted Band Edge, High Channel, 802.11n 40 MHz, Port 1, 5.8 GHz**



**Conducted Band Edge Test Results, 802.11n 40 MHz, Port 2, 5.8 GHz**

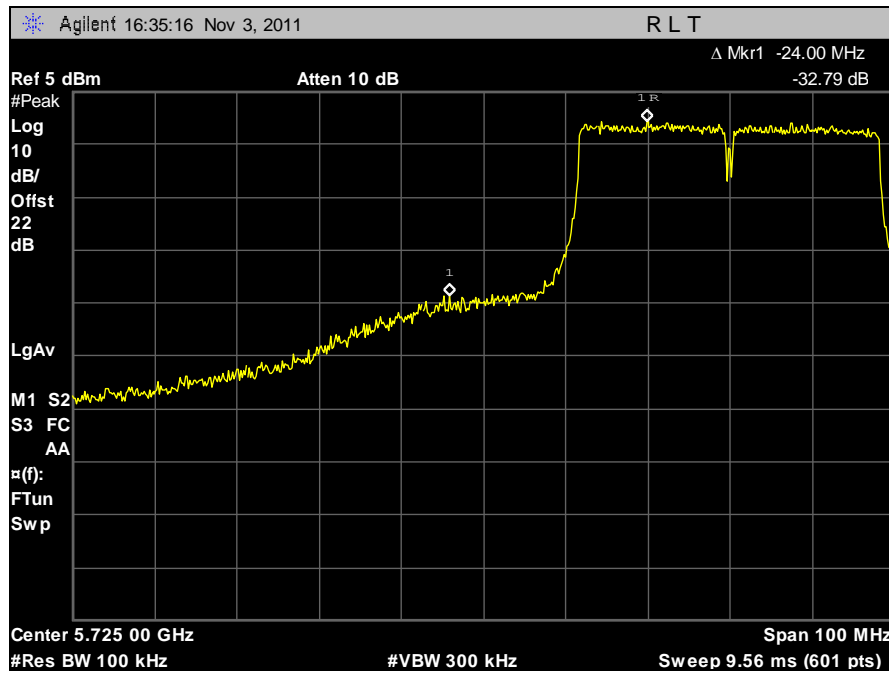


**Plot 782. Conducted Band Edge, Low Channel, 802.11n 40 MHz, Port 2, 5.8 GHz**

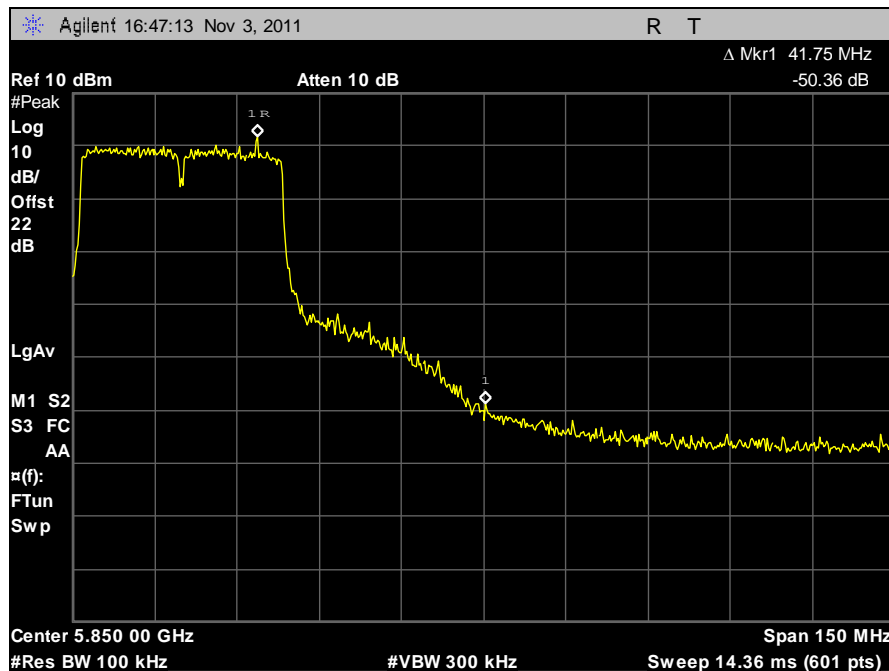


**Plot 783. Conducted Band Edge, High Channel, 802.11n 40 MHz, Port 2, 5.8 GHz**

**Conducted Band Edge Test Results, 802.11n 40 MHz, Port 3, 5.8 GHz**



Plot 784. Conducted Band Edge, Low Channel, 802.11n 40 MHz, Port 3, 5.8 GHz



Plot 785. Conducted Band Edge, High Channel, 802.11n 40 MHz, Port 3, 5.8 GHz

## 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. A RBW of 1 MHz and VBW of 3 MHz were used to determine the peak emissions within the band. The Spectrum analyzer was then set to a RBW of 3 kHz and VBW was set to 10 kHz. The SPAN of the analyzer was set to 1 MHz with a 333.3 second sweep. 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:** Anderson Sounghanya and Lionel Gabrillo

**Test Date:** 12/19/11

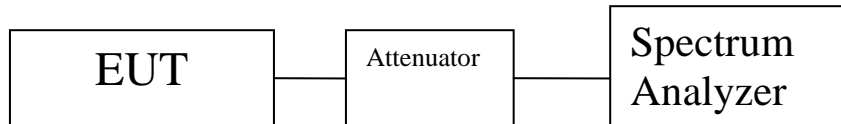


Figure 5. Block Diagram, Peak Power Spectral Density Test Setup



### Peak Power Spectral Density Test Results

Peak Power Spectral Density						
Mode	Carrier Channel	Frequency (MHz)	Measured PPSD (dBm)	Measured PPSD + 10log(# of Ports)	Limit (dBm)	Margin (dB)
802.11b	Low	2412	0.685	-	6	-5.315
	Mid	2437	-2.071	-	6	-8.071
	High	2462	-1.733	-	6	-7.733
802.11g	Low	2412	-3.650	1.120	6	-4.88
	Mid	2437	-3.768	1.002	6	-4.998
	High	2462	-3.968	0.802	6	-5.198
802.11n 5 MHz	Low	2412	-0.705	4.065	6	-1.935
	Mid	2437	-1.491	3.279	6	-2.721
	High	2462	-1.015	3.755	6	-2.245
802.11n 10 MHz	Low	2412	-3.199	1.571	6	-4.429
	Mid	2437	-3.877	0.893	6	-5.107
	High	2462	-1.583	3.187	6	-2.813
802.11n 20 MHz	Low	2412	-5.564	-0.794	6	-6.794
	Mid	2437	-5.270	-0.5	6	-6.5
	High	2462	-4.734	0.036	6	-5.964
802.11n 40 MHz	Low	2422	-9.263	-4.493	6	-10.493
	Mid	2437	-8.567	-3.797	6	-9.797
	High	2452	-8.671	-3.901	6	-9.901

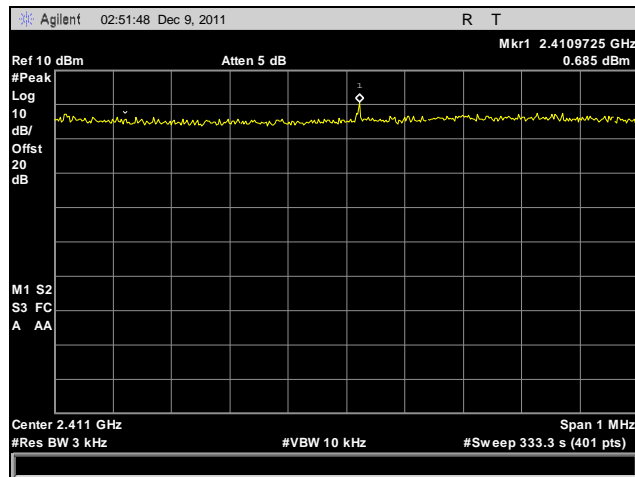
Table 30. Peak Power Spectral Density, Test Results, 2.4 GHz



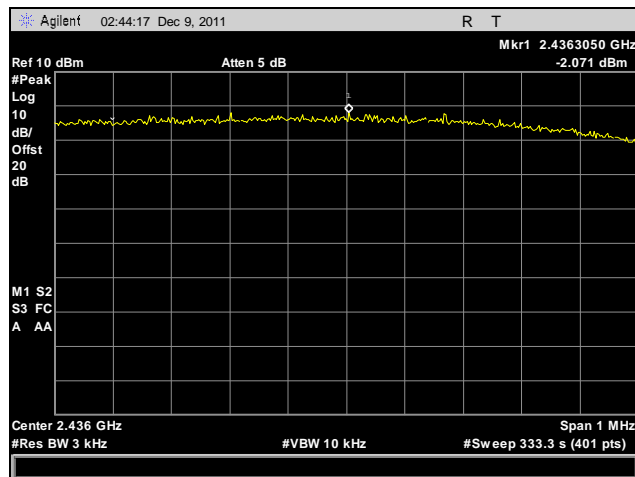
Peak Power Spectral Density						
Mode	Carrier Channel	Frequency (MHz)	Measured PPSD (dBm)	Measured PPSD + 10log(# of Ports)	Limit (dBm)	Margin (dB)
802.11a	Low	5745	-1.99	-	5	-6.99
	Mid	5785	-0.58	-	5	-5.58
	High	5825	-2.23	-	5	-7.23
802.11n 5 MHz	Low	5745	-2.52	2.25	5	-2.75
	Mid	5785	-2.62	2.15	5	-2.85
	High	5825	-2.81	1.96	5	-3.04
802.11n 10 MHz	Low	5745	-3.08	1.69	5	-3.31
	Mid	5785	-5.42	-0.65	5	-5.65
	High	5825	-5.82	-1.05	5	-6.05
802.11n 20 MHz	Low	5745	-5.23	-0.46	5	-5.46
	Mid	5785	-8.99	-4.22	5	-9.22
	High	5825	-8.56	-3.79	5	-8.79
802.11n 40 MHz	Low	5755	-10.59	-5.82	5	-10.82
	High	5795	-11.95	-7.18	5	-12.18

Table 31. Peak Power Spectral Density, Test Results, 5.8 GHz

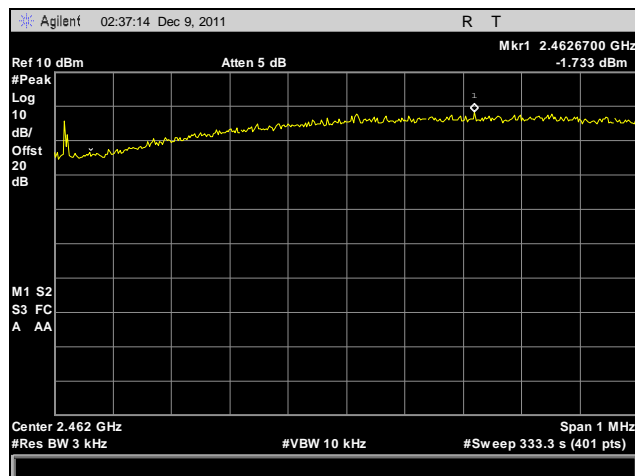
### Peak Power Spectral Density, 802.11b, 2.4 GHz



Plot 786. Peak Power Spectral Density, Low Channel, 802.11b, 2.4 GHz

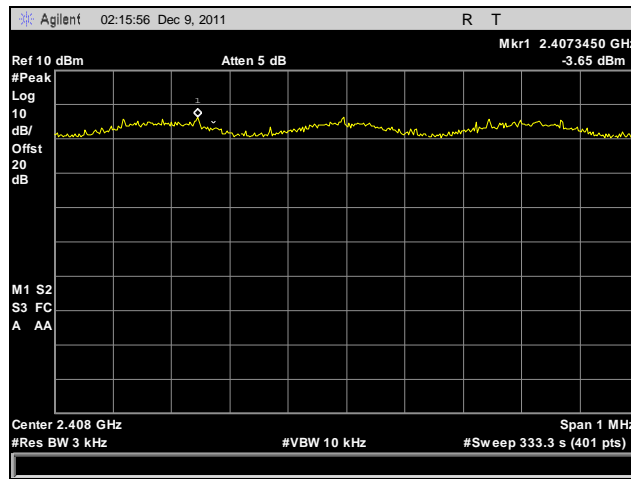


Plot 787. Peak Power Spectral Density, Mid Channel, 802.11b, 2.4 GHz

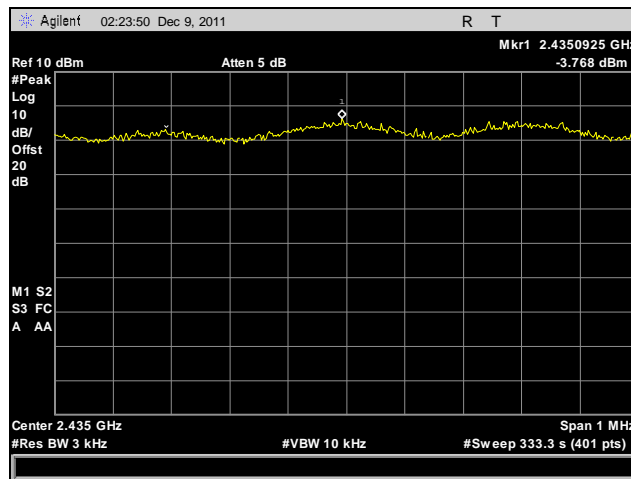


Plot 788. Peak Power Spectral Density, High Channel, 802.11b, 2.4 GHz

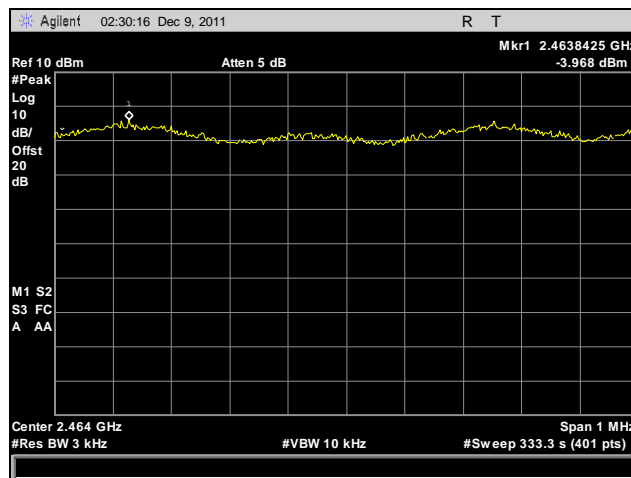
### Peak Power Spectral Density, 802.11g, 2.4 GHz



Plot 789. Peak Power Spectral Density, Low Channel, 802.11g, 2.4 GHz

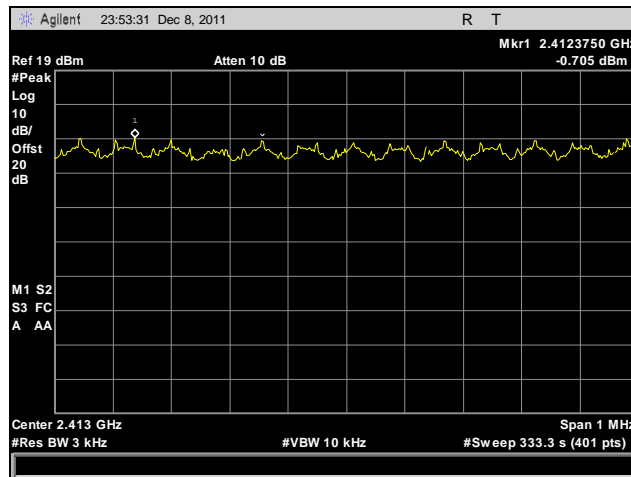


Plot 790. Peak Power Spectral Density, Mid Channel, 802.11g, 2.4 GHz

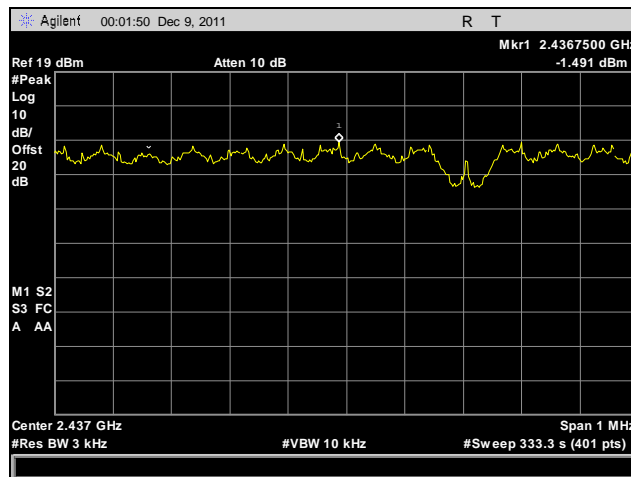


Plot 791. Peak Power Spectral Density, High Channel, 802.11g, 2.4 GHz

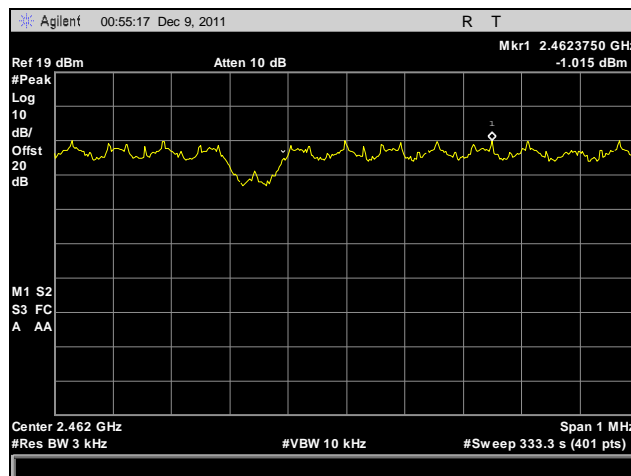
**Peak Power Spectral Density, 802.11n 5 MHz, 2.4 GHz**



**Plot 792. Peak Power Spectral Density, Low Channel, 802.11n 5 MHz, 2.4 GHz**



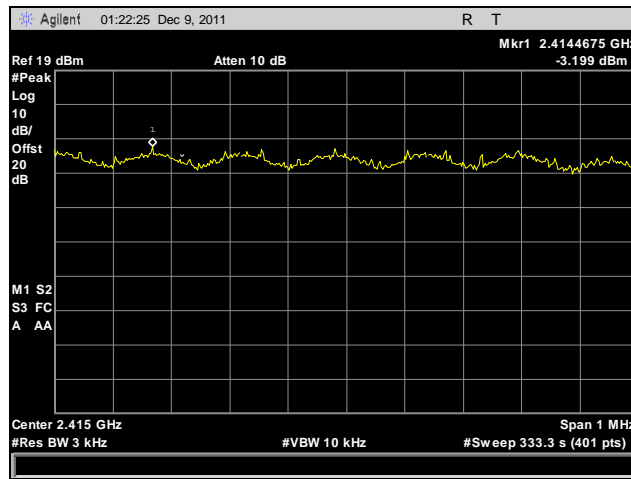
**Plot 793. Peak Power Spectral Density, Mid Channel, 802.11n 5 MHz, 2.4 GHz**



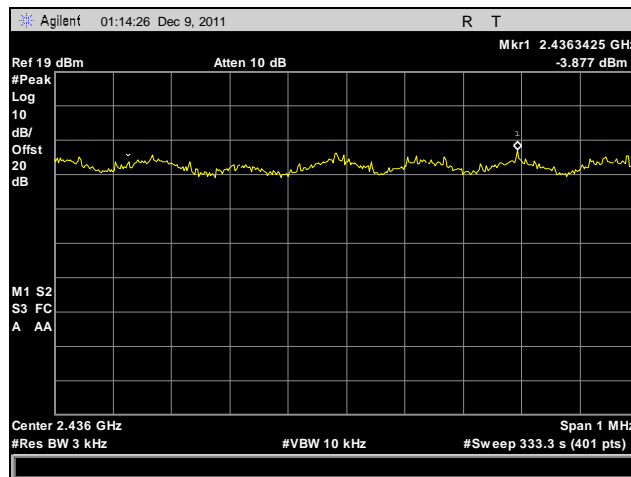
**Plot 794. Peak Power Spectral Density, High Channel, 802.11n 5 MHz, 2.4 GHz**



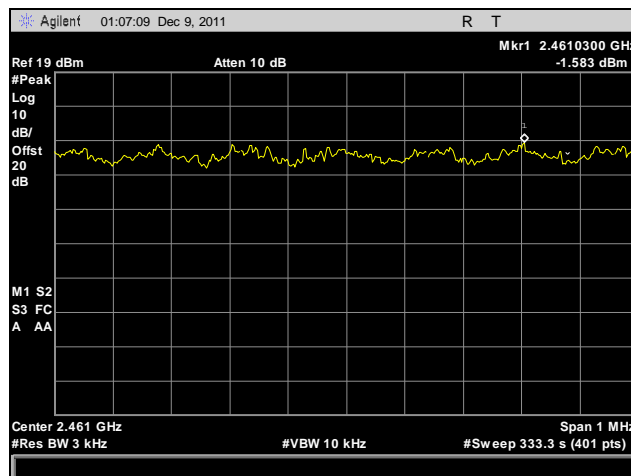
**Peak Power Spectral Density, 802.11n 10 MHz, 2.4 GHz**



**Plot 795. Peak Power Spectral Density, Low Channel, 802.11n 10 MHz, 2.4 GHz**

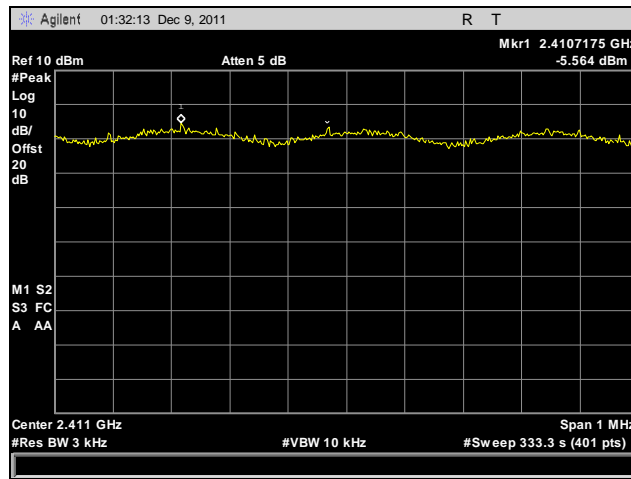


**Plot 796. Peak Power Spectral Density, Mid Channel, 802.11n 10 MHz, 2.4 GHz**

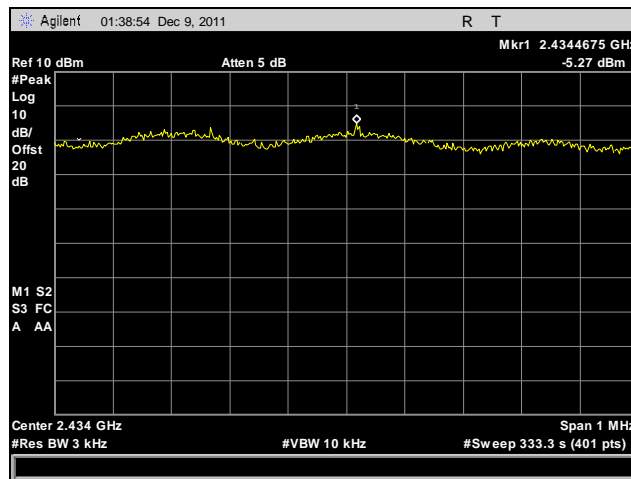


**Plot 797. Peak Power Spectral Density, High Channel, 802.11n 10 MHz, 2.4 GHz**

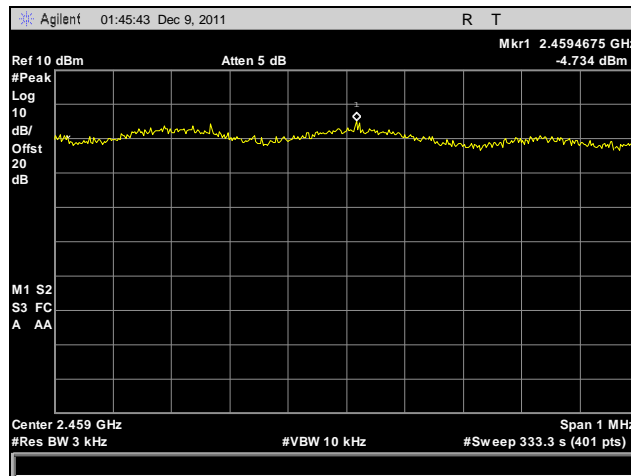
### Peak Power Spectral Density, 802.11n 20 MHz, 2.4 GHz



Plot 798. Peak Power Spectral Density, Low Channel, 802.11n 20 MHz, 2.4 GHz

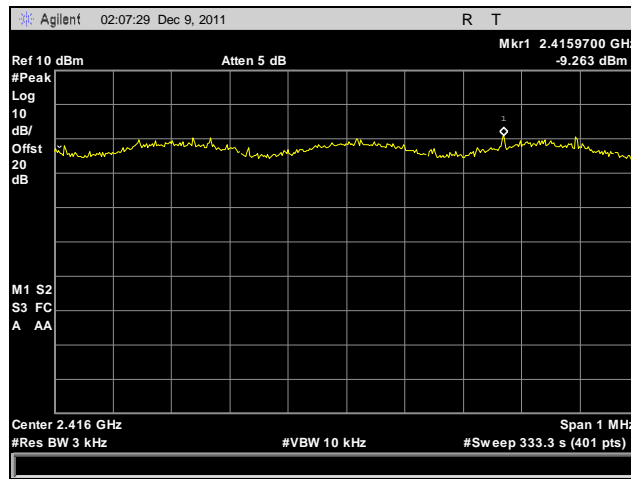


Plot 799. Peak Power Spectral Density, Mid Channel, 802.11n 20 MHz, 2.4 GHz

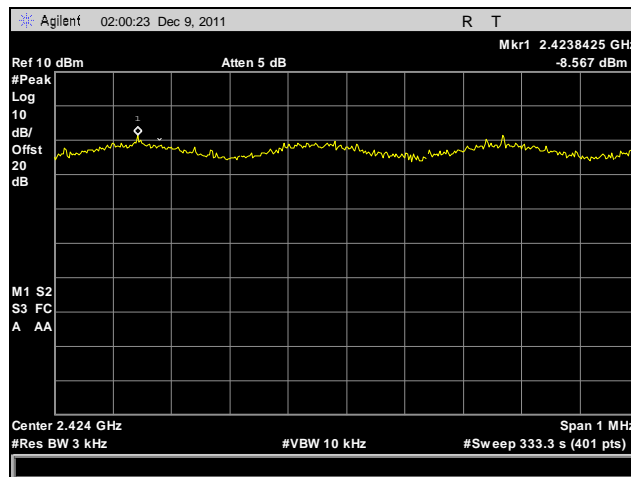


Plot 800. Peak Power Spectral Density, High Channel, 802.11n 20 MHz, 2.4 GHz

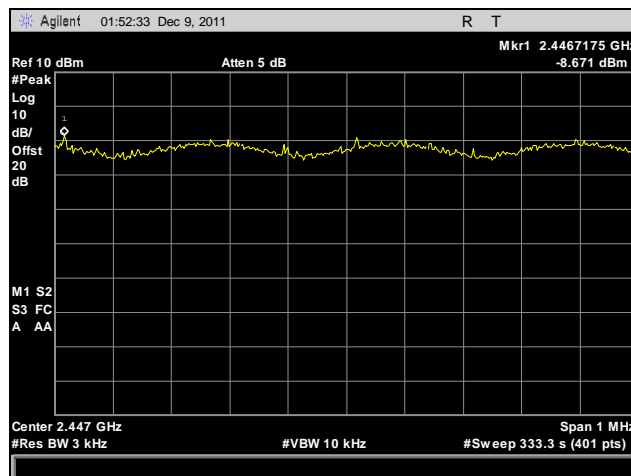
### Peak Power Spectral Density, 802.11n 40 MHz, 2.4 GHz



Plot 801. Peak Power Spectral Density, Low Channel, 802.11n 40 MHz, 2.4 GHz



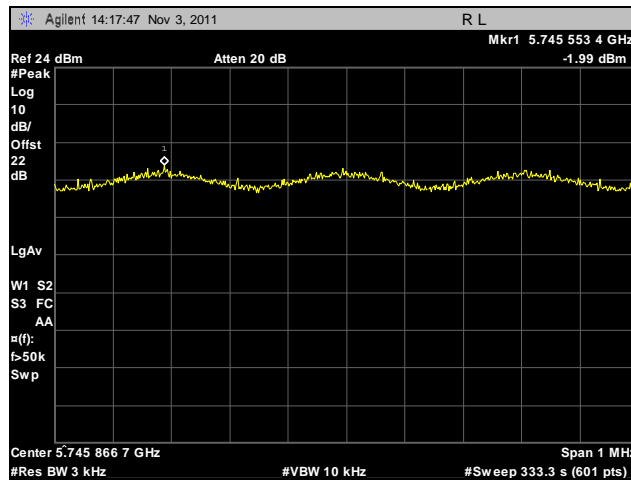
Plot 802. Peak Power Spectral Density, Mid Channel, 802.11n 40 MHz, 2.4 GHz



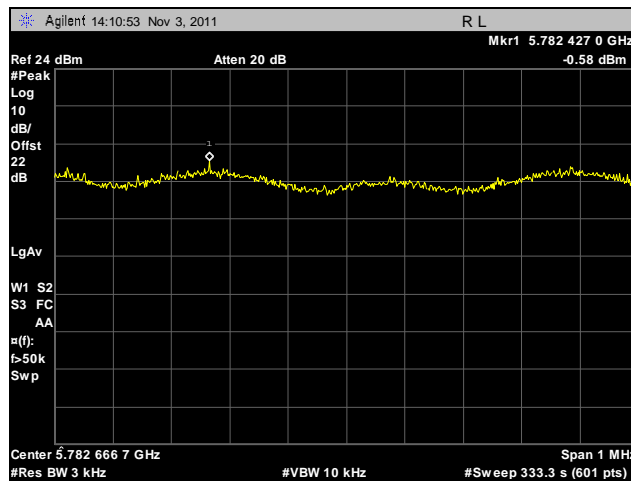
Plot 803. Peak Power Spectral Density, High Channel, 802.11n 40 MHz, 2.4 GHz



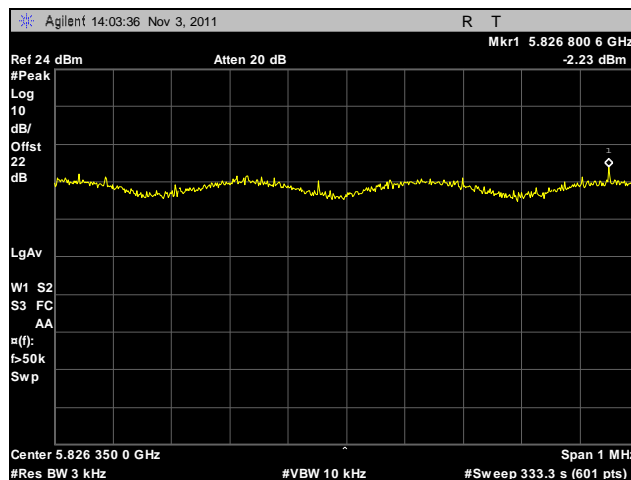
### Peak Power Spectral Density, 802.11a, 5.8 GHz



Plot 804. Peak Power Spectral Density, Low Channel, 802.11a, 5.8 GHz



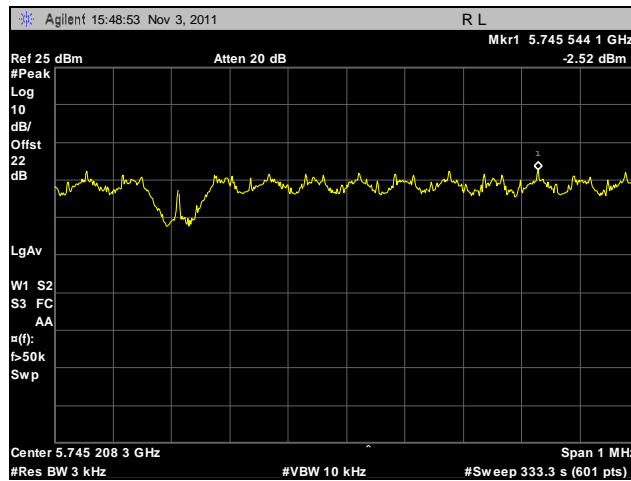
Plot 805. Peak Power Spectral Density, Mid Channel, 802.11a, 5.8 GHz



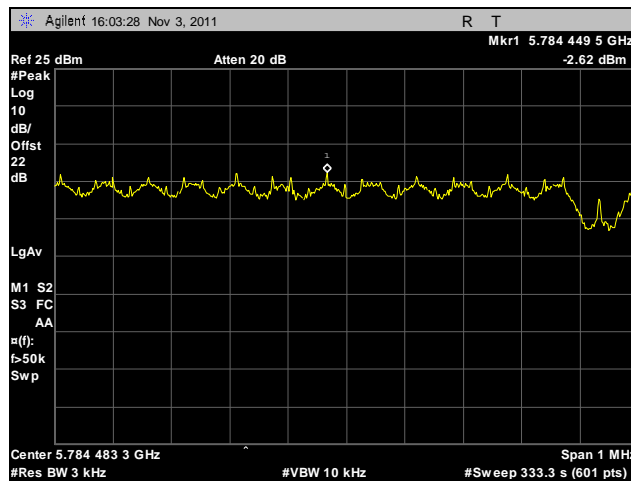
Plot 806. Peak Power Spectral Density, High Channel, 802.11a, 5.8 GHz



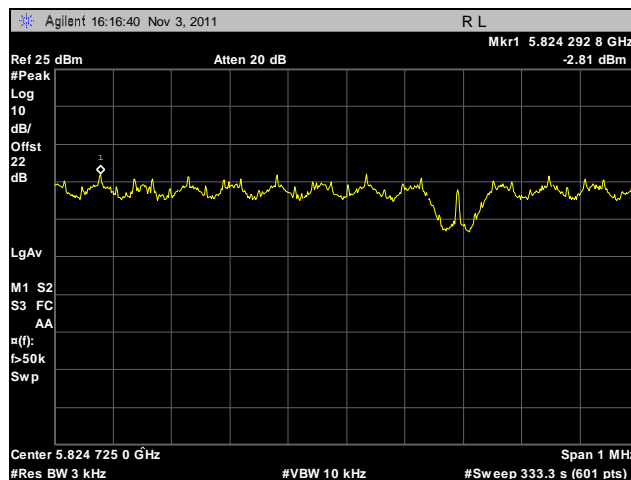
### Peak Power Spectral Density, 802.11n 5 MHz, 5.8 GHz



Plot 807. Peak Power Spectral Density, Low Channel, 802.11n 5 MHz, 5.8 GHz



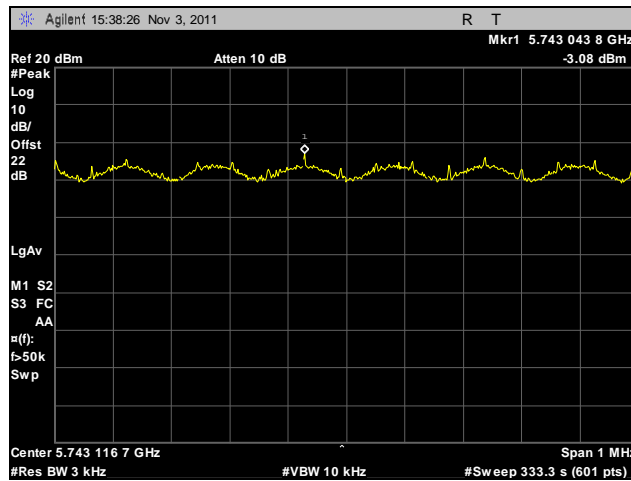
Plot 808. Peak Power Spectral Density, Mid Channel, 802.11n 5 MHz, 5.8 GHz



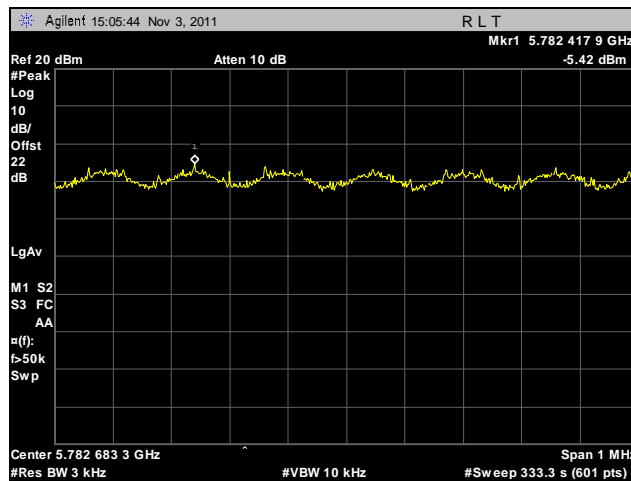
Plot 809. Peak Power Spectral Density, High Channel, 802.11n 5 MHz, 5.8 GHz



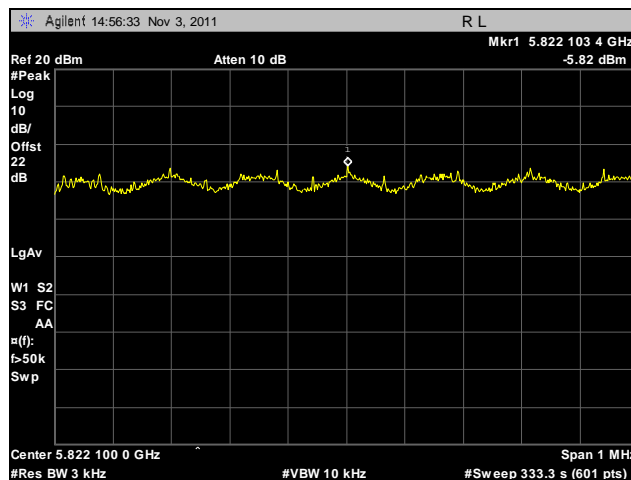
### Peak Power Spectral Density, 802.11n 10 MHz, 5.8 GHz



Plot 810. Peak Power Spectral Density, Low Channel, 802.11n 10 MHz, 5.8 GHz



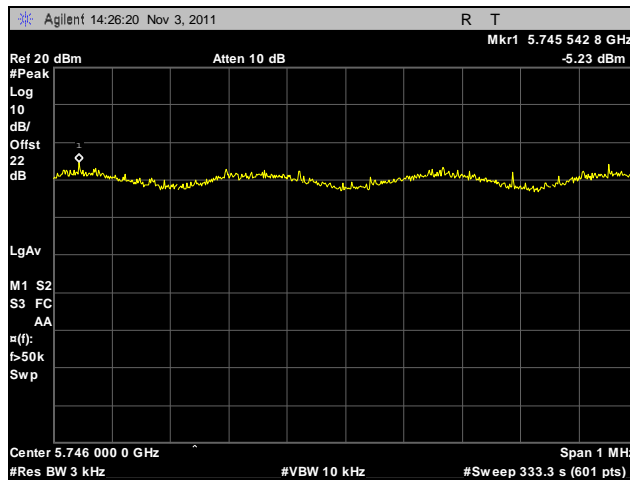
Plot 811. Peak Power Spectral Density, Mid Channel, 802.11n 10 MHz, 5.8 GHz



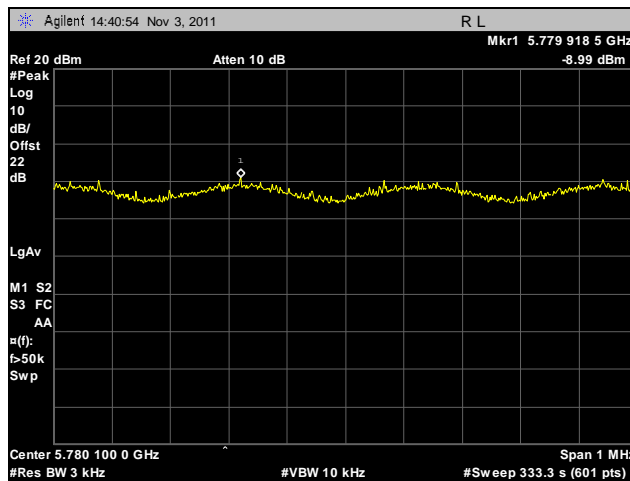
Plot 812. Peak Power Spectral Density, High Channel, 802.11n 10 MHz, 5.8 GHz



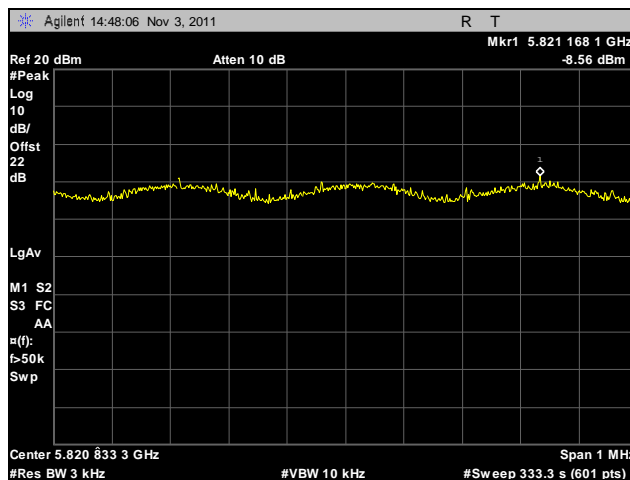
### Peak Power Spectral Density, 802.11n 20 MHz, 5.8 GHz



Plot 813. Peak Power Spectral Density, Low Channel, 802.11n 20 MHz, 5.8 GHz



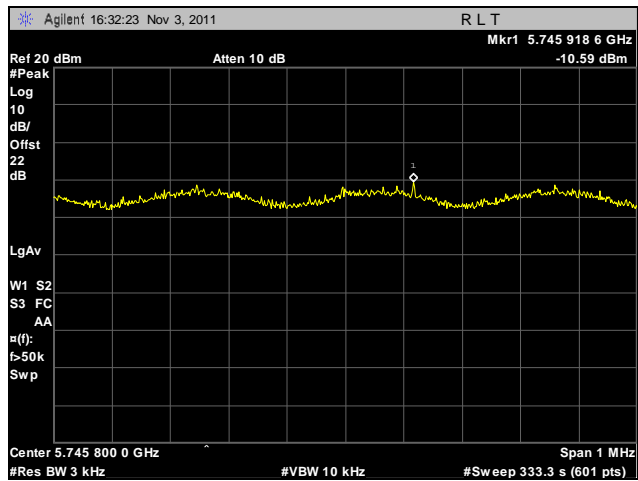
Plot 814. Peak Power Spectral Density, Mid Channel, 802.11n 20 MHz, 5.8 GHz



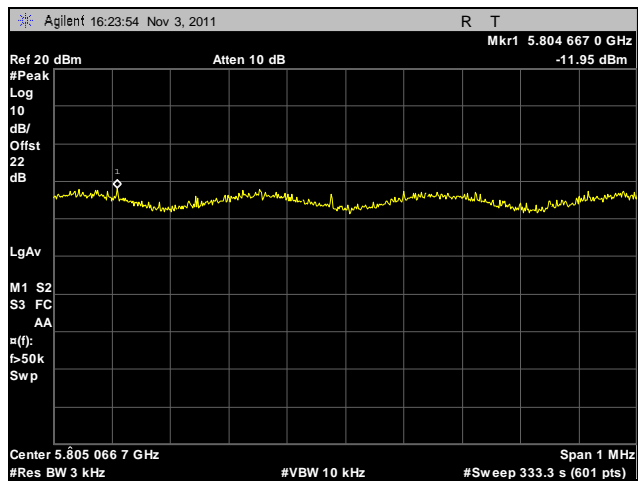
Plot 815. Peak Power Spectral Density, High Channel, 802.11n 20 MHz, 5.8 GHz



### Peak Power Spectral Density, 802.11n 40 MHz, 5.8 GHz



Plot 816. Peak Power Spectral Density, Low Channel, 802.11n 40 MHz, 5.8 GHz



Plot 817. Peak Power Spectral Density, High Channel, 802.11n 40 MHz, 5.8 GHz



## § 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.

### EUT with 2.4GHz 5 dBi Omni Antenna

MPE Limit Calculation: EUT's operating frequencies @ 2412-2462 MHz; highest conducted power = 28.58dBm (peak) therefore, **Limit for Uncontrolled exposure: 1 mW/cm<sup>2</sup> or 10 W/m<sup>2</sup>**

EUT antenna gain = 3.16

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 (1 mW/cm<sup>2</sup>)  
P = Power Input to antenna (721.11 mW)  
G = Antenna Gain (3.16 numeric)  
R = Minimum Distance between User and Antenna (20 cm)

$$S = (721.11 * 3.16) / (4 * 3.14 * 20^2) = 2280.342 / 5024 = 0.454 \text{ mW/cm}^2$$

Since  $S < 1 \text{ mW/cm}^2$ , the minimum distance (R) is 20cm

$$\text{EUT maximum antenna gain} = 5\text{dBi} + 10\log(\# \text{ of ports}) = 5 + 4.77 = 9.77\text{dBi} = 9.48$$

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 (1 mW/cm<sup>2</sup>)  
P = Power Input to antenna (721.11 mW)  
G = Antenna Gain (3.16 numeric)  
R = Minimum Distance between User and Antenna (20 cm)

$$S = (721.11 * 9.48) / (4 * 3.14 * 20^2) = 6839.116 / 5024 = 1.36 \text{ mW/cm}^2$$

Since  $S > 1 \text{ mW/cm}^2$ , the minimum distance (R) is

$$R = \sqrt{((721.11 * 9.48) / (4 * 3.14 * 1.36))} = 23.33 \text{ cm}$$

### EUT with 2.4GHz 8 dBi Omni Antenna

MPE Limit Calculation: EUT's operating frequencies @ 2412-2462 MHz; highest conducted power = 26.38dBm (peak) therefore, **Limit for Uncontrolled exposure: 1 mW/cm<sup>2</sup> or 10 W/m<sup>2</sup>**

EUT antenna gain = 6.31

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 (1 mW/cm<sup>2</sup>)  
P = Power Input to antenna (434.51 mW)  
G = Antenna Gain (6.31 numeric)  
R = Minimum Distance between User and Antenna (20 cm)

$$S = (434.51 * 6.31) / (4 * 3.14 * 20^2) = 2741.574 / 5024 = 0.546 \text{ mW/cm}^2$$

Since  $S < 1 \text{ mW/cm}^2$ , the minimum distance (R) is 20cm

### EUT with 5.8GHz 9 dBi Omni Antenna

MPE Limit Calculation: EUT's operating frequencies @ 5745-5825 MHz; highest conducted power = 26.773 dBm (peak) therefore, **Limit for Uncontrolled exposure: 1 mW/cm<sup>2</sup> or 10 W/m<sup>2</sup>**

EUT antenna gain = 7.94

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 (1 mW/cm<sup>2</sup>)  
P = Power Input to antenna (475.66 mW)  
G = Antenna Gain (7.94 numeric)  
R = Minimum Distance between User and Antenna (20 cm)

$$S = (475.66 * 7.94) / (4 * 3.14 * 20^2) = 3776.74 / 5024 = 0.752 \text{ mW/cm}^2$$

Since  $S < 1 \text{ mW/cm}^2$ , the minimum distance (R) is 20cm

### EUT with 5.8GHz 15 dBi Sector Antenna

MPE Limit Calculation: EUT's operating frequencies @ 5745-5825 MHz; highest conducted power = 20.938 dBm (peak) therefore, **Limit for Uncontrolled exposure: 1 mW/cm<sup>2</sup> or 10 W/m<sup>2</sup>**

EUT antenna gain = 31.62

$S = PG / 4\pi R^2 \quad \text{or} \quad R = \sqrt{PG / 4\pi S}$   
where, S = Power Density (1 mW/cm<sup>2</sup>)  
P = Power Input to antenna (124.11 mW)  
G = Antenna Gain (31.62 numeric)  
R = Minimum Distance between User and Antenna (20 cm)

$$S = (124.11 * 31.62) / (4 * 3.14 * 20^2) = 3924.642 / 5024 = 0.781 \text{ mW/cm}^2$$

Since  $S < 1 \text{ mW/cm}^2$ , the minimum distance (R) is 20cm



**EUT with 5.8GHz 16 dBi Panel Antenna**

MPE Limit Calculation: EUT's operating frequencies @ 5745-5825 MHz; highest conducted power = 19.985 dBm (peak) therefore, **Limit for Uncontrolled exposure: 1 mW/cm<sup>2</sup> or 10 W/m<sup>2</sup>**

EUT antenna gain = 39.81

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

where, S = Power Density (1 mW/cm<sup>2</sup>)

P = Power Input to antenna (99.65 mW)

G = Antenna Gain (39.81 numeric)

R = Minimum Distance between User and Antenna (20 cm)

$$S = (99.65 * 39.81) / (4 * 3.14 * 20^2) = 3967.345 / 5024 = 0.790 \text{ mW/cm}^2$$

Since  $S < 1 \text{ mW/cm}^2$ , the minimum distance (R) is 20cm

**Electromagnetic Compatibility Criteria for Intentional Radiators**

**RSS-GEN Receiver Spurious Emissions Requirements**

**Test Requirements:** The following receiver spurious emission limits shall be complied with:

- (a) If a radiated measurement is made, all spurious emissions shall comply with the limits of Table 32.

Spurious Frequency (MHz)	Field Strength (microvolt/m at 3 metres)
30 – 88	100
88 – 216	150
216 – 960	200
Above 960	500

**Table 32. Spurious Emission Limits for Receivers**

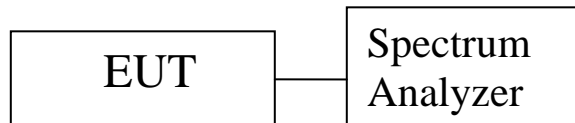
- (b) If a conducted measurement is made, no spurious output signals appearing at the antenna terminals shall exceed 2 nanowatts per any 4 kHz spurious frequency in the band 30-1000 MHz, or 5 nanowatts above 1 GHz.

**Test Procedures:** The EUT was programmed for receive mode only. Conducted measurements were taken at the antenna port of the EUT. 100 kHz resolution bandwidth was used from 30 MHz - 1 GHz and 1 MHz resolution was used for measurements done above 1 GHz. All plots are corrected for cable loss.

**Test Results:** Equipment is compliant with the Receiver Spurious Emissions Requirements of RSS-GEN.

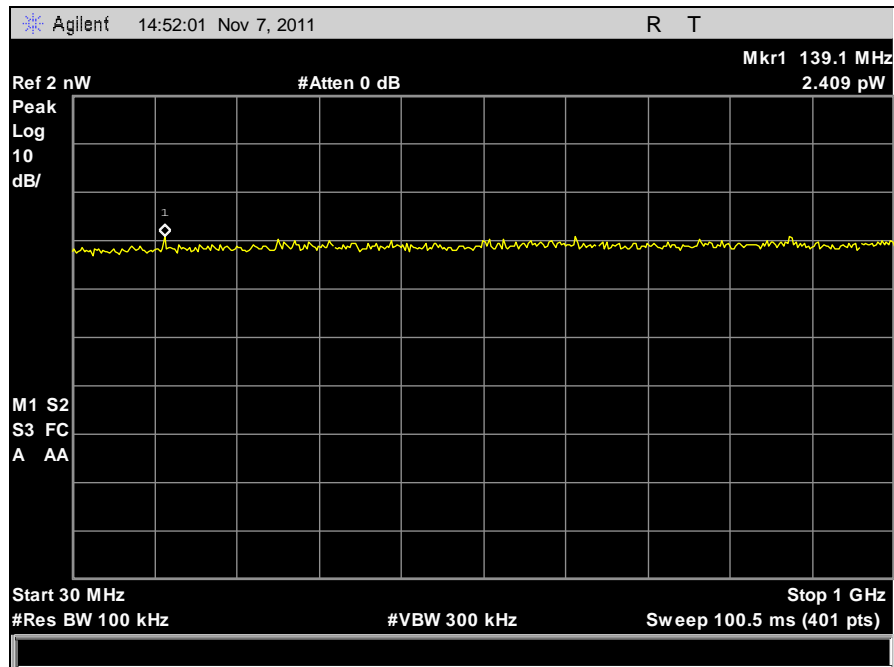
**Test Engineer(s):** Anderson Soungpanya and Lionel Gabrillo

**Test Date(s):** 11/07/11 and 12/19/11

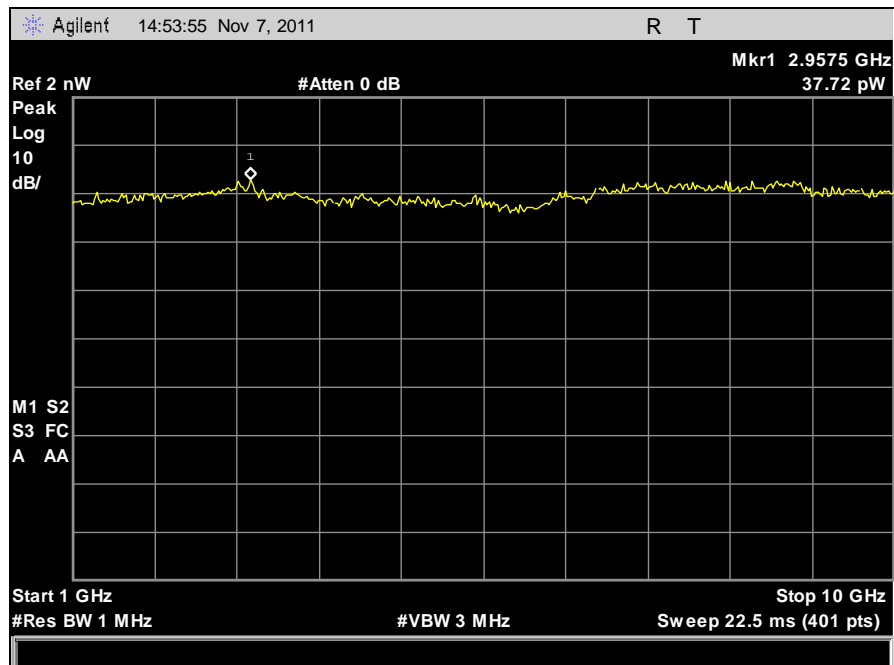


**Figure 6. Block Diagram, Conducted Receiver Spurious Emissions Test Setup**

### Conducted Receiver Spurious Emissions, Port 1, 2.4 GHz

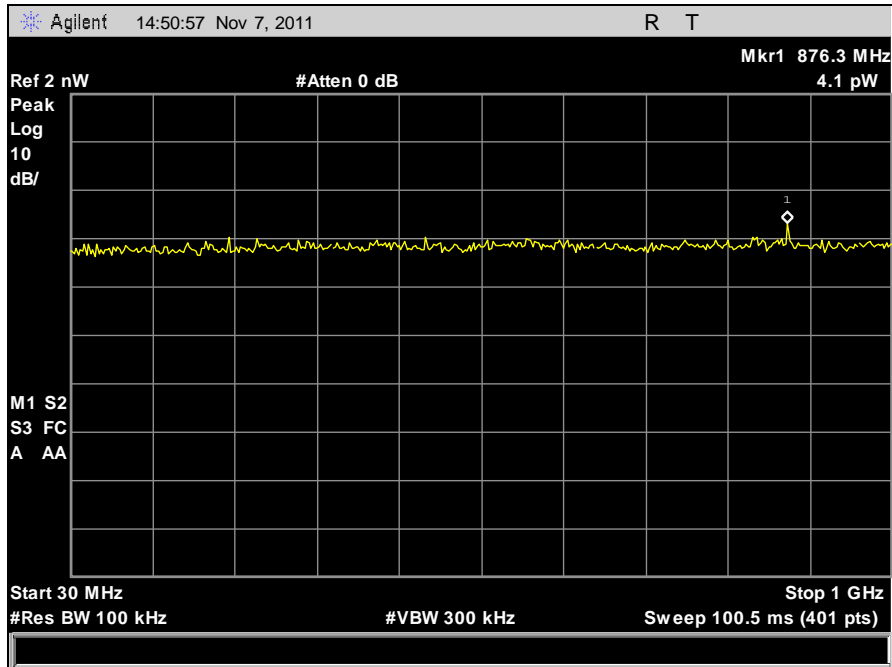


Plot 818. Receiver Spurious Emission, 30 MHz – 1 GHz, Port 1, 2.4 GHz

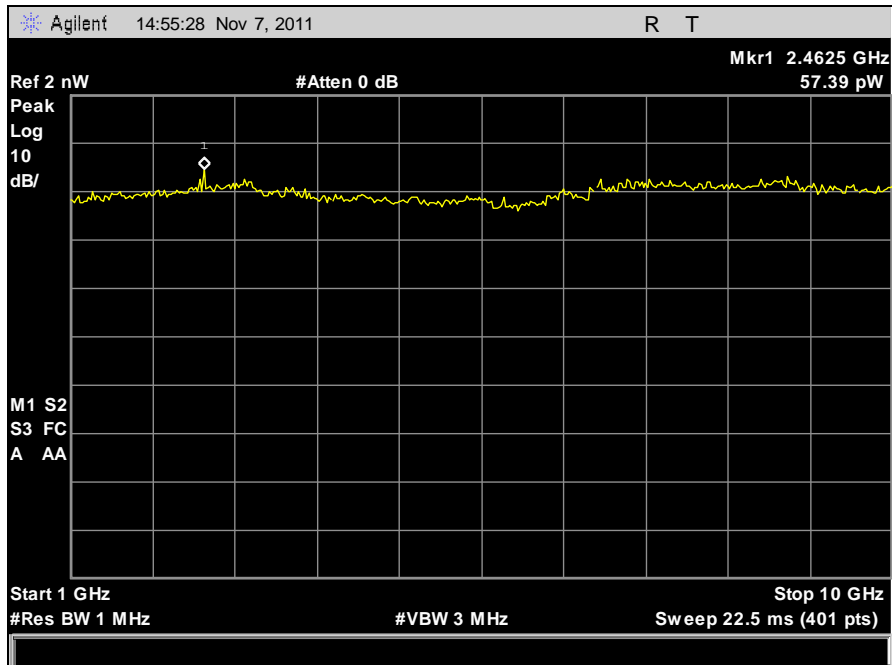


Plot 819. Receiver Spurious Emission, 1 GHz – 10 GHz, Port 1, 2.4 GHz

### Conducted Receiver Spurious Emissions, Port 2, 2.4 GHz

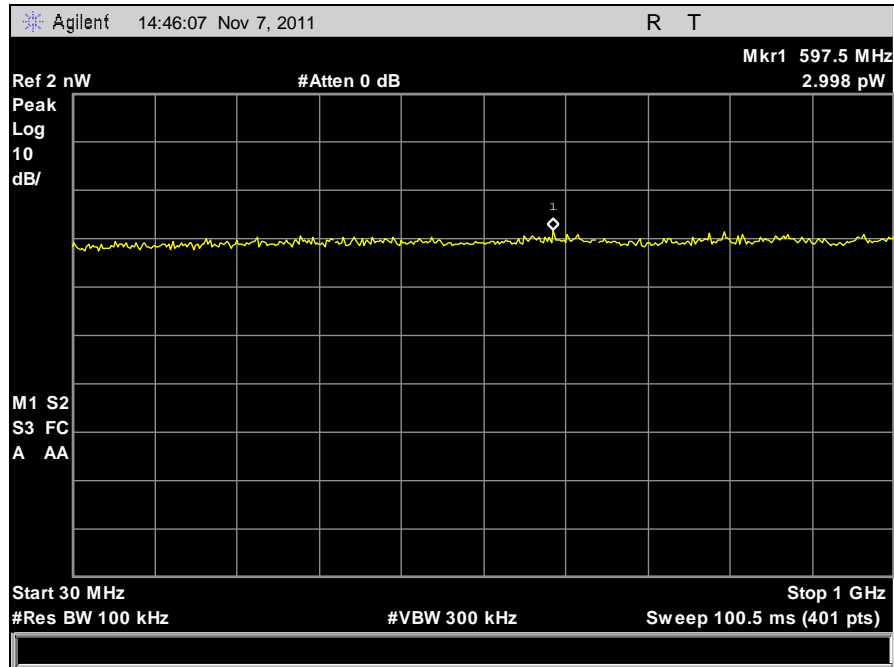


Plot 820. Receiver Spurious Emission, 30 MHz – 1 GHz, Port 2, 2.4 GHz

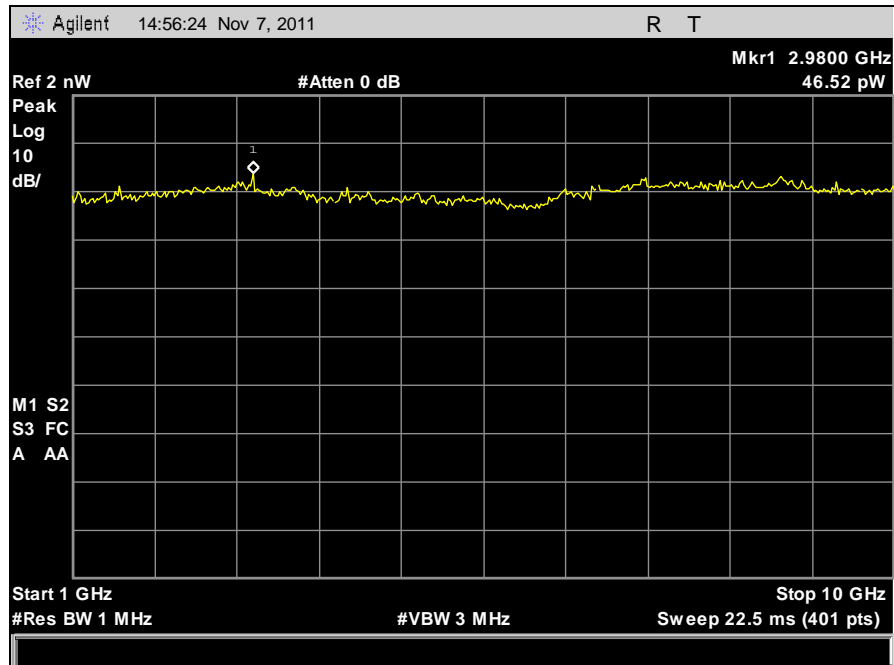


Plot 821. Receiver Spurious Emission, 1 GHz – 10 GHz, Port 2, 2.4 GHz

### Conducted Receiver Spurious Emissions, Port 3, 2.4 GHz

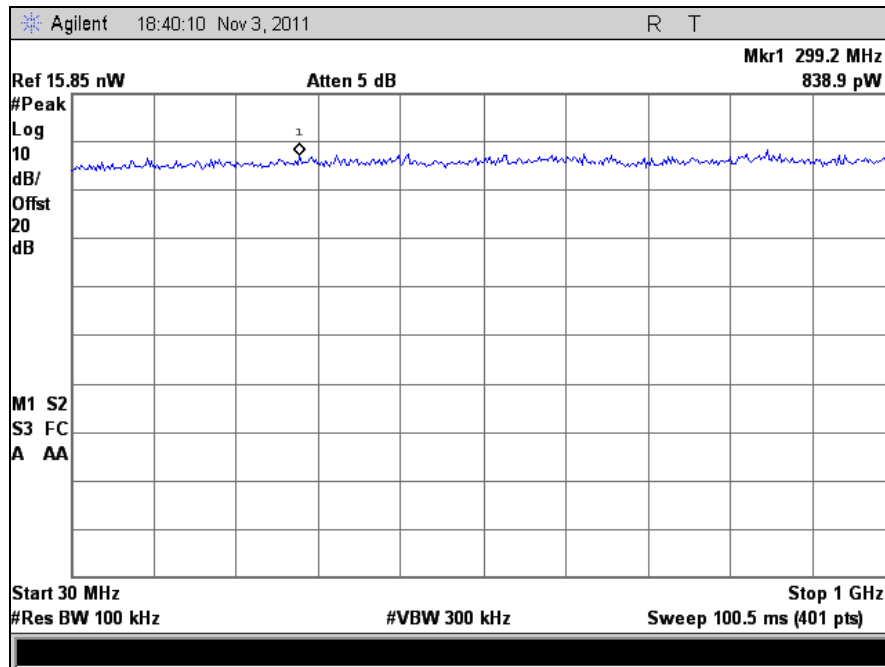


Plot 822. Receiver Spurious Emission, 30 MHz – 1 GHz, Port 3, 2.4 GHz

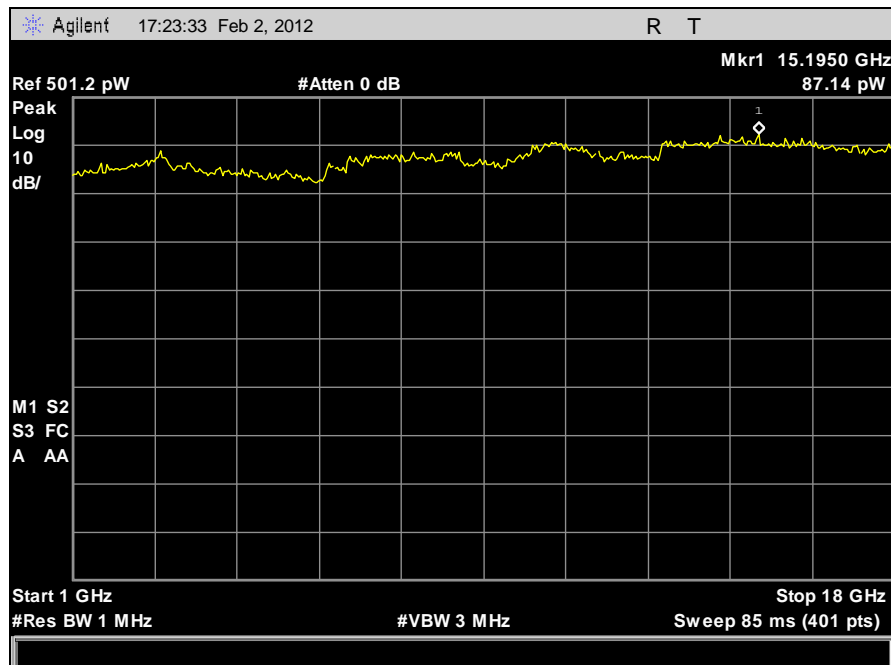


Plot 823. Receiver Spurious Emission, 1 GHz – 10 GHz, Port 3, 2.4 GHz

### Conducted Receiver Spurious Emissions, Port 1, 5.8 GHz



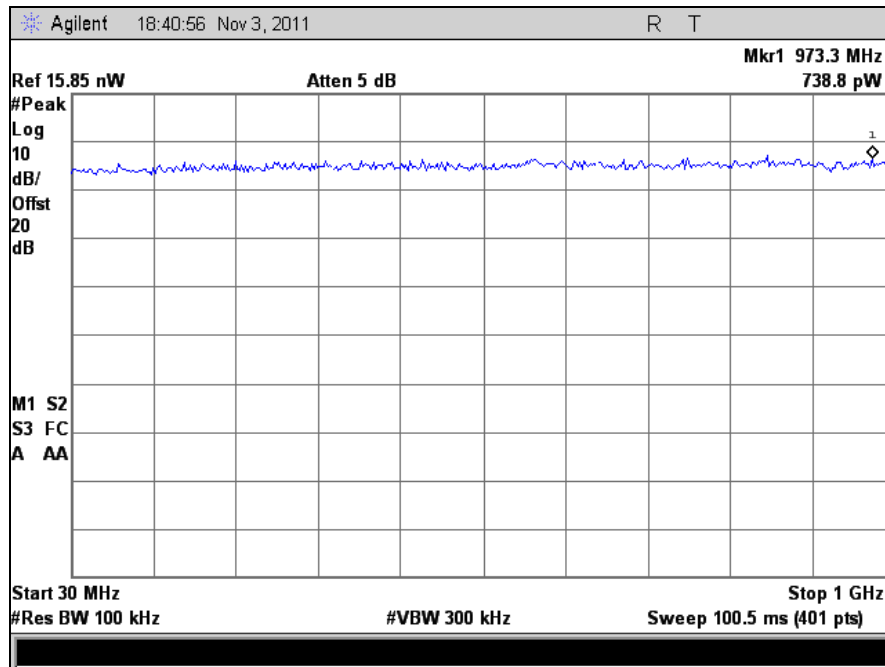
Plot 824. Receiver Spurious Emission, 30 MHz – 1 GHz, Port 1, 5.8 GHz



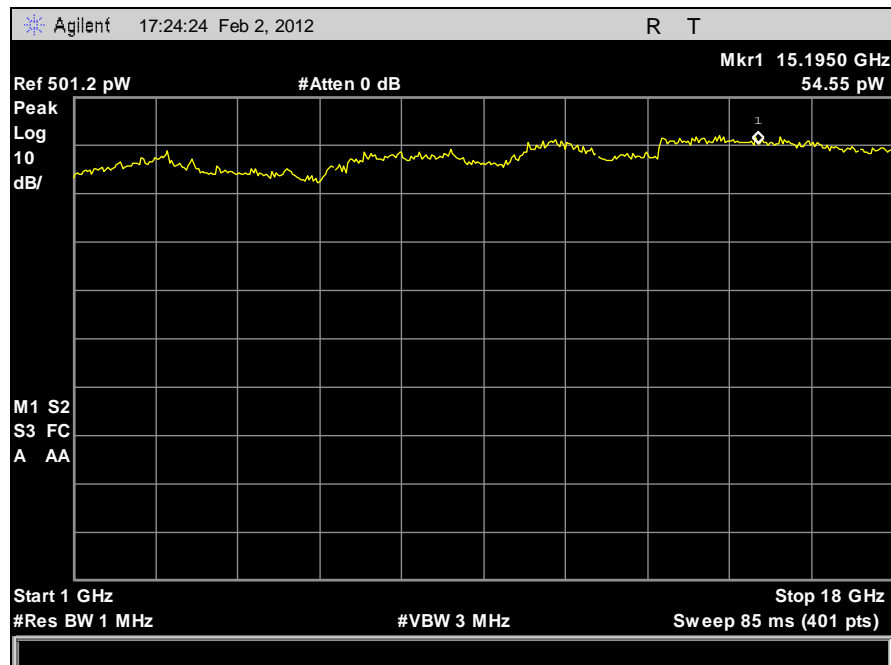
Plot 825. Receiver Spurious Emission, 1 GHz – 18 GHz, Port 1, 5.8 GHz



**Conducted Receiver Spurious Emissions, Port 2, 5.8 GHz**



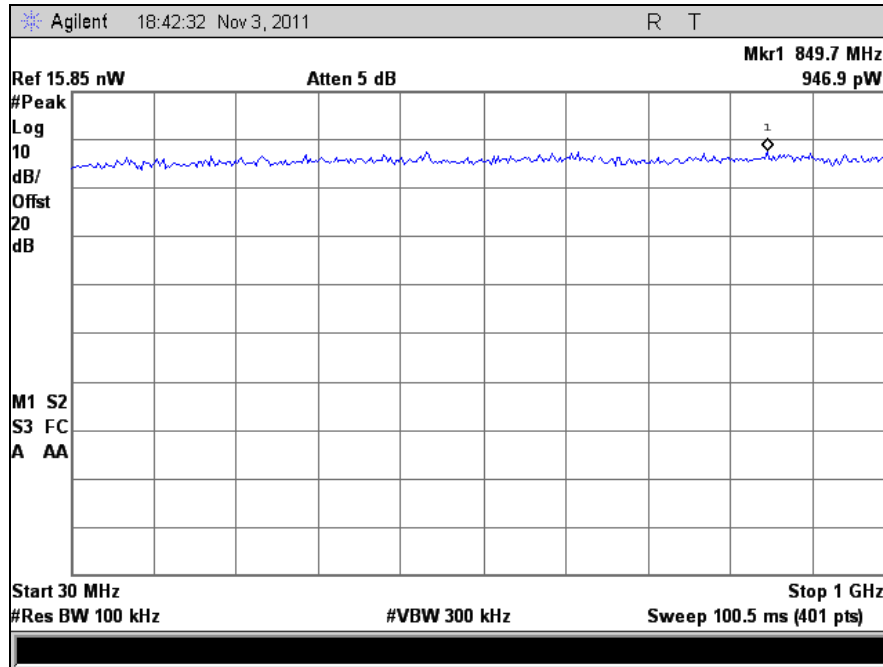
**Plot 826. Receiver Spurious Emission, 30 MHz – 1 GHz, Port 2, 5.8 GHz**



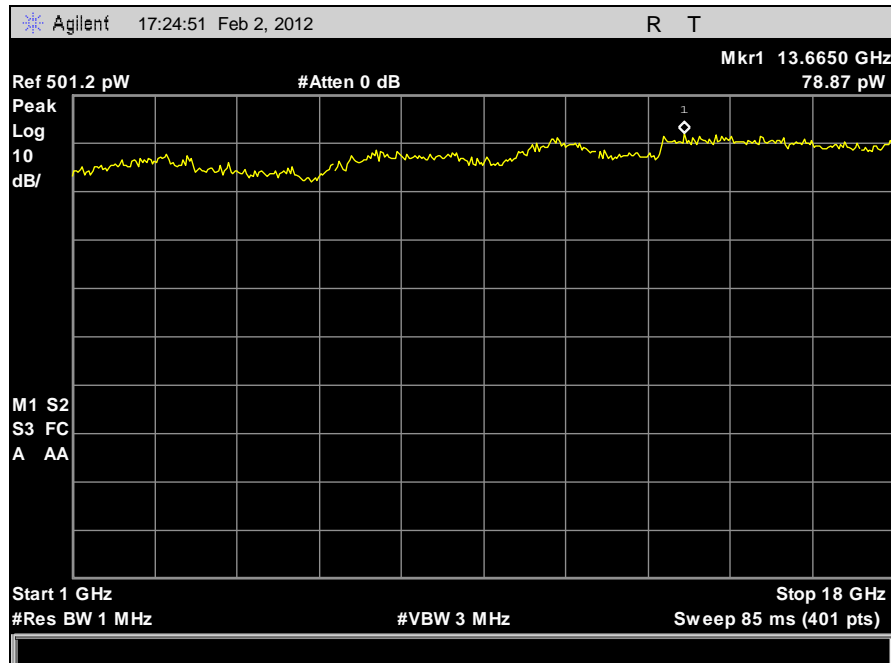
**Plot 827. Receiver Spurious Emission, 1 GHz – 18 GHz, Port 2, 5.8 GHz**



### Conducted Receiver Spurious Emissions, Port 3, 5.8 GHz



Plot 828. Receiver Spurious Emission, 30 MHz – 1 GHz, Port 3, 5.8 GHz



Plot 829. Receiver Spurious Emission, 1 GHz – 18 GHz, Port 3, 5.8 GHz

## IV. Test Equipment



### Test Equipment

Calibrated test equipment utilized during testing was maintained in a current state of calibration per the requirements of ANSI/NCSL Z540-1-1994 and ANSI/ISO/IEC 17025:2000.

MET Asset #	Equipment	Manufacturer	Model	Last Cal Date	Cal Due Date
1S2607	SPECTRUM ANALYZER	AGILENT/HP	E4407B	8/9/2011	8/9/2012
1S2691	DUAL-LINE V-LISN	TESEQ	NNB-51	3/31/2011	3/31/2012
1S2633	TRANSIENT LIMITER	FISCHER CUSTOM COMMUNICATIONS INC.	FCC-450B-2.4-N	2/18/2011	2/18/2012
1S2399	TURNTABLE CONTROLLER	SUNOL SCIENCE	SC99V	NO CALIBRATION REQUIRED	
1S2501	EMI TEST RECEIVER	ROHDE & SCHWARZ	ESU40	06/09/2011	06/09/2012
1S2482	5 METER CHAMBER	PANASHIELD	641431	11/18/2011	11/18/2012
1S2460	SPECTRUM ANALYZER	AGILENT	E4407B	7/12/2011	7/12/2012
1S2583	SPECTRUM ANALYZER	AGILENT/HP	E4447A	3/18/2011	3/18/2012
1S2600	BILOG ANTENNA	TESEQ	CBL6112D	4/14/2010	4/14/2013
1S2501	EMI TEST RECEIVER	ROHDE & SCHWARZ	ESU40	06/09/2011	06/09/2012
1S2198	HORN ANTENNA	EMCO	3115	9/29/2011	9/29/2012
N/A	HIGH PASS FILTER	MICRO-TRONICS	HPM13147	SEE NOTE	
1S2714	THERM/CLOCK/HUMIDITY MONITOR	CONTROL COMPANY	06-662-4, FB7025B	11/9/2011	11/9/2013
1S2202	HORN ANTENNA (18GHZ – 26GHZ)	EMCO	3116	4/23/2010	4/23/2013
1S2698	DOUBLE RIDGE GUIDE HORN ANTENNA (26GHZ – 40GHZ)	A.H. SYSTEMS, INC.	SAS-574	5/24/2011	5/24/2012
1S2523	PREAMP (1-26.5GHZ)	AGILENT	8449B	SEE NOTE	

**Table 33. 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.<sup>1</sup> *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.

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<sup>1</sup> 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 users 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.

## ICES-003 Procedural & Labeling Requirements

From the Industry Canada Electromagnetic Compatibility Advisory Bulletin entitled, "Implementation and Interpretation of the Interference-Causing Equipment Standard for Digital Apparatus, ICES-003" (EMCAB-3, Issue 2, July 1995):

"At present, CISPR 22: 2002 and ICES technical requirements are essentially equivalent. Therefore, if you have CISPR 22: 2002 approval by meeting CISPR Publication 22, the only additional requirements are: to attach a note to the report of the test results for compliance, indicating that these results are deemed satisfactory evidence of compliance with ICES-003 of the Canadian Interference-Causing Equipment Regulations; to maintain these records on file for the requisite five year period; and to provide the device with a notice of compliance in accordance with ICES-003."

### Procedural Requirements:

According to Industry Canada's Interference Causing Equipment Standard for Digital Apparatus ICES-003 Issue 4, February 2004:

- Section 6.1: A record of the measurements and results, showing the date that the measurements were completed, shall be retained by the manufacturer or importer for a period of at least five years from the date shown in the record and made available for examination on the request of the Minister.
- Section 6.2: A written notice indicating compliance must accompany each unit of digital apparatus to the end user. The notice shall be in the form of a label that is affixed to the apparatus. Where because of insufficient space or other constraints it is not feasible to affix a label to the apparatus, the notice may be in the form of a statement in the user's manual.

### Labeling Requirements:

The suggested text for the notice, in English and in French, is provided below, from the Annex of ICES-003:

This Class [<sup>2</sup>] digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe [<sup>1</sup>] est conforme à la norme NMB-003 du Canada.

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<sup>2</sup> Insert either A or B but not both as appropriate for the equipment requirements.

# End of Report