TEST B.2: MAXIMUM CONDUCTED OUTPUT POWER AND ANTENNA GAIN

LIMITS:	Product standard:	Part 15 Subpart C §15.247 and RSS-247
	Test standard:	Part 15 Subpart C §15.247(b) and RSS-247 5.4(d)

LIMITS

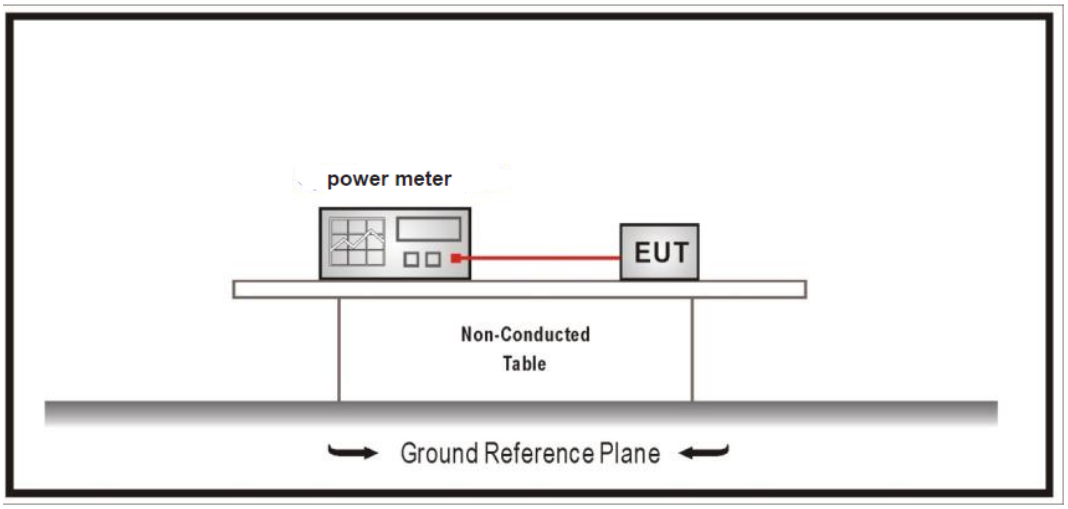
For systems using digital modulation in the 2400 -2483.5 MHz band: 1 watt (30 dBm).

The e.i.r.p. shall not exceed 4 W (RSS-247).

TEST SETUP	

Measured according to ANSI C63.10, Section 11.9.2.3.2 Method AVGPM-G

The EIRP power (dBm) is calculated by adding the declared maximum antenna gain to the measured conducted power



TESTED SAMPLES:	S/01
TESTED CONDITIONS MODES:	TC#01 (b mode)
TEST RESULTS:	PASS

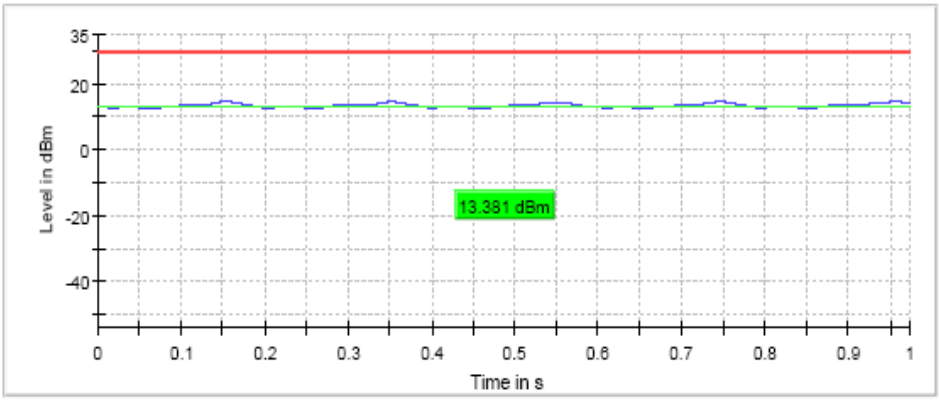
Maximum declared antenna gain: -3.5 dBi

	Lowest frequency 2412 MHz	Middle frequency 2437 MHz	Highest frequency 2462 MHz
Maximum conducted power (dBm)	13.4	12.9	12.2
Maximum EIRP power (dBm)	9.9	9.4	8.7
Measurement uncertainty (dB)	<±0.78		

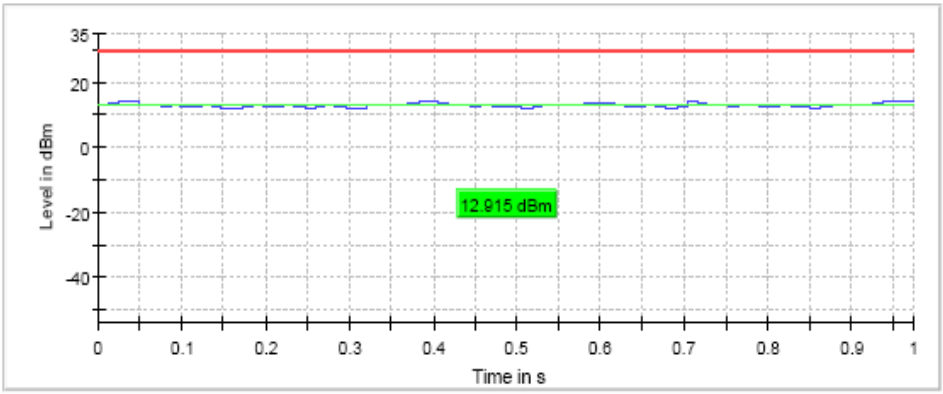
The maximum directional gain of the antenna is less than 6 dBi and therefore the maximum output power is not required to be reduced from the stated values.

TEST RESULTS (Cont.):	CONDUCTED OUTPUT POWER

Lowest Channel

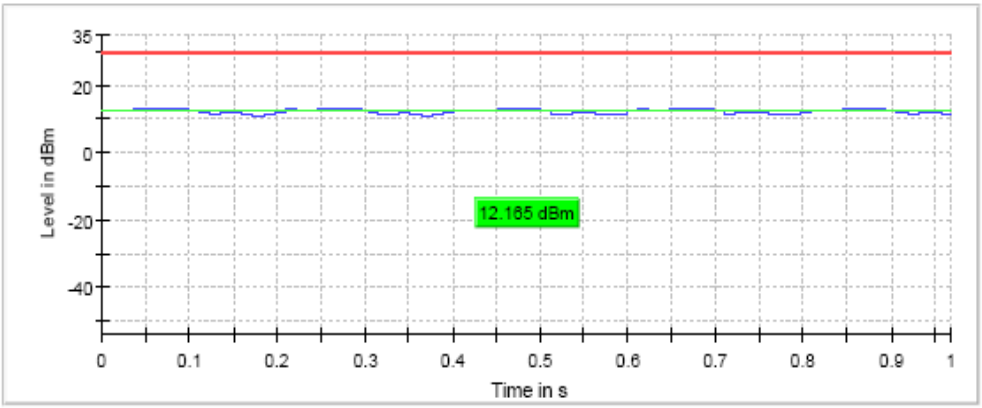


Middle Channel



Gated Trace Overall Limit

Highest Channel



Gated Trace Overall Limit

TESTED SAMPLES:	S/01
TESTED CONDITIONS MODES:	TC#02 (g mode)
TEST RESULTS:	PASS

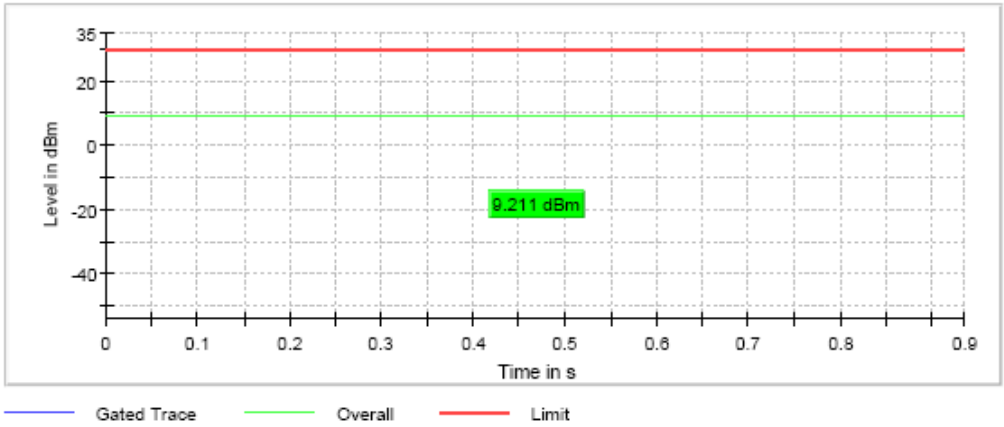
Maximum declared antenna gain: -3.5 dBi

	Lowest frequency 2412 MHz	Middle frequency 2437 MHz	Highest frequency 2462 MHz
Maximum conducted power (dBm)	9.2	8.9	8.2
Maximum EIRP power (dBm)	5.7	5.4	4.7
Measurement uncertainty (dB)	<±0.78		

The maximum directional gain of the antenna is less than 6 dBi and therefore the maximum output power is not required to be reduced from the stated values.

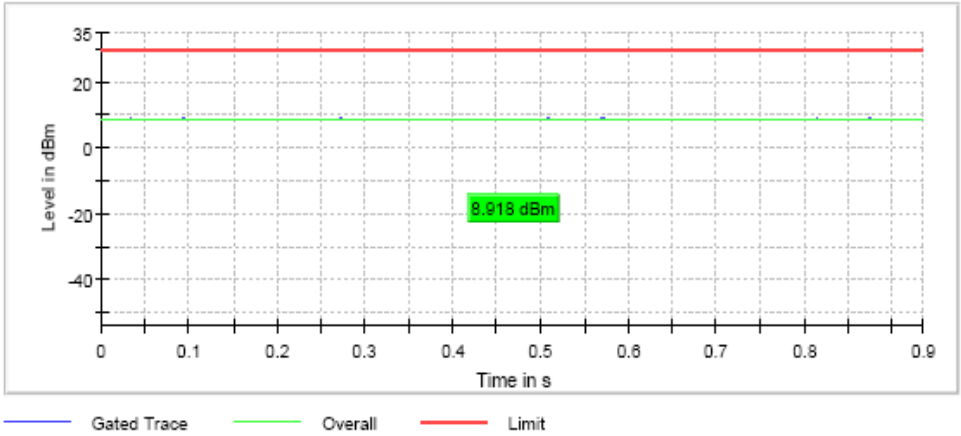
TEST RESULTS (Cont.):	CONDUCTED OUTPUT POWER

Lowest Channel

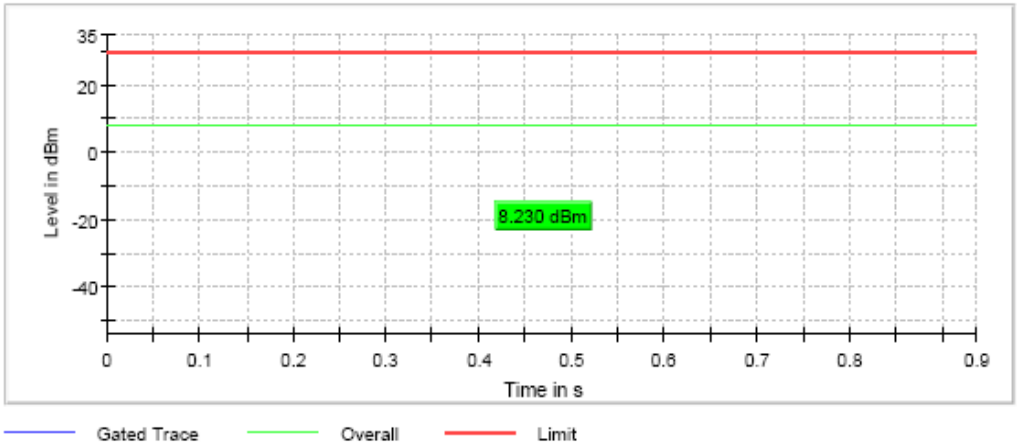


TEST RESULTS (Cont.)	

Middle Channel



Highest Channel



TESTED SAMPLES:	S/01
TESTED CONDITIONS MODES:	TC#03 (n mode)
TEST RESULTS:	PASS

Bandwidth: 20 MHz

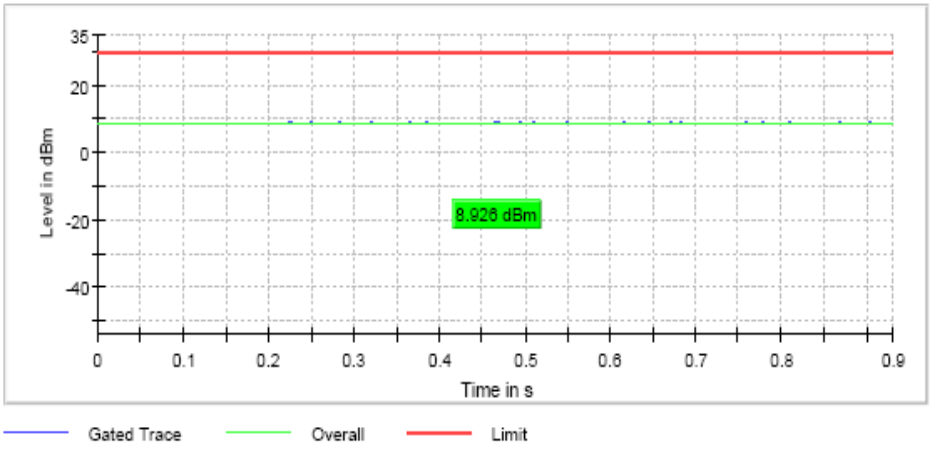
Maximum declared antenna gain: -3.5 dBi

	Lowest frequency 2412 MHz	Middle frequency 2437 MHz	Highest frequency 2462 MHz
Maximum conducted power (dBm)	8.9	8.6	8.9
Maximum EIRP power (dBm)	5.4	5.1	5.4
Measurement uncertainty (dB)	<±0.78		

The maximum directional gain of the antenna is less than 6 dBi and therefore the maximum output power is not required to be reduced from the stated values.

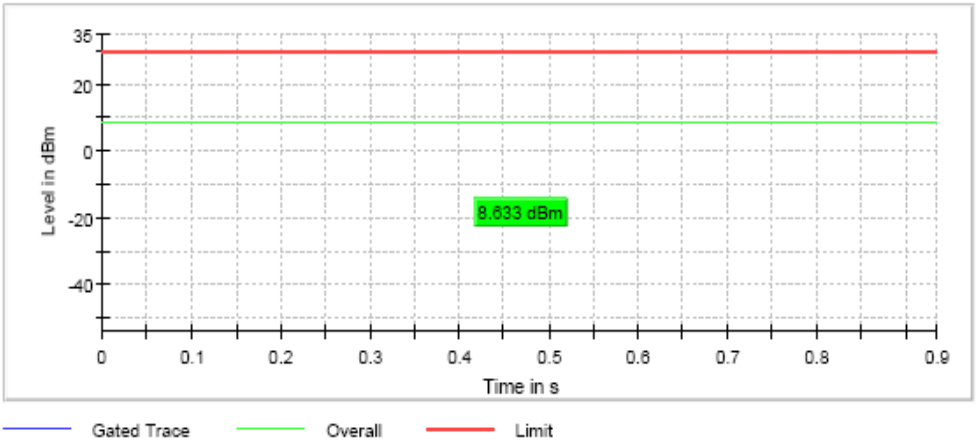
TEST RESULTS (Cont.):	CONDUCTED OUTPUT POWER

Lowest Channel

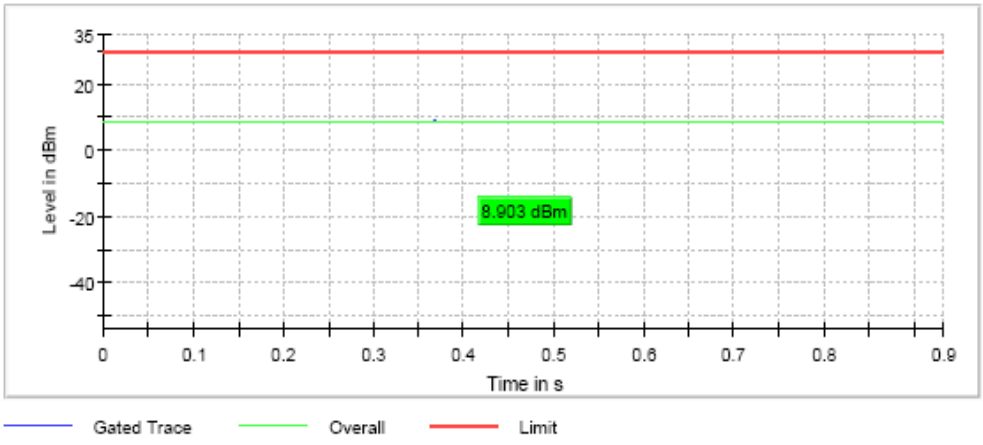


TEST RESULTS (Cont.)	

Middle Channel



Highest Channel



TESTED SAMPLES:	S/01
TESTED CONDITIONS MODES:	TC#04 (n mode)
TEST RESULTS:	PASS

Bandwidth: 40 MHz

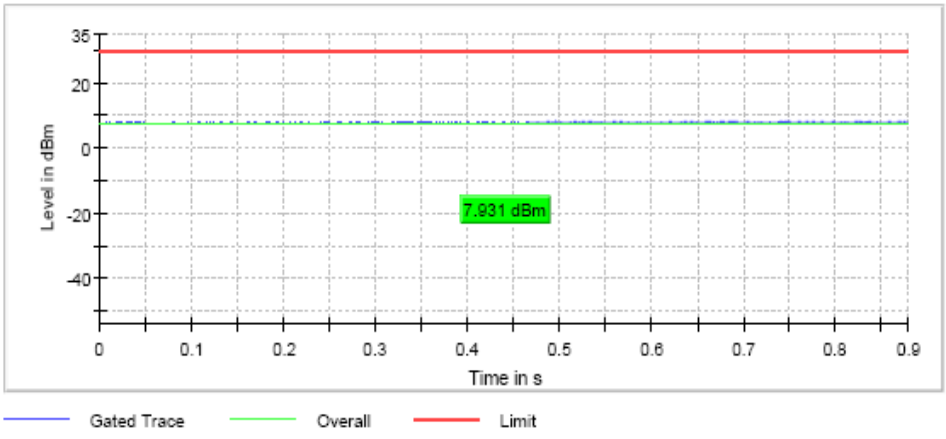
Maximum declared antenna gain: -3.5 dBi

	Lowest frequency 2422 MHz	Middle frequency 2437 MHz	Highest frequency 2452 MHz
Maximum conducted power (dBm)	7.9	9	8.5
Maximum EIRP power (dBm)	4.4	5.5	5
Measurement uncertainty (dB)	<±0.78		

The maximum directional gain of the antenna is less than 6 dBi and therefore the maximum output power is not required to be reduced from the stated values.

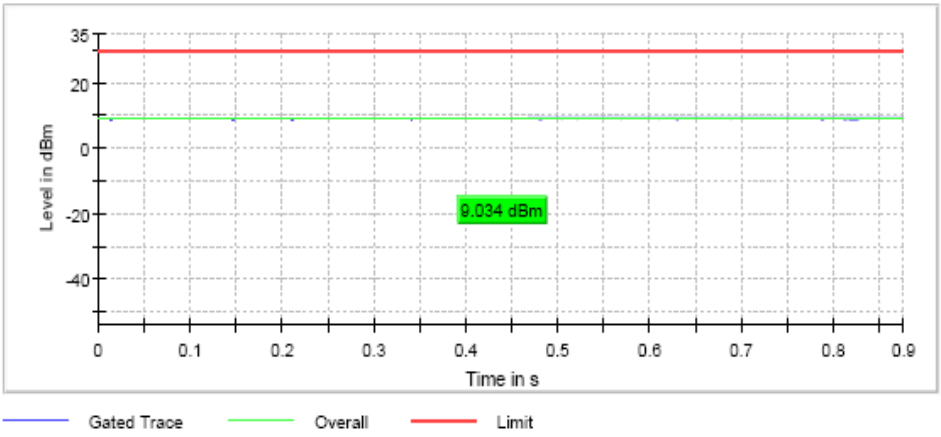
TEST RESULTS (Cont.)	

Low Channel

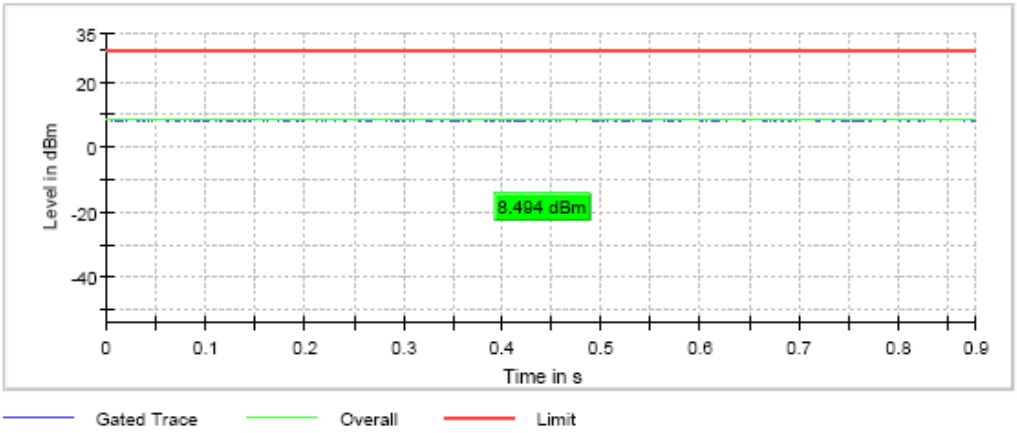


TEST RESULTS (Cont.)	

Middle Channel



Highest Channel



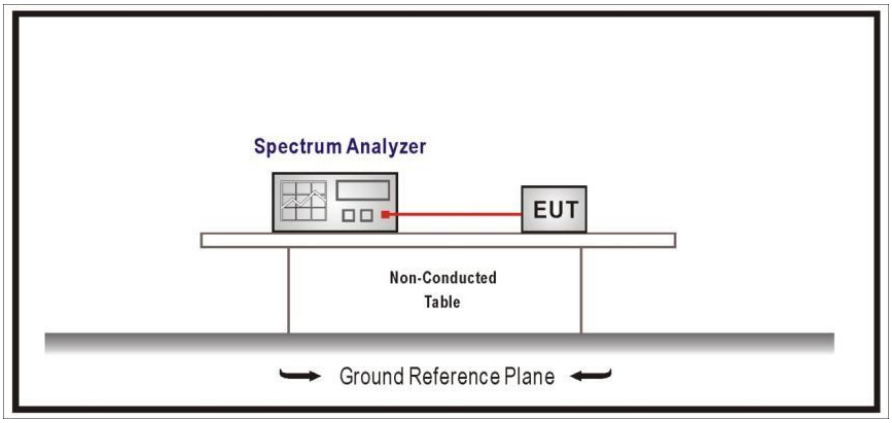
TEST B.3: BAND-EDGE EMISSIONS COMPLIANCE (TRANSMITTER)

LIMITS:	Product standard:	Part 15 Subpart C §15.247 and RSS-247
	Test standard:	Part 15 Subpart C §15.247(d) and RSS-247 5.5

LIMITS

In any 100 kHz bandwidth outside the frequency band in which the 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. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, the attenuation required shall be 30 dB instead of 20 dB.

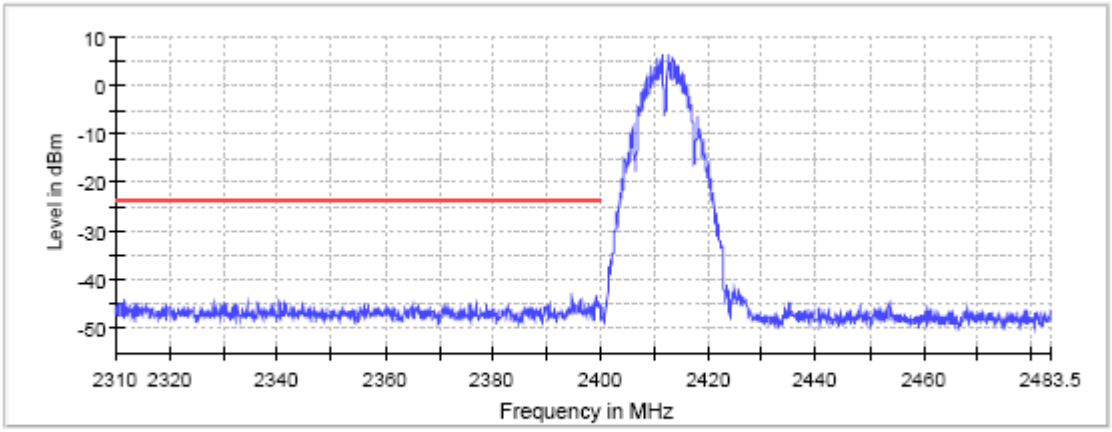
TEST SETUP	



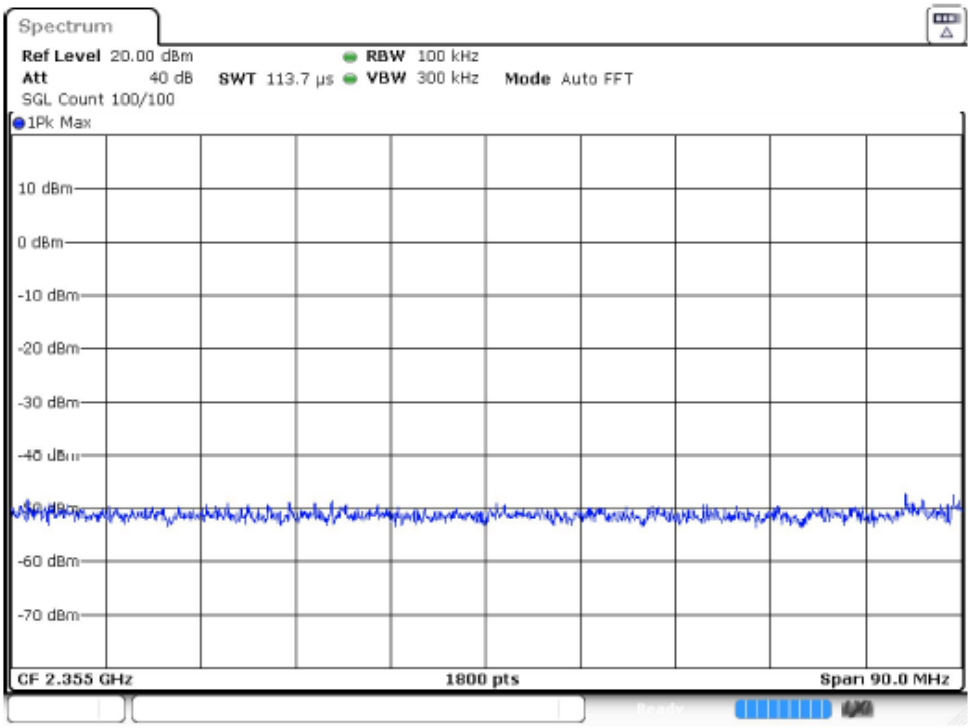
TESTED SAMPLES:	S/01
TESTED CONDITIONS MODES:	TC#01 (b mode)
TEST RESULTS:	PASS

Note: Radiated measurements were used to show compliance with the limits in the restricted bands 2.31-2.39 GHz and 2.4835-2.5 GHz.

TEST RESULTS (Cont.):	Lowest Channel

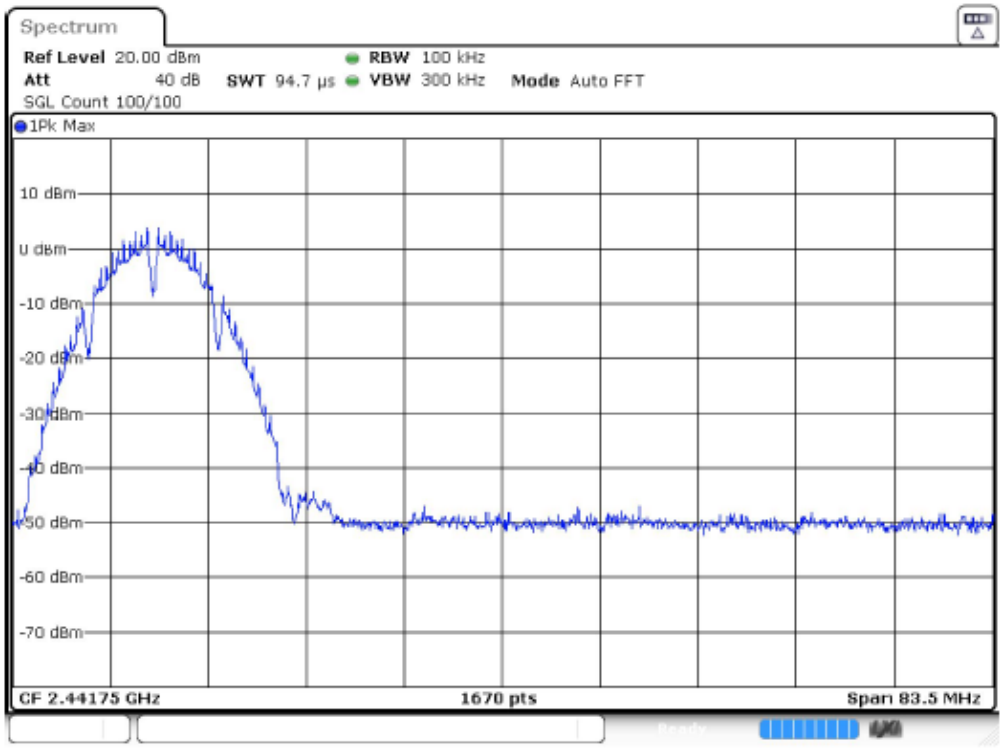


Limit Sum Level Fail



Date: 5.MAR.2019 11:21:32

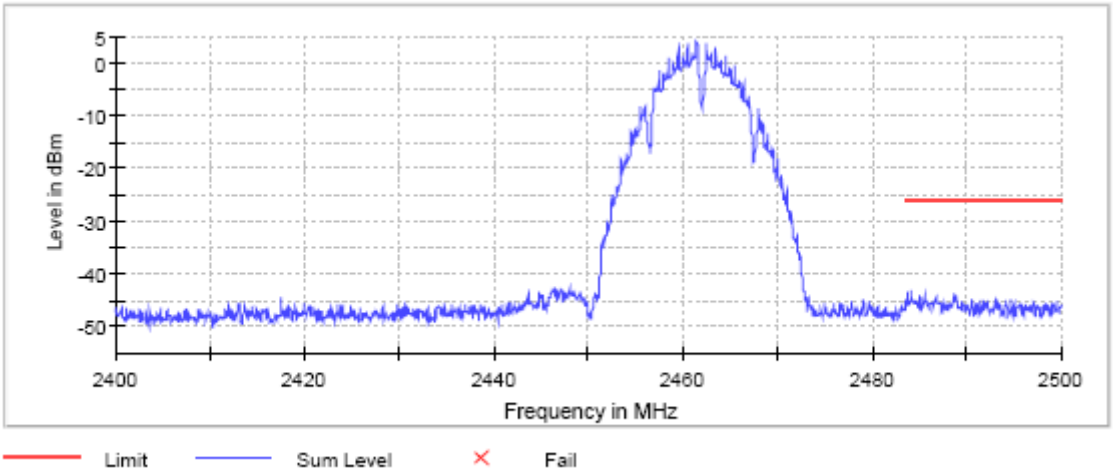
TEST RESULTS (Cont.):	

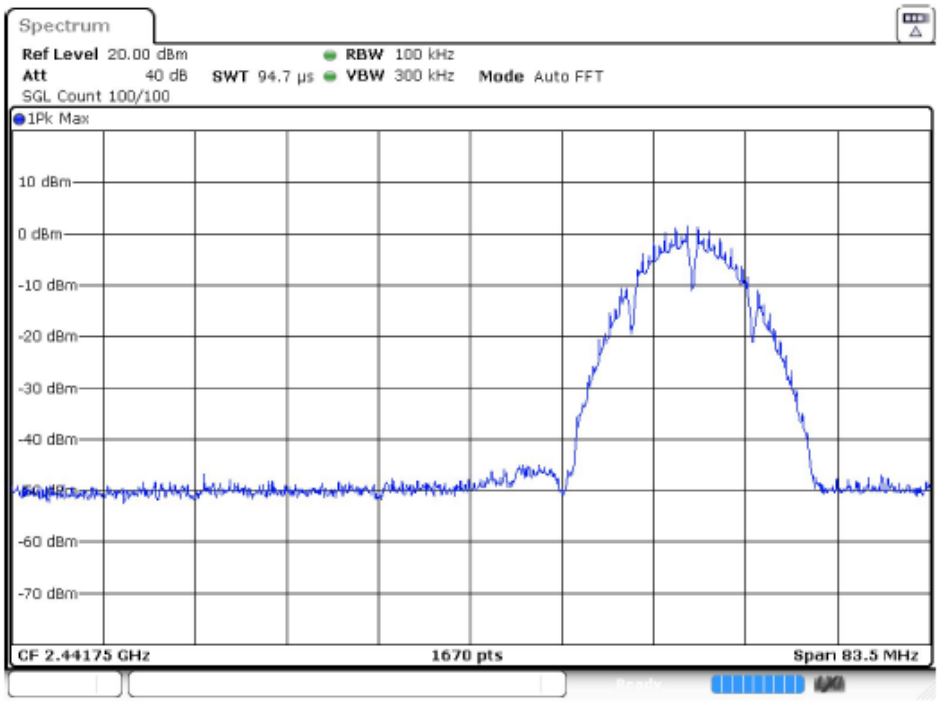


Measurement

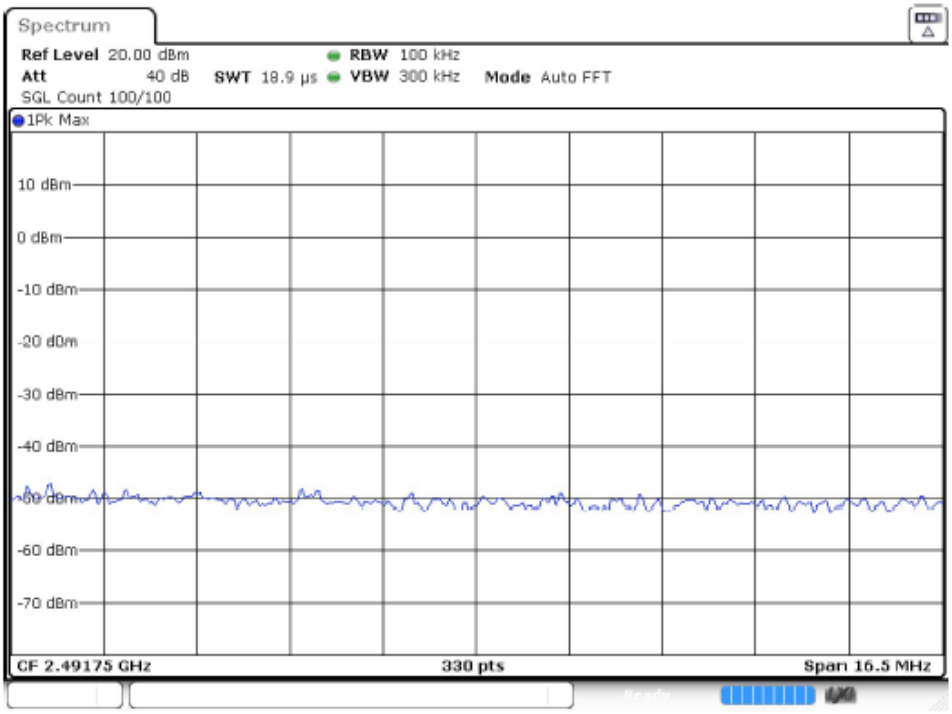
Setting	Instrument Value	Instrument Value
Start Frequency	2.31000 GHz	2.40000 GHz
Stop Frequency	2.40000 GHz	2.48350 GHz
Span	90.000 MHz	83.500 MHz
RBW	100.000 kHz	100.000 kHz
VBW	300.000 kHz	300.000 kHz
SweepPoints	1800	1670
Sweeptime	113.672 µs	94.727 µs
Reference Level	20.000 dBm	20.000 dBm
Attenuation	40.000 dB	40.000 dB
Detector	MaxPeak	MaxPeak
SweepCount	100	100
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
Sweeptype	FFT	FFT
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	4 / max. 150	8 / max. 150
Stable	3 / 3	3 / 3
Max Stable Difference	0.00 dB	0.16 dB

TEST RESULTS (Cont.):	Highest Channel





TEST RESULTS (Cont.):	



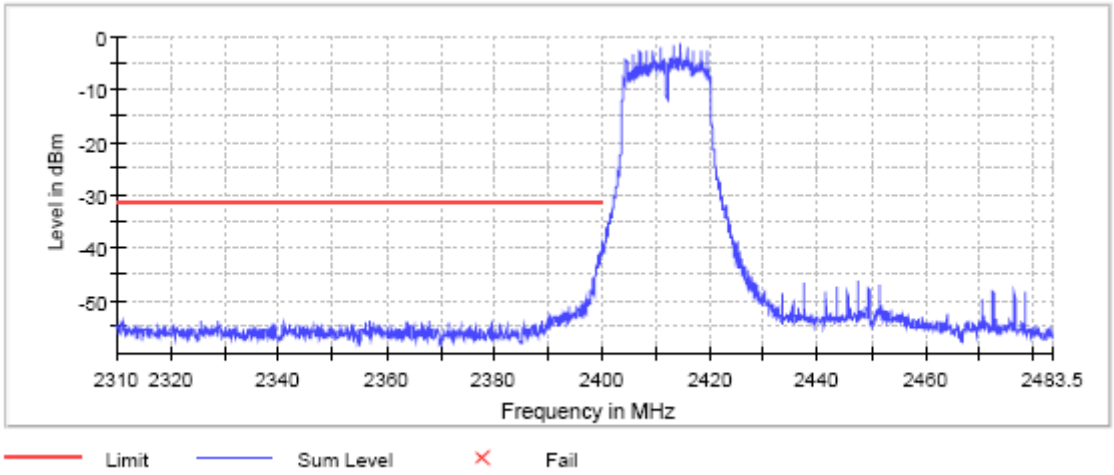
Measurement

Setting	Instrument Value	Instrument Value
Start Frequency	2.40000 GHz	2.48350 GHz
Stop Frequency	2.48350 GHz	2.50000 GHz
Span	83.500 MHz	16.500 MHz
RBW	100.000 kHz	100.000 kHz
VBW	300.000 kHz	300.000 kHz
SweepPoints	1670	330
Sweeptime	94.727 µs	18.945 µs
Reference Level	20.000 dBm	20.000 dBm
Attenuation	40.000 dB	40.000 dB
Detector	MaxPeak	MaxPeak
SweepCount	100	100
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
Sweeptype	FFT	FFT
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	7 / max. 150	4 / max. 150
Stable	3 / 3	3 / 3
Max Stable Difference	0.21 dB	0.00 dB

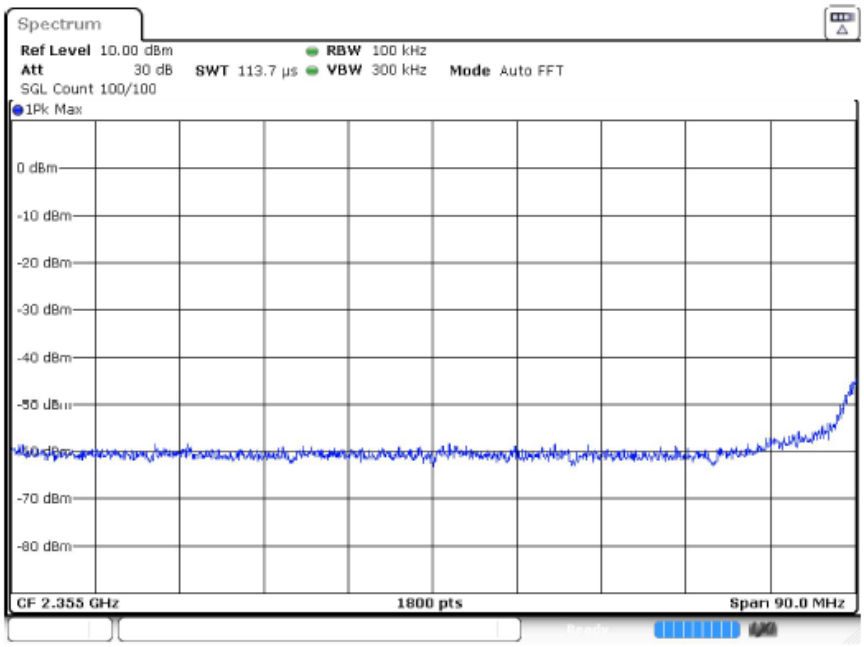
TESTED SAMPLES:	S/01
TESTED CONDITIONS MODES:	TC#02 (g mode)
TEST RESULTS:	PASS

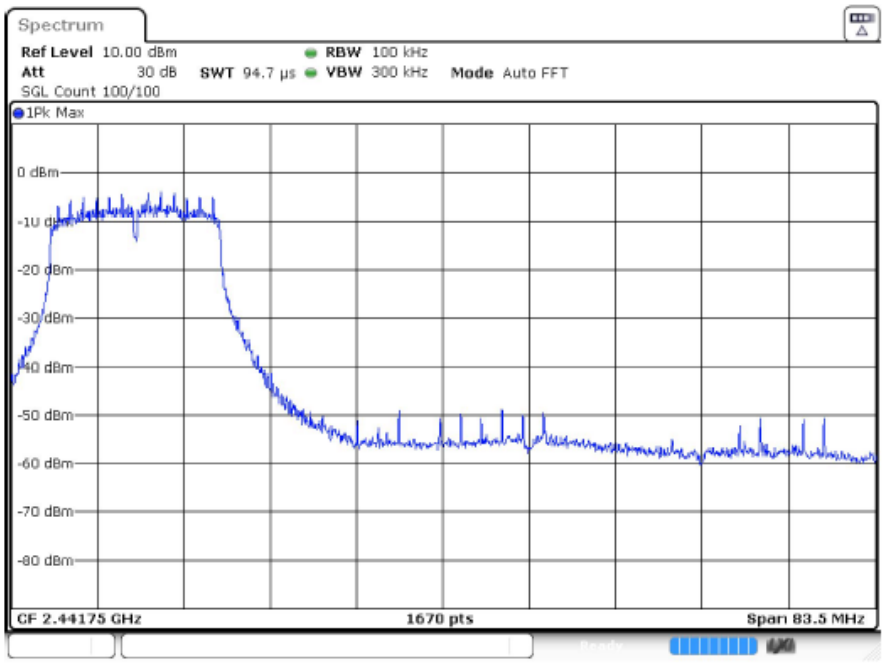
Note: Radiated measurements were used to show compliance with the limits in the restricted bands 2.31-2.39 GHz and 2.4835-2.5 GHz.

Low Channel



TEST RESULTS (Cont.):	



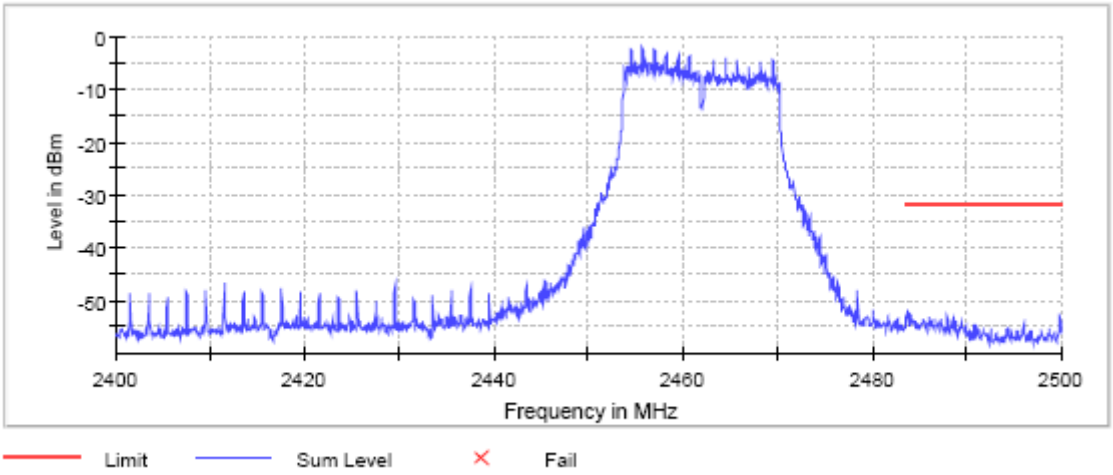


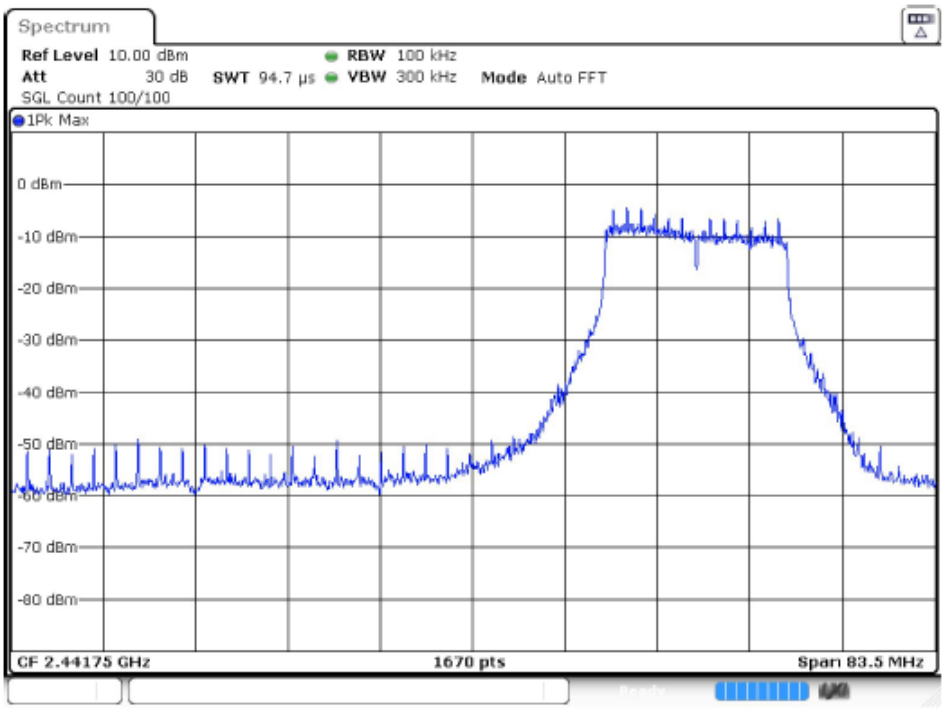
TEST RESULTS (Cont.):	

Measurement

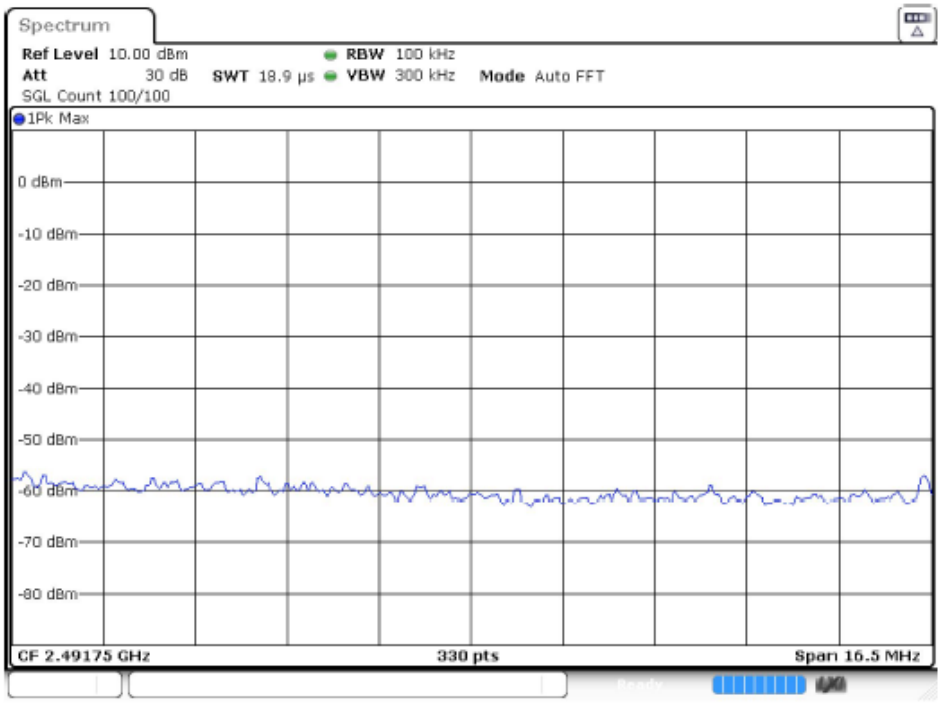
Setting	Instrument Value	Instrument Value
Start Frequency	2.31000 GHz	2.40000 GHz
Stop Frequency	2.40000 GHz	2.48350 GHz
Span	90.000 MHz	83.500 MHz
RBW	100.000 kHz	100.000 kHz
VBW	300.000 kHz	300.000 kHz
SweepPoints	1800	1670
Sweeptime	113.672 µs	94.727 µs
Reference Level	10.000 dBm	10.000 dBm
Attenuation	30.000 dB	30.000 dB
Detector	MaxPeak	MaxPeak
SweepCount	100	100
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
Sweeptype	FFT	FFT
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	14 / max. 150	32 / max. 150
Stable	3 / 3	3 / 3
Max Stable Difference	0.00 dB	0.27 dB

TEST RESULTS (Cont.):	Highest Channel





TEST RESULTS (Cont.):	



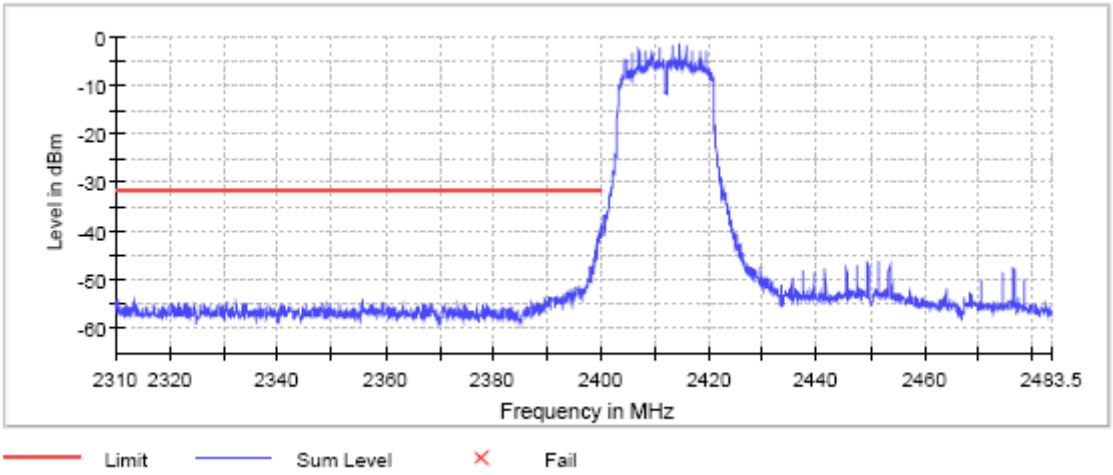
Measurement

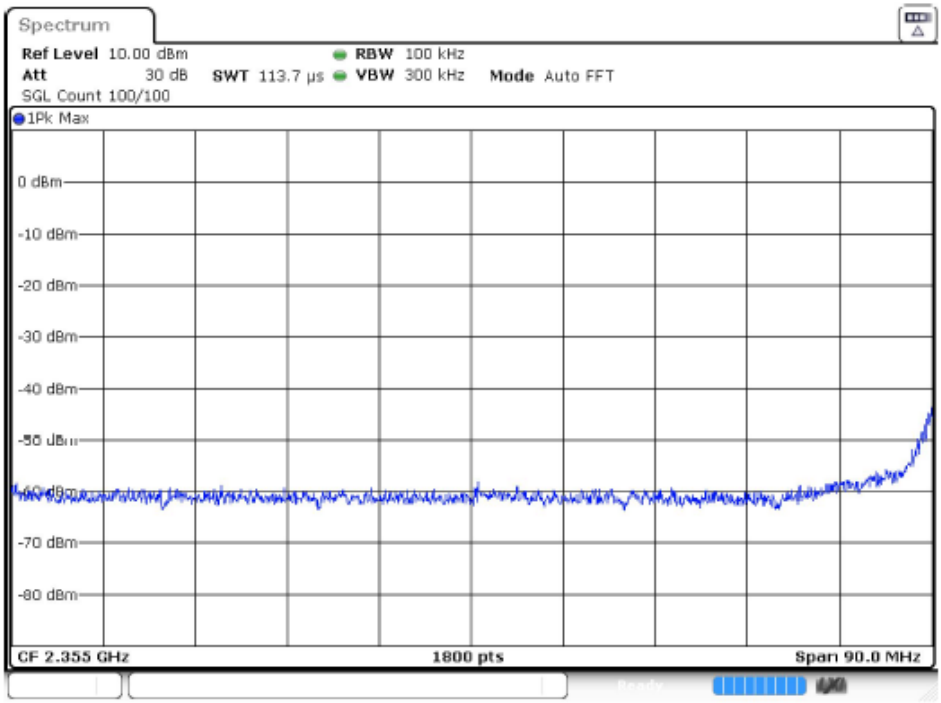
Setting	Instrument Value	Instrument Value
Start Frequency	2.40000 GHz	2.48350 GHz
Stop Frequency	2.48350 GHz	2.50000 GHz
Span	83.500 MHz	16.500 MHz
RBW	100.000 kHz	100.000 kHz
VBW	300.000 kHz	300.000 kHz
SweepPoints	1670	330
Sweeptime	94.727 µs	18.945 µs
Reference Level	10.000 dBm	10.000 dBm
Attenuation	30.000 dB	30.000 dB
Detector	MaxPeak	MaxPeak
SweepCount	100	100
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
Sweeptype	FFT	FFT
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	38 / max. 150	4 / max. 150
Stable	3 / 3	3 / 3
Max Stable Difference	0.30 dB	0.00 dB

TESTED SAMPLES:	S/01
TESTED CONDITIONS MODES:	TC#03 (n mode)
TEST RESULTS:	PASS

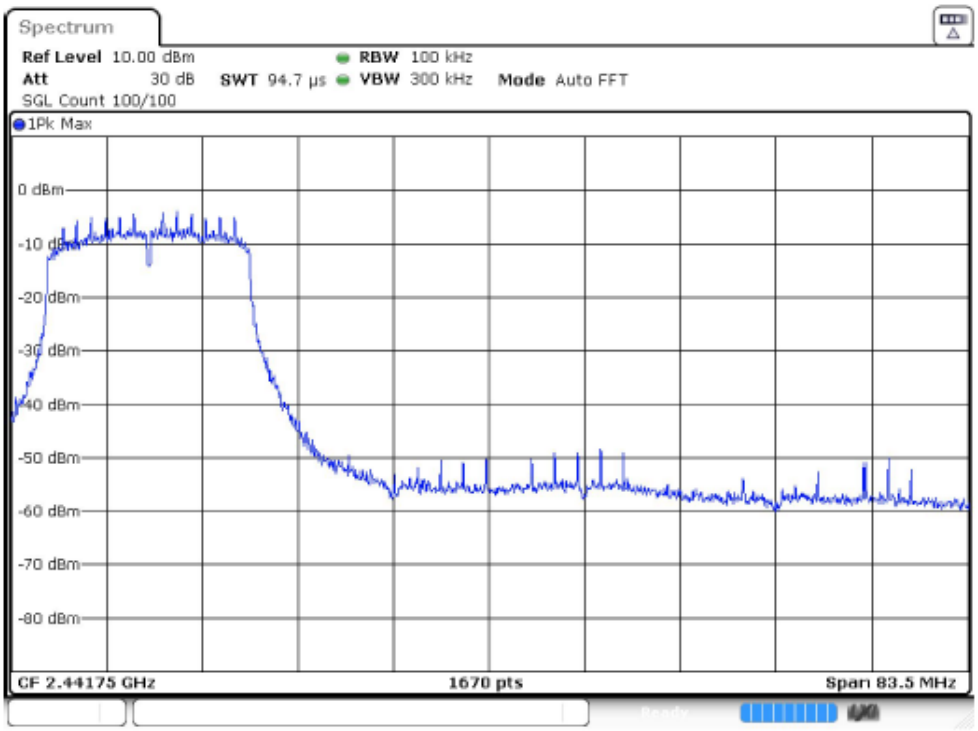
Bandwidth: 20 MHz

Low Channel





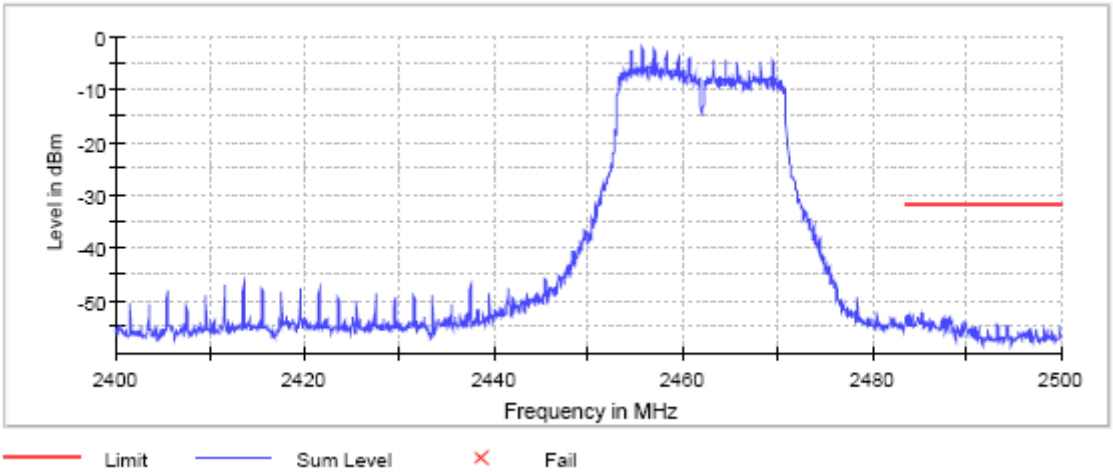
TEST RESULTS (Cont.):	

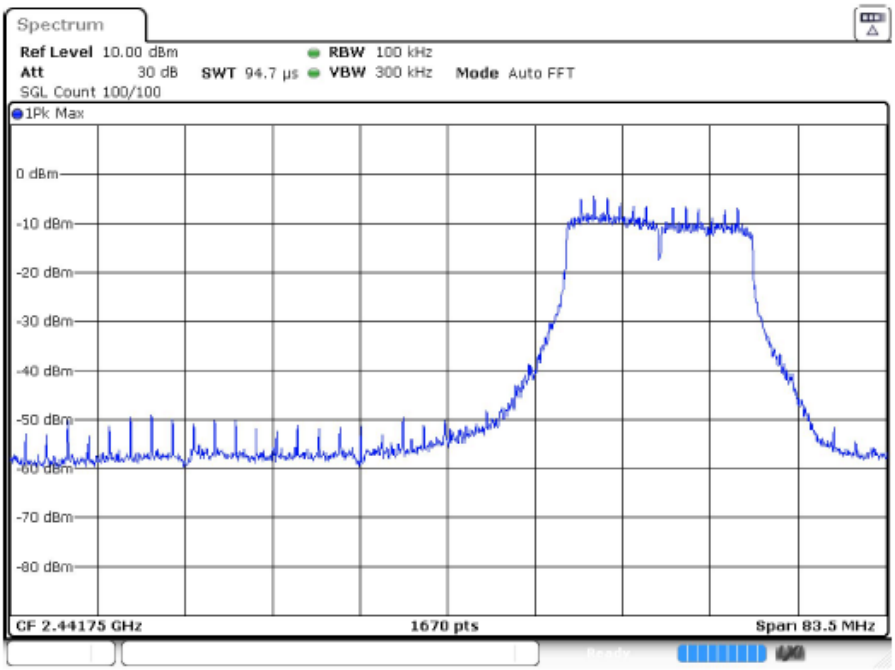


Measurement

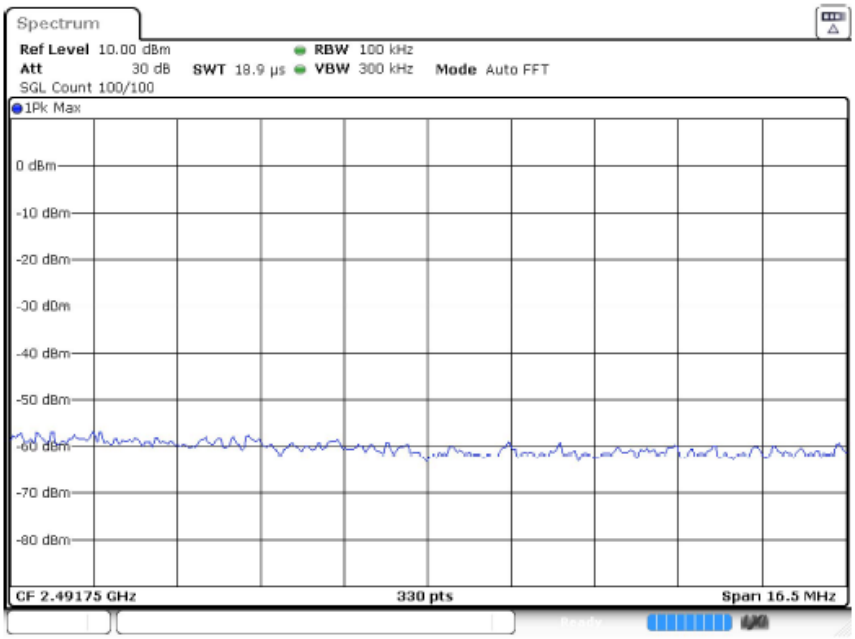
Setting	Instrument Value	Instrument Value
Start Frequency	2.31000 GHz	2.40000 GHz
Stop Frequency	2.40000 GHz	2.48350 GHz
Span	90.000 MHz	83.500 MHz
RBW	100.000 kHz	100.000 kHz
VBW	300.000 kHz	300.000 kHz
SweepPoints	1800	1670
Sweeptime	113.672 µs	94.727 µs
Reference Level	10.000 dBm	10.000 dBm
Attenuation	30.000 dB	30.000 dB
Detector	MaxPeak	MaxPeak
SweepCount	100	100
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
Sweeptype	FFT	FFT
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	6 / max. 150	46 / max. 150
Stable	3 / 3	3 / 3
Max Stable Difference	0.00 dB	0.48 dB

TEST RESULTS (Cont.):	Highest Channel





TEST RESULTS (Cont.):	



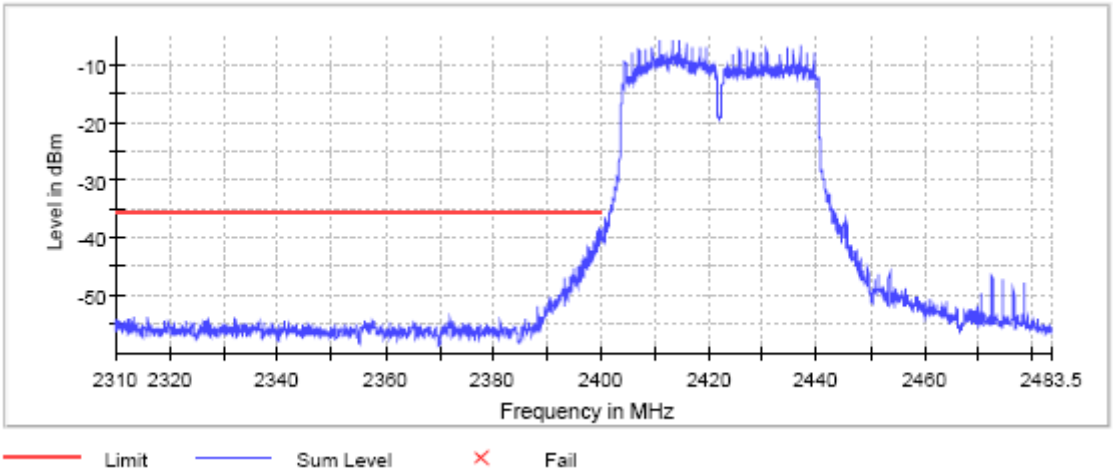
Measurement

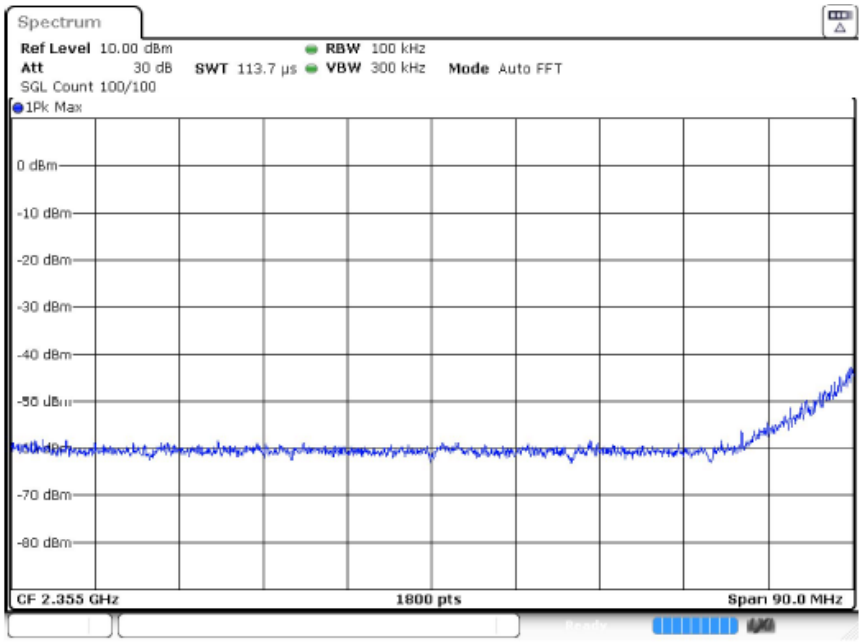
Setting	Instrument Value	Instrument Value
Start Frequency	2.40000 GHz	2.48350 GHz
Stop Frequency	2.48350 GHz	2.50000 GHz
Span	83.500 MHz	16.500 MHz
RBW	100.000 kHz	100.000 kHz
VBW	300.000 kHz	300.000 kHz
SweepPoints	1670	330
Sweeptime	94.727 µs	18.945 µs
Reference Level	10.000 dBm	10.000 dBm
Attenuation	30.000 dB	30.000 dB
Detector	MaxPeak	MaxPeak
SweepCount	100	100
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
Sweeptype	FFT	FFT
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	43 / max. 150	4 / max. 150
Stable	3 / 3	3 / 3
Max Stable Difference	0.04 dB	0.00 dB

TESTED SAMPLES:	S/01
TESTED CONDITIONS MODES:	TC#04 (n mode)
TEST RESULTS:	PASS

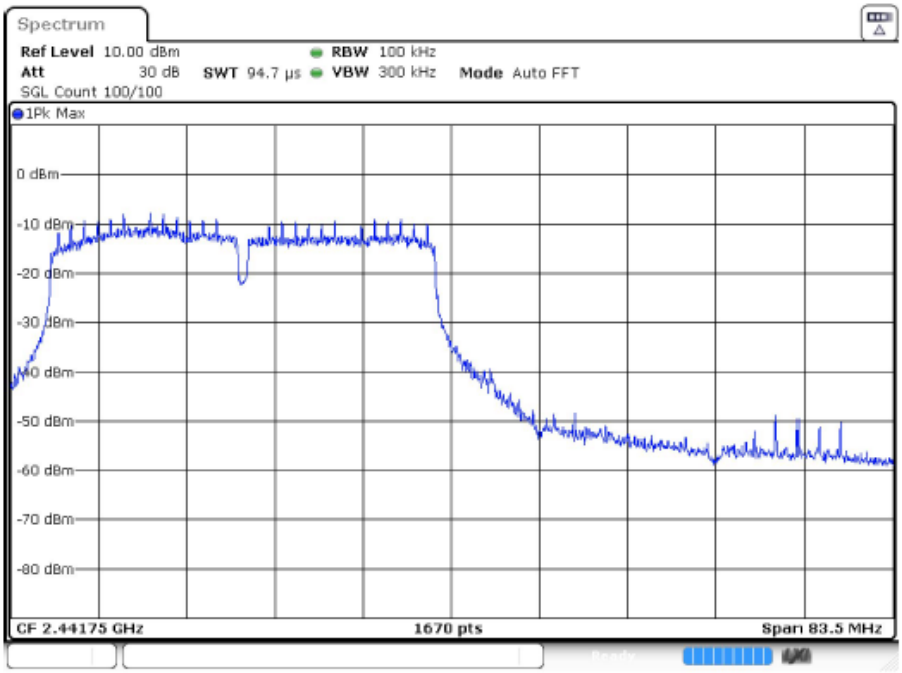
Bandwidth: 40 MHz

Low Channel





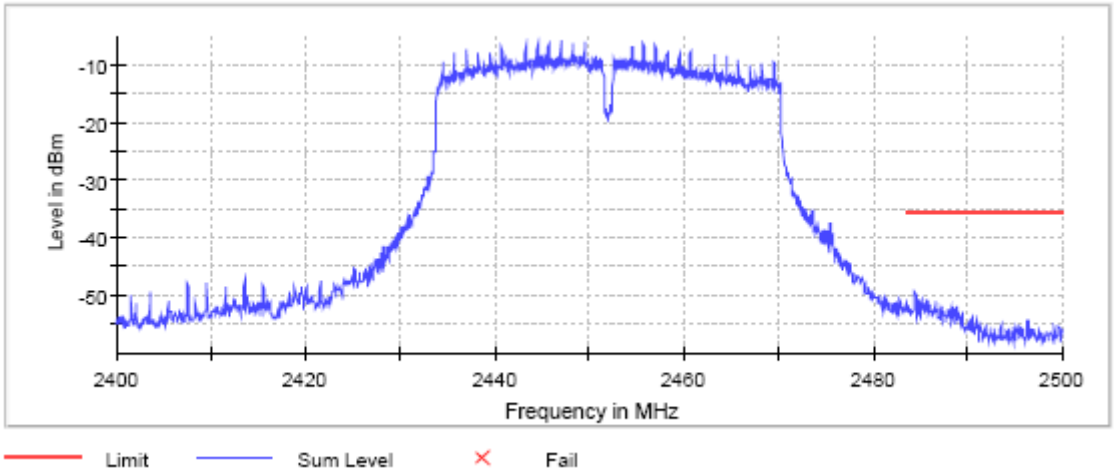
TEST RESULTS (Cont.):	

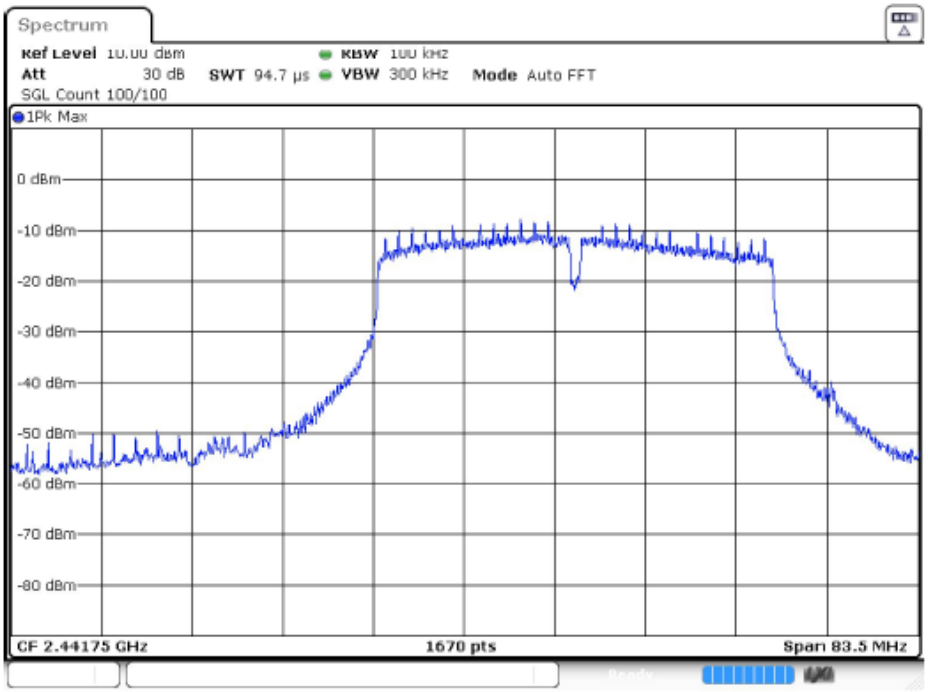


Measurement

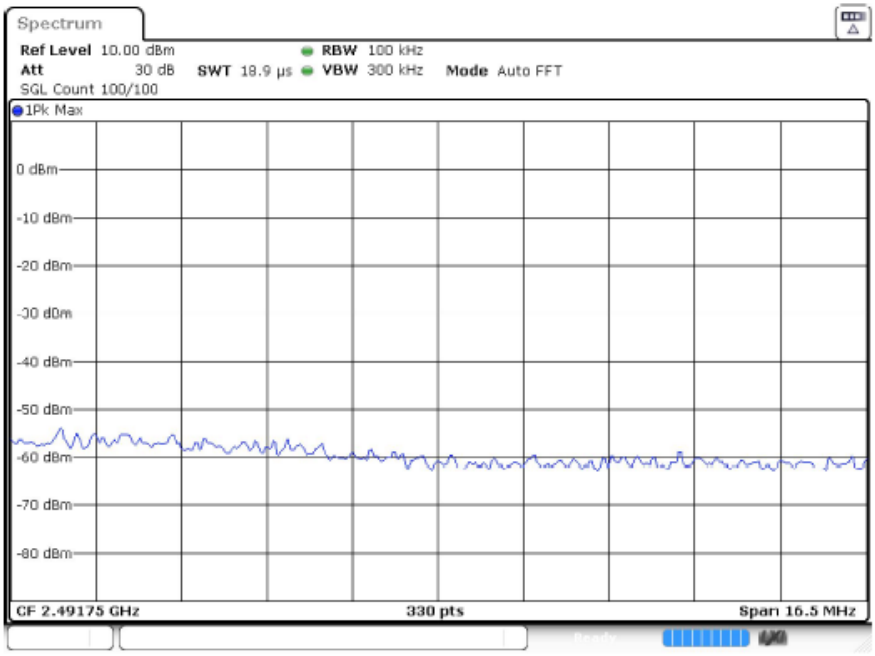
Setting	Instrument Value	Instrument Value
Start Frequency	2.31000 GHz	2.40000 GHz
Stop Frequency	2.40000 GHz	2.48350 GHz
Span	90.00 MHz	83.500 MHz
RBW	100.000 kHz	100.000 kHz
VBW	300.000 kHz	300.000 kHz
SweepPoints	1800	1670
Sweeptime	113.672 µs	94.727 µs
Reference Level	10.000 dBm	10.000 dBm
Attenuation	30.000 dB	30.000 dB
Detector	MaxPeak	MaxPeak
SweepCount	100	100
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
Sweeptype	FFT	FFT
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	17 / max. 150	48 / max. 150
Stable	3 / 3	3 / 3
Max Stable Difference	0.02 dB	0.17 dB

TEST RESULTS (Cont.):	Highest Channel





TEST RESULTS (Cont.):	



Measurement

Setting	Instrument Value	Instrument Value
Start Frequency	2.40000 GHz	2.48350 GHz
Stop Frequency	2.48350 GHz	2.50000 GHz
Span	83.500 MHz	16.500 MHz
RBW	100.000 kHz	100.000 kHz
VBW	300.000 kHz	300.000 kHz
SweepPoints	1670	330
Sweeptime	94.727 µs	18.945 µs
Reference Level	10.000 dBm	10.000 dBm
Attenuation	30.000 dB	30.000 dB
Detector	MaxPeak	MaxPeak
SweepCount	100	100
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
Sweeptype	FFT	FFT
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.50 dB	0.50 dB
Run	72 / max. 150	4 / max. 150
Stable	3 / 3	3 / 3
Max Stable Difference	0.23 dB	0.00 dB

TEST B.4: POWER SPECTRAL DENSITY

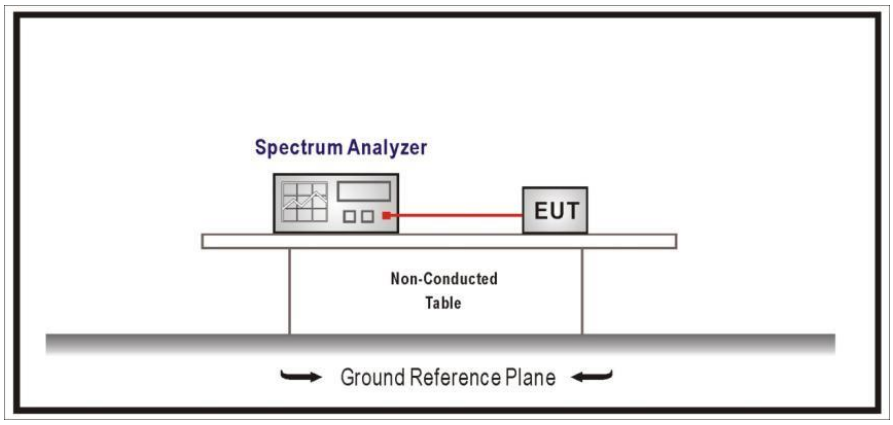
LIMITS:	Product standard:	Part 15 Subpart C §15.247 and RSS-247
	Test standard:	Part 15 Subpart C §15.247(e) and RSS-247 5.2 (b)

LIMITS

For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

TEST SETUP	

For all modes, the maximum power spectral density level in the fundamental emission was measured using the method AVGPSD-1 according to point 10.3. of Guidance for Performing Compliance Measurements on Digital Transmission Systems (DTS) Operating Under §15.247 558074 D01 DTS Meas Guidance v04 dated 05/04/2017.

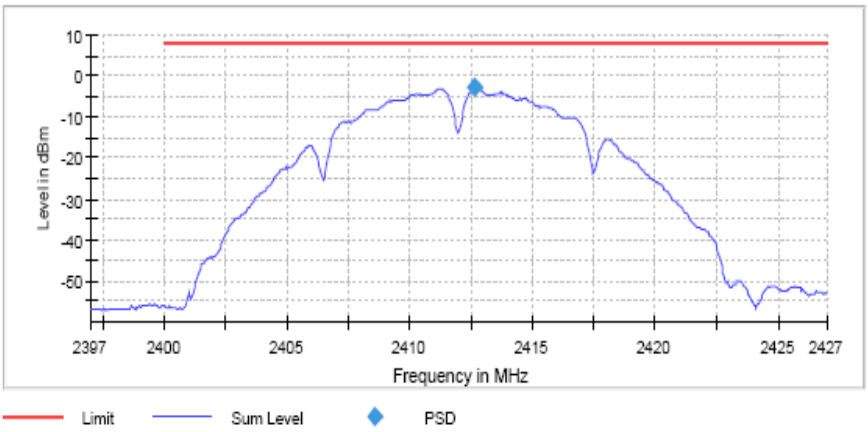


TESTED SAMPLES:	S/01
TESTED CONDITIONS MODES:	TC#01 (b mode)
TEST RESULTS:	PASS

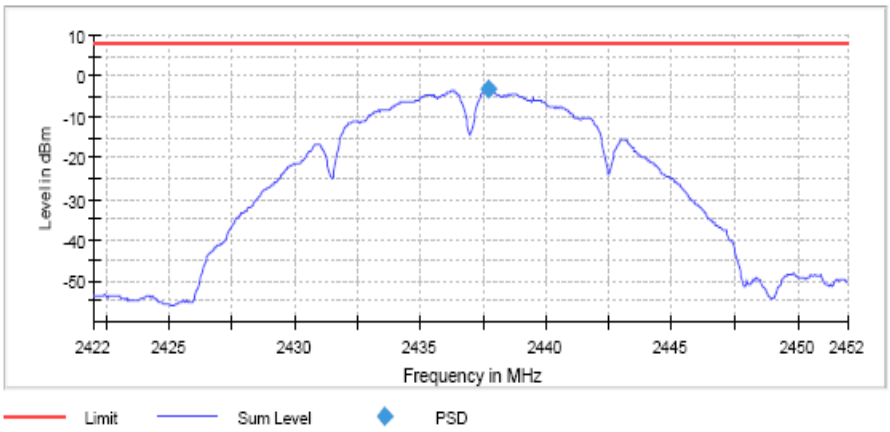
	Lowest frequency 2412 MHz	Middle frequency 2437 MHz	Highest frequency 2462 MHz
Power spectral density (dBm)	-2.921	-3.178	-4.938
Measurement uncertainty (dB)	<±0.78		

TEST RESULTS (Cont.):	

Low Channel

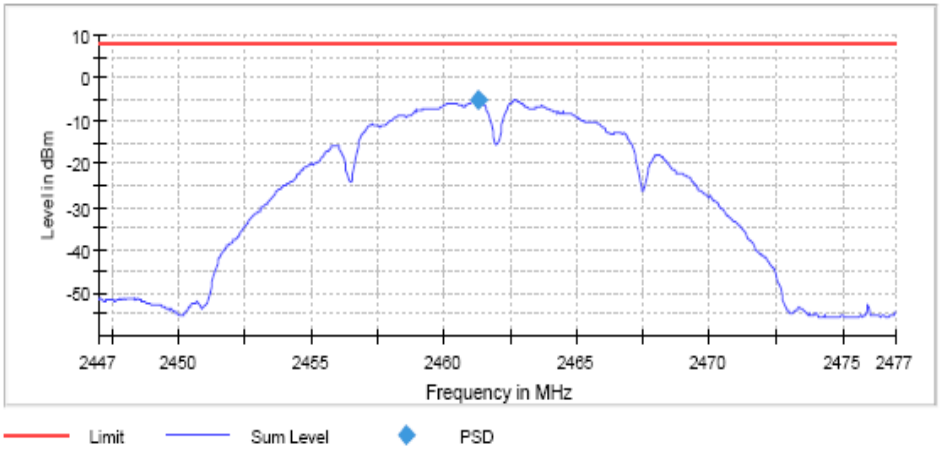


Middle Channel



TEST RESULTS (Cont.):	

High Channel



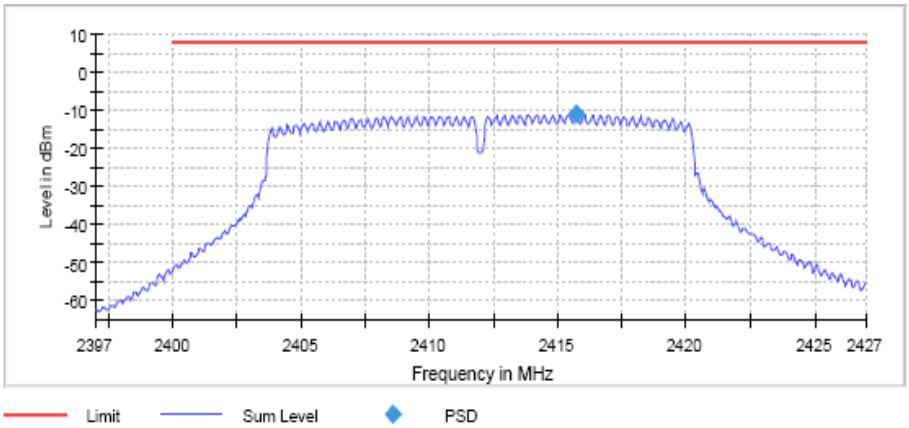
Measurement

Setting	Instrument Value	Instrument Value	Instrument Value
Start Frequency	2.39700 GHz	2.42200 GHz	2.44700 GHz
Stop Frequency	2.42700 GHz	2.45200 GHz	2.47700 GHz
Span	30.000 MHz	30.000 MHz	30.000 MHz
RBW	100.000 kHz	100.000 kHz	100.000 kHz
VBW	300.000 kHz	300.000 kHz	300.000 kHz
SweepPoints	600	600	600
Sweeptime	3.000 s	3.000 s	3.000 s
Reference Level	20.000 dBm	20.000 dBm	20.000 dBm
Attenuation	40.000 dB	40.000 dB	40.000 dB
Detector	RMS	RMS	RMS
SweepCount	1	1	1
Filter	3 dB	3 dB	3 dB
Trace Mode	Max Hold	Max Hold	Max Hold
Sweeptype	Sweep	Sweep	Sweep
Preamp	off	off	off
Stablemode	Trace	Trace	Trace
Stablevalue	0.50 dB	0.50 dB	0.50 dB
Run	5 / max. 150	6 / max. 150	7 / max. 150
Stable	3 / 3	3 / 3	3 / 3
Max Stable Difference	0.26 dB	0.31 dB	0.21 dB

TESTED SAMPLES:	S/01
TESTED CONDITIONS MODES:	TC#02 (g mode)
TEST RESULTS:	PASS

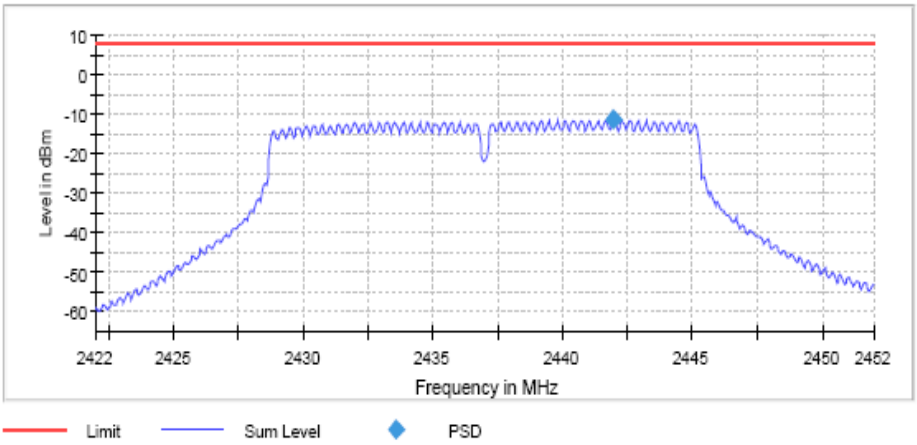
	Lowest frequency 2412 MHz	Middle frequency 2437 MHz	Highest frequency 2462 MHz
Power spectral density (dBm)	-10.962	-11.381	-11.540
Measurement uncertainty (dB)	<±0.78		

Low Channel

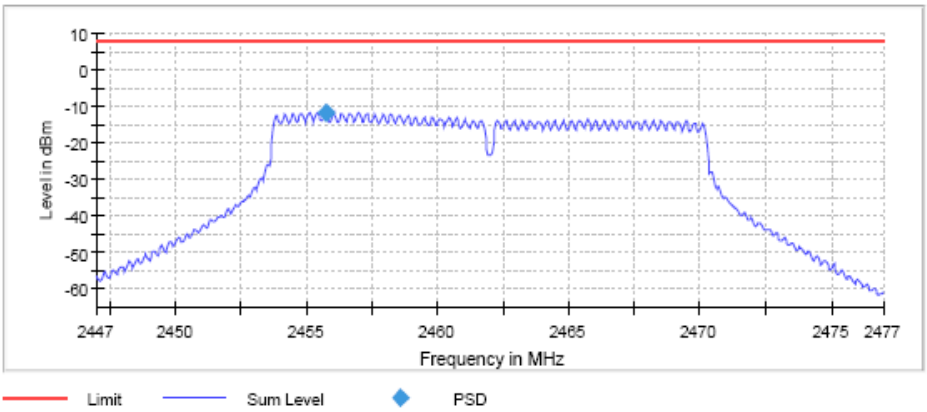


TEST RESULTS (Cont.):	

Middle Channel



High Channel



Measurement

Setting	Instrument Value	Instrument Value	Instrument Value
Start Frequency	2.39700 GHz	2.42200 GHz	2.44700 GHz
Stop Frequency	2.42700 GHz	2.45200 GHz	2.47700 GHz
Span	30.000 MHz	30.000 MHz	30.000 MHz
RBW	100.000 kHz	100.000 kHz	100.000 kHz
VBW	300.000 kHz	300.000 kHz	300.000 kHz
SweepPoints	600	600	600
Sweeptime	3.000 s	3.000 s	3.000 s
Reference Level	10.000 dBm	10.000 dBm	10.000 dBm
Attenuation	30.000 dB	30.000 dB	30.000 dB
Detector	RMS	RMS	RMS
SweepCount	1	1	1
Filter	3 dB	3 dB	3 dB
Trace Mode	Max Hold	Max Hold	Max Hold
Sweeptype	Sweep	Sweep	Sweep
Preamp	off	off	off
Stablemode	Trace	Trace	Trace
Stablevalue	0.50 dB	0.50 dB	0.50 dB
Run	5 / max. 150	6 / max. 150	6/ max. 150
Stable	3 / 3	3 / 3	3 / 3
Max Stable Difference	0.30 dB	0.31 dB	0.30 dB

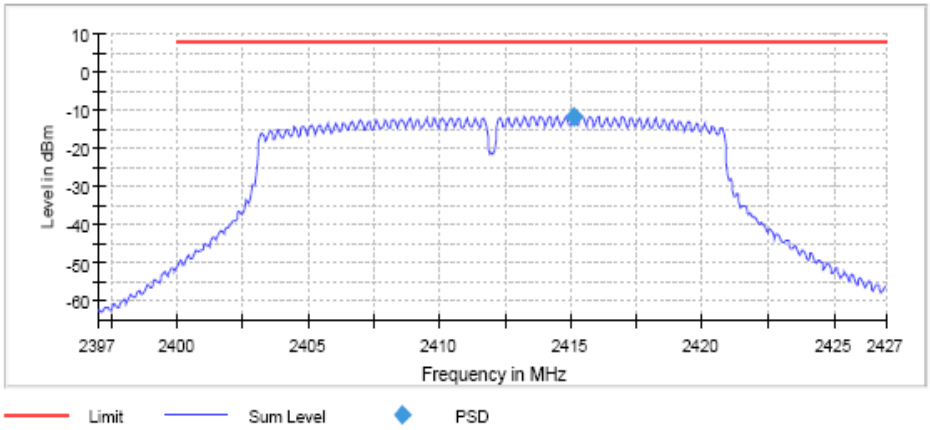
TESTED SAMPLES:	S/01
TESTED CONDITIONS MODES:	TC#03 (n mode)
TEST RESULTS:	PASS

Bandwidth: 20 MHz

	Lowest frequency 2412 MHz	Middle frequency 2437 MHz	Highest frequency 2462 MHz
Power spectral density (dBm)	-11.529	-11.972	-12.289
Measurement uncertainty (dB)	<±0.78		

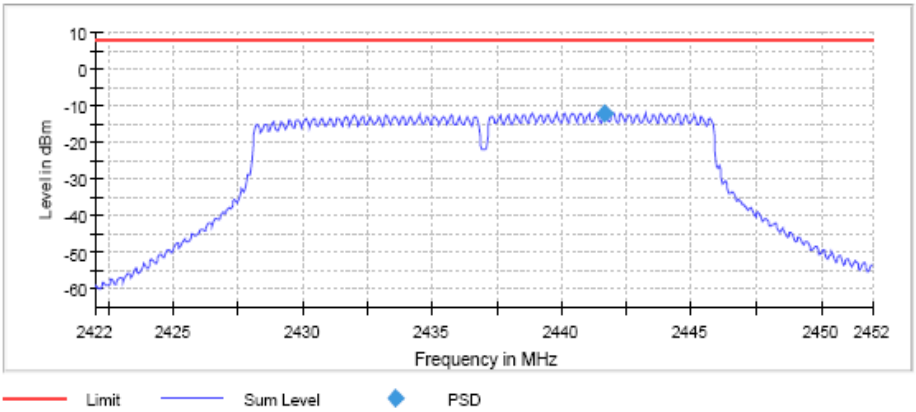
TEST RESULTS (Cont.):	

Low Channel

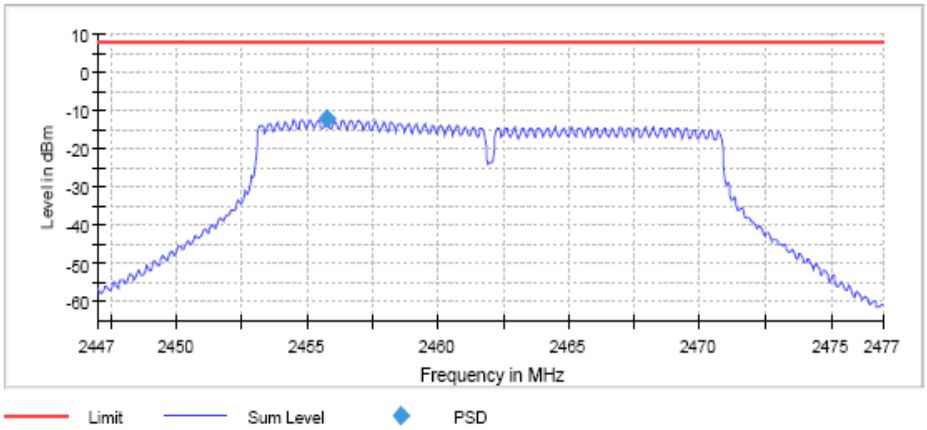


TEST RESULTS (Cont.):	

Middle Channel



High Channel



TEST RESULTS (Cont.):	

Measurement

Setting	Instrument Value	Instrument Value	Instrument Value
Start Frequency	2.39700 GHz	2.42200 GHz	2.44700 GHz
Stop Frequency	2.42700 GHz	2.45200 GHz	2.47700 GHz
Span	30.000 MHz	30.000 MHz	30.000 MHz
RBW	100.000 kHz	100.000 kHz	100.000 kHz
VBW	300.000 kHz	300.000 kHz	300.000 kHz
SweepPoints	600	600	600
Sweeptime	3.000 s	3.000 s	3.000 s
Reference Level	10.000 dBm	10.000 dBm	10.000 dBm
Attenuation	30.000 dB	30.000 dB	30.000 dB
Detector	RMS	RMS	RMS
SweepCount	1	1	1
Filter	3 dB	3 dB	3 dB
Trace Mode	Max Hold	Max Hold	Max Hold
Sweeptype	Sweep	Sweep	Sweep
Preamp	off	off	off
Stablemode	Trace	Trace	Trace
Stablevalue	0.50 dB	0.50 dB	0.50 dB
Run	5 / max. 150	5 / max. 150	5 / max. 150
Stable	3 / 3	3 / 3	3 / 3
Max Stable Difference	0.48 dB	0.37 dB	0.33 dB

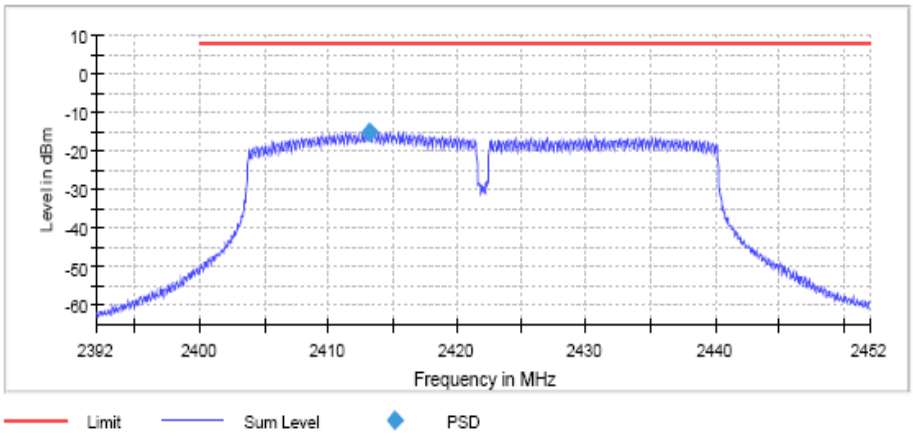
TESTED SAMPLES:	S/01
TESTED CONDITIONS MODES:	TC#04 (n mode)
TEST RESULTS:	PASS

Bandwidth: 40 MHz

	Lowest frequency 2422 MHz	Middle frequency 2437 MHz	Highest frequency 2452 MHz
Power spectral density (dBm)	-15.096	-13.721	-14.903
Measurement uncertainty (dB)	<±0.78		

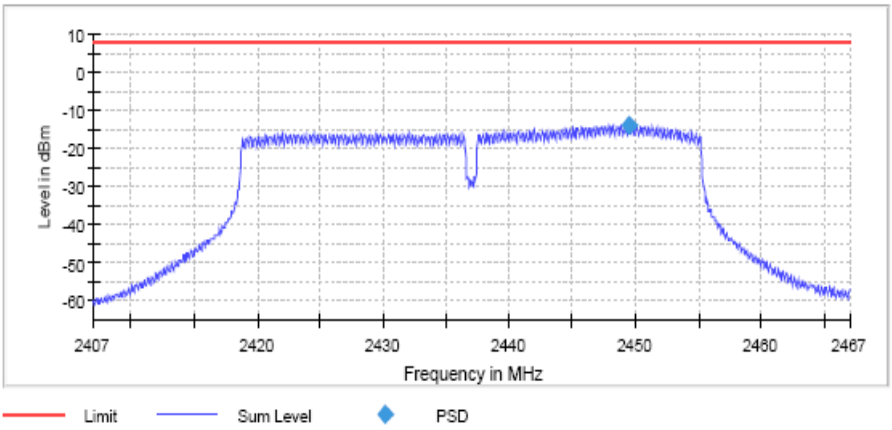
TEST RESULTS (Cont.):	

Low Channel

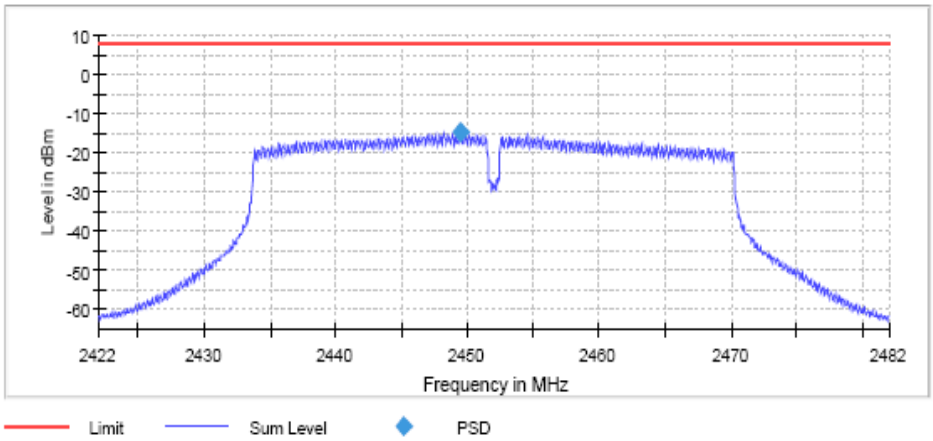


TEST RESULTS (Cont.):	

Mid Channel



High Channel



TEST RESULTS (Cont.):	

Measurement

Setting	Instrument Value	Instrument Value	Instrument Value
Start Frequency	2.39200 GHz	2.40700 GHz	2.42200 GHz
Stop Frequency	2.45200 GHz	2.46700 GHz	2.48200 GHz
Span	60.000 MHz	60.000 MHz	60.000 MHz
RBW	100.000 kHz	100.000 kHz	100.000 kHz
VBW	300.000 kHz	300.000 kHz	300.000 kHz
SweepPoints	1200	1200	1200
Sweeptime	6.000 s	6.000 s	6.000 s
Reference Level	10.000 dBm	10.000 dBm	10.000 dBm
Attenuation	30.000 dB	30.000 dB	30.000 dB
Detector	RMS	RMS	RMS
SweepCount	1	1	1
Filter	3 dB	3 dB	3 dB
Trace Mode	Max Hold	Max Hold	Max Hold
Sweeptype	Sweep	Sweep	Sweep
Preamp	off	off	off
Stablemode	Trace	Trace	Trace
Stablevalue	0.50 dB	0.50 dB	0.50 dB
Run	7 / max. 150	5 / max. 150	8 / max. 150
Stable	3 / 3	3 / 3	3 / 3
Max Stable Difference	0.23 dB	0.43 dB	0.32 dB

TEST B.5: EMISSION LIMITATIONS RADIATED (TRANSMITTER)

LIMITS:	Product standard:	Part 15 Subpart C §15.247 and RSS-247
	Test standard:	Part 15 Subpart C §15.247(d) and RSS-247 5.5

LIMITS

Radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c) / RSS-Gen):

Frequency Range (MHz)	Field strength (µV/m)	Field strength (dBµV/m)	Measurement distance (m)
0.009-0.490	2400/F(kHz)	-	300
0.490-1.705	24000/F(kHz)	-	30
1.705 - 30.0	30	-	30
30 - 88	100	40	3
88 - 216	150	43.5	3
216 - 960	200	46	3
960 - 25000	500	54	3

The emission limits shown in the above table are based on measurements employing CISPR quasi-peak detector except for the frequency bands 9-90 kHz, 110-490 kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector.

For average radiated emission measurements above 1000 MHz, there is also a limit corresponding to 20 dB above the indicated values in the table is specified when measuring with peak detector function.

RSS-247. Attenuation below the general field strength limits specified in RSS-Gen is not required

TEST SETUP	

All radiated tests were performed in a semi-anechoic chamber. The measurement antenna is situated at 3 m for the frequency range 30-1000 MHz (Bilog antenna) and at 1m for the frequency range 1-40 GHz (1 GHz-18 GHz and 18 GHz-40 GHz Double ridge horn antennas).

For radiated emissions in the range 1-40 GHz that is performed at a distance closer than the specified distance, an inverse proportionality factor of 20 dB per decade is used to normalize the measured data for determining compliance.

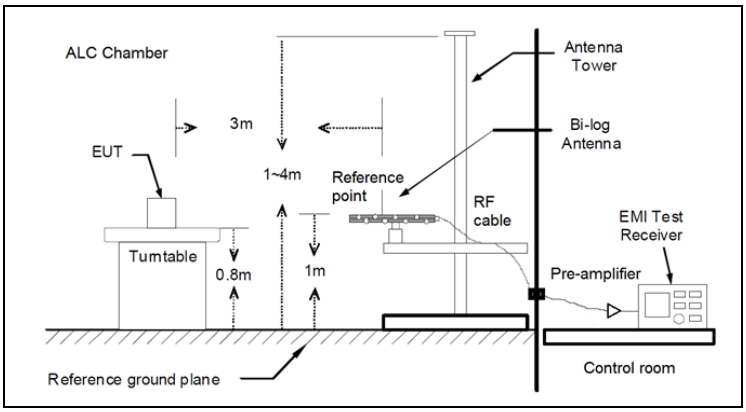
The equipment under test was set up on a non-conductive platform above the ground plane and the situation and orientation was varied to find the maximum radiated emission. It was also rotated 360º and the antenna height was varied from 1 to 4 meters to find the maximum radiated emission.

Measurements were made in both horizontal and vertical planes of polarization.

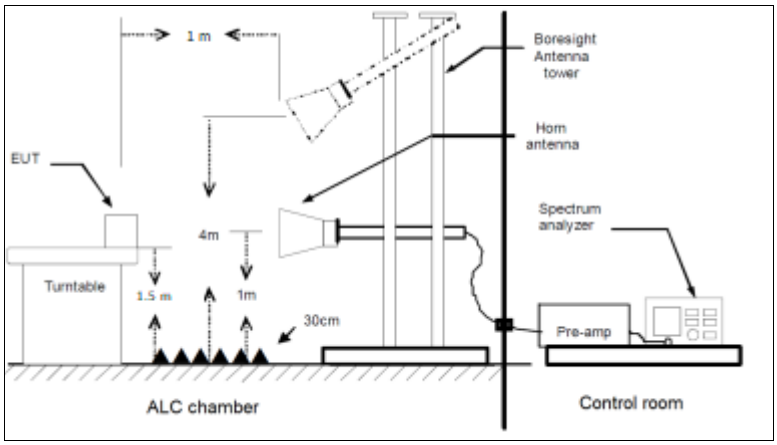
The field strength is calculated by adding correction factor to the measured level from the spectrum analyzer. This correction factor includes antenna factor, cable loss and pre-amplifiers gain.

TEST SETUP (CONT.)	

Radiated measurements Setup f < 1 GHz



Radiated measurements setup f > 1 GHz



TESTED SAMPLES:	S/02
TESTED CONDITIONS MODES:	TC#01 (b mode)
TEST RESULTS:	PASS

The tables and plots show the results for the worst case of modulation and data rate: 1Mb/s for 802.11b

Frequency range 30 MHz – 1000 MHz

The spurious emissions below 1 GHz do not depend on the operating channel and mode selected in the EUT.

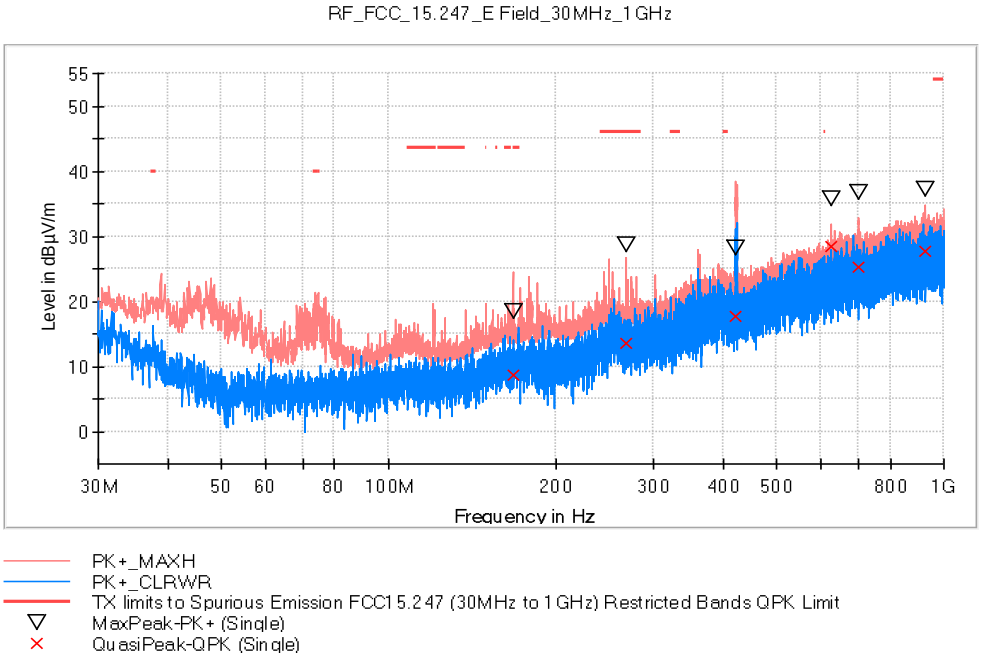
Frequency range 1 GHz – 26 GHz

The results in the next tables show the maximum measured levels in the 1-26 GHz range including the restricted bands 2.31-2.39 GHz and 2.4835-2.5 GHz (see next plots).

The radiated spurious signals detected at less than 10 dB respect to the limit for the lowest, middle and highest operating channels are showed in the tables below of each frequency range.

TEST RESULTS (Cont.)	
FREQUENCY RANGE	**30 MHz – 1 GHz**

CHANNEL: Middle (2437 MHz).

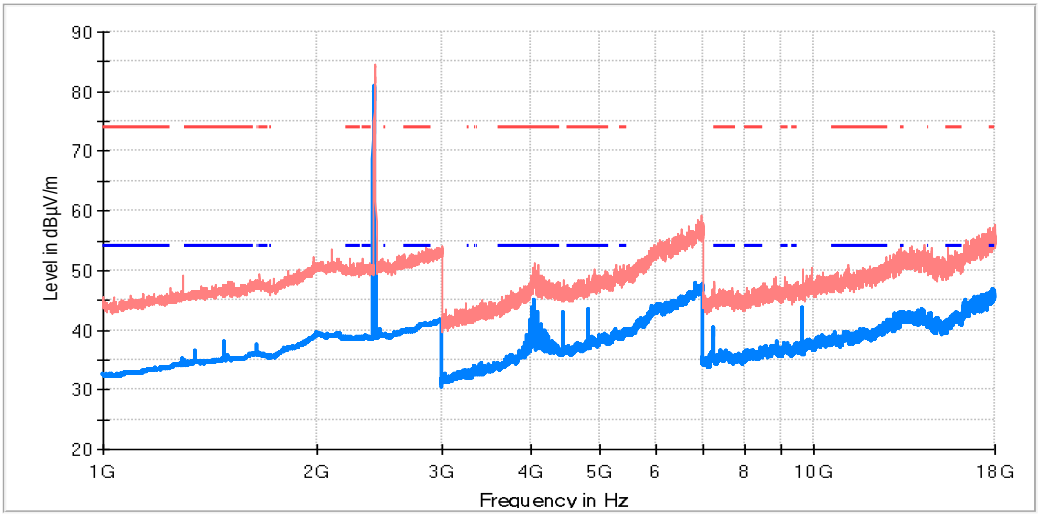


Result Table _ Single

Frequency (MHz)	PK+_MAXH (dBµV/m)	QuasiPeak (dBµV/m)	Pol
167.206500	18.3	8.7	H
267.019500	28.8	13.6	H
701.337000	36.7	25.2	H
922.206000	37.1	27.6	H
624.998000	35.7	28.5	V
421.637500	28.1	17.6	V

TEST RESULTS (Cont.)	
FREQUENCY RANGE	**1 GHz – 18 GHz**

CHANNEL: Lowest (2412 MHz).



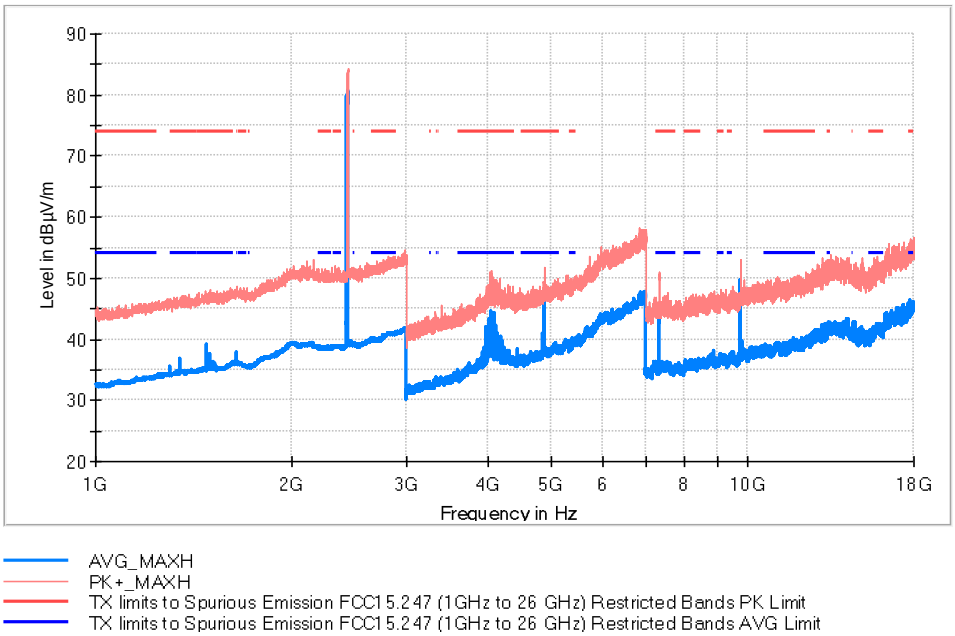
AVG_MAXH
PK+_MAXH
TX limits to Spurious Emission FCC15.247 (1GHz to 26 GHz) Restricted Bands PK Limit
TX limits to Spurious Emission FCC15.247 (1GHz to 26 GHz) Restricted Bands AVG Limit

Maximizations

Frequency (MHz)	PK+_MAXH (dBµV/m)	AVG_MAXH (dBµV/m)	Pol	Comments
1485.000000	47.59	38.06	H	
2411.000000	84.65	81.09	H	Fundamental
4056.500000	51.37	45.02	V	
4454.500000	48.46	42.97	V	
4824.000000	48.79	43.46	V	
7234.000000	48.06	40.33	V	
9648.000000	50.07	43.72	H	

TEST RESULTS (Cont.)	

CHANNEL: Middle (2437 MHz).

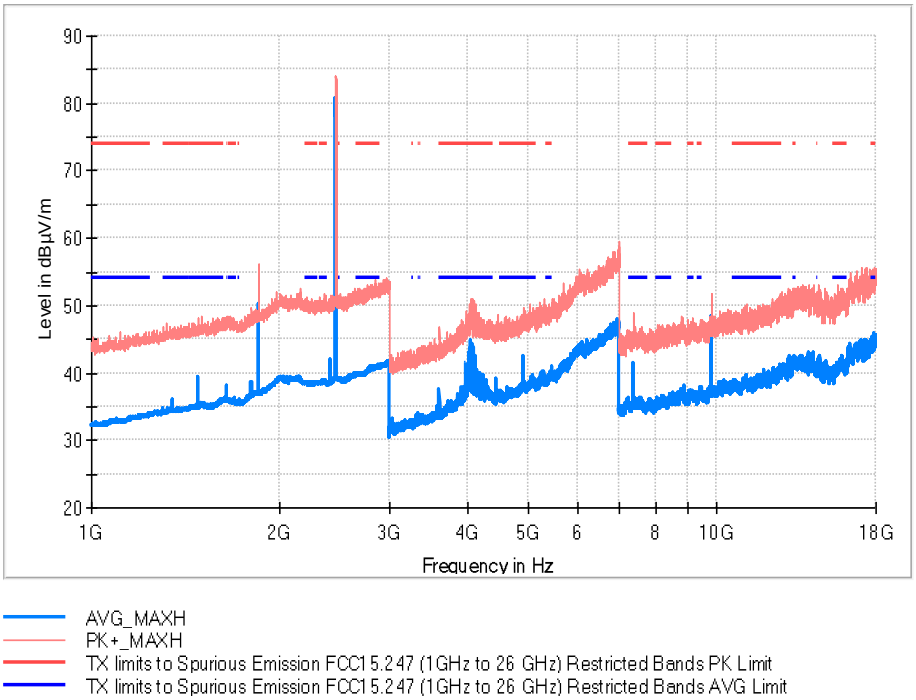


Maximizations

Frequency (MHz)	PK+_MAXH (dBµV/m)	AVG_MAXH (dBµV/m)	Pol	Comments
2436.000000	84.19	80.69	H	Fundamental
4053.000000	51.32	44.53	V	
4874.000000	51.90	46.22	V	
7309.500000	50.29	44.68	V	
9748.000000	52.98	49.69	V	

TEST RESULTS (Cont.)	

CHANNEL: Highest (2462 MHz).

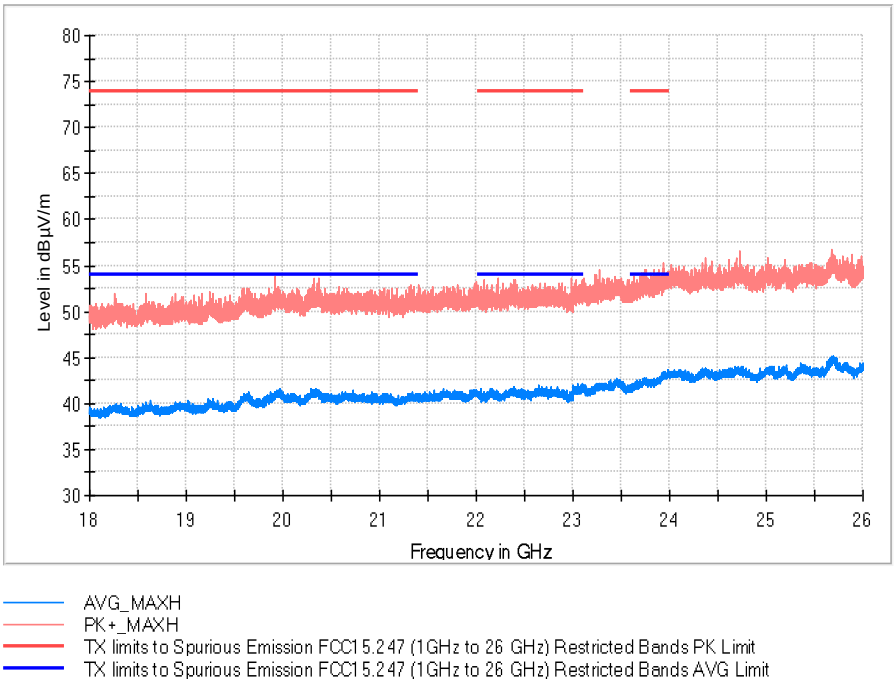


Maximizations

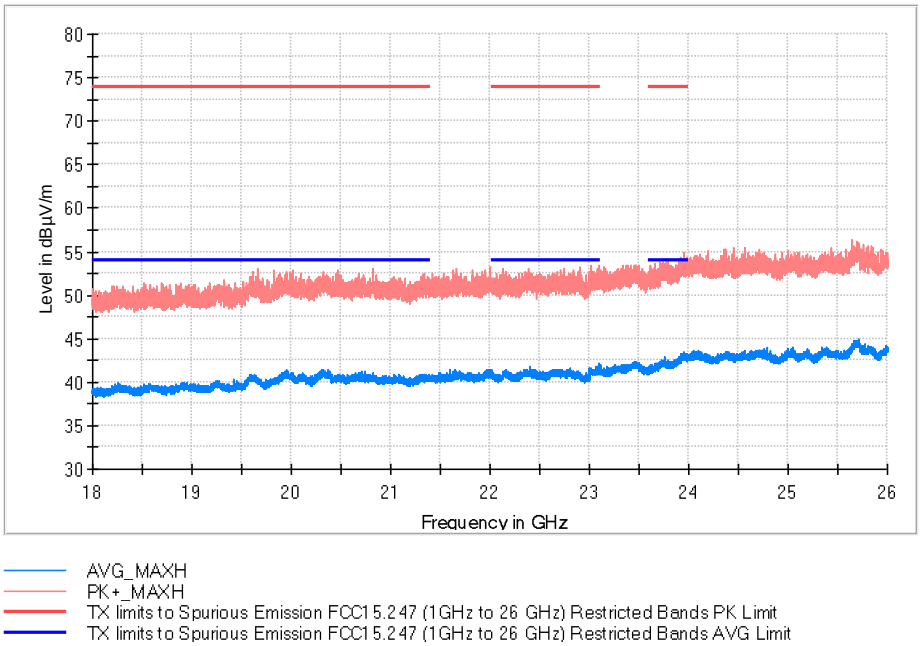
Frequency (MHz)	PK+_MAXH (dBµV/m)	AVG_MAXH (dBµV/m)	Height (cm)	Comments
1851.000000	56.15	50.14	H	
2461.000000	84.14	80.59	H	Fundamental
4050.500000	50.74	44.79	V	
4923.500000	49.70	42.47	V	
7384.500000	48.29	41.53	V	
9848.000000	51.89	48.45	V	

TEST RESULTS (Cont.)	
FREQUENCY RANGE	**18 GHz – 26 GHz**

CHANNEL: Lowest (2412 MHz).

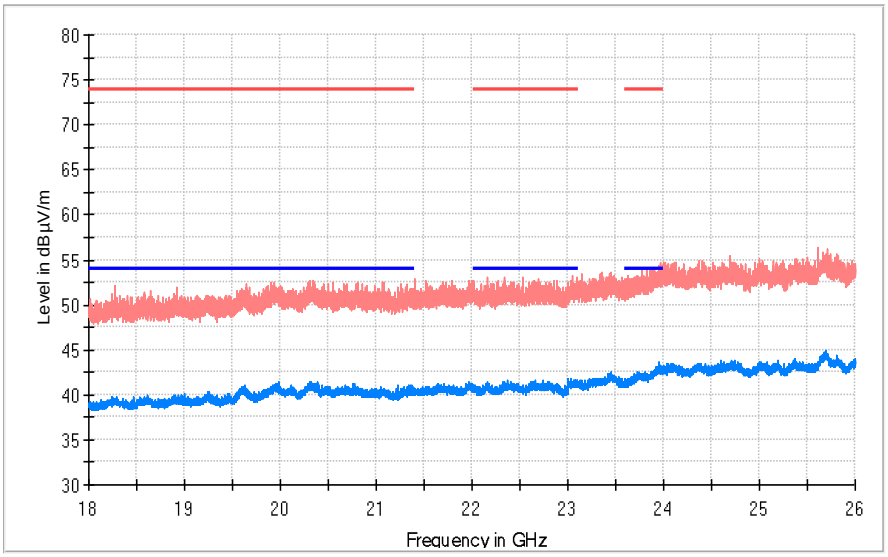


CHANNEL: Middle (2437 MHz).



TEST RESULTS (Cont.)	

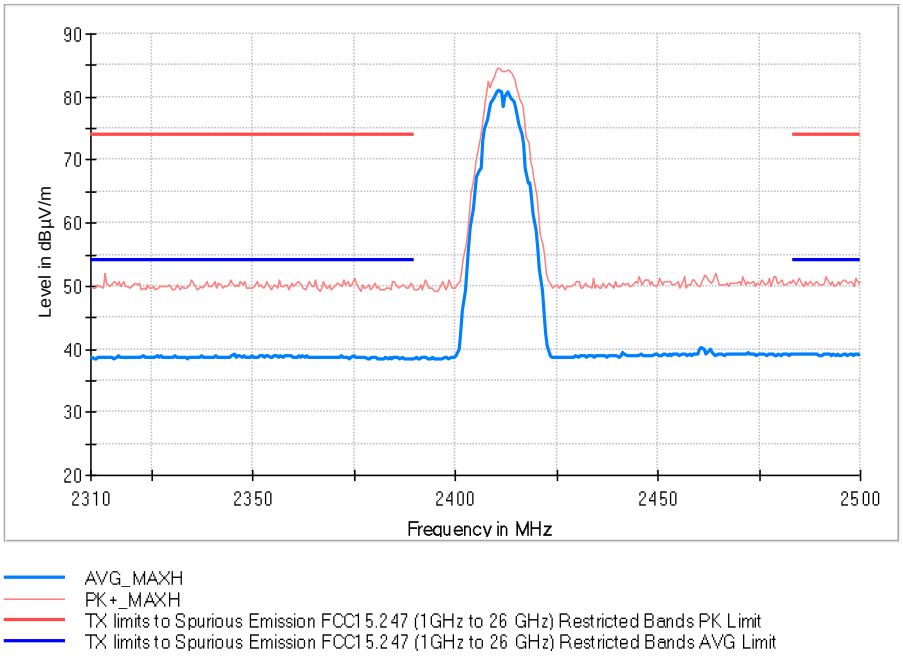
CHANNEL: Highest (2462 MHz).



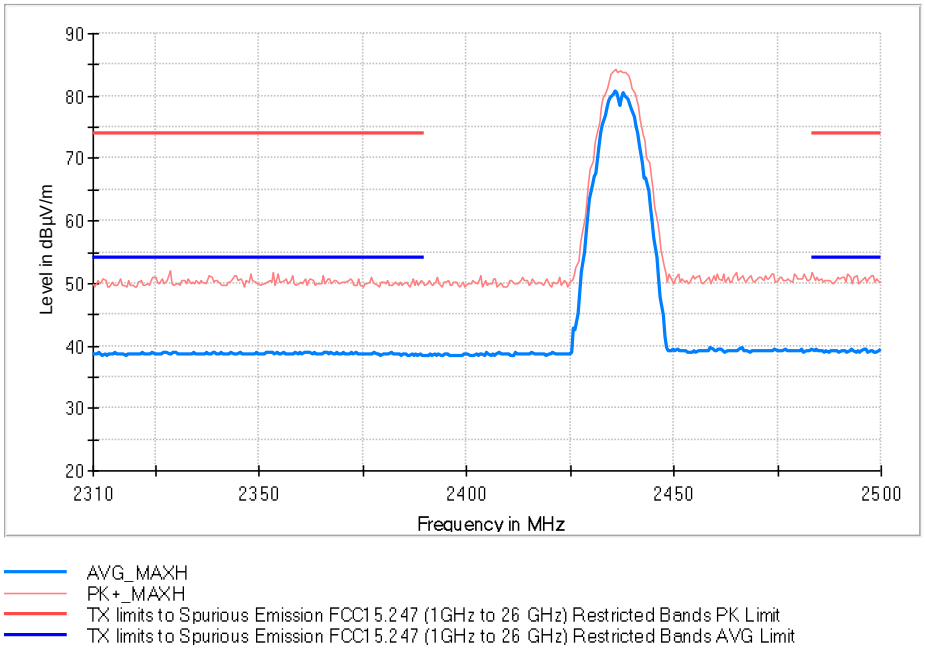
AVG_MAXH
PK+_MAXH
TX limits to Spurious Emission FCC15.247 (1GHz to 26 GHz) Restricted Bands PK Limit
TX limits to Spurious Emission FCC15.247 (1GHz to 26 GHz) Restricted Bands AVG Limit

TEST RESULTS (Cont.)	
RESTRICTED BANDS	2.31 GHz – 2.5 GHz

CHANNEL: Lowest (2412 MHz)

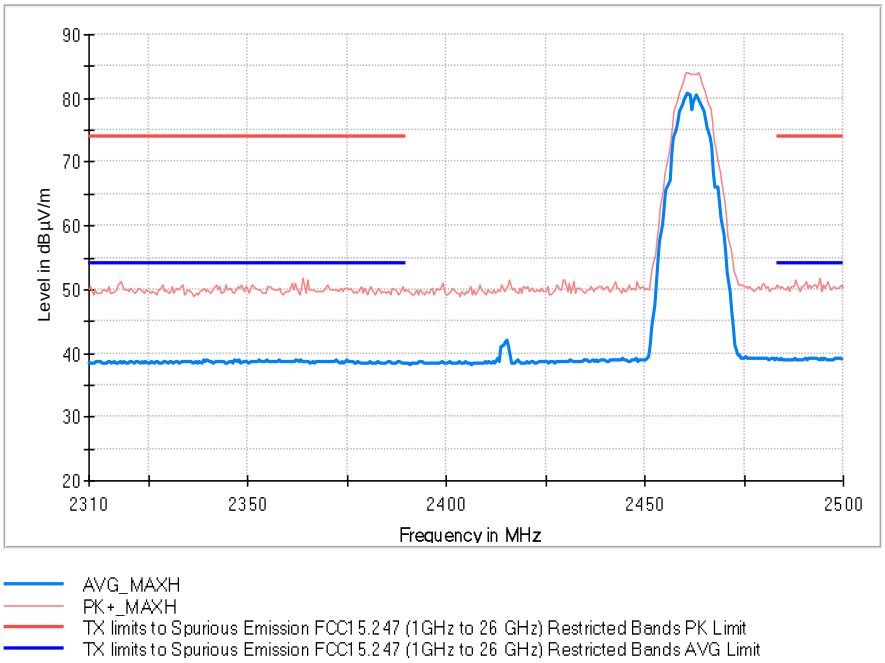


CHANNEL: Middle (2437 MHz)



TEST RESULTS (Cont.)	

CHANNEL: Highest (2462 MHz)



TESTED SAMPLES:	S/02
TESTED CONDITIONS MODES:	TC#02 (g mode)
TEST RESULTS:	PASS

For radiated spurious emissions for OFDM modes 802.11g, 802.11n20 and 802.11n40 a preliminary scan was performed to determine the worst case.

The tables and plots show the results for the worst case of modulation and data rate: 6Mb/s for 802.11g

Frequency range 30 MHz – 1000 MHz

The spurious emissions below 1 GHz do not depend on the operating channel and mode selected in the EUT.

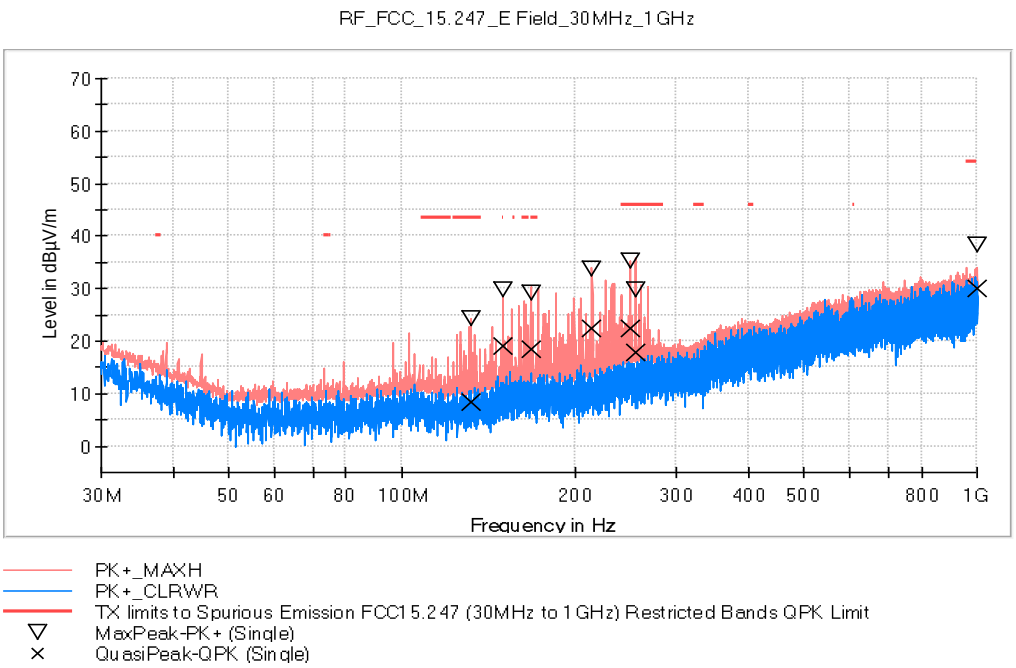
Frequency range 1 GHz – 26 GHz

The results in the next tables show the maximum measured levels in the 1-26 GHz range including the restricted bands 2.31-2.39 GHz and 2.4835-2.5 GHz (see next plots).

The radiated spurious signals detected at less than 10 dB respect to the limit for the lowest, middle and highest operating channels are showed in the tables below of each frequency range.

TEST RESULTS (Cont.)	
FREQUENCY RANGE	30 MHz – 1 GHz

CHANNEL: Middle (2437 MHz).

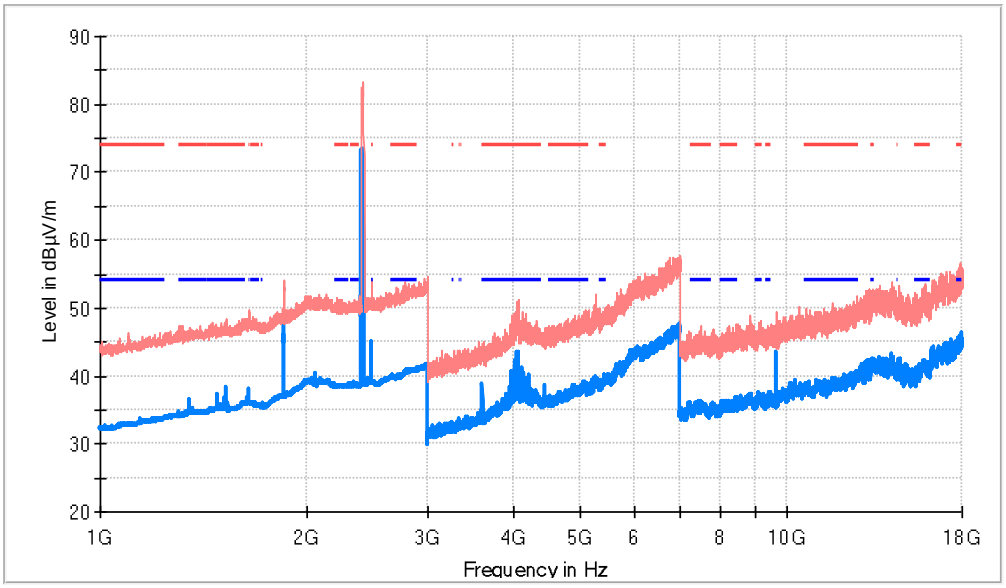


Result Table _ Single

Frequency (MHz)	PK+_MAXH (dBµV/m)	QuasiPeak (dBµV/m)	Pol
998.399500	38.29	30.05	H
149.649500	29.64	19.02	V
167.206500	29.18	18.55	V
214.203000	33.80	22.44	V
255.137000	29.71	17.84	V
131.947000	24.14	8.37	V
249.365500	35.38	22.34	V

TEST RESULTS (Cont.)	
FREQUENCY RANGE	1 GHz – 18 GHz

CHANNEL: Lowest (2412 MHz).



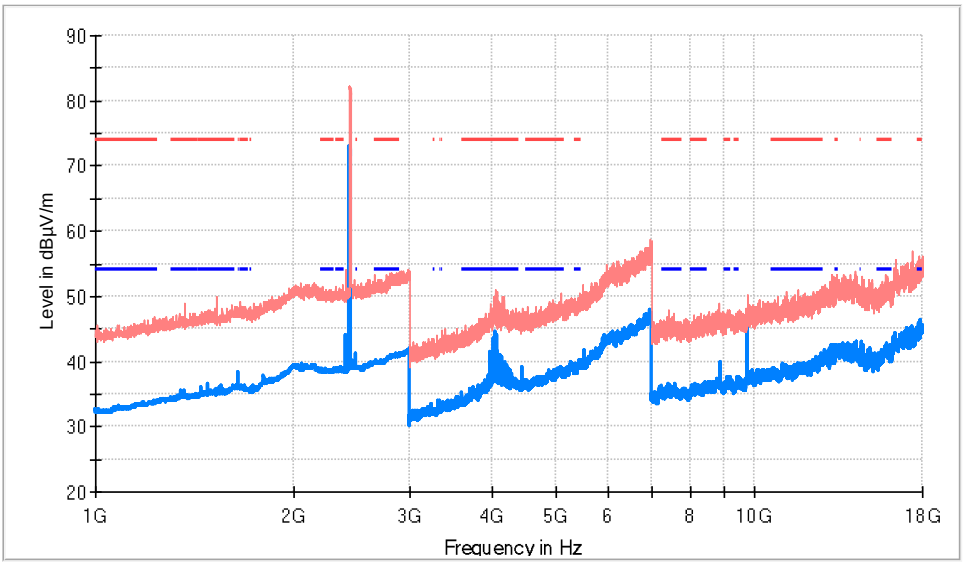
AVG_MAXH
PK+_MAXH
TX limits to Spurious Emission FCC15.247 (1GHz to 26 GHz) Restricted Bands PK Limit
TX limits to Spurious Emission FCC15.247 (1GHz to 26 GHz) Restricted Bands AVG Limit

Maximizations

Frequency (MHz)	PK+_MAXH (dBµV/m)	AVG_MAXH (dBµV/m)	Pol	Comments
1851.000000	54.06	47.67	H	
2408.000000	82.70	73.54	H	Fundamental
2481.000000	53.05	45.01	H	
3609.000000	44.45	38.82	V	
4048.000000	49.65	43.43	V	
9648.000000	49.35	43.51	H	

TEST RESULTS (Cont.)	

CHANNEL: Middle (2437 MHz).



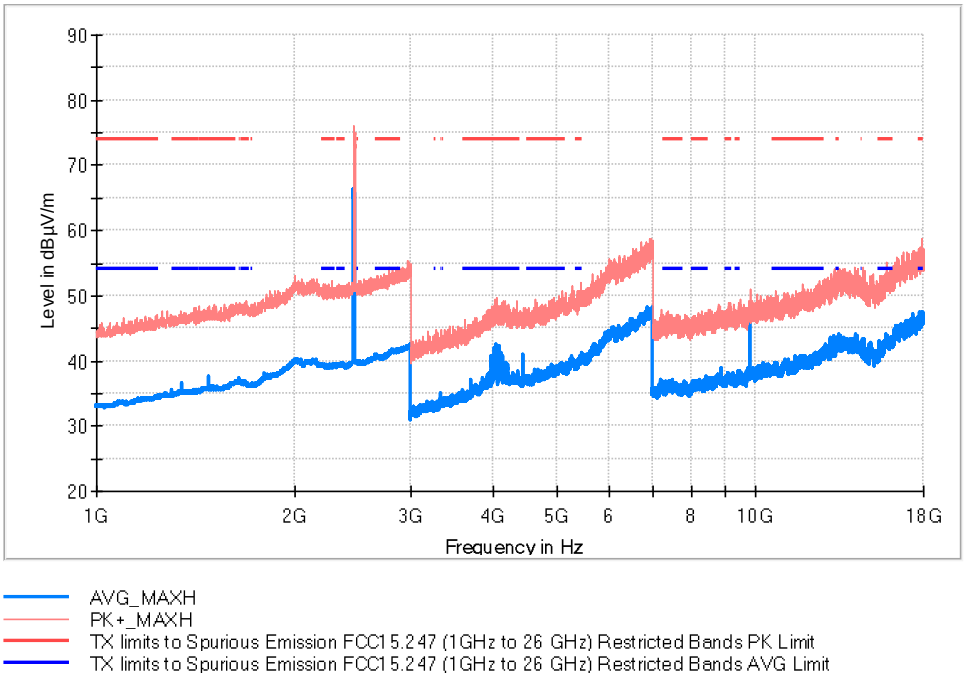
AVG_MAXH
PK+_MAXH
TX limits to Spurious Emission FCC15.247 (1GHz to 26 GHz) Restricted Bands PK Limit
TX limits to Spurious Emission FCC15.247 (1GHz to 26 GHz) Restricted Bands AVG Limit

Maximizations

Frequency (MHz)	PK+_MAXH (dBµV/m)	AVG_MAXH (dBµV/m)	Pol	Comments
2433.500000	82.33	72.89	H	Fundamental
4049.500000	50.62	44.60	V	
8909.500000	46.63	39.81	V	
9748.000000	50.01	45.62	V	

TEST RESULTS (Cont.)	

CHANNEL: Highest (2462 MHz).

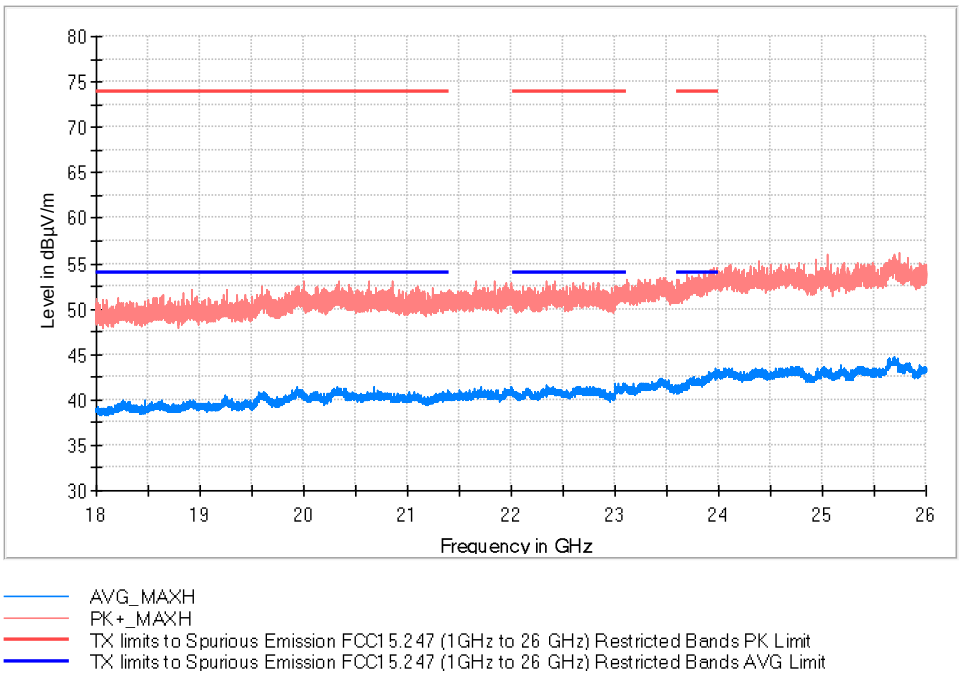


Maximizations

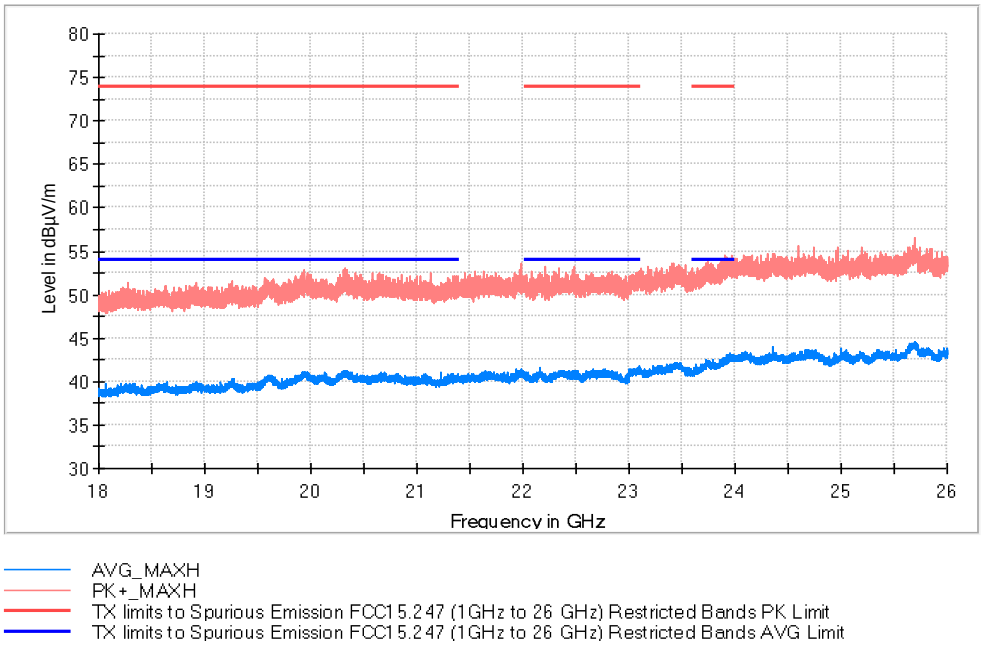
Frequency (MHz)	PK+_MAXH (dBµV/m)	AVG_MAXH (dBµV/m)	Height (cm)	Comments
2458.000000	74.97	66.35	V	Fundamental
4053.500000	49.09	42.59	V	
4455.000000	46.67	41.03	H	
9848.000000	50.14	46.00	V	

TEST RESULTS (Cont.)	
FREQUENCY RANGE	**18 GHz – 26 GHz**

CHANNEL: Lowest (2412 MHz).

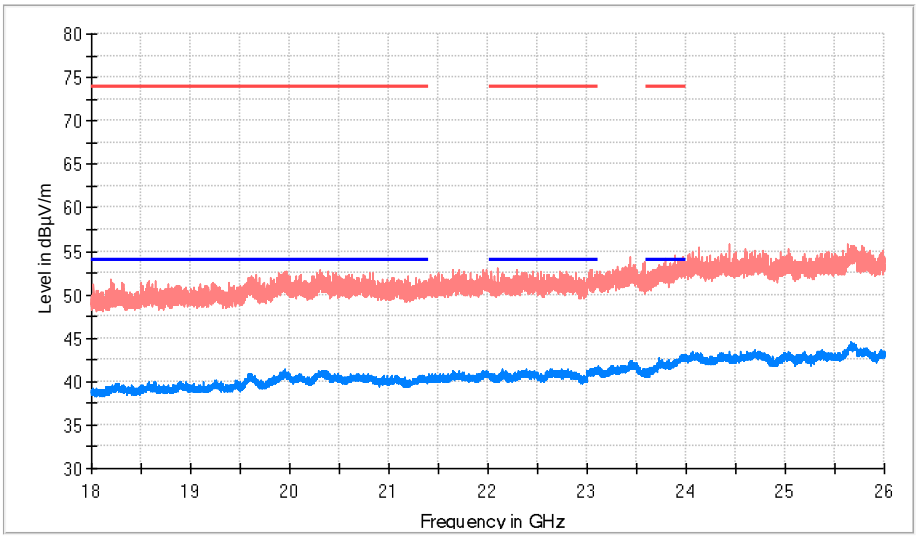


CHANNEL: Middle (2437 MHz).



TEST RESULTS (Cont.)	

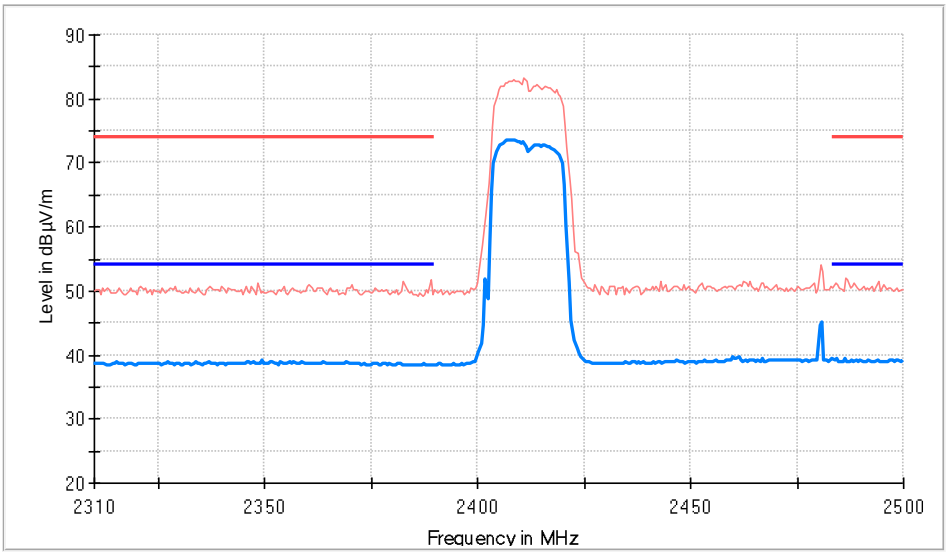
CHANNEL: Highest (2462 MHz).



AVG_MAXH
PK+_MAXH
TX limits to Spurious Emission FCC15.247 (1GHz to 26 GHz) Restricted Bands PK Limit
TX limits to Spurious Emission FCC15.247 (1GHz to 26 GHz) Restricted Bands AVG Limit

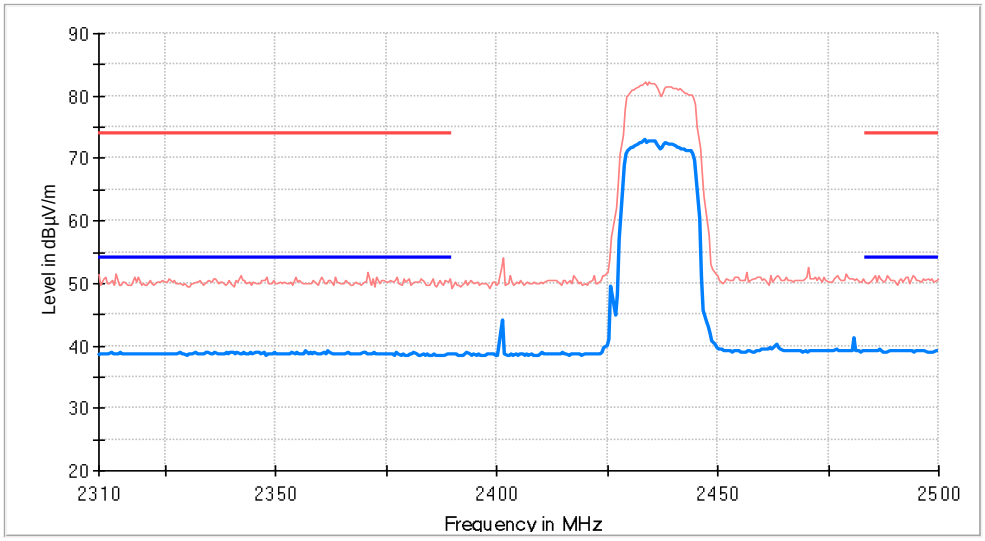
TEST RESULTS (Cont.)	
RESTRICTED BANDS	**2.31 GHz – 2.5 GHz**

CHANNEL: Lowest (2412 MHz)

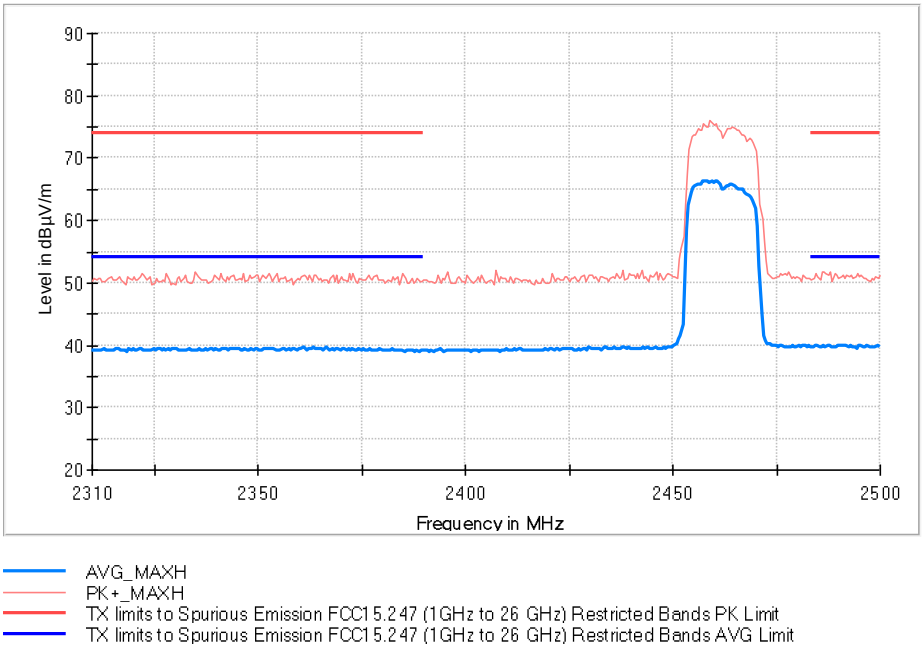


AVG_MAXH
PK+_MAXH
TX limits to Spurious Emission FCC15.247 (1GHz to 26 GHz) Restricted Bands PK Limit
TX limits to Spurious Emission FCC15.247 (1GHz to 26 GHz) Restricted Bands AVG Limit

CHANNEL: Middle (2437 MHz)



AVG_MAXH
PK+_MAXH
TX limits to Spurious Emission FCC15.247 (1GHz to 26 GHz) Restricted Bands PK Limit
TX limits to Spurious Emission FCC15.247 (1GHz to 26 GHz) Restricted Bands AVG Limit

TEST RESULTS (Cont.)	

CHANNEL: Highest (2462 MHz)