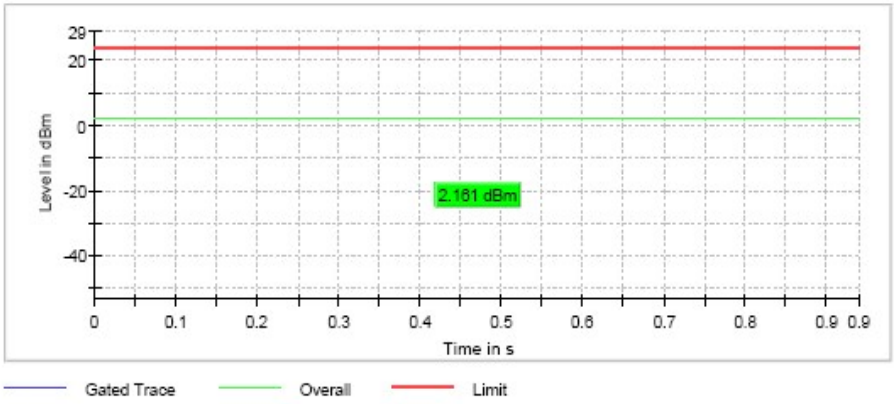
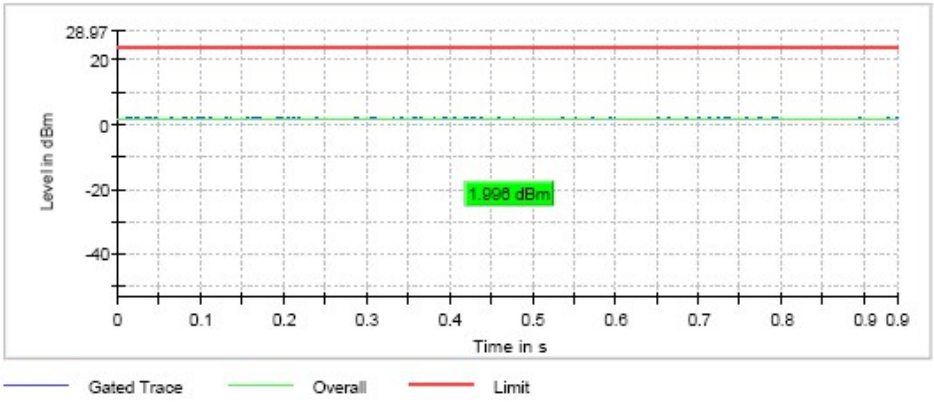
TEST RESULTS (Cont.):	CONDUCTED OUTPUT POWER

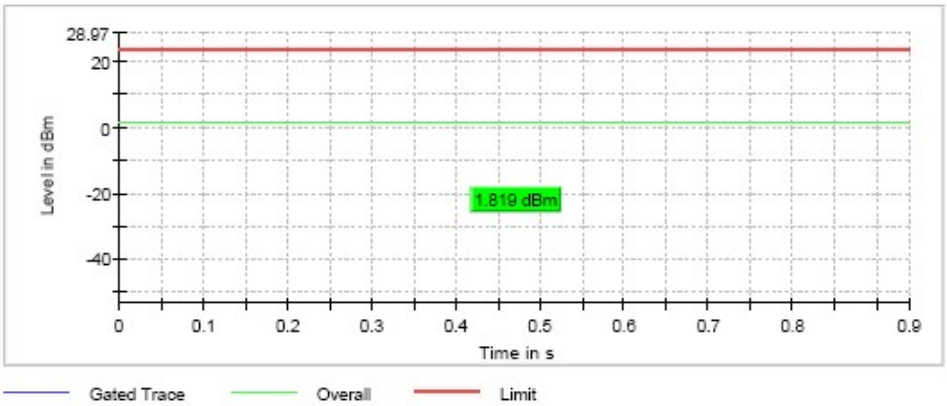
Lowest Channel



Middle Channel



Highest Channel



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

Bandwidth: 20 MHz

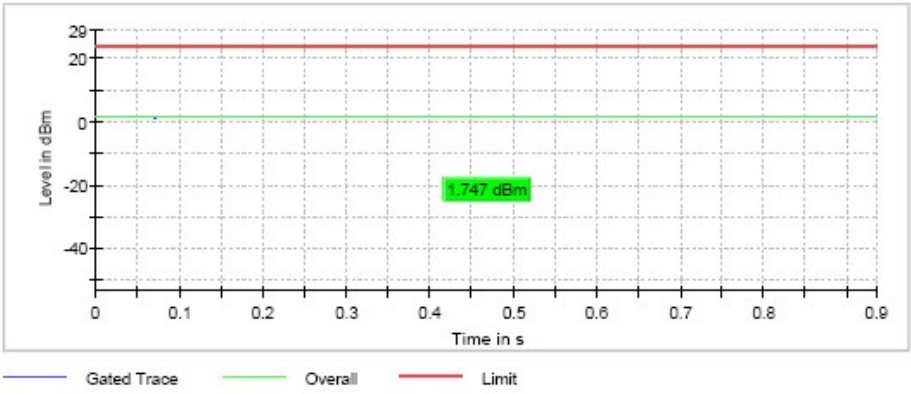
Maximum declared antenna gain: -2.5 dBi

	Lowest frequency 5260 MHz	Middle frequency 5280 MHz	Highest frequency 5320 MHz
Maximum conducted power (dBm)	1.7	1.6	1.5
Maximum EIRP power (dBm)	-0.8	-0.9	-1.0
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.

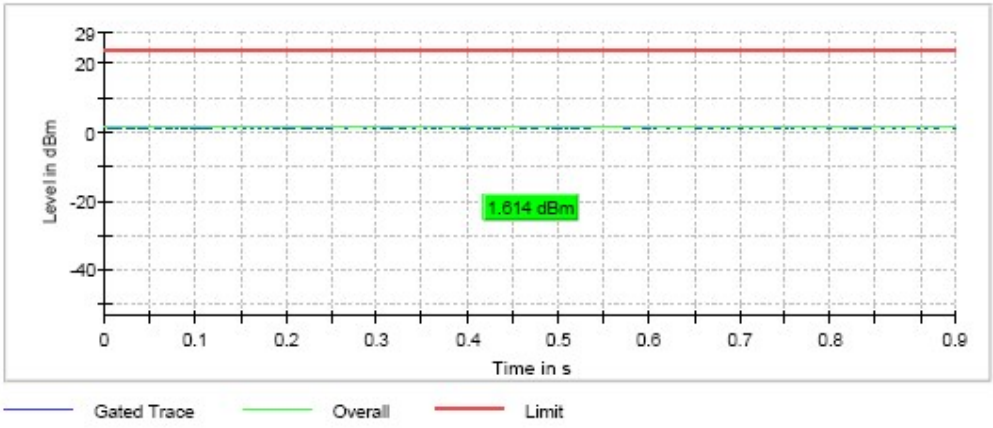
TEST RESULTS (Cont.):	CONDUCTED OUTPUT POWER

Lowest Channel

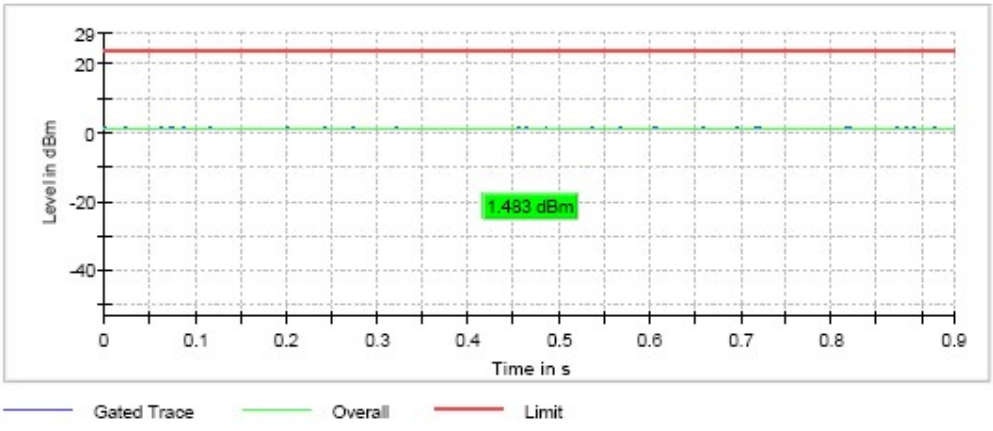


TEST RESULTS (Cont.)	

Middle Channel



Highest Channel



TEST RESULTS	n Mode (40 MHz)

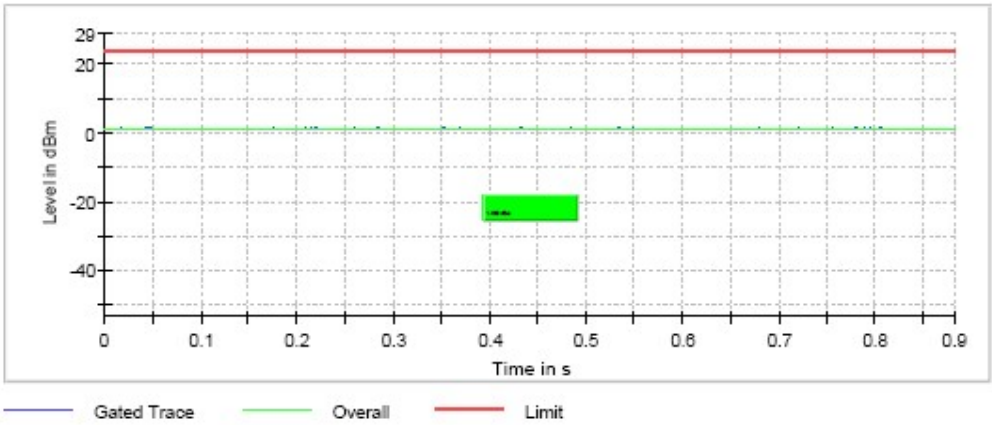
Maximum declared antenna gain: -2.5 dBi

	Lowest frequency 5270 MHz	Highest frequency 5310 MHz
Maximum conducted power (dBm)	1.5	1.7
Maximum EIRP power (dBm)	-1.0	-0.8
Measurement uncertainty (dB)	<±0.78	

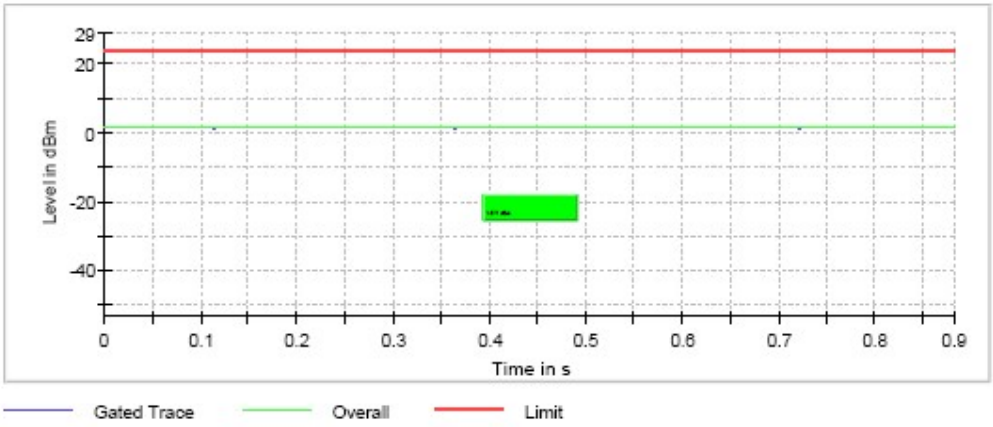
The maximum directional gain of the antenna is less than 6 dBi and therefore the maximum output power is not required to be reduced from the stated values.

TEST RESULTS (Cont.):	CONDUCTED OUTPUT POWER

Lowest Channel



Highest Channel



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

Bandwidth: 20 MHz

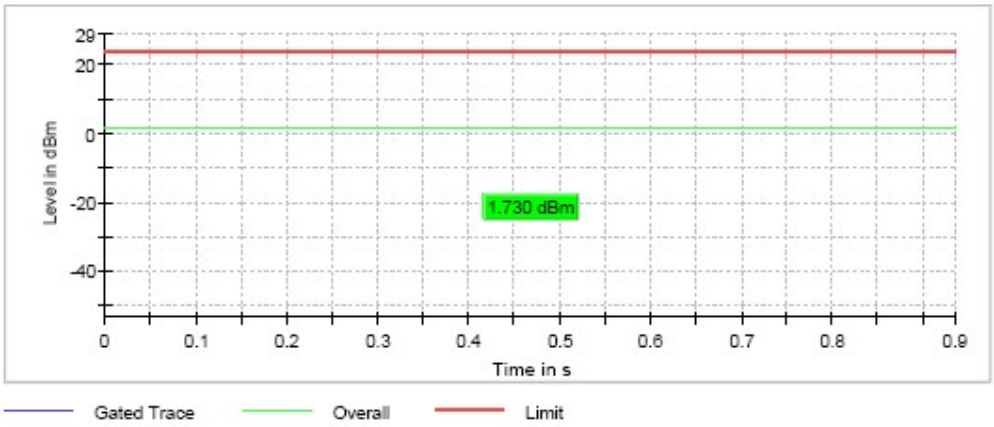
Maximum declared antenna gain: -2.5 dBi

	Lowest frequency 5260 MHz	Middle frequency 5280 MHz	Highest frequency 5320 MHz
Maximum conducted power (dBm)	1.7	1.7	1.6
Maximum EIRP power (dBm)	-0.8	-0.8	-0.9
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.

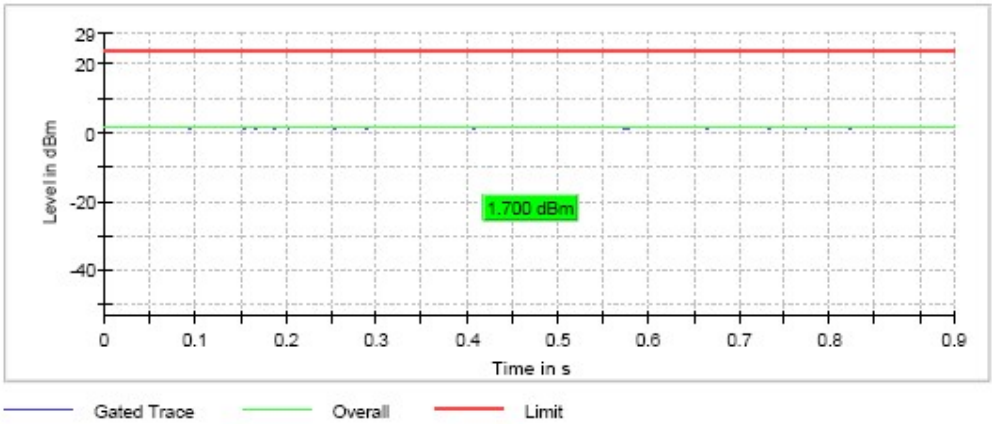
TEST RESULTS (Cont.):	CONDUCTED OUTPUT POWER

Lowest Channel

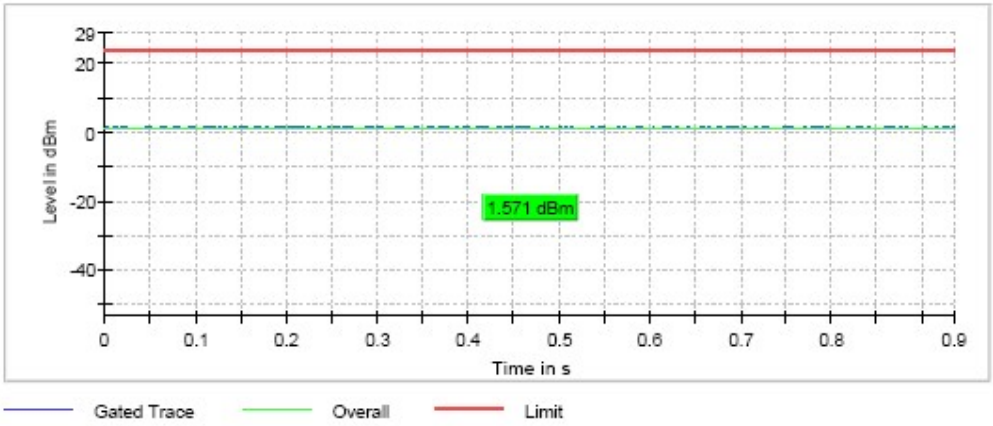


TEST RESULTS (Cont.)	

Middle Channel



Highest Channel



TEST RESULTS	ac mode (40 MHz)

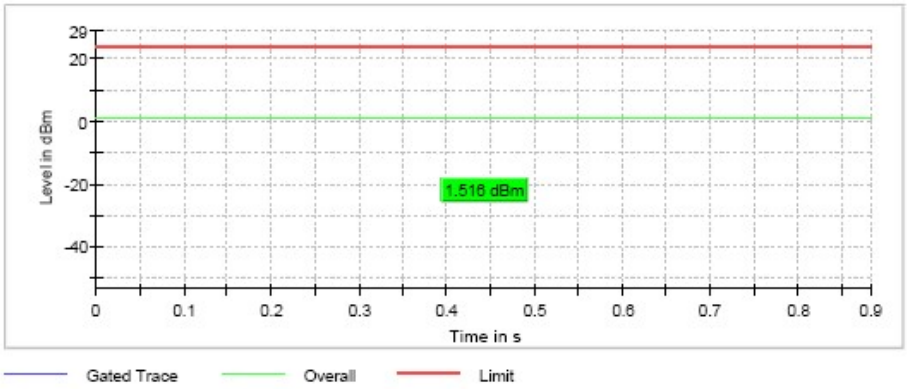
Maximum declared antenna gain: -2.5 dBi

	Lowest frequency 5270 MHz	Highest frequency 5310 MHz
Maximum conducted power (dBm)	1.5	1.6
Maximum EIRP power (dBm)	-1.0	-0.9
Measurement uncertainty (dB)	<±0.78	

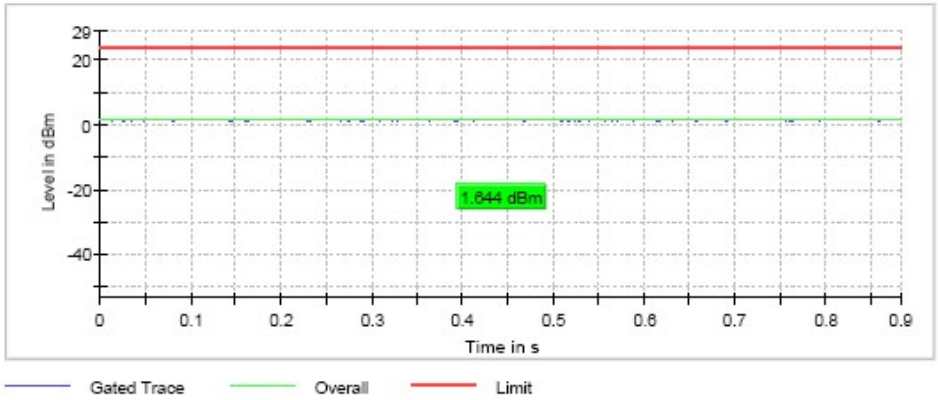
The maximum directional gain of the antenna is less than 6 dBi and therefore the maximum output power is not required to be reduced from the stated values.

TEST RESULTS (Cont.):	CONDUCTED OUTPUT POWER

Lowest Channel



Highest Channel



TEST RESULTS	ac mode (80 MHz)

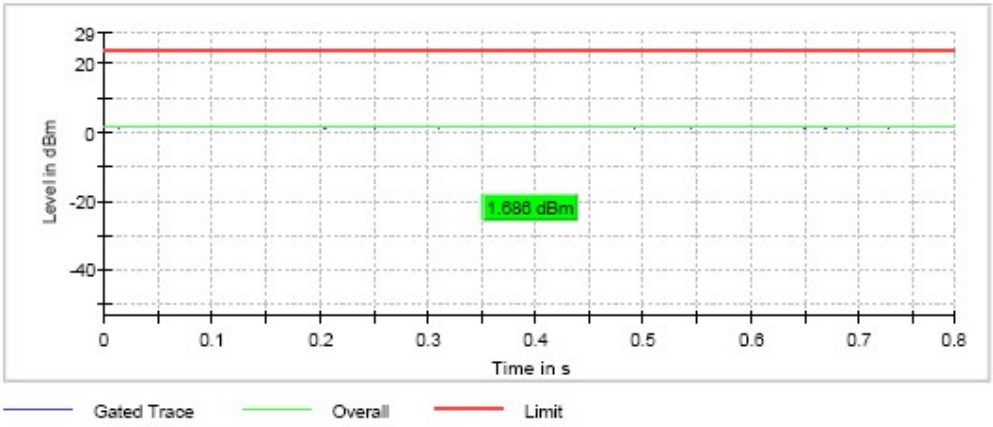
Maximum declared antenna gain: -2.5 dBi

	Lowest frequency 5290 MHz
Maximum conducted power (dBm)	1.7
Maximum EIRP power (dBm)	-0.8
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 C.3: POWER SPECTRAL DENSITY

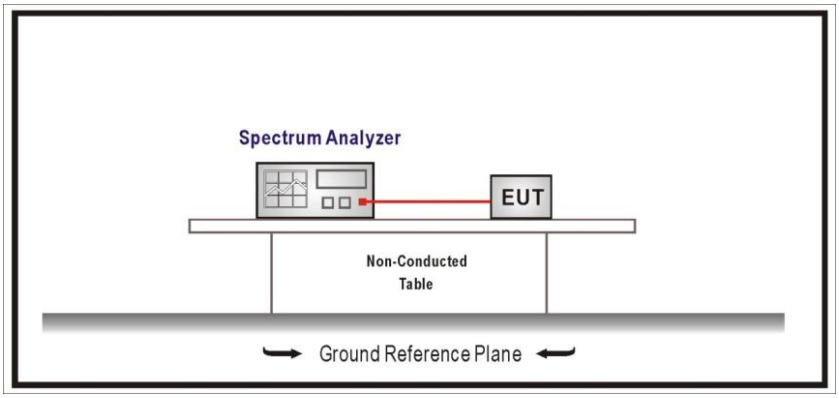
LIMITS:	Product standard:	Part 15 Subpart C §15.407 and RSS-247
	Test standard:	Part 15 Subpart C §15.407(a) (1) (5) and RSS-247 6.2.1.1

LIMITS

In the band 5.15-5.25 GHz, the maximum conducted output power over the frequency band of operation shall not exceed 1 W provided the maximum antenna gain does not exceed 6 dBi. In addition, the maximum power spectral density shall not exceed 17 dBm in any 1 megahertz band. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

TEST SETUP	

For all modes, the maximum power spectral density level in the fundamental emission was measured using the method according to point F) (Method SA-1) of Guidance 789033 D02 General UNII Test Procedures New Rules v01.



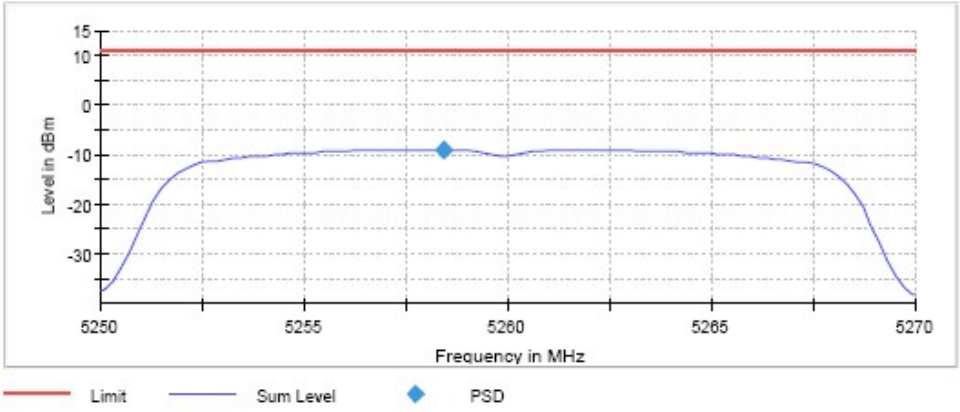
TESTED SAMPLES:	S/01
TESTED CONDITIONS MODES:	TC#01 **(a mode)**
TEST RESULTS:	PASS

Bandwidth: 20 MHz

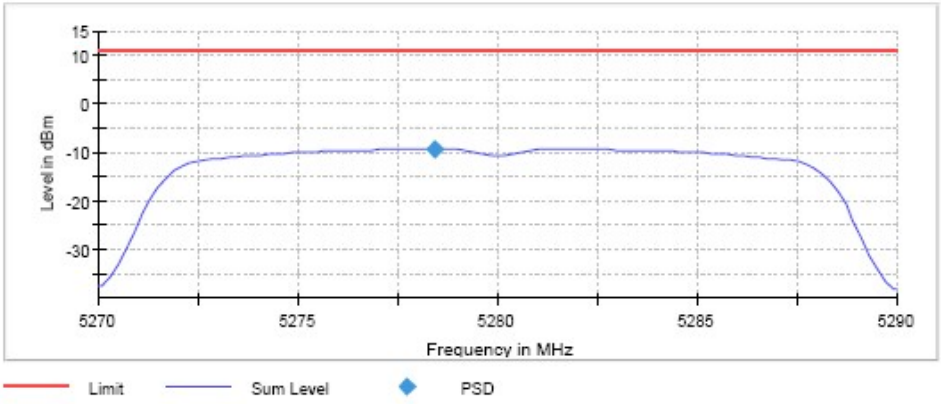
	Lowest frequency 5260 MHz	Middle frequency 5280 MHz	Highest frequency 5320 MHz
Power spectral density (dBm)	-8.954	-9.396	-9.441
Measurement uncertainty (dB)	<±0.78		

TEST RESULTS (Cont.):	

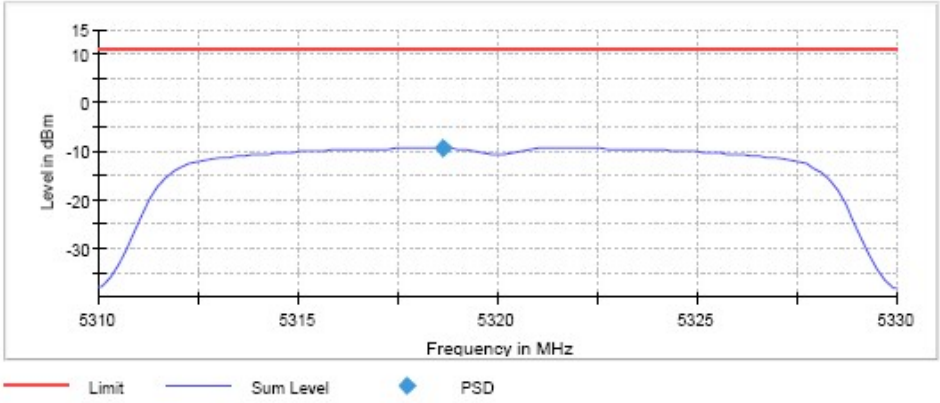
Low Channel



Middle Channel



High Channel



TEST RESULTS (Cont.):	

Measurement

Setting	Instrument Value	Instrument Value	Instrument Value
Start Frequency	5.25000 GHz	5.27000	5.31000
Stop Frequency	5.2000 GHz	5.29000	5.33000
Span	20.000 MHz	20.000 MHz	20.000
RBW	1.000 MHz	1.000 MHz	1.000 MHz
VBW	3.000 MHz	3.000 MHz	3.000 MHz
SweepPoints	101	101	101
Sweeptime	2.020 s	2.020 s	2.020 s
Reference Level	0.000 dBm	0.000 dBm	0.000 dBm
Attenuation	20.000 dB	20.000 dB	20.000 dB
Detector	RMS	RMS	RMS
SweepCount	3	3	3
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	0.30 dB	0.30 dB	0.30 dB
Run	4 / max. 150	4 / max.	4 / max.
Stable	3 / 3	3 / 3	3 / 3
Max Stable	0.02 dB	0.05 dB	0.02 dB

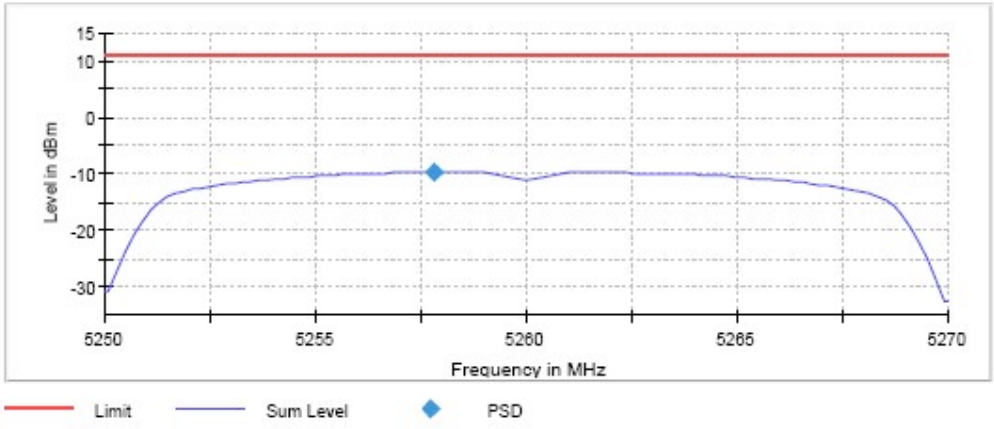
TESTED SAMPLES:	S/01
TESTED CONDITIONS MODES:	TC#02 (n mode)
TEST RESULTS:	PASS

Bandwidth: 20 MHz

	Lowest frequency 5260 MHz	Middle frequency 5280 MHz	Highest frequency 5320 MHz
Power spectral density (dBm)	-9.717	-10.101	-10.042
Measurement uncertainty (dB)	<±0.78		

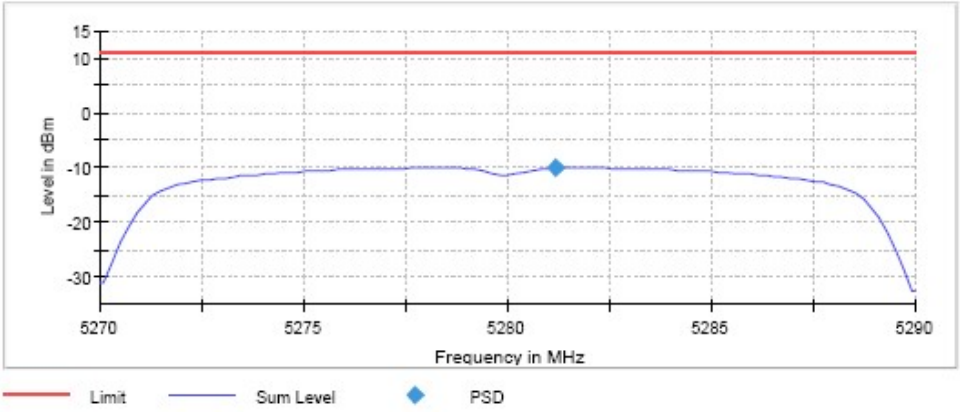
TEST RESULTS (Cont.):	

Low Channel

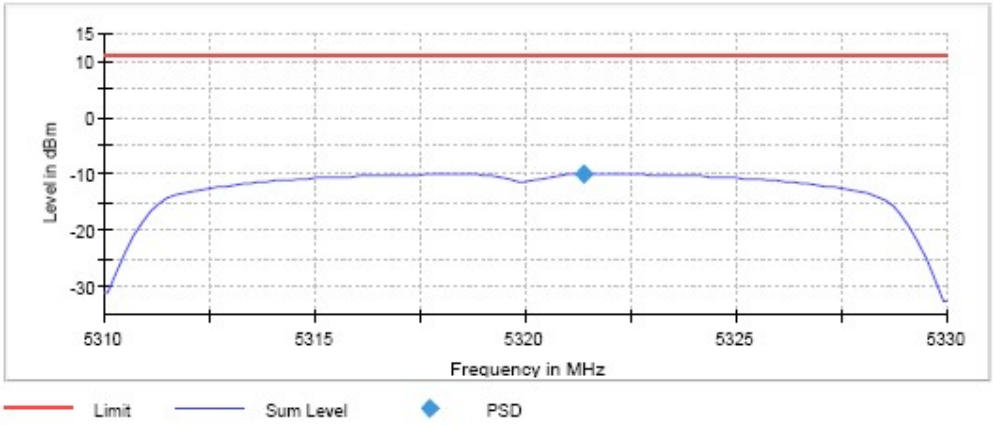


TEST RESULTS (Cont.):	

Middle Channel



High Channel



TEST RESULTS (Cont.):	

Measurement

Setting	Instrument Value	Instrument Value	Instrument Value
Start Frequency	5.25000	5.27000	5.31000
Stop Frequency	5.2000	5.29000	5.33000
Span	20.000 MHz	20.000 MHz	20.000 MHz
RBW	1.000 MHz	1.000 MHz	1.000 MHz
VBW	3.000 MHz	3.000 MHz	3.000 MHz
SweepPoints	101	101	101
Sweeptime	2.020 s	2.020 s	2.020 s
Reference Level	0.000 dBm	0.000 dBm	0.000 dBm
Attenuation	20.000 dB	20.000 dB	20.000 dB
Detector	RMS	RMS	RMS
SweepCount	3	3	3
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	0.30 dB	0.30 dB	0.30 dB
Run	4 / max. 150	4 / max. 150	4 / max. 150
Stable	3 / 3	3 / 3	3 / 3
Max Stable Difference	0.02 dB	0.04 dB	0.05 dB

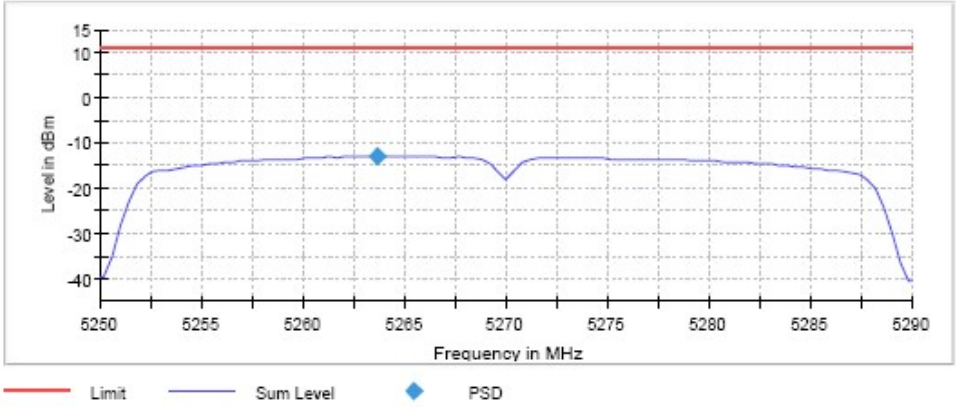
TEST RESULTS (Cont.):	n Mode

Bandwidth: 40 MHz

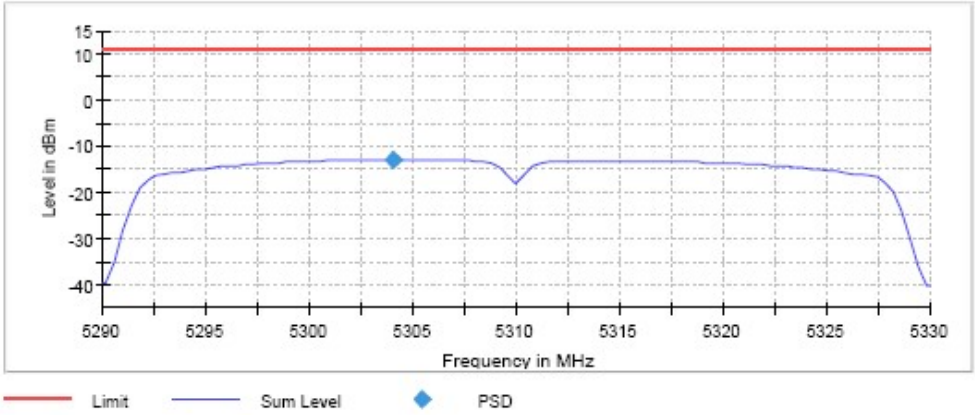
	Lowest frequency 5270 MHz	Highest frequency 5310 MHz
Power spectral density (dBm)	-13.007	-12.949
Measurement uncertainty (dB)	<±0.78	

TEST RESULTS (Cont.):	

Lowest Channel



Highest Channel



TEST RESULTS (Cont.):	

Measurement

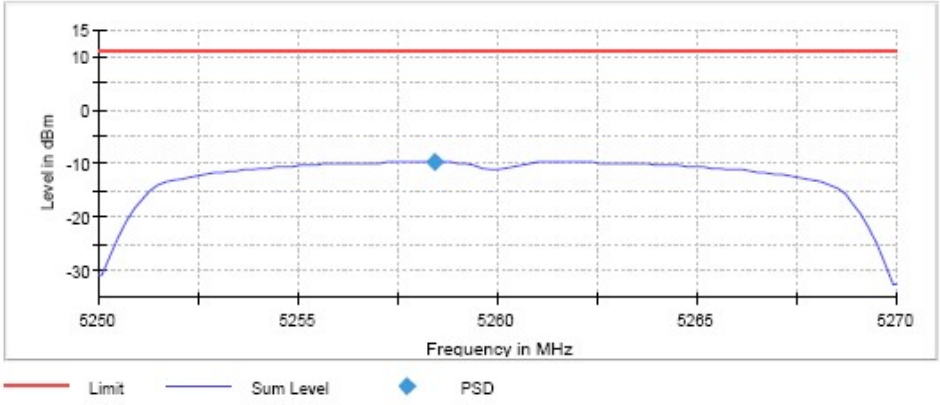
Setting	Instrument Value	Instrument Value
Start Frequency	5.25000	5.29000
Stop Frequency	5.29000	5.33000
Span	40.000 MHz	40.000 MHz
RBW	1.000 MHz	1.000 MHz
VBW	3.000 MHz	3.000 MHz
SweepPoints	101	101
Sweeptime	2.020 s	2.020 s
Reference Level	0.000 dBm	0.000 dBm
Attenuation	20.000 dB	20.000 dB
Detector	RMS	RMS
SweepCount	3	3
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
Sweeptype	Sweep	Sweep
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.30 dB	0.30 dB
Run	4 / max. 150	4 / max. 150
Stable	3 / 3	3 / 3
Max Stable Difference	0.07 dB	0.04 dB

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

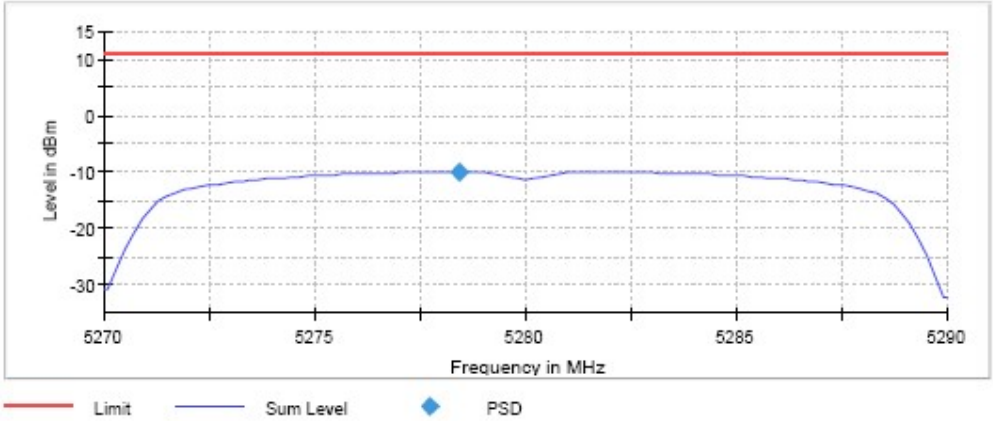
Bandwidth: 20 MHz

	Lowest frequency 5260 MHz	Middle frequency 5280 MHz	Highest frequency 5320 MHz
Power spectral density (dBm)	-9.745	-10.025	-9.979
Measurement uncertainty (dB)	<±0.78		

Lowest Channel

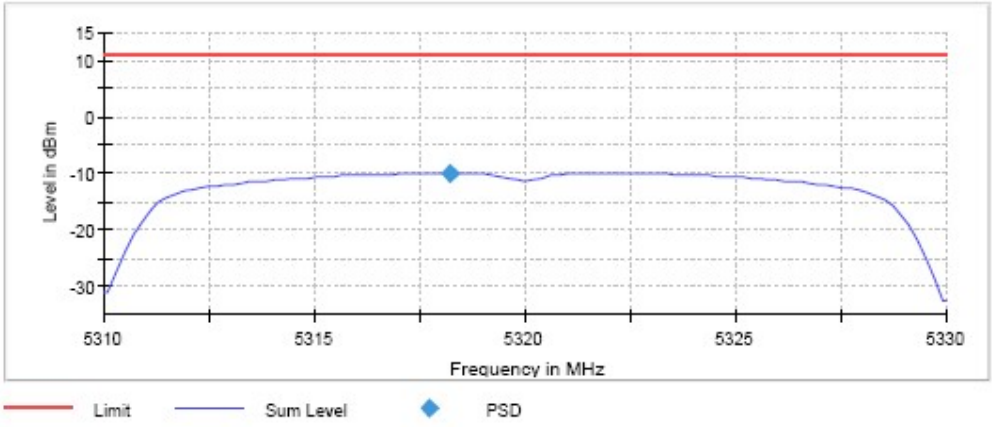


Middle Channel



TEST RESULTS (Cont.)	

Highest Channel



Measurement

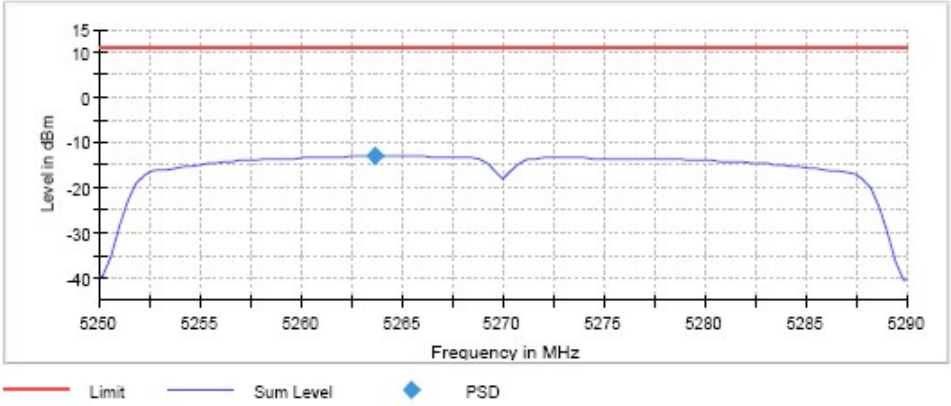
Setting	Instrument Value	Instrument Value	Instrument Value
Start Frequency	5.25000 GHz	5.27000 GHz	5.31000 GHz
Stop Frequency	5.27000 GHz	5.29000 GHz	5.33000 GHz
Span	20.000 MHz	20.000 MHz	20.000 MHz
RBW	1.000 MHz	1.000 MHz	1.000 MHz
VBW	3.000 MHz	3.000 MHz	3.000 MHz
SweepPoints	101	101	101
Sweeptime	2.020 s	2.020 s	2.020 s
Reference Level	0.000 dBm	0.000 dBm	0.000 dBm
Attenuation	20.000 dB	20.000 dB	20.000 dB
Detector	RMS	RMS	RMS
SweepCount	3	3	3
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	0.30 dB	0.30 dB	0.30 dB
Run	4 / max. 150	4 / max. 150	4 / max. 150
Stable	3 / 3	3 / 3	3 / 3
Max Stable Difference	0.03 dB	0.03 dB	0.03 dB

TEST RESULTS	ac Mode (40 MHz)

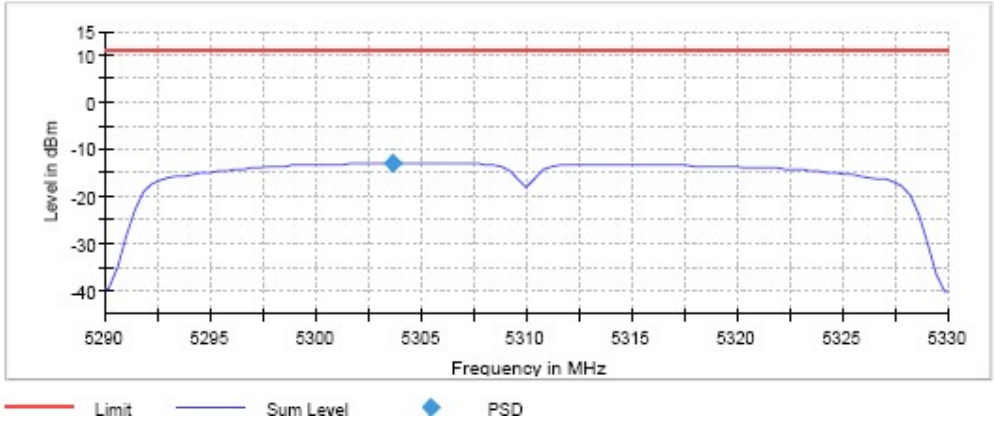
	Lowest frequency 5270 MHz	Highest frequency 5310 MHz
Power spectral density (dBm)	-13.000	-12.984
Measurement uncertainty (dB)	<±0.78	

TEST RESULTS (Cont.):

Lowest Channel



Highest Channel



TEST RESULTS (Cont.):	

Measurement

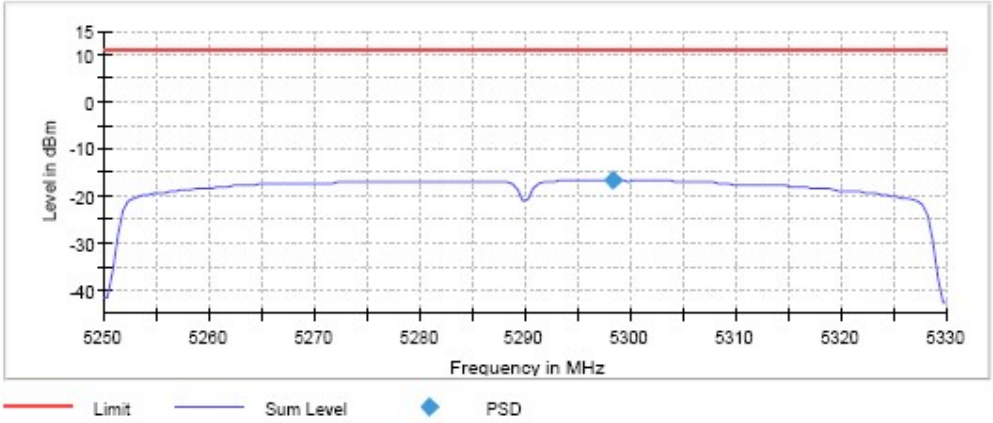
Setting	Instrument Value	Instrument Value
Start Frequency	5.25000	5.29000
Stop Frequency	5.29000	5.33000
Span	40.000 MHz	40.000 MHz
RBW	1.000 MHz	1.000 MHz
VBW	3.000 MHz	3.000 MHz
SweepPoints	101	101
Sweeptime	2.020 s	2.020 s
Reference Level	0.000 dBm	0.000 dBm
Attenuation	20.000 dB	20.000 dB
Detector	RMS	RMS
SweepCount	3	3
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
Sweeptype	Sweep	Sweep
Preamp	off	off
Stablemode	Trace	Trace
Stablevalue	0.30 dB	0.30 dB
Run	4 / max. 150	4 / max. 150
Stable	3 / 3	3 / 3
Max Stable Difference	0.03 dB	0.05 dB

TEST RESULTS	ac Mode (80 MHz)

	Lowest frequency 5290 MHz
Power spectral density (dBm)	-16.672
Measurement uncertainty (dB)	<±0.78

TEST RESULTS (Cont.):

Lowest Channel



Measurement

Setting	Instrument Value
Start Frequency	5.25000
Stop Frequency	5.33000
Span	80.000 MHz
RBW	1.000 MHz
VBW	3.000 MHz
SweepPoints	160
Sweeptime	3.200 s
Reference Level	0.000 dBm
Attenuation	20.000 dB
Detector	RMS
SweepCount	3
Filter	3 dB
Trace Mode	Max Hold
Sweeptype	Sweep
Preamp	off
Stablemode	Trace
Stablevalue	0.30 dB
Run	4 / max. 150
Stable	3 / 3
Max Stable Difference	0.11 dB

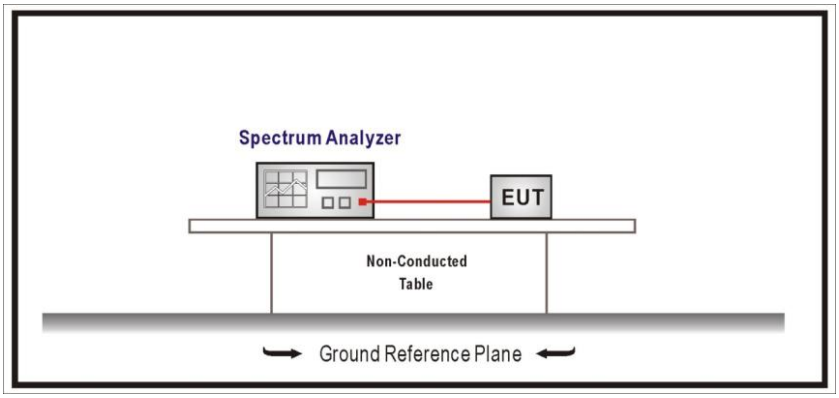
TEST C.4: BAND-EDGE EMISSIONS COMPLIANCE (TRANSMITTER)

LIMITS:	Product standard:	Part 15 Subpart C §15.407 and RSS-247
	Test standard:	Part 15 Subpart C §15.407(b)(1) and RSS-247 6.2.1.2

LIMITS

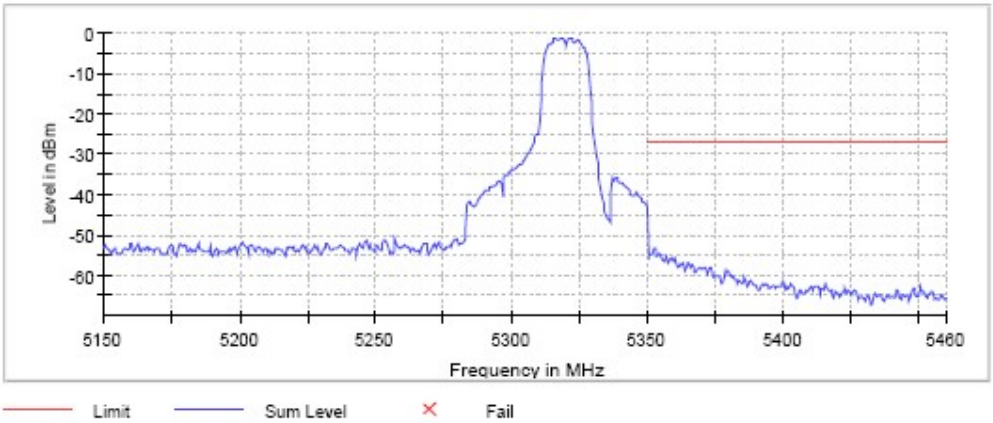
For transmitters operating in the 5.25 – 5.35 GHz band: all emissions outside the frequency band shall not exceed an EIRP of -27 dBm /MHz

TEST SETUP	



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

Highest Channel



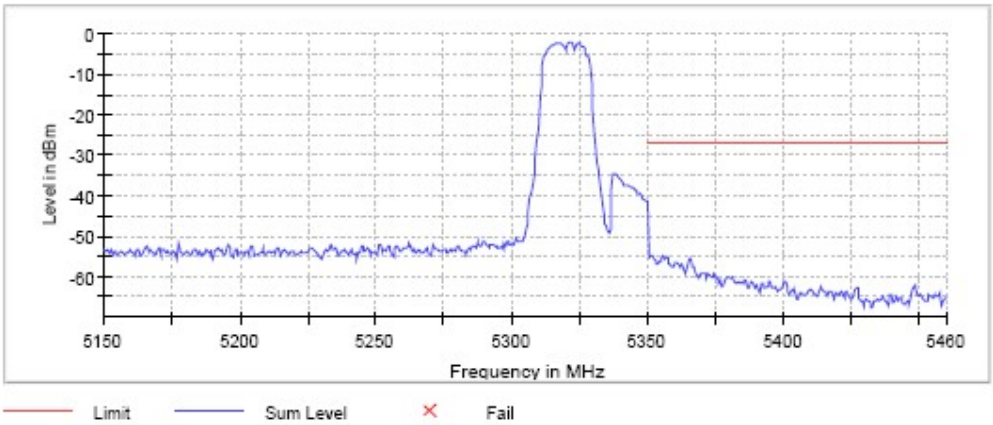
Measurement

Setting	Instrument Value	Instrument Value
Start Frequency	5.15000 GHz	5.35000 GHz
Stop Frequency	5.35000 GHz	5.46000 GHz
Span	200.000 MHz	110.000 MHz
RBW	1.000 MHz	1.000 MHz
VBW	3.000 MHz	3.000 MHz
SweepPoints	400	220
Sweeptime	28.594 us	15.250 us
Reference Level	0.000 dBm	-20.000 dBm
Attenuation	20.000 dB	0.000 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	24 / 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#02 (n mode)
TEST RESULTS:	PASS

Bandwidth: 20 MHz

Highest Channel

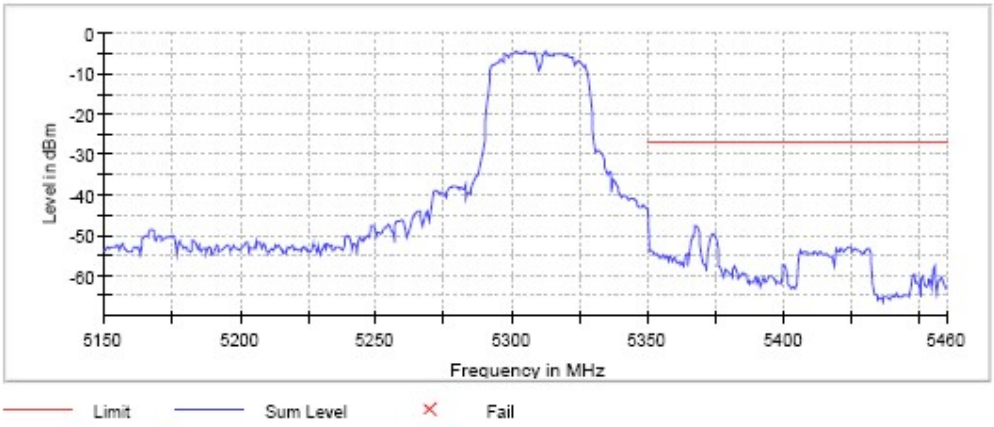


Measurement

Setting	Instrument Value	Instrument Value
Start Frequency	5.15000 GHz	5.35000 GHz
Stop Frequency	5.35000 GHz	5.46000 GHz
Span	200.000 MHz	110.000 MHz
RBW	1.000 MHz	1.000 MHz
VBW	3.000 MHz	3.000 MHz
SweepPoints	400	220
Sweeptime	28.594 µs	15.250 µs
Reference Level	0.000 dBm	-20.000 dBm
Attenuation	20.000 dB	0.000 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	15 / max. 150	4 / max. 150
Stable	3 / 3	3 / 3
Max Stable	0.25 dB	0.00 dB

TEST RESULTS (Cont.):	N mode (40 MHz)

Highest Channel



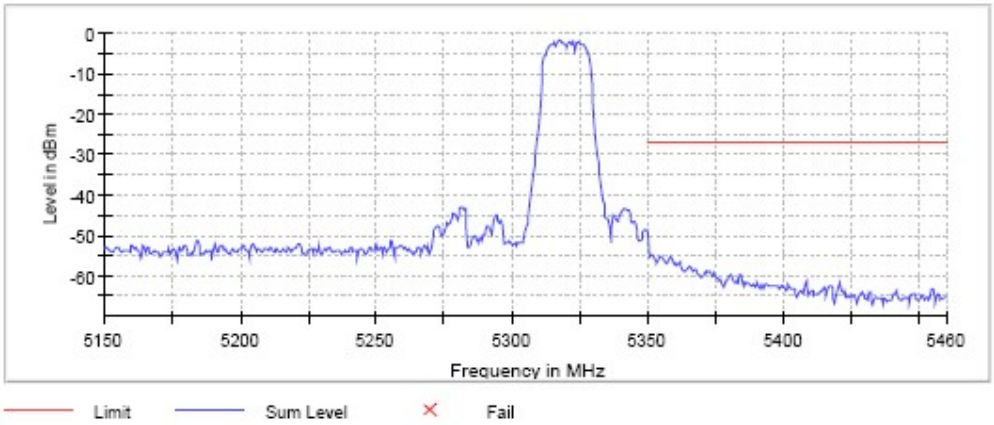
Measurement

Setting	Instrument Value	Instrument Value
Start Frequency	5.15000 GHz	5.35000 GHz
Stop Frequency	5.35000 GHz	5.46000 GHz
Span	200.000 MHz	110.000 MHz
RBW	1.000 MHz	1.000 MHz
VBW	3.000 MHz	3.000 MHz
SweepPoints	400	220
Sweeptime	28.594 us	15.250 us
Reference Level	0.000 dBm	-20.000 dBm
Attenuation	20.000 dB	0.000 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	40 / max. 150	6 / max. 150
Stable	3 / 3	3 / 3
Max Stable	0.00 dB	0.00 dB

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

Bandwidth: 20 MHz

Highest Channel

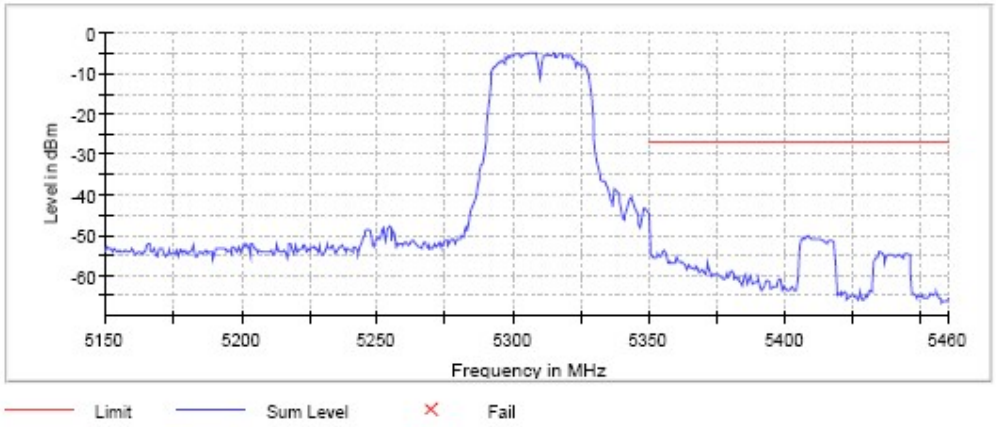


Measurement

Setting	Instrument Value	Instrument Value
Start Frequency	5.15000 GHz	5.35000 GHz
Stop Frequency	5.35000 GHz	5.46000 GHz
Span	200.000 MHz	110.000 MHz
RBW	1.000 MHz	1.000 MHz
VBW	3.000 MHz	3.000 MHz
SweepPoints	400	220
Sweeptime	28.594 us	15.250 us
Reference Level	0.000 dBm	-20.000 dBm
Attenuation	20.000 dB	0.000 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	19 / max. 150	4 / max. 150
Stable	3 / 3	3 / 3
Max Stable	0.00 dB	0.00 dB

TEST RESULTS (Cont.):	ac mode (40 MHz)

Highest Channel

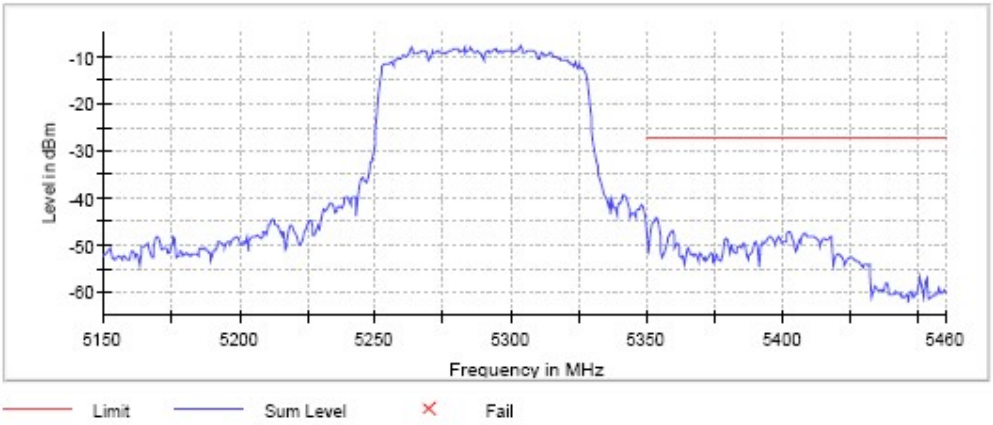


Measurement

Setting	Instrument Value	Instrument Value
Start Frequency	5.15000 GHz	5.35000 GHz
Stop Frequency	5.35000 GHz	5.46000 GHz
Span	200.000 MHz	110.000 MHz
RBW	1.000 MHz	1.000 MHz
VBW	3.000 MHz	3.000 MHz
SweepPoints	400	220
Sweeptime	28.594 us	15.250 us
Reference Level	0.000 dBm	-10.000 dBm
Attenuation	20.000 dB	10.000 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	4 / max. 150
Stable	3 / 3	3 / 3
Max Stable	0.45 dB	0.00 dB

TEST RESULTS (Cont.):	ac mode (80 MHz)

Highest Channel



Measurement

Setting	Instrument Value	Instrument Value
Start Frequency	5.15000 GHz	5.35000 GHz
Stop Frequency	5.35000 GHz	5.46000 GHz
Span	200.000 MHz	110.000 MHz
RBW	1.000 MHz	1.000 MHz
VBW	3.000 MHz	3.000 MHz
SweepPoints	400	220
Sweeptime	28.594 us	15.250 us
Reference Level	0.000 dBm	-20.000 dBm
Attenuation	20.000 dB	0.000 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	42 / max. 150	15 / max. 150
Stable	3 / 3	3 / 3
Max Stable	0.11 dB	0.00 dB

TEST C.5: UNDESIRABLE RADIATED EMISSIONS (TRANSMITTER)

LIMITS:	Product standard:	Part 15 Subpart C §15.407 and RSS-247
	Test standard:	Part 15 Subpart C §15.407(b) (1)(6)(7) and RSS-247 6.2.1.2

LIMITS

For transmitters operating in the 5.15 – 5.25 GHz band: all emissions outside of the 5.15 – 5.25 GHz band shall not exceed an EIRP of -27 dBm/MHz (68.23 dBµ V/m at 3m distance).

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

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.

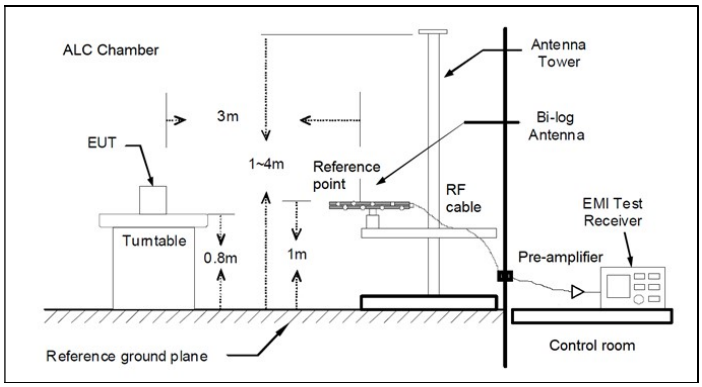
The equipment under test was set up on a non-conductive platform above the ground plane and the situation and orientation was varied to find the maximum radiated emission. It was also rotated 360º and the antenna height was varied from 1 to 4 meters to find the maximum radiated emission.

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

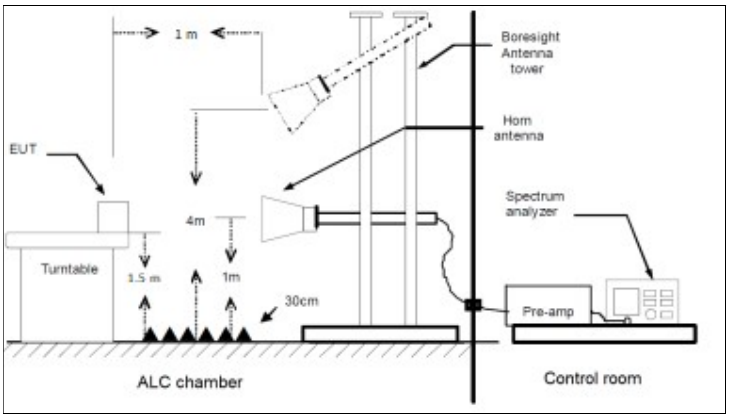
The field strength is calculated by adding correction factor to the measured level from the spectrum analyzer. This correction factor includes antenna factor, cable loss and pre-amplifiers gain.

TEST SETUP (CONT.)	

Radiated measurements Setup f < 1 GHz



Radiated measurements setup f > 1 GHz



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

For spurious emissions for OFDM modes 802.11a, 802.11n20/40 and 802.11ac20/40/80 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: MCS0 for 802.11n20

Frequency range 30 MHz – 1000 MHz

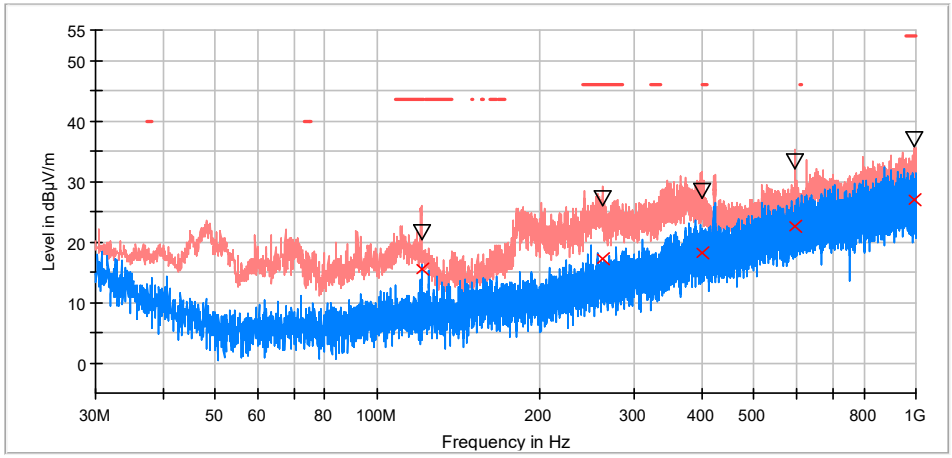
The spurious emissions below 1 GHz do not depend on the operating channel selected in the EUT. The results in the next tables and plots show the maximum measured levels in the 30 MHz – 1000 MHz range

Frequency range 1 GHz – 40 GHz

The results in the next tables and plots show the maximum measured levels in the 1-40 GHz range including the restricted bands 4.5-5.15 GHz and 5.35-5.46 GHz (see next plots).

FREQUENCY RANGE	30 MHz – 1000 MHz

RF_FCC_15.407_E Field_30MHz_1GHz

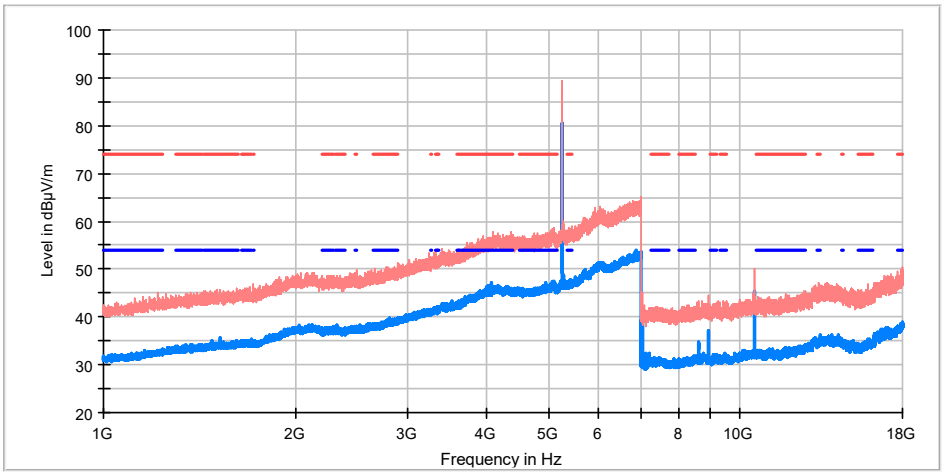


PK+_MAXH
PK+_CLRWR
TX limits to Spurious Emission FCC15.407 (30MHz to 1GHz) Restricted Bands QPK Limit
MaxPeak-PK+ (Single)
QuasiPeak-QPK (Single)

Frequency (MHz)	MaxPeak (dBµV/m)	QuasiPeak (dBµV/m)
596.383000	33.2	22.5
262.703000	27.2	17.2
400.831000	28.3	18.1
120.695000	21.7	15.4
996.265500	37.0	26.9

TEST RESULTS (Cont.)	n mode (20 MHz)
FREQUENCY RANGE	1 GHz – 18 GHz

Low Channel



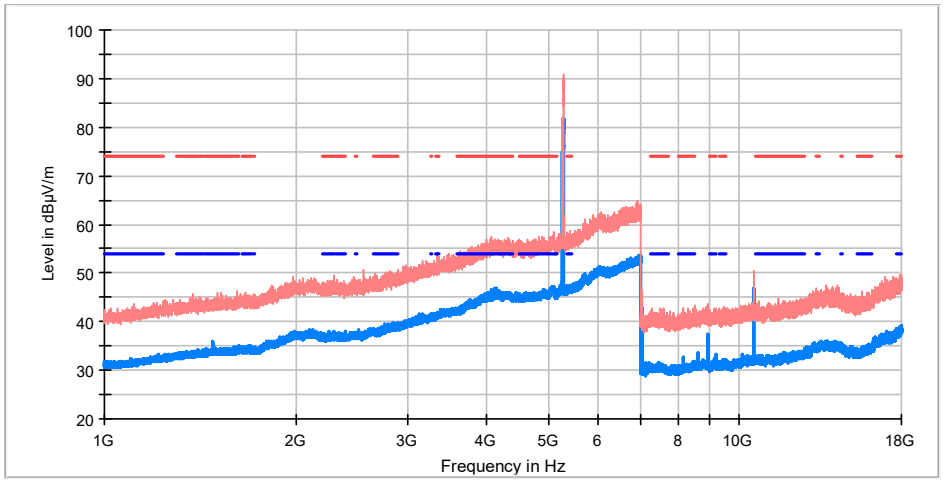
AVG_MAXH
PK+_MAXH
TX limits to Spurious Emission FCC15.407 (1GHz to 40 GHz) Restricted Bands PK Limit
TX limits to Spurious Emission FCC15.407 (1GHz to 40 GHz) Restricted Bands AVG Limit

Maximizations

Frequency (MHz)	PK+_MAXH (dBµV/m)	AVG_MAXH (dBµV/m)	Pol	Comments
5258.636364	86.96	80.62	V	Fundamental
8909.500000	44.55	37.07	V	
10520.000000	48.97	45.33	V	

TEST RESULTS (Cont.)	

Middle Channel



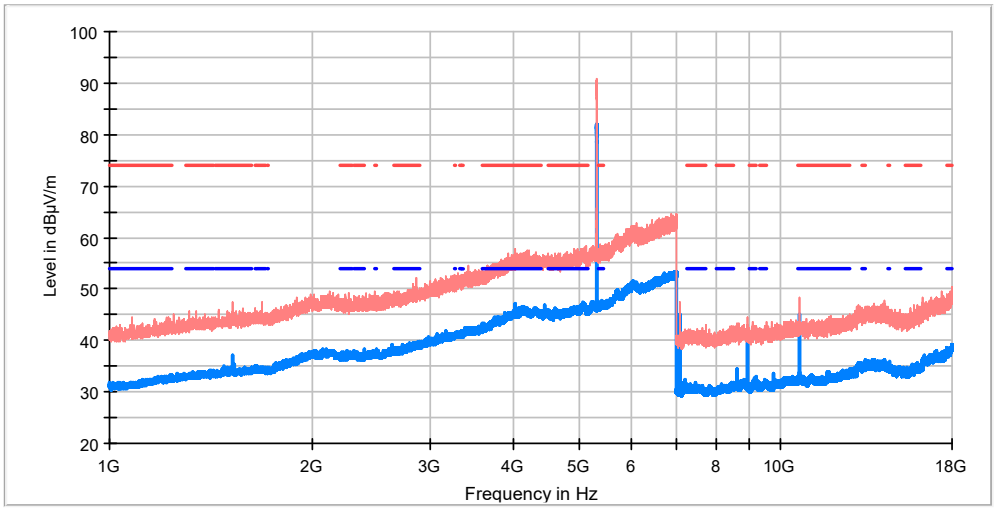
AVG_MAXH
PK+_MAXH
TX limits to Spurious Emission FCC15.407 (1GHz to 40 GHz) Restricted Bands PK Limit
TX limits to Spurious Emission FCC15.407 (1GHz to 40 GHz) Restricted Bands AVG Limit

Maximizations

Frequency (MHz)	PK+_MAXH (dBµV/m)	AVG_MAXH (dBµV/m)	Pol	Comments
5284.000000	90.87	81.63	V	Fundamental
8909.500000	43.61	37.31	V	
10560.000000	50.32	46.77	V	

TEST RESULTS (Cont.)	

High Channel



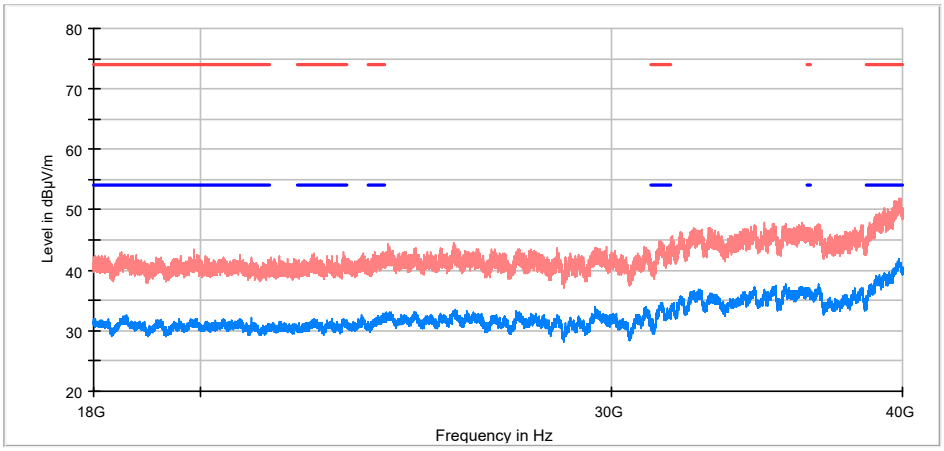
AVG_MAXH
PK+_MAXH
TX limits to Spurious Emission FCC15.407 (1GHz to 40 GHz) Restricted Bands PK Limit
TX limits to Spurious Emission FCC15.407 (1GHz to 40 GHz) Restricted Bands AVG Limit

Maximizations

Frequency (MHz)	PK+_MAXH (dBµV/m)	AVG_MAXH (dBµV/m)	Pol	Comments
5323.545455	90.73	81.54	V	Fundamental
7093.000000	47.44	45.21	V	
8863.500000	39.91	31.46	V	
10640.000000	48.20	44.98	V	

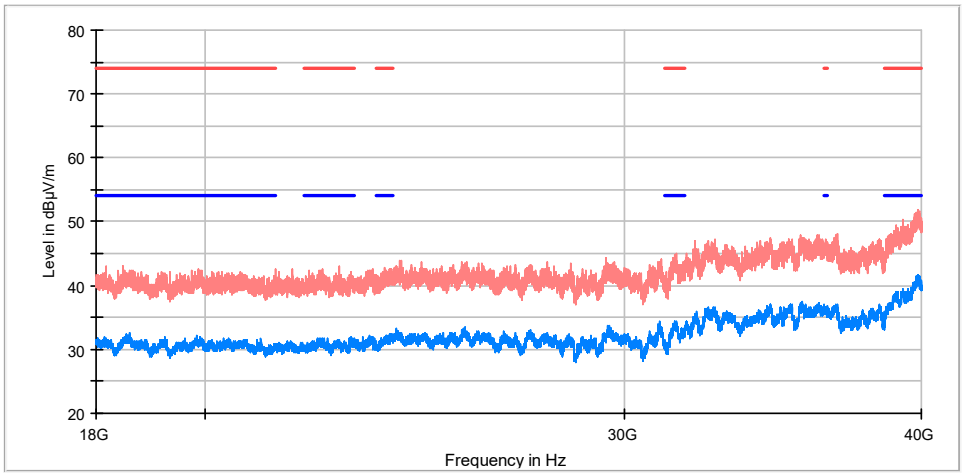
TEST RESULTS (Cont.)	
FREQUENCY RANGE	18 GHz – 40 GHz

Low Channel



AVG_MAXH
PK+_MAXH
TX limits to Spurious Emission FCC15.407 (1GHz to 40 GHz) Restricted Bands PK Limit
TX limits to Spurious Emission FCC15.407 (1GHz to 40 GHz) Restricted Bands AVG Limit

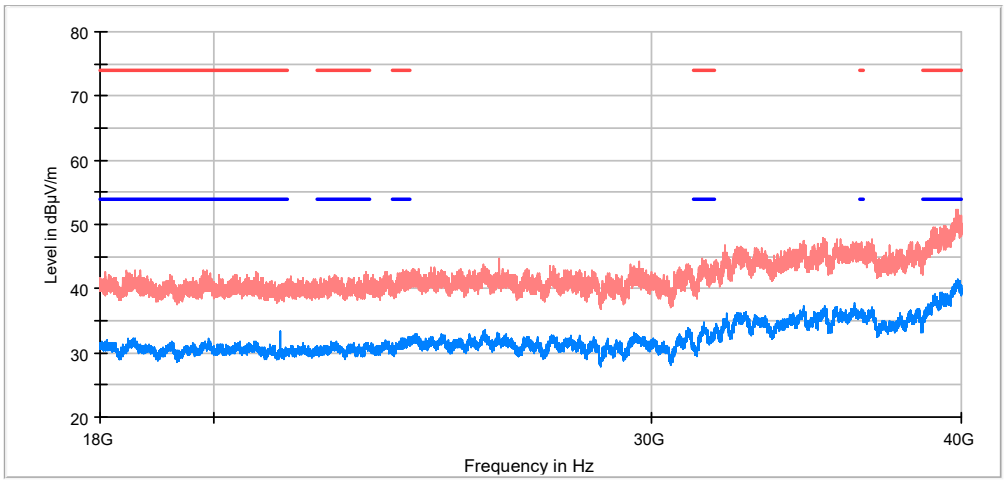
Middle Channel



AVG_MAXH
PK+_MAXH
TX limits to Spurious Emission FCC15.407 (1GHz to 40 GHz) Restricted Bands PK Limit
TX limits to Spurious Emission FCC15.407 (1GHz to 40 GHz) Restricted Bands AVG Limit

TEST RESULTS (Cont.)	

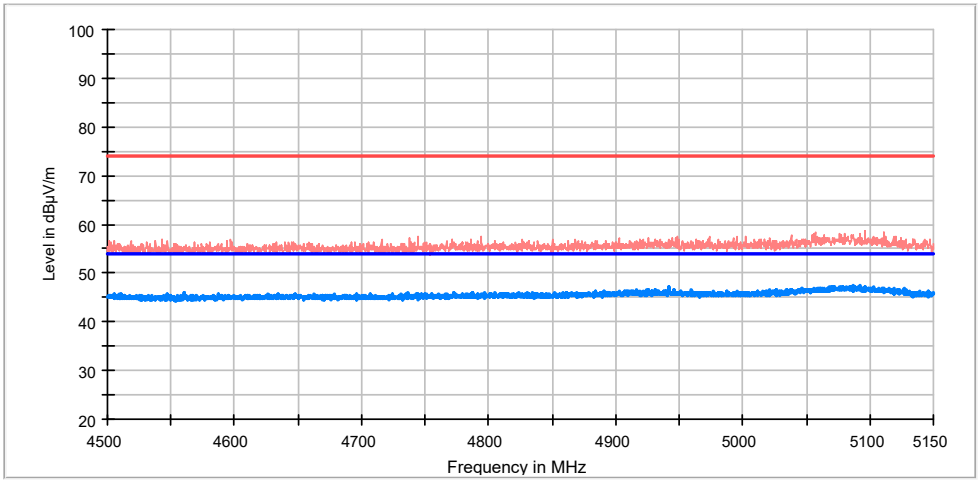
High Channel



AVG_MAXH
PK+_MAXH
TX limits to Spurious Emission FCC15.407 (1GHz to 40 GHz) Restricted Bands PK Limit
TX limits to Spurious Emission FCC15.407 (1GHz to 40 GHz) Restricted Bands AVG Limit
AVG_MAXH(1)@RE0116_HR_18GHz-40GHz_High Channel

RESTRICTED BANDS	4.5 GHz – 5.15 GHz

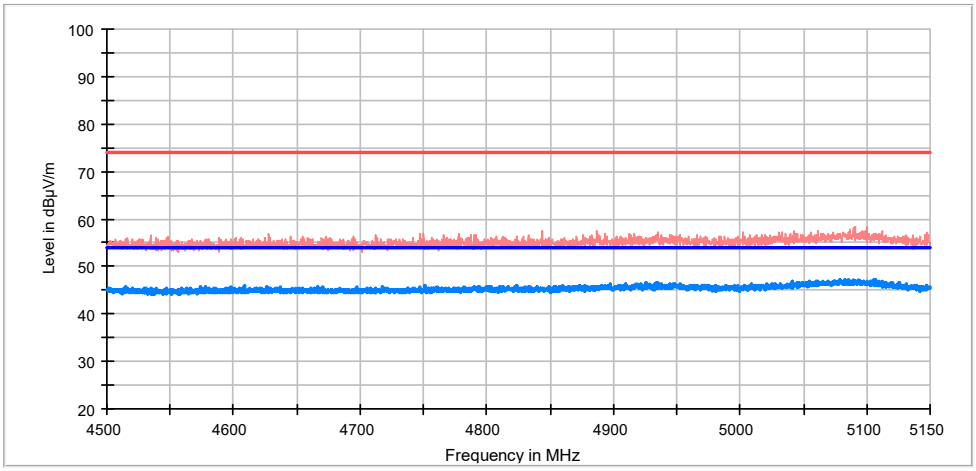
Low Channel



AVG_MAXH
PK+_MAXH
TX limits to Spurious Emission FCC15.407 (1GHz to 40 GHz) Restricted Bands PK Limit
TX limits to Spurious Emission FCC15.407 (1GHz to 40 GHz) Restricted Bands AVG Limit

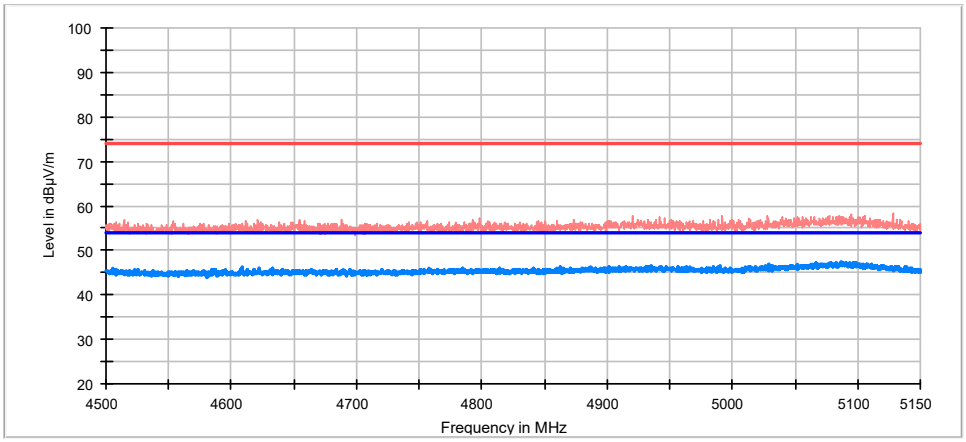
TEST RESULTS (Cont.)	

Middle Channel



AVG_MAXH
PK+_MAXH
TX limits to Spurious Emission FCC15.407 (1GHz to 40 GHz) Restricted Bands PK Limit
TX limits to Spurious Emission FCC15.407 (1GHz to 40 GHz) Restricted Bands AVG Limit

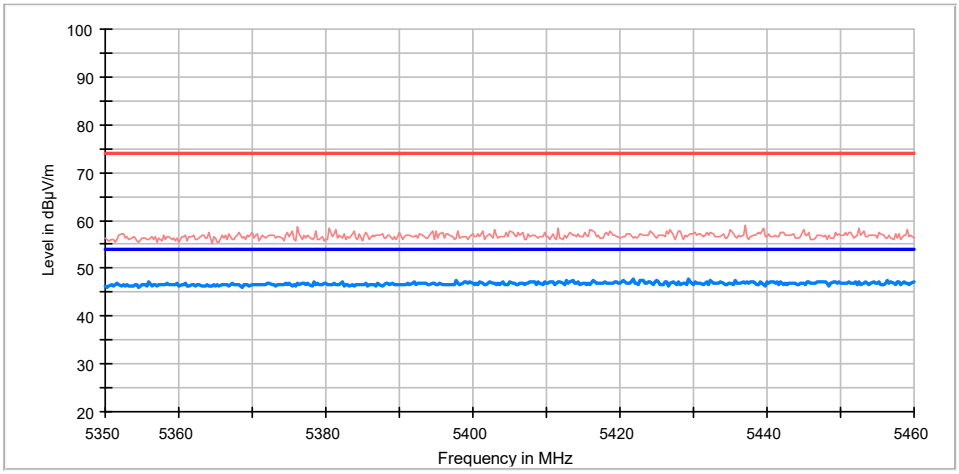
High Channel



AVG_MAXH
PK+_MAXH
TX limits to Spurious Emission FCC15.407 (1GHz to 40 GHz) Restricted Bands PK Limit
TX limits to Spurious Emission FCC15.407 (1GHz to 40 GHz) Restricted Bands AVG Limit

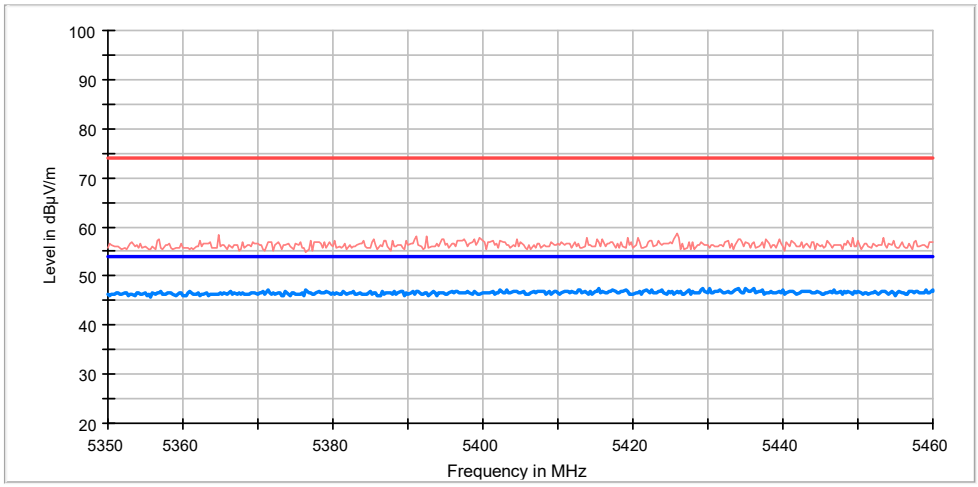
TEST RESULTS (Cont.)	
RESTRICTED BANDS	5.35 GHz – 5.46 GHz

Low Channel



AVG_MAXH
PK+_MAXH
TX limits to Spurious Emission FCC15.407 (1GHz to 40 GHz) Restricted Bands PK Limit
TX limits to Spurious Emission FCC15.407 (1GHz to 40 GHz) Restricted Bands AVG Limit

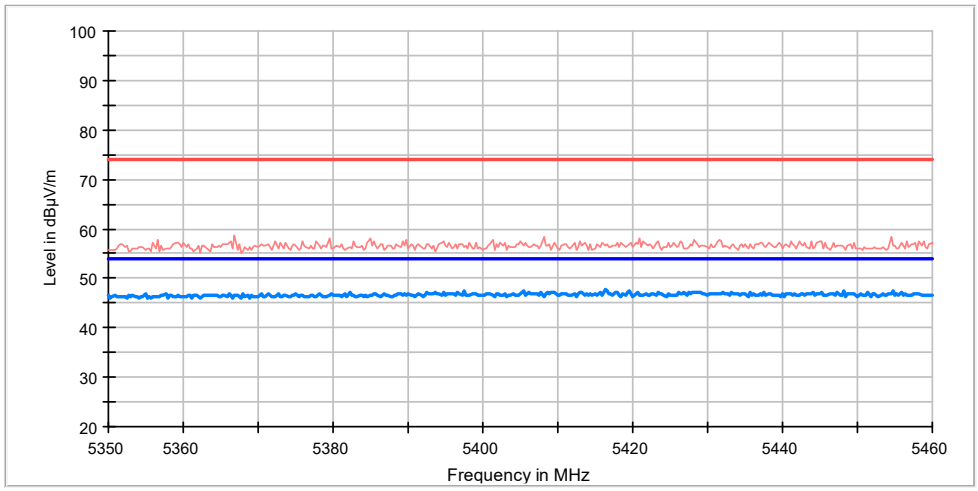
Middle Channel



AVG_MAXH
PK+_MAXH
TX limits to Spurious Emission FCC15.407 (1GHz to 40 GHz) Restricted Bands PK Limit
TX limits to Spurious Emission FCC15.407 (1GHz to 40 GHz) Restricted Bands AVG Limit

TEST RESULTS (Cont.)	

High Channel



AVG_MAXH
PK+_MAXH
TX limits to Spurious Emission FCC15.407 (1GHz to 40 GHz) Restricted Bands PK Limit
TX limits to Spurious Emission FCC15.407 (1GHz to 40 GHz) Restricted Bands AVG Limit

Appendix D: Test results
5.47 GHz – 5.725 GHz Band

Appendix D Content

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TEST D.6: UNDESIRABLE RADIATED EMISSIONS (TRANSMITTER) 249

DESCRIPTION OF TEST CONDITIONS

TEST CONDITIONS(1) (2)	DESCRIPTION
TC#01 **(a mode)**	Power supply (V): $V_{nominal}$ = 14.4 Vdc Test Frequencies **FCC** for Conducted/Radiated tests **(20 MHz)**: Lowest channel: 5500 MHz Middle channel: 5600 MHz Highest channel: 5720 MHz Test Frequencies **RSS** for Conducted/Radiated tests **(20 MHz)**: Lowest channel: 5500 MHz Middle channel: 5580 MHz Highest channel: 5720 MHz
TC#02 **(n mode)**	Power supply (V): $V_{nominal}$ = 14.4 Vdc Test Frequencies **FCC** for Conducted/Radiated tests **(20 MHz)**: Lowest channel: 5500 MHz Middle channel: 5600 MHz Highest channel: 5720 MHz Test Frequencies **RSS** for Conducted/Radiated tests **(20 MHz)**: Lowest channel: 5500 MHz Middle channel: 5580 MHz Highest channel: 5720 MHz Test Frequencies **FCC** for Conducted/Radiated tests **(40 MHz)**: Lowest channel: 5510 MHz Middle channel: 5590 MHz Highest channel: 5710 MHz Test Frequencies **RSS** for Conducted/Radiated tests **(40 MHz)**: Lowest channel: 5510 MHz Middle channel: 5550 MHz Highest channel: 5710 MHz

TC#03 **(ac mode)**	Power supply (V): $V_{nominal}$ = 14.4 Vdc Test Frequencies **FCC** for Conducted/Radiated tests **(20 MHz)**: Lowest channel: 5500 MHz Middle channel: 5600 MHz Highest channel: 5720 MHz Test Frequencies **RSS** for Conducted/Radiated tests **(20 MHz)**: Lowest channel: 5500 MHz Middle channel: 5580 MHz Highest channel: 5720 MHz Test Frequencies **FCC** for Conducted/Radiated tests **(40 MHz)**: Lowest channel: 5510 MHz Middle channel: 5590 MHz Highest channel: 5710 MHz Test Frequencies **RSS** for Conducted/Radiated tests **(40 MHz)**: Lowest channel: 5510 MHz Middle channel: 5550 MHz Highest channel: 5710 MHz Test Frequencies **FCC** for Radiated tests: **(80 MHz)** Lowest channel: 5530 MHz Middle channel: 5610 MHz Highest channel: 5690 MHz Test Frequencies **RSS** for Radiated tests: **(80 MHz)** Lowest channel: 5530 MHz Highest channel: 5690 MHz

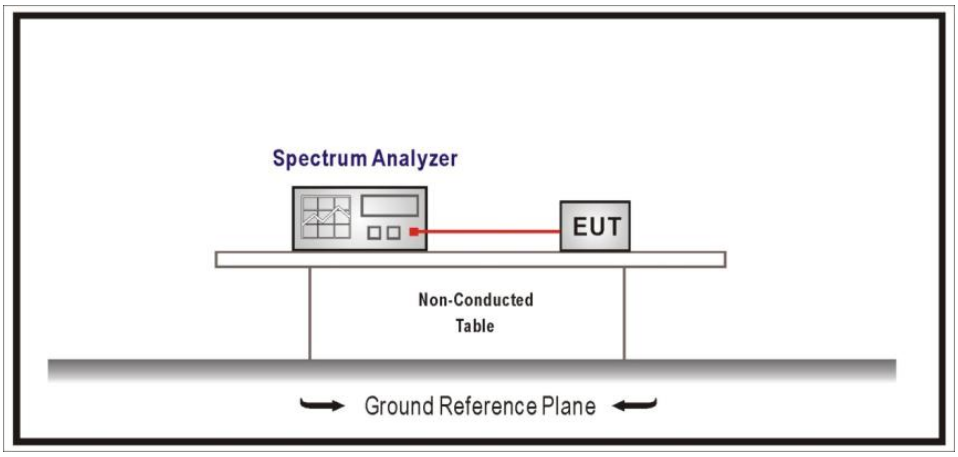
Note (1): For radiated spurious emissions for OFDM modes 802.11a, 802.11n20/40 and 802.11ac20/40/80 a preliminary scan was performed to determine the worst case.
Note (2): For radiated/conducted measurements, a preliminary scan was performed to determine the worst case. The data rates of 6Mb/s for 802.11a, MCS0 for 802.11n20/n40, and MCS8 for 802.11ac20/ac40/ac80 were selected based on preliminary testing that identified those rates corresponding to the worst cases.

TEST D.1: 26DB EMISSION BANDWIDTH AND OCCUPIED BANDWIDTH

LIMITS:	Product standard:	Part 15 Subpart C §15.403 and RSS-247
	Test standard:	Part 15 Subpart C §15.403 and RSS-247 6.2.1

No requirements requested

TEST SETUP:	



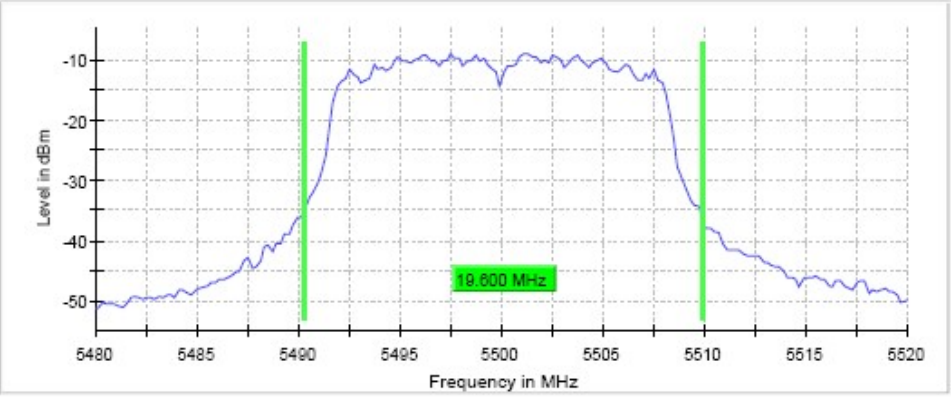
TESTED SAMPLES:	S/01
TESTED CONDITIONS MODES:	TC#01 **(a mode)**
TEST RESULTS:	PASS

Bandwidth: 20 MHz

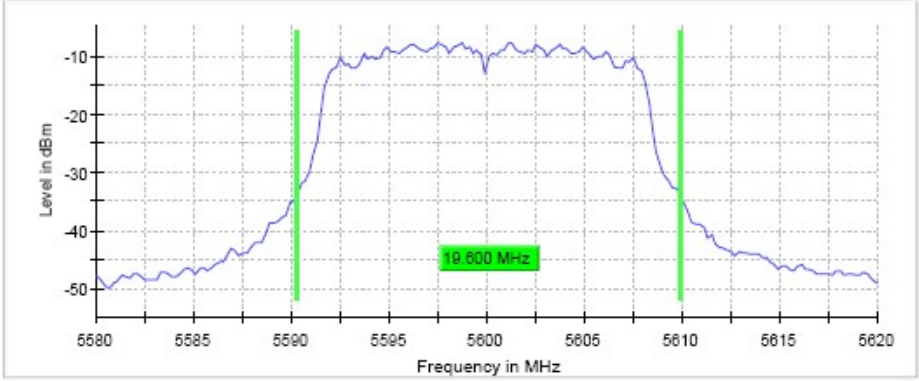
	Lowest frequency 5500 MHz	Middle frequency 5600 MHz	Highest frequency 5720 MHz
26dB Bandwidth (MHz)	19.6	19.6	20
Occupied bandwidth (MHz)	16.4	16.4	16.4
Measurement uncertainty (kHz)	<± 8.33		

TEST RESULTS (Cont.):	26 dB BANDWIDTH

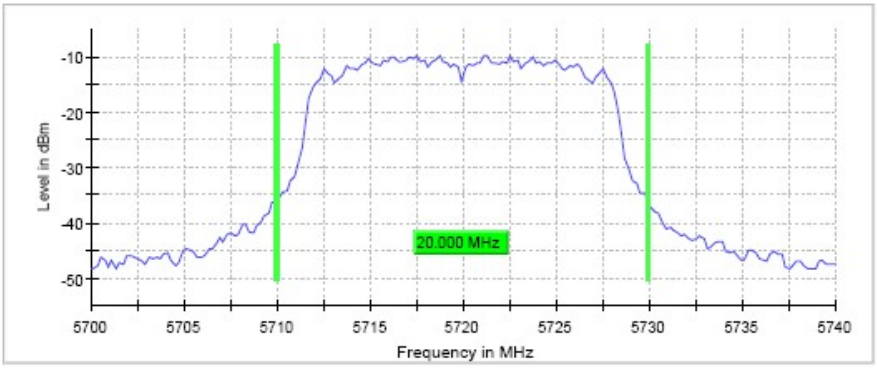
Lowest Channel



Middle Channel

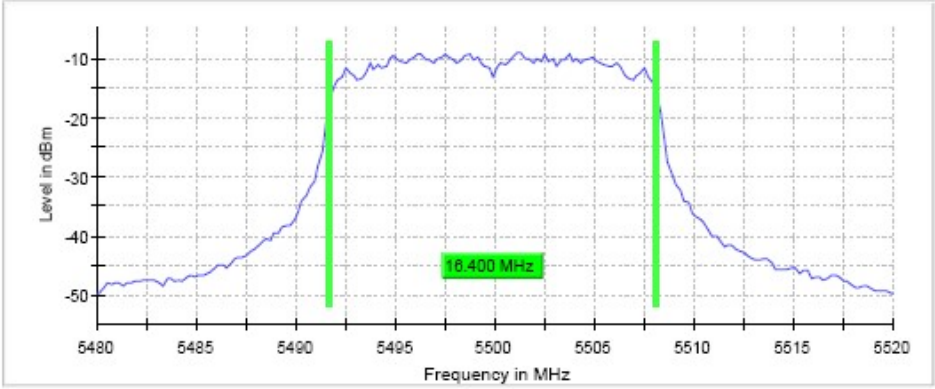


Highest Channel

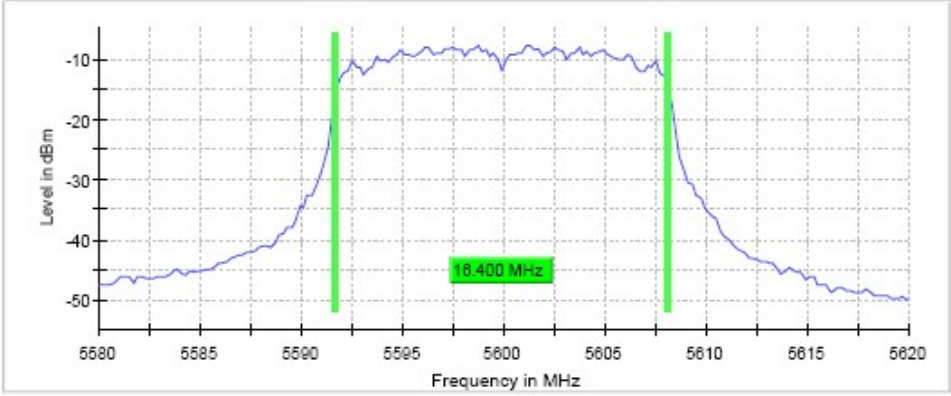


TEST RESULTS (Cont.):	OCCUPIED BANDWIDTH

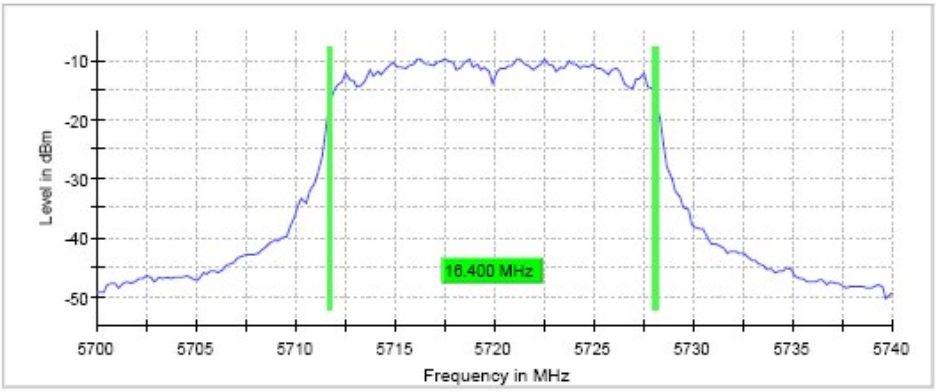
Lowest Channel



Middle Channel



Highest Channel



TEST RESULTS (Cont.)	

Measurement

Setting	Instrument Value	Instrument Value	Instrument Value
Start Frequency	5.48000 GHz	5.58000 GHz	5.70000 GHz
Stop Frequency	5.52000 GHz	5.62000 GHz	5.74000 GHz
Span	40.000 MHz	40.000 MHz	40.000 MHz
RBW	200.000 kHz	200.000 KHz	200.000 kHz
VBW	1.000 MHz	1.000 MHz	1.000 MHz
SweepPoints	200	200	200
Sweeptime	28.443 µs	28.443 µs	28.443 µs
Reference Level	0.000 dBm	0.000 dBm	10.000 dBm
Attenuation	20.000 dB	20.000 dB	30.000 dB
Detector	MaxPeak	MaxPeak	MaxPeak
SweepCount	200	200	200
Filter	3 dB	3 dB	3 dB
Trace Mode	Max Hold	Max Hold	Max Hold
Sweeptype	FFT	FFT	FFT
Preamp	off	off	off
Stablemode	Trace	Trace	Trace
Stablevalue	0.30 dB	0.30 dB	0.30 dB
Run	32 / max. 150	42 / max. 150	55 / max. 150
Stable	5 / 5	5 / 5	5 / 5
Max Stable Difference	0.14 dB	0.15 dB	0.00 dB

RSS CHANNEL	Middle Channel

Frequency: 5580 MHz

	Middle frequency 5580 MHz
26dB Bandwidth (MHz)	20.5
Occupied bandwidth (MHz)	17.2
Measurement uncertainty (kHz)	<± 8.33