

TESTED SAMPLES:	S/02
TESTED CONDITIONS MODES:	TC#03 (8DPSK)
TEST RESULTS:	PASS

Frequency range 30 MHz – 1000 MHz

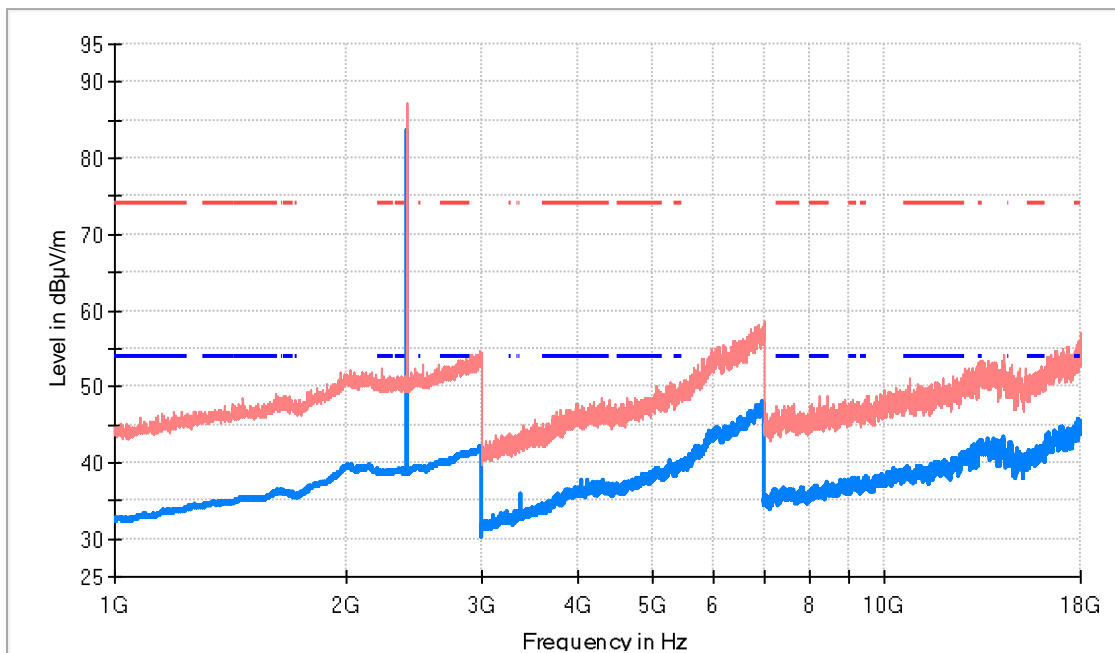
The spurious emissions below 1 GHz do not depend on the operating channel selected in the EUT. GFSK modulation was selected as a worst case.

Frequency range 1 GHz – 26 GHz

The results in the following plots and tables show the maximum measured levels in the 1-26 GHz range including the restricted bands 2.31-2.5 GHz.

TEST RESULTS (Cont.)	1 GHz – 18 GHz (8DPSK)
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CHANNEL: Lowest (2402 MHz)



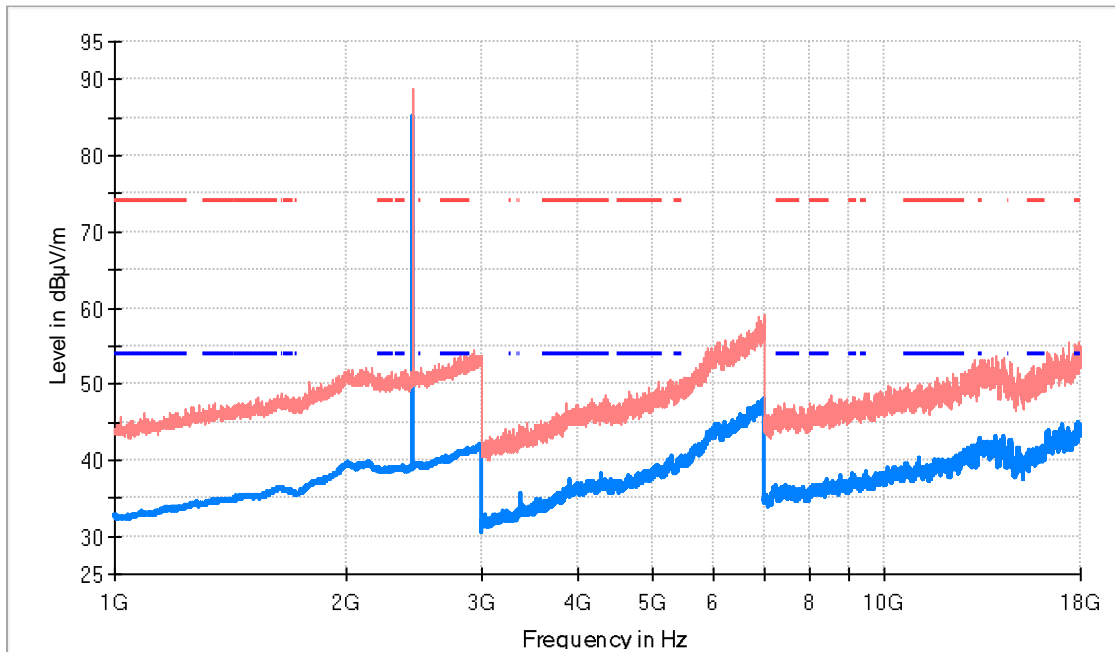
- AVG_MAXH
- PK+_MAXH
- TXlimits to Spurious Emission FCC15.247 (1GHz to 26 GHz) Restricted Bands PK Limit
- TXlimits to Spurious Emission FCC15.247 (1GHz to 26 GHz) Restricted Bands AVG Limit

Maximizations

Frequency (MHz)	PK+_MAXH (dBµV/m)	AVG_MAXH (dBµV/m)	Pol	Comment
2402.000000	87.3	83.7	V	Fundamental
3370.500000	44.1	35.8	V	

TEST RESULTS (Cont.)

CHANNEL: Middle (2440 MHz)



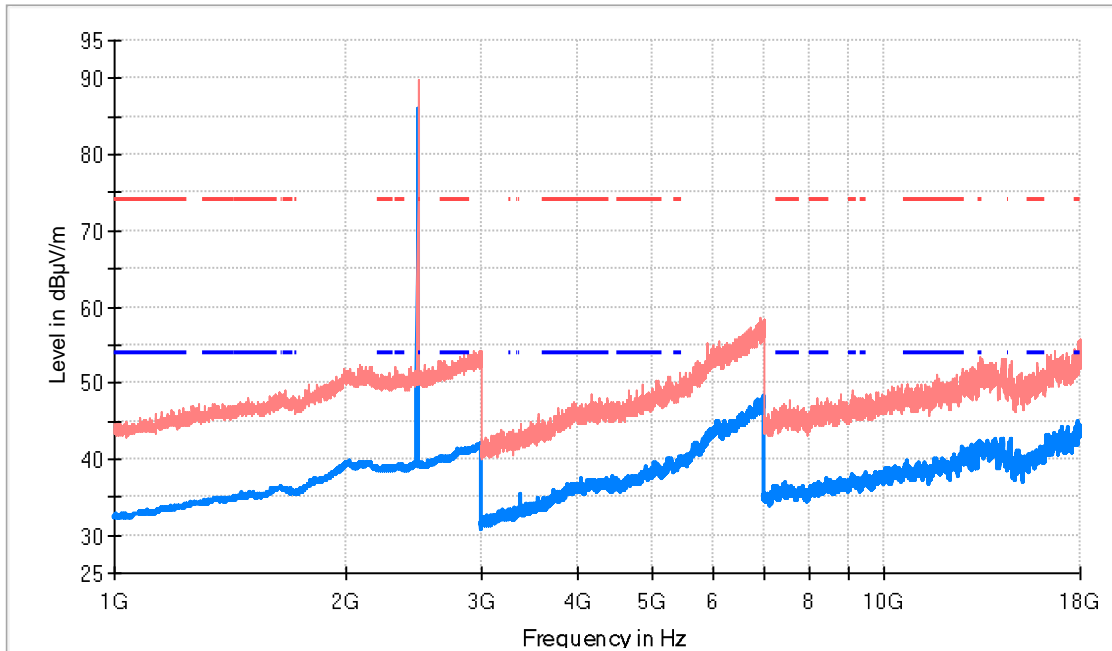
- AVG_MAXH
- PK+_MAXH
- - - TX limits to Spurious Emission FCC1 5.247 (1GHz to 26 GHz) Restricted Bands PK Limit
- - - TX limits to Spurious Emission FCC1 5.247 (1GHz to 26 GHz) Restricted Bands AVG Limit

Maximizations

Frequency (MHz)	PK+_MAXH (dBµV/m)	AVG_MAXH (dBµV/m)	Pol	Comment
2441.000000	88.8	85.3	H	Fundamental
3371.000000	42.6	35.6	V	

TEST RESULTS (Cont.)

CHANNEL: Highest (2480 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

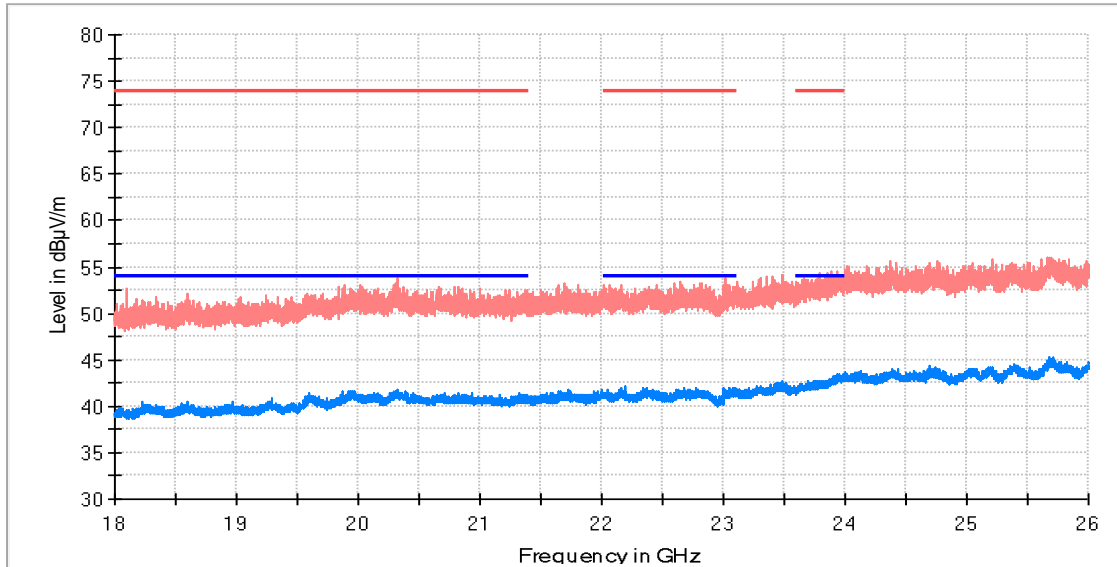
Maximizations

Frequency (MHz)	PK+_MAXH (dBµV/m)	AVG_MAXH (dBµV/m)	PoI	Comment
2480.000000	89.8	86.0	H	Fundamental
3370.500000	42.8	35.4	V	

TEST RESULTS (Cont.)

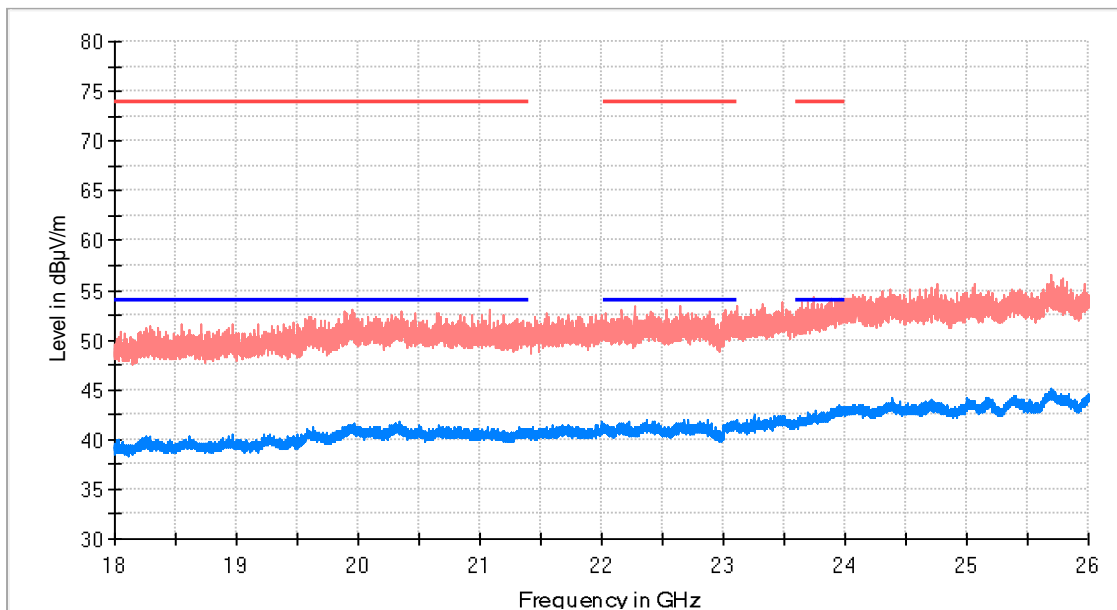
18 GHz – 26 GHz (8DPSK)

CHANNEL: Lowest (2402 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

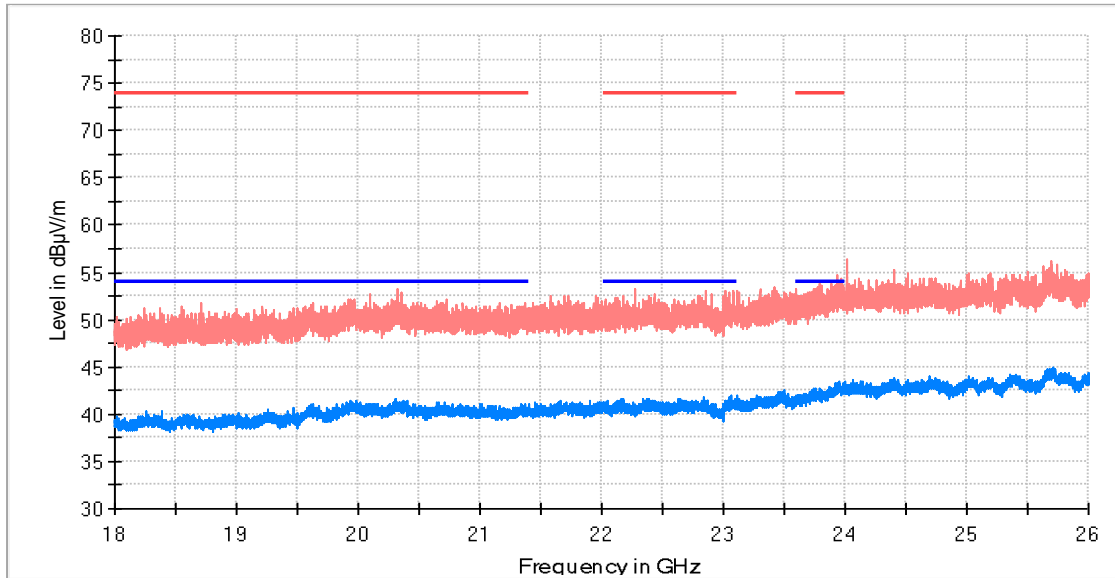
CHANNEL: Middle (2440 MHz)



- 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 (2480 MHz)

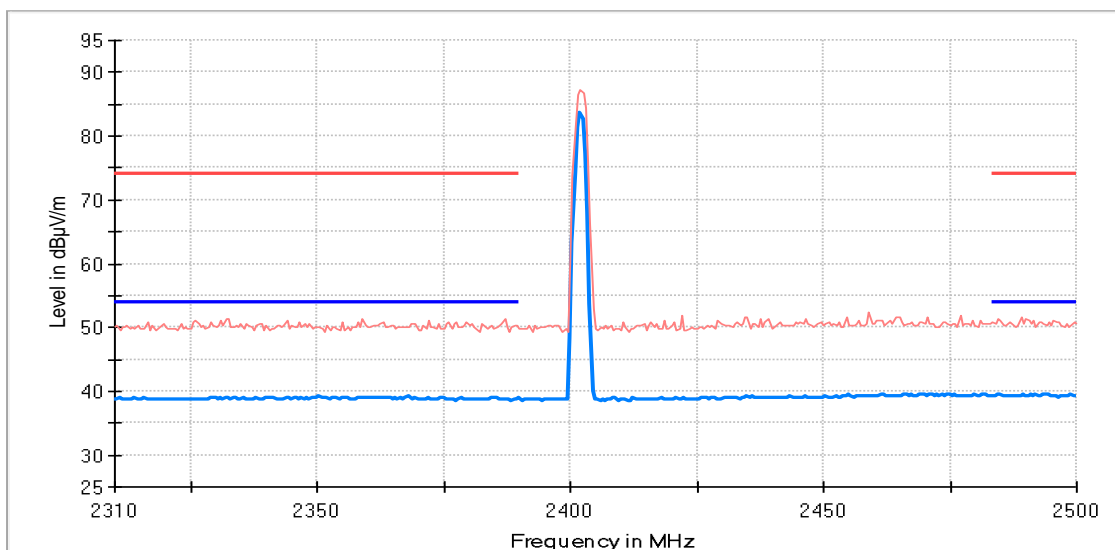


- AVG_MAXH
- PK+_MAXH
- TXlimits to Spurious Emission FCC15.247 (1GHz to 26 GHz) Restricted Bands PK Limit
- TXlimits to Spurious Emission FCC15.247 (1GHz to 26 GHz) Restricted Bands AVG Limit

RESTRICTED BANDS

2.31 GHz – 2.5 GHz (8DPSK)

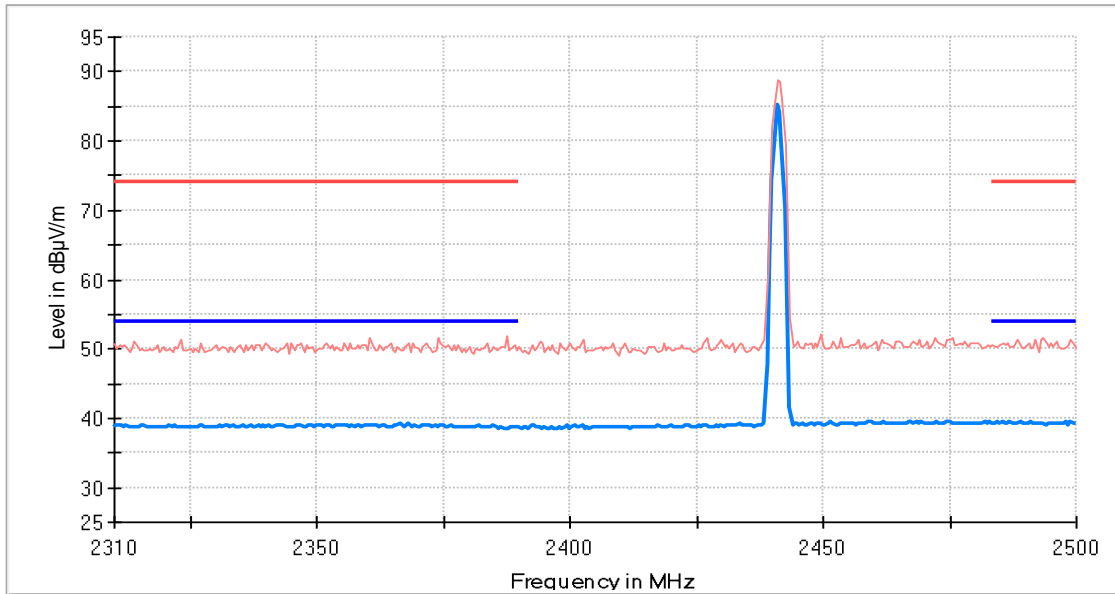
CHANNEL: Lowest (2402 MHz)



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

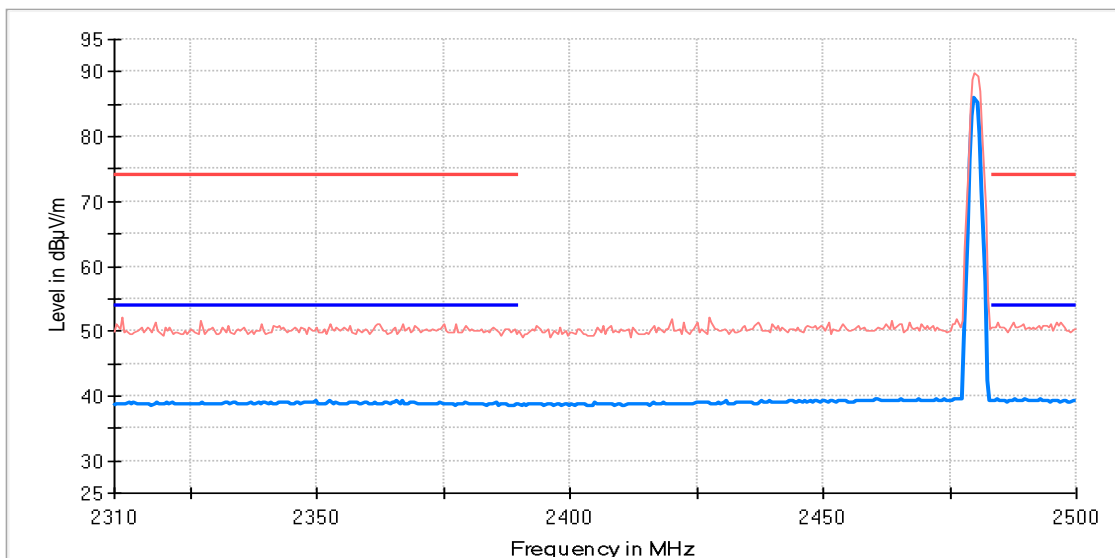
TEST RESULTS (Cont.)

CHANNEL: Middle (2440 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: Highest (2480 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

Appendix B:

Test results (WI-FI 2.4GHz)

Appendix B Content

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PRODUCT INFORMATION

The following information is provided by the supplier, in accordance with clause 5.4.1:

Information	Description
Modulation	DSSS/OFDM
Maximum RF Output Power	10 dBm – SISO
Operation mode	Equipment with only Multiple antenna
- Operating Frequency Range	2412 – 2462 MHz
- Nominal Channel Bandwidth	20 MHz
Extreme operating conditions	
- Temperature range	-20 °C to +55 °C
Antenna type	Dedicated Antenna
Antenna gain	+3.0 dBi – SISO CHIP 1 +3.0 dBi -- SISO CHIP 2
Nominal Voltage	
- Supply Voltage	13.5 Vdc
- Type of power source	DC voltage
Equipment type	WIFI 2.4GHz b/g/n20
Transmit Data Rate:	IEEE 802.11b: 1,2,5.5,11 Mbps IEEE 802.11g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps IEEE 802.11n HT20/HT40: 0-7 -SISO
Geo-location capability	No

DESCRIPTION OF TEST CONDITIONS

During transmitter test the EUT was being controlled by the SW tool to operate in a continuous transmit mode on the test channel as required and in each of the different modulation modes.

TEST CONDITIONS	DESCRIPTION
TC#01 ⁽¹⁾ (b mode)	<u>Power supply (V):</u> $V_{\text{nominal}} = 13.5 \text{ Vdc}$ <u>Channel Bandwidth:</u> 20 MHz <u>Test Frequencies for Conducted/Radiated tests (Port 1 CHIP 1 SISO, Port 3 CHIP 2 SISO):</u> Lowest channel: 2412 MHz Middle channel: 2437 MHz Highest channel: 2462 MHz
TC#02 ⁽¹⁾ (g mode)	<u>Power supply (V):</u> $V_{\text{nominal}} = 13.5\text{Vdc}$ <u>Channel Bandwidth:</u> 20 MHz <u>Test Frequencies for Conducted/Radiated tests (Port 1 CHIP 1 SISO, Port 3 CHIP 2 SISO):</u> Lowest channel: 2412 MHz Middle channel: 2437 MHz Highest channel: 2462 MHz
TC#03 ⁽¹⁾ (n mode)	<u>Power supply (V):</u> $V_{\text{nominal}} = 13.5 \text{ Vdc}$ <u>Channel Bandwidth:</u> 20 MHz <u>Test Frequencies for Conducted/Radiated tests (Port 1 CHIP 1 SISO, Port 3 CHIP 2 SISO):</u> Lowest channel: 2412 MHz Middle channel: 2437 MHz Highest channel: 2462 MHz

Note (1): For spurious emissions for OFDM modes 802.11g and 802.11n20 a preliminary scan was performed to determine the worst case. The following tables and plots show the results for the worst case in DSSS modulation (802.11b) and OFDM modulation (802.11n). The data rates of 1Mb/s for 802.11b, 6.5Mb/s for 802.11g, MCS0 for 802.11n20 were selected based on preliminary testing that identified those rates corresponding to the worst cases.

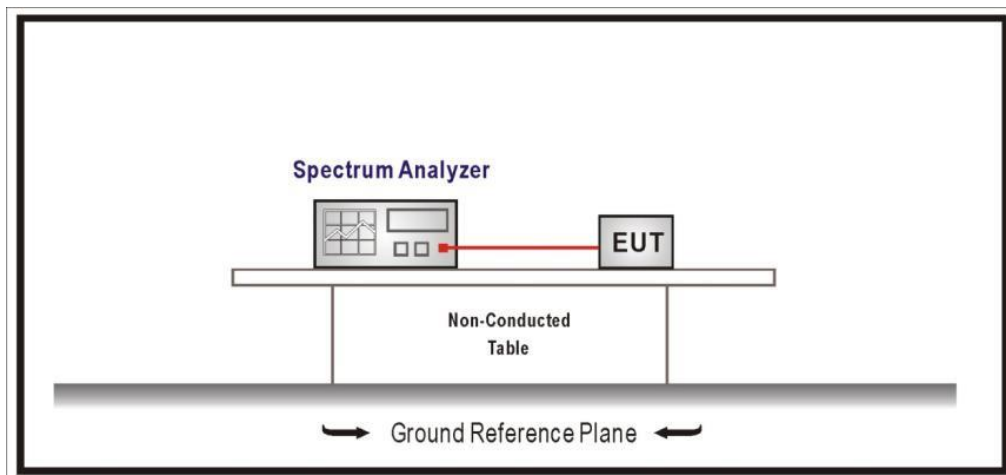
TEST B.1: 99% OCCUPIED BANDWIDTH AND 6DB BANDWIDTH

LIMITS:	Product standard:	Part 15 Subpart C §15.247 and RSS-247
	Test standard:	§2.1049, Part 15 Subpart C §15.247(a)(2) and RSS-247 5.2(a)

LIMITS

Systems using digital modulation techniques may operate in the 902-928 MHz, 2400-2483.5 MHz and 5725-5850 MHz bands. The minimum 6 dB bandwidth shall be at least 500 KHz.

TEST SETUP



TESTED SAMPLES:	S/01
TESTED CONDITIONS MODES:	TC#01 (b mode CHIP 1)
TEST RESULTS:	PASS

Type of equipment: Non-adaptive Equipment.

Port 1 (SISO)

	Lowest frequency 2412 MHz	Middle frequency 2437 MHz	Highest frequency 2462 MHz
6dB Bandwidth (MHz)	7.6	7.4	7.5
Occupied bandwidth (kHz)	10.90	10.90	10.80
Measurement uncertainty (kHz)	<± 1.80		

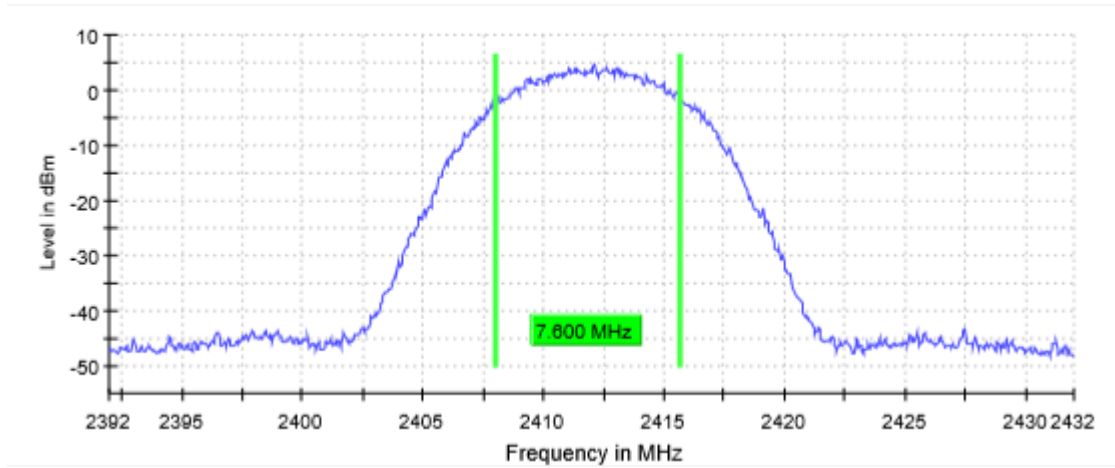
6dB Measurement

Setting	Instrument Value	Instrument Value	Instrument Value
Start Frequency	2.39200 GHz	2.41700 GHz	2.44200 GHz
Stop Frequency	2.43200 GHz	2.45700 GHz	2.48200 GHz
Span	40.00 MHz	40.000 MHz	40.000 MHz
RBW	100.000 kHz	100.000 kHz	100.000 kHz
VBW	300.000 kHz	300.000 kHz	300.000 kHz
Sweep Points	800	800	800
Sweep time	56.886 µs	56.836 µs	56.836 µs
Reference Level	10.000 dBm	20.000 dBm	20.000 dBm
Attenuation	30.000 dB	40.000 dB	40.000 dB
Detector	MaxPeak	MaxPeak	MaxPeak
Sweep Count	100	100	100
Filter	3 dB	3 dB	3 dB
Trace Mode	Max Hold	Max Hold	Max Hold
Sweep type	FFT	FFT	FFT
Preamp	off	off	off
Stable mode	Trace	Trace	Trace
Stable value	0.50 dB	0.50 dB	0.50 dB
Run	67 / max. 150	47 / max. 150	88 / max. 150
Stable	5 / 5	5 / 5	5 / 5
Max Stable Difference	0.00 dB	0.00 dB	0.00 dB

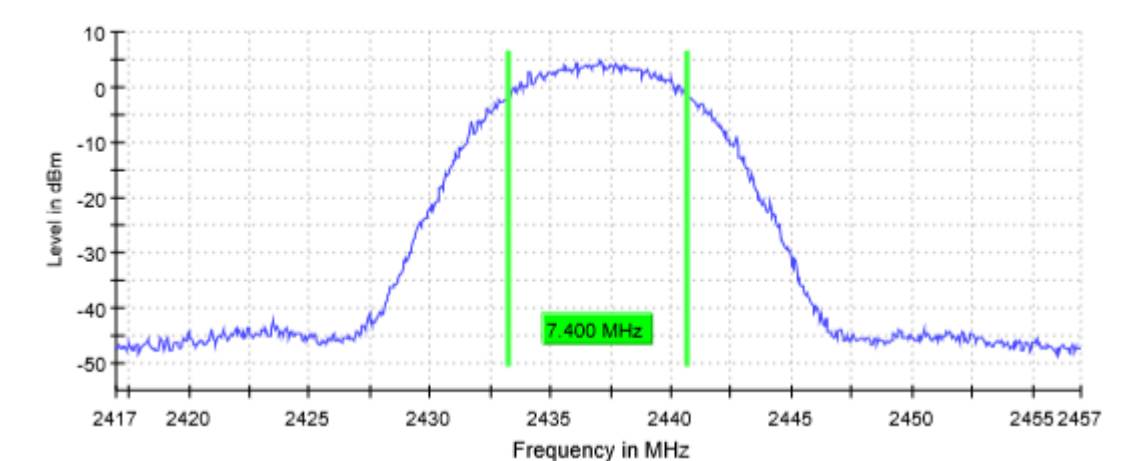
TEST RESULTS (Cont.):

6 dB BANDWIDTH

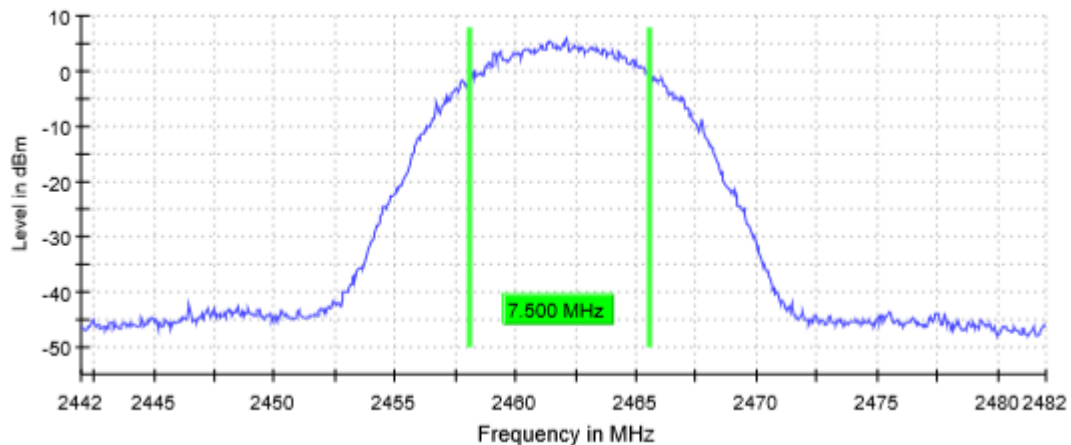
Lowest Channel



Middle Channel



Highest Channel



TEST RESULTS (Cont.):

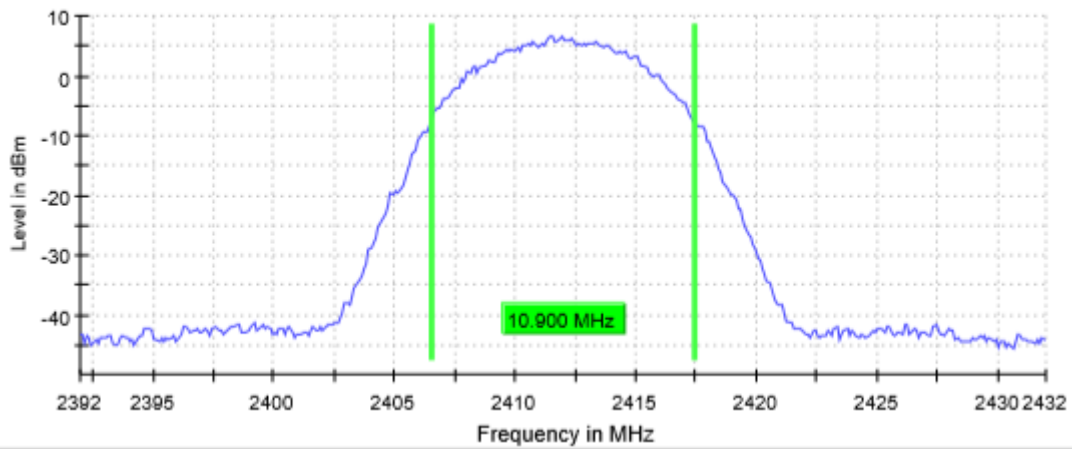
OBW Measurement

Setting	Instrument Value	Instrument Value	Instrument Value
Start Frequency	2.39200 GHz	2.41700 GHz	2.44200 GHz
Stop Frequency	2.43200 GHz	2.45700 GHz	2.48200 GHz
Span	40.00 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
Sweep Points	400	400	400
Sweep time	28.447 μ s	28.447 μ s	28.447 μ s
Reference Level	10.000 dBm	10.000 dBm	10.000 dBm
Attenuation	30.000 dB	30.000 dB	30.000 dB
Detector	MaxPeak	MaxPeak	MaxPeak
Sweep Count	100	100	100
Filter	3 dB	3 dB	3 dB
Trace Mode	Max Hold	Max Hold	Max Hold
Sweep type	FFT	FFT	FFT
Preamp	off	off	Off
Stable mode	Trace	Trace	Trace
Stable value	0.30 dB	0.30 dB	0.30 dB
Run	38 / max. 150	50 / max. 150	50 / max. 150
Stable	3 / 3	3 / 3	3 / 3
Max Stable Difference	0.00 dB	0.17 dB	0.15 dB

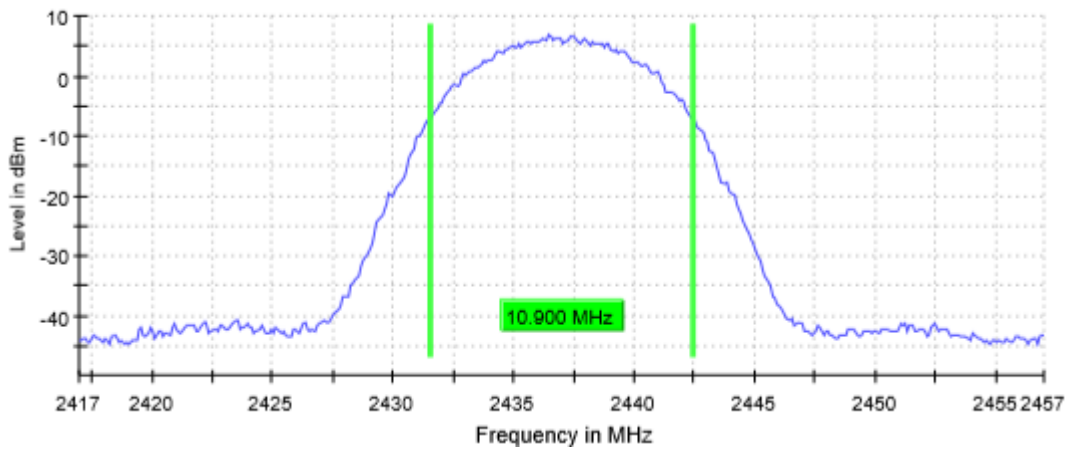
TEST RESULTS (Cont.):

OCCUPIED BANDWIDTH

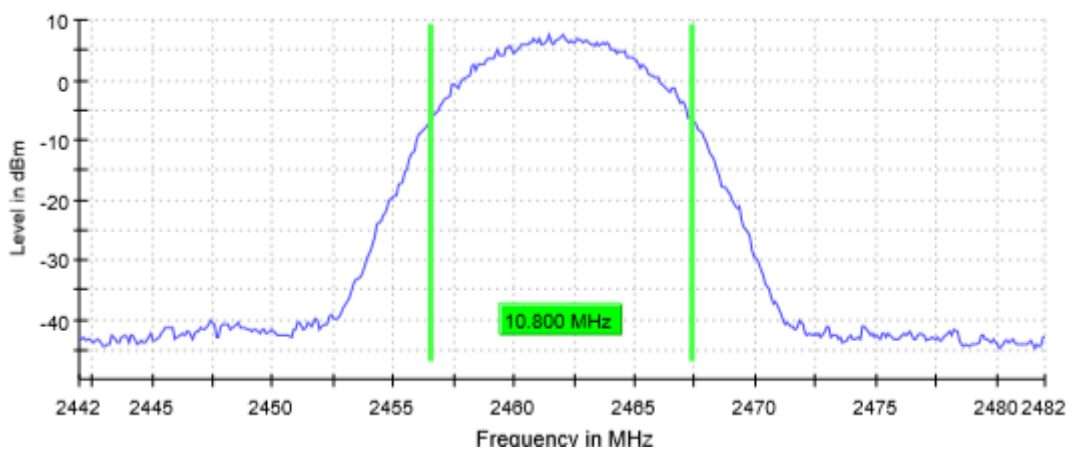
Lowest Channel



Middle Channel



Highest Channel



TESTED SAMPLES:	S/01
TESTED CONDITIONS MODES:	TC#01 (b mode CHIP 2)
TEST RESULTS:	PASS

Type of equipment: Non-adaptive Equipment.

Port 3 (SISO)

	Lowest frequency 2412 MHz	Middle frequency 2437 MHz	Highest frequency 2462 MHz
6dB Bandwidth (MHz)	6.8	6.950	7.450
Occupied bandwidth (kHz)	10.70	10.70	10.70
Measurement uncertainty (kHz)	<± 1.80		

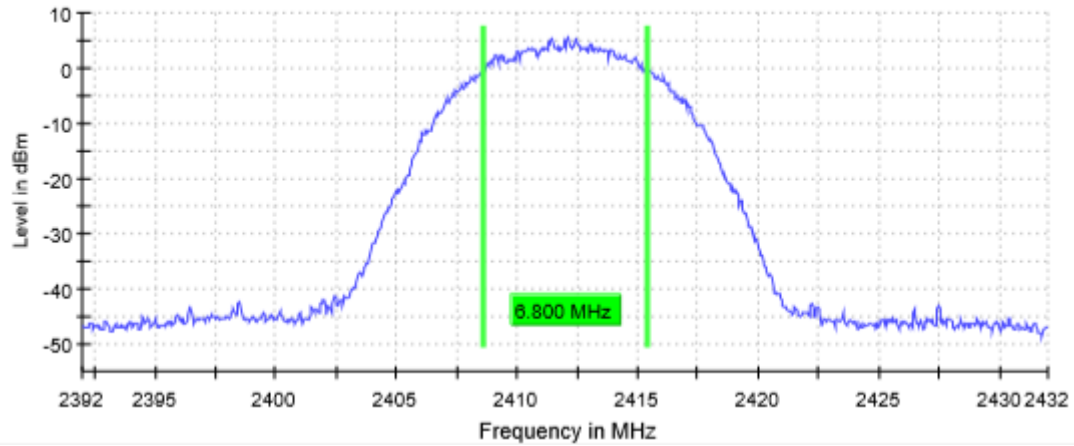
6dB Measurement

Setting	Instrument Value	Instrument Value	Instrument Value
Start Frequency	2.39200 GHz	2.41700 GHz	2.44200 GHz
Stop Frequency	2.43200 GHz	2.45700 GHz	2.48200 GHz
Span	40.00 MHz	40.000 MHz	40.000 MHz
RBW	100.000 kHz	100.000 kHz	100.000 kHz
VBW	300.000 kHz	300.000 kHz	300.000 kHz
Sweep Points	800	800	800
Sweep time	56.836 μs	56.836 μs	56.836 μs
Reference Level	10.000 dBm	10.000 dBm	10.000 dBm
Attenuation	30.000 dB	30.000 dB	30.000 dB
Detector	MaxPeak	MaxPeak	MaxPeak
Sweep Count	100	100	100
Filter	3 dB	3 dB	3 dB
Trace Mode	Max Hold	Max Hold	Max Hold
Sweep type	FFT	FFT	FFT
Preamp	off	off	Off
Stable mode	Trace	Trace	Trace
Stable value	0.50 dB	0.50 dB	0.50 dB
Run	60 / max. 150	87 / max. 150	73 / max. 150
Stable	5 / 5	5 / 5	5 / 5
Max Stable Difference	0.27 dB	0.05 dB	0.02 dB

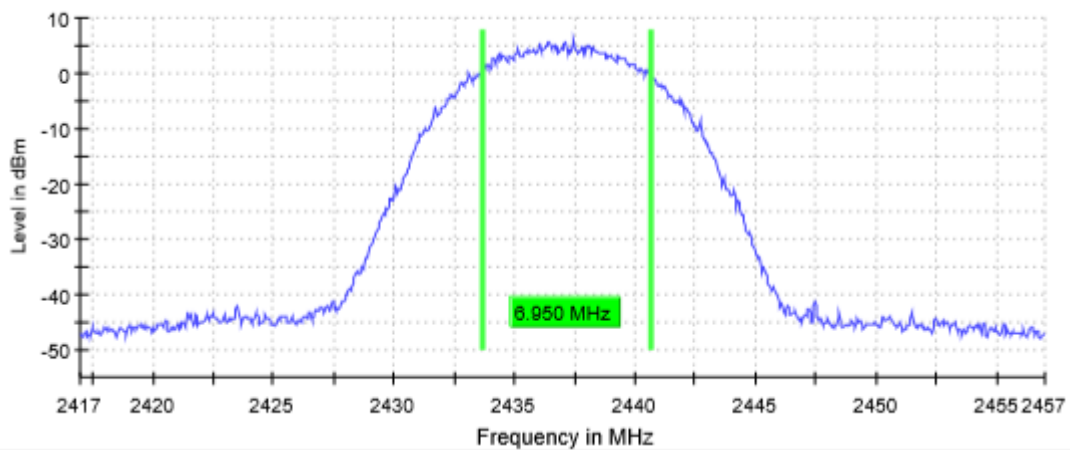
TEST RESULTS (Cont.):

6 dB BANDWIDTH

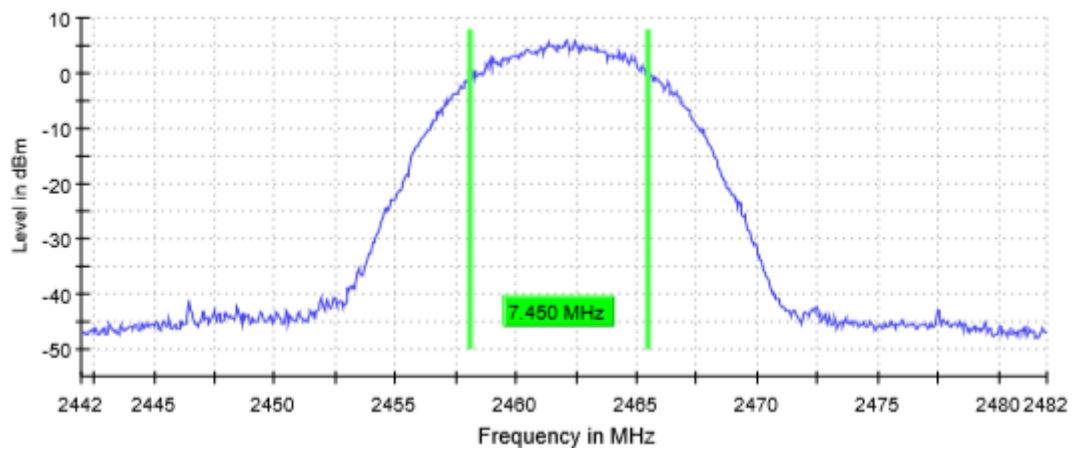
Lowest Channel



Middle Channel



Highest Channel



TEST RESULTS (Cont.):

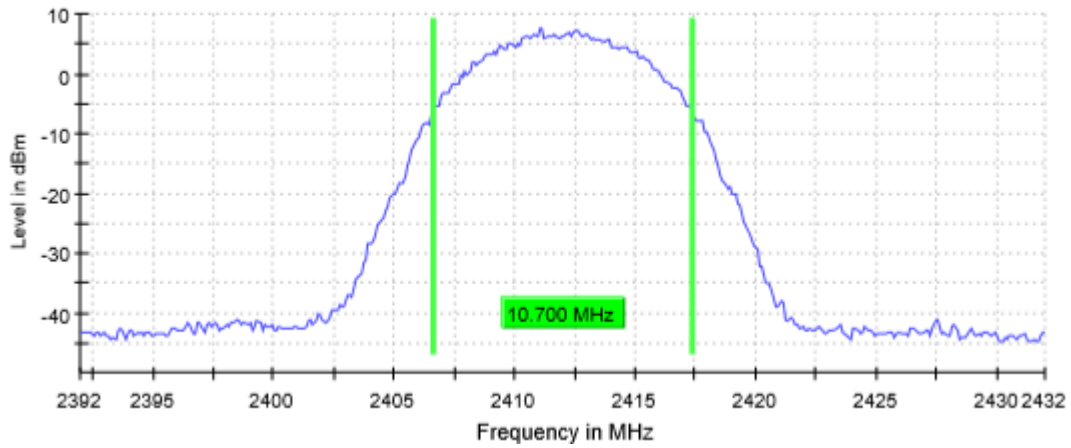
OBW Measurement

Setting	Instrument Value	Instrument Value	Instrument Value
Start Frequency	2.39200 GHz	2.41700 GHz	2.44200 GHz
Stop Frequency	2.43200 GHz	2.45700 GHz	2.48200 GHz
Span	40.00 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
Sweep Points	400	400	400
Sweep time	28.477 μ s	28.477 μ s	28.477 μ s
Reference Level	10.000 dBm	10.000 dBm	10.000 dBm
Attenuation	30.000 dB	30.000 dB	30.000 dB
Detector	MaxPeak	MaxPeak	MaxPeak
Sweep Count	100	100	100
Filter	3 dB	3 dB	3 dB
Trace Mode	Max Hold	Max Hold	Max Hold
Sweep type	FFT	FFT	FFT
Preamp	off	Off	Off
Stable mode	Trace	Trace	Trace
Stable value	0.30 dB	0.30 dB	0.30 dB
Run	57 / max. 150	69 / max. 150	51 / max. 150
Stable	3 / 3	3 / 3	3 / 3
Max Stable Difference	0.06 dB	0.08 dB	0.00 dB

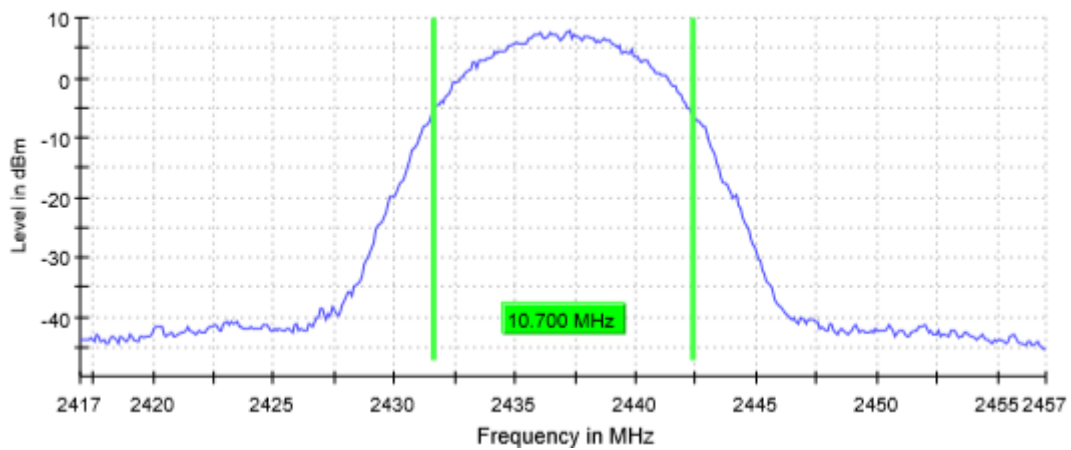
TEST RESULTS (Cont.):

OCCUPIED BANDWIDTH

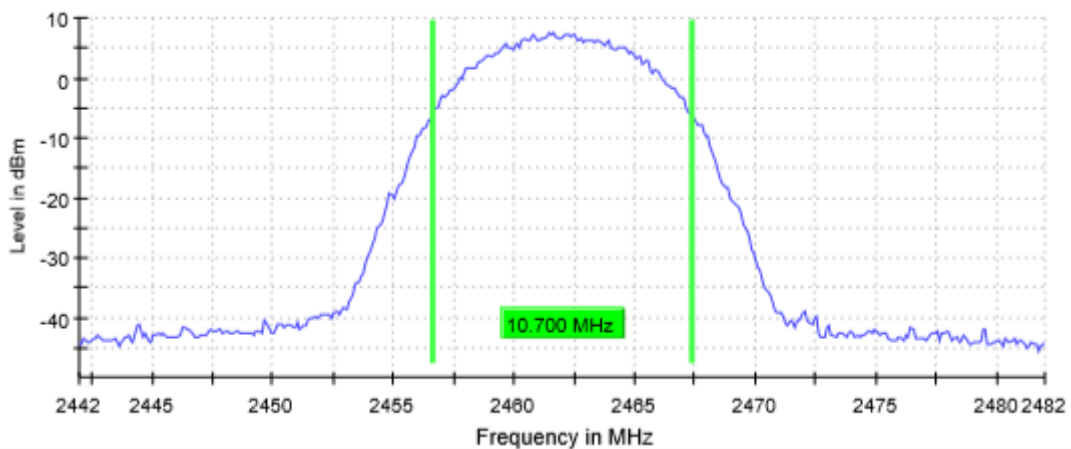
Lowest Channel



Middle Channel



Highest Channel



TESTED SAMPLES:	S/01
TESTED CONDITIONS MODES:	TC#02 (g mode CHIP 1)
TEST RESULTS:	PASS

Type of equipment: Non-adaptive Equipment.

Port 1 (SISO)

	Lowest frequency 2412 MHz	Middle frequency 2437 MHz	Highest frequency 2462 MHz
6dB bandwidth (MHz)	16.50	16.450	16.50
Occupied bandwidth (MHz)	16.50	16.50	16.50
Measurement uncertainty (kHz)	<± 1.80		

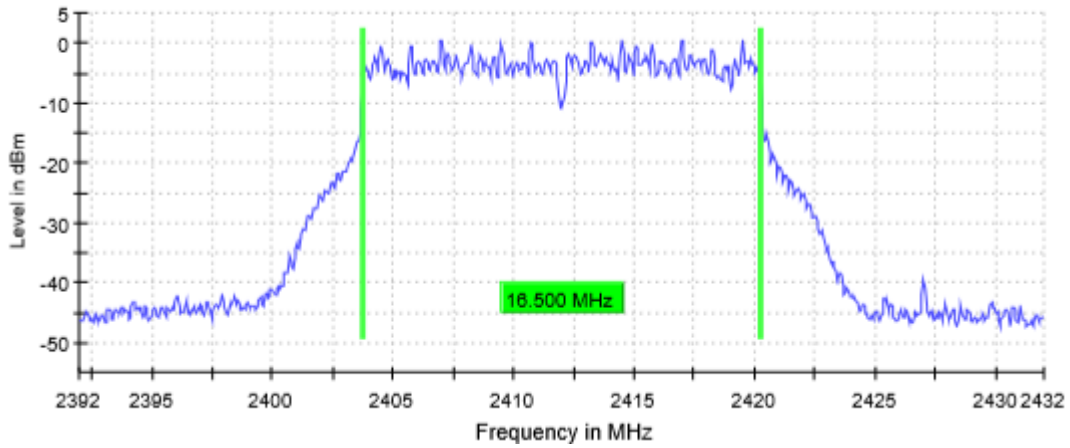
6dB Measurement

Setting	Instrument Value	Instrument Value	Instrument Value
Start Frequency	2.39200 GHz	2.41700 GHz	2.44200 GHz
Stop Frequency	2.43200 GHz	2.45700 GHz	2.48200 GHz
Span	40.00 MHz	40.000 MHz	40.000 MHz
RBW	100.000 kHz	100.000 kHz	100.000 kHz
VBW	300.000 kHz	300.000 kHz	300.000 kHz
Sweep Points	800	800	800
Sweep time	56.836 μs	56.836 μs	56.836 μs
Reference Level	10.000 dBm	10.000 dBm	10.000 dBm
Attenuation	30.000 dB	30.000 dB	30.000 dB
Detector	MaxPeak	MaxPeak	MaxPeak
Sweep Count	100	100	100
Filter	3 dB	3 dB	3 dB
Trace Mode	Max Hold	Max Hold	Max Hold
Sweep type	FFT	FFT	FFT
Preamp	off	off	off
Stable mode	Trace	Trace	Trace
Stable value	0.50 dB	0.50 dB	0.50 dB
Run	26 / max. 150	31 / max. 150	21 / max. 150
Stable	5 / 5	5 / 5	5 / 5
Max Stable Difference	0.17 dB	0.09 dB	0.24 dB

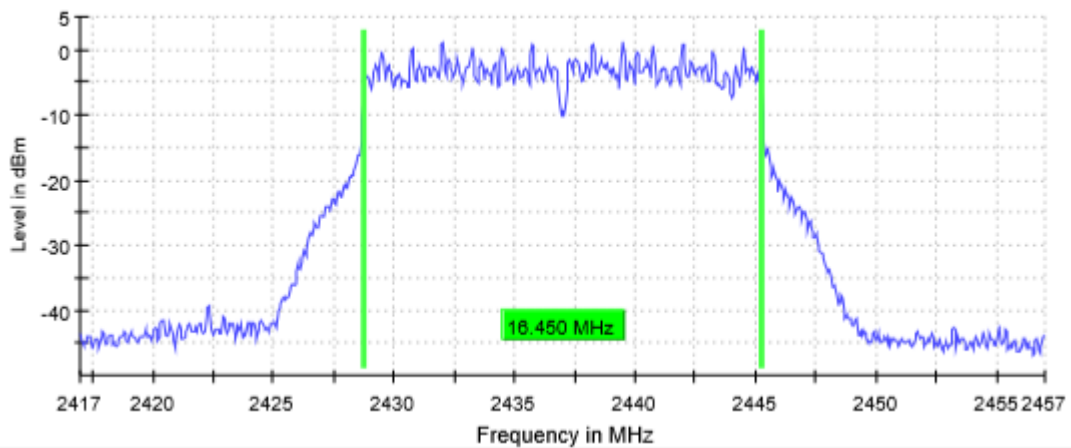
TEST RESULTS (Cont.):

6 dB BANDWIDTH

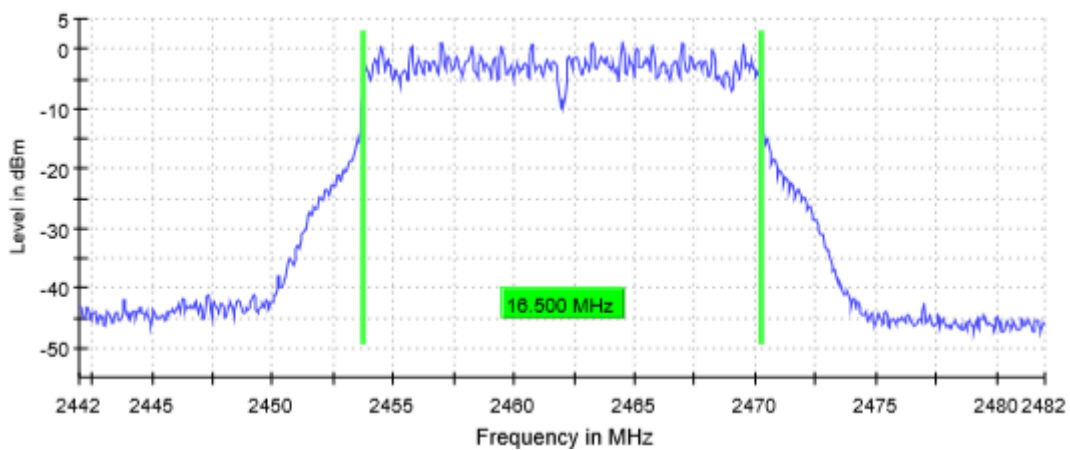
Lowest Channel



Middle Channel



Highest Channel



TEST RESULTS (Cont.):

OBW Measurement

Setting	Instrument Value	Instrument Value	Instrument Value
Start Frequency	2.39200 GHz	2.41700 GHz	2.44200 GHz
Stop Frequency	2.43200 GHz	2.45700 GHz	2.48200 GHz
Span	40.00 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
Sweep Points	400	200	200
Sweep time	28.477 μ s	28.477 μ s	28.477 μ s
Reference Level	10.000 dBm	10.000 dBm	10.000 dBm
Attenuation	30.000 dB	30.000 dB	30.000 dB
Detector	MaxPeak	MaxPeak	MaxPeak
Sweep Count	100	100	100
Filter	3 dB	3 dB	3 dB
Trace Mode	Max Hold	Max Hold	Max Hold
Sweep type	FFT	FFT	FFT
Preamp	off	off	off
Stable mode	Trace	Trace	Trace
Stable value	0.30 dB	0.30 dB	0.30 dB
Run	31 / max. 150	23 / max. 150	32 / max. 150
Stable	3 / 3	3 / 3	3 / 3
Max Stable Difference	0.27 dB	0.27 dB	0.13 dB

TEST RESULTS (Cont.):	OCCUPIED BANDWIDTH
<p>Lowest Channel</p> <p>Middle Channel</p> <p>Highest Channel</p>	

TESTED SAMPLES:	S/01
TESTED CONDITIONS MODES:	TC#02 (g mode CHIP 2)
TEST RESULTS:	PASS

Type of equipment: Non-adaptive Equipment.

Port 3 (SISO)

	Lowest frequency 2412 MHz	Middle frequency 2437 MHz	Highest frequency 2462 MHz
6dB bandwidth (MHz)	16.50	16.50	16.50
Occupied bandwidth (MHz)	16.60	16.60	16.50
Measurement uncertainty (kHz)	<± 1.80		

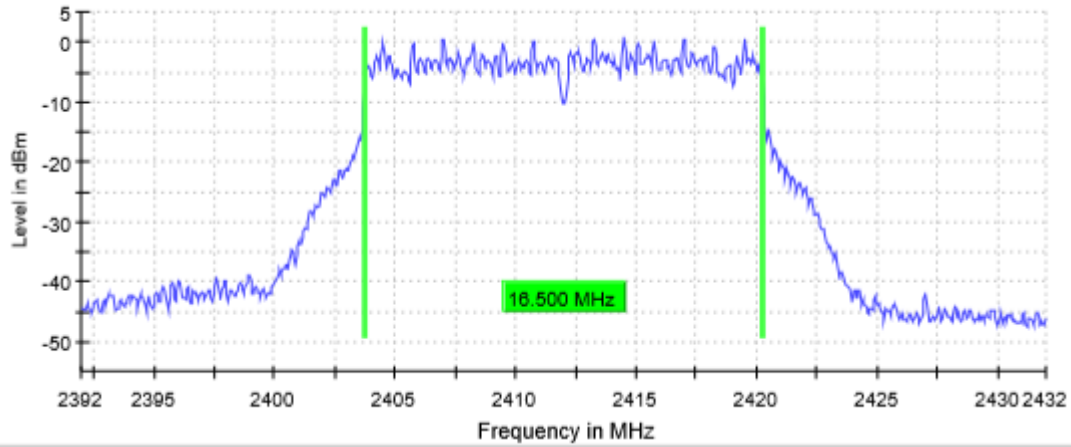
6dB Measurement

Setting	Instrument Value	Instrument Value	Instrument Value
Start Frequency	2.39200 GHz	2.41700 GHz	2.44200 GHz
Stop Frequency	2.43200 GHz	2.45700 GHz	2.48200 GHz
Span	40.00 MHz	40.000 MHz	40.000 MHz
RBW	100.000 kHz	100.000 kHz	100.000 kHz
VBW	300.000 kHz	300.000 kHz	300.000 kHz
Sweep Points	800	800	800
Sweep time	56.836 μs	56.836 μs	56.836 μs
Reference Level	10.000 dBm	10.000 dBm	10.000 dBm
Attenuation	30.000 dB	30.000 dB	30.000 dB
Detector	MaxPeak	MaxPeak	MaxPeak
Sweep Count	100	100	100
Filter	3 dB	3 dB	3 dB
Trace Mode	Max Hold	Max Hold	Max Hold
Sweep type	FFT	FFT	FFT
Preamp	off	off	off
Stable mode	Trace	Trace	Trace
Stable value	0.50 dB	0.50 dB	0.50 dB
Run	20 / max. 150	24 / max. 150	17 / max. 150
Stable	5 / 5	5 / 5	5 / 5
Max Stable Difference	0.19 dB	0.44 dB	0.46 dB

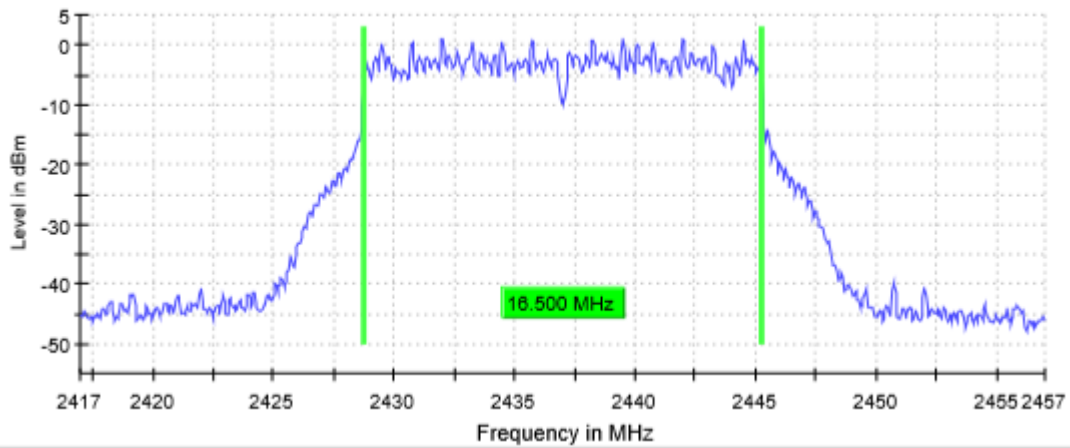
TEST RESULTS (Cont.):

6 dB BANDWIDTH

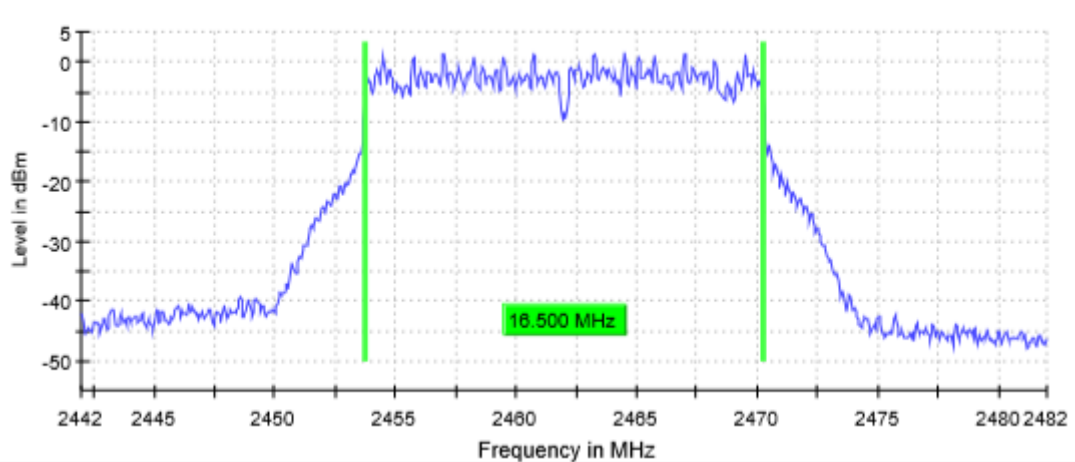
Lowest Channel



Middle Channel



Highest Channel



TEST RESULTS (Cont.):

OBW Measurement

Setting	Instrument Value	Instrument Value	Instrument Value
Start Frequency	2.39200 GHz	2.41700 GHz	2.44200 GHz
Stop Frequency	2.43200 GHz	2.45700 GHz	2.48200 GHz
Span	40.00 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
Sweep Points	400	400	400
Sweep time	28.477 μ s	28.477 μ s	28.477 μ s
Reference Level	10.000 dBm	10.000 dBm	10.000 dBm
Attenuation	30.000 dB	30.000 dB	30.000 dB
Detector	MaxPeak	MaxPeak	MaxPeak
Sweep Count	100	100	100
Filter	3 dB	3 dB	3 dB
Trace Mode	Max Hold	Max Hold	Max Hold
Sweep type	FFT	FFT	FFT
Preamp	Off	off	off
Stable mode	Trace	Trace	Trace
Stable value	0.30 dB	0.30 dB	0.30 dB
Run	31 / max. 150	24 / max. 150	32 / max. 150
Stable	3 / 3	3 / 3	3 / 3
Max Stable Difference	0.28 dB	0.01 dB	0.14 dB

TEST RESULTS (Cont.):	OCCUPIED BANDWIDTH
Lowest Channel	
Middle Channel	
Highest Channel	

TESTED SAMPLES:	S/01
TESTED CONDITIONS MODES:	TC#03 (n20 mode CHIP 1)
TEST RESULTS:	PASS

Type of equipment: Non-adaptive Equipment.

Port 1 (SISO)

	Lowest frequency 2412 MHz	Middle frequency 2437 MHz	Highest frequency 2462 MHz
6dB bandwidth (MHz)	17.85	17.85	17.85
Occupied bandwidth (MHz)	17.80	17.90	17.90
Measurement uncertainty (kHz)	<± 1.80		

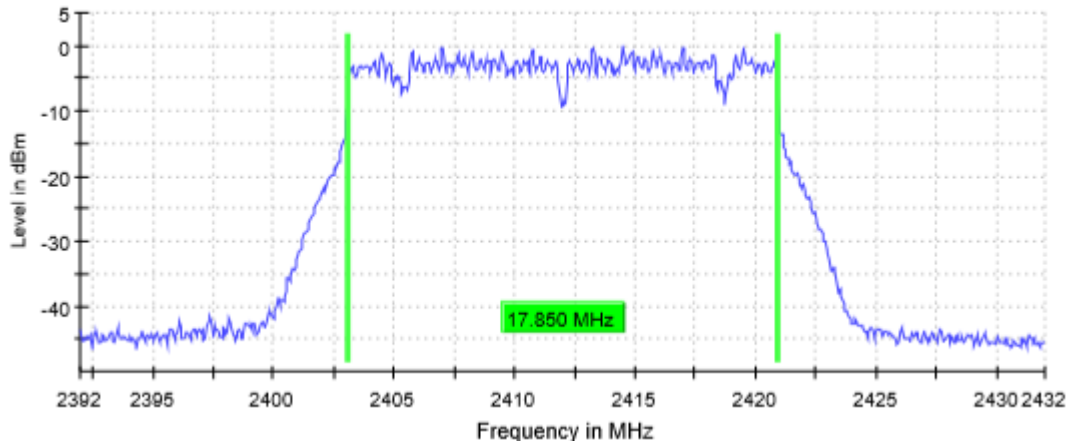
6dB Measurement

Setting	Instrument Value	Instrument Value	Instrument Value
Start Frequency	2.39200 GHz	2.41700 GHz	2.44200 GHz
Stop Frequency	2.43200 GHz	2.45700 GHz	2.48200 GHz
Span	40.00 MHz	40.000 MHz	40.000 MHz
RBW	100.000 kHz	100.000 kHz	100.000 kHz
VBW	300.000 kHz	300.000 kHz	300.000 kHz
Sweep Points	800	800	800
Sweep time	56.836 μs	56.836 μs	56.836 μs
Reference Level	10.000 dBm	10.000 dBm	10.000 dBm
Attenuation	30.000 dB	30.000 dB	30.000 dB
Detector	MaxPeak	MaxPeak	MaxPeak
Sweep Count	100	100	100
Filter	3 dB	3 dB	3 dB
Trace Mode	Max Hold	Max Hold	Max Hold
Sweep type	FFT	FFT	FFT
Preamp	off	off	off
Stable mode	Trace	Trace	Trace
Stable value	0.50 dB	0.50 dB	0.50 dB
Run	87 / max. 150	51 / max. 150	136 / max. 150
Stable	5 / 5	5 / 5	5 / 5
Max Stable Difference	0.28 dB	0.17 dB	0.00 dB

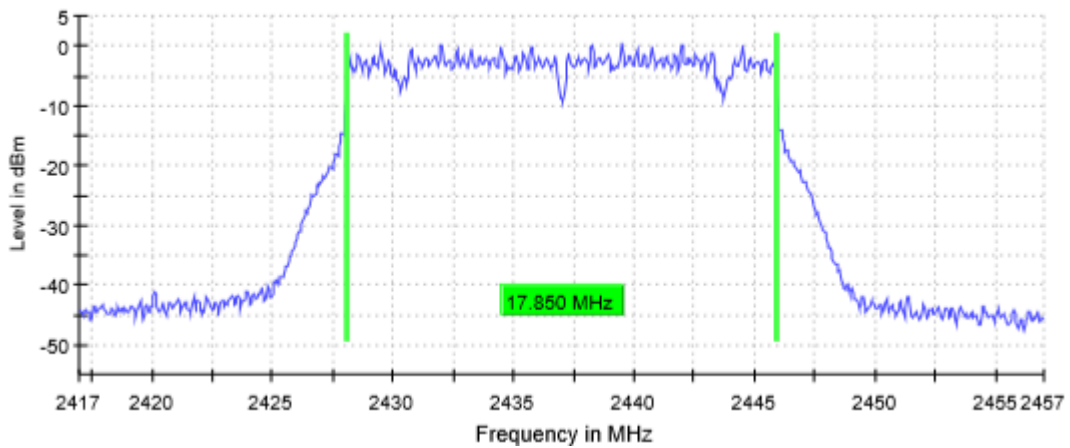
TEST RESULTS (Cont.):

6 dB BANDWIDTH

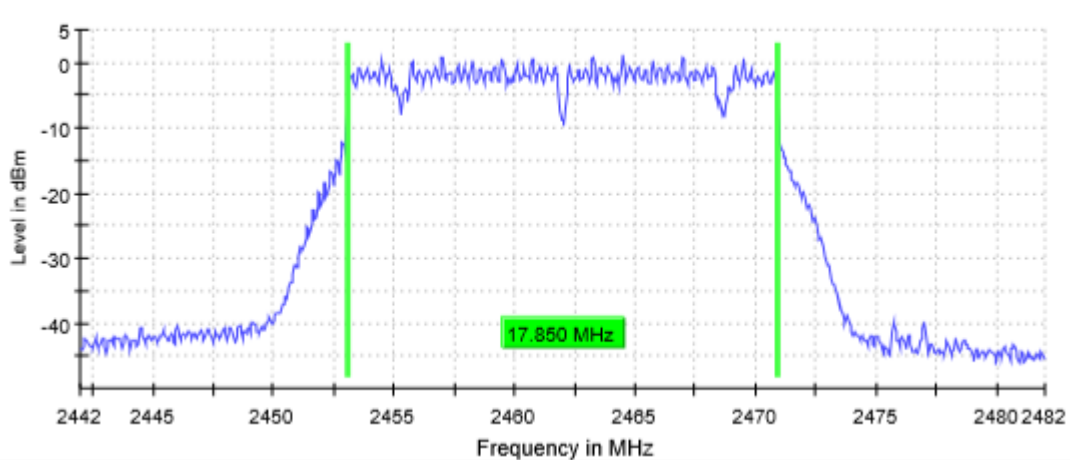
Lowest Channel



Middle Channel



Highest Channel



TEST RESULTS (Cont.):

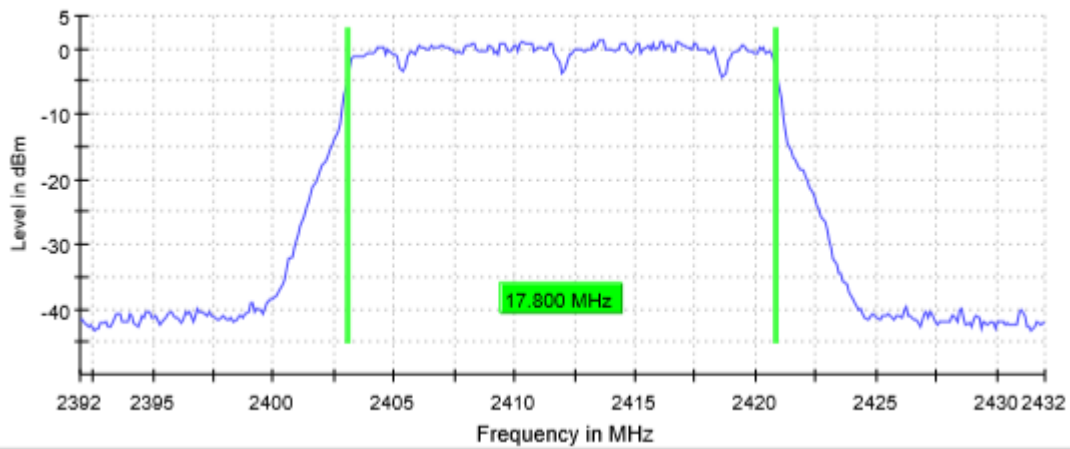
OBW Measurement

Setting	Instrument Value	Instrument Value	Instrument Value
Start Frequency	2.39200 GHz	2.41700 GHz	2.44200 GHz
Stop Frequency	2.43200 GHz	2.45700 GHz	2.48200 GHz
Span	40.00 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
Sweep Points	400	400	400
Sweep time	28.477 μ s	28.477 μ s	28.477 μ s
Reference Level	10.000 dBm	10.000 dBm	10.000 dBm
Attenuation	30.000 dB	30.000 dB	30.000 dB
Detector	MaxPeak	MaxPeak	MaxPeak
Sweep Count	100	100	100
Filter	3 dB	3 dB	3 dB
Trace Mode	Max Hold	Max Hold	Max Hold
Sweep type	FFT	FFT	FFT
Preamp	off	off	off
Stable mode	Trace	Trace	Trace
Stable value	0.30 dB	0.30 dB	0.30 dB
Run	97 / max. 150	53 / max. 150	43 / max. 150
Stable	3 / 3	3 / 3	3 / 3
Max Stable Difference	0.0 dB	0.20 dB	0.00 dB

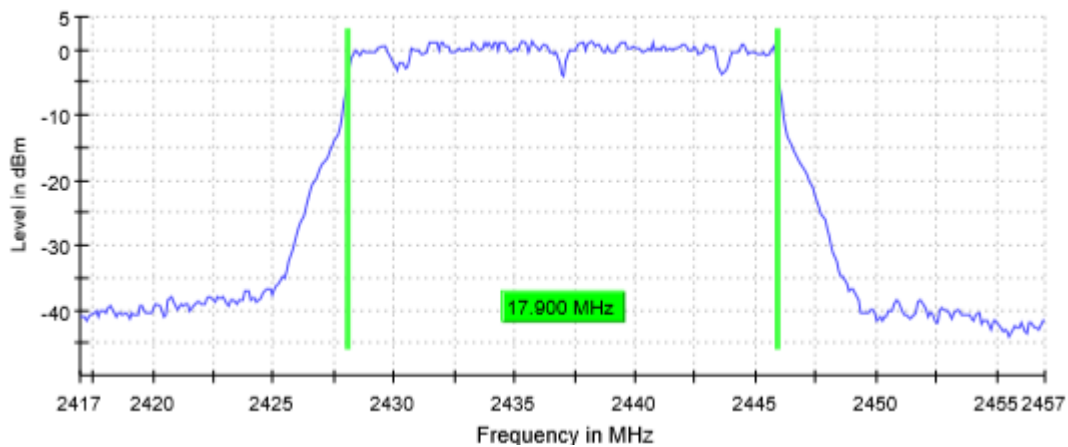
TEST RESULTS (Cont.):

OCCUPIED BANDWIDTH

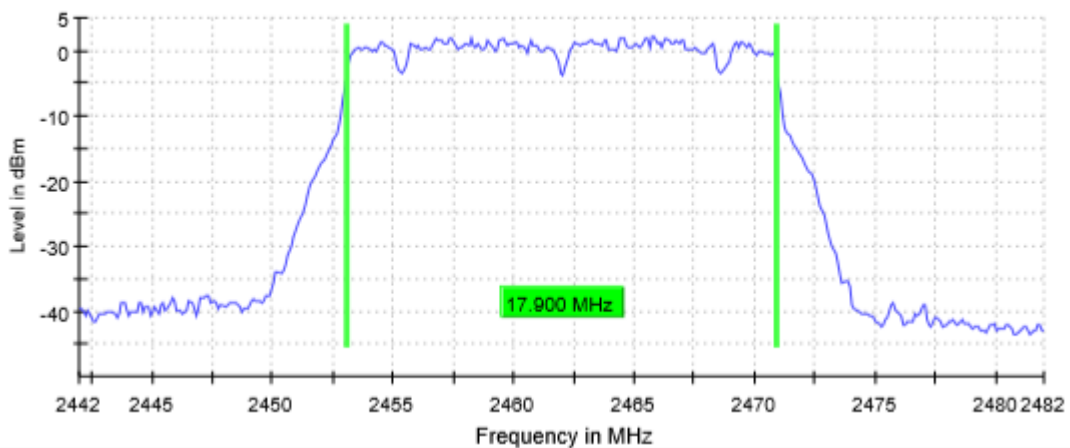
Lowest Channel



Middle Channel



Highest Channel



TESTED SAMPLES:	S/01
TESTED CONDITIONS MODES:	TC#03 (n20 mode CHIP 2)
TEST RESULTS:	PASS

Type of equipment: Non-adaptive Equipment.

Port 3 (SISO)

	Lowest frequency 2412 MHz	Middle frequency 2437 MHz	Highest frequency 2462 MHz
6dB bandwidth (MHz)	17.85	17.85	17.85
Occupied bandwidth (MHz)	17.90	17.90	17.90
Measurement uncertainty (kHz)	<± 1.80		

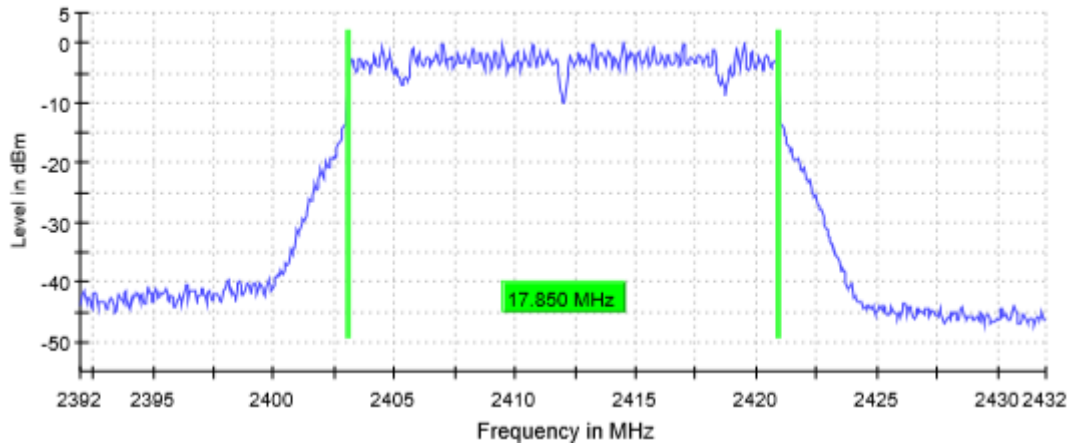
6dB Measurement

Setting	Instrument Value	Instrument Value	Instrument Value
Start Frequency	2.39200 GHz	2.41700 GHz	2.44200 GHz
Stop Frequency	2.43200 GHz	2.45700 GHz	2.48200 GHz
Span	40.00 MHz	40.000 MHz	40.000 MHz
RBW	100.000 kHz	100.000 kHz	100.000 kHz
VBW	300.000 kHz	300.000 kHz	300.000 kHz
Sweep Points	800	800	800
Sweep time	56.836 µs	56.836 µs	56.836 µs
Reference Level	10.000 dBm	10.000 dBm	10.000 dBm
Attenuation	30.000 dB	30.000 dB	30.000 dB
Detector	MaxPeak	MaxPeak	MaxPeak
Sweep Count	100	100	100
Filter	3 dB	3 dB	3 dB
Trace Mode	Max Hold	Max Hold	Max Hold
Sweep type	FFT	FFT	FFT
Preamp	off	off	off
Stable mode	Trace	Trace	Trace
Stable value	0.50 dB	0.50 dB	0.50 dB
Run	59 / max. 150	79 / max. 150	82 / max. 150
Stable	5 / 5	5 / 5	5 / 5
Max Stable Difference	0.28 dB	0.48 dB	0.17 dB

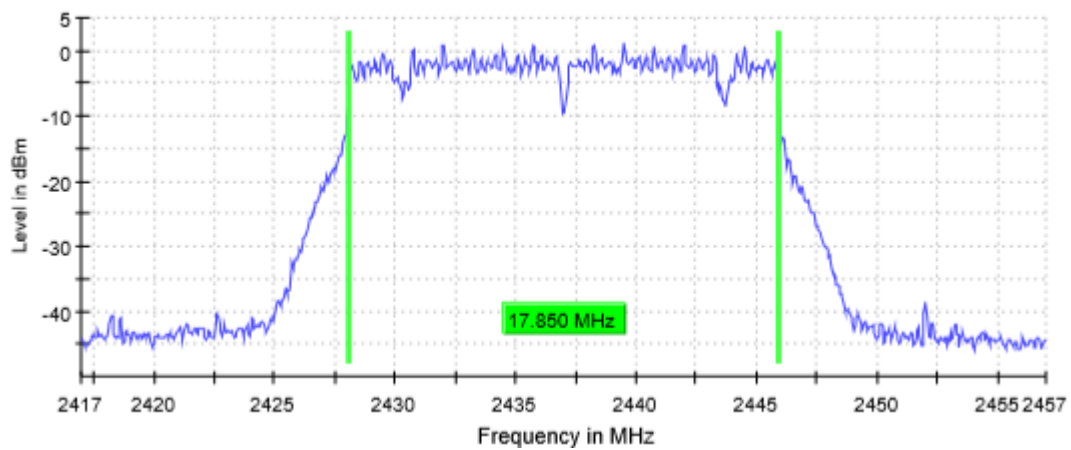
TEST RESULTS (Cont.):

6 dB BANDWIDTH

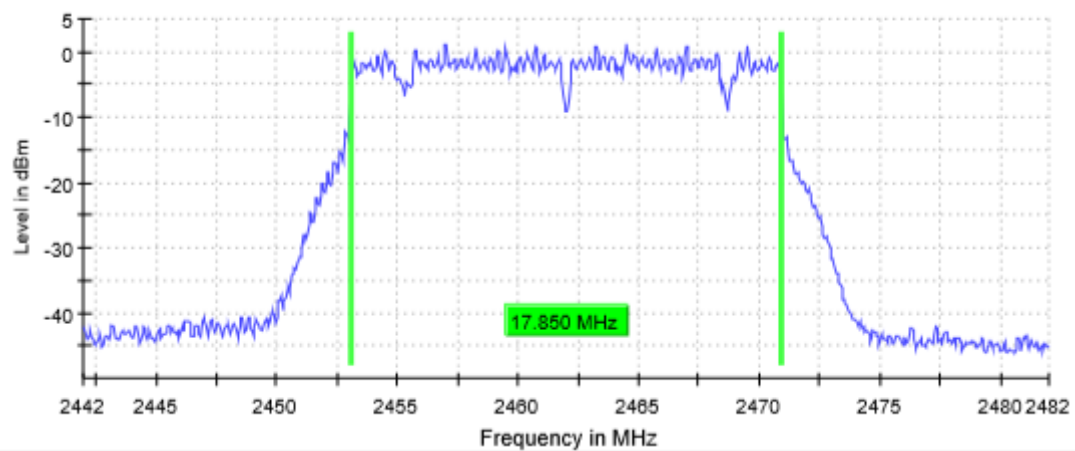
Lowest Channel



Middle Channel



Highest Channel



TEST RESULTS (Cont.):

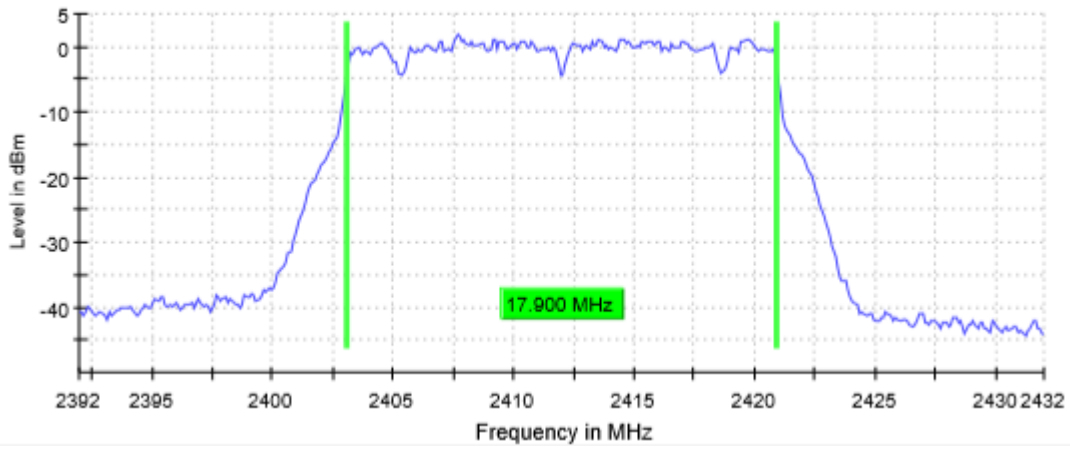
OBW Measurement

Setting	Instrument Value	Instrument Value	Instrument Value
Start Frequency	2.39200 GHz	2.41700 GHz	2.44200 GHz
Stop Frequency	2.43200 GHz	2.45700 GHz	2.48200 GHz
Span	40.00 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
Sweep Points	400	400	400
Sweep time	28.477 μ s	28.477 μ s	28.477 μ s
Reference Level	10.000 dBm	10.000 dBm	10.000 dBm
Attenuation	30.000 dB	30.000 dB	30.000 dB
Detector	MaxPeak	MaxPeak	MaxPeak
Sweep Count	100	100	100
Filter	3 dB	3 dB	3 dB
Trace Mode	Max Hold	Max Hold	Max Hold
Sweep type	FFT	FFT	FFT
Preamp	off	off	off
Stable mode	Trace	Trace	Trace
Stable value	0.30 dB	0.30 dB	0.30 dB
Run	49 / max. 150	55 / max. 150	86 / max. 150
Stable	3 / 3	3 / 3	3 / 3
Max Stable Difference	0.23 dB	0.26 dB	0.00 dB

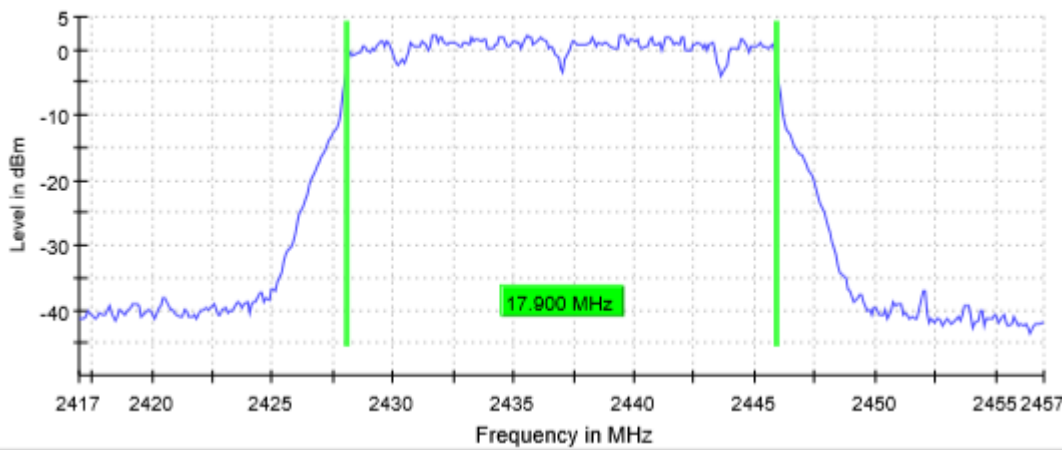
TEST RESULTS (Cont.):

OCCUPIED BANDWIDTH

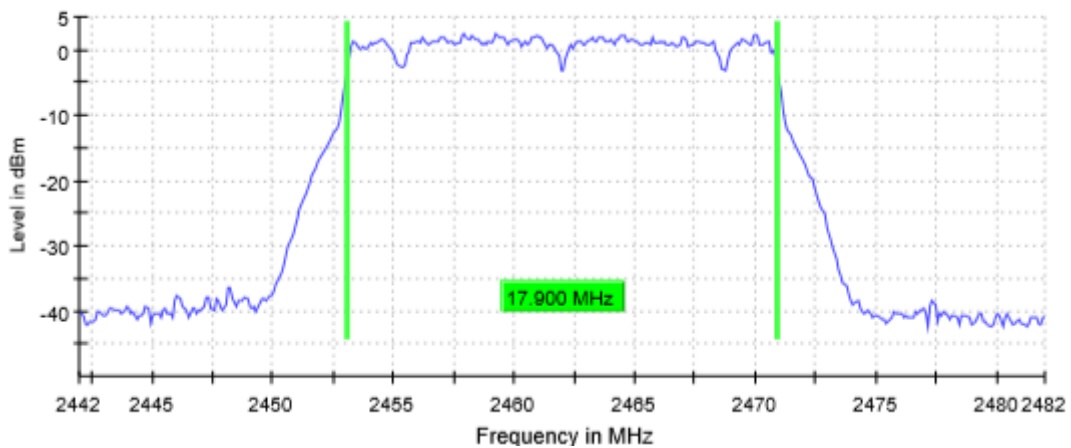
Lowest Channel



Middle Channel



Highest Channel



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)

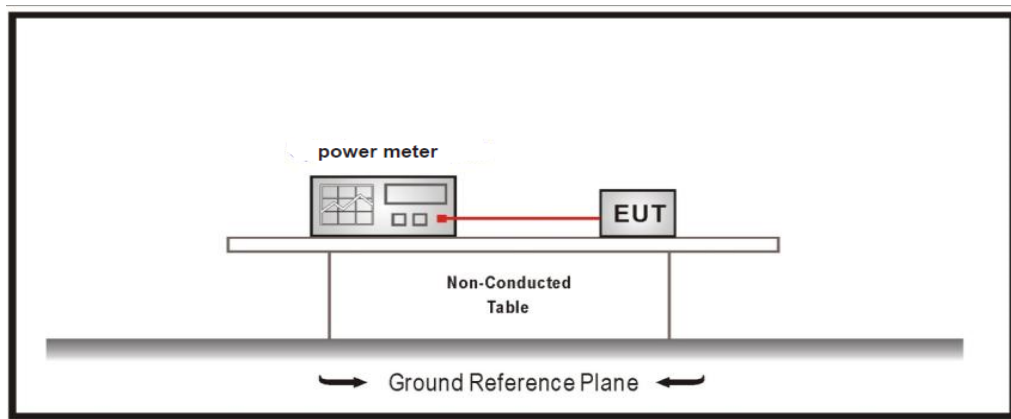
LIMITS

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

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 CHIP 1)
TEST RESULTS:	PASS

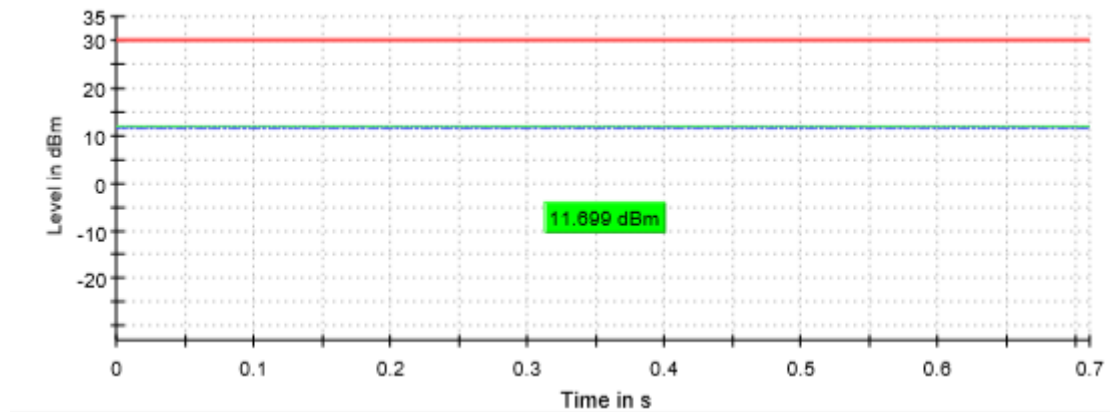
Maximum declared antenna gain: +3.0 dBi

Port 1 (SISO)

	Lowest frequency 2412 MHz	Middle frequency 2437 MHz	Highest frequency 2462 MHz
Maximum conducted power (dBm)	11.7	12.1	12.5
Maximum EIRP power (dBm)	14.7	15.1	15.5
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.

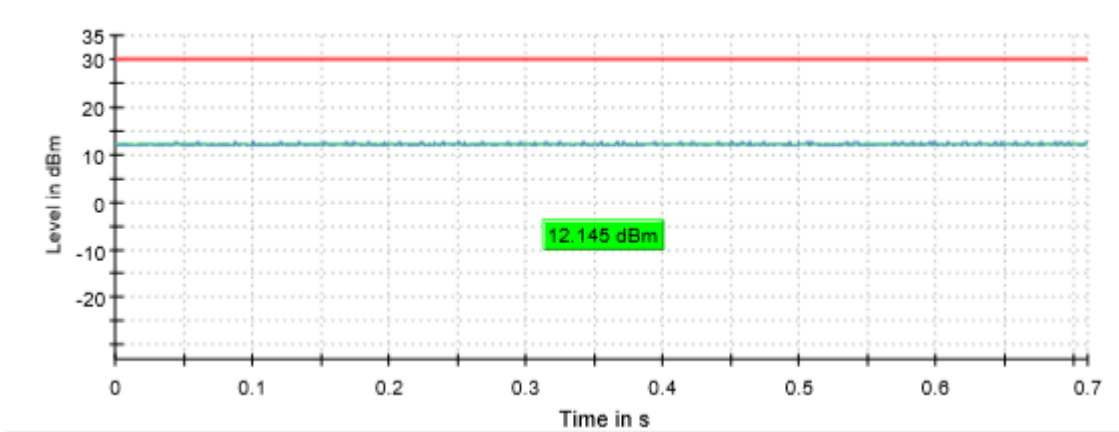
Lowest Channel



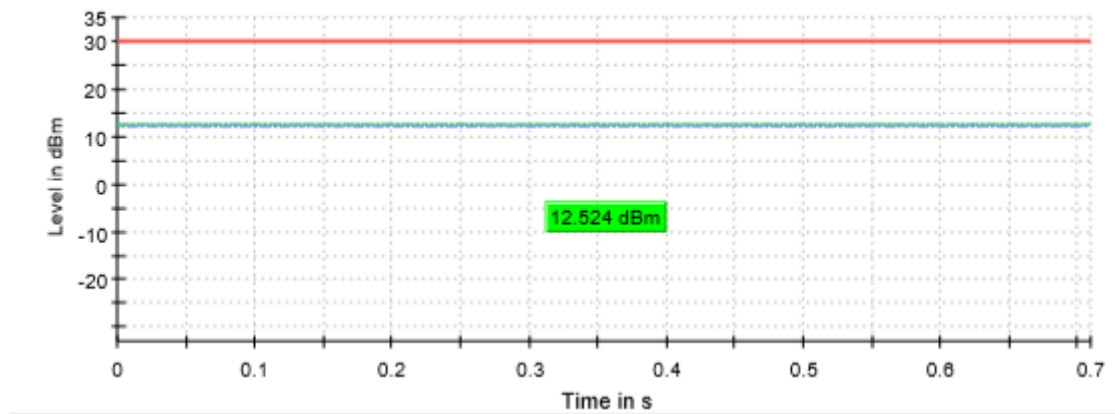
TEST RESULTS (Cont.):

CONDUCTED OUTPUT POWER

Middle Channel



Highest Channel



TESTED SAMPLES:	S/01
TESTED CONDITIONS MODES:	TC#01 (b mode CHIP 2)
TEST RESULTS:	PASS

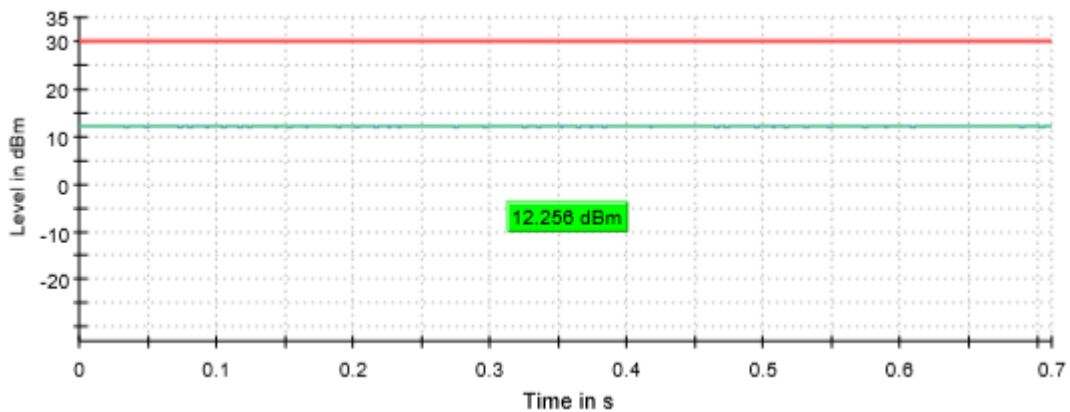
Maximum declared antenna gain: +3.0 dBi

Port 3 (SISO)

	Lowest frequency 2412 MHz	Middle frequency 2437 MHz	Highest frequency 2462 MHz
Maximum conducted power (dBm)	12.3	12.7	13.0
Maximum EIRP power (dBm)	15.3	15.7	16.0
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.

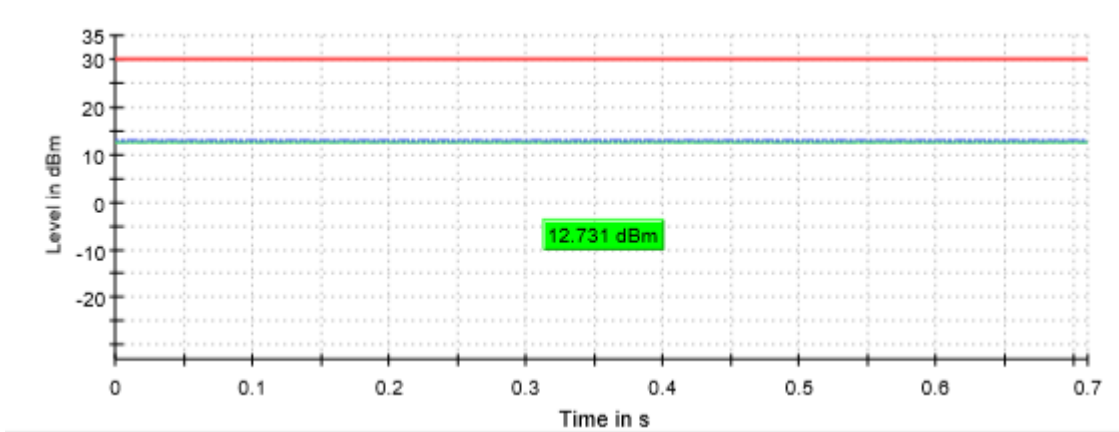
Lowest Channel



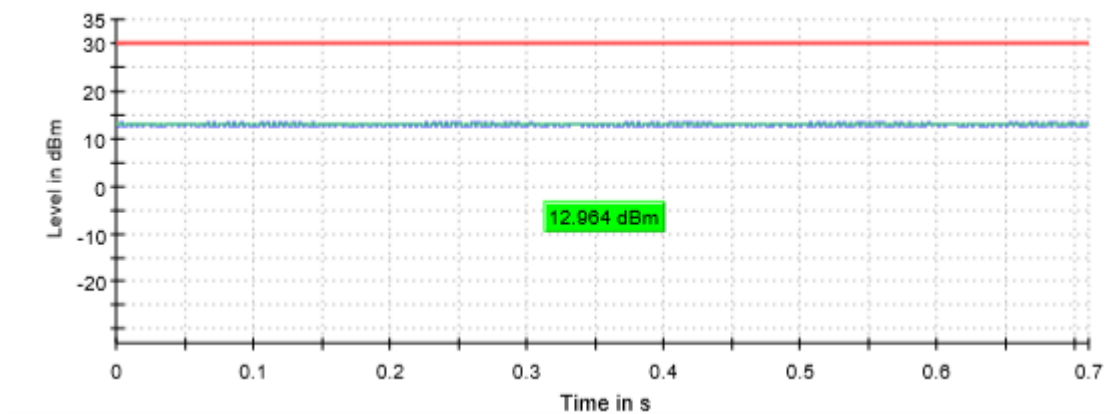
TEST RESULTS (Cont.):

CONDUCTED OUTPUT POWER

Middle Channel



Highest Channel



TESTED SAMPLES:	S/01
TESTED CONDITIONS MODES:	TC#02 (g mode CHIP 1)
TEST RESULTS:	PASS

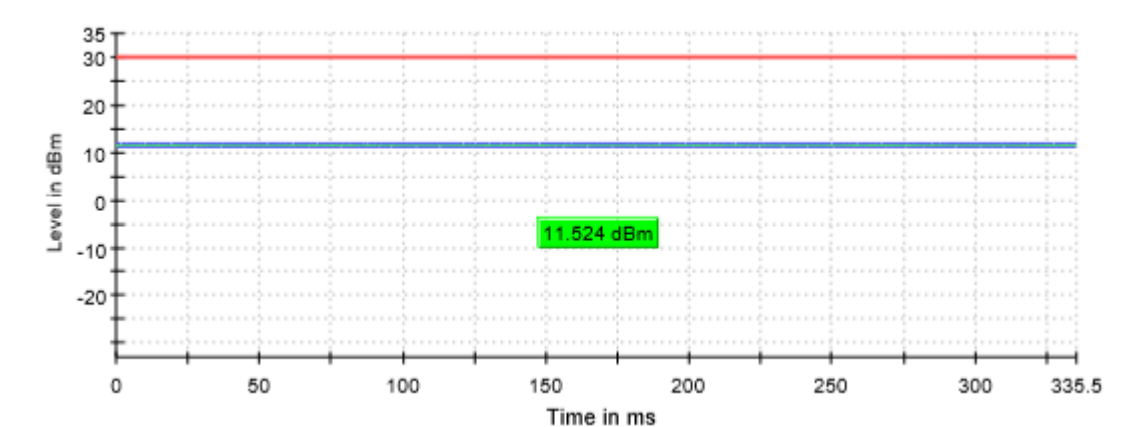
Maximum declared antenna gain: +3.0 dBi

Port 1(SISO)

	Lowest frequency 2412 MHz	Middle frequency 2437 MHz	Highest frequency 2462 MHz
Maximum conducted power (dBm)	11.5	12.1	12.5
Maximum EIRP power (dBm)	14.5	15.1	15.5
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.

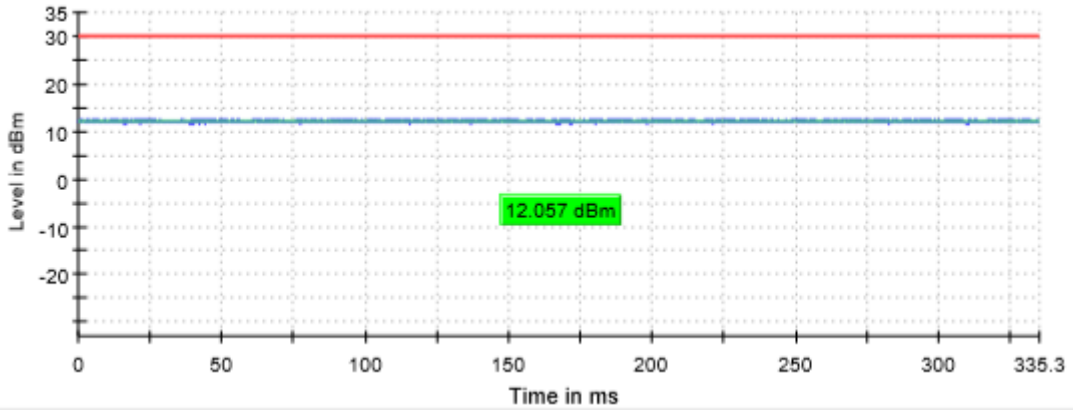
Lowest Channel



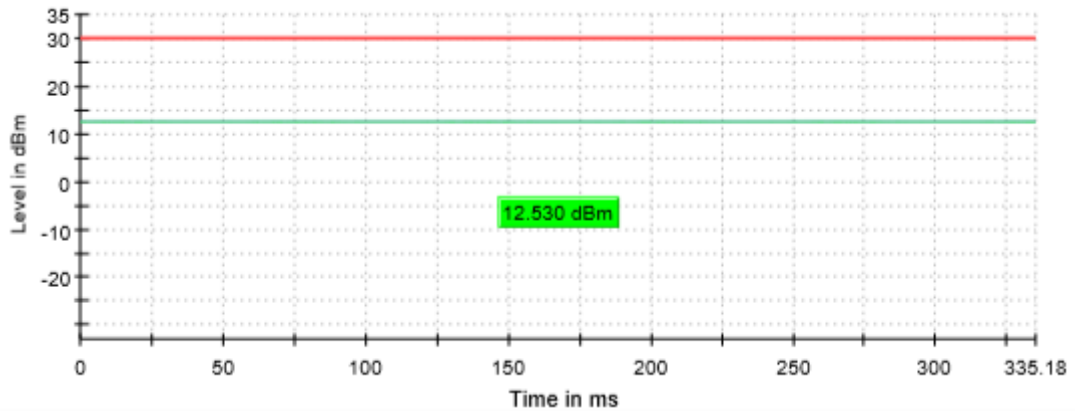
TEST RESULTS (Cont.):

CONDUCTED OUTPUT POWER

Middle Channel



Highest Channel



TESTED SAMPLES:	S/01
TESTED CONDITIONS MODES:	TC#02 (g mode CHIP 2)
TEST RESULTS:	PASS

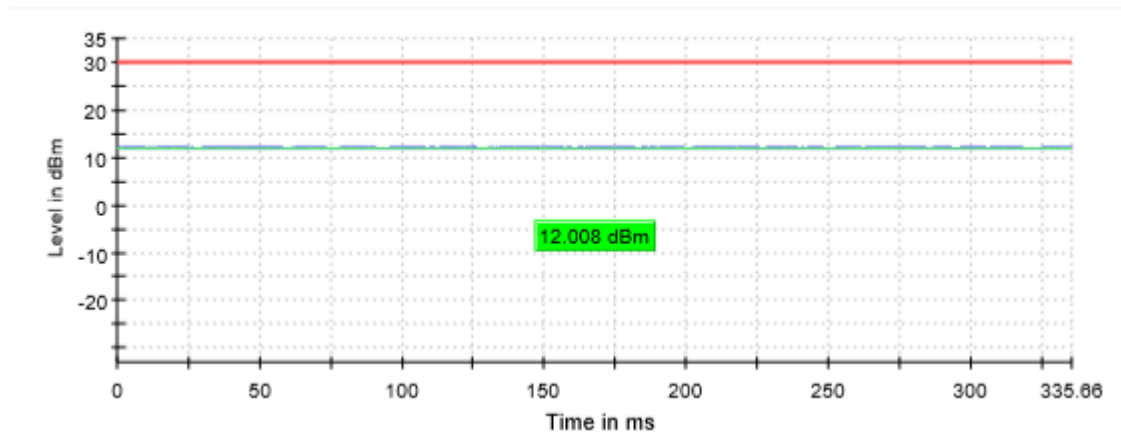
Maximum declared antenna gain: +3.0 dBi

Port 3 (SISO)

	Lowest frequency 2412 MHz	Middle frequency 2437 MHz	Highest frequency 2462 MHz
Maximum conducted power (dBm)	12.0	12.4	12.8
Maximum EIRP power (dBm)	15.0	15.4	15.8
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.

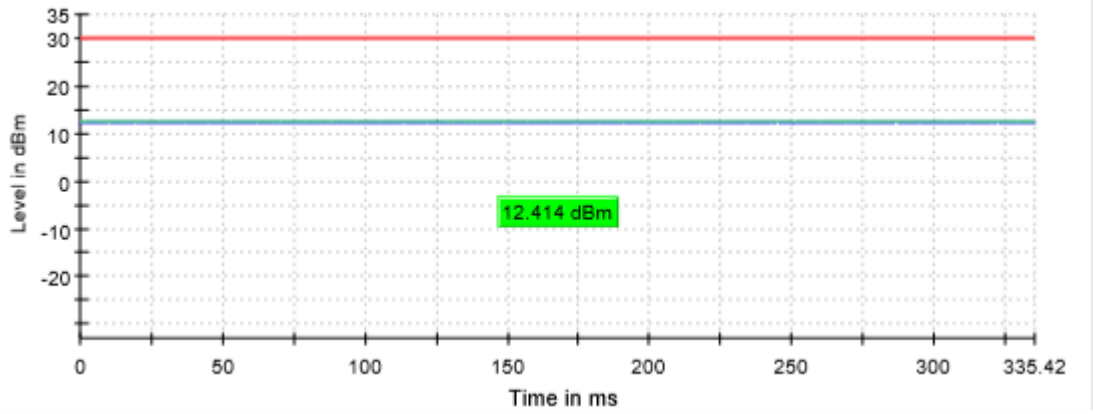
Lowest Channel



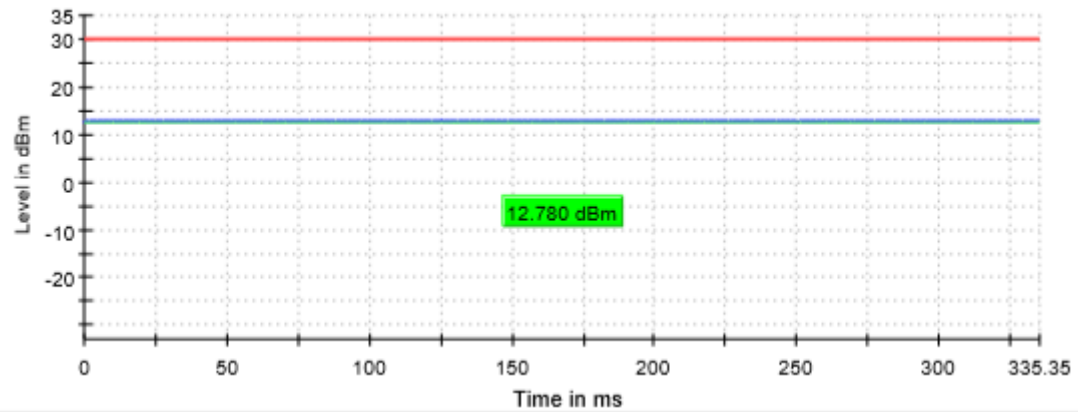
TEST RESULTS (Cont.):

CONDUCTED OUTPUT POWER

Middle Channel



Highest Channel



TESTED SAMPLES:	S/01
TESTED CONDITIONS MODES:	TC#03 (n20 mode CHIP 1)
TEST RESULTS:	PASS

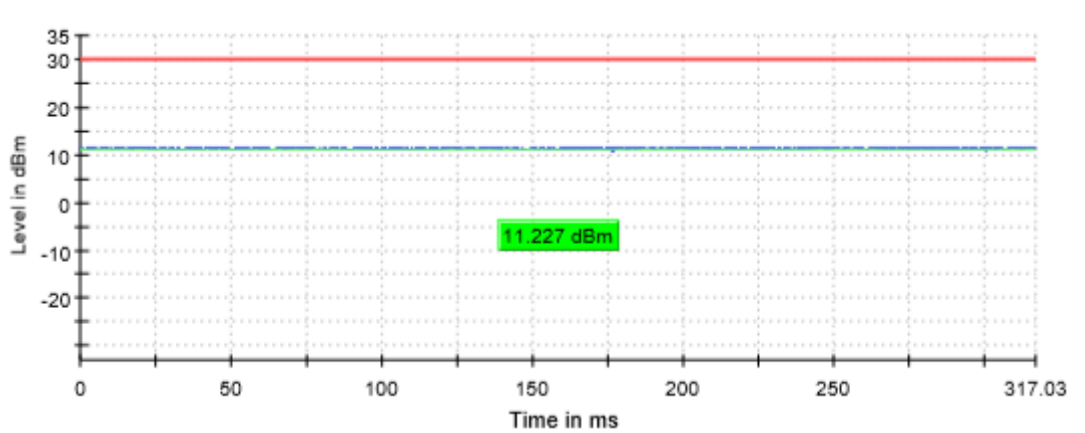
Maximum declared antenna gain: +3.0 dBi

Port 1 (SISO)

	Lowest frequency 2412 MHz	Middle frequency 2437 MHz	Highest frequency 2462 MHz
Maximum conducted power (dBm)	11.2	11.6	12.2
Maximum EIRP power (dBm)	14.2	14.6	15.2
Measurement uncertainty (dB)	<±0.78		

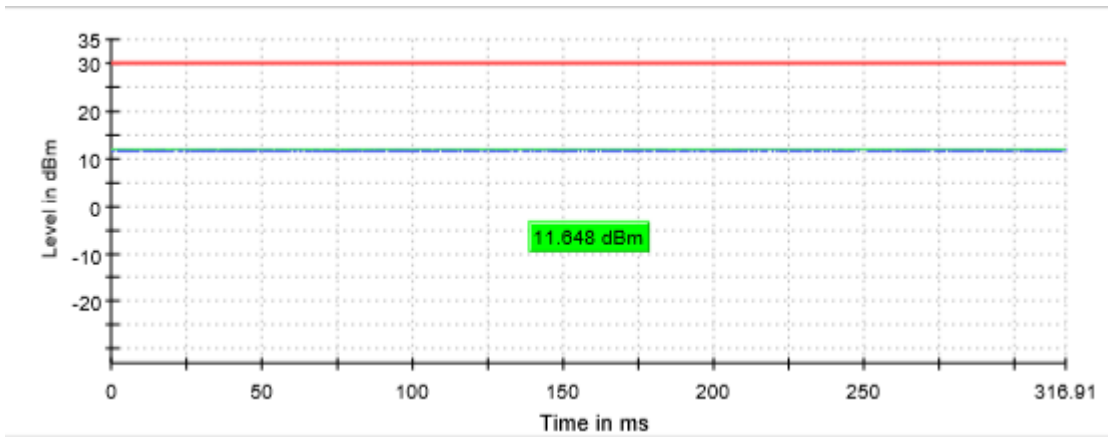
The maximum directional gain of the antenna is less than 6 dBi and therefore the maximum output power is not required to be reduced from the stated values.

Lowest Channel

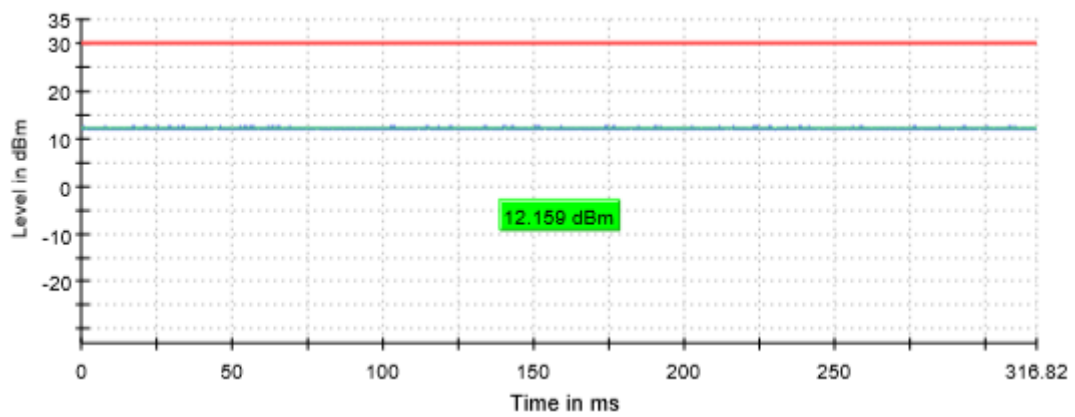


TEST RESULTS (Cont.)

Middle Channel



Highest Channel



TESTED SAMPLES:	S/01
TESTED CONDITIONS MODES:	TC#03 (n20 mode CHIP 2)
TEST RESULTS:	PASS

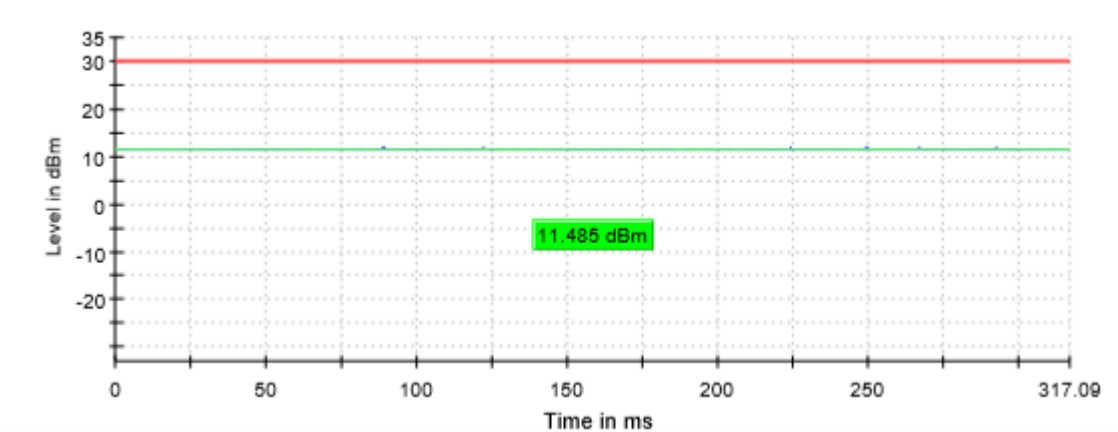
Maximum declared antenna gain: +3.0 dBi

Port 3 (SISO)

	Lowest frequency 2412 MHz	Middle frequency 2437 MHz	Highest frequency 2462 MHz
Maximum conducted power (dBm)	11.5	12.2	12.5
Maximum EIRP power (dBm)	14.5	15.2	15.5
Measurement uncertainty (dB)	<±0.78		

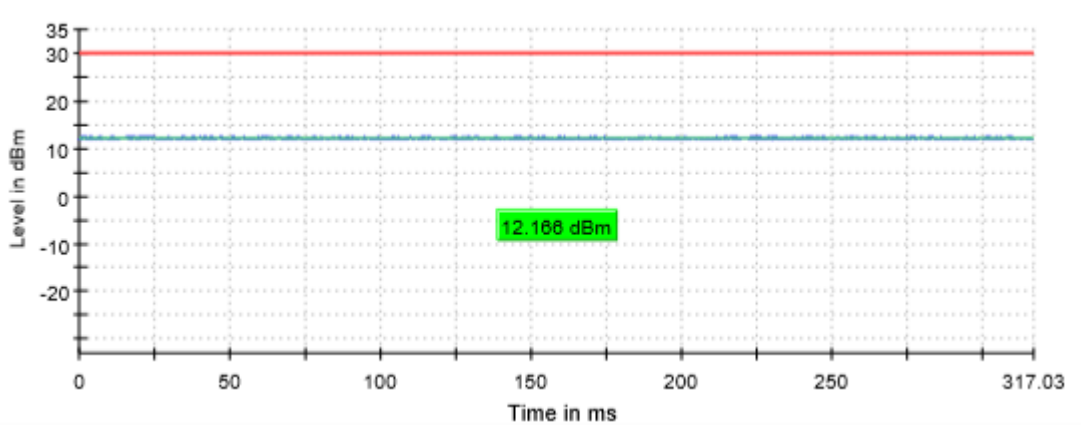
The maximum directional gain of the antenna is less than 6 dBi and therefore the maximum output power is not required to be reduced from the stated values.

Lowest Channel

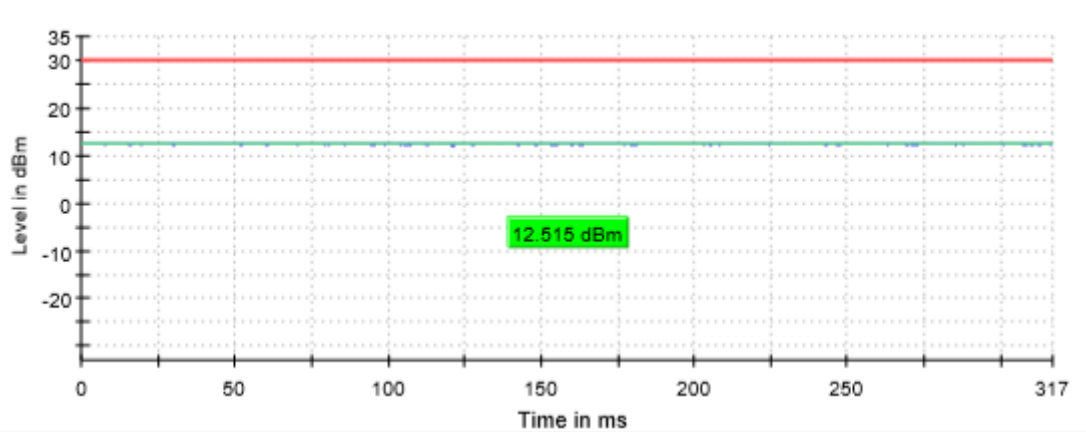


TEST RESULTS (Cont.)

Middle Channel



Highest Channel



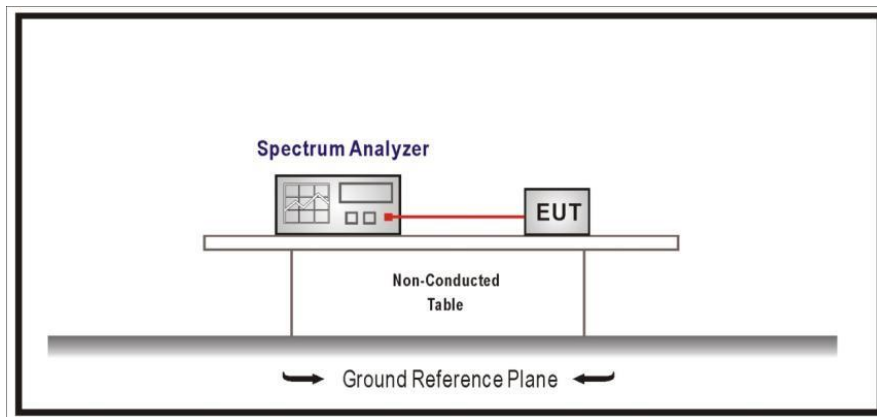
TEST B.3: BAND-EDGE EMISSIONS COMPLIANCE (TRANSMITTER)

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.

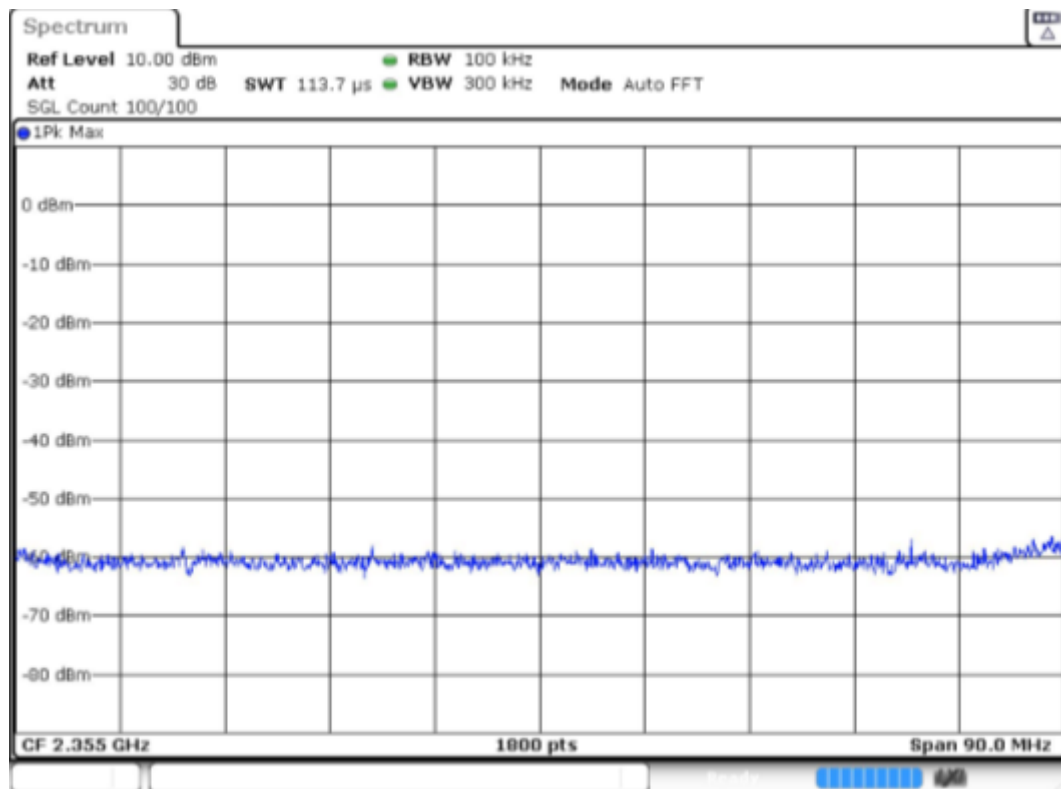
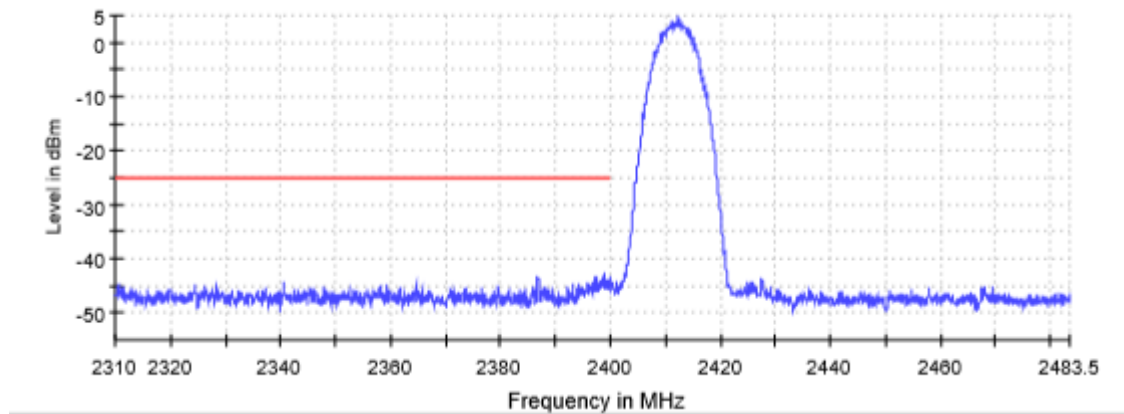
TEST SETUP



TESTED SAMPLES:	S/01
TESTED CONDITIONS MODES:	TC#01 (b mode CHIP 1)
TEST RESULTS:	PASS

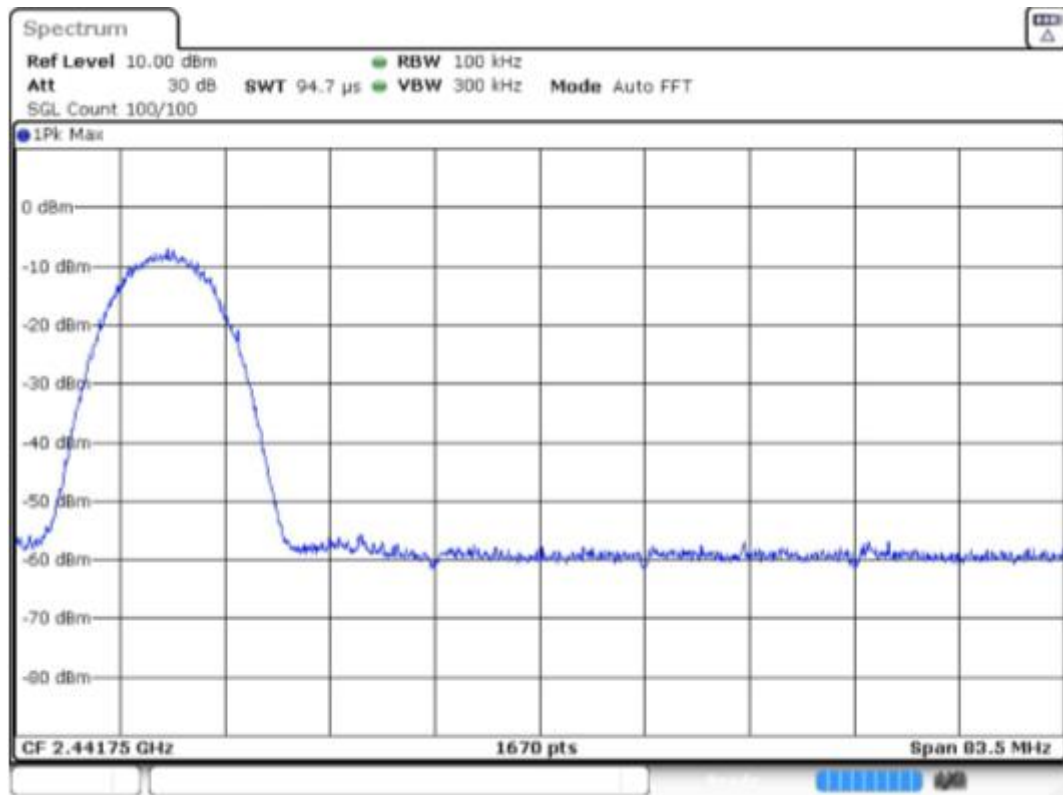
Port 1

Lowest Channel



Date: 30.OCT.2019 11:05:41

TEST RESULTS (Cont.):



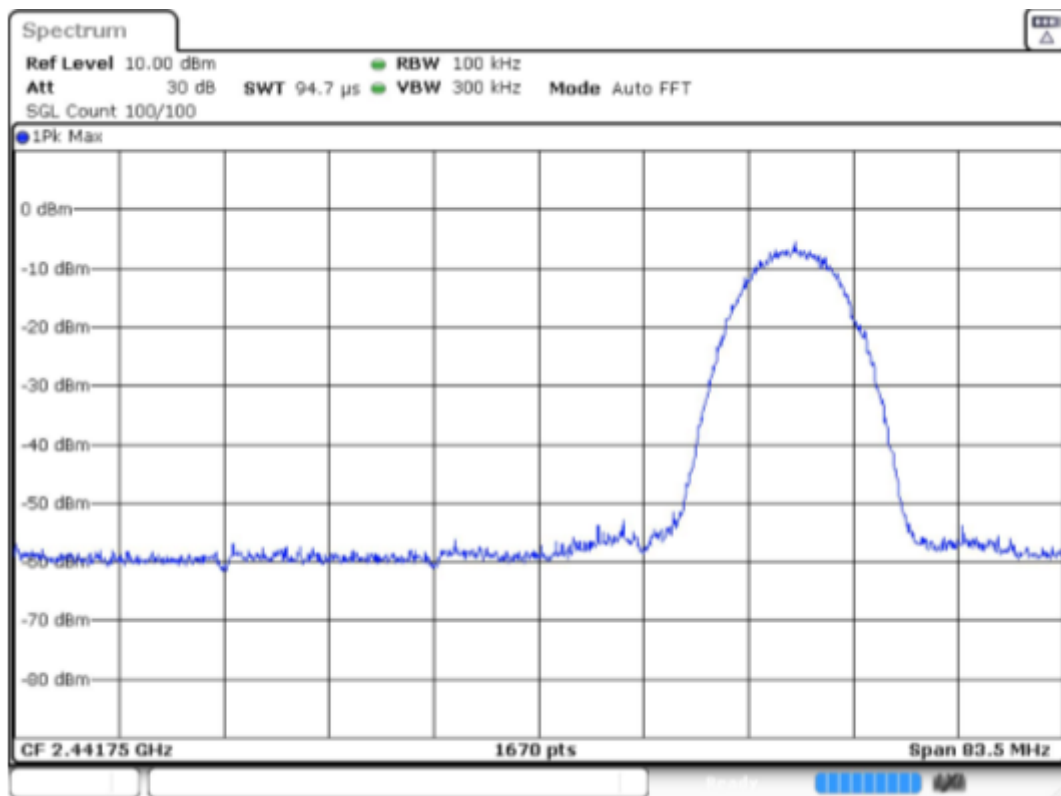
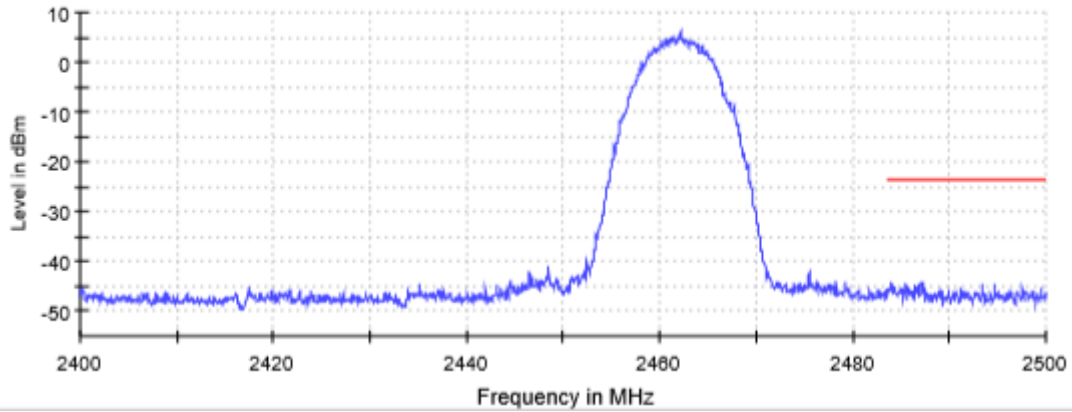
Date: 30.OCT.2019 11:06:41

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
Sweep Points	1800	1670
Sweep time	113.672 μ s	94.727 μ s
Reference Level	10.000 dBm	10.000 dBm
Attenuation	30.000 dB	30.000 dB
Detector	MaxPeak	MaxPeak
Sweep Count	100	100
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
Sweep type	FFT	FFT
Preamp	off	off
Stable mode	Trace	Trace
Stable value	0.50 dB	0.50 dB
Run	4 / max. 150	51 / max. 150
Stable	3 / 3	3 / 3
Max Stable Difference	0.00 dB	0.31 dB

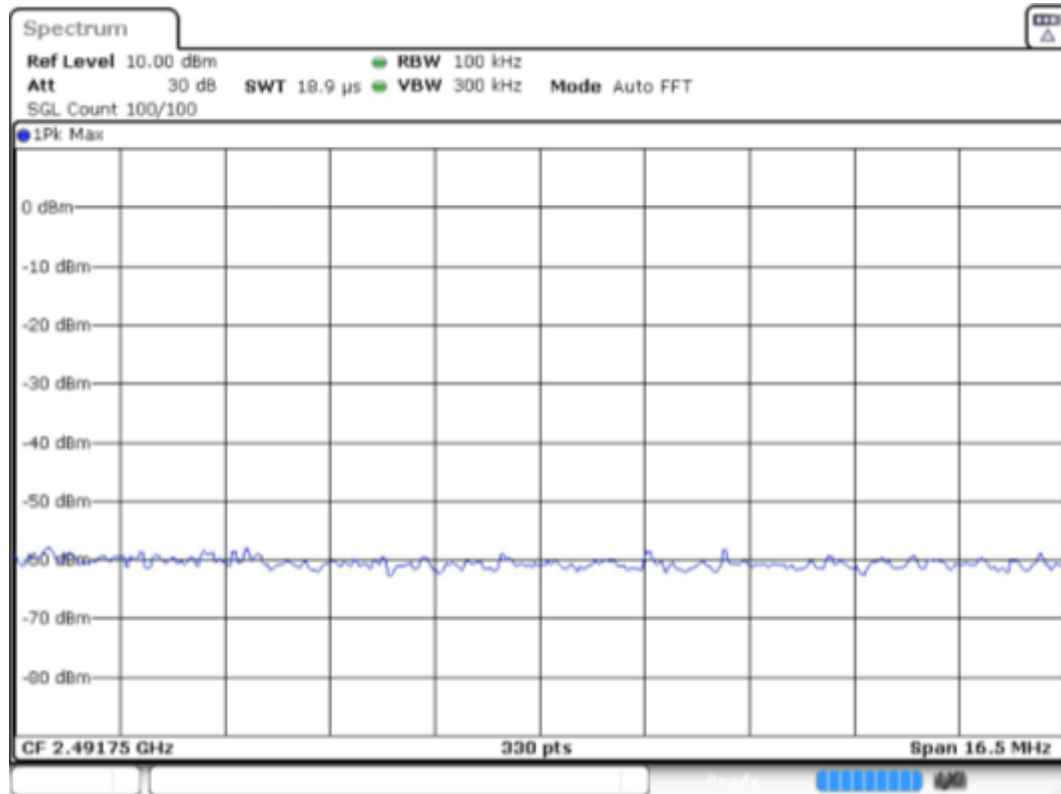
TEST RESULTS (Cont.):

Highest Channel



Date: 30.OCT.2019 11:41:25

TEST RESULTS (Cont.):



Date: 30.OCT.2019 11:41:30

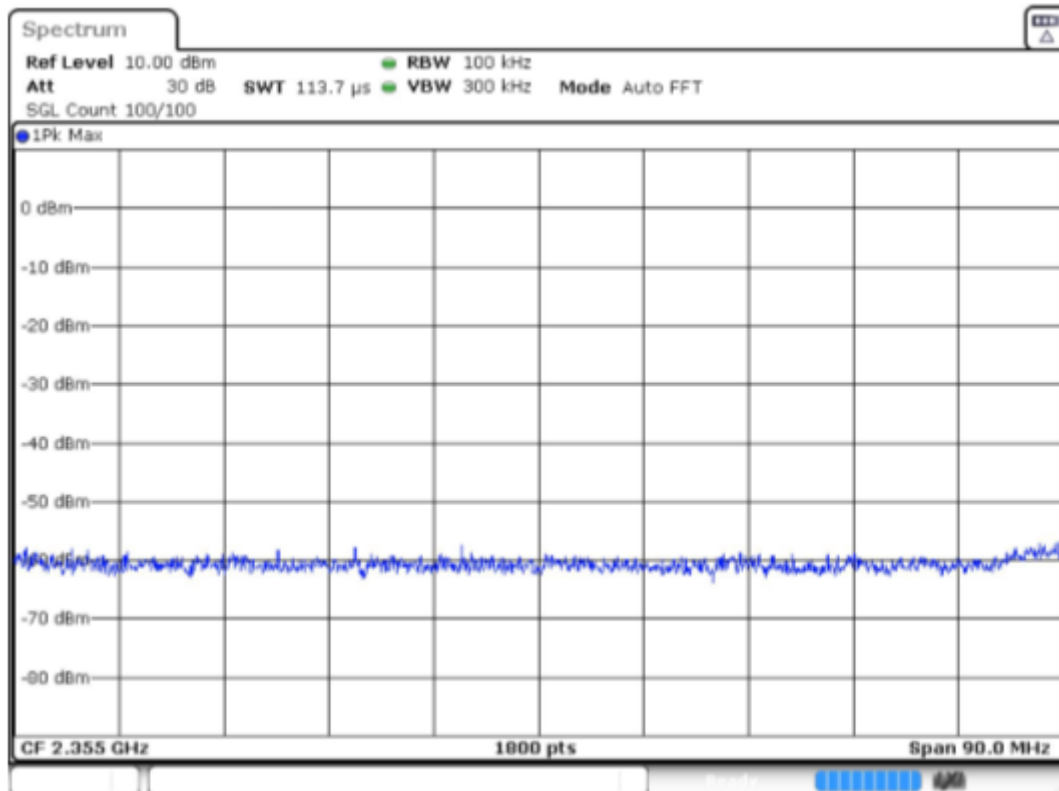
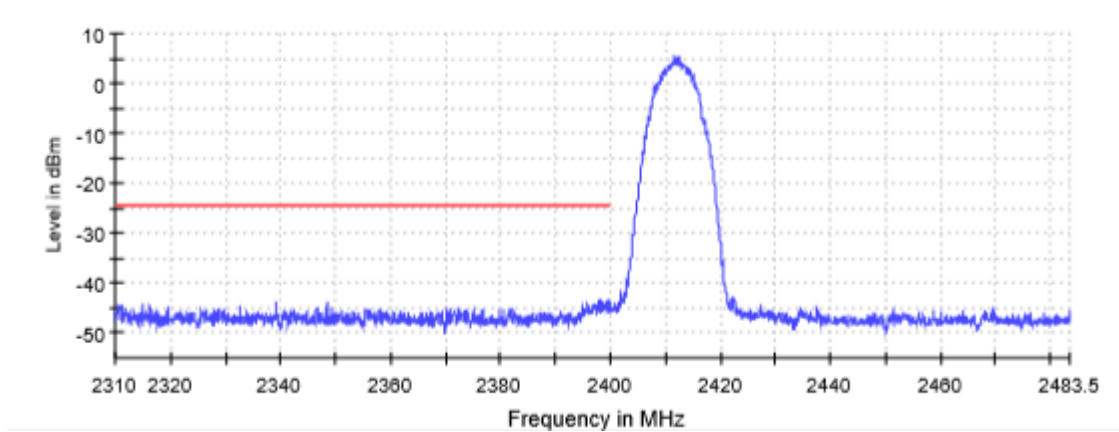
Measurement

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
Sweep Points	1670	330
Sweep time	94.727 μ s	18.945 μ s
Reference Level	10.000 dBm	10.000 dBm
Attenuation	30.000 dB	30.000 dB
Detector	MaxPeak	MaxPeak
Sweep Count	100	100
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
Sweep type	FFT	FFT
Preamp	off	off
Stable mode	Trace	Trace
Stable value	0.50 dB	0.50 dB
Run	72 / max. 150	4 / max. 150
Stable	3 / 3	3 / 3
Max Stable Difference	0.09 dB	0.00 dB

TESTED SAMPLES:	S/01
TESTED CONDITIONS MODES:	TC#01 (b mode CHIP 2)
TEST RESULTS:	PASS

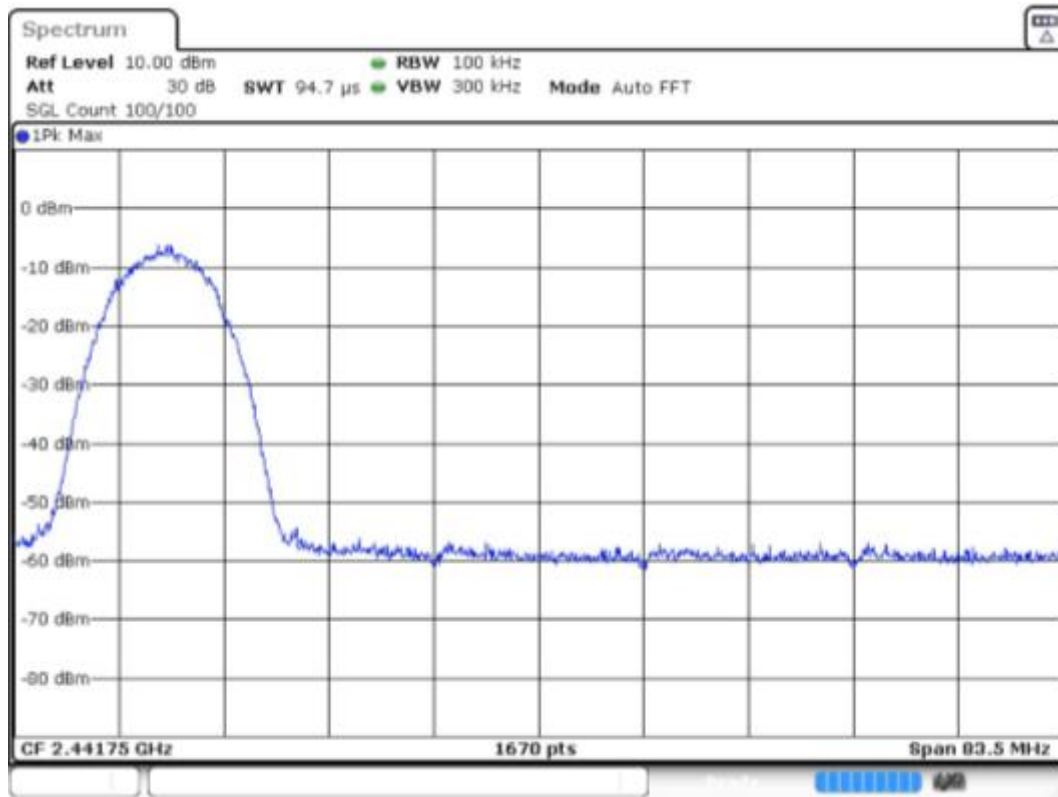
Port 3

Lowest Channel



Date: 31.OCT.2019 09:54:00

TEST RESULTS (Cont.):



Date: 31.OCT.2019 09:55:08

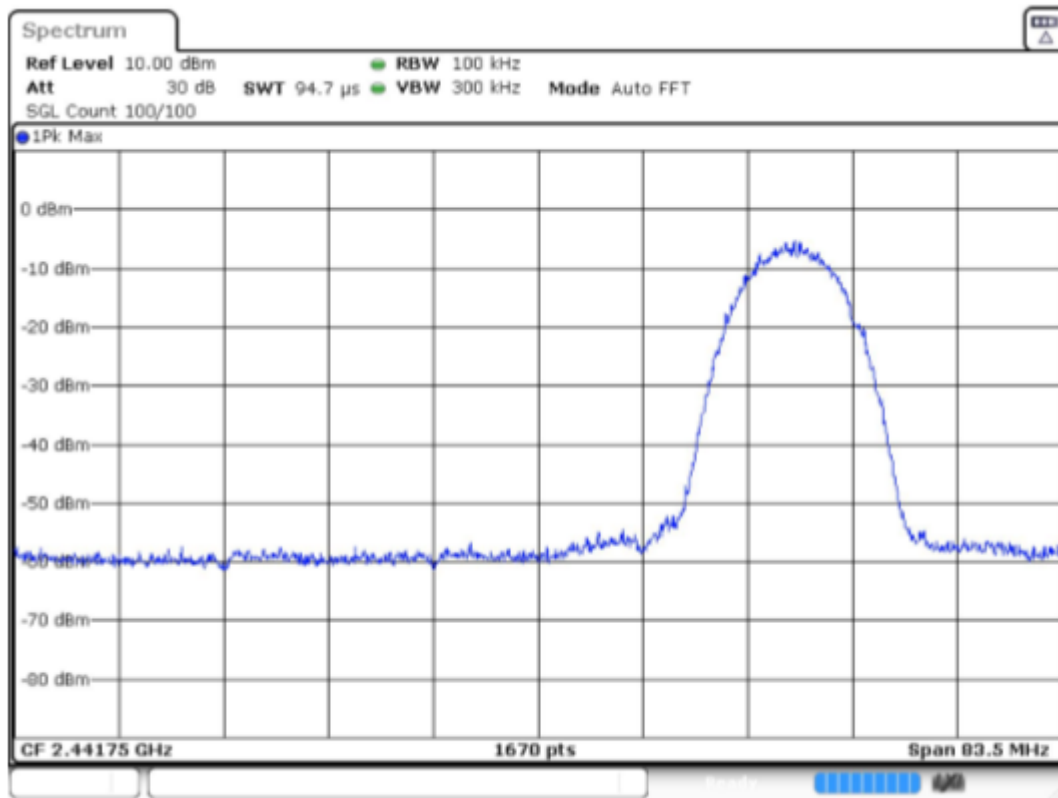
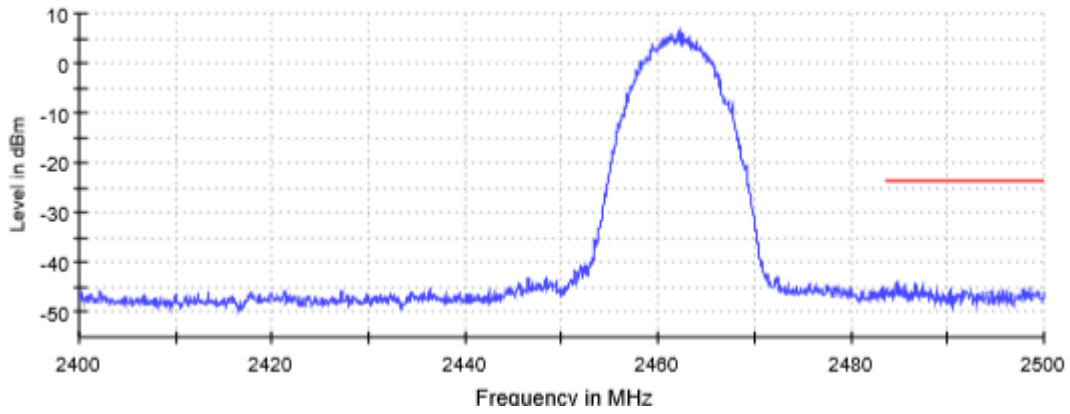
Measurement

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
Sweep Points	1800	1670
Sweep time	113.672 μ s	94.727 μ s
Reference Level	10.000 dBm	10.000 dBm
Attenuation	30.000 dB	30.000 dB
Detector	MaxPeak	MaxPeak
Sweep Count	100	100
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
Sweep type	FFT	FFT
Preamp	off	off
Stable mode	Trace	Trace
Stable value	0.50 dB	0.50 dB
Run	4 / max. 150	58 / max. 150
Stable	3 / 3	3 / 3
Max Stable Difference	0.00 dB	0.47 dB

TEST RESULTS (Cont.):

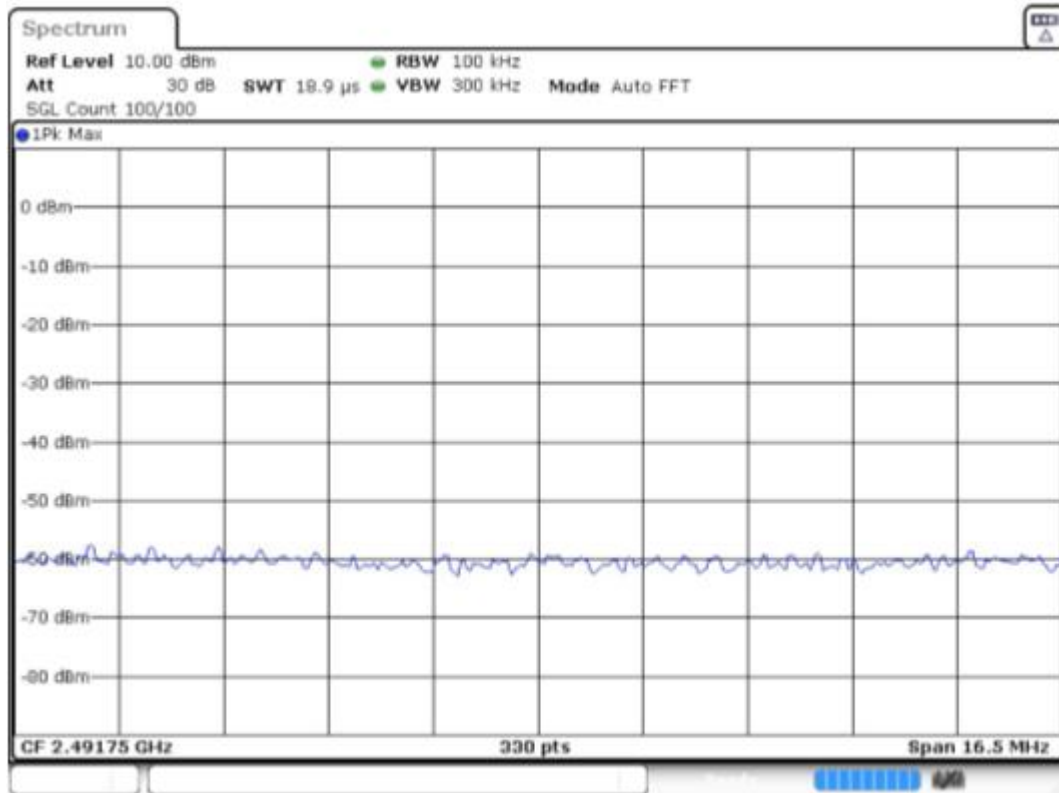
Highest Channel

Highest Channel



Date: 31.OCT.2019 10:29:47

TEST RESULTS (Cont.):



Date: 31.OCT.2019 10:29:53

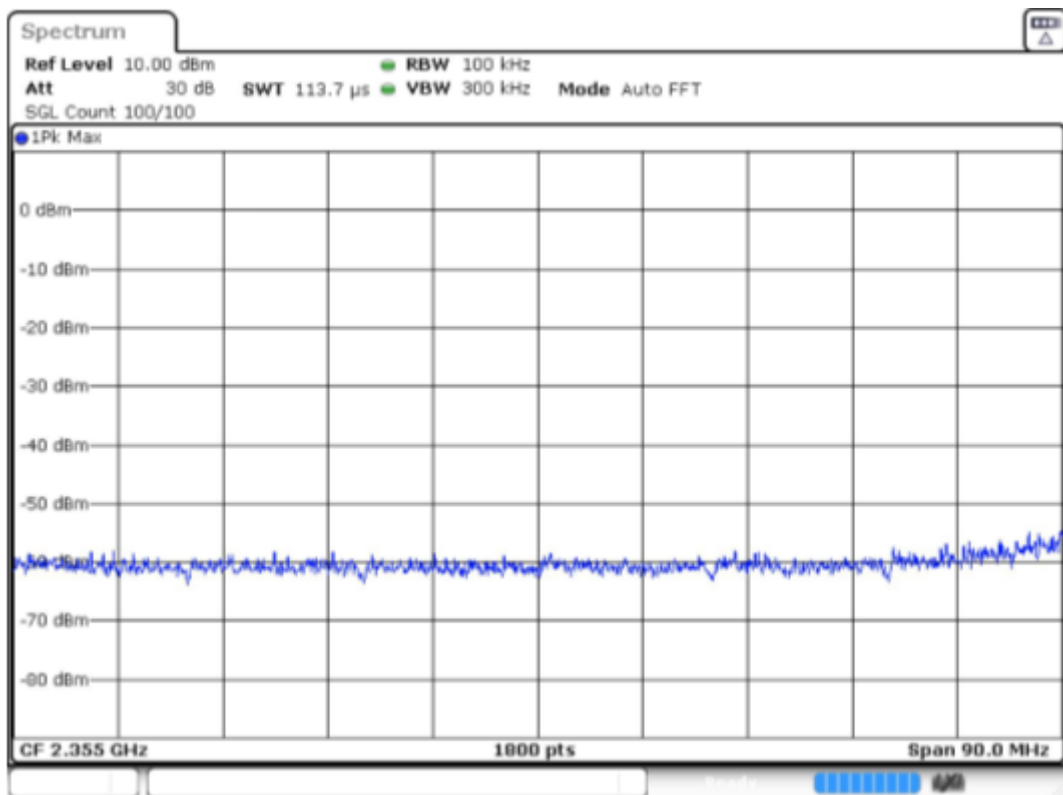
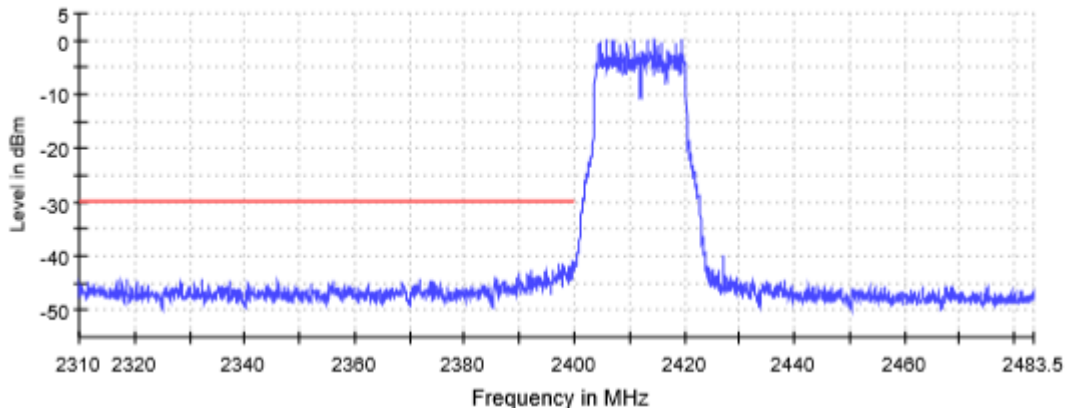
Measurement

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
Sweep Points	1670	330
Sweep time	94.727 μ s	18.945 μ s
Reference Level	10.000 dBm	10.000 dBm
Attenuation	30.000 dB	30.000 dB
Detector	MaxPeak	MaxPeak
Sweep Count	100	100
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
Sweep type	FFT	FFT
Preamp	off	off
Stable mode	Trace	Trace
Stable value	0.50 dB	0.50 dB
Run	61 / max. 150	4 / max. 150
Stable	3 / 3	3 / 3
Max Stable Difference	0.37 dB	0.00 dB

TESTED SAMPLES:	S/01
TESTED CONDITIONS MODES:	TC#02 (g mode CHIP 1)
TEST RESULTS:	PASS

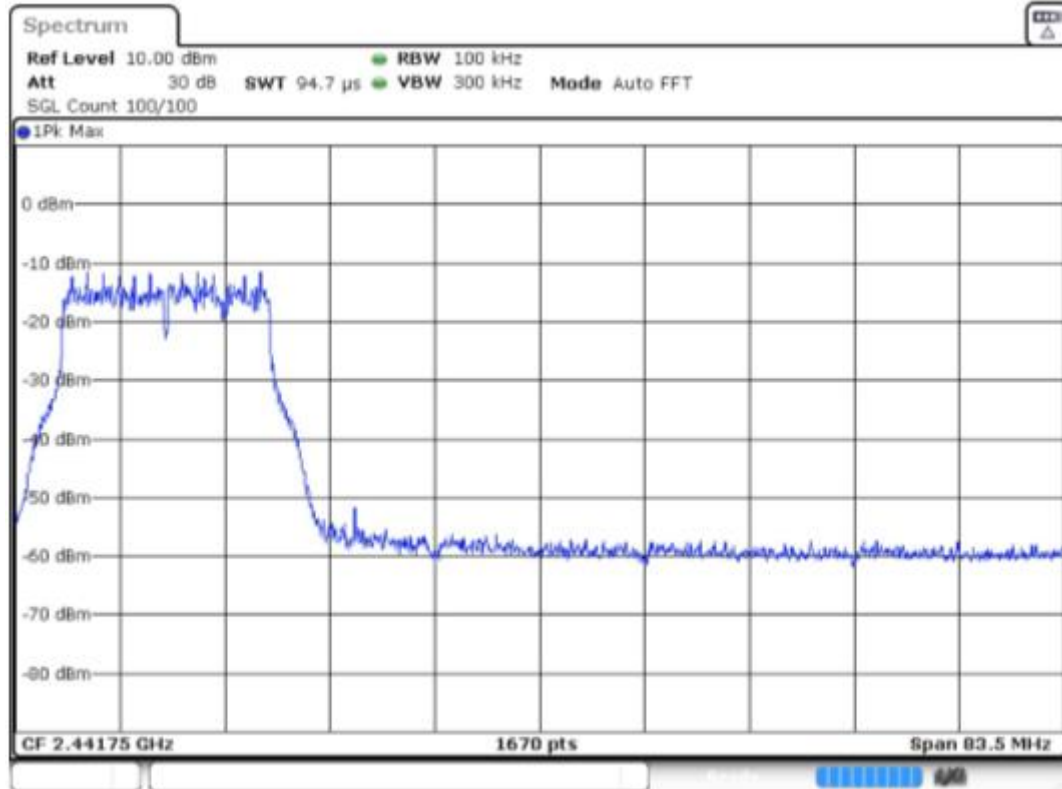
Port 1

Lowest Channel



Date: 30.OCT.2019 12:15:30

TEST RESULTS (Cont.):



Date: 30.OCT.2019 12:16:01

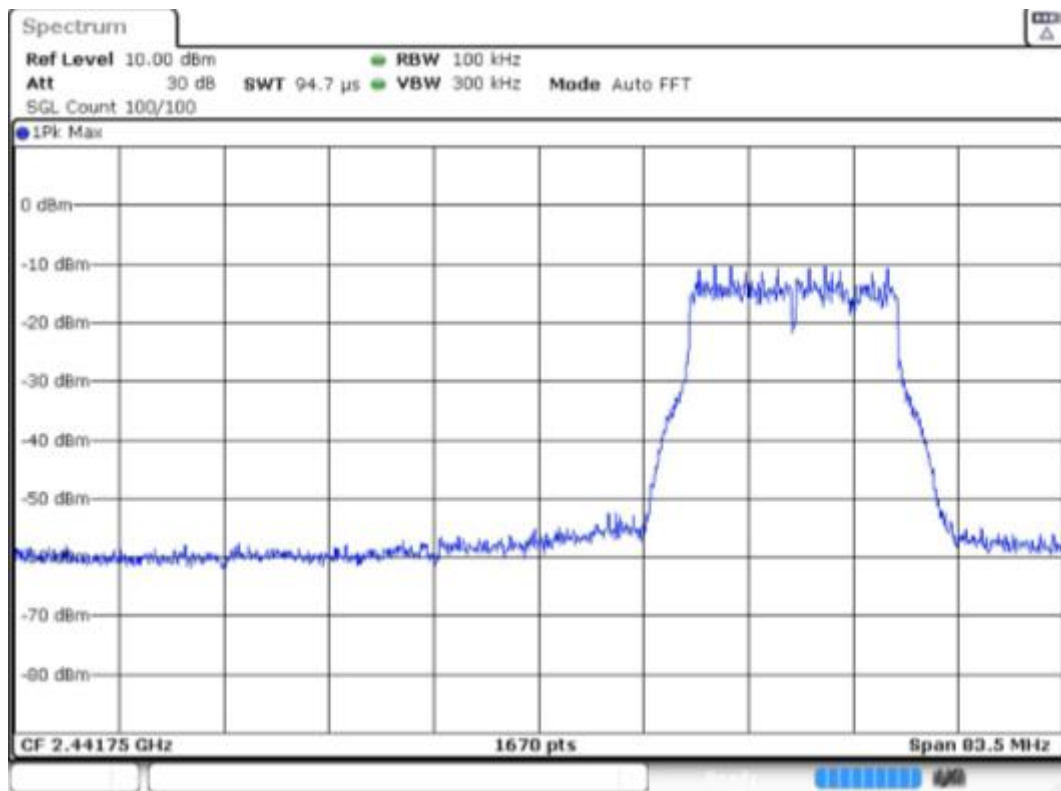
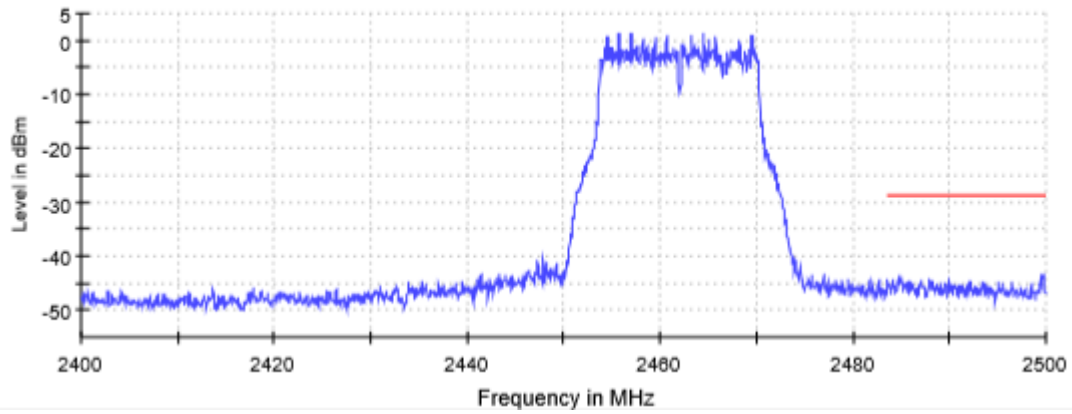
Measurement

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
Sweep Points	1800	1670
Sweep time	113.672 μ s	94.727 μ s
Reference Level	10.000 dBm	10.000 dBm
Attenuation	30.000 dB	30.000 dB
Detector	MaxPeak	MaxPeak
Sweep Count	100	100
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
Sweep type	FFT	FFT
Preamp	off	off
Stable mode	Trace	Trace
Stable value	0.50 dB	0.50 dB
Run	4 / max. 150	24 / max. 150
Stable	3 / 3	3 / 3
Max Stable Difference	0.00 dB	0.15 dB

TEST RESULTS (Cont.):

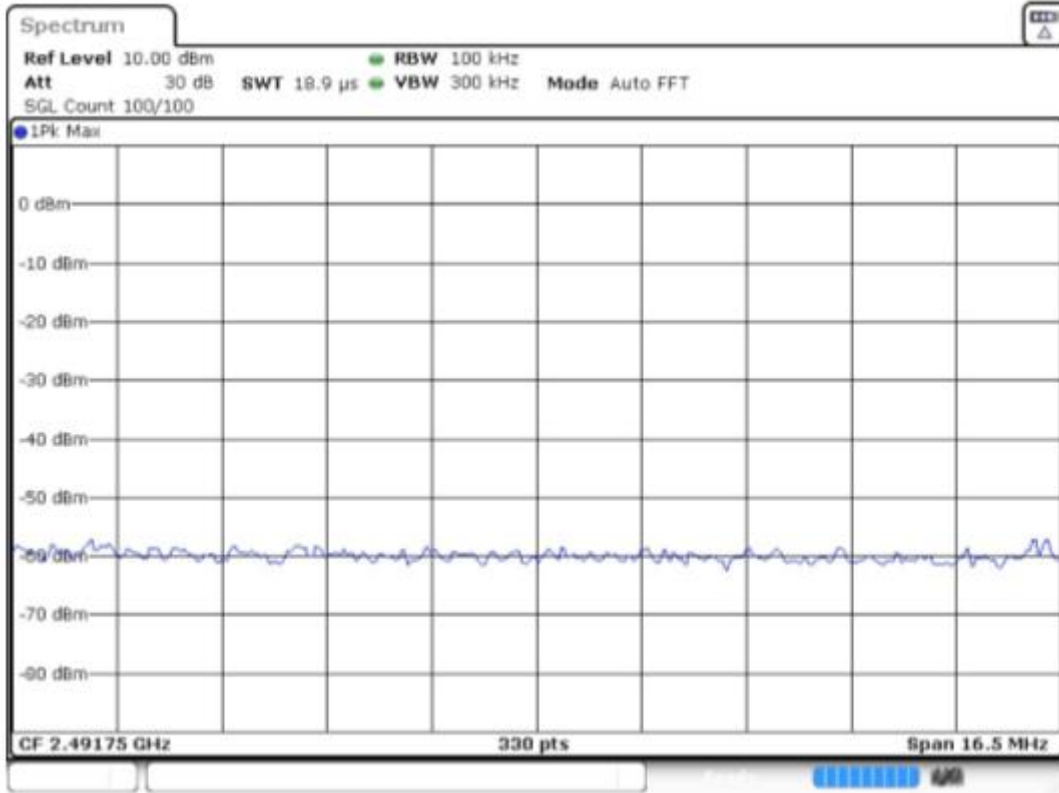
Highest Channel

Highest Channel



Date: 30.OCT.2019 12:53:05

TEST RESULTS (Cont.):



Date: 30.OCT.2019 12:53:10

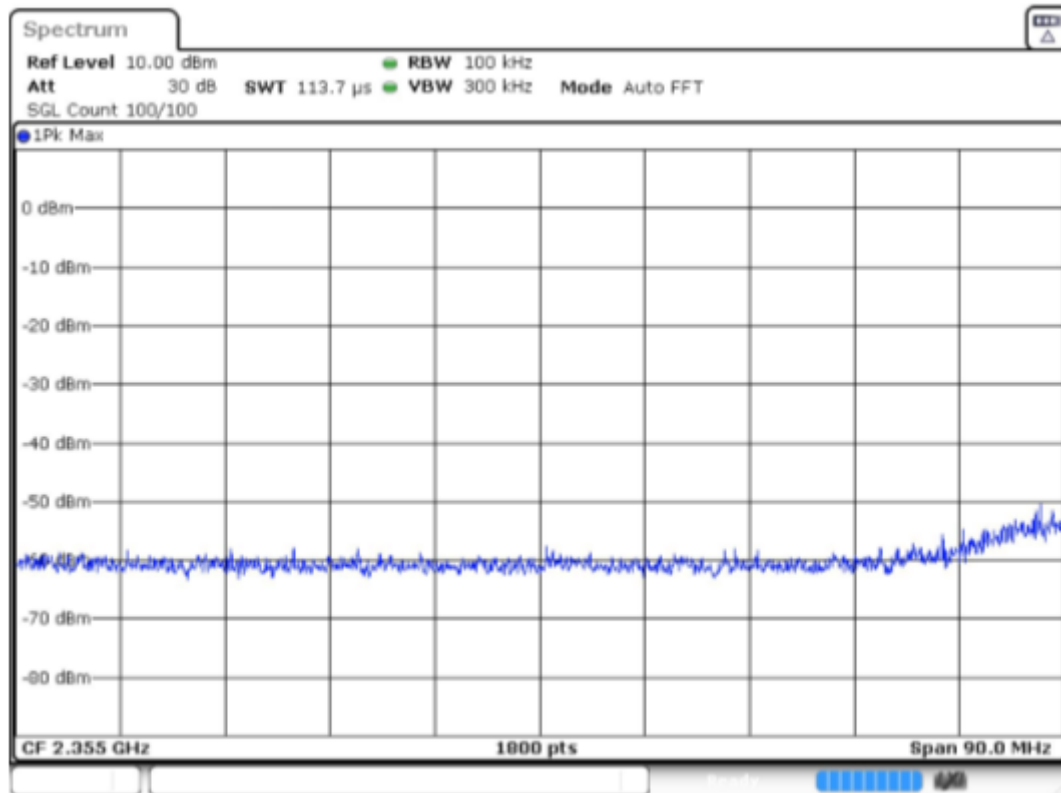
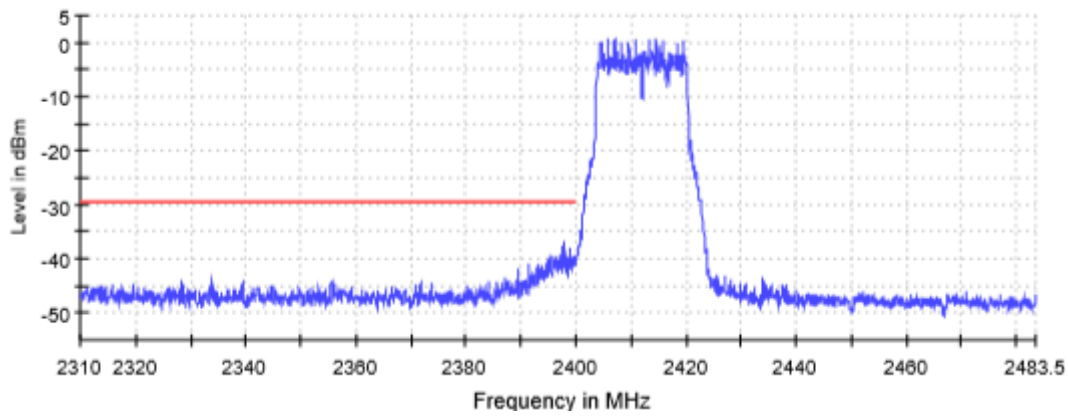
Measurement

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
Sweep Points	1670	330
Sweep time	94.727 μ s	18.945 μ s
Reference Level	10.000 dBm	10.000 dBm
Attenuation	30.000 dB	30.000 dB
Detector	MaxPeak	MaxPeak
Sweep Count	100	100
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
Sweep type	FFT	FFT
Preamp	off	off
Stable mode	Trace	Trace
Stable value	0.50 dB	0.50 dB
Run	15 / max. 150	4 / max. 150
Stable	3 / 3	3 / 3
Max Stable Difference	0.14 dB	0.00 dB

TESTED SAMPLES:	S/01
TESTED CONDITIONS MODES:	TC#02 (g mode CHIP 2)
TEST RESULTS:	PASS

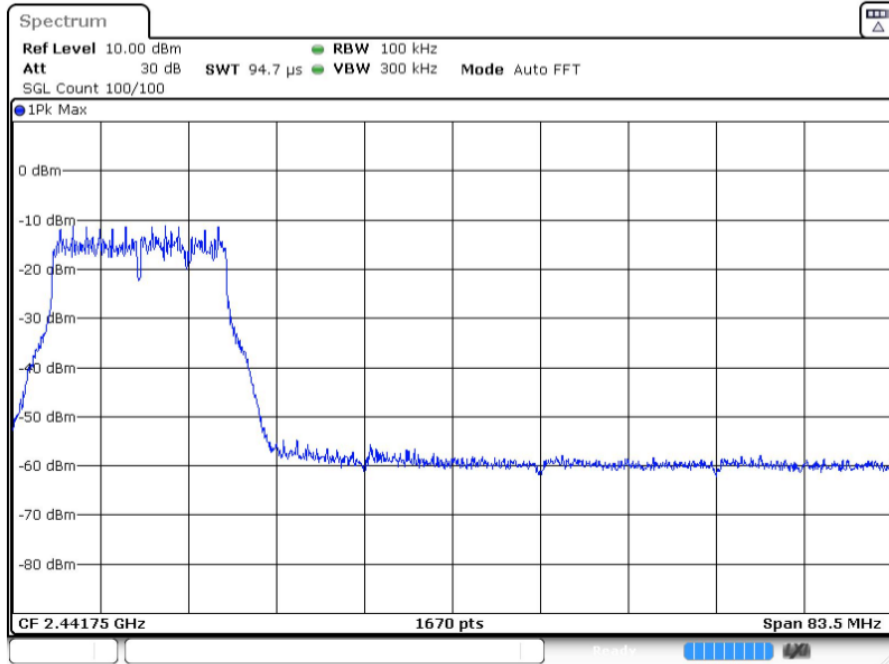
Port 3

Lowest Channel



Date: 31.OCT.2019 11:19:17

TEST RESULTS (Cont.):



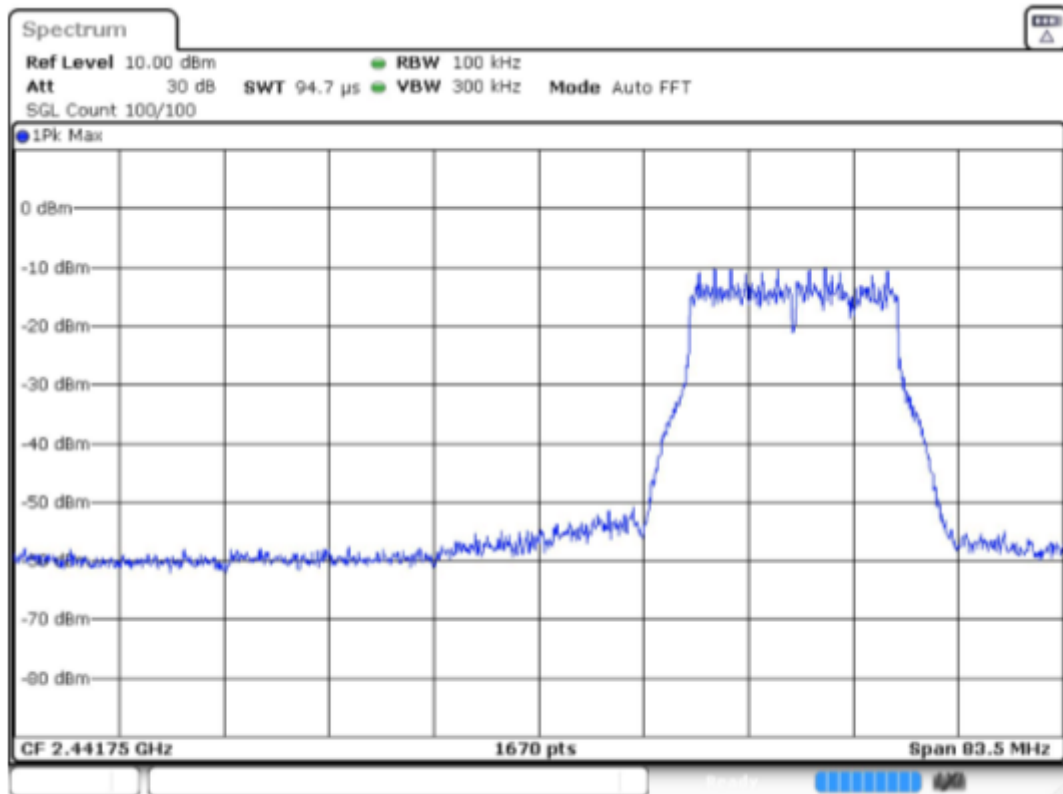
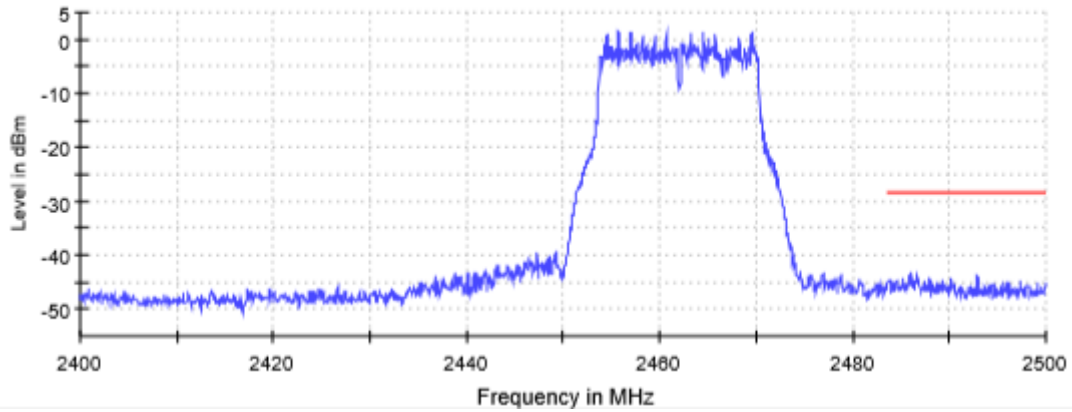
Date: 31.OCT.2019 11:19:41

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
Sweep Points	1670	330
Sweep time	94.727 μ s	18.945 μ s
Reference Level	10.000 dBm	10.000 dBm
Attenuation	30.000 dB	30.000 dB
Detector	MaxPeak	MaxPeak
Sweep Count	100	100
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
Sweep type	FFT	FFT
Preamp	off	off
Stable mode	Trace	Trace
Stable value	0.50 dB	0.50 dB
Run	17 / max. 150	4 / max. 150
Stable	3 / 3	3 / 3
Max Stable Difference	0.33 dB	0.00 dB

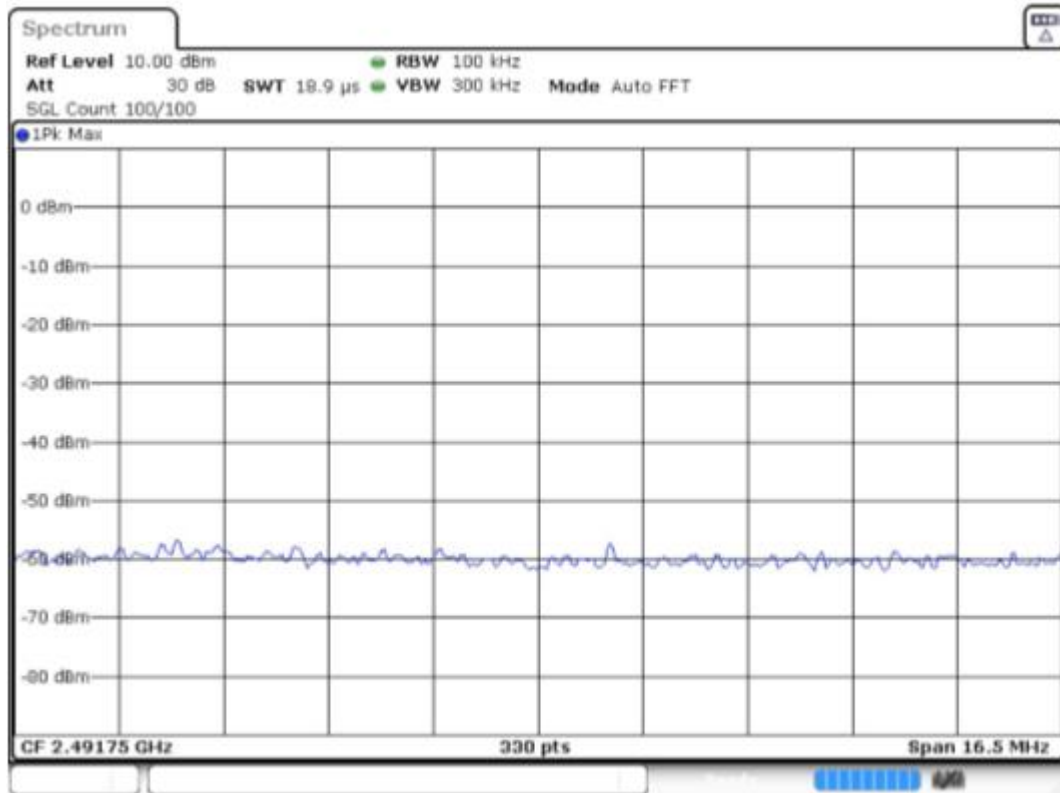
TEST RESULTS (Cont.):

Highest Channel



Date: 31.OCT.2019 11:59:34

TEST RESULTS (Cont.):



Date: 31.OCT.2019 11:59:39

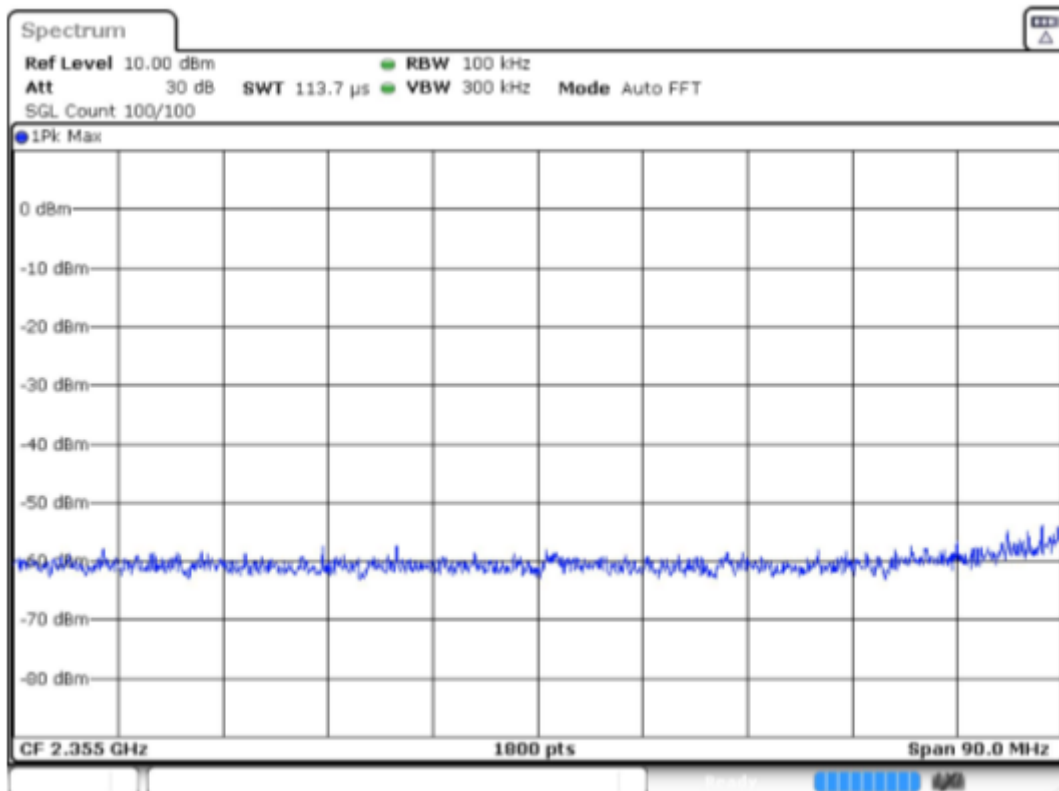
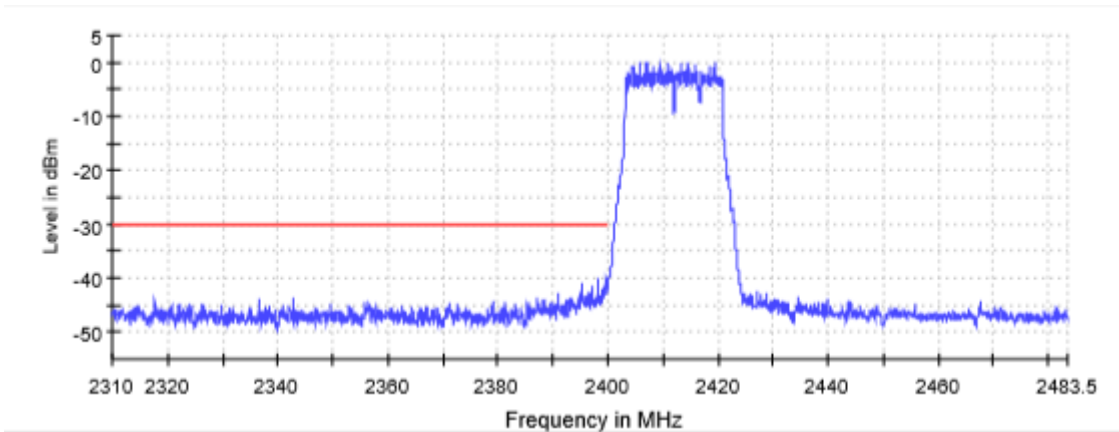
Measurement

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
Sweep Points	1670	330
Sweep time	94.727 μ s	18.945 μ s
Reference Level	10.000 dBm	10.000 dBm
Attenuation	30.000 dB	30.000 dB
Detector	MaxPeak	MaxPeak
Sweep Count	100	100
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
Sweep type	FFT	FFT
Preamp	off	off
Stable mode	Trace	Trace
Stable value	0.50 dB	0.50 dB
Run	18 / max. 150	4 / max. 150
Stable	3 / 3	3 / 3
Max Stable Difference	0.07 dB	0.00 dB

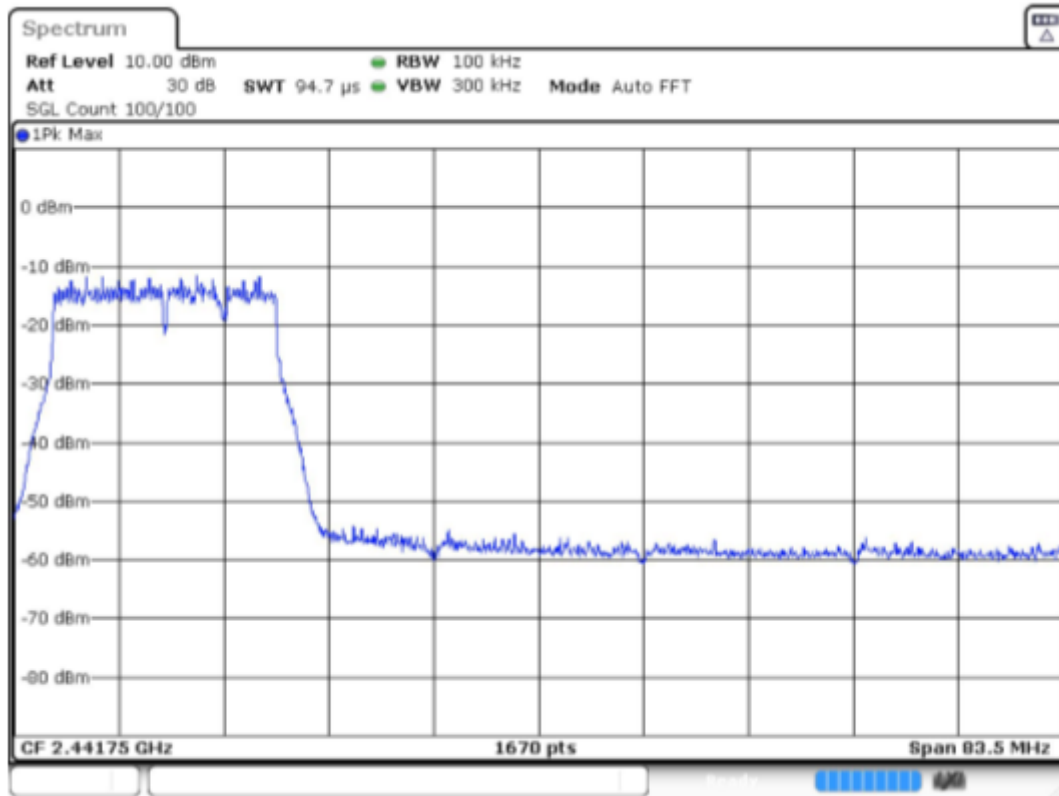
TESTED SAMPLES:	S/01
TESTED CONDITIONS MODES:	TC#03 (n20 mode CHIP 1)
TEST RESULTS:	PASS

Port 1

Lowest Channel



TEST RESULTS (Cont.):



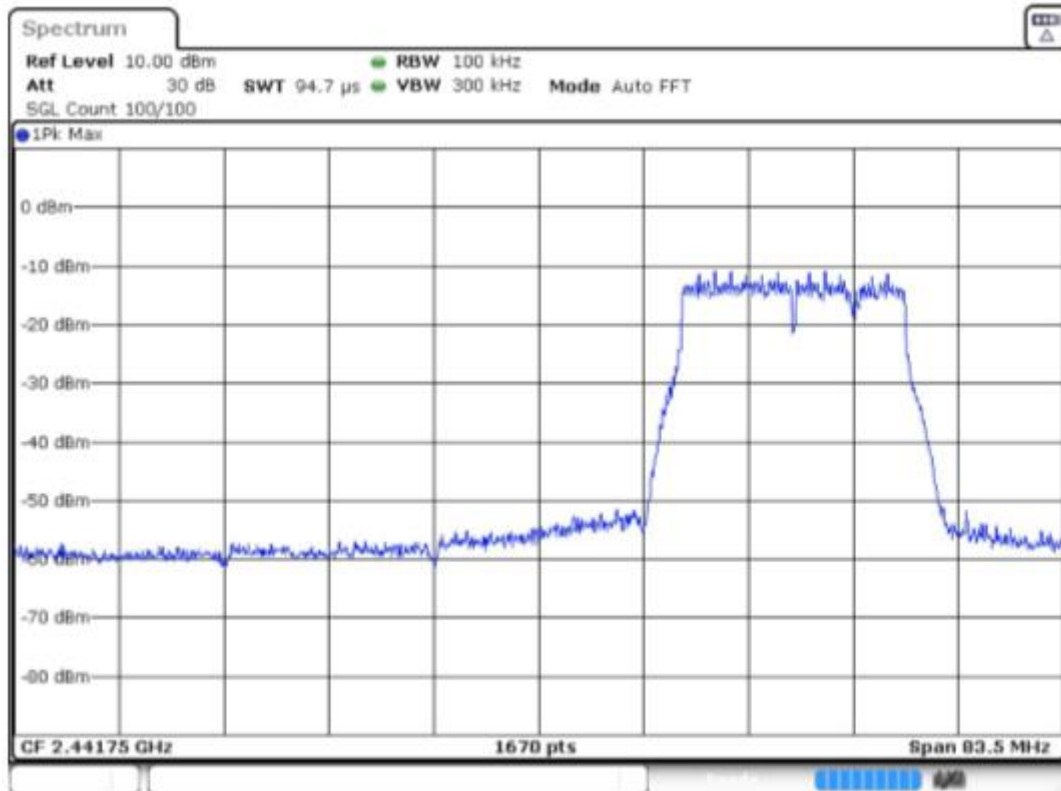
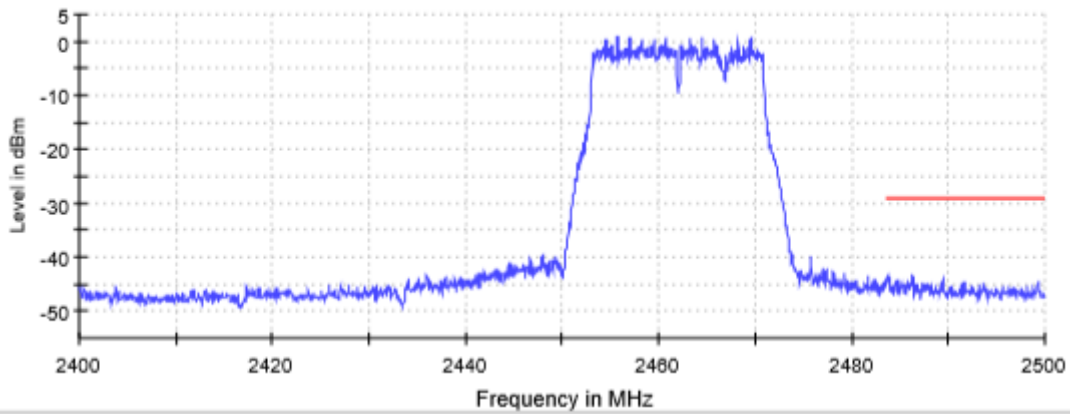
Date: 30.OCT.2019 13:34:33

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
Sweep Points	1800	1670
Sweep time	113.672 μ s	94.727 μ s
Reference Level	10.000 dBm	10.000 dBm
Attenuation	30.000 dB	30.000 dB
Detector	MaxPeak	MaxPeak
Sweep Count	100	100
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
Sweep type	FFT	FFT
Preamp	off	off
Stable mode	Trace	Trace
Stable value	0.50 dB	0.50 dB
Run	4 / max. 150	110 / max. 150
Stable	3 / 3	3 / 3
Max Stable Difference	0.00 dB	0.12 dB

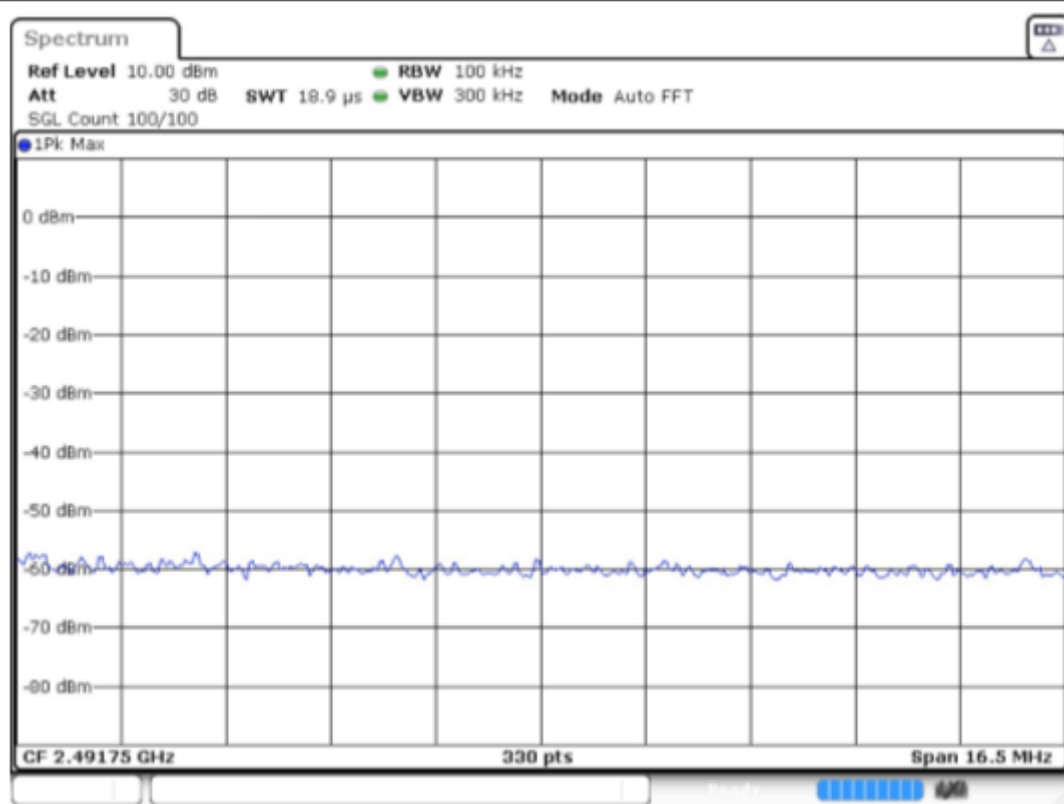
TEST RESULTS (Cont.):

Highest Channel



Date: 30.OCT.2019 14:27:14

TEST RESULTS (Cont.):



Date: 30.OCT.2019 14:27:19

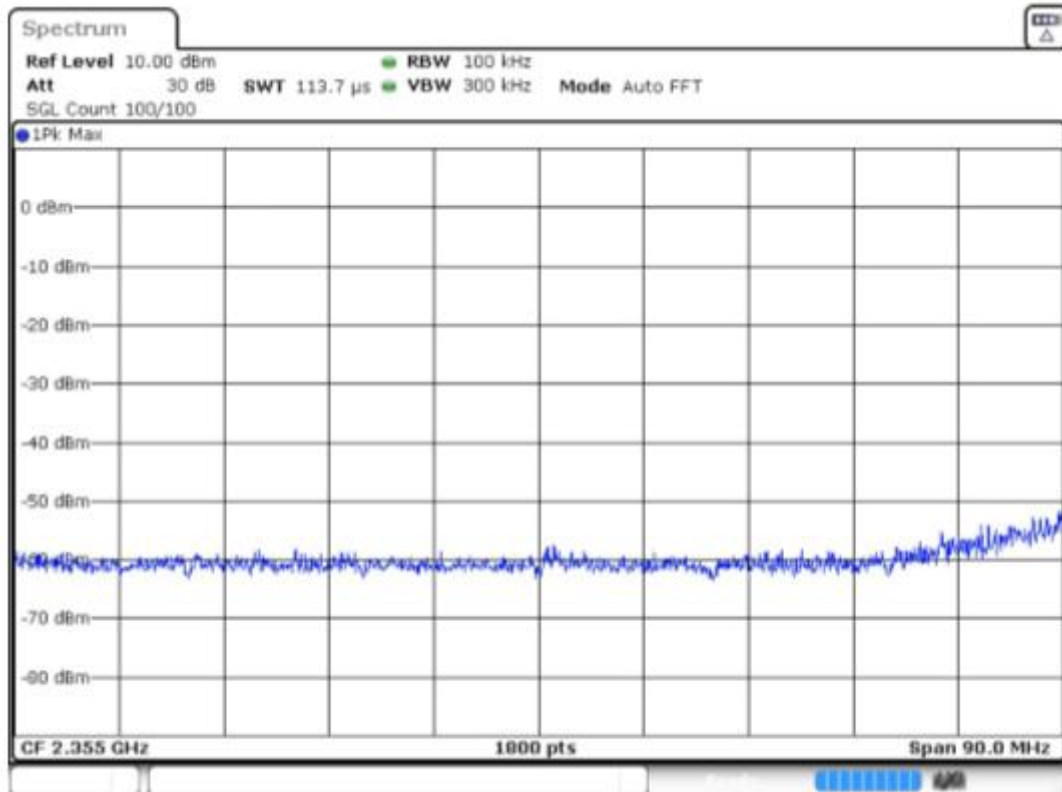
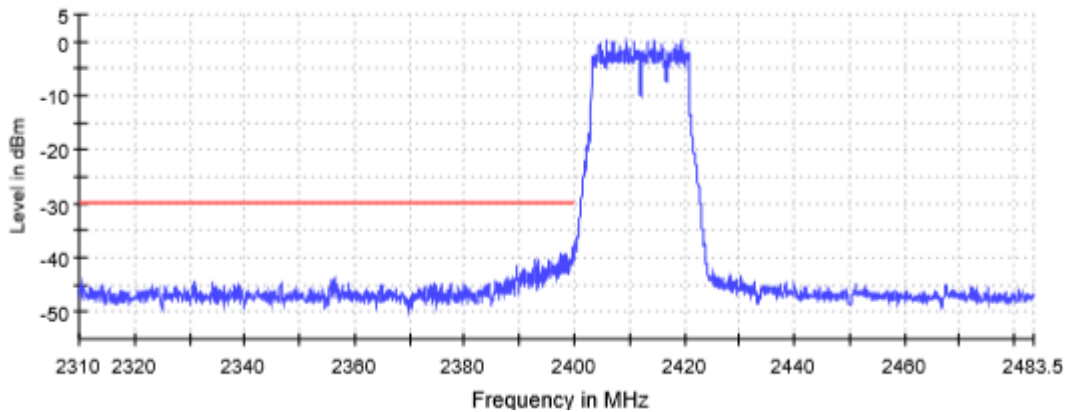
Measurement

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
Sweep Points	1670	330
Sweep time	94.727 μs	18.945 μs
Reference Level	10.000 dBm	10.000 dBm
Attenuation	30.000 dB	30.000 dB
Detector	MaxPeak	MaxPeak
Sweep Count	100	100
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
Sweep type	FFT	FFT
Preamp	off	off
Stable mode	Trace	Trace
Stable value	0.50 dB	0.50 dB
Run	66 / max. 150	4 / max. 150
Stable	3 / 3	3 / 3
Max Stable Difference	0.36 dB	0.00 dB

TESTED SAMPLES:	S/01
TESTED CONDITIONS MODES:	TC#03 (n20 mode CHIP 2)
TEST RESULTS:	PASS

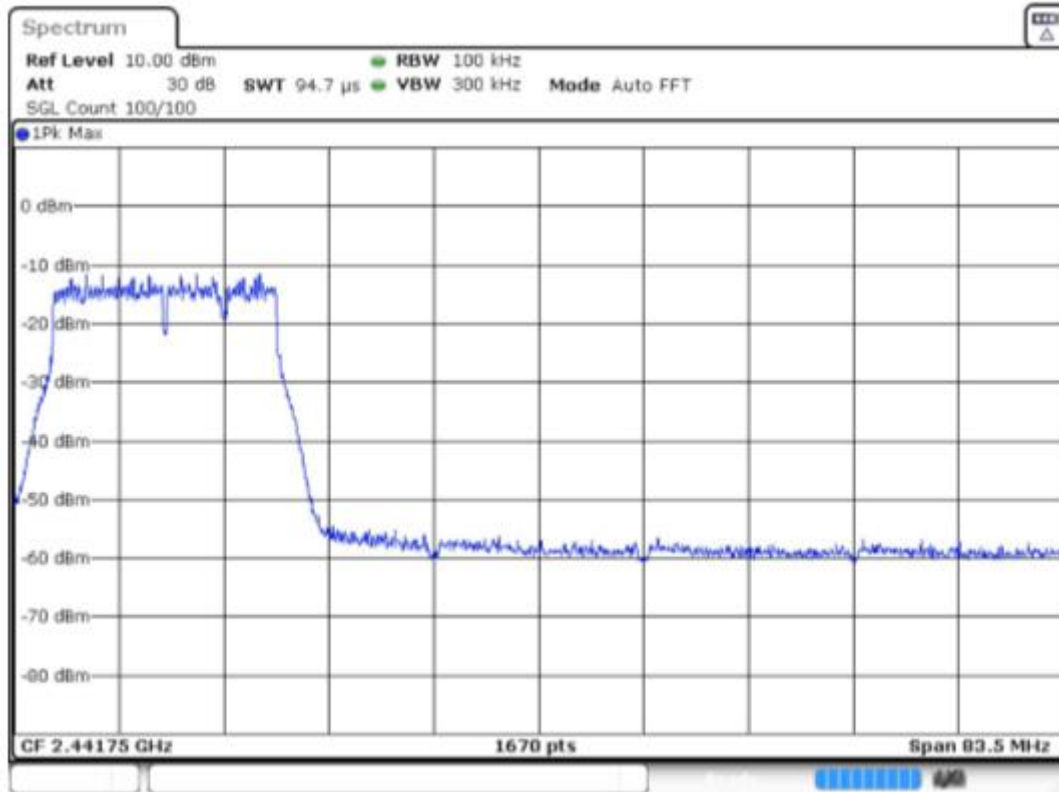
Port 3

Lowest Channel



Date: 31.OCT.2019 12:43:13

TEST RESULTS (Cont.):



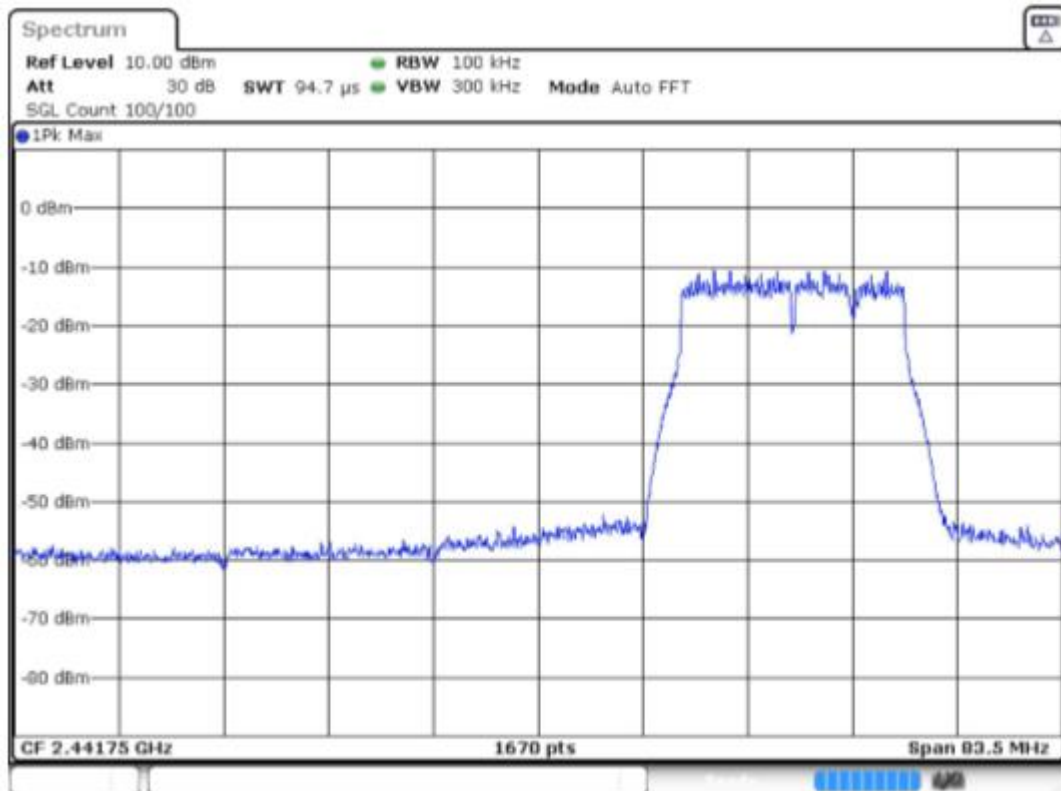
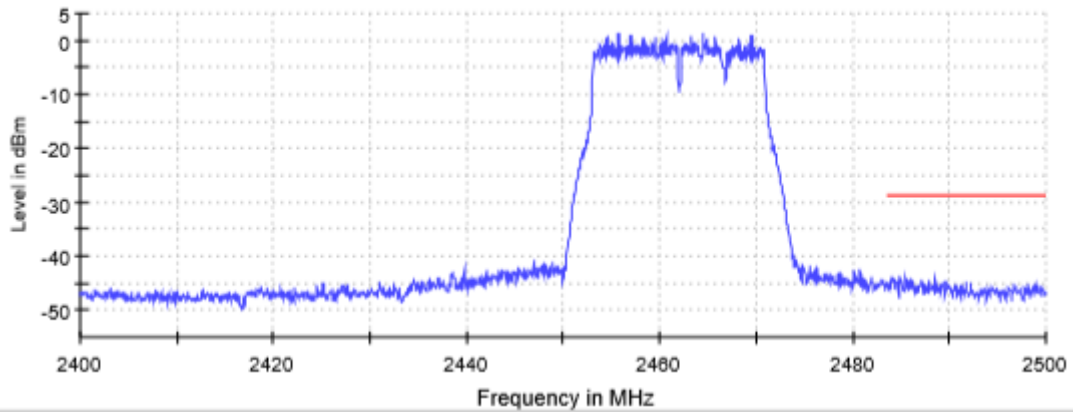
Date: 31.OCT.2019 12:45:02

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
Sweep Points	1800	1670
Sweep time	113.672 μ s	94.727 μ s
Reference Level	10.000 dBm	10.000 dBm
Attenuation	30.000 dB	30.000 dB
Detector	MaxPeak	MaxPeak
Sweep Count	100	100
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
Sweep type	FFT	FFT
Preamp	off	off
Stable mode	Trace	Trace
Stable value	0.50 dB	0.50 dB
Run	4 / max. 150	95 / max. 150
Stable	3 / 3	3 / 3
Max Stable Difference	0.00 dB	0.39 dB

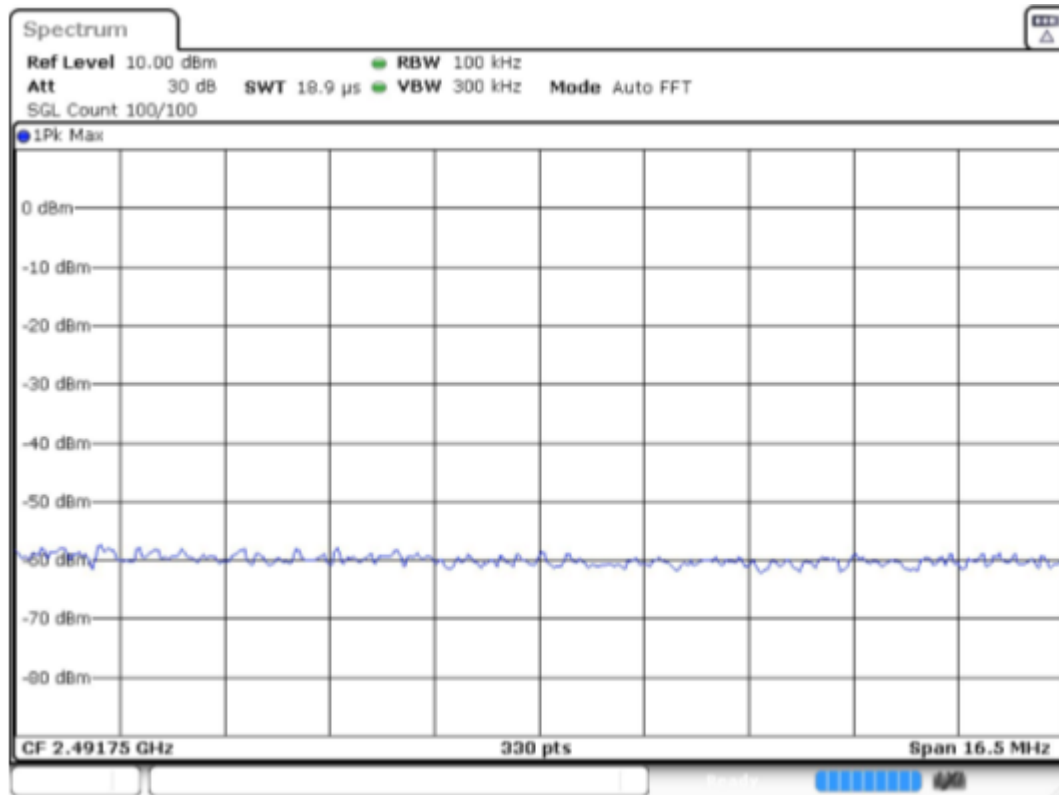
TEST RESULTS (Cont.):

Highest Channel



Date: 31.OCT.2019 13:37:29

TEST RESULTS (Cont.):



Date: 31.OCT.2019 13:37:34

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
Sweep Points	1670	330
Sweep time	94.727 μ s	18.945 μ s
Reference Level	10.000 dBm	10.000 dBm
Attenuation	30.000 dB	30.000 dB
Detector	MaxPeak	MaxPeak
Sweep Count	100	100
Filter	3 dB	3 dB
Trace Mode	Max Hold	Max Hold
Sweep type	FFT	FFT
Preamp	off	off
Stable mode	Trace	Trace
Stable value	0.50 dB	0.50 dB
Run	79 / max. 150	4 / max. 150
Stable	3 / 3	3 / 3
Max Stable Difference	0.05 dB	0.00 dB

TEST B.4: POWER SPECTRAL DENSITY

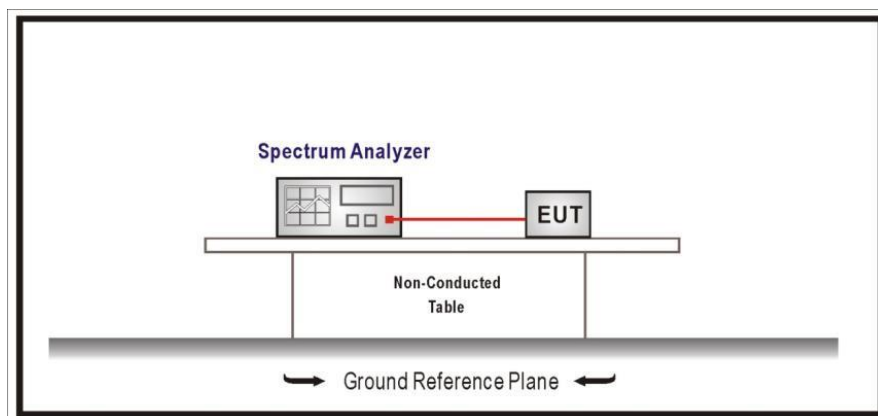
LIMITS:	Product standard:	Part 15 Subpart C §15.247 and RSS-247
	Test standard:	Part 15 Subpart C §15.247(e) and RSS-247 5.2 (b)

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.

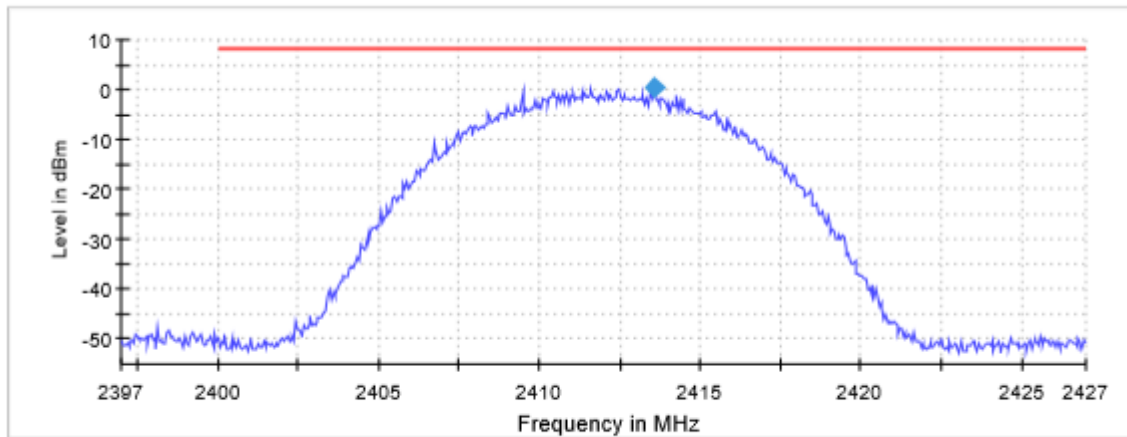


TESTED SAMPLES:	S/01
TESTED CONDITIONS MODES:	TC#01 (b mode CHIP 1)
TEST RESULTS:	PASS

Port 1

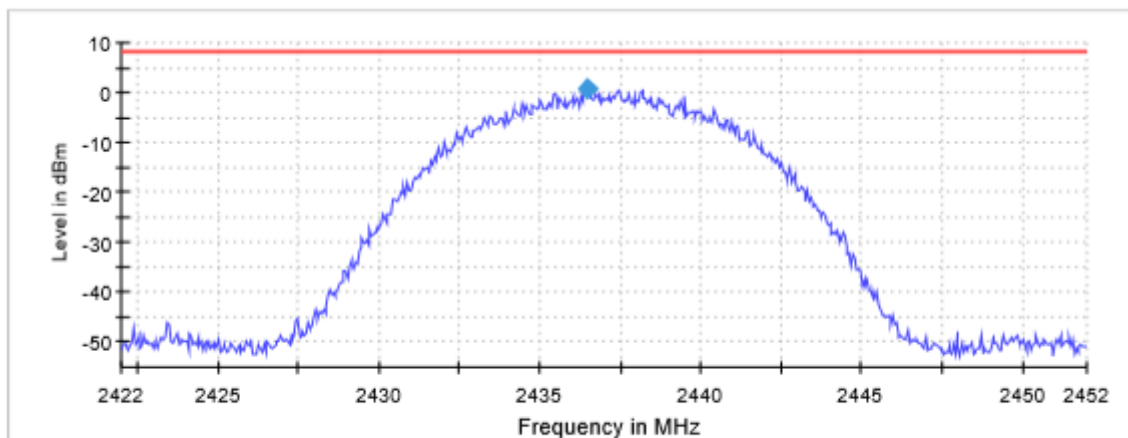
	Lowest frequency 2412 MHz	Middle frequency 2437 MHz	Highest frequency 2462 MHz
Power spectral density (dBm)	0.375	0.918	1.405
Measurement uncertainty (dB)	<±0.78		

Lowes Channel



— Limit — Sum Level ◆ PSD

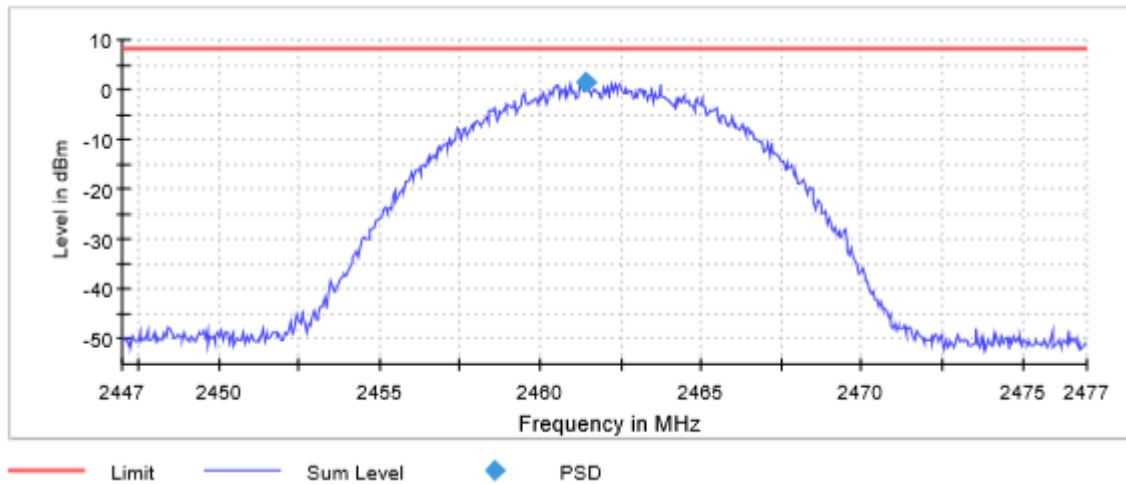
Middle Channel



— Limit — Sum Level ◆ PSD

TEST RESULTS (Cont.):

Highest Channel



Measurement

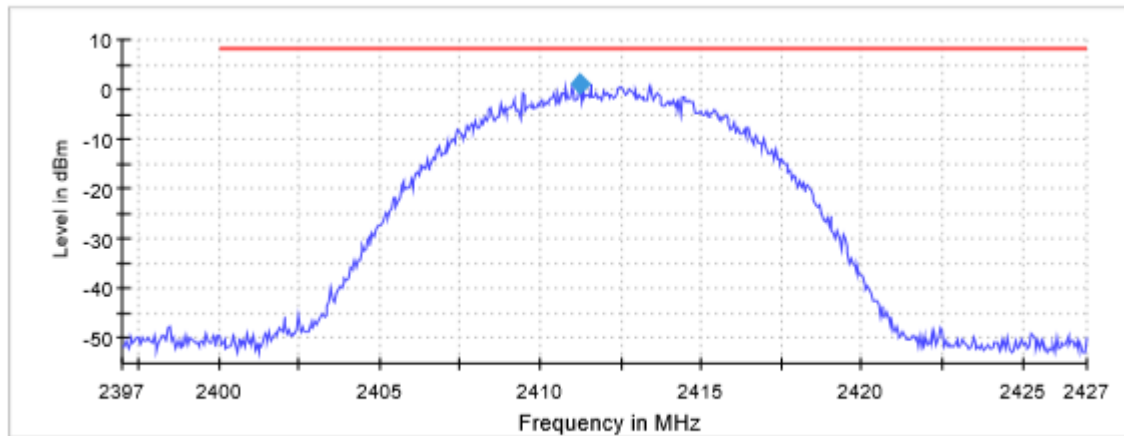
Setting	Instrument Value	Instrument Value	Instrument Value
Start Frequency	2.39700 GHz	2.42200 GHz	2.44700 GHz
Stop Frequency	2.42700 GHz	2.45200 GHz	2.47700 GHz
Span	30.000 MHz	30.000 MHz	30.000 MHz
RBW	100.000 kHz	100.000 kHz	100.000 kHz
VBW	300.000 kHz	300.000 kHz	300.000 kHz
Sweep Points	600	600	600
Sweep time	12.000 ms	12.000 ms	12.000 ms
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
Sweep Count	1	1	1
Filter	3 dB	3 dB	3 dB
Trace Mode	Max Hold	Max Hold	Max Hold
Sweep type	Sweep	Sweep	Sweep
Preamp	off	off	off
Stable mode	Trace	Trace	Trace
Stable value	0.50 dB	0.50 dB	0.50 dB
Run	99 / max.150	70 / max. 150	104 / max.
Stable	3 / 3	3 / 3	3 / 3
Max Stable Difference	0.15 dB	0.00 dB	0.00 dB

TESTED SAMPLES:	S/01
TESTED CONDITIONS MODES:	TC#01 (b mode CHIP 2)
TEST RESULTS:	PASS

Port 3

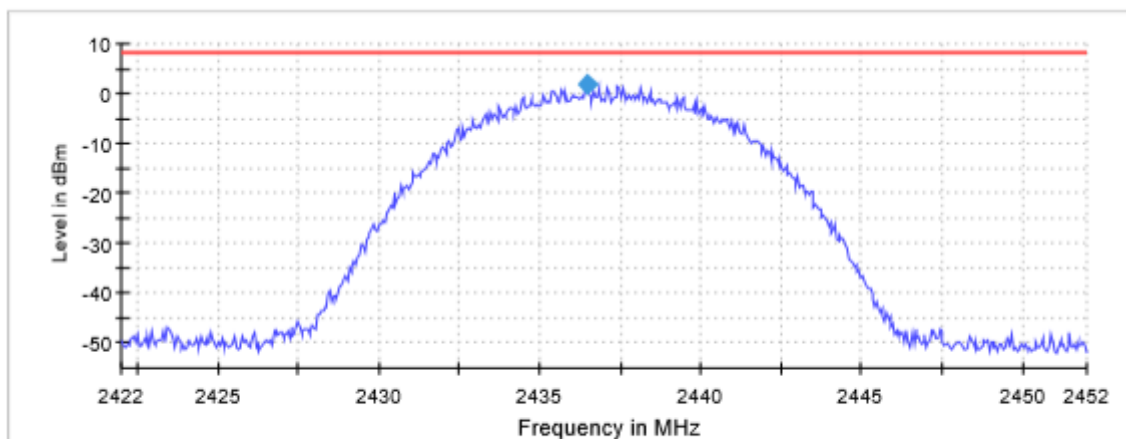
	Lowest frequency 2412 MHz	Middle frequency 2437 MHz	Highest frequency 2462 MHz
Power spectral density (dBm)	1.258	1.771	2.328
Measurement uncertainty (dB)	<±0.78		

Lowes Channel



— Limit — Sum Level ◆ PSD

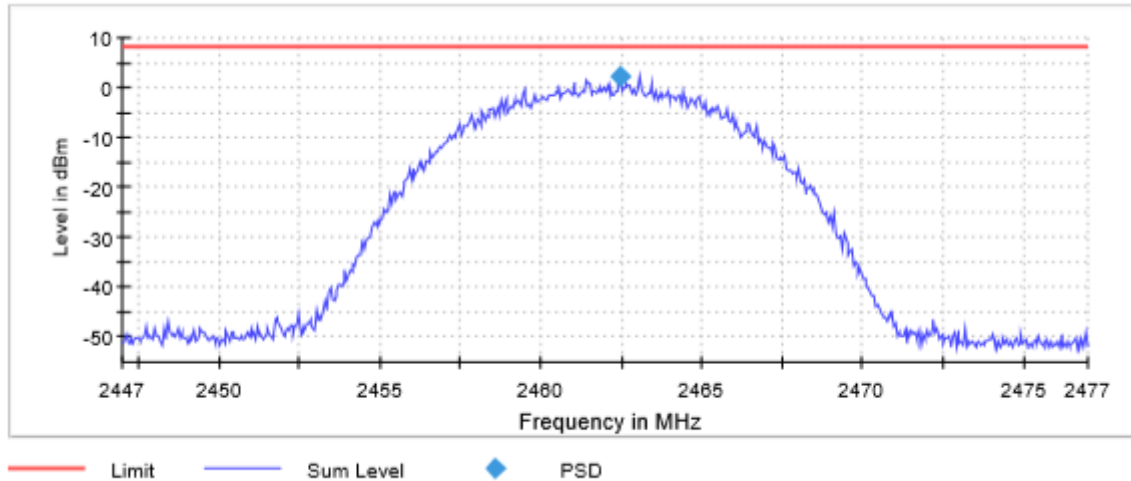
Middle Channel



— Limit — Sum Level ◆ PSD

TEST RESULTS (Cont.):

Highest Channel



Measurement

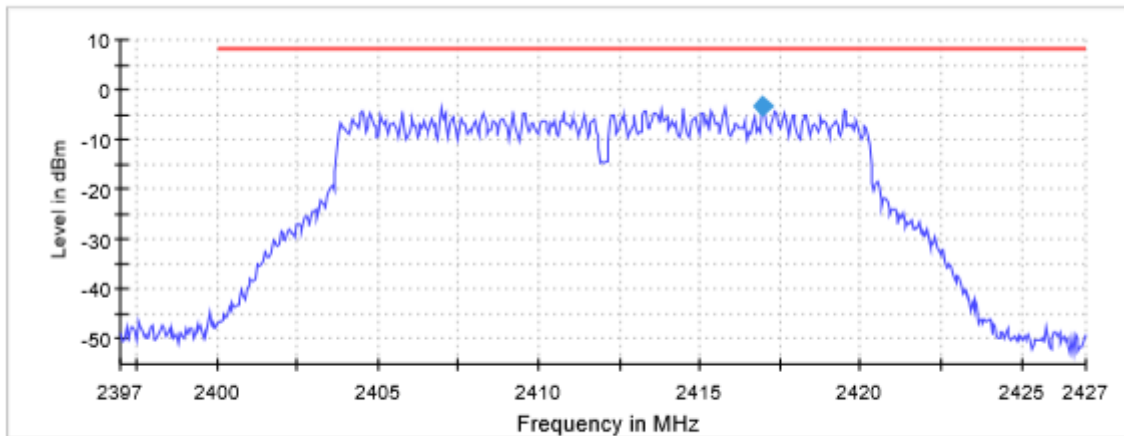
Setting	Instrument Value	Instrument Value	Instrument Value
Start Frequency	2.39700 GHz	2.42200 GHz	2.44700 GHz
Stop Frequency	2.42700 GHz	2.45200 GHz	2.47700 GHz
Span	30.000 MHz	30.000 MHz	30.000 MHz
RBW	100.000 kHz	100.000 kHz	100.000 kHz
VBW	300.000 kHz	300.000 kHz	300.000 kHz
Sweep Points	600	600	600
Sweep time	12.000 ms	12.000 ms	12.000 ms
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
Sweep Count	1	1	1
Filter	3 dB	3 dB	3 dB
Trace Mode	Max Hold	Max Hold	Max Hold
Sweep type	Sweep	Sweep	Sweep
Preamp	off	off	off
Stable mode	Trace	Trace	Trace
Stable value	0.50 dB	0.50 dB	0.50 dB
Run	67 / max.150	101 / max.	69 / max. 150
Stable	3 / 3	3 / 3	3 / 3
Max Stable Difference	0.29 dB	0.00 dB	0.17 dB

TESTED SAMPLES:	S/01
TESTED CONDITIONS MODES:	TC#02 (g mode CHIP 1)
TEST RESULTS:	PASS

Port 1

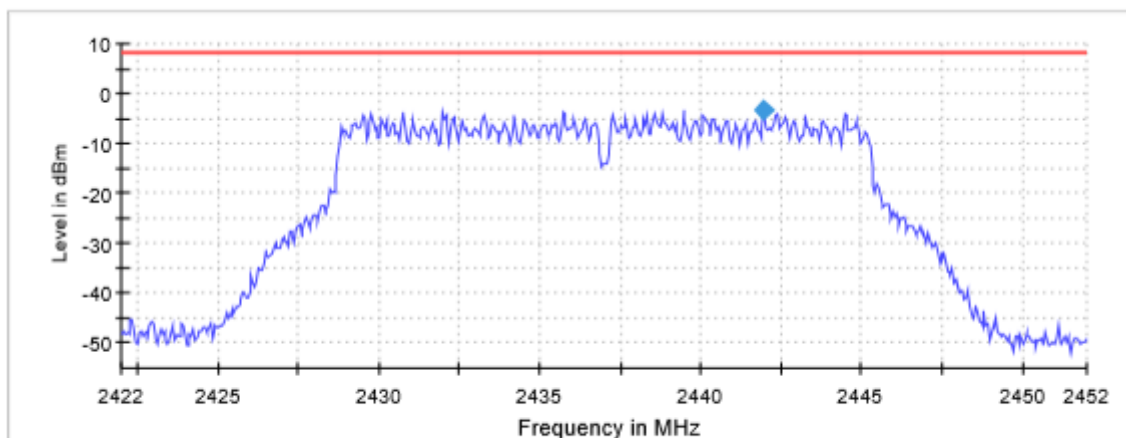
	Lowest frequency 2412 MHz	Middle frequency 2437 MHz	Highest frequency 2462 MHz
Power spectral density (dBm)	-3.247	-3.166	-2.726
Measurement uncertainty (dB)	<±0.78		

Lowest Channel



— Limit — Sum Level ◆ PSD

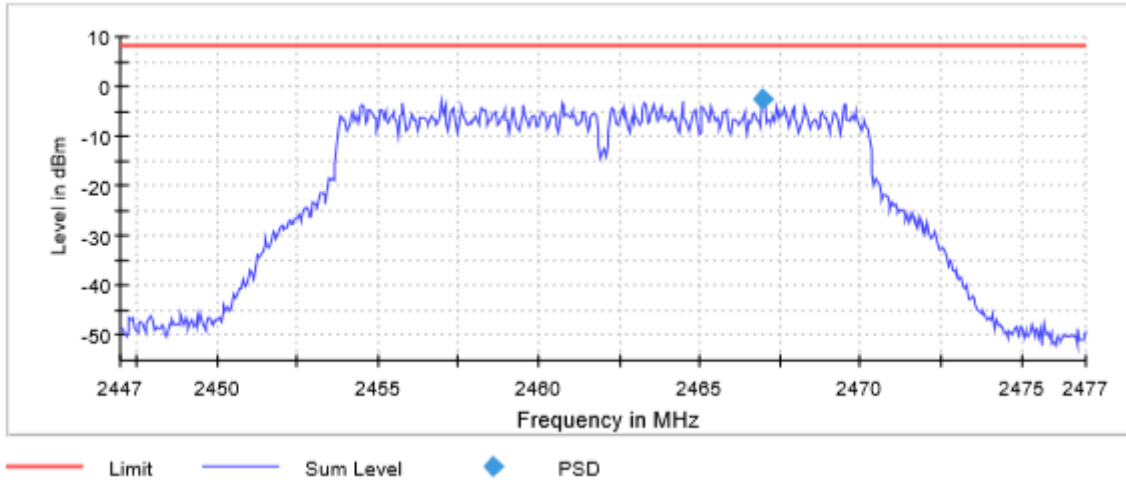
Middle Channel



— Limit — Sum Level ◆ PSD

TEST RESULTS (Cont.):

Highest 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
Sweep Points	600	600	600
Sweep time	12.000 ms	12.000 ms	12.000 ms
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
Sweep Count	1	1	1
Filter	3 dB	3 dB	3 dB
Trace Mode	Max Hold	Max Hold	Max Hold
Sweep type	Sweep	Sweep	Sweep
Preamp	off	off	off
Stable mode	Trace	Trace	Trace
Stable value	0.50 dB	0.50 dB	0.50 dB
Run	112 / max.150	68 / max. 150	82 / max. 150
Stable	3 / 3	3 / 3	3 / 3
Max Stable Difference	0.28 dB	0.06 dB	0.29 dB