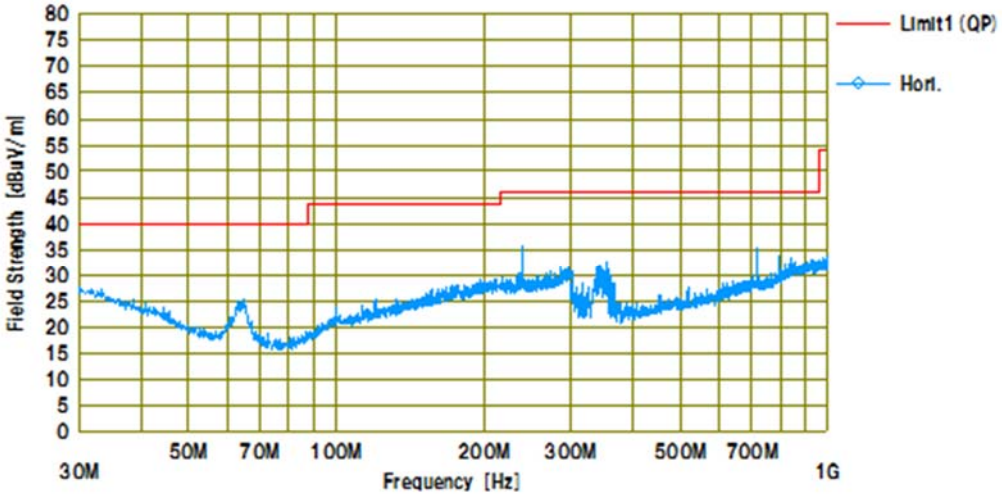
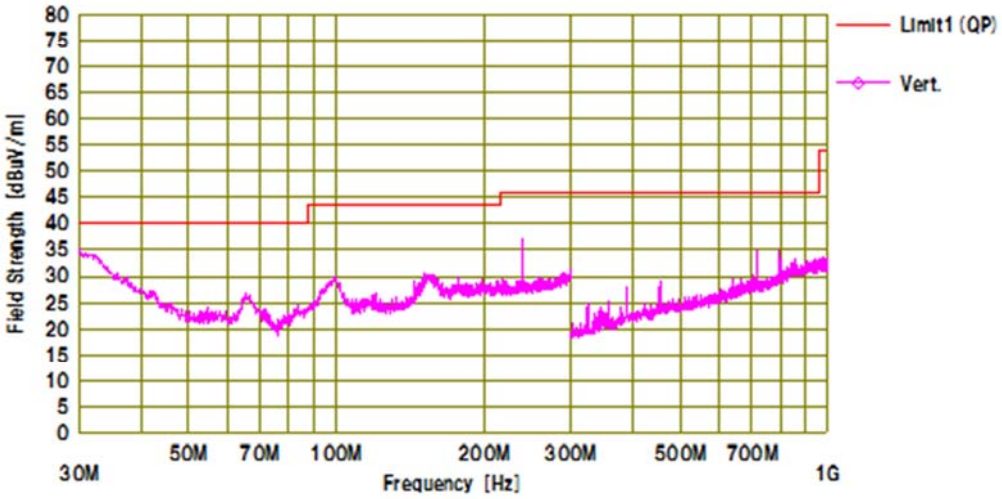
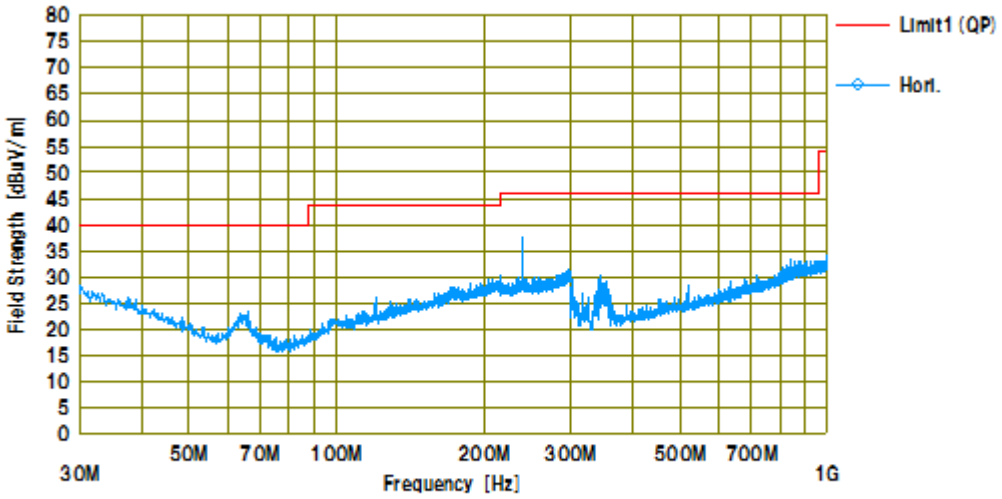
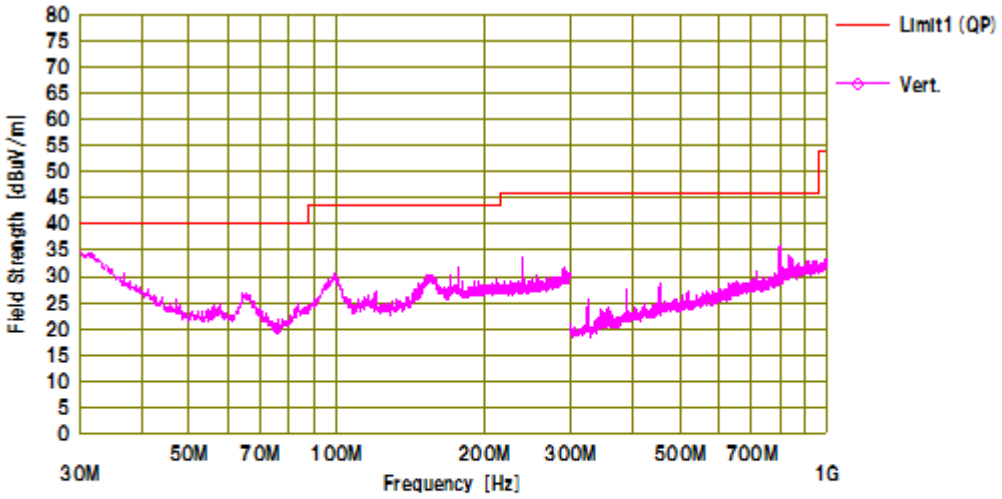
Y Axis


Limit1 (QP)
Hori.
Field Strength [dBuV/m]
80
75
70
65
60
55
50
45
40
35
30
25
20
15
10
5
0
30M
50M
70M
100M
200M
300M
500M
700M
1G
Frequency [Hz]


Limit1 (QP)
Vert.
Field Strength [dBuV/m]
80
75
70
65
60
55
50
45
40
35
30
25
20
15
10
5
0
30M
50M
70M
100M
200M
300M
500M
700M
1G
Frequency [Hz]

Z Axis


Limit1 (QP)
Hori.
Field Strength [dBuV/m]
80
75
70
65
60
55
50
45
40
35
30
25
20
15
10
5
0
30M
50M
70M
100M
200M
300M
500M
700M
1G
Frequency [Hz]


Limit1 (QP)
Vert.
Field Strength [dBuV/m]
80
75
70
65
60
55
50
45
40
35
30
25
20
15
10
5
0
30M
50M
70M
100M
200M
300M
500M
700M
1G
Frequency [Hz]

Above 1GHz

11b 2412MHz

Measured Frequency (MHz)	Correction Factor (dB/m)	Meter Reading Horizontal Polarization (dBμV)	Meter Reading Vertical Polarization (dBμV)	Duty Cycle Factor (dB)	Maximum Field Strength (dBμV/m)	Limit (dBμV/m)	Margin for Limit (dB)
Measurement with the Peak Detector							
2390.00	10.2	51.5	52.6	-	62.8	74.0	11.2
3216.00	-1.5	49.7	48.9	-	48.2	74.0	25.8
4824.00	0.3	46.0	47.6	-	47.9	74.0	26.1
9648.00	-1.8	43.8	44.3	-	42.5	74.0	31.5
Measurement with the Average Detector							
2390.00	10.2	34.3	35.5	0.2	45.9	54.0	8.1
3216.00	-1.5	43.4	43.2	-	41.9	54.0	12.1
4824.00	0.3	34.3	35.5	0.2	36.0	54.0	18.0
9648.00	-1.8	37.9	38.7	0.2	37.1	54.0	16.9

[20dBc Data Sheet]

Measured Frequency (MHz)	Correction Factor (dB/m)	Meter Reading Horizontal Polarization (dBμV)	Meter Reading Vertical Polarization (dBμV)	Maximum Field Strength (dBμV/m)	Limit (dBμV/m)	Margin for Limit (dB)
Peak measurement						
*1) 2412.00	10.3	90.9	-	101.2	-	-
2400.00	10.2	43.3	-	53.5	81.2	27.7
*1) 2412.00	10.3	-	91.2	101.5	-	-
2400.00	10.2	-	45.6	55.8	81.5	25.7

[Note]
*1) : Carrier

[Restricted-band band-edge plot]

Horizontal Polarization

Vertical Polarization

11b 2437MHz

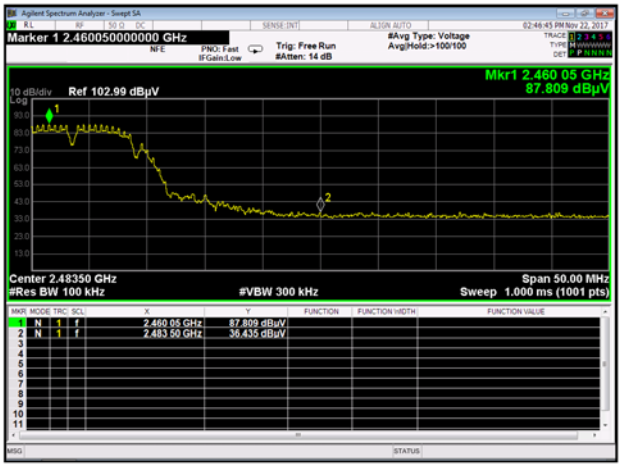
Measured Frequency (MHz)	Correction Factor (dB/m)	Meter Reading Horizontal Polarization (dBμV)	Meter Reading Vertical Polarization (dBμV)	Duty Cycle Factor (dB)	Maximum Field Strength (dBμV/m)	Limit (dBμV/m)	Margin for Limit (dB)
Measurement with the Peak Detector							
3249.30	-1.5	48.4	50.1	-	48.6	74.0	25.4
4874.00	0.3	46.6	45.0	-	46.9	74.0	27.1
9748.00	-1.9	43.9	44.0	-	42.1	74.0	31.9
Measurement with the Average Detector							
3249.30	-1.5	42.4	44.9	-	43.4	54.0	10.6
4874.00	0.3	33.6	34.3	0.2	34.8	54.0	19.2
9748.00	-1.9	38.9	40.2	0.2	38.5	54.0	15.5

11b 2462MHz

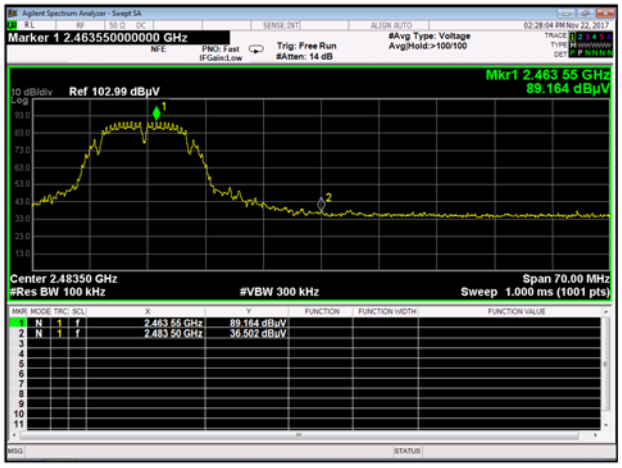
Measured Frequency (MHz)	Correction Factor (dB/m)	Meter Reading Horizontal Polarization (dBμV)	Meter Reading Vertical Polarization (dBμV)	Duty Cycle Factor (dB)	Maximum Field Strength (dBμV/m)	Limit (dBμV/m)	Margin for Limit (dB)
Measurement with the Peak Detector							
2483.50	10.8	50.5	53.6	-	64.4	74.0	9.6
4924.00	0.4	42.3	41.0	-	42.7	74.0	31.3
9848.00	-1.8	44.2	43.2	-	42.4	74.0	31.6
Measurement with the Average Detector							
2483.50	10.8	33.7	34.9	0.2	45.9	54.0	8.1
4924.00	0.4	34.0	33.6	0.2	34.6	54.0	19.4
9848.00	-1.8	36.5	36.7	0.2	35.1	54.0	18.9

[Restricted-band band-edge plot]

Horizontal Polarization



Vertical Polarization



11g 2412MHz

Measured Frequency (MHz)	Correction Factor (dB/m)	Meter Reading Horizontal Polarization (dBμV)	Meter Reading Vertical Polarization (dBμV)	Duty Cycle Factor (dB)	Maximum Field Strength (dBμV/m)	Limit (dBμV/m)	Margin for Limit (dB)
Measurement with the Peak Detector							
2390.00	10.2	48.3	49.5	-	59.7	74.0	14.3
3216.00	-1.5	47.1	47.4	-	45.9	74.0	28.1
4824.00	0.3	47.2	48.7	-	49.0	74.0	25.0
9648.00	-1.8	44.5	44.9		43.1	74.0	30.9
Measurement with the Average Detector							
2390.00	10.2	34.5	36.1	1.1	47.4	54.0	6.6
3216.00	-1.5	37.9	39.4	-	37.9	54.0	16.1
4824.00	0.3	37.4	38.3	1.1	39.7	54.0	14.3
9648.00	-1.8	39.0	38.4	1.1	38.3	54.0	15.7

[20dBc Data Sheet]

Measured Frequency (MHz)	Antenna Factor (dB/m)	Meter Reading Horizontal Polarization (dBμV)	Meter Reading Vertical Polarization (dBμV)	Maximum Field Strength (dBμV/m)	Limit (dBμV/m)	Margin for Limit (dB)
Peak measurement						
* 1) 2412.00	10.3	84.5	-	94.8	-	-
2399.15	10.2	45.0	-	55.2	74.8	19.6
2400.00	10.2	44.2	-	54.4	74.8	20.4
* 1) 2412.00	10.3	-	85.9	96.2	-	-
2399.20	10.2	-	46.2	56.4	76.2	19.8
2400.00	10.2	-	44.6	54.8	76.2	21.4

[Note]
* 1) : Carrier

[Restricted-band band-edge plot]

Horizontal Polarization

Vertical Polarization

11g 2437MHz

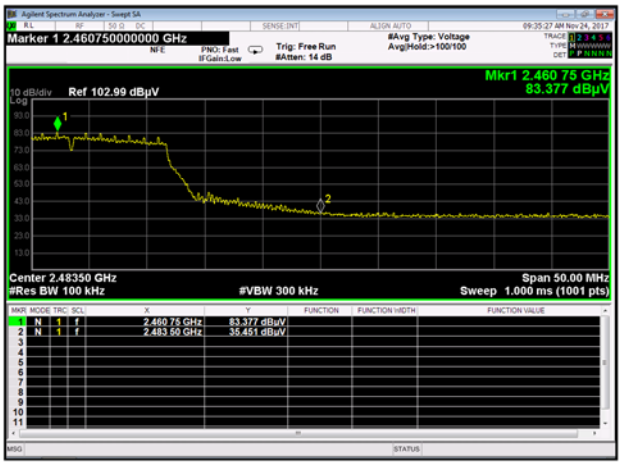
Measured Frequency (MHz)	Correction Factor (dB/m)	Meter Reading Horizontal Polarization (dBμV)	Meter Reading Vertical Polarization (dBμV)	Duty Cycle Factor (dB)	Maximum Field Strength (dBμV/m)	Limit (dBμV/m)	Margin for Limit (dB)
Measurement with the Peak Detector							
3249.31	-1.5	48.2	47.7	-	46.7	74.0	27.3
4874.00	0.3	42.6	43.0	-	43.3	74.0	30.7
9748.00	-1.9	44.0	43.4		42.1	74.0	31.9
Measurement with the Average Detector							
3249.31	-1.5	40.1	39.1	-	38.6	54.0	15.4
4874.00	0.3	34.8	35.3	1.1	36.7	54.0	17.3
9748.00	-1.9	39.1	38.3	1.1	38.3	54.0	15.7

11g 2462MHz

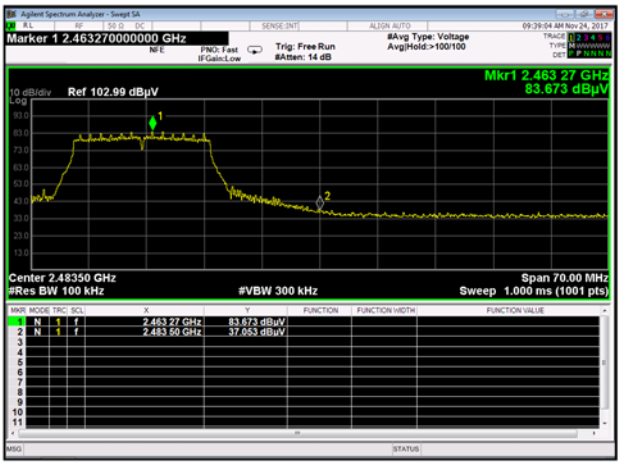
Measured Frequency (MHz)	Correction Factor (dB/m)	Meter Reading Horizontal Polarization (dBμV)	Meter Reading Vertical Polarization (dBμV)	Duty Cycle Factor (dB)	Maximum Field Strength (dBμV/m)	Limit (dBμV/m)	Margin for Limit (dB)
Measurement with the Peak Detector							
2483.50	10.8	50.6	51.2	-	62.0	74.0	12.0
4924.00	0.4	41.8	45.9	-	46.3	74.0	27.7
9848.00	-1.8	42.9	41.7	-	41.1	74.0	32.9
Measurement with the Average Detector							
2483.50	10.8	34.7	36.5	1.1	48.4	54.0	5.6
4924.00	0.4	32.7	34.6	1.1	36.1	54.0	17.9
9848.00	-1.8	36.2	35.6	1.1	35.5	54.0	18.5

[Restricted-band band-edge plot]

Horizontal Polarization



Vertical Polarization



11n-HT20 2412MHz

Measured Frequency (MHz)	Correction Factor (dB/m)	Meter Reading Horizontal Polarization (dBμV)	Meter Reading Vertical Polarization (dBμV)	Duty Cycle Factor (dB)	Maximum Field Strength (dBμV/m)	Limit (dBμV/m)	Margin for Limit (dB)
Measurement with the Peak Detector							
2390.00	10.2	52.1	54.7	-	64.9	74.0	9.1
4824.00	0.3	47.8	48.6	-	48.9	74.0	25.1
9648.00	-1.8	43.1	42.8	-	41.3	74.0	32.7
Measurement with the Average Detector							
2390.00	10.2	36.2	37.5	3.1	50.8	54.0	3.2
4824.00	0.3	37.7	39.3	3.1	42.7	54.0	11.3
9648.00	-1.8	36.9	36.7	3.1	38.2	54.0	15.8

[20dBc Data Sheet]

Measured Frequency (MHz)	Antenna Factor (dB/m)	Meter Reading Horizontal Polarization (dBμV)	Meter Reading Vertical Polarization (dBμV)	Maximum Field Strength (dBμV/m)	Limit (dBμV/m)	Margin for Limit (dB)
Peak measurement						
* 1) 2412.00	10.3	90.3	-	100.6	-	-
2398.30	10.2	50.4	-	60.6	80.6	20.0
2400.00	10.2	47.9	-	58.1	80.6	22.5
* 1) 2412.00	10.3	-	92.3	102.6	-	-
2398.30	10.2	-	52.3	62.5	82.6	20.1
2400.00	10.2	-	47.5	57.7	82.6	24.9

[Note]
* 1) : Carrier

[Restricted-band band-edge plot]

Horizontal Polarization

Vertical Polarization

11n-HT20 2437MHz

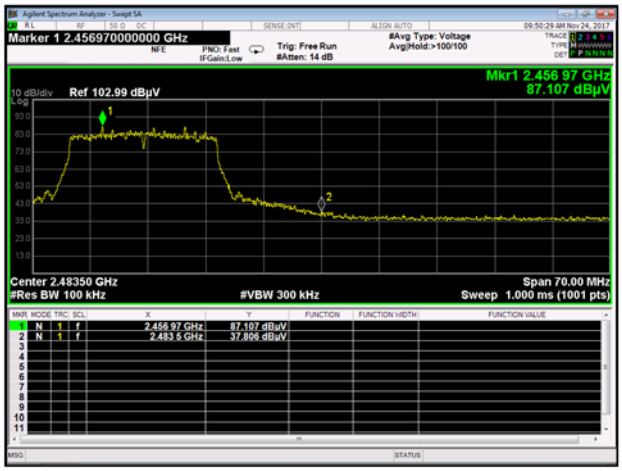
Measured Frequency (MHz)	Correction Factor (dB/m)	Meter Reading Horizontal Polarization (dBμV)	Meter Reading Vertical Polarization (dBμV)	Duty Cycle Factor (dB)	Maximum Field Strength (dBμV/m)	Limit (dBμV/m)	Margin for Limit (dB)
Measurement with the Peak Detector							
4874.00	0.3	49.1	48.8	-	49.4	74.0	24.6
9748.00	-1.9	43.2	42.3	-	41.3	74.0	32.7
Measurement with the Average Detector							
4874.00	0.3	38.8	38.6	3.1	42.2	54.0	11.8
9748.00	-1.9	36.1	35.6	3.1	37.3	54.0	16.7

11n-HT20 2462MHz

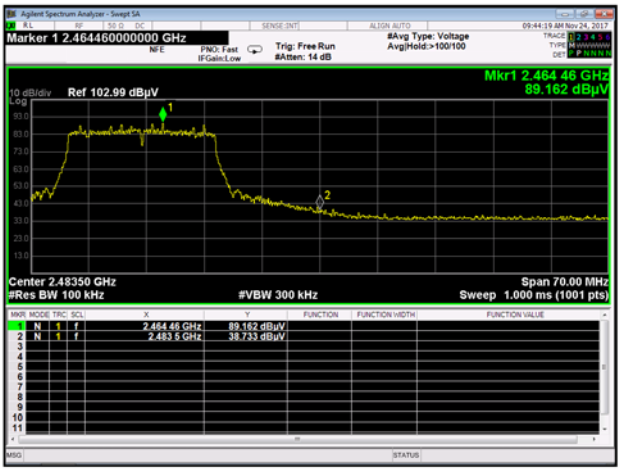
Measured Frequency (MHz)	Correction Factor (dB/m)	Meter Reading Horizontal Polarization (dBμV)	Meter Reading Vertical Polarization (dBμV)	Duty Cycle Factor (dB)	Maximum Field Strength (dBμV/m)	Limit (dBμV/m)	Margin for Limit (dB)
Measurement with the Peak Detector							
2483.50	10.8	51.2	54.8	-	65.6	74.0	8.4
4924.00	0.4	43.8	44.7	-	45.1	74.0	28.9
9848.00	-1.8	48.1	47.9	-	46.3	74.0	27.7
Measurement with the Average Detector							
2483.50	10.8	35.6	36.5	3.1	50.4	54.0	3.6
4924.00	0.4	33.8	34.3	3.1	37.8	54.0	16.2
9848.00	-1.8	36.6	36.7	3.1	38.0	54.0	16.0

[Restricted-band band-edge plot]

Horizontal Polarization



Vertical Polarization



11n-HT40 2422MHz

Measured Frequency (MHz)	Correction Factor (dB/m)	Meter Reading Horizontal Polarization (dBμV)	Meter Reading Vertical Polarization (dBμV)	Duty Cycle Factor (dB)	Maximum Field Strength (dBμV/m)	Limit (dBμV/m)	Margin for Limit (dB)
Measurement with the Peak Detector							
2386.68	10.2	51.5	52.5	-	62.7	74.0	11.3
2390.00	10.2	51.9	53.8	-	64.0	74.0	10.0
4844.00	0.3	44.8	44.9	-	45.2	74.0	28.8
9688.00	-1.8	46.3	46.5	-	44.7	74.0	29.3
Measurement with the Average Detector							
2386.68	10.2	35.6	36.7	3.8	50.7	54.0	3.3
2390.00	10.2	35.8	36.8	3.8	50.8	54.0	3.2
4844.00	0.3	34.4	34.2	3.8	38.5	54.0	15.5
9688.00	-1.8	33.7	33.8	3.8	35.8	54.0	18.2

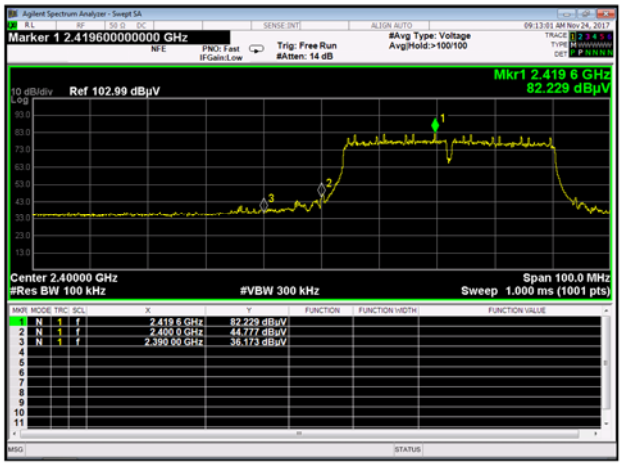
[20dBc Data Sheet]

Measured Frequency (MHz)	Antenna Factor (dB/m)	Meter Reading Horizontal Polarization (dBμV)	Meter Reading Vertical Polarization (dBμV)	Maximum Field Strength (dBμV/m)	Limit (dBμV/m)	Margin for Limit (dB)
Peak measurement						
*1) 2422.00	10.4	82.3	-	92.7	-	-
2400.00	10.2	44.8	-	55.0	72.7	17.7
*1) 2422.00	10.4	-	83.1	93.5	-	-
2397.10	10.2	-	45.6	55.8	73.5	17.7
2400.00	10.2	-	42.3	52.5	73.5	21.0

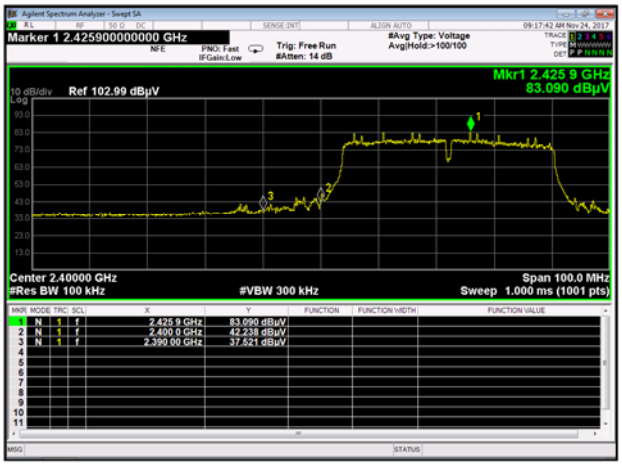
[Note]
*1) : Carrier

[Restricted-band band-edge plot]

Horizontal Polarization



Vertical Polarization



11n-HT40 2437MHz

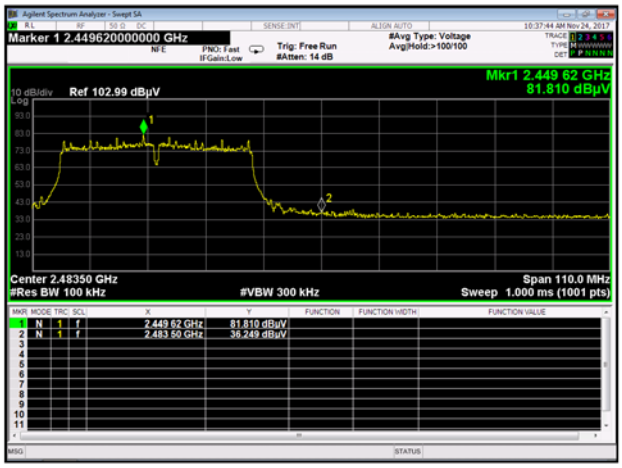
Measured Frequency (MHz)	Correction Factor (dB/m)	Meter Reading Horizontal Polarization (dBμV)	Meter Reading Vertical Polarization (dBμV)	Duty Cycle Factor (dB)	Maximum Field Strength (dBμV/m)	Limit (dBμV/m)	Margin for Limit (dB)
Measurement with the Peak Detector							
4874.00	0.3	42.8	42.2	-	43.1	74.0	30.9
9748.00	-1.9	42.6	42.6	-	40.7	74.0	33.3
Measurement with the Average Detector							
4874.00	0.3	33.4	33.6	3.8	37.7	54.0	16.3
9748.00	-1.9	35.8	34.9	3.8	37.7	54.0	16.3

11n-HT40 2452MHz

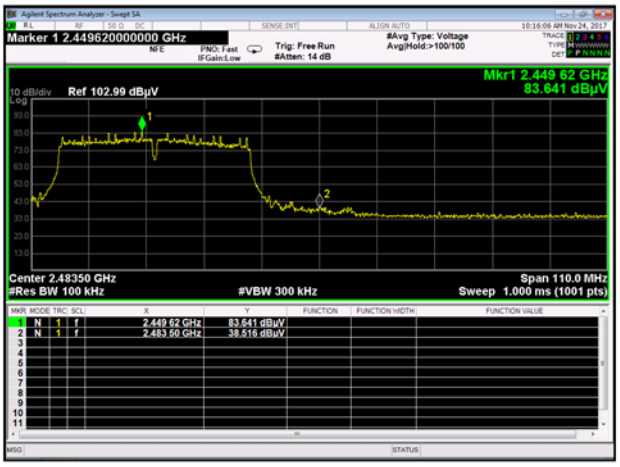
Measured Frequency (MHz)	Correction Factor (dB/m)	Meter Reading Horizontal Polarization (dBμV)	Meter Reading Vertical Polarization (dBμV)	Duty Cycle Factor (dB)	Maximum Field Strength (dBμV/m)	Limit (dBμV/m)	Margin for Limit (dB)
Measurement with the Peak Detector							
2483.50	10.8	49.3	51.5	-	62.3	74.0	11.7
2488.83	10.8	49.5	52.5	-	63.3	74.0	10.7
4904.00	0.4	43.8	42.7	-	44.2	74.0	29.8
9808.00	-1.8	42.2	40.8	-	40.4	74.0	33.6
Measurement with the Average Detector							
2483.50	10.8	34.3	36.0	3.8	50.6	54.0	3.4
2488.83	10.8	34.0	35.4	3.8	50.0	54.0	4.0
4904.00	0.4	33.6	33.9	3.8	38.1	54.0	15.9
9808.00	-1.8	34.3	33.8	3.8	36.3	54.0	17.7

[Restricted-band band-edge plot]

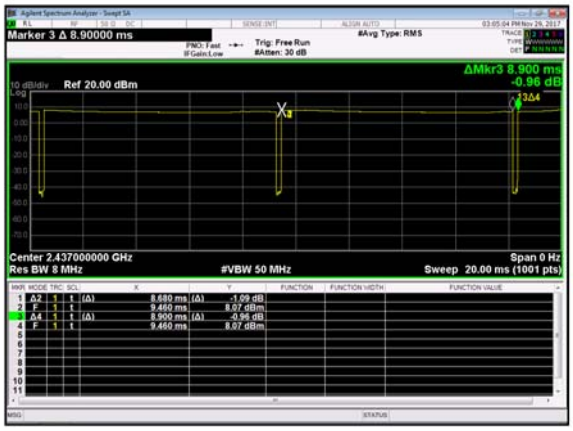
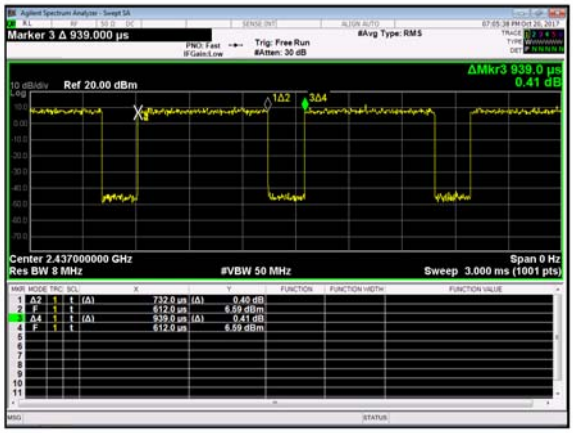
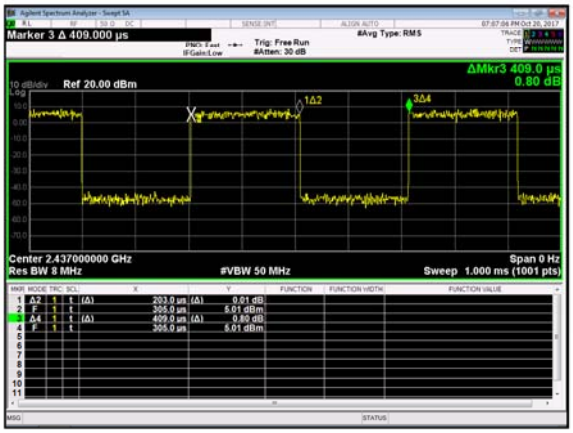
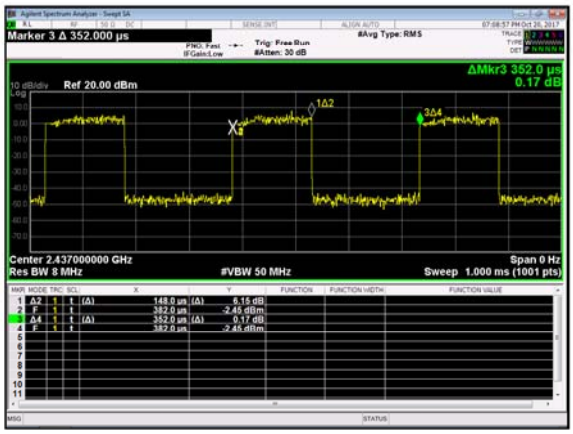
Horizontal Polarization



Vertical Polarization



Duty Cycle

11b 1Mbps	11g 12Mbps
	
11n-HT20 MSC11	**11n-HT40 MSC10**
	

	11b	11g	11n-HT20	11n-HT40
Tx on	8.680	0.732	0.203	0.148
Tx on + Tx off	8.900	0.939	0.409	0.352
Duty Cycle	0.98	0.78	0.50	0.42
Duty Cycle Factor (dB)	0.11	1.08	3.04	3.76

[Calculation method]

Duty Cycle = (Tx on) / (Tx on + Tx off)
Duty Cycle Factor (dB) = 10Log (1/Duty Cycle)

[Note]

(1) ☐ Correction Factor includes the antenna factor, cable loss, attenuator loss and pre-amplifier gain.
☒ Correction Factor includes the cable loss and attenuator loss.
Above 1000MHz, the antenna factor includes the cable loss, pre-amplifier gain and attenuator loss (if necessary).

(2) * mark in Measured Frequency : Measured with the tuned dipole antenna.
no mark in Measured Frequency : Measured with the broadband antenna.

(3) Upper Frequency : ☒Transmitter Frequency (TX): TX < 10GHz
☐1GHz ☒10th harmonic of the TX frequency / ☐Up to 40GHz
☐Transmitter Frequency (TX): 10GHz < TX < 30GHz
☐10th harmonic of the TX frequency / ☐Up to 100GHz
☐Transmitter Frequency (TX): 30GHz ≤ TX
☐10th harmonic of the TX frequency / ☐Up to 200GHz

The emissions were checked to the upper frequency, and the lower emissions than the listed emissions in the above tables were omitted.

(4) Measurement Distance : <below 1GHz> ☒ 3m ☐ 10m
<above 1GHz> ☒ 3m ☐ 10m
<above 18GHz> 1m

(5) Placement height of EUT : <below 1GHz> 0.8m
<above 1GHz> 1.5m

(6) Bore-sight method setting : horn antenna orientation was center of Turn Table

[Calculation method]

Maximum Field Strength (dBμV/m)
= Meter Reading (at maximum level of Horizontal or Vertical) (dBμV) + Correction Factor (dB/m) + Distance factor (*) + Duty Cycle Factor (dB) (Average measurement of above 1GHz) (**)

(*) Applied for Radiated Emission Measurement (above 18GHz) only.
Distance factor : 20 × log10 (1m /3m) = -9.5dB

(**) See page 41.

Tested Date	Environment	
	Temperature	Humidity
24 November 2017	22°C	36 %

Below 30MHz (Conducted measurement)

11b 2437MHz

Measured Frequency (MHz)	Correction Factor (dB)	Meter Reading (dBm)	Ant Gain (dBi)	EIRP (dBm)	Distance (m)	Ground Bounce (dB)	Field Strength (dBμV/m)	Limit (dBμV/m)	Margin for Limit (dB)
2.001	9.87	-86.57	2.00	-74.70	30	6.00	6.56	29.54	22.98

11g 2437MHz

Measured Frequency (MHz)	Correction Factor (dB)	Meter Reading (dBm)	Ant Gain (dBi)	EIRP (dBm)	Distance (m)	Ground Bounce (dB)	Field Strength (dBμV/m)	Limit (dBμV/m)	Margin for Limit (dB)
2.001	9.87	-87.18	2.00	-75.31	30	6.00	5.95	29.54	23.59

11n-HT20 2437MHz Ant A

Measured Frequency (MHz)	Correction Factor (dB)	Meter Reading (dBm)	Ant Gain (dBi)	EIRP (dBm)	EIRP (nW)
2.001	9.87	-86.82	2.00	-74.95	0.03199

11n-HT20 2437MHz Ant B

Measured Frequency (MHz)	Correction Factor (dB)	Meter Reading (dBm)	Ant Gain (dBi)	EIRP (dBm)	EIRP (nW)
2.001	9.87	-87.87	2.08	-75.92	0.02559

11n-HT20 2437MHz Ant A+B

Measured Frequency (MHz)	Ant A (nW)	Ant B (nW)	Sum EIRP (nW)	Sum EIRP (dBm)	Distance (m)	Ground Bounce (dB)	Field Strength (dBμV/m)	Limit (dBμV/m)	Margin for Limit (dB)
2.001	0.03199	0.02559	0.05757	-72.40	30	6.00	8.86	29.54	20.68

11n-HT40 2452MHz Ant A

Measured Frequency (MHz)	Correction Factor (dB)	Meter Reading (dBm)	Ant Gain (dBi)	EIRP (dBm)	EIRP (nW)
20.000	9.87	-81.49	2.00	-69.62	0.10914

11n-HT40 2452MHz Ant B

Measured Frequency (MHz)	Correction Factor (dB)	Meter Reading (dBm)	Ant Gain (dBi)	EIRP (dBm)	EIRP (nW)
20.000	9.87	-80.90	2.08	-68.95	0.12735

11n-HT40 2452MHz Ant A+B

Measured Frequency (MHz)	Ant A (nW)	Ant B (nW)	Sum EIRP (nW)	Sum EIRP (dBm)	Distance (m)	Ground Bounce (dB)	Field Strength (dBμV/m)	Limit (dBμV/m)	Margin for Limit (dB)
20.000	0.10914	0.12735	0.23649	-66.26	30	6.00	15.00	29.54	14.54

[Note]
(1) Correction Factor includes the cable loss and attenuator loss.
(2) See next page figure.
(3) Antenna gain was determined the maximum antenna gain or 2 dBi, whichever is greater, with reference to KDB558074.

[Calculation method]
EIRP (dBm) = Meter Reading (dBm) + Correction Factor (dB) + Antenna Gain (dBi)
Field Strength (dBμV/m) = EIRP (dBm) - 20*log(D) + Ground Bounce (dB) + 104.8 (dBμV/m)

Tested Date	Environment	
	Temperature	Humidity
21 November 2017	22°C	36 %