

Fig.A.6.1.85 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch6, 7.5 GHz-10 GHz)

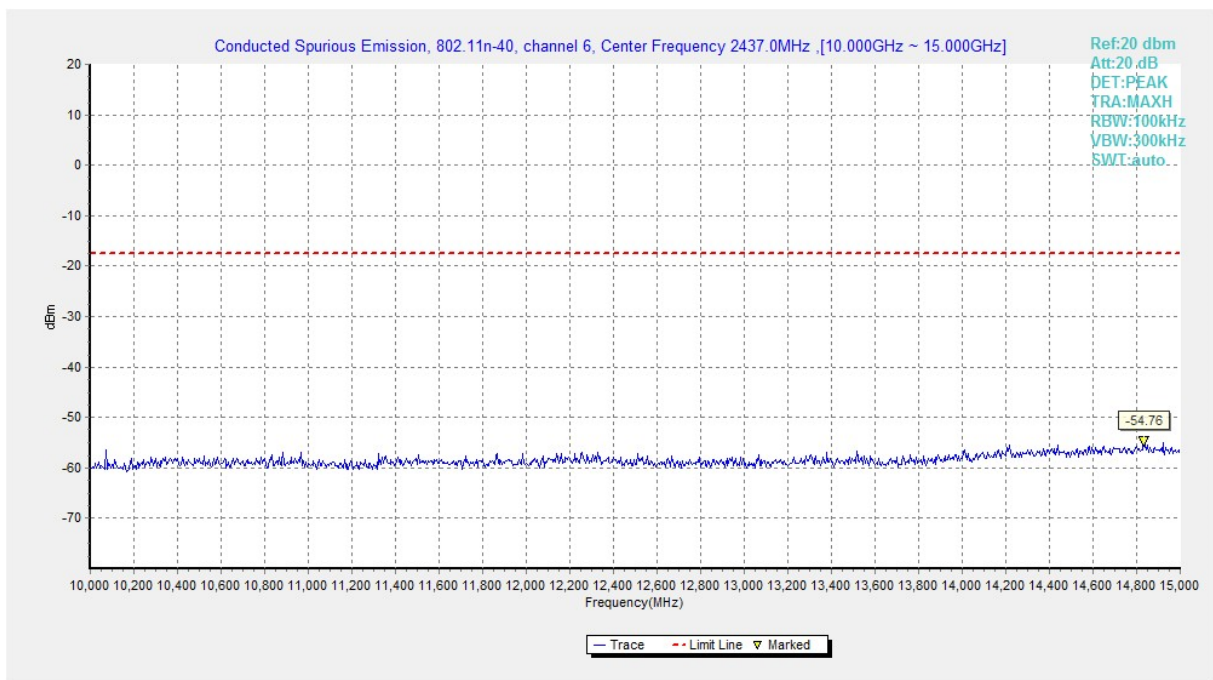


Fig.A.6.1.86 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch6, 10 GHz-15 GHz)

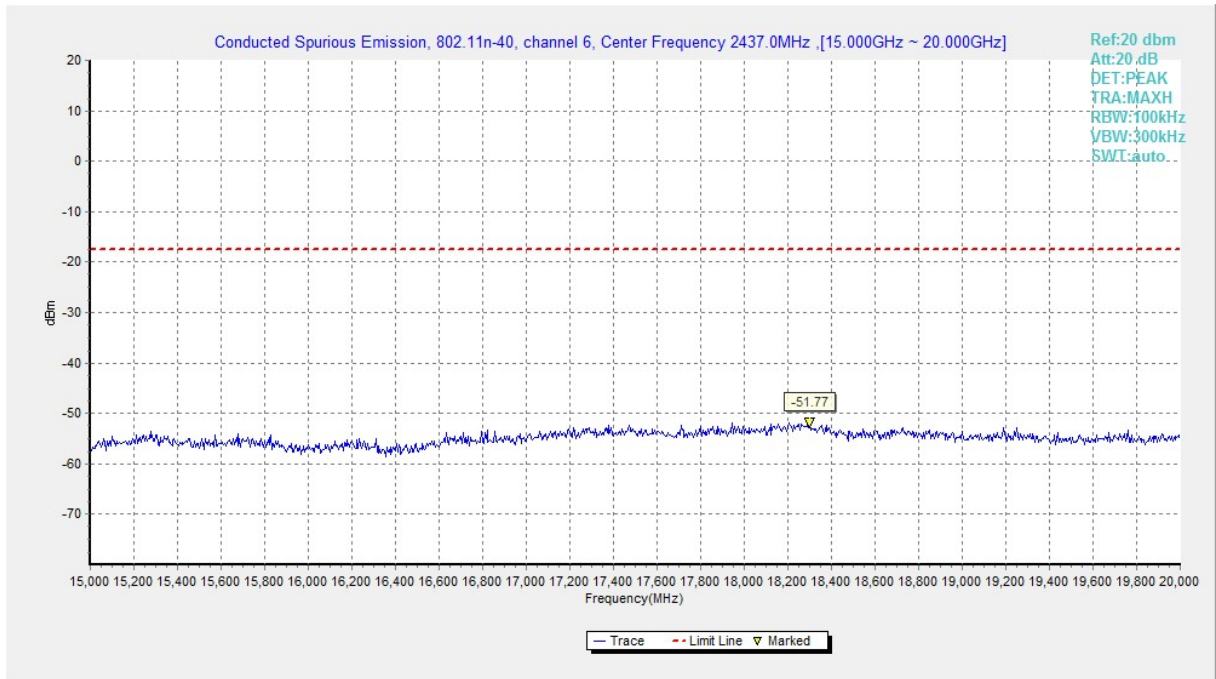


Fig.A.6.1.87 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch6, 15 GHz-20 GHz)

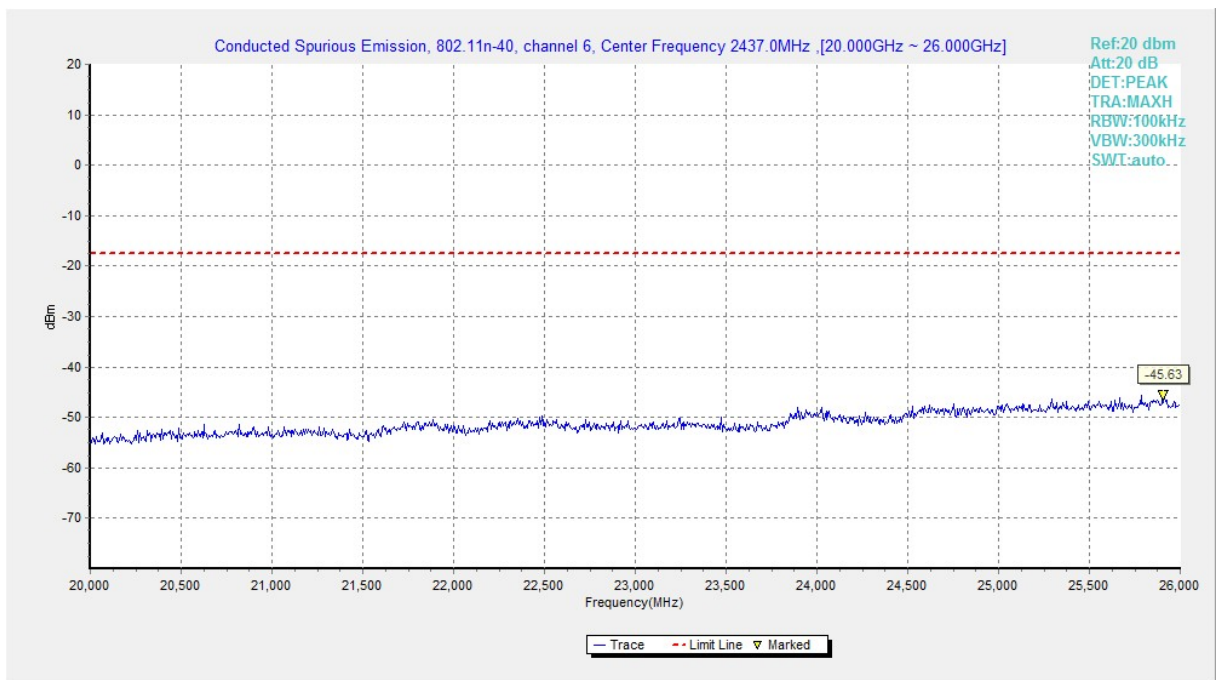


Fig.A.6.1.88 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch6, 20 GHz-26 GHz)

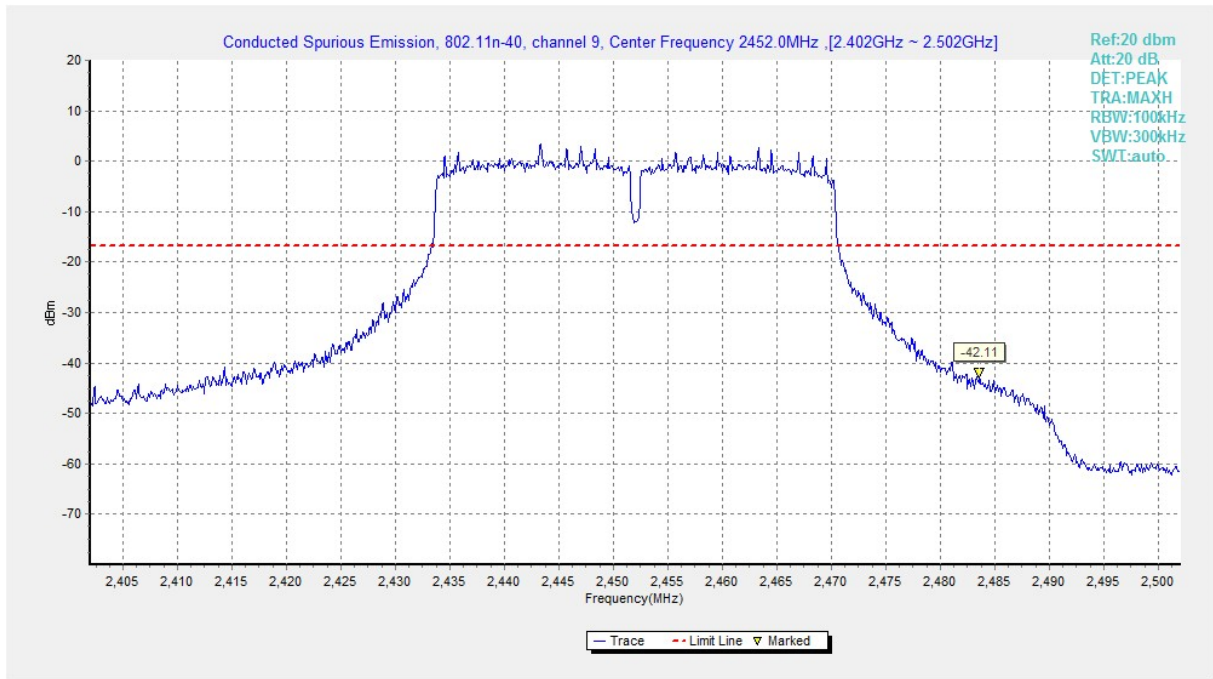


Fig.A.6.1.89 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch9, Center Frequency)

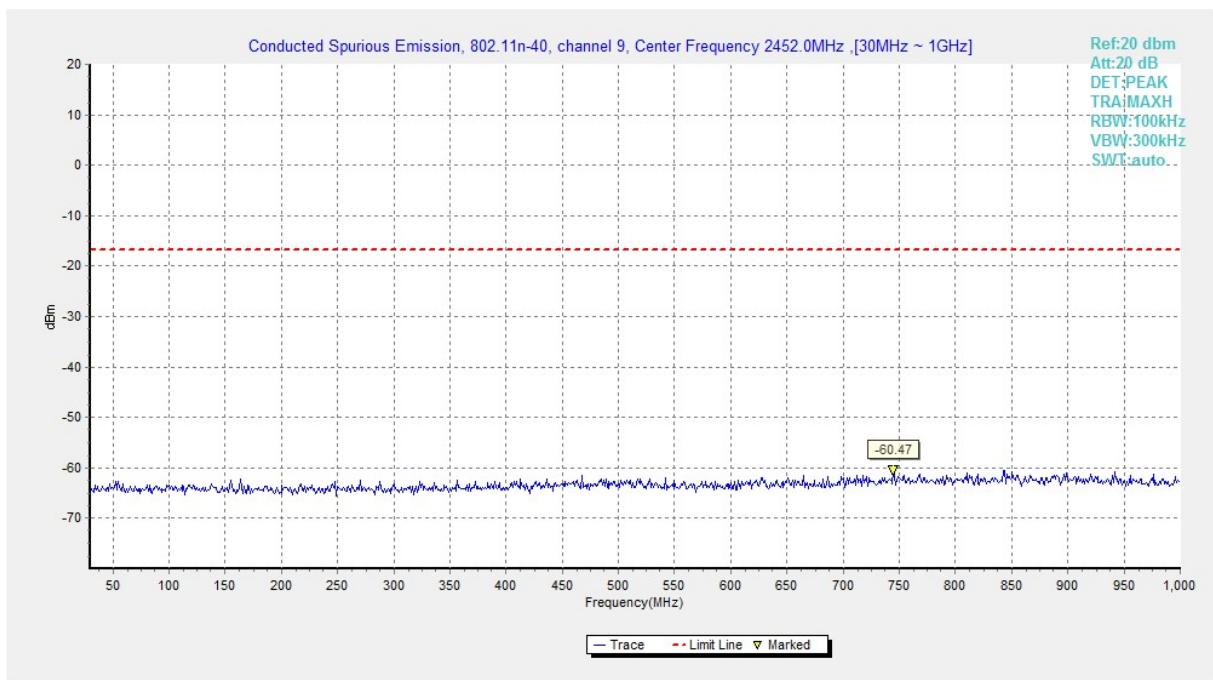


Fig.A.6.1.90 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch9, 30 MHz-1 GHz)

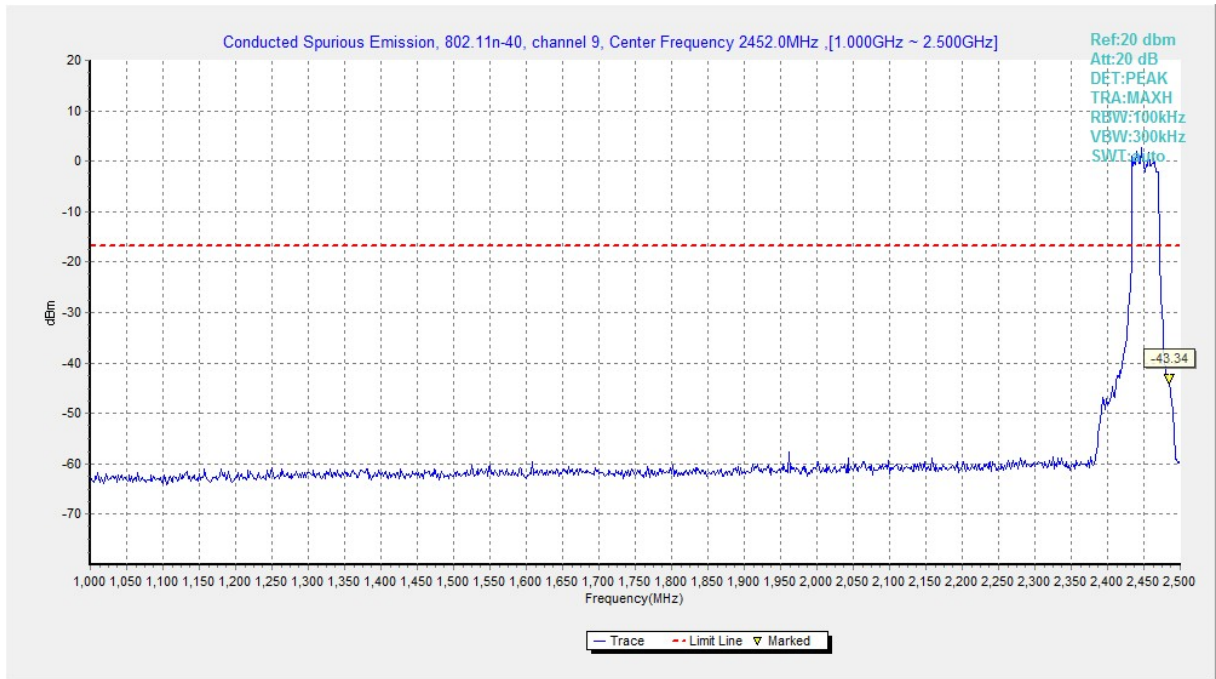


Fig.A.6.1.91 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch9, 1 GHz-2.5 GHz)

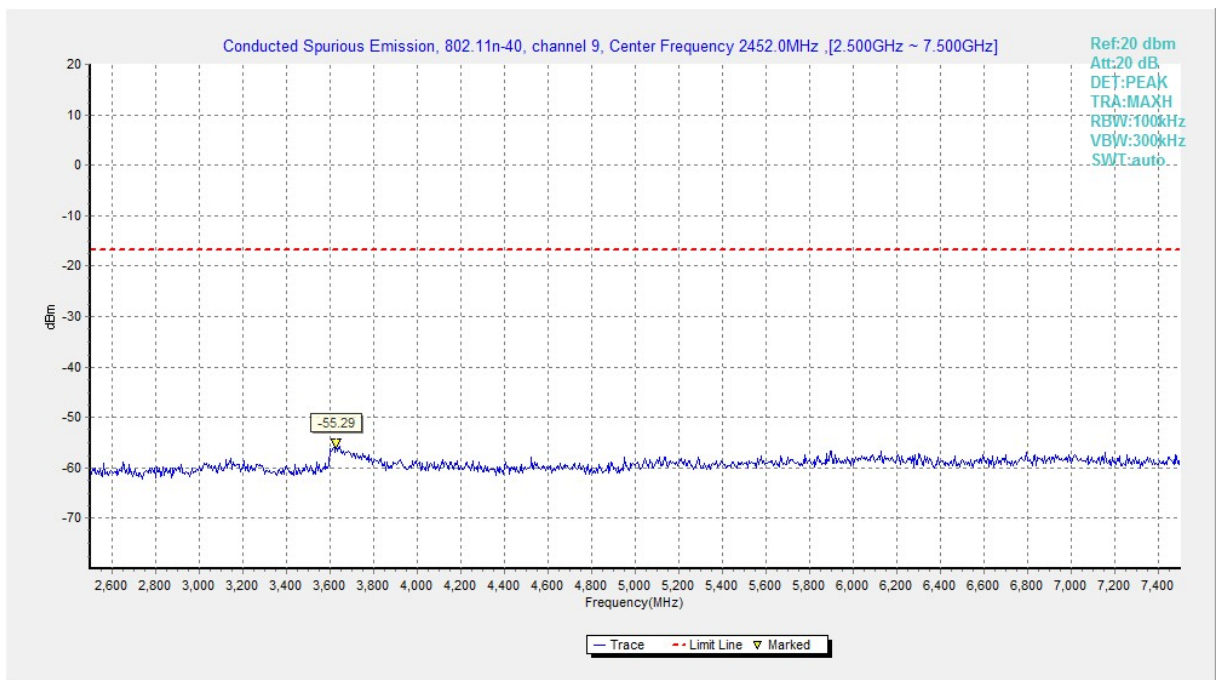


Fig.A.6.1.92 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch9, 2.5 GHz-7.5 GHz)

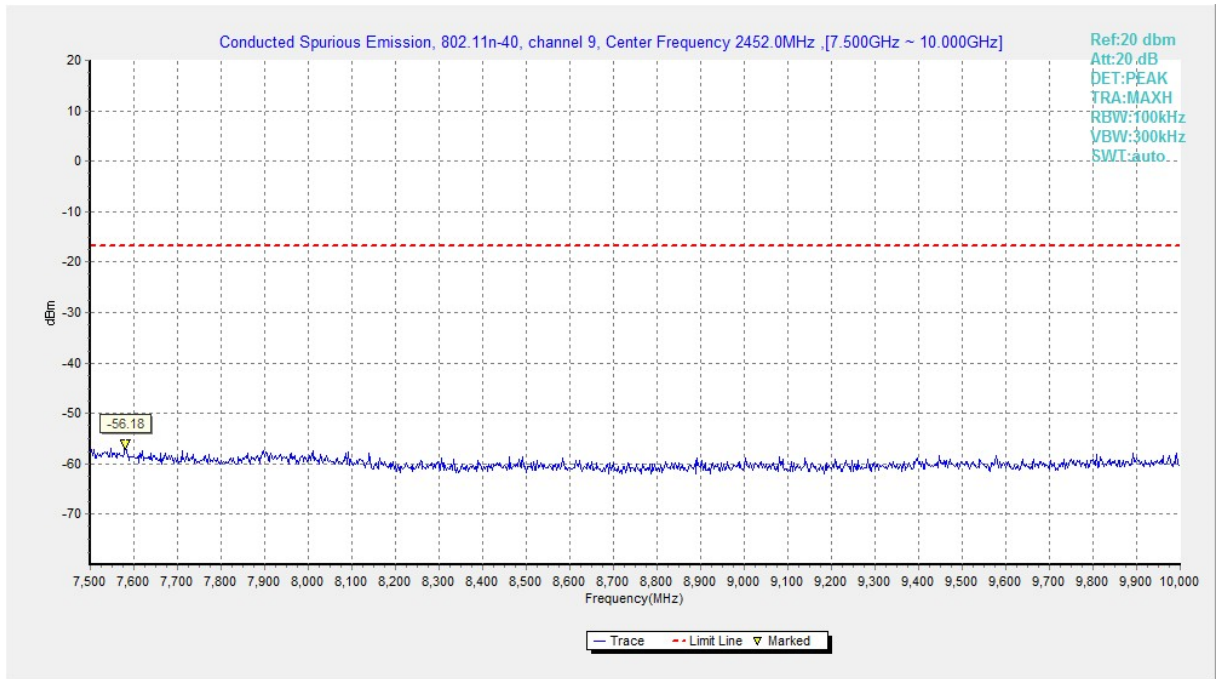


Fig.A.6.1.93 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch9, 7.5 GHz-10 GHz)

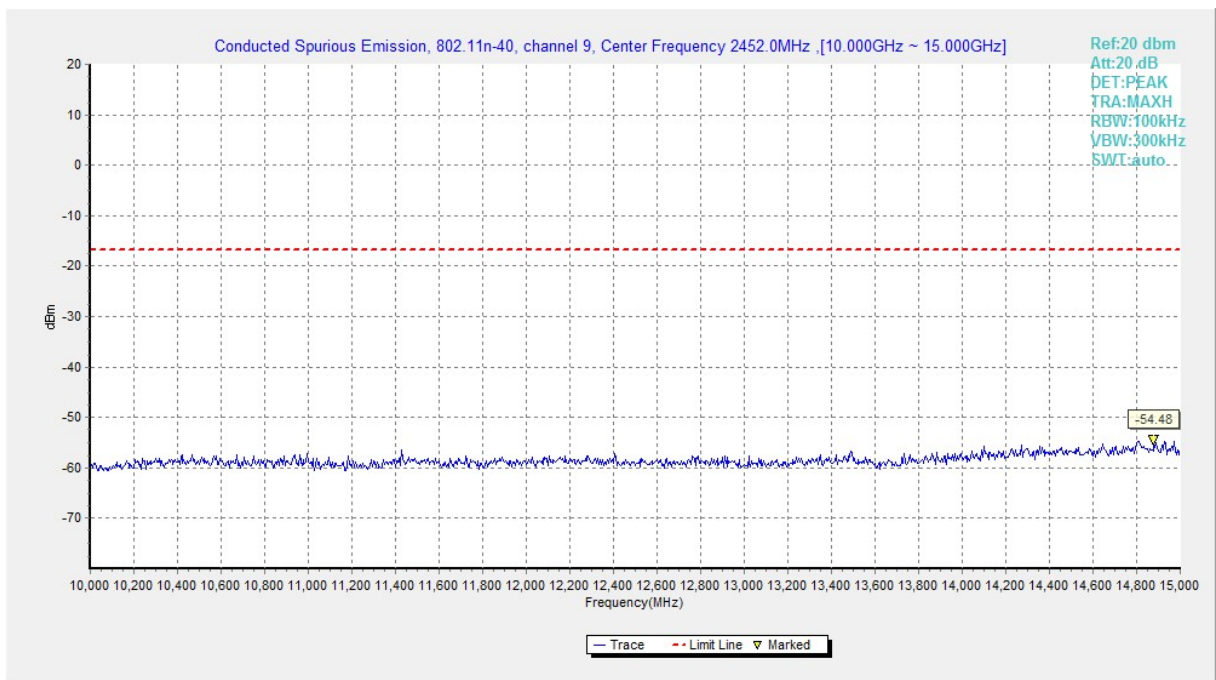


Fig.A.6.1.94 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch9, 10 GHz-15 GHz)

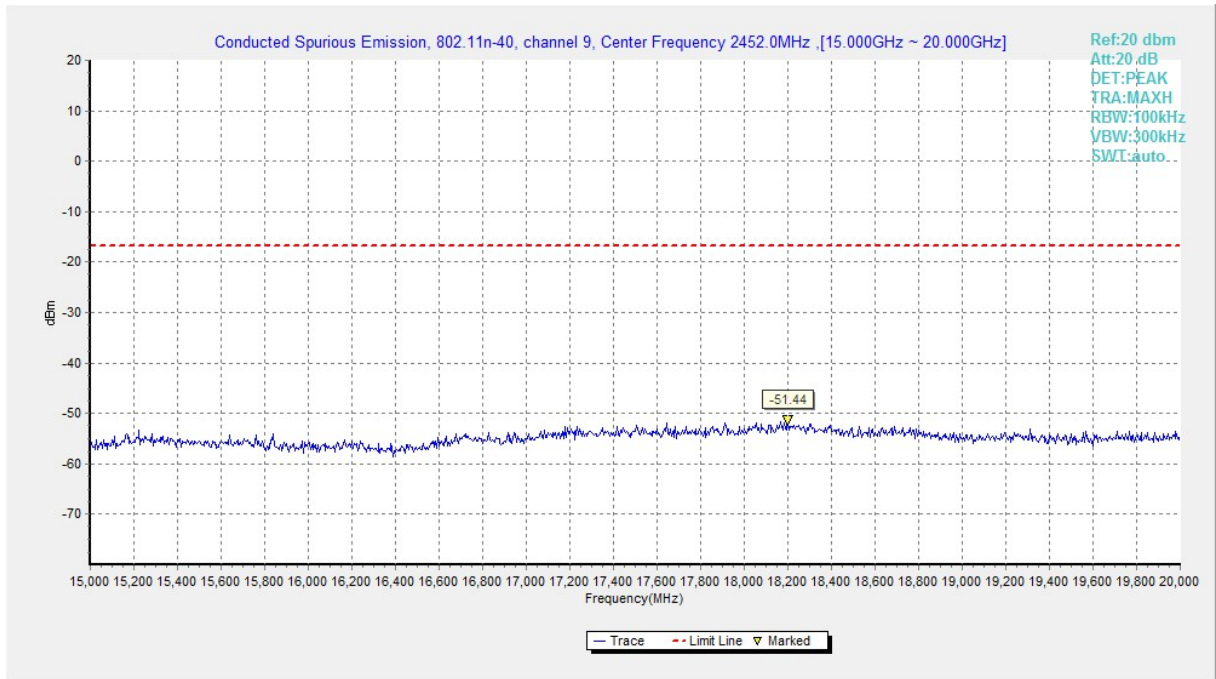


Fig.A.6.1.95 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch9, 15 GHz-20 GHz)

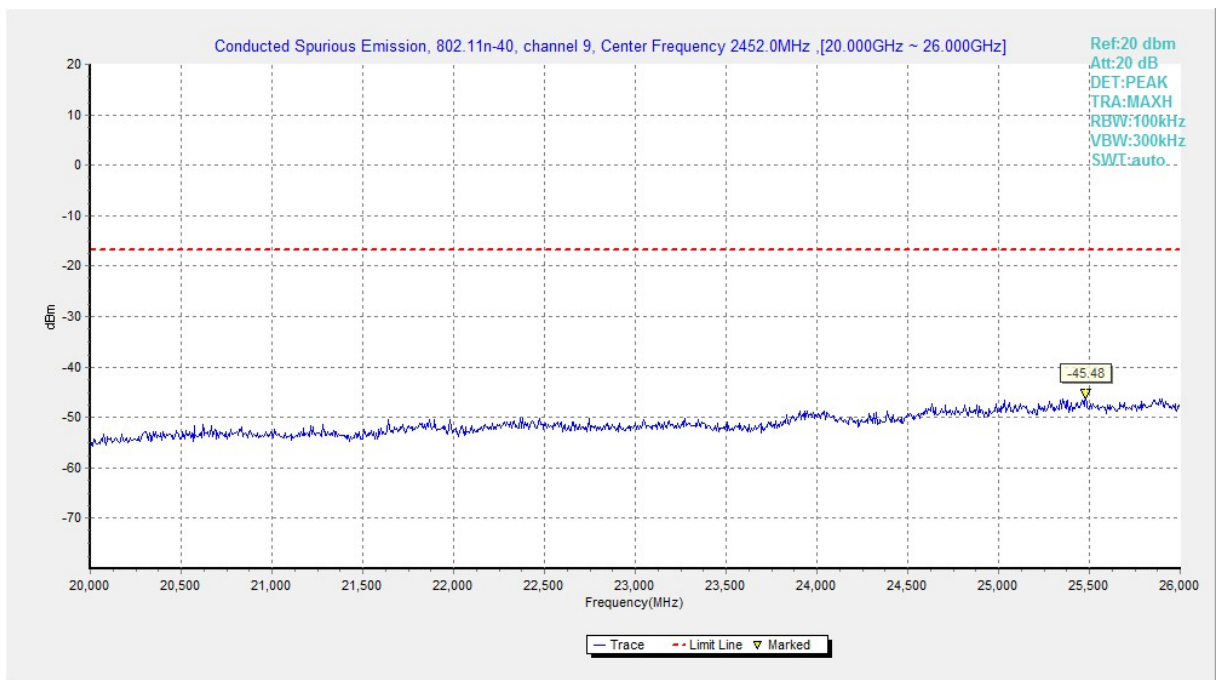


Fig.A.6.1.96 Transmitter Spurious Emission - Conducted (802.11n-HT40, Ch9, 20 GHz-26 GHz)

A.6.2 Transmitter Spurious Emission - Radiated

Method of Measurement: See ANSI C63.10-2013-clause 6.4 & 6.5 & 6.6

Measurement Limit:

Standard	Limit
FCC 47 CFR Part 15.247, 15.205, 15.209	20dB below peak output power

In addition, 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)).

Limit in restricted band:

Frequency of emission (MHz)	Field strength(uV/m)	Field strength(dBuV/m)
30-88	100	40
88-216	150	43.5
216-960	200	46
Above 960	500	54

Frequency (MHz)	Field strength(μV/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

Test Condition

The EUT was placed on a non-conductive table. The measurement antenna was placed at a distance of 3 meters from the EUT. During the tests, the antenna height and the EUT azimuth were varied in order to identify the maximum level of emissions from the EUT. This maximization process was repeated with the EUT positioned in each of its three orthogonal orientations.

Frequency of emission (MHz)	RBW/VBW	Sweep Time(s)
30-1000	100KHz/300KHz	5
1000-4000	1MHz/3MHz	15
4000-18000	1MHz/3MHz	40
18000-26500	1MHz/3MHz	20

EUT ID: EUT1

Measurement Results for EUT1:
802.11b mode

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11b	Power(ch1)	2.31GHz ~2.43GHz	Fig.A.6.2.1	P
	Power(ch11)	2.45GHz ~2.5GHz	Fig.A.6.2.2	P

802.11g mode

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11g	Power(ch1)	2.31GHz ~2.43GHz	Fig.A.6.2.3	P
	Power(ch11)	2.45GHz ~2.5GHz	Fig.A.6.2.4	P

802.11n-HT20 mode

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11n(HT20)	Power(ch1)	2.31GHz ~2.43GHz	Fig.A.6.2.5	P
	Power(ch11)	2.45GHz ~2.5GHz	Fig.A.6.2.6	P

802.11n-HT40 mode

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11n(HT40)	Power(ch3)	2.31GHz ~2.43GHz	Fig.A.6.2.7	P
	Power(ch9)	2.45GHz ~2.5GHz	Fig.A.6.2.8	P

Conclusion: Pass
Note:

A "reference path loss" is established and the A_{Rpl} is the attenuation of "reference path loss", and including the gain of receive antenna, the gain of the preamplifier, the cable loss.

P_{Mea} is the field strength recorded from the instrument.

The measurement results are obtained as described below:

$$\text{Result} = P_{Mea} + A_{Rpl} = P_{Mea} + \text{Cable Loss} + \text{Antenna Factor}$$

802.11b-Average
Ch1

Frequency (MHz)	Measurement Result (dB μ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB μ V)	Limit (dB μ V/m)	Margin (dB)	Antenna Pol. (H/V)	Antenna Height (cm)	Turntable angle (deg)
2390.000	47.08	2.9	32.0	12.20	54.0	6.9	H	155	88
2389.850	47.00	2.9	32.0	12.12	54.0	7.0	H	155	84
4824.000	38.36	-33.2	34.1	37.47	54.0	15.6	H	155	119
7236.000	34.43	-30.9	35.7	29.57	54.0	19.6	H	155	146
9648.000	35.44	-30.5	36.8	29.11	54.0	18.6	H	155	76
12060.000	38.72	-28.7	38.9	28.51	54.0	15.3	H	155	94

Ch6

Frequency (MHz)	Measurement Result (dB μ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB μ V)	Limit (dB μ V/m)	Margin (dB)	Antenna Pol. (H/V)	Antenna Height (cm)	Turntable angle (deg)
2388.700	47.10	2.9	32.0	12.22	54.0	6.9	H	155	8
2486.500	47.42	2.9	32.2	12.31	54.0	6.6	H	155	52
4873.500	40.64	-33.3	34.2	39.79	54.0	13.4	H	155	18
7311.000	34.28	-30.8	35.8	29.34	54.0	19.7	H	155	6
9748.500	35.82	-30.3	36.9	29.25	54.0	18.2	H	155	48
12184.500	38.88	-28.1	38.9	28.05	54.0	15.1	H	155	128

Ch11

Frequency (MHz)	Measurement Result (dB μ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB μ V)	Limit (dB μ V/m)	Margin (dB)	Antenna Pol. (H/V)	Antenna Height (cm)	Turntable angle (deg)
2483.560	47.59	2.9	32.2	12.48	54.0	6.4	H	155	28
2494.650	47.53	2.9	32.2	12.40	54.0	6.5	H	155	248
4923.000	38.49	-33.5	34.2	37.84	54.0	15.5	H	155	38
7386.000	33.48	-31.5	35.8	29.15	54.0	20.5	H	155	98
9847.500	35.98	-30.2	37.0	29.14	54.0	18.0	H	155	183
12310.500	39.09	-27.8	39.0	27.87	54.0	14.9	H	155	356

802.11b-Peak
Ch1

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)	Antenna Height (cm)	Turntable angle (deg)
2388.372	60.44	2.9	32.0	25.57	74.0	13.6	H	155	90
2362.234	60.36	2.9	32.0	25.50	74.0	13.6	H	155	78
4823.500	46.26	-33.2	34.1	45.37	74.0	27.7	H	155	110
7236.000	44.11	-30.9	35.7	39.24	74.0	29.9	V	155	132
9648.000	45.28	-30.5	36.8	38.96	74.0	28.7	V	155	66
12060.000	45.83	-28.7	38.9	35.62	74.0	28.2	V	155	88

Ch6

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)	Antenna Height (cm)	Turntable angle (deg)
2244.200	43.15	-35.6	31.8	46.99	74.0	30.8	V	155	0
2608.000	45.12	-35.0	32.3	47.82	74.0	28.9	H	155	18
4874.000	45.40	-33.3	34.2	44.55	74.0	28.6	V	155	22
7311.000	43.35	-30.8	35.8	38.40	74.0	30.7	H	155	0
9748.000	42.90	-30.3	36.9	36.33	74.0	31.1	H	155	44
12185.000	46.62	-28.1	38.9	35.79	74.0	27.4	V	155	132

Ch11

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)	Antenna Height (cm)	Turntable angle (deg)
2484.405	61.38	2.9	32.2	26.27	74.0	12.6	H	155	22
2489.680	61.05	2.9	32.2	25.93	74.0	13.0	H	155	242
4924.000	43.95	-33.5	34.2	43.31	74.0	30.0	V	155	44
7386.000	41.90	-31.5	35.8	37.58	74.0	32.1	H	155	88
9848.000	44.13	-30.2	37.0	37.28	74.0	29.9	V	155	176
12310.000	46.35	-27.8	39.0	35.14	74.0	27.7	H	155	0

802.11g - Average

Ch1

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)	Antenna Height (cm)	Turntable angle (deg)
2388.300	47.22	2.9	32.0	12.34	54.0	6.8	H	155	28
2389.900	47.30	2.9	32.0	12.41	54.0	6.7	H	155	46
4822.500	32.70	-33.2	34.1	31.80	54.0	21.3	H	155	8
7236.000	34.41	-30.9	35.7	29.54	54.0	19.6	H	155	6
9648.000	35.43	-30.5	36.8	29.10	54.0	18.6	H	155	24
12060.000	38.67	-28.7	38.9	28.46	54.0	15.3	H	155	185

Ch6

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)	Antenna Height (cm)	Turntable angle (deg)
2387.500	47.23	2.9	32.0	12.35	54.0	6.8	H	155	92
2485.600	47.59	2.9	32.2	12.48	54.0	6.4	H	155	115
4873.500	32.64	-33.3	34.2	31.79	54.0	21.4	H	155	174
7311.000	34.26	-30.8	35.8	29.31	54.0	19.7	H	155	195
9748.500	35.62	-30.3	36.9	29.05	54.0	18.4	H	155	2
12184.500	38.94	-28.1	38.9	28.12	54.0	15.1	H	155	25

Ch11

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)	Antenna Height (cm)	Turntable angle (deg)
2484.100	47.70	2.9	32.2	12.59	54.0	6.3	H	155	184
2486.900	47.67	2.9	32.2	12.56	54.0	6.3	H	155	6
4923.000	31.91	-33.5	34.2	31.26	54.0	22.1	H	155	26
7386.000	33.58	-31.5	35.8	29.26	54.0	20.4	H	155	246
9847.500	35.94	-30.2	37.0	29.10	54.0	18.1	H	155	8
12310.500	39.05	-27.8	39.0	27.84	54.0	15.0	H	155	2

802.11g - Peak
Ch1

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)	Antenna Height (cm)	Turntable angle (deg)
2330.216	60.82	2.8	31.9	26.08	74.0	13.2	H	155	22
2385.390	60.57	2.9	32.0	25.69	74.0	13.4	H	155	44
4824.000	42.08	-33.2	34.1	41.18	74.0	31.9	V	155	0
7236.000	42.00	-30.9	35.7	37.13	74.0	32.0	H	155	0
9648.000	44.53	-30.5	36.8	38.21	74.0	29.5	V	155	22
12060.000	45.00	-28.7	38.9	34.79	74.0	29.0	H	155	176

Ch6

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)	Antenna Height (cm)	Turntable angle (deg)
2362.200	44.21	-34.8	32.0	47.03	74.0	29.8	V	155	2
2771.800	44.67	-34.5	32.4	46.76	74.0	29.3	V	155	20
4873.500	43.56	-33.3	34.2	42.71	74.0	30.4	V	155	176
7311.000	43.05	-30.8	35.8	38.10	74.0	31.0	V	155	198
9748.000	44.14	-30.3	36.9	37.57	74.0	29.9	H	155	0
12185.000	45.84	-28.1	38.9	35.01	74.0	28.2	V	155	22

Ch11

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)	Antenna Height (cm)	Turntable angle (deg)
2487.035	61.22	2.9	32.2	26.11	74.0	12.8	H	155	176
2489.040	61.41	2.9	32.2	26.29	74.0	12.6	H	155	0
4924.000	40.88	-33.5	34.2	40.23	74.0	33.1	V	155	22
7386.000	41.95	-31.5	35.8	37.63	74.0	32.0	V	155	352
9848.000	43.87	-30.2	37.0	37.03	74.0	30.1	V	155	0
12310.000	45.47	-27.8	39.0	34.26	74.0	28.5	H	155	0

802.11n-HT20-Average
Ch1

Frequency (MHz)	Measurement Result (dB μ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB μ V)	Limit (dB μ V/m)	Margin (dB)	Antenna Pol. (H/V)	Antenna Height (cm)	Turntable angle (deg)
2390.000	47.31	2.9	32.0	12.42	54.0	6.7	H	155	28
2389.050	47.20	2.9	32.0	12.32	54.0	6.8	H	155	74
4822.500	32.42	-33.2	34.1	31.53	54.0	21.6	H	155	140
7236.000	34.41	-30.9	35.7	29.55	54.0	19.6	H	155	8
9648.000	35.53	-30.5	36.8	29.21	54.0	18.5	H	155	80
12060.000	38.73	-28.7	38.9	28.52	54.0	15.3	H	155	243

Ch6

Frequency (MHz)	Measurement Result (dB μ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB μ V)	Limit (dB μ V/m)	Margin (dB)	Antenna Pol. (H/V)	Antenna Height (cm)	Turntable angle (deg)
2385.700	47.24	2.9	32.0	12.37	54.0	6.8	H	155	28
2486.500	47.64	2.9	32.2	12.53	54.0	6.4	H	155	248
4873.500	32.20	-33.3	34.2	31.35	54.0	21.8	H	155	38
7311.000	34.38	-30.8	35.8	29.43	54.0	19.6	H	155	98
9748.500	35.86	-30.3	36.9	29.29	54.0	18.1	H	155	183
12184.500	38.96	-28.1	38.9	28.13	54.0	15.0	H	155	356

Ch11

Frequency (MHz)	Measurement Result (dB μ V/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dB μ V)	Limit (dB μ V/m)	Margin (dB)	Antenna Pol. (H/V)	Antenna Height (cm)	Turntable angle (deg)
2483.600	48.00	2.9	32.2	12.89	54.0	6.0	H	155	8
2487.900	47.89	2.9	32.2	12.77	54.0	6.1	H	155	28
4923.000	31.94	-33.5	34.2	31.29	54.0	22.1	H	155	6
7386.000	33.54	-31.5	35.8	29.22	54.0	20.5	H	155	278
9847.500	35.88	-30.2	37.0	29.04	54.0	18.1	H	155	122
12310.500	39.09	-27.8	39.0	27.87	54.0	14.9	H	155	245

802.11n-HT20-Peak
Ch1

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)	Antenna Height (cm)	Turntable angle (deg)
2385.082	61.39	2.9	32.0	26.52	74.0	12.6	H	155	22
2382.562	60.84	2.9	32.0	25.97	74.0	13.2	H	155	66
4824.000	43.06	-33.2	34.1	42.17	74.0	30.9	V	155	132
7236.000	42.14	-30.9	35.7	37.27	74.0	31.9	H	155	0
9648.000	44.08	-30.5	36.8	37.75	74.0	29.9	V	155	88
12060.000	45.34	-28.7	38.9	35.13	74.0	28.7	V	155	242

Ch6

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)	Antenna Height (cm)	Turntable angle (deg)
2231.800	42.87	-35.6	31.7	46.72	74.0	31.1	V	155	180
2771.700	44.67	-34.5	32.4	46.76	74.0	29.3	V	155	180
4874.000	42.71	-33.3	34.2	41.86	74.0	31.3	V	155	44
7311.000	43.40	-30.8	35.8	38.45	74.0	30.6	H	155	88
9748.000	43.52	-30.3	36.9	36.95	74.0	30.5	V	155	176
12185.000	46.04	-28.1	38.9	35.21	74.0	28.0	H	155	0

Ch11

Frequency (MHz)	Measurement Result (dBμV/m)	Cable loss (dB)	Antenna Factor (dB/m)	Receiver Reading (dBμV)	Limit (dBμV/m)	Margin (dB)	Antenna Pol. (H/V)	Antenna Height (cm)	Turntable angle (deg)
2483.935	61.63	2.9	32.2	26.53	74.0	12.4	V	155	0
2496.050	61.63	2.9	32.2	26.50	74.0	12.4	V	155	22
4924.000	40.86	-33.5	34.2	40.21	74.0	33.1	H	155	0
7386.000	40.97	-31.5	35.8	36.64	74.0	33.0	H	155	264
9848.000	44.41	-30.2	37.0	37.57	74.0	29.6	H	155	110
12310.000	45.89	-27.8	39.0	34.68	74.0	28.1	H	155	242