DEKRA Testing and Certification, S.A.U.
Parque Tecnológico de Andalucía,
c/ Severo Ochoa nº 2 · 29590 Campanillas · Málaga · España
C.I.F. A29 507 456

Test report No:

NIE: 65531RRF.001

Partial Test report

REFERENCE STANDARD:
USA FCC Part 22
CANADA IC RSS-132

(*) Identification of item tested	Vaisala Beacon Edge Gateway EGW501
(*) Trademark	VAISALA
(*) Model and /or type reference tested	EGW501
Other identification of the product	SW version: V0708_01.002.01.002 HW version: B FCC ID: 2AO39-EGW501 IC: 23830-EGW501
(*) Features	GSM, WCDMA, LTE
Applicant	Vaisala Oyj Vanha Nurmijärventie 21, 01670 Vantaa FINLAND
Test method requested. standard	USA FCC Part 22 10-1-19 Edition. CANADA IC RSS-132 Issue 3, Jan. 2013. ANSI C63.26 – 2015 KDB 971168 D01 Power Meas License Digital Systems v03r01, April. 2018.
Approved by (name / position & signature)	Rafael López Martín EMC Consumer & RF Lab. Manager RAFAEL LÓPEZ MARTÍN 2021.01.14 12:26:11 +01'00'
Date of issue	2021-01-13
Report template No	FDT08_23 (*) "Data provided by the client"

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Competences and guarantees

DEKRA Testing and Certification is a testing laboratory accredited by the National Accreditation Body (ENAC - Entidad Nacional de Acreditación), to perform the tests indicated in the Certificate No. 51/LE 147.

DEKRA Testing and Certification is a FCC-recognized accredited testing laboratory with appropriate scope of accreditation that include testing performed in this test report.

DEKRA Testing and Certification is an ISED-recognized accredited testing laboratory with appropriate scope of accreditation that include testing performed in this test report.

In order to assure the traceability to other national and international laboratories, DEKRA Testing and Certification has a calibration and maintenance program for its measurement equipment.

DEKRA Testing and Certification guarantees the reliability of the data presented in this report, which is the result of the measurements and the tests performed to the item under test on the date and under the conditions stated on the report and, it is based on the knowledge and technical facilities available at DEKRA Testing and Certification at the time of performance of the test.

DEKRA Testing and Certification is liable to the client for the maintenance of the confidentiality of all information related to the item under test and the results of the test.

The results presented in this Test Report apply only to the particular item under test established in this document.

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General conditions

1. This report is only referred to the item that has undergone the test.
2. This report does not constitute or imply on its own an approval of the product by the Certification Bodies or competent Authorities.
3. This document is only valid if complete; no partial reproduction can be made without previous written permission of DEKRA Testing and Certification.
4. This test report cannot be used partially or in full for publicity and/or promotional purposes without previous written permission of DEKRA Testing and Certification and the Accreditation Bodies.

Uncertainty

Uncertainty (factor k=2) was calculated according to the DEKRA Testing and Certification internal document PODT000.

Data provided by the client

The following data has been provided by the client:

1. Information relating to the description of the sample ("Identification of the item tested", "Trademark", "Model and/or type reference tested").

2. The sample of the model EGW501 is a compact weather station for environmental monitoring. The complete solution provides measurements, data collection, and data visualization in one package. Vaisala Beacon Station includes Vaisala Beacon Edge Gateway EGW501, a multi parameter Vaisala Weather Transmitter WXT536,powering equipment, and mounting accessories. To maximize ease-of-use, the station comes with a data plan and a variety of service packages to choose from.

DEKRA Testing and Certification S.A.U. declines any responsibility with respect to the information provided by the client and that may affect the validity of results.

Usage of samples

Samples undergoing test have been selected by: The client.

- Sample S/01 is composed of the following elements:

Control Nº	Description	Model	Serial Nº	Date of reception
65531/003	Vaisala Beacon Station BWS500	EGW501	S3240004	2020/10/01
65531/038	Power Supply Unit	PSU501	S3926080	2020/10/14

Auxiliary elements used with the Sample S/01:

Control Nº	Description	Model	Serial Nº	Date of reception
65531/013	Load	--	--	2020/10/01
65531/017	DC out cable	--	--	2020/10/01
65531/021	DC in cable	--	--	2020/10/01
65531/039	Power Cable	--	--	2020/10/14

Sample S/01 has undergone the following test(s): All conducted tests indicated in Appendix A.

- Sample S/02 is composed of the following elements:

Control Nº	Description	Model	Serial Nº	Date of reception
65531/003	Vaisala Beacon Station BWS500	EGW501	S3240004	2020/10/01
65531/006	Weather Transmitter	WXT536	S3240235	2020/10/01
65531/038	Power Supply Unit	PSU501	S3926080	2020/10/14

Auxiliary elements used with the Sample S/02:

Control Nº	Description	Model	Serial Nº	Date of reception
65531/013	Load	--	--	2020/10/01
65531/015	WXT cable	--	--	2020/10/01
65531/017	DC out cable	--	--	2020/10/01
65531/021	DC in cable	--	--	2020/10/01
65531/039	Power Cable	--	--	2020/10/14

Sample S/02 has undergone the following test(s): The radiated tests for 3G Band V and LTE Band 5 QPSK indicated in Appendix A.

- Sample S/03 is composed of the following elements:

Control Nº	Description	Model	Serial Nº	Date of reception
65531/004	Vaisala Beacon Station BWS500	EGW501	S3240010	2020/10/01
65531/006	Weather Transmitter	WXT536	S3240235	2020/10/01
65531/038	Power Supply Unit	PSU501	S3926080	2020/10/14

Auxiliary elements used with the Sample S/03:

Control Nº	Description	Model	Serial Nº	Date of reception
65531/014	Load	--	--	2020/10/01
65531/015	WXT cable	--	--	2020/10/01
65531/017	DC out cable	--	--	2020/10/01
65531/021	DC in cable	--	--	2020/10/01
65531/039	Power Cable	--	--	2020/10/14

Sample S/03 has undergone the following test(s): The radiated tests for 2G 850 MHz and LTE Band 5 16QAM indicated in Appendix A.

Test sample description

Ports…… :	Port name and description	Cable				
		Specified length [m]	Attached during test	Shielded		
	PSU501	2	☒	☐		
	PSU502	2	☒	☐		
	WXT	10	☒	☒		
Supplementary information to the ports…… :	Connecting power cable to gateway turns station automatically on if power is available from battery or other power source. Other ports reserved future use.					
Rated power supply .....:	Voltage and Frequency		Reference poles			
			L1	L2	L3	N	PE
	☒	AC: 100 – 240 V	☒	☒	☐	☐	☒
	☒	DC: 9 – 32 V					
Rated Power .....:	--					
Clock frequencies .....:	max. 2GHz					
Other parameters.....:	--					
Software version .....:	V0708_01.002.01.002					
Hardware version.....:	B					
Dimensions in cm (L x W x D) ....:	306 x 184 x 156					
Mounting position.....:	☐	Table top equipment				
	☒	Wall/Ceiling mounted equipment				
	☐	Floor standing equipment				
	☐	Hand-held equipment				
	☐	Other:				
Modules/parts .....:	Module/parts of test item		Type	Manufacturer		
	--					
Accessories (not part of the test item) .....:	Description	Type	Manufacturer			
	PSU501, AC power supply	PSU501	Vaisala Oyj			
	PSU502, DC solar power supply	PSU502	Vaisala Oyj			
	WXT536,Weather transmitter	WXT536	Vaisala Oyj			
Documents as provided by the applicant.....:	Description	File name	Issue date			
	--					

Identification of the client

Vaisala Oyj
Vanha Nurmijärventie 21, 01670 Vantaa FINLAND

Testing period and place

Test Location	DEKRA Testing and Certification S.A.U.
Date (start)	2020-10-28
Date (finish)	2020-12-02

Document history

Report number	Date	Description
65531RRF.001	2021-01-13	First release

Environmental conditions

In the control chamber, the following limits were not exceeded during the test:

Temperature	Min. = 15 ºC Max. = 35 ºC
Relative humidity	Min. = 20 % Max. = 75 %

In the semianechoic chamber, the following limits were not exceeded during the test.

Temperature	Min. = 15 ºC Max. = 35 ºC
Relative humidity	Min. = 20 % Max. = 75 %

In the chamber for conducted measurements, the following limits were not exceeded during the test:

Temperature	Min. = 15 ºC Max. = 35 ºC
Relative humidity	Min. = 20 % Max. = 75 %

Remarks and comments

The tests have been performed by the technical personnel: José Manuel Jimenez, Cristina Calle and Nicolás Salguero.

Used instrumentation:

Conducted Measurements

		Last Cal. date	Cal. due date
1.	Shielded Room ETS LINDGREN S101	N.A.	N.A.
2.	Wideband Radio Communication tester ROHDE AND SCHWARZ CMW500	2020/07	2021/07
3.	Digital Multimeter FLUKE 179	2020/10	2021/10

Radiated Measurements

		Last Cal. date	Cal. due date
1.	Semianechoic Absorber Lined Chamber ETS LINDGREN FACT 3 200 STP	N.A.	N.A.
2.	Shielded Room ETS LINDGREN S101	N.A.	N.A.
3.	Biconical/Log Antenna ETS LINDGREN 3142E	2020/04	2023/04
4.	EMI Test Receiver 7 GHz ROHDE AND SCHWARZ ESR7	2019/10	2021/10
5.	Broadband Horn antenna 1-18 GHz SCHWARZBECK MESS-ELEKTRONIK BBHA 9120 D	2019/11	2022/11
6.	RF Pre-amplifier 1-18 GHz BONN ELEKTRONIK BLMA 0118-1M	2020/05	2021/05
7.	Signal and Spectrum Analyzer ROHDE AND SCHWARZ FSW 50	2020/07	2022/07
8.	Digital Multimeter FLUKE 175	2020/11	2021/11

Testing verdicts

Not applicable :	N/A
Pass :	P
Fail :	F
Not measured :	N/M

Summary

FCC PART 22/IC RSS-132 PARAGRAPH		
Requirement – Test case	**Verdict**	**Remark**
Clause 22.913/RSS-132 Clause 5.4: RF output power	P	(2)
Clause 2.1047/RSS-132 Clause 5.2: Modulation characteristics	N/M	(1)
Clause 22.355/RSS-132 Clause 5.3: Frequency stability	N/M	(1)
Clause 2.1049: Occupied Bandwidth	N/M	(1)
Clause 22.917/RSS-132 Clause 5.5: Spurious emissions at antenna terminals	N/M	(1)
Clause 22.917/RSS-132 Clause 5.5: Radiated emissions	P	(2)
Supplementary information and remarks: (1) Test not requested. (2) Peak-to-average power ratio (PAPR) was not tested. Only RF Output Power and Radiated emissions tests were tested in the worst case		

Appendix A: Test results for FCC Part 22 / RSS-132

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TEST CONDITIONS

POWER SUPPLY (V):

Vnominal = 110 Vac

Type of power supply = AC voltage

ANTENNA:

Type of antenna = Integral antenna.

Declared Gain for antenna = +1.60 dBi.

TEST FREQUENCIES:

2G Band 850 MHz:

GPRS and EDGE MODULATIONS:

Lowest Channel (128): 824.2 MHz
Middle Channel (190): 836.6 MHz
Highest Channel (251): 848.8 MHz

3G Band V:

WCDMA MODULATION:

Lowest Channel (4132): 826.4 MHz
Middle Channel (4182): 836.4 MHz
Highest Channel (4233): 846.6 MHz

LTE. QPSK AND 16QAM MODULATION (BAND 5)

	Channel (Frequency, MHz)			
	BW = 1.4 MHz	BW = 3 MHz	BW=5 MHz	BW=10 MHz
Lowest	20407 (824.70)	20415 (825.50)	20425 (826.50)	20450 (829.00)
Middle	20525 (836.50)	20525 (836.50)	20525 (836.50)	20525 (836.50)
Highest	20643 (848.30)	20635 (847.50)	20625 (846.50)	20600 (844.00)

.

Results show below were performed in the worst case of modulation, and combination between bandwidth and Resource Blocks through a preliminary scan.

RF Output Power

SPECIFICATION

FCC §2.1046 and §22.913. The Effective Radiated Power (E.R.P.) of mobile transmitter and auxiliary test transmitter must not exceed 7 Watts (38.45 dBm E.R.P.).

RSS-132. Clause 5.4. The equivalent isotropically radiated power (e.i.r.p.) for mobile equipment shall not exceed 11.5 watts (38.45 dBm E.R.P.).

METHOD

The conducted RF output power measurements were made at the RF output terminals of the EUT using the power meter of the Universal Radio Communication tester R&S CMW500, selecting maximum transmission power of the EUT and different modes of modulation.

The maximum equivalent isotropically radiated power (e.i.r.p.) is calculated by adding the declared maximum antenna gain (dBi).

The maximum effective radiated power e.r.p. is calculated from the maximum equivalent isotropically radiated power (e.i.r.p.) by subtracting 2.15 dB:

$$E.R.P. = E.I.R.P. - 2.15\ dB$$

TEST SETUP

CONDUCTED AVERAGE POWER:

RESULTS

CONDUCTED AVERAGE POWER.

2G Band 850 MHz:

GPRS MODULATION:

Channel	Lowest	Middle	Highest
Maximum declared antenna gain (dBi)	1.60	1.60	1.60
Measured maximum average power (dBm) at antenna port	31.76	31.94	31.55
Maximum equivalent isotropically radiated power (E.I.R.P.) (dBm)	33.36	33.54	33.15
Maximum effective radiated power E.R.P. (dBm)	31.21	31.39	31.00
Measurement uncertainty (dB)	< ±0.941		

EDGE MODULATION:

Channel	Lowest	Middle	Highest
Maximum declared antenna gain (dBi)	1.60	1.60	1.60
Measured maximum average power (dBm) at antenna port	27.71	27.80	27.77
Maximum equivalent isotropically radiated power (E.I.R.P.) (dBm)	29.31	29.40	29.37
Maximum effective radiated power E.R.P. (dBm)	27.16	27.25	27.22
Measurement uncertainty (dB)	< ±0.941		

3G Band V:

WCDMA and HSUPA Modulations:

A preliminary scan determined the WCDMA modulation as the worst case. The following tables show the results for WCDMA modulation.

Channel	Lowest	Middle	Highest
Maximum declared antenna gain (dBi)	1.60	1.60	1.60
Measured maximum average power (dBm) at antenna port	23.05	23.07	23.14
Maximum equivalent isotropically radiated power (E.I.R.P.) (dBm)	24.65	24.67	24.74
Maximum effective radiated power E.R.P. (dBm)	22.50	22.52	22.59
Measurement uncertainty (dB)	< ±0.941		

LTE Band 5:

LTE BAND 5. QPSK MODULATION. Bandwidth = 3 MHz.

A preliminary scan determined the QPSK modulation, BW=3 MHz, RB=1, Offset=8 as the worst case. The following tables show the results for the worst case modulation.

Channel	Lowest	Middle	Highest
Maximum declared antenna gain (dBi)	1.60	1.60	1.60
Measured maximum average power (dBm) at antenna port	22.34	22.27	22.11
Maximum equivalent isotropically radiated power (E.I.R.P.) (dBm)	23.94	23.87	23.71
Maximum effective radiated power E.R.P. (dBm)	21.79	21.72	21.56
Measurement uncertainty (dB)	< ±0.941		

LTE BAND 5. 16QAM MODULATION. Bandwidth = 1.4 MHz.

A preliminary scan determined the 16QAM modulation, BW=1.4 MHz, RB=3, Offset=3 as the worst case. The following tables show the results for the worst case modulation.

Channel	Lowest	Middle	Highest
Maximum declared antenna gain (dBi)	1.60	1.60	1.60
Measured maximum average power (dBm) at antenna port	22.56	22.51	22.17
Maximum equivalent isotropically radiated power (E.I.R.P.) (dBm)	24.16	24.11	23.77
Maximum effective radiated power E.R.P. (dBm)	22.01	21.96	21.62
Measurement uncertainty (dB)	< ±0.941		

Verdict: PASS

Radiated emissions

SPECIFICATION

FCC § 22.917

RSS-132. Clause 5.5.

The power of emissions shall be attenuated below the transmitter power (P) by a factor of at least 43 + 10 log (P) dB. P in watts.

METHOD

The measurement was performed with the EUT inside an anechoic chamber. The spectrum was scanned from 30 MHz to at least the 10th harmonic of the highest frequency generated within the equipment.

The EUT was placed on a 1 meter high non-conductive stand at a 3 meter distance from the measuring antenna.

Detected emissions were maximized at each frequency by rotating the EUT and adjusting the measuring antenna height and polarization. The maximum field strength (dBµV/m) is measured and recorded.

The maximum field strength (dBµV/m) of each detected emission at less than 20 dB respect to the limit is converted to an equivalent EIRP level (dBm) according to ANSI C63.26 with the formula:

$$\text{EIRP (dBm)} = \text{E (dBµV/m)} + 20 \log (\text{D}) - 104.8$$

Where D is the measurement distance (in the far field region) in m. D = 3 m

Measurement Limit:

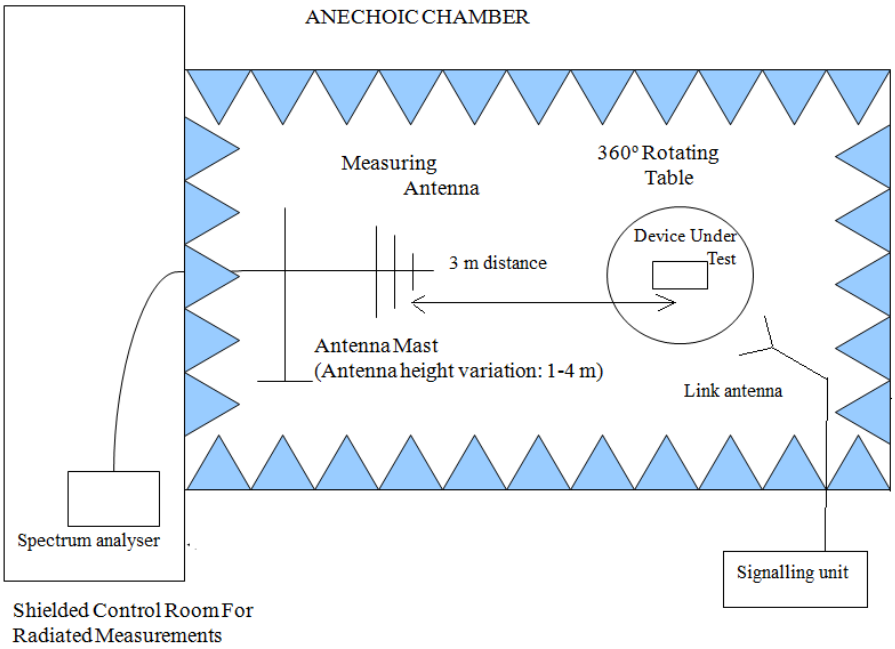
According to specification. the power of emissions shall be attenuated below the transmitter power (P) by a factor of at least 43 + 10 log (P) dB. P in watts.

At Po transmitting power. the specified minimum attenuation becomes 43+10log (Po). and the level in dBm relative Po becomes:

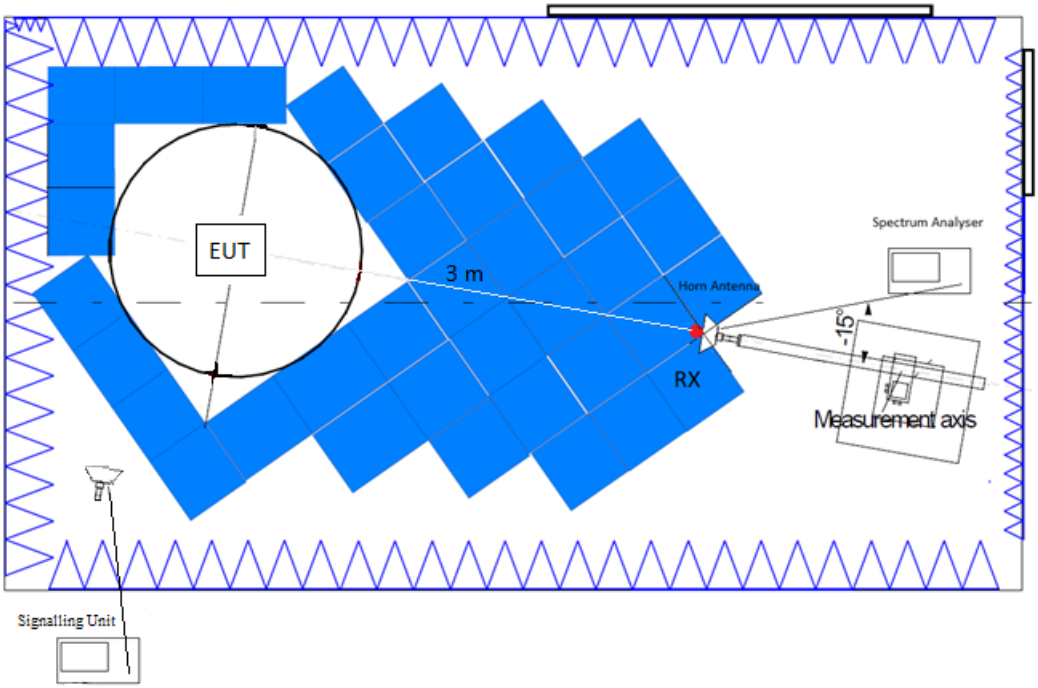
$$\text{Po (dBm)} – [43 + 10 \log (\text{Po in mwatts}) - 30] = - 13 \text{ dBm}$$

TEST SETUP

Radiated measurements below 1 GHz:



Radiated measurements above 1 GHz:



RESULTS

2G Band 850 MHz:

GPRS and EDGE Modulations:
A preliminary scan determined the GPRS modulation as the worst case. The following tables and plots show the results for the worst case modulation.

- LOW CHANNEL:

Frequency range 30 MHz - 1 GHz

Spurious frequencies detected at less than 20 dB below the limit:

Spurious frequency (MHz)	Detector	E.I.R.P (dBm)	Polarization
876.1795	Peak	-27.33	H

Frequency range 1 – 8.5 GHz

No spurious frequencies at less than 20 dB below the limit.

- MIDDLE CHANNEL:

Frequency range 30 MHz - 1 GHz

Spurious frequencies detected at less than 20 dB below the limit:

Spurious frequency (MHz)	Detector	E.I.R.P (dBm)	Polarization
876.1795	Peak	-26.73	H

Frequency range 1 – 8.5 GHz

No spurious frequencies at less than 20 dB below the limit.

- HIGH CHANNEL:

Frequency range 30 MHz - 1 GHz

Spurious frequencies detected at less than 20 dB below the limit:

Spurious frequency (MHz)	Detector	E.I.R.P (dBm)	Polarization
158.0400	Peak	-30.19	H
161.6290	Peak	-29.98	H
876.0825	Peak	-27.01	H

Frequency range 1 – 8.5 GHz

No spurious frequencies at less than 20 dB below the limit.

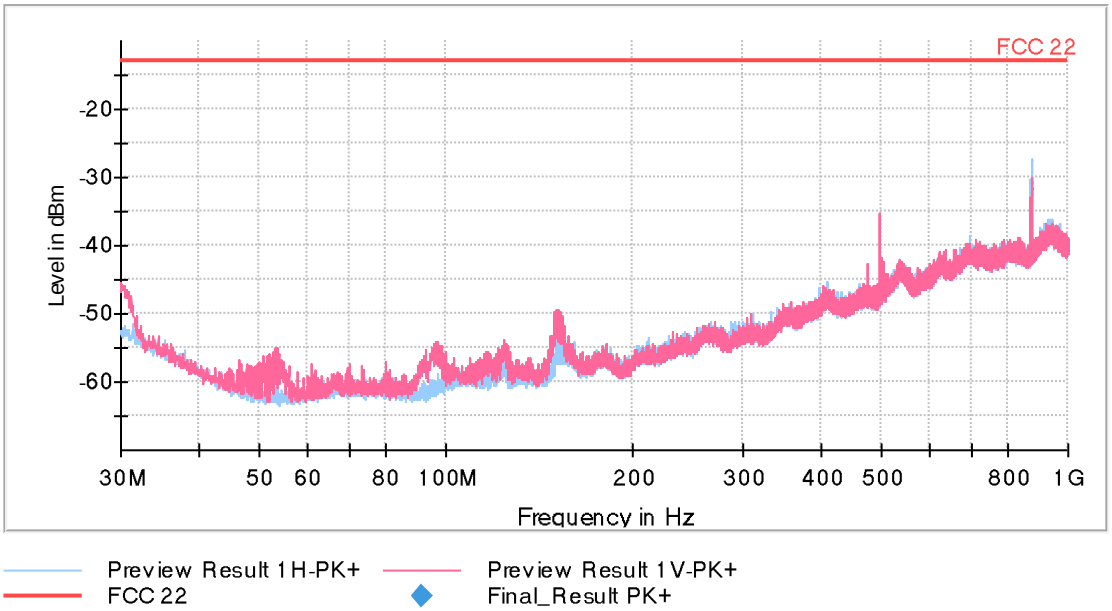
Measurement uncertainty (dB) < ±4.65 for f < 1 GHz
< ±4.98 for f ≥ 1 GHz

Verdict: PASS

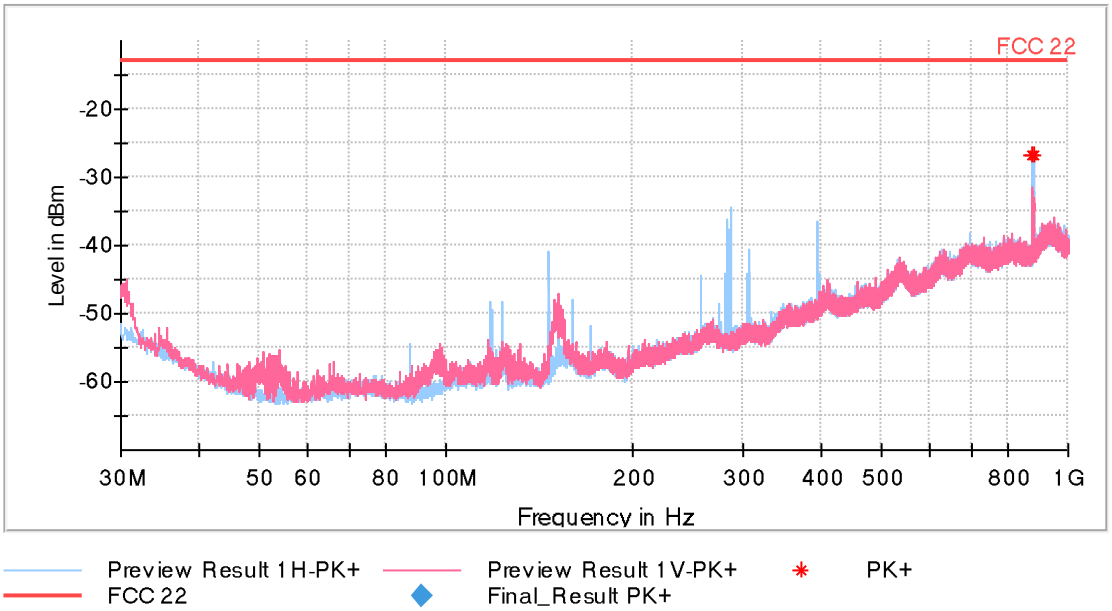
FREQUENCY RANGE 30 MHz - 1 GHz

GPRS MODULATION.

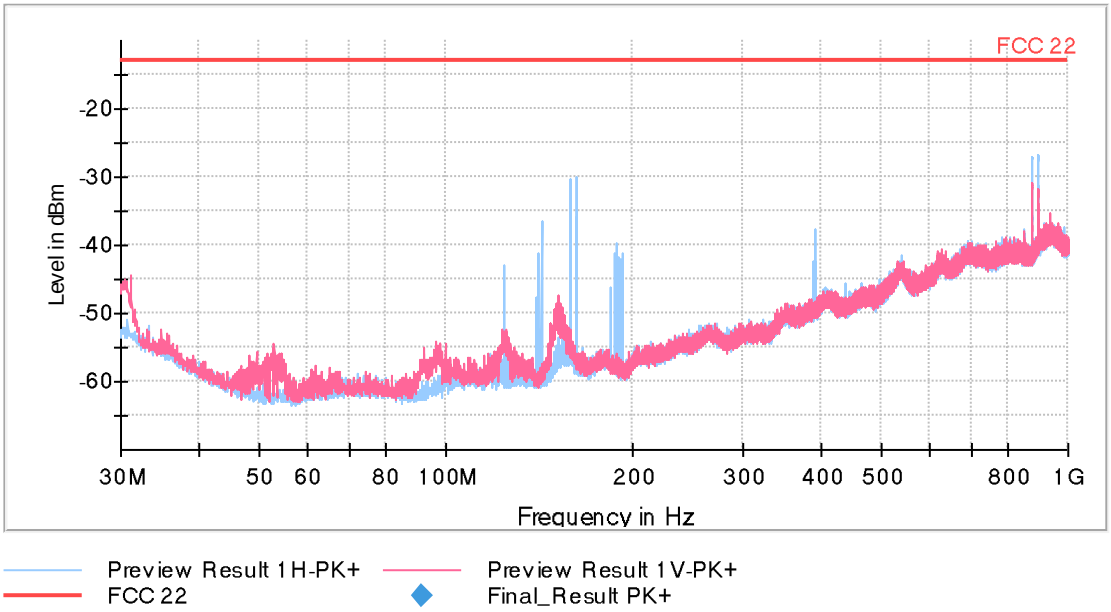
- Lowest Channel:



- Middle Channel:



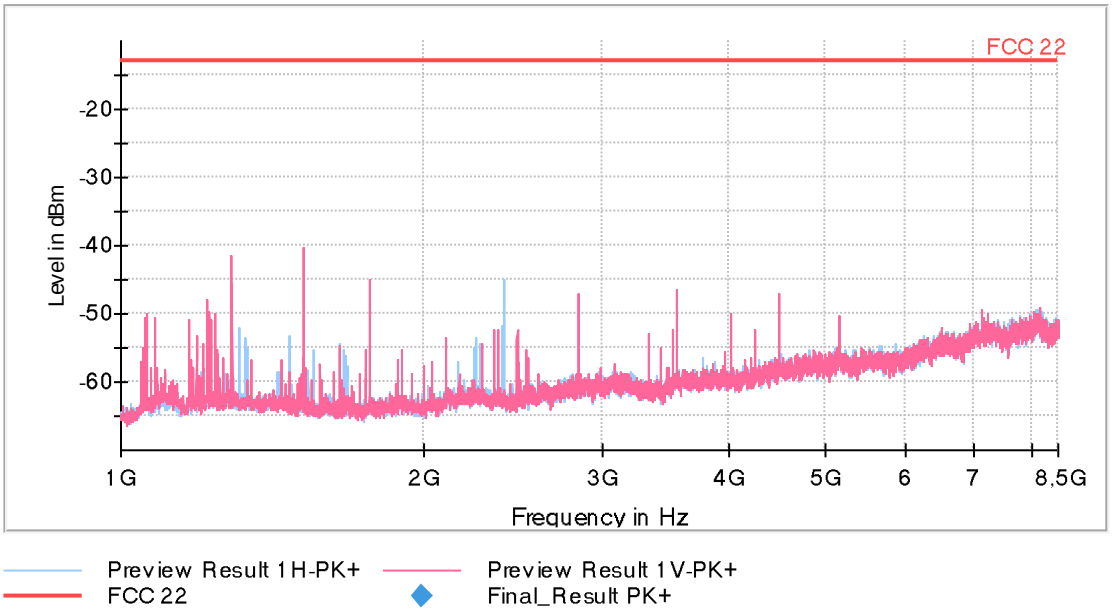
- Highest Channel:



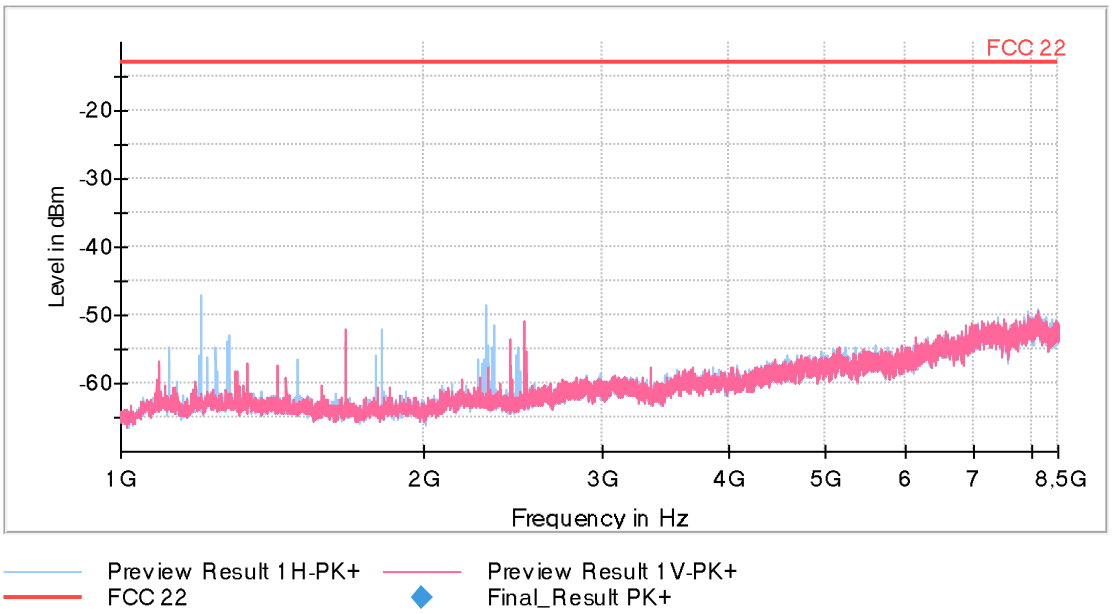
FREQUENCY RANGE 1 – 8.5 GHz

GPRS MODULATION.

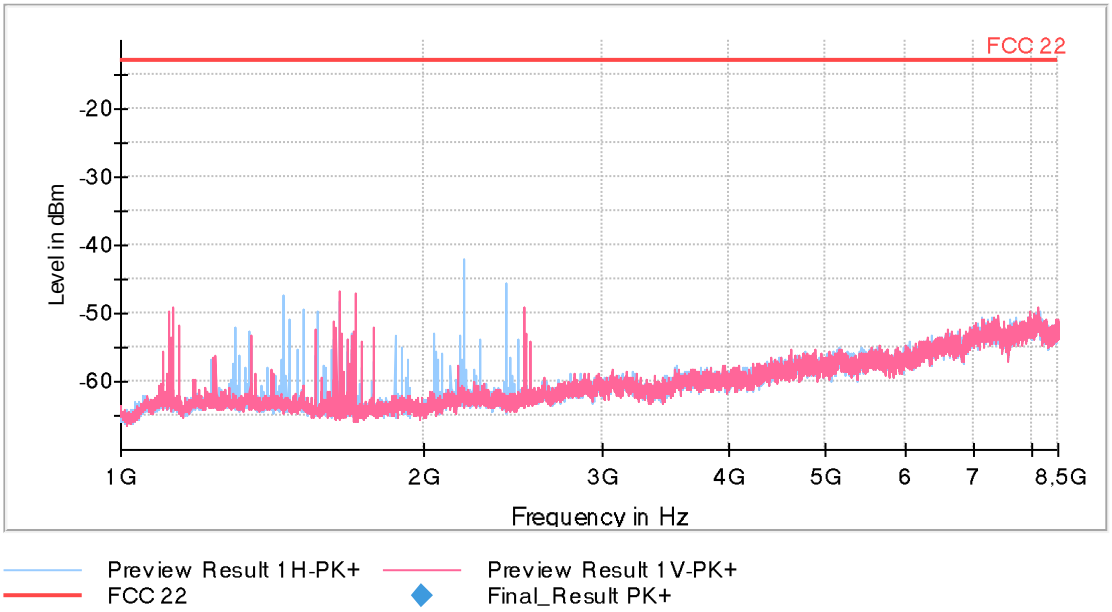
- Lowest Channel:



- Middle Channel:



- Highest Channel:



3G Band V:

WCDMA and HSUPA Modulations:
A preliminary scan determined the WCDMA modulation as the worst case. The following tables and plots show the results for the worst case modulation.

- LOW CHANNEL:

Frequency range 30 MHz - 1 GHz

Spurious frequencies detected at less than 20 dB below the limit:

Spurious frequency (MHz)	Detector	E.I.R.P (dBm)	Polarization
35.5290	Peak	-16.89	V
39.7485	Peak	-24.13	V
45.2290	Peak	-26.43	V
55.8505	Peak	-26.81	V
76.2205	Peak	-20.56	V
85.7750	Peak	-21.86	V
96.0085	Peak	-27.05	V
118.3670	Peak	-27.28	V
126.6605	Peak	-27.23	V
624.3190	Peak	-16.77	V

Frequency range 1 – 8.5 GHz

No spurious frequencies at less than 20 dB below the limit.

- MIDDLE CHANNEL:

Frequency range 30 MHz - 1 GHz

Spurious frequencies detected at less than 20 dB below the limit:

Spurious frequency (MHz)	Detector	E.I.R.P (dBm)	Polarization
37.2750	Peak	-17.28	V
39.3605	Peak	-21.12	V
47.2660	Peak	-17.73	V
50.5640	Peak	-23.53	V
55.6080	Peak	-18.25	V
71.2250	Peak	-24.53	V
78.0150	Peak	-19.58	V
95.0385	Peak	-29.06	V
248.5410	Peak	-26.48	V
368.0935	Peak	-26.00	H

Frequency range 1 – 8.5 GHz

No spurious frequencies at less than 20 dB below the limit.

- HIGH CHANNEL:

Frequency range 30 MHz - 1 GHz

Spurious frequencies detected at less than 20 dB below the limit:

Spurious frequency (MHz)	Detector	E.I.R.P (dBm)	Polarization
30.242500	Peak	-17.92	V
35.917000	Peak	-17.22	V
40.379000	Peak	-23.73	V
50.176000	Peak	-17.12	V
54.298500	Peak	-23.87	V
78.209000	Peak	-16.45	V
93.777500	Peak	-24.30	V
107.309000	Peak	-30.24	V
128.018500	Peak	-31.27	V
184.375500	Peak	-31.27	V

Frequency range 1 – 8.5 GHz

No spurious frequencies at less than 20 dB below the limit.

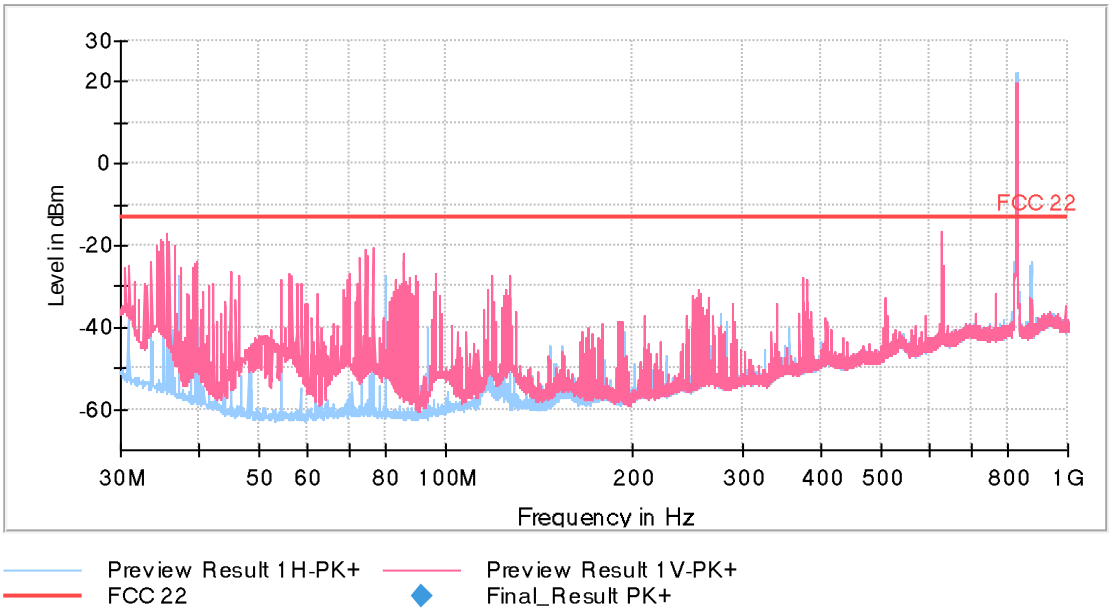
Measurement uncertainty (dB)	< ±4.65 for f < 1 GHz < ±4.98 for f ≥ 1 GHz

Verdict: PASS

FREQUENCY RANGE 30 MHz - 1 GHz

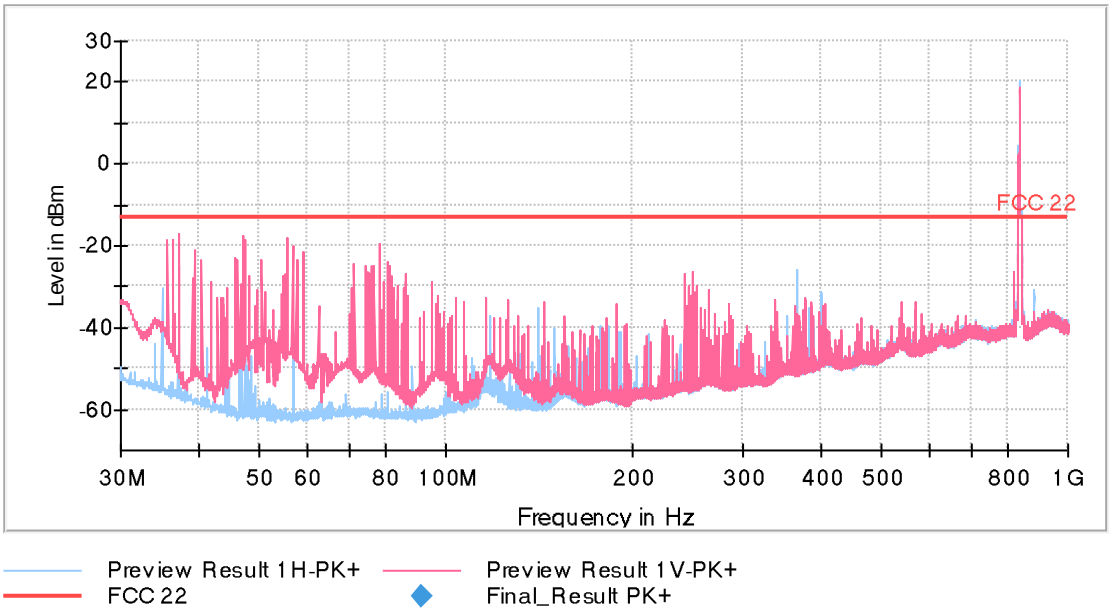
WCDMA

- Lowest Channel:



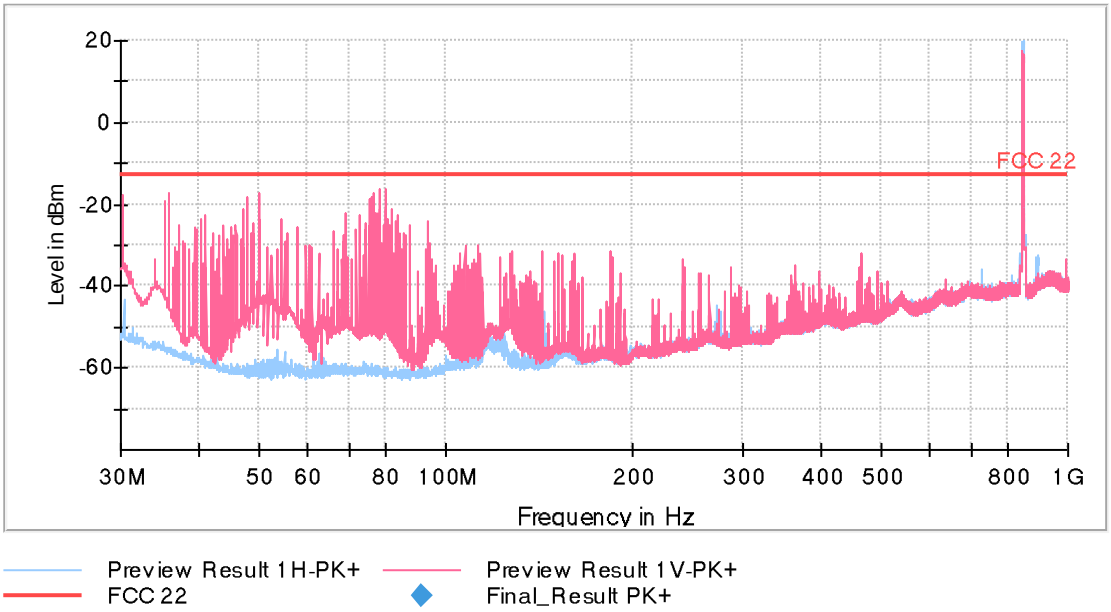
The peak above the limit is the carrier frequency.

- Middle Channel:



The peak above the limit is the carrier frequency.

- Highest Channel:

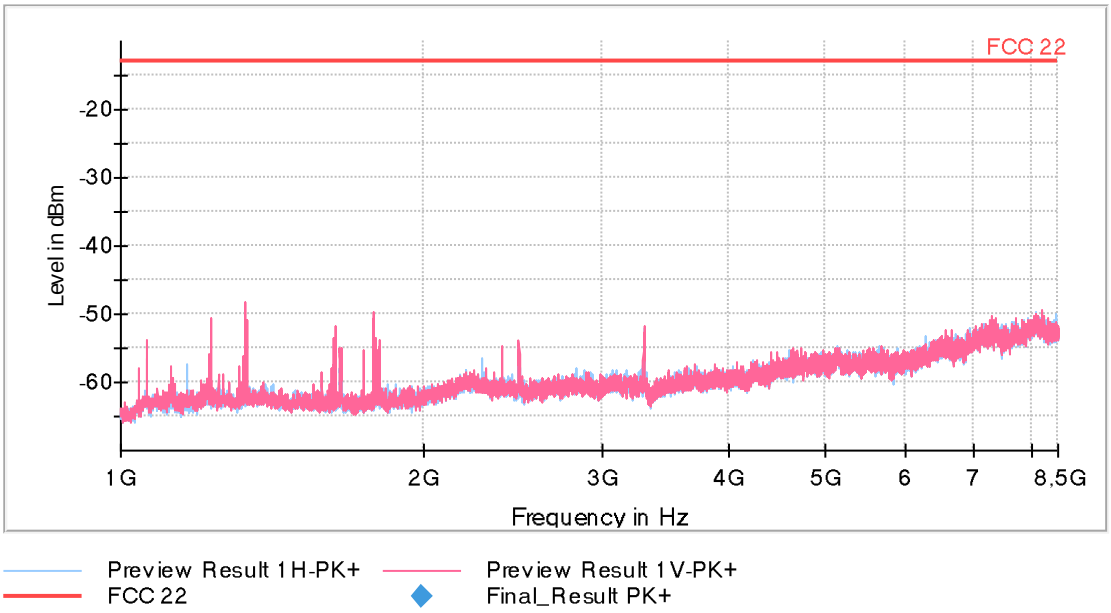


The peak above the limit is the carrier frequency.

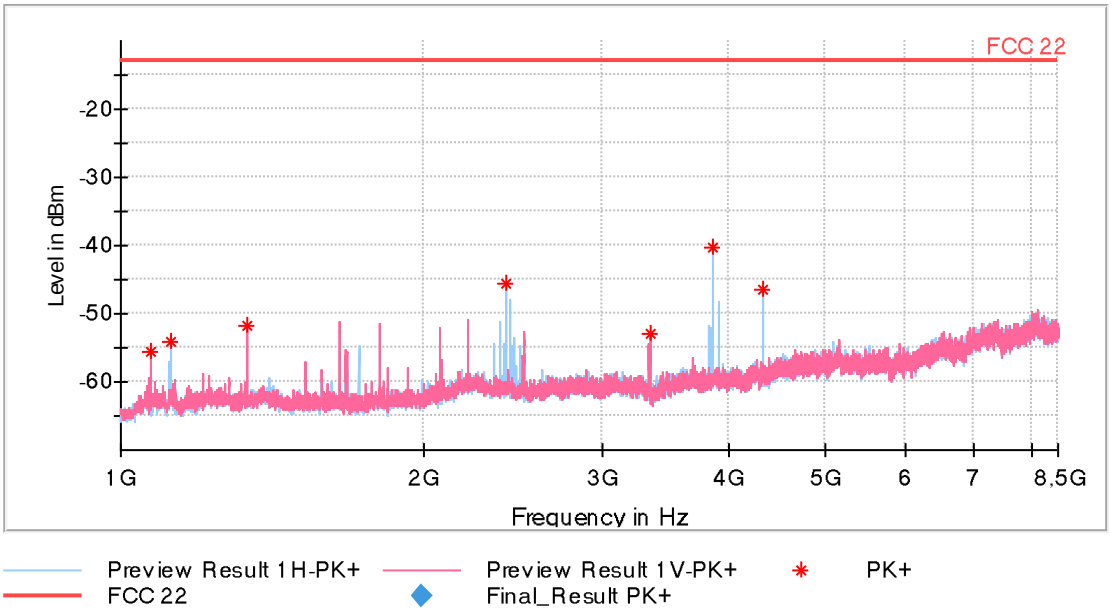
FREQUENCY RANGE 1 – 8.5 GHz

WCDMA

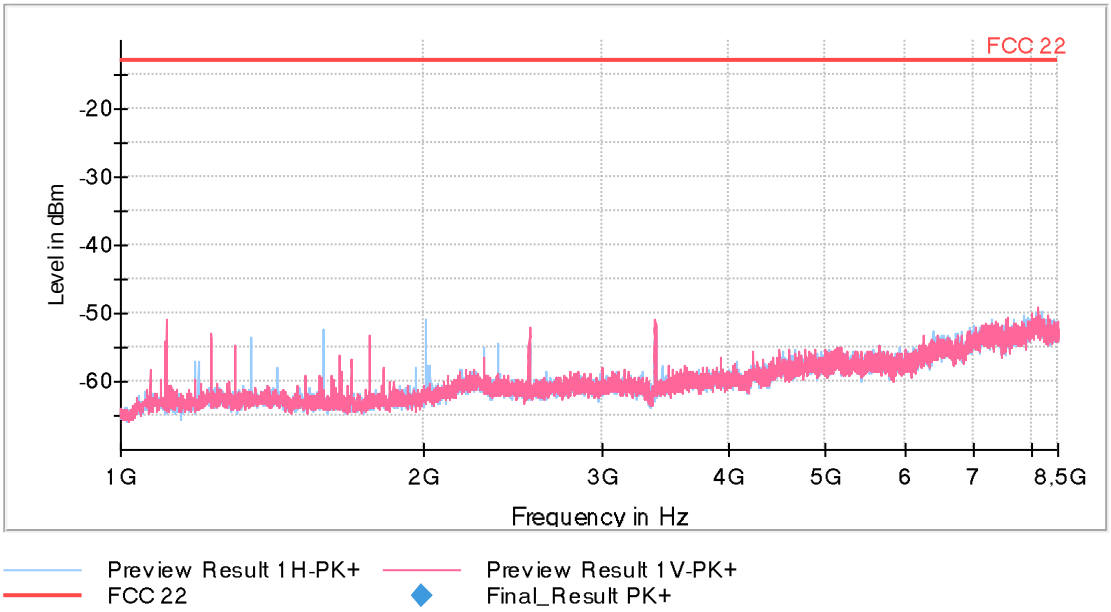
- Lowest Channel:



- Middle Channel:



- Highest Channel:



LTE Band 5:

QPSK:
A preliminary scan determined BW=3 MHz, RB Size=1, RB Offset=8 as the worst case. The following tables and plots show the results for the worst case modulation.

- LOW CHANNEL:

Frequency range 30 MHz - 1 GHz

Spurious frequencies detected at less than 20 dB below the limit:

Spurious frequency (MHz)	Detector	E.I.R.P (dBm)	Polarization
37.2265	Peak	-17.37	V
71.4190	Peak	-24.44	V
123.0230	Peak	-23.64	V
144.7510	Peak	-28.56	V
162.0170	Peak	-28.51	H
249.1715	Peak	-27.91	V
378.4725	Peak	-27.39	V
964.4980	Peak	-26.79	H

Frequency range 1 – 8.5 GHz

No spurious frequencies at less than 20 dB below the limit.

- MIDDLE CHANNEL:

Frequency range 30 MHz - 1 GHz

Spurious frequencies detected at less than 20 dB below the limit:

Spurious frequency (MHz)	Detector	E.I.R.P (dBm)	Polarization
54.686500	Peak	-25.83	V
80.100500	Peak	-26.42	V
153.238500	Peak	-21.06	H
331.185000	Peak	-30.11	H
466.888000	Peak	-30.11	H

Frequency range 1 – 8.5 GHz

No spurious frequencies at less than 20 dB below the limit.

- HIGH CHANNEL:

Frequency range 30 MHz - 1 GHz

Spurious frequencies detected at less than 20 dB below the limit:

Spurious frequency (MHz)	Detector	E.I.R.P (dBm)	Polarization
57.257000	Peak	-23.53	H
86.648000	Peak	-31.16	H
151.104500	Peak	-31.32	H
285.158500	Peak	-29.54	H
833.936000	Peak	-26.20	H

Frequency range 1 – 8.5 GHz

No spurious frequencies at less than 20 dB below the limit.

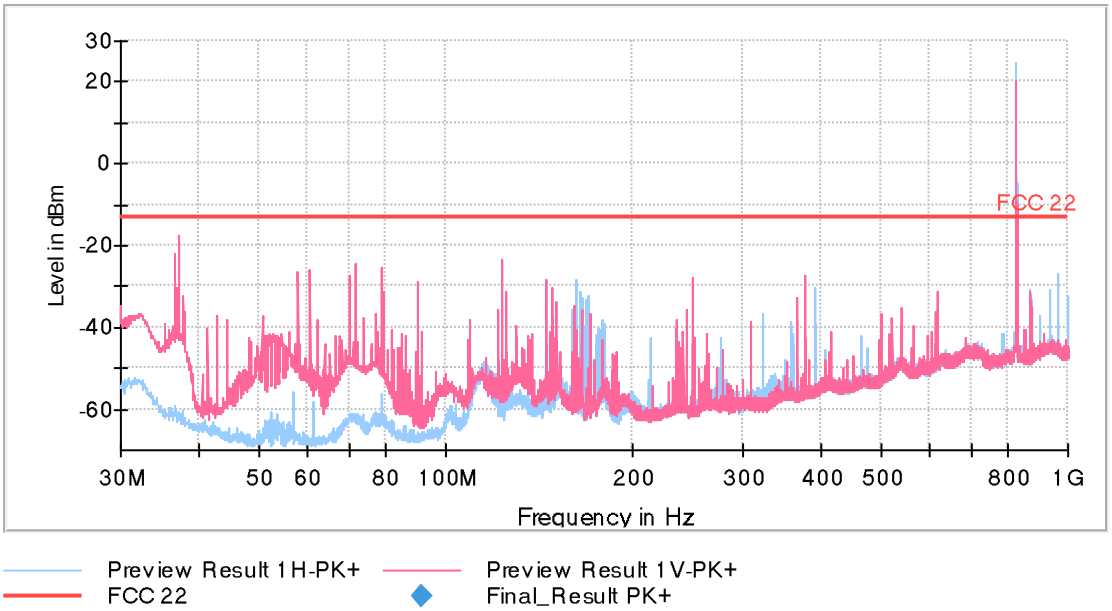
Measurement uncertainty (dB)	< ±4.65 for f < 1 GHz < ±4.98 for f ≥ 1 GHz

Verdict: PASS

FREQUENCY RANGE 30 MHz - 1 GHz

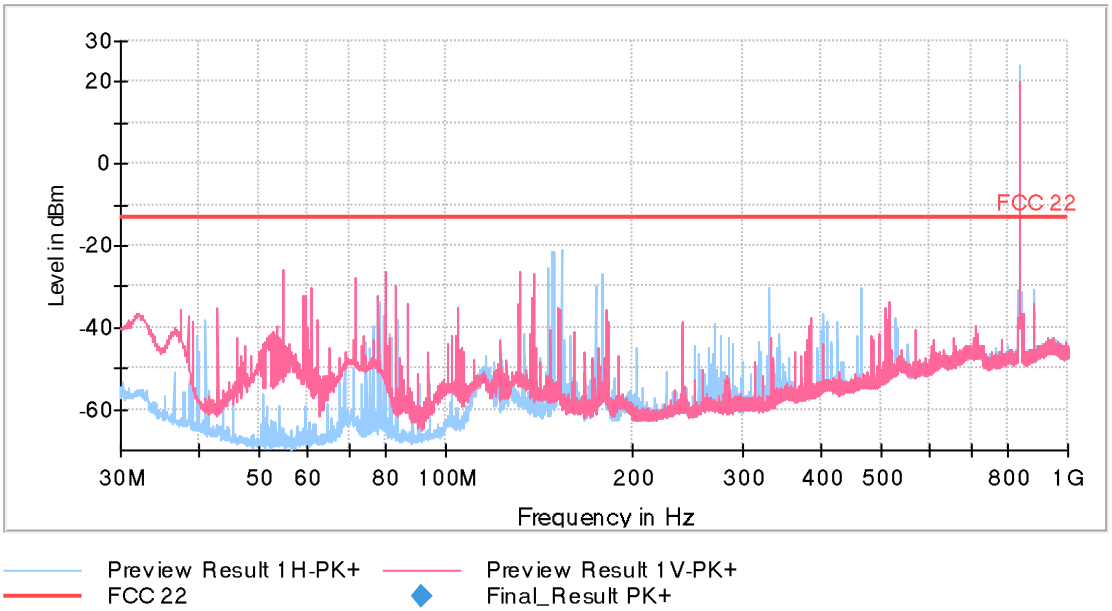
QPSK.

- Lowest Channel:



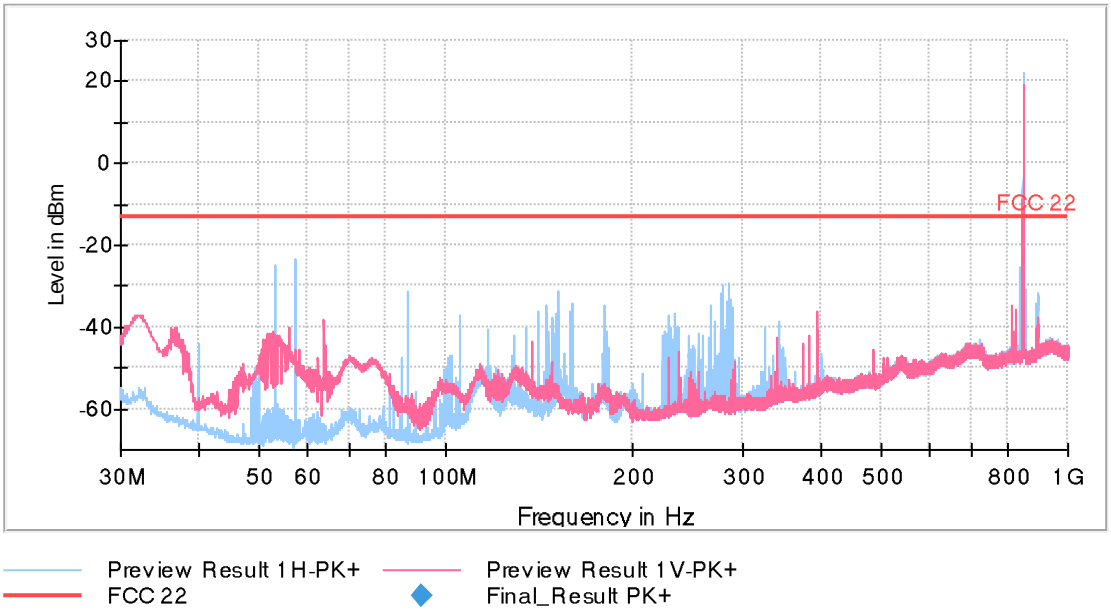
The peak above the limit is the carrier frequency.

- Middle Channel:



The peak above the limit is the carrier frequency.

- Highest Channel:

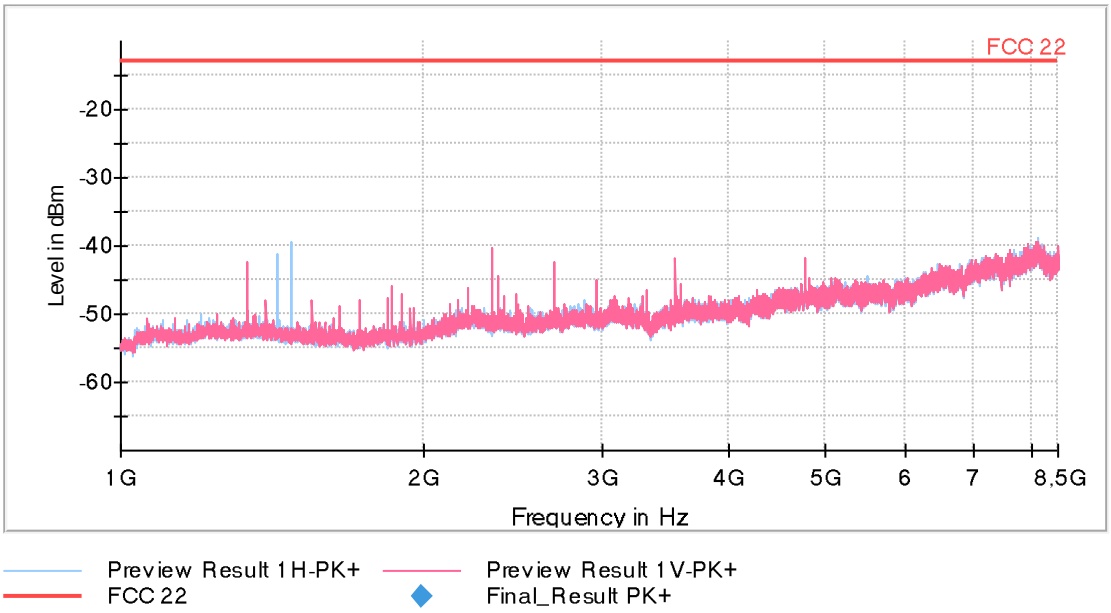


The peak above the limit is the carrier frequency.

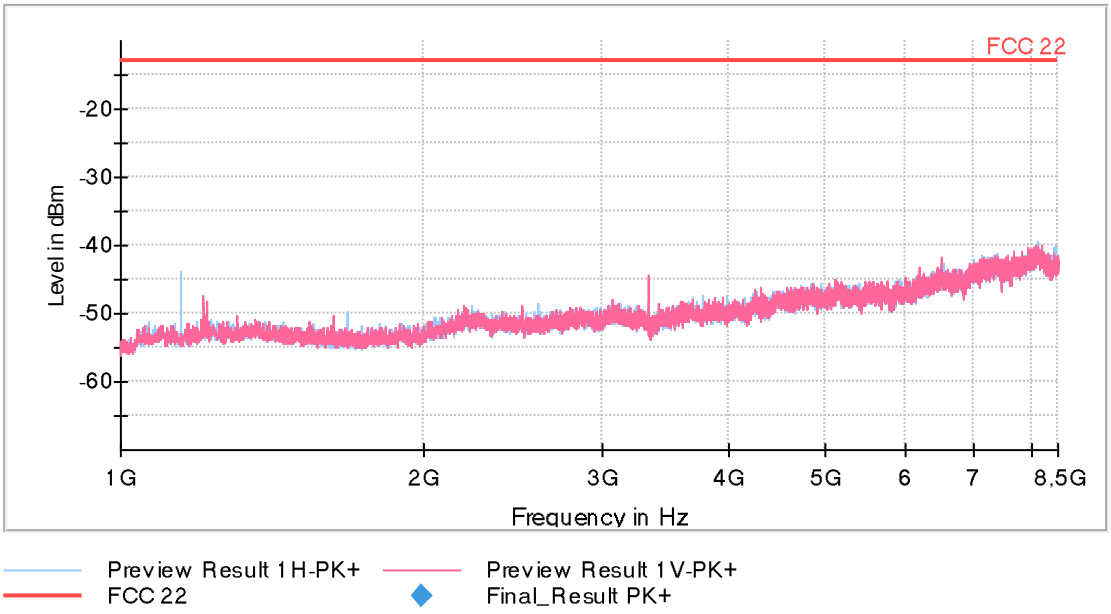
FREQUENCY RANGE 1 – 8.5 GHz

QPSK.

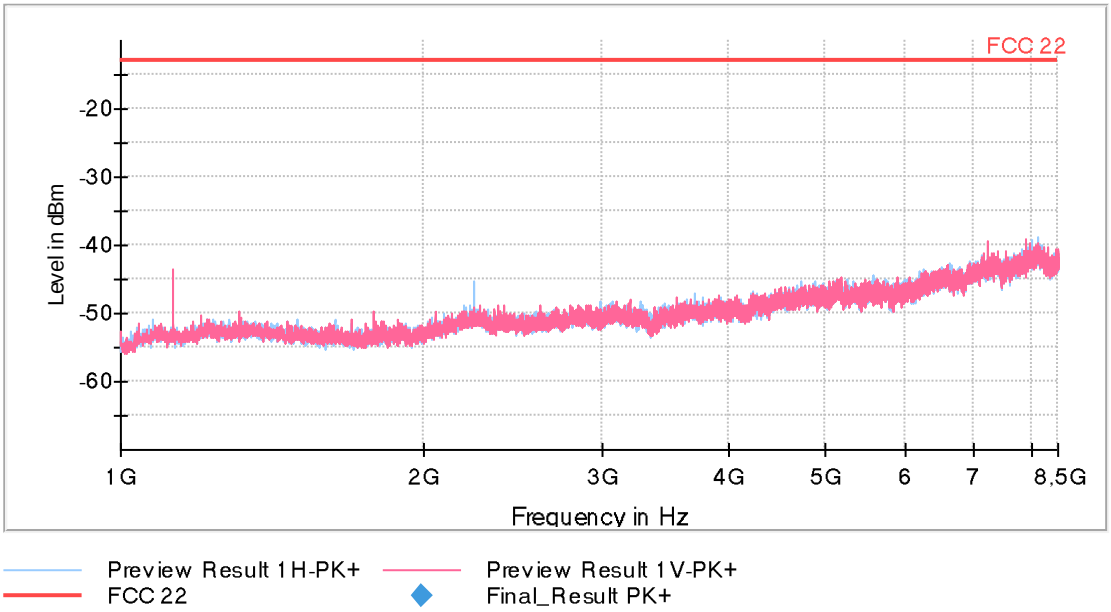
- Lowest Channel:



- Middle Channel:



- Highest Channel:



16QAM:
A preliminary scan determined BW=1.4 MHz, RB Size=3, RB Offset=3 as the worst case. The following tables and plots show the results for the worst case modulation.

- LOW CHANNEL:

Frequency range 30 MHz - 1 GHz

Spurious frequencies detected at less than 20 dB below the limit:

Spurious frequency (MHz)	Detector	E.I.R.P (dBm)	Polarization
31.7945	Peak	-23.00	V
55.5110	Peak	-24.21	V
82.3800	Peak	-23.91	V
320.1755	Peak	-24.67	V
517.4250	Peak	-24.12	V

Frequency range 1 – 8.5 GHz

Spurious frequencies detected at less than 20 dB below the limit:

Spurious frequency (GHz)	Detector	E.I.R.P (dBm)	Polarization
3.065781	Peak	-30.54	V

- MIDDLE CHANNEL:

Frequency range 30 MHz - 1 GHz

Spurious frequencies detected at less than 20 dB below the limit:

Spurious frequency (MHz)	Detector	E.I.R.P (dBm)	Polarization
64.8715	Peak	-34.24	H
92.7105	Peak	-37.44	V
146.3030	Peak	-35.08	V
270.7055	Peak	-22.78	H
330.7000	Peak	-33.99	V

Frequency range 1 – 8.5 GHz

No spurious frequencies at less than 20 dB below the limit.

- HIGH CHANNEL:

Frequency range 30 MHz - 1 GHz

Spurious frequencies detected at less than 20 dB below the limit:

Spurious frequency (MHz)	Detector	E.I.R.P (dBm)	Polarization
31.115500	Peak	-22.98	V
71.952500	Peak	-20.74	V
82.671000	Peak	-28.26	V
134.711500	Peak	-28.01	V
274.149000	Peak	-28.14	H
461.844000	Peak	-29.18	V

Frequency range 1 – 8.5 GHz

No spurious frequencies at less than 20 dB below the limit.

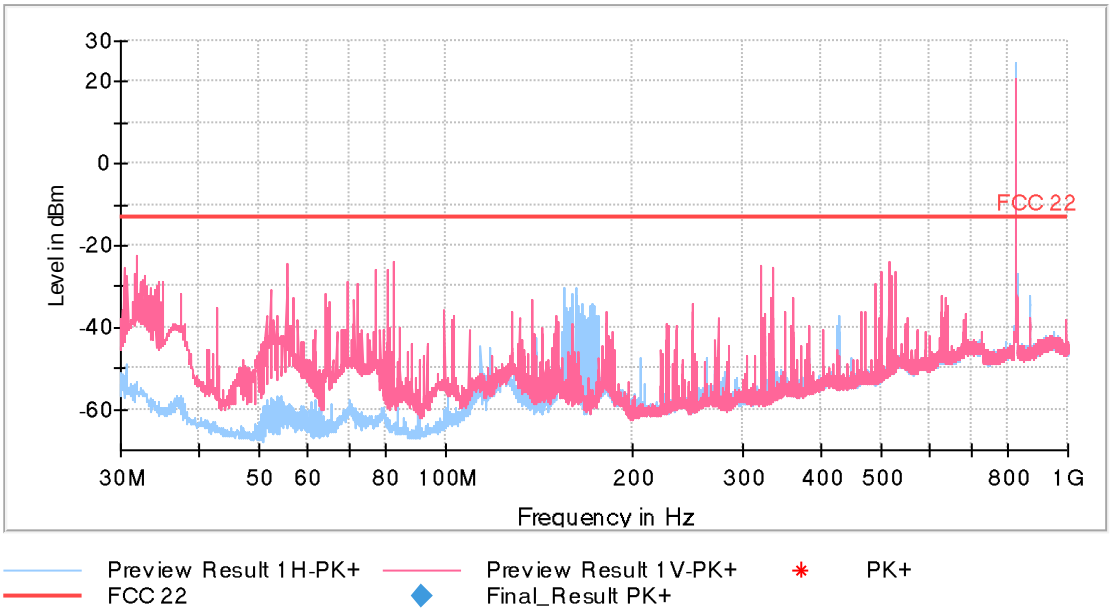
Measurement uncertainty (dB)	< ±4.65 for f < 1 GHz < ±4.98 for f ≥ 1 GHz

Verdict: PASS

FREQUENCY RANGE 30 MHz - 1 GHz

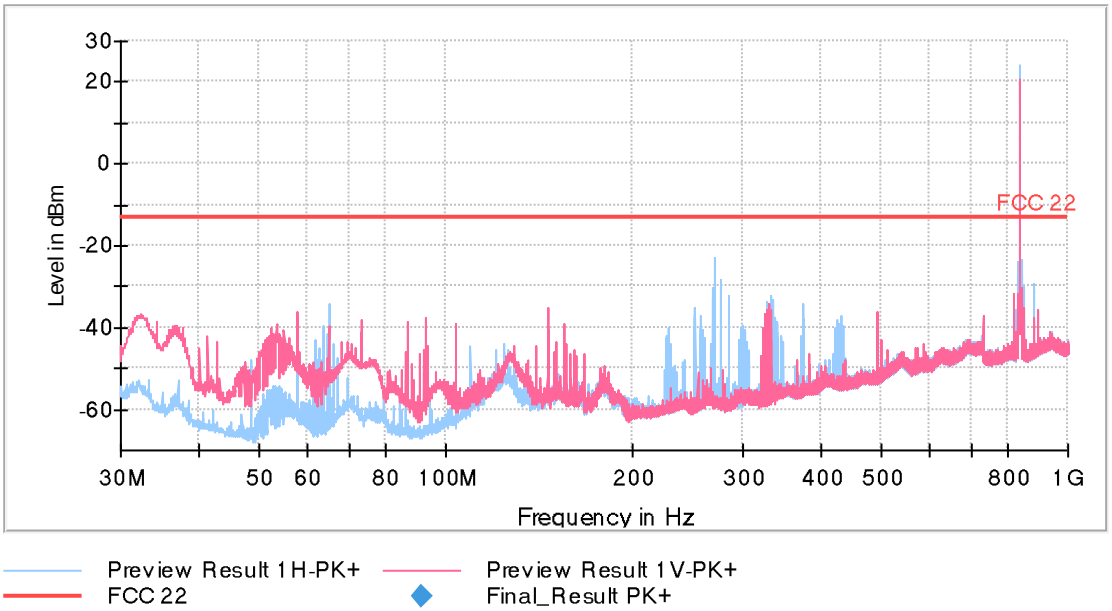
16QAM.

- Lowest Channel:



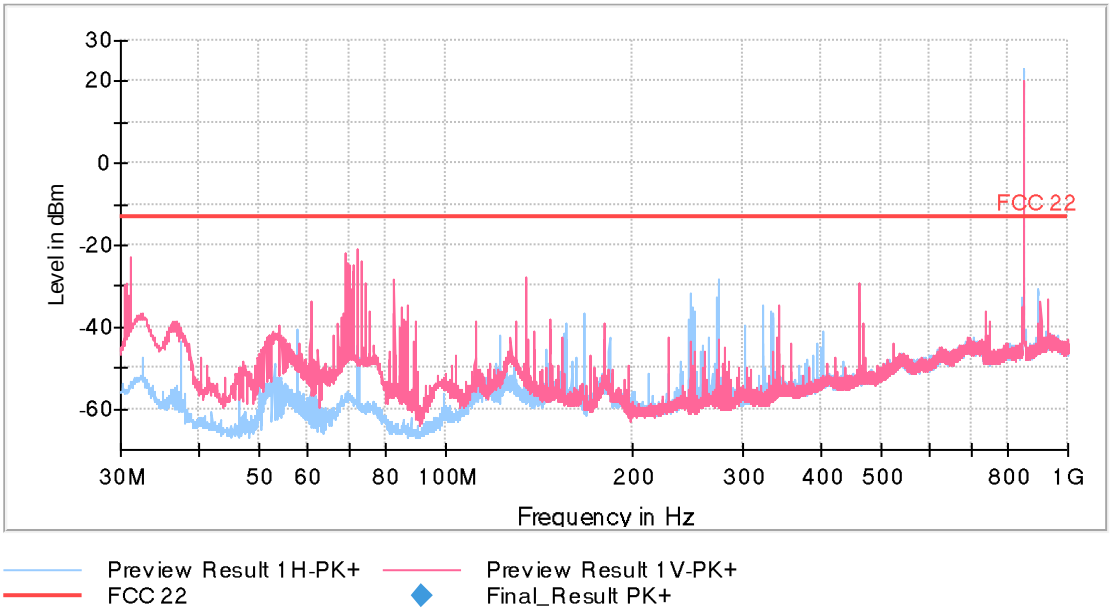
The peak above the limit is the carrier frequency.

- Middle Channel:



The peak above the limit is the carrier frequency.

- Highest Channel:

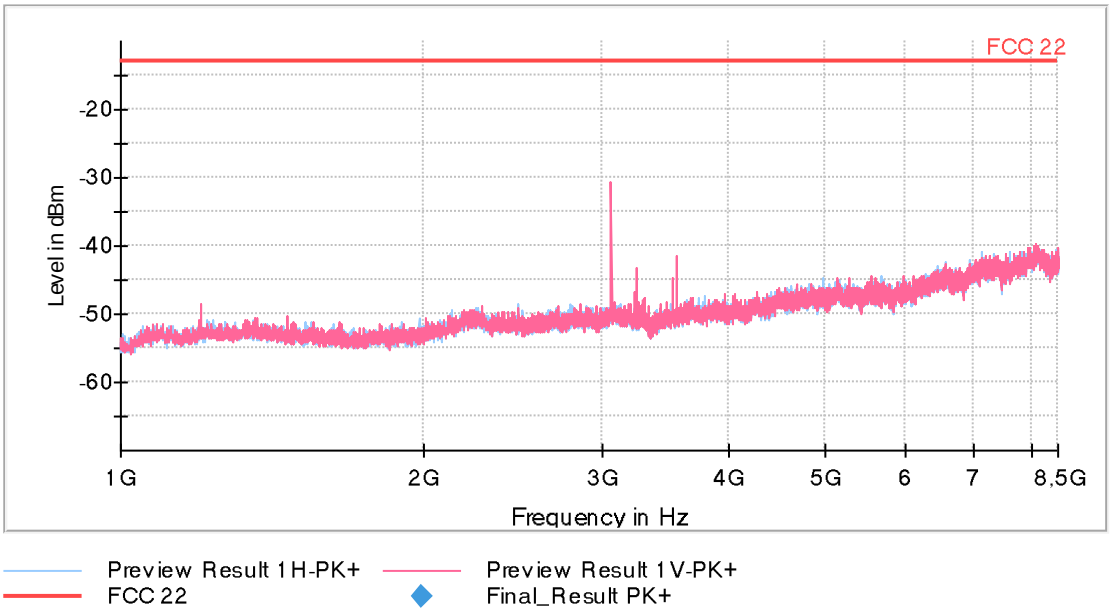


The peak above the limit is the carrier frequency.

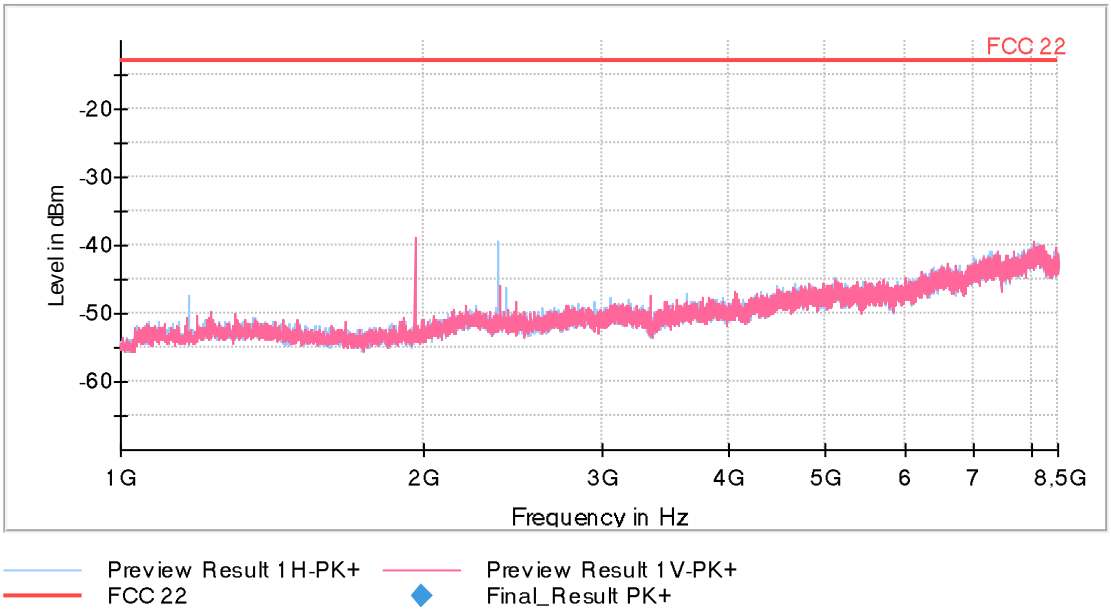
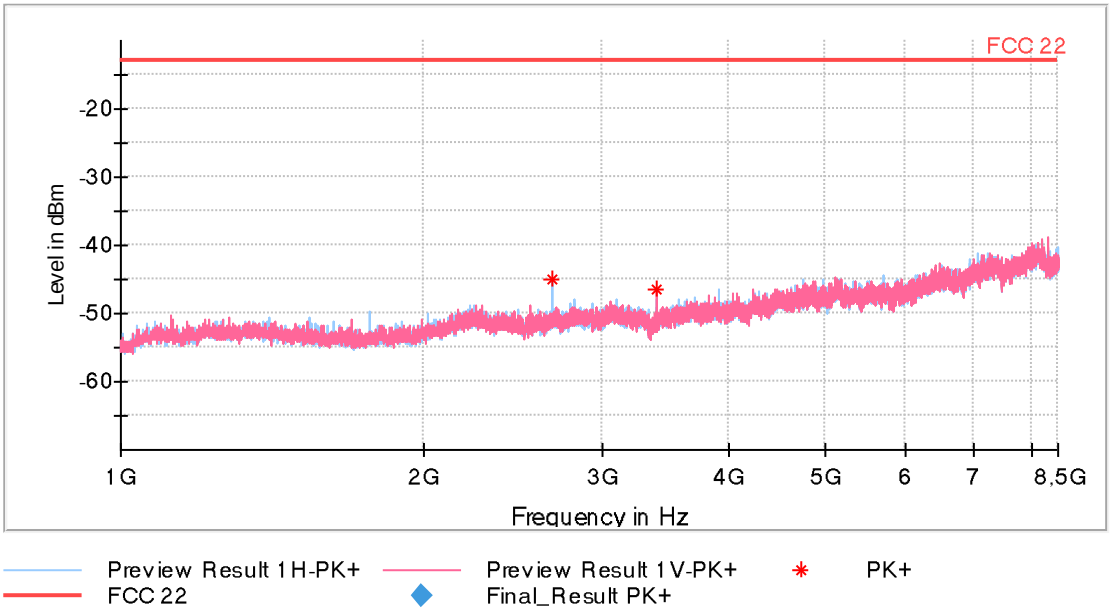
FREQUENCY RANGE 1 – 8.5 GHz

16QAM.

- Lowest Channel:



- Middle Channel:



- Highest Channel: