

Meas Type RADIATED EMISSION
Equipment under Test CLEV6630B V2.0
Manufacturer NXP SEMICONDUCTORS GmbH
OP Condition Waiting for a Card, Ext PS
Operator Andrej Skof

Test Spec

Antenna: 0 deg, Sample: 0 deg

Time Domain Scan (2 Ranges)

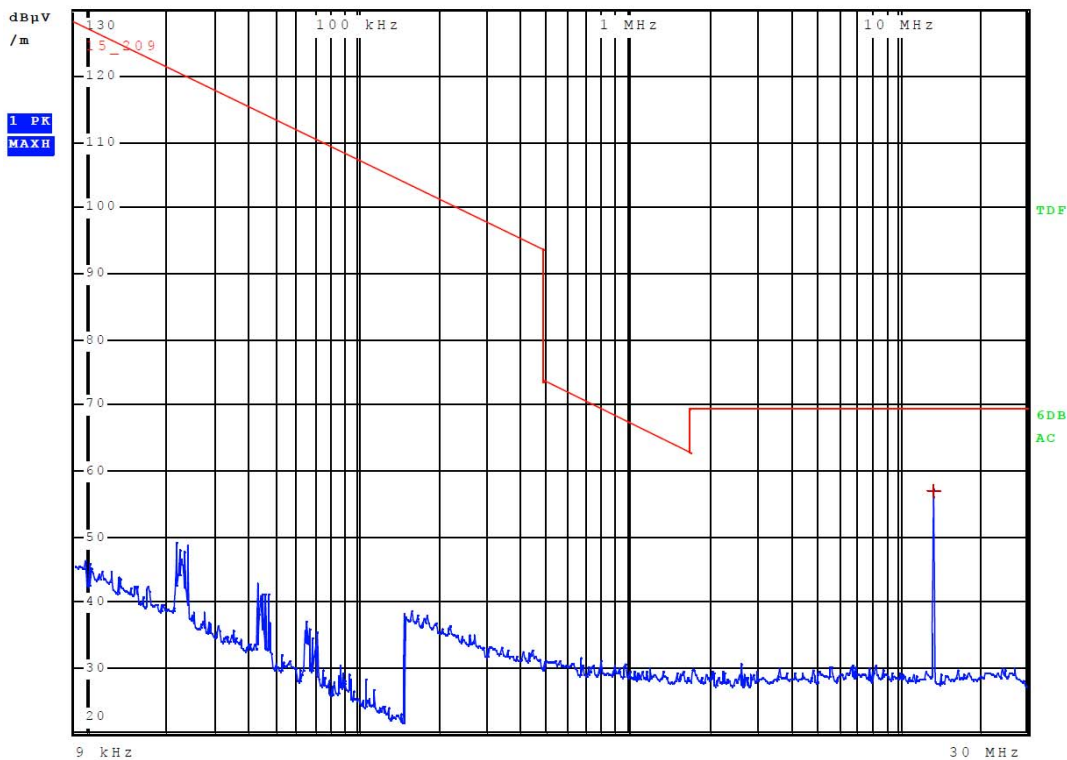
Scan Start: 9 kHz
 Scan Stop: 30 MHz
 Detector: Trace 1: MAX PEAK
 Transducer: HFH2-Z2V

Start Frequency	Stop Frequency	Step Size	Res BW	Meas Time	RF Atten	Preamp	Input
9.000000 kHz	149.950000 kHz	50.00 Hz	200.00 Hz	300 ms	Auto	20 dB	INPUT2
150.000000 kHz	30.000000 MHz	2.25 kHz	9.00 kHz	30 ms	Auto	20 dB	INPUT2



RBW 9 kHz
 MT 1 s

Step TD AUTO PULSE Att 0 dB AUTO PREAMP ON



**C20161862**

06.Jan 17 07:44

Meas Type RADIATED EMISSION
Equipment under Test CLEV6630B V2.0
Manufacturer NXP SEMICONDUCTORS GmbH
OP Condition Waiting for a Card, Ext PS
Operator Andrej Skof

Test Spec

Antenna: 0 deg, Sample: 0 deg

Final Measurement

Meas Time: 1 s
Margin: 15 dB
Peaks: 1

Trace	Frequency	Level (dBµV/m)	Detector	Delta Limit/dB
1	13.560000000 MHz	56.87	Quasi Peak	-12.63

Meas Type RADIATED EMISSION
Equipment under Test CLEV6630B V2.0
Manufacturer NXP SEMICONDUCTORS GmbH
OP Condition Reading a Card, Ext PS
Operator Andrej Skof

Test Spec

Antenna: 0 deg, Sample: 0 deg

Time Domain Scan (2 Ranges)

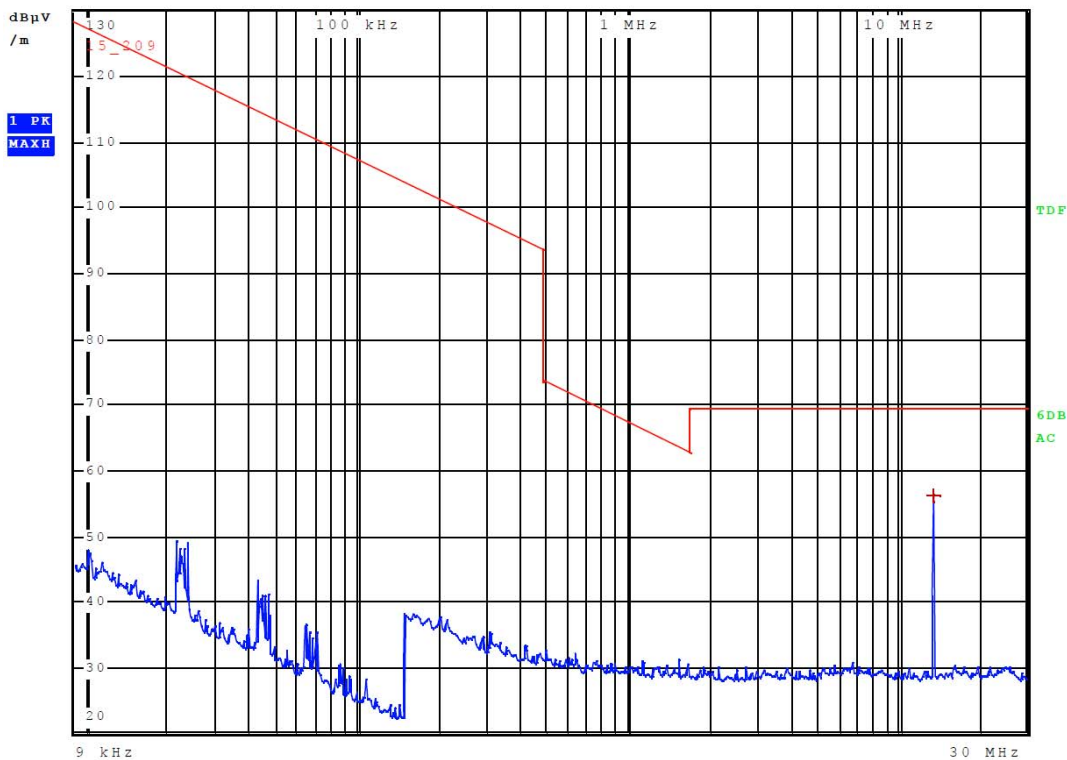
Scan Start: 9 kHz
 Scan Stop: 30 MHz
 Detector: Trace 1: MAX PEAK
 Transducer: HFH2-Z2V

Start Frequency	Stop Frequency	Step Size	Res BW	Meas Time	RF Atten	Preamp	Input
9.000000 kHz	149.950000 kHz	50.00 Hz	200.00 Hz	300 ms	Auto	20 dB	INPUT2
150.000000 kHz	30.000000 MHz	2.25 kHz	9.00 kHz	30 ms	Auto	20 dB	INPUT2



RBW 9 kHz
 MT 1 s

Step TD AUTO PULSE Att 0 dB AUTO PREAMP ON



**C20161862**

06.Jan 17 07:43

Meas Type RADIATED EMISSION
Equipment under Test CLEV6630B V2.0
Manufacturer NXP SEMICONDUCTORS GmbH
OP Condition Reading a Card, Ext PS
Operator Andrej Skof

Test Spec

Antenna: 0 deg, Sample: 0 deg

Final Measurement

Meas Time: 1 s
Margin: 15 dB
Peaks: 1

Trace	Frequency	Level (dBµV/m)	Detector	Delta Limit/dB
1	13.560000000 MHz	56.20	Quasi Peak	-13.30

Meas Type RADIATED EMISSION
Equipment under Test CLEV6630B V2.0
Manufacturer NXP SEMICONDUCTORS GmbH
OP Condition Waiting for a Card, Ext PS
Operator Andrej Skof

Test Spec

Antenna: 350 deg, Sample: 15 deg

Time Domain Scan (2 Ranges)

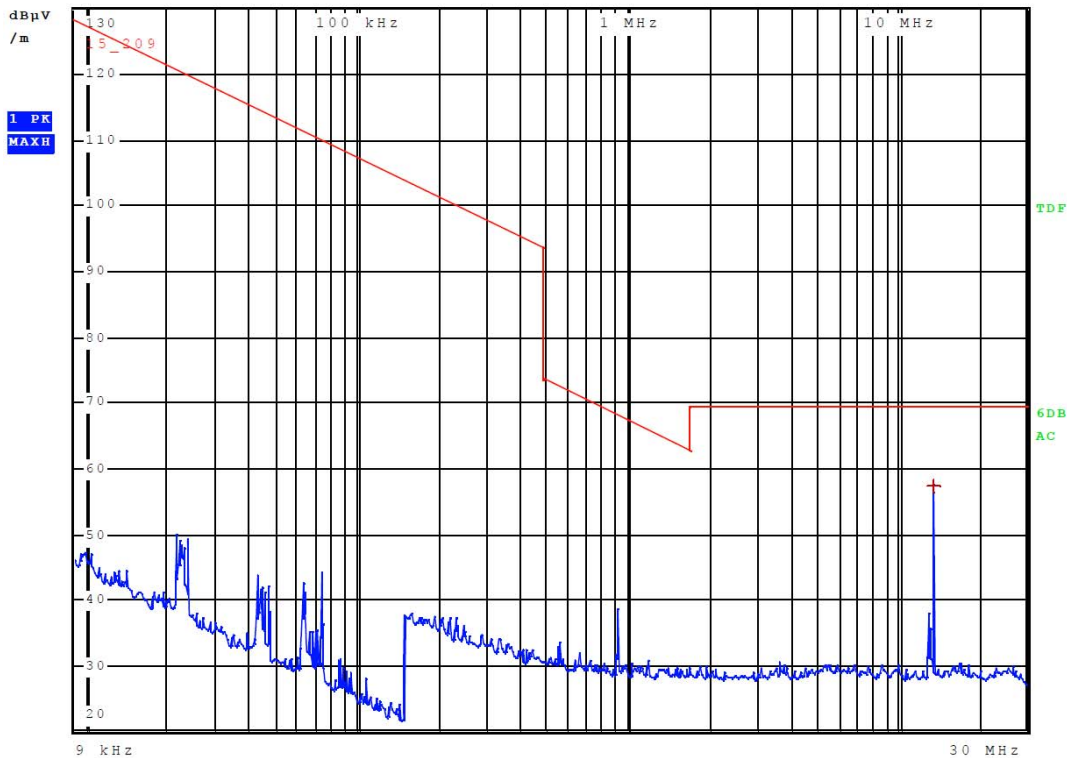
Scan Start: 9 kHz
 Scan Stop: 30 MHz
 Detector: Trace 1: MAX PEAK
 Transducer: HFH2-Z2V

Start Frequency	Stop Frequency	Step Size	Res BW	Meas Time	RF Atten	Preamp	Input
9.000000 kHz	149.950000 kHz	50.00 Hz	200.00 Hz	300 ms	Auto	20 dB	INPUT2
150.000000 kHz	30.000000 MHz	2.25 kHz	9.00 kHz	30 ms	Auto	20 dB	INPUT2



RBW 9 kHz
 MT 1 s

Step TD AUTO PULSE Att 10 dB AUTO PREAMP ON



**C20161862**

06.Jan 17 07:54

Meas Type RADIATED EMISSION
Equipment under Test CLEV6630B V2.0
Manufacturer NXP SEMICONDUCTORS GmbH
OP Condition Waiting for a Card, Ext PS
Operator Andrej Skof

Test Spec

Antenna: 350 deg, Sample: 15 deg

Final Measurement

Meas Time: 1 s
Margin: 15 dB
Peaks: 1

Trace	Frequency	Level (dBµV/m)	Detector	Delta Limit/dB
1	13.560000000 MHz	57.28	Quasi Peak	-12.22



C20161862

06.Jan 17 07:55

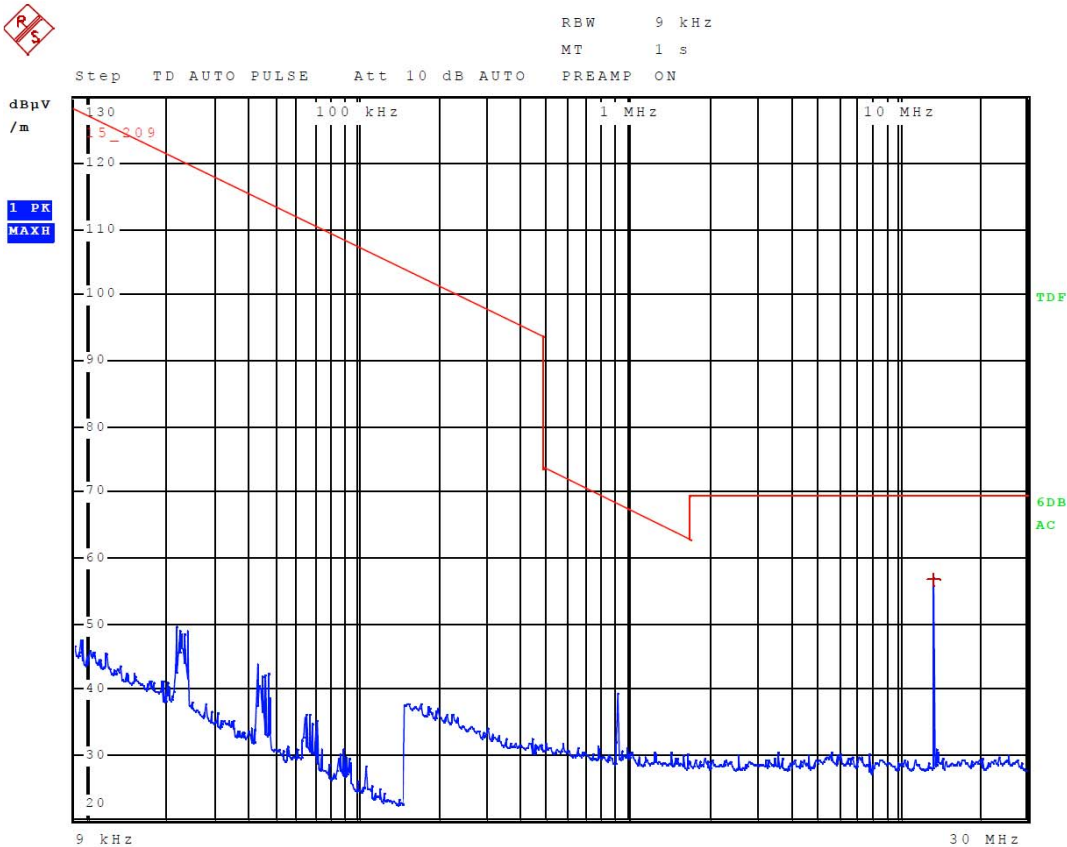
Meas Type RADIATED EMISSION
Equipment under Test CLEV6630B V2.0
Manufacturer NXP SEMICONDUCTORS GmbH
OP Condition Reading a Card, Ext PS
Operator Andrej Skof

Test Spec
Antenna: 350 deg, Sample: 15 deg

Time Domain Scan (2 Ranges)

Scan Start: 9 kHz
Scan Stop: 30 MHz
Detector: Trace 1: MAX PEAK
Transducer: HFH2-Z2V

Start Frequency	Stop Frequency	Step Size	Res BW	Meas Time	RF Atten	Preamp	Input
9.000000 kHz	149.950000 kHz	50.00 Hz	200.00 Hz	300 ms	Auto	20 dB	INPUT2
150.000000 kHz	30.000000 MHz	2.25 kHz	9.00 kHz	30 ms	Auto	20 dB	INPUT2



**C20161862**

06.Jan 17 07:55

Meas Type RADIATED EMISSION
Equipment under Test CLEV6630B V2.0
Manufacturer NXP SEMICONDUCTORS GmbH
OP Condition Reading a Card, Ext PS
Operator Andrej Skof

Test Spec

Antenna: 350 deg, Sample: 15 deg

Final Measurement

Meas Time: 1 s
Margin: 15 dB
Peaks: 1

Trace	Frequency	Level (dBµV/m)	Detector	Delta Limit/dB
1	13.560000000 MHz	56.63	Quasi Peak	-12.87

Final measurement at 10 m on OATS

Results with measuring distance of 10 m				
Mode	Frequency (MHz)	Measured value (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)
Reading; 7.5 VDC	13.56	39.43	104.00	64.57
Waiting; 7.5 VDC	13.56	40.24	104.00	63.76
Reading; USB	13.56	39.56	104.00	64.44
Waiting; USB	13.56	40.82	104.00	63.18

Calculated value from 10 m to 30 m						
Mode	Frequency (MHz)	Measured value at 10 m (dB μ V/m)	Correction factor from 10 m to 30 m (dB)	Calculated value at 30 m (dB μ V/m)	Limit at 30 m (dB μ V/m)	Margin (dB)
Reading; 7,5 VDC	13.56	39.43	20	19.43	84.00	64.57
Waiting; 7,5 VDC	13.56	40.24	20	20.24	84.00	63.76
Reading; USB	13.56	39.56	20	19.56	84.00	64.44
Waiting; USB	13.56	40.82	20	20.82	84.00	63.18

NOTE: Antenna factor and cable loss are already included in measurement correction.

C20161862

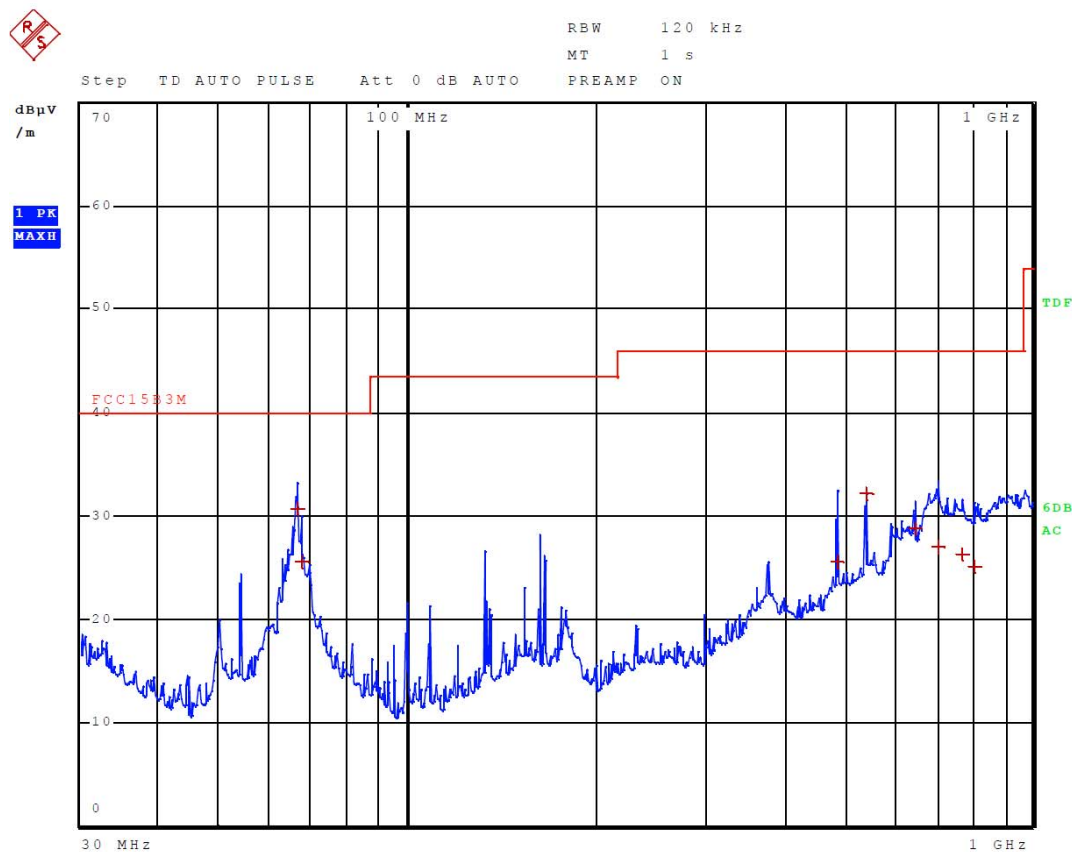
27.Jan 17 09:32

Meas Type RADIATED EMISSION
Equipment under Test CLEV6630B V2.0
Manufacturer NXP SEMICONDUCTORS GmbH
OP Condition USB PS, Waiting for a card
Operator Andrej Skof
Test Spec
VERTICAL 100 cm, 0 deg

Time Domain Scan (1 Range)

Scan Start: 30 MHz
Scan Stop: 1 GHz
Detector: Trace 1: MAX PEAK
Transducer: 3142B3m

Start Frequency	Stop Frequency	Step Size	Res BW	Meas Time	RF Atten	Preamp	Input
30.000000 MHz	1.000000 GHz	30.00 kHz	120.00 kHz	1 ms	Auto	20 dB	INPUT2



**C20161862**

27.Jan 17 09:32

Meas Type RADIATED EMISSION
Equipment under Test CLEV6630B V2.0
Manufacturer NXP SEMICONDUCTORS GmbH
OP Condition USB PS, Waiting for a card
Operator Andrej Skof
Test Spec
VERTICAL 100 cm, 0 deg

Final Measurement

Meas Time: 1 s
Margin: 15 dB
Peaks: 8

Trace	Frequency	Level (dB μ V/m)	Detector	Delta Limit/dB
1	66.630000000 MHz	30.68	Quasi Peak	-9.32
1	540.870000000 MHz	32.08	Quasi Peak	-13.92
1	67.770000000 MHz	25.54	Quasi Peak	-14.46
1	649.050000000 MHz	28.74	Quasi Peak	-17.26
1	704.760000000 MHz	26.93	Quasi Peak	-19.07
1	773.970000000 MHz	26.20	Quasi Peak	-19.80
1	486.780000000 MHz	25.56	Quasi Peak	-20.44
1	805.710000000 MHz	25.15	Quasi Peak	-20.85

C20161862

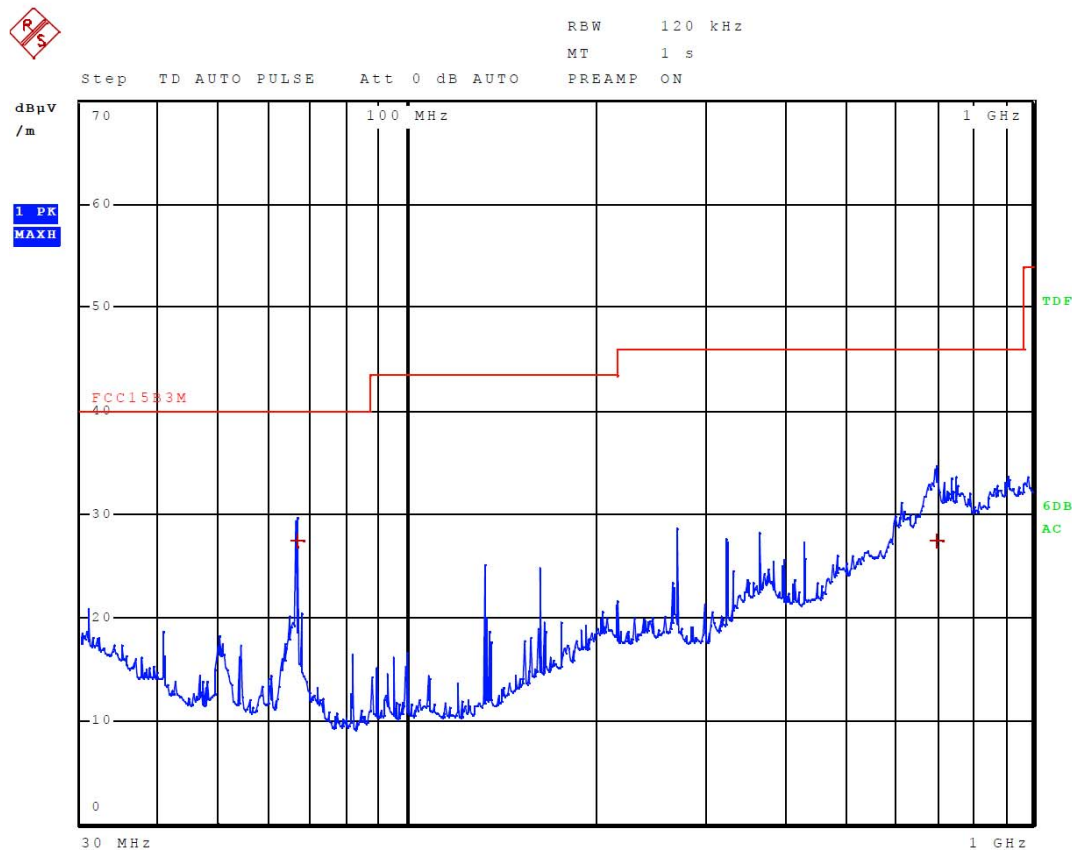
27.Jan 17 08:17

Meas Type RADIATED EMISSION
Equipment under Test CLEV6630B V2.0
Manufacturer NXP SEMICONDUCTORS GmbH
OP Condition USB PS, Waiting for a card
Operator Andrej Skof
Test Spec
HORIZONTAL 100 cm, 0 deg

Time Domain Scan (2 Ranges)

Scan Start: 30 MHz
Scan Stop: 1 GHz
Detector: Trace 1: MAX PEAK
Transducer: 3142B3m

Start Frequency	Stop Frequency	Step Size	Res BW	Meas Time	RF Atten	Preamp	Input
30.000000 MHz	299.970000 MHz	30.00 kHz	120.00 kHz	10 ms	Auto	20 dB	INPUT2
300.000000 MHz	1.000000 GHz	30.00 kHz	120.00 kHz	5 ms	Auto	20 dB	INPUT2



**C20161862**

27.Jan 17 08:17

Meas Type RADIATED EMISSION
Equipment under Test CLEV6630B V2.0
Manufacturer NXP SEMICONDUCTORS GmbH
OP Condition USB PS, Waiting for a card
Operator Andrej Skof
Test Spec
HORIZONTAL 100 cm, 0 deg

Final Measurement

Meas Time: 1 s
Margin: 15 dB
Peaks: 2

Trace	Frequency	Level (dB μ V/m)	Detector	Delta Limit/dB
1	66.420000000 MHz	27.41	Quasi Peak	-12.59
1	701.250000000 MHz	27.43	Quasi Peak	-18.57

C20161862

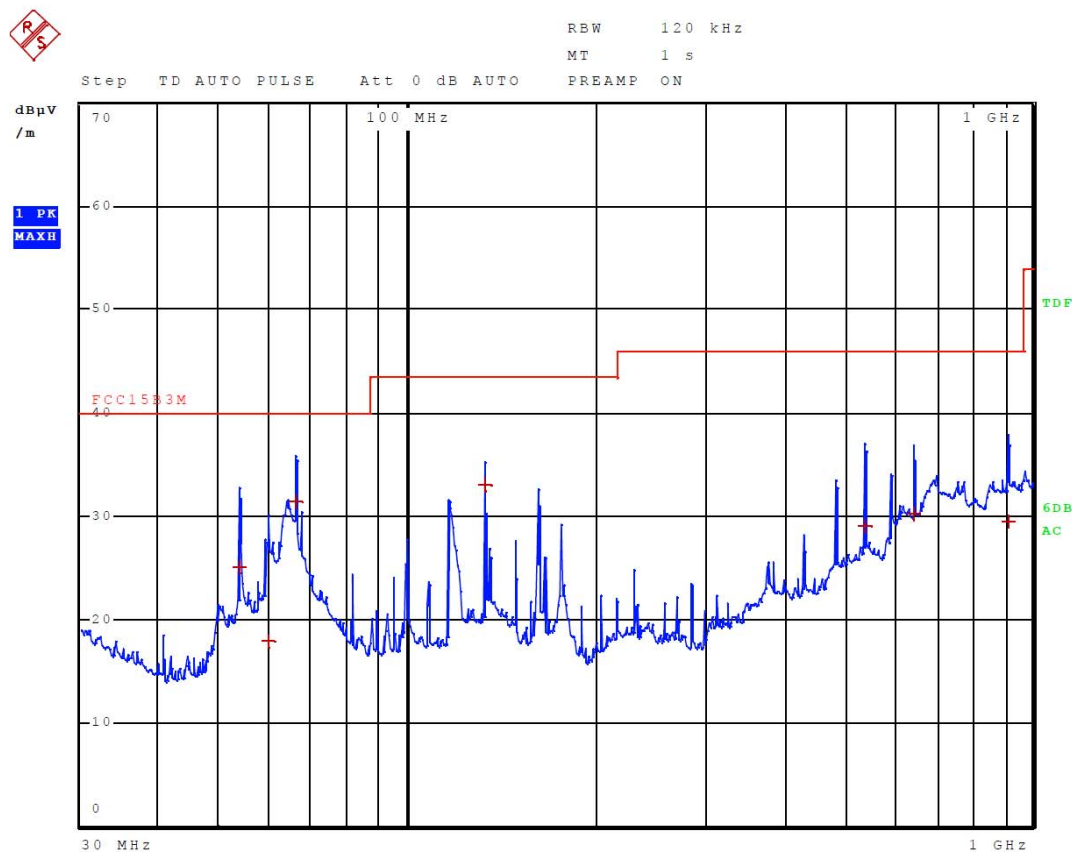
27.Jan 17 08:13

Meas Type RADIATED EMISSION
Equipment under Test CLEV6630B V2.0
Manufacturer NXP SEMICONDUCTORS GmbH
OP Condition USB PS, Reading a card
Operator Andrej Skof
Test Spec
 VERTICAL 100 cm, 0 deg

Time Domain Scan (2 Ranges)

Scan Start: 30 MHz
 Scan Stop: 1 GHz
 Detector: Trace 1: MAX PEAK
 Transducer: 3142B3m

Start Frequency	Stop Frequency	Step Size	Res BW	Meas Time	RF Atten	Preamp	Input
30.000000 MHz	299.970000 MHz	30.00 kHz	120.00 kHz	10 ms	Auto	20 dB	INPUT2
300.000000 MHz	1.000000 GHz	30.00 kHz	120.00 kHz	5 ms	Auto	20 dB	INPUT2



**C20161862**

27.Jan 17 08:13

Meas Type RADIATED EMISSION
Equipment under Test CLEV6630B V2.0
Manufacturer NXP SEMICONDUCTORS GmbH
OP Condition USB PS, Reading a card
Operator Andrej Skof
Test Spec
VERTICAL 100 cm, 0 deg

Final Measurement

Meas Time: 1 s
Margin: 10 dB
Peaks: 7

Trace	Frequency	Level (dB μ V/m)	Detector	Delta Limit/dB
1	66.390000000 MHz	31.46	Quasi Peak	-8.54
1	132.810000000 MHz	33.05	Quasi Peak	-10.45
1	53.880000000 MHz	25.06	Quasi Peak	-14.94
1	646.500000000 MHz	30.20	Quasi Peak	-15.80
1	915.840000000 MHz	29.49	Quasi Peak	-16.51
1	538.710000000 MHz	29.04	Quasi Peak	-16.96
1	59.910000000 MHz	17.87	Quasi Peak	-22.13

C20161862

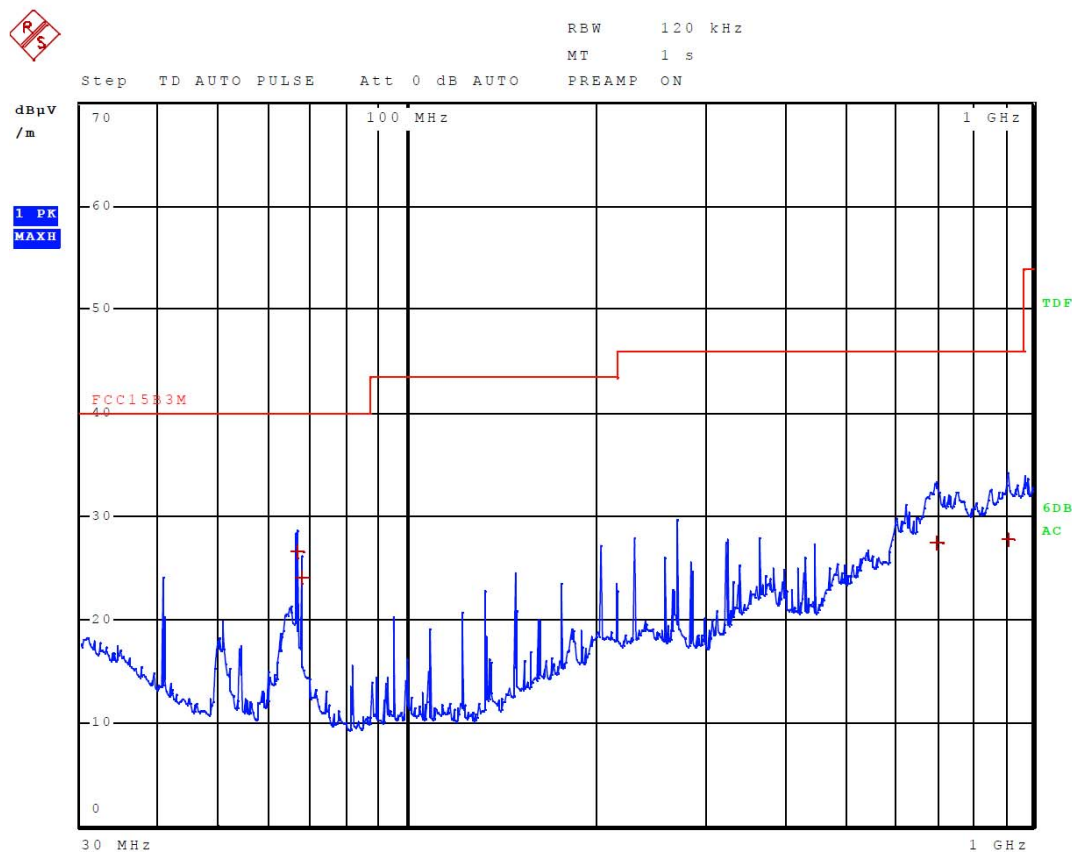
27.Jan 17 08:16

Meas Type RADIATED EMISSION
Equipment under Test CLEV6630B V2.0
Manufacturer NXP SEMICONDUCTORS GmbH
OP Condition USB PS, Reading a card
Operator Andrej Skof
Test Spec
HORIZONTAL 100 cm, 0 deg

Time Domain Scan (2 Ranges)

Scan Start: 30 MHz
Scan Stop: 1 GHz
Detector: Trace 1: MAX PEAK
Transducer: 3142B3m

Start Frequency	Stop Frequency	Step Size	Res BW	Meas Time	RF Atten	Preamp	Input
30.000000 MHz	299.970000 MHz	30.00 kHz	120.00 kHz	10 ms	Auto	20 dB	INPUT2
300.000000 MHz	1.000000 GHz	30.00 kHz	120.00 kHz	5 ms	Auto	20 dB	INPUT2



**C20161862**

27.Jan 17 08:16

Meas Type RADIATED EMISSION
Equipment under Test CLEV6630B V2.0
Manufacturer NXP SEMICONDUCTORS GmbH
OP Condition USB PS, Reading a card
Operator Andrej Skof
Test Spec
HORIZONTAL 100 cm, 0 deg

Final Measurement

Meas Time: 1 s
Margin: 15 dB
Peaks: 4

Trace	Frequency	Level (dB μ V/m)	Detector	Delta Limit/dB
1	66.420000000 MHz	26.52	Quasi Peak	-13.48
1	67.800000000 MHz	24.00	Quasi Peak	-16.00
1	915.810000000 MHz	27.72	Quasi Peak	-18.28
1	702.330000000 MHz	27.41	Quasi Peak	-18.59

C20161862

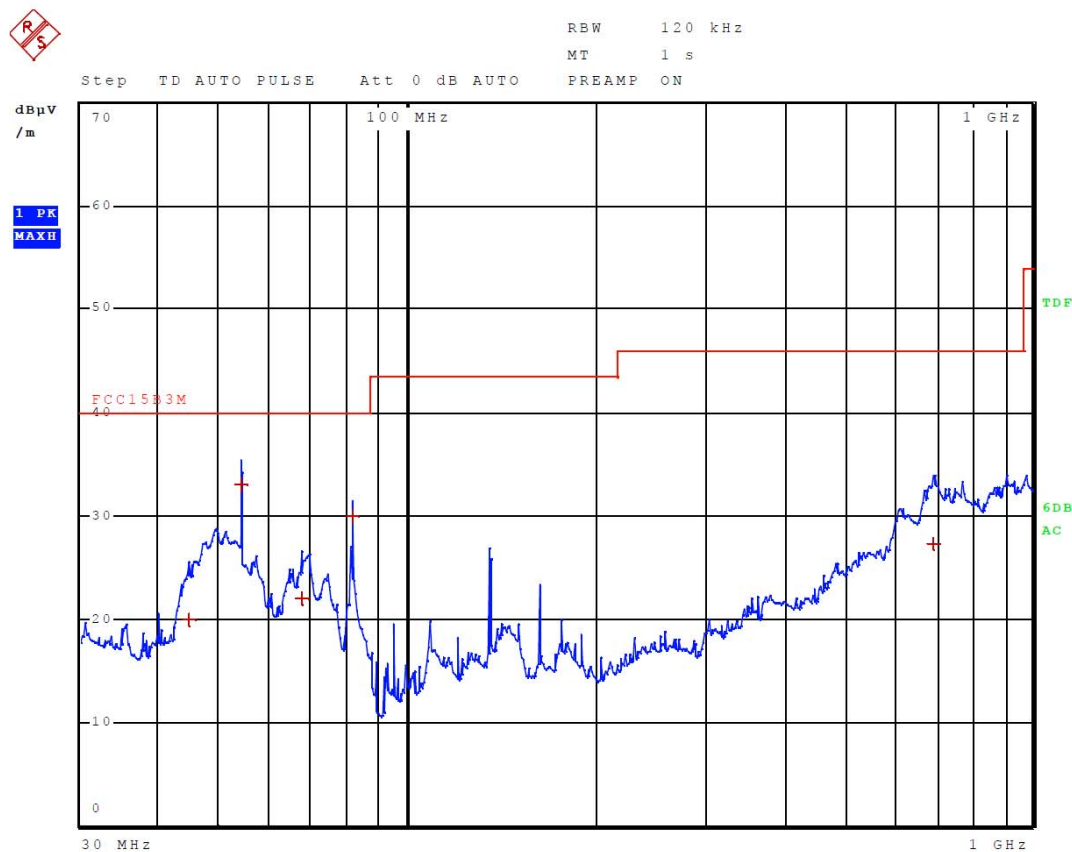
27.Jan 17 09:59

Meas Type RADIATED EMISSION
Equipment under Test CLEV6630B V2.0
Manufacturer NXP SEMICONDUCTORS GmbH
OP Condition EXT PS, Waiting for a card
Operator Andrej Skof
Test Spec
VERTICAL 100 cm, 0 deg

Time Domain Scan (1 Range)

Scan Start: 30 MHz
Scan Stop: 1 GHz
Detector: Trace 1: MAX PEAK
Transducer: 3142B3m

Start Frequency	Stop Frequency	Step Size	Res BW	Meas Time	RF Atten	Preamp	Input
30.000000 MHz	1.000000 GHz	30.00 kHz	120.00 kHz	5 ms	Auto	20 dB	INPUT2



**C20161862**

27.Jan 17 09:59

Meas Type RADIATED EMISSION
Equipment under Test CLEV6630B V2.0
Manufacturer NXP SEMICONDUCTORS GmbH
OP Condition EXT PS, Waiting for a card
Operator Andrej Skof
Test Spec
VERTICAL 100 cm, 0 deg

Final Measurement

Meas Time: 1 s
Margin: 15 dB
Peaks: 5

Trace	Frequency	Level (dB μ V/m)	Detector	Delta Limit/dB
1	54.240000000 MHz	32.99	Quasi Peak	-7.01
1	81.360000000 MHz	29.85	Quasi Peak	-10.15
1	67.800000000 MHz	21.96	Quasi Peak	-18.04
1	695.250000000 MHz	27.32	Quasi Peak	-18.68
1	44.970000000 MHz	19.89	Quasi Peak	-20.11

C20161862

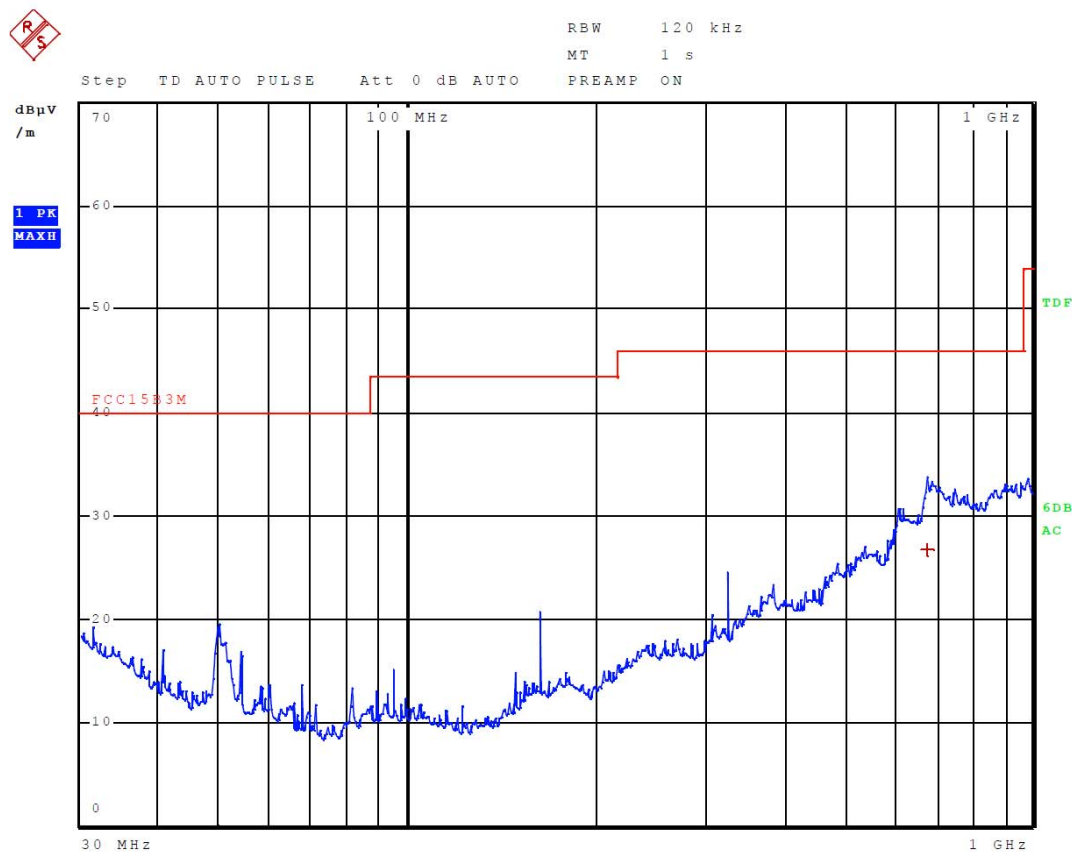
27.Jan 17 10:02

Meas Type RADIATED EMISSION
Equipment under Test CLEV6630B V2.0
Manufacturer NXP SEMICONDUCTORS GmbH
OP Condition EXT PS, Waiting for a card
Operator Andrej Skof
Test Spec
HORIZONTAL 100 cm, 0 deg

Time Domain Scan (1 Range)

Scan Start: 30 MHz
Scan Stop: 1 GHz
Detector: Trace 1: MAX PEAK
Transducer: 3142B3m

Start Frequency	Stop Frequency	Step Size	Res BW	Meas Time	RF Atten	Preamp	Input
30.000000 MHz	1.000000 GHz	30.00 kHz	120.00 kHz	5 ms	Auto	20 dB	INPUT2



**C20161862**

27.Jan 17 10:02

Meas Type RADIATED EMISSION
Equipment under Test CLEV6630B V2.0
Manufacturer NXP SEMICONDUCTORS GmbH
OP Condition EXT PS, Waiting for a card
Operator Andrej Skof

Test Spec
HORIZONTAL 100 cm, 0 deg

Final Measurement

Meas Time: 1 s
Margin: 17 dB
Peaks: 1

Trace	Frequency	Level (dB μ V/m)	Detector	Delta Limit/dB
1	678.150000000 MHz	26.63	Quasi Peak	-19.37

C20161862

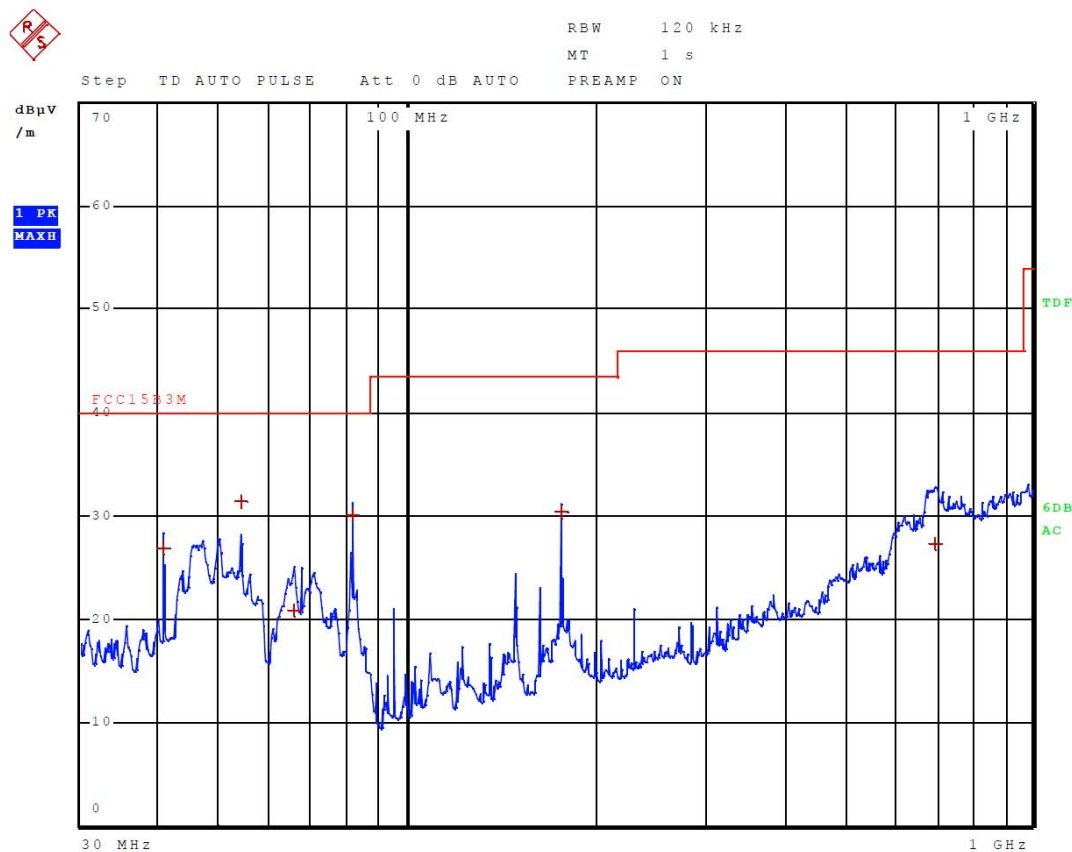
27.Jan 17 09:49

Meas Type RADIATED EMISSION
Equipment under Test CLEV6630B V2.0
Manufacturer NXP SEMICONDUCTORS GmbH
OP Condition EXT PS, Reading a card
Operator Andrej Skof
Test Spec
VERTICAL 100 cm, 0 deg

Time Domain Scan (1 Range)

Scan Start: 30 MHz
Scan Stop: 1 GHz
Detector: Trace 1: MAX PEAK
Transducer: 3142B3m

Start Frequency	Stop Frequency	Step Size	Res BW	Meas Time	RF Atten	Preamp	Input
30.000000 MHz	1.000000 GHz	30.00 kHz	120.00 kHz	1 ms	Auto	20 dB	INPUT2



**C20161862**

27.Jan 17 09:49

Meas Type RADIATED EMISSION
Equipment under Test CLEV6630B V2.0
Manufacturer NXP SEMICONDUCTORS GmbH
OP Condition EXT PS, Reading a card
Operator Andrej Skof
Test Spec
VERTICAL 100 cm, 0 deg

Final Measurement

Meas Time: 1 s
Margin: 15 dB
Peaks: 6

Trace	Frequency	Level (dB μ V/m)	Detector	Delta Limit/dB
1	54.240000000 MHz	31.37	Quasi Peak	-8.63
1	81.360000000 MHz	30.05	Quasi Peak	-9.95
1	176.280000000 MHz	30.44	Quasi Peak	-13.06
1	40.680000000 MHz	26.79	Quasi Peak	-13.21
1	699.060000000 MHz	27.31	Quasi Peak	-18.69
1	65.880000000 MHz	20.81	Quasi Peak	-19.19

C20161862

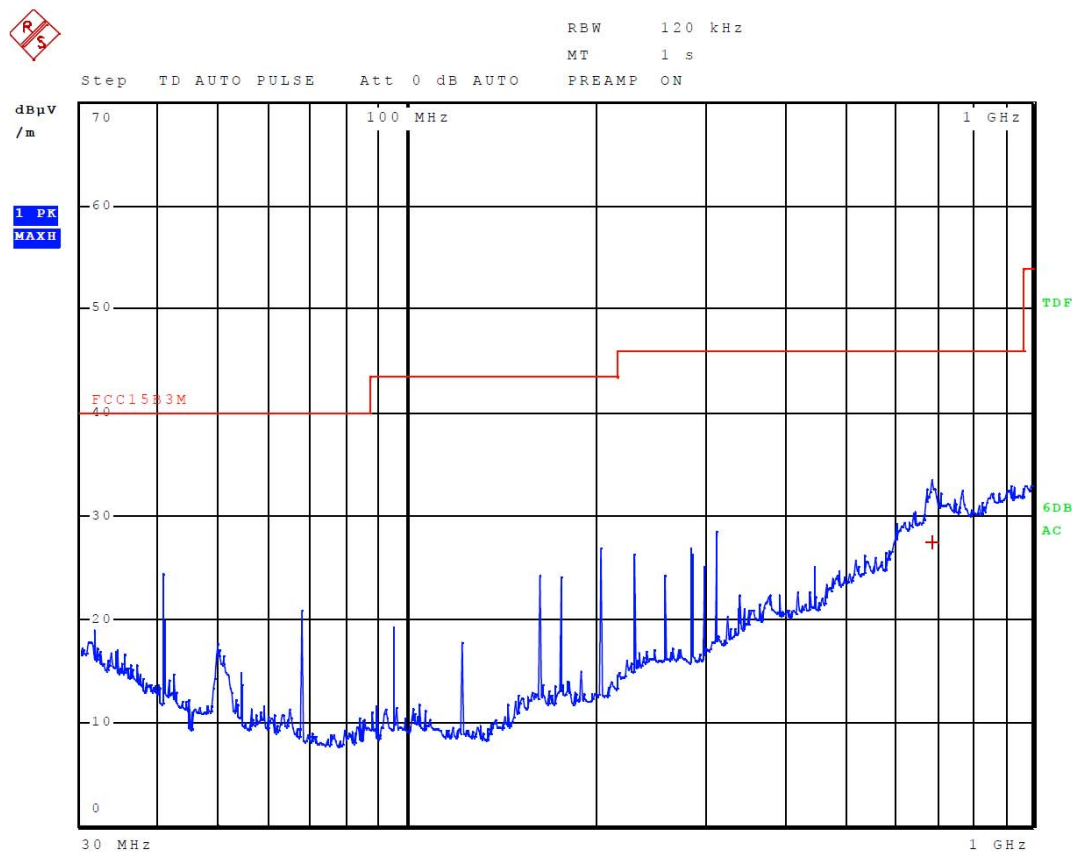
27.Jan 17 09:48

Meas Type RADIATED EMISSION
Equipment under Test CLEV6630B V2.0
Manufacturer NXP SEMICONDUCTORS GmbH
OP Condition EXT PS, Reading a card
Operator Andrej Skof
Test Spec
HORIZONTAL 100 cm, 0 deg

Time Domain Scan (1 Range)

Scan Start: 30 MHz
Scan Stop: 1 GHz
Detector: Trace 1: MAX PEAK
Transducer: 3142B3m

Start Frequency	Stop Frequency	Step Size	Res BW	Meas Time	RF Atten	Preamp	Input
30.000000 MHz	1.000000 GHz	30.00 kHz	120.00 kHz	1 ms	Auto	20 dB	INPUT2



**C20161862**

27.Jan 17 09:48

Meas Type RADIATED EMISSION
Equipment under Test CLEV6630B V2.0
Manufacturer NXP SEMICONDUCTORS GmbH
OP Condition EXT PS, Reading a card
Operator Andrej Skof

Test Spec

HORIZONTAL 100 cm, 0 deg

Final Measurement

Meas Time: 1 s
Margin: 15 dB
Peaks: 1

Trace	Frequency	Level (dB μ V/m)	Detector	Delta Limit/dB
1	691.560000000 MHz	27.38	Quasi Peak	-18.62

Worst case measurements:**C20161862**

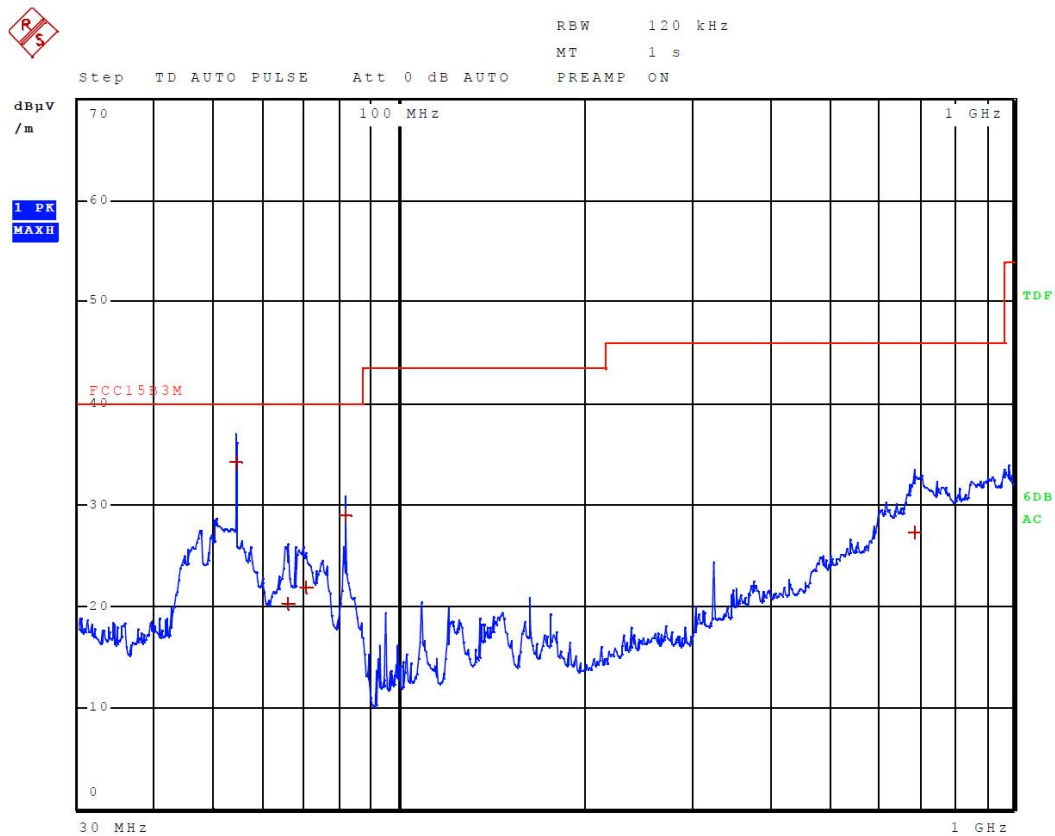
27.Jan 17 09:55

Meas Type RADIATED EMISSION
Equipment under Test CLEV6630B V2.0
Manufacturer NXP SEMICONDUCTORS GmbH
OP Condition EXT PS, Waiting for a card
Operator Andrej Skof
Test Spec
 VERTICAL 100 cm, 130 deg

Time Domain Scan (1 Range)

Scan Start: 30 MHz
 Scan Stop: 1 GHz
 Detector: Trace 1: MAX PEAK
 Transducer: 3142B3m

Start Frequency	Stop Frequency	Step Size	Res BW	Meas Time	RF Atten	Preamp	Input
30.000000 MHz	1.000000 GHz	30.00 kHz	120.00 kHz	5 ms	Auto	20 dB	INPUT2



**C20161862**

27.Jan 17 09:55

Meas Type RADIATED EMISSION
Equipment under Test CLEV6630B V2.0
Manufacturer NXP SEMICONDUCTORS GmbH
OP Condition EXT PS, Waiting for a card
Operator Andrej Skof
Test Spec
VERTICAL 100 cm, 130 deg

Final Measurement

Meas Time: 1 s
Margin: 15 dB
Peaks: 5

Trace	Frequency	Level (dBµV/m)	Detector	Delta Limit/dB
1	54.240000000 MHz	34.18	Quasi Peak	-5.82
1	81.360000000 MHz	28.94	Quasi Peak	-11.06
1	70.290000000 MHz	21.88	Quasi Peak	-18.12
1	689.400000000 MHz	27.23	Quasi Peak	-18.77
1	65.730000000 MHz	20.17	Quasi Peak	-19.83



4.5 Bandwidth of the emission (§15.215)

4.5.1 Requirements

Intentional radiators operating under the alternative provisions to the general emission limits, as contained in §15.217 through 15.257 and in subpart E of FCC Part 15, must be designed to ensure that the 20 dB bandwidth of the emission, or whatever bandwidth may otherwise be specified in the specific rule section under which the equipment operates, is contained within the frequency band designated in the rule section under which the equipment is operated.

4.5.2 Test procedure

1. As per Clause 6.9.2 from ANSI C63.10-2013
2. The EUT is placed on the top of a rotating table 0.8 meters above the ground in an Anechoic Chamber. The table is rotated 360 degrees to determine the position of the highest radiation.
3. The EUT is set 3 m away from the interference-receiving antenna.
4. Resolution bandwidth is set to a value greater than 5% of the allowed bandwidth.

4.5.3 Test results

Device passed the requirements stated in FCC Part 15, Section 15.215


ROHDE & SCHWARZ
C20161862

06.Jan 17 08:55

Meas Type OCCUPIED BANDWIDTH
Equipment under Test CLEV6630B V2.0
Manufacturer NXP SEMICONDUCTORS GmbH
OP Condition Waiting for a Card, USB PS
Operator Andrej Skof

Test Spec

Antenna: 350 deg, Sample: 15 deg

Sweep Settings Screen A

Center Frequency	13.560000 MHz	Ref Level	86.000 dBuV/m
Frequency Offset	0.000000 Hz	Ref Level Offset	0.000 dB
Span	10.000000 kHz	Ref Position	100.000 %
Start Frequency	13.555000 MHz	Level Range	100.000 dB
Stop Frequency	13.565000 MHz	RF Att	20.000 dB
RBW	1.000000 kHz		
VBW	3.000000 kHz	X-Axis	LIN
Sweep Time	20.00 ms	Y-Axis	LOG



MARKER 1

13.56024038 MHz

Ref 86 dBuV/m

Att 20 dB

RBW 1 kHz

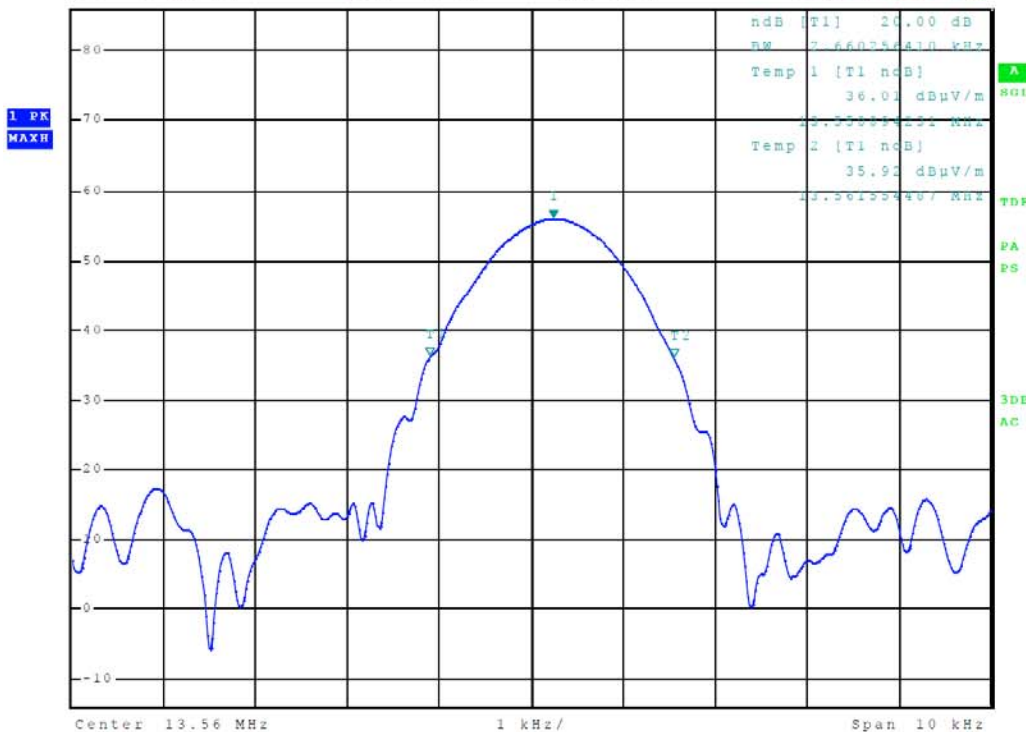
VBW 3 kHz

SWT 20 ms

Marker 1 [T1]

55.92 dBuV/m

13.560240385 MHz



**C20161862**

06.Jan 17 08:56

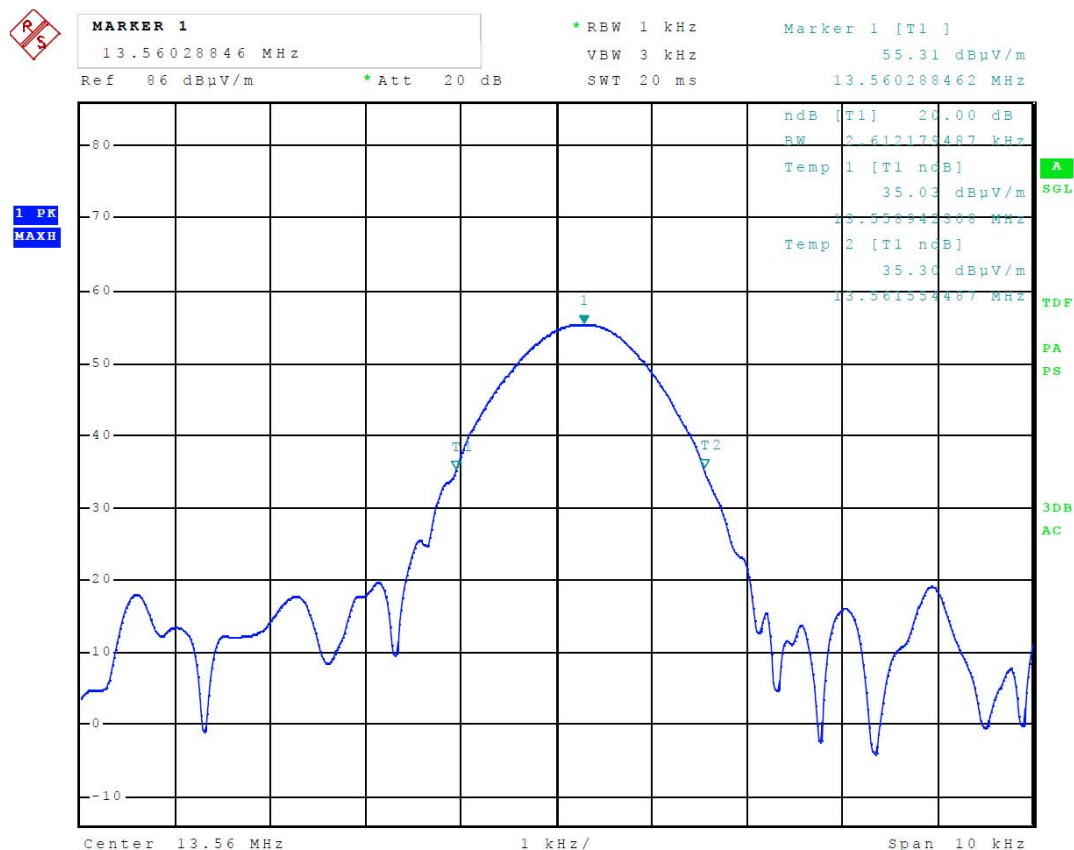
Meas Type OCCUPIED BANDWIDTH
Equipment under Test CLEV6630B V2.0
Manufacturer NXP SEMICONDUCTORS GmbH
OP Condition Reading a Card, USB PS
Operator Andrej Skof

Test Spec

Antenna: 350 deg, Sample: 15 deg

Sweep Settings Screen A

Center Frequency	13.560000 MHz	Ref Level	86.000 dBμV/m
Frequency Offset	0.000000 Hz	Ref Level Offset	0.000 dB
Span	10.000000 kHz	Ref Position	100.000 %
Start Frequency	13.555000 MHz	Level Range	100.000 dB
Stop Frequency	13.565000 MHz	RF Att	20.000 dB
RBW	1.000000 kHz		
VBW	3.000000 kHz	X-Axis	LIN
Sweep Time	20.00 ms	Y-Axis	LOG





C20161862

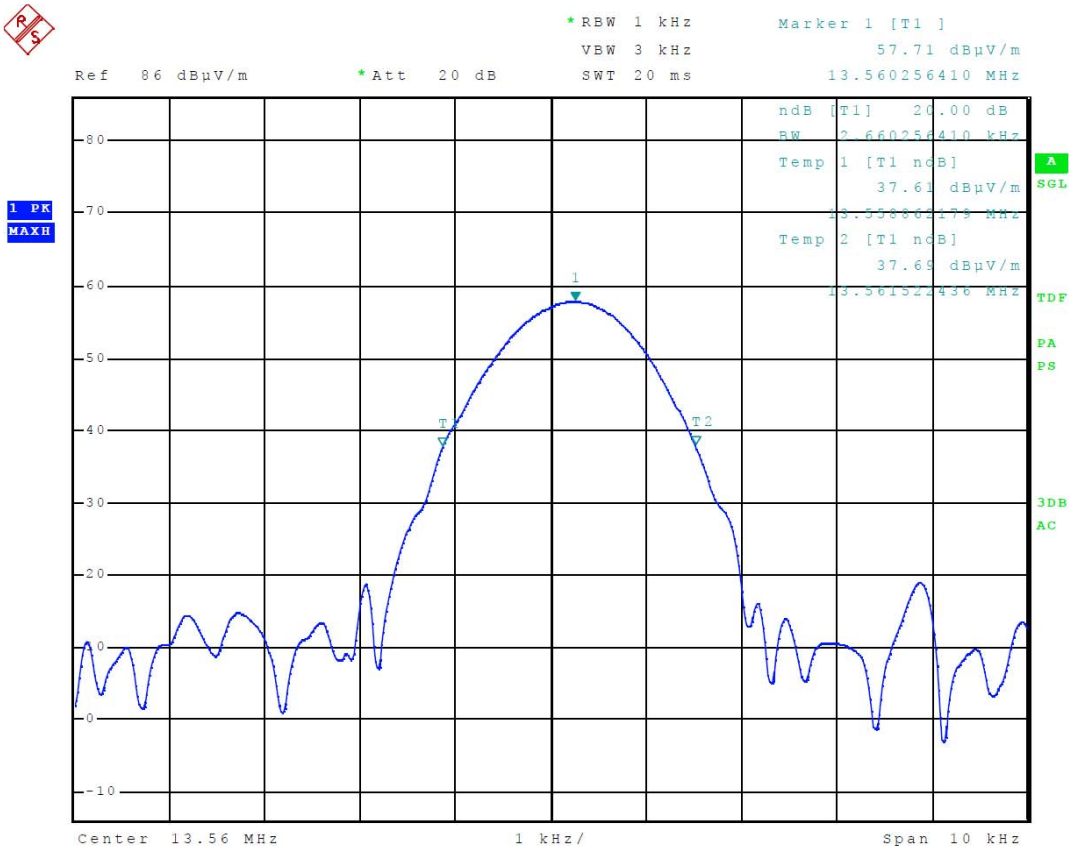
06.Jan 17 08:53

Meas Type OCCUPIED BANDWIDTH
Equipment under Test CLEV6630B V2.0
Manufacturer NXP SEMICONDUCTORS GmbH
OP Condition Waiting for a Card, EXT PS
Operator Andrej Skof

Test Spec
Antenna: 350 deg, Sample: 15 deg

Sweep Settings Screen A

Center Frequency	13.560000 MHz	Ref Level	86.000 dBμV/m
Frequency Offset	0.000000 Hz	Ref Level Offset	0.000 dB
Span	10.000000 kHz	Ref Position	100.000 %
Start Frequency	13.555000 MHz	Level Range	100.000 dB
Stop Frequency	13.565000 MHz	RF Att	20.000 dB
RBW	1.000000 kHz		
VBW	3.000000 kHz	X-Axis	LIN
Sweep Time	20.00 ms	Y-Axis	LOG



**C20161862**

06.Jan 17 08:51

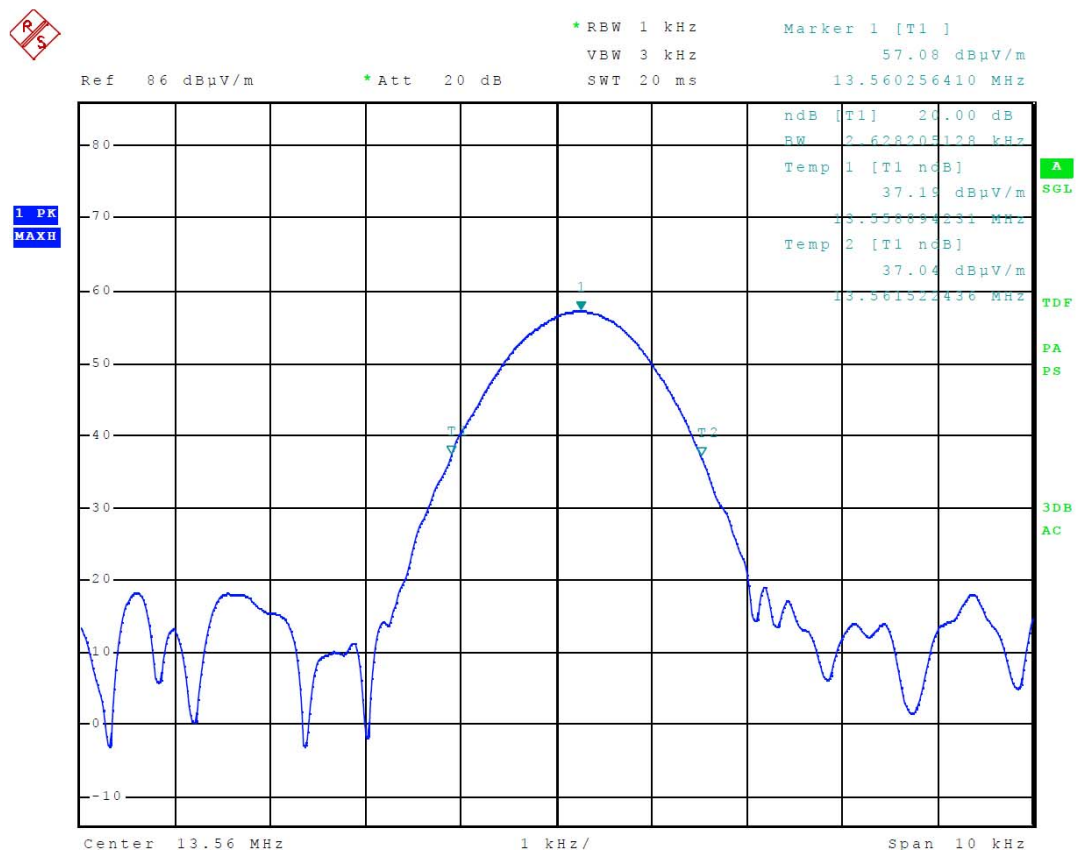
Meas Type OCCUPIED BANDWIDTH
Equipment under Test CLEV6630B V2.0
Manufacturer NXP SEMICONDUCTORS GmbH
OP Condition Reading a Card, EXT PS
Operator Andrej Skof

Test Spec

Antenna: 350 deg, Sample: 15 deg

Sweep Settings Screen A

Center Frequency	13.560000 MHz	Ref Level	86.000 dBμV/m
Frequency Offset	0.000000 Hz	Ref Level Offset	0.000 dB
Span	10.000000 kHz	Ref Position	100.000 %
Start Frequency	13.555000 MHz	Level Range	100.000 dB
Stop Frequency	13.565000 MHz	RF Att	20.000 dB
RBW	1.000000 kHz		
VBW	3.000000 kHz	X-Axis	LIN
Sweep Time	20.00 ms	Y-Axis	LOG





Frequency (MHz)	Permitted frequency band (MHz)	20 dB bandwidth (kHz)	PASS/FAIL
13.56	13.110 – 14.010	2.66	PASS



4.6 Spectrum mask (§15.225 (a)-(d))

4.6.1 Requirements

The field strength of any emissions within the band 13.553-13.567 MHz shall not exceed 15,848 microvolts/meter at 30 meters. Within the bands 13.410-13.553 MHz and 13.567-13.710 MHz, the field strength of any emissions shall not exceed 334 microvolts/meter at 30 meters. Within the bands 13.110-13.410 MHz and 13.710-14.010 MHz the field strength of any emissions shall not exceed 106 microvolts/meter at 30 meters. The field strength of any emissions appearing outside of the 13.110-14.010 MHz band shall not exceed the general radiated emission limits in §15.209.

4.6.2 Test procedure

1. As per clause 6.4 from ANSI C63.10-2013
2. The EUT was placed on the top of a rotating table 0.8 meters above the ground in an Anechoic Chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
3. The EUT was set 3 m away from the interference-receiving antenna.
4. Frequencies with maximum emission were retested on OATS.
5. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the turn table was turned from 0 degrees to 360 degrees to find the maximum reading.

4.6.3 Test results

Device passed the requirements stated in FCC Part 15, Section 15.225 (a)-(d)



C20161862

06.Jan 17 08:39

Meas Type SPECTRUM MASK
Equipment under Test CLEV6630B V2.0
Manufacturer NXP SEMICONDUCTORS GmbH
OP Condition Waiting for a Card, USB PS
Operator Andrej Skof

Test Spec

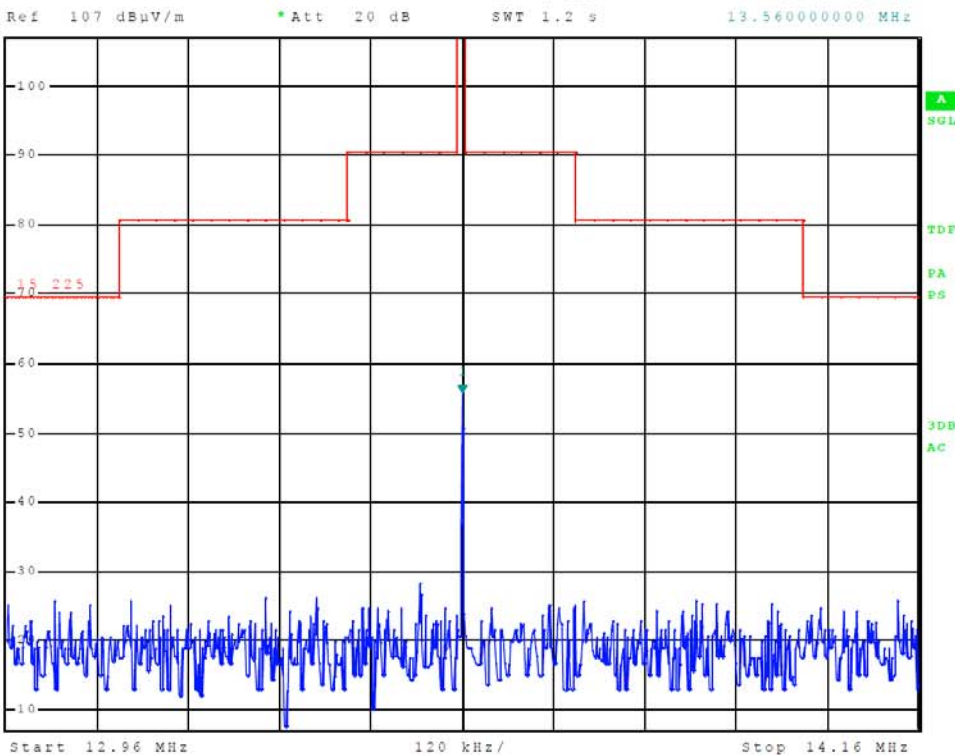
Antenna: 350 deg, Sample: 15 deg

Sweep Settings Screen A

Center Frequency	13.560000 MHz	Ref Level	107.000 dBμV/m
Frequency Offset	0.000000 Hz	Ref Level Offset	0.000 dB
Span	1.200000 MHz	Ref Position	100.000 %
Start Frequency	12.960000 MHz	Level Range	100.000 dB
Stop Frequency	14.160000 MHz	RF Att	20.000 dB
RBW	1.000000 kHz		
VBW	3.000000 kHz	X-Axis	LIN
Sweep Time	1.20 s	Y-Axis	LOG



* RBW 1 kHz Marker 1 [T1]
VBW 3 kHz 55.52 dBμV/m
SWT 1.2 s 13.56000000 MHz



**C20161862**

06.Jan 17 08:42

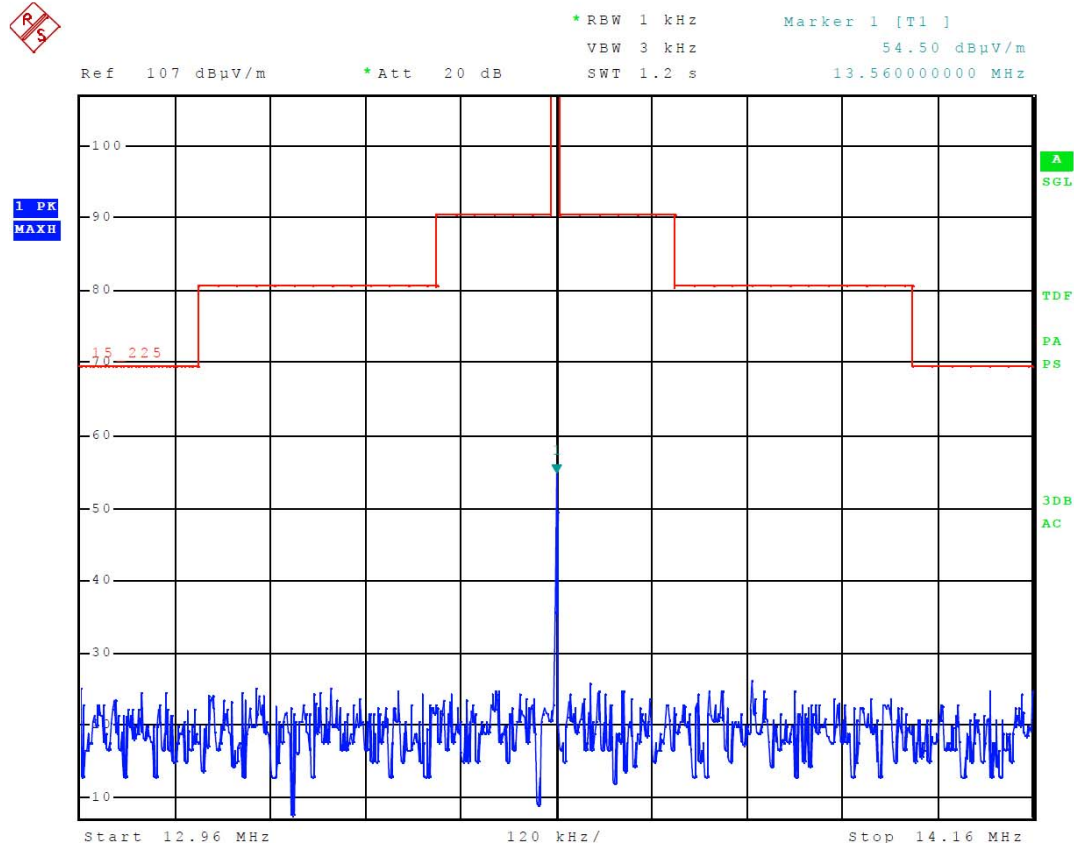
Meas Type SPECTRUM MASK
Equipment under Test CLEV6630B V2.0
Manufacturer NXP SEMICONDUCTORS GmbH
OP Condition Reading a Card, USB PS
Operator Andrej Skof

Test Spec

Antenna: 350 deg, Sample: 15 deg

Sweep Settings Screen A

Center Frequency	13.560000 MHz	Ref Level	107.000 dBμV/m
Frequency Offset	0.000000 Hz	Ref Level Offset	0.000 dB
Span	1.200000 MHz	Ref Position	100.000 %
Start Frequency	12.960000 MHz	Level Range	100.000 dB
Stop Frequency	14.160000 MHz	RF Att	20.000 dB
RBW	1.000000 kHz		
VBW	3.000000 kHz	X-Axis	LIN
Sweep Time	1.20 s	Y-Axis	LOG





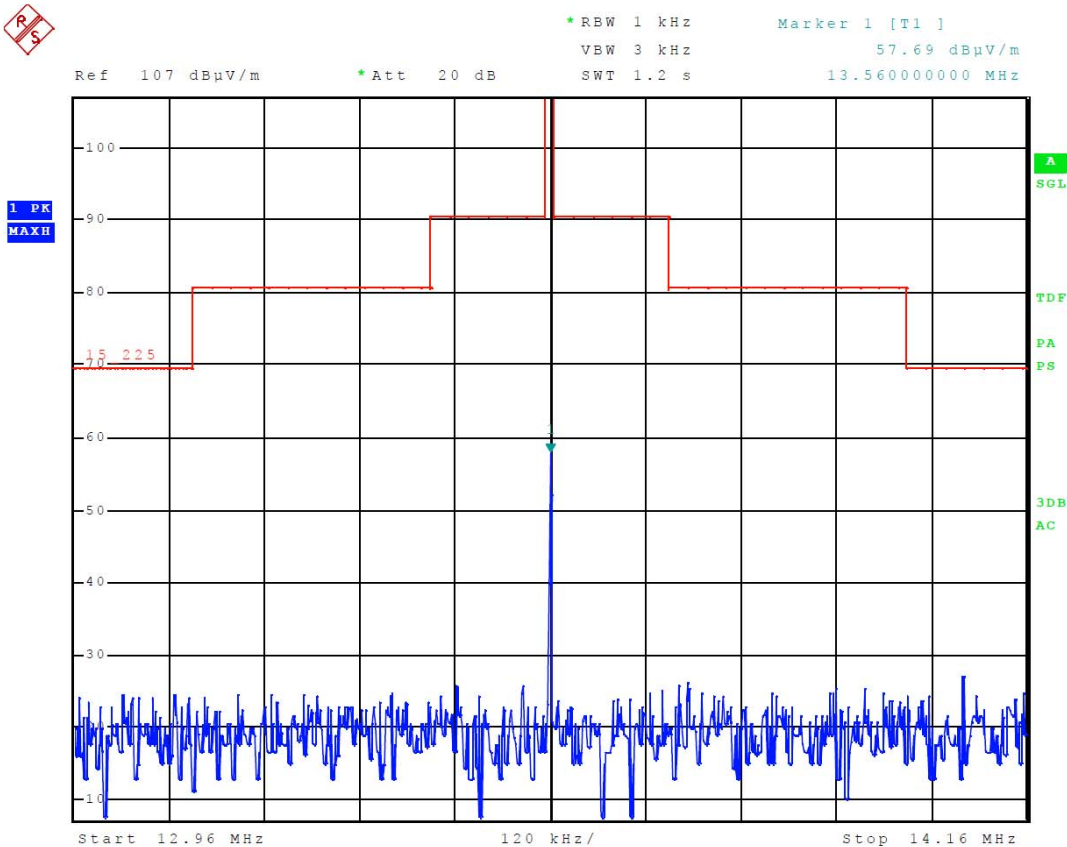
C20161862

06.Jan 17 08:46

Meas Type SPECTRUM MASK
Equipment under Test CLEV6630B V2.0
Manufacturer NXP SEMICONDUCTORS GmbH
OP Condition Waiting for a Card, EXT PS
Operator Andrej Skof
Test Spec
Antenna: 350 deg, Sample: 15 deg

Sweep Settings Screen A

Center Frequency	13.560000 MHz	Ref Level	107.000 dBμV/m
Frequency Offset	0.000000 Hz	Ref Level Offset	0.000 dB
Span	1.200000 MHz	Ref Position	100.000 %
Start Frequency	12.960000 MHz	Level Range	100.000 dB
Stop Frequency	14.160000 MHz	RF Att	20.000 dB
RBW	1.000000 kHz		
VBW	3.000000 kHz	X-Axis	LIN
Sweep Time	1.20 s	Y-Axis	LOG



**C20161862**

06.Jan 17 08:46

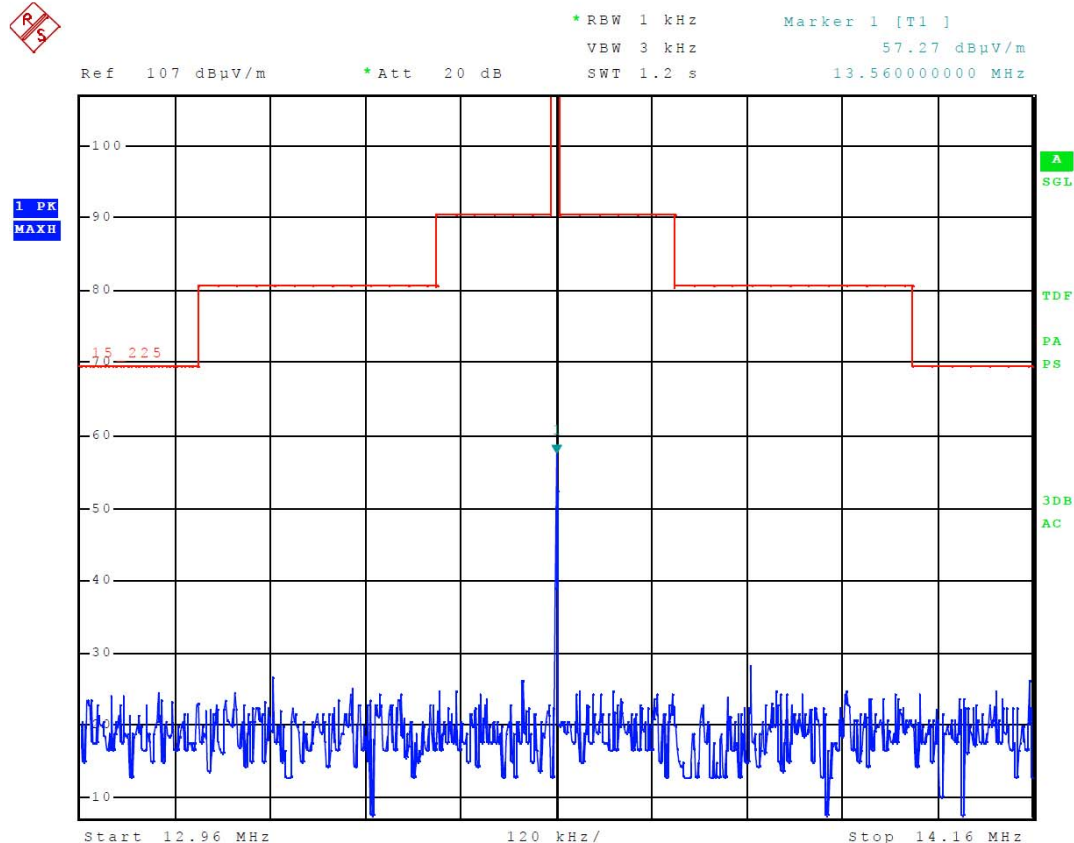
Meas Type SPECTRUM MASK
Equipment under Test CLEV6630B V2.0
Manufacturer NXP SEMICONDUCTORS GmbH
OP Condition Reading a Card, EXT PS
Operator Andrej Skof

Test Spec

Antenna: 350 deg, Sample: 15 deg

Sweep Settings Screen A

Center Frequency	13.560000 MHz	Ref Level	107.000 dBμV/m
Frequency Offset	0.000000 Hz	Ref Level Offset	0.000 dB
Span	1.200000 MHz	Ref Position	100.000 %
Start Frequency	12.960000 MHz	Level Range	100.000 dB
Stop Frequency	14.160000 MHz	RF Att	20.000 dB
RBW	1.000000 kHz		
VBW	3.000000 kHz	X-Axis	LIN
Sweep Time	1.20 s	Y-Axis	LOG



4.7 Frequency tolerance of the carrier signal (§15.225 (e))

4.7.1 Requirement

The frequency tolerance of the carrier signal shall be maintained within +/- 0.01% of the operating frequency over a temperature variation of -20 degrees to +50 degrees C at normal supply voltage, and for a variation in the primary supply voltage from 85% to 115% of the rated supply voltage at a temperature of 20 degrees C. For battery operated equipment, the equipment tests shall be performed using a new battery.

4.7.2 Test procedure

1. As per clause 6.8 from ANSI C63.10-2013.
2. The frequency tolerance of the carrier signal is measured over a temperature variation of -20 °C to +50 °C at normal supply voltage, and for a variation in the primary supply voltage from 85% to 115% of the rated supply voltage at a temperature of 20 °C.
3. If the EUT provides an antenna connector the spectrum analyzer is connected to this port. In cases where the EUT does not provide an antenna connector a test fixture is used.
4. The peak detector of the spectrum analyzer is selected and the resolution bandwidth as well as the video bandwidth is set to values appropriate to the shape of the spectrum of the EUT.
5. While maintaining a constant temperature inside the environmental chamber, turn the EUT ON and record the operating frequency at startup, and at 2 minutes, 5 minutes, and 10 minutes after the EUT is energized.



4.7.3 Test results

Device passed the requirements stated in FCC Part 15, Section 15.225 (e)

Temperature (°C)	Supply voltage (V)	Minutes after switch on	Measured Frequency (MHz)	Allowed tolerance (kHz)	Measured tolerance (kHz)	RESULT
50	5,00	0	13,560233333	Fref±1.356	-0,059	PASS
50	5,00	2	13,560223718	Fref±1.356	-0,069	PASS
50	5,00	5	13,560221314	Fref±1.356	-0,071	PASS
50	5,00	10	13,560221314	Fref±1.356	-0,071	PASS
40	5,00	0	13,560263782	Fref±1.356	-0,029	PASS
40	5,00	2	13,560243750	Fref±1.356	-0,049	PASS
40	5,00	5	13,560235737	Fref±1.356	-0,057	PASS
40	5,00	10	13,560230929	Fref±1.356	-0,062	PASS
30	5,00	0	13,560278205	Fref±1.356	-0,014	PASS
30	5,00	2	13,560265385	Fref±1.356	-0,027	PASS
30	5,00	5	13,560258974	Fref±1.356	-0,034	PASS
30	5,00	10	13,560254968	Fref±1.356	-0,038	PASS
20	4,25	0	13,560289423	Fref±1.356	-0,003	PASS
20	4,25	2	13,560295833	Fref±1.356	0,003	PASS
20	4,25	5	13,560299840	Fref±1.356	0,007	PASS
20	4,25	10	13,560301442	Fref±1.356	0,009	PASS
20	5,00	0	13,560313462	Fref±1.356	0,021	PASS
20	5,00	2	13,560294231	Fref±1.356	0,002	PASS
20	5,00	5	13,560296635	Fref±1.356	0,004	PASS
20	5,00	10	13,560292628	Fref	0,000	PASS
20	5,75	0	13,560303045	Fref±1.356	0,010	PASS
20	5,75	2	13,560289423	Fref±1.356	-0,003	PASS
20	5,75	5	13,560282212	Fref±1.356	-0,010	PASS
20	5,75	10	13,560279006	Fref±1.356	-0,014	PASS
10	5,00	0	13,560358333	Fref±1.356	0,066	PASS
10	5,00	2	13,560346314	Fref±1.356	0,054	PASS
10	5,00	5	13,560336699	Fref±1.356	0,044	PASS
10	5,00	10	13,560329487	Fref±1.356	0,037	PASS
0	5,00	0	13,560370353	Fref±1.356	0,078	PASS
0	5,00	2	13,560368750	Fref±1.356	0,076	PASS
0	5,00	5	13,560362340	Fref±1.356	0,070	PASS
0	5,00	10	13,560358333	Fref±1.356	0,066	PASS
-10	5,00	0	13,560359135	Fref±1.356	0,067	PASS
-10	5,00	2	13,560369551	Fref±1.356	0,077	PASS
-10	5,00	5	13,560371955	Fref±1.356	0,079	PASS
-10	5,00	10	13,560371154	Fref±1.356	0,079	PASS
-20	5,00	0	13,560313462	Fref±1.356	0,021	PASS
-20	5,00	2	13,560343910	Fref±1.356	0,051	PASS
-20	5,00	5	13,560357532	Fref±1.356	0,065	PASS
-20	5,00	10	13,560363141	Fref±1.356	0,071	PASS

Temperature (°C)	Supply voltage (V)	Minutes after switch on	Measured Frequency (MHz)	Allowed tolerance (kHz)	Measured tolerance (kHz)	RESULT
20	5,95	0	13,560328940	Fref±1.356 kHz	0,042	PASS
20	5,95	2	13,560309460	Fref±1.356 kHz	0,023	PASS
20	5,95	5	13,560302470	Fref±1.356 kHz	0,016	PASS
20	5,95	10	13,560298970	Fref±1.356 kHz	0,012	PASS
20	7,50	0	13,560322450	Fref±1.356 kHz	0,036	PASS
20	7,50	2	13,560298970	Fref±1.356 kHz	0,012	PASS
20	7,50	5	13,560288980	Fref±1.356 kHz	0,002	PASS
20	7,50	10	13,560286480	Fref	0,000	PASS
20	15,53	0	13,560325940	Fref±1.356 kHz	0,039	PASS
20	15,53	2	13,560263010	Fref±1.356 kHz	-0,023	PASS
20	15,53	5	13,560243530	Fref±1.356 kHz	-0,043	PASS
20	15,53	10	13,560240530	Fref±1.356 kHz	-0,046	PASS

5 TEST EQUIPMENT

Manufacturer & Description	Model No.	SIQ No.	Last Calibration	Next Calibration	Used
ETS, Anechoic chamber	RFD-F/A-100	103949	2015-11	2017-11	X
Rohde & Schwarz, RFI test receiver	ESU8	105187	2015-11	2017-11	X
Rohde & Schwarz, RFI receiver	ESU26	106897	2016-02	2018-02	/
EMCO, Antenna	3142B	104351	2015-09	2017-09	X
EMCO, Antenna	3115	103002	2015-09	2017-09	/
Rohde & Schwarz, Test Probe Antenna	HFH2-Z4	SN:879743/12	N/A	NA	X
Rohde & Schwarz, Loop Antenna	HFH2-Z2	SN: 879605/15	2015-09	2017-09	X
Heinrich Deisel, Turn table	DS 420.00	103337	N/A	NA	X
ETS, Antenna tower	2175	/	N/A	NA	X
ETS, Controller for turn table and antenna tower	2090	/	N/A	NA	X
Rohde & Schwarz, Artificial main network	ESH 2-Z5	106899	2015-05	2017-05	X
Rohde & Schwarz, Artificial main network	ENV216	106765	2016-09	2018-09	/
Rohde & Schwarz, Current probe	EZ-17	106862	2016-11	2018-11	/
Schwarzbeck, High voltage probe	TK 9420	106898	2015-05	2017-05	/
Kambič, Temperature chamber	I-190 CK	107298	N/A	NA	X
Iskra, DC power source	MA 4181	IKM 1790	N/A	NA	X
Fluke, Digital Multimeter	179	2839652	2016-11	2018-11	X
Fluke, Digital Multimeter	179	2839648	2016-11	2018-11	X