Laboratories GSD SRL

CE MARKING

ELECTROMAGNETIC COMPATIBILITY
ELECTRICAL SAFETY
LASER SPECTROSCOPY
ENVIRONMENTAL PHYSIC

G.S.D. S.r.l.
Certified in accordance with
UNI EN ISO 9001:2008
by
TÜV Rheinland Italia S.r.l.
Certificate N. 39 00 1850509

G.S.D. Srl PISA - Italy	***Test Report n. FCC-17337B***	Rev. 00
Manufacturer	**CAEN RFID s.r.l.**	
Address	Via Vetraia, 11 55049 Viareggio (LU) Italy	
Test Family Name	**R1170IU**	
Testing Laboratory Name	**G.S.D. S.r.l.**	
Address	Via Marmiceto, 8 56121 Ospedaletto Pisa (PI) Italy	
Tel/Fax	+39 050 984254 / +39 050 984262	
P.IVA/VAT	01343950505	
http – e-mail	www.gsd.it - info@gsd.it	
	FCC Listed: Registration Number: 424037	
Location and Date of Issue	Pisa, 2017 May 17	

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SENIOR EMC TEST MANAGER
Dr. Gian Luca Genovesi

QUALITY MANAGER
Dr. David Pelliccia

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1. MANUFACTURER AND EUT IDENTIFICATION [1]

Manufacturer	**CAEN RFID s.r.l..**
Address	Via Vetraia, 11 55049 Viareggio (LU) Italy
Test Family Name	**R1170IU**
Date of reception	**2017 April 11**
Sampling	**Laboratory sample for certification**
Test Item Description	**RFID Device**
Nominal Input Voltage	**5 Vdc (USB)**
FCC ID	**UVECAENRFID017**

[1] A detailed documentation is preserved in the internal fascicle.

Fig. 1.1
Equipment Photo

2. REFERENCE STANDARDS

Tests and measurements are performed accordingly to the reference standards given in the table below:

TEST	***STANDARD***
Emissions: Radiated – Section 15.109	FCC Rules ad Regulations, Title 47 Part 15 – Sub part B ANSI C63.4 2014 – American National Standard for Methods of Measuring of Radio-Noise Emissions from Low Voltage Electrical and Electronic Equipment in the Range of 9 kHz – 40 GHz
Emissions: Conducted – Section 15.107	FCC Rules ad Regulations, Title 47 Part 15 – Sub part B ANSI C63.4 2014 – American National Standard for Methods of Measuring of Radio-Noise Emissions from Low Voltage Electrical and Electronic Equipment in the Range of 9 kHz – 40 GHz

3. TEST GENERALITY, RESULT, CONDITION, MEASUREMENT UNCERTAINTY

Sub-part 2.1033(b)

Test And Measurement Data

All tests and measurement data shown were performed in accordance with FCC Rules and Regulations, Volume II; Part 2 and the following individual Parts: 15.109; Unintentional Radiators

Standard Test Conditions and Engineering Practices

Except as noted herein, the following conditions and procedures were observed during the testing:
In accordance with ANSI C63.4-2014, and unless otherwise indicated in the specific measurement results, the ambient temperature of the actual EUT was maintained within the range of 10° to 40°C (50° to 104 °F) unless the particular equipment requirements specify testing over a different temperature range. Also, unless otherwise indicated, the humidity levels were in the range of 10% to 90% relative humidity.
Prior to testing, the EUT was tuned up in accordance with the manufacturer's alignment procedures.
All external gain controls were maintained at the position of maximum and/or optimum gain throughout the testing.
Measurement results, unless otherwise noted, are worst-case measurements.

Summary of Test Results

TEST	*RESULT*
Emissions: conducted Section 15.107	*Pass*
Emissions: radiated Section 15.109	*Pass*

Measurement uncertainty

TEST	*EXPANDED UNCERTAINTY*
Conducted Emission – 50Ω/50µH (150 kHz - 30 MHz)	± 3.5 dB
Radiated Emission – (Semianechoic Room) (30 MHz - 18 GHz)	± 4.7 dB

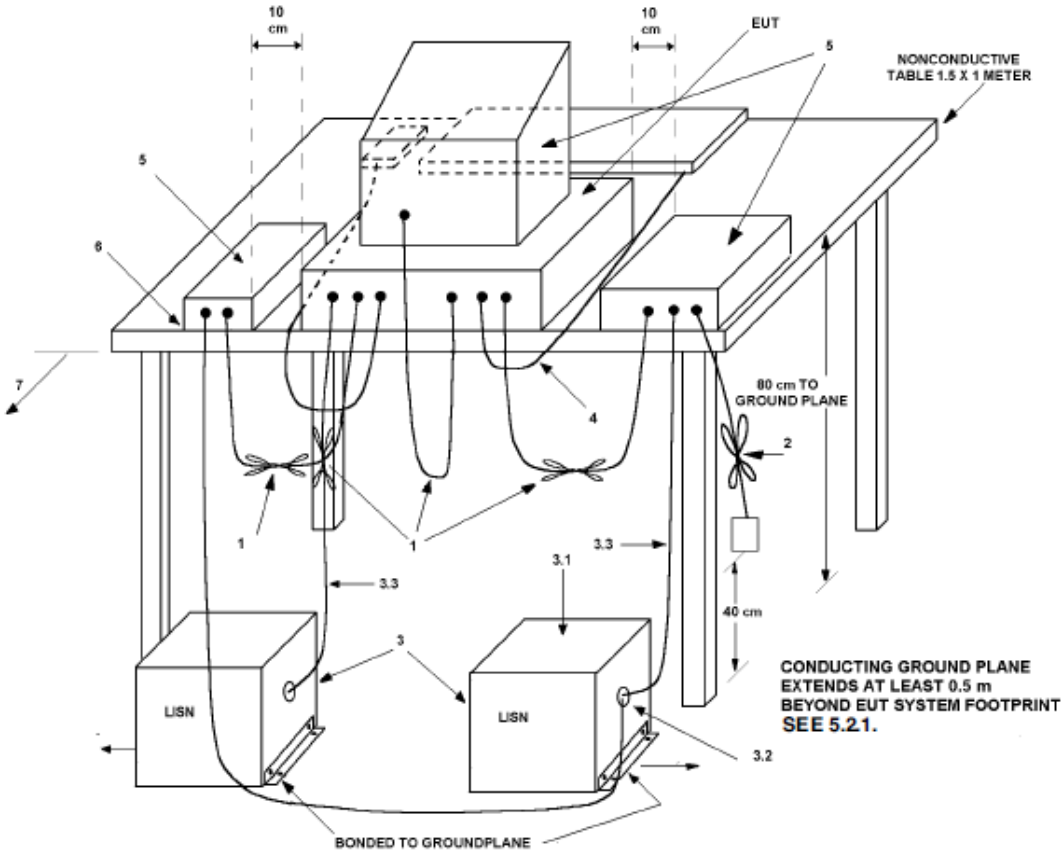
Climatic Conditions

PARAMETER	*VALUE*
Temperature	(293 ± 3) K
Relative humidity	(50 ± 5) %

Extensions

The results refer only to the sampled EUT and under the specified conditions.

Modulations:
PR_ASK 40 kHz



Conducted and Radiated EUT Test Set-up example (ANSI C63.4 2014)

4. RADIATED EMISSIONS

In the following table you can find the limits established by the reference standard:

FREQUENCY RANGE *(MHz)*	***Field Strenght*** *QUASI-PEAK LIMITS* *[dB (μV/m)]*
30 ÷ 88	40
88 ÷ 216	43,5
216 ÷ 960	46
Above 960	54

Test Equipment

EQUIPMENT	MANUFACTURER	MODEL	CAL. DUE
EMI Receiver	HP	HP8546A	01/2018
EMI Receiver Filter Section	HP	HP85460A	01/2018
Anechoic Chamber	Comtest	CSA01	01/2018
Bilog Antenna	Schaffner	CBL6112B	01/2018
Horn Antenna	EMCO	3115	01/2018
Controller	Deisel	HD100	01/2018
Turn Table	Deisel	MA240	01/2018
LISN	GSD	NTW06	01/2018

Test procedure: RE22R02

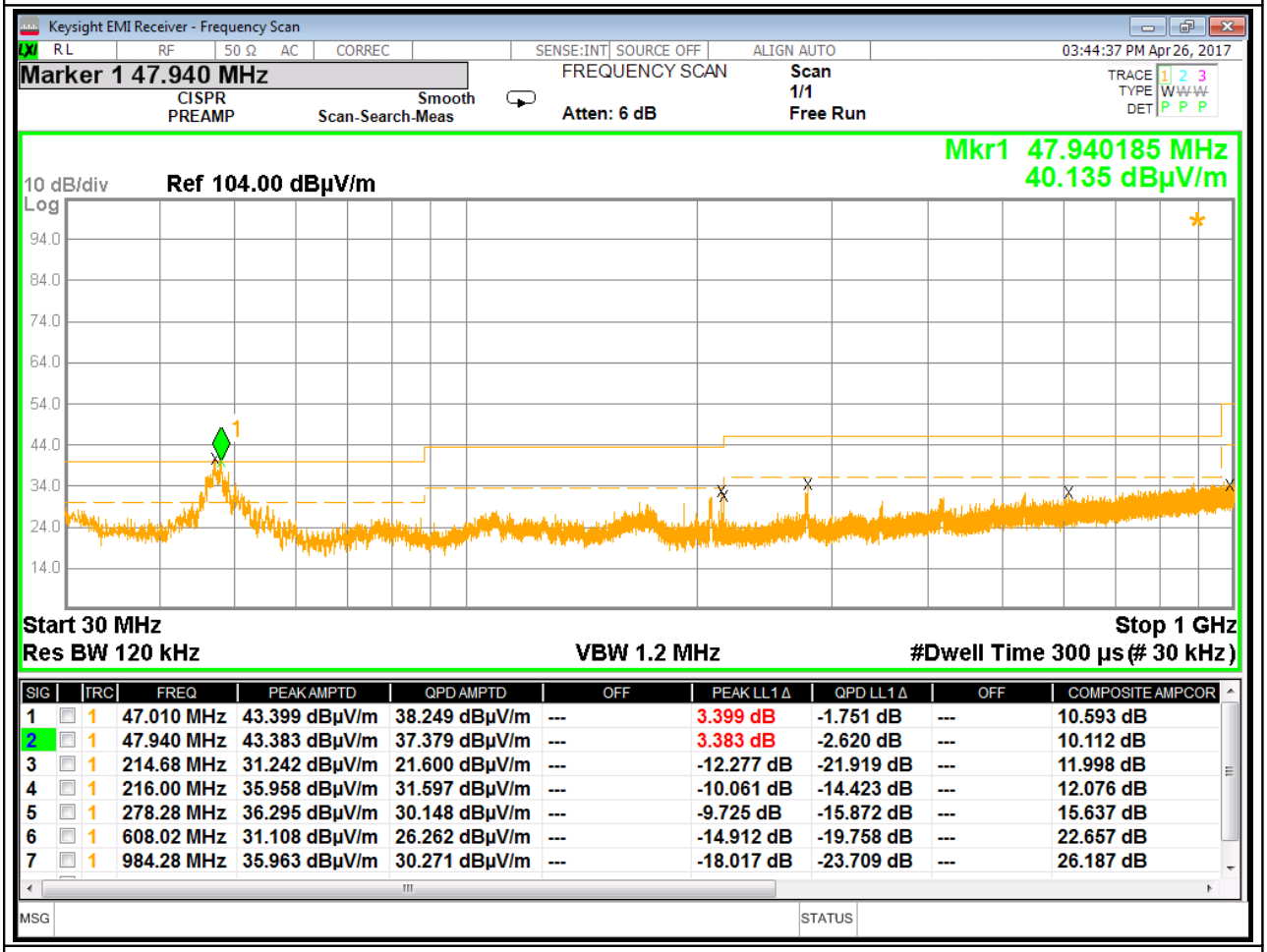
Notes

Azimuth position EUT-Antenna corresponding to 0° identifies the rotating table orientation (TT) in which the instrument to be tested shows the front part turned towards the antenna. Positive grades individuate clockwise rotations of TT when this one is observed from the top. For negative degrees, TT rotation is anticlockwise.
Antenna height respect to the mass plane is conventionally individuated with: MA=XXX where XXX indicates the height (always positive for e>100) expressed in cm.
Antenna horizontal polarisation is indicated by POL=H.
Antenna vertical polarisation is indicated by POL=V.
EUT was tested in the three ortogonal planes.

Results and conclusions

In all the operative conditions, equipment complied with the standard limits. Graphics in following figures show the most significant registrations of the performed measurements.

Job Number	FCC-17337B
Test Name	Radiated Emissions
EUT Name	CAEN RFID s.r.l. - R1170IU

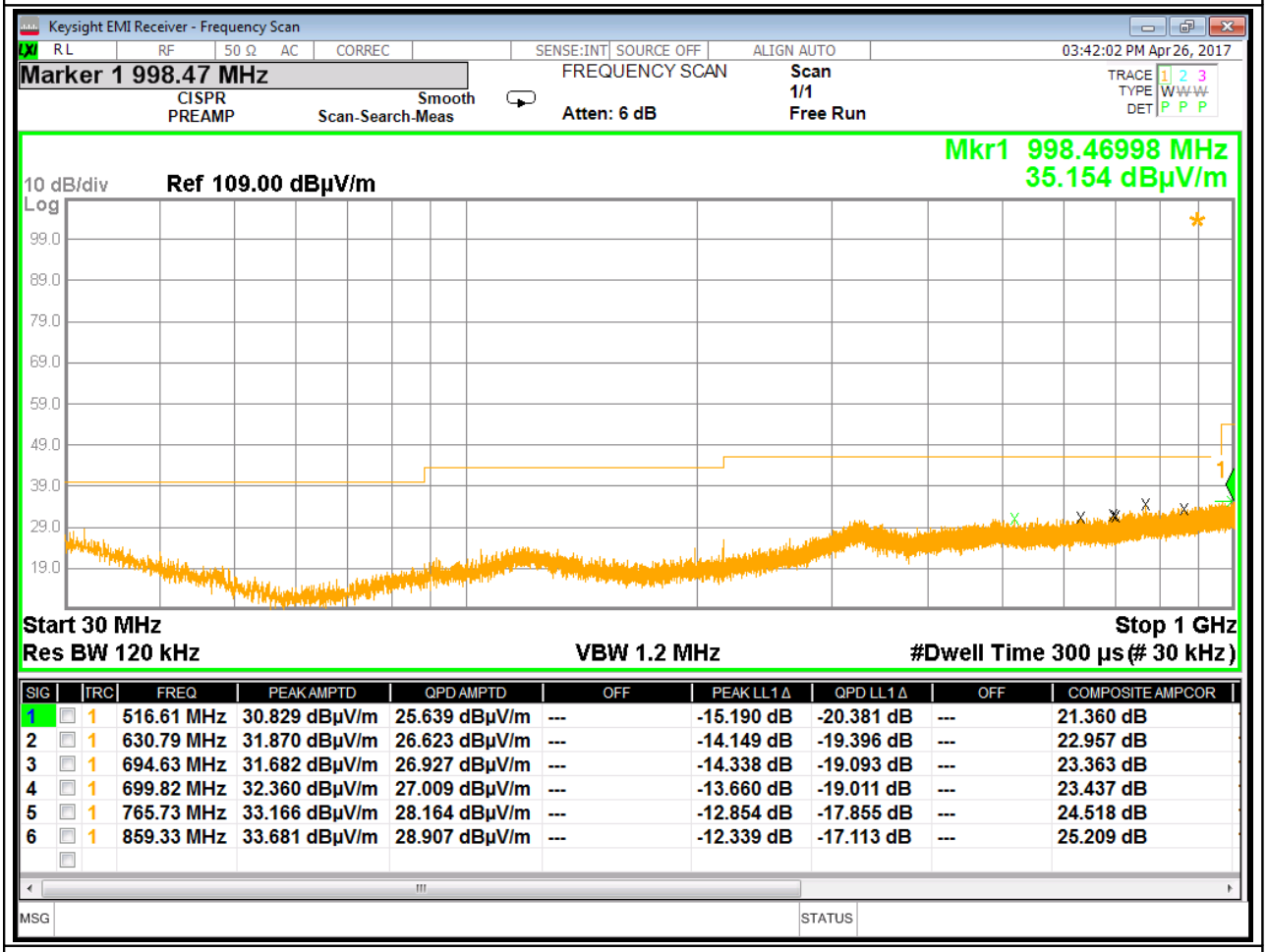


SIG	TRC	FREQ	PEAK AMPTD	QPD AMPTD	OFF	PEAK LL1 Δ	QPD LL1 Δ	OFF	COMPOSITE AMPCOR
1	1	47.010 MHz	43.399 dBµV/m	38.249 dBµV/m	---	3.399 dB	-1.751 dB	---	10.593 dB
2	1	47.940 MHz	43.383 dBµV/m	37.379 dBµV/m	---	3.383 dB	-2.620 dB	---	10.112 dB
3	1	214.68 MHz	31.242 dBµV/m	21.600 dBµV/m	---	-12.277 dB	-21.919 dB	---	11.998 dB
4	1	216.00 MHz	35.958 dBµV/m	31.597 dBµV/m	---	-10.061 dB	-14.423 dB	---	12.076 dB
5	1	278.28 MHz	36.295 dBµV/m	30.148 dBµV/m	---	-9.725 dB	-15.872 dB	---	15.637 dB
6	1	608.02 MHz	31.108 dBµV/m	26.262 dBµV/m	---	-14.912 dB	-19.758 dB	---	22.657 dB
7	1	984.28 MHz	35.963 dBµV/m	30.271 dBµV/m	---	-18.017 dB	-23.709 dB	---	26.187 dB

Fig. 4.1 - standby

Record of the measurement of radiated emissions (PK)
Maximum disturbance determined in the frequency range 30 – 1000 MHz, Pol. V.

Job Number	FCC-17337B
Test Name	Radiated Emissions
EUT Name	CAEN RFID s.r.l. - R1170IU

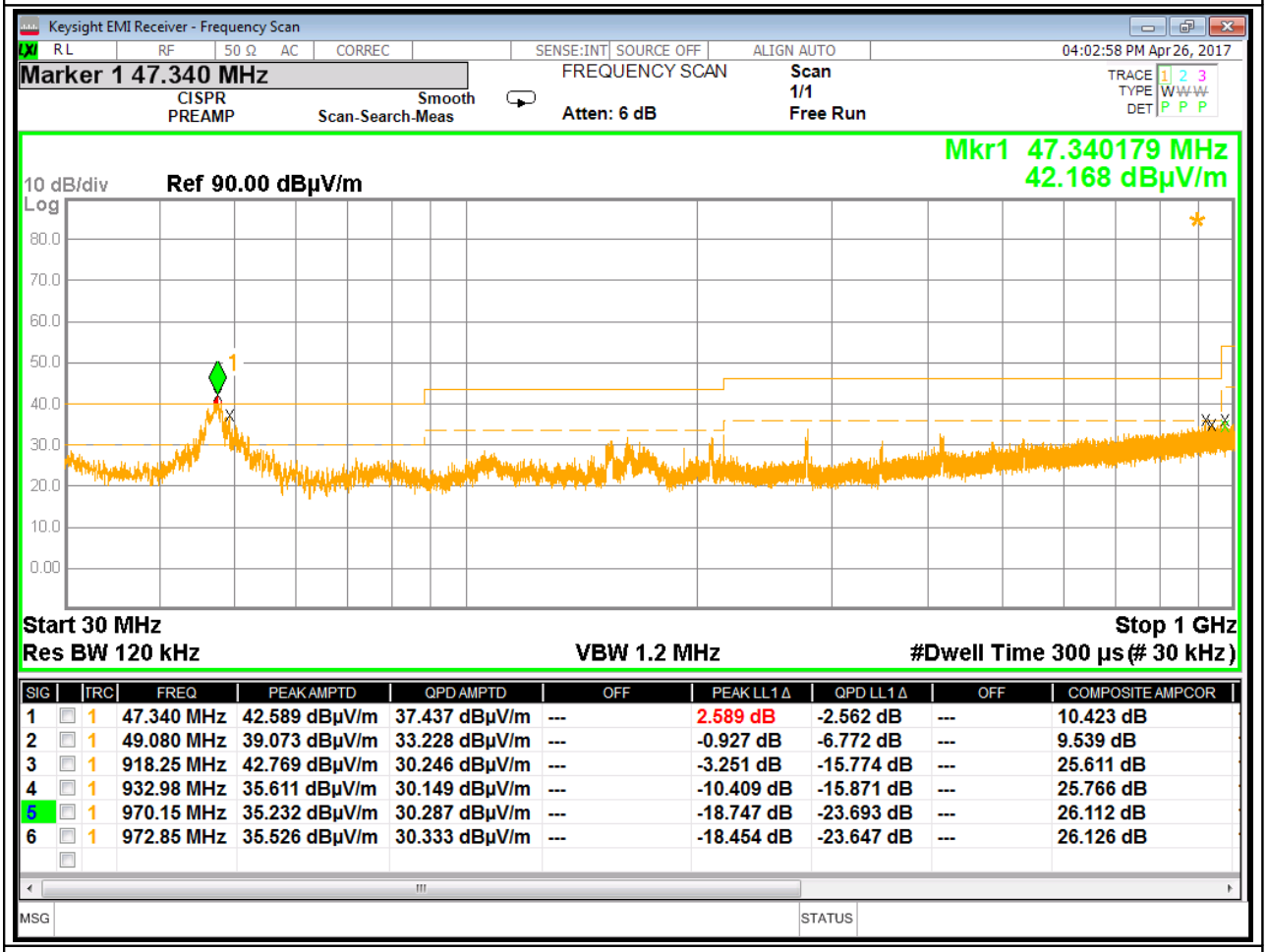


SIG	TRC	FREQ	PEAK AMPTD	QPD AMPTD	OFF	PEAK LL1 Δ	QPD LL1 Δ	OFF	COMPOSITE AMPCOR
1	1	516.61 MHz	30.829 dBµV/m	25.639 dBµV/m	---	-15.190 dB	-20.381 dB	---	21.360 dB
2	1	630.79 MHz	31.870 dBµV/m	26.623 dBµV/m	---	-14.149 dB	-19.396 dB	---	22.957 dB
3	1	694.63 MHz	31.682 dBµV/m	26.927 dBµV/m	---	-14.338 dB	-19.093 dB	---	23.363 dB
4	1	699.82 MHz	32.360 dBµV/m	27.009 dBµV/m	---	-13.660 dB	-19.011 dB	---	23.437 dB
5	1	765.73 MHz	33.166 dBµV/m	28.164 dBµV/m	---	-12.854 dB	-17.855 dB	---	24.518 dB
6	1	859.33 MHz	33.681 dBµV/m	28.907 dBµV/m	---	-12.339 dB	-17.113 dB	---	25.209 dB

Fig. 4.2 - standby

Record of the measurement of radiated emissions (PK)
Maximum disturbance determined in the frequency range 30 – 1000 MHz, Pol. H.

Job Number	FCC-17337B
Test Name	Radiated Emissions
EUT Name	CAEN RFID s.r.l. - R1170IU

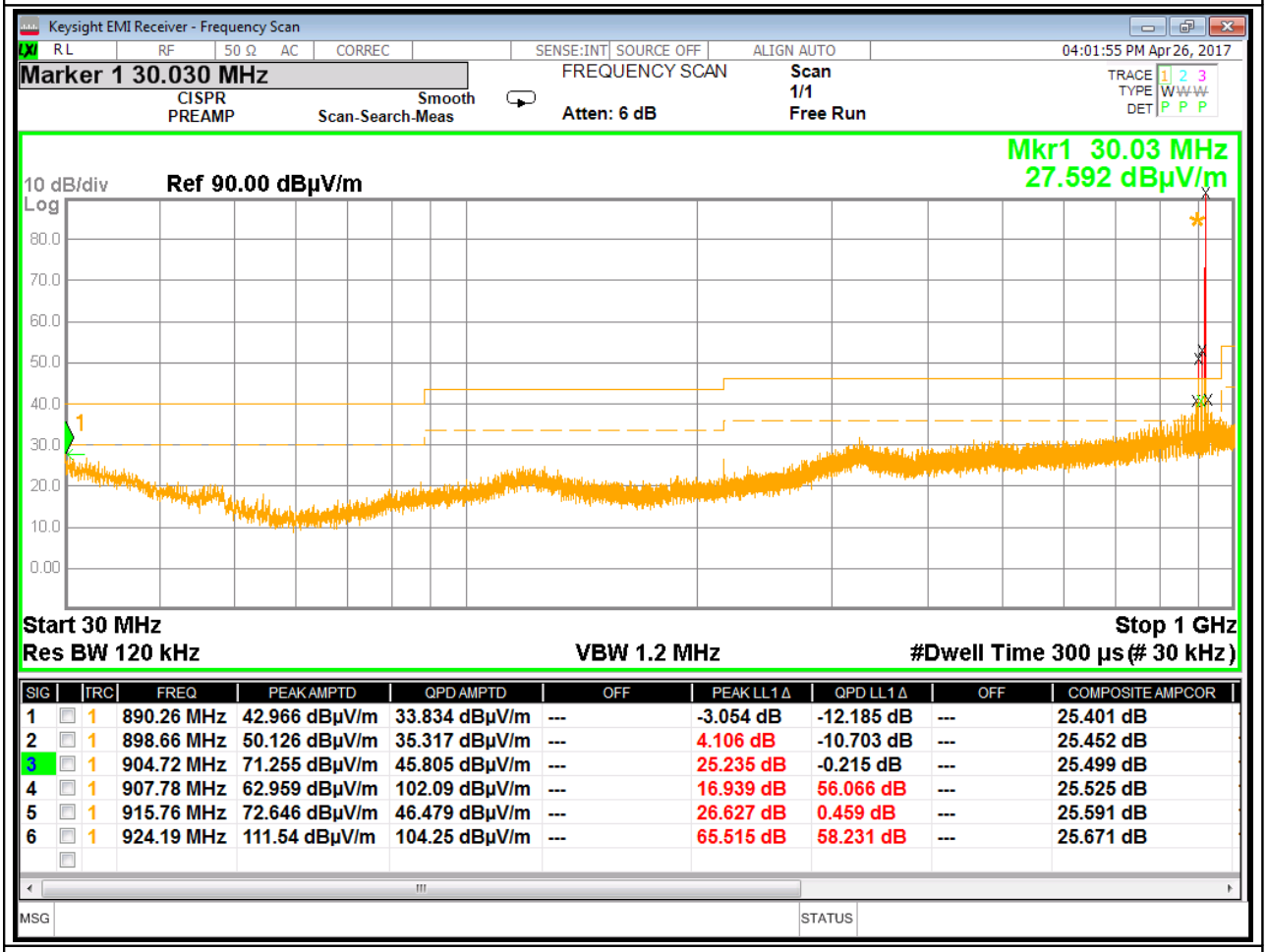


SIG	TRC	FREQ	PEAK AMPTD	QPD AMPTD	OFF	PEAK LL1 Δ	QPD LL1 Δ	OFF	COMPOSITE AMPCOR
1	1	47.340 MHz	42.589 dBµV/m	37.437 dBµV/m	---	2.589 dB	-2.562 dB	---	10.423 dB
2	1	49.080 MHz	39.073 dBµV/m	33.228 dBµV/m	---	-0.927 dB	-6.772 dB	---	9.539 dB
3	1	918.25 MHz	42.769 dBµV/m	30.246 dBµV/m	---	-3.251 dB	-15.774 dB	---	25.611 dB
4	1	932.98 MHz	35.611 dBµV/m	30.149 dBµV/m	---	-10.409 dB	-15.871 dB	---	25.766 dB
5	1	970.15 MHz	35.232 dBµV/m	30.287 dBµV/m	---	-18.747 dB	-23.693 dB	---	26.112 dB
6	1	972.85 MHz	35.526 dBµV/m	30.333 dBµV/m	---	-18.454 dB	-23.647 dB	---	26.126 dB

Fig. 4.3

Record of the measurement of radiated emissions (PK)
Maximum disturbance determined in the frequency range 30 – 1000 MHz, Pol. V.

Job Number	FCC-17337B
Test Name	Radiated Emissions
EUT Name	CAEN RFID s.r.l. - R1170IU

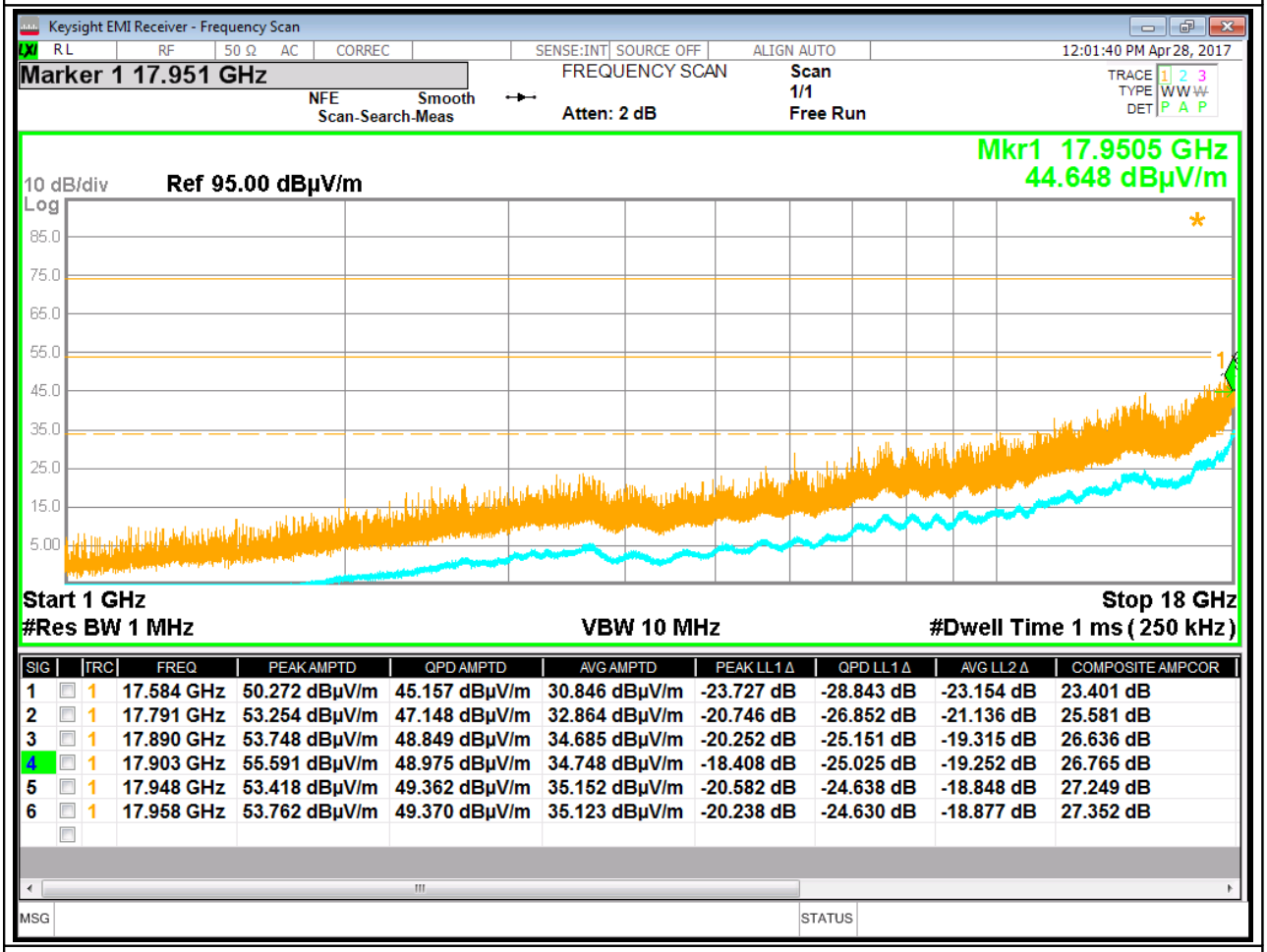


SIG	TRC	FREQ	PEAK AMPTD	QPD AMPTD	OFF	PEAK LL1 Δ	QPD LL1 Δ	OFF	COMPOSITE AMPCOR
1	1	890.26 MHz	42.966 dBµV/m	33.834 dBµV/m	---	-3.054 dB	-12.185 dB	---	25.401 dB
2	1	898.66 MHz	50.126 dBµV/m	35.317 dBµV/m	---	4.106 dB	-10.703 dB	---	25.452 dB
3	1	904.72 MHz	71.255 dBµV/m	45.805 dBµV/m	---	25.235 dB	-0.215 dB	---	25.499 dB
4	1	907.78 MHz	62.959 dBµV/m	102.09 dBµV/m	---	16.939 dB	56.066 dB	---	25.525 dB
5	1	915.76 MHz	72.646 dBµV/m	46.479 dBµV/m	---	26.627 dB	0.459 dB	---	25.591 dB
6	1	924.19 MHz	111.54 dBµV/m	104.25 dBµV/m	---	65.515 dB	58.231 dB	---	25.671 dB

Fig. 4.4

Record of the measurement of radiated emissions (PK)
Maximum disturbance determined in the frequency range 30 – 1000 MHz, Pol. H.

Job Number	FCC-17337B
Test Name	Radiated Emissions
EUT Name	CAEN RFID s.r.l. - R1170IU

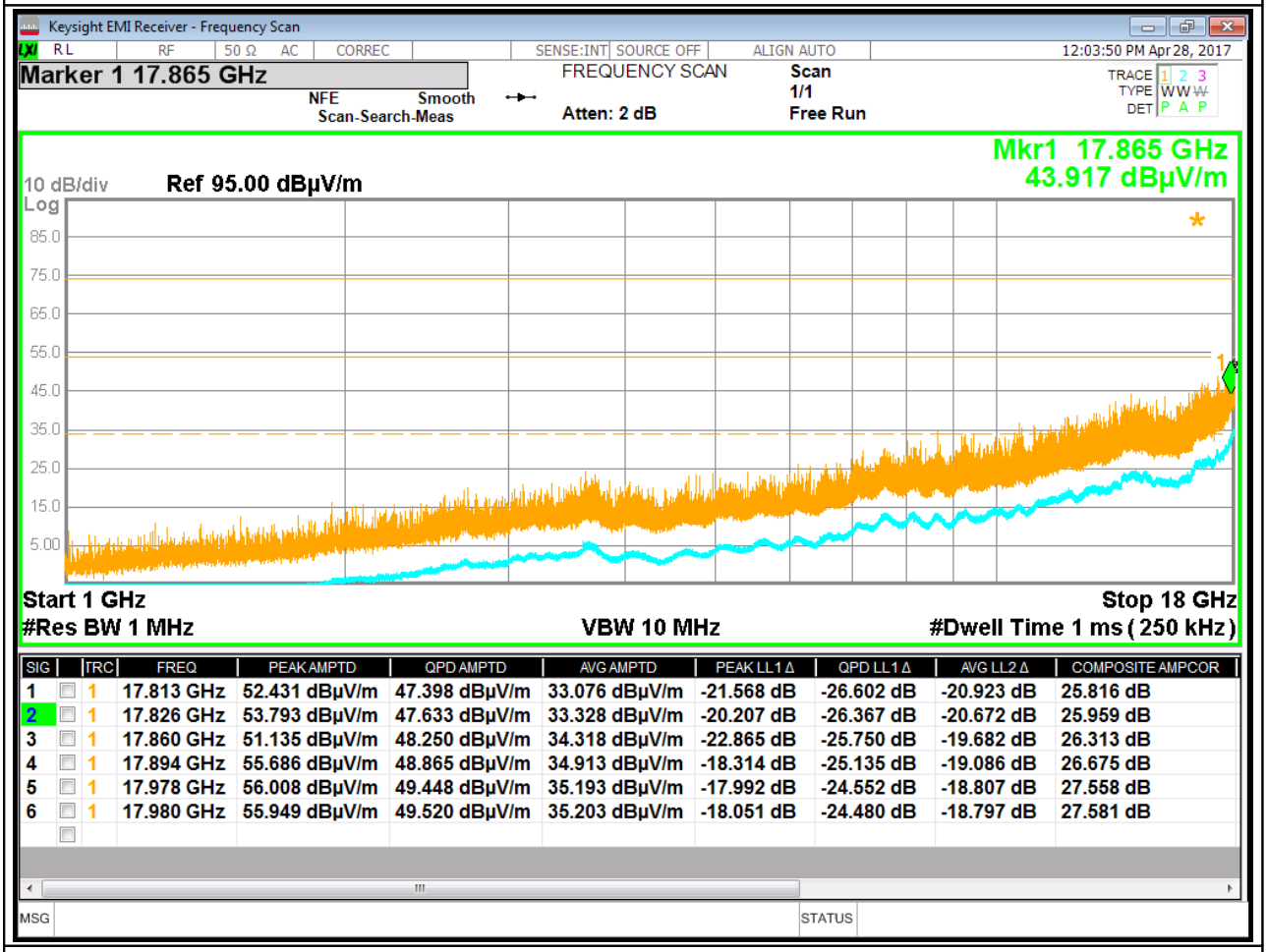


SIG	TRC	FREQ	PEAK AMPTD	QPD AMPTD	AVG AMPTD	PEAK LL1 Δ	QPD LL1 Δ	AVG LL2 Δ	COMPOSITE AMPCOR
1	1	17.584 GHz	50.272 dBµV/m	45.157 dBµV/m	30.846 dBµV/m	-23.727 dB	-28.843 dB	-23.154 dB	23.401 dB
2	1	17.791 GHz	53.254 dBµV/m	47.148 dBµV/m	32.864 dBµV/m	-20.746 dB	-26.852 dB	-21.136 dB	25.581 dB
3	1	17.890 GHz	53.748 dBµV/m	48.849 dBµV/m	34.685 dBµV/m	-20.252 dB	-25.151 dB	-19.315 dB	26.636 dB
4	1	17.903 GHz	55.591 dBµV/m	48.975 dBµV/m	34.748 dBµV/m	-18.408 dB	-25.025 dB	-19.252 dB	26.765 dB
5	1	17.948 GHz	53.418 dBµV/m	49.362 dBµV/m	35.152 dBµV/m	-20.582 dB	-24.638 dB	-18.848 dB	27.249 dB
6	1	17.958 GHz	53.762 dBµV/m	49.370 dBµV/m	35.123 dBµV/m	-20.238 dB	-24.630 dB	-18.877 dB	27.352 dB

Fig. 4.5 - standby

Record of the measurement of radiated emissions (PK)
Maximum disturbance determined in the frequency range 1GHz – 10 GHz, Pol. V.

Job Number	FCC-17337B
Test Name	Radiated Emissions
EUT Name	CAEN RFID s.r.l. - R1170IU

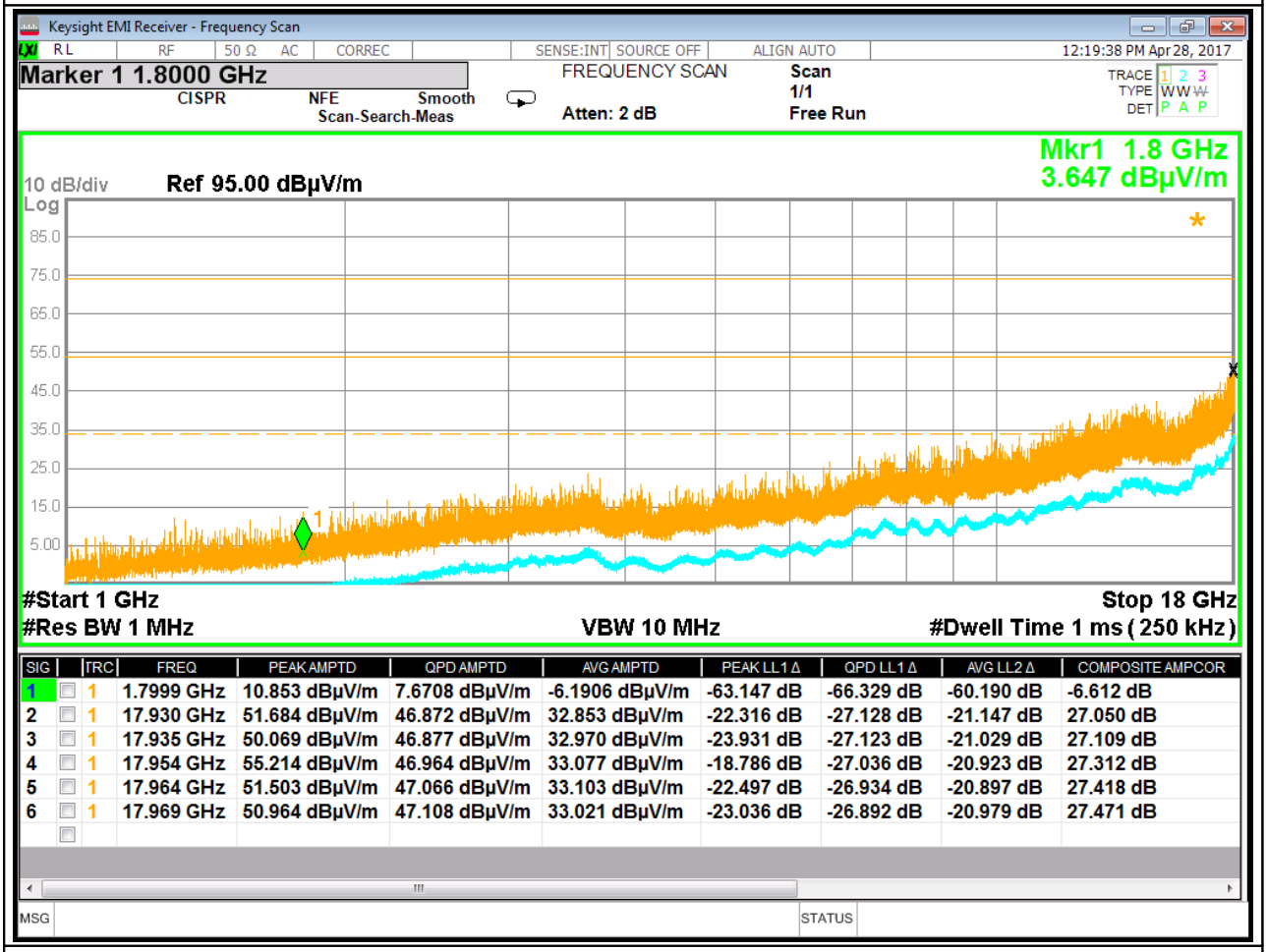


SIG	TRC	FREQ	PEAK AMPTD	QPD AMPTD	AVG AMPTD	PEAK LL1 Δ	QPD LL1 Δ	AVG LL2 Δ	COMPOSITE AMPCOR
1	1	17.813 GHz	52.431 dBµV/m	47.398 dBµV/m	33.076 dBµV/m	-21.568 dB	-26.602 dB	-20.923 dB	25.816 dB
2	1	17.826 GHz	53.793 dBµV/m	47.633 dBµV/m	33.328 dBµV/m	-20.207 dB	-26.367 dB	-20.672 dB	25.959 dB
3	1	17.860 GHz	51.135 dBµV/m	48.250 dBµV/m	34.318 dBµV/m	-22.865 dB	-25.750 dB	-19.682 dB	26.313 dB
4	1	17.894 GHz	55.686 dBµV/m	48.865 dBµV/m	34.913 dBµV/m	-18.314 dB	-25.135 dB	-19.086 dB	26.675 dB
5	1	17.978 GHz	56.008 dBµV/m	49.448 dBµV/m	35.193 dBµV/m	-17.992 dB	-24.552 dB	-18.807 dB	27.558 dB
6	1	17.980 GHz	55.949 dBµV/m	49.520 dBµV/m	35.203 dBµV/m	-18.051 dB	-24.480 dB	-18.797 dB	27.581 dB

Fig. 4.6 - standby

Record of the measurement of radiated emissions (PK)
Maximum disturbance determined in the frequency range 1GHz – 10 GHz, Pol. H.

Job Number	FCC-17337B
Test Name	Radiated Emissions
EUT Name	CAEN RFID s.r.l. - R1170IU

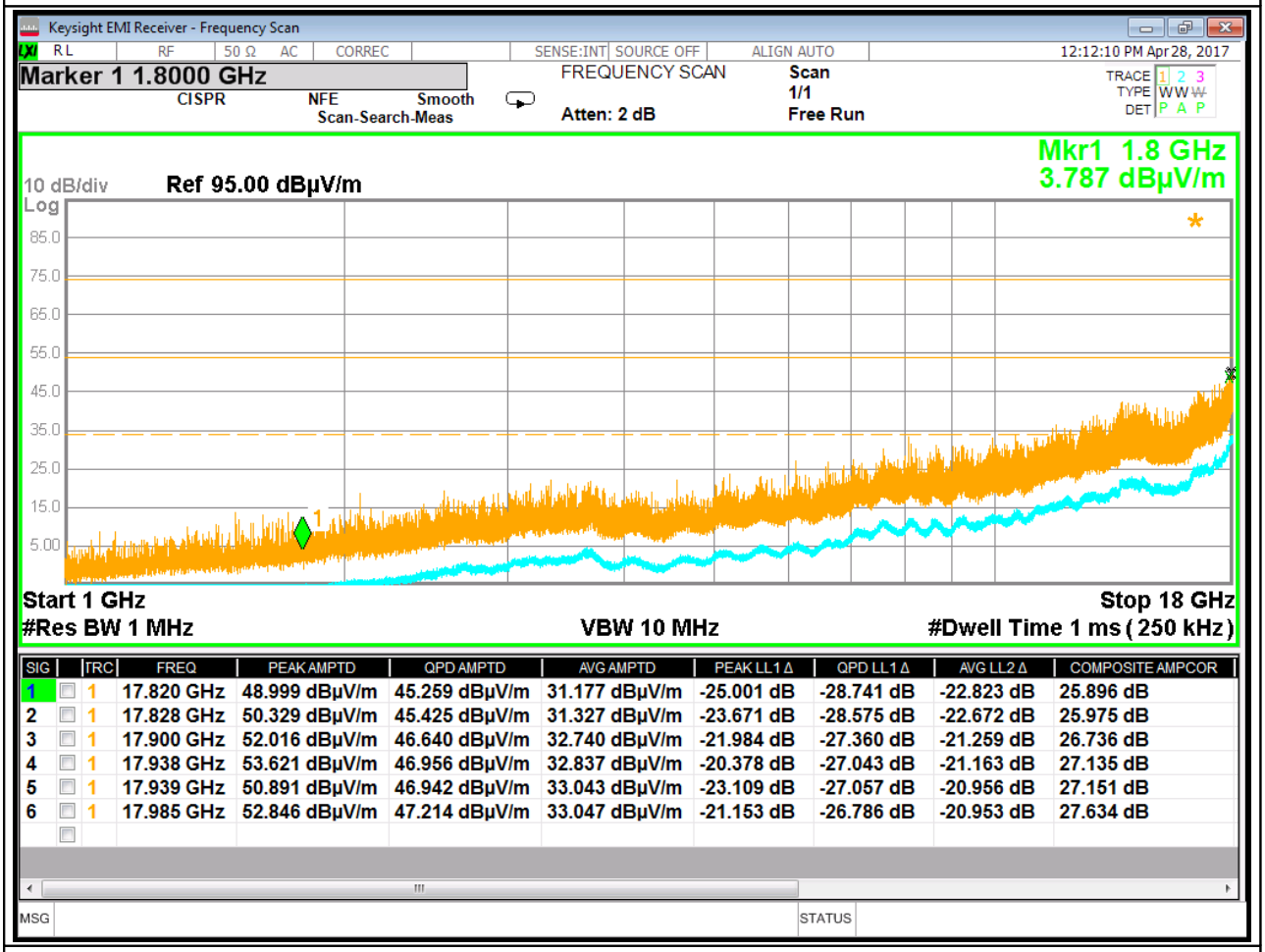


SIG	TRC	FREQ	PEAK AMPTD	QPD AMPTD	AVG AMPTD	PEAK LL1 Δ	QPD LL1 Δ	AVG LL2 Δ	COMPOSITE AMPCOR
1	1	1.7999 GHz	10.853 dBµV/m	7.6708 dBµV/m	-6.1906 dBµV/m	-63.147 dB	-66.329 dB	-60.190 dB	-6.612 dB
2	1	17.930 GHz	51.684 dBµV/m	46.872 dBµV/m	32.853 dBµV/m	-22.316 dB	-27.128 dB	-21.147 dB	27.050 dB
3	1	17.935 GHz	50.069 dBµV/m	46.877 dBµV/m	32.970 dBµV/m	-23.931 dB	-27.123 dB	-21.029 dB	27.109 dB
4	1	17.954 GHz	55.214 dBµV/m	46.964 dBµV/m	33.077 dBµV/m	-18.786 dB	-27.036 dB	-20.923 dB	27.312 dB
5	1	17.964 GHz	51.503 dBµV/m	47.066 dBµV/m	33.103 dBµV/m	-22.497 dB	-26.934 dB	-20.897 dB	27.418 dB
6	1	17.969 GHz	50.964 dBµV/m	47.108 dBµV/m	33.021 dBµV/m	-23.036 dB	-26.892 dB	-20.979 dB	27.471 dB

Fig. 4.7

Record of the measurement of radiated emissions (PK)
Maximum disturbance determined in the frequency range 1GHz – 10 GHz, Pol. V.

Job Number	FCC-17337B
Test Name	Radiated Emissions
EUT Name	CAEN RFID s.r.l. - R1170IU



SIG	TRC	FREQ	PEAK AMPTD	QPD AMPTD	AVG AMPTD	PEAK LL1 Δ	QPD LL1 Δ	AVG LL2 Δ	COMPOSITE AMPCOR
1	1	17.820 GHz	48.999 dBµV/m	45.259 dBµV/m	31.177 dBµV/m	-25.001 dB	-28.741 dB	-22.823 dB	25.896 dB
2	1	17.828 GHz	50.329 dBµV/m	45.425 dBµV/m	31.327 dBµV/m	-23.671 dB	-28.575 dB	-22.672 dB	25.975 dB
3	1	17.900 GHz	52.016 dBµV/m	46.640 dBµV/m	32.740 dBµV/m	-21.984 dB	-27.360 dB	-21.259 dB	26.736 dB
4	1	17.938 GHz	53.621 dBµV/m	46.956 dBµV/m	32.837 dBµV/m	-20.378 dB	-27.043 dB	-21.163 dB	27.135 dB
5	1	17.939 GHz	50.891 dBµV/m	46.942 dBµV/m	33.043 dBµV/m	-23.109 dB	-27.057 dB	-20.956 dB	27.151 dB
6	1	17.985 GHz	52.846 dBµV/m	47.214 dBµV/m	33.047 dBµV/m	-21.153 dB	-26.786 dB	-20.953 dB	27.634 dB

Fig. 4.8

Record of the measurement of radiated emissions (PK)
Maximum disturbance determined in the frequency range 1GHz – 10 GHz, Pol. H.

Job Number	FCC-17337B
Test Name	Radiated Emissions
EUT Name	CAEN RFID s.r.l. - R1170IU

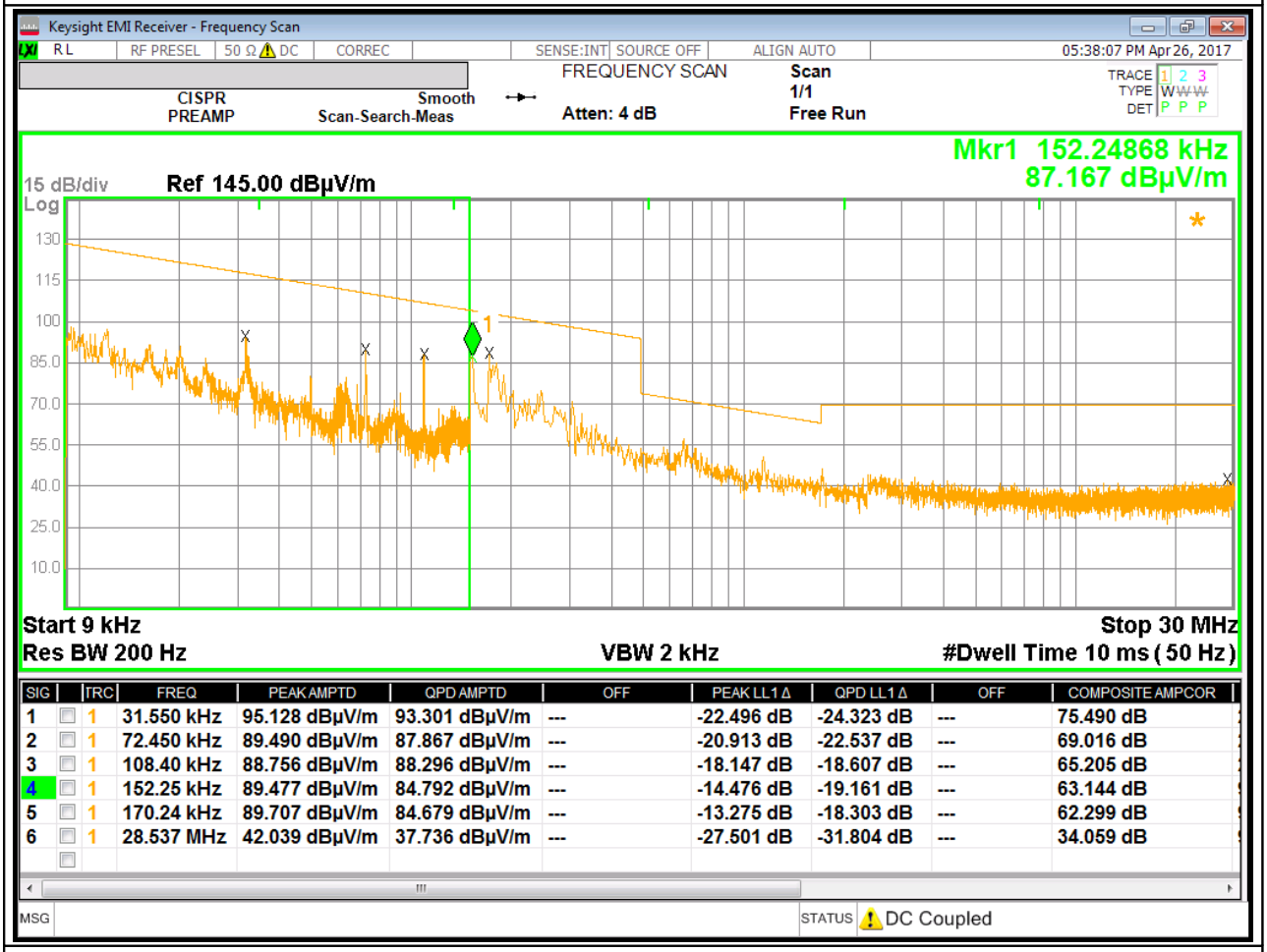
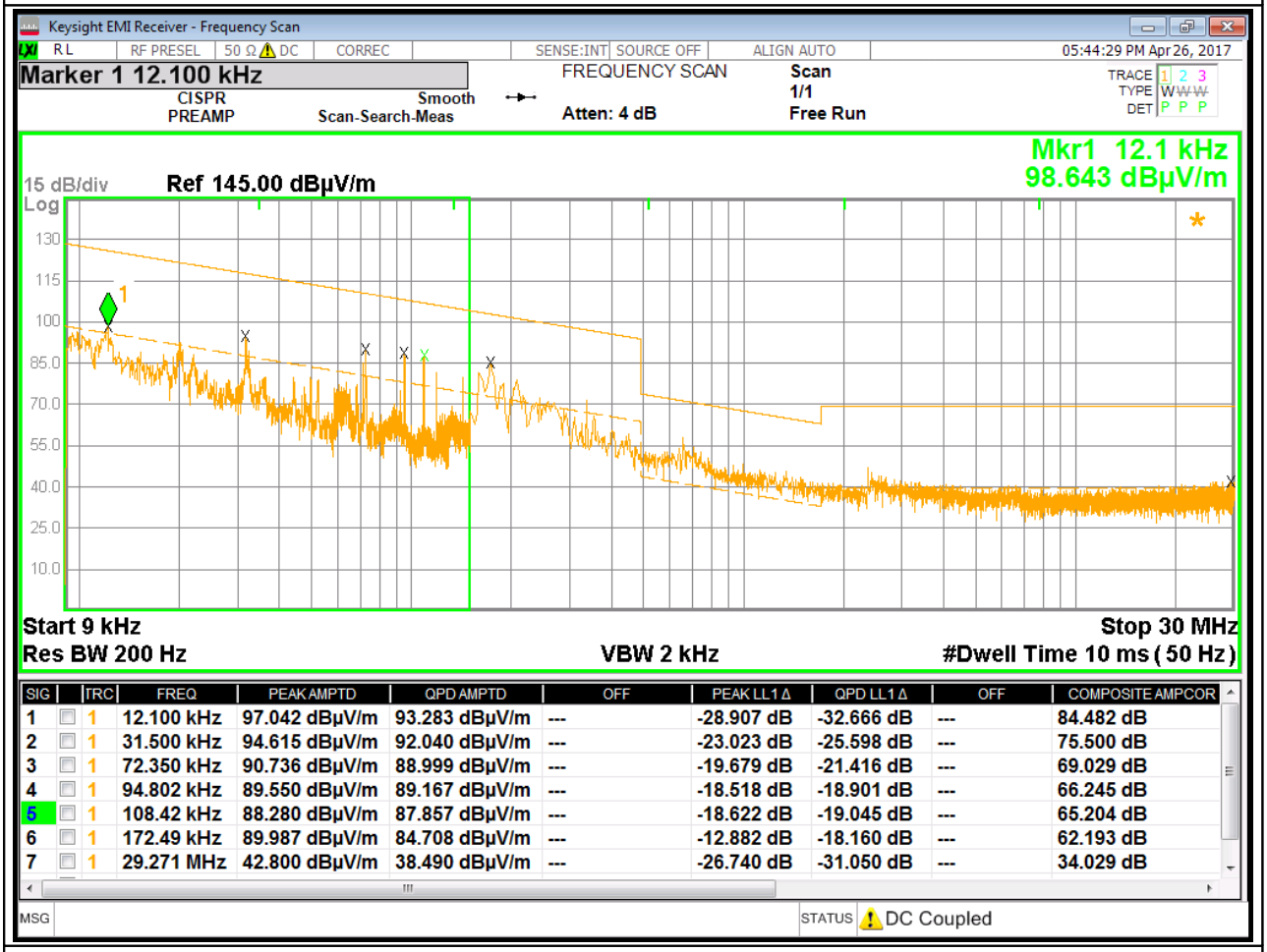


Fig. 4.9 - standby

Record of the measurement of radiated emissions (PK)
Maximum disturbance determined in the frequency range 0.009 – 30 MHz, Pol. Parallel.

Job Number	FCC-17337B
Test Name	Radiated Emissions
EUT Name	CAEN RFID s.r.l. - R1170IU

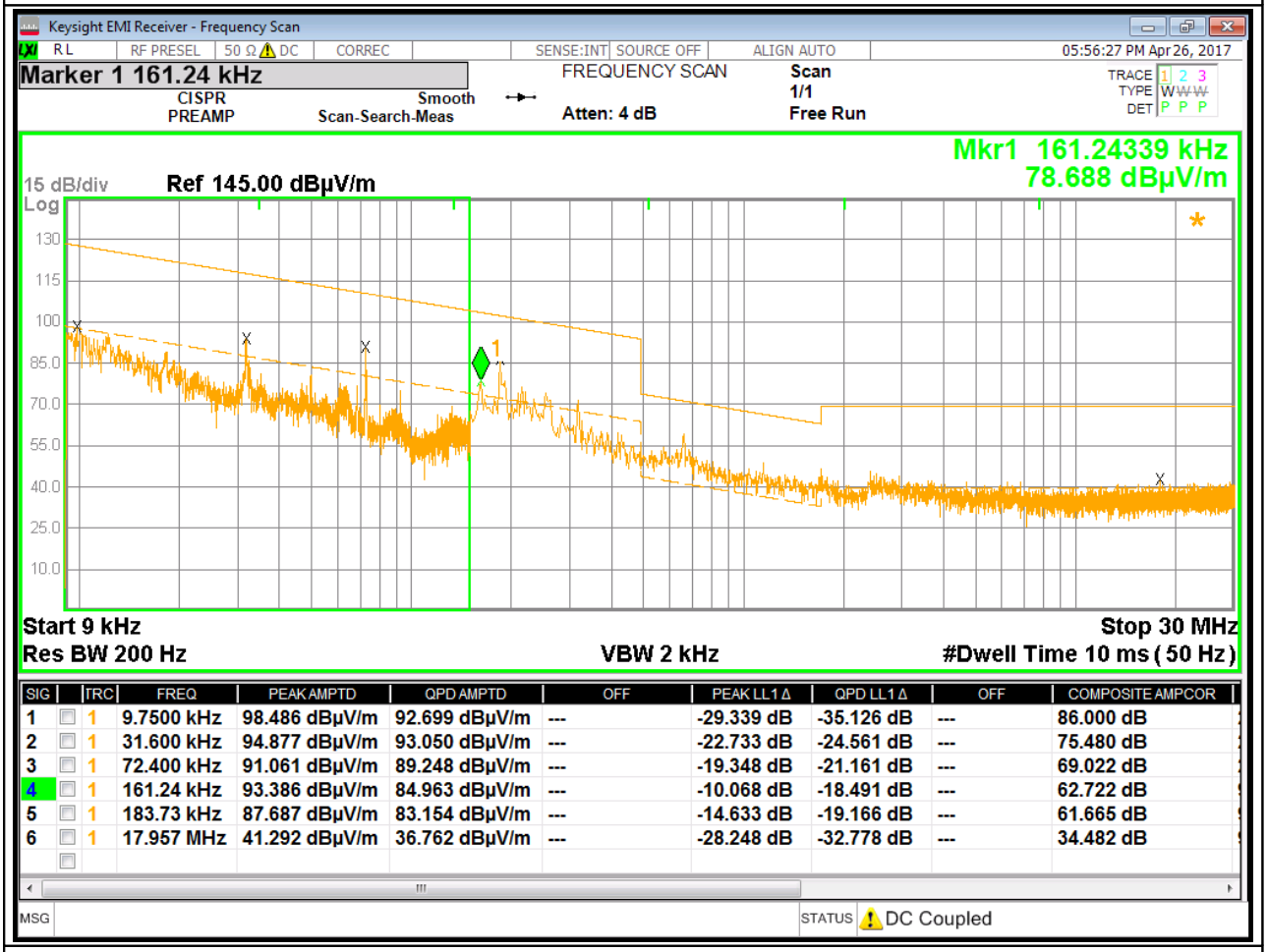


SIG	TRC	FREQ	PEAK AMPTD	QPD AMPTD	OFF	PEAK LL1 Δ	QPD LL1 Δ	OFF	COMPOSITE AMPCOR
1	1	12.100 kHz	97.042 dBµV/m	93.283 dBµV/m	---	-28.907 dB	-32.666 dB	---	84.482 dB
2	1	31.500 kHz	94.615 dBµV/m	92.040 dBµV/m	---	-23.023 dB	-25.598 dB	---	75.500 dB
3	1	72.350 kHz	90.736 dBµV/m	88.999 dBµV/m	---	-19.679 dB	-21.416 dB	---	69.029 dB
4	1	94.802 kHz	89.550 dBµV/m	89.167 dBµV/m	---	-18.518 dB	-18.901 dB	---	66.245 dB
5	1	108.42 kHz	88.280 dBµV/m	87.857 dBµV/m	---	-18.622 dB	-19.045 dB	---	65.204 dB
6	1	172.49 kHz	89.987 dBµV/m	84.708 dBµV/m	---	-12.882 dB	-18.160 dB	---	62.193 dB
7	1	29.271 MHz	42.800 dBµV/m	38.490 dBµV/m	---	-26.740 dB	-31.050 dB	---	34.029 dB

Fig. 4.10 - standby

Record of the measurement of radiated emissions (PK)
Maximum disturbance determined in the frequency range 0.009 – 30 MHz, Pol. Orthogonal.

Job Number	FCC-17337B
Test Name	Radiated Emissions
EUT Name	CAEN RFID s.r.l. - R1170IU

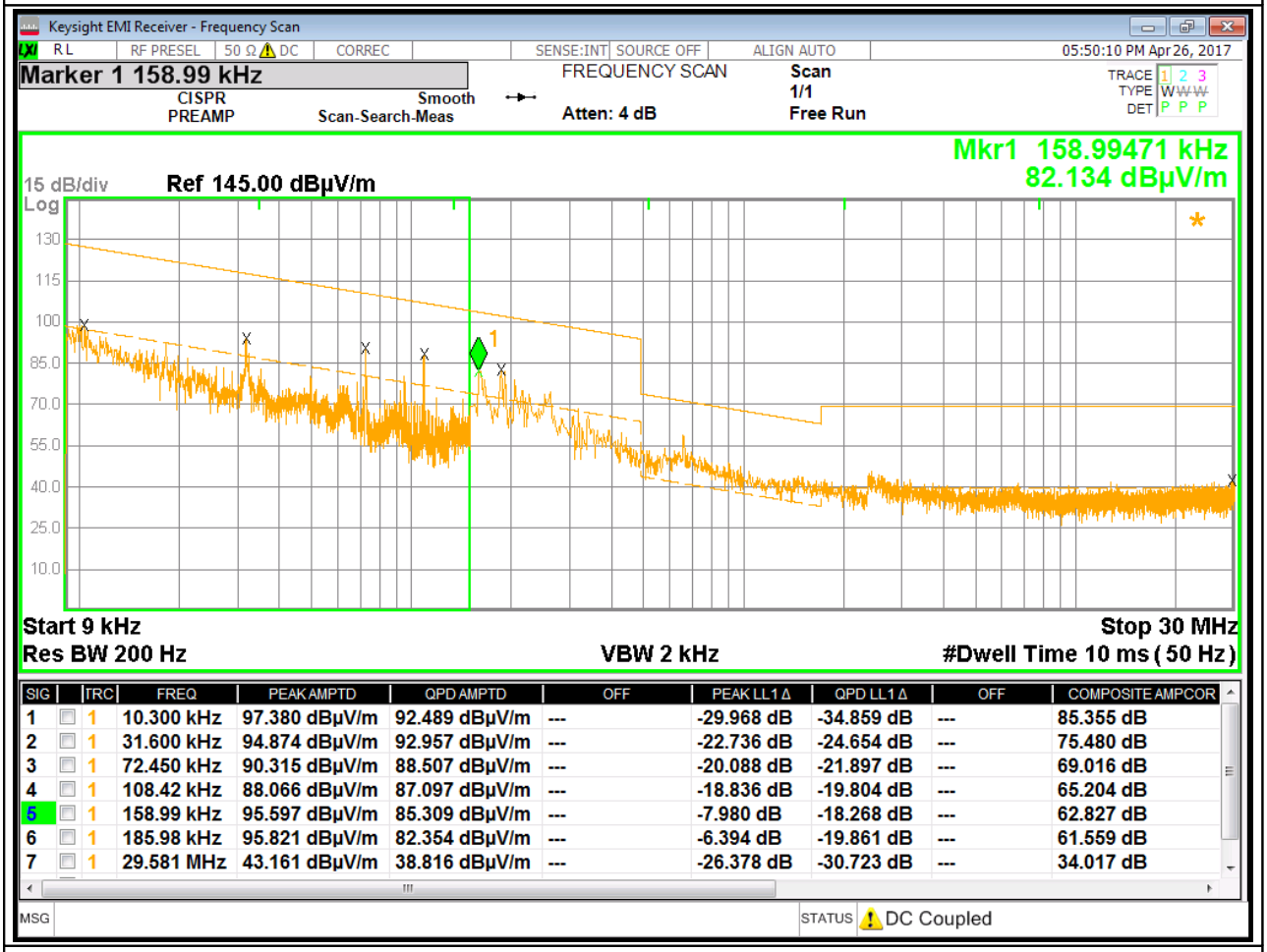


SIG	TRC	FREQ	PEAK AMPTD	QPD AMPTD	OFF	PEAK LL1 Δ	QPD LL1 Δ	OFF	COMPOSITE AMPCOR
1	1	9.7500 kHz	98.486 dBµV/m	92.699 dBµV/m	---	-29.339 dB	-35.126 dB	---	86.000 dB
2	1	31.600 kHz	94.877 dBµV/m	93.050 dBµV/m	---	-22.733 dB	-24.561 dB	---	75.480 dB
3	1	72.400 kHz	91.061 dBµV/m	89.248 dBµV/m	---	-19.348 dB	-21.161 dB	---	69.022 dB
4	1	161.24 kHz	93.386 dBµV/m	84.963 dBµV/m	---	-10.068 dB	-18.491 dB	---	62.722 dB
5	1	183.73 kHz	87.687 dBµV/m	83.154 dBµV/m	---	-14.633 dB	-19.166 dB	---	61.665 dB
6	1	17.957 MHz	41.292 dBµV/m	36.762 dBµV/m	---	-28.248 dB	-32.778 dB	---	34.482 dB

Fig. 4.11

Record of the measurement of radiated emissions (PK)
Maximum disturbance determined in the frequency range 0.009 – 30 MHz, Pol. Parallel.

Job Number	FCC-17337B
Test Name	Radiated Emissions
EUT Name	CAEN RFID s.r.l. - R1170IU



SIG	TRC	FREQ	PEAK AMPTD	QPD AMPTD	OFF	PEAK LL1 Δ	QPD LL1 Δ	OFF	COMPOSITE AMPCOR
1	1	10.300 kHz	97.380 dBµV/m	92.489 dBµV/m	---	-29.968 dB	-34.859 dB	---	85.355 dB
2	1	31.600 kHz	94.874 dBµV/m	92.957 dBµV/m	---	-22.736 dB	-24.654 dB	---	75.480 dB
3	1	72.450 kHz	90.315 dBµV/m	88.507 dBµV/m	---	-20.088 dB	-21.897 dB	---	69.016 dB
4	1	108.42 kHz	88.066 dBµV/m	87.097 dBµV/m	---	-18.836 dB	-19.804 dB	---	65.204 dB
5	1	158.99 kHz	95.597 dBµV/m	85.309 dBµV/m	---	-7.980 dB	-18.268 dB	---	62.827 dB
6	1	185.98 kHz	95.821 dBµV/m	82.354 dBµV/m	---	-6.394 dB	-19.861 dB	---	61.559 dB
7	1	29.581 MHz	43.161 dBµV/m	38.816 dBµV/m	---	-26.378 dB	-30.723 dB	---	34.017 dB

Fig. 4.12

Record of the measurement of radiated emissions (PK)
Maximum disturbance determined in the frequency range 0.009 – 30 MHz, Pol. Orthogonal.

5. POWER LINES CONDUCTED EMISSIONS

Equipment shall meet the limits below when using a CISPR16 quasi-peak and average detector receivers.

FCC, 15.107

FREQUENCY RANGE (MHz)	*QUASI-PEAK LIMIT* [dB (µV)]	*AVERAGE LIMIT* [dB (µV)]
0.15 ÷ 0.50	66 ÷ 56(*)	56 ÷ 46(*)
0.50 ÷ 5	56	46
5 ÷ 30	60	50

(*) *Limit decreasing linearly with logarithm of frequency*

Test Equipment

EQUIPMENT	MANUFACTURER	MODEL	CAL. DUE
EMI Receiver	HP	HP8546A	01/2018
EMI Receiver Filter Section	HP	HP85460A	01/2018
Screened Room	GSD	CSC01	01/2018
Transient Limiter	HP	11947A	01/2018
LISN	GSD	GSDA01	01/2018

Test procedure: CE22R01

The EUT power cable was connected to a LISN and the monitored output of the LISN was connected to a spectrum analyzer by a transient limiter. The conducted emissions from 150 kHz to 30 MHz were monitored and compared to the specification limits

Test method

Test method was in accordance with the reference standard.

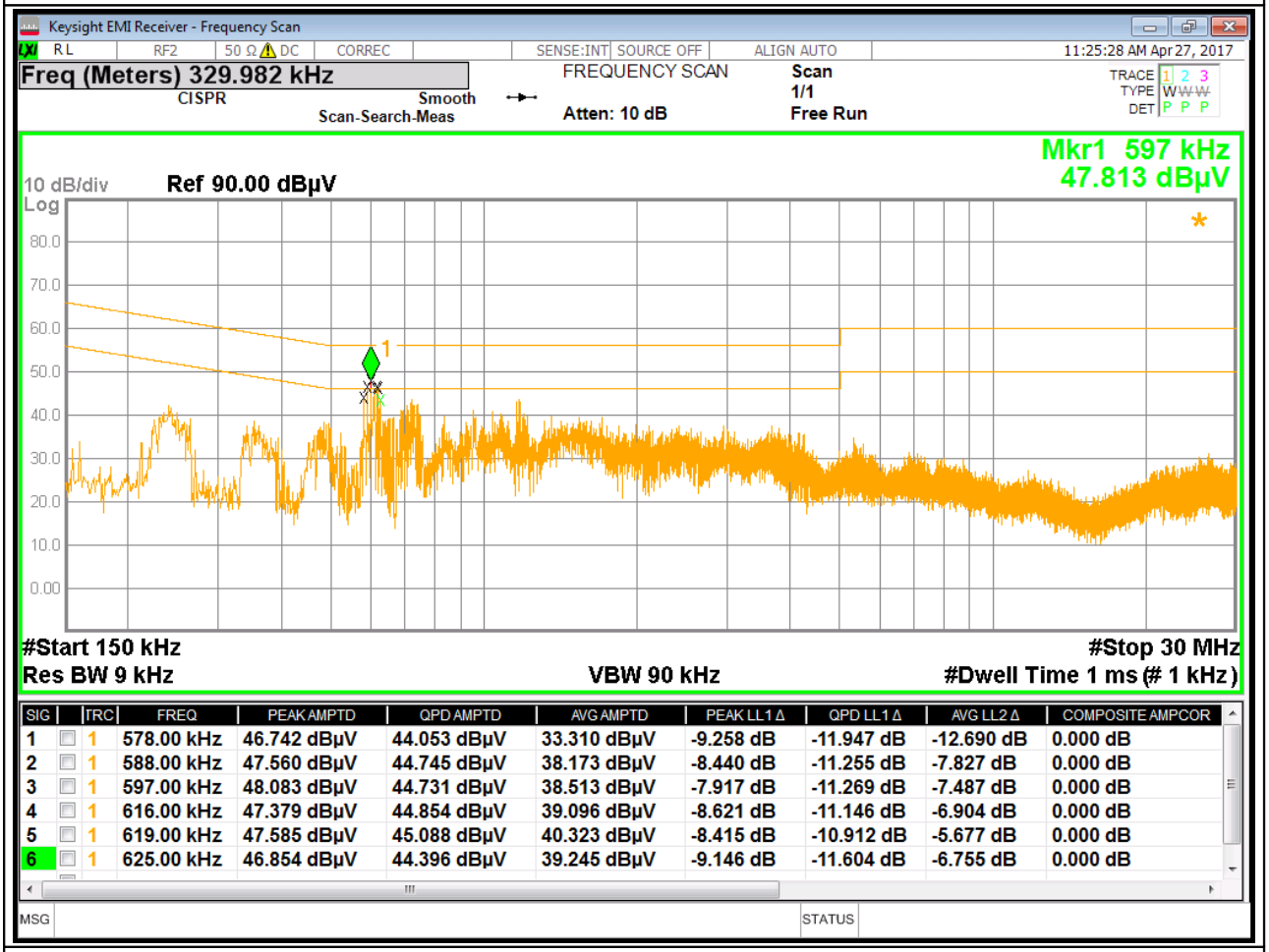
EUT modes of operations were tested in order to achieve the maximum level of emission.

Results

Equipment complied with the test specification limits.

Graphics in following figures show some registrations of the frequency spectrum of the conducted emissions.

Job Number	FCC-17337B
Test Name	Powerline Conducted Emissions FCC 15.207
EUT Name	R1170IU

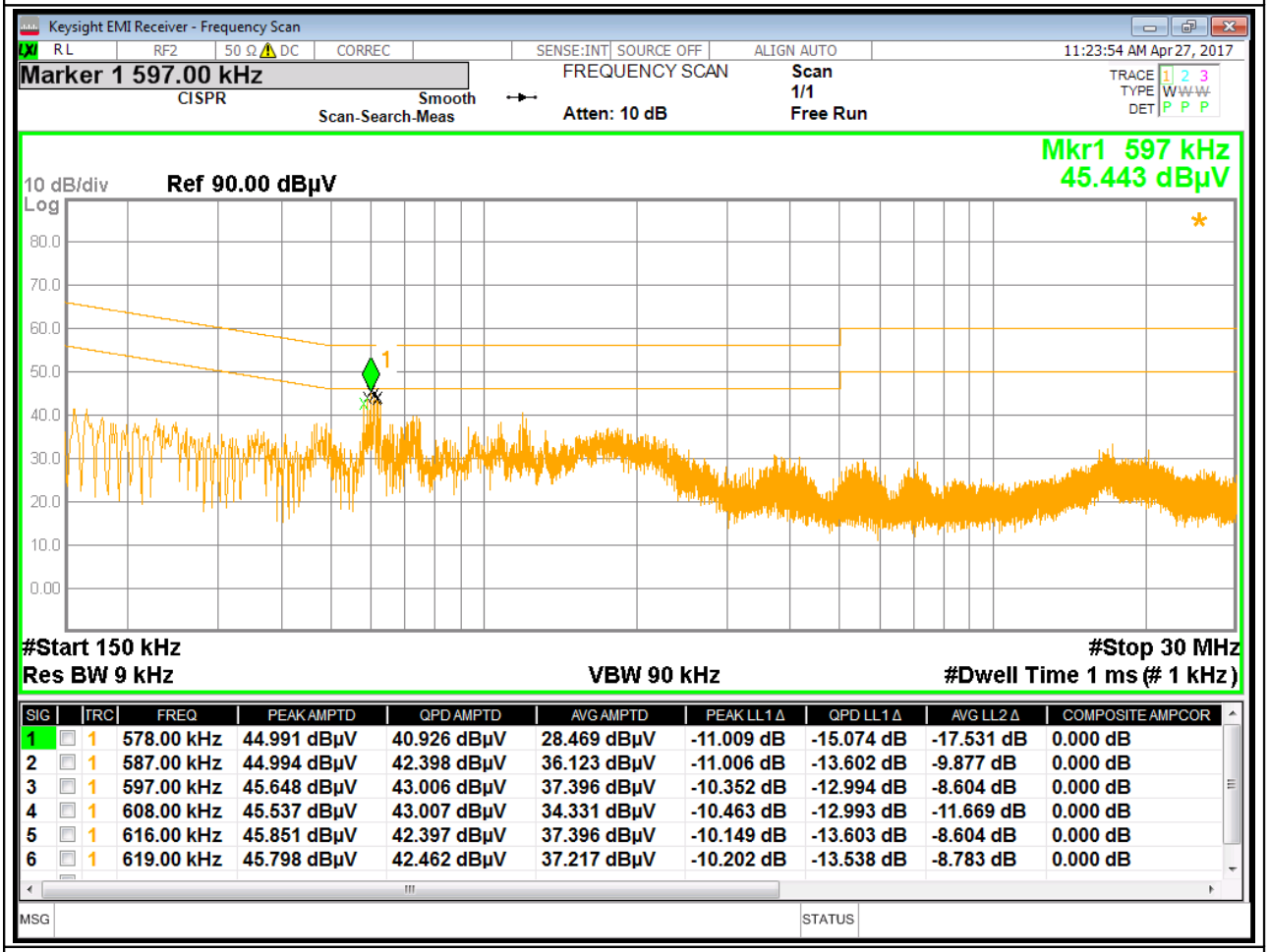


SIG	TRC	FREQ	PEAK AMPTD	QPD AMPTD	AVG AMPTD	PEAK LL1 Δ	QPD LL1 Δ	AVG LL2 Δ	COMPOSITE AMPCOR
1	1	578.00 kHz	46.742 dBµV	44.053 dBµV	33.310 dBµV	-9.258 dB	-11.947 dB	-12.690 dB	0.000 dB
2	1	588.00 kHz	47.560 dBµV	44.745 dBµV	38.173 dBµV	-8.440 dB	-11.255 dB	-7.827 dB	0.000 dB
3	1	597.00 kHz	48.083 dBµV	44.731 dBµV	38.513 dBµV	-7.917 dB	-11.269 dB	-7.487 dB	0.000 dB
4	1	616.00 kHz	47.379 dBµV	44.854 dBµV	39.096 dBµV	-8.621 dB	-11.146 dB	-6.904 dB	0.000 dB
5	1	619.00 kHz	47.585 dBµV	45.088 dBµV	40.323 dBµV	-8.415 dB	-10.912 dB	-5.677 dB	0.000 dB
6	1	625.00 kHz	46.854 dBµV	44.396 dBµV	39.245 dBµV	-9.146 dB	-11.604 dB	-6.755 dB	0.000 dB

Fig. 5.1 – standby

B Band (0.15 – 30 MHz): line 1

Job Number	FCC-17337B
Test Name	Powerline Conducted Emissions FCC 15.207
EUT Name	R1170IU

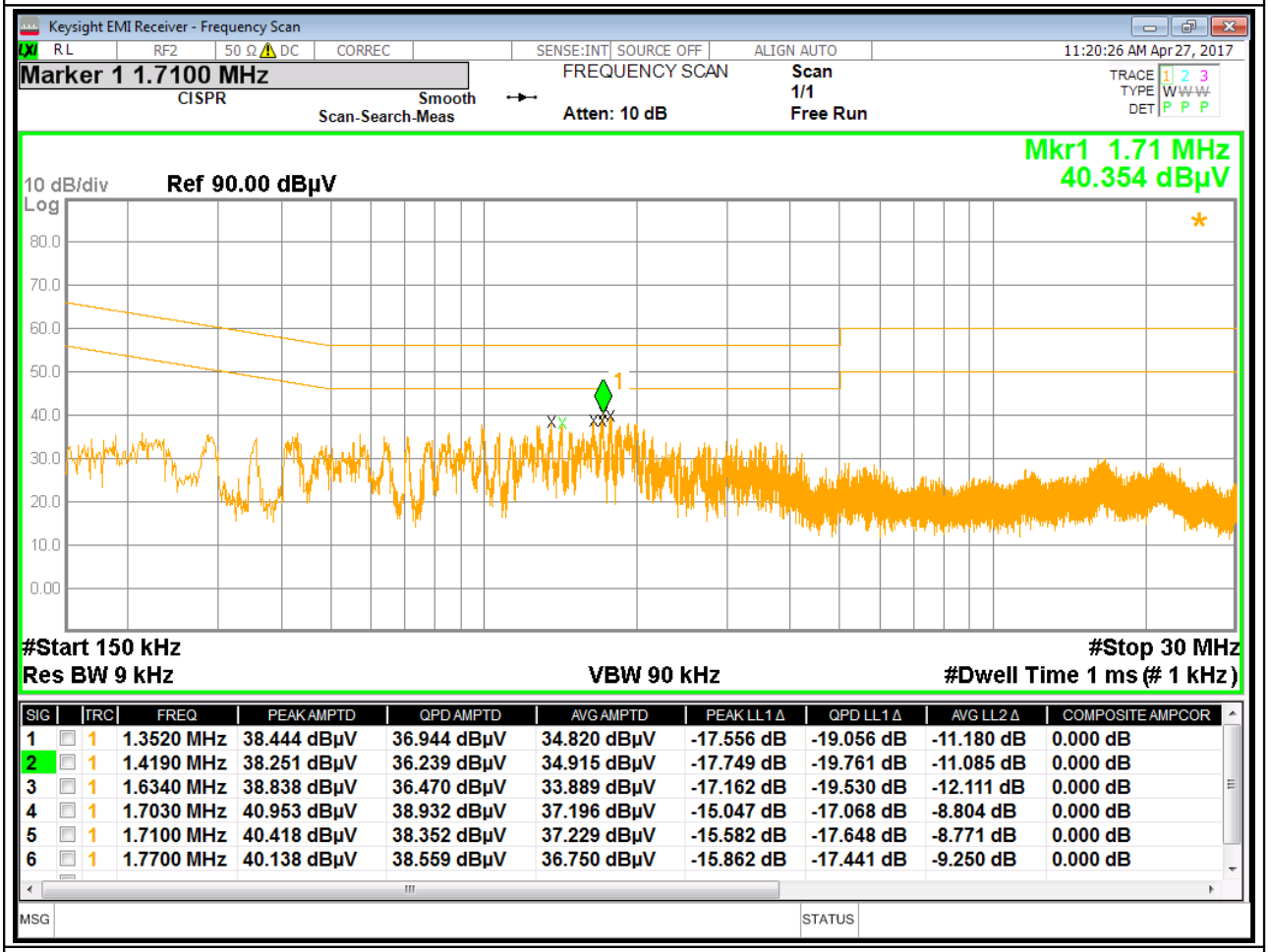


SIG	TRC	FREQ	PEAK AMPTD	QPD AMPTD	AVG AMPTD	PEAK LL1 Δ	QPD LL1 Δ	AVG LL2 Δ	COMPOSITE AMPCOR
1	1	578.00 kHz	44.991 dBµV	40.926 dBµV	28.469 dBµV	-11.009 dB	-15.074 dB	-17.531 dB	0.000 dB
2	1	587.00 kHz	44.994 dBµV	42.398 dBµV	36.123 dBµV	-11.006 dB	-13.602 dB	-9.877 dB	0.000 dB
3	1	597.00 kHz	45.648 dBµV	43.006 dBµV	37.396 dBµV	-10.352 dB	-12.994 dB	-8.604 dB	0.000 dB
4	1	608.00 kHz	45.537 dBµV	43.007 dBµV	34.331 dBµV	-10.463 dB	-12.993 dB	-11.669 dB	0.000 dB
5	1	616.00 kHz	45.851 dBµV	42.397 dBµV	37.396 dBµV	-10.149 dB	-13.603 dB	-8.604 dB	0.000 dB
6	1	619.00 kHz	45.798 dBµV	42.462 dBµV	37.217 dBµV	-10.202 dB	-13.538 dB	-8.783 dB	0.000 dB

Fig. 5.2 – standby

B Band (0.15 – 30 MHz): line 2

Job Number	FCC-17337B
Test Name	Powerline Conducted Emissions FCC 15.207
EUT Name	R1170IU

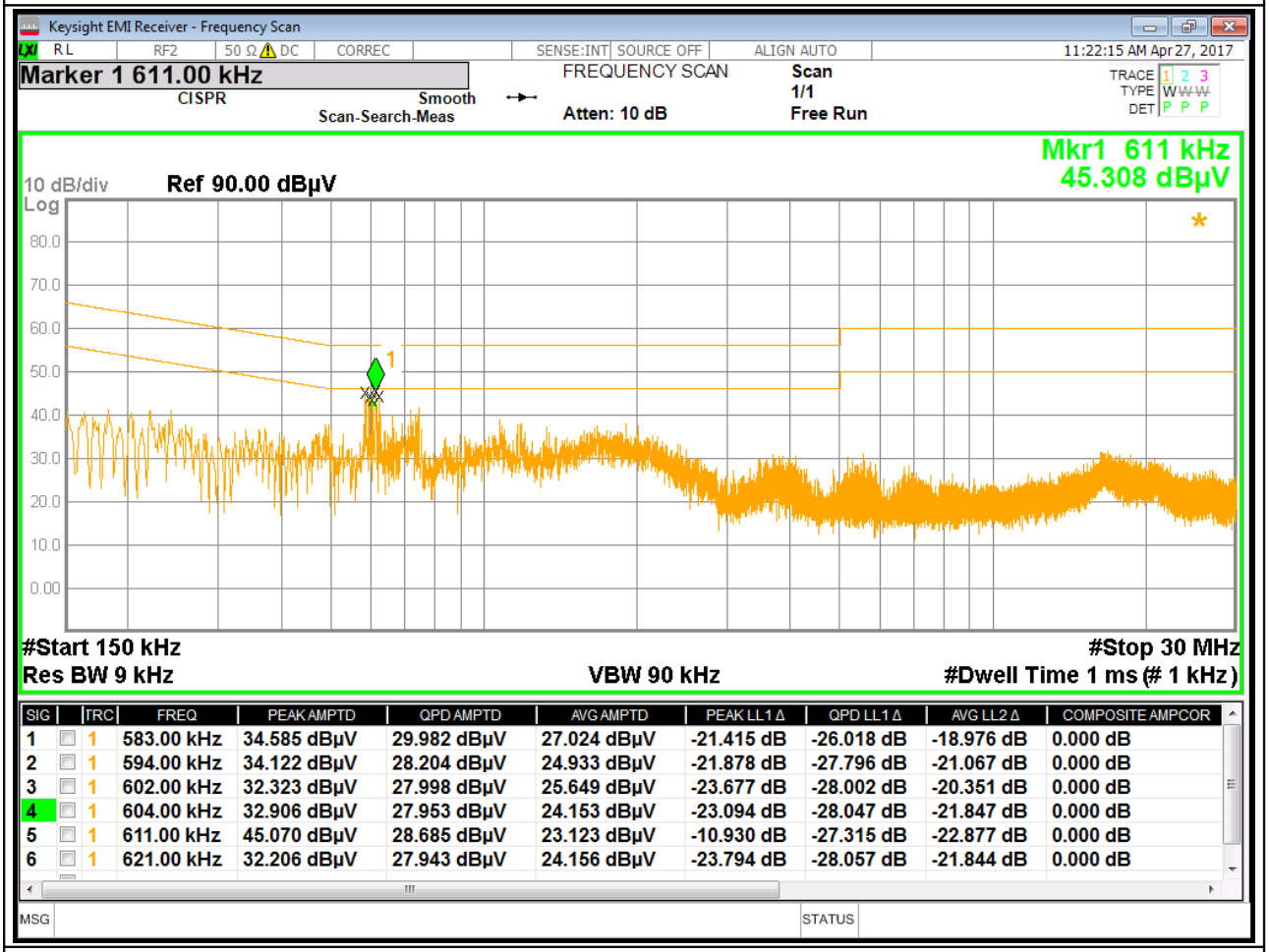


SIG	TRC	FREQ	PEAK AMPTD	QPD AMPTD	AVG AMPTD	PEAK LL1 Δ	QPD LL1 Δ	AVG LL2 Δ	COMPOSITE AMPCOR
1	1	1.3520 MHz	38.444 dBµV	36.944 dBµV	34.820 dBµV	-17.556 dB	-19.056 dB	-11.180 dB	0.000 dB
2	1	1.4190 MHz	38.251 dBµV	36.239 dBµV	34.915 dBµV	-17.749 dB	-19.761 dB	-11.085 dB	0.000 dB
3	1	1.6340 MHz	38.838 dBµV	36.470 dBµV	33.889 dBµV	-17.162 dB	-19.530 dB	-12.111 dB	0.000 dB
4	1	1.7030 MHz	40.953 dBµV	38.932 dBµV	37.196 dBµV	-15.047 dB	-17.068 dB	-8.804 dB	0.000 dB
5	1	1.7100 MHz	40.418 dBµV	38.352 dBµV	37.229 dBµV	-15.582 dB	-17.648 dB	-8.771 dB	0.000 dB
6	1	1.7700 MHz	40.138 dBµV	38.559 dBµV	36.750 dBµV	-15.862 dB	-17.441 dB	-9.250 dB	0.000 dB

Fig. 5.3

B Band (0.15 – 30 MHz): line 1

Job Number	FCC-17337B
Test Name	Powerline Conducted Emissions FCC 15.207
EUT Name	R1170IU



SIG	TRC	FREQ	PEAK AMPTD	QPD AMPTD	AVG AMPTD	PEAK LL1 Δ	QPD LL1 Δ	AVG LL2 Δ	COMPOSITE AMPCOR
1	1	583.00 kHz	34.585 dBµV	29.982 dBµV	27.024 dBµV	-21.415 dB	-26.018 dB	-18.976 dB	0.000 dB
2	1	594.00 kHz	34.122 dBµV	28.204 dBµV	24.933 dBµV	-21.878 dB	-27.796 dB	-21.067 dB	0.000 dB
3	1	602.00 kHz	32.323 dBµV	27.998 dBµV	25.649 dBµV	-23.677 dB	-28.002 dB	-20.351 dB	0.000 dB
4	1	604.00 kHz	32.906 dBµV	27.953 dBµV	24.153 dBµV	-23.094 dB	-28.047 dB	-21.847 dB	0.000 dB
5	1	611.00 kHz	45.070 dBµV	28.685 dBµV	23.123 dBµV	-10.930 dB	-27.315 dB	-22.877 dB	0.000 dB
6	1	621.00 kHz	32.206 dBµV	27.943 dBµV	24.156 dBµV	-23.794 dB	-28.057 dB	-21.844 dB	0.000 dB

Fig. 5.4

B Band (0.15 – 30 MHz): line 2

6. PHOTO

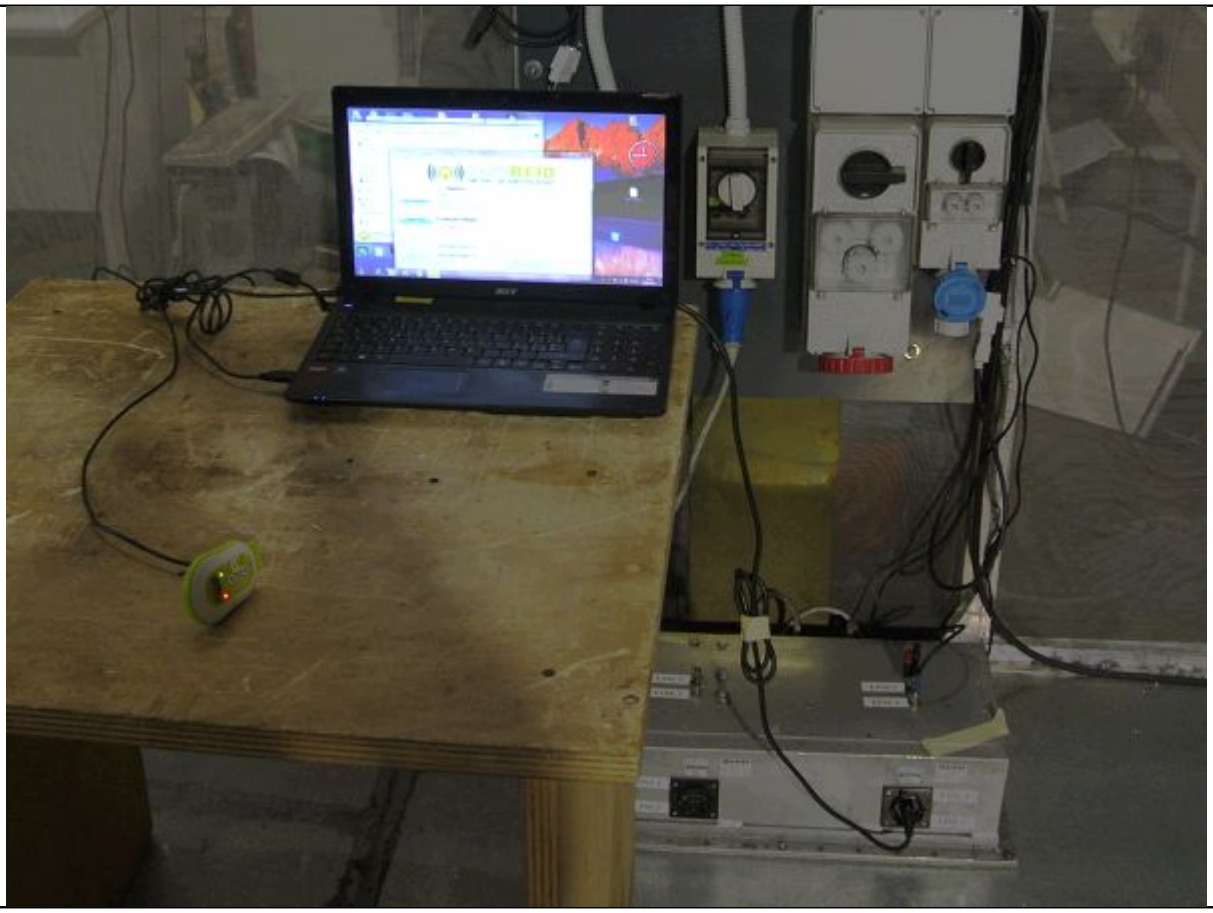


Fig. 6.1

Conducted Emissions Test Set-up

Fig. 6.2

Radiated Emissions Test Set-up

Fig. 6.3

Radiated Emissions Test Set-up