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

DEKRA

ENAC ENSAYOS Nº 51/LE147

Test report No:
NIE: 63052RRF.003

Partial Test report

Reference Standard:
USA FCC Part 27
CANADA RSS-130, RSS-139, RSS-199

(*) Identification of item tested	Telematic Control Unit for giving to the user information of the bike and control the bike
(*) Trademark	ADVANCED AUTOMOTIVE ANTENNAS, S.L.
(*) Model and /or type reference	HD MY21 NA
Other identification of the product	HW version: HW3.1 SW version: MY21.6 FCC ID: 2AVOUTCU4GC4 IC ID: 25856TCU4GC4
(*) Features	Telephony (GPRS,WCDMA,LTE) , GNSS (GPS,GLONASS)
Applicant	ADVANCED AUTOMOTIVE ANTENNAS, S.L. Gran Via De Carles III 98 Planta 5 08028, Barcelona
Test method requested, standard	USA FCC Part 27 (10-1-18 Edition). CANADA RSS-130 Issue 2, Feb. 2019. CANADA RSS-139 Issue 3, Jul. 2015. CANADA RSS-199 Issue 3, Dec. 2016. ANSI C63.26-2015. ANSI/TIA-603-E: 2016. KDB 971168 D01 Power Meas License Digital Systems v03r01, April. 2018.
Approved by (name / position & signature)	José Carlos Luque RF Lab. Supervisor 74841983Y JOSE CARLOS LUQUE (C:A29507456) Firmado digitalmente por 74841983Y JOSE CARLOS LUQUE (C:A29507456) Fecha: 2020.02.26 13:26:54 +01'00'
Date of issue	2020-02-26
Report template No	FDT08_22 (*) "Data provided by the client"

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Uncertainty

Uncertainty (factor k=2) was calculated according to the DEKRA Testing and Certification S.A.U. 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 HD MY21 NA is a Telematic Control Unit for giving to the user information of the bike and control the bike.

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
63052/001	Telematic Control Unit	HD MY21 NA	201949500221	2019/12/05
63098B/001	Laptop	SATELLITE L50-B-1L	I7E281509CSSKT4 07V022CEB	2019/12/02
63098B/004	AC/DC Adaptor	PA5177U-1ACA	--	2019/12/02
63098B/012	Harness	--	--	2019/12/02
63098B/015	Kvaser Leaf Light v2 device	--	013043	2019/12/02

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

Test sample description

<table>
<tr><td rowspan="2">Ports…… :</td><td rowspan="2">Port name and description</td><td colspan="3">Cable</td></tr>
<tr><td>Specified length [m]</td><td>Attached during test</td><td>Shielded</td></tr>
<tr><td></td><td>N/A</td><td></td><td>☐</td><td>☐</td></tr>
<tr><td>Supplementary information to the ports…… :</td><td colspan="4">-</td></tr>
<tr><td rowspan="3">Rated power supply .....:</td><td rowspan="2">Voltage and Frequency</td><td colspan="5">Reference poles</td></tr>
<tr><td>L1</td><td>L2</td><td>L3</td><td>N</td><td>PE</td></tr>
<tr><td>☐ AC:</td><td>☐</td><td>☐</td><td>☐</td><td>☐</td><td>☐</td></tr>
<tr><td></td><td colspan="5">☒ DC: 12 Vdc</td></tr>
<tr><td>Rated Power .....:</td><td colspan="5">Not provided</td></tr>
<tr><td>Internal operating frequencies ....:</td><td colspan="5">Not provided</td></tr>
<tr><td>Other parameters .....:</td><td colspan="5">Not provided</td></tr>
<tr><td>Firmware version.....:</td><td colspan="5">Not provided</td></tr>
<tr><td>Hardware version .....:</td><td colspan="5">Not provided</td></tr>
<tr><td>Dimensions in cm (L x W x D).....:</td><td colspan="5">Not provided</td></tr>
<tr><td>Mounting position .....:</td><td colspan="5">☒ Other: Motorbike module</td></tr>
<tr><td rowspan="2">Modules/parts.....:</td><td>Module/parts of test item</td><td colspan="2">Type</td><td colspan="2">Manufacturer</td></tr>
<tr><td>-</td><td colspan="2"></td><td colspan="2"></td></tr>
</table>

Accessories (not part of the test item) .....:	Description	Type	Manufacturer
	-		
Documents as provided by the applicant.....:	Description	File name	Issue date
	-		

(3) Only for Medical Equipment

Identification of the client

ADVANCED AUTOMOTIVE ANTENNAS, S.L.
Gran Vía De Carles III 98 Planta 5 08028, Barcelona.

Testing period and place

Test Location	DEKRA Testing and Certification S.A.U.
Date (start)	2019-12-16
Date (finish)	2019-12-18

Document history

Report number	Date	Description
63052RRF.003	2020-02-26	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 %
Air pressure	Min. = 860 mbar Max. = 1060 mbar

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 %
Air pressure	Min. = 860 mbar Max. = 1060 mbar

Remarks and comments

The tests have been performed by the technical personnel: Ignacio Cabra, Miguel Ángel Torres, José Gabriel Pendón and Nicolás Salguero.

Used instrumentation:

Radiated Measurements

		Last Calibration	Due Calibration
1.	Semianechoic Absorber Lined Chamber ETS LINDGREN FACT 3 200 STP	N.A.	N.A.
2.	Wideband Radio Communication Tester ROHDE AND SCHWARZ CMW500	2019/05	2020/05
3.	Log Periodic Antenna, SCHWARZBECK MESS-ELEKTRONIK USLP 9143	N.A.	N.A.
4.	Shielded Room ETS LINDGREN S101	N.A.	N.A.
5.	DC Power Supply, 30V, 5A KEYSIGHT TECHNOLOGIES U8002A	N.A.	N.A.
6.	EMI Test Receiver 7 GHz ROHDE AND SCHWARZ ESR7	2018/10	2020/10
7.	Signal and Spectrum Analyzer ROHDE AND SCHWARZ FSV40	2018/02	2020/02
8.	RF Pre-amplifier G>30dB, 1-18GHz BONN ELEKTRONIK BLMA 0118-3A	2019/04	2020/04
9.	Biconical/Log Antenna 30MHz - 6GHz ETS LINDGREN 3142E	2017/09	2020/09
10.	Broadband Horn antenna 1-18 GHz SCHWARZBECK MESS-ELEKTRONIK BBHA 9120 D	2018/01	2021/01
11.	Digital Multimeter FLUKE 179	2019/06	2020/06
12.	Spectrum Analyzer ROHDE AND SCHWARZ FSW50	2018/02	2020/02
13.	EMI Test Receiver 7 GHz ROHDE AND SCHWARZ ESR7	2019/10	2021/10
14.	RF Pre-amplifier, 40 dB ,1-18 GHz BONN ELEKTRONIK BLMA 0118-1M	2019/04	2020/04
15.	Broadband Horn antenna 1-18 GHz SCHWARZBECK MESS-ELEKTRONIK BBHA 9120 D	2019/11	2022/11
16.	Biconical/Log Antenna 30 MHz - 6 GHz ETS LINDGREN 3142E	2017/04	2020/04
17.	Broadband Horn Antenna 18 - 40 GHz SCHWARZBECK MESS-ELEKTRONIK BBHA 9170	2018/07	2021/07
18.	RF Pre-amplifier 40 dB, 10 MHz - 6 GHz BONN ELEKTRONIK BLNA 0160-01N	2019/02	2020/08
19.	Low Noise Amplifier G>30dB, 18 - 40 GHz BONN ELEKTRONIK BLMA 1840-1M	2018/02	2020/02
20.	Digital Multimeter, FLUKE 175	2019/10	2020/10
21.	Multi-device Controller EMCO 2090	N.A.	N.A.
22.	Field Probe Positioner MATURO FPP 2.3-M	N.A.	N.A.
23.	Pre-Amplifier G>40dB 10MHz-6GHz, BONN ELEKTRONIK, BLNA 0160-01N	2019/02	2020/02

Testing verdicts

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

Summary

FCC PART 27 / IC RSS-130 / RSS-139 / RSS-199 PARAGRAPH		
Requirement – Test case	**Verdict**	**Remark**
FCC 27.50 / RSS-139 6.5. / RSS-130 4.6 / RSS-199 4.4: RF output power	N/M	(1)
FCC 2.1047 / RSS-139 6.2. / RSS-199 4.1: Modulation characteristics	N/M	(1)
FCC 27.54 / RSS-139 6.4. / RSS-130 4.5 / RSS-199 4.3: Frequency stability	N/M	(1)
FCC 2.1049: Occupied Bandwidth	N/M	(1)
FCC 27.53 / RSS-139 6.6. / RSS-130 4.7/ RSS-199 4.5: Spurious emissions at antenna terminals	N/M	(1)
FCC 27.53 / RSS-139 6.6. / RSS-130 4.7 / RSS-199 4.5: Radiated emissions	P	
Supplementary information and remarks: (1) 'Radiated emissions' test only requested.		

Appendix A: Test results for FCC PART 27 / RSS-130, RSS-139, RSS-199

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TEST CONDITIONS

POWER SUPPLY (V):

Vn: 12 Vdc
Type of Power Supply: Battery of the vehicle.

The subscripts 'n', 'min' and 'max' indicate voltage test conditions (nominal, minimum and maximum respectively), as declared by the applicant.

ANTENNA GAIN:

Bands	GAIN	ANTENNA TYPE
LTE Band 4	+2.5 dBi	Internal (printed monopole antenna)
LTE Band 7	+1.4 dBi	Internal (printed monopole antenna)
LTE Band 12	+0.2 dBi	Internal (printed monopole antenna)
LTE Band 17	+0.2 dBi	Internal (printed monopole antenna)

TEST FREQUENCIES:

LTE Band 4. QPSK AND 16QAM MODULATION:

	Channel (Frequency in MHz)					
	BW = 1.4 MHz	BW = 3 MHz	BW = 5 MHz	BW = 10 MHz	BW = 15 MHz	BW = 20 MHz
Low	19957 (1710.7)	19965 (1711.5)	19975 (1712.5)	20000 (1715.0)	20025 (1717.5)	20050 (1720.0)
Middle	20175 (1732.5)	20175 (1732.5)	20175 (1732.5)	20175 (1732.5)	20175 (1732.5)	20175 (1732.5)
High	20393 (1754.3)	20385 (1753.5)	20375 (1752.5)	20350 (1750.0)	20325 (1747.5)	20300 (1745.0)

LTE Band 7. QPSK AND 16QAM MODULATION:

	Channel (Frequency in MHz)			
	BW = 5 MHz	BW = 10 MHz	BW = 15 MHz	BW = 20 MHz
Lowest	20775 (2502.5)	20800 (2505.0)	20825 (2507.5)	20850 (2510.0)
Middle	21100 (2535.0)	21100 (2535.0)	21100 (2535.0)	21100 (2535.0)
Highest	21425 (2567.5)	21400 (2565.0)	21375 (2562.5)	21350 (2560.0)

LTE Band 12. QPSK AND 16QAM MODULATION:

	Channel (Frequency in MHz)			
	BW = 1.4 MHz	BW = 3 MHz	BW = 5 MHz	BW = 10 MHz
Low	23017 (699.7)	23025 (700.5)	23035 (701.5)	23060 (704.0)
Middle	23095 (707.5)	23095 (707.5)	23095 (707.5)	23095 (707.5)
High	23173 (715.3)	23165 (714.5)	23155 (713.5)	23130 (711.0)

LTE Band 17. QPSK AND 16QAM MODULATION:

	Channel (Frequency, MHz)	
	BW = 5 MHz	BW = 10 MHz
Lowest	23755 (706.5)	23780 (709)
Middle	23790 (710)	23790 (710)
Highest	23825 (713.5)	23800 (711)

NOTE: This band is completely included in LTE Band 12, so the channels of Band 12 were tested to give conformity to the assigned block.

Radiated emissions

SPECIFICATION:

1. LTE Band 4. FCC §2.1053 & §27.53 (h) / RSS-139 Issue 3 Clause 6.6.

FCC §27.53 (h):

> (h) Except as otherwise specified below, for operations in the 1695-1710 MHz, 1710-1755 MHz, 1755-1780 MHz, 1915-1920 MHz, 1995-2000 MHz, 2000-2020 MHz, 2110-2155 MHz, 2155-2180 MHz, and 2180-2200 bands, the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) in watts by at least 43 + 10 log10 (P) dB.

RSS-139 Clause 6.6:

> i. In the first 1.0 MHz bands immediately outside and adjacent to the equipment's smallest operating frequency block, which can contain the equipment's occupied bandwidth, the emission power per any 1% of the emission bandwidth shall be attenuated below the transmitter output power P (in dBW) by at least 43 + 10 log10 p (watts) dB.
>
> ii. After the first 1.0 MHz outside the equipment's smallest operating frequency block, which can contain the equipment's occupied bandwidth, the emission power in any 1 MHz bandwidth shall be attenuated below the transmitter output power P (in dBW) by at least 43 + 10 log10 P (watts) dB.

LTE Band 4 MEASUREMENT LIMIT:

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

Po (dBm) – [43 + 10 log (Po in mwatts) - 30] = -13 dBm

2. LTE Band 12. FCC §2.1053 & §27.53 (g) / RSS-130 Issue 2 Clause 4.7.1.

FCC §27.53 (g):

> (g) For operations in the 600 MHz band and the 698-746 MHz band, the power of any emission outside a licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, by at least 43 + 10 log (P) dB. Compliance with this provision is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kilohertz or greater. However, in the 100 kilohertz bands immediately outside and adjacent to a licensee's frequency block, a resolution bandwidth of at least 30 kHz may be employed.

RSS-130 Issue 2 Clause 4.7.1:

> 4.7.1. The power of any unwanted emissions in any 100 kHz bandwidth on any frequency outside the frequency range(s) within which the equipment is designed to operate shall be attenuated below the transmitter power, P (dBW), by at least 43 + 10 log10 p (watts), dB. However, in the 100 kHz band immediately outside the equipment's operating frequency range, a resolution bandwidth of 30 kHz may be employed.

LTE Band 12 MEASUREMENT LIMIT:

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

Po (dBm) – [43 + 10 log (Po in mwatts) - 30] = -13 dBm

3. LTE Band 7. FCC §2.1053 & §27.53 (m) (4) / RSS-199 Issue 3 Clause 4.5 (b).

FCC §27.53 (m) (4)

> (m) For BRS and EBS stations, the power of any emissions outside the licensee's frequency bands of operation shall be attenuated below the transmitter power (P) measured in watts in accordance with the standards below. If a licensee has multiple contiguous channels, out-of-band emissions shall be measured from the upper and lower edges of the contiguous channels.
>
> > (4) For mobile digital stations, the attenuation factor shall be not less than 40 + 10 log (P) dB on all frequencies between the channel edge and 5 megahertz from the channel edge, 43 + 10 log (P) dB on all frequencies between 5 megahertz and X megahertz from the channel edge, and 55 + 10 log (P) dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section. In addition, the attenuation factor shall not be less that 43 + 10 log (P) dB on all frequencies between 2490.5 MHz and 2496 MHz and 55 + 10 log (P) dB at or below 2490.5 MHz. Mobile Satellite Service licensees operating on frequencies below 2495 MHz may also submit a documented interference complaint against BRS licensees operating on channel BRS Channel 1 on the same terms and conditions as adjacent channel BRS or EBS licensees.

RSS-199 Clause 4.5 (b)

> 4.5. In the 1 MHz band immediately outside and adjacent to the channel edge, the unwanted emission power shall be measured with a resolution bandwidth of at least 1% of the occupied bandwidth for base station and fixed subscriber equipment, and 2% for mobile subscriber equipment. Beyond the 1 MHz band, a resolution bandwidth of 1 MHz shall be used. A narrower resolution bandwidth can be used, provided that the measured power is integrated over the full required measurement bandwidth of 1 MHz, or 1% or 2% of the occupied bandwidth, as applicable.
>
> Equipment shall comply with the following unwanted emission limits:
>
> (a) for base station and fixed subscriber equipment, the power of any unwanted emissions measured as above shall be attenuated (in dB) below the transmitter power, P (dBW), by at least 43 + 10 log10 p.
>
> (b) for mobile subscriber equipment, the power of any unwanted emissions measured as above shall be attenuated (in dB) below the transmitter power, P (dBW), by at least:
>
> > 40 + 10 log10 p from the channel edges to 5 MHz away
> >
> > 43 + 10 log10 p between 5 MHz and X MHz from the channel edges, and
> >
> > 55 + 10 log10 p at X MHz and beyond from the channel edges
>
> In addition, the attenuation shall not be less than 43 + 10 log10 p on all frequencies between 2490.5 MHz and 2496 MHz, and 55 + 10 log10 p at or below 2490.5 MHz.
>
> In (b), p is the transmitter power measured in watts and X is 6 MHz or the equipment occupied bandwidth, whichever is greater.

METHOD:

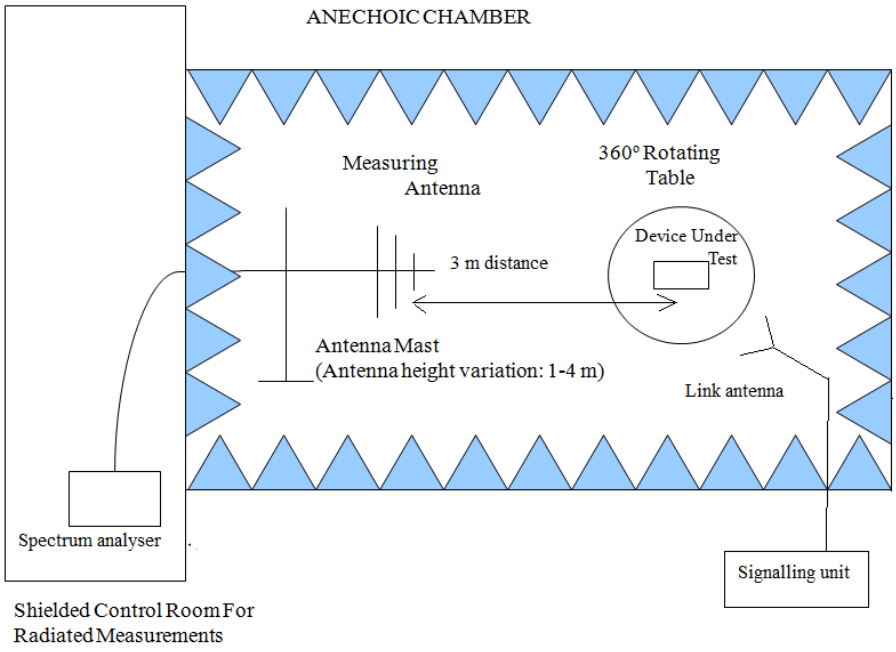
The measurement was performed with the EUT inside an anechoic chamber.

The spectrum was scanned from 30 MHz to at least the 10th harmonic of the High frequency generated within the equipment.

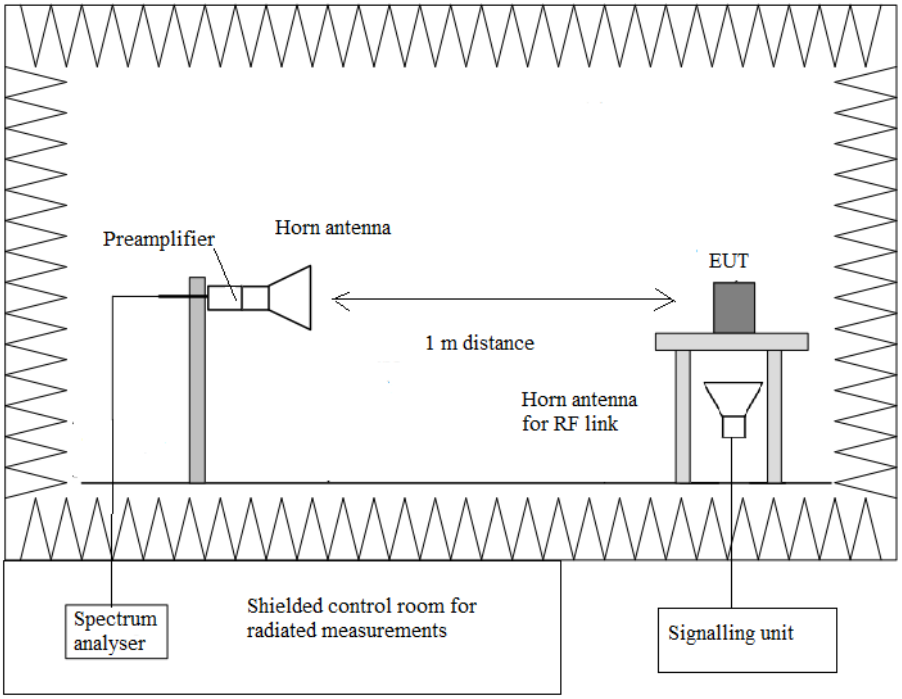
The EUT was placed on a non-conductive stand at a 3 meter distance from the measuring antenna for measurements below 1 GHz and at 1 m distance for measurements above 1 GHz.
Detected emissions were maximized at each frequency by rotating the EUT and adjusting the measuring antenna height and polarization. The maximum meter reading was recorded.
Each detected emission at less than 20 dB respect to the limit is substituted by the Substitution method in accordance with the ANSI/TIA-603-E: 2016.

TEST SETUP:

Radiated measurements below 1 GHz.



Radiated measurements above 1 GHz.



RESULTS:

LTE Band 4:

QPSK and 16QAM Modulations:
A preliminary scan determined the QPSK modulation, BW=15 MHz, RB=1, Offset=74 as the worst case.

- Lowest Channel:

Frequency range 30 MHz - 1 GHz

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

Frequency range 1 - 18 GHz

Substitution method data

Frequency (MHz)	Instrument reading (dBm)	Polarization	(1) Generator output (dBm)	(2) Cable loss (dB)	(3) Substitution antenna gain Gi (respect to isotropic radiator) (dB)	E.I.R.P. (dBm) = (1) – (2) + (3)
2483.7744	-23.13	Vertical	-41.39	1.49	10.58	-32.30
2792.1220	-21.49	Horizontal	-38.95	1.56	10.83	-29.68
2483.2280	-21.31	Horizontal	-39.57	1.49	10.58	-30.48

- Middle Channel:

Frequency range 30 MHz - 1 GHz

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

Frequency range 1 - 18 GHz

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

- Highest Channel:

Frequency range 30 MHz - 1 GHz

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

Frequency range 1 - 18 GHz

Substitution method data

Frequency (MHz)	Instrument reading (dBm)	Polarization	(1) Generator output (dBm)	(2) Cable loss (dB)	(3) Substitution antenna gain Gi (respect to isotropic radiator) (dB)	E.I.R.P. (dBm) = (1) – (2) + (3)
1338.1130	-20.61	Horizontal	-39.49	0.67	7.19	-32.97
2417.9450	-23.14	Horizontal	-41.53	1.48	10.52	-32.49
2510.6660	-22.47	Vertical	-40.68	1.50	10.61	-31.57

Measurement uncertainty (dB)	<±3.88 for f < 1GHz <±3.70 for f ≥ 1 GHz up to 18 GHz

Verdict: PASS

<< SEE GRAPHICS IN THE ATTACHED FILE: 63052RRF003_Graphics.7z >>

LTE Band 7:

QPSK and 16QAM Modulations:
A preliminary scan determined the 16QAM modulation, BW=15 MHz, RB=1, Offset=74 as the worst case.

- Lowest Channel:

Frequency range 30 MHz - 1 GHz

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

Frequency range 1 - 26 GHz

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

Frequency range 2490.5 – 2496 MHz

Substitution method data

Frequency (MHz)	Instrument reading (dBm)	Polarization	(1) Generator output (dBm)	(2) Cable loss (dB)	(3) Substitution antenna gain Gi (respect to isotropic radiator) (dB)	E.I.R.P. (dBm) = (1) – (2) + (3)
2495.87341	-6.38	Horizontal	-24.62	1.50	10.60	-15.52

- Middle Channel:

Frequency range 30 MHz - 1 GHz

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

Frequency range 1 - 26 GHz

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

Frequency range 2490.5 – 2496 MHz

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

- Highest Channel:

Frequency range 30 MHz - 1 GHz

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

Frequency range 1 - 26 GHz

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

Frequency range 2490.5 – 2496 MHz

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

Measurement uncertainty (dB)	<±3.88 for f < 1GHz <±3.70 for f ≥ 1 GHz up to 18 GHz <±3.33 for f ≥ 18 GHz up to 26 GHz

Verdict: PASS

<< SEE GRAPHICS IN THE ATTACHED FILE: 63052RRF003_Graphics.7z >>

LTE Band 12:

QPSK and 16QAM Modulations:
A preliminary scan determined the QPSK modulation, BW=5 MHz, RB=1, Offset=12 as the worst case.

- Lowest Channel:

Frequency range 30 MHz - 1 GHz

Substitution method data

Frequency (MHz)	Instrument reading (dBm)	Polarization	(1) Generator output (dBm)	(2) Cable loss (dB)	(3) Substitution antenna gain Gi (respect to isotropic radiator) (dB)	E.I.R.P. (dBm) = (1) – (2) + (3)
878.023	-68,80	Horizontal	-39,27	0,443	7,04	-32.68
908.578	-68,08	Vertical	-38,16	0,458	7,04	-31.58
940.814	-68,39	Horizontal	-38,92	0,474	7,46	-32.23

Frequency range 1 - 10 GHz

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

- Middle Channel:

Frequency range 30 MHz - 1 GHz

Substitution method data

Frequency (MHz)	Instrument reading (dBm)	Polarization	(1) Generator output (dBm)	(2) Cable loss (dB)	(3) Substitution antenna gain Gi (respect to isotropic radiator) (dB)	E.I.R.P. (dBm) = (1) – (2) + (3)
30.404	-54.59	Vertical	-11.10	0.015	-16.61	-27.73
908.48	-68.08	Vertical	-38.16	0.458	7.04	-31.93

Frequency range 1 - 10 GHz

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

- Highest Channel:

Frequency range 30 MHz - 1 GHz

Substitution method data

Frequency (MHz)	Instrument reading (dBm)	Polarization	(1) Generator output (dBm)	(2) Cable loss (dB)	(3) Substitution antenna gain Gi (respect to isotropic radiator) (dB)	E.I.R.P. (dBm) = (1) – (2) + (3)
691.977	-60,64	Horizontal	-31,69	0.015	6.31	-25.72
697.182	-57,86	Horizontal	-28,96	0.349	6.37	-22.94
700.416	-55,02	Horizontal	-26,16	0.353	6.40	-20.11
704.522	-50,16	Horizontal	-21,35	0.355	6.44	-15.26
894.124	-68,61	Horizontal	-38,72	0.451	6.95	-32.21
933.022	-68,32	Vertical	-38,74	0.470	7.36	-31.85

Frequency range 1 - 10 GHz

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

Measurement uncertainty (dB)	<±3.88 for f < 1GHz <±3.70 for f ≥ 1 GHz up to 10 GHz

Verdict: PASS

<< SEE GRAPHICS IN THE ATTACHED FILE: 63052RRF003_Graphics.7z >>