

RF Exposure Exemption Report

Videosys Broadcast Ltd
Model: B160 OEM Boardset



Add value.
Inspire trust.

In accordance with FCC CFR 47 Part 1.1307

Prepared for: Videosys Broadcast Ltd
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COMMERCIAL-IN-CONFIDENCE

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SIGNATURE

NAME	JOB TITLE	RESPONSIBLE FOR	ISSUE DATE
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Signatures in this approval box have checked this document in line with the requirements of TÜV SÜD document control rules.

FCC Accreditation
294497/UK2010 Octagon House, Fareham Test Laboratory

EXECUTIVE SUMMARY

The wireless devices described within this report are compliant with the exemption criteria related to human exposure to electromagnetic fields laid out in FCC CFR Title 47 Part 1.1307.



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1 Report Summary

1.1 Report Modification Record

Alterations and additions to this report will be issued to the holders of each copy in the form of a complete document.

Issue	Description of Change	Date of Issue
1	First Issue	19 February 2026

Table 1

1.2 Introduction

Applicant	Videosys Broadcast Ltd
Manufacturer	Videosys Broadcast Ltd
Model Number(s)	B160 OEM Boardset
Hardware Version(s)	B160 - v2.0 B170 - v1.02 2.0-2.9GHz PA
Software Version(s)	V4.0
Specification/Issue/Date	FCC 47 CFR Part 1.1307: 2024
Order Number	0865
Date	31-January-2025
Related Document(s)	• KDB 447498 D04 v01 • FCC 47 CFR Part 2.1091: 2024



1.3 Brief Summary of Results

The wireless devices described within this report are compliant with the exemption criteria related to human exposure to electromagnetic fields laid out in FCC CFR Title 47 Part 1.1307.

The calculations shown in this report were made in accordance with the procedures specified in the applied test specification(s).

1.4 Application Form

Equipment Description

Technical Description: (Please provide a brief description of the intended use of the equipment)	OEM COFDM transmitter for use in broadcast radio camera products and systems
Manufacturer:	DTC
Model:	B160, B170 & PA
Part Number:	B160, B170, PA – 2.0-2.9

Transmitter Description (for all transmitters operating in the range > 30 MHz)

Radio Access Technology	Frequency Band (MHz)	Minimum Frequency (MHz)	Conducted Output Power (dBm)	Duty Cycle (%)	Region
COFDM – DVB-T	2025 – 2110	2025	20	100%	

Transmitter power includes upper bounds of uncertainty therefore maximum values are used.

Transmitter Description (for all transmitters operating in the range < 30 MHz)

Radio Access Technology	Frequency (MHz)	RMS Current (A)	Field Strength Measurement (dBuV/m or dBuA/m) OR Conducted Output Power (dBm)	Field Strength Measurement Distance (cm) (N/A if Conducted Output Power)	Region



Antenna Description (Antennas intended for transmitting > 30 MHz)

Radio Access Technology	Antenna Model/Description	Gain (dBi)	Antenna length* (cm)
Omni directional antennas	e.g. Videosys 2027FO, or 2027O	+3	6cm (including the elements that constitute the antenna – no external housing is included in this measurement)

*If exact antenna length is unavailable, a definitive "< x cm" can be provided instead.

Antenna Description (Antennas intended for transmitting < 30 MHz)

Radio Access Technology	Antenna Model/Description	Number of Turns (N)	Antenna length* (cm)

* These may be in the form of a loop antenna, in this case the antenna length is taken to be the widest diameter (in the case of circular loop antennas) or the longest edge (in the case of square antennas).

Proposed Separation Distance

Proposed Separation Distance (mm):	
------------------------------------	--

Simultaneous Transmission Configurations

Please list all combinations of simultaneous transmissions possible.

(In the case of cellular equipment, a single band per technology can be listed and the check boxes below this table should be completed.)

Radio Access Technology 1	Radio Access Technology 2	Radio Access Technology 3

Simultaneous Transmissions capable with all cellular bands: Yes: ☐, No: ☐, Not Applicable: ☒

If No, please specify which bands are capable of simultaneously transmitting: No simultaneous transmission is possible.



1.5 Product Information

1.5.1 Technical Description

OEM COFDM transmitter for use in broadcast radio camera products and systems

1.5.2 Transmitter Description

The following radio access technologies and frequency bands are supported by the equipment under test.

Radio Access Technology	Frequency Band (MHz)	Minimum Frequency (MHz)	Output Power (dBm)	Duty Cycle (%)
COFDM – DVB-T	2025-2110	2025	20	100

Table 2 - Transmitter Description - FCC

Note: Transmitter power includes upper bounds of uncertainty therefore maximum values are used.

1.5.3 Antenna Description

The following antennas are supported by the equipment under test.

Radio Access Technology	Antenna Model	Gain (dBi)	Antenna Length (cm)	Minimum Separation Distance (mm)
COFDM – DVB-T	Omni directional antennas	3	6	40

Table 3 - Antenna Description

In the case of more than one type of antenna being supported by the equipment, the calculation is based on the maximum of the antenna gains. If other antennas can be used that have greater gains, the minimum separation distances will need to be recalculated.

Note: Antenna gain includes upper bounds of uncertainty therefore maximum values are used.

1.5.4 Equipment Configuration

Single transmitter only



1.6 Test Location

TÜV SÜD conducted the following tests at our Octagon House Test Laboratory.

Test Name	Name of Engineer(s)	Accreditation
Exposure Assessment	Thomas Biddlecombe	UKAS

Table 4

Office Address:

TÜV SÜD
Octagon House
Concorde Way
Fareham
Hampshire
PO15 5RL
United Kingdom



2 Assessment Details

2.1 Single RF Source Options for Determination of Exemption

Option	Reference	RF Exposure Test Exemptions for Single Source												
A (1-mW Test Exemption)	FCC 1.1307(b)(3)(i)(A)	The available maximum time averaged power is no more than 1 mW, regardless of separation distance.												
B (SAR-Based Exemption)	FCC 1.1307(b)(3)(i)(B)	The available maximum timeaveraged power or effective radiated power (ERP), whichever is greater, is less than or equal to the threshold P_{th} (mW) described in the following formula. This method shall only be used at separation distances (cm) from 0.5 centimeters to 40 centimeters and at frequencies from 0.3 GHz to 6 GHz (inclusive). P_{th} is given by: $P_{th} \text{ (mW)} = \begin{cases} ERP_{20 \text{ cm}} (d/20 \text{ cm})^x & d \leq 20 \text{ cm} \\ ERP_{20 \text{ cm}} & 20 \text{ cm} < d \leq 40 \text{ cm} \end{cases}$ Where $x = -\log_{10} \left(\frac{60}{ERP_{20 \text{ cm}} \sqrt{f}} \right) \text{ and } f \text{ is in GHz;}$ and $ERP_{20 \text{ cm}} \text{ (mW)} = \begin{cases} 2040f & 0.3 \text{ GHz} \leq f < 1.5 \text{ GHz} \\ 3060 & 1.5 \text{ GHz} \leq f \leq 6 \text{ GHz} \end{cases}$ <i>d</i> = the separation distance (cm);												
C (MPE-Based Exemption)	FCC 1.1307(b)(3)(i)(C)	Or using Table 1 and the minimum separation distance (R in meters) from the body of a nearby person for the frequency (f in MHz) at which the source operates, the ERP (watts) is no more than the calculated value prescribed for that frequency. For the exemption in Table 1 to apply, R must be at least λ/2π, where λ is the free-space operating wavelength in meters. If the ERP of a single RF source is not easily obtained, then the available maximum time-averaged power may be used in lieu of ERP if the physical dimensions of the radiating structure(s) do not exceed the electrical length of λ/4 or if the antenna gain is less than that of a half-wave dipole (1.64 linear value). TABLE 1 TO § 1.1307(b)(3)(i)(C)—SINGLE RF SOURCES SUBJECT TO ROUTINE ENVIRONMENTAL EVALUATION <table><tr><th>RF Source frequency (MHz)</th><th>Threshold ERP (watts)</th></tr><tr><td>0.3–1.34</td><td>1,920 R².</td></tr><tr><td>1.34–30</td><td>3,450 R²/f².</td></tr><tr><td>30–300</td><td>3.63 R².</td></tr><tr><td>300–1,500</td><td>0.0128 R²f.</td></tr><tr><td>1,500–100,000</td><td>19.2R².</td></tr></table>	RF Source frequency (MHz)	Threshold ERP (watts)	0.3–1.34	1,920 R ² .	1.34–30	3,450 R ² /f ² .	30–300	3.63 R ² .	300–1,500	0.0128 R ² f.	1,500–100,000	19.2R ² .
RF Source frequency (MHz)	Threshold ERP (watts)													
0.3–1.34	1,920 R ² .													
1.34–30	3,450 R ² /f ² .													
30–300	3.63 R ² .													
300–1,500	0.0128 R ² f.													
1,500–100,000	19.2R ² .													

Table 5



2.2 Individual Antenna Port Exposure Results

2.2.1 Single Source Calculation of Exposure at Specified Separation Distance FCC 1.1307(b)(3)(i)(B) 'Option B' (SAR Based Exemption)

RAT	Frequency (MHz)	Conducted Power Output mW	Duty Cycle %	Time Average Conducted Power Output mW	Antenna Gain Ratio	Maximum Power (EIRP) mW	Maximum Power (ERP) mW	Minimum Antenna to User Separation Distance (mm)	Pth (mW) 1.1307 (b)(3)(i)(B)	Greater of Max time averaged conducted power or ERP?	1.1307(b)(3)(i)(B) Exemption (Yes/No) (300 MHz to 6 GHz, 0.5 cm to 20 cm)
COFDM – DVB-T	2025	100.00	100	100.00	2.00	199.53	121.66	40	153.1	121.66	Yes

Table 6 - Transmitter Result

The calculations show that the individual transmitters comply with FCC 1.1307(b)(3)(i)(B) SAR-based exemption at a minimum distance of 40 mm.