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No. 19694

GENERAL NOTICES

NOTICE 60 OF 1999

INDEPENDENT BROADCASTING AUTHORITY

APPLICATION RECEIVED FOR TEMPORARY COMMUNITY SOUND BROADCASTING LICENCE

The Independent Broadcasting Authority gives notice under the Independent Broadcasting Authority (Temporary Community Sound Broadcasting Licences) Regulations, 1994 that an application has been received for Temporary Community Sound Broadcasting licence as set out in the Schedule.

The application and representations received pursuant thereto are open for inspection by interested parties during the normal office hours of the Authority.

Interested parties are invited to submit written representations in relation to the application to the Authority at Khasho House, 26 Baker Street, Rosebank, Johannesburg, **OR** Private Bag X31, Parklands, 2121, **OR** by fax at Fax No. (011) 441 1401 **within two weeks of the date of publication of this notice.**

Persons who submit representations in terms hereof shall, when submitting such representations, provide proof to the satisfaction of the Authority that a copy of the representations submitted has been sent by registered post or delivered to the applicants concerned.

SCHEDULE

1. **Name and address of Applicant:** Radio Islam Section 21 company, PO Box 2580, Lenasia, 1820
2. **Community:** Muslims who adhere to the teachings of the Jamiatul Ulama Transvaal (Council of Muslim Theologians) specifically, and who generally support the Founding Principles contained in the (JUT) Jamiatul Ulama Transvaal (Council of Muslim Theologians) Constitution.
3. **Proposed licence Area:** Lenasia and surrounding areas including Eldoradopark, Randfontein, Roodepoort, Soweto, Evaton and Vereeniging.
4. **Nature of the proposed service:** By providing programming that will inter alia, educate the community on principles of the (JUT) Jamiatul Ulama Transvaal (Council of Muslim Theologians) Constitution
5. **Proposed Signal Distribution:**
Signal Distribution Licence: Radio Islam Section 21 Company
I. Location: Area of Zakariyya Park, FarmTok.
Portion no. 24 No. 315 – IQ
II. Preferred frequency band: MW
III. Preferred effective radiated power: 1KW

NOTICE 61 OF 1999

INDEPENDENT BROADCASTING AUTHORITY

NOTICE OF AMENDMENT TO ORBICOM'S KU-BAND DOWNLINK
LICENCE

The Independent Broadcasting Authority hereby gives notice in terms of section 52(4) of the Independent Broadcasting Authority Act 153 of 1993, as amended, that it has decided to amend the Orbicom's licence in pursuance of the notice gazetted in government gazette number 19580 notice number 2923 dated 4 December 1998 with effect from date of publication of this notice. The licence is amended as follows:

INDEX: ORBICOM KU & C-BAND UPSTATIONS

A1-A6	PAS-4	KU-BAND
BI-B3	PAS-4	C-BAND
C1-C7	IS601	C-BAND T PONDER 101/101
D1-D5	IS601	C-BAND T PONDER 20/20
E1-E6	PAS-7	KU-BAND

CO-ORDINATES: KU & C-BAND EARTH STATIONS

Lat.: 26° 26' 09" (South)

Long: 28° 00' 08" (East)

Altitude: 1600m a.m.s.l.

**CHARACTERISTICS OF ORBICOM PAS-7 KU-BAND UPLINK SYSTEM
(EX RANDBURG E/STN)**

Location	:	Randburg
Map No.	:	2628 AA (1:50000)
Co-ordinates	:	28° 00' 05" (E). 26° 06' 06" (S)
Site Elevation	:	1600m
Satellite	:	Pas-7
Position	:	68° 5 (E)
Antennas	:	9,15m (both Ku and C-band)
Manufacturer	:	Scientific Atlanta /or Vertex

Model	:	8009 A	(typically)
Gain	:	61.2 dB (Ku-band)	
Gain	:	53.8 dB (C-Band)	

Carrier Characteristics (Ku-Band)

Beam	:	Spot
Transponders	:	A2
Polarisation (downlink)	:	Linear: Horizontal
Transponders	:	A8 – A11
Polarisation (downlink)	:	Linear: Vertical
Transponders	:	B3-B6
Polarisation(downlink)	:	Vertical

Carrier 1	:	TP A2	V (up)
Frequency	:	13814 MHz	
Downlink EIRP	:	52 dBW (RSA Contour)	
Carrier type	:	Digital	
Bandwidth	:	28.4 MHz	
Downlink frequency	:	11010 MHz (H)	

Carrier 2	:	TP A8	H (up)
Frequency	:	13814 MHz	
Downlink EIRP	:	52 dBW (RSA Contour)	
Carrier type	:	Digital	
Bandwidth	:	28.4 MHz	
Downlink frequency	:	11010 MHz (V)	

Carrier 3	:	TP A9	H (up)
Frequency	:	13854 MHz	
Downlink EIRP	:	52 dBW (RSA Contour)	
Carrier type	:	Digital	
Bandwidth	:	28.4 MHz	
Downlink frequency	:	11050 MHz (V)	

Carrier 4	:	TP A10	H (up)
Frequency	:	13894 MHz	
Downlink Beam Edge EIRP	:	52 dBW	
Carrier type	:	Digital	
Bandwidth	:	28.4 MHz	
Downlink frequency	:	11090 (V)	

Carrier 5	:	TP A11	H (up)
Frequency	:	13934 MHz	
Downlink EIRP	:	52 dBW (RSA Contour)	
Carrier type	:	Digital	
Bandwidth	:	28.4 MHz	
Downlink frequency	:	11130 MHz (V)	

Carrier 6	:	TP B3	H (up)
Frequency	:	14104 MHz	
Downlink EIRP	:	52 dBW (RSA Contour)	
Carrier type	:	Digital	
Bandwidth	:	28.4 MHz	
Downlink frequency	:	11554 MHz (V)	

Carrier 7	:	TP B4	H (up)
Frequency	:		14144 MHz
Downlink EIRP	:		52 dBW (RSA Contour)
Carrier type	:		Digital
Bandwidth	:		28.4 MHz
Downlink frequency	:		11594 MHz (V)

Carrier 8	:	TP B5	H (up)
Frequency	:		14184 MHz
Downlink EIRP	:		52 dBW (RSA Contour)
Carrier type	:		Digital
Bandwidth	:		28.4 MHz
Downlink frequency	:		11634 MHz (V)

Carrier 9	:	TP B6	H (up)
Frequency	:		14224 MHz
Downlink EIRP	:		52 dBW (RSA Contour)
Carrier type	:		Digital
Bandwidth	:		28.4 MHz
Downlink frequency	:		11674 MHz (V)

Uplink Frequency Range	:	13.75 – 14.25 GHz	}	Band limits
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Downlink Frequency Range	:	10.95 – 11.750 GHz	}	Band limits
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No. of carriers	:	9
Carrier type	:	Digital
Downlink EIRP	:	52 dBW (enclosing South Africa)
Bandwidth	:	28.4 MHz

C-BAND

Beam	:	Semi-global
Transponders	:	1-5
Polarisation downlink	:	Linear Vertical

Carrier Characteristics (C-Band) Provisional

Carrier 1	:	TP 1	C	H (up)
Frequency	:			7455 MHz
Downlink EIRP	:			dBW (Africa Contour) tbc
Carrier type	:			Digital
Bandwidth	:			28.4 MHz
Downlink frequency	:			4430 MHz (V)

Carrier 2	:	TP 2	C	H (up)
Frequency	:			6495 MHz
Downlink EIRP	:			dBW (Africa Contour) tbc
Carrier type	:			Digital
Bandwidth	:			28.4 MHz
Downlink frequency	:			3470 MHz V

Carrier 3	:	TP 3	C	H (up)
Frequency	:			6535 MHz
Downlink EIRP	:			dBW (Africa Contour) tbc

Carrier type : Digital
 Bandwidth : 28.4 MHz
 Downlink frequency : 3510 MHz (V)

 Carrier 4 : TP 4 C H (up)
 Frequency : 6575 MHz
 Downlink EIRP : dBW (Africa Contour) tbc
 Carrier type : Digital
 Bandwidth : 28.4 MHz
 Downlink frequency : 3550 MHz (V)

Carrier 5 : TP 5 C H (up)
 Frequency : 6615 MHz
 Downlink EIRP : dBW (Africa Contour) tbc
 Carrier type : Digital
 Bandwidth : 28.4 MHz
 Downlink frequency : 3590 MHz (V)

Uplink Frequency Range : 6425 – 6725 MHz

Downlink Frequency Range : 3400 – 3700 MHz

No. of carriers : 5
 Carrier type : Digital
 Downlink EIRP :
 Bandwidth : 28.4 MHz

LOADING CHARACTERISTICS

Satellite location	68.5 deg E	Pas-7
No. of carriers/transponder	1	
Modulation	QPSK	DVB compliant
Gross rate	49.6 Mbits/s	
Convolutional	7/8	
Reed-Solomon	0.922	DVB compliant
Info. rate	39.996 Bbit/s	
Symbol rate	24.8 Mbaud	
Threshold Eb/No	6.400 dB	DVB compliant

UPLINK ANALYSIS

Uplink EIRP calculation		
Satellite SFD	-95.000 dBW/m ²	Johannesburg
Input back-off	1.000 dB	
Input attenuator	10.000 dB	
Slant path range	39868.000 km	
Spreading loss	163.004 dB	
EIRP	74.704 dBW	

HPA Sizing calculation		
Antenna gain	61.200 dB	9.1m
Combiner losses	0.000 Db	
IFL Losses	3.000 Db	
Rain att margin	4.500 Db	Uplink power control
Actual Power required	21.004 dBW	
HPA output back-off	4.800 dB	Spectral regrowth
HPA sat power required	380.583 Watt	
Standard HPA available	2200.000 Watt	Klystron
Uplink C/No calculation		
Frequency	13.894 GHz	
Satellite G/T	2.300 dB/K	
Path π atmosphere loss	207.729 dB	
EIRP	74.704 dBW	
Pointing loss	0.100 dB	
C/No	97.775 dBHz	
DOWNLINK C/No. ANALYSIS		
Location	Cape Town	
Latitude	-33.560 deg N	
Longitude	18.280 deg E	
Elevation	24.311 deg	
Azimuth	65.285 deg	
Height	0.050 km	
EIRP at saturation	53.700 dBW	
Output back-off	2.500 dB	
EIRP per carrier	51.200 dBW	
Slant path range	39949.572 km	
Frequency	11.090 GHz	Typnder 4
Path & atmosphere loss	205.619 dB	
Pointing loss	0.500 dB	
Receive dish size	0.9 m	
Receive G/T	16.763 dB/K	Clear sky
Downlink C/No	90.44 dBHz	Clear sky

UPLINK THERMAL & INTERFERENCE ANALYSIS

Uplink Interference		
Csat/I	28.000 dB	Sat power/interference ratio
Csat/Io	101.945 dBHz	
C/Io	100.945 dBHz	
Uplink cross-pol Interference		
XP signal back-off	-1.000 dB	XP back-off from saturation
SPD ratio	27.000 dB	
C/Xo	99.945 dBHz	

Adjacent satellite interference		
Csat/I	18.000 dB	Sat power/interference ratio
Csat/Io	91.945 dBHz	
C/Io	92.445 dBHz	
Downlink cross-pol interference		
XP signal back-off	-2.500 dB	XP back-of from saturation
SPD ratio	20.000 dB	RX terminal
C/Xo	91.445 dBHz	
C/No+Io+Xo	87.864 dBHz	Inc. U/L C/No (excl. D/L C/No) based on Eb/No
C/No @ threshold	82.420 dBHz	@ demod to achieve thr.
D/L C/No required	83.880 dBHz	C/No above
Total C/No degradation	1.460 dB	Thr. C/No – D/L C/No req.

MARGINS		
C/No degradation	1.460 dB	From above
Carrier drive error	0.000 dB	
Eb/No degradation	1.000 dB	
Additional margin required	0.000 dB	Additional rain margin
Rain + G/T (due to rain) margin	5.564 dB	Resulting
Rain margin	2.900 dB	Iterated
G/T degradation due to rain	2.663 dB	
Non availability	0.078	Iterated
Availability	99.922%	

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